

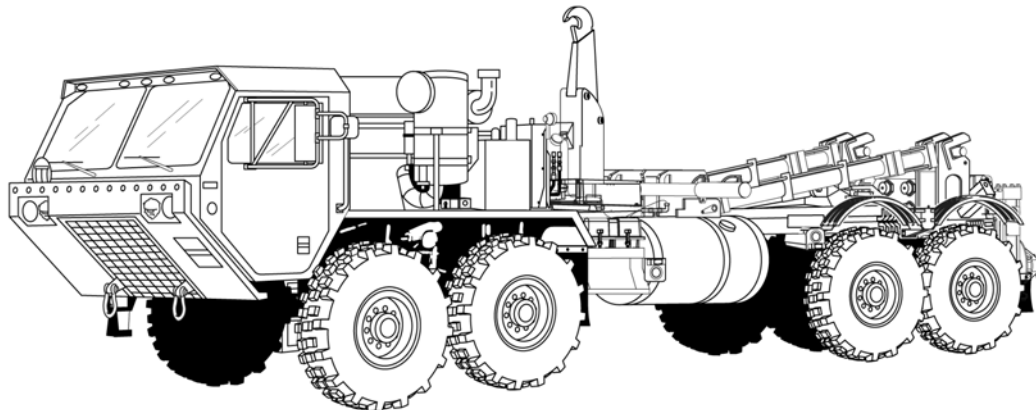
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TECHNICAL MANUAL

OPERATOR'S AND FIELD LEVEL MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)

FOR

HEAVY EXPANDED MOBILITY TACTICAL TRUCKS (HEMTT),



TERMINAL HIGH ALTITUDE AREA DEFENSE (THAAD) CARRIER

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

HEADQUARTERS, DEPARTMENT OF THE ARMY

AUGUST 2010

WARNING SUMMARY

This list summarizes critical warnings in this technical manual. They are repeated here to let you know how important they are. Study these warnings carefully. They can save your life and the lives of personnel you work with. If there is any doubt about handling tools, materials, equipment, and procedures, see TB 43-0216, Safety and Hazard Warnings for Operation and Maintenance of TACOM Equipment.

FOR INFORMATION ON FIRST AID, REFER TO FM 4-25.11.

MODIFICATION HAZARD

WARNING

Unauthorized modifications to, alterations to, or installations of this equipment are prohibited and are in violation of AR 750-10. Any unauthorized modifications, alterations, or installations could result in injury or death to personnel or damage to equipment.

HIGH-PRESSURE HYDRAULIC SYSTEM

WARNING

- Hydraulic systems can cause serious injuries if high-pressure lines or equipment fails.
- Never work on hydraulic systems or equipment unless there is another person nearby who is familiar with the operation and hazards of the equipment and can give first aid.
- Never disconnect any hydraulic hose or part while the engine is running. Allow several minutes to elapse after shutting off engine, to allow pressure to relieve itself, before attempting to remove hoses. Failure to comply may result in injury to personnel.
- The THAAD hydraulic system operates at oil pressures up to 3,250 psi (22,409 kPa). Never disconnect any hydraulic line or fitting without first dropping the pressure to zero. Failure to comply may result in serious injury or death to personnel.

ELECTRICAL SYSTEM

WARNING

- Remove all jewelry, such as rings, dog tags, bracelets, etc. If jewelry or tools contact electrical circuits, a direct short may result. Damage to equipment or death to personnel may occur.
- Do not smoke, use open flame, make sparks or other ignition sources around batteries. A battery giving off gas could explode and cause injury to personnel.

SOLVENT CLEANING COMPOUND

WARNING

SOLVENT CLEANING COMPOUND

Solvent cleaning compound MIL-PRF-680 Type II and III may be irritating to the eyes and skin. Use protective gloves and goggles. Use in well-ventilated areas. Use respirator as needed. Accidental ingestion can cause irritation of digestive tract and respiratory tract, may cause lung and central nervous system damage. Can be fatal if swallowed. Inhalation of high/massive concentrations can cause coma or be fatal. First aid for ingestion: do not induce vomiting. Seek immediate medical attention. First aid for skin contact: remove contaminated clothing. Wash skin thoroughly with soap and water. If symptoms persist, seek medical attention. First aid for eye contact: flush with water for 15 minutes or until irritation subsides. If symptoms persist, seek medical attention. First aid for inhalation: move to fresh air. If not breathing, provide artificial respiration. If symptoms persist, seek medical attention. Keep away from open flames and other sources of ignition. Failure to follow this warning may result in injury or death to personnel.

- The flashpoint for type II solvent cleaning compound is 141-198°F (61-92°C) and type III is 200-241°F (93-116°C).
- Improper cleaning methods and use of unauthorized cleaning solvents may injure personnel and damage equipment
- Fire extinguishers should be placed nearby when using solvent cleaning compound. Failure to follow this warning may result in injury or death.
- Cloths or rags saturated with solvent cleaning compound must be disposed of IAW authorized facilities' procedures. Failure to follow this warning may result in injury.
- Eye shields must be worn when cleaning with a wire brush. Flying rust and metal particle may cause injury.

CHEMICAL AGENT RESISTANT COATING (CARC)**WARNING****Polyurethane Coating (Carc)**

Eye and hearing protection must be worn at all times when using power tools for grinding, cutting, sawing and drilling. Failure to do so may result in injury to personnel. Chemical Agent Resistant Coating (CARC) paint contains isocyanate which is highly irritating to skin and respiratory system. High concentrations of isocyanate can produce symptoms of itching and reddening of skin, a burning sensation in the throat and nose, and watering of the eyes. In extreme concentrations, isocyanate can cause cough, shortness of breath, pain during respiration, increased sputum production, and chest tightness. First aid for ingestion: do not induce vomiting. Seek immediate medical attention. First aid for skin contact: remove contaminated clothing. Wash skin thoroughly with soap and water. If symptoms persist, seek medical attention. First aid for eye contact: flush with water for 15 minutes or until irritation subsides. If symptoms persist, seek medical attention. First aid for inhalation: move to fresh air. If not breathing, provide artificial respiration. If symptoms persist, seek medical attention.

The following precautions must be taken whenever using CARC paint:

- Protective equipment (gloves, goggles, ventilation mask) must be worn when using CARC paint.
- NEVER cut CARC-coated materials without high-efficiency, air-purifying respirators in use.
- DO NOT grind or sand painted equipment without high-efficiency, air-purifying respirators in use.
- BE AWARE of CARC paint exposure symptoms; symptoms can occur a few days after initial exposure. Seek medical help immediately if symptoms are detected.
- Use only in well-ventilated areas. Check with local environmental office for methods and locations approved for painting in accordance with local and state environmental regulations.
- ALWAYS use air line respirators when using CARC paint unless air sampling shows exposure to be below standards. Use chemical cartridge respirator if air sampling is below standards.

ADHESIVE

WARNING

Adhesive causes immediate bonding on contact with eyes, skin, or clothing and also gives off harmful vapors. Wear protective goggles and use in a well-ventilated area. If adhesive gets in your eyes, try to keep them open; flush them with water for 15 minutes and get immediate medical attention.

FLAMMABLE LIQUID AND COMBUSTIBLE VAPOR

WARNING

Gasoline, fuel oil, lubricating oil, grease, paint, paint thinner, cleaning solvents, and other combustible liquids present a serious fire hazard. Always store combustible liquids in approved containers and in their designated compartments or deck storage locations. Make sure exhaust and ventilation fans are operating while using cleaning solvents or paint products. Never store or charge batteries in a confined space without ventilation or near electrical equipment.

LIFTING OPERATIONS

WARNING

- All personnel must stand clear during lifting operations. A swinging or shifting load may cause injury or death to personnel.
- Never crawl under equipment when performing maintenance unless equipment is securely blocked. Equipment may fall and cause injury or death to personnel.
- Keep clear of equipment when it is being raised or lowered. Equipment may fall and cause injury or death to personnel.
- Do not work on any item supported only by lift jacks or hoist. Always use blocks or proper stands to support the item prior to any work. Equipment may fall and cause injury or death to personnel.
- Do not lift a load greater than the rated load capacity of the crane or materiel-handling equipment. Failure to comply may result in injury or death to personnel or damage to equipment.
- Do not allow heavy components to swing while hanging by suitable lifting device. Equipment may strike personnel and cause injury.
- To avoid personal injury, use a hoist or get assistance when lifting components that weigh more than 50 pounds (23 kg). Make sure all chains, hooks, and slings are in good condition and are of correct capacity. Make sure hooks are positioned correctly. Failure to comply may result in injury or death to personnel.

MOVING MACHINERY

WARNING

Be very careful when operating or working near moving machinery. Running engine, rotating shafts, and other moving parts could cause personal injury or death.

LHS OPERATION

WARNING

Check for overhead power lines or other obstructions before attempting LHS operation. Failure to comply may result in injury or death to personnel.

PARTS UNDER PRESSURE

WARNING

Wear safety goggles and use caution when removing or installing springs, snap rings, retaining rings, and other parts under spring tension. These parts can act as projectiles, resulting in serious injury to personnel.

LIST OF EFFECTIVE PAGES/WORK PACKAGES

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Original 27 August 2010

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TECHNICAL MANUAL
OPERATOR'S AND FIELD LEVEL
MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)

FOR

HEAVY EXPANDED MOBILITY TACTICAL TRUCKS (HEMTT),
TERMINAL HIGH ALTITUDE AREA DEFENSE (THAAD) CARRIER

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HOW TO USE THIS MANUAL

This manual is designed to help operate and maintain the Heavy Expanded Mobility Tactical Truck (HEMTT) with Terminal High-Altitude Area Defense (THAAD) System. This manual should be used in conjunction with TM 9-2320-347-10 and TM 9-2320-325-14&P manuals. Listed below are some of the features included in this manual to help locate and use the needed information:

- Warnings, cautions, subject headings, and other essential information are printed in bold type, making them easier to see.
- In addition to text, there are exploded-view illustrations showing how to take a component off and put it back on. Cleaning and inspection criteria are also included where necessary.
- Chapter 1 of this manual supplements the TM 9-2320-347-10 manual and it describes the HEMTT as it is used with the THAAD system, along with other THAAD-specific components. Equipment data is also provided.
- Chapter 2 of this manual supplements the TM 9-2320-347-10 manual with additional Operating Instructions.
- Chapter 3 of this manual supplements the TM 9-2320-325-14&P manual and covers additional Troubleshooting Procedures.
- Chapter 4 of this manual supplements the TM 9-2320-325-14&P manual and covers additional instructions for Lubrication and PMCS.
- Chapter 5 of this manual supplements the TM 9-2320-325-14&P manual and provides Field Level Maintenance Instructions for the HEMTT THAAD. Illustrated List of Manufactured Items, Torque Limits and Schematics for the HEMTT THAAD electrical, hydraulic, and pneumatic systems are provided at the rear of this chapter.
- Chapter 6 of this manual supplements the TM 9-2320-325-14&P manual and covers the Repair Parts and Special Tools List (RPSTL) for the HEMTT THAAD.
- Chapter 7 of this manual supplements the TM 9-2320-325-14&P manual and covers References, Two-Level Maintenance Allocation Chart (MAC), Components of End Item (COEI) and Basic Issue Items (BII) Lists, and Expendable and Durable Supplies and Material Lists for the HEMTT THAAD. An Alphabetical Index is provided to help locate items in the text.

The vehicles referenced in the TM 9-2320-347-10 and TM 9-2320-325-14&P manuals are similar, but not identical to the vehicle referenced in the manual. HEMTT THAAD vehicle procedures that are common to the M977 can be found in the TM 9-2320-347-10 or TM 9-2320-325-14&P manual. Configuration differences can be determined by visually inspecting the vehicle prior to maintenance.

Follow these guidelines when using the manual:

- Read all **WARNINGS** and **CAUTIONS** before performing any procedure.
- The operator must read this manual along with TM 9-2320-347-10 manual and become familiar with the content of each manual before attempting to operate the vehicle.
- Maintenance personnel must read this manual along with TM 9-2320-325-14&P manual and become familiar with the content of each manual before performing any maintenance to the vehicle.

CHAPTER 1

GENERAL INFORMATION AND DATA

OPERATOR MAINTENANCE

GENERAL INFORMATION

SCOPE

- a. *Type of Manual.*** This manual provides instructions for operations of the HEMTT THAAD. It provides instructions for vehicle only and does not cover missile system operations.
- b. *Name.*** HEMTT THAAD.
- c. *Purpose of Equipment.*** The HEMTT THAAD provides the platform from which to support and launch THAAD missiles.

MAINTENANCE FORMS, RECORDS, AND REPORTS

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by (as applicable) DA PAM 750-8, The Army Maintenance Management System (TAMMS) Users Manual; DA PAM 738-751, Functional Users Manual for the Army Maintenance Management Systems - Aviation (TAMMS-A); or AR 700-138, Army Logistics Readiness and Sustainability.

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If your HEMTT THAAD needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. If you have Internet access, the easiest and fastest way to report problems or suggestions is to go to <https://aeps.ria.army.mil/aepspublic.cfm> (scroll down and choose the "Submit Quality Deficiency Report" bar). The internet form lets you choose to submit an Equipment Improvement Recommendation (EIR), a Product Quality Deficiency Report (PQDR) or a Warranty Claim Action (WCA). You may also submit your information using an SF 368 (Product Quality Deficiency Report). You can send your SF 368 via e-mail, regular mail, or facsimile using the addresses/facsimile numbers specified in DA PAM 750-8, The Army Maintenance Management System (TAMMS) Users Manual. We will send you a reply.

CORROSION PREVENTION AND CONTROL (CPC)

Corrosion Prevention and Control (CPC) of Army materiel is a continuing concern. It is important that any corrosion problems with this item be reported so that the problem can be corrected and improvements can be made to prevent the problem in future items.

Corrosion specifically occurs with metals. It is an electrochemical process that causes the degradation of metals. It is commonly caused by exposure to moisture, acids, bases, or salts. An example is the rusting of iron. Corrosion damage in metals can be seen, depending on the metal, as tarnishing, pitting, fogging, surface residue, and/or cracking.

Plastics, composites, and rubbers can also degrade. Degradation is caused by thermal (heat), oxidation (oxygen), solvation (solvents), or photolytic (light, typically UV) processes. The most common exposures are excessive heat or light. Damage from these processes will appear as cracking, softening, swelling, and/or breaking.

SF Form 368, Product Quality Deficiency Report should be submitted to the address specified in DA PAM 750-8, The Army Maintenance Management System (TAMMS) Users Manual.

DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

Refer to TM 750-244-6, Procedures for Destruction of Tank Automotive Equipment to Prevent Enemy Use.

Refer to FM 3-34.214, Explosives and Demolition, for instructions on demolition by explosives or weapons fire.

DEMOLITION BY MECHANICAL MEANS

Use hammers, crowbars, picks, or other tools which may be available to destroy the engine block, manifold, water pump, and electrical controls.

DEMOLITION BY MISUSE

Perform the following steps to render the HEMTT THAAD vehicle inoperative.

- Drain radiator and crankcase. Place sand, nuts, bolts, or broken glass into radiator opening, oil fill tube, and fuel tank.
- Puncture radiator in several places.
- Disconnect radiator fan and run engine at full throttle.

WARRANTY INFORMATION

The HEMTT THAAD vehicle is warranted for 12 months or 12,000 miles (19,308 km). The warranty starts on the date found in block 23 of DA Form 2408-9, Equipment Control Record. Report all defects to your supervisor, who will take appropriate action.

NOMENCLATURE CROSS-REFERENCE LIST

Engine Coolant	Antifreeze, ethylene glycol mixture
Cold Start System	Ether quick start system
Cable	Wire rope
Gladhand	Quick disconnect air coupling
Throttle Pedal	Throttle control
Service Brake Pedal	Brake pedal
Jake Brake	Engine brake

LIST OF ABBREVIATIONS/ACRONYMS

AAL	Additional Authorization List
ADU	Azimuth Determination Unit
amp.	amperes
BII	Basic Issue Item
C	Centigrade
CARC	Chemical Agent Resistant Coating
CCA	Cold Cranking Amps
CEM	Carrier Electronics Module
cid	cubic inch displacement
cm	centimeter
COEI	Components of End Item

DC	Direct Current
F	Fahrenheit
FHTV	Family of Heavy Tactical Vehicles
fl. oz.	fluid ounce
ft.	foot
gal	gallon
GPFU	Gas Particulate Filter Unit
GVW	Gross Vehicle Weight
GVWR	Gross Vehicle Weight Rating
HEMTT	Heavy Expanded Mobility Tactical Truck
hp.	horsepower
I.D.	Inside Diameter
in.	inch
ISO	International Standards Organization
kg	kilogram
km/h	kilometers per hour
kPa	kiloPascal
KW	Kilowatt
l	liter
lb-ft.	pound-foot
lb-in	pound-inch
lb	pound
LHS	Load Handling System
m	meter
mi.	mile
ml	milliliter
mm	millimeter
mph	miles per hour
MRP	Missile Round Pallet
MUJB	Missile Umbilical Junction Box
N•m	Newton-meters
O.D.	Outside Diameter
OSK	Oshkosh Corporation
oz.	ounce
PMCS	Preventive Maintenance Checks and Services
psi	pound-force per square inch
pt	pint
PTO	Power Takeoff
qt	quart
rpm	revolutions per minute
RPSTL	Repair Parts and Special Tools List
SRW	Self-Recovery Winch
THAAD	Terminal High-Altitude Area Defense
TM	Technical Manual
TQG	Tactical Quiet Generator
VDC	Volts direct current
VIM	Vehicle Interface Module

QUALITY OF MATERIAL

Material used for replacement, repair, or modification must meet the requirements of this technical manual. If quality of material requirements are not stated in this technical manual, the material must meet the requirements of the drawings, standards, specifications, or approved engineering change proposals applicable to the subject equipment.

COMMON TOOLS AND EQUIPMENT

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE), CTA 50-970, Expendable/Durable Items (Except: Medical, Class V, Repair Parts, and Heraldic Items), CTA 50-909, Field and Garrison Furnishings and Equipment, or CTA 8-100, Army Medical Department Expendable/Durable Items, as applicable to your unit.

REPAIR PARTS

Repair parts are listed and illustrated in WP 0160 through WP 0180 of this technical manual.

END OF WORK PACKAGE

OPERATOR MAINTENANCE
EQUIPMENT DESCRIPTION AND DATA

EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES**a. *Equipment Characteristics.***

The HEMTT THAAD vehicle is a tactical wheeled vehicle with an integral self-load/unload capability. Major subsystems of the vehicle are: cab, engine, transmission, drive train, suspension, electrical system, hydraulic system, pneumatic system, and Load Handling System (LHS).

b. *Capabilities.*

1. The HEMTT THAAD is capable of operating in temperatures from -25 to 120°F (-32 to 49°C) and to -50°F (-46°C) with arctic heater kit installed.
2. The HEMTT THAAD can ford water up to 30 in. (76 cm) deep for five minutes without damage or requiring maintenance before operation can continue.
3. Normal operating range for the HEMTT THAAD is 300 mi. (483 km) based on 154 gal (583 L) of fuel and 76,000 lbs (34,504 kg) GVWR, traveling over mixed terrain. Varying loads; prolonged idle; use of the LHS, MRP controls, or outriggers; off-road driving and; climatic conditions affect operating range.
4. The HEMTT THAAD incorporates sufficient tiedown points located so that vehicle can be restrained in all directions during air transport. The HEMTT THAAD is capable of transport by highway.

c. *Features.*

1. Eight-cylinder, V-type, two-cycle, fuel-injected, turbocharged diesel engine.
2. High/low range transfer case.
3. Power steering system consists of a basic manual steering system with a hydraulic boost.
4. Mechanical steering linkage also provides operator control in event of hydraulic oil pressure loss.
5. Fuel system includes one main fuel tank, fuel lines, fuel water separator, fuel pump, secondary fuel filter, fuel pipes, and fuel injectors.
6. Incorporates an LHS system that allows a single operator to load/unload an MRP.
7. MRP system allows a single operator to deploy an MRP.
8. Multiple warning decals, indicators, gages, and buzzers protect LHS and MRP systems from damage by warning operator about unsafe operating conditions.
9. Circuit breakers protect electrical systems from damage and can be reset from the cab.
10. Hydraulic system has backup systems in the event of hydraulic or electrical system failure.
11. Incorporates outriggers to stabilize vehicle during deployment of MRP and launching of missiles.
12. Incorporates an air-ride suspension system on rear tandem axles.

13. Incorporates an electronic control system to help prevent damage to LHS/MRP system due to faulty component or improper use.
14. The HEMTT THAAD has no towing components and cannot tow a trailer.

CAUTION

The HEMTT THAAD vehicle cannot carry a standard flatrack or ISO container. Do not attempt to load a standard flatrack or ISO container onto the HEMTT THAAD. Failure to comply may result in damage to equipment.

15. The HEMTT THAAD is only designed to carry a THAAD MRP.
16. The HEMTT THAAD vehicle is referred to by different names, depending on how the vehicle is configured.

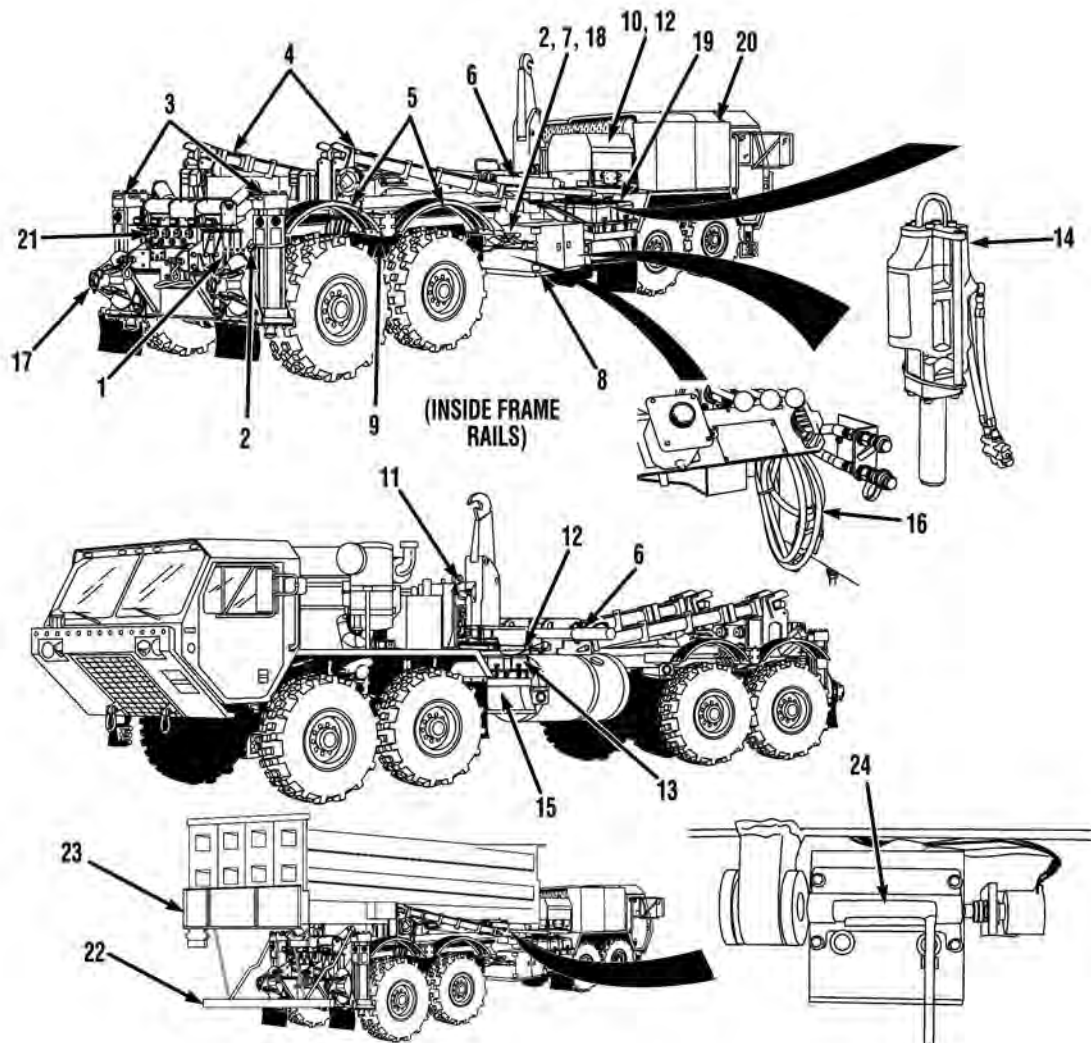
Carrier. Standard HEMTT THAAD vehicle, equipped with a 3 KW Tactical Quiet Generator, capable of loading, unloading, and transporting a MRP.

Transporter. HEMTT THAAD vehicle equipped with a CEM, MUJB, Missile-System Battery Box, and related cabling designed to interface with an MRP.

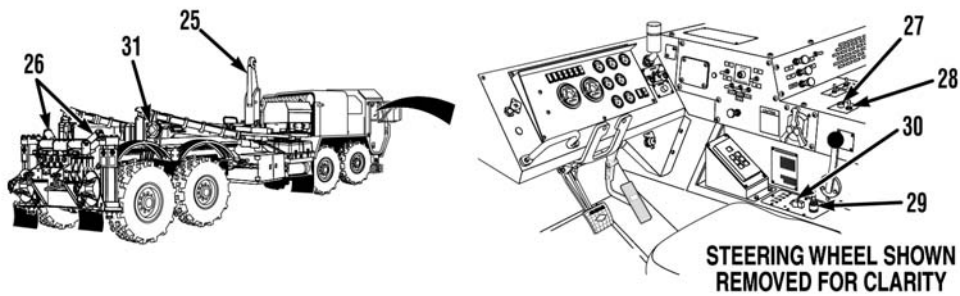
Launcher. HEMTT THAAD vehicle loaded with an MRP and fully mission capable.

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

1. **Outrigger Controls.** Used to deploy and stow Outriggers.
2. **Auxiliary Work Lamps.** Illuminate MRP and Outrigger Controls.
3. **Outriggers.** Deployed to stabilize vehicle before using MRP.
4. **Deck Elevation Cylinders.** Used to elevate MRP into firing position.
5. **Rear Fenders.** Protect MRP from debris thrown by tires.
6. **MRP Rack Locks.** Used to lock MRP subframe in position before elevating MRP.
7. **MRP Controls.** Control operation of Deck Elevation Cylinders, MRP Locks, and hydraulic Ground Rod Driver.
8. **Stowage Box.** Used to stow BII.
9. **Ball Valves.** Used to prevent air suspension from self-adjusting while vehicle is transported via air, rail, or ship.
10. **3 KW Tactical Quiet Generator.** Missile Transporter-related component. Not covered in this manual. Refer to the appropriate TQG manual for operating instructions.
11. **Auxiliary Work Light.** Part of BII. Used to illuminate work areas.
12. **Generator Fuel Line.** Allows TQG to be refueled from main vehicle fuel tank.
13. **Vehicle Battery Box.** Houses and protects vehicle batteries.
14. **Ground Rod Driver.** Part of BII. Used to position ground rods for electrical component grounding.



15. **Generator Steps.** Can be moved from driver side to passenger side of vehicle. Used to access TQG and other components on vehicle.
16. **Grounding Cable.** Used to connect vehicle chassis to earth ground.
17. **Outrigger Pads.** Provide support for outrigger stabilizer cylinder rods when outriggers are deployed.
18. **Ground Rod Driver Control.** Controls hydraulic power to ground rod driver.
19. **Missile System Battery Box.** Missile Transporter-related component. Not covered in this manual.
20. **Carrier Electronics Module.** Missile Transporter-related component. Not covered in this manual.
21. **Missile Umbilical Junction Box.** Missile Transporter-related component. Not covered in this manual.
22. **Under-Run Bumper.** Missile Transporter-related component. Not covered in this manual.
23. **Blast Deflector.** Missile Transporter-related component. Not covered in this manual.
24. **Manual Deck-to-Subframe Lock.** Missile Transporter-related component. Not covered in this manual.



- 25. **Hook.** Used to load and unload MRP.
- 26. **Rollers.** Helps guide MRP on vehicle.
- 27. **PTO Indicator Light.** Illuminates when PTO is engaged.
- 28. **PTO Engage Switch.** Engages and disengages PTO.
- 29. **Joystick.** Used to load and unload LHS.
- 30. **Hydraulic Selector Switch.** Used to turn the LHS and MRP system on and off.
- 31. **Static Reel.** Used to prevent static electricity build up.

EQUIPMENT DATA

Refer to Table 1 for typical equipment data for the HEMTT THAAD. Refer to TM 9-2320-347-10 for all equipment data not specified below.

Table 1. Equipment Data.

Model	Item
THAAD	<p>DIMENSIONS</p> <p>Width without MRP (overall): 101.4 in. (257.5 cm)</p> <p>Width with MRP (overall): 102 in. (259 cm)</p> <p>Height without MRP (overall): 129 in. (328 cm)</p> <p>Height with MRP (overall): 140 in. (356 cm)</p> <p>Height (reduced for shipping): 102 in. (259 cm)</p> <p>Length without MRP (overall): 421 in. (1,069 cm)</p> <p>Length with MRP (overall): 479 in. (1,217 cm)</p> <p>Wheelbase: 234 in. (594 cm)</p> <p>Turning Circle (wall-to-wall): 120 ft. (37 m)</p> <p>Ground Clearance: 24 in. (61 cm)</p>
THAAD	<p>WEIGHT</p> <p>Curb Weight (carrier): 40,650 lbs (18,455 kg)</p> <p>Curb Weight (transporter): 43,000 lbs (19,522 kg)</p> <p>Gross Vehicle Weight Rating: 72,000 lbs (32,688 kg)</p>

Table 1. Equipment Data. (Continued)

Model	Item																				
THAAD	<p>WEIGHT DISTRIBUTION</p> <p>Front Tandem Axles - Curb (carrier): 22,850 lbs (10,374 kg) Front Tandem Axles - Curb (transporter): 24,500 lbs (11,123 kg) Front Tandem Axles - Loaded (transporter): 24,570 lbs (11,154 kg) Rear Tandem Axles - Curb (carrier): 17,800 lbs (8,081 kg) Rear Tandem Axles - Curb (transporter): 18,500 lbs (8,399 kg) Rear Tandem Axles - Loaded (transporter): 45,620 lbs (20,711 kg)</p>																				
THAAD	<p>AXLES</p> <p>Rear Tandem</p> <p>Make: Dana</p> <p>Differential Carrier Model (No. 3 axle): DS521 Differential Carrier Model (No. 4 axle): RS521 Maximum Load Capacity: 46,000 lbs (20,884 kg)</p>																				
THAAD	<p>TIRES</p> <p>Tire Pressures:</p> <table border="0" data-bbox="358 972 1524 1094"> <thead> <tr> <th></th> <th>Highway</th> <th>Cross Country - Dry</th> <th>Cross Country - Wet</th> </tr> </thead> <tbody> <tr> <td>Front</td> <td>60 psi (414 kPa)</td> <td>35 psi (241 kPa)</td> <td>20 psi (138 kPa)</td> </tr> <tr> <td>Rear</td> <td>85 psi (586 kPa)</td> <td>48 psi (331 kPa)</td> <td>35 psi (241 kPa)</td> </tr> </tbody> </table> <p>Operating Speeds:</p> <table border="0" data-bbox="358 1150 1524 1234"> <thead> <tr> <th></th> <th>Highway</th> <th>Cross Country - Dry</th> <th>Cross Country - Wet</th> </tr> </thead> <tbody> <tr> <td>Max speed</td> <td>63 mph (101.39 km/h)</td> <td>40 mph (64 km/h)</td> <td>20 mph (32 km/h)</td> </tr> </tbody> </table>		Highway	Cross Country - Dry	Cross Country - Wet	Front	60 psi (414 kPa)	35 psi (241 kPa)	20 psi (138 kPa)	Rear	85 psi (586 kPa)	48 psi (331 kPa)	35 psi (241 kPa)		Highway	Cross Country - Dry	Cross Country - Wet	Max speed	63 mph (101.39 km/h)	40 mph (64 km/h)	20 mph (32 km/h)
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	Highway	Cross Country - Dry	Cross Country - Wet																		
Max speed	63 mph (101.39 km/h)	40 mph (64 km/h)	20 mph (32 km/h)																		
THAAD	<p>PERFORMANCE</p> <p>Departure Angle (without MRP): 35° Departure Angle (with MRP): 32°</p>																				
THAAD	<p>LOAD HANDLING SYSTEM</p> <p>Manufacturer: Multilift Model: Modified MKV</p>																				

END OF WORK PACKAGE

OPERATOR MAINTENANCE

THEORY OF OPERATION

SYSTEMS INTRODUCTION

All HEMTT THAAD vehicles contain the same functional systems as M977 vehicles, with some modifications. Differences for the HEMTT THAAD are outlined in the following paragraphs. For all systems information not contained in this manual, refer to TM 9-2320-347-10

ELECTRICAL SYSTEM OVERVIEW

The electrical system of the HEMTT THAAD has been changed by the addition of several auxiliary components.

The HEMTT THAAD uses a digital control system that includes two Vehicle Interface Modules (VIM), a Joystick Control Module, and an Input Module. All hardware communicates over the data bus network and controls the various functions necessary for operation of LHS and MRP-related components. Additional proximity and limit switches have also been incorporated to provide signals for various safety interlocks. The electrical system contains a voltage shutdown system. The system will not respond to battery voltage readings less than 8.25 vdc or greater than 32 vdc.

The battery box for the electrical system has been relocated to the driver side of vehicle; however, its functions are the same as other HEMTT models.

Auxiliary work lamps have been provided to illuminate the HEMTT THAAD-specific hydraulic controls located at rear of vehicle and on passenger side. As a safety feature, electric palm button switches located nearby are used to activate these hydraulic controls.

For further electrical system overview information, refer to TM 9-2320-347-10

PNEUMATIC SYSTEM OVERVIEW

The rear tandem axles on the HEMTT THAAD incorporate an air-ride suspension. This suspension incorporates ride-height valves that self-adjust the air bags to correct setting when vehicle is loaded or unloaded. Ball valves have been provided to turn off the self-adjusting feature during air transportation of the HEMTT THAAD.

For further pneumatic system overview information, refer to TM 9-2320-347-10

FUEL SYSTEM OVERVIEW

Fuel to Tactical Quiet Generator (TQG) fuel tank is supplied from the main HEMTT THAAD fuel tank. A tee fitting on the fuel tank connects fuel line supplying the TQG and main fuel line to engine. This tee fitting also incorporates check valves on either end, preventing engine from pulling fuel from TQG's tank.

Fuel/water separator has been relocated near MRP controls on passenger side of vehicle.

For further fuel system overview information, refer to TM 9-2320-347-10

HYDRAULIC SYSTEM OVERVIEW

All HEMTT THAAD auxiliary hydraulics are only active when hydraulic selector switch is in the MRP position.

Outriggers are incorporated at rear of vehicle to help stabilize vehicle during elevation and firing of Missile Round Palette (MRP). Controls for these outriggers are located at rear of the vehicle. Outriggers are intended to operate with engine at low idle (700 rpm), which is regulated by a palm button switch located near outrigger control levers.

Two hydraulic MRP rack locks are located on each side of vehicle near LHS hook arm. These rack locks are used to hold MRP subframe in place while elevating MRP deck. Operation of rack locks is controlled by a lever located on passenger side of vehicle. MRP rack locks are intended to operate with engine at high idle (1500 rpm). The lever controlling rack locks is only active when MRP palm button switch is depressed.

MRP is elevated by two hydraulic deck elevation cylinders. Elevation of the cylinders is controlled by a lever located on passenger side of vehicle. When activated, deck elevation cylinders begin raising with engine at low idle (700 rpm). Engine automatically increases to high idle (1500 rpm) after deck reaches an angle of 5 degrees. The lever controlling deck elevation cylinder operation is only active when MRP palm button switch is depressed.

A hydraulic ground rod driver is included with the HEMTT THAAD and is connected to vehicle's hydraulic system at a connection point located on forward side of stowage box. The ground rod driver is a low-pressure hydraulic device and must be operated with engine at low idle (700 rpm). A toggle switch located on bottom of MRP palm button switch housing restricts engine to low idle and must be turned on before ground rod driver can be used.

The high-pressure hydraulic filter is located beneath middle of driver side frame rail.

A high-volume oil reservoir is used on the HEMTT THAAD.

For further hydraulic system overview information, refer to TM 9-2320-347-10

LOAD HANDLING SYSTEM (LHS) OVERVIEW

The LHS is fully hydraulic and powered by vehicle's hydraulic system. The LHS is operated by a hydraulic selector switch and a joystick located in cab. The LHS control system is electrically powered from vehicle's electrical system.

The HEMTT THAAD uses two VIMs and an input module to regulate LHS and MRP operation.

The digital controller on the HEMTT THAAD causes LHS operation to be disabled under the following conditions:

- When vehicle is moving over 3 mph.
- When engine is operating at less than 500 rpm.
- When any cables are connecting the MRP to the Missile Umbilical Junction Box (MUJB).
- When MRP rack locks are engaged.
- When deck elevation cylinders are not stowed.

The MRP can only be loaded and unloaded with the hydraulic selector switch in AUTO mode. MANUAL mode is not used for MRP loading and unloading, but is still available if required.

With an MRP fully loaded with a 13 1/2-ton (12,250 kg) nominal payload, the LHS is capable of:

- Loading/unloading MRP from vehicle to 12 in. (31 cm) below ground level and any intermediate level, refer to TM 9-2320-325-14&P.
- Loading/unloading MRP from vehicle from uneven ground slopes of 5 degrees from the vehicle's lateral and horizontal axis.

TERMINAL HIGH-ALTITUDE AREA DEFENSE (THAAD) OVERVIEW

The HEMTT THAAD vehicle is only intended to load, transport, and utilize an MRP. It is not capable of loading a flatrack or ISO container.

The HEMTT THAAD has a 3 KW Tactical Quiet Generator (TQG). The TQC only charges HEMTT THAAD system batteries, and is not a part of vehicle's electrical system. For further information on TQG, refer to THAAD Launcher IETM.

The HEMTT THAAD has moveable steps located under the battery box on the driver side of the vehicle. the steps can be moved from the driver side to the passenger side of vehicle. The steps are used to access areas behind TQG and CEM.

The vehicle has several added components that are beyond the scope of this manual. For further information on the following components, refer to THAAD Launcher IETM:

- Missile Round Palette (MRP) and related cables.
- Missile Umbilical Junction Box (MUJB) and related cables.
- Carrier Electronics Module (CEM) and related cables.
- Missile Round Palette (MRP) battery box, batteries, and related cables.

The spare tire, davit, and all related components have been removed from the HEMTT THAAD to allow space for above missile system components.

END OF WORK PACKAGE

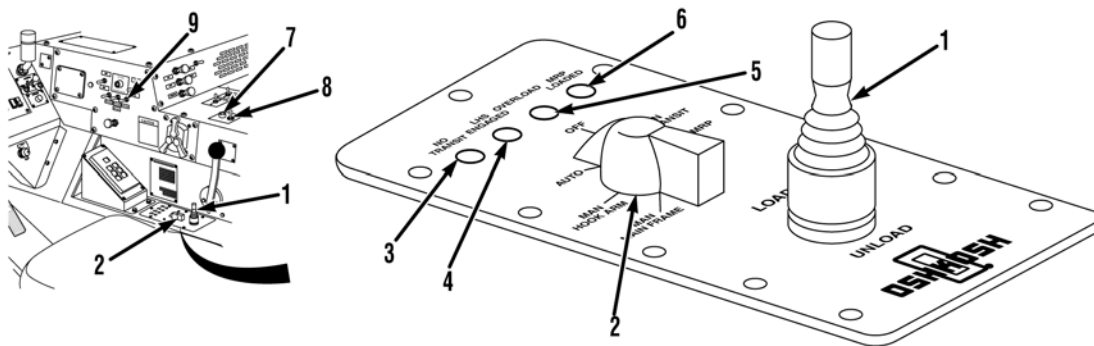
CHAPTER 2

OPERATOR INSTRUCTIONS

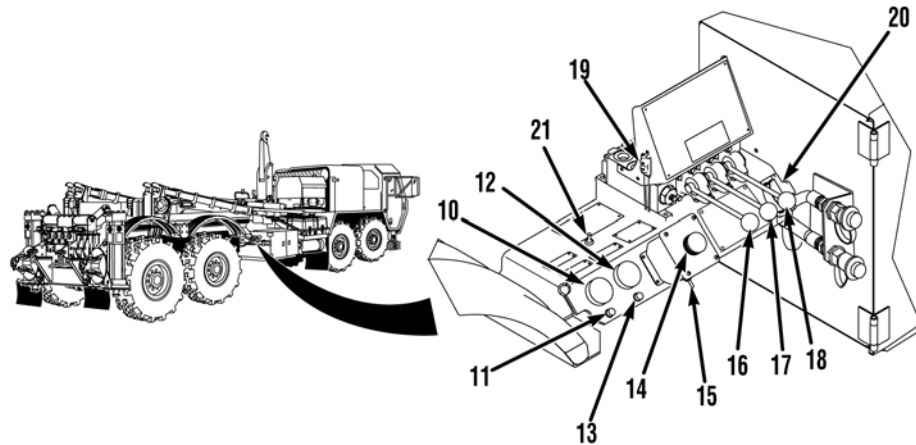
OPERATOR MAINTENANCE**DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS**

CONTROLS AND INDICATORS INTRODUCTION

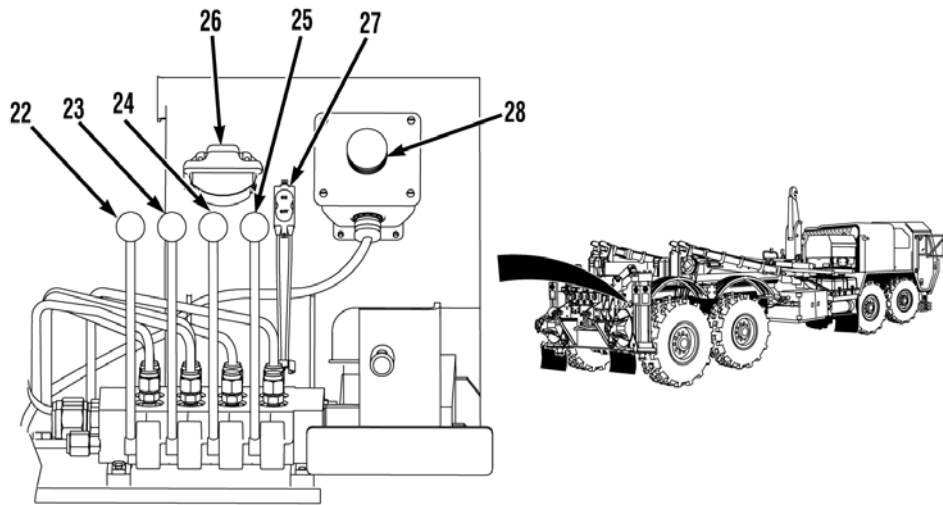
This section shows the location and describes the use of controls and indicators used to operate the unique systems of the HEMTT THAAD.



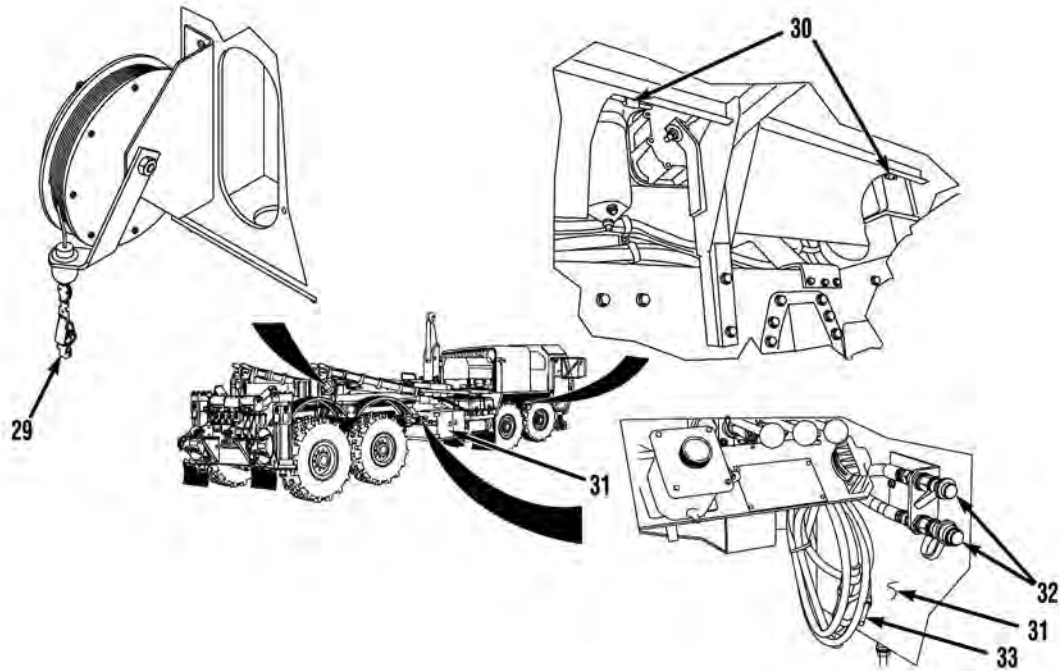
Key	Control or Indicator	Function
1	Joystick	Controls operations of loading (LOAD) and unloading (UNLOAD) an MRP.
2	Hydraulic Selector Switch	<ul style="list-style-type: none"> OFF position: Joystick (1) not operational (LHS transit mode). AUTO position: For normal loading and unloading sequence of Missile Round Palette (MRP). <p style="text-align: center;">NOTE Manual positions are used when the auto position fails to operate.(WP 0016)</p> <ul style="list-style-type: none"> MANUAL HOOK ARM (MAN HOOK ARM) position: For manual operation of LHS. Not typically used. MANUAL MAIN FRAME (MAN MAIN FRAME) position: For manual operation of LHS. Not typically used. MANUAL TRANSIT (MAN TRANSIT) position: For manual operation of LHS. Not typically used. MRP position: For operation of deck erection cylinders, outriggers, ground rod driver, and MRP rack locks.
3	NO TRANSIT Indicator Light (Red)	Illuminates when LHS is not correctly stowed in transport position.
4	LHS ENGAGED Indicator Light (Green)	Illuminates when hydraulic selector switch (2) is in positions AUTO, MAN HOOK ARM, OR MAN MAIN FRAME.
5	OVERLOAD Indicator	Not used.
6	MRP Loaded Indicator Light	Illuminates when MRP rack locks are engaged.
7	PTO Indicator Light	Illuminates when PTO is engaged.
8	Power Takeoff (PTO) Switch	Supplies or shuts off electrical power to power takeoff.
9	WORK LIGHT Switch	Controls auxiliary work lamps and auxiliary work light.



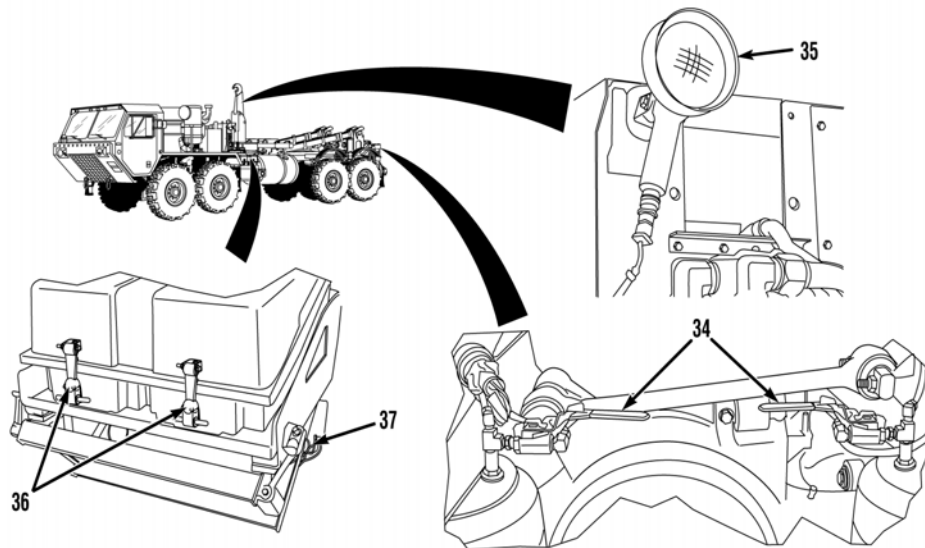
Key	Control or Indicator	Function
10	AIR BAG PRESSURE DEPLETED Indicator Light	Indicates when suspension air bags are below 35 psi (241 kPa). A blinking light indicates one air bag is below 35 psi (241 kPa). A solid light indicates both air bags are below 35 psi (241 kPa).
11	AIR BAG PRESSURE DEPLETED Blackout Indicator Light	Indicates when suspension air bags are below 35 psi (241 kPa) in blackout mode. A blinking light indicates one air bag is below 35 psi (241 kPa). A solid light indicates both air bags are below 35 psi (241 kPa).
12	RACK LOCKS ENGAGED Indicator Light	Illuminates when MRP Rack Locks are engaged. Blinking light indicates one MRP rack lock is engaged. A solid light indicates both MRP rack locks are engaged.
13	RACK LOCKS ENGAGED Blackout Indicator Light	Illuminates when MRP Rack Locks are engaged in blackout mode. Blinking light indicates one MRP rack lock is engaged. A solid light indicates both MRP rack locks are engaged.
14	Palm Button Switch	Must be pressed and held to operate deck elevation cylinders and/or MRP rack locks.
15	Ground Rod Driver Switch	Turns on power to Ground Rod Driver.
16	GROUND ROD DRIVER Control Lever	Controls hydraulic power to the Ground Rod Driver.
17	MRP LOCKS Control Lever	Used to engage and disengage MRP rack locks.
18	MRP LIFT Control Lever	Used to control deck elevation cylinders for raising and lowering of MRP.
19	Work Lamp Switch	Turns work lamp on and off.
20	Work Lamp	Illuminates control levers.
21	LAMP TEST Switch	Checks Air Bag Depleted and Rack Locks Engaged indicators.



Key	Control or Indicator	Function
22	Left Outrigger Control Lever	Extends and retracts left outrigger.
23	Right Outrigger Control Lever	Extends and retracts right outrigger.
24	Left Outrigger Stabilizer Control Lever	Raises and lowers left outrigger stabilizer.
25	Right Outrigger Stabilizer Control Lever	Raises and lowers right outrigger stabilizer.
26	Work Lamp	Illuminates control levers.
27	Work Lamp Switch	Turns work lamp on and off.
28	Palm Button Switch	Must be pressed and held to operate outriggers and outrigger stabilizers.



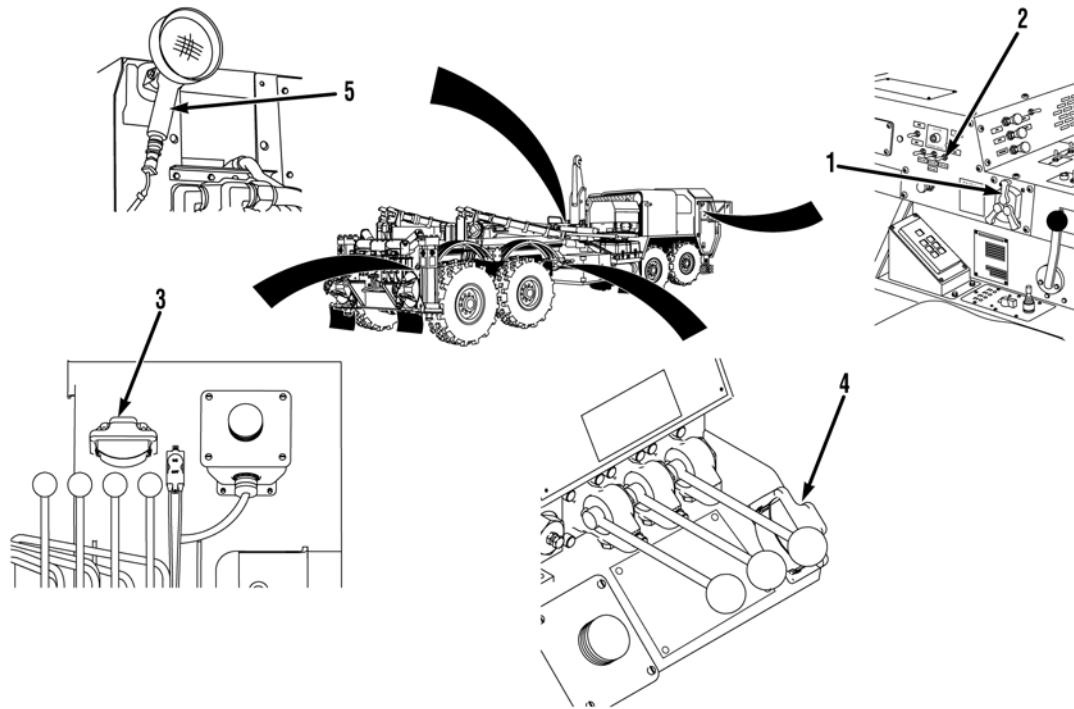
Key	Control or Indicator	Function
29	Static Grounding Cable Clamp	Provides a ground path to bleed off static electrical charges.
30	Engine Side Access Cover Latches	Secures engine side access cover.
31	Ground Rod Driver Stowage Box	Provides stowage for ground rod driver and hoses.
32	Ground Rod Driver Hydraulic Connections	Provides hydraulic power connections for ground rod driver.
33	Ground Cable	Provides a ground path to bleed off electrical charges.



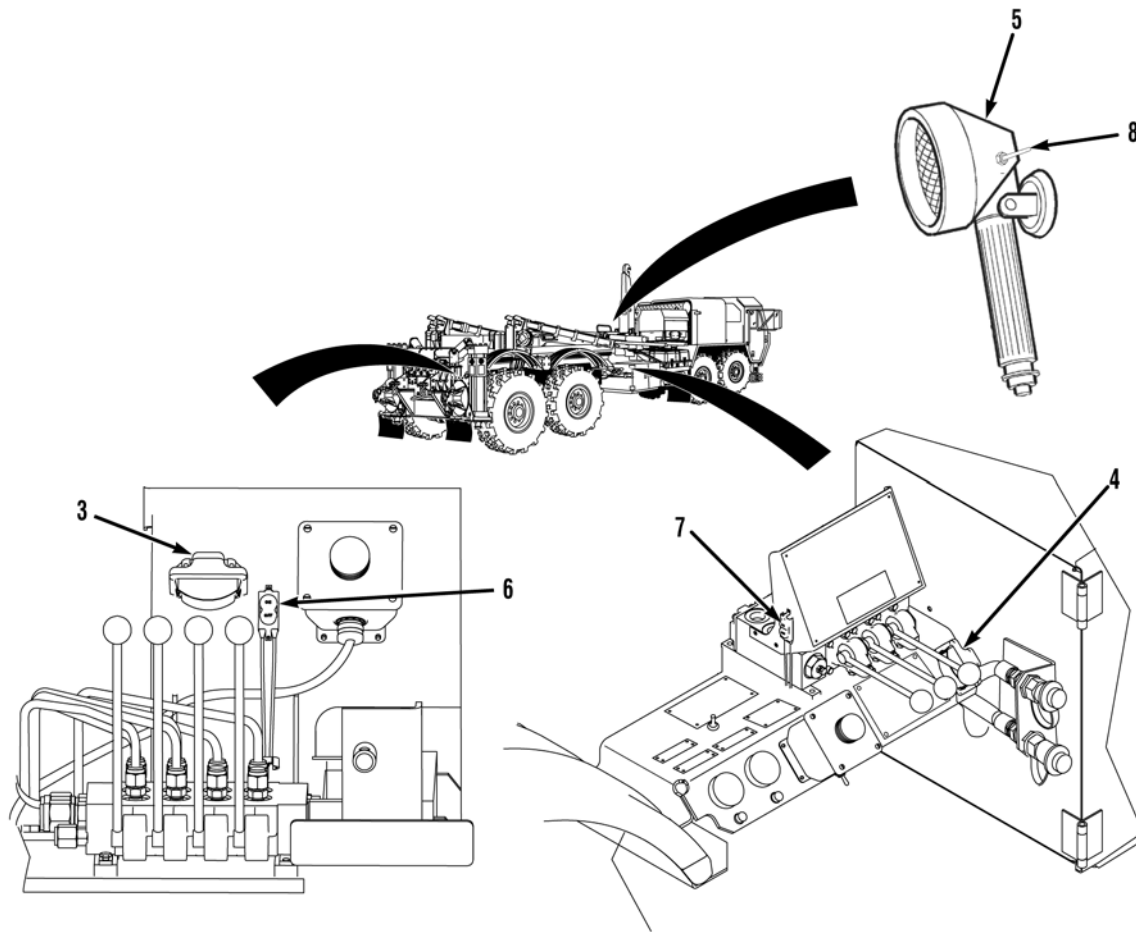
Key	Control or Indicator	Function
34	Air-ride Suspension Control Valves	When closed, these valves prevent the air-ride suspension from automatically self-adjusting itself. Used for air transportation.
35	Auxiliary Work Lamp	To help in low-light situations.
36	Battery Box Latches	Used to help secure battery box cover to battery box.
37	Movable Step Clips	Secures lower step to either side of vehicle.

END OF WORK PACKAGE

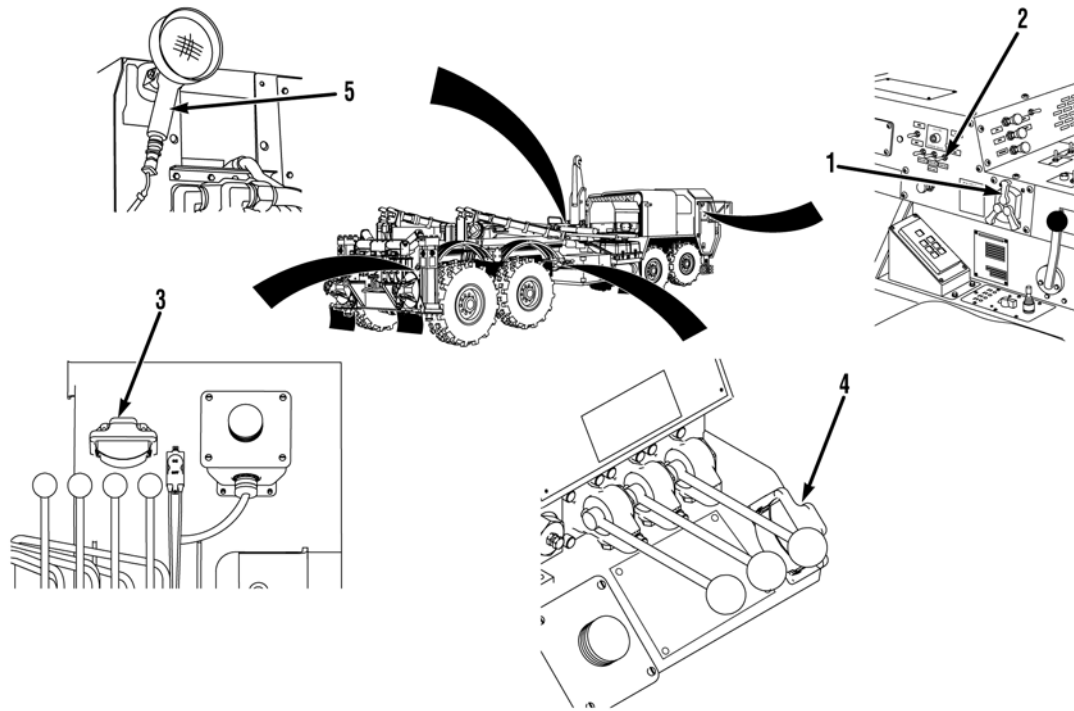
OPERATOR MAINTENANCE**AUXILIARY WORK LAMPS AND AUXILIARY WORK LIGHT OPERATION**



1. Move blackout light control switch (1) to either STOP LIGHT or SERVICE DRIVE position.
2. Move WORK LIGHT control switch (2) to ON position to provide power to two auxiliary work lamps (3) and (4) and auxiliary work light (5).



3. Turn auxiliary work lamp (3) ON/OFF with switch (6).
4. Turn auxiliary work lamp (4) ON/OFF with switch (7).
5. Turn auxiliary work light (5) ON/OFF with switch (8).



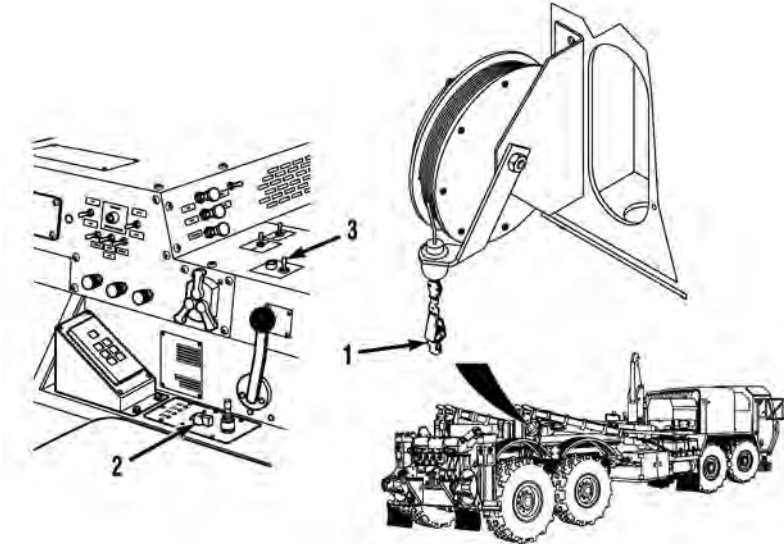
6. Move WORK LIGHT control switch (2) to OFF position to turn off power to two auxiliary work lamps (3) and (4) and auxiliary work light (5).
7. Move blackout light control switch (1) to OFF position.

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE
CONFIGURING FOR TRANSPORTATION/MOVEMENT

a. Over-the-Road Movement.



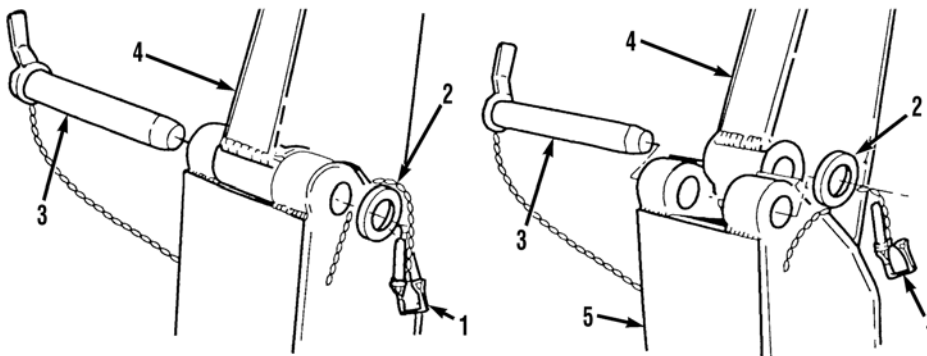
NOTE

Weight on rear tandem axles with MRP loaded is 46,000 lbs (20,884 kg). A road permit will be needed to operate HEMTT THAAD on public roads when MRP is loaded.

1. Ensure that MRP rack locks are disengaged (WP 0012).
2. Engage manual deck-to-subframe lock on MRP (Refer to THAAD Launcher IETM).
3. Deploy under-run bumper (Refer to THAAD Launcher IETM.).
4. Remove vehicle ground cable and transporter static ground cable (1) from ground rod.
5. Remove and stow ground rod.
6. Before starting an over-the-road operation, turn hydraulic selector switch (2) and PTO ENGAGE switch (3) to OFF.

END OF TASK

b. Configuring for Air/Sea/Rail Transport.



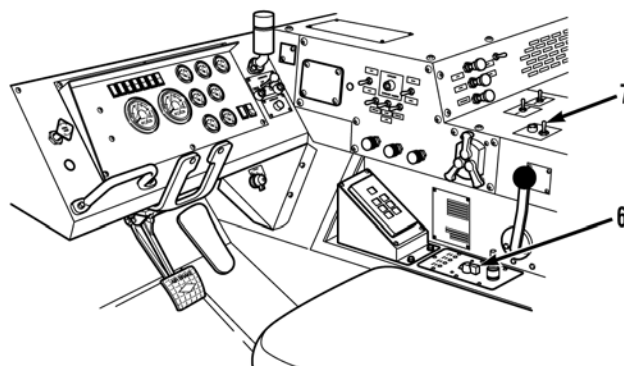
WARNING

Hook arm weighs 200 lbs (91 kg). Attach suitable lifting device to hook arm prior to removal of LHS hook arm pin. Failure to comply may result in injury to personnel.

CAUTION

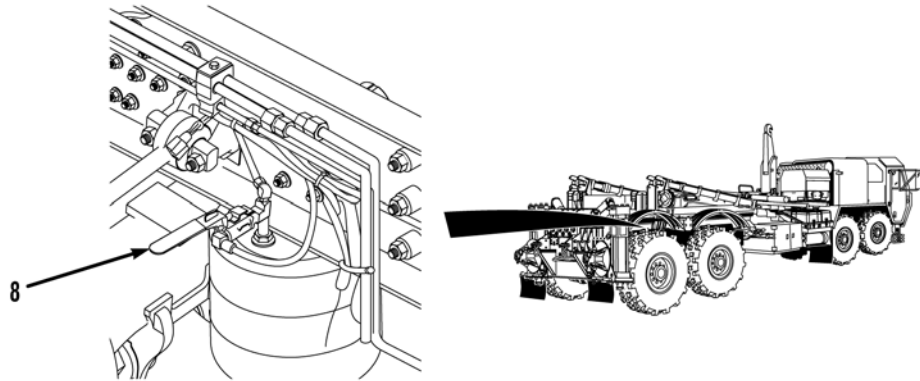
Do not attempt to transport a HEMTT THAAD with MRP loaded on back of vehicle. The combined weight of vehicle and MRP exceeds transport weight limitations. Failure to comply may result in damage to equipment.

1. Remove safety pin (1), washer (2), and LHS hook arm pin (3) from hook arm (4).
2. Lower hook arm (4) toward rear of vehicle and reinsert LHS hook arm pin (3), washers (2), and safety pin (1) through main beam (5) only.



**STEERING WHEEL SHOWN
REMOVED FOR CLARITY**

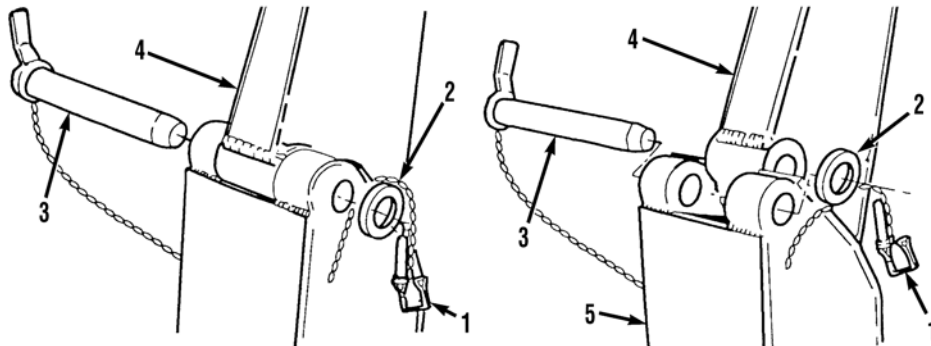
3. Before loading vehicle for transport, turn hydraulic selector switch (6) and PTO ENGAGE switch (7) to OFF positions.



4. Turn two ball valve handles (8) to off position to turn off air suspension automatic adjustments.
5. Observe fuel gage and drain fuel tank to 1/8 level (19.25 gallons).
6. Fold in mirrors (TM 9-2320-347-10)
7. Disconnect batteries (TM 9-2320-325-14&P).

END OF TASK

c. Preparation for Use After Air/Sea/Rail Transport.



1. Fold out mirrors (TM 9-2320-347-10)
2. Turn two ball valve handles (8) to on position to turn on air suspension automatic adjustment.
3. Remove safety pin (1), washer (2), and LHS hook arm pin (3) from main beam (5).

WARNING

Hook arm weighs 200 lbs (91 kg). Do not attempt to lift or move hook arm without the aid of a suitable lifting device. Failure to comply may result in injury to personnel.

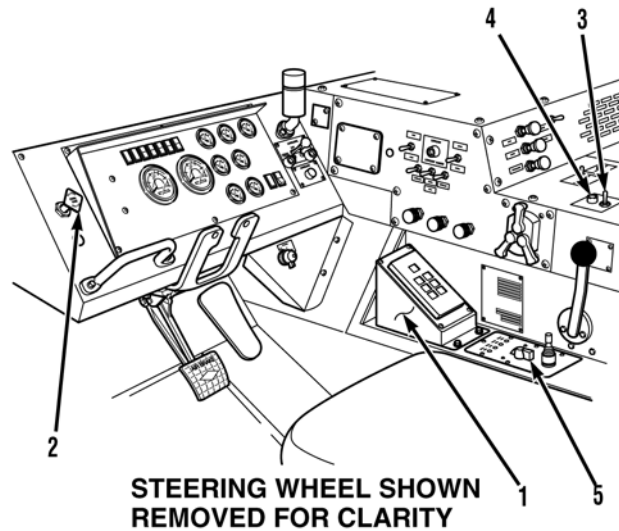
4. Raise hook arm (4) toward front of vehicle and install LHS hook arm pin (3) through hook arm (4) and main beam (5) with washer (2) and safety pin (1).
5. Reconnect batteries (TM 9-2320-325-14&P).

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE
DECK ELEVATION CYLINDERS OPERATION

a. Deploy MRP.



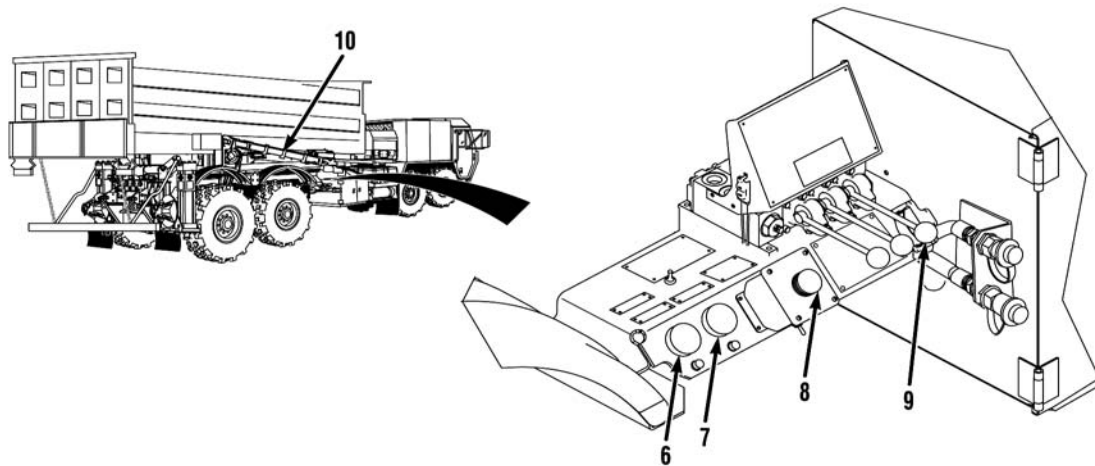
WARNING

- **Check for overhead power lines and other obstructions before deploying MRP. Failure to comply may result in injury or death to personnel.**
 - **Check ground conditions for firmness. Failure to comply may result in injury or death to personnel.**
1. Check area for sufficient operating room at front and rear of vehicle. Check overhead clearance and ground conditions.
 2. Start engine (TM 9-2320-347-10)
 3. Position vehicle on level ground.
 4. Set transmission range selector (1) to N (Neutral).
 5. Pull PARKING BRAKE control knob (2) out.
 6. Wheels chocked (TM 9-2320-347-10)

CAUTION

- Engine speed must be at idle before activating PTO ENGAGE switch or hydraulic selector switch. Failure to comply may result in damage to equipment.**
7. Move PTO ENGAGE switch (3) to ON position. Indicator light (4) is illuminated.
 8. Turn hydraulic selector switch (5) to MRP position.
 9. Ground vehicle (WP 0010).

10. Deploy outriggers (WP 0013).
11. Verify air bag pressure depleted light (6) is illuminated (may take over 2 minutes).
12. Verify umbilical cables and ADU/IL cables are properly connected to MRP (Refer to THAAD Launcher IETM).
13. Stow MRP under-run bumper (Refer to THAAD Launcher IETM).
14. Disengage MRP deck-to-subframe lock (Refer to THAAD Launcher IETM).
15. Engage MRP rack locks (WP 0012).
16. Verify MRP rack locks engaged and light is illuminated (7).



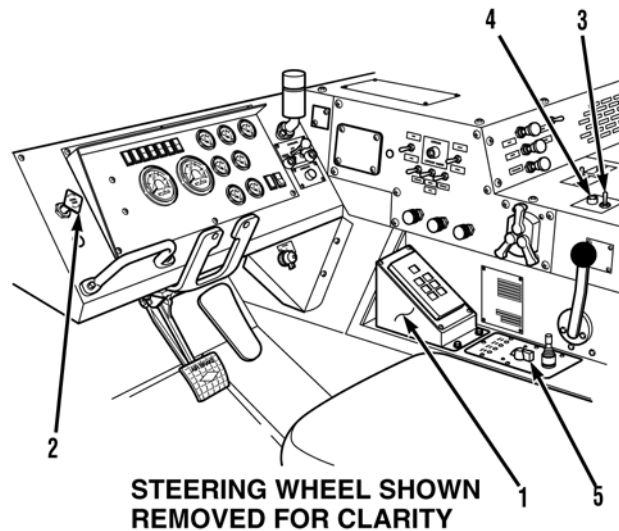
CAUTION

MRP deck elevation cylinder locks must engage when the elevation angle is greater than 5°. Verify that deck elevation cylinders and MRP deck cylinder locks have properly engaged. Failure to comply may result in damage to equipment.

NOTE

- Positioning of MRP lift lever controls speed that MRP raises. For fastest deployment, move lever fully toward RAISE.
 - Engine will automatically increase to high idle as the MRP is raised above 5°.
17. Push and hold palm button switch (8).
 18. Move MRP lift lever control (9) to RAISE position until deck elevation cylinders (10) stop.
 19. Release palm button switch (8).
 20. Soldier A and Soldier B deploy blast deflector (Refer to THAAD Launcher IETM).

END OF TASK

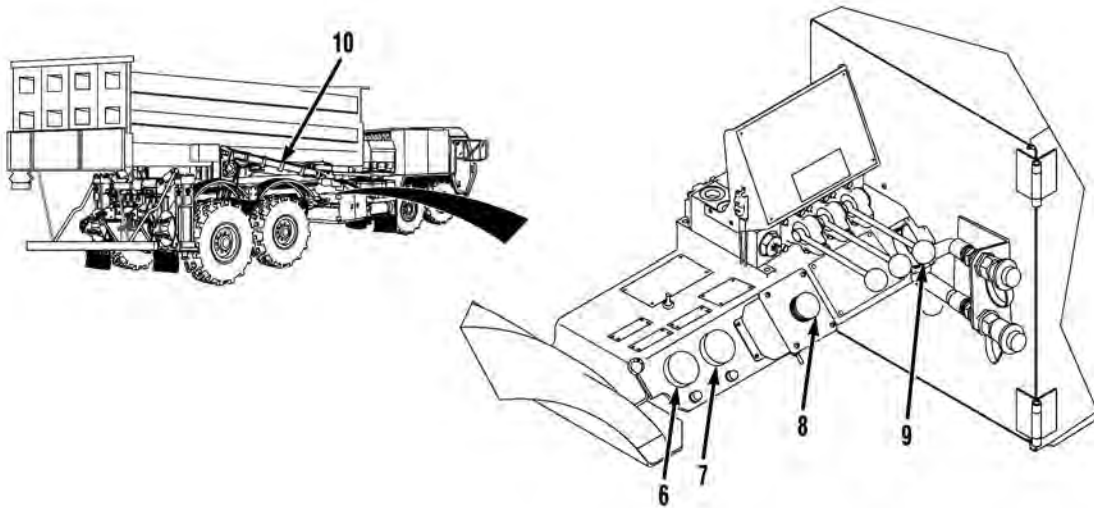
b. Stow MRP.

1. Soldier A and Soldier B stow blast deflector (Refer to THAAD Launcher IETM).
2. Start engine (TM 9-2320-347-10)
3. Set transmission range selector (1) to N (Neutral).
4. Pull PARKING BRAKE control knob (2) out.

CAUTION

Engine speed must be at idle before activating PTO ENGAGE switch or hydraulic selector switch. Failure to comply may result in damage to equipment.

5. Move PTO ENGAGE switch (3) to ON position. Indicator light (4) is illuminated.
6. Turn hydraulic selector switch (5) to MRP position.



CAUTION

- The MRP deck elevation cylinder locks must disengage when the elevation angle is less than 5°. Verify that deck elevation cylinders and MRP deck cylinder locks have properly disengaged. Failure to comply may result in damage to equipment.
- As MRP approaches fully lowered position, slow its rate of descent. Failure to comply may result in damage to equipment.

NOTE

- Positioning of MRP lift lever controls speed that MRP lowers. For fastest stowage, move lever fully toward LOWER. To slow MRP descent, move lever toward NEUTRAL.
- The engine will automatically decrease to low idle as the MRP is lowered.

7. Push and hold palm button switch (8).
8. Move MRP lift lever control (9) to LOWER position until deck elevation cylinders (8) are fully retracted into stowed position.
9. Release palm button switch (8).
10. Disengage MRP rack locks (WP 0012).
11. Engage MRP deck-to-subframe lock (Refer to THAAD Launcher IETM).

NOTE

Air suspension will automatically inflate when outriggers are stowed.

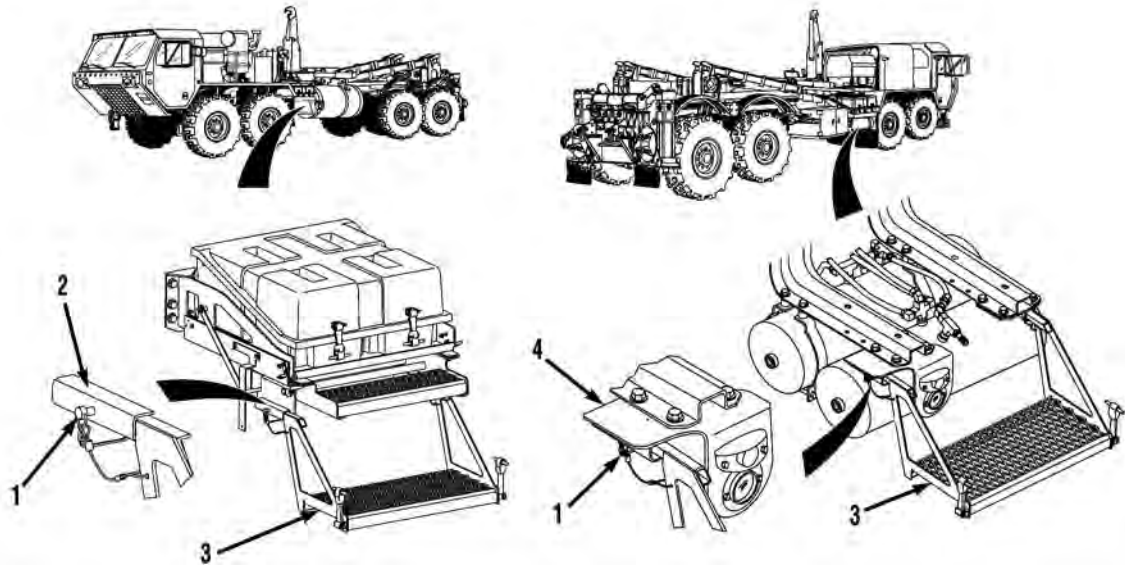
12. Stow outriggers (WP 0013).
13. Deploy MRP under-run bumper (Refer to THAAD Launcher IETM).

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE
GENERATOR STEP RELOCATION

a. Move Generator Step From Driver Side to Passenger Side.



1. Unstow generator step (WP 0009).
2. Remove two snapper pins (1) from mounting brackets (2) and generator step (3).
3. Remove generator step (3) from two mounting brackets (2).
4. Slide generator step (3) into two mounting brackets (4) on passenger side.
5. Install two snapper pins (1) in mounting brackets (4) and generator step (3).

END OF TASK

b. Move Generator Step From Passenger Side to Driver Side.

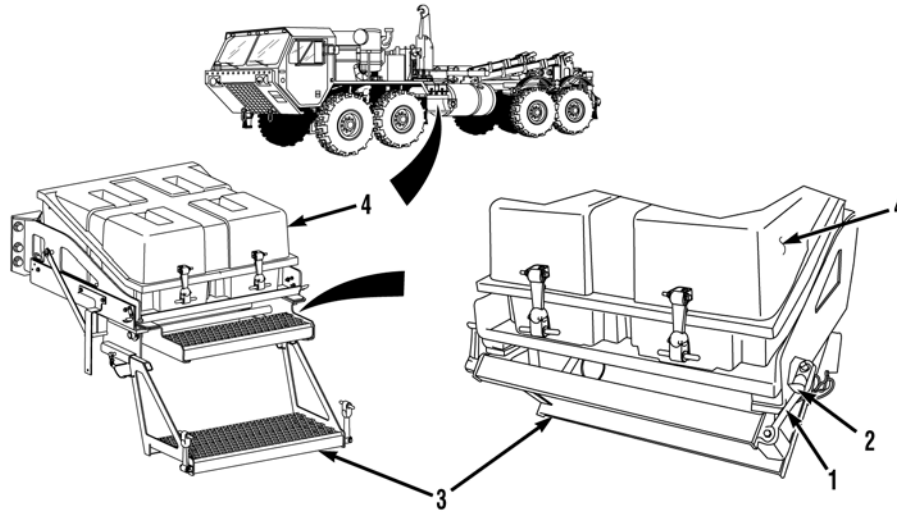
1. Remove two snapper pins (1) from mounting brackets (4) and generator step (3).
2. Remove generator step (3) from two mounting brackets (4).
3. Slide generator step (3) into two mounting brackets (2) on drivers side.
4. Install two snapper pins (1) in mounting brackets (2) and generator step (3).
5. Stow generator step (WP 0009).

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE
GENERATOR STEP STOW/UNSTOW

a. Unstow.



NOTE

Generator step can only be stowed/unstowed when mounted on driver's side of vehicle.

1. Release two rubber latches (1) from catches (2).
2. Lower generator step (3) and extend step (3) away from vehicle.

END OF TASK

b. Stow.

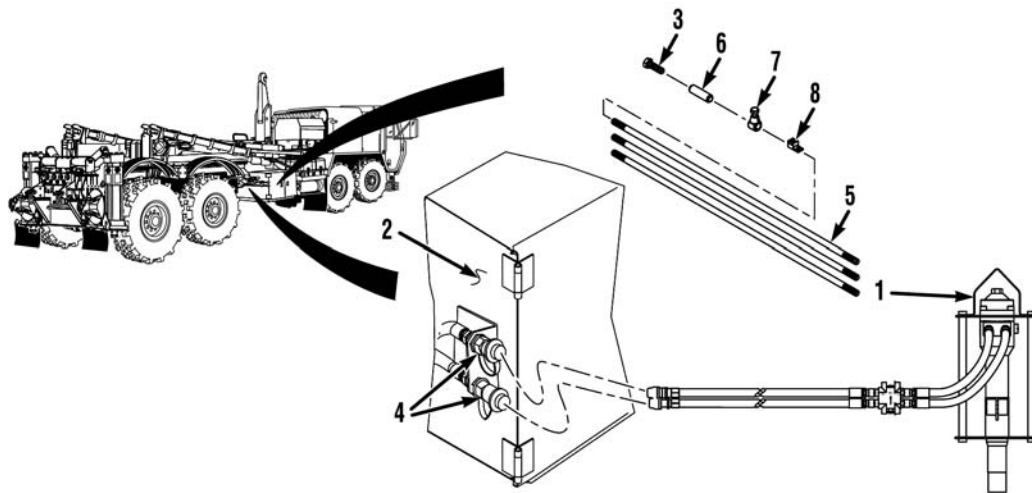
1. Retract generator step (3) under battery box (4).
2. Secure generator step (3) in stowed position by placing two rubber latches (1) in catches (2).

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE
GROUND ROD DRIVER OPERATION

a. Prepare to Operate Ground Rod Driver.

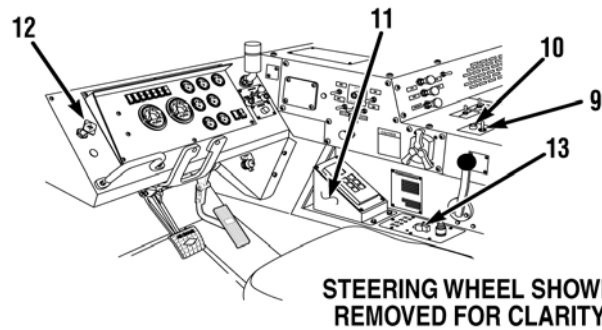


1. Check area for sufficient operating room at front and rear of vehicle. Check overhead clearance and ground conditions.
2. Remove ground rod driver (1) from BII stowage box (2).
3. Remove grounding rod socket (3) from BII stowage box (2).
4. Connect ground rod driver (1) to hydraulic connectors (4).

NOTE

Assemble ground rod sections one at a time as previous section is driven to ground.

5. Assemble ground rod (5).
6. Attach connector (6), clamp (7) and grounding terminal (8) to ground rod assembly (5).
7. Attach socket (3) to connector (6).
8. Start engine (TM 9-2320-347-10)

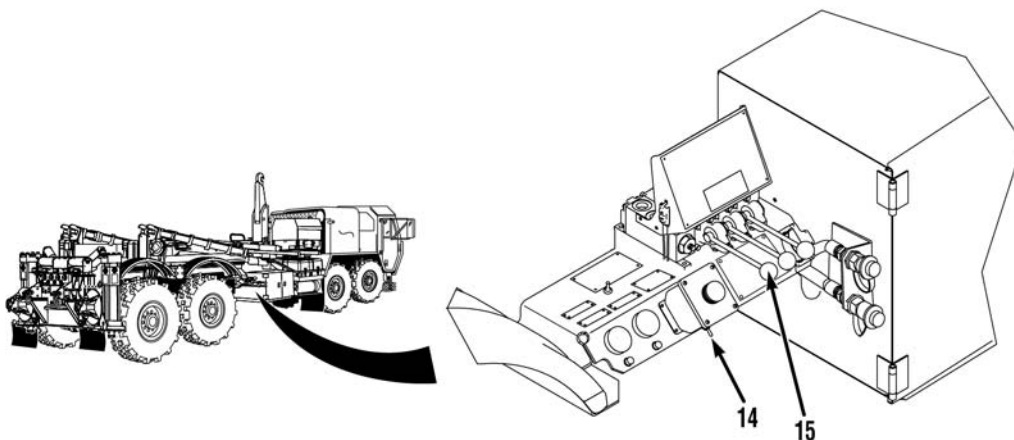


9. Ensure PTO ENGAGE switch (9) is in OFF position. Indicator light (10) is extinguished.
10. Set transmission range selector (11) to N (Neutral).
11. Pull PARKING BRAKE control knob (12) out.

CAUTION

Engine speed must be at idle before activating PTO ENGAGE switch or hydraulic selector switch. Failure to comply may result in damage to equipment.

12. Move PTO ENGAGE switch (9) to ON position. Indicator light (10) is illuminated.
13. Turn hydraulic selector switch (13) to MRP position.

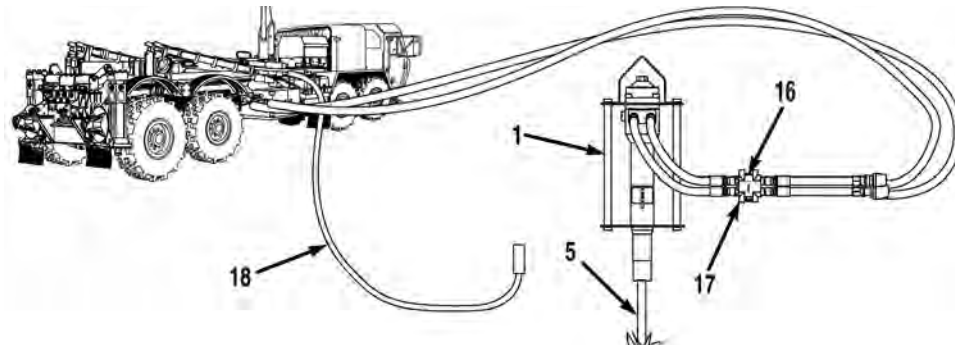


NOTE

When toggle switch is activated, engine speed will be limited to 700 rpm.

14. Move ground rod driver switch (14) to ON position.
15. Move GROUND ROD DRIVER control lever (15) to ON position.

END OF TASK

b. Driving Ground Rod.**WARNING**

- Intense noise levels are possible when working around ground rod driver. Hearing protection is required when using ground rod driver. Failure to comply may result in injury to personnel.
- Ground rod driver may throw debris when operating. Eye protection is required when using ground rod driver. Failure to comply may result in injury to personnel.
- Ground rod driver may become hot during and after operation. Use caution when handling ground rod driver. Failure to comply may result in injury to personnel.
- Maintain a firm grip on ground rod driver, using both hands at all times. Failure to comply may result in injury or death to personnel.
- Do not disconnect ground rod driver, hoses, or fittings while the tool is running. Failure to comply may result in injury or death to personnel.
- Ensure all unnecessary personnel are clear of work area when operating ground rod driver. Failure to comply may result in injury or death to personnel.
- Hydraulic oil under pressure can easily puncture skin. Do not use hands to check for oil leaks. Do not hold hose or couplers when hydraulic system is pressurized. Failure to comply may result in injury or death to personnel.

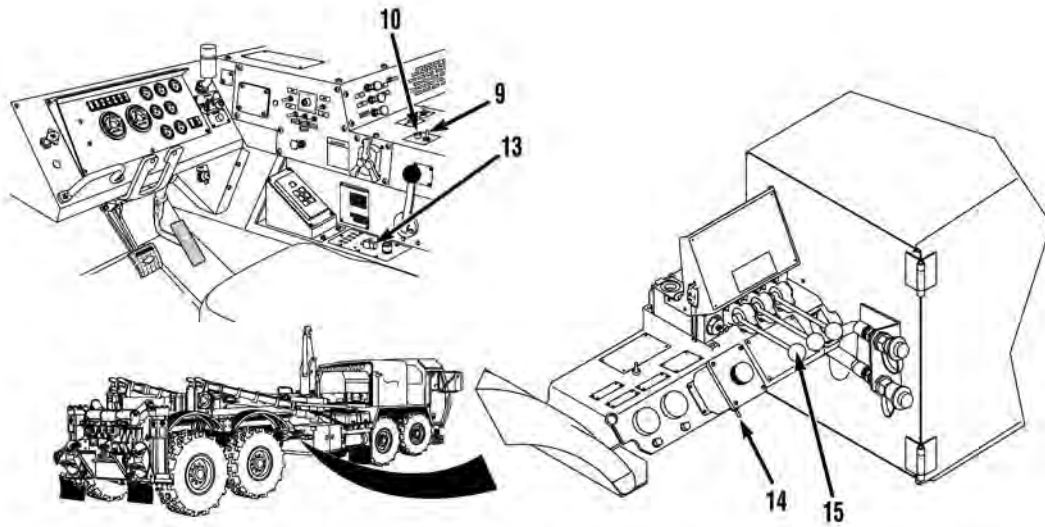
NOTE

Ground rod can be located up to 15 ft. (4.6 m) away from vehicle.

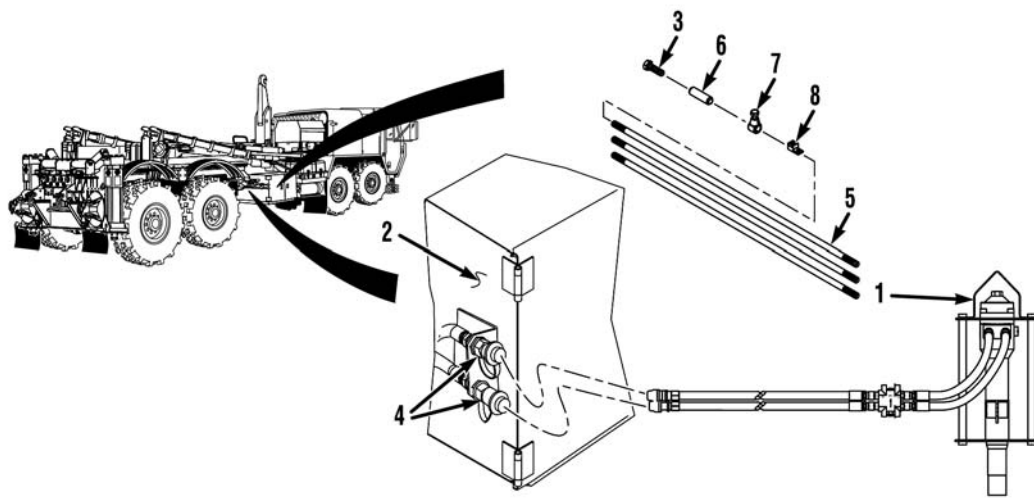
1. Slide ground rod (5) into ground rod driver (1).
2. Lift ground rod (5) and ground rod driver (1) to a vertical position.
3. While continuing to support ground rod (5) and ground rod driver (1), move control spool (16) on control valve (17) to ON position and drive ground rod (5) into ground.
4. Once ground rod (5) is driven into ground, move control spool (16) on control valve (17) to OFF position.
5. Remove ground rod driver (1) from ground rod (5).
6. Connect vehicle grounding cable (18) to ground rod (5).

END OF TASK

c. *Stowing Ground Rod Driver.*



1. Move GROUND ROD DRIVER control lever (15) to OFF position.
2. Move ground rod driver switch (14) to OFF position.
3. Move PTO ENGAGE switch (9) to OFF position. Indicator light (10) is extinguished.
4. Turn hydraulic selector switch (13) to OFF position.
5. Shut off engine (TM 9-2320-347-10)



6. Disconnect ground rod driver (1) from hydraulic connectors (4).
7. Stow ground rod driver (1) in BII stowage box (2)
8. Stow grounding rod socket (3) in BII stowage box (2).
9. Disconnect vehicle grounding cable (18) from grounding rod (5).
10. Remove socket (3) from ground rod (5) and stow in BII stowage box (2).
11. Remove ground terminal (8), clamp (7) and connector (6) from ground rod (5).

END OF TASK

END OF WORK PACKAGE

OPERATOR INSTRUCTIONS.

LHS FOR THE THAAD OPERATION

a. Loading MRP In AUTO Mode.

WARNING

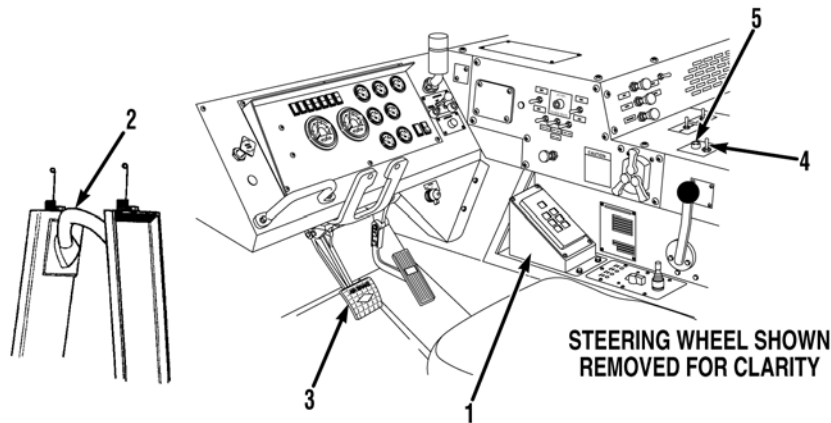
- Check for overhead power lines or other obstructions before attempting LHS operation. Failure to comply may result in injury or death to personnel.
- Check ground conditions for firmness and that sideways inclination is no greater than 5 degrees before loading or unloading an MRP, refer to TM 9-2320-364-14&P. Failure to comply may result in injury or death to personnel.
- During any load or unload cycle, all personnel must stay clear of LHS and MRP. Failure to comply may result in injury or death to personnel.
- When loaded with MRP, the center of gravity is moved up and toward rear of vehicle. Extreme caution must be taken when turning and ascending or descending on a grade. Failure to comply may result in injury or death to personnel.
- Maximum side slope while operating a HEMTT THAAD loaded with an MRP is 20 percent. Failure to comply may result in injury or death to personnel.

CAUTION

- Before starting any LHS operations, clean all operating components of snow, ice, sand, or mud. Failure to comply may result in damage to equipment.
- Before starting any LHS operations, adjust extension mirror to monitor LHS operations. Failure to comply may result in damage to equipment.
- If terrain is deeply rutted, soft soil, etc., mud flaps must be pinned up before beginning LHS operation. Failure to comply may result in damage to equipment.
- Only operate the LHS system in AUTO mode. Failure to comply may result in damage to equipment and/or MRP.
- Outriggers must be stowed before loading or unloading an MRP. Failure to comply may result in damage to equipment.

NOTE

- Before loading or unloading an MRP, verify that MRP rack locks are fully retracted (WP 0012) and deck elevation cylinders are fully stowed. If either of these criteria are not met, vehicle's safety interlocks will not allow LHS to operate.
 - When both MRP rack locks are fully disengaged, RACK LOCKS ENGAGED indicator light will be extinguished.
1. Ensure MRP deck-to-subframe lock is engaged (Refer to THAAD Launcher IETM).



CAUTION

If LHS had previously been used in **MANUAL** mode and not completely stowed in **AUTO** mode, hook arm cylinders must be completely extended or LHS must be completely stowed using **AUTO** mode before MRP can be loaded. Failure to comply may result in damage to equipment.

NOTE

Continued repetitive cycles of the LHS could cause overheating and system will fail to pick up load. Allow hydraulic system to cool. Wait approximately 1 1/2 hours or until hydraulic reservoir is cool. Hydraulic reservoir is cool when you can hold your hand on reservoir for more than 10 seconds.

2. Start engine (TM 9-2320-347-10)

NOTE

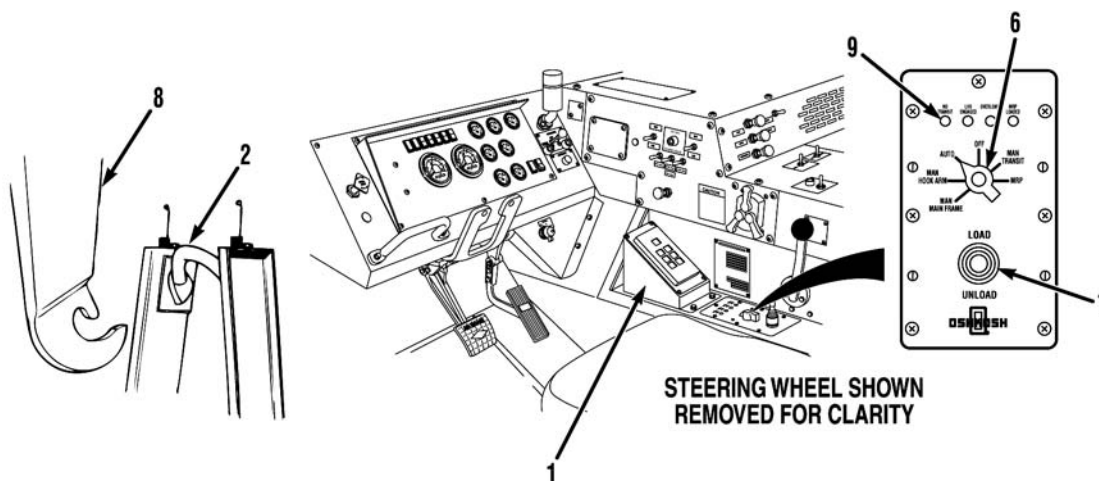
- The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to 1,500 rpm to reduce loading and unloading times.
- LHS will only operate when transmission range selector is in N (Neutral).

3. Set transmission range selector (1) to R (Reverse) and back vehicle up to MRP. Stop vehicle approximately 5 ft. (1.5 m) from MRP hook bar (2). Check for overhead obstructions and firmness of ground.
4. Park vehicle (TM 9-2320-347-10)
5. Ground vehicle (WP 0010).
6. Apply service brake pedal (3) and set transmission range selector (1) to N (Neutral).

CAUTION

Engine speed must be at idle before using hydraulic selector switch. Failure to comply may result in damage to equipment.

7. Move PTO ENGAGE switch (4) to ON position. Indicator light (5) is illuminated.



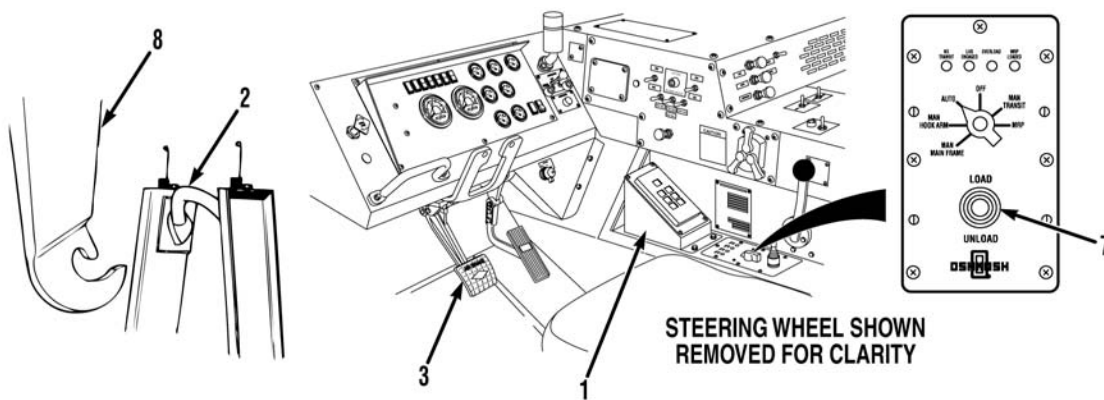
WARNING

- **Check for overhead power lines or other obstructions before attempting LHS operation. Serious injury or death to personnel could result from contact with electrical power lines. Failure to comply may result in injury or death to personnel.**
- **Check ground conditions for firmness and extreme sideways inclination before loading or unloading a MRP. Any ground instability beneath road wheels could create a serious situation. Failure to comply may result in injury or death to personnel.**
- **Prior to and during any load or unload cycle, all personnel should stay clear of LHS and MRP. Failure to comply may result in injury or death to personnel.**

8. Turn hydraulic selector switch (6) to AUTO position.
9. Move joystick (7) to UNLOAD position. Lift hook (8) will raise and begin to move rearwards. LHS NO TRANSIT indicator light (9) will illuminate.

NOTE

- To fully view lift hook relation to hook bar, it may be necessary to observe position from outside cab.
 - LHS will only operate when transmission range selector is in N (Neutral).
10. Continue to unload until lift hook (8) has moved to below level of MRP hook bar (2).
 11. Release joystick (7).
 12. Set transmission range selector (1) to R (Reverse) and back vehicle up to MRP, aligning vehicle and lift hook (8) as straight as possible with middle of MRP hook bar (2) until lift hook (8) contacts MRP hook bar (2). Be sure lift hook tip is positioned below bottom of MRP hook bar (2).



NOTE

LHS will only operate when transmission range selector is in N (Neutral).

13. Set transmission range selector (1) to N (Neutral).

CAUTION

Do not use R (Reverse) to back up vehicle while hook arm is attached to MRP. Failure to comply may result in damage to equipment.

14. Connect vehicle static reel (14) to ground rod (16).
15. Connect MRP static reel clamp (Refer to THAAD Launcher IETM) to ground rod (16).
16. Move joystick (7) to LOAD position to raise lift hook (8) and engage hook bar (2).
17. If lift hook (8) fails to engage MRP hook bar (2):
 - (a) Release joystick (7).
 - (b) Set transmission range selector (1) to D (Drive), release service brake pedal (3), and move vehicle forward to clear MRP.
 - (c) Move joystick (7) to UNLOAD position until lift hook (8) is below level of MRP hook bar (2).
 - (d) Repeat steps (11) through (15) until lift hook (8) engages MRP hook bar (2).
18. When correctly engaged, set transmission range selector (1) to N (Neutral) and release service brake pedal (3).
19. Move LHS to lift MRP slightly, install MRP bail bar lock (Refer to THAAD Launcher IETM), continue loading MRP allowing vehicle to be pulled under MRP.

NOTE

MRP bail bar lock is stowed on MRP (Refer to THAAD Launcher IETM).

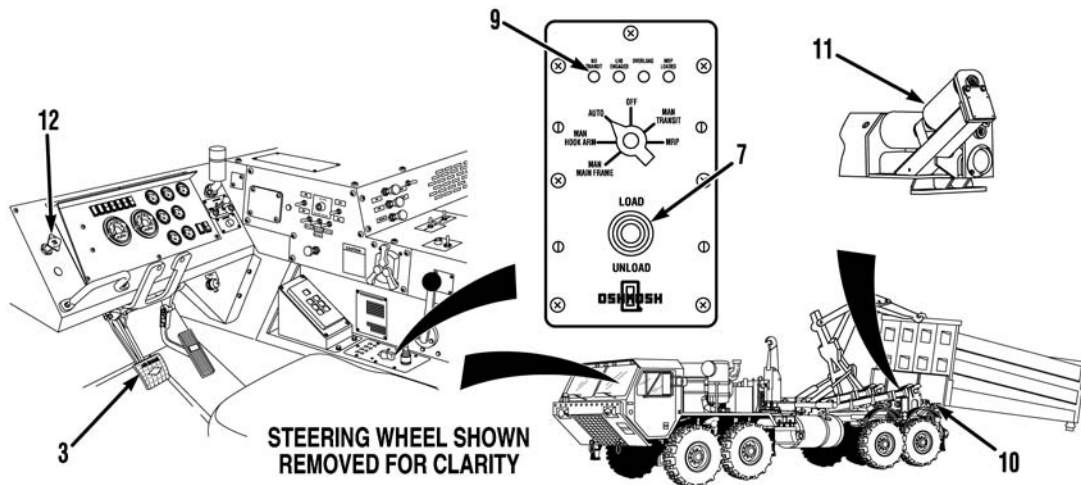
WARNING

When loading or unloading MRPs on uneven ground (side slope or downgrades up to 5 degrees), it may be necessary to apply vehicle service brakes to prevent vehicle rollaway. Failure to comply may result in injury or death to personnel.

CAUTION

Ensure that parking brake is not applied before starting load sequence. Failure to comply may result in damage to equipment.

20. Move joystick (7) to LOAD position, allowing vehicle to be pulled under MRP.

**WARNING**

Ensure that MRP Subframe contacts LHS rear rollers correctly. Failure to comply may result in serious injury or death to personnel and damage to equipment.

CAUTION

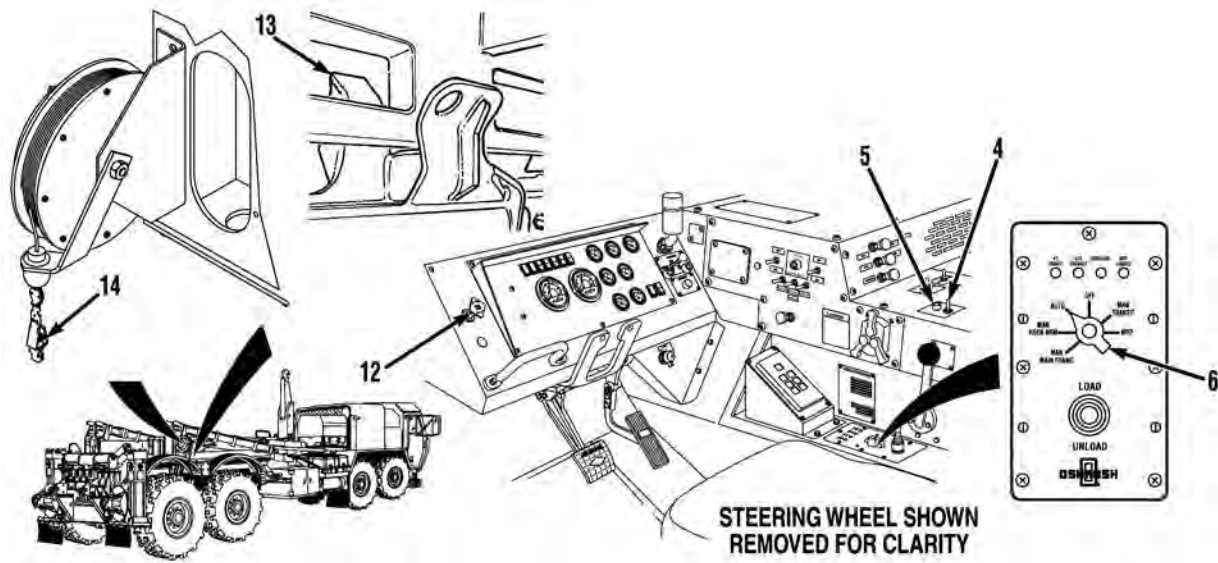
Reduce engine speed to idle before MRP Subframe contacts rear rollers. Failure to comply may result in damage to equipment.

21. As load is lifted, vehicle will be pulled under MRP. Some steering wheel adjustment may have to be made to ensure that MRP Subframe (10) will contact rear rollers (11).
22. Before MRP contacts rear rollers (11), reduce engine speed.
23. Apply service brake pedal (3) after MRP Subframe (10) contacts rear rollers (11).

NOTE

Engine speed will require increasing and decreasing in the following steps to facilitate performance.

24. After MRP contacts rear rollers (11), increase engine speed to 1,500 rpm until MRP is nearly loaded. Reduce engine speed to idle.
25. Continue loading until engaged MRP is fully loaded and LHS NO TRANSIT indicator light (9) is extinguished.
26. Release joystick (7).
27. Pull out PARKING BRAKE control (12).



NOTE

If MRP is not engaged in load locks, raise MRP slightly and lower again. MRP should set completely and engage load locks.

28. Inspect that both load locks (13) have engaged and MRP is completely down on vehicle.

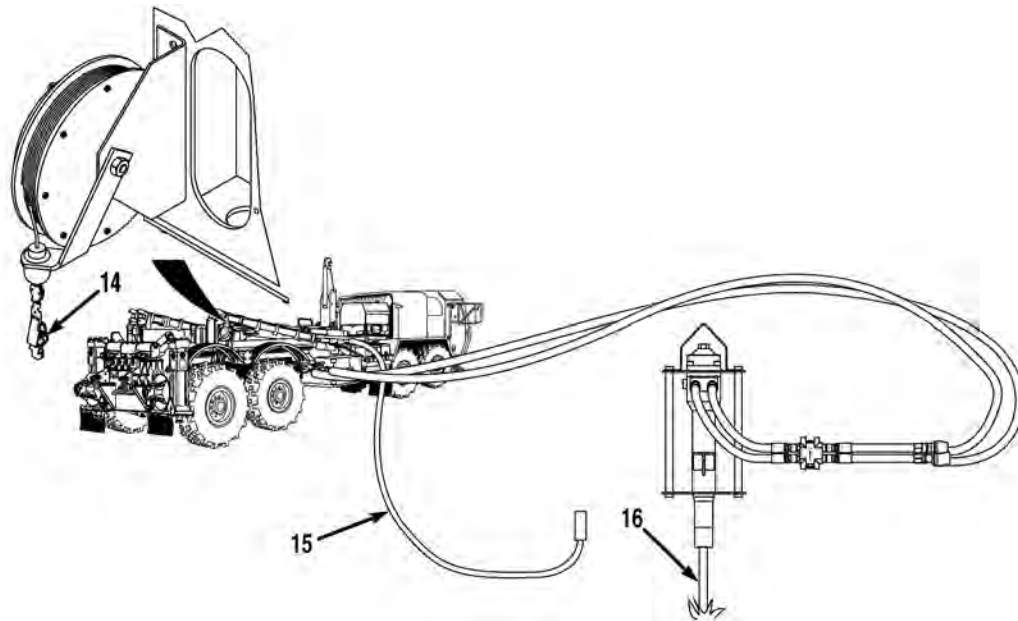
CAUTION

Engine speed must be at idle before using hydraulic selector switch. Failure to comply may result in damage to equipment.

29. Move PTO ENGAGE switch (4) to OFF position. Make sure indicator light (5) is extinguished.
30. Turn hydraulic selector switch (6) to OFF position.

WARNING

- **When loaded with MRP, center of gravity is moved up and toward rear of vehicle. Extreme caution must be taken when turning and ascending or descending on a grade. Failure to comply may result in severe injury or death to personnel.**
- **Maximum side slope when loaded with a MRP is 20 percent. Failure to comply may result in severe injury or death to personnel or damage to equipment.**
- **Do not reduce tire pressure when loaded with MRP. Highway tire pressure 60 psi (414 kPa) front and 83 psi (572 kPa) rear, is required at all times when loaded with MRP. Failure to comply may result in severe injury or death to personnel or damage to equipment.**



31. Connect vehicle ground cable (15) to ground rod (16).
32. Connect MRP ground cable to MRP ground bar (Refer to THAAD Launcher IETM)
33. Disconnect vehicle static reel cable (14) from ground rod (16).
34. Disconnect MRP static reel cable (Refer to THAAD Launcher IETM) from ground rod.
35. Connect umbilical and ADU/IL cables (Refer to THAAD Launcher IETM).
36. Refer to WP 0006 if preparing to transport MRP over-the-road.

END OF TASK

b. Unloading MRP in AUTO Mode.

WARNING

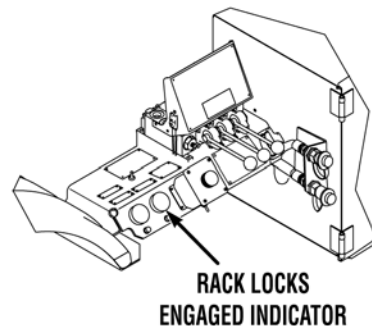
- Check for overhead power lines or other obstructions before attempting LHS operation. Failure to comply may result in injury or death to personnel.
- Check ground conditions for firmness and that sideways inclination is no greater than 5 degrees before loading or unloading an MRP. Failure to comply may result in injury or death to personnel.
- During any load or unload cycle, all personnel must stay clear of LHS and MRP. Failure to comply may result in injury or death to personnel.
- When loaded with MRP, the center of gravity is moved up and toward rear of vehicle. Extreme caution must be taken when turning and ascending or descending on a grade. Failure to comply may result in injury or death to personnel.
- Maximum side slope while operating a HEMTT THAAD loaded with an MRP is 20 percent. Failure to comply may result in injury or death to personnel.

CAUTION

- **Before starting any LHS operations, clean all operating components of snow, ice, sand, or mud. Failure to comply may result in damage to equipment.**
- **Before starting any LHS operations, adjust extension mirror to monitor LHS operations. Failure to comply may result in damage to equipment.**
- **If terrain is deeply rutted, soft soil, etc., mud flaps must be pinned up before beginning LHS operation. Failure to comply may result in damage to equipment.**
- **Only operate the LHS system in AUTO mode. Failure to comply may result in damage to equipment and/or MRP.**
- **Outriggers must be stowed before loading or unloading an MRP. Failure to comply may result in damage to equipment.**

NOTE

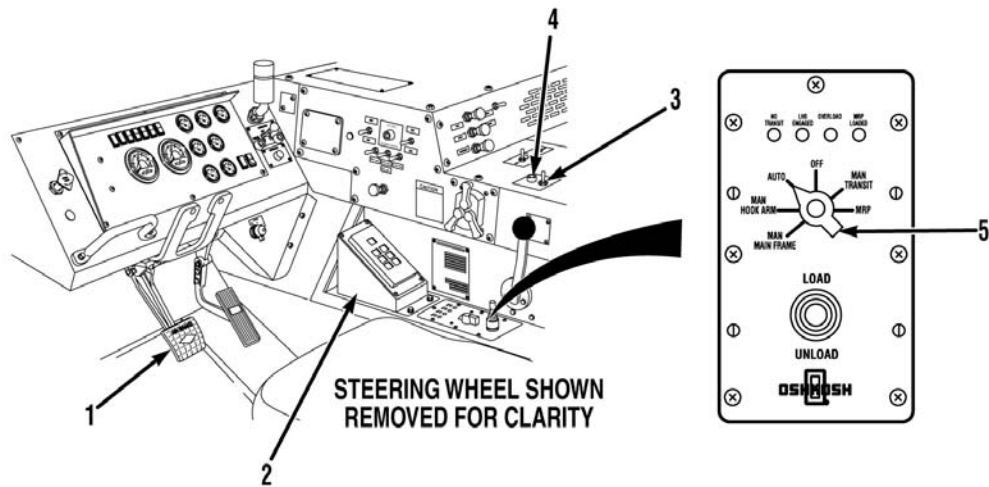
Before loading or unloading an MRP, verify that MRP rack locks are fully retracted (WP 0012) and deck elevation cylinders are fully stowed. If either of these criteria are not met, vehicle's safety interlocks will not allow LHS to operate.



NOTE

When both MRP rack locks are fully disengaged, RACK LOCKS ENGAGED indicator light will be extinguished.

1. Verify that both MRP rack locks are disengaged (WP 0012).
2. Ensure MRP deck-to-subframe locks are engaged (Refer to THAAD Launcher IETM).
3. Disconnect umbilical and ADU/IL cables (Refer to THAAD Launcher IETM).
4. Stow MRP under-run bumper (Refer to THAAD Launcher IETM).



NOTE

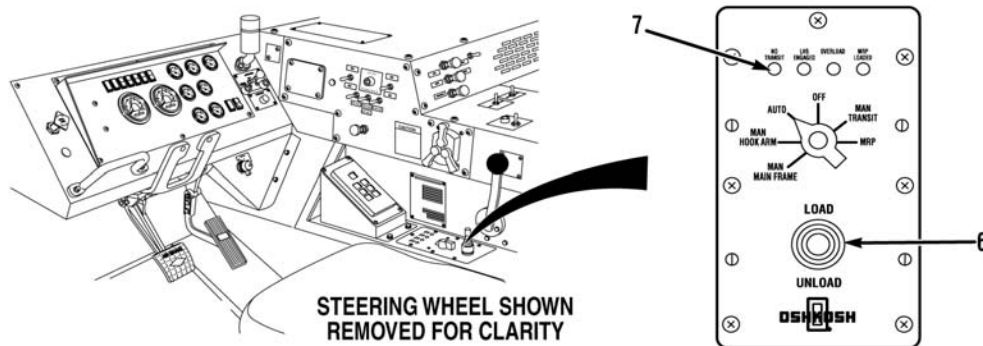
Continued repetitive cycles of the LHS could cause overheating and system will fail to pick up load. Allow hydraulic system to cool. Wait approximately 1 1/2 hours or until hydraulic reservoir is cool. The hydraulic reservoir is cool when you can hold your hand on the reservoir for more than 10 seconds.

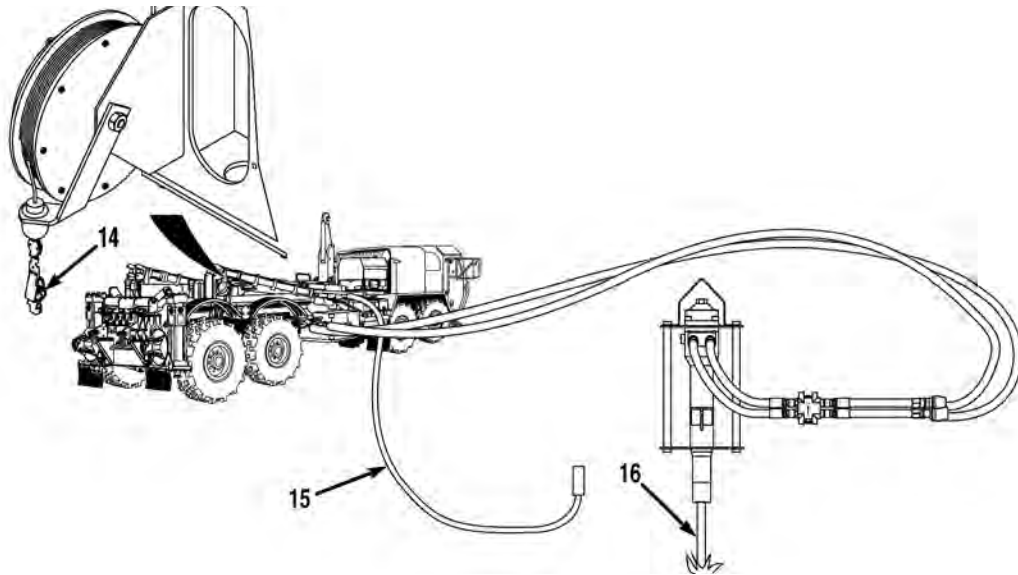
5. Start engine (TM 9-2320-347-10)
6. Check area for sufficient operating room at front and rear of vehicle. Check overhead clearance and ground conditions.
7. Apply service brake pedal (1) and set transmission range selector (2) to N (Neutral).

CAUTION

Ensure parking brake is not applied during unload sequence. Failure to comply may result in damage to equipment.

8. Move PTO ENGAGE switch (3) to ON position. Indicator light (4) should illuminate.
9. Turn hydraulic selector switch (5) to AUTO position.





WARNING

- **When loading or unloading MRPs on uneven ground (side slope or downgrades up to 5 degrees), it may be necessary to apply vehicle service brakes to prevent vehicle rollaway. Failure to comply may result in injury or death to personnel.**
- **Check for overhead power lines or other obstructions before attempting LHS operation. Failure to comply may result in injury or death to personnel.**
- **Check ground conditions for firmness and extreme sideways inclination before loading or unloading a MRP. Failure to comply may result in injury or death to personnel.**
- **Prior to and during any load or unload cycle, all personnel should stay clear of LHS and MRP. Failure to comply may result in injury or death to personnel.**

CAUTION

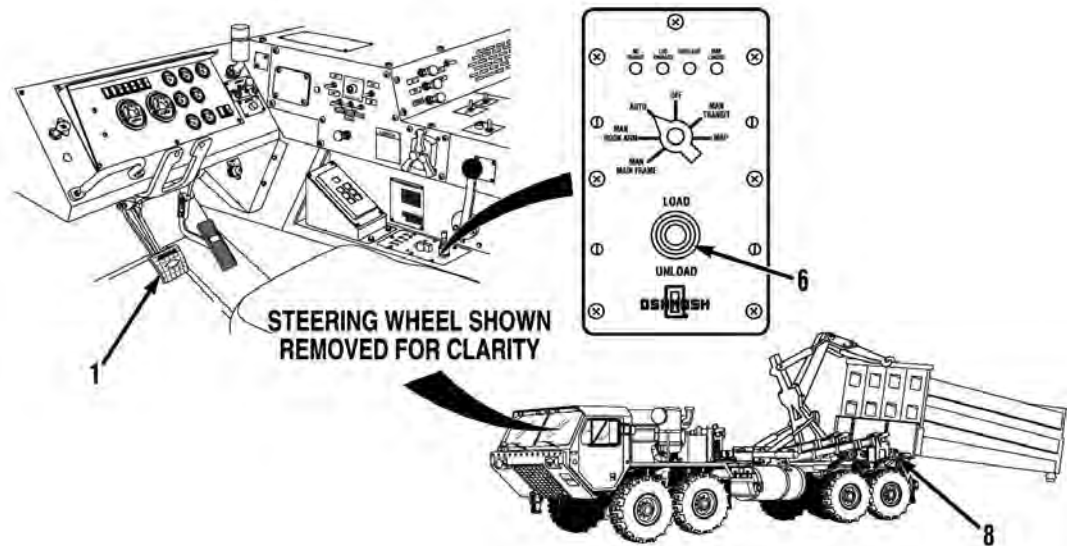
Check that ground conditions where MRP will be placed can support the MRP weight. Failure to comply may result in damage to equipment.

10. Connect vehicle static reel cable (14) to ground rod (16).
11. Connect MRP static reel cable (Refer to THAAD Launcher IETM) to ground rod (16).
12. Disconnect vehicle ground cable (15) from ground rod (16).
13. Disconnect MRP ground cable (15) from MRP.
14. Move joystick (6) to UNLOAD position. MRP will start to move rearwards. LHS NO TRANSIT indicator light (7) will illuminate. Maintain engine speed at idle until front of MRP raises approximately 1 ft. (30.5 cm).

NOTE

Loading and unloading times are controlled by engine speed. Engine speed can be increased to 1,500 to maximum rpm to reduce loading and unloading times.

15. Continue to unload until rear suspension starts to lift and back edge of MRP touches ground.

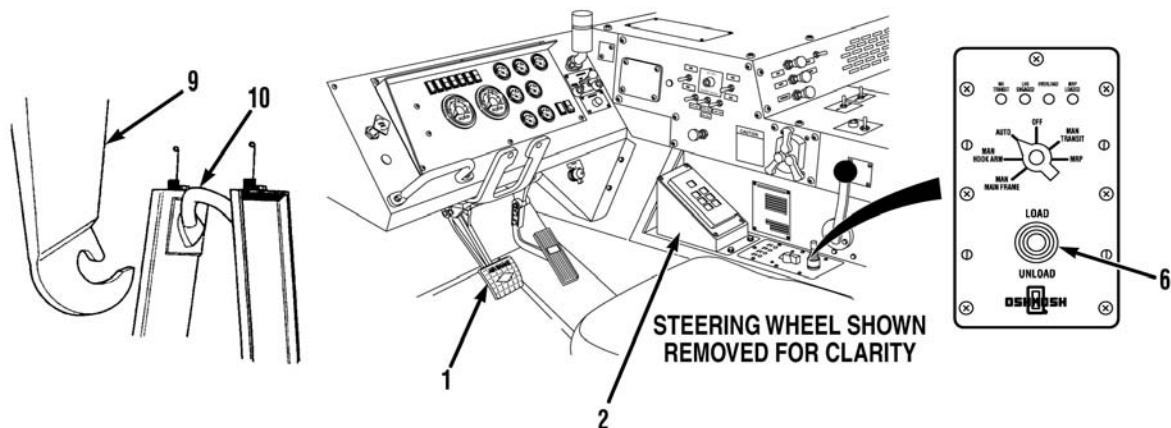


16. Release service brake pedal (1) and allow grounded MRP to push vehicle straight forward from under MRP.
17. As front of MRP approaches within approximately 8 in. (20.32 cm) of ground, decrease engine speed to idle and apply service brake pedal (1).

CAUTION

Once vehicle's rear suspension has been relieved of MRP load, do not continue in UNLOAD position as possibility of jacking up rear of vehicle with hook arm may occur. Failure to comply may result in damage to equipment.

18. Stop when MRP Subframe is about 6 inches from the ground. Disconnect the stow bail bar lock on MRP (Refer to THAAD Launcher IETM), continue unloading until MRP Subframe (8) is on ground and rear suspension is unloaded.
19. Release joystick (6) when MRP Subframe (8) is resting on ground.

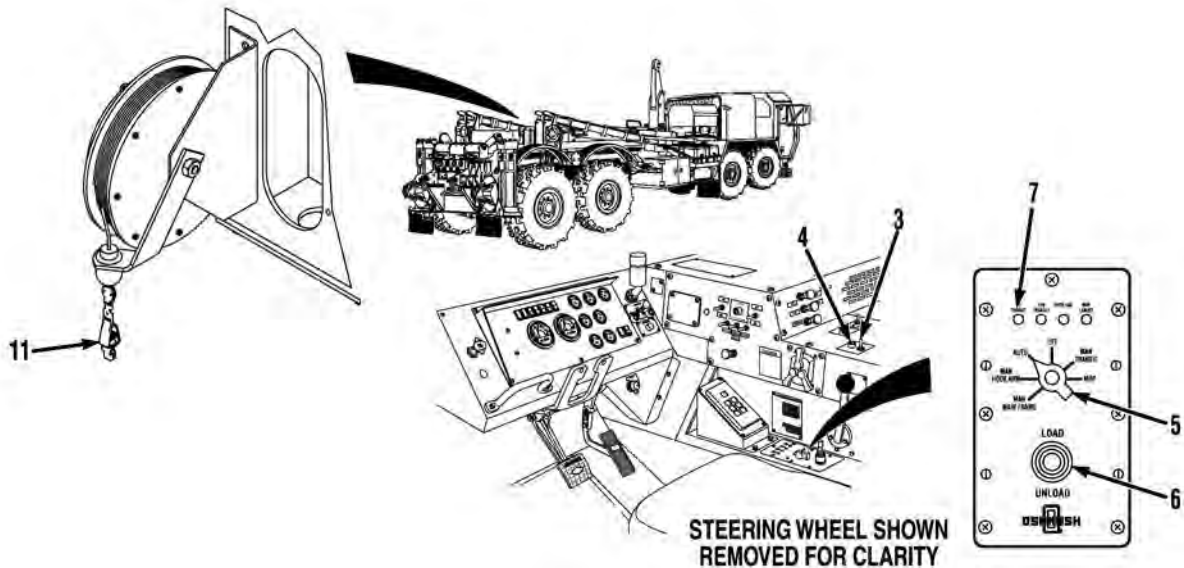


CAUTION

Do not use R (Reverse) to back up vehicle while hook arm is attached to MRP. Failure to comply may result in damage to equipment.

NOTE

- Engine speed is set at idle. However, slight increase in engine speed may be necessary depending on terrain.
 - LHS will only operate when transmission range selector is in N (Neutral).
20. Set transmission range selector (2) to D (Drive) and release service brake pedal (1).
 21. Set transmission range selector (2) to N (Neutral).
 22. Move joystick (6) to LOAD position momentarily, and then to UNLOAD position to let hook arm (9) disengage from MRP hook bar (10).
 23. Repeat step (19) until hook arm (9) disengages MRP hook bar (10).
 24. Set transmission range selector (2) to D (Drive) and move vehicle forward approximately 5 ft. (1.5 m).
 25. Stop vehicle and set transmission range selector (2) to N (Neutral).



CAUTION

Never drive with LHS NO TRANSIT indicator illuminated. An illuminated indicator means load locks are not engaged and LHS is not fully stowed. Failure to comply may result in damage to equipment.

NOTE

Hook arm does not need to be fully stowed if more transfer operations are going to be made.

26. Move joysticks (6) to LOAD position until LHS is in transit position. LHS NO TRANSIT indicator light (7) will extinguish indicating LHS is in transport position.

CAUTION

Engine speed must be at idle before using hydraulic selector switch. Failure to comply may result in damage to equipment.

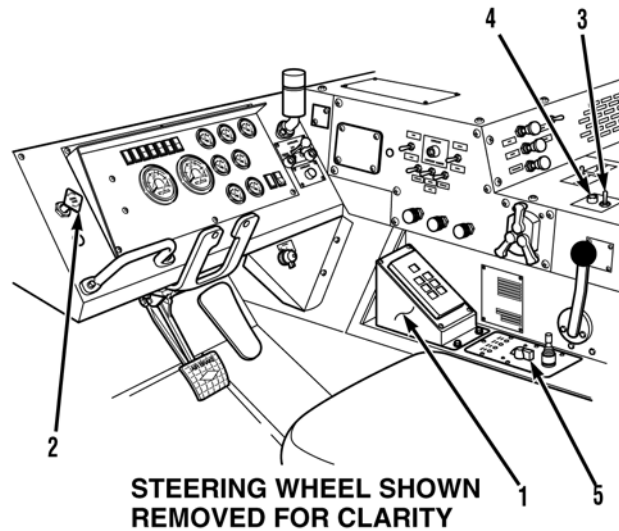
27. Release joystick (6).
28. Turn hydraulic selector switch (5) to OFF position.
29. Move PTO ENGAGE switch (3) to OFF position.
30. Disconnect static reel cable (11) from ground rod (16).
31. Disconnect MRP static reel cable (Refer to THAAD Launcher IETM) from ground rod.
32. Remove and stow ground rod (WP 0010).

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE
MRP RACK LOCKS OPERATION

a. Engage MRP Rack Lock.

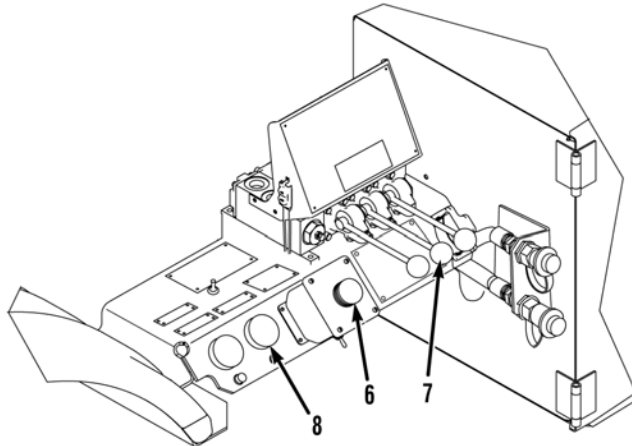


1. Start Engine (TM 9-2320-347-10)
2. Set transmission range selector (1) to N (Neutral).
3. Pull PARKING BRAKE control knob (2) out.

CAUTION

Engine speed must be at idle before activating PTO ENGAGE switch or hydraulic selector switch. Failure to comply may result in damage to equipment.

4. Move PTO ENGAGE switch (3) to ON position. Indicator light (4) is illuminated.
5. Turn hydraulic selector switch (5) to MRP position.

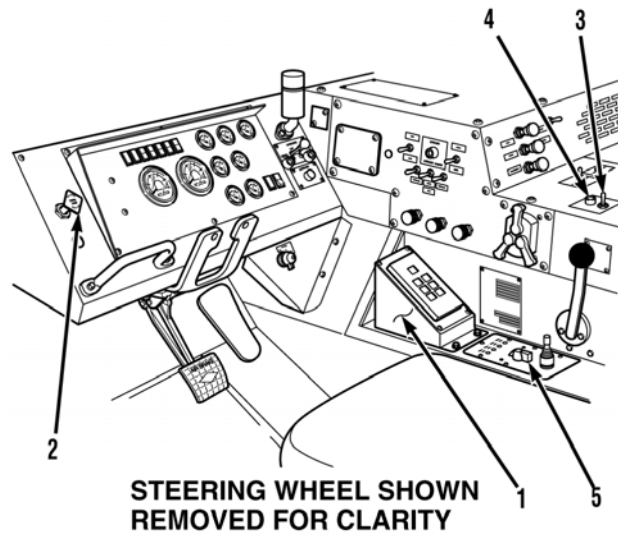


WARNING

Keep hands and feet clear of MRP while engaging or disengaging MRP rack lock. Failure to comply may result in injury to personnel.

NOTE

- MRP may shift slightly as rack locks are engaged.
 - Hydraulics are controlled by the electrical system to ensure proper sequence is done. If fail to operate verify proper operation is being done in proper sequence.
6. Push and hold palm button switch (6).
 7. Move MRP rack lock lever (7) to ENGAGE position until rack locks are fully engaged. Rack locks engaged indicator light (8) will be illuminated when MRP rack locks are engaged.
 8. Release palm button switch (6).



9. Move PTO ENGAGE switch (3) to OFF position. Indicator light (4) is extinguished.
10. Shut engine off (TM 9-2320-347-10)

END OF TASK

b. Disengage MRP Rack Lock.

WARNING

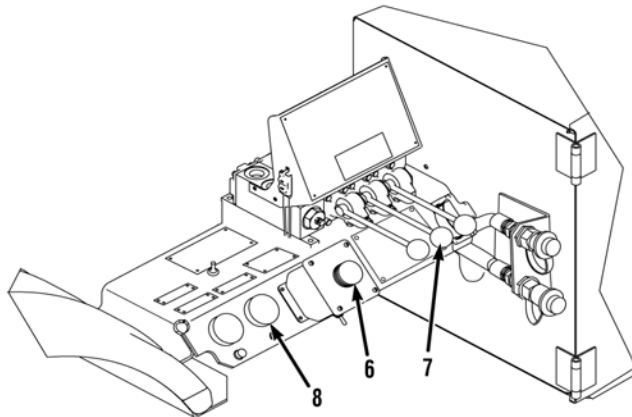
MRP deck must be lowered before disengaging MRP rack locks. Failure to comply may result in MRP falling off.

1. Start engine (TM 9-2320-347-10)
2. Set transmission range selector (1) to N (Neutral).
3. Pull PARKING BRAKE control knob (2) out.

CAUTION

Engine speed must be at idle before activating PTO ENGAGE switch or hydraulic selector switch. Failure to comply may result in damage to equipment.

4. Move PTO ENGAGE switch (3) to ON position. Indicator light (4) is illuminated.



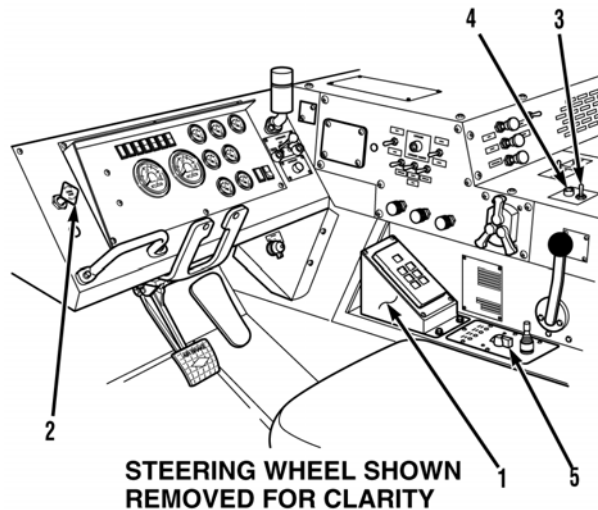
WARNING

Keep hands and feet clear of MRP while engaging or disengaging MRP rack lock. Failure to comply may result in injury to personnel.

NOTE

MRP may shift slightly as rack locks are engaged.

5. Push and hold palm button switch (6).
6. Move MRP rack lock lever (7) to DISENGAGE position until rack locks are fully disengaged. Rack locks engaged indicator (8) will be extinguished when MRP rack locks are disengaged.
7. Release palm button switch (6).

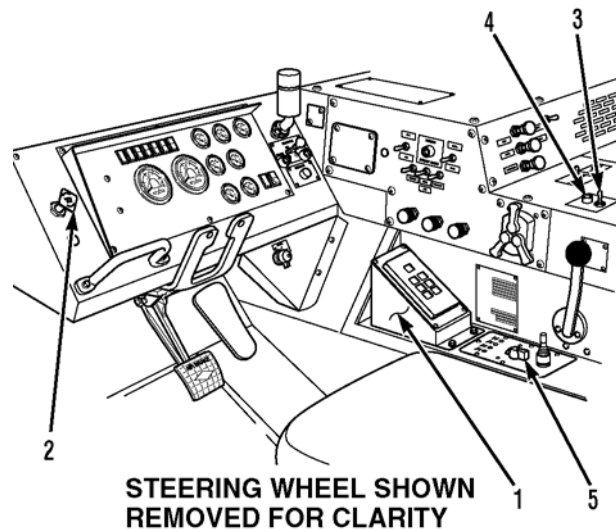


8. Move PTO ENGAGE switch (3) to OFF position. Indicator light (4) is extinguished.
9. Shut engine off (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE**OUTRIGGER OPERATION**

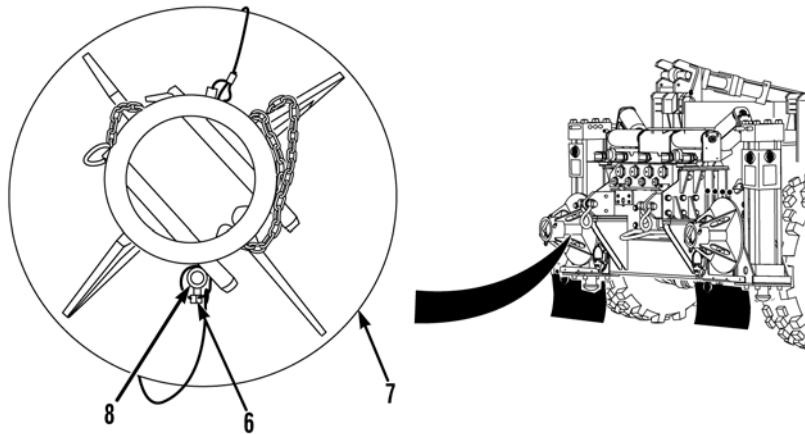
a. Deploy Outriggers.

1. Start engine (TM 9-2320-347-10)
2. Position vehicle on level ground.
3. Position transmission range selector (1) in N (Neutral).
4. Pull PARKING BRAKE control knob (2) out.

CAUTION

Engine speed must be at idle before activating PTO ENGAGE switch or hydraulic selector switch. Failure to comply may result in damage to equipment.

5. Move PTO ENGAGE switch (3) to ON position. Indicator light (4) is illuminated.
6. Turn hydraulic selector switch (5) to MRP position.

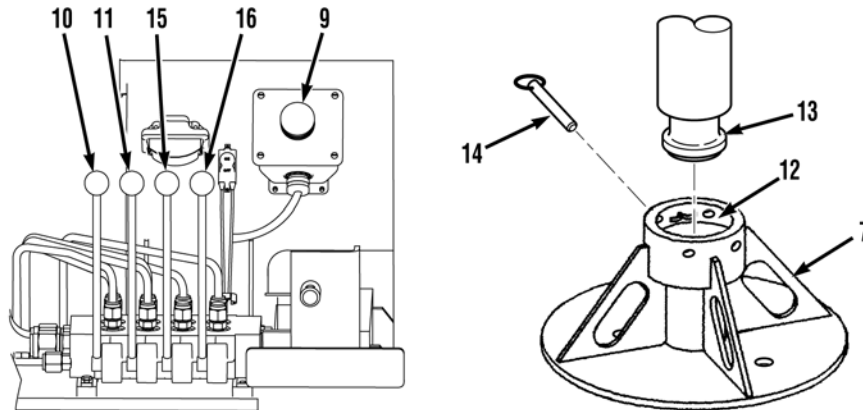
**WARNING**

Outrigger pads may have sharp edges. Use care when removing outrigger pads from stowed position. Failure to comply may result in injury or death to personnel.

NOTE

Both outrigger pads are deployed in the same way. Left side shown.

7. Remove two retaining clips (6) and outrigger pad (7) from two mounts (8) on left outrigger.
8. Repeat step (7) for right side outrigger pad.

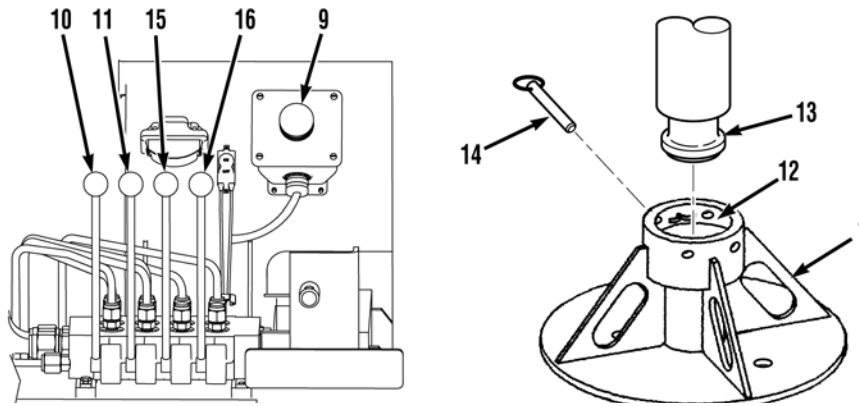


WARNING

Keep hands and feet clear of outriggers during outrigger/stabilizer extension and retraction. Failure to comply may result in injury or death to personnel.

NOTE

- Left and right outrigger (OUTRIGGER LH and OUTRIGGER RH) control levers can be operated independently or at the same time.
 - Outrigger movement from one lever may be slower than the other when operating two levers together.
9. Push and hold palm button switch (9).
 10. Move OUTRIGGER LH control lever (10) and OUTRIGGER RH control lever (11) to EXTEND position to deploy outriggers.
 11. Release palm button switch (9).
 12. Clean all foreign material from socket (12) in outrigger pad (7) and from end of outrigger stabilizer cylinder rod (13).
 13. Position outrigger pad (7) directly below outrigger stabilizer cylinder rod (13) on left side of vehicle.
 14. Remove two retaining pins (14) from outrigger pad (7).
 15. Repeat steps (12) through (14) for right side outrigger.



WARNING

Keep clear of hydraulic cylinders during operation. Failure to comply may result in injury to personnel.

NOTE

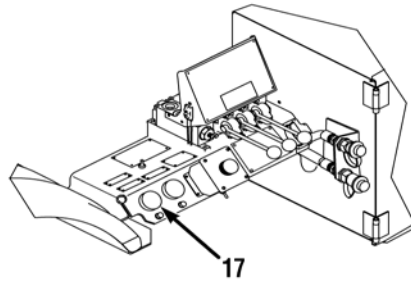
- Left and right outrigger stabilizer (STABILIZER LH and STABILIZER RH) control levers can be operated independently or at the same time.
- Outrigger stabilizer movement from one lever may be slower than the other when operating two levers together.
- Air suspension will automatically deflate when outriggers are deployed.
- Position of outrigger pad may need adjustment so outrigger stabilizer cylinder rod will lower into outrigger pad socket.
- Always operate control levers with light, even pressure.

16. Push and hold palm button switch (9).
17. Move STABILIZER LH control lever (15) and STABILIZER RH control lever (16) control levers to DOWN position to lower outrigger stabilizer cylinder rods (13) until rod ends are seated in outrigger pads (7).
18. Release palm button switch (9).
19. Install two retaining pins (14) in each outrigger pad (7).

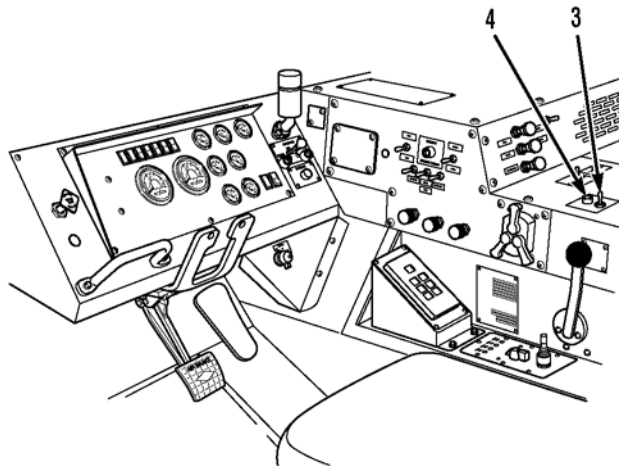
WARNING

Do not raise vehicle tires off ground with outrigger stabilizers. Always chock front wheels when using outriggers. Failure to comply may result in injury or death to personnel and/or damage to equipment.

20. Push and hold palm button switch (9).
21. Move STABILIZER LH control lever (15) and STABILIZER RH control lever (16) to DOWN position. Lower outrigger stabilizer cylinder rods (13) until height of vehicle increases by approximately 4 in. (10.2 cm).
22. Release palm button switch (9).



23. Verify air bag pressure depleted light (17) is illuminated. May take over 2 minutes for air bags to properly deflate.



**STEERING WHEEL SHOWN
REMOVED FOR CLARITY**

24. Move PTO ENGAGED switch (3) to OFF position. Indicator light (4) is extinguished.
25. Shut engine off (TM 9-2320-347-10)

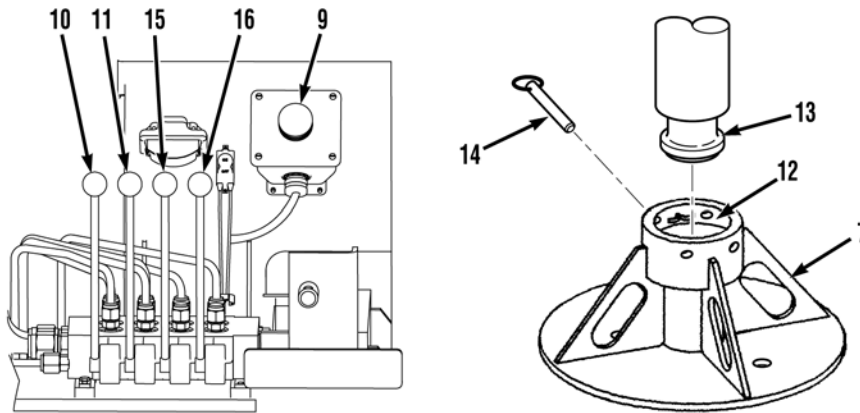
END OF TASK

b. Stow Outriggers.

WARNING

MRP Deck must be lowered before outriggers are stowed. Failure to comply may cause truck to tip over.

1. Start engine (TM 9-2320-347-10)
2. Move PTO ENGAGE switch (3) to ON position. Indicator light (4) is illuminated.
3. Remove two retaining pins (14) from each outrigger pad (7).



WARNING

Keep clear of hydraulic cylinders during operation. Failure to comply may result in injury or death to personnel.

NOTE

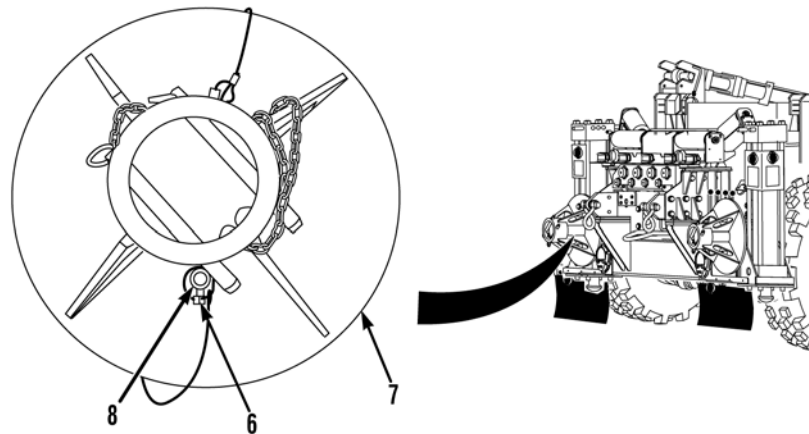
- Left and right outrigger stabilizer (STABILIZER LH and STABILIZER RH) control levers can be operated independently or at the same time.
 - Outrigger stabilizer movement from one lever may be slower than the other when operating two levers together.
 - Air suspension will automatically inflate when outriggers are stowed.
4. Push and hold palm button switch (9).
 5. Move STABILIZER LH control lever (15) and STABILIZER RH control lever (16) to UP position to retract outrigger stabilizer cylinder rods (13) completely from outrigger pad socket (12).
 6. Release palm button switch (9).
 7. Install two retaining pins (14) in each outrigger pad (7).

WARNING

Keep hands and feet clear of outriggers during outrigger/stabilizer extension and retraction. Failure to comply may result in injury or death to personnel.

NOTE

- Left and right outrigger stabilizer (OUTRIGGER LH and OUTRIGGER RH) control levers can be operated independently or at the same time.
 - Outrigger movement from one lever may be slower than the other when operating two levers together.
8. Push and hold palm button switch (9).
 9. Move OUTRIGGER LH control lever (10) and OUTRIGGER RH control lever (11) to RETRACT position to stow outriggers.
 10. Release palm button switch (9).



WARNING

Outrigger pads may have sharp edges. Use care when handling outrigger pads. Failure to comply may result in injury or death to personnel.

NOTE

Both outrigger pads are stowed in the same way. Left side shown.

11. Stow outrigger pad (7) on two mounts (8) of left outrigger with two retaining clips (6).
12. Repeat step (11) for right side.



13. Turn hydraulic selector switch (5) to OFF position.
14. Move PTO ENGAGE switch (3) to OFF position. Indicator light (4) is extinguished.
15. Shut off engine (TM 9-2320-347-10)

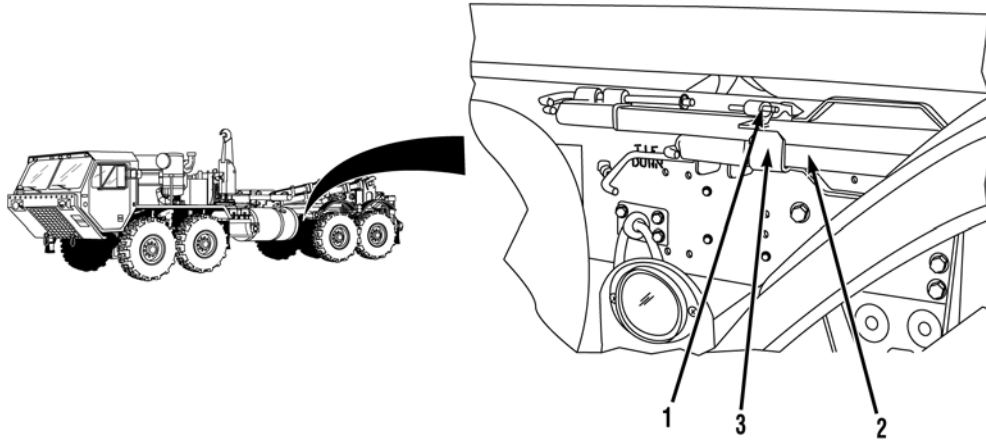
END OF TASK

END OF WORK PACKAGE

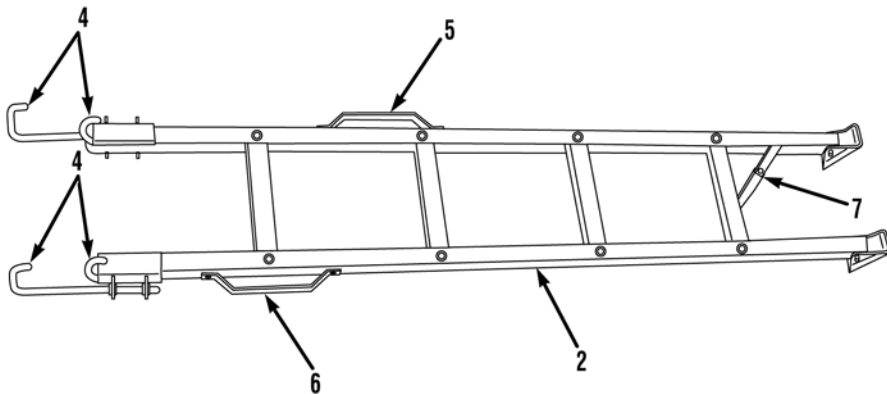
OPERATOR MAINTENANCE

USE ACCESS LADDER

a. Remove Ladder.



1. Release two rubber latches (1) and remove ladder (2) from two stowage brackets (3).

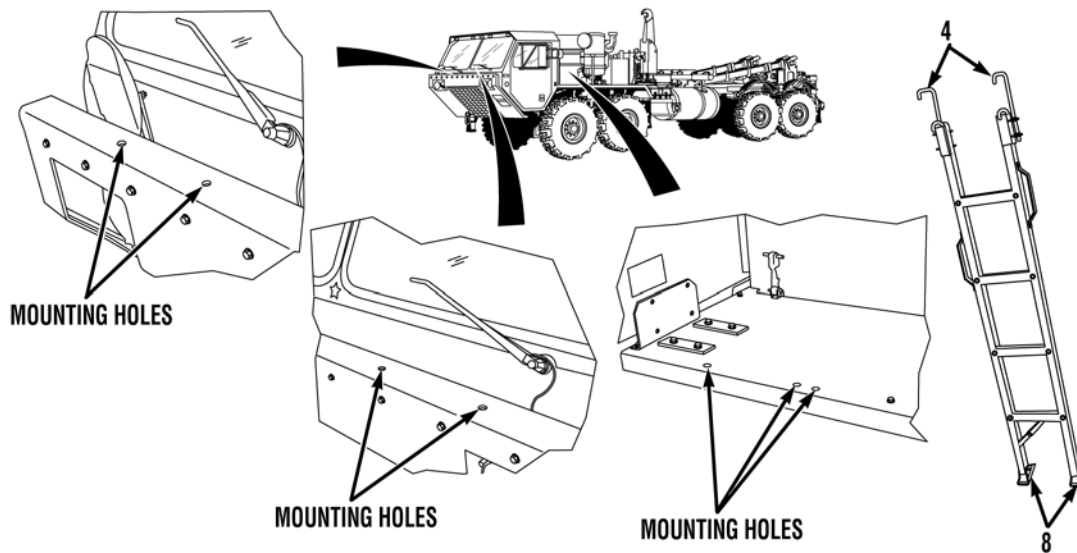


2. Position ladder (2) on ground with hooks (4) facing towards vehicle.
3. Position hands on two ladder handles (5 and 6) and pull ladder handle (5) down until ladder (2) is in the open position.

WARNING

Keep fingers away from pivot points of lock holding latch. Failure to comply may result in injury to personnel.

4. Lock holding latch (7) at bottom of ladder (2).



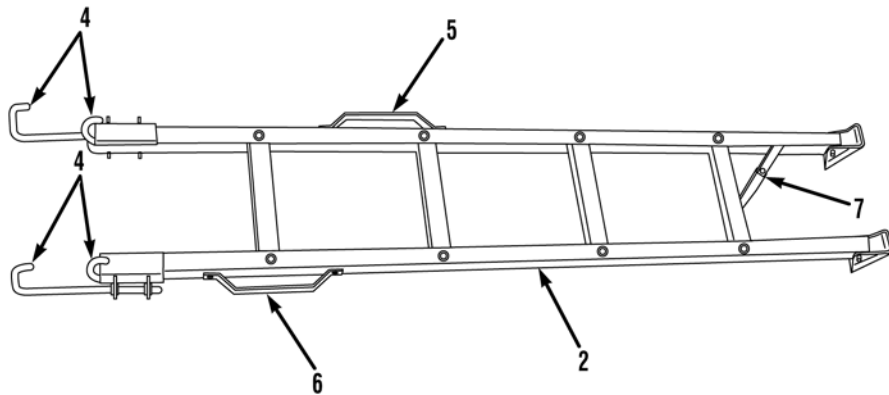
WARNING

- The two hooks on the ladder must be installed in mounting holes on vehicle prior to use. Using the ladder for other applications could result in serious injury to personnel.
- Ensure that ladder is clean and free of debris. Failure to comply may result in injury to personnel.

NOTE

- Mounting holes for ladder are located on both front fenders and on top of front skid plate.
 - Two hook extensions are for use with the mounting holes on the front bumper, the fixed hooks are for use with the fender.
5. Install two hooks (4) in mounting holes on vehicle.
 6. Position ladder shoes (8) securely on ground.

END OF TASK

b. Stow Ladder.

1. Remove ladder (2) from mounting holes on vehicle.

WARNING

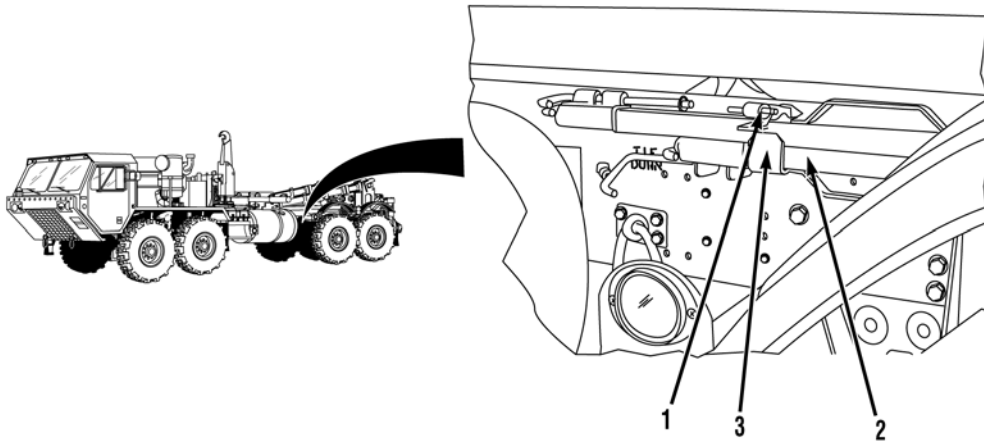
Keep fingers away from pivot points of lock holding latch. Failure to comply may result in injury to personnel.

2. Release holding latch (7) at bottom of the ladder (2).
3. Position ladder (2) on ground in upright position with hooks (4) facing toward vehicle.

WARNING

Keep hands and fingers clear of ladder rungs and sides when placing ladder in the stowed position. Failure to comply may result in injury to personnel.

4. Position hands on two ladder handles (5 and 6) and lift up on ladder handle (5) until ladder (2) is in the stowed position.



5. Install ladder (2) on two stowage brackets (3) with two rubber latches (1).

END OF TASK

END OF WORK PACKAGE

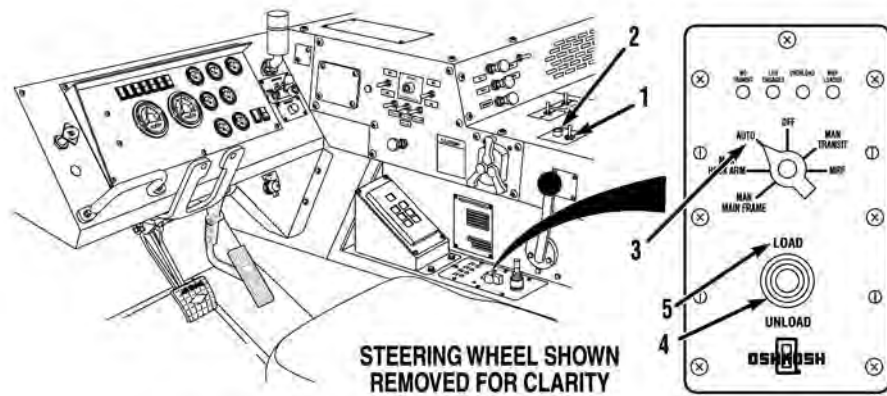
OPERATOR MAINTENANCE
OPERATE VEHICLE IN EXTREME COLD ENVIRONMENT (-26°F [-32°C] TO -50°F [-46°C])

Before operating LHS, perform warm-up as follows:


NOTE

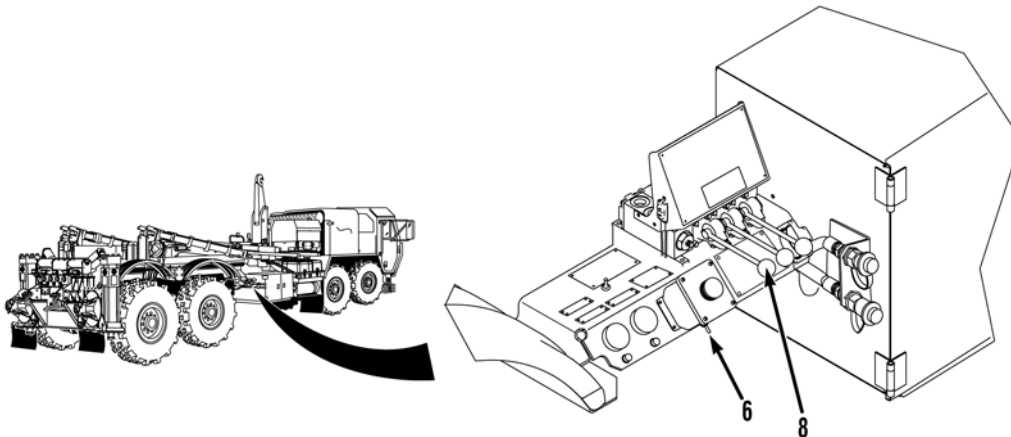
For arctic kit installation instructions, refer to TM 9-2320-325-14&P.

1. Start engine (TM 9-2320-347-10)
2. With engine running at smooth idle, move PTO ENGAGE switch (1) to ON position. Indicator light (2) is illuminated.
3. Allow engine to operate at idle for five minutes. LHS is ready for operations at idle.
4. Turn hydraulic selector switch (3) to AUTO position.
5. If MRP is loaded, position LHS cab control joystick (4) to LOAD (5) position for five minutes.
6. If LHS is to be used to load, function LHS one complete cycle (WP 0011) before operating at high idle.

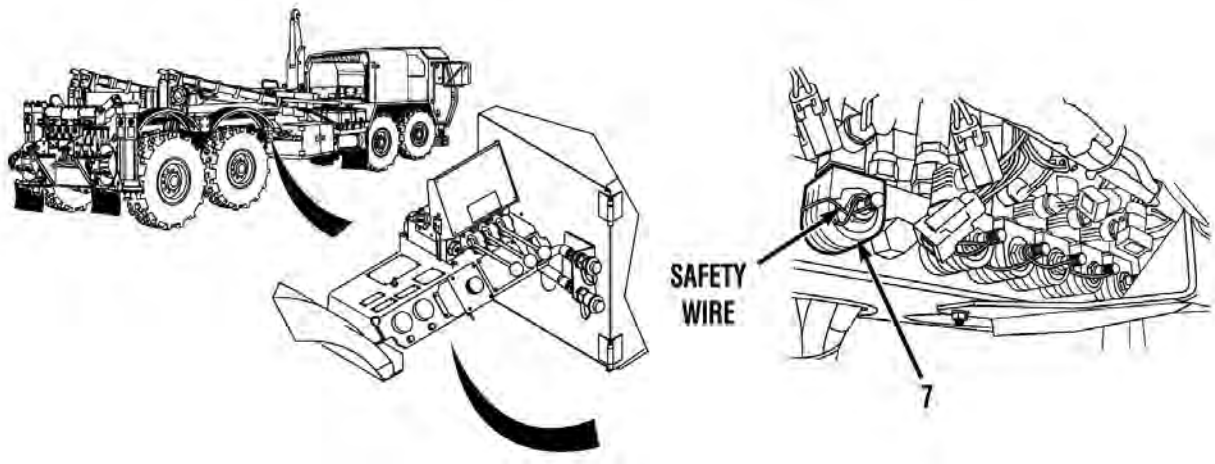


MRP MODE

1. Turn hydraulic selector switch (3) to MRP position.
2. Operate ground rod drive lever without ground rod driver attached (WP 0010).



3. Move ground driver switch (6) to OFF position.
4. Connect ground rod driver to hydraulic connectors (WP 0010).
5. Move ground rod driver switch (6) to ON position.
6. Operate ground rod driver (WP 0010).
7. Stow ground rod driver (WP 0010).
8. Deploy outriggers (WP 0013)
9. Extend and retract outriggers twice.
10. Outriggers remain extended.



NOTE

If outriggers or stabilizers fail to operate, complete steps 12-17.

11. Move HV5 bypass valve to manual override position (7).
12. Move ground rod driver switch (8) to manual ON position.
13. Operate outriggers twice. Outriggers remain extended.
14. Extend outrigger stabilizers (WP 0013).
15. Extend stabilizers (WP0013)
16. Position HV5 bypass valve (7) out of manual override.
17. After one complete cycle at idle, hydraulic system is ready for normal operations.

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE**EMERGENCY PROCEDURES**

a. Loading MRP In Manual Mode.**WARNING**

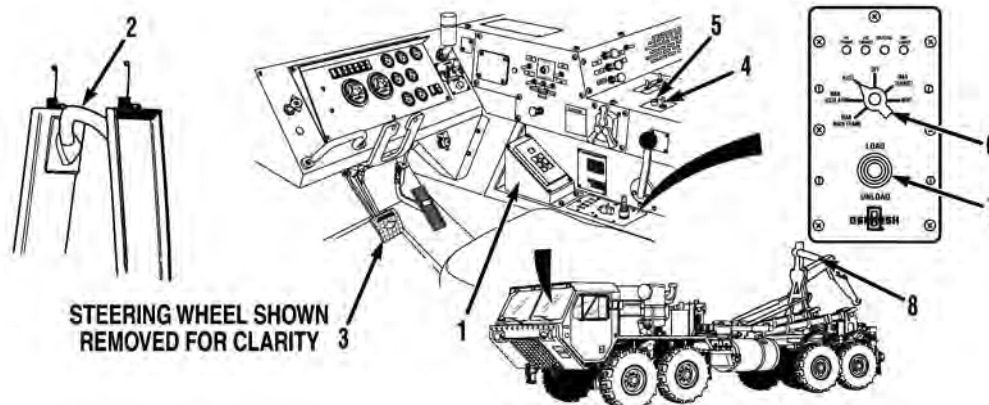
- Check for overhead power lines or other obstructions before attempting LHS operation. Failure to comply may result in injury or death to personnel.
- Check ground conditions for firmness and that sideways inclination is no greater than 5 degrees before loading or unloading an MRP. Failure to comply may result in injury or death to personnel.
- During any load or unload cycle, all personnel must stay clear of LHS and MRP. Failure to comply may result in injury or death to personnel.
- When loaded with MRP, the center of gravity is moved up and toward rear of vehicle. Extreme caution must be taken when turning and ascending or descending on a grade. Failure to comply may result in injury or death to personnel.
- Maximum side slope while operating a HEMTT THAAD loaded with an MRP is 20 percent. Failure to comply may result in injury or death to personnel.

CAUTION

- Before starting any LHS operations, clean all operating components of snow, ice, sand, or mud. Failure to comply may result in damage to equipment.
- Before starting any LHS operations, adjust extension mirror to monitor LHS operations. Failure to comply may result in damage to equipment.
- If terrain is deeply rutted, soft soil, etc., mud flaps must be pinned up before beginning LHS operation. Failure to comply may result in damage to equipment.
- The HEMTT THAAD LHS is only designed to load/unload MRP in AUTO mode. Extreme caution must be used when operating LHS in MANUAL mode. Failure to comply may result in damage to equipment.
- Outriggers must be stowed before loading or unloading an MRP. Failure to comply may result in damage to equipment.

NOTE

- Before loading or unloading an MRP, verify that MRP rack locks are fully retracted and deck elevation cylinders are fully stowed. If either of these criteria are not met, the vehicle's safety interlocks will not allow the LHS to operate.
 - When both MRP rack locks are fully disengaged, the RACK LOCKS ENGAGED indicator light will extinguish.
1. Ensure MRP deck-to-subframe lock is engaged (Refer to THAAD Launcher IETM).
 2. Start engine (TM 9-2320-347-10)



3. Set transmission range selector (1) to R (Reverse) and back vehicle up to MRP. Stop approximately 5 ft. (1.5 m) from hook bar (2). Check for overhead obstructions and firmness of ground.
4. Park vehicle (TM 9-2320-347-10)
5. Ground vehicle (WP 0010).
6. Connect vehicle static reel clamp to ground cable.
7. Connect MRP static reel clamp to ground rod (refer to THAAD Launcher IETM)
8. LHS will only operate when transmission range selector is in N (Neutral).
9. Apply service brake pedal (3) and set transmission range selector (1) to N (Neutral).

CAUTION

- **Ensure that hook arm cylinders do not complete full extension while operating at engine speeds above idle. Failure to comply may result in damage to equipment.**
 - **Manual mode is only used in event of a failure of automatic control electrical system. Caution must be exercised during operation of MANUAL mode for correct cycle of events to occur. Failure to comply may result in damage to equipment.**
10. Move PTO ENGAGE switch (4) to ON position. Indicator light (5) is illuminate.
 11. Turn hydraulic selector switch (6) to MAN HOOK ARM position.

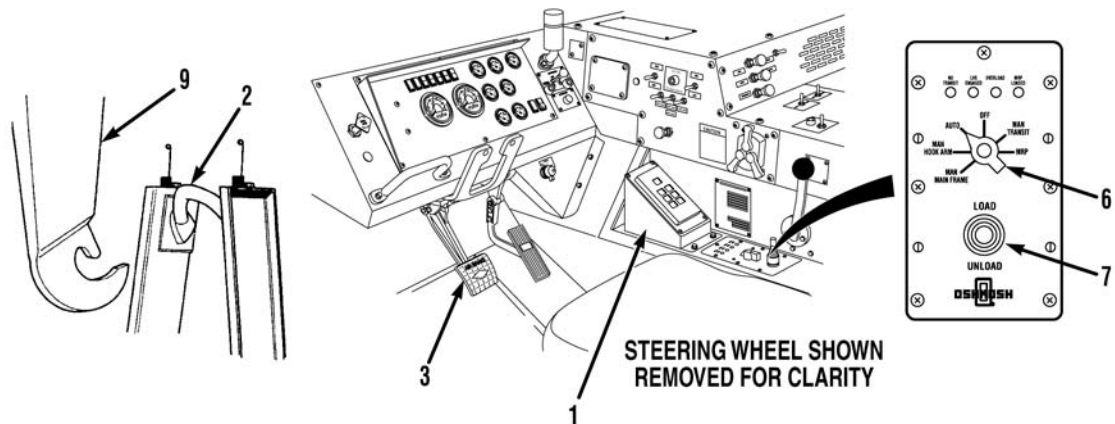
WARNING

- **Check for overhead power lines or other obstructions before attempting LHS operation. Failure to comply may result in injury or death to personnel.**
- **Check ground conditions for firmness and extreme sideways inclination before loading or unloading a MRP. Failure to comply may result in injury or death to personnel.**
- **Prior to and during any load or unload cycle, all personnel should stay clear of LHS and MRP. Failure to comply may result in injury or death to personnel.**

NOTE

Loading and unloading times are controlled by engine speed. Engine speed can be increased to 1,500 rpm to reduce loading and unloading times.

12. Move joystick (7) to UNLOAD position and hold until hook arm cylinders (8) are fully extended.
13. Release joystick (7).

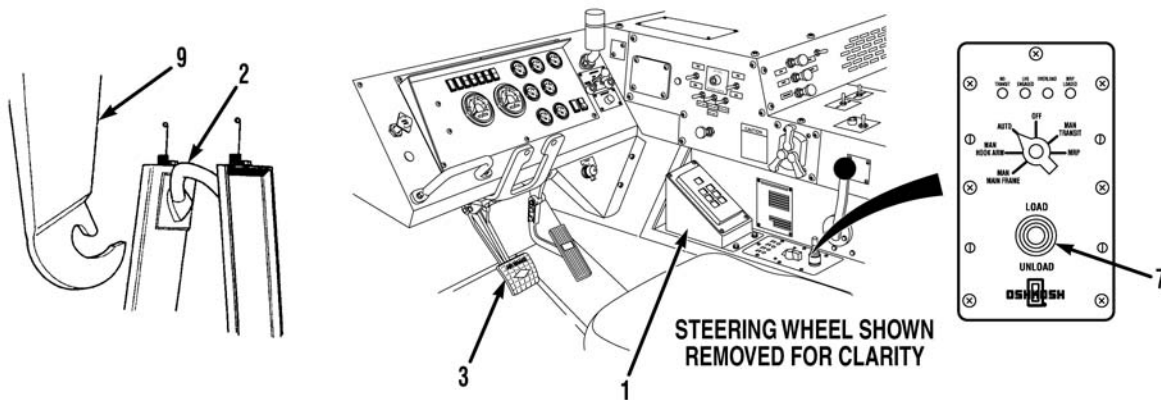
**CAUTION**

- **Engine speed must be at idle before using hydraulic selector switch. Failure to comply may result in damage to equipment.**
- **Ensure that main frame cylinders do not complete full extension while operating at engine speeds above idle. Failure to comply may result in damage to equipment.**
- **Manual mode is used mainly in event of a failure of automatic control electrical system. Caution must be exercised during operation of MANUAL mode for correct cycle of events to occur. Failure to comply may result in damage to equipment.**
- **If LHS had previously been used in manual mode and not completely stowed in AUTO mode, the hook arm cylinders must be completely extended or the LHS must be completely stowed using AUTO mode before the MRP can be loaded. Failure to comply may result in damage to equipment.**

NOTE

LHS will only operate when transmission range selector is in N (Neutral).

14. Turn hydraulic selector switch (6) to MAN MAIN FRAME position.
15. Move joystick (7) to UNLOAD position and hold until lift hook (9) has moved below level of hook bar (2).
16. Apply service brake pedal (3) and set transmission range selector (1) to R (Reverse). Back vehicle up to MRP, aligning vehicle and MRP as straight as possible with lift hook (9) to middle of hook bar (2).
17. Stop vehicle when lift hook (9) touches MRP.
18. Set transmission range selector (1) to N (Neutral).



CAUTION

- Ensure parking brake is not applied during load sequence. Failure to comply may result in damage to equipment.
- Do not use R (Reverse) to back up vehicle while hook arm is attached to MRP. Failure to comply may result in damage to equipment.

NOTE

- LHS will only operate when transmission range selector is in N (Neutral).
 - No additional equipment can be stowed on or in MRP during loading/unloading. Additional equipment could overload LHS due to weight of MRP.
19. Move joystick (7) to LOAD position to raise lift hook (9) and engage hook bar (2).
 20. If lift hook (9) fails to engage hook bar (2):
 - (a) Release joystick (7).
 - (b) Set transmission range selector (1) to D (Drive), release service brake pedal (3), and move vehicle forward just clear of MRP.
 - (c) Move joystick (7) to UNLOAD position until lift hook (9) is below level of hook bar (2).
 - (d) Repeat steps (13) through (16).



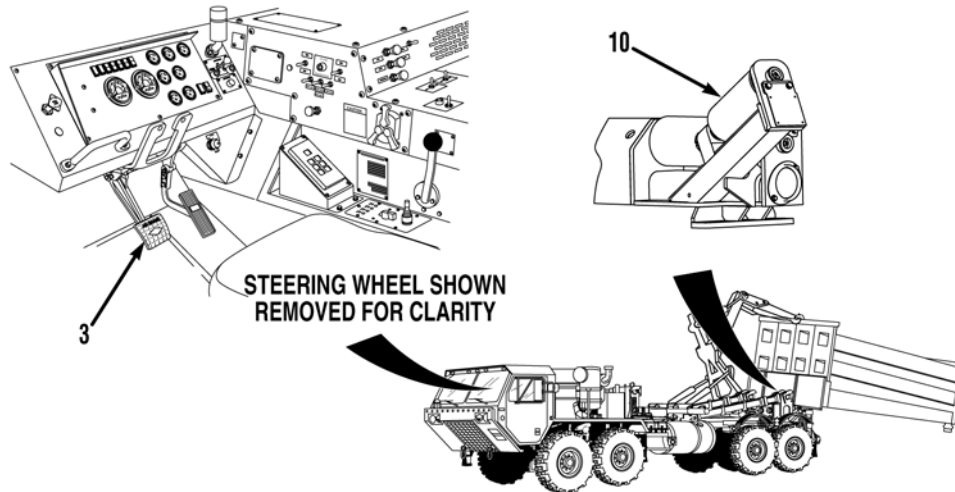
WARNING

- When loading or unloading MRPs on uneven ground (side slope or downgrades up to 5 degrees), it may be necessary to apply vehicle service brakes to prevent vehicle rollaway. Failure to comply may result in injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and MRP. Failure to comply may result in injury or death to personnel.

CAUTION

- Ensure that parking brake is not applied before starting load sequence. Failure to comply may result in damage to equipment.
- When loading or unloading a MRP, engine speed must be at 1500 rpm. Failure to comply may result in damage to equipment.

21. Move joystick (7) to LOAD position, allowing vehicle to be pulled under MRP.



WARNING

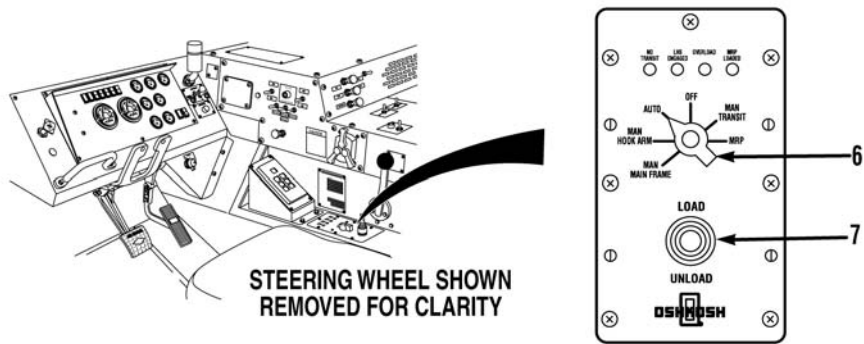
- Ensure that MRP runners contact LHS rear rollers correctly. Failure to comply may result in injury or death to personnel.

CAUTION

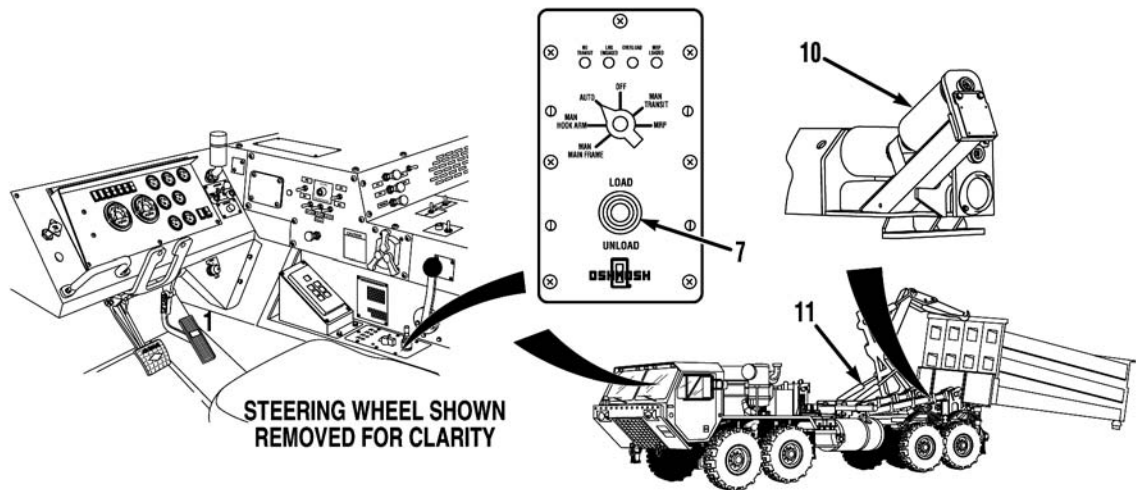
- Reduce engine speed to idle before MRP main rails contact rear rollers. Failure to comply may result in damage to equipment.

NOTE

- As load is lifted, vehicle will be pulled under MRP. Some steering adjustment may have to be made to ensure that MRP runners will contact rear rollers.
 - Perform steps (19) through (24) only if MRP is being loaded in soft soil conditions.
22. Before MRP contacts rear rollers (10), reduce engine speed and apply service brake pedal (3).



23. Release joystick (7).
24. Set hydraulic selector switch (6) to MAN HOOK ARM position.
25. Move joystick (7) to LOAD position until MRP is approximately 2 ft. (0.61 m) off the ground.
26. Release joystick (7).
27. Set hydraulic selector switch (6) to MAN MAIN FRAME position.
28. Move joystick (7) to load position.



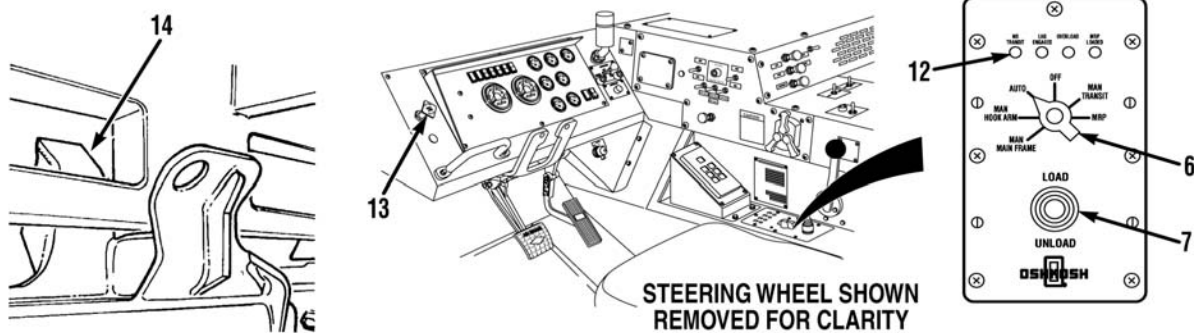
CAUTION

To avoid equipment damage, visually check that main frame cylinders do not complete full retraction while operating at engine speeds above idle.

NOTE

Engine speed will require increasing and decreasing in the following steps.

29. After MRP contacts rear rollers (10), increase engine speed to 1500 rpm until two main frame cylinders (11) have nearly completed full retraction.
30. Reduce engine speed to idle and continue loading until two main frame cylinders (11) are fully retracted.
31. Release joystick (7).



CAUTION

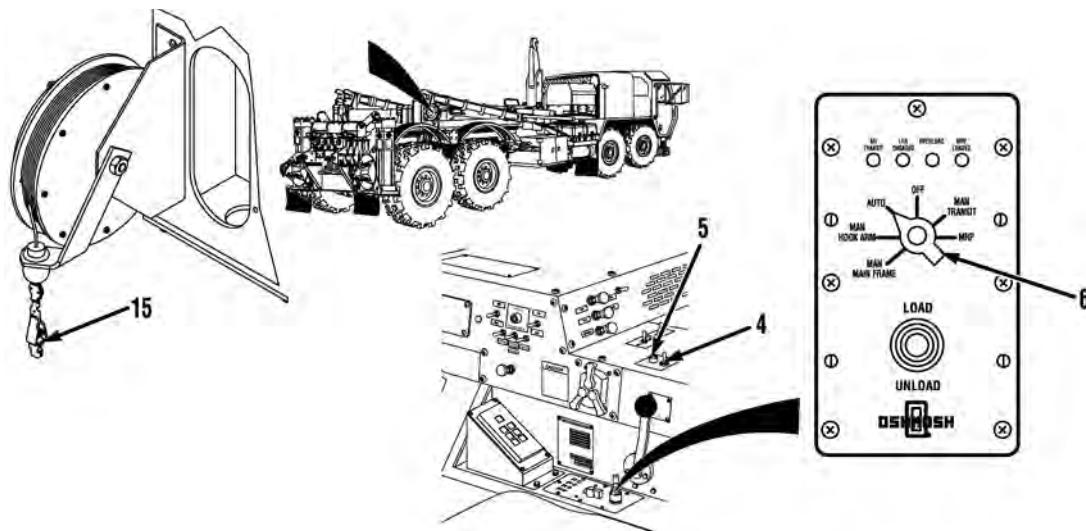
- Engine speed must be at idle before using hydraulic selector switch. Failure to comply may result in damage to equipment.
- Main frame cylinders must be completely retracted prior to completely loading the hook arm. Failure to comply may result in damage to equipment.

32. Turn hydraulic selector switch (6) to MAN HOOK ARM position.

CAUTION

Engine speed must be reduced to idle when MRP is nearly loaded. Failure to comply may result in damage to equipment.

33. Move joystick (7) to LOAD position and increase engine speed until MRP is nearly loaded, then reduce speed to idle.
34. Continue to load MRP until LHS and MRP are in transit position. LHS NO TRANSIT indicator light (12) will be extinguished.
35. Release joystick (7).
36. Pull out PARKING BRAKE control (13).
37. Make sure that load locks (14) have engaged and MRP is fully down on vehicle.



CAUTION

- Hydraulic selector switch must remain in MAN TRANSIT position while vehicle is traveling. Failure to comply may result in damage to equipment.
 - Engine speed must be at idle before using hydraulic selector switch. Failure to comply may result damage to equipment.
38. Turn hydraulic selector switch (6) to MAN TRANSIT position.
 39. Move PTO ENGAGE switch (4) to OFF position. Make sure indicator light (5) is extinguished.

WARNING

- When loaded with MRP, the center of gravity is moved up and toward rear of vehicle. Extreme caution must be taken when turning and ascending or descending on a grade. Failure to comply may result in serious injury or death to personnel.
 - Maximum side slope while operating a HEMTT THAAD loaded with a MRP is 20 percent. Failure to comply may result in injury or death to personnel.
 - Do not reduce tire pressure when loaded with MRP. Highway tire pressure, 60 psi (414 kPa) front and 83 psi (572 kPa) rear, is required at all times when loaded with MRP. Failure to comply may result in damage to equipment and/or severe injury or death to personnel.
40. Connect MRP to vehicle ground cable.
 41. Disconnect vehicle static reel clamp (15) from ground rod.
 42. Disconnect MRP static reel clamp from ground rod (refer to THAAD Launcher IETM).
 43. Connect umbilical and ADU/IL cables (Refer to THAAD Launcher IETM).
 44. Refer to WP 0006 if preparing to transport MRP over the road.

END OF TASK

b. Unloading MRP in Manual Mode.

WARNING

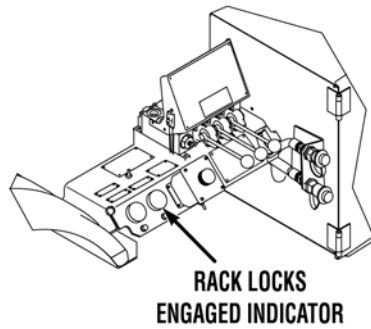
- Check for overhead power lines or other obstructions before attempting LHS operation. Failure to comply may result in injury or death to personnel.
- Check ground conditions for firmness and that sideways inclination is no greater than 5 degrees before loading or unloading an MRP. Failure to comply may result in injury or death to personnel.
- During any load or unload cycle, all personnel must stay clear of LHS and MRP. Failure to comply may result in injury or death to personnel.
- When loaded with MRP, the center of gravity is moved up and toward rear of vehicle. Extreme caution must be taken when turning and ascending or descending on a grade. Failure to comply may result in injury or death to personnel.
- Maximum side slope while operating a HEMTT THAAD loaded with an MRP is 20 percent. Failure to comply may result in injury or death to personnel.

CAUTION

- Before starting any LHS operations, clean all operating components of snow, ice, sand, or mud. Failure to comply may result in damage to equipment.
- Before starting any LHS operations, adjust extension mirror to monitor LHS operations. Failure to comply may result in damage to equipment.
- If terrain is deeply rutted, soft soil, etc., mud flaps must be pinned up before beginning LHS operation. Failure to comply may result in damage to equipment.
- The HEMTT THAAD LHS is only designed to load/unload MRP in AUTO mode. Extreme caution must be used when operating LHS in MANUAL mode. Failure to comply may result in damage to equipment.
- Outriggers must be stowed before loading or off-loading an MRP. Failure to comply may result in damage to equipment.

NOTE

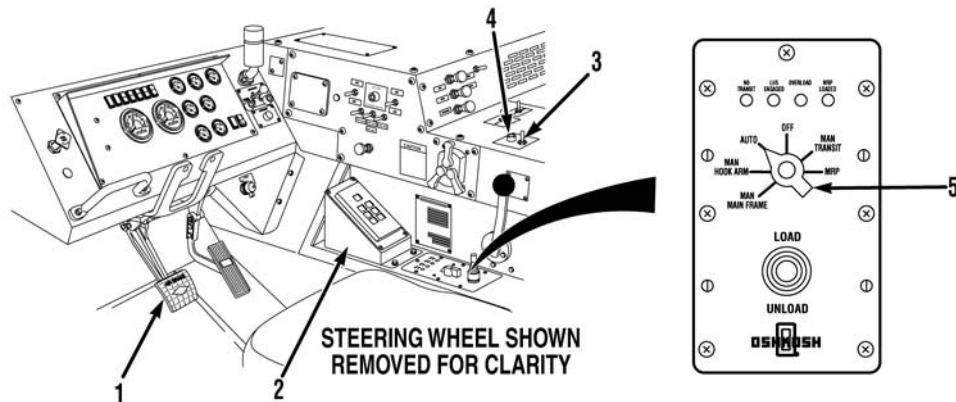
- Before loading or unloading an MRP, verify that MRP rack locks are fully retracted and deck elevation cylinders are fully stowed. If either of these criteria are not met, the vehicle's safety interlocks will not allow the LHS to operate.



NOTE

When both MRP locks are fully disengaged, the RACK LOCKS ENGAGED indicator light will be extinguished.

1. Verify that both MRP rack locks are disengaged (WP 0012).
2. Ensure MRP deck-to-subframe locks are engaged (Refer to THAAD Launcher IETM).
3. Disconnect umbilical and ADU/IL cables (Refer to THAAD Launcher IETM).
4. Disconnect MRP from vehicle ground (WP 0010).
5. Connect vehicle to ground rod with static reel clamp.
6. Connect MRP to ground rod with static reel clamp (refer to THAAD Launcher IETM).
7. Disconnect the vehicle ground cable and stow near passenger side tie down.
8. Stow MRP under-run bumper (Refer to THAAD Launcher IETM).

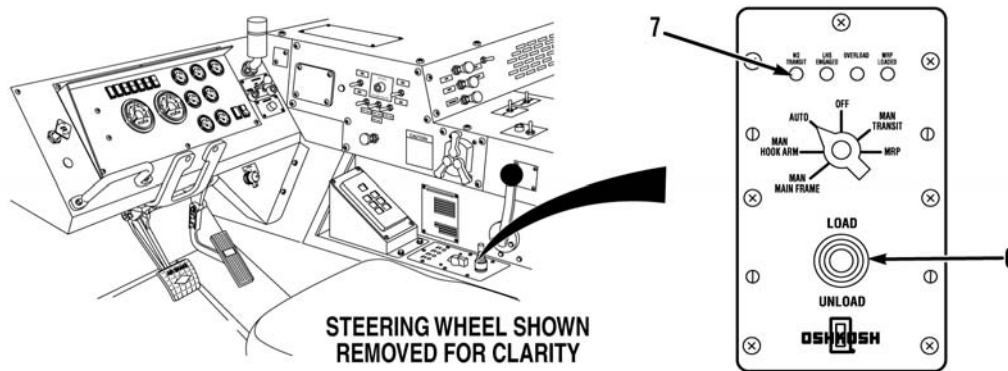


9. Check for sufficient operating room at front and rear of vehicle. Check overhead clearance and ground conditions.
10. Apply service brake pedal (1) and set transmission range selector (2) to N (Neutral).

CAUTION

Manual mode is used mainly in event of a failure of automatic control electrical system and when loading MRP. Greater care must be exercised during operation of MANUAL mode for correct cycle of events to occur. Failure to comply may result in damage to equipment.

11. Move PTO ENGAGE switch (3) to ON position. Indicator light (4) should illuminate.
12. Turn hydraulic selector switch (5) to MAN HOOK ARM position.

**WARNING**

- Check for overhead power lines or other obstructions before attempting LHS operation. Failure to comply may result in injury or death to personnel.
- Check ground conditions for firmness and that sideways inclination is no greater than 5 degrees before loading or unloading an MRP. Failure to comply may result in injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and MRP. Failure to comply may result in injury or death to personnel.

CAUTION

- Reduce speed to idle for approximately the first 18 in. (46 cm) of travel and again when flatrack is 2 ft. (61 cm) above ground. Failure to comply may result in damage to equipment.
- Ensure that hook arm cylinders do not complete full extension while operating at engine speeds above idle. Failure to comply may result in damage to equipment.

NOTE

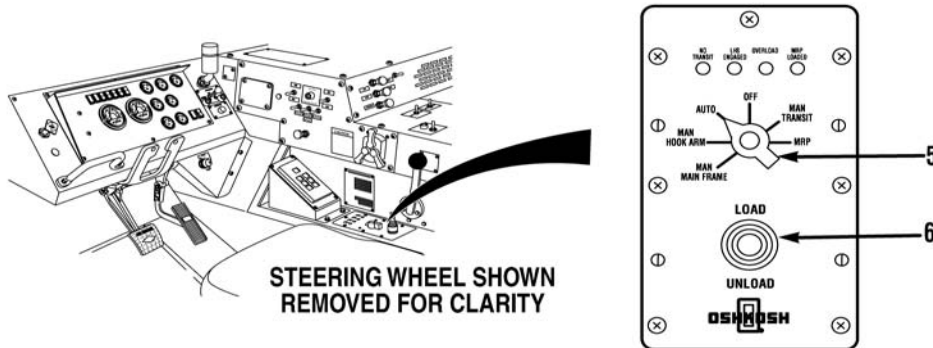
When unloading a MRP, engine speed must be at 1500 RPM.

13. Move joystick (6) to UNLOAD position. MRP will start to move rearwards. LHS NO TRANSIT indicator light (7) will illuminate. Maintain engine speed at idle until front of MRP raises approximately 1 ft. (30.5 cm).

NOTE

When hook arm cylinders are fully extended and joystick activated, LHS OVERLOAD indicator light will illuminate.

14. Release joystick (6).

**CAUTION**

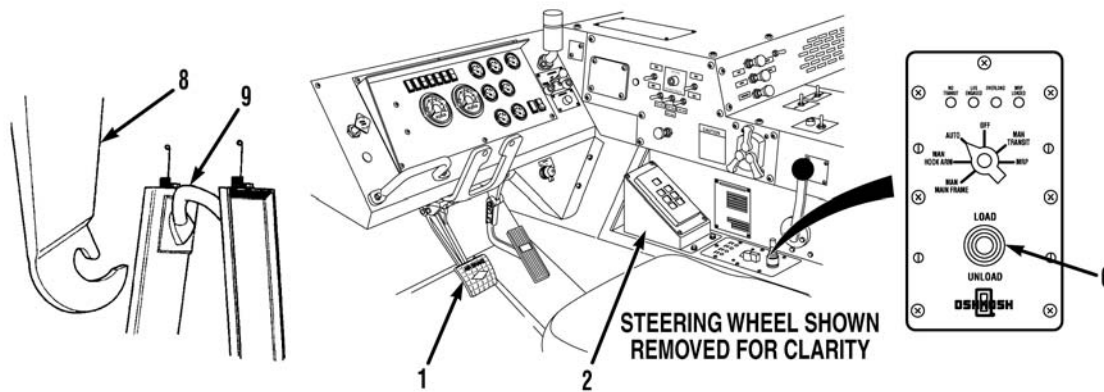
- Engine speed must be at idle before using hydraulic selector switch. Failure to comply may result in damage to equipment.
- Ensure parking brake is released before starting the unload sequence. Failure to comply may result in damage to equipment.

15. Turn hydraulic selector switch (5) to MAN MAIN FRAME position.
16. Move joystick (6) to UNLOAD position.

**WARNING**

When loading or unloading MRP on uneven ground (side slope or down grades up to 5 degrees), it may be necessary to apply vehicle service brakes to prevent vehicle rollaway. Failure to comply may result in injury or death to personnel.

17. When back edge of MRP touches ground, release service brake pedal (1), allowing vehicle to be pushed straight from under MRP.
18. Continue unloading until front of MRP is within 8 in. (20.3 cm) of ground, decrease engine speed to idle, and apply service brake pedal (1).



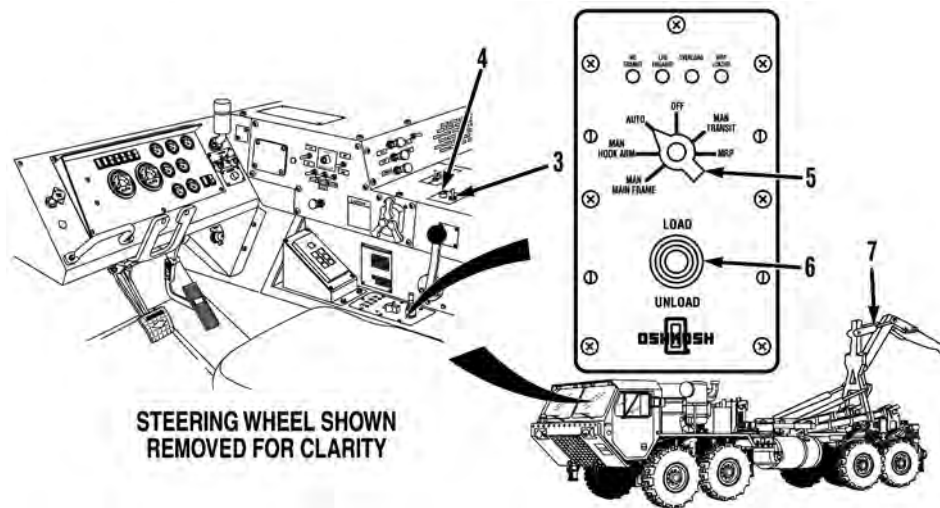
CAUTION

Once suspension has been relieved of flatrack load, do not continue in UNLOAD position or rear of vehicle could jack up with hook arm. Failure to comply may result in damage to equipment.

19. Continue unloading until MRP is on ground and rear suspension is unloaded.
20. Release joystick (6).

NOTE

- Engine speed is set at idle. However, slight increase in engine speed may be necessary depending on terrain.
 - LHS will only operate when transmission range selector is in N (Neutral).
21. Set transmission range selector (2) to D (Drive) and release service brake pedal (1).
 22. Move joystick (6) to LOAD position momentarily, and then to UNLOAD position to let hook arm (8) disengage from MRP hook bar (9).
 23. Repeat step (19) until hook arm (8) disengages MRP hook bar (9).
 24. Move vehicle forward approximately 5 ft. (1.5 m).
 25. Stop vehicle and set transmission range selector (2) to N (Neutral).



CAUTION

- Visually check that main frame cylinders have completed full retraction. Failure to comply may result in damage to equipment.
- Reduce speed to idle in last 12 in. (31 cm) of main frame cylinder. Failure to comply may result in damage to equipment.

26. Move joystick (6) to LOAD position and hold in this position until main frame cylinders are fully retracted.

CAUTION

Engine speed must be at idle before using hydraulic selector switch. Failure to comply may result in damage to equipment.

27. Turn hydraulic selector switch (5) to MAN HOOK ARM position.
28. Hold joystick (6) in LOAD position until the hook arm cylinders (7) are fully retracted.
29. Release joystick (6).

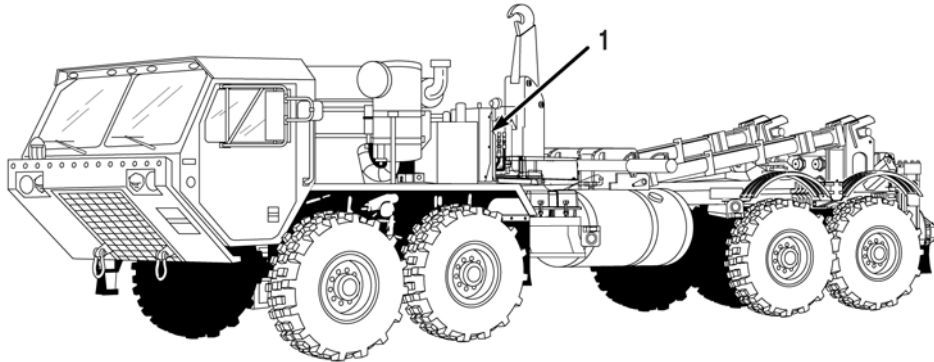
WARNING

Never drive with LHS NO TRANSIT indicator light illuminated. An illuminated indicator light means LHS is not fully stowed. The load could break loose. Failure to comply may result in injury or death to personnel.

30. Turn hydraulic selector switch (5) to MAN TRANSIT position.
31. Move PTO ENGAGE switch (3) to OFF position. Make sure indicator light (4) is extinguished.
32. Disconnect vehicle static reel clamp (15) from ground rod and stow ground rod driver (WP 0010).
33. Disconnect MRP static reel clamp from ground rod (refer to THAAD Launcher IETM).

END OF TASK

c. **LHS Auxiliary Slave Hydraulics Operation (Auxiliary [Slave] Hydraulics).**



CAUTION

The HEMTT THAAD LHS is only designed to load/unload MRP in AUTO mode. Extreme caution must be used when operating LHS in MANUAL mode. Failure to comply may result in damage to equipment.

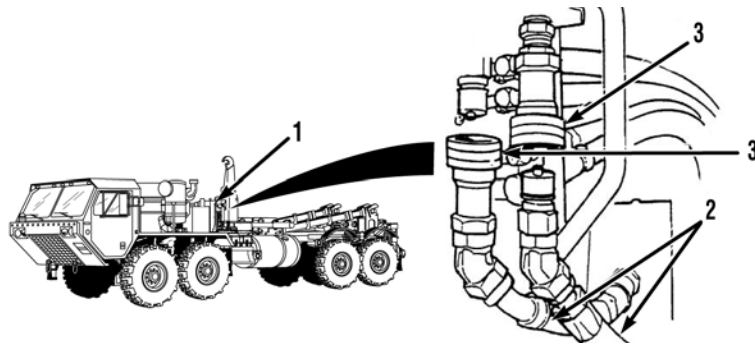
NOTE

- This procedure can only be used if there are no leaks or breaks in hydraulic system.
 - This procedure is used to lower the LHS on a vehicle with a failed hydraulic pump or other failure which prevents operation of hydraulic system.
 - Each vehicle is equipped with one hydraulic slave hose. Two hoses (one from each vehicle) are required to perform slave hydraulics. Remove hoses from stowage boxes of vehicles.
1. Move vehicles into position so main manifold control box (1) on both vehicles are side by side.
 2. Park both vehicles (TM 9-2320-347-10)
 3. Shut off both engines (TM 9-2320-347-10)

CAUTION

Remove hydraulic reservoir tank cap from operable vehicle prior to starting operation to allow excess hydraulic oil to drain. Failure to comply may result in damage to equipment.

4. Remove hydraulic reservoir cap from operable vehicle.



WARNING

Hydraulic fluid is under great pressure. Engines on both vehicles must be shut off while connecting/disconnecting hydraulic lines. Failure to comply may result in serious injury or death to personnel.

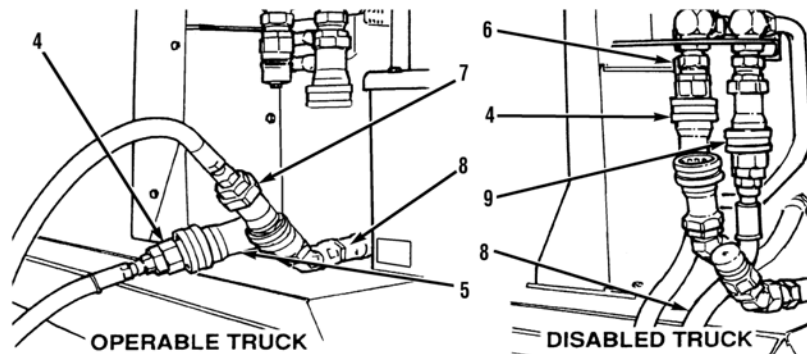
CAUTION

To prevent hydraulic contamination, keep hydraulic quick disconnects clean. Failure to comply may result in damage to equipment.

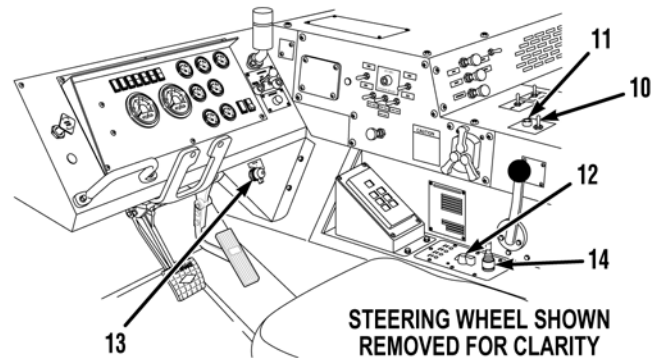
NOTE

Quick disconnects are located on the back of the main manifold control box.

5. Disconnect two hydraulic lines (2) on both vehicles at quick disconnects (3) located on back of main manifold control box (1).



6. Using first slave hose (4), connect male end of slave hose (4) to female end of supply hose (5) on operable vehicle.
7. Connect female end of first slave hose (4) to male end of supply quick disconnect (6) located on back of main manifold control box on disabled vehicle.
8. Using second slave hose (7), connect female end of slave hose (7) to male end of return hose (8) on operable vehicle.
9. Connect male end of second slave hose (8) to female return quick disconnect (9) located on back of main manifold control box on disabled vehicle.



CAUTION

Engine speed must be at idle before using hydraulic selector switch. Failure to comply may result in damage to equipment.

10. Start engine on operable vehicle (TM 9-2320-347-10)

NOTE

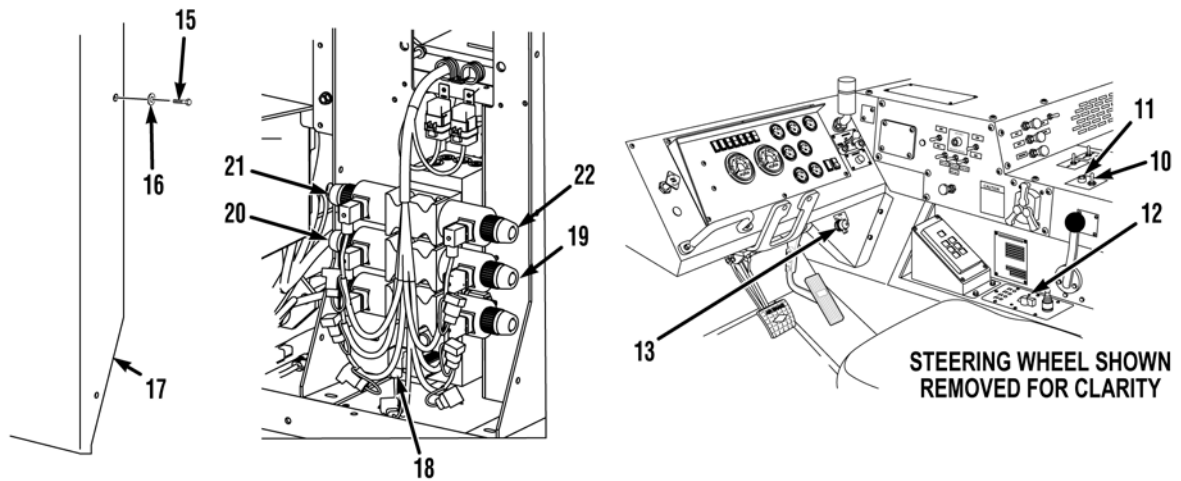
Steps (11) and (12) apply to operable vehicle only.

11. Move PTO ENGAGE switch (10) to ON position. Indicator light (11) is illuminated.
12. Turn hydraulic selector switch (12) to AUTO position.
13. If disabled vehicle has a failure in the hydraulic system, but not the electrical system, go to step (14). If both systems have failed, go to step (15).

CAUTION

Engine speed must be at idle before using hydraulic selector switch. Failure to comply may result in damage to equipment.

14. On disabled vehicle, turn ignition switch (13) to ON position (TM 9-2320-347-10) and turn hydraulic selector switch (12) to AUTO position. Move joystick (14) to LOAD position and return LHS to stowed position. Go to step (17).



NOTE

Only remove center screw on engine side of main manifold control box cover.

15. On disabled vehicle, remove four screws (15), lockwashers (16), and main manifold control box cover (17).

NOTE

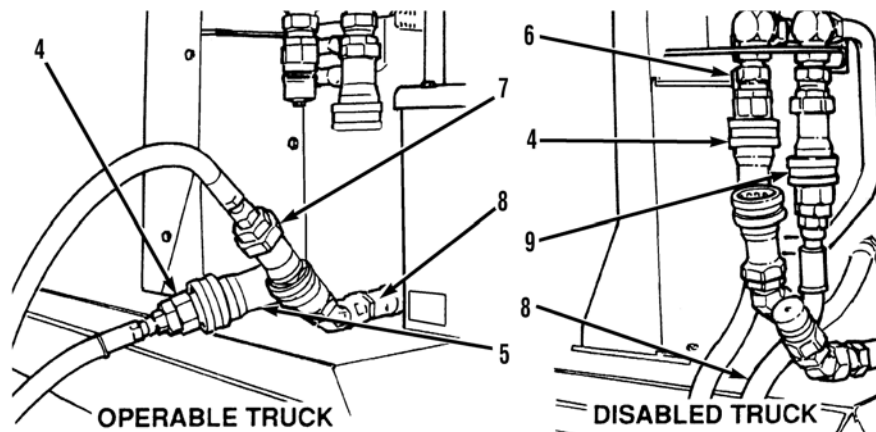
Buttons may be hard to push in.

16. Press and hold free-flow valve override button (18). Press one or more of the following buttons to return LHS to the stowed position: hook arm UP (19), hook arm DOWN (20), main frame UP (21), main frame DOWN (22).

CAUTION

Engine speed must be at idle before using hydraulic selector switch. Failure to comply may result in damage to equipment.

17. On both vehicles, turn hydraulic selector switch (12) to OFF position.
18. Move PTO ENGAGE switch (10) to OFF position on operable vehicle. Make sure indicator light (11) is extinguished.
19. Shut off engine on operable vehicle (TM 9-2320-347-10)
20. On disabled vehicle, turn ignition switch (13) to OFF.



WARNING

Hydraulic fluid is under great pressure. Engines on both vehicles must be shut off while connecting/disconnecting hydraulic lines. Failure to comply may result in injury or death to personnel.

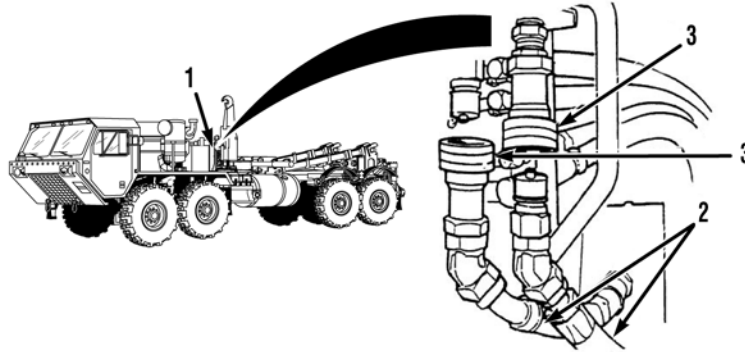
CAUTION

To prevent hydraulic contamination, keep hydraulic quick disconnects clean. Failure to comply may result in damage to equipment.

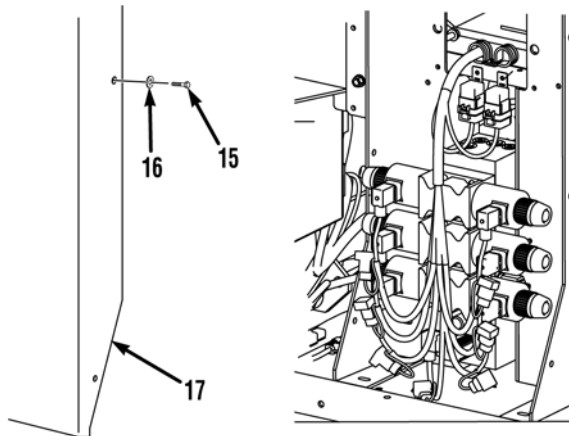
NOTE

Quick disconnects are located on the back of the main manifold box.

21. Disconnect first slave hose (4), male end of slave hose (4) from female end of supply hose (5) on operable vehicle.
22. Disconnect female end of first slave hose (4) from male end of supply quick disconnect (6) located on back of main manifold control box on disabled vehicle.
23. Disconnect second slave hose (7), female end of slave hose (7) from male end of return hose (8) on operable vehicle.
24. Disconnect male end of second slave hose (8) from female return quick disconnect (9) located on back of main manifold control box on disabled vehicle.



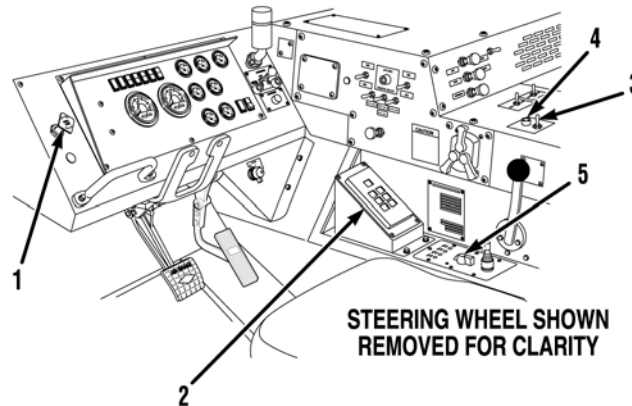
25. Connect two hydraulic lines (2) on both vehicles at quick disconnects (3) located on back of main manifold control box (1).
26. When operations are completed, check hydraulic fluid levels in both vehicle. Fill if necessary (WP 0120).



27. On disabled vehicle, install main manifold control box cover (17) with four lockwashers (16) and screws (15).
28. On operable vehicle, install hydraulic reservoir cap on hydraulic reservoir.

END OF TASK

d. *Manual Hydraulic Operation (LHS).*



WARNING

Make sure operator, objects, and other personnel are clear of LHS and vehicle during LHS operation. Failure to comply result in injury or death to personnel.

CAUTION

The HEMTT THAAD LHS is only designed to load/unload MRP in AUTO mode. Extreme caution must be used when operating LHS in MANUAL mode. Failure to comply may result in damage to equipment.

NOTE

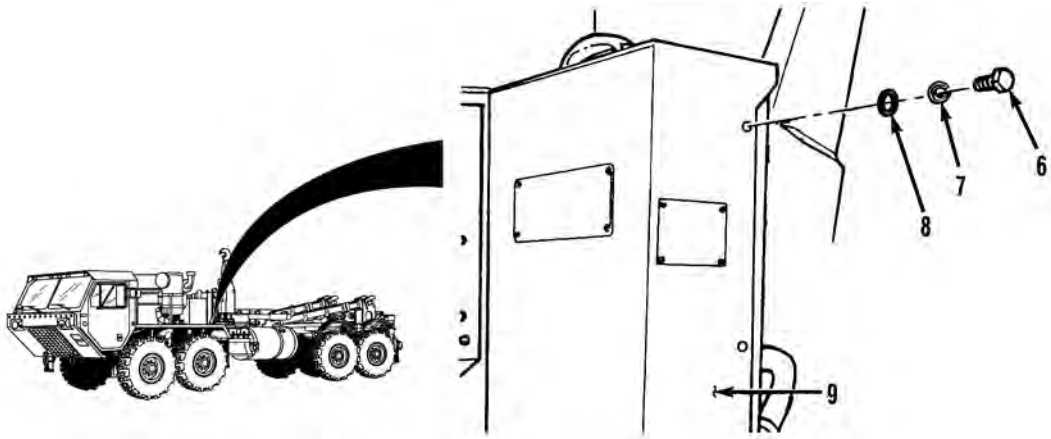
In the event of electrical failure during loading or unloading, manual operation of main manifold directional control valves will allow LHS operation.

1. Start engine (TM 9-2320-347-10)
2. Pull out PARKING BRAKE control (1) and place transmission range selector (2) in N (Neutral).
3. Move PTO ENGAGE switch (3) to ON position. Indicator light (4) is illuminated.

CAUTION

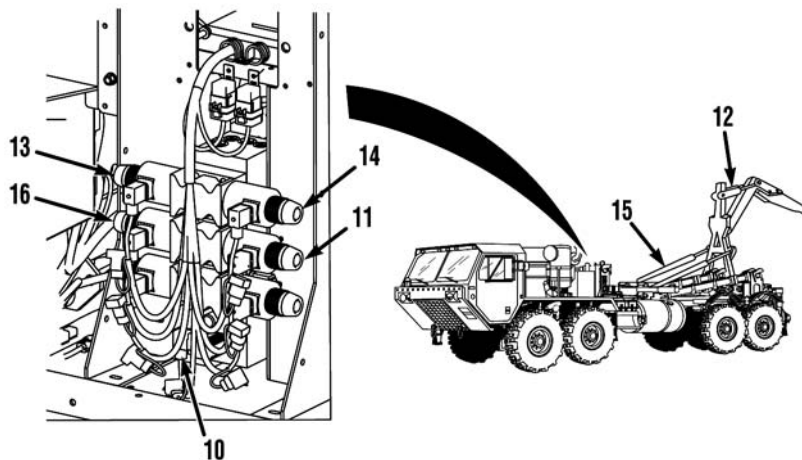
Engine speed must be at idle before using hydraulic selector switch. Failure to comply may result in damage to equipment.

4. Turn hydraulic selector switch (5) to AUTO position.

**NOTE**

Only remove center screw on engine side of main manifold control box cover.

5. Remove six screws (6), lockwashers (7), washers (8) and main manifold control box cover (9) to gain access to main manifold valve.



CAUTION

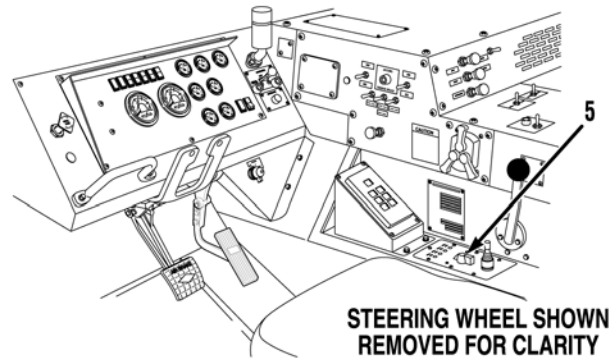
Engine speed must be at idle before hook arm cylinders are fully extended. Failure to comply may result in damage to equipment.

6. Unload MRP from vehicle as follows:
 - (a) Press and hold free-flow valve override button (9) and manual hook arm UP button (10) and extend hook arm cylinders (11) until hook arm cylinders are fully extended.
 - (b) Press and hold free-flow valve override button (9) and manual main frame UP button (12) until unloaded.

CAUTION

Do not allow main frame cylinders to complete full retraction while operating at engine speeds above idle. Failure to comply may result in damage to equipment.

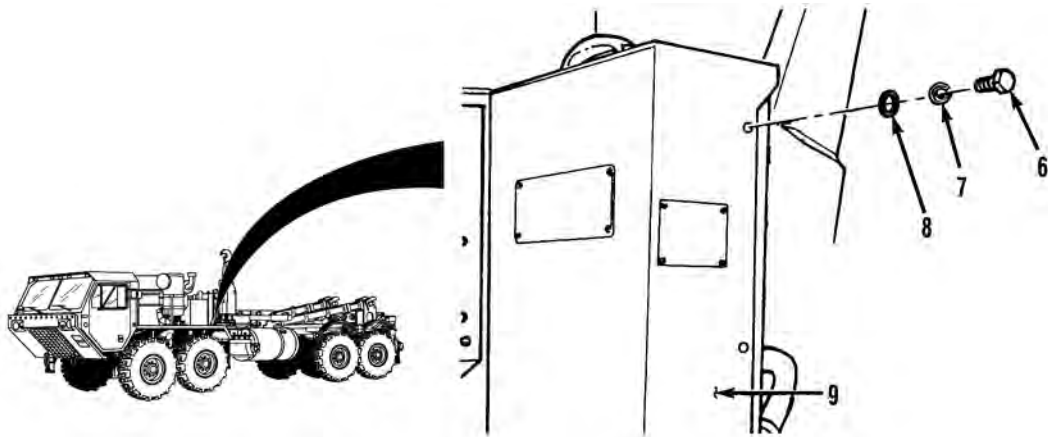
7. Load MRP onto vehicle as follows:
 - (a) Press and hold manual free-flow valve override button (9) and manual main frame DOWN button (13) until main frame cylinders (14) are fully retracted.
 - (b) Press and hold free-flow valve override button (9) and manual hook arm DOWN button (15) until LHS is in transit position.



CAUTION

Engine speed must be at idle before using hydraulic selector switch. Failure to comply may result in damage to equipment.

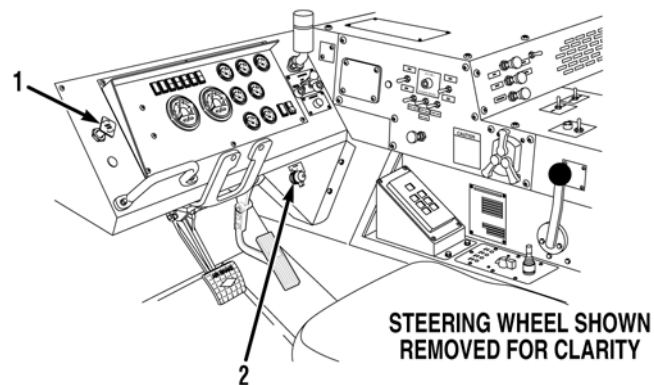
- (c) Turn hydraulic selector switch (5) to MAN TRANSIT position.



8. Install main manifold control box cover (9) with six screws (6), lockwashers (7) and washers (8).

END OF TASK

e. *Lowering the MRP During Complete Hydraulic Failure (Hydraulic Release).*



WARNING

Make sure operator, objects, and other personnel are clear of LHS and vehicle during LHS operation. Failure to comply may result in injury or death to personnel.

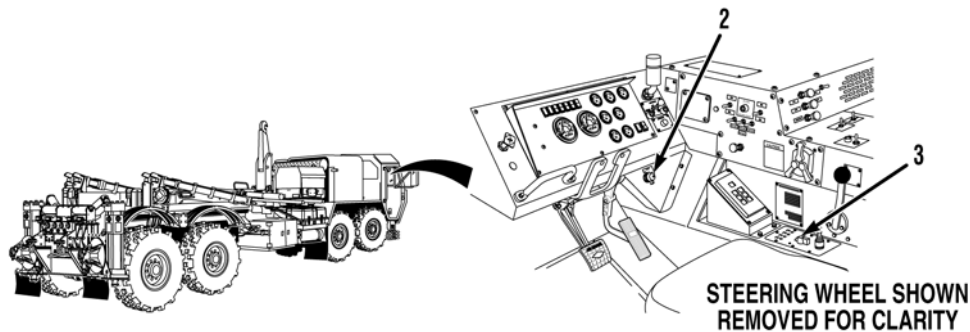
CAUTION

The HEMTT THAAD LHS is only designed to load/unload MRP in AUTO mode. Extreme caution must be used when operating LHS in MANUAL mode. Failure to comply may result in damage to equipment.

NOTE

In event of hydraulic failure during loading or unloading, load control valves fitted into system will stop LHS operation. To recover from this, solenoid valves are operated with, when open, bypass cylinder load control valves causing LHS to move under its own weight to load or unload position.

1. Pull out PARKING BRAKE control (1).
2. Turn ignition switch (2) to ON position, but do not start engine.



WARNING

Before positioning hydraulic selector switch in man transit position, direction of MRP movement (load or unload) must be known. Failure to comply may result in injury or death to personnel.

NOTE

- If MRP load center of gravity is over vehicle, MRP will return to transport position. If MRP and load center of gravity is over rear of vehicle, MRP will lower to ground.
 - Under certain circumstances, an assist vehicle may be needed to aid in pulling MRP back if dug in.
 - Ground conditions will determine if MRP rolls/slides across ground or digs in. In event of digging in, operator should stop electrical override button operation. If this condition exists, the MRP will have to be unloaded manually.
3. Turn hydraulic selector switch (3) to MAN TRANSIT position.

WARNING

Use extreme caution during override procedure operation. Failure to comply may result in injury or death to personnel.

NOTE

In event of MRP returning to transport position on vehicle during override procedure operation, the operation continues until LHS movement stops.

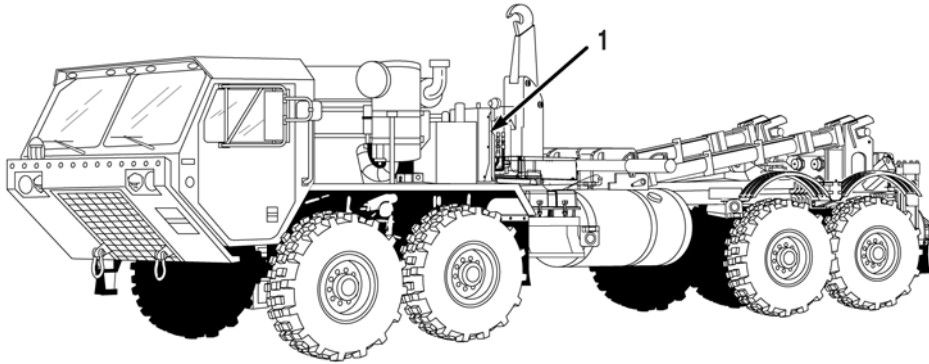
4. As MRP unloads, operator continues using override procedure by allowing hydraulic selector switch (3) to remain in MAN TRANSIT position. Unloading of MRP and payload will continue until load is on ground.

NOTE

Hydraulic selector switch must be in MAN TRANSIT position when driving vehicle.

5. Put ignition switch (2) in OFF position.

f. **MRP Auxiliary Slave Hydraulics Operation (Auxiliary [Slave] Hydraulics).**



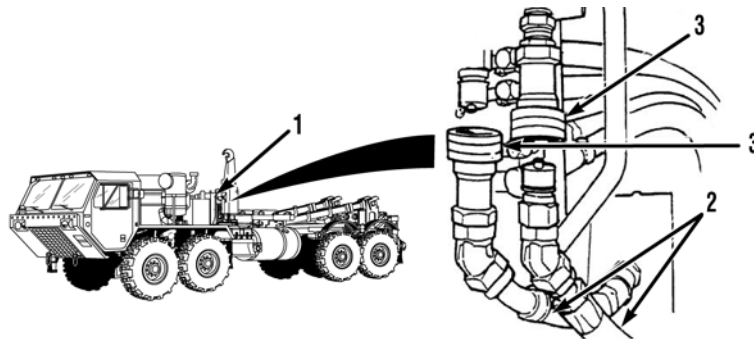
NOTE

- This procedure can only be used if there are no leaks or breaks in hydraulic system.
 - This procedure is used to operate MRP on a vehicle with a failed hydraulic pump or other failure which prevents operation of hydraulic system.
 - Each vehicle is equipped with one hydraulic slave hose. Two hoses (one from each vehicle) are required to perform slave hydraulics. Remove hoses from stowage boxes of vehicles.
1. Move vehicles into position so main manifold control box (1) on both vehicles are side by side.
 2. Park both vehicles (TM 9-2320-347-10)
 3. Shut off both engines (TM 9-2320-347-10)

CAUTION

Remove hydraulic reservoir tank cap from operable vehicle prior to starting operation to allow excess hydraulic oil to drain. Failure to comply may result in damage to equipment.

4. Remove hydraulic reservoir cap from operable vehicle.



WARNING

Hydraulic fluid is under great pressure. Engines on both vehicles must be shut off while connecting/disconnecting hydraulic lines. Failure to comply may result in injury or death to personnel.

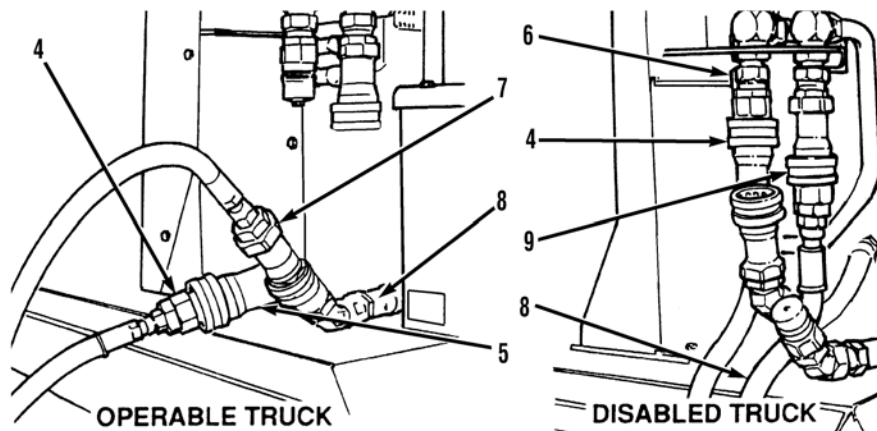
CAUTION

To prevent hydraulic contamination, keep hydraulic quick disconnects clean. Failure to comply may result in damage to equipment.

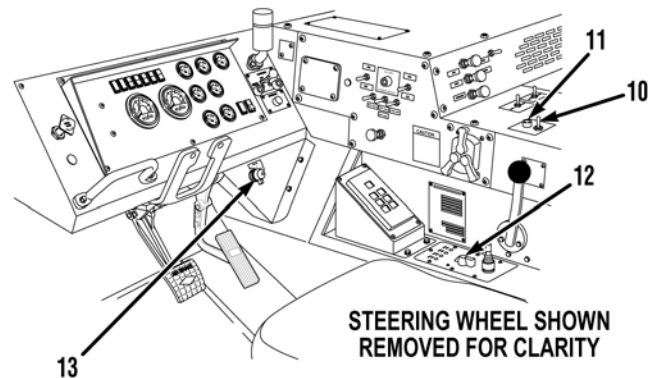
NOTE

Quick disconnects are located on the back of the main manifold control box.

5. Disconnect two hydraulic lines (2) on both vehicles at quick disconnects (3) located on the back of the main manifold control box (1).



6. Using first slave hose (4), connect male end of slave hose (4) to female end of supply hose (5) on operable vehicle.
7. Connect female end of first slave hose (4) to male end of supply quick disconnect (6) located on back of main manifold control box on disabled vehicle.
8. Using second slave hose (7), connect female end of slave hose (7) to male end of return hose (8) on operable vehicle.
9. Connect male end of second slave hose (8) to female return quick disconnect (9) located on back of main manifold control box on disabled vehicle.



CAUTION

Engine speed must be at idle before using hydraulic selector switch. Failure to comply may result in damage to equipment.

10. Start engine on operable vehicle (TM 9-2320-347-10)

NOTE

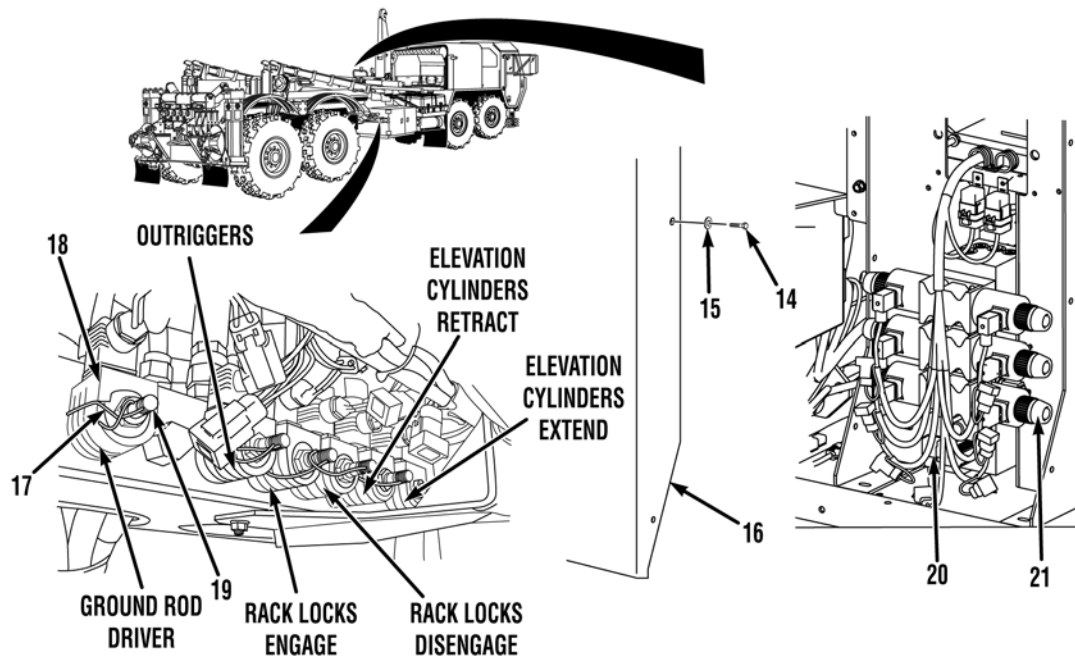
Steps (11) and (12) apply to operable vehicle only.

11. Move PTO ENGAGE switch (10) to ON position. Make sure indicator light (11) illuminates.
12. Turn hydraulic selector switch (12) to MRP position.
13. If disabled vehicle has a failure in the hydraulic system, but not the electrical system, go to step (14). If both systems have failed, go to step (15).

CAUTION

Engine speed must be at idle before using hydraulic selector switch. Failure to comply may result in damage to equipment.

14. On disabled vehicle, turn ignition switch (13) to ON and turn hydraulic selector switch (12) to MRP position. Operate MRP and/or outrigger controls to return MRP and outriggers to the stowed position. Go to step (20).



NOTE

Only remove center screw on engine side of main manifold control box cover.

15. On disabled vehicle, remove four screws (14), lockwashers (15), and main manifold control box cover (16).

WARNING

Overriding solenoids eliminates safety interlocks. Proper procedure must be followed. Failure to comply could result in serious injury or death.

16. Cut and remove safety wire(s) (17) from appropriate MRP solenoid(s) (18).

NOTE

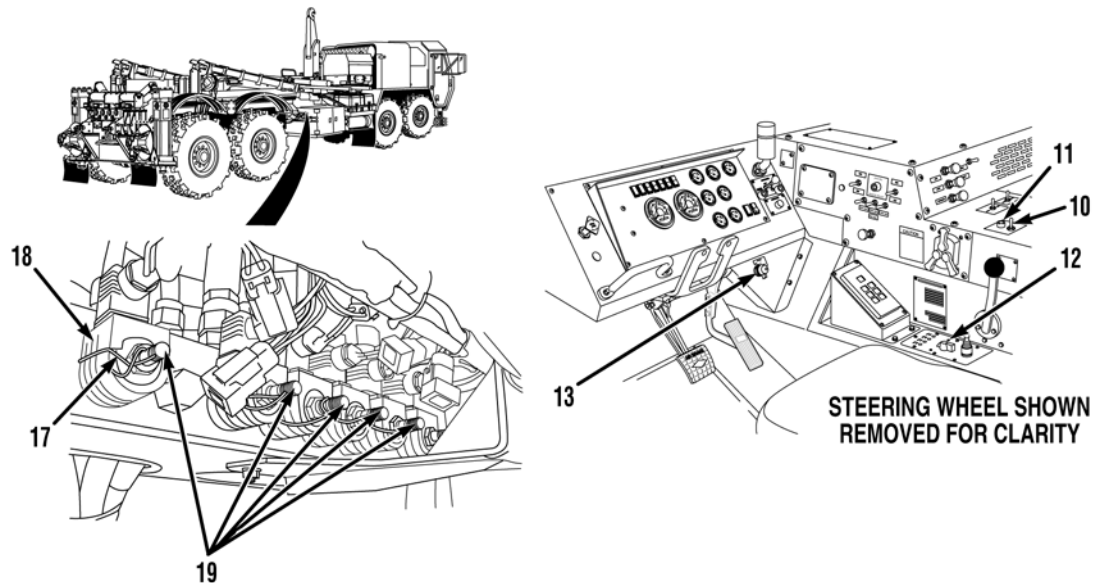
Stems on solenoids only need to be pulled out slightly before turning them.

17. Pull out and turn stem(s) (19) on appropriate MRP solenoid(s) (18) 1/4 turn clockwise.

NOTE

Button may be hard to push in.

18. Soldier A press and hold free-flow valve override button (20).
19. Soldier A press button (21).
20. Soldier B will operate appropriate control lever(s) to stow outriggers and/or MRP for transportation.



CAUTION

Engine speed must be at idle before using hydraulic selector switch. Failure to comply may result in damage to equipment.

21. On both vehicles, turn hydraulic selector switch (12) to OFF position.
22. Move PTO ENGAGE switch (10) to OFF position on operable vehicle. Make sure indicator light (11) extinguishes.
23. Shut off engine on operable vehicle (TM 9-2320-347-10)
24. On disabled vehicle, turn ignition switch (13) to OFF.

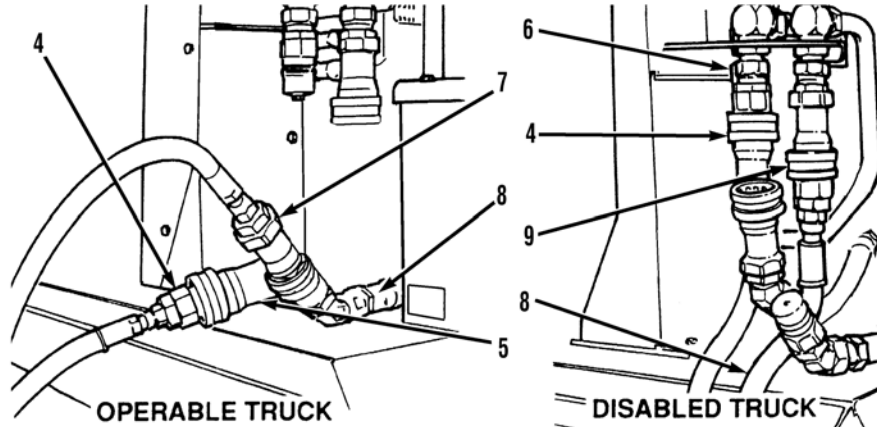
CAUTION

Safety wire(s) on MRP solenoid(s) must be replaced. Failure to comply may result in damage to equipment.

NOTE

Stem on MRP solenoids will retract back into solenoid when returned to original position.

25. Turn stem(s) (19) 1/4 turn counterclockwise to position stem(s) (19) back to original position and install safety wire(s) (17) on MRP solenoid(s) (18) that had safety wires cut.



WARNING

Hydraulic fluid is under great pressure. Engines on both vehicles must be shut off while connecting/disconnecting hydraulic lines. Failure to comply may result in serious injury or death to personnel.

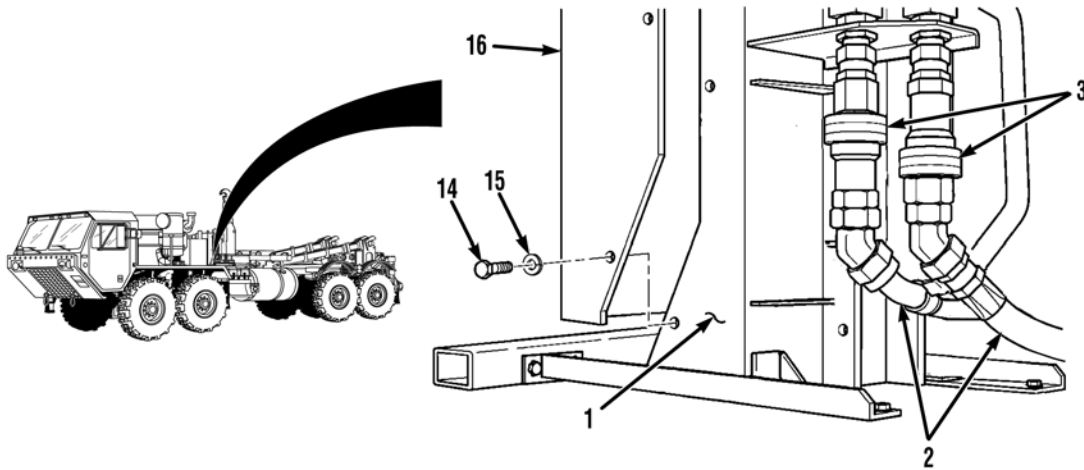
CAUTION

To prevent hydraulic contamination, keep hydraulic quick disconnects clean. Failure to comply may result in damage to equipment.

NOTE

Quick disconnects are located on the back of the main manifold box.

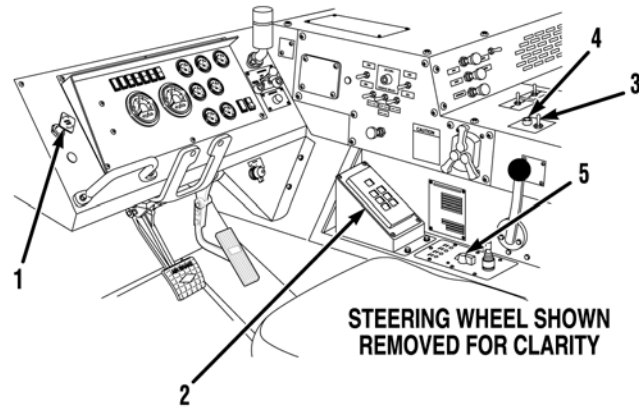
26. Disconnect first slave hose (4), male end of slave hose (4) from female end of supply hose (5) on operable vehicle.
27. Disconnect female end of first slave hose (4) from male end of supply quick disconnect (6) located on back of main manifold control box on disabled vehicle.
28. Disconnect second slave hose (7), female end of slave hose (7) from male end of return hose (8) on operable vehicle.
29. Disconnect male end of second slave hose (8) from female return quick disconnect (9) located on back of main manifold control box on disabled vehicle.



30. Connect two hydraulic lines (2) on both vehicles at quick disconnects (3) located on the back of main manifold control box (1).
31. When operations are completed, check hydraulic fluid levels in both vehicles. Fill if necessary (WP 0120).
32. On disabled vehicle, install main manifold control box cover (16) with four lockwashers (15) and screws (14).

END OF TASK

g. Manual Hydraulic Operation (MRP).



WARNING

Make sure operator, objects, and other personnel are clear of MRP and vehicle during MRP operation. Failure to comply may result in injury or death to personnel.

NOTE

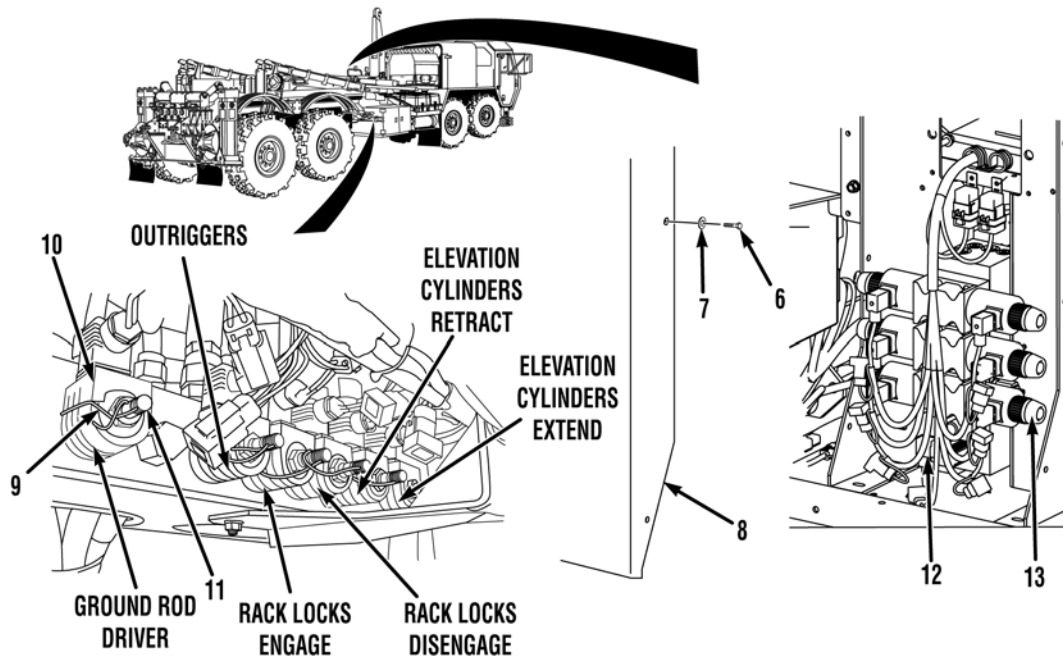
In the event of electrical failure during loading or unloading, manual operation of main manifold valve control and solenoids will allow MRP operation until electrical failure can be repaired.

1. Pull out PARKING BRAKE control (1) and place transmission range selector (2) in N (Neutral).
2. Move PTO ENGAGE switch (3) to ON position. Indicator light (4) should illuminate.

CAUTION

Engine speed must be at idle before using hydraulic selector switch. Failure to comply may result in damage to equipment.

3. Turn hydraulic selector switch (5) to MRP position.

**NOTE**

Only remove center screw on engine side of main manifold control box cover.

4. Remove four screws (6), lockwashers (7), and main manifold control box cover (8).
5. Cut and remove safety wire(s) (9) from appropriate MRP solenoid(s) (10).

NOTE

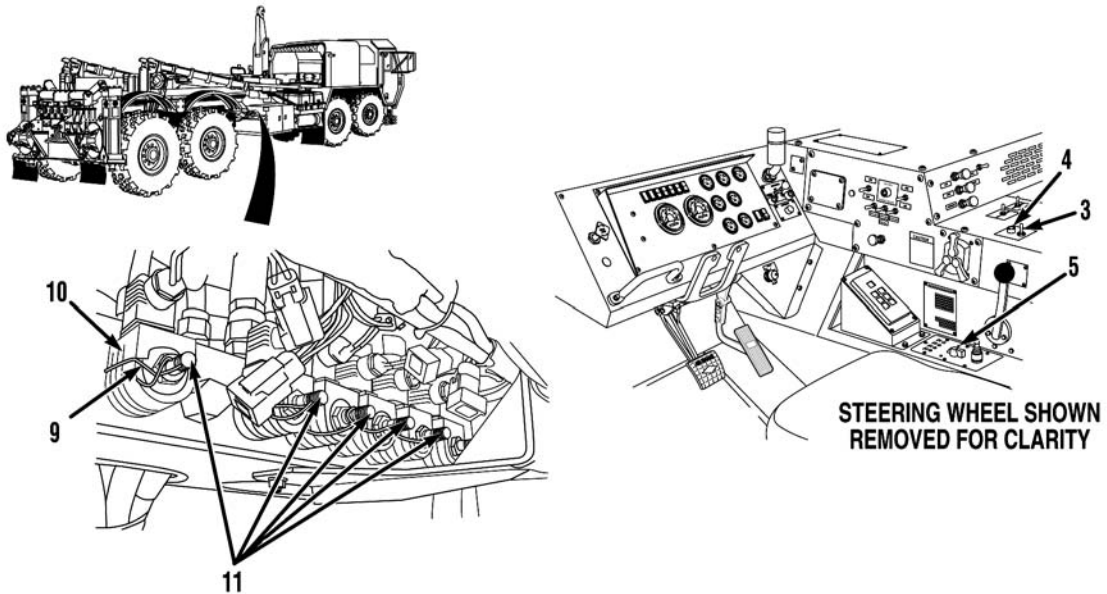
Stems on solenoids only need to be pulled out slightly before turning them.

6. Pull out and turn stem(s) (11) on appropriate MRP solenoid(s) (10) 1/4 turn clockwise.

NOTE

Button may be hard to push in.

7. Soldier A press and hold free-flow valve override button (12).
8. Soldier A press button (13).
9. Soldier B will operate appropriate control lever(s) to stow outriggers and/or MRP for transportation.



CAUTION

Engine speed must be at idle before hook arm cylinders are fully extended. Failure to comply may result in damage to equipment.

10. Turn hydraulic selector switch (5) to OFF position.
11. Move PTO engage switch (3) to OFF position. Make sure indicator light (4) extinguishes.
12. Shut off engine (TM 9-2320-347-10)

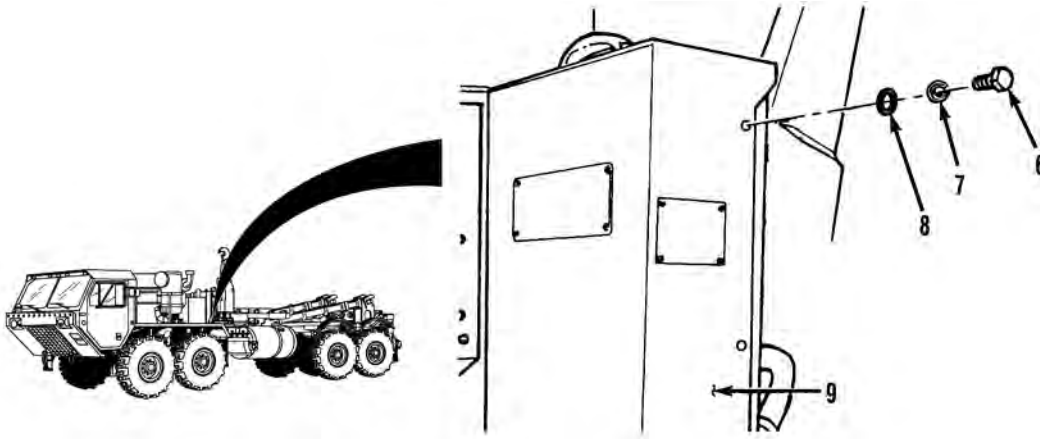
CAUTION

Safety wire(s) on MRP solenoid(s) must be replaced. Failure to comply may result in damage to equipment.

NOTE

Stem on MRP solenoid will retract back into solenoid when returned to original position.

13. Turn stem(s) (11) 1/4 turn counterclockwise to position stem(s) (11) back to original position and install safety wire(s) (9) on MRP solenoid(s) (10) that had safety wires cut.



14. Install LHS control box cover (8) with four screws (6) and lockwashers (7).

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
STOWAGE AND DATA PLATE GUIDE

SCOPE

This work package shows the stowage locations for equipment necessary to support the HEMTT THAAD and locations of data plates, labels, decals, and stencils that are required to be in place on the HEMTT THAAD.

GENERAL

Figures 1 and 2 show the location of metal signs, decals, and stencils used on the vehicle. Most of these signs, decals, and stencils contain warnings, cautions, or information needed to operate the vehicle safely. Tables 1 through 4 show stowage locations of Components of End Items (COEI) and Basic Issue Items (BII).

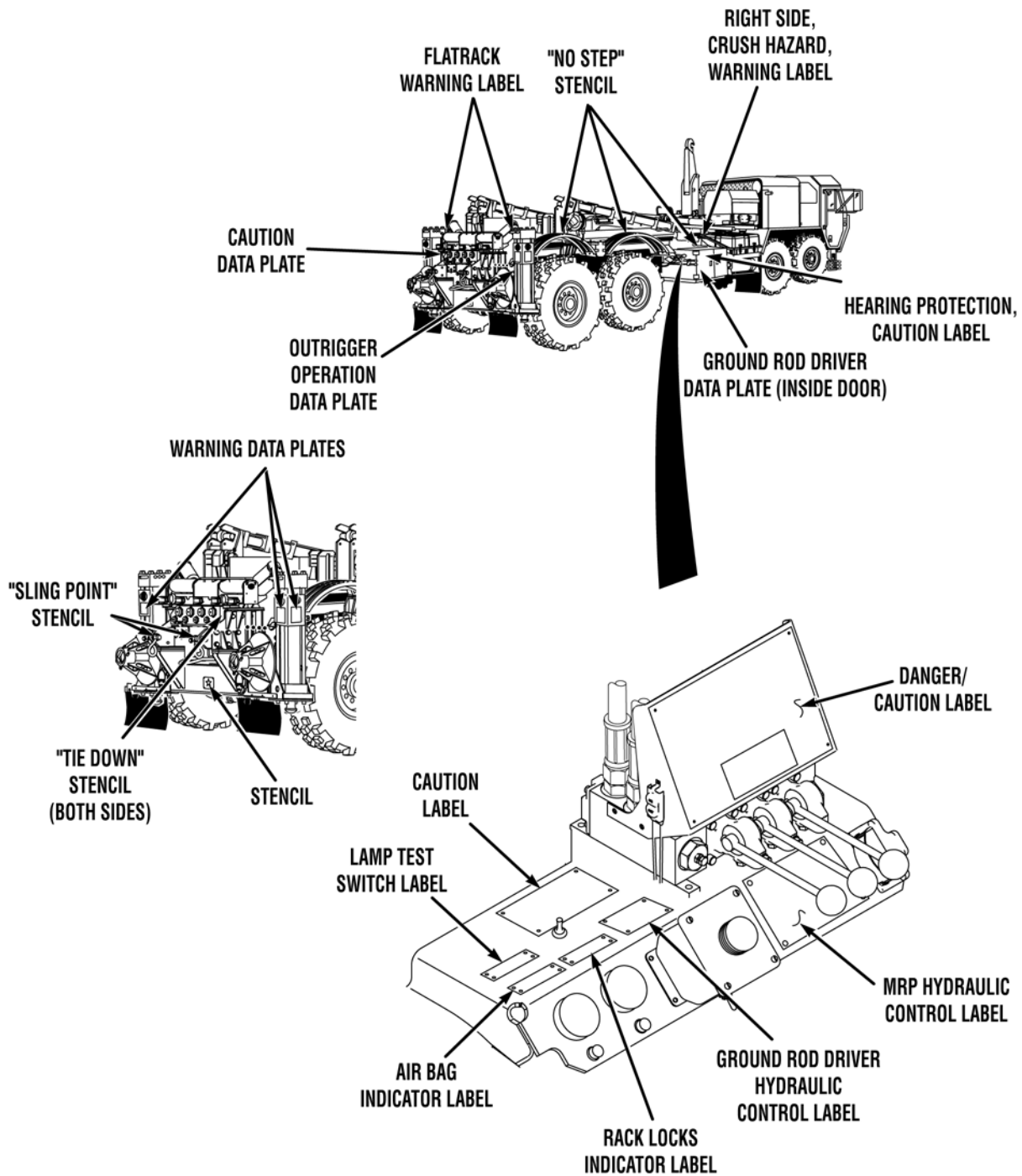


Figure 1. Data Plate Guide.

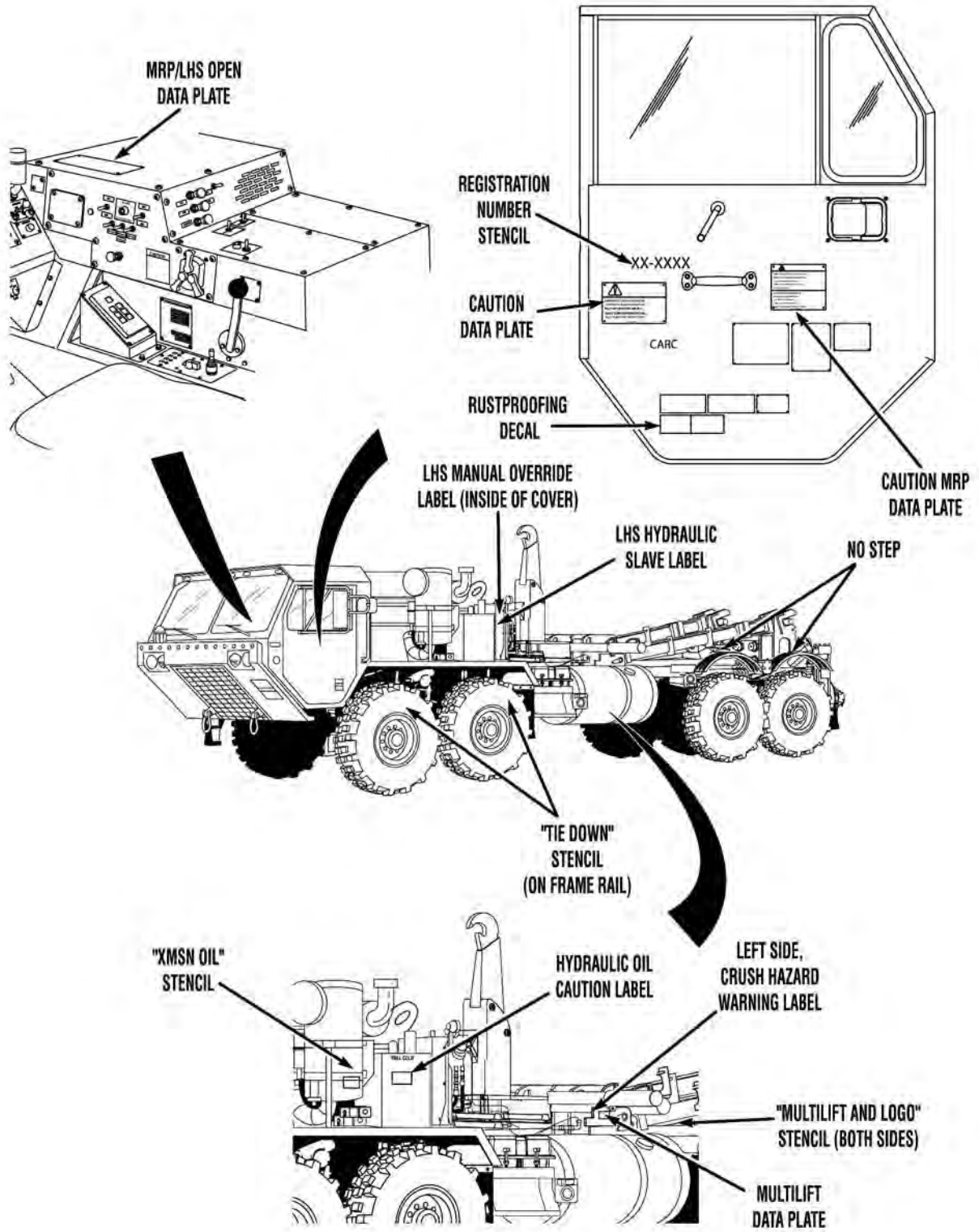


Figure 2. Data Plate Guide.

Table 1. Glove Box.

Description	Part No.	Qty.
Bag, Textile	1362710	1
Binder, Loose-Leaf	1362730	1
First Aid Kit	1307520	1
Gage/Inflator, Pneumatic	2007140	1
Warning Kit, Highway (under glove box)	64326BX	1

Table 2. Cab, Right of Driver's Seat.

Description	Part No.	Qty.
Fire Extinguisher, 10 BC	1347000	1

Table 3. Behind Driver Side Rear Wheels.

Description	Part No.	Qty.
Ladder	2019940	1
Bracket, Ladder Adapter Assy., LH	3499638	1
Bracket, Ladder Adapter Assy., RH	3499637	1

Table 4. Stowage Box.

Description	Part No.	Qty.
Bag, Tool	1350190	1
Screwdriver	32746AX	1
Screwdriver, Standard	1350160	1
Wrench, Adjustable, 8 in.	1350180	1
Wrench, Adjustable, 12 in.	120405A	1
Wrench, Socket	1048-TR	1
Bushing, Nonmetallic	1404120	4
Cable Assembly, Power	1307560	1
Chain, Assy., Axle	1452490	1
Chain, Utility	1307530	1
Chock, Wheel-Track	1350250	4
Driver, Ground Rod	3522647	1
Adapter	1803200	1

Table 4. Stowage Box. (Continued)

Adapter, Straight, TU	1781120	1
Dust Plug, 3/8 in.	3367276	1
Dust Cap, 3/8 in.	3367277	1
Fitting, St, 6QDC-8ORG FF, ST	3367275	1
Fitting, St, 6QDC-8ORG FF, MF	3367274	1
Hose Assembly	2180940	2
Elbow, Male 90, .38 NPTFX, 44SAE 45	3055073	1
Gage, Tire Pressure Test Kit, ZC	1352190	2
Handle, Extension	1347720	1
Handle, Socket Wrench	1049TR	1
Harness, Work Lamp	1771530W	1
Harness, Work Lamp	1419770U	1
Hose Assy., Slave	3294652	1
Hose Assy, Tire Inflation	2155210U	2
Jack, Hydraulic, Hand	1318250	1
Lamp, Work	1770010	1
Nut, Hex, LKNY	2560HX	4
Nut, Self-locking, LKSP	110310A	4
Padlock Set	3536504	1
Padlock, Without Chain, Steering Wheel	1619180	1
Plate, Jack Base	1350610W	1
Pliers, 10 in. Adjustable Joint	1350150	1
Screw, Cap, Hexagon H	153640	4
Screw, Cap, Hex HD	1803HX1	4
Screw, Cap, SOC	3476262	1
Shackle, Anchor, Limp Home	1361760	1
Shackle, Sling	1451750	2
Shackle, Towing	1307540	2
Washer, Flat	173JX	8

END OF WORK PACKAGE

CHAPTER 3

TROUBLESHOOTING PROCEDURES

FIELD LEVEL MAINTENANCE

TROUBLESHOOTING INSTRUCTIONS INTRODUCTION

This chapter contains Field Level troubleshooting procedures to diagnose and correct the most common malfunctions of the HEMTT THAAD Launcher System. Refer to (TM 9-2320-325-14&P) for M977 series vehicle troubleshooting and THAAD Launcher IETM for MRP and missile launcher system troubleshooting.

Each troubleshooting procedure in this manual lists a malfunction, followed by tests or inspections, and the corrective actions needed to correct the malfunction. This manual cannot list all malfunctions that may occur. Nor can it list all test, inspections, and corrective actions needed to correct the malfunctions. If a malfunction is not listed, or if listed corrective actions do not correct the malfunction, notify your Supervisor. See (WP 0019) for an index of THAAD troubleshooting procedures.

Before beginning any troubleshooting procedure, read and understand the operating procedures listed in Chapter 2 of this manual. Perform all applicable Preventive Maintenance Checks and Services (PMCS) procedures for the M977 series vehicle (TM 9-2320-325-14&P) and THAAD Launcher System (WP 0050). Ensure all system setup procedures are completed.

All steps in these troubleshooting procedures must be performed in the order listed, to ensure all system interlocks are in the correct position for system operations. Listed below is an outline of the conditions required to operate the HEMTT THAAD Launcher System. All troubleshooting procedures in this manual were written without the MRP loaded on the THAAD Launcher System, except as noted.

NOTE

Check battery voltage prior to performing troubleshooting procedures. If the vehicle battery voltage reading is below 8.25 vdc or above 32 vdc, the system will not respond to any inputs.

a. To Operate LHS System in AUTO or MANUAL Mode:

1. Launcher umbilical and ADU/TL cables disconnected.
2. Both rack locks disengaged. (MRP LOADED and RACK LOCKS ENGAGED status indicator lights EXTINGUISHED.)
3. Both elevation cylinders stowed.
4. LHS cab control mode select switch in AUTO, MAN HOOK ARM, or MAN MAIN FRAME position.

CAUTION

LHS must be operated in AUTO mode when loading and unloading MRPs, or damage to MRPs may occur.

b. To Operate Ground Rod Driver:

1. Parking brakes applied.
2. LHS cab control mode select switch in MRP position.
3. Ground rod driver switch in ON (down) position.
4. MRP palm switch released.
5. Outrigger palm switch released.

c. To Operate Outriggers and Stabilizers:

1. Parking brakes applied.
2. Both MRP locks disengaged. (MRP LOADED and RACK LOCKS ENGAGED status indicator lights EXTINGUISHED.)
3. Both elevation cylinders stowed.
4. LHS cab control mode select switch in MRP position.
5. Ground rod driver switch in OFF (up) position.
6. MRP palm switch released.
7. Outrigger palm switch pressed.

d. To Engage Rack Locks:

1. Either MRP is loaded on THAAD carrier, or metal objects are placed over both MRP present proximity switches. (Both MRP present interlocks on.)
2. LHS cab control mode select switch in MRP position.
3. Ground rod driver switch in OFF (up) position.
4. MRP palm switch pressed.
5. Outrigger palm switch released.

e. To Disengage Rack Locks:

1. Both elevation cylinders stowed.
2. LHS cab control mode select switch in MRP position.
3. Ground rod driver switch in OFF (up) position.
4. MRP palm switch pressed.
5. Outrigger palm switch released.

f. To Extend or Retract Elevation Cylinders:

1. MRP loaded on THAAD carrier. (Both MRP present interlocks on.)
2. MUJB connected.
3. Parking brakes applied.
4. Outriggers and stabilizers extended.
5. Rear suspension air spring pressure below 35 psi (241 kPa). (Air bag pressure depleted status indicator light ILLUMINATED.)
6. Both MRP locks engaged. (MRP LOADED and RACK LOCKS ENGAGED status indicator lights ILLUMINATED.)
7. Under bumper in stowed position. (Under bumper proximity switch on.)

8. Sub frame to deck lock unlocked. (Sub frame to deck lock proximity switch on.)
9. LHS cab control mode select switch in MRP position.
10. Ground rod driver switch in OFF (up) position.
11. MRP palm switch pressed.
12. Outrigger palm switch released.

During elevation cylinder operations, the engine will operate at low idle when the MRP elevation is less than 5 degrees (5 degree elevation proximity switch on). High idle operation occurs, when MRP elevation is greater than 5 degrees (5 degree elevation proximity switch off), ADU/TL cables are connected, and both elevation cylinder locks are closed. The elevation cylinder operation cannot be performed unless an MRP is loaded on the THAAD carrier system.

The following checks are required during THAAD Launcher System troubleshooting:

g. Resistance Checks.

CAUTION

Use proper sized test leads and ensure care is used when checking for resistance, continuity, or voltage at connectors or damage to equipment may result.

1. Set the multimeter function/range switch to the desired ohm position. If the magnitude of the resistance is not known, set the switch to the highest range, then reduce range until a satisfactory reading is obtained.

NOTE

Some meters show "l+m", or simply "l" when function/range switch is set to an ohm position.

2. Connect red test lead to volt-ohm input connector and black lead to COM connector on multimeter. When the test leads are separated or measuring out-of-range resistance, the digital display will indicate "OL" (Over Load).
3. If the circuit being measured is connected to power, turn engine start switch OFF (TM 9-2320-347-10)
4. Connect test leads to the circuit being measured. When measuring high resistance be careful not to contact adjacent point, even if they are insulated. Some insulators have a relatively low insulation resistance which can effect the resulting measurement.
5. Read the resistance value on the digital display.
6. If your meter does not work in this manner, follow manufacturer's instructions for the device being used.

h. Continuity Checks.

1. Set the multimeter function/range switch to any ohm range.

NOTE

Some meters show "l+m", or simply "l" when function/range switch is set to an ohm position.

2. Connect red test lead to volt-ohm input connector and black lead to COM connector on multimeter. When the test leads are separated or measuring out-of-range resistance, the digital display will indicate "OL" (Over Load).
3. If the circuit being measured is connected to power, turn engine start switch OFF (TM 9-2320-347-10)
4. Connect test lead to one end of the wire or circuit to be measured. Use the other test lead to trace the circuit being measured. When continuity is established, an ohm symbol will appear in the upper left corner of the digital display. If contact with the circuit is maintained long enough (about 1/4 second), the "OL" display will disappear and the resistance value if the circuit will be displayed. A resistance value of 200 ohms or less indicates continuity is being measured.
5. If your multimeter does not work in this manner, learn how it operates before performing troubleshooting.

i. Voltage Checks.

The HEMTT THAAD Launcher System is equipped with 24 vdc circuits. However, valid reading may vary from 22 to 28 vdc, depending on the charge on the batteries. When the batteries are fully charged, 25.2 vdc can be measured on an open 24 vdc circuit, and 29 vdc can be measured when the engine is running at 1000 rpm.

1. Set the multimeter function/range switch to the desired volts position. If the magnitude of the voltage is not known, set the switch to the highest range, then reduce range until a satisfactory reading is obtained. If a DC-AC switch is present, make sure it is set to the DC position
2. Connect red test lead to volt-ohm input connector and black lead to COM connector on multimeter.
3. Connect the tests leads to the circuit being measured. Connecting the red lead to the positive (+) connection and the black test lead to the negative (-) or ground connection.
4. Turn ON switches as indicated in test procedure, to apply power to circuit being measured.
5. Read the voltage value on the digital display.
6. If your meter does not work in this manner, learn how it operates before performing troubleshooting.

j. General Wire Testing and Repair.

Troubleshooting for the HEMTT THAAD missile carrier electrical system isolates malfunctions down to specific faulty components, using resistance, continuity, and voltage checks as noted above. When the troubleshooting isolates the malfunction to a faulty wire, the wire harness may be repaired or some cases replaced at Field Level Maintenance. If the wire harness cannot be repaired or replaced at Field Level Maintenance, notify your Supervisor.

Wire repair at Field Level Maintenance is limited to splicing and taping the faulty wire. Refer to TM 9-2320-325-14&P for wire harness repair procedures.

END OF WORK PACKAGE

**FIELD LEVEL MAINTENANCE
TROUBLESHOOTING FAULT INDEX**

Table 1. Troubleshooting Fault Index.

Troubleshooting Procedure	Work Package
ACCESSORIES	
Ground Rod Driver Does Not Operate	0020
ELECTRICAL SYSTEM	
Air Bag Pressure Depleted Indicator Light(s) Do Not Operate Properly	0021
LHS ENGAGED Indicator Light Does Not Operate	0022
LHS NO TRANSIT Indicator Light Does Not Operate	0023
No High Idle During MRP Elevation Operation Over 5 Degrees	0024
Rack Locks Engaged Indicator Light(s) Do Not Operate Properly	0025
Work Light(s) Do Not Operate	0026
LHS SYSTEM	
Hook Arm Does Not Load In Manual Mode	0027
Hook Arm Does Not Unload in Manual Mode	0028
LHS and MRP Do Not Operate	0029
LHS Cab Control Fails Self Test or No VIM Heart Beat Indication	0030
LHS Does Not Load In Auto Mode	0031
LHS Does Not Operate	0032
LHS Does Not Unload In Auto Mode	0033
Main Frame Does Not Load In Manual Mode	0034
Main Frame Does Not Unload In Manual Mode	0035
MRP Control Station Indicator Lights Do Not Operate During Lamp Test	0036
MRP Does Not Extend	0037
MRP Does Not Retract	0038
MRP Locks Do Not Disengage	0039
MRP Locks Do Not Engage	0040
Outrigger Controls Fail to Operate	0041
Outrigger Stabilizers Do Not Extend	0042
Outrigger Stabilizers Do Not Retract	0043

Table 1. Troubleshooting Fault Index. (Continued)

Troubleshooting Procedure	Work Package
Outriggers Do Not Extend	0044
Outriggers Do Not Retract	0045
SUSPENSION SYSTEM	
Air Ride Suspension Deflates Rapidly When Vehicle is Parked	0046
Air Ride Suspension Does Not Maintain Correct Ride Height	0047
Air Ride Suspension Ride Rough or Unstable	0048

FIELD LEVEL MAINTENANCE

GROUND ROD DRIVER DOES NOT OPERATE

Tools and Special Tools

- Adapter, Straight, PI (WP 0183, Item 2)
- Coupling Half, Quick (WP 0183, Item 3)
- Gage, Pressure, Dial (WP 0183, Item 7)
- Hose Assembly, Nonme (WP 0183, Item 8)
- Pan, Drain (WP 0183, Item 10)
- Set, Cap and Plug (WP 0183, Item 17)
- Tool Kit, General Mechanic's: Automotive (WP 0183, Item 25)

Materials/Parts

None

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

References

TM 9-2320-347-10

References (Continued)

- TM 9-2320-325-14&P
- WP 0010
- WP 0011
- WP 0013
- WP 0029
- WP 0073
- WP 0074
- WP 0088
- WP 0089
- WP 0119
- WP 0120
- WP 0125
- WP 0126
- WP 0138
- WP 0145

Equipment Conditions

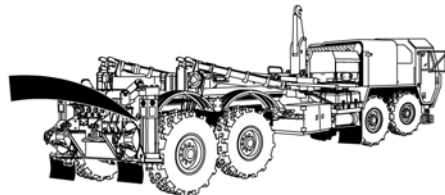
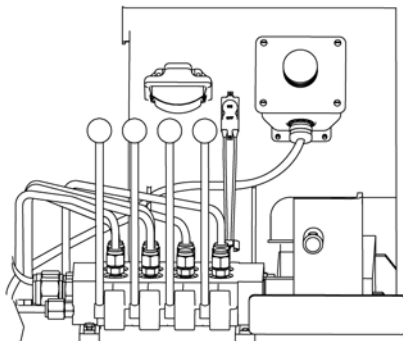
- Engine OFF (TM 9-2320-347-10)
- Parking brake applied (TM 9-2320-347-10)
- Wheels chocked (TM 9-2320-347-10)

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

GROUND ROD DRIVER DOES NOT OPERATE



WARNING

Keep hands and feet clear of outriggers during outriggers/stabilizer extension and retraction. Failure to comply may result in injury to personnel.

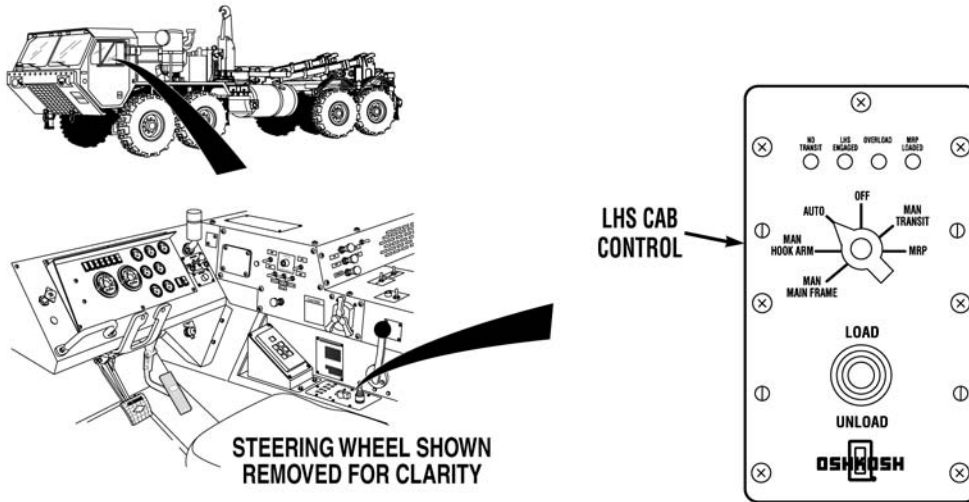
- Step 1. Start engine (TM 9-2320-347-10) Check if outriggers operate (WP 0013).
 - a. If outriggers operate, go to Step 18.

MALFUNCTION

TEST OR INSPECTION

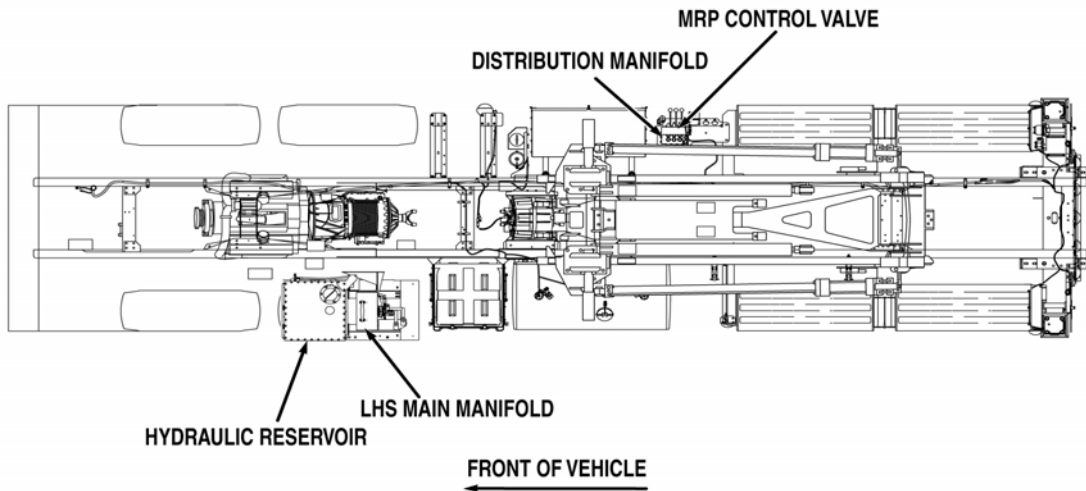
CORRECTIVE ACTION

GROUND ROD DRIVER DOES NOT OPERATE (CONTINUED)



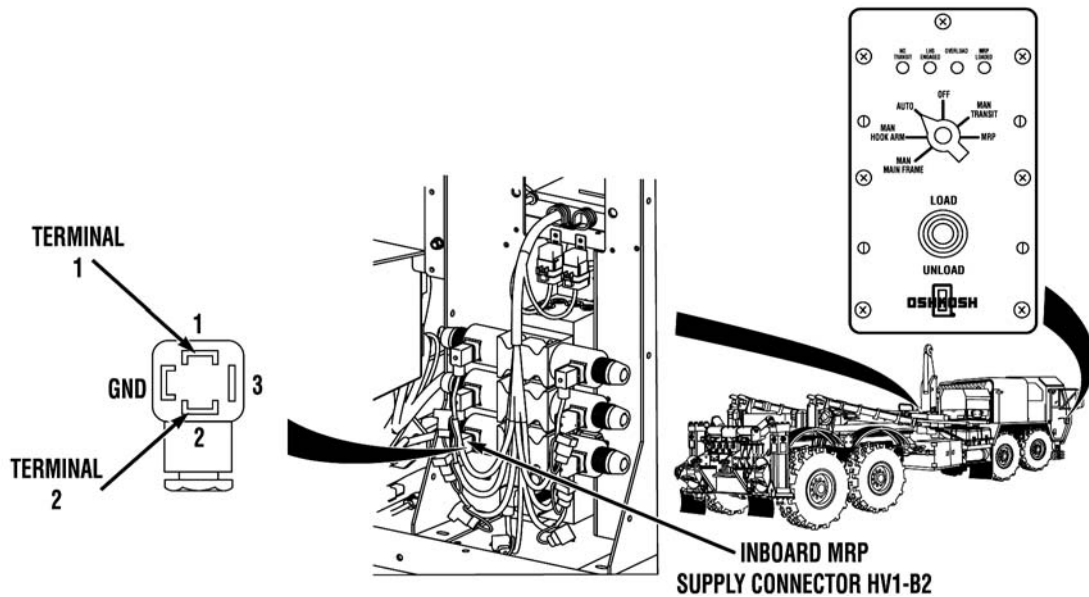
Step 2. Check if LHS operates (WP 0011).

If LHS does not operate, troubleshoot LHS and MRP Do Not Operate (WP 0029).



Step 3. Shut off engine (TM 9-2320-347-10) Inspect hydraulic hoses 2762, 2899, 2918, fittings, and tubing from main distribution manifold to MRP distribution manifold, MRP control valves, and hydraulic reservoir for leaks, kinks, and damage (see WP 0119).

If hydraulic hoses, tubes and/or fittings leak or are damaged, tighten loose fittings or replace damaged hoses and or tubes (WP 0119).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****GROUND ROD DRIVER DOES NOT OPERATE (CONTINUED)****WARNING**

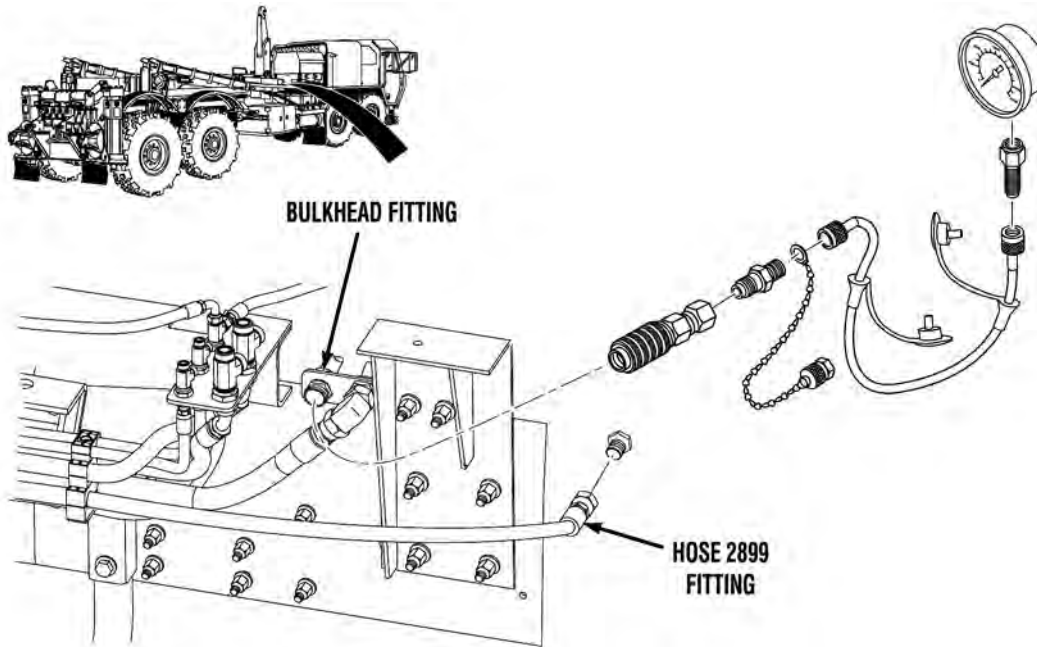
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 4. Remove main manifold valve assembly box cover (WP 0145). Disconnect THAAD control valve harness connector HV1-B2. Turn engine start switch ON (TM 9-2320-347-10) Position LHS cab control mode switch to MRP position (WP 0011). Check for 22 to 28 vdc between wire 1970 at connector HV1-B2, terminal 2 and known good ground.

If 22 to 28 vdc are not present, go to Step 7.

- Step 5. Turn engine start switch off (TM 9-2320-347-10) Check for continuity across wire 1435 from THAAD control valve harness connector HV1-B2, terminal 1 to a known good ground.

If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088)

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****GROUND ROD DRIVER DOES NOT OPERATE (CONTINUED)****WARNING**

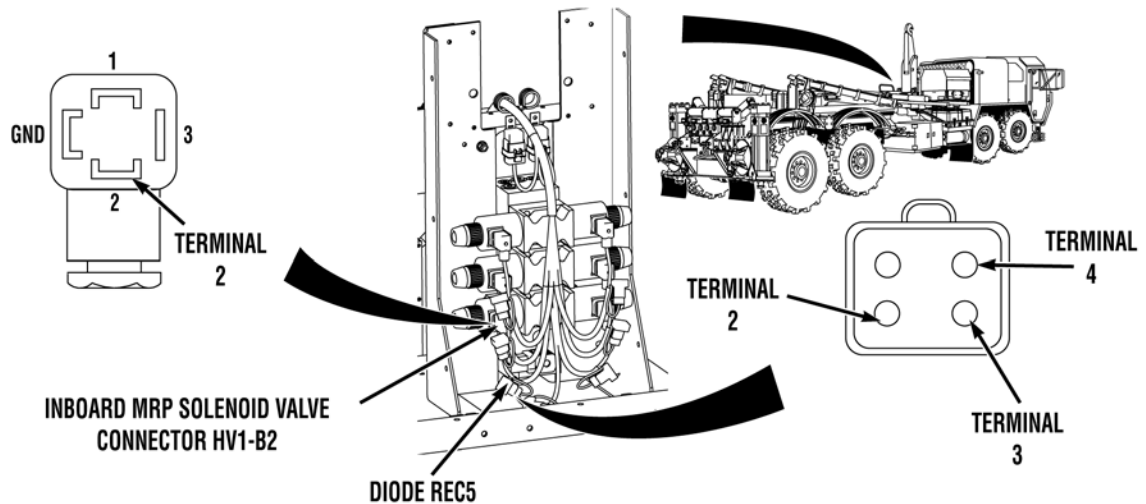
The THAAD hydraulic system operates up to 3,100 psi (21,374 kPa). Never disconnect any hydraulic hose or fitting without first dropping system pressure to zero. Failure to comply may result in serious injury or death to personnel.

CAUTION

Engine speed must be at idle before using hydraulic selector switch. Failure to comply may result in damage to equipment.

- Step 6. Connect THAAD control valve harness connector HV1-B2. Position drain pan under hydraulic hose 2899. Disconnect MRP control valve hose 2899 from bulkhead fitting and cap. Connect pressure gage to bulkhead fitting. Fill hydraulic reservoir (WP 0120). Start engine (TM 9-2320-347-10) While Soldier A operates ground rod controls (WP 0010), Soldier B checks for 3,000 psi (20,685 kPa). Note reading. Shut off engine (TM 9-2320-347-10)

If 3,000 psi (20,685 kPa) is not measured, replace MRP directional control valve (WP 0125).

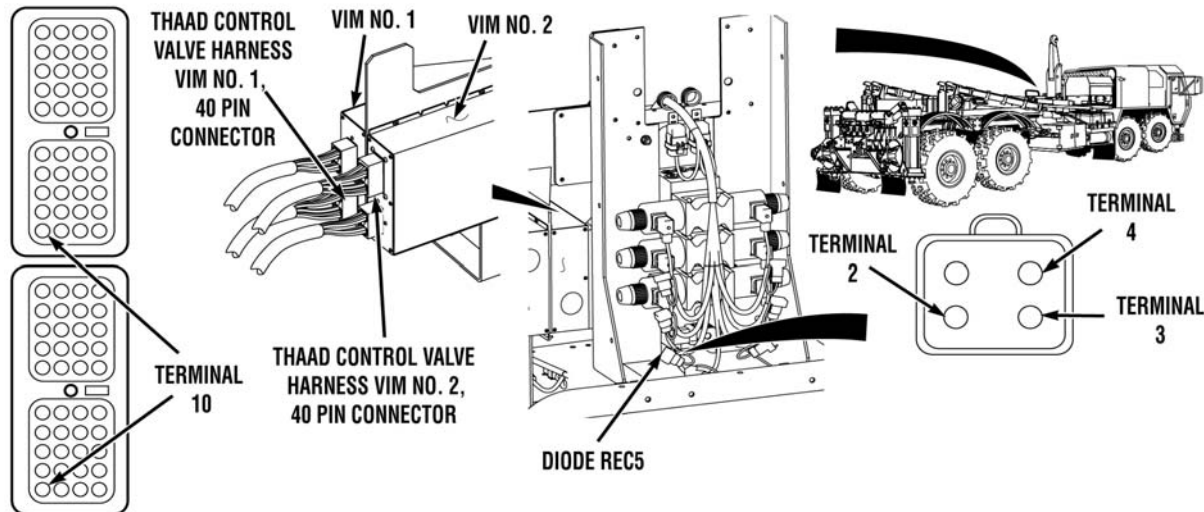
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****GROUND ROD DRIVER DOES NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

Due to system redundancy, the valve control signal is required from only one of the VIMs for proper system operation. The following steps check the valve control circuit from both VIMs, to ensure system integrity.

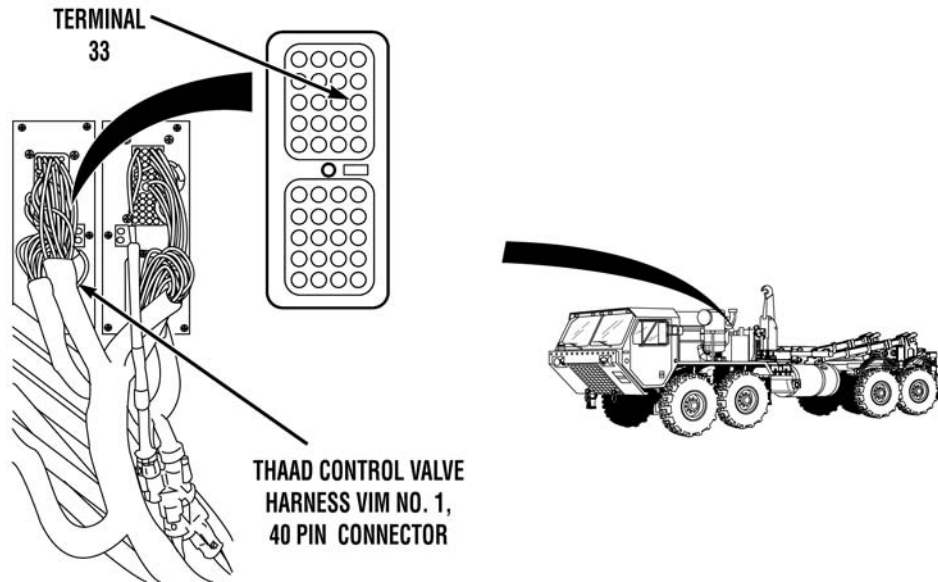
- Step 7. Disconnect diode REC5. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wires 1970A and 1970B at THAAD control valve harness connector REC5, terminals 2 and 3 and a known good ground. Note readings.
- If 22 to 28 vdc are not present on both wires, go to Step 11.
 - If 22 to 28 vdc are present on both wires, perform Step 8 only.
 - If 22 to 28 vdc are present on one wire, perform Steps 8 through 10.
- Step 8. Turn engine start switch OFF (TM 9-2320-347-10) Disconnect THAAD control valve harness connector HV1-B2. Check for continuity across wire 1970 between connector REC5, terminal 4 and connector HV1-B2, terminal 2.
- If there is continuity, replace diode REC5 (WP 0088).
 - If there is no continuity, repair wire 1970 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****GROUND ROD DRIVER DOES NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

- Perform Step 9 if no vdc are present on wire 1970A at connector REC5, terminal 2 in Step 7.
 - Perform Step 10 if no vdc are present on wire 1970B at connector REC5, terminal 3 in Step 7.
- Step 9. Disconnect THAAD control valve harness VIM No. 1, 40 pin connector (WP 0089). Check for continuity across wire 1970A from VIM No. 1, 40 connector, terminal 10 to connector REC5, terminal 2.
- a. If there is continuity, replace VIM No. 1 (WP 0089).
 - b. If there is no continuity, repair wire 1970A (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).
- Step 10. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Check for continuity across wire 1970B from VIM No. 2, 40 pin connector, terminal 10 to connector REC5, terminal 3.
- a. If there is continuity, replace VIM No. 2 (WP 0089).
 - b. If there is no continuity, repair wire 1970B (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****GROUND ROD DRIVER DOES NOT OPERATE (CONTINUED)****WARNING**

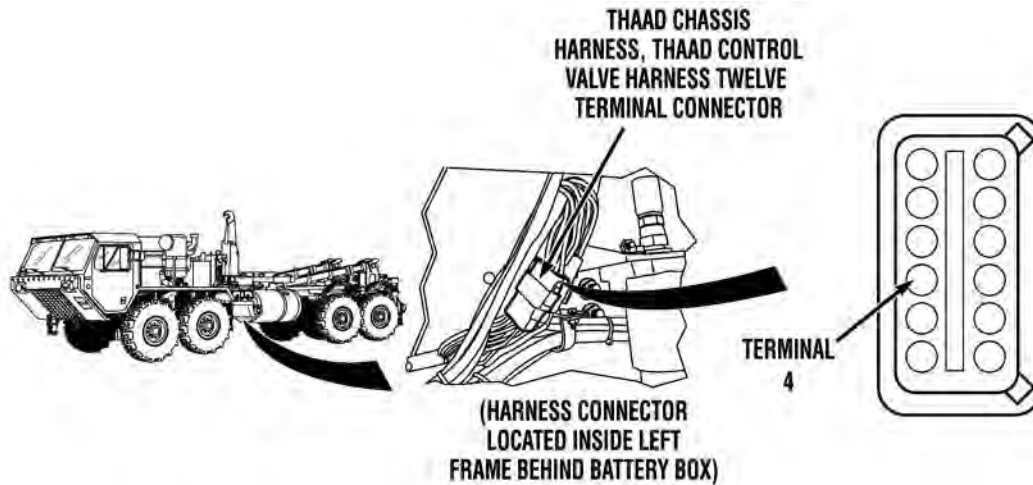
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

Air system pressure must be between 100 and 120 psi (690 and 827 kPa) in Steps 11 through 14.

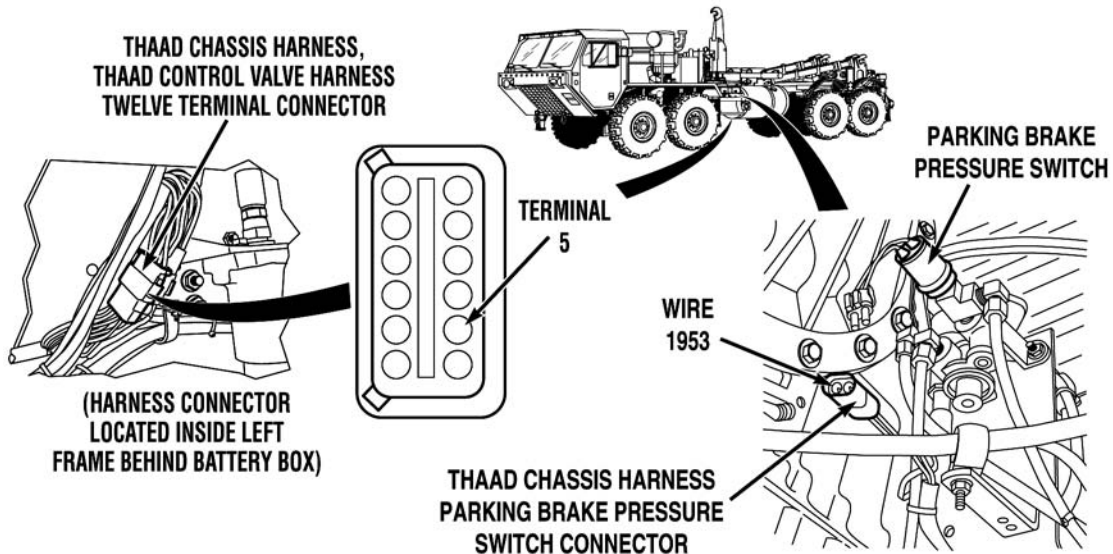
- Step 11. Disconnect THAAD control valve harness VIM No. 1, 40 pin connector (WP 0089). Check for continuity across wire 1953 from VIM No. 1, 40 pin connector, terminal 33 to a known good ground.

If there is continuity, go to Step 15.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****GROUND ROD DRIVER DOES NOT OPERATE (CONTINUED)**

Step 12. Disconnect THAAD chassis harness MC83 twelve terminal connector. Check for continuity across wire 1953 from twelve terminal connector, terminal 4 to a known good ground.

If there is continuity, repair wire 1953 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****GROUND ROD DRIVER DOES NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 13. Disconnect THAAD chassis harness PS6 parking brake interlock chassis connector. Check for continuity across wire 1953 from twelve terminal connector, terminal 4 to parking brake interlock connector.

If there is no continuity, repair THAAD chassis harness wire 1953 (TM 9-2320-325-14&P) or notify Supervisor.

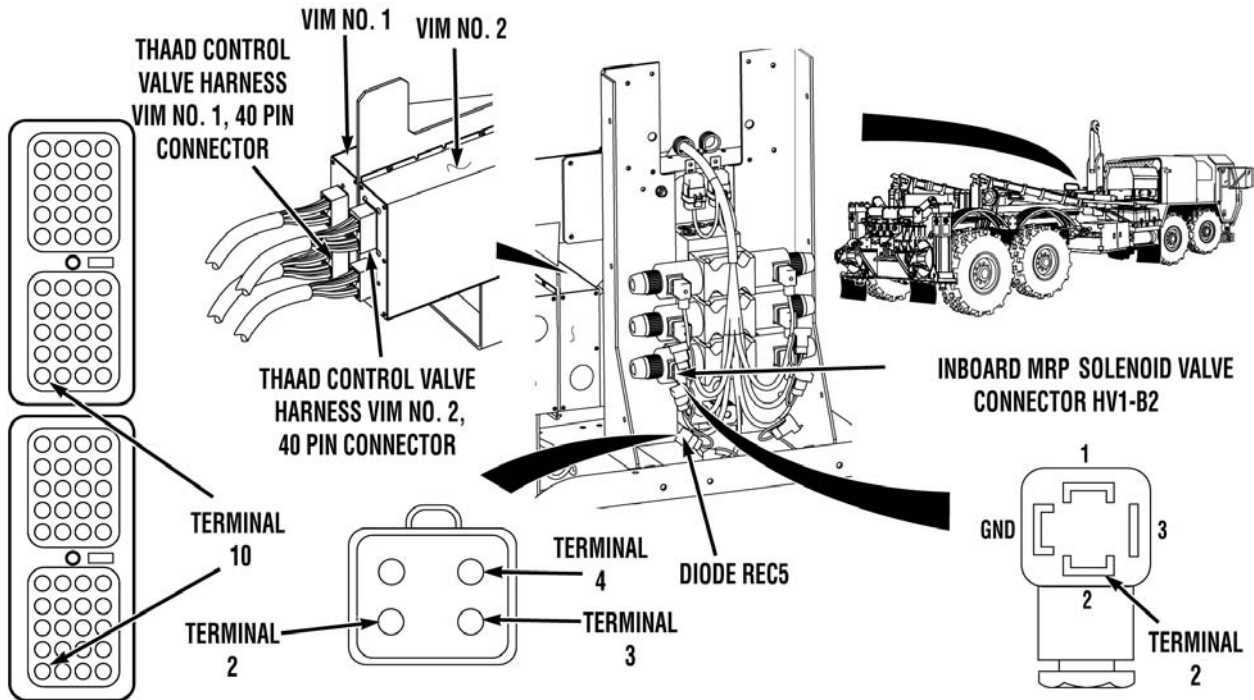
- Step 14. Check for continuity across parking brake interlock pressure switch PS6.
- If there is no continuity, replace parking brake interlock pressure switch (WP 0074).
 - If there is continuity, repair THAAD chassis harness wire 1435 (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

GROUND ROD DRIVER DOES NOT OPERATE (CONTINUED)



WARNING

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

Step 15. Disconnect THAAD control valve harness VIM No. 1, 40 pin connector (WP 0089). Check for continuity across wire 1970A from VIM No. 1, 40 pin connector, terminal 10 to connector REC5, terminal 2.

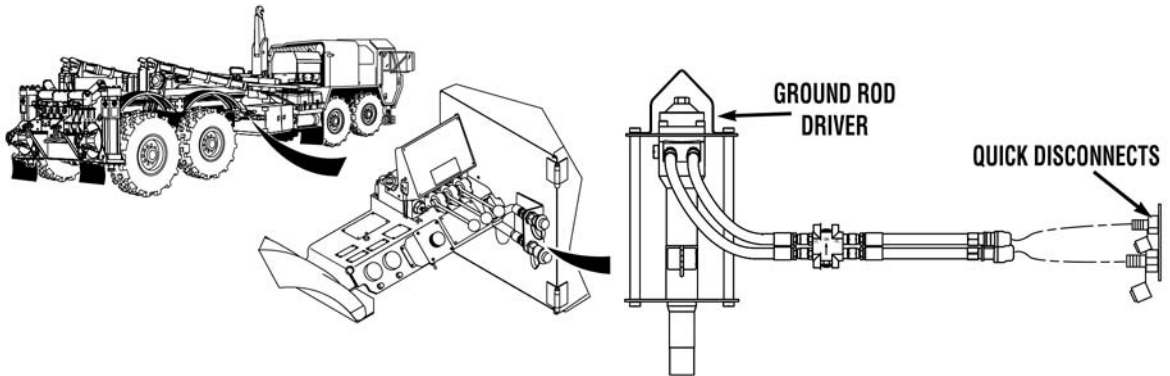
If there is no continuity, repair wire 1970A (TM 9-2320-325-14&P) and go to Step 16, or replace THAAD control valve harness (WP 0088) and go to Step 17.

Step 16. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Check for continuity across wire 1970B from VIM No. 2, 40 pin connector, terminal 10 to connector REC5, terminal 3.

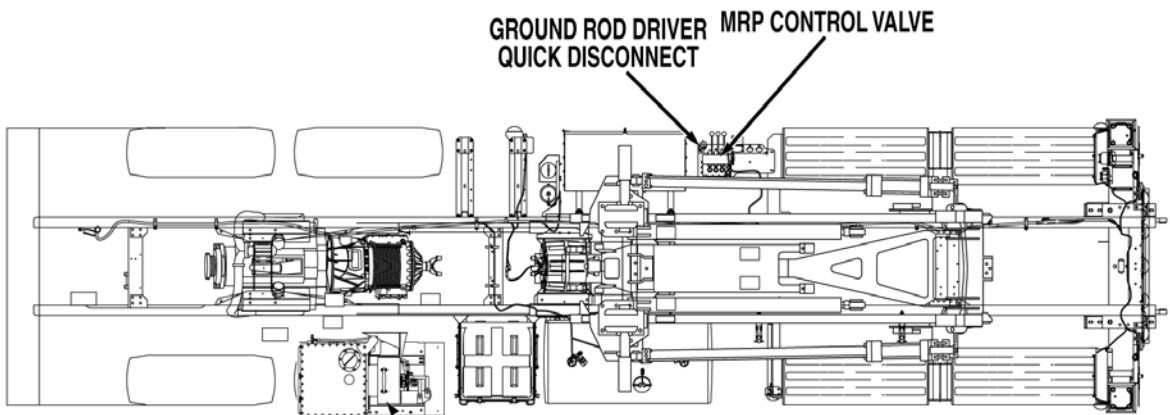
If there is no continuity, repair wire 1970B (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088) and go to Step 17.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
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GROUND ROD DRIVER DOES NOT OPERATE (CONTINUED)

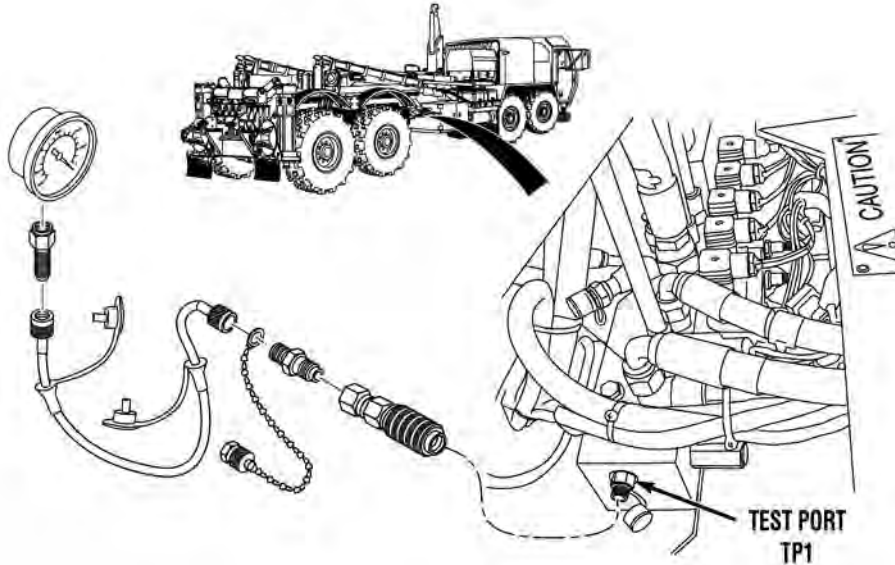


- Step 17. Connect all connectors and install diode REC5. Start engine (TM 9-2320-347-10) Check if ground rod driver operates (WP 0010).
- If ground rod driver operates, problem solved.
 - If ground rod driver does not operate, replace VIM No.1 (WP 0089).



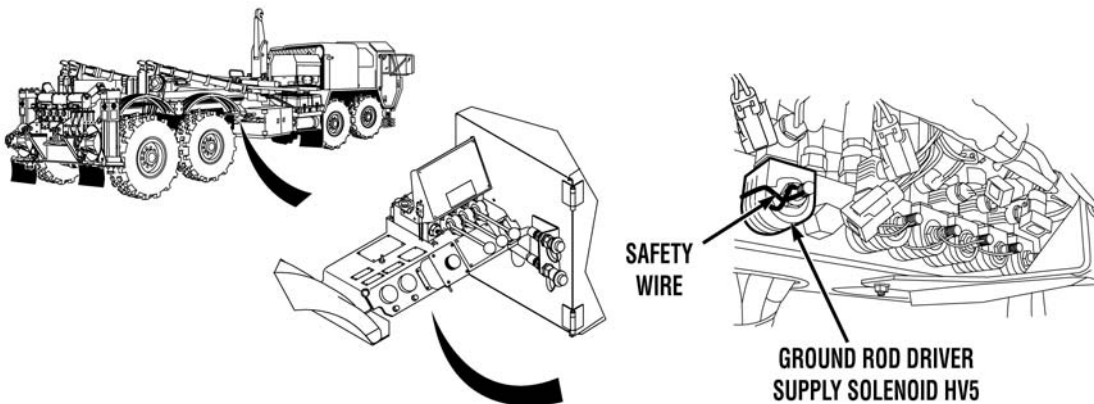
- Step 18. Turn engine start switch OFF (TM 9-2320-347-10) Inspect hydraulic hoses 2758 and 2759, and fittings from MRP control valves to ground rod driver quick disconnects for leaks, kinks, and damage (see WP 0119).

If hydraulic hoses, tubes and/or fittings leak or are damaged, tighten loose fittings or replace damaged hoses and or tubes (WP 0119).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****GROUND ROD DRIVER DOES NOT OPERATE (CONTINUED)**

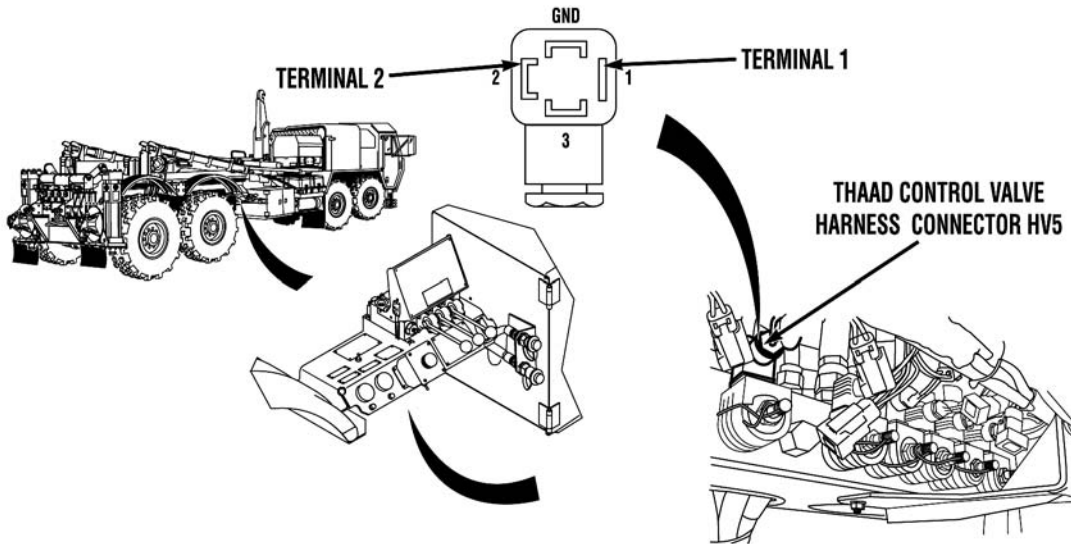
- Step 19. Connect pressure gage and hose to test port TP1. Start engine (TM 9-2320-347-10) Position LHS cab control mode switch to MRP position (WP 0010). Check for 2,000 psi (13,790 kPa) at test port TP1, when ground rod driver controls are operated (WP 0010).

If 2,000 psi (13,790 kPa) is measured at test port TP1, ground rod driver may be faulty. Notify Supervisor.



- Step 20. Remove safety wire from solenoid HV5. Soldier A checks for 2,000 psi (13,790 kPa) at test port TP1, while HV5 bypass valve is pulled out and turned, and Soldier B operates ground rod driver controls (WP 0010). Shut off engine (TM 9-2320-347-10) Disconnect pressure gage and hose.

If 2,000 psi (13,790 kPa) is not measured, install safety wire on solenoid HV5 and replace MRP control valve (WP 0138).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****GROUND ROD DRIVER DOES NOT OPERATE (CONTINUED)****WARNING**

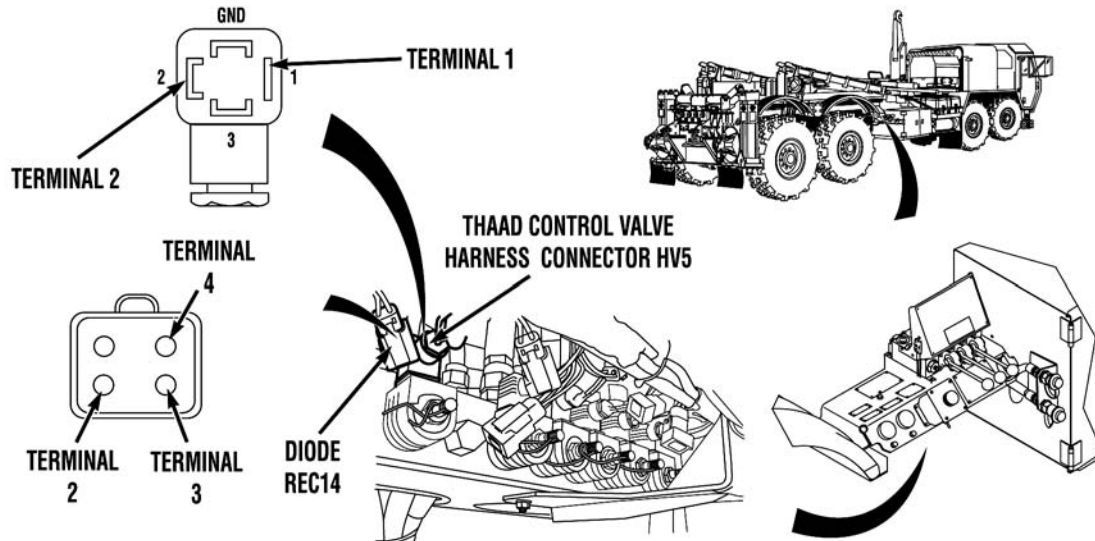
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

Step 21. Shut off engine (TM 9-2320-347-10) Install safety wire on solenoid HV5. Disconnect THAAD control valve harness connector HV5. Turn start engine switch ON (TM 9-2320-347-10) Position LHS cab control mode switch to MRP position (WP 0010). Position ground rod driver switch to the ON (down) position. Check for 22 to 28 vdc between wire 1979 at HV5 connector, terminal 2 and known good ground.

If 22 to 28 vdc are not present, go to Step 23.

Step 22. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across wire 1435 from THAAD control valve harness connector HV5, terminal 1 to a known good ground.

- a. If there is continuity, replace MRP distribution manifold (WP 0126).
- b. If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

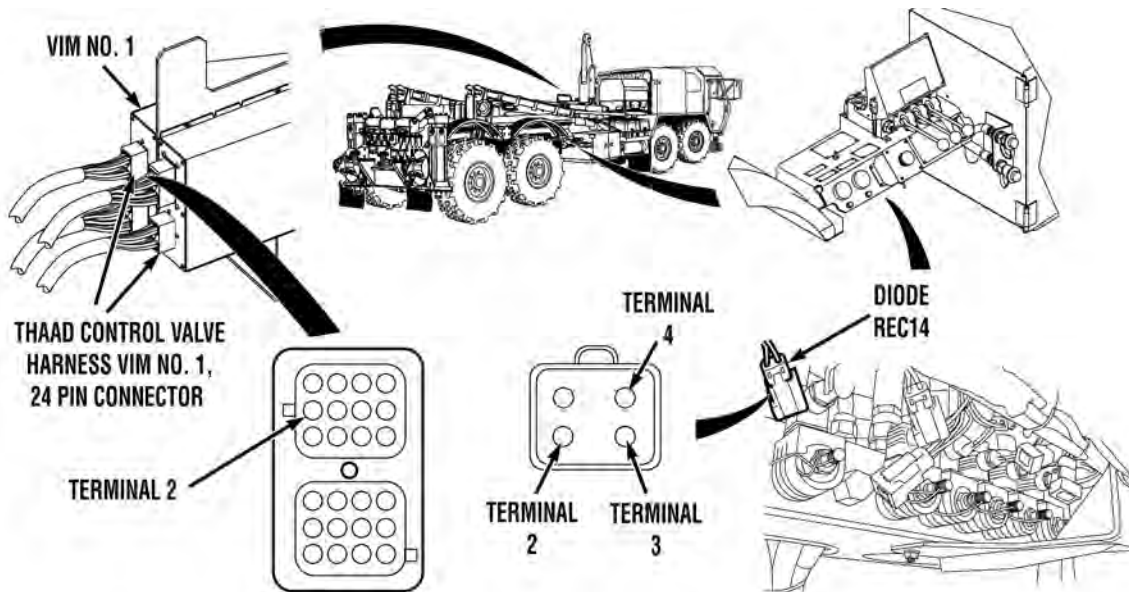
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****GROUND ROD DRIVER DOES NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

Due to system redundancy, the valve control signal is required from only one of the VIMs for proper system operation. The following steps check the valve control circuit from both VIMs, to ensure system integrity.

- Step 23. Disconnect diode REC14. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wires 1979A and 1979B at THAAD control valve harness connector REC14, terminals 2 and 3 and a known good ground. Note readings.
- If 22 to 28 vdc are not present on both wires, go to Step 27.
 - If 22 to 28 vdc are present on both wires, perform Step 24 only.
 - If 22 to 28 vdc are present on one wire, perform Steps 24 through 26.
- Step 24. Turn engine start switch OFF (TM 9-2320-347-10) Disconnect THAAD control valve harness connector HV5. Check for continuity across wire 1979 between diode REC14, terminal 4 and connector HV5, terminal 2.
- If there is continuity, replace diode REC14 (WP 0088).
 - If there is no continuity, repair wire 1979 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

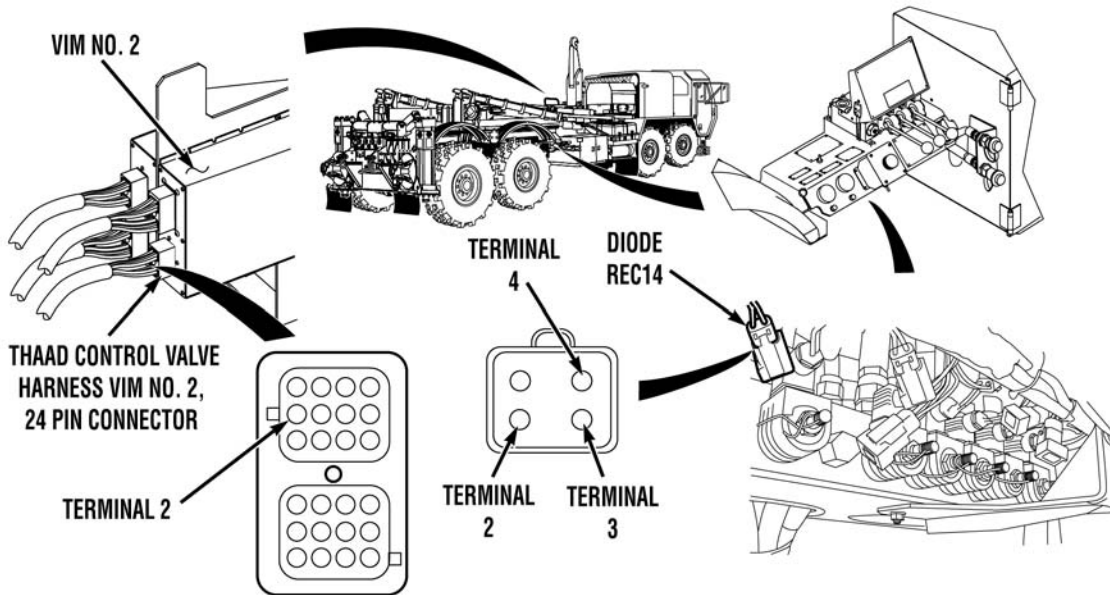
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****GROUND ROD DRIVER DOES NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

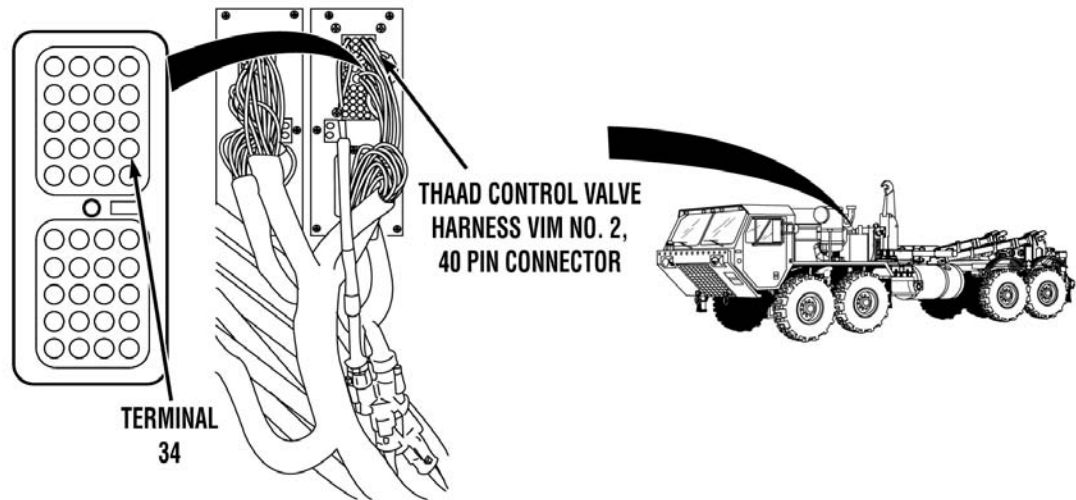
NOTE

- Perform Step 25 if no vdc is present on wire 1979A at connector REC14, terminal 2 in Step 23.
- Perform Step 26 if no vdc is present on wire 1979B at connector REC14, terminal 3 in Step 23.

- Step 25. Disconnect THAAD control valve harness VIM No. 1, 24 pin connector (WP 0089). Check for continuity across wire 1979A from VIM No. 1, 24 pin connector, terminal 2 to REC14 connector, terminal 2.
- a. If there is continuity, replace VIM No. 1 (WP 0089).
 - b. If there is no continuity, repair wire 1979A (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****GROUND ROD DRIVER DOES NOT OPERATE (CONTINUED)**

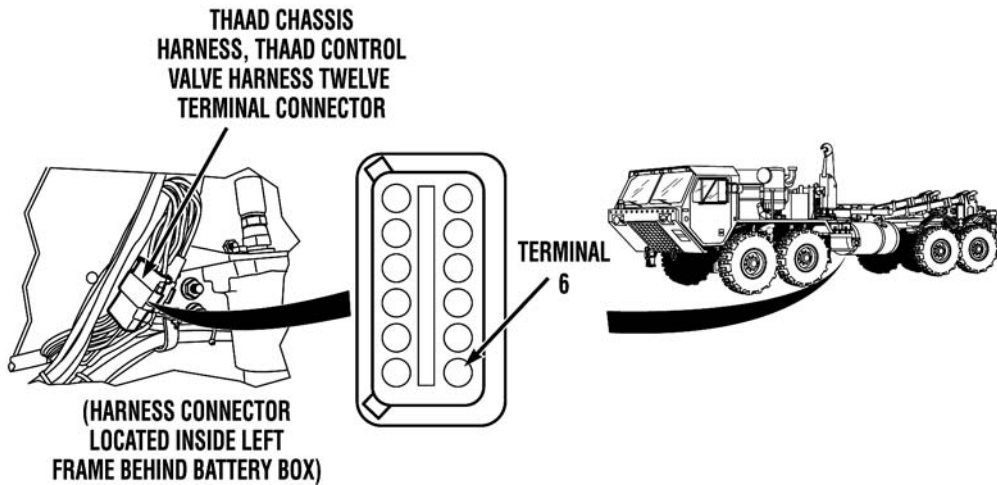
- Step 26. Disconnect THAAD control valve harness VIM No. 2, 24 pin connector (WP 0089). Check for continuity across wire 1979B from VIM No. 2, 24 pin connector, terminal 2 to REC14 connector, terminal 3.
- a. If there is continuity, replace VIM No. 2 (WP 0089).
 - b. If there is no continuity, repair wire 1970B (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****GROUND ROD DRIVER DOES NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

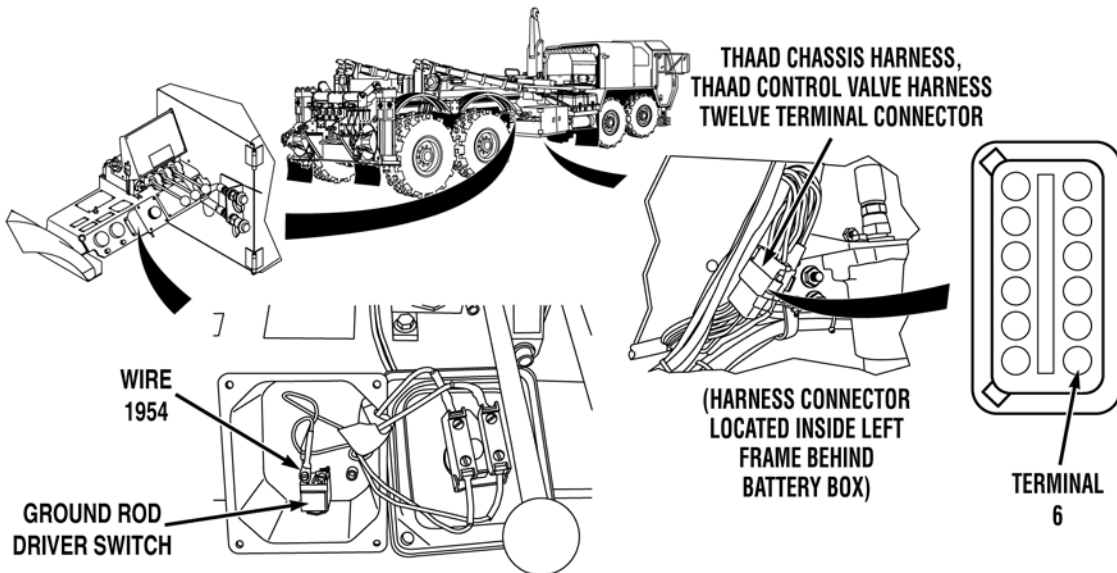
- Step 27. Turn engine start switch OFF (TM 9-2320-347-10) Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Check for continuity across wire 1954 from VIM No. 2, 40 pin connector, terminal 34 to a known good ground when ground rod driver switch is ON (down) position.

If there is continuity, go to Step 31.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****GROUND ROD DRIVER DOES NOT OPERATE (CONTINUED)**

- Step 28. Disconnect THAAD chassis harness MC83 twelve terminal connector. Check for continuity across wire 1954 from THAAD chassis harness twelve terminal connector, terminal 6 to a known good ground when ground rod driver switch is ON (down) position.

If there is continuity, repair wire 1954 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

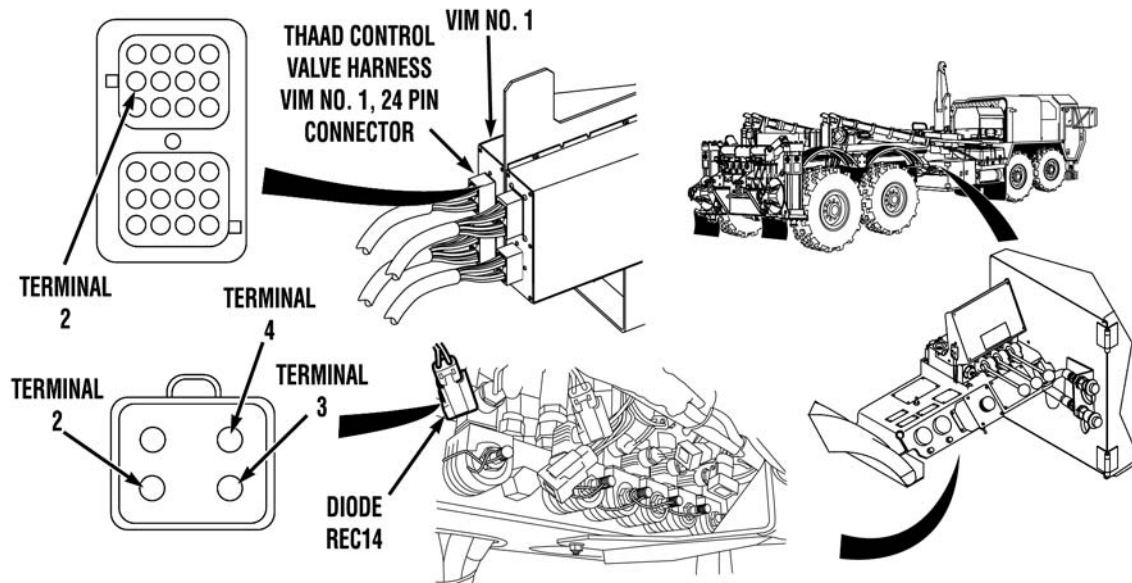
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****GROUND ROD DRIVER DOES NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 29. Remove cover from MRP palm button junction box (WP 0073). Check for continuity across wire 1954 between THAAD chassis harness twelve terminal connector, terminal 6 and ground rod driver switch.

If there is no continuity, repair THAAD chassis harness wire 1954 (TM 9-2320-325-14&P) or notify Supervisor.

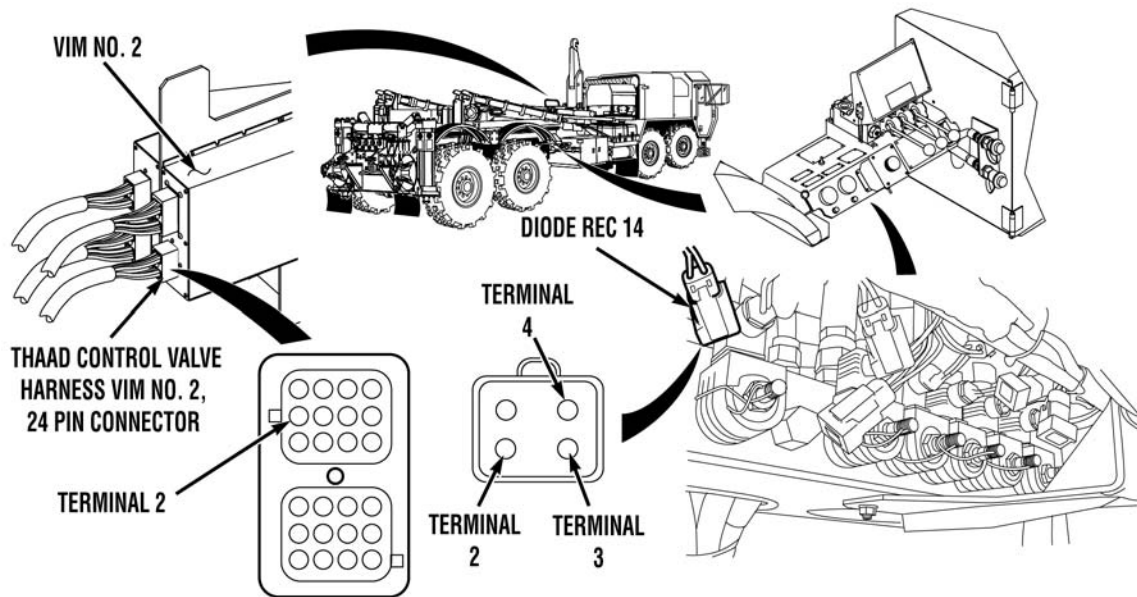
- Step 30. Check for continuity across ground rod driver switch SS1, when switch is ON (down) position.
- a. If there is no continuity, replace ground rod driver switch (WP 0073).
 - b. If there is continuity, repair THAAD chassis harness wire 1435 (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****GROUND ROD DRIVER DOES NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 31. Disconnect THAAD control valve harness VIM No. 1, 24 pin connector (WP 0089). Check for continuity across wire 1979A from VIM No. 1, 24 pin connector, terminal 2 to diode REC14 connector, terminal 2.

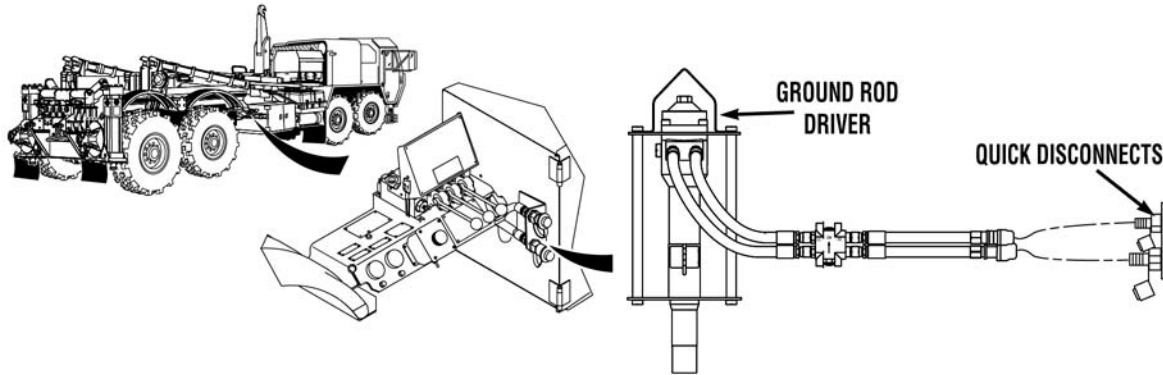
If there is no continuity, repair wire 1979A (TM 9-2320-325-14&P) and go to Step 32, or replace THAAD control valve harness (WP 0088) and go to Step 33.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****GROUND ROD DRIVER DOES NOT OPERATE (CONTINUED)**

- Step 32. Disconnect THAAD control valve harness VIM No. 2, 24 pin connector (WP 0089). Check for continuity across wire 1979B from VIM No. 2, 24 pin connector, terminal 2 to diode REC14 connector, terminal 3.

If there is no continuity, repair wire 1979B (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088) and go to Step 33.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

GROUND ROD DRIVER DOES NOT OPERATE (CONTINUED)

- Step 33. Connect THAAD control valve harness VIM No. 1 and VIM No. 2 connectors. Connect diode REC14. Connect THAAD control valve harness connector HV5. Start engine (TM 9-2320-347-10) Check if ground rod driver operates (WP 0010).
- If ground rod driver operates, problem corrected.
 - If ground rod driver does not operate, replace VIM No.2 (WP 0089).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**AIR BAG PRESSURE DEPLETED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY**

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

None

Personnel Required

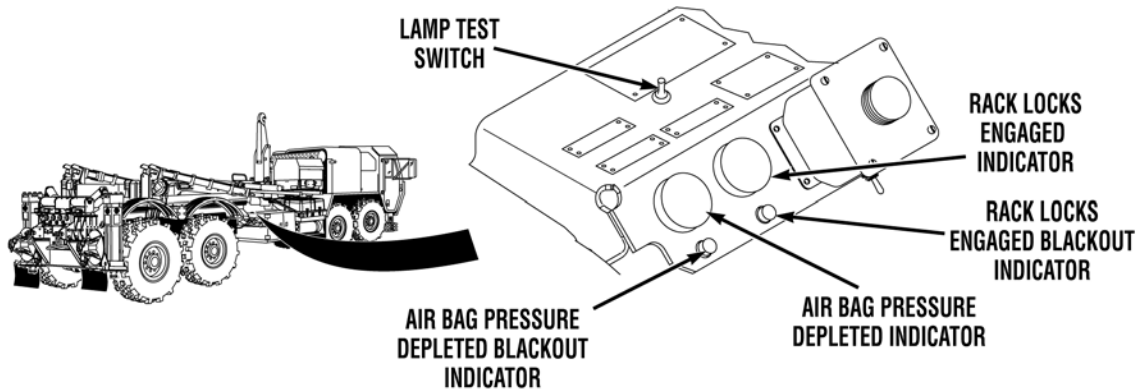
MOS 63B Wheeled vehicle mechanic

References

WP 0004
WP 0013
WP 0036
WP 0081
WP 0085
WP 0088
WP 0089

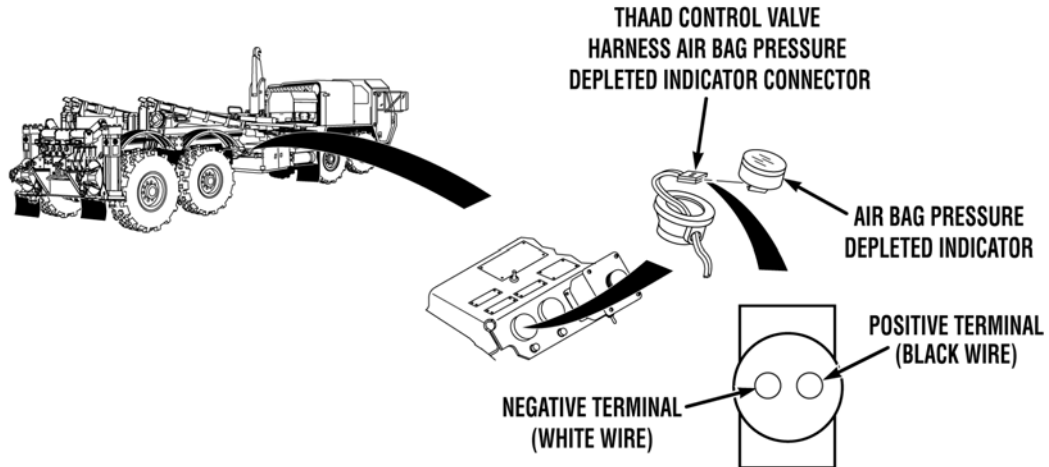
Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Parking brake applied (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR BAG PRESSURE DEPLETED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY****NOTE**

MRP control station lamp test will test the RACK LOCKS ENGAGED, RACK LOCKS ENGAGED blackout indicator lights, AIR BAG PRESSURE DEPLETED and AIR BAG PRESSURE DEPLETED blackout indicator lights.

- Step 1. Turn engine start switch ON (TM 9-2320-347-10) Perform MRP control station lamp test by selecting LAMP TEST switch (WP 0004).
- a. If RACK LOCKS ENGAGED, RACK LOCKS ENGAGED blackout indicator lights, AIR BAG PRESSURE DEPLETED and AIR BAG PRESSURE DEPLETED blackout indicator lights do not illuminate, troubleshoot MRP Control Station Indicator Lights Do Not Operate During Lamp Test (WP 0036).
 - b. If only the AIR BAG PRESSURE DEPLETED indicator light does not illuminate, go to Step 2.
 - c. If only the AIR BAG PRESSURE DEPLETED blackout indicator light does not illuminate, go to Step 5.
 - d. If AIR BAG PRESSURE DEPLETED and AIR BAG PRESSURE DEPLETED blackout indicator lights illuminate, go to Step 8.

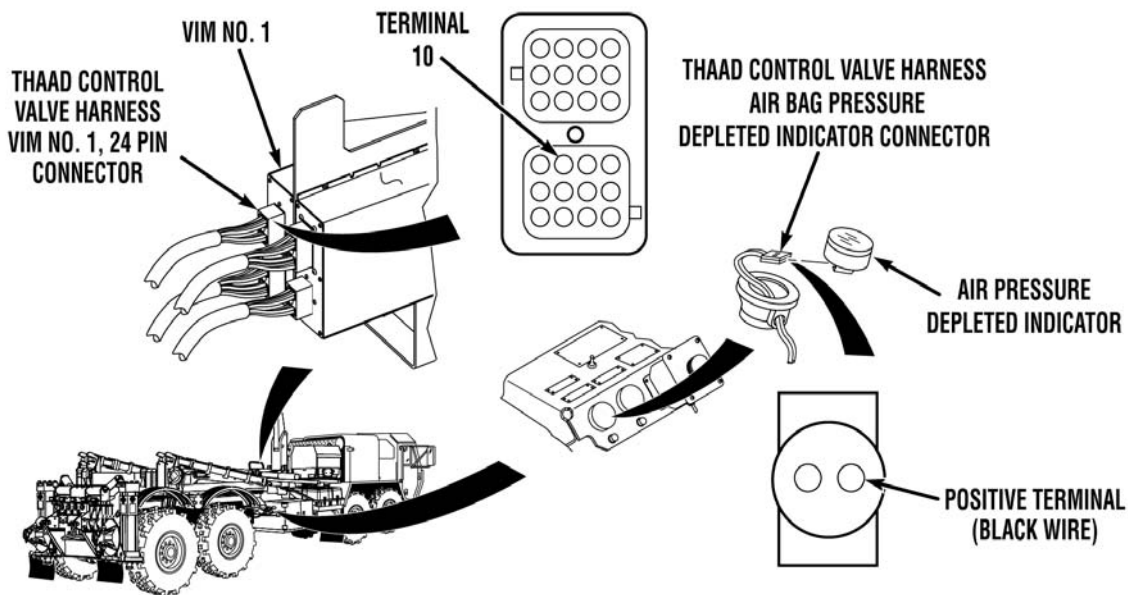
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR BAG PRESSURE DEPLETED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 2. Remove AIR BAG PRESSURE DEPLETED indicator light (WP 0081) and disconnect THAAD control valve harness AIR BAG PRESSURE DEPLETED indicator connector. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1990 at AIR BAG PRESSURE DEPLETED indicator connector, positive terminal (black wire) and a known good ground, when MRP control station lamp test switch is turned on (WP 0004).

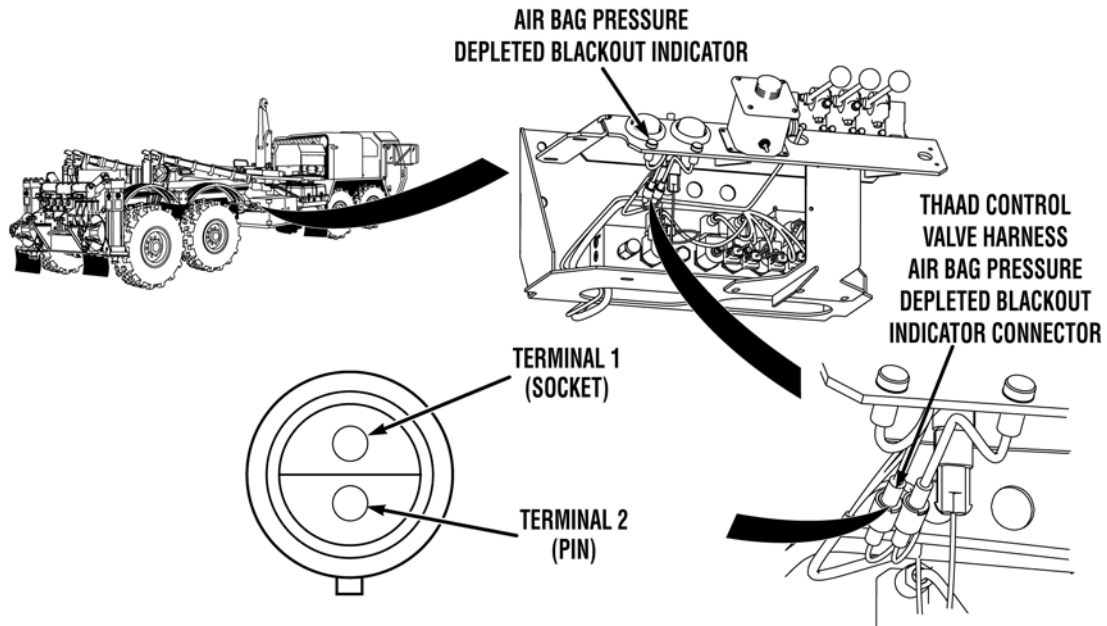
If 22 to 28 vdc are not present, go to Step 4.

- Step 3. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across wire 1435 from THAAD control valve harness AIR BAG PRESSURE DEPLETED indicator connector, negative terminal (white wire) to a known good ground.
- If there is continuity, replace AIR BAG PRESSURE DEPLETED indicator light (WP 0081).
 - If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR BAG PRESSURE DEPLETED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 4. Disconnect THAAD control valve harness VIM No. 1, 24 pin connector (WP 0089). Check for continuity across wire 1990 from VIM No. 1, 24 pin connector, terminal 10 to AIR BAG PRESSURE DEPLETED indicator connector, positive (black wire) terminal.
- a. If there is continuity, replace VIM No. 1 (WP 0089).
 - b. If there is no continuity, repair wire 1990 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

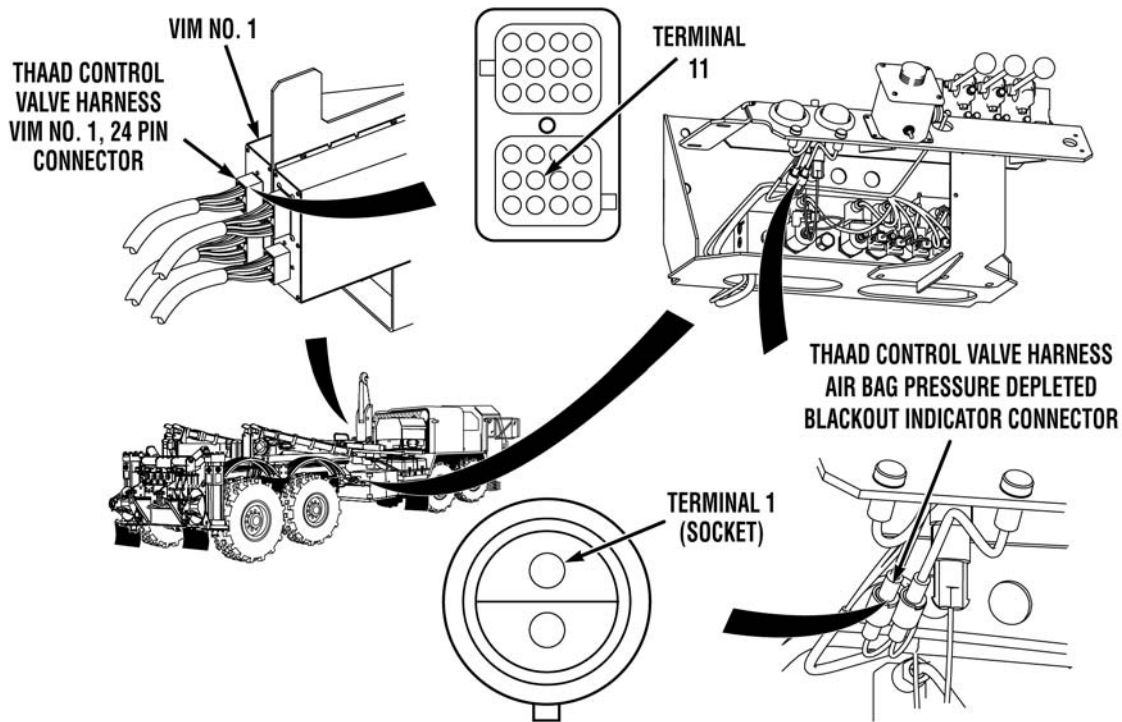
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR BAG PRESSURE DEPLETED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 5. Disconnect THAAD control valve harness AIR BAG PRESSURE DEPLETED blackout indicator connector. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1991 at AIR BAG PRESSURE DEPLETED indicator connector, terminal 1 and a known good ground when MRP control station lamp test switch is turned on (WP 0004).

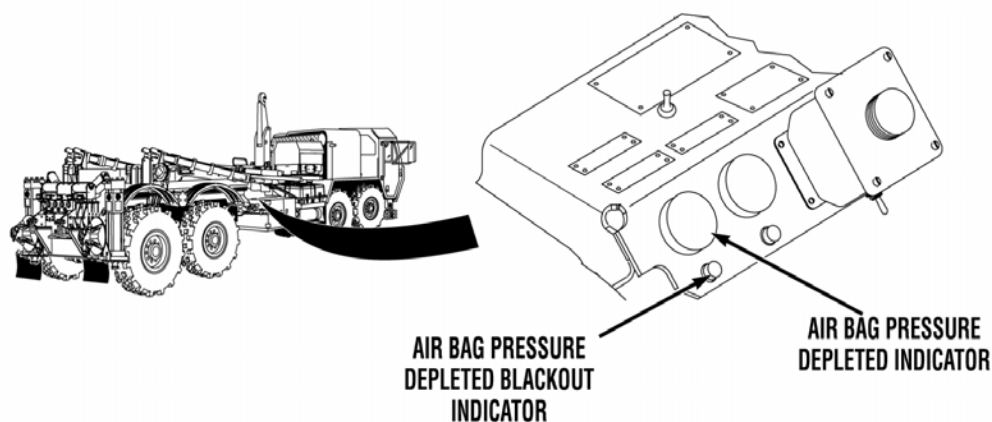
If 22 to 28 vdc are not present, go to Step 7.

- Step 6. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across wire 1435 from THAAD control valve harness AIR BAG PRESSURE DEPLETED blackout indicator connector, terminal 2 to a known good ground.
- a. If there is continuity, replace AIR BAG PRESSURE DEPLETED blackout indicator light (WP 0081).
 - b. If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR BAG PRESSURE DEPLETED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 7. Disconnect THAAD control valve harness VIM No. 1, 24 pin connector (WP 0089). Check for continuity across wire 1991 from VIM No. 1, 24 pin connector, terminal 11 to AIR BAG PRESSURE DEPLETED blackout indicator connector, terminal 1.
- a. If there is continuity, replace VIM No. 1 (WP 0089).
 - b. If there is no continuity, repair wire 1991 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR BAG PRESSURE DEPLETED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****NOTE**

- AIR BAG PRESSURE DEPLETED indicator light will flash when air is depleted below 35 psi (241 kPa) in one rear air ride suspension system air spring, and steadily illuminate when air is depleted below 35 psi (241 kPa) in both rear air ride suspension air springs.
- Rear air ride suspension air spring pressure may be below 35 psi (241 kPa) and AIR BAG PRESSURE DEPLETED indicator light may be illuminated, when MRP is not loaded on vehicle.

Step 8. Start engine (TM 9-2320-347-10) and extend outriggers until load is off rear suspension (WP 0013). Shut off engine (TM 9-2320-347-10) Check if AIR BAG PRESSURE DEPLETED indicator lights illuminate.

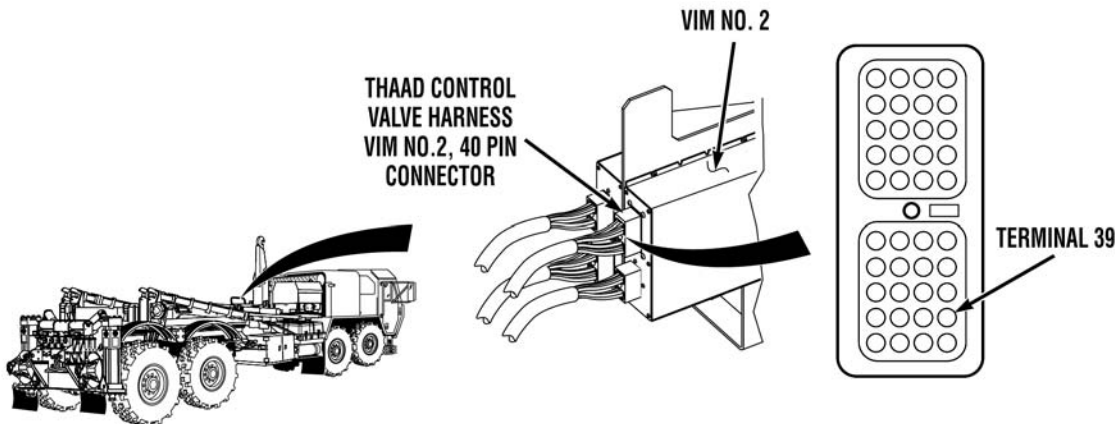
If AIR BAG PRESSURE DEPLETED indicator lights flash or do not illuminate, go to Step 13.

NOTE

AIR BAG PRESSURE DEPLETED indicator light will not illuminate in blackout mode.

Step 9. Turn blackout lights on (TM 9-2320-347-10) Check AIR BAG PRESSURE DEPLETED blackout indicator light illuminates.

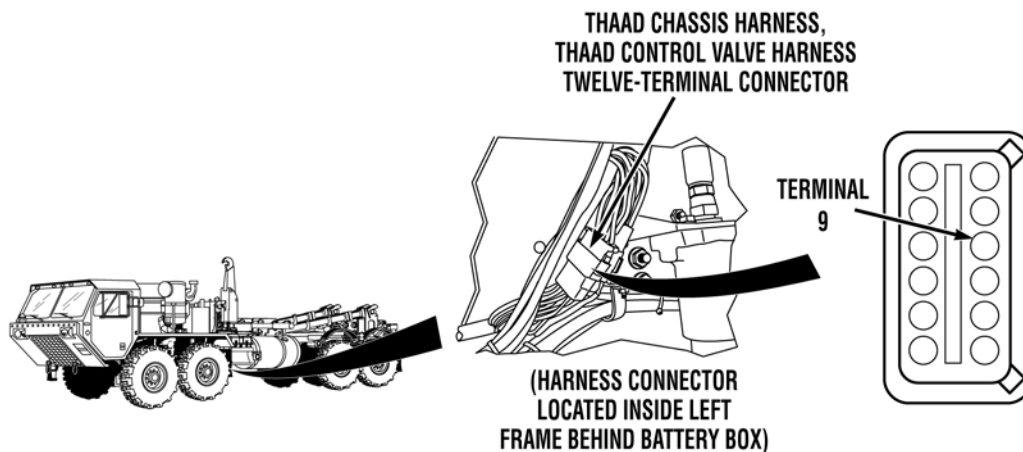
If AIR BAG PRESSURE DEPLETED blackout indicator light illuminates, problem is corrected.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR BAG PRESSURE DEPLETED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 10. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Turn blackout lights on (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1680 at VIM No. 2, 40 pin connector, terminal 39 and a known good ground.

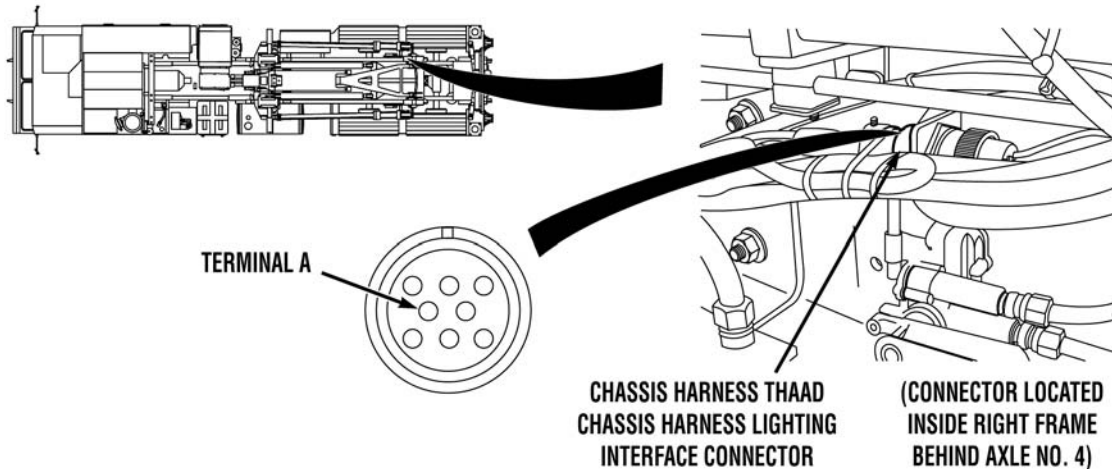
If 22 to 28 vdc are present, replace VIM No. 2 (WP 0089).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR BAG PRESSURE DEPLETED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

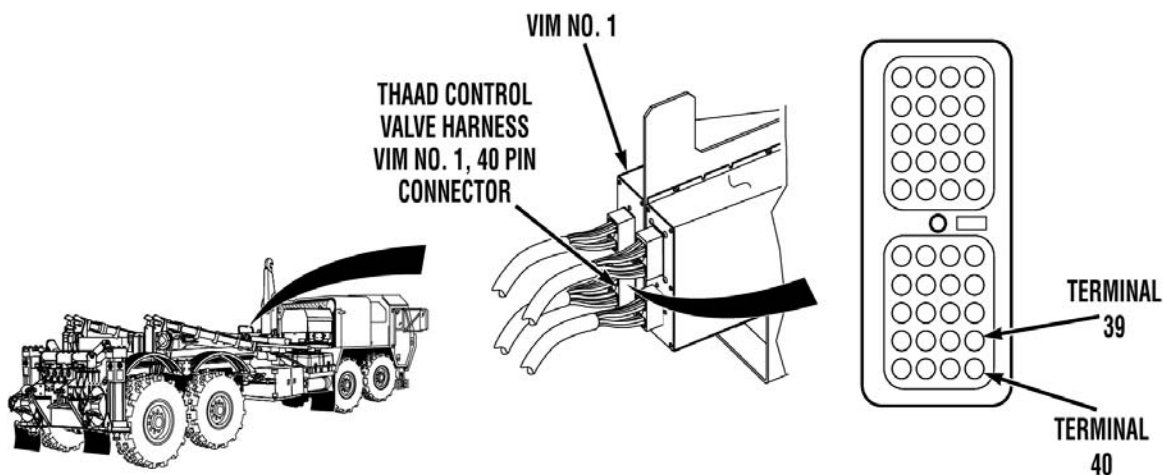
- Step 11. Disconnect THAAD chassis harness, THAAD control valve harness twelve terminal connector. Turn blackout lights on (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1680 at twelve terminal connector, terminal 9 and a known good ground.

If 22 to 28 vdc are present, repair wire 1680 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR BAG PRESSURE DEPLETED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 12. Disconnect chassis harness THAAD chassis harness lighting interface connector. Turn blackout lights on (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1680 at lighting interface connector, terminal A and a known good ground.
- a. If 22 to 28 vdc are present, repair THAAD chassis harness wire 1680 (TM 9-2320-325-14&P) or notify Supervisor.
 - b. If 22 to 28 vdc are not present, repair chassis harness wire 1680 (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR BAG PRESSURE DEPLETED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

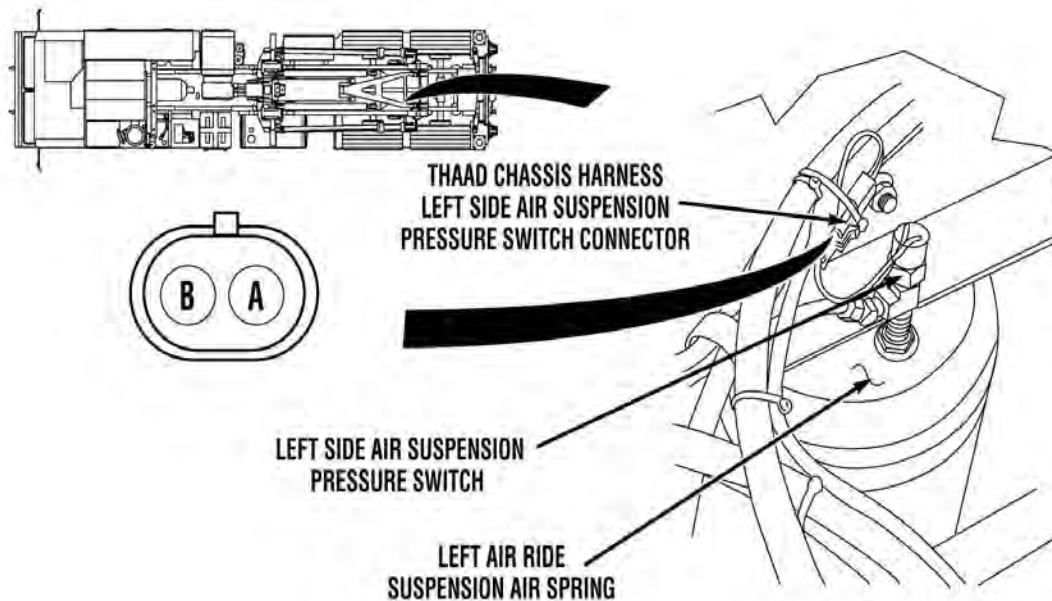
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

Step 13. Disconnect THAAD control valve harness VIM No. 1, 40 pin connector (WP 0089). Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1955 at VIM No. 1, 40 pin connector, terminal 39 and a known good ground.

If 22 to 28 vdc are not present, go to Step 18.

Step 14. Check for 22 to 28 vdc between wire 1956 at THAAD control valve harness VIM No. 1, 40 pin connector, terminal 40 and a known good ground.

If 22 to 28 vdc are present, replace VIM No. 1 (WP 0089).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR BAG PRESSURE DEPLETED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

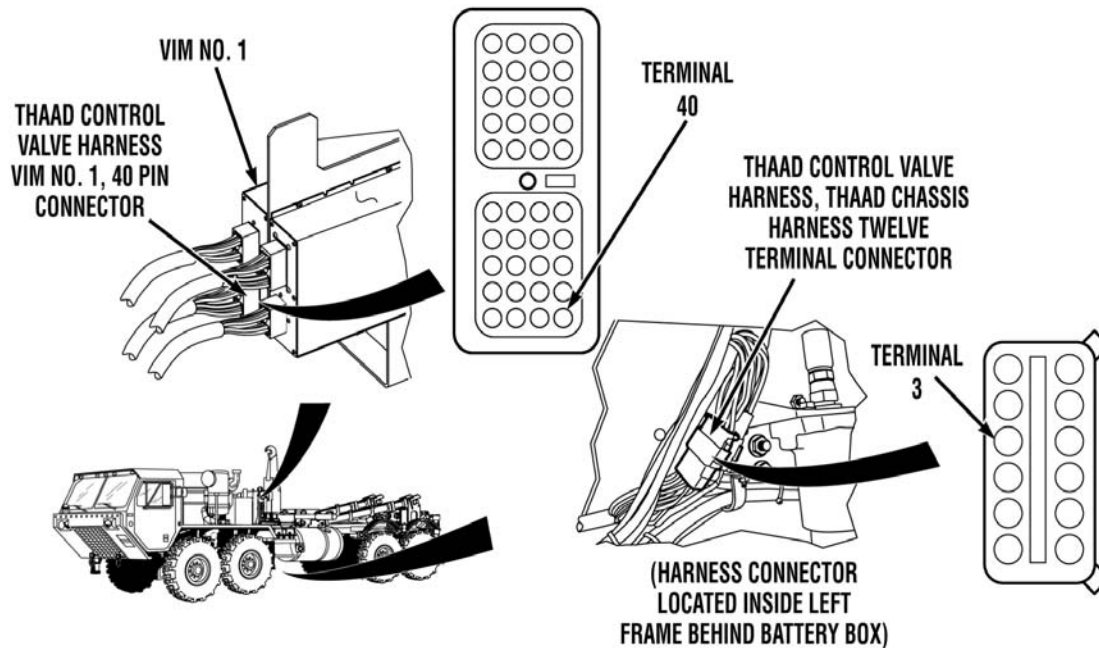
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 15. Disconnect THAAD chassis harness left side air suspension pressure switch connector. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1461 at left side air suspension pressure switch connector, terminal A and a known good ground.

If 22 to 28 vdc are not present, repair THAAD chassis harness wire 1461 (TM 9-2320-325-14&P) or notify Supervisor.

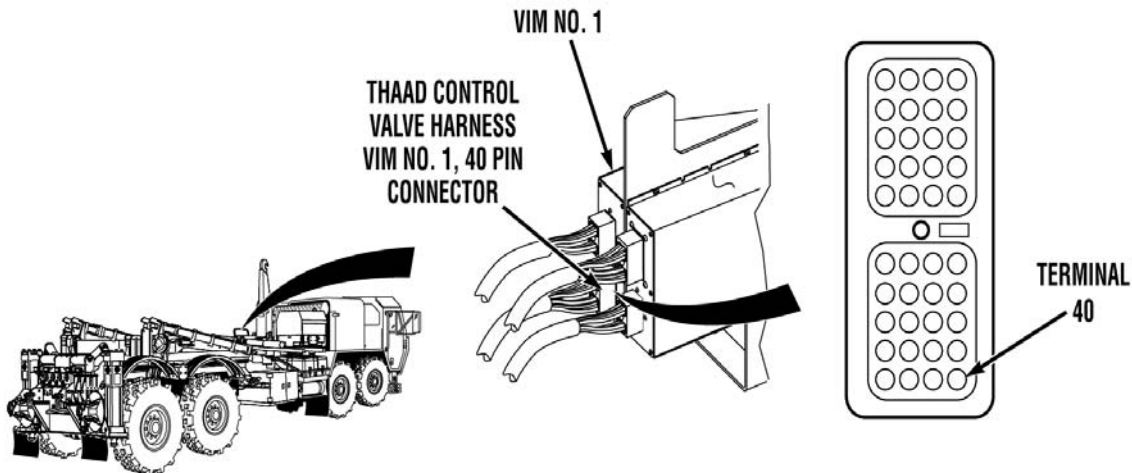
- Step 16. Check for continuity across left side air suspension pressure switch connector, terminals A and B.

If there is no continuity, replace left side air suspension pressure switch (WP 0085).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR BAG PRESSURE DEPLETED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 17. Disconnect THAAD control valve harness, THAAD chassis harness twelve terminal connector. Check for continuity across wire 1956 from twelve terminal connector, terminal 3 to VIM No. 1, 40 pin connector, terminal 40.
- a. If there is continuity, repair wire 1956 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).
 - b. If there is no continuity, repair THAAD chassis harness wire 1956 (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR BAG PRESSURE DEPLETED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

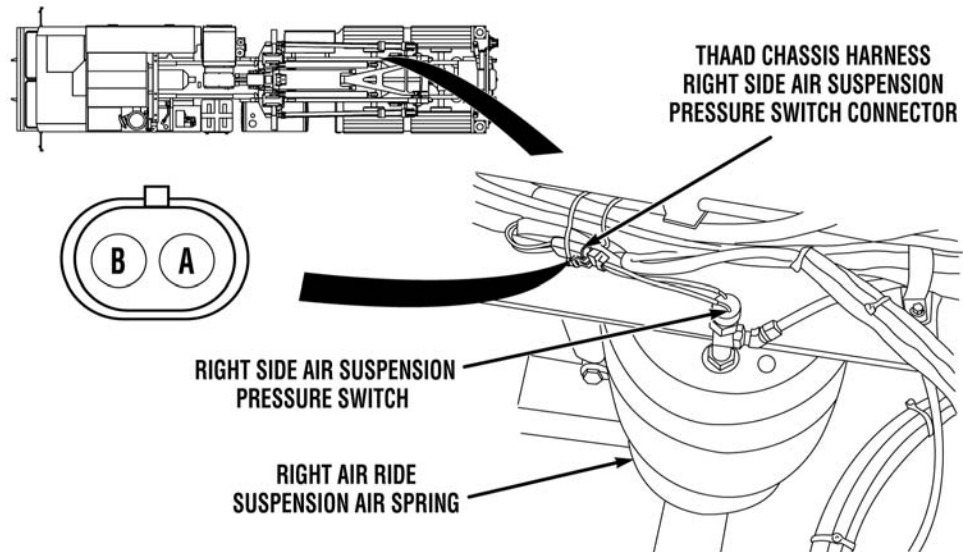
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

If 22 to 28 vdc are not present at THAAD control valve harness VIM No. 1, 40 pin connector, terminal 39 and terminal 40, THAAD chassis harness wire 1461 is faulty.

- Step 18. Check for 22 to 28 vdc between wire 1956 at THAAD control valve harness VIM No. 1, 40 pin connector, terminal 40 and a known good ground.

If 22 to 28 vdc are not present, repair THAAD chassis harness wire 1461 (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR BAG PRESSURE DEPLETED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

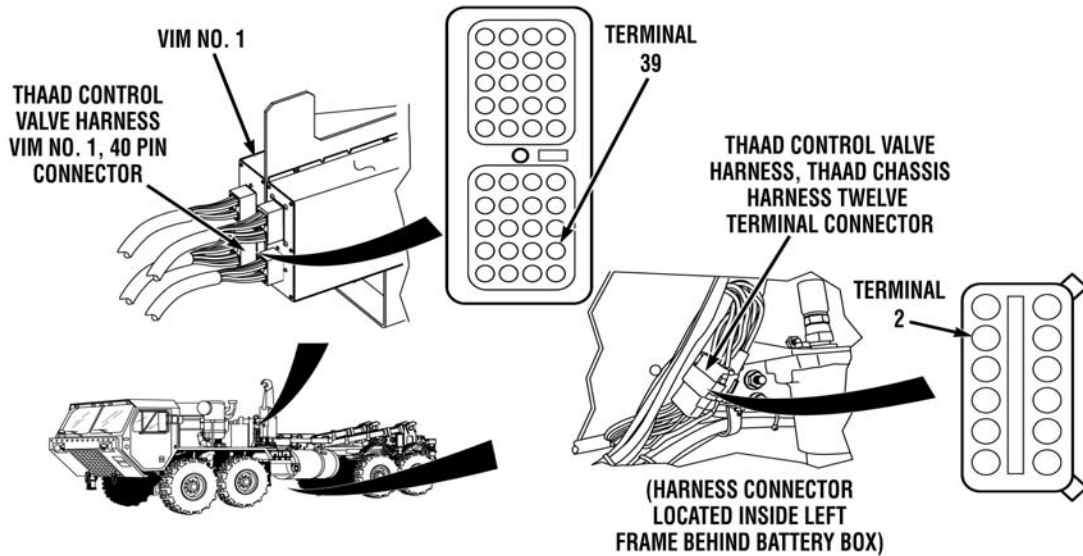
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 19. Disconnect THAAD chassis harness right side suspension pressure switch connector. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1461 at right side suspension pressure switch connector, terminal A and a known good ground.

If 22 to 28 vdc are not present, repair THAAD chassis harness wire 1461 (TM 9-2320-325-14&P) or notify Supervisor.

- Step 20. Check for continuity across right side suspension air pressure switch connector, terminals A and B.

If there is no continuity, replace right side suspension air pressure switch (WP 0085).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR BAG PRESSURE DEPLETED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 21. Disconnect THAAD control valve harness, THAAD chassis harness twelve terminal connector. Check for continuity across wire 1955 from twelve terminal connector, terminal 2 to VIM No. 1, 40 pin connector, terminal 39.
- a. If there is continuity, repair wire 1955 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).
 - b. If there is no continuity, repair THAAD chassis harness wire 1955 (TM 9-2320-325-14&P) or notify Supervisor.

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**LHS ENGAGED INDICATOR LIGHT DOES NOT OPERATE**

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

None

Personnel Required

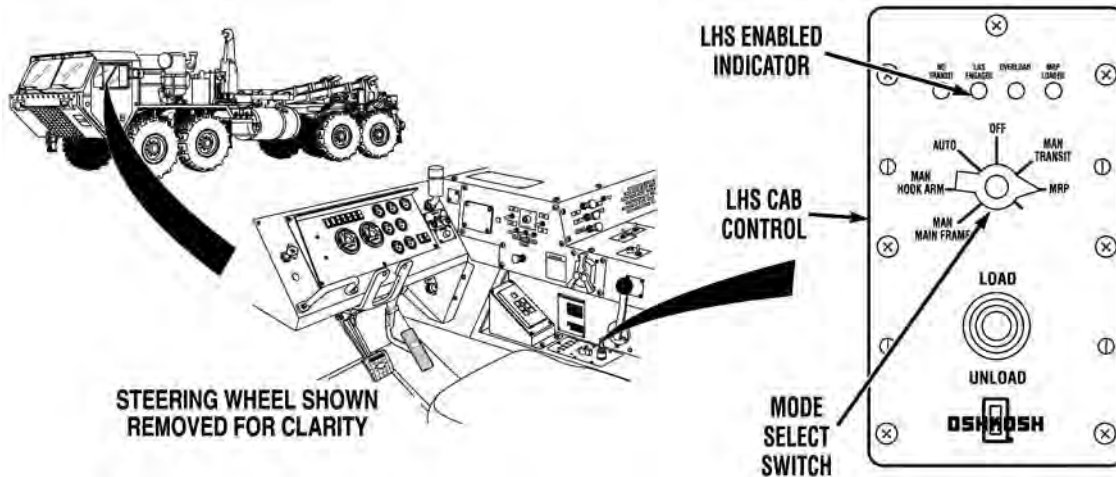
MOS 63B Wheeled vehicle mechanic

References

(TM 9-2320-347-10)
WP 0012
WP 0030
WP 0032
WP 0068

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Parking brake applied (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS ENGAGED INDICATOR LIGHT DOES NOT OPERATE****NOTE**

LHS ENABLED indicator light illuminates when LHS cab control switch is in the MRP position, and when LHS cab control switch is in a LHS position and the joystick control is activated.

- Step 1. Check if LHS cab control LHS ENABLED indicator light illuminates for five seconds when engine start switch is turned to the ON position (TM 9-2320-347-10)
- If LHS ENABLED indicator light does not illuminate, troubleshoot LHS Cab Control Fails Self Test or No VIM Heart Beat Indication (WP 0030).
- Step 2. Position LHS cab control mode select switch to MRP position (WP 0012). Check if LHS cab control LHS ENABLED indicator light illuminates.
- If LHS cab control LHS ENABLED indicator light illuminates, troubleshoot LHS Does Not Operate (WP 0032).
- Step 3. Replace LHS cab controller (WP 0068). Then turn engine start switch ON and position LHS cab control mode select switch to MRP position. Check if LHS cab control LHS ENABLED indicator light illuminates.
- If LHS cab control LHS ENABLED indicator illuminates, problem is corrected.
 - If LHS cab control LHS ENABLED indicator does not illuminate, notify Supervisor.

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

LHS NO TRANSIT INDICATOR LIGHT DOES NOT OPERATE

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

None

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

(TM 9-2320-325-14&P)
WP 0011
WP 0030
WP 0031
WP 0069
WP 0075
WP 0088
WP 0089

Equipment Conditions

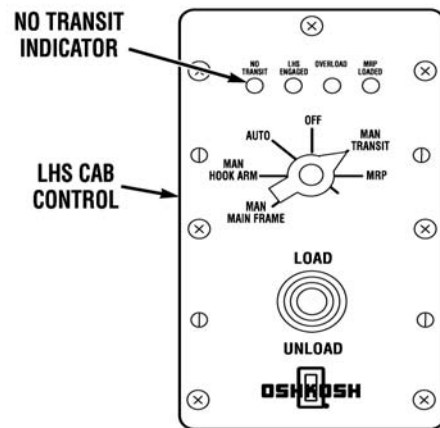
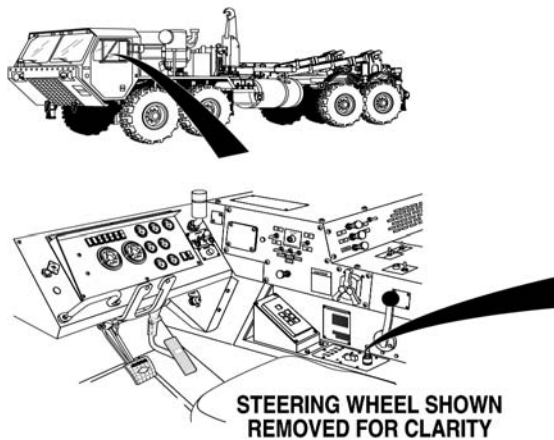
Engine OFF (TM 9-2320-347-10)
Parking brake applied (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

LHS NO TRANSIT INDICATOR LIGHT DOES NOT OPERATE



NOTE

LHS NO TRANSIT indicator light should not illuminate when LHS cab control switch is in the MAN TRANSIT position.

- Step 1. Check if LHS cab control NO TRANSIT indicator light illuminates for five seconds, when engine start switch is turned to the ON position (TM 9-2320-347-10)

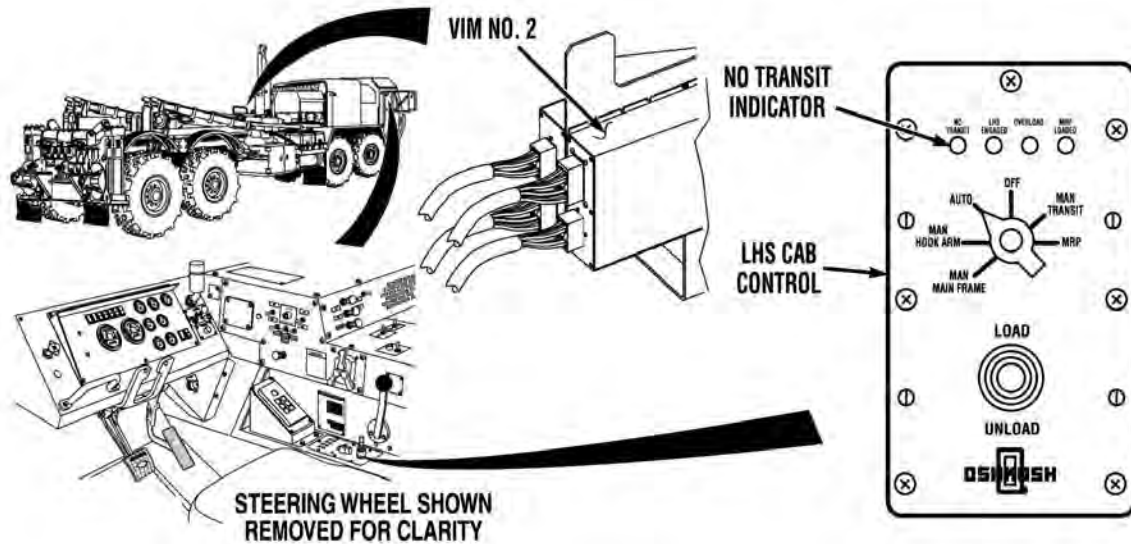
If NO TRANSIT indicator light does not illuminate, troubleshoot LHS Cab Control Fails Self Test or No VIM Heart Beat Indication (WP 0030).

MALFUNCTION

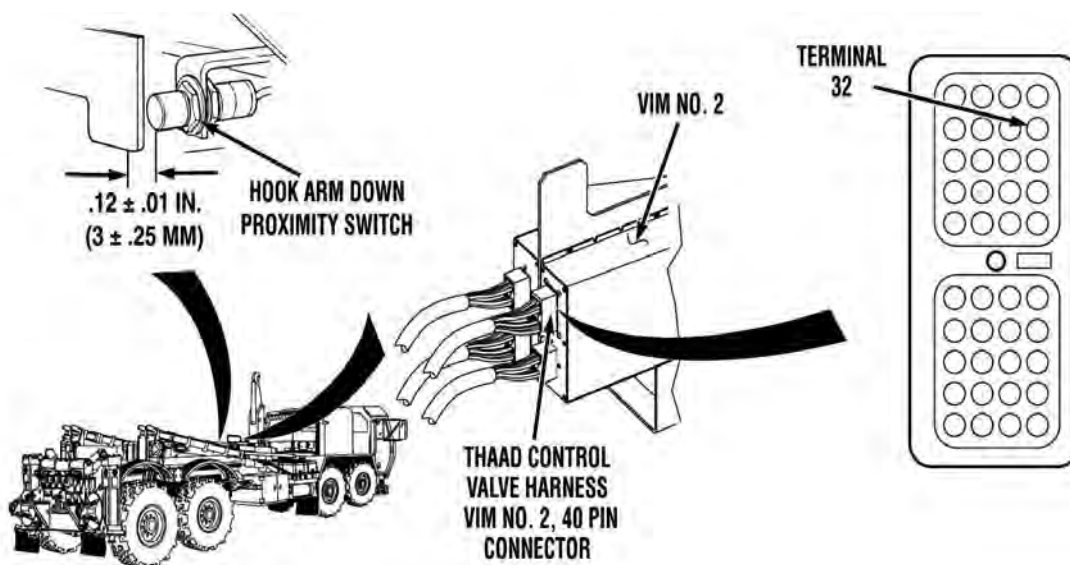
TEST OR INSPECTION

CORRECTIVE ACTION

LHS NO TRANSIT INDICATOR LIGHT DOES NOT OPERATE (CONTINUED)



- Step 2. Start engine (TM 9-2320-347-10) Check if LHS loads in auto mode (see WP 0011).
 If LHS does not load in auto mode, troubleshoot LHS Does Not Load In Auto Mode (WP 0031).
- Step 3. Raise LHS hook arm and main frame (WP 0011). Check if NO TRANSIT indicator light illuminates.
 If NO TRANSIT indicator light does not illuminate, replace VIM No. 2 (WP 0089).
- Step 4. Lower LHS main frame and hook arm to the transit position (WP 0011). Check if NO TRANSIT indicator light illuminates.
 If NO TRANSIT indicator light is not illuminated, problem is corrected.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS NO TRANSIT INDICATOR LIGHT DOES NOT OPERATE (CONTINUED)****WARNING**

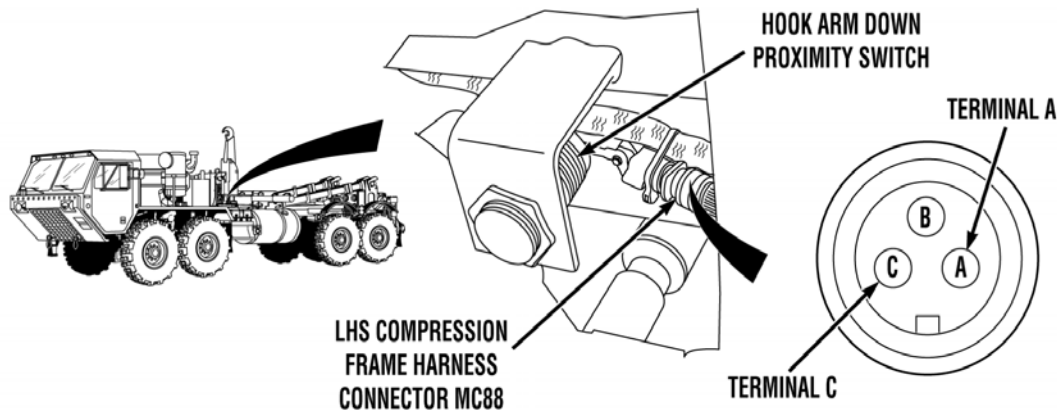
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 5. Shut off engine (TM 9-2320-347-10) Check LHS hook arm down proximity switch clearance adjustment (WP 0075).

If required, adjust hook arm down proximity switch (WP 0075).

- Step 6. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1471 at VIM No. 2, 40 pin connector, terminal 32 and a known good ground.

If 22 to 28 vdc are present, replace VIM No. 2 (WP 0089).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS NO TRANSIT INDICATOR LIGHT DOES NOT OPERATE (CONTINUED)****WARNING**

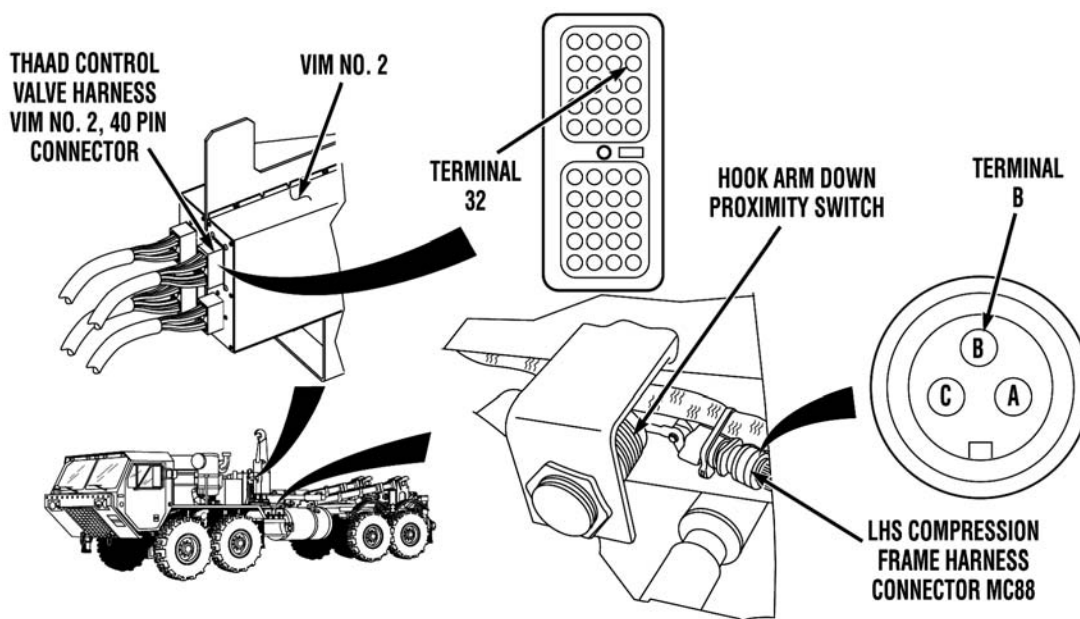
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 7. Disconnect LHS compression frame harness connector MC88 (TM 9-2320-325-14&P). Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1472 at connector MC88, terminal A and a known good ground.

If 22 to 28 vdc are not present, go to Step 12.

- Step 8. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across wire 1435 from LHS compression frame harness connector MC88, terminal C to a known good ground.

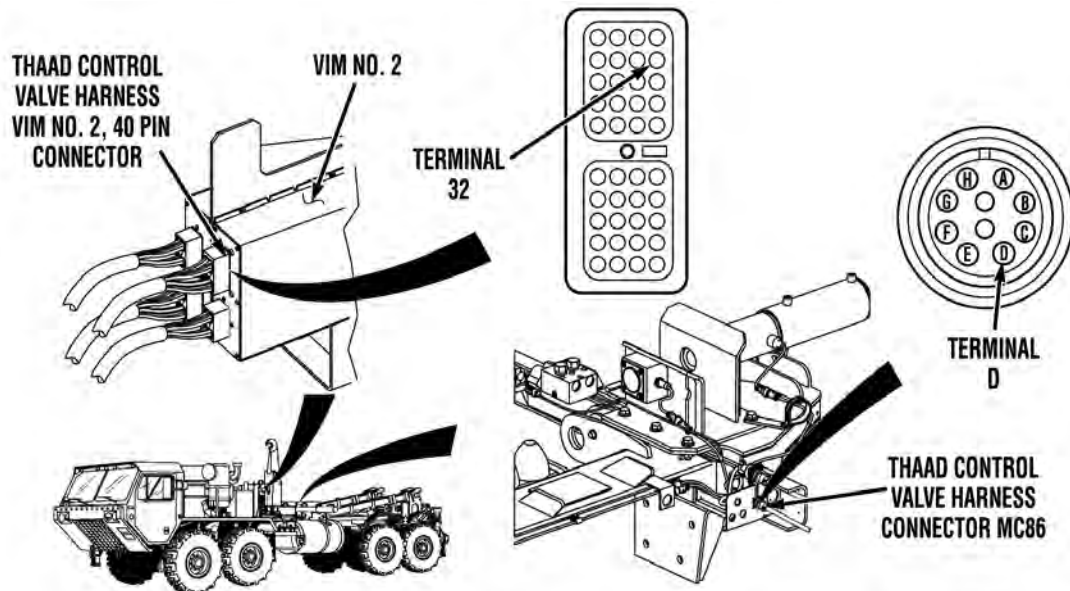
If there is no continuity, go to Step 11.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS NO TRANSIT INDICATOR LIGHT DOES NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 9. Check for continuity across wire 1471 from LHS compression frame harness connector MC88 (TM 9-2320-325-14&P), terminal B to THAAD control valve harness VIM No. 2, 40 pin connector, terminal 32 (WP 0089).

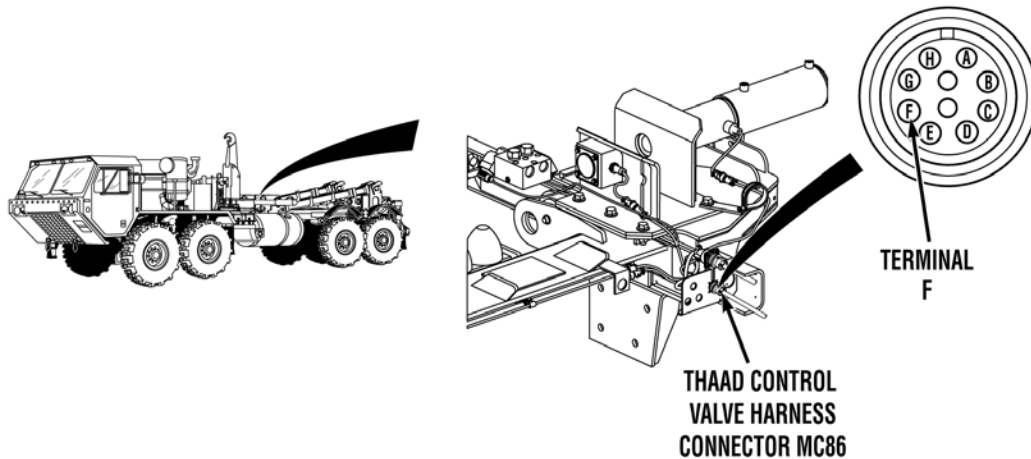
If there is continuity, replace hook arm down proximity switch (WP 0075).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS NO TRANSIT INDICATOR LIGHT DOES NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

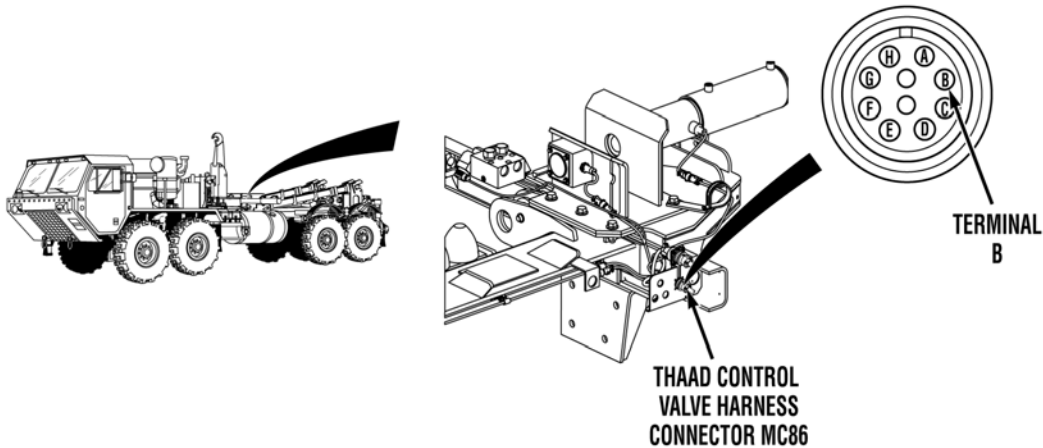
- Step 10. Disconnect THAAD control valve harness connector MC86. Check for continuity across wire 1471 from connector MC86, terminal D to VIM No. 2, 40 pin connector, terminal 32 (WP 0089).
- a. If there is continuity, repair wire 1471 (TM 9-2320-325-14&P) or replace LHS compression frame harness (WP 0069).
 - b. If there is no continuity, repair wire 1471 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

LHS NO TRANSIT INDICATOR LIGHT DOES NOT OPERATE (CONTINUED)**WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 11. Disconnect THAAD control valve harness connector MC86. Check for continuity across wire 1435 from connector MC86, terminal F to a know good ground.
- a. If there is continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace LHS compression frame harness (WP 0069).
 - b. If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS NO TRANSIT INDICATOR LIGHT DOES NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 12. Disconnect THAAD control valve harness connector MC86. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1472 at connector MC86, terminal B and a known good ground.
- a. If 22 to 28 vdc are present, repair wire 1472 (TM 9-2320-325-14&P) or replace LHS compression frame harness (WP 0069).
 - b. If 22 to 28 vdc are not present, repair wire 1472 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**NO HIGH IDLE DURING MRP ELEVATION OPERATION OVER 5 DEGREES**

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Tool Kit, Electrical (WP 0183, Item 24)

Materials/Parts

None

Personnel Required

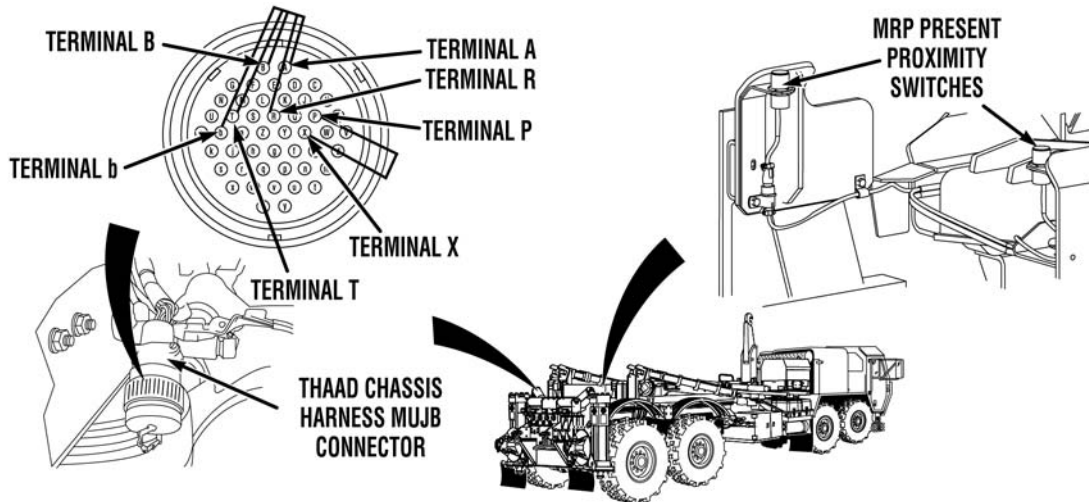
MOS 63B Wheeled vehicle mechanic (2)

References

(TM 9-2320-325-14&P)
WP 0007
WP 0012
WP 0013
WP 0066
WP 0088
WP 0089

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Parking brake applied (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****NO HIGH IDLE DURING MRP ELEVATION OPERATION OVER 5 DEGREES****CAUTION**

- The MRP subframe to deck lock safety interlock is bypassed in this procedure. If MRP rack is loaded, the subframe to deck lock must be disengaged before operating deck elevation cylinders. Failure to comply will cause damage to equipment.
- The MRP under run bumper safety interlock is bypassed in this procedure. If MRP rack is loaded, the under run bumper must be stowed before operating deck elevation cylinders. Failure to comply will cause damage to equipment.

NOTE

MRP present proximity switches must be active to engage MRP locks and operate deck elevation cylinders. If MRP rack is not loaded, activate both MRP present proximity switches by placing metal objects over proximity switches while engaging MRP rack locks and operating deck elevation cylinders.

- Step 1. Connect jumperwires between THAAD chassis harness MUJB connector terminals B and A, B and R, B and T, and B and b. Connect another jumperwire between THAAD chassis harness MUJB connector terminals P and X. If MRP is loaded, disengage subframe to deck lock and stow under run bumper (refer to THAAD Launcher IETM). If MRP is not loaded, place metal objects over MRP present proximity switches. Start engine (TM 9-2320-347-10) Extend outriggers (WP 0013). Engage rack locks (WP 0012). Check if engine speed increases to high idle, when MRP palm button is pressed and deck elevation controls are operated (WP 0007).

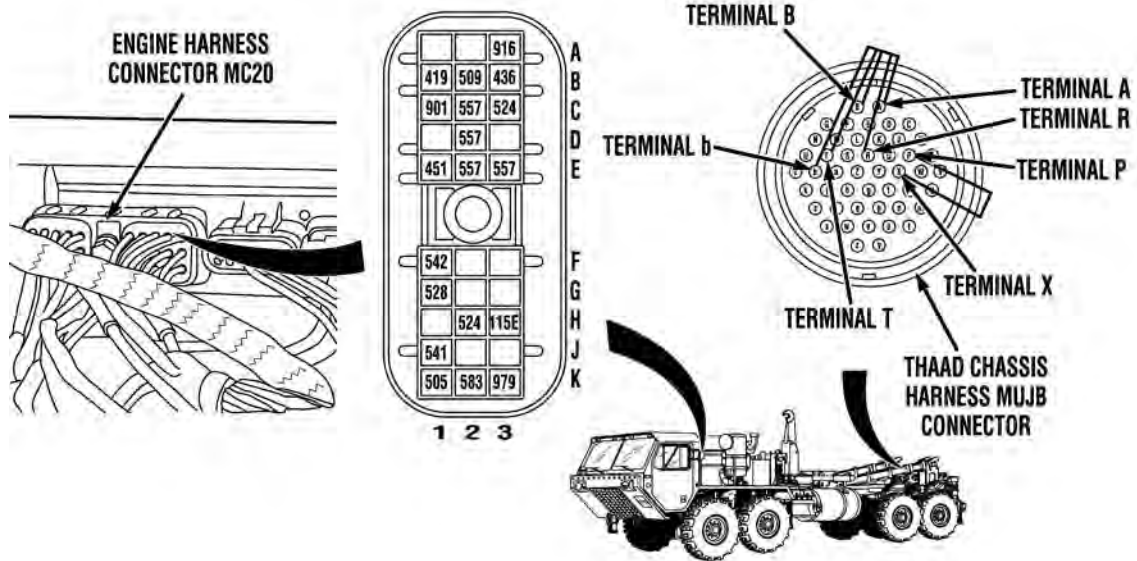
If engine operates at high idle when deck elevation controls are operated, retract deck elevation cylinders to the stowed position (WP 0007), shut off engine (TM 9-2320-347-10) remove jumpers, and troubleshoot MRP interlocks per THAAD Launcher IETM.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

NO HIGH IDLE DURING MRP ELEVATION OPERATION OVER 5 DEGREES (CONTINUED)

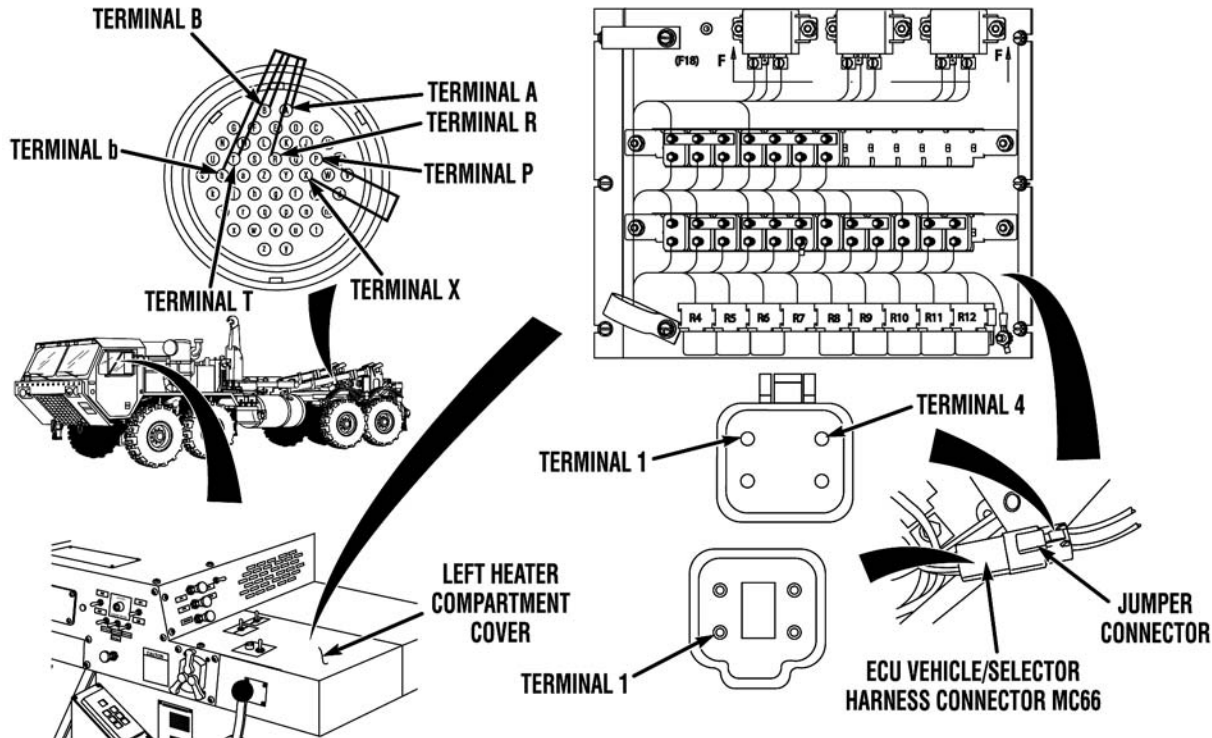


WARNING

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 2. Retract deck elevation cylinders to the stowed position (WP 0007). Shut off engine (TM 9-2320-347-10) Open left engine cover (TM 9-2320-347-10) Disconnect engine harness connector MC20. Turn engine start switch ON (TM 9-2320-347-10) Select N (neutral) on transmission range selector (TM 9-2320-347-10) Position LHS cab control mode select switch to MRP position (WP 0007). With jumperwires installed in THAAD chassis harness MUJB connector per Step 1, check for continuity from wire 451 at engine harness connector MC20, terminal E1 to a known good ground, when MRP palm button is pressed and deck elevation controls are operated (WP 0007).

If there is continuity, replace ECM (TM 9-2320-325-14&P).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****NO HIGH IDLE DURING MRP ELEVATION OPERATION OVER 5 DEGREES (CONTINUED)****WARNING**

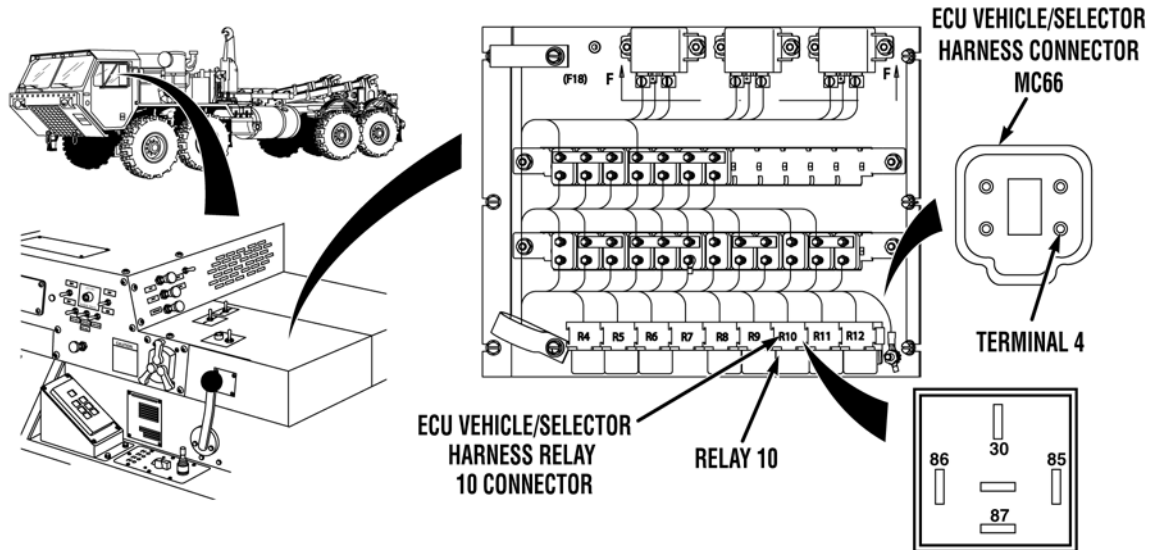
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 3. Remove left heater compartment cover (TM 9-2320-325-14&P). Disconnect jumper connector from ECU vehicle/selector harness connector MC66. Turn engine start switch ON (TM 9-2320-347-10) Select N (neutral) on transmission range selector (TM 9-2320-347-10) Position LHS cab control mode select switch to MRP position (WP 0007). With jumperwires installed in THAAD chassis harness MUJB connector per Step 1, check for 22 to 28 vdc between wire 1516 at MC66, terminal 1 and a known good ground, when MRP palm button is pressed and deck elevation controls are operated (WP 0007).

If 22 to 28 vdc are not present, and go to Step 12.

- Step 4. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across MC66 jumper connector between terminal 1 and terminal 4.

If there is no continuity, notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****NO HIGH IDLE DURING MRP ELEVATION OPERATION OVER 5 DEGREES (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

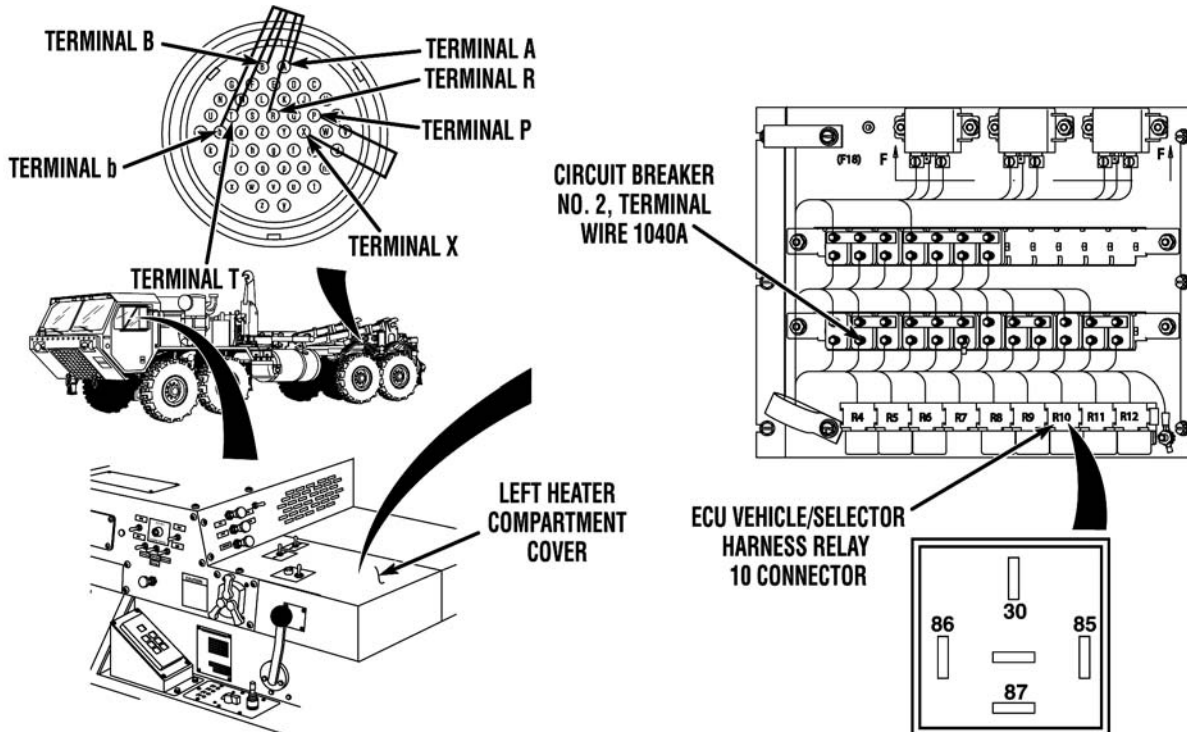
- Step 5. Remove relay 10 (TM 9-2320-325-14&P). Check for continuity across ECU vehicle/selector harness wire 1516A from connector MC66, terminal 4 to relay 10 connector, terminal 86.
- If there is no continuity, repair ECU vehicle/selector harness wire 1516A (TM 9-2320-325-14&P) or notify Supervisor.
- Step 6. Connect jumper connector to ECU vehicle/selector harness connector MC66. Check for continuity from wire 151-D at ECU vehicle/selector harness relay 10 connector, terminal 87 to a known good ground.
- If there is no continuity, go to Step 11.
- Step 7. Turn engine start switch ON (TM 9-2320-347-10) Select N (neutral) on transmission range selector (TM 9-2320-347-10) Check for continuity from wire 114 at ECU vehicle/selector harness relay 10 connector, terminal 85 to a known good ground.
- If there is no continuity, go to Step 10.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

NO HIGH IDLE DURING MRP ELEVATION OPERATION OVER 5 DEGREES (CONTINUED)



WARNING

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

Relay 10 has to be partially removed to perform Step 8.

Step 8. Install relay 10 (TM 9-2320-325-14&P). Turn engine start switch ON (TM 9-2320-347-10) Select N (neutral) on transmission range selector (TM 9-2320-347-10) Position LHS cab control mode select switch to MRP position (WP 0007). With jumperwires installed in THAAD chassis harness MUJB connector per Step 1, check for continuity from ECU vehicle/selector harness relay 10 connector, terminal 30 to a known good ground, when deck elevation controls are operated (WP 0007).

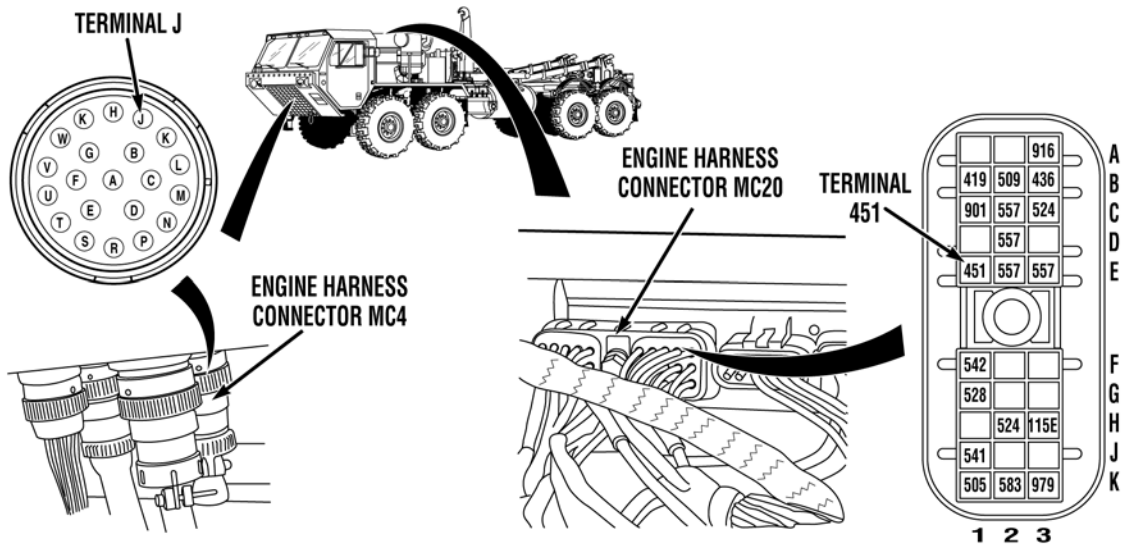
If there is no continuity, replace relay 10 (TM 9-2320-325-14&P).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

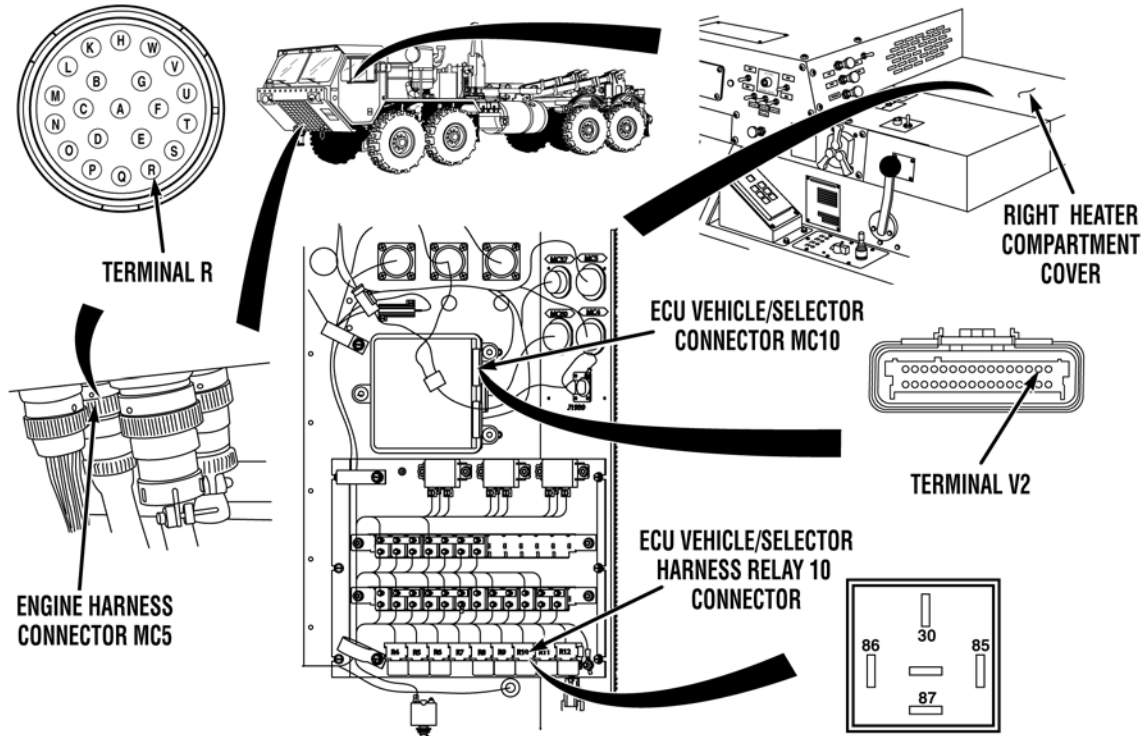
NO HIGH IDLE DURING MRP ELEVATION OPERATION OVER 5 DEGREES (CONTINUED)



WARNING

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 9. Disconnect engine harness connector MC4. Check for continuity across wire 451 from connector MC4, terminal J to connector MC 20, terminal E1.
- a. If there is continuity, repair ECU vehicle/selecter harness wire 451 (TM 9-2320-325-14&P) or notify Supervisor.
 - b. If there is no continuity, repair engine harness wire 451 (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****NO HIGH IDLE DURING MRP ELEVATION OPERATION OVER 5 DEGREES (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

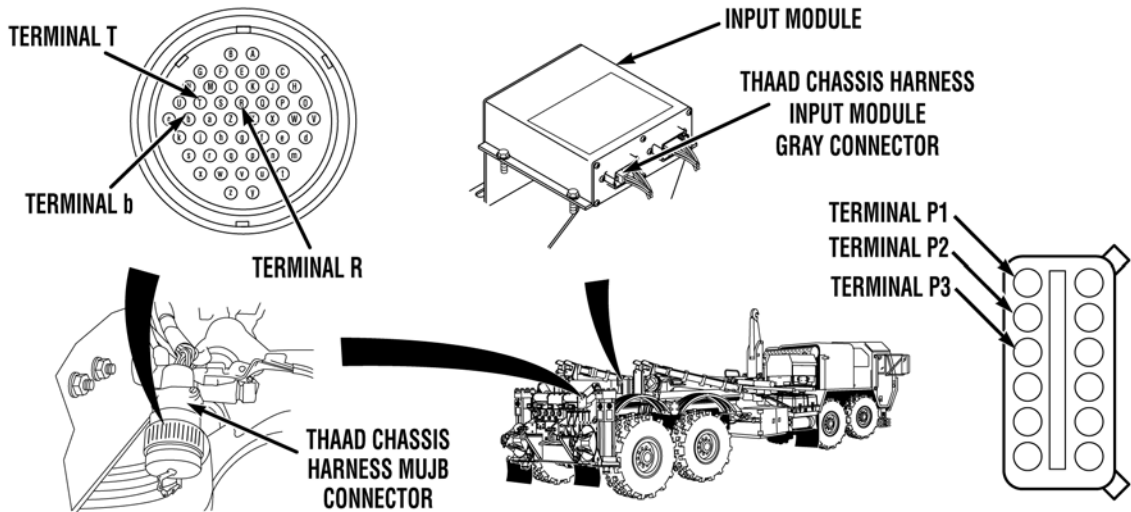
- Step 10. Remove right heater compartment cover (TM 9-2320-325-14&P). Disconnect ECU vehicle/selector harness connector MC10 (gray connector). Check for continuity across wire 114 from connector MC10, terminal V2 to relay 10 connector, terminal 85.
- If there is continuity, replace transmission ECU (TM 9-2320-325-14&P).
 - If there is no continuity, repair ECU vehicle/selector harness wire 114 (TM 9-2320-325-14&P) or notify Supervisor.
- Step 11. Disconnect engine harness connector MC5. Check for continuity across wire 151-D from connector MC5, terminal R to a known good ground.
- If there is continuity, repair ECU vehicle/selector harness wire 151-D (TM 9-2320-325-14&P) or notify Supervisor.
 - If there is no continuity, repair engine harness wire 151-D (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

NO HIGH IDLE DURING MRP ELEVATION OPERATION OVER 5 DEGREES (CONTINUED)



WARNING

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 12. Turn engine start switch OFF (TM 9-2320-347-10) Connect engine harness connector MC20. Remove jumperwires from THAAD chassis harness MUJB connector. Disconnect THAAD chassis harness input module gray connector. Check for continuity across THAAD chassis harness wires as indicated in the chart below.

MRP Interlock Function	Wire Number	Input Module Gray Connector Terminal	MUJB Connector Terminal
ADU/IL Cable Connected	1901	P1	b
Right Elevation Cylinder Lock	1902	P2	T
Left Elevation Cylinder Lock	1903	P3	R

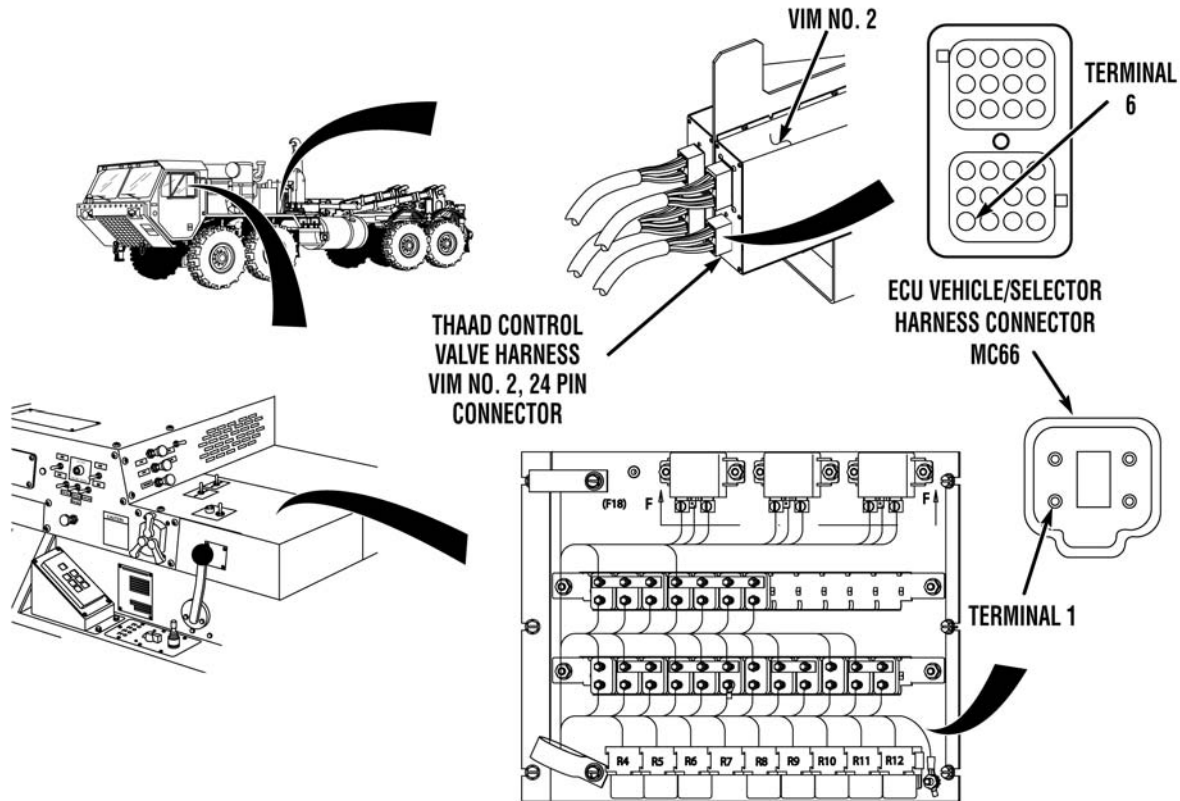
Repair damaged THAAD chassis harness wire (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

NO HIGH IDLE DURING MRP ELEVATION OPERATION OVER 5 DEGREES (CONTINUED)

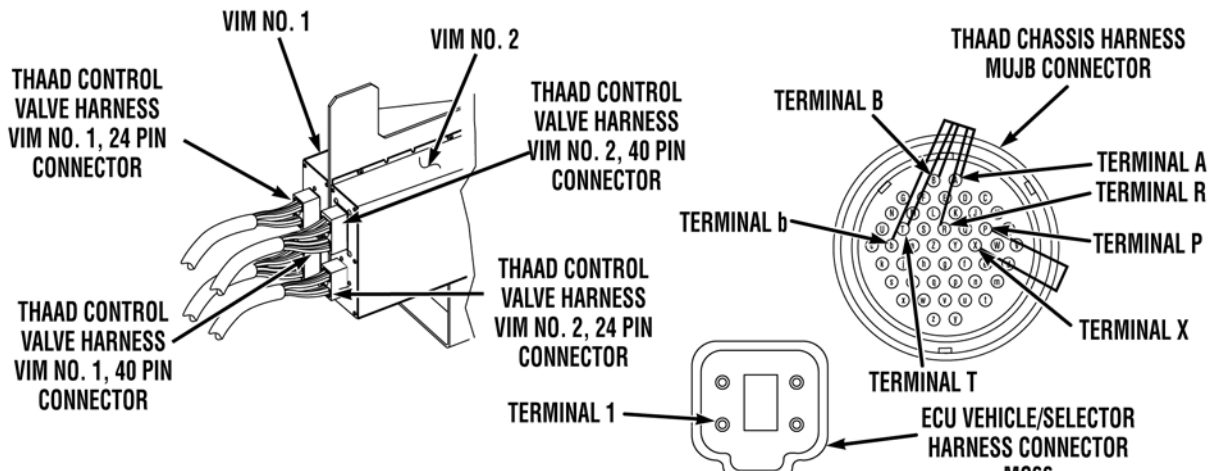


WARNING

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 13. Disconnect THAAD control valve harness VIM No. 2, 24 pin connector (WP 0089). Check for continuity across wire 1516 from THAAD control valve harness VIM No. 2, 24 pin connector, terminal 6 to ECU vehicle/selector harness connector MC66, terminal 1.

If there is no continuity, go to Step 16.

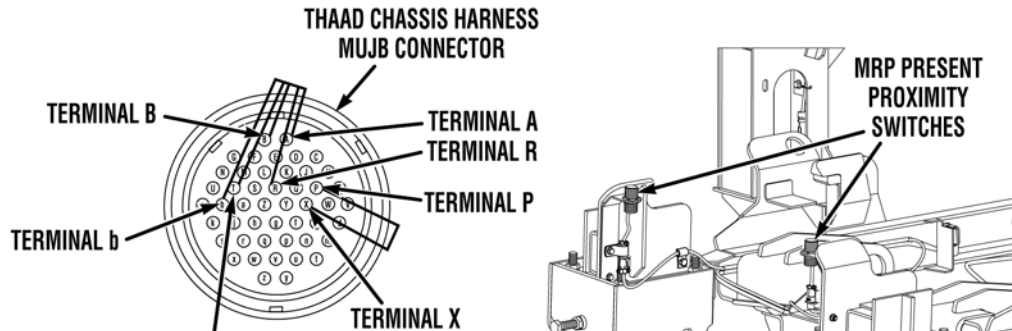
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****NO HIGH IDLE DURING MRP ELEVATION OPERATION OVER 5 DEGREES (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

The VIMS are swapped in Step 14, by swapping THAAD control valve VIM connectors. The VIMS are identical. Swapping connectors swaps the functions of the VIMS. Remove tie wraps as required.

- Step 14. Connect THAAD chassis harness input module gray connector. Connect jumperwires between MUJB connector terminals B and A, B and R, B and T, and B and b. Connect another jumperwire between MUJB connector terminals P and X. Disconnect THAAD control valve harness VIM No. 1 and VIM No. 2, 24 and 40 pin connectors (WP 0089). Connect THAAD control valve VIM No. 1, 40 pin connector to VIM No. 2, 40 pin port. Connect THAAD control valve VIM No. 1, 24 pin connector to VIM No. 2, 24 pin port. Connect THAAD control valve VIM No. 2, 40 pin connector to VIM No. 1, 40 pin port. Connect THAAD control valve VIM No. 2, 24 pin connector to VIM No. 1, 24 pin port. Turn engine start switch ON (TM 9-2320-347-10) Position LHS cab control mode select switch to MRP position (WP 0007). Check for 22 to 28 vdc between wire 1516 at ECU vehicle/selector harness connector MC66, terminal 1 and a known good ground, when MRP palm button is pressed and deck elevation controls are operated (WP 0007).
- a. If 22 to 28 vdc are not measured, replace input module (WP 0066) and go to Step 15.
 - b. If 22 to 28 vdc are measured, replace VIM No. 2 (WP 0089) and go to Step 15.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****NO HIGH IDLE DURING MRP ELEVATION OPERATION OVER 5 DEGREES (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

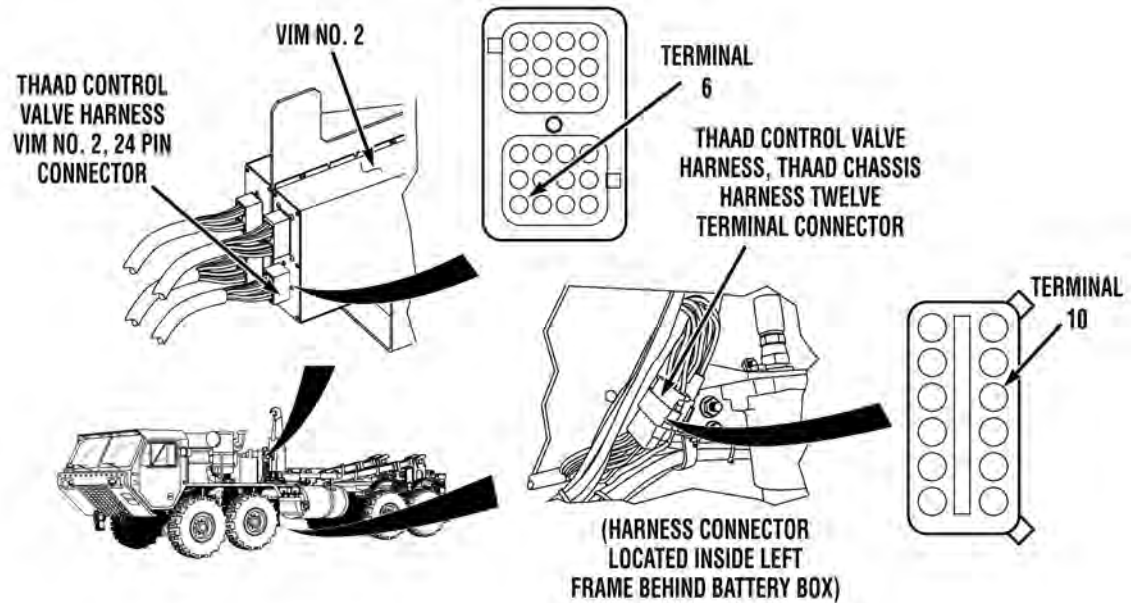
CAUTION

- The MRP subframe to deck lock safety interlock is bypassed in this procedure. If MRP rack is loaded, the subframe to deck lock must be disengaged before operating deck elevation cylinders. Failure to comply will cause damage to equipment.
- The MRP under run bumper safety interlock is bypassed in this procedure. If MRP rack is loaded, the under run bumper must be stowed before operating deck elevation cylinders. Failure to comply will cause damage to equipment.

NOTE

MRP present proximity switches must be active to engage MRP locks and operating deck elevation cylinders. If MRP rack is not loaded activate both MRP present proximity switches by placing metal objects over proximity switches, while engaging MRP rack locks and operating deck elevation cylinders.

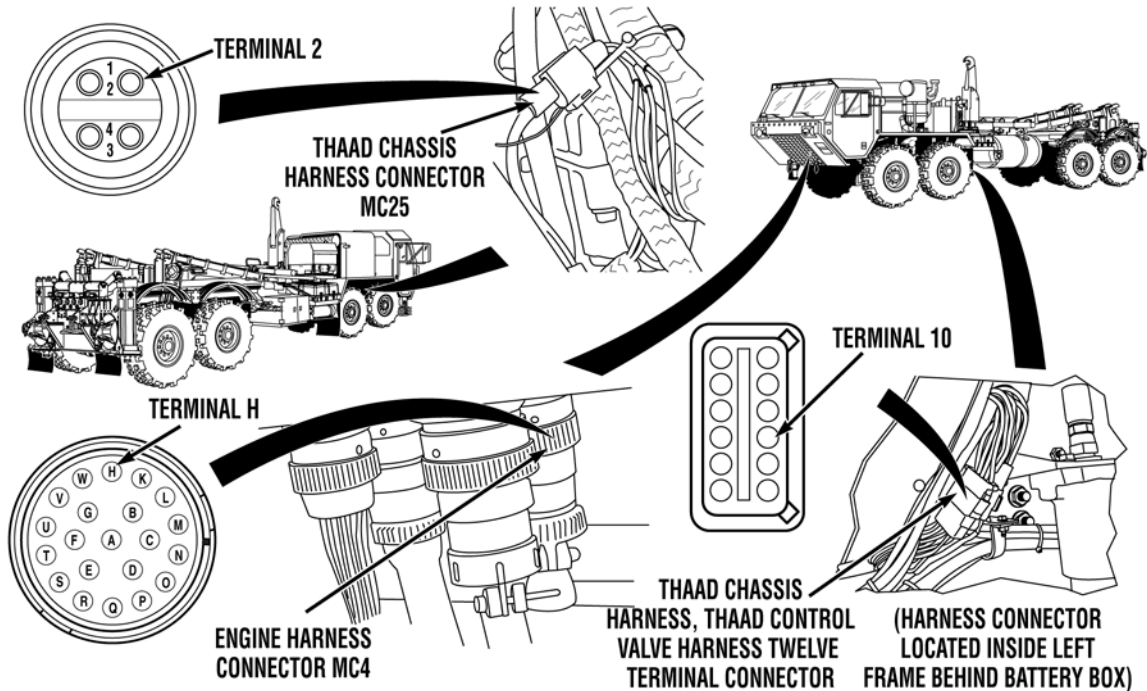
- Step 15. Connect all connectors in their original positions. If MRP is loaded, ensure subframe to deck lock is disengaged and under run bumper is stowed (refer to THAAD Launcher IETM). If MRP is not loaded, place metal objects over MRP present proximity switches. Start engine (TM 9-2320-347-10). With jumperwires installed in THAAD chassis harness MUJB connector per Step 14, check if engine speed increases to high idle when MRP palm button is pressed and deck elevation controls are operated (WP 0007).
- a. If engine speed increases to high idle, problem is corrected.
 - b. If engine speed does not increase to high idle, problem has not been corrected. Notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****NO HIGH IDLE DURING MRP ELEVATION OPERATION OVER 5 DEGREES (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 16. Disconnect THAAD control valve harness twelve terminal connector. Check for continuity across wire 1516 from VIM No. 2, 24 pin connector, terminal 6 to twelve terminal connector, terminal 10.

If there is no continuity, repair THAAD control valve harness wire 1516 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****NO HIGH IDLE DURING MRP ELEVATION OPERATION OVER 5 DEGREES (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 17. Disconnect THAAD chassis harness connector MC25. Check for continuity across wire 1516 from connector MC25, terminal 2 to twelve terminal connector, terminal 10.

If there is no continuity, repair THAAD chassis harness wire 1516 (TM 9-2320-325-14&P) or notify Supervisor.

- Step 18. Disconnect engine harness connector MC4. Check for continuity across wire 1516 from connector MC25, terminal 2 to connector MC4, terminal H.

- a. If there is continuity, repair ECU vehicle selector harness wire 1516 (TM 9-2320-325-14&P) or notify Supervisor.
- b. If there is no continuity, repair engine harness wire 1516 (TM 9-2320-325-14&P) or notify Supervisor.

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY**

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

None

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

TM 9-2320-325-14&P
WP 0004
WP 0012
WP 0030

References (Continued)

WP 0036
WP 0040
WP 0079
WP 0080
WP 0081
WP 0087
WP 0088
WP 0089

Equipment Conditions

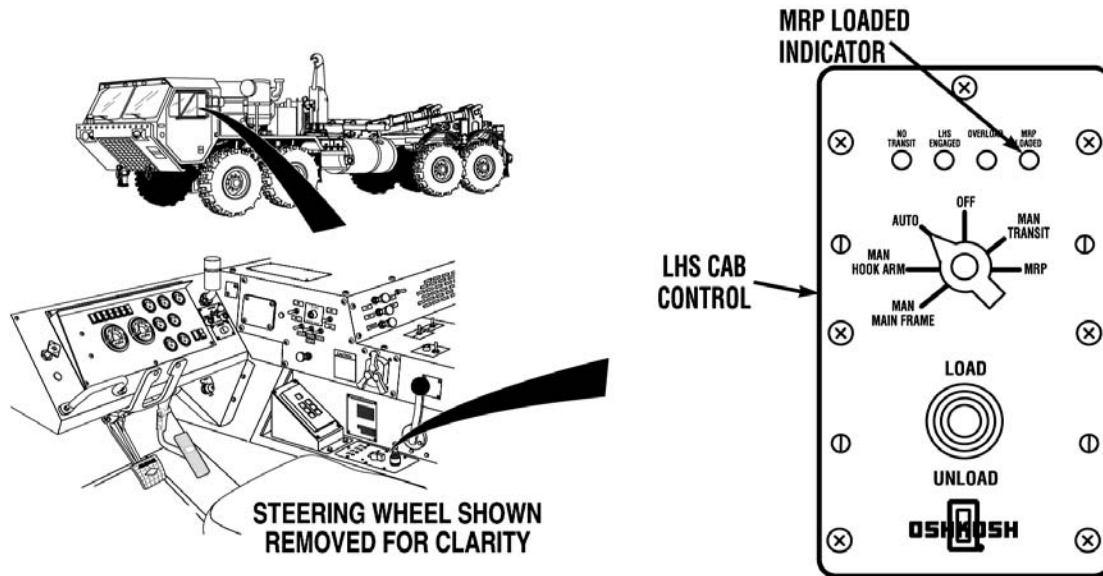
Engine OFF (TM 9-2320-347-10)
Parking brake applied (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY

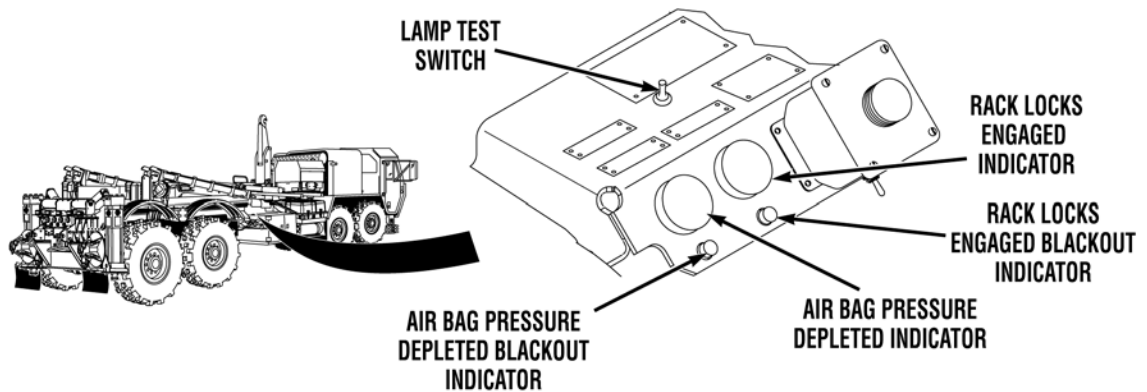


NOTE

This work package includes the procedures required to troubleshoot the LHS cab control MRP LOADED indicator light, MRP control station RACK LOCKS ENGAGED indicator light, and MRP control station RACK LOCKS ENGAGED blackout indicator light.

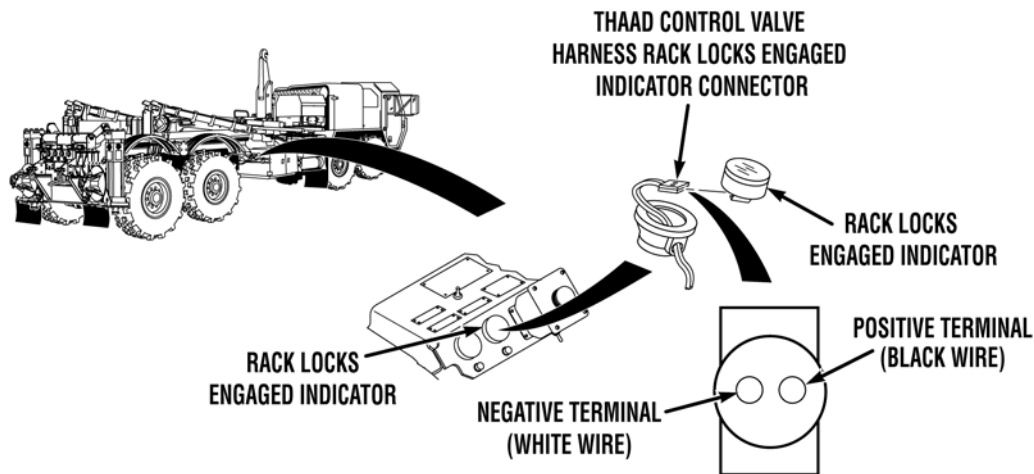
- Step 1. Check if LHS cab control MRP LOADED indicator light illuminates for five seconds when the engine start switch is turned to the ON position (TM 9-2320-347-10)

If MRP LOADED indicator light does not illuminate, troubleshoot LHS Cab Control Fails Self Test or No VIM Heart Beat Indication (WP 0030).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****NOTE**

MRP control station lamp test will test the RACK LOCKS ENGAGED, RACK LOCKS ENGAGED blackout indicator lights, AIR BAG PRESSURE DEPLETED and AIR BAG PRESSURE DEPLETED blackout indicators lights.

- Step 2. Perform MRP control station lamp test by selecting LAMP TEST switch (WP 0004).
- a. If RACK LOCKS ENGAGED, RACK LOCKS ENGAGED blackout indicator lights, AIR BAG PRESSURE DEPLETED and AIR BAG PRESSURE DEPLETED blackout indicator lights do not illuminate, troubleshoot MRP Control Station Indicator Lights Do Not Operate During Lamp Test (WP 0036).
 - b. If only the RACK LOCKS ENGAGED indicator light does not illuminate, go to Step 3.
 - c. If only the RACK LOCKS ENGAGED blackout indicator light does not illuminate, go to Step 6.
 - d. If RACK LOCKS ENGAGED and RACK LOCKS ENGAGED blackout indicator lights illuminate, go to Step 9.

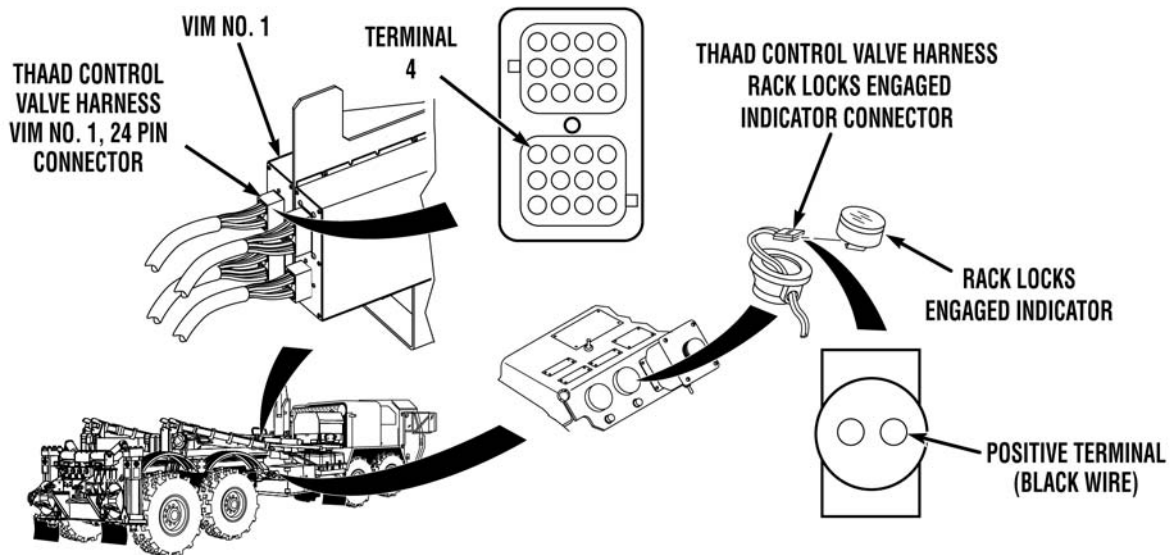
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 3. Remove RACK LOCKS ENGAGED indicator light (WP 0081) and disconnect THAAD control valve harness RACK LOCKS ENGAGED indicator connector. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1992 at RACK LOCKS ENGAGED indicator connector, positive terminal (black wire) and a known good ground, when MRP control station lamp test switch is turned ON (WP 0004).

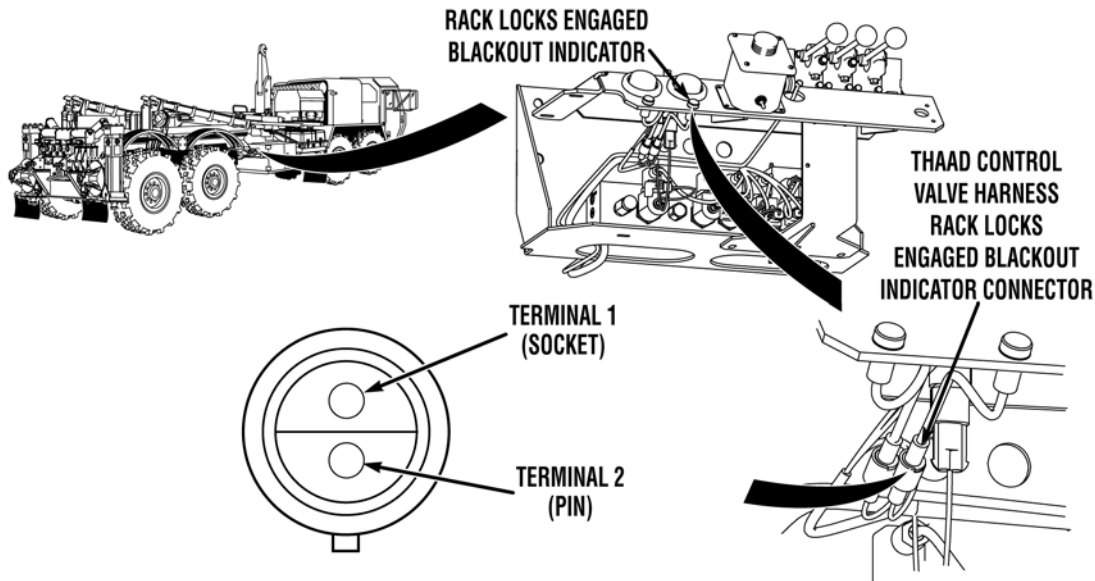
If 22 to 28 vdc are not present, go to Step 5.

- Step 4. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across wire 1435 from THAAD control valve harness RACK LOCKS ENGAGED indicator connector, negative terminal (white wire) to a known good ground.
- a. If there is continuity, replace RACK LOCKS ENGAGED indicator light (WP 0081).
 - b. If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 5. Disconnect THAAD control valve harness VIM No. 1, 24 pin connector (WP 0089). Check for continuity across wire 1992 from VIM No. 1, 24 pin connector, terminal 4 to RACK LOCKS ENGAGED indicator connector, positive (black wire) terminal.
- a. If there is continuity, replace VIM No. 1 (WP 0089).
 - b. If there is no continuity, repair wire 1992 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

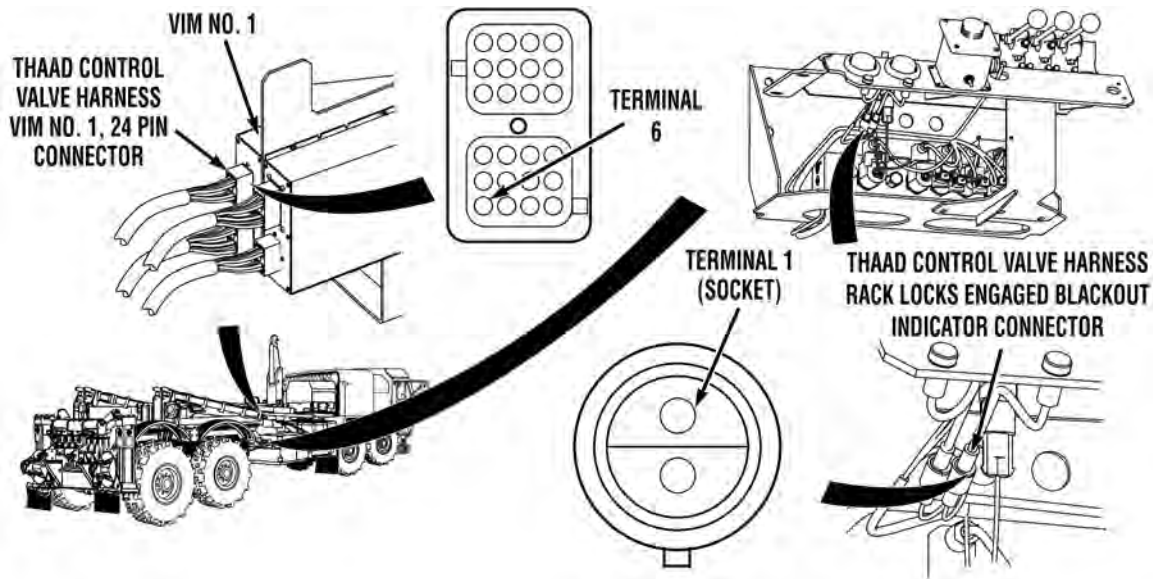
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 6. Disconnect THAAD control valve harness RACK LOCKS ENGAGED blackout indicator connector. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1993 at RACK LOCKS ENGAGED indicator connector, terminal 1 and a known good ground, when MRP control station lamp test switch is turned ON (WP 0004).

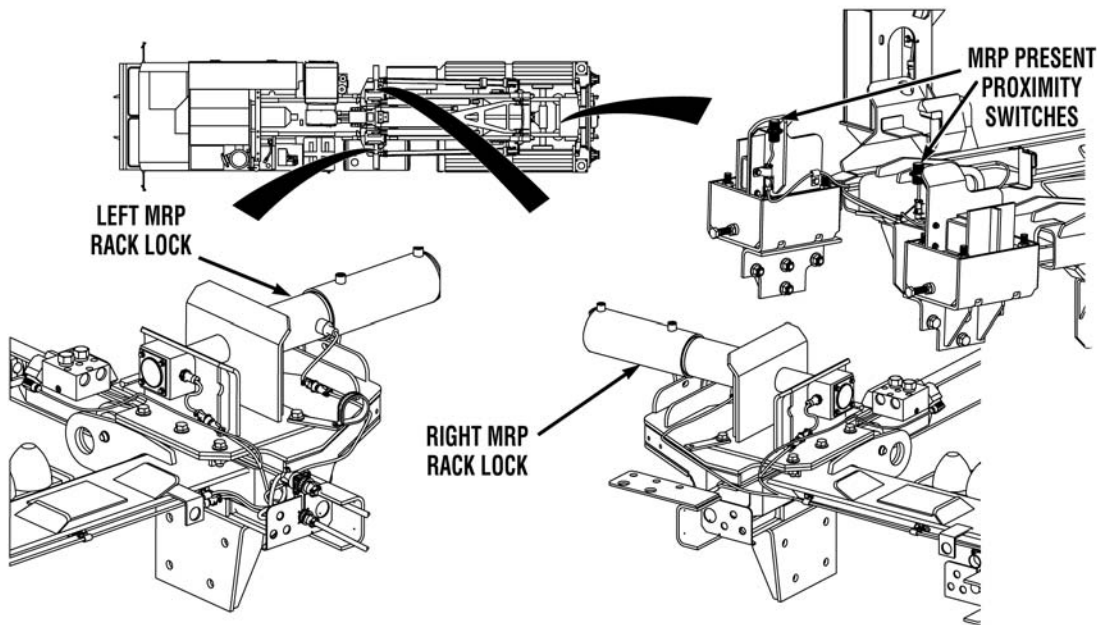
If 22 to 28 vdc are not present, go to Step 8.

- Step 7. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across wire 1435 from THAAD control valve harness RACK LOCKS ENGAGED blackout indicator connector, terminal 2 to a known good ground.
- If there is continuity, replace RACK LOCKS ENGAGED blackout indicator light (WP 0081).
 - If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

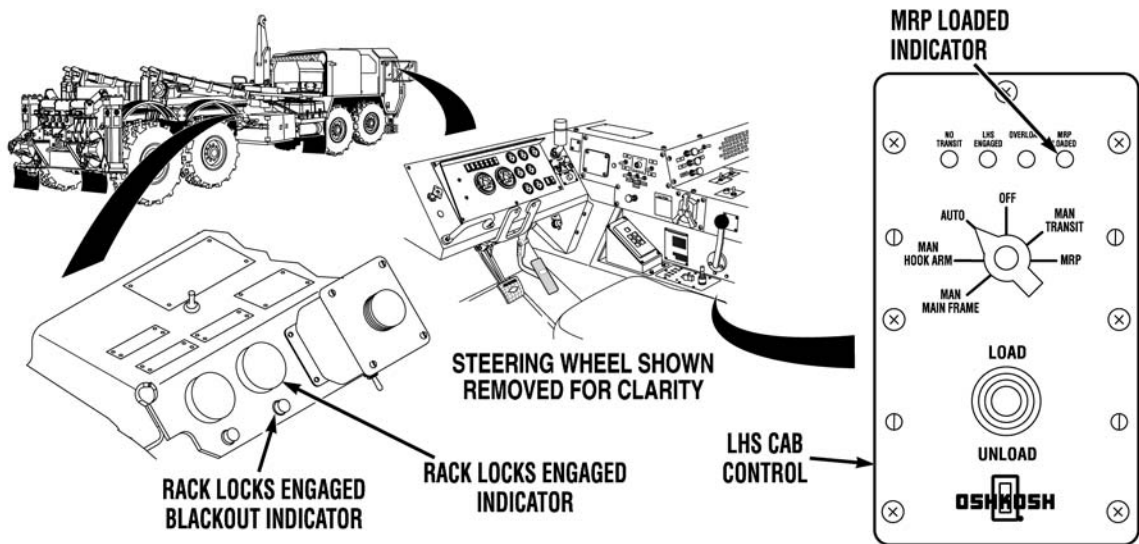
- Step 8. Disconnect THAAD control valve harness VIM No. 1, 24 pin connector (WP 0089). Check for continuity across wire 1993 from VIM No. 1, 24 pin connector, terminal 6 to RACK LOCKS ENGAGED blackout indicator connector, terminal 1.
- a. If there is continuity, replace VIM No. 1 (WP 0089).
 - b. If there is no continuity, repair wire 1993 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****NOTE**

- Perform Step 9 only if MRP rack locks are disengaged.
- MRP present proximity switches must be active to engage MRP rack locks. If MRP rack is not loaded, activate both MRP present proximity switches by placing metal objects over proximity switches while engaging MRP rack locks.

Step 9. If MRP is not loaded, place metal objects over MRP present proximity switches. Then start engine (TM 9-2320-347-10) and engage MRP rack locks (WP 0012). Shut off engine (TM 9-2320-347-10) Check if both MRP rack locks are fully engaged.

If both MRP rack locks are not fully engaged, troubleshoot MRP Locks Do Not Engage (WP 0040).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

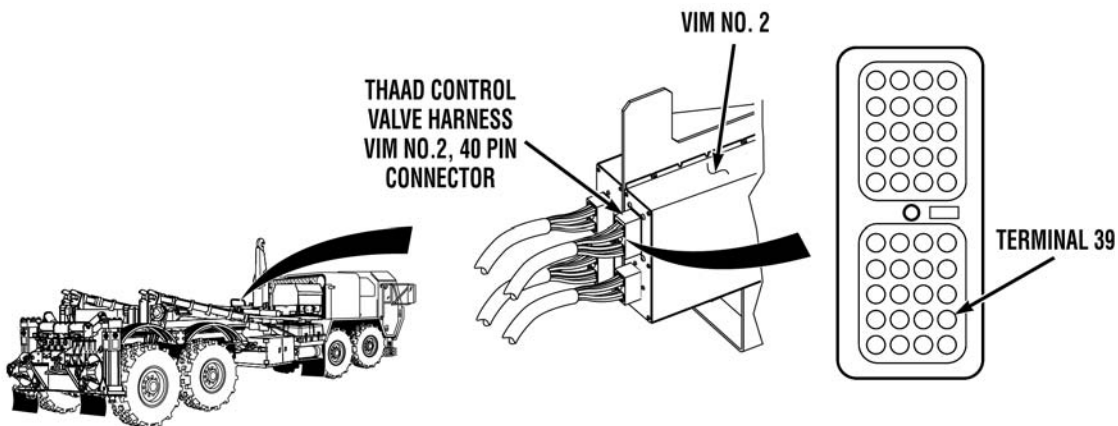
- Step 10. Turn engine start switch ON (TM 9-2320-347-10) Check if LHS cab control MRP LOADED and MRP control station RACK LOCKS ENGAGED indicator lights illuminate.
- If only one of the indicator lights illuminates, replace VIM No. 1 (WP 0089).
 - If LHS cab control MRP LOADED and MRP control station RACK LOCKS ENGAGED indicator lights flash or do not illuminate, go to Step 15.

NOTE

MRP control station RACK LOCKS ENGAGED indicator light will not illuminate in blackout mode.

- Step 11. Turn blackout lights on (TM 9-2320-347-10) Check if MRP control station RACK LOCKS ENGAGED blackout indicator light illuminates.

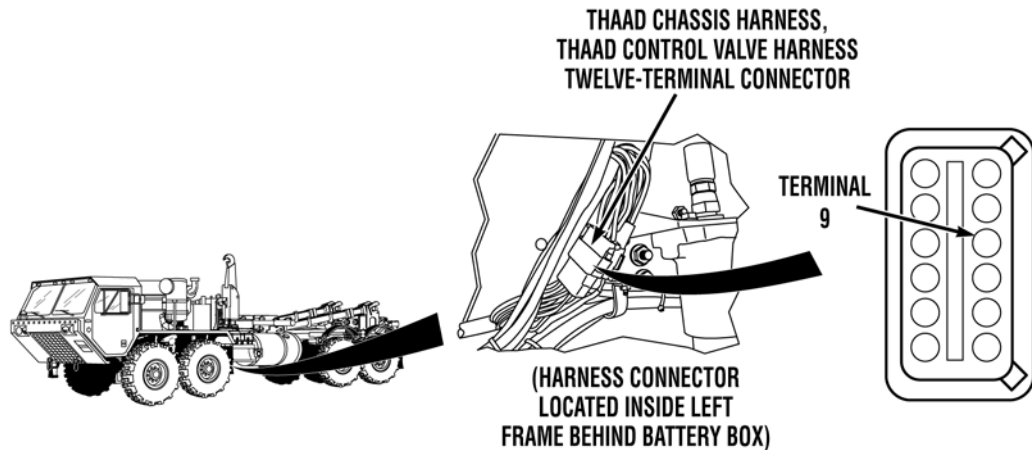
If RACK LOCKS ENGAGED blackout indicator light illuminates, problem is corrected.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 12. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Turn blackout lights on (TM 9-2320-347-10). Check for 22 to 28 vdc between wire 1680 at VIM No. 2, 40 pin connector, terminal 39 and a known good ground.

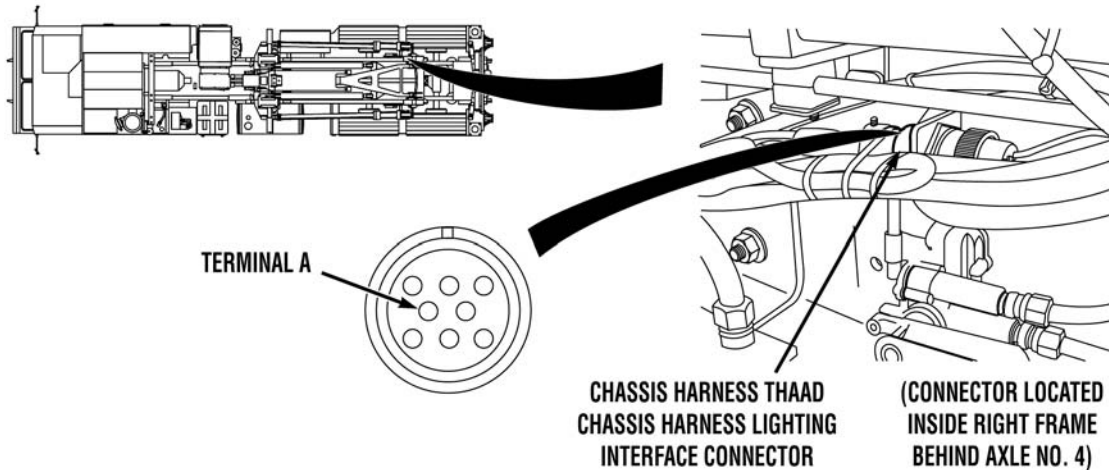
If 22 to 28 vdc are present, replace VIM No. 2 (WP 0089).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

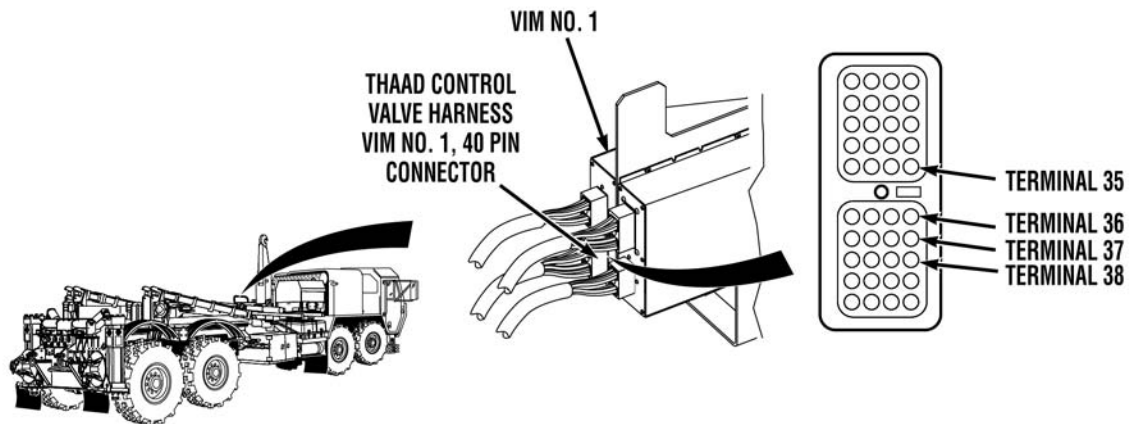
- Step 13. Disconnect THAAD chassis harness THAAD control valve harness twelve-terminal connector. Turn blackout lights on (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1680 at twelve terminal connector, terminal 9 and a known good ground.

If 22 to 28 vdc are present, repair wire 1680 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

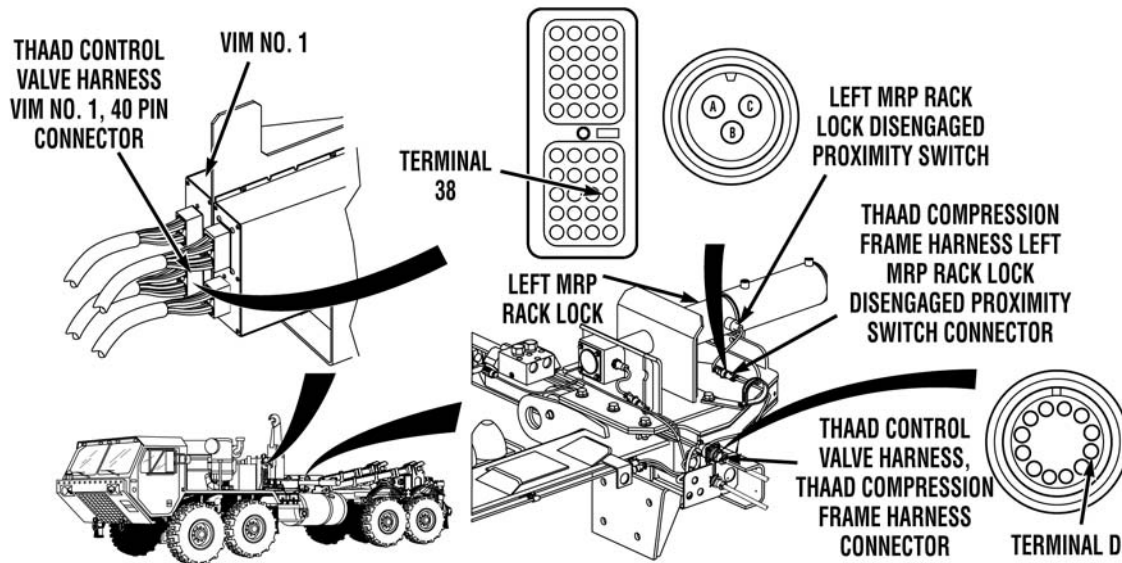
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 14. Disconnect chassis harness THAAD chassis harness lighting interface connector. Turn blackout lights on (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1680 at lighting interface connector, terminal A and a known good ground.
- a. If 22 to 28 vdc are present, repair THAAD chassis harness wire 1680 (TM 9-2320-325-14&P) or notify Supervisor.
 - b. If 22 to 28 vdc are not present, repair chassis harness wire 1680 (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 15. Disconnect THAAD control valve harness VIM No. 1, 40 pin connector (WP 0089). Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1978 at VIM No. 1, 40 pin connector, terminal 35 and a known good ground.
- If 22 to 28 vdc are not present, go to Step 25.
- Step 16. Check for 22 to 28 vdc between wire 1977 at THAAD control valve harness VIM No. 1, 40 pin connector, terminal 36 and a known good ground.
- If 22 to 28 vdc are not present, go to Step 23.
- Step 17. Check for 22 to 28 vdc between wire 1980 at THAAD control valve harness VIM No. 1, 40 pin connector, terminal 37 and a known good ground.
- If 22 to 28 vdc are not present, go to Step 21.
- Step 18. Check for 22 to 28 vdc between wire 1981 at THAAD control valve harness VIM No. 1, 40 pin connector, terminal 38 and a known good ground.
- If 22 to 28 vdc are present, replace VIM No. 1 (WP 0089).

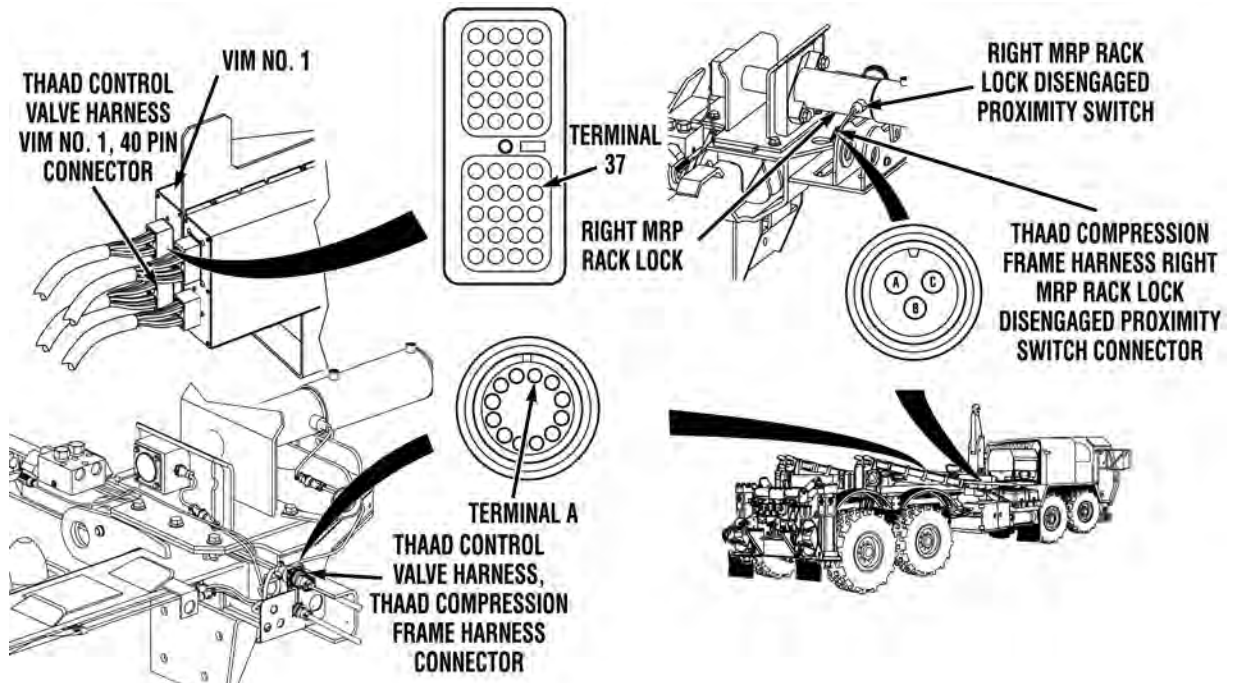
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 19. Disconnect THAAD compression frame harness left MRP rack lock disengaged proximity switch connector. Check for continuity across wire 1981 from left MRP rack lock disengaged proximity switch connector, terminal B to THAAD control valve harness VIM No. 1, 40 pin connector, terminal 38.

If there is continuity, go to Step 28.

- Step 20. Disconnect THAAD control valve harness THAAD compression frame harness connector. Check for continuity across wire 1981 from THAAD compression frame harness connector, terminal D to VIM No. 1, 40 pin connector, terminal 38.
- a. If there is continuity, repair wire 1981 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).
 - b. If there is no continuity, repair wire 1981 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).

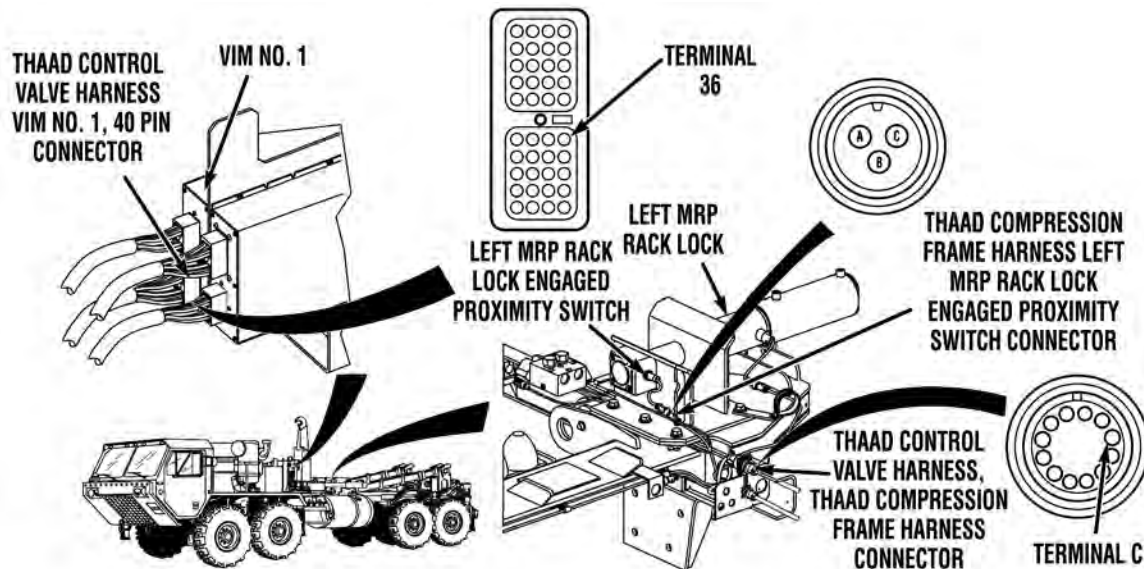
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 21. Disconnect THAAD compression frame harness right MRP rack lock disengaged proximity switch connector. Check for continuity across wire 1980 from right MRP rack lock disengaged proximity switch connector, terminal B to THAAD control valve harness VIM No. 1, 40 pin connector, terminal 37.

If there is continuity, go to Step 28.

- Step 22. Disconnect THAAD control valve harness THAAD compression frame harness connector. Check for continuity across wire 1980 from THAAD compression frame harness connector, terminal A to VIM No. 1, 40 pin connector, terminal 37.
- If there is continuity, repair wire 1980 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).
 - If there is no continuity, repair wire 1980 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

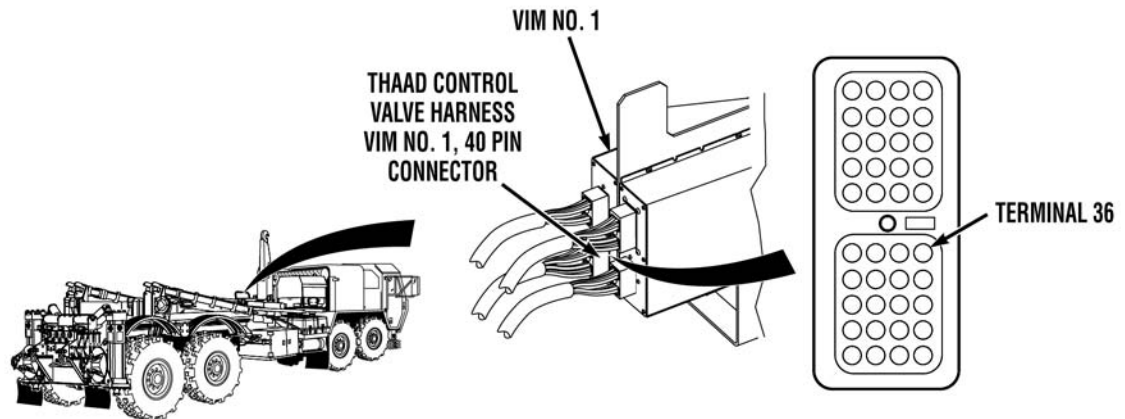
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

Step 23. Disconnect THAAD compression frame harness left MRP rack lock engaged proximity switch connector. Check for continuity across wire 1977 from left MRP rack lock engaged proximity switch connector, terminal B to THAAD control valve harness VIM No. 1, 40 pin connector, terminal 36.

If there is continuity, go to Step 28.

Step 24. Disconnect THAAD control valve harness, THAAD compression frame harness connector. Check for continuity across wire 1977 from THAAD compression frame harness connector, terminal C to VIM No. 1, 40 pin connector, terminal 36.

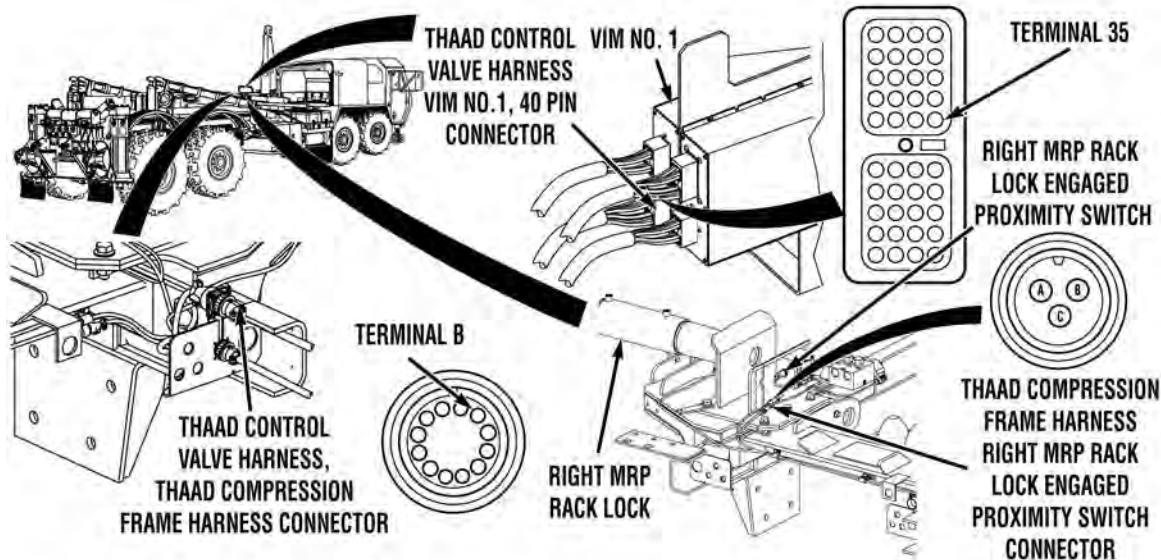
- a. If there is continuity, repair wire 1977 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).
- b. If there is no continuity, repair wire 1977 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

Step 25. Check for 22 to 28 vdc between wire 1977 at THAAD control valve harness VIM No. 1, 40 pin connector, terminal 36 and a known good ground.

If 22 to 28 vdc are not present, go to Step 30.

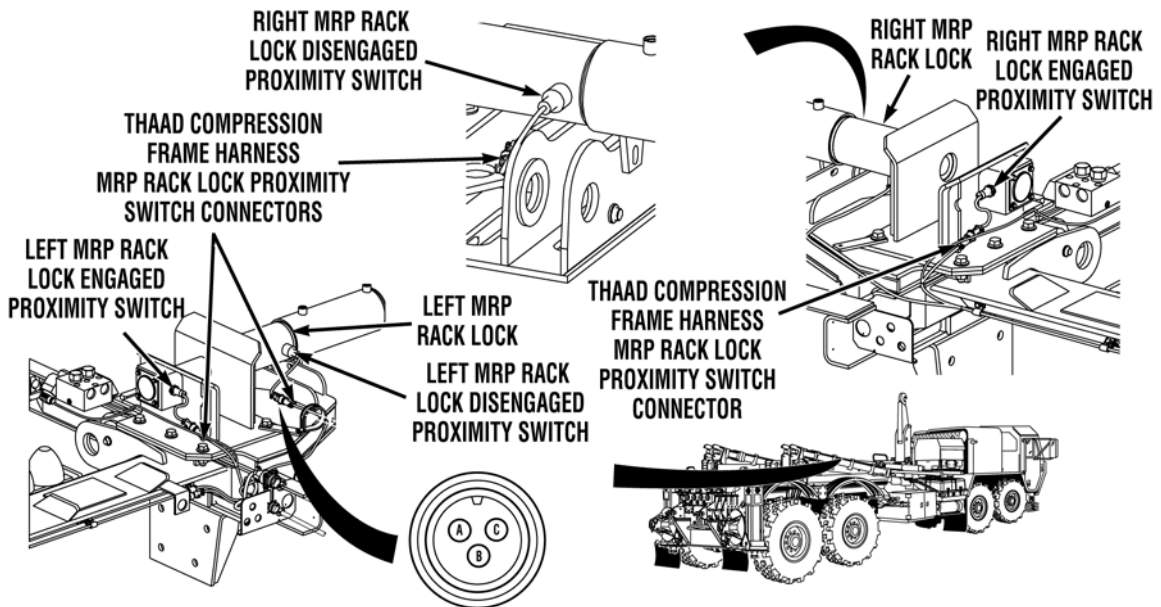
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 26. Disconnect THAAD compression frame harness right MRP rack lock engaged proximity switch connector. Check for continuity across wire 1978 from right MRP rack lock engaged proximity switch connector, terminal B to THAAD control valve harness VIM No. 1, 40 pin connector, terminal 35.

If there is continuity, go to Step 28.

- Step 27. Disconnect THAAD control valve harness THAAD compression frame harness connector. Check for continuity across THAAD control valve harness wire 1978 from THAAD compression frame harness connector, terminal B to VIM No. 1, 40 pin connector, terminal 35.
- If there is continuity, repair wire 1978 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).
 - If there is no continuity, repair wire 1978 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 28. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1461 at disconnected THAAD compression frame harness MRP rack lock proximity switch connector, terminal A and a known good ground.

If 22 to 28 vdc are not present, repair wire 1461 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).

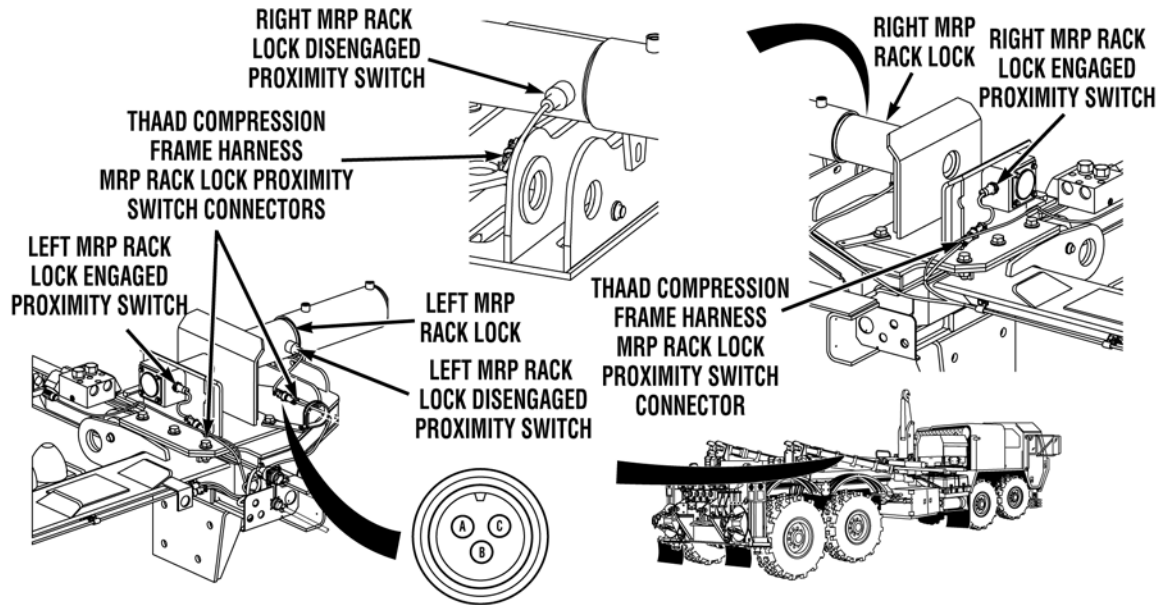
- Step 29. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across THAAD compression frame harness wire 1435 from disconnected MRP rack lock proximity switch connector, terminal C to a known good ground.
- a. If there is continuity, replace disconnected MRP rack lock disengaged proximity switch (WP 0079) or MRP rack lock engaged proximity switch (WP 0080).
 - b. If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)

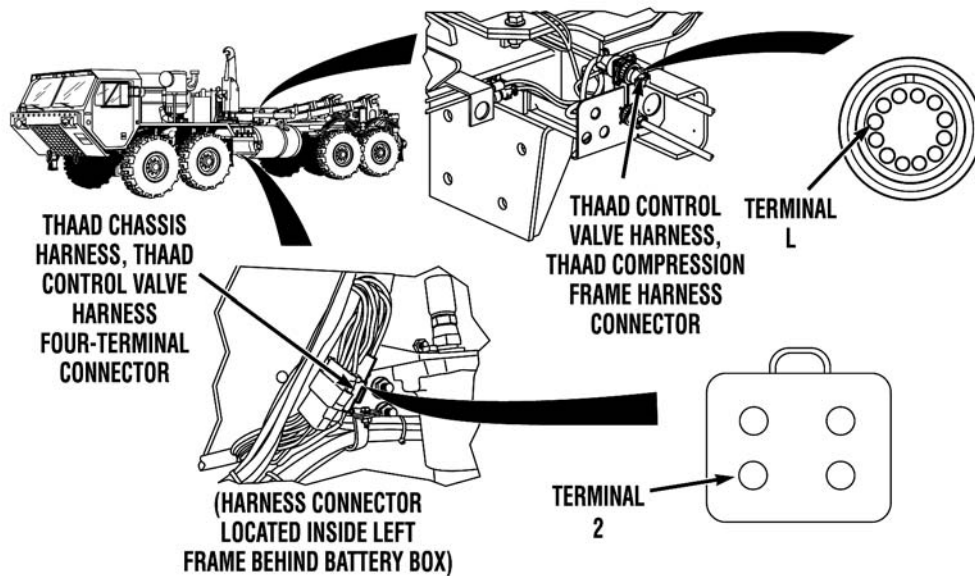


WARNING

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

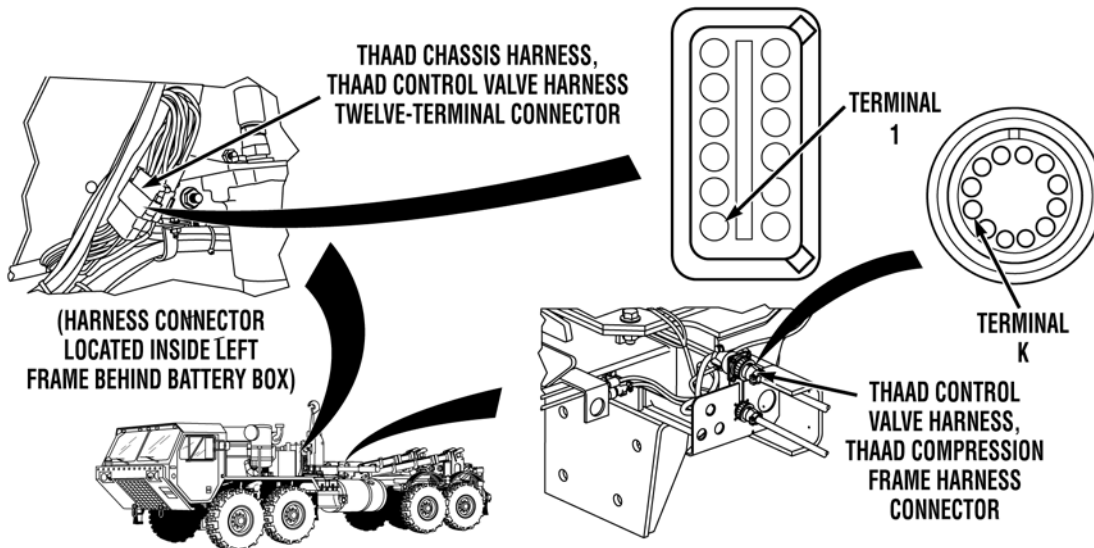
Step 30. Disconnect one of the THAAD compression frame harness MRP rack lock proximity switch connectors. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1461 at disconnected THAAD compression frame harness MRP rack lock engaged proximity switch connector, terminal A and a known good ground.

If 22 to 28 vdc are not present, go to Step 33.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 31. Disconnect THAAD control valve harness, THAAD compression frame harness connector. Check for continuity across wire 1435 from THAAD compression frame harness connector, terminal L to a known good ground.
- If there is continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).
- Step 32. Disconnect THAAD chassis harness, THAAD control valve harness four-terminal connector. Check for continuity across wire 1435 from four-terminal connector, terminal 2 to a known good ground.
- a. If there is continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).
 - b. If there is no continuity, repair THAAD chassis harness wire 1435 (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****RACK LOCKS ENGAGED INDICATOR LIGHT(S) DO NOT OPERATE PROPERLY (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

Step 33. Disconnect THAAD control valve harness, THAAD compression frame harness connector. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1461 at THAAD compression frame harness connector, terminal K and a known good ground.

If 22 to 28 vdc are present, repair wire 1461 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).

Step 34. Disconnect THAAD chassis harness, THAAD control valve harness twelve-terminal connector. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1461 at twelve-terminal connector, terminal 1 and a known good ground.

a. If 22 to 28 vdc are present, repair wire 1461 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

b. If 22 to 28 vdc is not present, repair THAAD chassis harness wire 1461 (TM 9-2320-325-14&P) or notify Supervisor.

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

WORK LIGHT(S) DO NOT OPERATE

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

None

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

TM 9-2320-325-14&P
WP 0005
WP 0058
WP 0090
WP 0091

Equipment Conditions

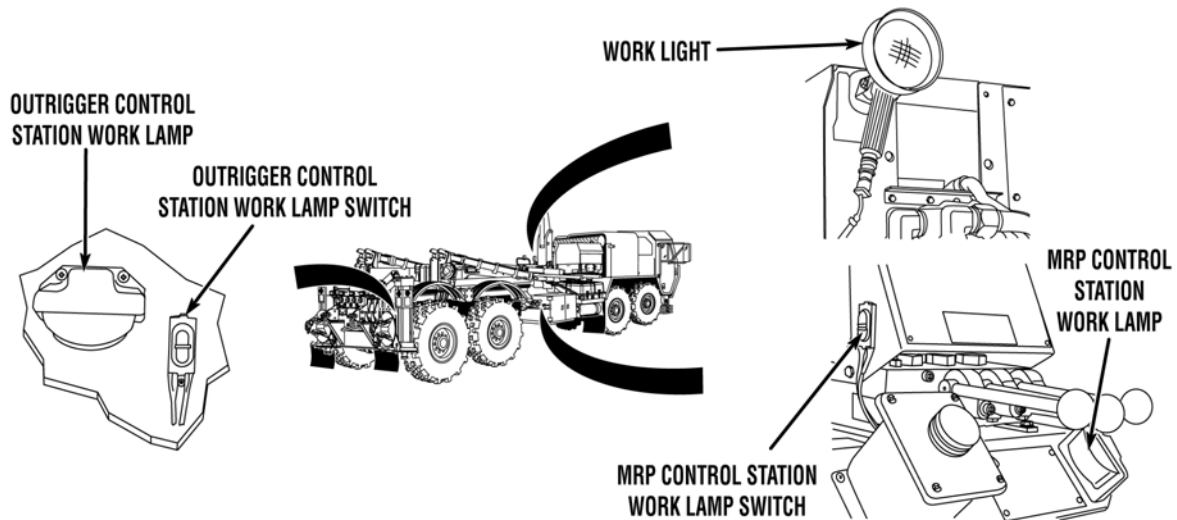
Engine OFF (TM 9-2320-347-10)
Parking brake applied (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

MALFUNCTION

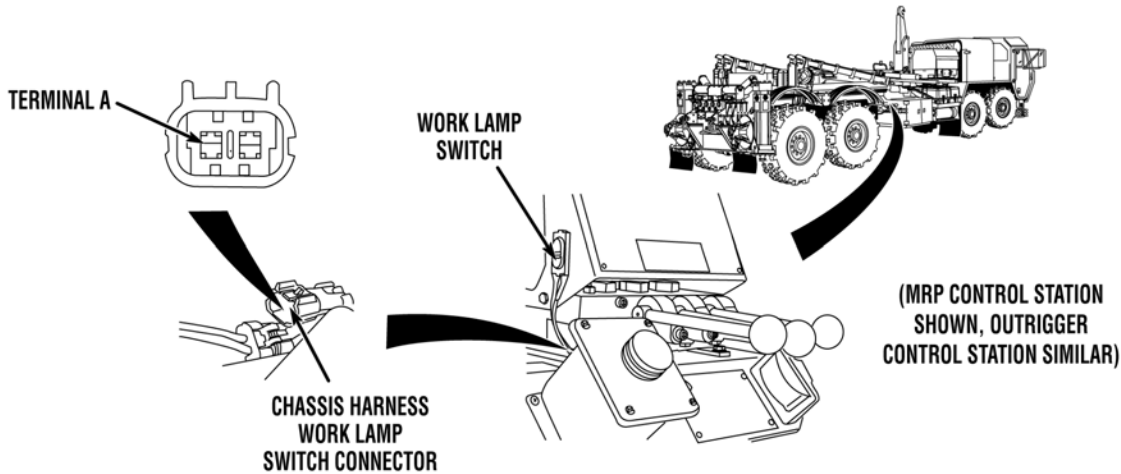
TEST OR INSPECTION

CORRECTIVE ACTION

WORK LIGHT(S) DO NOT OPERATE



- Step 1. Turn work lights on (WP 0005). Check if MRP and outrigger control station work lamps and work light operate.
- a. If MRP and outrigger control station work lamps and work light do not operate, go to Step 11.
 - b. If MRP and outrigger control station work lamps operate and work light does not operate, go to Step 6.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****WORK LIGHT(S) DO NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shocks to personnel.

NOTE

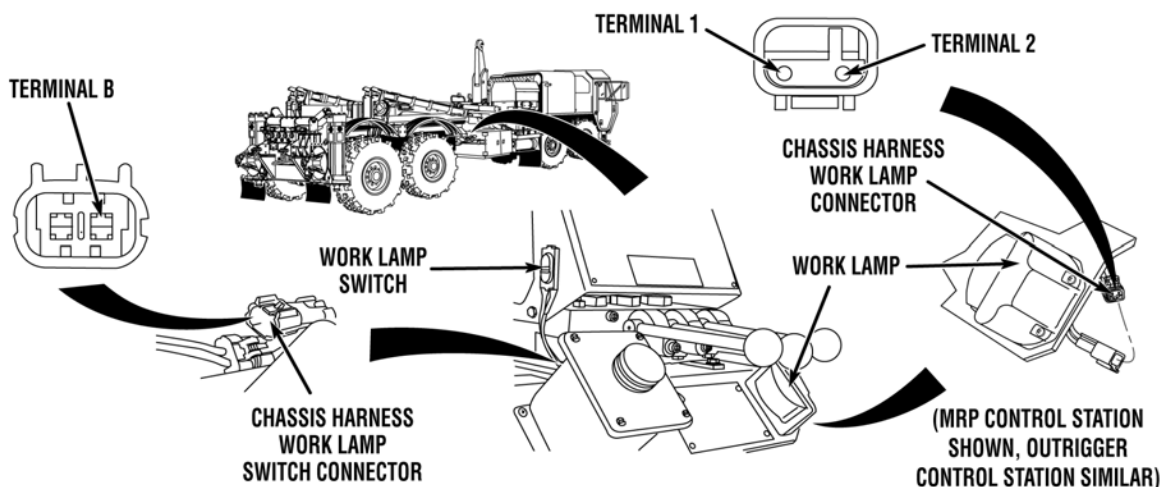
Troubleshooting for MRP and outrigger control station work lamps are similar. Troubleshooting for MRP control station work lamp shown.

- Step 2. Disconnect chassis harness connector from non-operating work lamp switch connector. Turn work lights on (WP 0005). Check for 22 to 28 vdc between wire 1040 at work lamp switch connector, terminal A and a known good ground.

If 22 to 28 vdc are not present, repair chassis harness wire 1040 (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
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WORK LIGHT(S) DO NOT OPERATE (CONTINUED)



WARNING

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shocks to personnel.

- Step 3. Disconnect chassis harness connector from non-operating work lamp. Check for continuity across wire 1040A from work lamp switch connector, terminal B to work lamp connector, terminal 1.

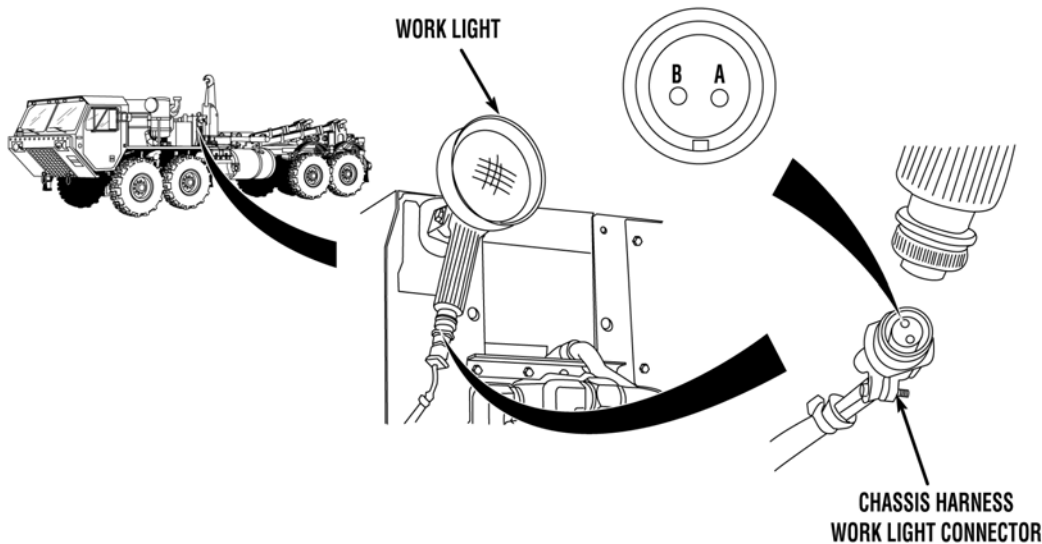
If there is no continuity, repair chassis harness wire 1040A (TM 9-2320-325-14&P) or notify Supervisor.

- Step 4. Check for continuity across chassis harness wire 1435 from work lamp connector, terminal 2 to a known good ground.

If there is no continuity, repair chassis harness wire 1435 (TM 9-2320-325-14&P) or notify Supervisor.

- Step 5. Connect chassis harness work lamp switch connector. Turn work lights and work lamp switch ON (WP 0005). Check for 22 to 28 vdc between chassis harness work lamp connector, terminals 1 (wire 1040A) and 2 (wire 1435).

- If 22 to 28 vdc are present, replace non-operating work lamp (WP 0058).
- If 22 to 28 vdc are not present, replace work light switch (WP 0090).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****WORK LIGHT(S) DO NOT OPERATE (CONTINUED)****WARNING**

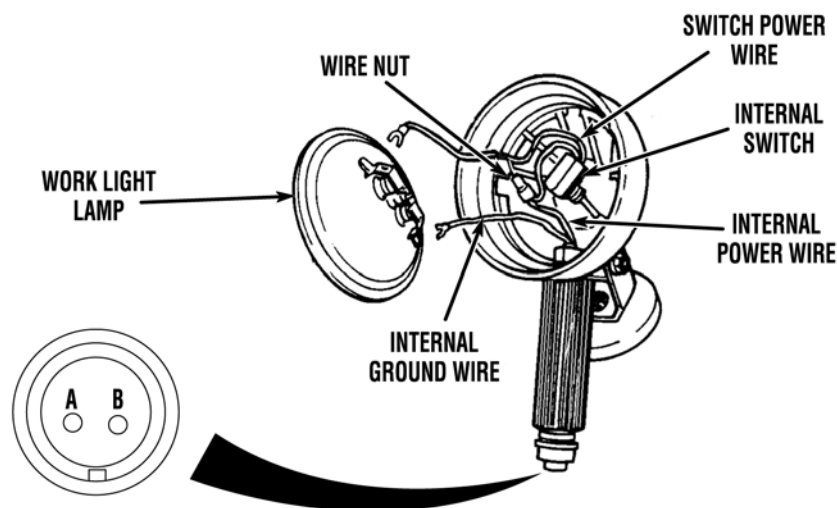
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shocks to personnel.

Step 6. Disconnect work light from chassis harness connector (WP 0091). Turn work lights on (WP 0005). Check for 22 to 28 vdc between chassis harness work light connector, terminals A (wire 1040) and B (wire 1435).

If 22 to 28 vdc are present, go to Step 8.

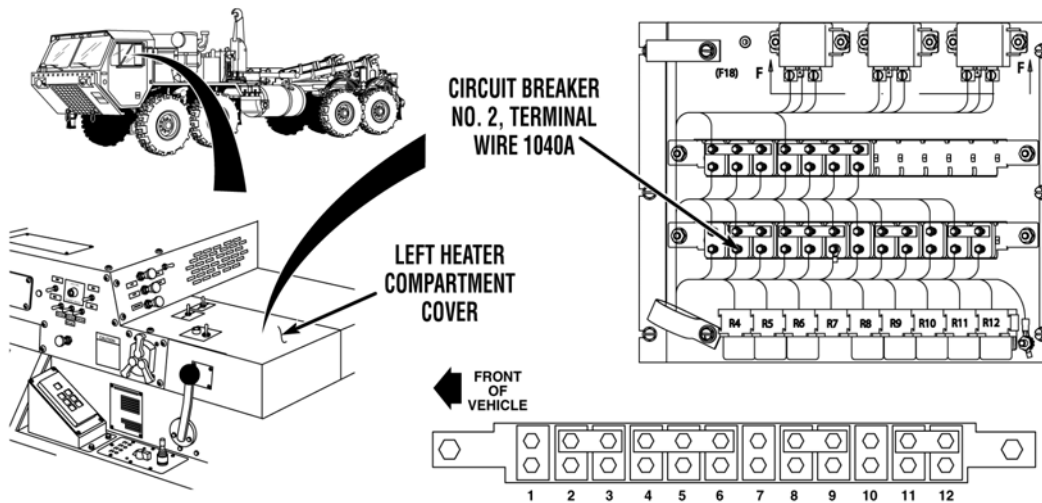
Step 7. Check for 22 to 28 vdc between wire 1040 at chassis harness work light connector, terminal A to a known good ground.

- a. If 22 to 28 vdc are present, repair chassis harness wire 1435 (TM 9-2320-325-14&P) or notify Supervisor.
- b. If 22 to 28 vdc are not present, repair chassis harness wire 1040 (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****WORK LIGHT(S) DO NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shocks to personnel.

- Step 8. Remove work light lamp (WP 0091). Check for continuity across work light lamp.
If there is no continuity, replace work light lamp (WP 0091).
- Step 9. Check for continuity across work light internal ground wire from work light lamp to work light connector, terminal B.
If there is no continuity, repair work light internal ground wire (TM 9-2320-325-14&P).
- Step 10. Remove work light switch (WP 0091). Check for continuity across work light internal power wire from work light connector, terminal A to work light switch wire termination.
- If there is continuity replace work light switch (WP 0091).
 - If there is no continuity, repair work light internal power wire TM 9-2320-325-14&P

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****WORK LIGHT(S) DO NOT OPERATE (CONTINUED)****WARNING**

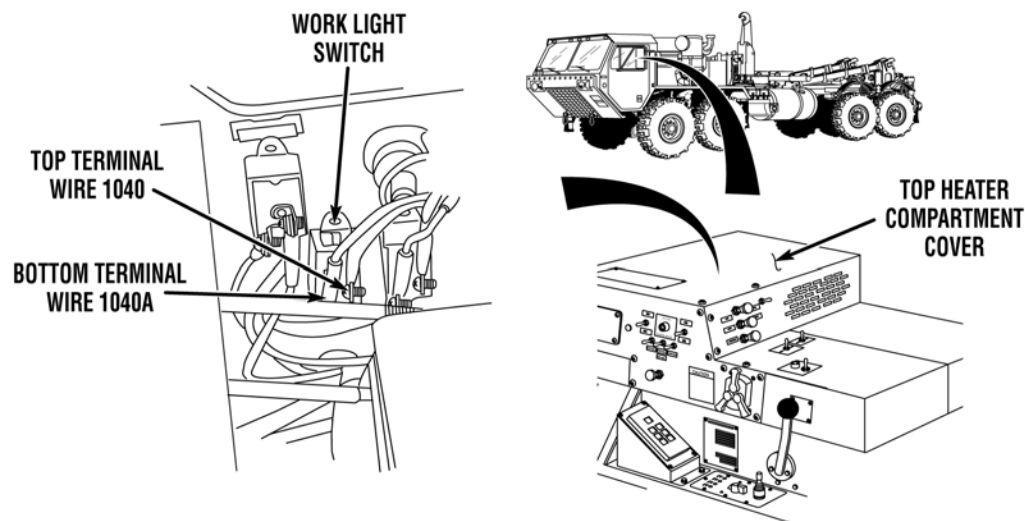
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shocks to personnel.

Step 11. Turn clearance lights on (TM 9-2320-347-10) Check if clearance lights operate.

If clearance lights do not operate, troubleshoot Clearance Lights Do Not Operate (TM 9-2320-325-14&P).

Step 12. Remove left heater compartment cover (TM 9-2320-325-14&P). Turn engine switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between circuit breaker No. 2 terminal wire 1040A and a known good ground.

If 22 to 28 vdc are not present, replace circuit breaker No. 2 (TM 9-2320-325-14&P).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****WORK LIGHT(S) DO NOT OPERATE (CONTINUED)****WARNING**

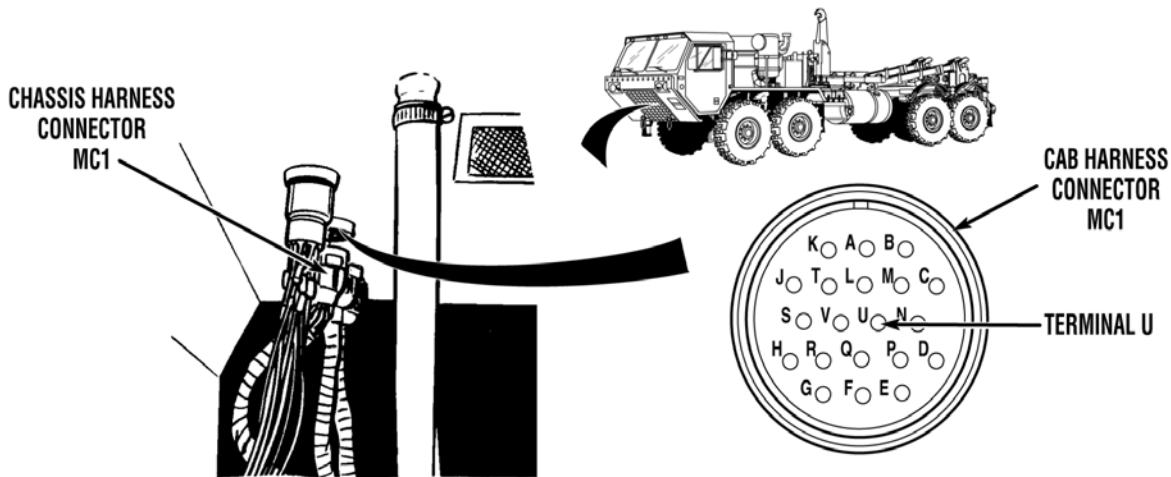
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shocks to personnel.

- Step 13. Remove top heater compartment cover (TM 9-2320-325-14&P). Turn engine switch ON (engine OFF) (TM 9-2320-347-10). Check for 22 to 28 vdc between wire 1040A at work light switch bottom terminal and a known good ground.

If 22 to 28 vdc are not present, repair wire 1040A (TM 9-2320-325-14&P) or notify Supervisor.

- Step 14. Turn work light switch ON (WP 0005). Check for 22 to 28 vdc between work light switch, terminal wire 1040 (top terminal), and a known good ground.

If 22 to 28 vdc are not present, replace work light switch (TM 9-2320-325-14&P).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****WORK LIGHT(S) DO NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shocks to personnel.

- Step 15. Disconnect chassis harness connector MC1. Turn work lights ON (WP 0005). Check for 22 to 28 vdc between wire 1040 at cab harness connector MC1, terminal U and a known good ground.
- a. If 22 to 28 vdc are present, repair chassis harness wire 1040 (TM 9-2320-325-14&P) or notify Supervisor.
 - b. If 22 to 28 vdc are not present, repair cab harness wire 1040 (TM 9-2320-325-14&P) or notify Supervisor.

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**HOOK ARM DOES NOT LOAD IN MANUAL MODE**

Tools and Special Tools

Adapter, Straight, PI (WP 0183, Item 2)
Coupling Half, Quick (WP 0183, Item 3)
Gage, Pressure, Dial (WP 0183, Item 7)
Hose Assembly, Nonme (WP 0183, Item 8)
Pan, Drain (WP 0183, Item 10)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wooden Block (2) (WP 0157, Item B-10)

Materials/Parts

None

Personnel Required

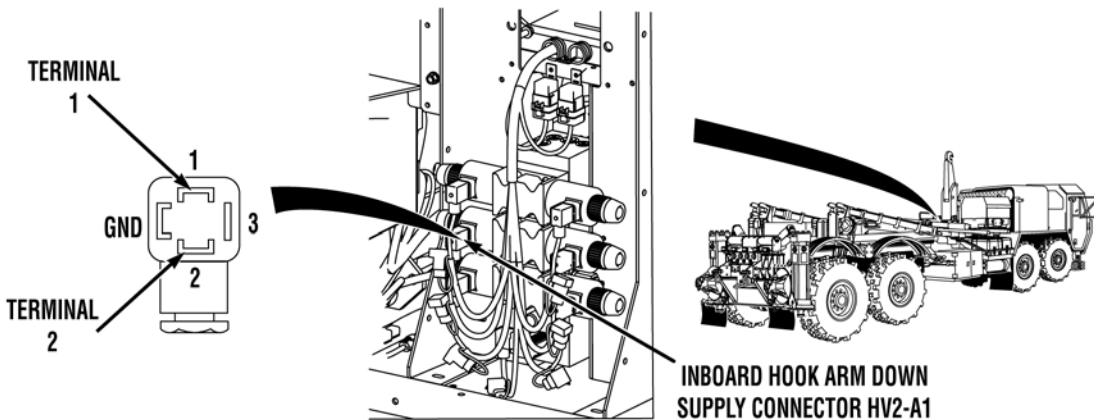
MOS 63B Wheeled vehicle mechanic (2)

References

TM 9-2320-325-14&P
WP 0012
WP 0016
WP 0088
WP 0089
WP 0119
WP 0125
WP 0128
WP 0130
WP 0145

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Parking brake applied (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****HOOK ARM DOES NOT LOAD IN MANUAL MODE****WARNING**

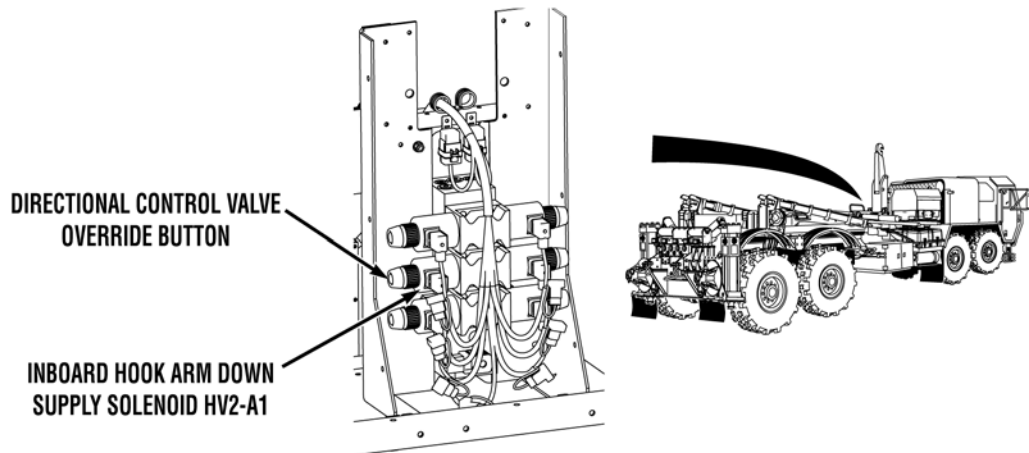
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 1. Remove main manifold valve assembly box cover (WP 0145). Disconnect THAAD control valve hook arm down harness connector HV2-A1. Turn start engine switch to ON position (engine OFF) (TM 9-2320-347-10) Position LHS cab control mode select switch to MAN HOOK ARM position (WP 0012). Soldier A checks for 22 to 28 vdc on wire 1464 between connector HV2-A1, terminal 2, and a known good ground, while Soldier B holds joystick in LOAD position.

If 22 to 28 vdc are not present, go to Step 6.

- Step 2. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across wire 1435 at THAAD control valve harness connector HV2-A1, terminal 1 to a known good ground.

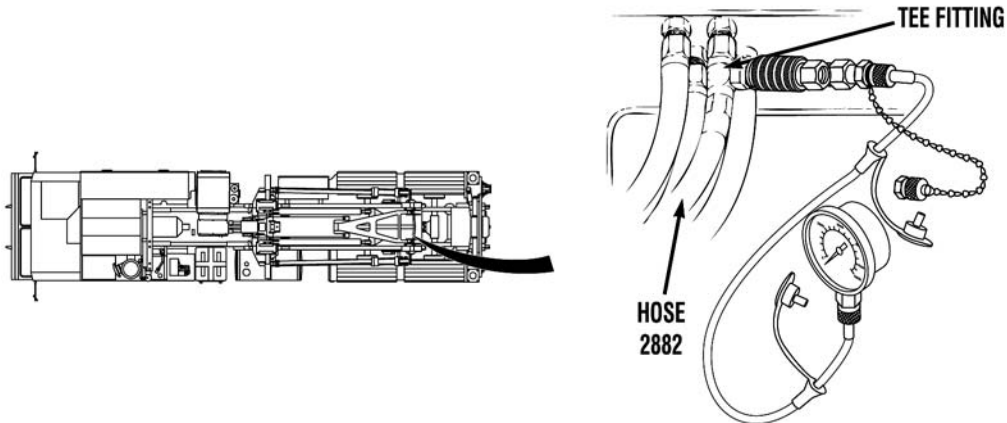
If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****HOOK ARM DOES NOT LOAD IN MANUAL MODE (CONTINUED)****CAUTION**

Engine speed must be at idle before using hydraulic select switch. Failure to comply may result in damage to equipment.

- Step 3. Connect THAAD control valve hook arm down harness connector HV2-A1. Start engine (TM 9-2320-347-10) Check if hook arm loads while depressing and holding hook arm down directional control valve override button (TM 9-2320-347-10) Note hook arm operation. Shut off engine (TM 9-2320-347-10)

If hook arm loads, replace main frame directional control valve (WP 0125).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****HOOK ARM DOES NOT LOAD IN MANUAL MODE (CONTINUED)****WARNING**

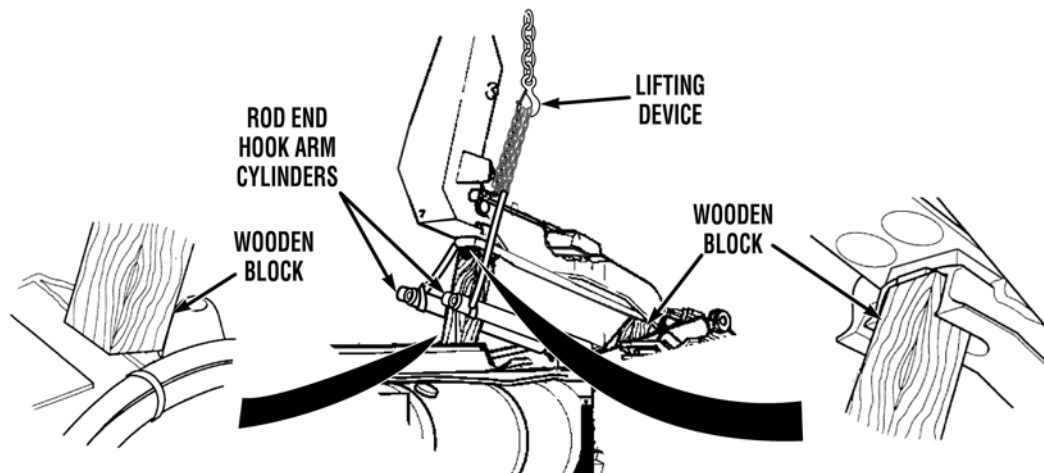
The THAAD hydraulic system operates up to 3,100 psi (21,374 kPa). Never disconnect any hydraulic line or fitting without first dropping system pressure to zero. Failure to comply may result in serious injury or death to personnel.

CAUTION

Engine speed must be at idle before using hydraulic select switch. Failure to comply may result in damage to equipment.

- Step 4. Disconnect hose 2882 from fitting at rear of main frame. Install pressure gage with tee fitting between hose 2882 and main frame bulkhead fitting. Soldier A starts engine (TM 9-2320-347-10) while Soldier B attempts to load hook arm using emergency procedure (WP 0016), check pressure gage and note reading. Shut off engine (TM 9-2320-347-10) Remove pressure gage and tee fitting. Install hose 2882 (WP 0119).

If 3,100 psi (21, 374 kPa) are not present, replace directional control valve (WP 0125).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****HOOK ARM DOES NOT LOAD IN MANUAL MODE (CONTINUED)****WARNING**

Main frame and hook arm combined weight is 2,100 lbs (953 kg). Main frame must be raised with a suitable lifting device and supported with two wooden blocks. Failure to comply may result in serious injury or death to personnel.

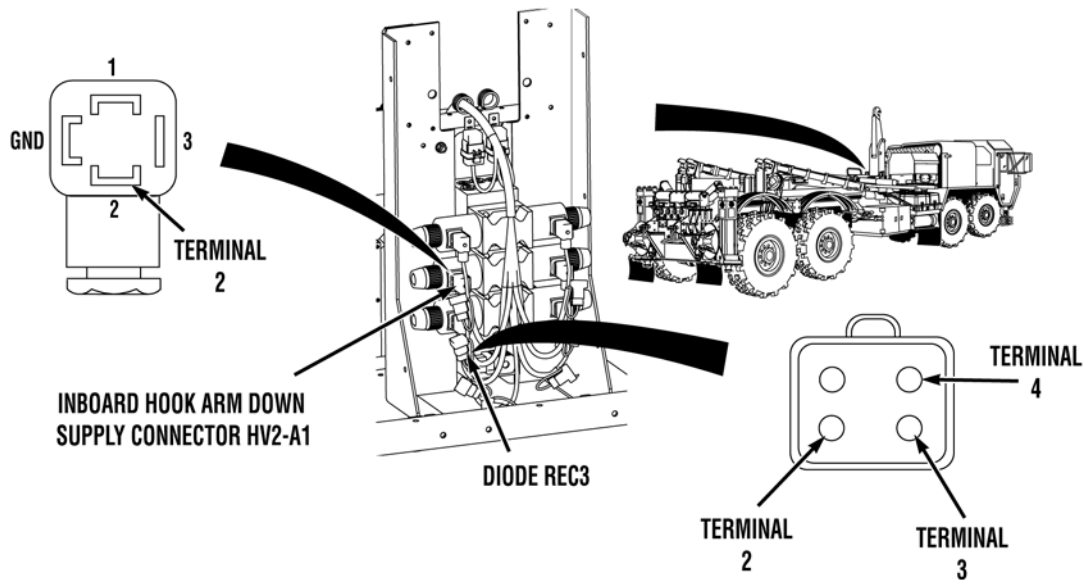
WARNING

To relieve pressure from hook arm manifolds, only crack the counterbalance valves and do not remove. Failure to comply may result in serious injury or death to personnel.

NOTE

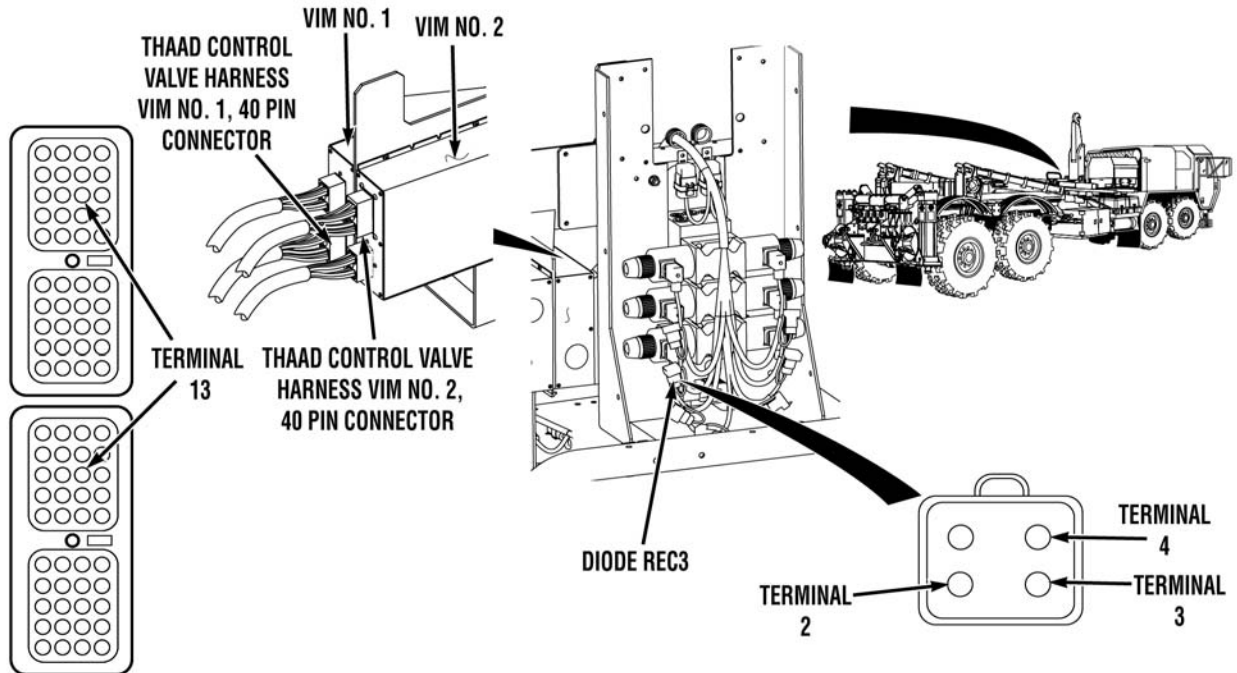
It may be necessary to crack counterbalance valves on hook arm manifolds to relieve pressure, so that rod end of cylinders may be disconnected from hook arm.

- Step 5. Turn engine switch to ON position (engine OFF) (TM 9-2320-347-10) Turn LHS cab mode select switch to MAN TRANSIT position (WP 0016). With suitable lifting device, Soldier A and Soldier B raise hook arm and block in two places with wooden blocks (WP 0130). Turn engine switch to OFF position (TM 9-2320-347-10) With suitable lifting device, Soldier A and Soldier B remove rod end of both hook arm cylinders from hook arm (WP 0128) and lower rod end of cylinder to clear rubber bumpers and hook arm proximity switch flag. Start engine (TM 9-2320-347-10) While Soldier A attempts to load hook arm using emergency procedures (WP 0016), Soldier B notes operation of hook arm cylinders. Shut off engine (TM 9-2320-347-10)
- a. If one hook arm cylinder does not retract, replace non-retracting hook arm cylinder manifold (WP 0130).
 - b. If both hook arm cylinders do not retract, notify Supervisor (CLS Item).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****HOOK ARM DOES NOT LOAD IN MANUAL MODE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 6. Disconnect diode REC3. Turn engine start switch to ON position (engine OFF) (TM 9-2320-347-10) Position LHS cab control mode select switch to MAN HOOK ARM position (WP 0016). Soldier A checks for 22 to 28 vdc between wires 1467A and 1467B at THAAD control valve harness rectifier REC3 connector, terminals 2 and 3 and a known good ground, while Soldier B holds LHS control joystick in LOAD position. Note readings.
- If 22 to 28 vdc are not present on both wires, notify Supervisor.
 - If 22 to 28 vdc are present on both wires, perform Step 7 only.
 - If 22 to 28 vdc are present on one wire, perform Steps 7 through 9.
- Step 7. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across THAAD control valve harness wire 1464 from connector REC3, terminal 4 to connector HV2-B1, terminal 2.
- If there is continuity, replace diode REC3 (WP 0088).
 - If there is no continuity, repair wire 1464 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****HOOK ARM DOES NOT LOAD IN MANUAL MODE (CONTINUED)****WARNING**

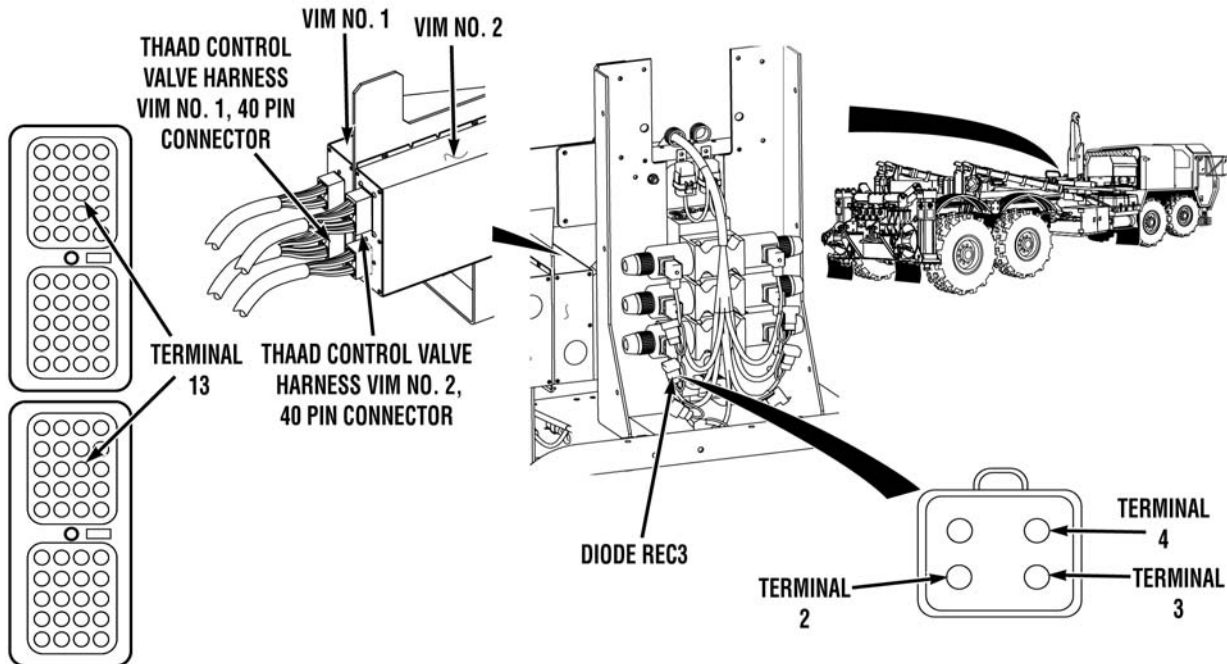
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

- Perform Step 8 if 22 to 28 vdc are not present on wire 1467A at connector REC3, terminal 2 in Step 6.
- Perform Step 8 if 22 to 28 vdc are not present on wire 1467B at connector REC3, terminal 2 in Step 6.

Step 8. Disconnect THAAD control valve harness VIM No. 1, 40 pin connector (WP 0089). Check for continuity across wire 1467A from VIM No. 1, 40 pin connector, terminal 13 to REC3 connector, terminal 2.

- If there is continuity, replace VIM No. 1 (WP 0089).
- If there is no continuity, repair wire 1467A (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****HOOK ARM DOES NOT LOAD IN MANUAL MODE (CONTINUED)**

- Step 9. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Check for continuity across wire 1467B from VIM No. 2, 40 pin connector, terminal 13 to REC3 connector, terminal 3.
- a. If there is continuity, replace VIM No. 2 (WP 0089).
 - b. If there is no continuity, repair wire 1467B (TM 9-2320-347-10) or replace THAAD control valve harness (WP 0088).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**HOOK ARM DOES NOT UNLOAD IN MANUAL MODE**

Tools and Special Tools

Adapter, Straight, PI (WP 0183, Item 2)
Coupling Half, Quick (WP 0183, Item 3)
Gage, Pressure, Dial (WP 0183, Item 7)
Hose Assembly, Nonme (WP 0183, Item 8)
Pan, Drain (WP 0183, Item 10)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wooden Block (2) (WP 0157, Item B-11)

Materials/Parts

None

Personnel Required

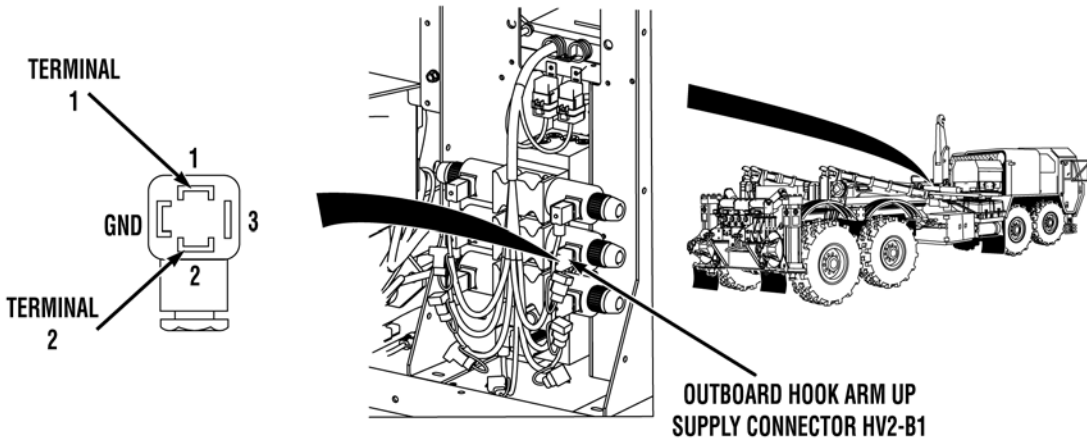
MOS 63B Wheeled vehicle mechanic (2)

References

TM 9-2320-325-14&P
WP 0011
WP 0012
WP 0016
WP 0088
WP 0089
WP 0119
WP 0125
WP 0128
WP 0130
WP 0145

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Parking brake applied (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****HOOK ARM DOES NOT UNLOAD IN MANUAL MODE****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

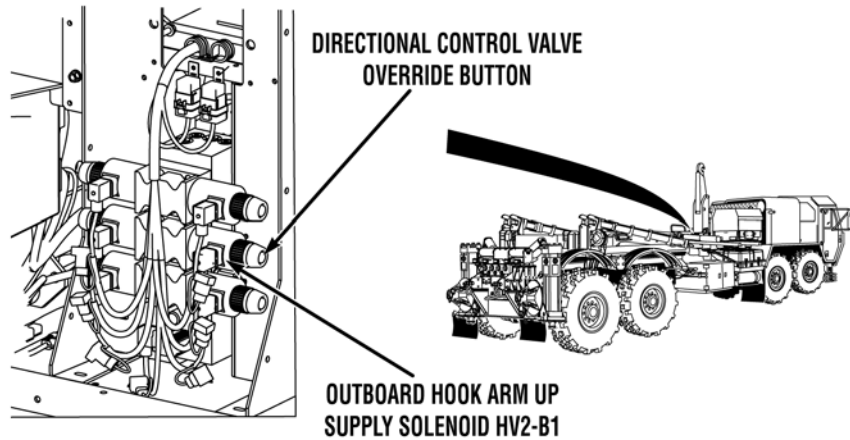
- Step 1. Remove main manifold valve assembly box cover (WP 0145). Disconnect THAAD control valve hook arm up harness connector HV2-B1. Turn start engine switch to ON position (engine OFF) (TM 9-2320-347-10) Position LHS cab control mode select switch to MAN HOOK ARM position (WP 0012). Soldier A checks for 22 to 28 vdc on wire 1464 between connector HV2-B1, terminal 2, and a known good ground, while Soldier B holds joystick in UNLOAD position.

If 22 to 28 vdc are not present, go to Step 6.

- Step 2. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across wire 1435 at THAAD control valve harness connector HV2-B1, terminal 1 to a known good ground.

If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

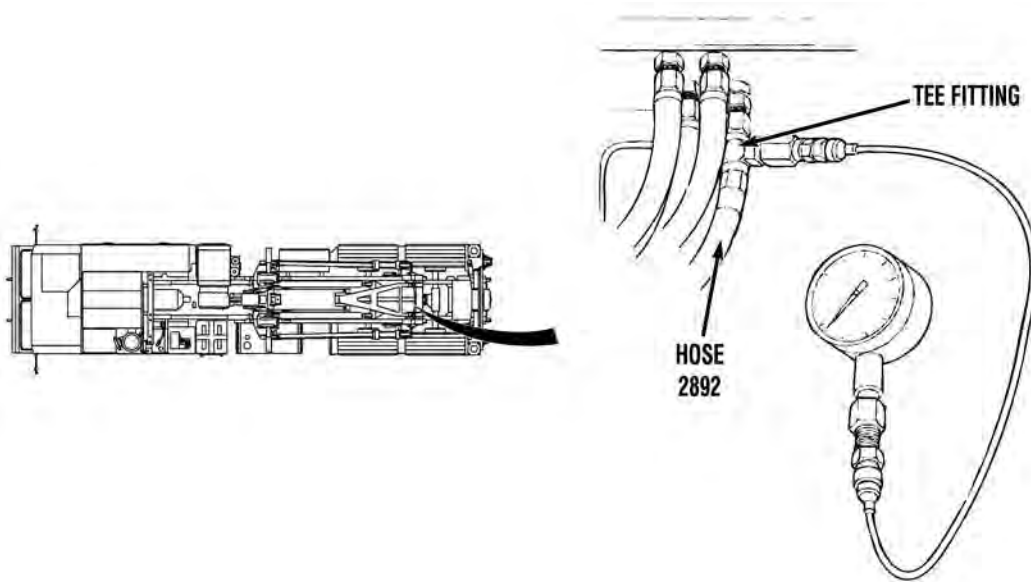
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

HOOK ARM DOES NOT UNLOAD IN MANUAL MODE (CONTINUED)**CAUTION**

Engine speed must be at idle before using hydraulic select switch. Failure to comply may result in damage to equipment.

- Step 3. Connect THAAD control valve hook arm down harness connector HV2-B1. Start engine (TM 9-2320-347-10). Turn PTO switch to ON position (WP 0011). Press hook arm up control valve override button. Check if hook arm unloads. Shut off engine (TM 9-2320-347-10)

If hook arm unloads, replace main frame directional control valve (WP 0125).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****HOOK ARM DOES NOT UNLOAD IN MANUAL MODE (CONTINUED)****WARNING**

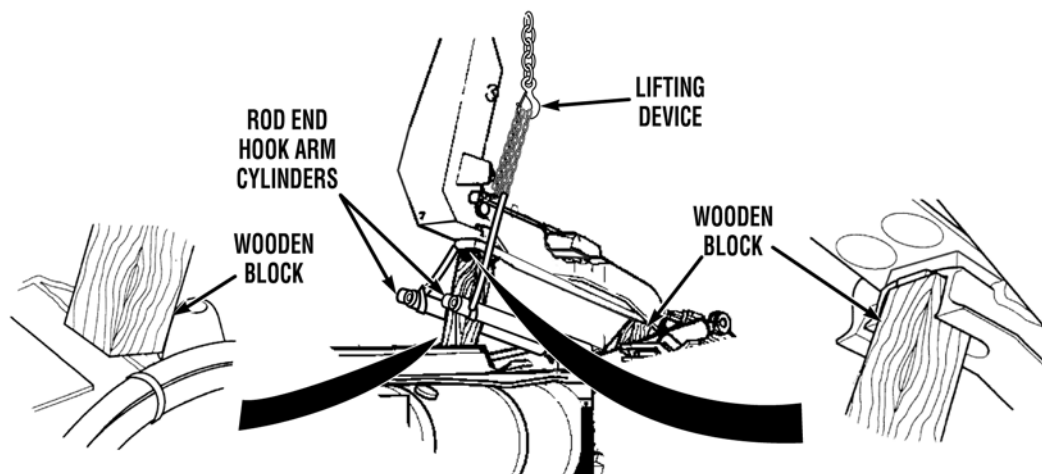
The THAAD hydraulic system operates up to 3,100 psi (21,374 kPa). Never disconnect any hydraulic line or fitting without first dropping system pressure to zero. Failure to comply may result in serious injury or death to personnel.

CAUTION

Engine speed must be at idle before using hydraulic select switch. Failure to comply may result in damage to equipment.

- Step 4. Disconnect hose 2892 from fitting at rear of main frame. Install pressure gage with tee fitting between hose 2892 and main frame bulkhead fitting. Start engine (TM 9-2320-347-10) While Soldier A attempts to unload hook arm using emergency procedure (WP 0016), Soldier B checks pressure gage and notes reading. Shut off engine (TM 9-2320-347-10) Remove pressure gage and tee fitting. Install hose 2892 (WP 0119).

If 3,100 psi (21, 374 kPa) are not present, replace directional control valve (WP 0125).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****HOOK ARM DOES NOT UNLOAD IN MANUAL MODE (CONTINUED)****WARNING**

Main frame and hook arm combined weight is 2,100 lbs (953 kg). Main frame must be raised with a suitable lifting device and supported with two wooden blocks. Failure to comply may result in serious injury or death to personnel.

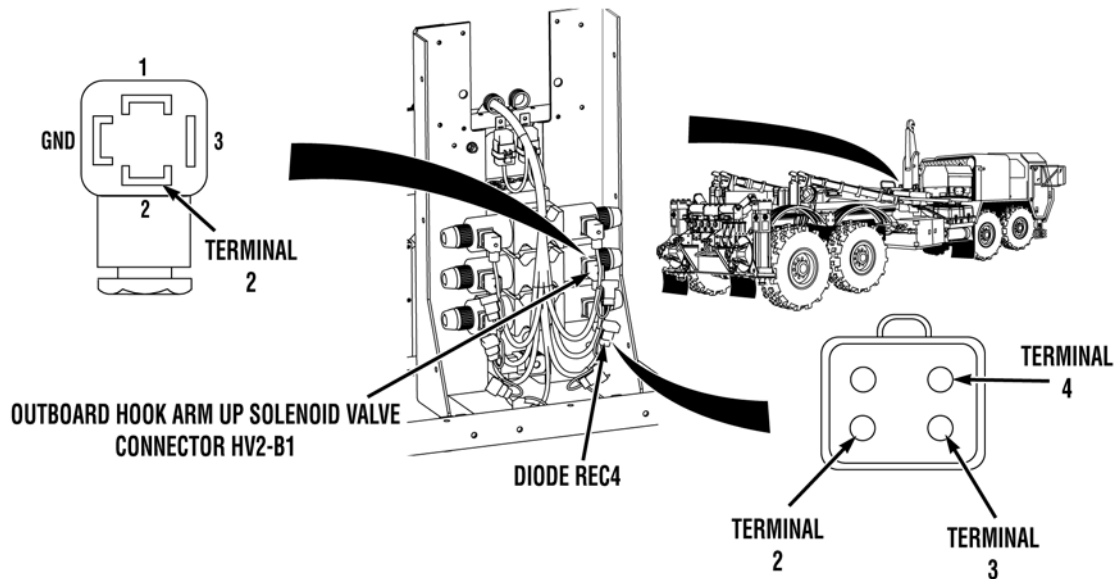
WARNING

To relieve pressure from hook arm manifolds, only crack the counterbalance valves and do not remove. Failure to comply may result in serious injury or death to personnel.

NOTE

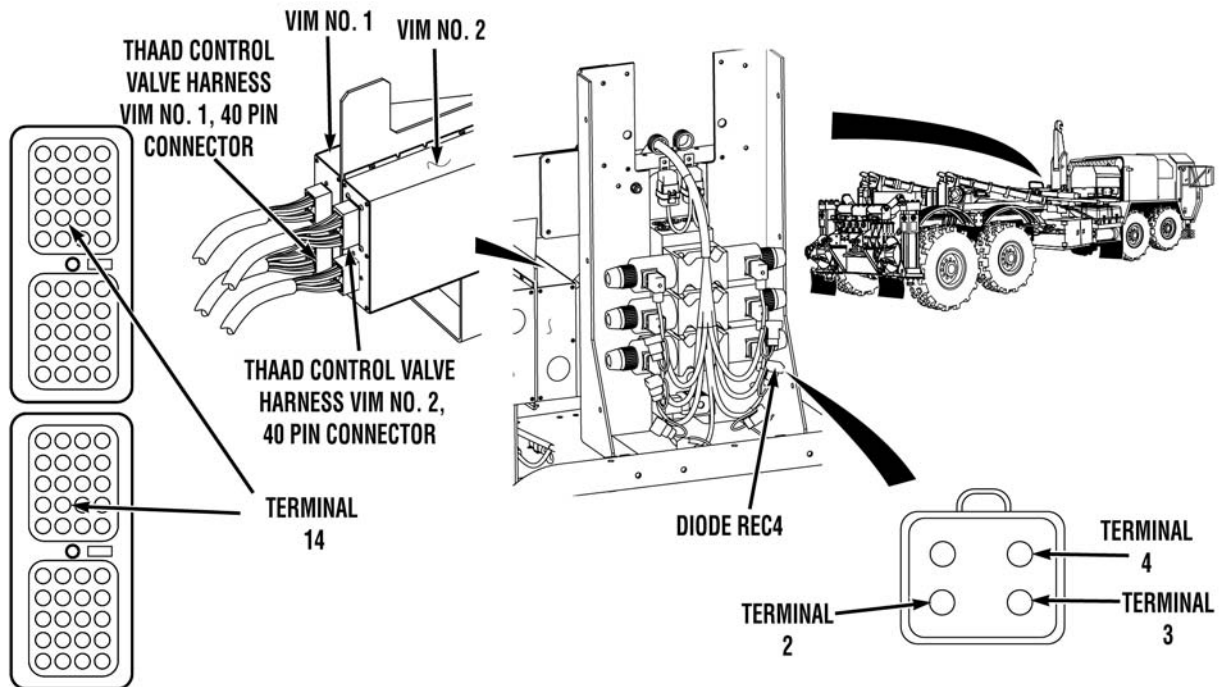
It may be necessary to crack the counterbalance valves on the hook arm manifolds to relieve pressure, so that the rod end of the cylinders may be disconnected from the hook arm.

- Step 5. Turn engine switch to ON position (engine OFF) (TM 9-2320-347-10) Turn LHS cab mode select switch to MAN TRANSIT position (WP 0016). With suitable lifting device, Soldier A and Soldier B raise hook arm and block in two places with wooden blocks (WP 0130). Turn engine switch to OFF position (TM 9-2320-347-10) With suitable lifting device, Soldier A and Soldier B remove rod end of both hook arm cylinders from hook arm (WP 0128) and lower rod end of cylinder to clear rubber bumpers and hook arm proximity switch flag. Start engine (TM 9-2320-347-10) While Soldier A attempts to unload hook arm using emergency procedures (WP 0016), Soldier B notes operation of hook arm cylinders. Shut off engine (TM 9-2320-347-10)
- a. If one hook arm cylinder does not extend, replace non-extending hook arm cylinder manifold (WP 0130).
 - b. If both hook arm cylinders do not extend, notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****HOOK ARM DOES NOT UNLOAD IN MANUAL MODE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 6. Disconnect diode REC4. Turn engine start switch to ON position (engine OFF) (TM 9-2320-347-10) Position LHS cab control mode select switch to MAN HOOK ARM position (WP 0016). Soldier A checks for 22 to 28 vdc between wires 1464A and 1464B at THAAD control valve harness rectifier REC4 connector, terminals 2 and 3 and a known good ground, while Soldier B holds LHS control joystick in UNLOAD position. Note readings.
- If 22 to 28 vdc are not present on both wires, notify Supervisor.
 - If 22 to 28 vdc are present on both wires, perform Step 7 only.
 - If 22 to 28 vdc are present on one wire, perform Steps 7 through 9.
- Step 7. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across THAAD control valve harness wire 1467 from connector REC4, terminal 4 to connector HV2-B1, terminal 2.
- If there is continuity, replace diode REC4 (WP 0088).
 - If there is no continuity, repair wire 1467 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****HOOK ARM DOES NOT UNLOAD IN MANUAL MODE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

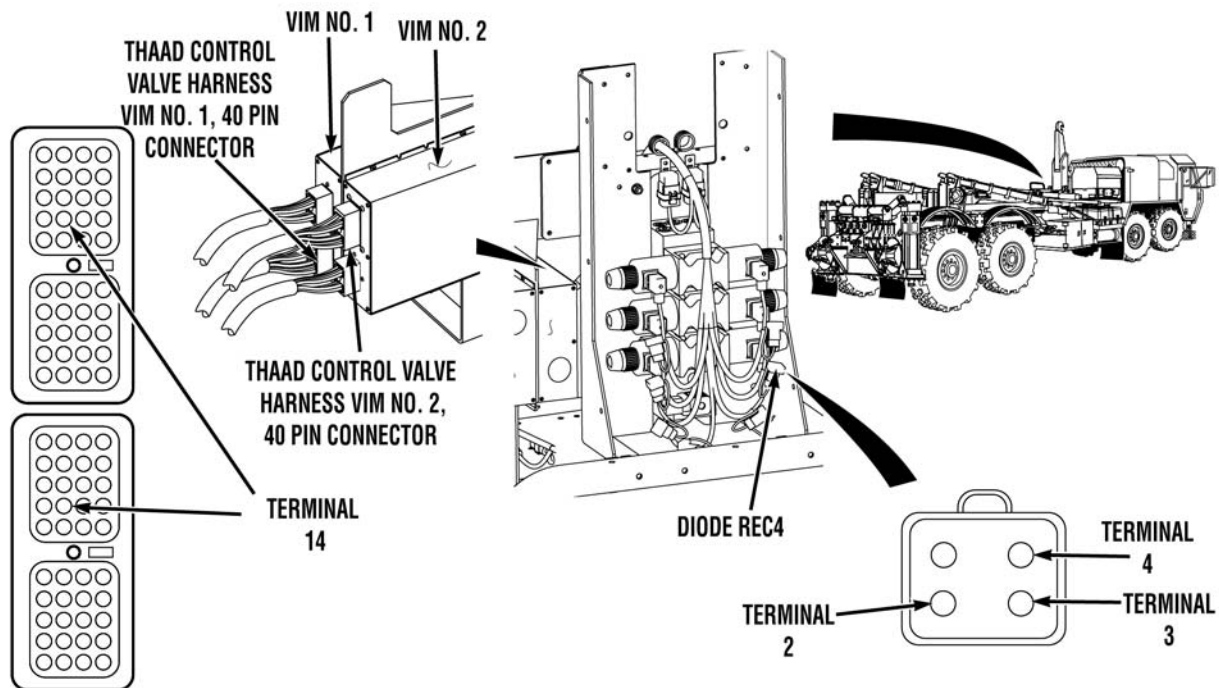
- Perform Step 8 if 22 to 28 vdc are not present on wire 1464B at connector REC4, terminal 3 in Step 6.
 - Perform Step 8 if 22 to 28 vdc are not present on wire 1464A at connector REC4, terminal 2 in Step 6.
- Step 8. Disconnect THAAD control valve harness VIM No. 1, 40 pin connector (WP 0089). Check for continuity across wire 1464A from VIM No. 1, 40 pin connector, terminal 14 to REC4 connector, terminal 2.
- a. If there is continuity, replace VIM No. 1 (WP 0089).
 - b. If there is no continuity, repair wire 1464A (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

HOOK ARM DOES NOT UNLOAD IN MANUAL MODE (CONTINUED)



- Step 9. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Check for continuity across wire 1464B from VIM No. 2, 40 pin connector, terminal 14 to REC4 connector, terminal 3.
- a. If there is continuity, replace VIM No. 2 (WP 0089).
 - b. If there is no continuity, repair wire 1464B (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

LHS AND MRP DO NOT OPERATE

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

None

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

TM 9-2320-325-14&P
WP 0010
WP 0011
WP 0012

References (Continued)

WP 0016
WP 0022
WP 0030
WP 0032
WP 0088
WP 0089
WP 0119
WP 0127

Equipment Conditions

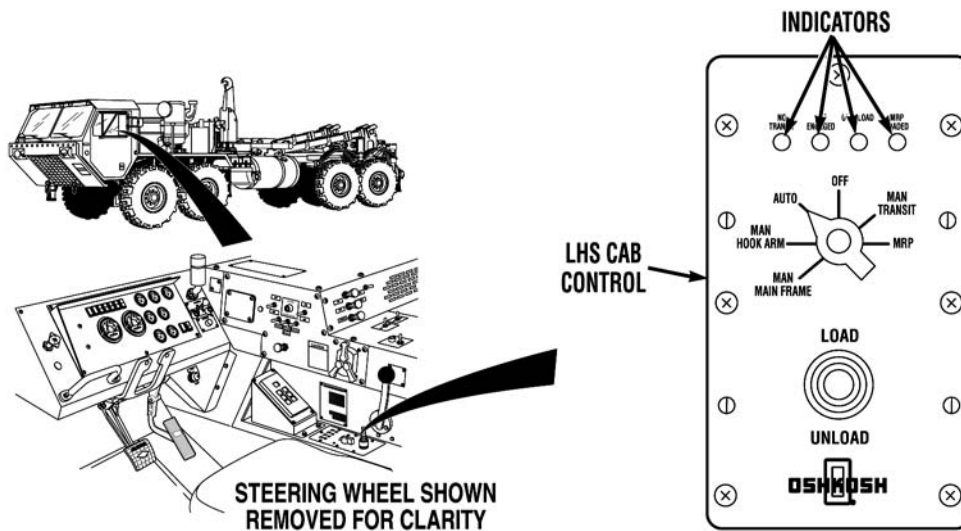
Engine OFF (TM 9-2320-347-10)
Parking brake applied (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

LHS AND MRP DO NOT OPERATE



Step 1. Check if LHS cab control indicator lights illuminate red for five seconds when the engine start switch is turned to the ON position (TM 9-2320-347-10)

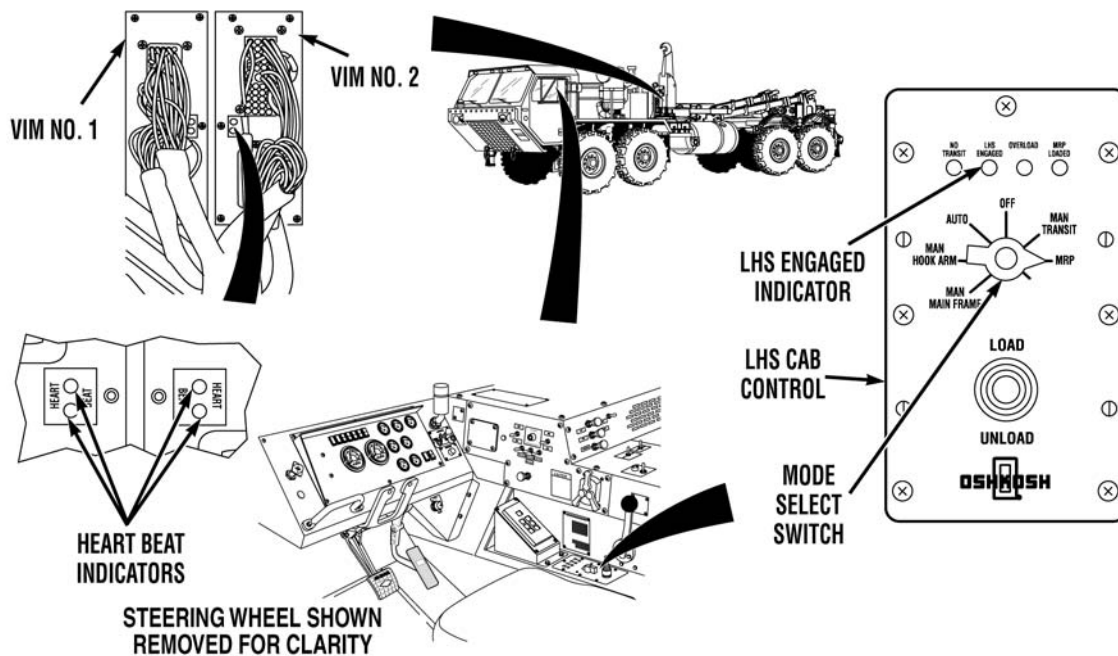
If indicator lights do not illuminate, troubleshoot LHS Cab Control Fails Self Test or No VIM Heart Beat Indication (WP 0030).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

LHS AND MRP DO NOT OPERATE (CONTINUED)



NOTE

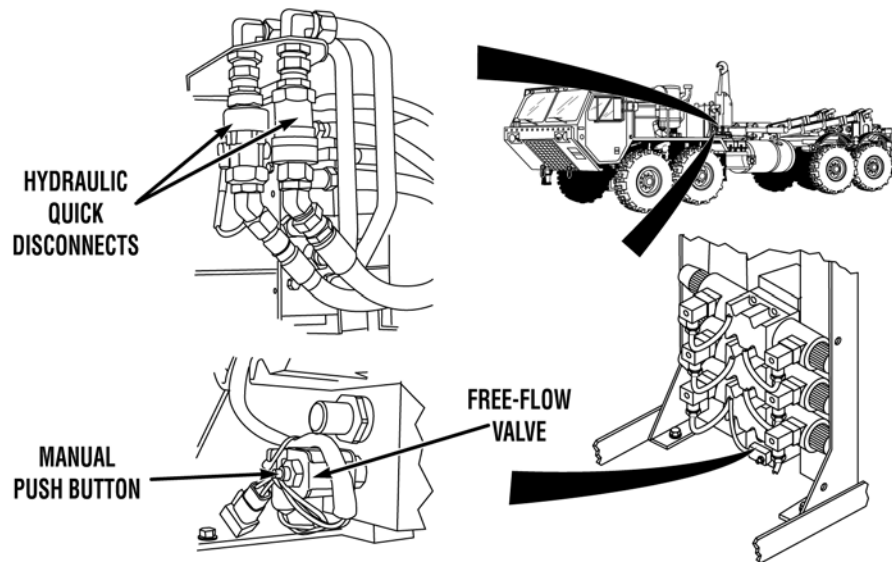
Each VIM has two HEART BEAT indicator lights. One HEART BEAT indicator light will steadily illuminate steady and the second HEART BEAT indicator will flash, when the VIM is operating correctly.

- Step 2. Check if one HEART BEAT indicator light is illuminated and the second HEART BEAT indicator light is flashing on both VIMs.

If the HEART BEAT indicator lights are not illuminated as indicated on both VIMs, troubleshoot LHS Cab Control Fails Self Test or No VIM Heart Beat Indication (WP 0030).

- Step 3. Position LHS cab control mode select switch to MRP position (WP 0012). Check if LHS cab control LHS ENGAGED indicator light illuminates.

If LHS cab control LHS ENGAGED indicator light does not illuminate, troubleshoot LHS ENGAGED Indicator Light Does Not Operate (WP 0022).

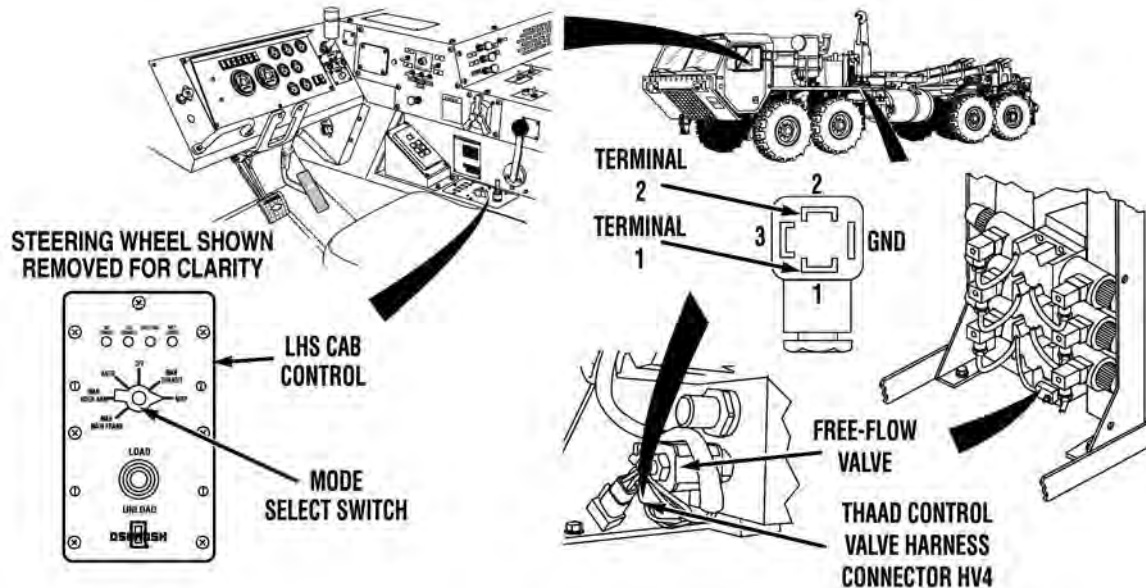
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS AND MRP DO NOT OPERATE (CONTINUED)**

- Step 4. Check if hydraulic quick disconnect couplings are connected correctly.
Reconnect quick disconnect coupling (WP 0016).
- Step 5. Check if manual pushbutton on free-flow valve can be pushed in.
Replace free-flow valve (WP 0127).
- Step 6. Start engine (TM 9-2320-347-10) Check if ground rod driver operates (WP 0010).
If ground rod driver operates, troubleshoot LHS Does Not Operate (WP 0032).

NOTE

MRP elevation cylinders must be in their fully stowed position and rack locks must be disengaged to operate LHS.

- Step 7. Check if LHS operates with free-flow valve bypassed (WP 0016).
If LHS does not operate, go to Step 18.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS AND MRP DO NOT OPERATE (CONTINUED)****WARNING**

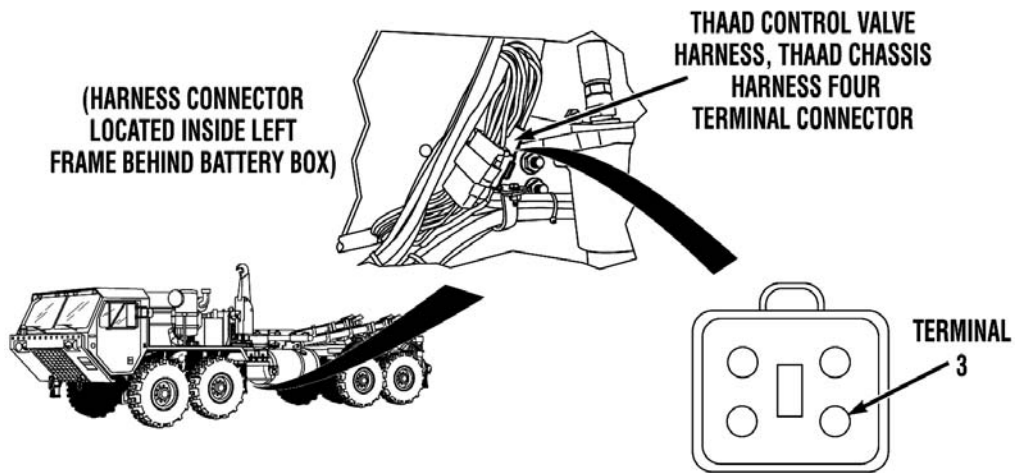
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 8. Shut off engine (TM 9-2320-347-10) Disconnect THAAD control valve harness connector HV4. Turn engine start switch ON (TM 9-2320-347-10) Position LHS cab control mode select switch to MRP position (WP 0012). Check for 22 to 28 vdc between wire 1462 at connector HV4, terminal 2 and a known good ground.

If 22 to 28 vdc are not present, go to Step 11.

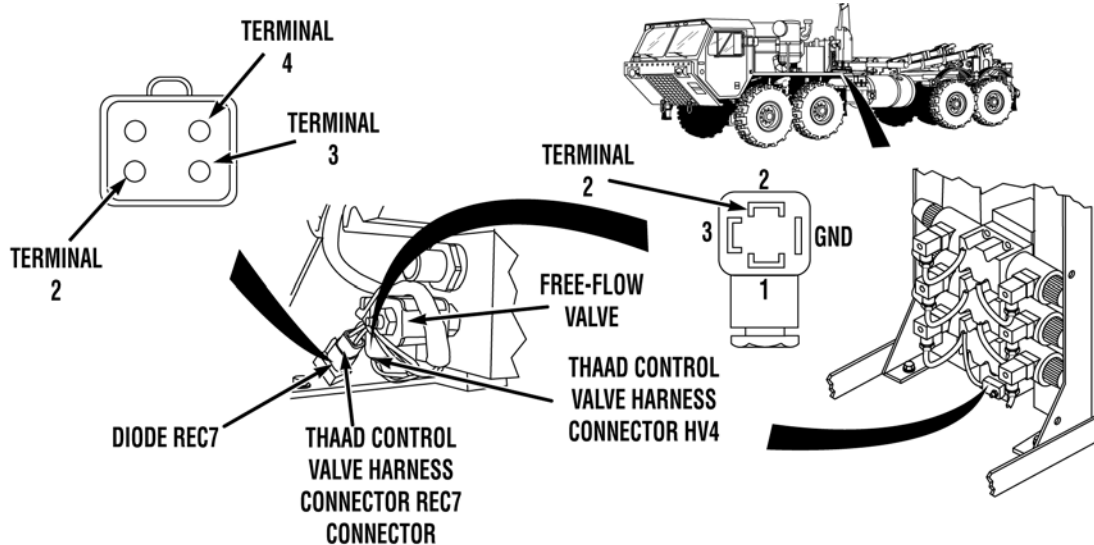
- Step 9. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across wire 1435 from THAAD control valve harness connector HV4, terminal 1 and a known good ground.

If there is continuity, replace free-flow valve (WP 0127).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS AND MRP DO NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 10. Disconnect THAAD chassis harness, THAAD control valve harness four terminal connector. Check for continuity across wire 1435 from four terminal connector, terminal 3 to a known good ground.
- a. If there is continuity, repair wire 1935 TM 9-2320-325-14&P or replace THAAD control valve harness (WP 0088).
 - b. If there is no continuity, repair THAAD chassis harness wire 1935 (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS AND MRP DO NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

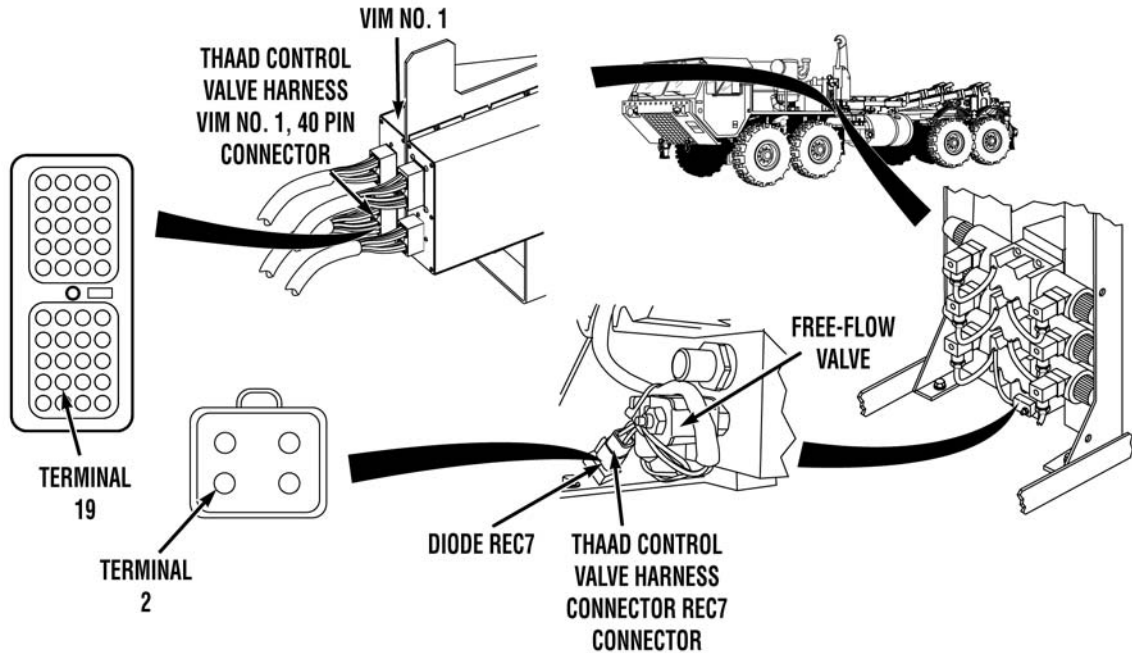
Due to system redundancy, the valve control signal is required from only one of the VIMs for proper system operation. The following steps check the valve control circuit from both VIMs, to ensure system integrity.

Step 11. Disconnect diode REC7. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc on wires 1462A and 1462B at THAAD control valve harness connector REC7, terminals 2 and 3 and a known good ground. Note readings.

- a. If 22 to 28 vdc is not present on both wires, go to Step 15.
- b. If 22 to 28 vdc is present on both wires, perform Step 12 only.
- c. If 22 to 28 vdc is present on one wire, perform Steps 12 through 14.

Step 12. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across THAAD control valve harness wire 1462 between connector REC7, terminal 4 and connector HV4, terminal 2.

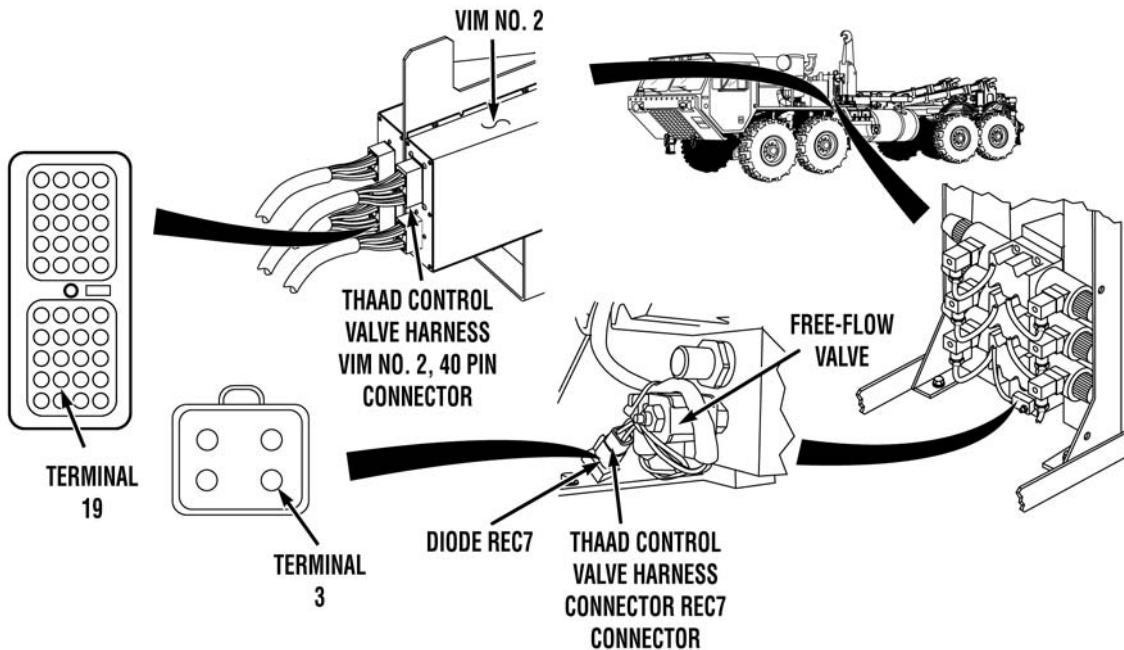
- a. If there is continuity, replace diode REC7 (WP 0088).
- b. If there is no continuity, repair wire 1462 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS AND MRP DO NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

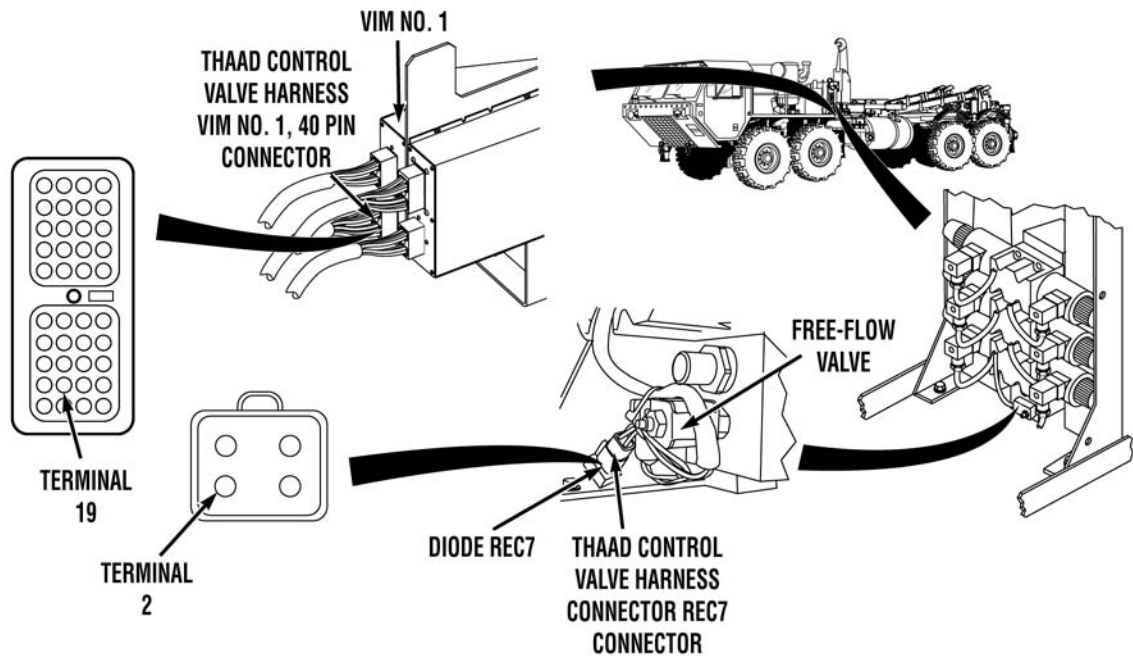
NOTE

- Perform Step 13 if no vdc is present on wire 1462A at connector REC7, terminal 2 in Step 11.
 - Perform Step 14 if no vdc is present on wire 1462B at connector REC7, terminal 3 in Step 11.
- Step 13. Disconnect THAAD control valve harness VIM No. 1, 40 pin connector (WP 0089). Check for continuity across wire 1462A from VIM No. 1, 40 pin connector, terminal 19 to connector REC7, terminal 2.
- a. If there is continuity, replace VIM No. 1 (WP 0089).
 - b. If there is no continuity, repair wire 1462A (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS AND MRP DO NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

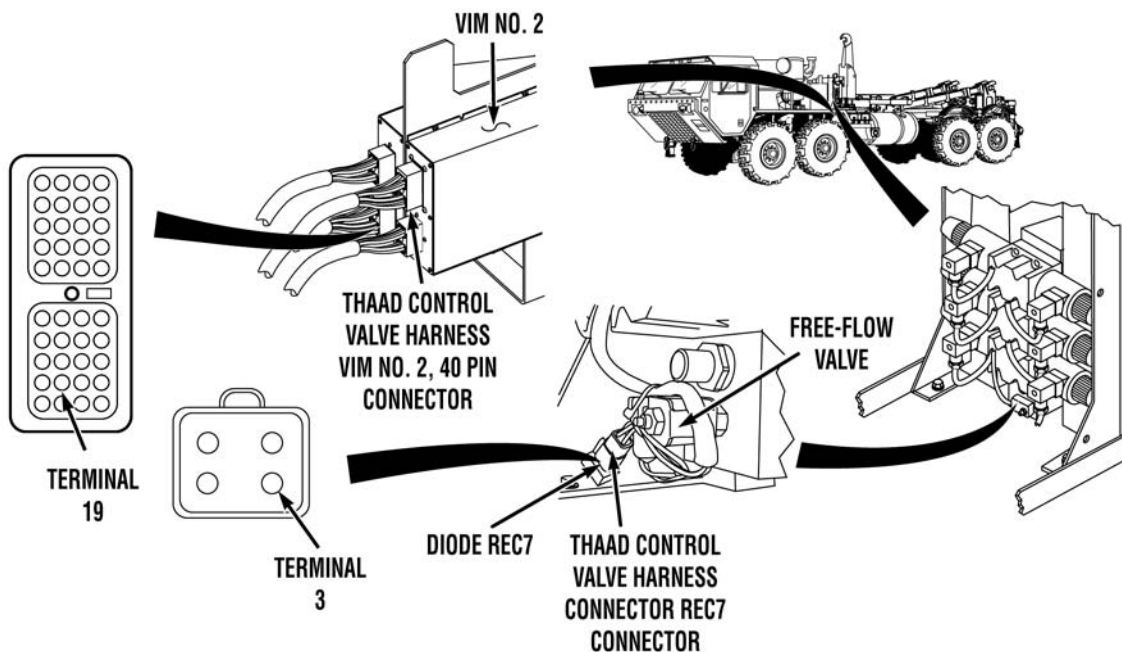
- Step 14. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Check for continuity across wire 1462B from VIM No. 2, 40 pin connector, terminal 19 to connector REC7, terminal 3.
- a. If there is continuity, replace VIM No. 2 (WP 0089).
 - b. If there is no continuity, repair wire 1462B (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 15. Disconnect THAAD control valve harness VIM No. 1, 40 pin connector (WP 0089). Check for continuity across wire 1462A from VIM No. 1, 40 pin connector, terminal 19 to connector REC7, terminal 2.

If there is no continuity, repair wire 1462A (TM 9-2320-325-14&P) and go to Step 16, or replace THAAD control valve harness (WP 0088) and go to Step 17.

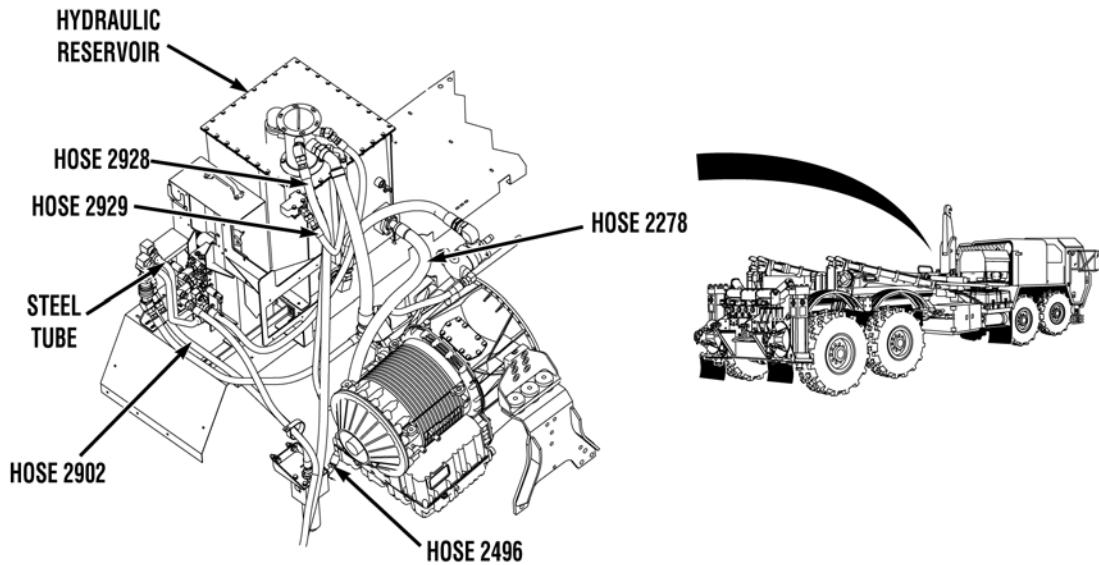
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS AND MRP DO NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 16. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Check for continuity across wire 1462B from VIM No. 2, 40 pin connector, terminal 19 to connector REC7, terminal 3.

If there is no continuity, repair wire 1462B (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088), and go to Step 17.

- Step 17. Connect all connectors and install diode REC7. Start engine (TM 9-2320-347-10) Check if LHS (WP 0011) and ground rod driver (WP 0010) operate.
- a. If LHS and ground rod driver operate, problem corrected.
 - b. If LHS and/or ground rod driver do not operate, notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS AND MRP DO NOT OPERATE (CONTINUED)**

- Step 18. Shut off engine (TM 9-2320-347-10) Inspect hydraulic hoses 2278, 2496, 2902, 2928, 2929, and steel tube from hydraulic reservoir to main distribution manifold for leaks, kinks, and damage (see WP 0119).
- a. If hydraulic hoses and steel tube are free from leaks and damage, troubleshoot One or More Hydraulic Circuits Not Working (TM 9-2320-325-14&P).
 - b. If hydraulic hoses, steel tube, and/or fittings leak or are damaged, tighten loose fittings or replace damaged hoses or steel tube (WP 0119).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

LHS CAB CONTROL FAILS SELF TEST OR NO VIM HEART BEAT INDICATION

Tools and Special Tools

Tool Kit, Electrical (WP 0183, Item 25)
 Tool Kit, General Mechanic's: Automotive
 (WP 0183, Item 25)

Materials/Parts

None

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

TM 9-2320-325-14&P
 WP 0068
 WP 0086
 WP 0088
 WP 0089

Equipment Conditions

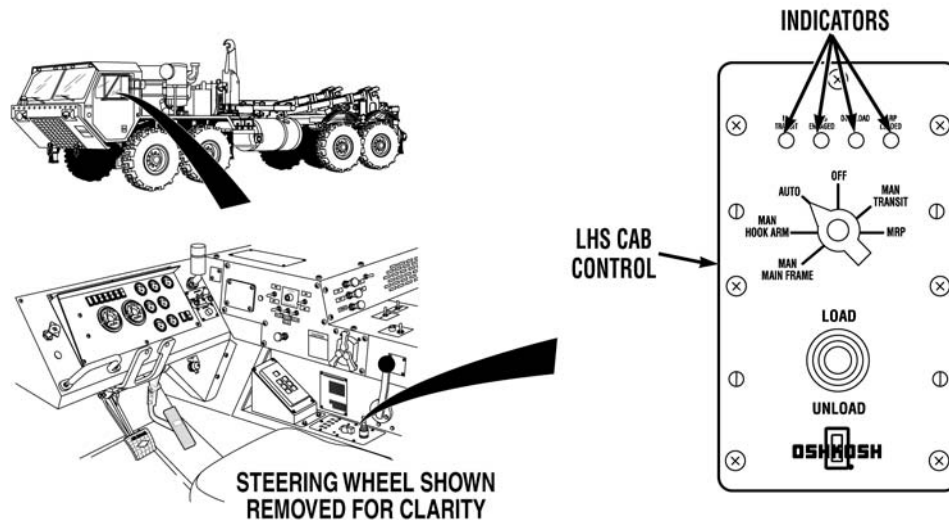
Engine OFF (TM 9-2320-347-10)
 Parking brake applied (TM 9-2320-347-10)
 Wheels chocked (TM 9-2320-347-10)

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

LHS CAB CONTROL FAILS SELF TEST OR NO VIM HEART BEAT INDICATION



Step 1. Check if four LHS cab control indicator lights illuminate red for five seconds when the engine start switch is turned to the ON position (TM 9-2320-347-10)

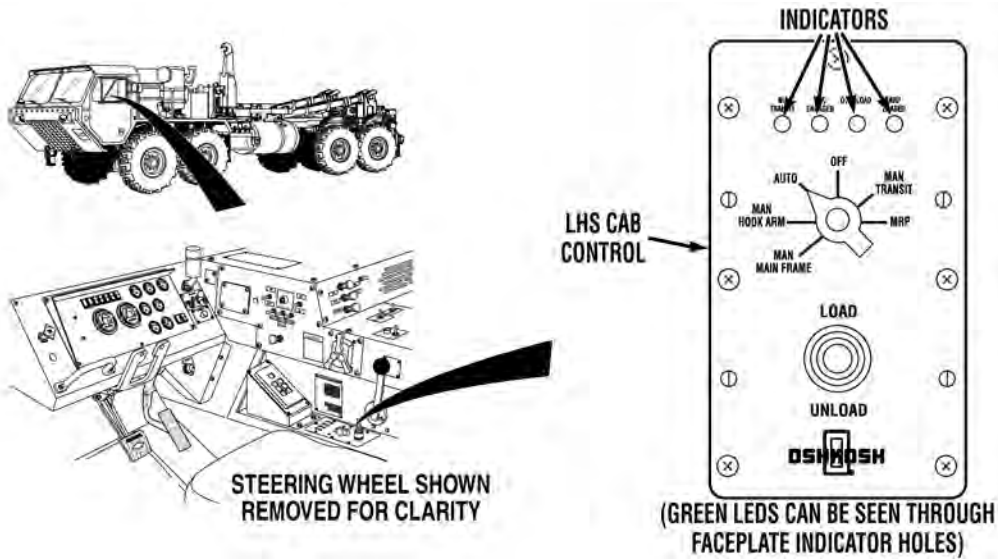
- a. If all four indicator lights illuminate red, go to Step 3.
- b. If at least one but not all indicator lights illuminate red, replace LHS cab control module (WP 0068).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

LHS CAB CONTROL FAILS SELF TEST OR NO VIM HEART BEAT INDICATION (CONTINUED)

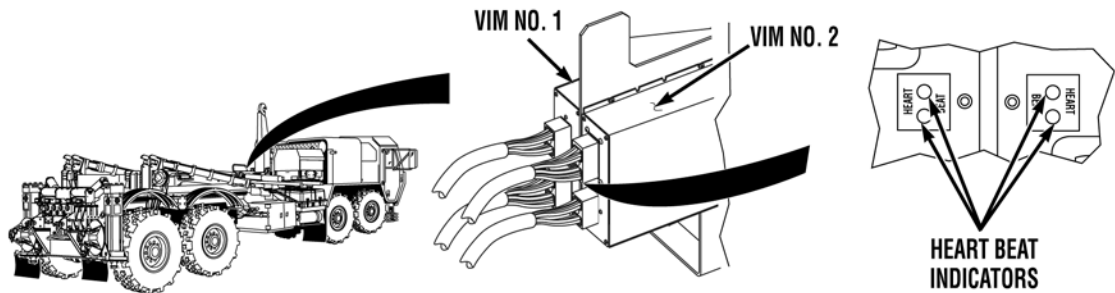


NOTE

There are green LEDs adjacent to the LHS cab control indicator lights. These LEDs will flash when power is applied to the LHS cab control module.

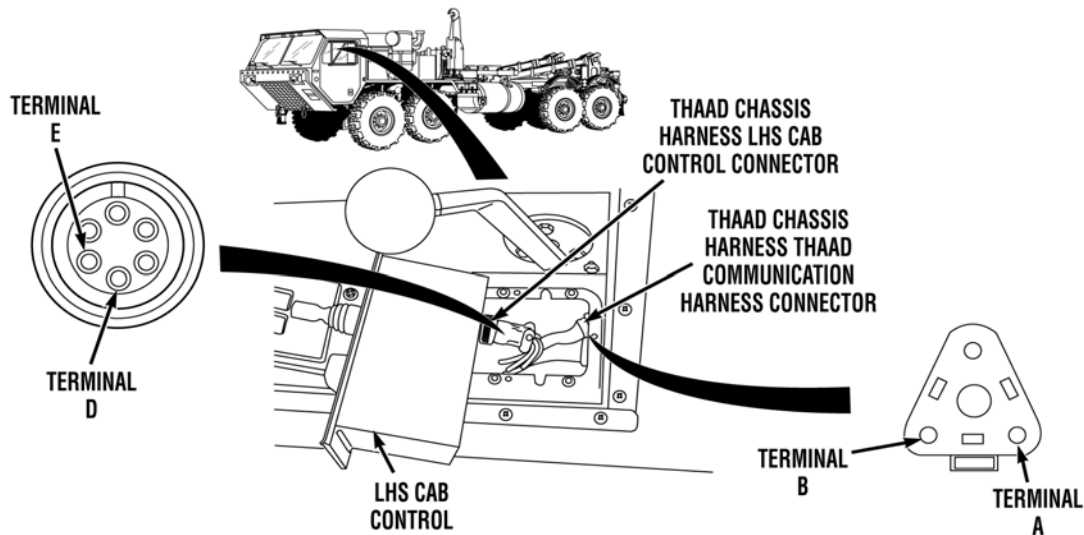
Step 2. Check if green LEDs are flashing in LHS cab control module.

If green LEDs are not flashing, go to Step 27.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS CAB CONTROL FAILS SELF TEST OR NO VIM HEART BEAT INDICATION (CONTINUED)****NOTE**

Each VIM has two HEART BEAT indicator lights. The first HEART BEAT indicator light will steadily illuminate and the second HEART BEAT indicator light will flash when the VIM is operating correctly.

- Step 3. Check if one of the HEART BEAT indicator lights is steadily illuminated on both VIMs.
- If one of the HEART BEAT indicator lights is not illuminated on both VIMs, go to Step 25.
- Step 4. Check if the second HEART BEAT indicator light is flashing on both VIMs.
- If the second HEART BEAT indicator light is not flashing on both VIMs, go to Step 10.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS CAB CONTROL FAILS SELF TEST OR NO VIM HEART BEAT INDICATION (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 5. Remove LHS cab control (WP 0068). Check if THAAD chassis harness THAAD communication harness and LHS cab control connectors are tight.

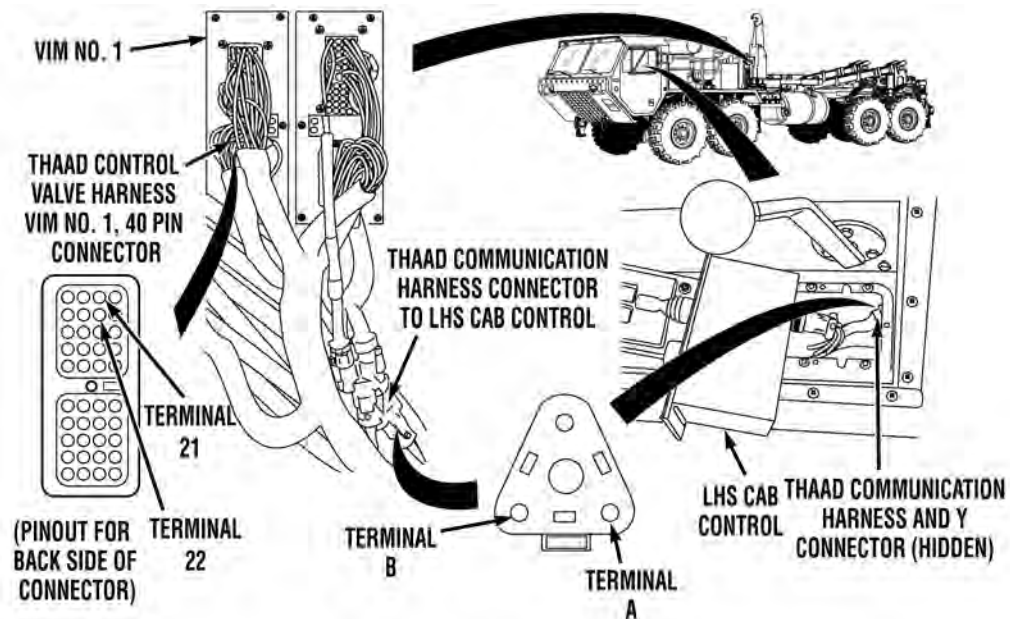
If connectors are loose, reconnect loose THAAD chassis harness connectors.

- Step 6. Disconnect THAAD chassis harness LHS cab control and LHS cab control communication harness connectors. Check for continuity across (+) J1939 wire from LHS cab control connector, terminal D to LHS cab control communication harness connector, terminal A.

If there is no continuity, repair THAAD chassis harness (+) J1939 wire (TM 9-2320-325-14&P) or notify Supervisor.

- Step 7. Check for continuity across THAAD chassis harness (-) J1939 wire from LHS cab control connector, terminal E to LHS cab control communication harness connector terminal B.

If there is no continuity, repair THAAD chassis harness (-) J1939 wire (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS CAB CONTROL FAILS SELF TEST OR NO VIM HEART BEAT INDICATION (CONTINUED)****WARNING**

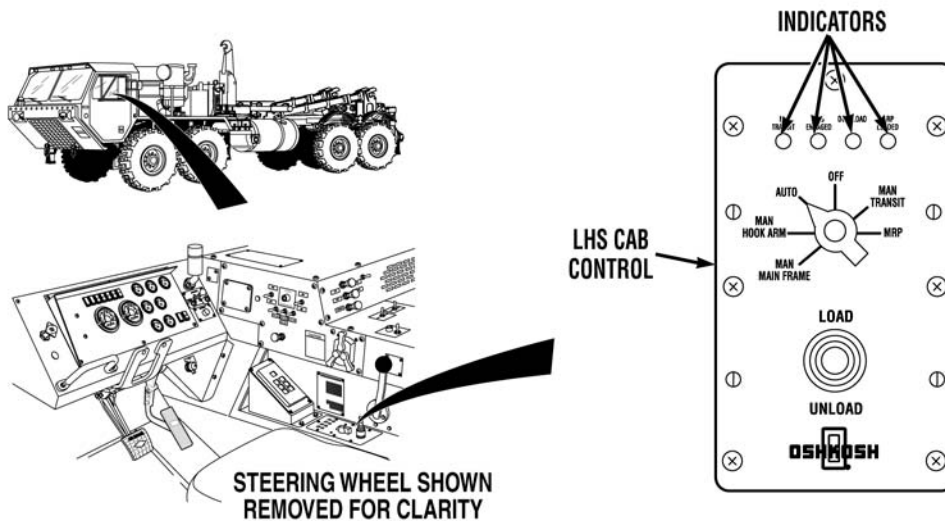
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

To locate the THAAD communication harness going to the LHS cab control, follow the three-conductor harness back from VIM No. 1, 40 pin connector terminal 19 and 20 to the communication harness Y connector. The harness is connected to the Y connector terminal is the harness not connected to the second Y connector at the VIMs.

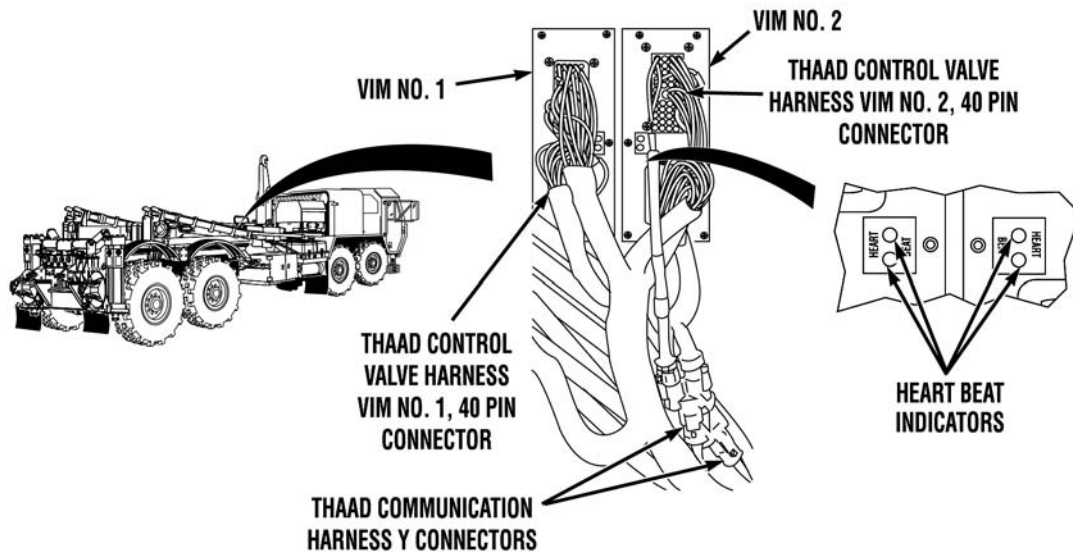
- Step 8. Disconnect Y connectors from THAAD communication harness between LHS cab control and VIM No. 1. Install jumper between terminals A and B in THAAD communication harness connector at VIM No. 1. Check for continuity between terminals A and B in THAAD communication harness connector at LHS cab control.

If there is no continuity, notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS CAB CONTROL FAILS SELF TEST OR NO VIM HEART BEAT INDICATION (CONTINUED)****WARNING**

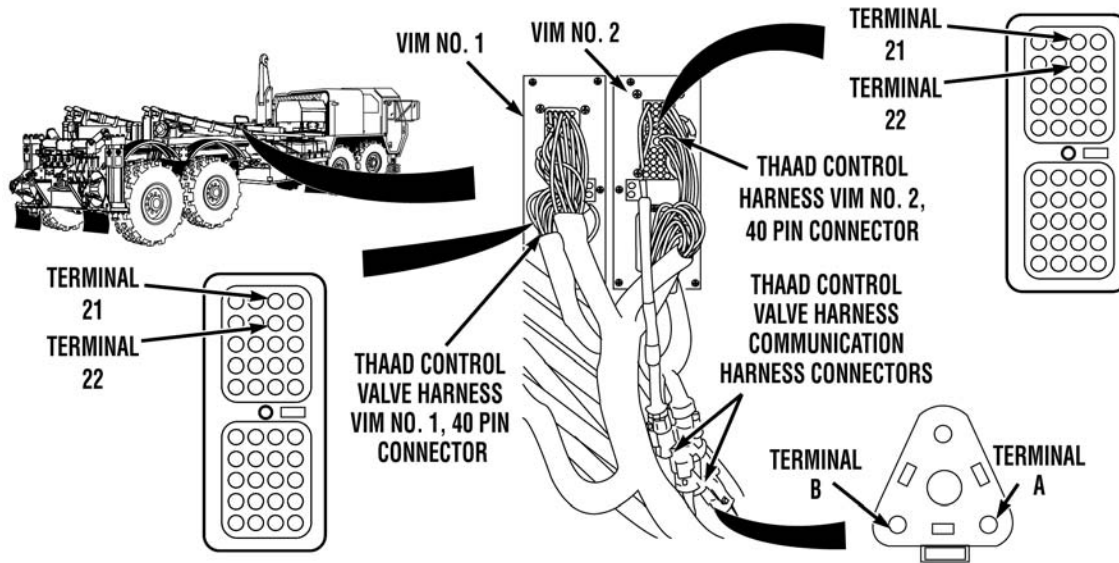
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 9. Reconnect all connectors and install LHS cab control (WP 0068). Then check if LHS cab control indicator lights illuminate red for five seconds when the engine start switch is turned to the ON position (TM 9-2320-347-10)
- a. If all four indicator lights illuminate red, problem is corrected. Notify Supervisor.
 - b. If the indicator lights do not illuminate red, replace LHS cab control module (WP 0068).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS CAB CONTROL FAILS SELF TEST OR NO VIM HEART BEAT INDICATION (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 10. Check if the second HEART BEAT indicator light is flashing at one of the VIMs.
- If the second HEART BEAT indicator light is not flashing on both VIMs, go to Step 17.
- Step 11. Check if THAAD control valve harness VIM No. 1 and VIM No. 2, 40 pin connectors are tight.
- If connectors are loose, reconnect loose THAAD control valve harness connectors (WP 0088).
- Step 12. Check if THAAD communication harness connectors at the VIM Y connectors are tight.
- If connectors are loose, reconnect loose THAAD communication harness connectors.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS CAB CONTROL FAILS SELF TEST OR NO VIM HEART BEAT INDICATION (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

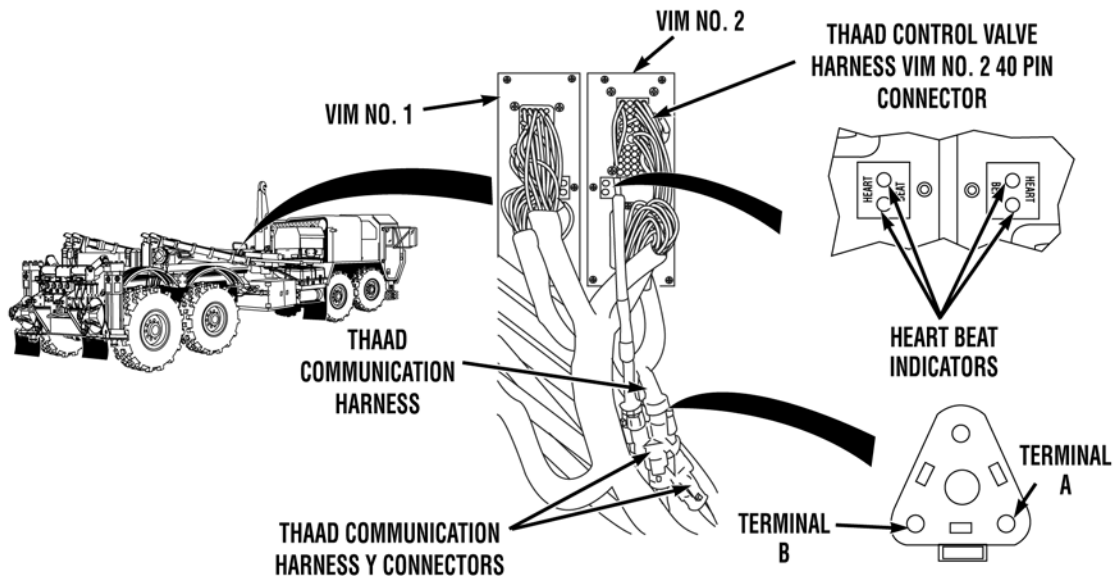
To locate the THAAD communication harness Y connector for the VIM in question, follow the three-conductor harness back from the faulted VIM 40 pin connector terminal 21 and 22 to the communication harness Y connector.

- Step 13. Disconnect THAAD control valve harness VIM 40 pin connector (WP 0089) and THAAD communication harness connectors for VIM where second HEART BEAT indicator light is not flashing. Check for continuity across (+) J1939 wire from VIM 1, 40 pin connector, terminal 22 to THAAD communication harness connector terminal A.

If there is no continuity, repair (+) J1939 wire (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

- Step 14. Check for continuity across THAAD control valve harness (-) J1939 wire from VIM 2, 40 pin connector, terminal 21 to THAAD communication harness connector terminal B.

If there is no continuity, repair (-) J1939 wire (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

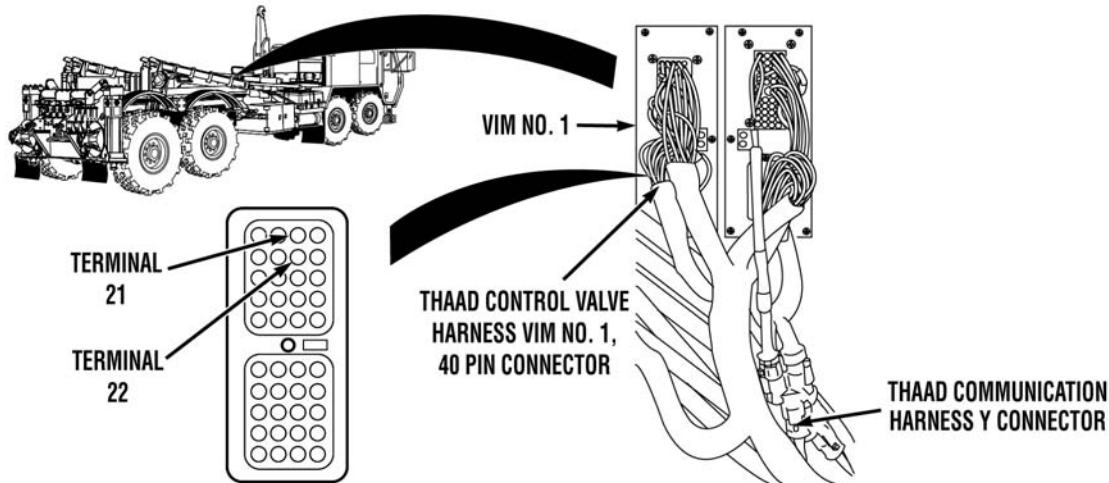
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS CAB CONTROL FAILS SELF TEST OR NO VIM HEART BEAT INDICATION (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 15. Disconnect THAAD communication harness connectors between VIM No. 1 and VIM No. 2 Y connectors. Install jumper between terminals A and B in THAAD communication harness connector VIM No. 1. Check for continuity between terminals A and B in THAAD communication harness connector at VIM No. 2.

If there is no continuity, notify Supervisor.

- Step 16. Reconnect all connectors. Turn engine start switch ON (TM 9-2320-347-10) Check if the second HEART BEAT indicator light is flashing on both VIMs.
- If the second HEART BEAT indicator light is flashing on both VIMs, problem is corrected. Notify Supervisor.
 - If the second HEART BEAT indicator light is not flashing on both VIMs, replace VIM where second HEART BEAT indicator light is not flashing (WP 0089).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS CAB CONTROL FAILS SELF TEST OR NO VIM HEART BEAT INDICATION (CONTINUED)****WARNING**

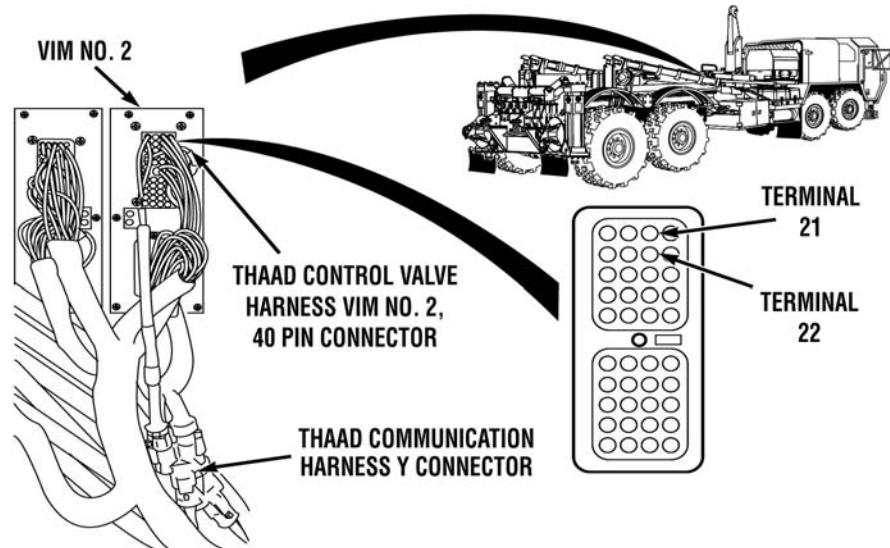
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

- The THAAD communication harnesses have J1939 terminator resistors at the LHS cab controller and input module Y connectors. The THAAD communication harnesses must be disconnected from Y connectors as noted in Steps 17 through 23. Failure to disconnect THAAD communication harness from Y connectors will cause incorrect results.
- To locate the THAAD communication harness Y connector for the VIM No. 1, follow the three-conductor harness back from the VIM No. 1, 40 pin connector terminals 21 and 22 to the communication harness Y connector.

Step 17. Disconnect THAAD control valve harness VIM 1, 40 pin connector (WP 0089) and THAAD communication harness connectors for VIM No. 1. Check for no continuity between (+) J1939 and (-) J1939 wires at VIM No. 1, 40 pin connector, terminals 22 and 21.

If there is continuity, repair J1939 wires (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS CAB CONTROL FAILS SELF TEST OR NO VIM HEART BEAT INDICATION (CONTINUED)****WARNING**

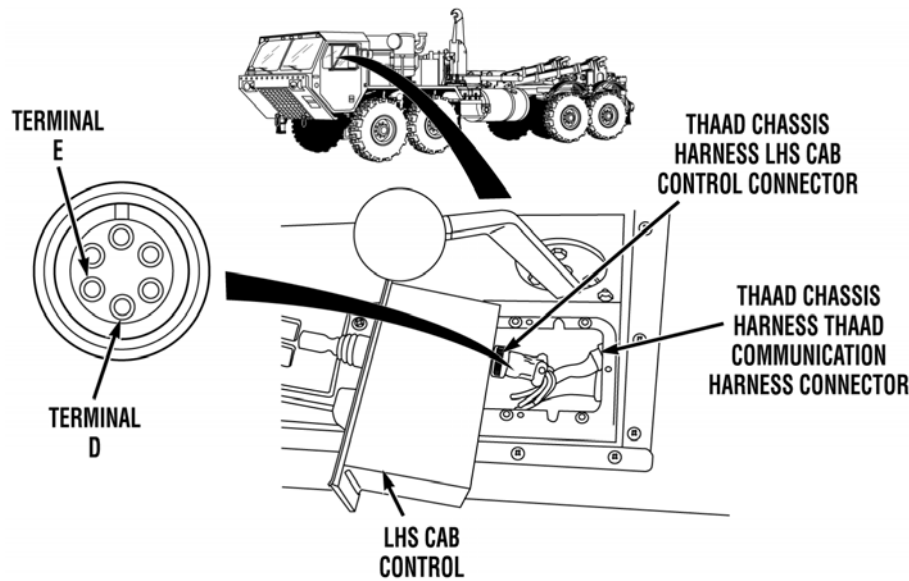
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

To locate the THAAD communication harness Y connector for the VIM No. 2, follow the three-conductor harness back from the VIM No. 2, 40 pin connector terminals 21 and 22 to the communication harness Y connector.

- Step 18. Disconnect THAAD control valve harness VIM 2, 40 pin connector (WP 0089) and THAAD communication harness connectors for VIM No. 2. Check for no continuity between (+) J1939 and (-) J1939 wires at VIM No. 2, 40 pin connector, terminals 22 and 21.

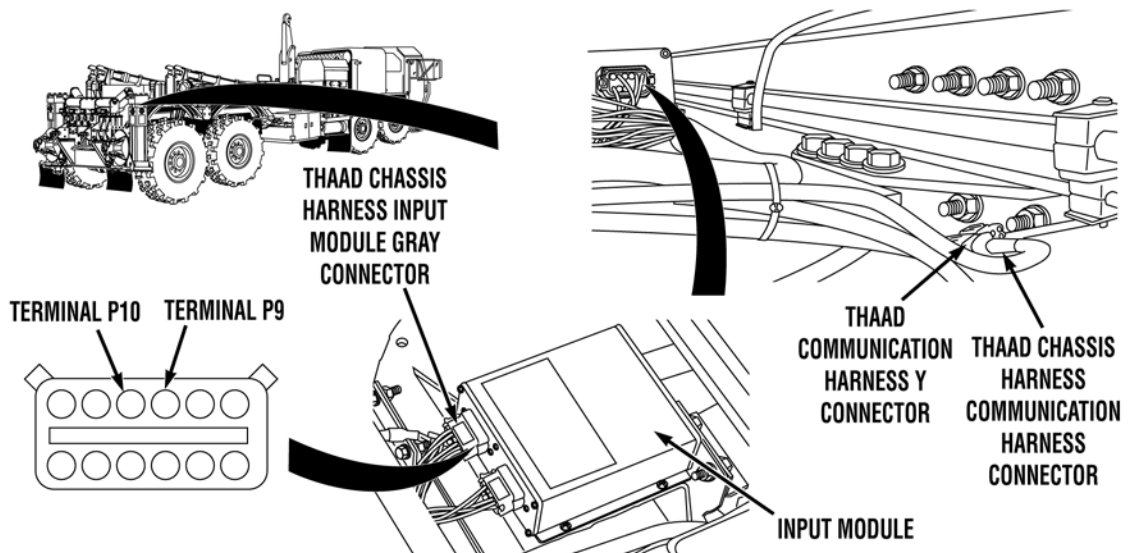
If there is continuity, repair J1939 wires (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS CAB CONTROL FAILS SELF TEST OR NO VIM HEART BEAT INDICATION (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 19. Remove LHS cab control (WP 0068). Disconnect THAAD chassis harness LHS cab control and THAAD communication harness connectors. Check for no continuity between (+) J1939 and (-) J1939 wires at LHS cab control connector, terminals D and E.

If there is continuity, repair THAAD chassis harness J1939 wires (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS CAB CONTROL FAILS SELF TEST OR NO VIM HEART BEAT INDICATION (CONTINUED)****WARNING**

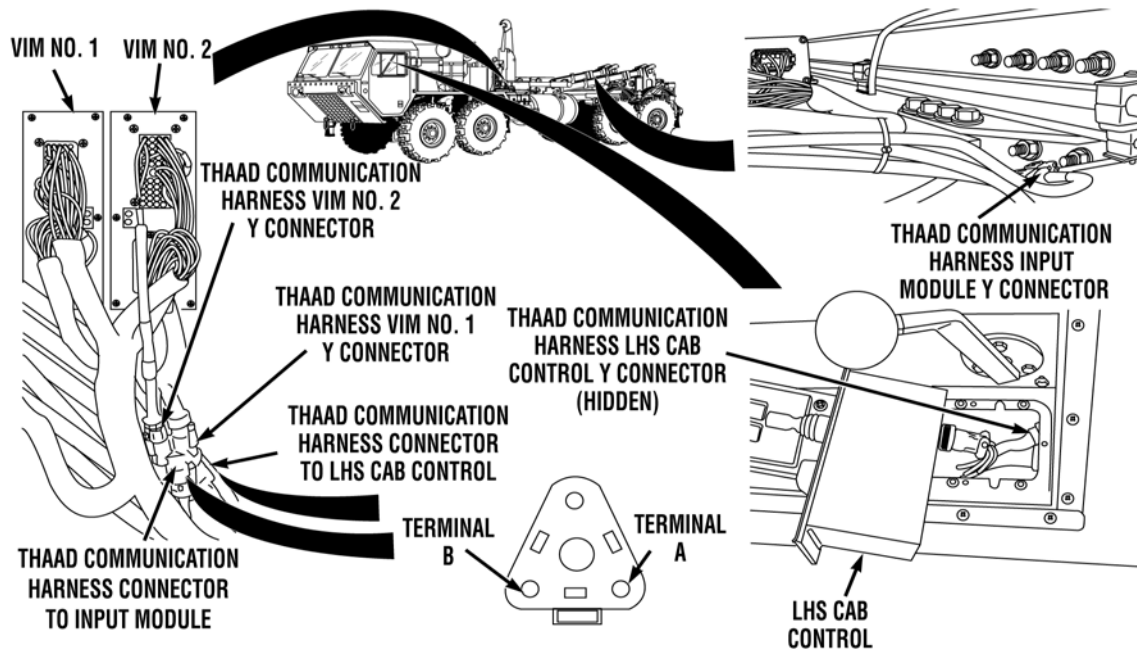
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

To locate the THAAD communication harness Y connector for the input module, follow the three-conductor harness back from the input module gray connector terminals P9 and P10 to the communication harness Y connector.

- Step 20. Disconnect THAAD chassis harness input module gray connector and THAAD communication harness input module connector. Check for no continuity between (+) J1939 and (-) J1939 wires at input module gray connector, terminals P9 and P10.

If there is continuity, repair THAAD chassis harness J1939 wires (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS CAB CONTROL FAILS SELF TEST OR NO VIM HEART BEAT INDICATION (CONTINUED)****WARNING**

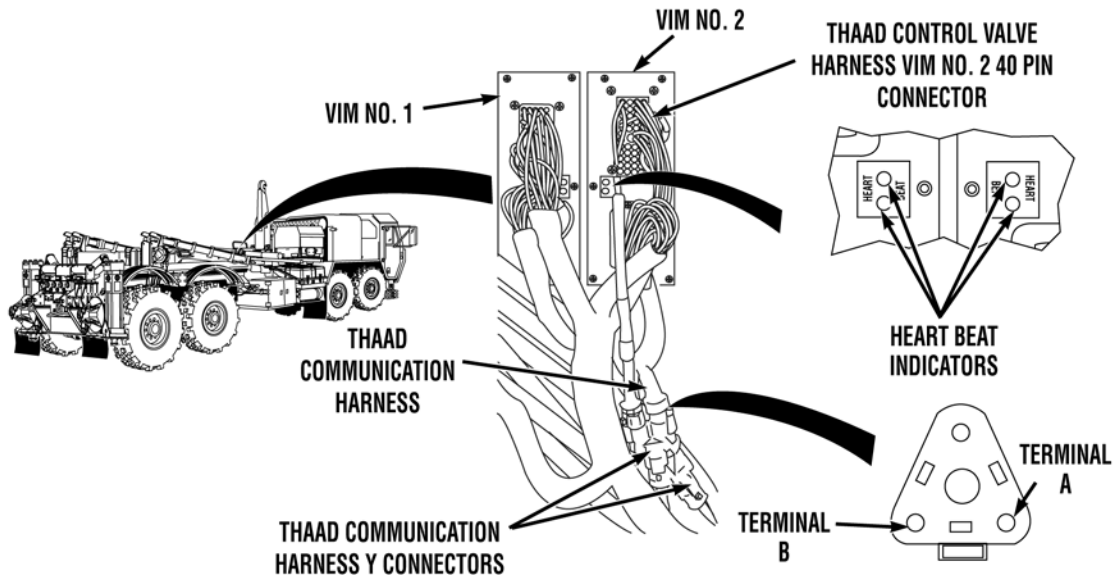
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 21. Disconnect Y connectors from THAAD communication harness between LHS cab control and VIM No. 1. Check for no continuity between THAAD communication harness J1939 wires at VIM No. 1 connector, terminals A and B.

If there is continuity, notify Supervisor.

- Step 22. Disconnect Y connectors from THAAD communication harness between input module and VIM No. 2. Check for no continuity between THAAD communication harness J1939 wires at VIM No. 2 connector, terminals A and B.

If there is continuity, notify Supervisor.

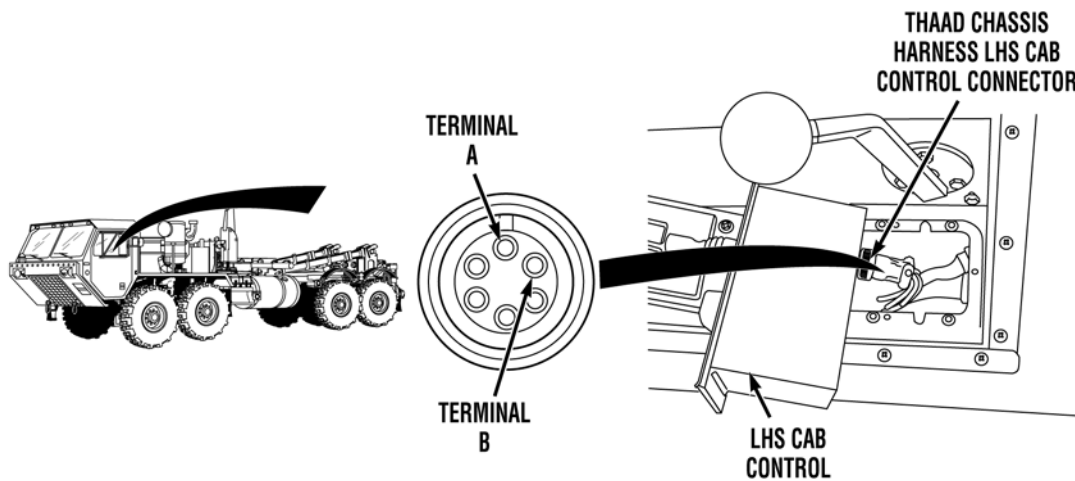
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS CAB CONTROL FAILS SELF TEST OR NO VIM HEART BEAT INDICATION (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 23. Disconnect THAAD communication harness connectors between VIM No. 1 and VIM No. 2 Y connectors. Check for no continuity between THAAD communication harness J1939 wires at VIM No. 1 connector, terminals A and B.

If there is continuity, notify Supervisor.

- Step 24. Reconnect all connectors. Turn engine start switch ON (TM 9-2320-347-10) Check if the second HEART BEAT indicator light is flashing on both VIMs.
- a. If the second HEART BEAT indicator light is flashing on both VIMs, problem is corrected. Notify Supervisor.
 - b. If the second HEART BEAT indicator light is not flashing on both VIMs. Notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS CAB CONTROL FAILS SELF TEST OR NO VIM HEART BEAT INDICATION (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

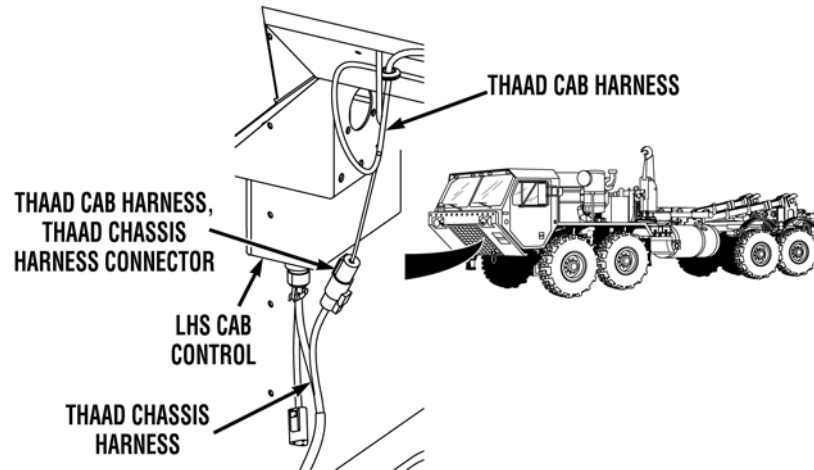
Step 25. Remove LHS cab control (WP 0068). Disconnect THAAD chassis harness LHS cab control connector. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1461 at LHS cab control connector, terminal A and a known good ground.

If 22 to 28 vdc are not present, go to Step 29.

Step 26. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across wire 1435 from THAAD chassis harness LHS cab control connector, terminal B to a known good ground.

- a. If there is continuity, replace LHS cab control module (WP 0068).
- b. If there is no continuity, repair THAAD chassis harness wire 1435 (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

LHS CAB CONTROL FAILS SELF TEST OR NO VIM HEART BEAT INDICATION (CONTINUED)

- Step 27. Disconnect THAAD cab harness, THAAD chassis harness connector. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1461 at THAAD chassis harness connector, terminal P1 and a known good ground.
- If 22 to 28 vdc are present, repair THAAD chassis harness wire 1461 or notify Supervisor.
 - If 22 to 28 vdc are not present, repair wire 1461 (TM 9-2320-325-14&P) or replace THAAD cab add-on wire harness (WP 0086).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**LHS DOES NOT LOAD IN AUTO MODE**

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

None

Personnel Required

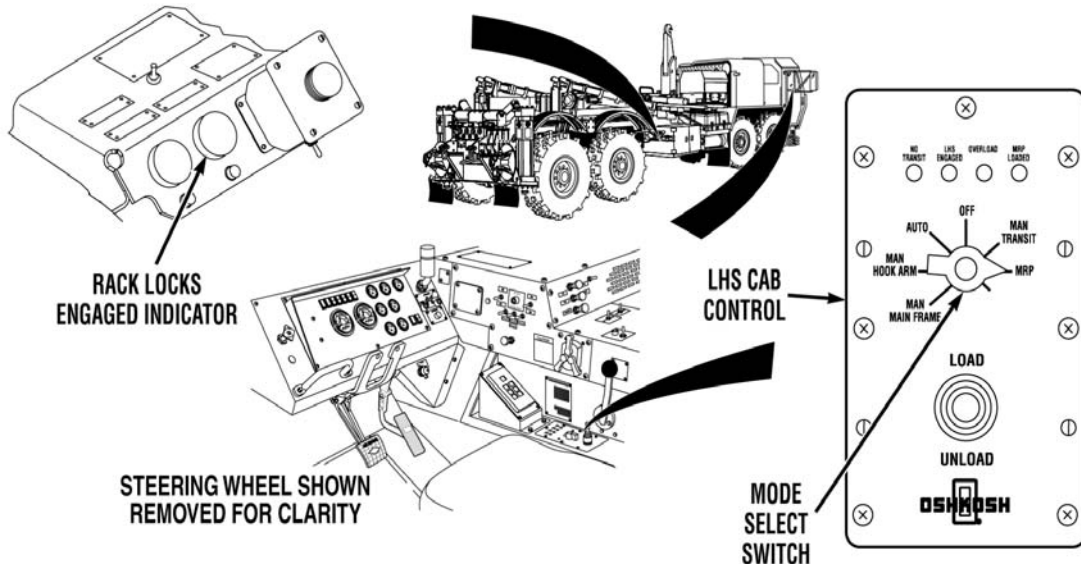
MOS 63B Wheeled vehicle mechanic

References

TM 9-2320-325-14&P
WP 0012
WP 0016
WP 0027
WP 0032
WP 0034
WP 0069
WP 0070
WP 0077
WP 0088
WP 0089

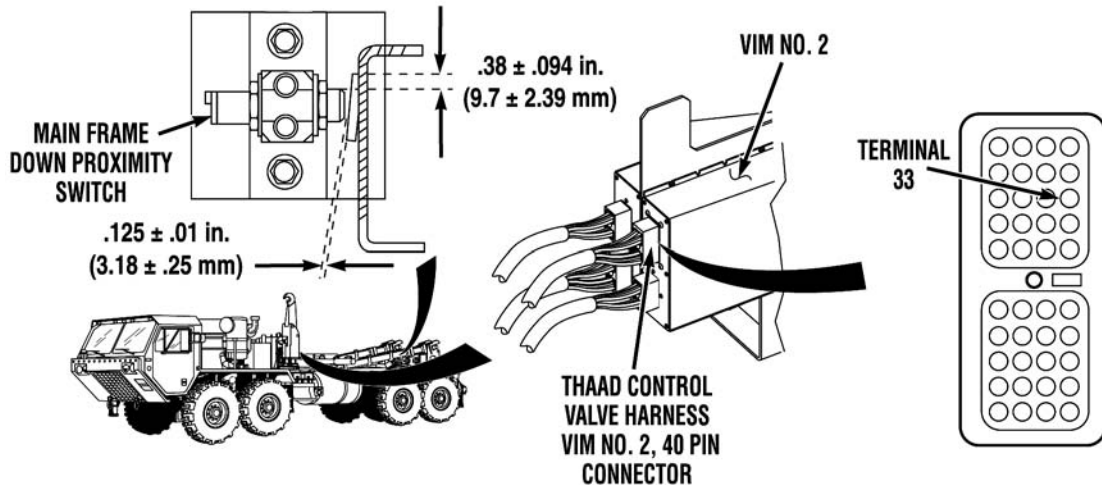
Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Parking brake applied (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT LOAD IN AUTO MODE****NOTE**

MRP elevation cylinders must be in their fully stowed position and rack locks must be disengaged to operate LHS.

- Step 1. Start engine (TM 9-2320-347-10) Position LHS cab control mode select switch to MRP position (WP 0012). Check if RACK LOCKS ENGAGED indicator light is not illuminated.
 - If RACK LOCKS ENGAGED indicator light is illuminated or flashing, disengage MRP rack locks (WP 0012).
- Step 2. Operate LHS in manual mode (WP 0016). Check if LHS main frame and hook arm loads in manual mode.
 - a. If LHS main frame does not load in manual mode, troubleshoot Main Frame Does Not Load In Manual Mode (WP 0034).
 - b. If LHS hook arm does not load in manual mode, troubleshoot Hook Arm Does Not Load In Manual Mode (WP 0027).
 - c. If LHS does not operate in manual mode, troubleshoot LHS Does Not Operate (WP 0032).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT LOAD IN AUTO MODE (CONTINUED)****WARNING**

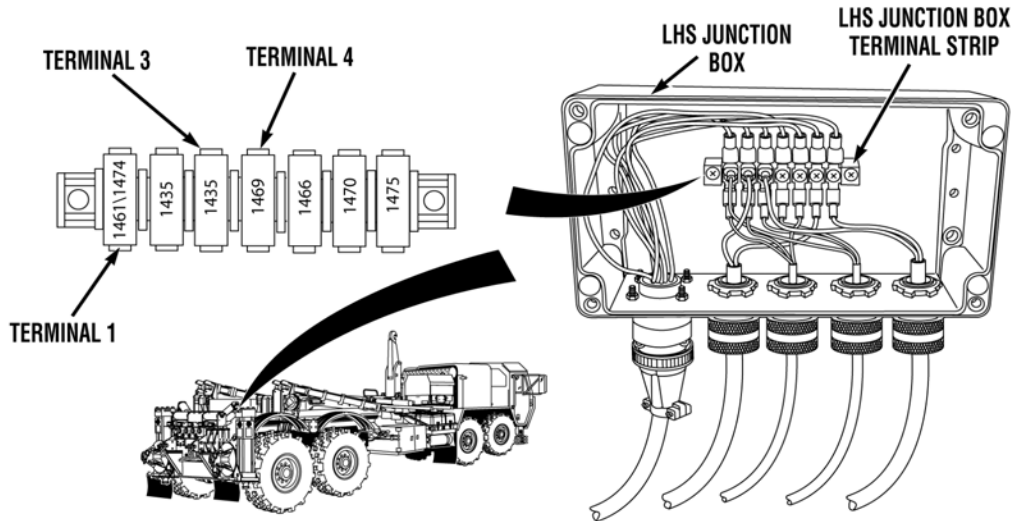
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 3. Load LHS in manual mode until LHS main frame and hook arm are in the fully lowered position (WP 0016). Shut off engine (TM 9-2320-347-10) Check main frame down proximity switch clearance adjustment (WP 0077).

If required, adjust main frame down proximity switch (WP 0077).

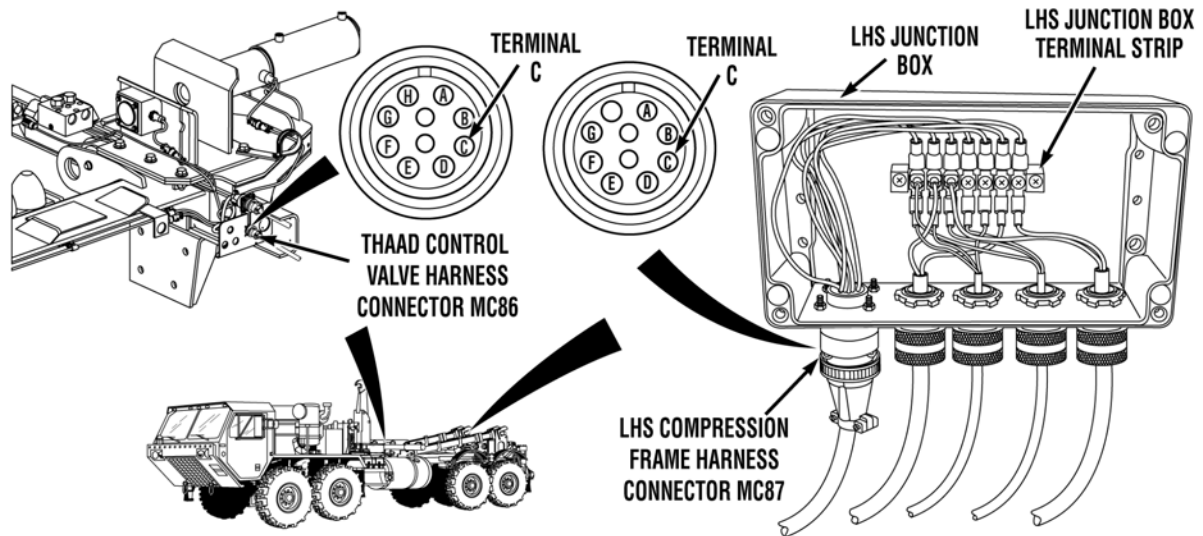
- Step 4. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1469 at VIM No. 2, 40 pin connector, terminal 33 and a known good ground.

If 22 to 28 vdc are present, replace VIM No. 2 (WP 0089).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT LOAD IN AUTO MODE (CONTINUED)****WARNING**

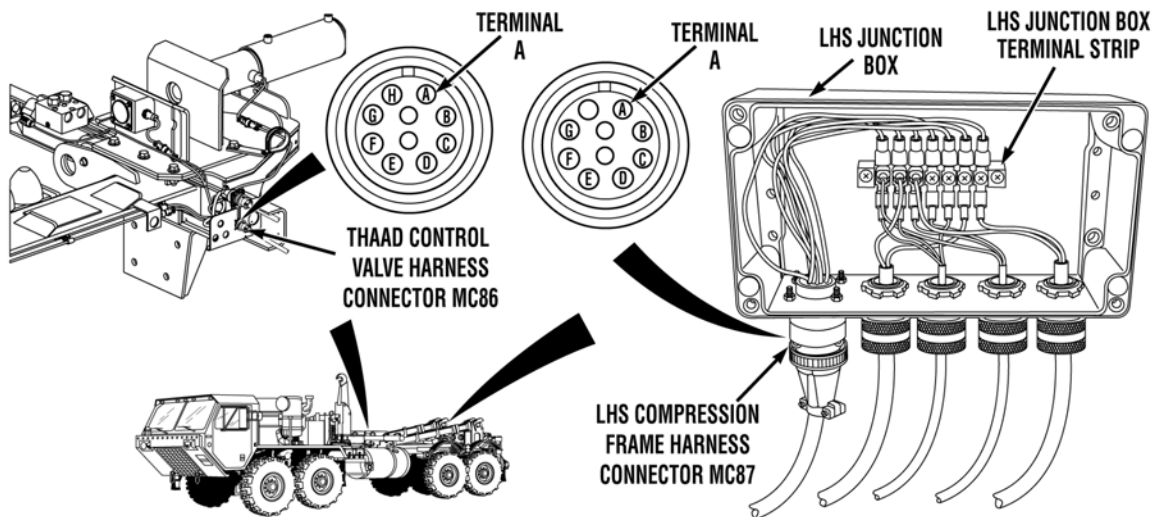
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 5. Remove LHS junction box cover (WP 0077). Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1469 at LHS junction box, terminal 4 and a known good ground.
- If 22 to 28 vdc are present, go to Step 12.
- Step 6. Check for 22 to 28 vdc between wire 1461 at LHS junction box, terminal 1 and a known good ground.
- If 22 to 28 vdc are not present, go to Step 10.
- Step 7. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across wire 1435 from LHS junction box, terminal 3 to a known good ground.
- If there is continuity, replace main frame down proximity switch (WP 0077).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT LOAD IN AUTO MODE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 8. Disconnect LHS compression frame harness connector MC87. Check for continuity across wire 1435 from connector MC87, terminal C to a known good ground.
- If there is continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace LHS junction box (WP 0070).
- Step 9. Disconnect THAAD control valve harness connector MC86. Check for continuity across wire 1435 from connector MC86, terminal C to a known good ground.
- a. If there is continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace LHS compression frame harness (WP 0069).
 - b. If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

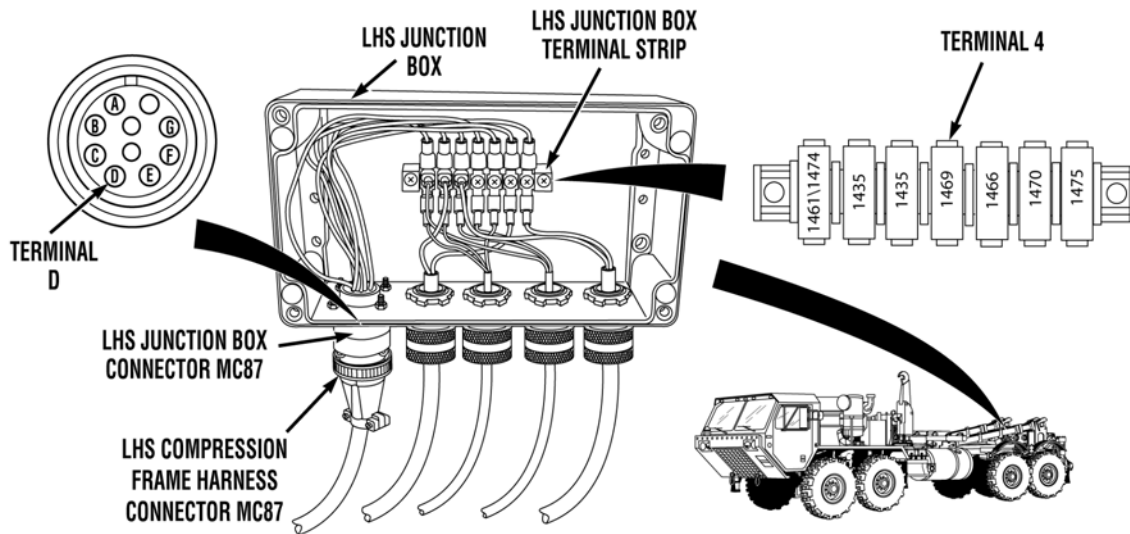
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT LOAD IN AUTO MODE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 10. Disconnect LHS compression frame harness connector MC87. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1461 at connector MC87, terminal A and a known good ground.

If 22 to 28 vdc are present, repair wire 1461 (TM 9-2320-325-14&P) or replace LHS junction box (WP 0070).

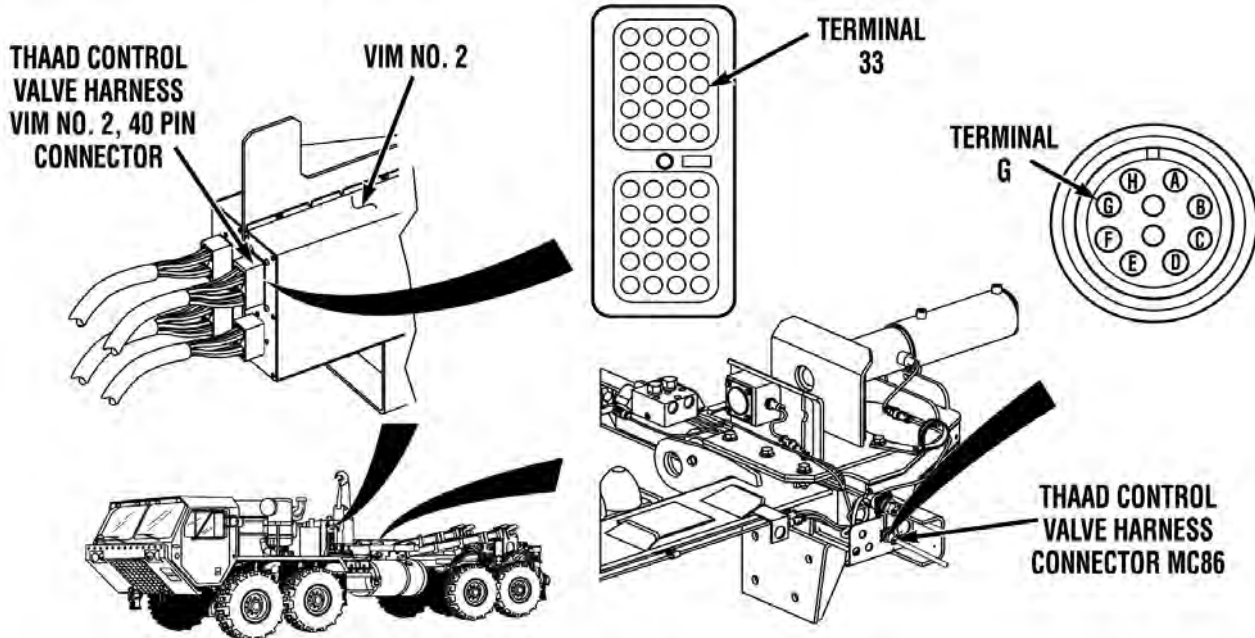
- Step 11. Disconnect THAAD control valve harness connector MC86. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1461 at connector MC86, terminal A and a known good ground.
- a. If 22 to 28 vdc are present, repair wire 1461 (TM 9-2320-325-14&P) or replace LHS compression frame harness (WP 0069).
 - b. If 22 to 28 vdc are not present, repair wire 1461 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT LOAD IN AUTO MODE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 12. Disconnect LHS compression frame harness connector MC87. Check for continuity across wire 1469 from LHS junction box connector MC87, terminal D to LHS junction box terminal strip, terminal 4.

If there is no continuity, repair wire 1469 (TM 9-2320-325-14&P) or replace LHS junction box (WP 0070).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT LOAD IN AUTO MODE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 13. Disconnect THAAD control valve harness connector MC86. Check for continuity across wire 1469 from connector MC86, terminal G to VIM No. 2, 40 pin connector, terminal 33.
- a. If there is continuity, repair 1469 (TM 9-2320-325-14&P) or replace LHS compression frame harness (WP 0069).
 - b. If there is no continuity, repair 1469 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

LHS DOES NOT OPERATE

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

None

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

- TM 9-2320-325-14&P
- WP 0007
- WP 0010
- WP 0011
- WP 0012
- WP 0016
- WP 0027

References (Continued)

- WP 0028
- WP 0029
- WP 0030
- WP 0034
- WP 0035
- WP 0068
- WP 0072
- WP 0087
- WP 0088
- WP 0089

Equipment Conditions

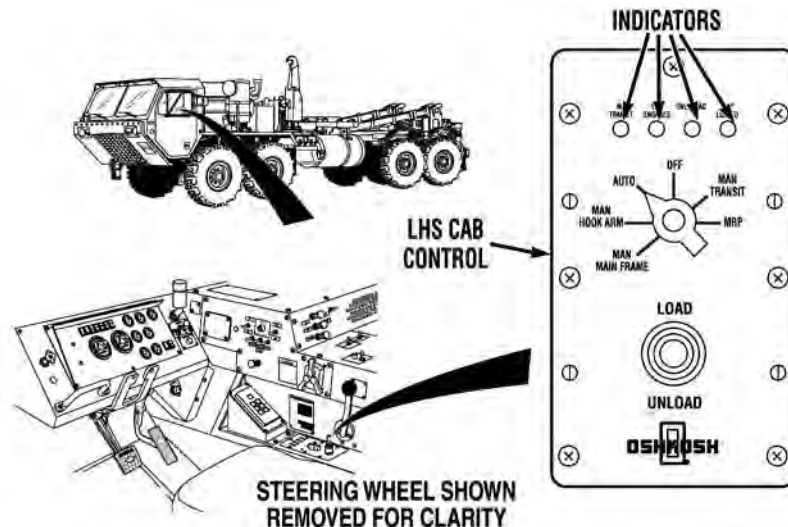
- Engine OFF (TM 9-2320-347-10)
- Parking brake applied (TM 9-2320-347-10)
- Wheels chocked (TM 9-2320-347-10)

MALFUNCTION

TEST OR INSPECTION

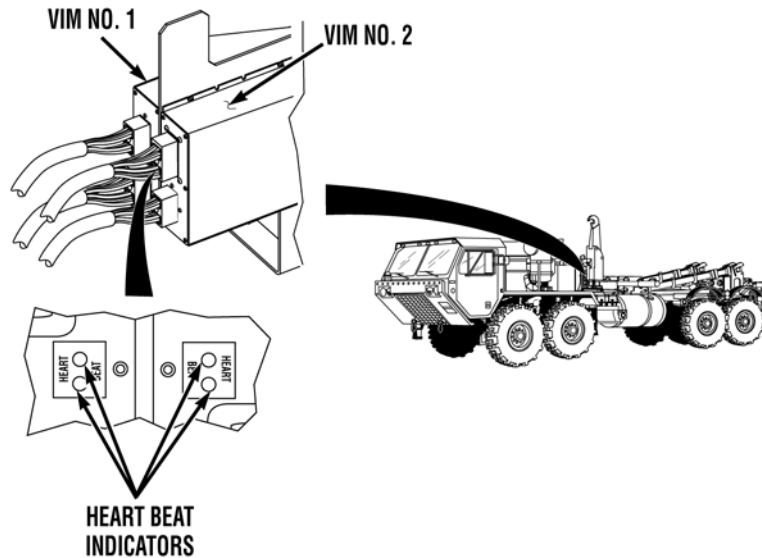
CORRECTIVE ACTION

LHS DOES NOT OPERATE



Step 1. Check if LHS cab control indicator lights illuminate red for five seconds when the engine start switch is turned to the ON position (TM 9-2320-347-10)

If indicator lights do not illuminate, troubleshoot LHS Cab Control Fails Self Test or No VIM Heart Beat Indication (WP 0030).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT OPERATE (CONTINUED)****NOTE**

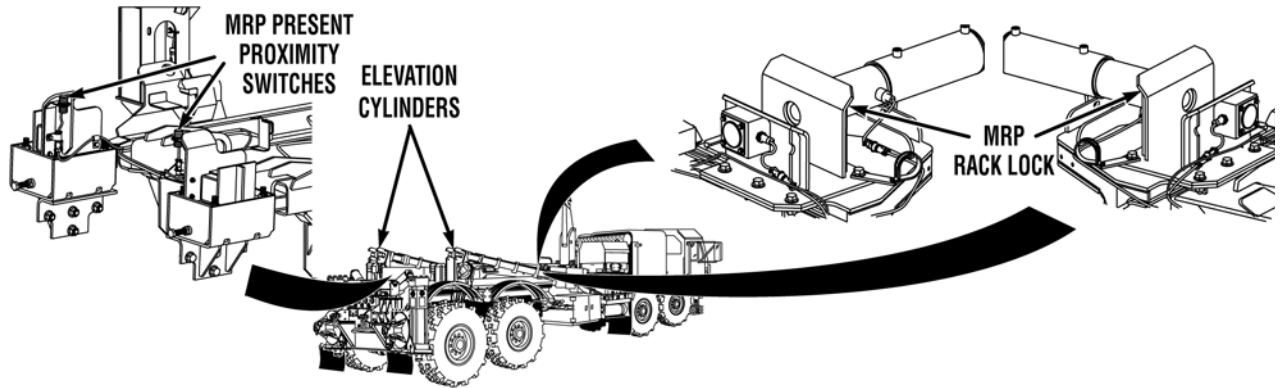
Each VIM has two HEART BEAT indicator lights. One HEART BEAT indicator light will steadily illuminate and the second HEART BEAT indicator light will flash when the VIM is operating correctly.

- Step 2. Check if one HEART BEAT indicator light (green) is illuminated and the second HEART BEAT indicator light (red) is flashing on both VIMs.

If the HEART BEAT indicators lights are not illuminated as indicated on both VIMs, troubleshoot LHS Cab Control Fails Self Test or No VIM Heart Beat Indication (WP 0030).

- Step 3. Start engine (TM 9-2320-347-10) Check if ground rod driver operates (WP 0010).

If ground rod driver does not operate, troubleshoot LHS and MRP Do Not Operate (WP 0029).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT OPERATE (CONTINUED)****NOTE**

- Perform Step 4 only if MRP rack locks are disengaged.
- MRP present proximity switches must be active to engage MRP locks. If MRP rack is not loaded, activate both MRP present proximity switches by placing metal objects over proximity switches while engaging MRP rack locks.

Step 4. If MRP is not loaded, place metal objects over MRP present proximity switches. Operate rack locks (WP 0012). Check if MRP rack locks engage.

If MRP rack locks do not engage, go to Step 17.

NOTE

MRP elevation cylinders must be in their fully stowed position to operate LHS and disengage rack locks.

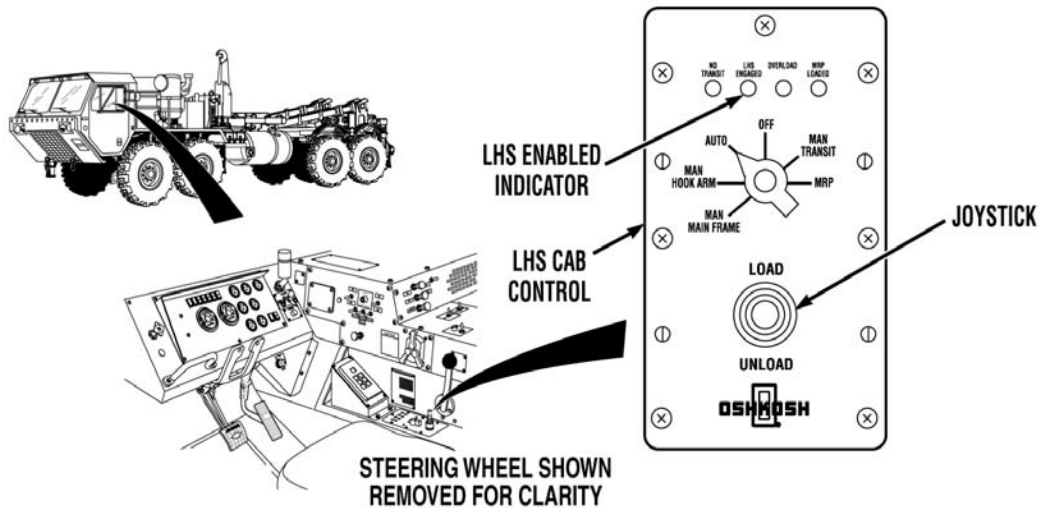
- Step 5. Check if left and right elevation cylinders are in their stowed position.
- a. If MRP rack is loaded, stow left and right elevation cylinders (WP 0007) and go to Step 6 (WP 0032).
 - b. If MRP rack is not loaded, stow left and right elevation cylinders using bypass procedure (WP 0032) and go to Step 6.

NOTE

MRP rack locks are disengaged when RACK LOCKS ENGAGED indicator lights are not illuminated or flashing.

Step 6. Operated rack locks (WP 0012). Check if rack locks disengage.

If rack locks do not disengage, go to Step 9.

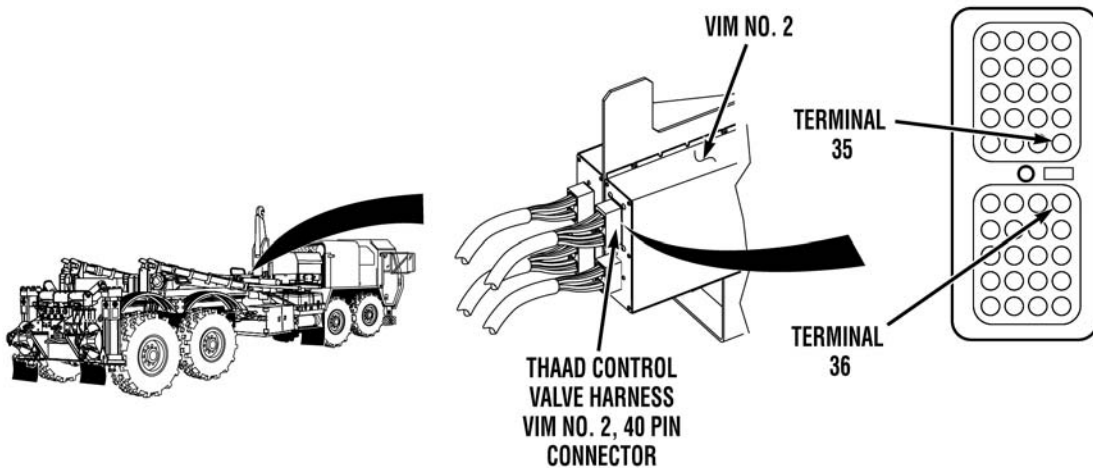
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT OPERATE (CONTINUED)****NOTE**

LHS cab control LHS ENABLE indicator light will illuminate when the joystick is positioned to load or unload position in Step 7.

- Step 7. Operate LHS in AUTO mode (WP 0011). Check if LHS cab control LHS ENGAGE indicator light illuminates when joystick is moved to the load and unload positions.

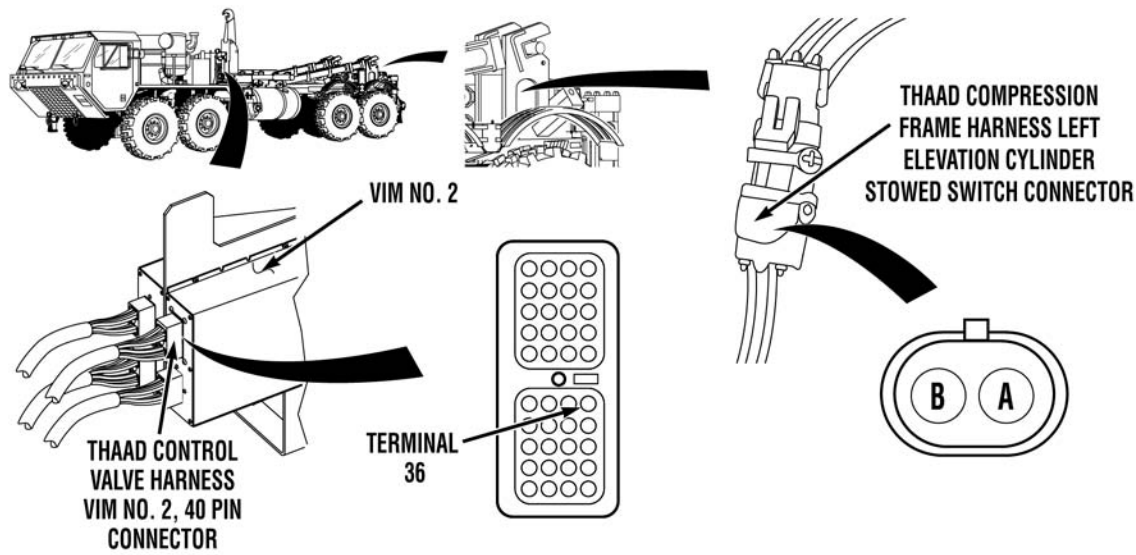
If LHS cab control LHS ENGAGE indicator light does not illuminate when joystick is moved to the load and unload positions, replace LHS cab control (WP 0068).

- Step 8. Operate LHS in manual mode (WP 0016). Check if LHS main frame and hook arm loads and unloads in manual mode.
- If LHS operated correctly in manual mode, problem is corrected.
 - If LHS main frame does not unload in manual mode, troubleshoot Main Frame Does Not Unload In Manual Mode (WP 0035).
 - If LHS main frame does not load in manual mode, troubleshoot Main Frame Does Not Load In Manual Mode (WP 0034).
 - If LHS hook arm does not unload in manual mode, troubleshoot Hook Arm Does Not Unload in Manual Mode (WP 0028).
 - If LHS hook arm does not load in manual mode, troubleshoot Hook Arm Does Not Load In Manual Mode (WP 0027).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 9. Shut off engine (TM 9-2320-347-10) Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Check for continuity from wire 1963 at VIM No. 2, 40 pin connector, terminal 35 to a known good ground.
- If there is no continuity, go to Step 14.
- Step 10. Check for continuity from wire 1964 at THAAD control valve harness VIM No. 2, 40 pin connector, terminal 36 to a known good ground.
- If there is continuity, replace VIM No. 2 (WP 0089).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT OPERATE (CONTINUED)****WARNING**

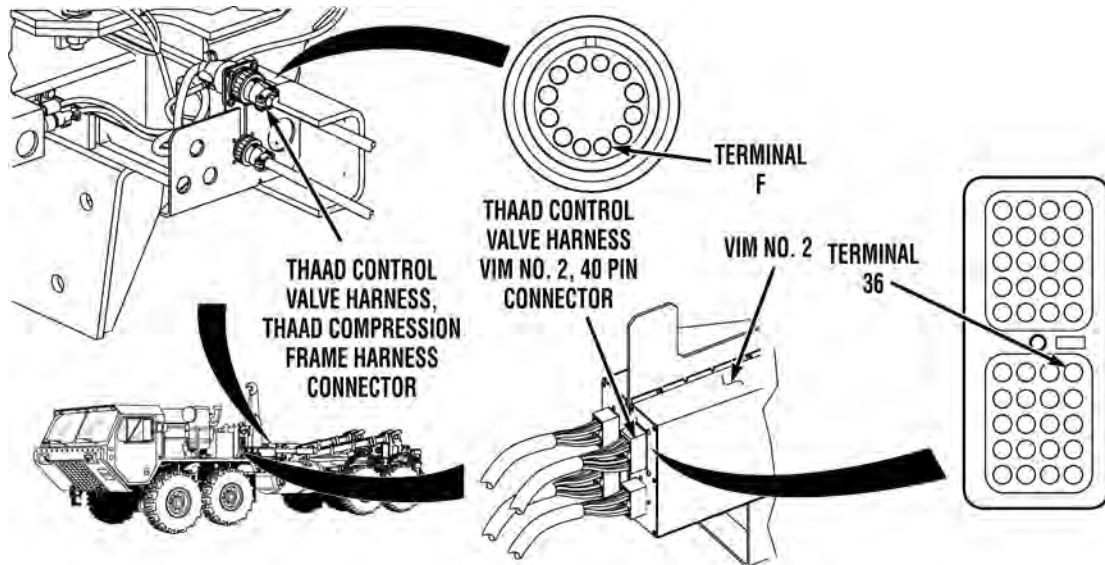
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 11. Disconnect THAAD compression frame harness left elevation cylinder stowed switch connector. Check for continuity across wire 1435 from THAAD compression frame harness left elevation cylinder stowed switch connector, terminal B to a known good ground.

If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).

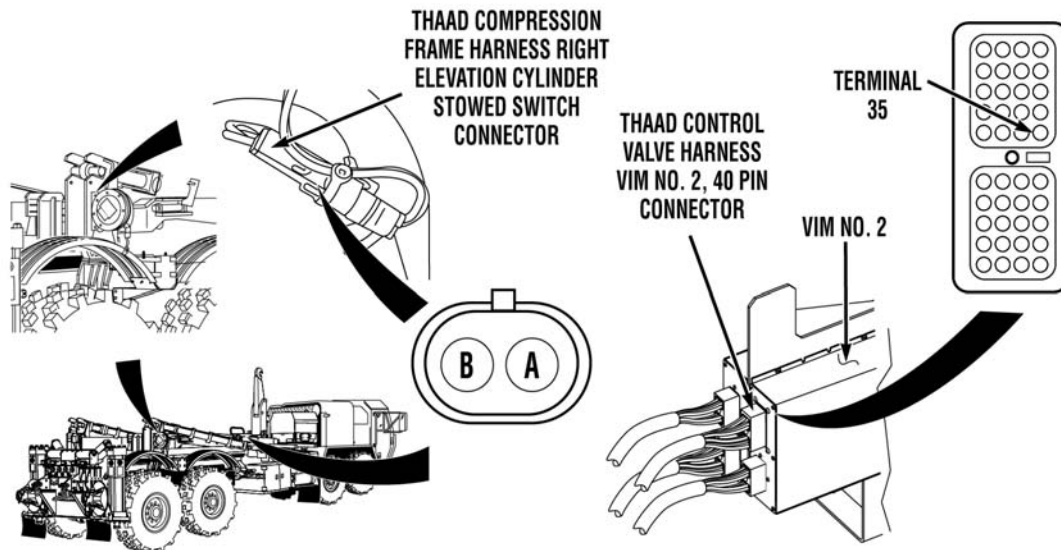
- Step 12. Check for continuity across wire 1964 from THAAD control valve harness VIM No. 2, 40 pin connector, terminal 36 to THAAD compression frame harness left elevation cylinder stowed switch connector, terminal A.

If there is continuity, replace left elevation cylinder stowed switch (WP 0072).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 13. Disconnect THAAD control valve harness, THAAD compression frame connector. Check for continuity across wire 1964 from VIM No. 2, 40 pin connector, terminal 36 to THAAD compression frame harness connector, terminal F.
- a. If there is continuity, repair wire 1964 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).
 - b. If there is no continuity, repair wire 1964 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT OPERATE (CONTINUED)****WARNING**

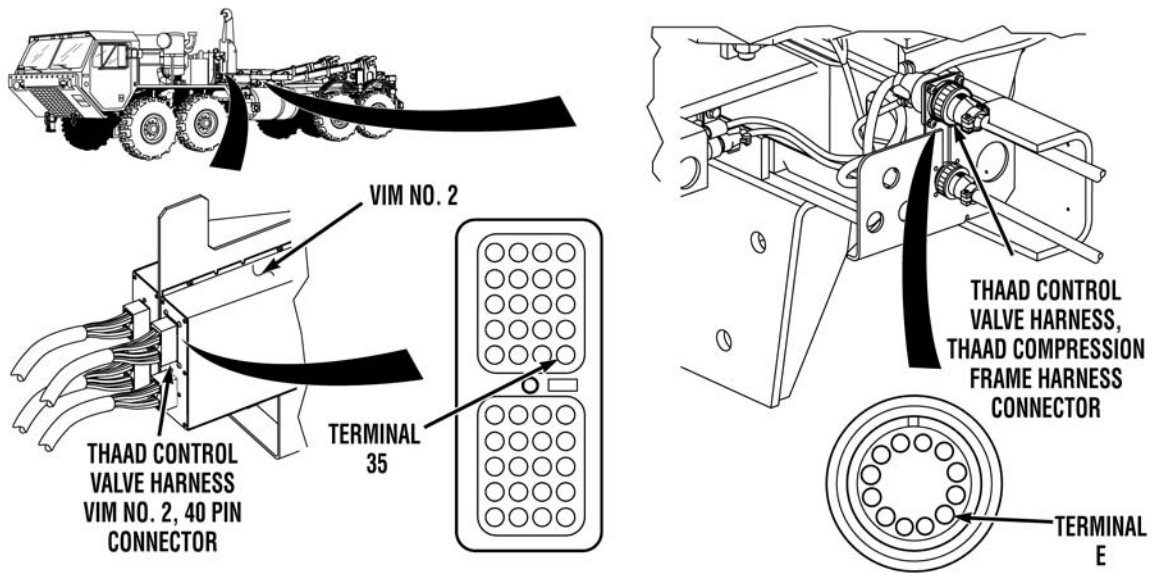
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 14. Disconnect THAAD compression frame harness right elevation cylinder stowed switch connector. Check for continuity across wire 1435 from THAAD compression frame harness right elevation cylinder stowed switch connector, terminal B to a known good ground.

If there is no continuity, go to Step 17.

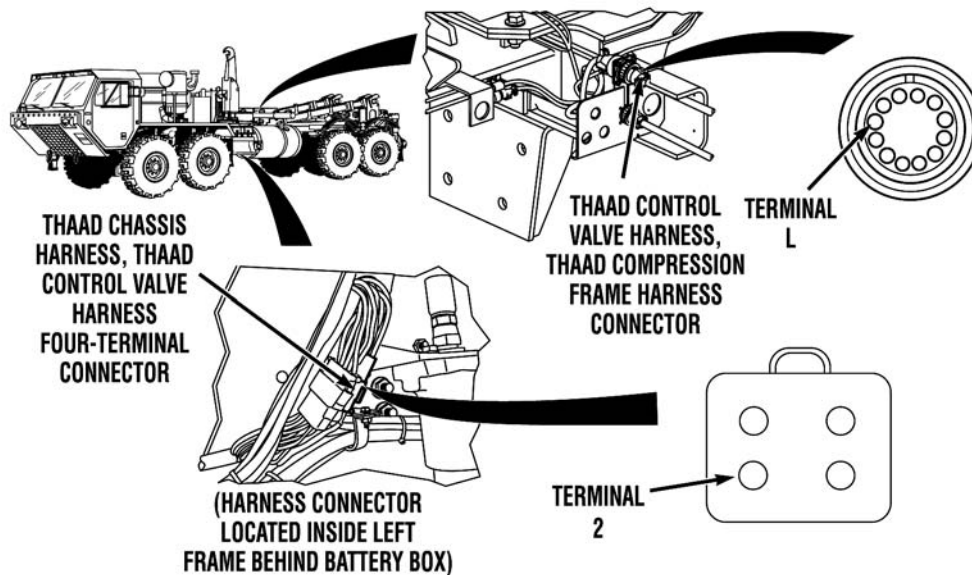
- Step 15. Check for continuity across wire 1963 from THAAD control valve harness VIM No. 2, 40 pin connector, terminal 35 to THAAD compression frame harness right elevation cylinder stowed switch connector, terminal A.

If there is continuity, replace right elevation cylinder stowed switch (WP 0072).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 16. Disconnect THAAD control valve harness, THAAD compression frame connector. Check for continuity across wire 1963 from VIM No. 2, 40 pin connector, terminal 35 to THAAD compression frame harness connector, terminal E.
- a. If there is continuity, repair wire 1963 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).
 - b. If there is no continuity, repair wire 1963 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

Step 17. If on, shut off engine (TM 9-2320-347-10) Disconnect THAAD control valve harness, THAAD compression frame harness connector. Check for continuity across wire 1435 from THAAD compression frame harness connector, terminal L to a known good ground.

If there is continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).

Step 18. Disconnect THAAD chassis harness, THAAD control valve harness four-terminal connector. Check for continuity across wire 1435 from four terminal connector, terminal 2 to a known good ground.

- a. If there is continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).
- b. If there is no continuity, repair THAAD chassis harness wire 1435 (TM 9-2320-325-14&P) or notify Supervisor.

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**LHS DOES NOT UNLOAD IN AUTO MODE**

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

None

Personnel Required

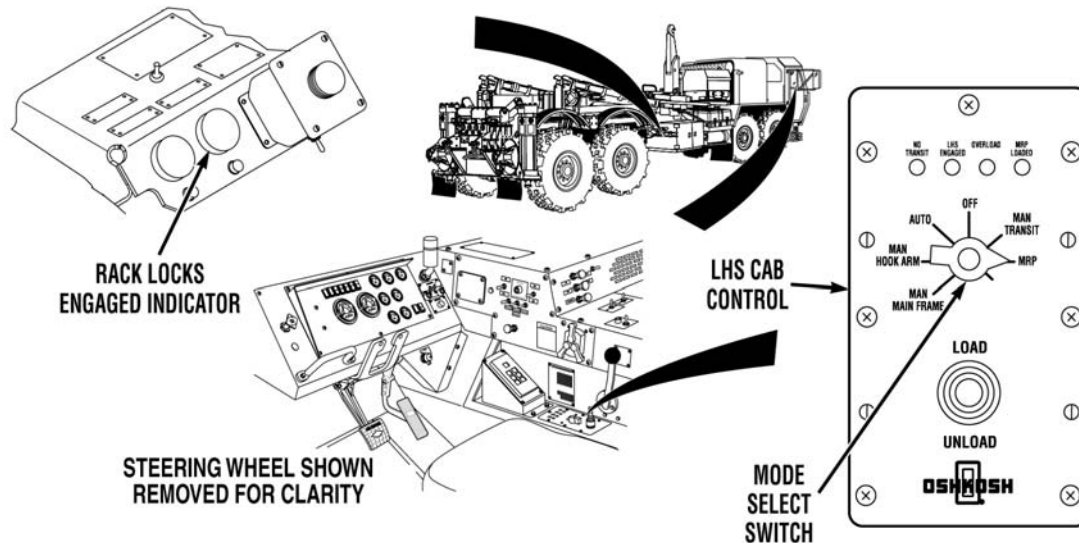
MOS 63B Wheeled vehicle mechanic

References

TM 9-2320-325-14&P
WP 0012
WP 0016
WP 0028
WP 0032
WP 0035
WP 0069
WP 0070
WP 0076
WP 0088
WP 0089

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Parking brake applied (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

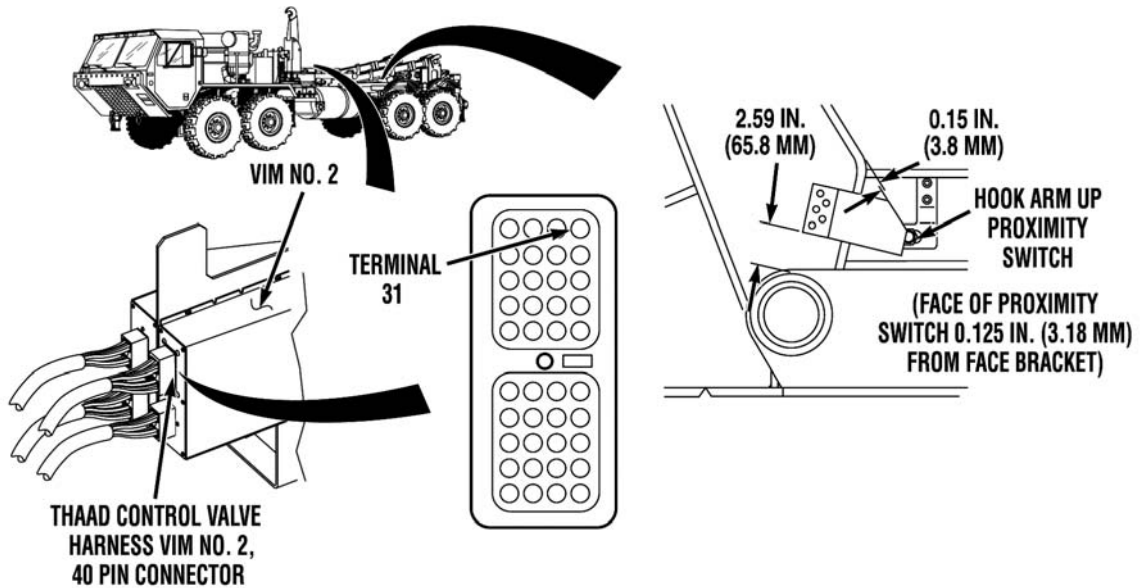
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT UNLOAD IN AUTO MODE****NOTE**

MRP elevation cylinders must be in their fully stowed position and rack locks must be disengaged to operate LHS.

- Step 1. Start engine (TM 9-2320-347-10) Position LHS cab control mode select switch to MRP position (WP 0012). Check if RACK LOCKS ENGAGED indicator light is not illuminated.

If RACK LOCKS ENGAGED indicator light is illuminated or flashing, disengage MRP rack locks (WP 0012).

- Step 2. Operate LHS in manual mode (WP 0016). Check if LHS main frame and hook arm unloads in manual mode.
- If LHS hook arm does not unload in manual mode, troubleshoot Hook Arm Does Not Unload in Manual Mode (WP 0028).
 - If LHS main frame does not unload in manual mode, troubleshoot Main Frame Does Not Unload In Manual Mode (WP 0035).
 - If LHS does not operate in manual mode, troubleshoot LHS Does Not Operate (WP 0032).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT UNLOAD IN AUTO MODE (CONTINUED)****WARNING**

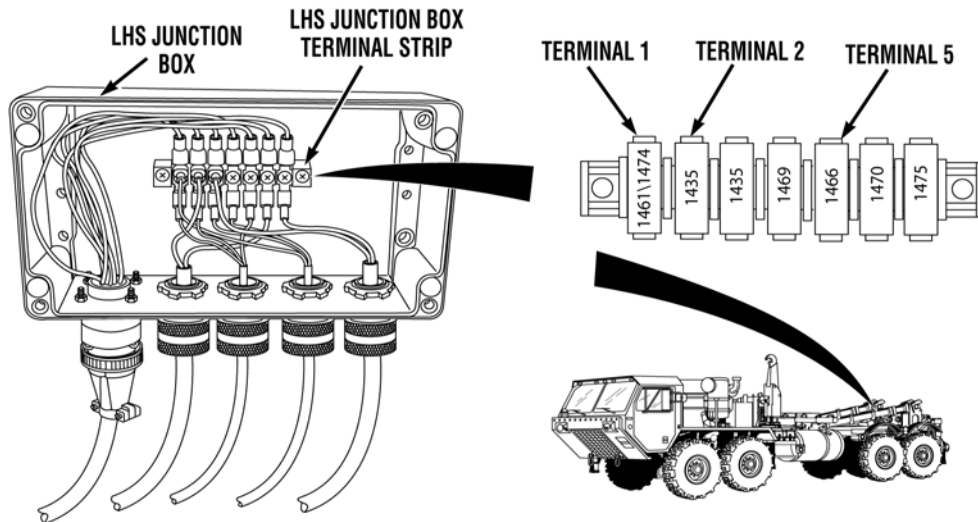
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 3. Unload LHS in manual mode until LHS hook arm is in the fully raised position (WP 0016). Shut off engine (TM 9-2320-347-10) Check LHS hook arm up proximity switch clearance adjustment (WP 0076).

If required, adjust hook arm up proximity switch (WP 0076).

- Step 4. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1466 at VIM No. 2, 40 pin connector, terminal 31 and a known good ground.

If 22 to 28 vdc are present, replace VIM No. 2 (WP 0089).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT UNLOAD IN AUTO MODE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 5. Remove LHS junction box cover (WP 0076). Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1466 at LHS junction box, terminal 5 and a known good ground.

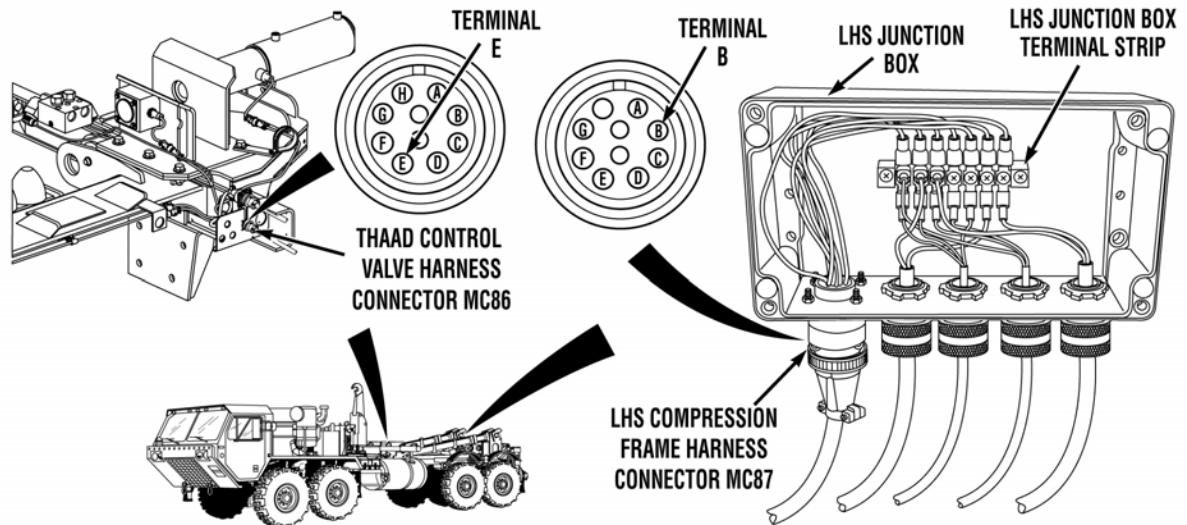
If 22 to 28 vdc are present, go to Step 12.

- Step 6. Check for 22 to 28 vdc between wire 1461 at LHS junction box, terminal 1 and a known good ground.

If 22 to 28 vdc are not present, go to Step 10.

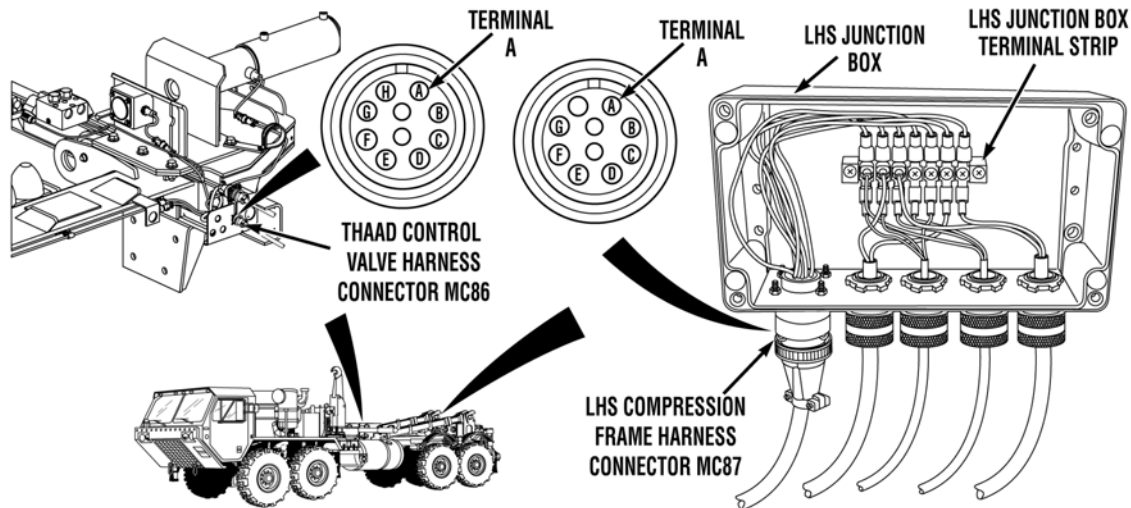
- Step 7. Turn engine start switch ON (TM 9-2320-347-10) Check for continuity across wire 1435 from LHS junction box, terminal 2 to a known good ground.

If there is continuity, replace hook arm up proximity switch (WP 0076).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT UNLOAD IN AUTO MODE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 8. Disconnect LHS compression frame harness connector MC87. Check for continuity across wire 1435 from connector MC87, terminal B to a known good ground.
- If there is continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace LHS junction box (WP 0070).
- Step 9. Disconnect THAAD control valve harness connector MC86. Check for continuity across wire 1435 from connector MC86, terminal E to a known good ground.
- a. If there is continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace LHS compression frame harness (WP 0069).
 - b. If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT UNLOAD IN AUTO MODE (CONTINUED)****WARNING**

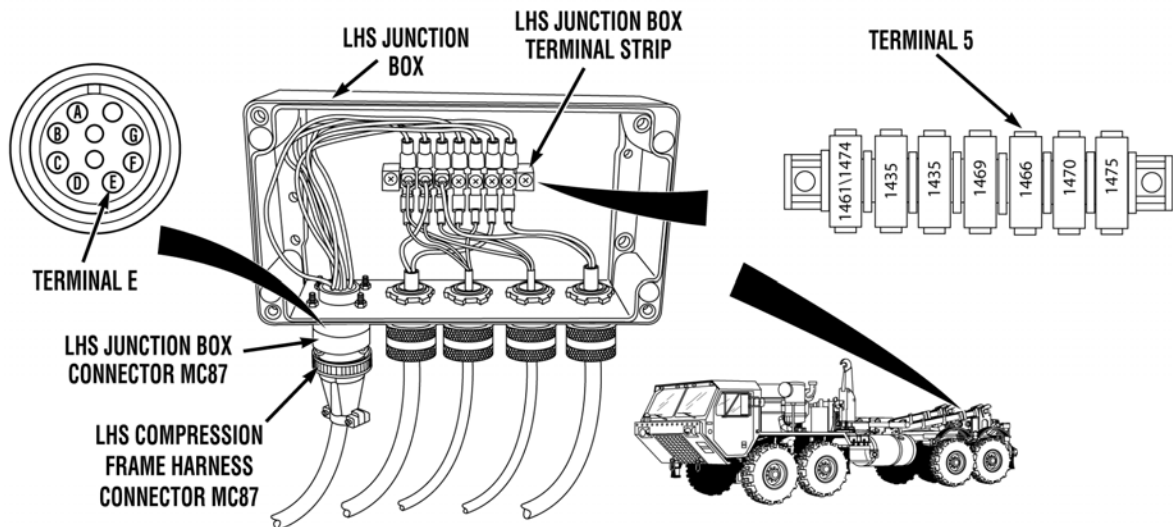
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

Step 10. Disconnect LHS compression frame harness connector MC87. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1461 at connector MC87, terminal A and a known good ground.

If 22 to 28 vdc are present, repair wire 1461 (TM 9-2320-325-14&P) or replace LHS junction box (WP 0070).

Step 11. Disconnect THAAD control valve harness connector MC86. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1461 at connector MC86, terminal A and a known good ground.

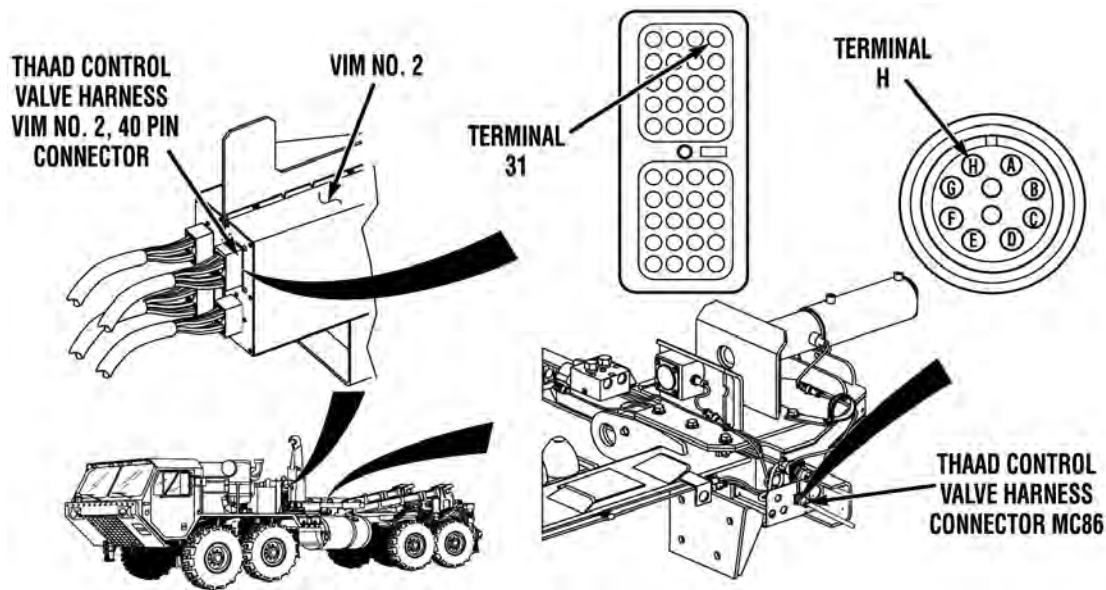
- a. If 22 to 28 vdc are present, repair wire 1461 (TM 9-2320-325-14&P) or replace LHS compression frame harness (WP 0069).
- b. If 22 to 28 vdc are not present, repair wire 1461 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT UNLOAD IN AUTO MODE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 12. Disconnect LHS compression frame harness connector MC87. Check for continuity across wire 1466 from LHS junction box connector MC87, terminal E to LHS junction box terminal strip, terminal 5.

If there is no continuity, repair wire 1466 (TM 9-2320-325-14&P) or replace LHS junction box (WP 0070).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****LHS DOES NOT UNLOAD IN AUTO MODE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 13. Disconnect THAAD control valve harness connector MC86. Check for continuity across wire 1466 from connector MC86, terminal H to VIM No. 2, 40 pin connector, terminal 31.
- a. If there is continuity, repair wire 1466 (TM 9-2320-325-14&P) or replace LHS compression frame harness (WP 0069).
 - b. If there is no continuity, repair wire 1466 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

MAIN FRAME DOES NOT LOAD IN MANUAL MODE

Tools and Special Tools

Adapter, Straight, PI (WP 0183, Item 2)
 Coupling Half, Quick (WP 0183, Item 3)
 Gage, Pressure, Dial (WP 0183, Item 7)
 Hose Assembly, Nonme (WP 0183, Item 8)
 Tool Kit, General Mechanic's: Automotive
 (WP 0183, Item 25)
 Wooden Block (2) (WP 0157, Item B-12)

Materials/Parts

None

Personnel Required

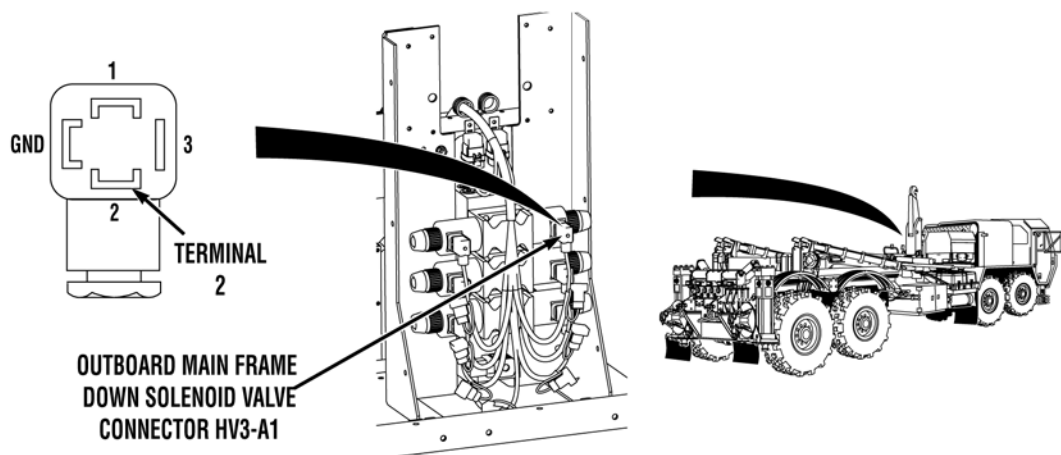
MOS 63B Wheeled vehicle mechanic (2)

References

TM 9-2320-325-14&P
 WP 0011
 WP 0016
 WP 0088
 WP 0089
 WP 0125
 WP 0132
 WP 0133
 WP 0136
 WP 0145

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
 Parking brake applied (TM 9-2320-347-10)
 Wheels chocked (TM 9-2320-347-10)

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MAIN FRAME DOES NOT LOAD IN MANUAL MODE**

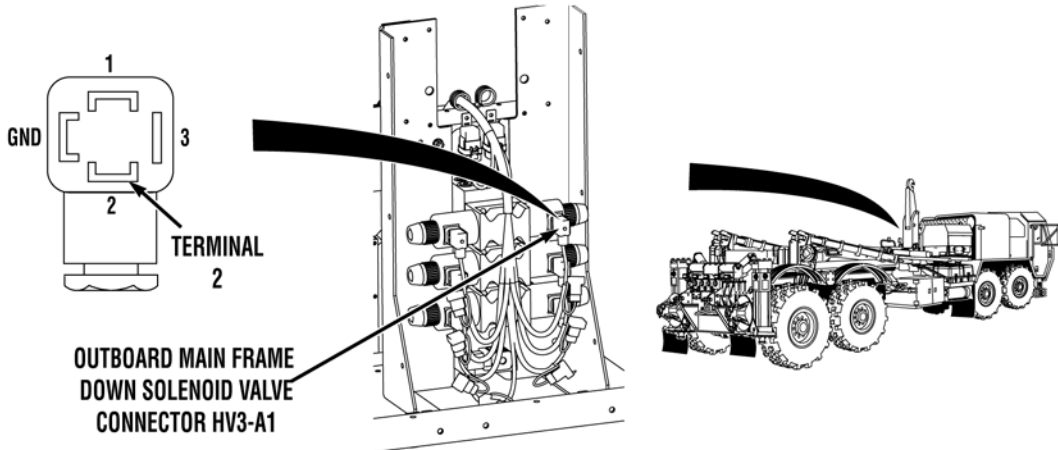
- Step 1. Remove LHS main valve assembly box cover (WP 0145). Disconnect THAAD control valve main frame up harness connector HV3-A1. Turn start engine switch to ON position (engine OFF) (TM 9-2320-347-10). Position LHS cab control mode select switch to MAN MAIN FRAME position. Soldier A checks for 22 to 28 vdc at connector HV3-A1, terminal 2, and a known good ground, while Soldier B holds joystick in LOAD position.
- If 22 to 28 vdc are not present, go to Step 6.

MALFUNCTION

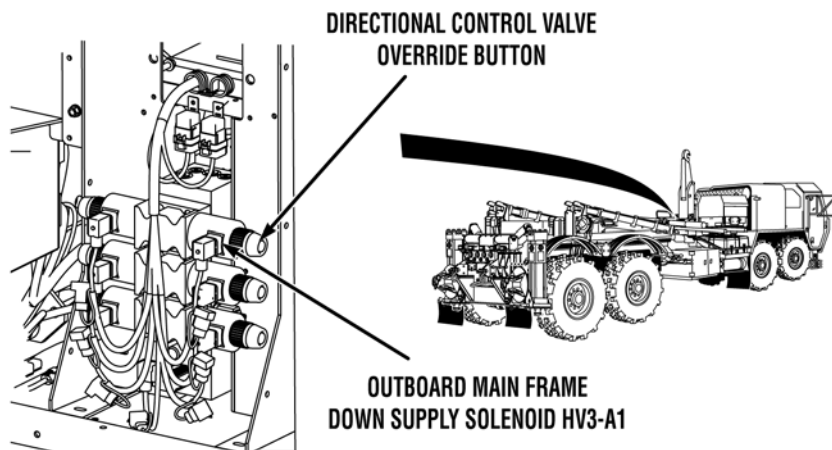
TEST OR INSPECTION

CORRECTIVE ACTION

MAIN FRAME DOES NOT LOAD IN MANUAL MODE (CONTINUED)

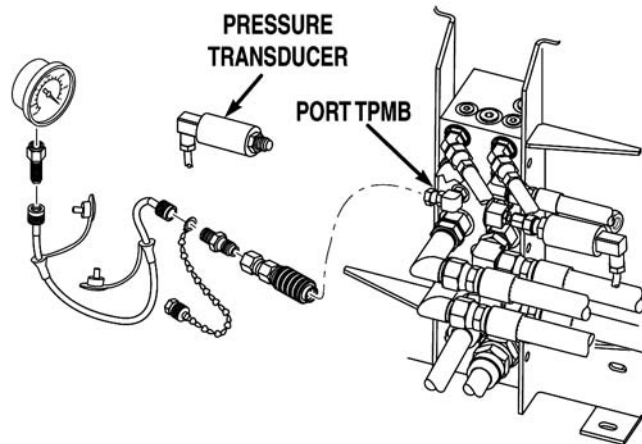


- Step 2. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across THAAD control valve harness wire 1435 from connector HV3-A1, terminal 1 to a known good ground.
- a. If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).



- Step 3. Start engine (TM 9-2320-347-10) Position LHS cab control mode select switch to MAN MAIN FRAME position (WP 0016). Check if main frame unloads, while depressing and holding main frame down control valve (WP 0016). Note main frame operation. Turn PTO switch to OFF position (WP 0011). Shut off engine (TM 9-2320-347-10)

If main frame retracts, replace main frame directional control valve (WP 0125).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MAIN FRAME DOES NOT LOAD IN MANUAL MODE (CONTINUED)****WARNING**

The THAAD hydraulic system operates up to 3,100 psi (21,374 kPa). Never disconnect any hydraulic line or fitting without first dropping system pressure to zero. Failure to comply may result in serious injury or death to personnel.

CAUTION

- Engine speed must be at idle before using LHS cab mode select switch. Failure to comply may result in damage to equipment.
- Fully extending or retracting cylinders will put hydraulic system into relief. This should be limited to 10 seconds. Failure to comply may result in damage to equipment.

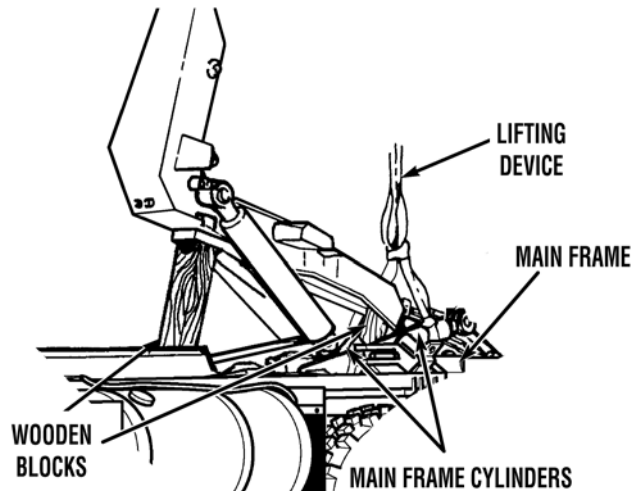
NOTE

During empty load or unload cycle, hydraulic pressure will read approximately 1,000 psi (6,895 kPa) until cylinders are fully extended or retracted. 3,100 psi (21,374 kPa) will be reached when cylinders are fully extended or retracted.

- Step 4. Remove pressure transducer from LHS main manifold assembly (WP 0136) at port TPMB. Install pressure gage at port TPMB. Start engine (TM 9-2320-347-10) Turn PTO switch to ON position (WP 0011). Soldier A checks for 3,100 psi (21,374 kPa) at port TPMB, while Soldier B attempts to load main frame (WP 0016). Note reading. Turn PTO switch to OFF position (WP 0011). Shut off engine (TM 9-2320-347-10) Disconnect pressure gage from port TPMB. Install pressure transducer to port TPMB (WP 0038).

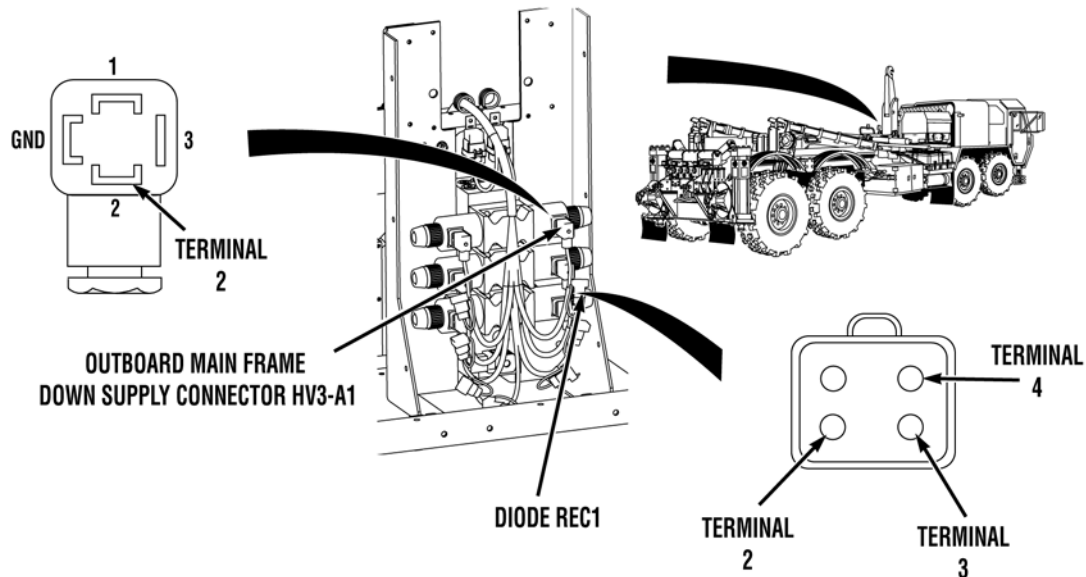
If 3,100 psi (21, 374 kPa) are not present, replace main frame directional control valve (WP 0125).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

MAIN FRAME DOES NOT LOAD IN MANUAL MODE (CONTINUED)**WARNING**

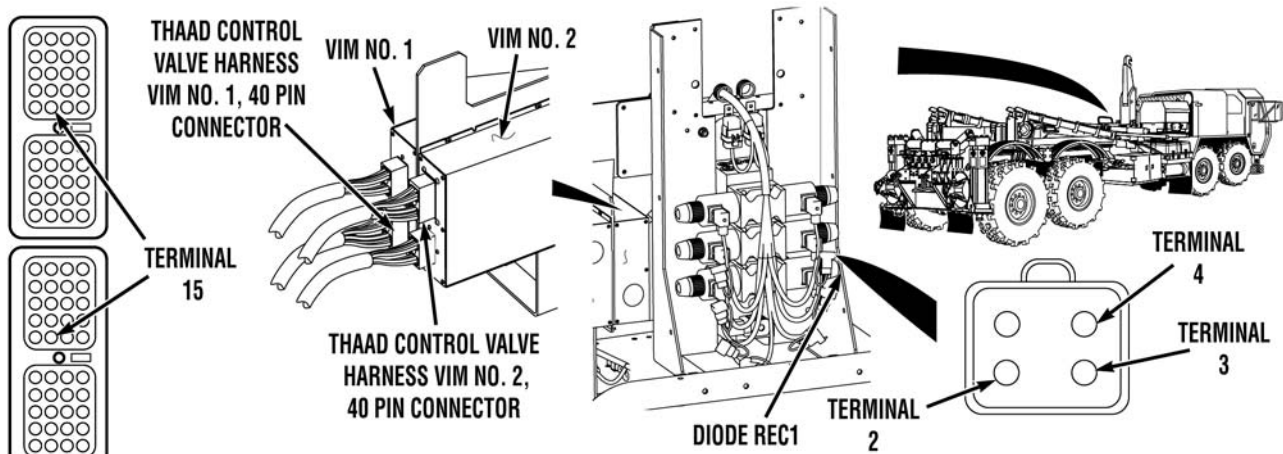
Main frame and hook arm combined weight is 2,100 lbs (953 kg). Main frame must be raised with a suitable lifting device and supported with two wooden blocks. Failure to comply may result in serious injury or death to personnel.

- Step 5. Turn engine switch to ON position (engine OFF) (TM 9-2320-347-10) Turn LHS cab mode select switch to MAN TRANSIT position (WP 0016). With suitable lifting device, Soldier A and Soldier B raise main frame and block in two places with wooden blocks (WP 0132). Turn engine switch to OFF position (TM 9-2320-347-10) With suitable lifting device, Soldier A and Soldier B remove rod end of both main frame cylinders from main frame (WP 0133) and raise rod end of cylinder to clear main frame. Start engine (TM 9-2320-347-10) While Soldier A attempts to load main frame using emergency procedures (WP 0016), Soldier B notes operation of main frame cylinders. Shut off engine (TM 9-2320-347-10)
- a. If one main frame cylinder does not retract, replace non-retracting main frame cylinder manifold (WP 0132).
 - b. If both main frame cylinders do not retract, notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MAIN FRAME DOES NOT LOAD IN MANUAL MODE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 6. Disconnect diode REC1. Turn engine start switch to ON position (engine OFF) (TM 9-2320-347-10) Position LHS cab control mode selector to MAN MAIN FRAME position. Soldier A checks for 22 to 28 vdc between wires 1465A and 1465B at THAAD control valve harness rectifier REC1 connector, terminals 2 and 3 and a known good ground, while Soldier B holds joystick in LOAD position. Note readings.
- If 22 to 28 vdc are not present on both wires, notify Supervisor.
 - If 22 to 28 vdc are present on both wires, perform Step 7 only.
 - If 22 to 28 vdc are present on one wire, perform Steps 7 through 9.
- Step 7. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across THAAD control valve harness wire 1468 from connector REC1, terminal 4 to connector HV3-A1, terminal 2.
- If there is continuity, replace diode REC1 (WP 0088).
 - If there is no continuity, repair wire 1465 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MAIN FRAME DOES NOT LOAD IN MANUAL MODE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

- Perform Step 8 if 22 to 28 vdc are not present on wire 1465A at connector REC1, terminal 2 in Step 6.
- Perform Step 9 if 22 to 28 vdc are not present on wire 1465B at connector REC1, terminal 3 in Step 6.

Step 8. Disconnect THAAD control valve harness VIM No. 1, 40 pin connector (WP 0089). Check for continuity across wire 1465A from VIM No. 1, 40 pin connector, terminal 15 to REC1 connector, terminal 2.

- If there is continuity, replace VIM No. 1 (WP 0089).
- If there is no continuity, repair wire 1465A (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

Step 9. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Check for continuity across wire 1465B from VIM No. 2, 40 pin connector, terminal 15 to REC1 connector, terminal 3.

- If there is continuity, replace VIM No. 2 (WP 0089).
- If there is no continuity, repair wire 1468B (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**MAIN FRAME DOES NOT UNLOAD IN MANUAL MODE**

Tools and Special Tools

Adapter, Straight PI (WP 0183, Item 2)
Coupling Half, Quick (WP 0183, Item 3)
Gage, Pressure, Dial (WP 0183, Item 7)
Hose Assembly, Nonme (WP 0183, Item 8)
Pan, Drain (WP 0183, Item 10)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wooden Block (2) (WP 0157, Item B-13)

Materials/Parts

None

Personnel Required

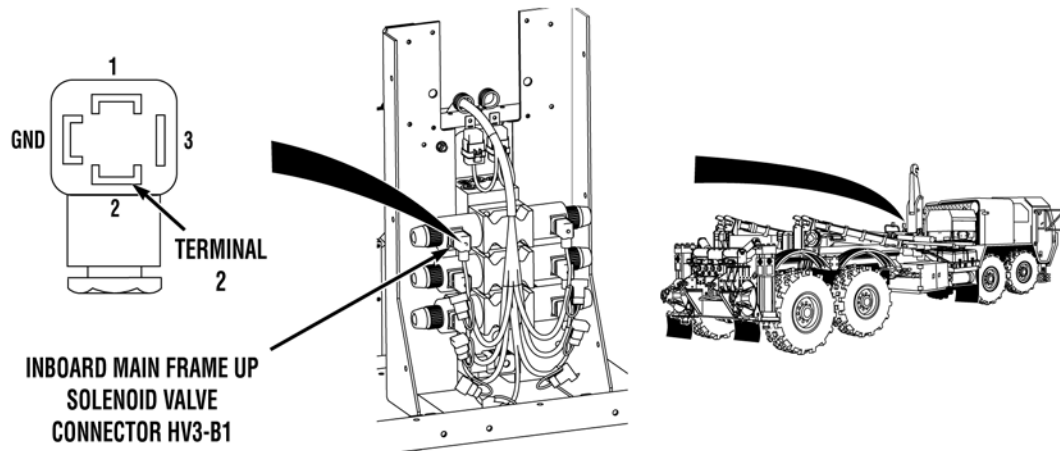
MOS 63B Wheeled vehicle mechanic (2)

References

TM 9-2320-325-14&P
WP 0011
WP 0012
WP 0016
WP 0088
WP 0089
WP 0125
WP 0132
WP 0133
WP 0136
WP 0145

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Parking brake applied (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

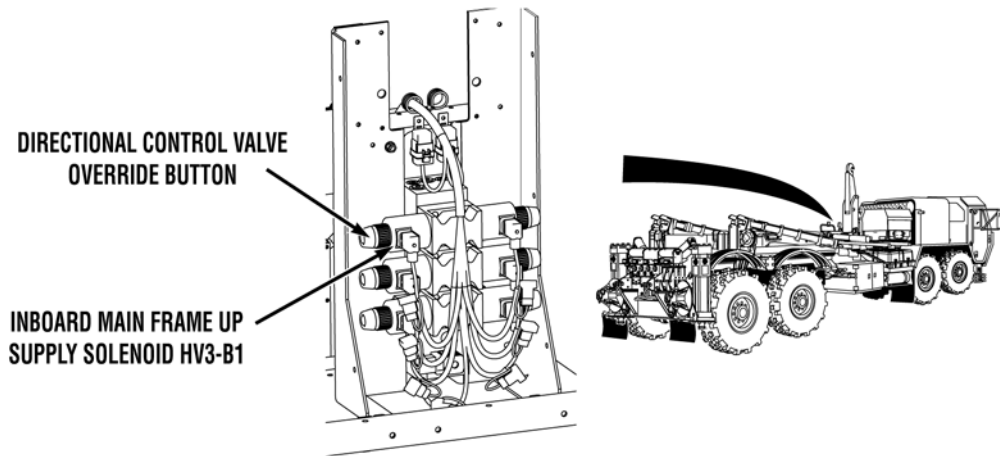
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MAIN FRAME DOES NOT UNLOAD IN MANUAL MODE**

- Step 1. Remove LHS main valve assembly box cover (WP 0145). Disconnect THAAD control valve main frame up harness connector HV3-B1. Turn start engine switch to ON position (engine OFF) (TM 9-2320-347-10) Position LHS cab control mode select switch to MAN MAIN FRAME position (WP 0012). Soldier A checks for 22 to 28 vdc at connector HV3-B1, terminal 2, and a known good ground, while Soldier B holds joystick in UNLOAD position.

If 22 to 28 vdc are not present, go to Step 6.

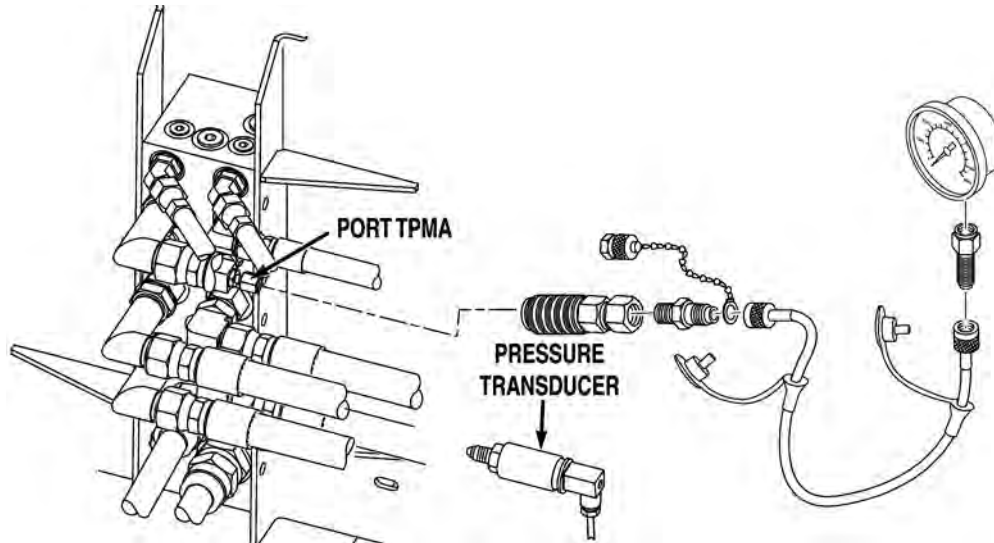
- Step 2. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across THAAD control valve harness wire 1435 from connector HV3-B1, terminal 1 to a known good ground.

If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MAIN FRAME DOES NOT UNLOAD IN MANUAL MODE (CONTINUED)**

- Step 3. Connect THAAD control valve main frame up harness connector HV3-B1. Start engine (TM 9-2320-347-10) Position LHS cab control mode select switch to MAN MAIN FRAME position (WP 0016). Check if main frame unloads, while depressing and holding main frame directional control valve override button. Note main frame operation. Turn PTO switch to OFF position (WP 0011). Shut off engine (TM 9-2320-347-10)

If main frame extends, replace main frame directional control valve (WP 0125).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MAIN FRAME DOES NOT UNLOAD IN MANUAL MODE (CONTINUED)****WARNING**

The THAAD hydraulic system operates up to 3,100 psi (21,374 kPa). Never disconnect any hydraulic line or fitting without first dropping system pressure to zero. Failure to comply may result in serious or death to personnel.

CAUTION

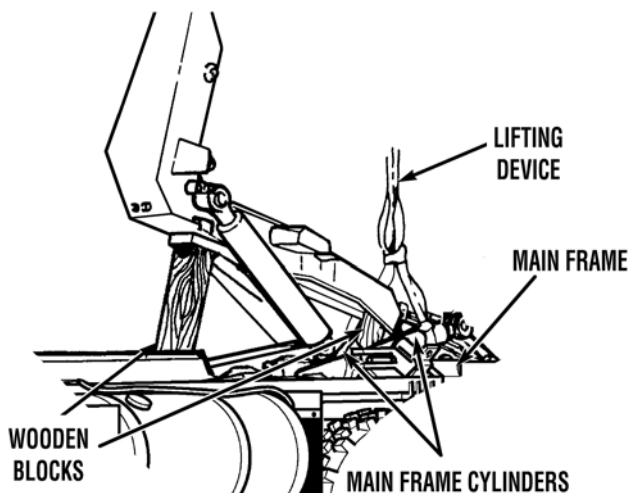
- Engine speed must be at idle before using LHS cab mode select switch. Failure to comply may result in damage to equipment.
- Fully extending or retracting cylinders will put hydraulic system into relief. This should be limited to 10 seconds. Failure to comply may result in damage to equipment.

NOTE

During empty load or unload cycle, hydraulic pressure will read approximately 1,000 psi (6,895 kPa) until cylinders are fully extended or retracted. 3,100 psi (21,374 kPa) will be reached when cylinders are fully extended or retracted.

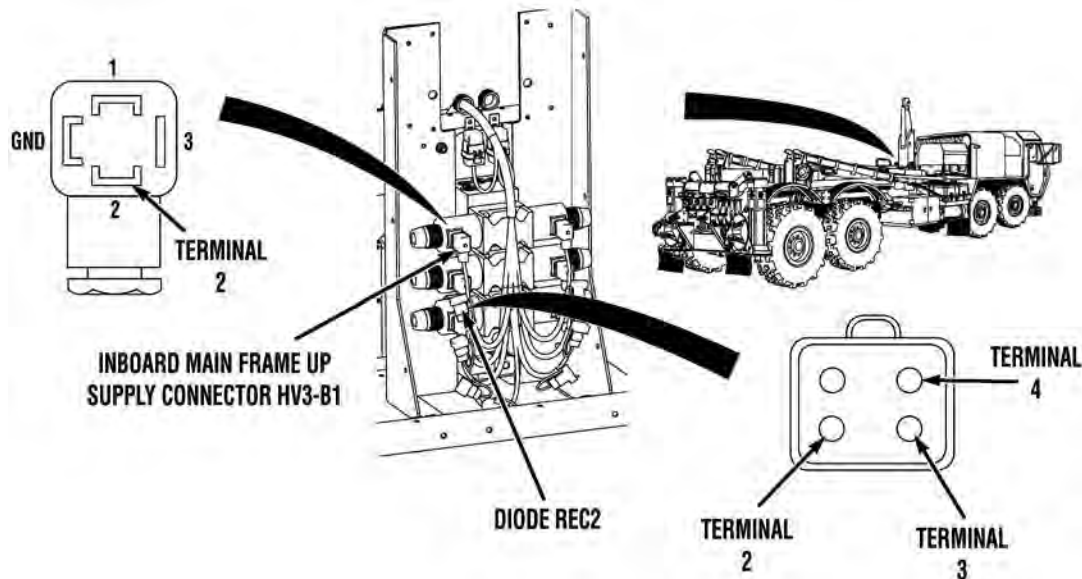
- Step 4. Remove pressure transducer from LHS main manifold assembly (WP 0136) at port TPMA. Install pressure gage at port TPMA. Start engine (TM 9-2320-347-10) Turn PTO switch to ON position (WP 0011). Soldier A checks for 3,100 psi (21,374 kPa) at port TPMA, while Soldier B attempts to unload main frame (WP 0016). Note reading. Turn PTO switch to OFF position (WP 0011). Shut off engine (TM 9-2320-347-10) Disconnect pressure gage from port TPMA. Install pressure transducer to port TPMA (WP 0136).

If 3,100 psi (21, 374 kPa) are not present, replace main frame directional control valve (WP 0125).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MAIN FRAME DOES NOT UNLOAD IN MANUAL MODE (CONTINUED)****WARNING**

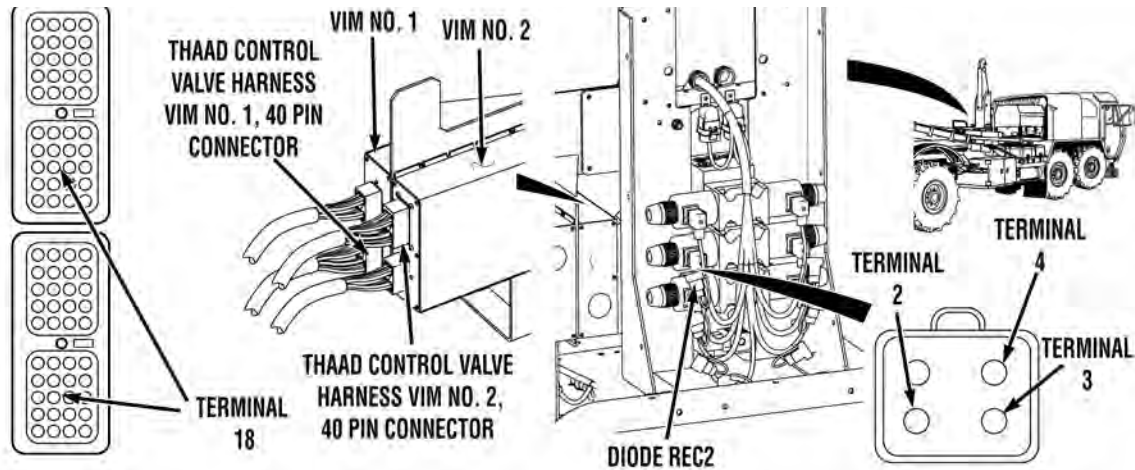
Main frame and hook arm combined weight is 2,100 lbs (953 kg). Main frame must be raised with a suitable lifting device and supported with two wooden blocks. Failure to comply may result in serious injury or death to personnel.

- Step 5. Turn engine switch to ON position (engine OFF) (TM 9-2320-347-10) Turn LHS cab mode select switch to MAN TRANSIT position (WP 0016). With suitable lifting device, Soldier A and Soldier B raise main frame and block in two places with wooden blocks (WP 0132). Turn engine switch to OFF position (TM 9-2320-347-10) With suitable lifting device, Soldier A and Soldier B remove rod end of both main frame cylinders from main frame (WP 0133) and raise rod end of cylinder to clear main frame. Start engine (TM 9-2320-347-10) While Soldier A attempts to unload main frame using emergency procedures (WP 0016), Soldier B notes operation of main frame cylinders. Shut off engine (TM 9-2320-347-10)
- a. If one main frame cylinder does not extend, replace non-extending main frame cylinder manifold (WP 0132).
 - b. If both main frame cylinders do not extend, notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MAIN FRAME DOES NOT UNLOAD IN MANUAL MODE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 6. Disconnect diode REC2. Turn engine start switch to ON position (engine OFF) (TM 9-2320-347-10) Position LHS cab control mode selector to MAN MAIN FRAME position (WP 0012). Soldier A checks for 22 to 28 vdc between wires 1468A and 1468B at THAAD control valve harness rectifier REC2 connector, terminals 2 and 3 and a known good ground, while Soldier B holds joystick in UNLOAD position. Note readings.
- If 22 to 28 vdc are not present on both wires, notify Supervisor.
 - If 22 to 28 vdc are present on both wires, perform Step 7 only.
 - If 22 to 28 vdc are present on one wire, perform Steps 7 through 9.
- Step 7. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across THAAD control valve harness wire 1468 from connector REC2, terminal 4 to connector HV3-B1, terminal 2.
- If there is continuity, replace diode REC2 (WP 0088).
 - If there is no continuity, repair wire 1468 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MAIN FRAME DOES NOT UNLOAD IN MANUAL MODE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

- Perform Step 8 if 22 to 28 vdc are not present on wire 1468A at connector REC2, terminal 2 in Step 6.
- Perform Step 9 if 22 to 28 vdc are not present on wire 1468B at connector REC2, terminal 3 in Step 6.

- Step 8. Disconnect THAAD control valve harness VIM No. 1, 40 pin connector (WP 0089). Check for continuity across wire 1468A from VIM No. 1, 40 pin connector, terminal 18 to REC2 connector, terminal 2.
- If there is continuity, replace VIM No. 1 (WP 0089).
 - If there is no continuity, repair wire 1468A (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).
- Step 9. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Check for continuity across wire 1468B from VIM No. 2 output connector, terminal 18 to REC2 connector, terminal 3.
- If there is continuity, replace VIM No. 2 (WP 0089).
 - If there is no continuity, repair wire 1468B (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**MRP CONTROL STATION INDICATOR LIGHTS DO NOT OPERATE DURING LAMP TEST**

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

None

Personnel Required

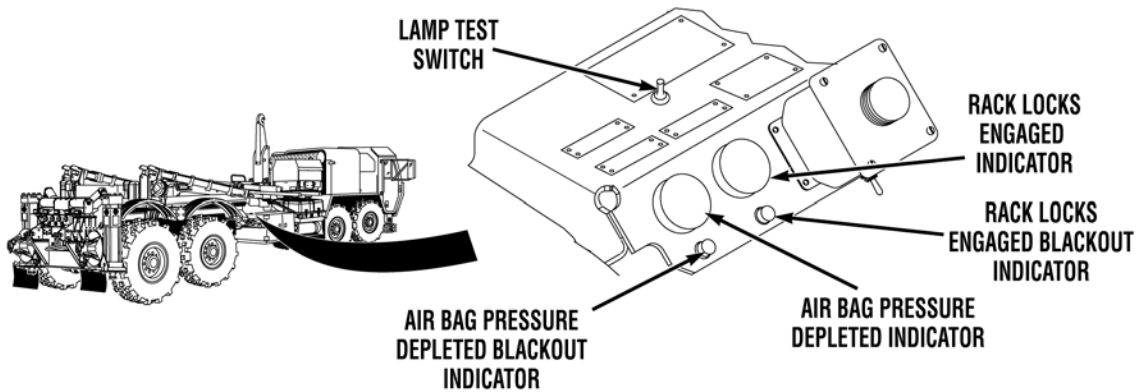
MOS 63B Wheeled vehicle mechanic

References

TM 9-2320-325-14&P
WP 0004
WP 0021
WP 0025
WP 0067
WP 0088
WP 0089

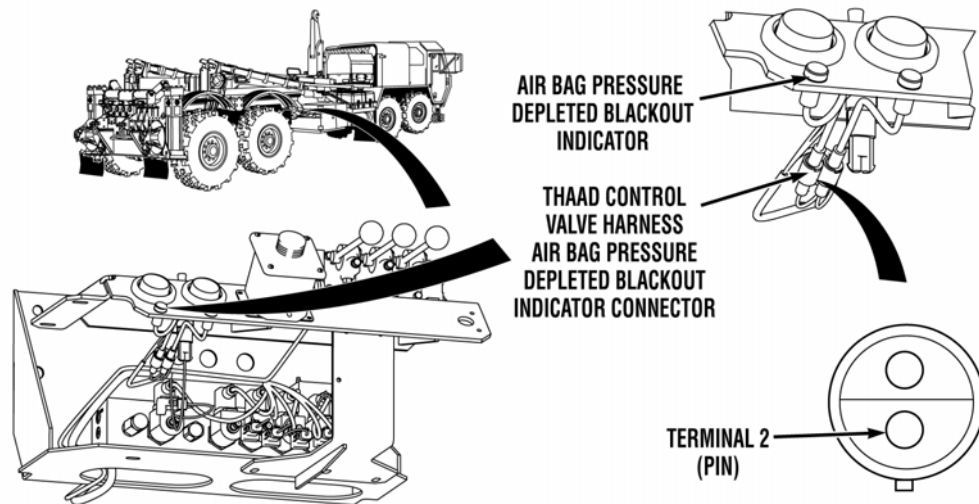
Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Parking brake applied (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP CONTROL STATION INDICATOR LIGHTS DO NOT OPERATE DURING LAMP TEST****NOTE**

MRP control station lamp test will test the RACK LOCKS ENGAGED, RACK LOCKS ENGAGED blackout indicator lights, AIR BAG PRESSURE DEPLETED and AIR BAG PRESSURE DEPLETED blackout indicator lights.

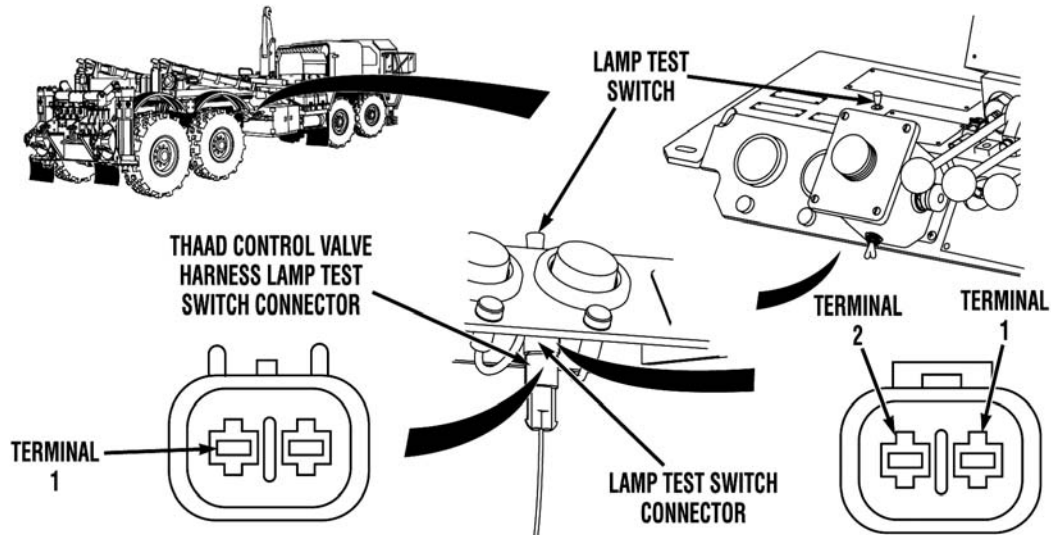
- Step 1. Turn engine start switch ON (TM 9-2320-347-10) Perform MRP control station lamp test by selecting LAMP TEST switch (WP 0004).
- a. If RACK LOCKS ENGAGED or RACK LOCKS ENGAGED blackout indicator light does not illuminate and all other indicator lights illuminate, troubleshoot Rack Locks Engaged Indicator Light(s) Do Not Operate Properly (WP 0025).
 - b. If AIR BAG PRESSURE DEPLETED or AIR BAG PRESSURE DEPLETED blackout indicator light does not illuminate and all other indicator lights illuminate, troubleshoot Air Bag Pressure Depleted Indicator Light(s) Do Not Operate Properly (WP 0021).
 - c. If RACK LOCKS ENGAGED, RACK LOCKS ENGAGED blackout indicator lights, AIR BAG PRESSURE DEPLETED and AIR BAG PRESSURE DEPLETED blackout indicator light do not illuminate, go to Step 2.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP CONTROL STATION INDICATOR LIGHTS DO NOT OPERATE DURING LAMP TEST (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 2. Disconnect THAAD control valve harness AIR BAG PRESSURE DEPLETED blackout indicator connector. Check for continuity across wire 1435 from AIR BAG PRESSURE DEPLETED blackout indicator connector, terminal 2 to a known good ground.

If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP CONTROL STATION INDICATOR LIGHTS DO NOT OPERATE DURING LAMP TEST (CONTINUED)****WARNING**

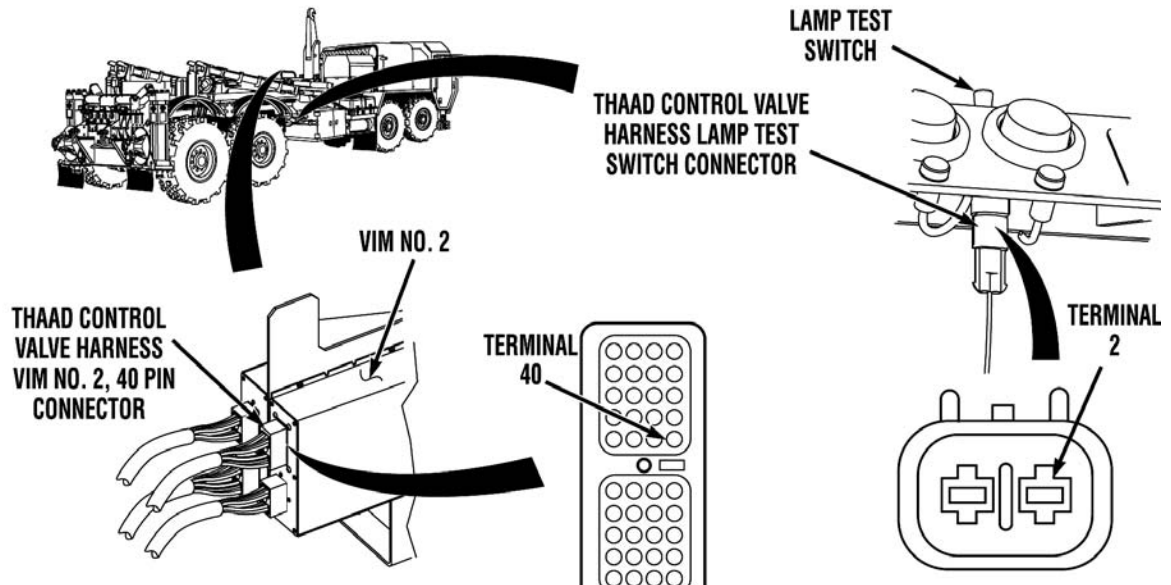
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 3. Disconnect THAAD control valve harness lamp test switch connector. Check for continuity across lamp test switch between lamp test switch connector, terminals 1 and terminal 2, when lamp test switch is activated.

If there is no continuity, replace lamp test switch and pigtail (WP 0067).

- Step 4. Check for continuity across wire 1435 from THAAD control valve harness lamp test switch connector, terminal 1 to a known good ground.

If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP CONTROL STATION INDICATOR LIGHTS DO NOT OPERATE DURING LAMP TEST (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 5. Disconnect THAAD control valve harness VIM No. 2 connector (WP 0089). Check for continuity across wire 1995 from lamp test switch connector, terminal 2 to VIM No. 2, 40 pin connector, terminal 10.
- a. If there is continuity, replace VIM No. 2 (WP 0089).
 - b. If there is no continuity, repair wire 1995 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

MRP DOES NOT EXTEND

Tools and Special Tools

- Adapter, Straight, PI (WP 0183, Item 2)
- Coupling Half, Quick (WP 0183, Item 3)
- Gage, Pressure, Dial (WP 0183, Item 7)
- Hose Assembly, Nonme (WP 0183, Item 8)
- Tool Kit, Electrical (WP 0183, Item 25)
- Tool Kit, General Mechanic's: Automotive (WP 0183, Item 25)

Materials/Parts

None

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

References

- WP 0007
- WP 0010

References (Continued)

- WP 0012
- WP 0016
- WP 0021
- WP 0025
- WP 0066
- WP 0088
- WP 0089
- WP 0119
- WP 0126
- WP 0138
- WP 0139

Equipment Conditions

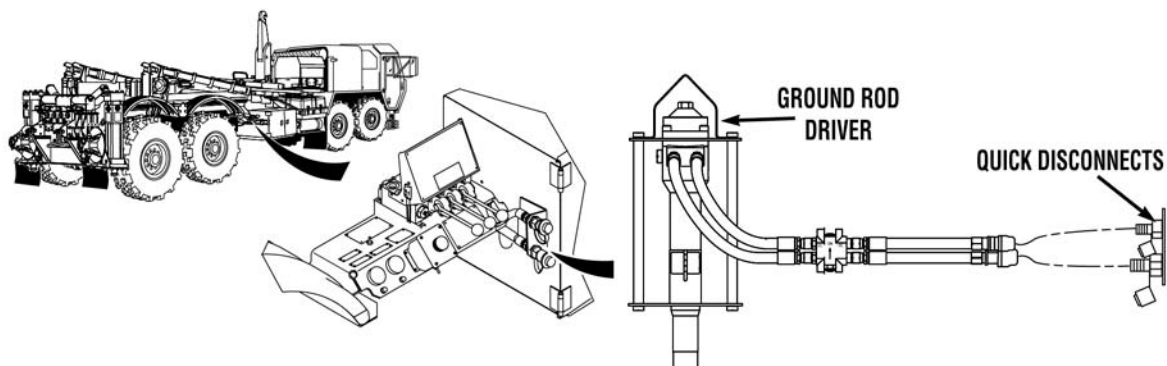
- Engine OFF (TM 9-2320-347-10)
- Parking brake applied (TM 9-2320-347-10)
- Wheels chocked (TM 9-2320-347-10)

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

MRP DOES NOT EXTEND



NOTE

MRP must be loaded and MUJB connector must be connected to MUJB to complete this procedure.

- Step 1. Start engine (TM 9-2320-347-10) Check if ground rod driver operates (WP 0010). Shut off engine (TM 9-2320-347-10)

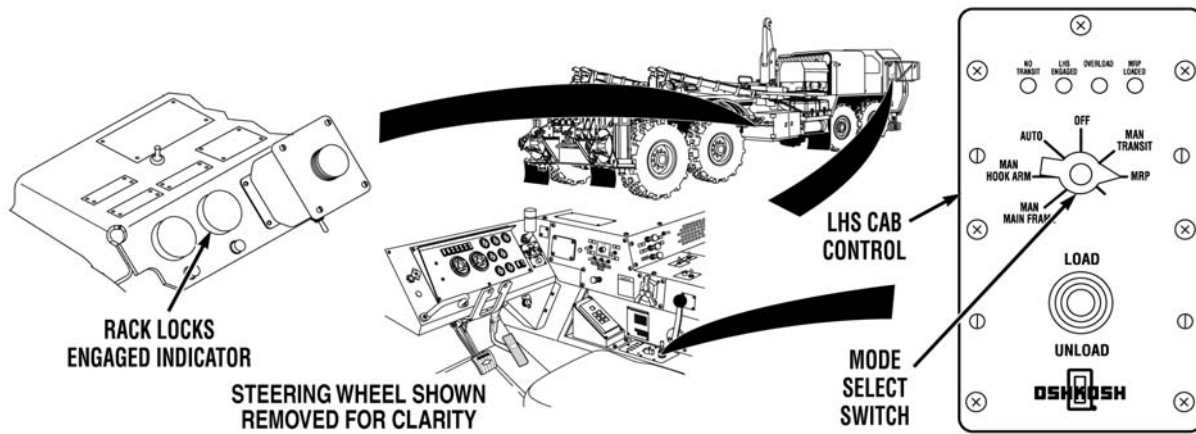
If ground rod driver does not operate, notify Supervisor.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

MRP DOES NOT EXTEND (CONTINUED)

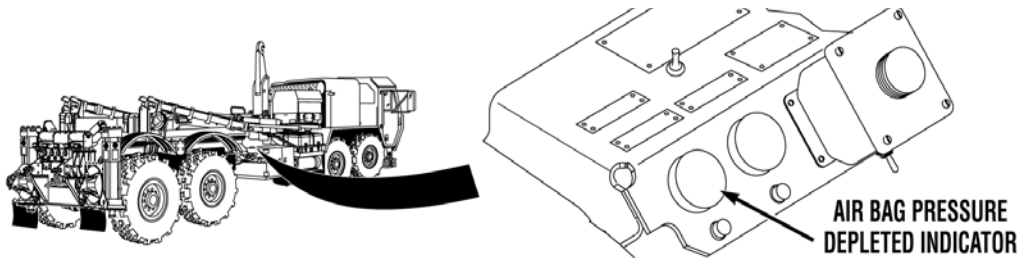


NOTE

MRP rack locks must be engaged to operate elevation cylinders. MRP rack locks are engaged when RACK LOCKS ENGAGED indicator light is illuminated steady.

Step 2. Turn engine start switch ON (TM 9-2320-347-10) Position LHS cab control mode select switch to MRP position (WP 0007). Check if RACK LOCKS ENGAGED indicator light is illuminated.

If RACK LOCK ENGAGED indicator light is not illuminated or is flashing, troubleshoot Rack Locks Engaged Indicator Light(s) Do Not Operate Properly (WP 0025).

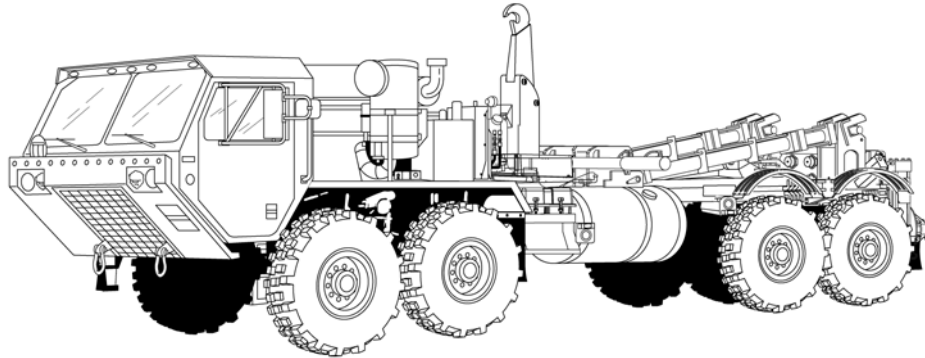


NOTE

Rear suspension air spring pressure must be depleted to operate elevation cylinders. Air spring pressure is depleted when AIR BAG PRESSURE DEPLETED indicator light is illuminated steady.

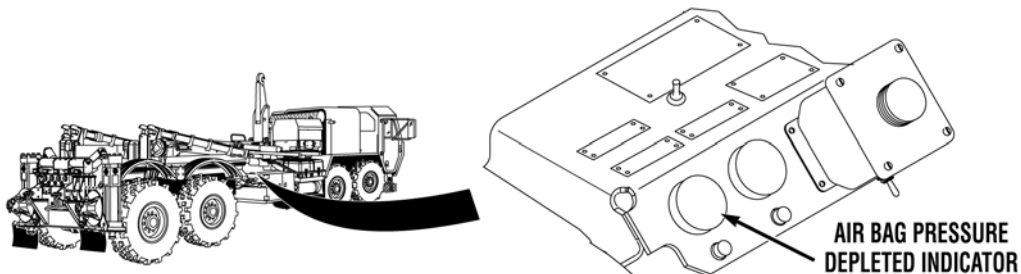
Step 3. Check if AIR BAG PRESSURE DEPLETED indicator light is illuminated.

If AIR BAG PRESSURE DEPLETED indicator light is not illuminated or is flashing, troubleshoot Air Bag Pressure Depleted Indicator Light(s) Do Not Operate Properly (WP 0021).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT EXTEND (CONTINUED)**

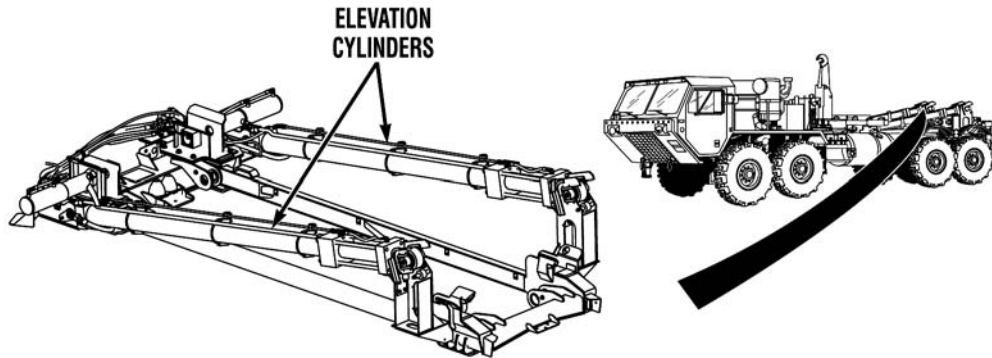
- Step 4. Turn engine start switch OFF (TM 9-2320-347-10) Inspect hydraulic hoses 2742, 2743, 2760, 2761, and 2781, tubing, and fittings from MRP distribution manifold and control valves to left and right elevation cylinders and hydraulic reservoir for leaks, kinks, and damage (WP 0119).

If hydraulic hoses, tubes and/or fittings leak, or are damaged, tighten loose fittings or replace damaged hoses and/or tubes (WP 0119).



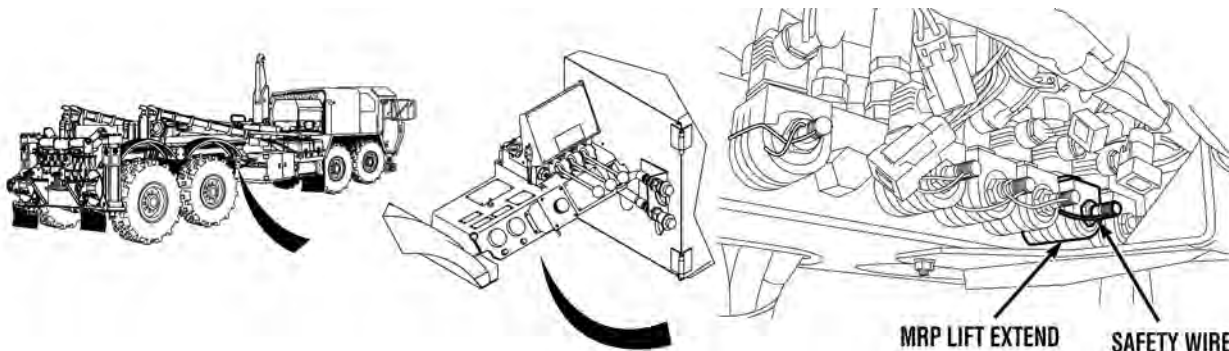
- Step 5. Connect pressure gage and hose to test port TP5. Soldier A starts engine (TM 9-2320-347-10) and checks for 3,000 psi (20,684 kPa) at test port TP5, while Soldier B attempts to extend MRP elevation cylinders (WP 0007).

If 3,000 psi (20,684 kPa) is not measured, shut off engine (TM 9-2320-347-10) and go to Step 7.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT EXTEND (CONTINUED)****NOTE**

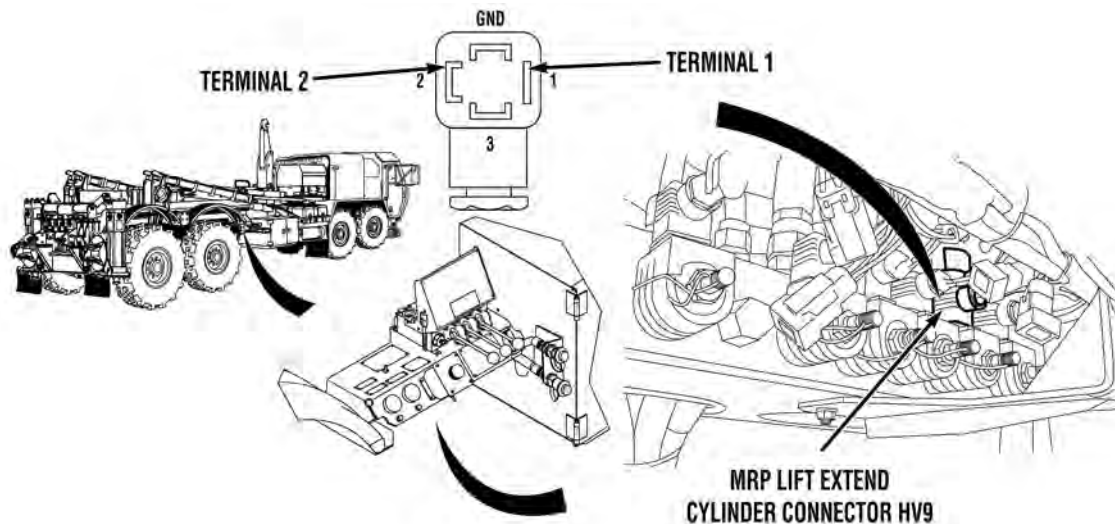
Elevation cylinders may not extend at same rate before they engage MRP. Once first elevation cylinder engages MRP, second elevation cylinder should extend until it engages MRP. Then both elevation cylinders should extend at same rate.

- Step 6. Operate elevation cylinder controls (WP 0007). Check if at least one elevation cylinder extends when MRP elevation controls are operated (WP 0007). Shut off engine (TM 9-2320-347-10)
- a. If both cylinders extend when operating MRP, problem is corrected.
 - b. If only one elevation cylinder extends, replace nonoperating cylinder (WP 0139).
 - c. If both elevation cylinders do not extend, replace MRP distribution manifold (WP 0126).



- Step 7. Remove safety wire from solenoid HV9. Soldier A check for 3,000 psi (20,684 kPa) at test port TP5, while HV9 bypass valve is pulled out and turned while Soldier B attempts to extend MRP elevation cylinders (WP 0007). Shut off engine (TM 9-2320-347-10)

If 3,000 psi (20,684 kPa) is not measured, install safety wire on solenoid HV9 and replace MRP control valve (WP 0138).

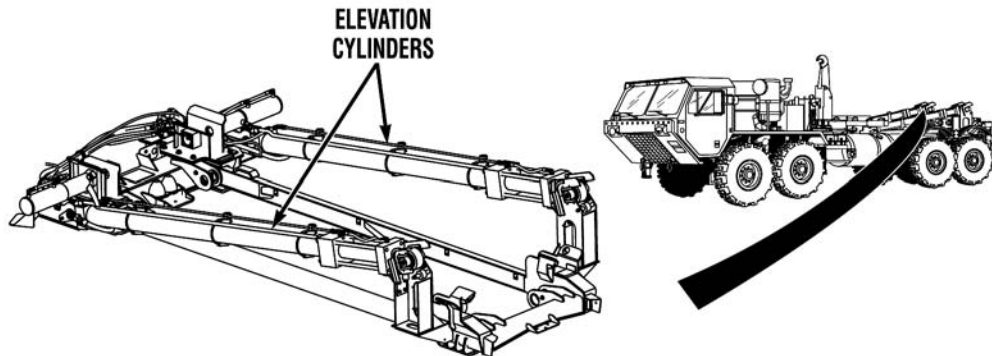
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT EXTEND (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 8. Disconnect THAAD control valve harness connector HV9. Turn engine start switch ON (TM 9-2320-347-10) Position LHS cab control mode select switch to MRP position (WP 0007). Soldier A checks for 22 to 28 vdc on wire 1971 at connector HV9, terminal 2 and known good ground, while Soldier B presses MRP palm button switch (WP 0007).

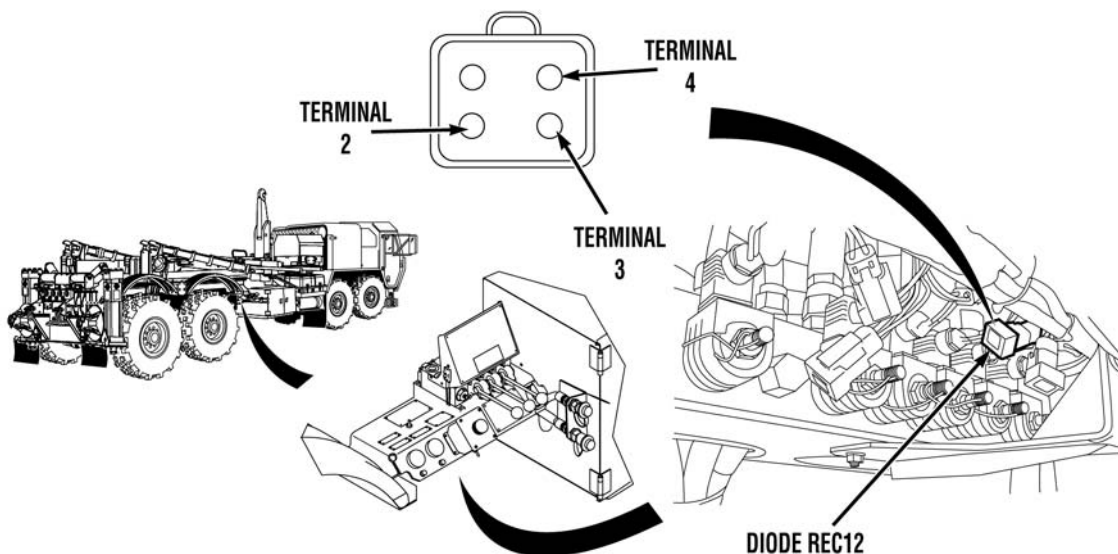
If 22 to 28 vdc are not present, go to Step 10.

- Step 9. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across wire 1435 from THAAD control valve harness connector HV9, terminal 1 to a known good ground.
- If there is continuity, replace MRP distribution manifold (WP 0126).
 - If there is no continuity, repair wire 1435 (TM 9-2320-347-10) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT EXTEND (CONTINUED)**

- Step 10. Connect THAAD control valve harness connector HV9. Start engine (TM 9-2320-347-10) Soldier A extends MRP elevation cylinders while Soldier B pulls out and turns HV9 bypass valve (WP 0007). Check if MRP elevation cylinders retract using normal operating procedures (WP 0007). Shut off engine (TM 9-2320-347-10) Install safety wire on solenoid HV9.

If elevation cylinders do not retract, retract elevation cylinders using emergency procedure (WP 0016) and go to Step 18.

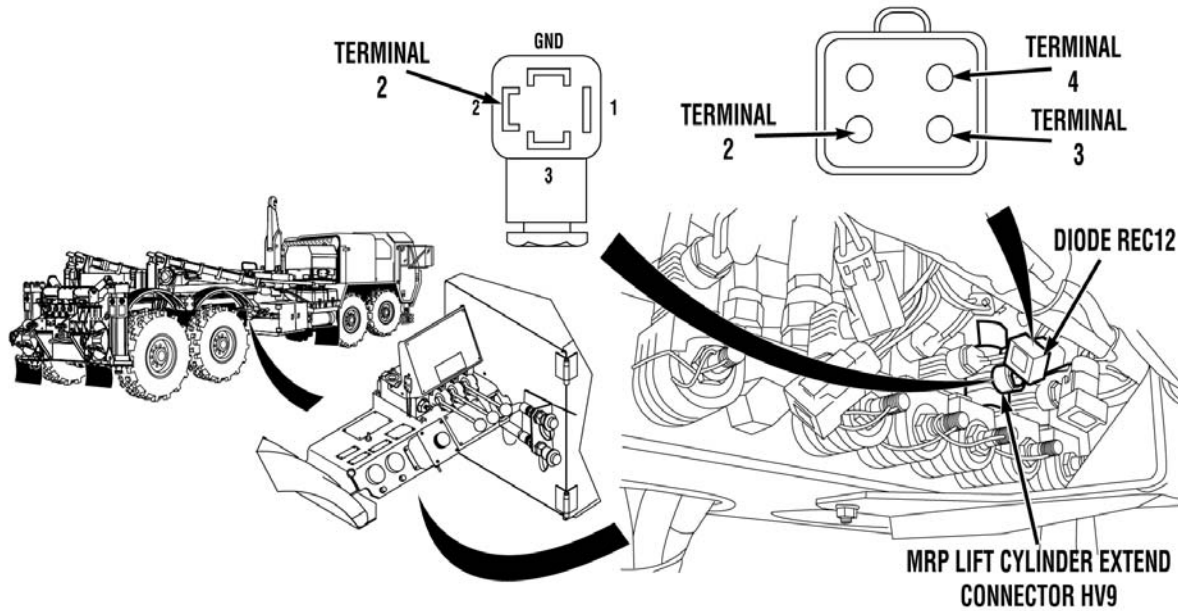
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT EXTEND (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

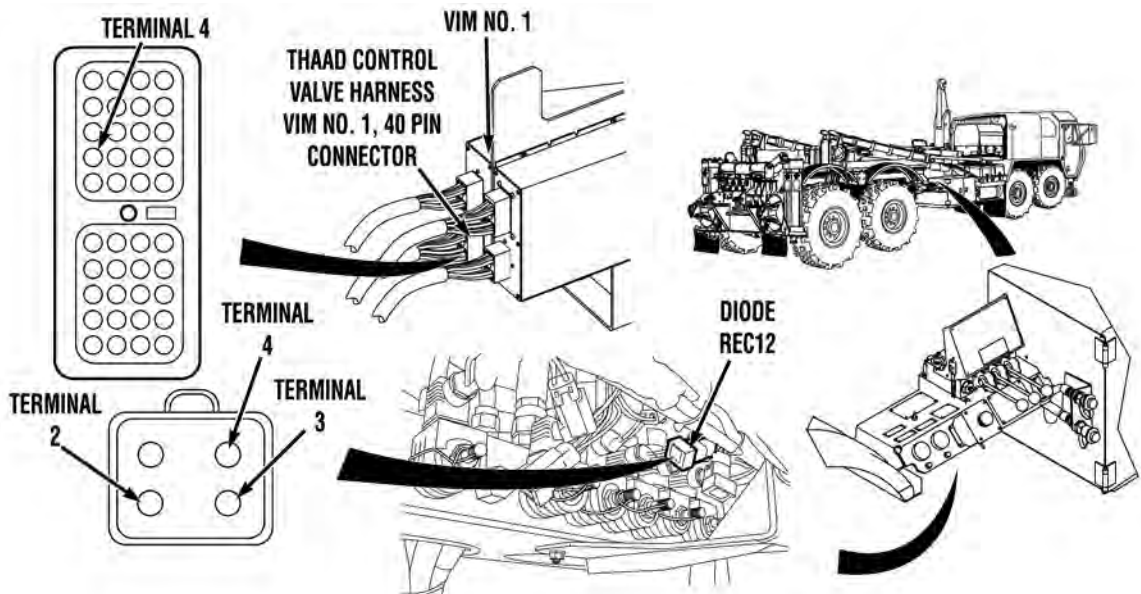
NOTE

Due to system redundancy, the valve control signal is required from only one of the VIMs for proper system operation. The following steps check the valve control circuit from both VIMs, to ensure system integrity.

- Step 11. Disconnect diode REC12. Turn engine start switch ON (TM 9-2320-347-10) Position LHS cab control mode select switch to MRP position (WP 0012). Soldier A checks for 22 to 28 vdc between wires 1971A and 1971B at THAAD control valve harness connector REC12, terminals 2 and 3 and a known good ground, while Soldier B presses MRP palm button switch (WP 0007). Note readings.
- a. If 22 to 28 vdc are not present on both, go to Step 15.
 - b. If 22 to 28 vdc are present on both wires, perform Step 12 only.
 - c. If 22 to 28 vdc are present on one wire, perform Steps 12 through 14.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT EXTEND (CONTINUED)**

- Step 12. Turn engine start switch OFF (TM 9-2320-347-10). Check for continuity across THAAD control valve harness wire 1971 between connector REC12, terminal 4 and connector HV9, terminal 2.
- a. If there is continuity, replace diode REC12 (WP 0088).
 - b. If there is no continuity, repair wire 1971 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

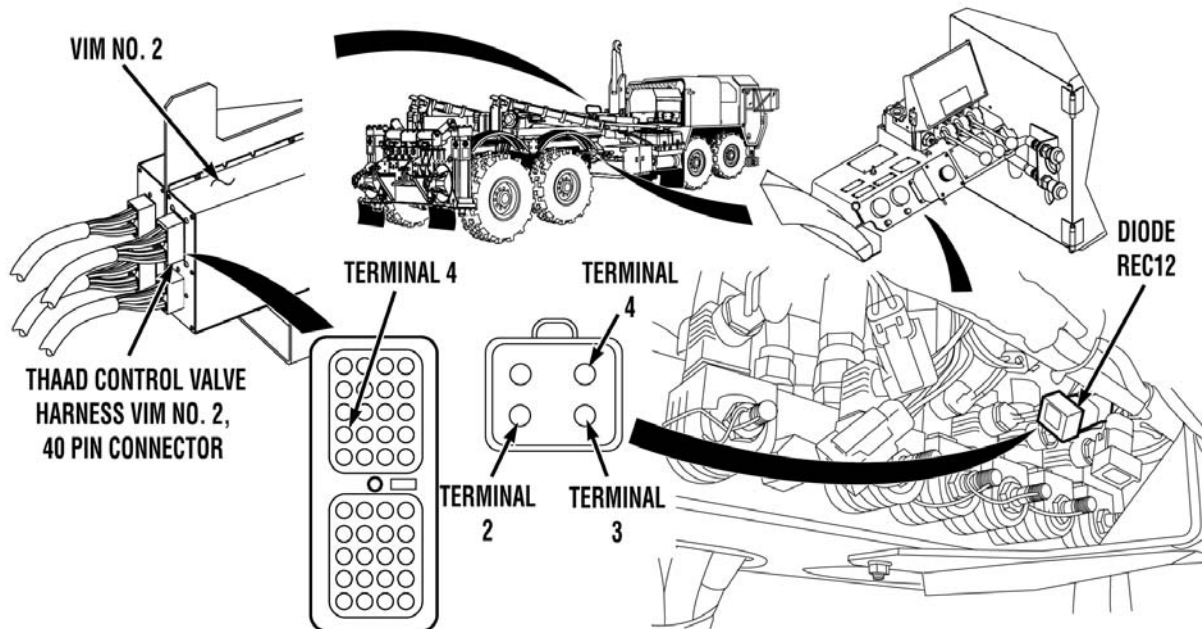
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT EXTEND (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

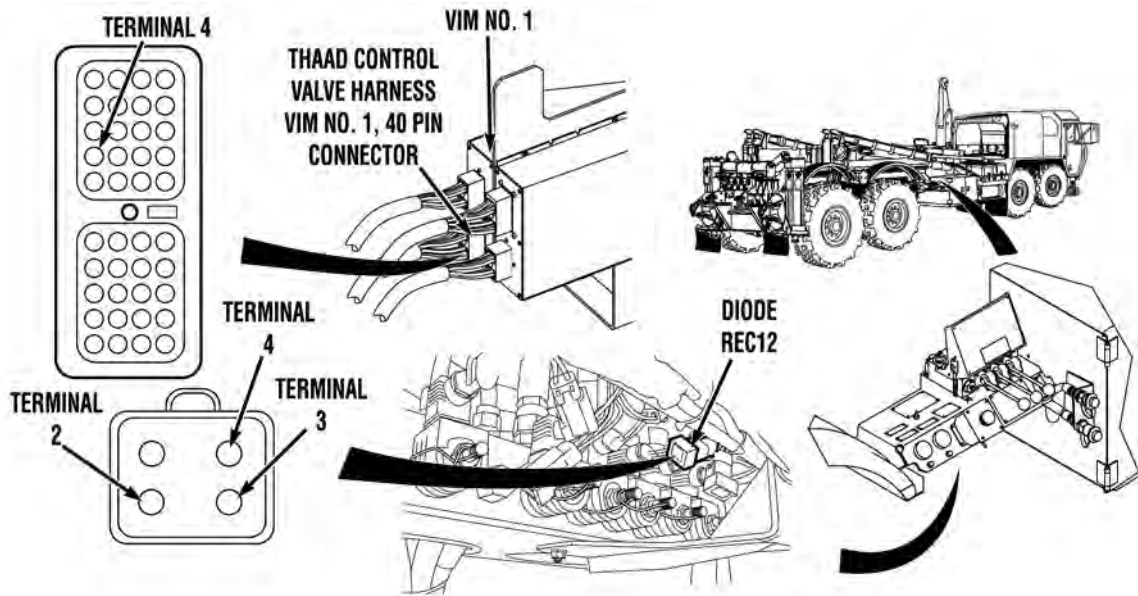
NOTE

- Perform Step 13 if no vdc is present on wire 1971A at connector REC12, terminal 2 in Step 11.
- Perform Step 14 if no vdc is present on wire 1971B at connector REC12, terminal 3 in Step 11.

- Step 13. Disconnect THAAD control valve harness VIM No. 1, 40 pin connector (WP 0089). Check for continuity across wire 1971A from VIM No. 1, 40 pin connector, terminal 4 to connector REC12, terminal 2.
- If there is continuity, replace VIM No. 1 (WP 0089).
 - If there is no continuity, repair wire 1971A (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT EXTEND (CONTINUED)**

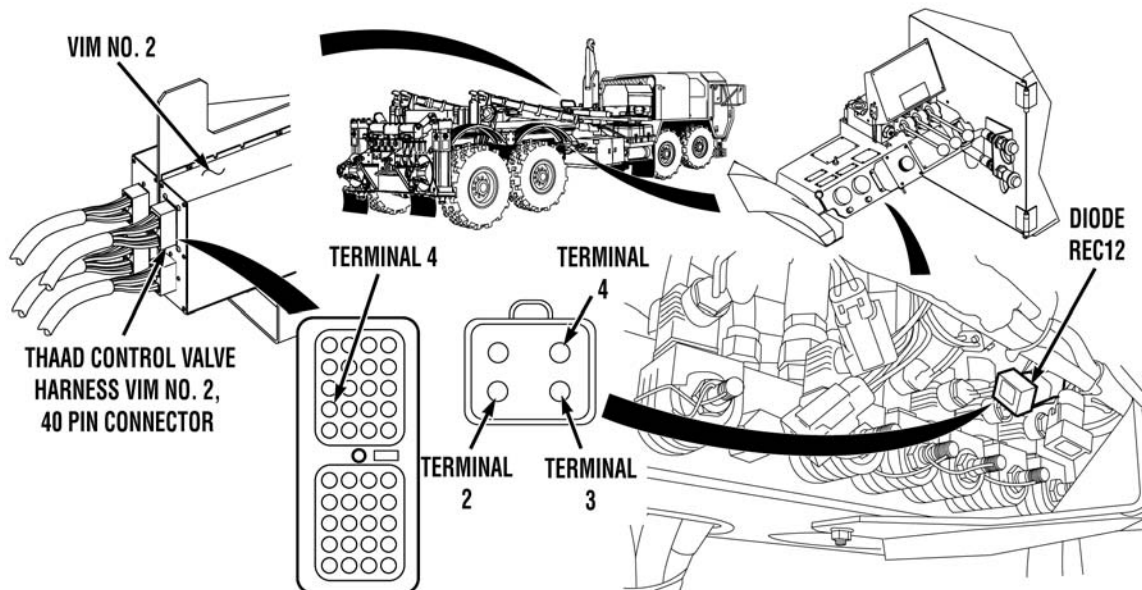
- Step 14. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Check for continuity across wire 1971B from VIM connector, terminal 4 to REC12 connector, terminal 3.
- a. If there is continuity, replace VIM No. 2 (WP 0089).
 - b. If there is no continuity, repair wire 1971B (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT EXTEND (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

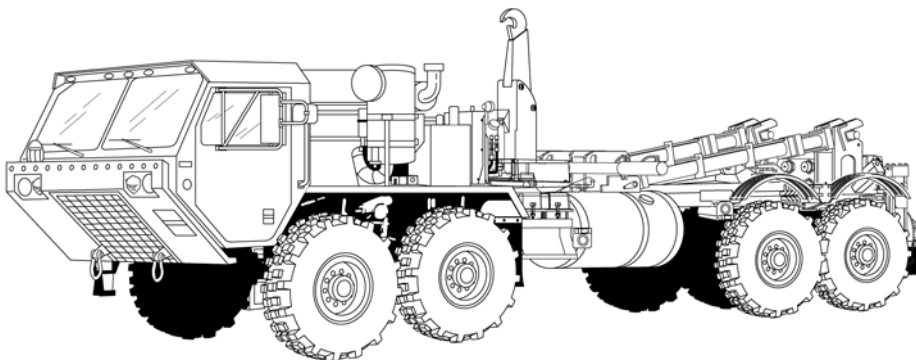
- Step 15. Disconnect THAAD control valve harness VIM No. 1, 40 pin connector (WP 0089). Check for continuity across wire 1971A from VIM No. 1 40 connector, terminal 4 to connector REC12, terminal 2.

If there is no continuity, repair wire 1971A (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

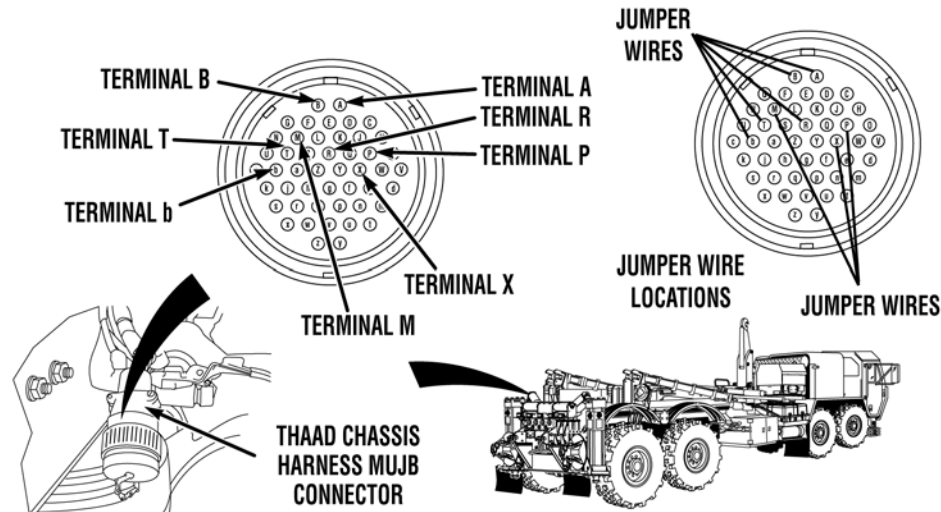
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT EXTEND (CONTINUED)**

- Step 16. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Check for continuity across wire 1971B from VIM No. 2, 40 pin connector, terminal 4 to connector REC12, terminal 3.

If there is no continuity, repair wire 1971B (TM 9-2320-325-14&P), or replace THAAD control valve harness (WP 0088) and go to Step 17.



- Step 17. Connect all connectors and install diode REC12. Start engine (TM 9-2320-347-10) Operate MRP elevation cylinders (WP 0007). Check if MRP elevation cylinders extend.
- If both MRP elevation cylinders extend, problem solved.
 - If both MRP elevation cylinders do not extend, notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT EXTEND (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

CAUTION

- The MRP subframe to deck lock safety interlock is bypassed in this procedure. If MRP rack is loaded, the subframe to deck lock must be disengaged before operating deck elevation cylinders. Failure to comply will cause damage to equipment.
- The MRP under run bumper safety interlock is bypassed in this procedure. If MRP rack is loaded, the under run bumper must be stowed before operating deck elevation cylinders. Failure to comply will cause damage to equipment.

- Step 18. Disconnect THAAD chassis harness MUJB connector from MUJB. Connect jumper wires between MUJB connector terminals B and A, B and R, B and T, and B and b. Connect another jumper wire between MUJB connector terminals P and M and P and X. Ensure subframe to deck lock is disengaged and under run bumper is stowed (refer to THAAD Launcher IETM). Start engine (TM 9-2320-347-10) Operate MRP elevation cylinders (WP 0007). Check if MRP elevation cylinders extend and retract.

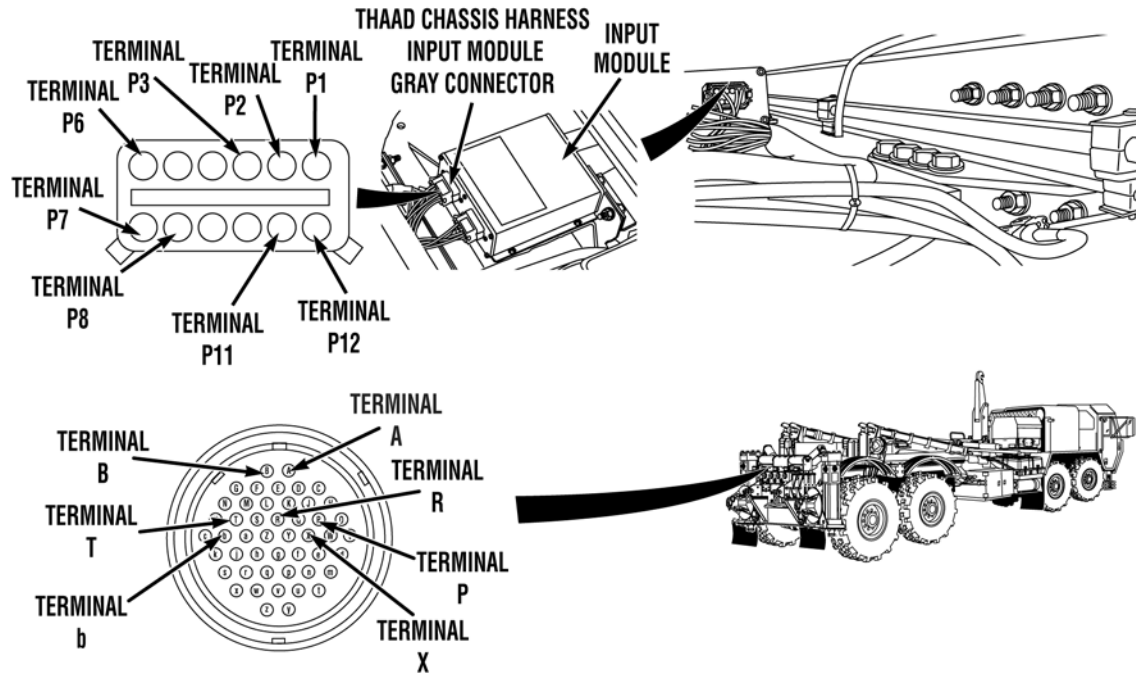
If MRP elevation cylinders operate correctly, retract elevation cylinders to the stowed position (WP 0007), shut off engine (TM 9-2320-347-10) remove jumpers, connect MUJB connector, and troubleshoot MRP interlocks using THAAD Launcher IETM.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

MRP DOES NOT EXTEND (CONTINUED)



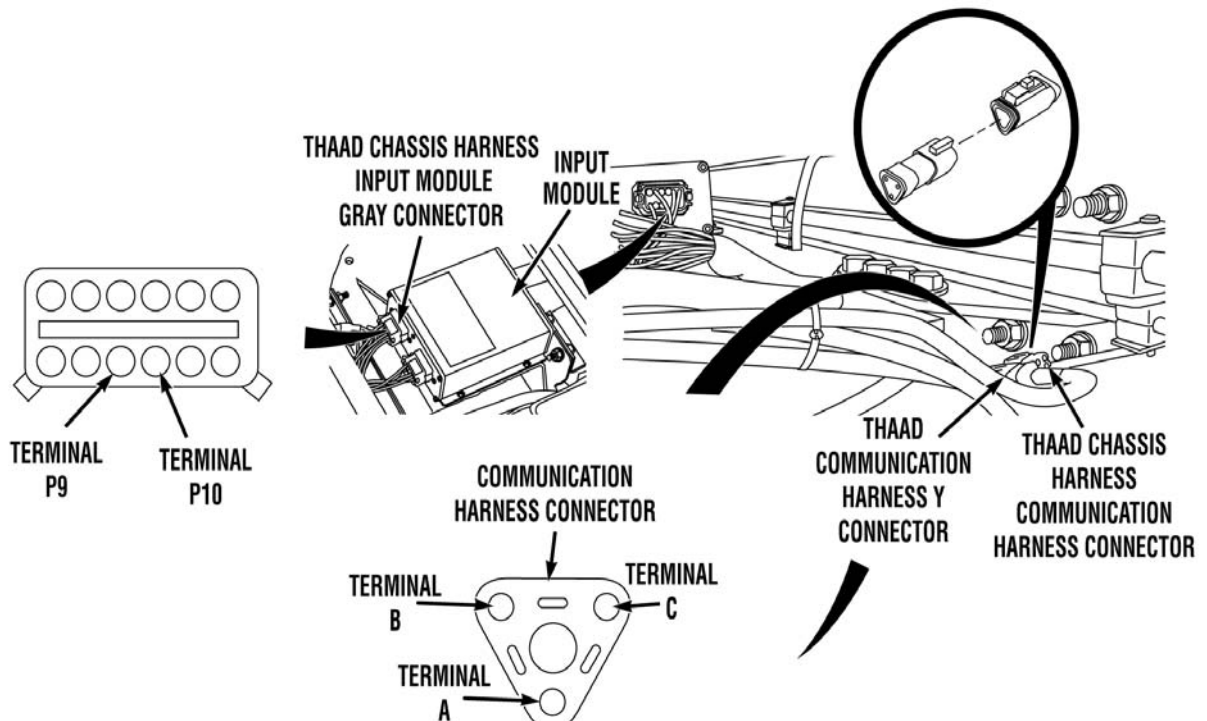
WARNING

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

Step 19. Shut off engine (TM 9-2320-347-10) Remove jumper wires and disconnect THAAD chassis harness input module gray connector. Check for continuity across each wire as indicated in the following table.

Wire Number	Connector/Terminal	Connector/Terminal
1901	Gray Connector/P1	MUJB Connector/b
1902	Gray Connector/P2	MUJB Connector/T
1903	Gray Connector/P3	MUJB Connector/R
1906	Gray Connector/P6	MUJB Connector/B
1908	Gray Connector/P8	MJUB Connector/X
1435	Gray Connector/P11	MUJB Connector/A
1461	Gray Connector/P12	MUJB Connector/P

If continuity is not measured on any one wire, notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT EXTEND (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

- The THAAD communication harnesses have J1939 terminator resistors at the LHS cab controller and input module Y connectors. The THAAD communication harnesses must be disconnected before performing following test. Failure to disconnect THAAD communication harness from Y connector will cause incorrect results.
- To locate the THAAD communication harness Y connector for the input module, follow the three conductor harness back from the input module gray connector terminal P9 and P10 to the communication harness Y connector.

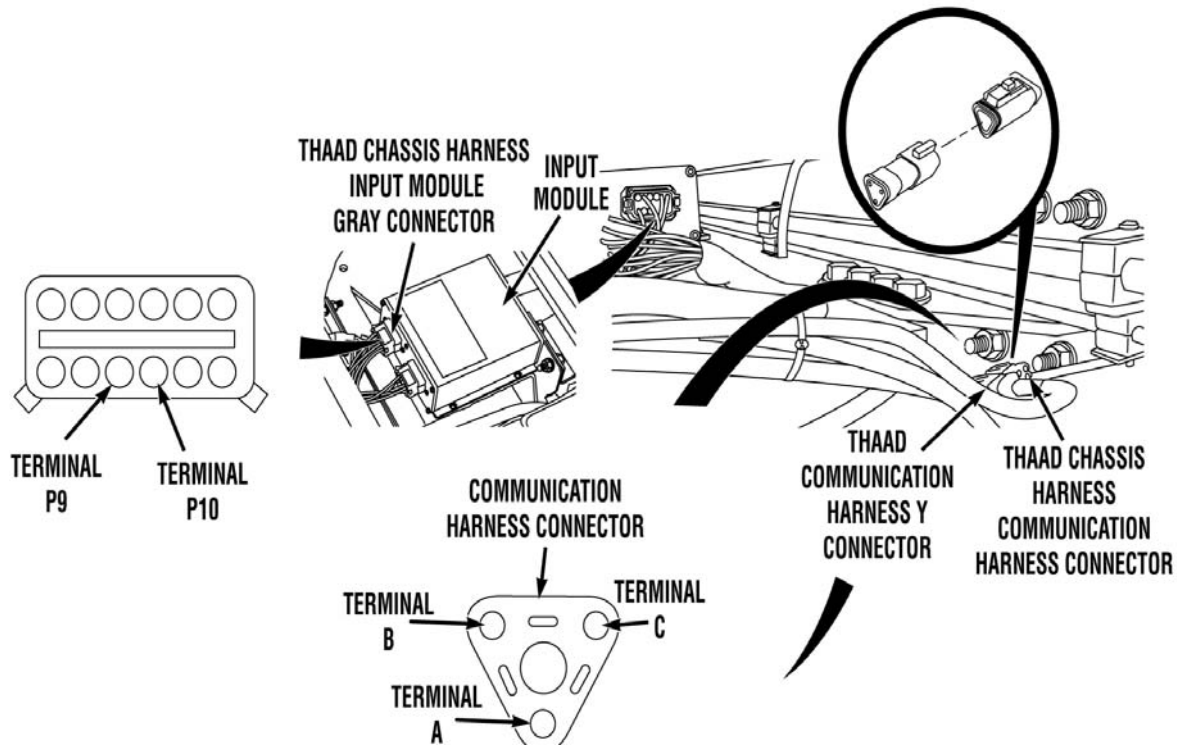
Step 20. Disconnect THAAD communication harness input module connector. Check for continuity across each wire as indicated in the following table.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

MRP DOES NOT EXTEND (CONTINUED)

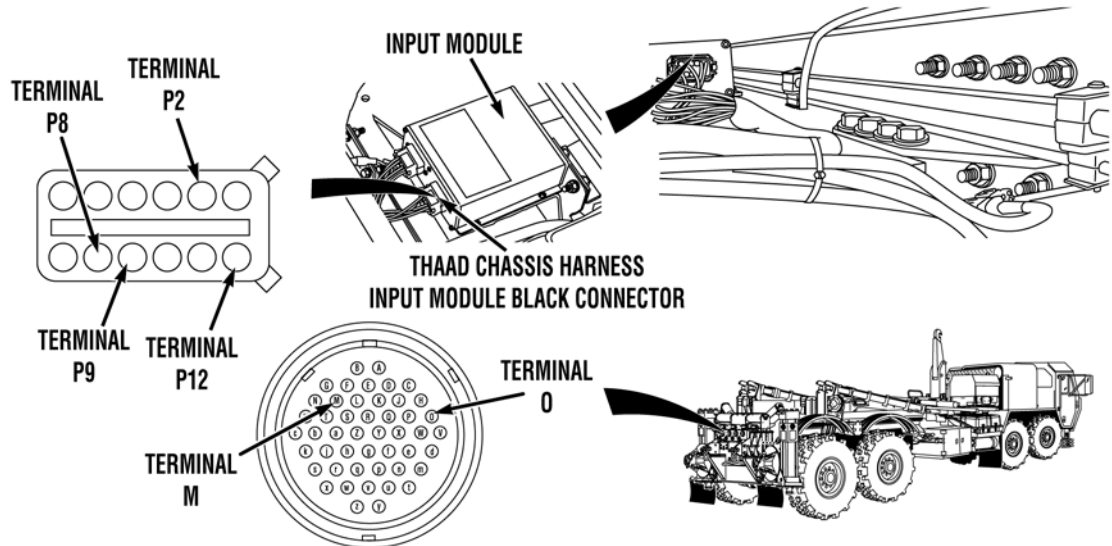


Wire Number	Connector/Terminal	Connector/Terminal
J1939+	Gray Connector/P9	Communication Harness Connector/A
J1939-	Gray Connector/P10	Communication Harness Connector/B

If continuity is not measured on any one wire, notify Supervisor.

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

MRP DOES NOT EXTEND (CONTINUED)



WARNING

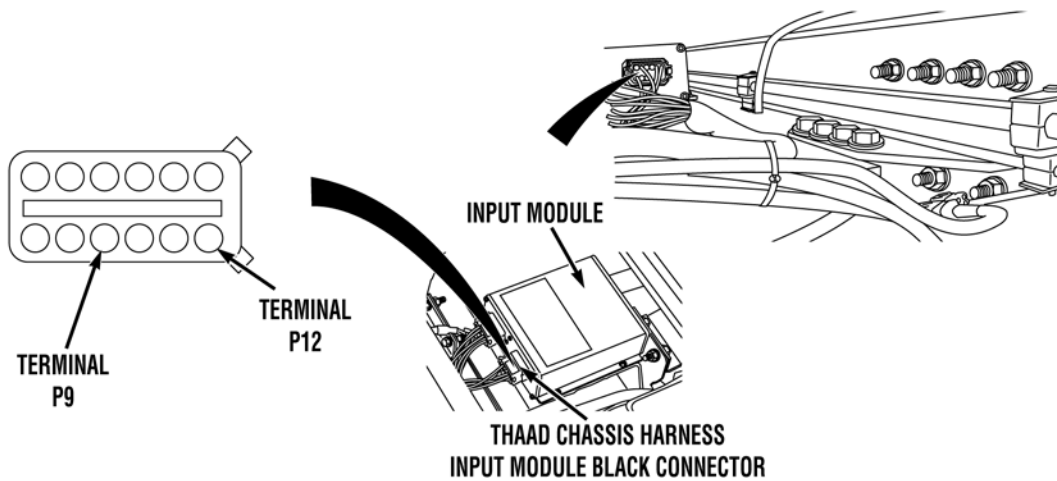
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

Step 21. Disconnect THAAD chassis harness input module black connector. Check for continuity across each wire as indicated in the following table.

Wire Number	Black Connector/P2	Connector/Terminal
1904	Gray Connector/P1	MUJB Connector/O
1910	Black Connector/P8	MUJB Connector/M
1435	Black Connector/P9	Vehicle Ground
1435	Black Connector/P12	Vehicle Ground
1435	Black Connector/P9	Black Connector/P12

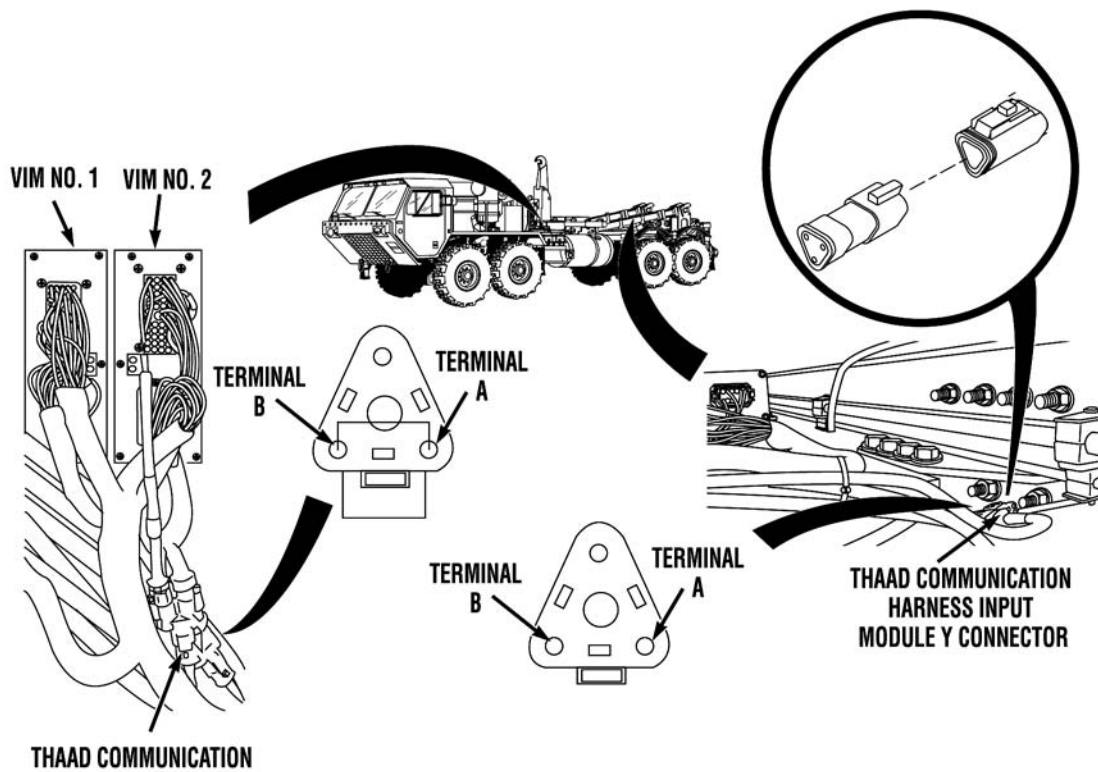
If continuity is not measured on any one wire, notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

MRP DOES NOT EXTEND (CONTINUED)

- Step 22. Using table from Step 21, check for no continuity between each terminal of the input module connectors except the black connector terminal P9 and P12.

If continuity is measured between any terminals except black connector terminal P9 and P12, notify Supervisor.

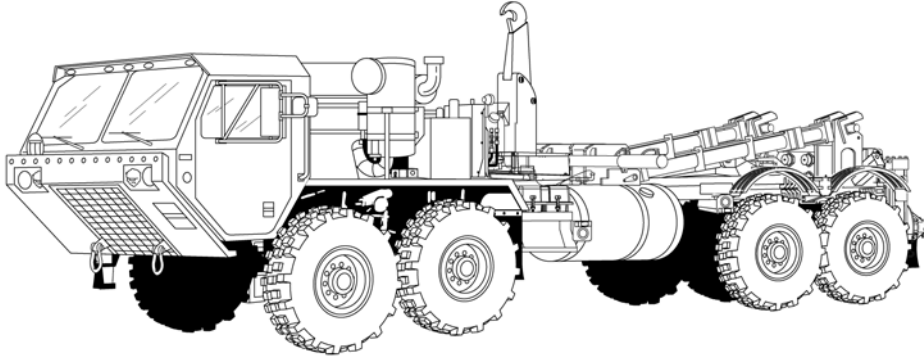
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT EXTEND (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 23. Disconnect Y connectors from THAAD communication harness between input module and VIM No. 2. Install jumper between terminals A and B in THAAD communication harness connector at VIM No. 2. Check for continuity between terminals A and B in THAAD communication harness connector at input module.

If continuity is not measured, notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

MRP DOES NOT EXTEND (CONTINUED)

- Step 24. Remove jumper and reconnect all connectors. Connect MUJB connector to MUJB. Start engine (TM 9-2320-347-10) Operate MRP elevation cylinders (WP 0007). Check if MRP elevation cylinders extend and retract. Shut off engine (TM 9-2320-347-10)
- a. If MRP elevation cylinders operate correctly, problem solved.
 - b. If MRP elevation cylinders do not operate correctly, replace input module (WP 0066).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**MRP DOES NOT RETRACT**

Tools and Special Tools

Adapter, Straight, PI (WP 0183, Item 2)
Coupling Half, Quick (WP 0183, Item 3)
Gage, Pressure, Dial (WP 0183, Item 7)
Hose Assembly, Nonme (WP 0183, Item 8)
Tool Kit, Electrical (WP 0183, Item 25)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

None

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

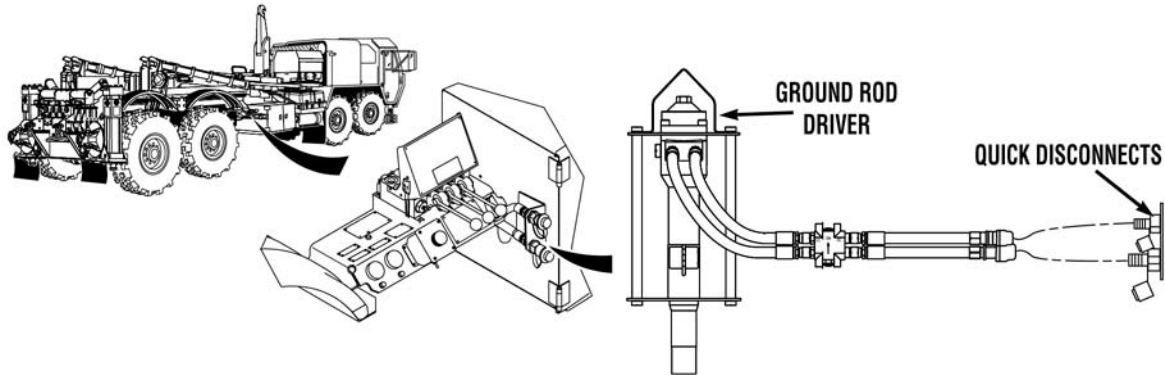
References

TM 9-2320-325-14&P
WP 0007
WP 0010
WP 0012
WP 0016
WP 0021
WP 0025
WP 0066
WP 0088
WP 0089
WP 0126
WP 0119
WP 0138
WP 0139

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Parking brake applied (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
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MRP DOES NOT RETRACT**NOTE**

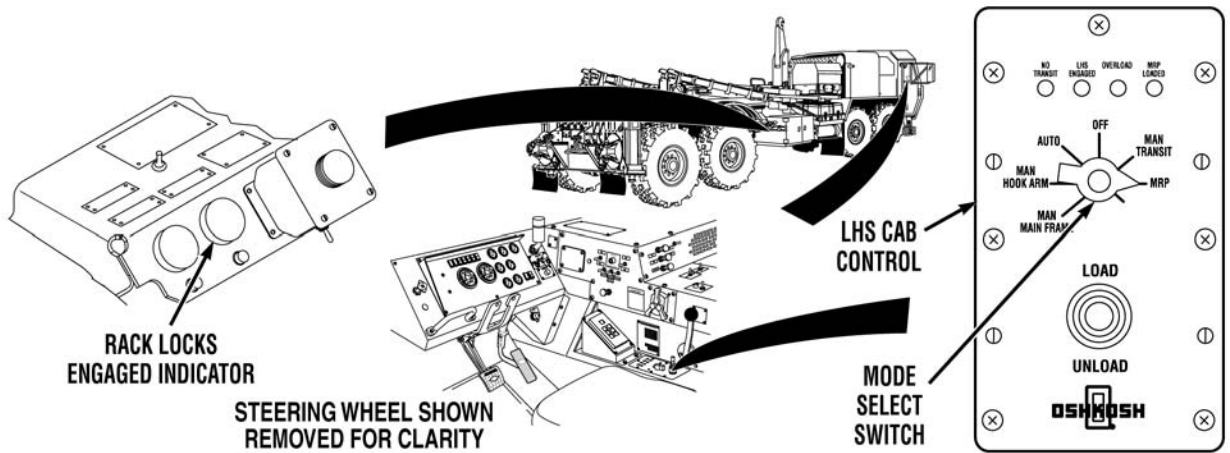
MRP must be loaded and MUJB connector must be connected to MUJB to complete this procedure.

- Step 1. Start engine (TM 9-2320-347-10) Check if ground rod driver operates (WP 0010). Shut off engine (TM 9-2320-347-10)

If ground rod driver does not operate, retract MRP using emergency procedures (WP 0016) and notify Supervisor.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
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MRP DOES NOT RETRACT (CONTINUED)

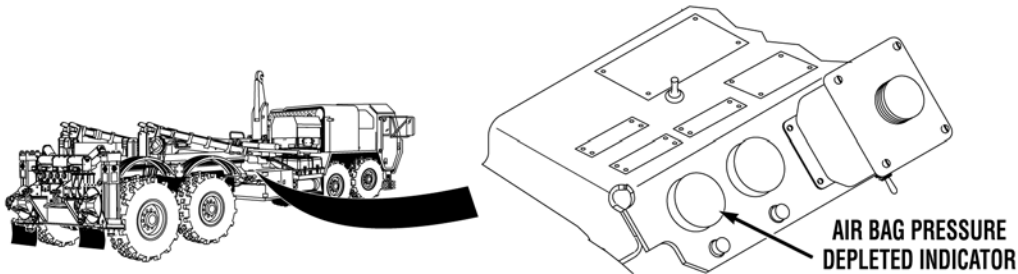


NOTE

MRP rack locks must be engaged to operate elevation cylinders. MRP rack locks are engaged when RACK LOCKS ENGAGED indicator light is illuminated steady.

- Step 2. Turn engine start switch ON (TM 9-2320-347-10) Position LHS cab control mode select switch to MRP position (WP 0007). Check if RACK LOCKS ENGAGED indicator light is illuminated.

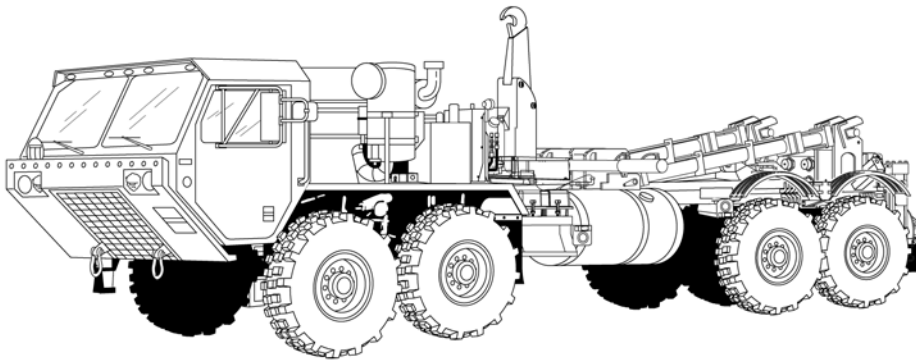
If RACK LOCK ENGAGED indicator light is not illuminated or is flashing, troubleshoot Rack Locks Engaged Indicator Light(s) Do Not Operate Properly (WP 0025).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT RETRACT (CONTINUED)****NOTE**

Rear suspension air spring pressure must be depleted to operate elevation cylinders. Air spring pressure is depleted when AIR BAG PRESSURE DEPLETED indicator light is steadily illuminated.

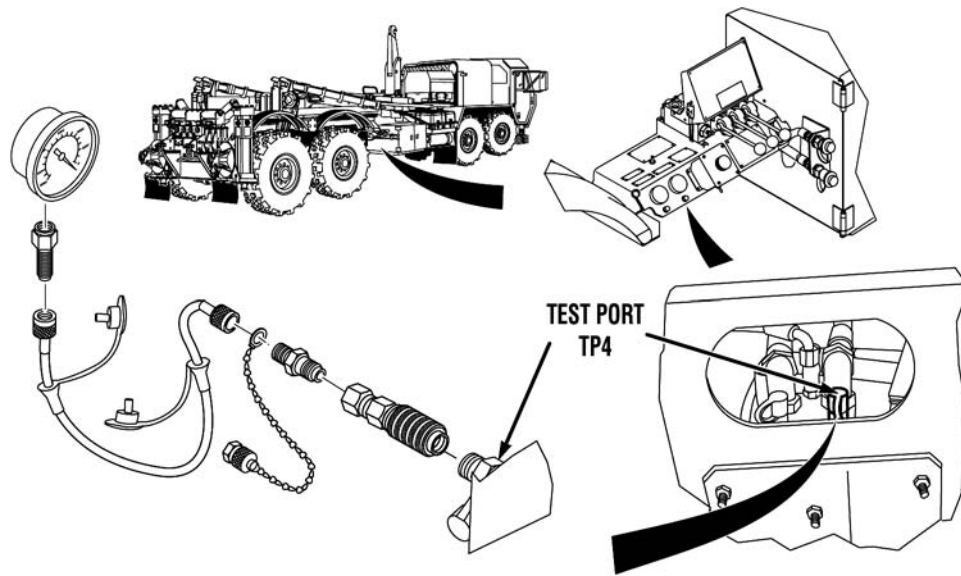
Step 3. Check if AIR BAG PRESSURE DEPLETED indicator light is illuminated.

If AIR BAG PRESSURE DEPLETED indicator light is not illuminated or is flashing, troubleshoot Air Bag Pressure Depleted Indicator Light(s) Do Not Operate Properly (WP 0021).



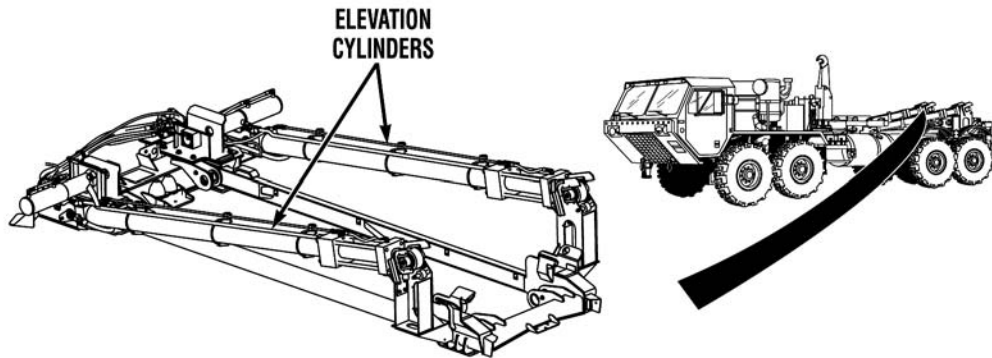
Step 4. Turn engine start switch OFF (TM 9-2320-347-10) Inspect hydraulic hoses 2742, 2743, 2760, 2761, and 2781, tubing, and fittings from MRP distribution manifold and control valves to left and right elevation cylinders and hydraulic reservoir for leaks, kinks, and damage (see WP 0119).

If hydraulic hoses, tubes and/or fittings leak, or are damaged, tighten loose fittings or replace damaged hoses and/or tubes (WP 0119).

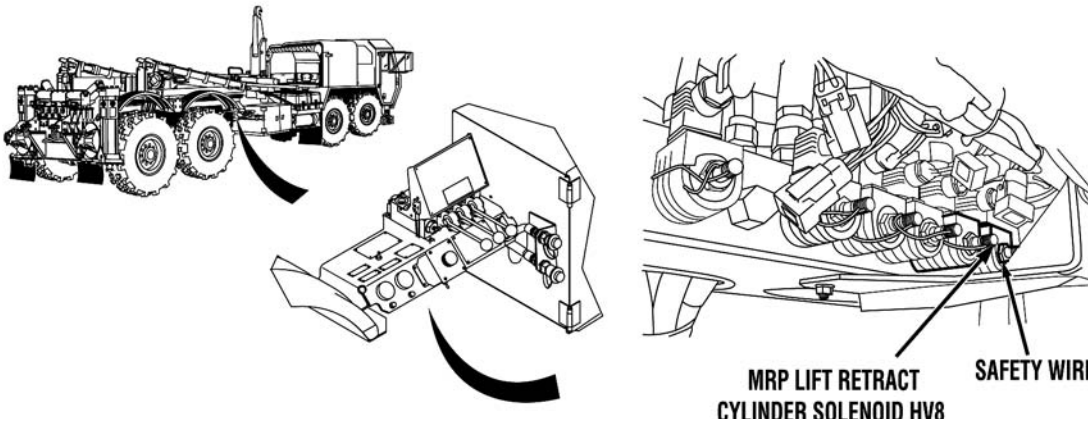
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT RETRACT (CONTINUED)**

- Step 5. Connect pressure gage and hose to test port TP4. Start engine (TM 9-2320-347-10) Soldier A checks for 3,000 psi (20,684 kPa) at test port TP4, while Soldier B attempts to retract MRP elevation cylinders (WP 0007).

If 3,000 psi (20,684 kPa) is not measured, shut off engine (TM 9-2320-347-10) and go to Step 7.

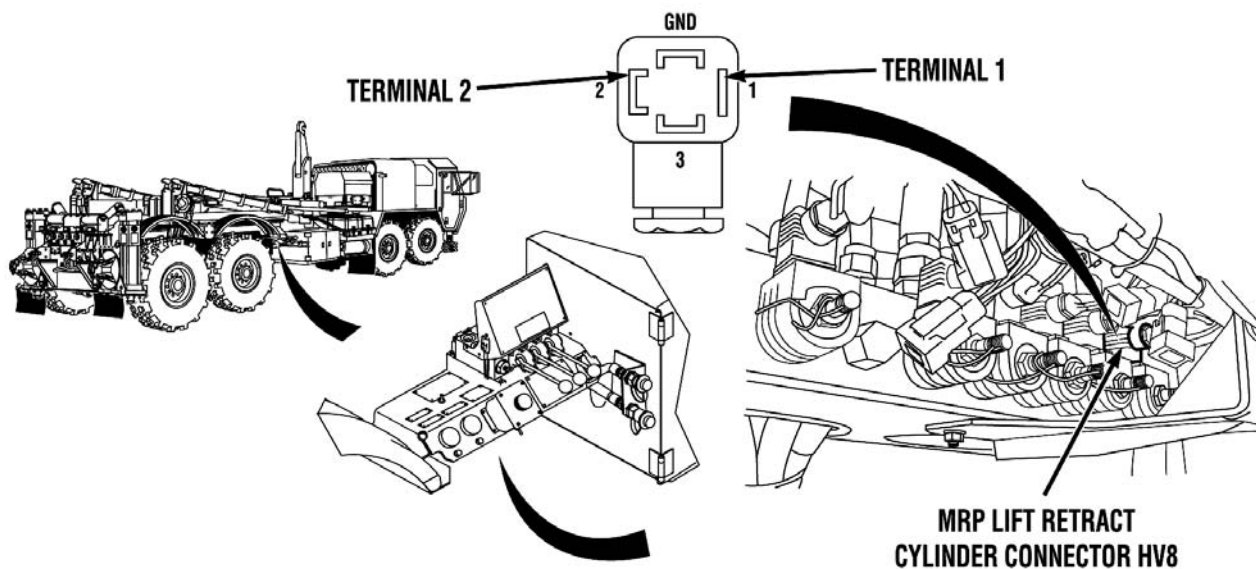
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT RETRACT (CONTINUED)**

- Step 6. Operate elevation cylinder controls (WP 0007). Check if at least one elevation cylinder retracts when MRP elevation controls are operated (WP 0007). Shut off engine (TM 9-2320-347-10)
- a. If one elevation cylinder retracts, replace nonoperating cylinder (WP 0139).
 - b. If both elevation cylinders do not retract, replace MRP distribution manifold (WP 0126).



- Step 7. Remove safety wire from solenoid HV8. Soldier A checks for 3,000 psi (20,684 kPa) pressure at test port TP4, while HV8 bypass valve is pulled out and turned and Soldier B attempts to retract MRP elevation cylinders (WP 0007). Shut off engine (TM 9-2320-347-10)

If 3,000 psi (20,684 kPa) is not measured, install safety wire on solenoid HV8 and replace MRP control valve (WP 0138).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT RETRACT (CONTINUED)****WARNING**

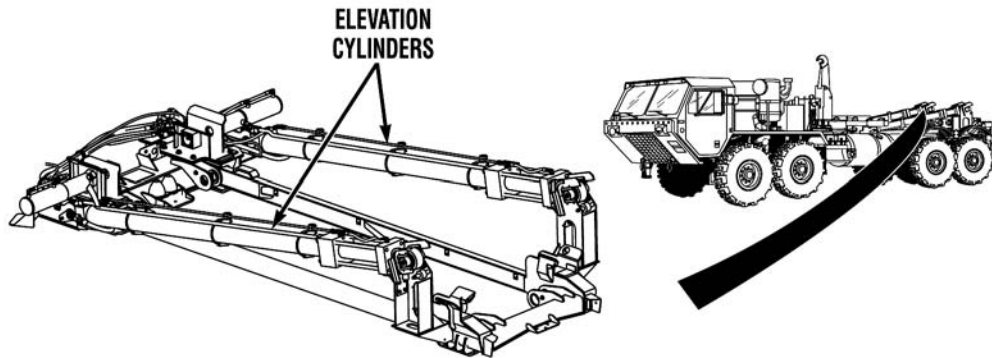
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 8. Install safety wire on solenoid HV8. Disconnect THAAD control valve harness connector HV8. Turn engine start switch ON (TM 9-2320-347-10) Position LHS cab control mode select switch to MRP position (WP 0007). Soldier A checks for 22 to 28 vdc on wire 1972 at connector HV8, terminal 2 and known good ground, while Soldier B presses MRP palm button switch (WP 0007).

If 22 to 28 vdc are not present, go to Step 10.

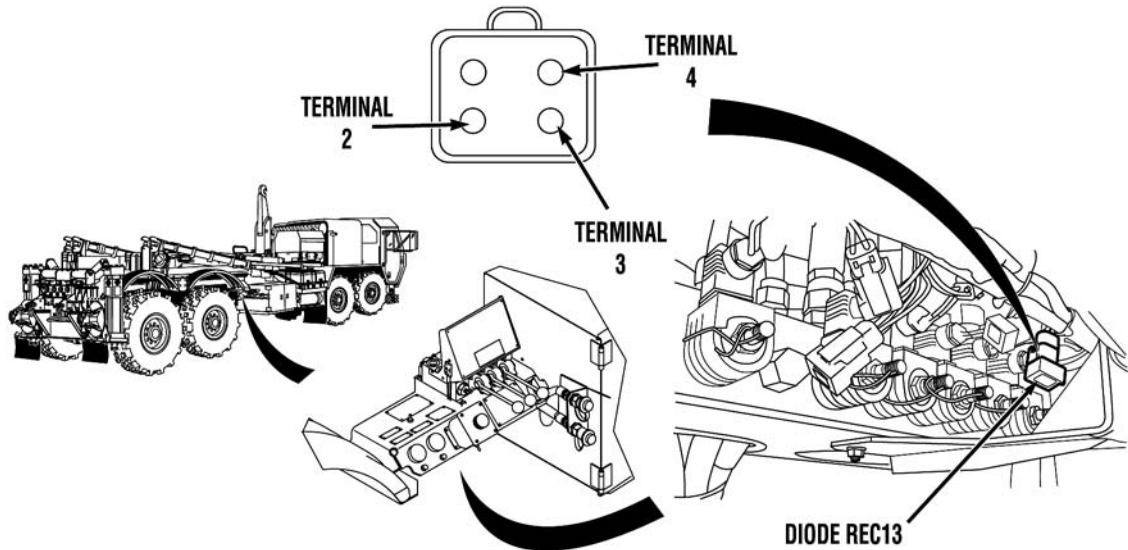
- Step 9. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across wire 1435 from THAAD control valve harness connector HV8, terminal 1 to a known good ground.
- If there is continuity, replace MRP distribution manifold (WP 0126).
 - If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

MRP DOES NOT RETRACT (CONTINUED)

- Step 10. Connect THAAD control valve harness connector HV8. Start engine (TM 9-2320-347-10) Retract MRP elevation cylinders using emergency procedures (WP 0016). Then check if MRP elevation cylinders extend using normal procedures (WP 0007). Shut off engine (TM 9-2320-347-10)

If deck lift cylinders do not extend, go to Step 18.

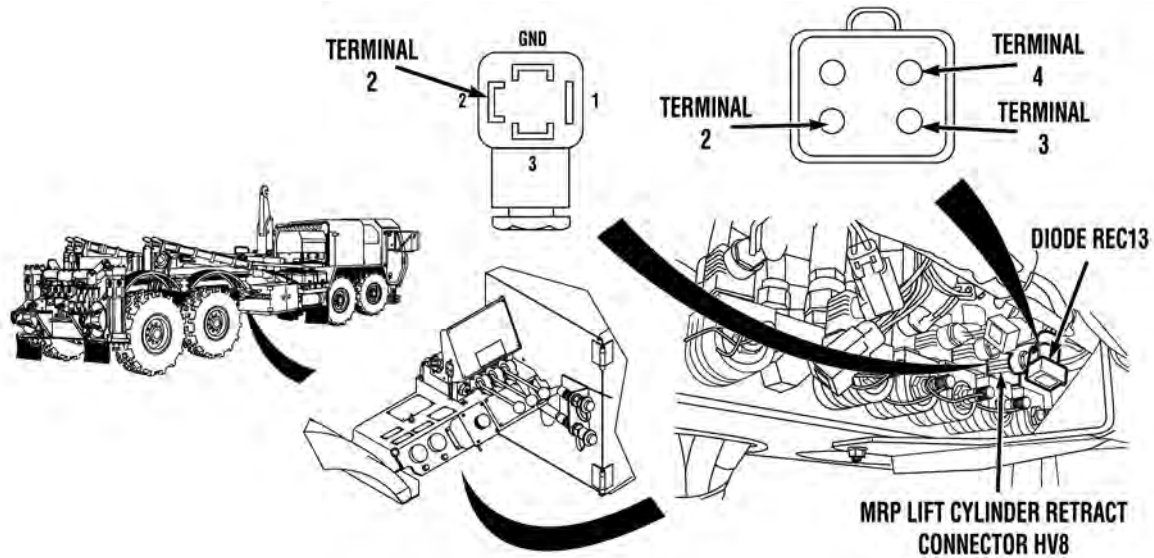
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT RETRACT (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

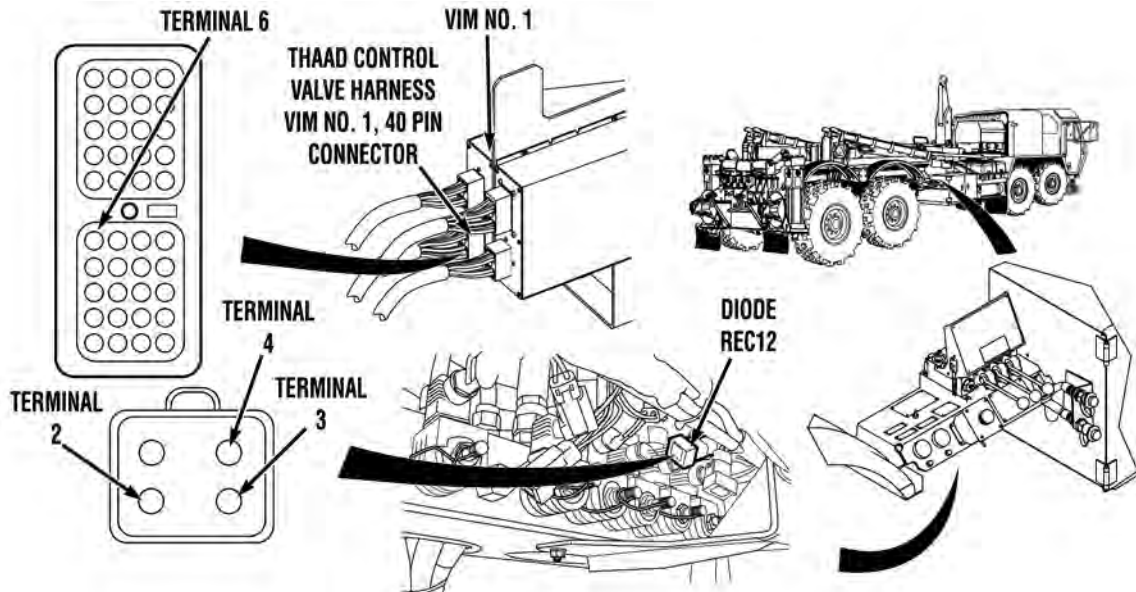
NOTE

Due to system redundancy, the valve control signal is required from only one of the VIMs for proper system operation. The following steps check the valve control circuit from both VIMs, to ensure system integrity.

- Step 11. Disconnect diode REC13. Turn engine start switch ON (TM 9-2320-347-10) Position LHS cab control mode select switch to MRP position (WP 0012). Soldier A checks for 22 to 28 vdc between wires 1972A and 1972B at THAAD control valve harness connector REC13, terminals 2 and 3 and a known good ground, while Soldier B presses MRP palm button switch (WP 0007). Note readings.
- a. If 22 to 28 vdc are not present on both, go to Step 15.
 - b. If 22 to 28 vdc are present on both wires, perform Step 12 only.
 - c. If 22 to 28 vdc are present on one wire, perform Steps 12 through 14.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT RETRACT (CONTINUED)**

- Step 12. Turn engine start switch OFF (TM 9-2320-347-10). Check for continuity across THAAD control valve harness wire 1972 between connector REC13, terminal 4 and connector HV8, terminal 2.
- a. If there is continuity, replace diode REC13 (WP 0088).
 - b. If there is no continuity, repair wire 1972 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

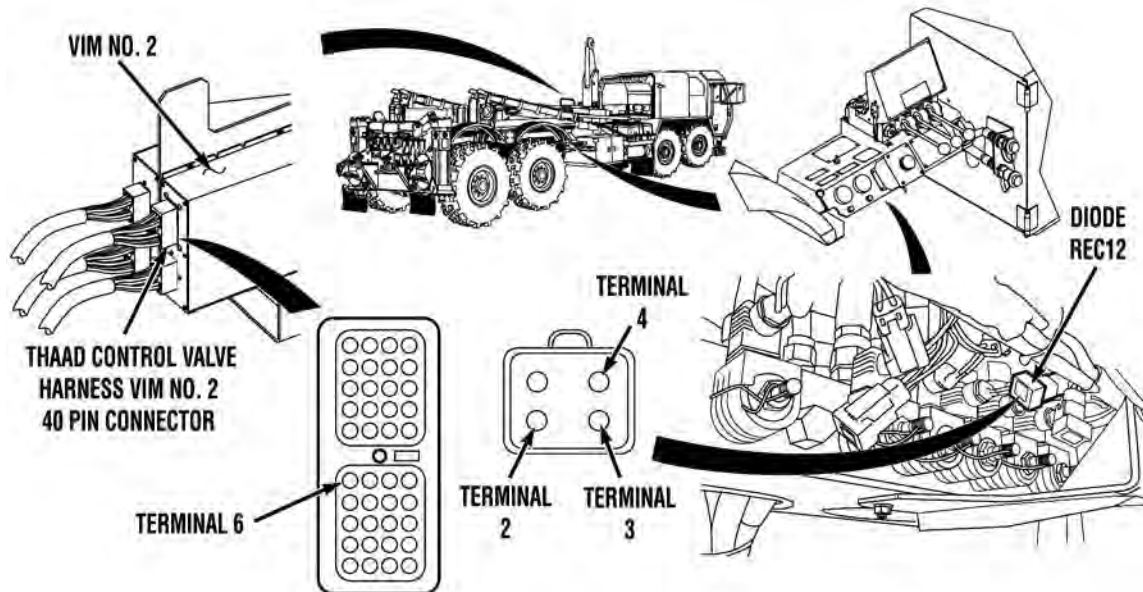
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT RETRACT (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

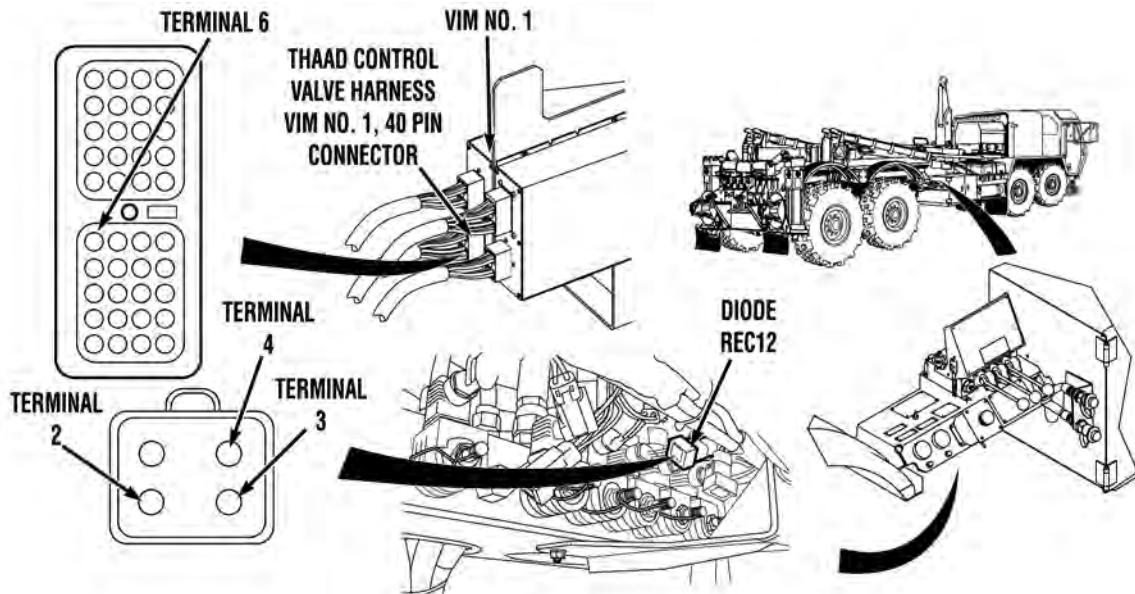
NOTE

- Perform Step 13 if no vdc is present on wire 1972A at connector REC13, terminal 2 in Step 11.
- Perform Step 14 if no vdc is present on wire 1972B at connector REC13, terminal 3 in Step 11.

- Step 13. Disconnect THAAD control valve harness VIM No. 1, 40 pin connector (WP 0089). Check for continuity across wire 1972A from VIM No. 1, 40 pin connector, terminal 6 to connector REC13, terminal 6.
- If there is continuity, replace VIM No. 1 (WP 0089).
 - If there is no continuity, repair wire 1972A (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT RETRACT (CONTINUED)**

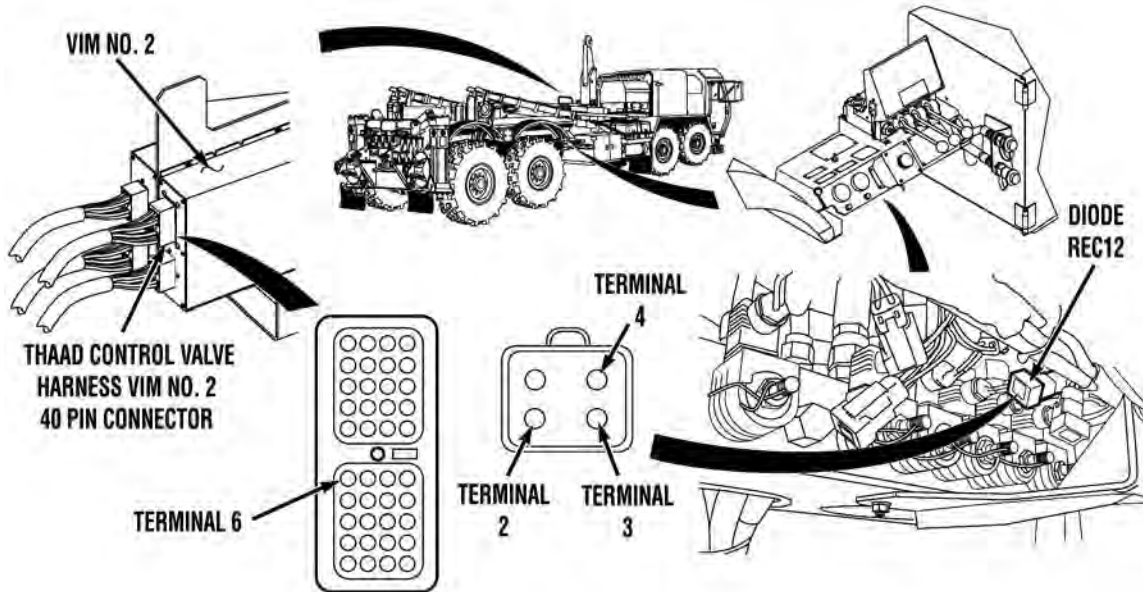
- Step 14. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Check for continuity across wire 1972B from VIM connector, terminal 6 to REC13 connector, terminal 3.
- a. If there is continuity, replace VIM No. 2 (WP 0089).
 - b. If there is no continuity, repair wire 1972B (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT RETRACT (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

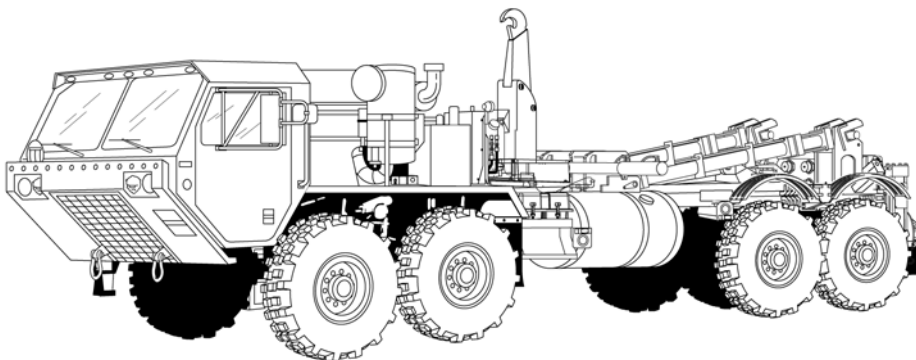
- Step 15. Disconnect THAAD control valve harness VIM No. 1, 40 pin connector (WP 0089). Check for continuity across wire 1972A from VIM No. 1 output connector, terminal 6 to connector REC13, terminal 2.

If there is no continuity, repair wire 1972A (TM 9-2320-325-14&P) and go to Step 16, or replace THAAD control valve harness (WP 0088) and go to Step 17.

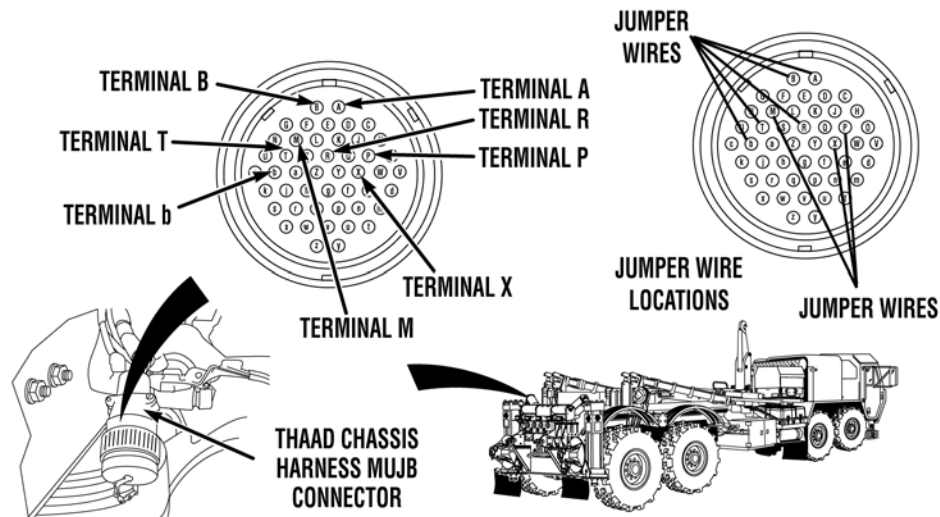
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT RETRACT (CONTINUED)**

- Step 16. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Check for continuity across wire 1972B from VIM No. 2, 40 pin connector, terminal 6 to connector REC13, terminal 3.

If there is no continuity, repair wire 1972B (TM 9-2320-325-14&P), or replace THAAD control valve harness (WP 0088) and go to Step 17.



- Step 17. Connect all connectors and install diode REC13. Start engine (TM 9-2320-347-10) Operate MRP elevation cylinders (WP 0007). Check if MRP elevation cylinders retract.
- If both MRP elevation cylinders retract, problem solved.
 - If both MRP elevation cylinders do not retract, notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT RETRACT (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

CAUTION

- The MRP subframe to deck lock safety interlock is bypassed in this procedure. If MRP rack is loaded, the subframe to deck lock must be disengaged before operating deck elevation cylinders. Failure to comply will cause damage to equipment.
- The MRP under run bumper safety interlock is bypassed in this procedure. If MRP rack is loaded, the under run bumper must be stowed before operating deck elevation cylinders. Failure to comply will cause damage to equipment.

Step 18. Disconnect THAAD chassis harness MUJB connector from MUJB. Connect jumper wires between MUJB connector terminals B and A, B and R, B and T, and B and b. Connect another jumper wire between MUJB connector terminals P and M, and P and X. Ensure subframe to deck lock is disengaged and under run bumper is stowed (refer to THAAD Launcher IETM). Start engine (TM 9-2320-347-10) Operate MRP elevation cylinders (WP 0007). Check if MRP elevation cylinders extend and retract.

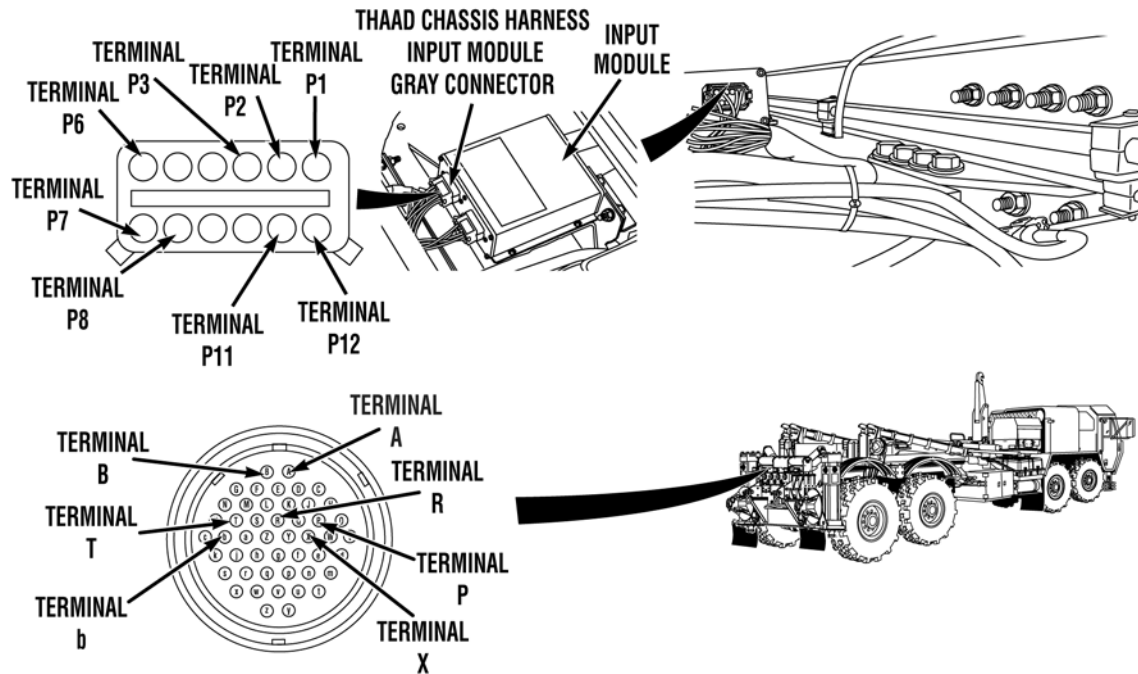
If MRP elevation cylinders operate correctly, retract deck elevation cylinders to the stowed position (WP 0007), shut off engine (TM 9-2320-347-10) remove jumpers, connect MUJB connector, and troubleshoot MRP interlocks using THAAD Launcher IETM.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

MRP DOES NOT RETRACT (CONTINUED)



WARNING

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

Step 19. Shut off engine (TM 9-2320-347-10) Remove jumpers and disconnect THAAD chassis harness input module gray connector. Check for continuity across each wire as indicated in the following table:

Wire Number	Connector/Terminal	Connector/Terminal
1901	Gray Connector/P1	MUJB Connector/b
1902	Gray Connector/P2	MUJB Connector/T
1903	Gray Connector/P3	MUJB Connector/R
1906	Gray Connector/P6	MUJB Connector/B
1908	Gray Connector/P8	MJUB Connector/X
1435	Gray Connector/P11	MUJB Connector/A
1461	Gray Connector/P12	MUJB Connector/P

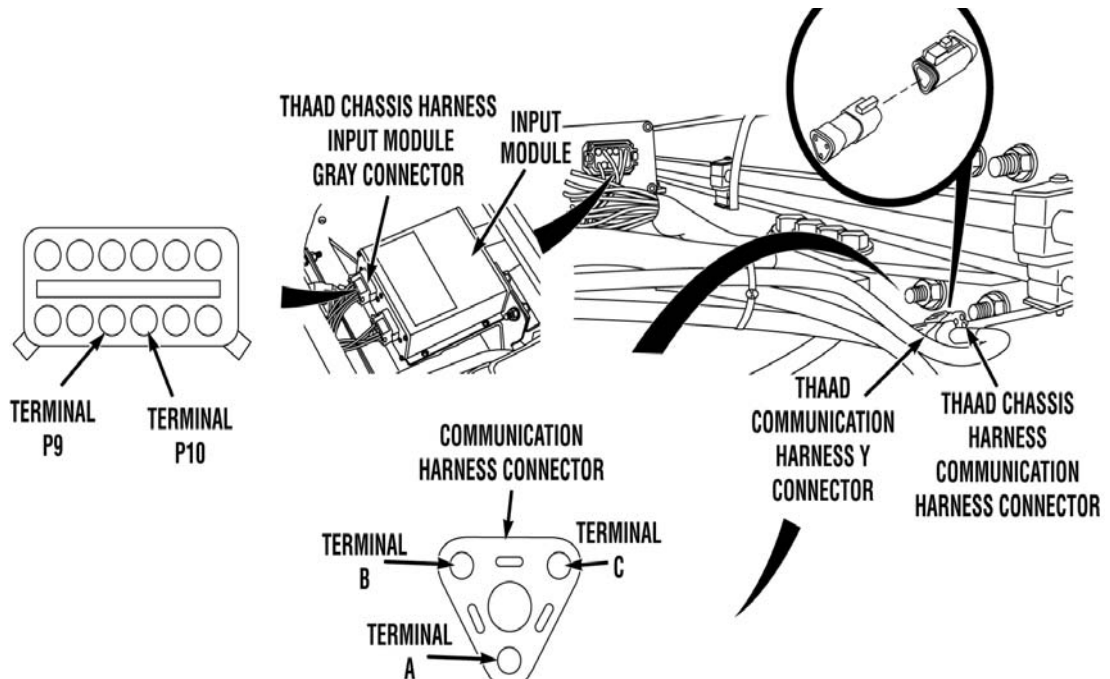
If continuity is not measured on any one wire, notify Supervisor.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

MRP DOES NOT RETRACT (CONTINUED)



WARNING

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

- The THAAD communication harnesses have J1939 terminator resistors at the LHS cab controller and input module Y connectors. The THAAD communication harnesses must be disconnected before performing following test. Failure to disconnect THAAD communication harness from Y connector will cause incorrect results.
- To locate the THAAD communication harness Y connector for the input module, follow the three-conductor harness back from the input module gray connector terminal P9 and P10 to the communication harness Y connector.

Step 20. Disconnect THAAD communication harness input module connector. Check for continuity across each wire as indicated in the following table:

Wire Number	Connector/Terminal	Connector/Terminal
J1939+	Gray Connector/P9	Communication Harness Connector/A
J1939-	Gray Connector/P10	Communication Harness Connector/B

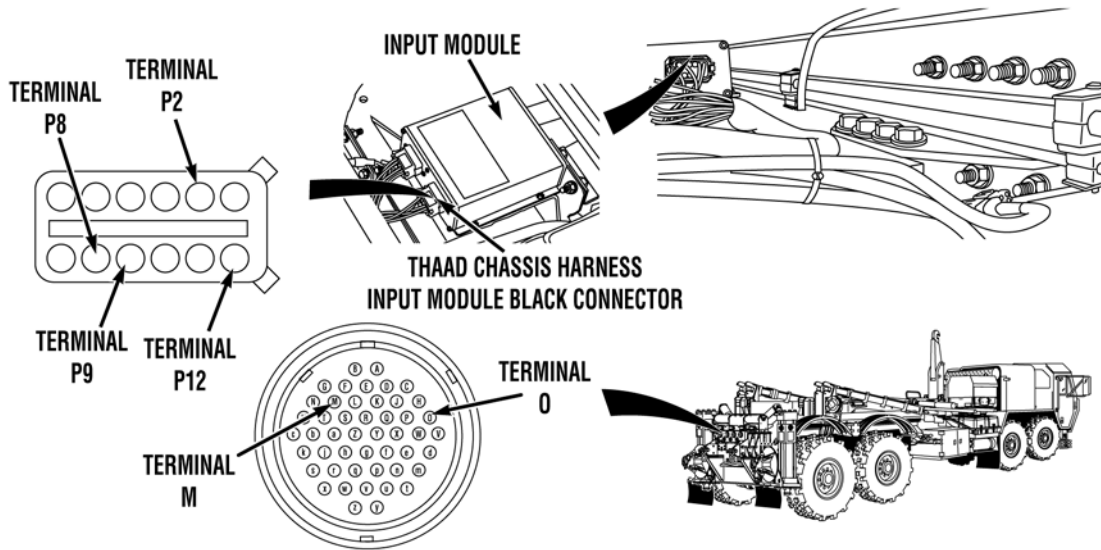
If continuity is not measured on any one wire, notify Supervisor.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

MRP DOES NOT RETRACT (CONTINUED)



WARNING

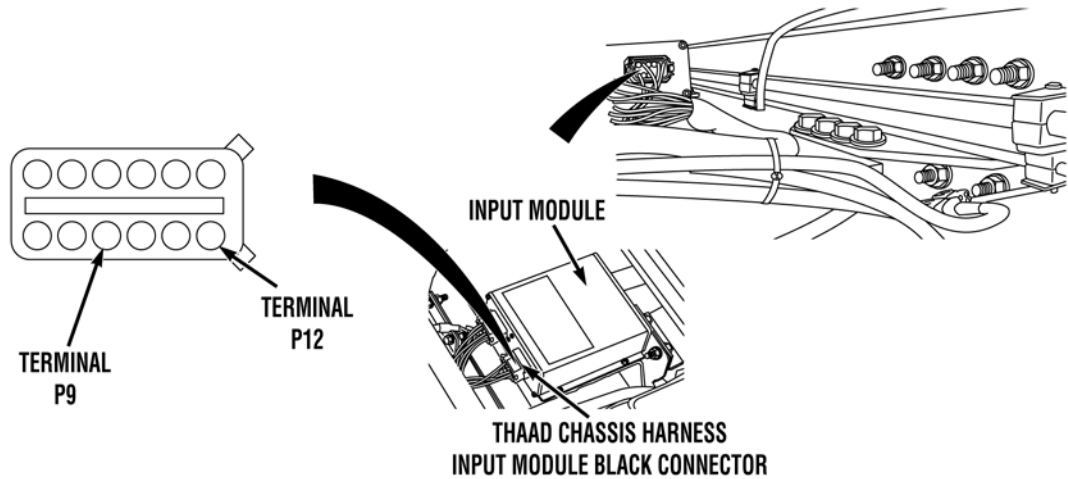
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

Step 21. Disconnect THAAD chassis harness input module black connector. Check for continuity across each wire as indicated in the following table:

Wire Number	Connector/Terminal	Connector/Terminal
1904	Black Connector/P2	MUJB Connector/O
1910	Black Connector/P8	MUJB Connector/M
1435	Black Connector/P9	Vehicle Ground
1435	Black Connector/P12	Vehicle Ground
1435	Black Connector/P9	Black Connector/P12

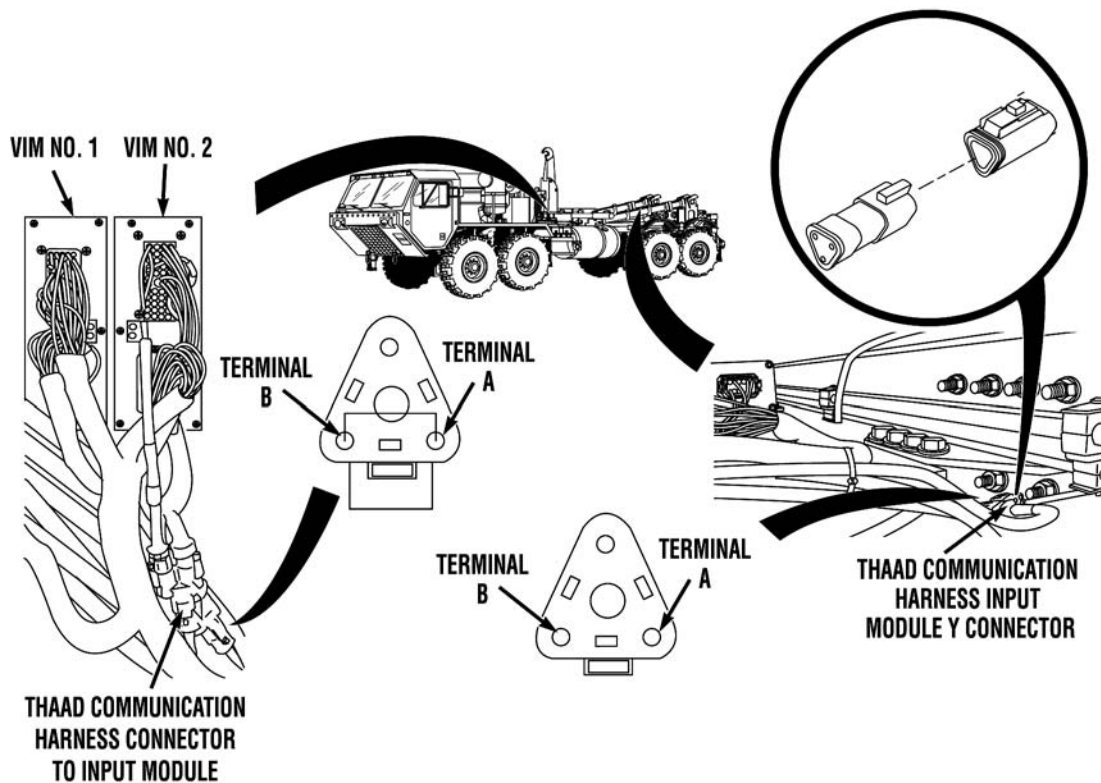
If continuity is not measured on any one wire, notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

MRP DOES NOT RETRACT (CONTINUED)

Step 22. Using the table from Step 21, check for no continuity between each terminal of the input module connectors except the black connector terminal P9 and P12.

If continuity is measured between any terminals except the black connector terminal P9 and P12, notify Supervisor.

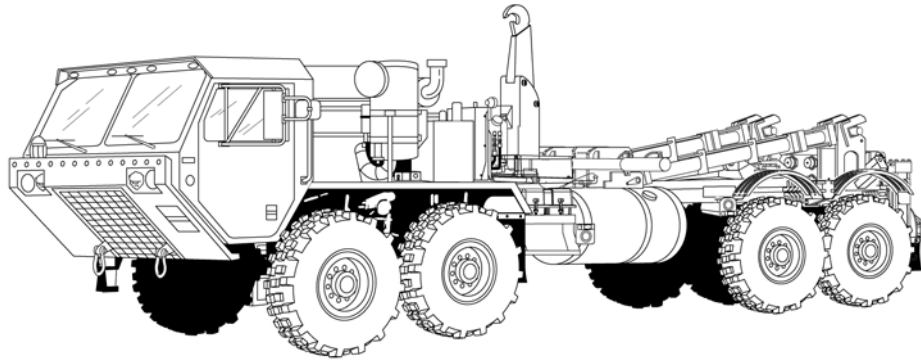
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP DOES NOT RETRACT (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 23. Disconnect Y connectors from THAAD communication harness between input module and VIM No. 2. Install jumper between terminals A and B in THAAD communication harness connector at VIM No. 2. Check for continuity between terminals A and B in THAAD communication harness connector at input module.

If continuity is not measured, notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

MRP DOES NOT RETRACT (CONTINUED)

- Step 24. Remove jumper and reconnect all connectors. Connect MUJB connector to MUJB. Start engine (TM 9-2320-347-10) Operate MRP elevation cylinders (WP 0007). Check if MRP elevation cylinders extend and retract. Shut off engine (TM 9-2320-347-10)
- a. If MRP elevation cylinders operate correctly, problem solved.
 - b. If MRP elevation cylinders do not operate correctly, replace input module (WP 0066).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
MRP LOCKS DO NOT DISENGAGE

Tools and Special Tools

Adapter, Straight, PI (WP 0183, Item 2)
 Coupling Half, Quick (WP 0183, Item 3)
 Gage, Pressure, Dial (WP 0183, Item 7)
 Hose Assembly, Nonme (WP 0183, Item 8)
 Pan, Drain (WP 0183, Item 10)
 Set, Cap and Plug (WP 0183, Item 17)
 Tool Kit, General Mechanic's: Automotive
 (WP 0183, Item 25)

Materials/Parts

None

Personnel Required

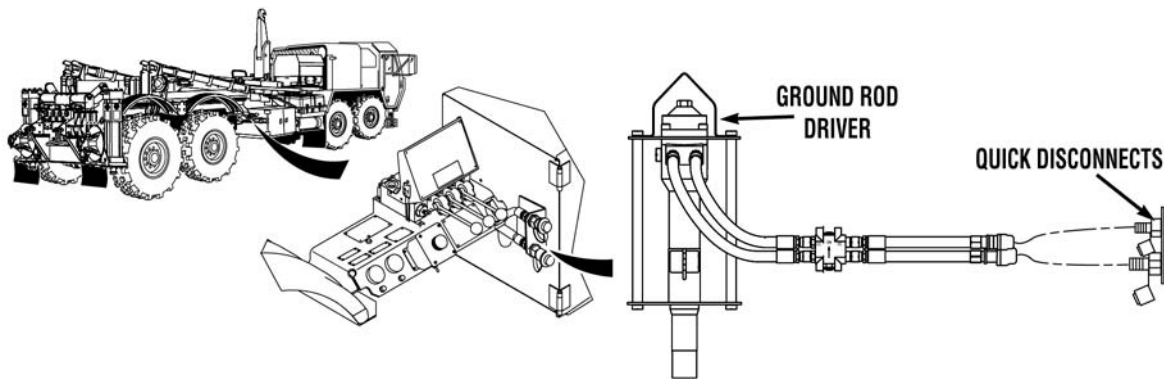
MOS 63B Wheeled vehicle mechanic (2)

References (Continued)

TM 9-2320-325-14&P
 WP 0007
 WP 0010
 WP 0012
 WP 0020
 WP 0072
 WP 0073
 WP 0087
 WP 0088
 WP 0089
 WP 0119
 WP 0126
 WP 0138
 WP 0139
 WP 0140

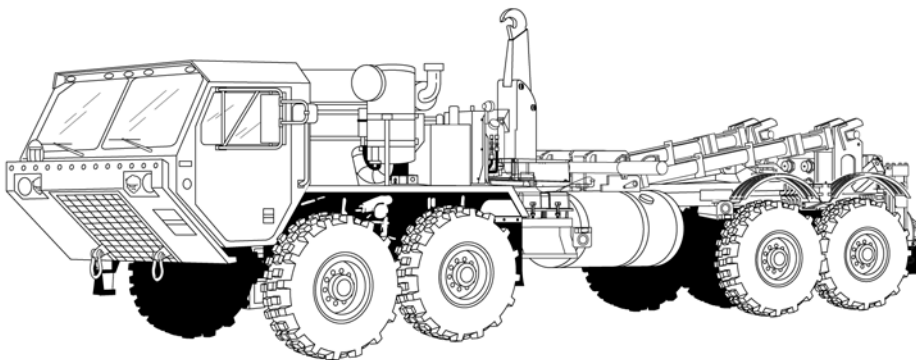
Equipment Conditions

Engine OFF (TM 9-2320-347-10)
 Parking brake applied (TM 9-2320-347-10)
 Wheels chocked (TM 9-2320-347-10)

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT DISENGAGE**

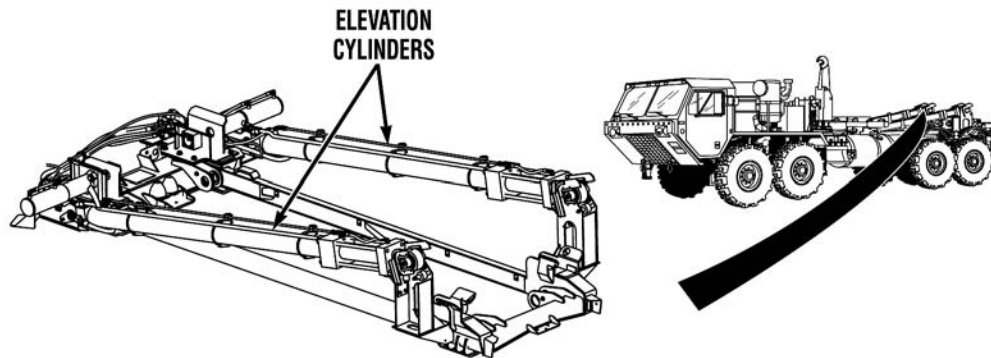
- Step 1. Start engine (TM 9-2320-347-10). Check if ground rod driver operates (WP 0010). Shut off engine (TM 9-2320-347-10).

If ground rod driver does not operate, troubleshoot Ground Rod Driver Does Not Operate (WP 0020).



- Step 2. Inspect hydraulic hoses 2740 and 2741, tubing, and fittings from MRP control valves to left and right rack locks for leaks, kinks, and damage (WP 0119).

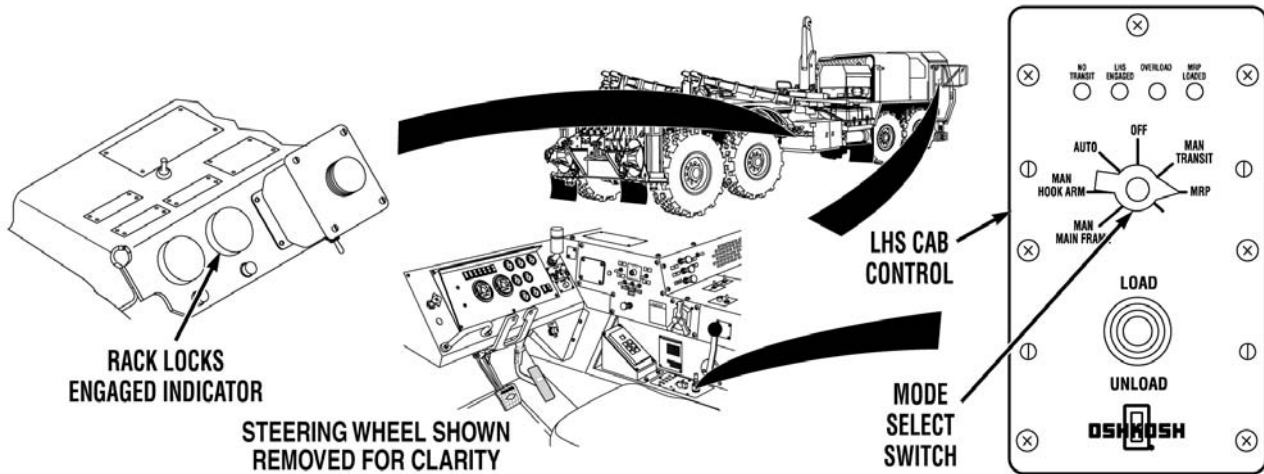
If hydraulic hoses, tubes and/or fittings leak, or are damaged, tighten loose fittings or replace damaged hoses and/or tubes (WP 0119).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT DISENGAGE (CONTINUED)****NOTE**

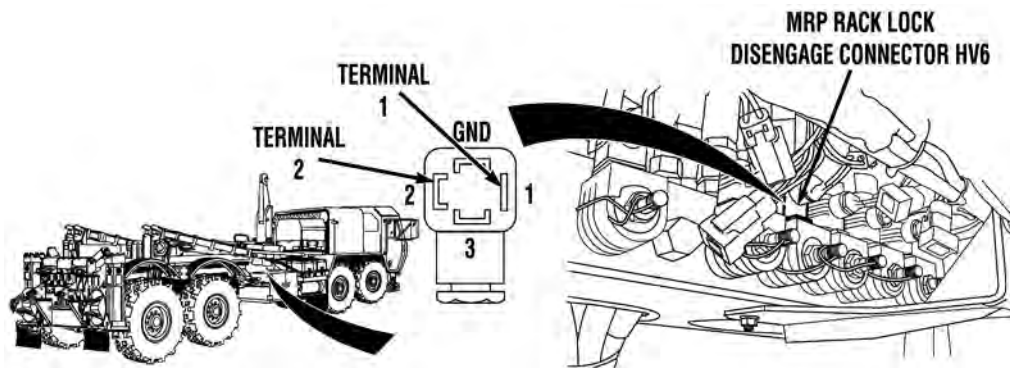
- MRP elevation cylinders must be in fully stowed position to disengage rack locks.
- MRP present proximity switches must be active to engage MRP rack locks. If MRP rack is not loaded, activate both MRP present proximity switches by placing metal objects over proximity switches while engaging MRP rack locks.

Step 3. Check if left and right elevation cylinders are in there stowed position.

- a. If elevation cylinders are not stowed and MRP rack is loaded, start engine (TM 9-2320-347-10) stow left and right elevation cylinders (WP 0007) and go to Step 4.
- b. If elevation cylinders are not stowed and MRP rack is not loaded, stow left and right elevations cylinders using bypass procedure (WP 0139) and go to Step 4.
- c. If elevation cylinders are stowed, go to Step 4.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT DISENGAGE (CONTINUED)**

- Step 4. If off, start engine (TM 9-2320-347-10) Operate rack locks (WP 0012). Check if MRP rack locks disengage. Shut off engine (TM 9-2320-347-10)
- If both MRP locks disengage, problem corrected.
 - If one cylinder does not operate, replace nonoperating cylinder (WP 0140).
 - If both cylinders do not operate, go to Step 5.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT DISENGAGE (CONTINUED)****WARNING**

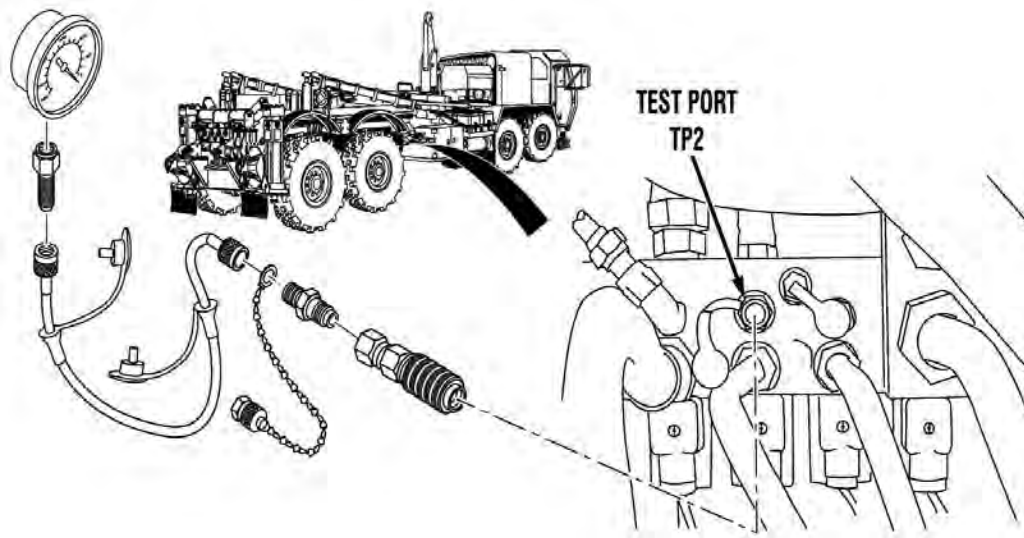
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 5. Disconnect THAAD control valve harness connector HV6. Turn engine start switch ON (TM 9-2320-347-10) Position LHS cab control mode select switch to MRP position (WP 0012). Soldier A checks for 22 to 28 vdc between wire 1974 at connector HV6, terminal 2 and a known good ground, while Soldier B presses MRP palm button switch (WP 0012).

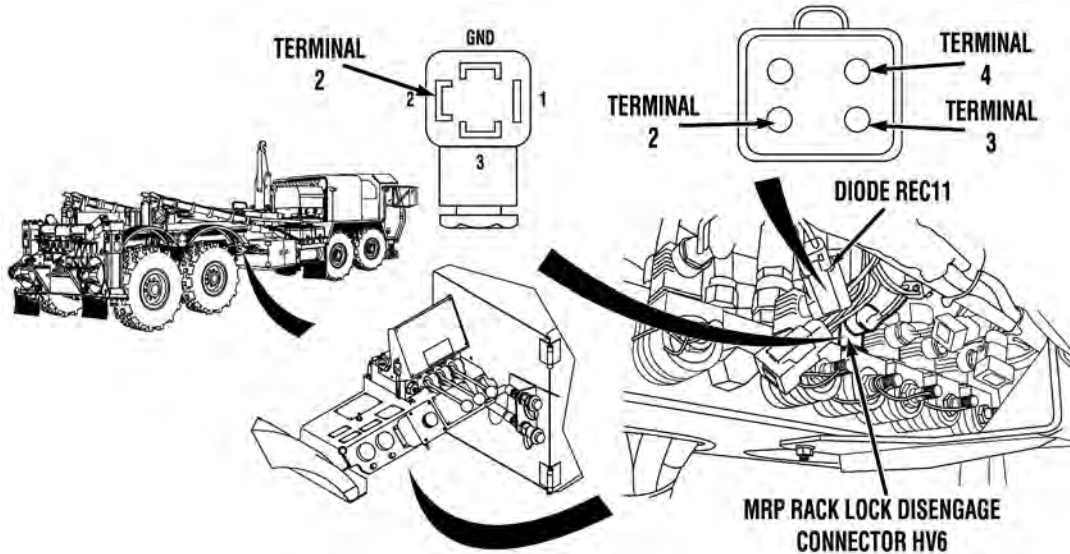
If 22 to 28 vdc are not present, go to Step 8.

- Step 6. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across wire 1435 from THAAD control valve harness HV6 connector, terminal 1 to a known good ground.

If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

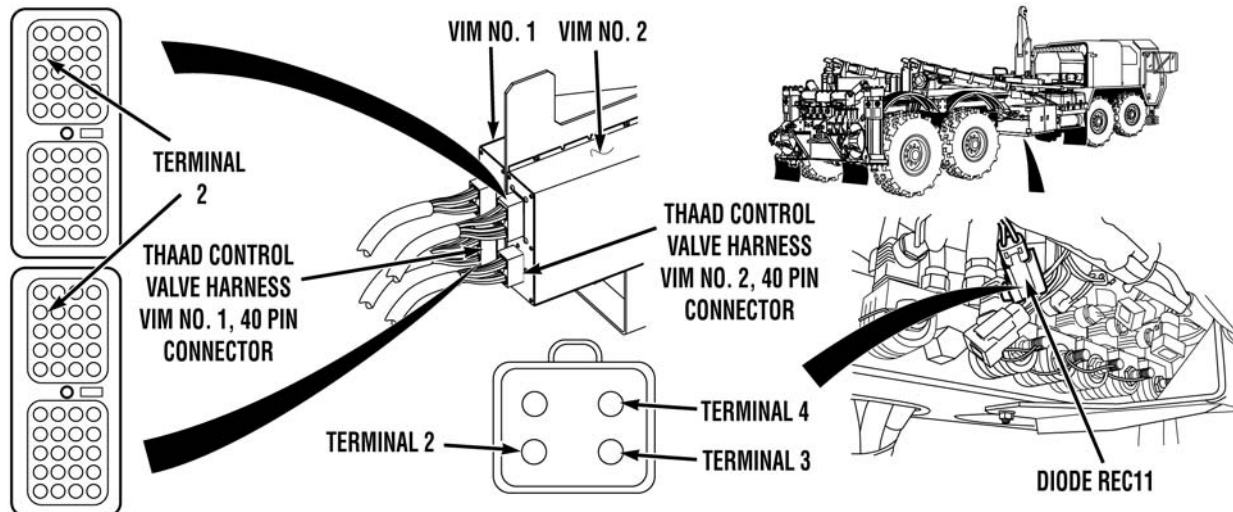
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT DISENGAGE (CONTINUED)**

- Step 7. Connect pressure gage and hose to test port TP2. Remove safety wire from solenoid HV6. Start engine (TM 9-2320-347-10) Position LHS cab control mode select switch to MRP position (WP 0012). Soldier A checks for 3,000 psi (20,684 kPa) pressure at test port TP2, while HV6 bypass valve is pulled out and turned, and Soldier B attempts to disengage MRP rack locks (WP 0012). Shut off engine (TM 9-2320-347-10) Disconnect pressure gage and hose.
- a. If 3,000 psi (20,684 kPa) is measured, replace MRP distribution manifold (WP 0126).
 - b. If 3,000 psi (20,684 kPa) is not measured, install safety wire on solenoid HV6 and replace MRP control valve (WP 0138).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT DISENGAGE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

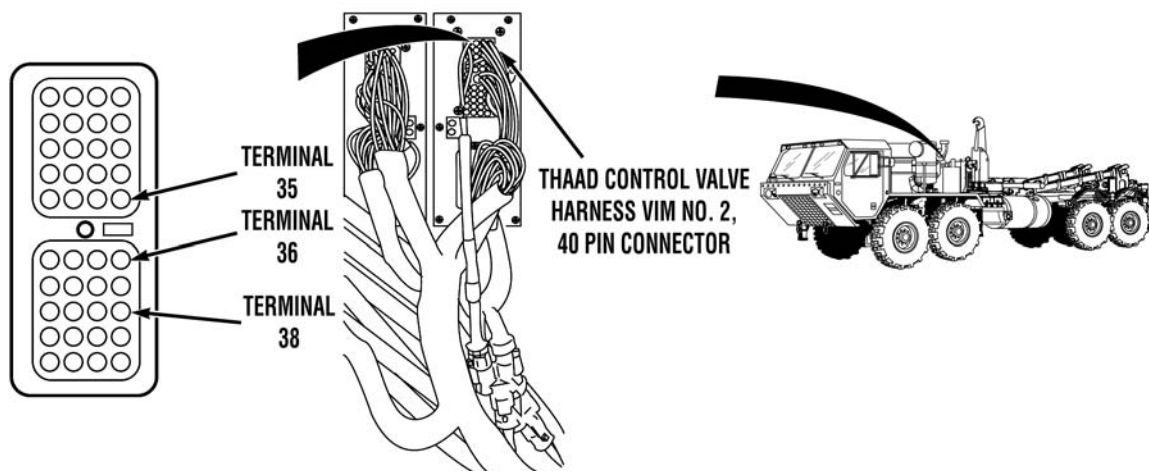
- Step 8. Disconnect diode REC11. Turn engine start switch ON (TM 9-2320-347-10) Position LHS cab control mode select switch to MRP position (WP 0012). Soldier A checks for 22 to 28 vdc between wires 1974A and 1974B at THAAD control valve harness rectifier REC11 connector, terminals 2 and 3 and a known good ground, while Soldier B presses MRP palm button switch (WP 0012). Note readings.
- a. If 22 to 28 vdc are not present on both wires, go to Step 12.
 - b. If 22 to 28 vdc are present on both wires, perform Step 9 only.
 - c. If 22 to 28 vdc are present on one wire, perform Steps 9 through 11.
- Step 9. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across THAAD control valve harness wire 1974 from connector REC11, terminal 4 to connector HV6, terminal 2.
- a. If there is continuity, replace diode REC11 (WP 0088).
 - b. If there is no continuity, repair wire 1974 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT DISENGAGE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

- Perform Step 10 if no vdc is present on wire 1974A at connector REC11, terminal 8 in Step 8.
 - Perform Step 11 if no vdc is present on wire 1974B at connector REC11, terminal 8 in Step 8.
- Step 10. Disconnect THAAD control valve harness VIM No. 1, 40 pin connector (WP 0089). Check for continuity across wire 1974A from VIM No. 1, 40 pin connector, terminal 2 to REC11 connector, terminal 2.
- a. If there is continuity, replace VIM No. 1 (WP 0089).
 - b. If there is no continuity, repair wire 1974A (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).
- Step 11. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Check for continuity across wire 1974B from VIM No. 2, 40 pin connector, terminal 2 to connector REC11, terminal 3.
- a. If there is continuity, replace VIM No. 2 (WP 0089).
 - b. If there is no continuity, repair wire 1974B (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT DISENGAGE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 12. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Check for continuity from wire 1963 at VIM No. 2, 40 pin connector, terminal 35 to a known good ground.

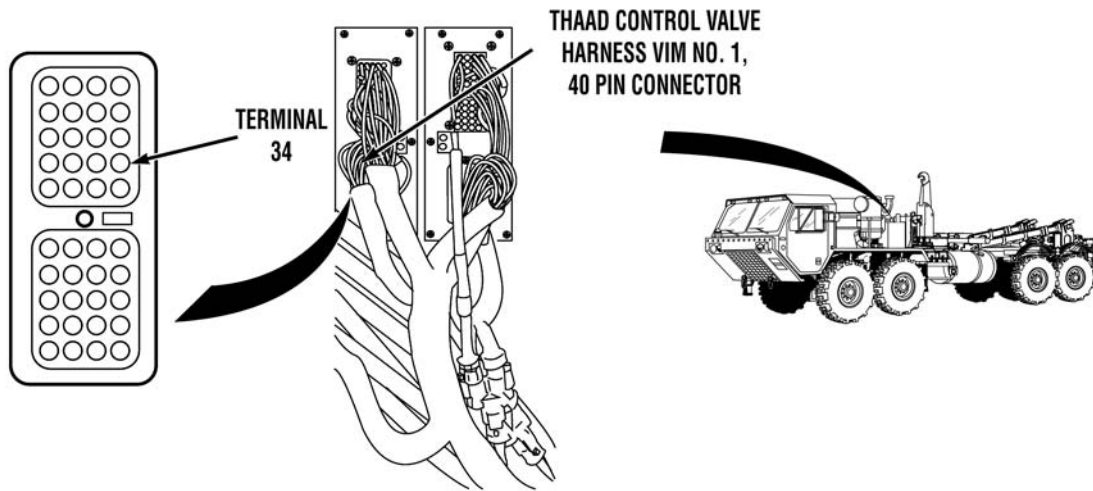
If there is no continuity, go to Step 19.

- Step 13. Check for continuity from wire 1964 at THAAD control valve harness VIM No. 2, 40 pin connector, terminal 36 to a known good ground.

If there is no continuity, go to Step 24.

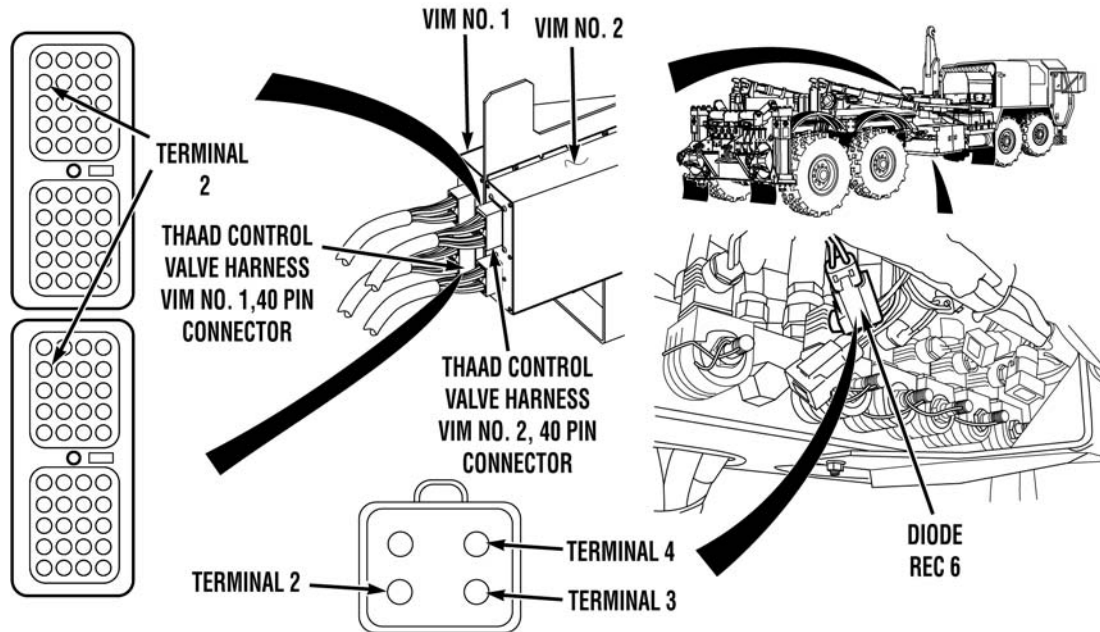
- Step 14. Soldier A checks for continuity from wire 1957 at THAAD control valve harness VIM No. 2, 40 pin connector, terminal 38 to a known good ground, while Soldier B presses MRP palm button switch (WP 0012).

If there is no continuity, go to Step 27.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT DISENGAGE (CONTINUED)**

- Step 15. Disconnect THAAD control valve harness VIM No. 1, 40 pin connector (WP 0089). Soldier A checks for continuity from wire 1958 at VIM No. 1 40 pin connector, terminal 34 to a known good ground, while Soldier B presses MRP palm button switch (WP 0012).

If there is no continuity, go to Step 30.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT DISENGAGE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

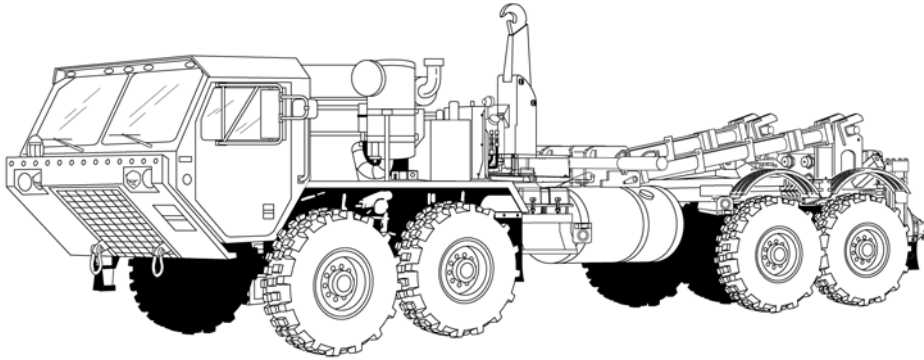
- Step 16. Disconnect THAAD control valve harness VIM No. 1, 40 pin connector (WP 0089). Check for continuity across wire 1974A from THAAD control valve harness VIM No. 1, 40 pin connector, terminal 2 to rectifier REC11 connector, terminal 2.

If there is no continuity, repair wire 1974A (TM 9-2320-325-14&P) and go to Step 17, or replace THAAD control valve harness (WP 0088) and go to Step 18.

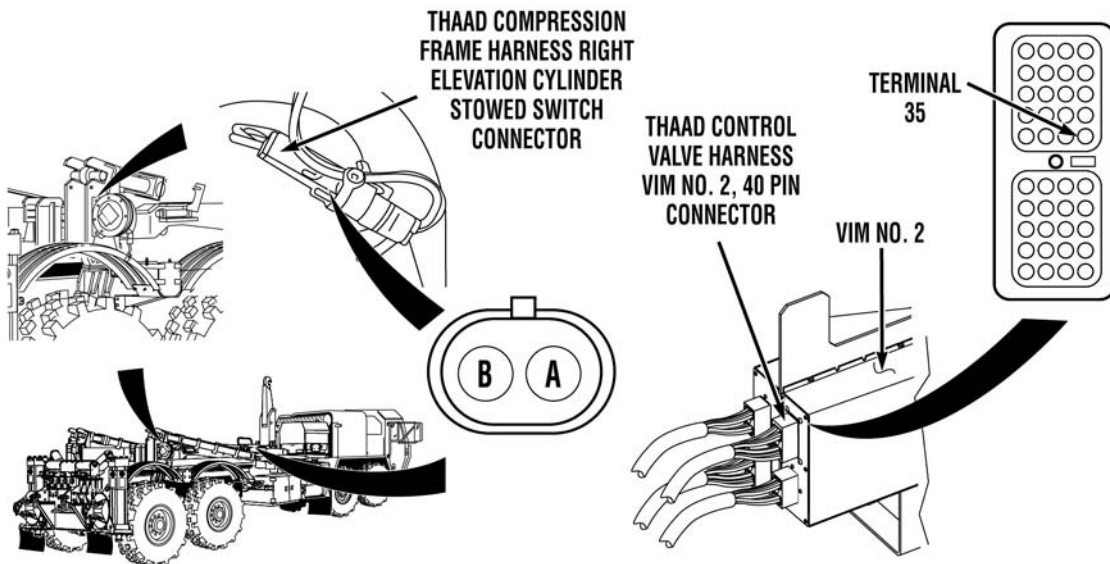
- Step 17. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Check for continuity across wire 1974B from THAAD control valve harness VIM No. 2 40 pin connector, terminal 2 to rectifier REC11 connector, terminal 3.

If there is no continuity, repair wire 1974B (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088) and go to Step 18.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

MRP LOCKS DO NOT DISENGAGE (CONTINUED)

- Step 18. Connect all connectors and install diode REC11. Start engine (TM 9-2320-347-10) Operate rack locks (WP 0012). Check if MRP rack locks disengage.
- a. If MRP rack locks disengage, problem corrected.
 - b. If MRP rack locks do not disengage, notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT DISENGAGE (CONTINUED)****WARNING**

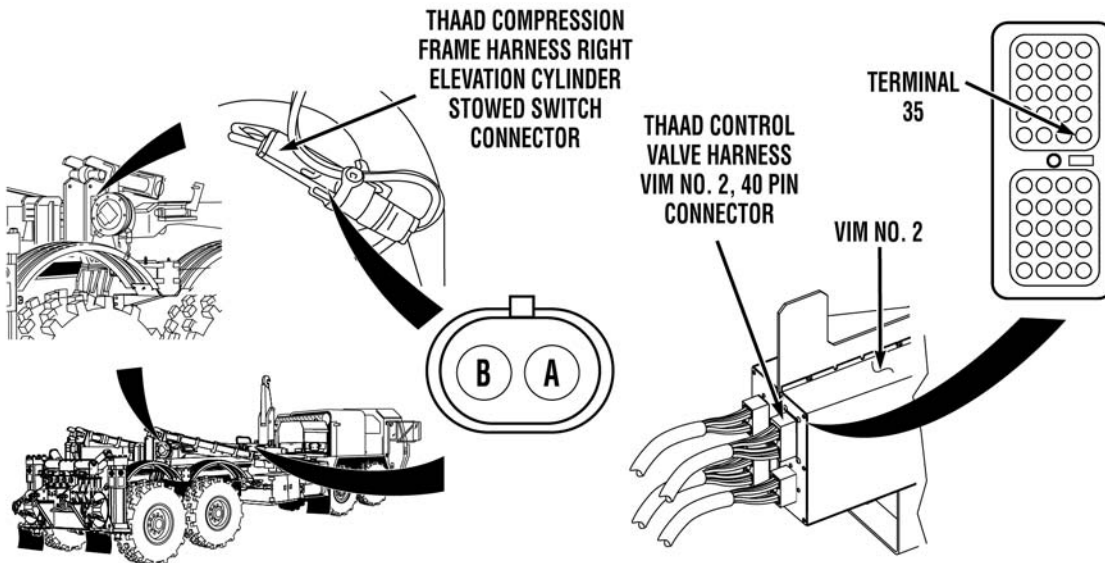
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 19. Disconnect THAAD compression frame harness right elevation cylinder stowed switch connector. Check for continuity across wire 1435 from right elevation cylinder stowed switch connector, terminal B to a known good ground.

If there is no continuity, go to Step 22.

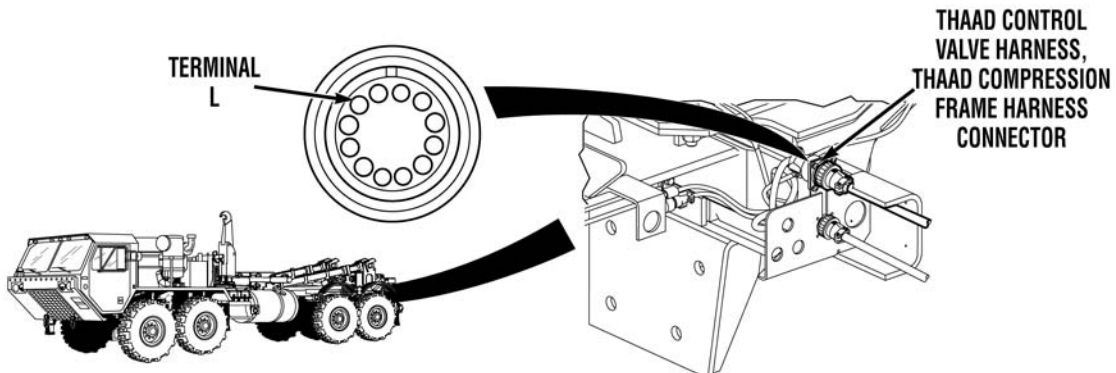
- Step 20. Check for continuity across wire 1963 from THAAD control valve harness VIM No. 2, 40 pin connector, terminal 35 to THAAD compression frame harness right elevation cylinder stowed switch connector, terminal A.

If there is continuity, replace right elevation cylinder stowed switch (WP 0072).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT DISENGAGE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

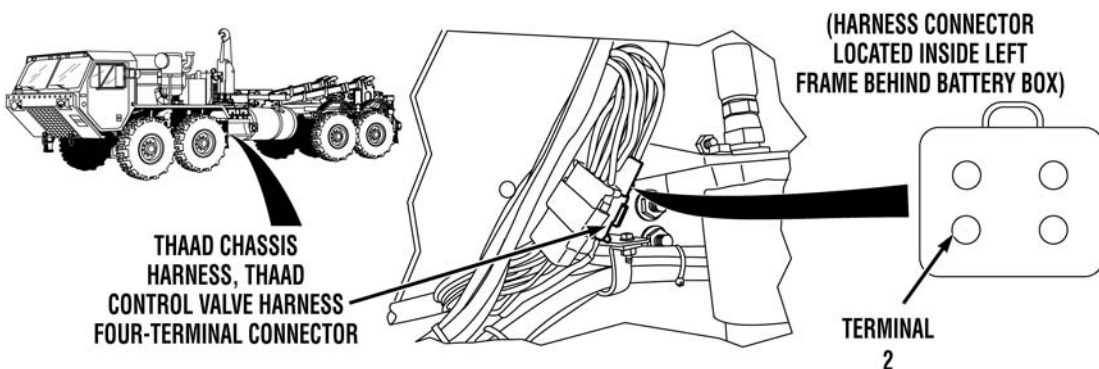
- Step 21. Disconnect THAAD control valve harness, THAAD compression frame connector. Check for continuity across wire 1963 from VIM No. 2, 40 pin connector, terminal 35 to THAAD compression frame connector, terminal E.
- a. If there is no continuity, repair wire 1963 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).
 - b. If there is continuity, repair wire 1963 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT DISENGAGE (CONTINUED)****WARNING**

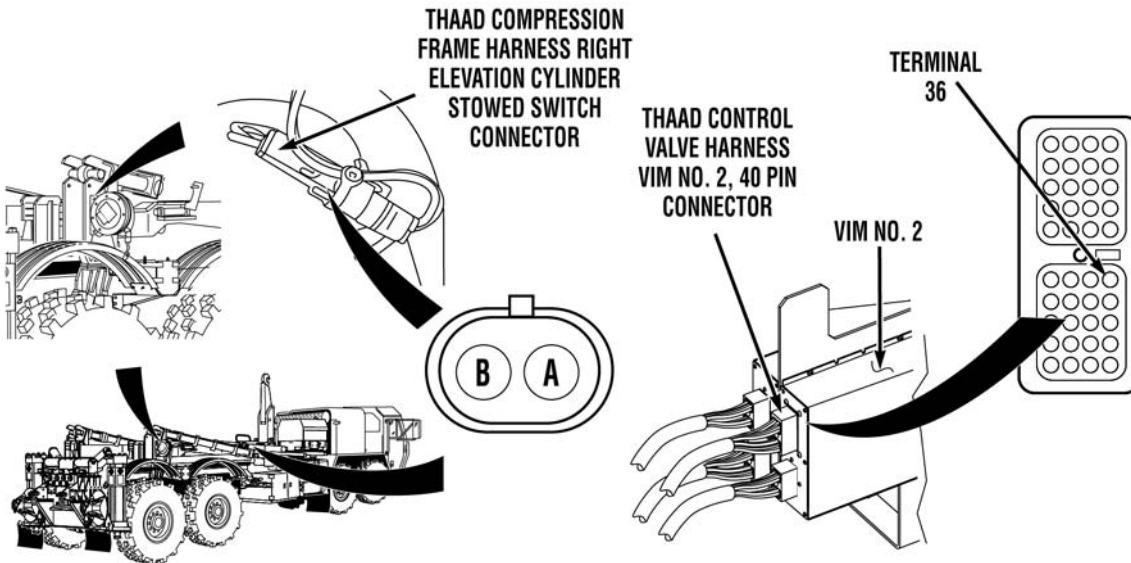
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 22. Disconnect THAAD control valve harness, THAAD compression frame harness connector. Check for continuity across wire 1435 from THAAD compression frame harness connector, terminal L to a known good ground.

If there is continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).



- Step 23. Disconnect THAAD chassis harness, THAAD control valve harness four-terminal connector. Check for continuity across wire 1435 from four-terminal connector, terminal 2 to a known good ground.
- a. If there is continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).
 - b. If there is no continuity, repair THAAD chassis harness wire 1435 (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT DISENGAGE (CONTINUED)****WARNING**

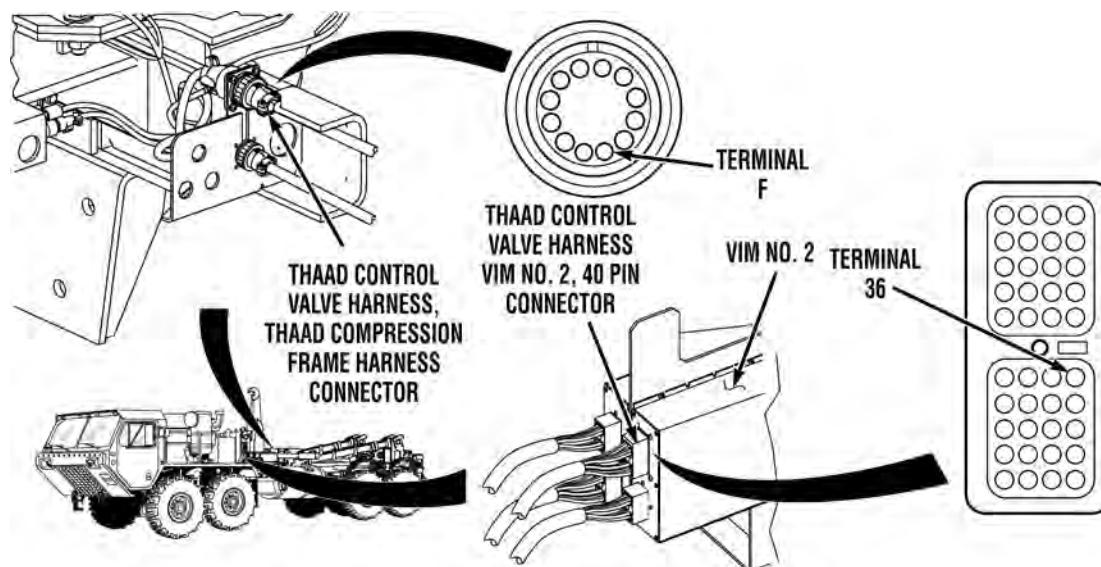
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 24. Disconnect THAAD compression frame harness left elevation cylinder stowed switch connector. Check for continuity across wire 1435 from left elevation cylinder stowed switch connector, terminal B to a known good ground.

If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).

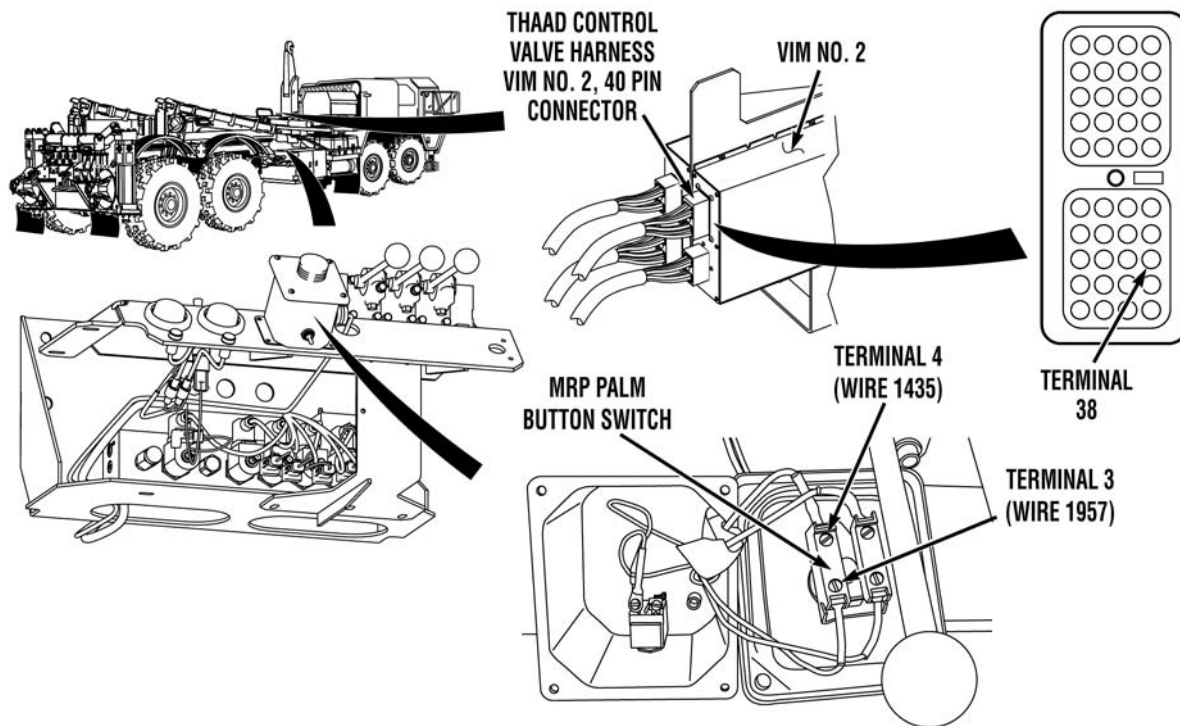
- Step 25. Check for continuity across wire 1964 from THAAD control valve harness VIM No. 2, 40 pin connector, terminal 36 to THAAD compression frame harness left elevation cylinder stowed switch connector, terminal A.

If there is continuity, replace left elevation cylinder stowed switch (WP 0072).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT DISENGAGE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 26. Disconnect THAAD control valve harness, THAAD compression frame connector. Check for continuity across wire 1964 from VIM No. 2, 40 pin connector, terminal 36 to THAAD compression frame connector, terminal F.
- a. If there is no continuity, repair wire 1964 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).
 - b. If there is continuity, repair wire 1964 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT DISENGAGE (CONTINUED)****WARNING**

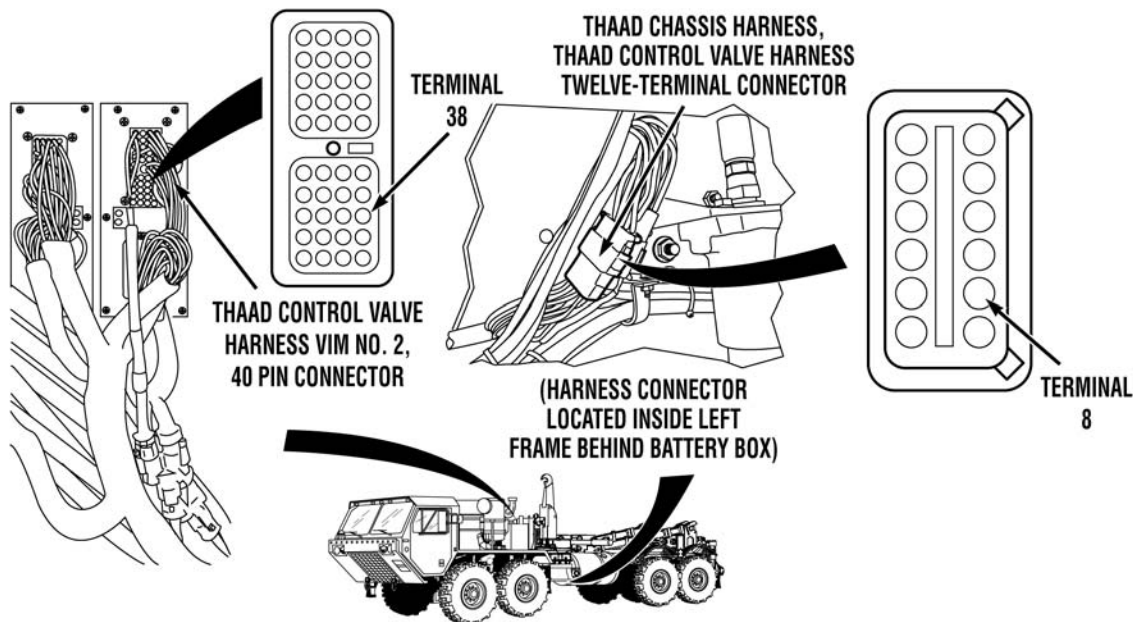
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 27. Remove MRP palm button cover (WP 0073). Check for continuity across wire 1435 from MRP palm button switch, terminal 4 adjacent to wire 1957 to a known good ground.

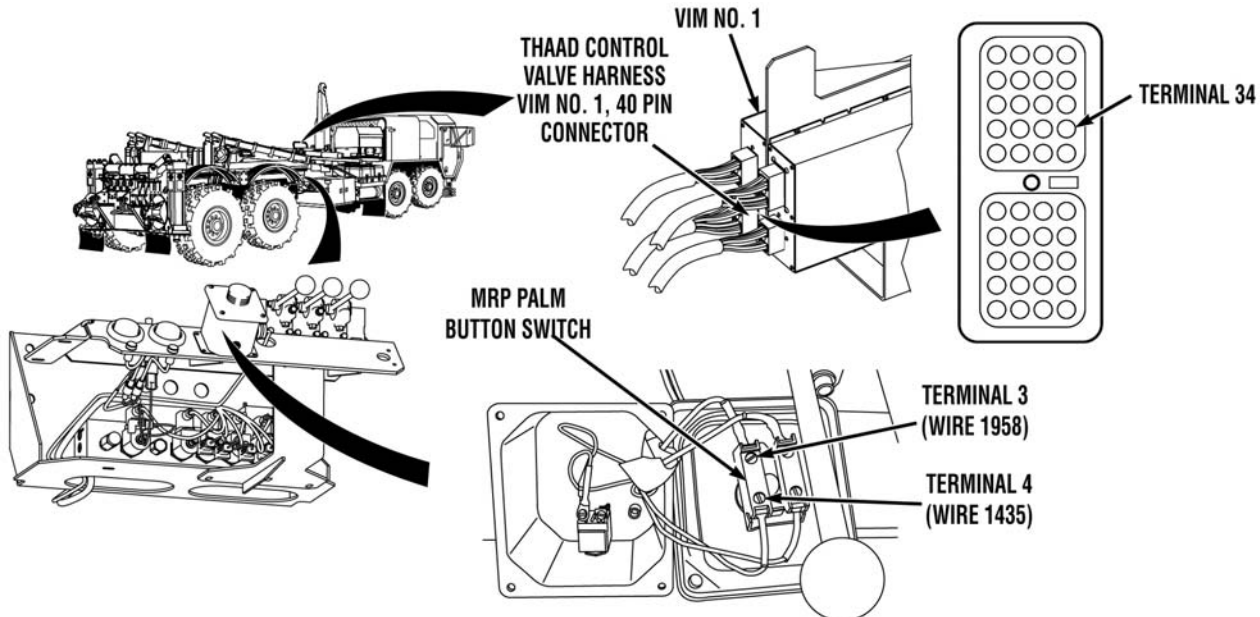
If there is no continuity, repair THAAD chassis harness wire 1435 (TM 9-2320-325-14&P) or notify Supervisor.

- Step 28. Check for continuity across wire 1957 from VIM No. 2, 40 pin connector, terminal 38 to MRP palm button switch, terminal 3.

If there is continuity, replace MRP palm button switch (WP 0073).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT DISENGAGE (CONTINUED)**

- Step 29. Disconnect THAAD control valve harness, THAAD chassis harness twelve-terminal connector. Check for continuity across wire 1957 between VIM No. 2, 40 pin connector, terminal 38 and twelve-terminal connector, terminal 8.
- a. If there is continuity, repair THAAD chassis harness wire 1957 (TM 9-2320-325-14&P) or notify Supervisor.
 - b. If there is no continuity, repair wire 1957 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT DISENGAGE (CONTINUED)****WARNING**

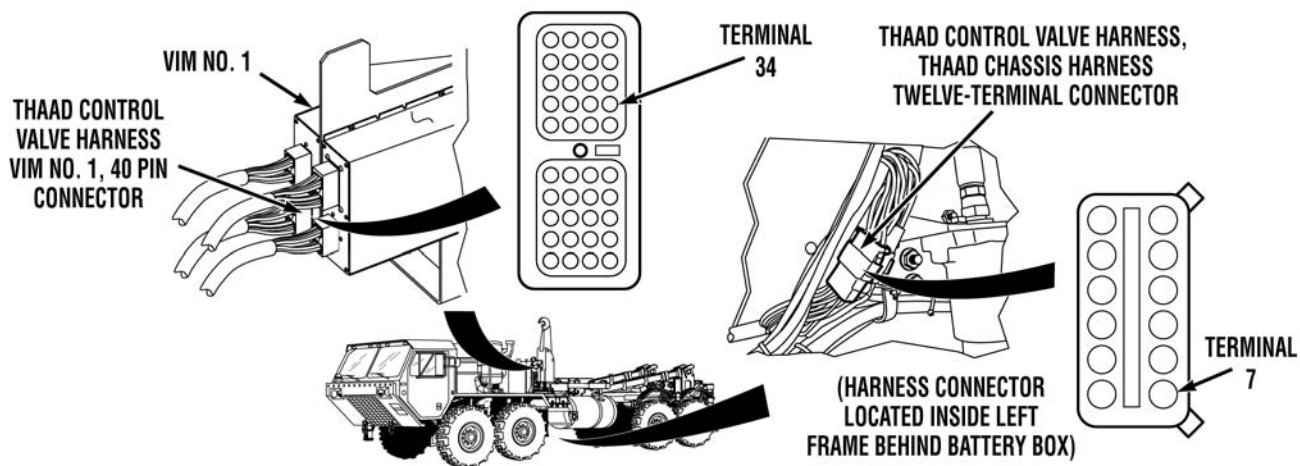
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 30. Remove MRP palm button cover (WP 0073). Check for continuity across wire 1435 from MRP palm button switch, terminal 4 adjacent to wire 1958 to a known good ground.

If there is no continuity, repair THAAD chassis harness wire 1435 (TM 9-2320-325-14&P) or notify Supervisor.

- Step 31. Check for continuity across wire 1958 from VIM No. 1, 40 pin connector, terminal 34 to MRP palm button switch, terminal 3.

If there is continuity, replace MRP palm button switch (WP 0073).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT DISENGAGE (CONTINUED)**

- Step 32. Disconnect THAAD control valve harness, THAAD chassis harness twelve-terminal connector. Check for continuity across wire 1958 from VIM No. 1, 40 pin connector, terminal 34 to twelve-terminal connector, terminal 7.
- a. If there is continuity, repair THAAD chassis harness wire 1958 (TM 9-2320-325-14&P) or notify Supervisor.
 - b. If there is no continuity, repair wire 1958 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

MRP LOCKS DO NOT ENGAGE

Tools and Special Tools

- Adapter, Straight, PI (WP 0183, Item 2)
- Coupling Half, Quick (WP 0183, Item 3)
- Gage, Pressure, Dial (WP 0183, Item 7)
- Hose Assembly, Nonme (WP 0183, Item 8)
- Pan, Drain (WP 0183, Item 10)
- Set, Cap and Plug (WP 0183, Item 17)
- Tool Kit, General Mechanic's: Automotive (WP 0183, Item 25)

Materials/Parts

None

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

References

- TM 9-2320-325-14&P
- WP 0010

References (Continued)

- WP 0012
- WP 0020
- WP 0069
- WP 0073
- WP 0078
- WP 0087
- WP 0088
- WP 0089
- WP 0119
- WP 0126
- WP 0138
- WP 0140

Equipment Conditions

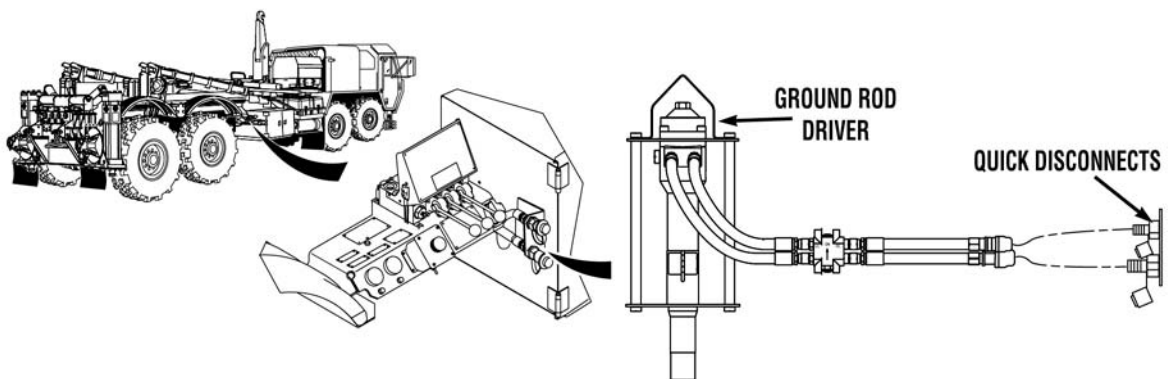
- Engine OFF (TM 9-2320-347-10)
- Parking brake applied (TM 9-2320-347-10)
- Wheels chocked (TM 9-2320-347-10)

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

MRP LOCKS DO NOT ENGAGE



Step 1. Start engine (TM 9-2320-347-10) Check if ground rod driver operates (WP 0010). Shut off engine (TM 9-2320-347-10)

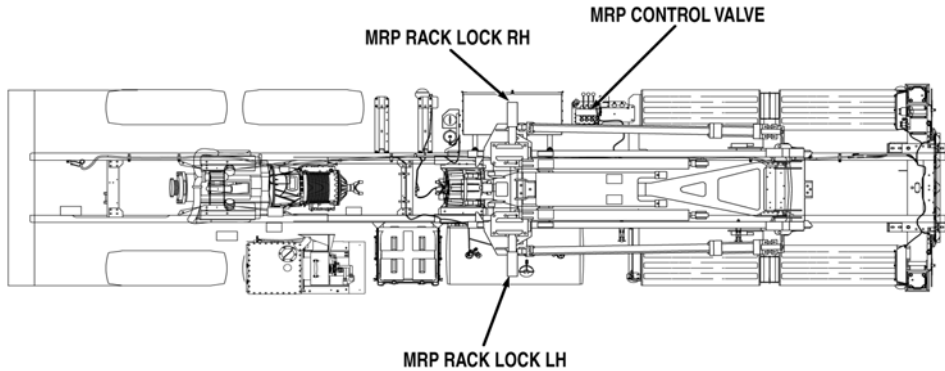
If ground rod driver does not operate, troubleshoot Ground Rod Driver Does Not Operate (WP 0020).

MALFUNCTION

TEST OR INSPECTION

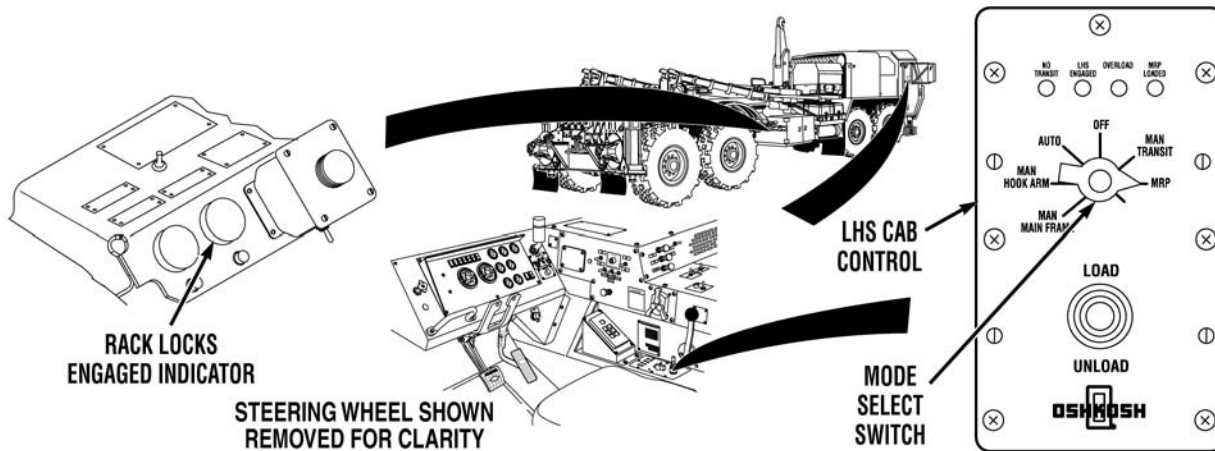
CORRECTIVE ACTION

MRP LOCKS DO NOT ENGAGE (CONTINUED)



Step 2. Inspect hydraulic hoses 2740 and 2741, tubing, and fittings from MRP control valves to left and right rack locks for leaks, kinks, and damage (See WP 0119).

If hydraulic hoses, tubes and/or fittings leak, or are damaged, tighten loose fittings or replace damaged tubes and hoses (WP 0119).

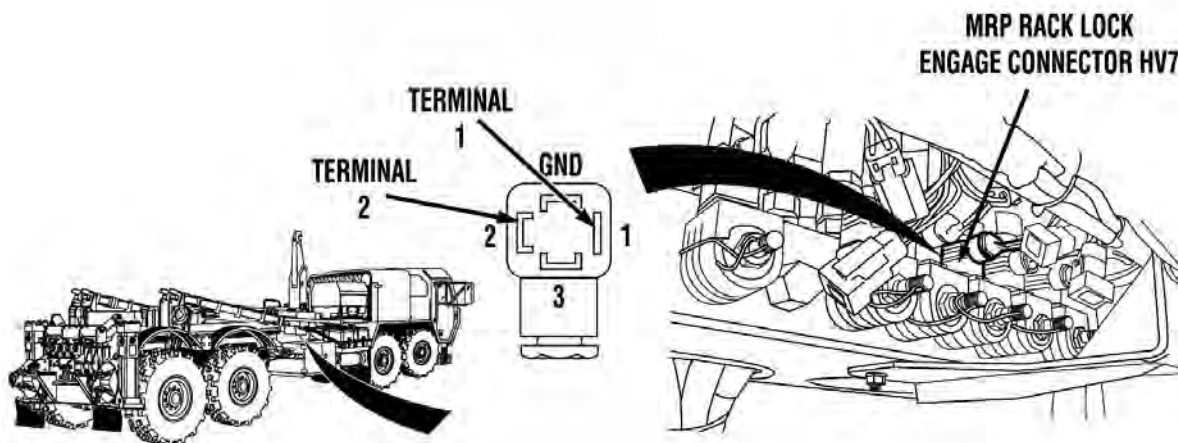


NOTE

MRP present proximity switches must be active to engage MRP rack locks. If MRP rack is not loaded, activate both MRP present proximity switches by placing a metal object over proximity switches while engaging MRP rack locks.

Step 3. If MRP is not loaded, place metal objects over MRP present proximity switches. Then start engine (TM 9-2320-347-10) and operate MRP rack locks (WP 0012). Check if MRP rack locks engage (WP 0012). Shut off engine (TM 9-2320-347-10)

- a. If one rack lock cylinder does not engage, replace nonoperating cylinder (WP 0140).
- b. If both rack lock cylinders do not engage, go to Step 4.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT ENGAGE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

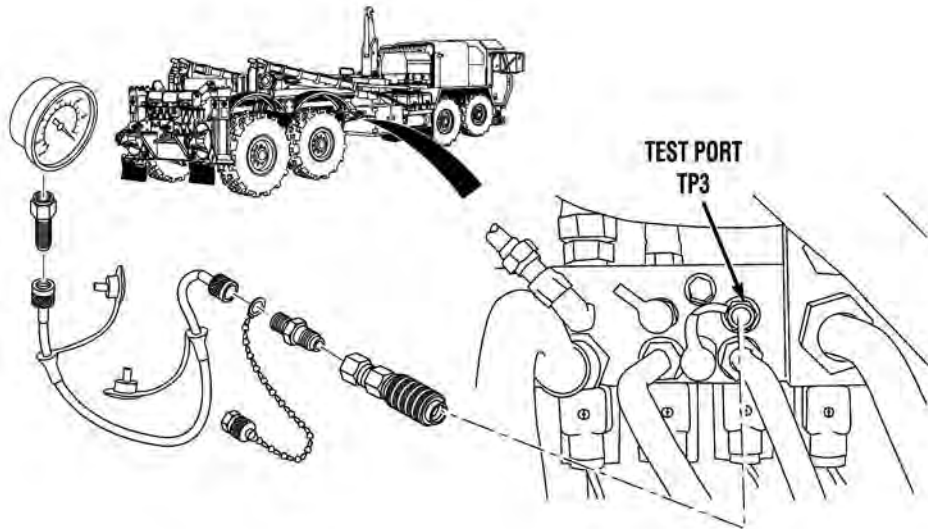
- Step 4. Disconnect THAAD control valve harness connector HV7. Turn engine start switch ON (TM 9-2320-347-10) Position LHS cab control mode select switch to MRP position (WP 0012). Soldier A checks for 22 and 28 vdc between wire 1976 at connector HV7, terminal 2, and a known good ground, while Soldier B presses MRP palm button switch (WP 0012).

If 22 to 28 vdc are not present, go to Step 7.

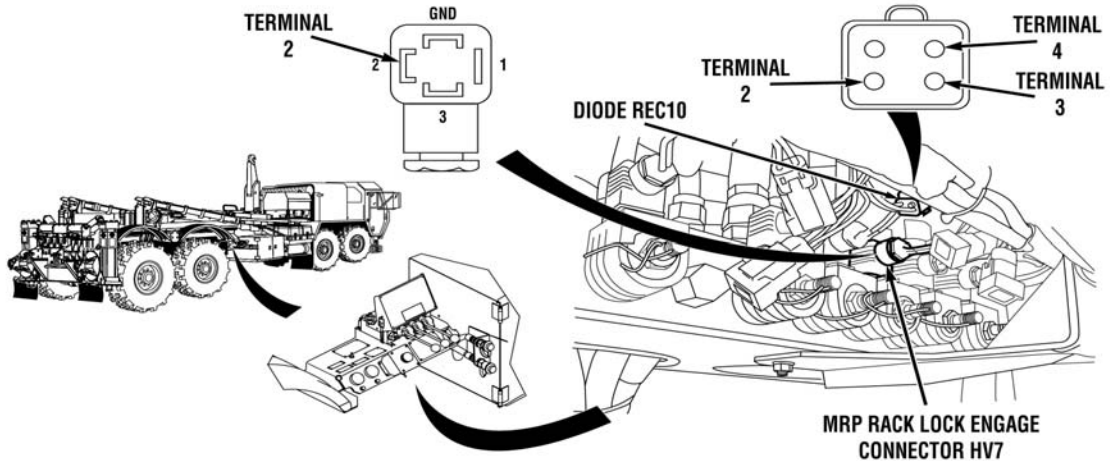
- Step 5. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across wire 1435 from THAAD control valve harness connector HV7, terminal 1 to a known good ground.

If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

MRP LOCKS DO NOT ENGAGE (CONTINUED)

- Step 6. Connect pressure gage and hose to test port TP3. Remove safety wire from solenoid HV7. Start engine (TM 9-2320-347-10) Position LHS cab control mode select switch to MRP position (WP 0012). Soldier A checks for 3,000 psi (20,684 kPa) at test port TP3, while HV7 bypass valve is pulled out and turned, and Soldier B attempts to engage MRP rack locks (WP 0012). Shut off engine (TM 9-2320-347-10) Disconnect pressure gage and hose.
- If 3,000 psi (20,684 kPa) is measured, replace MRP distribution manifold (WP 0126).
 - If 3,000 psi (20,684 kPa) is not measured, install safety wire on solenoid HV7 and replace MRP control valves (WP 0138).

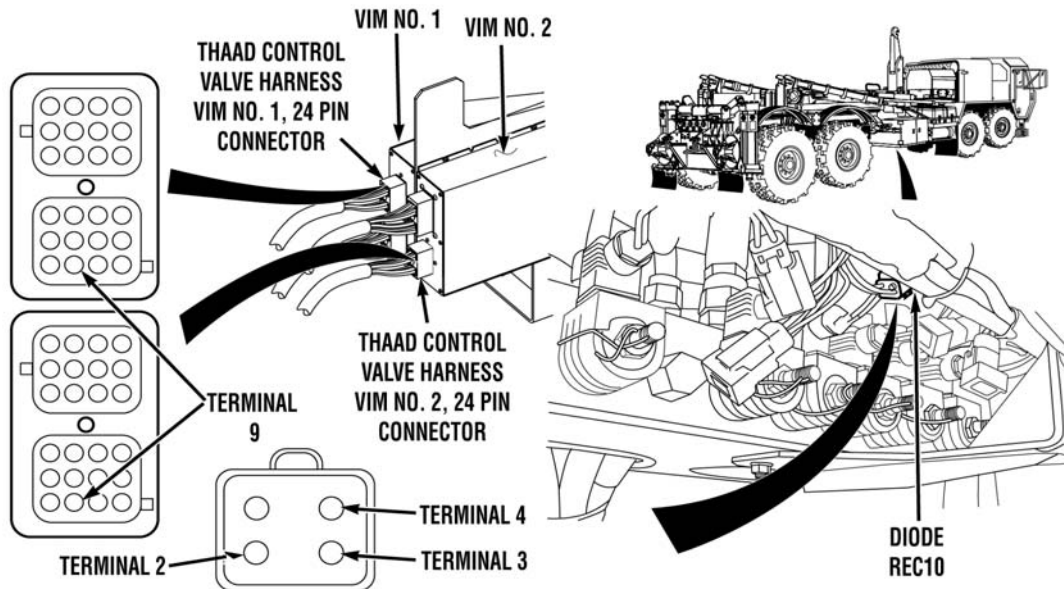
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT ENGAGE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

Due to system redundancy, the valve control signal is required from only one of the VIMs for proper system operation. The following steps check the valve control circuit from both VIMs, to ensure system integrity.

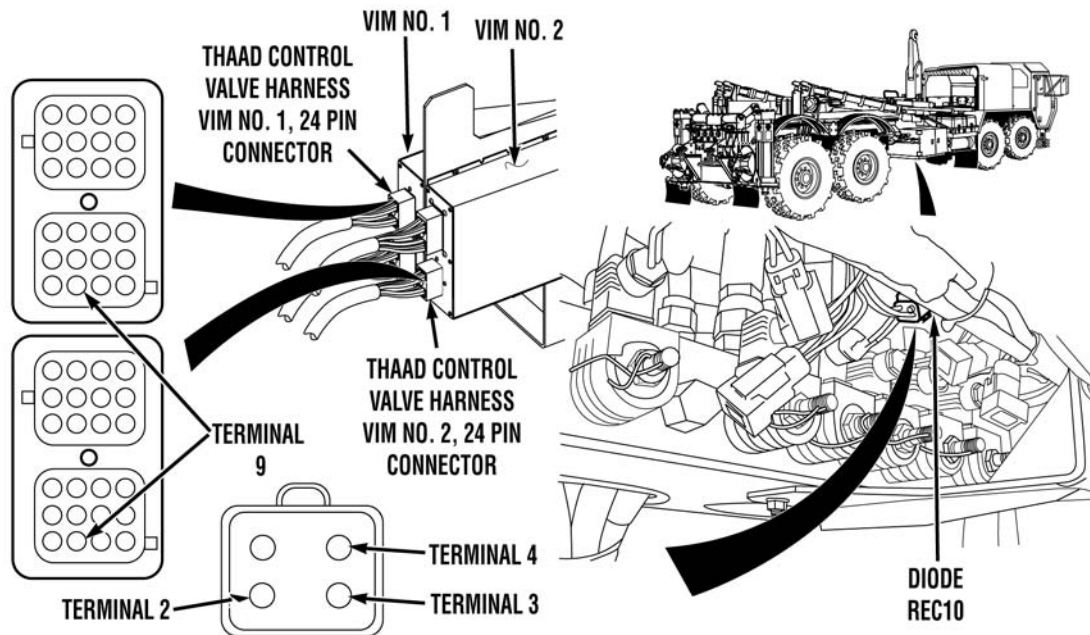
- Step 7. Disconnect diode REC10. Turn engine start switch ON (TM 9-2320-347-10) Position LHS cab control mode select switch to MRP position (WP 0012). Soldier A checks for 22 to 28 vdc between wires 1976A and 1976B at THAAD control valve harness connector REC10, terminals 2 and 3 and a known good ground, while Soldier B presses MRP palm button switch (WP 0012). Note readings.
- If 22 to 28 vdc are not present on both wires, go to Step 11.
 - If 22 to 28 vdc are present on both wires, perform Step 8 only.
 - If 22 to 28 vdc are present on one wire, perform Steps 8 through 10.
- Step 8. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across THAAD control valve harness wire 1976 between connector REC10, terminal 4 and connector HV7, terminal 2.
- If there is continuity, replace diode REC10 (WP 0088).
 - If there is no continuity, repair wire 1976 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT ENGAGE (CONTINUED)****WARNING**

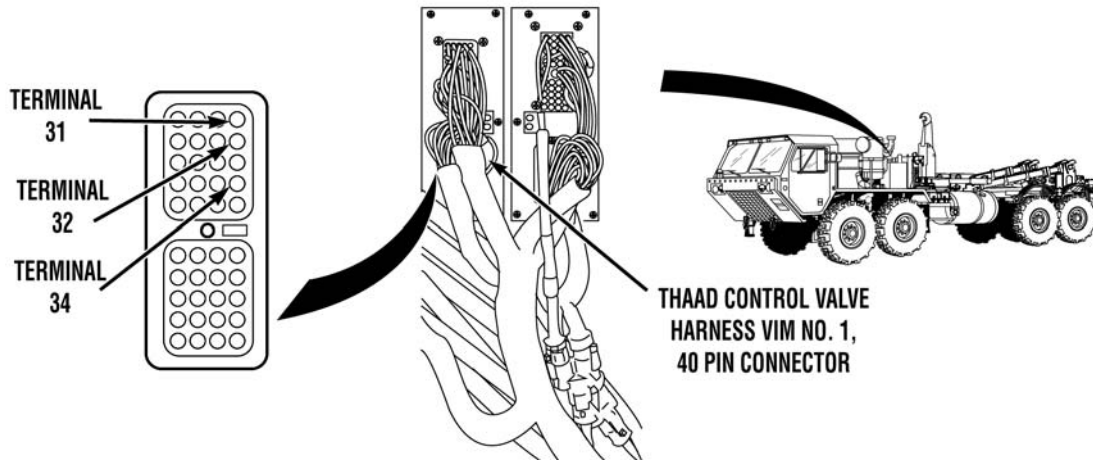
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

- Perform Step 9 if no vdc is present on wire 1976A at connector REC10, terminal 9 in Step 7.
 - Perform Step 10 if no vdc is present on wire 1976B at connector REC10, terminal 9 in Step 7.
- Step 9. Disconnect THAAD control valve harness VIM No. 1, 24 pin connector (WP 0089). Check for continuity across wire 1976A from VIM No. 1, 24 pin connector, terminal 9 to connector REC10, terminal 2.
- a. If there is continuity, replace VIM No. 1 (WP 0089).
 - b. If there is no continuity, repair wire 1976A (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT ENGAGE (CONTINUED)**

- Step 10. Disconnect THAAD control valve harness VIM No. 2, 24 pin connector (WP 0089). Check for continuity across wire 1976B from VIM No. 2, 24 pin connector, terminal 9 to connector REC10, terminal 3.
- a. If there is continuity, replace VIM No. 2 (WP 0089).
 - b. If there is no continuity, repair wire 1976B (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT ENGAGE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

MRP present proximity switches must be activated in Steps 11 and 12. If MRP rack is not loaded, activate both MRP present proximity switches by placing metal objects over proximity switches.

Step 11. Disconnect THAAD control valve harness VIM No. 1, 40 pin connector (WP 0089). Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1961 at VIM No. 1, 40 pin connector, terminal 31 and a known good ground.

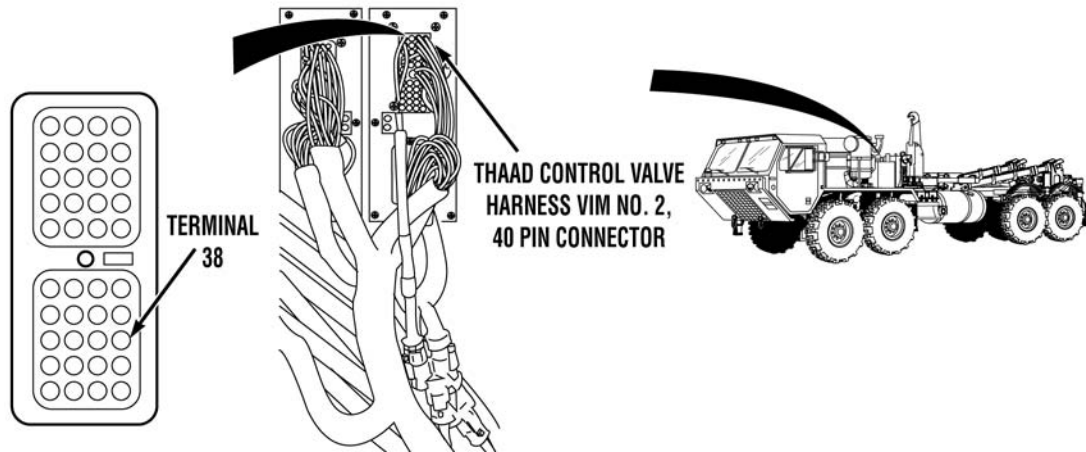
If 22 to 28 vdc are not present, go to Step 18.

Step 12. Check for 22 to 28 vdc between wire 1962 at THAAD control valve harness VIM No. 1, 40 pin connector, terminal 32 and a known good ground.

If 22 to 28 vdc are not present, go to Step 28.

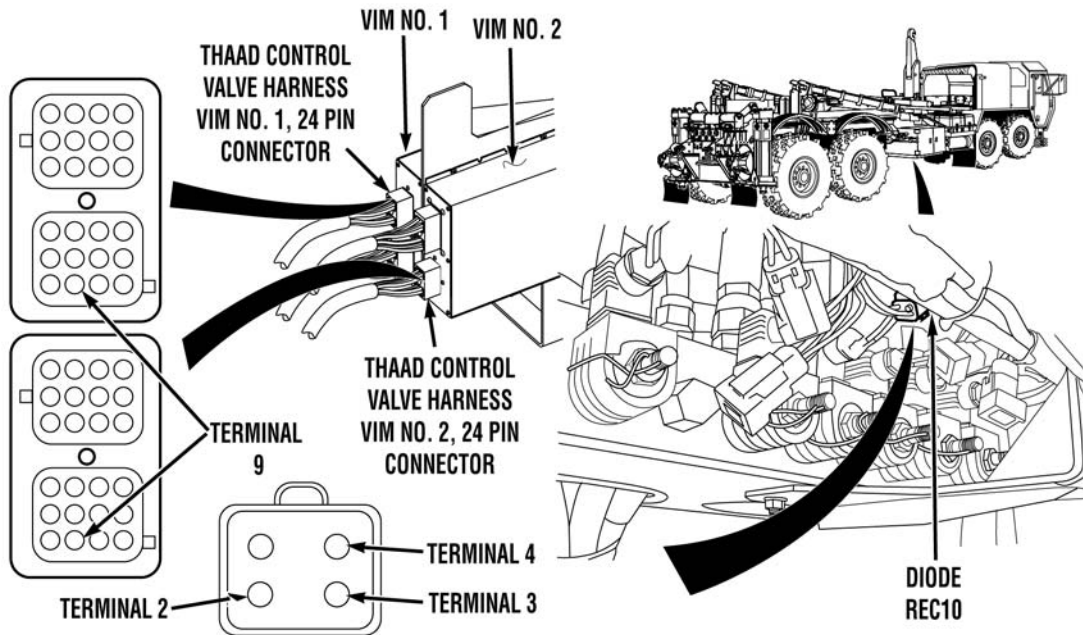
Step 13. Turn engine start switch OFF (TM 9-2320-347-10) Soldier A checks for continuity from wire 1958 at THAAD control valve harness VIM No. 1, 40 pin connector, terminal 34 to known good ground, while Soldier B presses MRP palm button switch (WP 0012).

If there is no continuity, go to Step 32.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT ENGAGE (CONTINUED)**

- Step 14. Disconnect THAAD control valve harness VIM No.2, 40 pin connector (WP 0089). Soldier A checks for continuity from wire 1957 at THAAD control valve harness VIM No. 2, 40 pin connector, terminal 38 to known good ground, while Soldier B presses MRP palm button switch (WP 0012).

If there is no continuity, go to Step 35.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT ENGAGE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 15. Disconnect THAAD control valve harness VIM No. 1, 24 pin connector (WP 0089). Check for continuity across wire 1976A from VIM No. 1, 24 pin connector, terminal 9 to connector REC10, terminal 2.

If there is no continuity, repair wire 1976A (TM 9-2320-325-14&P) and go to Step 16, or replace THAAD control valve harness (WP 0088) and go to Step 17.

- Step 16. Disconnect THAAD control valve harness VIM No. 2, 24 pin connector (WP 0089). Check for continuity across wire 1976B from VIM No. 2, 24 pin connector, terminal 9 to connector REC10, terminal 3.

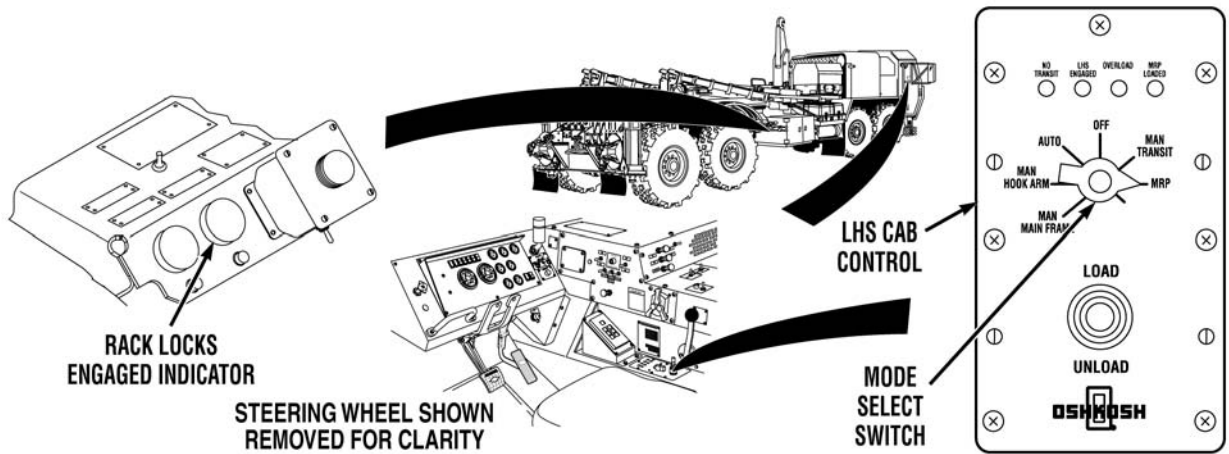
If there is no continuity, repair wire 1976B (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088) and go to Step 17.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

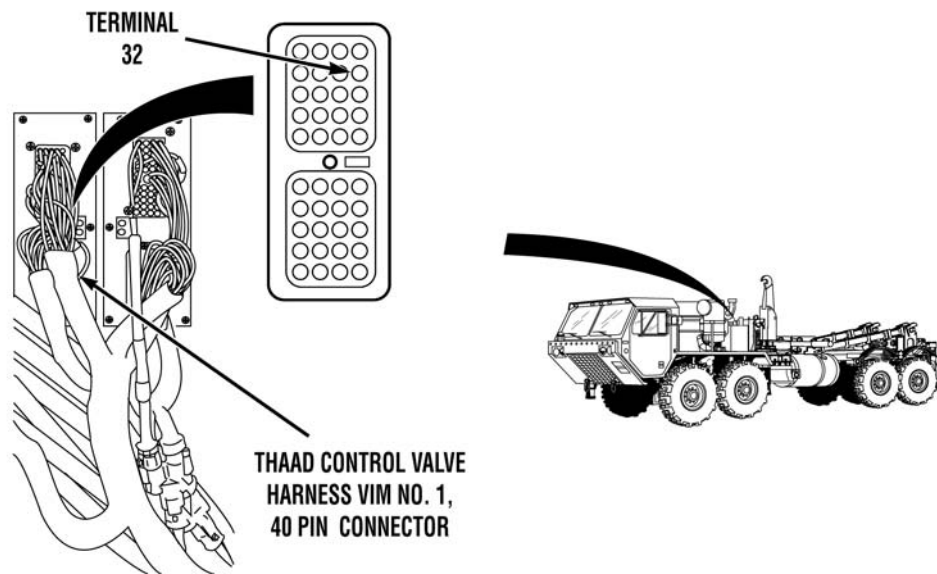
MRP LOCKS DO NOT ENGAGE (CONTINUED)



WARNING

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 17. Connect all connectors and install diode REC10. Start engine (TM 9-2320-347-10) Check if MRP rack locks engage (WP 0012).
 - a. If MRP rack locks engage, problem corrected.
 - b. If MRP rack locks do not engage, notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT ENGAGE (CONTINUED)****WARNING**

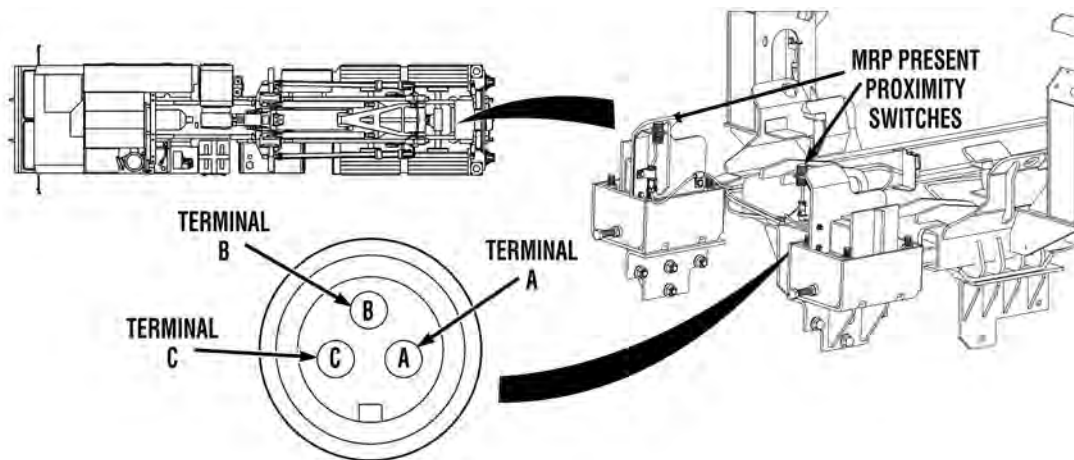
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

MRP present proximity switches must be activated in Step 18. If MRP rack is not loaded, activate both MRP present proximity switches by placing metal objects over proximity switches.

- Step 18. Check for 22 to 28 vdc between wire 1962 at THAAD control valve harness VIM No. 1, 40 pin connector, terminal 32 and a known good ground.

If 22 to 28 vdc are not present, go to Step 23.

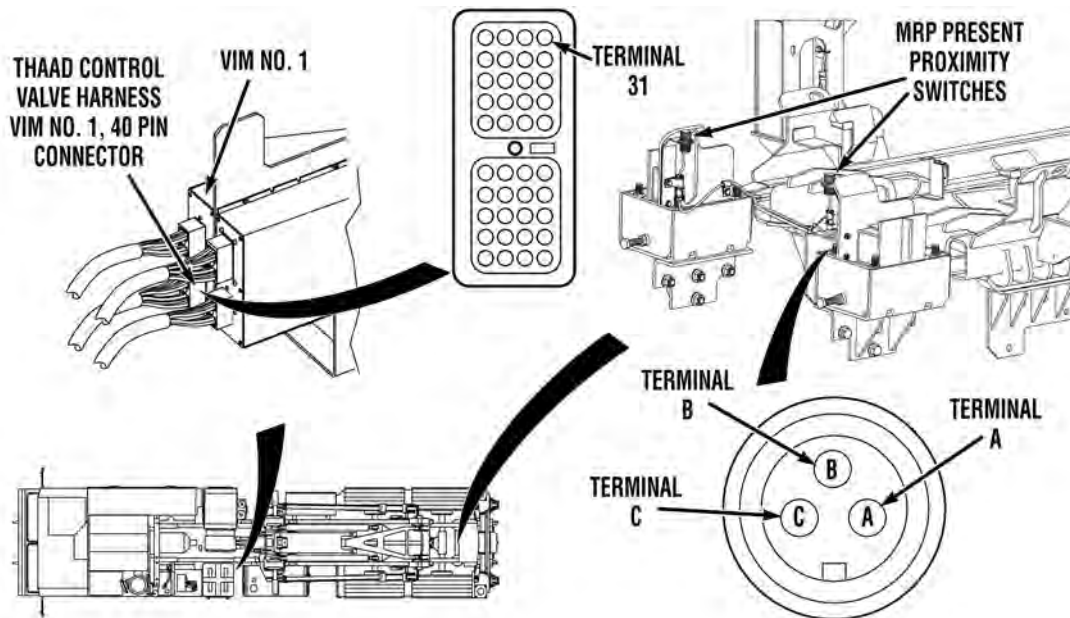
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT ENGAGE (CONTINUED)**

- Step 19. Disconnect THAAD compression harness right MRP present proximity switch connector. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1461 at right MRP present proximity switch connector, terminal A and a known good ground.

If 22 to 28 vdc are not present, repair wire 1461 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).

- Step 20. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across wire 1435 from THAAD compression frame harness right MRP present proximity switch connector, terminal C to a known good ground.

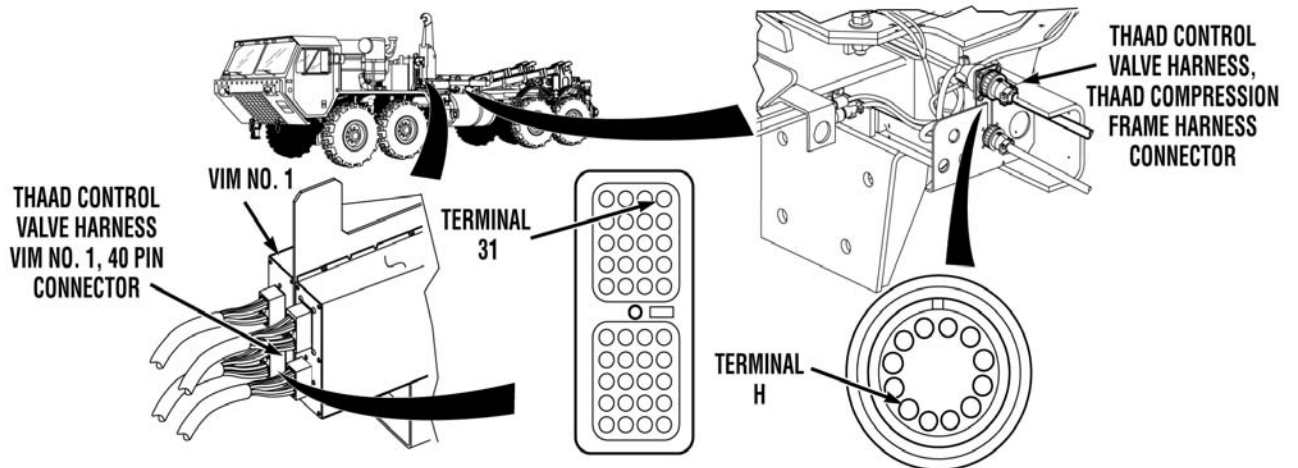
If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT ENGAGE (CONTINUED)****WARNING**

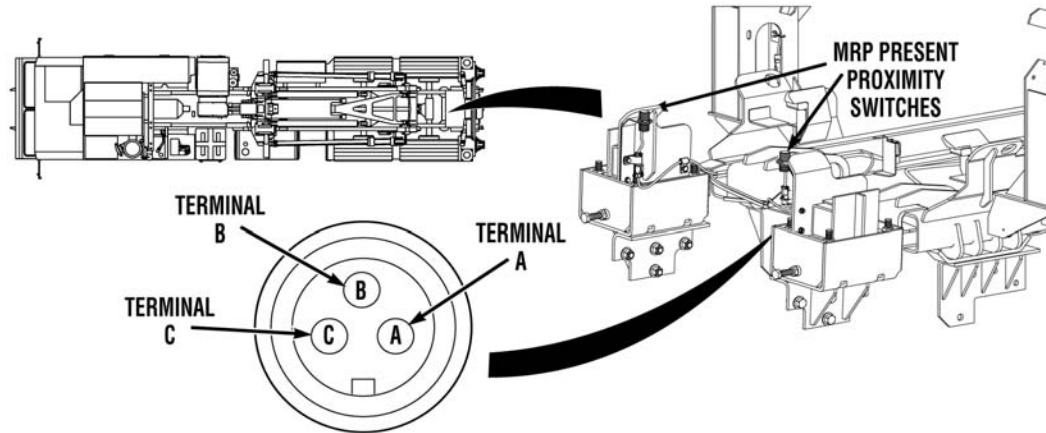
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 21. Check for continuity across wire 1961 between THAAD control valve harness VIM No. 1, 40 pin connector, terminal 31 and THAAD compression frame harness right MRP present proximity switch connector, terminal B.

If there is continuity, replace right MRP present proximity switch (WP 0078).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT ENGAGE (CONTINUED)**

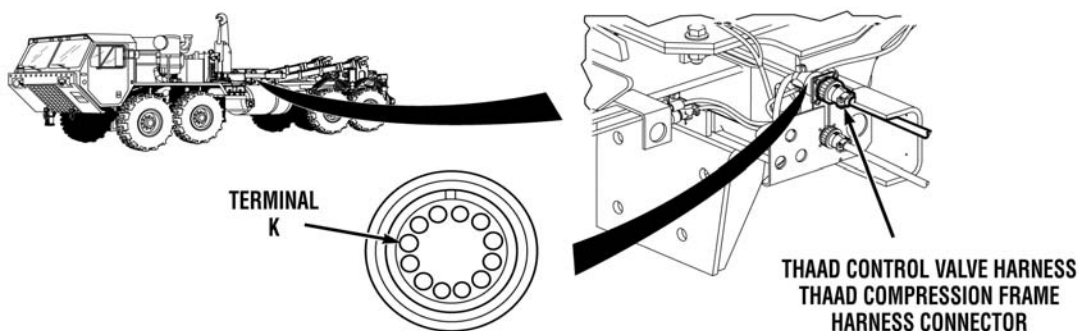
- Step 22. Disconnect THAAD control valve harness, THAAD compression frame harness connector. Check for continuity across wire 1961 from VIM No. 1, 40 pin connector, terminal 31 to THAAD compression frame harness connector, terminal H.
- If there is continuity, repair wire 1961 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).
 - If there is no continuity, repair wire 1961 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT ENGAGE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

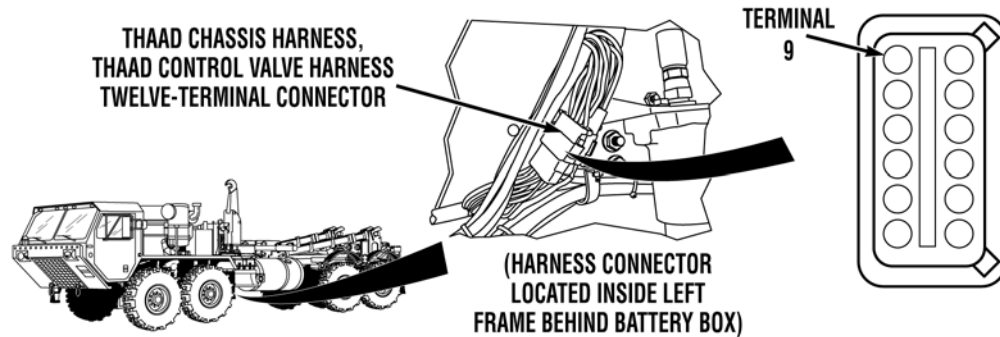
- Step 23. Disconnect THAAD compression harness left or right MRP present proximity switch connector. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1461 at MRP present proximity switch connector, terminal A and a known good ground.

If 22 to 28 vdc are present, go to Step 26.

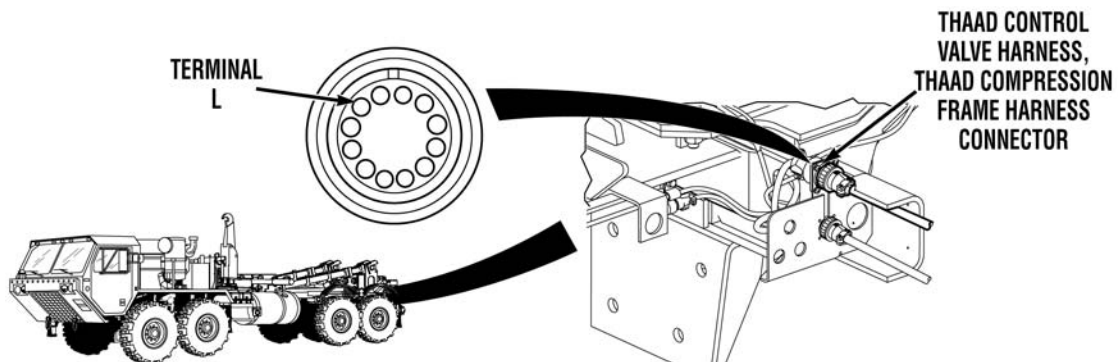


- Step 24. Disconnect THAAD control valve harness, THAAD compression frame connector. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1461 at THAAD compression frame harness connector, terminal K and a known good ground.

If 22 to 28 vdc are present, repair wire 1461 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0069).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT ENGAGE (CONTINUED)**

- Step 25. Disconnect THAAD chassis harness, THAAD control valve harness twelve-terminal connector. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1461 at twelve-terminal connector, terminal 1 and a known good ground.
- a. If 22 to 28 vdc are present, repair wire 1461 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).
 - b. If 22 to 28 vdc are not present, repair THAAD chassis harness wire 1461 (TM 9-2320-325-14&P) or notify Supervisor.

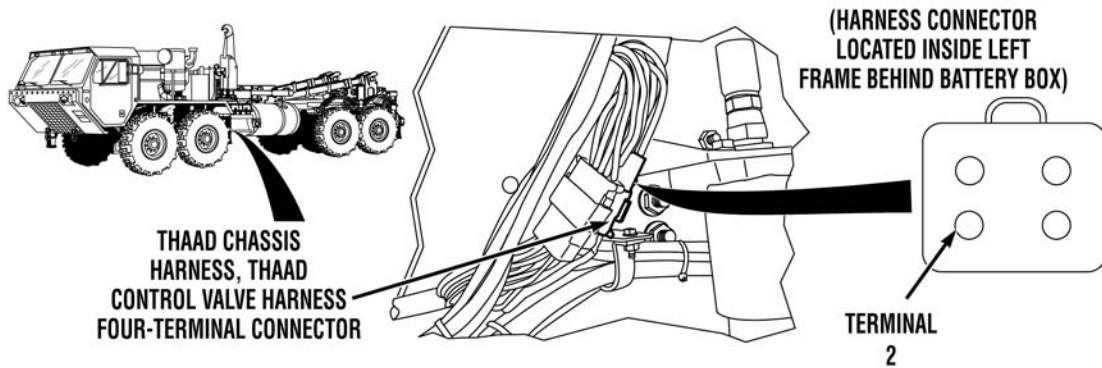
**WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

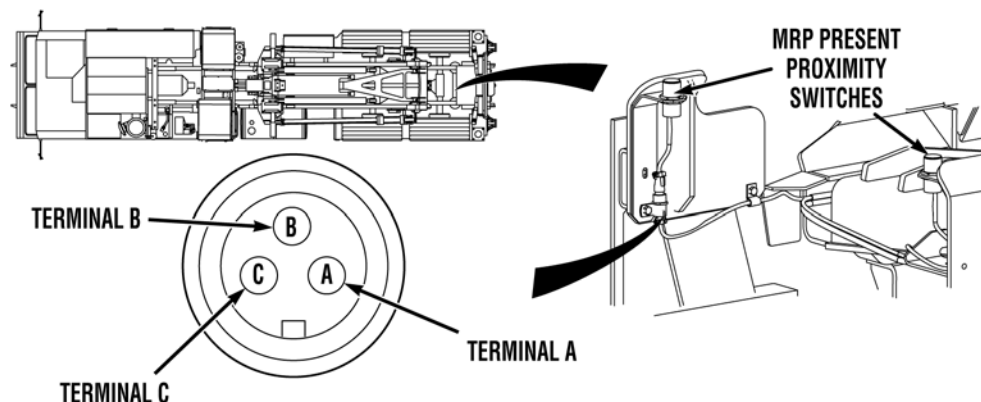
- Step 26. Disconnect THAAD control valve harness, THAAD compression frame harness connector. Check for continuity across wire 1435 from THAAD compression frame harness connector, terminal L and a known good ground.

If there is continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0069).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

MRP LOCKS DO NOT ENGAGE (CONTINUED)

- Step 27. Disconnect THAAD chassis harness, THAAD control valve harness four-terminal connector. Check for continuity across wire 1435 from four-terminal connector, terminal 2 and a known good ground.
- If there is continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).
 - If there is no continuity, repair THAAD chassis harness wire 1435 (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT ENGAGE (CONTINUED)****WARNING**

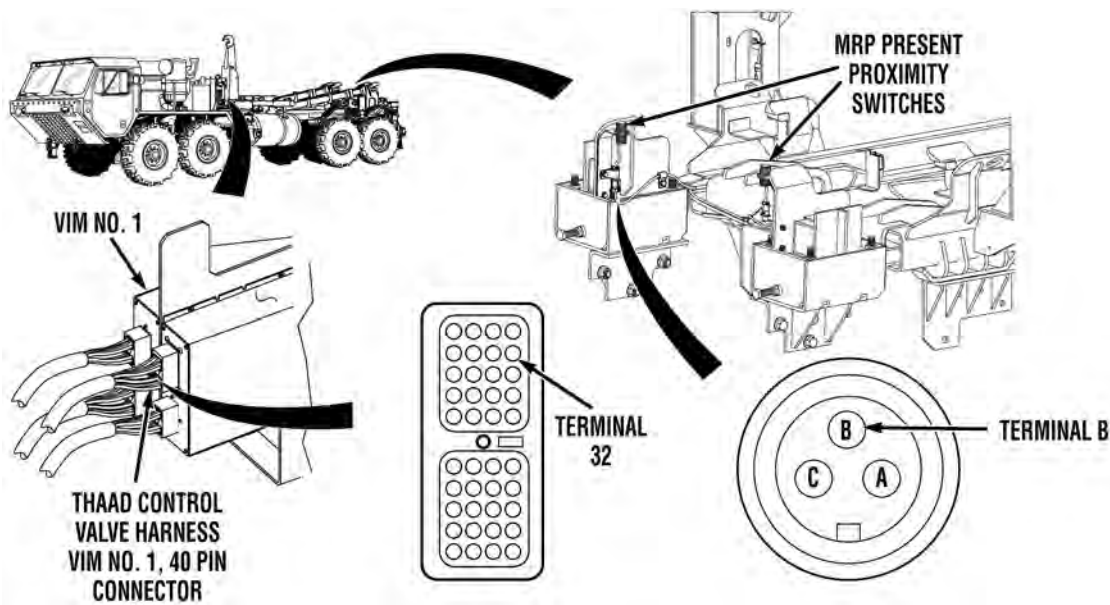
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 28. Disconnect THAAD compression harness left MRP present proximity switch connector. Turn engine start switch ON (TM 9-2320-347-10) Check for 22 to 28 vdc between wire 1461 at left MRP present proximity switch connector, terminal A and a known good ground.

If 22 to 28 vdc are not present, repair wire 1461 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).

- Step 29. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across wire 1435 from THAAD compression frame harness left MRP present proximity switch connector, terminal C to a known good ground.

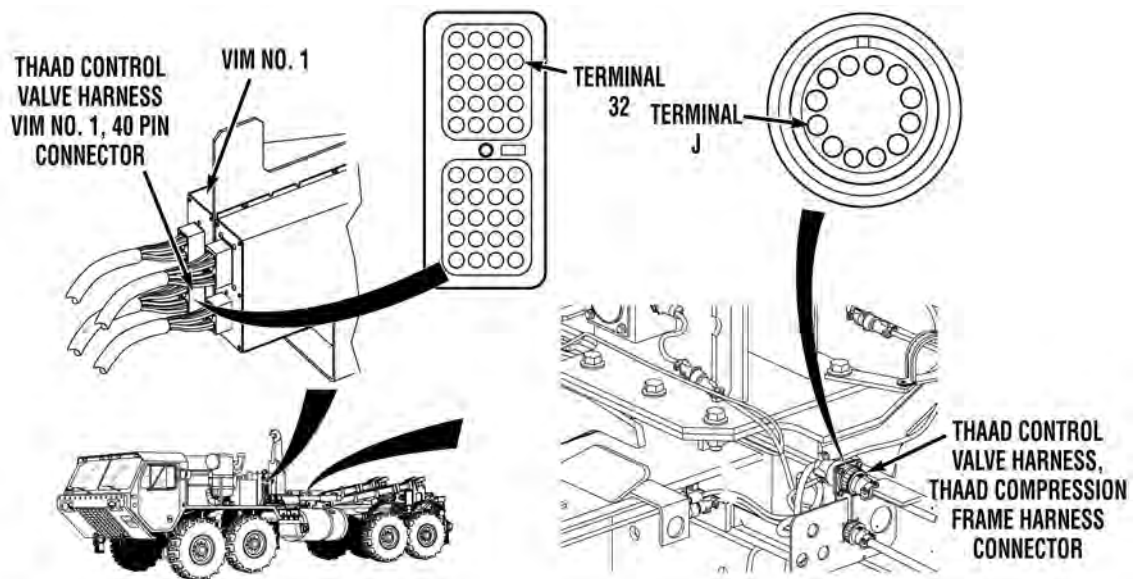
If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT ENGAGE (CONTINUED)****WARNING**

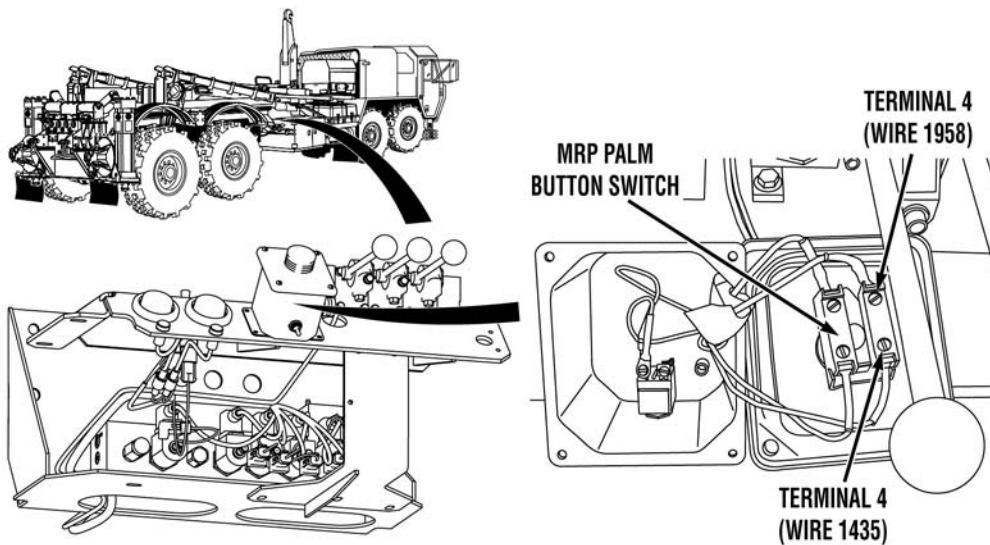
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 30. Check for continuity across wire 1962 between THAAD control valve harness VIM No. 1, 40 pin connector, terminal 32 and THAAD compression frame harness left MRP present proximity switch connector, terminal B.

If there is continuity, replace left MRP present proximity switch (WP 0078).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT ENGAGE (CONTINUED)**

- Step 31. Disconnect THAAD control valve harness, THAAD compression frame harness connector. Check for continuity across wire 1962 from VIM No. 1, 40 pin connector, terminal 32 to THAAD compression frame harness connector, terminal J.
- a. If there is continuity, repair wire 1962 (TM 9-2320-325-14&P) or replace THAAD compression frame harness (WP 0087).
 - b. If there is no continuity, repair wire 1962 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT ENGAGE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 32. Remove MRP palm button cover (WP 0073). Check for continuity across wire 1435, from MRP palm button switch, terminal 4 adjacent to wire 1958 and a known good ground.

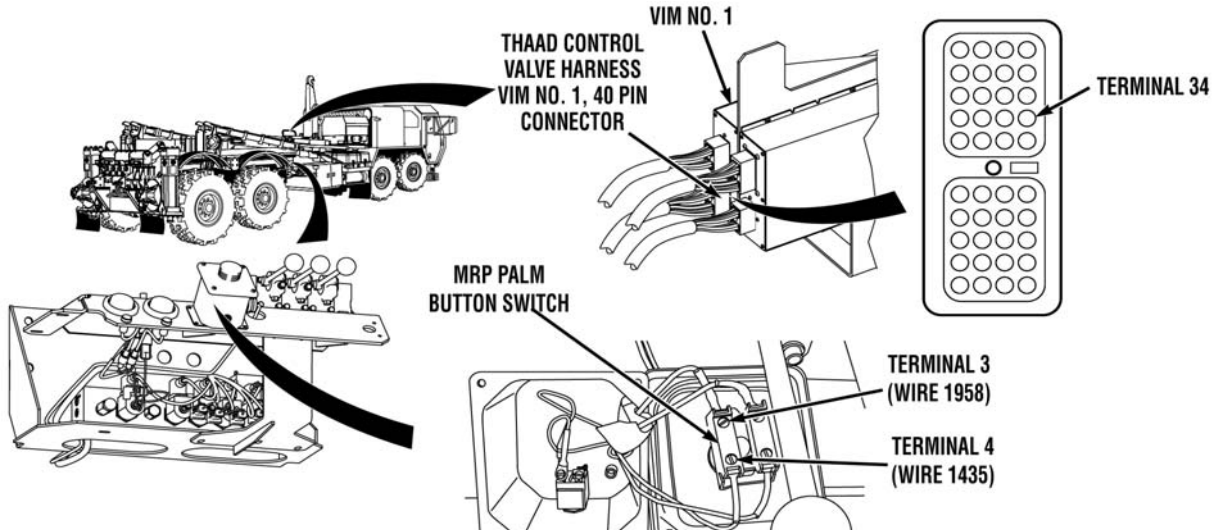
If there is no continuity, repair THAAD chassis harness wire 1435 (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION

TEST OR INSPECTION

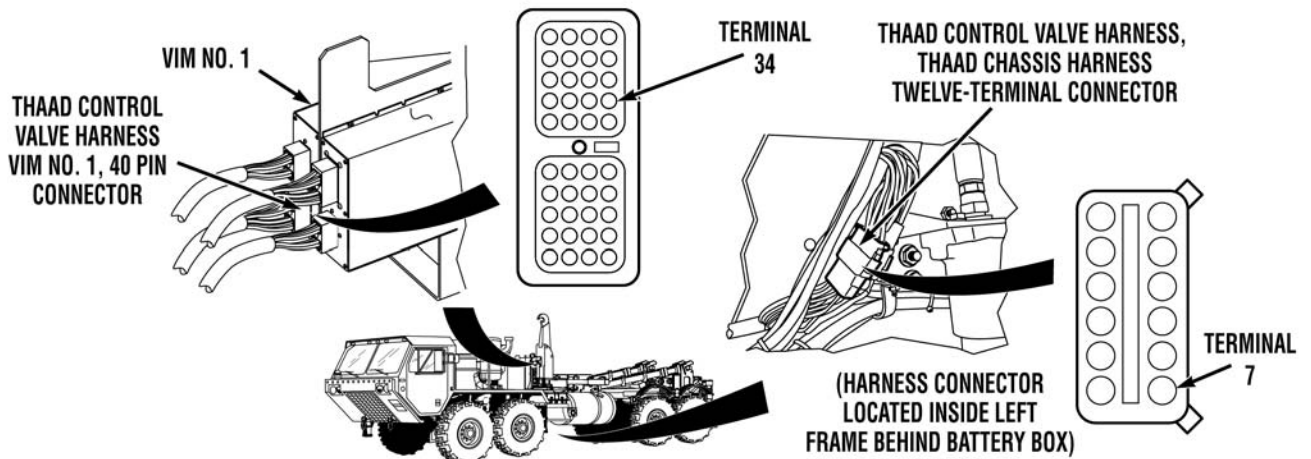
CORRECTIVE ACTION

MRP LOCKS DO NOT ENGAGE (CONTINUED)



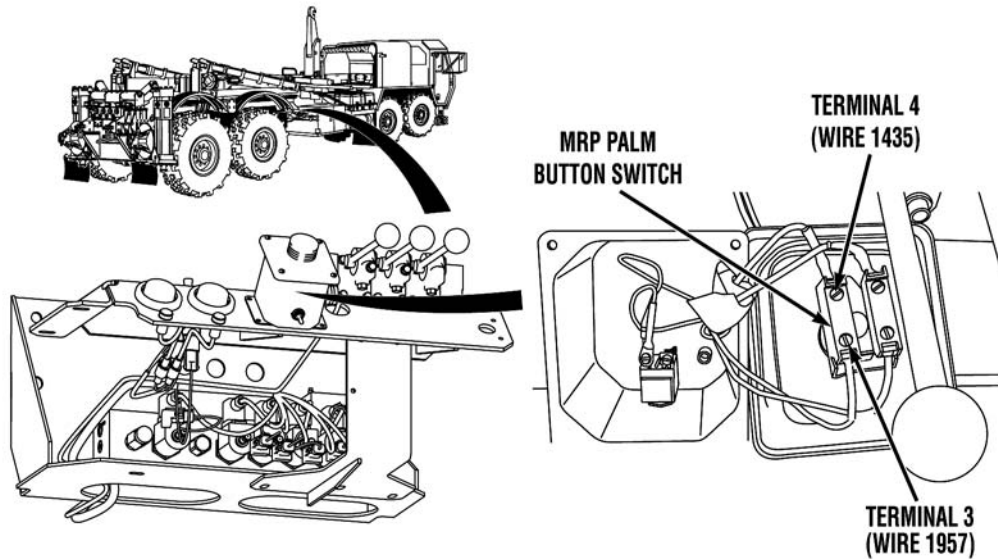
Step 33. Check for continuity across wire 1958 from VIM No. 1, 40 pin connector, terminal 34 to MRP palm button switch, terminal 3.

If there is continuity, replace MRP palm button switch (WP 0073).



Step 34. Disconnect THAAD control valve harness and THAAD chassis harness twelve-terminal connector. Check for continuity across wire 1958 from VIM No. 1, 40 pin connector, terminal 34 to twelve-terminal connector, terminal 7.

- a. If there is continuity, repair THAAD chassis harness wire 1958 (TM 9-2320-325-14&P) or notify Supervisor.
- b. If there is no continuity, repair wire 1958 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT ENGAGE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 35. Remove MRP palm button cover (WP 0073). Check for continuity across wire 1435, from MRP palm button switch, terminal 4 adjacent to wire 1957 and a known good ground.

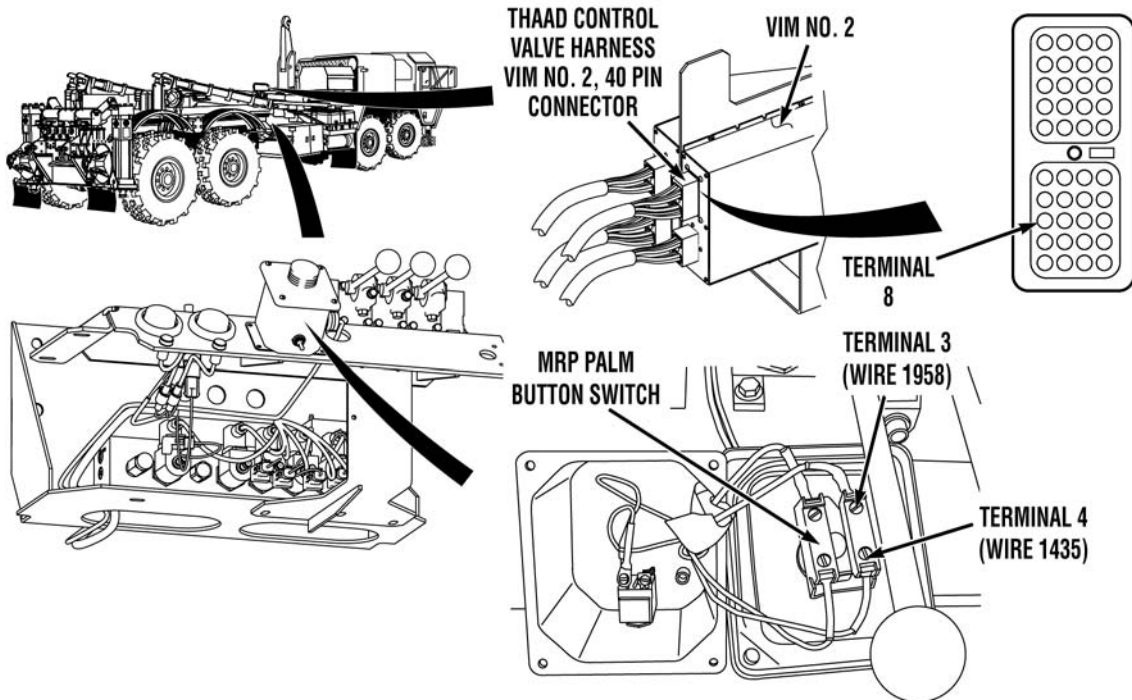
If there is no continuity, repair THAAD chassis harness wire 1435 (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION

TEST OR INSPECTION

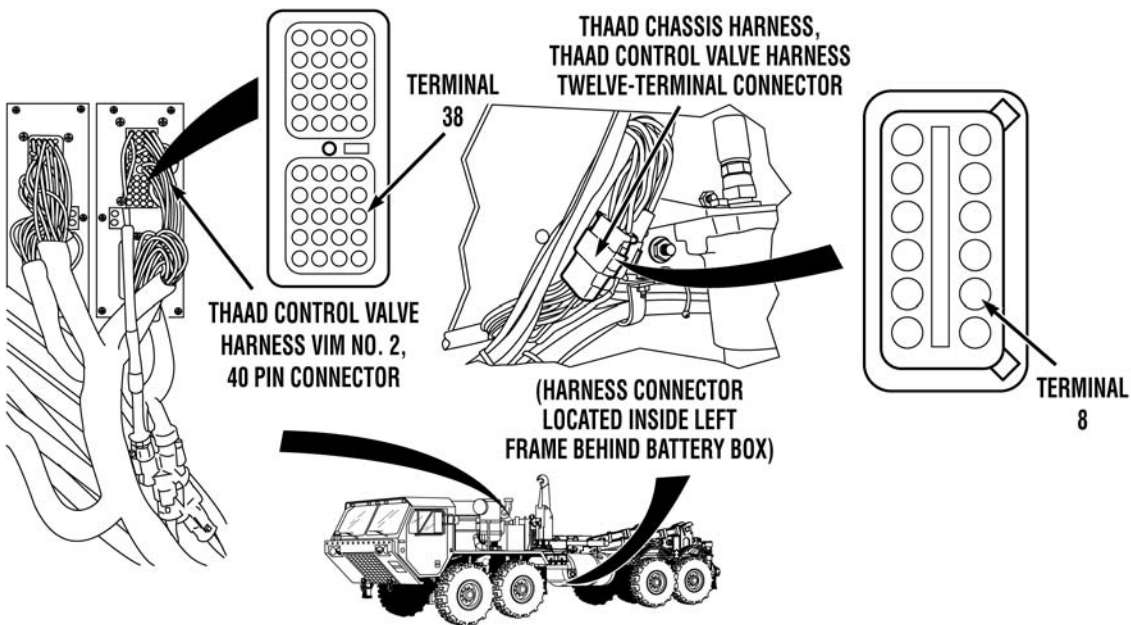
CORRECTIVE ACTION

MRP LOCKS DO NOT ENGAGE (CONTINUED)



Step 36. Check for continuity across wire 1957 from VIM No. 2, 24 pin connector, terminal 38 to MRP palm button switch, terminal 3.

If there is continuity, replace MRP palm button switch (WP 0073).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****MRP LOCKS DO NOT ENGAGE (CONTINUED)**

- Step 37. Disconnect THAAD control valve harness THAAD chassis harness twelve-terminal connector. Check for continuity across wire 1957 between VIM No. 2, 40 pin connector, terminal 38 and twelve-terminal connector, terminal 8.
- a. If there is continuity, repair THAAD chassis harness wire 1957 (TM 9-2320-325-14&P) or notify Supervisor.
 - b. If there is no continuity, repair wire 1957 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

OUTRIGGER CONTROLS FAIL TO OPERATE

Tools and Special Tools

Adapter, Straight, PI (WP 0183, Item 2)
 Coupling Half, Quick (WP 0183, Item 3)
 Gage, Pressure, Dial (WP 0183, Item 7)
 Hose Assembly, Nonme (WP 0183, Item 8)
 Tool Kit, General Mechanic's: Automotive
 (WP 0183, Item 25)

Materials/Parts

None

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

References

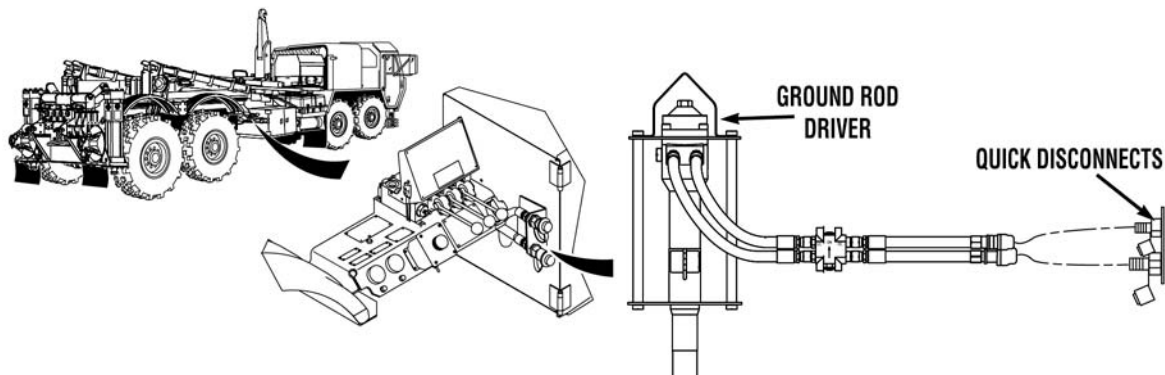
TM 9-2320-325-14&P
 WP 0007
 WP 0010

References (Continued)

WP 0012
 WP 0013
 WP 0020
 WP 0039
 WP 0073
 WP 0088
 WP 0089
 WP 0119
 WP 0126
 WP 0139
 WP 0142

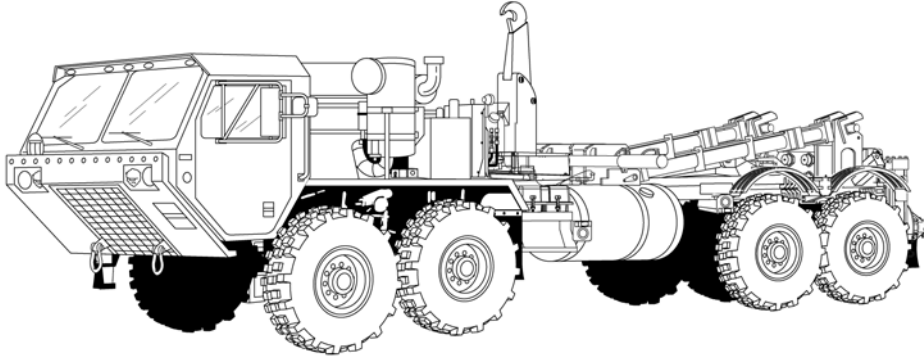
Equipment Conditions

Engine OFF (TM 9-2320-347-10)
 Parking brake applied (TM 9-2320-347-10)
 Wheels chocked (TM 9-2320-347-10)

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****OUTRIGGER CONTROLS FAIL TO OPERATE**

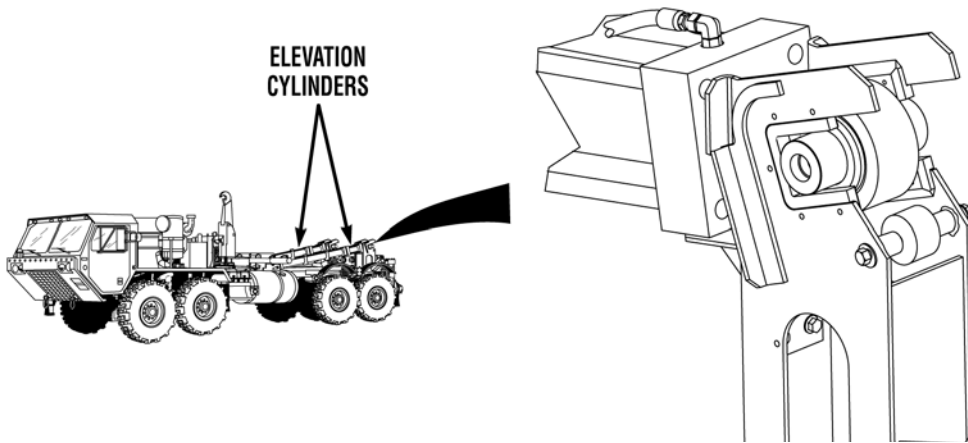
Step 1. Start engine (TM 9-2320-347-10) Check if ground rod driver operates (WP 0010).

If ground rod driver does not operate, troubleshoot Ground Rod Driver Does Not Operate (WP 0020).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****OUTRIGGER CONTROLS FAIL TO OPERATE (CONTINUED)**

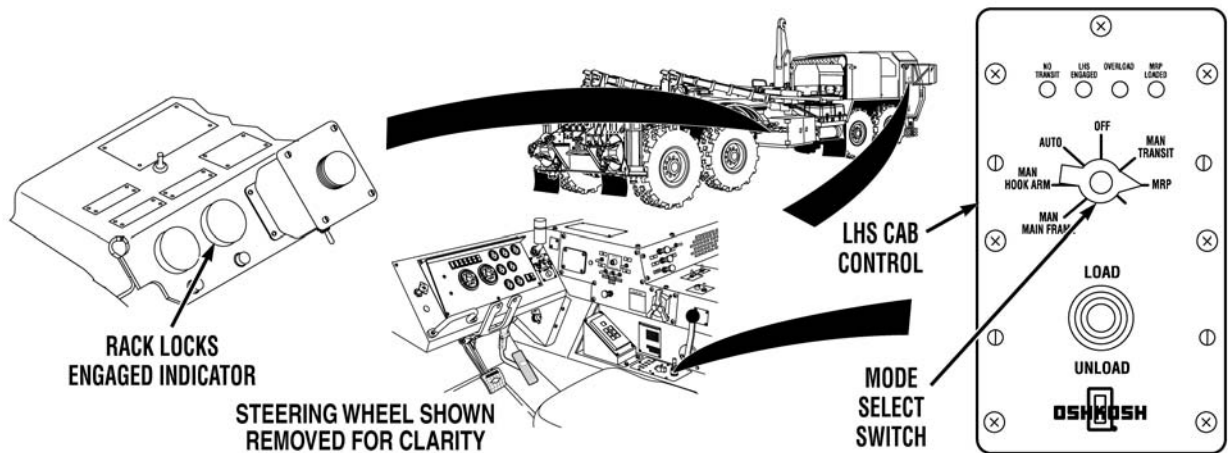
- Step 2. Shut off engine (TM 9-2320-347-10) Inspect hydraulic hoses 2752, 2753, 2754, and 2762, tubings, and fittings from MRP distribution manifold and control valve to outrigger control valve for leaks, kinks, and damage (See WP 0119).

If hydraulic hoses, tubes, and/or fittings leak or are damaged, tighten loose fittings or replace damaged tubes and hoses (WP 0119).

**NOTE**

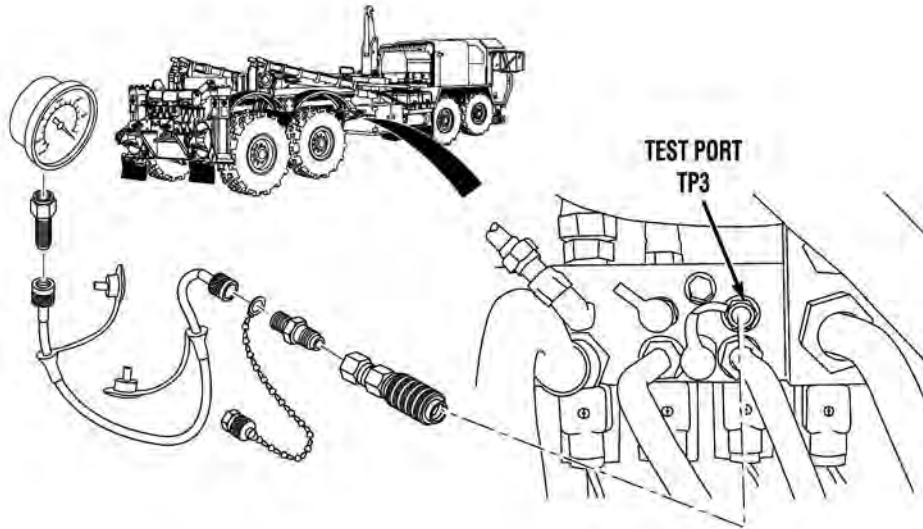
MRP elevation cylinders must be in their fully stowed position to operate outriggers.

- Step 3. Check if left and right elevation cylinders are in their stowed position.
- a. If MRP rack is loaded, start engine (TM 9-2320-347-10) engage rack locks (WP 0012) and stow left and right elevation cylinders (WP 0007).
 - b. Disengage rack locks before operating outriggers.
 - c. If MRP rack is not loaded, stow left and right elevation cylinders using bypass procedure (WP 0139).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****OUTRIGGER CONTROLS FAIL TO OPERATE (CONTINUED)****NOTE**

MRP rack locks must be disengaged to operate outriggers. MRP rack locks are disengaged when RACK LOCKS ENGAGED indicator light is not illuminated or flashing.

- Step 4. Turn engine start switch ON (TM 9-2320-347-10) Position LHS cab control mode select switch to MRP position (WP 0012). Check if RACK LOCKS ENGAGED indicator light is not illuminated or flashing (WP 0012).
- If RACK LOCK ENGAGED indicator light is illuminated or flashing, start engine (TM 9-2320-347-10) and disengage MRP rack locks (WP 0012).
 - If rack locks do not disengage, troubleshoot MRP Locks Do Not Disengage (WP 0039).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****OUTRIGGER CONTROLS FAIL TO OPERATE (CONTINUED)****WARNING**

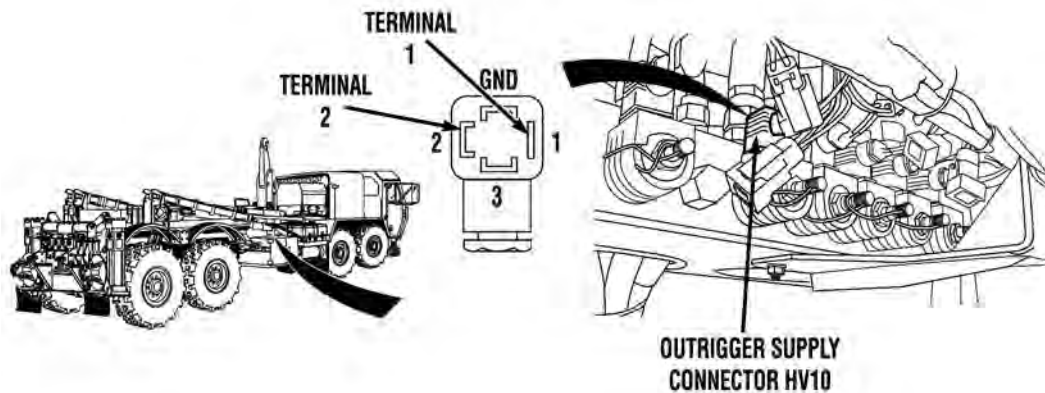
Keep hands and feet clear of outriggers during outrigger/stabilizer extension and retraction. Failure to comply may result in injury to personnel.

CAUTION

Fully extending or retracting hydraulic cylinders will put hydraulic system in relief. This should be limited to 10 seconds. Failure to comply may result in damage to equipment.

- Step 5. Connect pressure gage to hose to test port TP6. Start engine (TM 9-2320-347-10) Soldier A checks for 3,000 psi (20,684 kPa) at pressure test port T6, while Soldier B attempts to operate outriggers (WP 0013). Shut off engine (TM 9-2320-347-10) Disconnect pressure gage hose.

If 3,000 psi (20,684 kPa) is measured at test port TP6, replace outrigger control valve (WP 0142).

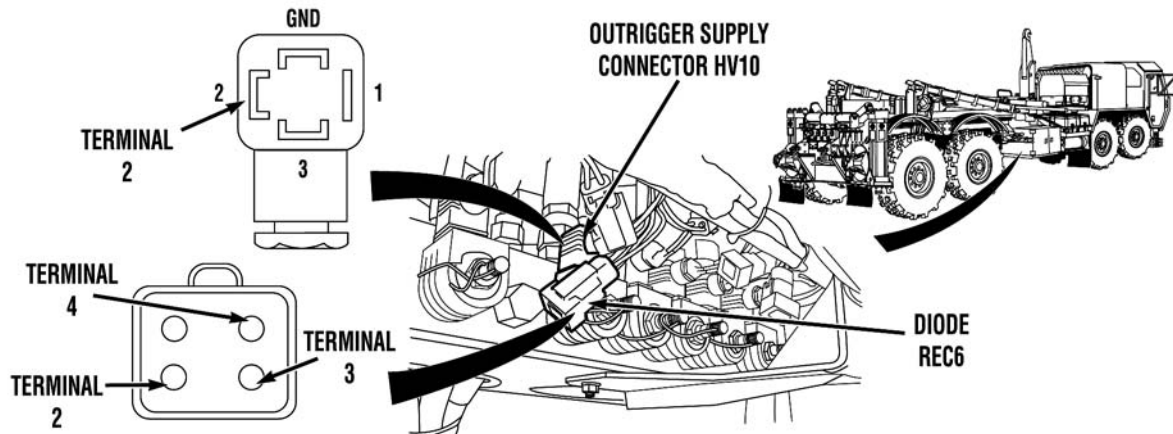
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****OUTRIGGER CONTROLS FAIL TO OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 6. Disconnect THAAD control valve harness connector HV10. Turn engine start switch ON (TM 9-2320-347-10) Position LHS cab control mode select switch to MRP position (WP 0012). Soldier A checks for 22 to 28 vdc between wire 1973 at connector HV10, terminal 2 and a known good ground, while Soldier B presses outrigger palm button switch (WP 0012).

If 22 to 28 vdc is not measured, go to Step 8.

- Step 7. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across wire 1435 from THAAD control valve harness connector HV10, terminal 1 to a known good ground.
- If there is continuity, replace MRP distribution manifold (WP 0126).
 - If there is no continuity, repair wire 1435 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

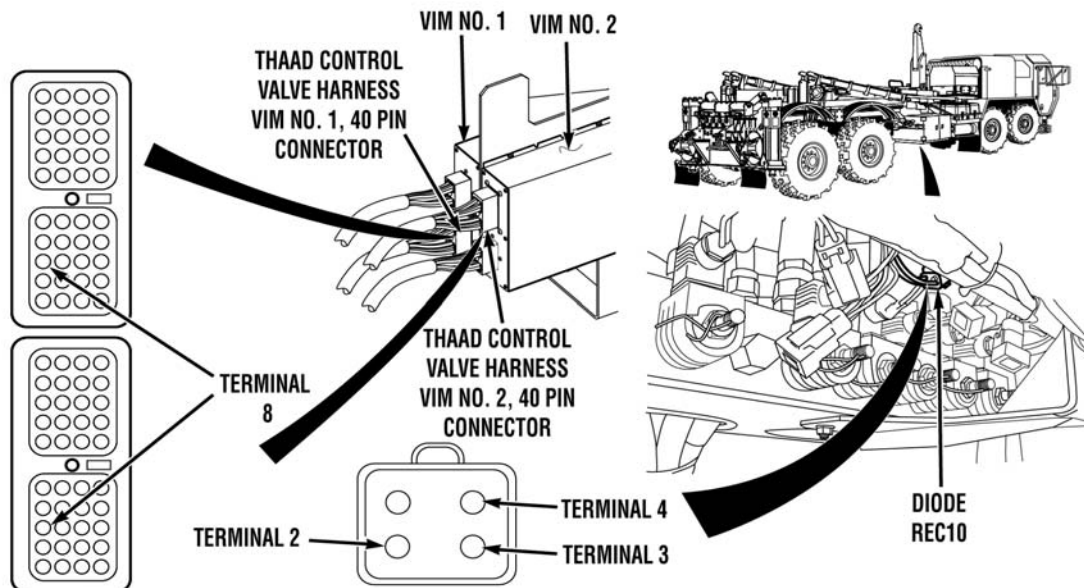
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****OUTRIGGER CONTROLS FAIL TO OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

Due to system redundancy, the valve control signal is required from only one of the VIMs for proper system operation. The following steps check the valve control circuit from both VIMs, to ensure system integrity.

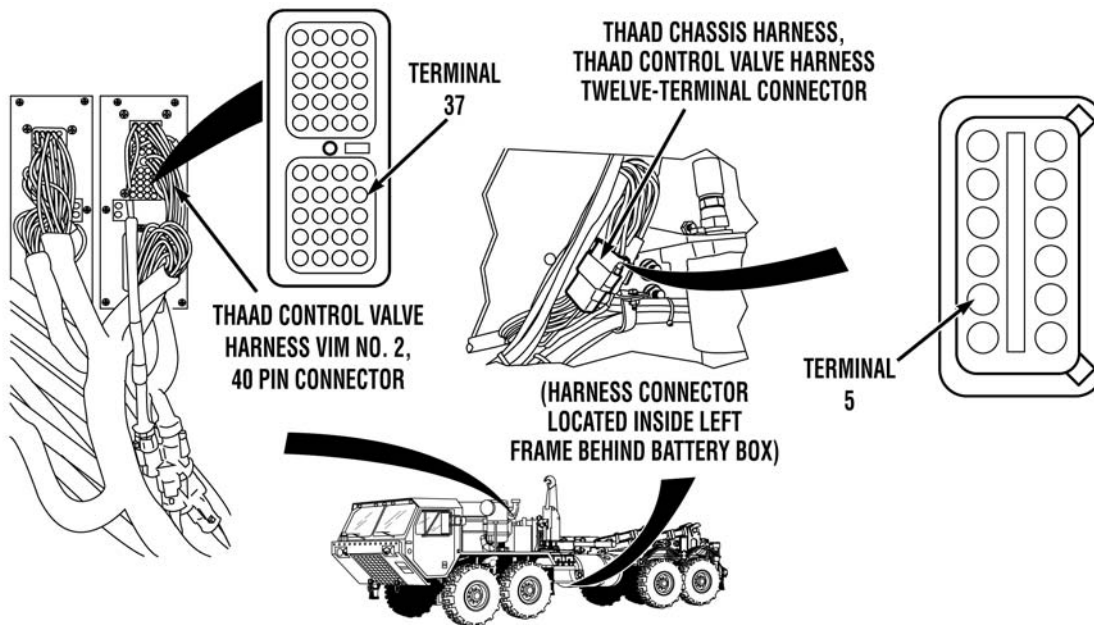
- Step 8. Disconnect diode REC6. Turn engine start switch ON (TM 9-2320-347-10) Soldier A checks for 22 to 28 vdc between wires 1973A and 1973B at THAAD control valve harness connector REC6, terminals 2 and 3 and a known good ground, while Soldier B presses outrigger palm button switch (WP 0012). Note readings.
- a. If 22 to 28 vdc is not present on both wires, go to Step 12.
 - b. If 22 to 28 vdc is present on both wires, perform Step 9 only.
 - c. If 22 to 28 vdc is present on one wire, perform Steps 9 through 11.
- Step 9. Turn engine start switch OFF (TM 9-2320-347-10) Check for continuity across THAAD control valve harness wire 1973 between connector REC6, terminal 4 and connector HvV10, terminal 2.
- a. If there is continuity, replace diode REC6 (WP 0088).
 - b. If there is no continuity, repair wire 1973 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****OUTRIGGER CONTROLS FAIL TO OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

NOTE

- Perform Step 10 if no vdc is present on wire 1973A at connector REC6, terminal 2 in Step 8.
 - Perform Step 11 if no vdc is present on wire 1973B at connector REC6, terminal 3 in Step 8.
- Step 10. Disconnect THAAD control valve harness VIM No. 1, 40 pin connector (WP 0089). Check for continuity across wire 1973A from VIM No 1, 40 pin connector, terminal 8 to connector REC6, terminal 2.
- a. If there is continuity, replace VIM No. 1 (WP 0089).
 - b. If there is no continuity, repair wire 1973A (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).
- Step 11. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Check for continuity across wire 1973B from VIM No. 2, 40 pin connector, terminal 8 to connector REC6, terminal 3.
- a. If there is continuity, replace VIM No. 2 (WP 0089).
 - b. If there is no continuity, repair wire 1973B (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****OUTRIGGER CONTROLS FAIL TO OPERATE (CONTINUED)****WARNING**

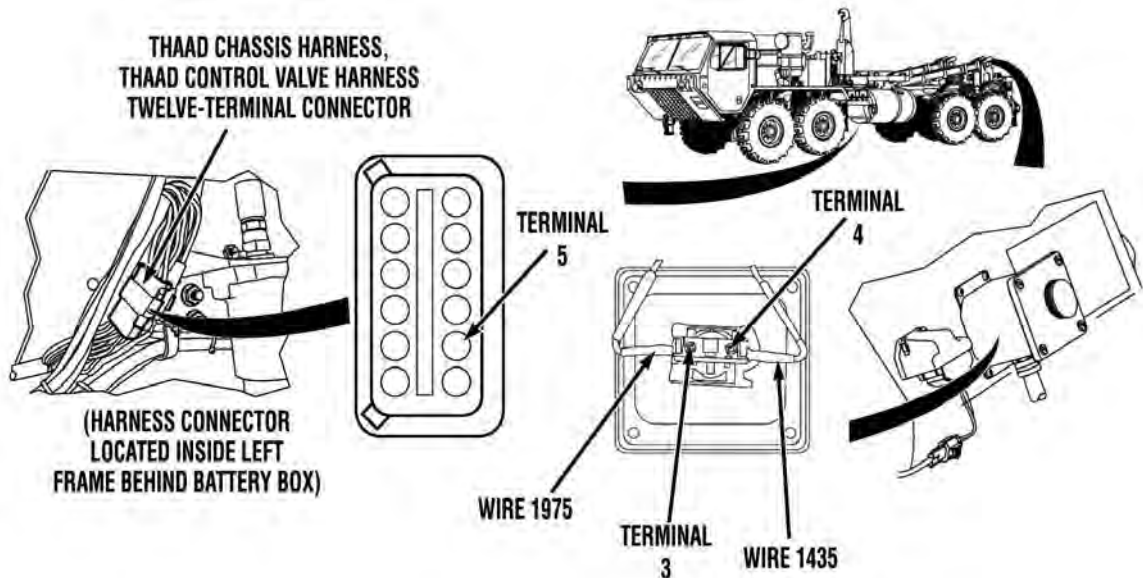
Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 12. Disconnect THAAD control valve harness VIM No. 2, 40 pin connector (WP 0089). Soldier A checks for continuity across wire 1975 from VIM No. 2, 40 pin connector, terminal 37 to a known good ground, while Soldier B presses outrigger palm button switch (WP 0013).

If there is continuity, go to Step 16.

- Step 13. Disconnect THAAD control valve harness twelve-terminal connector. Check for continuity across wire 1975 between THAAD control valve harness twelve-terminal connector, terminal 5 and VIM No. 2, 40 pin connector, terminal 37.

If there is continuity, repair wire 1975 (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088).

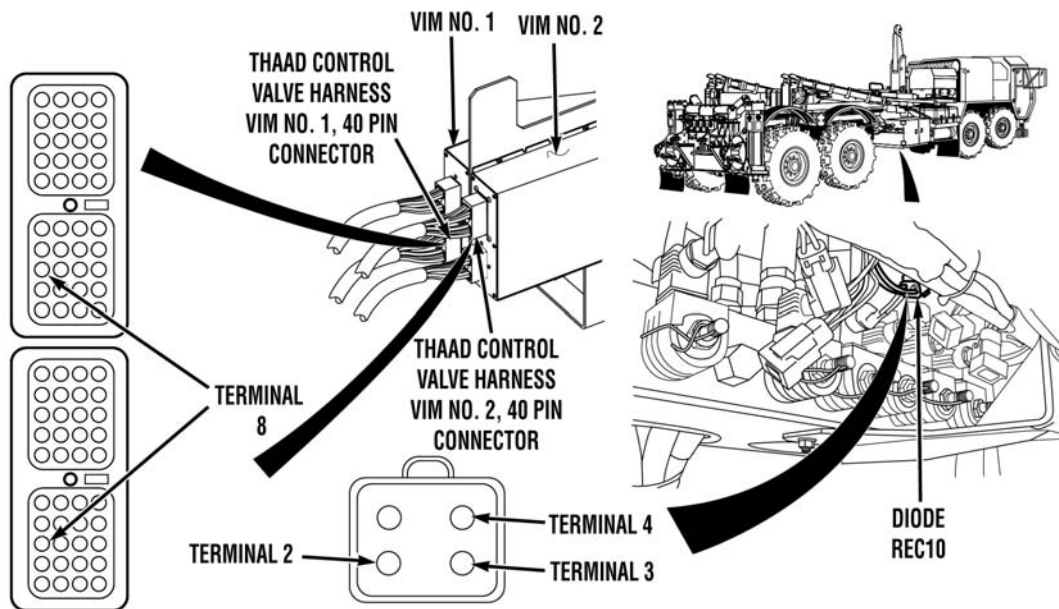
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****OUTRIGGER CONTROLS FAIL TO OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 14. Remove outrigger palm button cover (WP 0073). Check for continuity across wire 1975 between THAAD chassis harness twelve terminal connector, terminal 5 and outrigger palm button switch, terminal 3.

If there is no continuity, replace THAAD chassis harness wire 1975 (TM 9-2320-325-14&P) or notify Supervisor.

- Step 15. Check for continuity across wire 1435 from outrigger palm button, terminal 4 to a known good ground.
- If there is continuity, replace outrigger palm button switch (WP 0073).
 - If there is no continuity, repair THAAD chassis harness wire 1435 (TM 9-2320-325-14&P) or notify Supervisor.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****OUTRIGGER CONTROLS FAIL TO OPERATE (CONTINUED)****WARNING**

Remove rings, wristwatches, neck chains, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause serious injury. Jewelry and tools may short across electrical circuits and cause damage to equipment or severe burns or electrical shock to personnel.

- Step 16. Check for continuity across THAAD control valve harness wire 1973A from VIM No. 1, 40 pin connector, terminal 8 to connector REC6, terminal 2.
- If there is no continuity, repair wire 1973A (TM 9-2320-325-14&P) and go to Step 17, or replace THAAD control valve harness (WP 0088) and go to Step 18.
- Step 17. Check for continuity across THAAD control valve harness wire 1973B from VIM No. 2, 40 pin connector, terminal 8 to connector REC6, terminal 3.
- If there is no continuity, repair wire 1973B (TM 9-2320-325-14&P) or replace THAAD control valve harness (WP 0088) and go to Step 18.
- Step 18. Connect all connectors and install diode REC7 and outrigger palm button switch cover (WP 0073). Start engine (TM 9-2320-347-10) Check if outriggers operate (WP 0013).
- a. If outriggers operate, problem corrected.
 - b. If outriggers do not operate, replace VIM No.2 (WP 0089).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
OUTRIGGER STABILIZERS DO NOT EXTEND

Tools and Special Tools

Adapter, Straight, PI (WP 0183, Item 2)
 Coupling Half, Quick (WP 0183, Item 3)
 Gage, Pressure, Dial (WP 0183, Item 7)
 Hose Assembly, Nonme (WP 0183, Item 8)
 Tool Kit, General Mechanic's: Automotive
 (WP 0183, Item 25)

Materials/Parts

None

Personnel Required

MOS 63B Wheeled vehicle mechanic

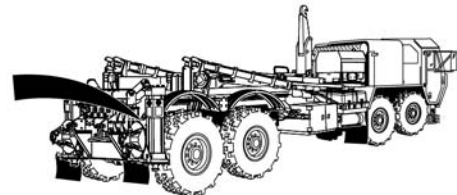
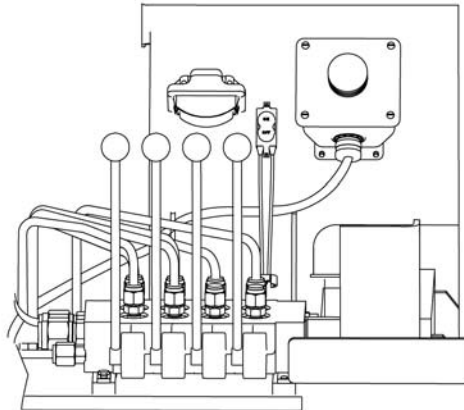
References

WP 0013
 WP 0041
 WP 0119
 WP 0142
 WP 0144

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
 Parking brake applied (TM 9-2320-347-10)
 Wheels chocked (TM 9-2320-347-10)

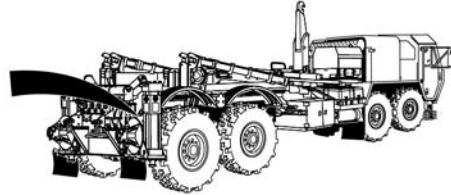
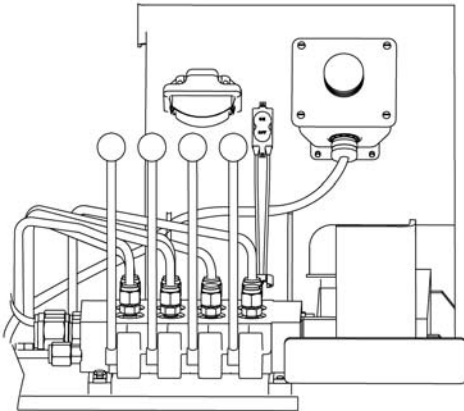
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

OUTRIGGER STABILIZERS DO NOT EXTEND**WARNING**

Keep hands and feet clear of outriggers during outrigger/stabilizer extension and retraction. Failure to comply may result in injury to personnel.

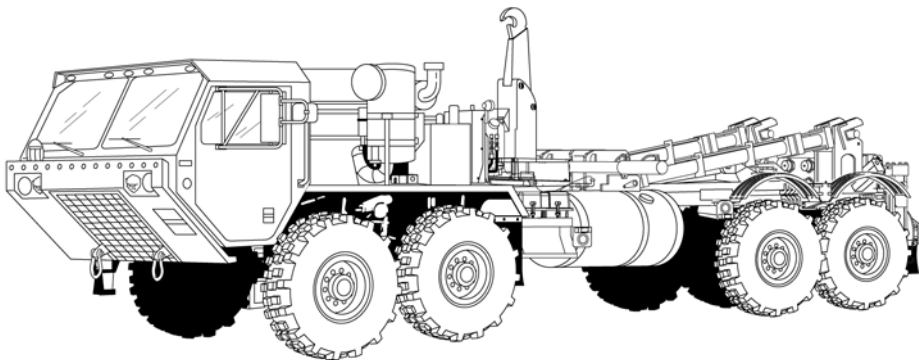
NOTE

Ensure ground rod driver switch is in (UP) OFF position (WP 0013). If switch is in (DOWN) ON position outriggers will not operate.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****OUTRIGGER STABILIZERS DO NOT EXTEND (CONTINUED)**

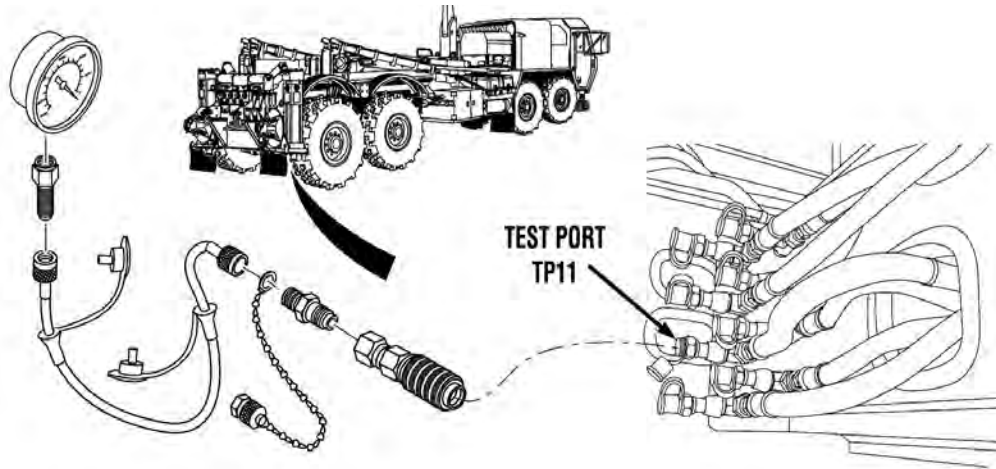
Step 1. Start engine (TM 9-2320-347-10) Check if outrigger stabilizers extend (WP 0013).

- a. If both outrigger stabilizers do not extend, troubleshoot Outrigger Controls Fail to Operate (WP 0041).
- b. If left outrigger stabilizer does not extend, go to Step 2.
- c. If right outrigger stabilizer does not extend, go to Step 4.

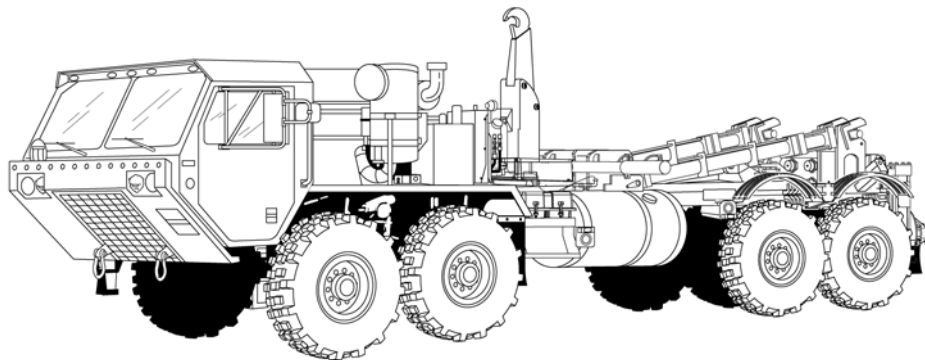


Step 2. Inspect hydraulic hoses 2748 and 2749, fittings, and tubing from outrigger control valve to left outrigger stabilizer cylinder for leaks, kinks, and damage (WP 0119).

If hydraulic hoses, tubes, and/or fittings leaks or are damaged, tighten loose fittings or replace damaged tubes and hoses (WP 0119).

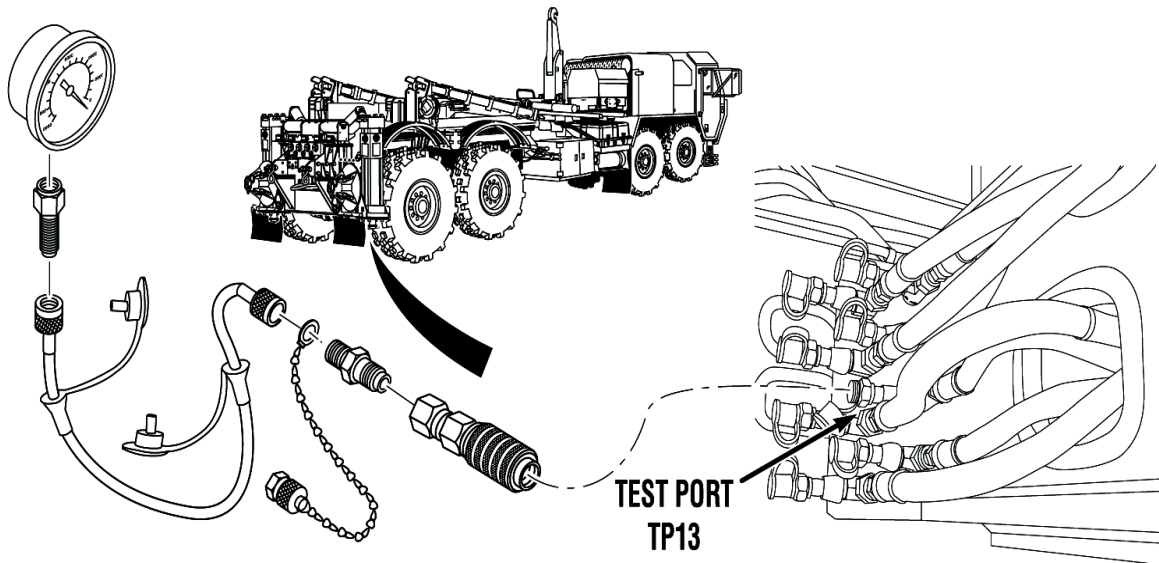
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****OUTRIGGER STABILIZERS DO NOT EXTEND (CONTINUED)**

- Step 3. Connect pressure gage to test port TP11. Start engine (TM 9-2320-347-10) Check pressure at test port TP11, while attempting to operate outriggers (WP 0013). Shut off engine (TM 9-2320-347-10) Disconnect pressure gage.
- a. If 3,000 psi (20,684 kPa) is not measured, replace outrigger control valve (WP 0142).
 - b. If 3,000 psi (20,684 kPa) is measured, replace left outrigger stabilizer cylinder (WP 0144).



- Step 4. Inspect hydraulic hoses 2750 and 2751, fittings, and tubing from outrigger control valve to right outrigger stabilizer cylinder for leaks, kinks, and damage (WP 0119).

If hydraulic hoses, tubes, and/or fittings leaks or are damaged, tighten loose fittings or replace damaged tubes and hoses (WP 0119).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****OUTRIGGER STABILIZERS DO NOT EXTEND (CONTINUED)**

- Step 5. Connect pressure gage to test port TP13. Start engine (TM 9-2320-347-10) Check pressure at test port TP13, while attempting to operate outriggers (WP 0013). Shut off engine (TM 9-2320-347-10) Disconnect pressure gage.
- a. If 3,000 psi (20,684 kPa) is not measured, replace outrigger control valve (WP 0142).
 - b. If 3,000 psi (20,684 kPa) is measured, replace left outrigger stabilizer cylinder (WP 0144).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
OUTRIGGER STABILIZERS DO NOT RETRACT

Tools and Special Tools

Adapter, Straight, PI (WP 0183, Item 2)
 Coupling Half, Quick (WP 0183, Item 3)
 Gage, Pressure, Dial (WP 0183, Item 7)
 Hose Assembly, Nonme (WP 0183, Item 8)
 Tool Kit, General Mechanic's: Automotive
 (WP 0183, Item 25)

Materials/Parts

None

Personnel Required

MOS 63B Wheeled vehicle mechanic

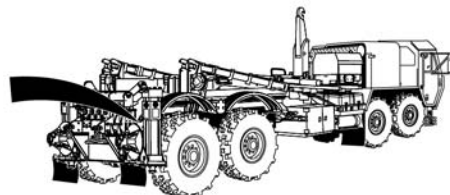
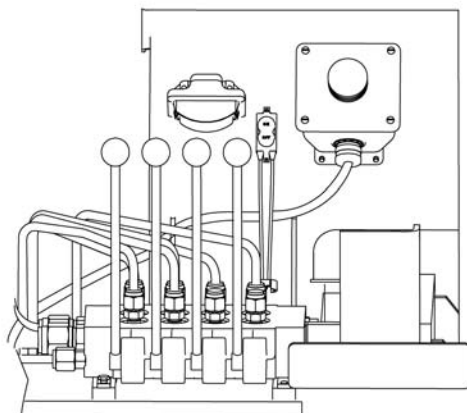
References

WP 0013
 WP 0041
 WP 0119
 WP 0142
 WP 0144

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
 Parking brake applied (TM 9-2320-347-10)
 Wheels chocked (TM 9-2320-347-10)

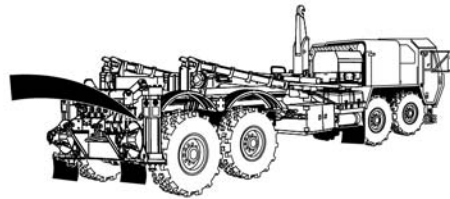
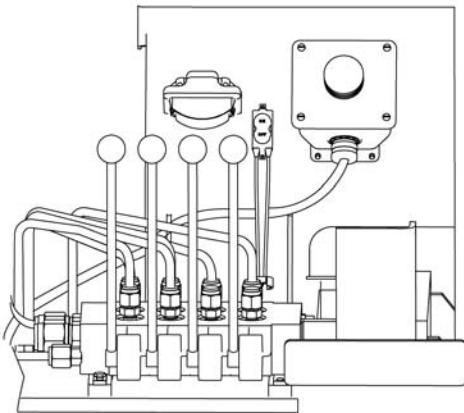
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

OUTRIGGER STABILIZERS DO NOT RETRACT**WARNING**

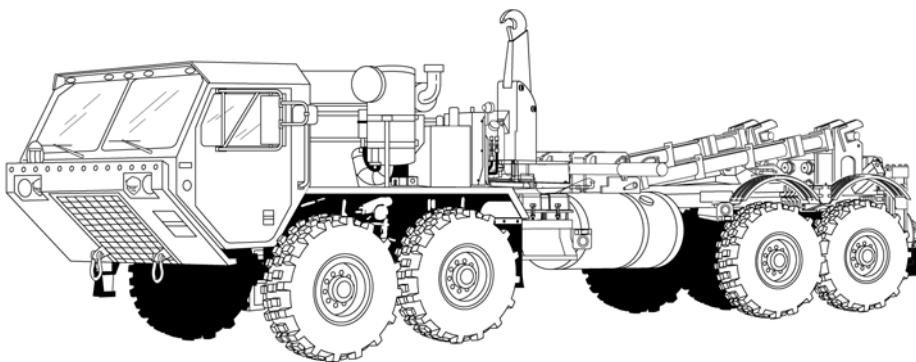
Keep hands and feet clear of outriggers during outrigger/stabilizer extension and retraction. Failure to comply may result in injury to personnel.

NOTE

Ensure ground rod driver switch is in (UP) OFF position (WP 0013). If switch is in (DOWN) ON position, outriggers will not operate.

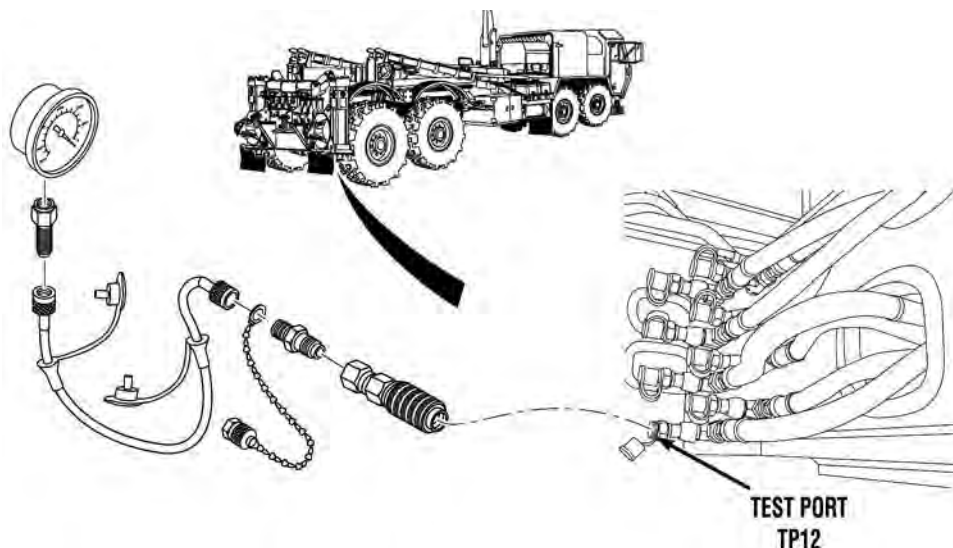
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****OUTRIGGER STABILIZERS DO NOT RETRACT (CONTINUED)**

- Step 1. Start engine (TM 9-2320-347-10) Check if outrigger stabilizers retract (WP 0013).
- a. If both outrigger stabilizers do not retract, troubleshoot Outrigger Controls Fail to Operate (WP 0041).
 - b. If left outrigger stabilizer does not retract, go to Step 2.
 - c. If right outrigger stabilizer does not retract, go to Step 4.

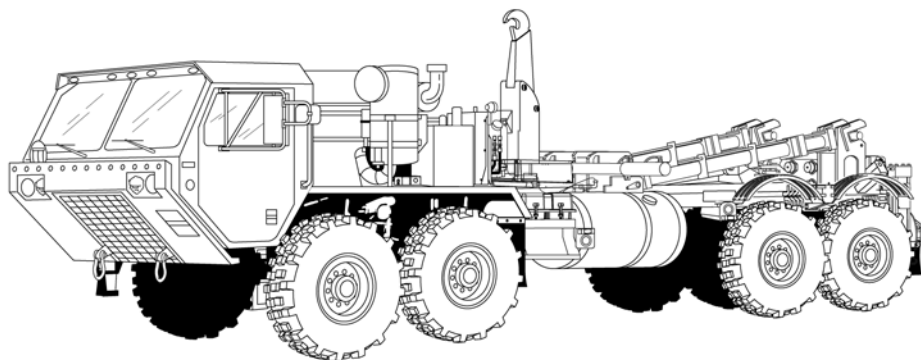


- Step 2. Inspect hydraulic hoses 2748 and 2749, fittings, and tubing from outrigger control valve to left outrigger stabilizer cylinder for leaks, kinks, and damage (WP 0119).

If hydraulic hoses, tubes, and/or fittings leak or are damaged, tighten loose fittings or replace damaged tubes and hoses (WP 0119).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****OUTRIGGER STABILIZERS DO NOT RETRACT (CONTINUED)**

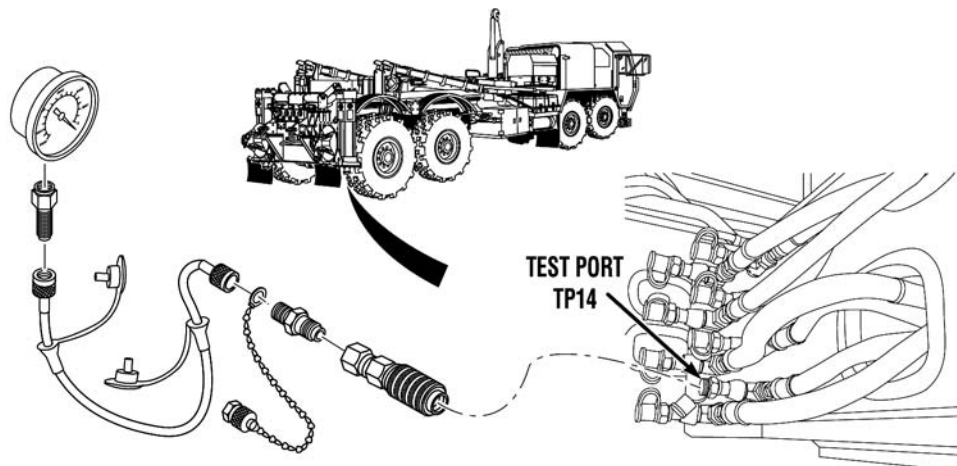
- Step 3. Connect pressure gage to test port TP12. Start engine (TM 9-2320-347-10) Check for pressure at test port TP12, while attempting to operate outriggers (WP 0013). Note reading. Shut off engine (TM 9-2320-347-10) Disconnect pressure gage.
- If 3,000 psi (20,684 kPa) is not measured, replace outrigger control valve (WP 0142).
 - If 3,000 psi (20,684 kPa) is measured, replace left outrigger stabilizer cylinder (WP 0144).



- Step 4. Inspect hydraulic hoses 2750 and 2751, fittings, and tubing from outrigger control valve to right outrigger stabilizer cylinder for leaks, kinks, and damage (WP 0119).

If hydraulic hoses, tubes, and/or fittings leak or are damaged, tighten loose fittings or replace damaged tubes and hoses (WP 0119).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

OUTRIGGER STABILIZERS DO NOT RETRACT (CONTINUED)

- Step 5. Connect pressure gage to test port TP14. Start engine (TM 9-2320-347-10) Check for pressure at test port TP14, while attempting to operate outriggers (WP 0013). Note reading. Shut off engine (TM 9-2320-347-10) Disconnect pressure gage.
- a. If 3,000 psi (20,684 kPa) is not measured, replace outrigger control valve (WP 0142).
 - b. If 3,000 psi (20,684 kPa) is measured, replace right outrigger stabilizer cylinder (WP 0144).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
OUTRIGGERS DO NOT EXTEND

Tools and Special Tools

Adapter, Straight, PI (WP 0183, Item 2)
 Coupling Half, Quick (WP 0183, Item 3)
 Gage, Pressure, Dial (WP 0183, Item 7)
 Hose Assembly, Nonme (WP 0183, Item 8)
 Tool Kit, General Mechanic's: Automotive
 (WP 0183, Item 25)

References

WP 0013
 WP 0041
 WP 0119
 WP 0142
 WP 0143

Materials/Parts

None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
 Parking brake applied (TM 9-2320-347-10)
 Wheels chocked (TM 9-2320-347-10)

Personnel Required

MOS 63B Wheeled vehicle mechanic

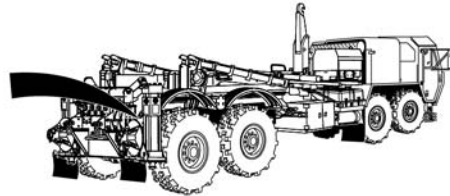
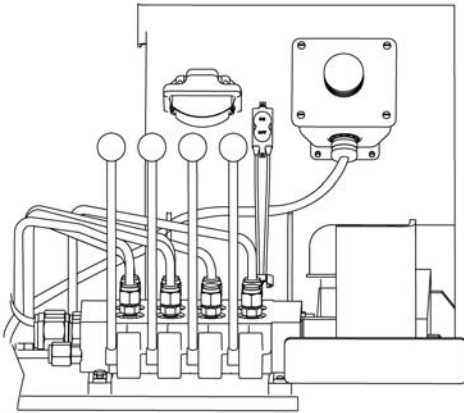
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

OUTRIGGERS DO NOT EXTEND**WARNING**

Keep hands and feet clear of outriggers during outrigger/stabilizer extension and retraction.

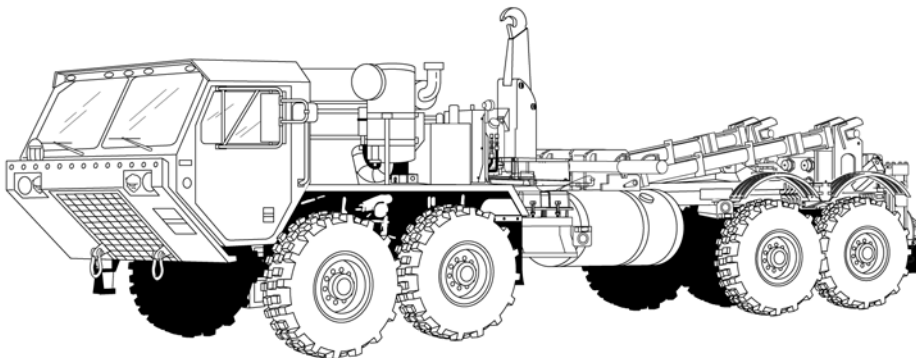
NOTE

Ensure ground rod driver switch is in (UP) OFF position (WP 0013). If switch is in (DOWN) ON position outriggers will not operate.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****OUTRIGGERS DO NOT EXTEND (CONTINUED)**

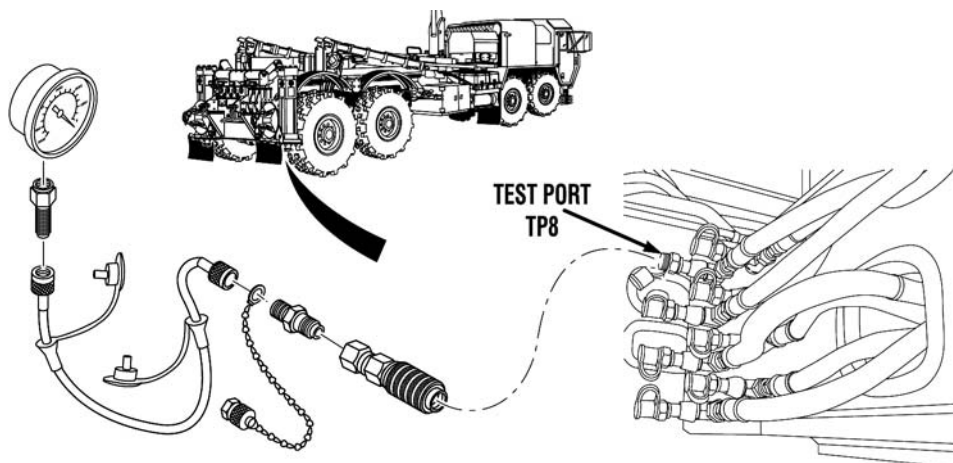
Step 1. Check outrigger operation (WP 0013).

- a. If both outriggers do not extend, troubleshoot Outrigger Controls Fail to Operate (WP 0041).
- b. If right outrigger does not extend, go to Step 4.

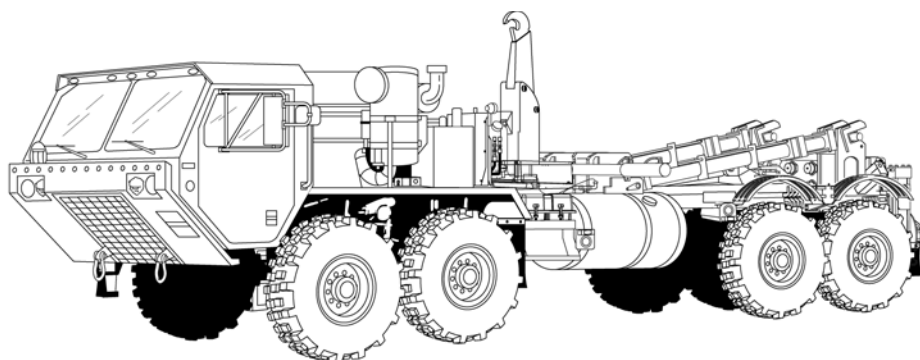


Step 2. Inspect left outrigger hydraulic hoses 2744 and 2745, fittings, and tubing from outrigger control valve to left outrigger extension cylinder for leaks, kinks, and damage (See WP 0119).

If left outrigger hoses, tubes, and/or fittings are not free from leaks, kinks, and damage, tighten loose fittings or replace damaged tubes and hoses (WP 0119).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****OUTRIGGERS DO NOT EXTEND (CONTINUED)**

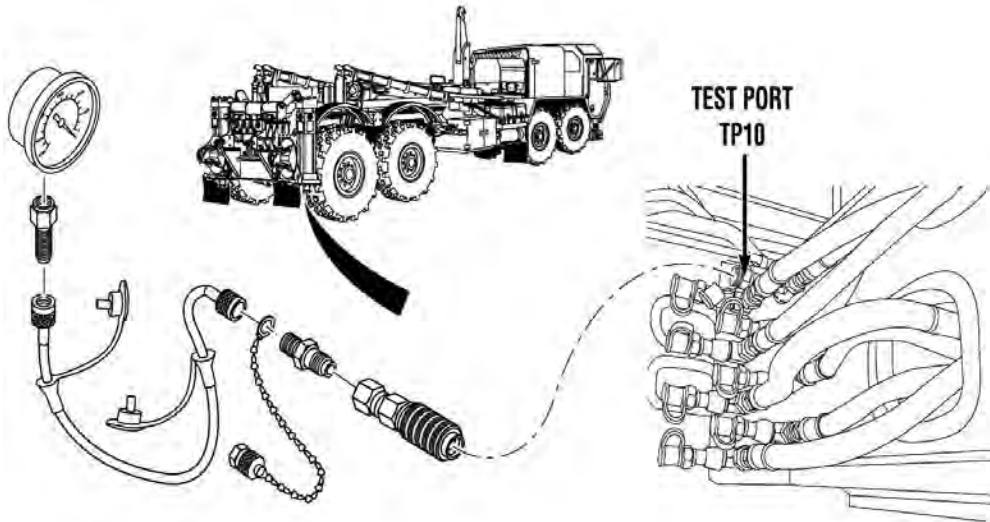
- Step 3. Connect pressure gage and hose to left outrigger extend control valve quick disconnect connector test port TP8. Start engine (TM 9-2320-347-10) Check for 3,000 psi (20,685 kPa) at left outrigger extend control valve, test port TP8, while attempting to operate outriggers (WP 0013). Shut off engine (TM 9-2320-347-10) Disconnect pressure gage and hose.
- If 3,000 psi (20,865 kPa) is not measured, replace outrigger control valve (WP 0142).
 - If 3,000 psi (20,865 kPa) is measured, replace left outrigger extension cylinder (WP 0143).



- Step 4. Inspect right outrigger hydraulic hoses 2746 and 2747, fittings, and tubing from outrigger control valve to right outrigger extension cylinder for leaks, kinks, and damage (See WP 0119).

If right outrigger hoses, tubes, and/or fittings are not free from leaks, kinks, and damage, tighten loose fittings or replace damaged tubes and hoses (WP 0119).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

OUTRIGGERS DO NOT EXTEND (CONTINUED)

- Step 5. Connect pressure gage and hose to right outrigger extend control valve quick disconnect connector test port TP10. Start engine (TM 9-2320-347-10) Check for 3,000 psi (20,685 kPa) at left outrigger extend control valve, test port TP10, while attempting to operate outriggers (WP 0013). Shut off engine (TM 9-2320-347-10) Disconnect pressure gage and hose.
- If 3,000 psi (20,865 kPa) is not measured, replace outrigger control valve (WP 0142).
 - If 3,000 psi (20,865 kPa) is measured, replace right outrigger extension cylinder (WP 0143).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
OUTRIGGERS DO NOT RETRACT

Tools and Special Tools

Adapter, Straight, PI (WP 0183, Item 2)
 Coupling Half, Quick (WP 0183, Item 3)
 Gage, Pressure, Dial (WP 0183, Item 7)
 Hose, Assembly, Nonme (WP 0183, Item 8)
 Tool Kit, General Mechanic's: Automotive
 (WP 0183, Item 25)

Materials/Parts

None

Personnel Required

MOS 63B Wheeled vehicle mechanic

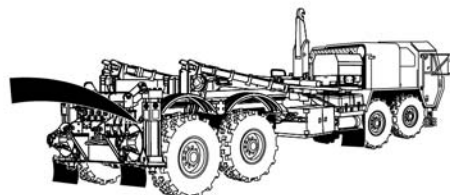
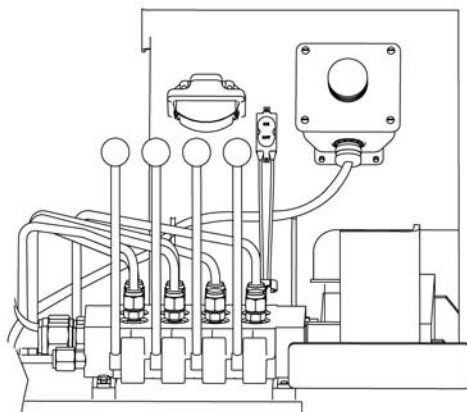
References

WP 0013
 WP 0041
 WP 0119
 WP 0142
 WP 0144

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
 Parking brake applied (TM 9-2320-347-10)
 Wheels chocked (TM 9-2320-347-10)

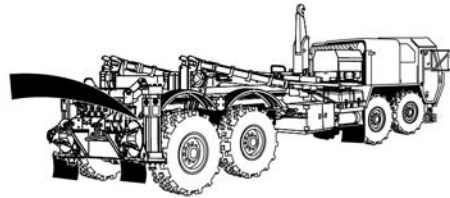
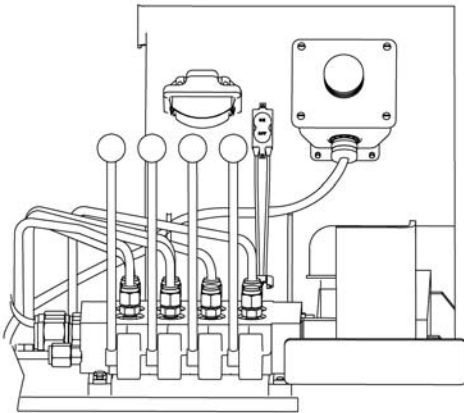
MALFUNCTION
TEST OR INSPECTION**CORRECTIVE ACTION**

OUTRIGGERS DO NOT RETRACT**WARNING**

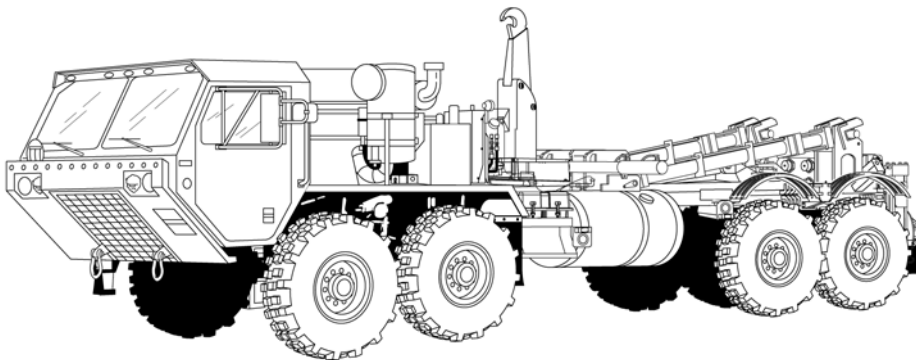
Keep hands and feet clear of outriggers during outrigger/stabilizer extension and retraction. Failure to comply may result in injury to personnel.

NOTE

Ensure ground rod driver switch is in (UP) OFF position (WP 0013). If switch is in (DOWN) ON position outriggers will not operate.

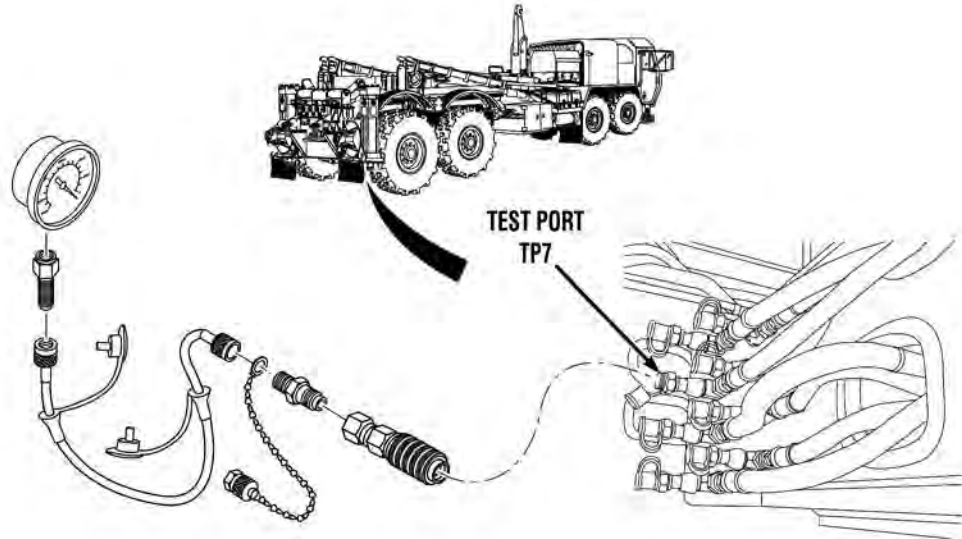
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****OUTRIGGERS DO NOT RETRACT (CONTINUED)**

- Step 1. Start engine (TM 9-2320-347-10) Check if outrigger stabilizers extend (WP 0013).
- a. If both outrigger stabilizers do not extend, troubleshoot Outrigger Controls Fail to Operate (WP 0041).
 - b. If left outrigger stabilizer does not extend, go to Step 2.
 - c. If right outrigger stabilizer does not extend, go to Step 4.

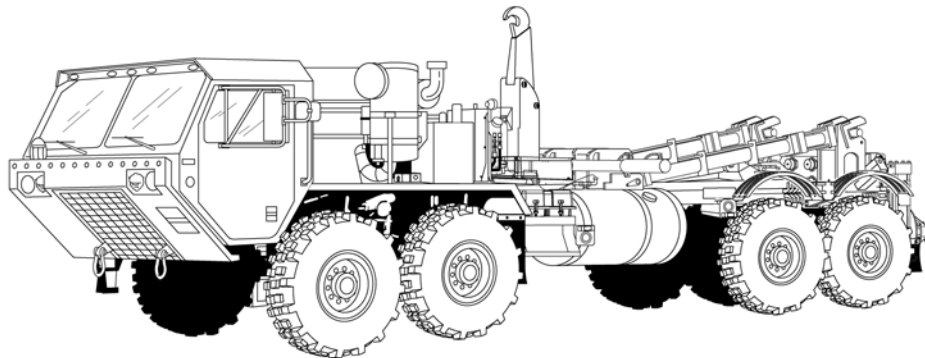


- Step 2. Inspect hydraulic hoses 2748 and 2749, fittings, and tubing from outrigger control valve to left outrigger stabilizer cylinder for leaks, kinks, and damage (WP 0119).

If both outrigger stabilizers do not extend, troubleshoot Outrigger Controls Fail to Operate (WP 0041).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****OUTRIGGERS DO NOT RETRACT (CONTINUED)**

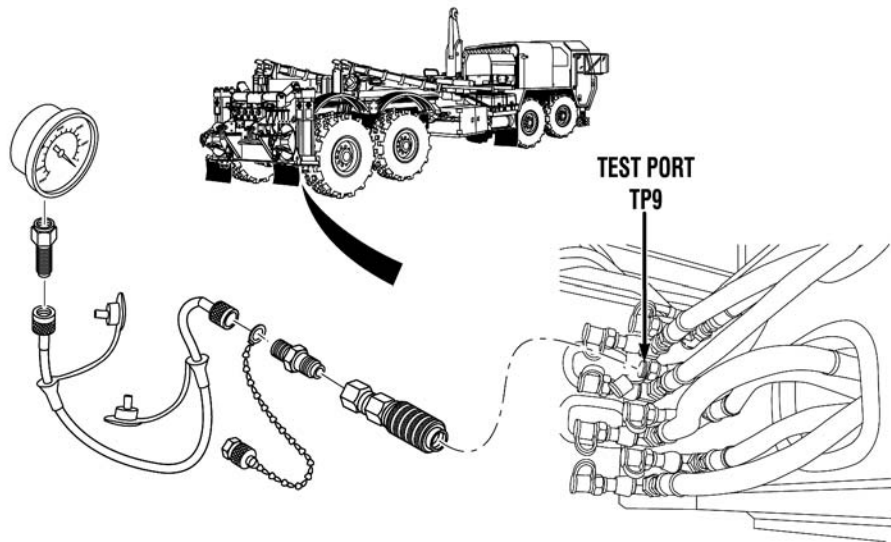
- Step 3. Connect pressure gage to test port TP7. Start engine (TM 9-2320-347-10) Check pressure at test port TP7, while attempting to operate outriggers (WP 0013). Shut off engine (TM 9-2320-347-10) Disconnect pressure gage.
- a. If 3,000 psi (20,684 kPa) is not measured, replace outrigger control valve (WP 0142).
 - b. If 3,000 psi (20,684 kPa) is measured, replace left outrigger stabilizer cylinder (WP 0144).



- Step 4. Inspect hydraulic hoses 2746 and 2747, fittings, and tubing from outrigger control valve to right outrigger stabilizer cylinder for leaks, kinks, and damage (WP 0119).

If hydraulic hoses, tubes, and/or fittings leak or are damaged, tighten loose fittings or replace damaged tubes and hoses (WP 0119).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

OUTRIGGERS DO NOT RETRACT (CONTINUED)

- Step 5. Connect pressure gage to test port TP9. Start engine (TM 9-2320-347-10) Check pressure on gage, while attempting to operate outriggers (WP 0013). Shut off engine (TM 9-2320-347-10) Disconnect pressure gage.
- If 3,000 psi (20,684 kPa) is not measured, replace outrigger control valve (WP 0142).
 - If 3,000 psi (20,684 kPa) is measured, replace right outrigger stabilizer cylinder (WP 0144).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
AIR RIDE SUSPENSION DEFLATES RAPIDLY WHEN VEHICLE IS PARKED

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Soap Chips (WP 0186, Item 31)

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

WP 0055
WP 0146
WP 0151
WP 0153

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Parking brake applied (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

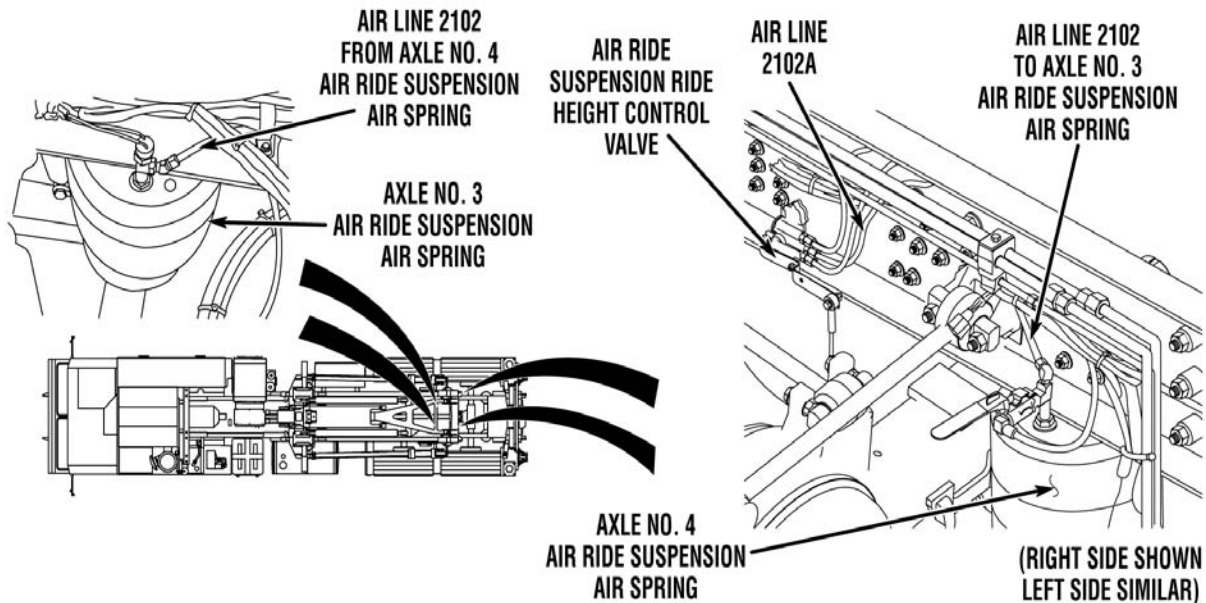
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

AIR RIDE SUSPENSION DEFLATES RAPIDLY WHEN VEHICLE IS PARKED**NOTE**

The THAAD rear air ride suspension system consists of two independent suspension control systems, one on each side of the vehicle. Both systems are identical and are diagnosed the same way. The following steps identify which system is malfunctioning and troubleshoots the malfunction to the fault in that system.

- Step 1. Start engine (TM 9-2320-347-10) Charge air system to 100 to 120 psi (690 to 827 kPa). Allow air suspension system to adjust to correct ride height and shut off engine (TM 9-2320-347-10) Monitor air suspension system and determine which side of the vehicle is not maintaining correct ride height.

Perform Steps 2 through 5 on system that does not maintain correct suspension ride height.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR RIDE SUSPENSION DEFLATES RAPIDLY WHEN VEHICLE IS PARKED (CONTINUED)****NOTE**

Soap water may be used to locate air leaks.

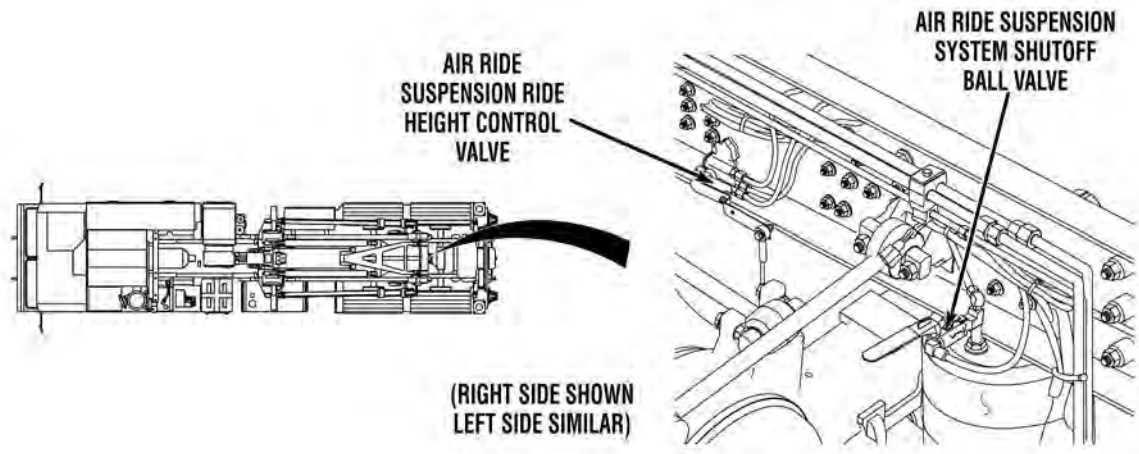
- Step 2. Inspect air lines 2102A and 2102 and fittings from air ride suspension ride height control valve to axles No. 3 and No. 4 air ride suspension air springs for leaks and damage (see WP 0055).

If air lines leak or are damaged, repair leaks or replace damaged air lines and fittings (WP 0055).

- Step 3. Inspect axles No. 3 and No. 4 air ride suspension air springs for leaks and damage.

If air ride suspension air springs leak or are damaged, repair leaks or replace damaged suspension air springs (WP 0153).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

AIR RIDE SUSPENSION DEFLATES RAPIDLY WHEN VEHICLE IS PARKED (CONTINUED)**NOTE**

Soap water may be used to locate air leaks.

Step 4. Inspect air ride suspension system shutoff ball valve for leaks.

If air ride suspension system shutoff ball valve leaks, repair leaks or replace air ride suspension system shutoff ball valve (WP 0146).

Step 5. Inspect air ride suspension ride height control valve for leaks.

- a. If air ride suspension ride height control valve leaks, repair leaks.
- b. If air ride suspension ride height control valve is free from leaks, replace air ride suspension ride height control valve (WP 0151).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
AIR RIDE SUSPENSION DOES NOT MAINTAIN CORRECT RIDE HEIGHT

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

None

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

TM 9-2320-347-10
TM 9-2320-325-14&P
WP 0006
WP 0053
WP 0055
WP 0150
WP 0151
WP 0153
WP 0148

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Parking brake applied (TM 9-2320-347-10)

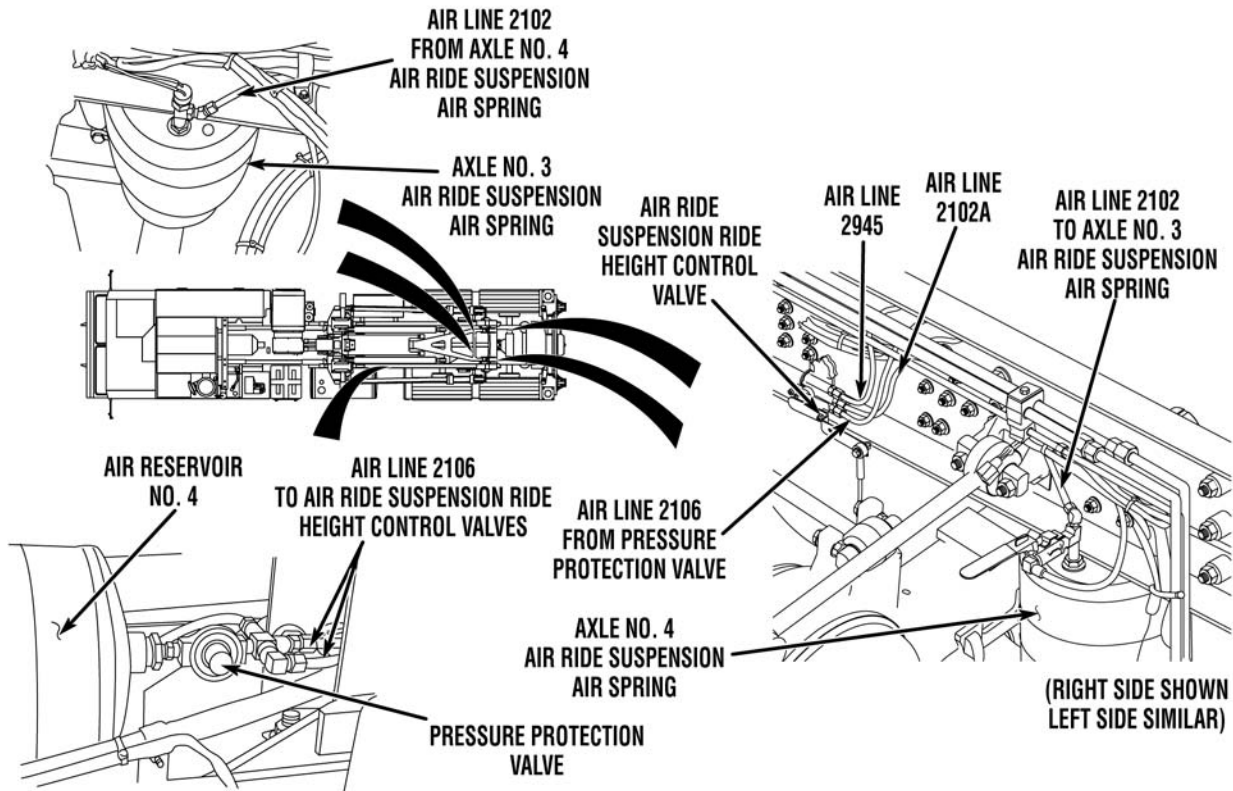
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

AIR RIDE SUSPENSION DOES NOT MAINTAIN CORRECT RIDE HEIGHT**NOTE**

- The THAAD rear air ride suspension system consists of two independent suspension control systems, one on each side of the vehicle. Both systems are identical and are diagnosed the same way. The following steps identify which system is malfunctioning and troubleshoots the malfunction to the fault in that system.
- The THAAD air ride suspension system automatic height adjustment is delayed to prevent erratic ride height adjustment during normal operations.

Step 1. Start engine (TM 9-2320-347-10) Charge air system to 100 to 120 psi (690 to 827 kPa). Allow air suspension system to adjust to correct ride height. Operate vehicle according to UNIT SOP while monitoring air ride suspension system. Determine which side of vehicle is not maintaining correct ride height. If required, load sufficient weight on vehicle to cause system to adjust ride height.

If both sides do not maintain correct ride height, go to Step 8.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR RIDE SUSPENSION DOES NOT MAINTAIN CORRECT RIDE HEIGHT (CONTINUED)****NOTE**

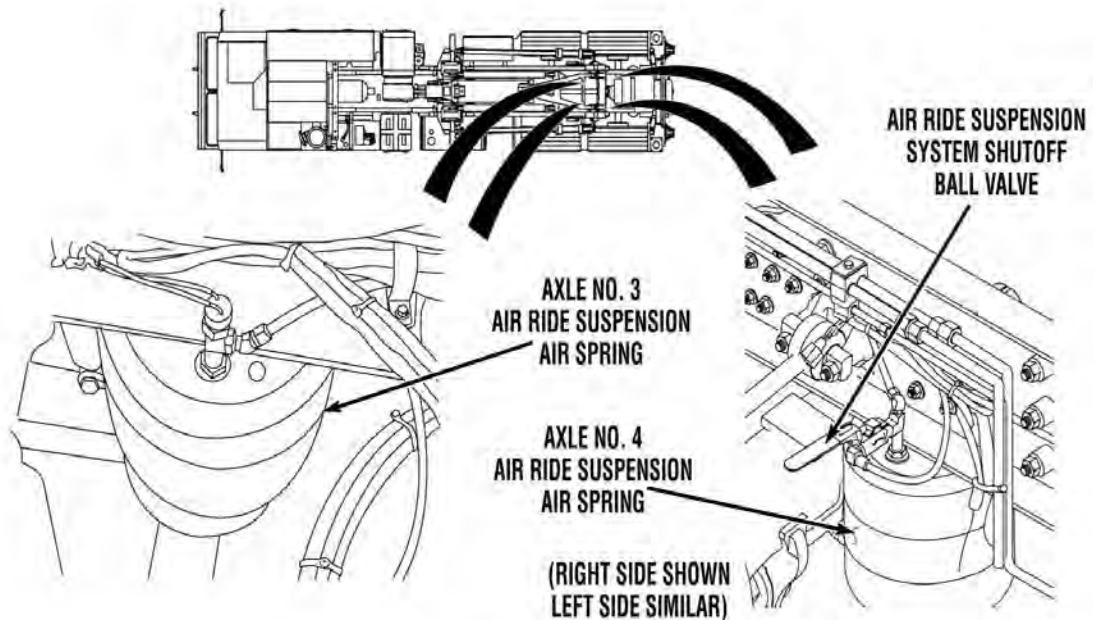
Soap water may be used to locate air leaks.

- Step 2. Park vehicle and shut off engine (TM 9-2320-347-10) On system that is not maintaining ride height, inspect air lines 2106, 2102A, and 2102, and fitting from pressure protection valve to air ride suspension air springs for leaks, kinks, and damage (see WP 0055).

If air lines leak, or are kinked or damaged, repair leaks or replace damaged air lines and fittings (WP 0055).

- Step 3. Inspect exhaust air line 2945 from air ride suspension ride height control valve for blockage, kinks, and damage (see WP 0055).

If air line is blocked, kinked, or damaged, replace damaged air line (WP 0055).

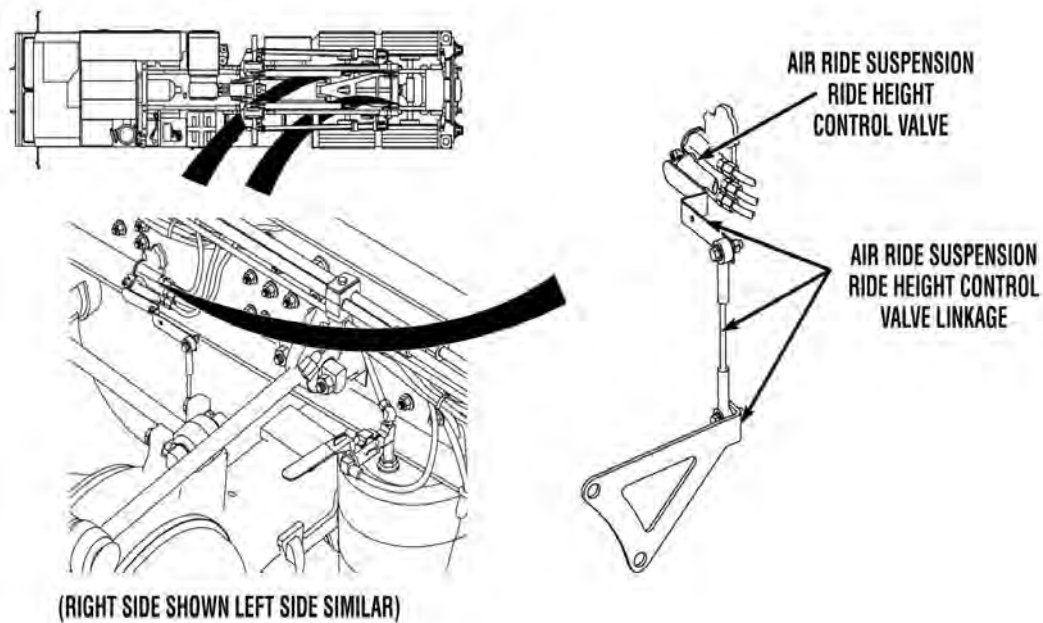
MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR RIDE SUSPENSION DOES NOT MAINTAIN CORRECT RIDE HEIGHT (CONTINUED)**

Step 4. Inspect axles No. 3 and No. 4 air ride suspension air springs for leaks and damage.

If air ride suspension air springs leak or are damaged, repair leaks or replace damaged suspension air springs (WP 0153).

Step 5. Inspect air ride suspension system shutoff ball valve. Ensure valve is fully opened.

If closed, open air ride suspension system shutoff ball valve (WP 0006).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR RIDE SUSPENSION DOES NOT MAINTAIN CORRECT RIDE HEIGHT (CONTINUED)**

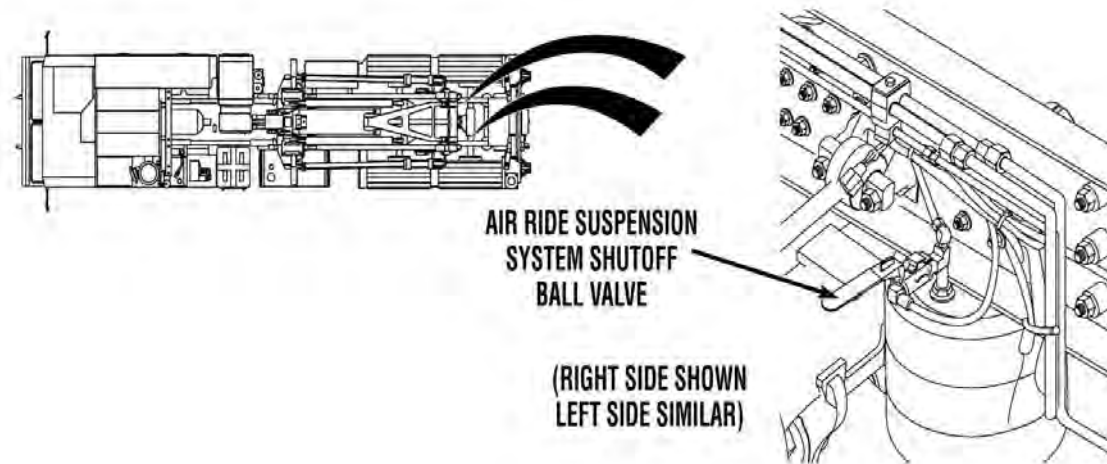
Step 6. Inspect air ride suspension ride height control valve linkage for damage and binding.

Repair or replace ride height control valve linkage (WP 0150) and perform ride height control valve adjustment (WP 0053).

Step 7. Perform ride height control valve adjustment (WP 0053). Then operate vehicle according to UNIT SOP and monitor air suspension system for correct ride height adjustments. If required, load sufficient weight on vehicle to cause system to adjust ride height.

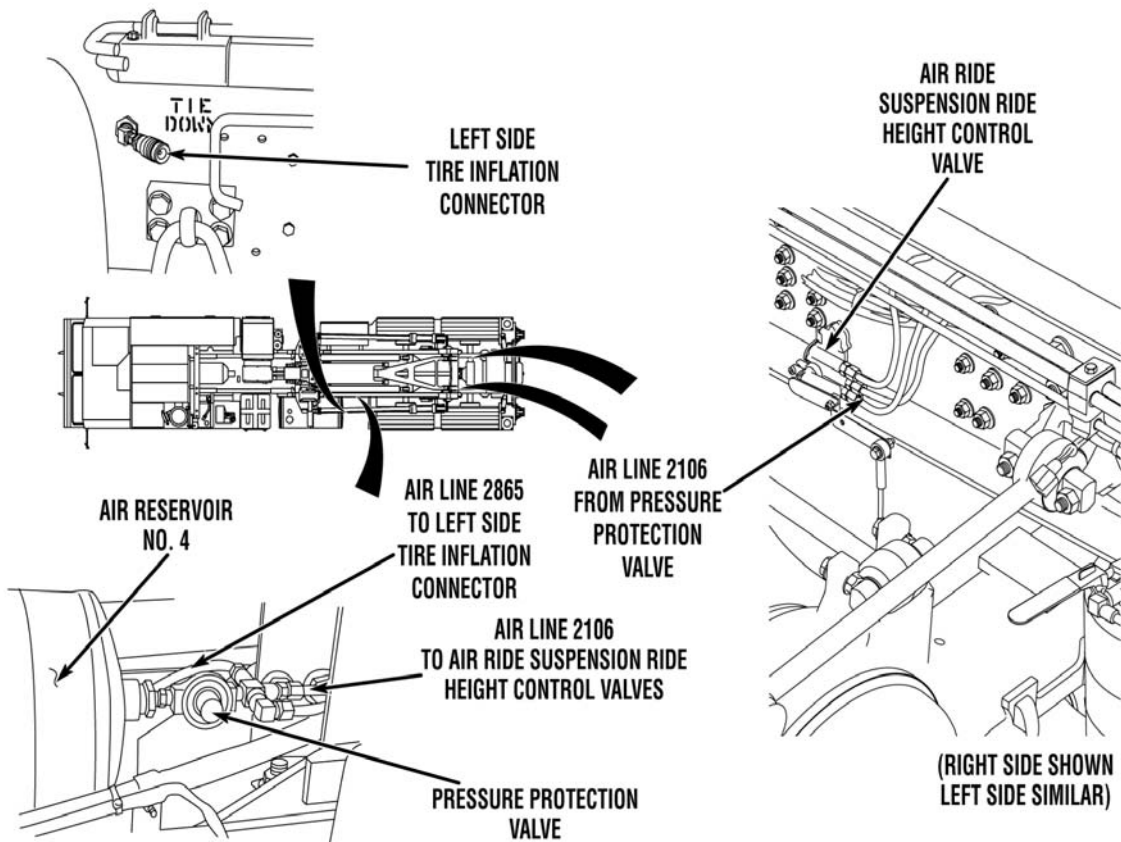
- a. If system maintains correct ride height, problem is corrected.
- b. If system does not maintain correct ride height, replace faulty air ride suspension ride height control valve (WP 0151).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

AIR RIDE SUSPENSION DOES NOT MAINTAIN CORRECT RIDE HEIGHT (CONTINUED)

- Step 8. Park vehicle and shut off engine (TM 9-2320-347-10) Inspect air ride suspension system shutoff ball valves (2). Ensure valves are fully opened.

If closed, open air ride suspension system shutoff ball valves (WP 0006).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR RIDE SUSPENSION DOES NOT MAINTAIN CORRECT RIDE HEIGHT (CONTINUED)**

- Step 9. Inspect air lines 2106 (2) and fittings from pressure protection valve to air ride suspension ride height control valves for kinks, leaks, and damage (see WP 0055).

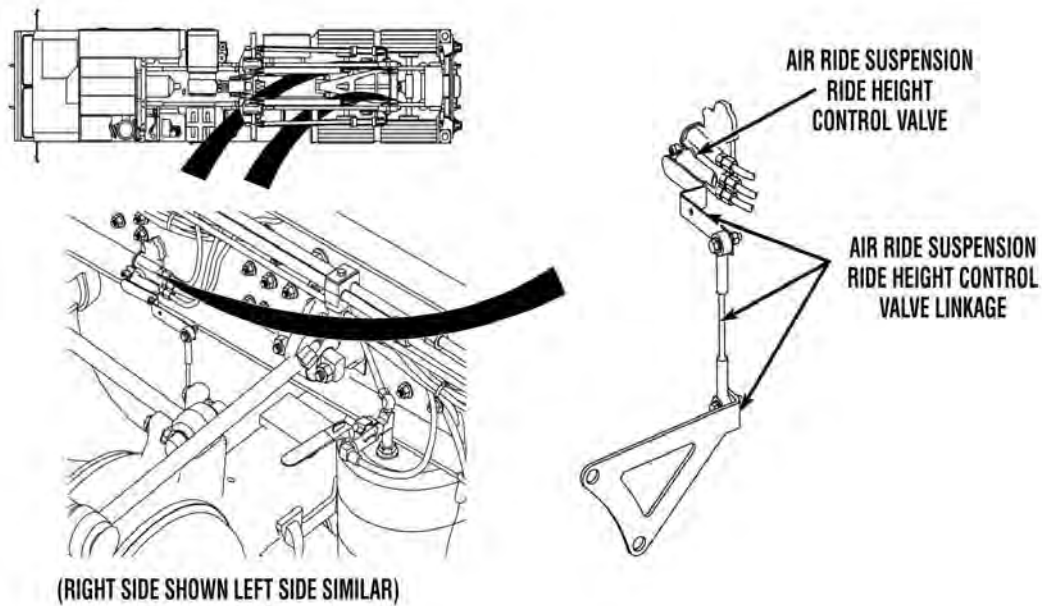
If air lines leak, or are kinked or damaged, repair leaks or replace damaged air lines and fittings (WP 0055).

- Step 10. Inspect air line 2865 and fittings from pressure protection valve to left side tire inflation connector for leaks and damage (see WP 0055).

If air line leaks or is damaged, repair leaks or replace damaged air lines and fittings (WP 0055).

- Step 11. Connect air hose and pressure gage to left side tire inflation connector. Check for at least 65 to 75 psi (448 to 517 kPa) pressure.

If at least 65 to 75 psi (448 to 517 kPa) pressure is not present, disconnect air lines 2106 (2) and 2865, and fittings (WP 0148); and replace pressure protection valve (TM 9-2320-325-14&P).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR RIDE SUSPENSION DOES NOT MAINTAIN CORRECT RIDE HEIGHT (CONTINUED)**

- Step 12. Inspect control valve linkage on air ride suspension ride height control valves (2) for damage and binding.

Repair or replace ride height control valve linkage (WP 0150) and perform ride height control valve adjustment (WP 0053).

- Step 13. Perform ride height control valve adjustment on both air ride suspension ride height control valves (WP 0053). Then operate vehicle according to UNIT SOP and monitor air suspension system for correct ride height adjustment. If required, load sufficient weight on vehicle to cause system to adjust ride height.
- a. If system maintains correct ride height, problem is corrected.
 - b. If system does not maintain correct ride height, notify Supervisor.

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**AIR RIDE SUSPENSION RIDE ROUGH OR UNSTABLE**

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

None

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

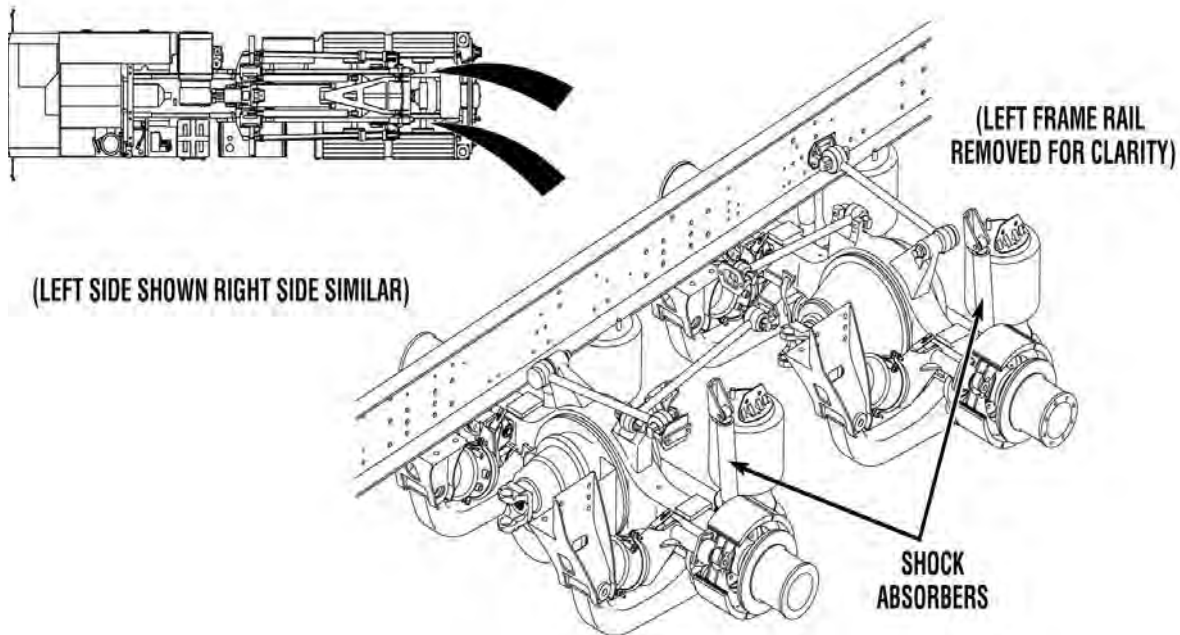
TM 9-2320-325-14&P
WP 0006
WP 0053
WP 0055

References (Continued)

WP 0148
WP 0149
WP 0150
WP 0152
WP 0153
WP 0154
WP 0155
WP 0156

Equipment Conditions

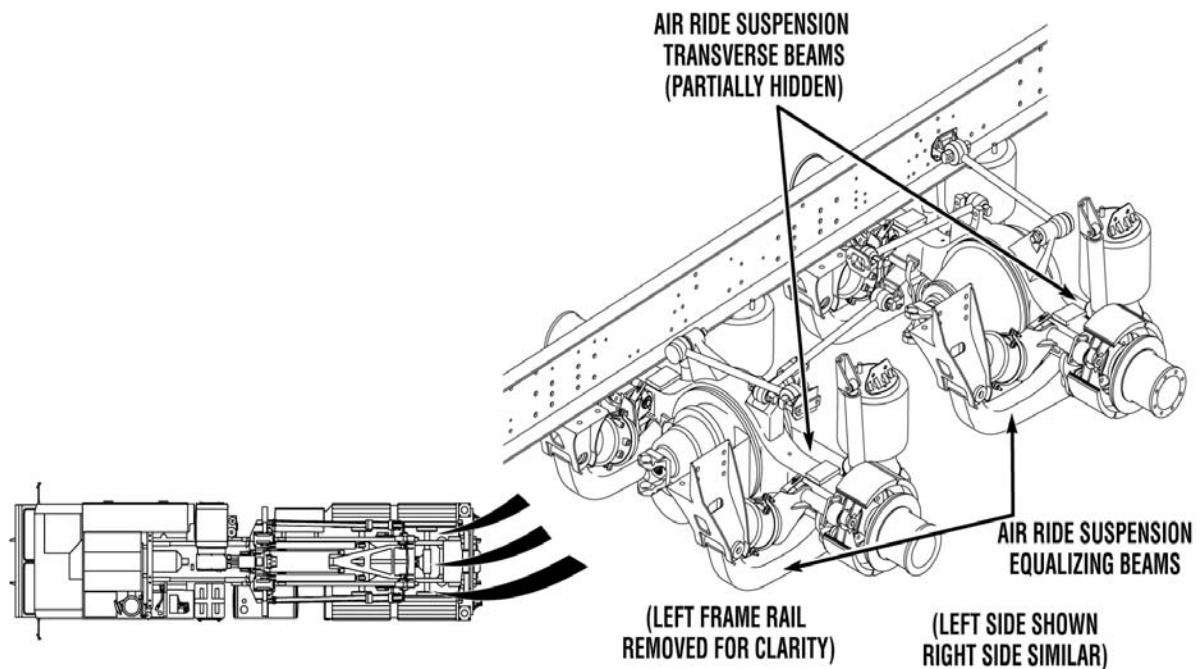
Engine OFF (TM 9-2320-347-10)
Parking brake applied (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR RIDE SUSPENSION RIDE ROUGH OR UNSTABLE****NOTE**

The THAAD rear air ride suspension system consists of two independent suspension control systems, one on each side of the vehicle. Both systems are identical and are diagnosed the same way.

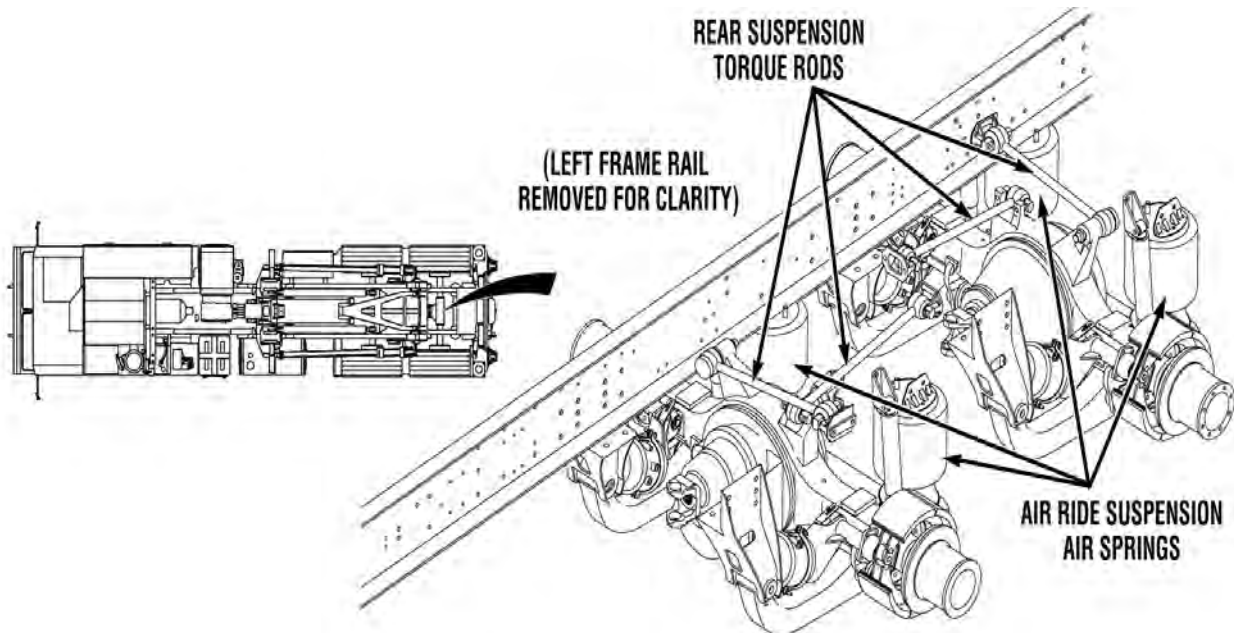
- Step 1. Inspect four air ride suspension shock absorbers for loose mounting hardware, leaks, and damage.

Tighten loose mounting hardware or replace damaged shock absorbers (WP 0152).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR RIDE SUSPENSION RIDE ROUGH OR UNSTABLE (CONTINUED)**

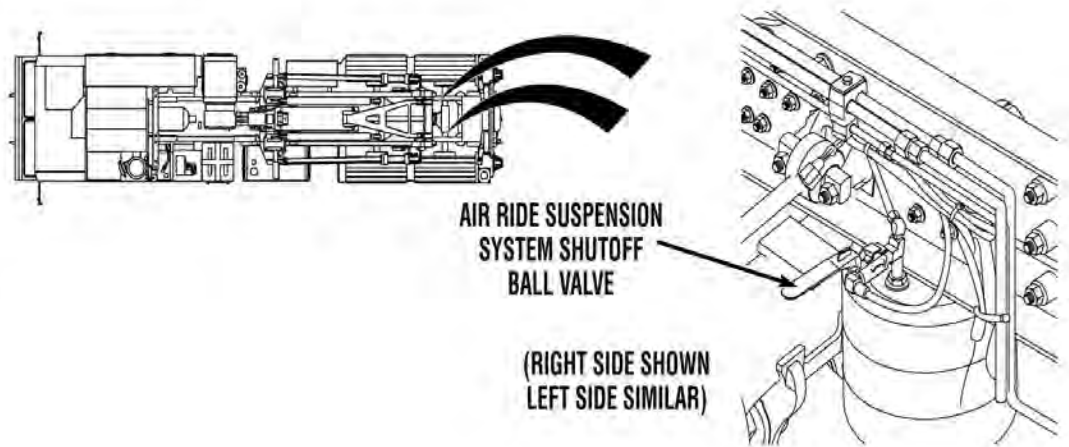
- Step 2. Inspect four air ride suspension equalizing beams for loose hardware and damage.
Tighten loose hardware and replace damaged equalizer beams (WP 0149).
- Step 3. Inspect two air ride suspension transverse beams for loose hardware and damage.
Tighten loose hardware and replace damaged transverse beams (WP 0156).
- Step 4. Inspect air ride suspension equalizing and transverse beams for worn bushings.
Replace worn equalizing and transverse beams bushings (WP 0154).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

AIR RIDE SUSPENSION RIDE ROUGH OR UNSTABLE (CONTINUED)

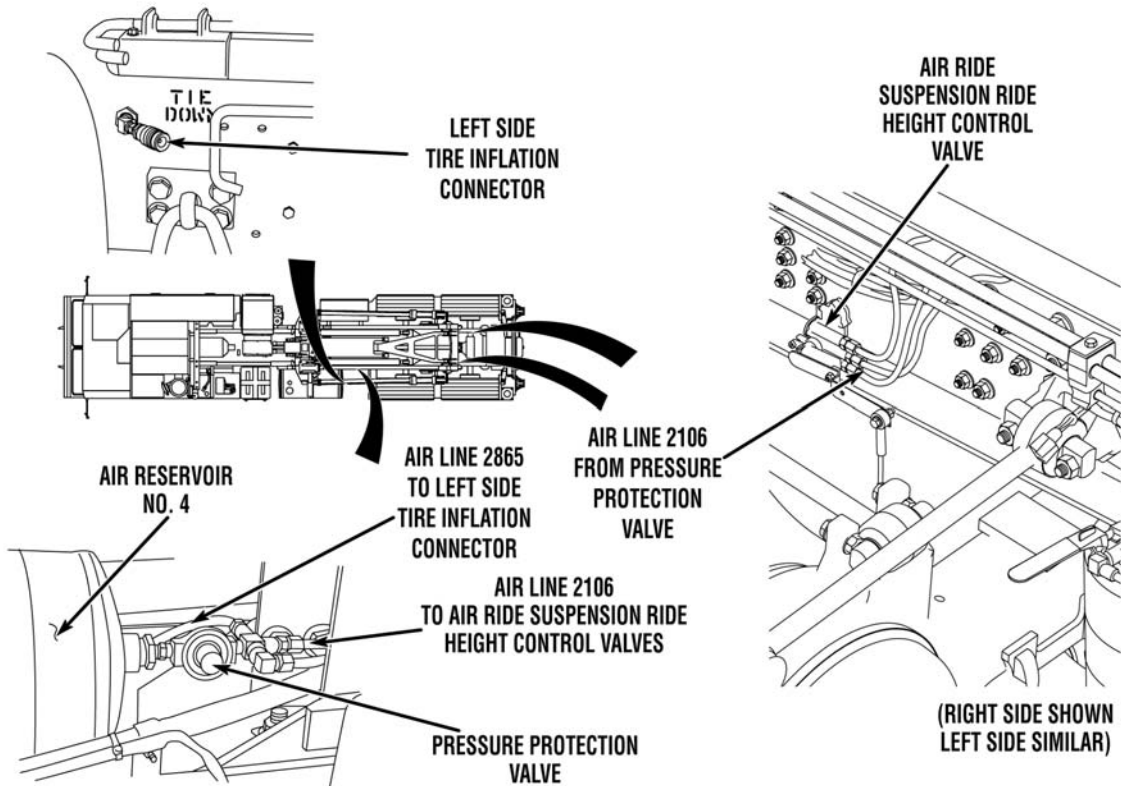
- Step 5. Inspect four air ride suspension air springs for loose hardware and damage.
Tighten loose hardware and replace damaged air springs (WP 0153).
- Step 6. Inspect four rear suspension torque rods for loose hardware and damage.
Tighten loose hardware and replace damaged torque rods (WP 0155).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

AIR RIDE SUSPENSION RIDE ROUGH OR UNSTABLE (CONTINUED)

- Step 7. Inspect two air ride suspension system shutoff ball valves. Ensure valves are fully opened.

If closed, open air ride suspension system shutoff ball valves (WP 0006).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR RIDE SUSPENSION RIDE ROUGH OR UNSTABLE (CONTINUED)**

- Step 8. Start engine (TM 9-2320-347-10) Charge air system to 100 to 120 psi (690 to 827 kPa). Shut off engine (TM 9-2320-347-10) Inspect two air lines 2106 and fittings from pressure protection valve to air ride suspension ride height control valves for kinks, leaks, and damage (see WP 0055).

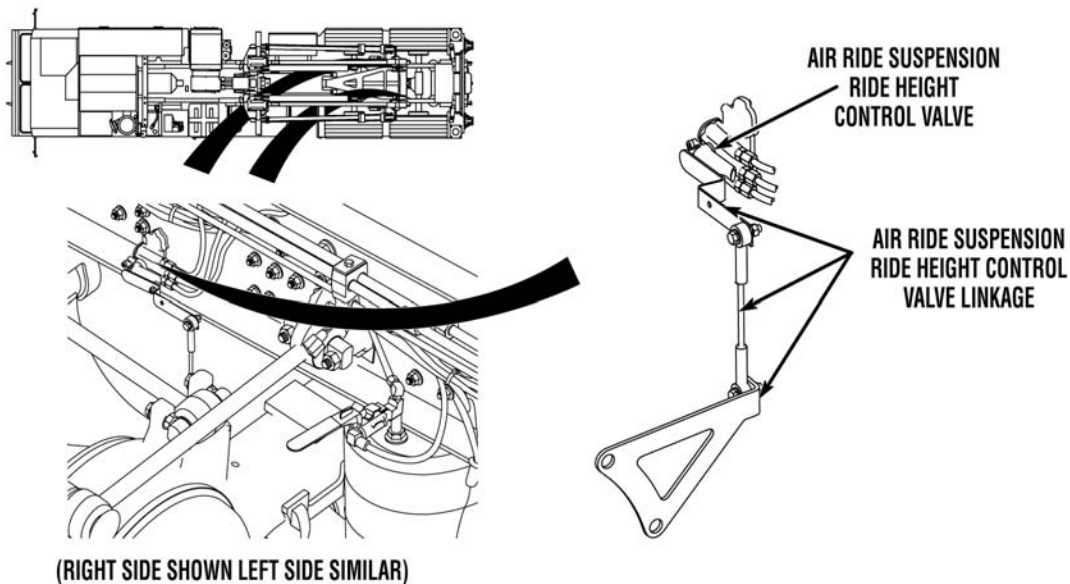
If air lines leak, or are kinked or damaged, repair leaks or replace damaged air lines and fittings (WP 0055).

- Step 9. Inspect air line 2865 and fittings from pressure protection valve to left side tire inflation connector for leaks and damage (see WP 0055).

If air line leaks, or is damaged, repair leaks or replace damaged air line and fittings (WP 0055).

- Step 10. Connect air hose and pressure gage to left side tire inflation connector. Check for at least 65 to 75 psi (448 to 517 kPa) pressure.

If at least 65 to 75 psi (448 to 517 kPa) pressure is not present, disconnect two air lines 2106 and air line 2865, and fittings (WP 0148); and replace pressure protection valve TM 9-2320-325-14&P

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****AIR RIDE SUSPENSION RIDE ROUGH OR UNSTABLE (CONTINUED)****NOTE**

Soap water may be used to locate air leaks.

- Step 11. Inspect control valve linkage on two air ride suspension ride height control valves for damage and binding.

Repair or replace ride height control valve linkage (WP 0150) and perform ride height adjustment (WP 0053).

- Step 12. Perform ride height control valve adjustment on both air ride suspension ride height control valves (WP 0053). Then operate vehicle according to UNIT SOP and monitor air suspension system for rough or unstable ride.
- a. If system provides a normal ride, problem is corrected.
 - b. If system does not provide a normal ride, notify Supervisor.

END OF WORK PACKAGE

CHAPTER 4

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

OPERATOR AND FIELD LEVEL MAINTENANCE

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) INTRODUCTION

PMCS INTRODUCTION.

This section contains PMCS requirements for the HEMTT THAAD system on the M977 series vehicles. The PMCS tables contain checks and services necessary to ensure that the HEMTT THAAD system is ready for operation. Using PMCS tables, perform maintenance at specified intervals. Refer to (TM 9-2320-347-10) and (TM 9-2320-325-14&P) for M977 series vehicle PMCS requirements.

PREVENTIVE MAINTENANCE CHECK AND SERVICES.

- a. Do the "BEFORE" PREVENTIVE MAINTENANCE just before operating the vehicle. Pay attention to the CAUTIONS and WARNINGS.
- b. If something does not work, troubleshoot with instructions in Chapter 3 and notify your supervisor.
- c. Always do PREVENTIVE MAINTENANCE in the same order until it becomes a habit. Once practiced, problems can be spotted in a hurry.
- d. If something looks wrong and cannot be fixed immediately, write it on DA Form 2404. If something seems seriously wrong, report it to Field Level Maintenance RIGHT NOW.
- e. When doing PREVENTIVE MAINTENANCE, take along the tools needed and a rag or two to make all the checks.

GENERAL MAINTENANCE PROCEDURES.

WARNING

- **Check for overhead power lines or other obstructions before attempting LHS operation. Failure to comply may result in serious injury or death to personnel.**
 - **Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.**
- a. Cleanliness.** Dirt, grease, oil, and debris only get in the way and may cover up a serious problem. Use solvent cleaning compound (WP 0186, Item 30) on all metal surfaces.
 - b. Bolts, Nuts, and Screws.** Check bolts, nuts, and screws for obvious looseness, missing, bent, or broken condition. Look for chipped paint, bare metal, or rust around boltheads. If any part seems loose, tighten it or report it to Field Level Maintenance.
 - c. Welds.** Look for loose or chipped paint, rust, or gaps where parts are welded together. If a bad weld is found, report it to Field Level Maintenance.
 - d. Electric Wires and Connectors.** Look for cracked or broken insulation, bare wires, and loose or broken connectors. Tighten loose connectors and make sure wires are in good condition. If a bad wire or faulty connector is found, report it to Field Level Maintenance.

- e. Hydraulic Lines and Fittings.** Look for wear, damage, and leaks; make sure clamps and fittings are tight. Wet spots indicate leaks. Stains around a fitting or connector can mean a leak. If a leak comes from a loose fitting or connector, tighten it. If something is broken or worn out, report it to Field Level Maintenance.
- f. Damage is defined as:** Any conditions that affect safety or would render the vehicle unserviceable for mission requirements.

LEAKAGE CLASSIFICATION AND DEFINITION.

CAUTION

Equipment operation is allowable with minor leaks (Class I or II). Consideration must be given to the fluid capacity in the item/system being checked/inspected. When in doubt, notify the supervisor. When operating with Class I or II leaks, continue to check fluid levels as required in the PMCS. Class III leaks should be repaired using tools available if possible. If not, use "Not Fully Mission Capable If" column criteria.

NOTE

- If leakage is detected, further investigation is needed to determine the location and cause of the leak. If there is any doubt, contact your supervisor or Field Level Maintenance.
 - Diesel engine slobber is an inherent condition of two-cycle diesel engines when engines are allowed to idle for prolonged periods of time. This characteristic may be incorrectly interpreted as a Class III leak. Check engine oil level. If there is any doubt, consult your supervisor or Field Level Maintenance.
- a. Class I.** Leakage of fluid as indicated by wetness or discoloration not great enough to form drops.
- b. Class II.** Leakage of fluid great enough to form drops but not enough to cause drops that fall from item being checked/inspected.
- c. Class III.** Leakage of fluid great enough to form drops that fall from the item being checked/inspected. Fix leak using proper tools.

END OF WORK PACKAGE

OPERATOR AND FIELD LEVEL MAINTENANCE

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS), INCLUDING LUBRICATION INSTRUCTIONS

PREVENTIVE MAINTENANCE CHECKS AND SERVICES TABLE

NOTE

This work package covers items specific to the HEMTT THAAD vehicle. Refer to TM 9-2320-347-10 and (TM 9-2320-325-14&P) for vehicle PMCS instructions.

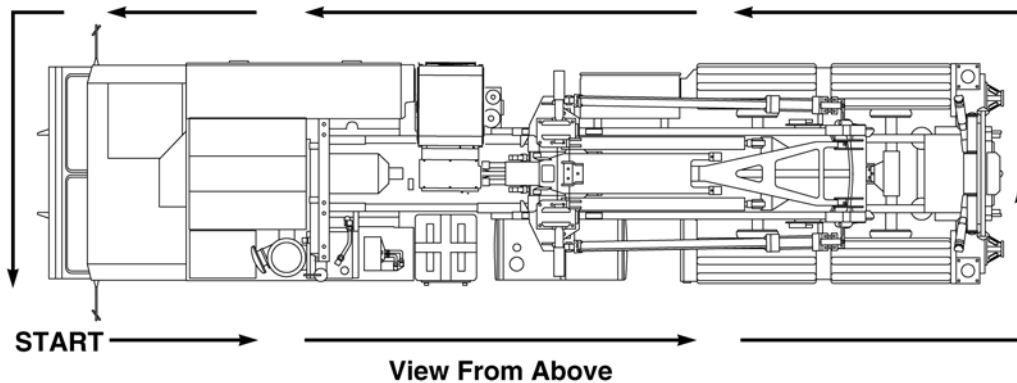


Table 1. Preventive Maintenance Checks and Services (Before).

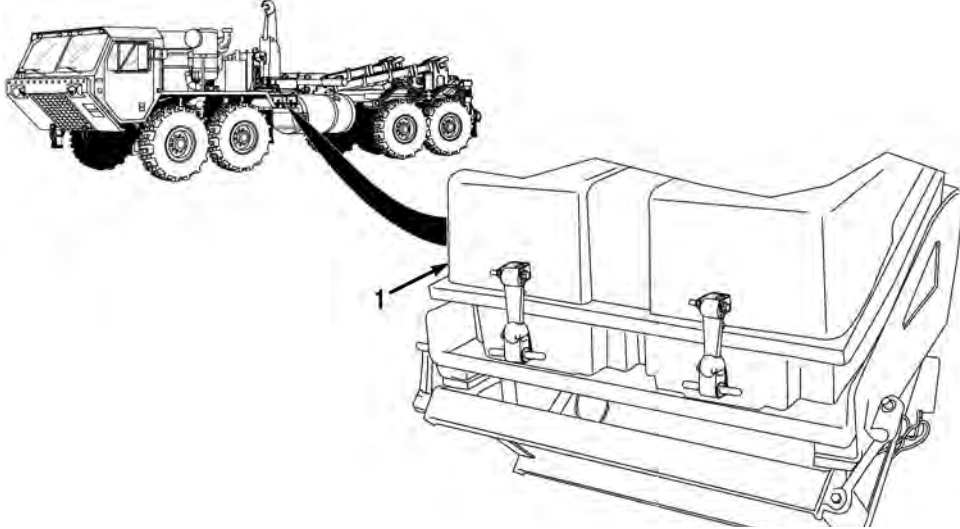
Item No.	Interval	Item To Be Checked Or Serviced	Crewmember Procedure	Not Fully Mission Capable if:
1	Before		Check that battery box cover (1) is present and properly secured.	Battery box cover is missing or damaged

Table 1. Preventive Maintenance Checks and Services (Before). (Continued)

Item No.	Interval	Item To Be Checked Or Serviced	Crewmember Procedure	Not Fully Mission Capable if:
2	Before	Generator Steps	Check to ensure generator steps (1) are securely mounted and are free from damage.	Generator step is corroded or damaged.
3	Before	Hydraulic Slave Connections	Check slave connections (2) for damage.	Any damage that would prevent a hydraulic slaving operation.
4	Before	Auxiliary Work Light	Check auxiliary work light (3) for damage.	Work light is cracked or damaged.
5	Before	Ladder	Check ladder (4) for damage and serviceability.	
6	Before	Rear Fenders	Check to ensure rear fenders (5) are present and free of damage.	Rear fenders are damaged or not present.
7	Before	Outrigger Pads	Check to ensure two outrigger pads (6) are present and for damage and serviceability.	Outrigger pads are damaged and not usable or not present.

Table 1. Preventive Maintenance Checks and Services (Before). (Continued)

Item No.	Interval	Item To Be Checked Or Serviced	Crewmember Procedure	Not Fully Mission Capable if:
8	Before	MRP Connector	Check MRP connector (1) for damage and corrosion.	MRP connector is corroded or damaged.
9	Before	LHS Rollers	Check LHS rollers (2) for spin and damage.	LHS rollers do not spin or are damaged.
10	Before	Suspension Air Springs	Check four suspension air springs (3) for leaks or damage.	Air spring is leaking.
11	Before	Static Ground Cable and Reel	Check ground cable/clamp (4) and reel (5) for damage, corrosion, and serviceability.	Ground cable/ clamp is damaged, corroded, or unserviceable.
12	Before	Ground Rod Driver Hydraulic Supply Lines	Check two ground rod driver hydraulic supply lines (6) for leaks or damaged.	Ground rod driver hydraulic supply lines are leaking or damaged.
13	Before	Main Grounding Cable	Check main grounding cable (7) for damage and corrosion.	Grounding cable is damaged, corroded, and not usable.

Table 1. Preventive Maintenance Checks and Services (Before). (Continued)

Item No.	Interval	Item To Be Checked Or Serviced	Crewmember Procedure	Not Fully Mission Capable if:
14	Before	Hydraulic Hose	Check all hydraulic hoses and fittings for damage, leaks, and loose connections.	Any Class III leak.
15	Before	Generator Fuel Supply Line	Check generator fuel supply line (1) for leaks and damage.	Generator fuel supply line is leaking or damaged.
16	Before	Generator Mounting Bracket	Check generator mounting bracket (2) for cracks, corrosion, missing hardware, and damage.	Generator mounting bracket will not safely support generator.
17	Before	VIMs/VCMs	Check VIMs/VCMs (3) for loose connections, damage, and corrosion.	Bad connections or VIM/VCM is damaged.
18	Before	Engine Access Cover	a. Check engine side access cover (4) for damage. b. Check engine side access cover latches (5) to ensure they are properly secured.	Engine side access cover is damaged. Engine side access cover is not secured properly.

Table 1. Preventive Maintenance Checks and Services (Before). (Continued)

Item No.	Interval	Item To Be Checked Or Serviced	Crewmember Procedure	Not Fully Mission Capable if:
19	Before	LHS Hook Arm Pin	Inspect LHS hook arm pin (1) for damage and serviceability.	LHS hook arm pin is unserviceable.
20	Before	Lift Hook Arm	Inspect lift hook arm (2) for damage and serviceability.	Lift hook arm is unserviceable.
21	Before	Hook Arm Cylinder Pivots (Front)	Inspect both hook arm cylinder pivots (3) for damage and serviceability.	Lift hook arm cylinder pivot is damaged.

Table 1. Preventive Maintenance Checks and Services (Before). (Continued)

Item No.	Interval	Item To Be Checked Or Serviced	Crewmember Procedure	Not Fully Mission Capable if:
22	Before	Main Frame Cylinder Pivots (Front)	Inspect both main frame cylinder pivots (1) for damage and serviceability.	Main frame cylinder pivot is damaged.
23	Before	Elevation Cylinder Pivots (Front)	Inspect both elevation cylinder pivots (2) for damage and serviceability.	Elevation cylinder pivot is damaged.

Table 1. Preventive Maintenance Checks and Services (Before). (Continued)

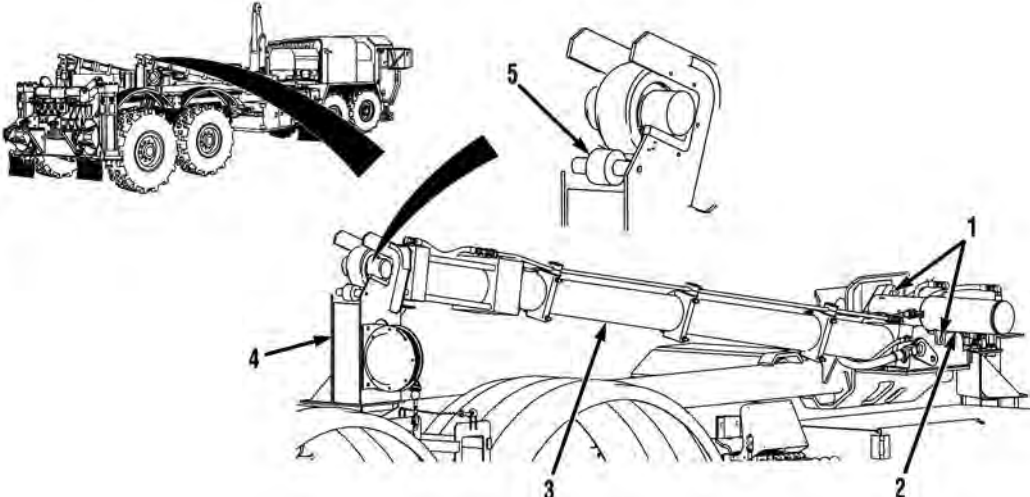
Item No.	Interval	Item To Be Checked Or Serviced	Crewmember Procedure	Not Fully Mission Capable if:
				
24	Before	MRP Rack Lock Brackets and Cylinders	a. Check MRP rack lock brackets (1) for cracks, corrosion, missing hardware, and damage.	MRP rack lock brackets are corroded, missing hardware, or damaged.
25			a. Check MRP rack lock cylinders (2) for leaks, dents, cracks, and damage.	MRP rack lock cylinders leak or are damaged
26	Before	Deck Elevation Cylinders	Check deck elevation cylinders (3) for leaks, dents, cracks, and damage.	Deck elevation cylinders leak or are damaged.
27	Before	Deck Elevation Cylinder Stowage Bracket and Rollers	a. Check deck elevation cylinder stowage bracket (4) for cracks, corrosion, missing hardware, and damage. b. Check rollers (5) for spin and damaged.	Deck elevation cylinder stowage brackets are corroded, missing hardware, or damaged. Rollers do not spin or are damaged.

Table 1. Preventive Maintenance Checks and Services (Before). (Continued)

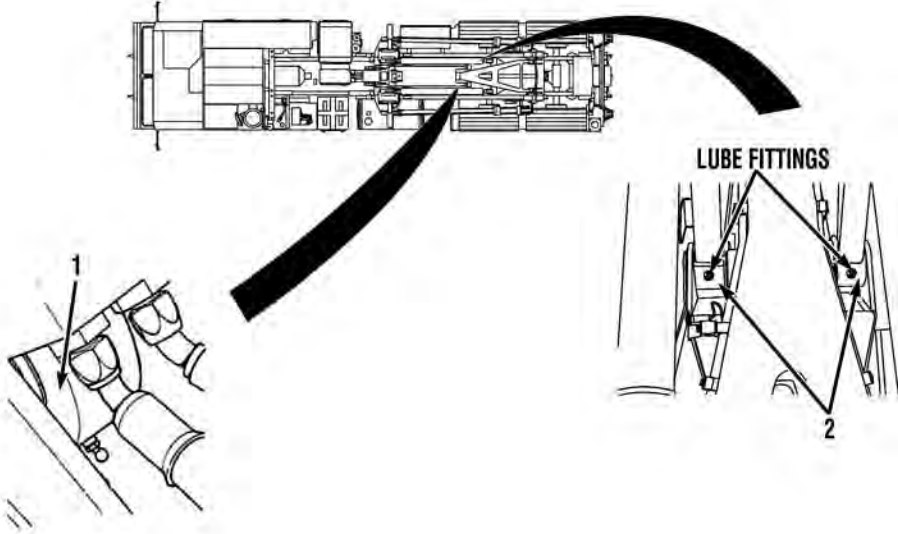
Item No.	Interval	Item To Be Checked Or Serviced	Crewmember Procedure	Not Fully Mission Capable if:
				
28	Before	Hook Arm Cylinder Pivots (Rear)	Inspect both hook arm pivots (1) for damage and serviceability.	Hook arm cylinder pivot is damaged.
29	Before	Hook Arm Pivots (Rear)	Inspect both hook arm pivots (2) for damage and serviceability.	Hook arm pivot is damaged.

Table 1. Preventive Maintenance Checks and Services (Before). (Continued)

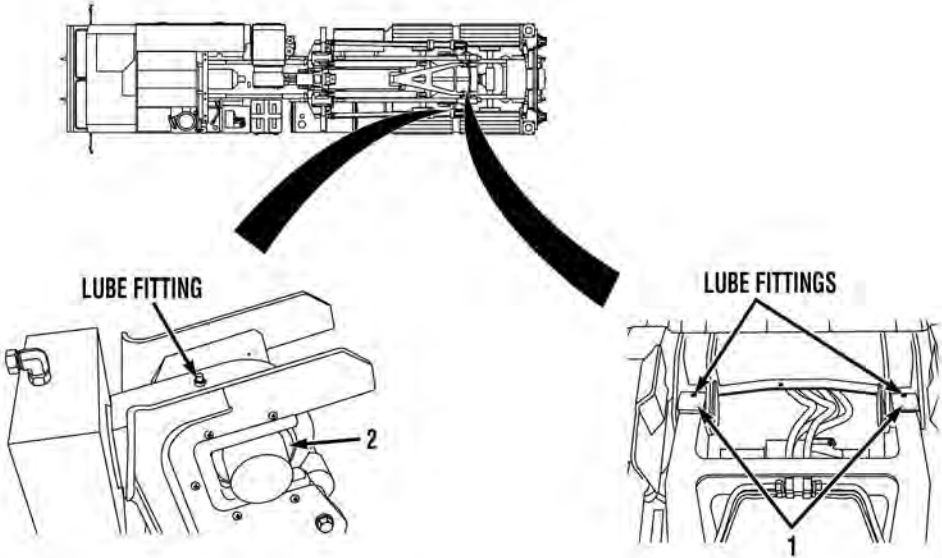
Item No.	Interval	Item To Be Checked Or Serviced	Crewmember Procedure	Not Fully Mission Capable if:
				
30	Before	Main Frame Cylinder Pivots (Rear)	Inspect both main frame cylinder pivots (1) for damage and serviceability.	Main frame cylinder pivot is damaged.
31	Before	Main Frame Pivots (Rear)	Inspect both main frame pivots (2) for damage and serviceability.	Main frame pivot is damaged.

Table 1. Preventive Maintenance Checks and Services (Before). (Continued)

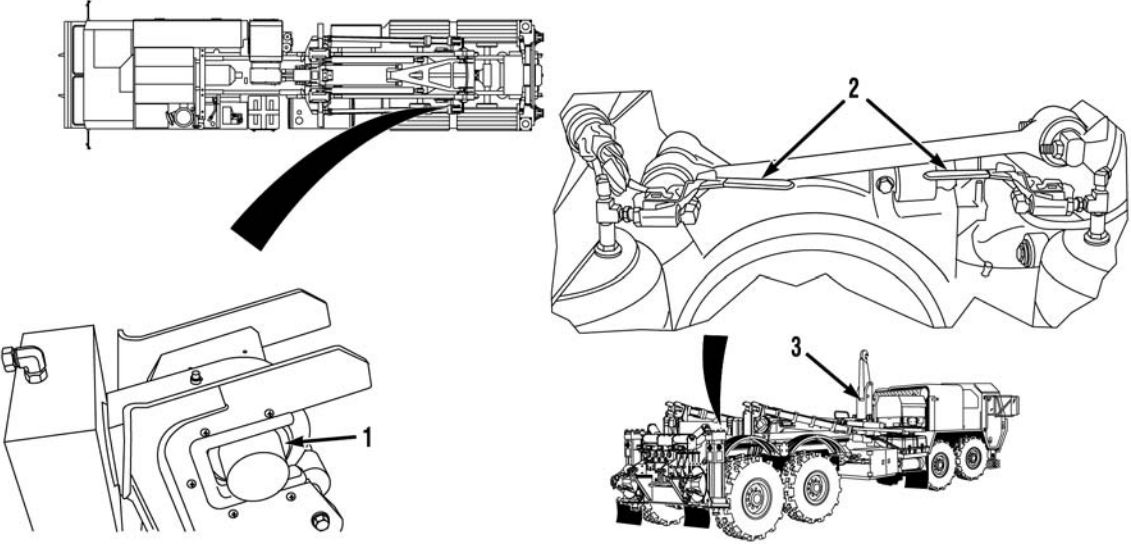
Item No.	Interval	Item To Be Checked Or Serviced	Crewmember Procedure	Not Fully Mission Capable if:
				
32	Before	Elevation Cylinder Pivots (Rear)	Inspect both elevation cylinder pivots (1) for damages	Elevation cylinder pivot is damaged.
33	Before	Suspension Control Valves	Check four suspension air springs (2) for leaks or damage.	Air spring is leaking.
34	Before	LHS	a. Check LHS (3) for loose and missing parts b. Check LHS (3) for cracks and damage.	LHS has loose or missing parts. LHS is damaged.

Table 1. Preventive Maintenance Checks and Services (Before). (Continued)

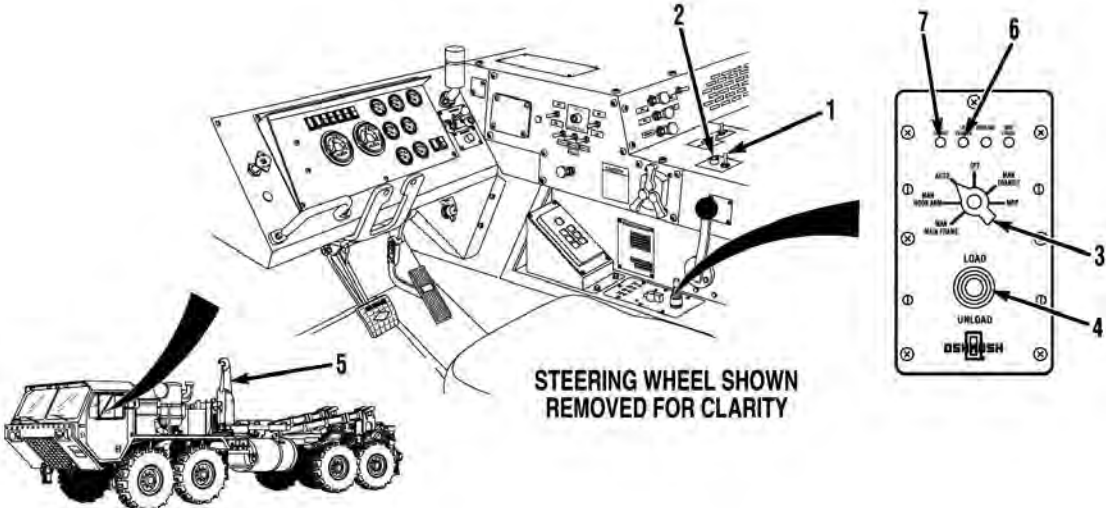
Item No.	Interval	Item To Be Checked Or Serviced	Crewmember Procedure	Not Fully Mission Capable if:
 <p style="text-align: center;">STEERING WHEEL SHOWN REMOVED FOR CLARITY</p>				
			<p>NOTE</p> <ul style="list-style-type: none"> • The following checks must be made while the engine is running. 	
35	Before	Engine	a. Start Engine. Refer to (TM 9-2320-347-10)	
36	Before	LHS Operation	<p>a. Check for proper operation of LHS. Check this by moving PTO switch (1) to ON position. Indicator (2) should come on.</p> <p>b. Turn hydraulic selector switch (3) to AUTO position. Move joystick (4) to UNLOAD to raise LHS (5) approximately 1 to 2 ft. (30.5 to 60 cm). LHS ENGAGED indicator (6) will illuminate green and LHS NO TRANSIT indicator (7) will illuminate red.</p> <p>c. Move Joystick (4) to LOAD and lower LHS (5) to stowed position. LHS NO TRANSIT indicator (7) will go out.</p> <p>d. Turn hydraulic selector switch (3) to OFF position. LHS ENGAGED indicator (6) will go out. Move PTO switch (1) to OFF position. PTO indicator (2) should go out.</p>	LHS does not operate properly.

Table 1. Preventive Maintenance Checks and Services (Before). (Continued)

Item No.	Interval	Item To Be Checked Or Serviced	Crewmember Procedure	Not Fully Mission Capable if:
37	Before	Auxiliary Work Light	a. Check auxiliary work light (1) for proper operation (WP 0010). b. Check auxiliary work light (1) for damage.	Work light does not operate properly. Work light is cracked or damaged.
38	Before	VIMs/VCMs	Check for VIM heart beats (2) (WP 0030).	VIMs/VCMs heart beat indicators do not operate properly.
39	Before	Work Light (outrigger controls)	Check for proper operation of outrigger controls work light (3) (WP 0005).	Work light does not operate properly.
40	Before	Outriggers Operation	Check for proper operation of outriggers (WP 0013).	Outriggers do not operate properly.

Table 1. Preventive Maintenance Checks and Services (Before). (Continued)

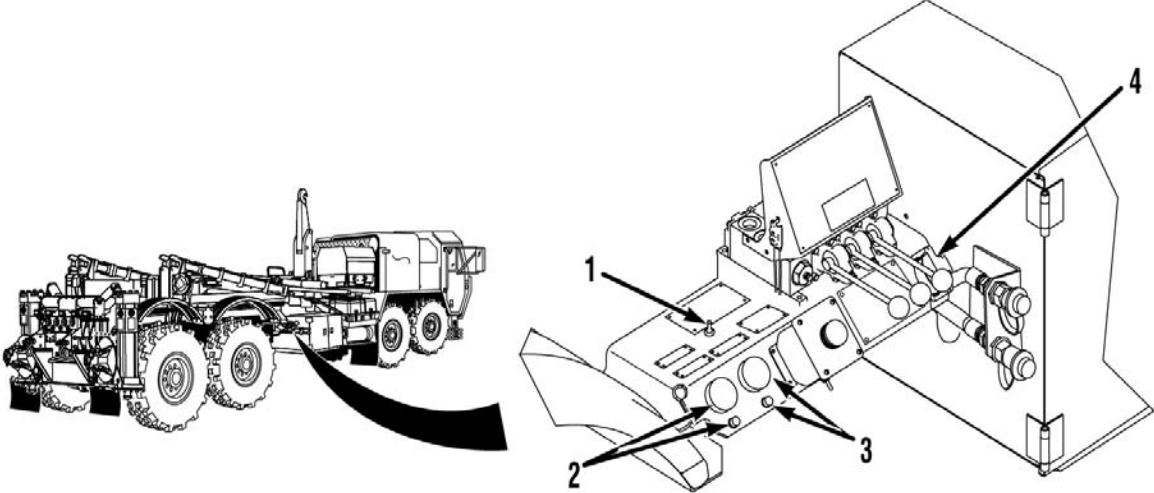
Item No.	Interval	Item To Be Checked Or Serviced	Crewmember Procedure	Not Fully Mission Capable if:
				
41	Before	Indicator Lamp Test Switch	Put indicator lamp test switch (1) in ON position and ensure air bag depleted (2) and rack locks engaged (3) indicators illuminate.	Indicator lamps do not illuminate.
42	Before	Work Light (MRP controls)	a. Check for proper operation of work light (4) (WP 0005). b. Check work light (3) for cracked or broken lens or damaged housing.	Work light does not operate properly. Work light is damaged.
43	Before	Ground Rod Driver	Check for proper operation of ground rod driver (WP 0010).	Ground rod driver does not operate properly.

Table 1. Preventive Maintenance Checks and Services (Before). (Continued)

Item No.	Interval	Item To Be Checked Or Serviced	Crewmember Procedure	Not Fully Mission Capable if:
44	Before	MRP Operation	<p>a. Check for proper operation of MRP system. Check this by moving PTO switch (1) to ON position. Indicator (2) should come on.</p> <p>b. Turn hydraulic selector switch (3) to MRP position. Engage both MRP rack locks (4) using control lever (5). RACK LOCKS ENGAGED indicator (6) will come on. Raise both deck elevation cylinders (7) using control lever (8).</p> <p>c. Lower both deck elevation cylinders (7) using control levers (8). Retract both MRP rack locks (4) using control lever (5). RACK LOCKS ENGAGED indicator (6) will go out.</p> <p>d. Turn hydraulic selector switch (3) to OFF position. Move PTO switch (1) to OFF position. PTO indicator (2) will go out.</p> <p>e. Shut engine off (TM 9-2320-347-10)</p>	MRP does not operate properly.
45	After	Underneath Vehicle	Check entire underside of vehicle for fluid and air leaks.	Any class III leak or air lines/fittings leaking or damaged.

Table 1. Preventive Maintenance Checks and Services (Before). (Continued)

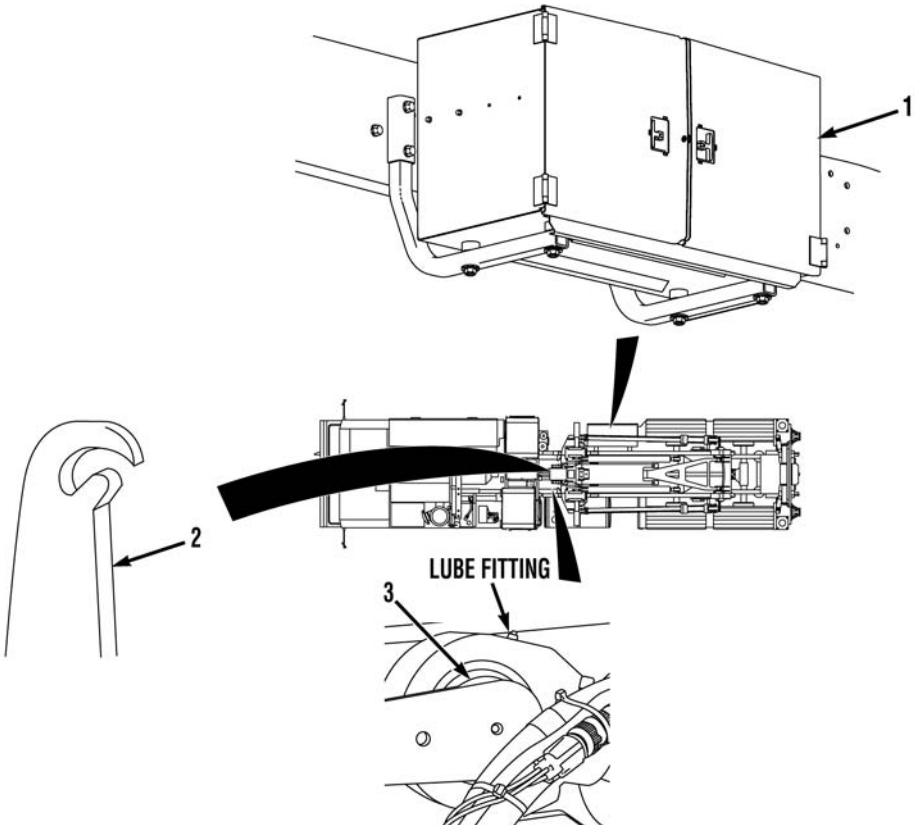
Item No.	Interval	Item To Be Checked Or Serviced	Crewmember Procedure	Not Fully Mission Capable if:
				
46	Weekly	Stowage Box (BII)	Check BII stowage box (1) for missing hardware and other obvious damage.	
47			Check inside BII stowage box for torn or damaged seals, water	
48	Monthly	Lift Hook Arm	Lubricate lift hook arm (2) with GAA grease.	
49	Monthly	Hook Arm Cylinder Pivots (Front)	Lubricate both hook arm cylinder pivots (3) with GAA grease.	

Table 1. Preventive Maintenance Checks and Services (Before). (Continued)

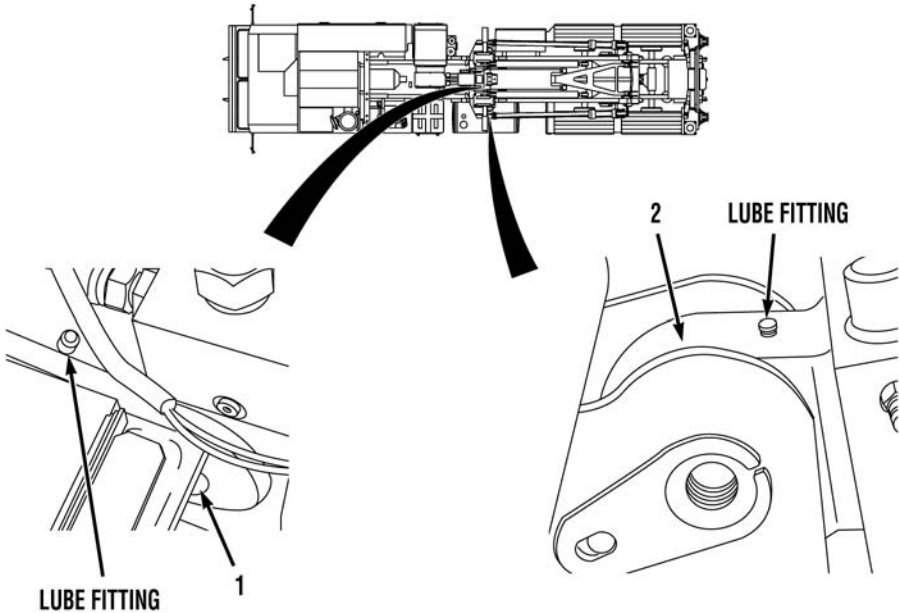
Item No.	Interval	Item To Be Checked Or Serviced	Crewmember Procedure	Not Fully Mission Capable if:
				
50	Monthly	Main Frame Cylinder Pivots (Front)	Lubricate both main frame cylinder pivots (1) with GAA grease.	
51	Monthly	Elevation Cylinder Pivots (Front)	Lubricate both elevation cylinder pivots (2) with GAA grease.	

Table 1. Preventive Maintenance Checks and Services (Before). (Continued)

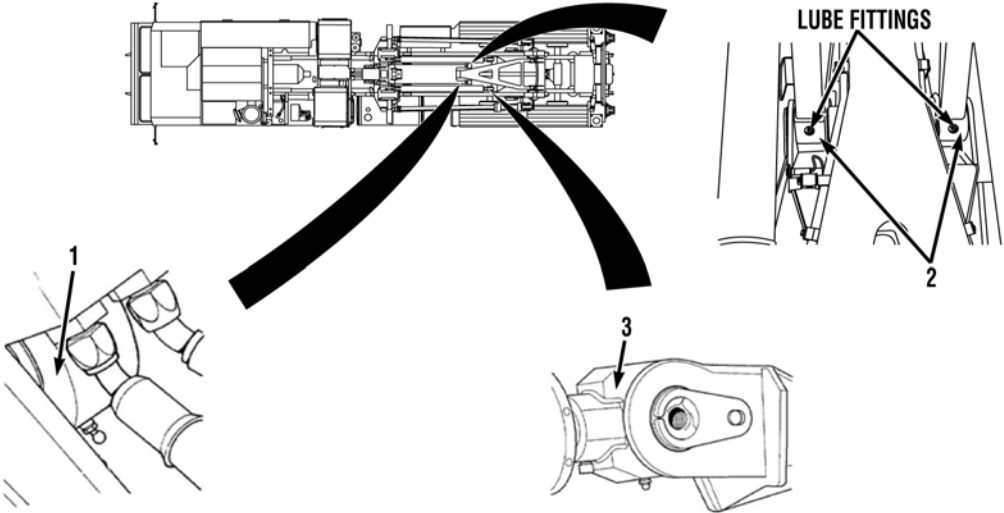
Item No.	Interval	Item To Be Checked Or Serviced	Crewmember Procedure	Not Fully Mission Capable if:
				
52	Monthly	Hook Arm Cylinder Pivots (Rear)	Lubricate both hook arm cylinder pivots (1) with GAA grease.	
53	Monthly	Hook Arm Pivots (Rear)	Lubricate both hook arm pivots (2) with GAA grease.	
54	Monthly	Main Frame Cylinder Pivots (Rear)	Lubricate both main frame cylinder pivots (3) with GAA grease.	

Table 1. Preventive Maintenance Checks and Services (Before). (Continued)

Item No.	Interval	Item To Be Checked Or Serviced	Crewmember Procedure	Not Fully Mission Capable if:
55	Monthly	Main Frame Pivots (Rear)	Lubricate both main frame pivots (1) with GAA grease.	
56	Monthly	Elevation Cylinder Pivots (Rear)	Lubricate both elevation cylinder pivots (1) with GAA grease.	

Table 1. Preventive Maintenance Checks and Services (Before). (Continued)

Item No.	Interval	Item To Be Checked Or Serviced	Crewmember Procedure	Not Fully Mission Capable if:
57	Monthly	LHS Rollers	Lubricate LHS rollers (1) with GAA grease.	
58	Semi-annual	LHS Hook Arm Pin	Lubricate LHS hook arm pin (2) with antiseize compound.	
59	Quarterly	Outrigger Bottom Plate	Lubricate outrigger bottom plate (3) with GAA grease.	

END OF WORK PACKAGE

CHAPTER 5

MAINTENANCE INSTRUCTIONS

FIELD LEVEL MAINTENANCE
MAINTENANCE GENERAL INTRODUCTION

SCOPE

This work package supplements the M977 Series Manuals and provides general maintenance information for the THAAD system on the modified M977 HEMTT.

COMMON TOOLS AND EQUIPMENT

There are common tools and general mechanics tool sets required for maintenance of this vehicle. For authorizing common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to the unit. Common tools will not be listed under Tools at the beginning of the maintenance task being performed. Only tools that are considered Special Tools will be listed under Tools at the beginning of the maintenance task.

SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

Special tools for Field Level Maintenance are listed in the RPSTL which is the authority for requisitioning. The Maintenance Allocation Chart (MAC) lists special tools needed for the various maintenance tasks.

REPAIR PARTS

Repair parts are listed and illustrated in the Repair Parts and Special Tools List covering Field Level Maintenance for this vehicle.

INSPECTION UPON RECEIPT

Refer to TM 9-2320-325-14&P for inspection upon receipt instructions.

SERVICE UPON RECEIPT

- a. Refer to TM 9-2320-325-14&P for service upon receipt instructions.

WARNING

Tire pressure must be checked properly or serious injury or death to personnel may occur. Refer to TM 9-2320-347-10 for proper tire pressure check instructions.

- b. Refer to TM 9-2320-347-10 for proper tire pressure check instructions. Refer to WP 0002 for proper tire pressure for the HEMTT THAAD.
- c. Perform Preventive Maintenance Checks and Services (PMCS) for the THAAD (WP 0050).
- d. Perform Preventive Maintenance Checks and Services (PMCS) for vehicle (TM 9-2320-325-14&P).

GENERAL MAINTENANCE PROCEDURES**WARNING****SOLVENT CLEANING COMPOUND**

Solvent cleaning compound MIL-PRF-680 Type II and III may be irritating to the eyes and skin. Use protective gloves and goggles. Use in well-ventilated areas. Use respirator as needed. Accidental ingestion can cause irritation of digestive tract and respiratory tract, may cause lung and central nervous system damage. Can be fatal if swallowed. Inhalation of high/massive concentrations can cause coma or be fatal. First aid for ingestion: do not induce vomiting. Seek immediate medical attention. First aid for skin contact: remove contaminated clothing. Wash skin thoroughly with soap and water. If symptoms persist, seek medical attention. First aid for eye contact: flush with water for 15 minutes or until irritation subsides. If symptoms persist, seek medical attention. First aid for inhalation: move to fresh air. If not breathing, provide artificial respiration. If symptoms persist, seek medical attention. Keep away from open flames and other sources of ignition. Failure to follow this warning may result in injury or death to personnel.

- The flashpoint for type II solvent cleaning compound is 141-198°F (61-92°C) and type III is 200-241°F (93-116°C).
 - Improper cleaning methods and use of unauthorized cleaning solvents may injure personnel and damage equipment
 - Fire extinguishers should be placed nearby when using solvent cleaning compound. Failure to follow this warning may result in injury or death.
 - Cloths or rags saturated with solvent cleaning compound must be disposed of IAW authorized facilities' procedures. Failure to follow this warning may result in injury.
 - Eye shields must be worn when cleaning with a wire brush. Flying rust and metal particle may cause injury.
- a. **Cleanliness.** Dirt, grease, oil, and debris only get in the way and may cover up a serious problem. Use solvent cleaning compound (WP 0186, Item 7) on metal surfaces and soapy water on rubber.
 - b. **Bolts, Nuts, and Screws.** Check bolts, nuts, and screws for obvious looseness, missing, bent, or broken condition and tighten or replace as necessary. If they cannot be checked with a tool, look for chipped paint, bare metal, or rust around bolt heads.
 - c. **Welds.** Look for loose or chipped paint, rust, or gaps where parts are welded together. If a bad weld is found, notify your supervisor.
 - d. **Electric Wires and Connectors.** Look for cracked or broken insulation, bare wires, and loose or broken connectors. Tighten loose connectors and make sure wires are in good shape.
 - e. **Fluid Hoses, Tubes, and Fittings.** Look for wear, damage, leaks, and make sure clamps and fittings are tight. Wet spots show leaks, but a stain around a fitting or connector may also indicate a leak. If connector or fitting is loose, tighten it. If something is broken or worn out, repair or replace per applicable procedure.
 - f. **Damage.** Damage is defined as any condition that affects safety or would make the vehicle unserviceable for mission requirements.

GENERAL REMOVAL INSTRUCTIONS

- a. **Work Required.** Remove parts if replacement is required. Do not disassemble a component any further than needed.
- b. **Preparation.** Before removal of any electrical, hydraulic, or air system components, ensure system component is not energized or pressurized. Disconnect battery ground cables. Relieve air system pressure before removal of fasteners (e.g., nuts, locknuts, etc.). Remove any paint on threads to prevent binding of fasteners.
- c. **Identification.** To ease assembly and installation, tag and mark shims, connectors, wires, and mating end of lines before disconnecting them. Identify similar parts to ensure correct assembly.
- d. **Position of Valves.** Before removing valve handles, mark or diagram their position when open and closed. This will help during assembly.
- e. **Location.** Before removing cable ties, cushion clamps, hoses, tubing, wire, etc., note the location, position, and routing of each to ensure correct assembly.

GENERAL CLEANING INSTRUCTIONS

WARNING

SOLVENT CLEANING COMPOUND

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- The flashpoint for type II solvent cleaning compound is 141-198°F (61-92°C) and type III is 200-241°F (93-116°C).
- Improper cleaning methods and use of unauthorized cleaning solvents may injure personnel and damage equipment
- Fire extinguishers should be placed nearby when using solvent cleaning compound. Failure to follow this warning may result in injury or death.
- Cloths or rags saturated with solvent cleaning compound must be disposed of IAW authorized facilities' procedures. Failure to follow this warning may result in injury.
- Eye shields must be worn when cleaning with a wire brush. Flying rust and metal particle may cause injury.
- Never use fuel to clean parts. Fuel is highly flammable. Serious personal injury could result if fuel ignites during cleaning.

- **Compressed air used for cleaning purposes will not exceed 30 psi (207 kPa). Use only with effective chip guarding and personal protective equipment (goggles/shield, gloves, etc). Failure to comply may result in injury to personnel.**
- a. **Cleaning Solvents.** Use only approved cleaning solvents to clean parts. Solvent cleaning compound (WP 0186, Item 7) is commonly used. Always work in a well-ventilated area.
 - b. **Removing deposits.** Soak parts in solvent cleaning compound (WP 0186, Item 7), and wash away deposits by flushing or spraying. When necessary, brush with soft bristle brush (not wire) moistened in solvent. Use compressed air to dry parts (except bearings) after cleaning. Bearings must drip and air dry.
 - c. **Tools.** Do not use wire brushes, abrasive wheels, or abrasive compounds to clean parts unless specifically approved in the detailed procedures. Parts may be scratched or altered and a highly stressed part may weaken.
 - d. **Ball and Roller Bearings.** When cleaning ball or roller bearings, place them in a basket and suspend them in a container of solvent cleaning compound (WP 0186, Item 7). If needed, use a brush to remove caked grease, chips, etc. Avoid rotating bearing before solid particles are removed to prevent damaging races and balls. When bearings have been cleaned, coat them lightly with lubricating oil (WP 0186, Item 25) to remove solvent.

CAUTION

Do not clean tires, lubricant seals, rubber hoses, or electrical components with solvent.

- e. **Rubber Parts.** Do not clean preformed packings or rubber parts in solvent cleaning compound. Wipe parts clean with a dry, cleaning cloth (WP 0186, Item 8).

WARNING

Steam cleaning creates hazardous noise levels and severe burn potential. Eye, skin, and ear protection is required. Failure to comply may result in injury to personnel.

- f. **Exterior Parts.** Steam clean all exterior parts thoroughly before removing. This will make inspection and disassembly easier.

WARNING

Solvents used with a spray gun must be used in a spray booth with a filter. Face shield must be used by personnel operating spray gun. Failure to comply may result in injury to personnel.

- g. **LHS Assembly.** Use a spray gun and solvent mixture for cleaning exterior of LHS assembly. Allow mixture to remain on item surface for 10 minutes before rinsing. Rinse with hot water under 80-120 pounds of pressure, if available. An ordinary garden hose with nozzle may be used if other equipment is not available. Rinse thoroughly.

CAUTION

To prevent corrosion, parts should be dipped in rust preventive within 2 hours of degreasing.

- h. **Degreasing Machine.** A degreasing machine may be used to remove heavy grease and oil from metal parts.

WARNING

SOLVENT CLEANING COMPOUND

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- The flashpoint for type II solvent cleaning compound is 141-198°F (61-92°C) and type III is 200-241°F (93-116°C).
 - Improper cleaning methods and use of unauthorized cleaning solvents may injure personnel and damage equipment
 - Fire extinguishers should be placed nearby when using solvent cleaning compound. Failure to follow this warning may result in injury or death.
 - Cloths or rags saturated with solvent cleaning compound must be disposed of IAW authorized facilities' procedures. Failure to follow this warning may result in injury.
 - Eye shields must be worn when cleaning with a wire brush. Flying rust and metal particle may cause injury.
 - Never use fuel to clean parts. Fuel is highly flammable. Serious personal injury could result if fuel ignites during cleaning.
- i. **Passages.** After degreasing, check all oil passages and cavities for dirt or blockage before coating with lubricating oil (WP 0186, Item 25). Run a thin, flexible wire through oil passages to make sure they are not clogged. Use a pressure spray gun and solvent cleaning compound (WP 0186, Item 7) to clean dirty passages.
- j. **Electrical Parts.** Electrical parts; such as coils, junction blocks, and switches, should not be soaked or sprayed with cleaning solutions. Clean these parts with a cleaning cloth (WP 0186, Item 8) moistened with solvent cleaning compound (WP 0186, Item 7).
- k. **Hydraulic System.** When cleaning hydraulic system parts, use solvent cleaning compound (WP 0186, Item 7). Clean and dry parts thoroughly to make sure no residue remains. If a coating preservative is required before assembly, apply a light film of lubricating oil (WP 0186, Item 25). If petroleum-free solvents are not available, use the same hydraulic fluid as used in vehicles system.

GENERAL INSPECTION INSTRUCTIONS

- a. **Cleaning.** Clean all parts before inspection. Check for defects such as physical distortion, wear, cracks, and pitting.
- b. **Sealing Surfaces.** Inspect all surfaces in contact with gaskets, packings, or seals for nicks and burns. If any defect is found, remove it before assembly.
- c. **Tubing, Hoses, and Fittings.** Inspect all hose surfaces for broken or frayed fabric. Check for brakes caused by sharp kinks or contact with other parts of the vehicle. Inspect fittings, tubing, mating surfaces, and threads for nicks, cracks, scratches, and other damage. Replace any defective part. After assembly and during initial vehicle operation periods, check for leaks.
- d. **Electrical Parts.** Inspect all wiring harnesses for broken, chafed, or burned wiring. Inspect all terminal connectors for loose connections and broken parts.
- e. **Metal Parts.** Visually inspect all castings and weldments for cracks. Parts that carry a great load should receive magnetic particle inspection. Critical nonferrous parts may be inspected with fluorescent penetrant.

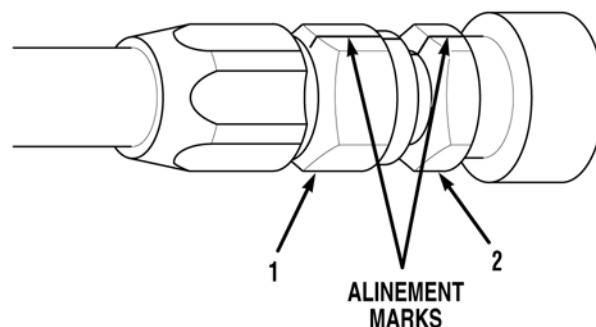
GENERAL INSTALLATION INSTRUCTIONS

- a. **Preparation.** When unpacking items, remove all packing material, barrier paper, tape, plastic bags, protective caps, and protective grease coatings. Handle and store removed components carefully.

CAUTION

Use sealing compound sparingly and only on male threads. Do not apply compound on first two threads to avoid contamination of system from compound. Do not apply compound to hose connections or fittings with preformed packings. Damage to equipment may result.

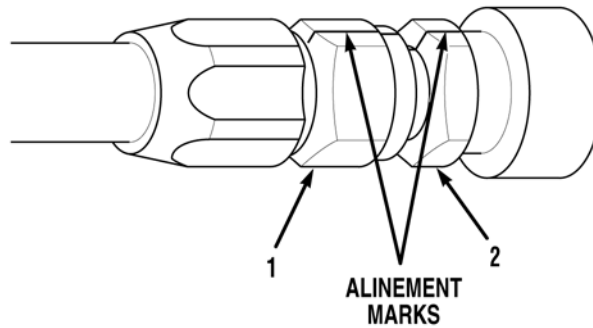
- b. **Sealing Compounds.** Use sealing compounds as required in each maintenance task.
- c. **Torquing.** Tighten bolts, screws, washers, hoses, and fittings as required in WP 0158 or in each maintenance task.
- d. **Identification Tags.** Put hoses, tubes, lines, and electrical wiring in place by matching identification tags and markings on equipment.
- e. **Hoses, Air Lines, and Wiring.** After installing hoses, air lines, and wiring, ensure that they do not contact moving parts or component edges. Secure in place, out of way, with cable ties and cushion clips.
- f. **Hose and Fitting Tightening Procedures.**



NOTE

Tighten hoses and fittings as required in WP 0158 or in each maintenance task. If a torque wrench and crowsfoot are not available or cannot be used, use the following procedure.

1. Install hose (1) on fitting (2).



NOTE

When turning effort increases, hose nut seat is in contact with fitting seat.

2. Tighten hose (1) until seated on fitting (2).

NOTE

Alinement marks allow the mechanic to count the number of flats the hose has rotated during tightening.

3. Scribe alinement mark on hose (1) and fitting (2).
4. Tighten hose nut (1) until mark on hose nut has rotated correct number of flats (refer to Table 1).

Table 1. Recommended Flats Rotation.

Dash No.	JIC 37-Degree Flared Hose and Fitting Machined Seat	SAE 45-Degree Flared Hose and Fitting Machined Seat	JIC 37-Degree Flared Tube
-4	1 1/2 - 1 3/4	1 - 1 1/4	2 1/4 - 2 3/4
-5	1 - 1 1/2	1 - 1 1/4	2 1/4 - 2 3/4
-6	1 - 1 1/2	3/4 - 1	2 1/4 - 2 3/4
-8	1 1/4 - 1 3/4	1 - 1 1/4	2 1/4 - 2 3/4
-10	1 1/4 - 1 3/4	1 - 1 1/4	2 - 1/2

Table 1. Recommended Flats Rotation.

Dash No.	JIC 37-Degree Flared Hose and Fitting Machined Seat	SAE 45-Degree Flared Hose and Fitting Machined Seat	JIC 37-Degree Flared Tube
-12	1 - 1 1/2	1 - 1 1/4	2 - 1/2
-16	3/4 - 1	-----	2 1/4 - 2 3/4
-20	1/2 - 3/4	-----	2 - 1/2
-24	1/2 - 3/4	-----	2 - 1/2
-32	3/4	-----	1 - 1 1/4

g. Fastener Tightening Sequence Procedure.

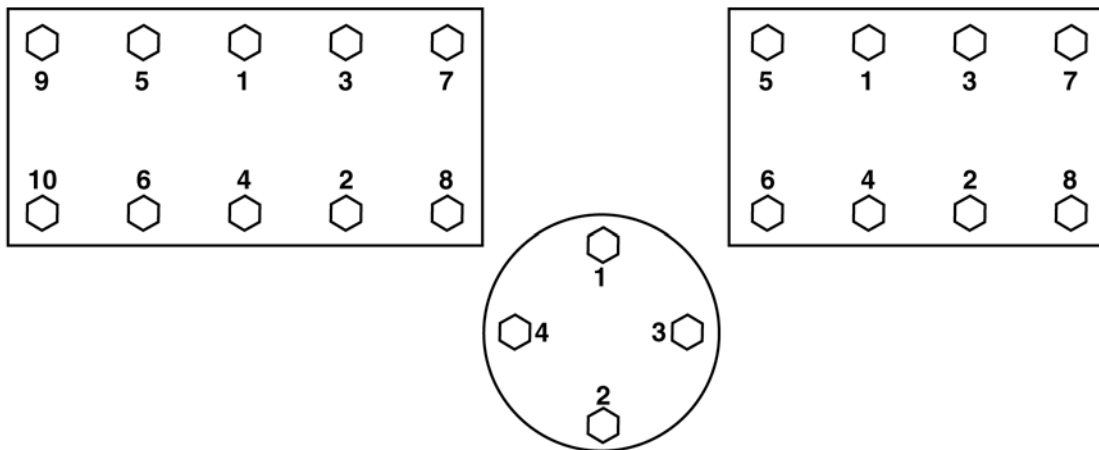


Figure 1. General Tightening Sequences.

NOTE

If a component has a critical tightening sequence, it will be illustrated in that particular work package; otherwise, use the general sequence charts provided in Figure 1.

1. Installation Torque.

- (a) Tighten nuts twice in a crisscross pattern using a torque wrench. The first time nut is torqued, apply approximately 75% of final torque value.
- (b) Repeat sequence a second time until 100% of final torque value has been obtained for each nut.

NOTE

When one or more screws are loose, check torque for all bolts on the component.

2. **Check Torque.** Tighten nuts in a crisscross pattern using a torque wrench. Apply 100% of final torque value.

h. **Pipe Thread Tightening Procedures.**

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If adhesive, solvent, and sealing compound gets on skin or clothing, wash immediately with soap and water.

CAUTION

Use sealing compound sparingly and only on male threads. Do not apply compound on first two threads to avoid contamination of system from compound. Do not apply compound to hose connections or fittings with preformed packings. Damage to equipment may result.

1. Coat threads of male fitting with sealing compound, sealant, or adhesive as indicated in each work package.
2. Position male fitting on female fitting. Tighten only finger-tight.
3. Scribe alinement mark on both fittings.

CAUTION

- **If may be necessary to tighten fitting slightly more or less than 2 1/2 turns to match position noted prior to removal. Do not loosen fitting to arrive at proper position or a leak may occur.**
 - **Overtightening may cause pipe fitting to deform and damage to the joining fitting, flange, or component.**
4. Tighten male fitting 2 1/2 (3 maximum) full turns past hand-tight position.

PREPARATION FOR SHIPMENT OR STORAGE

- a. Refer to WP 0006 and TM 9-2320-325-14&P for preparation for shipment or storage information.
- b. While vehicle is in storage, perform the following tasks monthly:
 1. Coat MRP elevation cylinders and MRP rack locks with GAA grease (WP 0186, Item 18).
 2. Operate MRP elevation cylinders, MRP rack locks, outriggers, and LHS system (WP 0016).

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
MAIN HYDRAULIC PRESSURE ADJUSTMENT

INITIAL SETUP:**Tools and Special Tools**

Adapter, Straight, PI (WP 0183, Item 2)
Coupling Half, Quick (WP 0183, Item 3)
Gage, Pressure, Dial (WP 0183, Item 7)
Hose Assembly, Nonme (WP 0183, Item 8)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Lockwasher, (6), (WP 0184, Item 61)

Personnel Required

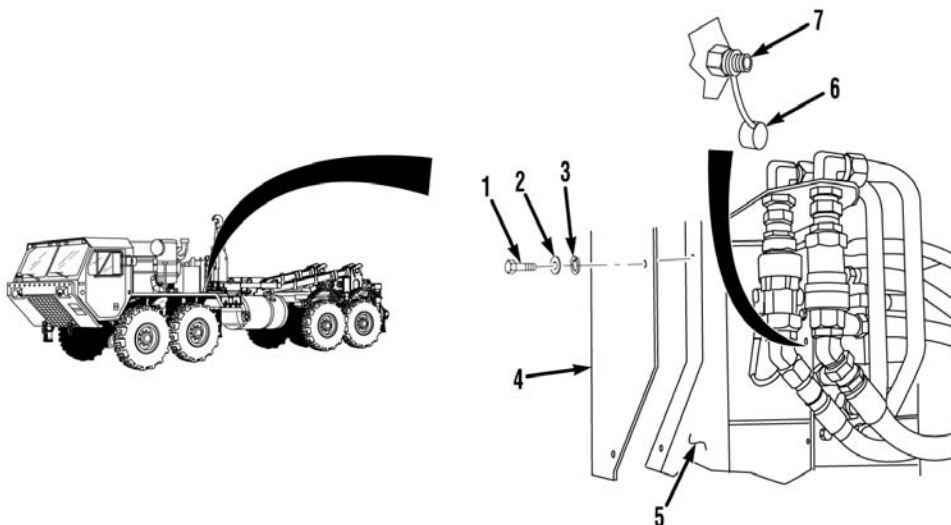
MOS 63B Wheeled vehicle mechanic (2)

References

None

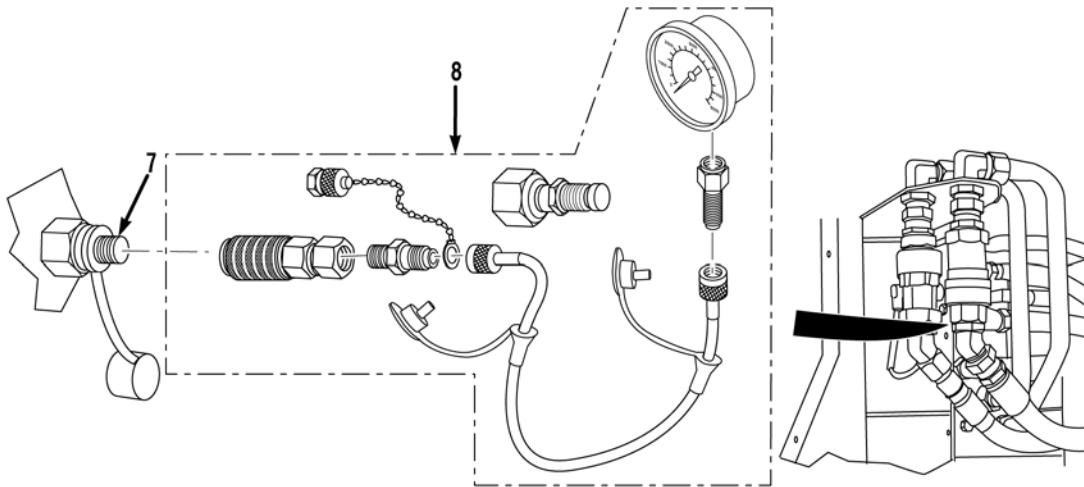
Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

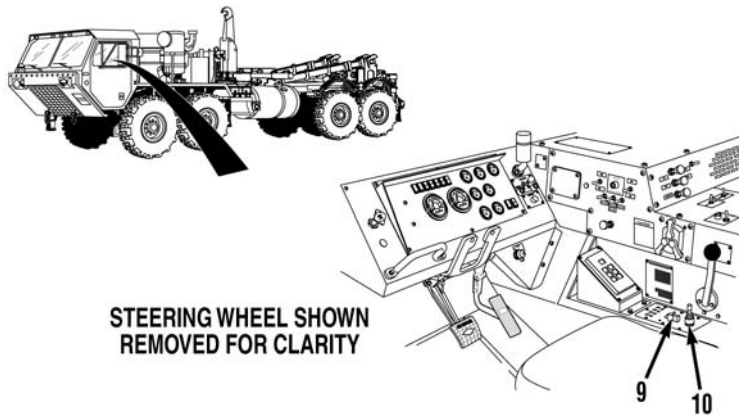
ADJUSTMENT**WARNING**

The THAAD hydraulic system operates at oil pressure up to 3,250 psi (22,409 kPa). Never disconnect any hydraulic line or fitting without first dropping pressure to zero. Failure to comply may result in serious injury or death to personnel.

1. Remove six screws (1), lockwashers (2), washer (3), and LHS control box cover (4) from bracket (5). Discard lockwashers.
2. Remove dust cap (6) from test port (7).

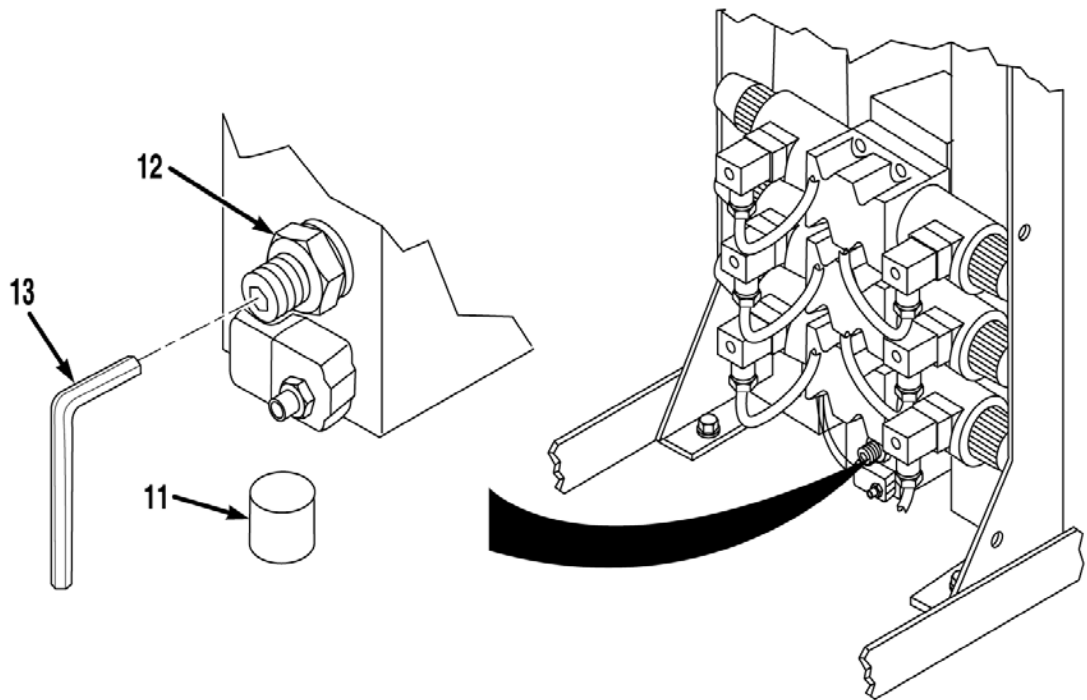


3. Install 0-6000 psi (0-41,370 kPa) pressure gage (8) on test port (7).



NOTE

- Hydraulic oil in reservoir must be $105^{\circ}\text{F} \pm 5^{\circ}\text{F}$ ($41^{\circ}\text{C} \pm 2^{\circ}\text{C}$) to obtain proper pressure reading.
 - Engine must be at full throttle to obtain proper pressure reading.
4. Soldier A, start engine (TM 9-2320-347-10) engage PTO (TM 9-2320-347-10) turn hydraulic selector switch (9) to MAN HOOK ARM position, and move joystick (10) to LOAD. Soldier B, record pressure reading.
 5. Shut off engine (TM 9-2320-347-10)

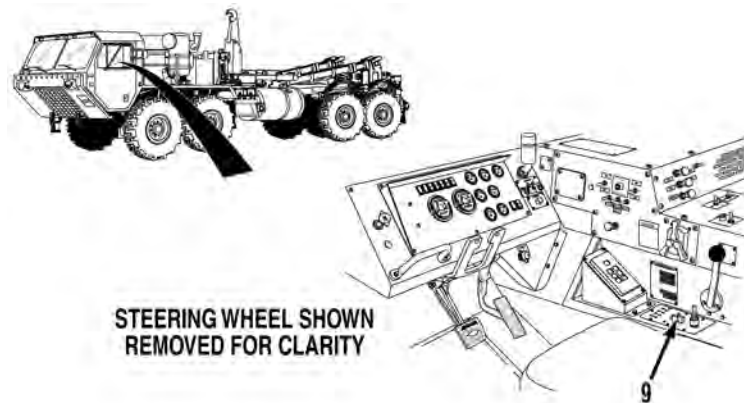


6. Remove cap (11).
7. Loosen jam nut (12).
8. Install 3/16 in. hex head wrench (13)

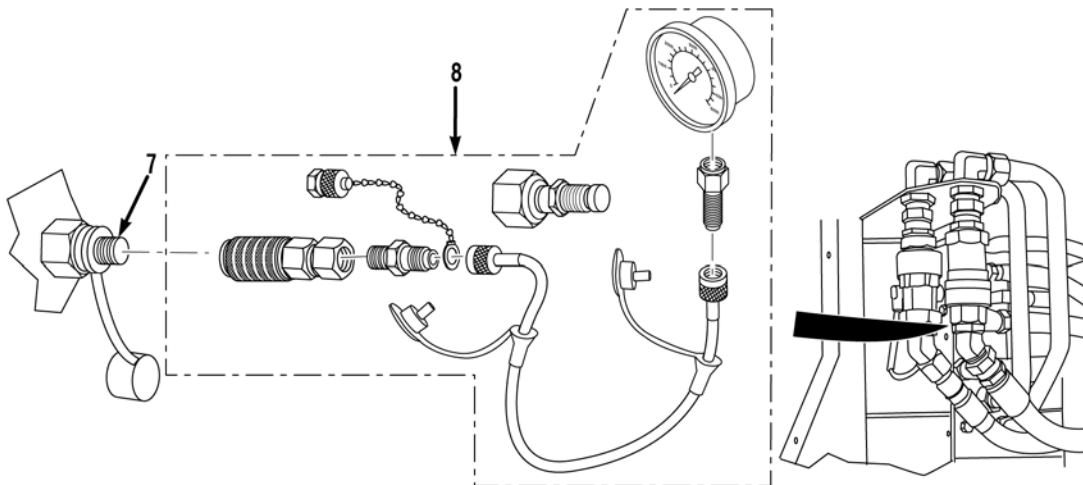
NOTE

Turn in to raise pressure, turn out to reduce pressure.

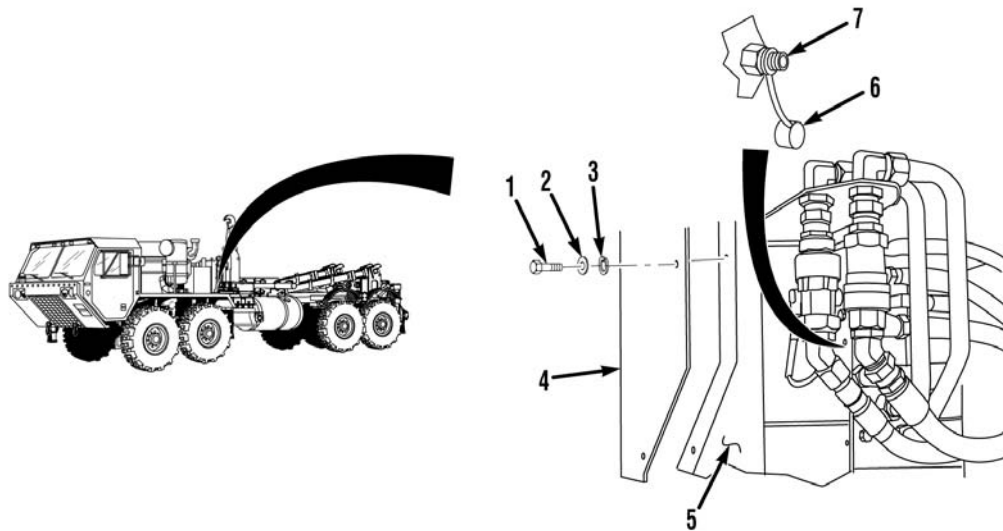
9. Adjust pressure to 3,100 psi \pm 25 psi (21,375 kPa \pm 172 kPa).
10. Tighten jam nut (12).
11. Install cap (11).



12. Disengage PTO (TM 9-2320-347-10) and turn hydraulic selector switch (9) to OFF position.
13. Shut engine off (TM 9-2320-347-10)



14. Remove 0-6000 psi (0-41,370 kPa) pressure gage (8) from test port (7).



15. Install dust cap (6) on test port (7).

16. Install LHS control box cover (4) on bracket (5) with six lockwashers (2), washers (3) and screws (1).

END OF TASK

FOLLOW-ON MAINTENANCE

Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**RIDE HEIGHT ADJUSTMENT**

INITIAL SETUP:**Tools and Special Tools**

Drill Set, Twist (WP 0182, Item 4)
Forward Repair System (WP 0183, Item 6)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wrench, Torque (WP 0183, Item 29)

Materials/Parts

Locknut, (2), (WP 0184, Item 94)
Oil, Lubricating (WP 0186, Item 22)

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

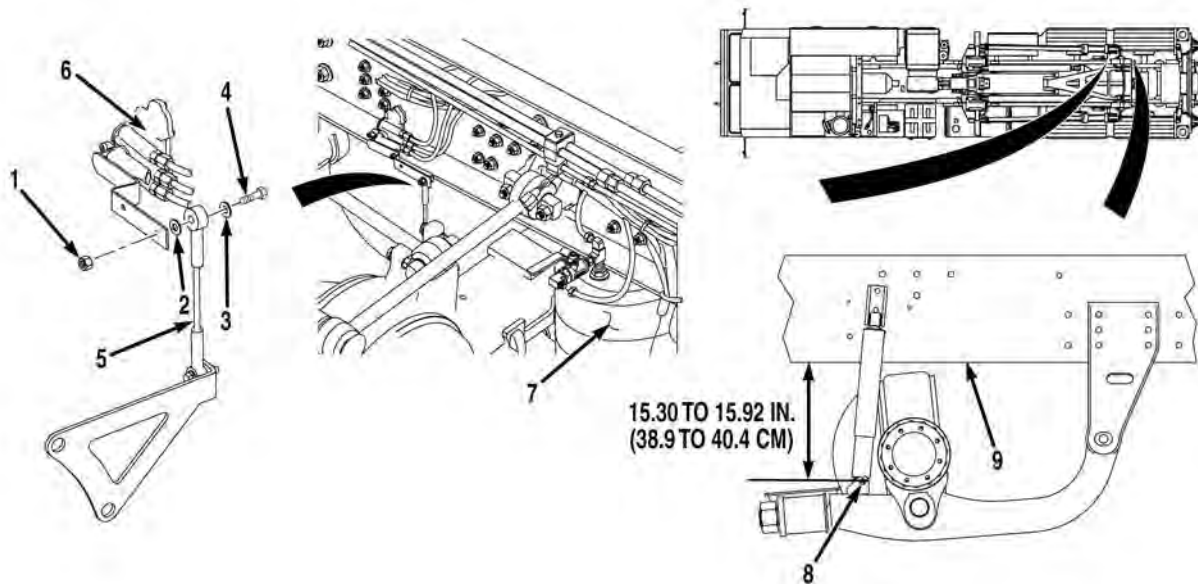
None

Equipment Conditions

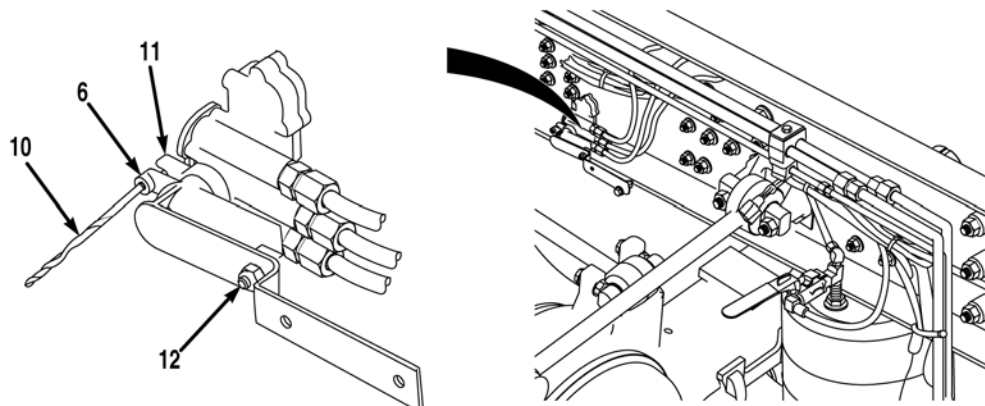
Vehicle parked on hard, level surface
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Air system pressurized to 120 to 125 psi (827 to
862 kPa)

ADJUSTMENT**NOTE**

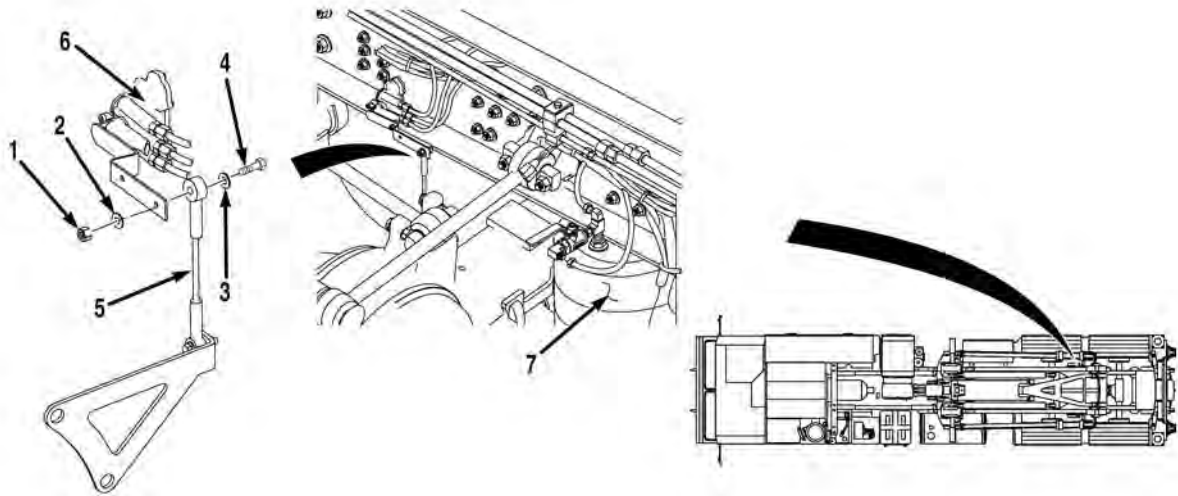
- Due to characteristics of air spring suspension, allow 5 minutes for suspension to stabilize before beginning adjustment.
- Air pressure must be at least 90 psi (621 kPa) for air ride system to function.
- Height control valves are designed with a delay mechanism and will not respond immediately when draining or adding air pressure.
- Both ride height valves are adjusted the same way. Right side shown.
- Correct ride height is 15.30 to 15.92 in. (38.9 to 40.4 cm) measured from center of lower shock absorber mounting screw to bottom of frame rail.



1. Remove locknut (1), washer (2), washer (3), screw (4), and height control link (5) from height control valve (6). Discard locknut.
2. Push down control arm of height control valve (6) to drain air pressure from suspension air springs (7) or pull up control arm of height control valve (6) to add air pressure to suspension air springs (7) until ride height is 15.30 to 15.92 in. (38.9 to 40.4 cm) measured from center of lower shock absorber mounting screw (8) to bottom of frame (9).



3. Insert 3/16 in. twist drill (10) through locating hole in control arm of height control valve (6) and corresponding hole in mounting bracket (11).
4. Loosen locknut (12) on control arm of height control valve (6). Discard locknut.



5. Lubricate threads of screw (4) with lubricating oil and install height control link (5) on height control valve (6) with screw (4), washer (3), washer (2), and locknut (1). Tighten locknut (1) to 4 to 5 lb-ft (5.4 to 6.8 N•m).
6. Tighten locknut (12) on control arm of height control valve (6).
7. Remove 3/16 in. twist drill (10) from locating hole in control arm of height control valve (6) and corresponding hole in mounting bracket (11).
8. Check for proper ride height.
9. Repeat steps (1) through (8) if ride height is not within 15.30 to 15.92 in. (38.9 to 40.4 cm).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**AIR RESERVOIR NO.1 AND NO. 3 REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Compound, Sealing, Pipe Thread
(WP 0186, Item 15)
Locknut, (12), (WP 0184, Item 21)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

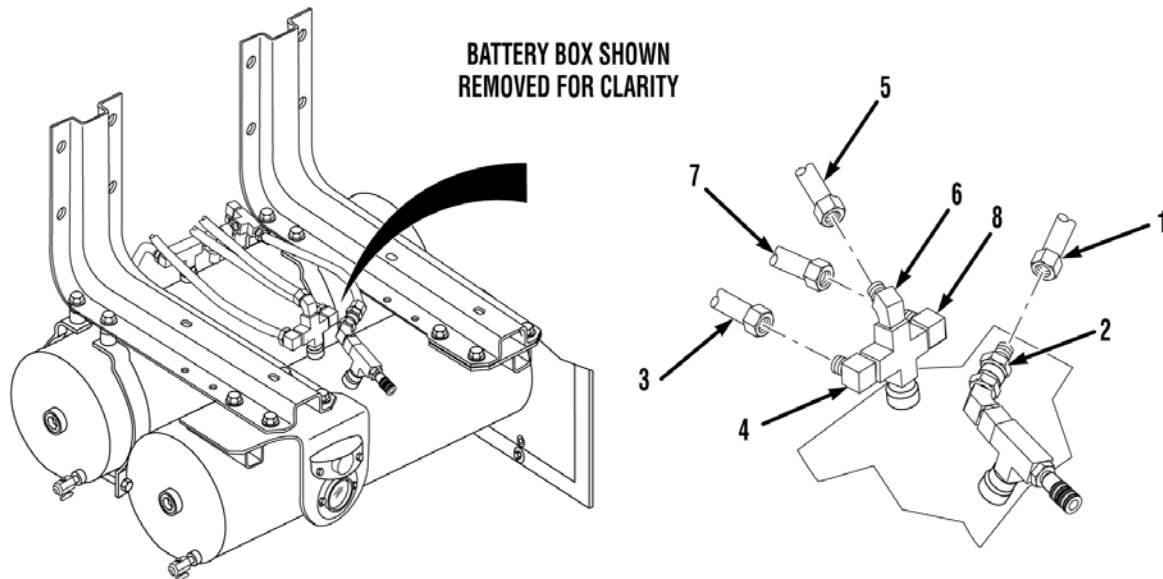
MOS 63B Wheeled vehicle mechanic (2)

References

TM 9-2320-325-14&P

Equipment Conditions

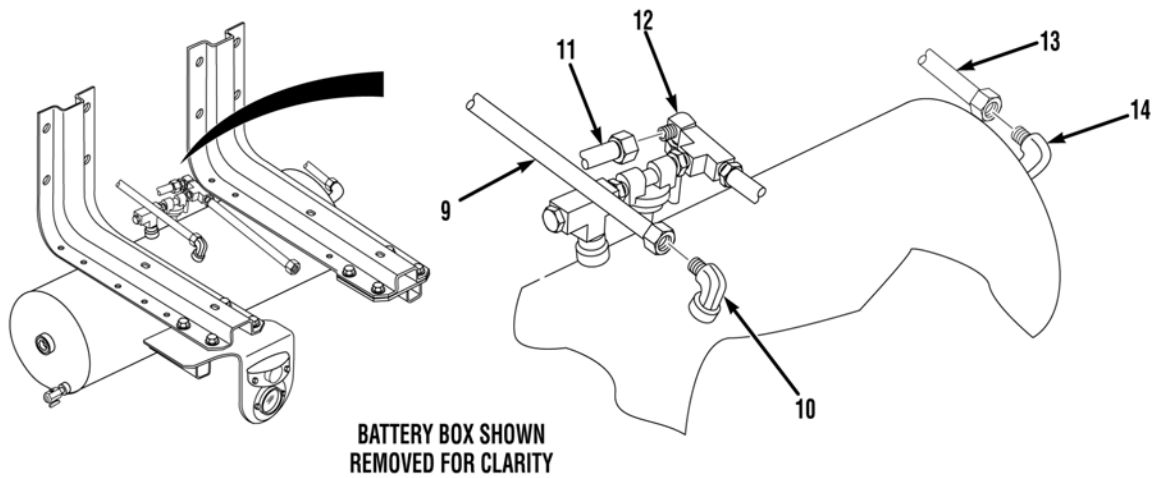
Engine OFF (TM 9-2320-347-10)
Air system drained (TM 9-2320-347-10)

REMOVAL**CAUTION**

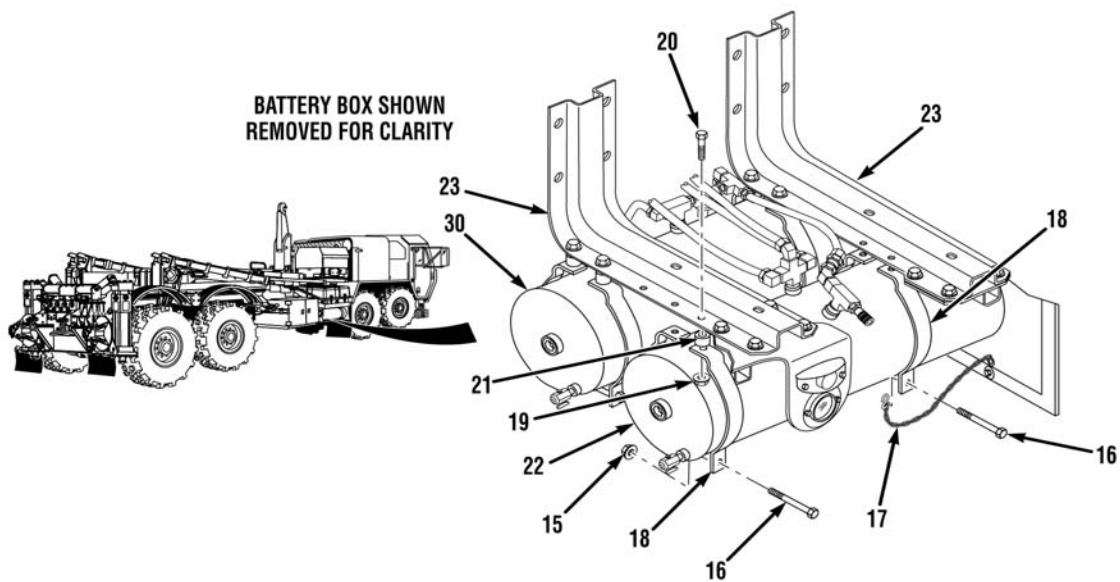
Air reservoir is heavy. Do not lift air reservoir without the aid of Soldier B. Failure to comply may result in injury to personnel.

NOTE

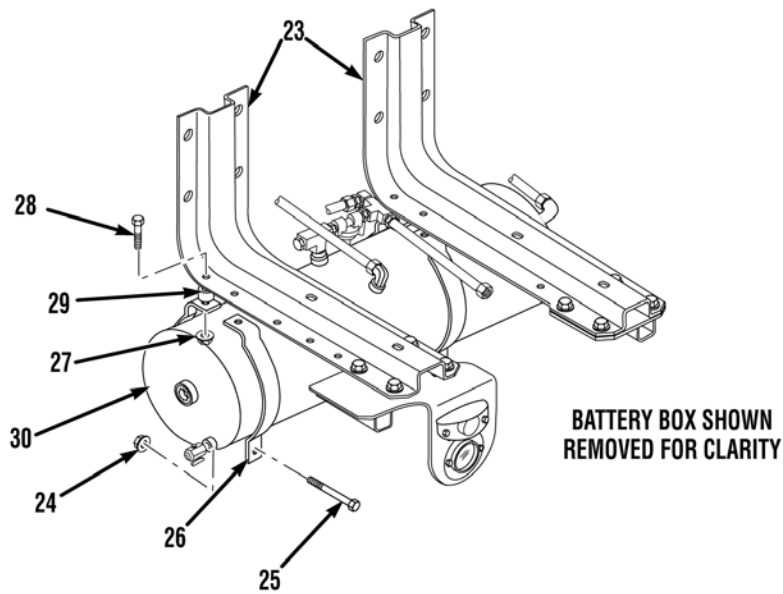
- Tag and/or mark air lines prior to removal to ensure proper installation.
 - Cap and plug air lines upon removal.
 - Remove cable ties as required.
1. Remove air line 2613 (1) from fitting (2).
 2. Remove air line 2619 (3) from elbow (4).
 3. Remove air line 2614 (5) from elbow (6).
 4. Remove air line 2536 (7) from elbow (8).



5. Remove air line 2159 (9) from elbow (10).
6. Remove air line 2003 (11) from elbow (12).
7. Remove air line 2184 (13) from elbow (14).
8. Refer to TM 9-2320-325-14&P for disassembly of air reservoir No. 3 (22) and air reservoir No. 1 (30).



9. Remove two locknuts (15), screws (16), and chain assembly (17) from four clamps (18). Discard locknuts.
10. Remove four locknuts (19), screws (20), spacers (21), air reservoir No. 3 (22), and four clamps (18) from two brackets (23). Discard locknuts.

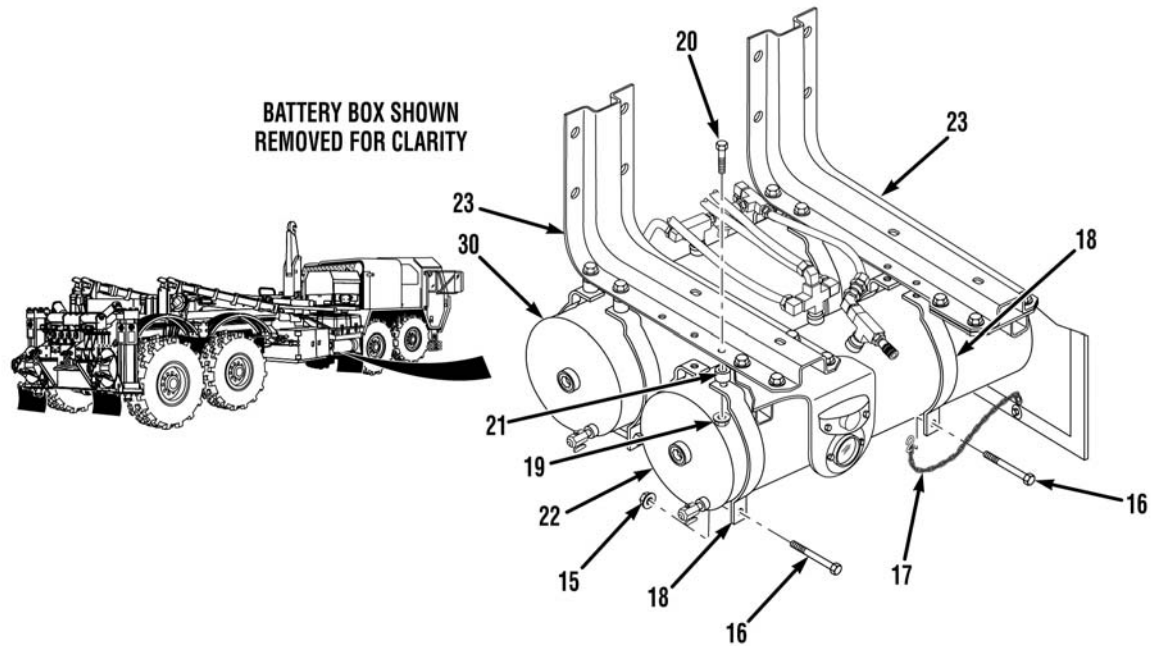


11. Remove two locknuts (24) and screws (25) from four clamps (26). Discard locknuts.
12. Soldier A and Soldier B remove four locknuts (27), screws (28), spacers (29), air reservoir No. 1 (30), and four clamps (26) from two brackets (23). Discard locknuts.

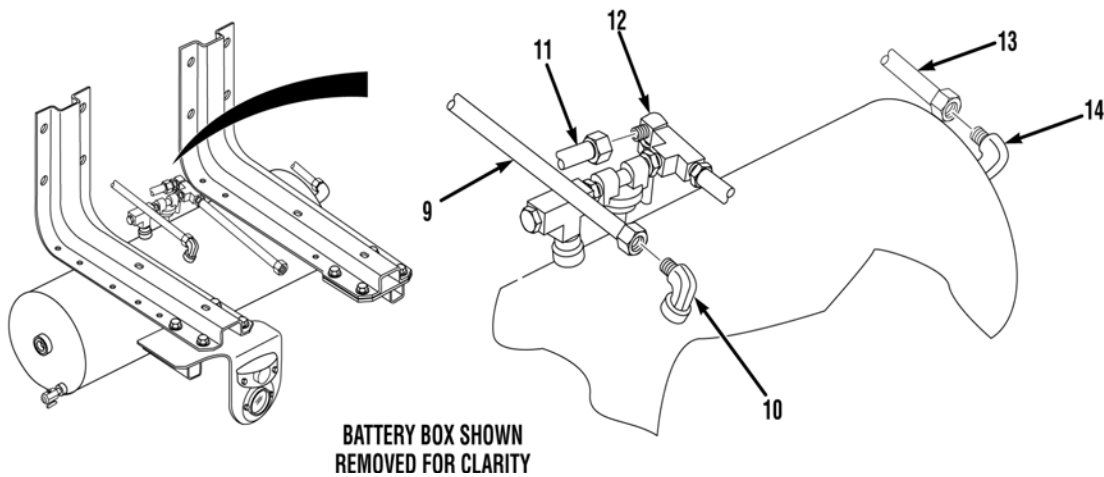
END OF TASK

INSTALLATION

1. Soldier A and Soldier B install air reservoir No. 1 (30) on two brackets (23) with four clamps (26), spacers (29), screws (28), and locknuts (27). Do not tighten locknuts (27).
2. Install two screws (25) and locknuts (24) on four clamps (26).
3. Tighten four locknuts (27) and two locknuts (24).



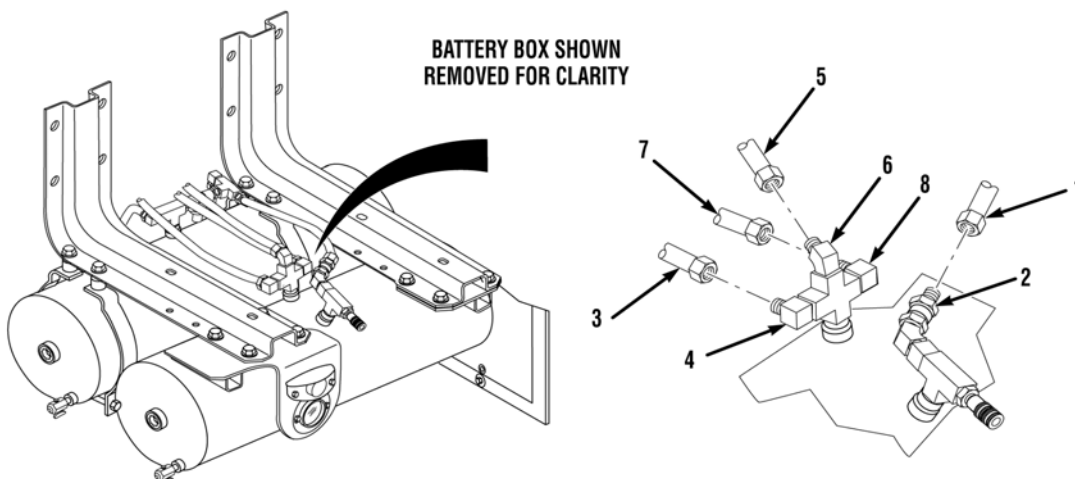
4. Soldier A and Soldier B install air reservoir No. 3 (22) on two brackets (23) with four clamps (18), spacers (21), screws (20), and locknuts (19). Do not tighten locknuts (19).
5. Install chain assembly (17), two screws (16), and locknuts (15) on four clamps (18).
6. Tighten four locknuts (19) and two locknuts (15).
7. Refer to TM 9-2320-325-14&P for assembly of air reservoir No. 3 (22) and air reservoir No. 1 (30).



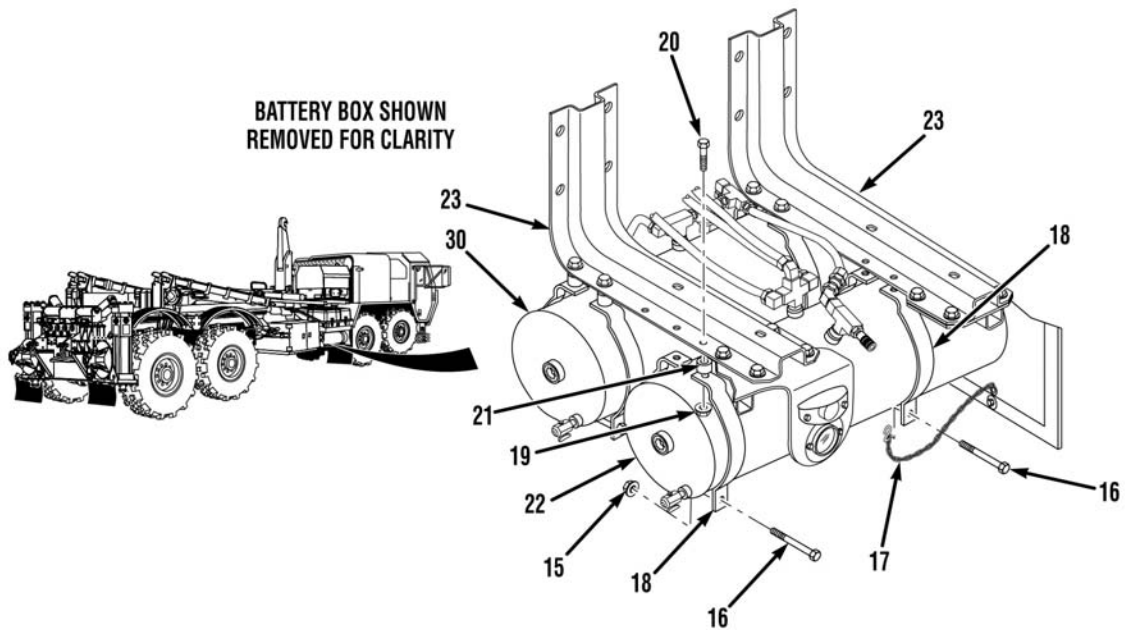
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

8. Coat threads of elbow (10) and (14) with thread sealing compound.
9. Install air line 2184 (13) on elbow (14).
10. Install air line 2003 (11) on elbow (12).
11. Install air line 2159 (9) on elbow (10).



12. Install air line 2536 (7) on elbow (8).
13. Install air line 2614 (5) on elbow (6).
14. Install air line 2619 (3) on elbow (4).
15. Install air line 2613 (1) on fitting (2).



16. Soldier A and Soldier B install air reservoir No. 3 (22) on two brackets (23) with four clamps (18), spacers (21), screws (20), and locknuts (19). Do not tighten locknuts (19).
17. Install chain assembly (17), two screws (16), and locknuts (15) on four clamps (18).
18. Tighten four locknuts (19) and two locknuts (15).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Close drain valve (TM 9-2320-347-10)
2. Start engine and build air pressure (TM 9-2320-347-10)
3. Check air reservoir No. 1 and air reservoir No. 3 for leaks.
4. Shut off engine (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
CHASSIS AIR LINE REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Air system drained (TM 9-2320-347-10)

REMOVAL**NOTE**

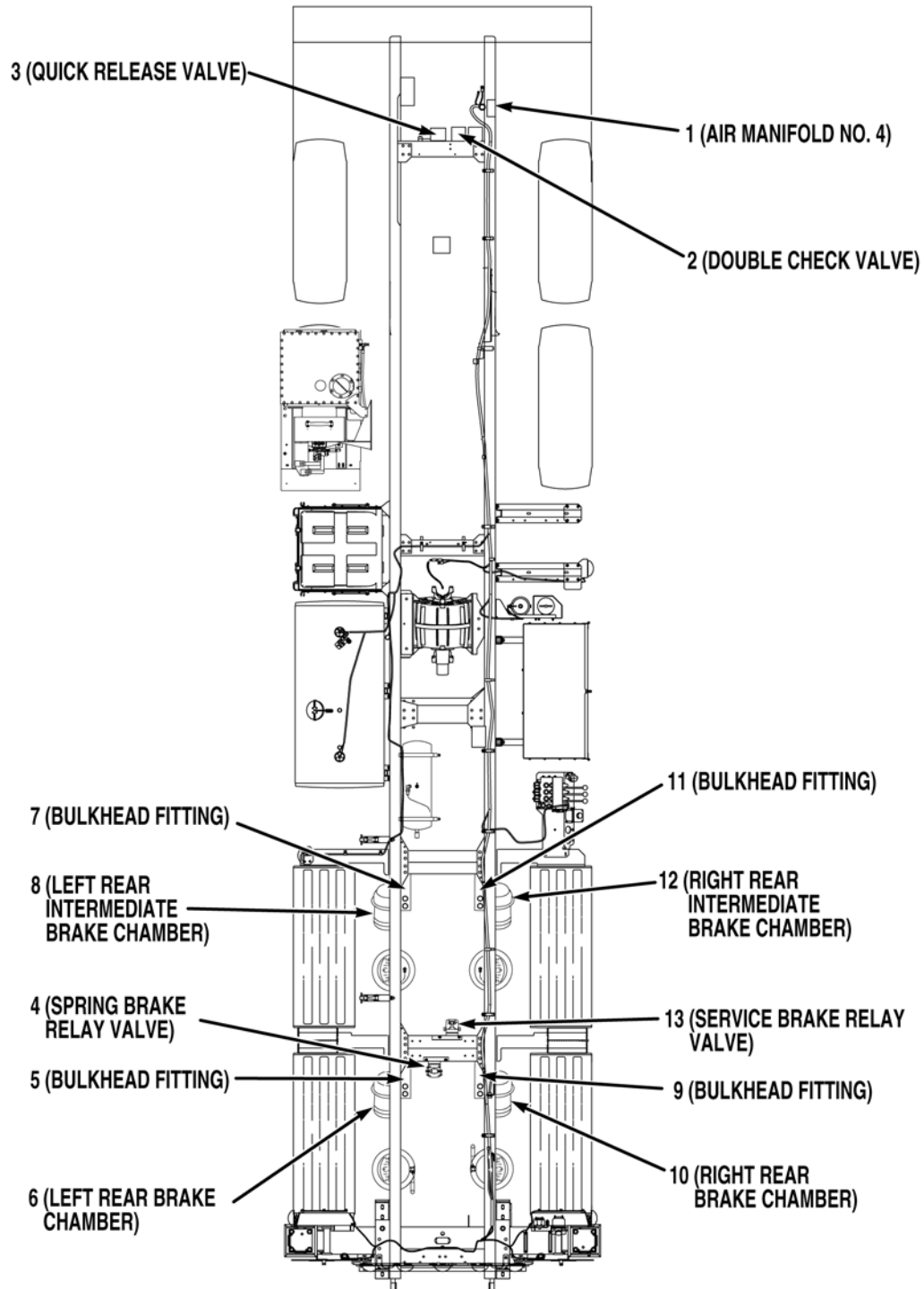
- This work package consists of Hose Indexes, Tables, and Diagrams to help locate ends of THAAD specific air lines.
- Tag and mark air lines and tubing prior to removal to ensure proper installation.
- Remove and install cable ties as required.
- Cap and plug air lines and tubing upon removal.
- When replacing air lines or tubing, remove air line or tubing from vehicle. Remove fittings, cut new air line or tubing 1/4 to 1/2 in. (6 to 13 mm) longer than air line or tubing being replaced, then install fittings.

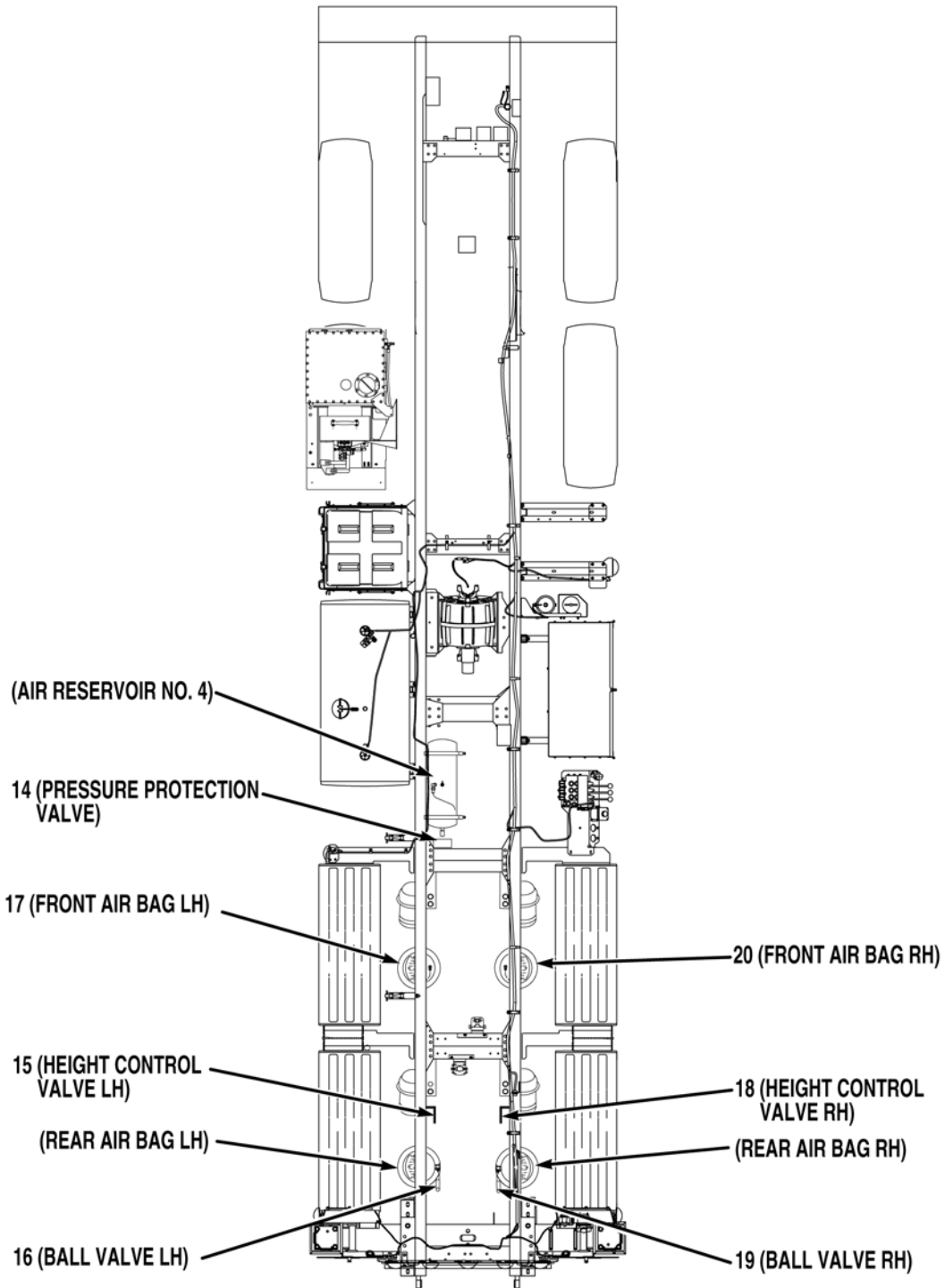
Table 1. Air Line Replacement.

Air Line No.	From	To
2623	Air Manifold No. 4 (1)	Double Check Valve (2)
2120	Double Check Valve (2)	Quick Release Valve (3)
2082A	Spring Brake Relay Valve (Del) (4)	Bulkhead Fitting (5) above Left Rear Brake Chamber (6)
2082	Left Rear Brake Chamber (6)	Bulkhead Fitting (5) above Left Rear Brake Chamber (6)
2022A	Bulkhead Fitting (7) above Left Rear Int. Brake Chamber (8)	Spring Brake Relay Valve (4)
2022	Left Rear Int. Brake Chamber (8)	Bulkhead Fitting (5) above Left Rear Brake Chamber (6)
2081A	Bulkhead Fitting (9) above Right Rear Brake Chamber (10)	Spring Brake Relay Valve (Del) (4)

Table 1. Air Line Replacement.

Air Line No.	From	To
2081	Right Rear Brake Chamber (10)	Bulkhead Fitting (9) above Right Rear Brake Chamber (10)
2023A	Bulkhead Fitting (11) above Right Rear Int. Brake Chamber (12)	Spring Brake Relay Valve (Del) (4)
2023	Right Rear Int. Brake Chamber (12)	Bulkhead Fitting (11) above Right Rear Int. Brake Chamber (12)
2015A	Bulkhead Fitting (7) above Left Rear Int. Brake Chamber (8)	Service Brake Relay Valve (Del) (13)
2015	Left Rear Int. Brake Chamber (8)	Bulkhead Fitting (7) above Left Rear Int. Brake Chamber (8)
2016A	Bulkhead Fitting (5) above Left Rear Brake Chamber (6)	Service Brake Relay Valve (Del) (13)
2016	Left Rear Brake Chamber (6)	Bulkhead Fitting (5) above Left Rear Brake Chamber (6)
2017A	Service Brake Relay Valve (Del) (13)	Bulkhead Fitting (11) above Right Rear Int. Brake Chamber (12)
2017	Bulkhead Fitting (10) above Right Rear Int. Brake Chamber (12)	Right Rear Int. Brake Chamber (12)
2018A	Service Brake Relay Valve (Del) (13)	Bulkhead Fitting (9) above Right Rear Brake Chamber (10)
2018	Bulkhead Fitting (9) above Right Rear Brake Chamber (10)	Right Rear Brake Chamber (10)
2106	Pressure Protection Valve (14) on Air Reservoir No. 4	Height Control Valve (LH) (15)
2102A	Height Control Valve (LH) (15)	Ball Valve (LH) (16) on Rear Air Bag (LH)
2102	Ball Valve (LH) (16) on Rear Air Bag (LH)	Front Air Bag (LH) (17)
2945	Height Control Valve (LH) (15)	Vent
2106	Pressure Protection Valve (14) on Air Reservoir No. 4	Height Control Valve (RH) (18)
2102A	Height Control Valve (RH) (18)	Ball Valve (RH) (19) on Rear Air Bag (RH)
2102	Ball Valve (RH) (19) on Rear Air Bag (RH)	Front Air Bag (RH) (20)
2945	Height Control Valve (RH) (18)	Vent





END OF TASK

FOLLOW-ON MAINTENANCE

1. Start engine and build up air pressure (TM 9-2320-347-10)
2. Check air lines and tubing for leaks (TM 9-2320-347-10)
3. Shut off engine (TM 9-2320-347-10)
4. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
AXLES NO. 3 AND NO. 4 ALINEMENT

INITIAL SETUP:**Tools and Special Tools**

Forward Repair System (WP 0183, Item 6)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (2), (WP 0184, Item 70)
Oil, Lubricating (WP 0186, Item 22)

Personnel Required

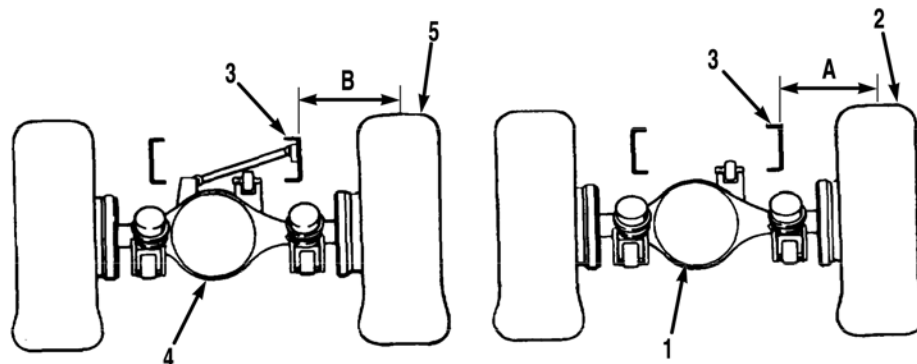
MOS 63B Wheeled vehicle mechanic (2)

References

None

Equipment Conditions

Vehicle parked on level surface
(TM 9-2320-347-10)

LATERAL TORQUE ROD ALINEMENT**NOTE**

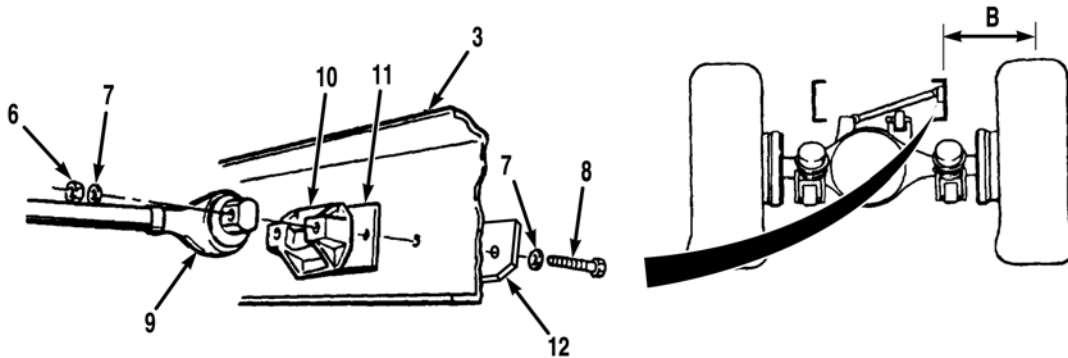
Perform steps (1) and (2) before taking any measurements.

1. Start engine and drive vehicle 10 ft. (3 m) straight ahead (TM 9-2320-347-10)
2. Back vehicle up 10 ft. (3 m) and coast to a stop (TM 9-2320-347-10)
3. Engine OFF (TM 9-2320-347-10)
4. Wheels chocked (TM 9-2320-347-10)

NOTE

Difference between horizontal distance (A) and horizontal distance (B) should not be greater than 0.25 in. (6.35 mm).

5. At Axle No. 4 (1), measure horizontal distance (A) from center of tire (2) to outside edge of frame rail (3).
6. At Axle No. 3 (4), measure horizontal distance (B) from center of tire (5) to outside edge of frame rail (3).



NOTE

- If difference between horizontal distance (A) and horizontal distance (B) is less than 0.25 in. (6.35 mm), axles are aligned.
 - If distance between horizontal distance (A) and horizontal distance (B) is greater than 0.25 in. (6.35 mm), perform steps (7) through (11) to align axles.
 - Raise chassis to raise axles from ground to aid in adding or removing shims.
7. Remove two locknuts (6), four washers (7), two screws (8), lateral torque rod (9), bracket (10), shims (11), and plate (12) from frame rail (3). Discard locknuts.

NOTE

Adding shims will decrease horizontal distance (B). Subtracting shims will increase horizontal distance (B).

8. Remove or add shims (11) between bracket (10) and frame rail (3) so horizontal distance (B) is within 0.25 in. (6.35 mm) of horizontal distance (A).
9. Lubricate threads of two screws (8) with lubricating oil.
10. Install plate (12), shims (11), bracket (10), and lateral torque rod (9) on frame rail (3) with two screws (8), four washers (7), and two locknuts (6). Tighten locknuts (6) to 170 lb-ft (231 N•m).
11. Perform steps (5) through (10) until difference between horizontal distance (A) and horizontal distance (B) is less than 0.25 in. (6.35 mm).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

AXLES NO. 3 AND NO. 4 REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Forward Repair System (WP 0183, Item 6)
 Lifting Device, Minimum Capacity 2,100 lbs
 (953 kg)
 Set, Cap and Plug (WP 0183, Item 17)
 Tool Kit, General Mechanic's: Automotive
 (WP 0183, Item 25)
 Wrench, Torque (WP 0183, Item 31)

Materials/Parts

Locknut, (2), (WP 0184, Item 70)
 Locknut, (1), (WP 0184, Item 93)
 Oil, Lubricating (WP 0186, Item 25)
 Rust Preventive (WP 0186, Item 28)
 Tags, Identification (WP 0186, Item 32)

Personnel Required

MOS 63B Wheeled vehicle mechanic (3)

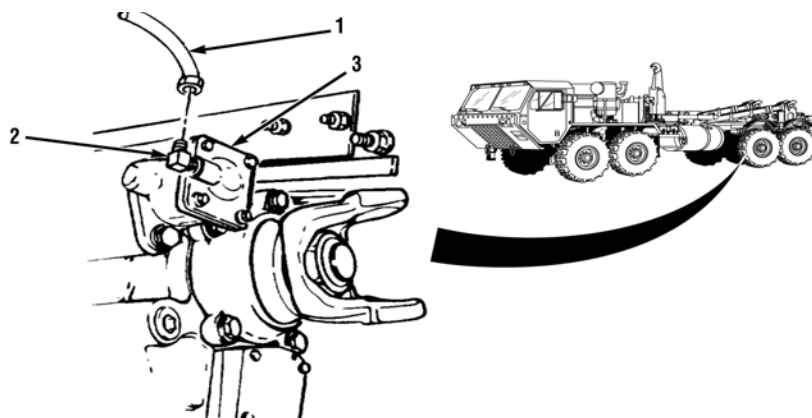
References

None

Equipment Conditions

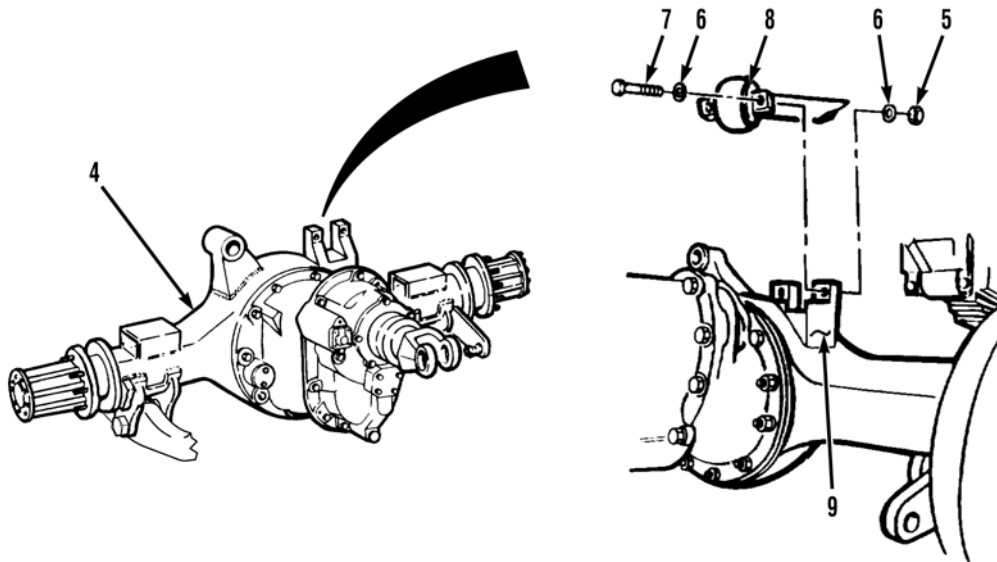
Unstow LHS (WP 0011)
 Axle drained (TM 9-2320-325-14&P)
 Air system drained (TM 9-2320-347-10)
 Propeller shafts removed (transfer case to Axle
 No. 3 and Axle No. 3 to Axle No. 4)
 TM 9-2320-325-14&P
 Slack adjusters removed (TM 9-2320-325-14&P)
 Brake shoes removed (TM 9-2320-325-14&P)
 Yokes removed (TM 9-2320-325-14&P)
 Air chambers removed (TM 9-2320-325-14&P)
 Torque rods removed (WP 0155)
 Axle shafts removed (TM 9-2320-325-14&P)
 Shock absorbers removed (WP 0152)
 Height control linkage removed (WP 0150)
 Suspension air springs removed (WP 0153)
 Transverse beams removed (WP 0156)

REMOVAL

**NOTE**

- Perform steps (1) and (2) for Axle No. 3 only.
- Tag and mark air lines prior to removal to ensure proper installation.
- Cap and plug air lines upon removal.

1. Remove air line (1) from fitting (2).
2. Remove fitting (2) from lockout air chamber (3).

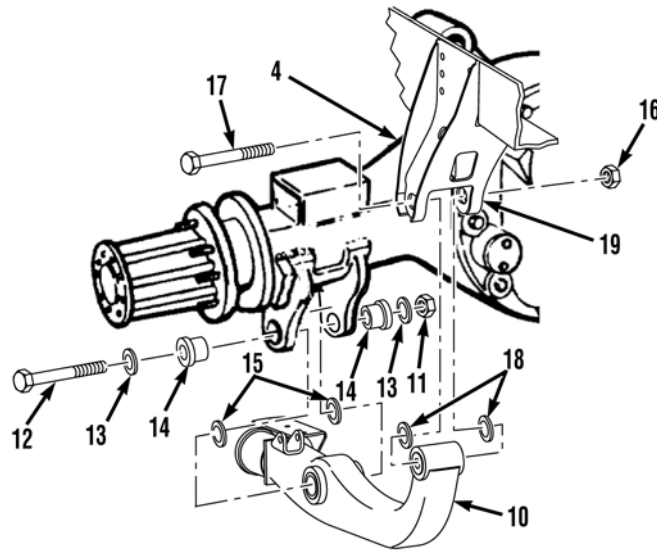
**WARNING**

Axle is heavy. Attach a suitable lifting device when removing axle. Failure to comply may result in serious injury or death to personnel.

NOTE

Axles No. 3 and No. 4 are removed the same way. Axle No. 3 shown.

3. Attach suitable lifting device under axle (4).
4. Remove two locknuts (5), four washers (6), two screws (7), and torque rod (8) from axle mounting bracket (9). Discard locknuts.
5. Move torque rod (8) aside.



WARNING

Equalizing beam is heavy. Do not lift equalizing beam without the aid of Soldier B. Failure to comply may result in serious injury to personnel.

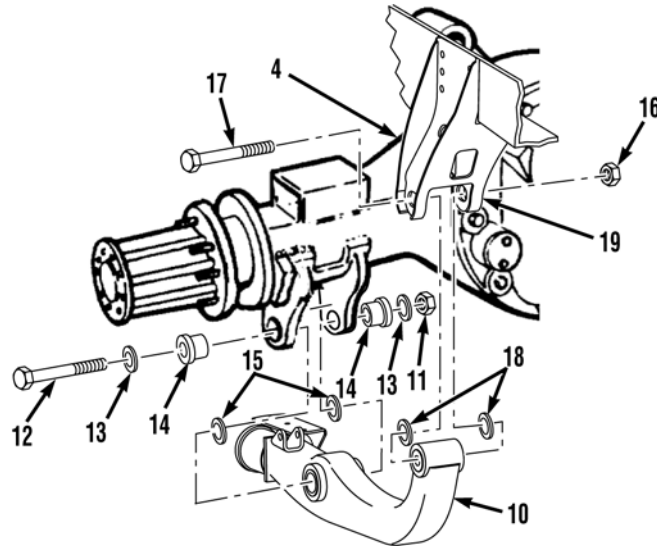
NOTE

Both equalizing beams are removed the same way. Right side shown.

6. Soldier A supports equalizing beam (10) while Soldier B removes locknut (11), screw (12), two washers (13), bushings (14), and spacers (15) from equalizing beam (10) and axle (4).
7. Soldier A and Soldier B remove locknut (16), screw (17), two spacers (18), and equalizing beam (10) from frame bracket (19).
8. Repeat steps (6) and (7) to remove left side equalizing beam.
9. Soldier A and Soldier B remove axle (4) from vehicle.
10. Remove suitable lifting device from axle (4).

END OF TASK

INSTALLATION



WARNING

Axle is heavy. Attach a suitable lifting device when installing axle. Failure to comply may result in serious injury or death to personnel.

1. Attach suitable lifting device under axle (4).

NOTE

Axles No. 3 and No. 4 are installed the same way. Axle No. 3 shown.

2. Soldier A and Soldier B position axle (4) in mounting position under vehicle.

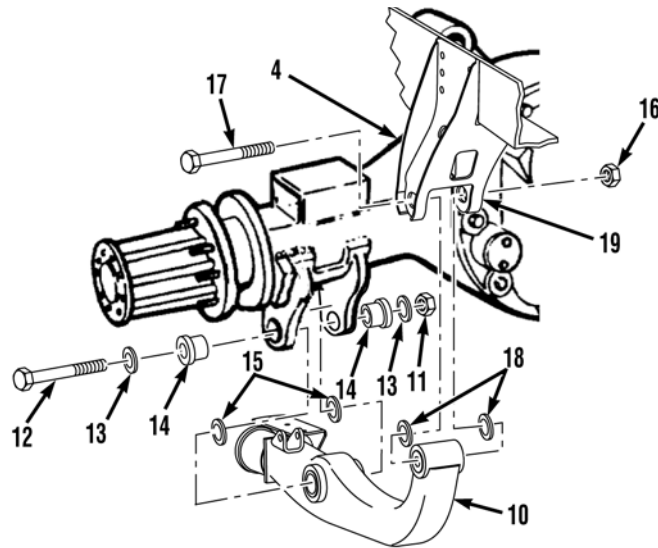
WARNING

Equalizing beam is heavy. Do not lift equalizing beam without the aid of Soldier B. Failure to comply may result in serious injury to personnel.

NOTE

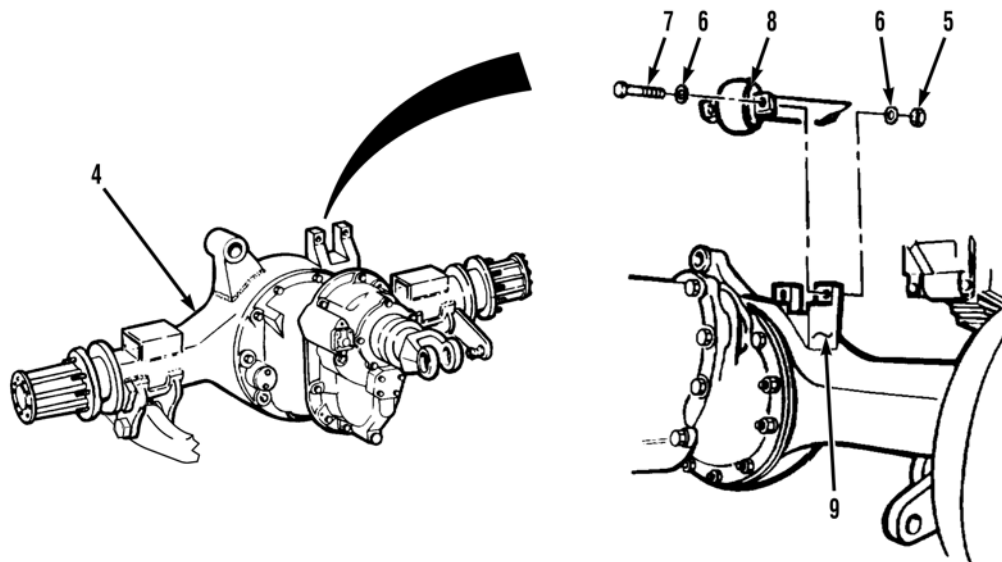
Both equalizing beams are installed the same way. Right side shown.

3. Lubricate threads of screw (17) with lubricating oil.
4. Soldier A and Soldier B install equalizing beam (10) on frame bracket (19) with two spacers (18), screw (17), and locknut (16). Tighten locknut (16) to 600 lb-ft (814 N•m).
5. Lubricate threads of screw (12) with lubricating oil.
6. Coat two bushings (14) with rust preventive.

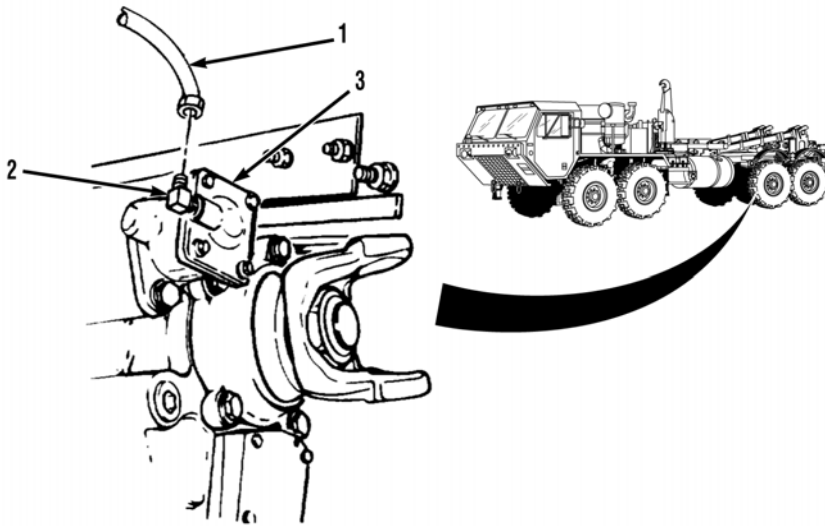
**NOTE**

Position flat side of bushing toward axle.

7. Soldier A supports equalizing beam (10) while Soldier B installs equalizing beam (10) on axle (4) with two spacers (15), bushings (14), washers (13), screw (12), and locknut (11). Tighten locknut (11) to 445 to 495 lb-ft (603 to 671 N•m).
8. Repeat steps (3) through (7) to install left side equalizing beam.



9. Lubricate threads of two screws (7) with lubricating oil.
10. Install torque rod (8) on axle mounting bracket (9) with two screws (7), four washers (6), and two locknuts (5). Tighten locknuts (5) to 170 lb-ft (231 N•m).
11. Remove suitable lifting device from axle (4).



NOTE

Perform steps (12) and (13) for Axle No. 3 only.

12. Install fitting (2) on lockout air chamber (3).
13. Install air line (1) on fitting (2).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install transverse beams (WP 0156).
2. Install suspension air springs (WP 0153).
3. Install height control linkage (WP 0150).
4. Install shock absorbers (WP 0152).
5. Install axle shafts (TM 9-2320-325-14&P).
6. Install torque rods (WP 0155).
7. Install air chambers (TM 9-2320-325-14&P).
8. Tighten yokes (TM 9-2320-325-14&P).
9. Install brake shoes (TM 9-2320-325-14&P).
10. Install slack adjusters (TM 9-2320-325-14&P).
11. Install propeller shafts (transfer case to Axle No. 3 and Axle No. 3 to Axle No. 4) (TM 9-2320-325-14&P).

12. Fill and check axle fluid level (TM 9-2320-325-14&P).
13. Aline Axles No. 3 and No. 4 (WP 0056).
14. Start engine and build up air pressure (TM 9-2320-347-10)
15. Stow LHS (WP 0011).

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
AUXILIARY WORK LAMP REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (2), (WP 0184, Item 15)
Tags, Identification (WP 0186, Item 32)

Personnel Required

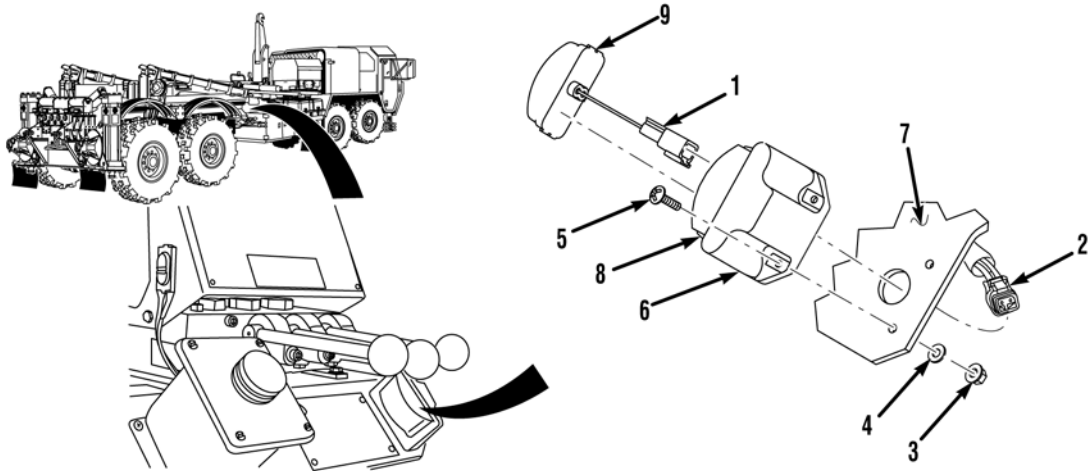
MOS 63B Wheeled vehicle mechanic

References

None

Equipment Conditions

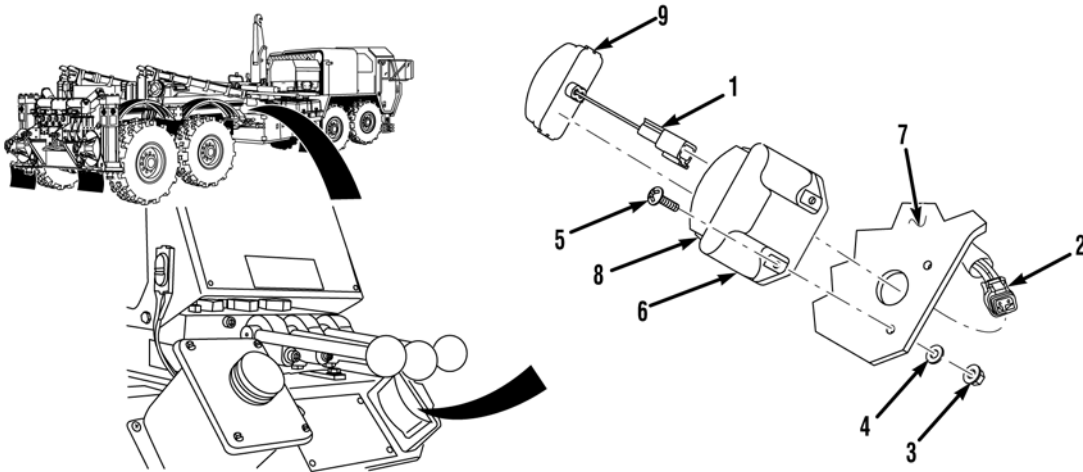
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Batteries disconnected (TM 9-2320-325-14&P)

REMOVAL**NOTE**

- Auxiliary work lamps are removed the same way. MRP control work lamp shown.
- Tag and mark connectors prior to removal to ensure proper installation.

1. Disconnect lamp connector (1) from connector (2).
2. Remove two locknuts (3), washers (4), screws (5), and lamp bracket (6) from mounting bracket (7). Discard locknuts.
3. Pry tab (8) outward and remove auxiliary work lamp (9) from lamp bracket (6).

END OF TASK

INSTALLATION**NOTE**

Auxiliary work lamps are installed the same way. MRP control work lamp shown.

1. Slide one side of auxiliary work lamp (9) into lamp bracket (6) under tab (8) and push auxiliary work lamp (9) into lamp bracket (6) until auxiliary work lamp (9) snaps into place.
2. Feed lamp connector (1) through opening in mounting bracket (7).
3. Install lamp bracket (6) on mounting bracket (7) with two screws (5), washers (4), and locknuts (3).
4. Connect lamp connector (1) to connector (2).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Connect batteries TM 9-2320-325-14&P.
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
BATTERIES, TERMINALS, AND CABLES REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wrench, Torque (WP 0183, Item 30)

Materials/Parts

Compound, Corrosion Preventive (WP 0186,
Item 10)
Lockwasher, (4), (WP 0184, Item 59)
Lockwasher, (4), (WP 0184, Item 142)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

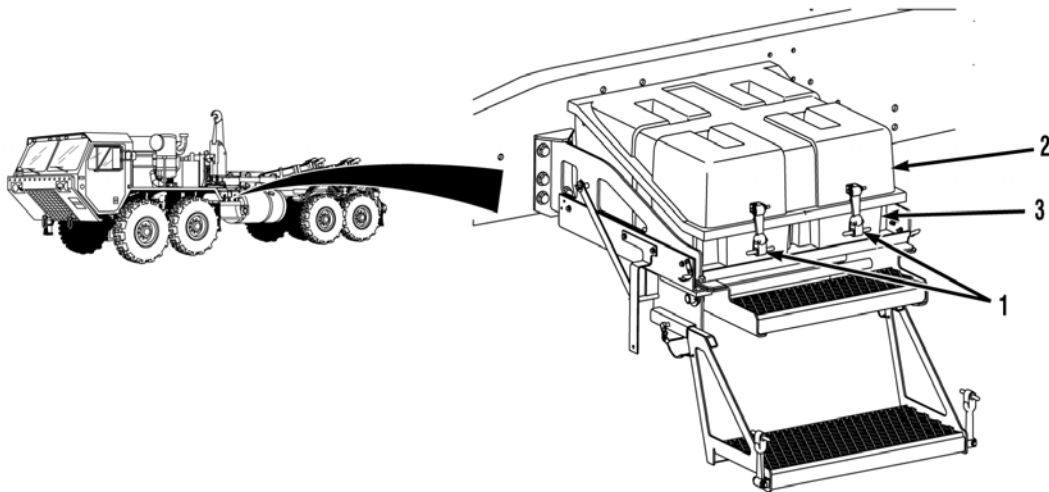
MOS 63B Wheeled vehicle mechanic (3)

References

None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)

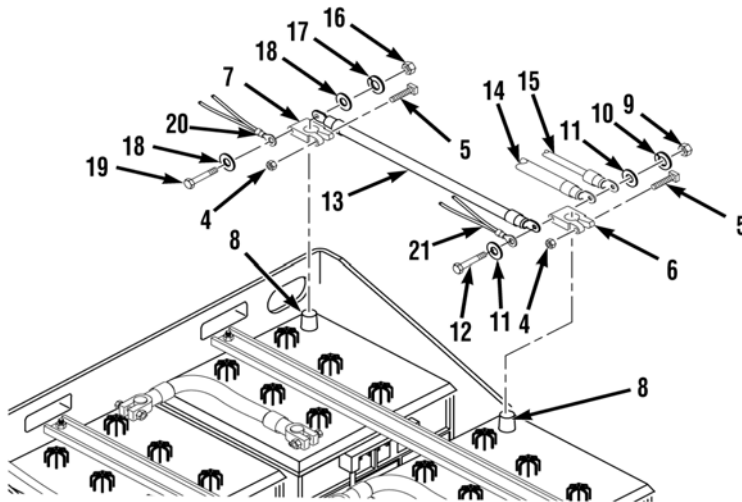
REMOVAL**WARNING**

Batteries produce explosive gases. To prevent injury to personnel, keep sparks and flames away, and do not smoke near batteries.

1. Release two rubber hooks (1) and remove battery box cover (2) from battery box (3).

WARNING

- Lead-acid batteries contain sulfuric acid, which can cause severe burns. Avoid contact with skin, eyes, or clothing. Wear safety goggles and gloves. If battery electrolyte is spilled, take immediate action to stop its corrosive (burning) effects. If battery acid is spilled on clothing or vehicle, wash immediately with cold water. Neutralize with baking soda or household ammonia solution. If battery acid comes in contact with skin, flush with cold water to remove acid. If eyes are contacted flush with cold water for at least 15 minutes. Seek immediate medical attention. If swallowed, drink large amounts of water or milk, follow with milk of magnesia, beaten egg, or vegetable oil. Seek immediate medical attention.
- Remove all jewelry such as rings, dog tags, bracelets, etc. If jewelry contacts battery terminal or positive electrical circuit, a direct short may result in instant heating of tools, damage to equipment, and injury or death to personnel.
- Always remove negative battery ground cables first and install them last to avoid sparks that can cause an explosion. Failure to comply may result in serious injury or death to personnel.
- To prevent arcing, do not allow tools to contact batteries or other battery terminals. Failure to comply may result in serious injury or death to personnel.
- Upon removal of wires and cables, ensure no contact is made with battery terminals or other wires and cables. Secure wires and cables away from battery terminals and other wires and cables as required. Failure to comply may result in serious injury or death to personnel.

**NOTE**

- Tag and mark cables and wires prior to removal to ensure proper installation.
 - Remove cable ties as required.
2. Loosen two nuts (4) and screws (5) from negative terminals (6 and 7).

CAUTION

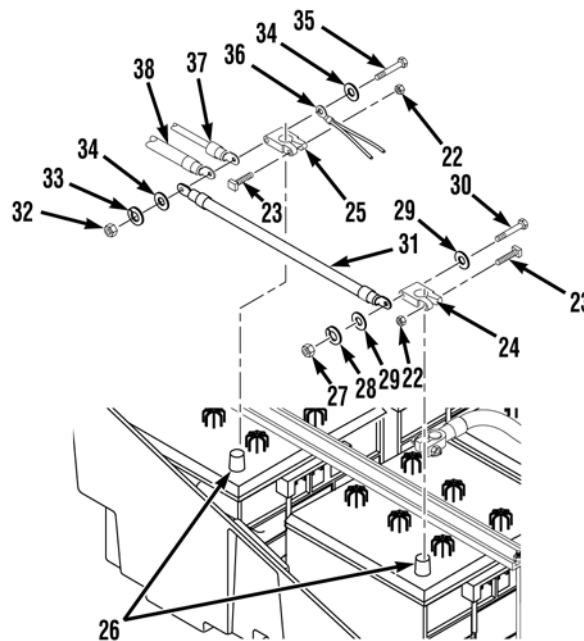
Do not pry between terminals and top of battery. Failure to comply may result in damage to equipment.

- Remove two negative terminals (6 and 7) from negative battery posts (8).

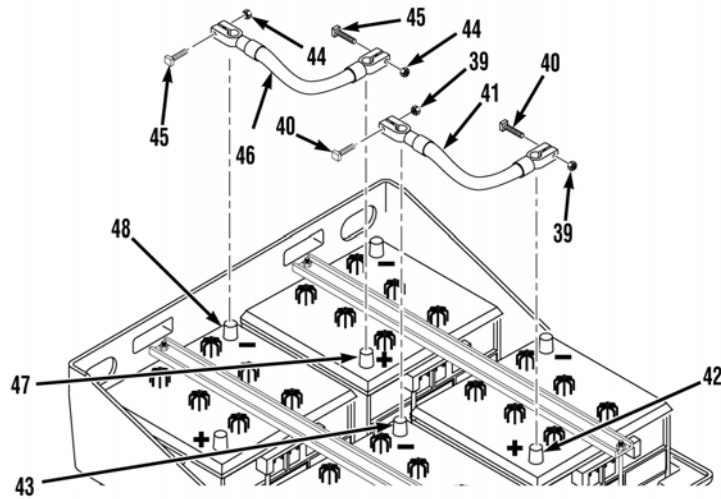
NOTE

Note position of washers prior to removal to ensure proper installation.

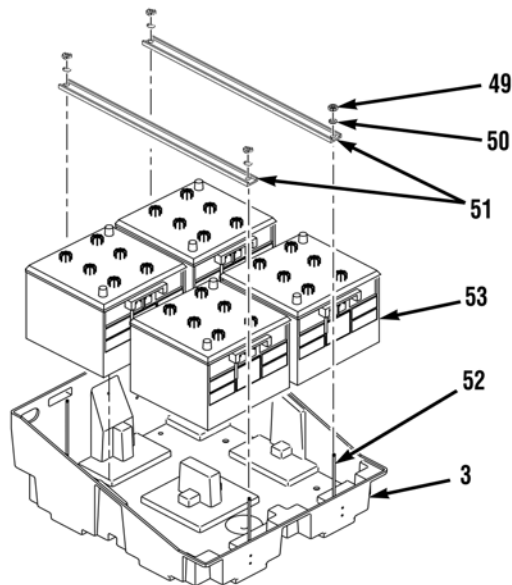
- Remove nut (9), lockwasher (10), two washers (11), screw (12), and three negative battery cables (13, 14, and 15) from negative terminal (6). Discard lockwasher.
- Remove nut (16), lockwasher (17), two washers (18), screw (19), two wires (20 and 21), and negative battery cable (13) from negative terminal (7). Discard lockwasher.



- Remove two nuts (22) and screws (23) from positive terminals (24 and 25).
- Remove two positive terminals (24 and 25) from positive battery posts (26).
- Remove nut (27), lockwasher (28), two washers (29), screw (30), and positive battery cable (31) from positive terminal (24). Discard lockwasher.
- Remove nut (32), lockwasher (33), two washers (34), screw (35), wire (36), and three positive battery cables (38, 37, 31) from positive terminal (25). Discard lockwasher.



10. Remove two nuts (39), screws (40), and jumper cable (41) from positive battery post (42) and negative battery post (43).
11. Remove two nuts (44), screws (45), and jumper cable (46) from positive battery post (47) and negative battery post (48).



12. Remove four nuts (49), lockwashers (50), and two battery hold downs (51) from four screws (52). Discard lockwashers.

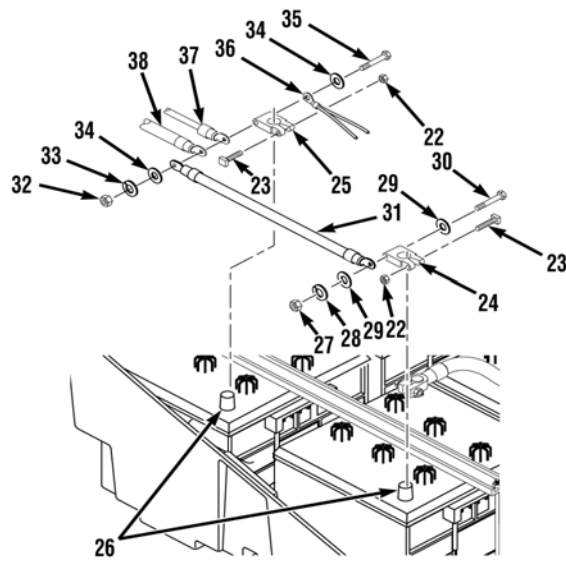
WARNING

Batteries weigh 75 lbs (34 kg) each. Do not lift or move batteries without the aid of Soldier B. Failure to comply may result in injury to personnel.

13. Soldier A and Soldier B remove four batteries (53) from battery box (3).

END OF TASK**INSTALLATION****WARNING**

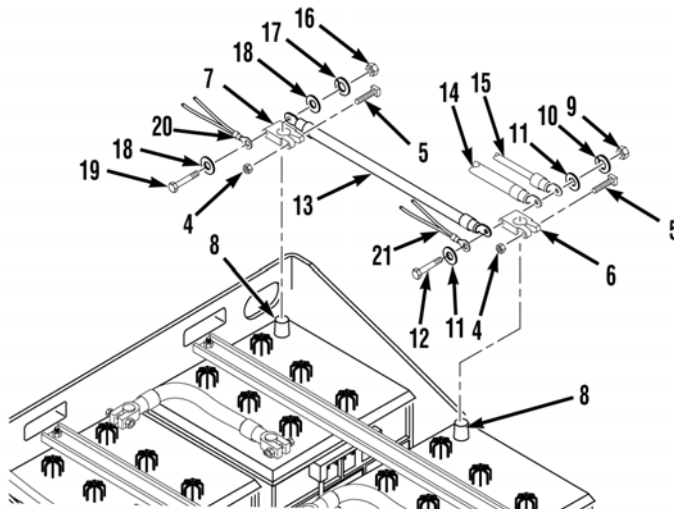
- **Batteries produce explosive gases. To prevent injury to personnel, keep sparks and flames away, and do not smoke near batteries.**
 - **Lead-acid batteries contain sulfuric acid, which can cause severe burns. Avoid contact with skin, eyes, or clothing. Wear safety goggles and gloves. If battery electrolyte is spilled, take immediate action to stop its corrosive (burning) effects. If battery acid is spilled on clothing or vehicle, wash immediately with cold water. Neutralize with baking soda or household ammonia solution. If battery acid comes in contact with skin, flush with cold water to remove acid. If eyes are contacted flush with cold water for at least 15 minutes. Seek immediate medical attention. If swallowed, drink large amounts of water or milk, follow with milk of magnesia, beaten egg, or vegetable oil. Seek immediate medical attention.**
 - **Remove all jewelry such as rings, dog tags, bracelets, etc. If jewelry contacts battery terminal or positive electrical circuit, a direct short may result in instant heating of tools, damage to equipment, and injury or death to personnel.**
 - **Always remove negative battery ground cables first and install them last to avoid sparks that can cause an explosion. Failure to comply may result in serious injury or death to personnel.**
 - **To prevent arcing, do not allow tools to contact batteries or other battery terminals. Failure to comply may result in serious injury or death to personnel.**
 - **Batteries weigh 75 lbs (34 kg) each. Do not lift or move batteries without the aid of Soldier B. Failure to comply may result in injury to personnel.**
1. Soldier A, Soldier B and Soldier C position four batteries (53) in battery box (3).
 2. Install two battery hold downs (51) on four screws (52) with lockwashers (50) and nuts (49).
 3. Install jumper cable (46) on positive battery post (47) and negative battery post (48) with two screws (45) and nuts (44). Tighten nuts (44) to 84 to 96 lb-in (9 to 11 N•m).
 4. Install jumper cable (41) on positive battery post (42) and negative battery post (43) with two screws (40) and nuts (39). Tighten nuts (39) to 84 to 96 lb-in (9 to 11 N•m).



NOTE

Install washers as noted prior to removal.

5. Install three positive battery cables (38, 37, 31) and wire (36) on positive terminal (25) with screw (35), two washers (34), lockwasher (33), and nut (32). Tighten nut (32) to 12 to 16 lb-ft. (16-22 N•m).
6. Install positive battery cable (31) on positive terminal (24) with screw (30), two washers (29), lockwasher (28), and nut (27). Tighten nut (27) to 12 to 16 lb-ft. (16-22 N•m).
7. Install two positive terminals (24 and 25) on positive battery posts (26) with screws (23) and nuts (22). Tighten nuts (22) to 84 to 96 lb-in (9-11 N•m).



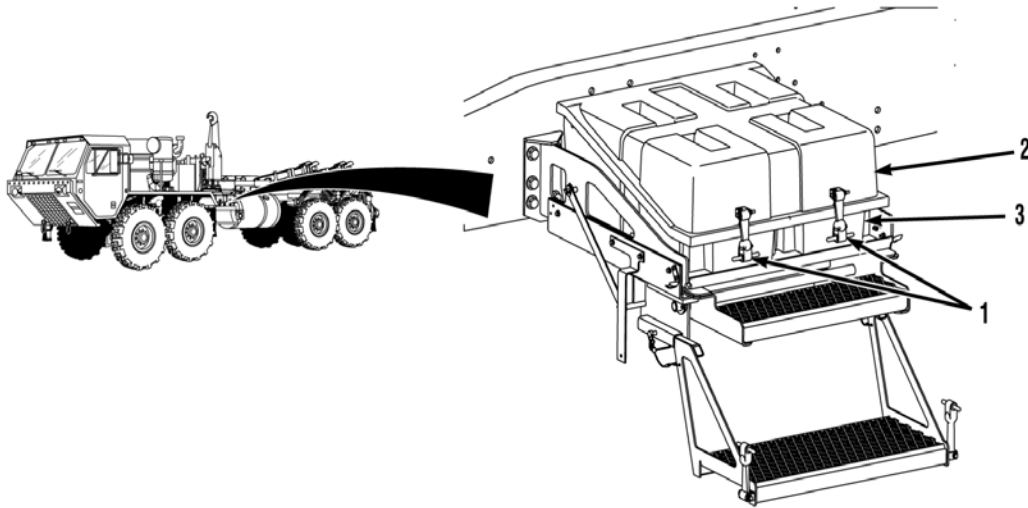
8. Install negative battery cable (13) and two wires (20 and 21) on negative terminal (7) with screw (19), two washers (18), lockwasher (17), and nut (16). Tighten nut (16) to 12 to 16 lb-ft. (16-22 N•m).

9. Install three negative battery cables (13, 14, and 15) on negative terminal (6) with screw (12), washer (11), lockwasher (10), and nut (9). Tighten nut (9) to 12 to 16 lb-ft. (16-22 N•m).
10. Install two negative terminals (6 and 7) on negative battery posts (8) with screws (5) and nuts (4). Tighten nuts (4) to 84 to 96 lb-in (9-11 N•m).

NOTE

Install cable ties as required.

11. Apply corrosion preventive compound to all wires, terminals, battery posts, and cable connections.



12. Install battery box cover (2) on battery box (3) with two rubber hooks (1).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Start engine to check for proper operation of batteries (TM 9-2320-347-10)
2. Shut off engine (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**BATTERY BOX REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Cleaning Compound, Solvent (WP 0186, Item 7)
Cloth, Cleaning (WP 0186, Item 8)
Locknut, (4), (WP 0184, Item 12)
Locknut, (4), (WP 0184, Item 15)
Locknut, (2), (WP 0184, Item 55)
Locknut, (2), (WP 0184, Item 58)
Plate, (1) (WP 0184, Item 57)
Sealant, Solvent Resistant (WP 0186, Item 30)
Tags, Identification (WP 0186, Item 32)

Personnel Required

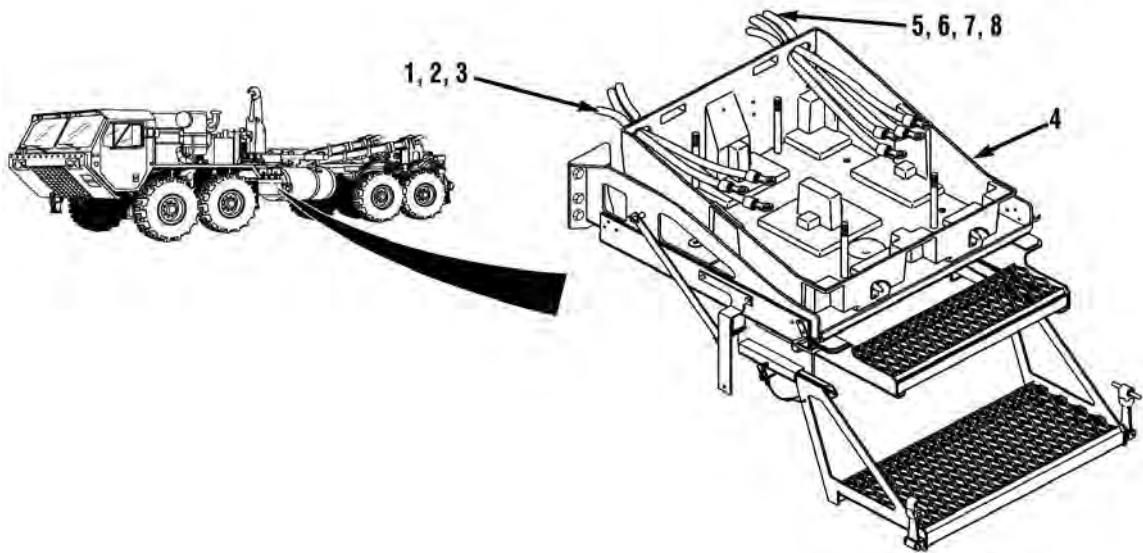
MOS 63B Wheeled vehicle mechanic

References

None

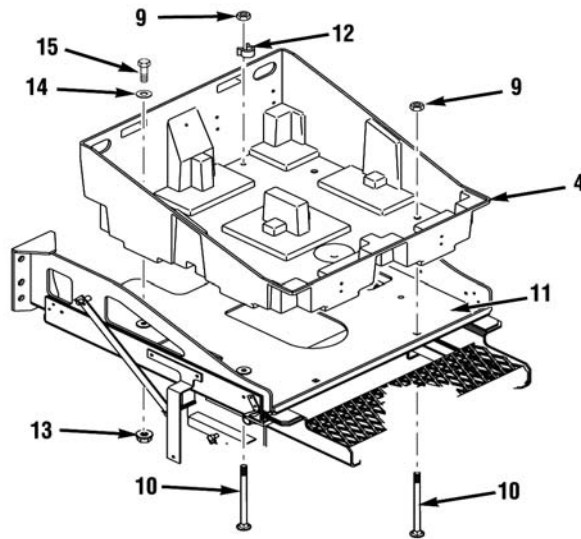
Equipment Conditions

Batteries removed (WP 0059)

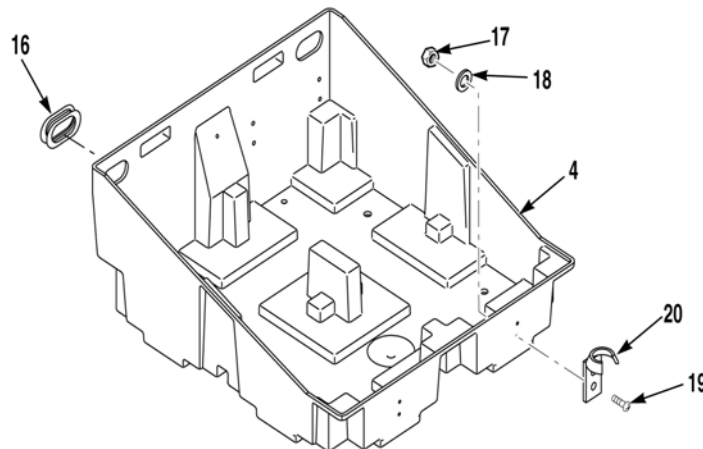
REMOVAL**NOTE**

Tag and mark wires prior to removal to ensure proper installation.

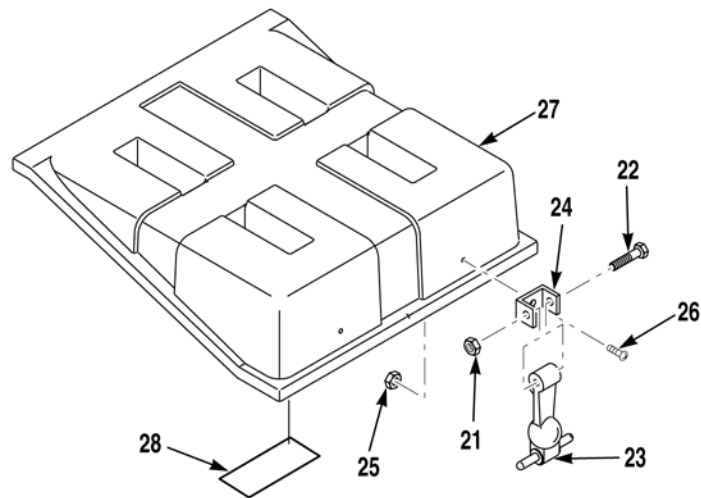
1. Remove three wires (1, 2, and 3) from battery box (4).
2. Remove four wires (5, 6, 7, and 8) from battery box (4).



3. Remove four nuts (9) and screws (10) from battery box (4) and battery box support bracket (11).
4. Remove two clips (12) from two screws (13).
5. Remove two nuts (9) and screws (10) from battery box (4) and battery box support bracket (11).
6. Remove four locknuts (13), washers (14), screws (15), and battery box (4) from battery box support bracket (11). Discard locknuts.



7. Remove two moldings (16) from battery box (4).
8. Remove four locknuts (17), washers (18), screws (19), and two hook brackets (20) from battery box (4). Discard locknuts.



9. Remove two locknuts (21), screws (22), and hooks (23) from brackets (24). Discard locknuts.
10. Remove two locknuts (25), screws (26), and brackets (24) from battery box cover (27). Discard locknuts.

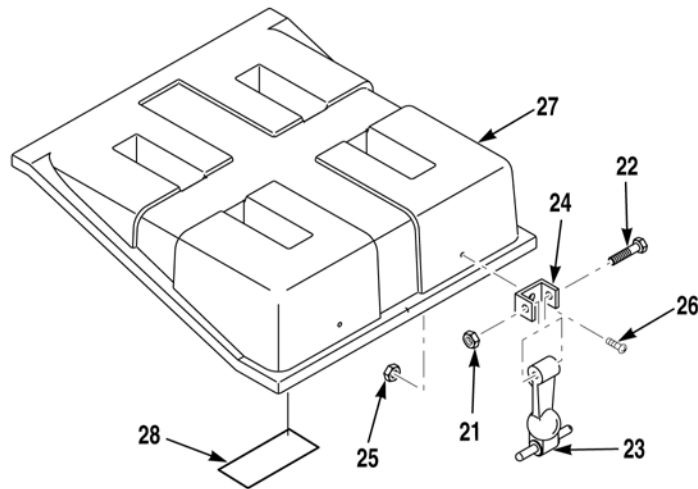
NOTE

Note position of label prior to removal to ensure proper installation.

11. Remove label (28) from battery box cover (27).

END OF TASK

INSTALLATION

**WARNING****SOLVENT CLEANING COMPOUND**

Solvent cleaning compound MIL-PRF-680 Type II and III may be irritating to the eyes and skin. Use protective gloves and goggles. Use in well-ventilated areas. Use respirator as needed. Accidental ingestion can cause irritation of digestive tract and respiratory tract, may cause lung and central nervous system damage. Can be fatal if swallowed. Inhalation of high/massive concentrations can cause coma or be fatal. First aid for ingestion: do not induce vomiting. Seek immediate medical attention. First aid for skin contact: remove contaminated clothing. Wash skin thoroughly with soap and water. If symptoms persist, seek medical attention. First aid for eye contact: flush with water for 15 minutes or until irritation subsides. If symptoms persist, seek medical attention. First aid for inhalation: move to fresh air. If not breathing, provide artificial respiration. If symptoms persist, seek medical attention. Keep away from open flames and other sources of ignition. Failure to follow this warning may result in injury or death to personnel.

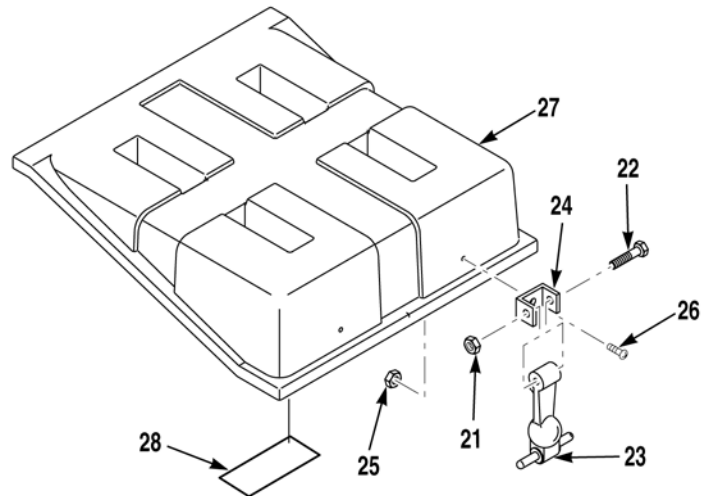
- The flashpoint for type II solvent cleaning compound is 141-198°F (61-92°C) and type III is 200-241°F (93-116°C).
- Improper cleaning methods and use of unauthorized cleaning solvents may injure personnel and damage equipment
- Fire extinguishers should be placed nearby when using solvent cleaning compound. Failure to follow this warning may result in injury or death.
- Cloths or rags saturated with solvent cleaning compound must be disposed of IAW authorized facilities' procedures. Failure to follow this warning may result in injury.
- Eye shields must be worn when cleaning with a wire brush. Flying rust and metal particle may cause injury.

1. Clean label mounting surface with lint-free cloth and solvent cleaning compound.
2. Peel paper off label (28).

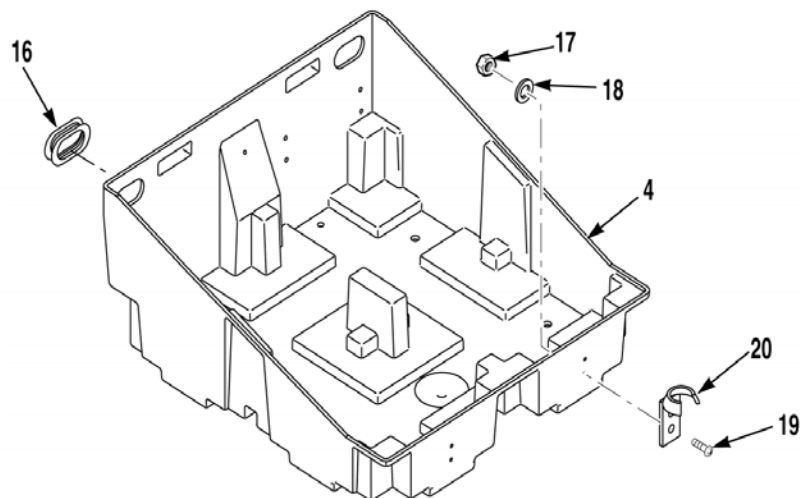
NOTE

Install label as noted prior to removal.

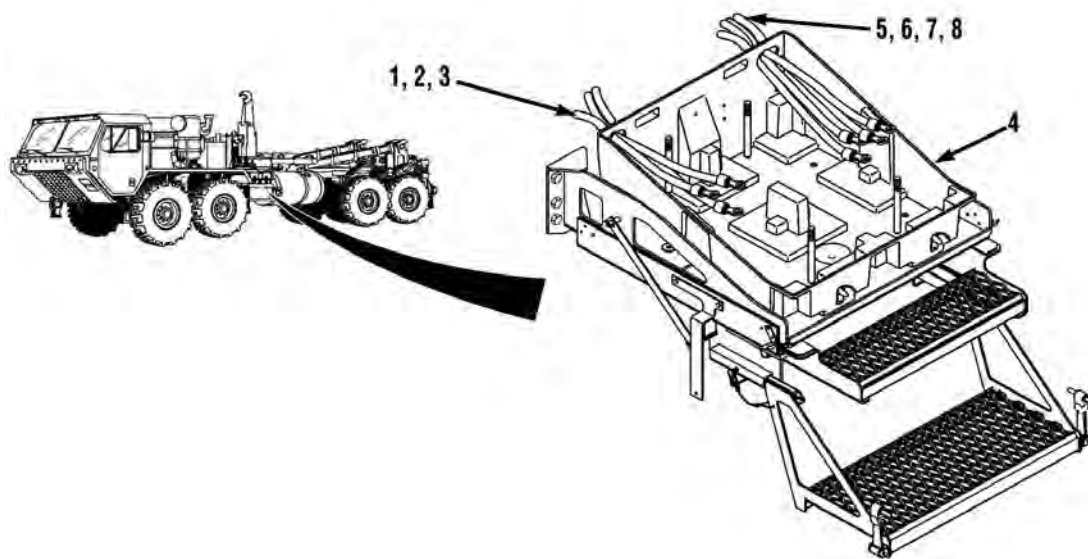
3. Install label (28) on battery box cover (27).



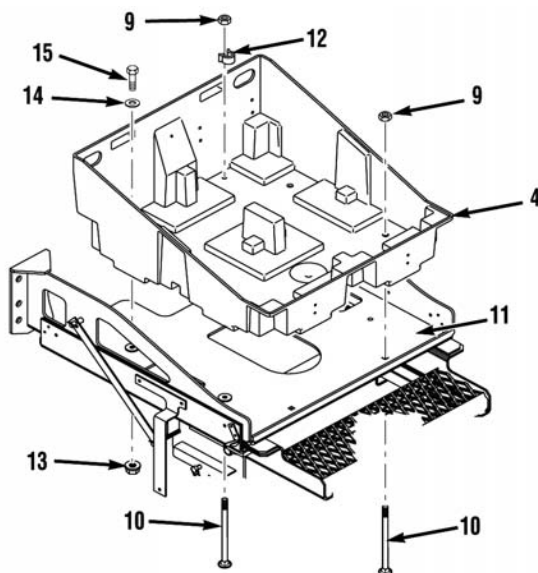
4. Install two brackets (24) on battery box cover (27) with two screws (26) and locknuts (25).
5. Install two hooks (23) on brackets (24) with two screws (22) and locknuts (21).



6. Install two hook brackets (20) on battery box (4) with four screws (19), washers (18), and locknuts (17).
7. Install two moldings (16) on battery box (4).



8. Install four cables (5, 6, 7, and 8) in battery box (4).
9. Install three cables (1, 2, and 3) in battery box (4).



10. Install battery box (4) on battery box support bracket (11) with four screws (15), washers (14), and locknuts (13).
11. Install four screws (10) on battery box (4) and battery box support bracket (11) with four nuts (9).
12. Install two clips (12) on screws (13).

WARNING

Anti-corrosion compound is toxic. Use only in well-ventilated area. Use NIOSH/MSHA-approved respirator with dual organic vapor/mist and particulate cartridge. Do not get in eyes; wear chemical safety goggles and full face shield when using. Avoid contact with skin and wear rubber or plastic, solvent-resistant gloves. In case of contact, remove contaminated clothing and immediately wash area with soap and water. If eyes are contacted, flush eyes with large amounts of water for at least 15 minutes and get immediate medical attention. If swallowed, do not induce vomiting; contact a physician immediately. Failure to comply may result in injury or death to personnel.

13. Apply solvent resistant sealant to four screws (10), two clips (12), four washers (14), and screws (15) on inside of battery box (4).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install batteries (WP 0059).

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
BATTERY BOX SUPPORT BRACKET REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (10), (WP 0184, Item 8)

Personnel Required

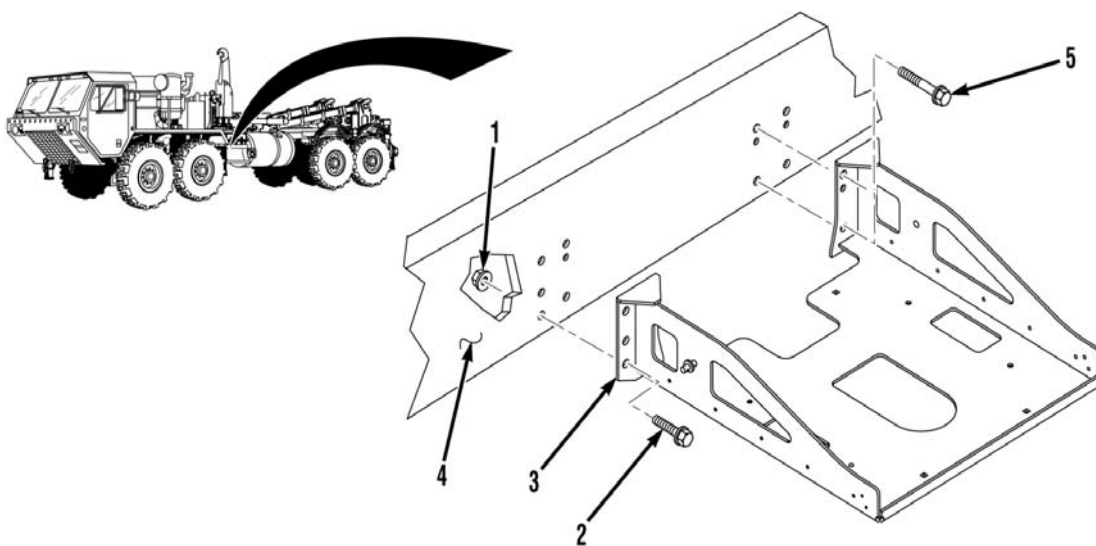
MOS 63B Wheeled vehicle mechanic (3)

References

None

Equipment Conditions

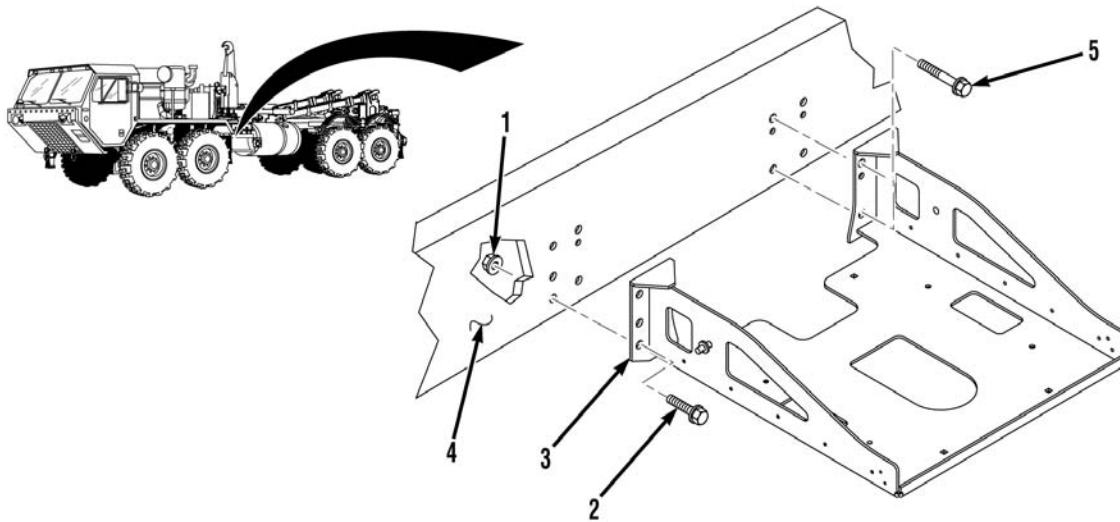
Battery box removed (WP 0060)
Slide step removed (WP 0112)

REMOVAL**WARNING**

Battery box support bracket weighs 70 lbs (32 kg). Do not lift battery box support bracket without the aid of Soldier B. Failure to comply may result in injury to personnel.

1. Soldier A and Soldier B remove ten locknuts (1), screws (2 and 5), and battery box support bracket (3) from frame rail (4). Discard locknuts.

END OF TASK

INSTALLATION**WARNING**

Battery box support bracket weighs 70 lbs (32 kg). Do not lift battery box support bracket without the aid of Soldier B. Failure to comply may result in injury to personnel.

1. Soldier A, Soldier B and Soldier C install battery box support bracket (3) on frame rail (4) with ten screws (2 and 5) and locknuts (1).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Install slide step (WP 0112).
2. Install battery box (WP 0060).

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE

CAB PARKING BRAKE PRESSURE SWITCH REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Sealing, Compound, Pipe Thread
(WP 0186, Item 16)
Tags, Identification (WP 0186, Item 32)

Personnel Required

MOS 63B Wheeled vehicle mechanic

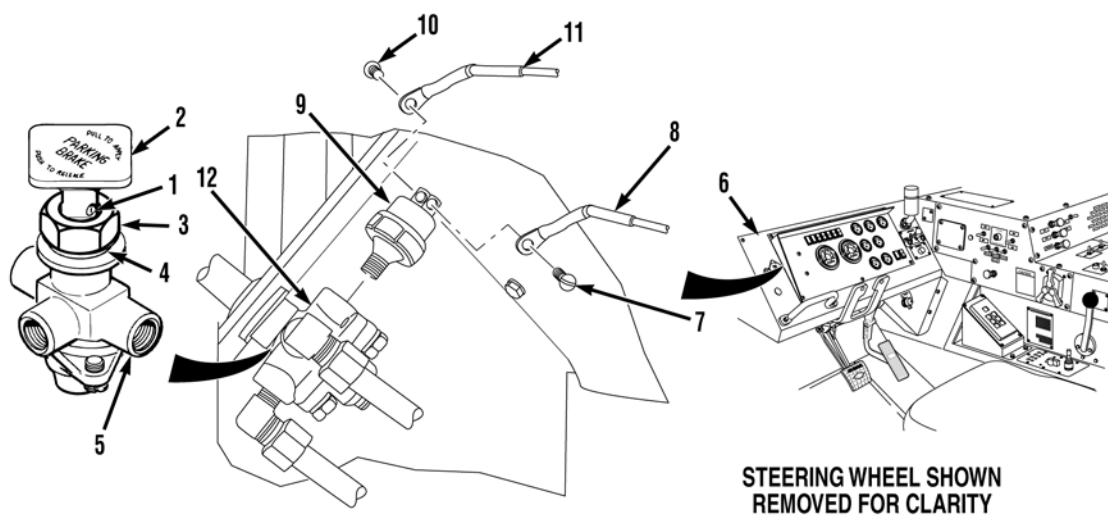
References

None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Air system drained (TM 9-2320-347-10)
Batteries disconnected (TM 9-2320-325-14&P)
Instrument panel removed
(TM 9-2320-325-14&P)

REMOVAL

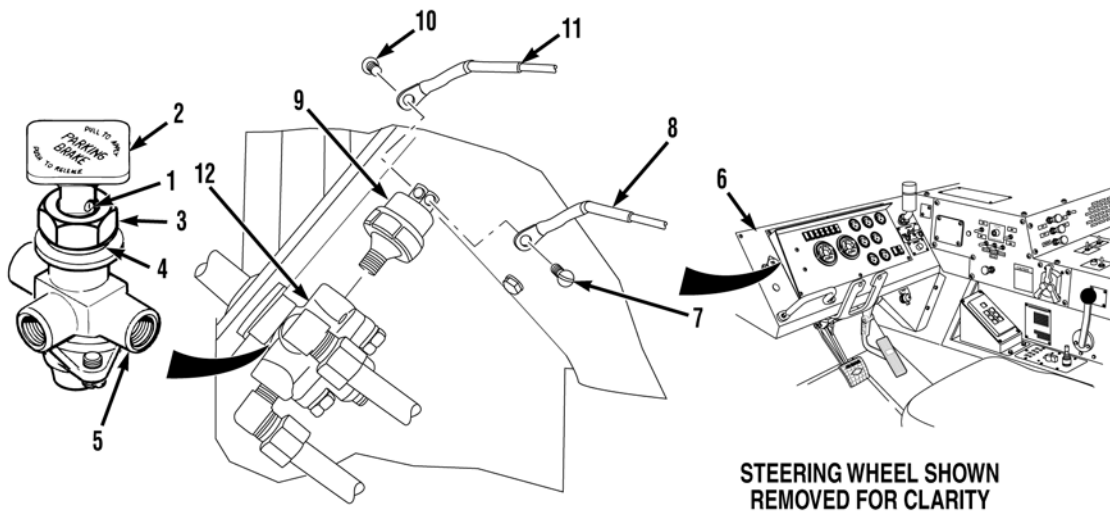
**NOTE**

Tag and mark wires prior to removal to ensure proper installation.

1. Remove pin (1) and parking brake knob (2).
2. Remove nut (3), washer (4) and parking brake valve (5) from dash (6).
3. Remove screw (7) and wire 1076 (8) from pressure switch (9).
4. Remove screw (10) and wire 1675 (11) from pressure switch (9).
5. Remove pressure switch (9) from parking brake valve (5).

END OF TASK

INSTALLATION



STEERING WHEEL SHOWN
REMOVED FOR CLARITY

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

1. Coat threads of pressure switch (9) with sealing compound and install pressure switch (9) on parking brake valve (5).
2. Install wire 1675 (11) on pressure switch (9) with screw (10).
3. Install wire 1076 (8) on pressure switch (9) with screw (7).
4. Install parking brake valve (5), washer (4) and nut (3) on dash (6).
5. Install parking brake knob (2) and pin (1).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install instrument panel (TM 9-2320-325-14&P).
2. Connect batteries TM 9-2320-325-14&P
3. Start engine and build up air pressure to 125 psi (861 kPa) (TM 9-2320-347-10)
4. Shut off engine (TM 9-2320-347-10)
5. Check for air leaks (TM 9-2320-347-10)
6. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
GROUND CABLES REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Compound, Sealing, Loctite #242
(WP 0186, Item 12)
Lockwasher, (1), (WP 0184, Item 142)
Locknut, (1), (WP 0184, Item 25)
Locknut, (3), (WP 0184, Item 26)
Locknut, (2), (WP 0184, Item 21)
Sealant, RTV200 Electrical (WP 0186, Item 29)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

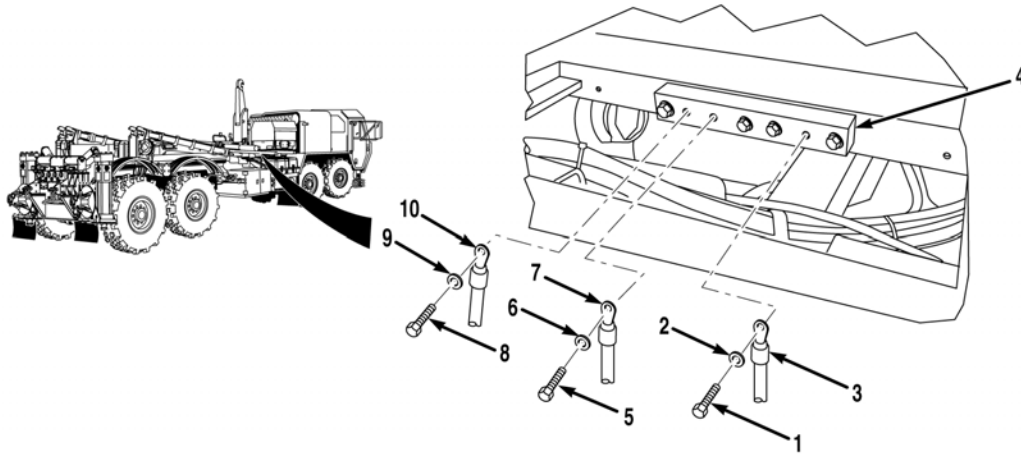
MOS 63B Wheeled vehicle mechanic

References

None

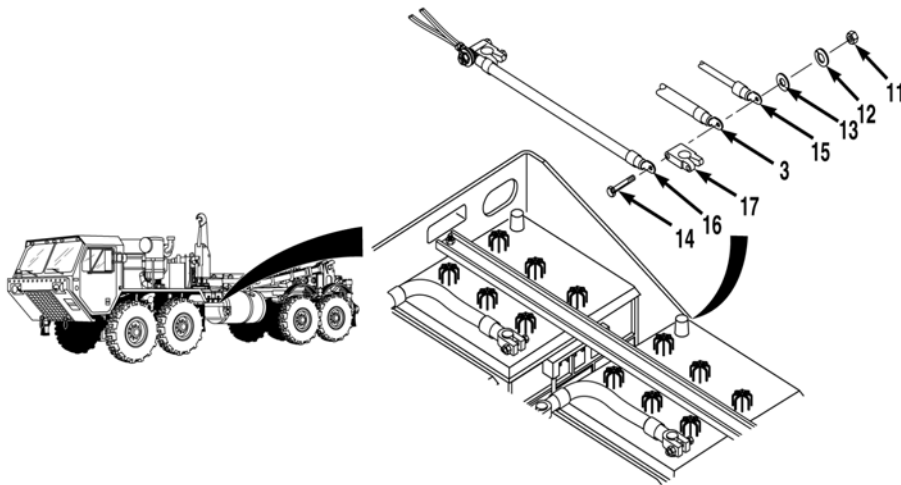
Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Batteries disconnected (TM 9-2320-325-14&P)

REMOVAL**GROUND BAR TO BATTERIES****NOTE**

Tag and mark cables prior to removal to ensure proper installation.

1. Remove screw (1), washer (2), and cable (3) from grounding bar (4).
2. Remove screw (5), washer (6), and cable (7) from grounding bar (4).
3. Remove screw (8), washer (9), and cable (10) from grounding bar (4).

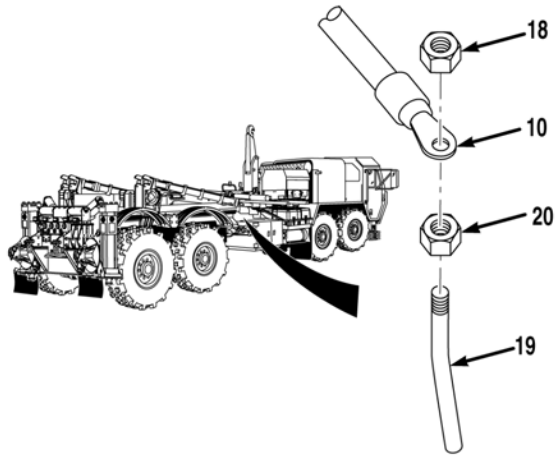


WARNING

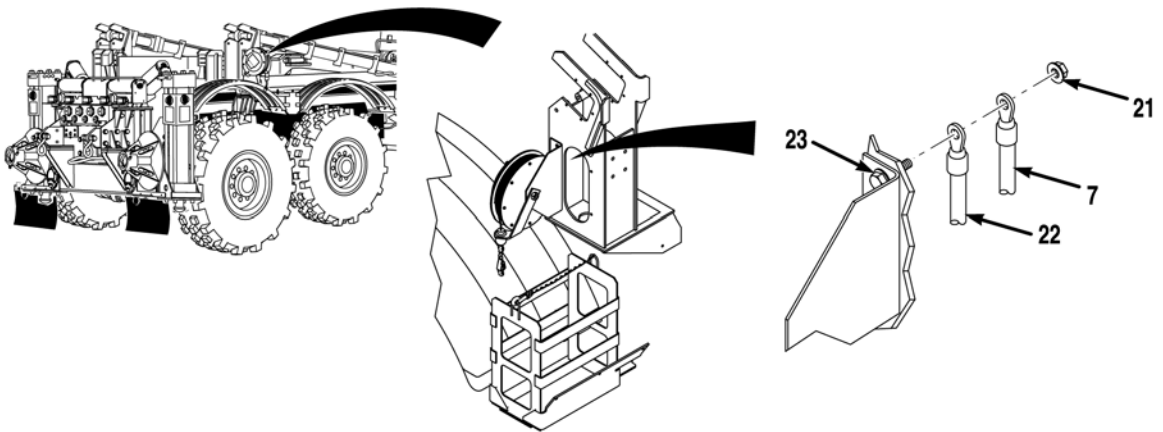
- Remove all jewelry such as rings, dog tags, bracelets, etc. If jewelry contacts battery terminal or positive electrical circuit, a direct short may result in instant heating of tools, damage to equipment, and injury or death to personnel.
- To prevent arcing, do not allow tools to contact batteries or other battery terminals. Failure to comply may result in serious injury or death to personnel.
- Upon removal of wires and cables, ensure no contact is made with battery terminals or other wires and cables. Secure wires and cables away from battery terminals and other wires and cables as required. Failure to comply may result in serious injury or death to personnel.

NOTE

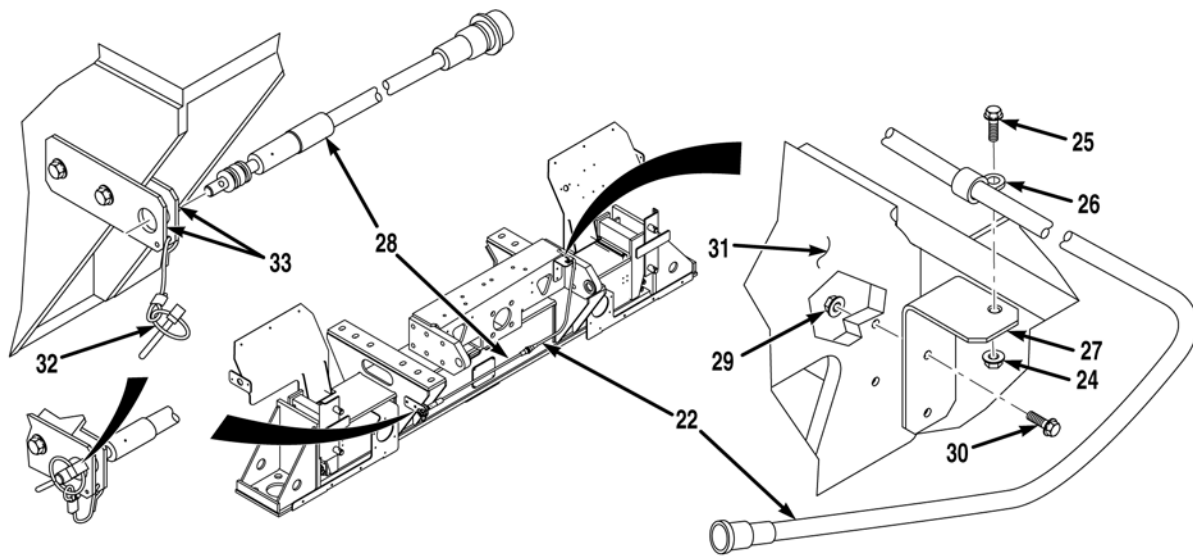
- Remove cable ties and cushion clips as required.
 - Note routing of cables prior to removal to ensure proper installation.
4. Remove nut (11), lockwasher (12), washer (13), screw (14), and three cables (3, 15, and 16) from negative terminal (17). Discard lockwasher.
 5. Remove cable (3) from vehicle.



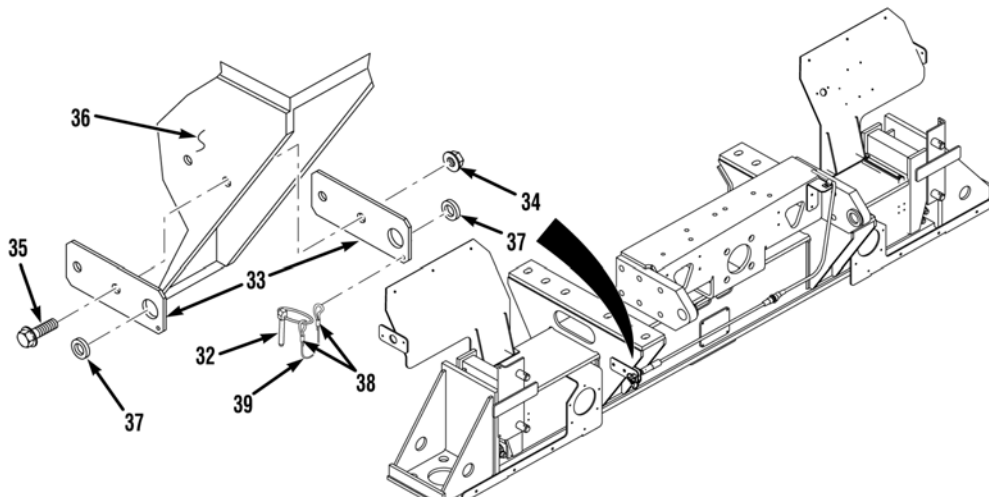
6. Remove cable (10) from vehicle.
7. Remove nut (18) and cable (10) from rod (19).
8. Remove nut (20) from rod (19).



9. Remove locknut (21), cable (7), and cable (22) from screw (23). Discard locknut.
10. Remove cable (7) from vehicle.



11. Remove locknut (24), screw (25), and cushion clip (26) from bracket (27). Discard locknut.
12. Disconnect cable (22) from cable (28).
13. Remove cable (22) from vehicle.
14. Remove two locknuts (29), screws (30), and bracket (27) from crossmember (31). Discard locknuts.
15. Remove quick release pin (32) from cable (28).
16. Remove cable (28) from two plates (33) and vehicle.



17. Remove two locknuts (34), screws (35), and plates (33) from bracket (36). Discard locknuts.
18. Remove two grommets (37) from plates (33).
19. Remove two swaging sleeves (38) and wire rope (39) from quick release pin (32) and plate (33).

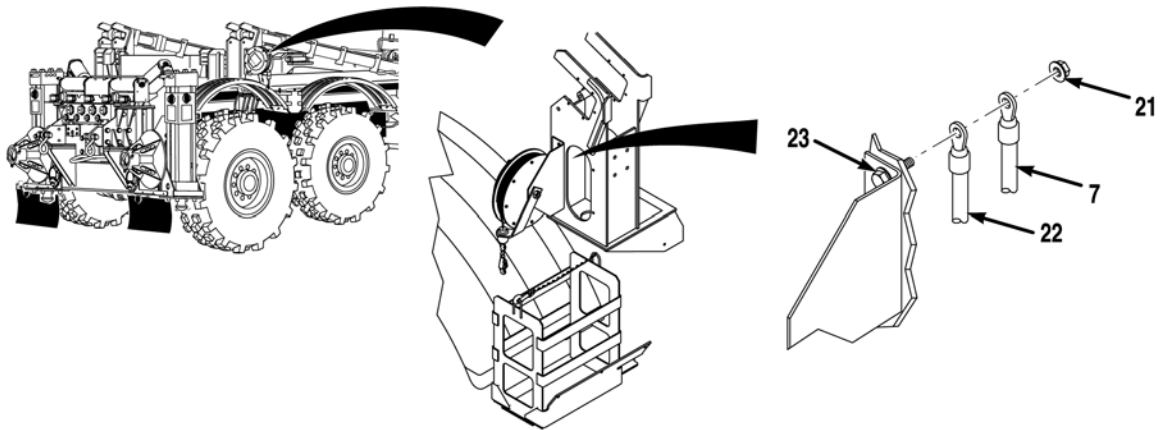
END OF TASK

INSTALLATION

1. Install wire rope (39) on quick release pin (32) and plate (33) with two swaging sleeves (38).
2. Install two grommets (37) on plates (33).
3. Install two plates (33) on bracket (36) with two screws (35) and locknuts (34).

NOTE

- Route cables as noted prior to removal.
 - Install cable ties and cushion clips as required.
4. Install cable (28) on two plates (33) with quick release pin (32).
 5. Install bracket (27) on crossmember (31) with two screws (30) and locknuts (29).
 6. Install cable (22) on vehicle.
 7. Connect cable (22) to cable (28).
 8. Install cushion clip (26) on cable (22).
 9. Install cushion clip (26) on bracket (27) with screw (25) and locknut (24).

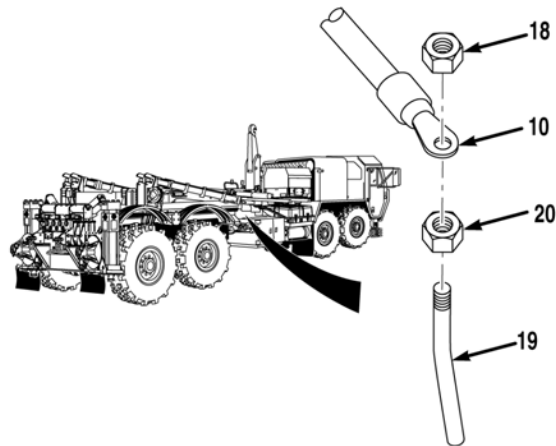


10. Install cable (7) on vehicle.
11. Install cable (7) and cable (22) on screw (23) with locknut (21).

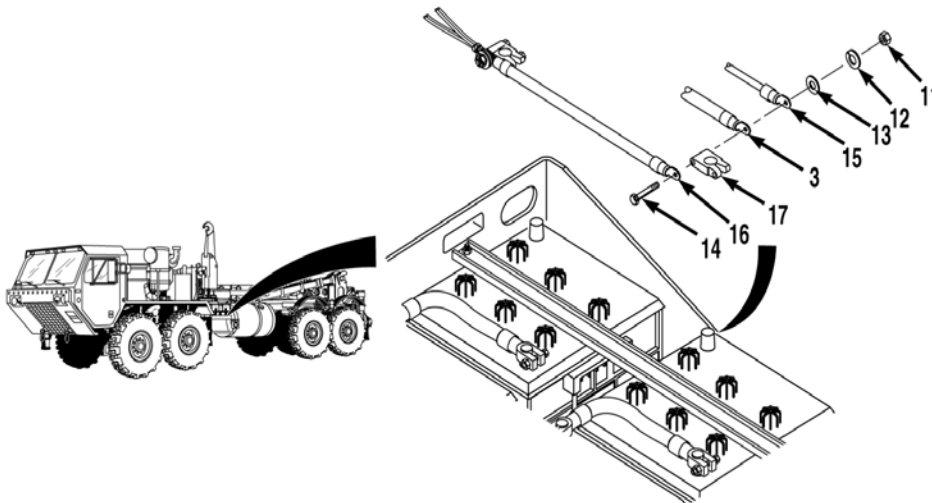
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

12. Apply electrical sealant on ends of two cables (7 and 22).



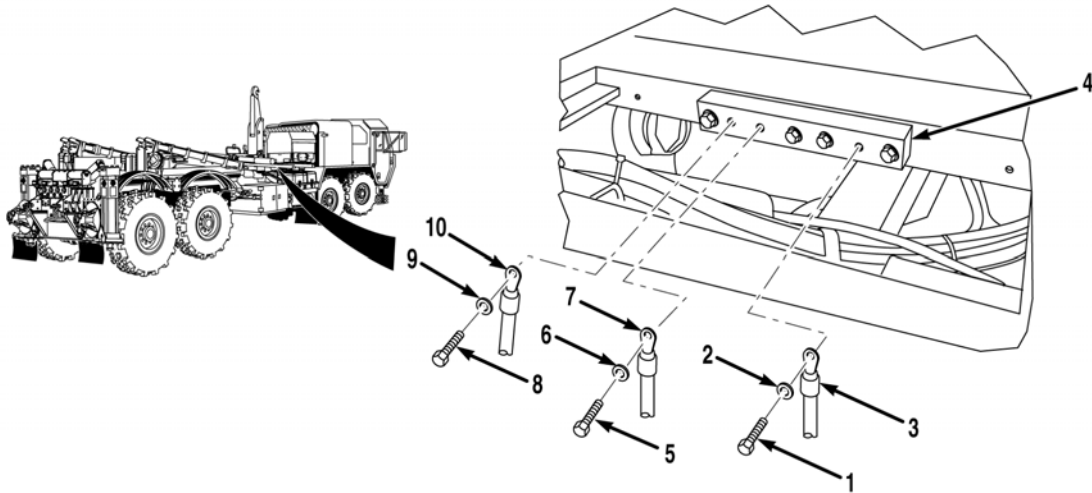
13. Install nut (20) on rod (19).
14. Install cable (10) on rod (19) with nut (18).
15. Install cable (10) on vehicle.



WARNING

- Remove all jewelry such as rings, dog tags, bracelets, etc. If jewelry contacts battery terminal or positive electrical circuit, a direct short may result in instant heating of tools, damage to equipment, and injury or death to personnel.
- To prevent arcing, do not allow tools to contact batteries or other battery terminals. Failure to comply may result in serious injury or death to personnel.
- Upon removal of wires and cables, ensure no contact is made with battery terminals or other wires and cables. Secure wires and cables away from battery terminals and other wires and cables as required. Failure to comply may result in serious injury or death to personnel.

16. Install cable (3) on vehicle.
17. Install three cables (3, 15, and 16) on negative terminal (17) with screw (14), washer (13), lockwasher (12), and nut (11).



WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

18. Apply sealing compound to three screws (1, 5, and 8).
19. Install cable (10) on grounding bar (4) with washer (9) and screw (8).
20. Install cable (7) on grounding bar (4) with washer (6) and screw (5).
21. Install cable (3) on grounding bar (4) with washer (2) and screw (1).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Connect batteries (TM 9-2320-325-14&P).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
GROUNDING BAR REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Compound, Sealing, Loctite #242
(WP 0186, Item 12)
Hardener, Epoxy, High Solids (WP 0186, Item 20)
Locknut, (2), (WP 0184, Item 21)
Primer, Epoxy, High Solids (WP 0186, Item 27)
Tags, Identification (WP 0186, Item 32)

Personnel Required

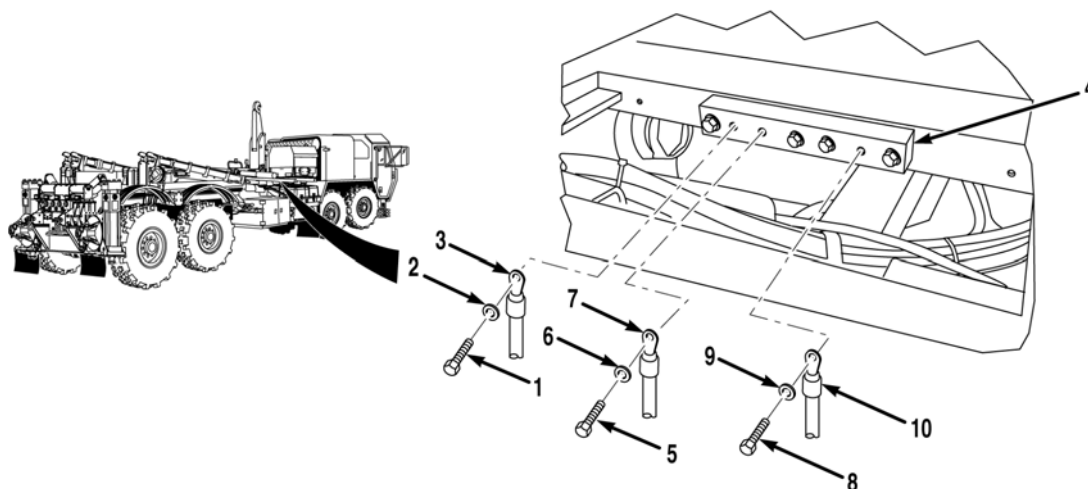
MOS 63B Wheeled vehicle mechanic

References

None

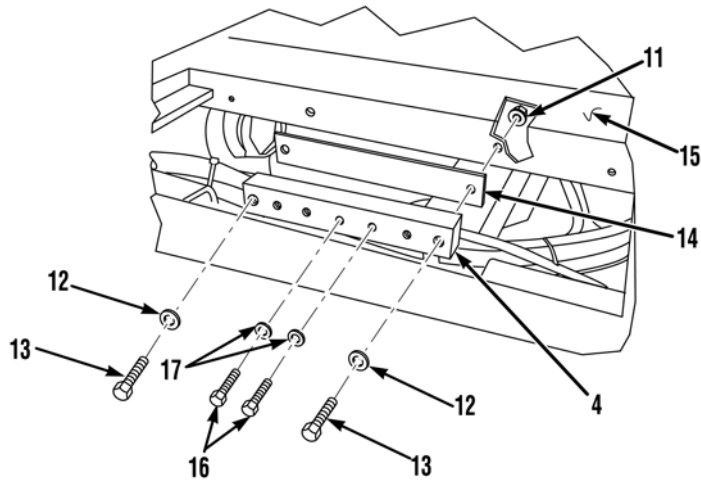
Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Batteries disconnected TM 9-2320-325-14&P

REMOVAL**NOTE**

Tag and mark cables prior to removal to ensure proper installation.

1. Remove screw (1), washer (2), and cable (3) from grounding bar (4).
2. Remove screw (5), washer (6), and cable (7) from grounding bar (4).
3. Remove screw (8), washer (9), and cable (10) from grounding bar (4).



4. Remove two locknuts (11), washers (12), screws (13), gasket (14), and grounding bar (4) from generator platform (15). Discard locknuts.
5. Remove two screws (16) and washers (17) from grounding bar (4).

END OF TASK

INSTALLATION

WARNING

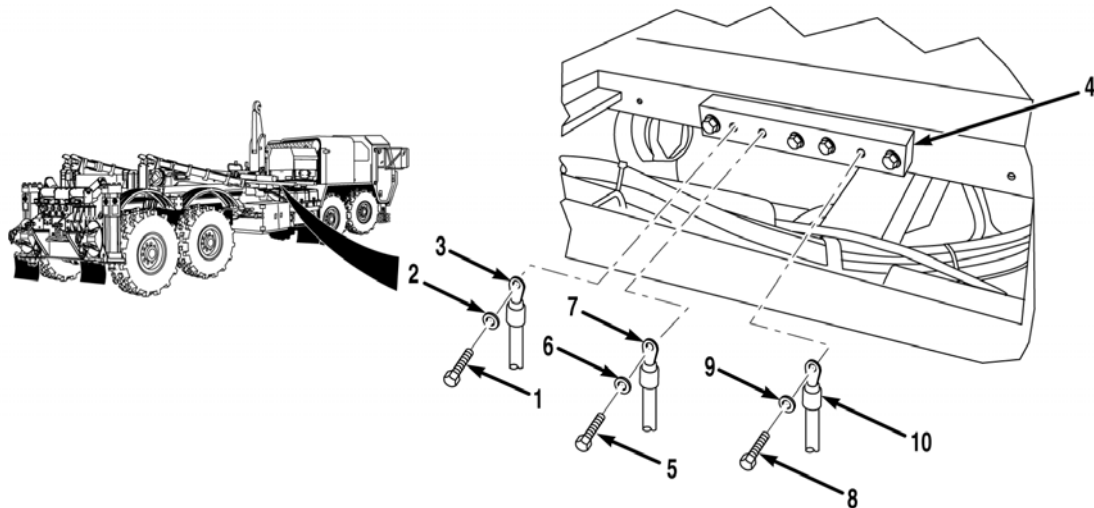
Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

1. Apply sealing compound to threads of two screws (16) and install two washers (17) and screws (16) on grounding bar (4).

NOTE

Epoxy primer and epoxy hardener must be applied to side of grounding bar that will be mounted to generator platform.

2. Following manufacturer's guidelines, apply epoxy primer to grounding bar (4).
3. Following manufacturer's guidelines, apply epoxy hardener to grounding bar (4).
4. Install gasket (14) on grounding bar (4).
5. Install gasket (14) and grounding bar (4) on generator platform (15) with two screws (13), washers (12), and locknuts (11).



WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

6. Apply sealing compound to threads of three screws (1, 5, and 8).
7. Install cable (10) on grounding bar (4) with washer (9) and screw (8).
8. Install cable (7) on grounding bar (4) with washer (6) and screw (5).
9. Install cable (3) on grounding bar (4) with washer (2) and screw (1).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Connect batteries (TM 9-2320-325-14&P).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**HIGH IDLE/THROTTLE INHIBIT RELAYS REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (2), (WP 0184, Item 26)
Lockwasher, (6), (WP 0184, Item 61)

Personnel Required

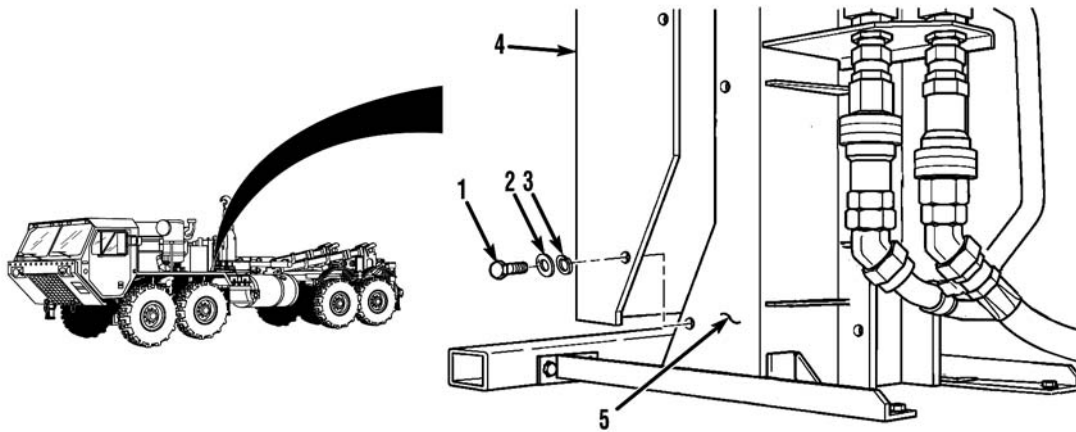
MOS 63B Wheeled vehicle mechanic

References

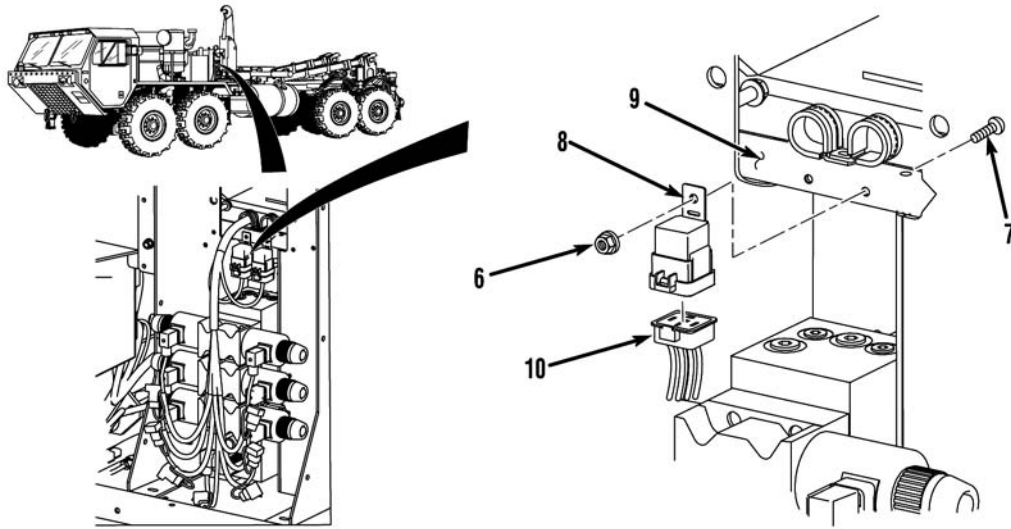
None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Batteries disconnected TM 9-2320-325-14&P

REMOVAL

1. Remove six screws (1), washers, (2), lockwashers (3), and control box cover (4) from bracket (5). Discard lockwashers.

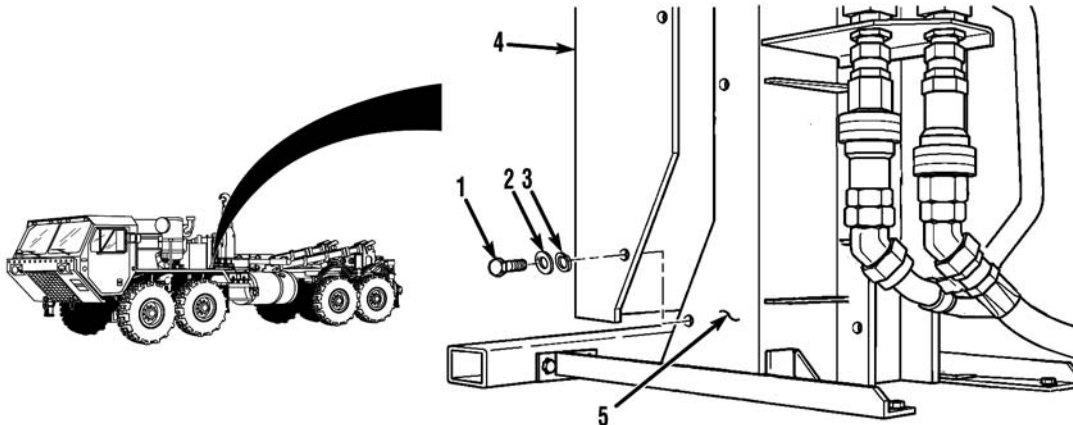


2. Remove two locknuts (6), screws (7), and relays (8) from bracket (9).
3. Remove two relays (8) from relay sockets (10).

END OF TASK

INSTALLATION

1. Install two relays (8) on relay sockets (10).
2. Install two relays (8) on bracket (9) with two screws (7) and locknuts (6).



3. Install control box cover (4) on bracket (5) with four lock washers (3), washers (2) and screws (1).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Connect batteries (TM 9-2320-325-14&P).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE

INPUT MODULE AND MOUNTING BRACKET REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (4), (WP 0184, Item 111)
Locknut, (8), (WP 0184, Item 21)
Tags, Identification (WP 0186, Item 32)

Personnel Required

MOS 63B Wheeled vehicle mechanic

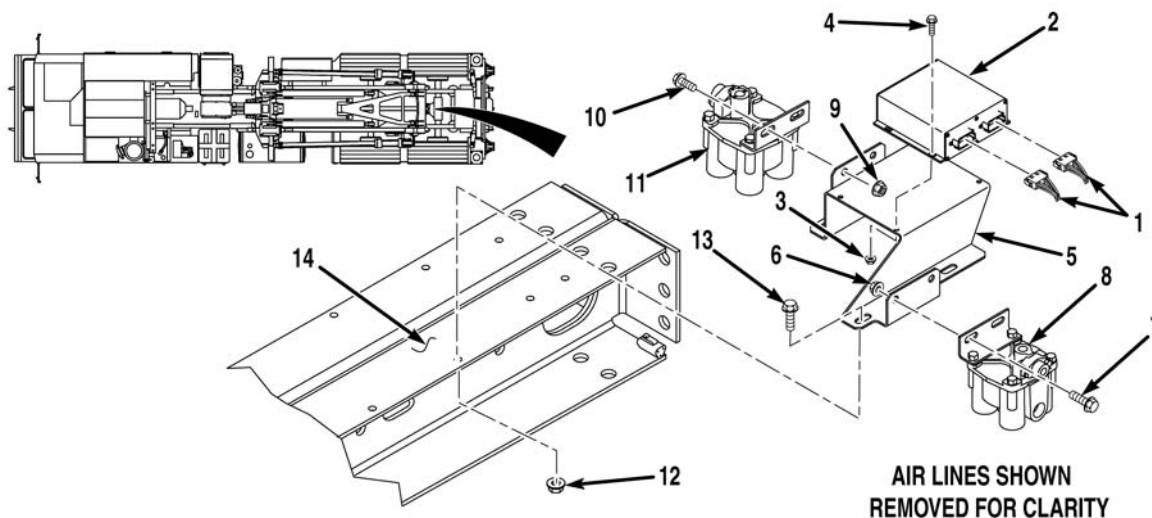
References

None

Equipment Conditions

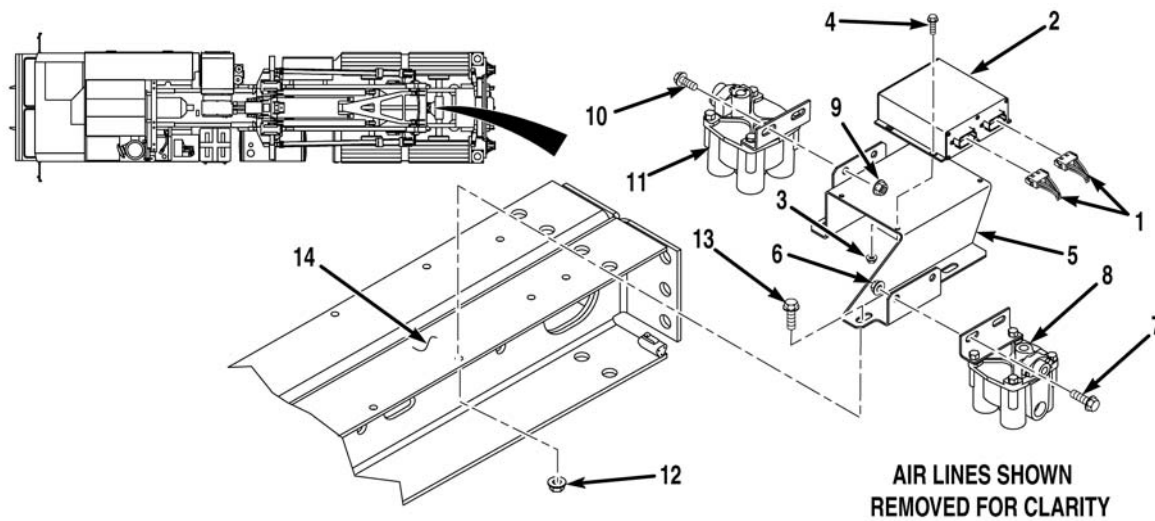
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Batteries disconnected (TM 9-2320-325-14&P)

REMOVAL

**NOTE**

Tag and mark connectors prior to removal to ensure proper installation.

1. Disconnect two input module connectors (1) from input module (2).
2. Remove four locknuts (3), screws (4), and input module (2) from mounting bracket (5). Discard locknuts.



NOTE

Air lines stay attached to relay valves when removing mounting bracket.

3. Remove two locknuts (6), screws (7), and relay valve (8) from mounting bracket (5). Discard locknuts.
4. Remove two locknuts (9), screws (10), and relay valve (11) from mounting bracket (5). Discard locknuts.
5. Remove four locknuts (12), screws (13), and mounting bracket (5) from rear crossmember (14). Discard locknuts.

END OF TASK

INSTALLATION

1. Install mounting bracket (5) on rear crossmember (14) with four screws (13) and locknuts (12).
2. Install relay valve (11) on mounting bracket (5) with two screws (10) and locknuts (9).
3. Install relay valve (8) on mounting bracket (5) with two screws (7) and locknuts (6).
4. Install input module (2) on mounting bracket (5) with four screws (4) and locknuts (3).
5. Connect two input module connectors (1) to input module (2).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Connect batteries (TM 9-2320-325-14&P).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
LAMP CHECK SWITCH REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Tags, Identification (WP 0186, Item 32)

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

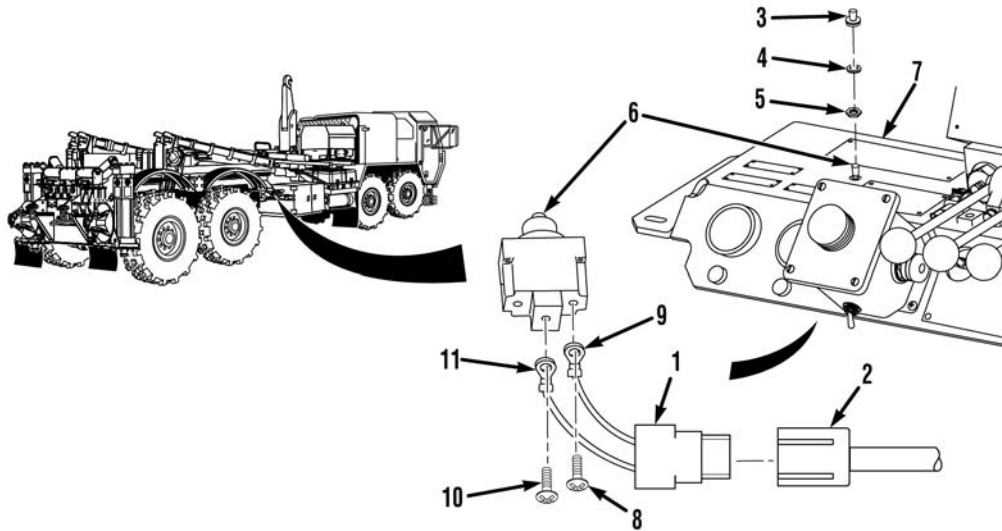
None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)

Wheels chocked (TM 9-2320-347-10)

Batteries disconnected TM 9-2320-325-14&P

REMOVAL**NOTE**

Tag and mark connectors and wires prior to removal to ensure proper installation.

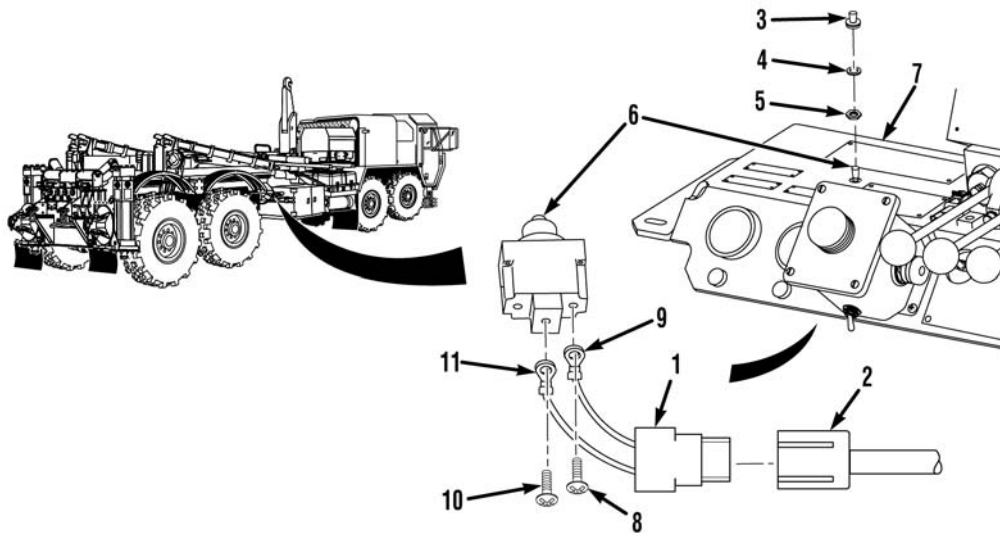
1. Disconnect lamp check switch harness connector (1) from THAAD control harness connector (2).

NOTE

Note position of lamp check switch prior to removal to ensure proper installation.

2. Remove boot (3), washer (4), nut (5), and lamp check switch (6) from bracket (7).
3. Remove screw (8) and wire 1995 (9) from lamp check switch (6).
4. Remove screw (10) and wire 1435 (11) from lamp check switch (6).

END OF TASK

INSTALLATION

1. Install wire 1435 (11) on lamp check switch (6) with screw (10).
2. Install wire 1995 (9) on lamp check switch (6) with screw (8).

NOTE

Install lamp check switch as noted prior to removal.

3. Install lamp check switch (6) on bracket (7) with nut (5), washer (4), and boot (3).
4. Connect THAAD control harness connector (2) to lamp check switch harness connector (1).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Connect batteries (TM 9-2320-325-14&P).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
LHS CAB CONTROL MODULE REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

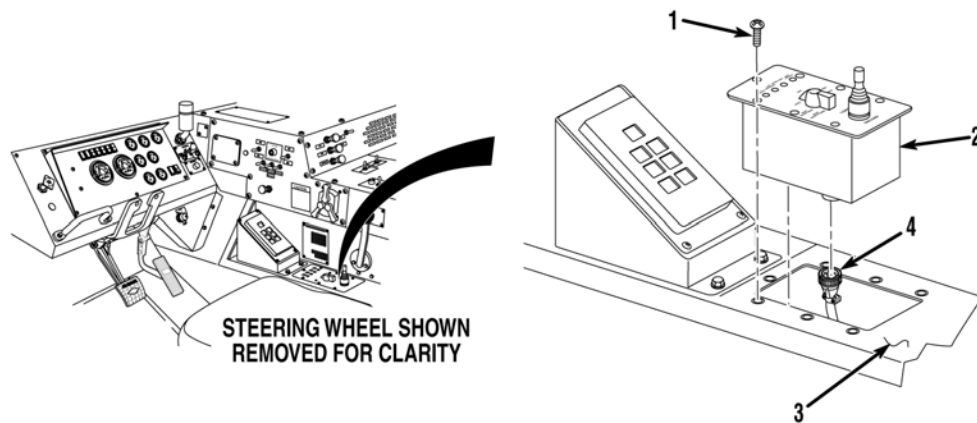
None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)

Wheels chocked (TM 9-2320-347-10)

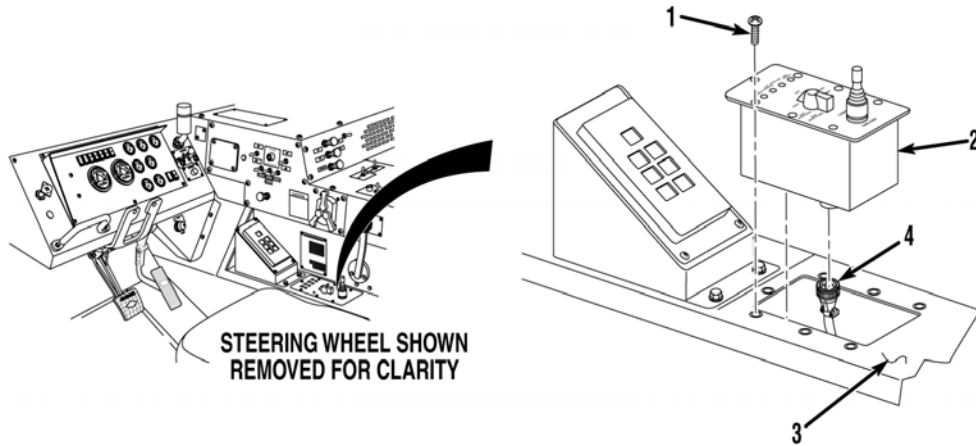
Batteries disconnected (TM 9-2320-325-14&P)

REMOVAL**NOTE**

- LHS cab control module cannot be repaired and should not be disassembled.
- Remove cable ties as required.

1. Remove eight screws (1) from LHS cab control module (2).
2. Lift LHS cab control module (2) out of cab (3) and disconnect connector (4) from LHS cab control module (2).

END OF TASK

INSTALLATION

1. Connect connector (4) to LHS cab control module (2).
2. Install LHS cab control module (2) in cab (3) with eight screws (1).
3. Check LHS cab control for operation (WP 0011)

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Connect batteries (TM 9-2320-325-14&P).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE

LHS COMPRESSION FRAME HARNESS REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Lifting Device, Minimum Capacity 2,500 lbs
(1,135 kg)
Tool Kit, Electrical (WP 0183, Item 24)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wooden Block (2) (WP 0157, Item B-1)

Materials/Parts

Compound, Sealing, Loctite #609
(WP 0186, Item 13)
Locknut, (4), (WP 0184, Item 27)
Lockwasher, (4), (WP 0184, Item 138)
Tags, Identification (WP 0186, Item 32)

Materials/Parts (Continued)

Tape, Insulation, Electrical (WP 0186, Item 33)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

MOS 63B Wheeled vehicle mechanic

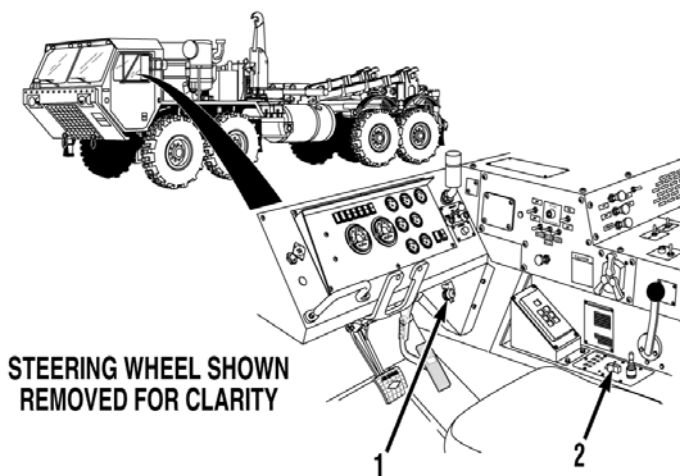
References

None

Equipment Conditions

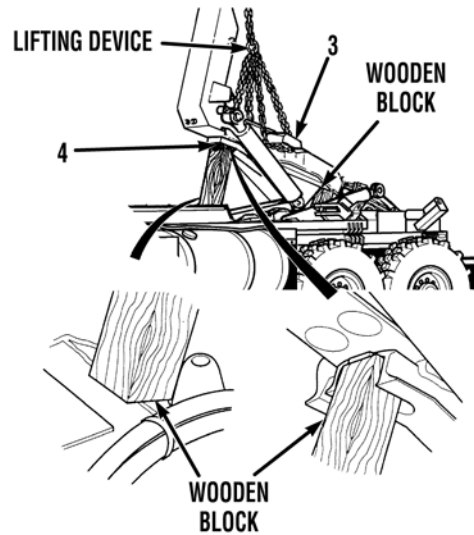
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Hydraulic selector switch in OFF position
(WP 0011)

REMOVAL

**WARNING**

Main frame cylinder pressure must be relieved before lifting hook arm. Failure to comply may result in serious injury or death to personnel.

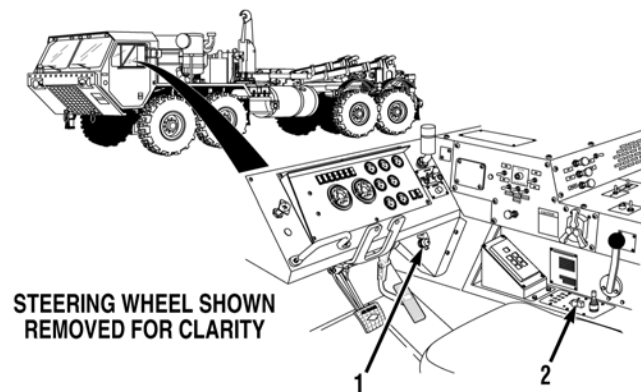
1. Turn engine start switch (1) to ON position.
2. Turn hydraulic selector switch (2) to MAN TRANSIT position.



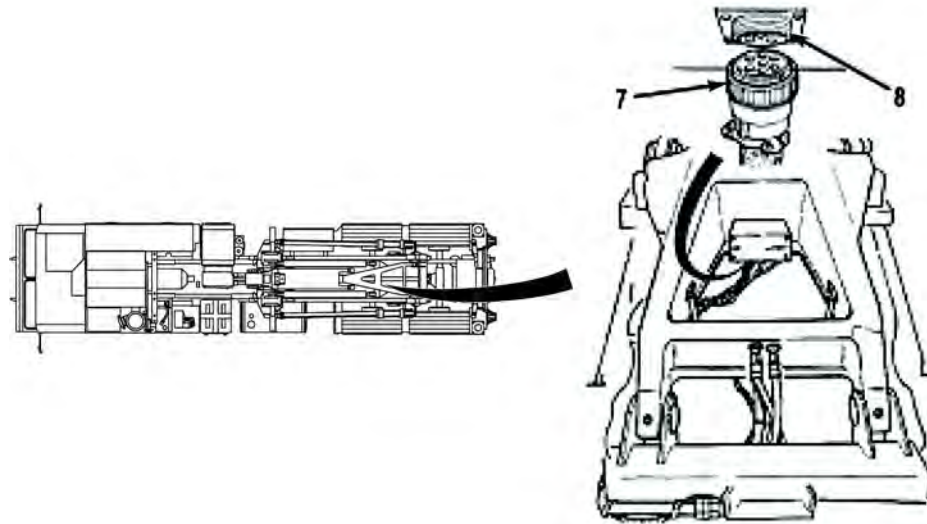
WARNING

Main frame and hook arm combined weight is 2,100 lbs (953 kg). Middle frame must be raised with a suitable lifting device and supported with two wooden blocks. Failure to comply may result in serious injury or death to personnel.

3. Attach suitable lifting device to hook arm (3).
4. Soldier A raises main frame (4) up until hook arm pivot pin (5) is above main frame cylinder (6) while Soldier B blocks up main frame (4) in two places.
5. Soldier A lowers main frame (4) on two wooden blocks.

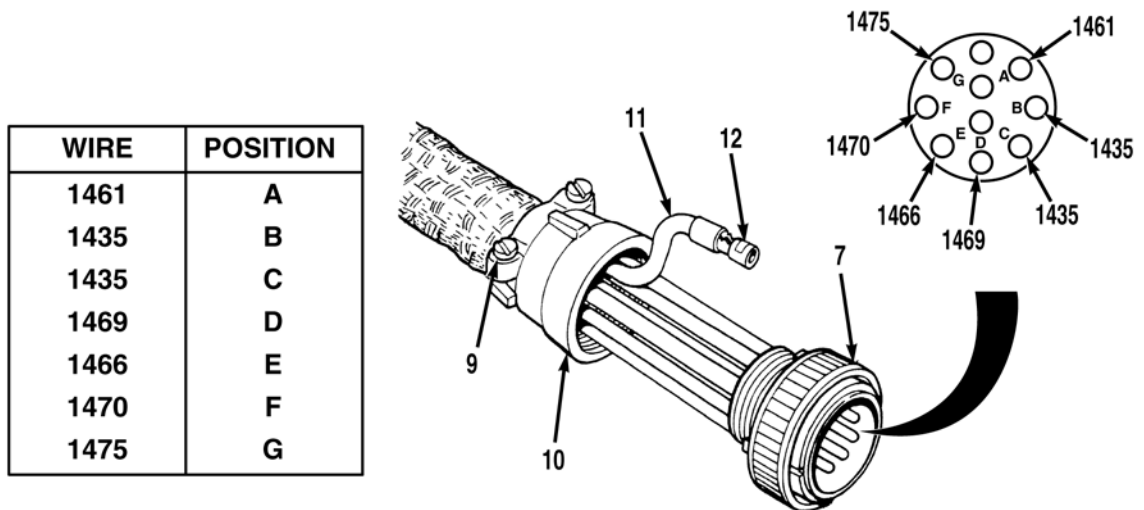


6. Turn hydraulic selector switch (2) and engine start switch (1) to OFF position.

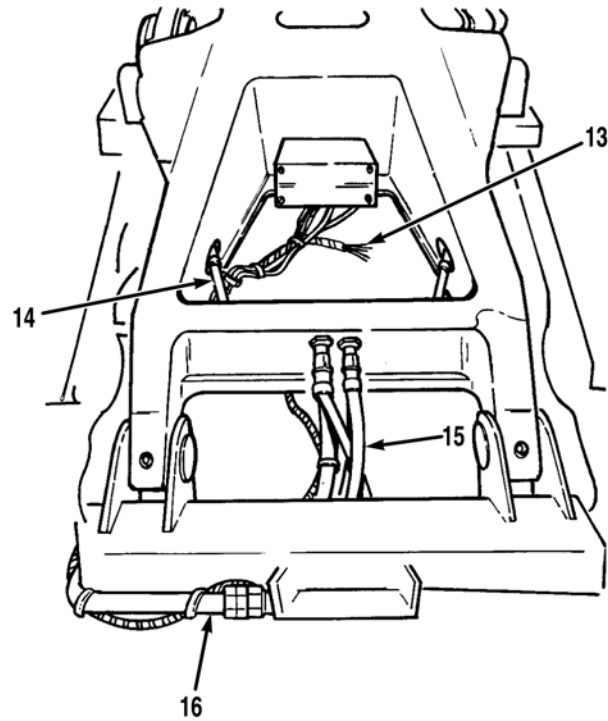


NOTE

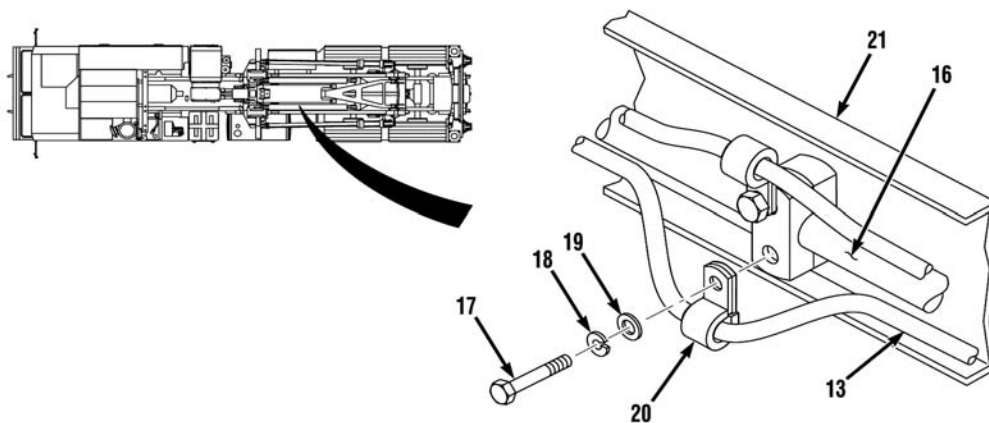
- Note position of harness inside vehicle prior to removal to ensure proper installation.
 - Tag and mark connectors and wires prior to removal to ensure proper installation.
7. Disconnect connector MC87 (7) from LHS junction box connector (8).



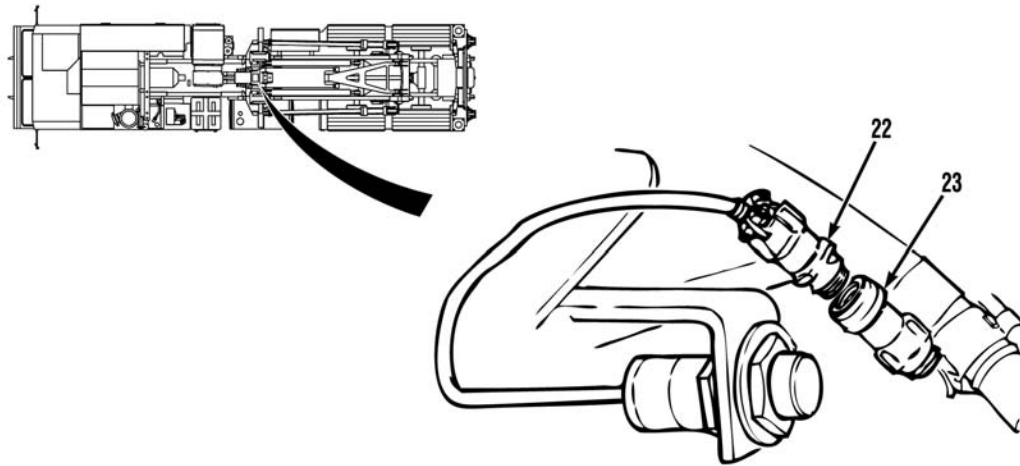
8. Loosen two screws (9) and remove nut (10) from connector MC87 (7).
9. Remove seven wires (11) with terminals (12) from connector MC87 (7), and tape seven wires (11) together with electrical tape.



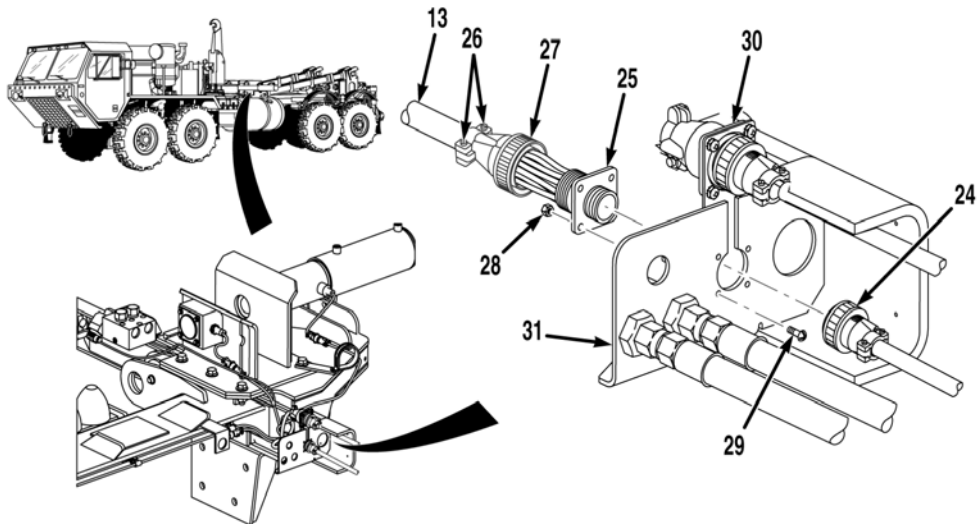
10. Remove LHS compression frame harness (13) from main frame tubes (14), hoses (15), and left compression frame tube (16) where attached with cable ties.



11. Remove four screws (17), lockwashers (18), washers (19), cushion clips (20), and LHS compression frame harness (13) from left compression frame tube (16) at inside of left compression frame rail (21). Discard lockwashers.



12. Disconnect connector MC88 (22) from hook arm down proximity switch (23).



13. Disconnect connector MC86 (24) from bulkhead connector (25).
14. Loosen two screws (26) and remove nut (27) from bulkhead connector (25).
15. Remove four locknuts (28), screws (29), and bulkhead connector (25) from connector bracket (30) and compression frame manifold (31). Discard locknuts.

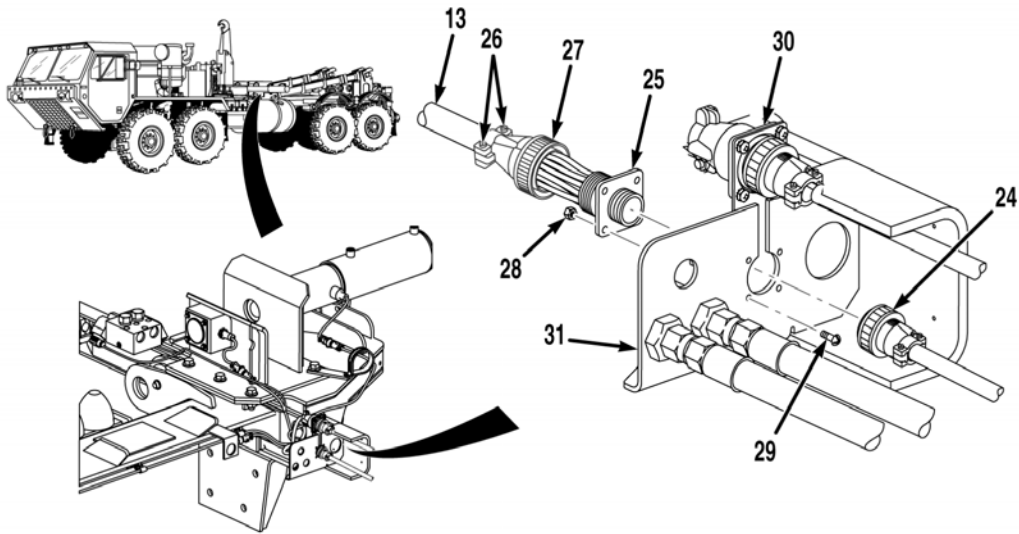
NOTE

Note routing of LHS compression frame harness prior to removal to ensure proper installation.

16. Remove LHS compression frame harness (13) from vehicle.

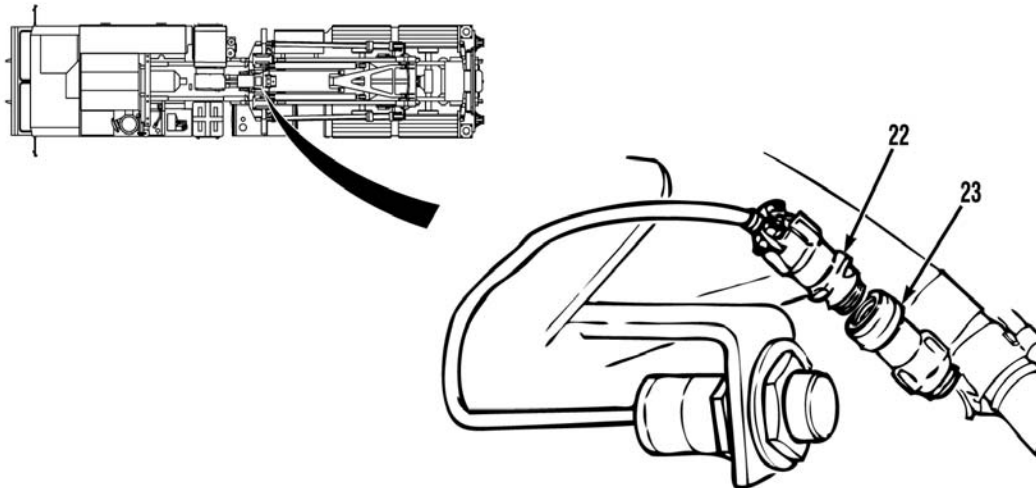
END OF TASK

INSTALLATION

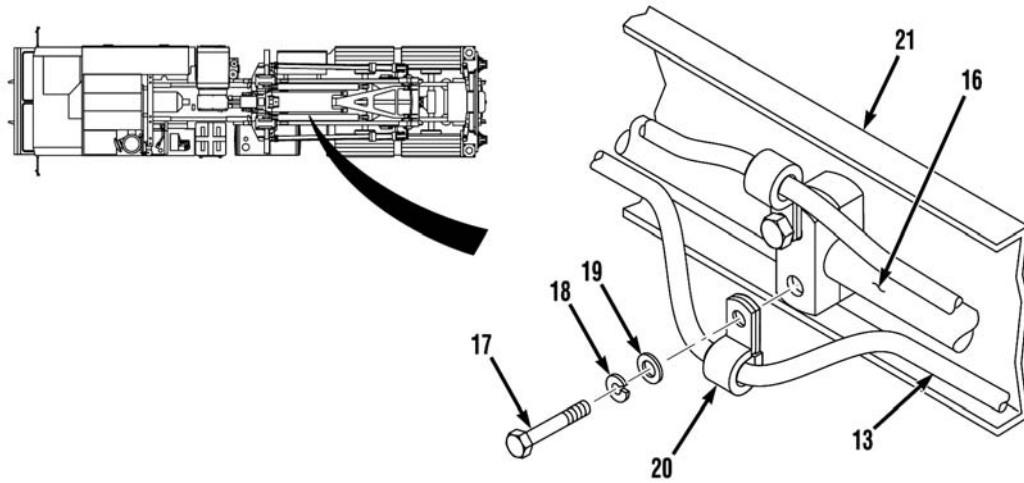
**NOTE**

Route LHS compression frame as noted prior to removal.

1. Install LHS compression frame harness (13) inside vehicle.
2. Install bulkhead connector (25) on compression frame manifold (31) and connector bracket (30) with four screws (29) and locknuts (28).
3. Install nut (27) on bulkhead connector (25) and tighten two screws (26).
4. Connect connector MC86 (24) to bulkhead connector (25).



5. Connect connector MC88 (22) to hook arm down proximity switch (23).

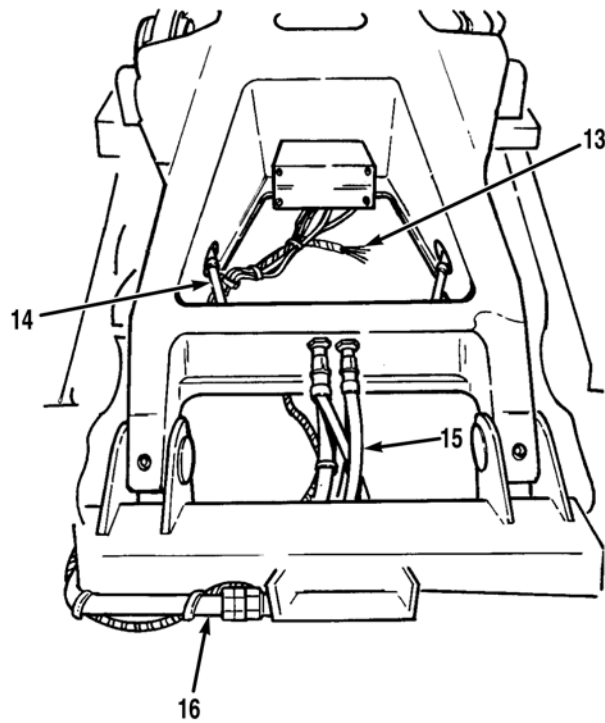


6. Install LHS compression frame harness (13) in four cushion clips (20).

WARNING

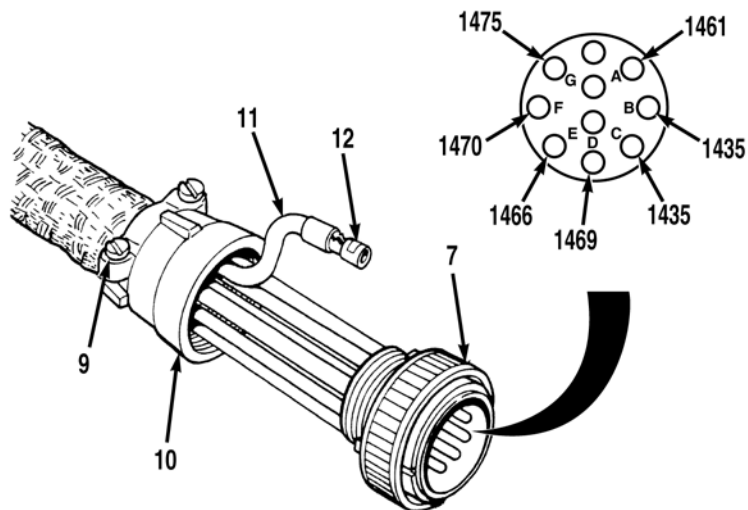
Adhesives, solvents and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

7. Apply sealing compound to threads of four screws (17).
8. Install four cushion clips (20) and LHS compression frame harness (13) on left compression frame tube (16) at inside of left compression frame rail (21) with four washers (19), lockwashers (18), and screws (17).

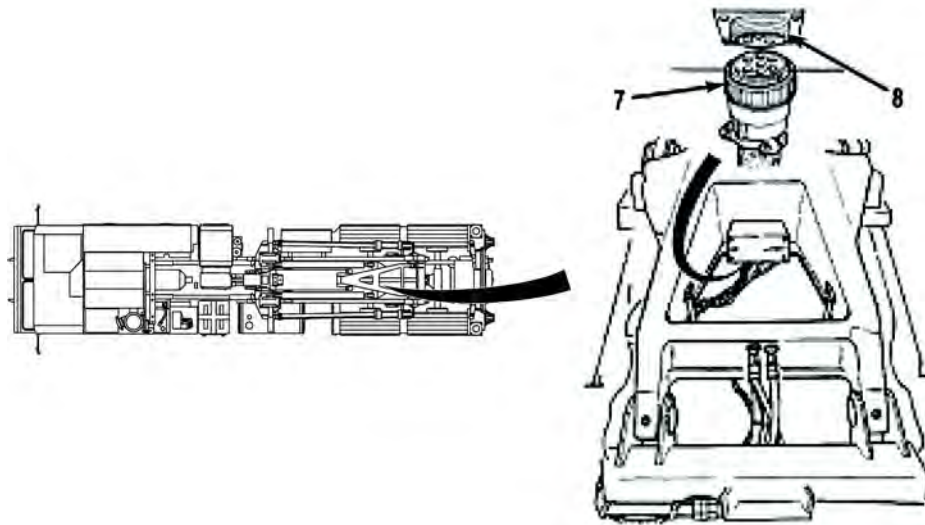


9. Install LHS compression frame harness (13) on left compression frame tube (16), hoses (15), and main frame tubes (14) with cable ties.

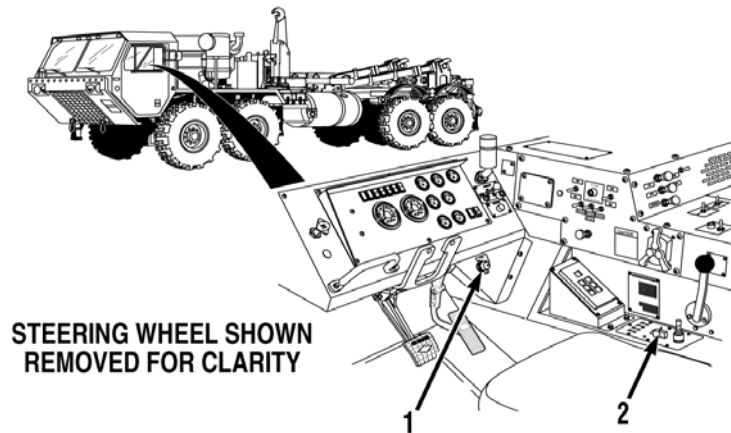
WIRE	POSITION
1461	A
1435	B
1435	C
1469	D
1466	E
1470	F
1475	G



10. Install seven wires (11) with terminals (12) on connector MC87 (7).
11. Install nut (10) on connector MC87 (7) and tighten two screws (9).



12. Connect connector MC87 (7) to LHS junction box connector (8).



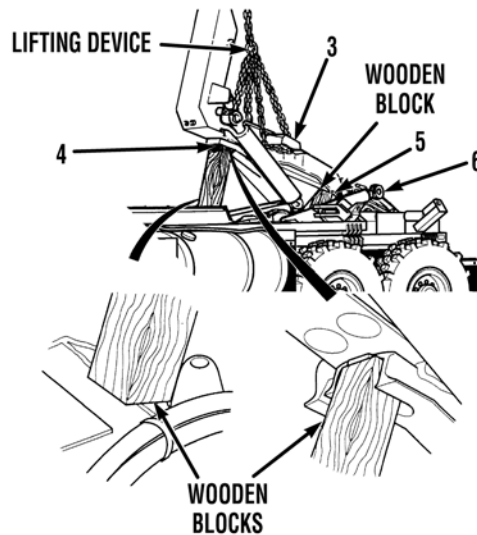
WARNING

Main frame and hook arm combined weight is 2,100 lbs (953 kg). Middle frame must be raised with a suitable lifting device and supported with two wooden blocks. Failure to comply may result in serious injury or death to personnel.

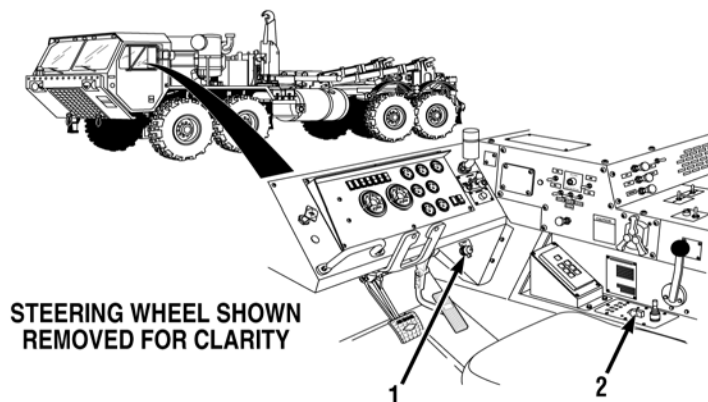
CAUTION

Blocks supporting main frame can fall when frame is supported with suitable lifting device. Soldier must prevent blocks from falling. Failure to comply may result in damage to equipment.

13. Turn engine start switch (1) to ON position.
14. Turn hydraulic selector switch (2) to MAN TRANSIT position.



15. With suitable lifting device attached to hook arm (3), Soldier A raises main frame (4) while Soldier B removes two wooden blocks.
16. Soldier A lowers main frame (4) while Soldier B operates suitable lifting device until main frame (4) is lowered completely.
17. Remove suitable lifting device from hook arm (3).



18. Turn hydraulic selector switch (2) and engine start switch (1) to OFF position.

END OF TASK

FOLLOW-ON MAINTENANCE

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
LHS JUNCTION BOX REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Adhesive, RTV 738 (WP 0186, Item 3)
Cloth, Cleaning (WP 0186, Item 8)
Locknut, (2), (WP 0184, Item 24)
Locknut, (4), (WP 0184, Item 19)
Locknut, (4), (WP 0184, Item 27)
Packing, Preformed, (4), (WP 0184, Item 68)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

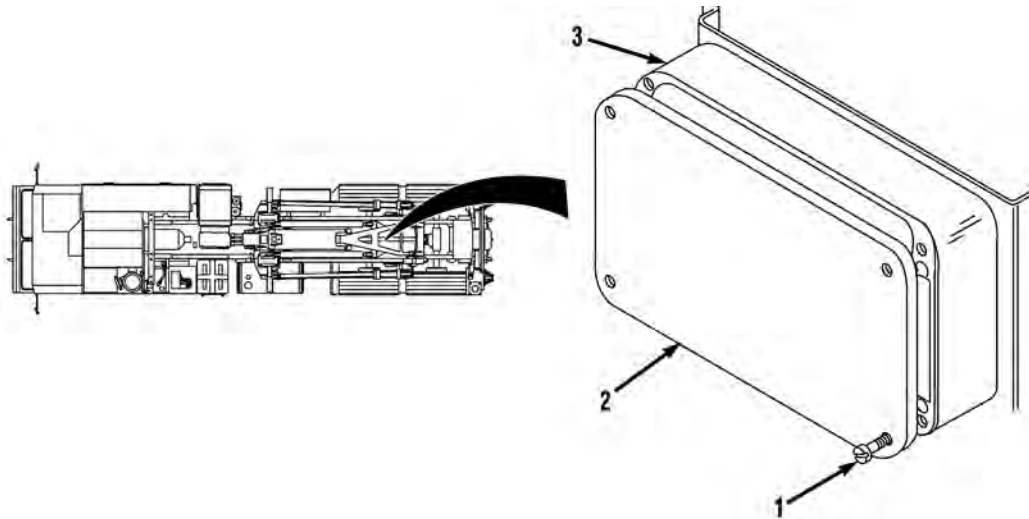
MOS 63B Wheeled vehicle mechanic

References

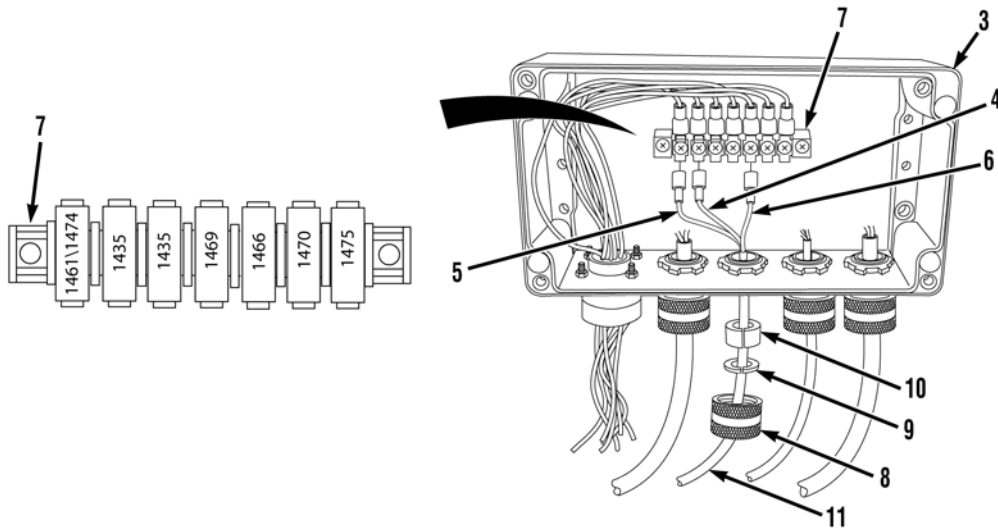
None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
LHS in transit position (WP 0011)
Batteries disconnected (TM 9-2320-325-14&P)

REMOVAL

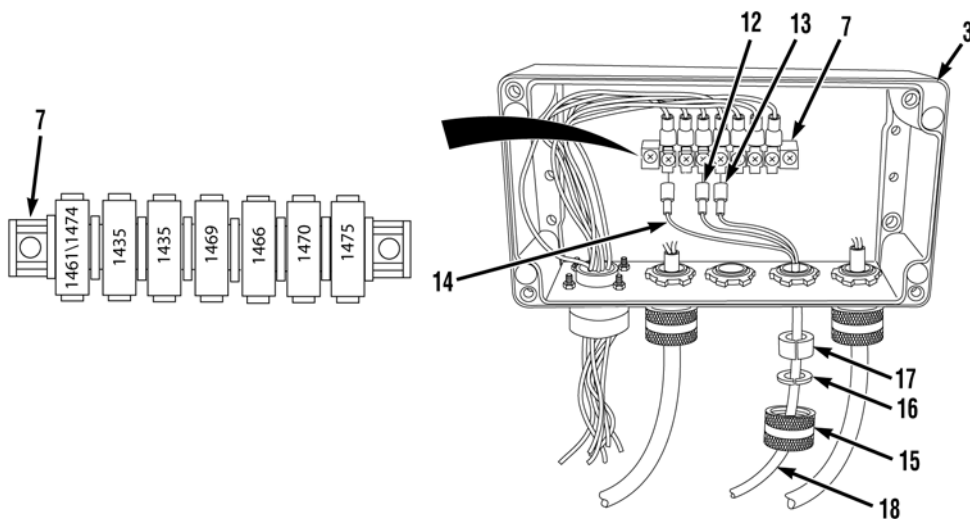
1. Loosen four screws (1) and remove junction box cover (2) from junction box (3).



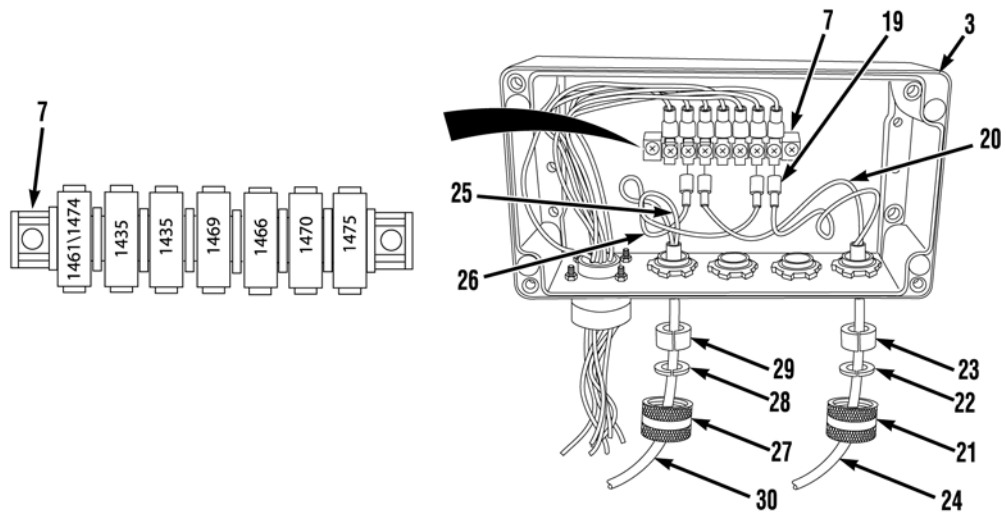
NOTE

- Tag and mark wires and connectors prior to removal to ensure proper installation.
- Remove cable ties as required.

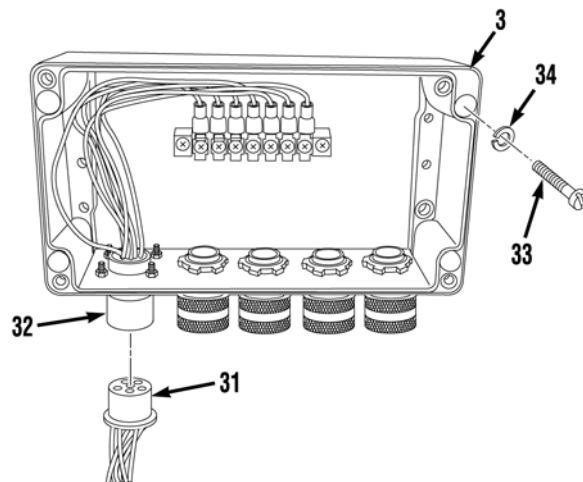
2. Remove wire 1435 (4), wire 1474 (5), and wire 1466 (6) from terminal strip (7).
3. Remove collar (8), washer (9), sealing ring (10), and cable (11) from junction box (3).



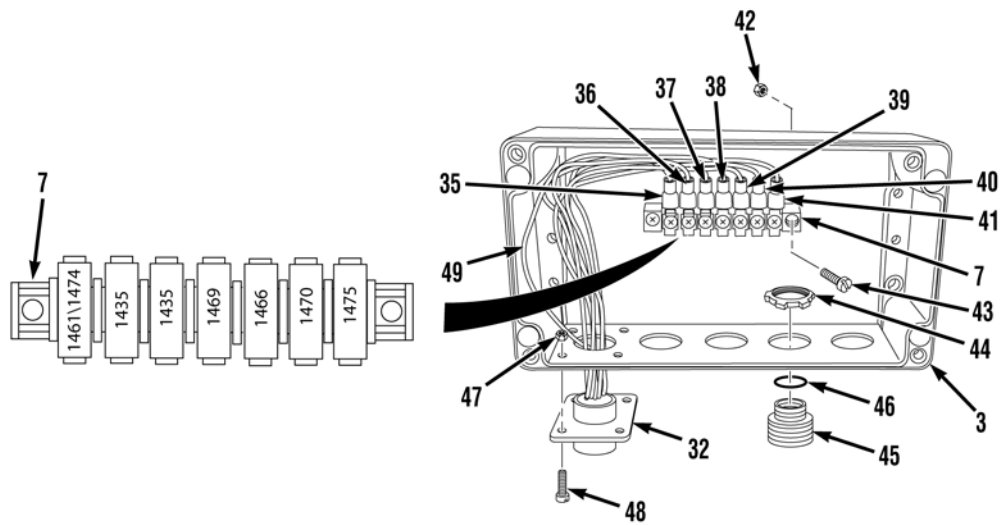
4. Remove wire 1435 (12), wire 1469 (13), and wire 1461 (14) from terminal strip (7).
5. Remove collar (15), washer (16), sealing ring (17), and cable (18) from junction box (3).



6. Remove wire 1475 (19) and wire 1435 (20) from terminal strip (7).
7. Remove collar (21), washer (22), sealing ring (23), and cable (24) from junction box (3).
8. Remove wire 1470 (25) and wire 1435 (26) from terminal strip (7).
9. Remove collar (27), washer (28), sealing ring (29), and cable (30) from junction box (3).



10. Remove MC87 connector (31) from connector (32).
11. Remove four screws (33), lockwashers (34), and junction box (3) from vehicle.



12. Remove wires 1461 (35), 1435 (36), 1435 (37), 1469 (38), 1466 (39), 1470 (40), and 1475 (41) from terminal strip (7).
13. Remove two locknuts (42), screws (43), and terminal strip (7) from junction box (3). Discard locknuts.
14. Remove four locknuts (44), bulkheads (45) and O-rings (46) from junction box (3). Discard locknuts and O-rings.
15. Remove four locknuts (47), screws (48), connector (32), and harness (49) from junction box (3). Discard locknuts.

END OF TASK

INSTALLATION

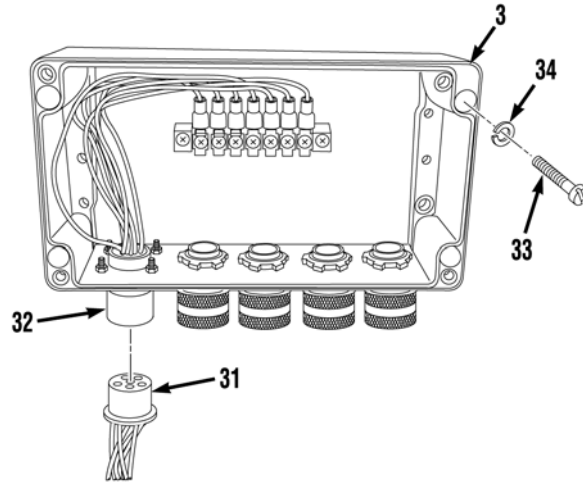
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

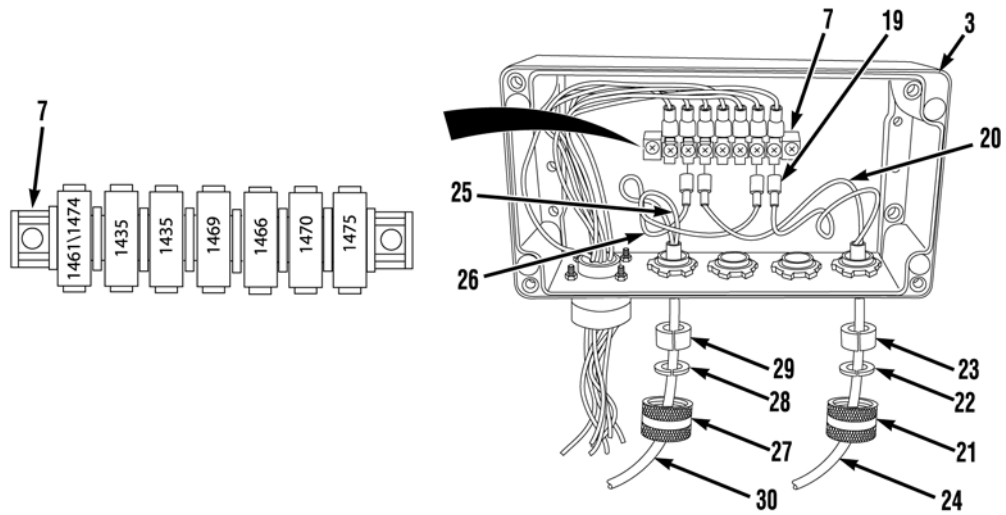
NOTE

Install cable ties as required.

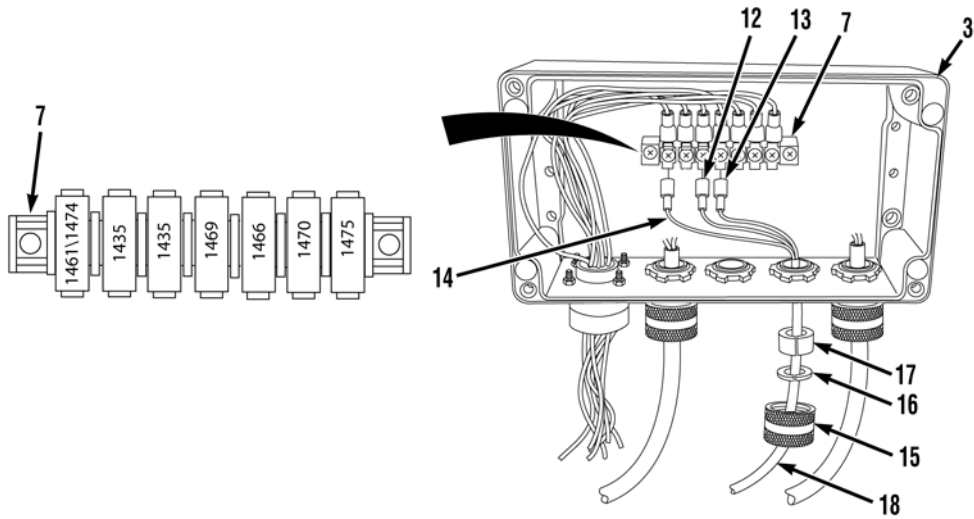
1. Apply adhesive to back of connector (32) and install harness (49) and connector (32) in junction box (3) with four screws (48) and locknuts (47).
2. Install four bulkheads (45) and O-rings (46) on junction box (3) with four locknuts (44).
3. Apply adhesive to back plate of terminal strip (7) and install terminal strip (7) on junction box (3) with two screws (43) and locknuts (42).
4. Install wires 1475 (41), 1470 (40), 1466 (39), 1469 (38), 1435 (37), 1435 (36), and 1461 (35) on terminal strip (7).



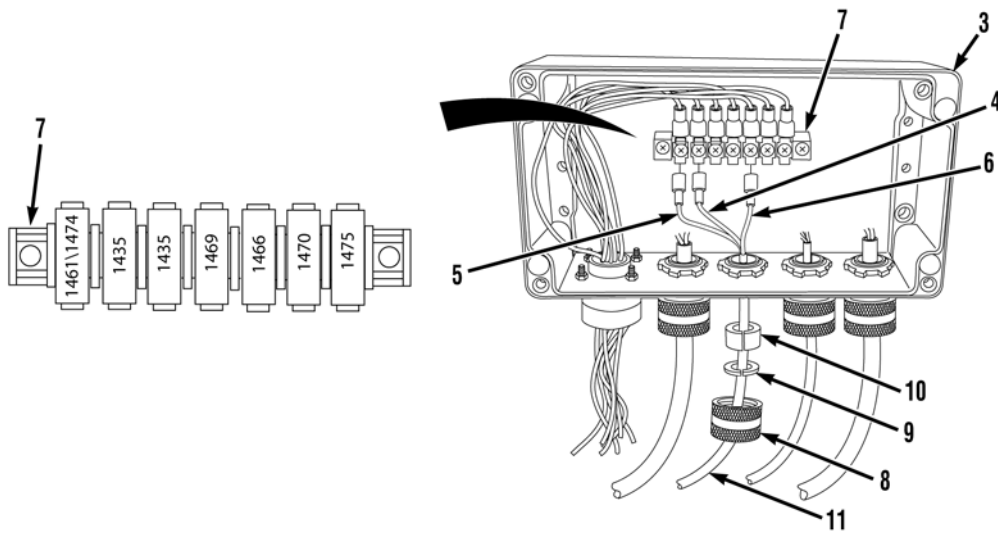
5. Install junction box (3) on vehicle with four lockwashers (34) and screws (33).
6. Connect MC 87 connector (31) to connector (32).



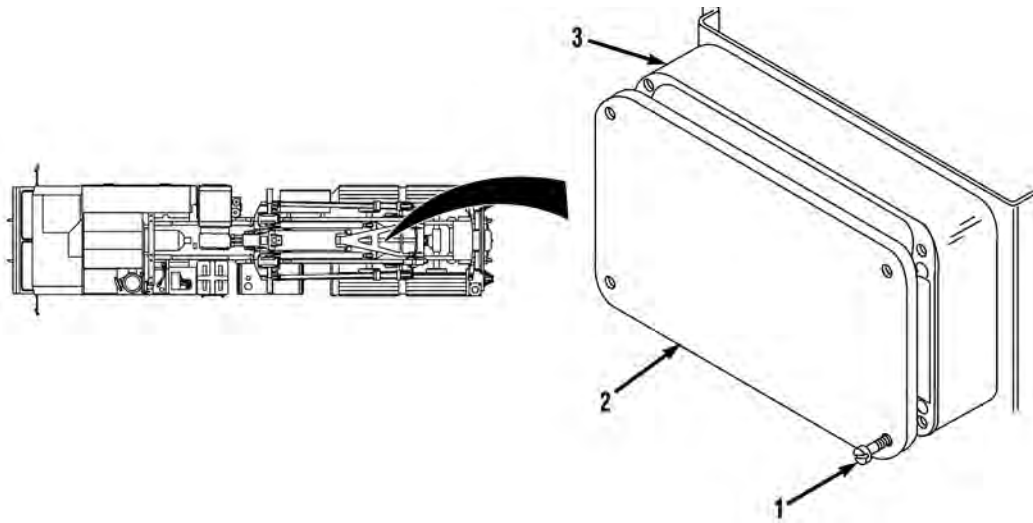
7. Install cable (30) in junction box (3) with sealing ring (29), washer (28), and collar (27).
8. Install wire 1435 (26) and wire 1470 (25) on terminal strip (7).
9. Install cable (24) in junction box (3) with sealing ring (23), washer (22), and collar (21).
10. Install wire 1435 (20) and wire 1475 (19) on terminal strip (7).



11. Install cable (18) in junction box (3) with sealing ring (17), washer (16), and collar (15).
12. Install wire 1461 (14), wire 1469 (13), and wire 1435 (12) on terminal strip (7).



13. Install cable (11) in junction box (3) with sealing ring (10), washer (9), and collar (8).
14. Install wire 1466 (6), wire 1474 (5), and wire 1435 (4) on terminal strip (7).



15. Install junction box cover (2) on junction box (3) and tighten four screws (1).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Connect batteries (TM 9-2320-325-14&P).
2. Check for proper operation of LHS (WP 0011).
3. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
MARKER/CLEARANCE LIGHT REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Compound, Corrosion Preventive (WP 0186,
Item 10)
Locknut, (2), (WP 0184, Item 23)
Lockwasher (2), (WP 0184, Item 59)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

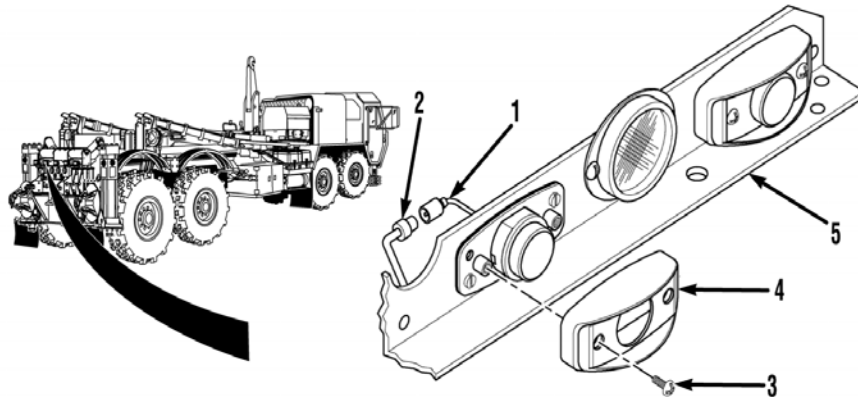
MOS 63B Wheeled vehicle mechanic

References

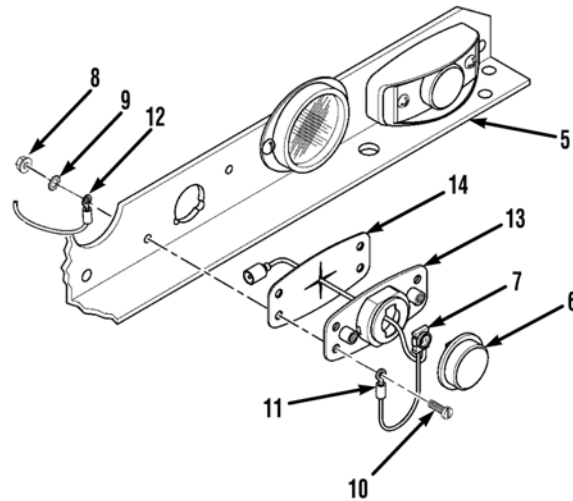
None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Batteries disconnected TM 9-2320-325-14&P

REMOVAL**NOTE**

- All marker lights are removed the same way. Marker light on rear light bar assembly shown.
 - Tag and mark connectors prior to removal to ensure proper installation.
 - Remove cable ties as required.
1. Disconnect connector (1) from connector (2).
 2. Remove two screws (3) and cover (4) from rear light bar assembly (5).



3. Remove light-emitting diode (6) from pigtail (7).
4. Remove two locknuts (8), lockwashers (9), screws (10), ground wires (11 and 12), mounting base (13), gasket (14), and pigtail (7) from rear light bar assembly (5). Discard locknuts and lockwashers.

END OF TASK

INSTALLATION

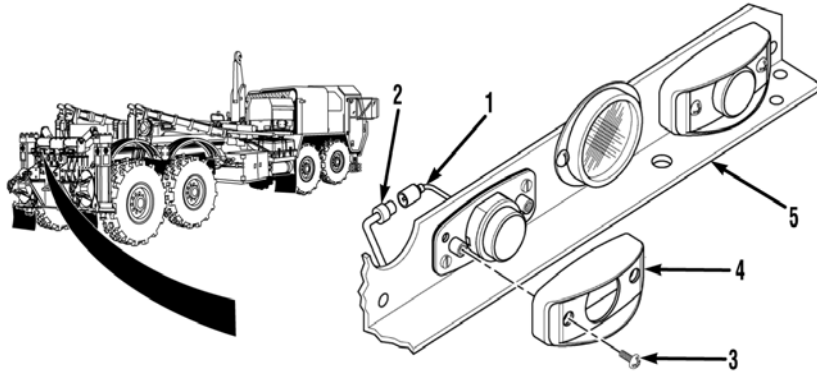
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

NOTE

All marker lights are installed the same way. Marker light on rear light bar assembly shown.

1. Apply corrosion preventive compound to threads of two screws (9).
2. Install pigtail (7), gasket (14), mounting base (13), and two ground wires (11 and 12) on rear light bar assembly (5) with two screws (10) and locknuts (8).
3. Install light-emitting diode (6) on pigtail (7).



4. Install cover (4) on rear light bar assembly (5) with two screws (3).

NOTE

Install cable ties as required.

5. Connect connector (1) to connector (2).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Connect batteries (TM 9-2320-325-14&P).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

MRP ELEVATION CYLINDER STOWED SWITCH REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknuts (4), (WP 0184, Item 21)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

MOS 63B Wheeled vehicle mechanic

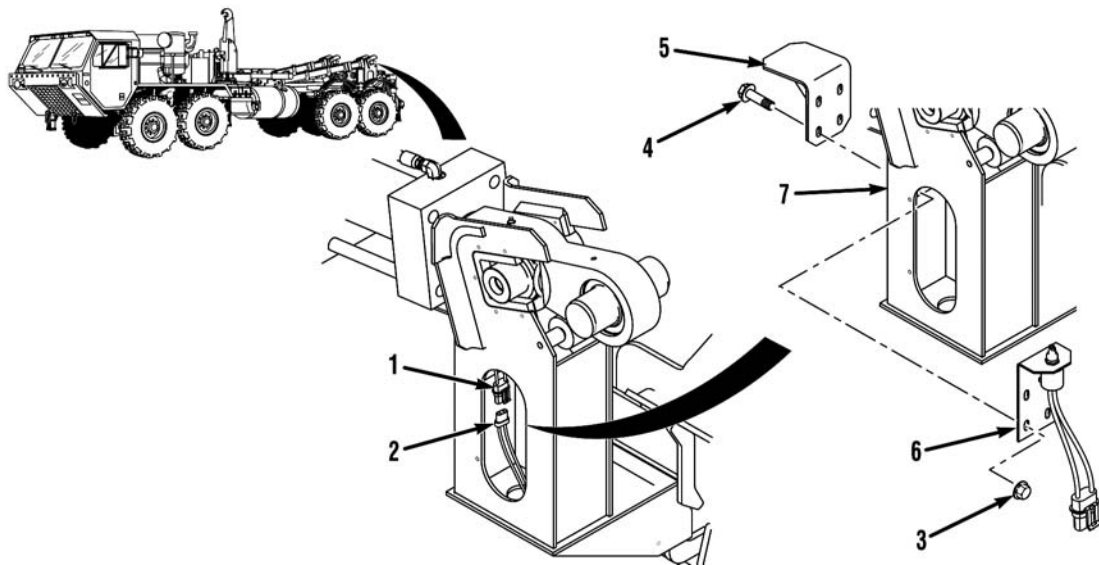
References

None

Equipment Conditions

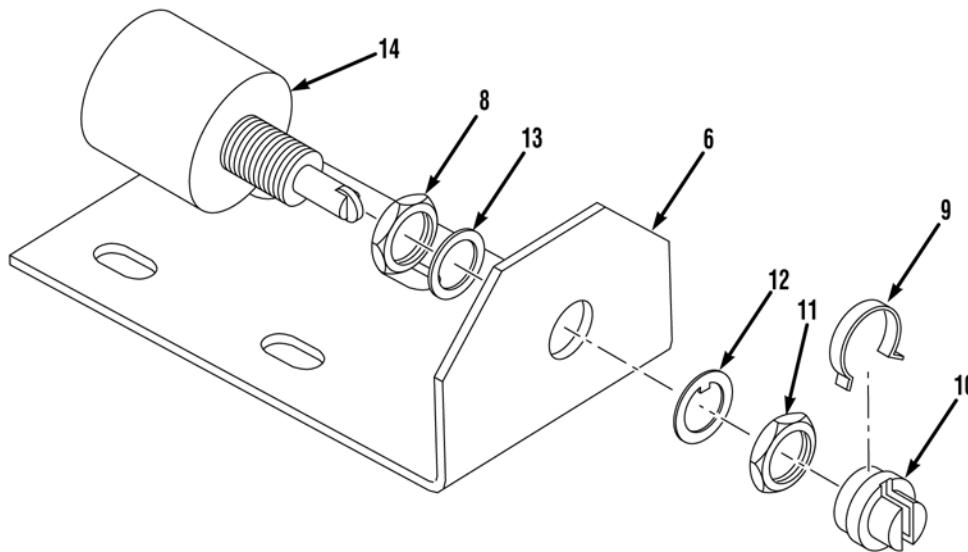
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Batteries disconnected (TM 9-2320-325-14&P)

REMOVAL

**NOTE**

- Both MRP elevation cylinder stowed switches are removed the same way. Left side shown.
- Remove and replace cable ties as required.

1. Disconnect connector (1) from connector (2).
2. Remove four locknuts (3), screws (4), mounting bracket (5), and switch plate (6) from main frame (7). Discard locknuts. Discard locknuts.



NOTE

- Note number of turns needed to remove cap to ensure proper installation.
- Note position of locking ring prior to removal to ensure proper installation.

3. Loosen nut (8) and remove retainer (9), cap (10), nut (11), locking ring (12), washer (13), nut (8), and switch (14) from switch plate (6).

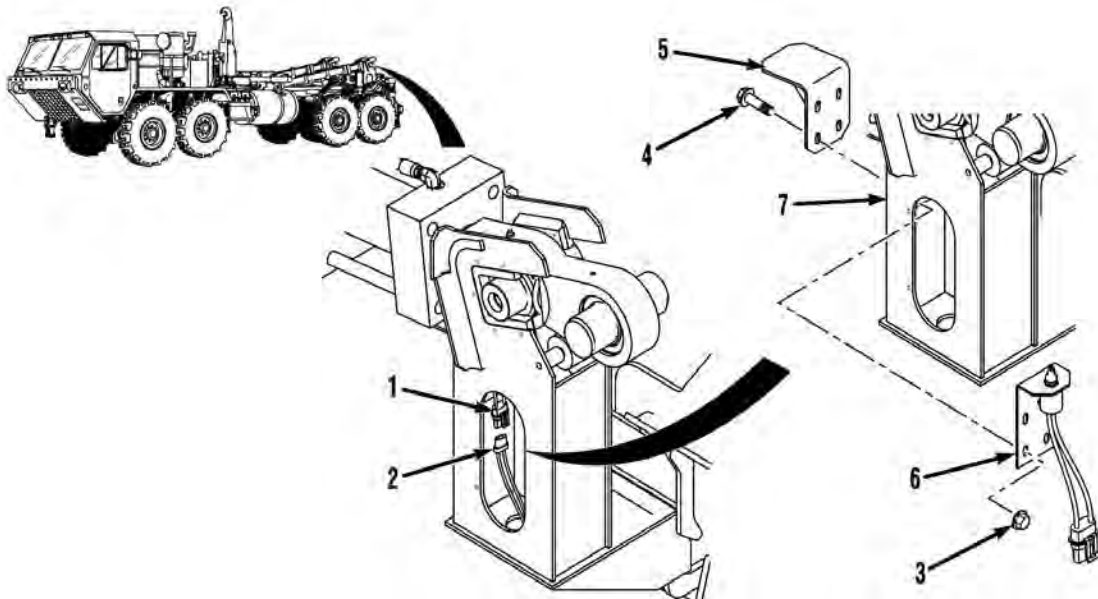
END OF TASK

INSTALLATION

NOTE

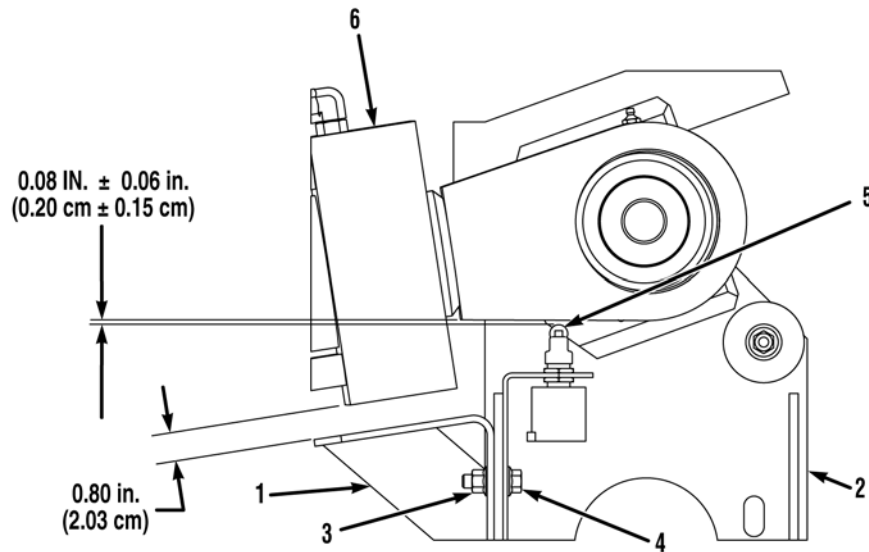
- Both MRP elevation cylinder stowed switches are installed the same way. Left side shown.
- Install cap according to number of turns as noted prior to removal.
- Install locking ring as noted prior to removal.

1. Install switch (14) on switch plate (6) with nut (8), washer (13), locking ring (12), nut (11), cap (10), and retainer (9). Tighten nuts (8 and 11) to secure switch (14) before mounting switch.



2. Install switch plate (6) and mounting bracket (5) on main frame (7) with four screws (4) and locknuts (3). Do not tighten locknuts (3).
3. Connect connector (1) to connector (2).

END OF TASK

ADJUSTMENT

1. Adjust mounting bracket (1) until it is 0.80 in. (2.03 cm) from main elevation cylinder (6) and tighten four locknuts (3).
2. Adjust switch plate (2) until top of roller (6) is 0.08 in. ± 0.06 in. (0.20 ± 0.15 cm) from main elevation cylinder (6).
3. Tighten four locknuts (3) and screw (4).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Connect batteries (TM 9-2320-325-14&P).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE**PALM BUTTON SWITCH(ES) AND GROUND ROD DRIVER SWITCH REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut (1), (WP 0184, Item 20)
Locknut (4), (WP 0184, Item 15)
Packing, Preformed, (4), (WP 0184, Item 91)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

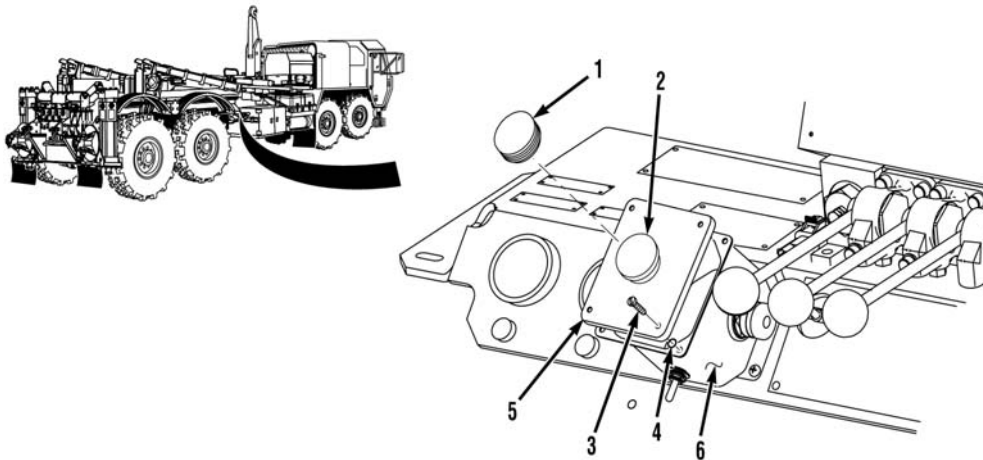
MOS 63B Wheeled vehicle mechanic

References

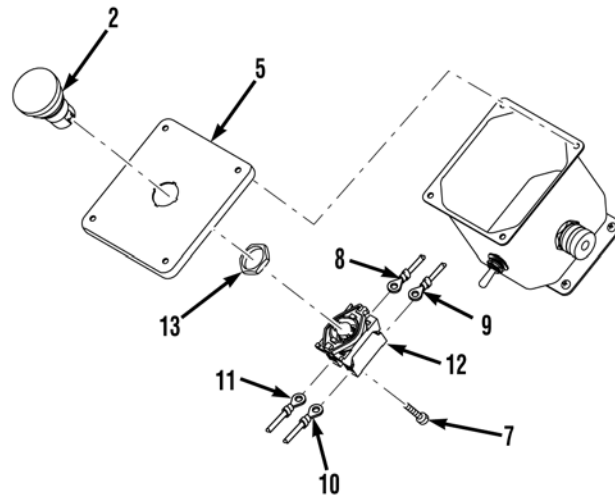
None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Batteries disconnected TM 9-2320-325-14&P

MRP SAFETY PALM BUTTON REMOVAL

1. Remove plastic cover (1) from button (2).
2. Remove four screws (3), O-rings (4) and cover (5) from box (6). Discard O-rings.

**NOTE**

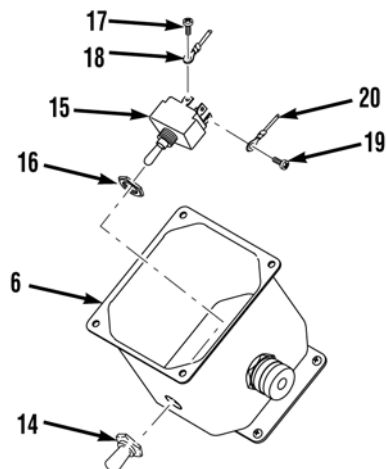
- Tag and mark wires prior to removal to ensure proper installation.
- Remove cable ties as required.

3. Loosen four screws (7) and remove wires 1958 (8), 1435 (9), 1957 (10), and 1435 (11) from palm button switch (12).

NOTE

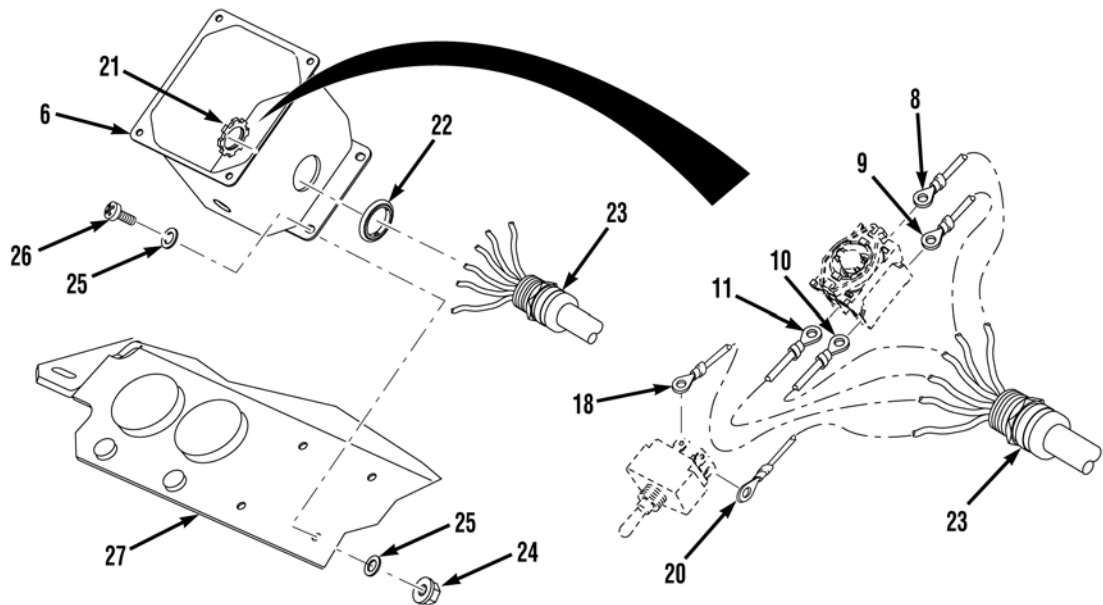
Unlock lever on palm button switch to remove button from palm button switch.

4. Remove cover (5) and button (2) from palm button switch (12).
5. Remove retaining nut (13) and button (2) from cover (5).

**NOTE**

Note position of ground rod driver switch prior to removal to ensure proper installation.

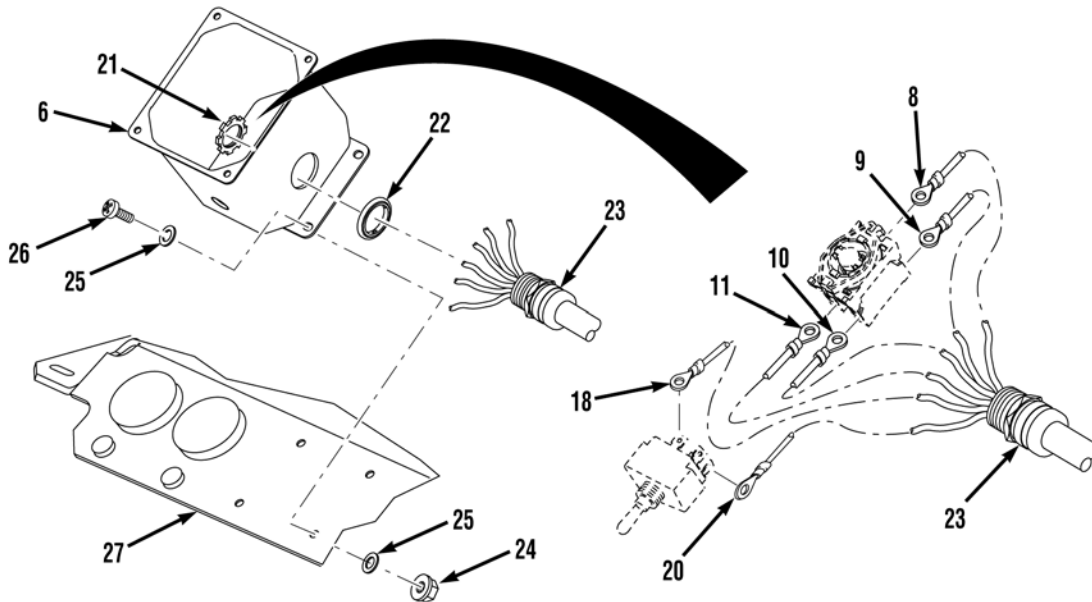
6. Remove switch boot (14) and ground rod driver switch (15) from box (6).
7. Remove nut (16) from ground rod driver switch (15).
8. Remove screw (17) and wire 1435 (18) from ground rod driver switch (15).
9. Remove screw (19) and wire 1954 (20) from ground rod driver switch (15).



10. Remove locknut (21), O-ring (22), sealing grip cord (23), and six wires (8, 9, 10, 11, 18, and 20) from box (6). Discard locknut and O-ring.
11. Remove four locknuts (24), washers (25), screws (26), and box (6) from bracket (27). Discard locknut.

END OF TASK

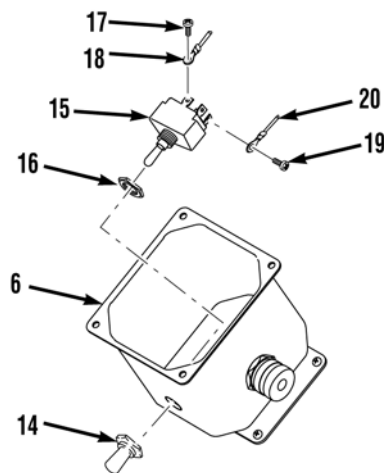
MRP SAFETY PALM BUTTON INSTALLATION



NOTE

Install cable ties as required.

1. Install box (6) on bracket (27) with four screws (26), washers (25), and locknuts (24).
2. Install six wires (8, 9, 10, 11, 18, and 20) inside box (6) with sealing grip cord (23), O-ring (22), and locknut (21).

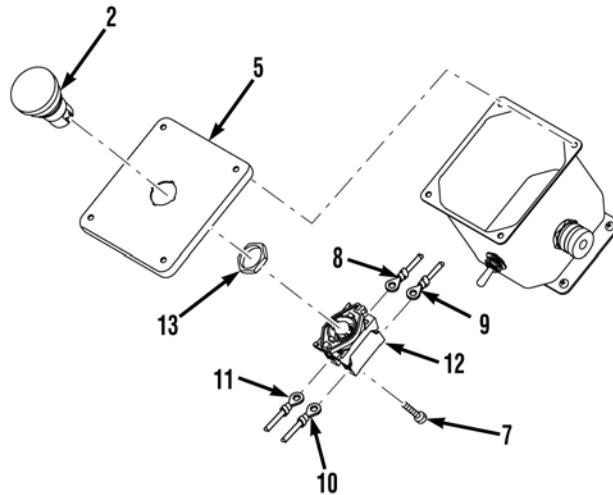


3. Install wire 1954 (20) on ground rod driver switch (15) with screw (19).
4. Install wire 1435 (18) on ground rod driver switch (15) with screw (17).
5. Install nut (16) on ground rod driver switch (15).

NOTE

Install ground rod driver switch as noted prior to removal.

6. Install ground rod driver switch (15) on box (6) with switch boot (14).

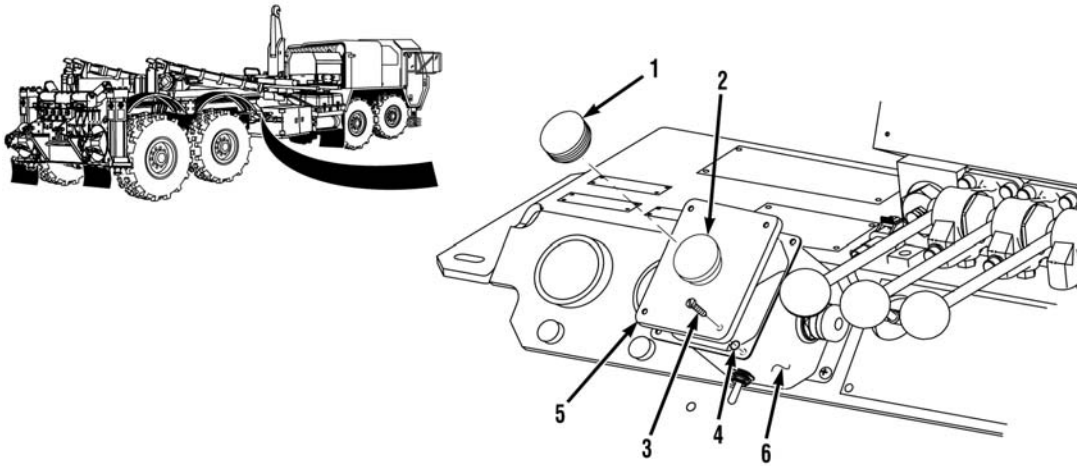


7. Install button (2) on cover (5) with retaining nut (13).

NOTE

Lock lever on palm button switch to install button on palm button switch.

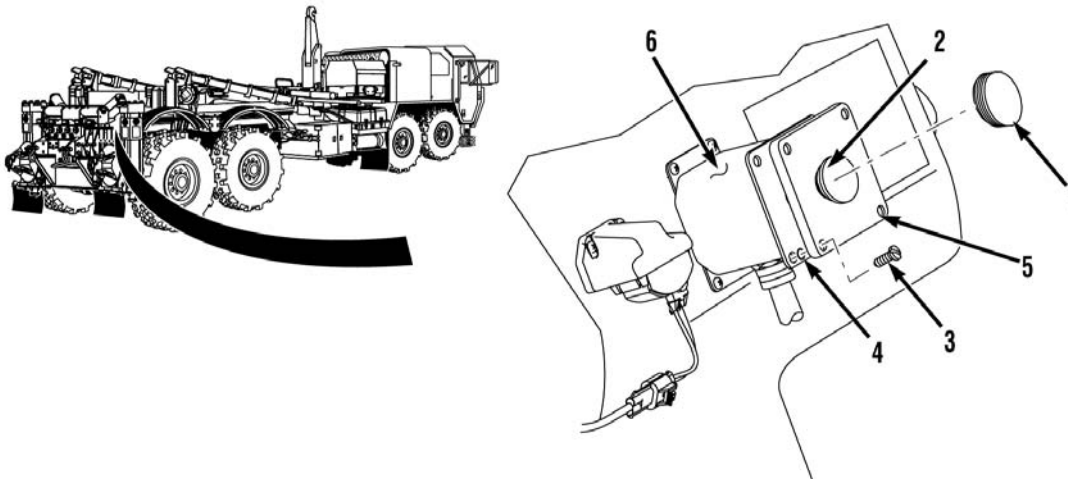
8. Install cover (5) and button (2) on palm button switch (12).
9. Install four wires 1435 (11), 1957 (10), 1435 (9), and 1958 (8) on palm button switch (12) and tighten four screws (7).



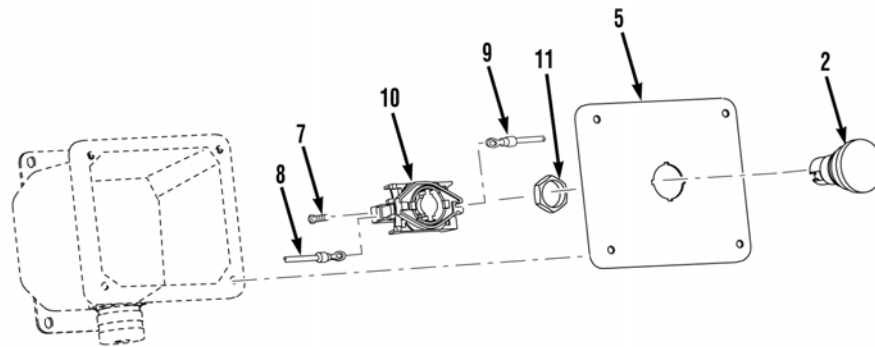
10. Install cover (5) on box (6) with four screws (3) and O-rings (4).
11. Install plastic cover (1) on button (2).

END OF TASK

OUTRIGGER SAFETY PALM BUTTON REMOVAL



1. Remove plastic cover (1) from button (2).
2. Remove four screws (3), O-rings (4) and cover (5) from box (6). Discard O-rings.

**NOTE**

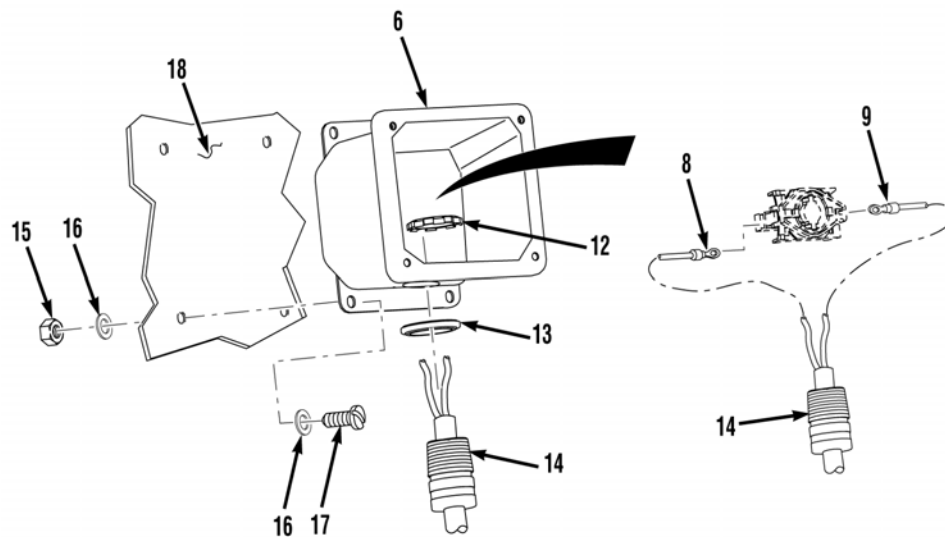
- Tag and mark wires prior to removal to ensure proper installation.
- Remove cable ties as required.

3. Loosen two screws (7) and remove wires 1975 (8) and 1435 (9) from palm button switch (10).

NOTE

Unlock lever on palm button switch to remove button from palm button switch.

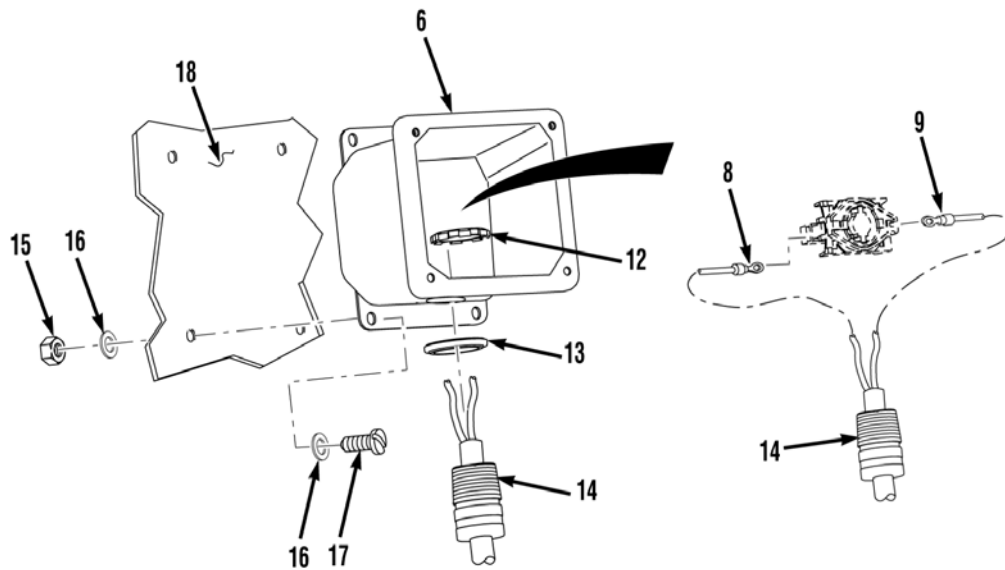
4. Remove cover (5) and button (2) from palm button switch (10).
5. Remove retaining nut (11), and button (2) from cover (5).



6. Remove locknut (12), O-ring (13), sealing grip cord (14), and two wires (8 and 9) from box (6). Discard locknut and O-ring.
7. Remove four locknuts (15), washers (16), screws (17), and box (6) from bracket (18). Discard locknut.

END OF TASK

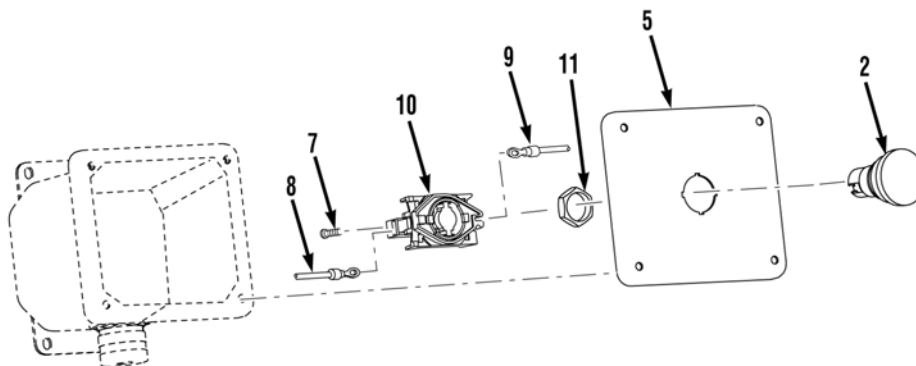
OUTRIGGER SAFETY PALM BUTTON INSTALLATION



NOTE

Install cable ties as required.

1. Install box (6) on bracket (18) with four screws (17), washers (16), and locknuts (15).
2. Install two wires (8 and 9) inside box (6) with sealing grip cord (14), O-ring (13), and locknut (12).

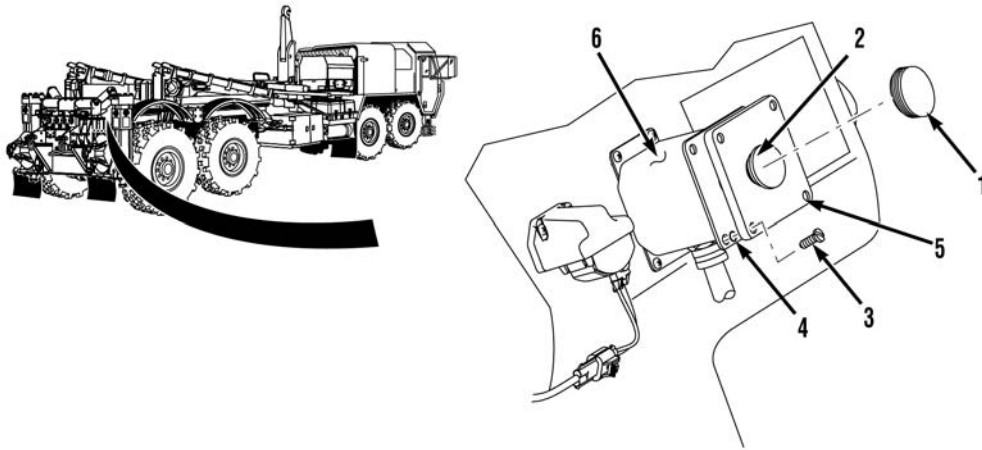


3. Install button (2) on cover (5) with retaining nut (11).

NOTE

Lock lever on palm button switch to install button on palm button switch.

4. Install cover (5) and button (2) on palm button switch (10).
5. Install two wires 1435 (9) and 1975 (8) on palm button switch (10) and tighten two screws (7).



6. Install cover (5) on box (6) with four screws (3) and O-rings (4).
7. Install plastic cover (1) on button (2).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Connect batteries (TM 9-2320-325-14&P).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**PARKING BRAKE INTERLOCK PRESSURE SWITCH REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Compound, Sealing, Pipe Thread
(WP 0186, Item 16)
Tags, Identification (WP 0186, Item 32)

Personnel Required

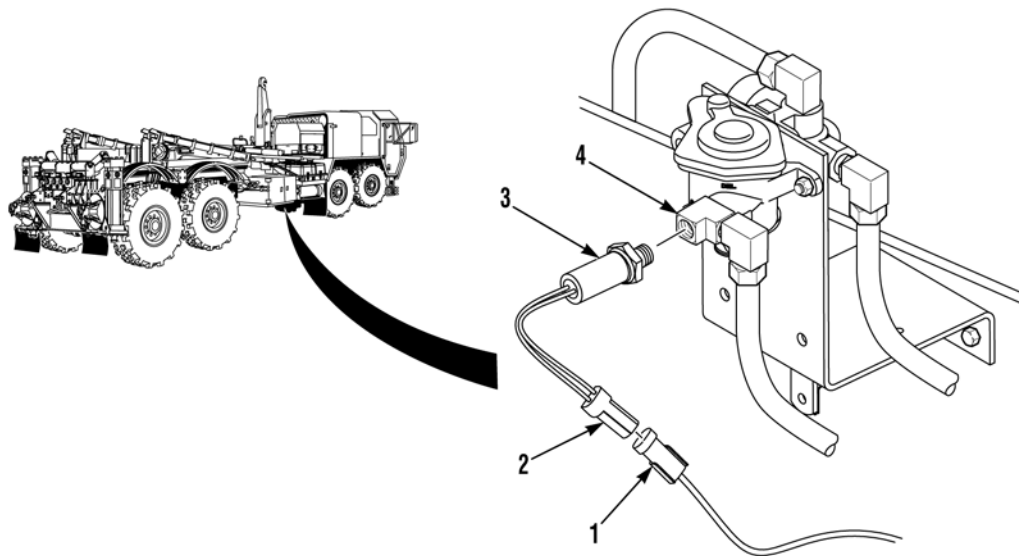
MOS 63B Wheeled vehicle mechanic

References

None

Equipment Conditions

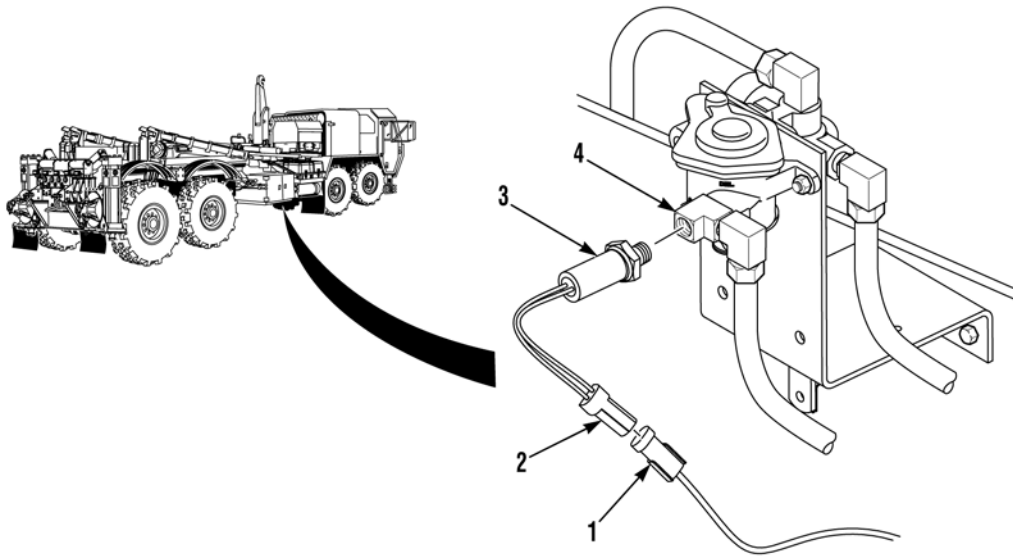
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Air system drained (TM 9-2320-347-10)
Batteries disconnected TM 9-2320-325-14&P

REMOVAL**NOTE**

Tag and mark connectors prior to removal to ensure proper installation.

1. Disconnect connector (1) from connector (2).
2. Remove pressure switch (3) from tee (4).

END OF TASK

INSTALLATION**WARNING**

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

1. Coat threads of pressure switch (3) with pipe thread sealing compound and install pressure switch (3) on tee (4).
2. Connect connector (1) to connector (2).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Connect batteries (TM 9-2320-325-14&P).
2. Start engine and build up air pressure to 125 psi (862 kPa) (TM 9-2320-347-10)
3. Shut off engine (TM 9-2320-347-10)
4. Check for air leaks (TM 9-2320-347-10)
5. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE

PROXIMITY SWITCH REPLACEMENT/ADJUSTMENT (HOOK ARM DOWN)

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Tags, Identification (WP 0186, Item 32)

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

TM 43-0158

Equipment Conditions

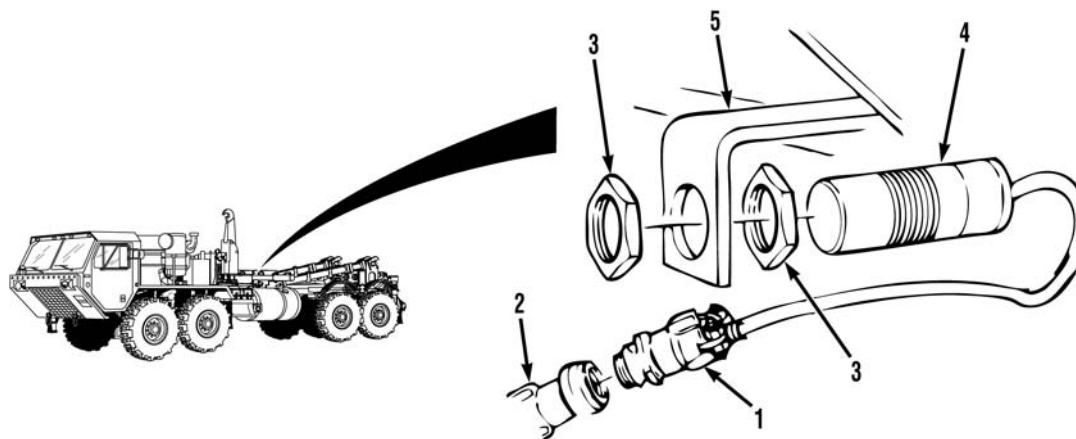
LHS in transit position (WP 0011)

Engine OFF (TM 9-2320-347-10)

Wheels chocked (TM 9-2320-347-10)

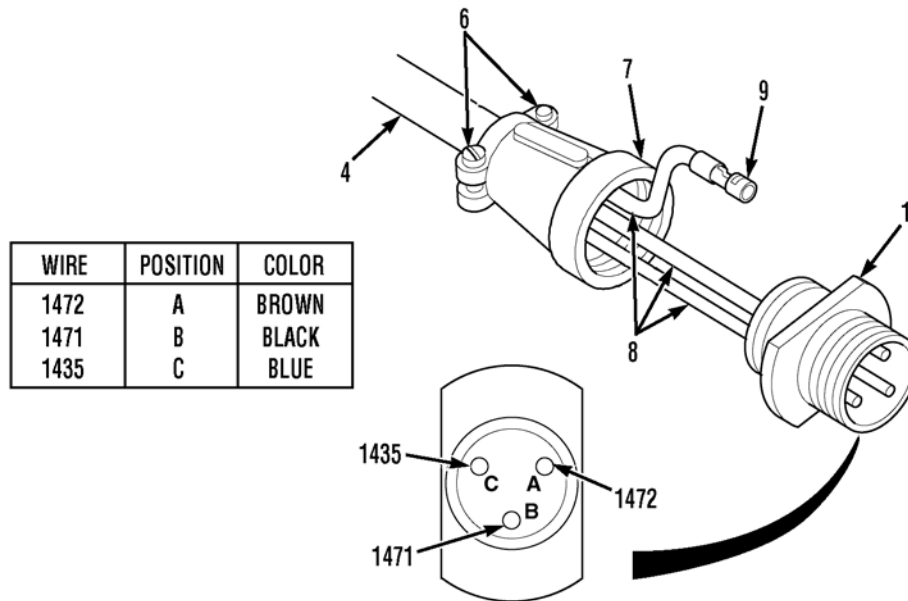
Batteries disconnected TM 9-2320-325-14&P

REMOVAL

**NOTE**

Tag and mark connectors and wires prior to removal to ensure proper installation.

1. Disconnect connector MC88 (1) from connector (2).
2. Remove two nuts (3) and proximity switch (4) from compression frame (5).

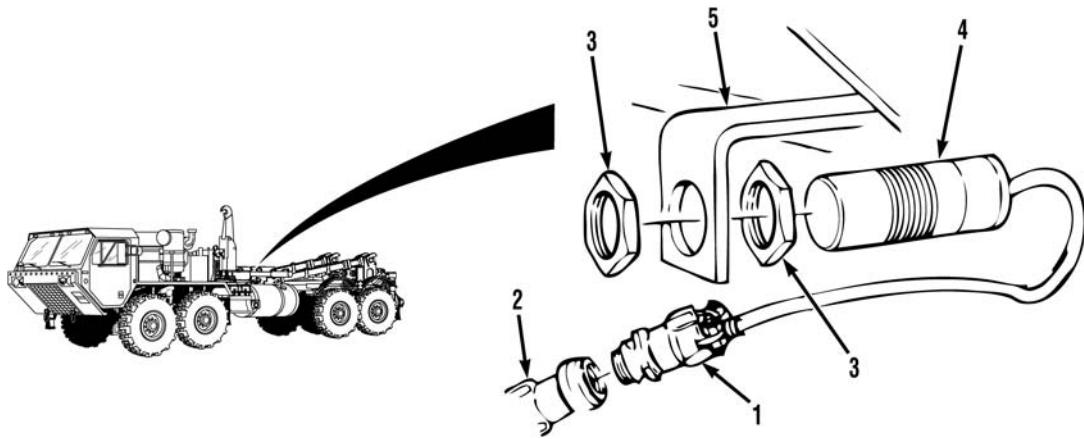


3. Loosen two screws (6) and remove nut (7) from connector MC88 (1).
4. Remove three wires (8) with terminals (9) from connector MC88 (1).
5. Remove nut (7) and connector MC88 (1) from proximity switch (4).

END OF TASK

INSTALLATION

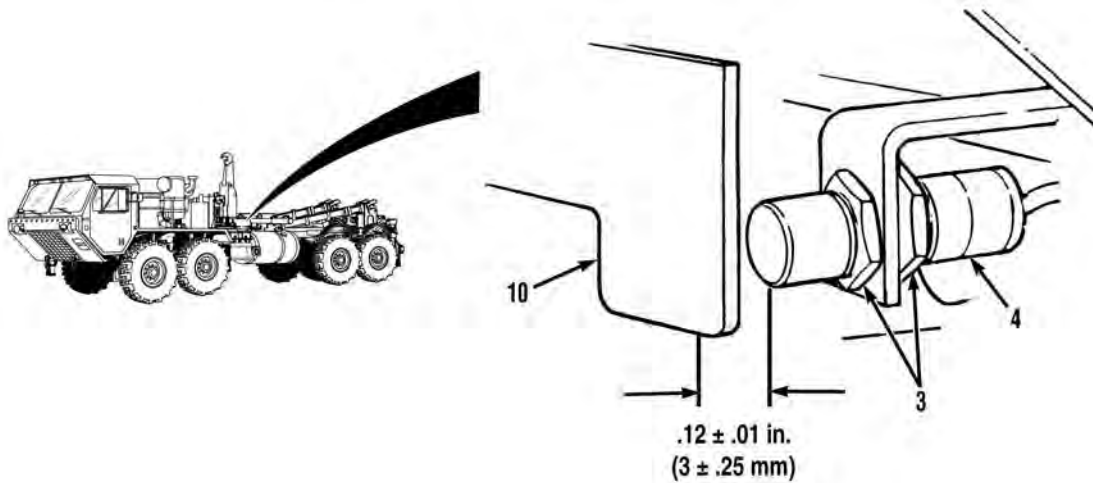
1. Position nut (7) and connector MC88 (1) on proximity switch (4).
2. Install three wires (8) with terminals (9) on connector MC88 (1).
3. Install nut (7) on connector MC88 (1) and tighten two screws (6).

**NOTE**

Serrated side of nuts must face bracket.

4. Install proximity switch (4) on compression frame (5) with two nuts (3).
5. Connect connector (2) to connector MC88 (1).

END OF TASK

ADJUSTMENT

1. Using a feeler gage, adjust clearance between proximity switch (4) and hook arm (10) to 0.12 ± 0.01 in. (3 ± 0.25 mm) and tighten two nuts (3).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Connect batteries (TM 9-2320-325-14&P).
2. Check operation of hook arm and verify proximity switch is working properly (WP 0011).
3. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE**PROXIMITY SWITCH REPLACEMENT/ADJUSTMENT (HOOK ARM UP)**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Compound, Sealing, Loctite 242 (WP 0186,
Item 12)
Epoxy (WP 0186, Item 17)
Lockwashers, (2), (WP 0184, Item 34)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

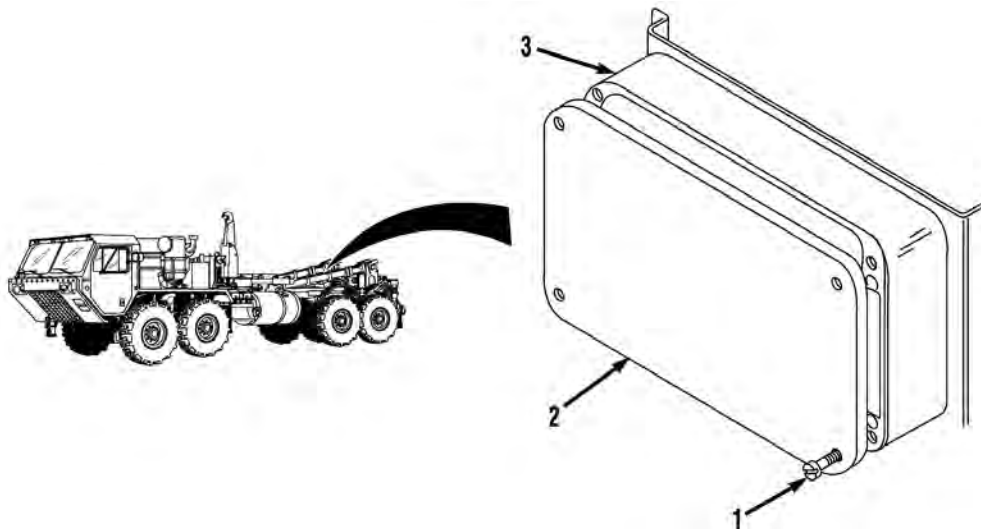
MOS 63B Wheeled vehicle mechanic

References

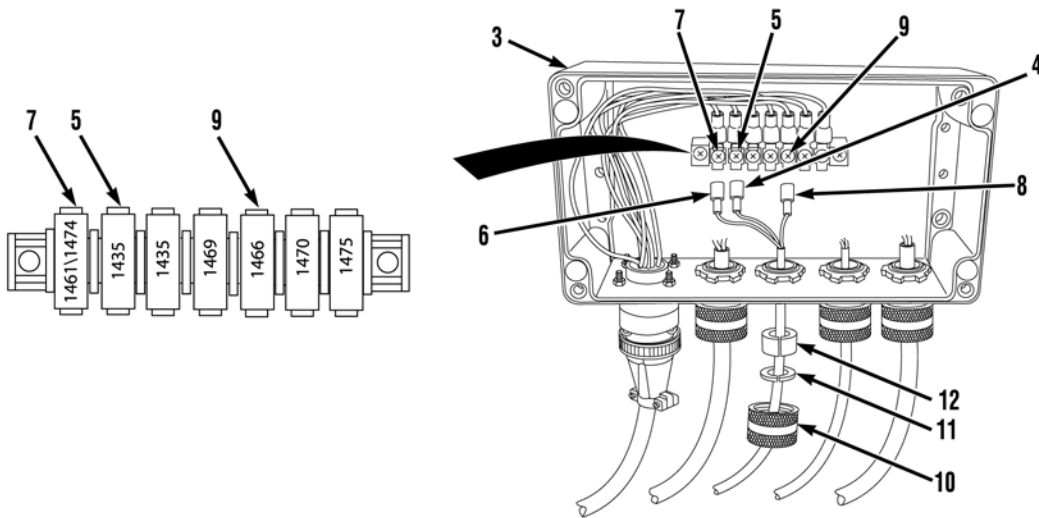
TM 43-0139

Equipment Conditions

LHS in transit position (WP 0011)
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Batteries disconnected TM 9-2320-325-14&P

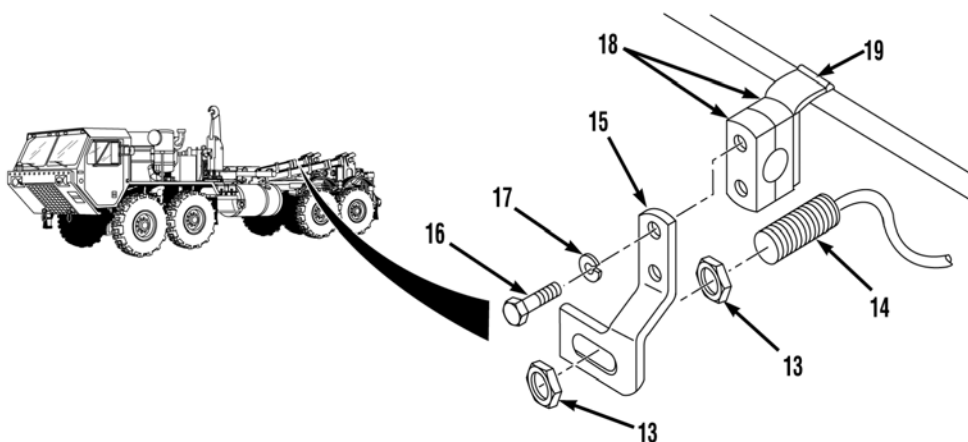
REMOVAL

1. Loosen four screws (1) and remove junction box cover (2) from junction box (3).

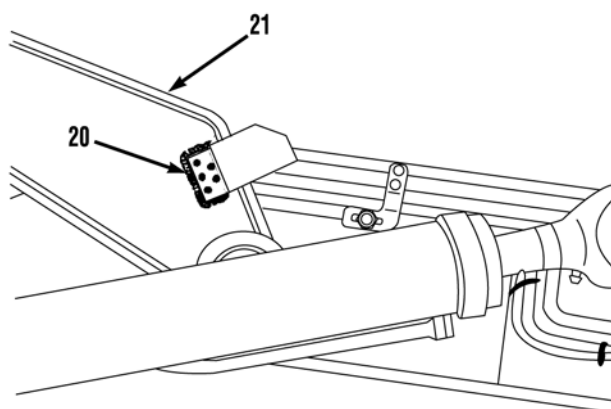


NOTE

- Tag and mark wires prior to removal to ensure proper installation.
 - Remove cable ties as required.
2. Remove wire 1435 (4) from terminal (5).
 3. Remove wire 1474 (6) from terminal (7).
 4. Remove wire 1466 (8) from terminal (9).
 5. Remove collar (10), washer (11), sealing ring (12), wire 1435 (4), wire 1474 (6), and wire 1466 (8) from junction box (3).



6. Remove two nuts (13) and proximity switch (14) from mounting switch plate (15).
7. Remove two screws (16), lockwashers (17), mounting switch plate (15), and two clamp halves (18) from LHS main frame (19). Discard lockwashers.

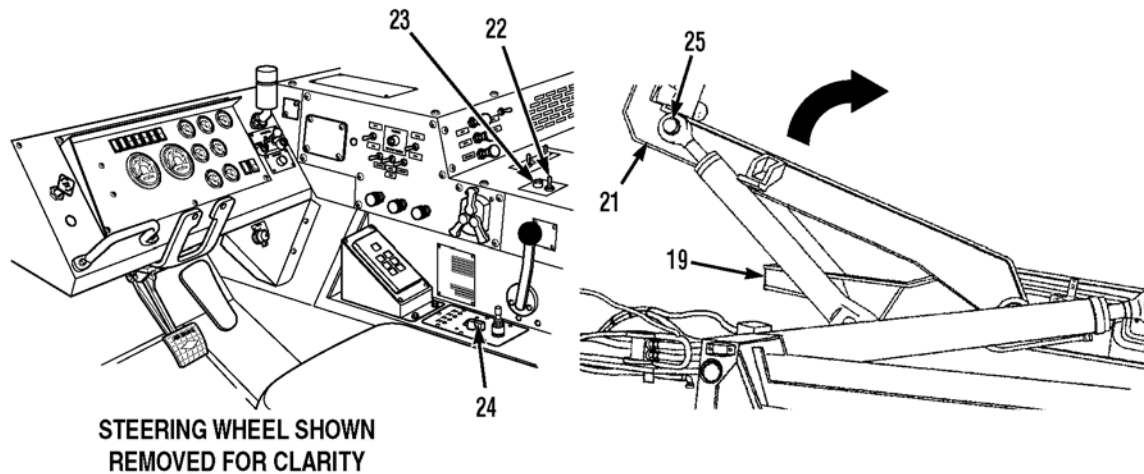
**NOTE**

Perform step (8) if sensor plate is damaged.

8. Remove sensor plate (20) from hook arm (21).

END OF TASK

INSTALLATION

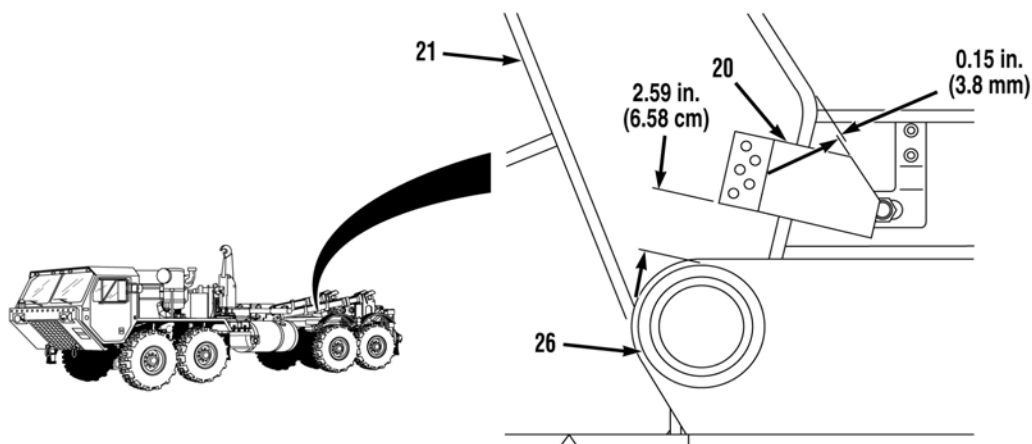


WARNING

Remove all jewelry such as rings, dog tags, bracelets, etc. If jewelry or tools contact positive electrical circuits, a direct short may result. Damage to equipment and injury or death to personnel may occur.

NOTE

- Perform steps (1) through (18) if sensor plate was removed.
 - LHS is being raised to expose area on hook arm to install sensor plate.
 - LHS will only operate when transmission range selector is in (N).
1. Connect batteries (TM 9-2320-325-14&P).
 2. Start engine and stow LHS (WP 0011).
 3. Put PTO ENGAGE switch (22) in ON position. Make sure indicator light (23) illuminates.
 4. Turn hydraulic selector switch (24) to MAN HOOK ARM position and raise hook arm (21) until hook arm cylinder pivot pin (25) is 25 in. (63.5 cm) from LHS main frame (19).
 5. Turn hydraulic selector switch (24) to MAN MAIN FRAME position and raise LHS main frame (19) until hook arm cylinder pivot pin (25) is 45 in. (114.3 cm) from LHS main frame (19).
 6. Shut off engine (TM 9-2320-347-10)
 7. Disconnect batteries (TM 9-2320-325-14&P).



8. Measure and mark an area on hook arm (21) for sensor plate (20) to be mounted as shown.

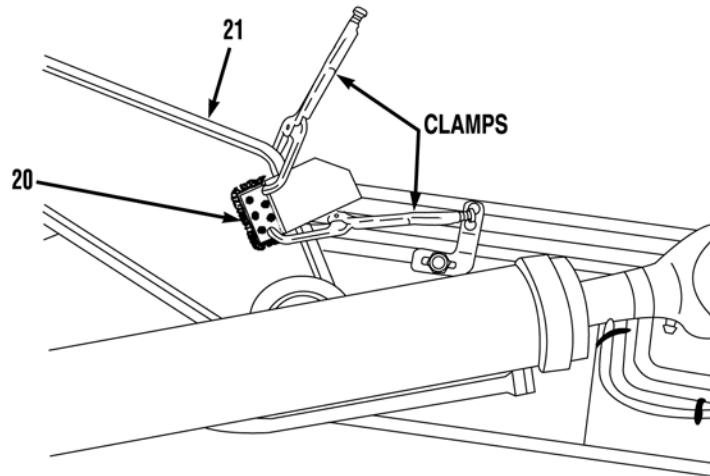
WARNING

Polyurethane Coating (Carc)

Eye and hearing protection must be worn at all times when using power tools for grinding, cutting, sawing and drilling. Failure to do so may result in injury to personnel. Chemical Agent Resistant Coating (CARC) paint contains isocyanate which is highly irritating to skin and respiratory system. High concentrations of isocyanate can produce symptoms of itching and reddening of skin, a burning sensation in the throat and nose, and watering of the eyes. In extreme concentrations, isocyanate can cause cough, shortness of breath, pain during respiration, increased sputum production, and chest tightness. First aid for ingestion: do not induce vomiting. Seek immediate medical attention. First aid for skin contact: remove contaminated clothing. Wash skin thoroughly with soap and water. If symptoms persist, seek medical attention. First aid for eye contact: flush with water for 15 minutes or until irritation subsides. If symptoms persist, seek medical attention. First aid for inhalation: move to fresh air. If not breathing, provide artificial respiration. If symptoms persist, seek medical attention.

- Protective equipment (gloves, goggles, ventilation mask) must be worn when using CARC paint.
- NEVER cut CARC-coated materials without high-efficiency, air-purifying respirators in use.
- DO NOT grind or sand painted equipment without high-efficiency, air-purifying respirators in use.
- BE AWARE of CARC paint exposure symptoms; symptoms can occur a few days after initial exposure. Seek medical help immediately if symptoms are detected.
- Use only in well-ventilated areas. Check with local environmental office for methods and locations approved for painting in accordance with local and state environmental regulations.
- ALWAYS use air line respirators when using CARC paint unless air sampling shows exposure to be below standards. Use chemical cartridge respirator if air sampling is below standards.

9. Grind off paint in area marked in step (8) for sensor plate (20) to be mounted.
10. Mark hook arm (21) 2.59 in. (6.58 cm) from boss (26) on hook arm (21).
11. Aline sensor plate (20) 0.15 in. (3.8 mm) below top edge of hook arm (21).



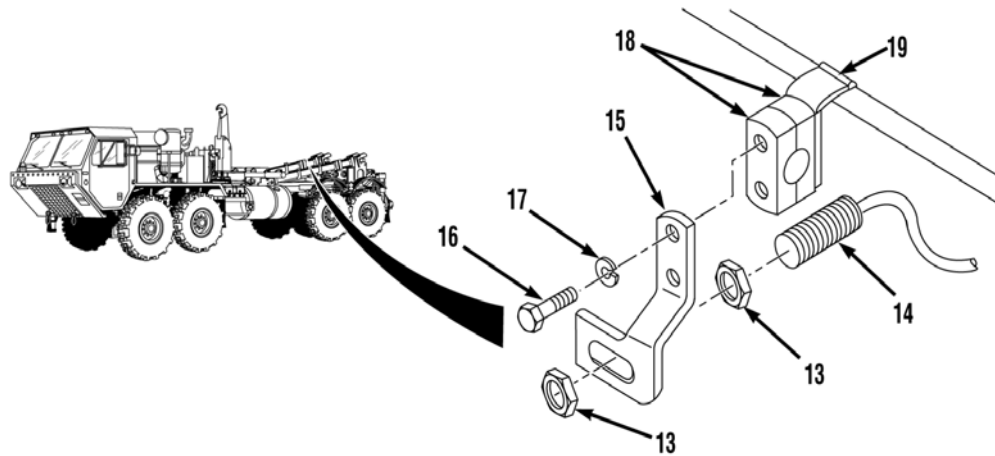
12. Position sensor plate (20) with two clamps on hook arm (21) as shown.
13. Mark line around sensor plate (20) from hook arm (21).
14. Remove two clamps and sensor plate (20) from hook arm (21).

WARNING

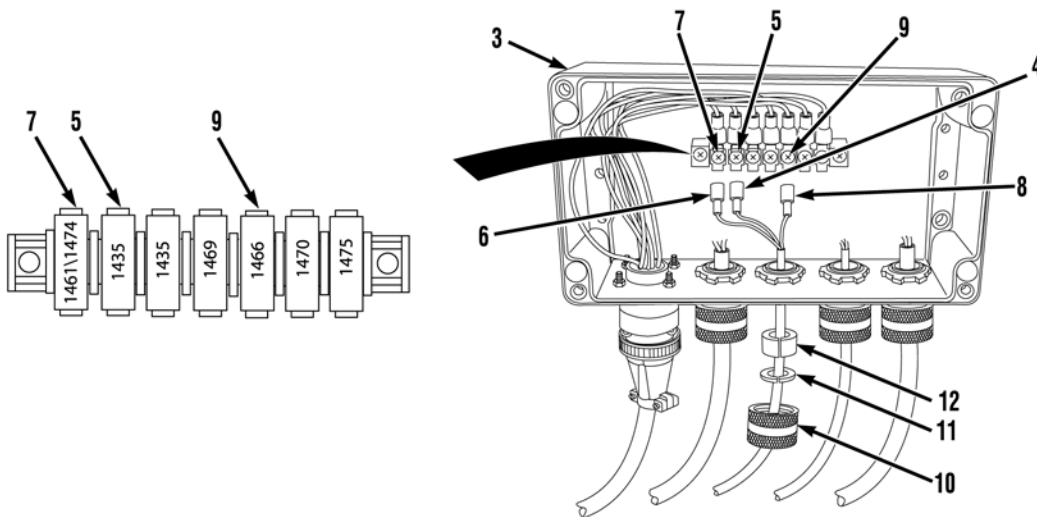
Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

NOTE

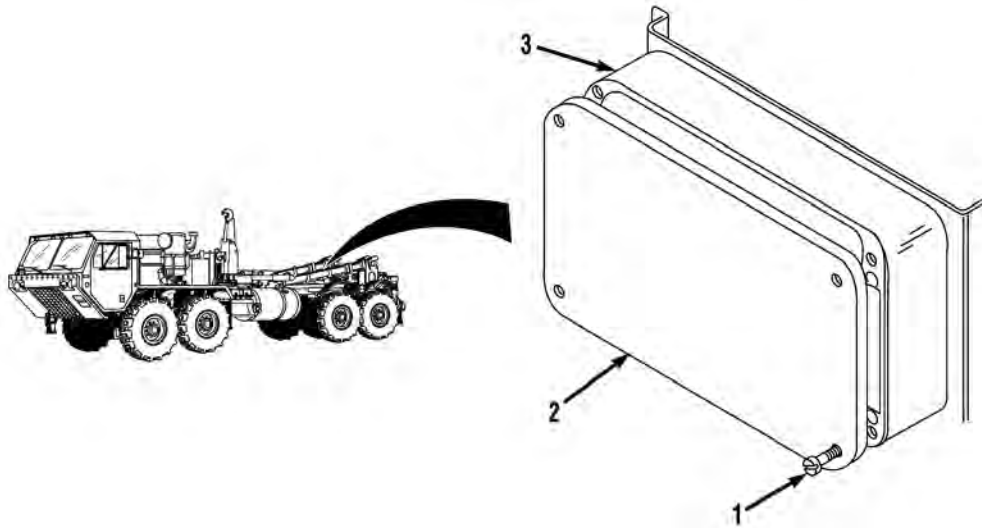
- Mix epoxy according to directions on package.
 - Epoxy takes approximately 15 minutes to cure.
15. Mix epoxy and apply to sensor plate (20) and hook arm (21).
 16. Clamp sensor plate (20) to hook arm (21) in marked position until cured.
 17. Remove clamps from hook arm (21).
 18. Prime and paint area as necessary (TM 43-0139).



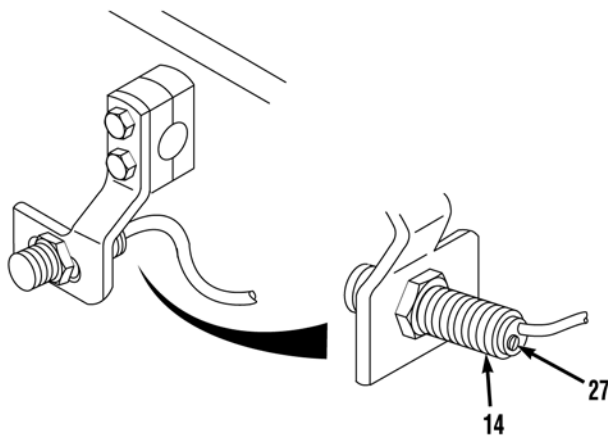
19. Apply sealing compound to threads of two screws (16).
20. Install two clamp halves (18) and mounting switch plate (15) on LHS main frame (19) with two lockwashers (17) and screws (16).
21. Install proximity switch (14) on mounting switch plate (15) with two nuts (13).



22. Install wires 1466 (8), 1474 (6), and 1435 (4) in junction box (3) with sealing ring (12), washer (11), and collar (10).
23. Install wire 1466 (8) on terminal (9).
24. Install wire 1474 (6) on terminal (7).
25. Install wire 1435 (4) on terminal (5).



26. Install junction box cover (2) on junction box (3) with four screws (1).

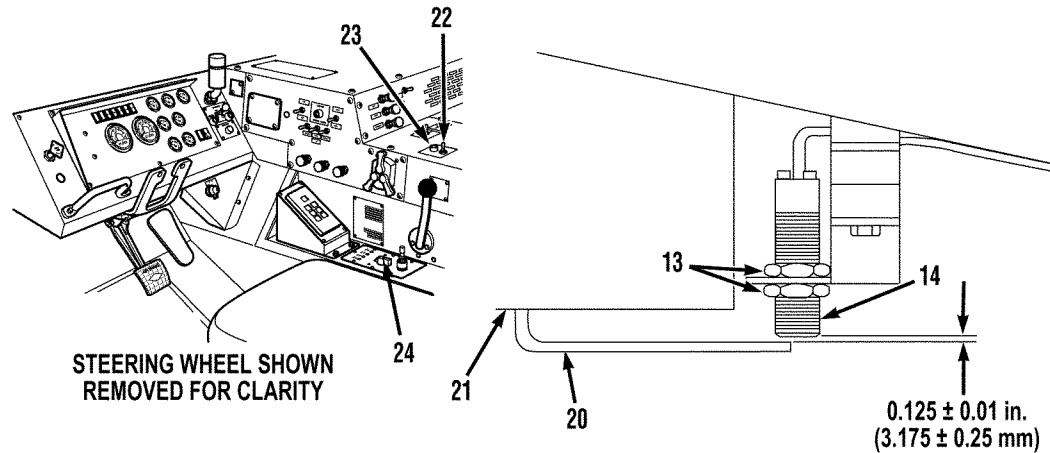


NOTE

Do not paint tip of LED light. LED light is used during troubleshooting.

27. Prime and paint sides of LED light (27) on proximity switch (14) (TM 43-0139).

END OF TASK

ADJUSTMENT**WARNING**

Remove all jewelry such as rings, dog tags, bracelets, etc. If jewelry or tools contact positive electrical circuits, a direct short may result. Damage to equipment and injury or death to personnel may occur.

1. Connect batteries (TM 9-2320-325-14&P).
2. Start engine and stow LHS (WP 0011).
3. Put PTO ENGAGE switch (22) in ON position. Ensure indicator light (23) illuminates.
4. Turn hydraulic selector switch (24) to MAN HOOK ARM position, and raise hook arm (21) until sensor plate (20) covers approximately half of proximity switch (14).
5. Shut off engine (TM 9-2320-347-10)
6. Loosen two nuts (13).
7. Using feeler gage, adjust clearance between proximity switch (14) and sensor plate (20) to 0.125 ± 0.01 in. (3.175 ± 0.25 mm) and tighten two nuts (13).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Connect batteries (TM 9-2320-325-14&P)
2. Check LHS operation and verify proximity switch is working properly (WP 0011).
3. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE**PROXIMITY SWITCH REPLACEMENT/ADJUSTMENT (MAIN FRAME DOWN)**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (2), (WP 0184, Item 40)
Lockwasher, (2), (WP 0184, Item 34)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

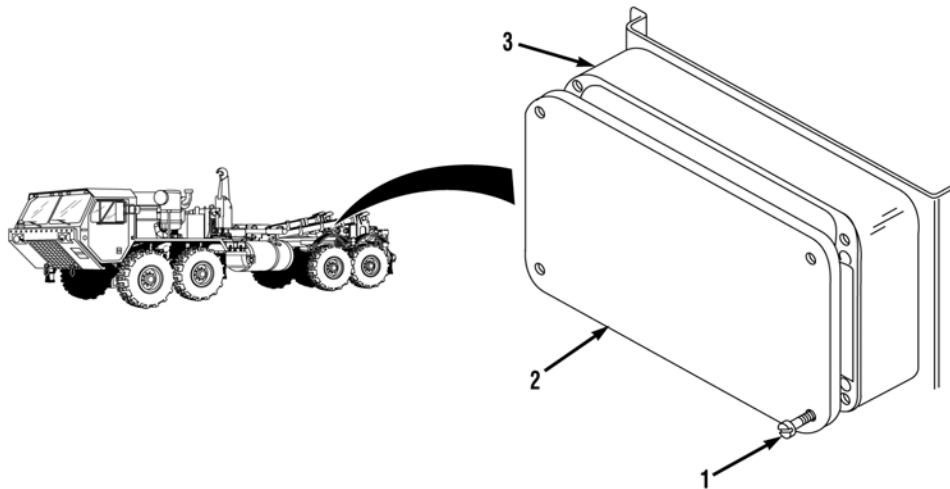
MOS 63B Wheeled vehicle mechanic

References

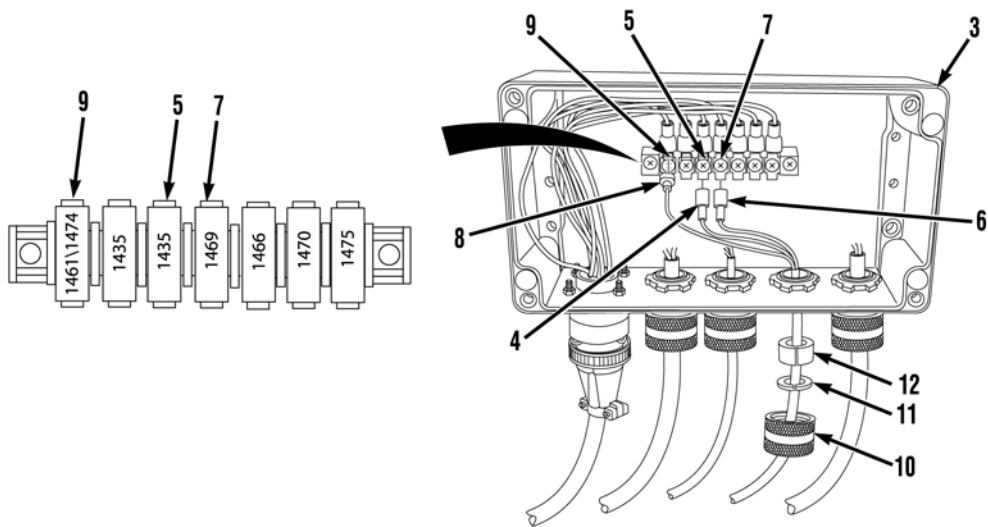
None

Equipment Conditions

LHS in transit position (WP 0011)
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Batteries disconnected TM 9-2320-325-14&P

REMOVAL

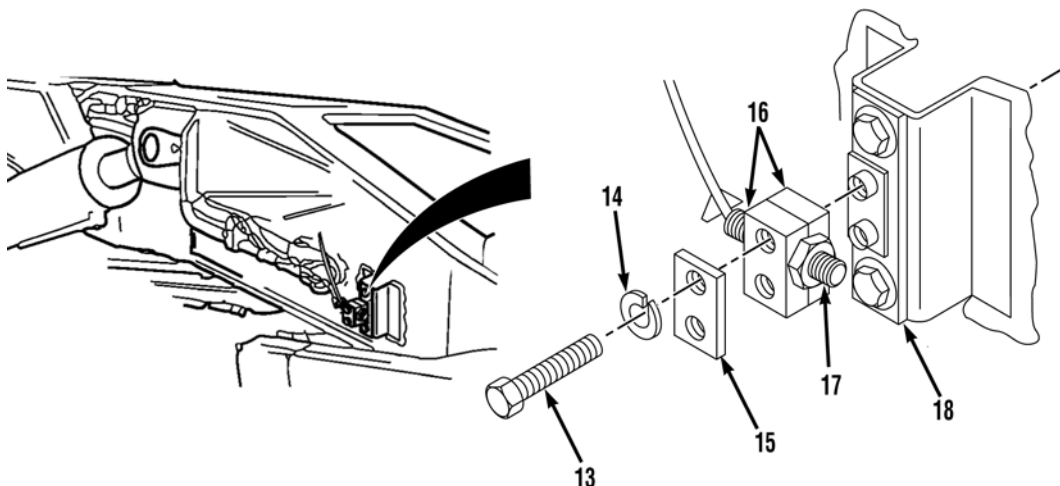
1. Loosen four screws (1) and remove junction box cover (2) from junction box (3).



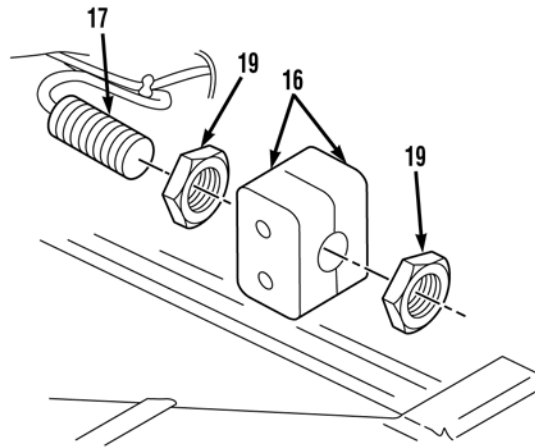
NOTE

- Tag and mark wires prior to removal to ensure proper installation.
- Remove cable ties as required.

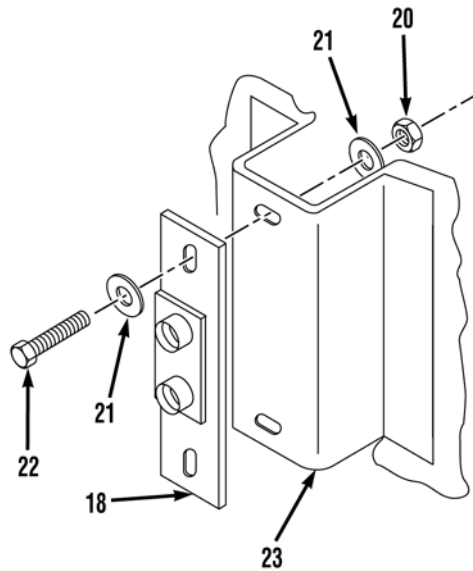
2. Remove wire 1435 (4) from terminal (5).
3. Remove wire 1469 (6) from terminal (7).
4. Remove wire 1461 (8) from terminal (9).
5. Remove collar (10), washer (11), sealing ring (12), wire 1435 (4), wire 1469 (6), and wire 1461 (8) from junction box (3).



6. Remove two screws (13), lockwashers (14), and cover plate (15) from two clamp halves (16). Discard lockwashers.
7. Remove two clamp halves (16) with proximity switch (17) as an assembly from proximity switch mounting plate (18).



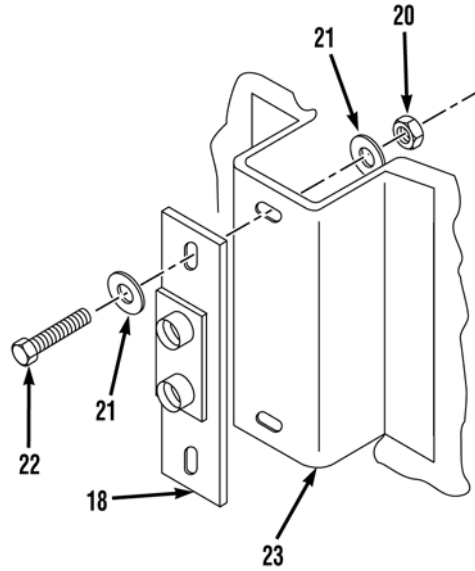
8. Remove two nuts (19) and proximity switch (17) from two clamp halves (16).



9. Remove two locknuts (20), four washers (21), two screws (22), and proximity switch mounting plate (18) from LHS main frame (23). Discard locknuts.

END OF TASK

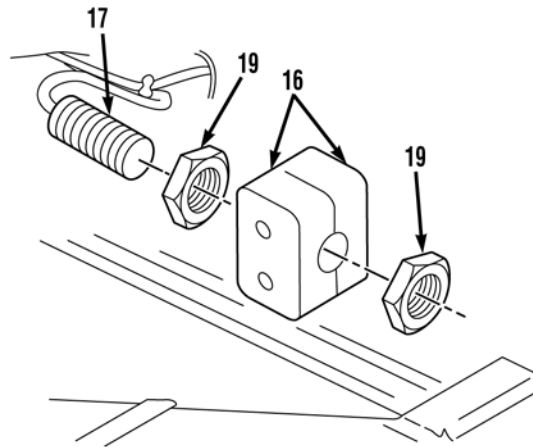
INSTALLATION



NOTE

Install cable ties as required.

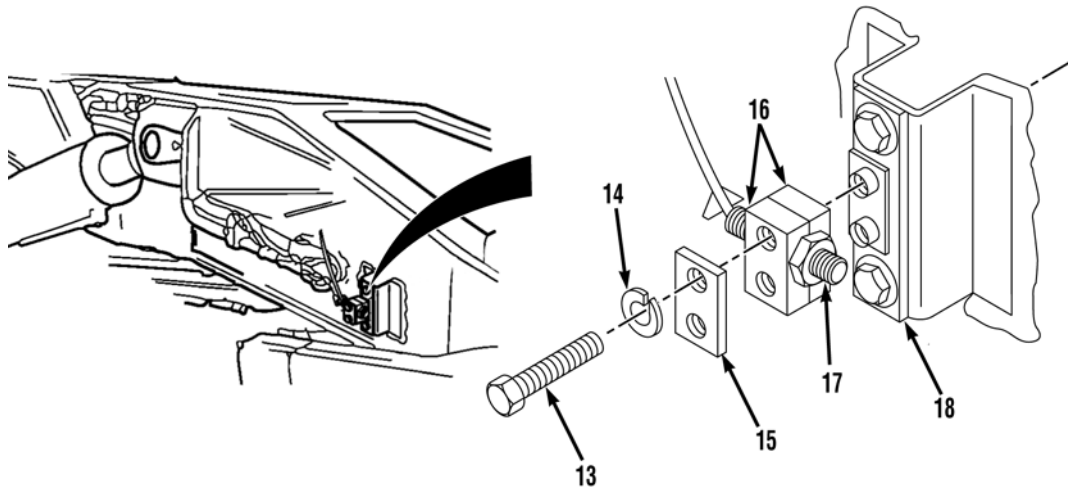
1. Install proximity switch mounting plate (18) on LHS main frame (23) with two screws (22), four washers (21), and two locknuts (20). Do not tighten locknuts (20).



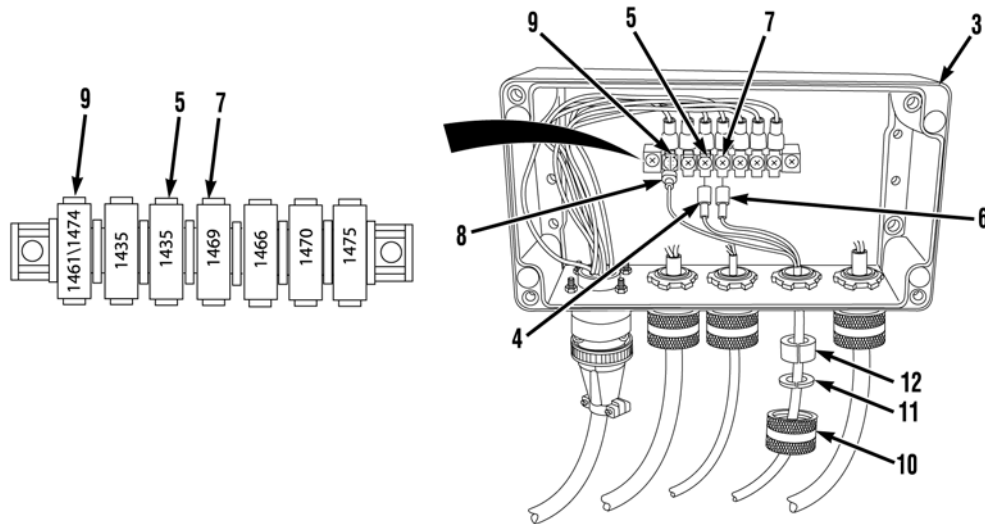
NOTE

Serrated side of nuts must face clamp.

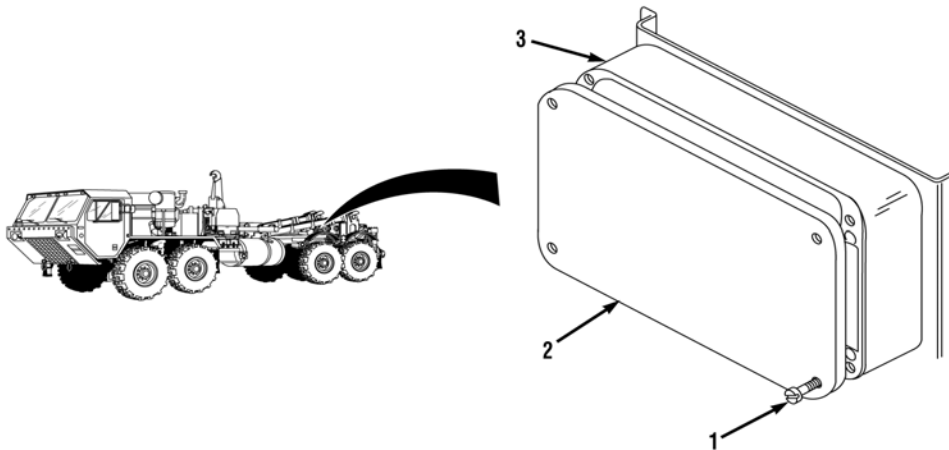
2. Install proximity switch (17) in two clamp halves (16) with two nuts (19).



3. Install two clamp halves (16) with proximity switch (17) as an assembly on proximity switch mounting plate (18) with cover plate (15), two lockwashers (14), and screws (13). Do not tighten screws (13).



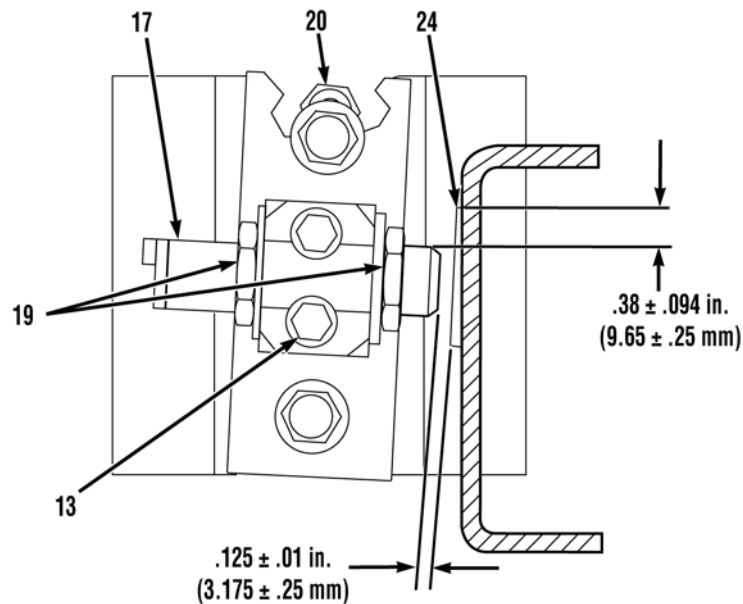
4. Install wire 1461 (8), wire 1469 (6), and wire 1435 (4) in junction box (3) with sealing ring (12), washer (11), and collar (10).
5. Install wire 1461 (8) on terminal (9).
6. Install wire 1469 (6) on terminal (7).
7. Install wire 1435 (4) on terminal (5).



8. Install junction box cover (2) on junction box (3) and tighten four screws (1).

END OF TASK

ADJUSTMENT



1. Adjust height between top of proximity switch (17) and top of target plate (24) to 0.38 in. \pm 0.094 in. (9.65 mm \pm 0.25 mm) and tighten two locknuts (20).
2. Using a feeler gage, adjust clearance between proximity switch (17) and target plate (24) to 0.125 in. \pm 0.01 in. (3.175 mm \pm 0.25 mm) and tighten two nuts (19).
3. Tighten two screws (13).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Connect batteries (TM 9-2320-325-14&P).
2. Check LHS operation and verify proximity switch is working properly (WP 0011).
3. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE

PROXIMITY SWITCH REPLACEMENT/ADJUSTMENT (MRP PRESENT)

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (2), (WP 0184, Item 2)
Tags, Identification (WP 0186, Item 32)

Personnel Required

MOS 63B Wheeled vehicle mechanic

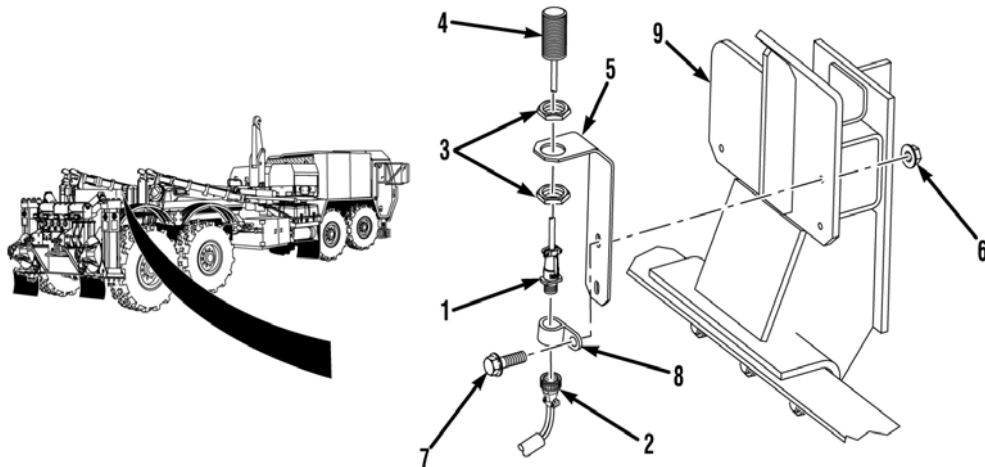
References

None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

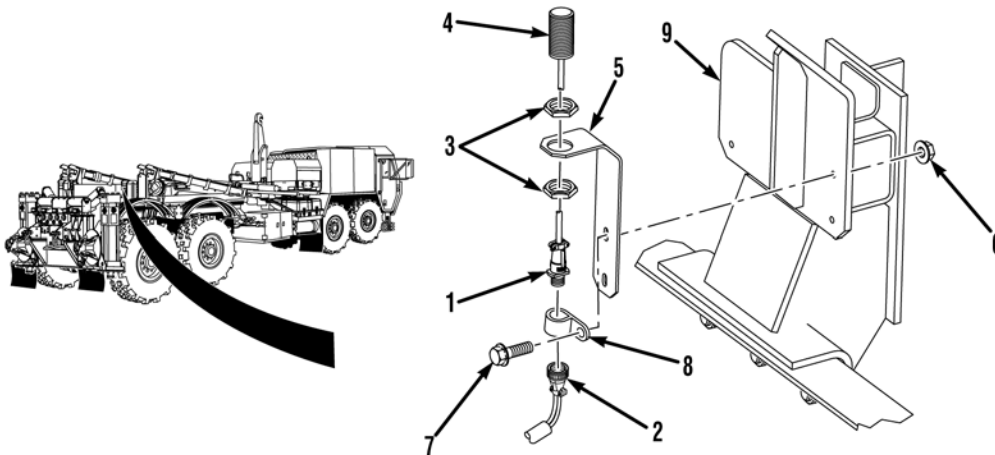
REMOVAL

**NOTE**

- Both MRP present proximity switches are removed the same way. Right side shown.
- Tag and mark connectors prior to removal to ensure proper installation.

1. Disconnect connector (1) from connector (2).
2. Remove two nuts (3) and proximity switch (4) from mounting bracket (5).
3. Remove two locknuts (6), screws (7), cushion clip (8), connector (2), and mounting bracket (5) from MRP support bracket (9). Discard locknuts.

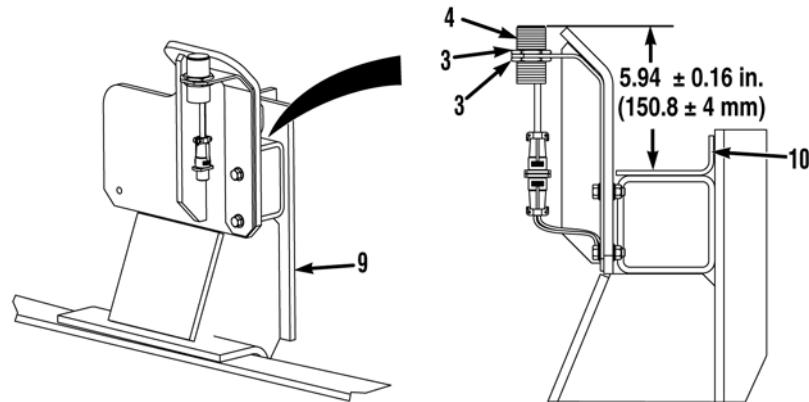
END OF TASK

INSTALLATION**NOTE**

Both MRP present proximity switches are installed the same way. Right side shown.

1. Install mounting bracket (5), connector (2), and cushion clip (8) on MRP support bracket (9) with two screws (7) and locknuts (6).
2. Install proximity switch (4) on mounting bracket (5) with two nuts (3).
3. Connect connector (1) to connector (2).

END OF TASK

ADJUSTMENT**NOTE**

Both MRP present proximity switches are adjusted the same way. Right side shown.

1. Adjust height of proximity switch (4) so top surface of proximity switch (4) is 5.94 ± 0.16 in. (150.8 ± 4 mm) above center of horizontal plate (10) on MRP support bracket (9) and tighten two nuts (3).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Connect batteries (TM 9-2320-325-14&P).
2. Check LHS operation and verify proximity switch is working properly (WP 0011).
3. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE

PROXIMITY SWITCH REPLACEMENT/ADJUSTMENT (MRP RACK LOCK DISENGAGED)

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Tags, Identification (WP 0186, Item 32)

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

None

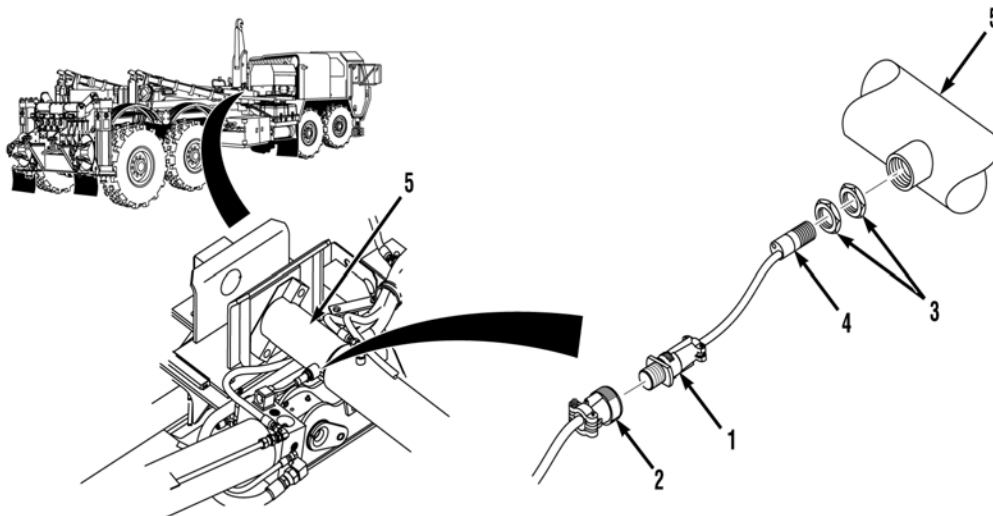
Equipment Conditions

Engine OFF (TM 9-2320-347-10)

Wheels chocked (TM 9-2320-347-10)

Batteries disconnected TM 9-2320-325-14&P

REMOVAL

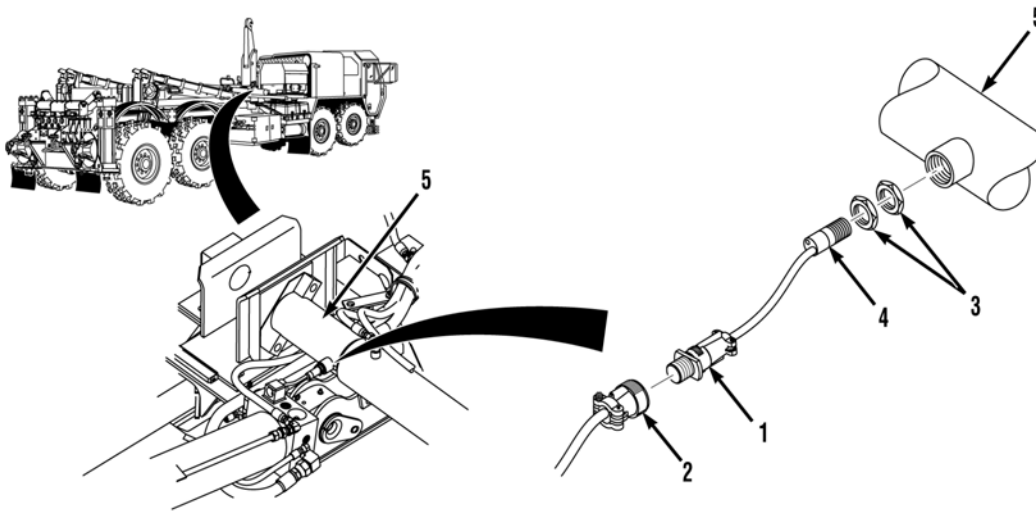
**NOTE**

- Both MRP rack lock disengaged proximity switches are removed the same way. Right side shown.
- Tag and mark connectors prior to removal to ensure proper installation.

1. Disconnect connector (1) from connector (2).
2. Loosen two nuts (3) and remove proximity switch (4) from MRP rack lock cylinder (5).
3. Remove two nuts (3) from proximity switch (4).

END OF TASK

INSTALLATION/ADJUSTMENT



NOTE

- Both MRP rack lock disengaged proximity switches are installed and adjusted the same way. Right side shown.

1. Install two nuts (3) on proximity switch (4).
2. Install proximity switch (4) into MRP rack lock cylinder (5).
3. Screw proximity switch (4) in fully until it contacts cylinder rod of MRP rack lock cylinder (5).
4. Mark proximity switch (4) and then retract proximity switch (4) one complete turn and tighten two nuts (3).
5. Connect connector (1) to connector (2).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Connect batteries (TM 9-2320-325-14&P).
2. Check MRP rack lock cylinder operation and verify proximity switch is working properly (WP 0011).
3. Remove wheel chocks (TM 9-2320-347-1)0

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**PROXIMITY SWITCH REPLACEMENT/ADJUSTMENT (MRP RACK LOCK ENGAGED)**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

None

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

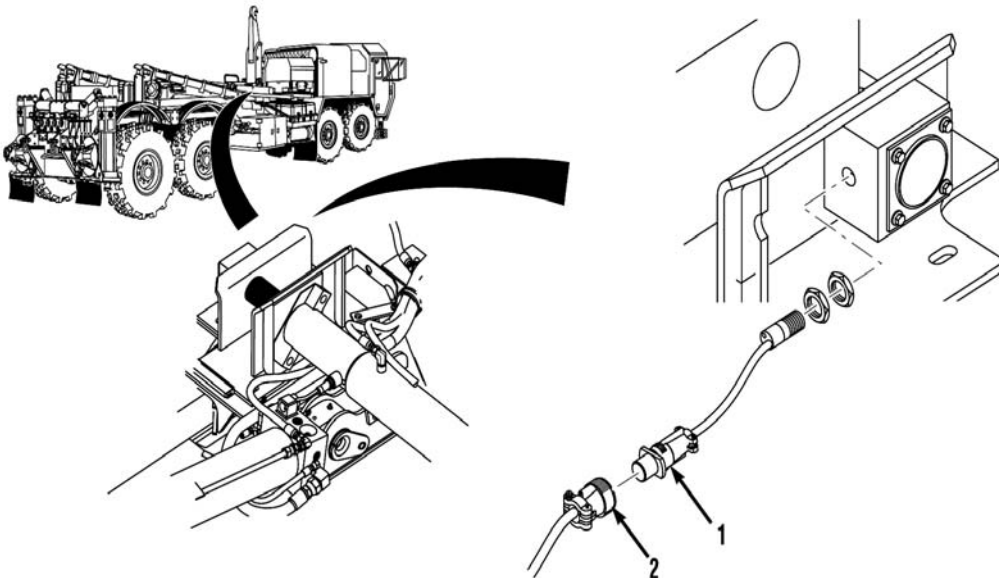
None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)

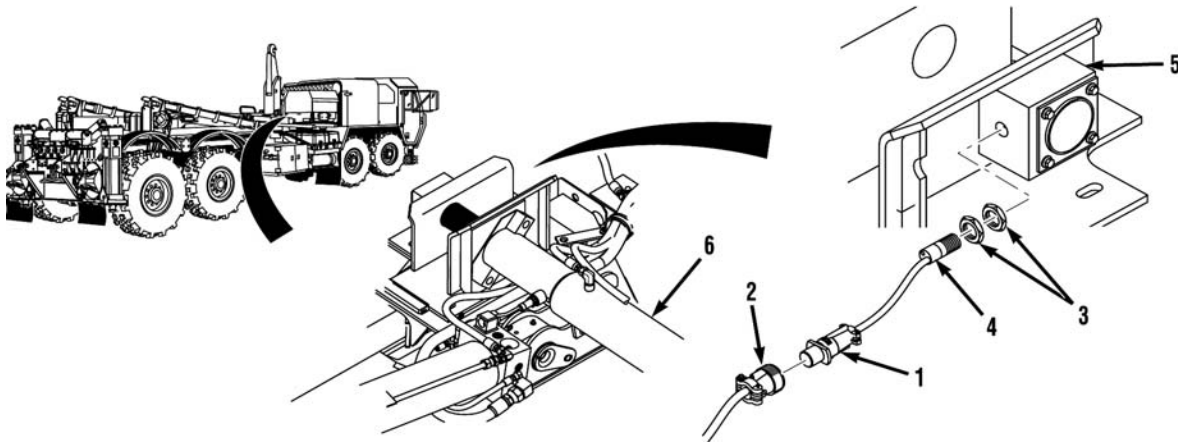
Wheels chocked (TM 9-2320-347-10)

Batteries disconnected (TM 9-2320-325-14&P)

REMOVAL**NOTE**

- Both MRP rack lock engaged proximity switches are removed the same way. Right side shown.
- Ensure MRP rack lock cylinder is fully engaged.

1. Disconnect connector (1) from connector (2).



2. Loosen two nuts (3) and remove proximity switch (4) from MRP rack lock bracket (5).
3. Remove two nuts (3) from proximity switch (4).

END OF TASK

INSTALLATION/ADJUSTMENT

NOTE

- Both MRP rack lock engaged proximity switches are installed the same way. Right side shown.
- Ensure MRP rack lock cylinder is fully engaged.

1. Install two nuts (3) on proximity switch (4).
2. Install proximity switch (4) into MRP rack lock bracket (5).
3. Screw proximity switch (4) in fully until it contacts the cylinder rod of MRP rack lock cylinder (6).
4. Mark proximity switch (4) and then retract proximity switch 0.13 in. (3.3 mm) and tighten two nuts (3).
5. Connect connector (1) to connector (2).

END OF TASK)

FOLLOW-ON MAINTENANCE

1. Connect batteries (TM 9-2320-325-14&P).
2. Check MRP rack lock cylinder operation and verify proximity switch is working properly (WP 0011).
3. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

RACK LOCK/AIR BAG INDICATOR LIGHTS REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Tags, Identification (WP 0186, Item 32)

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

None

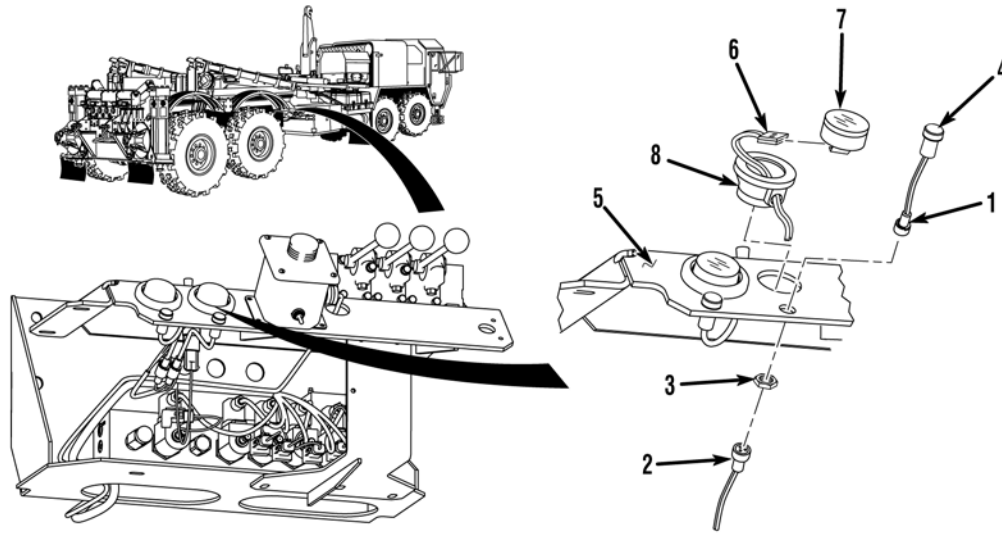
Equipment Conditions

Engine OFF (TM 9-2320-347-10)

Wheels chocked (TM 9-2320-347-10)

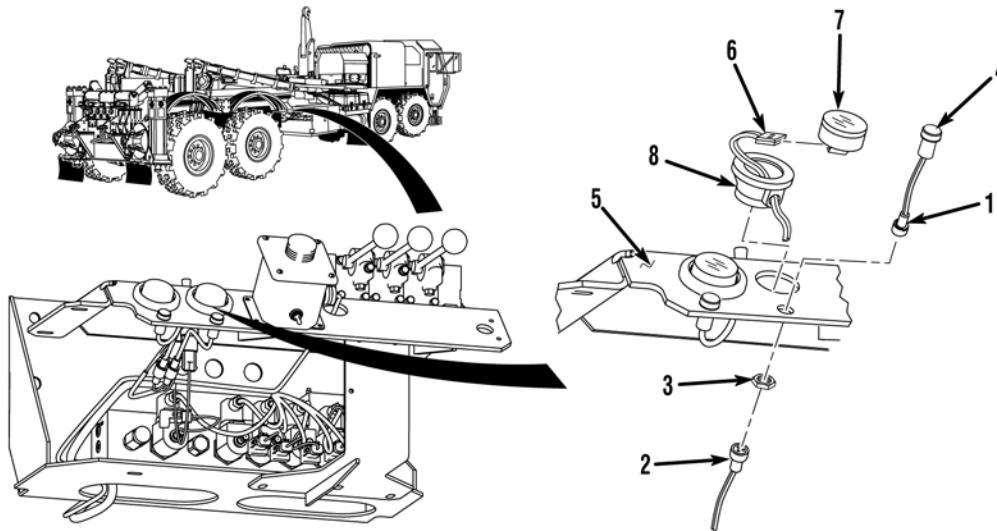
Batteries disconnected TM 9-2320-325-14&P

REMOVAL

**NOTE**

- Both rack locks engaged and air bag pressure depleted indicator lights are removed the same way. Rack locks engaged indicator lights shown.
- Tag and mark connectors prior to removal to ensure proper installation.
- Perform steps (1) and (2) to remove rack locks engaged blackout indicator light.

1. Disconnect connector (1) from connector (2).
2. Remove nut (3) and blackout indicator light (4) from bracket (5).



NOTE

Perform steps (3) through (5) to remove rack locks engaged daylight indicator light.

3. Disconnect connector (6) from daylight indicator light (7).
4. Remove grommet (8) from bracket (5).
5. Remove connector (6) from grommet (8).

END OF TASK

INSTALLATION

NOTE

- Both rack locks engaged and air bag pressure depleted indicator lights are installed the same way. Rack locks engaged indicator lights shown.
- Perform steps (1) through (3) to install rack locks engaged daylight indicator light.

1. Install connector (6) in grommet (8).
2. Install grommet (8) on bracket (5).
3. Connect connector (6) to daylight indicator light (7).

NOTE

Perform steps (4) and (5) to install rack locks engaged blackout indicator light.

4. Install blackout indicator light (4) on bracket (5) with nut (3).
5. Connect connector (1) to connector (2).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Connect batteries (TM 9-2320-325-14&P).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE

REAR CLEARANCE LIGHT HARNESS REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (5), (WP 0184, Item 23)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

MOS 63B Wheeled vehicle mechanic

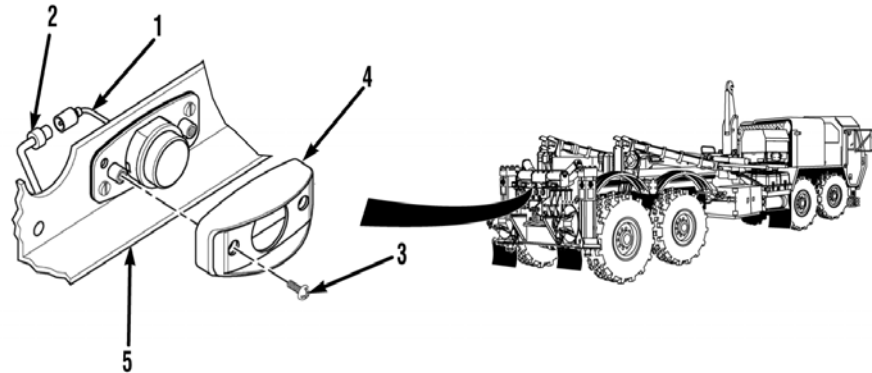
References

None

Equipment Conditions

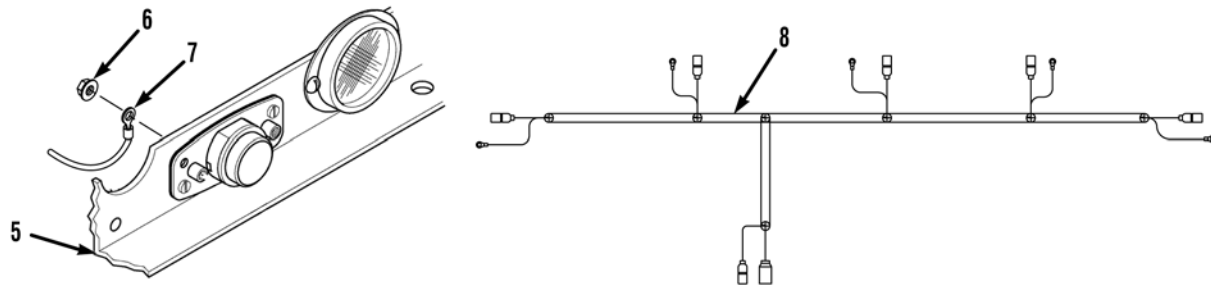
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Batteries disconnected (TM 9-2320-325-14&P)

REMOVAL

**NOTE**

- Tag and mark connectors and wires prior to removal to ensure proper installation.
- Remove cable ties and push clips as required.

1. Disconnect seven connectors (1) from connectors (2).
2. Remove ten screws (3) and five covers (4) from center light of rear light bar assembly (5).



3. Remove five locknuts (6), ground wires (7), and wire harness (8) from center light of rear light bar assembly (5). Discard locknuts.

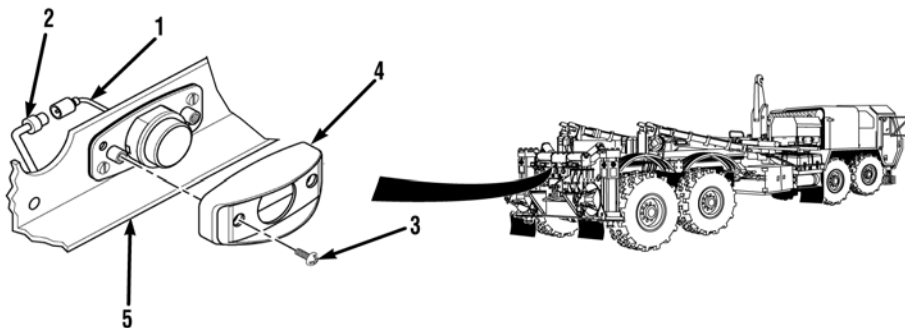
END OF TASK

INSTALLATION

NOTE

Install cable ties and push clips as required.

1. Install five ground wires (7) of wire harness (8) on center light of light bar assembly (5) with five locknuts (6).



2. Install five covers (4) on rear light bar assembly (5) with ten screws (3).
3. Connect seven connectors (1) to connectors (2).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Connect batteries (TM 9-2320-325-14&P).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
REAR LIGHT BAR ASSEMBLY REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Lockwasher, (2), (WP 0184, Item 59)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

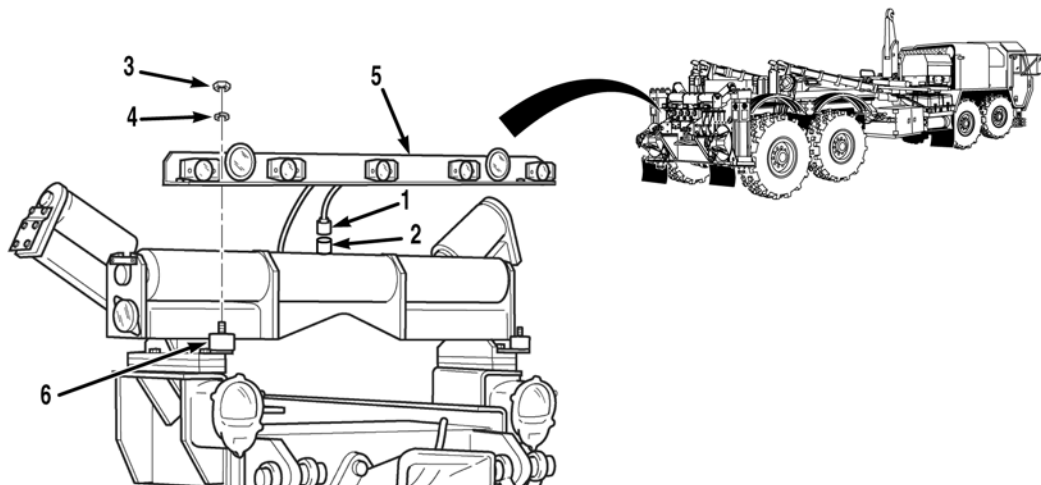
MOS 63B Wheeled vehicle mechanic

References

None

Equipment Conditions

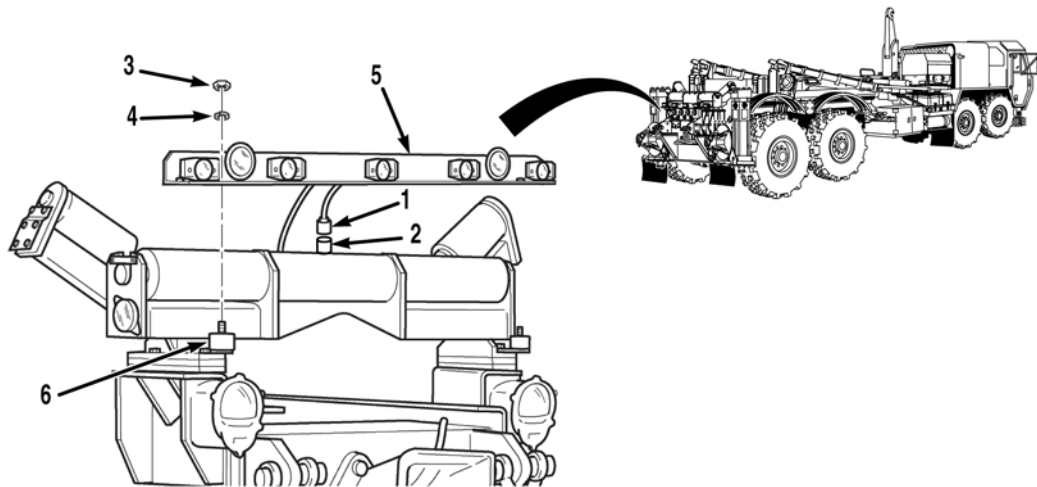
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Batteries disconnected TM 9-2320-325-14&P

REMOVAL**NOTE**

- Tag and mark connectors prior to removal to ensure proper installation.
- Remove cable ties as required.

1. Disconnect connector (1) from connector (2).
2. Remove two nuts (3), lockwashers (4), and rear light bar assembly (5) from two mounts (6). Discard lockwashers.

END OF TASK

INSTALLATION**NOTE**

Install cable ties as required.

1. Install rear light bar assembly (5) on two mounts (6) with two lockwashers (4) and nuts (3).
2. Connect connector (1) to connector (2).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Connect batteries (TM 9-2320-325-14&P).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
STATIC REEL REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (2), (WP 0184, Item 25)
Sealant, RTV200 Electrical (WP 0186, Item 29)
Tags, Identification (WP 0186, Item 32)

Personnel Required

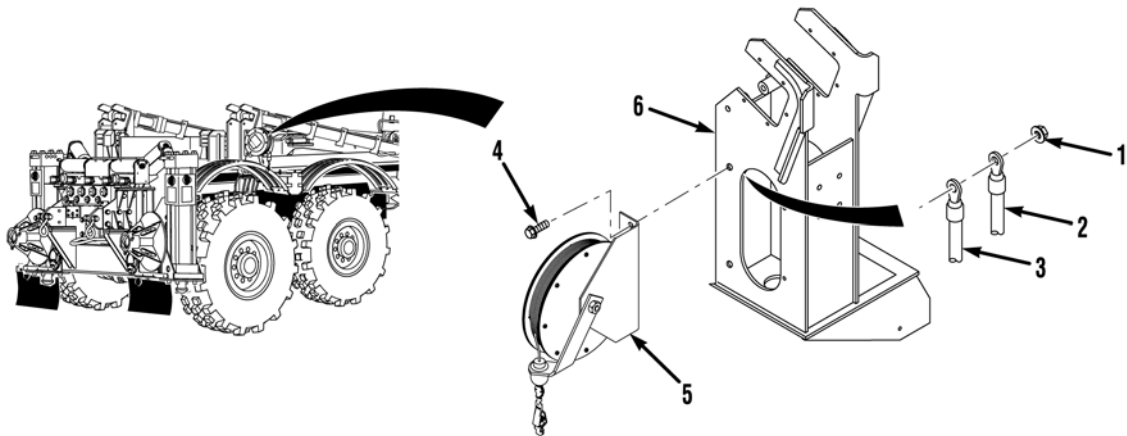
MOS 63B Wheeled vehicle mechanic

References

None

Equipment Conditions

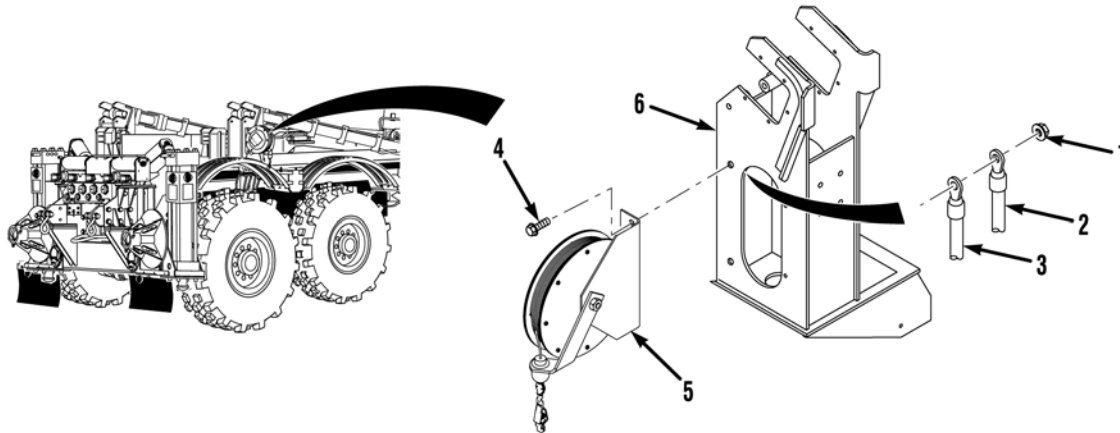
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Batteries disconnected (TM 9-2320-325-14&P)

REMOVAL**NOTE**

Tag and mark cables prior to removal to ensure proper installation.

1. Remove two locknuts (1), cables (2 and 3), screws (4), and static reel (5) from support bracket (6). Discard locknuts.

END OF TASK

INSTALLATION

1. Install static reel (5) and two cables (2 and 3) on support bracket (6) with two screws (4) and locknuts (1).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

2. Apply electrical sealant on ends of two cables (2 and 3).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Connect batteries (TM 9-2320-325-14&P).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
SUSPENSION AIR PRESSURE SWITCH REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Compound, Sealing, Pipe Thread
(WP 0186, Item 16)
Tags, Identification (WP 0186, Item 32)

Personnel Required

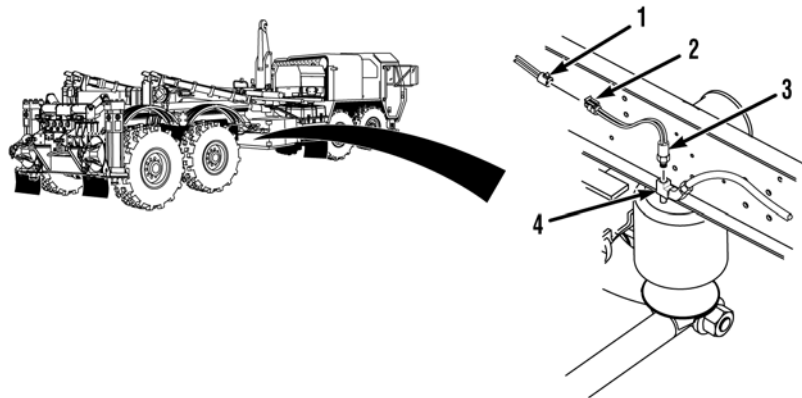
MOS 63B Wheeled vehicle mechanic

References

None

Equipment Conditions

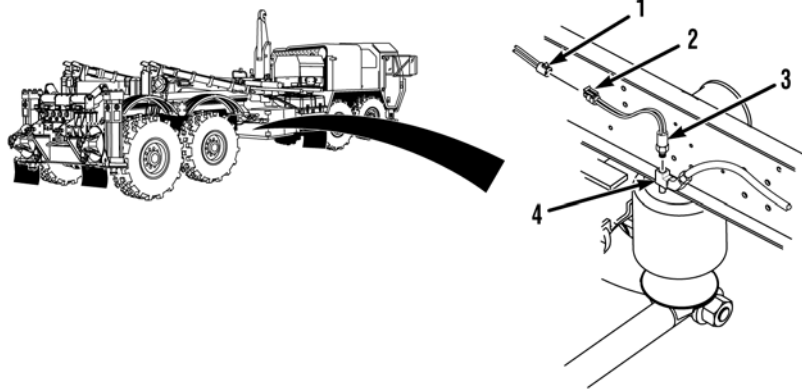
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Air system drained (TM 9-2320-347-10)
Batteries disconnected TM 9-2320-325-14&P

REMOVAL**NOTE**

- Both suspension air pressure switches are removed the same way. Right side shown.
- Tag and mark connectors prior to removal to ensure proper installation.

1. Disconnect connector (1) from connector (2).
2. Remove pressure switch (3) from elbow (4).

END OF TASK

INSTALLATION**WARNING**

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

NOTE

Both suspension air pressure switches are installed the same way. Right side shown.

1. Coat threads of pressure switch (3) with pipe thread sealing compound and install pressure switch (3) on elbow (4).
2. Connect connector (1) to connector (2).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Connect batteries (TM 9-2320-325-14&P).
2. Start engine and build up air pressure to 125 psi (861 kPa) (TM 9-2320-347-10)
3. Shut off engine (TM 9-2320-347-10)
4. Check for air leaks (TM 9-2320-347-10)
5. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE

THAAD CAB ADD-ON WIRE HARNESS REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Personnel Required

MOS 63B Wheeled vehicle mechanic

Materials/Parts

Locknut, (1), (WP 0184, Item 72)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

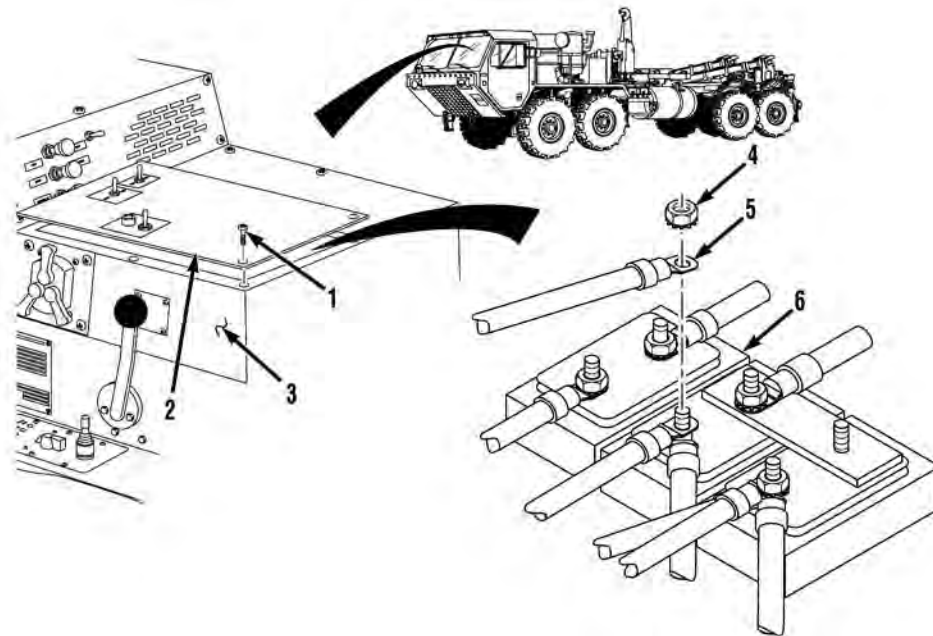
References

None

Equipment Conditions

Batteries disconnected (TM 9-2320-325-14&P)
Skid plate grille removed (TM 9-2320-325-14&P)

REMOVAL

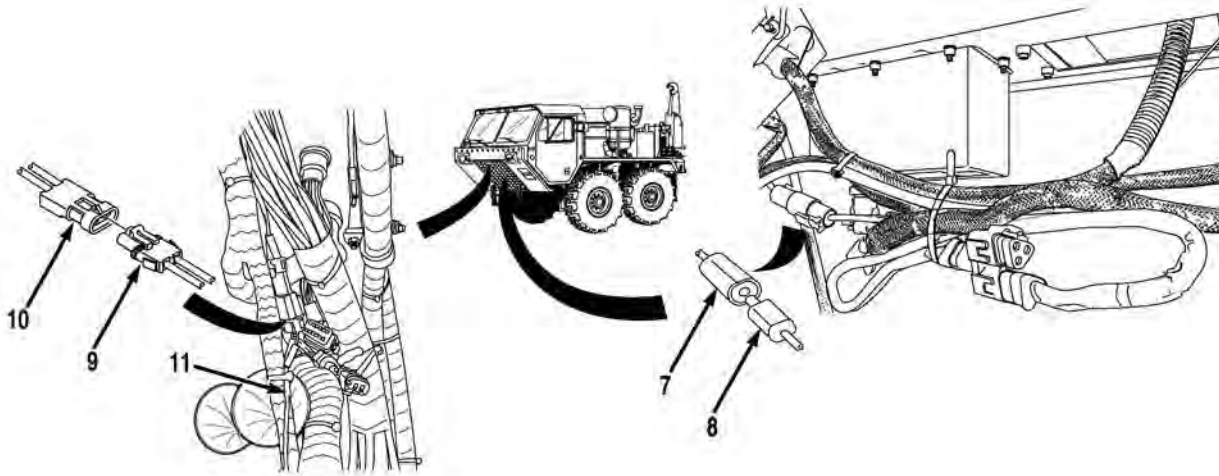


1. Remove six screws (1) and console cover (2) from console (3).

NOTE

- Tag and mark wires and connectors prior to removal to ensure proper installation.
- Remove cable ties and cushion clips as required.

2. Remove locknut (4) and wire 1461 (5) from circuit breaker 9 (6). Discard locknut.



3. Disconnect connector (7) from connector (8).
4. Disconnect 1587 connector (9) from connector (10).

NOTE

Note routing of THAAD cab add-on wire harness prior to removal to ensure proper installation.

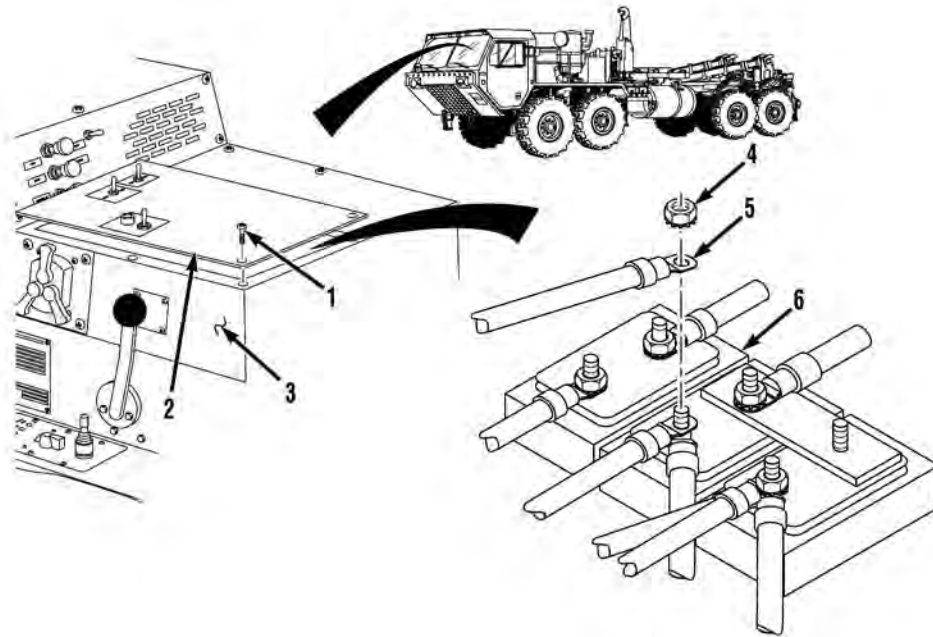
5. Remove THAAD cab add-on wire harness (11) from vehicle.

END OF TASK

INSTALLATION

NOTE

- Route THAAD cab add-on wire harness as noted prior to removal.
 - Install cable ties and cushion clips as required.
1. Position THAAD cab add-on wire harness (11) on vehicle.
 2. Connect connector (9) to connector (10).
 3. Connect connector (7) to connector (8).



4. Install wire 1461 (5) on circuit breaker 9 (6) with locknut (4).
5. Install console cover (2) on console (3) with six screws (1).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install skid plate grille (TM 9-2320-325-14&P).
2. Connect batteries (TM 9-2320-325-14&P).

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

THAAD COMPRESSION FRAME HARNESS REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Lifting Device, Minimum Capacity 2,500 lbs
(1,135 kg)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wooden Block (2) (WP 0157, Item B-8)

Materials/Parts

Adhesive-Sealant, RTV 108 (WP 0186, Item 4)
Compound, Sealing, Loctite 609 (WP 0186,
Item 13)
Gasket, (2), (WP 0184, Item 71)
Locknut, (5), (WP 0184, Item 26)
Locknut, (1), (WP 0184, Item 17)
Locknut, (4), (WP 0184, Item 24)
Lockwasher, (4), (WP 0184, Item 34)

Materials/Parts (Continued)

Tags, Identification (WP 0186, Item 32)
Tape, Insulation, Electrical (WP 0186, Item 33)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

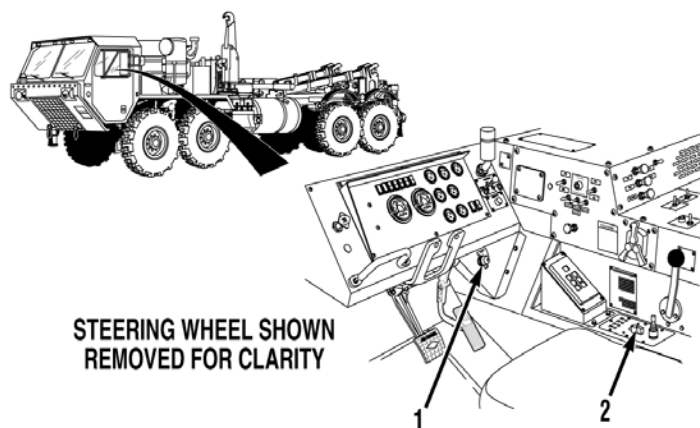
References

None

Equipment Conditions

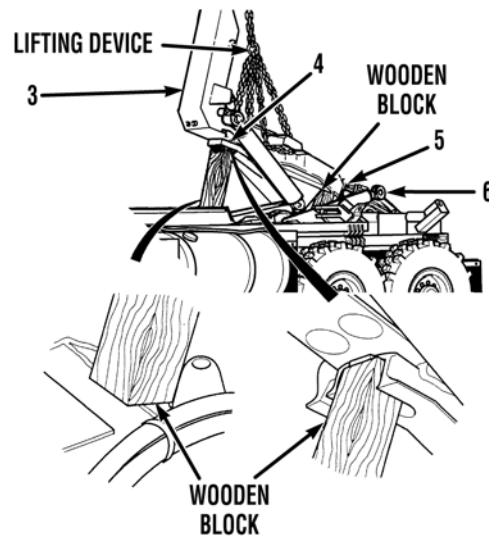
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Hydraulic selector switch in OFF position
(WP 0011)

REMOVAL

**WARNING**

Main frame cylinder pressure must be relieved before lifting hook arm. Failure to comply may result in serious injury or death to personnel.

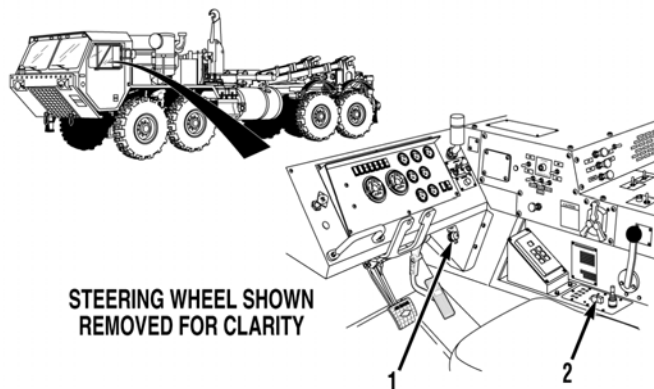
1. Turn engine start switch (1) to ON position.
2. Turn hydraulic selector switch (2) to MAN TRANSIT position.



WARNING

Main frame and hook arm combined weight is 2,100 lbs (953 kg). Middle frame must be raised with a suitable lifting device and supported with two wooden blocks. Failure to comply may result in serious injury or death to personnel.

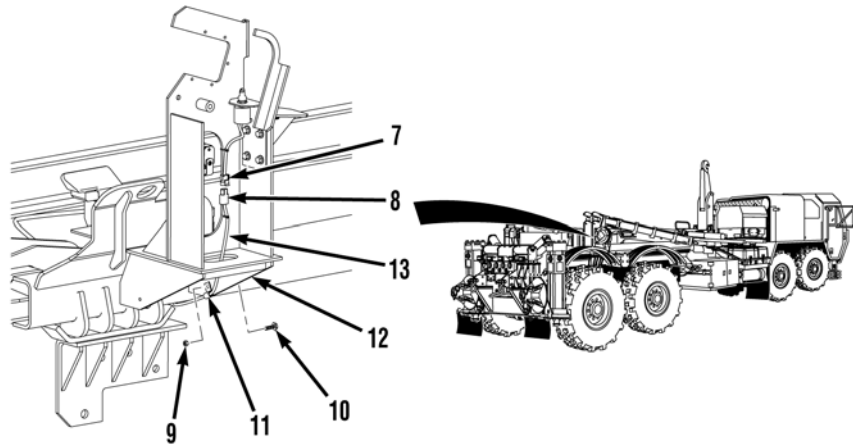
3. Attach suitable lifting device to hook arm (3).
4. Soldier A raises main frame (4) up until hook arm pivot pin (5) is above main frame cylinder (6) while Soldier B blocks up main frame (4) in two places.
5. Soldier A lowers main frame (4) on two wooden blocks.



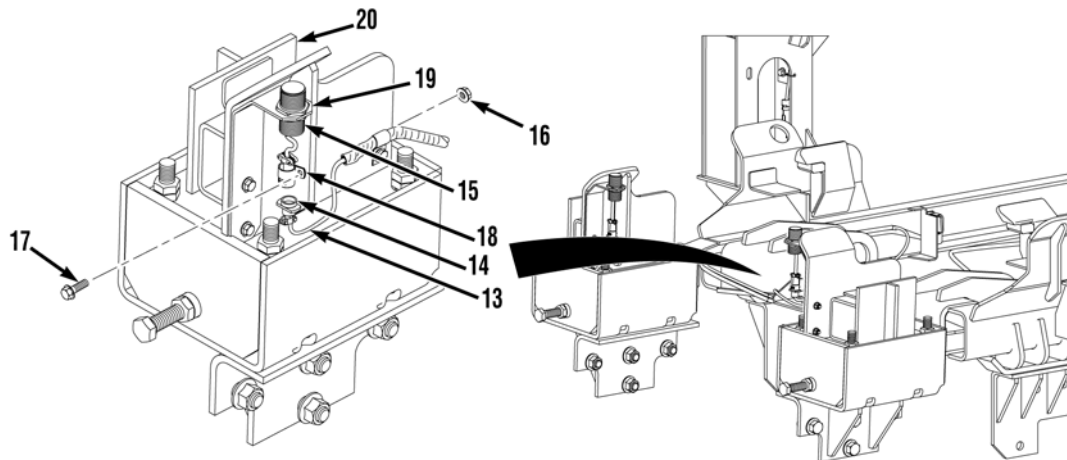
6. Turn hydraulic selector switch (2) and engine start switch (1) to OFF position.

NOTE

- Both MRP lift cylinder stowed switches and cushion clips are removed the same way. Right side shown.
- Tag and mark wires and connectors prior to removal to ensure proper installation.
- Remove cable ties as required.



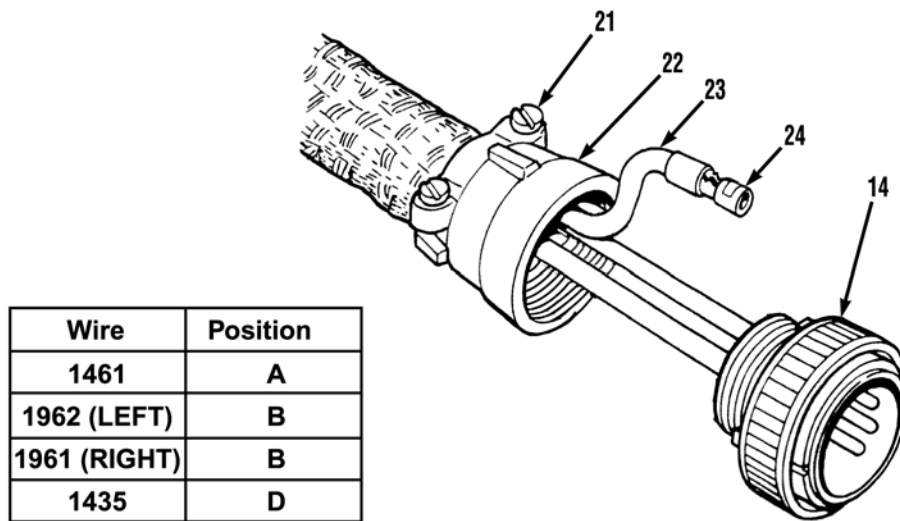
7. Disconnect connector (7) from connector (8).
8. Remove locknut (9), screw (10), and cushion clip (11) from main frame (12). Discard locknut.
9. Remove wire harness (13) from cushion clip (11).



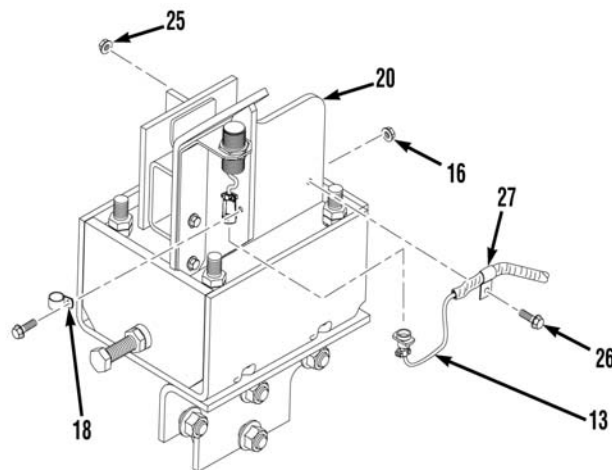
NOTE

Both MRP present proximity switches and cushion clips are removed the same way. Right side shown.

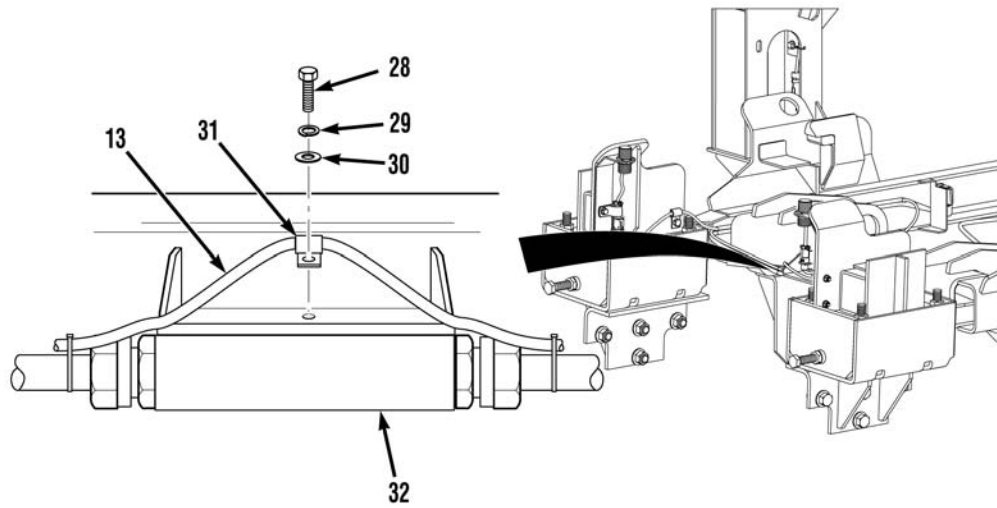
10. Disconnect connector (14) from proximity switch (15).
11. Remove locknut (16), screw (17), and cushion clip (18) from mounting bracket (19) and MRP support bracket (20). Discard locknut.



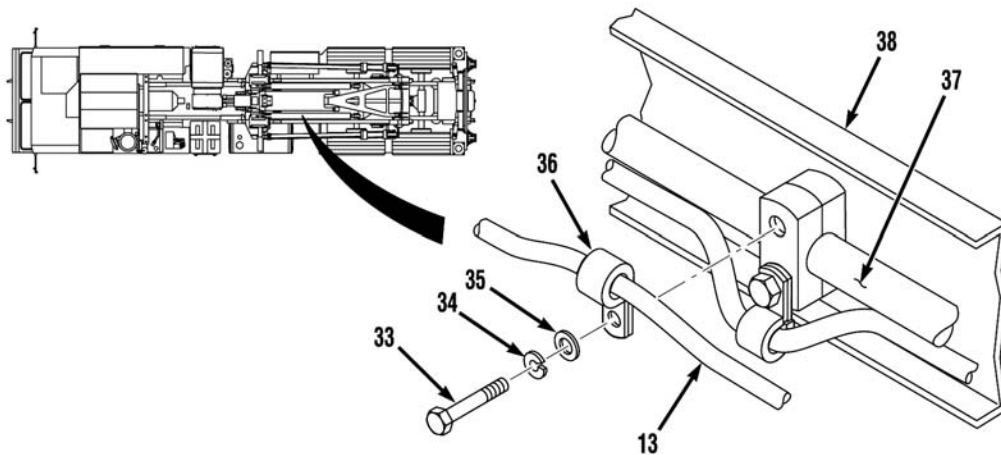
12. Loosen two screws (21) and remove nut (22) from connector (14).
13. Remove three wires (23) with terminals (24) from connector (14), and tape wires (23) together using electrical tape.



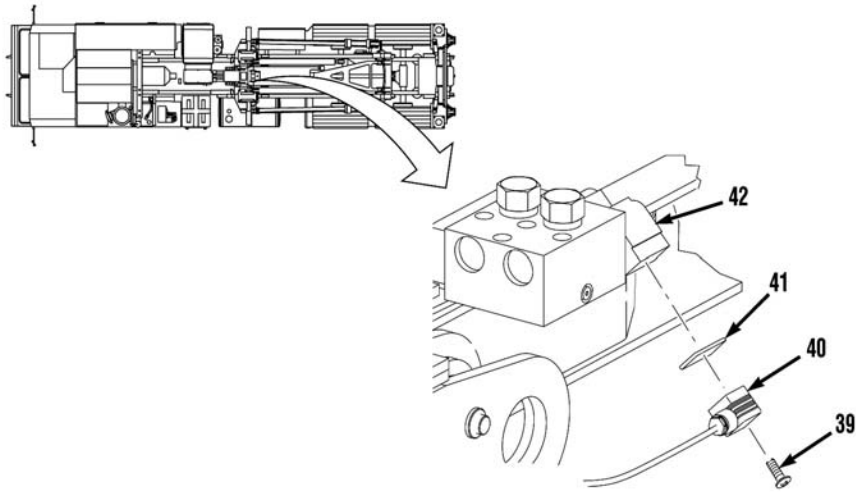
14. Remove locknut (25), screw (26), and cushion clip (27) from MRP support bracket (20). Discard locknut.
15. Remove wire harness (13) from two cushion clips (18 and 27).



16. Remove screw (28), lockwasher (29), washer (30), and cushion clip (31) from diverter (32). Discard lockwasher.
17. Remove wire harness (13) from cushion clip (31).



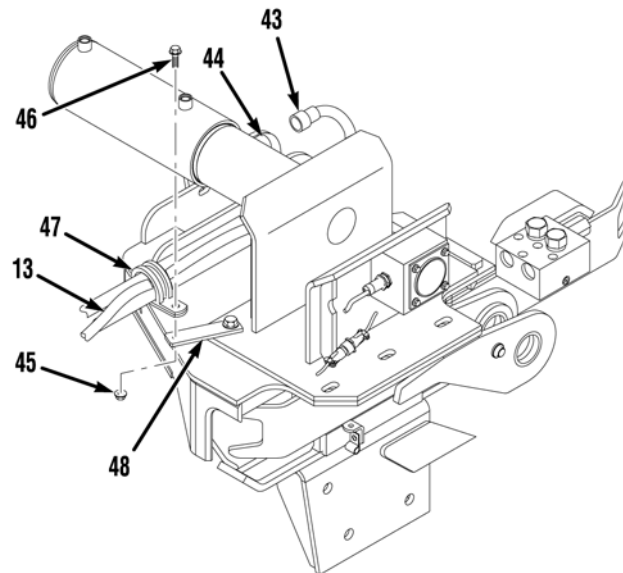
18. Remove four screws (33), lockwashers (34), washers (35), and cushion clips (36) from compression frame tube (37) at inside of left compression frame rail (38). Discard lockwashers.
19. Remove wire harness (13) from four cushion clips (36).



NOTE

All solenoid connectors are removed the same way. Right side shown.

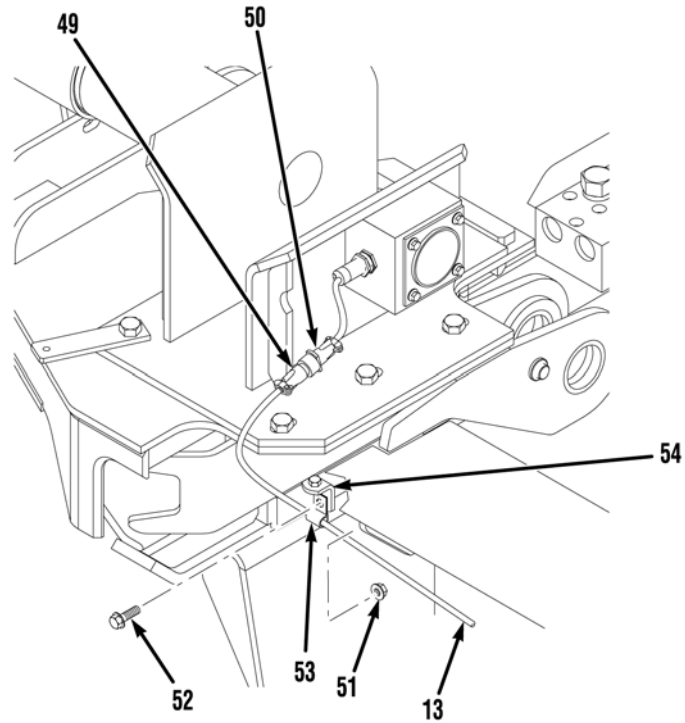
20. Loosen two screws (39) and remove connectors (40) and gaskets (41) from solenoids (42). Discard gaskets.



NOTE

Both MRP rack lock disengaged switches and cushion clips are removed the same way. Right side shown.

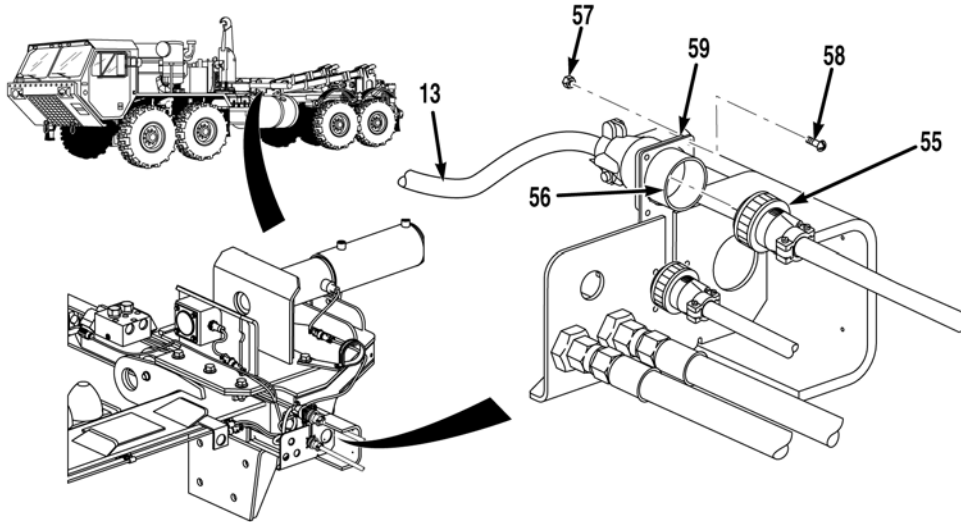
21. Disconnect connector (43) from proximity switch (44).
22. Remove locknut (45), screw (46), and cushion clip (47) from bracket (48). Discard locknut.
23. Remove wire harness (13) from cushion clip (47).



NOTE

Both MRP rack lock engage switches are removed the same way. Right side shown.

24. Remove connector (49) from proximity switch (50).
25. Remove three locknuts (51), screws (52), and cushion clips (53) from brackets (54). Discard locknuts.
26. Remove wire harness (13) from three cushion clips (53).



27. Disconnect connector (55) from bulkhead connector (56).
28. Remove four locknuts (57), screws (58), and bulkhead connector (56) from connector support bracket (59). Discard locknuts.
29. Remove wire harness (13) from vehicle.

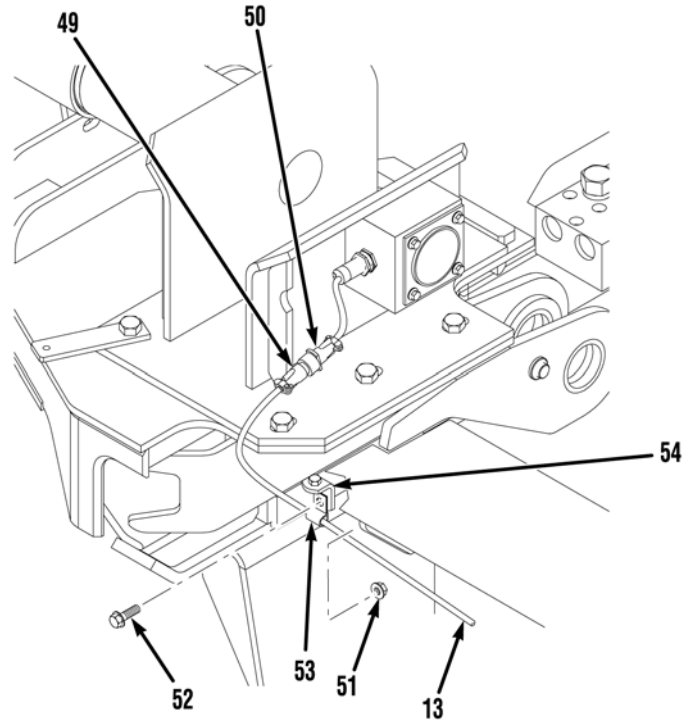
END OF TASK

INSTALLATION

NOTE

Install cable ties as needed.

1. Install wire harness (13) in vehicle.
2. Install bulkhead connector (56) on connector support bracket (59) with four screws (58) and locknuts (57).
3. Connect connector (55) to bulkhead connector (56).

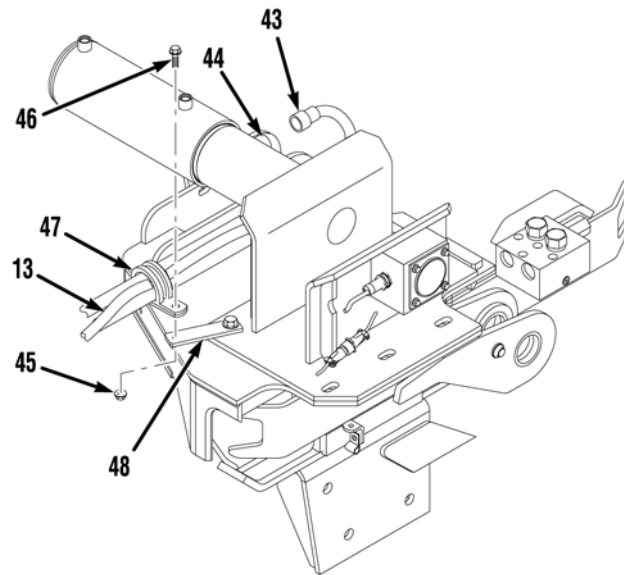


4. Install wire harness (13) in three cushion clips (53).
5. Install three cushion clips (53) on brackets (54) with three screws (52) and locknuts (51).

NOTE

Both MRP rack lock engage switches are installed the same way. Right side shown.

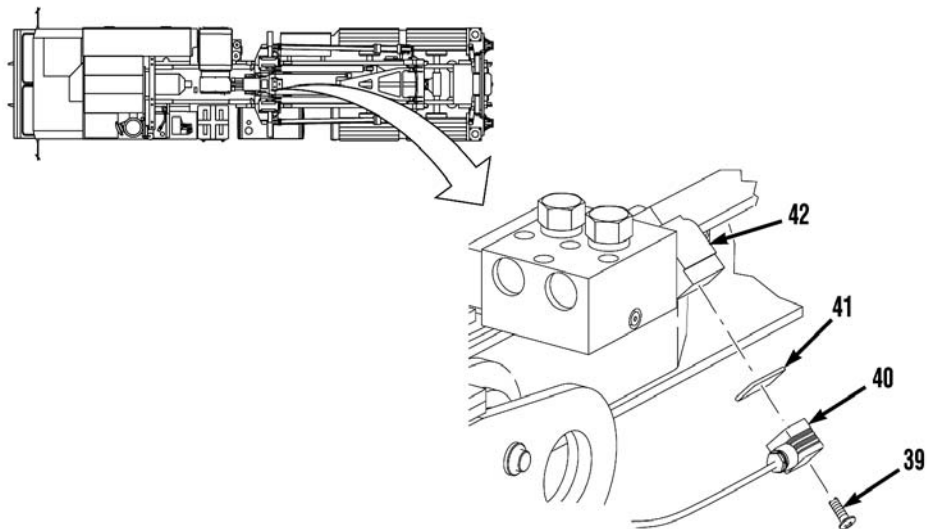
6. Connect connector (49) to proximity switch (50).



NOTE

Both MRP rack lock disengage switches and cushion clips are installed the same way.
Right side shown.

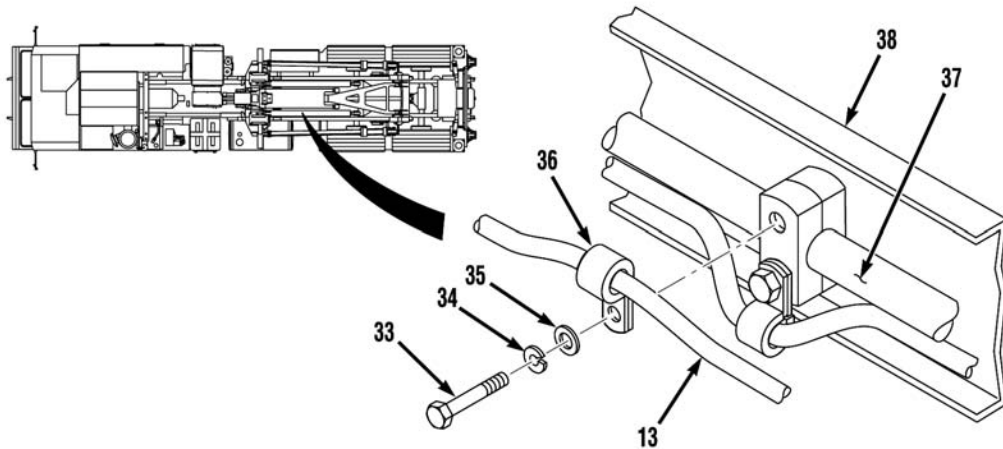
7. Install wire harness (13) in cushion clip (47).
8. Install cushion clip (47) on bracket (48) with screw (46) and locknut (45).
9. Connect connector (43) to proximity switch (44).



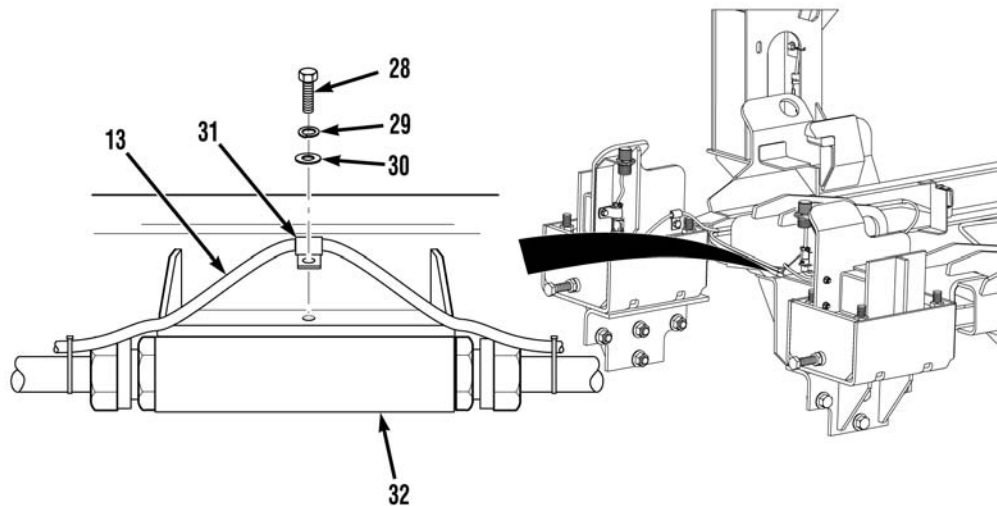
NOTE

All solenoid connectors are installed the same way. Right side shown.

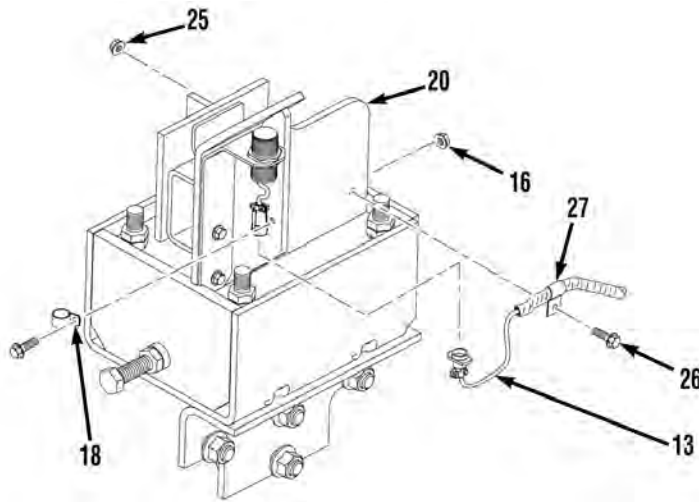
10. Apply sealant to two gaskets (41) and install two gaskets (41) and connectors (40) on solenoids (42) and tighten screws (39).



11. Install wire harness (13) in four cushion clips (36).
12. Apply sealing compound to threads of four screws (33) and install four cushion clips (36) on compression frame tube (37) at inside of left compression frame rail (38) with four washers (35), lockwashers (34), and screws (33).



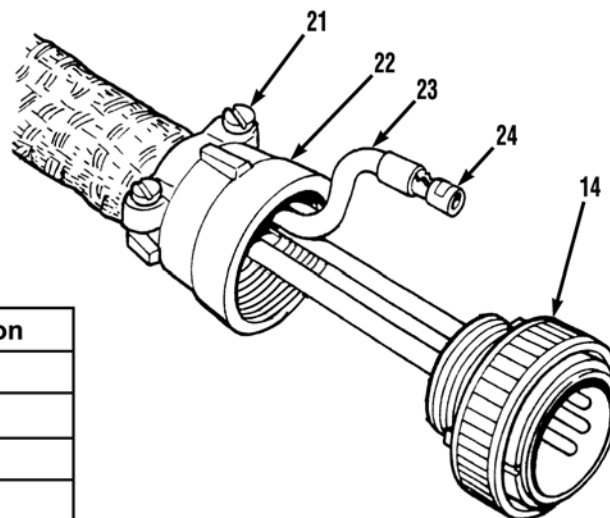
13. Install wire harness (13) in cushion clip (31).
14. Install cushion clip (31) on diverter (32) with washer (30), lockwasher (29), and screw (28).



NOTE

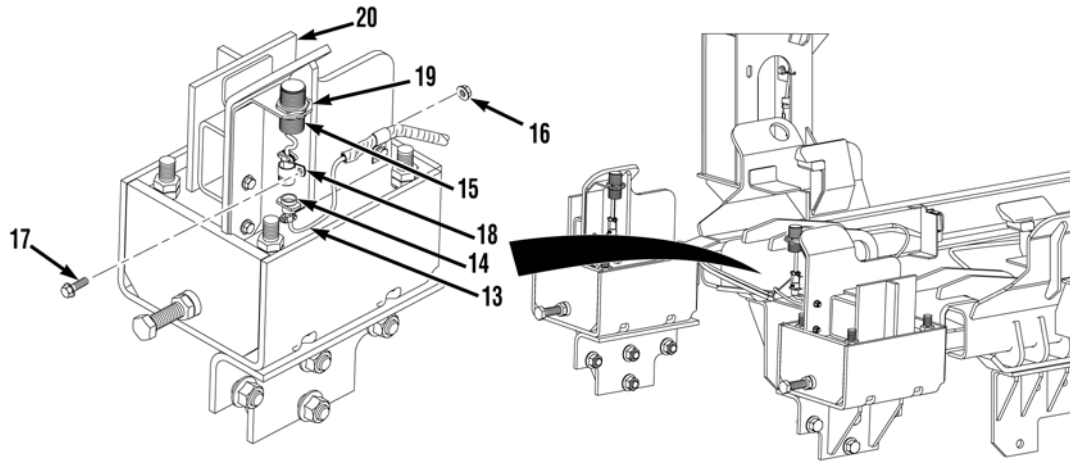
Both MRP present proximity switches and cushion clips are installed the same way. Right side shown.

- 15. Install wire harness (13) in two cushion clips (18 and 27).
- 16. Install cushion clip (27) on MRP support bracket (20) with screw (26) and locknut (25).

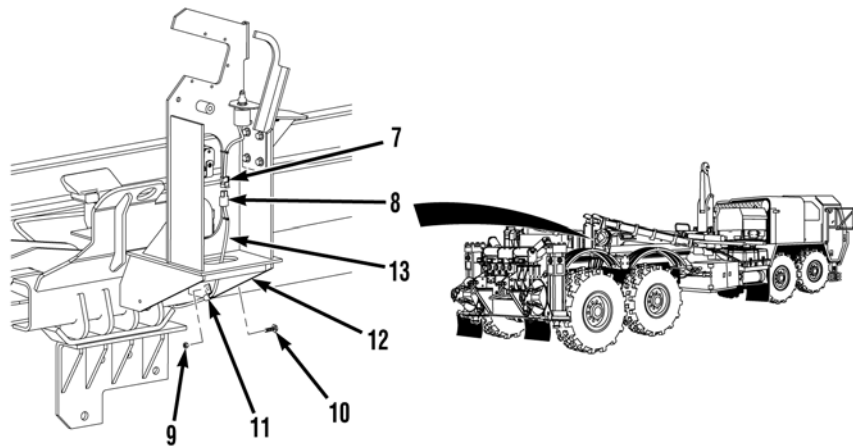


Wire	Position
1461	A
1962 (LEFT)	B
1961 (RIGHT)	B
1435	D

- 17. Install three wires (23) with terminals (24) on connector (14).
- 18. Install nut (22) on connector (14) and tighten two screws (21).



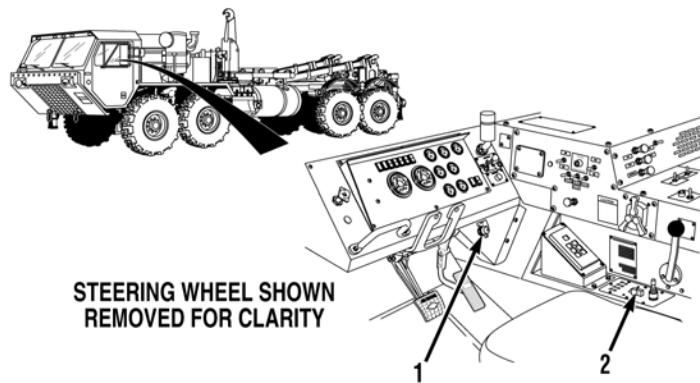
19. Install cushion clip (18) on MRP support bracket (20) and mounting bracket (19) with screw (17) and locknut (16).
20. Connect connector (14) to proximity switch (15).



NOTE

Both MRP lift cylinder stowed switches and cushion clips are installed the same way. Right side shown.

21. Install wire harness (13) in cushion clip (11).
22. Install cushion clip (11) on main frame (12) with screw (10) and locknut (9).
23. Connect connector (8) to connector (7).



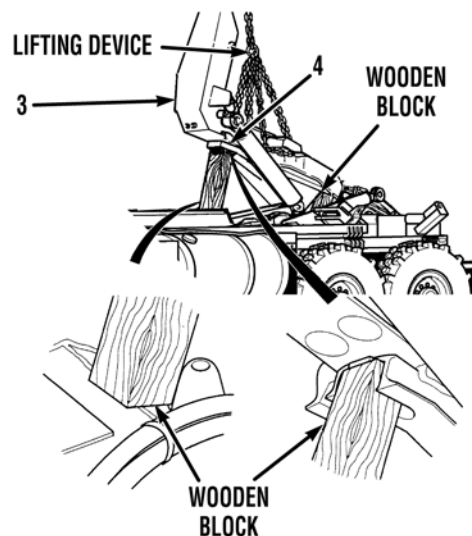
WARNING

Main frame and hook arm have a combined weight of 2,100 lbs (953 kg). Attach suitable lifting device to hook arm before removing wooden blocks.

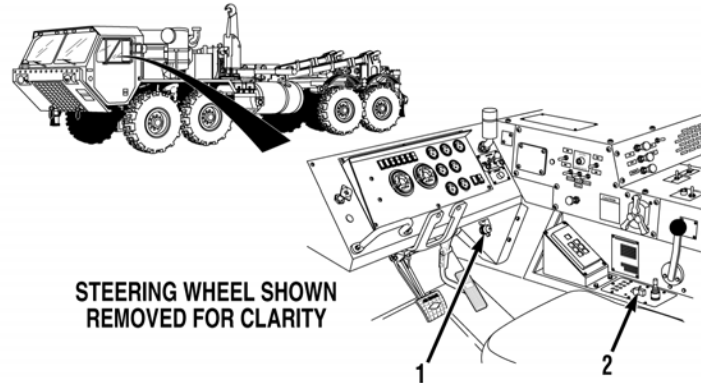
CAUTION

Blocks supporting main frame can fall when frame is supported with suitable lifting device. Soldier must prevent blocks from falling. Failure to comply may result in damage to equipment.

24. Turn engine start switch (1) to ON position.
25. Turn hydraulic selector switch (2) to MAN TRANSIT position.



26. With suitable lifting device attached to hook arm (3), Soldier A raises main frame (4) while Soldier B removes two wooden blocks.
27. Using suitable lifting device, Soldier A lowers main frame (4) completely.
28. Remove suitable lifting device from hook arm (3).



29. Turn hydraulic selector switch (2) and engine start switch (1) to OFF position.

END OF TASK

FOLLOW-ON MAINTENANCE

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

THAAD CONTROL VALVE HARNESS REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Gasket, (13), (WP 0184, Item 81)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

MOS 63B Wheeled vehicle mechanic

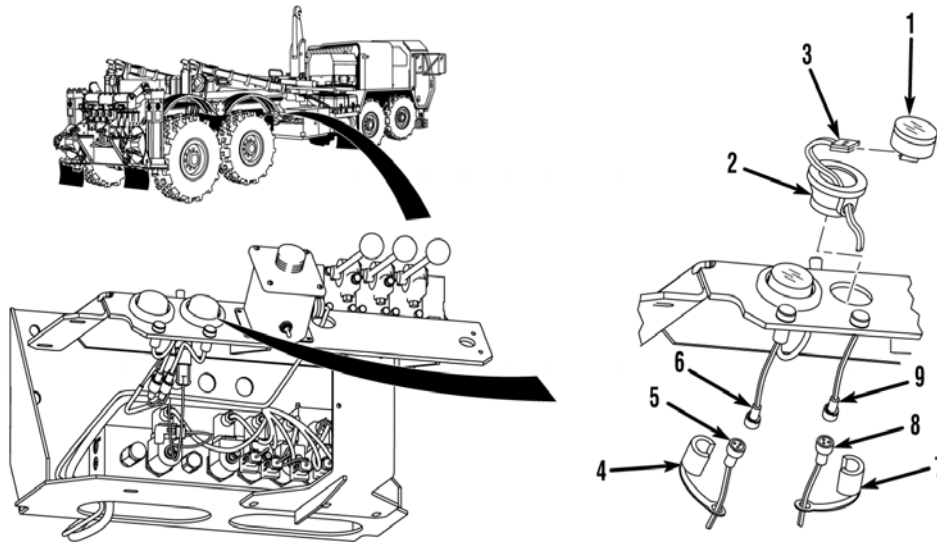
References

None

Equipment Conditions

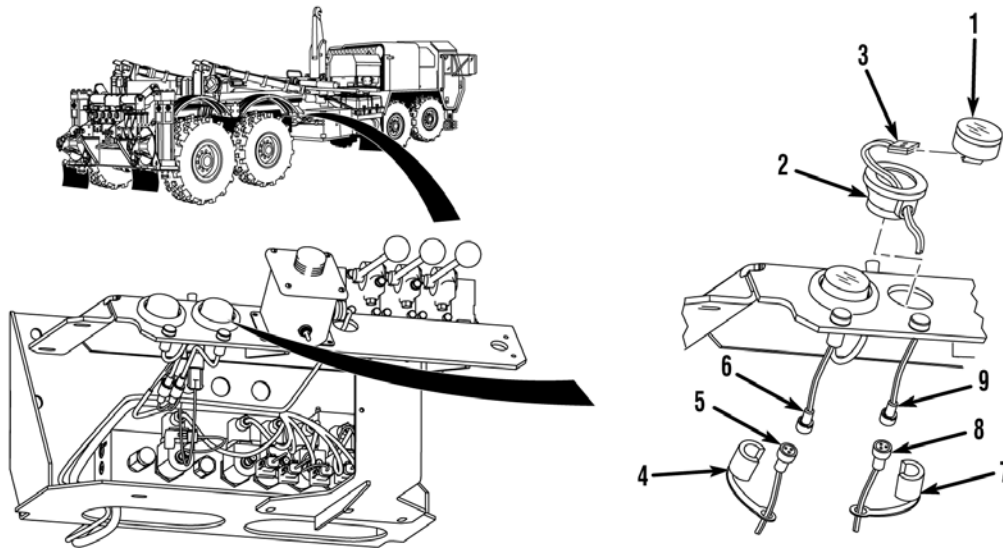
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Batteries disconnected TM 9-2320-325-14&P

REMOVAL

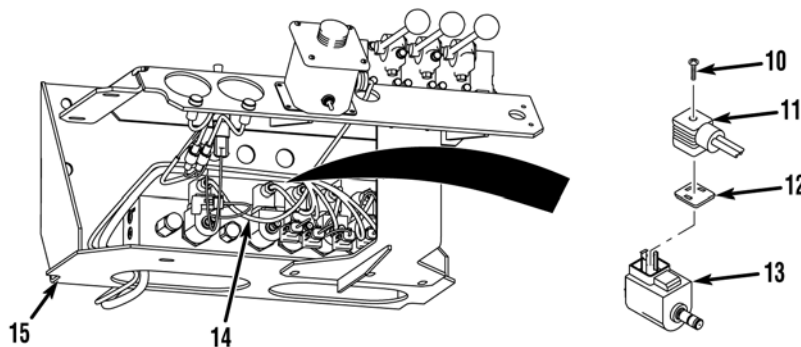
**NOTE**

- Remove cable ties and cushion clips as required.
- Tag and mark wires and connectors prior to removal to ensure proper installation.
- Both air bag pressure depleted indicators are removed the same way. Front air bag pressure depleted indicator shown.

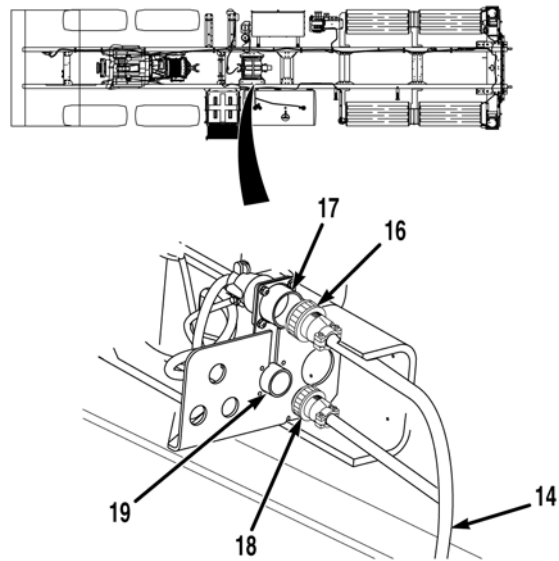
1. Remove daylight indicator (1) from grommet (2).
2. Remove air bag pressure depleted indicator (3) from daylight indicator (1).
3. Remove air bag pressure depleted indicator (3) from grommet (2).
4. Repeat steps (1) through (3) to remove rear air bag pressure depleted indicator.



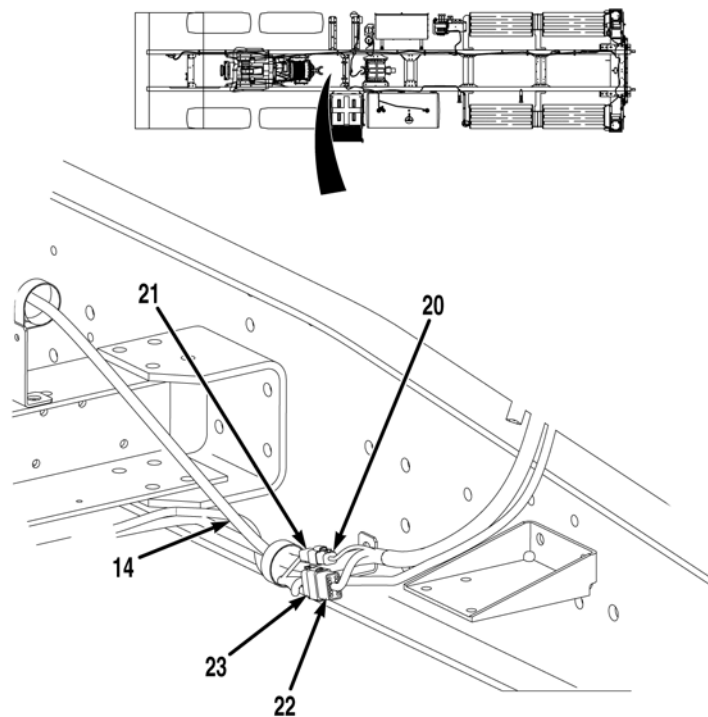
5. Remove connector lock (4) from THAAD control valve harness connector (5) and blackout indicator connector (6).
6. Disconnect THAAD control valve harness connector (5) from blackout indicator connector (6).
7. Remove connector lock (7) from THAAD control valve harness connector (8) and blackout indicator connector (9).
8. Disconnect THAAD control valve harness connector (8) from blackout indicator connector (9).



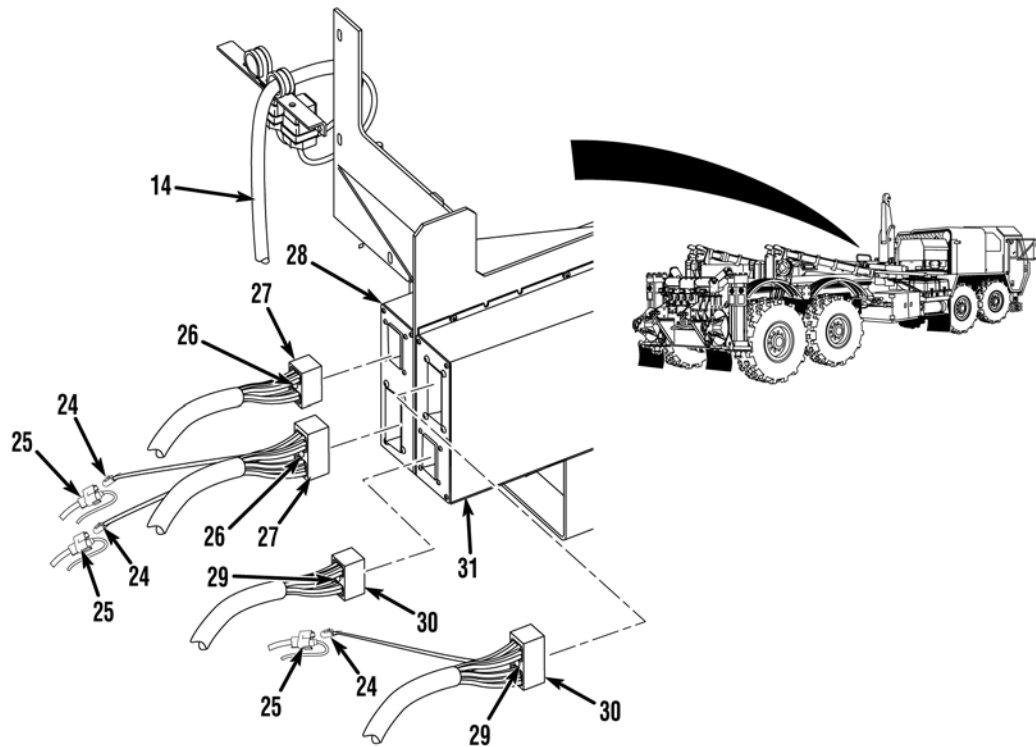
9. Remove six screws (10), THAAD control valve harness connectors (11), and gaskets (12) from solenoids (13). Discard gaskets.
10. Remove THAAD control valve harness (14) from hole in bracket (15).



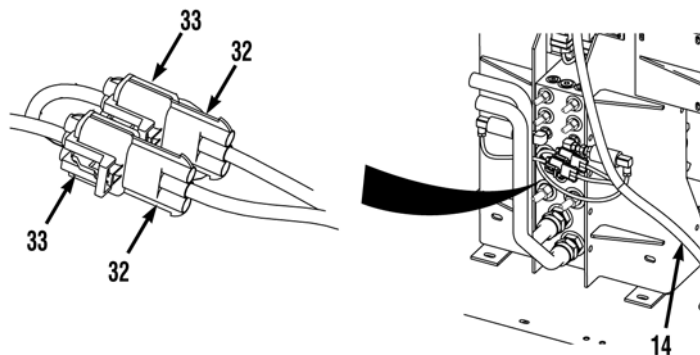
11. Disconnect LHS THAAD connector (16) from compression frame connector (17).
12. Disconnect LHS connector (18) from compression frame connector (19).



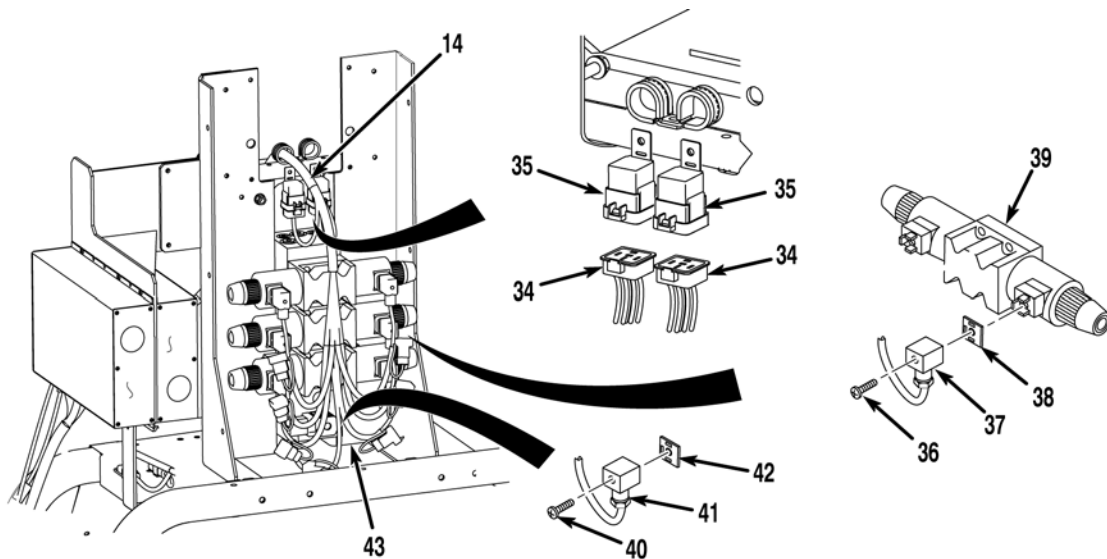
13. Disconnect THAAD control valve harness connector (20) from chassis harness connector (21).
14. Disconnect THAAD control valve harness connector (22) from chassis harness connector (23).



15. Disconnect three THAAD control valve harness connectors (24) from J1939 BUS harness connectors (25).
16. Loosen two screws (26) and remove THAAD control valve harness connectors (27) from VIM #1 (28).
17. Loosen two screws (29) and remove THAAD control valve harness connectors (30) from VIM #2 (31).



18. Disconnect two THAAD control valve harness connectors (32) from hydraulic pressure transducer connectors (33).



19. Remove two THAAD control valve harness connectors (34) from two relays (35).
20. Remove six screws (36), THAAD control valve harness connectors (37), and gaskets (38) from solenoids (39). Discard gaskets.
21. Remove screw (40), THAAD control valve harness connector (41), and gasket (42) from free-flow valve (43). Discard gasket.
22. Remove THAAD control valve harness (14) from vehicle.

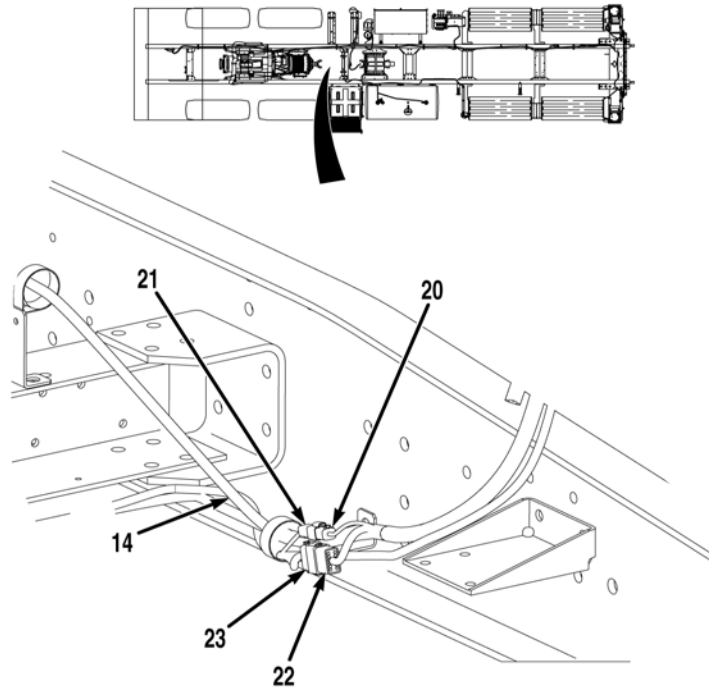
END OF TASK

INSTALLATION

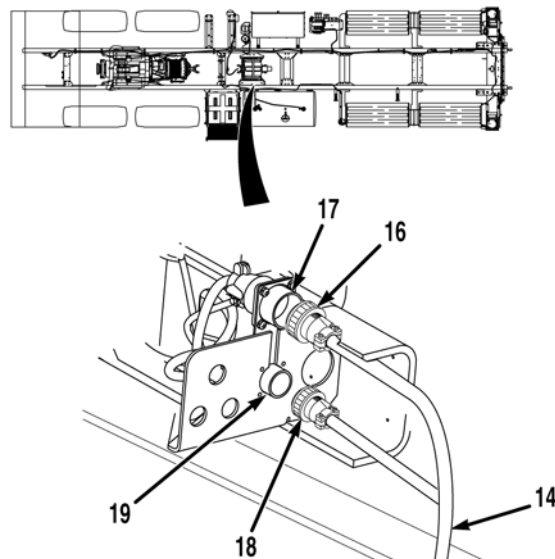
NOTE

Install cable ties and cushion clips as required.

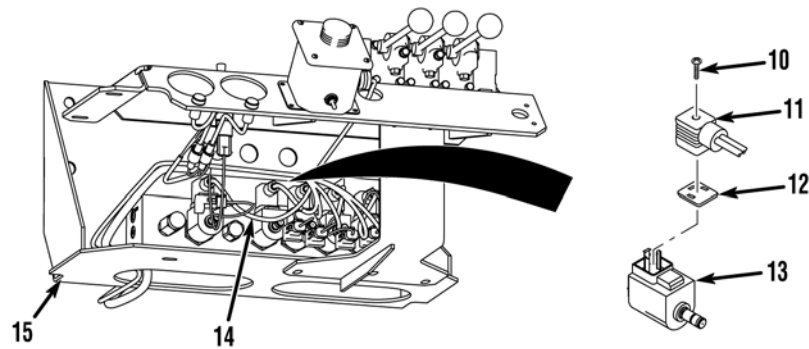
1. Position THAAD control valve harness (14) on vehicle.
2. Install gasket (42) and THAAD control valve harness connector (41) on free-flow valve (43) with screw (40).
3. Install six gaskets (38) and THAAD control valve harness connectors (37) on solenoids (39) with screws (36).
4. Connect two THAAD control valve harness connectors (34) on relays (35).
5. Connect two THAAD control valve harness connectors (32) on hydraulic pressure transducer connectors (33).
6. Install two THAAD control valve harness connectors (30) on VIM #2 (31) and tighten screws (29).
7. Install two THAAD control valve harness connectors (27) on VIM #1 (28) and tighten screws (26).
8. Connect three THAAD control valve harness connectors (24) on J1939 BUS harness connectors (25).



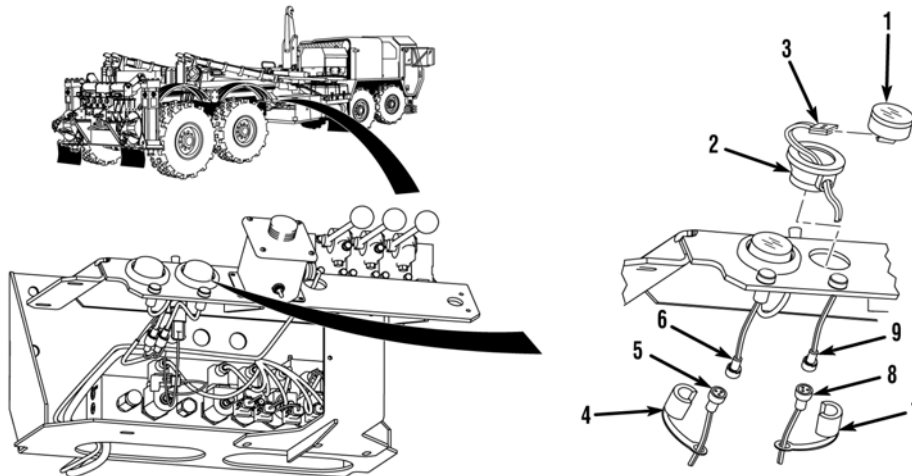
9. Connect THAAD control valve harness connector (22) on chassis harness connector (23).
10. Connect THAAD control valve harness connector (20) on chassis harness connector (21).



11. Connect LHS connector (18) on compression frame connector (19).
12. Connect LHS THAAD connector (16) on compression frame connector (17).



13. Route THAAD control valve harness (14) through hole in bracket (15).
14. Install six gaskets (12) and THAAD control valve harness connectors (11) on solenoids (13) with screws (10).



15. Connect THAAD control valve harness connector (8) to blackout indicator connector (9).
16. Install connector lock (7) on THAAD control valve harness connector (8) and blackout indicator connector (9).
17. Connect THAAD control valve harness connector (5) to blackout indicator connector (6).
18. Install connector lock (4) on THAAD control valve harness connector (5) and blackout indicator connector (6).

NOTE

Both air bag pressure depleted indicators are installed the same way. Front air bag pressure depleted indicator shown.

19. Route air bag pressure depleted indicator (3) through grommet (2).
20. Install air bag pressure depleted indicator (3) on daylight indicator (1).
21. Install daylight indicator (1) on grommet (2).
22. Repeat steps (19) through (21) to install rear air bag pressure depleted indicator.

END OF TASK

FOLLOW-ON MAINTENANCE

1. Connect batteries (TM 9-2320-325-14&P).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE

VIM UNITS AND MOUNTING BRACKET REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (6), (WP 0184, Item 48)
Locknut, (4), (WP 0184, Item 17)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

MOS 63B Wheeled vehicle mechanic(2)

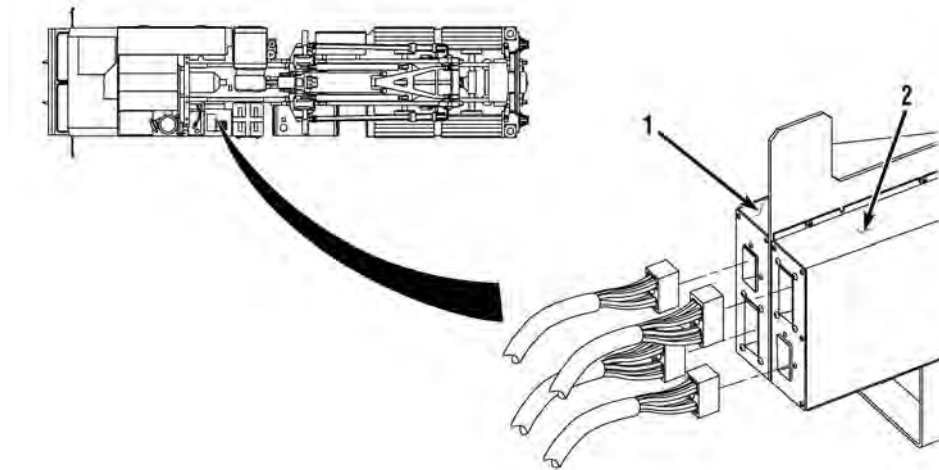
References

None

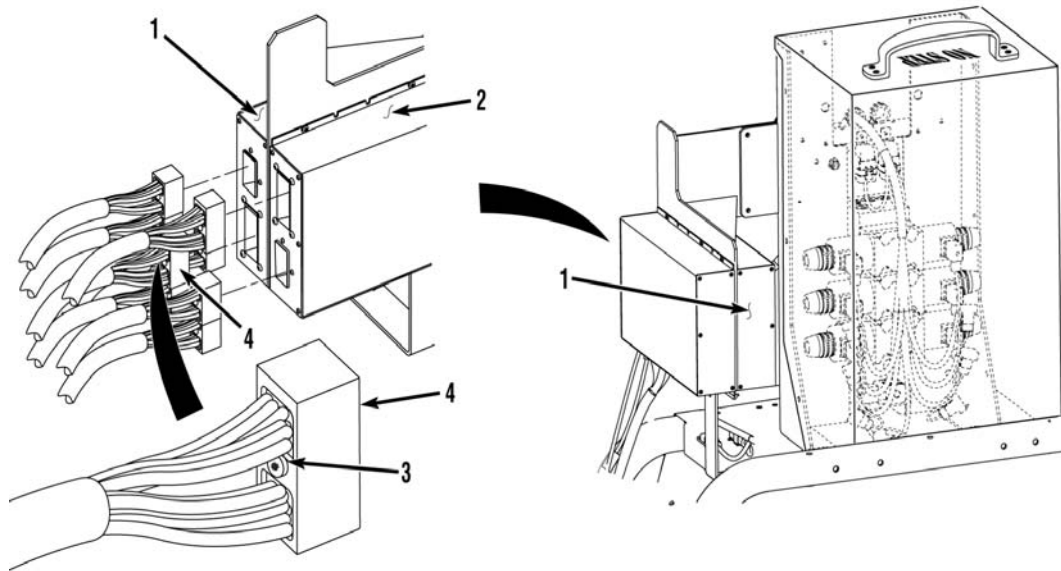
Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Batteries disconnected (TM 9-2320-325-14&P)

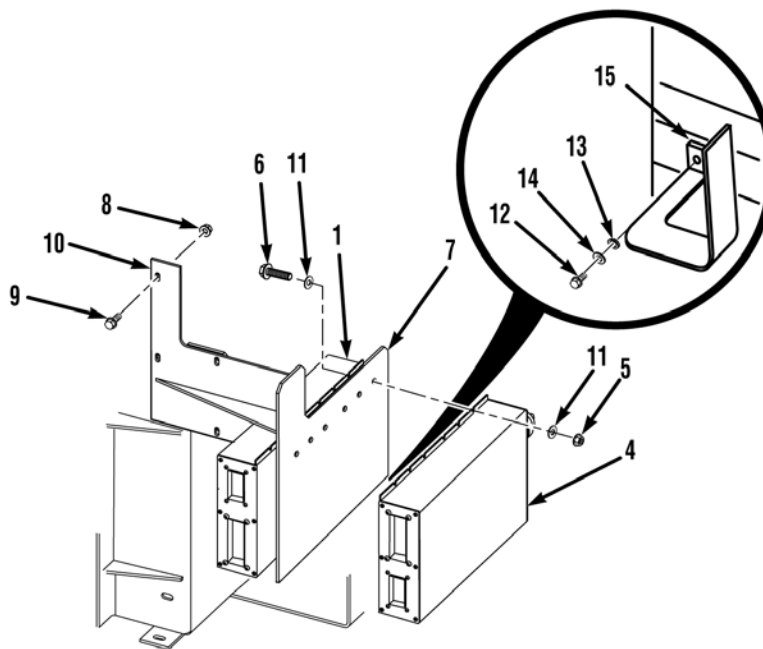
REMOVAL

**NOTE**

- Tag and mark connectors prior to removal to ensure proper installation.
- Remove cable ties as required.
- All connectors are removed the same way. Forty pin connector for VIM #1 (1) shown.



1. Loosen screw (3) and disconnect connector (4) from VIM #1 (1).
2. Repeat step (1) for three remaining connectors.



3. Soldier A and Soldier B remove six locknuts (5), screws (6), and 12 washers (11) VIM #1 (1), and VIM #2 (4) from mounting bracket (7). Discard locknuts.

4. Soldier A and Soldier B remove four locknuts (8), screws (9), and mounting bracket (7) from hydraulic manifold assembly (10). Discard locknuts.
5. Soldier A and Soldier B remove screw (12), lockwasher (14), washer (13) from bracket (15).

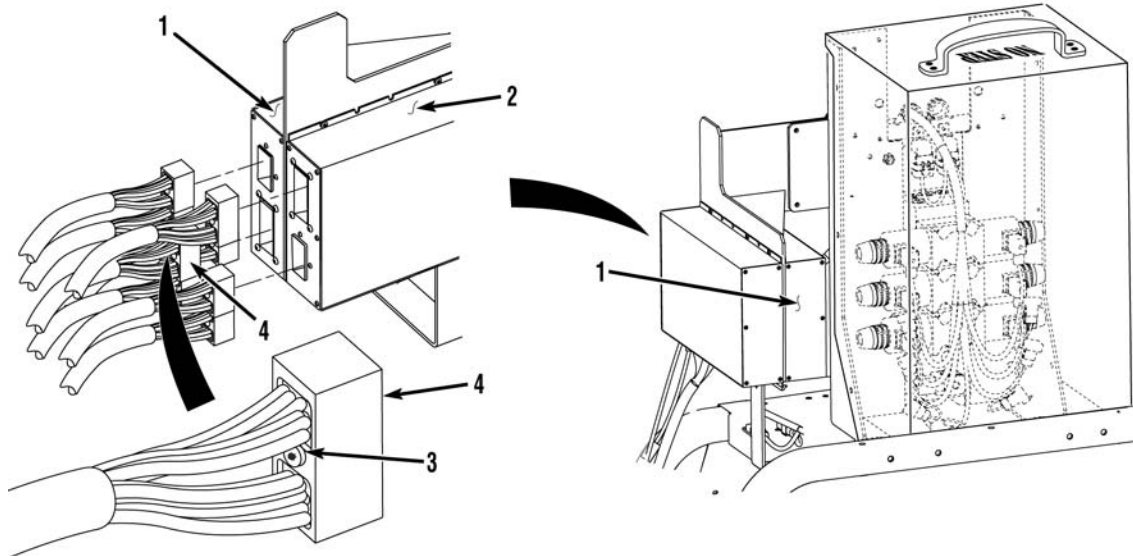
END OF TASK

INSTALLATION

NOTE

Install cable ties as required.

1. Soldier A and Soldier B install mounting bracket (7) on hydraulic manifold assembly (10) with screw (12), lockwasher (14) and washer (13).
2. Soldier A and Soldier B install mounting bracket (7) on hydraulic manifold assembly (10) with four screws (9) and locknuts (8).
3. Soldier A and Soldier B install VIM #2 (4) and VIM #1 (1) on mounting bracket (7) with six screws (6), locknuts (5) and 12 washers (11).



NOTE

All connectors are installed the same way. Connector for VIM #1 shown.

4. Connect connector (4) to VIM #1 (1) and tighten screw (3).
5. Repeat step (3) for three remaining connectors.

END OF TASK

FOLLOW-ON MAINTENANCE

1. Connect batteries (TM 9-2320-325-14&P).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
WORK LAMP SWITCH REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (2), (WP 0184, Item 24)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

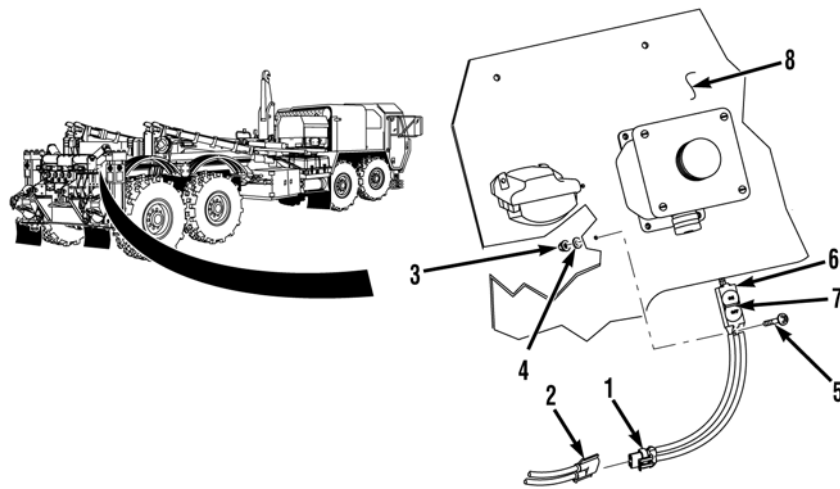
MOS 63B Wheeled vehicle mechanic

References

None

Equipment Conditions

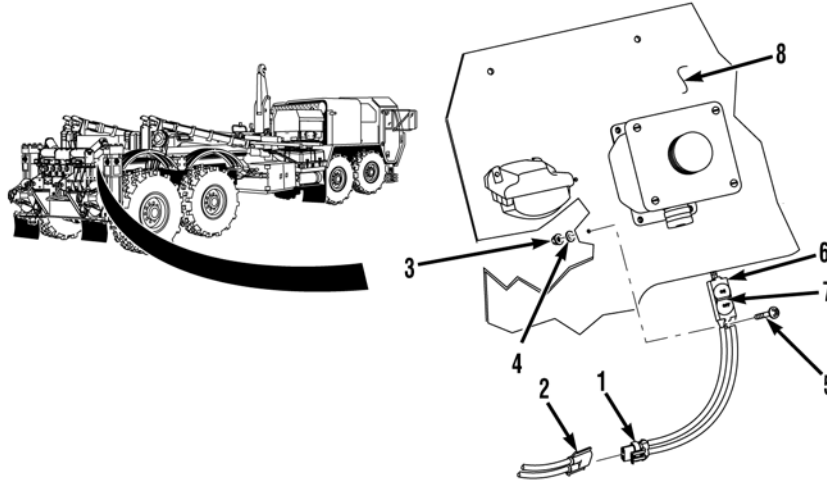
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Batteries disconnected TM 9-2320-325-14&P

REMOVAL**NOTE**

- Both outrigger and MRP work lamp switches are removed the same way. Outrigger work lamp switch shown.
- Tag and mark connectors prior to removal to ensure proper installation.
- Remove cable ties as required.

1. Disconnect connector (1) from connector (2).
2. Remove two locknuts (3), washers (4), screws (5), switch bracket (6), and switch (7) from bracket (8). Discard locknuts.

END OF TASK

INSTALLATION**NOTE**

- Both outrigger and MRP work lamp switches are installed the same way. Outrigger work lamp switch shown.
- Install cable ties as required.

1. Install switch (7) and switch bracket (6) on bracket (8) with two screws (5), washers (4) and locknuts (3).
2. Connect connector (2) to connector (1).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Connect batteries (TM 9-2320-325-14&P).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE**WORK LIGHT REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Soap Chips (WP 0186, Item 31)
Tags, Identification (WP 0186, Item 32)

Personnel Required

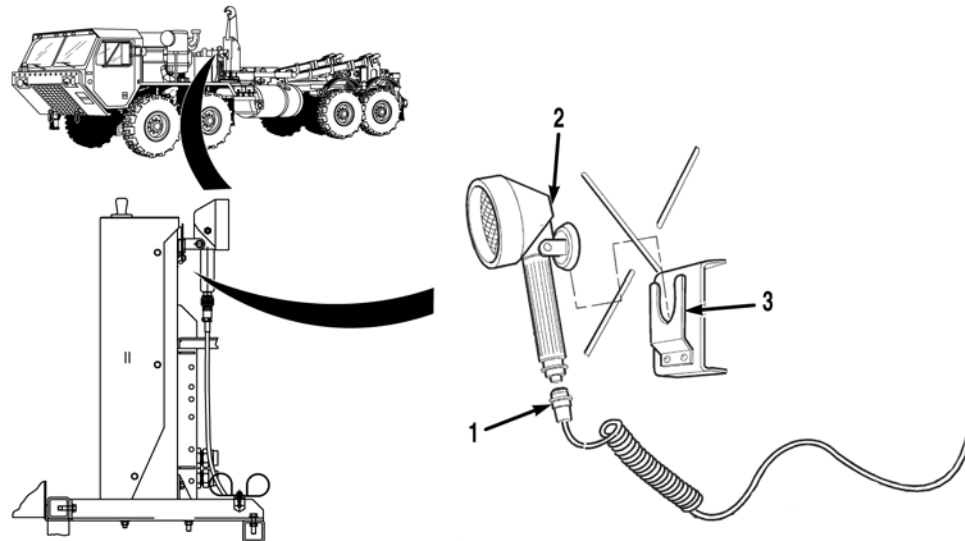
MOS 63B Wheeled vehicle mechanic

References

None

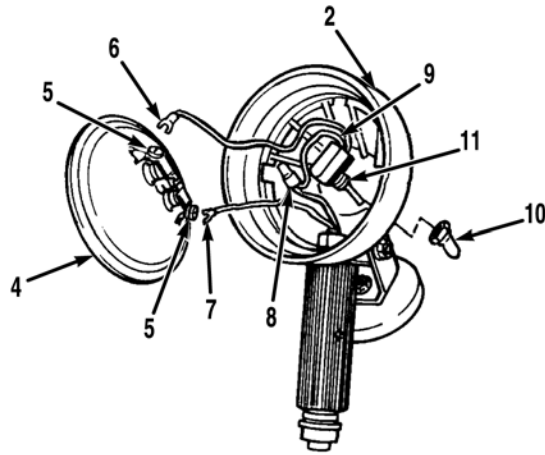
Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Batteries disconnected TM 9-2320-325-14&P

REMOVAL**NOTE**

Tag and mark connectors and wires prior to removal to ensure proper installation.

1. Disconnect connector (1) from work light (2).
2. Remove work light (2) from mounting bracket (3).

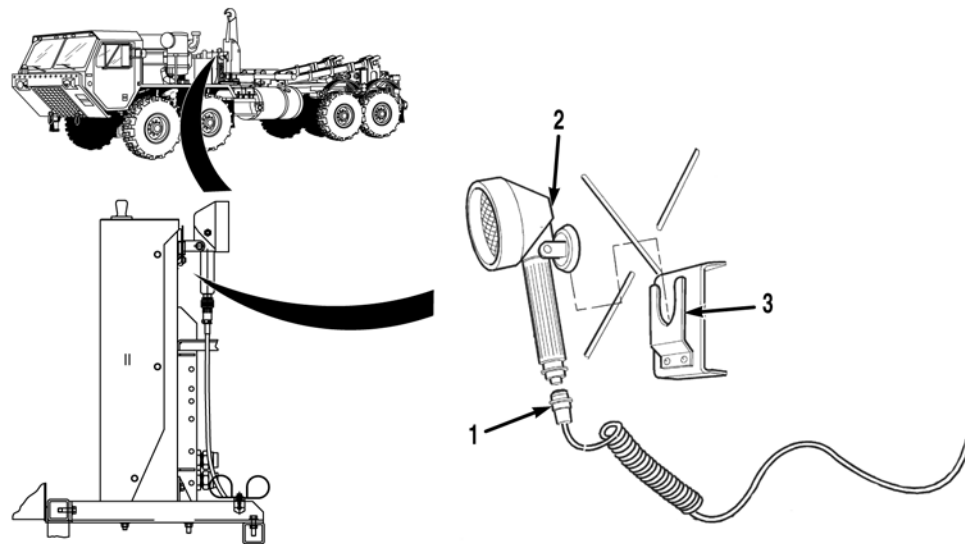


3. Apply soap solution to edge of lamp (4).
4. Pry off edge of work light (2) from lamp (4).
5. Loosen two screws (5) and remove switch power wire (6) and ground wire (7) from lamp (4).
6. Remove splice cap (8) from internal power wire (9).
7. Remove retainer nut (10) and switch (11) from work light (2).

END OF TASK

INSTALLATION

1. Install switch (11) on work light (2) with retainer nut (10).
2. Install splice cap (8) on internal power wire (9).
3. Install ground wire (7) and switch power wire (6) on lamp (4) and tighten two screws (5).
4. Install lamp (4) in work light (2).



5. Install work light (2) in mounting bracket (3).
6. Connect connector (1) to work light (2).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Connect batteries (TM 9-2320-325-14&P).
2. Check for proper operation of work light.
3. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**RIGHT-HAND ENGINE ACCESS COVER REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (10), (WP 0184, Item 53)
Locknut, (3), (WP 0184, Item 40)
Locknut, (2), (WP 0184, Item 55)
Locknut, (6), (WP 0184, Item 117)
Lockwasher, (3), (WP 0184, Item 61)

Personnel Required

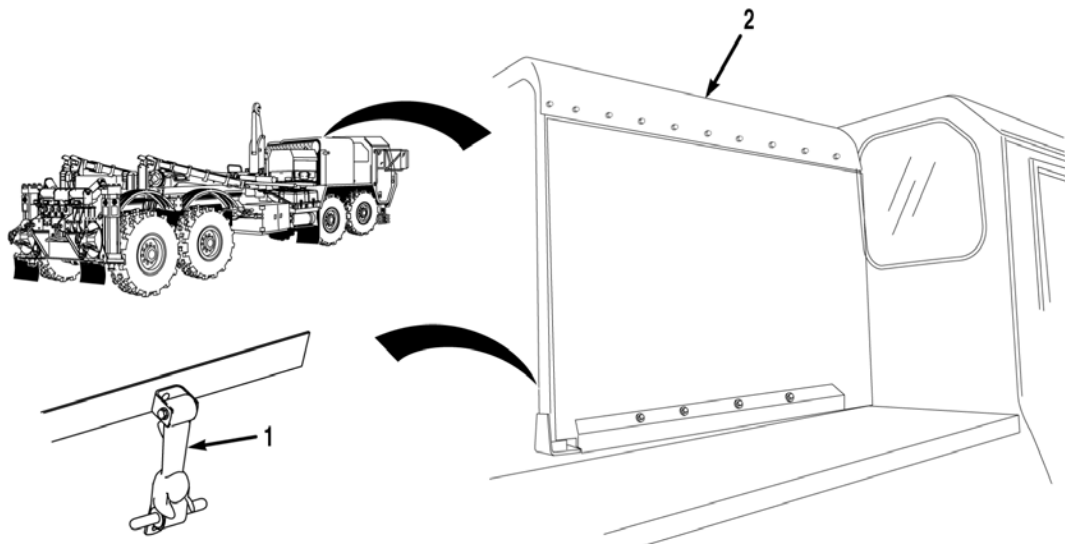
MOS 63B Wheeled vehicle mechanic

References

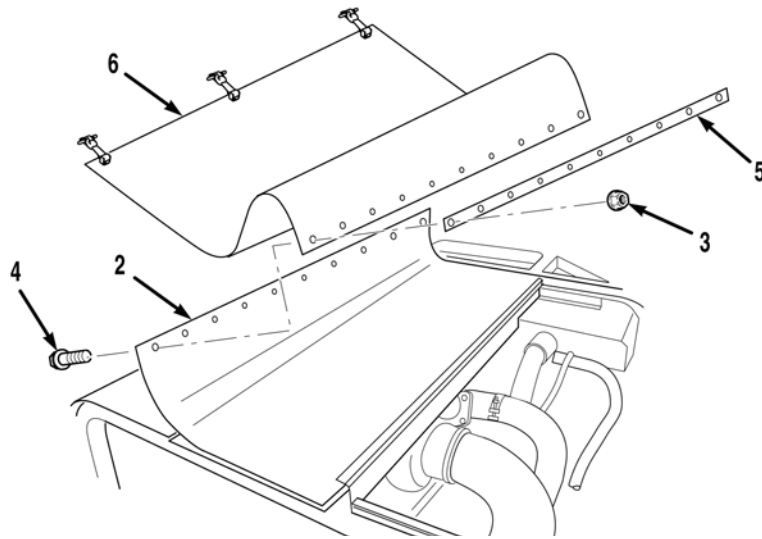
None

Equipment Conditions

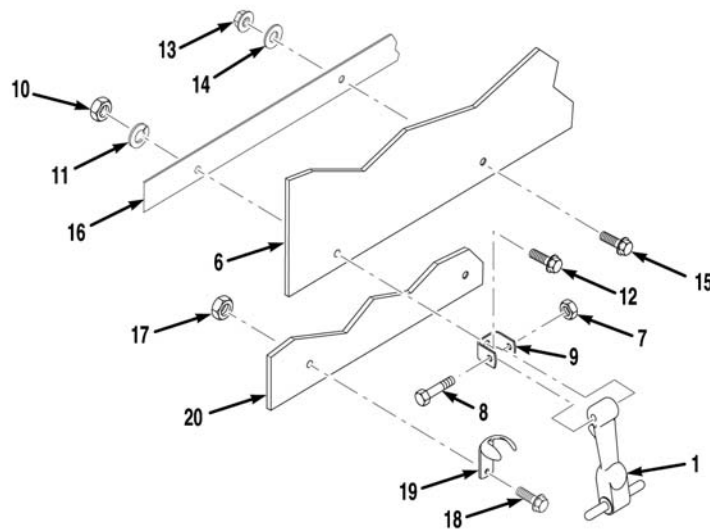
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

REMOVAL

1. Release three rubber hooks (1) and open right side engine cover (2).



2. Remove ten locknuts (3), screws (4), plate (5), and engine access cover (6) from right side engine cover (2). Discard locknuts.

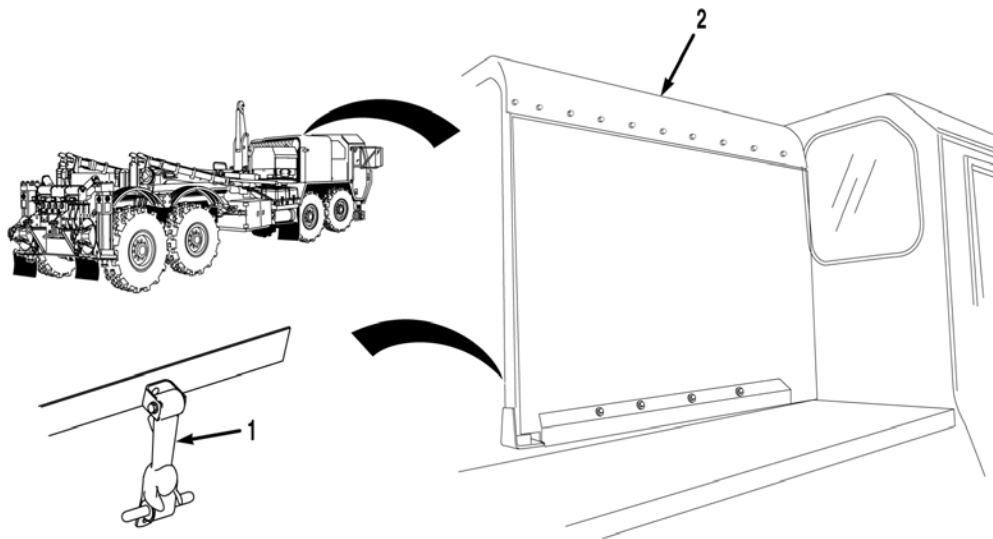


3. Remove three locknuts (7), screws (8), and rubber hooks (1) from brackets (9). Discard locknuts.
4. Remove three nuts (10), lockwashers (11), screws (12), and brackets (9) from engine access cover (6). Discard lockwashers.
5. Remove two locknuts (13), washers (14), screws (15), and plate (16) from engine access cover (6). Discard locknuts.
6. Remove six locknuts (17), washers (18), screws (19), and three hook brackets (20) from fender (21). Discard locknuts.

END OF TASK

INSTALLATION

1. Install three hook brackets (20) on fender (21) with six screws (19), washers (18), and locknuts (17).
2. Install plate (16) on engine access cover (6) with two screws (15), washers (14), and locknuts (13).
3. Install three brackets (9) on engine access cover (6) with three screws (12), lockwashers (11), and nuts (10).
4. Install three rubber hooks (1) on brackets (9) with screws (8) and locknuts (7).
5. Install engine access cover (6) and plate (5) on right side engine cover (2) with ten screws (4) and locknuts (3).



6. Close right side engine cover (2) and secure with three rubber hooks (1).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
ANGLED ROLLER REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Standard Automotive Tool Set
(WP 0183, Item 22)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

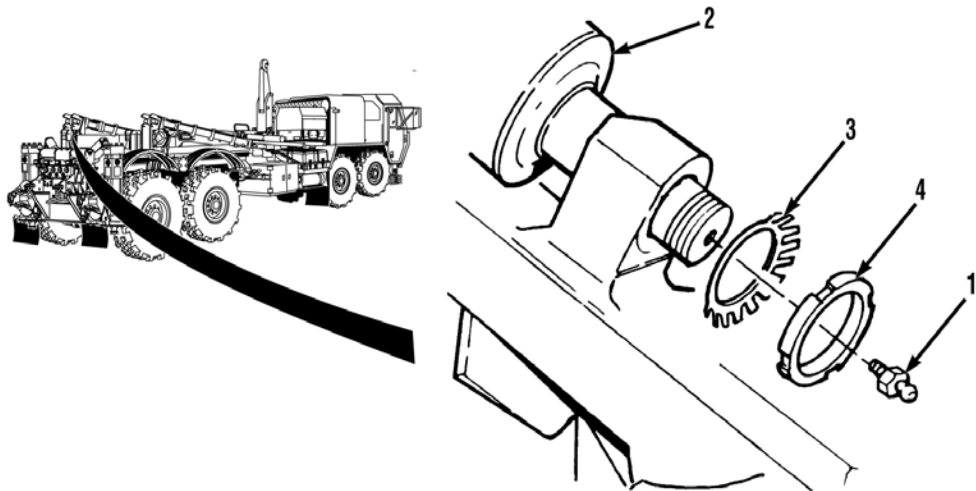
None

Materials/Parts

Lockwasher, (1), (WP 0184, Item 146)
Lockwasher, (4), (WP 0184, Item 61)
Lockwasher, (2), (WP 0184, Item 62)

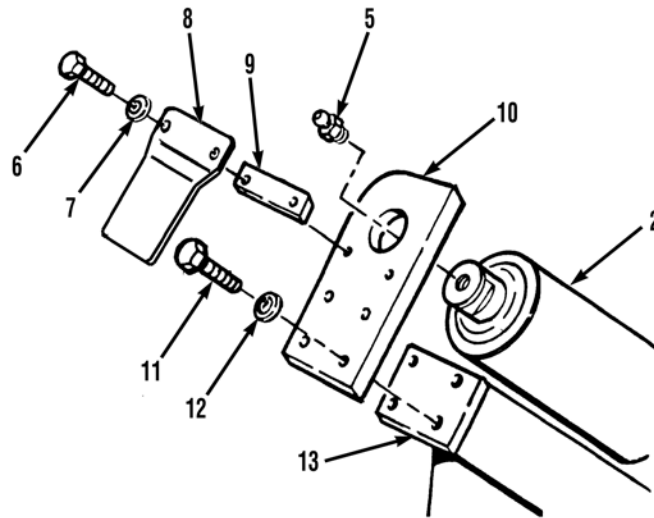
Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

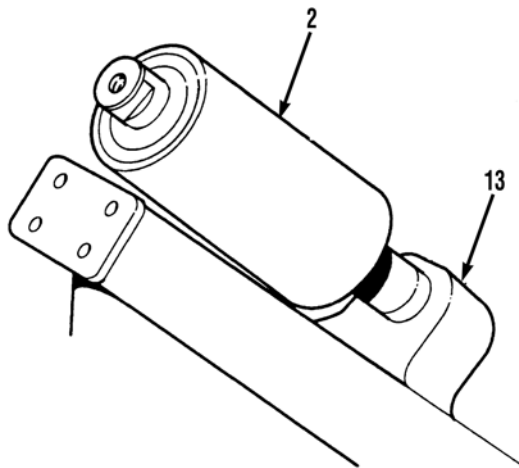
REMOVAL**NOTE**

Both left and right angled rollers are removed the same way. Left side shown.

1. Remove lube fitting (1) from angled roller (2).
2. Bend tab of lockwasher (3) out of slot on nut (4). Discard lockwasher.
3. Remove nut (4) and lockwasher (3) from angled roller (2). Discard lockwasher.



4. Remove lube fitting (5) from angled roller (2).
5. Remove two screws (6), lockwashers (7), bracket (8), and lockplate (9) from endplate (10). Discard lockwashers.
6. Remove four screws (11), lockwashers (12), and endplate (10) from roller assembly (13). Discard lockwashers.



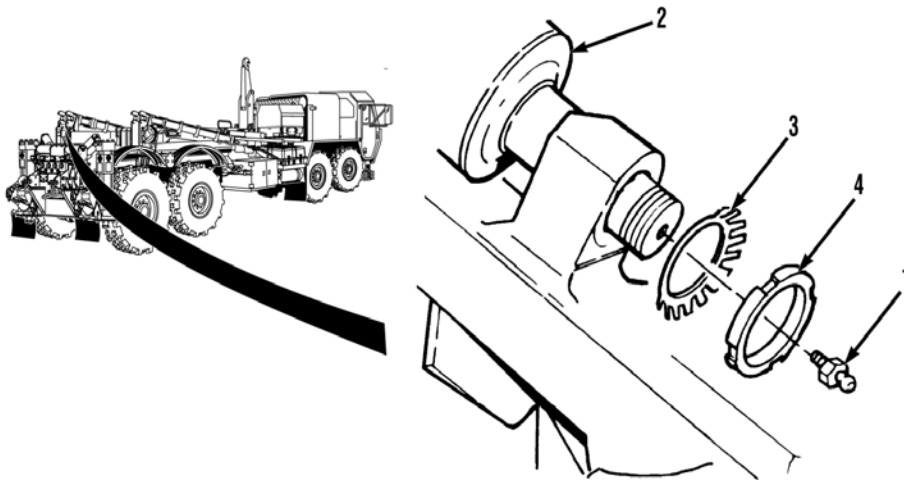
7. Using a soft faced hammer, remove angled roller (2) from roller assembly (13).

END OF TASK

INSTALLATION**NOTE**

Both left and right angled rollers are installed the same way. Left side shown.

1. Position angled roller (2) in roller assembly (13).
2. Install endplate (10) on roller assembly (13) with four lockwashers (12) and screws (11).
3. Install lockplate (9) and bracket (8) on endplate (10) with two lockwashers (7) and screws (6).
4. Install lube fitting (5) on angled roller (2).



5. Install lockwasher (3) and nut (4) on angled roller (2).
6. Bend tab of lockwasher (3) into slot of nut (4).
7. Install lube fitting (1) on angled roller (2).

FOLLOW-ON MAINTENANCE

1. Lubricate rear rollers (WP 0050).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE

AUXILIARY BATTERY BOX BRACKETS REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (10), (WP 0184, Item 11)
Lockwasher, (8), (WP 0184, Item 15)

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

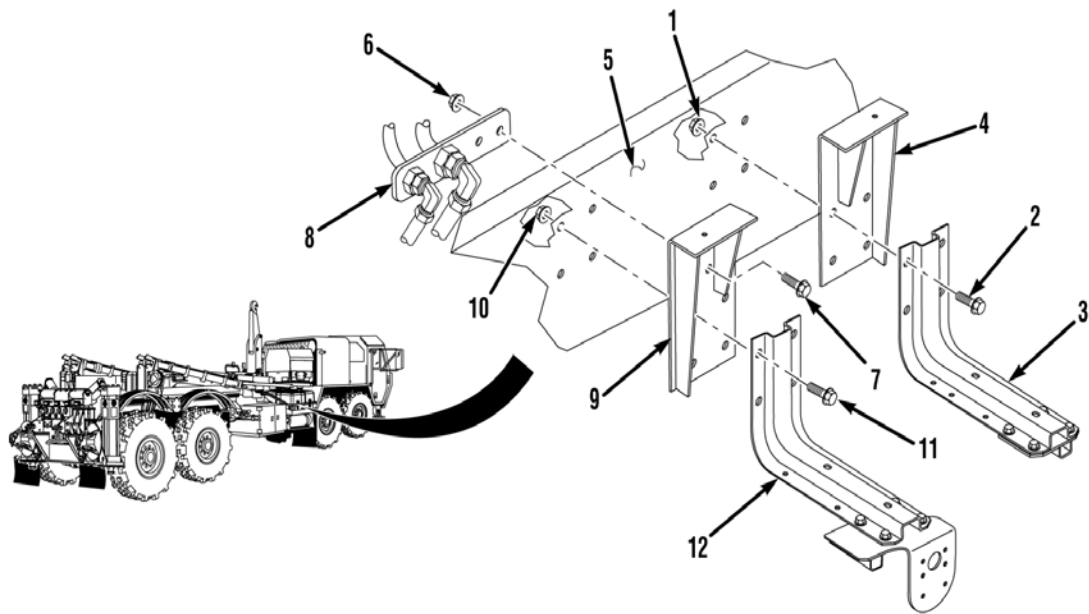
References

None

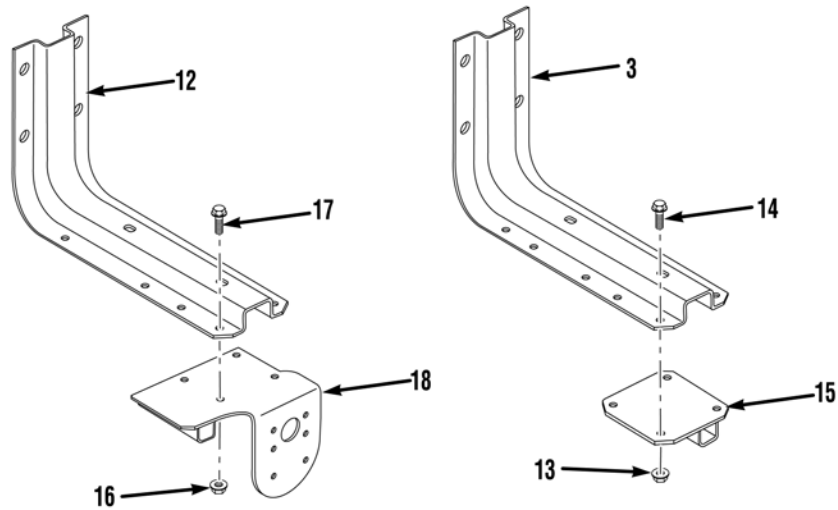
Equipment Conditions

Generator platform removed (WP 0098)
Marker/Clearance light removed (WP 0071)
Amber reflector removed TM 9-2320-325-14&P
Auxiliary battery box removed (Refer to THAAD
Launcher IETM)
Air reservoirs No. 1 and No. 3 removed
(WP 0054)

REMOVAL



1. Soldier A and Soldier B remove four locknuts (1), screws (2), battery box bracket (3), and generator mounting bracket (4) from frame rail (5). Discard locknuts.
2. Remove two locknuts (6), screws (7), and bracket (8) from generator mounting bracket (9). Discard locknuts.
3. Soldier A and Soldier B remove four locknuts (10), screws (11), battery box bracket (12), and generator mounting bracket (9) from frame rail (5). Discard locknuts.

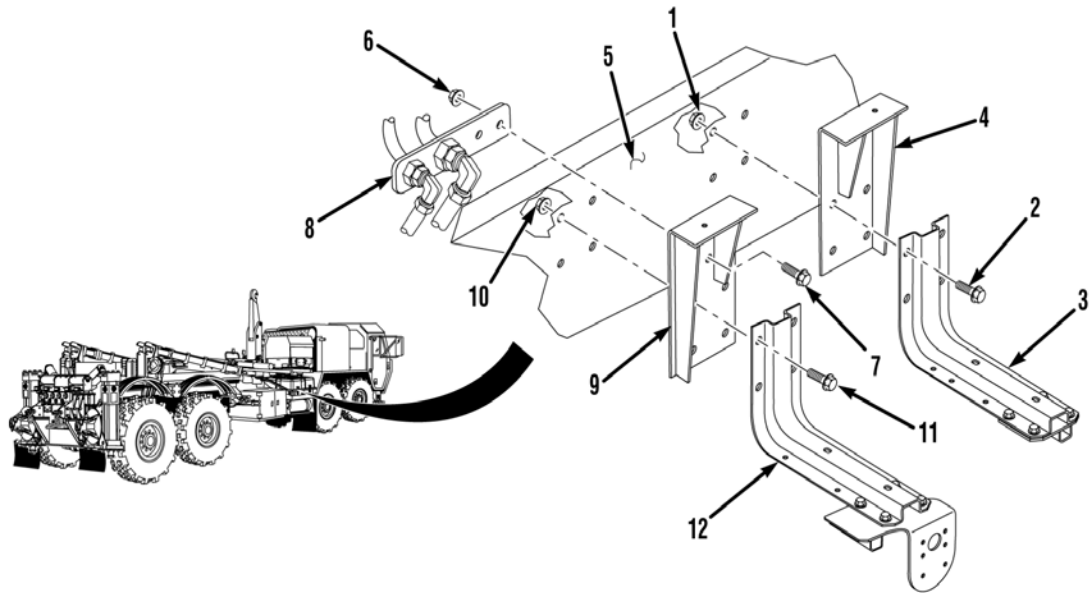


4. Remove four locknuts (13), screws (14), and platform support bracket (15) from battery box bracket (3). Discard locknuts.
5. Remove four locknuts (16), screws (17), and platform support bracket (18) from battery box bracket (12). Discard locknuts.

END OF TASK

INSTALLATION

1. Install platform support bracket (18) on battery box bracket (12) with four screws (17) and locknuts (16).
2. Install platform support bracket (15) on battery box bracket (3) with four screws (14) and locknuts (13).



3. Soldier A and Soldier B install generator mounting bracket (9) and battery box bracket (12) on frame rail (5) with four screws (11) and locknuts (10).
4. Install bracket (8) on generator mounting bracket (9) with two screws (7) and locknuts (6).
5. Soldier A and Soldier B install generator mounting bracket (4) and battery box bracket (3) on frame rail (5) with four screws (2) and locknuts (1).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install air reservoirs No. 1 and No. 3 (WP 0054).
2. Install auxiliary battery box (Refer to THAAD Launcher IETM).
3. Install amber reflector TM 9-2320-325-14&P.
4. Install marker/clearance light (WP 0071).
5. Install generator platform (WP 0098).

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
COMPRESSION FRAME REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Lifting Device, Minimum Capacity 2,500 lbs
(1,135 kg)
Pan, Drain (WP 0183, Item 10)
Pliers, Retaining, (Item 0183, Item 12)
Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wrench, Torque (WP 0183, Item 31)

Materials/Parts

Locknut, (3), (WP 0184, Item 10)
Locknut, (3), (WP 0184, Item 23)
Lockwasher, (5), (WP 0184, Item 61)
Lockwasher, (8), (WP 0184, Item 31)
Lockwasher, (2), (WP 0184, Item 34)
Packing, Preformed, (6), (WP 0184, Item 108)
Packing, Preformed, (9), (WP 0184, Item 105)
Packing, Preformed, (2), (WP 0184, Item 59)
Packing, Preformed, (2), (WP 0184, Item 120)
Packing, Preformed, (2), (WP 0184, Item 51)
Packing, Preformed, (4), (WP 0184, Item 45)
Oil, Hydraulic (WP 0186, Item 21)
Sealing, Compound, Loctite #242 (WP 0186,
Item 12)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

WP 0096

Equipment Conditions

MRP Elevation cylinders removed (WP 0139)
LHS Hook arm frame removed (WP 0129)
LHS Main frame cylinders removed (WP 0133)
LHS Main frame removed (WP 0134)
LHS Rubber bumpers removed (WP 0137)
MRP Rack locks and brackets
removed (WP 0140)
MRP Elevation cylinder stowed switch
removed (WP 0072)
MRP Present proximity switch
removed (WP 0078)
THAAD Compression frame harness
removed (WP 0087)
LHS Compression frame harness
removed (WP 0069)
Static Reel Removed (WP 0084)
Ground Cables Removed (WP 0063)
MRP Elevation cylinder stowage bracket rollers
removed (WP 0103)
MRP Elevation cylinder stowage bracket wear
pads removed (WP 0104)
Fuel tank removed (WP 0097)

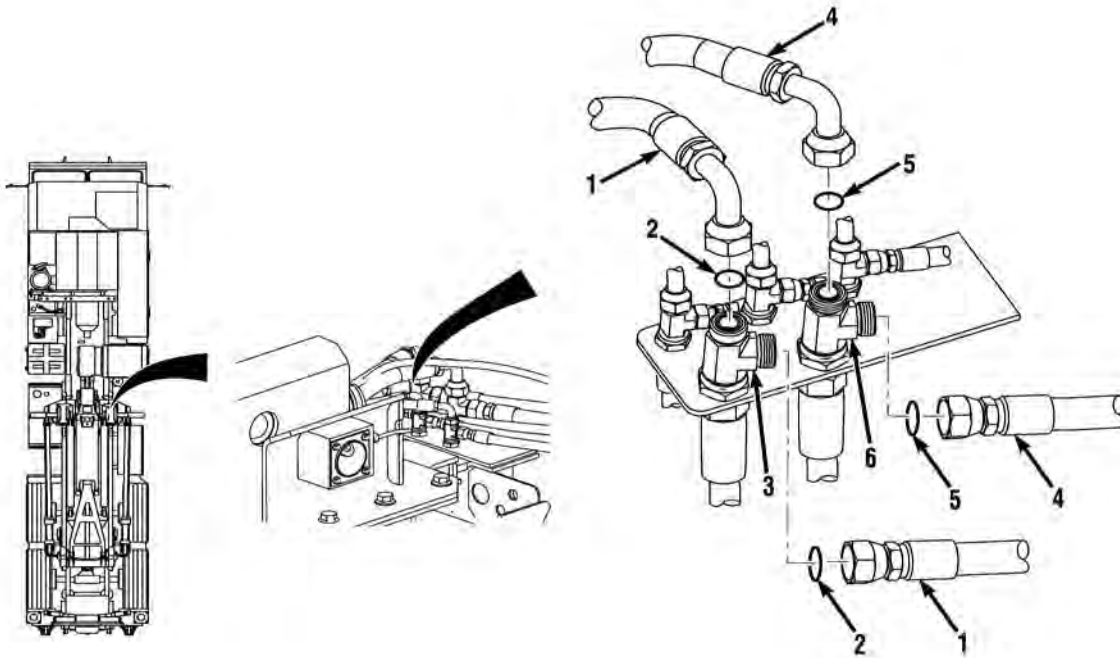
REMOVAL

WARNING

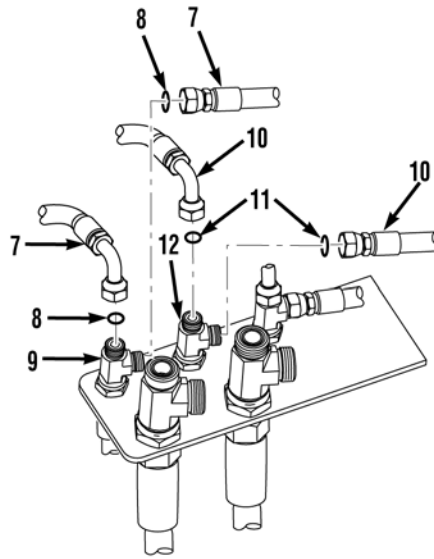
The THAAD hydraulic system operates at oil pressure up to 3,250 psi (22,409 kPa). Never disconnect any hydraulic line or fitting without first dropping pressure to zero. Failure to comply may result in serious injury or death to personnel.

NOTE

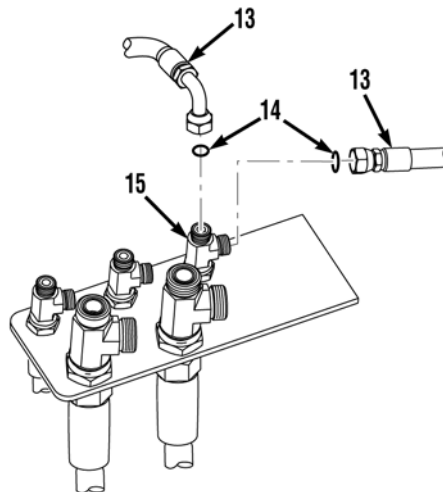
- Note position of tees prior to removal to ensure proper installation.
- Position drain pan under hydraulic lines and fittings being removed.
- Tag and mark hydraulic lines prior to removal to ensure proper installation.
- Cap and plug hydraulic lines upon removal.
- Remove cable ties as required.



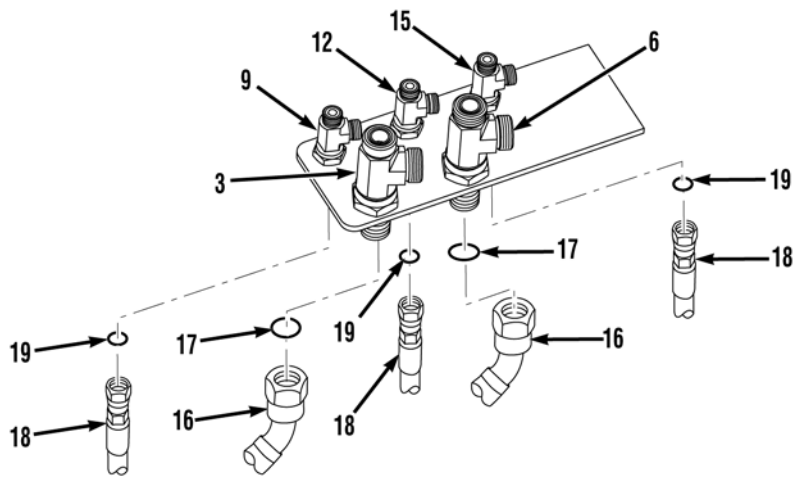
1. Remove two hoses (1) and preformed packings (2) from tee (3). Discard preformed packings.
2. Remove two hoses (4) and preformed packings (5) from tee (6). Discard preformed packings.



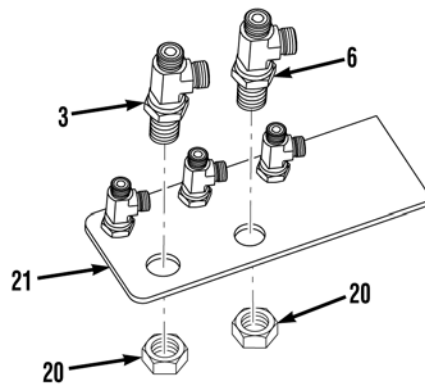
3. Remove two hoses (7) and preformed packings (8) from tee (9). Discard preformed packings.
4. Remove two hoses (10) and preformed packings (11) from tee (12). Discard preformed packings.

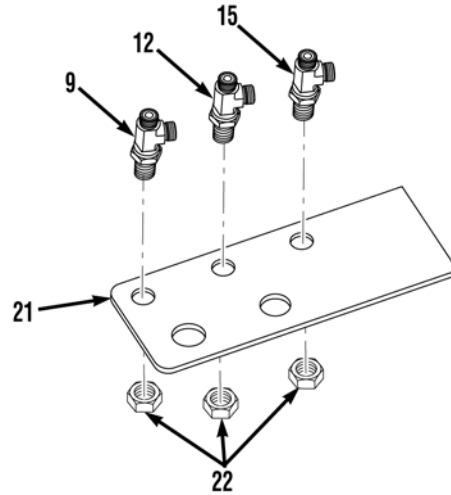


5. Remove two hoses (13) and preformed packings (14) from tee (15). Discard preformed packings.

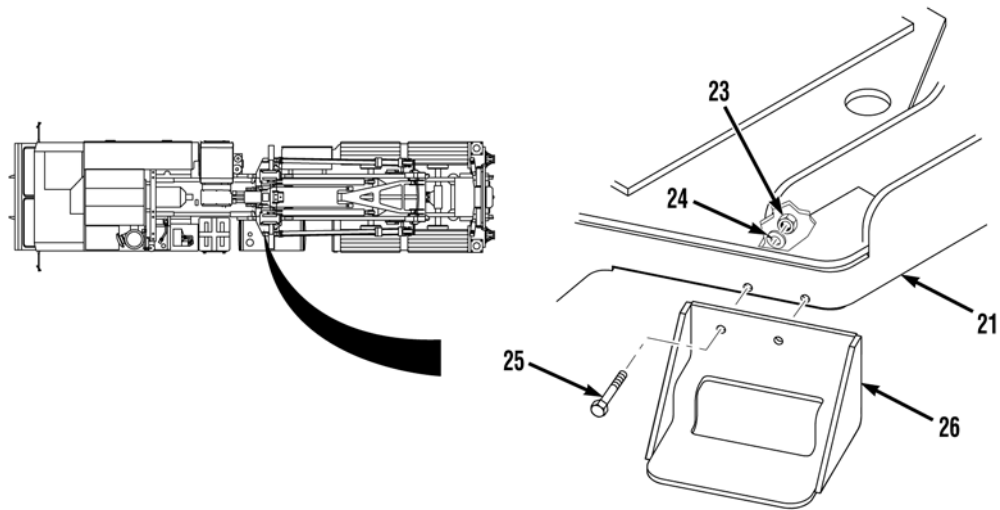


6. Remove two hoses (16) and preformed packings (17) from tees (3 and 6). Discard preformed packings.
7. Remove three hoses (18) and preformed packings (19) from tees (9, 12, and 15). Discard preformed packings.
8. Remove two nuts (20) and tees (3 and 6) from compression frame (21).





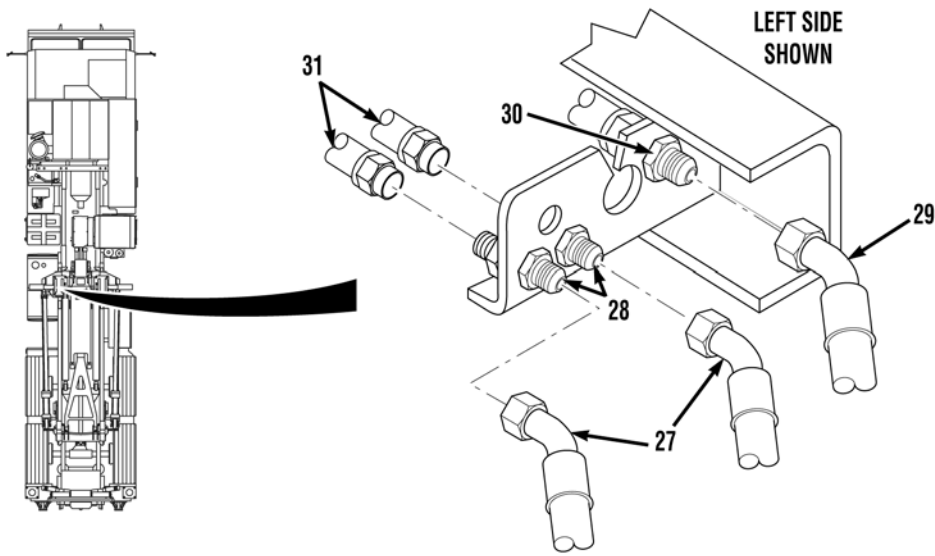
9. Remove three nuts (22) and tees (9, 12, and 15) from compression frame (21).



NOTE

Both isolator stop brackets are removed the same way. Left side shown.

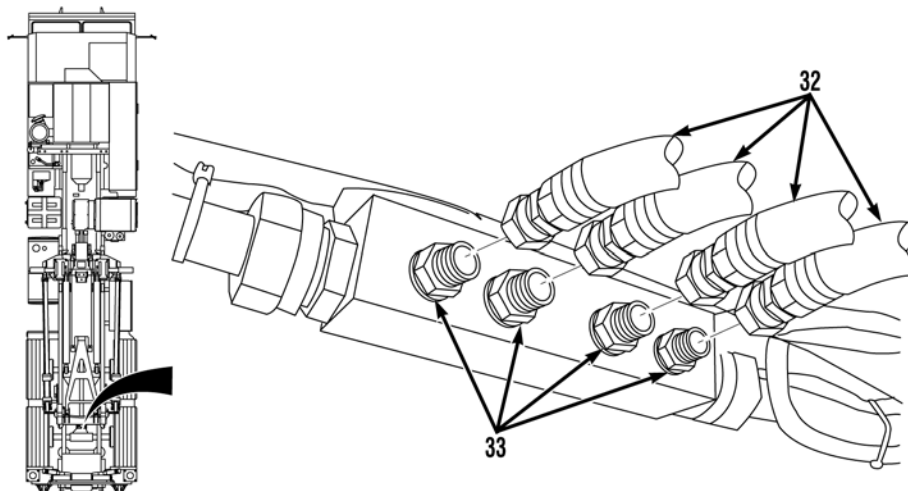
10. Remove two nuts (23), lockwashers (24), screws (25), and isolator stop bracket (26) from compression frame (21). Discard lockwashers.

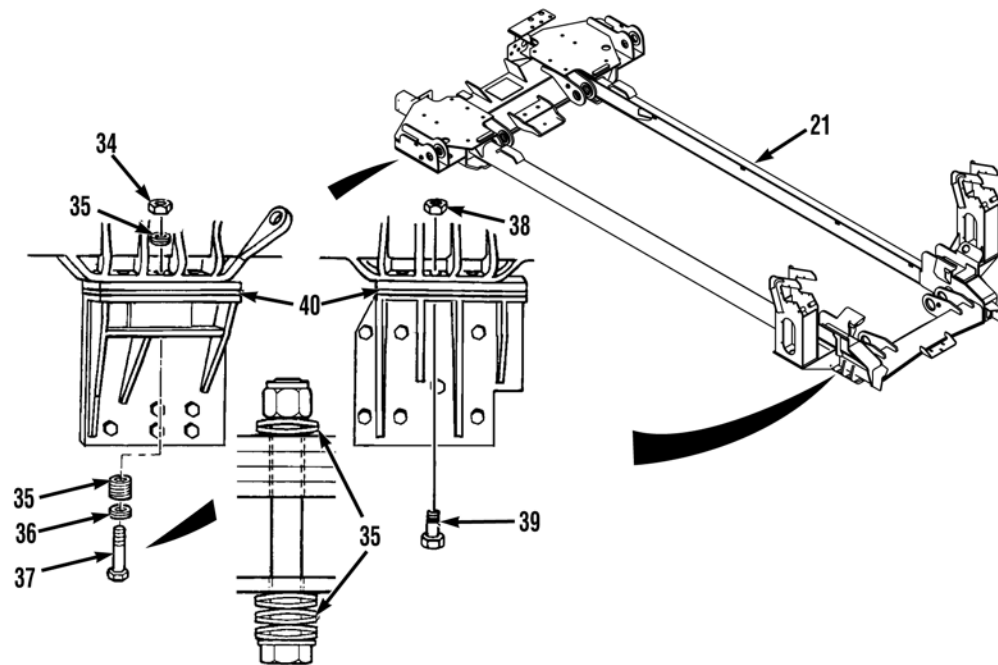


NOTE

Left and right side hoses are removed the same way. Left side shown.

11. Remove two hoses (27) from bulkhead fittings (28).
12. Remove hose (29) from bulkhead union (30).
13. Remove two hoses (31) from bulkhead fittings (28).
14. Repeat steps (11) through (13) to remove hoses from right side.
15. Remove four hoses (32) from fittings (33).





WARNING

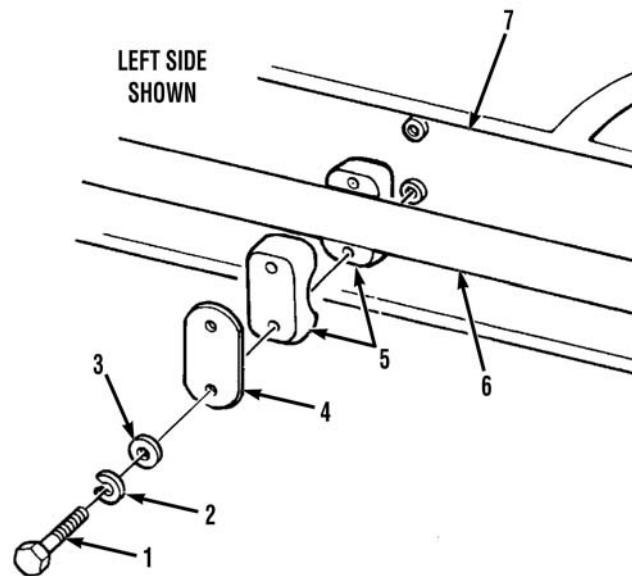
Compression frame is heavy (Aprox. 835 lbs). Attach a suitable lifting device to compression frame. Failure to comply may result in serious injury or death to personnel.

16. Attach a suitable lifting device to compression frame (21).

NOTE

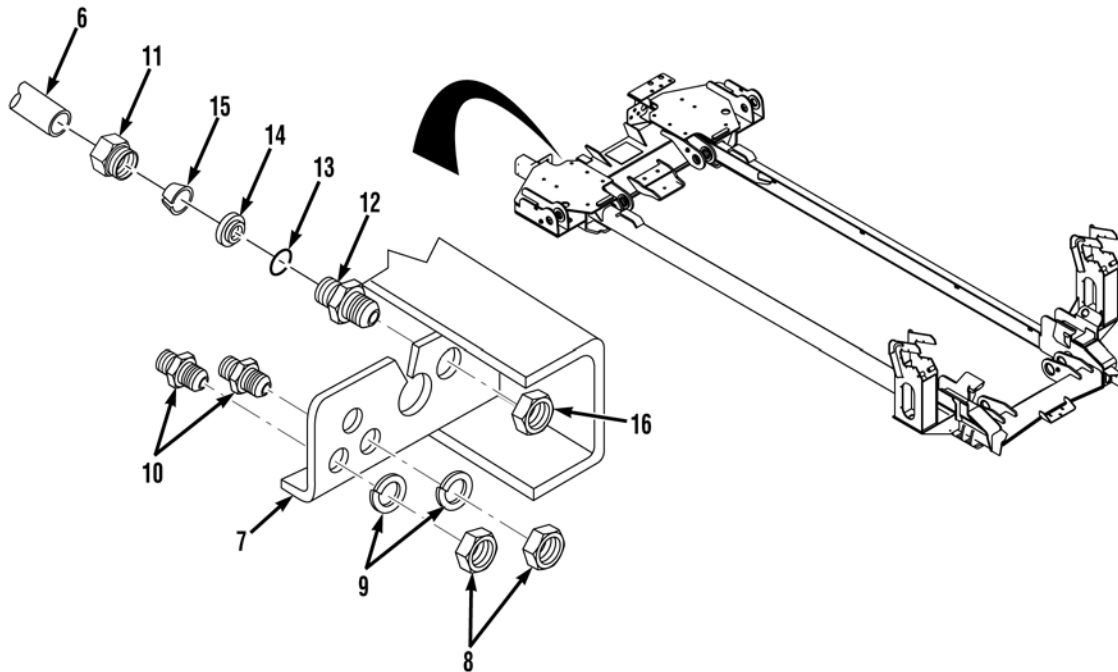
- Left and right side screws are removed the same way. Left side shown.
 - Some vehicles may have three washers installed on front screws for proper clearance.
17. Remove three locknuts (34), 24 spring washers (35), six or nine washers (36), and three screws (37) from compression frame (21) and vehicle. Discard locknuts.
 18. Remove three locknuts (38) and screws (39) from compression frame (21) and vehicle. Discard locknuts.
 19. Repeat steps (17) and (18) for right side.
 20. Using lifting device, remove compression frame (21) from vehicle.
 21. Remove eight compression frame spacers (40) from vehicle.
 22. Remove lifting device from compression frame (21).

END OF TASK

DISASSEMBLY**NOTE**

Left and right side clamps are removed the same way. Four clamps on each side. Left side shown.

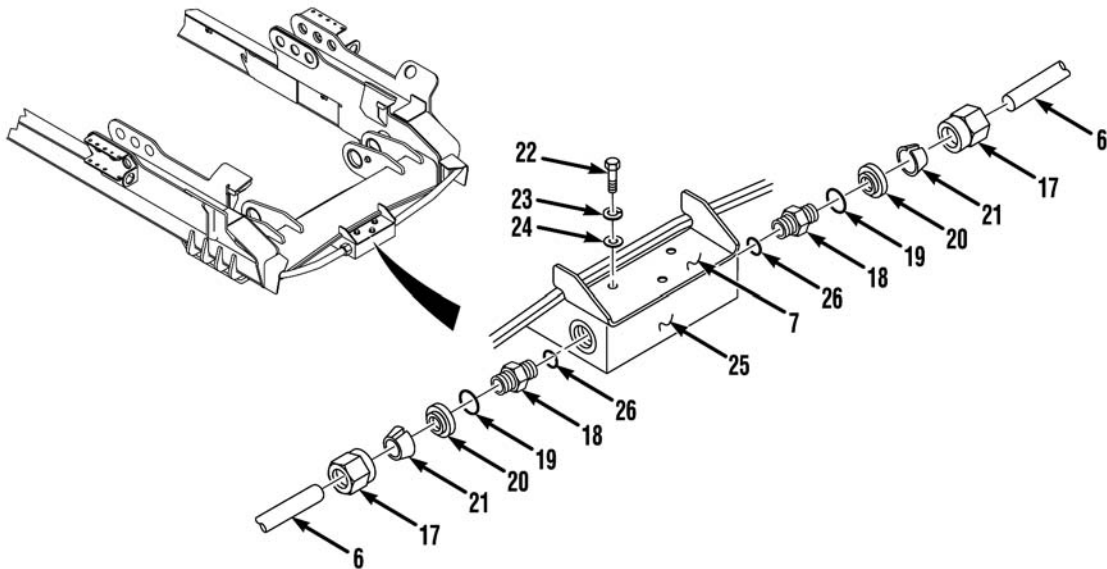
1. Remove eight screws (1), lockwashers (2), 16 washers (3), four cover plates (4), and eight clamp halves (5) from tube (6) and compression frame (7). Discard lockwashers.
2. Repeat step (1) to remove clamps from right side.



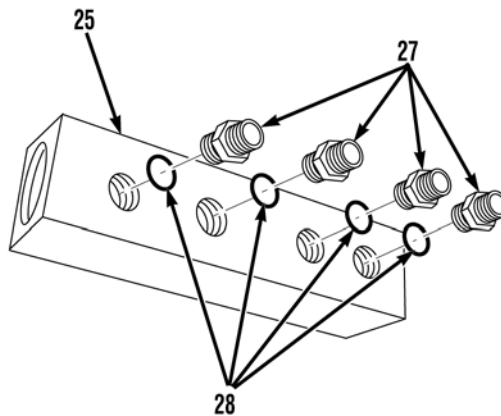
NOTE

Left and right side bulkhead fittings and unions are removed the same way. Left side shown.

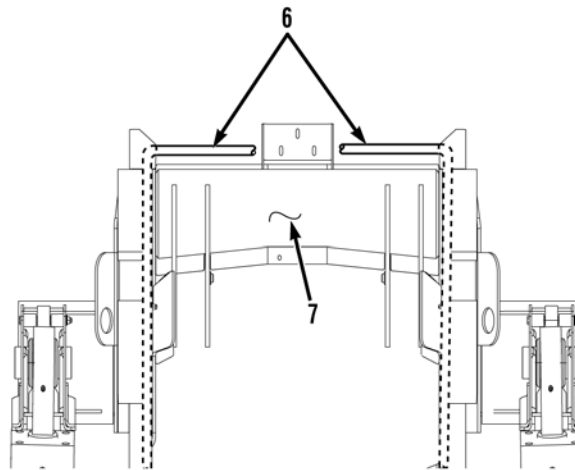
3. Remove two nuts (8), lockwashers (9), and bulkhead fittings (10) from compression frame (7). Discard lockwashers.
4. Remove nut (11) and tube (6) from bulkhead union (12).
5. Remove preformed packing (13), spacer (14), compression ring (15), and nut (11) from tube (6). Discard preformed packing.
6. Remove nut (16) and bulkhead union (12) from compression frame (7).
7. Repeat steps (3) through (6) for right side.



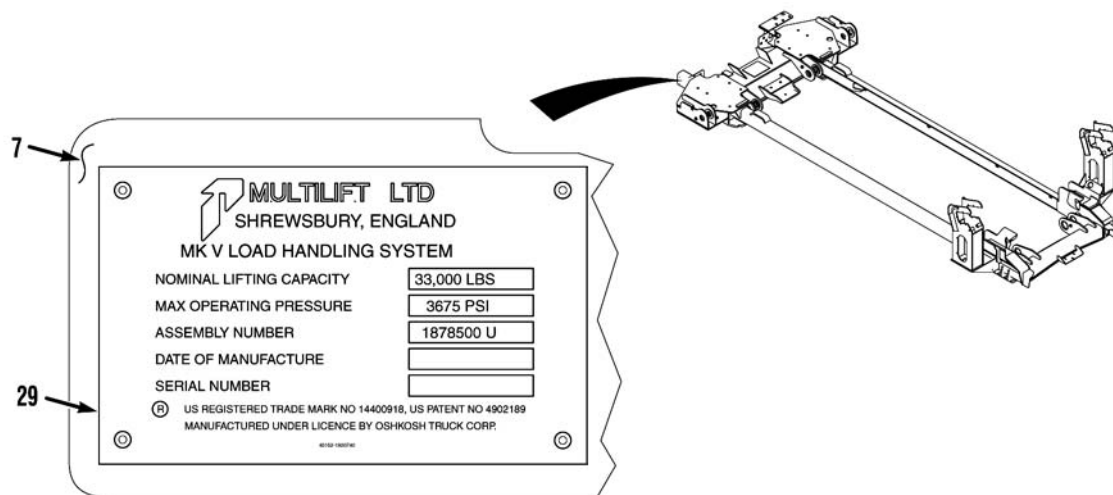
8. Remove two nuts (17) and tubes (6) from fittings (18).
9. Remove two preformed packings (19), spacers (20), compression rings (21), and nuts (17) from tubes (6). Discard preformed packings.
10. Remove three screws (22), lockwashers (23), washers (24), and manifold (25) from compression frame (7). Discard lockwashers.
11. Remove two fittings (18) and preformed packings (26) from manifold (25). Discard preformed packings.



12. Remove four fittings (27) and preformed packings (28) from manifold (25). Discard preformed packings.



13. Remove two tubes (6) from compression frame (7).



NOTE

Perform step (14) if compression frame is being replaced.

14. Remove data plate (29) from compression frame (7) (WP 0096).

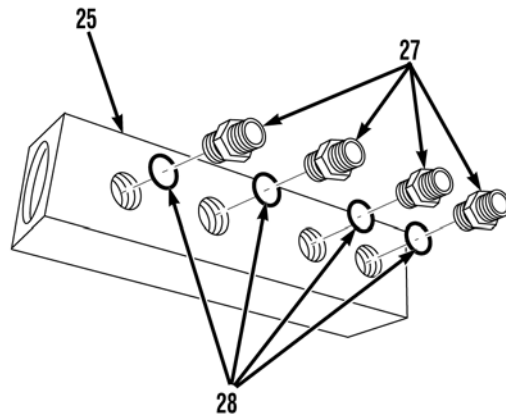
END OF TASK

ASSEMBLY

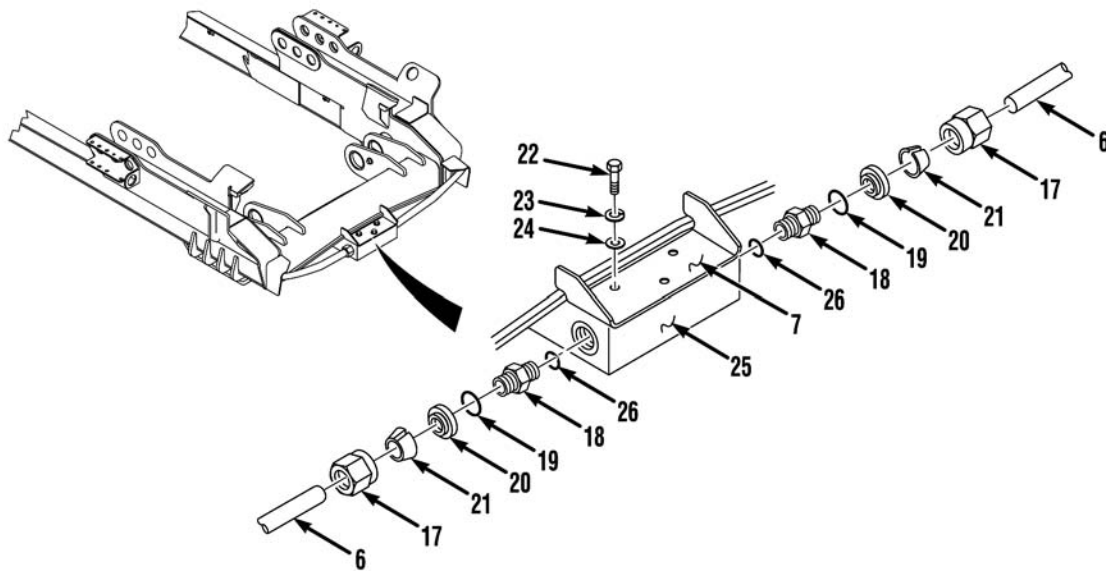
NOTE

Perform step (1) if compression frame was replaced.

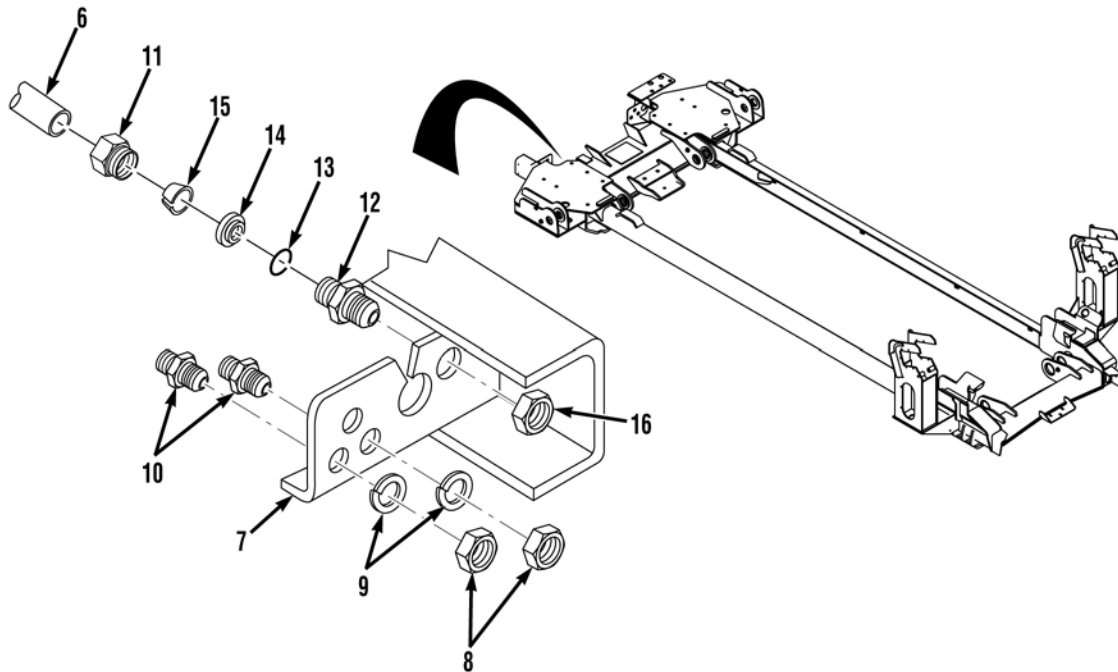
1. Install data plate (29) on compression frame (7) (WP 0096).
2. Place two tubes (6) in compression frame (7).



3. Lightly lubricate four preformed packings (28) with clean oil and install preformed packings (28) and fittings (27) on manifold (25).



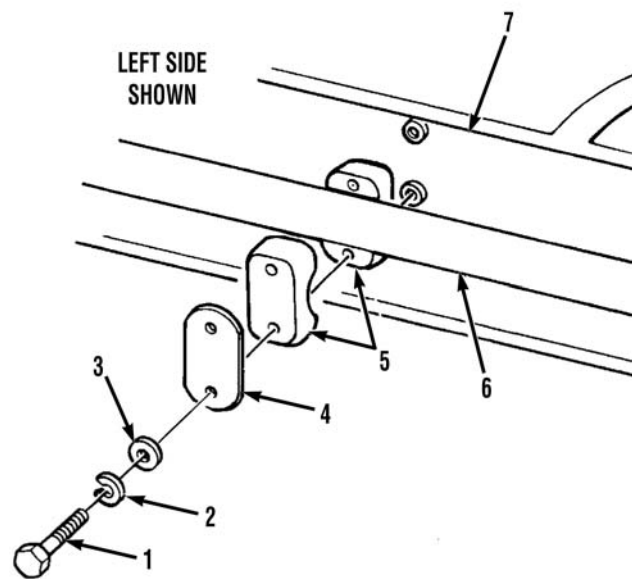
4. Lightly lubricate two preformed packings (26) with clean oil and install preformed packings (26) and fittings (18) on manifold (25).
5. Install manifold (25) on compression frame (7) with three washers (24), lockwashers (23), and screws (22).
6. Lightly lubricate two preformed packings (19) with clean oil.
7. Install two nuts (17), compression rings (21), spacers (20), and preformed packings (19) on tubes (6).
8. Install two tubes (6) on fittings (18) with two nuts (17).



NOTE

Left and right side bulkhead fittings and unions are installed the same way. Left side shown.

9. Install bulkhead union (12) on compression frame (7) with nut (16).
10. Lightly lubricate preformed packing (13) with clean oil.
11. Install nut (11), compression ring (15), spacer (14), and preformed packing (13) on tube (6).
12. Install tube (6) on bulkhead union (12) with nut (11).
13. Install two bulkhead fittings (10) on compression frame (7) with two lockwashers (9) and nuts (8).
14. Repeat steps (9) through (13) for right side.



WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

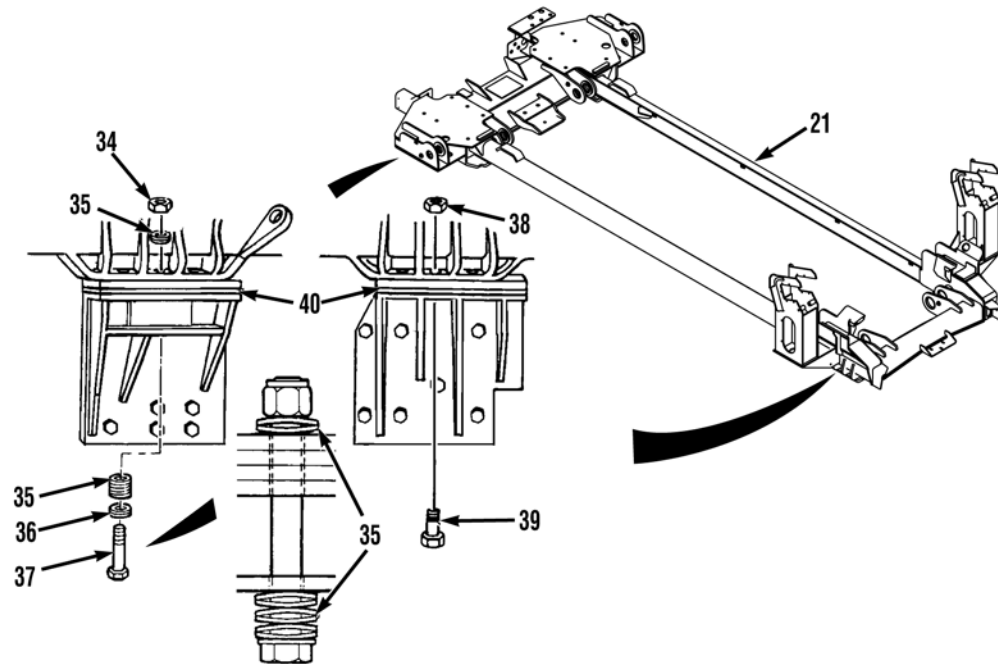
NOTE

Left and right side clamps are installed the same way. Left side shown.

15. Apply sealing compound to threads of eight screws (1).
16. Install tube (6) on compression frame (7) with eight clamp halves (5), four cover plates (4), 16 washers (3), eight lockwashers (2), and screws (1).
17. Repeat steps (15) and (16) to install clamps on right side.

END OF TASK

INSTALLATION



1. Install eight compression frame spacers (40) on vehicle.

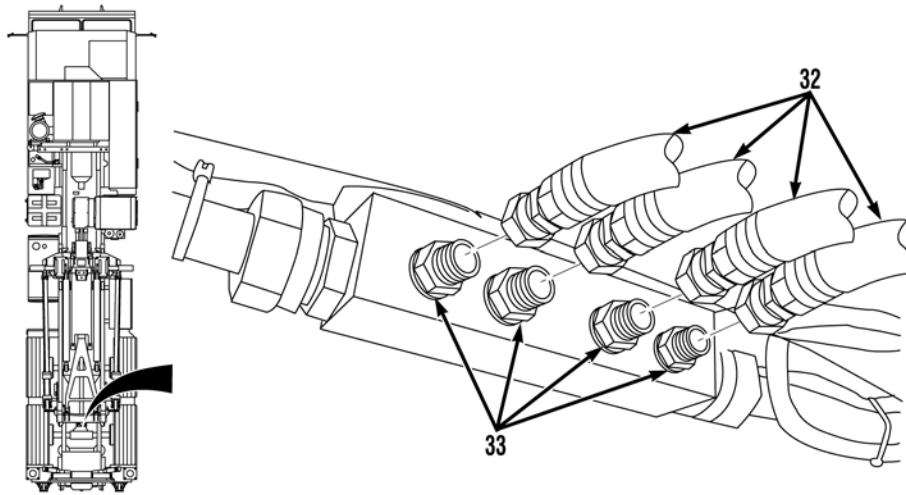
WARNING

Compression frame is heavy (Aprox. 835 lbs). Attach suitable lifting device to compression frame. Failure to comply may result in serious injury or death to personnel.

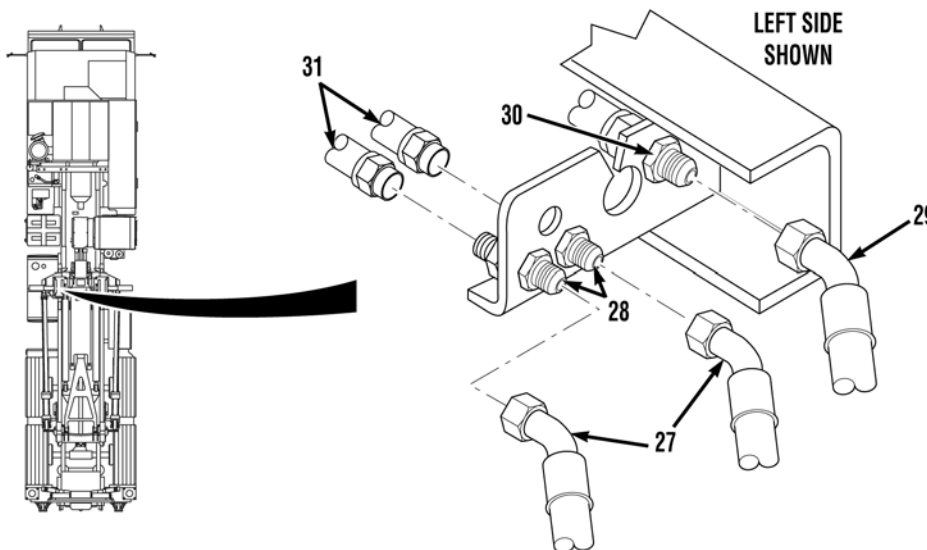
2. Attach suitable lifting device to compression frame (21).
3. Using suitable lifting device, place compression frame (21) on vehicle.

NOTE

- Left and right side screws are installed the same way. Left side shown.
 - Some vehicles may have three washers installed on front screws for proper clearance.
4. Install compression frame (21) on vehicle with three screws (39) and locknuts (38).
 5. Install compression frame (21) on vehicle with three screws (37), six or nine washers (36), 24 spring washers (35), and three locknuts (34).
 6. Repeat steps (4) and (5) for right side.
 7. Remove suitable lifting device from compression frame (21).



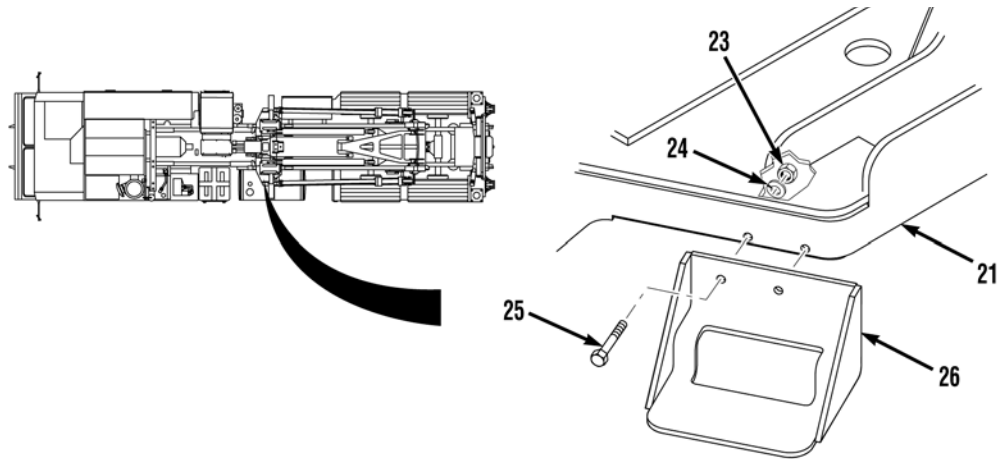
8. Install four hoses (32) on fittings (33).



NOTE

Left and right side hoses are installed the same way. Left side shown.

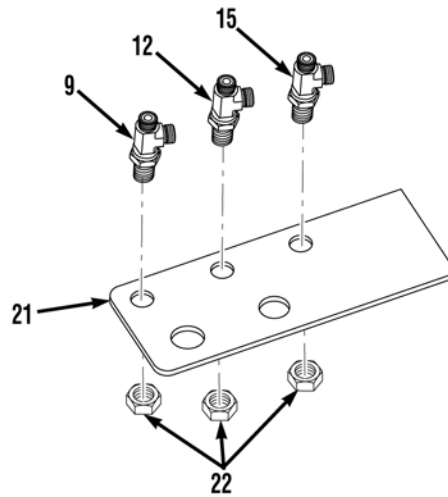
9. Install two hoses (31) on bulkhead fittings (28).
10. Install hose (29) on bulkhead union (30).
11. Install two hoses (27) on bulkhead fittings (28).
12. Repeat steps (9) through (11) to install hoses on right side.



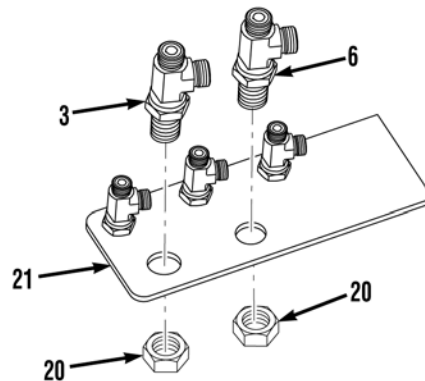
NOTE

Both isolator stop brackets are installed the same way. Left side shown.

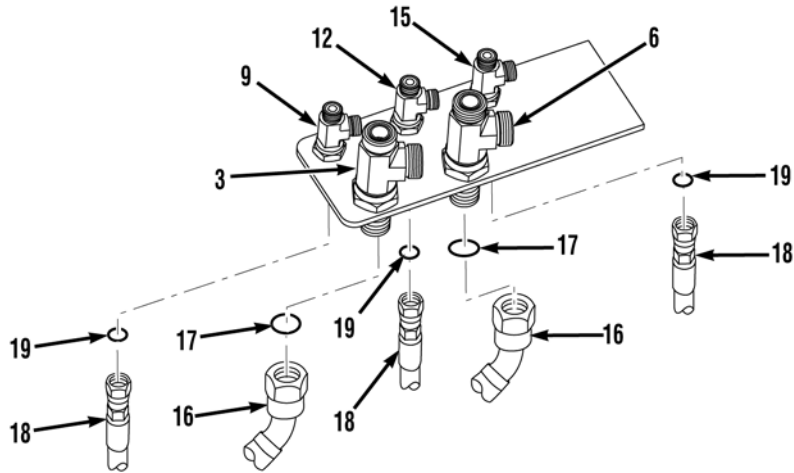
13. Install isolator stop bracket (26) on compression frame (21) with two screws (25), lockwashers (24), and nuts (23).



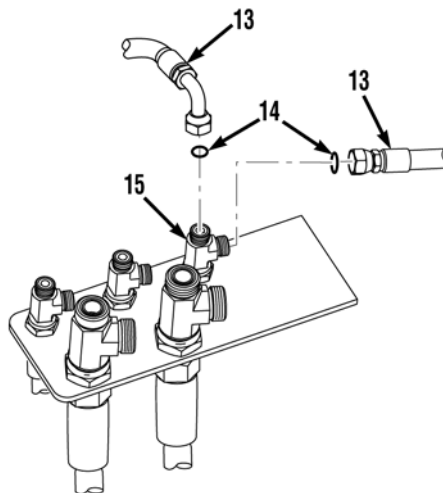
14. Install three tees (15, 12, and 9) on compression frame (21) with three nuts (22).



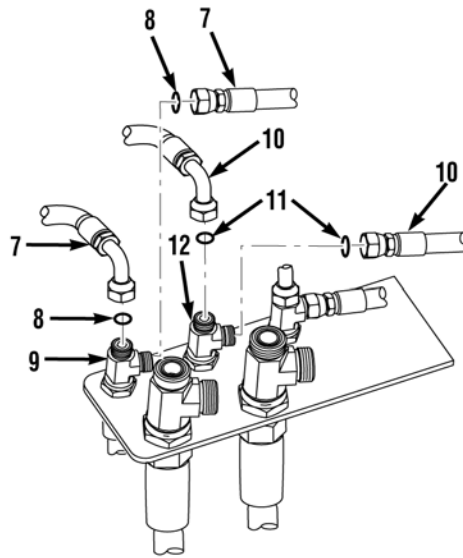
15. Install two tees (6 and 3) on compression frame (21) with two nuts (20).



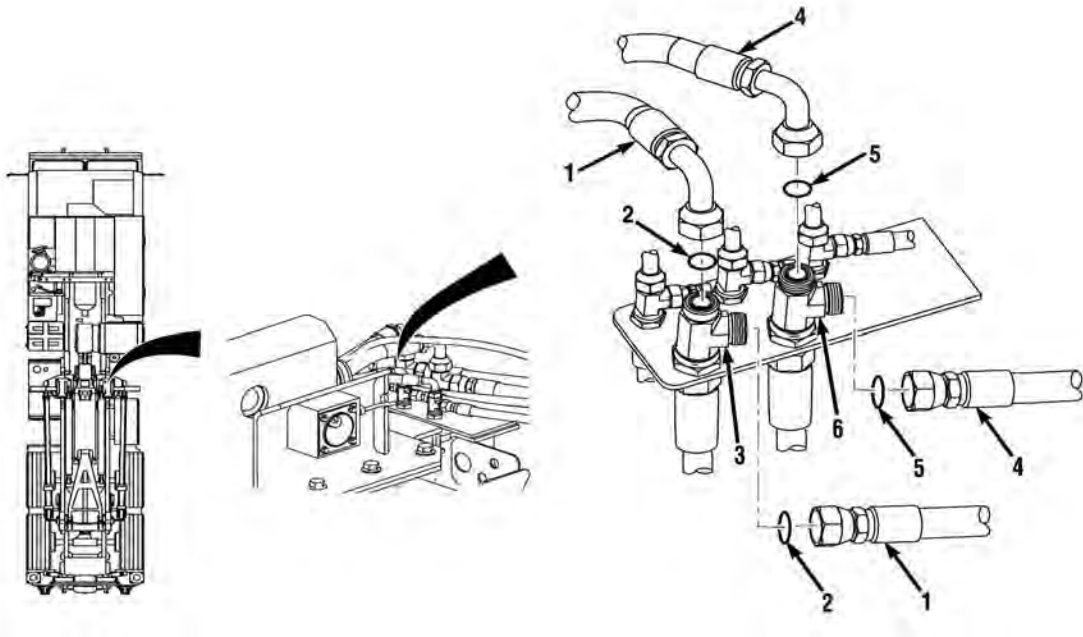
16. Lightly lubricate three preformed packings (19) with clean oil and install preformed packings (19) and hoses (18) on tees (15, 12, and 9).
17. Lightly lubricate two preformed packings (17) with clean oil and install preformed packings (17) and hoses (16) on tees (6 and 3).



18. Lightly lubricate two preformed packings (14) with clean oil and install preformed packings (14) and hoses (13) on tee (15).



19. Lightly lubricate two preformed packings (11) with clean oil and install preformed packings (11) and hoses (10) on tee (12).
20. Lightly lubricate two preformed packings (8) with clean oil and install preformed packings (8) and hoses (7) and tee (9).



21. Lightly lubricate two preformed packings (5) with clean oil and install preformed packings (5) and hoses (4) on tee (6).
22. Lightly lubricate two preformed packings (2) with clean oil and install preformed packings (2) and hoses (1) on tee (3).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install fuel tank (WP 0097).
2. Install MRP elevation cylinder stowage bracket wear pads (WP 0104).
3. Install MRP elevation cylinder stowage bracket rollers (WP 0103).
4. Install LHS compression frame harness (WP 0069).
5. Install THAAD compression frame harness (WP 0087).
6. Install MRP present proximity switch (WP 0078).
7. Install MRP elevation cylinder stowed switch (WP 0072).
8. Install MRP rack locks and brackets (WP 0140).
9. Install LHS rubber bumpers (WP 0137).
10. Install LHS main frame (WP 0134).
11. Install LHS main frame cylinders (WP 0133).
12. Install LHS hook arm frame (WP 0129).
13. Install MRP elevation cylinders (WP 0139).
14. Check hydraulic oil reservoir level (WP 0120).
15. Check for proper operation of compression frame (WP 0011).

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
DATA PLATE REPLACEMENT (GENERIC)

INITIAL SETUP:**Tools and Special Tools**

Drill, Electric, Portable 1/4 in. (WP 0183, Item 4)
 Drill Set, Twist (WP 0183, Item 5)
 Tool Kit, Blind Rivet (WP 0183, Item 23)
 Tool Kit, General Mechanic's: Automotive
 (WP 0183, Item 25)

Materials/Parts

Adhesive, Spray (WP 0186, Item 5)
 Cleaning Compound, Solvent (WP 0186, Item 7)
 Rivet, Blind, (4), (Item 0184, Item 67)

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

WP 0017

Equipment Conditions

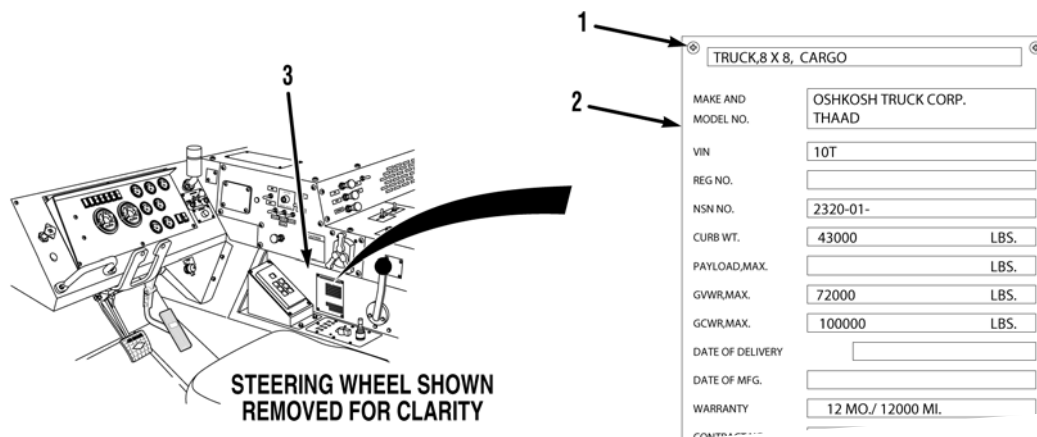
Engine OFF (TM 9-2320-347-10)
 Wheels chocked (TM 9-2320-347-10)

NOTE

Refer to (WP 0017) for location of all data plates.

WARNING

Use eye protection when drilling out rivets. Failure to comply may result in eye injury.

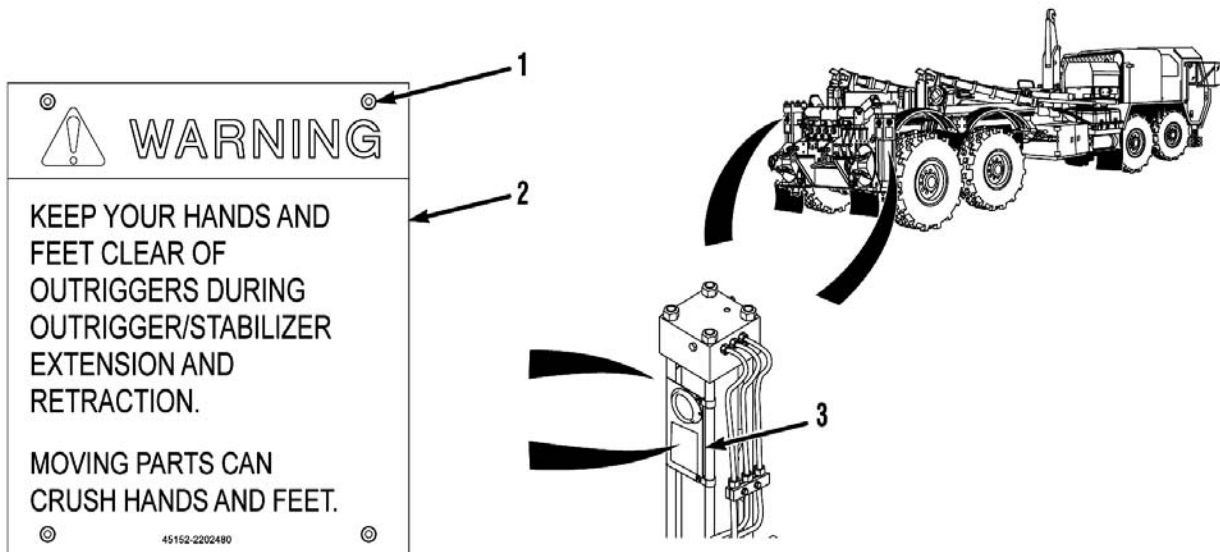
TYPE 1 DATA PLATE REPLACEMENT**REMOVAL**

1. Remove four screws (1) and data plate (2) from console (3).

END OF TASK**TYPE 1 DATA PLATE INSTALLATION**

1. Install data plate (2) on console (3) with four screws (1).

END OF TASK

TYPE 2 DATA PLATE REPLACEMENT**REMOVAL**

1. Using a 1/8 in. drill bit, remove four rivets (1) and data plate (2) from bracket (3).

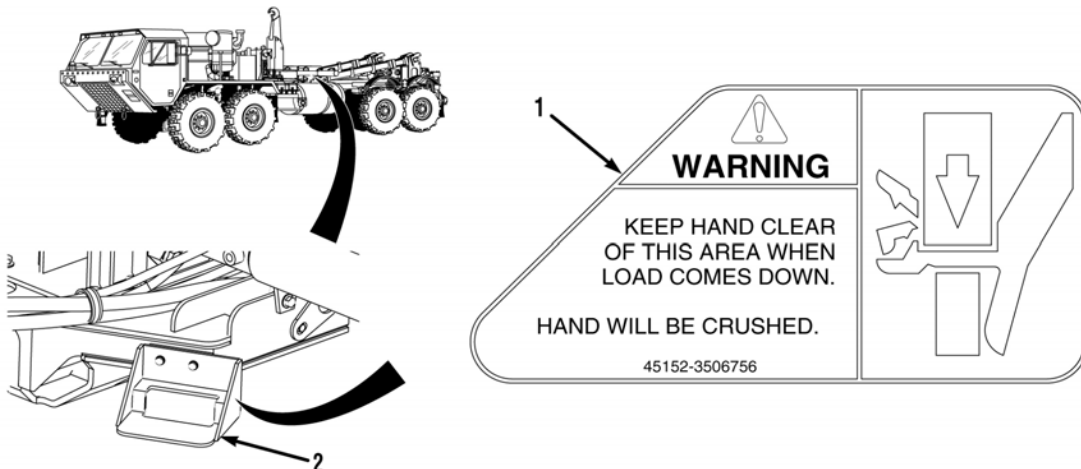
END OF TASK**TYPE 2 DATA PLATE INSTALLATION**

1. Install data plate (2) on bracket (3) with four rivets (1).

END OF TASK

TYPE 3 DATA PLATE REPLACEMENT

REMOVAL



1. Pry data plate (1) away from bracket (2).

WARNING**SOLVENT CLEANING COMPOUND**

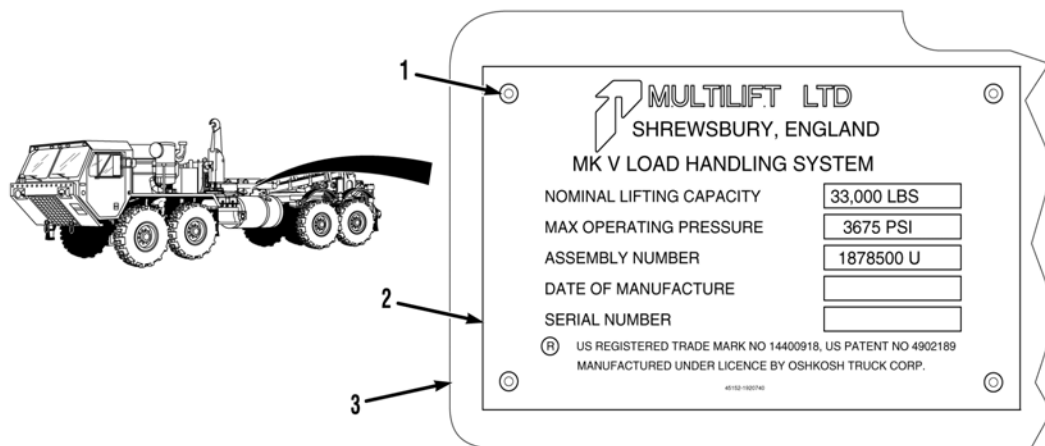
Solvent cleaning compound MIL-PRF-680 Type II and III may be irritating to the eyes and skin. Use protective gloves and goggles. Use in well-ventilated areas. Use respirator as needed. Accidental ingestion can cause irritation of digestive tract and respiratory tract, may cause lung and central nervous system damage. Can be fatal if swallowed. Inhalation of high/massive concentrations can cause coma or be fatal. First aid for ingestion: do not induce vomiting. Seek immediate medical attention. First aid for skin contact: remove contaminated clothing. Wash skin thoroughly with soap and water. If symptoms persist, seek medical attention. First aid for eye contact: flush with water for 15 minutes or until irritation subsides. If symptoms persist, seek medical attention. First aid for inhalation: move to fresh air. If not breathing, provide artificial respiration. If symptoms persist, seek medical attention. Keep away from open flames and other sources of ignition. Failure to follow this warning may result in injury or death to personnel.

- The flashpoint for type II solvent cleaning compound is 141-198°F (61-92°C) and type III is 200-241°F (93-116°C).
- Improper cleaning methods and use of unauthorized cleaning solvents may injure personnel and damage equipment
- Fire extinguishers should be placed nearby when using solvent cleaning compound. Failure to follow this warning may result in injury or death.
- Cloths or rags saturated with solvent cleaning compound must be disposed of IAW authorized facilities' procedures. Failure to follow this warning may result in injury.
- Eye shields must be worn when cleaning with a wire brush. Flying rust and metal particle may cause injury.

- Clean surface with solvent cleaning compound.

END OF TASK**TYPE 3 DATA PLATE INSTALLATION**

- Peel paper off data plate (1) and install data plate (1) on bracket (2).

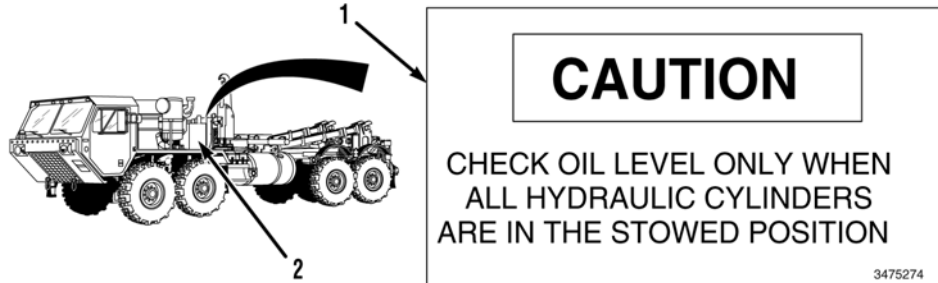
END OF TASK**TYPE 4 DATA PLATE REPLACEMENT****REMOVAL**

- Using a 7/64 in. drill bit, remove four drive screws (1) and data plate (2) from frame (3).

END OF TASK**TYPE 4 DATA PLATE INSTALLATION**

- Install data plate (2) on frame (3) with four drive screws (1).

END OF TASK

TYPE 5 DATA PLATE REPLACEMENT**REMOVAL**

1. Pry data plate (1) away from reservoir (2).

END OF TASK**TYPE 5 DATA PLATE INSTALLATION****WARNING**

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

1. Apply adhesive spray on back of data plate (1) and install data plate (1) on reservoir (2).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE

FUEL TANK AND BRACKETS REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Lifting Device, Minimum Capacity 2,100 lbs
(953 kg)
Pan, Drain (WP 0183, Item 10)
Set, Cap and Plug (Item 0183, Item 17)
Forward Repair System (WP 0183, Item 6)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wrench, Torque (WP 0183, Item 30)

Materials/Parts

Cleaning Compound, Solvent (WP 0186, Item 7)
Cloth, Cleaning, (Item 0186, Item 8)
Compound, Corrosion Preventive
(WP 0186, Item 10)
Compound, Sealing, Pipe Thread
(WP 0186, Item 16)
Locknut, (7), (WP 0184, Item 7)
Soap Chips (WP 0186, Item 31)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

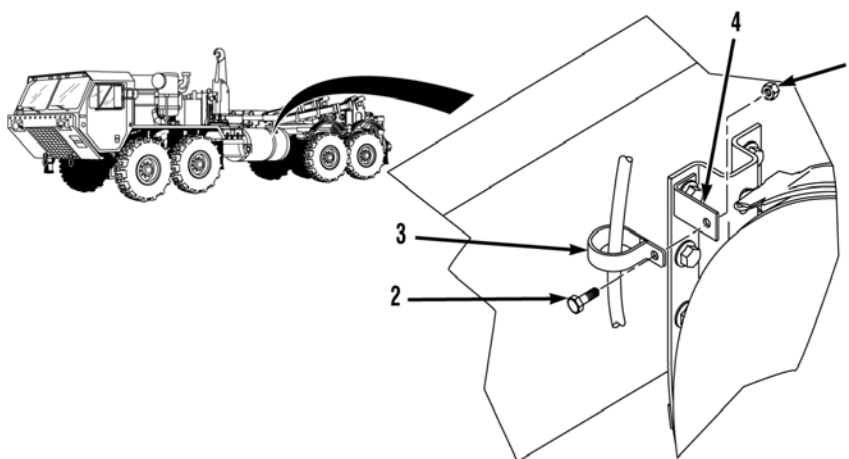
References

TM 43-0212

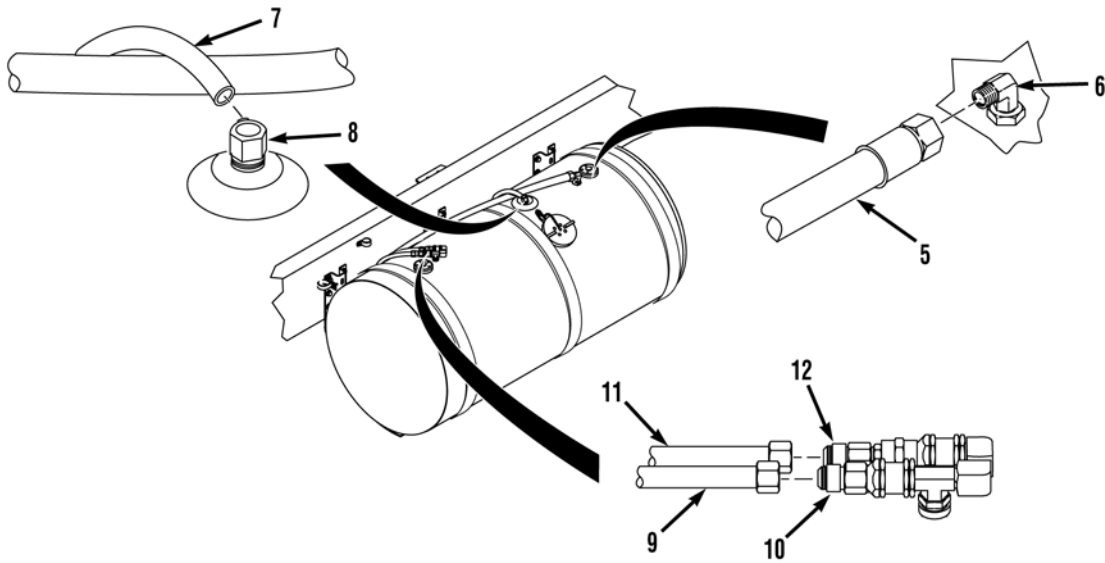
Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Fuel sending units removed (WP 0115)
Air reservoir No. 2 removed
(TM 9-2320-325-14&P)

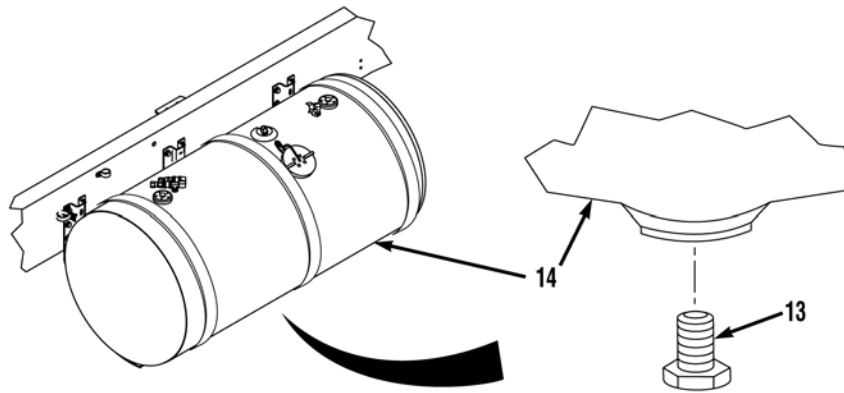
REMOVAL



1. Remove locknut (1), screw (2), and cushion clip (3) from bracket (4). Discard locknut.

**NOTE**

- Position drain pan under hoses being removed.
 - Tag and mark hoses prior to removal to ensure proper installation.
 - Cap and plug hoses and fittings upon removal.
 - Remove cable ties as required.
2. Remove hose 2260 (5) from elbow (6).
 3. Remove hose (7) from valve tank vent (8).
 4. Remove hose 2259 (9) from fitting (10).
 5. Remove hose (11) from fitting (12).



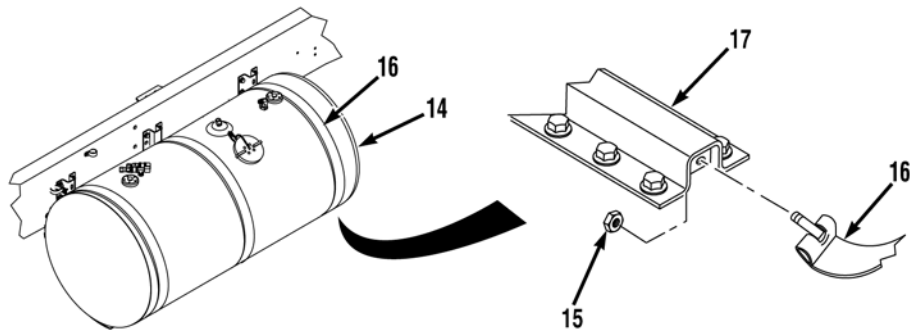
WARNING

Fuel is very flammable and can explode easily. To avoid serious injury or death, keep fuel away from open fire and keep fire extinguisher within easy reach when working with fuel. Do not work on fuel system when engine is hot. Fuel can be ignited by hot engine. When working with fuel, post signs that read **NO SMOKING WITHIN 50 FEET** of vehicle.

NOTE

Once drain plug is removed, drain fuel into a suitable container.

6. Remove drain plug (13) from fuel tank (14).

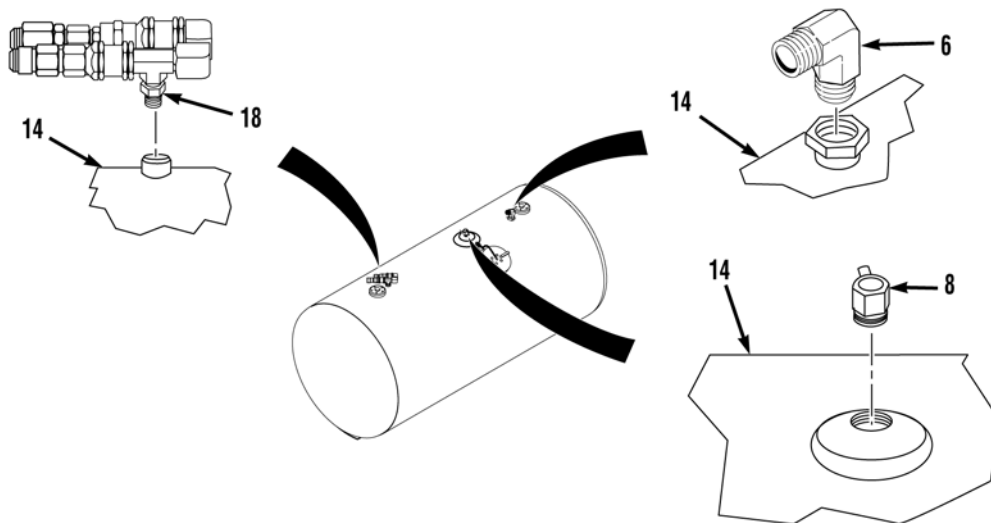


7. Remove three nuts (15) from mounting straps (16).

WARNING

Fuel tank is heavy (Aprox. 230 lbs). Do not attempt to lift fuel tank without the aid of Soldier B and a suitable lifting device. Failure to comply may result in serious injury or death to personnel.

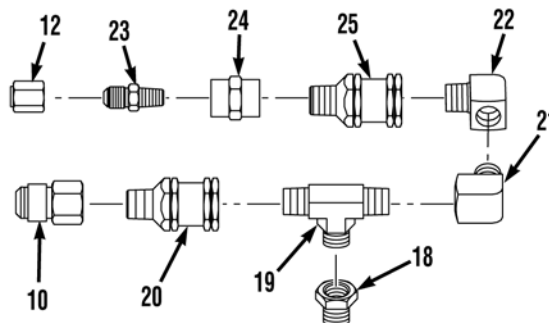
8. Attach suitable lifting device to fuel tank (14).
9. Soldier A and Soldier B pull three mounting straps (16) outward, and remove fuel tank (14) from three fuel tank brackets (17) and vehicle.



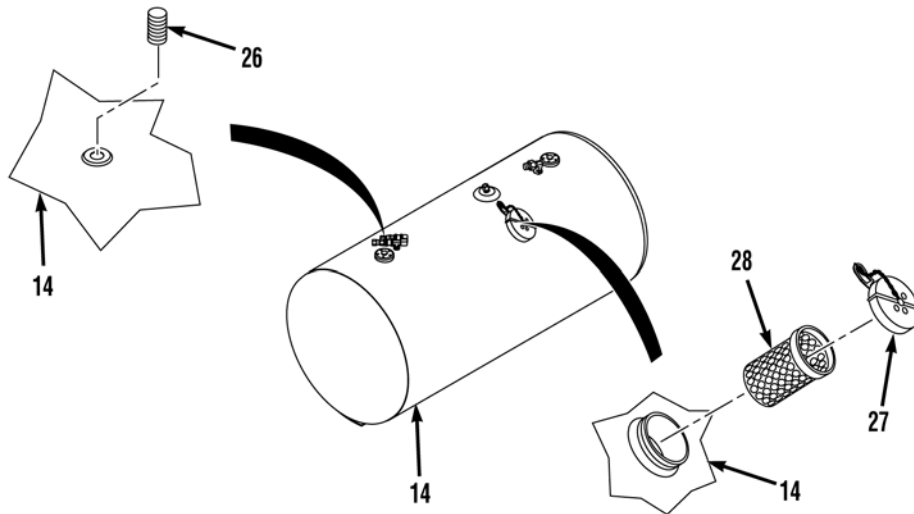
NOTE

Note positions of valve tank vent, elbows, and fittings prior to removal to ensure proper installation.

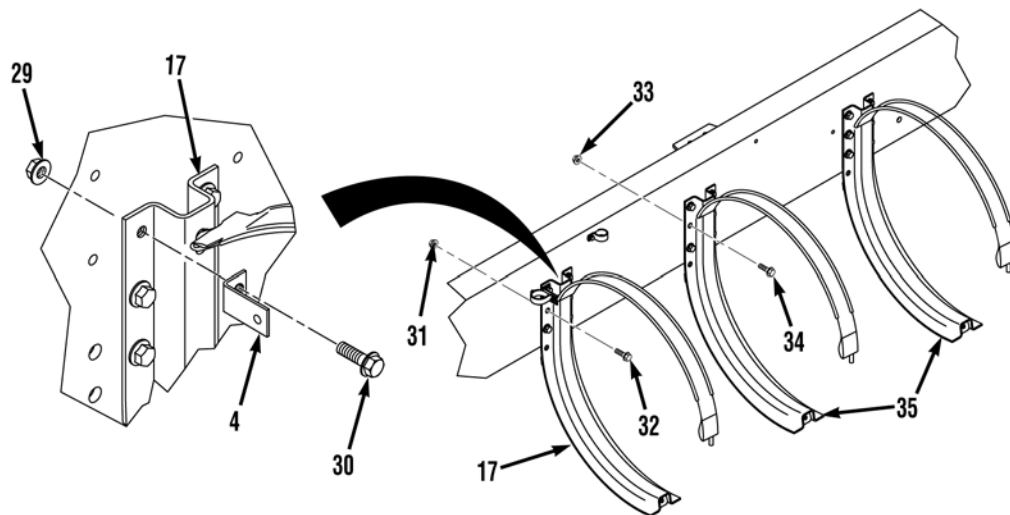
10. Remove valve tank vent (8) from fuel tank (14).
11. Remove elbow (6) from fuel tank (14).
12. Remove fitting (18) from fuel tank (14).



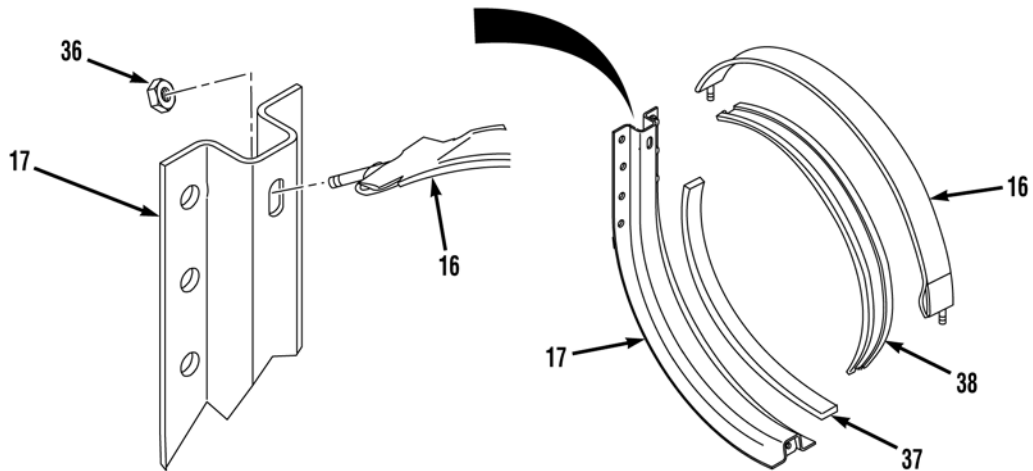
13. Remove fitting (18) from tee (19).
14. Remove fitting (10) from check valve (20).
15. Remove check valve (20) from tee (19).
16. Remove elbow (21) from tee (19).
17. Remove elbow (21) from elbow (22).
18. Remove fitting (12) from fitting (23).
19. Remove fitting (23) from fitting (24).
20. Remove fitting (24) from check valve (25).
21. Remove check valve (25) from elbow (22).



22. Remove pipe plug (26) from fuel tank (14).
23. Remove tank cap (27) and fuel strainer (28) from fuel tank (14).



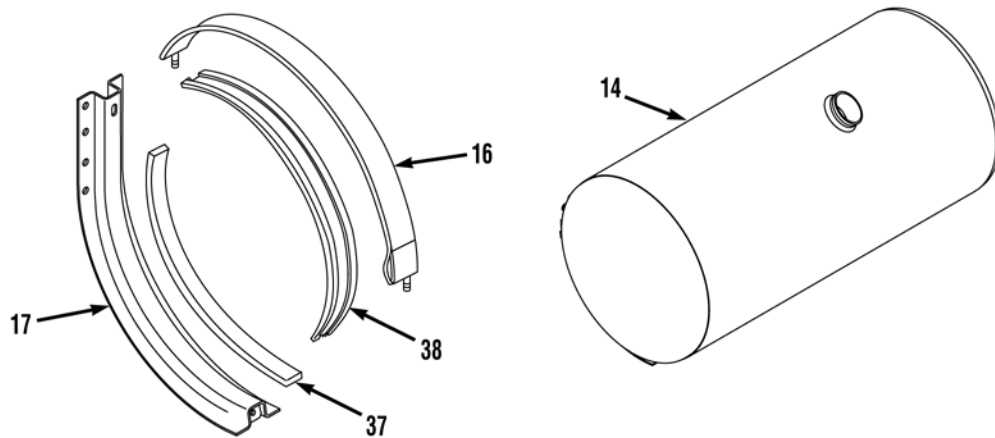
24. Remove locknut (29), screw (30), and bracket (4) from fuel tank bracket (17) and vehicle. Discard locknut.
25. Remove five locknuts (31), screws (32), and fuel tank bracket (17) from vehicle. Discard locknuts.
26. Remove twelve locknuts (33), screws (34), and two fuel tank brackets (35) from vehicle. Discard locknuts.

**NOTE**

All three mounting straps are disassembled the same way.

27. Remove nut (36) and mounting strap (16) from fuel tank bracket (17).
28. Remove bracket liner (37) from fuel tank bracket (17).
29. Remove strap liner (38) from mounting strap (16).

END OF TASK

CLEANING/INSPECTION**WARNING**

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

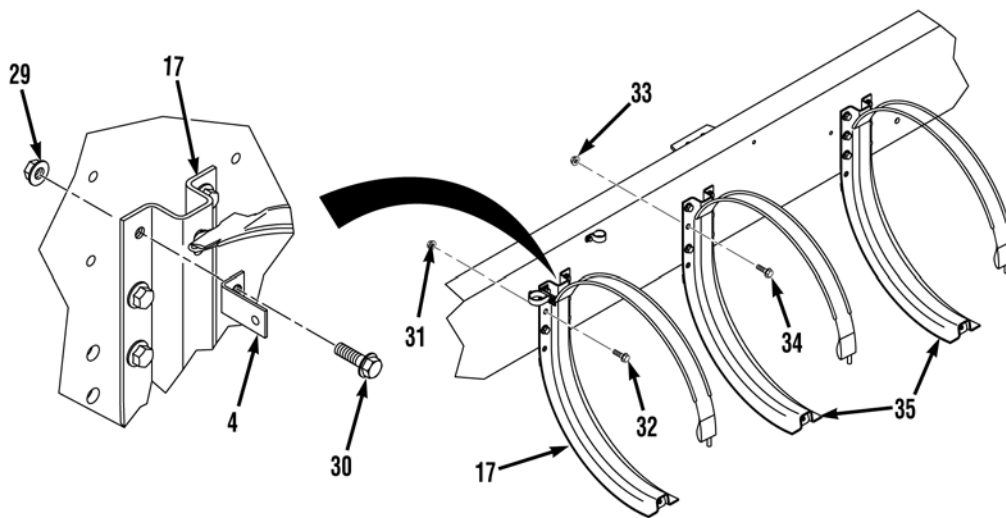
1. Clean three mounting straps (16) and three fuel tank brackets (17 and 35) with solvent cleaning compound, wire brush, and cloth. Clean strap liners (38) with soapy water. Rinse strap liners (38) with clear water.
2. Inspect three fuel tank brackets (17 and 35) and mounting straps (16) for cracks, breaks, and badly rusted areas. Inspect bracket liners (37) for brittleness, cracks, and breaks.
3. Purge and clean fuel tank (14) (TM 43-0212) as required.
4. Inspect fuel tank (14) for cracks, broken welds, and stripped threads.

END OF TASK

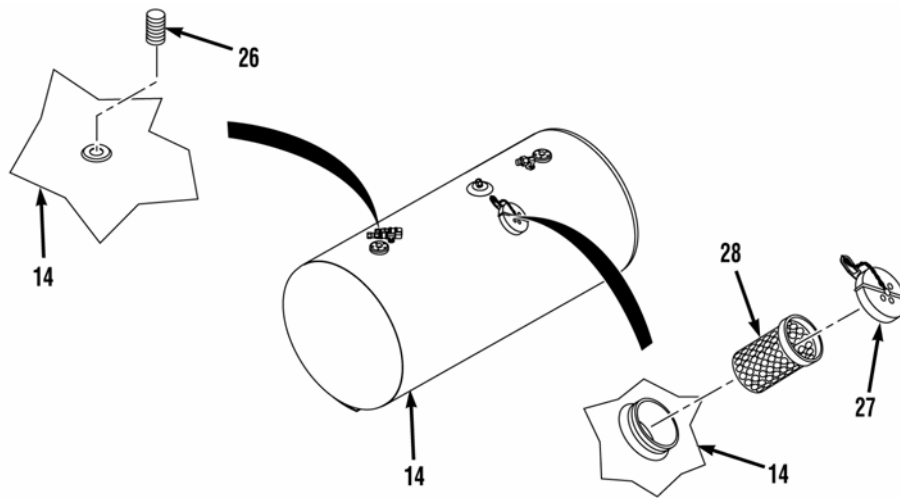
INSTALLATION**NOTE**

All three mounting straps are assembled the same way.

1. Install strap liner (38) on mounting strap (16).
2. Peel backing from bracket liner (37) and install bracket liner (37) on fuel tank bracket (17).
3. Install mounting strap (16) on fuel tank bracket (17) with nut (36).



4. Install two fuel tank brackets (35) on vehicle with twelve screws (34) and locknuts (33).
5. Install fuel tank bracket (17) on vehicle with five screws (32) and locknuts (31).
6. Install bracket (4) on fuel tank bracket (17) and vehicle with screw (30) and locknut (29).

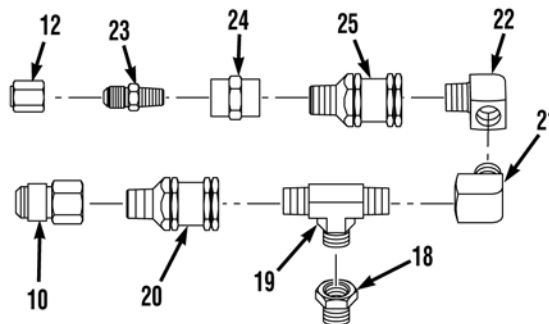


7. Install fuel strainer (28) and tank cap (27) on fuel tank (14).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

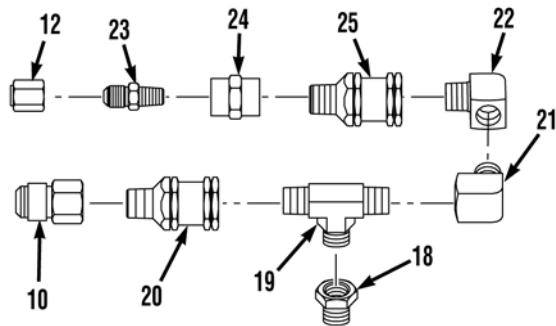
8. Coat pipe plug (26) with pipe thread sealing compound and install pipe plug (26) on fuel tank (14).



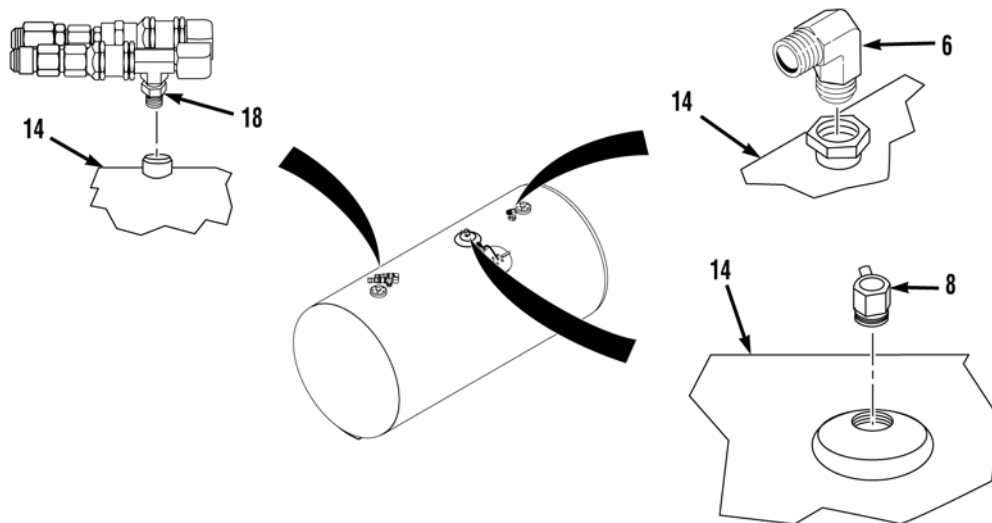
NOTE

Install fittings, elbows, and valve tank vent as noted prior to removal.

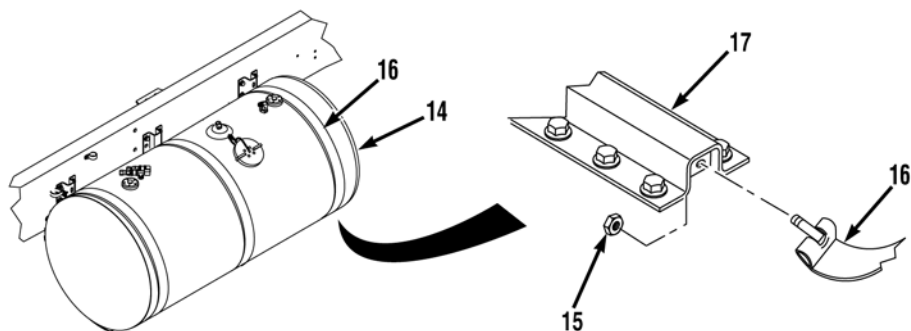
9. Coat elbow (22) with pipe thread sealing compound and install check valve (25) on elbow (22).
10. Coat check valve (25) with pipe thread sealing compound and install fitting (24) on check valve (25).
11. Coat fitting (23) with pipe thread sealing compound and install fitting (23) on fitting (24).



12. Coat fitting (23) with pipe thread sealing compound and install fitting (12) on fitting (23).
13. Coat elbow (21) with pipe thread sealing compound and install elbow (21) on elbow (22).
14. Coat tee (19) with pipe thread sealing compound and install elbow (21) on tee (19).
15. Coat tee (19) with pipe thread sealing compound and install check valve (20) on tee (19).
16. Coat check valve (20) with pipe thread sealing compound and install fitting (10) on check valve (20).
17. Coat tee (19) with pipe thread sealing compound and install fitting (18) on tee (19).



18. Coat fitting (18) with pipe thread sealing compound and install fitting (18) on fuel tank (14).
19. Coat elbow (6) with pipe thread sealing compound and install elbow (6) on fuel tank (14).
20. Coat valve tank vent (8) with pipe thread sealing compound and install valve tank vent (8) on fuel tank (14).

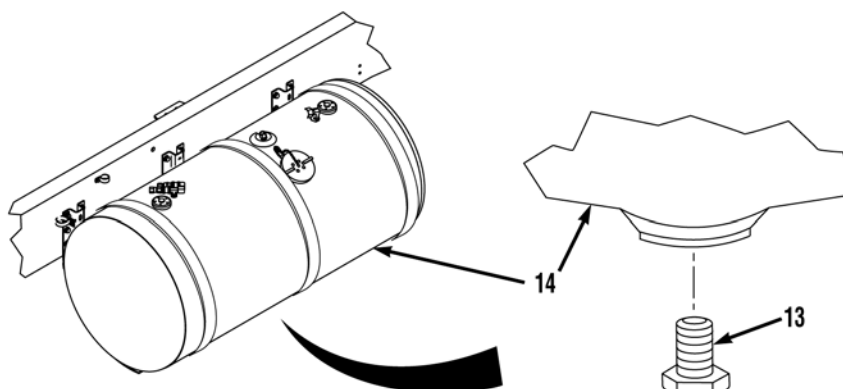


21. Coat three mounting straps (16) and fuel tank brackets (17) with soap solution.

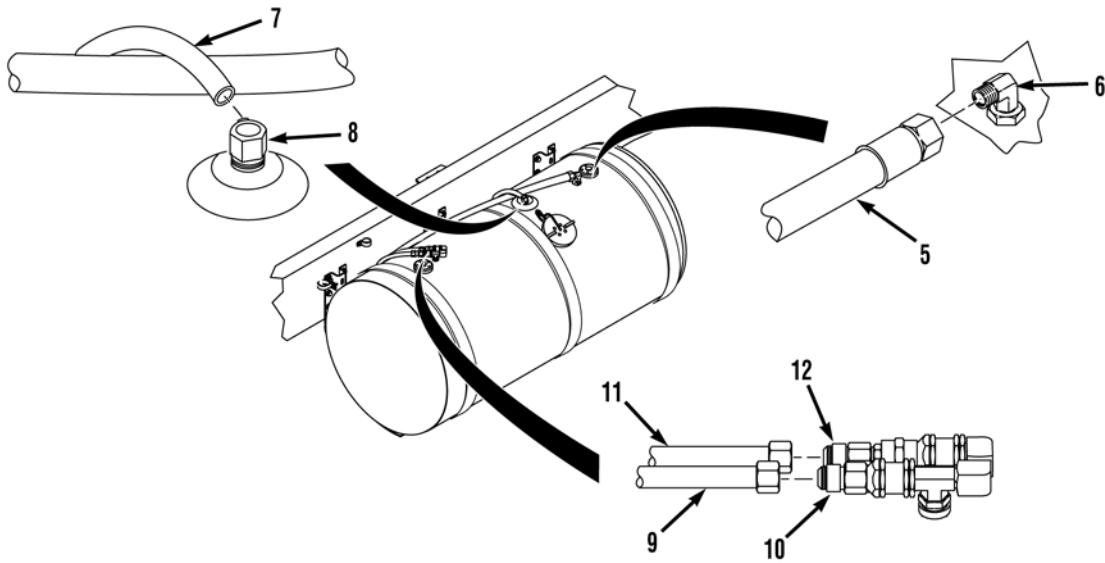
WARNING

Fuel tank is heavy (Aprox. 230 lbs). Do not attempt to lift fuel tank without the aid of Soldier B and a suitable lifting device. Failure to comply may result in serious injury or death to personnel.

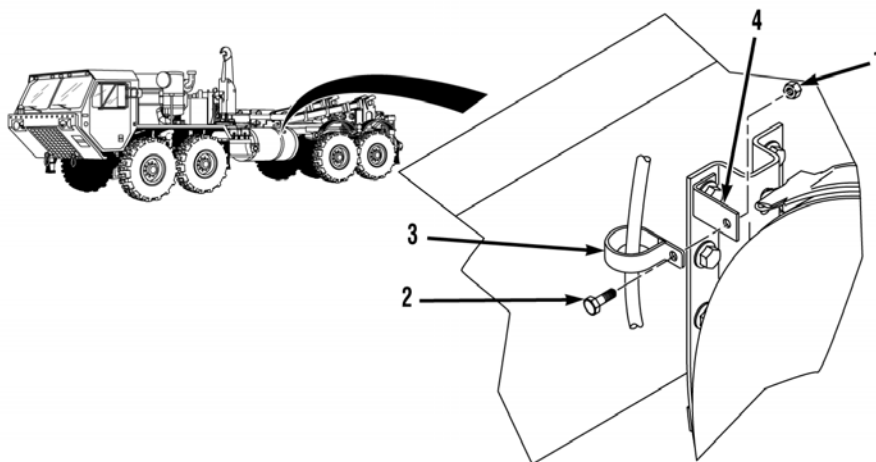
22. Attach suitable lifting device to fuel tank (14).
23. Soldier A and Soldier B raise fuel tank (14) with suitable lifting device and position fuel tank (14) on three fuel tank brackets (17).
24. Install three mounting straps (16) loosely on fuel tank (14) with three nuts (15).
25. Adjust fuel tank (14) in fuel tank brackets (17) so hoses will reach elbows and fittings.
26. Tighten three nuts (15) to 50 lb-ft (68 N•m).



27. Coat drain plug (13) with pipe thread sealing compound and install drain plug (13) on fuel tank (14).



- 28. Install hose (11) on fitting (12).
- 29. Install hose 2259 (9) on fitting (10).
- 30. Install hose (7) on valve tank vent (8).
- 31. Install hose 2260 (5) on elbow (6).



NOTE

Install cable ties as needed.

- 32. Apply corrosion preventive compound to threads of screw (2), and install cushion clip (3) on bracket (4) with screw (2) and locknut (1).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install air reservoir No. 2 TM 9-2320-325-14&P.
2. Install fuel sending units (WP 0115).
3. Fill fuel tank (TM 9-2320-347-10)
4. Check fuel tank and connections for leaks.
5. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
GENERATOR PLATFORM REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Lifting Device, Minimum Capacity 200 lbs (91kg)
Pliers, Retaining (Item 0183, Item 12)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (2), (WP 0184, Item 18)
Locknut, (10), (WP 0184, Item 26)
Locknut, (4), (WP 0184, Item 8)
Lockwasher, (1), (WP 0184, Item 66)
Pin, Cotter, (1), (WP 0184, Item 52)
Ring, Retaining (1), (WP 0184, Item 133)

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

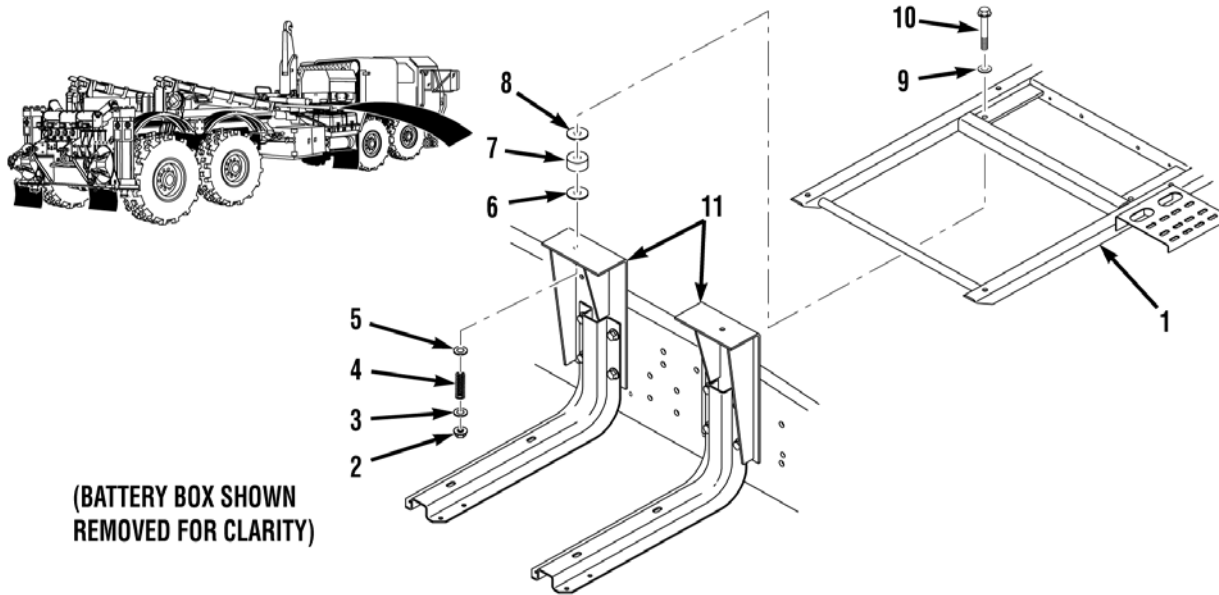
References

None

Equipment Conditions

Generator removed (Refer to THAAD Launcher IETM)
CEM/MUJB cables disconnected (Refer to THAAD Launcher IETM)
Grounding bar removed (WP 0064)

REMOVAL

**WARNING**

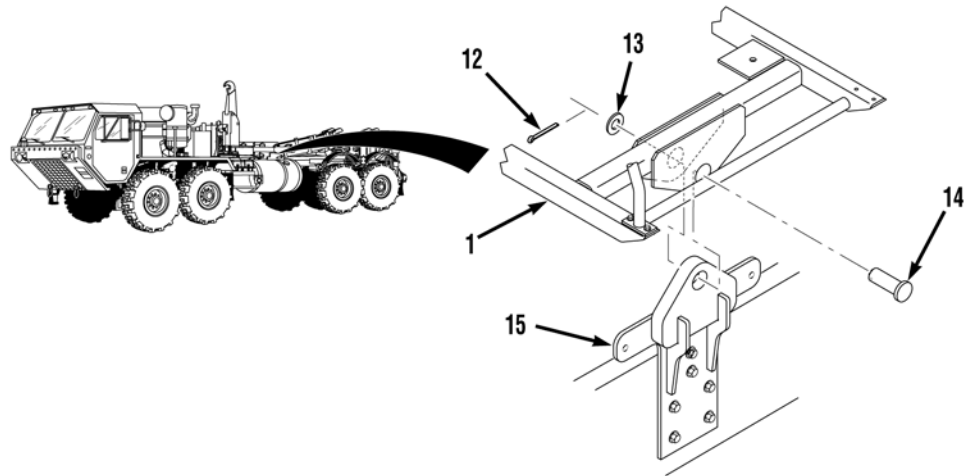
Generator platform weighs 146 lbs (66 kg). Do not remove any attaching hardware or attempt to lift generator platform without the aid of Soldier B and a suitable lifting device. Failure to comply may result in serious injury or death to personnel.

1. Attach suitable lifting device to generator platform (1).

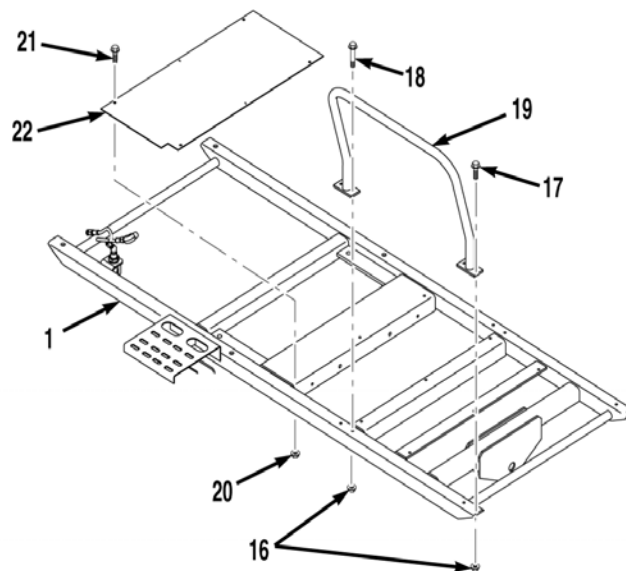
NOTE

Note position of washers prior to removal to ensure proper installation.

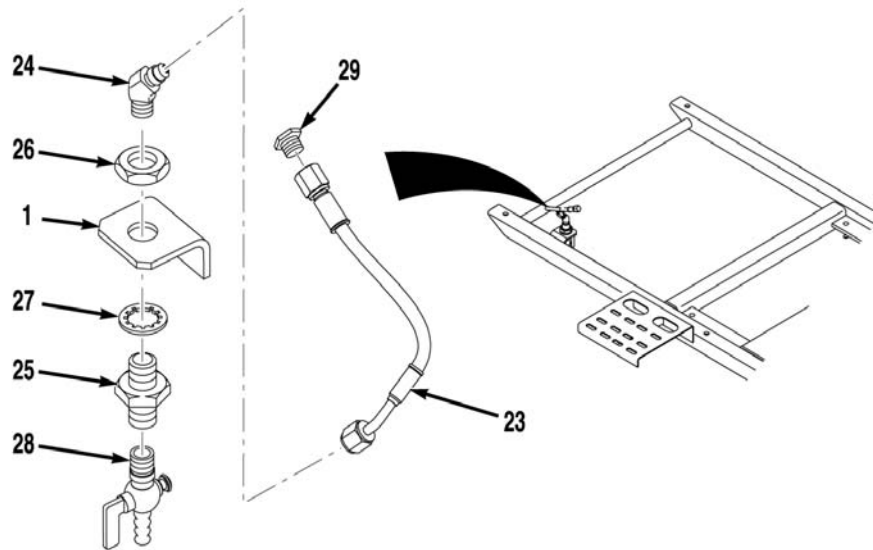
2. Remove two locknuts (2), washers (3), springs (4), washers (5), washers (6), snubbers (7), washers (8), washers (9), and screws (10) from generator platform (1) and two generator mounting brackets (11). Discard locknuts.



3. With the aid of a suitable lifting device, Soldier A and Soldier B remove cotter pin (12), washer (13), pin (14), and generator platform (1) from mounting bracket (15) and vehicle. Discard cotter pin.



4. Remove four locknuts (16), two screws (17), screws (18), and grab handle (19) from generator platform (1). Discard locknuts.
5. Remove six locknuts (20), screws (21), and plate (22) from generator platform (1). Discard locknuts.

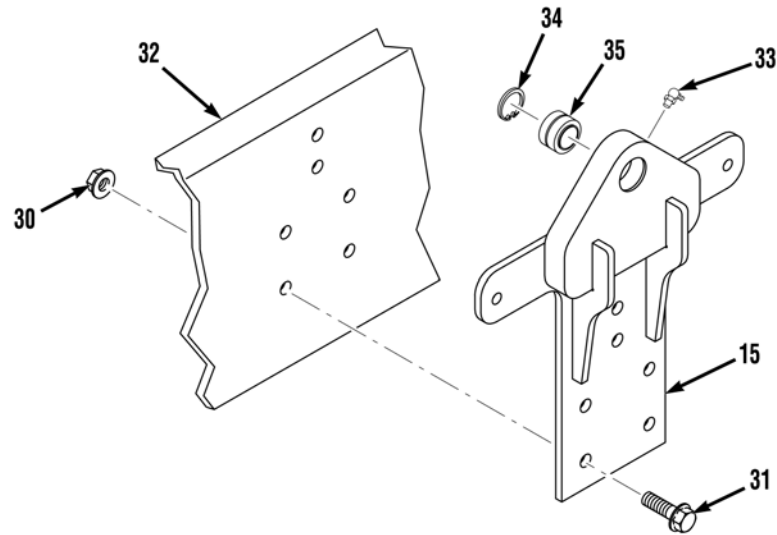


6. Remove hose (23) from elbow (24).

NOTE

Note position of elbow prior to removal to ensure proper installation.

7. Remove elbow (24) from fitting (25).
8. Remove jam nut (26), lockwasher (27), and fitting (25) from generator platform (1). Discard lockwasher.
9. Remove drain cock (28) from fitting (25).
10. Remove plug (29) from hose (23).



11. Remove four locknuts (30), screws (31), and mounting bracket (15) from frame rail (32). Discard locknuts.
12. Remove grease zerk (33) from mounting bracket (15).

WARNING

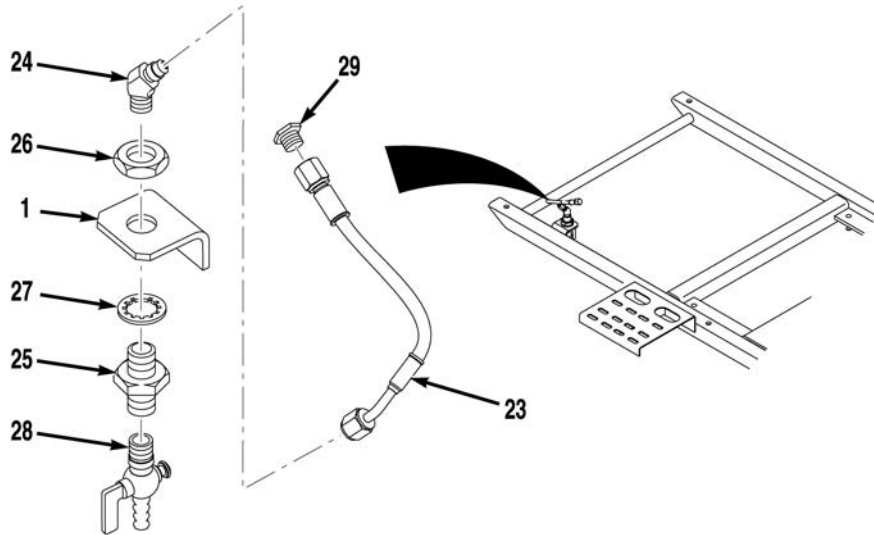
Wear safety goggles and use care when removing retaining rings. Retaining rings are under tension and can act as projectiles when released, causing injury to personnel.

13. Remove retaining ring (34) and bearing (35) from mounting bracket (15).

END OF TASK

INSTALLATION

1. Install bearing (35) in mounting bracket (15) with retaining ring (34).
2. Install grease zerk (33) in mounting bracket (15).
3. Install mounting bracket (15) on frame rail (32) with four screws (31) and locknuts (30).

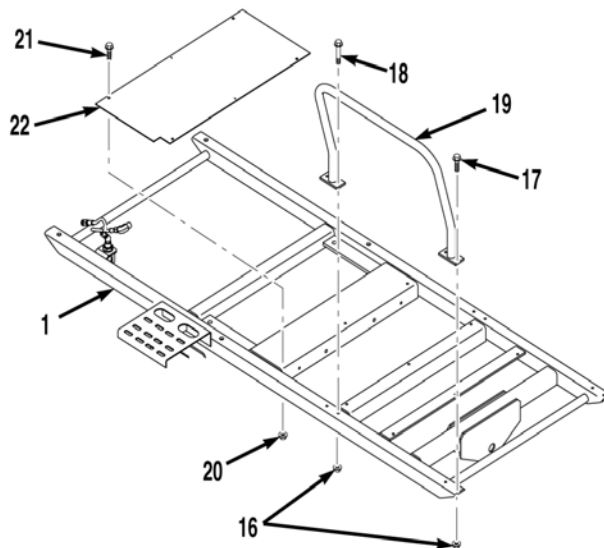


4. Install plug (29) on hose (23).
5. Install drain cock (28) on fitting (25).
6. Install fitting (25) on generator platform (1) with lockwasher (27) and jam nut (26).

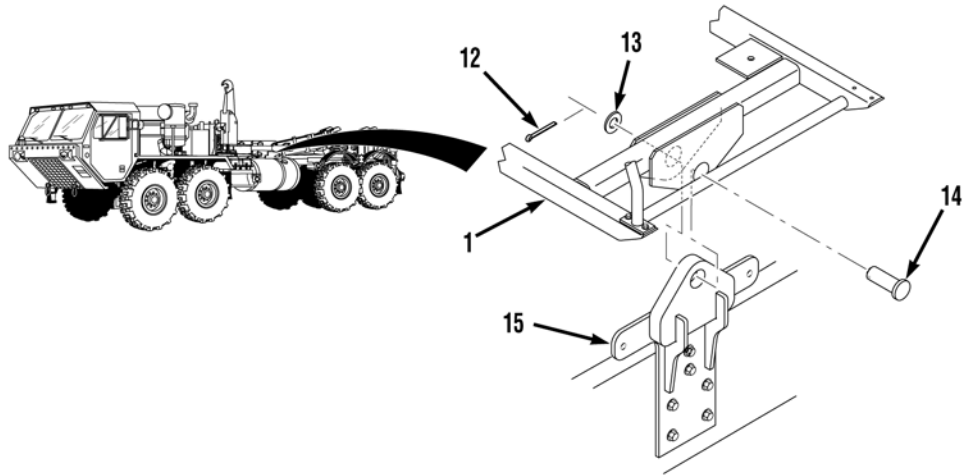
NOTE

Install elbow as noted prior to removal.

7. Install elbow (24) on fitting (25).
8. Install hose (23) on elbow (24).

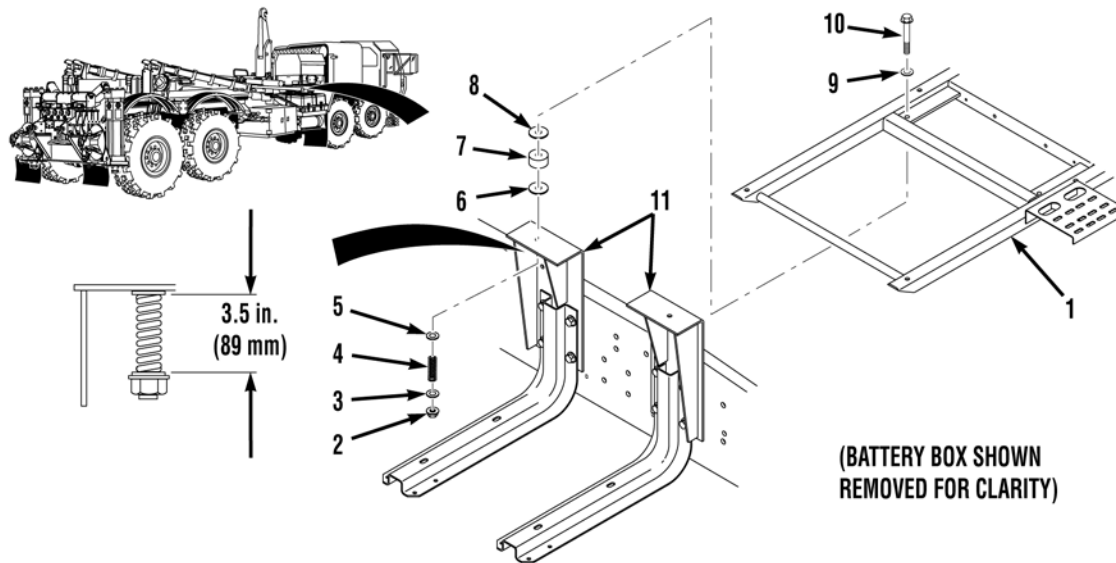


9. Install plate (22) on generator platform (1) with six screws (21) and locknuts (20).
10. Install grab handle (19) on generator platform (1) with two screws (18), screws (17), and four locknuts (16).

**WARNING**

Generator platform weighs 146 lbs (66 kg). Do not attempt to lift generator platform without the aid of Soldier B and a suitable lifting device. Failure to comply may result in serious injury or death to personnel.

11. Attach suitable lifting device to generator platform (1).
12. Soldier A operates suitable lifting device, while Soldier B installs generator platform (1) on mounting bracket (15) with pin (14), washer (13), and cotter pin (12).



NOTE

Install washers as noted prior to removal.

13. Attach generator platform (1) to two generator mounting brackets (11) with screws (10), washers (9), washers (8), snubbers (7), washers (6), washers (5), springs (4), washers (3), and locknuts (2). Tighten locknuts (2) until spring height is 3.5 in. (89 mm).
14. Remove suitable lifting device from generator platform (1).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install grounding bar (WP 0064).
2. Connect CEM/MUJB cables (Refer to THAAD Launcher IETM).
3. Install generator (Refer to THAAD Launcher IETM).

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
HORIZONTAL ROLLER REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Lifting Device
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Lockwasher, (1), (WP 0184, Item 146)
Lockwasher, (1), (WP 0184, Item 61)

Personnel Required

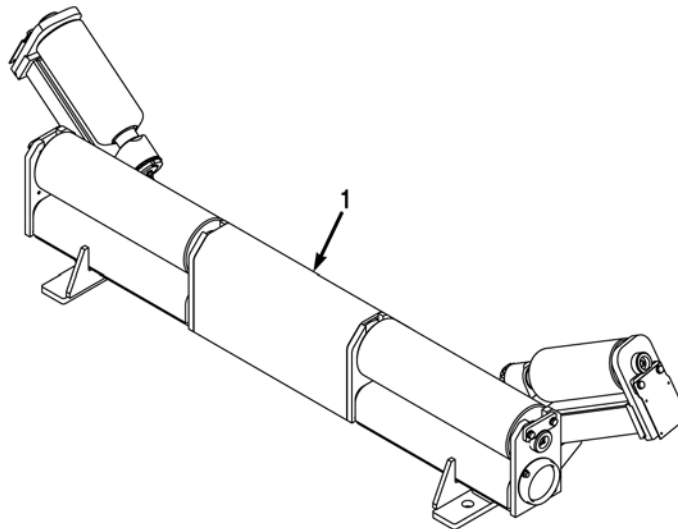
MOS 63B Wheeled vehicle mechanic

References

None

Equipment Conditions

Rear roller assembly removed (WP 0110)

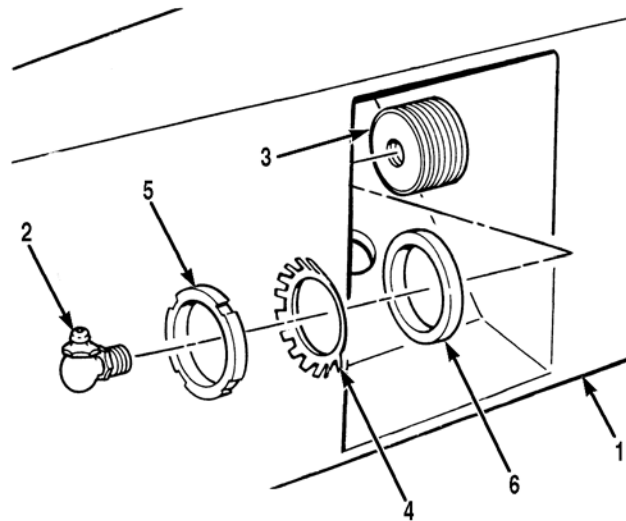
REMOVAL**WARNING**

Rear roller assembly is heavy. Attach suitable lifting device to rear roller assembly prior to removal or installation. Failure to comply may result in serious injury or death to personnel.

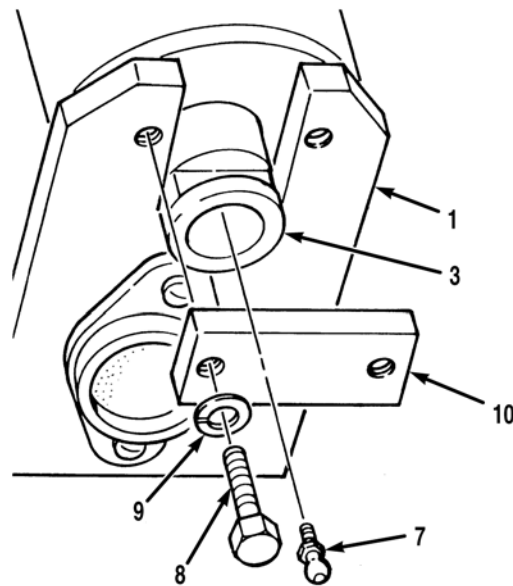
NOTE

Both right and left horizontal rollers are removed the same way. Right horizontal roller shown.

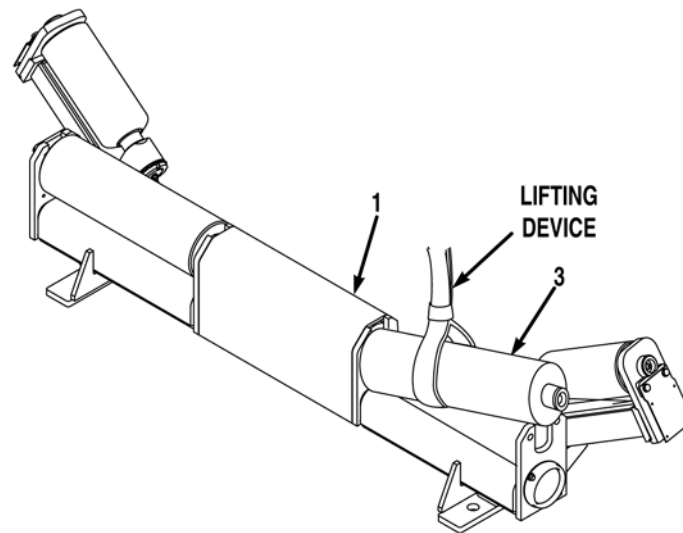
1. Using a suitable lifting device, place rear roller assembly (1) on clean work surface.



2. Remove lube fitting (2) from horizontal roller (3).
3. Bend tab of lockwasher (4) out of slot on nut (5). Discard lockwasher.
4. Remove nut (5), lockwasher (4), and thrust washer (6) from horizontal roller (3) on underside of rear roller assembly (1). Discard lockwasher.



5. Remove lube fitting (7) from horizontal roller (3).
6. Remove two screws (8), lockwashers (9), and lockplate (10) from rear roller assembly (1). Discard lockwashers.



WARNING

Horizontal roller weighs 75 lbs (34 kg). Attach suitable lifting device to horizontal roller prior to removal or installation. Failure to comply may result in serious injury to personnel.

7. Attach suitable lifting device to horizontal roller (3).
8. Remove horizontal roller (3) from rear roller assembly (1).
9. Remove suitable lifting device from horizontal roller (3).

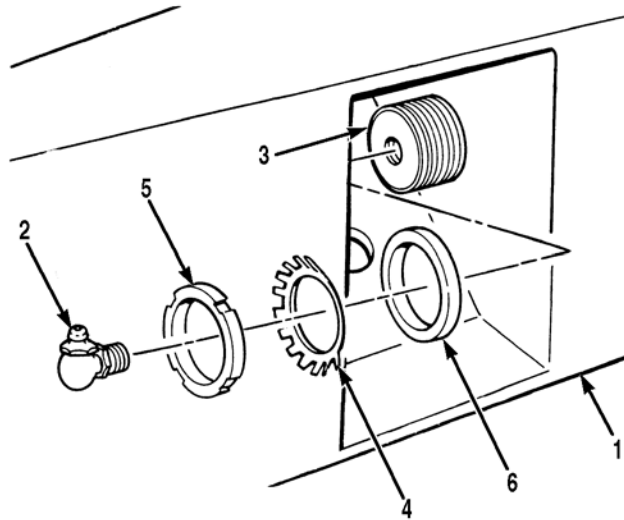
END OF TASK

INSTALLATION

WARNING

Horizontal roller weighs 75 lbs (34 kg). Attach suitable lifting device to horizontal roller prior to removal or installation. Failure to comply may result in serious injury to personnel.

1. Attach suitable lifting device to horizontal roller (3).
2. Position horizontal roller (3) on rear roller assembly (1).
3. Install lockplate (10) on rear roller assembly (1) with two lockwashers (9) and screws (8).
4. Install lube fitting (7) on horizontal roller (3).

**NOTE**

Nut is installed properly when nut is tightened and roller does not bind.

5. Install thrust washer (6), lockwasher (4), and nut (5) on horizontal roller (3).
6. Bend tab of lockwasher (4) into slot of nut (5).
7. Install lube fitting (2) on horizontal roller (3).
8. Remove suitable lifting device from horizontal roller (3).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Install rear roller assembly (WP 0110).

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
ISOLATOR STOP BRACKET REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Lockwasher, (2), (WP 0184, Item 59)

Personnel Required

MOS 63B Wheeled vehicle mechanic

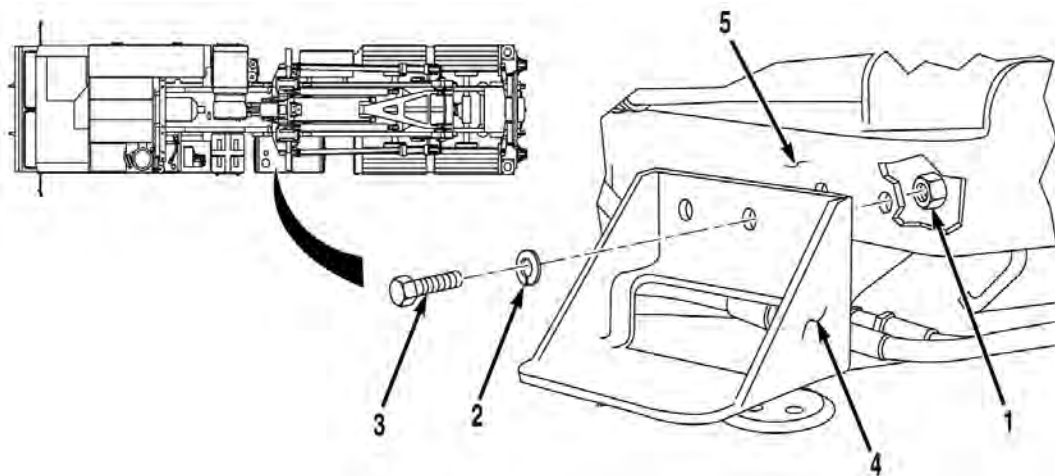
References

None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)

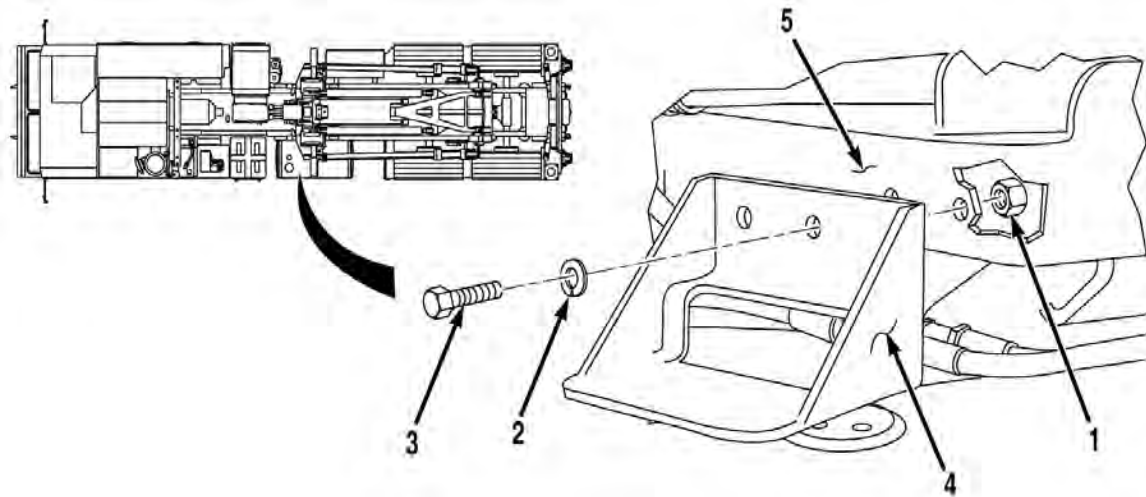
Wheels chocked (TM 9-2320-347-10)

REMOVAL**NOTE**

Both isolator stop brackets are removed the same way. Left side shown.

1. Remove two nuts (1), lockwashers (2), screws (3), and isolator stop bracket (4) from main frame (5). Discard lockwashers.

END OF TASK

INSTALLATION**NOTE**

Both isolator stop brackets are installed the same way. Left side shown.

1. Install isolator stop bracket (4) on main frame (5) with two screws (3), lock washers (2), and nuts (1).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
LADDER BRACKET REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (1), (WP 0184, Item 8)

Personnel Required

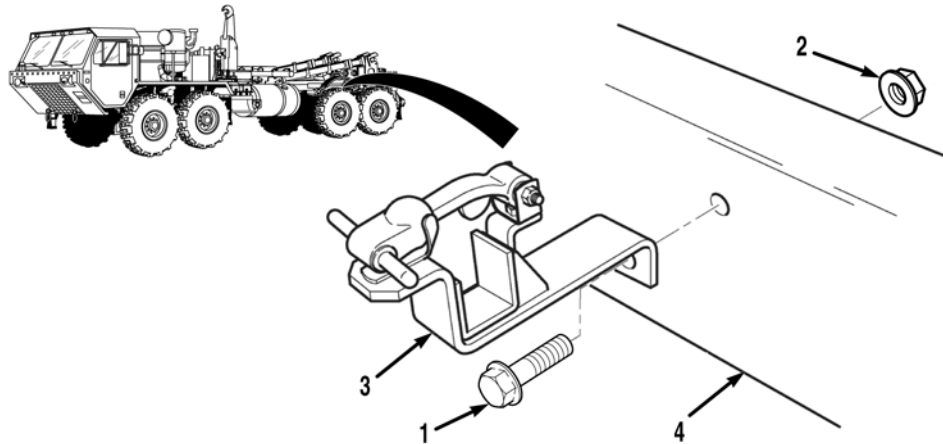
MOS 63B Wheeled vehicle mechanic

References

None

Equipment Conditions

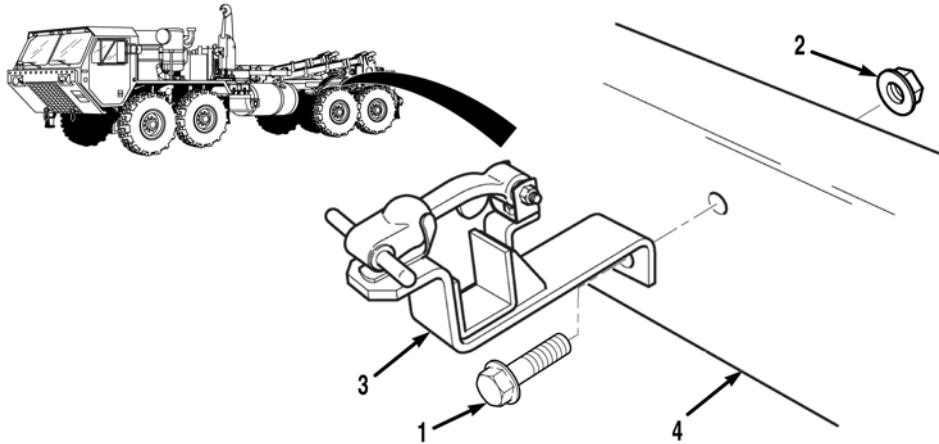
Wheels chocked (TM 9-2320-347-10)
Access ladder removed (WP 0014)

REMOVAL**NOTE**

Both ladder brackets are removed the same way. Rear ladder bracket shown.

1. Remove screw (1), locknut (2), and ladder bracket (3) from frame rail (4). Discard locknut.

END OF TASK

INSTALLATION**NOTE**

Both ladder brackets are installed the same way. Rear ladder bracket shown.

1. Install ladder bracket (3) on frame rail (4) with locknut (2) and screw (2).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Install access ladder (WP 0014).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE

MRP CONTROL VALVE BRACKETS REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (4), (WP 0184, Item 21)
Locknut, (1), (WP 0184, Item 26)
Locknut, (1), (WP 0184, Item 8)
Locknut, (9), (WP 0184, Item 10)
Ties, Cable, Plastic (Item 0186, Item 34)

Personnel Required

MOS 63B Wheeled vehicle mechanic

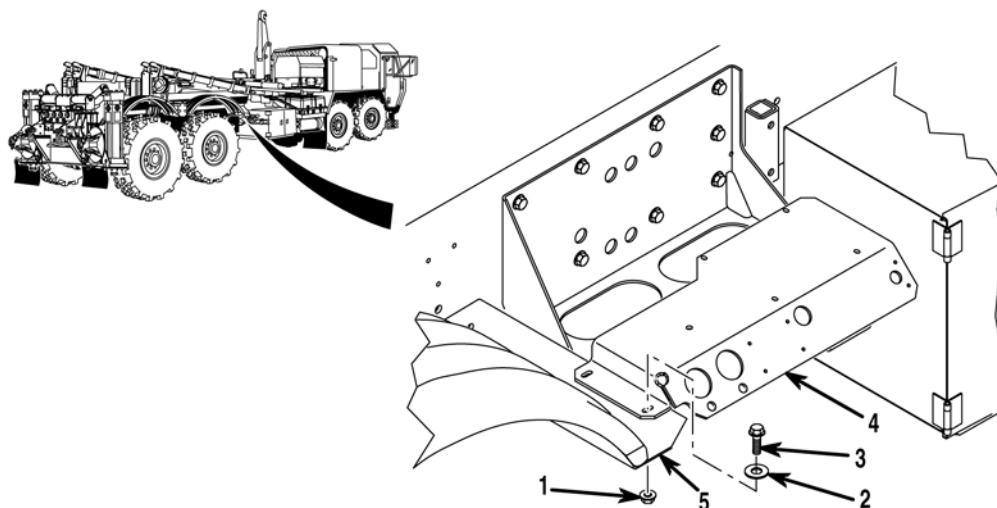
References

None

Equipment Conditions

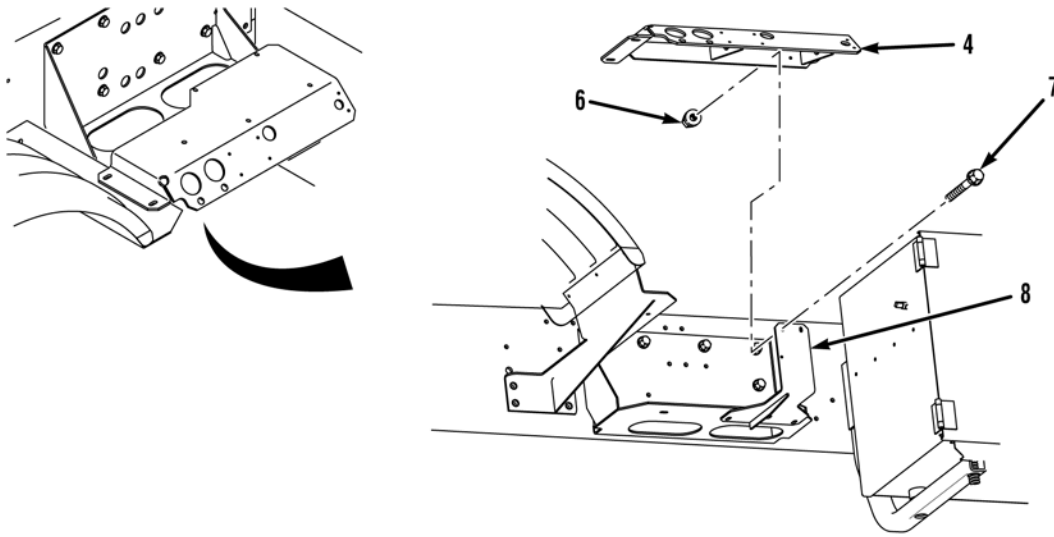
Auxiliary work lamp removed (WP 0058)
Rack lock/air bag indicator lights removed
(WP 0081)
Lamp check switch removed (WP 0067)
Palm switch removed (WP 0073)
Work lamp switch removed (WP 0090)
Data plates removed (WP 0096)
Distribution manifold removed (WP 0126)

REMOVAL

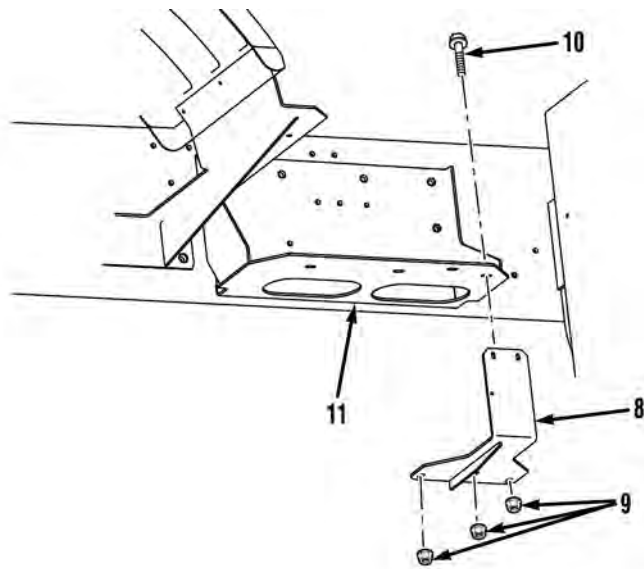
**NOTE**

Remove cable ties and cushion clips as required.

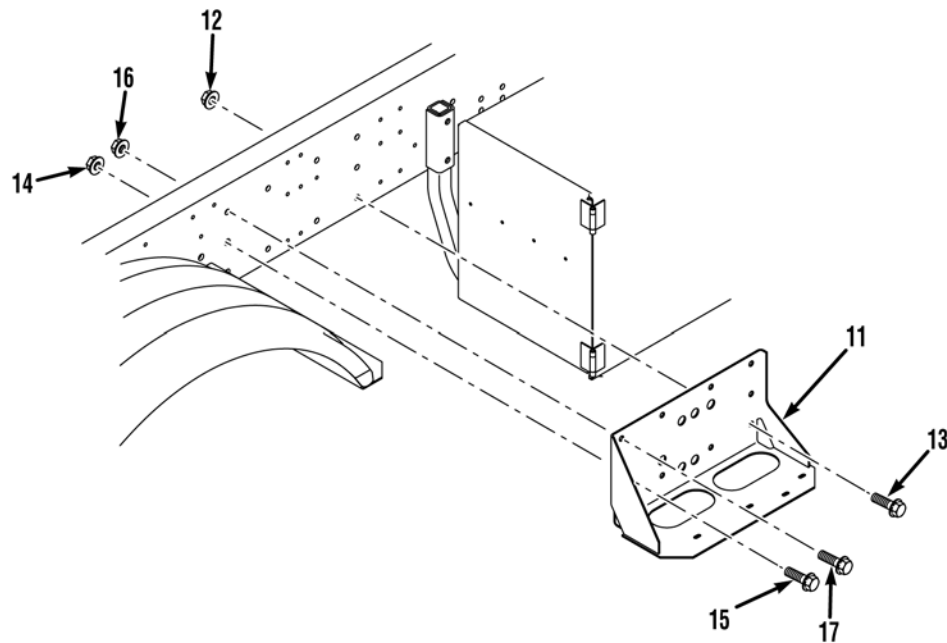
1. Remove two locknuts (1), washers (2), and screws (3) from control valve bracket (4) and fender bracket (5). Discard locknuts.



2. Remove two locknuts (6), screws (7), and control valve bracket (4) from bracket (8). Discard locknuts.



3. Remove locknut (9), screw (10), and bracket (8) from manifold bracket (11). Discard locknut.



NOTE

Note position of screws prior to removal to ensure proper installation.

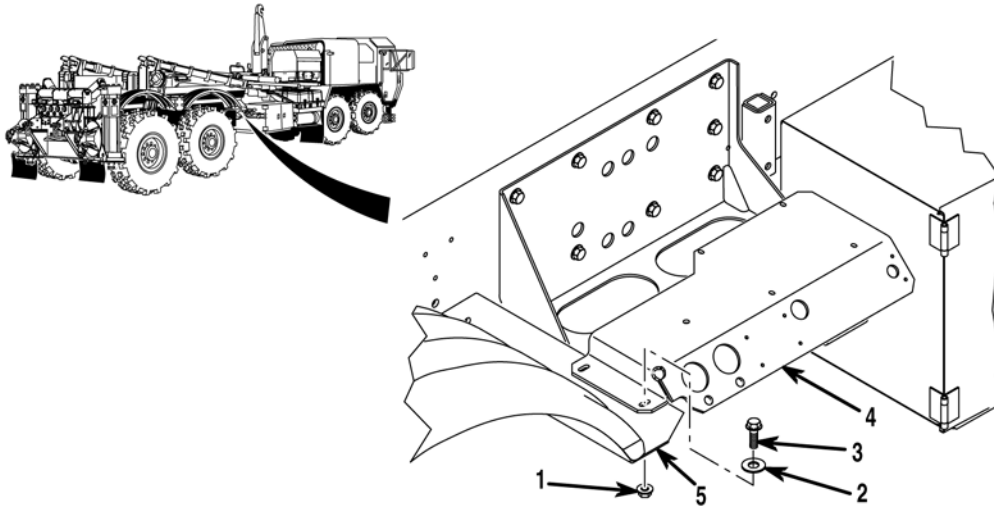
4. Remove locknut (12) and screw (13) from manifold bracket (11) and vehicle. Discard locknut.
5. Remove two locknuts (14) and screws (15) from manifold bracket (11) and vehicle. Discard locknuts.
6. Remove seven locknuts (16), screws (17), and manifold bracket (11) from vehicle. Discard locknuts.

END OF TASK

INSTALLATION

NOTE

- Install cable ties and cushion clips as required.
 - Install screws as noted prior to removal.
1. Install manifold bracket (11) on vehicle with seven screws (17) and locknuts (16).
 2. Install two screws (15) and locknuts (14) on manifold bracket (11) and vehicle.
 3. Install screw (13) and locknut (12) on manifold bracket (11) and vehicle.
 4. Install bracket (8) on manifold bracket (11) with screw (10) and locknut (9).
 5. Install control valve bracket (4) on bracket (8) with two screws (7) and locknuts (6).



6. Install control valve bracket (4) on fender bracket (5) with two screws (3), washers (2), and locknuts (1).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install distribution manifold (WP 0126).
2. Install data plates (WP 0096).
3. Install work lamp switch (WP 0090).
4. Install palm switch (WP 0073).
5. Install lamp check switch (WP 0067).
6. Install rack lock/air bag indicator lights (WP 0081).
7. Install auxiliary work lamp (WP 0058).

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**MRP ELEVATION CYLINDER STOWAGE BRACKET ROLLERS REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (1), (WP 0184, Item 21)

Personnel Required

MOS 63B Wheeled vehicle mechanic

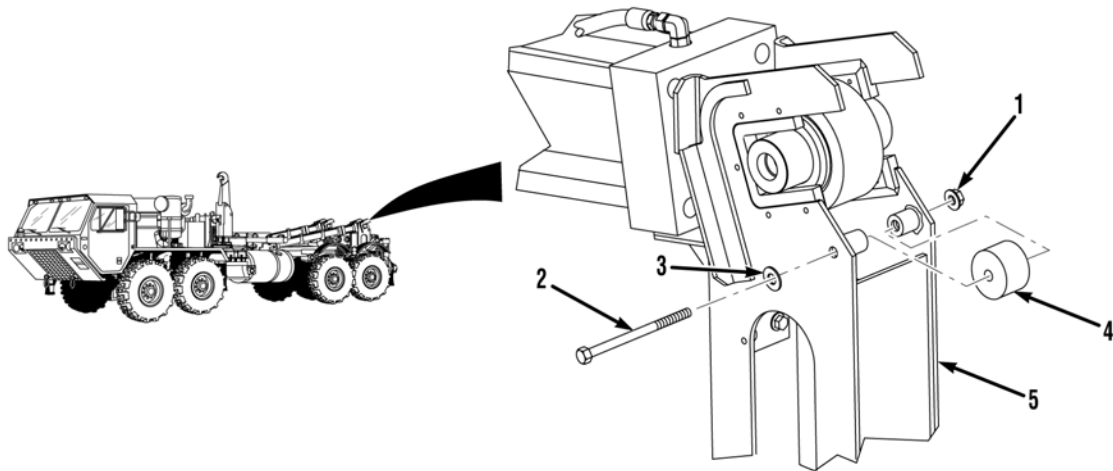
References

None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)

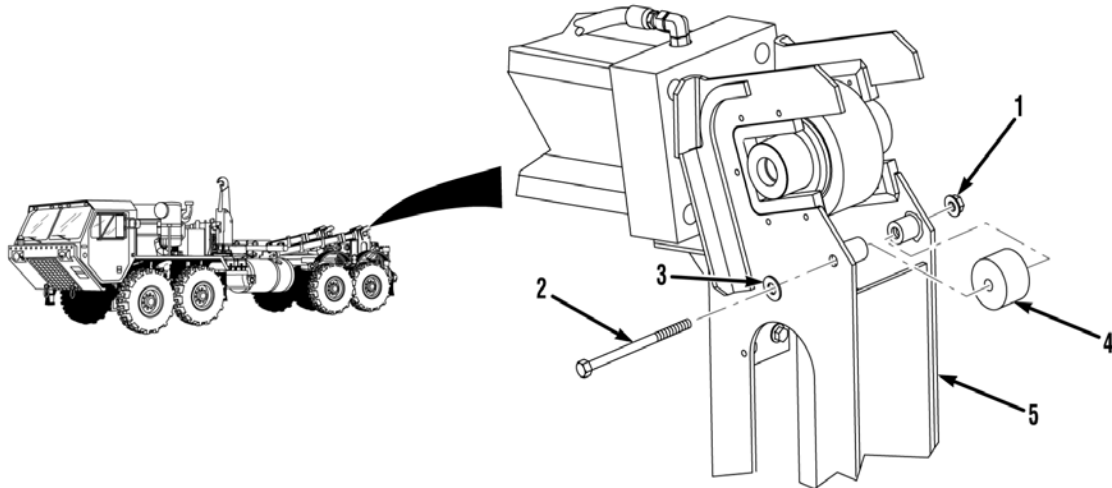
Wheels chocked (TM 9-2320-347-10)

REMOVAL**NOTE**

Both right and left bracket rollers are removed the same way. Left side shown.

1. Remove locknut (1), screw (2), washer (3), and roller (4) from bracket (5). Discard locknut.

END OF TASK

INSTALLATION**NOTE**

Both right and left bracket rollers are installed the same way. Left side shown.

1. Install roller (4) on bracket (5) with washer (3), screw (2), and locknut (1).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE

MRP ELEVATION CYLINDER STOWAGE BRACKET WEAR PADS REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Forward Repair System (WP 0183, Item 6)
 Tool Kit, General Mechanic's: Automotive
 (WP 0183, Item 25)

Materials/Parts

Lockwasher, (5), (WP 0184, Item 46)
 Tags, Identification (WP 0186, Item 32)

Personnel Required

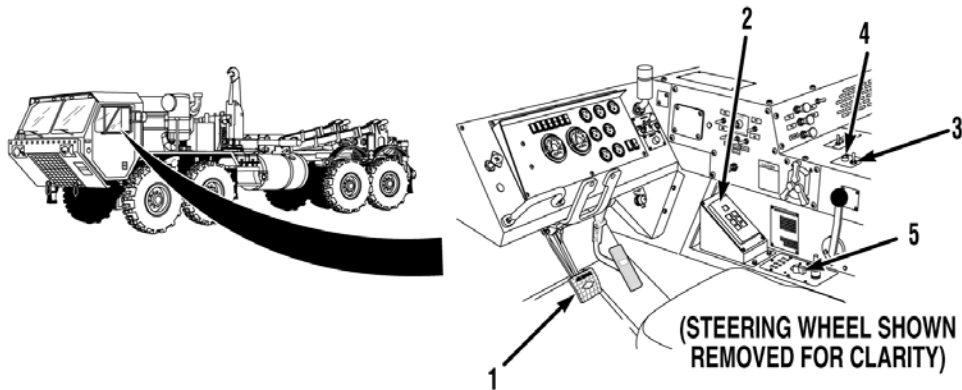
MOS 63B Wheeled vehicle mechanic

References

None

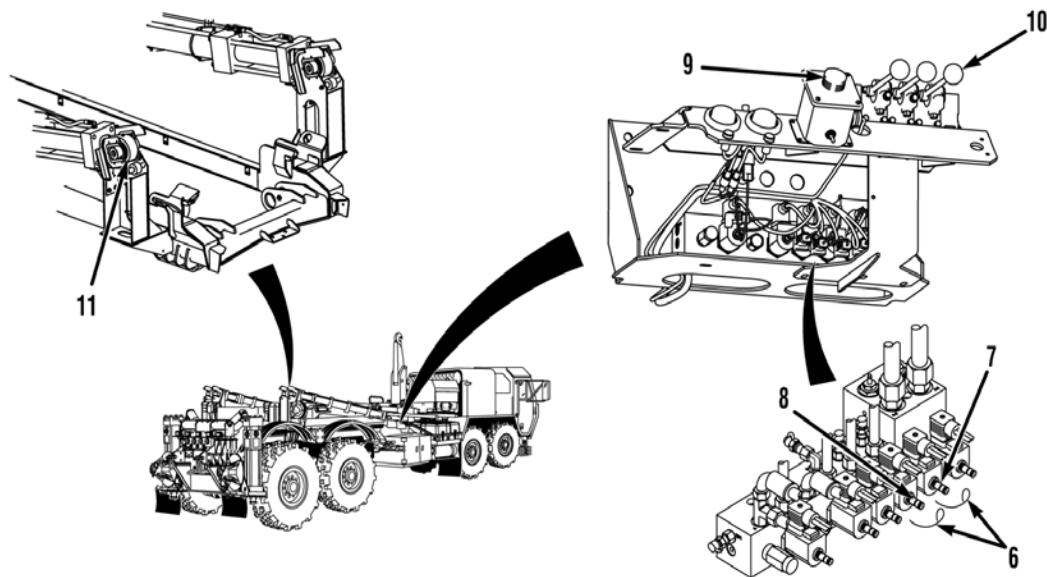
Equipment Conditions

Engine OFF (TM 9-2320-347-10)
 Wheels chocked (TM 9-2320-347-10)

REMOVAL**NOTE**

All wear pads are removed the same way. Left side shown.

1. Start engine (
2. Apply service brake pedal (1) and set transmission range selector (2) to N (neutral).
3. Put PTO ENGAGE switch (3) in ON position. Make sure indicator light (4) illuminates.
4. Move hydraulic selector switch (5) to MRP position.



NOTE

Solenoid shafts should remain in extended position after being pulled out.

5. Cut and remove two safety wires (6) securing two solenoid shafts (7 and 8).
6. Pull out two solenoid shafts (7 and 8) approximately 0.13 in. (3.3 mm) and turn counterclockwise one quarter turn.
7. Push and hold palm button switch (9).

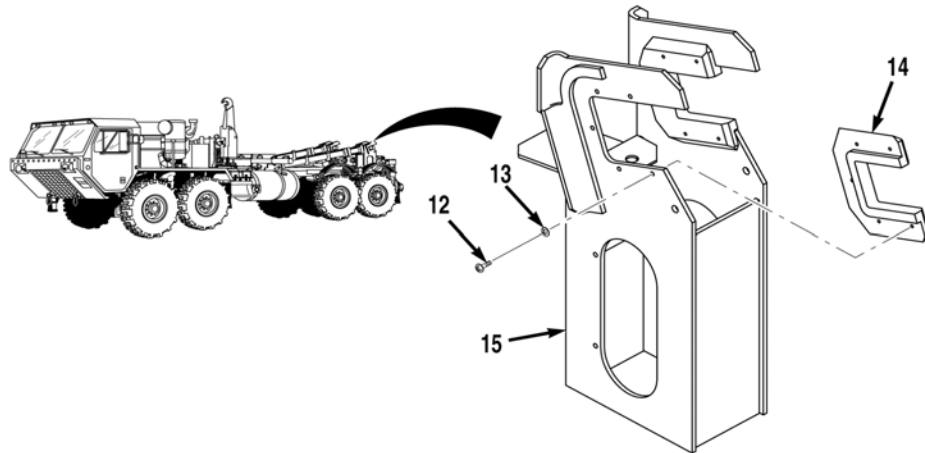
WARNING

When operating deck elevation cylinders, personnel must stay clear of cylinder. Failure to comply may result in serious injury or death to personnel.

NOTE

Cylinder head must be extended approximately 7.5 in. (191 mm).

8. Use lever (10) and extend cylinder head (11).
9. Shut off engine (TM 9-2320-347-10)



10. Remove five screws (12), lockwashers (13), and wear pad (14) from bracket (15). Discard lockwashers.

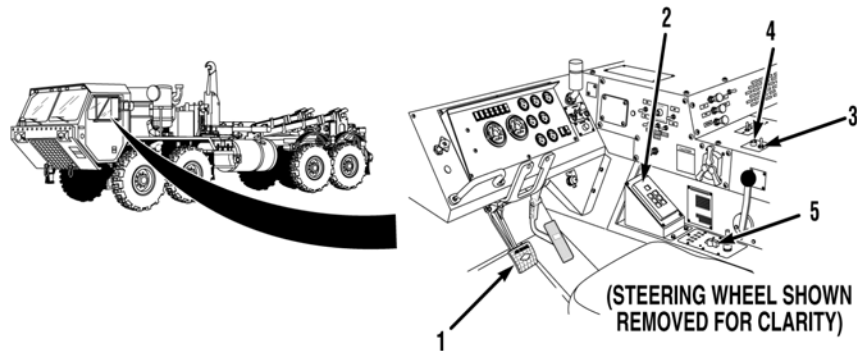
END OF TASK

INSTALLATION

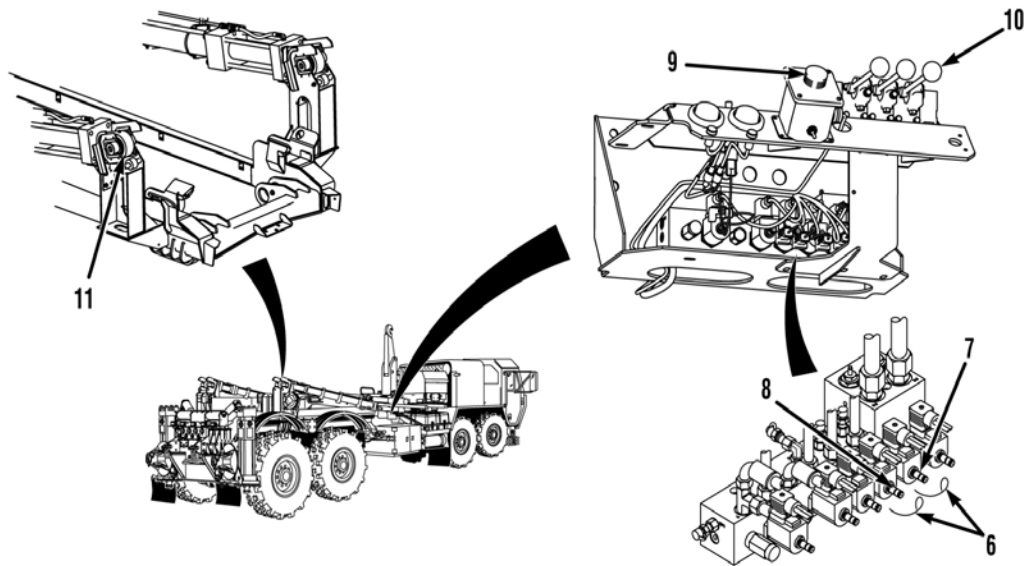
NOTE

All wear pads are installed the same way. Left side shown.

1. Install wear pad (14) on bracket (15) with five lockwashers (13) and screws (12).



2. Start engine (TM 9-2320-347-10)
3. Apply service brake pedal (1) and set transmission range selector (2) to N (neutral).
4. Put PTO ENGAGE switch (3) in ON position. Make sure indicator light (4) illuminates.
5. Move hydraulic selector switch (5) to MRP position.



6. Push and hold palm button switch (9).
7. Use lever (10) to retract cylinder head (11) to fully stowed position.
8. Shut off engine (TM 9-2320-347-10)
9. Turn two solenoid shafts (7 and 8) clockwise one quarter turn until they spring inward to original position.
10. Install two safety wires (6) on solenoid shafts (7 and 8).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
OUTRIGGER BELLOWS REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Lockwasher, (8), (WP 0184, Item 140)

Personnel Required

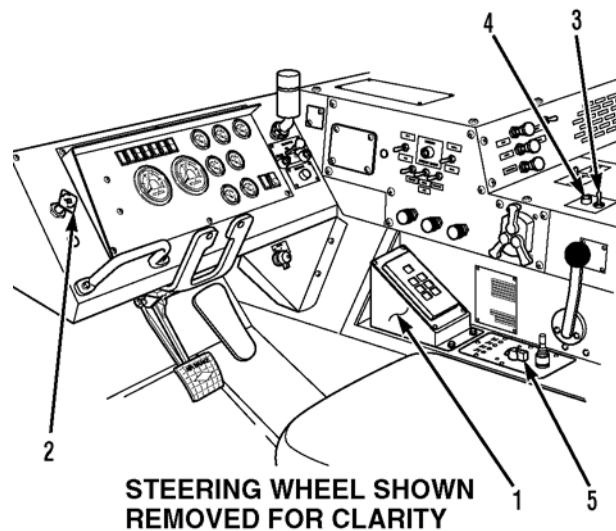
MOS 63B Wheeled vehicle mechanic

References

(TM 9-2320-347-10)

Equipment Conditions

Wheels chocked (TM 9-2320-347-10)

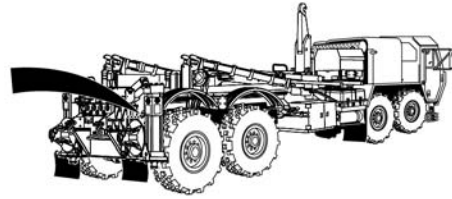
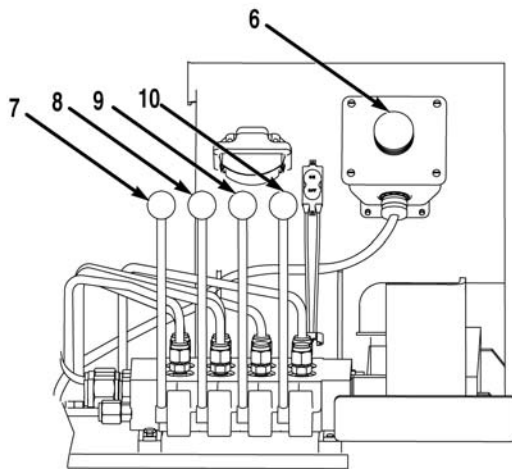
REMOVAL

1. Start engine (TM 9-2320-347-10)
2. Position vehicle on level ground.
3. Position transmission range selector (1) in N (Neutral).
4. Pull PARKING BRAKE control knob (2) out.

CAUTION

Engine speed must be at idle before activating PTO ENGAGE switch or hydraulic selector switch. Failure to comply may result in damage to equipment.

5. Move PTO ENGAGE switch (3) to ON position. Indicator light (4) should illuminate.
6. Turn hydraulic selector switch (5) to MRP position.

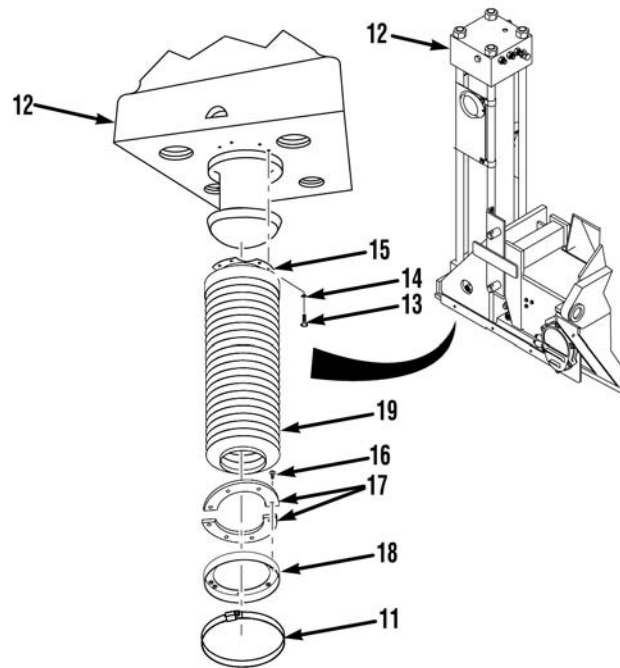


WARNING

Keep hands and feet clear of outriggers during outrigger/stabilizer extension and retraction. Failure to comply may result in injury or death to personnel.

NOTE

- Left and right stabilizer (STABILIZER LH and STABILIZER RH) control levers can be operated independently or at the same time.
 - Stabilizer movement from one lever may be slower than the other when operating two levers together.
 - Air suspension will automatically deflate when outriggers are deployed.
7. Push and hold palm button switch (6).
 8. Move OUTRIGGER LH control lever (7) and OUTRIGGER RH control lever (8) to deploy outrigger approximately 6-10 inches (15.24-25.40 cm).
 9. Move STABILIZER LH control lever (9) and STABILIZER RH control lever (10) to DOWN position to lower outrigger stabilizer cylinder rods. Deploy stabilizers approximately 10 in. (25.40 cm).
 10. Release palm button switch (6).
 11. Turn hydraulic selector switch (5) to OFF position.
 12. Move PTO ENGAGED switch (3) to OFF position. Indicator light (4) should extinguish.
 13. Shut off engine (TM 9-2320-347-10)

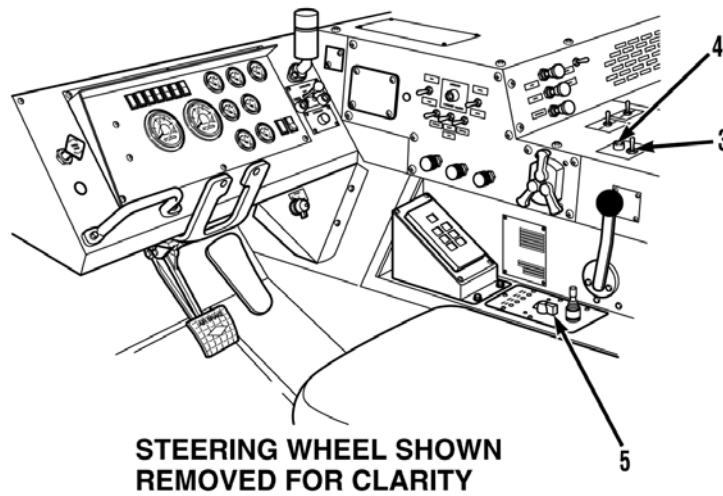


14. Remove hose clamp (11) from stabilizer (12).
15. Remove eight screws (13) and lockwashers (14) from retainer flange (15) and stabilizer (12). Discard lockwashers.
16. Remove eight screws (16) from retainer ring (17) and collar (18).
17. Remove bellow (19) from outrigger cylinder (12).

END OF TASK

INSTALLATION

1. Install bellow (19) on stabilizer (12).
2. Install eight screws (16) on retainer ring (18) and collar (18).
3. Install eight screws (13) and lockwashers (14) on retainer flange (15) and stabilizer (12).
4. Install hose clamp (11) on bellow (19) and cylinder (12).

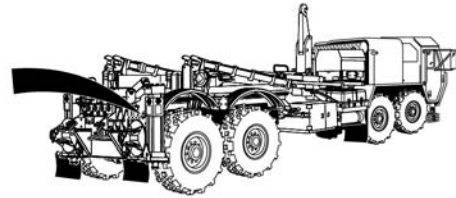
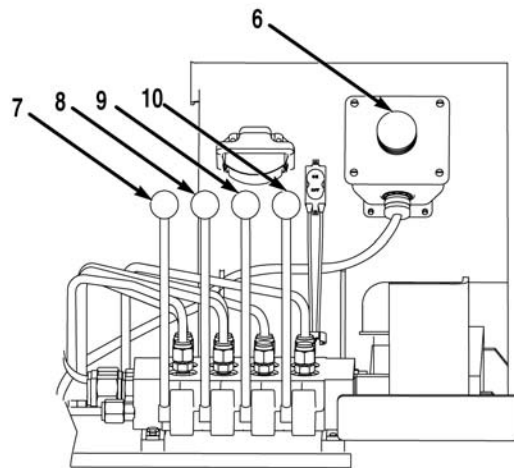


5. Start engine (TM 9-2320-347-10)

CAUTION

Engine speed must be at idle before activating PTO ENGAGE switch or hydraulic selector switch. Failure to comply may result in damage to equipment.

6. Move PTO ENGAGED switch (3) to ON position. Indicator light (4) should illuminate.
7. Turn hydraulic selector switch (5) to MRP position.



NOTE

- Left and right stabilizer (STABILIZER LH and STABILIZER RH) control levers can be operated independently or at the same time.
- Stabilizer movement from one lever may be slower than the other when operating two levers together.
- Air suspension will automatically deflate when outriggers are deployed.

8. Push and hold palm button switch (6).
9. Move STABILIZER LH control lever (9) and STABILIZER RH control lever (10) to UP position to retract outrigger stabilizer cylinder rods.
10. Move OUTRIGGER LH control lever (7) and OUTRIGGER RH control lever (8) to up position to retract outriggers.
11. Turn hydraulic selector switch (5) to OFF position.
12. Move PTO ENGAGE switch (3) to OFF position. Indicator light (4) should extinguish.
13. Shut off engine (TM 9-2320-347-10)

END OF TASK

FOLLOW-ON MAINTENANCE

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
OUTRIGGER ASSEMBLY REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Lifting Device, Minimum Capacity 2,100 lbs
(953 kg)
Pan, Drain (WP 0183, Item 10)
Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wrench, Torque (WP 0183, Item 31)

Materials/Parts

Locknut, (6), (WP 0184, Item 16)
Oil, Hydraulic (WP 0186, Item 21)
Packing, Preformed, (2), (WP 0184, Item 36)
Packing, Preformed, (1), (WP 0184, Item 121)
Packing, Preformed, (1), (WP 0184, Item 86)
Packing, Preformed, (2), (WP 0184, Item 65)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

References

None

Equipment Conditions

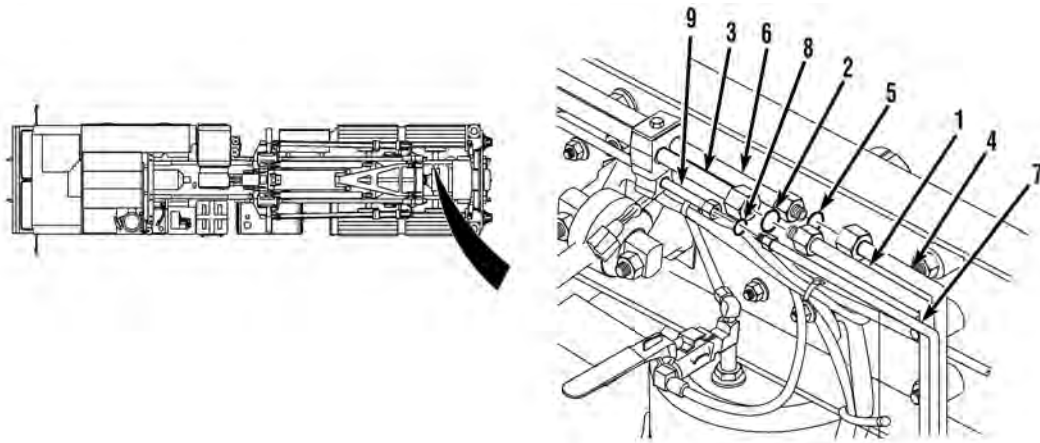
Rear marker light removed (WP 0071)
Rear palm button switch removed (WP 0073)
Rear auxiliary work lamp removed (WP 0058)
Rear work lamp switch removed (WP 0090)
Rear data plates removed (WP 0096)
Rear mud flaps removed (WP 0108)
Rear ground cable removed (WP 0063)
Rear composite taillights removed
(TM 9-2320-325-14&P)

REMOVAL**WARNING**

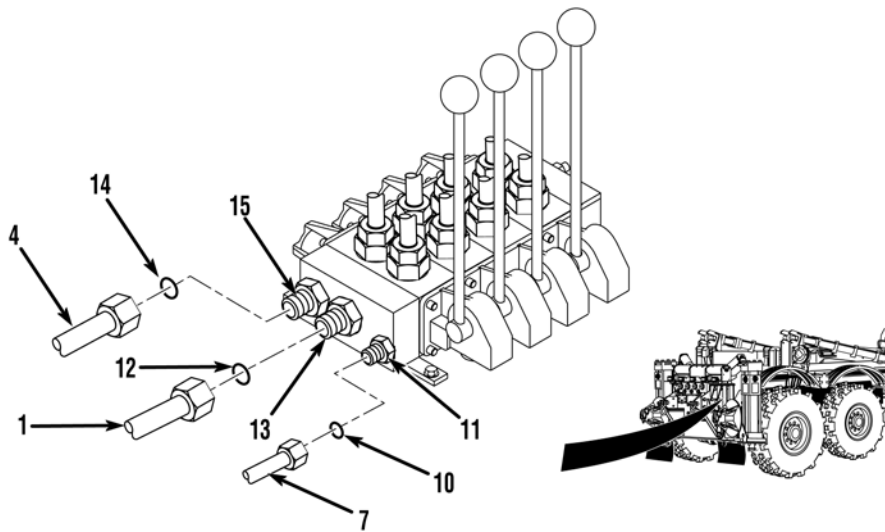
The THAAD hydraulic system operates at oil pressure up to 3,250 psi (22,409 kPa). Never disconnect any hydraulic line or fitting without first dropping pressure to zero. Failure to comply may result in serious injury or death to personnel.

NOTE

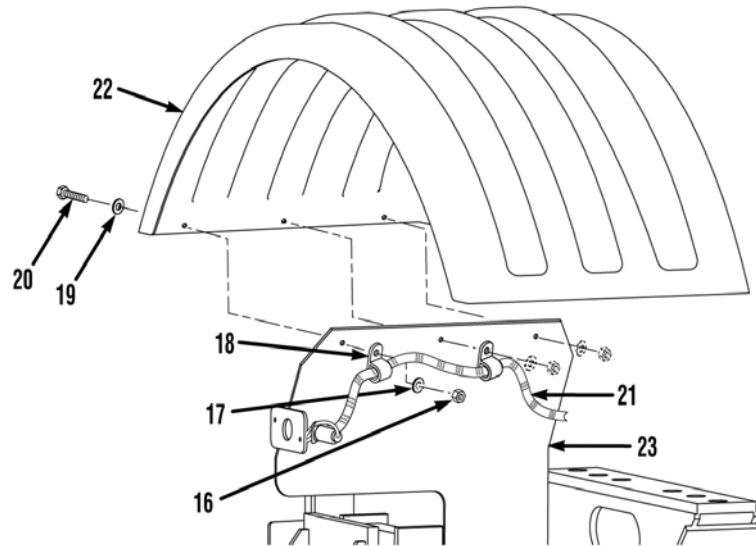
- Position drain pan under hydraulic lines and fittings being removed.
- Tag and mark hydraulic lines prior to removal to ensure proper installation.
- Cap and plug hydraulic lines upon removal.
- Remove cable ties as required.



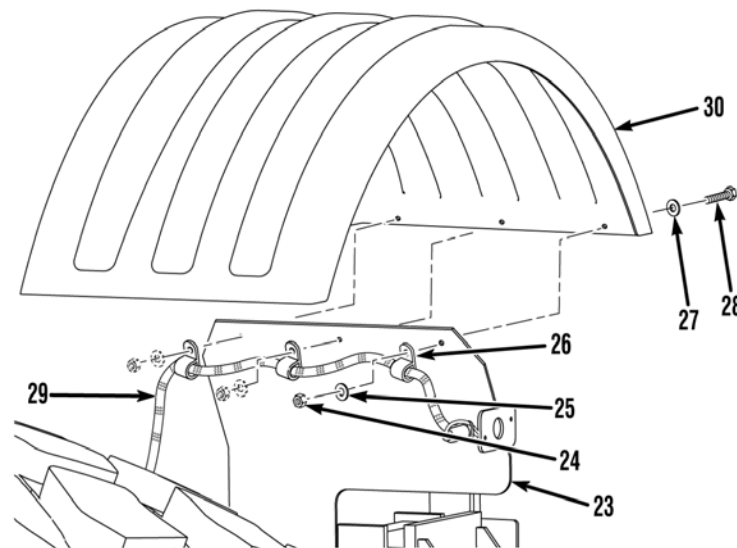
1. Remove tube (1) and preformed packing (2) from tube (3). Discard preformed packing.
2. Remove tube (4) and preformed packing (5) from tube (6). Discard preformed packing.
3. Remove tube (7) and preformed packing (8) from tube (9). Discard preformed packing.



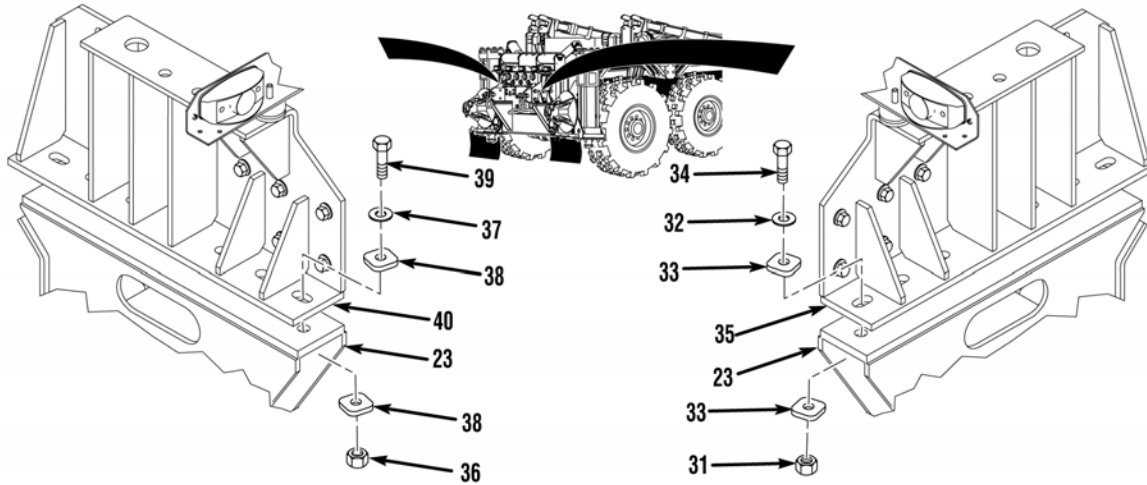
4. Remove tube (7) and preformed packing (10) from fitting (11). Discard preformed packing.
5. Remove tube (1) and preformed packing (12) from fitting (13). Discard preformed packing.
6. Remove tube (4) and preformed packing (14) from fitting (15). Discard preformed packing.



7. Remove three locknuts (16), washers (17), two cushion clips (18), three screws (20), wire harness (21), and right rear fender (22) from outrigger assembly (23). Discard locknuts.



8. Remove three locknuts (24), washers (25), cushion clips (26), screws (28), washers (27), wire harness (29), and left rear fender (30) from outrigger assembly (23). Discard locknuts.



WARNING

Outrigger assembly is heavy (Aprox. 1275 lbs). Attach a suitable lifting device to outrigger assembly before removing. Failure to comply may result in serious injury or death to personnel.

CAUTION

Ensure all cable ties and wire harnesses are removed from outrigger assembly before removal. Failure to comply may cause damage to equipment.

9. Attach suitable lifting device to outrigger assembly (23).
10. With the aid of a suitable lifting device, Soldier A and Soldier B remove six nuts (30), twelve washers (31), spacers (33), and six screws (34) from outrigger assembly (23) and right-side bracket (35).
11. With the aid of a suitable lifting device, Soldier A and Soldier B remove six nuts (36), twelve washers (37), spacers (38), six screws (39), and outrigger assembly (23) from left-side bracket (40) and vehicle.
12. Remove suitable lifting device from outrigger assembly (23).

END OF TASK

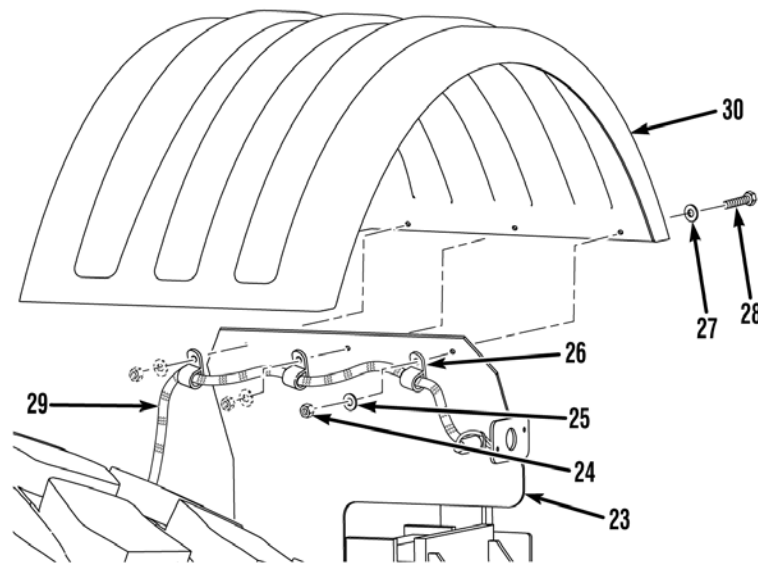
INSTALLATION**WARNING**

Outrigger assembly is heavy (Aprox. 1275 lbs). Attach a suitable lifting device to outrigger assembly before installing. Failure to comply may result in serious injury or death to personnel.

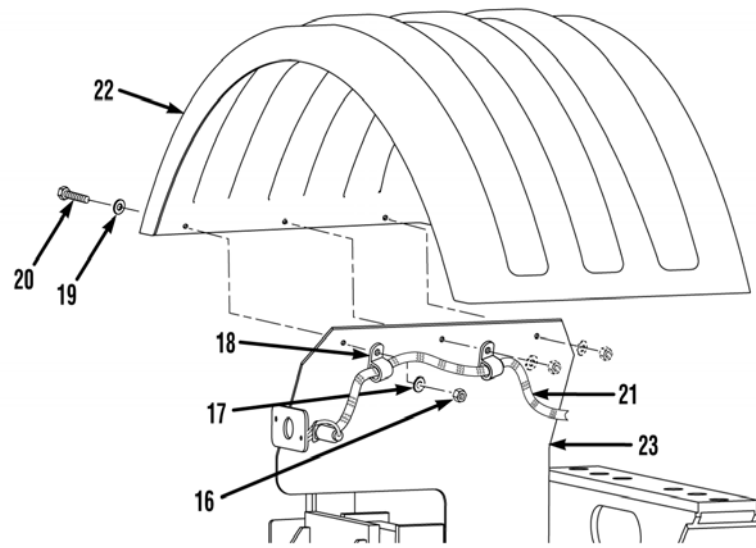
NOTE

Install cable ties as required.

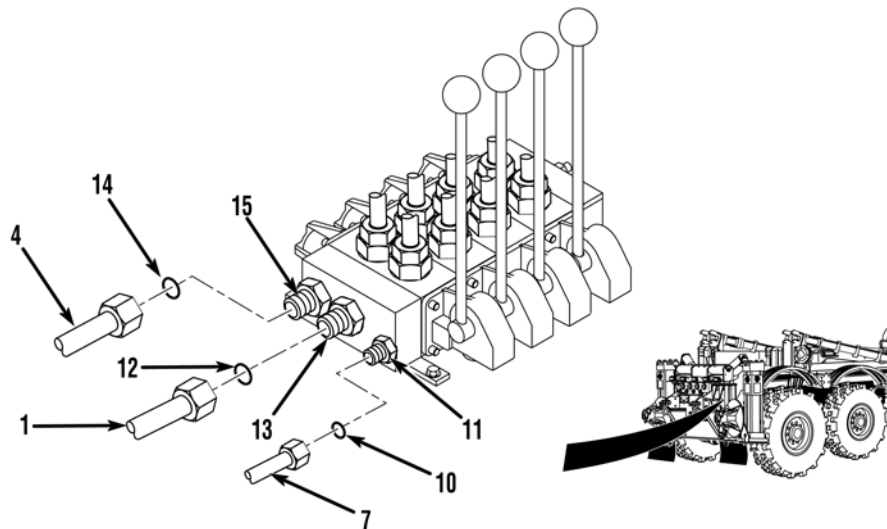
1. Attach a suitable lifting device to outrigger assembly (23).
2. With the aid of a suitable lifting device, Soldier A and Soldier B install outrigger assembly (23) on left-side bracket (40) with six screws (39), twelve spacers (38), washers (37), and six nuts (36).
3. With the aid of a suitable lifting device, Soldier A and Soldier B install outrigger assembly (23) on right-side bracket (35) with six screws (34), twelve spacers (33), washers (32), and six nuts (31).
4. Remove suitable lifting device from outrigger assembly (23).



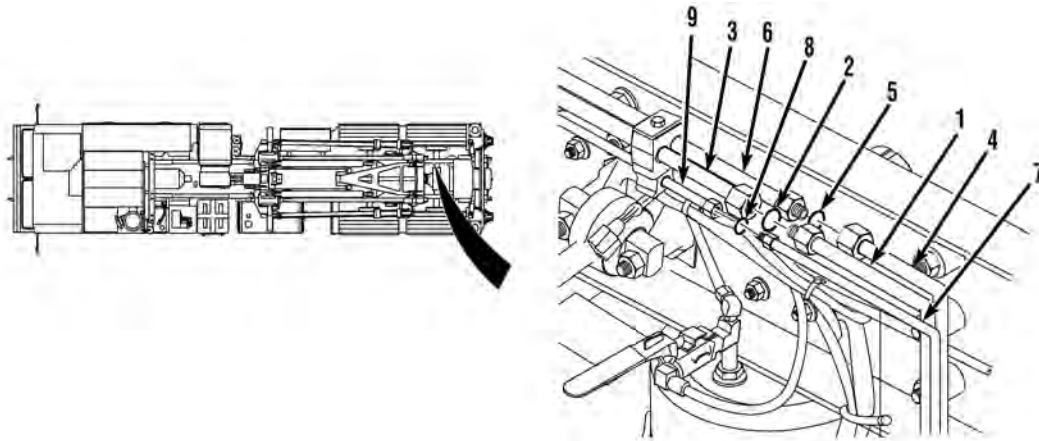
5. Install left rear fender (30) and wire harness (29) on outrigger assembly (23) with three screws (28), washers (27), cushion clips (26), washers (25), and locknuts (24).



6. Install right rear fender (22) and wire harness (21) on outrigger assembly (23) with three screws (20), washers (19), two cushion clips (18), three washers (17), and locknuts (16).



7. Lightly lubricate preformed packing (14) with clean oil and install preformed packing (14) and tube (4) on fitting (15).
8. Lightly lubricate preformed packing (12) with clean oil and install preformed packing (12) and tube (1) on fitting (13).
9. Lightly lubricate preformed packing (10) with clean oil and install preformed packing (10) and tube (7) on fitting (11).



10. Lightly lubricate preformed packing (8) with clean oil and install preformed packing (8) and tube (7) on tube (9).
11. Lightly lubricate preformed packing (5) with clean oil and install preformed packing (5) and tube (4) on tube (6).
12. Lightly lubricate preformed packing (2) with clean oil and install preformed packing (2) and tube (1) on tube (3).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install rear composite taillights TM 9-2320-325-14&P.
2. Install rear ground cable (WP 0063).
3. Install rear mud flaps (WP 0108).
4. Install rear data plates (WP 0096).
5. Install rear work lamp switch (WP 0090).
6. Install rear auxiliary work lamp (WP 0058).
7. Install rear palm button switch (WP 0073).
8. Install rear marker light (WP 0071).
9. Check hydraulic oil reservoir level (WP 0120).
10. Check for proper operation of outriggers (WP 0013).

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**REAR FENDERS AND MOUNTING BRACKETS REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (14), (WP 0184, Item 40)
Locknut, (16), (WP 0184, Item 10)
Locknut, (2), (WP 0184, Item 21)
Locknut, (2), (WP 0184, Item 26)

Personnel Required

MOS 63B Wheeled vehicle mechanic

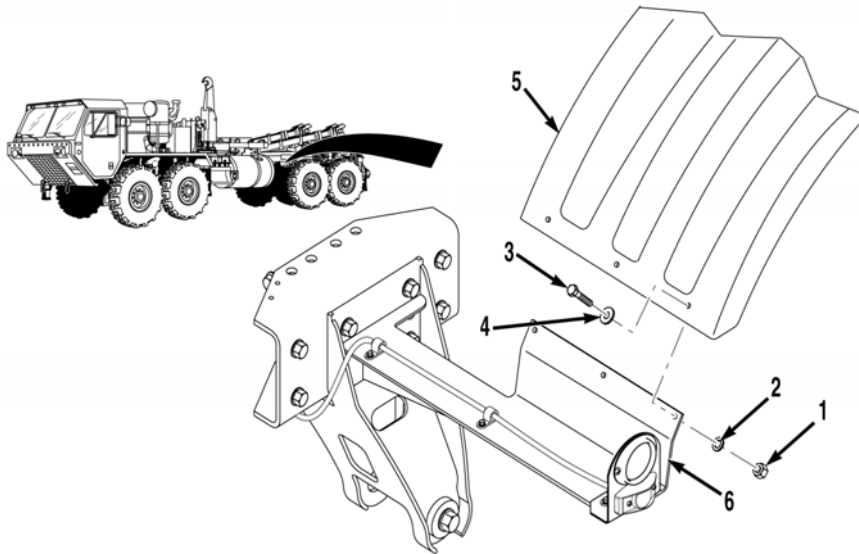
References

None

Equipment Conditions

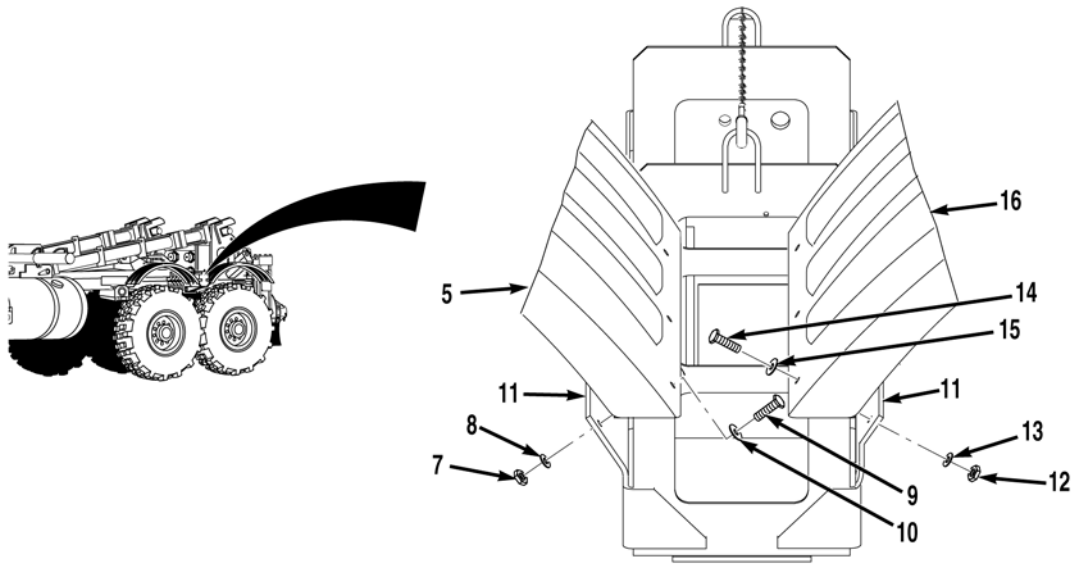
Wheels chocked (TM 9-2320-347-10)

Rear fender marker lights removed (WP 0071)

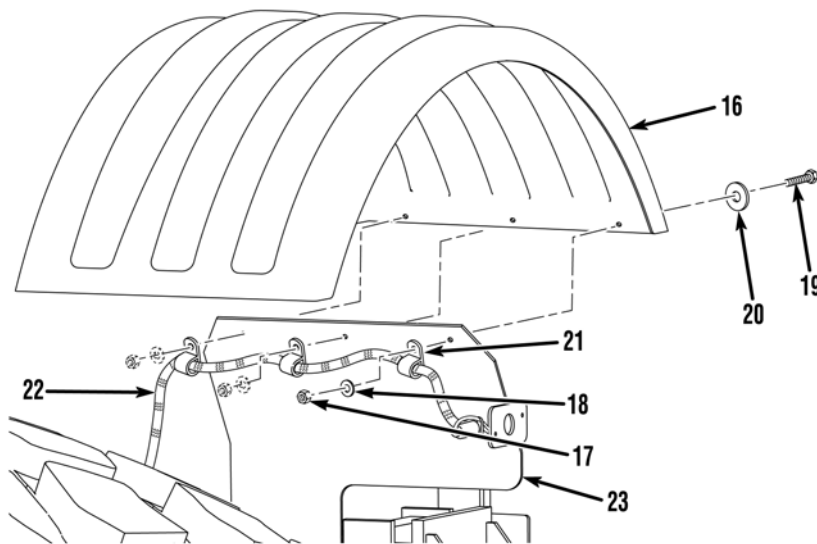
FENDER REMOVAL**NOTE**

- Both left and right side fenders are removed the same way. Left side shown.
- Note position of washers prior to removal to ensure proper installation.

1. Remove three locknuts (1), washers (2), screws (3), and washers (4) from fender (5) and fender bracket (6). Discard locknuts.



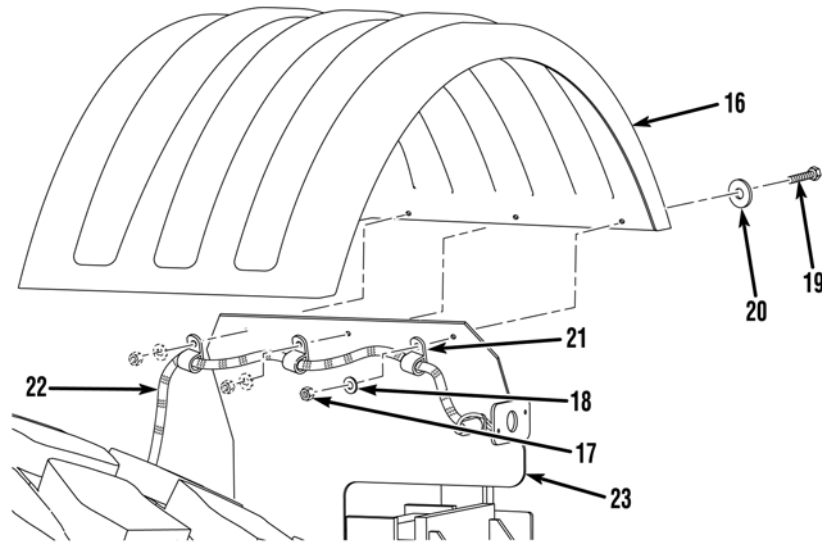
2. Remove three locknuts (7), washers (8), screws (9), washers (10), and fender (5) from fender bracket (11). Discard locknuts.
3. Remove three locknuts (12), washers (13), screws (14), and washers (15) from rear fender (16) and fender bracket (11). Discard locknuts.



4. Remove three locknuts (17), washers (18), screws (19), washers (20), cushion clips (21), wire harness (22), and rear fender (16) from outrigger assembly (23). Discard locknuts.
5. Repeat steps (1) through (4) to remove right side fenders.

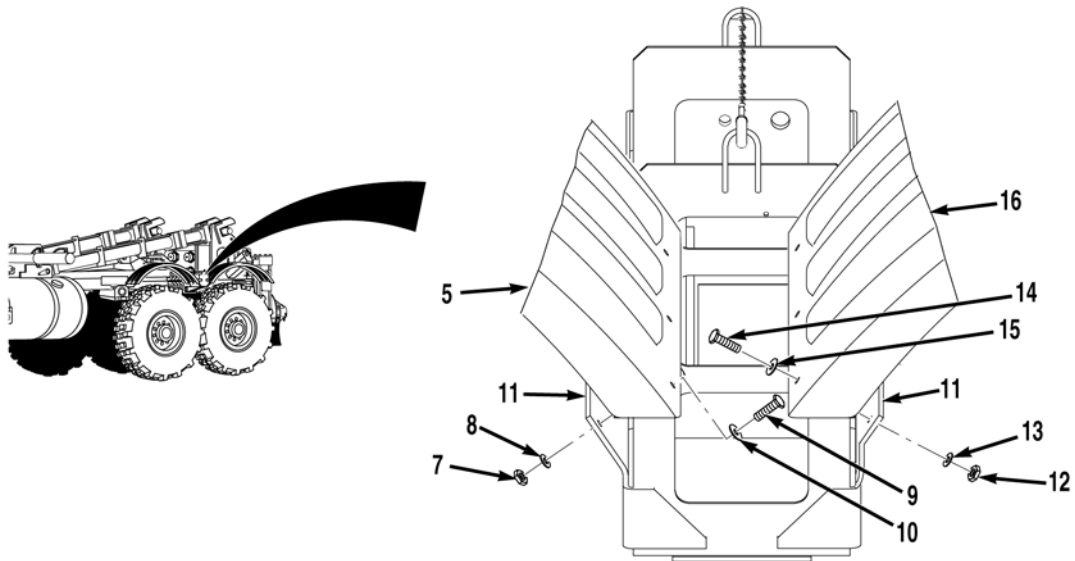
END OF TASK

FENDER INSTALLATION

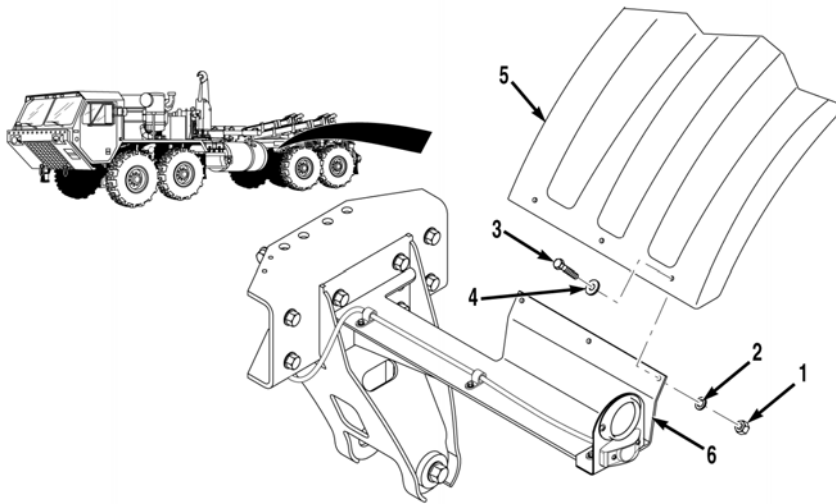


NOTE

- Both left and right side fenders are installed the same way. Left side shown.
 - Install washers as noted prior to removal.
1. Install rear fender (16) and wire harness (22) on outrigger assembly (23) with three cushion clips (21), washers (20), screws (19), washers (18), and locknuts (17).



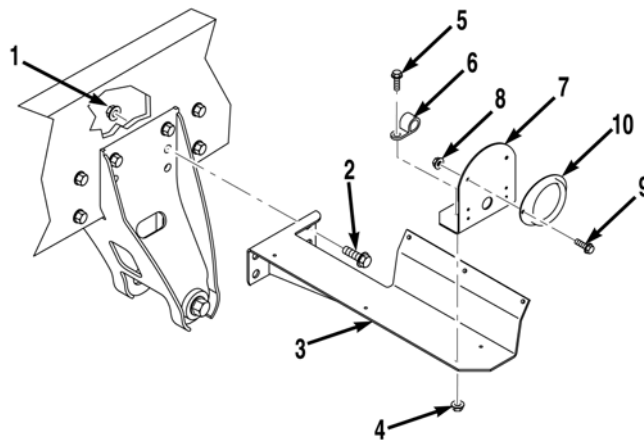
2. Install rear fender (16) on fender bracket (11) with three washers (15), screws (14), washers (13), and locknuts (12).
3. Install fender (5) on fender bracket (11) with three washers (10), screws (9), washers (8), and locknuts (7).



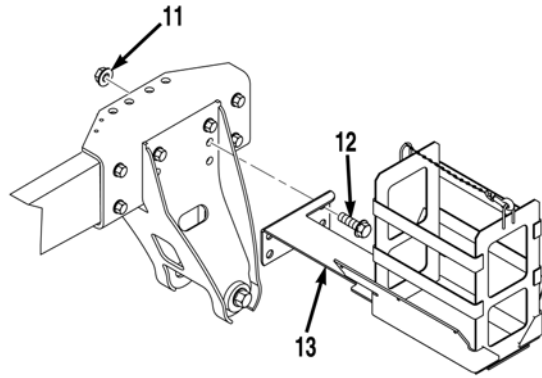
4. Install fender (5) on fender bracket (6) with three washers (4), screws (3), washers (2), and locknuts (1).
5. Repeat steps (1) through (4) to install right side fenders.

END OF TASK

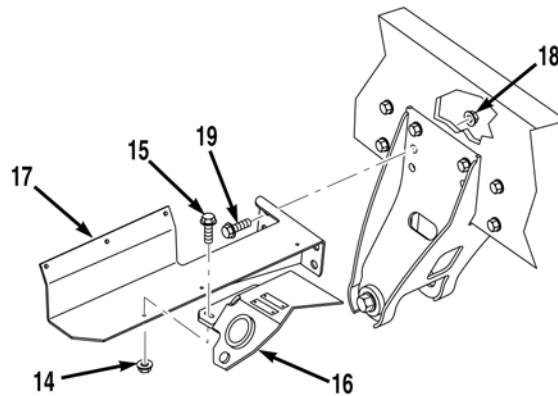
FENDER BRACKET REMOVAL



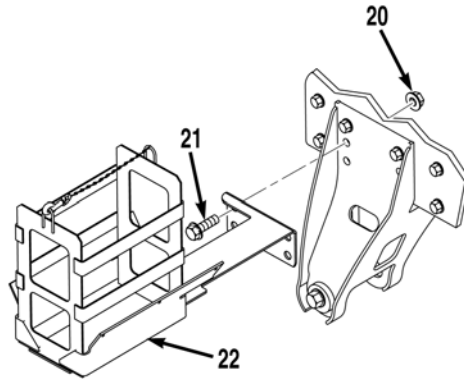
- Note position of brackets prior to removal to ensure proper installation.
 - Remove cushion clips as required.
1. Remove four locknuts (1), screws (2), and fender bracket (3) from vehicle. Discard locknuts.
 2. Remove two locknuts (4), screws (5), cushion clip (6), and light bracket (7) from fender bracket (3). Discard locknuts.
 3. Remove two locknuts (8), screws (9), and reflector (10) from light bracket (7). Discard locknuts.



4. Remove four locknuts (11), screws (12), and fender bracket (13) from vehicle. Discard locknuts.



5. Remove two locknuts (14) and screws (15) from bracket (16) and fender bracket (17). Discard locknuts.
6. Remove four locknuts (18), screws (19), and fender bracket (17) from vehicle. Discard locknuts.



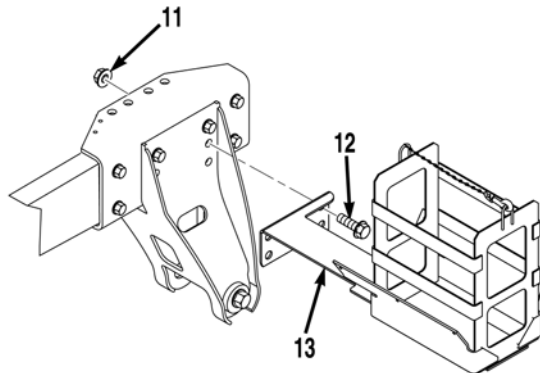
7. Remove four locknuts (20), screws (21), and fender bracket (22) from vehicle. Discard locknuts.

END OF TASK

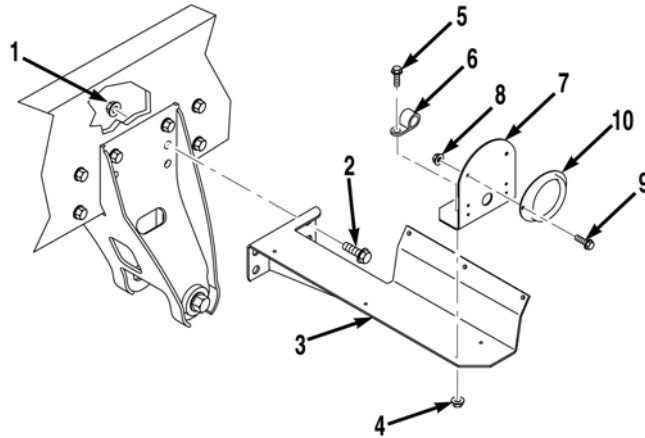
FENDER BRACKET INSTALLATION

NOTE

- Install brackets as noted prior to removal.
 - Install cushion clips as required.
1. Install fender bracket (22) on vehicle with four screws (21) and locknuts (20).
 2. Install fender bracket (17) on vehicle with four screws (19) and locknuts (18).
 3. Install fender bracket (17) on bracket (16) with two screws (15) and locknuts (14).



4. Install fender bracket (13) on vehicle with four screws (12) and locknuts (11).



5. Install reflector (10) on light bracket (7) with two screws (9) and locknuts (8).
6. Install light bracket (7) on fender bracket (3) with cushion clip (6), two screws (5), and locknuts (4).
7. Install fender bracket (3) on vehicle with four screws (2) and locknuts (1).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Install rear fender marker lights (WP 0071).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
REAR MUD FLAP REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

References

None

Materials/Parts

Locknut, (3), (WP 0184, Item 6)

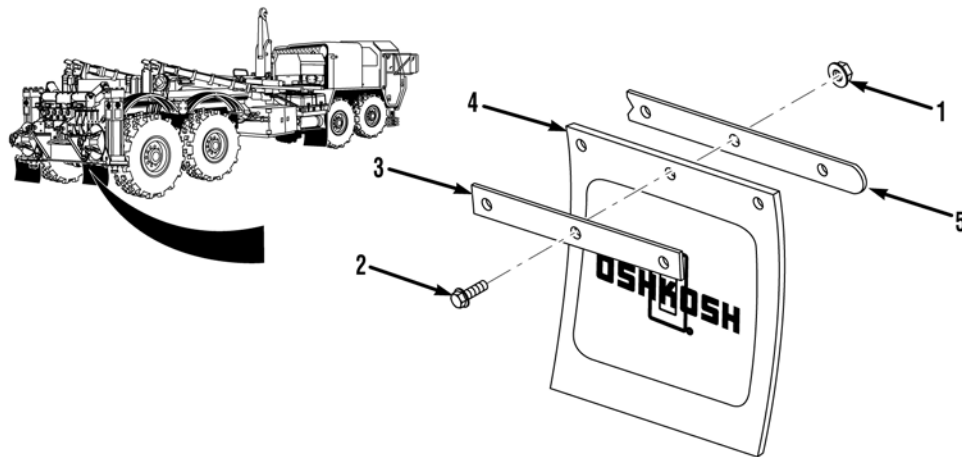
Equipment Conditions

Engine OFF (TM 9-2320-347-10)

Wheels chocked (TM 9-2320-347-10)

Personnel Required

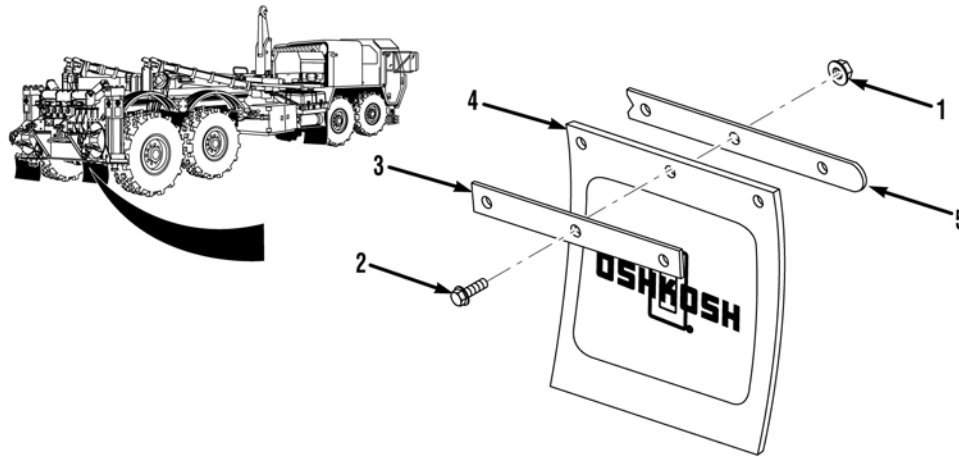
MOS 63B Wheeled vehicle mechanic

REMOVAL**NOTE**

Both rear mud flaps are removed the same way. Right side shown.

1. Remove three locknuts (1), screws (2), plate (3), and mud flap (4) from outrigger assembly (5). Discard locknuts.
2. Repeat step (1) to remove left side mud flap.

END OF TASK

INSTALLATION**NOTE**

Both rear mud flaps are installed the same way. Right side shown.

1. Install mud flap (4) on outrigger assembly (5) with plate (3), three screws (2), and locknuts (1).
2. Repeat step (1) to install left side mud flap.

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE**REAR ROLLER ASSEMBLY REFLECTOR REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

None

Personnel Required

MOS 63B Wheeled vehicle mechanic

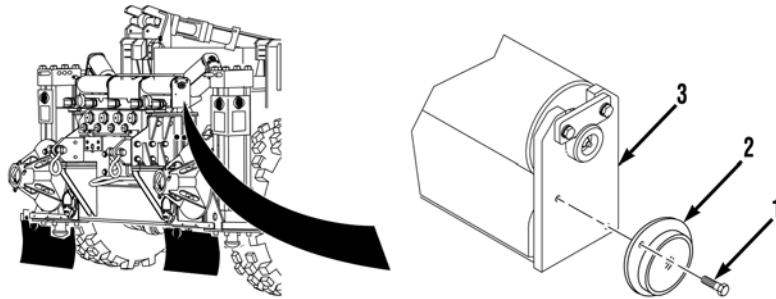
References

None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)

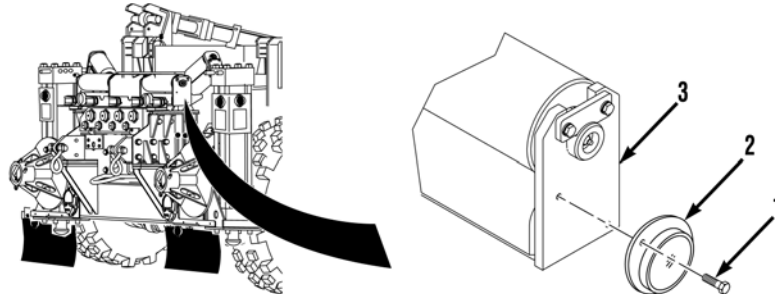
Wheels chocked (TM 9-2320-347-10)

REMOVAL**NOTE**

Both left and right reflectors are removed the same way. Right reflector shown.

1. Remove two screws (1) and reflector (2) from rear roller assembly (3).
2. Repeat step (1) to remove left side reflector.

END OF TASK

INSTALLATION**NOTE**

Both left and right reflectors are installed the same way. Right reflector shown.

1. Install reflector (2) on rear roller assembly (3) with two screws (1).
2. Repeat step (1) to install left side reflector.

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
REAR ROLLER ASSEMBLY REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Lifting Device, Minimum Capacity 2,100 lbs
(953 kg)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

References

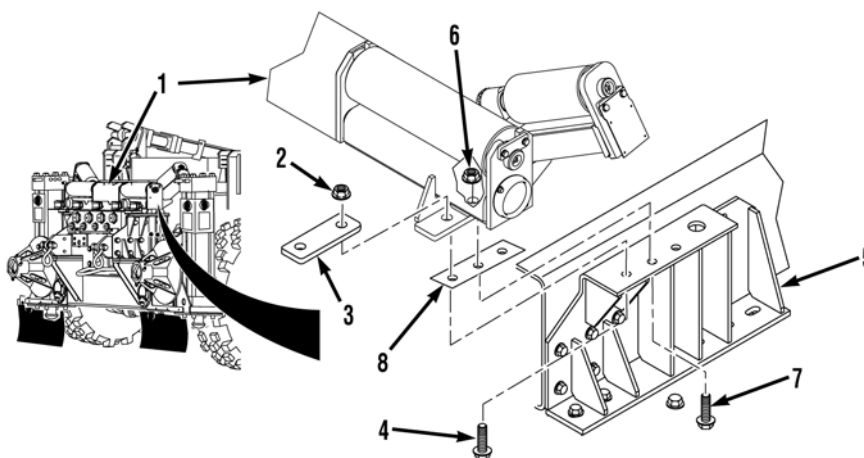
None

Materials/Parts

Locknut, (3), (WP 0184, Item 10)

Equipment Conditions

Rear light bar assembly removed (WP 0083)

REMOVAL**WARNING**

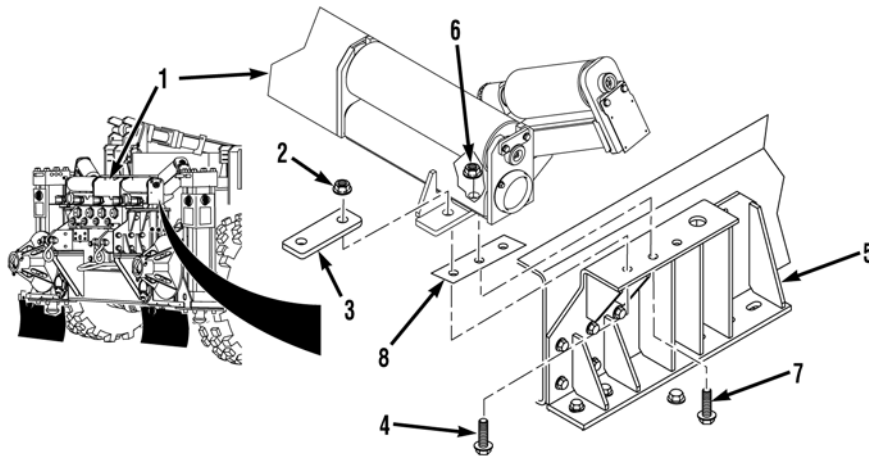
Rear roller assembly is heavy (Aprox. 329 lbs). Attach a suitable lifting device to rear roller assembly before removing. Failure to comply may result in serious injury or death to personnel.

1. Attach a suitable lifting device to rear roller assembly (1).

NOTE

Both left and right sides of rear roller assembly are removed the same way. Right side shown.

2. Remove locknut (2), bracket (3), and screw (4) from rear roller assembly (1) and bracket (5). Discard locknut.
3. Remove two locknuts (6) and screws (7) from rear roller assembly (1) and bracket (5). Discard locknuts.



4. Repeat steps (2) and (3) to remove left side of rear roller assembly (1).

NOTE

Shims may or may not be installed between rear roller assembly and mounting brackets.

5. Using a suitable lifting device, Soldier A and Soldier B remove rear roller assembly (1) and shims (8) from bracket (5) and vehicle.

END OF TASK

INSTALLATION

WARNING

Rear roller assembly is heavy (Aprox. 329 lbs). Attach a suitable lifting device to rear roller assembly before installing. Failure to comply may result in serious injury or death to personnel.

1. Attach a suitable lifting device to rear roller assembly (1).
2. Using suitable lifting device, Soldier A and Soldier B place shims (8) and rear roller assembly (1) on vehicle.

NOTE

Both left and right sides of rear roller assembly are installed the same way. Right side shown.

3. Install rear roller assembly (1) on bracket (5) with two screws (7) and locknuts (6).
4. Install bracket (3) and rear roller assembly (1) on bracket (5) with screw (4) and locknut (2).
5. Repeat steps (3) and (4) to install left side of rear roller assembly.

CAUTION

The MRP should be 0.25 in (0.64 cm) from top of horizontal rollers when MRP is in transport position, and MRP should be touching horizontal rollers when in launch position. Remove or install shims as required between rear roller assembly and bracket if needed. Failure to comply may result in damage to equipment.

6. If needed, remove or install shims (8) as required between rear roller assembly (1) and bracket (5).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install rear light bar assembly (WP 0083).

END OF TASK

END OF WORK PACKAGE

.FIELD LEVEL MAINTENANCE

SHOCK MOUNT BRACKET REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

References

None

Materials/Parts

Locknut, (2), (WP 0184, Item 8)

Equipment Conditions

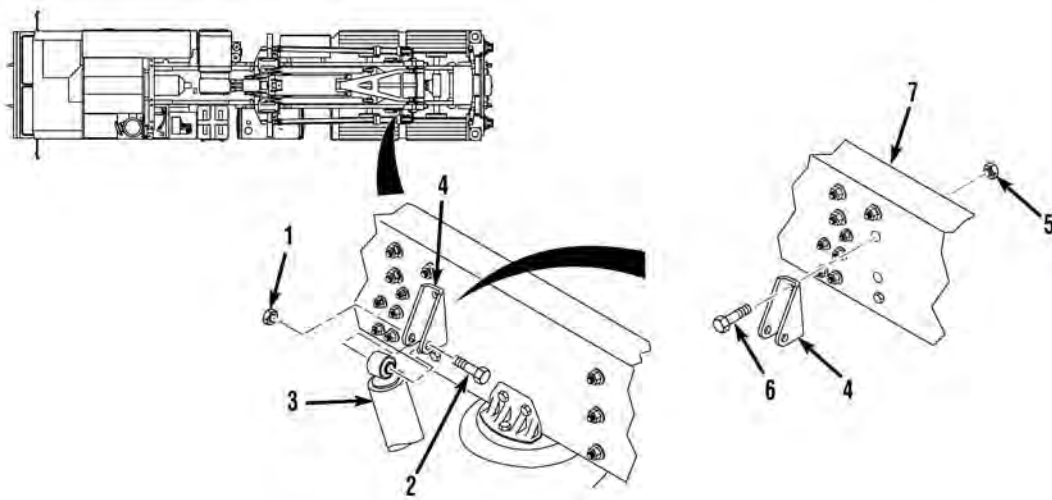
Engine OFF (TM 9-2320-347-10)

Wheels chocked (TM 9-2320-347-10)

Personnel Required

MOS 63B Wheeled vehicle mechanic

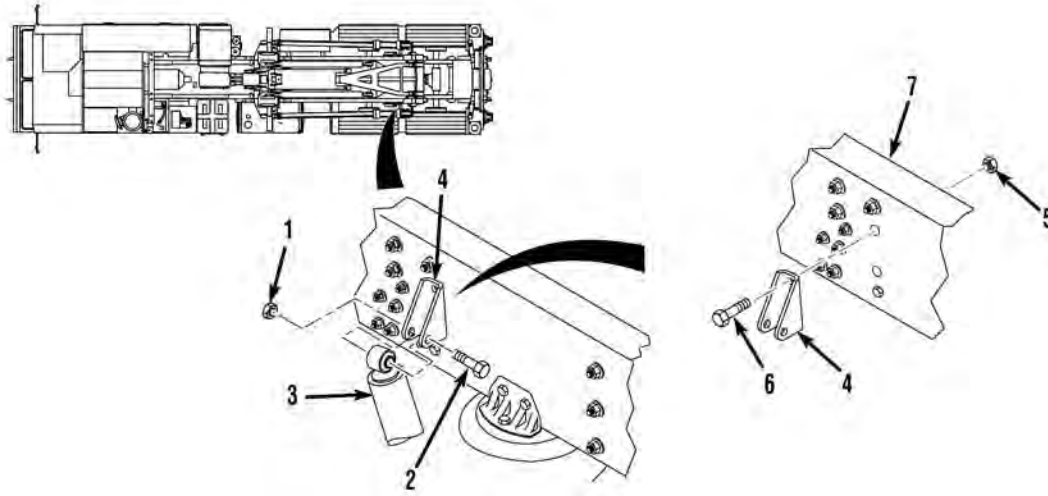
REMOVAL

**NOTE**

All shock mounts are removed the same way. Left side shown.

1. Remove nut (1), screw (2), and shock (3) from shock mount (4).
2. Remove two locknuts (5), screws (6), and shock mount (4) from frame rail (7). Discard locknuts.

END OF TASK

INSTALLATION**NOTE**

All shock mounts are installed the same way. Left side shown.

1. Install shock mount (4) on frame rail (7) with two screws (6) and locknuts (5).
2. Install shock (3) on shock mount (4) with screw (2) and nut (1).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE

SLIDE STEP AND BRACKET REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (4), (WP 0184, Item 15)
 Locknut, (15), (WP 0184, Item 53)
 Locknut, (1), (WP 0184, Item 40)
 Locknut, (2), (WP 0184, Item 55)
 Locknut, (2), (WP 0184, Item 58)
 Pin, Cotter, (2), (WP 0184, Item 47)
 Pin, Cotter, (2), (WP 0184, Item 63)
 Pin, Cotter, (2), (WP 0184, Item 135)

Personnel Required

MOS 63B Wheeled vehicle mechanic

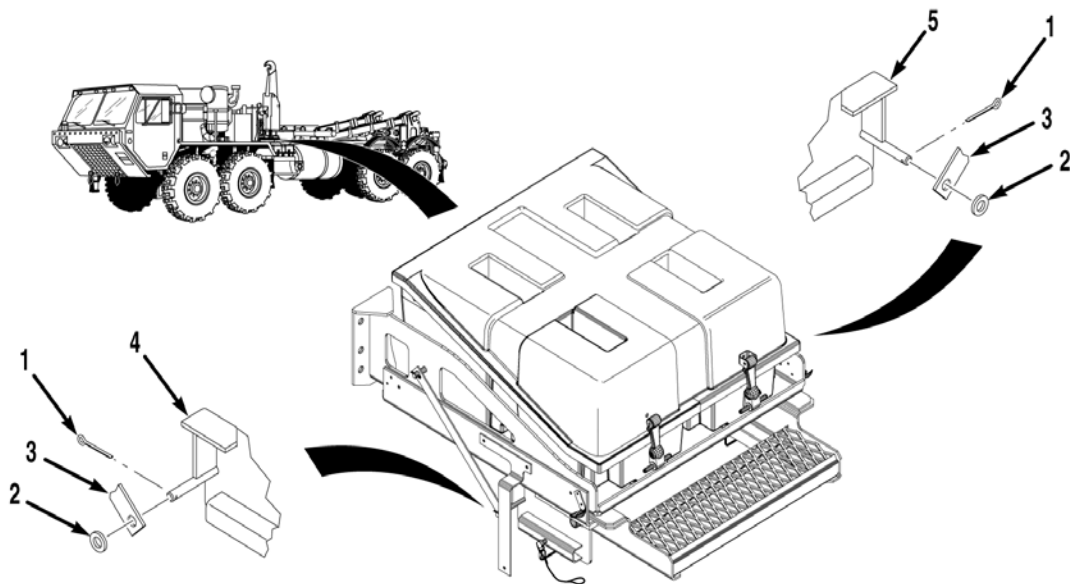
References

None

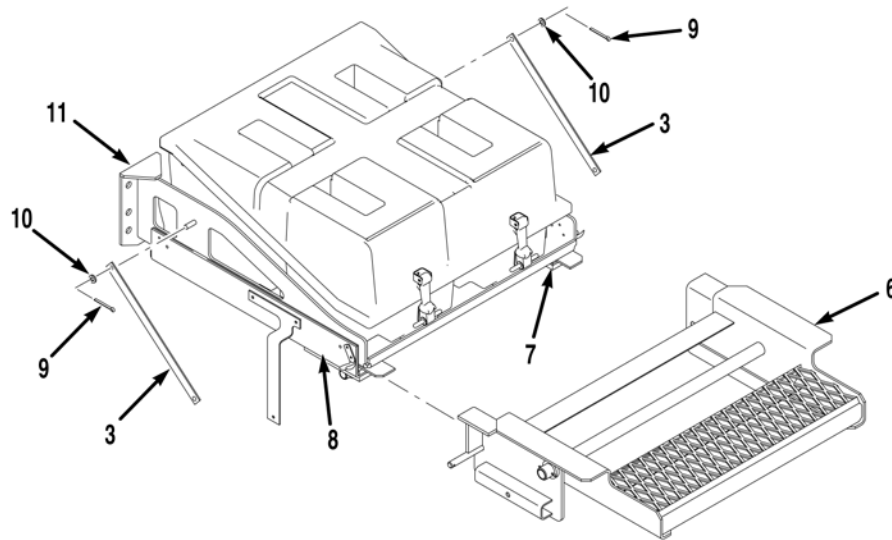
Equipment Conditions

Engine OFF (TM 9-2320-347-10)
 Generator step removed (WP 0008)

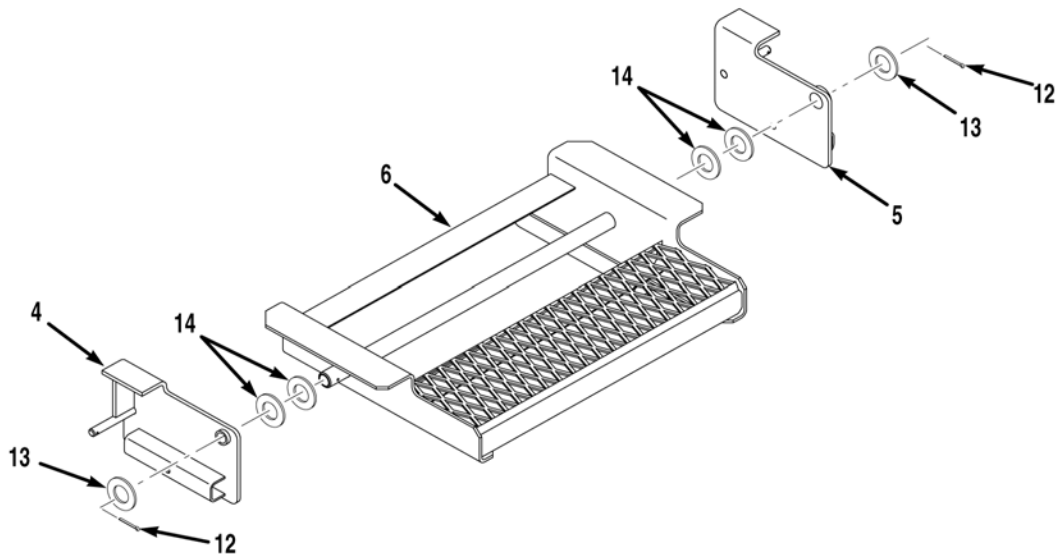
REMOVAL



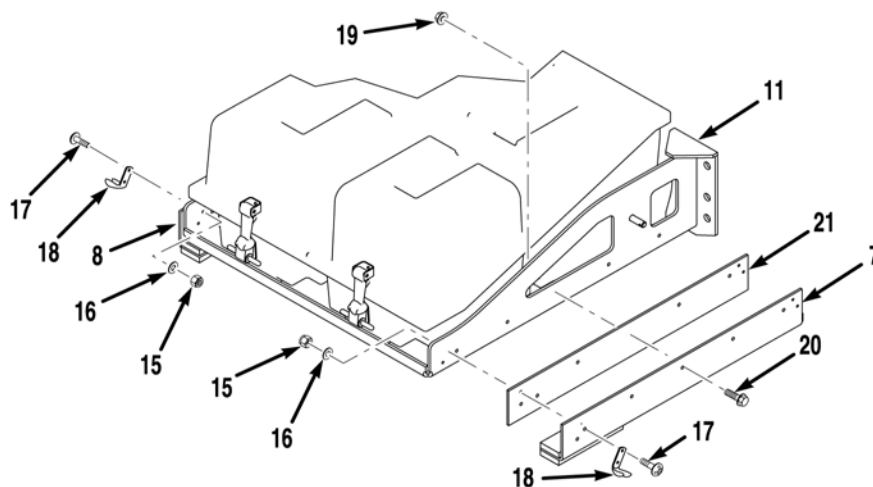
1. Remove two cotter pins (1), washers (2), and plates (3) from platform step mounting brackets (4 and 5). Discard cotter pins.



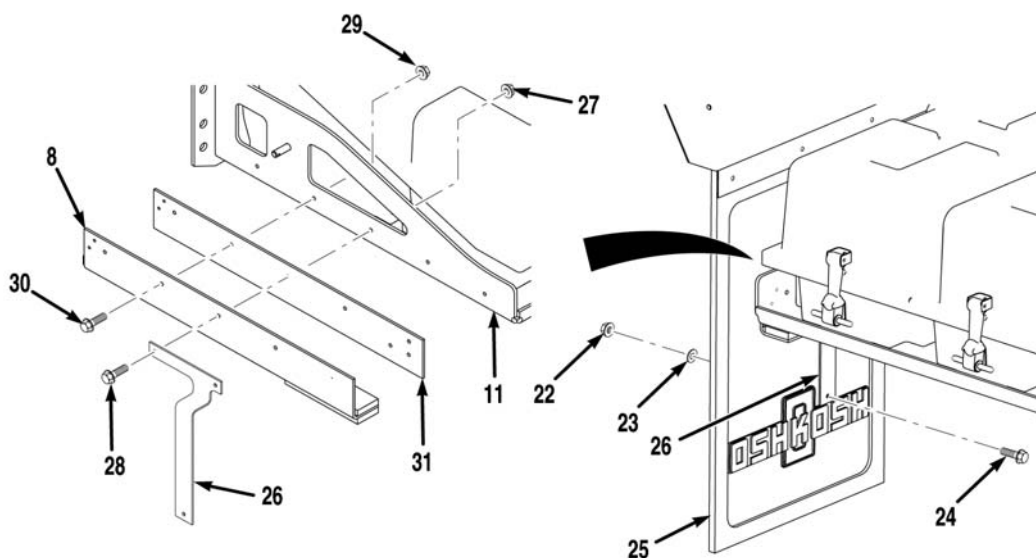
2. Remove slide step (6) from two slide step brackets (7 and 8).
3. Remove two cotter pins (9), washers (10), and plates (3) from battery box support bracket (11). Discard cotter pins.



4. Remove two cotter pins (12), washers (13), platform step mounting brackets (4 and 5), and four washers (14) from slide step (6). Discard cotter pins.



5. Remove four locknuts (15), washers (16), screws (17), and two hook brackets (18) from slide step brackets (7 and 8). Discard locknuts.
6. Remove five locknuts (19), screws (20), platform guide (21), and rear slide step bracket (7) from battery box support bracket (11). Discard locknuts.

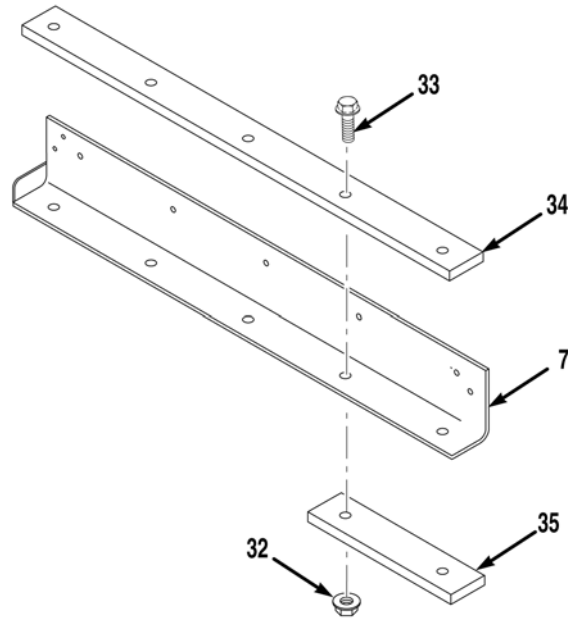


7. Remove locknut (22), washer (23), screw (24), and mud flap (25) from mud flap anti-sail bracket (26). Discard locknut.
8. Remove two locknuts (27), screws (28), and mud flap anti-sail bracket (26) from front slide step bracket (8). Discard locknuts.

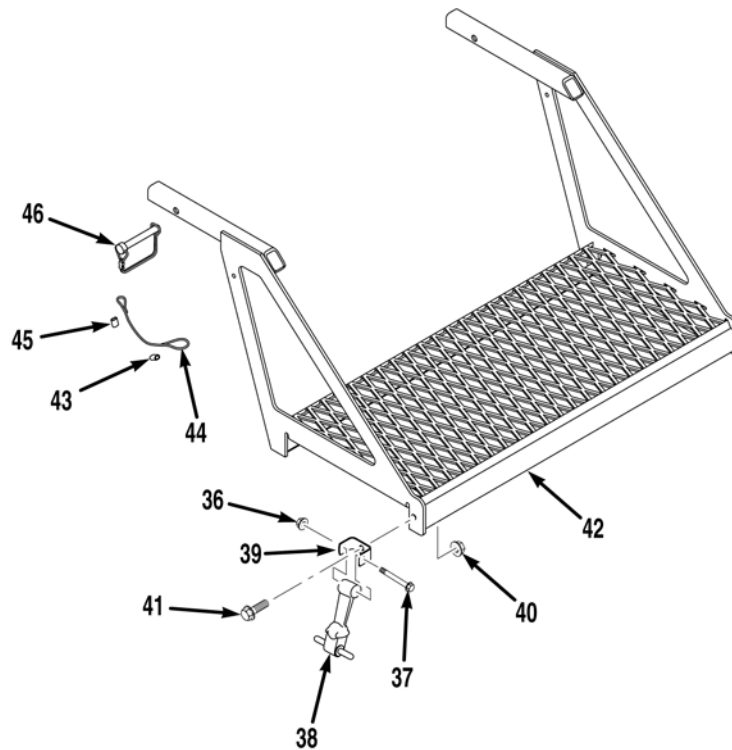
NOTE

Note position of screws prior to removal to ensure proper installation.

9. Remove three locknuts (29), screws (30), platform guide (31), and front slide step bracket (8) from battery box support bracket (11). Discard locknuts.



10. Remove five locknuts (32), screws (33), platform guide (34), and platform guide (35) from rear slide step bracket (7). Discard locknuts.
11. Repeat step (10) for front slide step bracket (8).

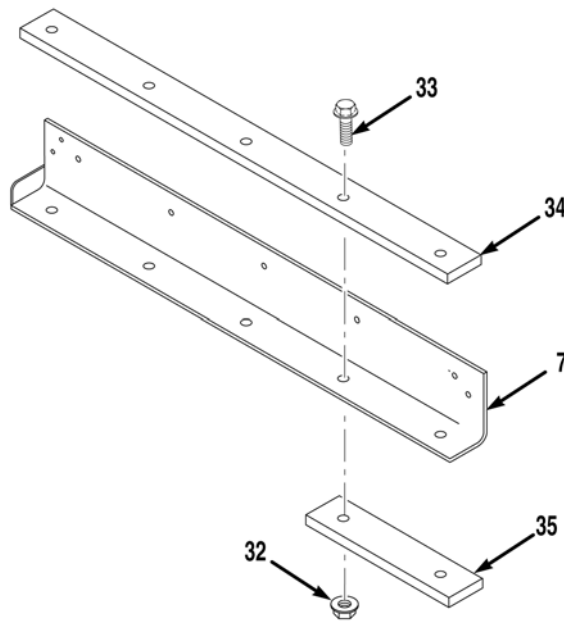


12. Remove two locknuts (36), screws (37), and hooks (38) from brackets (39). Discard locknuts.
13. Remove two locknuts (40), screws (41), and brackets (39) from step (42). Discard locknuts.
14. Remove two swaging sleeves (43) and wire ropes (44) from step (42).
15. Remove two swaging sleeves (45) and snapper pins (46) from wire ropes (44).

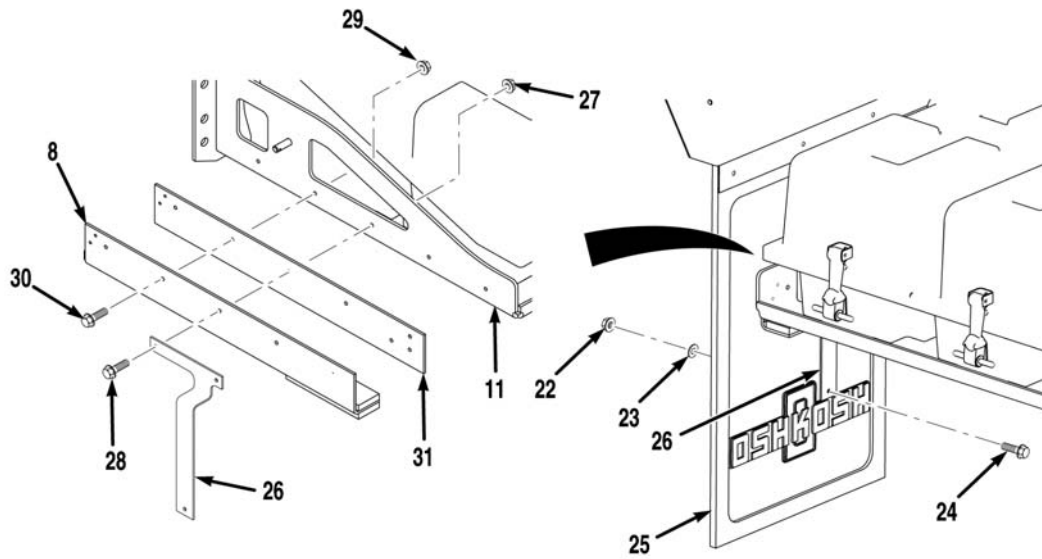
END OF TASK

INSTALLATION

1. Install two snapper pins (46) on wire ropes (44) with swaging sleeves (45).
2. Install two wire ropes (44) on step (42) with two swaging sleeves (43).
3. Install two brackets (39) on step (42) with two screws (41) and locknuts (40).
4. Install two hooks (38) on brackets (39) with screws (37) and locknuts (36).



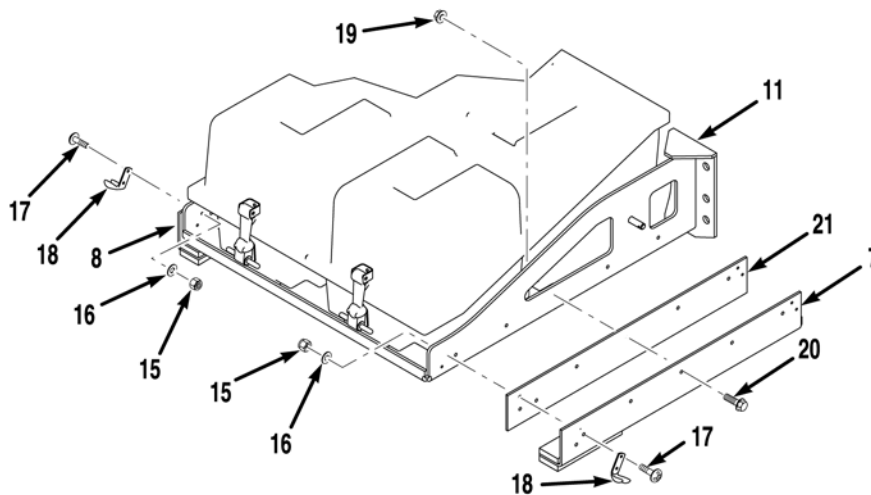
5. Install platform guide (35) and platform guide (34) on rear step bracket (7) with five screws (33) and locknuts (32).



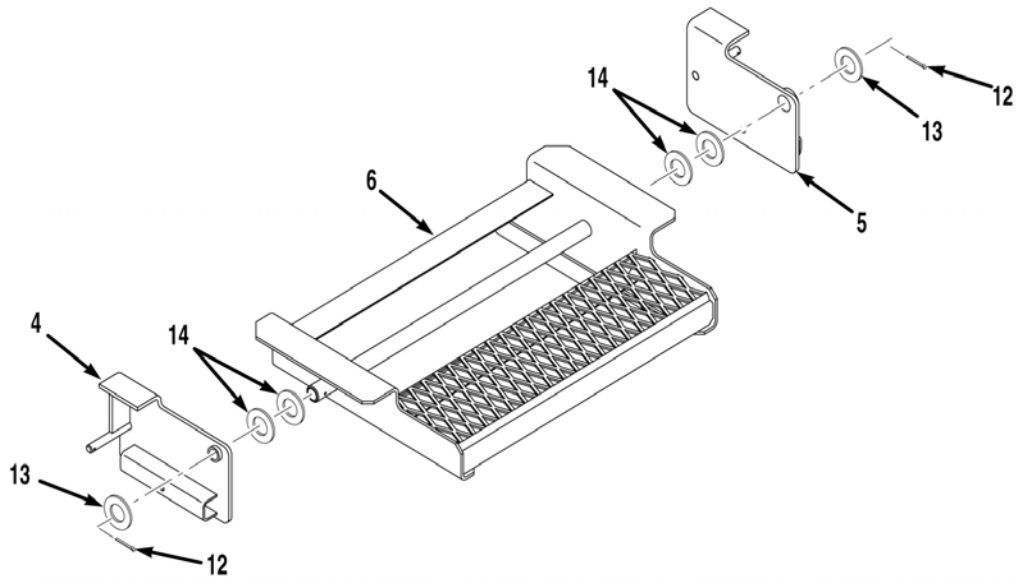
NOTE

Install screws as noted prior to removal.

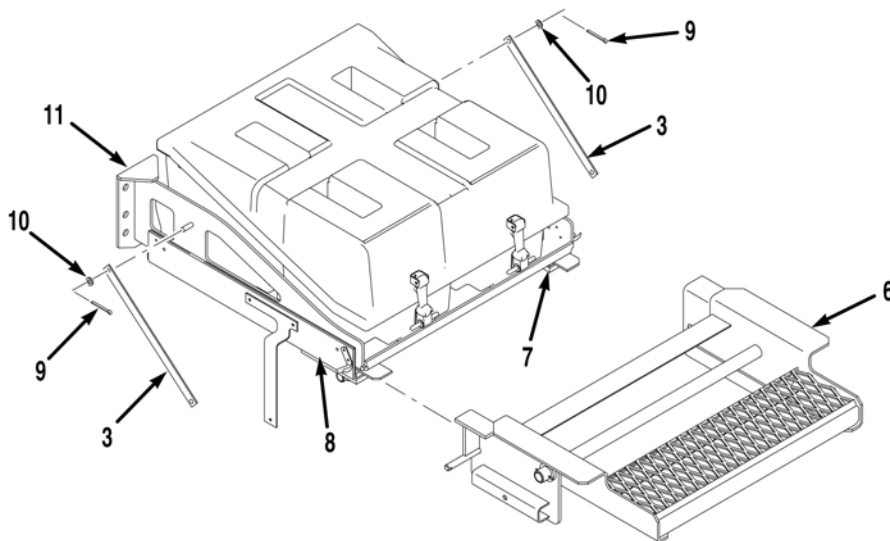
6. Repeat step (5) for front slide step bracket (8).
7. Install front slide step bracket (8) and platform guide (31) on battery box support bracket (11) with three screws (30) and locknuts (29).
8. Install mud flap anti-sail bracket (26) on front slide step bracket (8) with two screws (28) and locknuts (27).
9. Install mud flap (25) on mud flap anti-sail bracket (26) with screw (24), washer (23), and locknut (22).



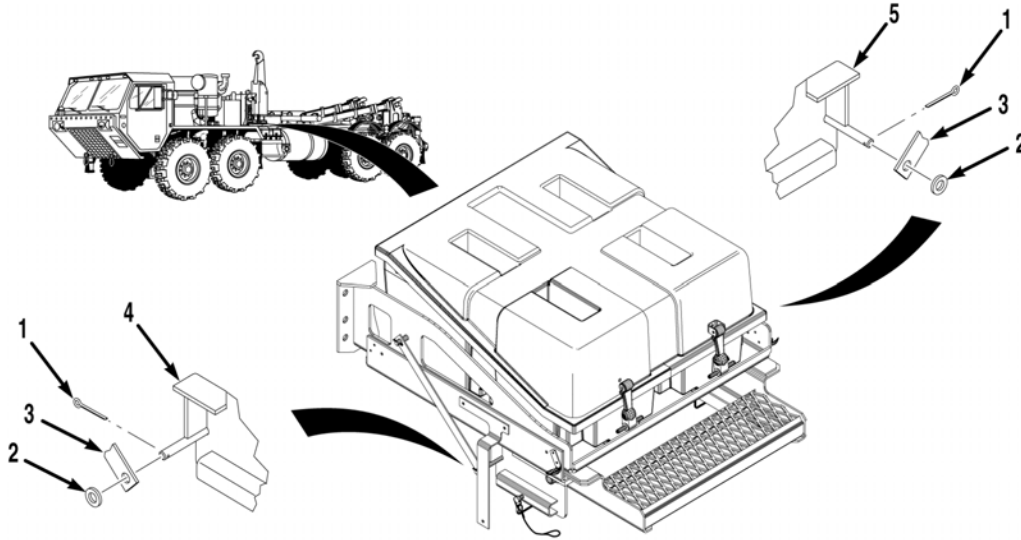
10. Install rear slide step bracket (7) and platform guide (21) on battery box support bracket (11) with five screws (20) and locknuts (19).
11. Install two hook brackets (18) on slide step brackets (7 and 8) with four screws (17), washers (16), and locknuts (15).



12. Install four washers (14) and two platform step mounting brackets (4 and 5) on slide step (6) with two washers (13) and cotter pins (12).



13. Install two plates (3) on battery box support bracket (11) with two washers (10) and cotter pins (9).
14. Install slide step (6) on two slide step brackets (7 and 8).



15. Install two plates (3) on platform step mounting brackets (4 and 5) with washers (2) and cotter pins (1).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install generator step (WP 0008).

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
SPLASH GUARDS REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (5), (WP 0184, Item 56)
Locknut, (1), (WP 0184, Item 145)
Locknut, (15), (WP 0184, Item 145)

Personnel Required

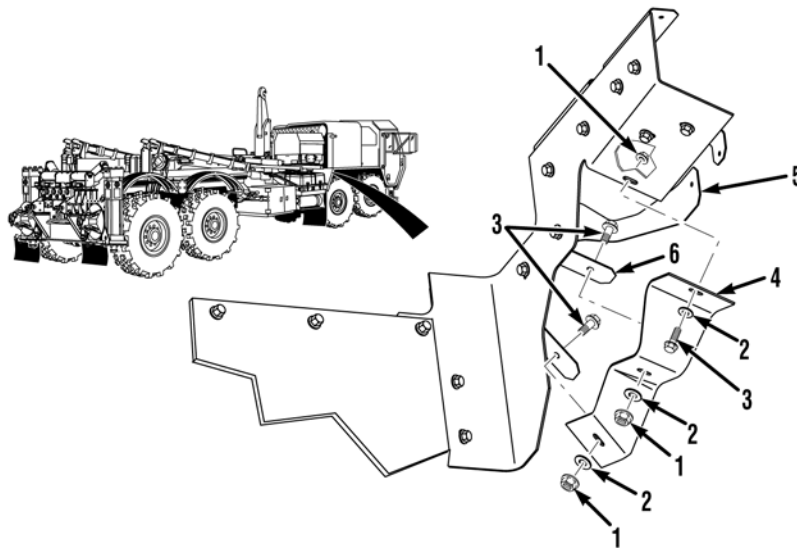
MOS 63B Wheeled vehicle mechanic

References

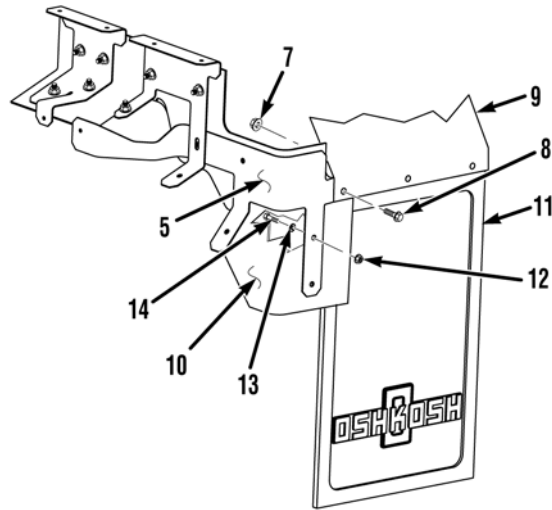
None

Equipment Conditions

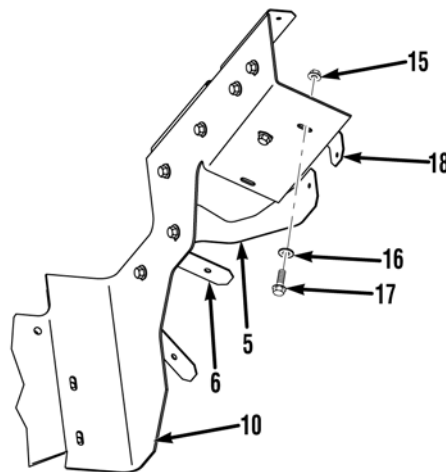
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

REMOVAL

1. Remove three locknuts (1), washers (2), screws (3), and rubber sheet (4) from mounting bracket (5) and mounting bracket (6). Discard locknuts.



2. Remove locknut (7) and screw (8) from fender (9), mounting bracket (5), splash guard (10), and mud flap (11). Discard locknut.
3. Remove two locknuts (12), washers (13), and screws (14) from mounting bracket (5) and splash guard (10). Discard locknuts.

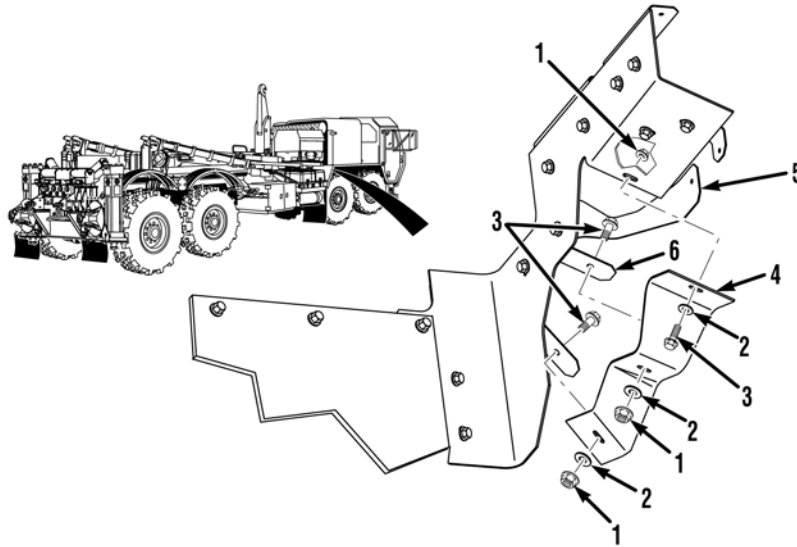


4. Remove eight locknuts (15), washers (16), screws (17), and splash guard (10) from mounting bracket (5), mounting bracket (6), and mounting bracket (18). Discard locknuts.

END OF TASK

INSTALLATION

1. Install splash guard (10) on mounting bracket (18), mounting bracket (6), and mounting bracket (5) with eight screws (17), washers (16), and locknuts (15).
2. Secure splash guard (10) to mounting bracket (5) with two screws (14), washers (13), and locknuts (12).
3. Install mud flap (11), splash guard (10), and mounting bracket (5) on fender (9) with screw (8) and locknut (7).



4. Install rubber sheet (4) on mounting bracket (5) and mounting bracket (6) with three screws (3), washers (2), and locknuts (1).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
STOWAGE BOX (BII) REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Lifting Device, Minimum Capacity 200 lbs
(91 kg)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Gasket, (2), (WP 0184, Item 30)
Locknut, (10), (WP 0184, Item 17)
Locknut, (8), (WP 0184, Item 8)

Personnel Required

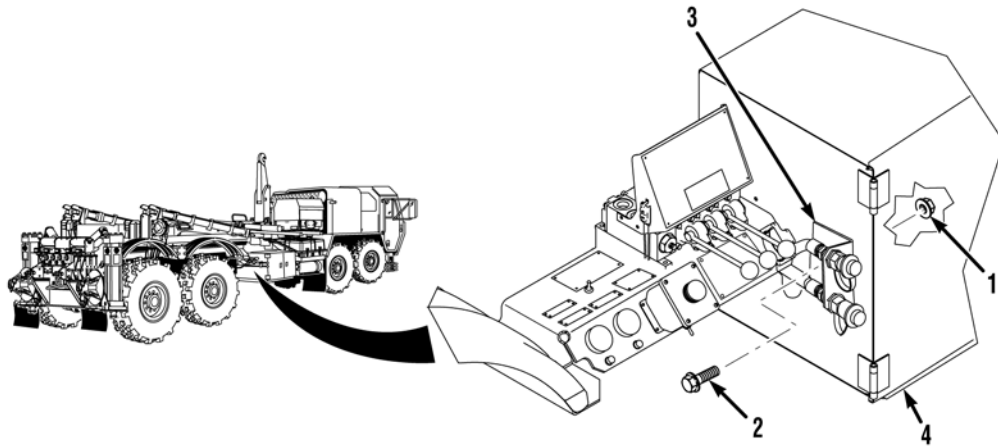
MOS 63B Wheeled vehicle mechanic (2)

References

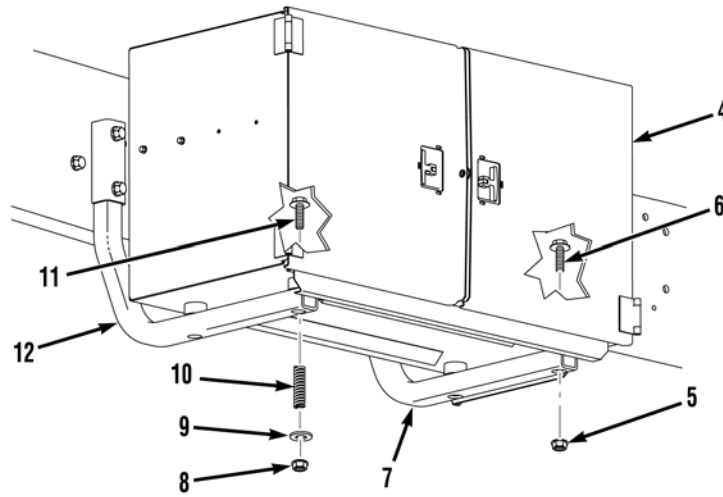
None

Equipment Conditions

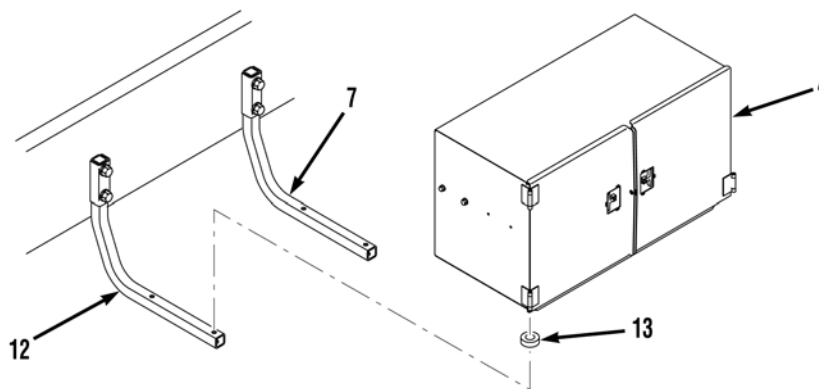
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

REMOVAL

1. Remove two locknuts (1), screws (2), and bracket (3) from stowage box (4). Discard locknuts.



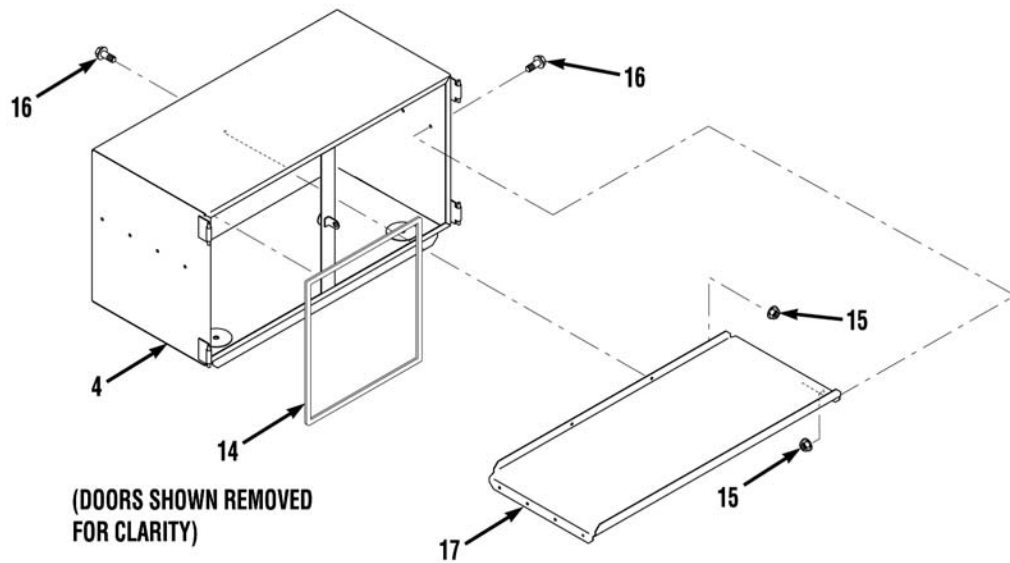
2. Remove two locknuts (5) and screws (6) from stowage box (4) and right-hand bracket (7). Discard locknuts.
3. Remove two locknuts (8), washers (9), springs (10), and screws (11) from stowage box (4) and left-hand bracket (12). Discard locknuts.



WARNING

Stowage box weighs 130 lbs (59 kg). Do not attempt to lift stowage box without the aid of Soldier B and a suitable lifting device. Failure to comply may result in serious injury to personnel.

4. Attach suitable lifting device to stowage box (4).
5. With the aid of a suitable lifting device, Soldier A and Soldier B remove stowage box (4) and four snubbers (13) from right-hand bracket (7) and left-hand bracket (12).

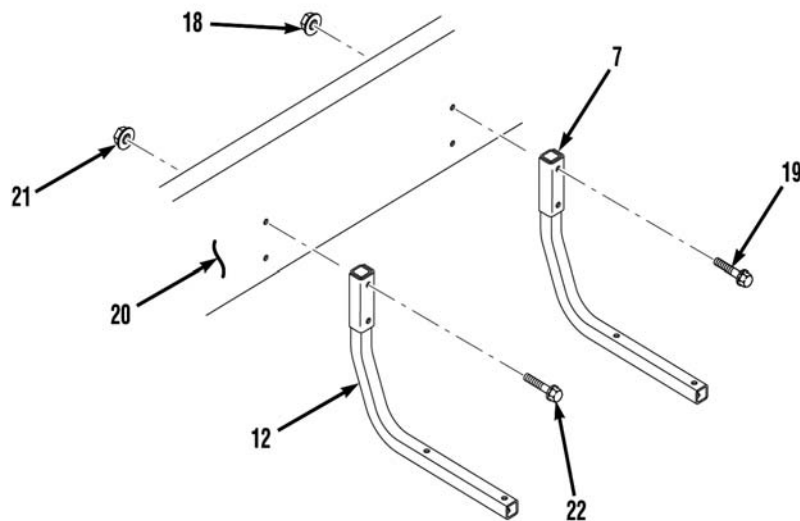


6. Remove two gaskets (14) from stowage box (4). Discard gaskets.

NOTE

Note position of screws prior to removal to ensure proper installation.

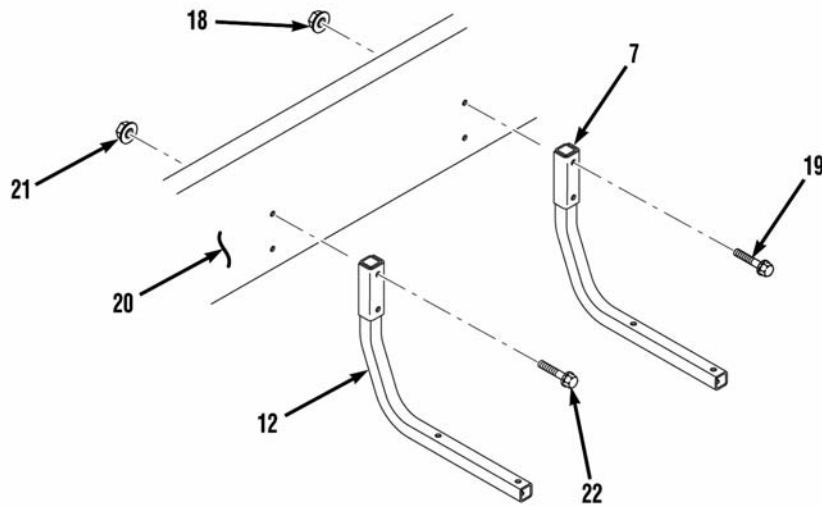
7. Remove eight locknuts (15), screws (16), and shelf (17) from stowage box (4). Discard locknuts.



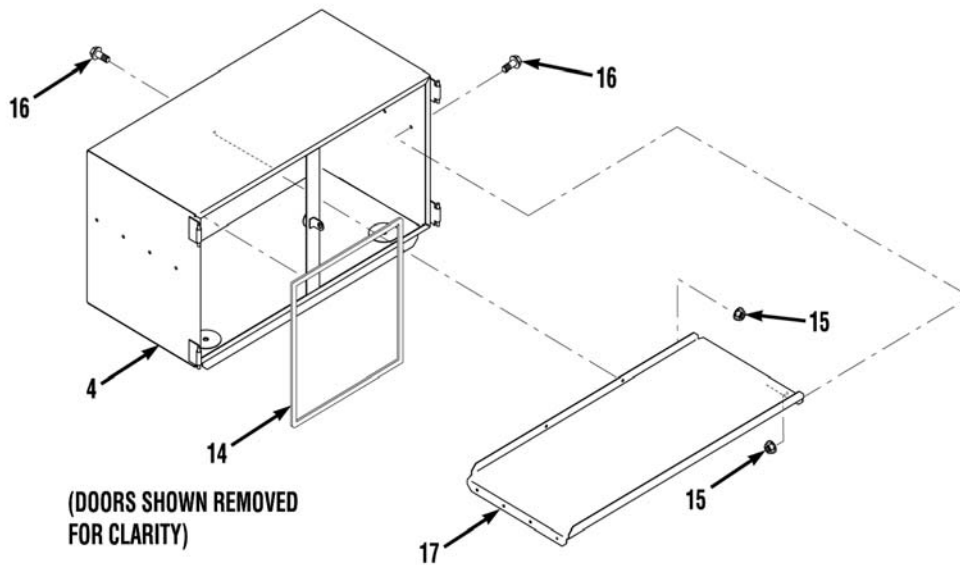
8. Remove two locknuts (18), screws (19), and right-hand bracket (7) from frame rail (20). Discard locknuts.
9. Remove two locknuts (21), screws (22), and left-hand bracket (12) from frame rail (20). Discard locknuts.

END OF TASK

INSTALLATION

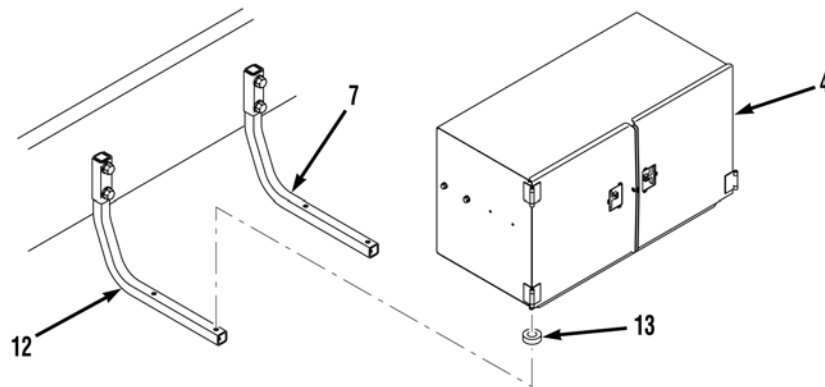


1. Install left-hand bracket (12) on frame rail (20) with two screws (22) and locknuts (21).
2. Install right-hand bracket (7) on frame rail (20) with two screws (19) and locknuts (18).

**NOTE**

Install screws as noted prior to removal.

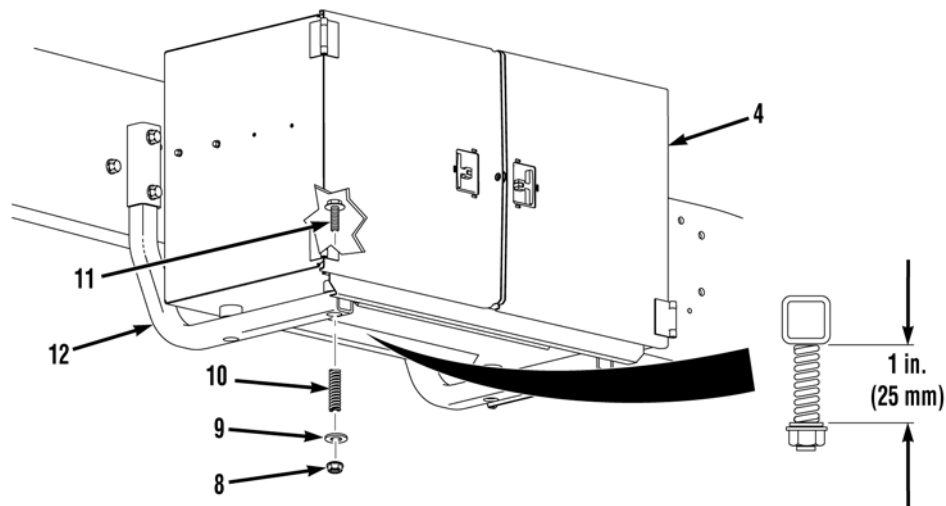
3. Install shelf (17) in stowage box (4) with eight screws (16) and locknuts (15).
4. Install two gaskets (14) on stowage box (4).



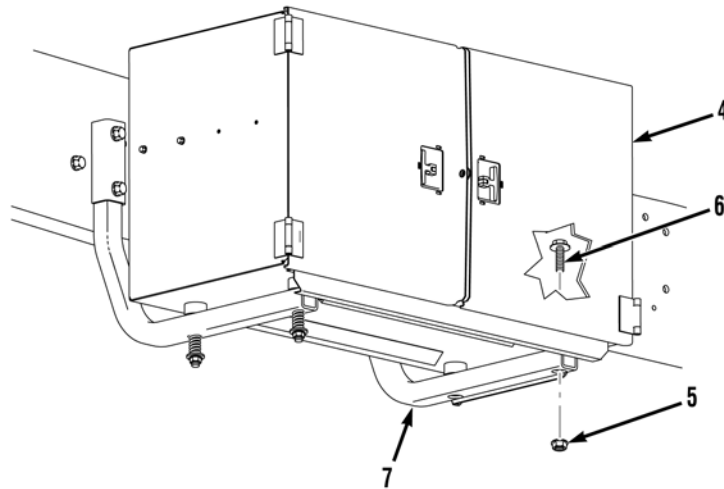
WARNING

Stowage box weighs 130 lbs (59 kg). Do not attempt to lift stowage box without the aid of Soldier B and a suitable lifting device. Failure to comply may result in serious injury to personnel.

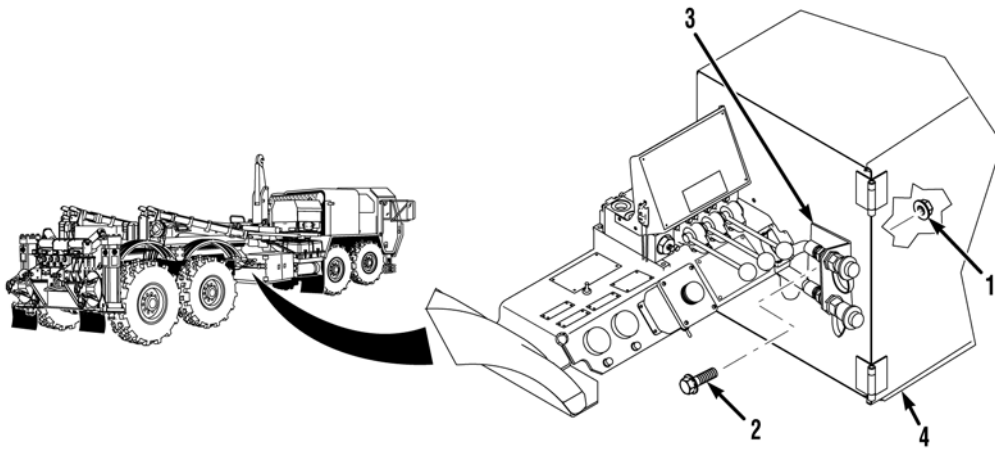
5. Attach suitable lifting device to stowage box (4).
6. With the aid of a suitable lifting device, Soldier A and Soldier B position four snubbers (13) and stowage box (4) on right-hand bracket (7) and left-hand bracket (12).



7. Install stowage box (4) on left-hand bracket (12) with two screws (11), springs (10), washers (9), and locknuts (8). Tighten locknuts (8) until spring height is 1 in. (25 mm).



8. Install stowage box (4) on right-hand bracket (7) with two screws (6) and locknuts (5).
9. Remove suitable lifting device from stowage box (4).



10. Install bracket (3) on stowage box (4) with two screws (2) and locknuts (1).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
FUEL LEVEL SENDING UNIT REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Compound, Sealing, Pipe Thread (WP 0186,
Item 15)
Gasket, (1), (WP 0184, Item 116)
Lockwasher, (1), (WP 0184, Item 46)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

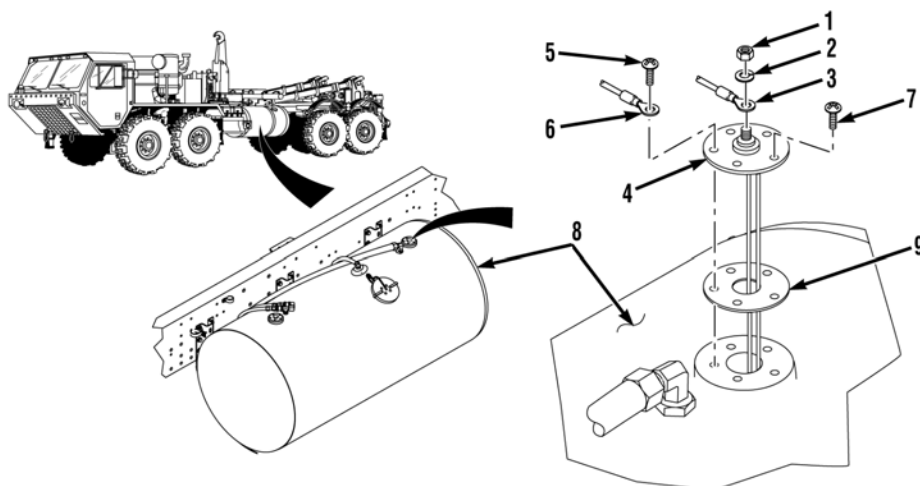
MOS 63B Wheeled vehicle mechanic

References

None

Equipment Conditions

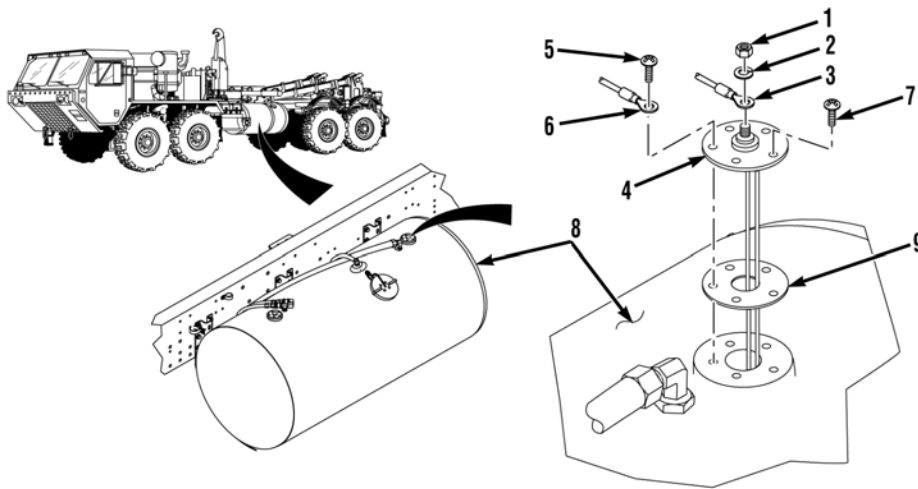
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Batteries disconnected TM 9-2320-325-14&P
Left isolator stop bracket removed (WP 0100)

REMOVAL**WARNING**

Fuel is very flammable and can explode easily. To avoid serious injury or death, keep fuel away from open fire and keep fire extinguisher within easy reach when working with fuel. Do not work on fuel system when engine is hot. Fuel can be ignited by hot engine. When working with fuel, post signs that read NO SMOKING WITHIN 50 FEET.

NOTE

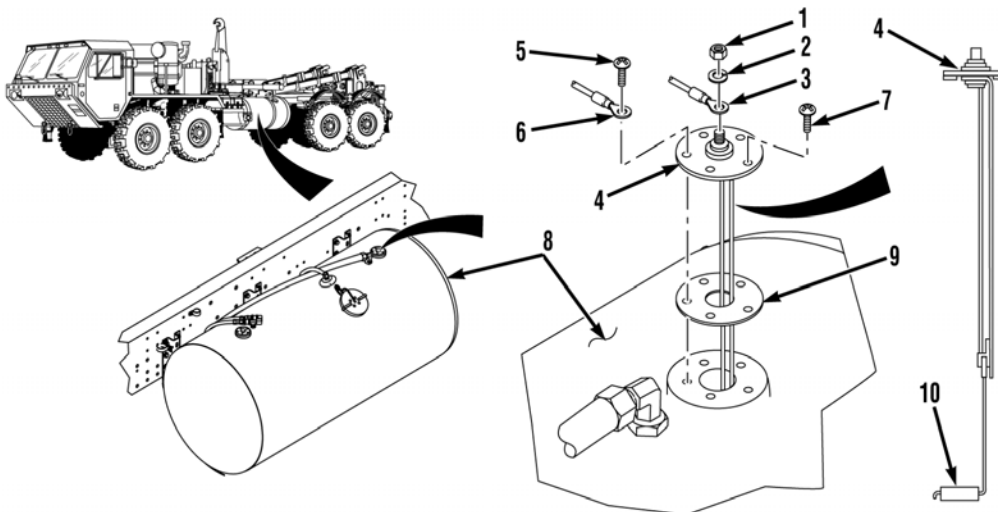
- Tag and mark wires prior to removal to ensure proper installation.
 - Remove cable ties as required.
 - Both fuel level sending units are removed the same way. Right side shown.
1. Remove nut (1), lockwasher (2), and wire (3) from fuel level sending unit (4). Discard lockwasher.



2. Remove screw (5) and wire 1435 (6) from fuel level sending unit (4).
3. Remove four screws (7) and fuel level sending unit (4) from fuel tank (8).
4. Remove gasket (9) from fuel level sending unit (4) and fuel tank (8). Discard gasket.

END OF TASK

INSTALLATION



WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

NOTE

- Both fuel level sending units are installed the same way. Right side shown.
 - Install cable ties as required.
1. Coat both sides of gasket (9) with sealing compound.
 2. Slide gasket (9) over float (10), and install gasket (9) on fuel level sending unit (4).

NOTE

Aline holes in fuel level sending unit with holes in fuel tank.

3. Install fuel level sending unit (4) on fuel tank (8) with four screws (7).
4. Install wire 1435 (6) on fuel level sending unit (4) with screw (5).
5. Install wire (3) on fuel level sending unit (4) with lockwasher (2) and nut (1).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Install left isolator stop bracket (WP 0100).
2. Connect batteries (TM 9-2320-325-14&P).
3. Check operation of fuel level sending unit (TM 9-2320-347-10)
4. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
FUEL/WATER SEPARATOR GUARD

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (4), (WP 0184, Item 21)

Personnel Required

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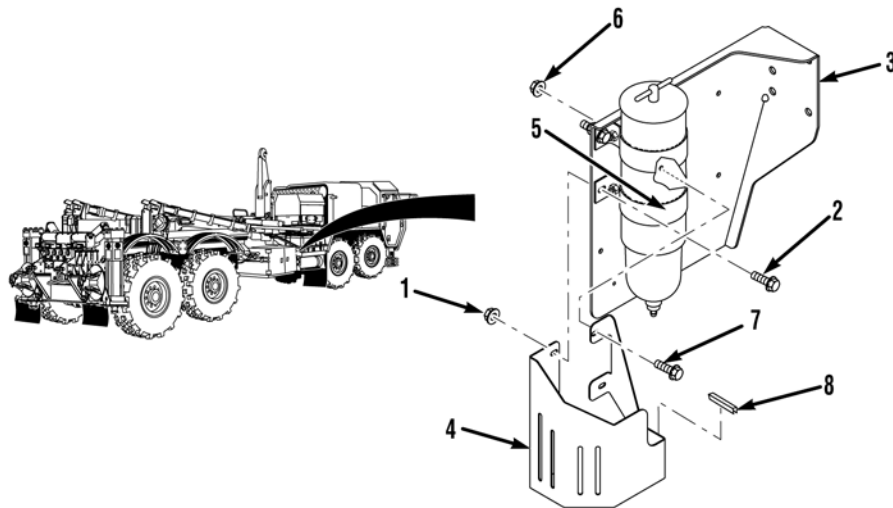
References

None

Equipment Conditions

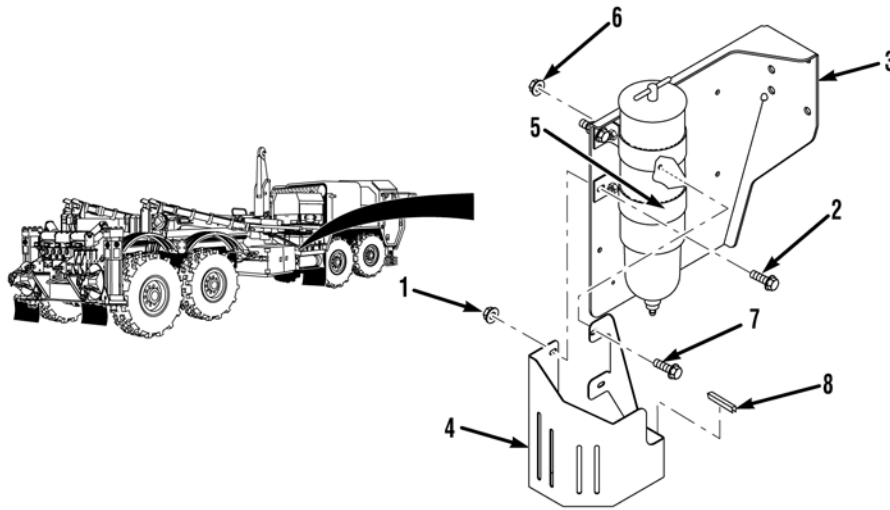
Engine OFF (TM 9-2320-347-10)

Wheels chocked (TM 9-2320-347-10)

REMOVAL

1. Remove two locknuts (1) and screw (2) from bracket (3), guard (4), and clamp (5). Discard locknuts.
2. Remove two locknuts (6), screws (7), and guard (4) from bracket (3). Discard locknuts.
3. Remove quickedge (8) from guard (4).

END OF TASK

INSTALLATION

1. Install quickedge (8) on guard (4).
2. Install guard (4) on bracket (3) with two screws (7) and locknuts (6).
3. Install clamp (5) and guard (4) on bracket (3) with two screws (2) and locknut (1).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
GENERATOR FUEL SUPPLY LINE REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (4), (WP 0184, Item 26)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

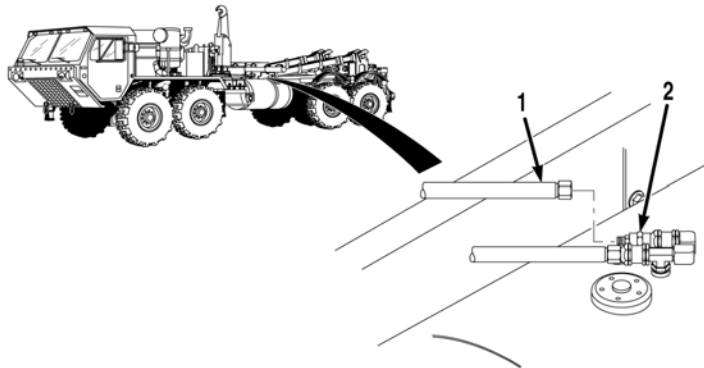
MOS 63B Wheeled vehicle mechanic

References

None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

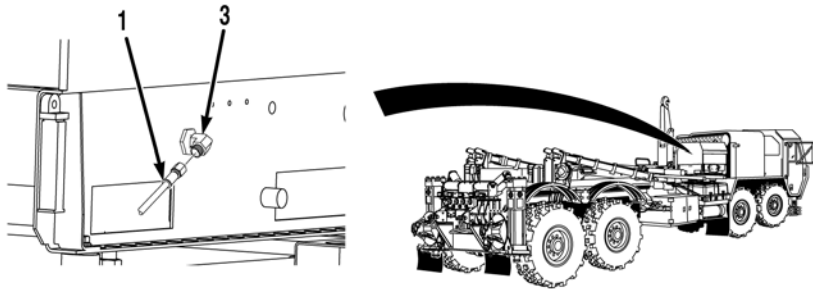
REMOVAL**WARNING**

The fuels in this generator set are highly explosive. Do not smoke or use open flame when performing maintenance. Flames and explosion could result in serious injury or death to personnel.

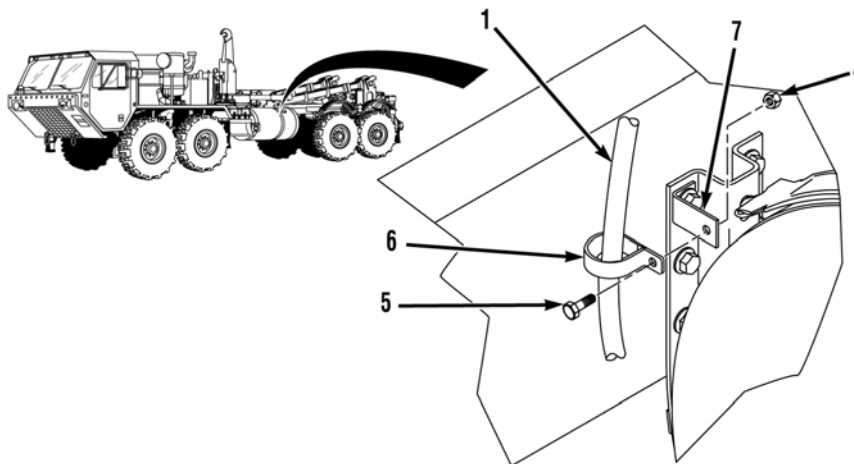
NOTE

- Generator must be shut down and cooled prior to removal of fuel supply line.
- Tag and mark fuel lines prior to removal to ensure proper installation.
- Cap and plug fuel lines and fittings upon removal.
- Remove cable ties as required.

1. Remove fuel supply line (1) from fitting (2).



2. Remove fuel line supply (1) from generator fitting (3).



3. Remove locknut (4), screw (5), and cushion clip (6) from bracket (7). Discard locknut.

NOTE

Note routing of fuel supply line prior to removal to ensure proper installation.

4. Remove fuel supply line (1) from cushion clip (6) and vehicle.

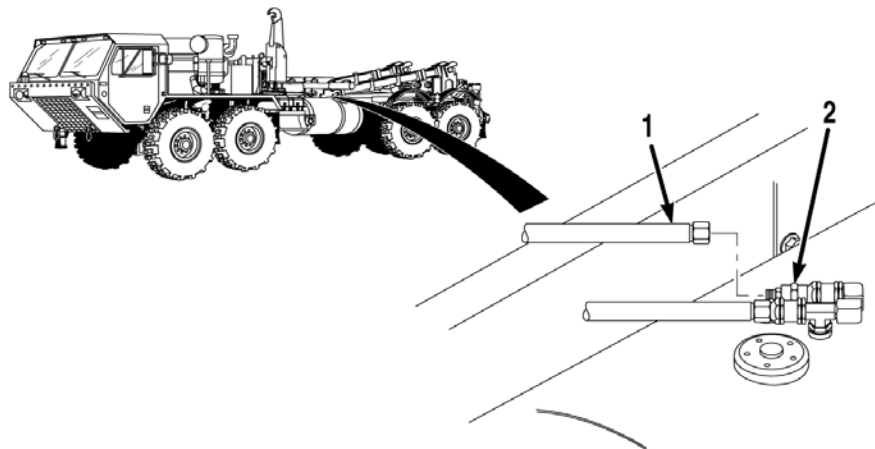
END OF TASK

INSTALLATION**WARNING**

The fuels in this generator set are highly explosive. Do not smoke or use open flame when performing maintenance. Flames and explosion could result in serious injury or death to personnel.

NOTE

- Route fuel supply line as noted prior to removal.
 - Install cable ties as required.
1. Install fuel supply line (1) in cushion clip (6).
 2. Install cushion clip (6) on bracket (7) with screw (5) and locknut (4).
 3. Install fuel supply line (1) on generator fitting (3).



4. Install fuel supply line (1) on fitting (2).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE**HYDRAULIC FLUID FILTER ASSEMBLY AND BRACKET REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Pan, Drain (WP 0183, Item 10)
Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Locknut, (2), (WP 0184, Item 7)
Lockwasher, (4), (WP 0184, Item 60)
Packing, Preformed, (2), (WP 0184, Item 119)
Tags, Identification (WP 0186, Item 32)

Personnel Required

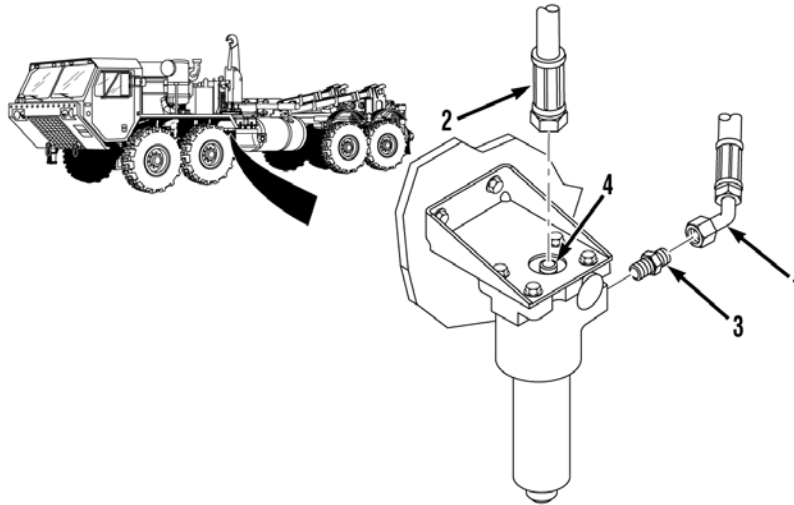
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References

(TM 9-2320-325-14&P)

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

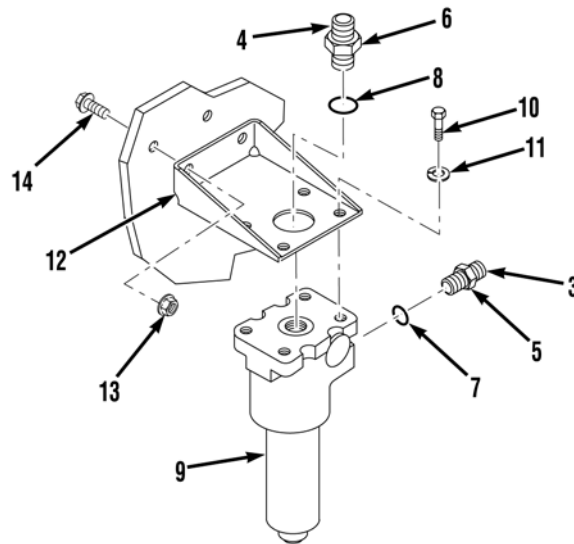
REMOVAL**WARNING**

The THAAD hydraulic system operates at oil pressure up to 3,250 psi (22,409 kPa). Never disconnect any hydraulic line or fitting without first dropping pressure to zero. Failure to comply may result in serious injury or death to personnel.

NOTE

- Position drain pan under hydraulic lines and fittings being removed.
- Tag and mark hydraulic lines prior to removal to ensure proper installation.
- Cap and plug hydraulic lines upon removal.
- Perform steps (1) through (4) to remove hydraulic filter assembly and bracket.
- Perform step (5) for hydraulic filter disassembly, cleaning/inspection, and assembly.

1. Remove two hoses (1 and 2) from two fittings (3 and 4).



2. Loosen two nuts (5 and 6) and remove fittings (3 and 4) and preformed packings (7 and 8) from hydraulic filter (9). Discard preformed packings.
3. Remove four screws (10), lockwashers (11), and hydraulic filter (9) from bracket (12). Discard lockwashers.

NOTE

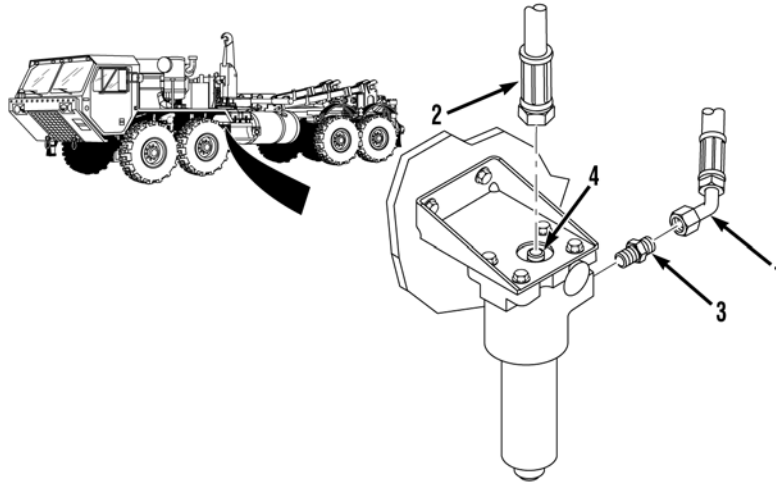
Perform step (4) if bracket needs to be removed.

4. Remove two locknuts (13), screws (14), and bracket (12) from vehicle. Discard locknuts.
5. Refer to Crane Hydraulic Fluid Filter Assembly and Mounting Bracket Removal/Repair/Installation (TM 9-2320-325-14&P), for hydraulic filter disassembly, cleaning/inspection, and assembly.

END OF TASK

INSTALLATION

1. Install bracket (12) on vehicle with two screws (14) and locknuts (13).
2. Install hydraulic filter (9) on bracket (12) with four lockwashers (11) and screws (10).
3. Lightly lubricate two preformed packings (7 and 8) with clean oil and install two preformed packings (7 and 8) and fittings (3 and 4) on hydraulic filter (9) and tighten two nuts (5 and 6).



4. Install two hoses (1 and 2) on fittings (3 and 4).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
HYDRAULIC HOSE REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

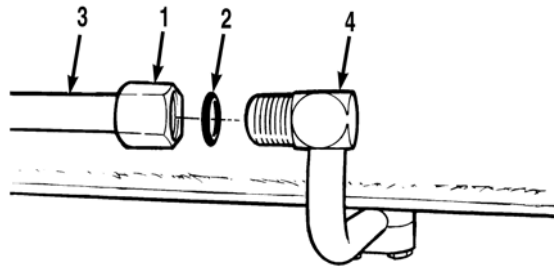
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References

TM 9-2320-325-14&P

Equipment Conditions

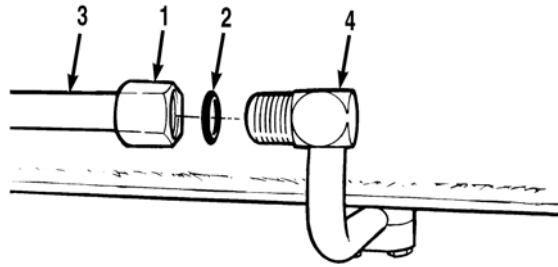
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Hydraulic reservoir drained (WP 0120) (Only
when replacing reservoir lines)

TYPICAL HYDRAULIC COUPLING REMOVAL**NOTE**

- This procedure only shows location of THAAD hydraulic lines. Refer to TM 9-2320-325-14&P for vehicle hydraulic lines. It will never be necessary to remove all hydraulic lines at once.
 - Hydraulic lines are connected with compression fittings or preformed packings. Fitting from which hydraulic line is being removed or installed can be an elbow, tee, adapter on a valve, other hydraulic component or hydraulic line. All compression fittings are removed and installed the same way. Elbow fitting is shown.
 - Tag and mark hydraulic lines prior to removal to ensure proper installation.
 - Cap and plug hydraulic lines upon removal.
 - Remove and install cable ties as required.
1. Loosen fitting (1) and remove preformed packing (2) and hose (3) from elbow (4).

END OF TASK

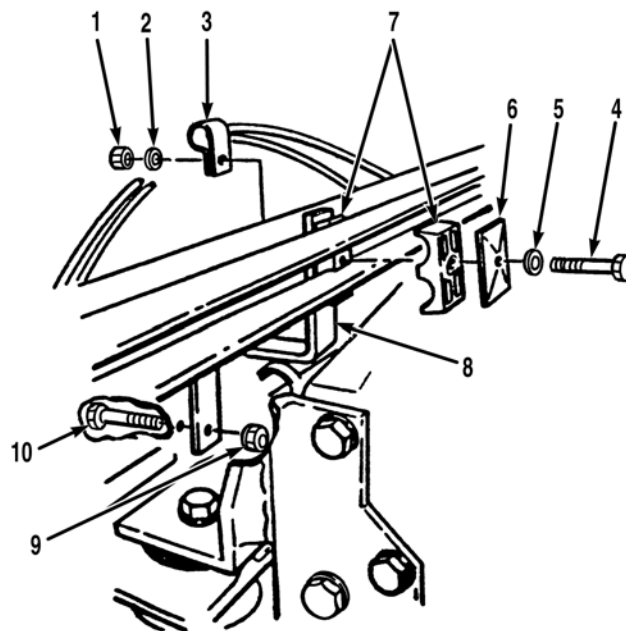
TYPICAL HYDRAULIC COUPLING INSTALLATION



1. Install preformed packing (2) and hose (3) on elbow (4) and tighten fitting (1).

END OF TASK

TYPICAL CLIP, CLAMP, AND BRACKET REMOVAL



NOTE

- All clips, clamps, and brackets are removed and installed the same way.
 - Mark position of brackets.
1. Remove locknut (1), washer (2), cushion clip (3), screw (4), washer (5), plate (6), and two clamps (7) from bracket (8).
 2. Remove two nuts (9), screws (10), and bracket (8) from vehicle.

END OF TASK

TYPICAL CLIP, CLAMP, AND BRACKET INSTALLATION

1. Install bracket (8) on vehicle with two screws (10) and nuts (9).
2. Install two clamps (7) and plate (6) on bracket (8) with washer (5), screw (4), cushion clip (3), washer (2), and locknut (1).

END OF TASK

Table 1. Hydraulic Hose Replacement.

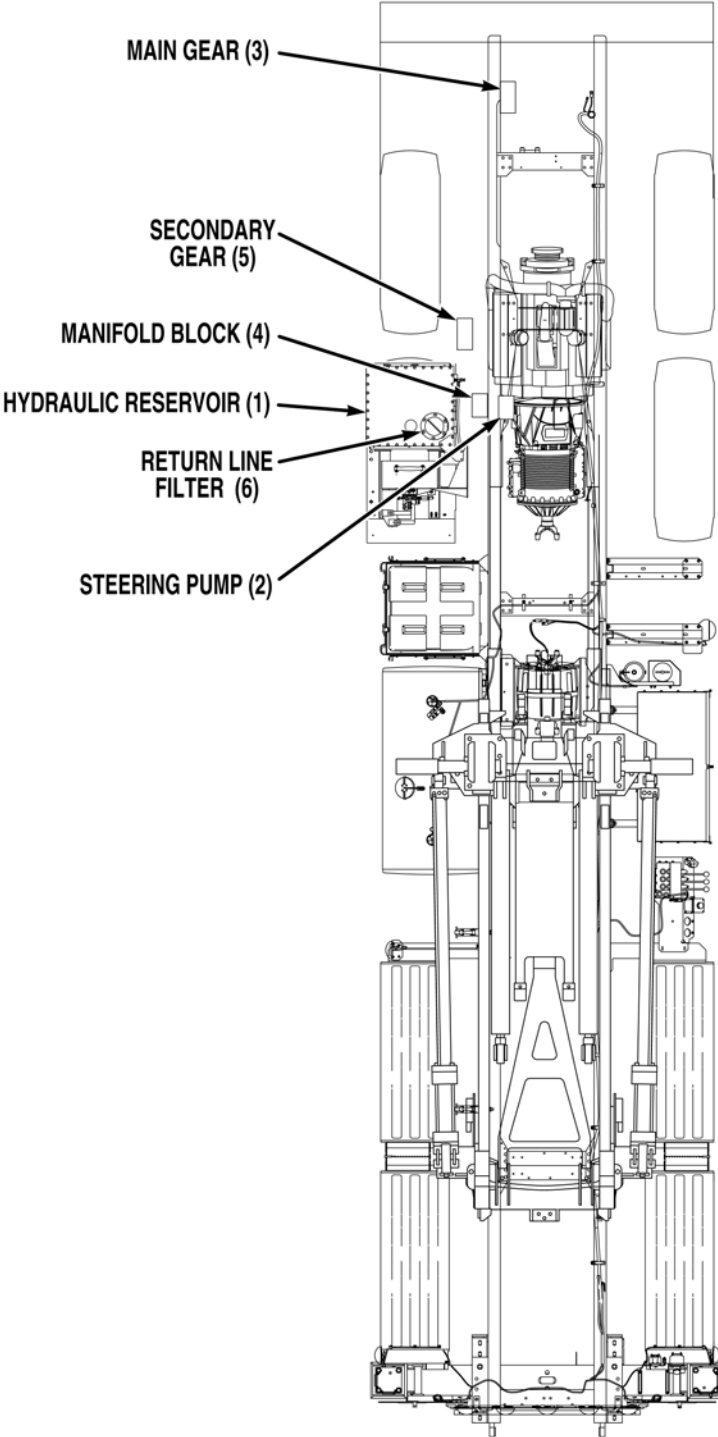
Line No.	From	To
		

Table 1. Hydraulic Hose Replacement. (Continued)

Line No.	From	To
2278	Hydraulic Reservoir (1)	Steering Pump (2)
2301	Steering Pump (2)	Main Gear (3)
2277	Steering Pump (2)	Manifold Block (4)
2878	Main Gear (3)	Secondary Gear (5)
2877	Main Gear (3)	Secondary Gear (5)
2319	Main Gear (3)	Secondary Gear (5)
2302	Secondary Gear (5)	Manifold Block (4)
2883	Manifold Block (4)	Return Line Filter (6)

Table 1. Hydraulic Hose Replacement. (Continued)

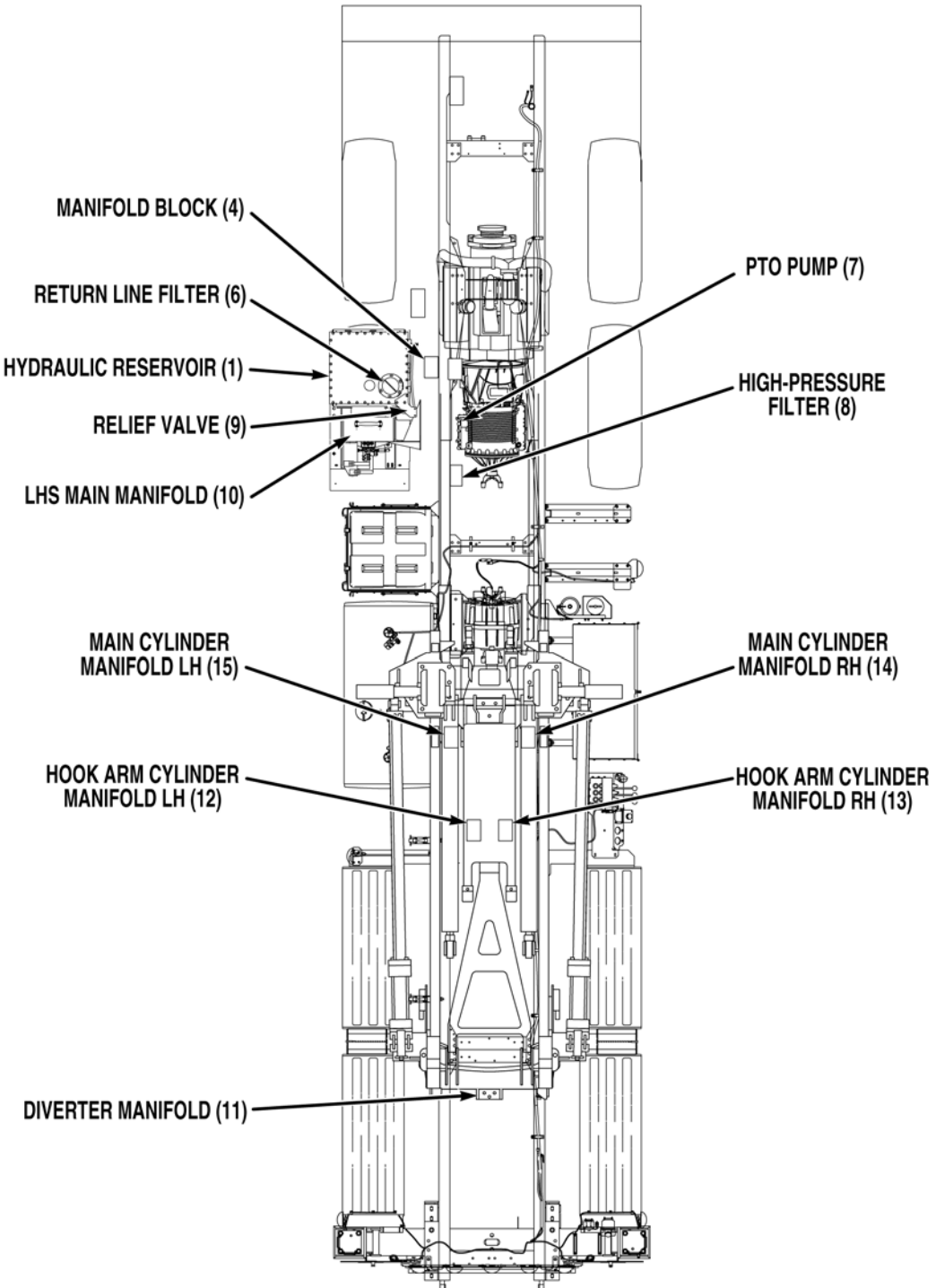
Line No.	From	To
		
	MANIFOLD BLOCK (4)	
	RETURN LINE FILTER (6)	
	HYDRAULIC RESERVOIR (1)	
	RELIEF VALVE (9)	
	LHS MAIN MANIFOLD (10)	
	PTO PUMP (7)	
	HIGH-PRESSURE FILTER (8)	
	MAIN CYLINDER MANIFOLD LH (15)	
	MAIN CYLINDER MANIFOLD RH (14)	
	HOOK ARM CYLINDER MANIFOLD LH (12)	
	HOOK ARM CYLINDER MANIFOLD RH (13)	
	DIVERTER MANIFOLD (11)	

Table 1. Hydraulic Hose Replacement. (Continued)

Line No.	From	To
2278	Hydraulic Reservoir (1)	PTO Pump (7)
2496	PTO Pump (7)	High-Pressure Filter (8)
2928	PTO Pump (7)	Relief Valve (9)
2929	Relief Valve (9)	Return Line Filter (6)
2902	High-Pressure Filter (8)	LHS Main Manifold (Quick Release at Steel Tube) (10)
Steel Tube	Quick Release at Hose 2902	LHS Main Manifold (P-Port) (10)
Steel Tube	LHS Main Manifold (T-Port) (10)	Quick Release at Hose 2917
2917	Quick Release at Steel Tube	Manifold Block (4)
2904	LHS Main Manifold A2 Port (10)	Return Line Filter (6)
2891	LHS Main Manifold A1 Port (10)	Steel Tube
Steel Tube	Hose 2891	VB Port on Diverter Manifold (11)
2892	LHS Main Manifold B1 Port (10)	Steel Tube
Steel Tube	Hose 2892	VA Port on Diverter Manifold (11)
2891	Diverter Manifold (11)	Steel Tube
Steel Tube	Hose 2891	Hose 2891
2891	Steel Tube	VB Port on Hook Arm Cylinder Manifold (LH) (12)
2892	Diverter Manifold (11)	Steel Tube
Steel Tube	Hose 2892	Hose 2892
2892	Steel Tube	VB Port on Hook Arm Cylinder Manifold (RH) (13)
2882	Diverter Manifold (11)	Steel Tube
Steel Tube	Hose 2882	Hose 2882
2882	Steel Tube	VA Port on RH Hook Arm Cylinder Manifold (RH) (13)
2881	Diverter Manifold (11)	Steel Tube
Steel Tube	Hose 2881	Hose 2881
2881	Steel Tube	VA Port on LH Hook Arm Cylinder Manifold (12)
2887	LHS Main Manifold MB1 Port (10)	Main Cylinder Manifold (RH) VA Port (14)
2666	LHS Main Manifold MA2 Port (10)	Main Cylinder Manifold (RH) VB Port (14)
2888	LHS Main Manifold MB2 Port (10)	Main Cylinder Manifold (LH) VA Port (15)
2588	LHS Main Manifold MA1 Port (10)	Main Cylinder Manifold (LH) VB Port (15)

Table 1. Hydraulic Hose Replacement. (Continued)

Line No.	From	To

Table 1. Hydraulic Hose Replacement. (Continued)

Line No.	From	To
2899	LHS Main Manifold B2-Port (10)	Bulkhead (16)
2899	Bulkhead (16)	MRP Control Valve P-Port (17)
2918	MRP Control Valve PB-Port (17)	Bulkhead (16)
2918	Bulkhead (16)	Return Line Filter (6)
2918	MRP Control Valve PB-Port (17)	MRP Control Valve T-Port (17)
Steel Tube	MRP Control Valve T-Port (17)	Distribution Manifold T-Port (18)
2762	MRP Control Valve P-Port (17)	Distribution Manifold P6-Port (18)
Steel Tube	MRP Control Valve Ground Rod B-Port (17)	Distribution Manifold P1-Port (18)
Steel Tube	MRP Control Valve MRP Lock A-Port (17)	Distribution Manifold P2-Port (18)
Steel Tube	MRP Control Valve MRP Lock B-Port (17)	Distribution Manifold P3-Port (18)
Steel Tube	MRP Control Valve MRP Cylinder A-Port (17)	Distribution Manifold P5-Port (18)
Steel Tube	MRP Control Valve MRP Cylinder B-Port (17)	Distribution Manifold P4-Port (18)
2759	Distribution Manifold T-Port (18)	Ground Rod Driver Quick Disconnect (19)
2758	Distribution Manifold C1-Port (18)	Ground Rod Driver Quick Disconnect (19)
2740	Distribution Manifold C2-Port (18)	Bulkhead (16)
2740	Bulkhead (16)	MRP Rack Lock LH Retract Port (20)
2740	Bulkhead (16)	MRP Rack Lock RH Retract Port (21)
2741	Distribution Manifold C3-Port (18)	Bulkhead (16)
2741	Bulkhead (16)	MRP Rack Lock LH Extend Port (20)
2741	Bulkhead (16)	MRP Rack Lock RH Extend Port (21)
2742	Distribution Manifold C4-Port (18)	Bulkhead (16)
2742	Bulkhead (16)	MRP Elevation Cylinder Manifold LH Extend Port (22)
2742	Bulkhead (16)	MRP Elevation Cylinder Manifold RH Extend Port (23)
2743	Distribution Manifold C5-Port (18)	Bulkhead (16)
2743	Bulkhead (16)	MRP Elevation Cylinder Manifold LH Retract Port (22)
2743	Bulkhead (16)	MRP Elevation Cylinder Manifold RH Retract Port (23)
2760	Distribution Manifold LOC Port (18)	Bulkhead (16)
2760	Bulkhead (16)	Steel Tube on MRP Elevation Cylinder Manifold RH (23)
Steel Tube	Hose 2760 RH	Hose on MRP Elevation Cylinder K-LOK RH (24)

Table 1. Hydraulic Hose Replacement. (Continued)

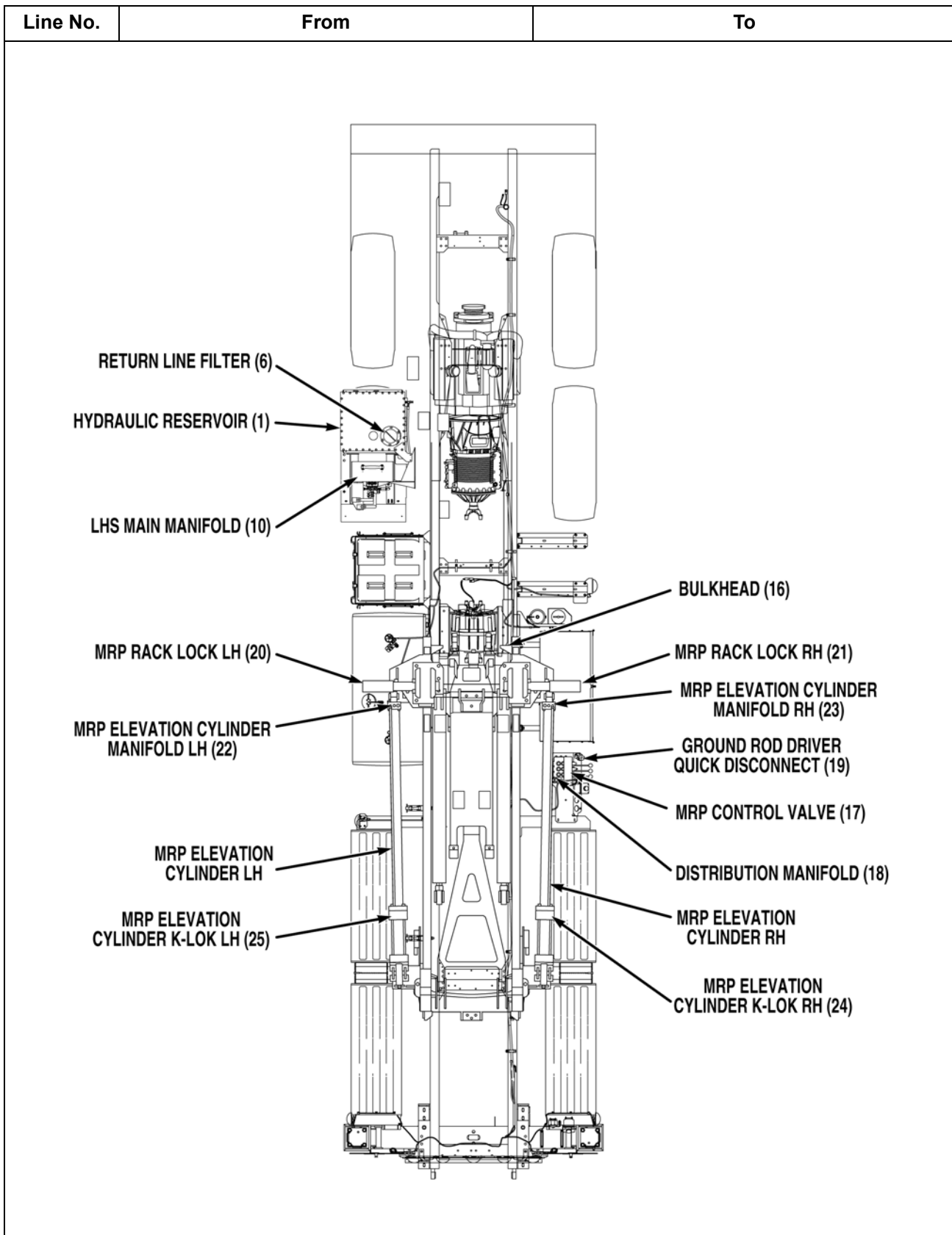


Table 1. Hydraulic Hose Replacement. (Continued)

Line No.	From	To
2760	Steel Tube on MRP Elevation Cylinder K-LOK RH (24)	MRP Elevation Cylinder K-LOK RH (24)
2760	Bulkhead (16)	Steel Tube on MRP Elevation Cylinder Manifold LH (22)
Steel Tube	Hose 2760 LH	Hose on MRP Elevation Cylinder K-LOK LH (25)
2760	Steel Tube on MRP Elevation Cylinder K-LOK RH (25)	MRP Elevation Cylinder K-LOK RH (25)
2781	MRP Elevation Cylinder Manifold Vent LH (22)	MRP Elevation Cylinder Manifold Vent LH (22) and Hose 2781
2781	MRP Elevation Cylinder Manifold Vent LH (22) and Hose 2781	Hydraulic Reservoir (1)
2761	MRP Elevation Cylinder Manifold Vent RH (23)	Vent Port and Hose 2761
2761	MRP Elevation Cylinder Manifold Vent Port and Hose 2761	Hydraulic Reservoir (1)

Table 1. Hydraulic Hose Replacement. (Continued)

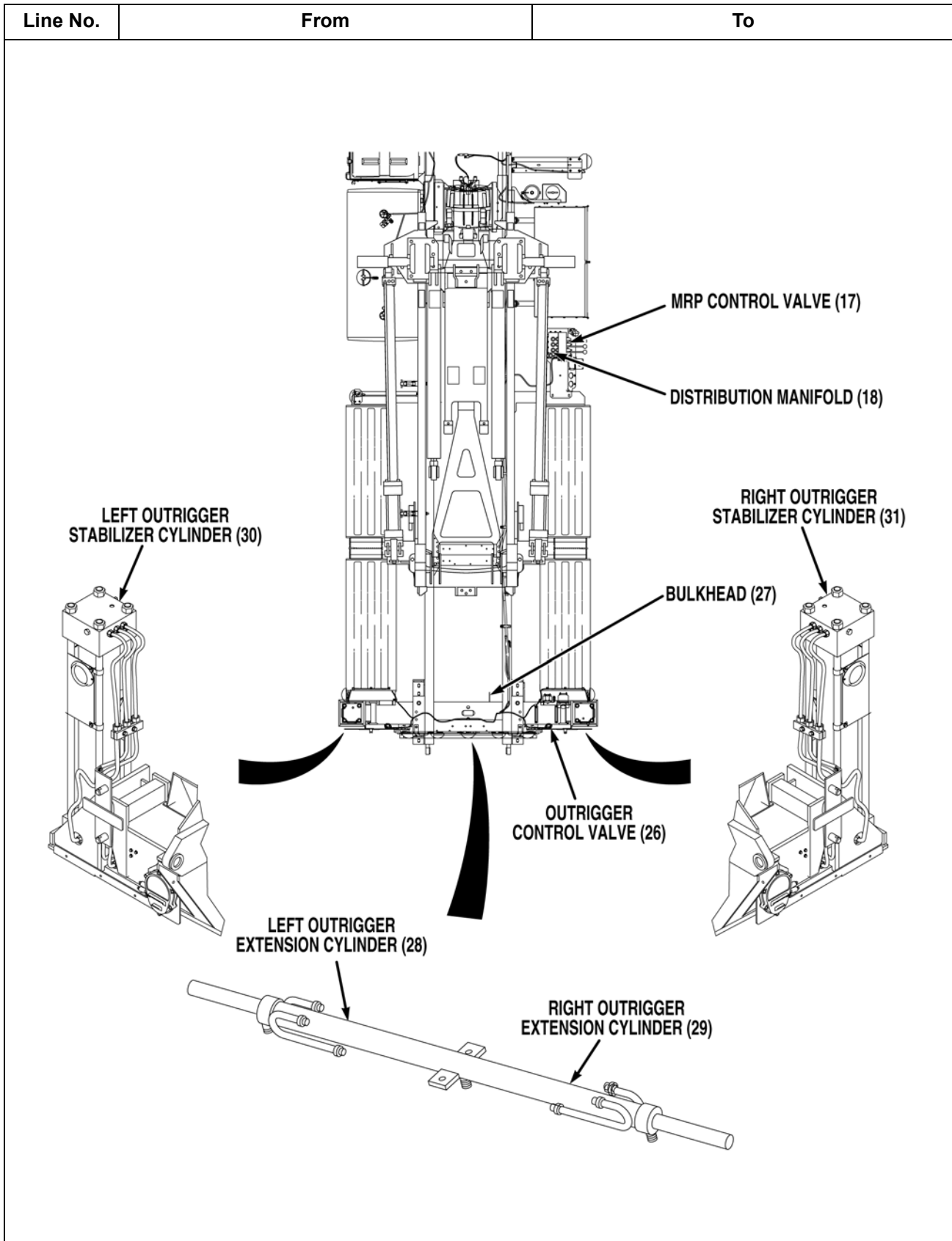


Table 1. Hydraulic Hose Replacement. (Continued)

Line No.	From	To
2752	Distribution Manifold C6-Port (18)	Steel Tube
Steel Tube	Hose 2752	Steel Tube
Steel Tube	Steel Tube	Outrigger Control Valve P-Port (26)
2754	MRP Control Valve Z-Port (17)	Steel Tube
Steel Tube	Hose 2754	Steel Tube
Steel Tube	Steel Tube	Left Outrigger Control Valve ST-Port (26)
2753	MRP Control Valve T-Port (17)	Steel Tube
Steel Tube	Hose 2753	Steel Tube
Steel Tube	Steel Tube	Left Outrigger Control Valve T-Port (26)
Steel Tube	Outrigger Control Valve A-Port (26)	Bulkhead (27)
Hose	Bulkhead (27)	Left Outrigger Extension Cylinder Retract Port (28)
Steel Tube	Outrigger Control Valve B-Port (26)	Bulkhead (27)
Hose	Bulkhead (27)	Left Outrigger Extension Cylinder Extend Port (28)
Steel Tube	Outrigger Control Valve A-Port (26)	Bulkhead (27)
Hose	Bulkhead (27)	Right Outrigger Cylinder Retract Port (29)
Steel Tube	Outrigger Control Valve B-Port (26)	Bulkhead (27)
Hose	Bulkhead (27)	Right Outrigger Cylinder Extend Port (29)
Steel Tube	Outrigger Control Valve A-Port (26)	Bulkhead (27)
Hose	Bulkhead (27)	Steel Tube Attached to Left Outrigger Extension Cylinder (28)
Hose	Steel Tube Attached to Left Outrigger Extension Cylinder (28)	Steel Tube
Steel Tube	Hose	Left Outrigger Stabilizer Cylinder Extend Port (30)
Steel Tube	Outrigger Control Valve B-Port (26)	Bulkhead (27)
Hose	Bulkhead (27)	Steel Tube Attached to Left Outrigger Extension Cylinder (28)
Hose	Steel Tube Attached to Left Outrigger Extension Cylinder (28)	Steel Tube
Steel Tube	Hose	Top of Left Outrigger Stabilizer Cylinder Retract Port (30)
Steel Tube	Top of Left Outrigger Stabilizer Cylinder Retract Port (30)	Bottom of Left Outrigger Stabilizer Cylinder Retract Port (30)
Steel Tube	Outrigger Control Valve A-Port (26)	Bulkhead (27)

Table 1. Hydraulic Hose Replacement. (Continued)

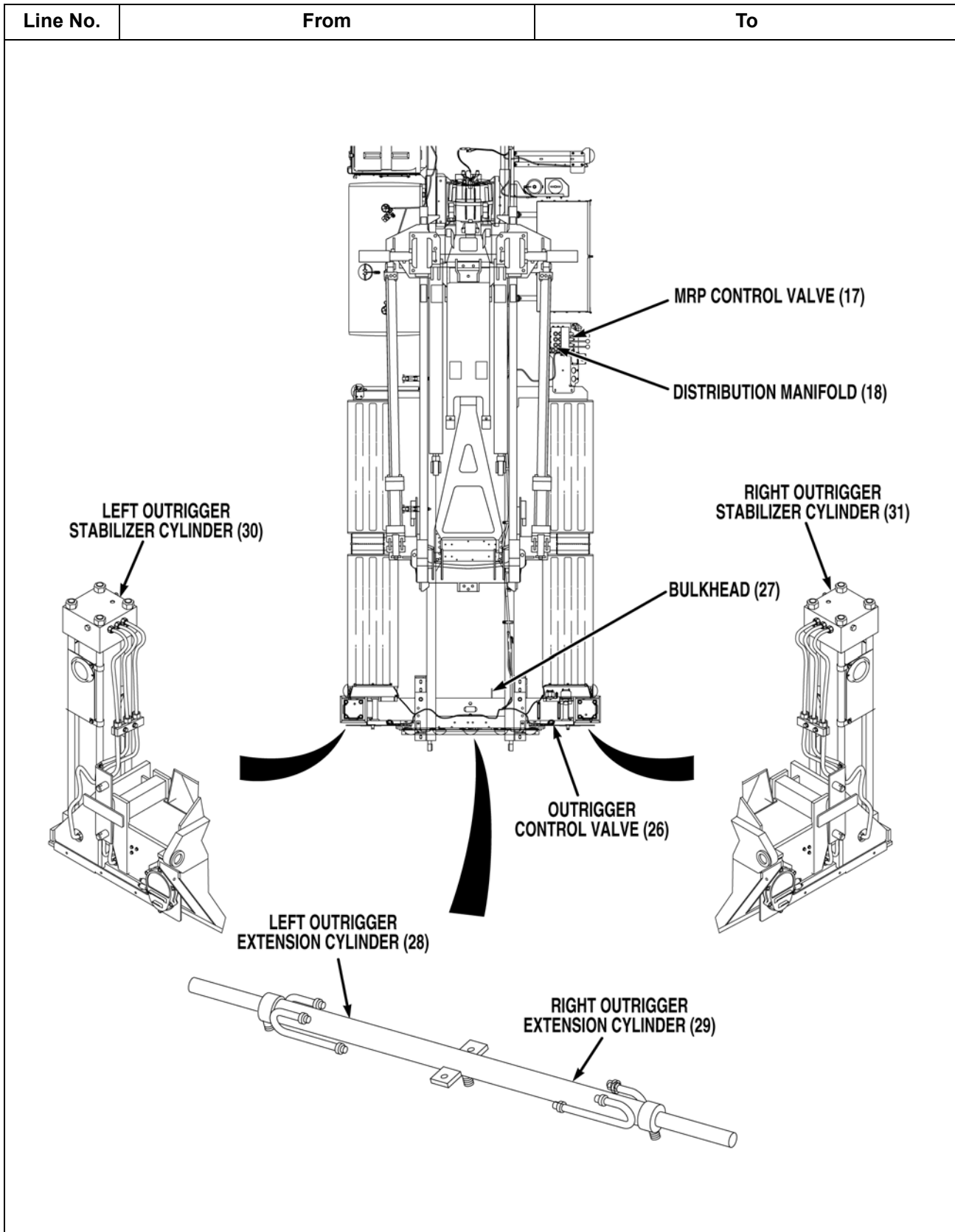


Table 1. Hydraulic Hose Replacement. (Continued)

Line No.	From	To
Hose	Bulkhead (27)	Steel Tube Attached to Right Outrigger Extension Cylinder (29)
Hose	Steel Tube Attached to Right Outrigger Extension Cylinder (29)	Steel Tube
Steel Tube	Hose	Right Outrigger Stabilizer Cylinder Extend Port (31)
Steel Tube	Outrigger Control Valve B-Port (26)	Bulkhead (27)
Hose	Bulkhead (27)	Steel Tube Attached to Right Outrigger Extension Cylinder (29)
Hose	Steel Tube Attached to Right Outrigger Extension Cylinder (29)	Steel Tube
Steel Tube	Hose	Top of Right Outrigger Stabilizer Cylinder Retract Port (31)
Steel Tube	Top of Right Outrigger Stabilizer Cylinder Retract Port (31)	Bottom of Right Outrigger Stabilizer Cylinder Retract Port (31)

FOLLOW-ON MAINTENANCE

1. Fill and check hydraulic reservoir fluid level (WP 0120).
2. Check hydraulic lines for leaks (TM 9-2320-347-10)
3. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
HYDRAULIC RESERVOIR DRAIN/FILL

INITIAL SETUP:**Tools and Special Tools**

Pan, Drain (WP 0183, Item 10)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Additive, Hydraulic Oil (WP 0186, Item 1)
Oil, Lubricating (WP 0186, Item 23)
Packing, Preformed, (1), (WP 0184, Item 99)

Personnel Required

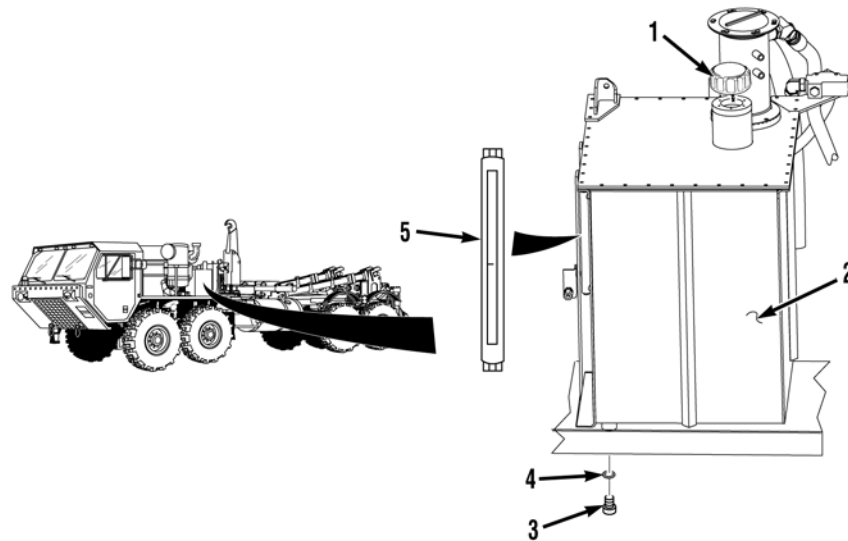
MOS 63B Wheeled vehicle mechanic

References

None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

DRAIN

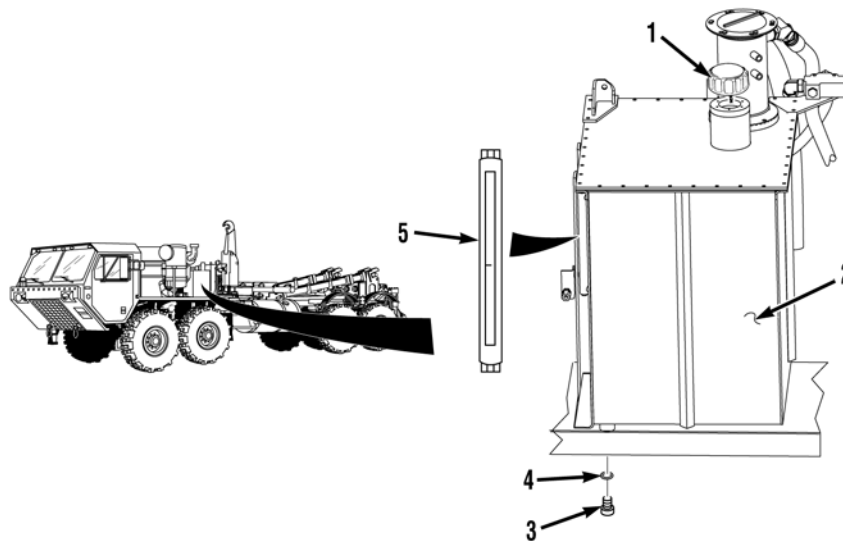
1. Remove filler cap (1) from reservoir (2).

NOTE

Drain oil into a container with a capacity of at least 50 gal (189 L).

2. Remove drain plug (3) and preformed packing (4) from reservoir (2) and drain oil. Discard preformed packing.

END OF TASK

FILL

1. Lightly lubricate preformed packing (4) with clean oil and install preformed packing (4) on drain plug (3).
2. Install drain plug (3) on reservoir (2).

NOTE

- Hydraulic oil additive should be added at a ratio of 0.33% to 0.66% by volume to reservoir hydraulic oil.
- For every 1 gal (3.8 L) of oil put into reservoir, .42 to .84 oz (12.4 to 24.8 mL) of hydraulic oil additive has to be added.

3. Fill reservoir (2) with oil.
4. Add 19 to 38 oz (562 to 1124 mL) of hydraulic oil additive to reservoir (2).
5. Check sight glass (5) on reservoir (2). Hydraulic oil should be halfway between FULL and ADD at FULL COLD mark. If low, add hydraulic oil.
6. Install filler cap (1) on reservoir (2).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE

HYDRAULIC RESERVOIR FILTER AND HOUSING REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Pan, Drain (WP 0183, Item 10)
 Set, Cap and Plug (Item 0183, Item 17)
 Tool Kit, General Mechanic's: Automotive
 (WP 0183, Item 25)

Materials/Parts

Compound, Sealing, Pipe Thread
 (WP 0186, Item 16)
 Gasket, (1), (WP 0184, Item 128)
 Lockwasher, (4), (WP 0184, Item 59)
 Oil, Lubricating (WP 0186, Item 22)
 Packing, Preformed, (1), (WP 0184, Item 114)
 Packing, Preformed, (1), (WP 0184, Item 97)
 Packing, Preformed, (1), (WP 0184, Item 107)

Materials/Parts (Continued)

Packing, Preformed, (1), (WP 0184, Item 112)
 Packing, Preformed, (1), (WP 0184, Item 143)
 Seal, (1), (WP 0184, Item 85)
 Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

MOS 63B Wheeled vehicle mechanic

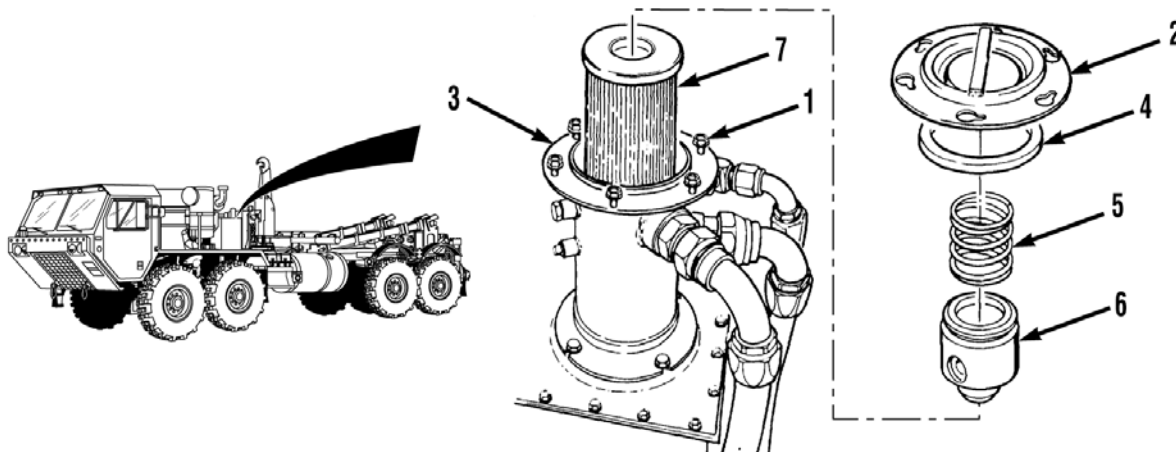
References

None

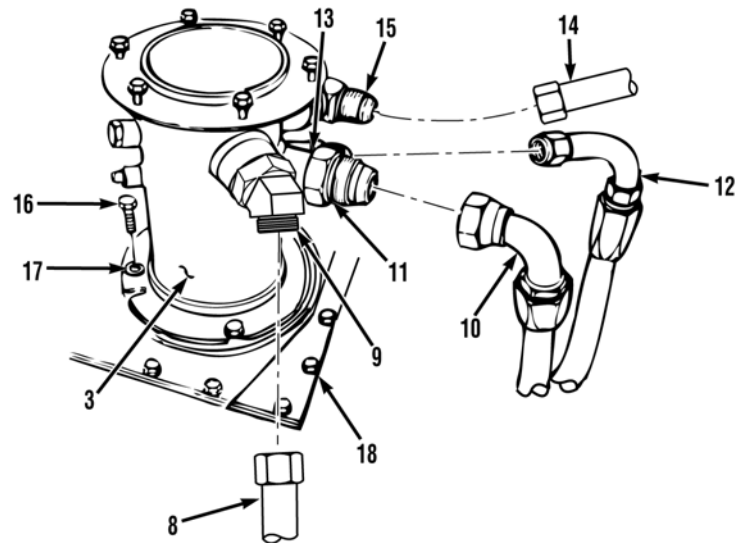
Equipment Conditions

Engine OFF (TM 9-2320-347-10)
 Wheels chocked (TM 9-2320-347-10)

REMOVAL

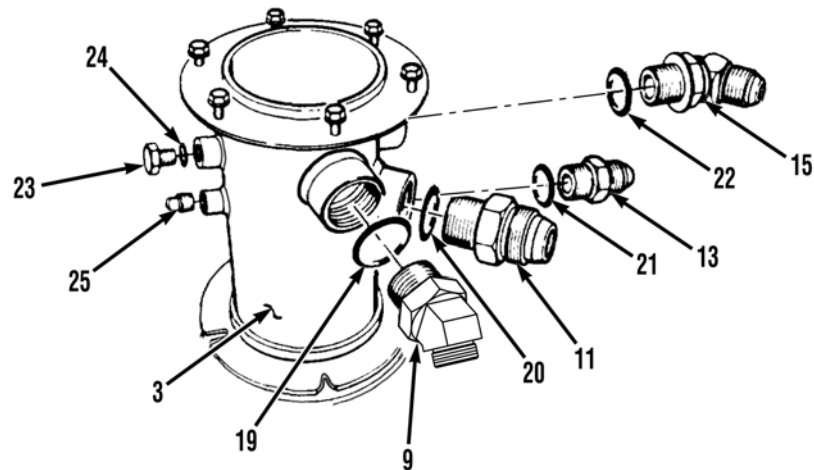


1. Loosen six screws (1) and remove cover (2) from filter housing (3).
2. Remove seal (4) from cover (2). Discard seal.
3. Remove spring (5), bypass valve (6), and element (7) from filter housing (3).

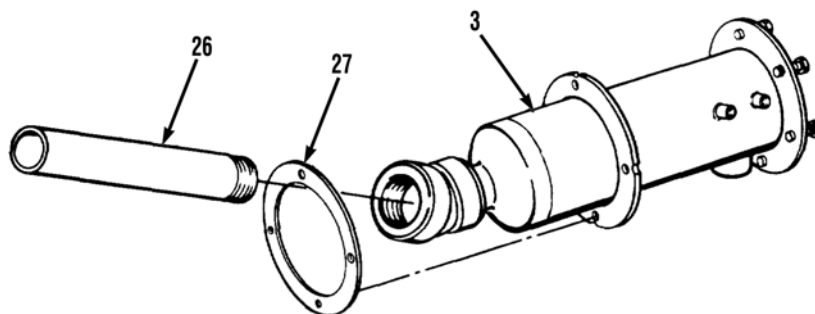


NOTE

- Position drain pan under hydraulic lines and fittings being removed.
 - Tag and mark hydraulic lines and fittings prior to removal to ensure proper installation.
 - Cap and plug hydraulic lines upon removal.
 - Remove cable ties as required.
4. Remove hose (8) from elbow (9).
 5. Remove hose (10) from fitting (11).
 6. Remove hose (12) from fitting (13).
 7. Remove hose (14) from elbow (15).
 8. Remove four screws (16), lockwashers (17), and filter housing (3) from reservoir (18). Discard lockwashers.



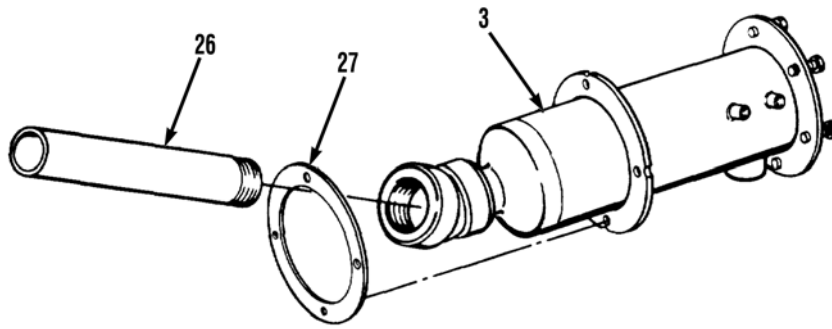
9. Remove elbow (9) and preformed packing (19) from filter housing (3). Discard preformed packing.
10. Remove fitting (11) and preformed packing (20) from filter housing (3). Discard preformed packing.
11. Remove fitting (13) and preformed packing (21) from filter housing (3). Discard preformed packing.
12. Remove elbow (15) and preformed packing (22) from filter housing (3). Discard preformed packing.
13. Remove plug (23) and preformed packing (24) from filter housing (3). Discard preformed packing.
14. Remove plug (25) from filter housing (3).



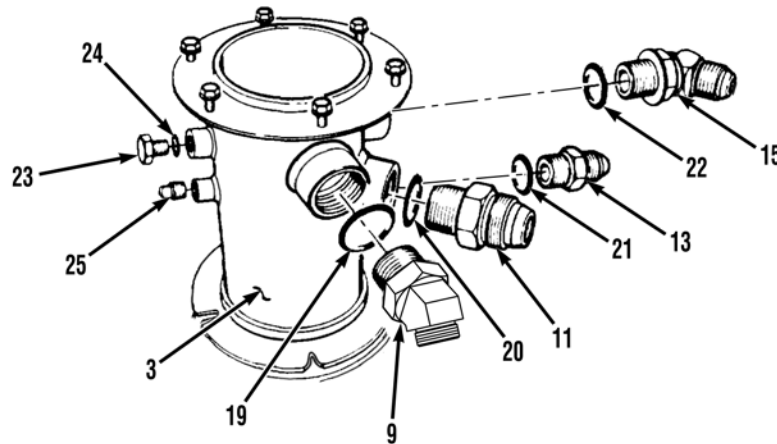
15. Remove pipe (26) from filter housing (3).
16. Remove gasket (27) from filter housing (3). Discard gasket.

END OF TASK

INSTALLATION



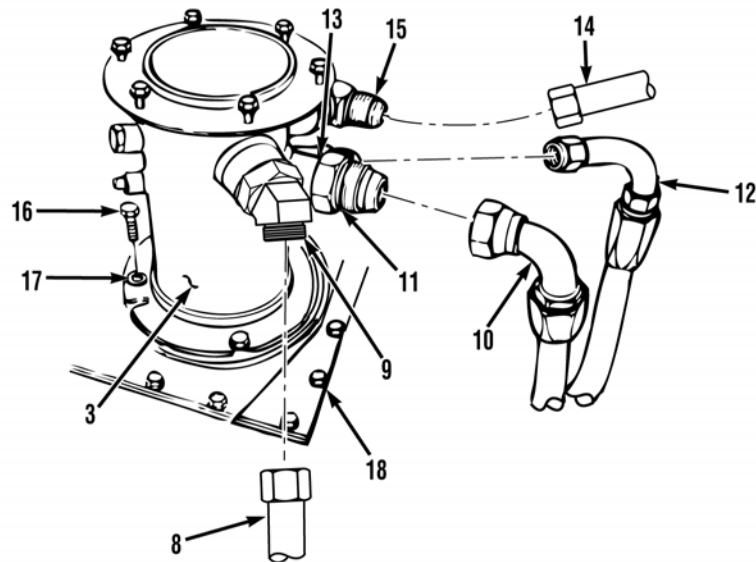
1. Install gasket (27) on filter housing (3).
2. Install pipe (26) on filter housing (3).



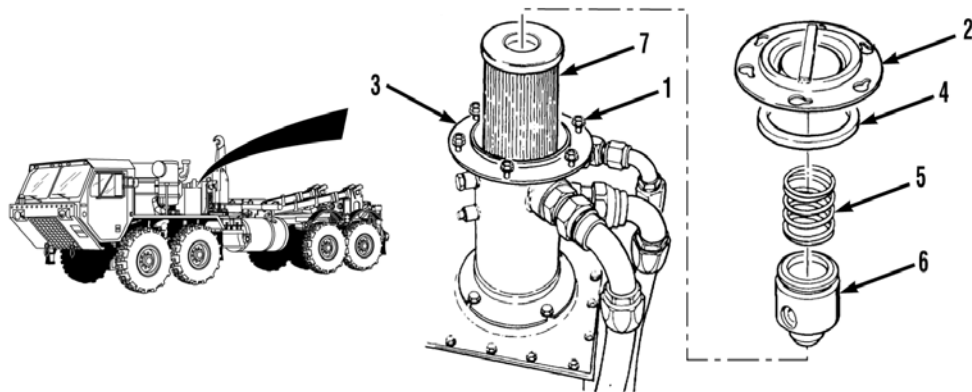
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

3. Apply pipe sealing compound to threads of plug (25) and install plug (25) on filter housing (3).
4. Lightly lubricate preformed packing (24) with clean oil and install preformed packing (24) and plug (23) on filter housing (3).
5. Lightly lubricate preformed packing (22) with clean oil and install preformed packing (22) and elbow (15) on filter housing (3).
6. Lightly lubricate preformed packing (21) with clean oil and install preformed packing (21) and fitting (13) on filter housing (3).
7. Lightly lubricate preformed packing (20) with clean oil and install preformed packing (20) and fitting (11) on filter housing (3).
8. Lightly lubricate preformed packing (19) with clean oil and install preformed packing (19) and elbow (9) on filter housing (3).



9. Install filter housing (3) on reservoir (18) with four lockwashers (17) and screws (16).
10. Install hose (14) on elbow (15).
11. Install hose (12) on fitting (13).
12. Install hose (10) on fitting (11).
13. Install hose (8) on elbow (9).



14. Install element (7), bypass valve (6), and spring (5) in filter housing (3).
15. Coat seal (4) with lubricating oil and install on cover (2).
16. Install cover (2) on filter housing (3) and tighten six screws (1).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Start engine (TM 9-2320-347-10)
2. Turn steering wheel to right, then left, and return to center.
3. Shut off engine (TM 9-2320-347-10)
4. Fill hydraulic reservoir (WP 0120).
5. Check hydraulic reservoir for leaks.
6. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
HYDRAULIC RESERVOIR REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Pan, Drain (WP 0183, Item 10)
Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Lockwasher, (6), (WP 0184, Item 61)
Lockwasher, (4), (WP 0184, Item 90)
Lockwasher, (6), (WP 0184, Item 59)
Oil, Hydraulic (WP 0186, Item 21)
Packing, Preformed, (1), (WP 0184, Item 104)
Packing, Preformed, (1), (WP 0184, Item 102)
Packing, Preformed, (1,) (WP 0184, Item 95)
Packing, Preformed, (1), (WP 0184, Item 110)
Tags, Identification (WP 0186, Item 32)

Personnel Required

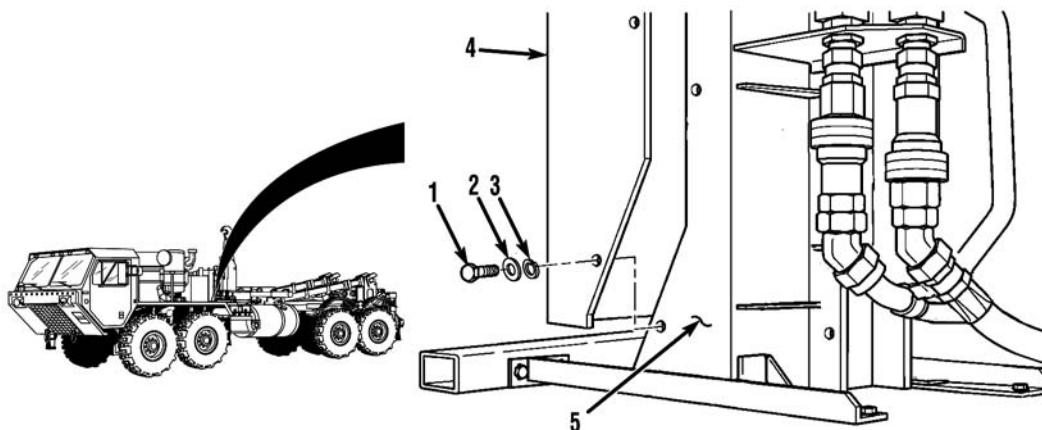
MOS 63B Wheeled vehicle mechanic(2)

References

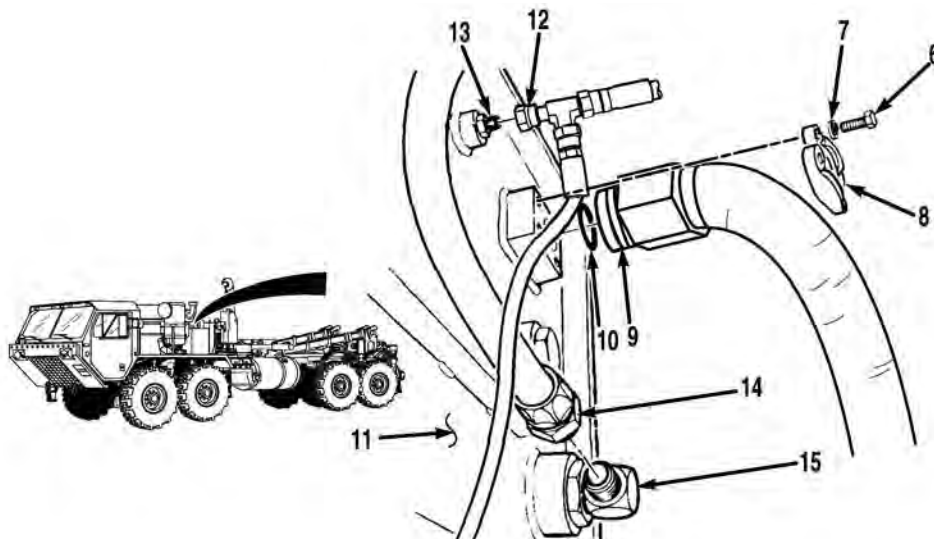
None

Equipment Conditions

Hydraulic reservoir drained (WP 0120)
Hydraulic reservoir filter and housing removed
(WP 0121)
Hydraulic reservoir top plate and sight glass
removed (WP 0124)
Hydraulic reservoir strainers removed (WP 0123)
Air cleaner canister removed
TM 9-2320-325-14&P

REMOVAL

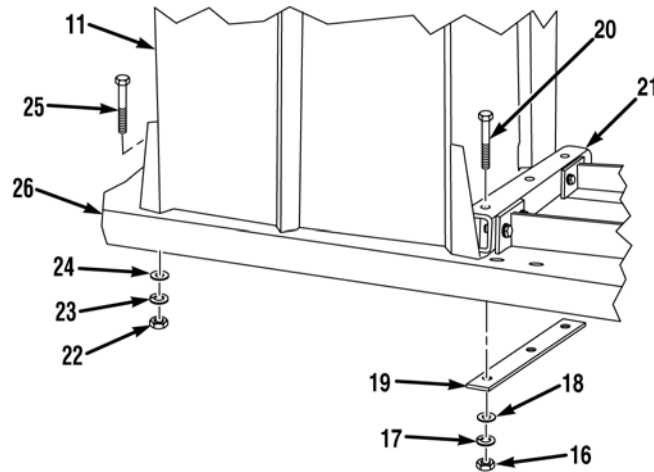
1. Remove six screws (1), lockwashers (2), lockwashers (3) and control box cover (4) from bracket (5). Discard lockwashers.



NOTE

- Position drain pan under hydraulic lines and fittings being removed.
- Tag and mark hydraulic lines and fittings prior to removal to ensure proper installation.
- Cap and plug hydraulic lines upon removal.

2. Remove four screws (6), lockwashers (7), two clamp halves (8), hose 2278 (9), and preformed packing (10) from hydraulic reservoir (11). Discard lockwashers.
3. Remove tee fitting (12) from fitting (13).
4. Remove hose 2278 (14) from elbow (15).

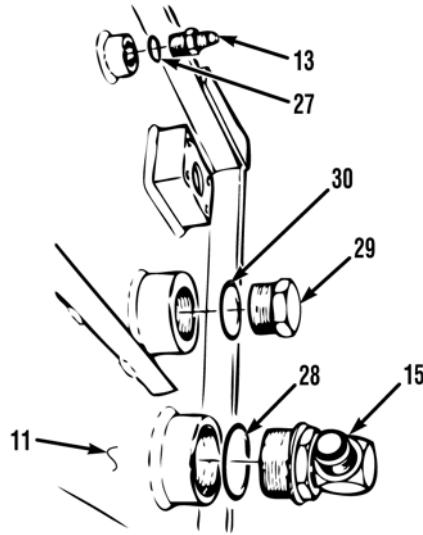


5. Remove three nuts (16), lockwashers (17), washers (18), clamping plate (19), and three screws (20) from fender brace (21). Discard lockwashers.
6. Remove three nuts (22), lockwashers (23), washers (24), and screws (25) from hydraulic reservoir (11). Discard lockwashers.

WARNING

Hydraulic reservoir is heavy (Aprox. 120 lbs). Do not attempt to lift hydraulic reservoir without the aid of Soldier B. Failure to comply may result in injury to personnel.

- Soldier A and Soldier B remove hydraulic reservoir (11) from fender (26).



- Remove fitting (13) and preformed packing (27) from hydraulic reservoir (11). Discard preformed packing.

NOTE

Note position of elbow prior to removal to ensure proper installation.

- Remove elbow (15) and preformed packing (28) from hydraulic reservoir (11). Discard preformed packing.
- Remove plug (29) and preformed packing (30) from hydraulic reservoir (11). Discard preformed packing.

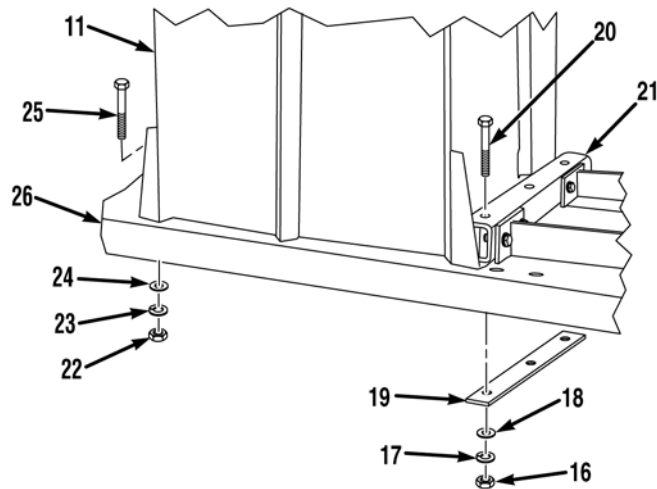
END OF TASK**INSTALLATION**

- Lightly lubricate preformed packing (30) with clean oil and install preformed packing (30) and plug (29) on hydraulic reservoir (11).

NOTE

Install elbow as noted prior to removal.

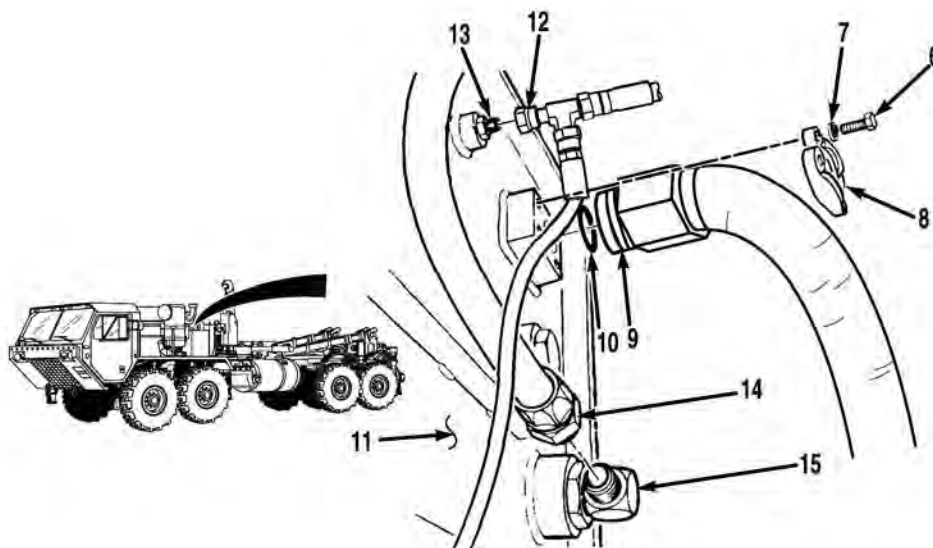
- Lightly lubricate preformed packing (28) with clean oil and install preformed packing (28) and elbow (15) on hydraulic reservoir (11).
- Lightly lubricate preformed packing (27) with clean oil and install preformed packing (27) and fitting (13) on hydraulic reservoir (11).



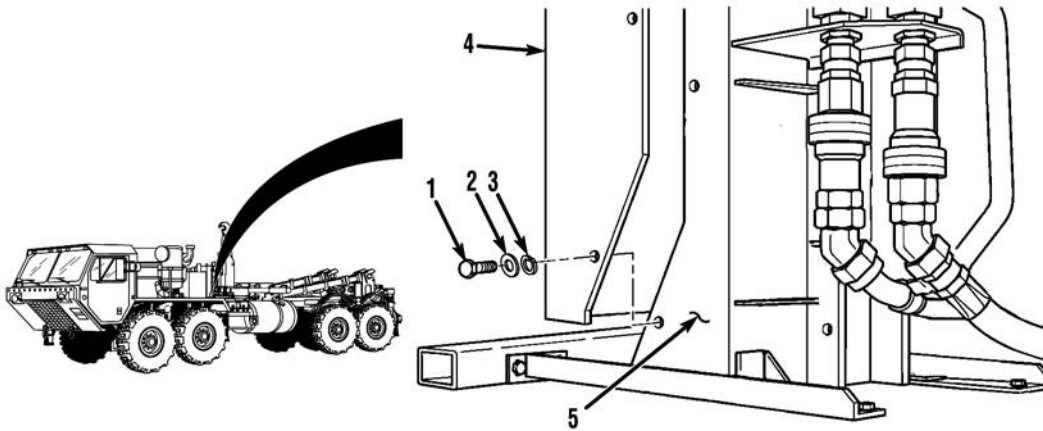
WARNING

Hydraulic reservoir is heavy (Aprox. 120 lbs). Do not attempt to lift hydraulic reservoir without the aid of Soldier B. Failure to comply may result in injury to personnel.

4. Soldier A and Soldier B install hydraulic reservoir (11) on fender (26).
5. Install hydraulic reservoir (11) on fender (26) with three screws (25), washers (24), lockwashers (23), and nuts (22).
6. Install three screws (20), clamping plate (19), three washers (18), lockwashers (17), and nuts (16) on fender brace (21).



7. Install hose 2278 (14) on elbow (15).
8. Install tee fitting (12) on fitting (13).
9. Lightly lubricate preformed packing (10) with clean oil and install preformed packing (10) and hose 2278 (9) on hydraulic reservoir (11) with two clamp halves (8), four lockwashers (7), and screws (6).



10. Install control box cover (4) on bracket (5) with four washers (3), lockwashers (2) and screws (1).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install air cleaner canister (TM 9-2320-325-14&P).
2. Install hydraulic reservoir strainers (WP 0123).
3. Install hydraulic reservoir top plate and sight glass (WP 0124).
4. Install hydraulic reservoir filter and housing (WP 0121).
5. Fill hydraulic reservoir (WP 0120).
6. Check hydraulic reservoir for leaks.

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

HYDRAULIC RESERVOIR STRAINERS REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Cleaning Compound, Solvent (WP 0186, Item 7)
Cloth, Cleaning (Item 0186, Item 8)
Compound, Sealing, Pipe Thread (WP 0186,
Item 16)

Personnel Required

MOS 63B Wheeled vehicle mechanic

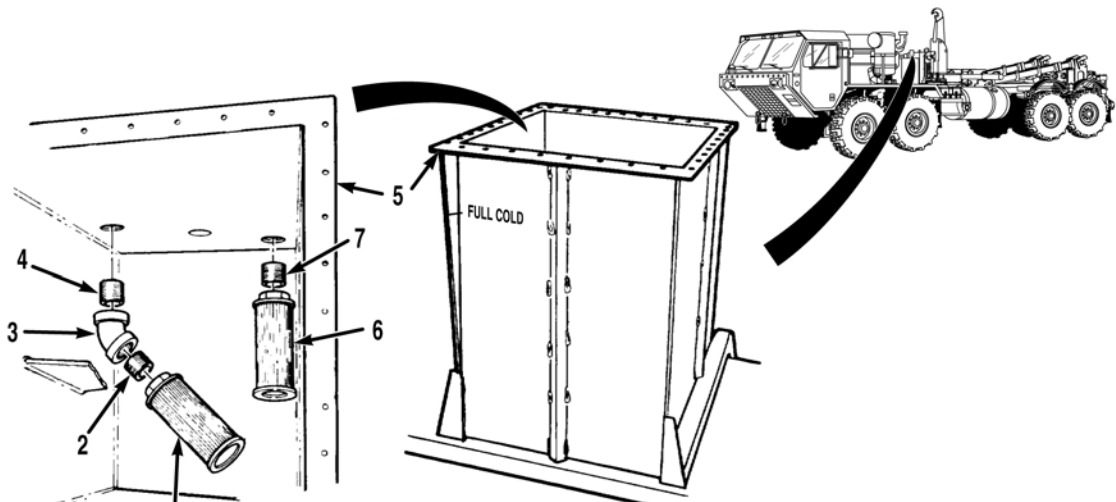
References

TM 9-2320-347-10

Equipment Conditions

Hydraulic reservoir drained (WP 0120)
Hydraulic reservoir top plate and gasket removed
(WP 0124)
Muffler Assembly Removed (TM 9-2320-325-14&P)

REMOVAL



1. Remove strainer (1) from nipple (2).

NOTE

Note position of elbow prior to removal to ensure proper installation.

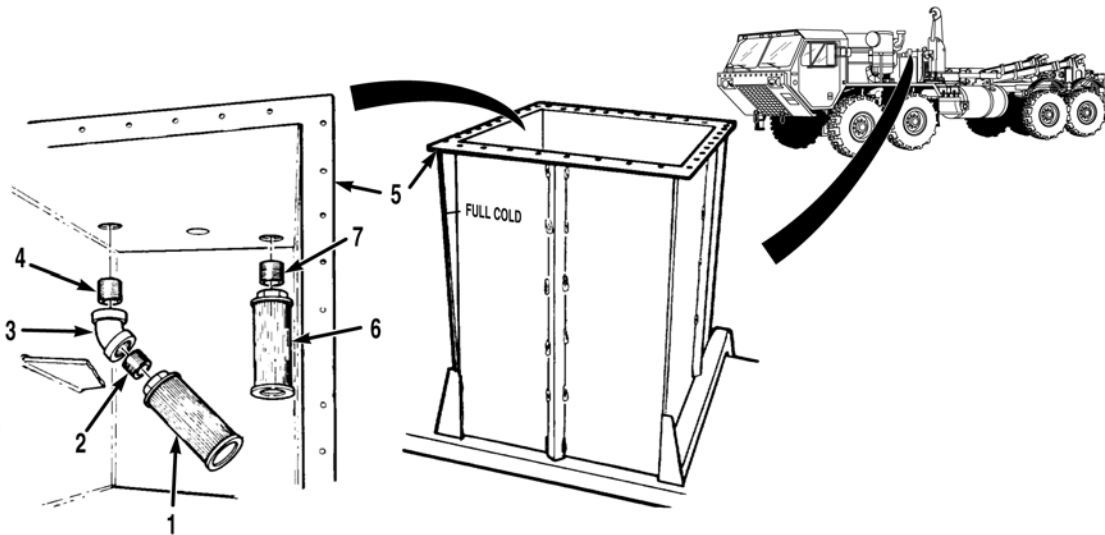
2. Remove elbow (3) from nipple (4).
3. Remove nipple (4) from hydraulic reservoir (5).
4. Remove nipple (2) from elbow (3).
5. Remove strainer (6) from nipple (7).
6. Remove nipple (7) from hydraulic reservoir (5).

END OF TASK

CLEANING**WARNING**

Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa). Use only with effective chip guarding and personal protective equipment (goggles/shield, gloves, etc.), or injury to personnel may result.

1. Clean hydraulic reservoir (5), three nipples (2, 4, and 7), and elbow (3) with solvent cleaning compound and clean with lint-free rags.
2. Dry hydraulic reservoir (5), nipples (2, 4, and 7), and elbow (3) with compressed air.
3. Clean two strainers (1 and 6) with solvent cleaning compound. Inspect for tears and large pieces of contamination. Dry with compressed air.

END OF TASK**INSTALLATION****WARNING**

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

1. Coat threads on both ends of nipple (7) with pipe thread sealing compound.
2. Install nipple (7) on hydraulic reservoir (5).
3. Install strainer (6) on nipple (7).

4. Coat threads on both ends of two nipples (2 and 4) with pipe thread sealing compound.
5. Install nipple (2) on elbow (3).
6. Install nipple (4) on hydraulic reservoir (5).

NOTE

Install elbow as noted prior to removal.

7. Install elbow (3) on nipple (4).
8. Install strainer (1) on nipple (2).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install hydraulic reservoir top plate and gasket (WP 0124).
2. Fill hydraulic reservoir (WP 0120).
3. Check hydraulic reservoir for leaks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**HYDRAULIC RESERVOIR TOP PLATE AND SIGHT GLASS REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wrench, Torque (WP 0183, Item 29)

Materials/Parts

Gasket, (1), (WP 0184, Item 22)
Gasket, (1), (WP 0184, Item 122)
Locknut, (5), (WP 0184, Item 12)
Locknut, (33), (WP 0184, Item 11)
Oil, Hydraulic (WP 0186, Item 21)
Packing, Preformed (2), (WP 0184, Item 84)

Personnel Required

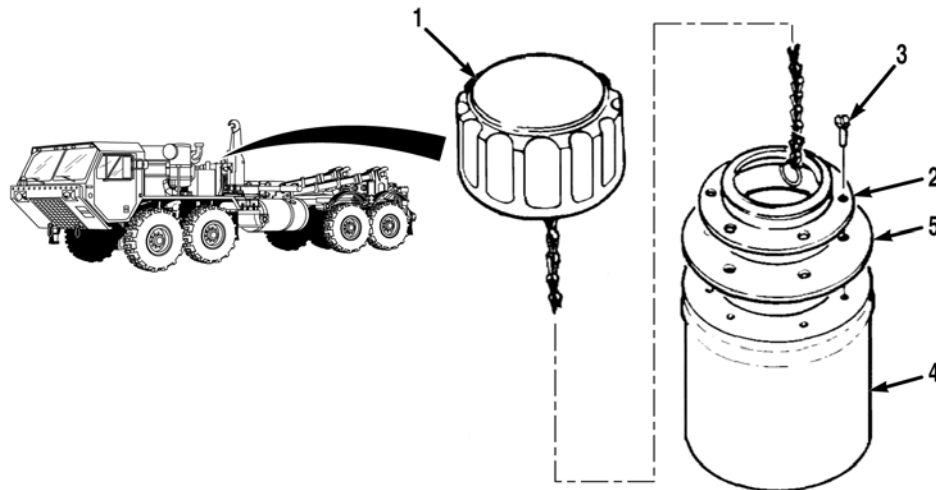
MOS 63B Wheeled vehicle mechanic

References

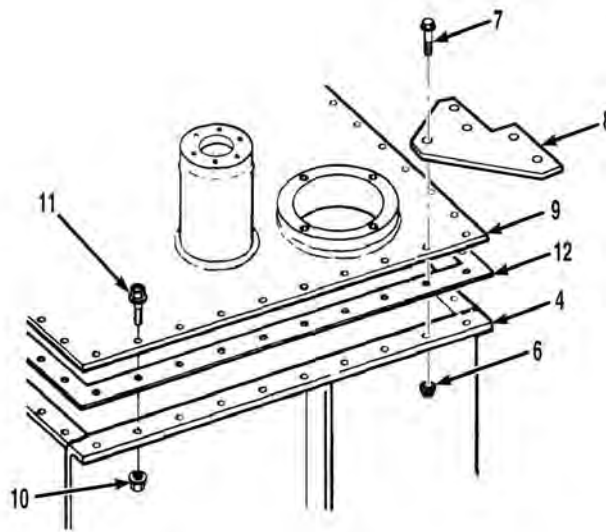
None

Equipment Conditions

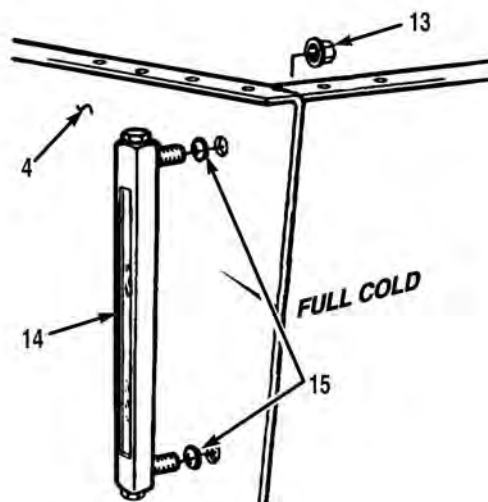
Engine OFF (TM 9-2320-347-10)
Hydraulic reservoir filter and housing removed
(WP 0121)

REMOVAL

1. Remove breather filler cap (1) from retaining plate (2).
2. Remove six screws (3), breather filler cap (1), and retaining plate (2) from hydraulic reservoir (4).
3. Remove gasket (5) from hydraulic reservoir (4). Discard gasket.



4. Remove three locknuts (6), screws (7), and bracket (8) from top plate (9). Discard locknuts.
5. Remove 33 locknuts (10), screws (11), top plate (9), and gasket (12) from hydraulic reservoir (4). Discard locknuts.

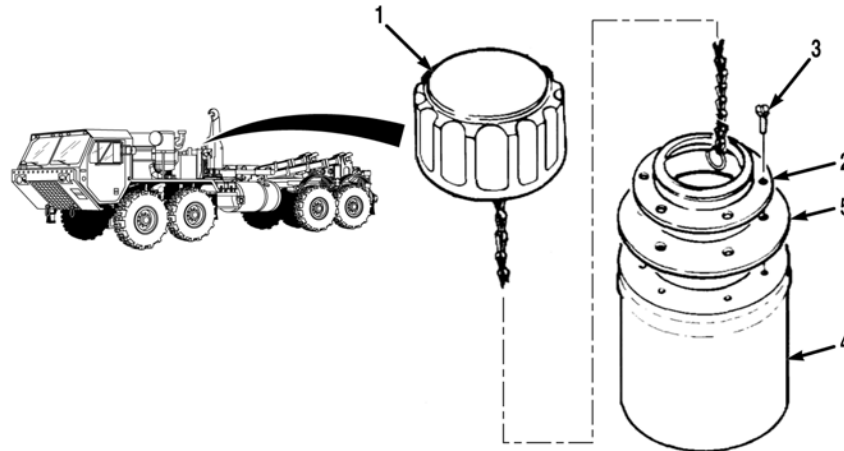


6. Remove two locknuts (13), sight glass (14), and two preformed packings (15) from hydraulic reservoir (4). Discard locknuts.

END OF TASK

INSTALLATION

1. Lightly lubricate two preformed packings (15) with clean oil and install preformed packings (15) on sight glass (14).
2. Install sight glass (14) on hydraulic reservoir (4) with two locknuts (13). Tighten locknuts (13) to 50 to 55 lb-ft (68 to 75 N•m).
3. Install gasket (12) and top plate (9) on hydraulic reservoir (4) with 33 screws (11) and locknuts (10).
4. Install bracket (8) on top plate (9) with three screws (7) and locknuts (6).



5. Install gasket (5) and retaining plate (2) on hydraulic reservoir (4) with screws (3).
6. Install breather filler cap (1) on retaining plate (2).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Install hydraulic reservoir filter and housing (WP 0121).

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE

DIRECTIONAL CONTROL VALVE REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Pan, Drain (WP 0183, Item 10)
 Tool Kit, General Mechanic's: Automotive
 (WP 0183, Item 25)

Materials/Parts

Adhesive (WP 0186, Item 3)
 Gasket, (2), (WP 0184, Item 71)
 Lockwasher, (6), (WP 0184, Item 61)
 Packing, Preformed, (5), (WP 0184, Item 76)
 Oil, Hydraulic (WP 0186, Item 21)
 Tags, Identification (WP 0186, Item 32)
 Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

MOS 63B Wheeled vehicle mechanic

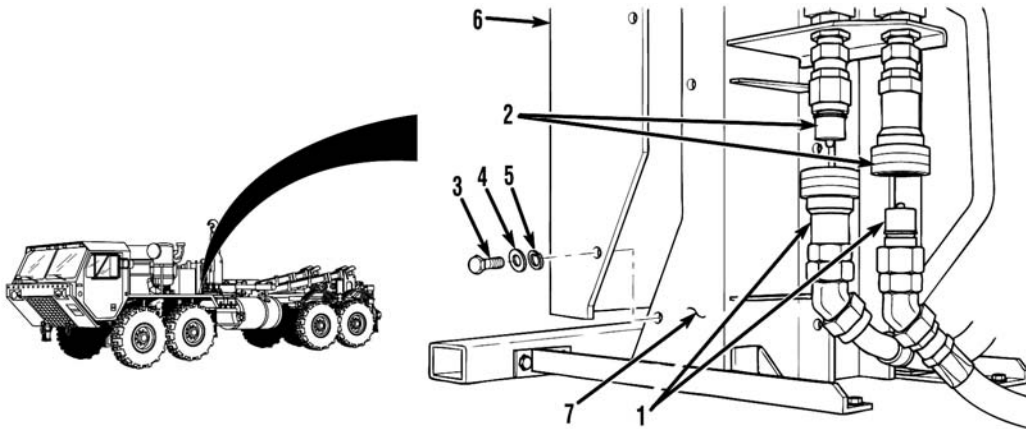
References

None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
 Wheels chocked (TM 9-2320-347-10)
 Batteries disconnected TM 9-2320-325-14&P

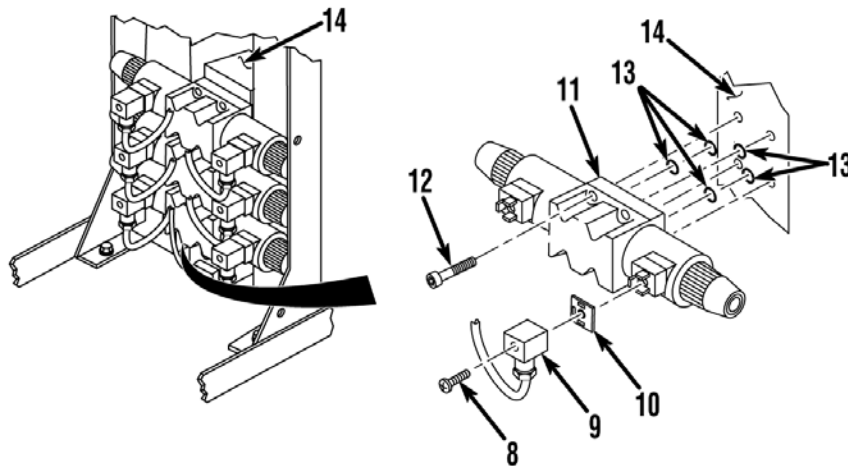
REMOVAL

**WARNING**

The THAAD hydraulic system operates at oil pressure up to 3,250 psi (22,409 kPa). Never disconnect any hydraulic line or fitting without first dropping pressure to zero. Failure to comply may result in serious injury or death to personnel.

NOTE

- Position drain pan under directional control valve.
 - Remove cable ties as required.
 - Three directional control valves are removed the same way.
1. Disconnect two hose quick disconnects (1) from quick disconnects (2).
 2. Remove six screws (3), washers (4), lockwashers (5), and control box cover (6) from bracket (7). Discard lockwashers.



NOTE

Tag and mark connectors prior to removal to ensure proper installation.

3. Loosen two screws (8) and remove connectors (9) and gaskets (10) from directional control valve (11). Discard gaskets.
4. Remove four screws (12), directional control valve (11), and five preformed packings (13) from main manifold (14). Discard preformed packings.

END OF TASK

INSTALLATION

NOTE

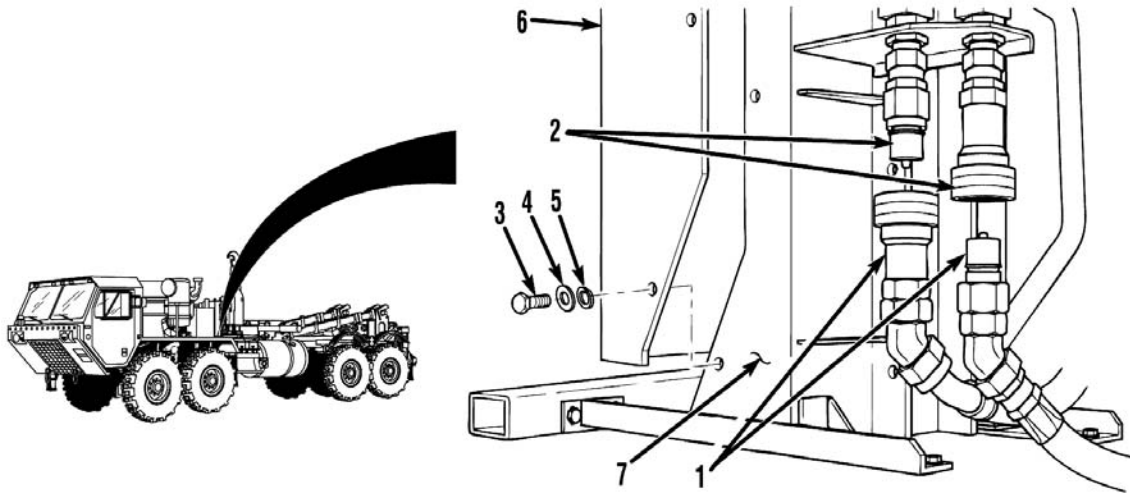
Three directional control valves are installed the same way.

1. Lightly lubricate five preformed packings (13) with clean oil and install five preformed packings (13) and directional control valve (11) on main manifold (14) with four screws (12).
2. Install two gaskets (10) and connectors (9) on directional control valve (11) and tighten two screws (8).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

3. Apply sealing compound to heads of two screws (8).



4. Install control box cover (6) on bracket (7) with six washers (4), lockwashers (5) and screws (3).
5. Connect two hose quick disconnects (1) on quick disconnects (2).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Connect batteries (TM 9-2320-325-14&P).
2. If LHS directional control valves were replaced, check operation of LHS (WP 0011).
3. If MRP directional control valve was replaced, check operation of outrigger (WP 0013).
4. Check for oil leaks (TM 9-2320-347-10)
5. Check hydraulic oil reservoir level (WP 0120).
6. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
DISTRIBUTION MANIFOLD REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Pan, Drain (WP 0183, Item 10)
Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Gasket, (6), (WP 0184, Item 71)
Locknut, (3), (WP 0184, Item 21)
Oil, Hydraulic (WP 0186, Item 21)
Packing, Preformed, (10), (WP 0184, Item 125)
Packing, Preformed, (4), (WP 0184, Item 127)
Packing, Preformed, (3), (WP 0184, Item 86)
Packing, Preformed, (7), (WP 0184, Item 45)
Packing, Preformed, (4), (WP 0184, Item 126)
Packing, Preformed, (2), (WP 0184, Item 42)
Packing, Preformed, (3), (WP 0184, Item 49)

Materials/Parts (Continued)

Packing, Preformed, (3), (WP 0184, Item 86)
Packing, Preformed, (2), (WP 0184, Item 41)
Packing, Preformed, (1), (WP 0184, Item 124)
Packing, Preformed, (1), (WP 0184, Item 17)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

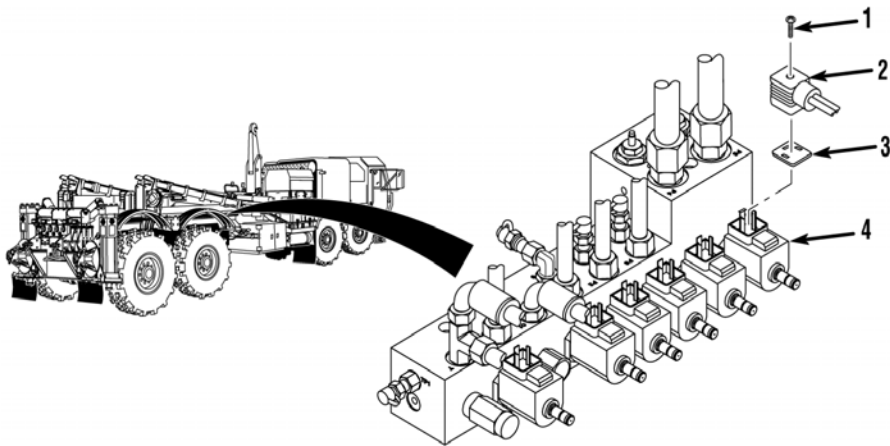
MOS 63B Wheeled vehicle mechanic

References

None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Batteries disconnected TM 9-2320-325-14&P



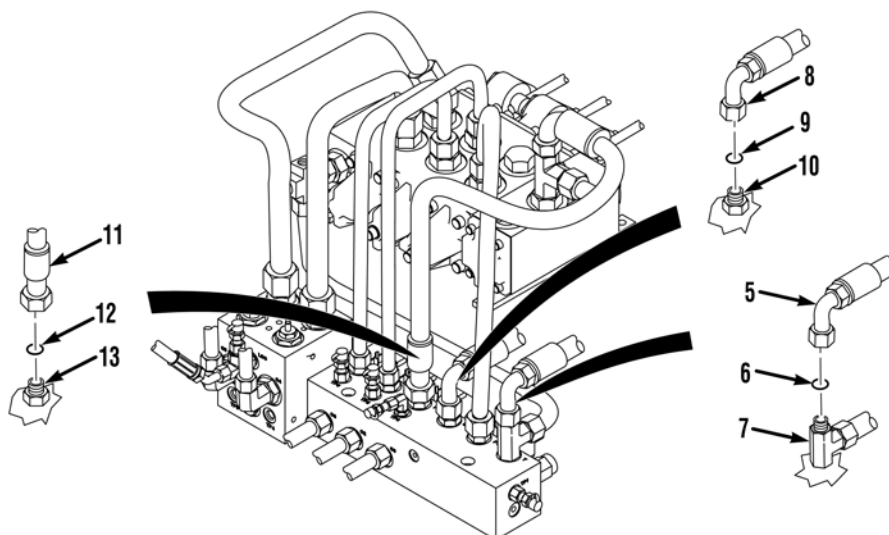
WARNING

The THAAD hydraulic system operates at oil pressure up to 3,250 psi (22,409 kPa). Never disconnect any hydraulic line or fitting without first dropping pressure to zero. Failure to comply may result in serious injury or death to personnel.

NOTE

- Tag and mark solenoid connectors prior to removal to ensure proper installation.
- Cover solenoids to keep oil off of electrical connectors.

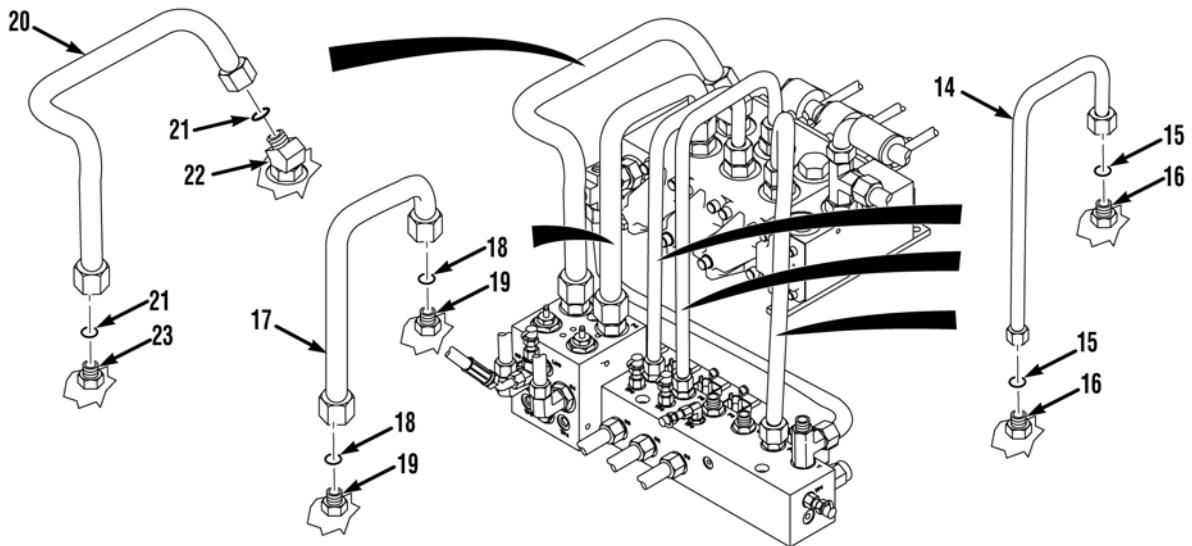
1. Remove six screws (1), connectors (2), and gaskets (3) from solenoids (4). Discard gaskets.



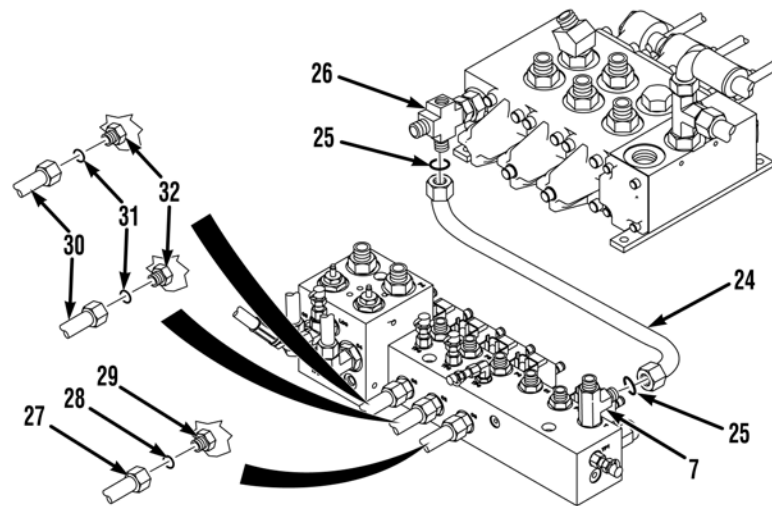
NOTE

- Position drain pan under hydraulic lines and fittings being removed.
- Tag and mark hydraulic lines prior to removal to ensure proper installation.

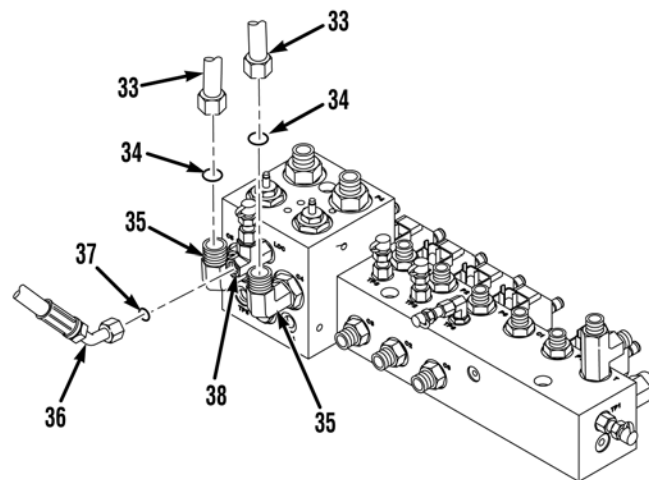
- Cap and plug hydraulic lines upon removal.
 - Remove cable ties as required.
2. Remove hose (5) and preformed packing (6) from tee (7). Discard preformed packing.
 3. Remove hose (8) and preformed packing (9) from fitting (10). Discard preformed packing.
 4. Remove hose (11) and preformed packing (12) from fitting (13). Discard preformed packing.



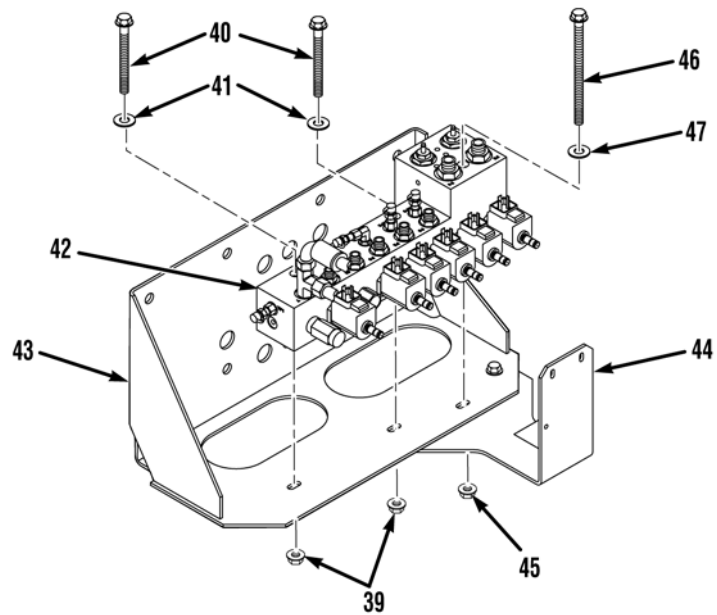
5. Remove three tubes (14) and six preformed packings (15) from fittings (16). Discard preformed packings.
6. Remove tube (17) and two preformed packings (18) from fittings (19). Discard preformed packings.
7. Remove tube (20) and two preformed packings (21) from elbow (22) and fitting (23). Discard preformed packings.



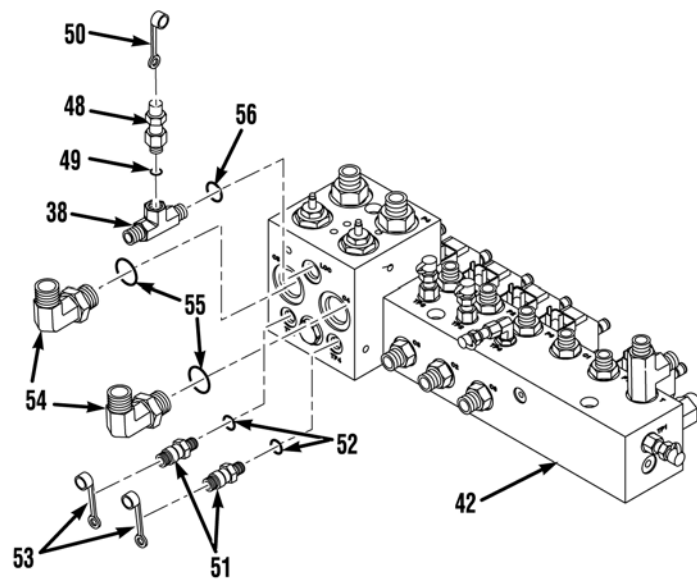
8. Remove tube (24) and two preformed packings (25) from two tees (7 and 26). Discard preformed packings.
9. Remove hose (27) and preformed packing (28) from fitting (29). Discard preformed packing.
10. Remove two hoses (30) and preformed packings (31) from fittings (32). Discard preformed packings.

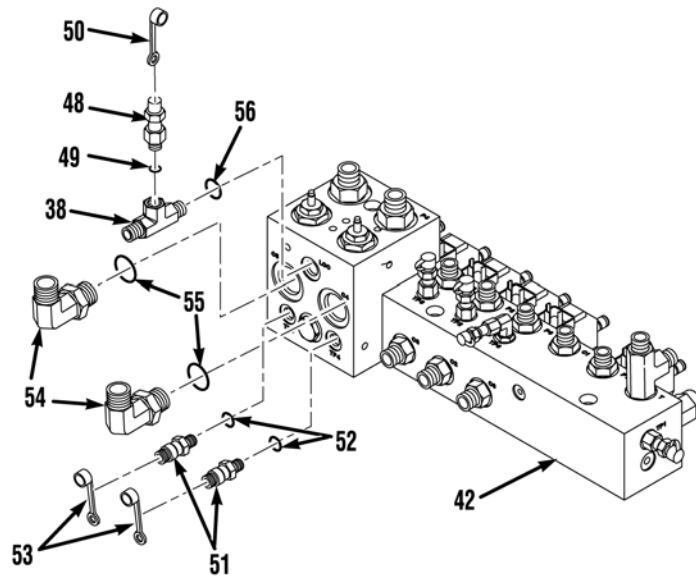


11. Remove two hoses (33) and preformed packings (34) from elbows (35). Discard preformed packings.
12. Remove hose (36) and preformed packing (37) from tee (38). Discard preformed packing.



13. Remove two locknuts (39), screws (40), and washers (41) from manifold (42) and two brackets (43 and 44). Discard locknuts.
14. Remove locknut (45), screw (46), washer (47), and manifold (42) from two brackets (43 and 44). Discard locknut.

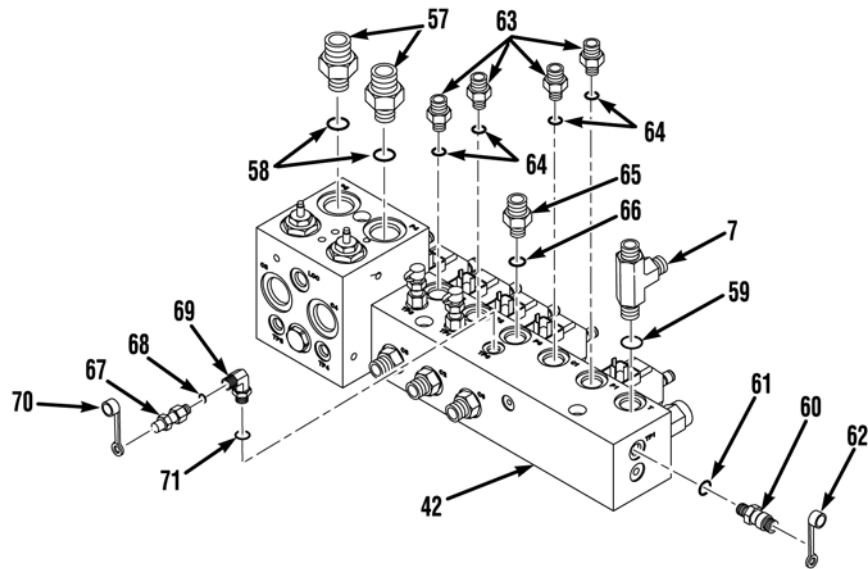




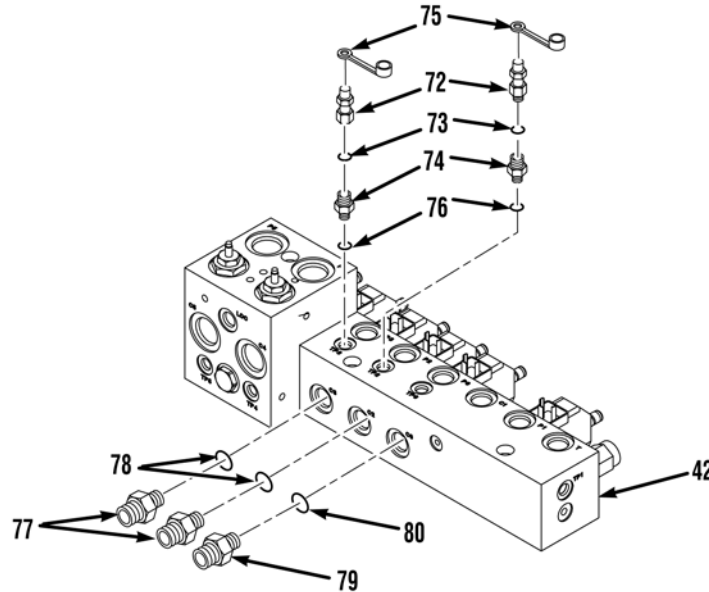
NOTE

Note position of quick disconnects, elbows, and fittings prior to removal to ensure proper installation.

15. Remove quick disconnect (48) and preformed packing (49) from tee (38).
16. Remove dust cap (50) from quick disconnect (48).
17. Remove two quick disconnects (51) and preformed packings (52) from manifold (42). Discard preformed packings.
18. Remove two dust caps (53) from quick disconnects (51).
19. Remove two elbows (54) and preformed packings (55) from manifold (42). Discard preformed packing.
20. Remove tee (38) and preformed packing (56) from manifold (42). Discard preformed packing.



21. Remove two fittings (57) and preformed packings (58) from manifold (42). Discard preformed packings.
22. Remove tee (7) and preformed packing (59) from manifold (42). Discard preformed packing.
23. Remove quick disconnect (60) and preformed packing (61) from manifold (42). Discard preformed packing.
24. Remove dust cap (62) from quick disconnect (60).
25. Remove four fittings (63) and preformed packings (64) from manifold (42). Discard preformed packings.
26. Remove fitting (65) and preformed packing (66) from manifold (42). Discard preformed packing.
27. Remove quick disconnect (67) and preformed packing (68) from elbow (69). Discard preformed packing.
28. Remove dust cap (70) from quick disconnect (67).
29. Remove elbow (69) and preformed packing (71) from manifold (42). Discard preformed packing.



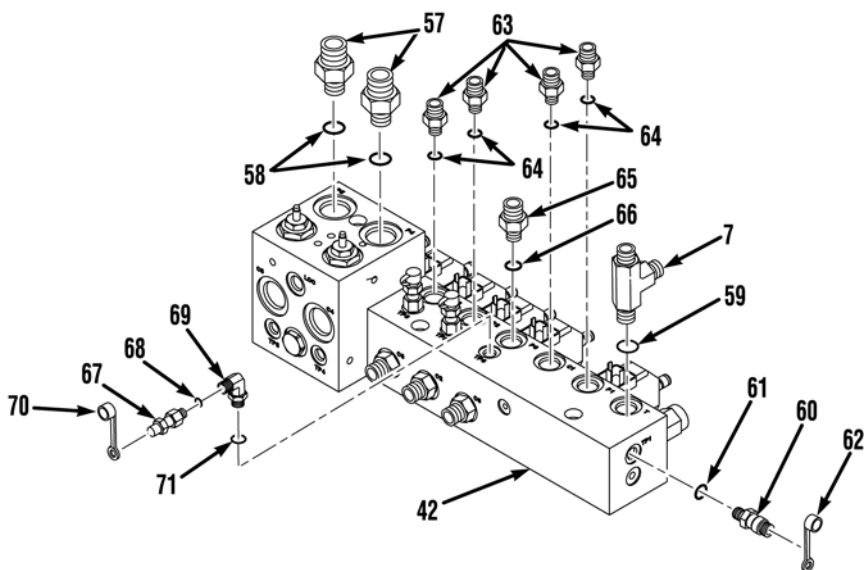
30. Remove two quick disconnects (72) and preformed packings (73) from fittings (74). Discard preformed packings.
31. Remove two dust caps (75) from quick disconnects (72).
32. Remove two fittings (74) and preformed packings (76) from manifold (42). Discard preformed packings.
33. Remove two fittings (77) and preformed packings (78) from manifold (42). Discard preformed packings.
34. Remove fitting (79) and preformed packing (80) from manifold (42). Discard preformed packing.

END OF TASK

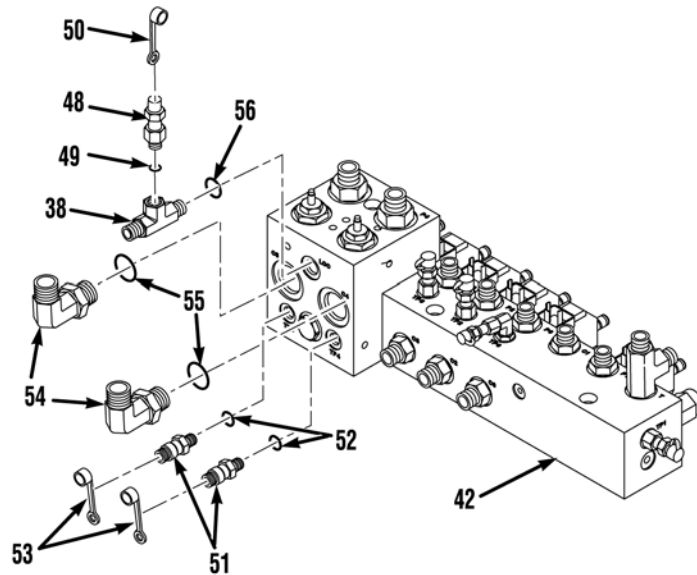
INSTALLATION

NOTE

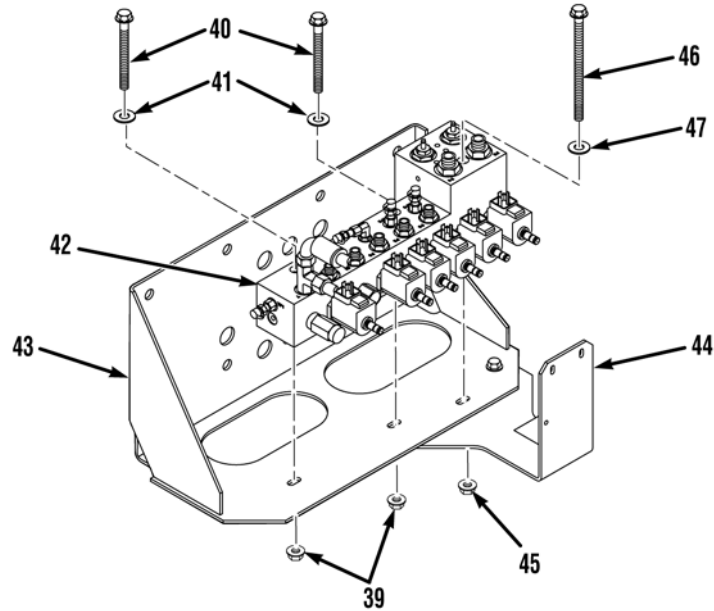
- Install quick disconnects, elbows, and fittings as noted prior to removal.
 - Install cable ties as required.
1. Lightly lubricate preformed packing (80) with clean oil and install preformed packing (80) and fitting (79) on manifold (42).
 2. Lightly lubricate two preformed packings (78) with clean oil and install preformed packings (78) and fittings (77) on manifold (42).
 3. Lightly lubricate two preformed packings (76) with clean oil and install preformed packings (76) and fittings (74) on manifold (42).
 4. Install two dust caps (75) on quick disconnects (72).
 5. Lightly lubricate two preformed packings (73) with clean oil and install preformed packings (73) and quick disconnects (72) on fittings (74).



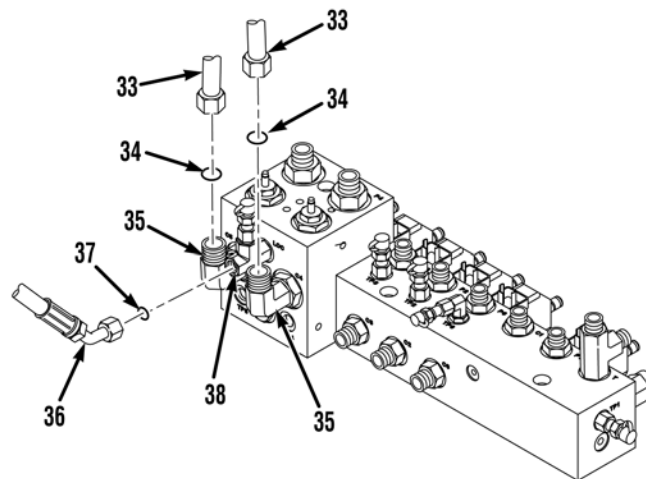
6. Lightly lubricate preformed packing (71) with clean oil and install preformed packing (71) and elbow (69) on manifold (42).
7. Install dust cap (70) on quick disconnect (67).
8. Lightly lubricate preformed packing (68) with clean oil and install preformed packing (68) and quick disconnect (67) on elbow (69).
9. Lightly lubricate preformed packing (66) with clean oil and install preformed packing (66) and fitting (65) on manifold (42).
10. Lightly lubricate four preformed packings (64) with clean oil and install preformed packings (64) and fittings (63) on manifold (42).
11. Install dust cap (62) on quick disconnect (60).
12. Lightly lubricate preformed packing (61) with clean oil and install preformed packing (61) and quick disconnect (60) on manifold (42).
13. Lightly lubricate preformed packing (59) with clean oil and install preformed packing (59) and tee (7) on manifold (42).
14. Lightly lubricate two preformed packings (58) with clean oil and install preformed packings (58) and fittings (57) on manifold (42).



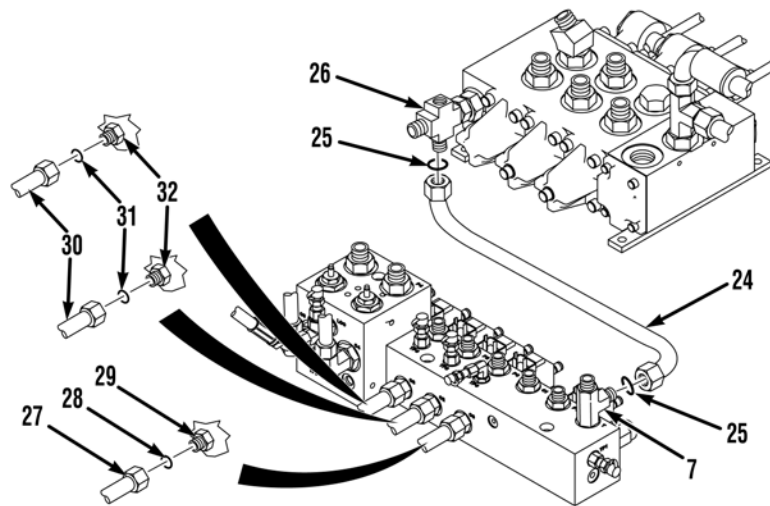
15. Lightly lubricate preformed packing (56) with clean oil and install preformed packing (56) and tee (38) on manifold (42).
16. Lightly lubricate two preformed packings (55) with clean oil and install preformed packings (55) and elbows (54) on manifold (42).
17. Install two dust caps (53) on quick disconnects (51).
18. Lightly lubricate two preformed packings (52) with clean oil and install preformed packings (52) and quick disconnects (51) on manifold (42).
19. Install dust cap (50) on quick disconnect (48).
20. Lightly lubricate preformed packing (49) with clean oil and install preformed packing (49) and quick disconnect (48) on tee (38).



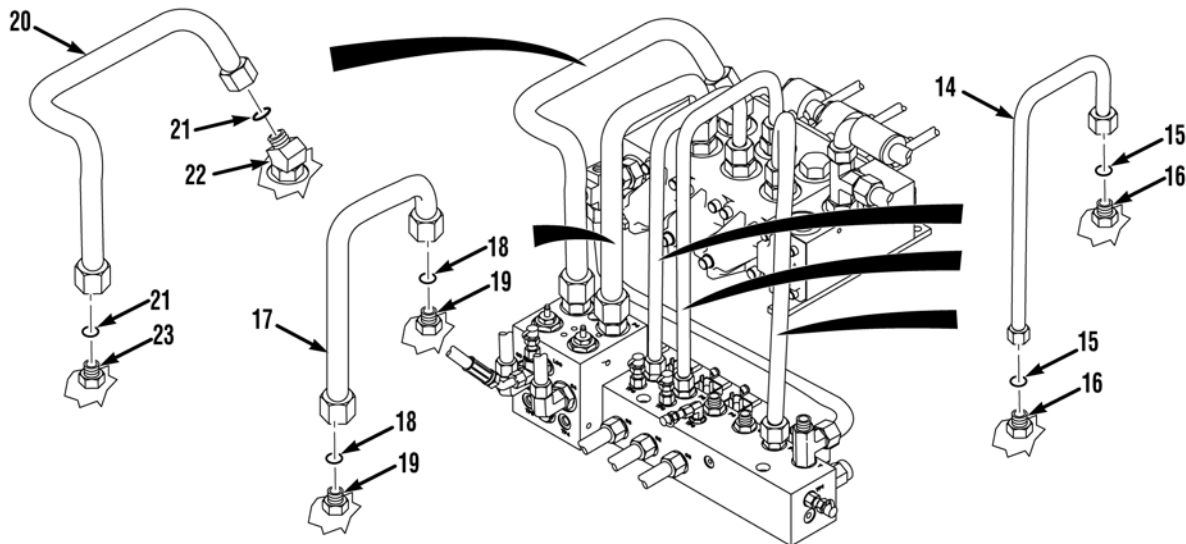
21. Install manifold (42) on two brackets (44 and 43) with washer (47), screw (46), and locknut (45).
22. Install manifold (42) on two brackets (44 and 43) with two washers (41), screws (40), and locknuts (39).



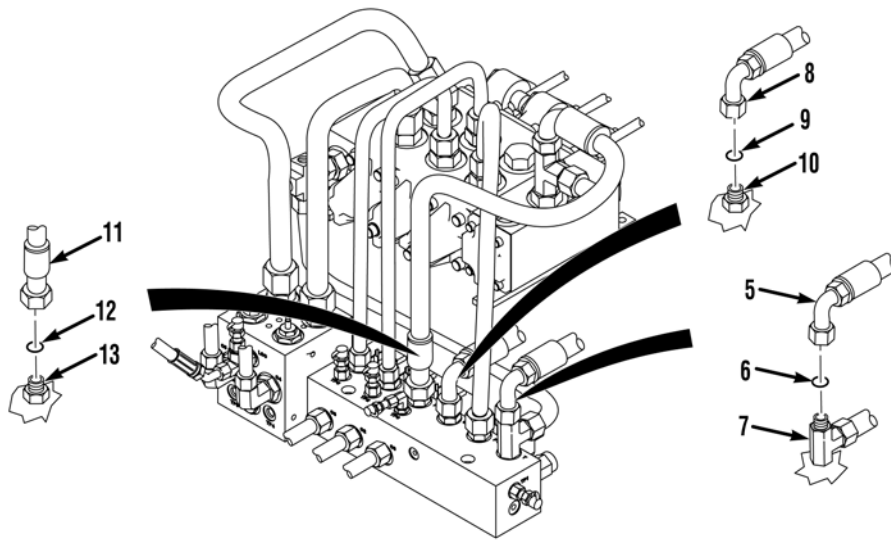
23. Lightly lubricate preformed packing (37) with clean oil and install preformed packing (37) and hose (36) on tee (38).
24. Lightly lubricate two preformed packings (34) with clean oil and install preformed packings (34) and hoses (33) on elbows (35).



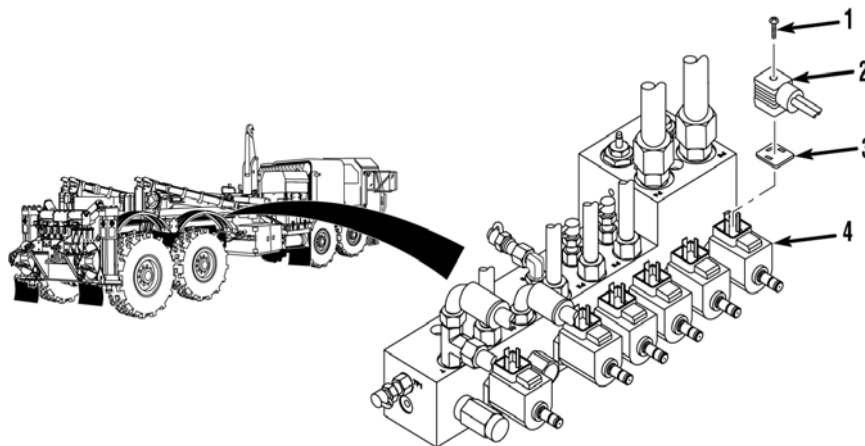
25. Lightly lubricate two preformed packings (31) with clean oil and install preformed packings (31) and hoses (30) on fittings (32).
26. Lightly lubricate preformed packing (28) with clean oil and install preformed packing (28) and hose (27) on fitting (29).
27. Lightly lubricate two preformed packings (25) with clean oil and install preformed packings (25) and tube (24) on two tees (26 and 7).



28. Lightly lubricate two preformed packings (21) with clean oil and install preformed packings (21) and tube (20) on fitting (23) and elbow (22).
29. Lightly lubricate two preformed packings (18) with clean oil and install preformed packings (18) and tube (17) on two fittings (19).
30. Lightly lubricate six preformed packings (15) with clean oil and install preformed packings (15) and three tubes (14) on six fittings (16).



31. Lightly lubricate preformed packing (12) with clean oil and install preformed packing (12) and hose (11) on fitting (13).
32. Lightly lubricate preformed packing (9) with clean oil and install preformed packing (9) and hose (8) on fitting (10).
33. Lightly lubricate preformed packing (6) with clean oil and install preformed packing (6) and hose (5) on tee (7).



34. Install six gaskets (3) and connectors (2) on solenoids (4) with screws (1).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Connect batteries (TM 9-2320-325-14&P).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
FREE-FLOW VALVE AND COIL REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Pan, Drain (WP 0183, Item 10)
 Tool Kit, General Mechanic's: Automotive
 (WP 0183, Item 25)
 Wrench, Torque (WP 0183, Item 30)

Materials/Parts

Adhesive (WP 0186, Item 3)
 Gasket, (1), (WP 0184, Item 71)
 Lockwasher, (6), (WP 0184, Item 61)
 Oil, Hydraulic (WP 0186, Item 21)
 Packing, Preformed, (1), (WP 0184, Item 75)
 Packing, Preformed (1), (WP 0184, Item 81)

Materials/Parts (Continued)

Tags, Identification (WP 0186, Item 32)
 Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

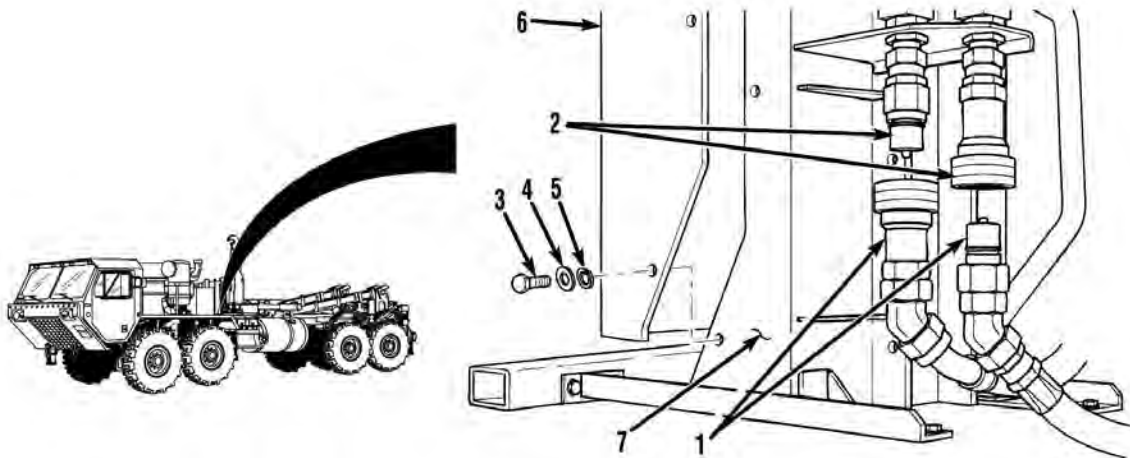
MOS 63B Wheeled vehicle mechanic

References

None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
 Wheels chocked (TM 9-2320-347-10)
 Batteries disconnected TM 9-2320-325-14&P

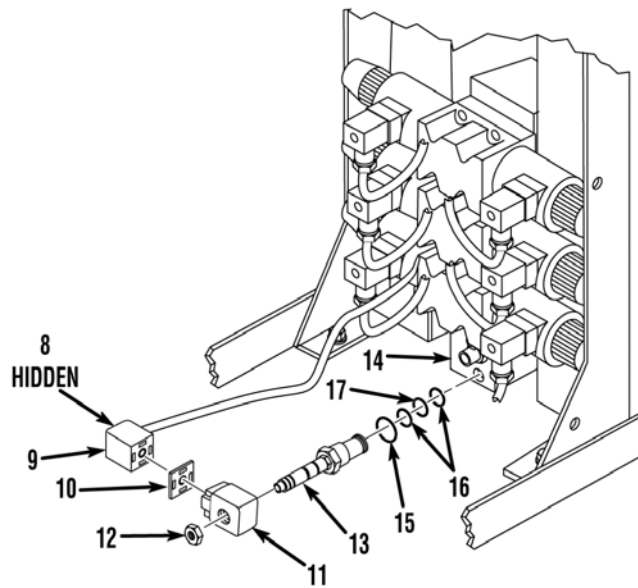
REMOVAL**WARNING**

The THAAD hydraulic system operates at oil pressure up to 3,250 psi (22,409 kPa). Never disconnect any hydraulic line or fitting without first dropping pressure to zero. Failure to comply may result in serious injury or death to personnel.

NOTE

Position drain pan under directional control valve.

1. Disconnect two hose quick disconnects (1) from quick disconnects (2).
2. Remove six screws (3), lockwashers (4), and main junction box cover (5) from bracket (6). Discard lockwashers.

**NOTE**

- Tag and mark connectors prior to removal to ensure proper installation.
- Remove cable ties as required.

3. Loosen screw (7) and remove connector (8) and gasket (9) from coil (10).

NOTE

Note position of coil prior to removal to ensure proper installation.

4. Remove nut (11) and coil (10) from free-flow valve (12).
5. Remove free-flow valve (12) from hydraulic manifold (13).
6. Remove preformed packing (14), two back-up rings (15), and preformed packing (16) from free-flow valve (12). Discard preformed packings.

END OF TASK**INSTALLATION**

1. Lightly lubricate two preformed packings (14 and 16) and back-up rings (15) with clean oil and install two preformed packings (14 and 16) and back-up rings (15) on free-flow valve (12).
2. Install free flow valve (12) on hydraulic manifold (13). Tighten free-flow valve (12) to 22 lb-ft (29.8 N•m).

NOTE

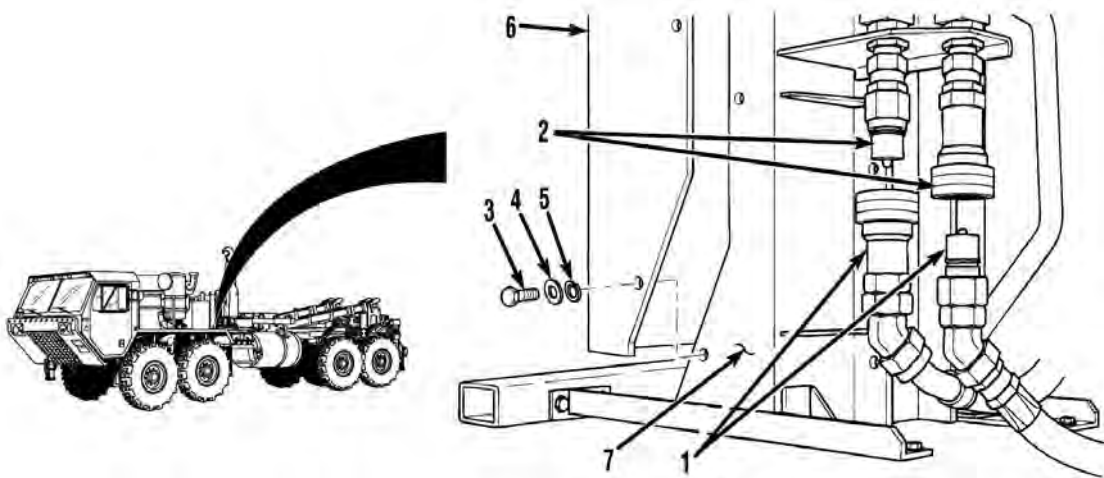
Install coil as noted prior to removal.

3. Install coil (10) on free-flow valve (12) with nut (11).
4. Install gasket (9) and connector (8) on coil (10) and tighten screw (7).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

5. Apply sealing compound to head of screw (7).



6. Install main junction box cover (5) on bracket (6) with six lockwashers (4) and screws (3).
7. Connect two hose quick disconnects (1) on quick disconnects (2).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Connect batteries (TM 9-2320-325-14&P).
2. Check operation of LHS (WP 0011).
3. Check for oil leaks (TM 9-2320-347-10)
4. Check hydraulic oil reservoir level (WP 0120).
5. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
LHS HOOK ARM CYLINDER REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Forward Repair System (WP 0183, Item 6)
Lifting Device, Minimum Capacity 2,100 lbs
(953 kg)
Spacer Plate (WP 0157, Item A-1)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wooden Block (2) (WP 0157, Item B-9)

Materials/Parts

Compound, Antiseize (WP 0186, Item 9)
Compound, Sealing, Loctite #242
(WP 0186, Item 12)
Locknut, (2), (WP 0184, Item 134)
Locknut, (1), (WP 0184, Item 25)
Lockwasher, (2), (WP 0184, Item 59)

Materials/Parts (Continued)

Lockwasher, (2), (WP 0184, Item 147)
Oil, Hydraulic (WP 0186, Item 23)

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

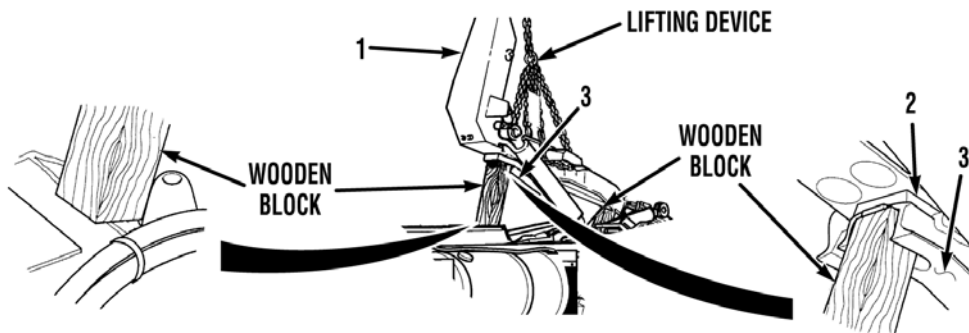
References

None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
MRP OFF-loaded (WP 0011)
LHS hook arm manifold removed (WP 0130)

REMOVAL



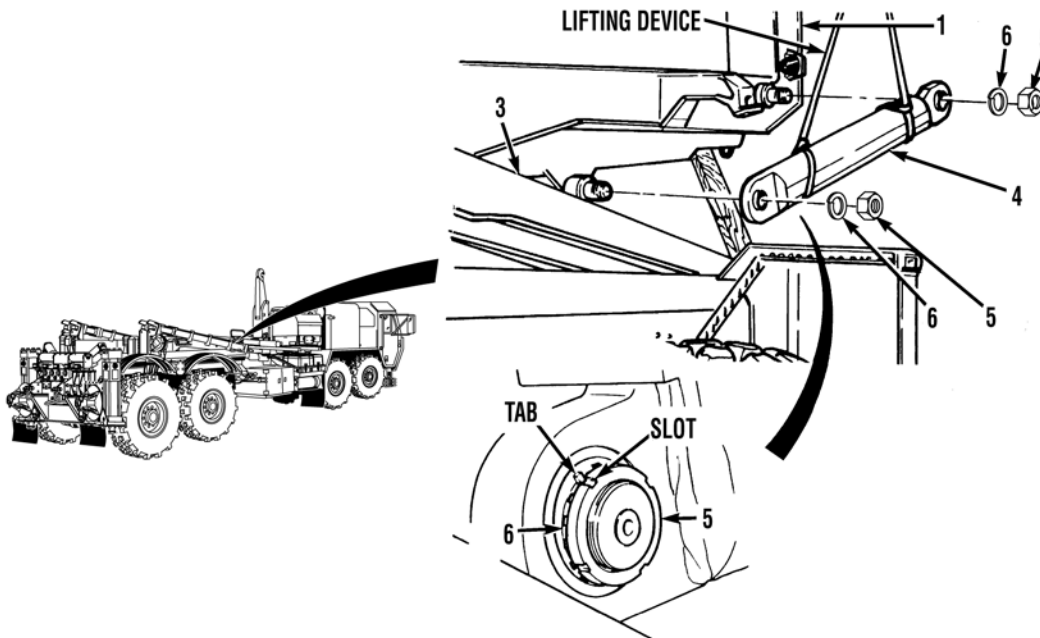
WARNING

- Hook arm weighs 1,100 lbs (499 kg). Attach suitable lifting device prior to removal to prevent possible injury to personnel.
- Ensure wooden blocks supporting main frame remain in place when raising hook arm. Failure to comply may result in serious injury or death to personnel.

NOTE

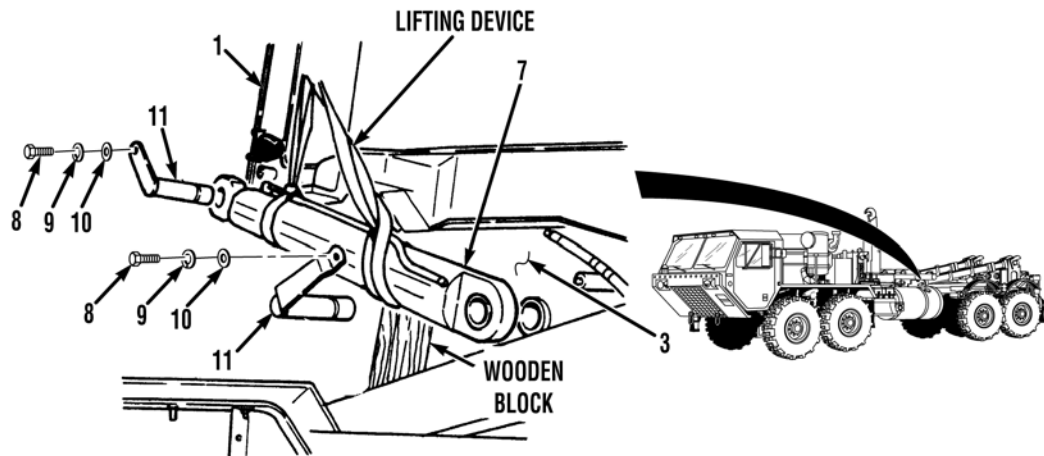
Spacer plate must be placed between hook arm and main frame to allow removal of hook arm cylinders.

1. Attach suitable lifting device to hook arm (1).
2. Using suitable lifting device, lift hook arm (1) and place spacer plate (2) between main frame (3) and hook arm (1).
3. Lower suitable lifting device and remove suitable lifting device from hook arm (1).



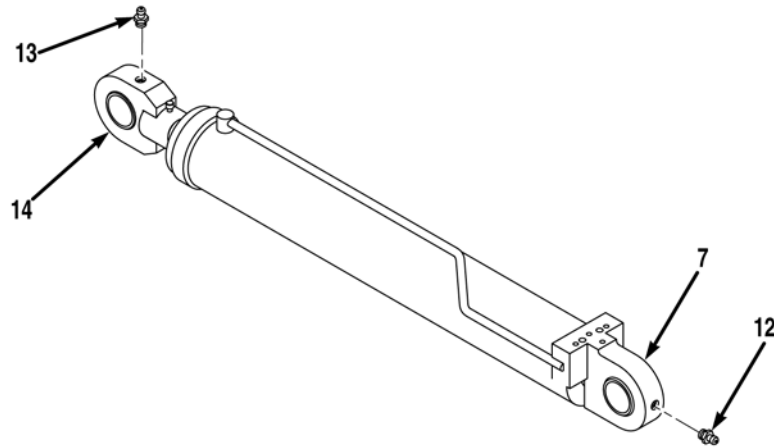
WARNING

- **Hook arm cylinder weighs 210 lbs (95 kg). Attach suitable lifting device prior to removal to prevent possible injury to personnel.**
 - **Ensure hook arm assembly is supported with wooden blocks prior to removal to prevent possible injury to personnel.**
4. Attach suitable lifting device to right side cylinder (4).
 5. Remove two locknuts (5) and lockwashers (6) from right side cylinder (4) by bending lockwasher (6) tabs out of locknut (5) slots. Discard locknuts and lockwashers.
 6. Using suitable lifting device, remove right side cylinder (4) from hook arm (1) and main frame (3).
 7. Remove suitable lifting device from right side cylinder (4).

**WARNING**

Hook arm cylinder weighs 210 lbs (95 kg). Attach suitable lifting device prior to removal to prevent possible injury to personnel.

8. Attach suitable lifting device to left side cylinder (7).
9. Remove two screws (8), lockwashers (9), washers (10), cylinder shafts (11), and left side cylinder (7) from hook arm (1) and main frame (3). Discard lockwashers.
10. Remove suitable lifting device from left side cylinder (7).

**NOTE**

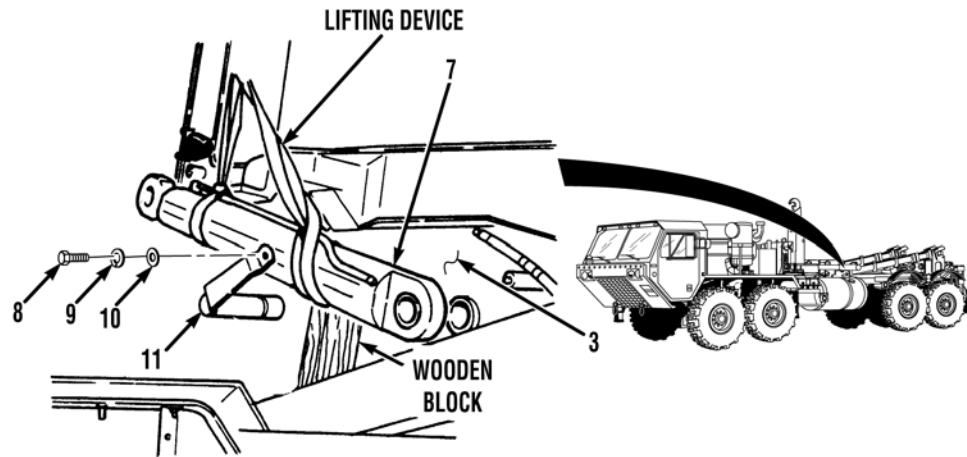
Grease fittings on both cylinders are removed the same way. Left side shown.

11. Remove two grease fittings (12 and 13) from left side cylinder (7) and rod lug (14).

END OF TASK**INSTALLATION****NOTE**

Grease fittings on both cylinders are installed the same way.

1. Install two grease fittings (12 and 13) on left side cylinder (7) and rod lug (14).



WARNING

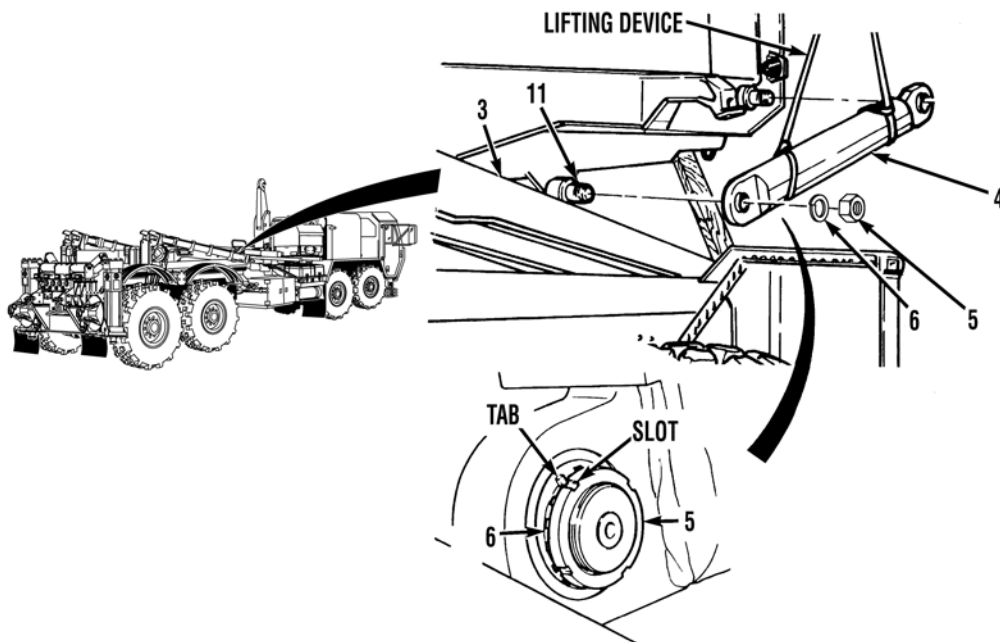
Hook arm cylinder weighs 210 lbs (95 kg). Attach suitable lifting device prior to installation to prevent possible injury to personnel.

2. Attach suitable lifting device to left side cylinder (7).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

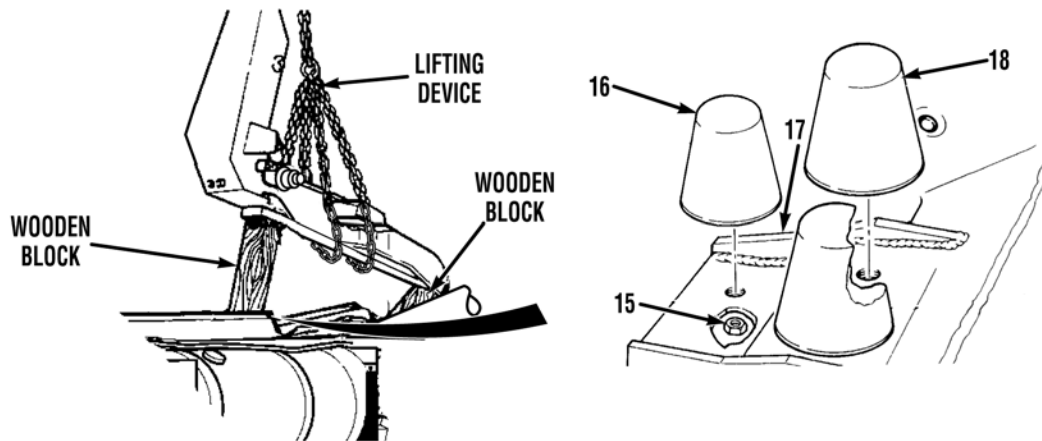
3. Apply antiseize compound on cylinder shaft (11).
4. Using suitable lifting device, install barrel end (rear) of left side cylinder (7) on main frame (3) with cylinder shaft (11).
5. Install washer (10), lockwasher (9), and screw (8) on cylinder shaft (11).
6. Lower left side cylinder (7) and remove suitable lifting device.



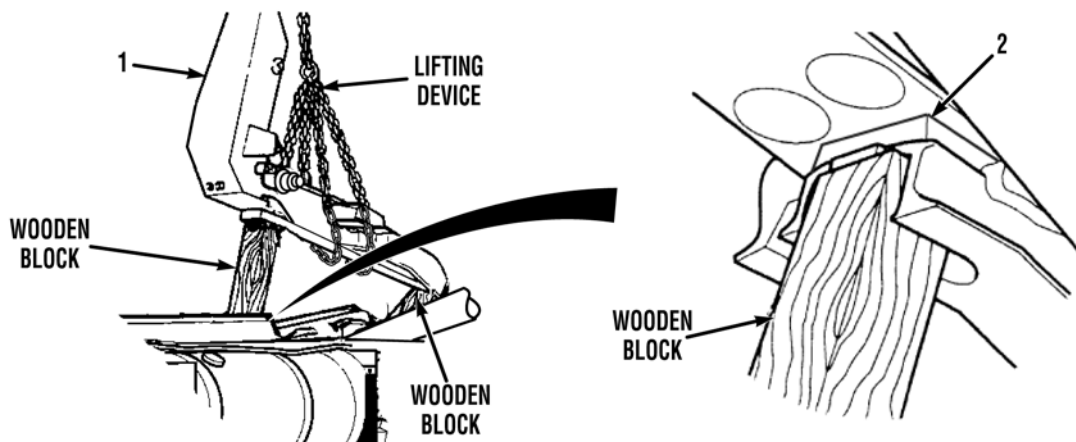
WARNING

Hook arm cylinders weighs 210 lbs (95 kg). Attach suitable lifting device prior to installation to prevent possible injury to personnel.

7. Attach suitable lifting device to right side cylinder (4).
8. Using suitable lifting device, install barrel end (rear) of right side cylinder (4) on cylinder shaft (11) of main frame (3).
9. Install lockwasher (6) and locknut (5) on cylinder shaft (11). Bend lockwasher (6) tab into locknut (5) slot.
10. Lower right side cylinder (4) and remove suitable lifting device.



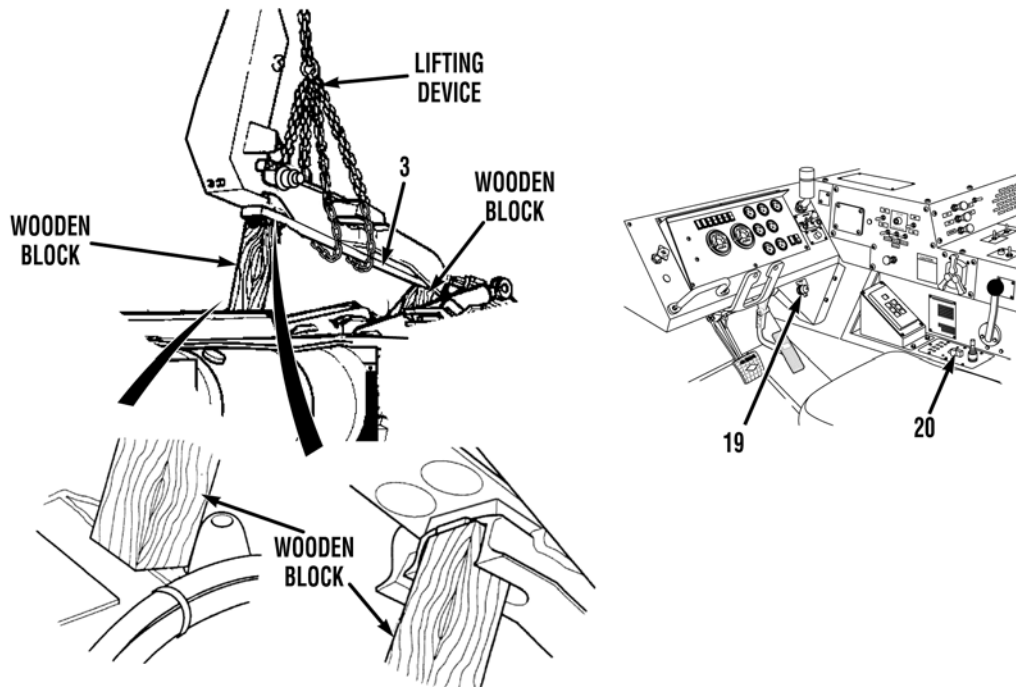
11. Remove locknut (15) and rubber bumper (16) from compression frame (17).
12. Remove two rubber bumpers (18) from compression frame (17).



WARNING

Hook arm weighs 1,100 lbs (499 kg). Attach suitable lifting device prior to removing spacer plate. Failure to comply may result in serious injury or death to personnel.

13. Attach suitable lifting device to hook arm (1).
14. Using suitable lifting device, lift hook arm (1) and remove spacer plate (2).
15. Lower suitable lifting device, and remove suitable lifting device from hook arm (1).



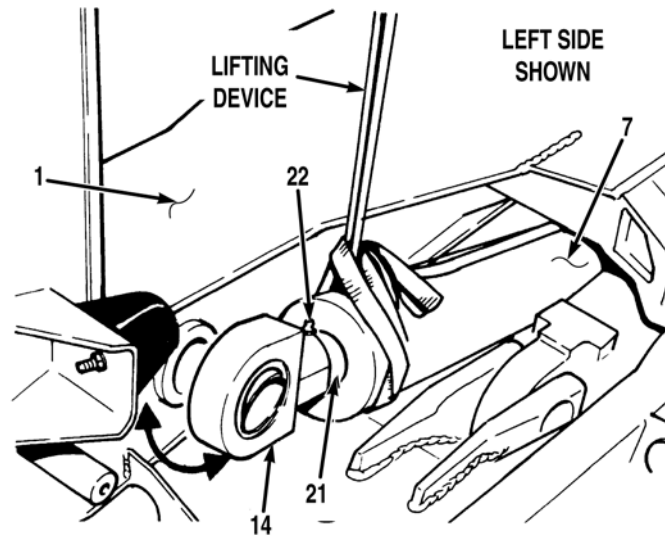
WARNING

Main frame and hook arm have a combined weight of 2,100 lbs (953 kg). Attach suitable lifting device to main frame before removing wooden blocks.

CAUTION

Block supporting main frame can fall when frame is supported with suitable lifting device. Soldier must prevent blocks from falling. Failure to comply may result in damage to equipment.

16. Turn engine switch (19) to ON position.
17. Turn hydraulic selector switch (20) to MAN TRANSIT position.
18. With suitable lifting device attached to main frame (3), Soldier A raises main frame (3) while Soldier B removes blocking.
19. Soldier A lowers main frame (3) completely.
20. Remove suitable lifting device from main frame (3).
21. Turn hydraulic selector switch (20) and engine switch (19) to OFF position.



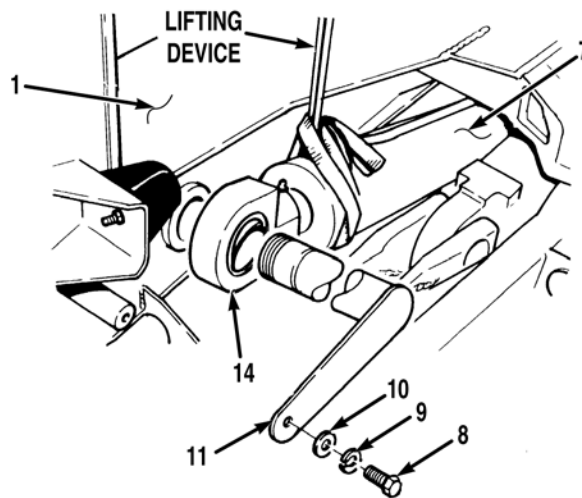
WARNING

Hook arm cylinder weighs 210 lbs (95 kg). Attach suitable lifting device prior to installation to prevent possible injury to personnel.

NOTE

Steps (22) through (25) are for cylinder adjustment. Adjustment must be completed before completing installation of cylinders. Both cylinders are adjusted the same way. Left side shown.

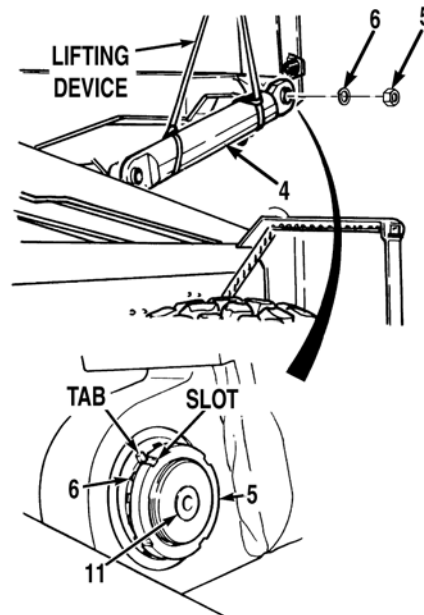
22. Attach suitable lifting device on left side cylinder (7).
23. Adjust cylinder by supporting left side cylinder (7) using suitable lifting device, and fully retract cylinder rod (21) in left side cylinder (7).
24. Pull cylinder rod (21) out .25 in. (6.4 mm).
25. Loosen hex head screw (22) and rotate rod lug (14) so rod lug bore lines up with cylinder shaft bore in hook arm (1). Tighten hex head screw (22) to 40 lb-ft. (54 N•m).



WARNING

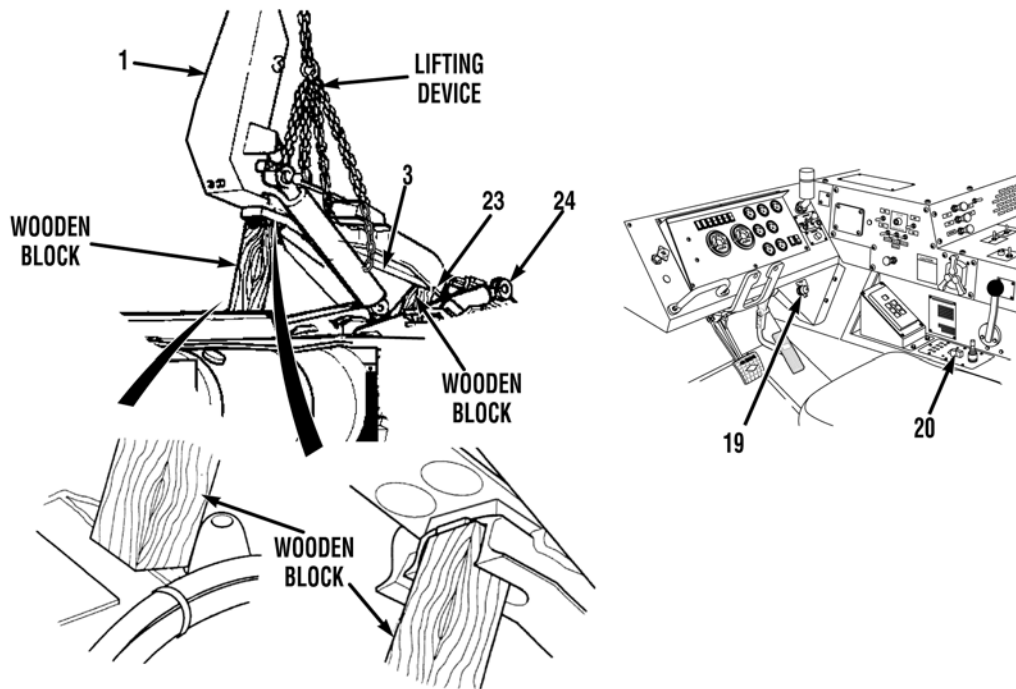
Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

26. Apply antiseize compound on cylinder shaft (11).
27. Install left side cylinder (7) (rod lug end) with cylinder shaft (11), washer (10), lockwasher (9), and screw (8) on hook arm (1) when rod lug (14) bore and bore in hook arm (1) line up.
28. Remove suitable lifting device from left side cylinder (7).

**WARNING**

Hook arm cylinder weighs 210 lbs (95 kg). Attach suitable lifting device prior to installation to prevent possible injury to personnel.

29. Attach suitable lifting device on right side cylinder (4).
30. Repeat steps (23) through (25) to adjust right side cylinder (4).
31. Using suitable lifting device, install right side cylinder (4) (rod lug end) on cylinder shaft (11) with lockwasher (6) and locknut (5).
32. Bend lockwasher (6) tab into locknut (5) slot.
33. Remove suitable lifting device from right side cylinder (4).



34. Turn engine switch (19) to ON position.
35. Turn hydraulic selector switch (20) to MAN TRANSIT position.

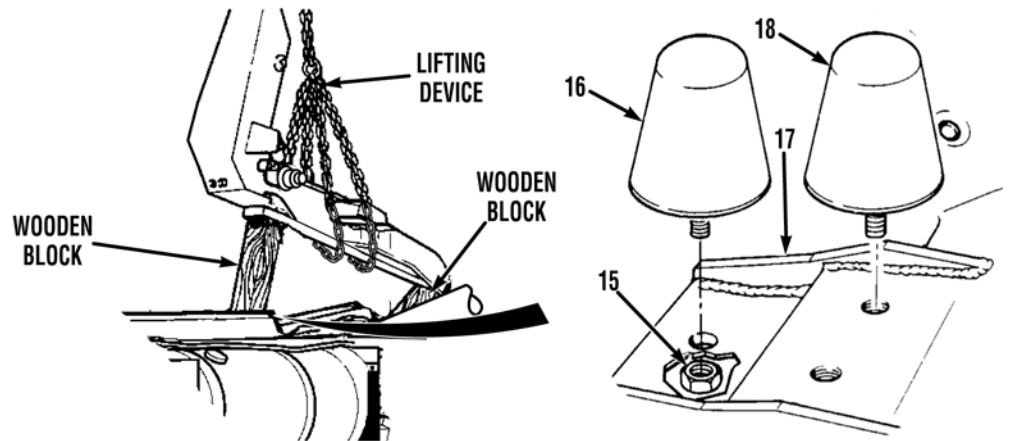
WARNING

Main frame and hook arm combined weight is 2,100 lbs (953 kg). Main frame must be raised with a suitable lifting device and supported with two wooden blocks. Failure to comply may result in serious injury or death to personnel.

36. Attach suitable lifting device to main frame (3).
37. Soldier A raises main frame (3) up until hook arm pivot pin (23) is above main frame cylinder (24), while Soldier B blocks up main frame (3) in two places.
38. Soldier A lowers main frame (3) onto two wooden blocks.
39. Turn hydraulic selector switch (20) and engine switch (19) to OFF position.

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.



40. Apply sealing compound to threads of two rubber bumpers (18).
41. Install two rubber bumpers (18) on compression frame (17).
42. Install rubber bumper (16) on compression frame (17) with locknut (15).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install LHS hook arm manifold (WP 0130).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

LHS HOOK ARM FRAME REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Lifting Device, Minimum Capacity 1,100 lbs
(499 kg)
Pliers, Retaining (WP 0183, Item 12)
Remover, Bearing and (WP 0183, Item 13)
Remover, Bearing and (WP 0183, Item 14)
Remover, Bearing and (WP 0183, Item 15)
Screw, Lead (WP 0183, Item 16)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Washer, Flat (WP 0183, Item 28)
Wooden Block (2) (WP 0157, Item B-2)

Materials/Parts

Bushing, (2), (WP 0184, Item 28)
Cleaning Compound, Solvent (WP 0186, Item 7)
Ring, Retaining, (2), (WP 0184, Item 131)

Materials/Parts (Continued)

Cloth, Cleaning (WP 0186, Item 8)
Grease, Automotive and Artillery (WP 0186, Item 18)
Locknut, (2), (WP 0184, Item 25)
Seal, (4), (WP 0184, Item 85)

Personnel Required

MOS 63B Wheeled vehicle mechanic

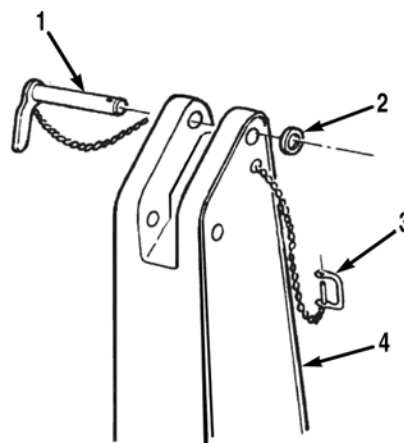
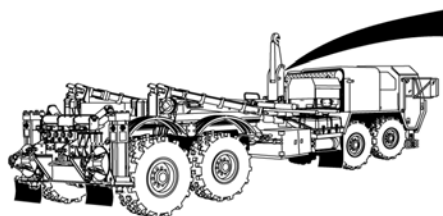
References

None

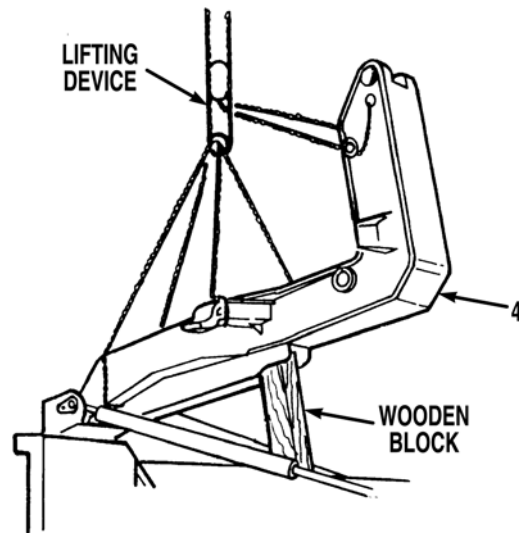
Equipment Conditions

LHS hook arm cylinder removed (WP 0128)
LHS hook removed (WP 0131)

REMOVAL



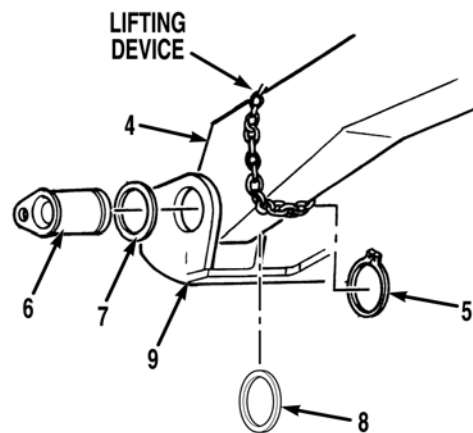
1. Install pivot pin (1), washer (2), and snapper pin (3) in hook arm (4).



WARNING

Hook arm weighs 1,100 lbs (499 kg). Attach suitable lifting device to hook arm prior to removal. Failure to comply may result in serious injury or death to personnel.

2. Attach suitable lifting device to hook arm (4).



WARNING

Use care when removing retaining rings. Retaining rings are under tension and can act as projectiles when released. Failure to comply may result in serious injury or death to personnel.

NOTE

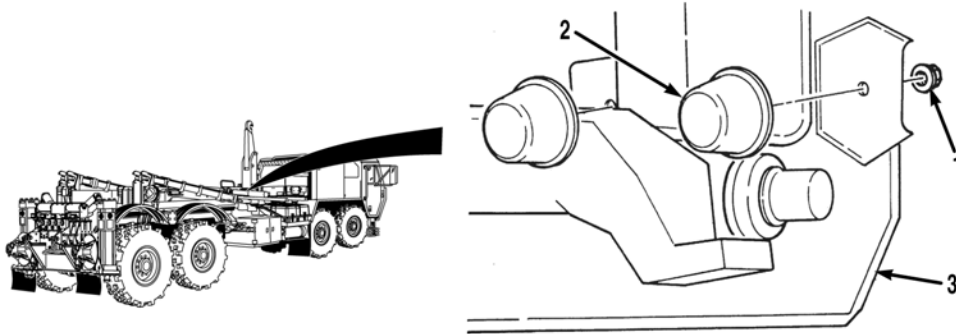
Spacer shim(s) may or may not be present.

3. Using suitable lifting device, support hook arm (4) and remove two retaining rings (5), pivot pins (6), shims (7), and spacer shim(s) (8) from hook arm (4) and main frame (9).

4. Using suitable lifting device, remove hook arm (4) from main frame (9).
5. Remove suitable lifting device from hook arm (4).

END OF TASK

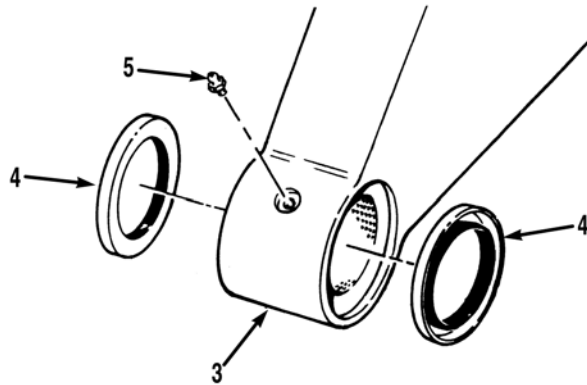
DISASSEMBLY



NOTE

If hook arm retaining pin or snap pin replacement is necessary, grind chain tack weld smooth on hook arm surface and tack weld pin chain at same location.

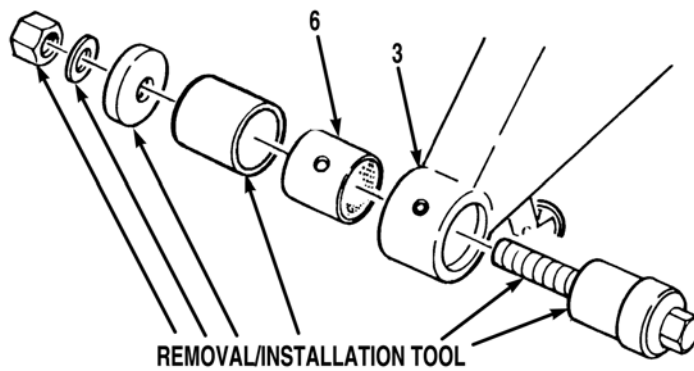
1. Remove two locknuts (1) and rubber bumpers (2) from hook arm (3). Discard locknuts.



NOTE

Seals are removed by prying outward.

2. Remove four seals (4) from hook arm (3). Discard seals.
3. Remove two lube fittings (5) from hook arm (3).



4. Using removal/installation tool (six pieces), remove two bushings (6) from hook arm (3) as shown. Discard bushings.

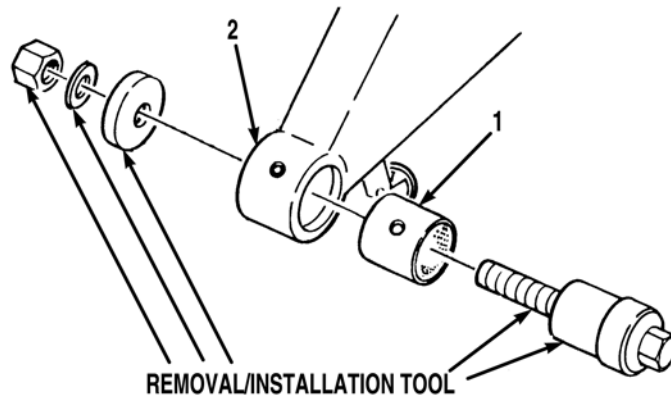
END OF TASK

CLEANING/INSPECTION**WARNING****SOLVENT CLEANING COMPOUND**

Solvent cleaning compound MIL-PRF-680 Type II and III may be irritating to the eyes and skin. Use protective gloves and goggles. Use in well-ventilated areas. Use respirator as needed. Accidental ingestion can cause irritation of digestive tract and respiratory tract, may cause lung and central nervous system damage. Can be fatal if swallowed. Inhalation of high/massive concentrations can cause coma or be fatal. First aid for ingestion: do not induce vomiting. Seek immediate medical attention. First aid for skin contact: remove contaminated clothing. Wash skin thoroughly with soap and water. If symptoms persist, seek medical attention. First aid for eye contact: flush with water for 15 minutes or until irritation subsides. If symptoms persist, seek medical attention. First aid for inhalation: move to fresh air. If not breathing, provide artificial respiration. If symptoms persist, seek medical attention. Keep away from open flames and other sources of ignition. Failure to follow this warning may result in injury or death to personnel.

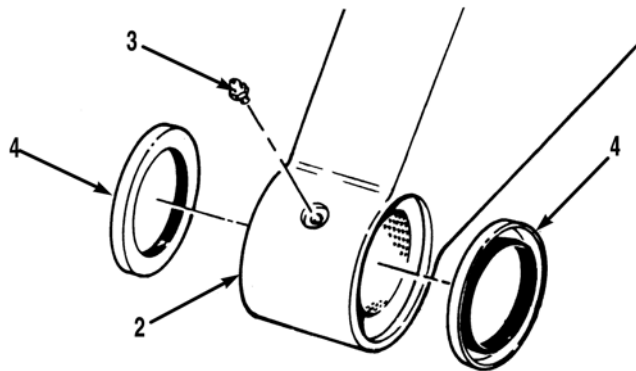
- The flashpoint for type II solvent cleaning compound is 141-198°F (61-92°C) and type III is 200-241°F (93-116°C).
 - Improper cleaning methods and use of unauthorized cleaning solvents may injure personnel and damage equipment
 - Fire extinguishers should be placed nearby when using solvent cleaning compound. Failure to follow this warning may result in injury or death.
 - Cloths or rags saturated with solvent cleaning compound must be disposed of IAW authorized facilities' procedures. Failure to follow this warning may result in injury.
 - Eye shields must be worn when cleaning with a wire brush. Flying rust and metal particle may cause injury.
1. Clean metal surfaces with solvent cleaning compound and wipe seals and bushings with a clean cloth.
 2. Inspect hook arm for cracked welds and damage. Replace or repair as necessary.
 3. Inspect bushings for wear. Replace bushings if pivot pin has worn through bushings surface and metal is showing through.
 4. Wipe rubber bumpers with a clean cloth; do not use solvent cleaning compound. Replace rubber bumpers if rubber part is cracking, crumbling, or loose from threaded metal base.

END OF TASK

ASSEMBLY**NOTE**

- Apply light coat of grease to outer surface of bushings prior to installation.
- Apply light coat of grease to threads of removal/installation tool prior to use.

1. Using removal/installation tool (use five of six pieces), align lube hole in bushing (1) with lube fitting hole in hook arm (2) and install two bushings (1) in hook arm (2) as shown.

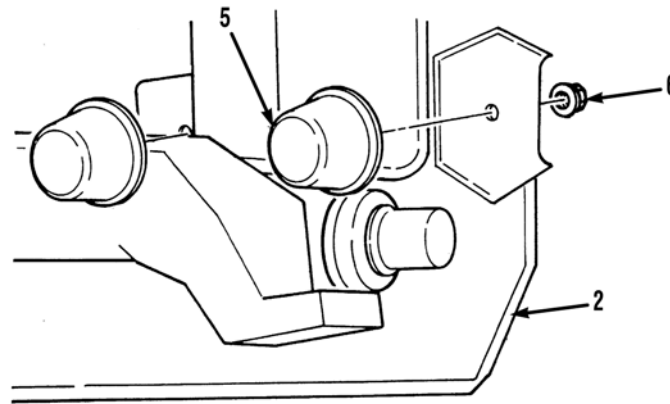


2. Check lube fitting hole in hook arm (2) for restrictions.

NOTE

If lube fitting hole is restricted by bushing, go to step (4) of disassembly.

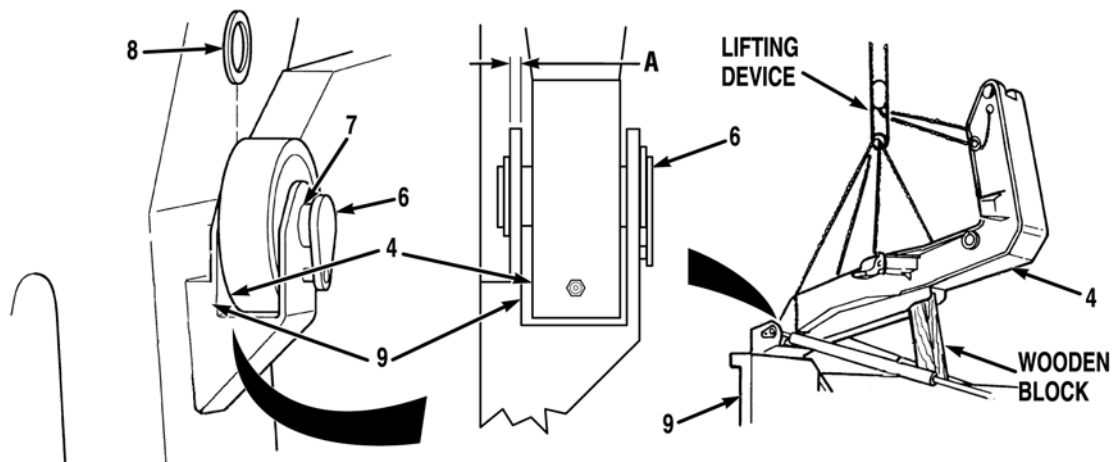
3. Install two lube fittings (3) in hook arm (2).
4. Apply light coat of grease to outer edges of seal (4) and install four seals (4) in hook arm (2).



5. Install two rubber bumpers (5) on hook arm (2) with two locknuts (6).

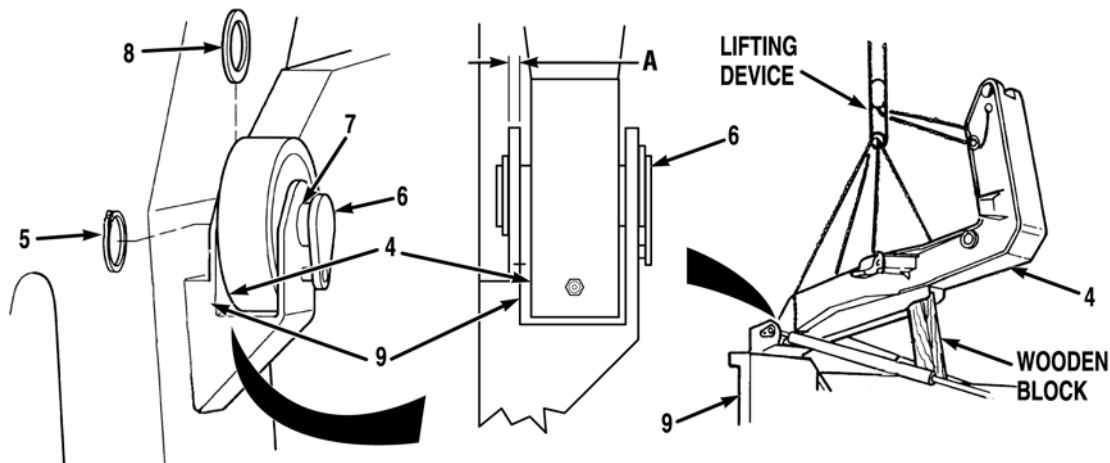
END OF TASK

INSTALLATION/ADJUSTMENT



WARNING

- Hook arm weighs 1,100 lbs (499 kg). Attach suitable lifting device to hook arm prior to removal. Failure to comply may result in serious injury or death to personnel.
 - Ensure hook arm is supported with wooden blocks during installation. Failure to comply may result in serious injury or death to personnel.
1. Attach suitable lifting device to hook arm (4) and place hook arm (4) in installation position on main frame (9).
 2. Apply light coat of grease to pivot pins (6) and install two shims (7) and pivot pins (6) on main frame (9) and hook arm (4).



NOTE

- Spacer shim is 0.0747 in. (1.9 mm) thick. Add one spacer shim per every 0.0747 in. (1.9 mm) gap between inside lip and hook arm.
- Only add spacer shim if area between inside lip and hook arm exceeds 0.0747 in. (1.9 mm).
- Perform steps (3) through (6) if spacer shim(s) are required. Right side shown.

3. Position hook arm (4) fully to right side of vehicle. Use a pry bar if needed.
4. Measure distance between hook arm (4) and inside lip of main frame (9). Record as measurement "A".

NOTE

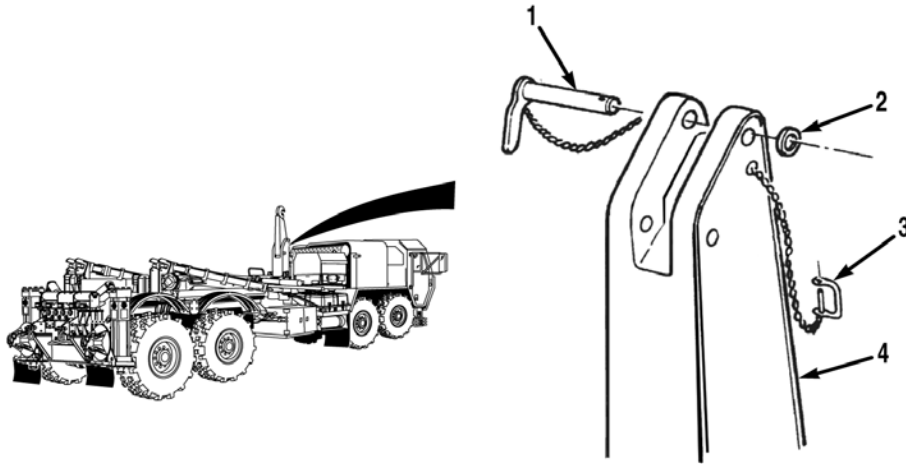
Do not completely remove pivot pin.

5. Partially remove right-side pivot pin (6) until spacer shim(s) (8) can be installed between hook arm (4) and main frame (9).
6. Position spacer shim(s) (8) as required between inside lip of main frame (9) and hook arm (4).
7. Install right-side pivot pin (6) through spacer shim(s) (8) and inside lip of main frame (9).

WARNING

Use care when installing retaining rings. Retaining rings are under tension and can act as projectiles when released. Failure to comply may result in serious injury or death to personnel.

8. Install retaining rings (5) on pivot pin (6).
9. Remove suitable lifting device from hook arm (4).



10. Remove snapper pin (3) from pivot pin (1).
11. Remove washer (2) and pivot pin (1) from hook arm (4).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install LHS hook (WP 0131).
2. Install LHS hook arm cylinder (WP 0128).

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

LHS HOOK ARM MANIFOLD REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Lifting Device, Minimum Capacity 2,500 lbs
(1,135 kg)
Pan, Drain (WP 0183, Item 10)
Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wooden Block (2) (WP 0157, Item B-5)

Materials/Parts

Adhesive (WP 0186, Item 3)
Gasket, (2), (WP 0184, Item 71)
Lockwasher, (4), (WP 0184, Item 33)
Oil, Hydraulic (WP 0186, Item 21)
Packing, Preformed, (2), (WP 0184, Item 77)

Materials/Parts (Continued)

Packing, Preformed, (2), (WP 0184, Item 99)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

MOS 63B Wheeled vehicle mechanic

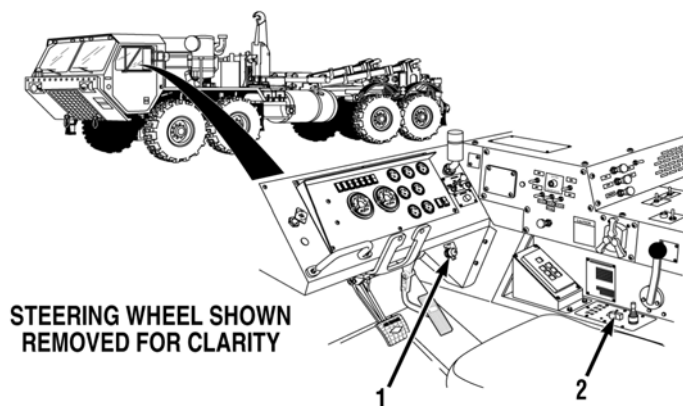
References

TM 9-2320-325-14&P

Equipment Conditions

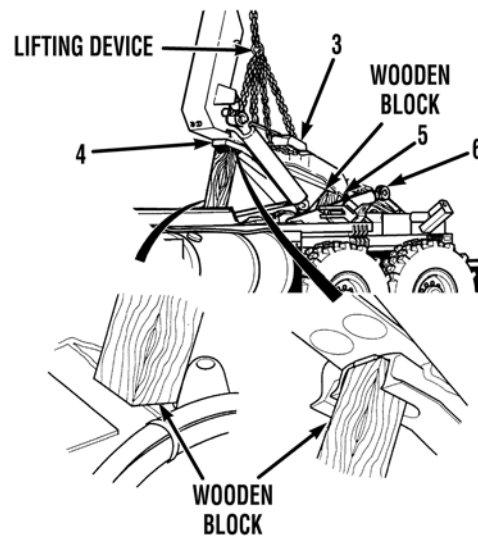
MRP off-loaded (WP 0011)
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

REMOVAL

**WARNING**

- The THAAD hydraulic system operates at oil pressure up to 3,250 psi (22,409 kPa). Never disconnect any hydraulic line or fitting without first dropping pressure to zero. Failure to comply may result in serious injury or death to personnel.
- Main frame cylinder pressure must be relieved before lifting hook arm. Failure to comply may result in serious injury to personnel and/or damage to equipment.

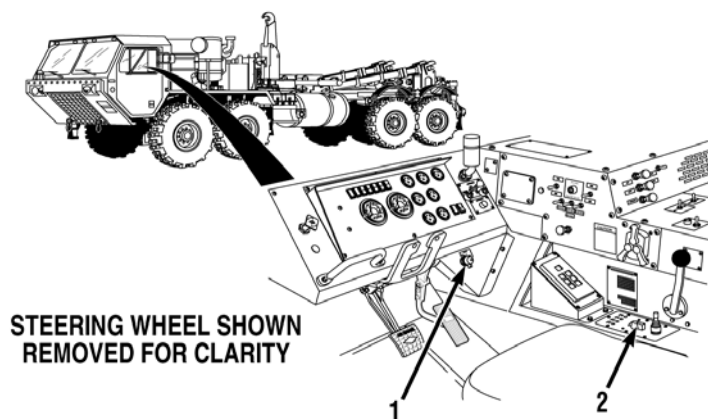
1. Turn engine start switch (1) to ON position.
2. Turn hydraulic selector switch (2) to MAN TRANSIT position.



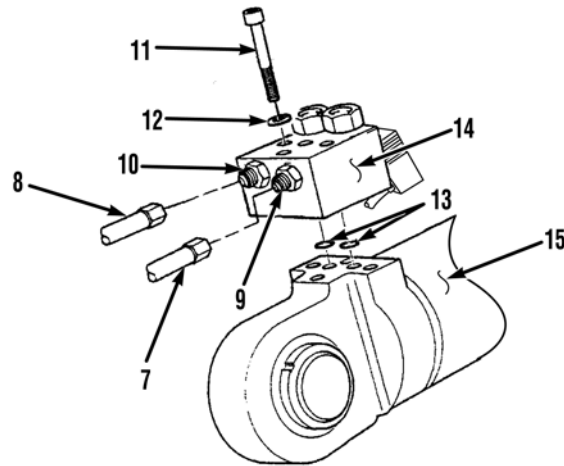
WARNING

Main frame and hook arm combined weight is 2100 lbs (953 kg). Main frame must be raised with a suitable lifting device and supported with two wooden blocks. Failure to comply may result in serious injury or death to personnel.

3. Attach suitable lifting device to hook arm (3).
4. Soldier A raises main frame (4) up until hook arm pivot pin (5) is above main frame cylinder (6), while Soldier B blocks up main frame (4) in two places.
5. Soldier A lowers main frame (4) on two wooden blocks.
6. Remove suitable lifting device from hook arm (3).



7. Turn hydraulic selector switch (2) and engine start switch (1) to OFF position.
8. Disconnect batteries TM 9-2320-325-14&P.



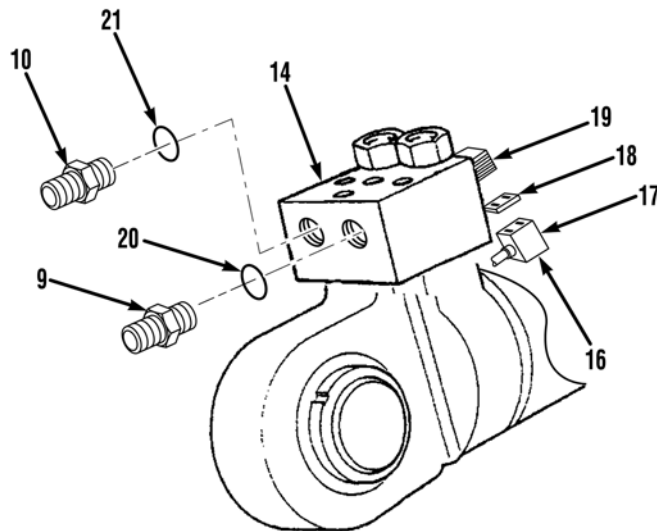
NOTE

- Both hook arm cylinder manifolds are removed the same way. Right side shown.
 - Position drain pan under hydraulic lines and fittings being removed.
 - Tag and mark connectors and hydraulic lines prior to removal to ensure proper installation.
 - Cap and plug hydraulic lines upon removal.
 - Remove cable ties as required.
9. Remove hose 2892 (7) and hose 2882 (8) from two fittings (9 and 10).

WARNING

Hook arm cylinder manifold will have hydraulic pressure behind it. Hook arm cylinder manifold must be covered with clean rag and screws loosened equally on manifold to prevent oil spray. Failure to comply may result in serious injury to personnel.

10. Remove four screws (11), lockwashers (12), two preformed packings (13), and hook arm manifold (14) from hook arm cylinder (15). Discard lockwashers and preformed packings.



11. Loosen two screws (16) and remove connectors (17) and gaskets (18) from solenoid valve coils (19). Discard gaskets.
12. Remove two fittings (9 and 10) and preformed packings (20 and 21) from hook arm manifold (14). Discard preformed packings.

END OF TASK

INSTALLATION

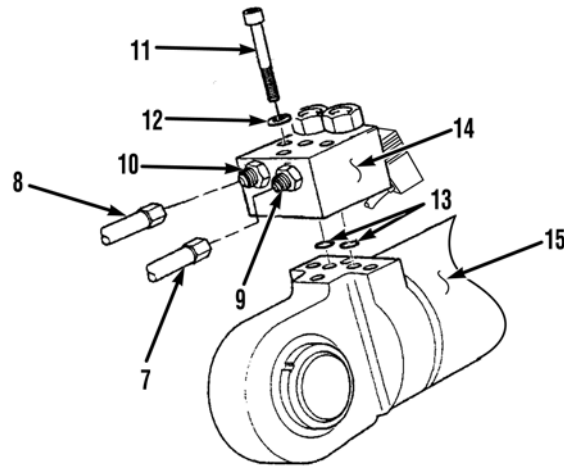
NOTE

- Both hook arm manifolds are installed the same way. Right side shown.
 - Install cable ties as required.
1. Lightly lubricate two preformed packings (20 and 21) with clean oil and install preformed packings (20 and 21) and fittings (9 and 10) on hook arm manifold (14).
 2. Install two gaskets (18) and connectors (17) on solenoid valve coils (19) and tighten screws (16).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

3. Apply adhesive on head of two screws (16).

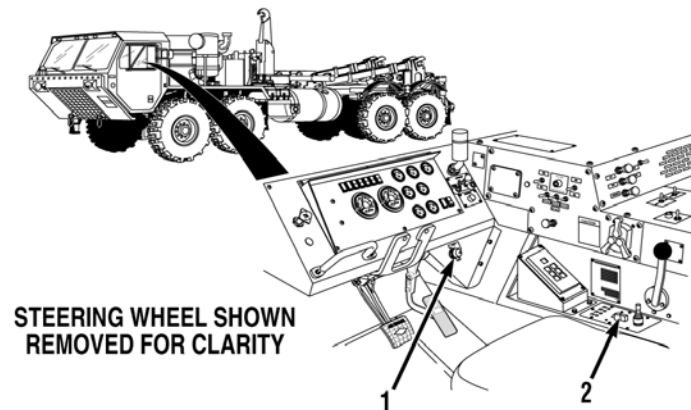


4. Lightly lubricate two preformed packings (13) with clean oil and install two preformed packings (13) on hook arm manifold (14).
5. Install hook arm manifold (14) on hook arm cylinder (15) with four lockwashers (12) and screws (11).

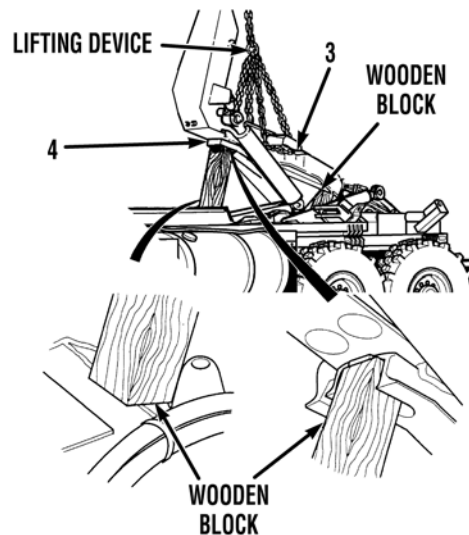
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

6. Apply adhesive in countersunk holes around heads of four screws (11).
7. Install hose 2892 (7) and hose 2882 (8) on two fittings (9 and 10).
8. Connect batteries (TM 9-2320-325-14&P).



9. Turn engine start switch (1) to ON position.
10. Turn hydraulic selector switch (2) to MAN TRANSIT position.



WARNING

Main frame and hook arm combined weight is 2100 lbs (953 kg). Main frame must be raised with a suitable lifting device before removing two wooden blocks. Failure to comply may result in serious injury or death to personnel.

CAUTION

Blocks supporting main frame can fall when main frame is raised. Soldier must prevent blocks from falling. Failure to comply may result in damage to equipment.

11. With suitable lifting device attached to hook arm (3) Soldier A operates suitable lifting device and raises main frame (4) while Soldier B removes blocking.
12. Soldier A lowers main frame (4).

13. Remove suitable lifting device from hook arm (3).
14. Turn hydraulic selector switch (2) and engine start switch (1) to OFF position.

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Check for proper operation of LHS (WP 0011).
2. Check for oil leaks (TM 9-2320-347-10)
3. Check hydraulic oil reservoir level (WP 0120).
4. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE**LHS HOOK REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Lifting Device, Minimum Capacity 200 lbs (91 kg)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Compound, Antiseize (WP 0186, Item 9)
Pin, Cotter (1), (WP 0184, Item 136)

Personnel Required

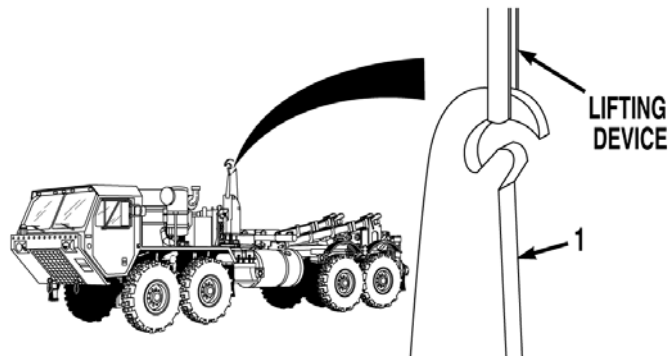
MOS 63B Wheeled vehicle mechanic

References

None

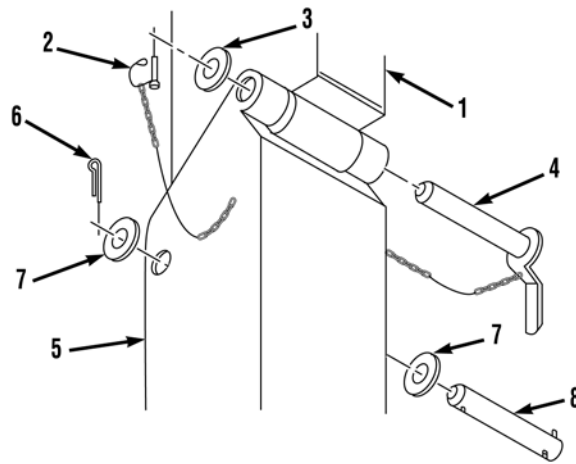
Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
MRP OFF-loaded (WP 0011)

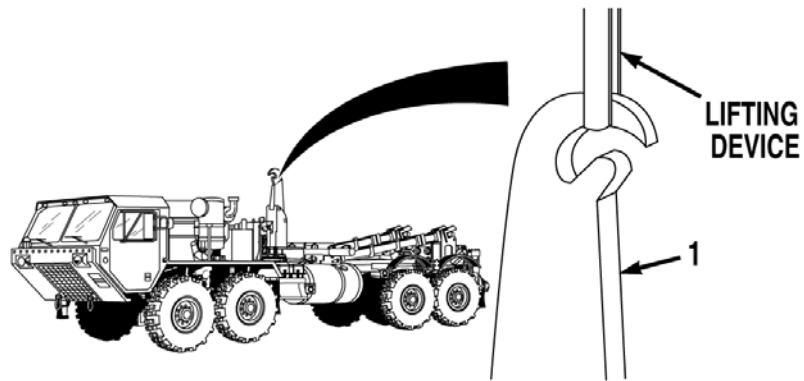
REMOVAL**WARNING**

Lift hook weighs 200 lbs (91 kg). Attach suitable lifting device prior to removal to prevent possible injury to personnel.

1. Attach suitable lifting device to support hook (1).



2. Remove snapper pin (2), washer (3), and retaining pin (4) from hook arm (5) and hook (1).
3. Remove cotter pin (6), two washers (7), pivot pin (8), and hook (1) from hook arm (5). Discard cotter pin.



4. Remove suitable lifting device from hook (1).

END OF TASK

INSTALLATION**WARNING**

Lift hook weighs 200 lbs (91 kg). Attach suitable lifting device prior to installation to prevent possible injury to personnel.

1. Attach suitable lifting device to hook (1).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

2. Apply antiseize compound to pivot pin (8).
3. Using suitable lifting device, install hook (1) on hook arm (5) with pivot pin (8), two washers (7), and cotter pin (6).
4. Apply antiseize compound to retaining pin (4).
5. Install retaining pin (4), washer (3), and snapper pin (2) on hook arm (5) and hook (1).
6. Remove suitable lifting device from hook (1).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE

LHS MAIN FRAME CYLINDER MANIFOLD REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Lifting Device, Minimum Capacity 2,100 lbs
(953 kg)
Pan, Drain (WP 0183, Item 10)
Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wooden Block (2) (WP 0157, Item B-7)

Materials/Parts

Adhesive (WP 0186, Item 3)
Gasket, (2), (WP 0184, Item 71)
Lockwasher, (4), (WP 0184, Item 33)
Oil, Hydraulic (WP 0186, Item 21)
Packing, Preformed (2), (WP 0184, Item 77)
Packing, Preformed (2), (WP 0184, Item 50)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

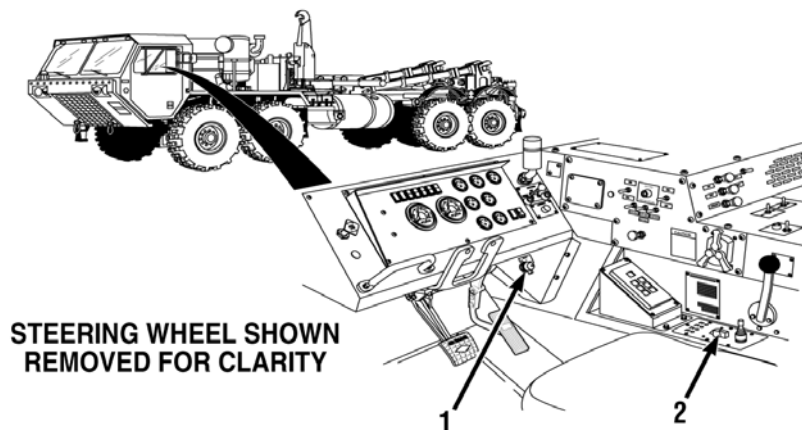
References

TM 9-2320-325-14&P

Equipment Conditions

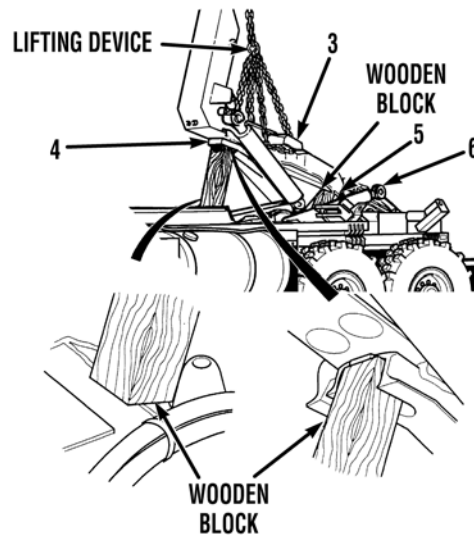
MRP off-loaded (WP 0011)
LHS in transit position (WP 0011)
Wheels chocked (TM 9-2320-347-10)

REMOVAL

**WARNING**

Main frame cylinder pressure must be relieved before removing hoses. Failure to comply may result in damage to equipment and serious injury to personnel.

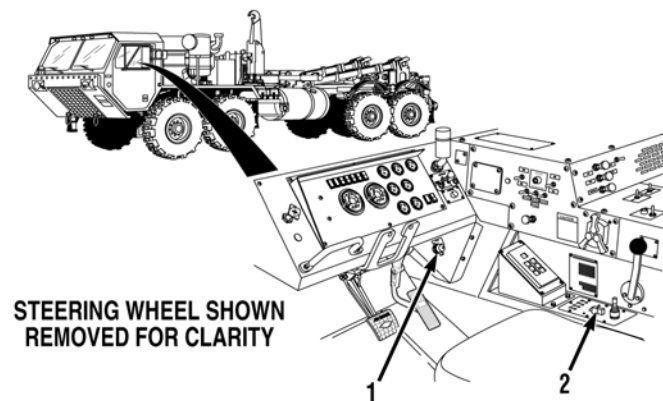
1. Turn engine start switch (1) to ON position.
2. Turn hydraulic selector switch (2) to MAN TRANSIT position.



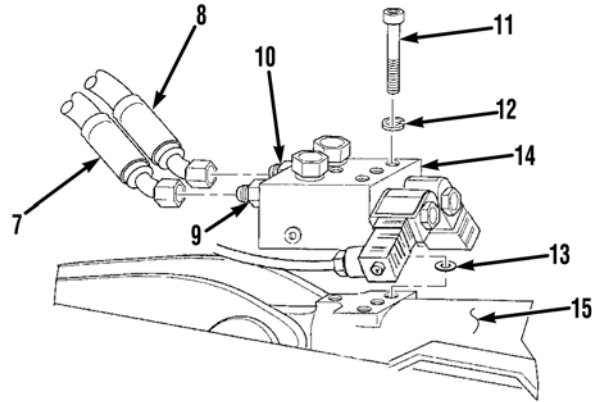
WARNING

- The THAAD hydraulic system operates at oil pressure up to 3,250 psi (22,409 kPa). Never disconnect any hydraulic line or fitting without first dropping pressure to zero. Failure to comply may result in serious injury or death to personnel.
- Main frame and hook arm combined weight is 2100 lbs (953 kg). Main frame must be raised with a suitable lifting device and supported with two wooden blocks. Failure to comply may result in serious injury or death to personnel.

3. Attach suitable lifting device to hook arm (3).
4. Soldier A raises main frame (4) up until hook arm pivot pin (5) is above main frame cylinder (6) while Soldier B blocks up main frame (4) in two places.
5. Soldier A lowers main frame (4) on two wooden blocks.



6. Turn hydraulic selector switch (2) and engine start switch (1) to OFF position.
7. Disconnect batteries (TM 9-2320-325-14&P).



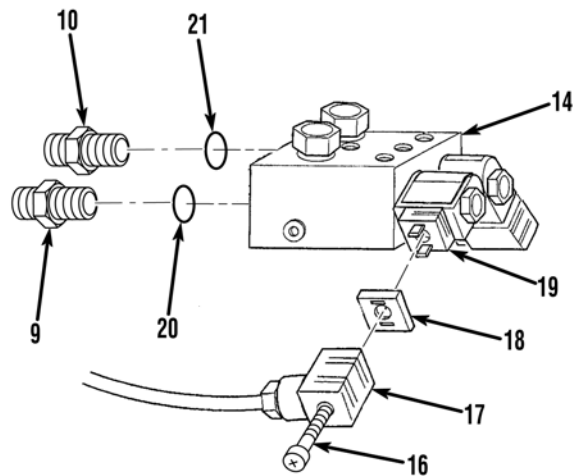
NOTE

- There are two main frame cylinder manifolds.
 - Both main frame cylinder manifolds are removed the same way. Left side shown.
 - Position drain pan under hydraulic lines and fittings being removed.
 - Tag and mark hydraulic lines and connectors prior to removal to ensure proper installation.
 - Cap and plug hydraulic lines upon removal.
 - Remove cable ties as required.
8. Remove hose 2888 (7) and hose 2588 (8) from two fittings (9 and 10).

WARNING

Main frame cylinder manifold will have hydraulic pressure behind it. Main frame cylinder manifold must be covered with clean rag and screws loosened equally on manifold to prevent oil spray. Failure to comply may result in serious injury to personnel.

9. Remove four screws (11), lockwashers (12), two preformed packings (13), and main frame cylinder manifold (14) from main frame cylinder (15). Discard lockwashers and preformed packings.



10. Loosen two screws (16) and remove connectors (17) and gaskets (18) from solenoid valve coils (19). Discard gaskets.
11. Remove two fittings (9 and 10) and preformed packings (20 and 21) from main frame cylinder manifold (14). Discard preformed packings.

END OF TASK

INSTALLATION

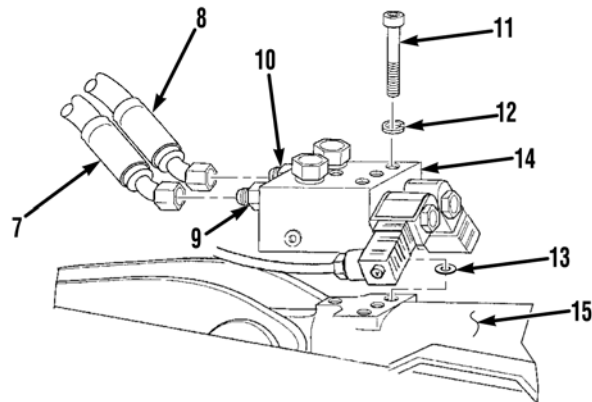
NOTE

- Both main frame cylinder manifolds are installed the same way.
 - Install cable ties as required.
1. Lightly lubricate two preformed packings (20 and 21) with clean oil and install preformed packings (20 and 21) and fittings (9 and 10) on main frame cylinder manifold (14).
 2. Install two gaskets (18) and connectors (17) on solenoids valve coils (19) and tighten screws (16).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

3. Apply adhesive on head of two screws (16).

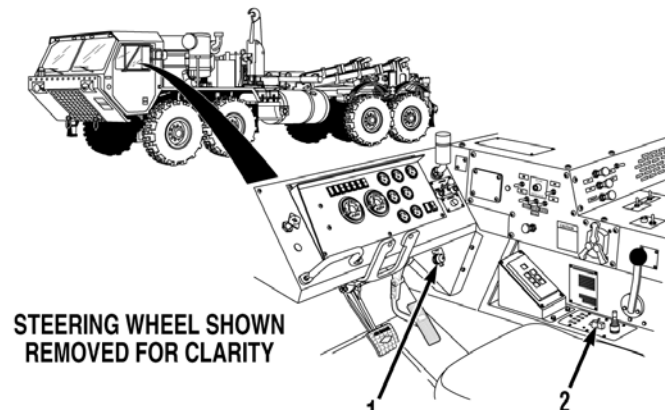


4. Lightly lubricate two preformed packings (13) with clean oil and install two preformed packings (13) on main frame cylinder manifold (14).
5. Install main frame cylinder manifold (14) on main frame cylinder (15) with four lockwashers (12) and screws (11).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

6. Apply adhesive in countersunk holes around heads of four screws (11).
7. Install two hoses 2888 (7) and 2588 (8) on fittings (9 and 10).
8. Connect batteries (TM 9-2320-325-14&P).



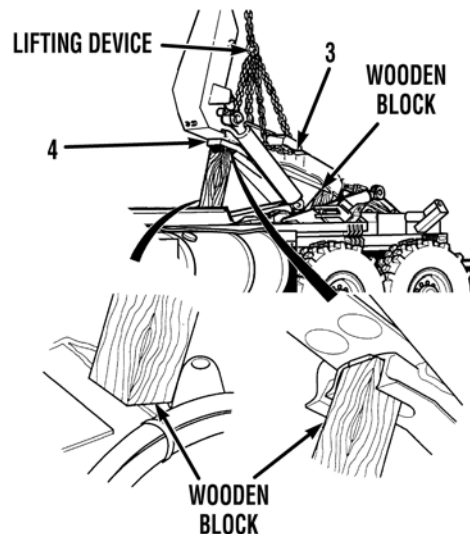
9. Turn engine start switch (1) to ON position.
10. Turn hydraulic selector switch (2) to MAN TRANSIT position.

WARNING

Main frame and hook arm combined weight is 2100 lbs (953 kg). Main frame must be raised with a suitable lifting device and supported with two wooden blocks. Failure to comply may result in serious injury or death to personnel.

CAUTION

Blocks supporting main frame can fall when frame is supported with suitable lifting device. Soldier B must prevent blocks from falling. Failure to comply may result in damage to equipment.



11. With suitable lifting device attached to hook arm (3), Soldier A operates suitable lifting device and raises main frame (4) while Soldier B removes blocking.
12. Soldier A completely lowers main frame (4).
13. Remove suitable lifting device from hook arm (3).

14. Turn hydraulic selector switch (2) and engine start switch (1) to OFF position.

END OF TASK

FOLLOW-ON MAINTENANCE

1. Check for proper operation of LHS (WP 0011).
2. Check for oil leaks (TM 9-2320-347-10)
3. Check hydraulic oil reservoir level (WP 0120).
4. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**LHS MAIN FRAME CYLINDER REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Lifting Device, Minimum Capacity 2,100 lbs
(953 kg)
Pan, Drain (WP 0183, Item 10)
Pliers, Retaining (Item 0183, Item 12)
Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wooden Block (2) (WP 0157, Item B-6)

Materials/Parts

Compound, Antiseize (WP 0186, Item 9)
Compound, Sealing, Loctite # 242
(WP 0186, Item 12)
Locknut, (1), (WP 0184, Item 25)
Ring, Retaining (2), (WP 0184, Item 130)

Materials/Parts (Continued)

Oil, Hydraulic (WP 0186, Item 21)

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

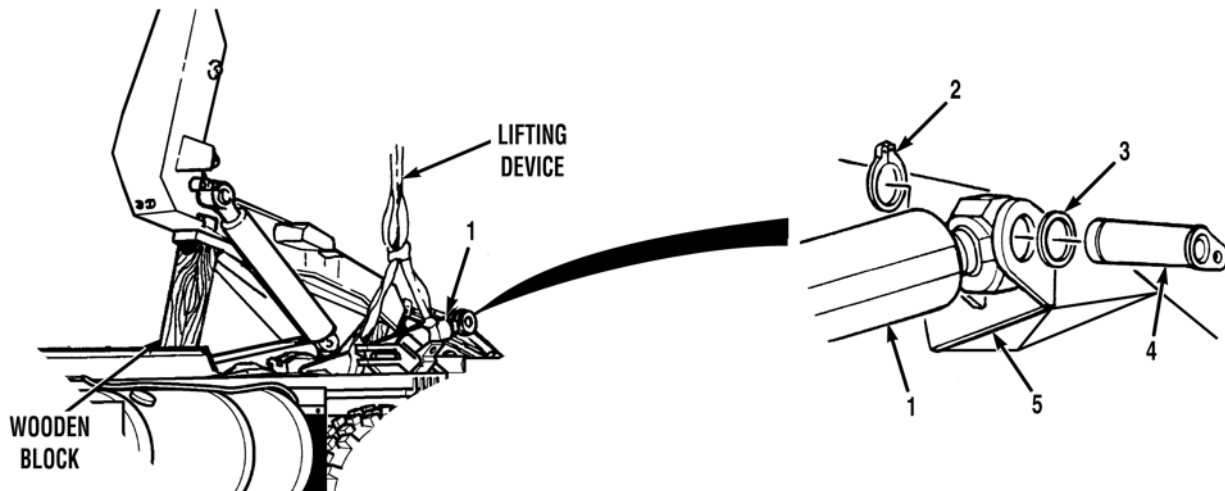
References

None

Equipment Conditions

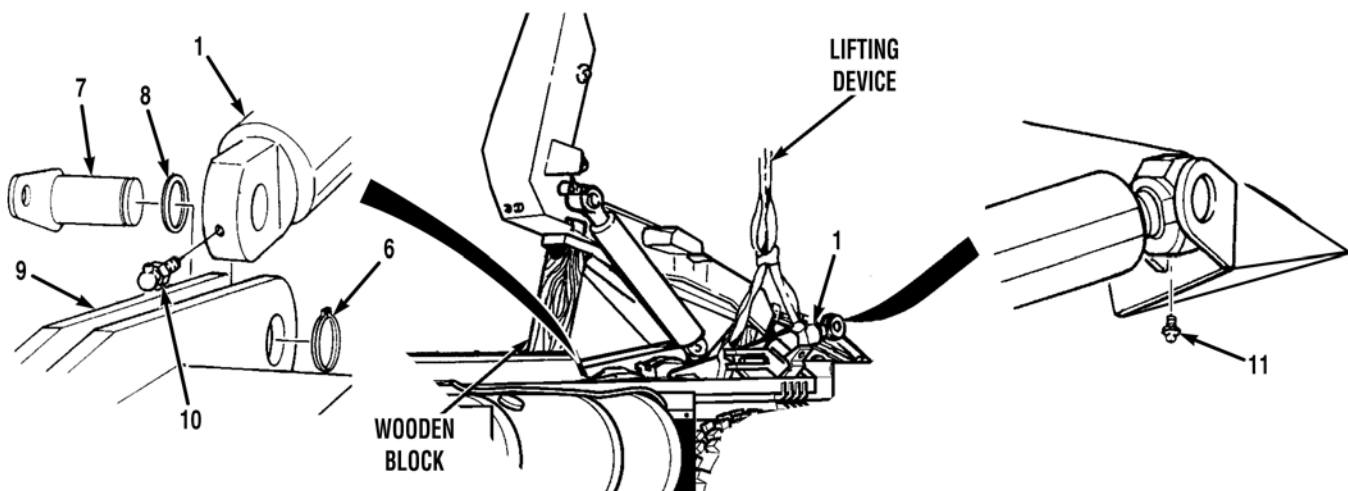
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
MRP off-loaded (WP 0011)
LHS main frame cylinder manifold removed
(WP 0132)

REMOVAL

**WARNING**

- Main frame cylinder weighs 325 lbs (148 kg). Attach suitable lifting device prior to removal to prevent possible injury to personnel.
- Use care when removing retaining rings. Retaining rings are under tension and can act as projectiles when released causing injury to personnel.

1. Attach suitable lifting device to main frame cylinder (1).
2. Support main frame cylinder (1) using suitable lifting device and remove retaining ring (2), shim (3), and pivot pin (4) from main frame (5) and main frame cylinder (1).

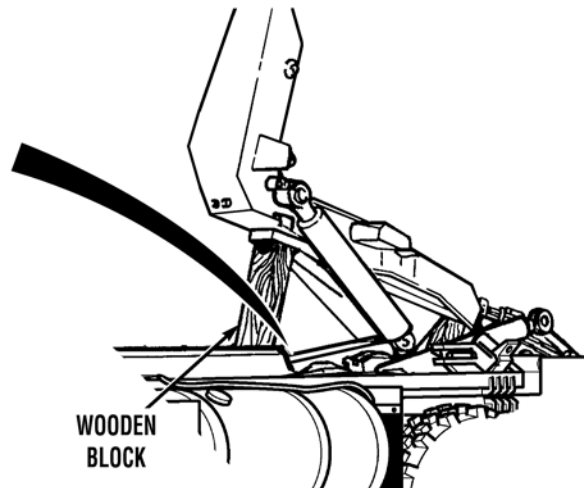
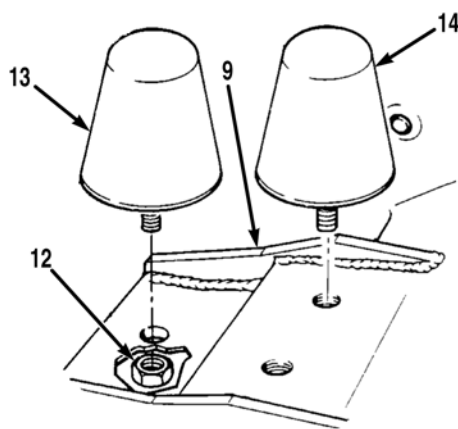


3. Remove retaining ring (6), pivot pin (7), and shim (8) from compression frame (9) and main frame cylinder (1).
4. Remove main frame cylinder (1) from compression frame (9).

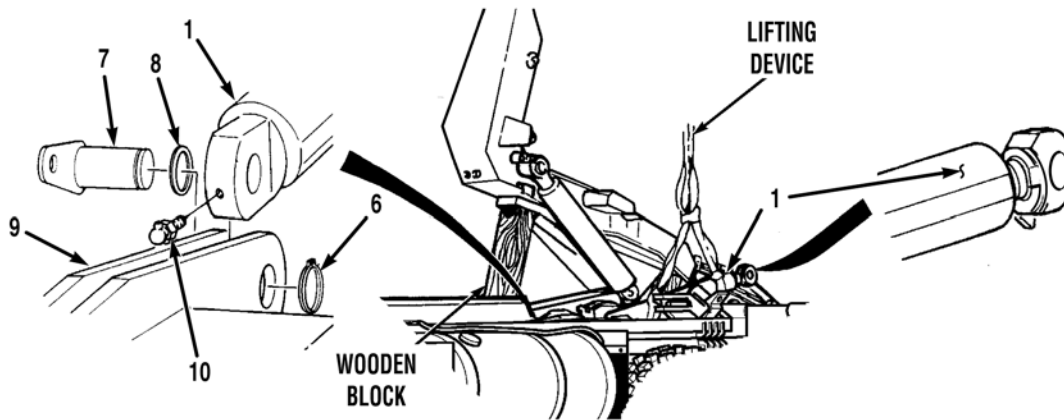
NOTE

- Perform step (5) if lube fittings are damaged.
- Note position of lube fittings prior to removal to ensure proper installation.
- Position drain pan under hydraulic lines and fittings being removed.
- Cap and plug all hydraulic lines upon removal.

5. Remove two lube fittings (10 and 11) from main frame cylinder (1).

END OF TASK**INSTALLATION**

1. Remove locknut (12) and rubber bumper (13) from compression frame (9). Discard locknut.
2. Remove two rubber bumpers (14) from compression frame (9).



NOTE

- Perform step (3) if lube fitting was removed.
 - Install lube fitting as noted prior to removal.
3. Install lube fitting (10) on main frame cylinder (1).

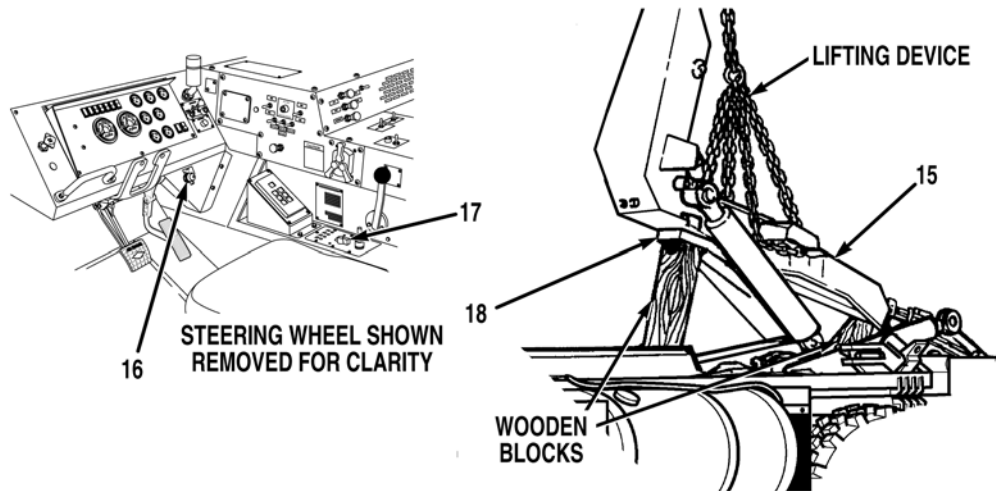
WARNING

Main frame cylinder weighs 325 lbs (148 kg). Attach suitable lifting device prior to installation to prevent possible injury to personnel.

4. Attach suitable lifting device to main frame cylinder (1).

WARNING

- **Use care when installing retaining rings. Retaining rings are under tension and can act as projectiles when released, causing injury to personnel.**
 - **Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.**
5. Apply antiseize compound on shaft of pivot pin (7).
6. Using suitable lifting device, install barrel end of main frame cylinder (1) on compression frame (9) with pivot pin (7), shim (8), and retaining ring (6).
7. Remove suitable lifting device from main frame cylinder (1).



8. Attach suitable lifting device to hook arm (15).
9. Turn engine start switch (16) to ON position.
10. Turn hydraulic selector switch (17) to MAN TRANSIT position.

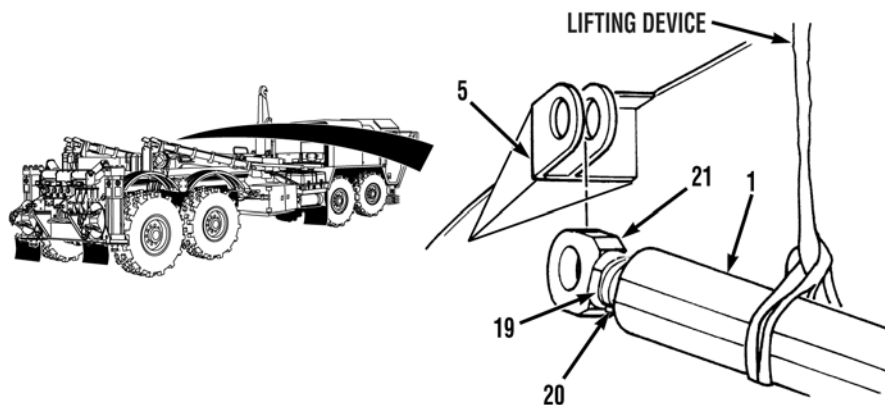
WARNING

Main frame and hook arm have a combined weight of 2,100 lbs (953 kg). Attach suitable lifting device prior to removal to prevent possible injury to personnel.

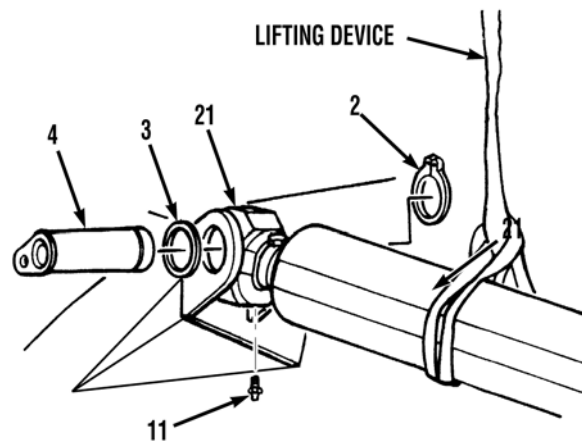
CAUTION

Blocks supporting main frame can fall when frame is supported with suitable lifting device. Have soldier prevent wooden blocks from falling or damage to equipment may result.

11. With suitable lifting device attached to hook arm (15), Soldier A operates suitable lifting device and raises main frame (18) while Soldier B removes wooden blocks.
12. Soldier A completely lowers main frame (18).
13. Turn engine start switch (16) and hydraulic selector switch (17) to OFF position.
14. Remove suitable lifting device from hook arm (15).



15. Fully compress cylinder rod (19) in main frame cylinder (1).
16. Extend cylinder rod (19) out .25 in. (6.4 mm), loosen screw (20), and rotate rod lug (21) so lug bore aligns with holes in main frame (5). Tighten screw (20) to 40 lb-ft (54 N•m).



WARNING

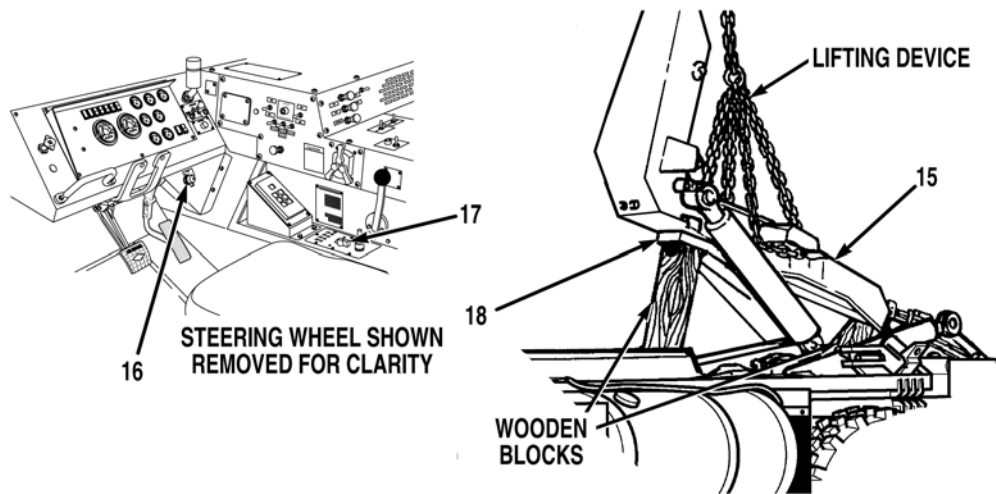
- Use care when installing retaining rings. Retaining rings are under tension and can act as projectiles when released, causing injury to personnel.
- Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

17. Apply antiseize compound on shaft of pivot pin (4).
18. When lug bore and main frame holes aline, install rod lug (21) with pivot pin (4), shim (3), and retaining ring (2).

NOTE

Perform step (19) if lube fitting was removed.

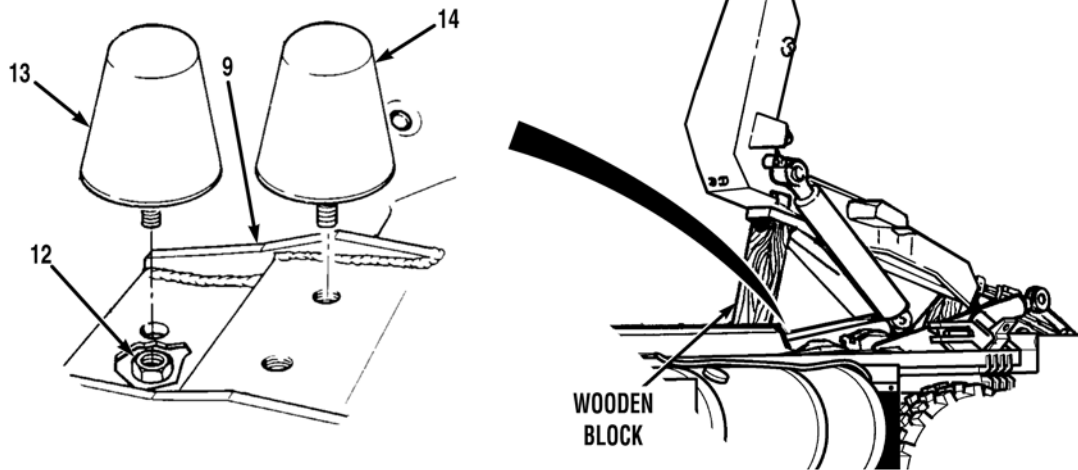
19. Install lube fitting (11) in rod lug (20).



WARNING

Main frame and hook arm have a combined weight of 2,100 lbs (953 kg). Attach suitable lifting device prior to removal to prevent possible injury to personnel.

20. Attach suitable lifting device to hook arm (15).
21. Turn engine start switch (16) to ON position.
22. Turn hydraulic selector switch (17) to MAN TRANSIT position.
23. Soldier A raises main frame (18) up while Soldier B blocks up main frame (18) in two places.
24. Soldier A lowers main frame (18) on two wooden blocks.
25. Turn engine start switch (16) and hydraulic selector switch (17) to OFF position.
26. Remove suitable lifting device from hook arm (15).



WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

27. Apply sealing compound to threads of three rubber bumpers (14 and 13).
28. Install two rubber bumpers (14) on compression frame (9).
29. Install rubber bumper (13) on compression frame (9) with locknut (12).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install LHS main frame cylinder manifold (WP 0132).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**LHS MAIN FRAME REPAIR**

INITIAL SETUP:**Tools and Special Tools**

Lifting Device, Minimum Capacity 1,100 lbs
(499 kg)
Pan, Drain (WP 0183, Item 10)
Pliers, Retaining Set (WP 0183, Item 12)
Remover, Bearing and (WP 0183, Item 13)
Remover, Bearing and (WP 0183, Item 14)
Remover, Bearing and (WP 0183, Item 15)
Screw, Lead (WP 0183, Item 16)
Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Washer, Flat (WP 0183, Item 28)
Wooden Block (2) (WP 0157, Item B-3)

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

References

None

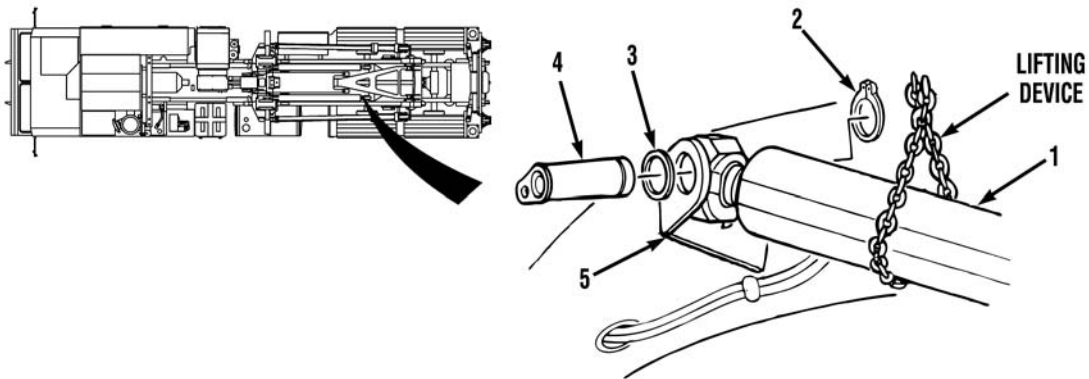
Equipment Conditions

LHS hook arm frame removed (WP 0129)
Hook arm up proximity switch removed
(WP 0076)
Main frame down proximity switch removed
(WP 0077)
LHS junction box removed (WP 0070)
LHS main frame tube removed (WP 0135)

Materials/Parts

Bushing, (2), (WP 0184, Item 28)
Cleaning Compound, Solvent (WP 0186, Item 7)
Cloth, Cleaning (WP 0186, Item 8)
Grease, Automotive and Artillery GAA (WP 0186, Item 18)
Lockwasher, (4), (WP 0184, Item 141)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)
Ring, Retaining, (1), (WP 0184, Item 130)
Ring, Retaining, (2), (WP 0184, Item 131)
Seal, (4), (WP 0184, Item 85)

REMOVAL

**WARNING**

Main frame cylinder weighs 325 lbs (148 kg). Attach suitable lifting device when replacing or moving main frame cylinder. Failure to comply may result in serious injury or death to personnel.

NOTE

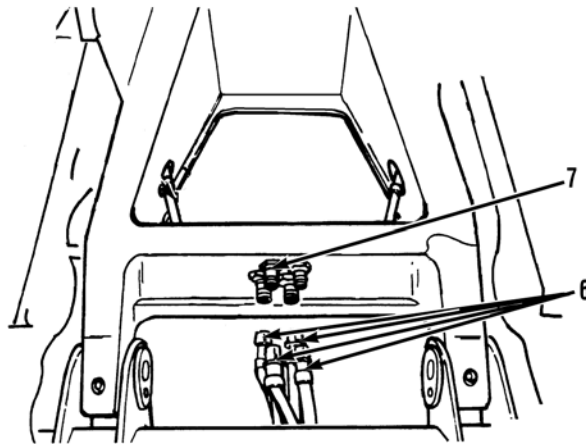
Left and right main frame cylinders are removed the same way. Left side shown.

1. Attach suitable lifting device to left main frame cylinder (1).

WARNING

Use care when removing retaining rings. Retaining rings are under tension and can act as projectiles when released, causing injury to personnel. Failure to comply may result in serious injury to personnel.

2. Using suitable lifting device, support main frame cylinder (1) and remove retaining ring (2), shim (3), and pivot pin (4) from main frame (5) and main frame cylinder (1).
3. Lower main frame cylinder (1) out of main frame (5).
4. Remove suitable lifting device from left main frame cylinder (1).
5. Repeat steps (1) through (4) to remove right main frame cylinder.

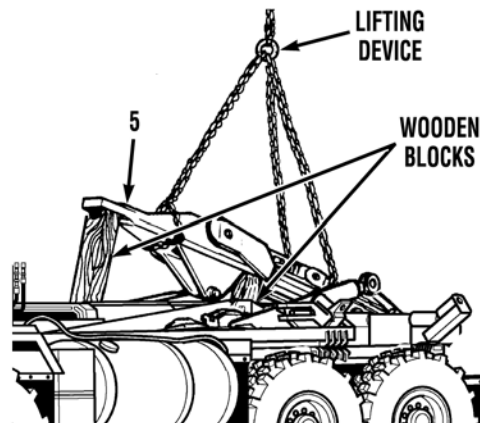


WARNING

The THAAD hydraulic system operates at oil pressure up to 3,250 psi (22,409 kPa). Never disconnect any hydraulic line or fitting without first dropping pressure to zero. Failure to comply may result in serious injury or death to personnel.

NOTE

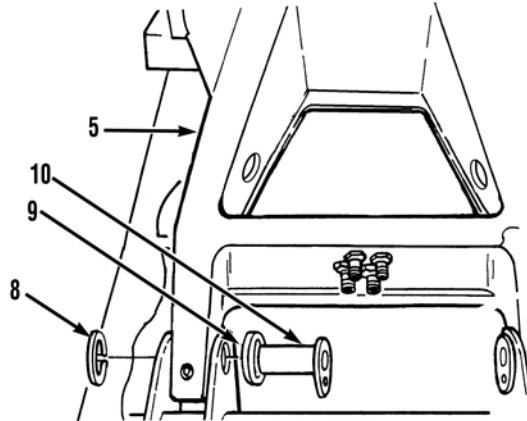
- Place drain pan under hydraulic lines and fittings being removed.
 - Tag and mark hydraulic lines prior to removal to ensure proper installation.
 - Cap and plug hydraulic lines upon removal.
6. Remove four hoses (6) from main frame bulkhead fittings (7).



WARNING

Main frame weighs 1,000 lbs (454 kg). Attach suitable lifting device when lifting or moving main frame. Failure to comply may result in serious injury or death to personnel.

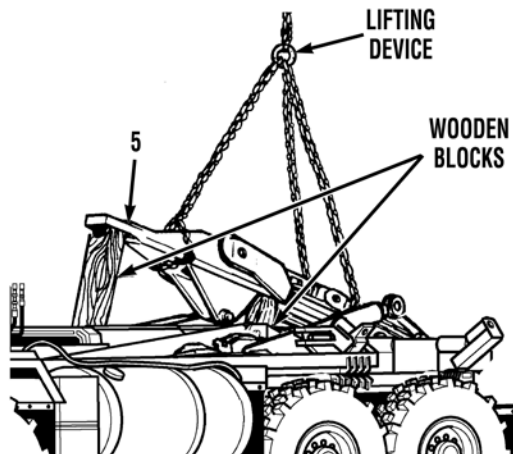
7. Attach suitable lifting device to main frame (5).
8. Using suitable lifting device, Soldier A and Soldier B support main frame (5) with wooden blocks.



WARNING

Use care when removing retaining rings. Retaining rings are under tension and can act as projectiles when released, causing injury to personnel. Failure to comply may result in injury to personnel.

9. Soldier A and Soldier B remove two retaining rings (8), shims (9), and pivot pins (10) from main frame (5).

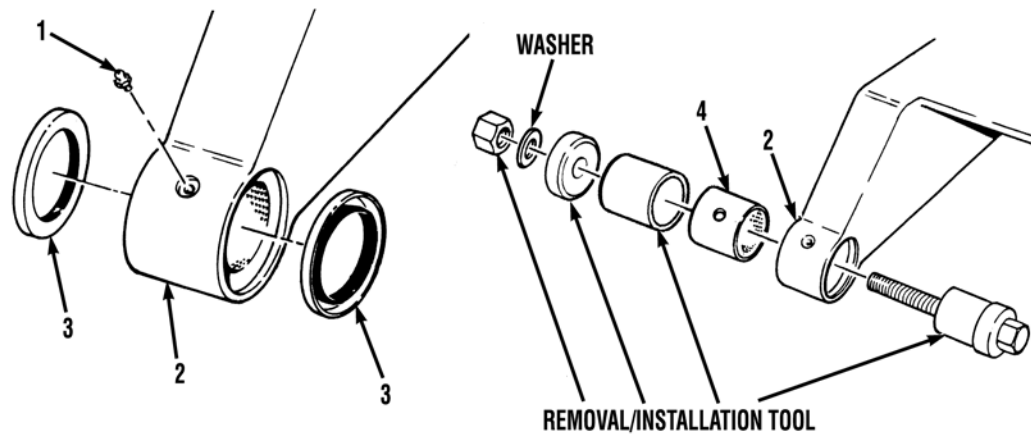


CAUTION

Do not allow wooden blocks supporting middle frame to fall when main frame is lifted. Failure to comply may result in serious injury to personnel.

10. Using suitable lifting device, Soldier A and Soldier B remove main frame (5) from vehicle.

END OF TASK

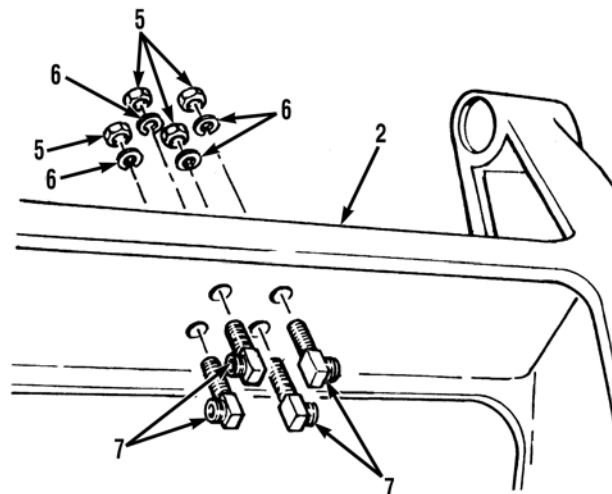
DISASSEMBLY

1. Remove two lube fittings (1) from main frame (2).

NOTE

Seals are removed by prying outward.

2. Remove four seals (3) from main frame (2). Discard seals.
3. Using removal/installation tool (six pieces), remove two bushings (4) from main frame (2) as shown. Discard bushings.



4. Remove four nuts (5), lockwashers (6), and bulkhead fittings (7) from main frame (2). Discard lockwashers.

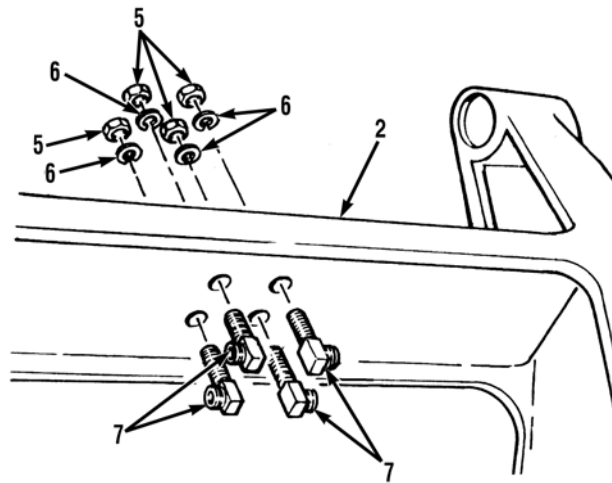
END OF TASK

CLEANING/INSPECTION**WARNING****SOLVENT CLEANING COMPOUND**

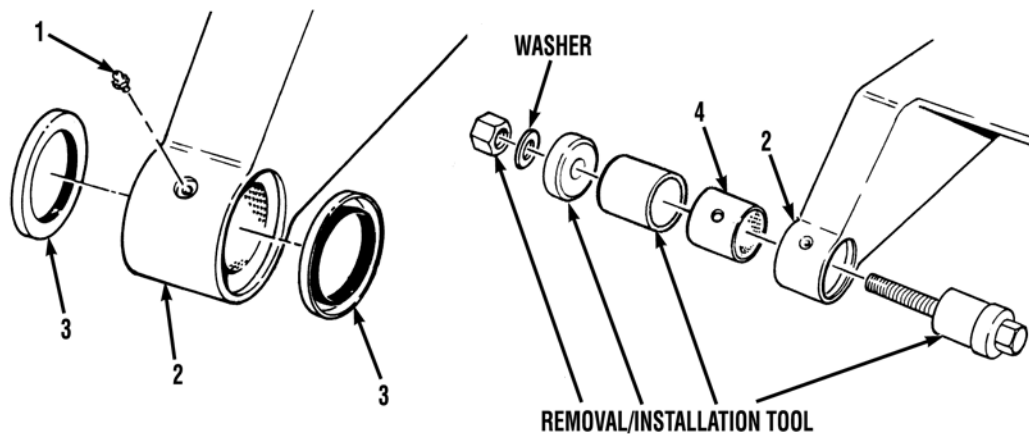
Solvent cleaning compound MIL-PRF-680 Type II and III may be irritating to the eyes and skin. Use protective gloves and goggles. Use in well-ventilated areas. Use respirator as needed. Accidental ingestion can cause irritation of digestive tract and respiratory tract, may cause lung and central nervous system damage. Can be fatal if swallowed. Inhalation of high/massive concentrations can cause coma or be fatal. First aid for ingestion: do not induce vomiting. Seek immediate medical attention. First aid for skin contact: remove contaminated clothing. Wash skin thoroughly with soap and water. If symptoms persist, seek medical attention. First aid for eye contact: flush with water for 15 minutes or until irritation subsides. If symptoms persist, seek medical attention. First aid for inhalation: move to fresh air. If not breathing, provide artificial respiration. If symptoms persist, seek medical attention. Keep away from open flames and other sources of ignition. Failure to follow this warning may result in injury or death to personnel.

- The flashpoint for type II solvent cleaning compound is 141-198°F (61-92°C) and type III is 200-241°F (93-116°C).
 - Improper cleaning methods and use of unauthorized cleaning solvents may injure personnel and damage equipment
 - Fire extinguishers should be placed nearby when using solvent cleaning compound. Failure to follow this warning may result in injury or death.
 - Cloths or rags saturated with solvent cleaning compound must be disposed of IAW authorized facilities' procedures. Failure to follow this warning may result in injury.
 - Eye shields must be worn when cleaning with a wire brush. Flying rust and metal particle may cause injury.
1. Clean all metal surfaces with solvent cleaning compound and wipe seals and bushings with a clean cloth.
 2. Inspect main frame for cracked welds or damage. Replace or repair as necessary.
 3. Inspect bushings for wear. Replace if either pivot pin bushing has worn through surface and metal is showing through.

END OF TASK

ASSEMBLY

1. Install four bulkhead fittings (7) on main frame (2) with four lockwashers (6) and nuts (5).

**NOTE**

- Apply light coat of grease to outer surface of bushings prior to installation.
 - Apply light coat of grease to threads of removal/installation tool prior to use.
2. Using removal/installation tool, align lube hole in bushing (4) with lube fitting hole in main frame (2) and install two bushings (4) as shown.
 3. Check lube fitting hole in main frame (2) for restrictions.

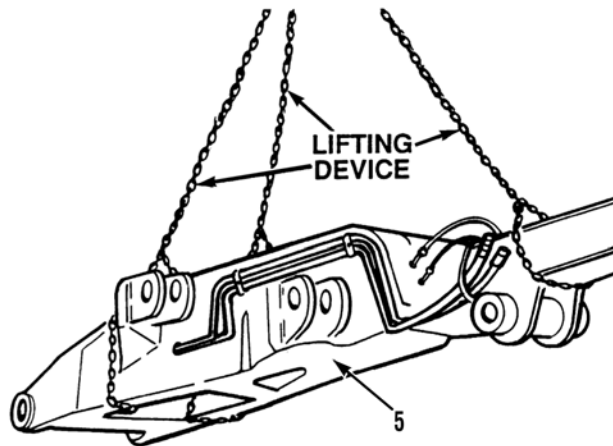
NOTE

If lube fitting hole is restricted by bushing, repeat step (3) of Disassembly.

4. Install two lube fittings (1) in main frame (2).
5. Apply light coat of grease to outer edges of four seals (3) and install seals (3) in main frame (2).

END OF TASK

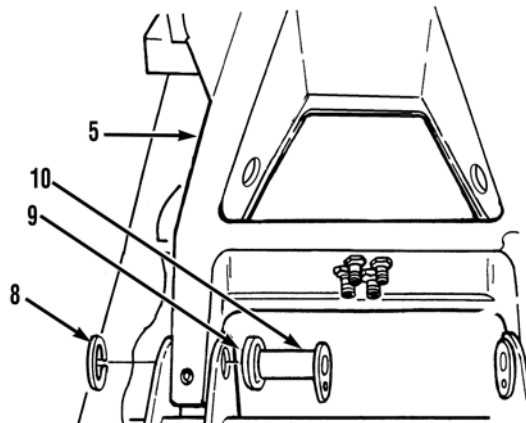
INSTALLATION



WARNING

Main frame weighs 1,000 lbs (454 kg). Attach suitable lifting device when replacing or moving main frame. Failure to comply may result in serious injury or death to personnel.

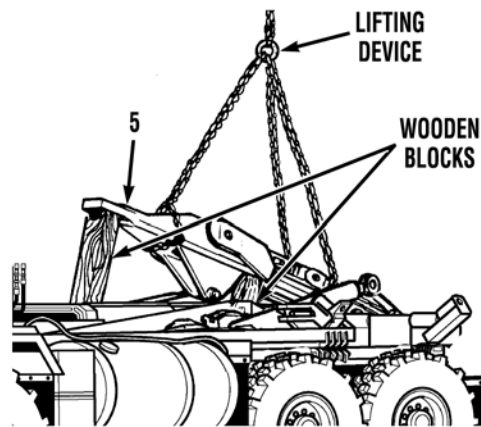
1. Attach suitable lifting device to main frame (5).
2. Using suitable lifting device, Soldier A and Soldier B position main frame (5) on vehicle.



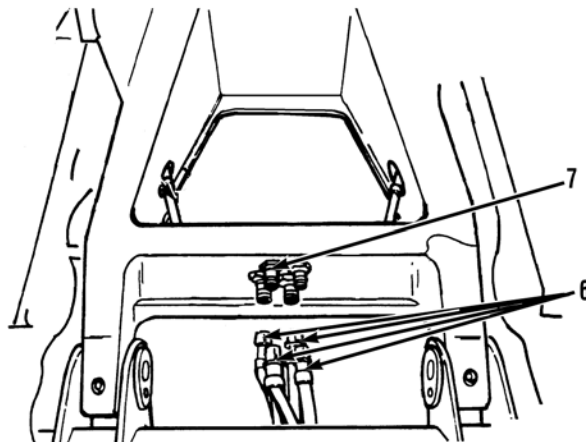
WARNING

Use care when installing retaining rings. Retaining rings are under tension and can act as projectiles when released causing injury to personnel. Failure to comply may result in serious injury to personnel.

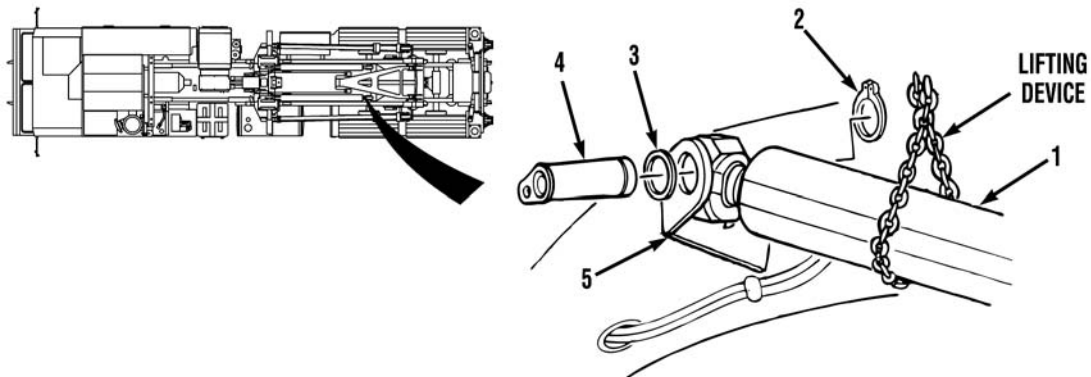
3. Coat two pivot pins (10) with grease.
4. Soldier A and Soldier B install two pivot pins (10), shims (9), and retaining rings (8).



5. Block main frame (5) up in two places so front of main frame is 30 to 35 in. (76 to 89 cm) above compression frame where rubber bumpers are mounted.
6. Remove suitable lifting device from main frame (5).



7. Install four hoses (6) on main frame bulkhead fittings (7).



WARNING

Main frame cylinder weighs 325 lbs (148 kg). Attach suitable lifting device when replacing or moving main frame cylinder. Failure to comply may result in serious injury or death to personnel.

NOTE

Left and right main frame cylinders are installed the same way. Left side shown.

8. Attach suitable lifting device to left main frame cylinder (1).
9. Using suitable lifting device, lift main frame cylinder (1) into installation position.

WARNING

Use care when installing retaining rings. Retaining rings are under tension and can act as projectiles when released causing injury to personnel. Failure to comply may result in serious injury to personnel.

10. Install main frame cylinder (1) on main frame (5) with pivot pin (4), shim (3), and retaining ring (2).
11. Remove suitable lifting device from main cylinder (1).
12. Repeat steps (8) through (11) to install right main frame cylinder.

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install LHS main frame tube (WP 0135).
2. Install LHS junction box (WP 0070).
3. Install main frame down proximity switch (WP 0077).
4. Install hook arm up proximity switch (WP 0076).
5. Install LHS hook arm (WP 0129).
6. Check for proper operation of LHS main frame (WP 0011).

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
LHS MAIN FRAME TUBE REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Lifting Device, Minimum Capacity 2,100 lbs
(953 kg)
Pan, Drain (WP 0183, Item 10)
Pliers, Retaining (Item 0183, Item 12)
Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wooden Block (2) (WP 0157, Item B-4)

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

References

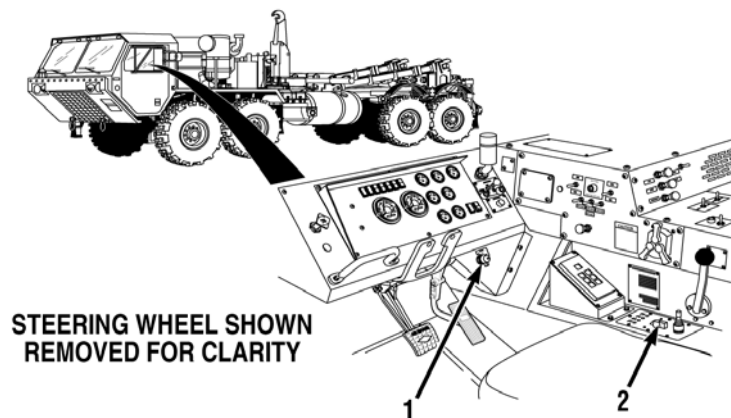
None

Equipment Conditions

MRP OFF loaded (WP 0011)
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

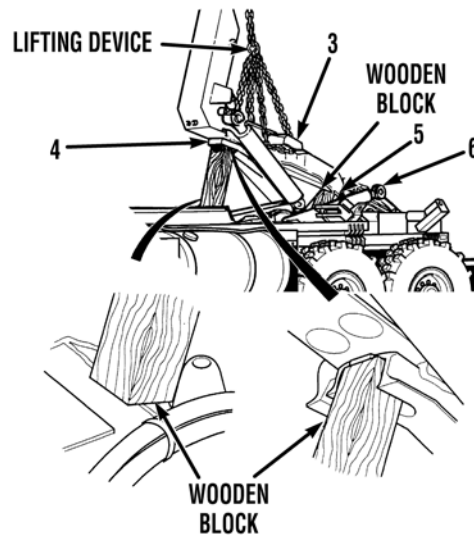
Materials/Parts

Lockwasher (1), (WP 0184, Item 39)
Lockwasher (2), (WP 0184, Item 61)
Lockwasher (1), (WP 0184, Item 37)
Oil, Hydraulic (WP 0186, Item 21)
Packing, Preformed (2), (WP 0184, Item 37)
Packing, Preformed (2), (WP 0184, Item 140)
Ring, Retaining, (1), (WP 0184, Item 130)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

REMOVAL**WARNING**

Main frame cylinder pressure must be relieved before lifting hook arm. Failure to comply may result in serious injury to personnel and/or damage to equipment.

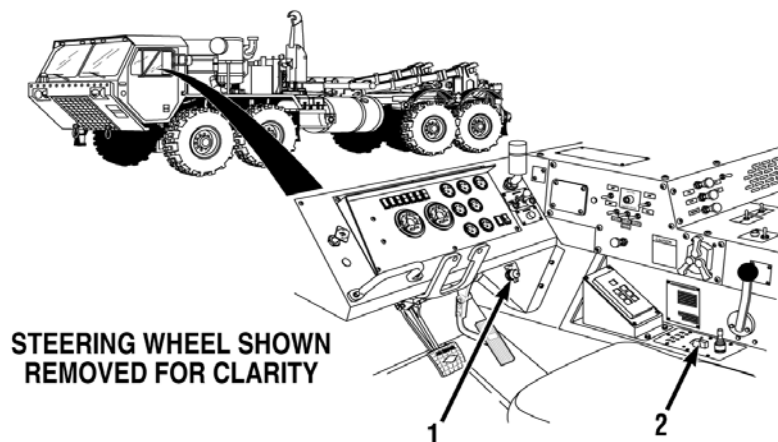
1. Turn engine start switch (1) to ON position.
2. Turn hydraulic selector switch (2) to MAN TRANSIT position.



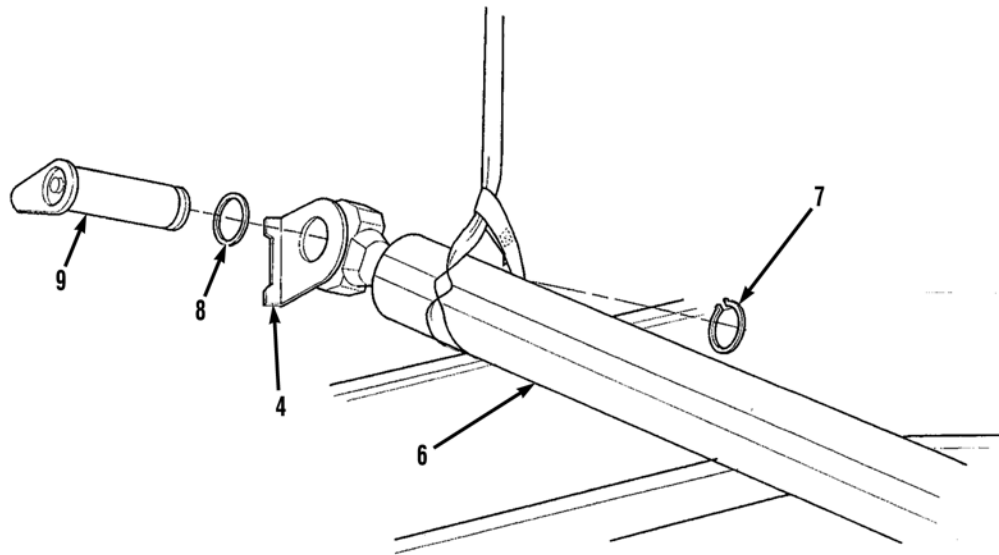
WARNING

Main frame and hook arm combined weight is 2,100 lbs (953 kg). Main frame must be raised with a suitable lifting device and supported with two wooden blocks. Failure to comply may result in serious injury or death to personnel.

3. Attach suitable lifting device to hook arm (3).
4. Soldier A raises main frame (4) up until hook arm pivot pin (5) is above main frame cylinder (6), while Soldier B blocks up main frame (4) in two places.
5. Soldier A lowers main frame (4) on two wooden blocks.



6. Turn hydraulic selector switch (2) and engine start switch (1) to OFF position.

**WARNING**

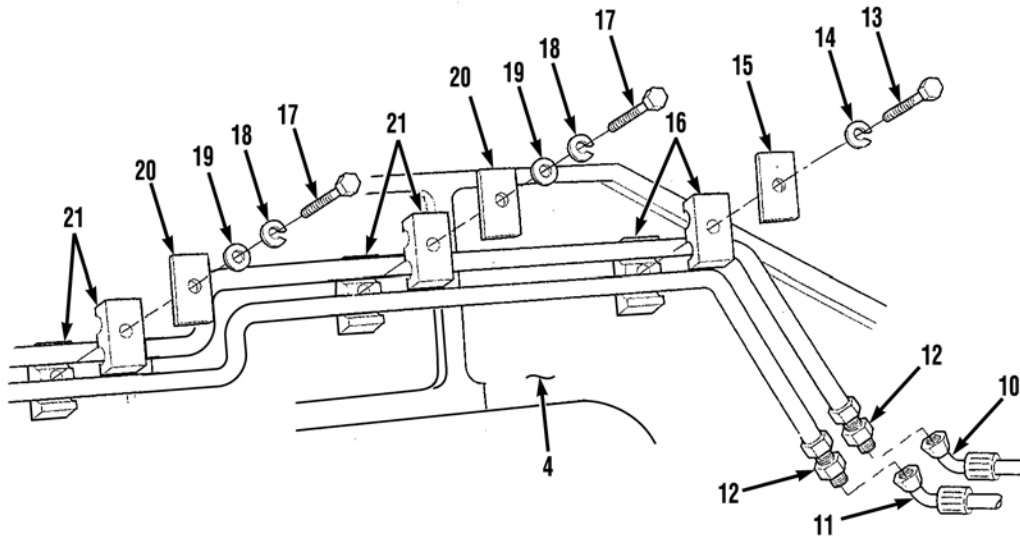
Main frame cylinder weighs 325 lbs (148 kg). Attach suitable lifting device prior to removal to prevent possible injury to personnel.

7. Attach suitable lifting device to main frame cylinder (6).

WARNING

Use care when removing retaining rings. Retaining rings are under tension and can act as projectiles when released, causing injury to personnel.

8. Soldier A operates suitable lifting device while Soldier B removes retaining ring (7), shim (8), main frame cylinder pivot pin (9) and main frame cylinder (6) from main frame (4).
9. Soldier A lowers main frame cylinder (6).
10. Remove suitable lifting device from main frame cylinder (6).



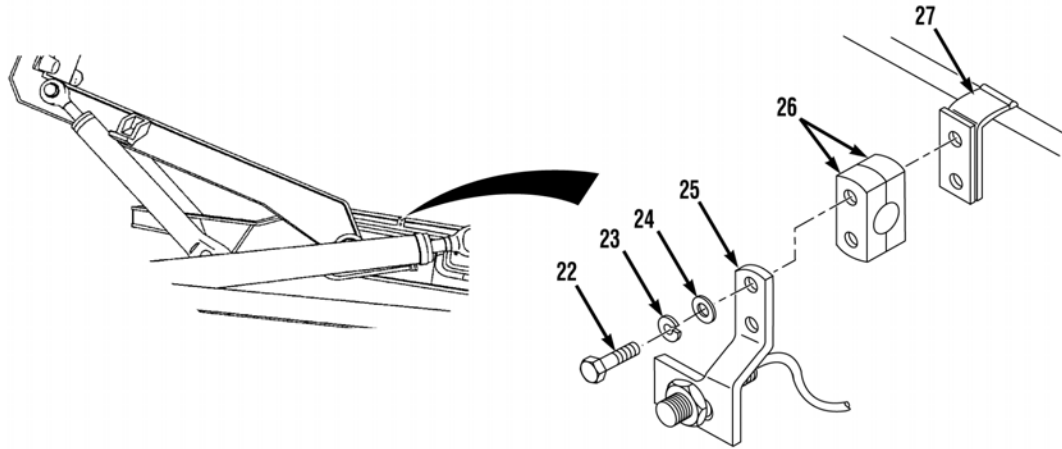
WARNING

The THAAD hydraulic system operates at oil pressure up to 3,250 psi (22,409 kPa). Never disconnect any hydraulic line or fitting without first dropping pressure to zero. Failure to comply may result in serious injury or death to personnel.

NOTE

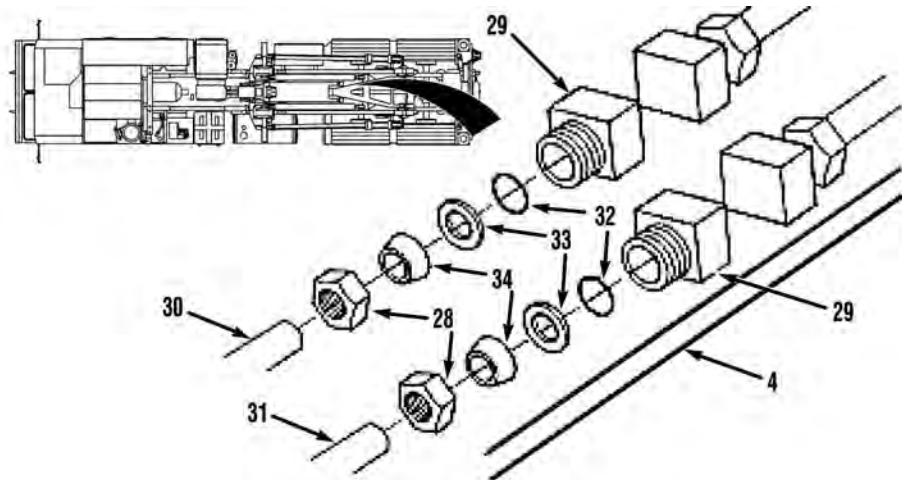
- Position drain pan under hydraulic lines and fittings being removed.
- Tag and mark hydraulic lines prior to removal to ensure proper installation.
- Cap and plug hydraulic lines upon removal.
- Remove cable ties as required.
- All four tubes are removed the same way. Right side shown.

11. Remove hose 2882 (10) and hose 2892 (11) from two fittings (12).
12. Remove screw (13), lockwasher (14), cover plate (15), and two-piece clamp (16) from main frame (4).
13. Remove two screws (17), lockwashers (18), washers (19), cover plates (20), and two-piece clamps (21) from main frame (4). Discard lockwasher.

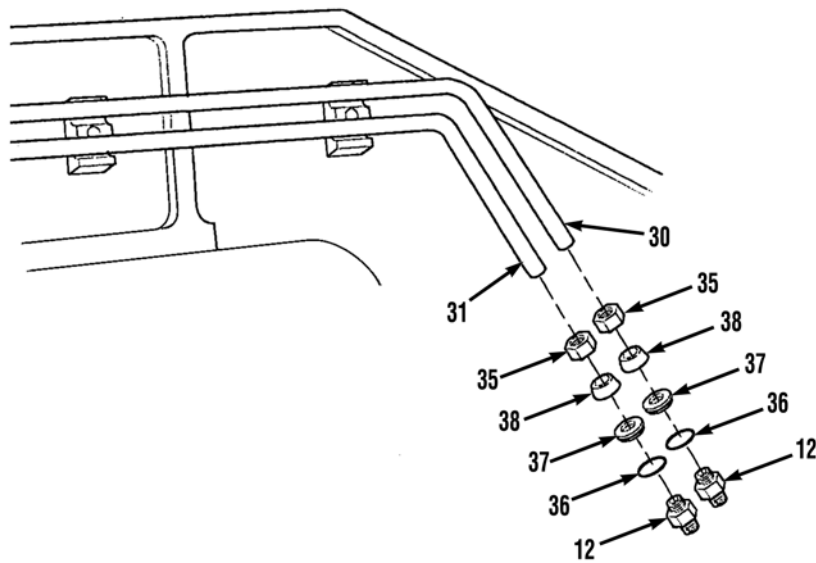


NOTE

- Perform step (14) for left side only.
 - Cover plate may be permanently attached to bracket.
14. Remove two screws (22), lockwasher (23), washer (24) mounting switch plate (25), twin clamp (26), from bracket (27). Discard lockwasher.



15. Remove two tube nuts (28) from bulkheads (29) at inside of rear main frame (4).
16. Pull two tubes (30 and 31) from bulkheads (29) and remove preformed packings (32), spacers (33), compression rings (34), and nuts (28) from tubes (30 and 31). Discard preformed packings.
17. Remove two tubes (30 and 31) from main frame (4).



18. Remove two nuts (35), fittings (12), preformed packings (36), spacers (37), and compression rings (38) from two tubes (30 and 31). Discard preformed packings.

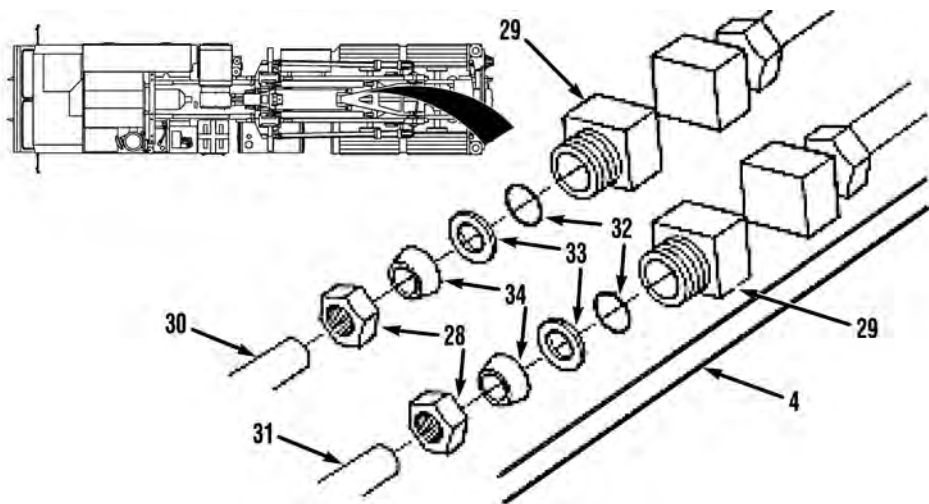
END OF TASK

INSTALLATION

NOTE

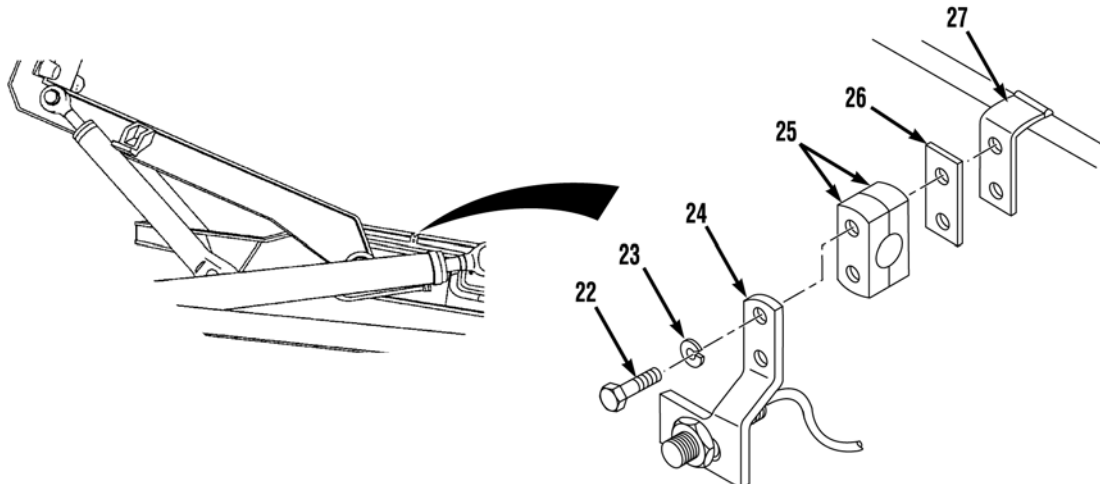
- All four tubes are installed the same way. Right side shown.
- Install cable ties as required.

1. Lightly lubricate two preformed packings (36) with clean oil and install fittings (12) on two tubes (30 and 31) with preformed packings (36), spacers (37), compression rings (38), and nuts (35).



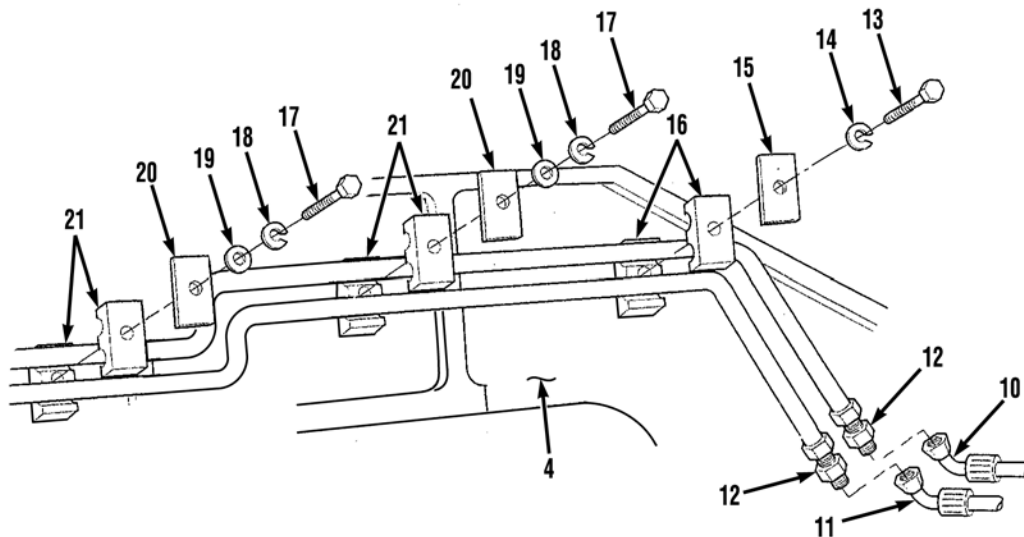
2. Position two tubes (30 and 31) on main frame (4).

3. Lightly lubricate two preformed packings (32) with clean oil and install two tubes (30 and 31) on bulkheads (29) with preformed packings (32), spacers (33), compression rings (34) and nuts (28).

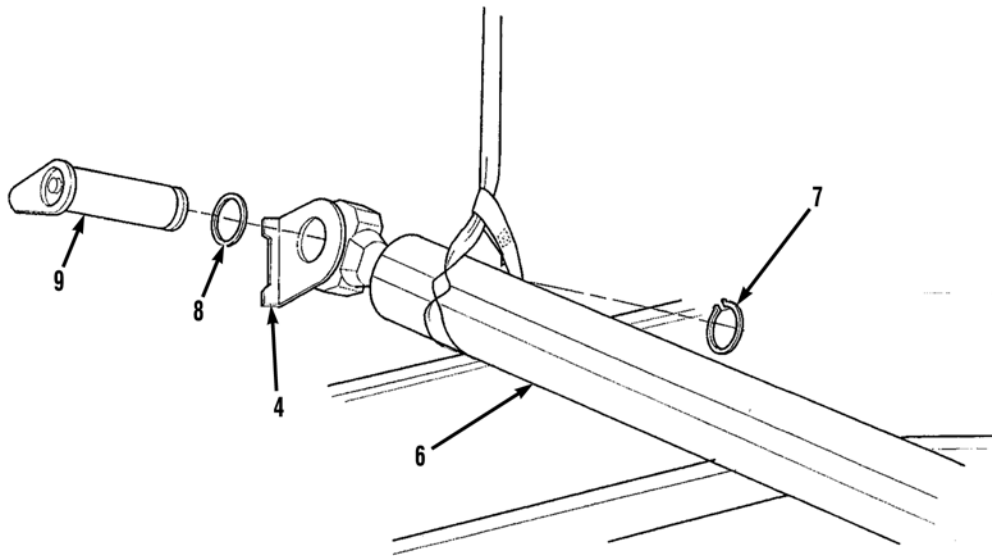


NOTE

- Perform step (4) for left side only.
 - Cover plate may be permanently attached to bracket.
4. Install twin clamp (26), and mounting switch plate (25) on bracket (27) with lockwasher (23), washer (24) and screws (22).



5. Install two-piece clamps (21) on main frame (4) with cover plates (20), washers (19), lockwashers (18), and screws (17).
6. Install two-piece clamp (16) on main frame (4) with cover plate (15), lockwasher (14), and screw (13).
7. Install hoses 2882 (10) and hose 2892 (11) on two fittings (12).

**WARNING**

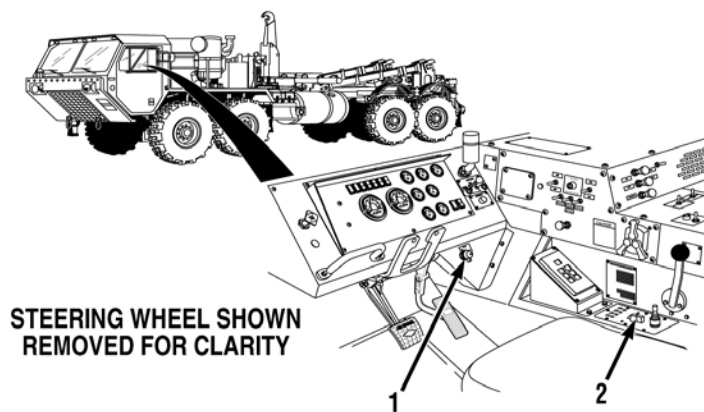
Main frame cylinder weighs 325 lbs (148 kg). Attach suitable lifting device prior to installation to prevent possible injury to personnel.

8. Attach suitable lifting device to main frame cylinder (6).

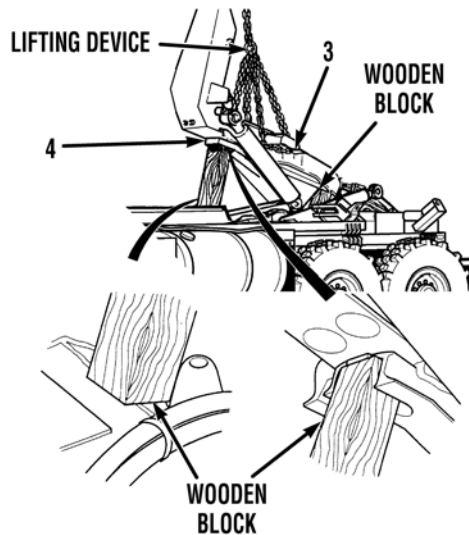
WARNING

Use care when installing retaining rings. Retaining rings are under tension and can act as projectiles when released, causing injury to personnel.

9. Soldier A operates suitable lifting device while Soldier B installs main frame cylinder (6) on main frame (4) with main frame cylinder pivot pin (9), shim (8), and retaining ring (7).
10. Remove suitable lifting device from main frame cylinder (6).



11. Turn engine start switch (1) to ON position.
12. Turn hydraulic selector switch (2) to MAN TRANSIT position.



WARNING

Main frame and hook arm combined weight is 2,100 lbs (953 kg). Main frame must be raised with a suitable lifting device and supported with two wooden blocks. Failure to comply may result in serious injury or death to personnel.

CAUTION

Do not allow wooden blocks supporting main frame to fall when main frame is lifted. Failure to comply may cause damage to equipment.

13. Attach suitable lifting device to hook arm (3).
14. Soldier A raises main frame (4) while Soldier B removes blocking.
15. Soldier A lowers main frame (4) and removes suitable lifting device from main frame (4).
16. Turn hydraulic selector switch (2) and engine start switch (1) to OFF position.

END OF TASK

FOLLOW-ON MAINTENANCE

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
LHS MAIN MANIFOLD/BRACKET REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Lifting Device, Minimum Capacity 200 lbs
(91 kg)
Pan, Drain (WP 0183, Item 10)
Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wrench, Torque (WP 0183, Item 29)

Materials/Parts

Gasket, (2), (WP 0184, Item 71)
Locknut, (1), (WP 0184, Item 26)
Locknut, (8), (WP 0184, Item 21)
Lockwasher, (6), (WP 0184, Item 59)
Oil, Hydraulic (WP 0186, Item 21)
Packing, Preformed, (2), (WP 0184, Item 42)
Packing, Preformed, (2), (WP 0184, Item 118)
Packing, Preformed, (2), (WP 0184, Item 14)
Packing, Preformed, (4), (WP 0184, Item 98)
Packing, Preformed, (4), (WP 0184, Item 111)
Packing, Preformed, (2), (WP 0184, Item 74)
Packing, Preformed, (1), (WP 0184, Item 43)
Packing, Preformed, (1), (WP 0184, Item 129)
Packing, Preformed, (2), (WP 0184, Item 78)

Materials/Parts (Continued)

Packing, Preformed, (2), (WP 0184, Item 83)
Packing, Preformed, (4), (WP 0184, Item 81)
Packing, Preformed, (1), (WP 0184, Item 79)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

References

None

Equipment Conditions

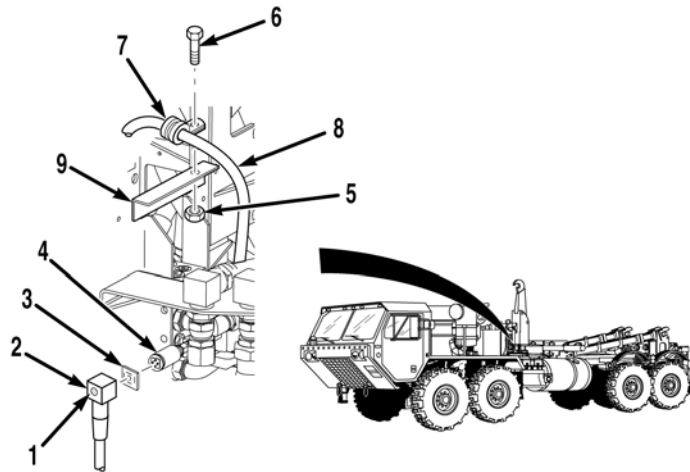
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Batteries disconnected (TM 9-2320-325-14&P)
Auxiliary work lamp removed (WP 0058)
High idle/throttle inhibit relays removed
(WP 0065)
Directional control valve removed (WP 0125)
Relief valve removed (WP 0145)
Free-flow valve and coil removed (WP 0127)
VIM units and mounting bracket removed
(WP 0089)

REMOVAL**WARNING**

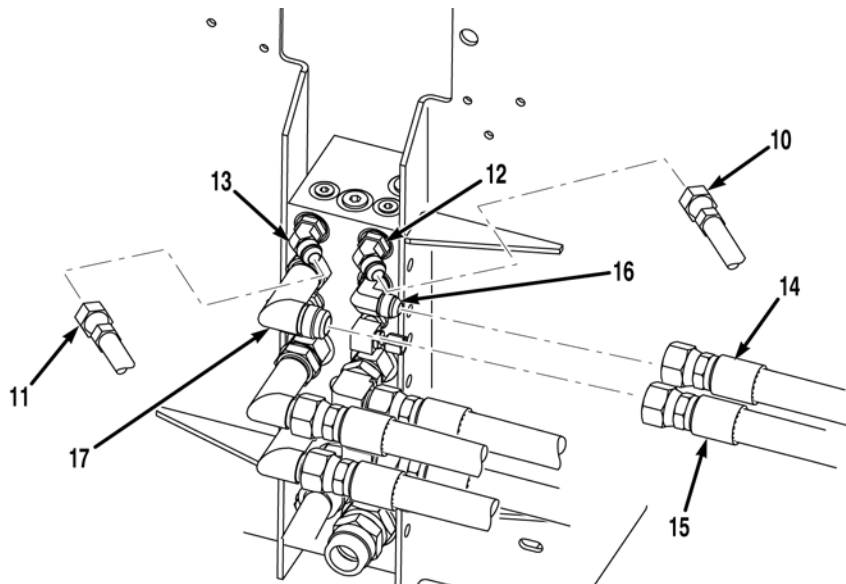
The THAAD hydraulic system operates at oil pressure up to 3,250 psi (22,409 kPa). Never disconnect any hydraulic line or fitting without first dropping pressure to zero. Failure to comply may result in serious injury or death to personnel.

NOTE

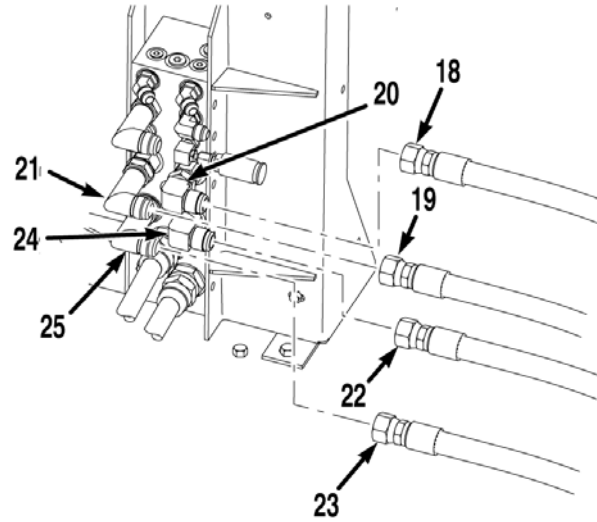
- Position drain pan under hydraulic lines and fittings being removed.
- Tag and mark hydraulic lines prior to removal to ensure proper installation.
- Cap and plug hydraulic lines upon removal.
- Remove cable ties as required.



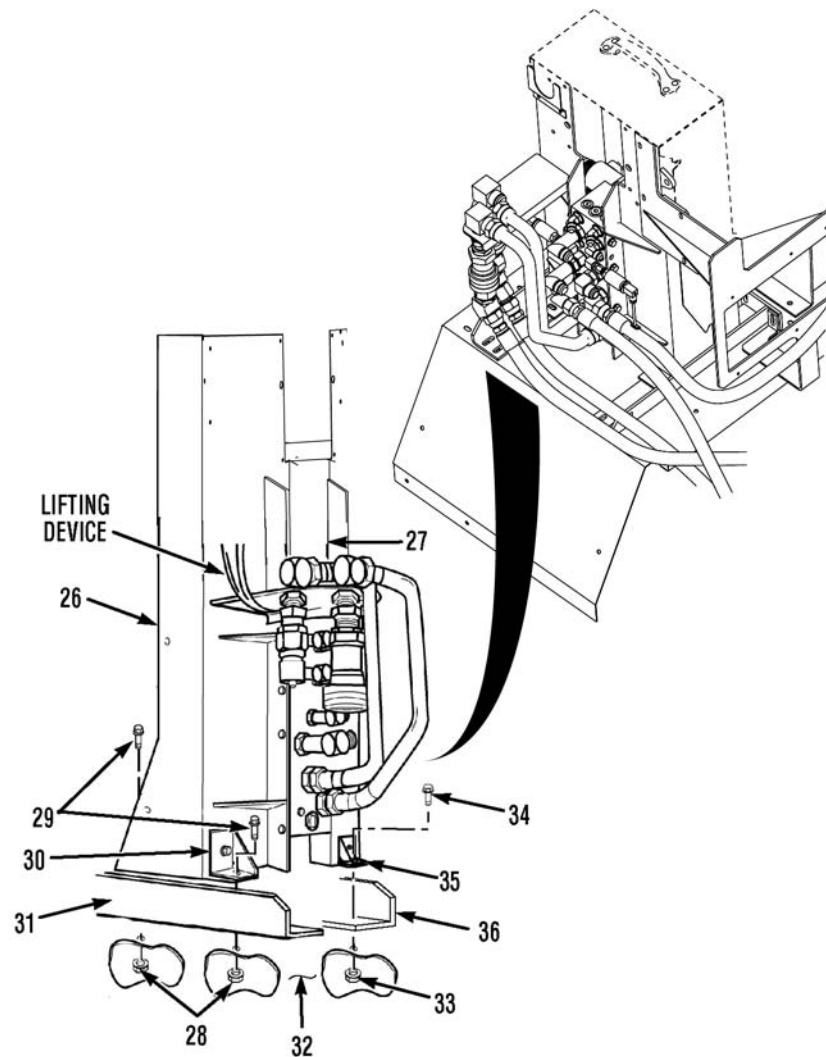
1. Loosen two screws (1) and remove plugs (2) and gaskets (3) from pressure transducers (4). Discard gaskets.
2. Remove locknut (5), screw (6), cushion clip (7), and wire harness (8) from bracket (9). Discard locknut.



3. Remove hose 2588 (10) and hose 2887 (11) from two elbows (12 and 13).
4. Remove hose 2666 (14) and hose 2888 (15) from two elbows (16 and 17).



5. Remove hose 2891 (18) and hose 2892 (19) from two elbows (20 and 21).
6. Remove hose 2904 (22) and hose 2899 (23) from two elbows (24 and 25).



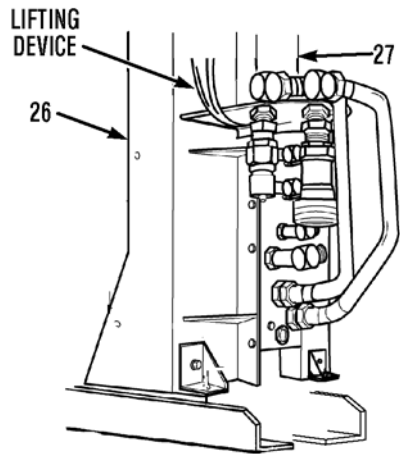
WARNING

Main manifold and brackets weigh 120 lbs (54 kg). Do not attempt to lift manifold and brackets without the aid of Soldier B and a suitable lifting device. Failure to comply may result in serious injury to personnel.

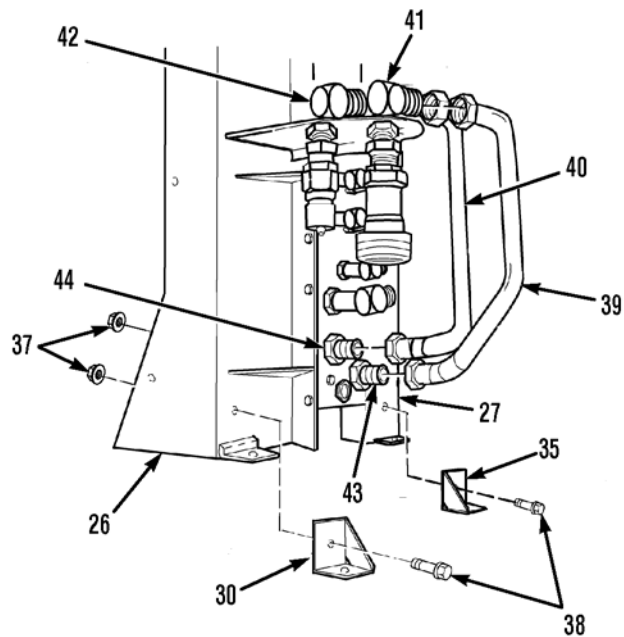
NOTE

Manifold and brackets are removed as an assembly.

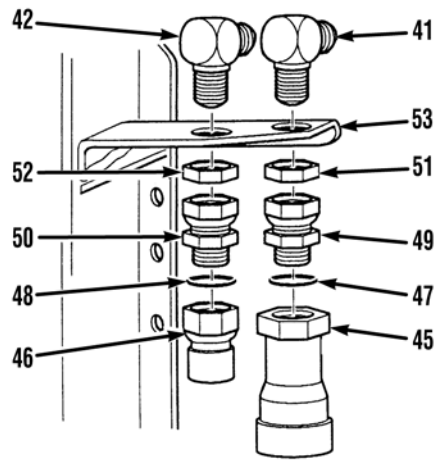
7. Attach suitable lifting device on two brackets (26 and 27).
8. Remove two locknuts (28) and screws (29) from three brackets (26, 30, and 31) and fender (32). Discard locknuts.
9. Remove two locknuts (33) and screws (34) from three brackets (27, 35, and 36) and fender (32). Discard locknuts.



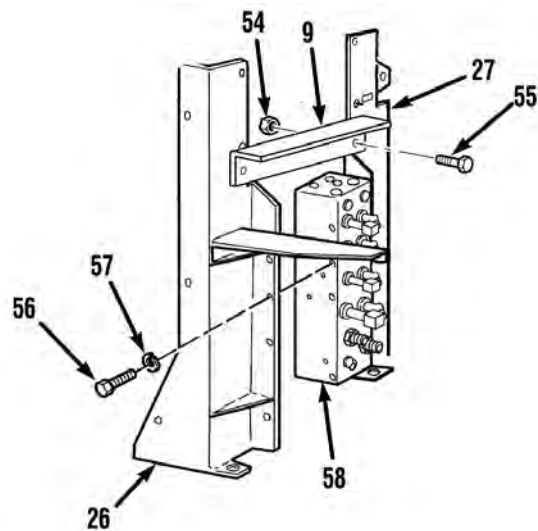
10. While Soldier A operates suitable lifting device, Soldier B guides two brackets (26 and 27) from vehicle.
11. Remove suitable lifting device from two brackets (26 and 27).



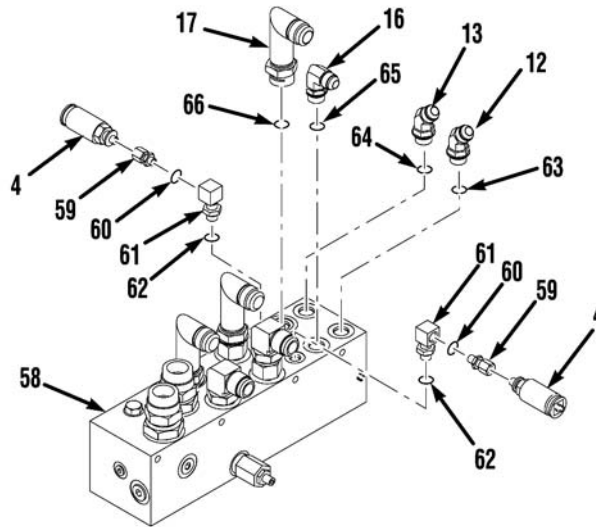
12. Remove two locknuts (37), screws (38), and brackets (30 and 35) from brackets (26 and 27). Discard locknuts.
13. Remove two tube assemblies (39 and 40) from elbows (41 and 42) and fittings (43 and 44).



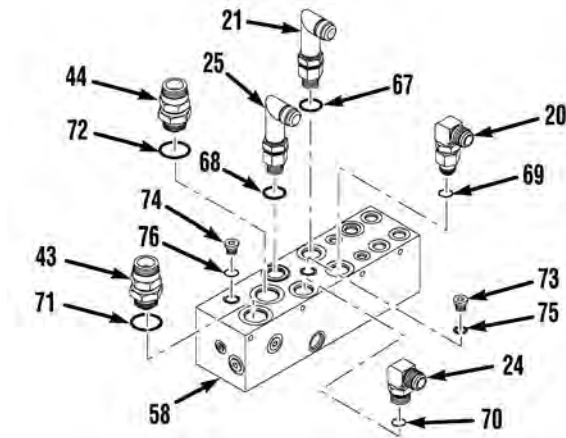
14. Remove two couplings (45 and 46) and preformed packings (47 and 48) from adapters (49 and 50). Discard preformed packings.
15. Remove two adapters (49 and 50) from elbows (41 and 42).
16. Remove two nuts (51 and 52) and elbows (41 and 42) from bracket (53).



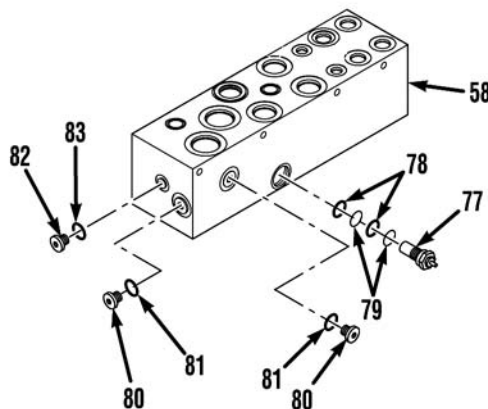
17. Remove two locknuts (54), screws (55), and bracket (9) from two brackets (26 and 27). Discard locknuts.
18. Remove six screws (56), lockwashers (57), and manifold (58) from two brackets (26 and 27). Discard lockwashers.



19. Remove two pressure transducers (4) from fittings (59).
20. Remove two fittings (59) and preformed packings (60) from elbows (61). Discard preformed packings.
21. Remove two elbows (61) and preformed packings (62) from manifold (58). Discard preformed packings.
22. Remove two elbows (12 and 13) and preformed packings (63 and 64) from manifold (58). Discard preformed packings.
23. Remove elbow (16) and preformed packing (65) from manifold (58). Discard preformed packing.
24. Remove elbow (17) and preformed packing (66) from manifold (58). Discard preformed packing.

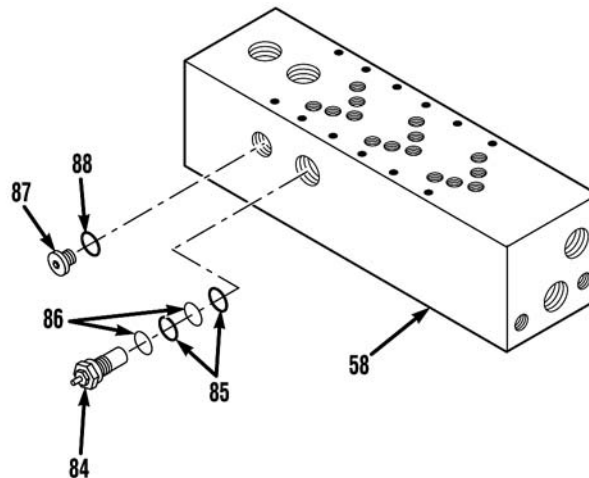


25. Remove two elbows (21 and 25) and preformed packings (67 and 68) from manifold (58). Discard preformed packings.
26. Remove two elbows (20 and 24) and preformed packings (69 and 70) from manifold (58). Discard preformed packings.
27. Remove two fittings (43 and 44) and preformed packings (71 and 72) from manifold (58). Discard preformed packings.
28. Remove two plugs (73 and 74) and preformed packings (75 and 76) from manifold (58). Discard preformed packings.

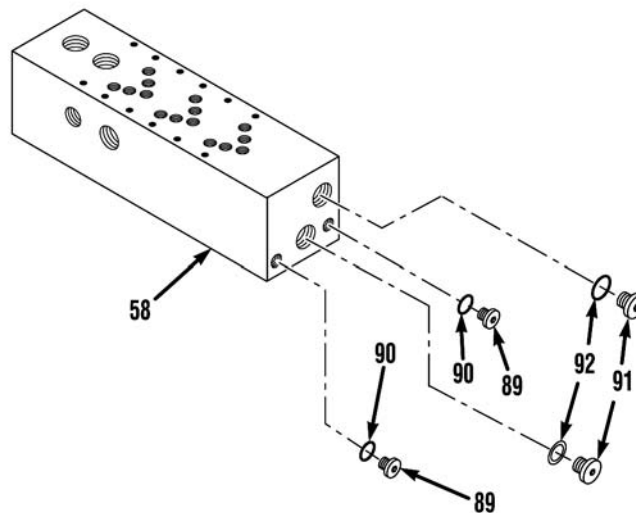


29. Remove relief valve (77), two back-up rings (78), and preformed packings (79) from manifold (58). Discard preformed packings.

30. Remove two plugs (80) and preformed packings (81) from manifold (58). Discard preformed packings.
31. Remove plug (82) and preformed packing (83) from manifold (58). Discard preformed packing.



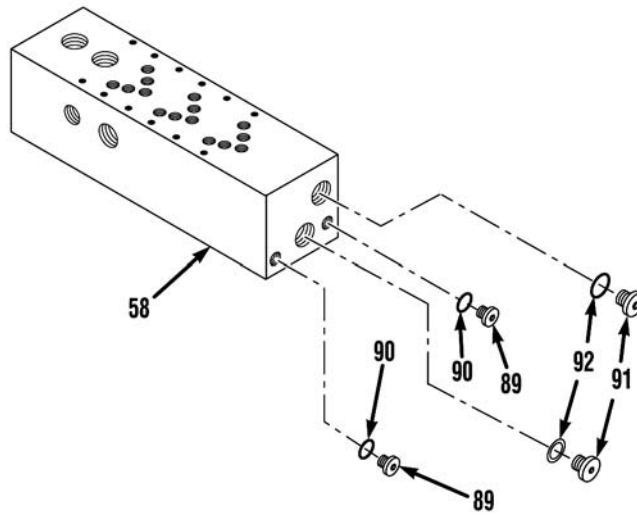
32. Remove relief valve (84), two back-up rings (85), and preformed packings (86) from manifold (58). Discard preformed packings.
33. Remove plug (87) and preformed packing (88) from manifold (58). Discard preformed packing.



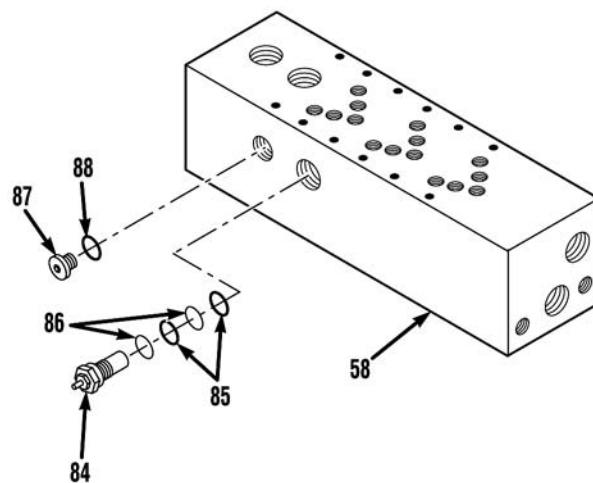
34. Remove two plugs (89) and preformed packings (90) from manifold (58). Discard preformed packings.
35. Remove two plugs (91) and preformed packings (92) from manifold (58). Discard preformed packings.

END OF TASK

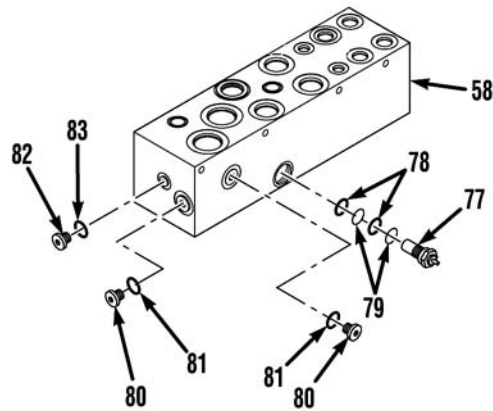
INSTALLATION



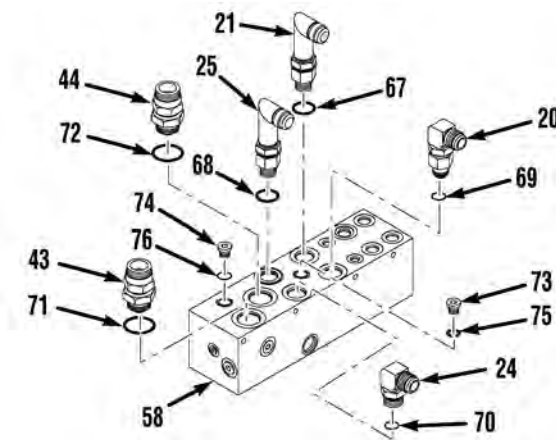
1. Lightly lubricate two preformed packings (92) with clean oil and install preformed packings (92) and plugs (91) on manifold (58).
2. Lightly lubricate two preformed packings (90) with clean oil and install preformed packings (90) and plugs (89) on manifold (58).



3. Lightly lubricate preformed packing (88) with clean oil and install preformed packing (88) and plug (91) on manifold (58).
4. Lightly lubricate two preformed packings (86) and back-up rings (85) with clean oil and install preformed packings (86), back-up rings (85), and relief valve (84) on manifold (58).



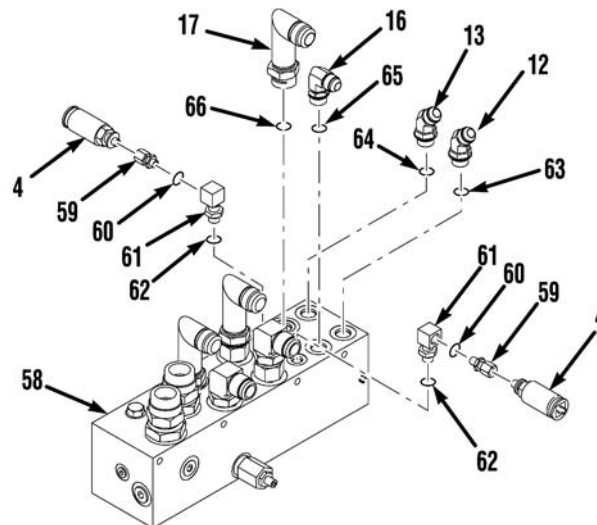
5. Lightly lubricate preformed packing (83) with clean oil and install preformed packing (83) and plug (82) on manifold (58).
6. Lightly lubricate two preformed packings (81) with clean oil and install preformed packings (81) and plugs (80) on manifold (58).
7. Lightly lubricate two preformed packings (79) and back-up rings (78) with clean oil and install preformed packings (79), back-up rings (78), and relief valve (77) on manifold (58).



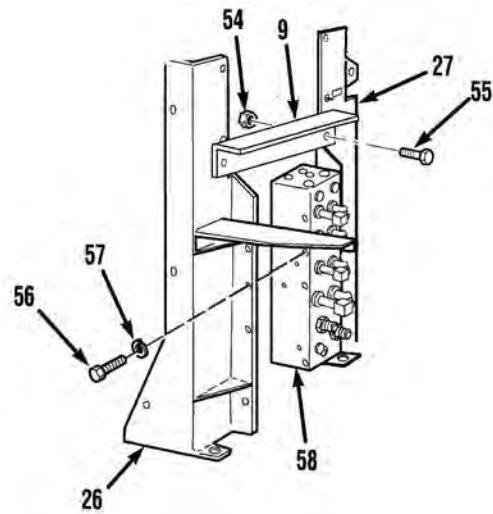
NOTE

Install cable ties as required.

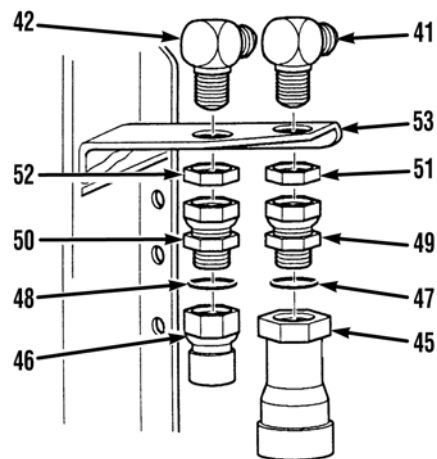
8. Lightly lubricate two preformed packings (75 and 76) with clean oil and install preformed packings (75 and 76) and plugs (73 and 74) on manifold (58).
9. Lightly lubricate two preformed packings (71 and 72) with clean oil and install preformed packings (71 and 72) and fittings (43 and 44) on manifold (58).
10. Lightly lubricate two preformed packings (69 and 70) with clean oil and install preformed packings (69 and 70) and elbows (20 and 24) on manifold (58).
11. Lightly lubricate two preformed packings (67 and 68) with clean oil and install two preformed packings (71 and 72) and elbows (21 and 25) on manifold (58).



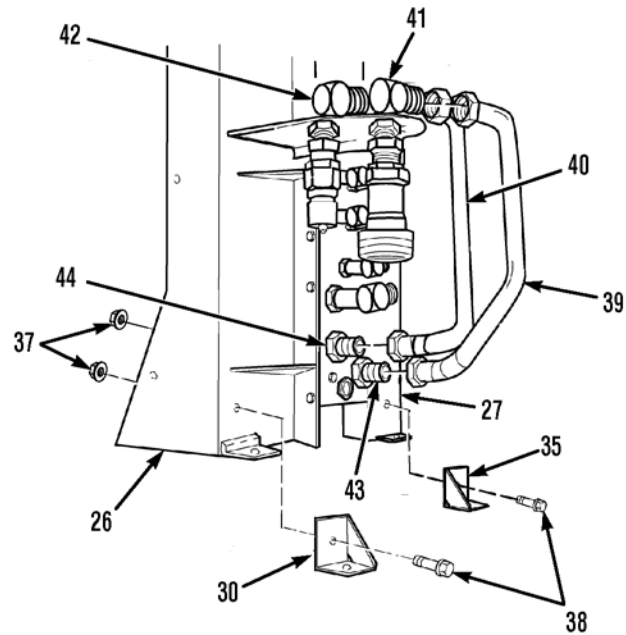
12. Lightly lubricate preformed packing (66) with clean oil and install preformed packing (66) and elbow (17) on manifold (58).
13. Lightly lubricate preformed packing (65) with clean oil and install preformed packing (65) and elbow (16) on manifold (58).
14. Lightly lubricate two preformed packings (63 and 64) with clean oil and install preformed packings (63 and 64) and elbows (12 and 13) on manifold (58).
15. Lightly lubricate two preformed packings (62) with clean oil and install preformed packings (62) and elbows (61) on manifold (58).
16. Lightly lubricate two preformed packings (60) with clean oil and install preformed packings (60) and fittings (59) on elbows (61).
17. Install two pressure transducers (4) on fittings (59).



18. Install manifold (58) on two brackets (26 and 27) with six lockwashers (57) and screws (56).
19. Install bracket (9) on two brackets (26 and 27) with screws (55) and locknuts (54).



20. Install two elbows (41 and 42) on bracket (53) with two nuts (51 and 52).
21. Install two adapters (49 and 50) on elbows (41 and 42).
22. Lightly lubricate two preformed packings (47 and 48) with clean oil and install preformed packings (47 and 48) and couplings (45 and 46) on adapters (49 and 50).



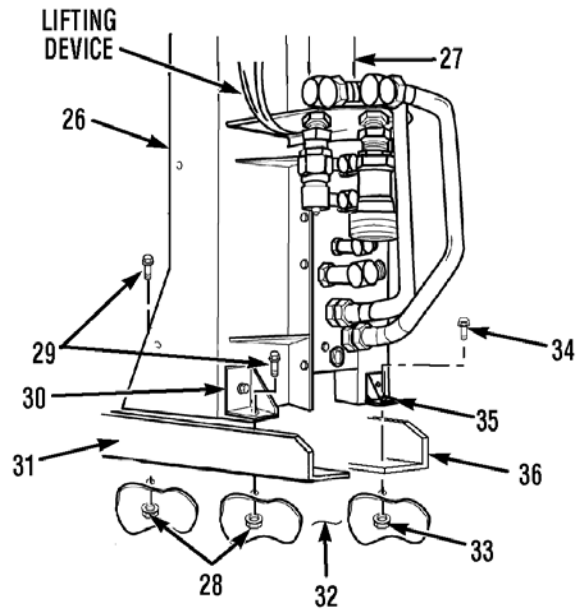
23. Install two tube assemblies (39 and 40) on elbows (41 and 42) and fittings (43 and 44).
24. Install two brackets (30 and 35) on brackets (26 and 27) with screws (38) and locknuts (37).

WARNING

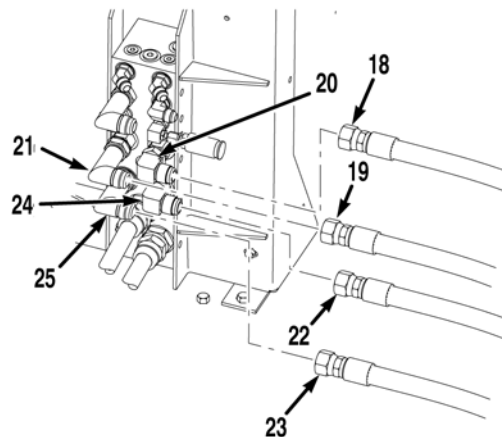
Manifold and brackets weigh 120 lbs (54 kg). Do not attempt to lift manifold and brackets without the aid of Soldier B and a suitable lifting device. Failure to comply could result in serious injury to personnel.

NOTE

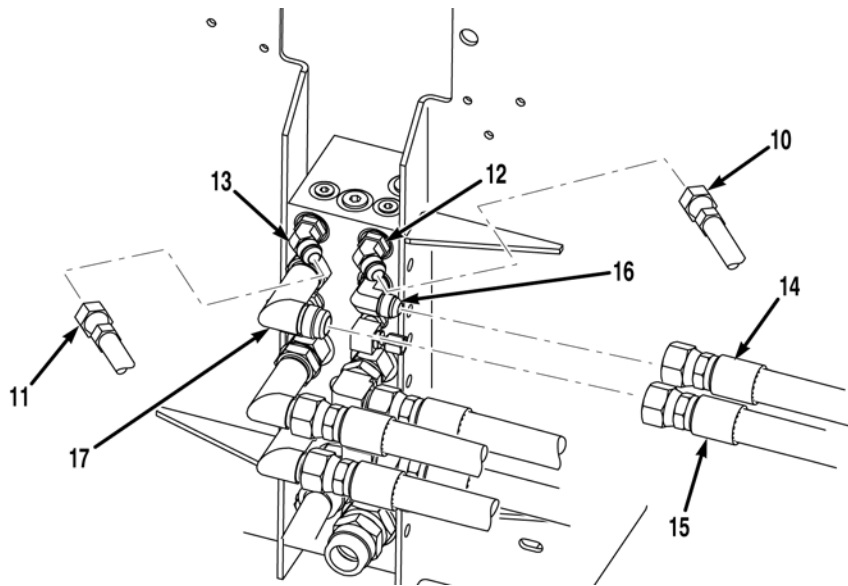
Manifold and brackets are installed as an assembly.



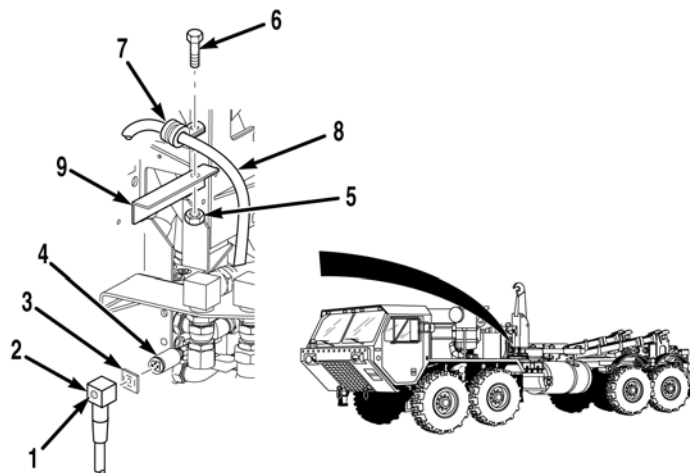
25. Attach suitable lifting device on two brackets (26 and 27).
26. While Soldier A operates suitable lifting device, Soldier B guides two brackets (26 and 27) on vehicle.
27. Install three brackets (27, 35, and 36) on fender (32) with two screws (34) and locknuts (33).
28. Install three brackets (26, 30, and 31) on fender (32) with two screws (29) and locknuts (28).
29. Remove suitable lifting device from two brackets (26 and 27).



30. Install hose 2904 (22) and hose 2899 (23) on two elbows (24 and 25).
31. Install hose 2891 (18) and hose 2892 (19) on two elbows (20 and 21).



- 32. Install hose 2666 (14) and hose 2888 (15) on two elbows (16 and 17).
- 33. Install hose 2588 (10) and hose 2887 (11) on two elbows (12 and 13).



- 34. Install cushion clip (7) and wire harness (8) on bracket (9) with screw (6) and locknut (5).
- 35. Install two gaskets (3) and plugs (2) on pressure transducers (4) and tighten screws (1).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install VIM units and mounting bracket (WP 0089).
2. Install free-flow valve and coil (WP 0127).
3. Install relief valve (WP 0145).
4. Install directional control valve (WP 0125).
5. Install high idle/throttle inhibit relays (WP 0065).
6. Install auxiliary work lamp (WP 0058).
7. Connect batteries (TM 9-2320-325-14&P).
8. Check for oil leaks (TM 9-2320-347-10)
9. Check hydraulic oil reservoir level (WP 0120).
10. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
LHS RUBBER BUMPER REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Adhesive, Thread Locking (WP 0186, Item 6)
Locknut, (1), (WP 0184, Item 25)

Personnel Required

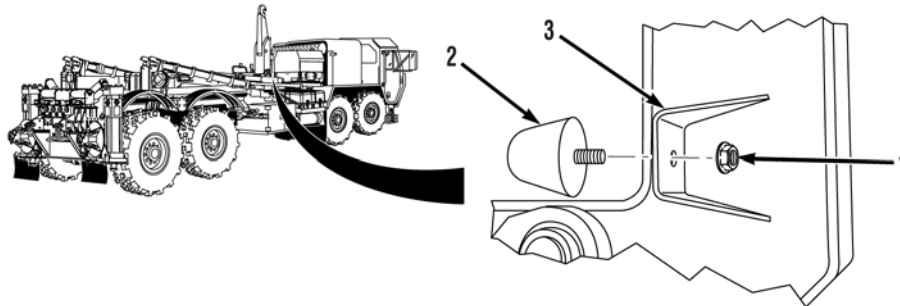
MOS 63B Wheeled vehicle mechanic

References

None

Equipment Conditions

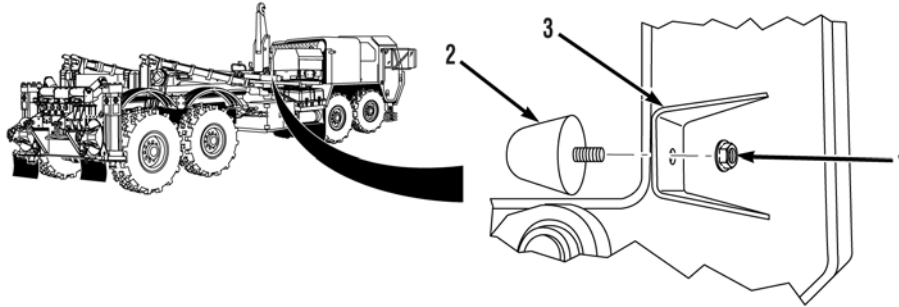
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
MRP off-loaded (WP 0011)
LHS extended (WP 0011)

REMOVAL**NOTE**

- Two compression frame rubber bumpers supporting hook arm do not have locknuts.
- Front hook arm rubber bumper shown.
- LHS must be in raised position when replacing rubber bumpers from compression frame.

1. Remove locknut (1) and rubber bumper (2) from hook arm (3). Discard locknut.

END OF TASK

INSTALLATION**WARNING**

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

1. Apply sealing compound to threads of rubber bumper (2).
2. Install rubber bumper (2) on hook arm (3) with locknut (1).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Stow LHS (WP 0011).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE

MRP CONTROL VALVE REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Pan, Drain (WP 0183, Item 10)
 Set, Cap and Plug (WP 0183, Item 17)
 Tool Kit, General Mechanic's: Automotive
 (WP 0183, Item 25)

Materials/Parts

Lockwasher, (4), (WP 0184, Item 34)
 Locknut, (4), (WP 0184, Item 17)
 Packing, Preformed, (14), (WP 0184, Item 126)
 Packing, Preformed, (1), (WP 0184, Item 124)
 Packing, Preformed, (6), (WP 0184, Item 125)
 Packing, Preformed, (2), (WP 0184, Item 121)
 Packing, Preformed, (1), (WP 0184, Item 111)
 Packing, Preformed, (4), (WP 0184, Item 41)
 Packing, Preformed, (1), (WP 0184, Item 86)

Materials/Parts (Continued)

Packing, Preformed, (1), (WP 0184, Item 42)
 Tags, Identification (WP 0186, Item 32)

Personnel Required

MOS 63B Wheeled vehicle mechanic

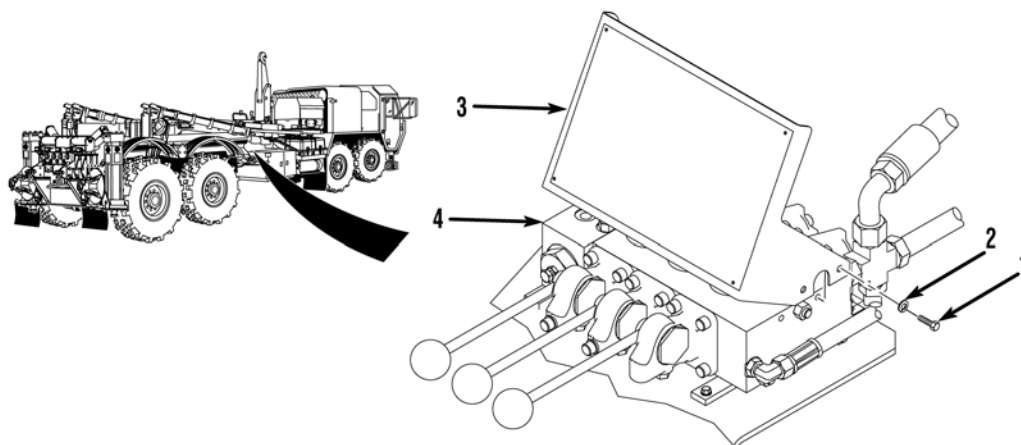
References

None

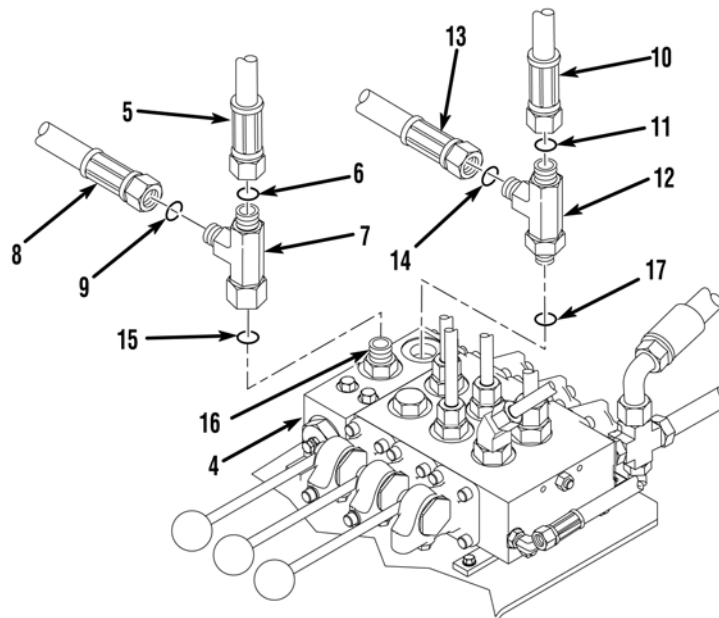
Equipment Conditions

Work lamp switch removed (WP 0090)

REMOVAL



1. Remove four screws (1), lockwashers (2), and data plate bracket (3) from control valve (4). Discard lockwashers.

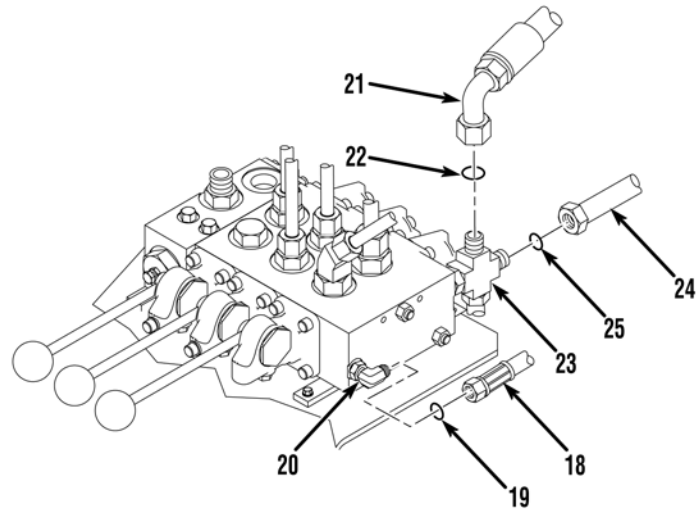


WARNING

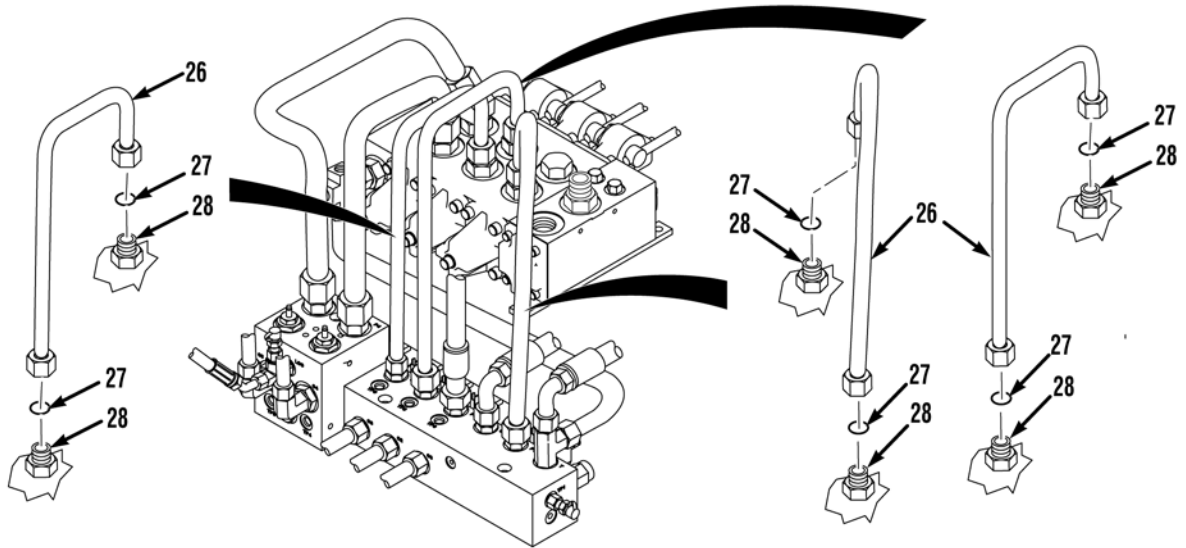
The THAAD hydraulic system operates at oil pressure up to 3,250 psi (22,409 kPa). Never disconnect any hydraulic line or fitting without first dropping pressure to zero. Failure to comply may result in serious injury or death to personnel.

NOTE

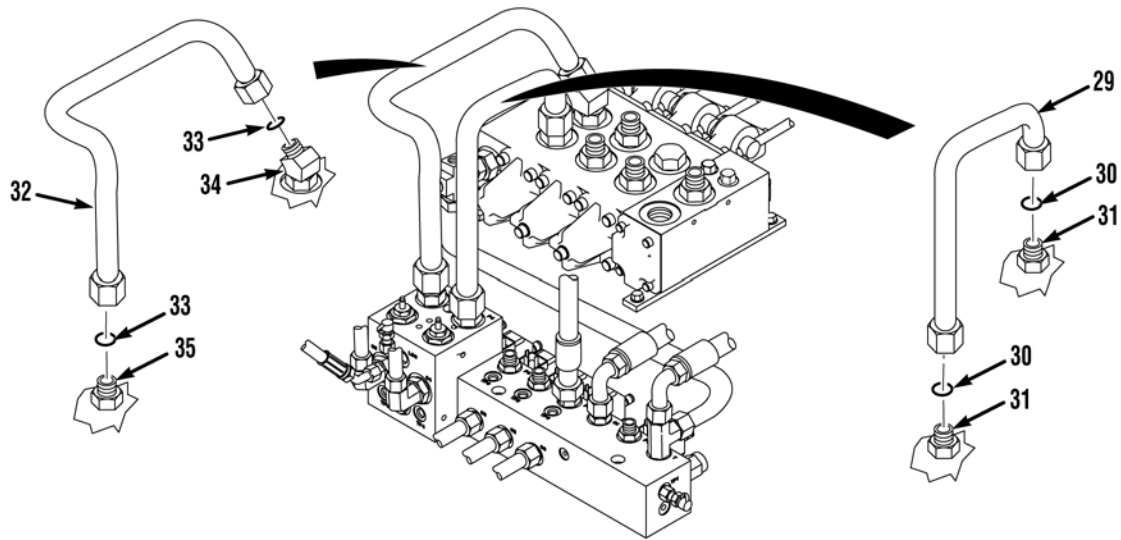
- Note position of tees and elbows prior to removal to ensure proper installation.
 - Position drain pan under hydraulic lines and fittings being removed.
 - Tag and mark hydraulic lines prior to removal to ensure proper installation.
 - Cap and plug hydraulic lines upon removal.
2. Remove hose (5) and preformed packing (6) from tee (7). Discard preformed packing.
 3. Remove hose (8) and preformed packing (9) from tee (7). Discard preformed packing.
 4. Remove hose (10) and preformed packing (11) from tee (12). Discard preformed packing.
 5. Remove hose (13) and preformed packing (14) from tee (12). Discard preformed packing.
 6. Remove tee (7) and preformed packing (15) from fitting (16). Discard preformed packing.
 7. Remove tee (12) and preformed packing (17) from control valve (4). Discard preformed packing.



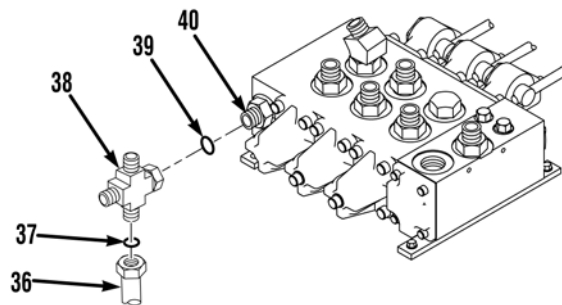
8. Remove hose (18) and preformed packing (19) from elbow (20). Discard preformed packing.
9. Remove hose (21) and preformed packing (22) from tee (23). Discard preformed packing.
10. Remove hose (24) and preformed packing (25) from tee (23). Discard preformed packing.



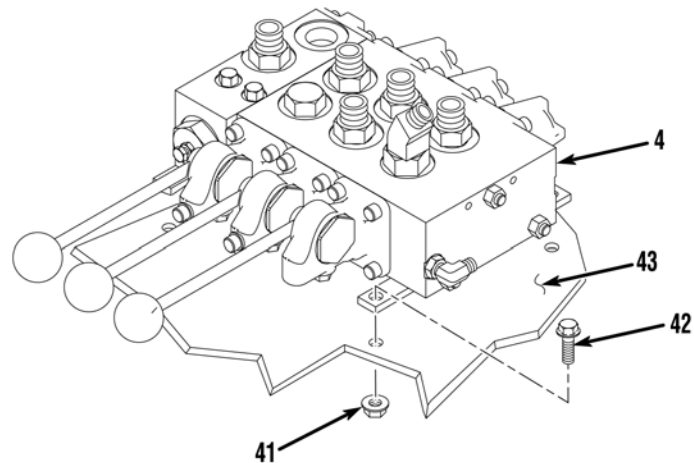
11. Remove three tubes (26) and six preformed packings (27) from six fittings (28). Discard preformed packings.



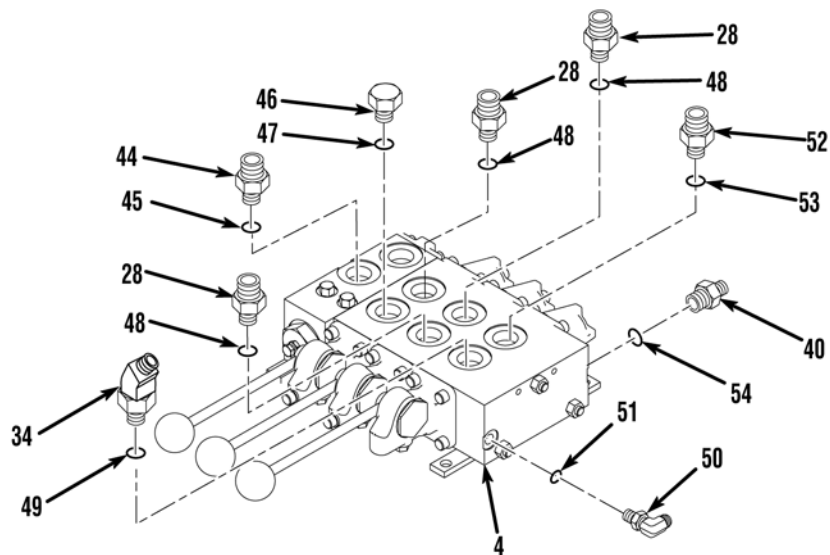
12. Remove tube (29) and two preformed packings (30) from fittings (31). Discard preformed packings.
13. Remove tube (32) and two preformed packings (33) from elbow (34) and fitting (35). Discard preformed packings.



14. Remove tube (36) and preformed packing (37) from tee (38). Discard preformed packing.
15. Remove tee (38) and preformed packing (39) from fitting (40). Discard preformed packing.



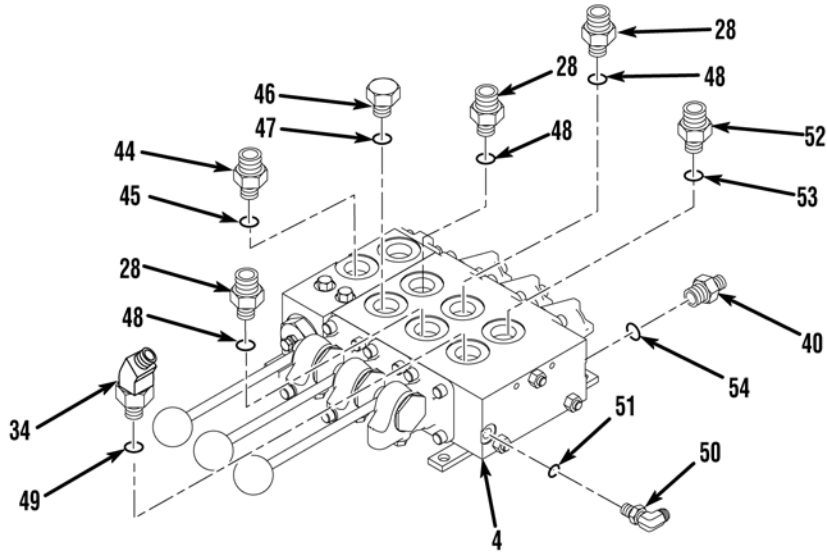
16. Remove four locknuts (41), screws (42), and control valve (4) from bracket (43). Discard locknuts.



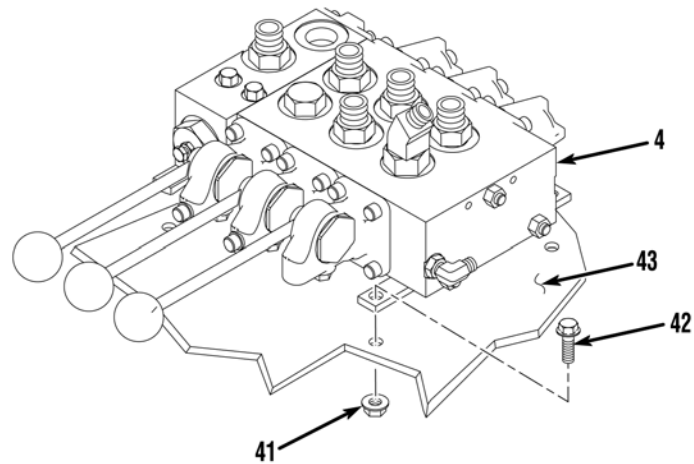
17. Remove fitting (44) and preformed packing (45) from control valve (4). Discard preformed packings.
18. Remove plug (46) and preformed packing (47) from control valve (4). Discard preformed packing.
19. Remove three fittings (28) and preformed packings (48) from control valve (4). Discard preformed packings.
20. Remove elbow (34) and preformed packing (49) from valve (4). Discard preformed packing.
21. Remove elbow (50) and preformed packing (51) from control valve (4). Discard preformed packing.
22. Remove fitting (52) and preformed packing (53) from control valve (4). Discard preformed packing.
23. Remove fitting (40) and preformed packing (54) from control valve (4). Discard preformed packing.

END OF TASK

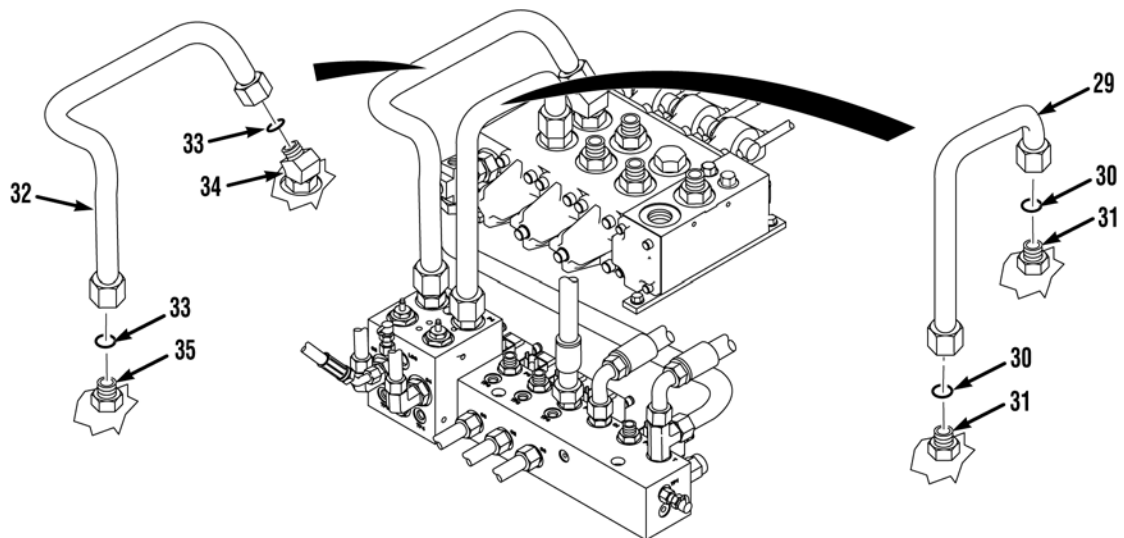
INSTALLATION



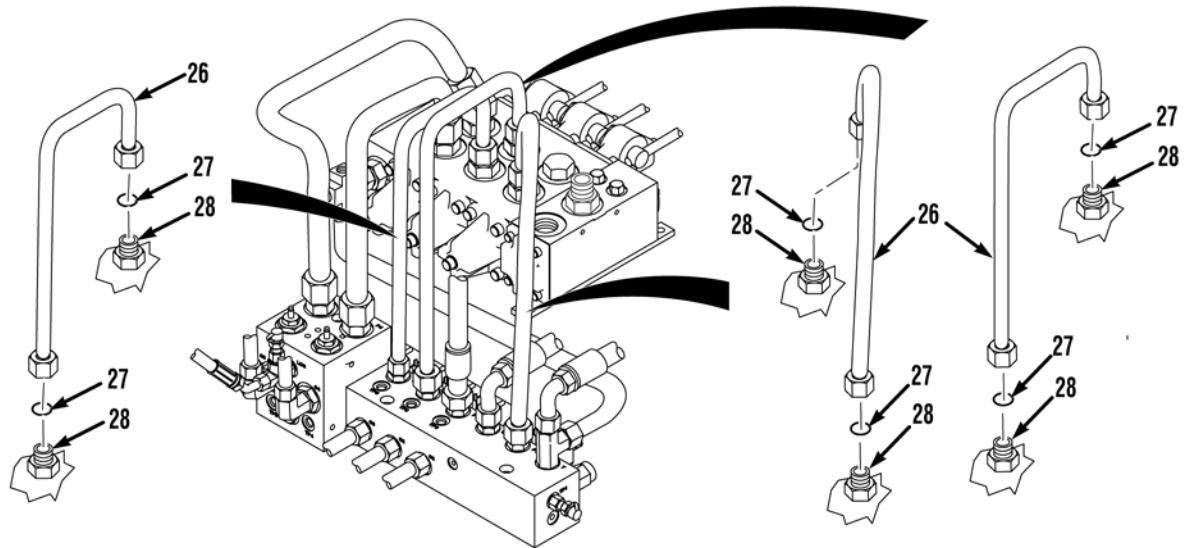
1. Lightly lubricate preformed packing (54) with clean oil and install preformed packing (54) and fitting (40) on control valve (4).
2. Lightly lubricate preformed packing (53) with clean oil and install preformed packing (53) and fitting (52) on control valve (4).
3. Lightly lubricate preformed packing (51) with clean oil and install preformed packing (51) and elbow (50) on control valve (4).
4. Lightly lubricate preformed packing (49) with clean oil and install preformed packing (49) and elbow (34) on control valve (4).
5. Lightly lubricate three preformed packings (48) with clean oil and install preformed packings (48) and fittings (28) on control valve (4).
6. Lightly lubricate preformed packing (47) with clean oil and install preformed packing (47) and plug (46) on control valve (4).
7. Lightly lubricate two preformed packings (45) with clean oil and install preformed packing (45) and fitting (44) on control valve (4).



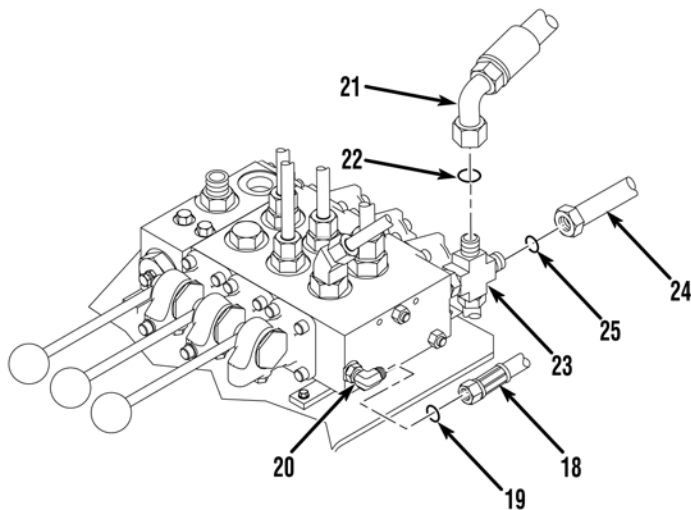
8. Install control valve (4) on bracket (43) with four screws (42) and locknuts (41).
9. Lightly lubricate preformed packing (39) with clean oil and install preformed packing (39) and tee (38) on fitting (40).
10. Lightly lubricate preformed packing (37) with clean oil and install preformed packing (37) and tube (36) on tee (38).



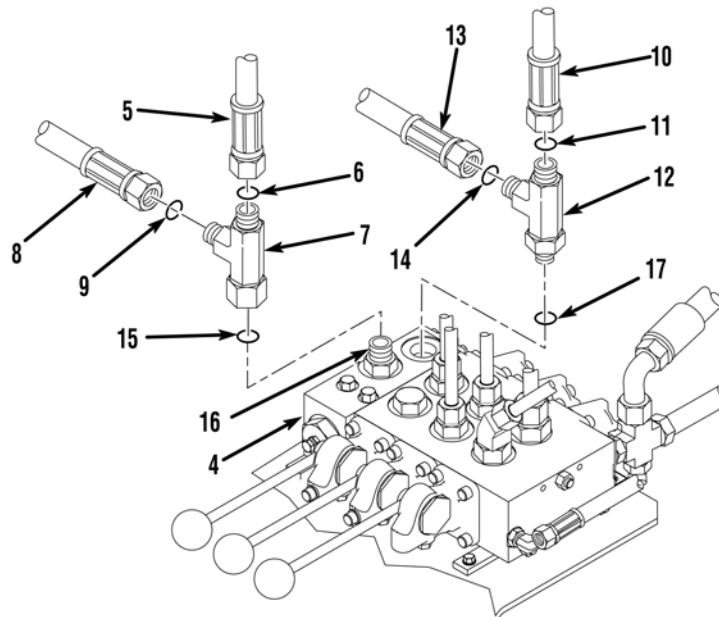
11. Lightly lubricate two preformed packings (33) with clean oil and install preformed packings (33) and tube (32) on fitting (35) and elbow (34).
12. Lightly lubricate two preformed packings (30) with clean oil and install preformed packings (30) and tube (29) on two fittings (31).



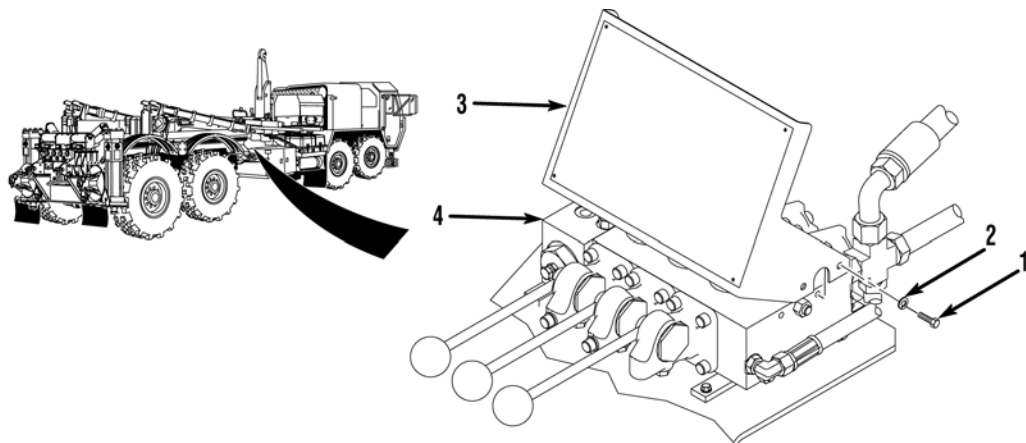
13. Lightly lubricate six preformed packings (27) with clean oil and install preformed packings (27) and three tubes (26) on six fittings (28).



14. Lightly lubricate preformed packing (25) with clean oil and install preformed packing (25) and hose (24) on tee (23).
15. Lightly lubricate preformed packing (22) with clean oil and install preformed packing (22) and hose (21) on tee (23).
16. Lightly lubricate preformed packing (19) with clean oil and install preformed packing (19) and hose (18) on elbow (20).



17. Lightly lubricate preformed packing (17) with clean oil and install preformed packing (17) and tee (12) on control valve (4).
18. Lightly lubricate preformed packing (15) with clean oil and install preformed packing (15) and tee (7) on fitting (16).
19. Lightly lubricate preformed packing (14) with clean oil and install preformed packing (14) and hose (13) on tee (12).
20. Lightly lubricate preformed packing (11) with clean oil and install preformed packing (11) and hose (10) on tee (12).
21. Lightly lubricate preformed packing (9) with clean oil and install preformed packing (9) and hose (8) on tee (7).
22. Lightly lubricate preformed packing (6) with clean oil and install preformed packing (6) and hose (5) on tee (7).



23. Install data plate bracket (3) on control valve (4) with four lockwashers (2) and screws (1).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install work lamp switch (WP 0090).

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

MRP ELEVATION CYLINDERS REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

- Lifting Device, Minimum Capacity 600 lbs (272 kg)
- Pan, Drain (WP 0183, Item 10)
- Set, Cap and Plug (WP 0183, Item 17)
- Forward Repair System (WP 0183, Item 6)
- Tool Kit, General Mechanic's: Automotive (WP 0183, Item 25)

Materials/Parts

- Locknut, (6), (WP 0184, Item 3)
- Lockwasher, (6), (WP 0184, Item 34)
- Packing, Preformed, (2), (WP 0184, Item 113)
- Packing, Preformed, (2), (WP 0184, Item 102)
- Packing, Preformed, (2), (WP 0184, Item 109)
- Packing, Preformed, (2), (WP 0184, Item 100)
- Packing, Preformed, (4), (WP 0184, Item 96)
- Packing, Preformed, (1), (WP 0184, Item 106)
- Packing, Preformed, (1), (WP 0184, Item 4)

Materials/Parts (Continued)

- Packing, Preformed, (2), (WP 0184, Item 98)
- Ring, Retaining, (1), (WP 0184, Item 130)
- Oil, Hydraulic (WP 0186, Item 21)
- Tags, Identification (WP 0186, Item 32)
- Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

- MOS 63B Wheeled vehicle mechanic (3)

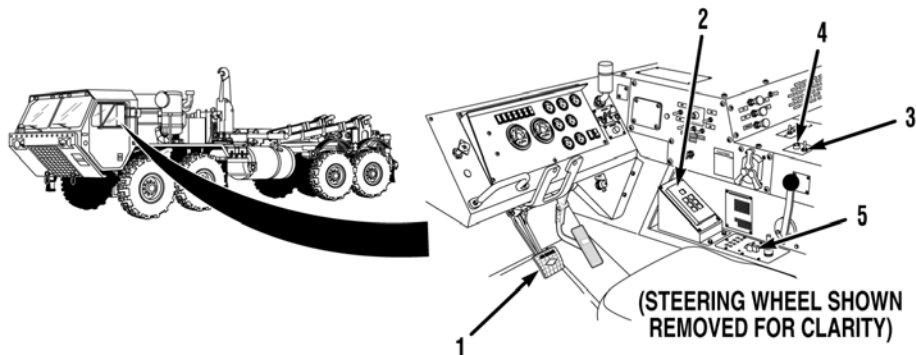
References

- None

Equipment Conditions

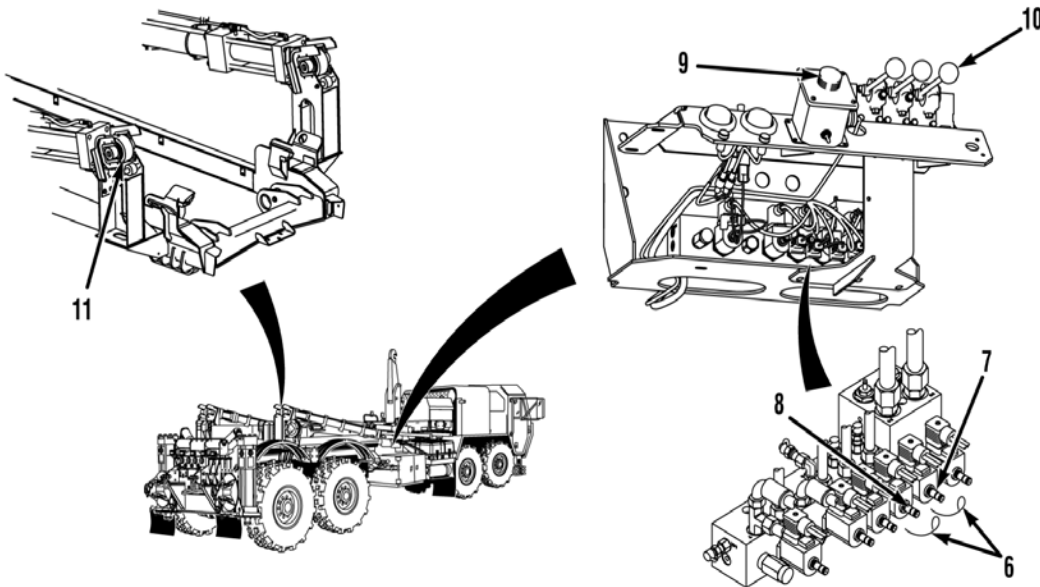
- Engine OFF (TM 9-2320-347-10)
- Wheels chocked (TM 9-2320-347-10)
- MRP off-loaded (WP 0011)

REMOVAL

**NOTE**

Both MRP elevation cylinders are removed the same way. Left side shown.

1. Start engine (TM 9-2320-347-10)
2. Apply service brake pedal (1) and set transmission range selector (2) to N (neutral).
3. Put PTO ENGAGE switch (3) in ON position. Make sure indicator light (4) illuminates.
4. Move hydraulic selector switch (5) to MRP position.

**NOTE**

Shafts should remain in extended position after being pulled out.

5. Cut and remove two safety wires (6) securing two solenoid shafts (7 and 8).
6. Pull out two solenoid shafts (7 and 8) approximately 0.13 in. (3.3 mm) and turn counterclockwise one quarter turn.
7. Push and hold palm button switch (9).

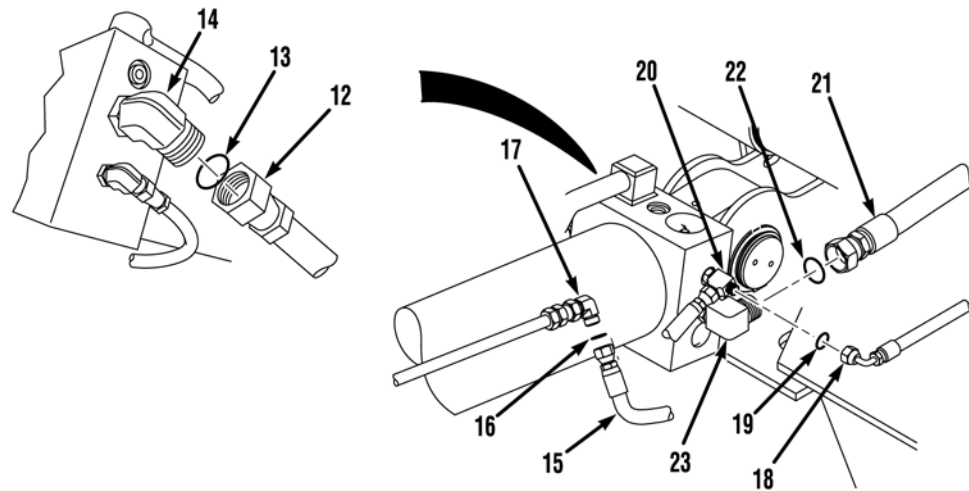
WARNING

When operating MRP elevation cylinders, personnel must stay clear of cylinders. Failure to comply may result in serious injury or death to personnel.

NOTE

Cylinder head must be extended approximately 7.5 in. (19.05 cm).

8. Use lever (10) and extend cylinder head (11).
9. Shut off engine (TM 9-2320-347-10)

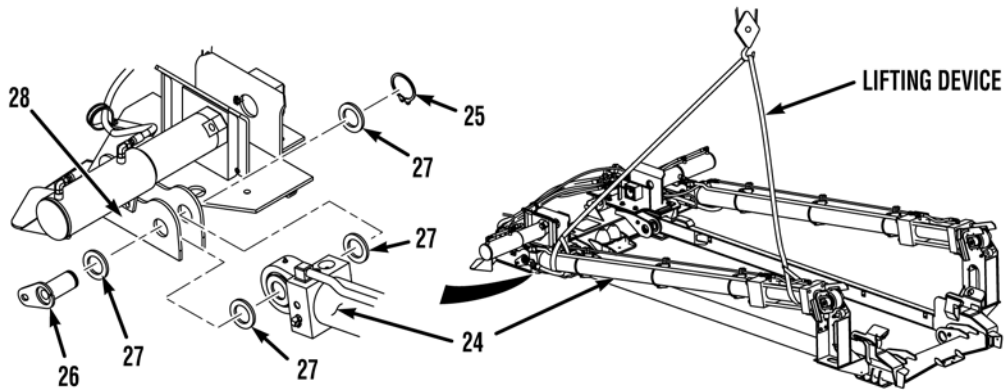


WARNING

The THAAD hydraulic system operates at oil pressure up to 3,250 psi (22,409 kPa). Never disconnect any hydraulic line or fitting without first dropping pressure to zero. Failure to comply may result in serious injury or death to personnel.

NOTE

- Position drain pan under hydraulic lines and fittings being removed.
 - Tag and mark hydraulic lines prior to removal to ensure proper installation.
 - Cap and plug hydraulic lines upon removal.
 - Remove cable ties as required.
10. Remove hose 2743 (12) and preformed packing (13) from elbow (14). Discard preformed packing.
 11. Remove hose 2760 (15) and preformed packing (16) from elbow (17). Discard preformed packing.
 12. Remove hose 2781 (18) and preformed packing (19) from tee (20). Discard preformed packing.
 13. Remove hose 2742 (21) and preformed packing (22) from elbow (23). Discard preformed packing.



WARNING

Cylinder assembly weighs 600 lbs (272 kg). Attach suitable lifting device to prevent possible injury to personnel.

14. Attach suitable lifting device to cylinder (24).

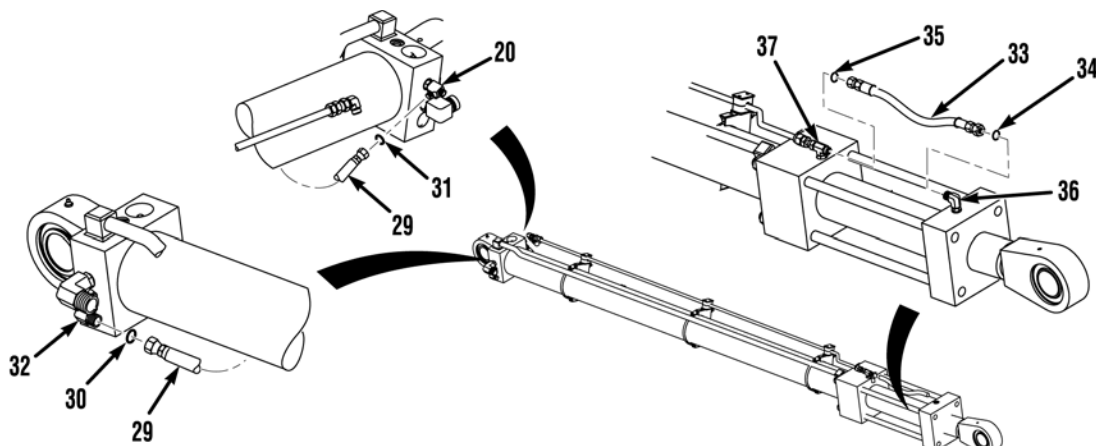
WARNING

Wear safety glasses when removing retaining rings to prevent injury or blindness. Failure to comply may result in serious injury to personnel.

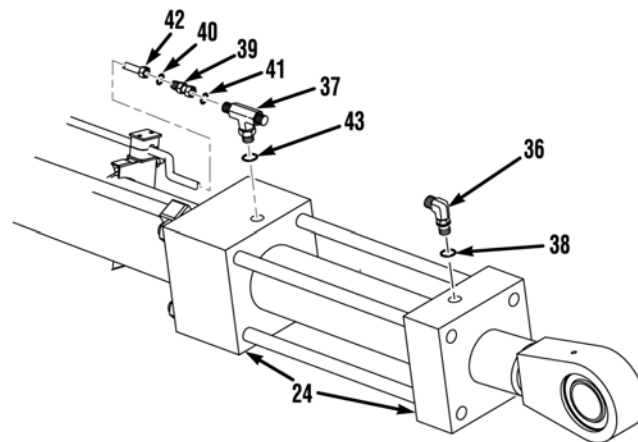
NOTE

Note position of shims prior to removal to ensure proper installation.

15. Remove snap ring (25), pivot pin (26), and four shims (27) from frame (28) and cylinder (24).
16. While Soldier A operates suitable lifting device, Soldier B and Soldier C guide the cylinder (24) from vehicle.
17. Remove suitable lifting device from cylinder (24).



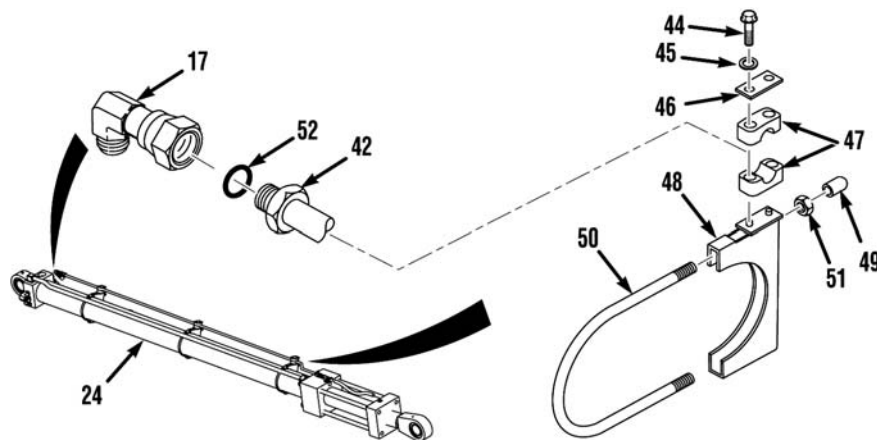
18. Remove hose 2781 (29) and two preformed packings (30 and 31) from elbow (32) and tee (20). Discard preformed packing.
19. Remove hose 2760 (33) and two preformed packings (34 and 35) from elbow (36) and tee (37). Discard preformed packing.



NOTE

Note position of elbows and fittings prior to removal to ensure proper installation.

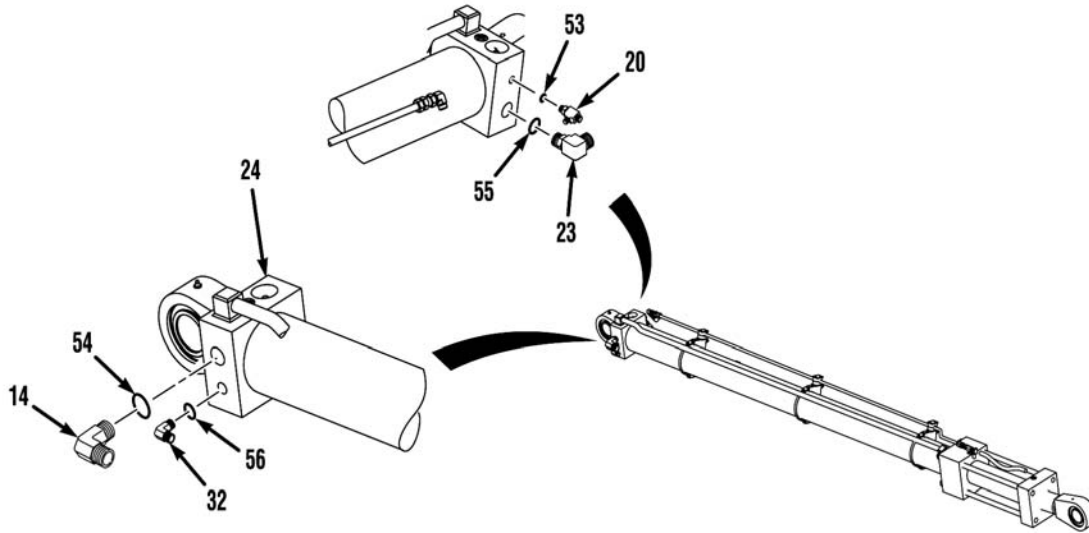
20. Remove elbow (36) and preformed packing (38) from cylinder (24). Discard preformed packing.
21. Remove fitting (39) and two preformed packings (40 and 41) from tee (37) and tube (42). Discard preformed packings.
22. Remove tee (37) and preformed packing (43) from cylinder (24). Discard preformed packing.



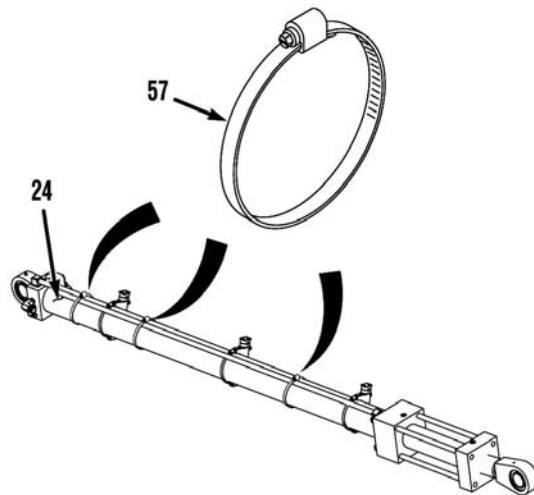
NOTE

Clamp consists of two halves.

23. Remove six screws (44), lockwashers (45), three cover plates (46), clamps (47), and tube (42) from three saddle brackets (48). Discard lockwashers.
24. Remove six caps (49) from three U-bolts (50).
25. Remove six locknuts (51), three U-bolts (50), and saddle brackets (48) from cylinder (24). Discard locknuts.
26. Remove elbow (17) and preformed packing (52) from fitting (42). Discard preformed packing.



27. Remove tee (20), three elbows (14, 23, and 32), and four preformed packings (53,54, 55, and, 56) from cylinder (24). Discard preformed packing.



NOTE

Perform step (29) if band clamps need to be removed.

28. Remove three band clamps (57) from cylinder (24).

END OF TASK

INSTALLATION**NOTE**

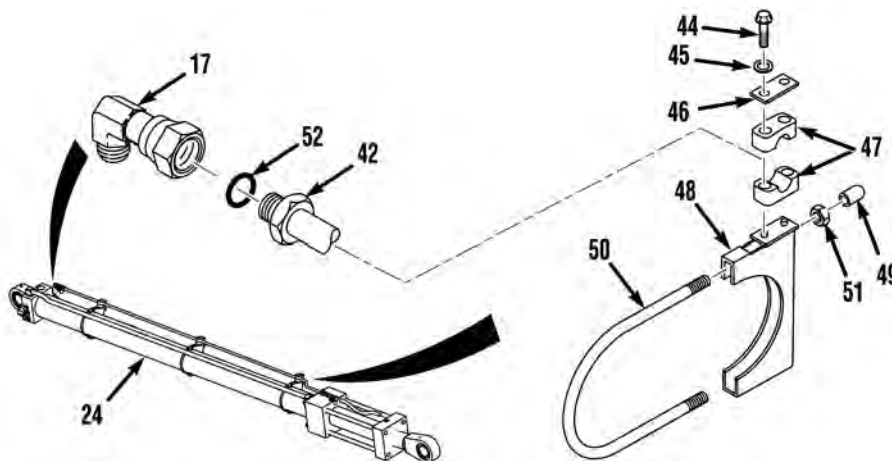
- Both MRP elevation cylinders are installed the same way. Left side shown.
- Both MRP elevation cylinders must be extended approximately 7.5 in. (19.05 cm).
- Install cable ties as required.
- Perform step (1) if band clamps need to be installed.

1. Install three band clamps (57) on cylinder (24).

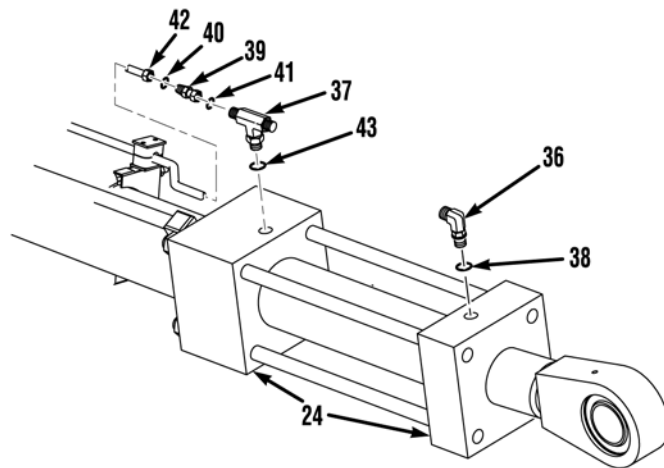
NOTE

Install elbows and fittings as noted prior to removal.

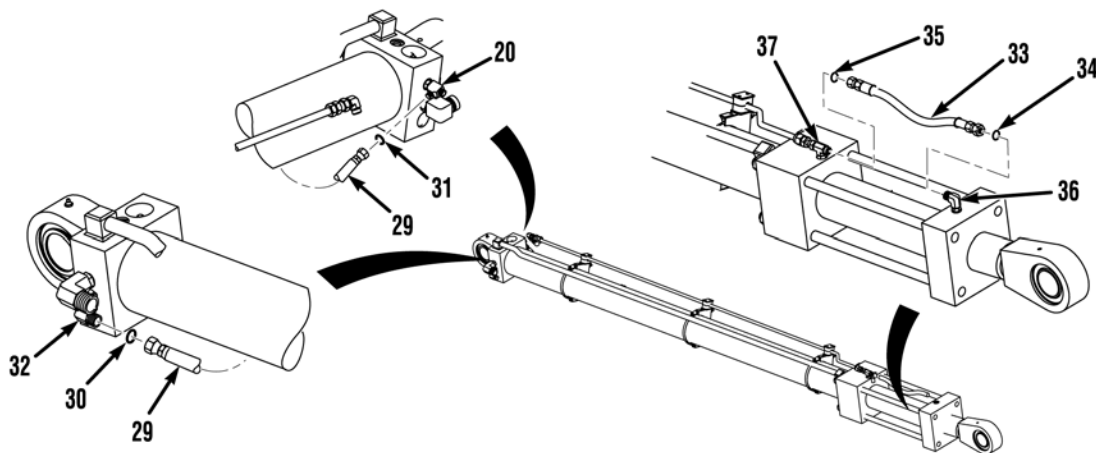
2. Lightly lubricate four preformed packings (53, 54, 55, and 56) with clean oil and install preformed packings (53, 54, 55, and 56), three elbows (14, 23, and 32), and tee (20) on cylinder (24).



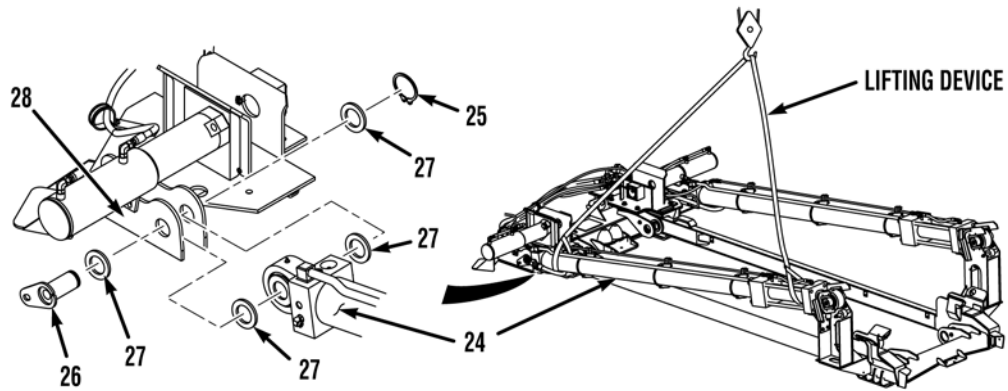
3. Lightly lubricate preformed packing (52) with clean oil and install preformed packing (52) on tube (42).
4. Install tube (42) on elbow (17).
5. Install three saddle brackets (48) on cylinder (24) with three U-bolts (50) and six locknuts (51).
6. Install six caps (49) on three U-bolts (50).
7. Install tube (42) on three saddle brackets (48) with clamps (47), cover plates (46), six lockwashers (45), and screws (44).



8. Lightly lubricate preformed packing (43) with clean oil and install preformed packing (43) and tee (37) on cylinder (24).
9. Lightly lubricate two preformed packings (40 and 41) with clean oil and install two preformed packings (40 and 41) and fitting (39) on tube (42) and tee (37).
10. Lightly lubricate preformed packing (38) with clean oil and install preformed packing (38) and elbow (36) on cylinder (24).



11. Lightly lubricate two preformed packings (34 and 35) with clean oil and install two preformed packings (34 and 35) and hose 2760 (33) on elbow (36) and tee (37).
12. Lightly lubricate two preformed packings (30 and 31) with clean oil and install two preformed packings (30 and 31) and hose 2781 (29) on elbow (32) and tee (20).



13. Install suitable lifting device on cylinder (24).
14. While Soldier A operates suitable lifting device, Soldier B and Soldier C guide cylinder (24) on vehicle.

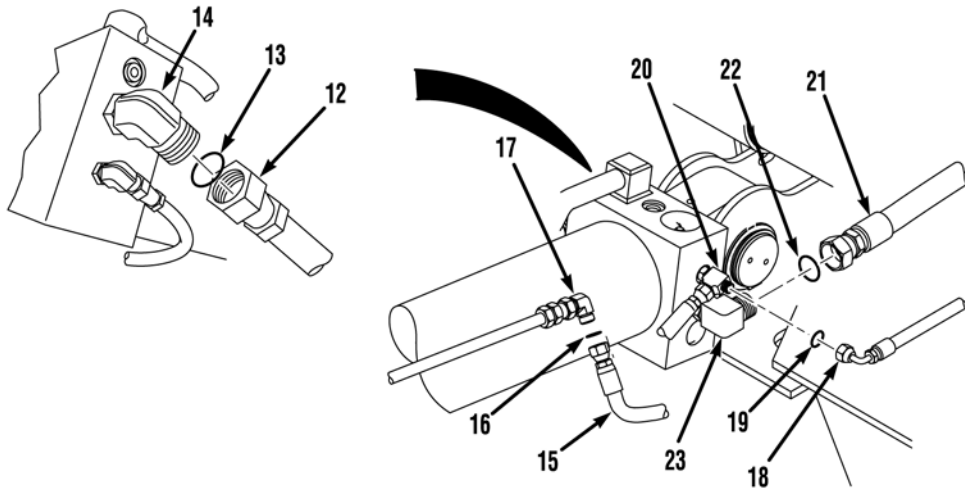
WARNING

Wear safety glasses when installing retaining rings to prevent injury or blindness. Failure to comply may result in serious injury to personnel.

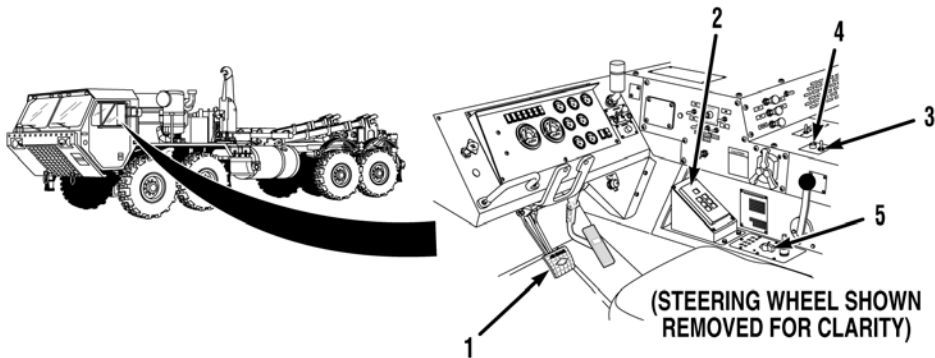
NOTE

Install shims as noted prior to removal.

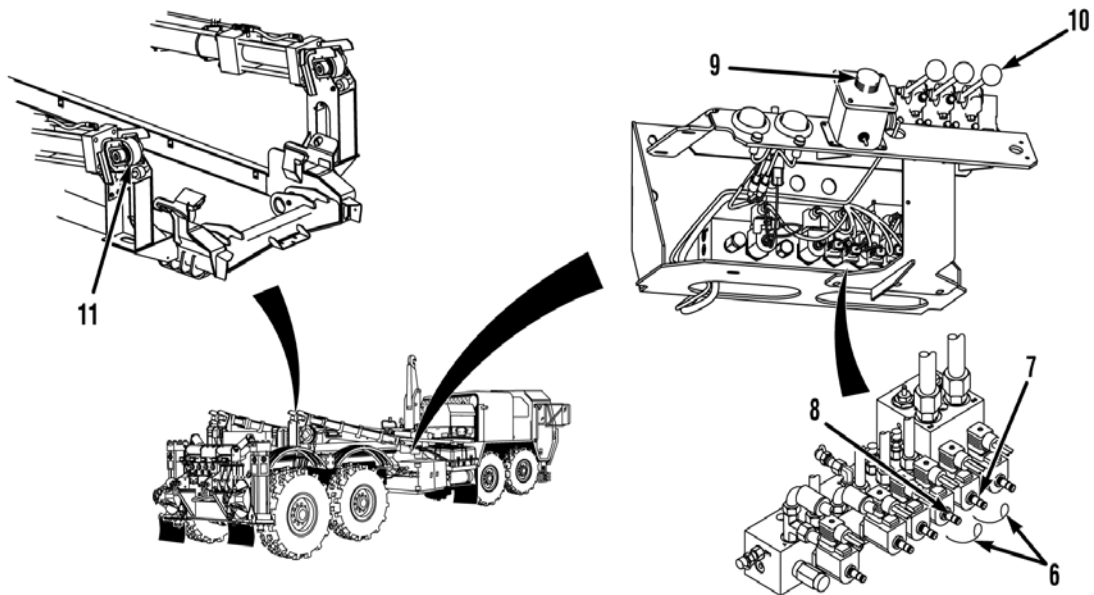
15. Install cylinder (24) on frame (28) with four shims (27) pivot pin (26) and snap ring (25).



16. Lightly lubricate preformed packing (22) with clean oil and install preformed packing (22) and hose 2742 (21) on elbow (23).
17. Lightly lubricate preformed packing (19) with clean oil and install preformed packing (19) and hose 2781 (18) on tee (20).
18. Lightly lubricate preformed packing (16) with clean oil and install preformed packing (16) and hose 2760 (15) on elbow (17).
19. Lightly lubricate preformed packing (13) with clean oil and install preformed packing (13) and hose 2743 (12) on elbow (14).



20. Start engine (TM 9-2320-347-10)
21. Apply service brake pedal (1) and set transmission range selector (2) to N (neutral).
22. Put PTO Engage switch (3) in ON position. Make sure indicator light (4) illuminates
23. Move hydraulic selector switch (5) to MRP position.



24. Push and hold palm button switch (9).
25. Use lever (10) to retract cylinder head (11) to fully stowed position.
26. Shut off engine (TM 9-2320-347-10)
27. Turn two solenoid shafts (7 and 8) clockwise one quarter turn until they spring inward to original position.
28. Install two safety wires (6) on solenoid shafts (7 and 8).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Stow load handling system (WP 0011).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**MRP LOCK CYLINDERS AND BRACKETS REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Pan, Drain (WP 0183, Item 10)
Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Adhesive, Thread Locking (WP 0186, Item 6)
Locknut, (1), (WP 0184, Item 7)
Locknut, (6), (WP 0184, Item 17)
Oil, Lubricating (WP 0186, Item 23)
Packing, Preformed, (2), (WP 0184, Item 44)
Packing, Preformed, (2), (WP 0184, Item 64)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

WP 0011

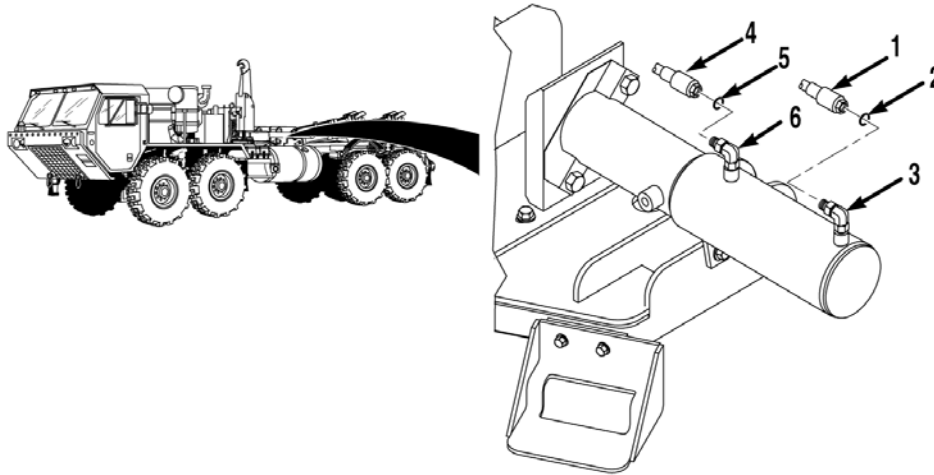
Equipment Conditions

MRP rack lock disengaged proximity switch
removed (WP 0079)
MRP rack lock engaged proximity switch removed
(WP 0080)

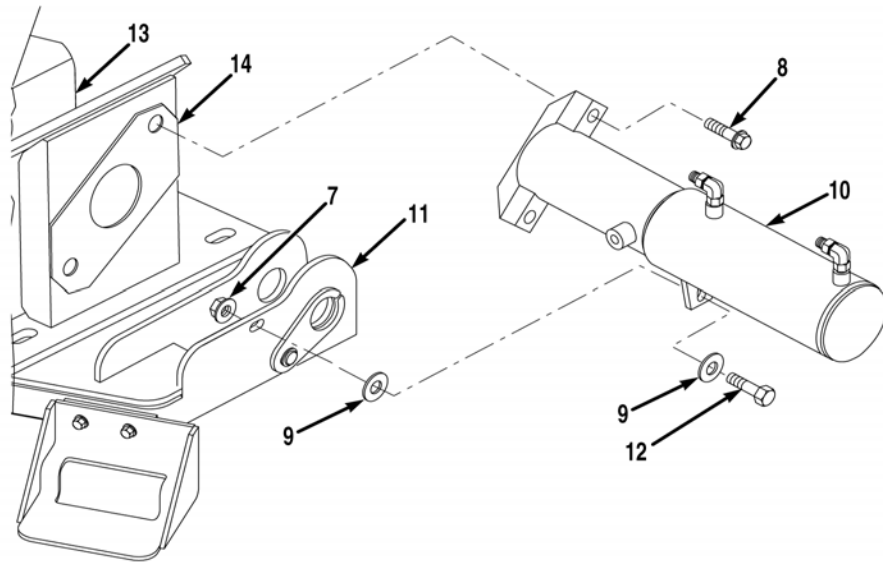
REMOVAL**NOTE**

Both right and left side lock cylinders and brackets are removed the same way. Left side shown.

1. Raise MRP (WP 0011).

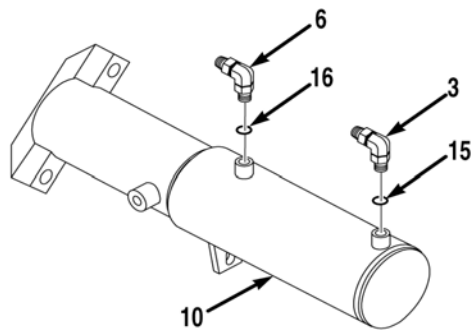
**NOTE**

- Position drain pan under hydraulic lines and fittings being removed.
 - Tag and mark hydraulic lines prior to removal to ensure proper installation.
 - Cap and plug hydraulic lines upon removal.
 - Remove cable ties and cushion clips as required.
2. Remove hose (1) and preformed packing (2) from elbow (3). Discard preformed packing.
 3. Remove hose (4) and preformed packing (5) from elbow (6). Discard preformed packing.

**NOTE**

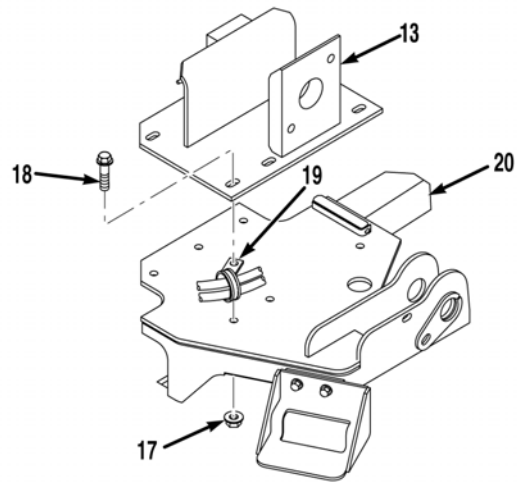
Number of washers installed between lock cylinder and bracket may vary.

4. Remove locknut (7), screw (12), and two washers (9) from lock cylinder (10) and bracket (11). Discard locknut.
5. Remove two screws (8) and lock cylinder (10) from bracket (13).
6. Remove shim (14) from bracket (13).

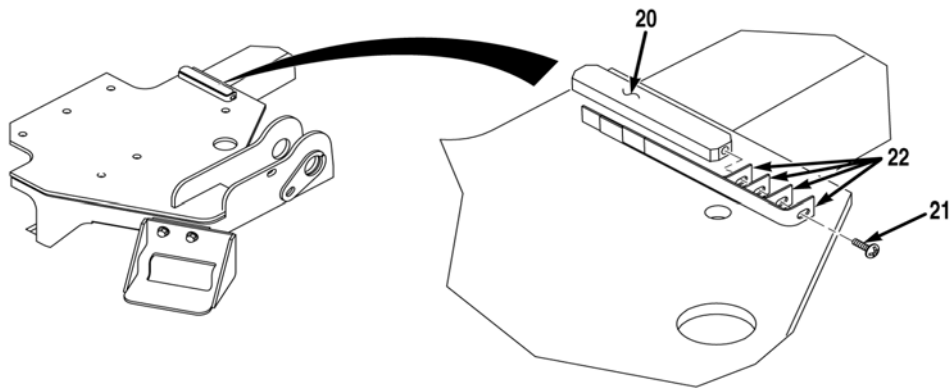
**NOTE**

Note position of elbows prior to removal to ensure proper installation.

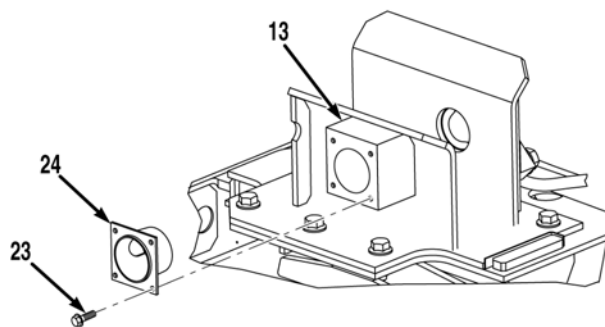
7. Remove elbow (3) and preformed packing (15) from lock cylinder (10). Discard preformed packing.
8. Remove elbow (6) and preformed packing (16) from lock cylinder (10). Discard preformed packing.



9. Remove six locknuts (17), screws (18), bracket (13), and bracket (19) from frame (20). Discard locknuts.



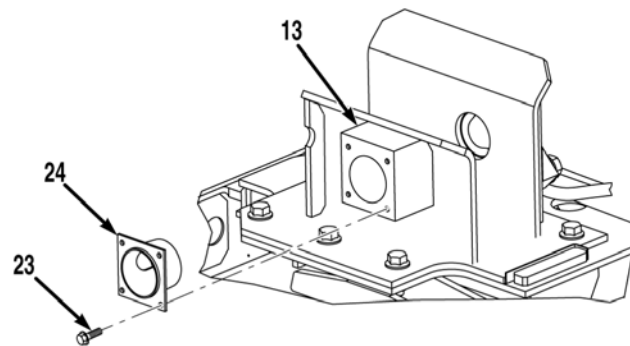
10. Remove screw (21) and shims (22) from frame (20).



11. Remove four screws (23) and bushing (24) from bracket (13).

END OF TASK

INSTALLATION

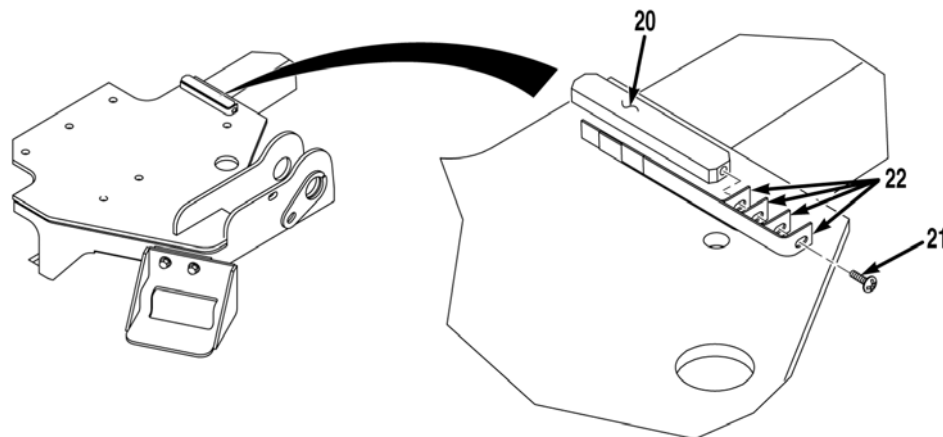


WARNING

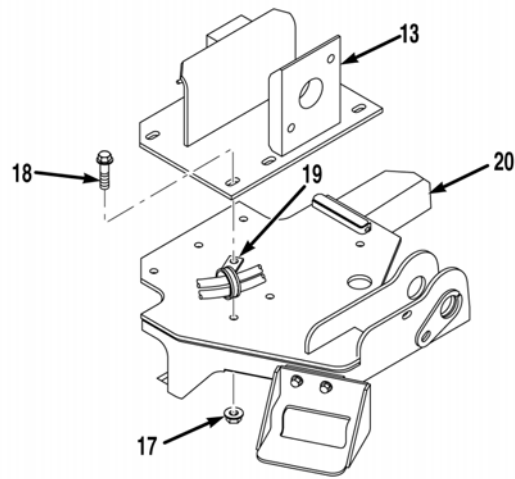
Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

NOTE

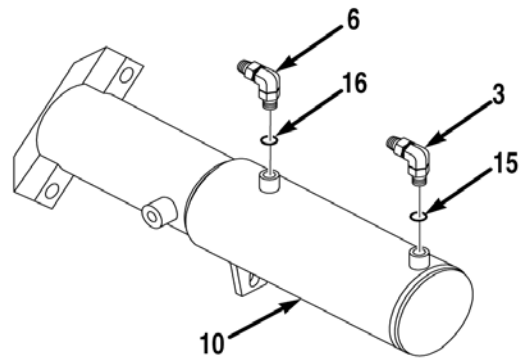
- Both right and left side lock cylinders and brackets are installed the same way. Left side shown.
 - Install cable ties and cushion clips as required.
1. Apply thread locking adhesive to four screws (23) and install bushing (24) on bracket (13) with four screws (23).



2. Install shims (22) on frame (20) with screw (21). Do not tighten screw (21).



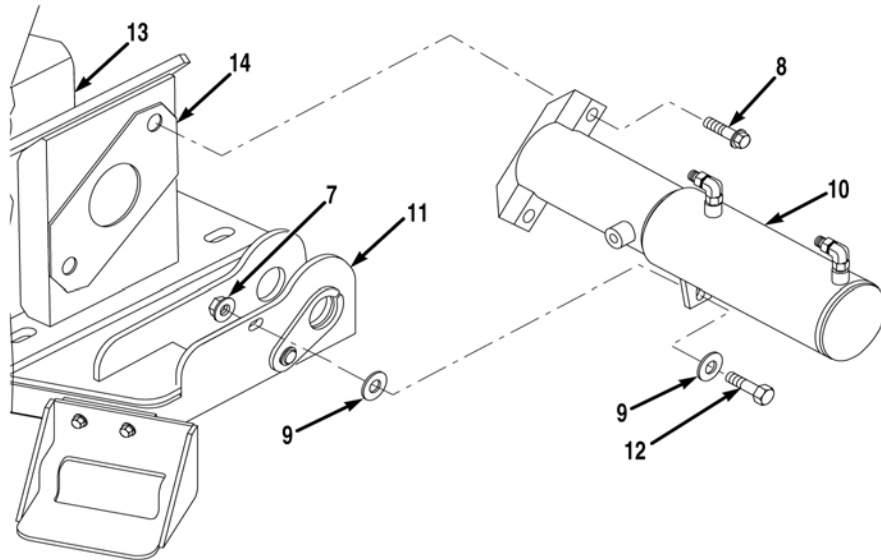
3. Install bracket (13) and bracket (19) on frame (20) with six screws (18) and locknuts (17). Do not tighten locknuts (17).



NOTE

Install elbows as noted prior to removal.

4. Lightly lubricate preformed packing (16) with clean oil and install preformed packing (16) and elbow (6) on lock cylinder (10).
5. Lightly lubricate preformed packing (15) with clean oil and install preformed packing (15) and elbow (3) on lock cylinder (10).

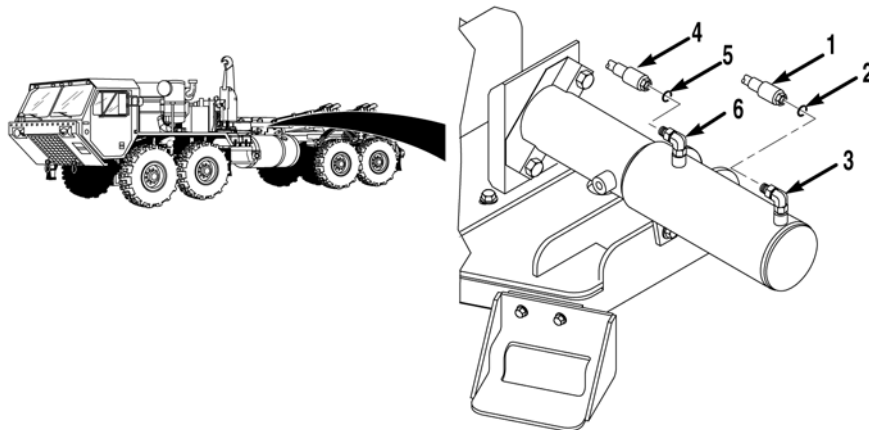


6. Apply thread locking adhesive to two screws (12) and install lock cylinder (10) on bracket (13) with two screws (12).

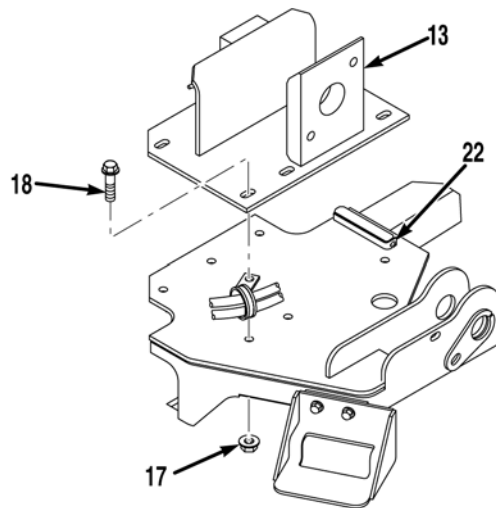
NOTE

Install washers between lock cylinder and bracket as required.

7. Install lock cylinder (10) on bracket (11) with washers (9), screw (8), and locknut (7).



8. Lightly lubricate preformed packing (5) with clean oil and install preformed packing (5) and hose (4) on elbow (6).
9. Lightly lubricate preformed packing (2) with clean oil and install preformed packing (2) and hose (1) on elbow (3).



10. Lower MRP (WP 0011) and check alinement of MRP in lock racks. Adjust bracket (13) with shims (22) until alined properly.
11. Tighten screw (18) and six locknuts (17).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install MRP rack lock engaged proximity switch (WP 0080).
2. Install MRP rack lock disengaged proximity switch (WP 0079).

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

MRP REAR SUPPORT BRACKETS REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Forward Repair System (WP 0183, Item 6)
 Lifting Device, Minimum Capacity 200 lbs
 (91 kg)
 Tool Kit, General Mechanic's: Automotive
 (WP 0183, Item 25)

Materials/Parts

Locknut, (1), (WP 0184, Item 10)

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

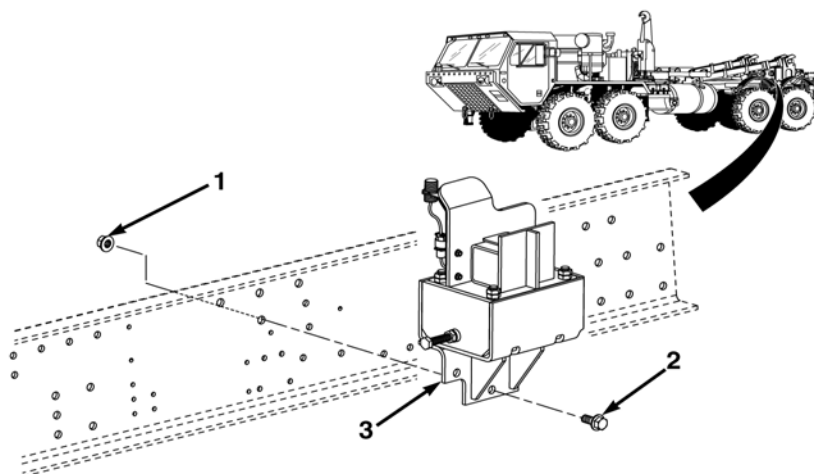
References

None

Equipment Conditions

MRP present proximity switch removed
 (WP 0078)

REMOVAL

**WARNING**

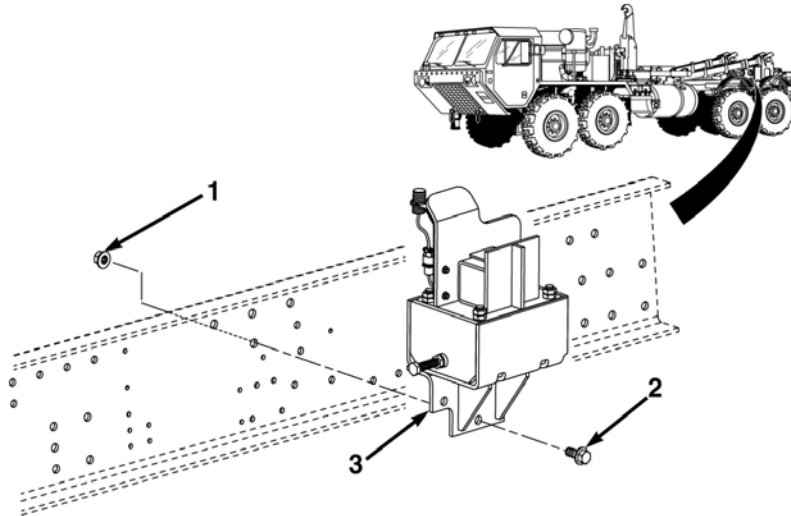
Rear supports weigh 130 lbs (59 kg). Do not lift rear supports without the aid of Soldier B and a suitable lifting device. Failure to comply may result in injury to personnel.

NOTE

- Both right and left rear supports are removed the same way. Right side shown.
- Remove cushion clip as required.

1. Remove four locknuts (1) and screws (2) from right side rear support (3). Discard locknuts.
2. Soldier A and Soldier B remove right side rear support (3) from vehicle.

END OF TASK

INSTALLATION**WARNING**

Rear supports weigh 130 lbs (59 kg). Do not lift rear supports without the aid of Soldier B and a suitable lifting device. Failure to comply may result in injury to personnel.

NOTE

- Both right and left rear supports are installed the same way. Right side shown.
- Install cushion clip as required.

1. Soldier A and Soldier B position right side rear support (3) on vehicle.
2. Install right side rear support (3) on vehicle with four screws (2) and locknuts (1).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Install MRP present proximity switch (WP 0078).

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
OUTRIGGER CONTROL VALVE REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Pan, Drain (WP 0183, Item 10)
Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Lockwasher, (4), (WP 0184, Item 140)
Oil, Hydraulic (WP 0186, Item 21)
Packing, Preformed, (1), (WP 0184, Item 86)
Packing, Preformed, (2), (WP 0184, Item 65)
Packing, Preformed, (8), (WP 0184, Item 41)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

MOS 63B Wheeled vehicle mechanic

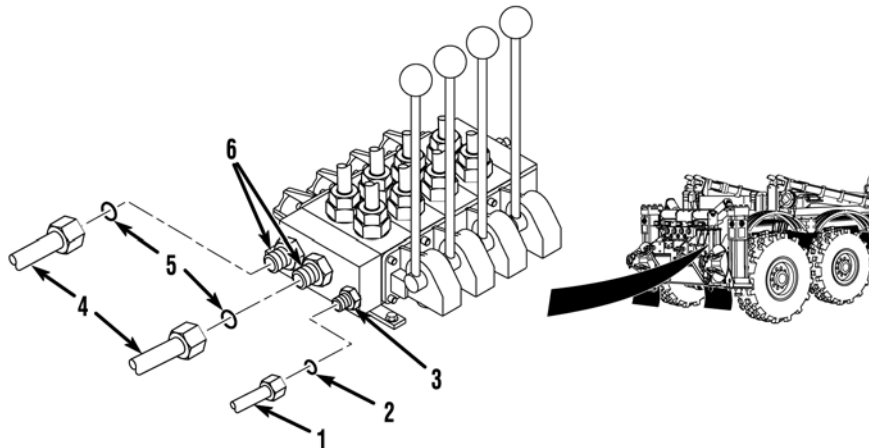
References

None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Right side outrigger pad removed (WP 0013)

REMOVAL

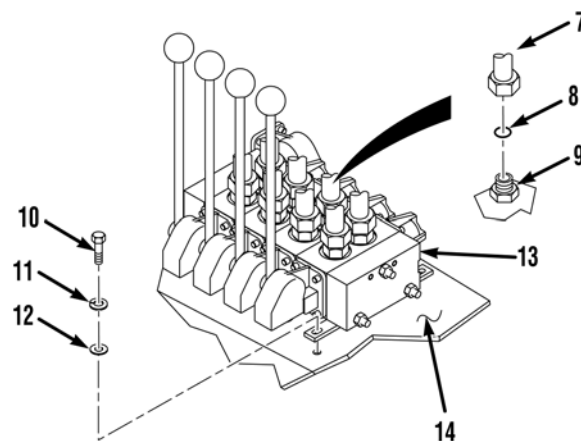
**WARNING**

The THAAD hydraulic system operates at oil pressure up to 3,250 psi (22,409 kPa). Never disconnect any hydraulic line or fitting without first dropping pressure to zero. Failure to comply may result in serious injury or death to personnel.

NOTE

- Position drain pan under hydraulic lines and fittings being removed.
- Tag and mark hydraulic lines prior to removal to ensure proper installation.
- Cap and plug hydraulic lines upon removal.
- Remove cable ties as required.

1. Remove tube (1) and preformed packing (2) from fitting (3). Discard preformed packing.
2. Remove two tubes (4) and preformed packings (5) from fittings (6). Discard preformed packings.



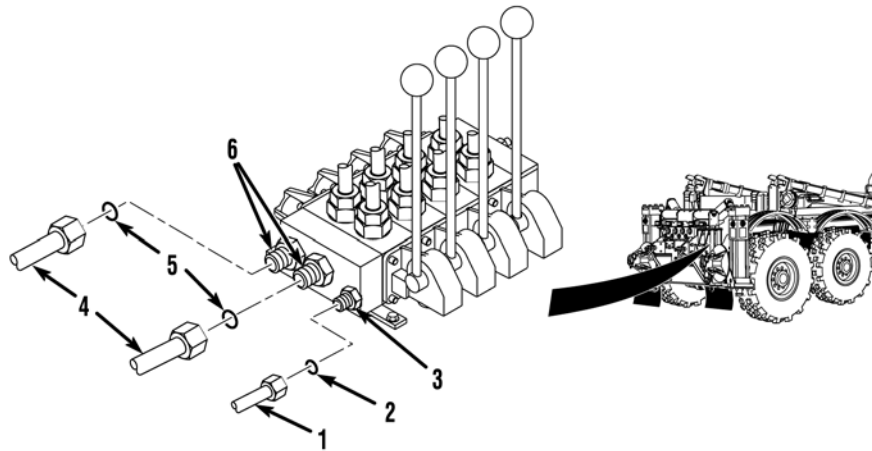
3. Remove eight tubes (7) and preformed packings (8) from fittings (9). Discard preformed packings.

- Remove four screws (10), lockwashers (11), washers (12), and control valve (13) from outrigger assembly (14). Discard lockwashers.

END OF TASK

INSTALLATION

- Install control valve (13) on outrigger assembly (14) with four washers (12), lockwashers (11), and screws (10).
- Lightly lubricate eight preformed packings (8) with clean oil and install preformed packings (8) and tubes (7) on fittings (9).



- Lightly lubricate two preformed packings (5) with clean oil and install preformed packings (5) and tubes (4) on fittings (6).
- Lightly lubricate preformed packing (2) with clean oil and install preformed packing (2) and tube (1) on fitting (3).

END OF TASK

FOLLOW-ON MAINTENANCE

- Install right side outrigger pad (WP 0013).
- Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
OUTRIGGER EXTENSION CYLINDER REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Lifting Device, Minimum Capacity 200 lbs
(91 kg)
Pan, Drain (WP 0183, Item 10)
Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Adhesive, Thread Locking (WP 0186, Item 6)
Lockwasher, (4), (WP 0184, Item 73)
Oil, Hydraulic (WP 0186, Item 21)
Packing, Preformed (3), (WP 0184, Item 115)
Packing, Preformed, (10), (WP 0184, Item 140)
Tags, Identification (WP 0186, Item 32)
Ties, Cable, Plastic (WP 0186, Item 34)

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

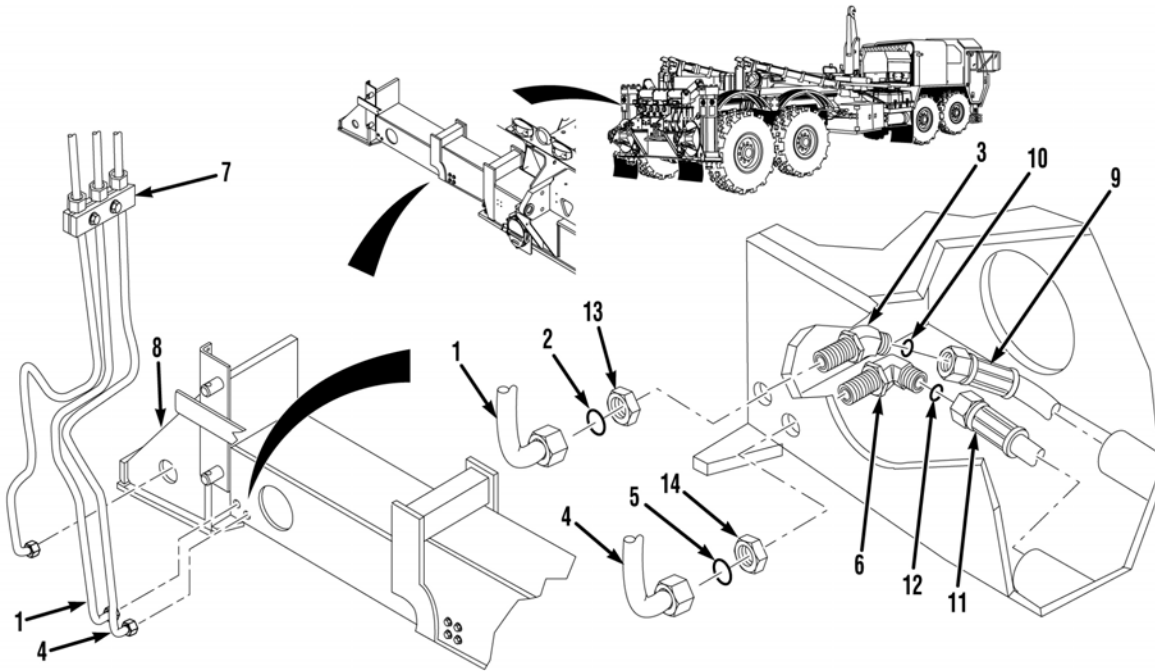
References

None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Outriggers fully extend (WP 0013)
Outtrigger stabilizer cylinders removed (WP 0144)

REMOVAL

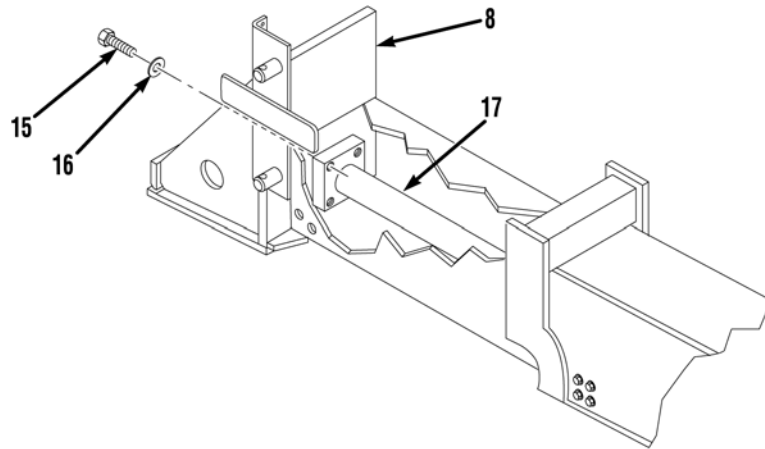
**WARNING**

The THAAD hydraulic system operates at oil pressure up to 3,250 psi (22,409 kPa). Never disconnect any hydraulic line or fitting without first dropping pressure to zero. Failure to comply may result in serious injury or death to personnel.

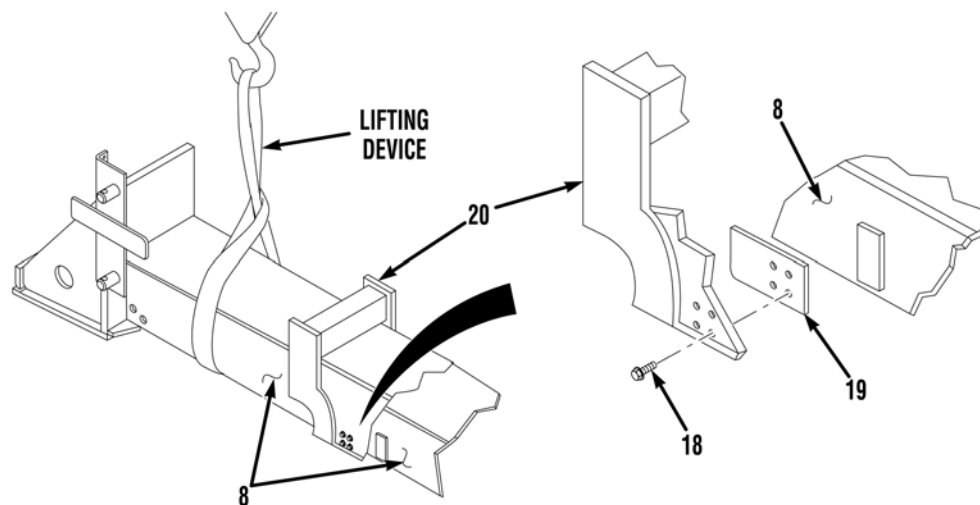
NOTE

- Position drain pan under hydraulic lines and fittings being removed.
- Tag and mark hydraulic lines prior to removal to ensure proper installation.
- Cap and plug hydraulic lines upon removal.
- Right side and left side outrigger components are removed the same way. Left side shown.

1. Remove tube (1) and preformed packing (2) from bulkhead fitting (3). Discard preformed packing.
2. Remove tube (4) and preformed packing (5) from bulkhead fitting (6). Discard preformed packing.
3. Remove tube assembly (7) from outer beam (8).
4. Remove hose (9) and preformed packing (10) from bulkhead fitting (3). Discard preformed packing.
5. Remove hose (11) and preformed packing (12) from bulkhead fitting (6). Discard preformed packing.
6. Remove nut (13) and bulkhead fitting (3) from outer beam (8).
7. Remove nut (14) and bulkhead fitting (6) from outer beam (8).



8. Remove four screws (15) and washers (16) from outer beam (8) and extension cylinder (17).



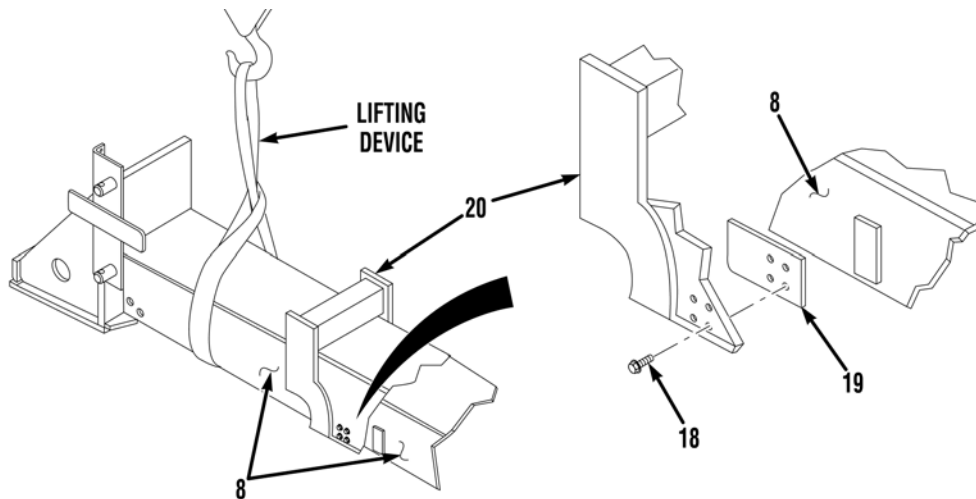
CAUTION

Mark plates before removal to ensure same plate is installed on same side of inner beam. Each plate may be a different thickness. Failure to comply may result in damage to equipment.

NOTE

A plate is installed on each side of inner beam. Both are removed the same way. Rear plate shown.

9. Remove four screws (18) and rear plate (19) from inner beam (20).
10. Repeat step (9) to remove front plate.



WARNING

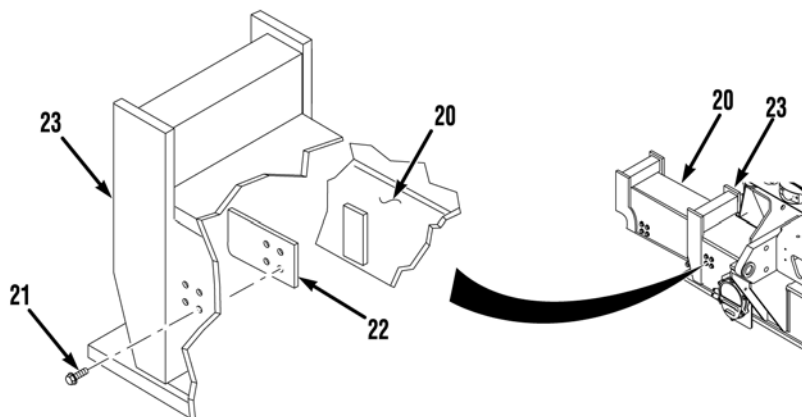
Outer beam weighs 152 lbs (69 kg). Do not lift outer beam without the aid of Soldier B and a suitable lifting device. Failure to comply may result in serious injury to personnel.

11. Attach suitable lifting device to outer beam (8).

CAUTION

- Avoid scraping outer beam on extension cylinder rod when removing outer beam from inner beam. Failure to comply may result in damage to equipment.
- Ensure hoses slide through guides inside outer beam when removing outer beam. Failure to comply may result in damage to equipment.

12. Remove outer beam (8) from inner beam (20).
13. Remove suitable lifting device from outer beam (8).



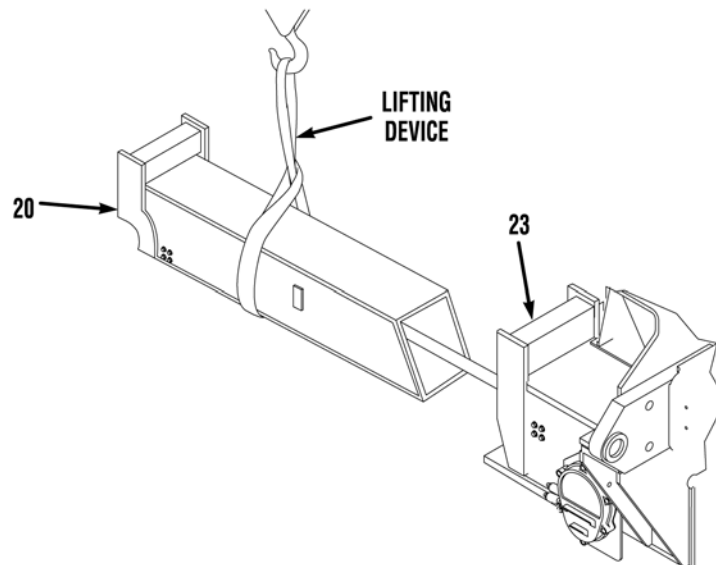
CAUTION

Mark plates before removal to ensure same plate is installed on same side of inner beam. Each plate may be a different thickness. Failure to comply may result in damage to equipment.

NOTE

A plate is installed on each side of inner beam. Both are removed the same way. Rear plate shown.

14. Remove four screws (21) and rear plate (22) from outrigger weldment (23).
15. Repeat step (14) to remove front plate.

**WARNING**

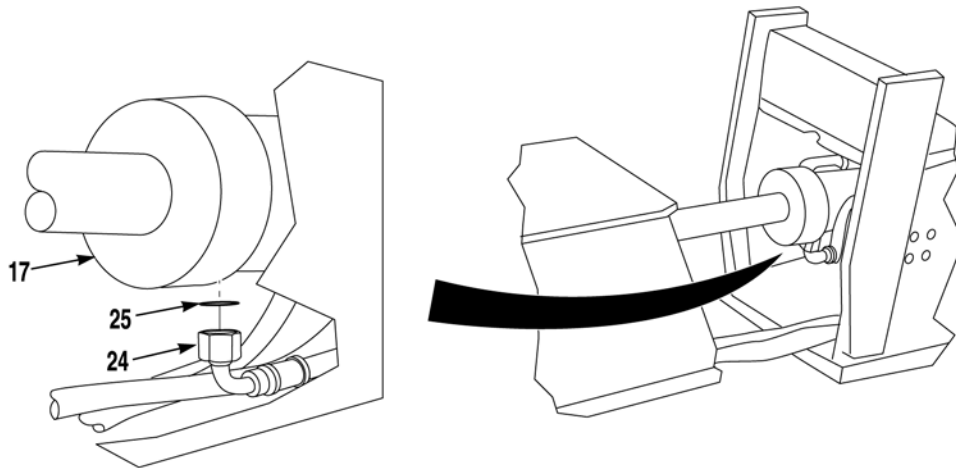
Inner beam weighs 141 lbs (64 kg). Do not lift inner beam without the aid of Soldier B and a suitable lifting device. Failure to comply may result in serious injury to personnel.

16. Attach suitable lifting device to inner beam (20).

CAUTION

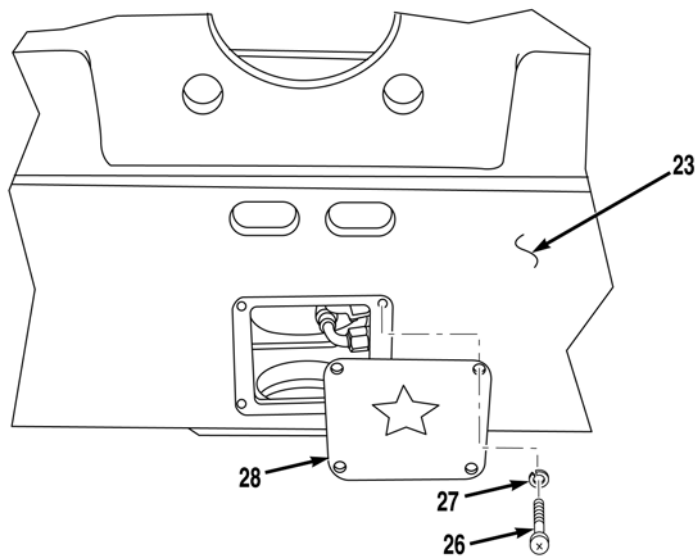
Do not scrape inner beam on extension cylinder rod when removing inner beam from outrigger weldment. Failure to comply may result in damage to equipment.

17. Remove inner beam (20) from outrigger weldment (23).
18. Remove suitable lifting device from inner beam (20).

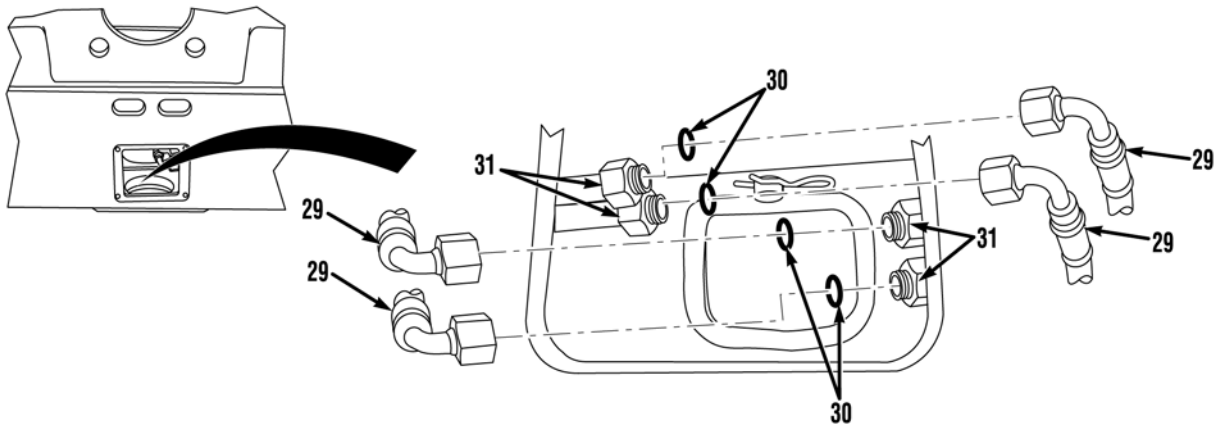
**NOTE**

After removing hose from extension cylinder, tie hose to top of outrigger weldment to keep hose clear when removing extension cylinder.

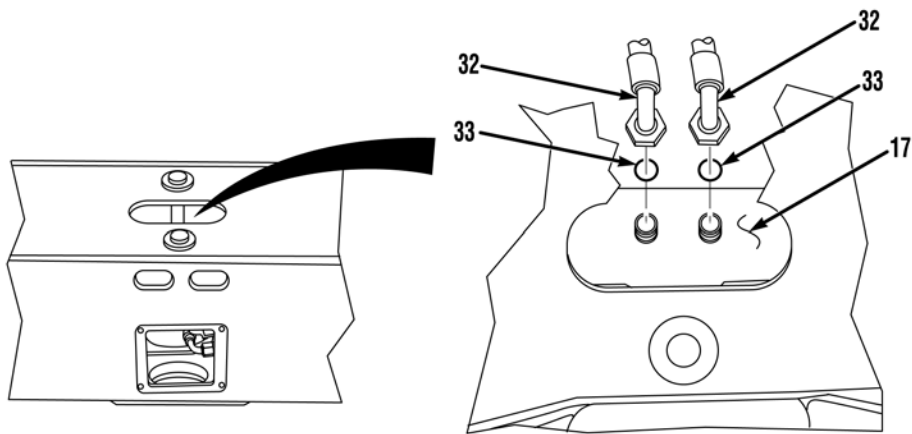
19. Remove hose (24) and preformed packing (25) from extension cylinder (17). Discard preformed packing.
20. Repeat steps (1) through (19) to remove right side outrigger components.



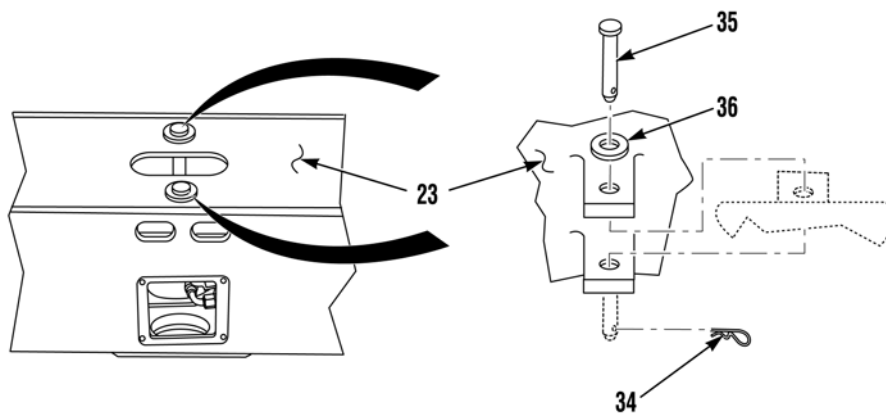
21. Remove four screws (26), lockwashers (27), and cover (28) from outrigger weldment (23). Discard lockwashers.



22. Remove four hoses (29) and preformed packings (30) from tubes (31). Discard preformed packings.

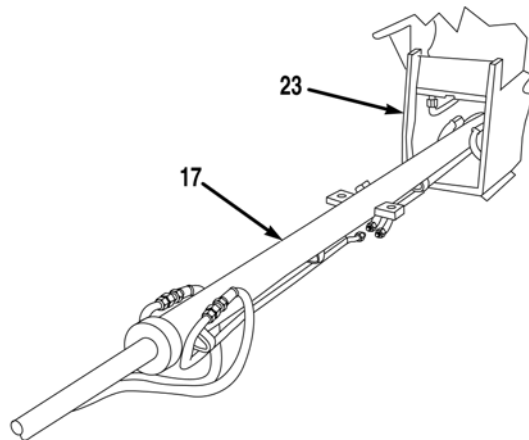


23. Remove two hoses (32) and preformed packings (33) from extension cylinder (17). Discard preformed packings.



24. Remove two safety pins (34) from pins (35).

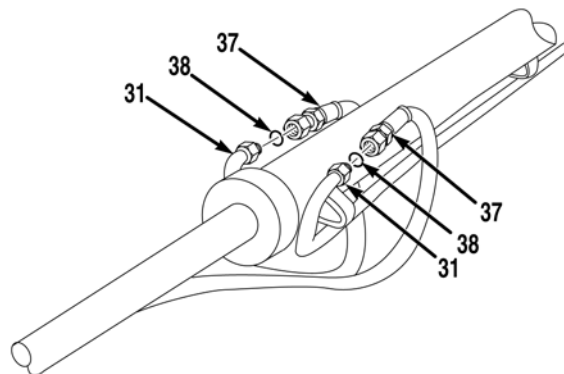
25. Remove two pins (35) and washers (36) from outrigger weldment (23).



CAUTION

Do not scrape extension cylinder rod when removing extension cylinder from outrigger weldment. Failure to comply may result in damage to equipment.

26. With Soldier A holding one end of extension cylinder (17) and Soldier B holding other end of extension cylinder (17), remove extension cylinder (17) from outrigger weldment (23).



NOTE

Two hoses remaining on the right and left sides of extension cylinder are removed the same way. Left side shown.

27. Remove two hoses (37) and preformed packings (38) from tubes (31). Discard preformed packings.
 28. Repeat step (27) to remove right side hoses and preformed packings. Discard preformed packings.

END OF TASK

INSTALLATION**CAUTION**

Do not scrape extension cylinder rod when installing extension cylinder in outrigger weldment. Failure to comply may result in damage to equipment.

NOTE

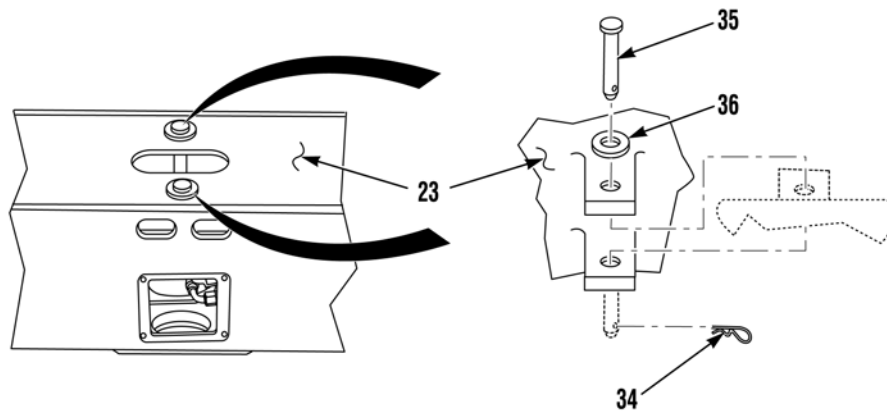
Two hoses on the right and left sides of extension cylinder are installed the same way. Left side shown.

1. Lightly lubricate two preformed packings (38) with clean oil and install preformed packings (38) and hoses (37) on tubes (31).
2. Repeat step (1) to install preformed packings and hoses on right side of extension cylinder (17).

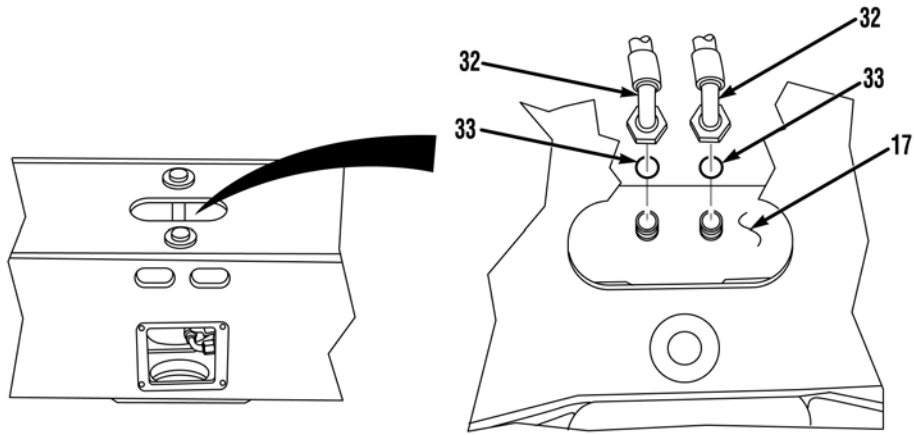
NOTE

Two tabs in middle of extension cylinder must fit in between tabs inside of outrigger weldment.

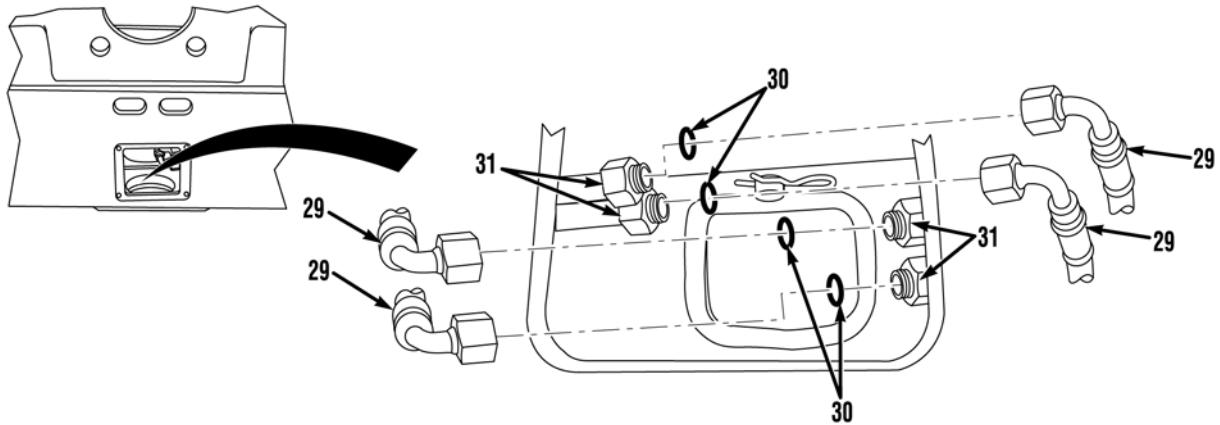
3. With Soldier A holding one end of extension cylinder (17) and Soldier B holding other end of extension cylinder (17), install extension cylinder (17) in outrigger weldment (23).



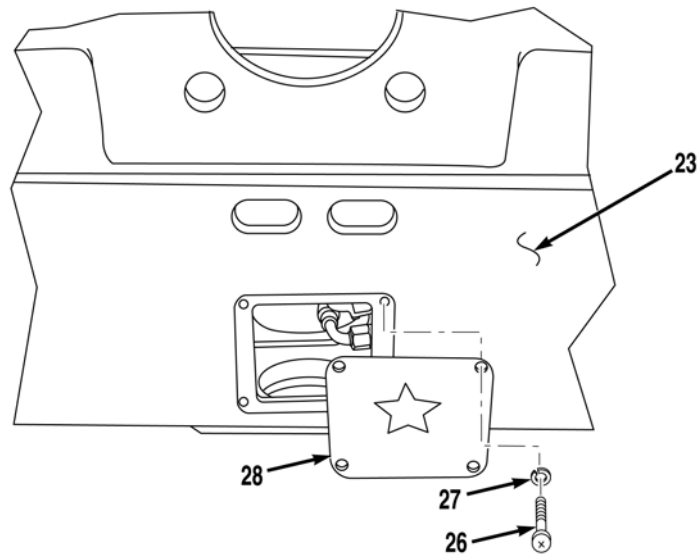
4. Install two washers (36) and pins (35) on outrigger weldment (23).
5. Install two safety pins (34) on pins (35).



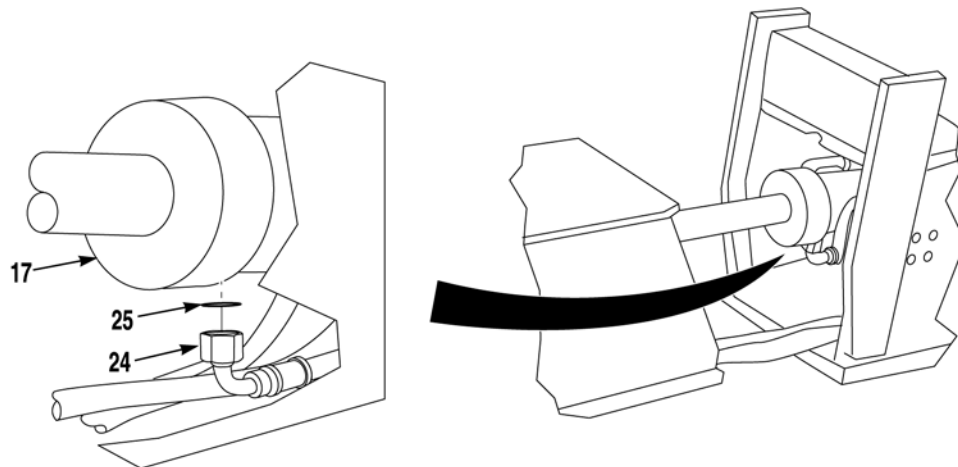
6. Lightly lubricate two preformed packings (33) with clean oil and install preformed packings (33) and hoses (32) on extension cylinder (17).



7. Lightly lubricate four preformed packings (30) with clean oil and install preformed packings (30) and hoses (29) on tubes (31).



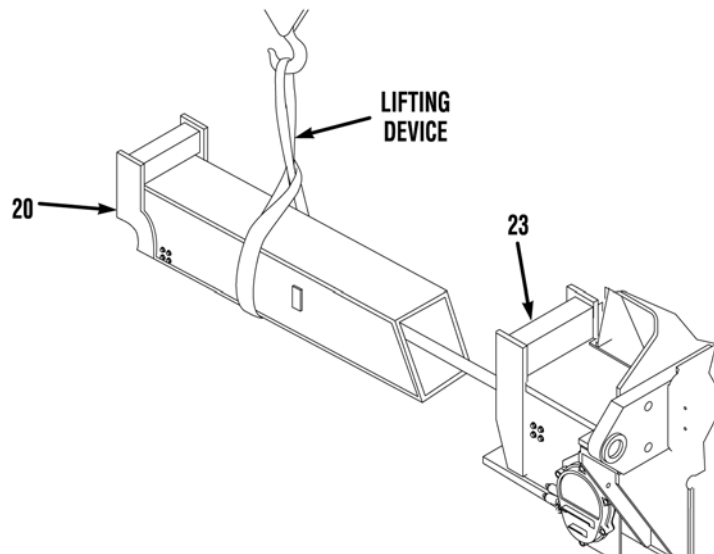
8. Install cover (28) on outrigger weldment (23) with four lockwashers (27) and screws (26).



NOTE

Right side and left side outrigger components are installed the same way. Left side shown.

9. Lightly lubricate preformed packing (25) with clean oil and install preformed packing (25) and hose (24) on extension cylinder (17).



WARNING

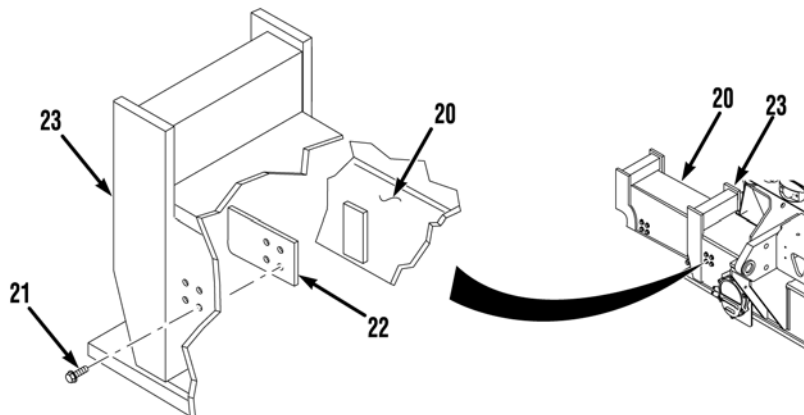
Inner beam weighs 141 lbs (64 kg). Do not lift inner beam without the aid of Soldier B and a suitable lifting device. Failure to comply may result in serious injury to personnel.

10. Attach a suitable lifting device to inner beam (20).

CAUTION

Do not scrape inner beam on extension cylinder rod when installing inner beam in outrigger weldment. Failure to comply may result in damage to equipment.

11. Install inner beam (20) in outrigger weldment (23).
12. Remove lifting device from inner beam (20).



WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

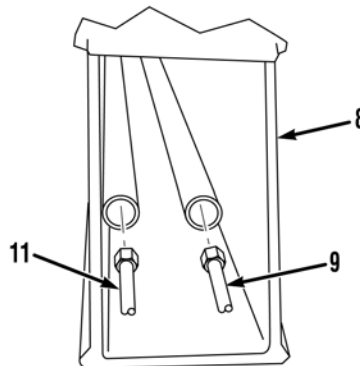
CAUTION

Ensure same plate is installed on same side of inner beam. Each plate may be a different thickness. Failure to comply may result in damage to equipment.

NOTE

One plate is installed on each side of inner beam. Both plates are installed the same way. Rear plate shown.

13. Apply adhesive to four screws (21).
14. Install rear plate (22) on outrigger weldment (23) with four screws (21).
15. Repeat step (13) to install front plate.

**WARNING**

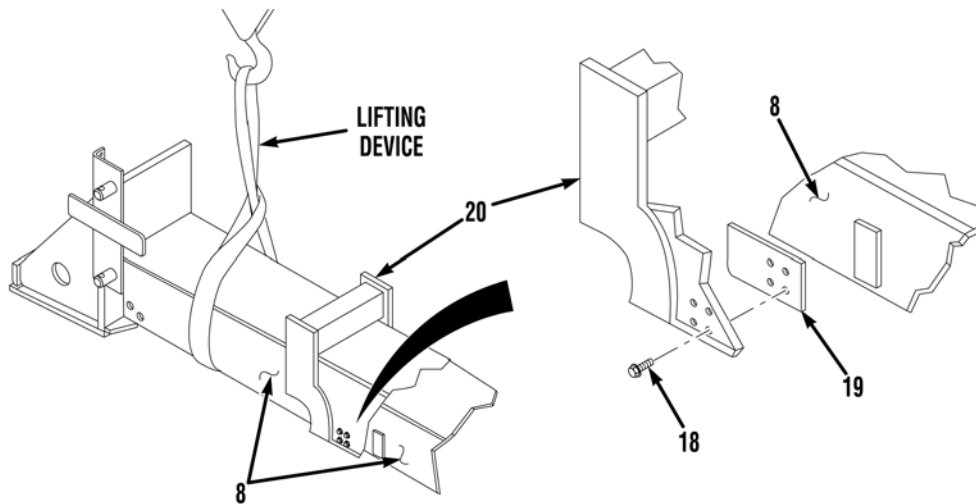
Outer beam weighs 152 lbs (69 kg). Do not lift outer beam without the aid of Soldier B and a suitable lifting device. Failure to comply may result in serious injury to personnel.

16. Attach a suitable lifting device to outer beam (8).

CAUTION

- Do not scrape inner beam on extension cylinder rod when installing inner beam in outrigger weldment. Failure to comply may result in damage to equipment.
- Ensure hoses slide through guides inside outer beam when installing outer beam. Failure to comply may result in damage to equipment.

17. Insert two hoses (9 and 11) in guides inside outer beam (8).



18. Install outer beam (8) in inner beam (20).
19. Remove suitable lifting device from outer beam (8).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

CAUTION

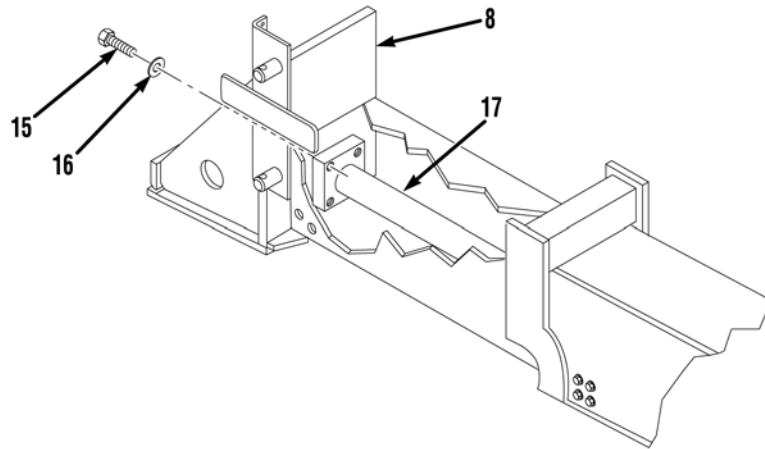
Ensure same plate is installed on same side of outer beam. Each plate may be a different thickness. Failure to comply may result in damage to equipment.

NOTE

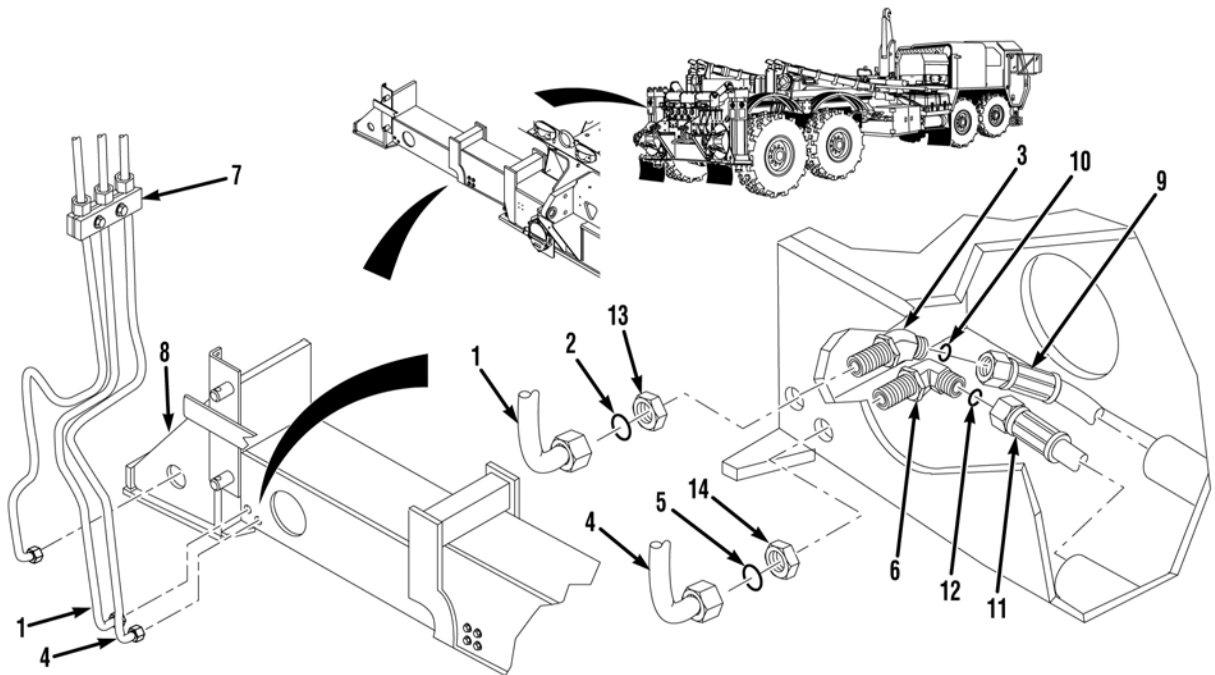
One plate is installed on each side of outer beam. Both plates are installed the same way. Rear plate shown.

20. Apply adhesive to four screws (18).
21. Install rear plate (19) on inner beam (20) with four screws (18).

22. Repeat step (19) to install front plate.



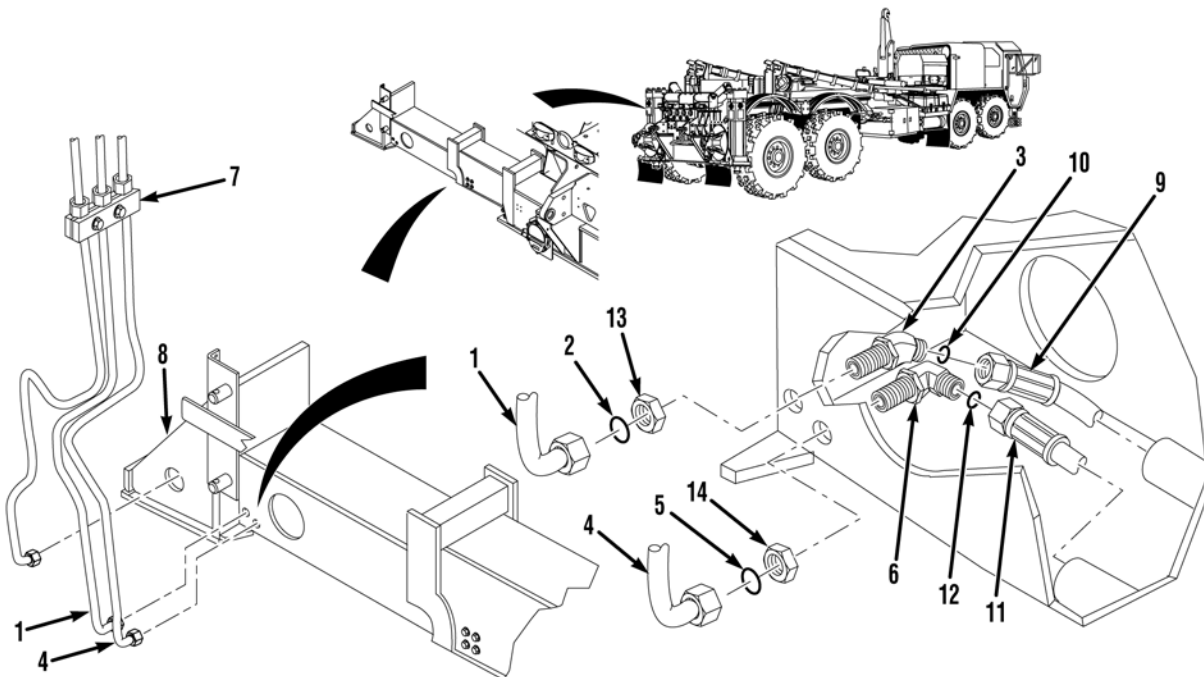
23. Install extension cylinder (17) to outer beam (8) with four washers (16) and screws (15).



24. Install bulkhead fitting (6) on outer beam (8) with nut (14).

25. Install bulkhead fitting (3) on outer beam (8) with nut (13).

26. Lightly lubricate preformed packing (12) with clean oil and install preformed packing (12) and hose (11) on bulkhead fitting (6).



27. Lightly lubricate preformed packing (10) with clean oil and install preformed packing (10) and hose (9) on bulkhead fitting (3).
28. Install tube assembly (7) on outer beam (8).
29. Lightly lubricate preformed packing (5) with clean oil and install preformed packing (5) and tube (4) on bulkhead fitting (6).
30. Lightly lubricate preformed packing (2) with clean oil and install preformed packing (2) and tube (1) on bulkhead fitting (3).
31. Repeat steps (9) through (28) to install right side outrigger components.

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install outrigger stabilizer cylinders (WP 0144).
2. Retract outriggers (WP 0013).
3. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
OUTRIGGER STABILIZER CYLINDER REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Forward Repair System (WP 0183, Item 6)
Lifting Device, Minimum Capacity 600 lbs
(273 kg)
Pan, Drain (WP 0183, Item 10)
Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Adhesive, Thread Locking (WP 0186, Item 6)
Locknut, (4), (WP 0184, Item 26)
Lockwasher, (4), (WP 0184, Item 1)
Packing, Preformed, (8), (WP 0184, Item 41)
Packing, Preformed, (1), (WP 0184, Item 123)
Oil, Hydraulic (WP 0186, Item 21)
Tags, Identification (WP 0186, Item 32)

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

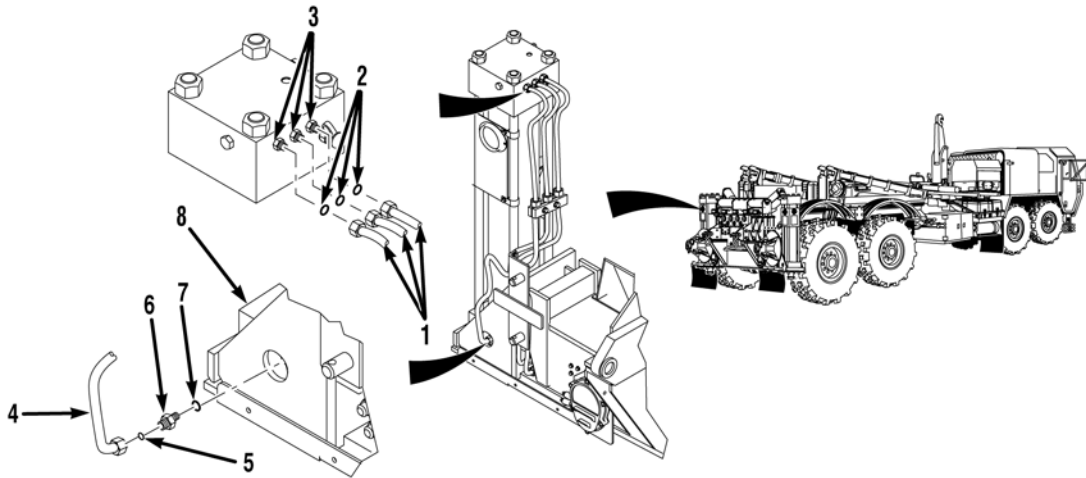
References

None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Outrigger pads removed (WP 0013)
Outrigger bellows removed (WP 0105)

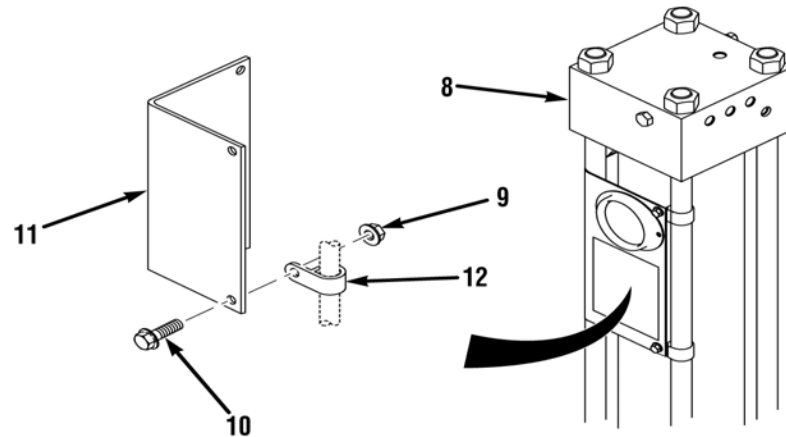
REMOVAL

**WARNING**

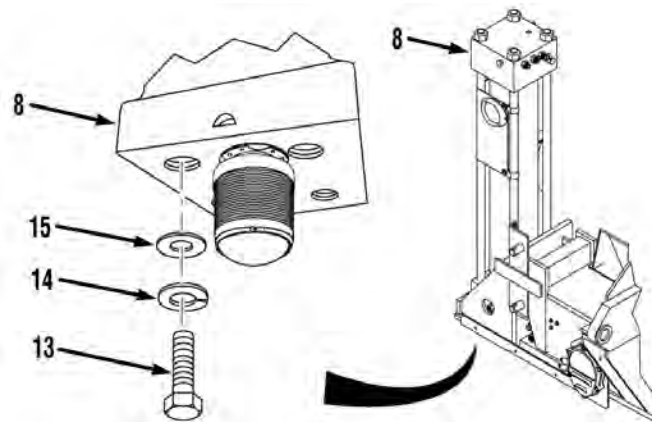
The THAAD hydraulic system operates at oil pressure up to 3,250 psi (22,409 kPa). Never disconnect any hydraulic line or fitting without first dropping pressure to zero. Failure to comply may result in serious injury or death to personnel.

NOTE

- Position drain pan under hydraulic lines and fittings being removed.
 - Tag and mark hydraulic lines prior to removal to ensure proper installation.
 - Cap and plug hydraulic lines upon removal.
1. Remove three tubes (1) and preformed packings (2) from fittings (3). Discard preformed packings.
 2. Remove tube (4) and preformed packing (5) from fitting (6). Discard preformed packing.
 3. Remove fitting (6) and preformed packing (7) from stabilizer cylinder (8). Discard preformed packing.



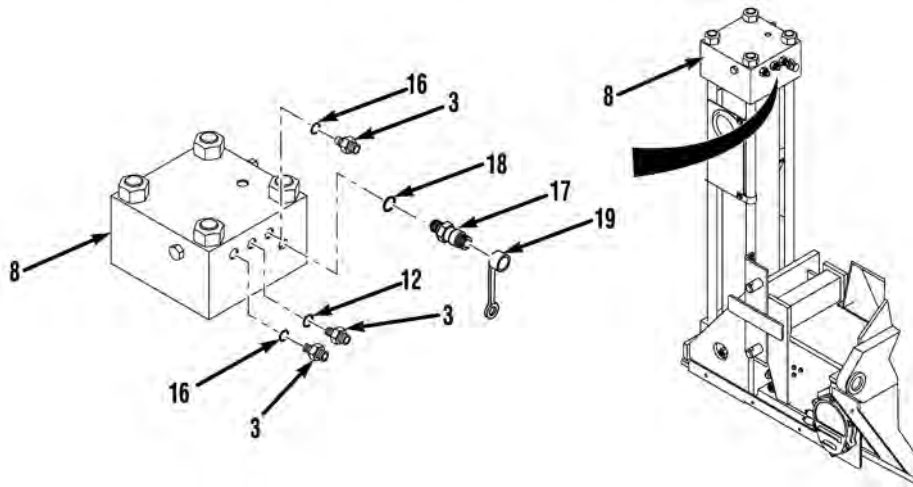
4. Remove four locknuts (9), screws (10), data plate bracket (11), and four clamps (12) from stabilizer cylinder (8). Discard locknuts.



WARNING

Outrigger jack cylinder weighs 250 lbs (113.5 kg). Attach suitable lifting device to prevent possible injury to personnel.

5. Attach suitable lifting device to stabilizer cylinder (8).
6. Remove four screws (13), lockwashers (14), washers (15), and stabilizer cylinder (8) from vehicle. Discard lockwashers.
7. Remove suitable lifting device from stabilizer cylinder (8).

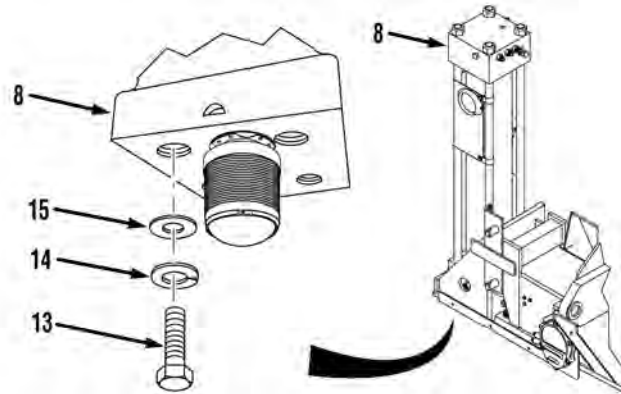


8. Remove three fittings (3) and preformed packings (16) from stabilizer cylinder (8). Discard preformed packings.
9. Remove coupling (17) and preformed packing (18) from stabilizer cylinder (8). Discard preformed packing.
10. Remove dust cap (19) from coupling (17).

END OF TASK

INSTALLATION

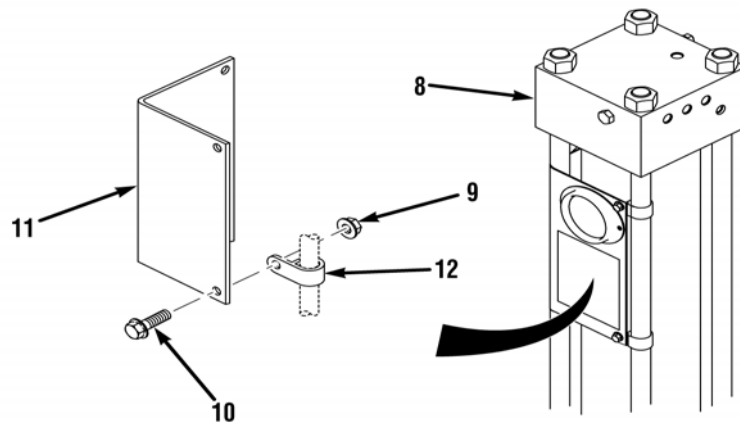
1. Install dust cap (19) on coupling (17).
2. Lightly lubricate preformed packing (18) with clean oil and install preformed packing (18) and coupling (17) on stabilizer cylinder (8).
3. Lightly lubricate three preformed packings (16) with clean oil and install preformed packings (16) and fittings (3) on stabilizer cylinder (8).



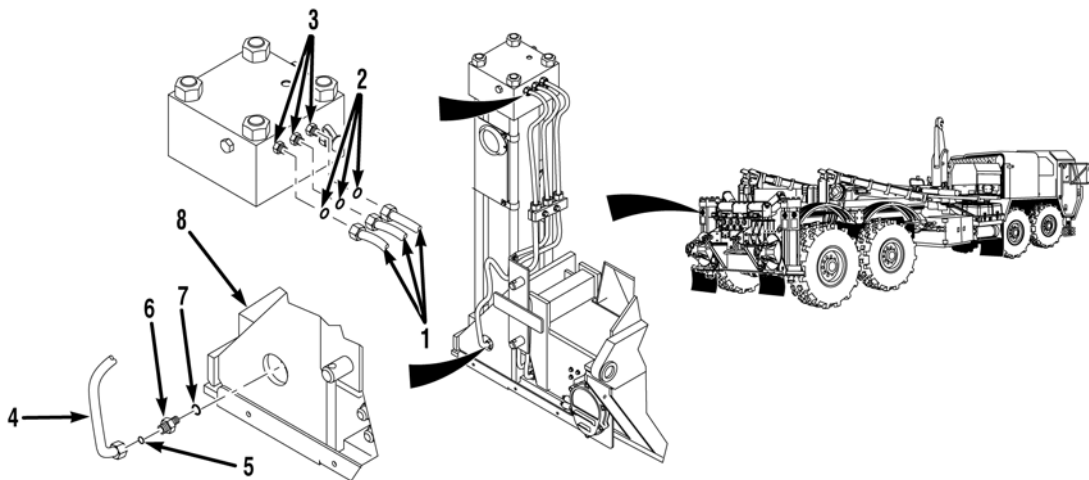
WARNING

Outrigger jack cylinder weighs 250 lbs (113.5 kg). Attach suitable lifting device to prevent possible injury to personnel.

4. Attach suitable lifting device to stabilizer cylinder (8).
5. Apply thread locking adhesive to four screws (13).
6. Install stabilizer cylinder (8) on vehicle with four washers (15), lockwashers (14), and screws (13). Tighten screws (13) to 840 lb-ft (1139 N•m).
7. Remove suitable lifting device from stabilizer cylinder (8).



8. Install data plate bracket (11) on stabilizer cylinder (8) with four clamps (12), screws (10), and locknuts (9).



9. Lightly lubricate preformed packing (7) with clean oil and install preformed packing (7) and fitting (6) on stabilizer cylinder (8).
10. Lightly lubricate preformed packing (5) with clean oil and install preformed packing (5) and tube (4) on fitting (6).
11. Lightly lubricate three preformed packings (2) with clean oil and install preformed packings (2) and tubes (1) on fittings (3).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install left side outrigger pad (WP 0013).
2. Check and fill hydraulic reservoir (WP 0120).
3. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
RELIEF VALVE REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Pan, Drain (WP 0183, Item 10)
 Tool Kit, General Mechanic's: Automotive
 (WP 0183, Item 25)
 Wrench, Torque (WP 0183, Item 30)

Personnel Required

MOS 63B Wheeled vehicle mechanic

References

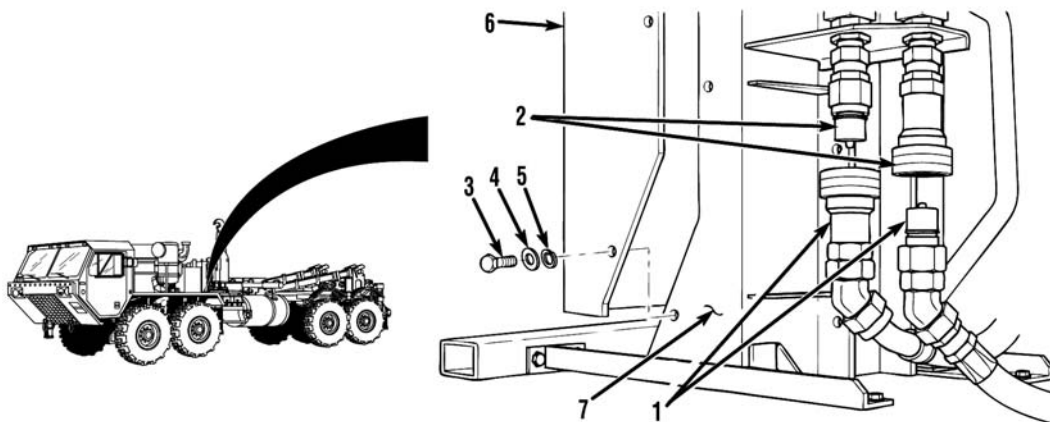
None

Materials/Parts

Lockwasher, (6), (WP 0184, Item 61)
 Oil, Hydraulic (WP 0186, Item 21)
 Packing, Preformed, (3), (WP 0184, Item 135)
 Ties, Cable, Plastic (WP 0186, Item 34)

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
 Wheels chocked (TM 9-2320-347-10)

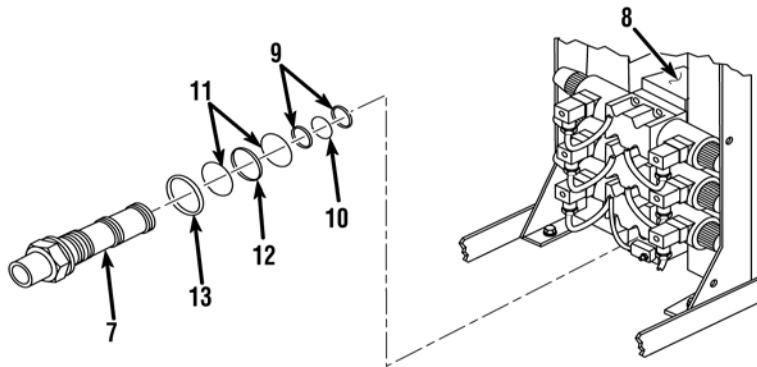
REMOVAL**WARNING**

The THAAD hydraulic system operates at oil pressure up to 3,250 psi (22,409 kPa). Never disconnect any hydraulic line or fitting without first dropping pressure to zero. Failure to comply may result in serious injury or death to personnel.

NOTE

Position drain pan under hydraulic lines and fittings being removed.

1. Disconnect two hose quick disconnects (1) from main junction box quick disconnects (2).
2. Remove six screws (3), washers (4), lockwashers (5), and LHS control box cover (6) from bracket (7). Discard lockwashers.

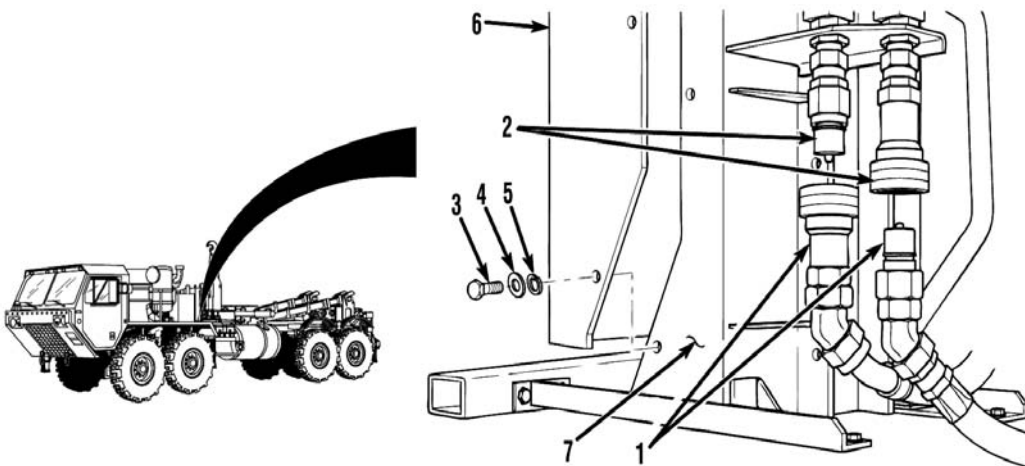


3. Remove relief valve (7) from manifold (8).
4. Remove two backup rings (9), preformed packing (10), two backup rings (11), preformed packing (12), and preformed packing (13) from relief valve (7). Discard preformed packings.

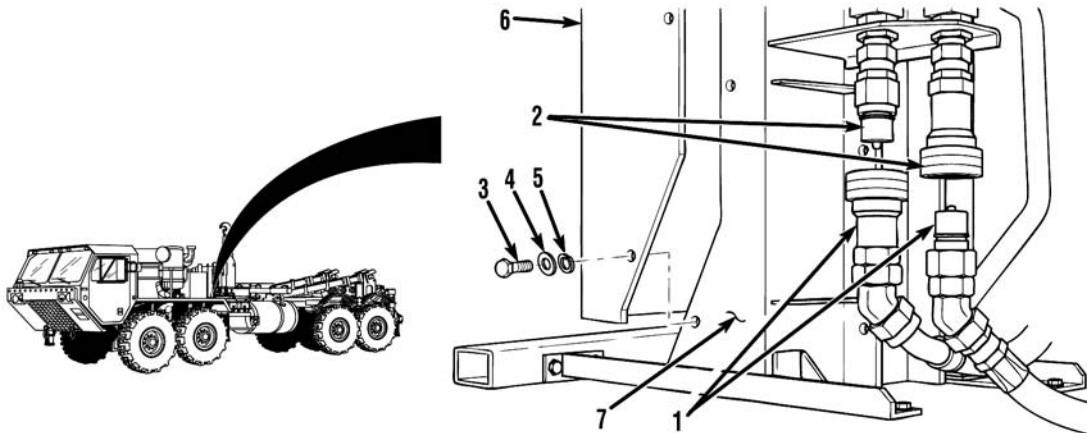
END OF TASK

INSTALLATION

1. Lightly lubricate four backup rings (9 and 11) and three preformed packings (10, 12, and 13) with clean oil and install preformed packing (13), preformed packing (12), two backup rings (11), preformed packing (10), and two backup rings (9) on relief valve (7).
2. Install relief valve (7) on manifold (8). Tighten relief valve (7) to 65 lb-ft (88 N•m).



3. Install LHS control box cover (6) on bracket (7) with six washers (4), lockwashers (5) and screws (3).



4. Connect two hose quick disconnects (1) on main junction box quick disconnects (2).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Check for proper operation of LHS (WP 0011).
2. Check for oil leaks (TM 9-2320-347-10)
3. Check hydraulic oil reservoir level (WP 0120).
4. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**BALL VALVE REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wrench, Torque (WP 0183, Item 29)

Materials/Parts

Compound, Sealing, Pipe Thread
(WP 0186, Item 15)
Locknut, (1), (WP 0184, Item 94)
Tags, Identification (WP 0186, Item 32)
Oil, Lubricating (WP 0186, Item 22)

Personnel Required

MOS 63B Wheeled vehicle mechanic

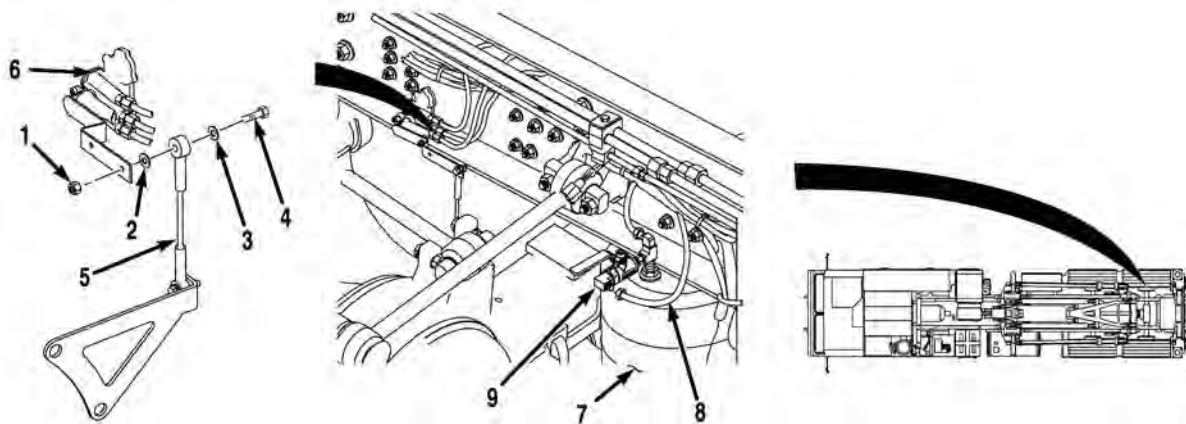
References

None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Air system drained (TM 9-2320-347-10)

REMOVAL

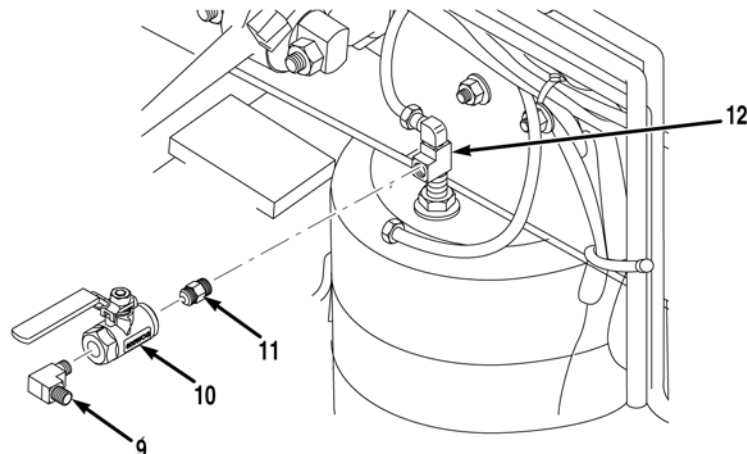


NOTE

- Height control link is disconnected from height control valve on same side of vehicle as ball valve being replaced.
 - Both ball valves are removed the same way. No. 4 Axle, right side shown.
 - Note position of washers prior to removal to ensure proper installation.
1. Remove locknut (1), washer (2), washer (3), screw (4), and height control link (5) from height control valve (6). Discard locknut.
 2. Push down control arm of height control valve (6) to drain air pressure from suspension air spring (7).

NOTE

- Tag and mark air lines prior to removal to ensure proper installation.
 - Cap and plug air lines upon removal.
3. Remove air line 2102A (8) from elbow (9).



NOTE

Note position of ball valve prior to removal to ensure proper installation.

4. Remove ball valve (10) from fitting (11).
5. Remove fitting (11) from tee (12).

NOTE

Note position of elbow prior to removal to ensure proper installation.

6. Remove elbow (9) from ball valve (10).

END OF TASK**INSTALLATION****WARNING**

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

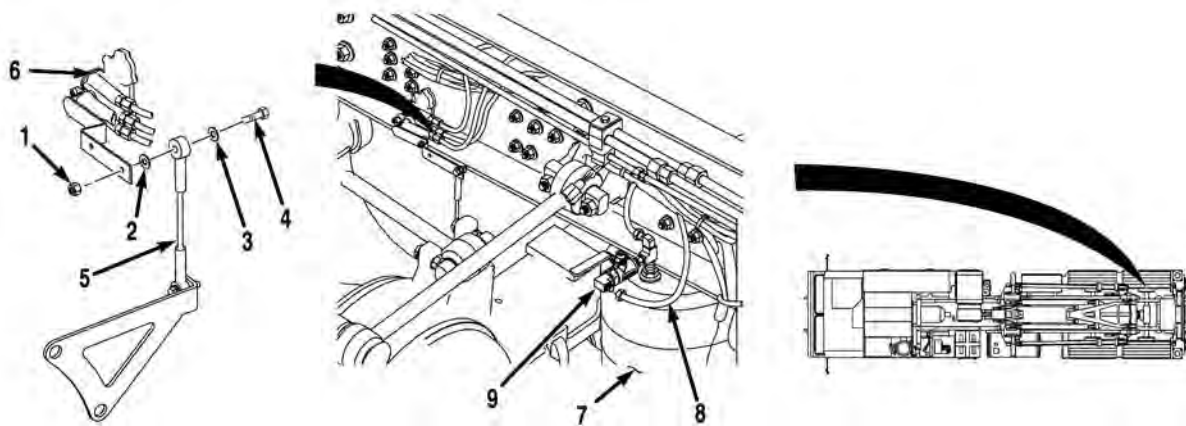
NOTE

- Both ball valves are installed the same way. No. 4 axle, right side shown.
 - Install elbow as noted prior to removal.
1. Apply pipe thread sealing compound to threads of elbow (9) and install elbow (9) on ball valve (10).
 2. Apply pipe thread sealing compound to threads of fitting (11) and install fitting (11) on tee (12).

NOTE

Install ball valve as noted prior to removal.

3. Install ball valve (10) on fitting (11).



4. Install air line 2102A (8) on elbow (9).

NOTE

Install washers as noted prior to removal.

5. Lubricate threads of screw (4) with lubricating oil and install height control link (5) on height control valve (6) with screw (4), washer (3), washer (2), and locknut (1). Tighten locknut (1) to 4 to 5 lb-ft (5.4 to 6.8 N•m).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Start engine and build up air pressure (TM 9-2320-347-10)
2. Check air lines and fittings for leaks.
3. Shut off engine (TM 9-2320-347-10)
4. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
BRAKE RELAY VALVES REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Compound, Sealing, Pipe Thread
(WP 0186, Item 16)
Locknut, (4), (WP 0184, Item 21)
Tags, Identification (WP 0186, Item 32)

Personnel Required

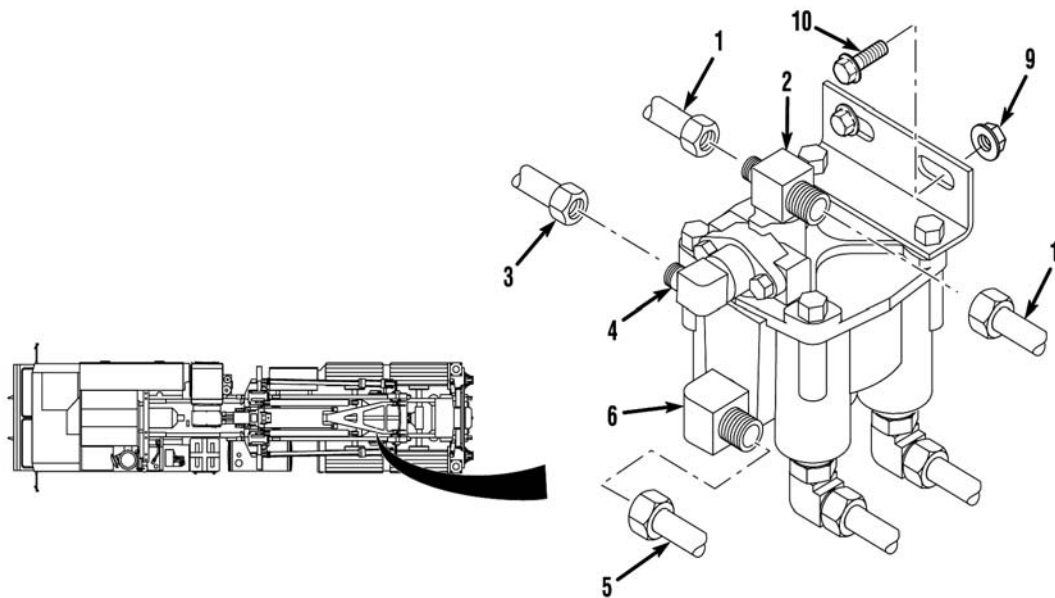
MOS 63B Wheeled vehicle mechanic

References

TM 9-2320-325-14&P

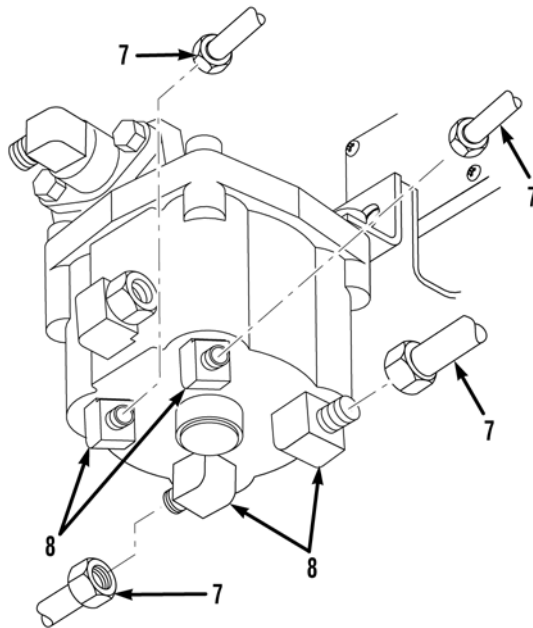
Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Air system drained (TM 9-2320-347-10)

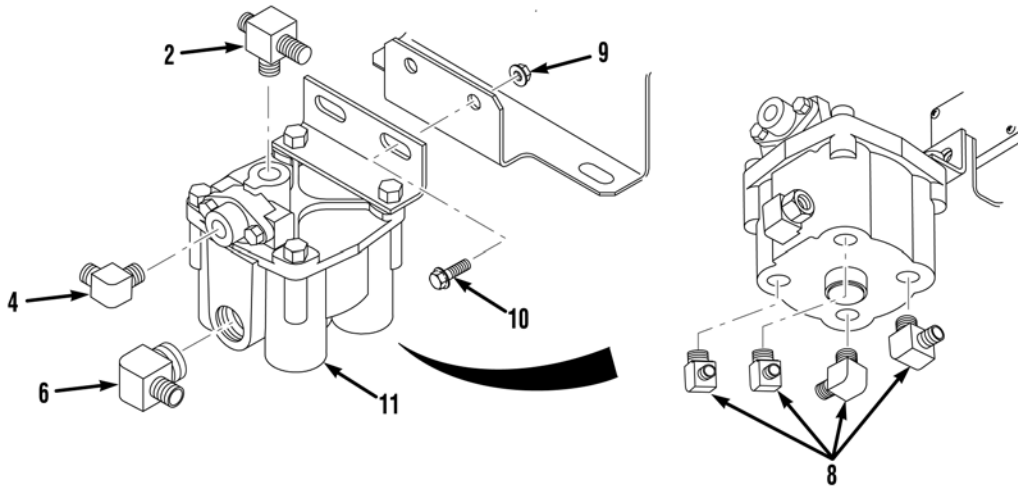
SERVICE BRAKE RELAY REMOVAL**NOTE**

- Tag and mark air lines prior to removal to ensure proper installation.
- Cap and plug air lines upon removal.

1. Remove two air lines (1) from tee (2).
2. Remove air line (3) from elbow (4).
3. Remove air line (5) from elbow (6).



4. Remove four air lines (7) from elbows (8).



5. Remove two locknuts (9), screws (10), and relay valve (11) from vehicle. Discard locknuts.

NOTE

Note position of tee and elbows prior to removal to ensure proper installation.

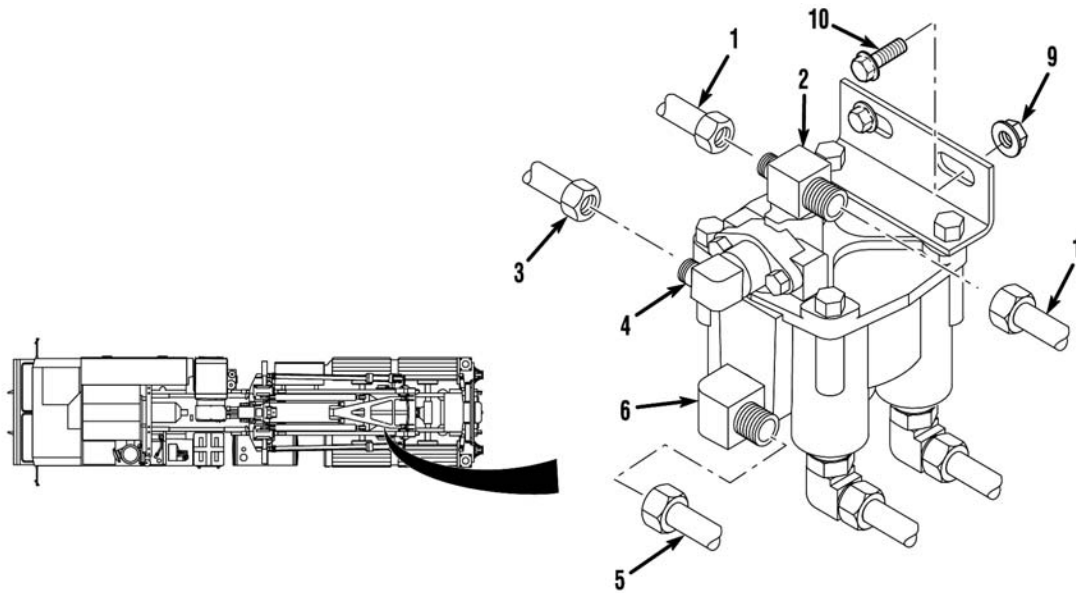
6. Remove tee (2) from relay valve (11).
 7. Remove elbow (4) from relay valve (11).
 8. Remove elbow (6) from relay valve (11).
 9. Remove four elbows (8) from relay valve (11).

END OF TASK

SERVICE BRAKE RELAY VALVE INSTALLATION**NOTE**

Install elbows and tee as noted prior to removal.

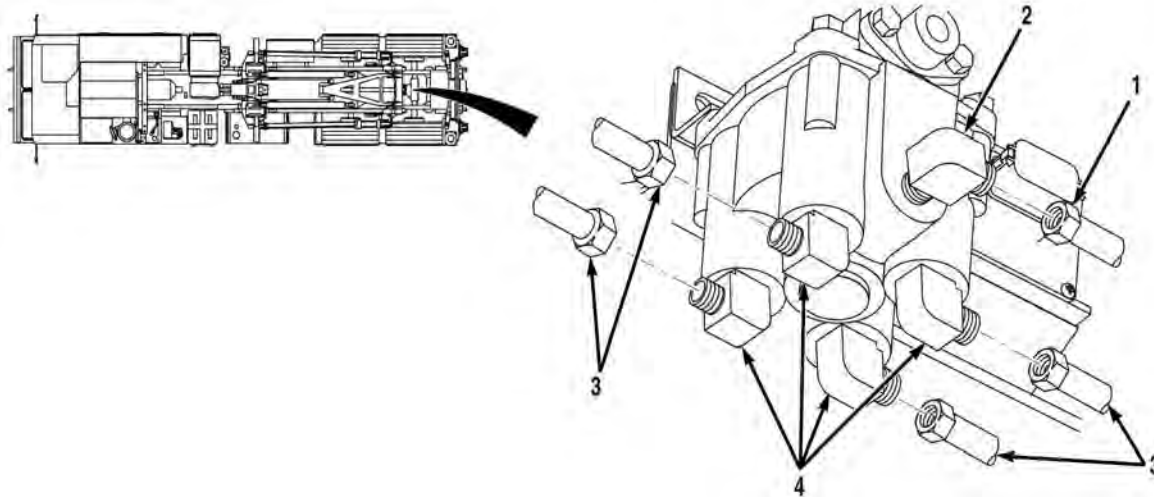
1. Coat threads of four elbows (8) with pipe thread sealing compound and install four elbows (8) on relay valve (11).
2. Coat threads of elbow (6) with pipe thread sealing compound and install elbow (6) on relay valve (11).
3. Coat threads of elbow (4) with pipe thread sealing compound and install elbow (4) on relay valve (11).
4. Coat threads of tee (2) with pipe thread sealing compound and install tee (2) on relay valve (11).
5. Install relay valve (11) on vehicle with two screws (10) and locknuts (9).
6. Install four air lines (7) on elbows (8).



7. Install air line (5) on elbow (6).
8. Install air line (3) on elbow (4).
9. Install two air lines (1) on tee (2).

END OF TASK

SPRING BRAKE RELAY VALVE REMOVAL

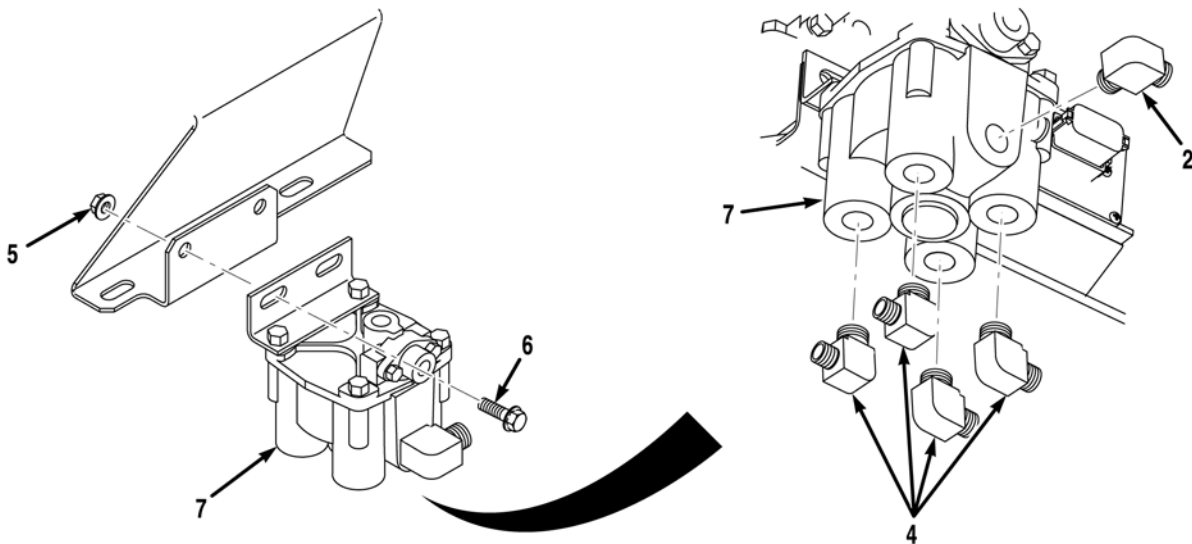


1. Remove rear double check valve (TM 9-2320-325-14&P).

NOTE

- Tag and mark air lines prior to removal to ensure proper installation.
- Cap and plug air lines upon removal.

2. Remove air line (1) from elbow (2).
3. Remove four air lines (3) from elbows (4).



4. Remove two locknuts (5), screws (6), and relay valve (7) from vehicle.

NOTE

Note position of elbows prior to removal to ensure proper installation.

5. Remove elbow (2) from relay valve (7).
6. Remove four elbows (4) from relay valve (7).

END OF TASK**SPRING BRAKE RELAY VALVE INSTALLATION****NOTE**

Install elbows as noted prior to removal.

1. Coat threads of four elbows (4) with pipe thread sealing compound and install four elbows (4) on relay valve (7).
2. Coat threads of elbow (2) with pipe thread sealing compound and install elbow (2) on relay valve (7).
3. Install relay valve (7) on vehicle with two screws (6) and locknuts (5).
4. Install four air lines (3) on elbows (4).
5. Install air line (1) on elbow (2).
6. Install rear double check valve (TM 9-2320-325-14&P).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Remove wheels chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
CHASSIS AIR FITTING REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Compound, Sealing, Pipe Thread (WP 0186,
Item 15)
Tags, Identification (WP 0186, Item 32)

Personnel Required

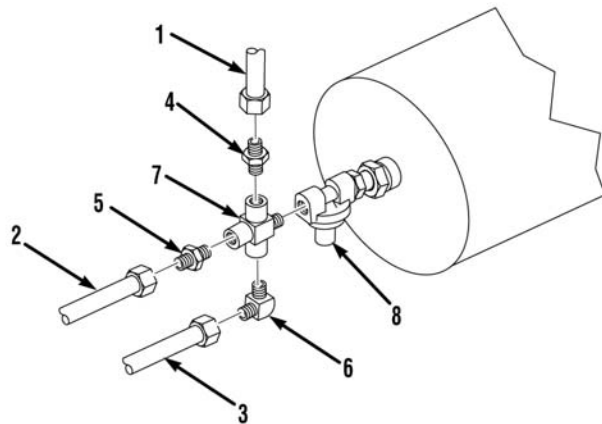
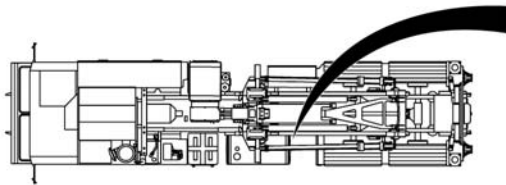
MOS 63B Wheeled vehicle mechanic

References

None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Air system drained (TM 9-2320-347-10)

PRESSURE PROTECTION VALVE FITTINGS REMOVAL**NOTE**

- Tag and mark air lines prior to removal to ensure proper installation.
- Cap and plug air lines upon removal.

1. Remove three air lines 2865 (1), 2106 (2), and 2106 (3) from two fittings (4 and 5) and elbow (6).

NOTE

Note position of fitting prior to removal to ensure proper installation.

2. Remove fitting (7) from pressure protection valve (8).

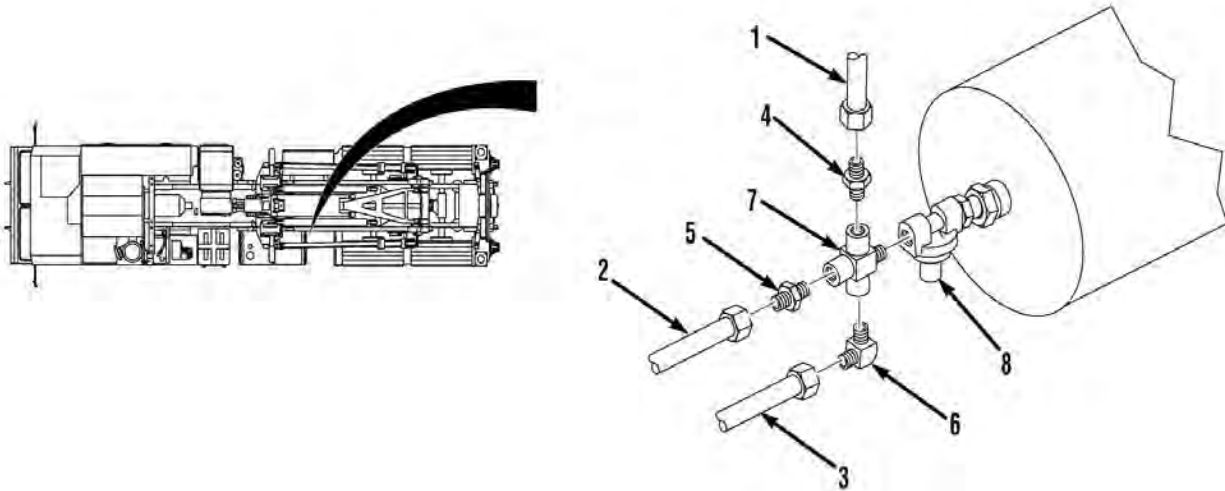
NOTE

Note position of elbow prior to removal to ensure proper installation.

3. Remove two fittings (4 and 5) and elbow (6) from fitting (7).

END OF TASK

PRESSURE PROTECTION VALVE FITTINGS INSTALLATION



WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

NOTE

Install elbow as noted prior to removal.

1. Apply pipe thread sealing compound to threads of elbow (6) and two fittings (4 and 5) and install elbow (6) and two fittings (4 and 5) on fitting (7).

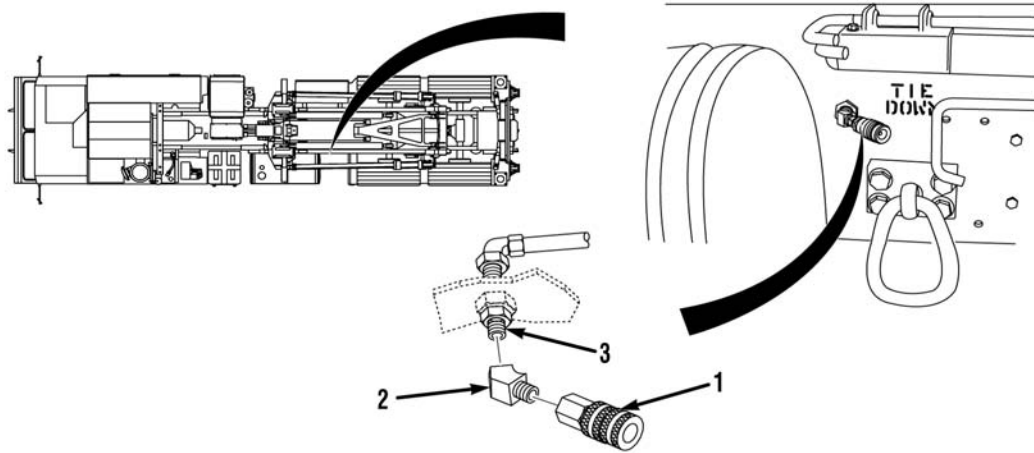
NOTE

Install fitting as noted prior to removal.

2. Apply pipe thread sealing compound to threads of fitting (7) and install fitting (7) on pressure protection valve (8).
3. Install three air lines 2865 (1), 2106 (2), and 2106 (3) on elbow (6) and two fittings (4 and 5).

END OF TASK

LEFT SIDE TIRE INFLATION CONNECTOR REMOVAL



1. Remove quick disconnect (1) from elbow (2).

NOTE

Note position of elbow prior to removal to ensure proper installation.

2. Remove elbow (2) from fitting (3).

END OF TASK

LEFT SIDE TIRE INFLATION CONNECTOR INSTALLATION

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

NOTE

Install elbow as noted prior to removal.

1. Apply pipe thread sealing compound to threads of fitting (3) and install elbow (2) on fitting (3).
2. Apply pipe thread sealing compound to threads of elbow (2) and install quick disconnect (1) on elbow (2).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Start engine and build up air pressure (TM 9-2320-347-10)
2. Check air lines and fittings for leaks.
3. Shut off engine (TM 9-2320-347-10)
4. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
EQUALIZING BEAM REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Standard Automotive Tool Set
(WP 0183, Item 22)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wrench, Torque (WP 0183, Item 31)

Materials/Parts

Locknut, (1), (WP 0184, Item 35)
Locknut, (1), (WP 0184, Item 92)
Oil, Lubricating (WP 0186, Item 22)
Rust Preventive (WP 0186, Item 28)

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

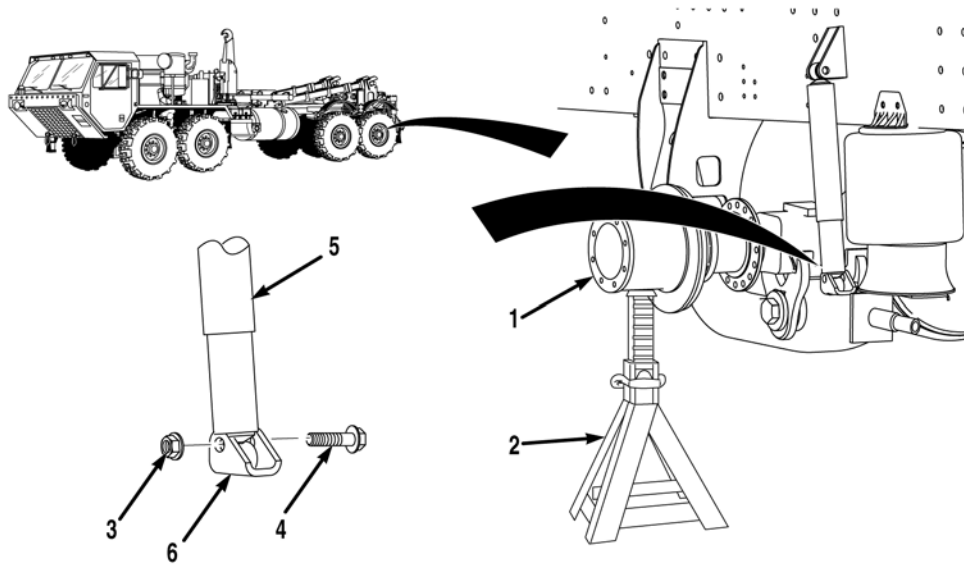
References

None

Equipment Conditions

Transverse beam removed (WP 0156)
Brake shoes removed TM 9-2320-325-14&P

REMOVAL



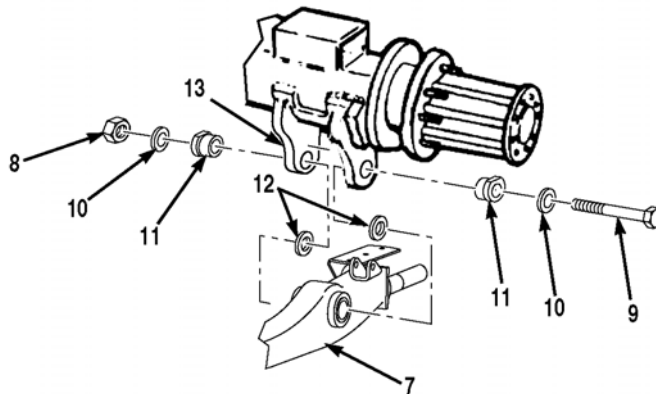
CAUTION

Vehicle must be unloaded prior to removing equalizing beam. Failure to comply may cause damage to equipment.

NOTE

- All equalizing beams are removed the same way. No. 4 axle, left side shown.
- Axle should be level when supported with jackstand.

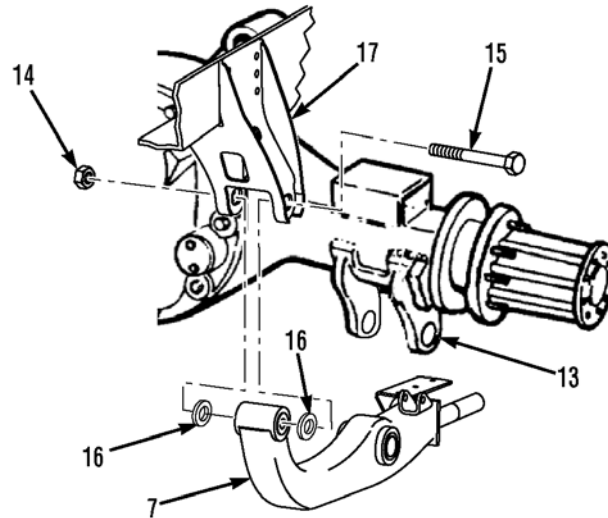
1. Support wheel hub (1) with jackstand (2).
2. Remove locknut (3), screw (4), and shock absorber (5) from lower shock absorber mounting bracket (6). Discard locknut.



WARNING

Equalizing beam is heavy (Aprox. 145 lbs). Do not lift equalizing beam without the aid of Soldier B. Failure to comply may result in injury to personnel.

- Soldier A supports equalizing beam (7) while Soldier B removes locknut (8), screw (9), two washers (10), bushings (11), spacers (12), and equalizing beam (7) from axle bracket (13). Discard locknut.



- Soldier A and Soldier B remove locknut (14), screw (15), two spacers (16), and equalizing beam (7) from frame bracket (17) and vehicle. Discard locknut.

END OF TASK

INSTALLATION

WARNING

Equalizing beam is heavy (Aprox. 145 lbs). Do not lift equalizing beam without the aid of Soldier B. Failure to comply may result in injury to personnel.

NOTE

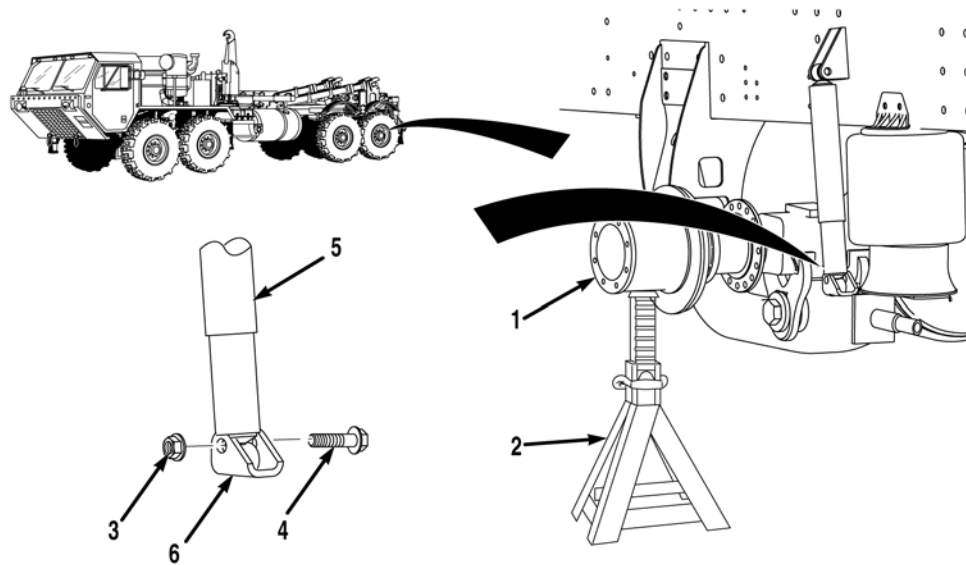
All equalizing beams are installed the same way. No. 4 axle, left side shown.

- Lubricate threads of screw (15) with lubricating oil.
- Soldier A and Soldier B install equalizing beam (7) on frame bracket (17) with two spacers (16), screw (15), and locknut (14). Tighten locknut (14) to 600 lb-ft (814 N•m).
- Lubricate threads of screw (9) with lubricating oil.
- Coat two bushings (11) with rust preventive.

NOTE

Position flat side of bushings toward axle.

- Soldier A supports equalizing beam (7) while Soldier B installs equalizing beam (7) on axle bracket (13) with two spacers (12), bushings (11), washers (10), screw (9), and locknut (8). Tighten locknut (8) to 445 to 495 lb-ft (603 to 671 N•m)



6. Install shock absorber (5) on lower shock absorber mounting bracket (6) with screw (4) and locknut (3). Tighten locknut (3) to 110 lb-ft (149 N•m).
7. Remove jackstand (2) from wheel hub (1).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install brake shoes (TM 9-2320-325-14&P).
2. Install transverse beam (WP 0156).

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
HEIGHT CONTROL LINKAGE REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wrench, Torque (WP 0183, Item 29)

Materials/Parts

Locknut, (2), (WP 0184, Item 94)
Oil, Lubricating (WP 0186, Item 24)

Personnel Required

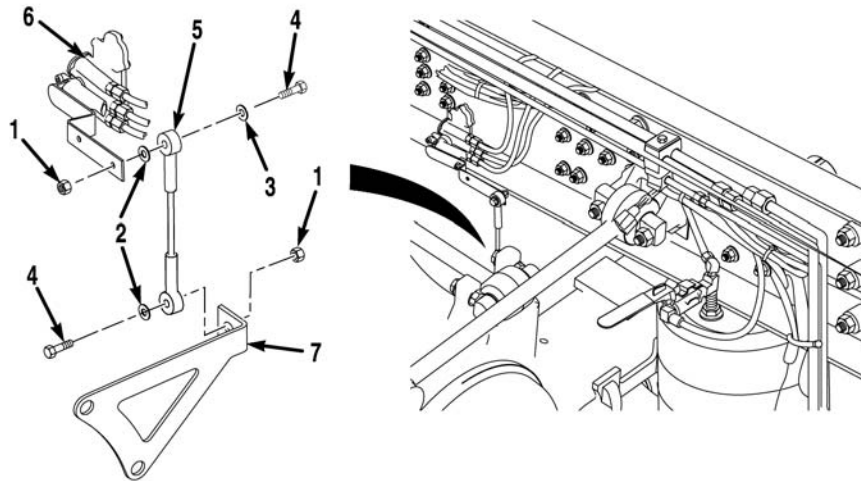
MOS 63B Wheeled vehicle mechanic

References

None

Equipment Conditions

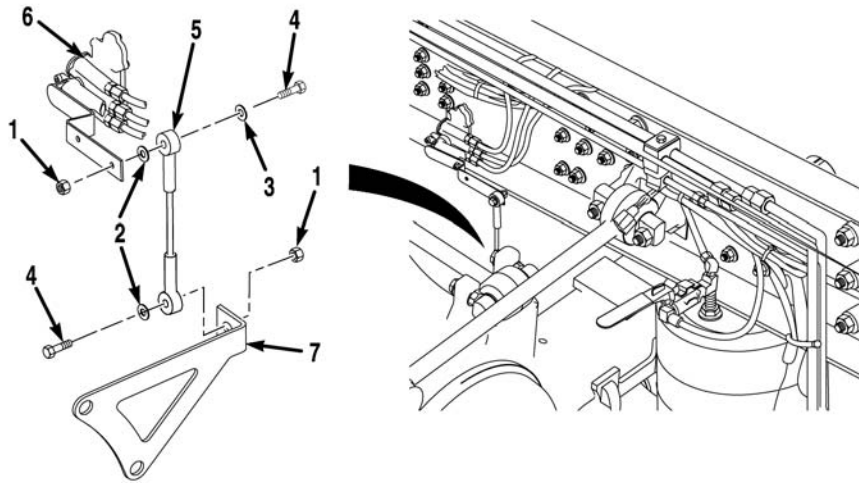
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

REMOVAL**NOTE**

- Both height control links are removed the same way. Right side shown.
- Note position of washers prior to removal to ensure proper installation.

1. Remove two locknuts (1), washers (2), washers (3), screws (4), and height control link (5) from height control valve (6) and axle mounting bracket (7). Discard locknuts.

END OF TASK

INSTALLATION**NOTE**

- Both height control links are installed the same way. Right side shown.
- Install washers as noted prior to removal.

1. Lubricate threads of two screws (4) with lubricating oil and install height control link (5) on height control valve (6) with two screws (4), washers (3), washers (2), and locknuts (1). Tighten locknuts (1) to 4 to 5 lb-ft (5.4 to 6.8 N•m).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
HEIGHT CONTROL VALVE REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Set, Cap and Plug (WP 0183, Item 17)
 Tool Kit, General Mechanic's: Automotive
 (WP 0183, Item 25)
 Wrench, Torque (WP 0183, Item 29)

Personnel Required

MOS 63B Wheeled vehicle mechanic (2)

References

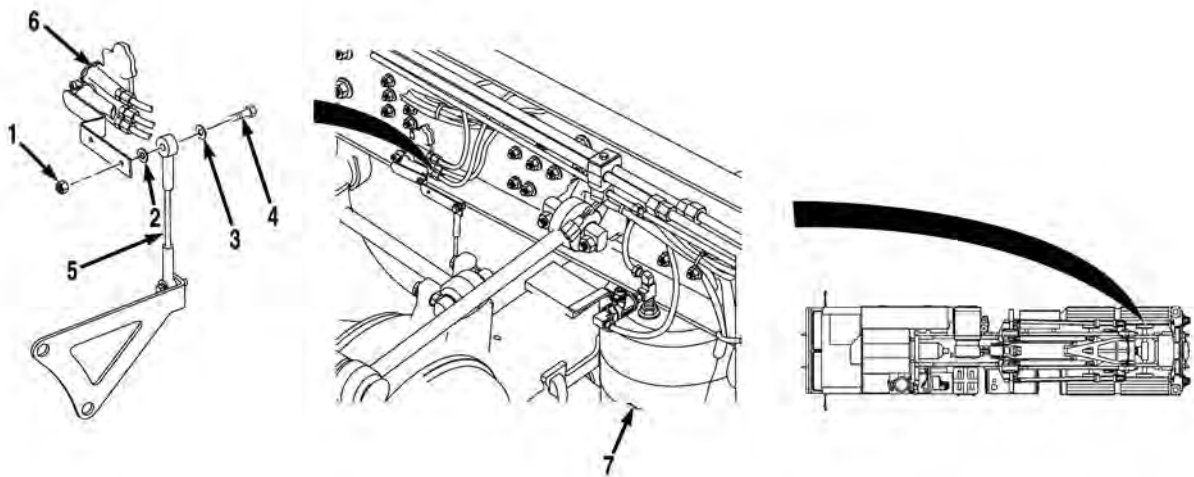
None

Materials/Parts

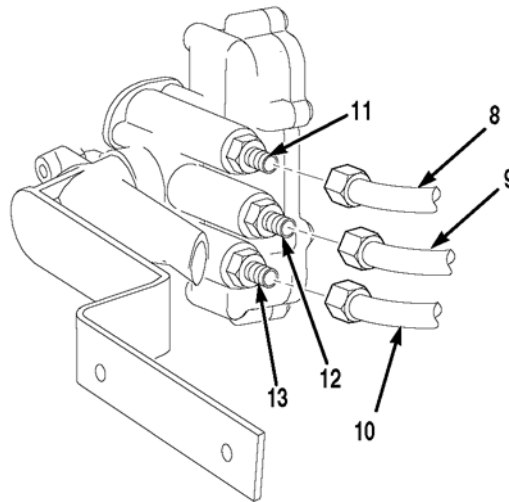
Compound, Sealing, Pipe Thread
 (WP 0186, Item 15)
 Locknut, (1), (WP 0184, Item 94)
 Locknut, (2), (WP 0184, Item 26)
 Oil, Lubricating (WP 0186, Item 22)
 Tags, Identification (WP 0186, Item 32)

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
 Wheels chocked (TM 9-2320-347-10)
 Air system drained (TM 9-2320-347-10)

REMOVAL**NOTE**

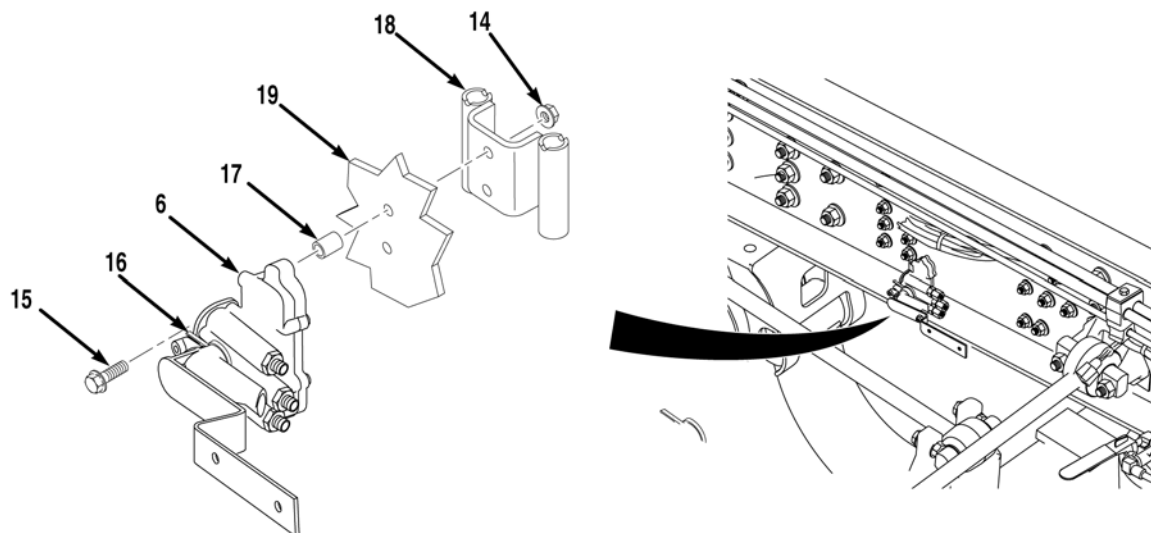
- Both height control valves are removed the same way. Right side shown.
 - Height control link is disconnected from height control valve on same side of vehicle as height control valve being replaced.
 - Note position of washers prior to removal to ensure proper installation.
1. Remove locknut (1), washer (2), washer (3), screw (4), and height control link (5) from height control valve (6). Discard locknut.
 2. Pull down control arm on height control valve (6) to drain air pressure from suspension air spring (7).



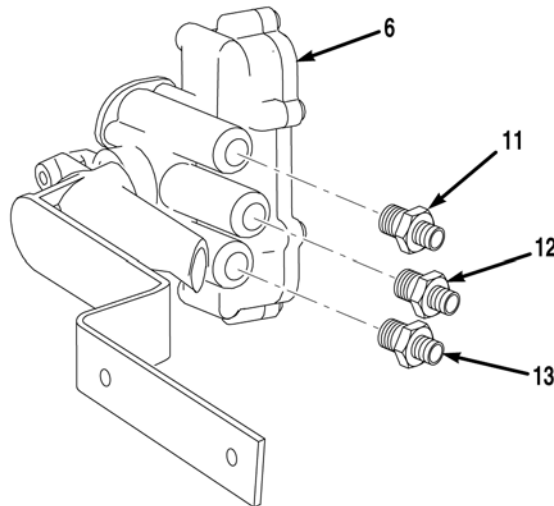
NOTE

- Tag and mark air lines prior to removal to ensure proper installation.
- Cap and plug air lines upon removal.

3. Remove three air lines 2945 (8), 2102A (9), and 2106 (10) from three fittings (11, 12, and 13).



4. Soldier A and Soldier B remove two locknuts (14), screws (15) cushion clip (16), spacers (17), bracket (18), and height control valve (6) from frame rail (19). Discard locknuts.



5. Remove three fittings (11, 12, and 13) from height control valve (6).

END OF TASK

INSTALLATION

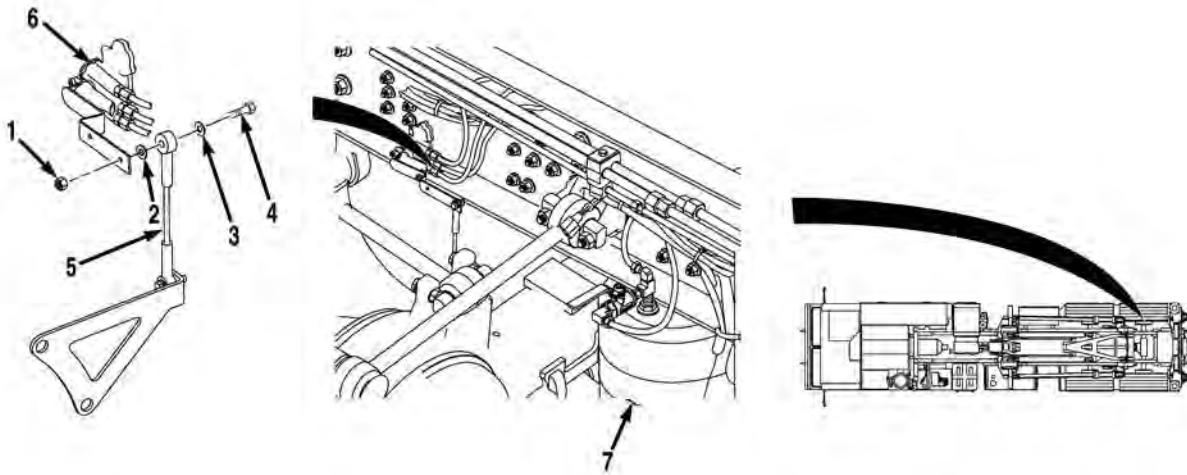
WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

NOTE

Both height control valves are installed the same way. Right side shown.

1. Apply pipe thread sealing compound to threads of three fittings (11, 12, and 13) and install fittings (11, 12, and 13) on height control valve (6).
2. Soldier A and Soldier B install height control valve (6) and bracket (18) on frame rail (19) with two spacers (17), cushion clip (16), screws (15) and locknuts (14).
3. Install three air lines 2945 (8), 2102A (9), and 2106 (10) on three fittings (11, 12, and 13).



NOTE

Install washers as noted prior to removal.

4. Lubricate threads of screw (4) with lubricating oil and install height control link (5) on height control valve (6) with screw (4), washer (3), washer (2), and locknut (1). Tighten locknut (1) to 4 to 5 lb-ft (5.4 to 6.8 N•m).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Adjust ride height (WP 0053).
2. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
SHOCK ABSORBER REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wrench, Torque (WP 0183, Item 30)

Materials/Parts

Locknut, (2), (WP 0184, Item 5)
Locknut, (2), (WP 0184, Item 92)
Oil, Lubricating (WP 0186, Item 22)

Personnel Required

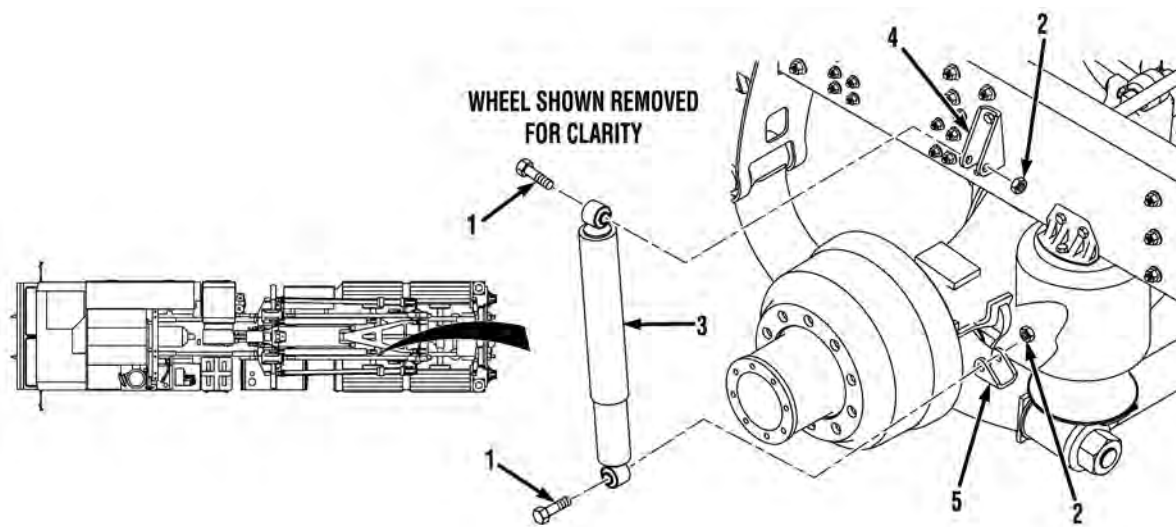
MOS 63B Wheeled vehicle mechanic

References

None

Equipment Conditions

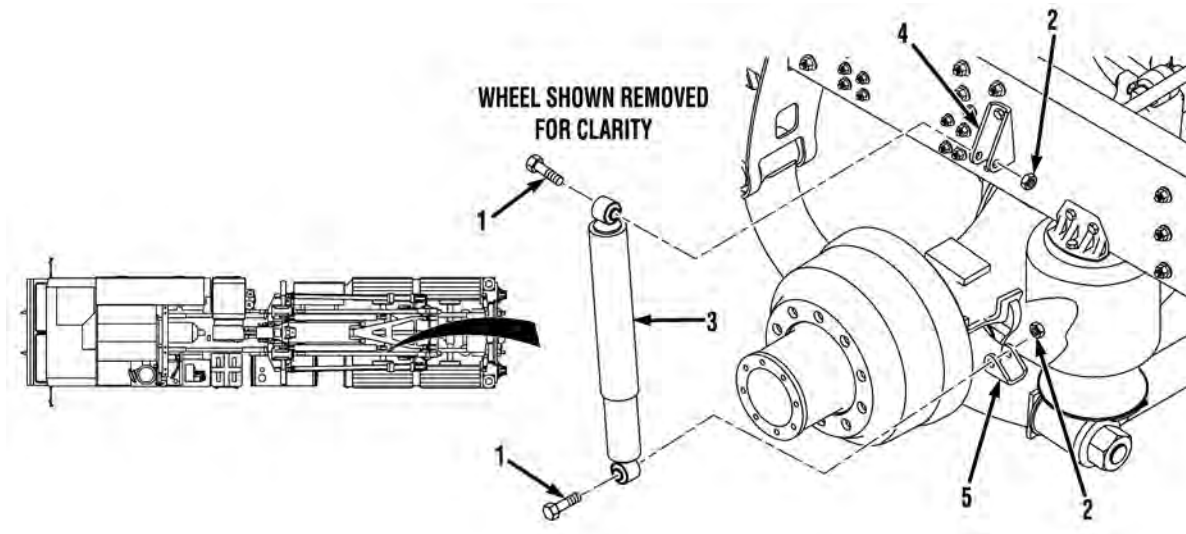
Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)

REMOVAL**NOTE**

- All shock absorbers are removed the same way. No. 3 axle, left side shown.
 - It may be necessary to compress shock absorber prior to removal.
1. Remove two screws (1), locknuts (2), and shock absorber (3) from upper shock absorber mounting bracket (4) and lower shock absorber mounting bracket (5). Discard locknuts.

END OF TASK

INSTALLATION



NOTE

- All shock absorbers are installed the same way. No. 3 axle, left side shown.
- It may be necessary to compress or extend shock absorber prior to installation.

1. Lubricate threads of two screws (1) with lubricating oil and install shock absorber (3) on upper shock absorber mounting bracket (4) and lower shock absorber mounting bracket (5) with two screws (2) and locknuts (2). Tighten locknuts (2) to 110 lb-ft (149 N•m).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
SUSPENSION AIR SPRING REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Jackstand (2)
Set, Cap and Plug (WP 0183, Item 17)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wrench, Torque (WP 0183, Item 29)

Materials/Parts

Compound, Sealing, Pipe Thread
(WP 0186, Item 15)
Locknut, (2), (WP 0184, Item 8)
Lockwasher, (1), (WP 0184, Item 138)
Oil, Lubricating (WP 0186, Item 22)

Materials/Parts (Continued)

Tags, Identification (WP 0186, Item 32)

Personnel Required

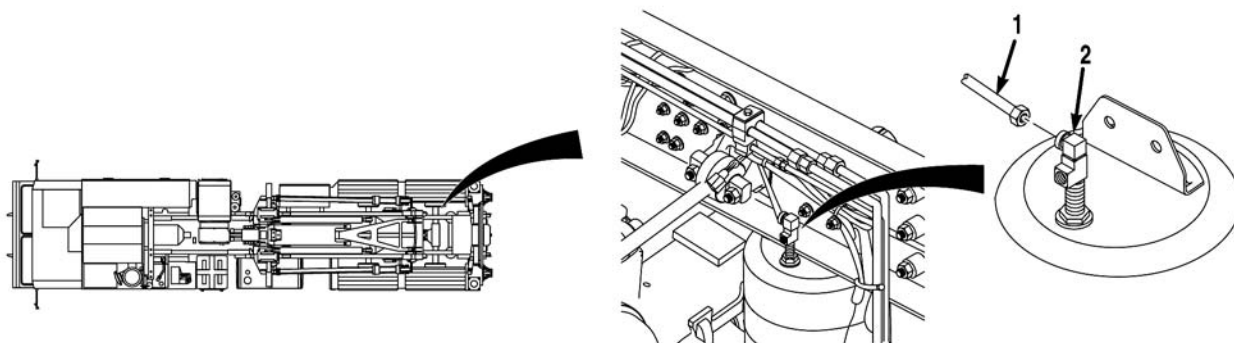
MOS 63B Wheeled vehicle mechanic (2)

References

None

Equipment Conditions

Ball valve removed, No. 4 axle (WP 0146)
Suspension air pressure switch removed, No. 3
axle (WP 0085)

REMOVAL**CAUTION**

Vehicle must be unloaded prior to removing suspension air spring. Failure to comply may cause damage to equipment.

NOTE

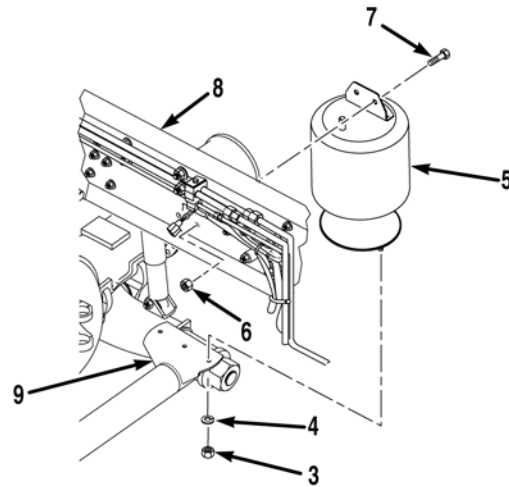
All suspension air springs are removed the same way. No. 4 axle shown.

1. Support rear vehicle frame with jackstands.

NOTE

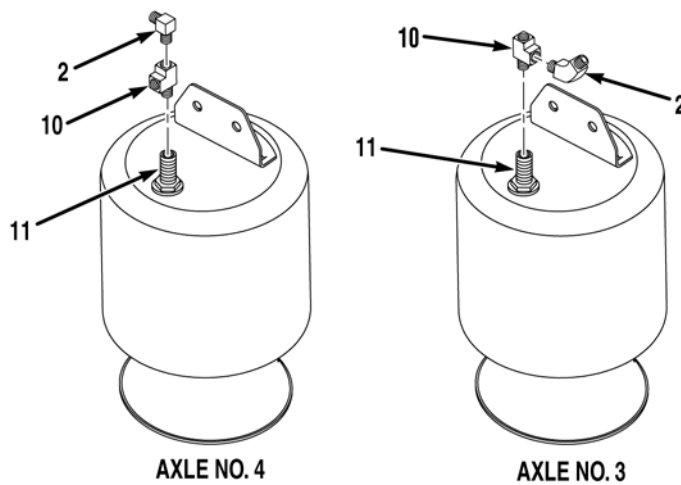
- Tag and mark air line prior to removal to ensure proper installation.
- Cap and plug air line upon removal.

2. Remove air line 2102 (1) from elbow (2).

**NOTE**

- Nut and lockwasher are only removed from rear suspension air spring stud.
- Note position of washers prior to removal to ensure proper installation.

3. Remove nut (3) and lockwasher (4) from bottom of suspension air spring (5). Discard lockwasher.
4. Soldier A and Soldier B remove two locknuts (6), and two screws (7) from suspension air spring (5) and frame rail (8). Discard locknuts.
5. Compress and remove suspension air spring (5) from frame rail (8) and transverse beam (9).

**NOTE**

Note position of tee and elbow prior to removal to ensure proper installation.

6. Remove tee (10) from pipe nipple (11).
7. Remove elbow (2) from tee (10).

END OF TASK

INSTALLATION**WARNING**

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

NOTE

Install elbow and tee as noted prior to removal.

1. Apply pipe thread sealing compound to threads of elbow (2) and install elbow (2) on tee (10).
2. Apply pipe thread sealing compound to threads of tee (10) and install tee (10) on pipe nipple (11).

NOTE

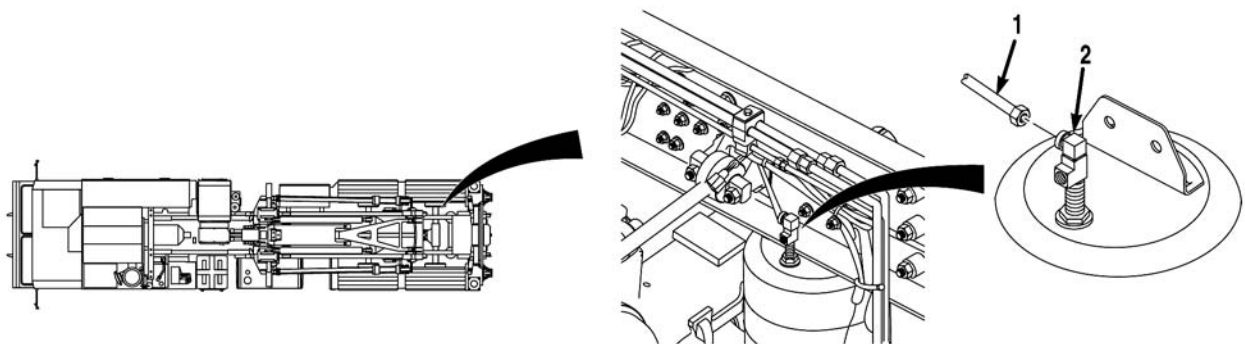
All suspension air springs are installed the same way. No. 4 axle shown.

3. Compress and position suspension air spring (5) between transverse beam (9) and frame rail (8).
4. Lubricate threads of two screws (7) with lubricating oil.
5. Soldier A and Soldier B install suspension air spring (5) on frame rail (8) with two screws (7), and two locknuts (6).

NOTE

Nut and lockwasher are only installed on rear suspension air spring stud.

6. Secure suspension air spring (5) to transverse beam (9) with lockwasher (4) and nut (3). Tighten nut (3) to 30 to 35 lb-ft (41 to 48 N•m).



7. Install air line 2102 (1) on elbow (2).
8. Remove jackstands from rear vehicle frame.

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install suspension air pressure switch, No. 3 axle (WP 0085).
2. Install ball valve, No. 4 axle (WP 0146).
3. Start engine and build up air pressure (TM 9-2320-347-10)
4. Check suspension air springs for leaks.
5. Shut off engine (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE

SUSPENSION BUSHING (EQUALIZING AND TRANSVERSE) REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Materials/Parts

Bushing, (1), (WP 0184, Item 87)
Bushing, (1), (WP 0184, Item 88)
Bushing, (2), (WP 0184, Item 89)
Cleaning Compound, Solvent (WP 0186, Item 7)
Paper, Abrasive, Garnet (Emery Cloth)
(WP 0186, Item 26)
Soap Chips (WP 0186, Item 31)

Personnel Required

MOS 63B Wheeled vehicle mechanic

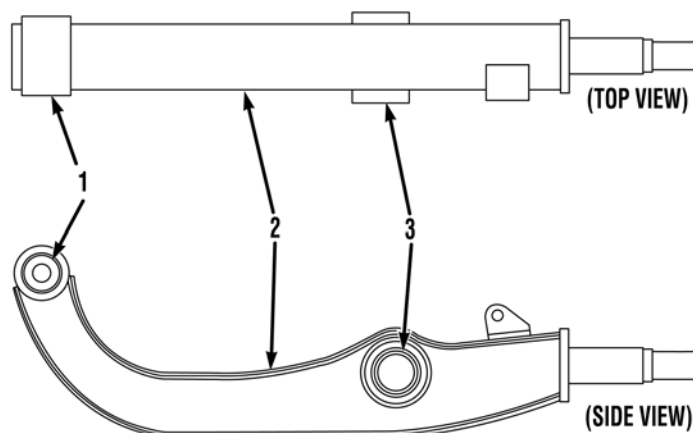
References

None

Equipment Conditions

Transverse beam removed (WP 0156)
Equalizing beam removed (WP 0149)

EQUALIZING BEAM BUSHING REMOVAL

**WARNING**

Use of a press of 10,000 lbs (4,540 kg) capacity or greater is required to remove or install bushings on equalizing beams. Use care when pressing bushings to prevent injury or death to personnel. Always wear eye protection to prevent injury when operating press.

NOTE

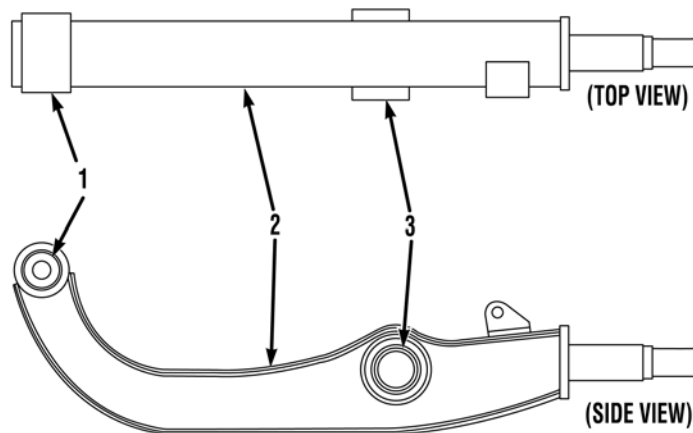
Bushings are removed from both equalizing beams the same way. Right equalizing beam shown.

1. Press end bushing (1) out of equalizing beam (2). Discard bushing.
2. Press center bushing (3) out of equalizing beam (2). Discard bushing.

END OF TASK

CLEANING/INSPECTION

1. Clean all metal parts with solvent cleaning compound.
2. Clean equalizing beam bores with emery cloth or cylinder hone to remove all corrosion.
3. Inspect equalizing beam for cracks and damage.
4. Replace equalizing beam if cracked or damaged.

END OF TASK**EQUALIZING BEAM BUSHING INSTALLATION****NOTE**

Bushings are installed on both equalizing beams the same way. Right equalizing beam shown.

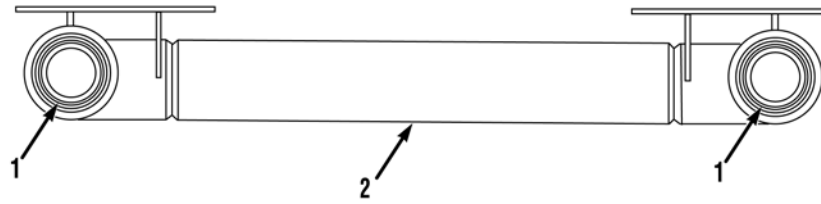
1. Lubricate end bushing (1) and center bushing (3) with soap solution.

WARNING

Use of press of 10,000 lbs (4,540 kg) capacity or greater is required to remove or install bushings on equalizer beams. Use care when pressing bushings to prevent injury or death to personnel. Always wear eye protection to prevent injury when operating press.

2. Press center bushing (3) into equalizing beam (2) so center bushing (3) extends equally from both sides of equalizing beam (2).
3. Press end bushing (1) into equalizing beam (2) so end bushing (1) extends equally from both sides of equalizing beam (2).

END OF TASK

TRANSVERSE BEAM BUSHING REMOVAL**WARNING**

Use of press of 10,000 lbs (4,540 kg) capacity or greater is required to remove or install bushings on transverse beams. Use care when pressing bushings to prevent injury or death to personnel. Always wear eye protection to prevent injury when operating press.

NOTE

Bushings are removed from both transverse beams the same way.

1. Press two end bushings (1) out of transverse beam (2).

END OF TASK**CLEANING/INSPECTION**

1. Clean all metal parts with solvent cleaning compound.
2. Clean transverse beam bores with emery cloth or cylinder hone to remove all corrosion.
3. Inspect transverse beam for cracks and damage.
4. Replace transverse beam if cracked or damaged.

END OF TASK**TRANSVERSE BEAM BUSHING INSTALLATION****NOTE**

Bushings are installed on both transverse beams the same way.

1. Lubricate two end bushings (1) with soap solution.

WARNING

Use of a press of 10,000 lbs (4,540 kg) capacity or greater is required to remove or install bushings on transverse beams. Use care when pressing bushings to prevent injury or death to personnel. Always wear eye protection to prevent injury when operating press.

2. Press two end bushings (1) into transverse beam (2) so end bushings (1) extend equally from both sides of transverse beam (2).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Install equalizing beam (WP 0149).
2. Install transverse beam (WP 0156).

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
TORQUE ROD REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Jack Kit, Hydraulic, Hand (WP 0183, Item 9)
 Standard Automotive Tool Set
 (WP 0183, Item 22)
 Tool Kit, General Mechanic's: Automotive
 (WP 0183, Item 25)
 Wrench, Torque (WP 0183, Item 31)

Materials/Parts

Locknut, (6), (WP 0184, Item 70)
 Locknut, (1), (WP 0184, Item 35)
 Oil, Lubricating (WP 0186, Item 22)
 Ties, Cable, Plastic (WP 0186, WP 34)

Personnel Required

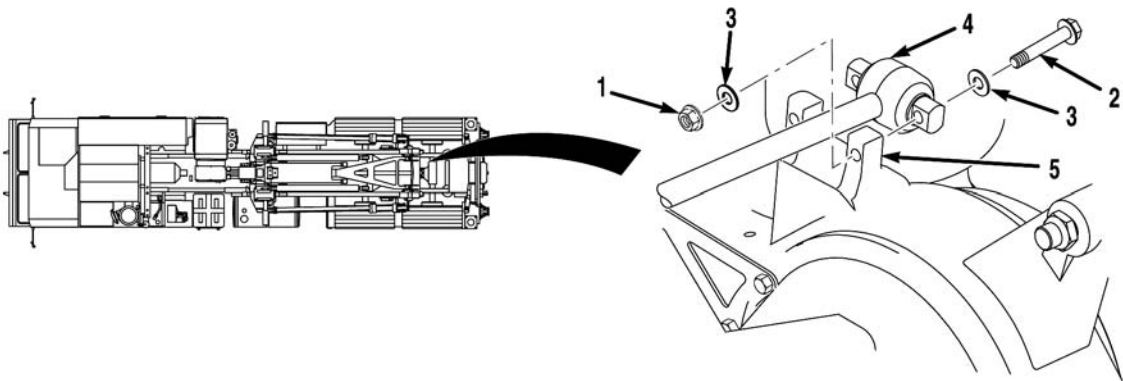
MOS 63B Wheeled vehicle mechanic (2)

References

None

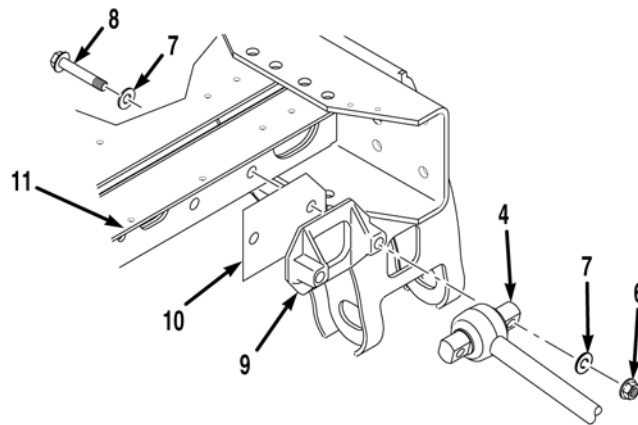
Equipment Conditions

Engine OFF (TM 9-2320-347-10)
 Wheels chocked (TM 9-2320-347-10)

LONGITUDINAL TORQUE ROD REMOVAL
**NOTE**

- Both longitudinal torque rods are removed the same way. No. 4 axle shown.
- Note angle of mounting pins on longitudinal torque rod prior to removal to ensure proper installation.
- Remove cable ties as required.

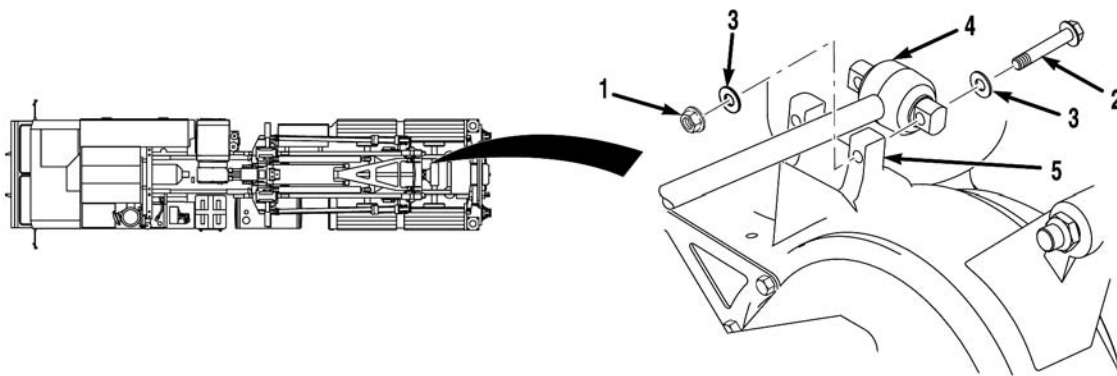
1. Remove two locknuts (1), screws (2), four washers (3), and longitudinal torque rod (4) from axle mount (5). Discard locknuts.

**NOTE**

- Longitudinal torque rod may or may not have shims.
 - Note position and number of shims prior to removal to ensure proper installation.
2. Soldier A and Soldier B remove two locknuts (6), four washers (7), two screws (8), longitudinal torque rod (4), bracket (9), and shim(s) (10) from crossmember (11). Discard locknuts.

END OF TASK**LONGITUDINAL TORQUE ROD INSTALLATION****NOTE**

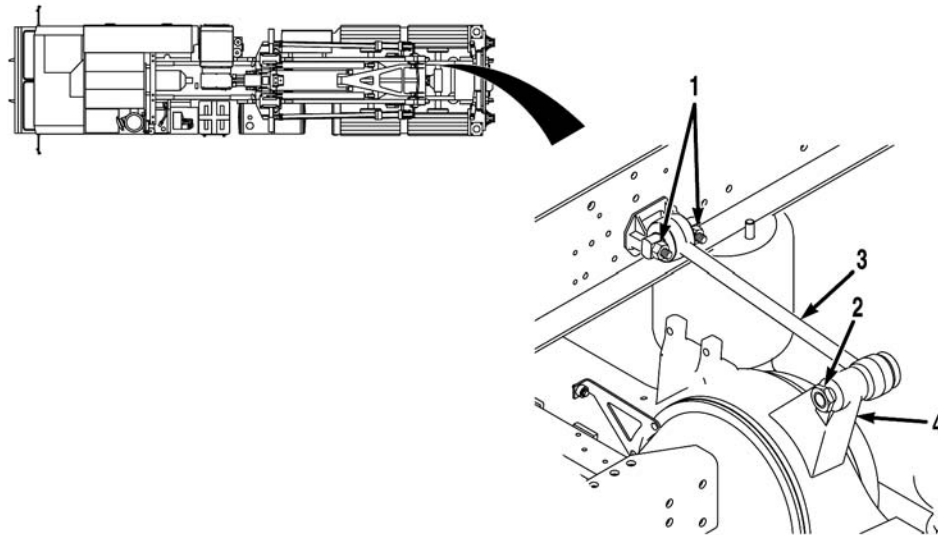
- Both longitudinal torque rods are installed the same way. No. 4 axle shown.
 - Adjust mounting pins to same angle as noted prior to removal.
 - Longitudinal torque rod may or may not have shims.
 - Install shims as noted prior to removal.
 - Install cable ties as required.
1. Soldier A and Soldier B lubricate threads of two screws (8) with lubricating oil and install shim(s) (10), bracket (9), and longitudinal torque rod (4) on crossmember (11) with two screws (8), four washers (7), and two locknuts (6).



- Lubricate threads of two screws (2) with lubricating oil and install longitudinal torque rod (4) on axle mount (5) with four washers (3), two screws (2), and locknuts (1). Tighten locknuts (1) to 170 lb-ft (231 N•m).

END OF TASK

LATERAL TORQUE ROD REMOVAL



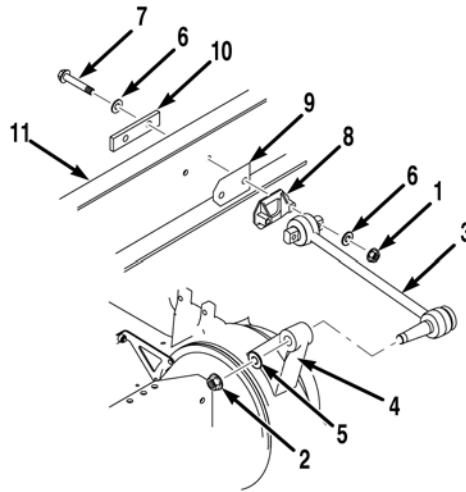
NOTE

- Both lateral torque rods are removed the same way. No. 4 axle shown.
 - Note angle of mounting pin on lateral torque rod prior to removal to ensure proper installation.
- Loosen two locknuts (1).
 - Loosen locknut (2) until locknut (2) is even with threaded end of lateral torque rod (3).

WARNING

Torque rod is under extreme pressure when being pressed from axle. Torque rod can be dangerous when it breaks loose and may cause injury to personnel.

- Soldier A uses hand jack to press tapered end of lateral torque rod (3) from axle mount (4) while Soldier B strikes axle mount (4) with soft-faced hammer.



4. Remove locknut (2) and washer (5) from lateral torque rod (3).

NOTE

Note position and number of shims prior to removal to ensure proper installation.

5. Soldier A and Soldier B remove two locknuts (1), four washers (6), two screws (7), lateral torque rod (3), bracket (8), shim(s) (9), and plate (10) from frame rail (11) and axle mount (4).

END OF TASK

LATERAL TORQUE ROD INSTALLATION

NOTE

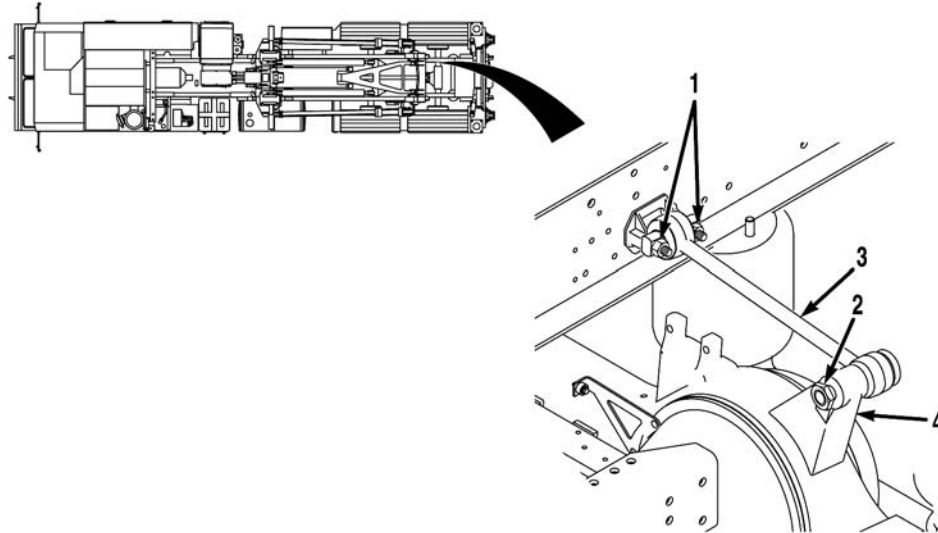
- Both lateral torque rods are installed the same way. No. 4 axle shown.
- Adjust mounting pin to same angle as noted prior to removal.

1. Lubricate threads of lateral torque rod (3) with lubricating oil and position tapered end of lateral torque rod (3) in axle mount (4).

NOTE

Install shims in same position as noted prior to removal.

2. Soldier A and Soldier B lubricate threads of two screws (7) with lubricating oil and install plate (10), shim(s) (9), bracket (8), and lateral torque rod (3) on frame rail (11) with two screws (7), four washers (6), and two locknuts (1).
3. Install lateral torque rod (3) on axle mount (4) with washer (5) and locknut (2). Tighten locknut (2) to 175 to 225 lb-ft (237 to 305 N•m).



4. Strike axle mount (4) with soft-faced hammer.
5. Retighten locknut (2) to 175 to 225 lb-ft (237 to 305 N•m).
6. Tighten two locknuts (1) to 170 lb-ft (231 N•m).

END OF TASK**FOLLOW-ON MAINTENANCE**

1. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
TRANSVERSE BEAM REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Adapter, Socket (WP 0183, Item 1)
Jack Kit, Hydraulic, Hand (WP 0183, Item 9)
Socket, 3 1/2 in. (WP 0183, Item 21)
Standard Automotive Tool Set
(WP 0183, Item 22)
Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)
Wrench, Torque (WP 0183, Item 29)
Wrench, Torque (WP 0183, Item 31)

Materials/Parts

Locknut, (1), (WP 0184, Item 94)
Locknut, (2), (WP 0184, Item 138)
Oil, Lubricating (WP 0186, Item 22)

Personnel Required

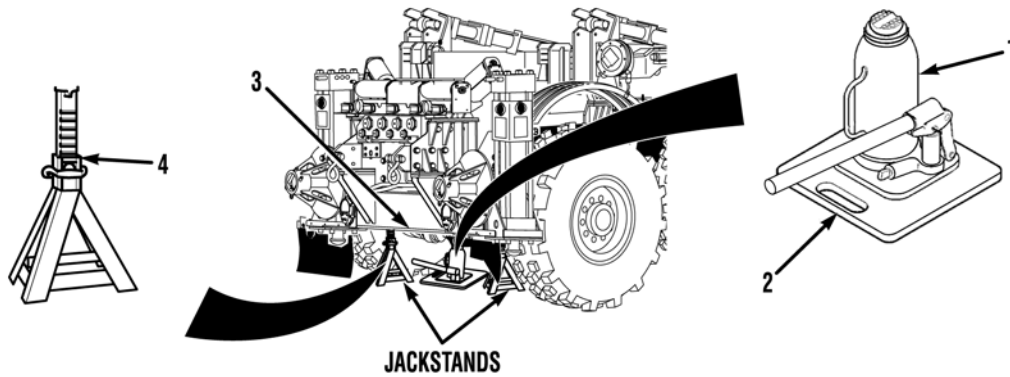
MOS 63B Wheeled vehicle mechanic (2)

References

None

Equipment Conditions

Engine OFF (TM 9-2320-347-10)
Wheels chocked (TM 9-2320-347-10)
Air system drained (TM 9-2320-347-10)

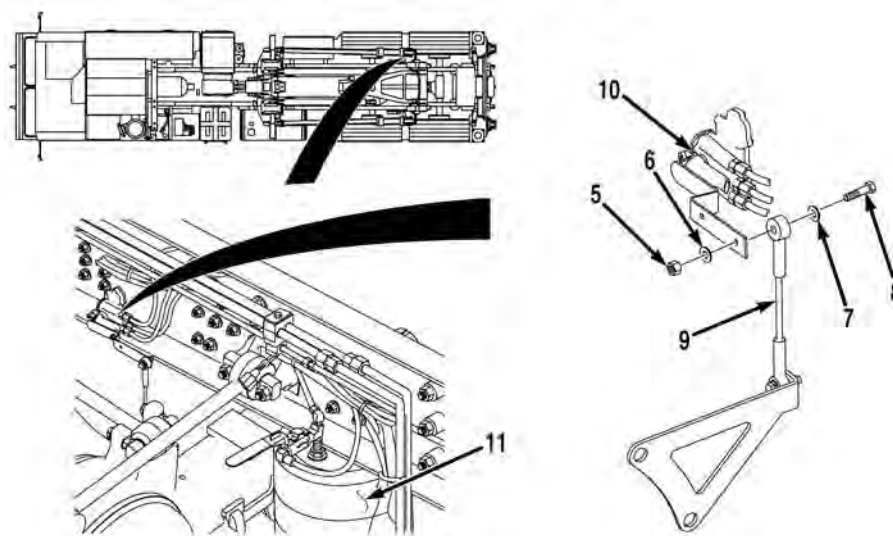
REMOVAL**CAUTION**

Vehicle must be unloaded prior to removing transverse beam. Failure to comply may result in damage to equipment.

NOTE

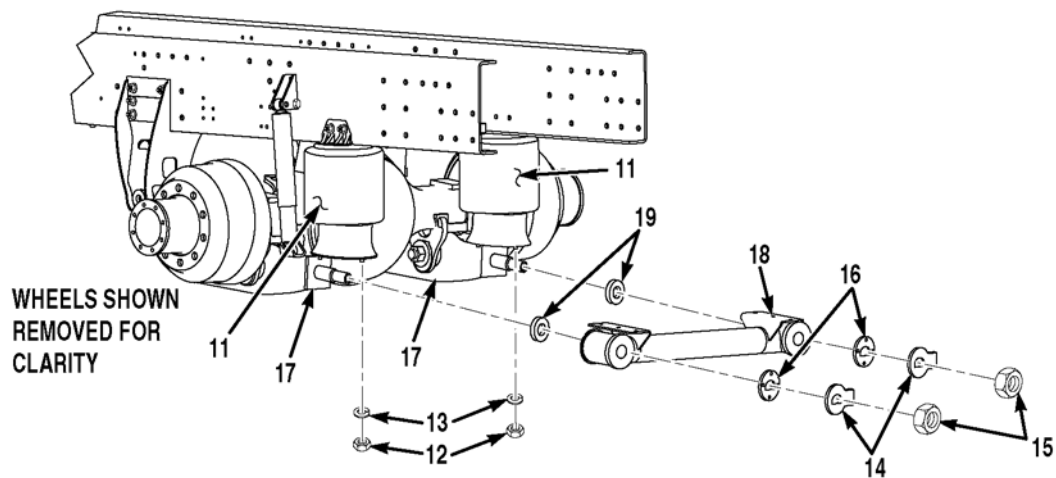
Both transverse beams are removed the same way. No. 4 axle shown.

1. Remove jack (1) and jack base plate (2) from stowage.
2. Position jack (1) and jack base plate (2) under rear crossmember (3) of vehicle.
3. Raise vehicle approximately 2 in. (5 cm).
4. Support rear crossmember (3) with two jackstands (4).
5. Remove jack (1) and jack base plate (2) from under rear crossmember (3) of vehicle.



NOTE

- Both height control links are disconnected from height control valve the same way. Right side height control valve shown.
 - Note position of washers prior to removal to ensure proper installation.
6. Remove locknut (5), washer (6), washer (7), screw (8), and height control link (9) from height control valve (10). Discard locknut.
 7. Push down control arm of height control valve (10) to drain air pressure from suspension air spring (11).
 8. Repeat steps (6) and (7) to drain air pressure from left side suspension.

**NOTE**

Each suspension air spring is secured to transverse beam with one nut and lockwasher.

9. Remove two nuts (12) and lockwashers (13) from suspension air springs (11). Discard lockwashers.
10. Bend lock tab of two washers (14) away from nuts (15).

NOTE

Note position of spacers prior to removal to ensure proper installation.

11. Remove two nuts (15), washers (14), and spacers (16) from equalizing beams (17).

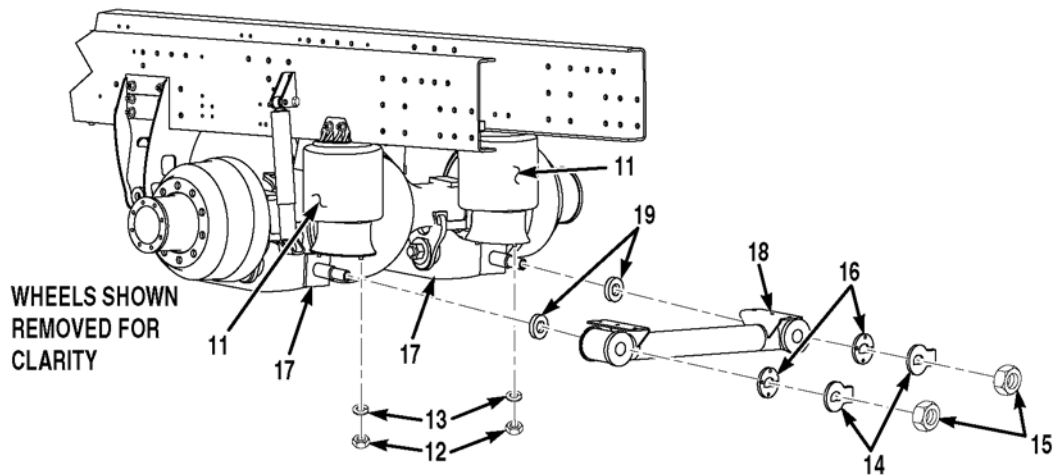
WARNING

Transverse beam is heavy (Aprox. 105 lbs). Do not lift transverse beam without the aid of Soldier B. Failure to comply may result in injury to personnel.

12. Soldier A and Soldier B remove transverse beam (18) from two equalizing beams (17).
13. Remove two washers (19) from equalizing beams (17).

END OF TASK

INSTALLATION

**NOTE**

Both transverse beams are installed the same way. No. 4 axle shown.

1. Install two washers (19) on equalizing beams (17).

WARNING

Transverse beam is heavy (Aprox. 105 lbs). Do not lift transverse beam without the aid of Soldier B. Failure to comply may result in injury to personnel.

2. Soldier A and Soldier B position transverse beam (18) on two equalizing beams (17).

NOTE

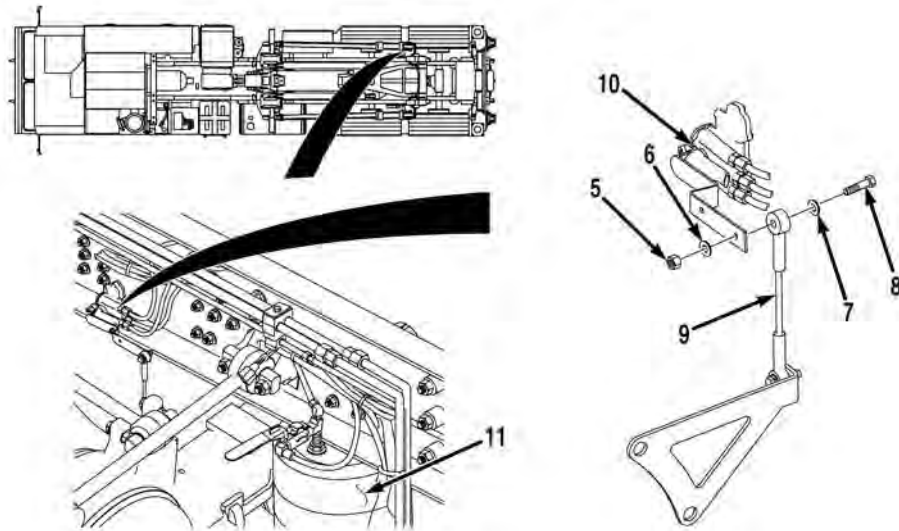
Install spacers as noted prior to removal.

3. Install two spacers (16), washers (14), and nuts (15) on equalizing beams (17). Tighten nuts (15) to 500 lb-ft (678 N•m).
4. Bend lock tab of two washers (14) against flat of nuts (15).

NOTE

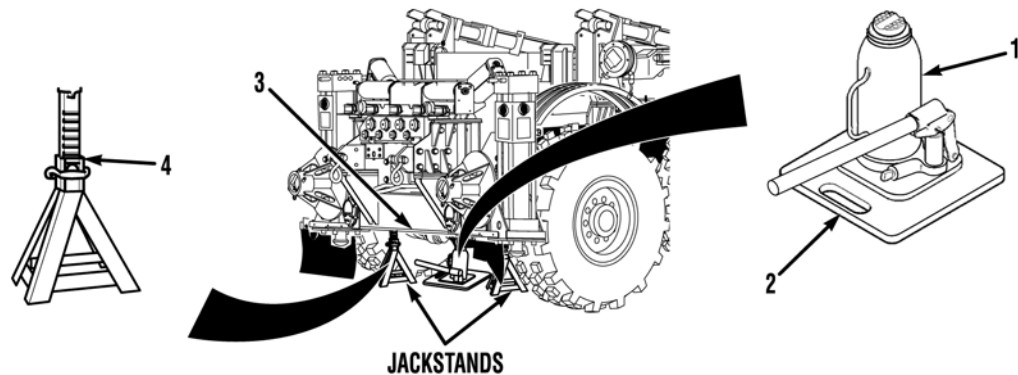
Each suspension air spring is secured to transverse beam with one nut and lockwasher.

5. Install two suspension air springs (11) on transverse beam (18) with two lockwashers (13) and nuts (12). Tighten nuts (12) to 30 to 35 lb-ft (41 to 48 N•m).



NOTE

- Both height control links are connected to height control valve the same way. Right side height control valve shown.
 - Install washers as noted prior to removal.
6. Lubricate threads of screw (8) with lubricating oil and install height control link (9) on height control valve (10) with screw (8), washer (7), washer (6), and locknut (5). Tighten locknut (5) to 4 to 5 lb-ft (5.4 to 6.8 N•m).



7. Position jack (1) and jack base plate (2) under rear crossmember (3) of vehicle.
8. Raise vehicle.
9. Remove two jackstands (4) from under rear crossmember (3).
10. Lower vehicle and stow jack (1) and jack base plate (2).

END OF TASK

FOLLOW-ON MAINTENANCE

1. Start engine and build up air pressure (TM 9-2320-347-10)
2. Shut off engine (TM 9-2320-347-10)
3. Remove wheel chocks (TM 9-2320-347-10)

END OF TASK**END OF WORK PACKAGE**

FIELD LEVEL MAINTENANCE
ILLUSTRATED LIST OF MANUFACTURED ITEMS

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's: Automotive
(WP 0183, Item 25)

Personnel Required

MOS 63B Wheeled vehicle mechanic

Materials/Parts

MML751 Lumber Stock

ILLUSTRATED LIST OF MANUFACTURED ITEMS INTRODUCTION**Scope**

This work package includes complete instructions for making items authorized to be manufactured or fabricated at the Field Level maintenance.

How to use the Index of Manufactured Items

A part number index in alphanumeric order is provided for cross-referencing the part number of the item to be manufactured to the page which covers fabrication criteria.

Explanation of the Illustrations of Manufactured Items

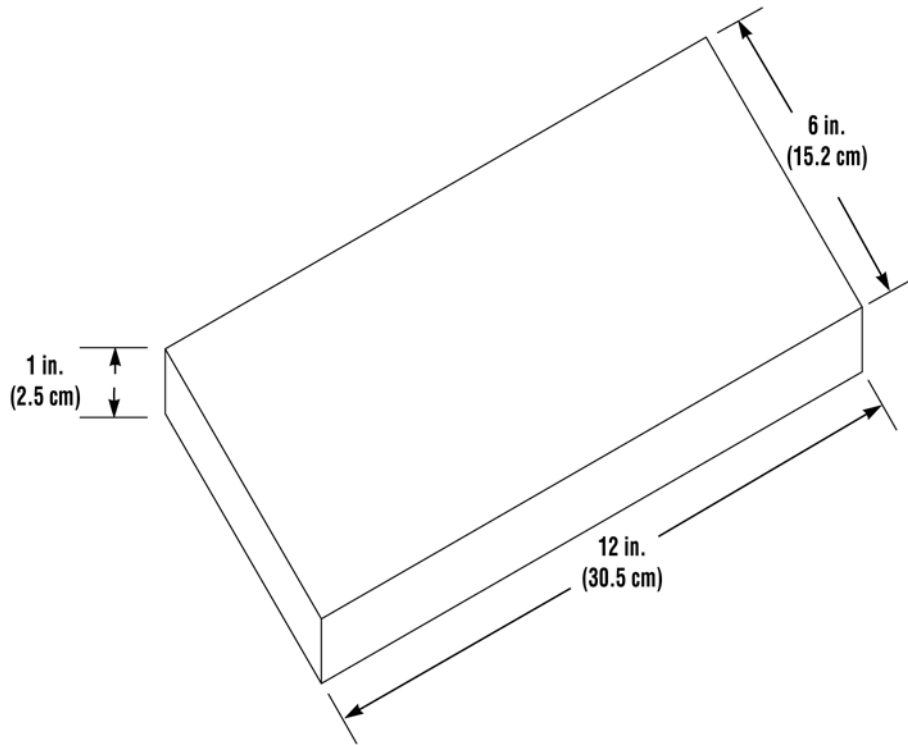
All instructions needed by maintenance personnel to manufacture the item are included on the illustrations. All bulk materials needed for manufacture of an item are listed by part number or specification number in a tabular list on the illustration.

INDEX OF MANUFACTURED ITEMS

Part Number or Drawing Number	Manufactured Item	Page Number
N/A	Spacer Plate	0218-2
N/A	Wooden Blocks	0218-2

ILLUSTRATED LIST OF MANUFACTURED ITEMS

A. Spacer Plate



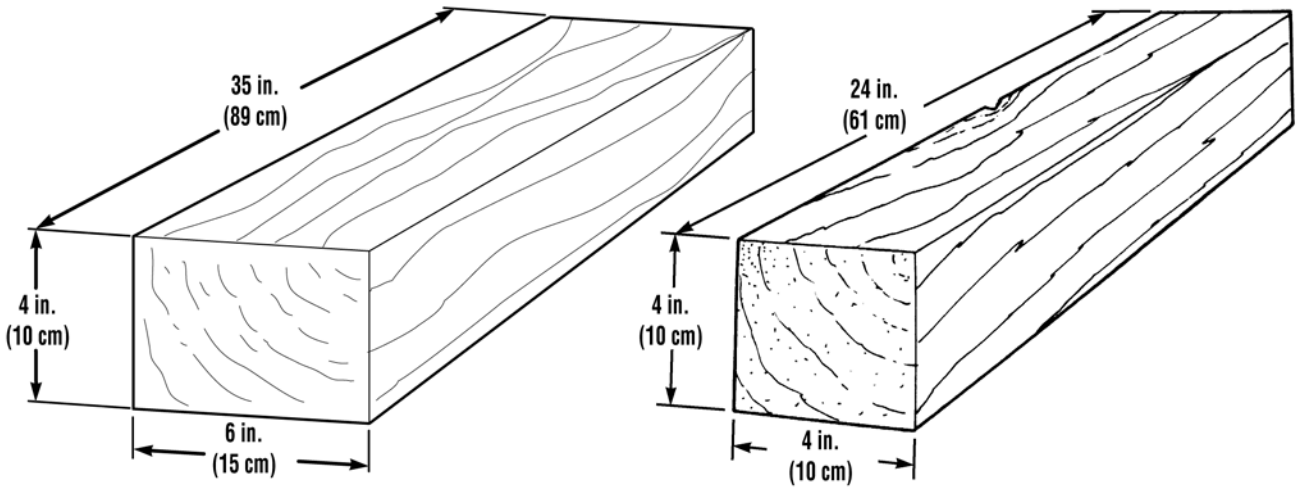
NOTE

- Art shown as reference. Refer to Table 1 for specific sizes.
- Make from 1 in. (2.5 cm) thick mild steel stock.
- All dimensions are in inches (cm).
- Use a file or grinder to remove all rough edges.

Table 1. Spacer Plate.

Item Number	Work Package Reference	Finished Dimensions of Block	Quantity
A-1	WP 0128	1 by 6 by 12 in. (2.5 by 15.2 by 30.5 cm)	1

B. Wooden Blocks



NOTE

- Art shown as reference. Refer to Table 2 for specific sizes.
- Make from MML751 lumber stock.
- All dimensions are in inches (cm).

Table 2. Wooden Blocks.

Item Number	Work Package Reference	Finished Dimensions of Block	Quantity
B-1	WP 0069	4 by 4 by 24 in. (10 by 10 by 61 cm)	2
B-2	WP 0129	4 by 4 by 24 in. (10 by 10 by 61 cm)	2
B-3	WP 0134	4 by 6 by 35 in. (10 by 15 by 89 cm)	2
B-4	WP 0135	4 by 6 by 35 in. (10 by 15 by 89 cm)	2
B-5	WP 0130	4 by 6 by 35 in. (10 by 15 by 89 cm)	2
B-6	WP 0133	4 by 6 by 35 in. (10 by 15 by 89 cm)	2
B-7	WP 0132	4 by 6 by 35 in. (10 by 15 by 89 cm)	2
B-8	WP 0087	4 by 6 by 35 in. (10 by 15 by 89 cm)	2
B-9	WP 0128	4 by 6 by 35 in. (10 by 15 by 89 cm)	2
B-10	WP 0027	4 by 6 by 35 in. (10 by 15 by 89 cm)	2
B-11	WP 0028	4 by 6 by 35 in. (10 by 15 by 89 cm)	2
B-12	WP 0034	4 by 6 by 35 in. (10 by 15 by 89 cm)	2
B-13	WP 0035	4 by 6 by 35 in. (10 by 15 by 89 cm)	2

END OF WORK PACKAGE

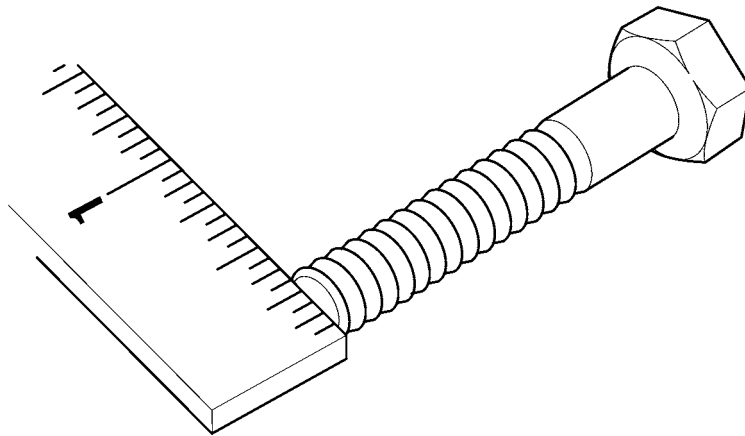
FIELD LEVEL MAINTENANCE**TORQUE LIMITS**

SCOPE

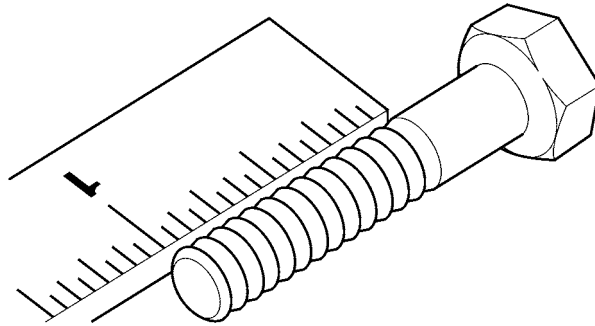
This section provides general torque limits for the screws, hoses, and fittings used on the vehicle. Special torque limits are listed in the maintenance procedures for applicable components. The general torque limits given in this work package shall be used when specific torque limits are not indicated in the maintenance procedure. These general torque limits cannot be applied to screws that retain rubber components. The rubber components will be damaged before the torque limit is reached. If a special torque limit is not given in the maintenance instructions, tighten the screw or nut until it touches the metal bracket then tighten it one more turn.

TORQUE LIMITS

Table 1 lists the torque limits for wet flange nuts. Table 2 lists the torque limits for wet socket head capscrews. Table 3 lists torque limits for dry fasteners. Dry torque limits are used on screws that do not have high pressure lubricants applied to the threads. Table 4 lists torque limits for wet fasteners. Wet torque limits are used on screws that have high pressure lubricants applied to the threads. Table 5 lists the torque limits for SAE 37-degree flare hose connections. Table 6 lists the torque limits for SAE 45-degree flare hose connections. Table 7 lists the torque limits for ORS preformed packing face seal hose connections. Table 8 lists the torque limits for NPSM swivel connections.



HOW TO USE TORQUE TABLES**a. Screws and Nuts.**

1. Measure the diameter of the screw you are installing with a ruler.



2. Measure out one inch with a ruler and count the number of threads per inch.
3. Under the heading SIZE, look down the left-hand column until you find the diameter of the screw you are installing (there will usually be two lines beginning with the same size).
4. In the second column under SIZE, find the number of threads per inch that matches the number of threads per inch you counted in step (2). (Not required for metric screws).

CAPSCREW HEAD MARKINGS

<p>Manufacturer's marks may vary. These are all SAE Grade 5 (3-line).</p>	<p>Metric screws are of three grades: 8.8, 10.9, & 12.9. Manufacturer's marks & Grades appear on the screw head.</p>
	
<p>STANDARD</p>	<p>METRIC</p>

5. To find the grade screw you are installing, match the markings on the head with the correct picture of CAPSCREW HEAD MARKINGS on the torque table.
6. Look down the column under the picture you found in step (5) until you find the torque limit (lb-ft or N•m) for the diameter and threads per inch of the screw you are installing.
7. Use wet torque values.

Table 1. Torque Limits for Wet Flange Nuts.

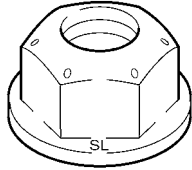
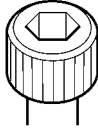
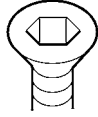
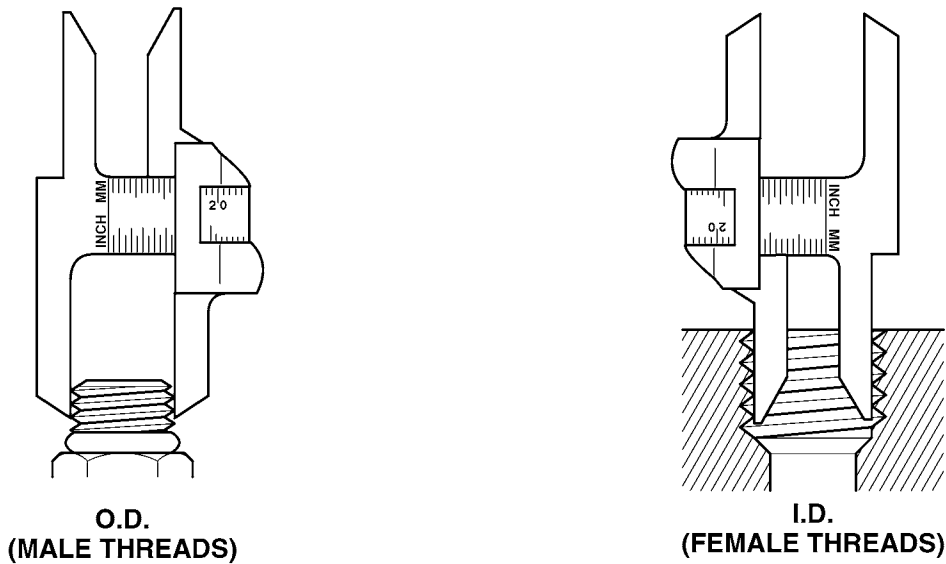
SPIRALOCK FLANGE NUT MARKINGS GRADE 8	DIAMETER		THREADS PER INCH	TORQUE	
	in.	mm		lb-ft	N•m
	1/4	6.35	20	15	20
	5/16	7.94	18	25	34
	3/8	9.53	16	45	61
	1/2	12.70	13	110	149
	5/8	15.87	11	210	285
	3/4	19.05	10	375	508

Table 2. Torque Limits for Wet Socket Head Capscrews.

	TORQUE IN FT. LBS (CAPSCREWS) LUBED		
	SIZE	SOC HD OR 12 PT	SOC FLAT HD
SOC HEAD/12 PT. 	.10-24	55	2.5
	.25-20	12	6
	.31-18	25	12
	.38-16	44	22
	.50-13	70	36
SOC FLAT HEAD 	.56-12	106	53
	.62-11	212	106
	.75-10	375	187
	1.00-8	781	

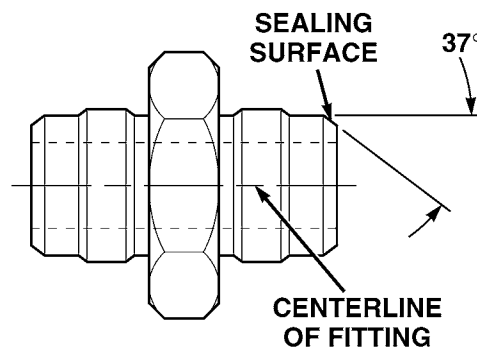
b. Hoses and Fittings.



NOTE

Most fluid piping system sizes are measured by dash numbers. These are universally used abbreviations for the size of the component expressed as the numerator of the fraction with the denominator always being 16. For example, a -04 port is 4/16 or 1/4-inch. Dash numbers are usually nominal (in name only) and are abbreviations that make ordering of components easier.

1. Measure the I.D./O.D. diameter with a caliper as shown.
2. Under the heading MALE THREAD O.D. and FEMALE THREAD I.D., match the measurements with the row in table to determine proper torque.

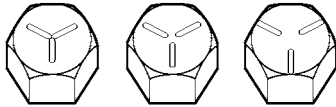


3. To find the sealing surface angle, use a protractor and measure the sealing surface parallel to the centerline of the fitting.

Table 3. Torque Limits for Dry Fasteners.

SIZE			TORQUE							
			SAE GRADE NO. 2		SAE GRADE NO. 5		SAE GRADE NO. 6 or 7		SAE GRADE NO. 8	
DIA. INCHES	THREADS PER INCH	MILLI-METERS	POUNDS FEET	NEWTON METERS	POUNDS FEET	NEWTON METERS	POUNDS FEET	NEWTON METERS	POUNDS FEET	NEWTON METERS
1/4	20	6.35	5	7	8	11	12	14	12	16
1/4	28	6.35	6	9	10	14	12	16	14	19
5/16	18	7.94	11	15	17	23	21	28	25	34
5/16	24	7.94	12	16	19	26	24	33	25	34
3/8	16	9.53	20	27	30	41	40	54	45	61
3/8	24	9.53	23	31	35	47	45	61	50	68
7/16	14	11.11	30	41	50	68	60	81	70	95
7/16	20		35	47	55	75	70	95	80	108
1/2	13	12.70	50	68	75	102	95	129	110	149
1/2	20		55	75	90	122	100	136	120	163
9/16	12	14.29	65	88	110	149	135	183	150	203
9/16	12		75	102	120	163	150	203	170	231
5/8	11	15.88	90	122	150	203	190	258	220	298
5/8	18		100	136	180	244	210	285	240	325
3/4	10	19.05	160	217	260	353	320	434	380	515
3/4	16		180	244	300	407	360	488	420	570
7/8	9	22.23	140	190	400	542	520	705	600	814
7/8	14		155	210	440	597	580	786	660	895
1	8	25.40	220	298	580	786	800	1085	900	1220
1	12		240	325	640	868	860	1166	1000	1356
1-1/8	7	25.58	300	407	800	1085	1120	1519	1280	1736
1-1/8	12		340	461	880	1193	1260	1709	1440	1953
1-1/4	7	31.75	420	570	1120	1519	1580	2142	1820	2468
1-1/4	12		460	624	1240	1681	1760	2387	2000	2712
1-3/8	6	34.93	560	759	1460	1980	2080	2820	2380	3227
1-3/8	12		640	868	1680	2278	2380	3227	2720	3688
1-1/2	6	38.10	740	1003	1940	2631	2780	3770	3160	4285
1-1/2	12		840	1139	2200	2983	3100	4204	3560	4827

CAPSCREW HEAD MARKINGS



Manufacturer's marks may vary. These are all SAE Grade 5 (3-line).

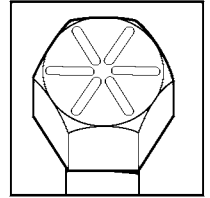
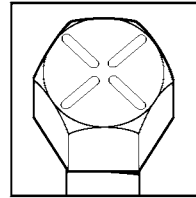
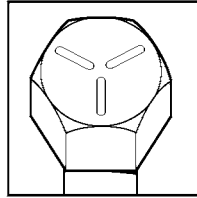
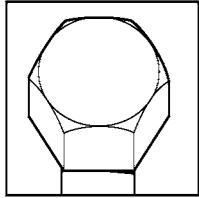
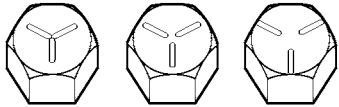


Table 4. Torque Limits for Wet Fasteners.

SIZE			TORQUE							
			SAE GRADE NO. 2		SAE GRADE NO. 5		SAE GRADE NO. 6 or 7		SAE GRADE NO. 8	
DIA. INCHES	THREADS PER INCH	MILLI-METERS	POUNDS FEET	NEWTON METERS	POUNDS FEET	NEWTON METERS	POUNDS FEET	NEWTON METERS	POUNDS FEET	NEWTON METERS
1/4	20	6.35	4	6	6	8	8	11	9	12
1/4	28	6.35	5	7	7	9	9	12	10	14
5/16	18	7.94	8	11	13	18	16	22	18	24
5/16	24	7.94	9	12	14	19	18	24	20	27
3/8	16	9.53	15	20	23	31	30	41	35	47
3/8	24	9.53	17	23	25	34	30	41	35	47
7/16	14	11.11	24	33	35	47	45	61	55	75
7/16	20		25	34	40	54	50	68	60	81
1/2	13	12.70	35	47	55	75	70	95	80	108
1/2	20		40	54	65	88	80	108	90	122
9/16	12	14.29	50	68	80	108	100	136	110	149
9/16	12		55	75	90	122	110	149	130	176
5/8	11	15.88	70	95	110	149	140	190	170	231
5/8	18		80	108	130	176	160	218	180	244
3/4	10	19.05	120	163	200	271	240	325	280	380
3/4	16		140	190	220	298	280	380	320	434
7/8	9	22.23	110	149	300	407	400	542	460	624
7/8	14		120	163	320	434	440	597	500	678
1	8	25.40	160	217	440	597	600	814	680	922
1	12		170	231	480	651	660	895	740	1003
1-1/8	7	25.58	220	298	600	814	840	1139	960	1320
1-1/8	12		260	353	660	895	940	1275	1080	1464
1-1/4	7	31.75	320	434	840	1139	1100	1492	1360	1844
1-1/4	12		360	488	920	1248	1320	1709	1500	2034
1-3/8	6	34.93	420	570	1100	1492	1560	2115	1780	2414
1-3/8	12		460	624	1260	1709	1780	2414	2040	2776
1-1/2	6	38.10	560	760	1460	1980	2080	2820	2360	3200
1-1/2	12		620	841	1640	2224	2320	3146	2660	3607

CAPSCREW HEAD MARKINGS



Manufacturer's marks may vary. These are all SAE Grade 5 (3-line).

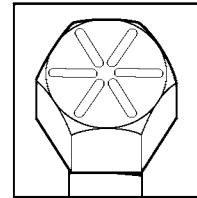
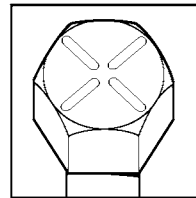
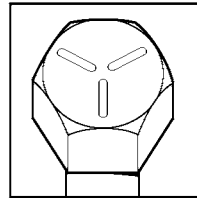
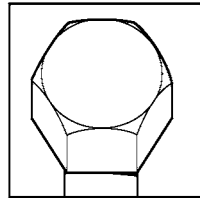
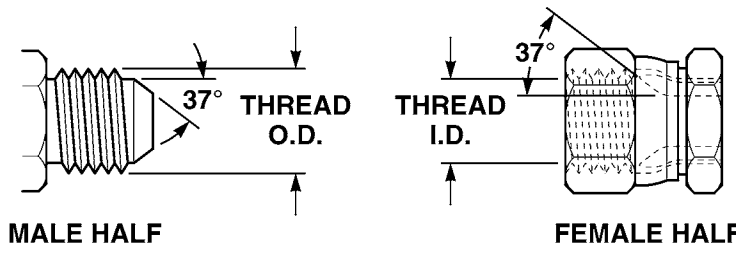
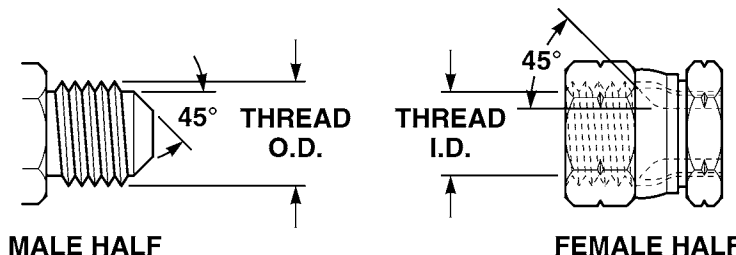


Table 5. Torque Limits for SAE 37-Degree Flare Hose Connections.



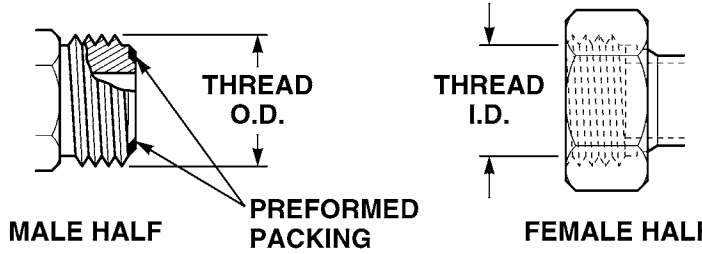
INCH SIZE	DASH NO.	THREAD SIZE	TORQUE LB-FT	TORQUE N•M
1/4	04	7/16 - 20	11-12	15-16
3/8	06	9/16 - 18	18-21	24-28
1/2	08	3/4 - 16	26-39	49-53
5/8	10	7/8 - 14	57-62	77-84
3/4	12	1-1/16 - 12	79-87	107-118
7/8	14	1-3/16 - 12	83-91	113-123
1	16	1-5/16 - 12	108-113	146-153
1-1/4	20	1-5/8 - 12	127-133	172-180
1-1/2	24	1-7/8 - 12	158-167	214-224
2	32	2-1/2 - 12	245-258	332-350

Table 6. Torque Limits for SAE 45-Degree Flare Hose Connections.



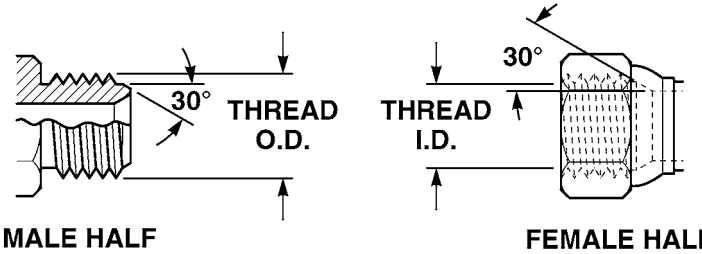
INCH SIZE	DASH NO.	THREAD SIZE	TORQUE LB-FT	TORQUE N•M
1/4	04	7/16 - 20	8-9	11-12
3/8	06	5/8 - 18	18-20	24-27
1/2	08	3/4 - 16	36-38	49-51
5/8	10	7/8 - 14	52-54	70-73
3/4	12	1-1/16 - 14	71-74	97-100

Table 7. Torque Limits for ORS Preformed Packing Face Seal Hose Connections.



INCH SIZE	DASH NO.	THREAD SIZE	TORQUE LB-FT	TORQUE N•M
1/4	04	9/16 - 18	10-12	14-16
3/8	06	11/16 - 16	18-20	24-27
1/2	08	13/16 - 16	32-35	43-47
5/8	10	1 - 14	46-50	62-68
3/4	12	1-3/16 - 12	65-70	88-95
1	16	1-7/16 - 12	108-113	146-153
1-1/4	20	1-11/16 - 12	127-133	172-180
1-1/2	24	2 - 12	158-167	214-226

Table 8. Torque Limits for NPSM Swivel Connections.



INCH SIZE	DASH NO.	THREAD SIZE	TORQUE LB-FT	TORQUE N•M
1/8	02	1/8 - 27	3-4	4-5
1/4	04	1/4 - 18	10-11	14-15
3/8	06	3/8 - 18	16-18	22-24
1/2	08	1/2 - 14	25-27	34-37
3/4	12	3/4 - 14	46-48	62-65
1	16	1 - 1-1/2	80-83	108-113
1-1/4	20	1-1/4 - 11-1/2	127-133	172-180
1-1/2	24	1-1/2 - 11-1/2	160-164	217-222
2	32	2 - 11-1/2	170-174	231-240

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

SCHEMATIC DIAGRAMS

THAAD Electrical, Air, and Hydraulic schematic diagrams are located at the end of this technical manual.

END OF WORK PACKAGE

CHAPTER 6

PARTS INFORMATION

FIELD LEVEL MAINTENANCE**REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL) INTRODUCTION**

SCOPE

This RPSTL lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of Field Level Maintenance of the THAAD. It authorizes the requisitioning, issue, and disposition of spares, repair parts, and special tools as indicated by the source, maintenance, and recoverability (SMR) codes.

GENERAL

In addition to the Introduction work package, this RPSTL is divided into the following work packages:

Repair Parts List Work Packages. Work packages containing lists of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. These work packages also include parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Sending units, brackets, filters, and bolts are listed with the component they mount on. Bulk materials are listed by item name in FIG. BULK at the end of the work packages. Repair parts kits are listed separately in their own functional group and work package. Repair parts for repairable special tools are also listed in a separate work package. Items listed are shown on the associated illustration.

Special Tools List Work Packages. Work packages containing lists of special tools, special TMDE, and special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in DESCRIPTION AND USABLE ON CODE (UOC) column). Tools that are components of common tool sets and/or Class VII are not listed.

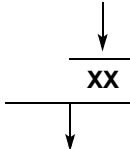
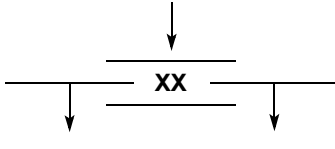
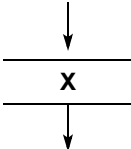
Cross-Reference Indexes Work Packages. There are two cross-reference indexes work packages in this RPSTL: the National Stock Number (NSN) Index work package and the Part Number (P/N) Index work package. The National Stock Number Index work package refers you to the figure and item number. The Part Number Index refers you to the figure and item number.

EXPLANATION OF COLUMNS IN THE REPAIR PARTS LIST AND SPECIAL TOOLS LIST WORK PACKAGES

ITEM NO. (Column (1)). Indicates the number used to identify items called out in the illustration.

SMR CODE (Column (2)). The SMR code containing supply/requisitioning information, maintenance level authorization criteria, and disposition instruction, as shown in the following breakout:

Table 1. SMR Code Explanation.

Source Code	Maintenance Code		Recoverability Code
			
1st two positions	3rd position	4th position	5th position
How you get an item	Who can install, replace or use the item	Who can do complete repair* on the item	Who determines disposition action on unserviceable items
<p><i>* Complete repair: Maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.</i></p>			

1. **Source Code.** The source code tells you how to get an item needed for maintenance, repair or overhaul of an end item/equipment. Explanations of source codes follow:

Table 2. Source Code Explanation.

Source Code	Explanation
PA PB PC PD PE PF PG PH PR PZ	<p>NOTE</p> <p>Items coded PC are subject to deterioration.</p> <p>Stock items; use the applicable NSN to requisition/request items with these source codes. They are authorized to the level indicated by the code entered in the 3rd position of the SMR code.</p>
KD KF KB	<p>Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance level indicated in the 3rd position of the SMR code. The complete kit must be requisitioned and applied.</p>
MO - Made at unit/AVUM level MF - Made at DS/AVIM level MH - Made at GS level ML - Made at SRA MD - Made at depot MG - Navy only	<p>Items with these codes are not to be requisitioned/requested individually. They must be made from bulk material which is identified by the part number in the DESCRIPTION AND USABLE ON CODE (UOC) column and listed in the bulk material group work package of the RPSTL. If the item is authorized to you by the 3rd position code of the SMR code, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance.</p>

Table 2. Source Code Explanation. (Continued)

Source Code	Explanation
AO - Assembled by unit/ AVUM level AF - Assembled by DS/AVIM level AH - Assembled by GS level AL - Assembled by SRA AD - Assembled by depot AG - Navy only	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the 3rd position of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher level, order the item from the higher level of maintenance.
XA	Do not requisition an "XA" coded item. Order the next higher assembly. (Refer to the NOTE below.)
XB	If an item is not available from salvage, order it using the CAGEC and part number.
XC	Installation drawings, diagrams, instruction sheets, field service drawings; identified by manufacturer's part number.
XD	Item is not stocked. Order an XD-coded item through normal supply channels using the CAGEC and part number given, if no NSN is available.
<p>NOTE</p> <p>Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes, except for those coded "XA" or those aircraft support items restricted by requirements of AR 750-1.</p>	

2. **Maintenance Code.** Maintenance codes tell you the level(s) of maintenance authorized to use and repair support items. The maintenance codes are entered in the third and fourth position of the SMR code as follows:
 - a. **Third Position.** The maintenance code entered in the third position tells you the lowest maintenance level authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to the following levels of maintenance.

Table 3. Third Position Maintenance Code Explanation.

Maintenance Code	Application/Explanation
O	Unit level/AVUM maintenance can remove, replace, and use the item.
F	Direct support/AVIM maintenance can remove, replace, and use the item.
H	General support maintenance can remove, replace, and use the item.
L	Specialized repair activity can remove, replace, and use the item.
G	Afloat and ashore intermediate maintenance can remove, replace, and use the item (Navy only).
K	Contractor facility can remove, replace, and use the item.
Z	Item is not authorized to be removed, replace, or used at any maintenance level.
D	Depot can remove, replace, and use the item.

- b. **Fourth Position.** The maintenance code entered in the fourth position tells you whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (perform all authorized maintenance functions).

NOTE

Some limited repair may be done on the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.

Table 4. Fourth Position Maintenance Code Explanation.

Maintenance Code	Application/Explanation
O	Unit/AVUM is the lowest level that can do complete repair of the item.
F	Direct support/AVIM is the lowest level that can do complete repair of the item.
H	General support is the lowest level that can do complete repair of the item.
L	Specialized repair activity is the lowest level that can do complete repair of the item.
D	Depot is the lowest level that can do complete repair of the item.
G	Both afloat and ashore intermediate levels are capable of complete repair of item (Navy only).
K	Complete repair is done at contractor facility.
Z	Nonreparable. No repair is authorized.
B	No repair is authorized. No parts or special tools are authorized for maintenance of "B" coded item. However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

- 3. **Recoverability Code.** Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is shown in the fifth position of the SMR code as follows:

Table 5. Recoverability Code Explanation.

Recoverability Code	Application/Explanation
Z	Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in the 3rd position of the SMR code.
O	Reparable item. When uneconomically repairable, condemn and dispose of the item at unit level.
F	Reparable item. When uneconomically repairable, condemn and dispose of the item at the direct support level.
H	Reparable item. When uneconomically repairable, condemn and dispose of the item at the general support level.
D	Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item are not authorized below depot level.
L	Reparable item. Condemnation and disposal not authorized below Specialized Repair Activity (SRA).

Table 5. Recoverability Code Explanation. (Continued)

Recoverability Code	Application/Explanation
A	Item requires special handling or condemnation procedures because of specific reasons (such as precious metal content, high dollar value, critical material or hazardous material). Refer to appropriate manuals/directives for specific instructions.
G	Field level reparable item. Condemn and dispose at either afloat or ashore intermediate levels (Navy only).
K	Reparable item. Condemnation and disposal to be performed at contractor facility.

NSN (Column (3)). The National Stock Number (NSN) for the item is listed in this column.

CAGEC (Column (4)). The Commercial and Government Entity Code (CAGEC) is a 5-digit code which is used to identify the manufacturer, distributor, or government agency/activity that supplies the item.

PART NUMBER (Column (5)). Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

NOTE

When you use a NSN to requisition an item, the item you receive may have a different part number from the number listed.

DESCRIPTION AND USABLE ON CODES (UOC) (Column (6)). This column includes the following information:

1. The federal item name, and when required, a minimum description to identify the item.
2. Part numbers of bulk materials are referenced in this column in the line entry to be manufactured or fabricated.
3. Hardness Critical Item (HCI). A support item that provides the equipment with special protection from electromagnetic pulse (EMP) damage during a nuclear attack.
4. The statement END OF FIGURE appears just below the last item description in column (6) for a given figure in both the repair parts list and special tools list work packages.

QTY (Column (7)). The QTY (quantity per figure) column indicates the quantity of the item used in the breakout shown on the illustration/figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column instead of a quantity indicates that the quantity is variable and quantity may change from application to application.

EXPLANATION OF CROSS-REFERENCE INDEXES WORK PACKAGES FORMAT AND COLUMNS

1. **National Stock Number (NSN) Index Work Package.** NSNs in this index are listed in National Item Identification Number (NIIN) sequence.

STOCK NUMBER Column. This column lists the NSN in NIIN sequence. The NIIN consists of the last nine digits of the NSN. When using this column to locate an item, ignore the first four digits of the NSN. However, the complete NSN should be used when ordering items by stock number.

For example, if the NSN is 5385-01-574-1476, the NIIN is 01-574-1476.

NSN

 NSN e.g. (5385-01-574-1467)

 NIIN

FIG. Column. This column lists the number of the figure where the item is identified/located. The figures are in numerical order in the repair parts list and special tools list work packages.

ITEM Column. The item number identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same line.

2. **Part Number (P/N) Index Work Package.** Part numbers in this index are listed by part number in ascending alphanumeric sequence (vertical arrangement of letters and number combinations which places the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9 and each following letter or digit in like order).

PART NUMBER Column. Indicates the part number assigned to the item.

FIG. Column. This column lists the number of the figure where the item is identified/located in the repair parts list and special tools list work packages.

ITEM Column. The item number is the number assigned to the item as it appears in the figure referenced in the adjacent FIG. column.

SPECIAL INFORMATION

1. **Usable on Code (UOC).** The UOC appears in the lower left corner of the description column heading. Usable on codes are shown as "UOC:..." in the description column (justified left) on the first line under the applicable item/nomenclature. Uncoded items are applicable to all models. Identification of the UOCs used in this RPSTL are:

Code	Used On
THD	HEMTT THAAD Carrier

2. **Fabrication Instructions.** Bulk materials required to manufacture items are listed in the bulk material functional group of this RPSTL. Part numbers for bulk material are also referenced in the description column of the line item entry for the item to be manufactured/fabricated. Detailed fabrication instructions for items source coded to be manufactured or fabricated are found in TM 9-2320-325-14&P.
3. **Index Numbers.** Items which have the word BULK in the figure column will have an index number shown in the item number column. This index number is a cross-reference between the NSN / Part Number (P/N) Index work packages and the bulk material list in the repair parts list work package.

4. **Associated Publications.** The publication(s) listed below pertain to the THAAD and its components:

Publication	Short Title
(TM 9-2320-347-10)	Operator's Manual
(TM 9-2320-325-14&P)	HEMTT Interactive Electronic Technical Manual (IETM)

HOW TO LOCATE REPAIR PARTS

1. When NSNs or Part Numbers Are Not Known.

First. Using the table of contents, determine the assembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and lists are divided into the same groups.

Second. Find the figure covering the functional group or the subfunctional group to which the item belongs.

Third. Identify the item on the figure and note the number(s).

Fourth. Look in the repair parts list work packages for the figure and item numbers. The NSNs and part numbers are on the same line as the associated item numbers.

2. When NSN Is Known.

First. If you have the NSN, look in the STOCK NUMBER column of the NSN Index work package. The NSN is arranged in NIIN sequence. Note the figure and item number next to the NSN.

Second. Turn to the figure and locate the item number. Verify that the item is the one you are looking for.

3. When Part Number Is Known.

First. If you have the part number and not the NSN, look in the PART NUMBER column of the Part Number Index work package. Identify the figure and item number.

Second. Look up the item on the figure in the applicable repair parts list work package.

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
RPSTL GROUP 03 - FUEL SYSTEM

		Figure	Page
GROUP 03	FUEL SYSTEM		
	0304 AIR CLEANER		
	AIR RESTRICTION INDICATOR	1	0161-2
	0306 TANKS, LINES, FITTINGS, HEADERS		
	FUEL TANK ASSEMBLY	2	0161-4
	FUEL LINES AND FITTINGS	3	0161-6
	0309 FUEL FILTERS		
	FUEL/WATER SEPARATOR	4	0161-8

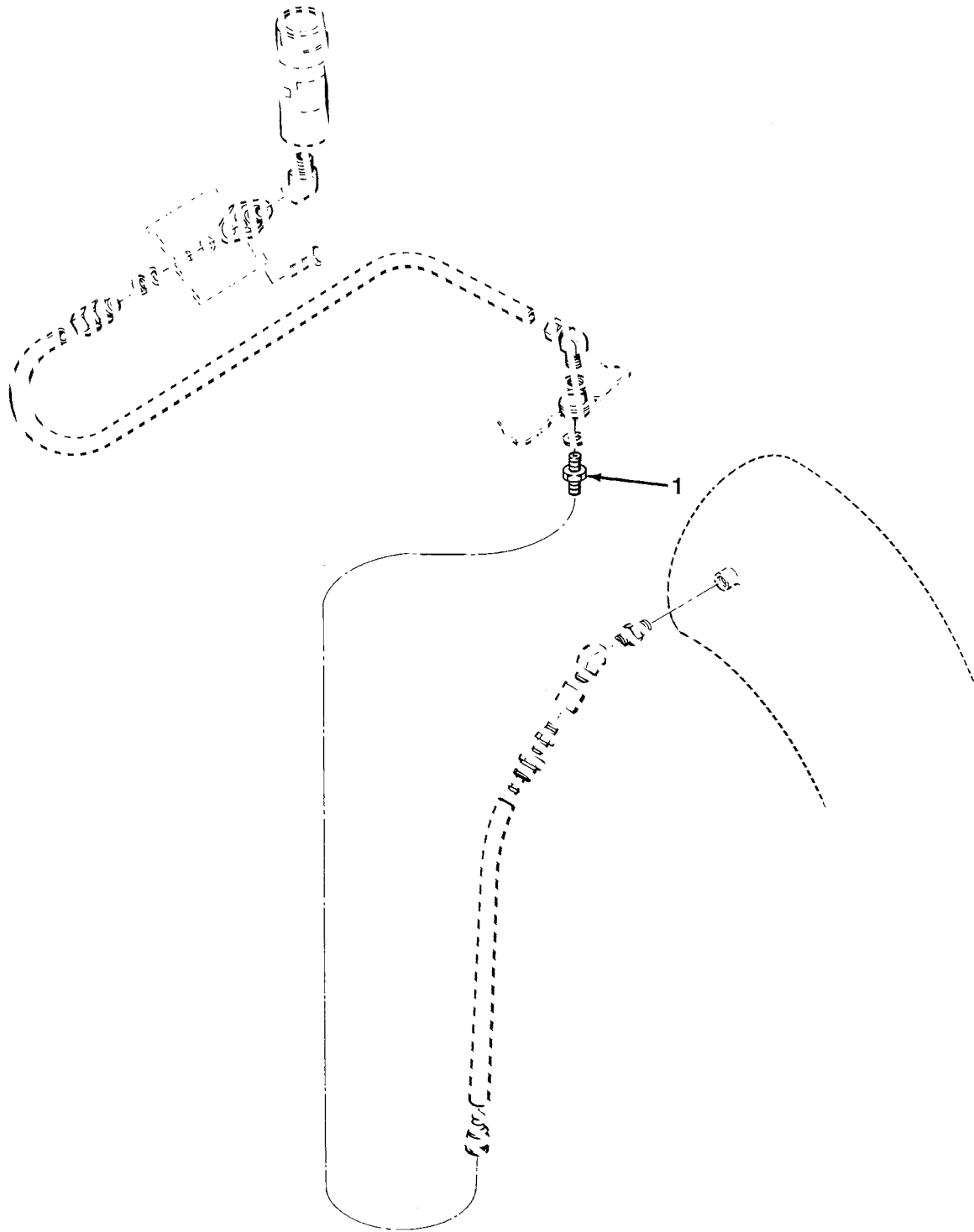


FIG. 1 AIR RESTRICTION INDICATOR

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0304 - AIR CLEANER FIG. 1 AIR RESTRICTION INDICATOR	
1	PAFZZ	4730-00-266-0533	81343	J513 4-4 010102B	ADAPTER,STRAIGHT,PI.....	1
					END OF FIGURE	

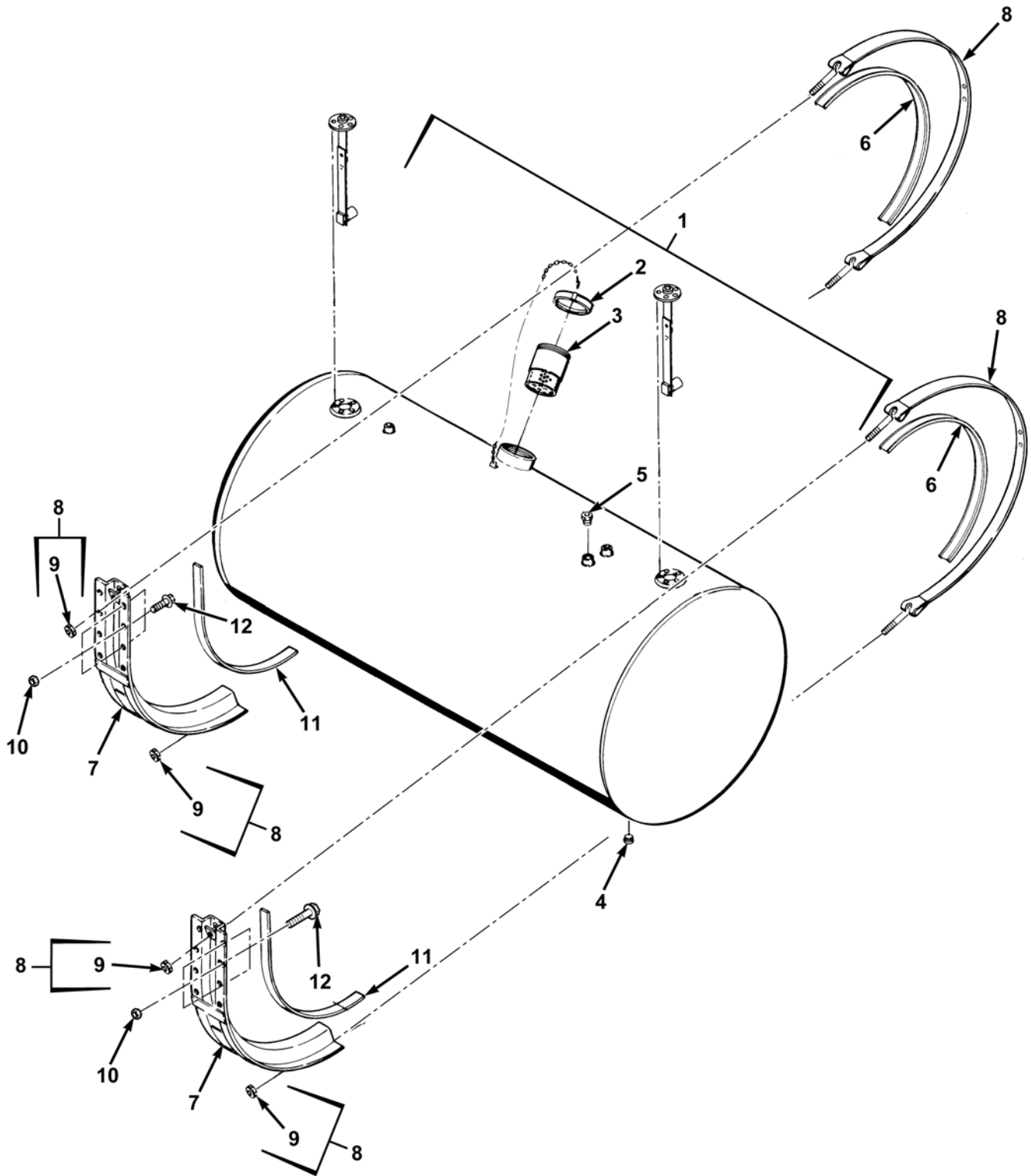


FIG. 2 FUEL TANK ASSEMBLY

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0306 - TANKS, LINES, FITTINGS, HEADERS CODE FUEL TANK ASSEMBLY	
1	PAFZZ		98624	5207501	TANK,FUEL,ENGINE	1
2	PFFZZ		98624	AAA01341A	•CAP,FILLER OPENING	1
3	PAFZZ		98624	AAA01368A	•STRAINER ELEMENT,SE	1
4	PFFZZ		98624	AAA01016E	•PLUG,PIPE	1
5	PAFZZ		98624	AAA01020J	•PLUG,PIPE	1
6	MOFZZ		45152	124623A53	LINER,STRAP, MAKE FROM STRAP, P/N 124623A, 53 IN LG	3
7	PAFZZ	5340-01-355-6869	45152	1938170	BRACKET,MOUNTING	3
8	PBFZZ	5340-01-355-5159	98624	OS-4546	STRAP,RETAINING	3
9	PAFZZ	5310-01-409-1675	98624	A-1300-B	•NUT,SELF-LOCKING,HE, .50-20	2
10	PAFZZ	5310-01-159-8178	45152	110310A	NUT,SELF-LOCKING,EX, .50-13	18
11	PAFZZ	5340-01-155-4536	45152	124661A	STRAP	3
12	PAFZZ	5305-01-156-5442	45152	111314A	SCREW,CAP,HEXAGON H, .50-13 X 1.75	18
END OF FIGURE						

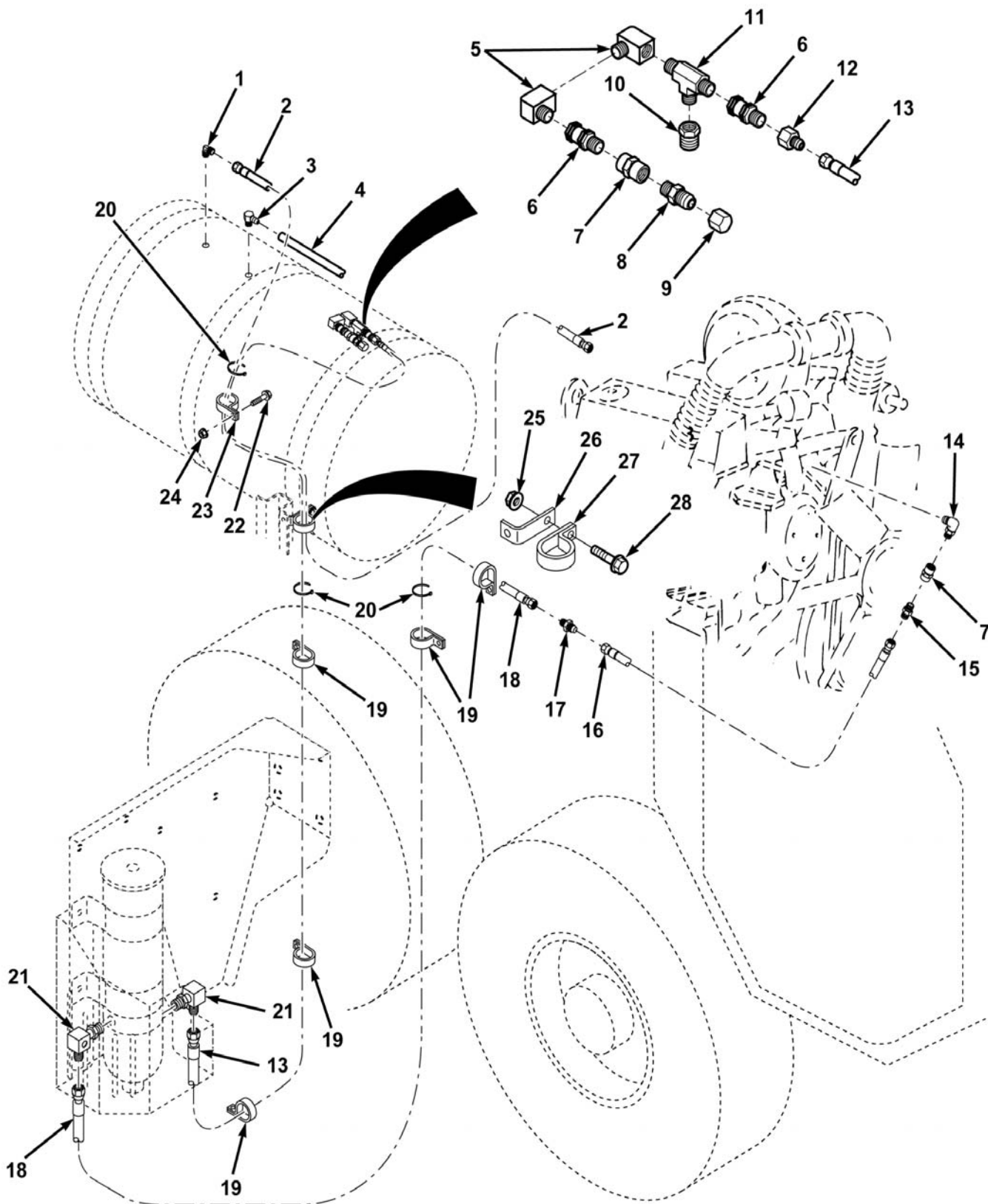


FIG. 3 FUEL LINES AND FITTINGS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0306 - TANKS, LINES, FITTINGS, HEADERS	
					054440 FUEL LINES AND FITTINGS	
1	PAFZZ	4730-00-254-6228	30327	49-F-06X06	ELBOW,PIPE TO TUBE.....	1
2	PAFZZ		45152	3399970	HOSE ASSEMBLY.....	1
3	PAFZZ	4730-01-307-3641	78528	218-1	ELBOW,PIPE TO HOSE.....	1
4	MOFZZ		45152	65058AX-24	HOSE,NONMETALLIC, MAKE FROM HOSE, P/N 2575-4RL, 24 IN LG.....	1
5	PAFZZ	4730-00-278-4822	93061	2202P-6-6	ELBOW,PIPE.....	2
6	PAFZZ	4130-00-103-9185	98441	2650	VALVE,CHECK, REFRIGERATION.....	2
7	PAFZZ	4730-00-881-1161	81343	6-6 130138	COUPLING,PIPE.....	2
8	PAFZZ	4730-00-813-9611	81343	J514 8-6 070102CA	ADAPTER,STRAIGHT,PI.....	1
9	PAFZZ	4730-01-011-6003	30780	5FNTX-5	CAP,TUBE.....	1
10	PAFZZ	4730-01-459-0000	93061	209P-8-6	ADAPTER,STRAIGHT,TU.....	1
11	PAFZZ	4730-01-434-7789	30780	3/8 RRS-B	TEE,PIPE.....	1
12	PAFZZ	4730-01-154-2073	81343	10-6 010103B	ADAPTER,STRAIGHT,PI.....	1
13	PAFZZ		45152	3398656	HOSE ASSEMBLY.....	1
14	PAFZZ	4730-00-800-2046	01276	2003-6-10B	ELBOW,PIPE TO TUBE.....	1
15	PAFZZ	4730-00-249-9714	81343	6-6 130137B	NIPPLE,PIPE.....	1
16	PAFZZ		45152	3013565	HOSE ASSEMBLY.....	1
17	PAFZZ	4730-00-277-3874	59206	42F-10	NIPPLE,TUBE.....	1
18	PAFZZ		45152	3440282	HOSE ASSEMBLY.....	1
19	PAFZZ	5340-00-224-1204	45152	2288HX	CLAMP,LOOP.....	5
20	PAFZZ	5975-01-513-6305	45152	5193HX	STRAP,TIEDOWN,ELECT.....	7
21	PAFZZ	4730-01-320-5314	45152	1364540	ELBOW,TUBE.....	2
22	PAFZZ	5306-01-341-0712	45152	1756870	BOLT,MACHINE.....	1
23	PAFZZ	5340-00-404-4100	75272	C0V2113	CLAMP,LOOP.....	1
24	PAFZZ	5310-01-340-5671	45152	1333510	NUT,SELF-LOCKING,EX.....	1
25	PAFZZ	5310-01-346-9445	45152	1600460	NUT,SELF-LOCKING,CL.....	1
26	PAFZZ	5340-01-160-2160	45152	1354510	BRACKET,ANGLE.....	1
27	PAFZZ	5340-01-146-6910	75272	COV-2913-Z1	CLAMP,LOOP.....	1
28	PAFZZ	5305-01-337-9120	45152	1754140	SCREW,CAP,HEXAGON H.....	1
					END OF FIGURE	

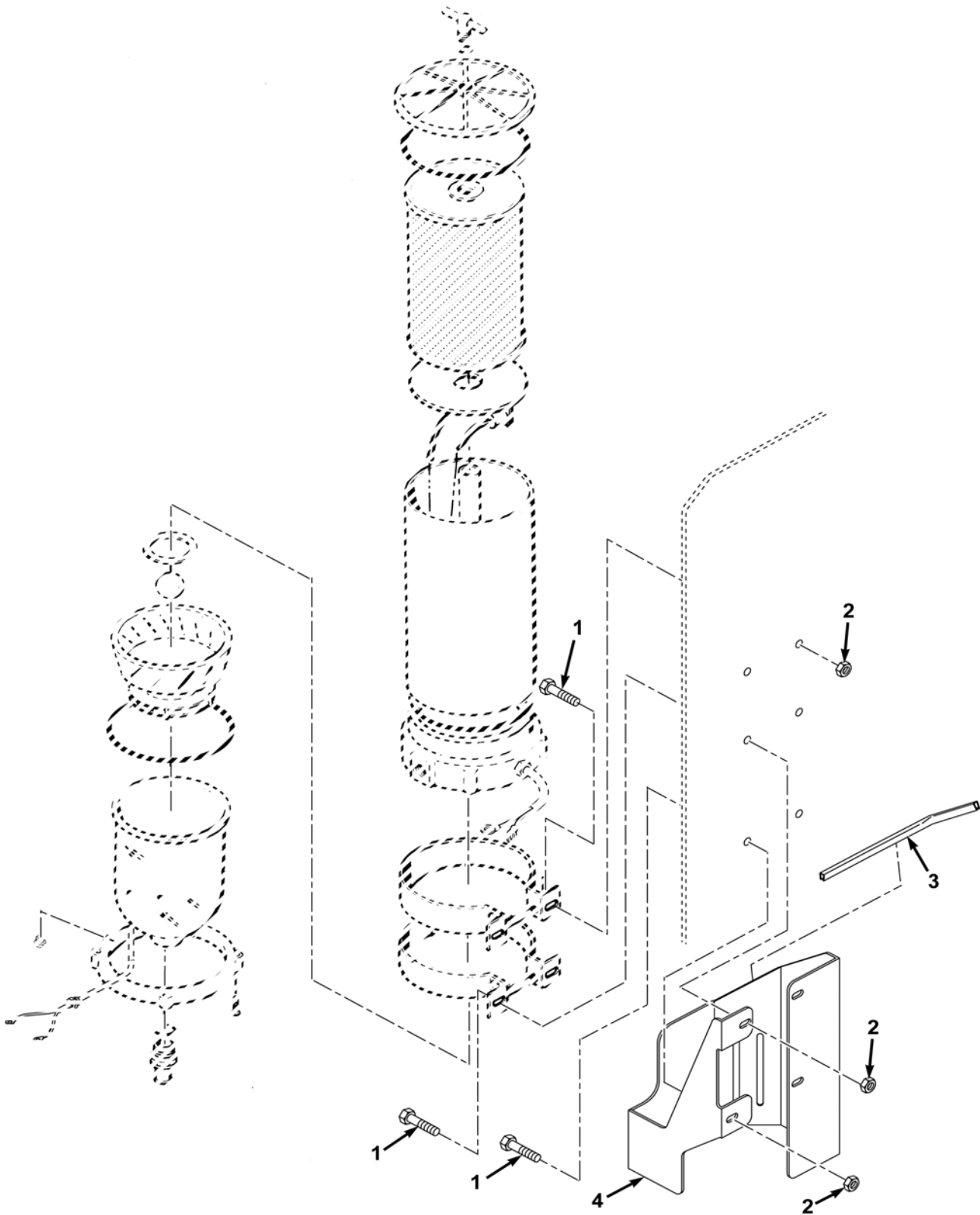


FIG. 4 FUEL/WATER SEPARATOR

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0309 - FUEL FILTERS	
					0309 FUEL/WATER SEPARATOR	
1	PAFZZ	5306-01-287-5714	45152	1614120	BOLT,MACHINE, .38-16X1.00	6
2	PAFZZ	5310-01-288-1116	45152	1437220	NUT,SELF-LOCKING,EX, .38-16	6
3	MOFZZ		45152	3175843-2	NONMETALLIC CHANNEL, MAKE FROM QUICKEDGE P/N 3175843,2 IN	2
4	PBFZZ		45152	3496500	GUARD,WATER SEPARAT	1
					END OF FIGURE	

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
RPSTL GROUP 06 - ELECTRICAL SYSTEM

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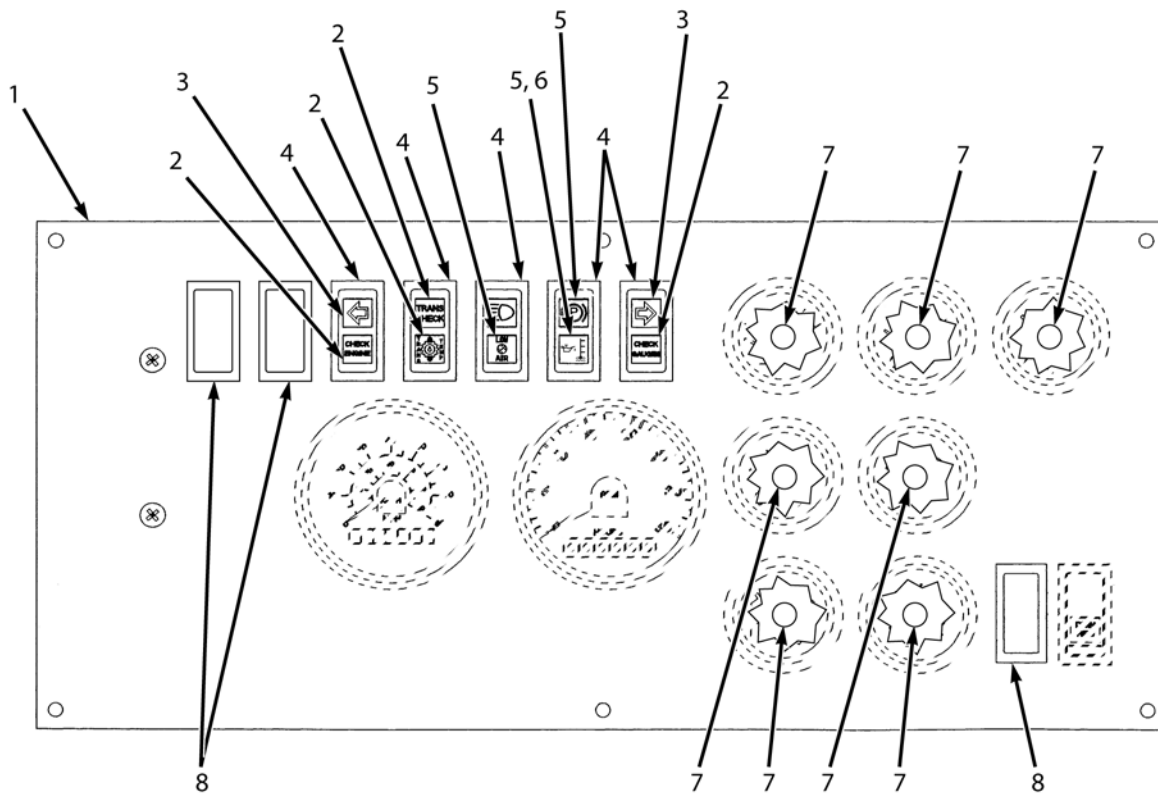


FIG. 5 DASH PANEL ASSEMBLY

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0607 - INSTRUMENT OR ENGINE CONTROL PANEL	
					FIG. 5 DASH PANEL ASSEMBLY	
1	PBFZZ		45152	3411601	PANEL,DASH.	1
2	PAFZZ	6240-01-365-7995	82484	E-013-014	LAMP,INCANDESCENT.	4
3	PAFZZ	6240-01-358-7127	82484	E-013-003	LAMP,INCANDESCENT.	2
4	PAFZZ	6220-01-354-7462	82484	E-131-001	HOUSING,PILOT LAMP.	5
5	PAFZZ	6220-01-502-7704	82484	E-013-015	LIGHT,INDICATOR.	3
6	PAFZZ		45152	1694010	APPLIQUE,SPRAG, OIL/WATER WARN,RED	1
7	PAFZZ	6240-00-155-7866	96906	MS15573-3	LAMP,INCANDESCENT.	7
8	PAFZZ	5930-01-292-6730	19207	12414500	COVER,ELECTRICAL	3
					END OF FIGURE	

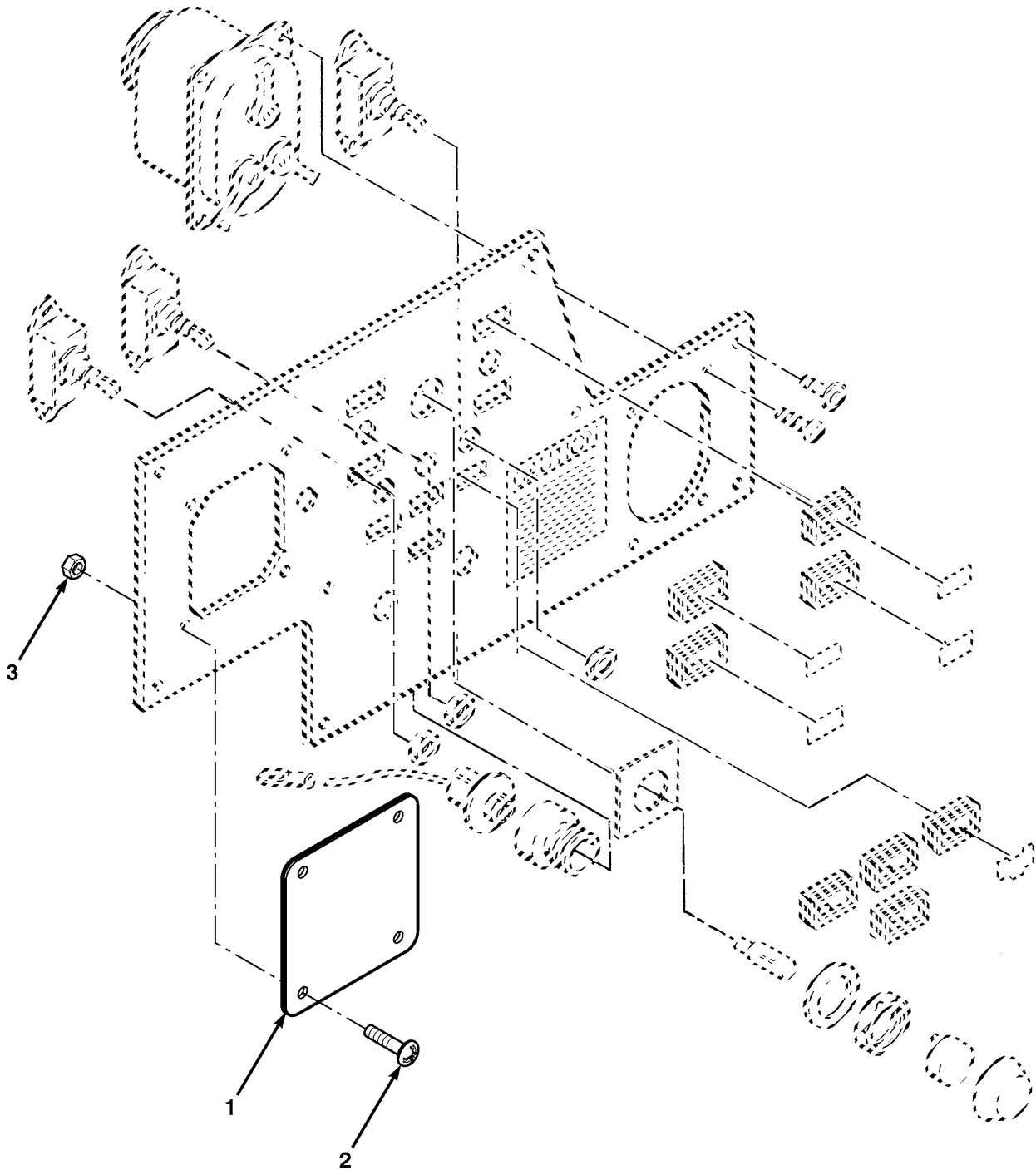


FIG. 6 SIDE PANEL ASSEMBLY

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0607 - INSTRUMENT OR ENGINE CONTROL PANEL	
					FIG. 6 SIDE PANEL ASSEMBLY	
1	PAFZZ		45152	3443911	PLATE,COVER, SIDE PANEL	1
2	PAFZZ	5305-00-988-1724	96906	MS35206-280	SCREW,MACHINE, .25-20 X .62 NS. . . .	4
3	PAFZZ	5310-01-066-6759	56878	21NE-040	NUT,SELF-LOCKING,HE, .25-20 NS. . . .	4
					END OF FIGURE	

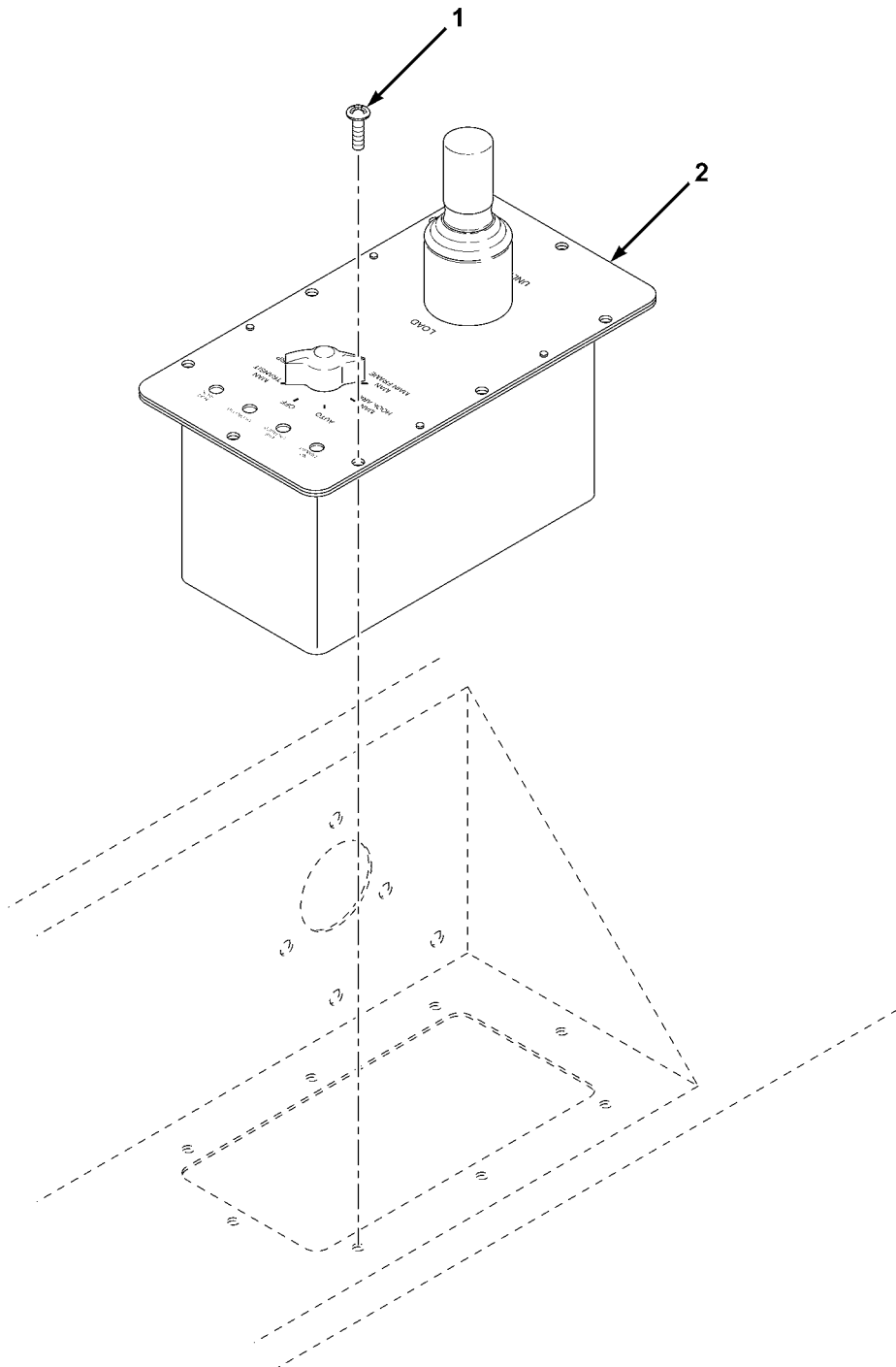


FIG. 7 LHS CAB CONTROL

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0607 - INSTRUMENT OR ENGINE CONTROL PANEL	
					FIG. 7 LHS CAB CONTROL	
1	PAFZZ	5305-00-984-6211	45152	1503670	SCREW,MACHINE, 10-24 X .75	8
2	PBFZZ		45152	3715931	CONTROL,LHS CAB CZ2	1
					END OF FIGURE	

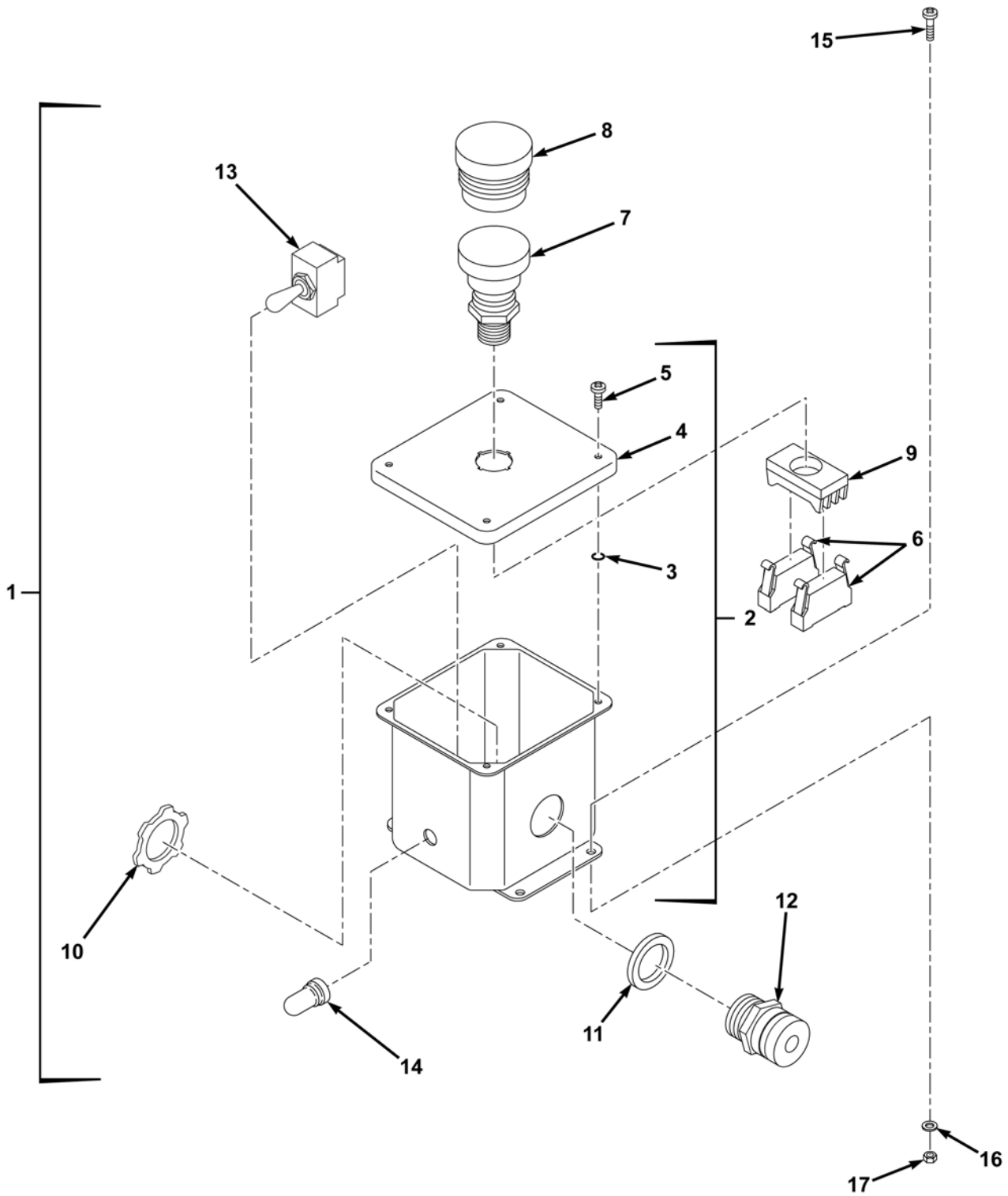


FIG. 8 PALM BUTTON W/SWITCH

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 0608 - MISCELLANEOUS ITEMS						
FIG. 8 PALM BUTTON W/SWITCH						
1	PBFFF		45152	3490802	ENCLOSURE ASSY, PALM BUTTON W/SWITCH.	1
2	PAFZZ		45152	3490809	•ENCLOSURE	1
3	PAFZZ		39428	9263K169	••O-RING	4
4	XAFZZ		45152	3490809-XA1	••COVER	1
5	PAFZZ	5305-01-033-8125	39428	90096A194	••SCREW,TAPPING	4
6	PBFZZ	5999-01-435-7242	01121	800E-3X10	•CONTACT,ELECTRICAL	2
7	PBFZZ	5930-01-446-8152	01121	800EP-M4	•SWITCH,PUSH, 40MM, PB, W/O CONTACTS	1
8	PAFZZ		78176	3SB1902-2BH	•SEAL,SWITCH, MUSHROOM PUSHBUTTON	1
9	PAFZZ		50139	800E-A3L	•SWITCH,CONTACT, BLOCK HOLDER .	1
10	PAFZZ	5975-00-642-7261	56501	142	•LOCKNUT,ELECTRICAL	1
11	PAFZZ	5330-00-802-4966	56501	5263	•PACKING WITH RETAIN	1
12	PAFZZ	5975-01-236-2902	74545	SHC-1032	•BOX CONNECTOR,ELECT	1
13	PBFZZ		45152	2019340	•SWITCH,TOGGLE	1
14	PAFZZ	5930-00-689-6786	81349	M5423/01-01	•BOOT,DUST AND MOIST	1
15	PAFZZ	5305-01-507-8980	45152	1416350	SCREW,MACHINE, 10-24X.75	4
16	PAFZZ	5310-01-479-0616	45152	3268682	WASHER,FLAT, 0.19X.44X.05 SS.	4
17	PAFZZ	5310-00-262-6355	72962	79NM04	NUT,SELF-LOCKING, HEX, 10-24.	4
END OF FIGURE						

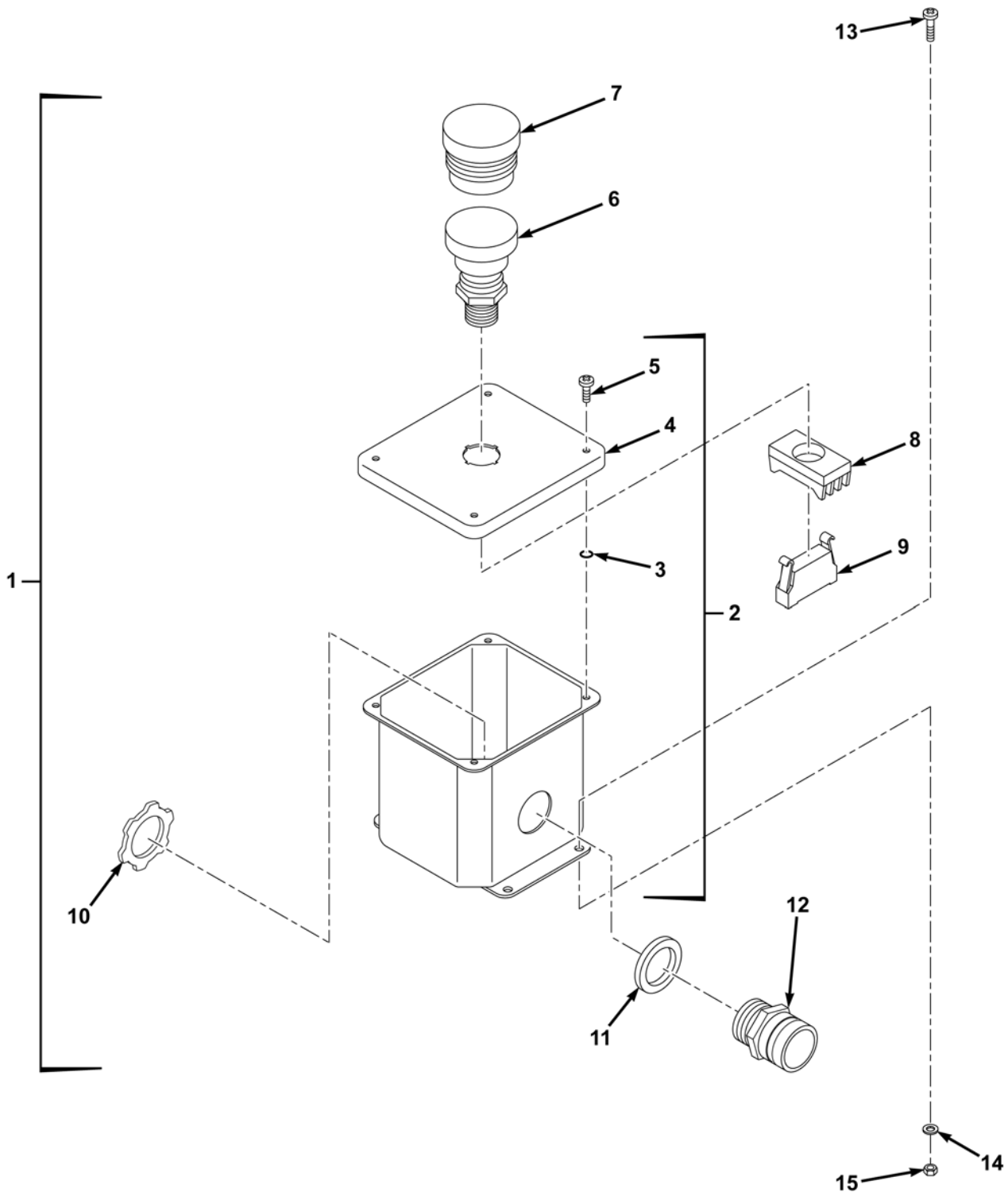


FIG. 9 PALM BUTTON W/O SWITCH

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0608 - MISCELLANEOUS ITEMS	
					FIG. 9 PALM BUTTON W/O SWITCH	
1	PBFFF		45152	3490803	ENCLOSURE ASSY, PALM BUTTON W/O SWITCH.....	1
2	PAFFF		45152	3490808	•ENCLOSURE.....	1
3	PAFZZ		39428	9263K169	••O-RING.....	4
4	XAFZZ		45152	3490808-XA1	••COVER.....	1
5	PAFZZ	5305-01-033-8125	39428	90096A194	••SCREW,TAPPING.....	4
6	PBFZZ	5930-01-446-8152	01121	800EP-M4	•SWITCH,PUSH, 40MM PB, W/O CONTACTS.....	1
7	PAFZZ		78176	3SB1902-2BH	•SEAL,SWITCH, MUSHROOM PUSHBUTTON.....	1
8	PAFZZ		50139	800E-A3L	•SWITCH,CONTACT, BLOCK HOLDER ..	1
9	PBFZZ	5999-01-435-7242	01121	800E-3X10	•CONTACT,ELECTRICAL.....	1
10	PAFZZ	5975-00-642-7261	56501	142	•LOCKNUT,ELECTRICAL.....	1
11	PAFZZ	5330-00-802-4966	56501	5263	•PACKING WITH RETAIN.....	1
12	PAFZZ	5975-01-236-2902	74545	SHC-1032	•BOX CONNECTOR,ELECT.....	1
13	PAFZZ	5305-01-507-8980	45152	1416350	SCREW,MACHINE, 10-24X.75.....	4
14	PAFZZ	5310-01-479-0616	45152	3268682	WASHER,FLAT, 019X.44X.05 SS.....	4
15	PAFZZ	5310-00-262-6355	72962	79NM04	NUT,SELF-LOCKING, 10-24.....	4
					END OF FIGURE	

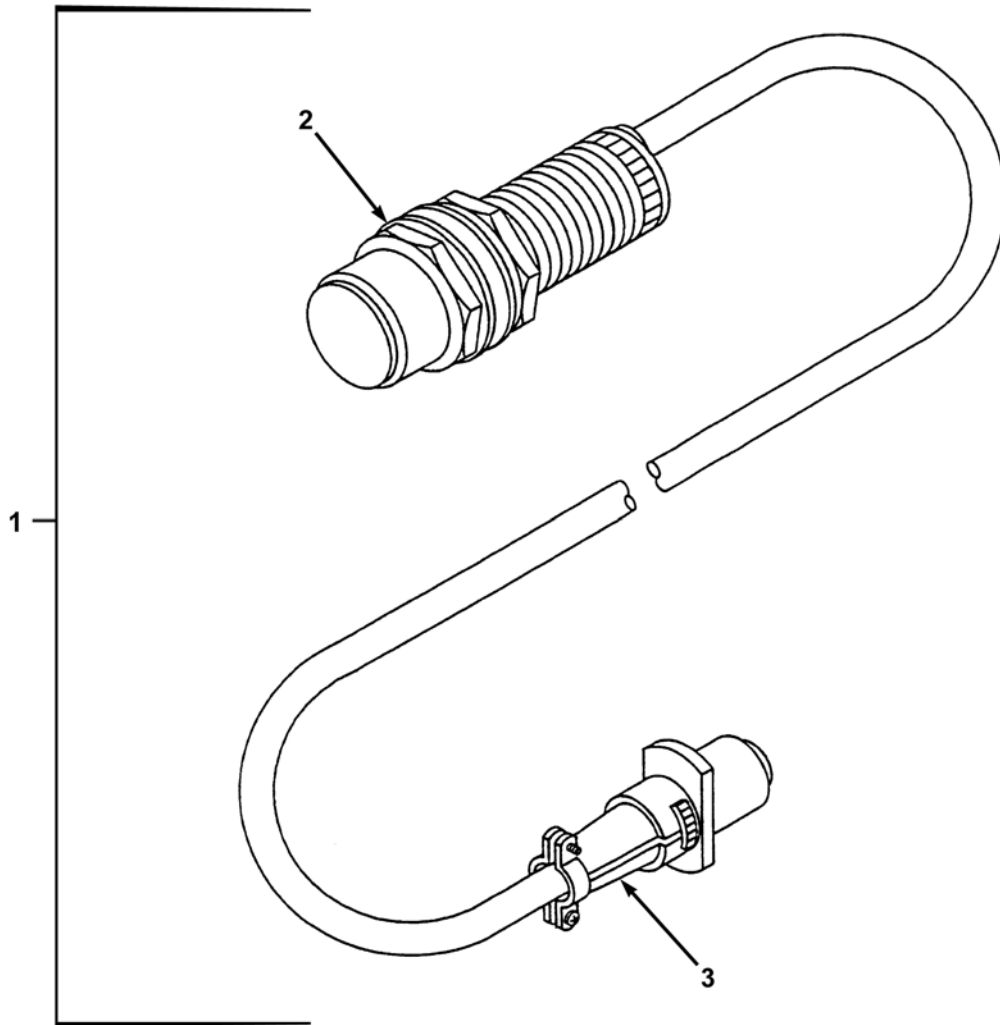


FIG. 10 MRP LOCKING CYLINDER PROXIMITY SWITCH

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0608 - MISCELLANEOUS ITEMS	
					FIG. 10 MRP LOCKING CYLINDER PROXIMITY SWITCH	
1	PAFFF	5930-01-462-2954	45152	3135832	SWITCH ASSEMBLY, PROXIMITY	4
2	PBFZZ	5930-01-464-9574	45152	3196524	•SWITCH ASSEMBLY, PROXIMITY	1
3	PAFZZ	5935-01-357-1036	71468	CA3101F10SL-3PF80	•CONNECTOR, PLUG, ELECT	1
					END OF FIGURE	

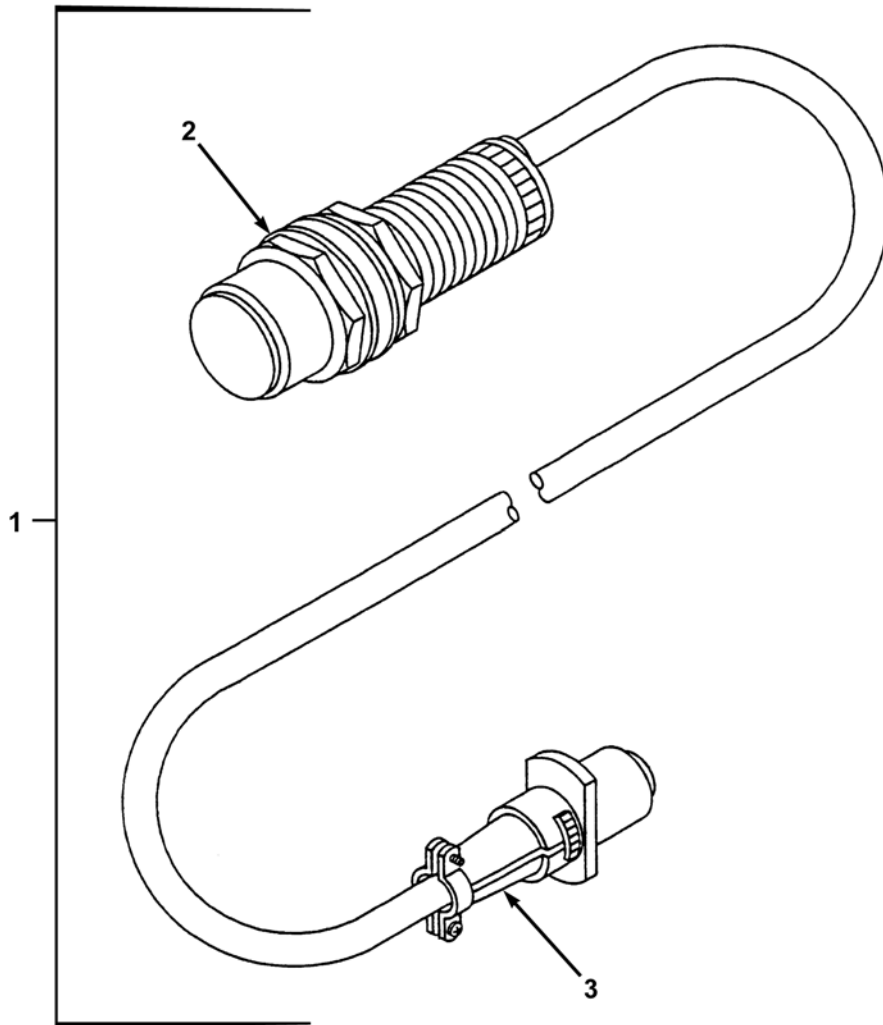


FIG. 11 MRP DOWN PROXIMITY SWITCH

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0608 - MISCELLANEOUS ITEMS	
					FIG. 11 MRP DOWN PROXIMITY SWITCH	
1	PAFFF		45152	1891910W	SWITCH ASSEMBLY, PROXIMITY	2
2	PBFZZ	5930-01-464-9581	45152	3196525	•SWITCH,PROXIMITY,HO	1
3	PBFZZ	5935-01-357-1036	71468	CA3101F10SL-3PF80	•CONNECTOR,PLUG,ELEC	1
					END OF FIGURE	

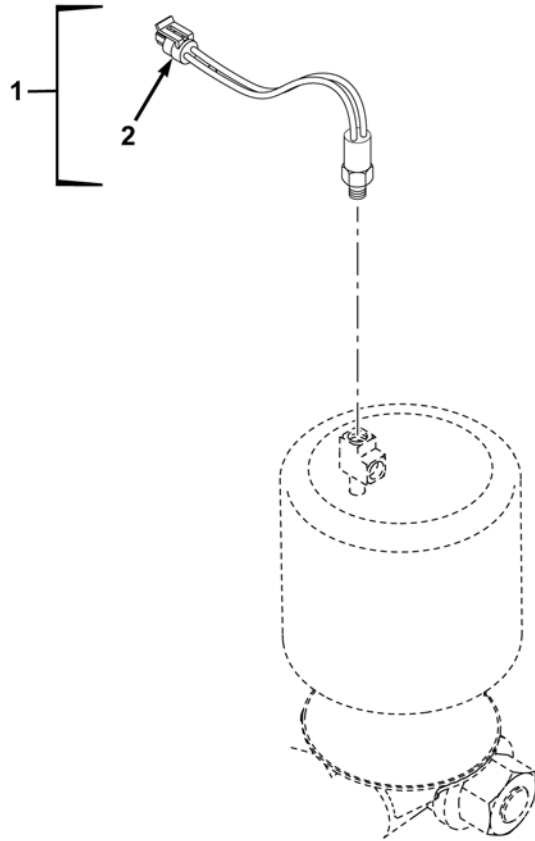


FIG. 12 PRESSURE SWITCH

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0608 - MISCELLANEOUS ITEMS	
					FIG. 12 PRESSURE SWITCH	
1	PBFFF		45152	3511506	SWITCH, PRESSURE	2
2	PAFZZ	5935-01-214-5259	77060	12015792	•CONTACT, ELECTRICAL	1
					END OF FIGURE	

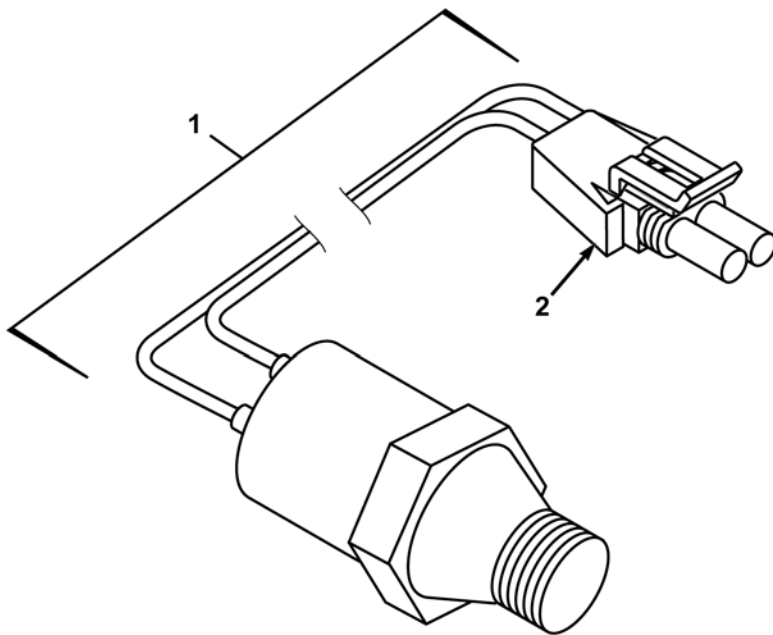


FIG. 13 PARKING BRAKE PRESSURE SWITCH

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0608 - MISCELLANEOUS ITEMS FIG. 13 PARKING BRAKE PRESSURE SWITCH	
1	PBFFF		45152	1924380	SWITCH, PRESSURE	1
2	PBFZZ	5935-01-214-5259	77060	12015792	•CONNECTOR BODY, PLUG	1
					END OF FIGURE	

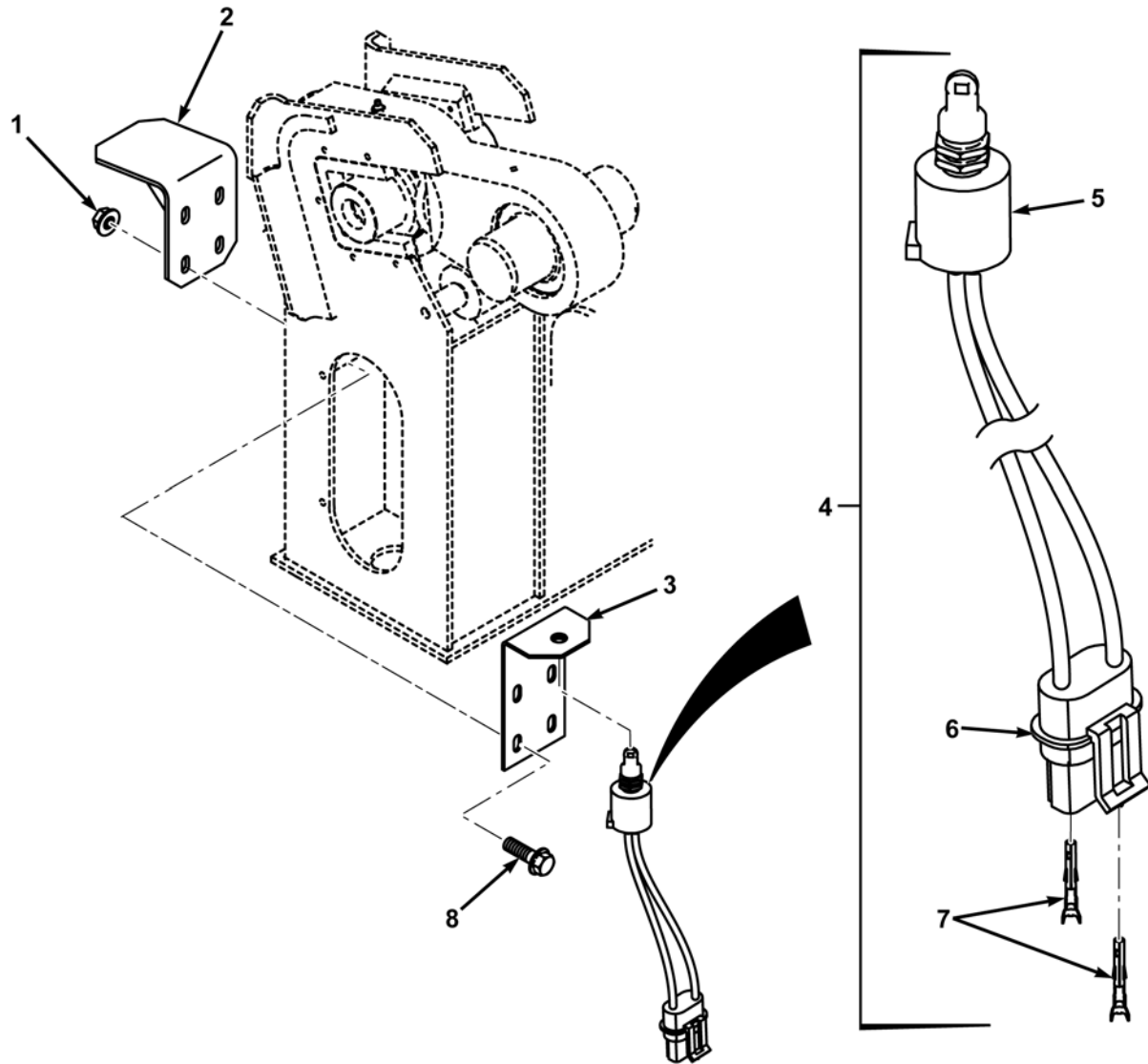


FIG. 14 MRP STOWED SWITCH

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0608 - MISCELLANEOUS ITEMS	
					FIG. 14 MRP STOWED SWITCH	
1	PAFZZ	5310-01-288-1116	45152	1437220	NUT, SELF-LOCKING, EX	8
2	PAFZZ		45152	3430876	BRACKET, MOUNTING	2
3	PAFZZ		45152	3454946	PLATE, SWITCH	2
4	PAFZZ		45152	3500411	SWITCH ASSEMBLY, STOWED	2
5	PAFZZ		45152	2090840	•SWITCH, ROLLER	1
6	PAFZZ	5935-01-214-5259	77060	12015792	•CONNECTOR BODY, PLUG	1
7	PAFZZ	5999-01-323-4929	77060	12089188	•CONTACT, ELECTRICAL	2
8	PAFZZ	5306-01-287-5715	45152	1680530	BOLT, MACHINE	8
END OF FIGURE						

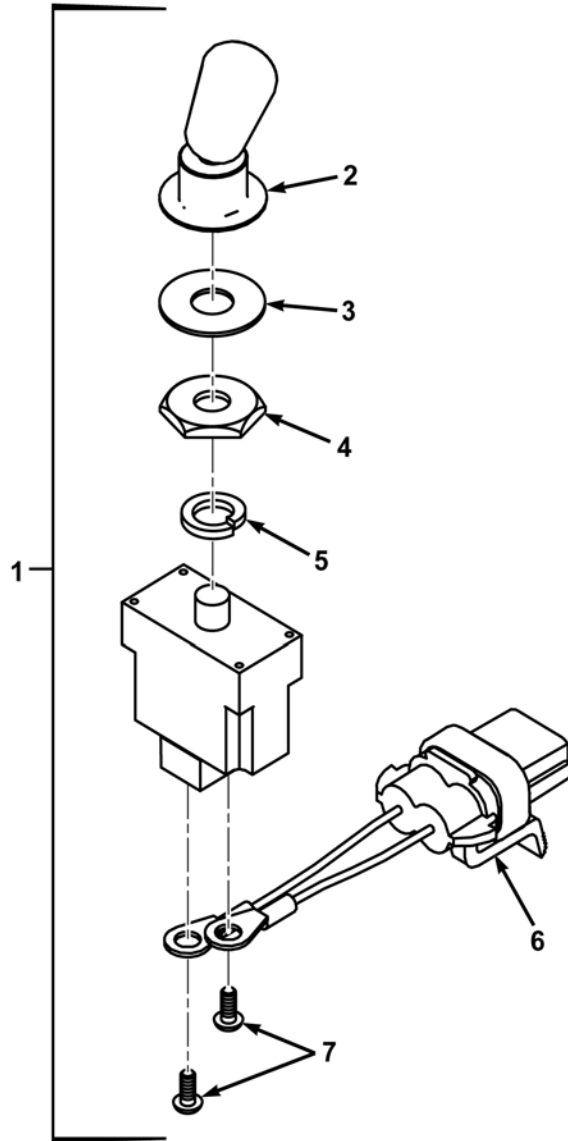


FIG. 15 LAMP CHECK SWITCH

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 0608 - MISCELLANEOUS ITEMS						
FIG. 15 LAMP CHECK SWITCH						
1	PAFZZ	5930-01-512-8227	45152	3636506	SWITCH, TOGGLE	1
2	PAFZZ		311K7	08.80.562	•BOOT	1
3	PAFZZ		311K7	01010924	•WASHER, FLAT	1
4	PAFZZ		311K7	01002884	•NUT.....	1
5	PAFZZ		311K7	01002885	•WASHER, LOCK.....	1
6	PAFZZ	5935-01-308-7866	77060	15300027	•CONNECTOR BODY, PLUG	1
7	PAFZZ	5305-01-480-4203	39428	90353A171	•SCREW, MACHINE	2
END OF FIGURE						

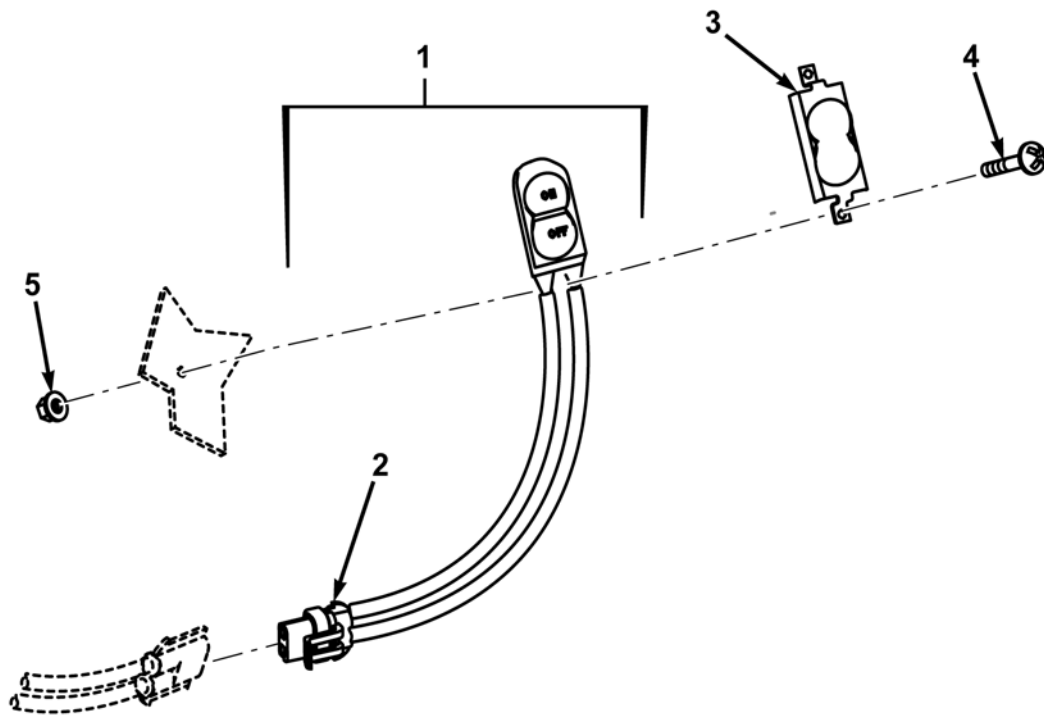


FIG. 16 WORK LAMP SWITCH

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0608 - MISCELLANEOUS ITEMS	
					FIG. 16 WORK LAMP SWITCH	
1	PBFFF	5930-01-525-6330	45152	3317088	SWITCH, PUSH.....	2
2	PAFZZ	5935-01-308-7866	77060	15300027	•CONNECTOR BODY, PLUG	1
3	PAFZZ	5930-01-525-6444	45152	3317089	RETAINER, ELECTRICAL	2
4	PAFZZ	5305-01-194-8469	45152	60697AX	SCREW, MACHINE	4
5	PAFZZ	5310-01-352-7732	45152	1571870	NUT, SELF-LOCKING, AS	4
					END OF FIGURE	

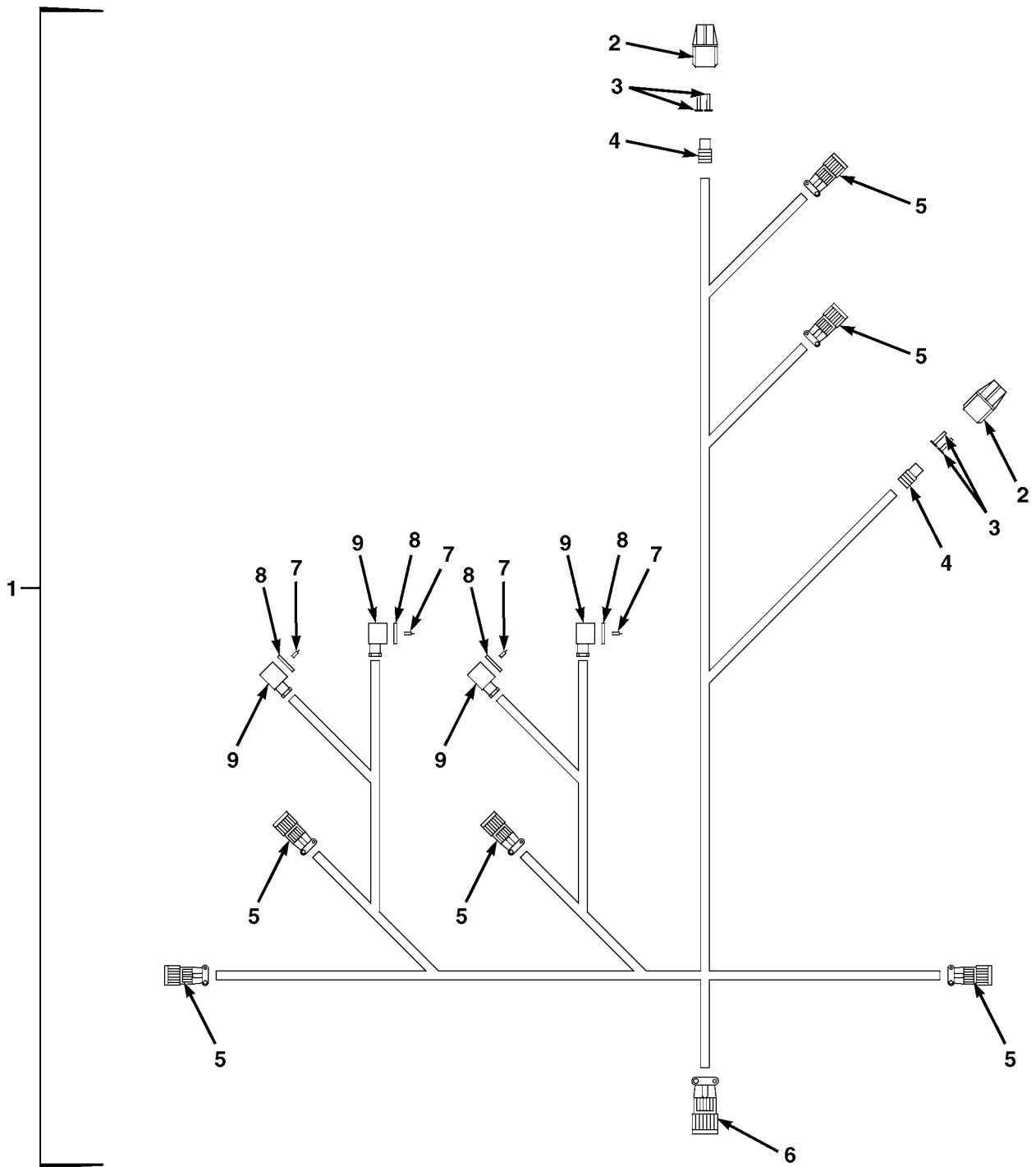


FIG. 17 HARNESS, COMPRESSION FRAME

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0608 - MISCELLANEOUS ITEMS	
					FIG. 17 HARNESS, COMPRESSION FRAME	
1	PAFFF		45152	3428435	HARNESS, COMPRESSION, FRAME . . .	1
2	PAFZZ	5935-01-214-4163	22785	12010973	•CONNECTOR BODY, PLUG	2
3	PAFZZ	5999-01-406-4110	77060	12124582	•CONTACT, ELECTRICAL	4
4	PAFZZ	5330-01-429-2588	77060	12355107	•SEAL, PLAIN	2
5	PAFZZ	5935-00-146-5811	71468	CA3106F10SL3SF80	•CONNECTOR, PLUG, ELEC	6
6	PAFZZ	5935-01-502-9260	71468	CA3100F24-19P-F80	•CONNECTOR, RECEPTACL.	1
7	PAFZZ	5961-00-181-0661	81349	JANTX1N3957	•SEMICONDUCTOR DEVIC	4
8	PAFZZ	5330-01-355-4809	0D5M6	731739-002	•GASKET	4
9	PAFZZ		0D5M6	932106-100	•CONNECTOR, PLUG, ELEC	4
END OF FIGURE						

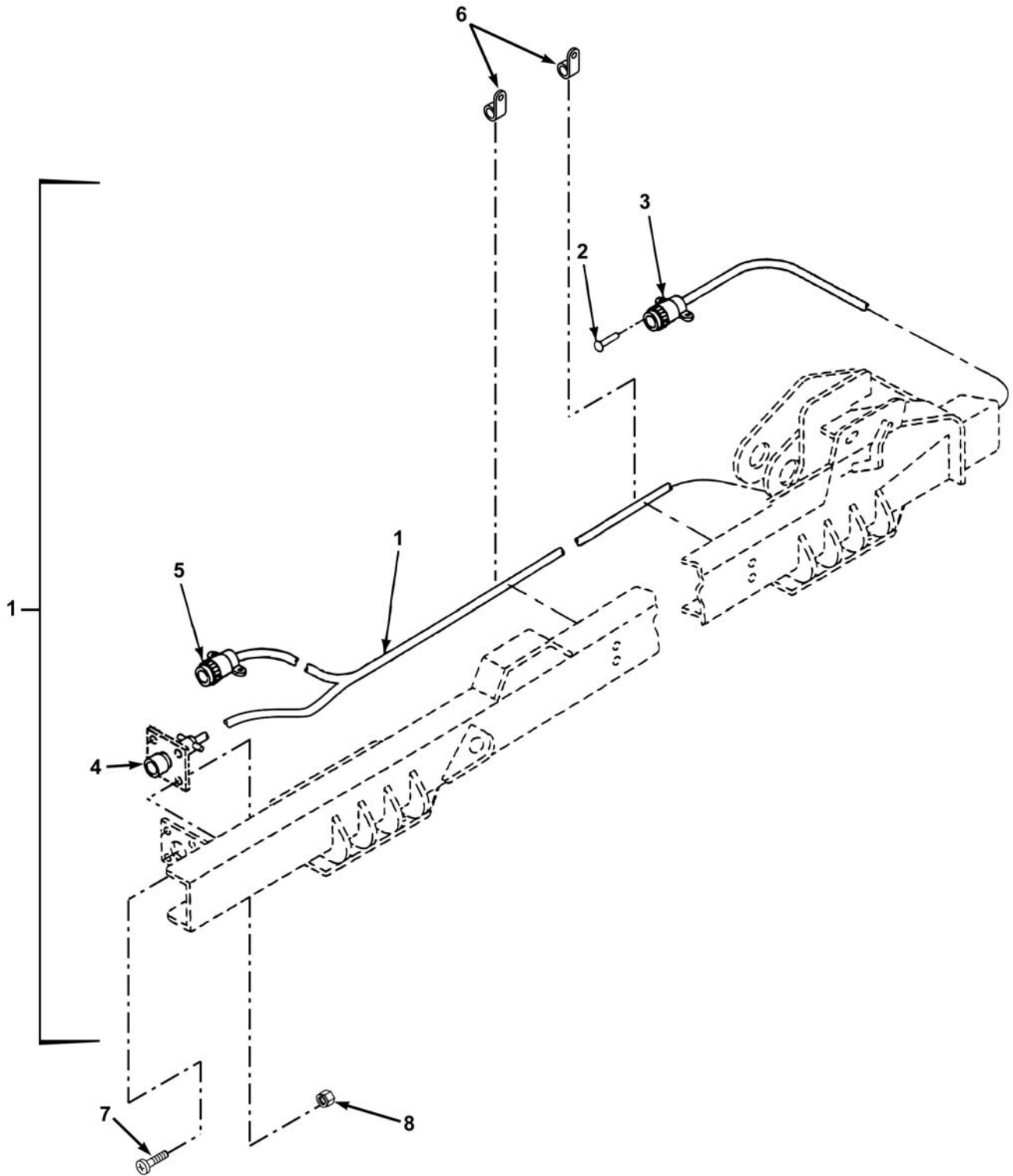


FIG. 18 LHS MAIN WIRE HARNESS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 0608 - MISCELLANEOUS ITEMS						
FIG. 18 LHS MAIN WIRE HARNESS						
1	PBFFF	6150-01-362-5216	45152	1860820	HARNESS,MAIN LHS	1
2	PAFZZ	5935-01-174-1235	11139	114017	•PLUG,END SEAL,ELECTRIC.....	3
3	PBFZZ	5935-01-112-9782	71468	CA3106F18-1PF80	•CONNECTOR,PLUG,ELECTRIC	1
4	PBFZZ	5935-01-112-9792	71468	CA3100F18-1SF80	•CONNECTOR.....	1
5	PBFZZ	5935-00-146-5811	71468	CA3106F10SL3SF80	•CONNECTOR,PLUG,ELECTRIC	1
6	PAFZZ	5340-01-204-4888	84971	TA720-S8	CLIP,CUSHIONED	4
7	PAFZZ	5310-00-542-0087	45152	1605420	NUT,PLAIN,ASSEMBLED	4
8	PAFZZ	5305-01-086-3551	45152	EE105327	SCREW,MACHINE	4
END OF FIGURE						

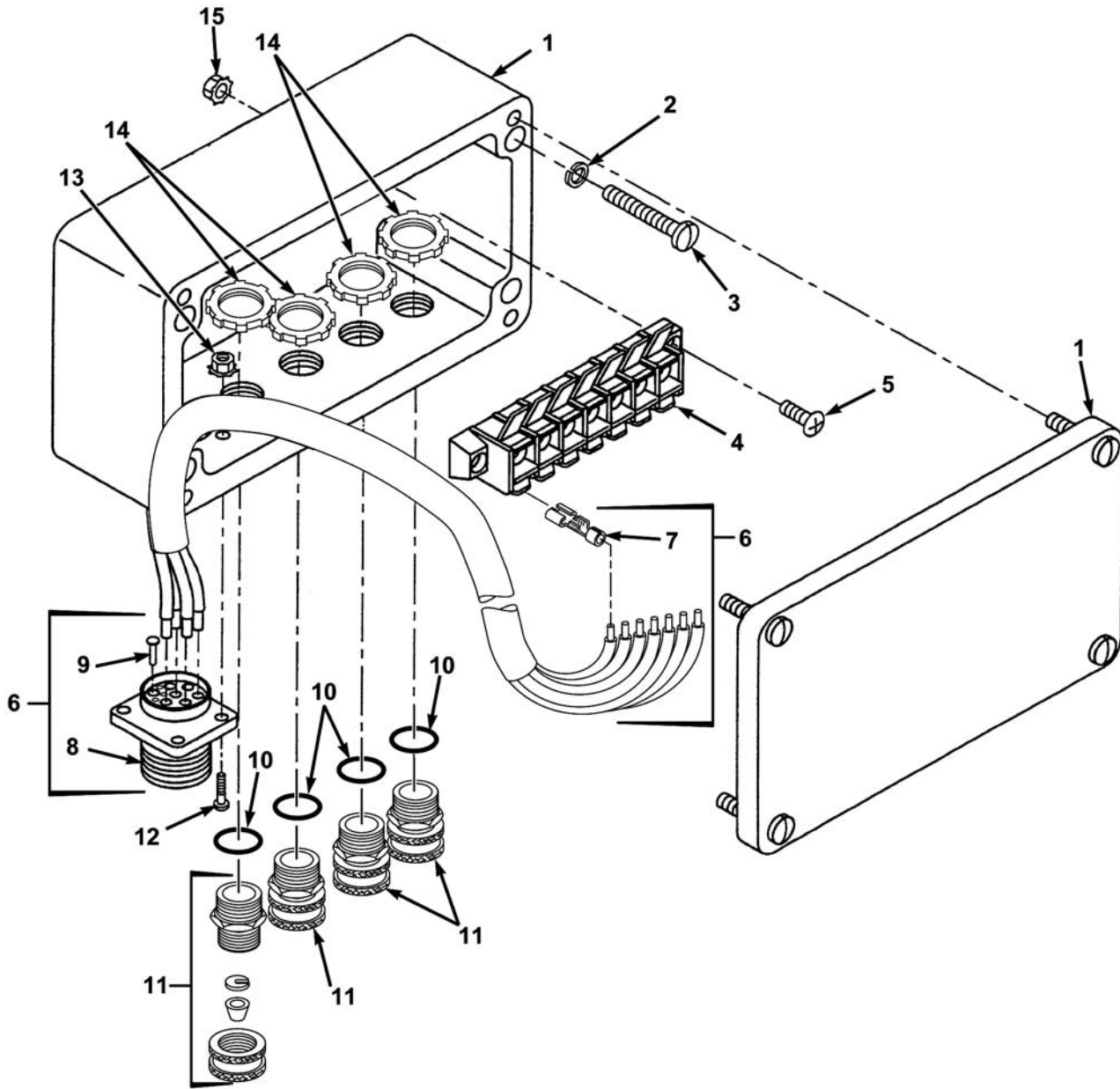


FIG. 19 LHS JUNCTION BOX

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 0608 - MISCELLANEOUS ITEMS						
FIG. 19 LHS JUNCTION BOX						
1	PFFZZ	5940-01-358-1127	45152	1891540	TERMINAL BOX	1
2	PAFZZ	5310-00-775-5139	24975	2434	WASHER,LOCK, 10-24	4
3	PAFZZ	5305-01-164-9665	45152	104640A	SCREW, 10-24X1.50	4
4	PAFZZ	5940-01-357-9199	1UW16	A 203107	TERMINAL STRIP,GROU	1
5	PFFZZ	5305-00-889-3001	80205	MS35206-231	SCREW,MACHINE, 6-32X.62	2
6	PFFFF	6150-01-362-5217	45152	1891410	WIRING HARNESS	1
7	PAFZZ	5940-00-874-9033	00779	41274	•TERMINAL,QUICK DISC	7
8	PAFZZ	5935-01-317-6762	71468	CA3102R18-1S-F80	•CONNECTOR,RECEPTACL.....	1
9	PAFZZ	5935-01-174-1235	11139	114017	•PLUG,END SEAL,ELECT	3
10	PAFZZ	5331-00-588-0892	56501	5262	O-RING	4
11	PAFZZ	5975-01-207-0230	81922	SHC-1022	BOX CONNECTOR,ELECT	4
12	PAFZZ	5305-01-086-3551	45152	EE-105327	SCREW,MACHINE, 4-40X.62	4
13	PAFZZ	5310-00-542-0087	45152	1605420	NUT,PLAIN,ASSEMBLED, 4-40.....	4
14	PAFZZ	5310-01-119-1811	15235	141	NUT,LOCK	4
15	PAFZZ	5310-01-352-7732	45152	1571870	NUT,SELF-LOCKING,AS, 6-32	2
END OF FIGURE						

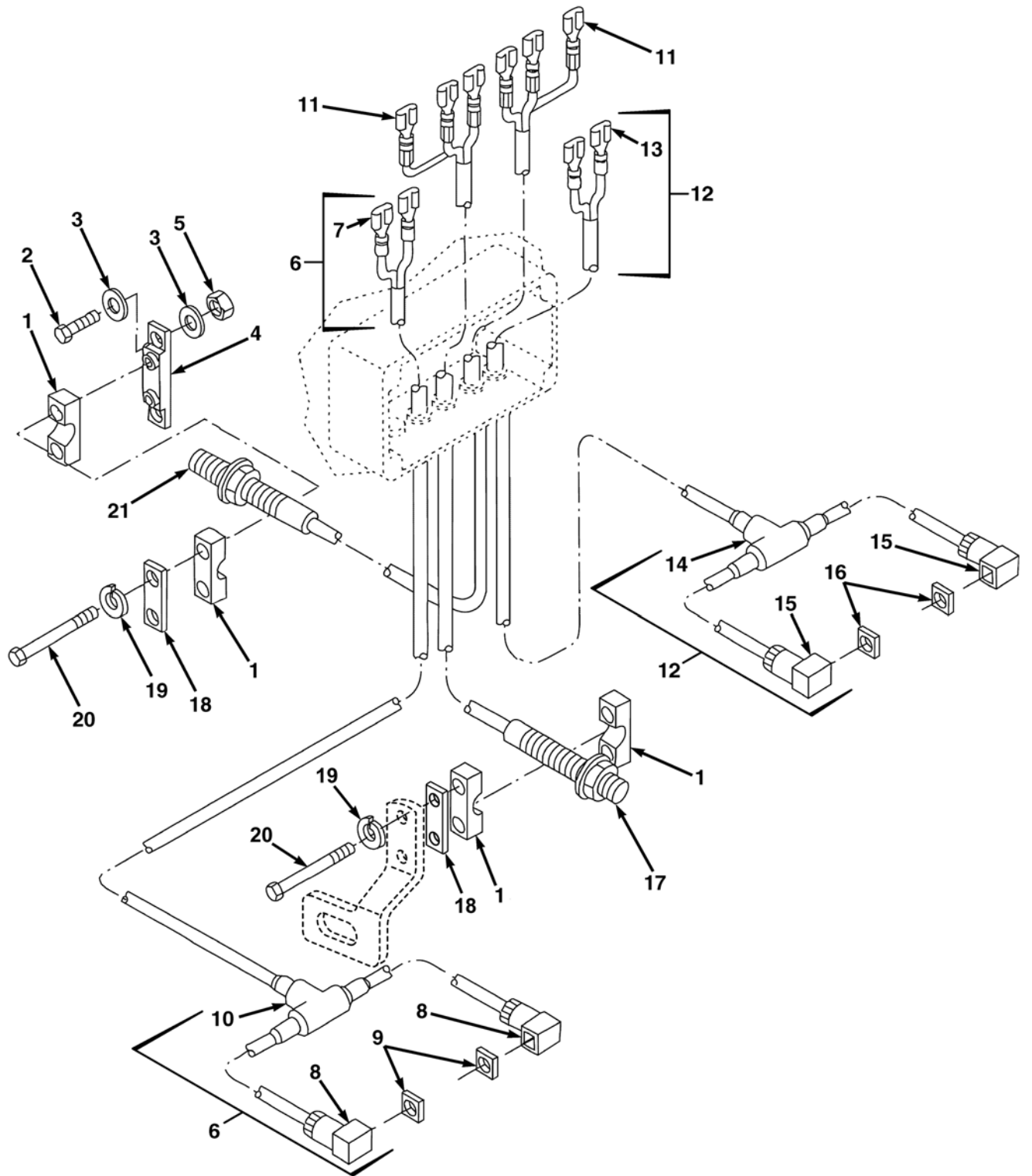


FIG. 20 LHS JUNCTION BOX WIRING HARNESS (SHEET 1 OF 2)

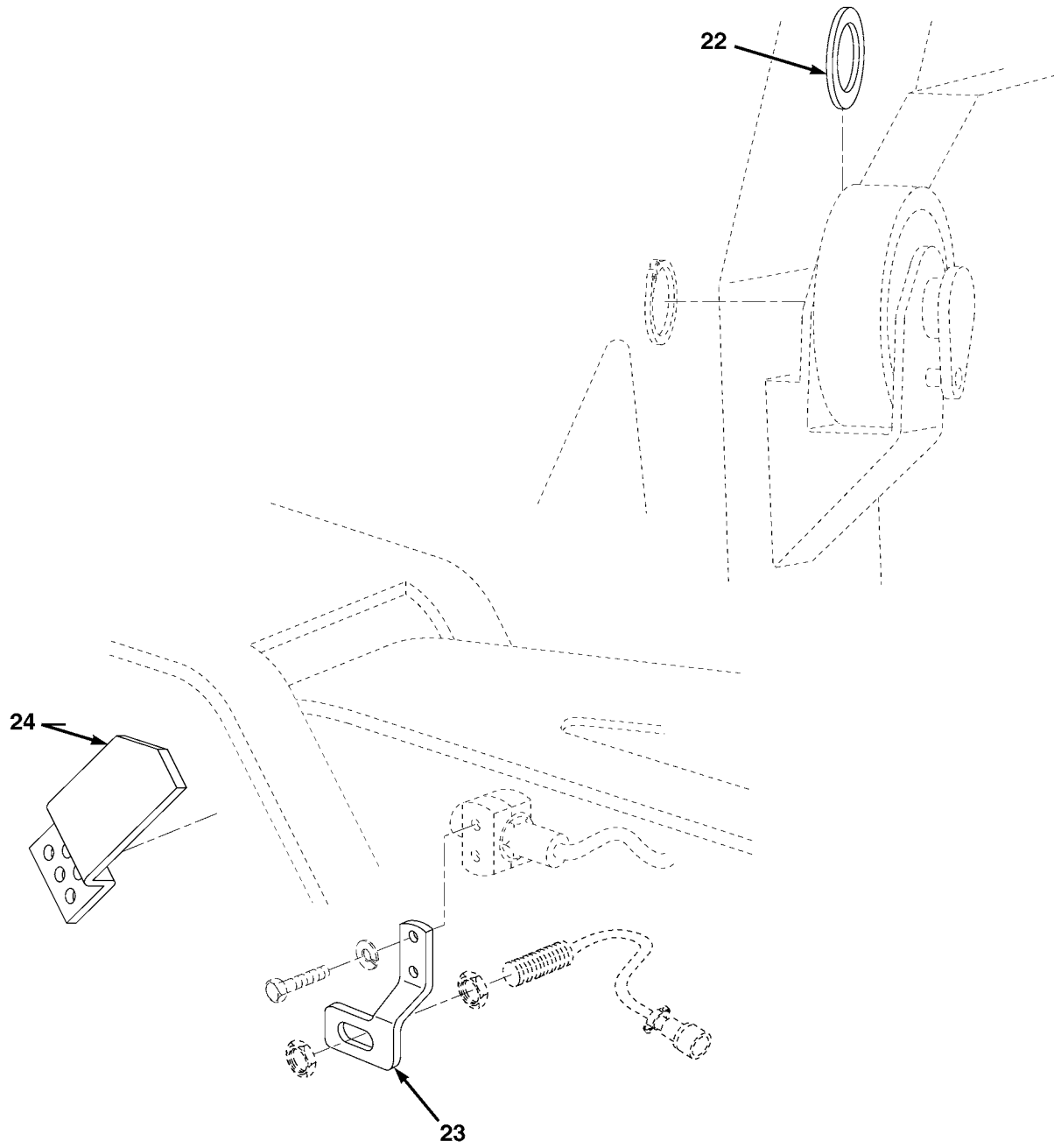


FIG. 20 LHS JUNCTION BOX WIRING HARNESS (SHEET 2 OF 2)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 0608 - MISCELLANEOUS ITEMS						
FIG. 20 LHS JUNCTION BOX WIRING HARNESS						
1	PFFZZ	5340-01-355-8246	53790	2180PA	CLAMP,BLOCK	2
2	PFFZZ	5305-01-280-7901	45152	66420AX	SCREW,CAP,HEXAGON H	2
3	PAFZZ	5310-00-809-4058	96906	MS27183-10	WASHER,FLAT	4
4	PFFZZ	5935-01-376-1003	45152	1997520W	PLATE,RETAINING,ELE	1
5	PAFZZ	5310-01-066-6759	56878	21NE-040	NUT,SELF-LOCKING,HE	2
6	PAFFF	6150-01-363-2162	45152	1878900	CABLE ASSEMBLY,SPEC, HOOK ARM,RH.	1
7	PAFZZ	5940-00-874-9033	00779	41274	•TERMINAL,QUICK DISC	2
8	PFFZZ	5935-01-355-7505	0D5M6	931236-100	•CONNECTOR,PLUG,ELEC	2
9	PAFZZ	5330-01-355-4809	0D5M6	731739-002	•GASKET	2
10	PFFZZ	5970-01-358-3441	06090	301A022-4/42	•INSULATION,SLEEVING	1
11	PAFZZ	5940-00-874-9033	00779	41274	TERMINAL,QUICK DISC	6
12	PAFFF	6150-01-362-5218	45152	1878910	WIRING HARNESS, HOOK ARM,LH	1
13	PAFZZ	5940-00-874-9033	00779	41274	•TERMINAL,QUICK DISC, HOOK ARM,LH	2
14	PFFZZ	5970-01-358-3441	06090	301A022-4/42	•INSULATION,SLEEVING	1
15	PFFZZ	5935-01-355-7505	0D5M6	931236-100	•CONNECTOR,PLUG,ELEC	2
16	PAFZZ	5330-01-355-4809	0D5M6	731739-002	•GASKET	2
17	PAFZZ	5930-01-464-9574	45152	3196524	SWITCH,PROXIMITY, 18MM HOOK ARM UP	1
18	PFFZZ	5340-01-355-6821	53790	DP-2	COVER,ACCESS.	2
19	PAFZZ	5310-00-582-5965	80205	MS35338-44	WASHER,LOCK.	4
20	PFFZZ	5305-01-064-5470	45152	45092AX	SCREW,CAP,HEXAGON H	4
21	PAFZZ	5930-01-464-9574	45152	3196524	SWITCH,PROXIMITY, 18 MM MAIN FRAME DOWN	1
22	PFFZZ	5365-01-459-8230	45152	2221970	SHIM	2
23	PFFZZ	5340-01-462-6138	45152	3122223	BRACKET,MOUNTING	1
24	PFFZZ	5340-01-462-3360	45152	2265340	PLATE,MOUNTING	1
END OF FIGURE						

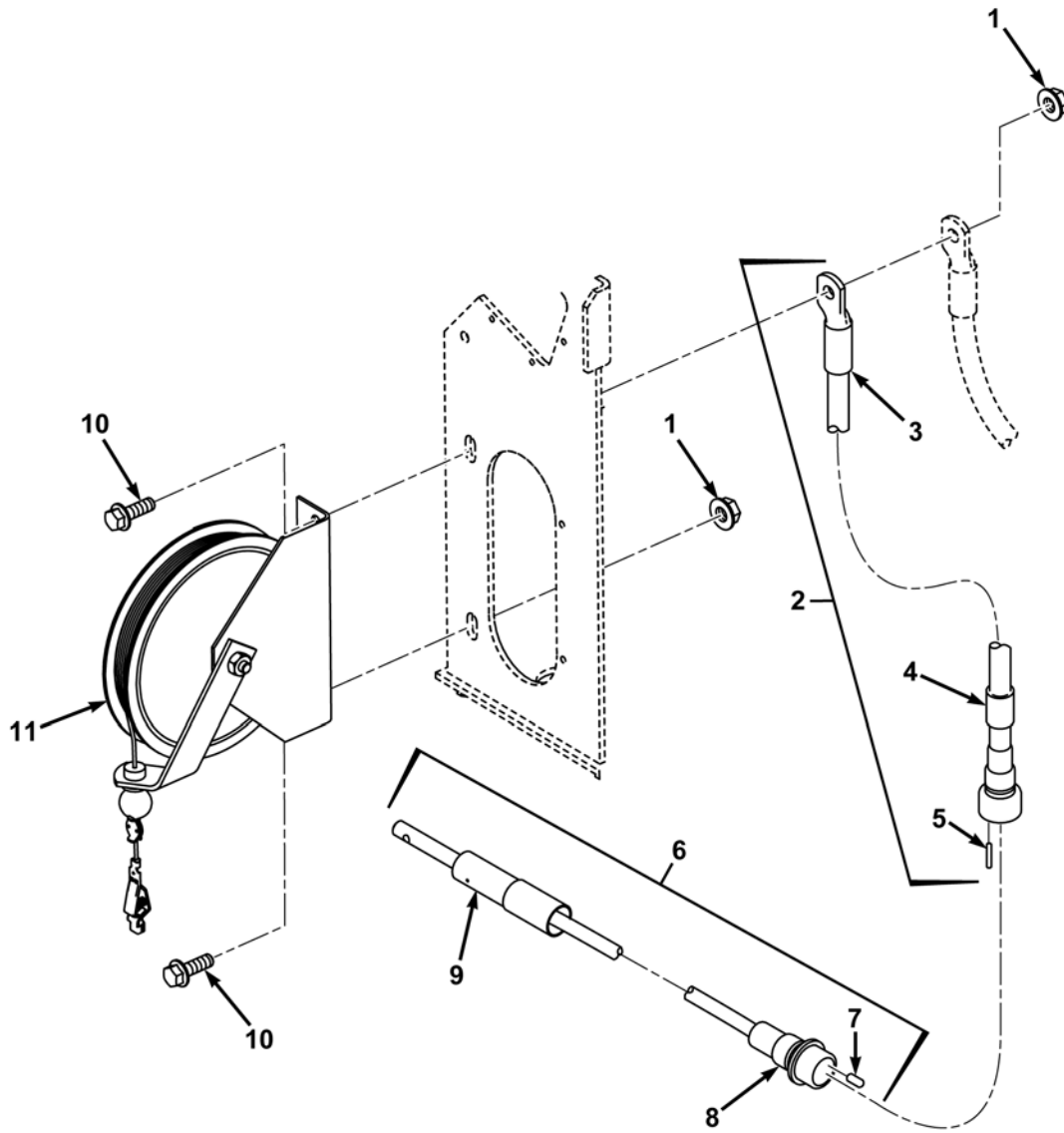


FIG. 21 STATIC REEL

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0608 - MISCELLANEOUS ITEMS	
					FIG. 21 STATIC REEL	
1	PAFZZ	5310-01-342-8595	45152	1598030	NUT, SELF-LOCKING, EX	2
2	PFFFF		45152	3448503	CABLE ASSEMBLY	1
3	PAFZZ		3XLF8	4503-1	•TERMINAL, RING	1
4	PAFZZ		71468	120-1903-000	•CONNECTOR, RECEPTACLE	1
5	PAFZZ		71468	030-2245-001	•CONTACT, PIN	1
6	PFFFF		45152	2213520	CABLE ASSEMBLY	1
7	PAFZZ		8Z246	4062-006-04141	•SOCKET	1
8	PAFZZ		71468	120-1905-000	•CONNECTOR, PLUG	1
9	PAFZZ		45152	2192840	•PLUG, ELECTRICAL	1
10	PAFZZ	5305-01-150-7736	45152	115293A	SCREW, CAP, HEXAGON HEAD	2
11	PAFZZ		45152	3456408	REEL, STATIC	1
END OF FIGURE						

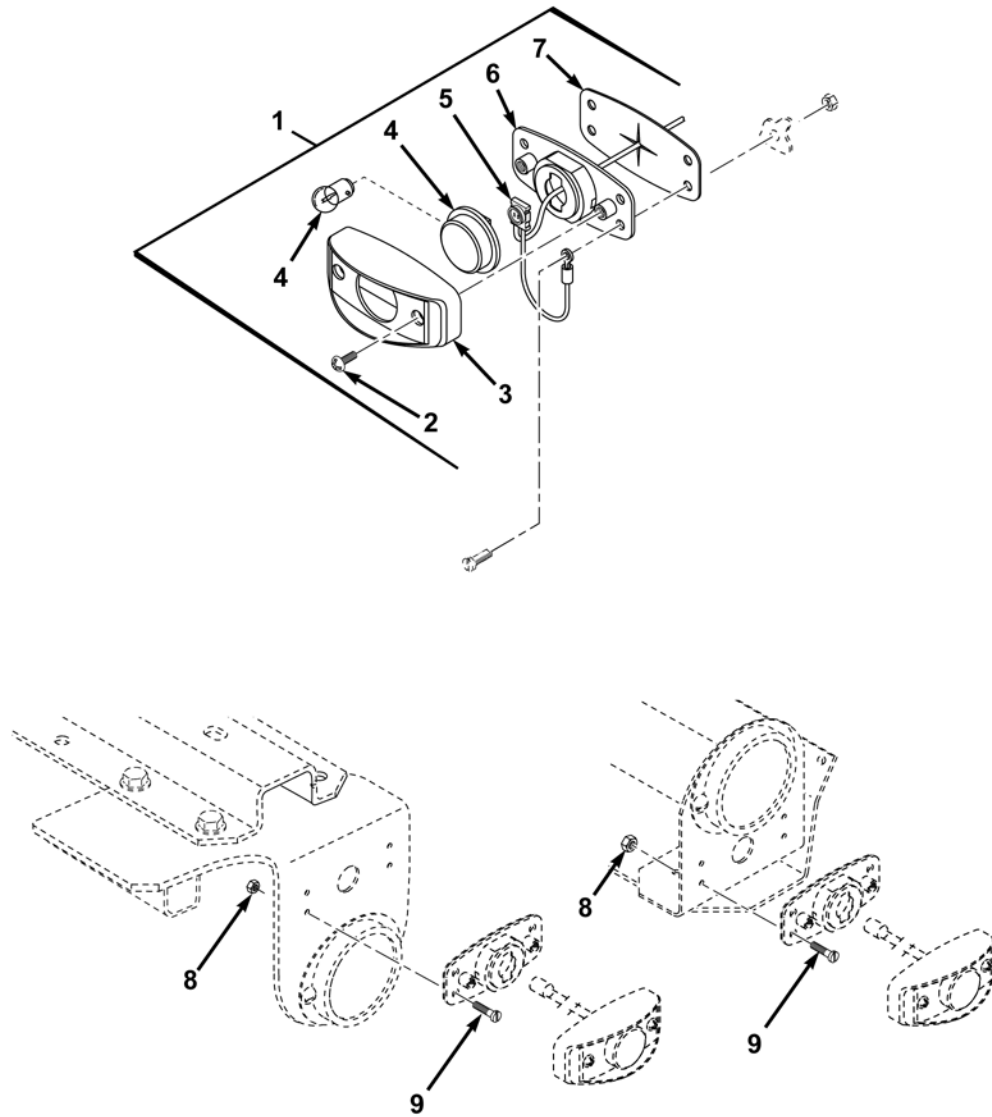


FIG. 22 CLEARANCE MARKER LIGHTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0609 - LIGHTS	
					FIG. 22 CLEARANCE MARKER LIGHTS	
1	PAFFF	6220-01-482-5574	45152	3300693	LIGHT, MARKER, CLEARANCE	2
2	PAFZZ	5305-00-059-3660	80205	MS51958-64	•SCREW, MACHINE	2
3	PAFZZ	5340-01-527-9898	13548	07198	•BRACKET, OUTER.	1
4	PAFZZ	6220-01-482-5320	13548	30255Y	•LAMP UNIT, VEHICULAR.	1
5	PAFZZ	6150-01-459-1811	13548	94626	•PIGTAIL.	1
6	PAFZZ	5975-01-485-8769	13548	07197	•BASE, MOUNTING.	1
7	PAFZZ	5330-01-479-2244	13548	97045	•GASKET, MOUNTING	1
8	PAFZZ	5310-01-288-5096	45152	1571850	NUT, SELF-LOCKING,AS	8
9	PAFZZ	5305-01-249-8564	45152	59031AX	SCREW, MACHINE	8
					END OF FIGURE	

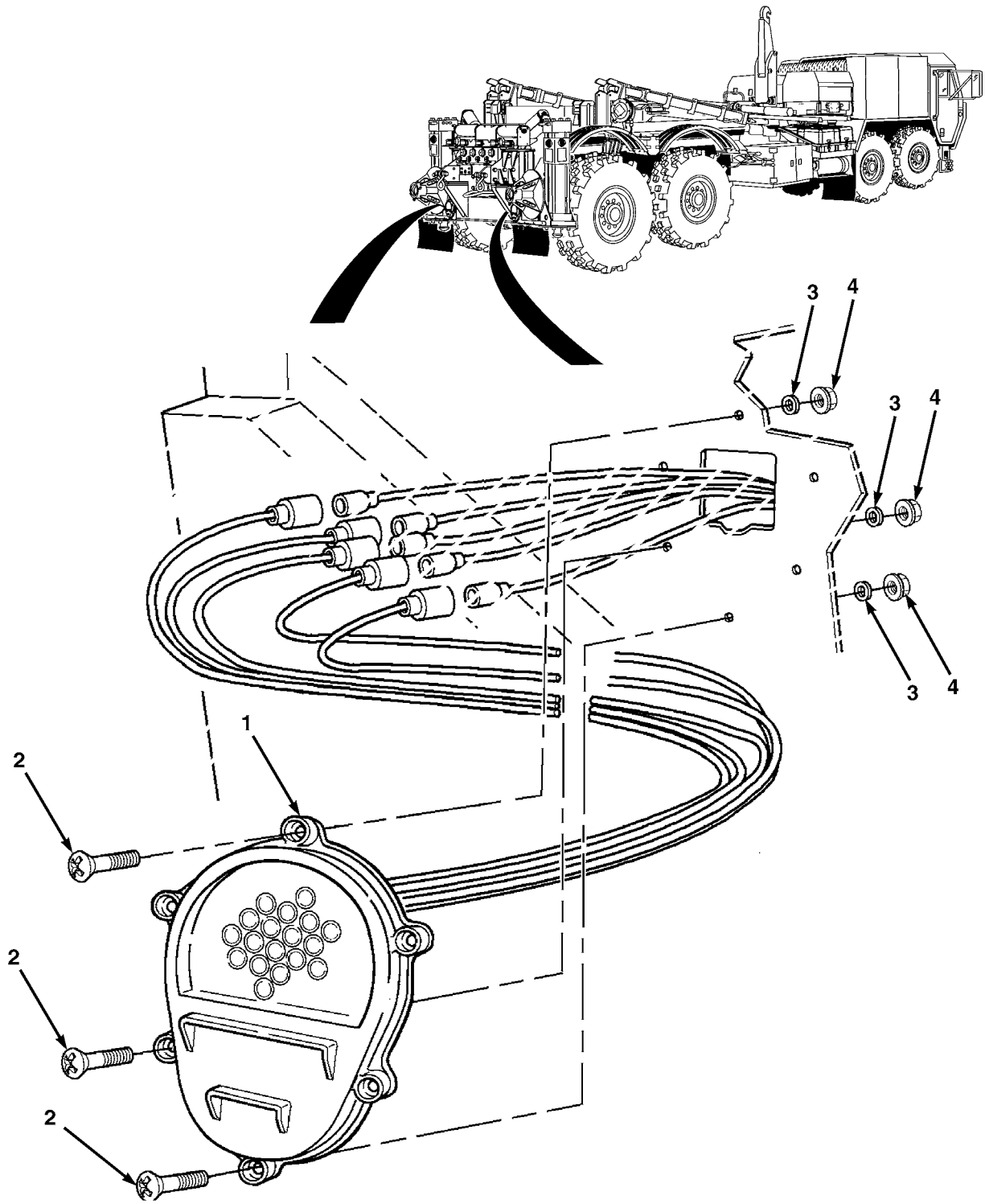


FIG. 23 TAIL LIGHT

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0609 - LIGHTS FIG. 23 TAIL LIGHT	
1	PAFZZ	6220-01-482-9850	13548	07240	STOPLIGHT,VEHICULAR	2
2	PAFZZ	5305-01-507-8256	45152	1930150	SCREW,MACHINE, #10-24X1.25 NS ZC	12
3	PAFZZ	5310-00-619-1148	80205	MS15795-808	WASHER,FLAT, #10X.41X.05 SS	12
4	PAFZZ	5310-00-262-6355	94135	12Z2007-71	NUT,SELF-LOCKING,HE, #10-24 NS SS	12
					END OF FIGURE	

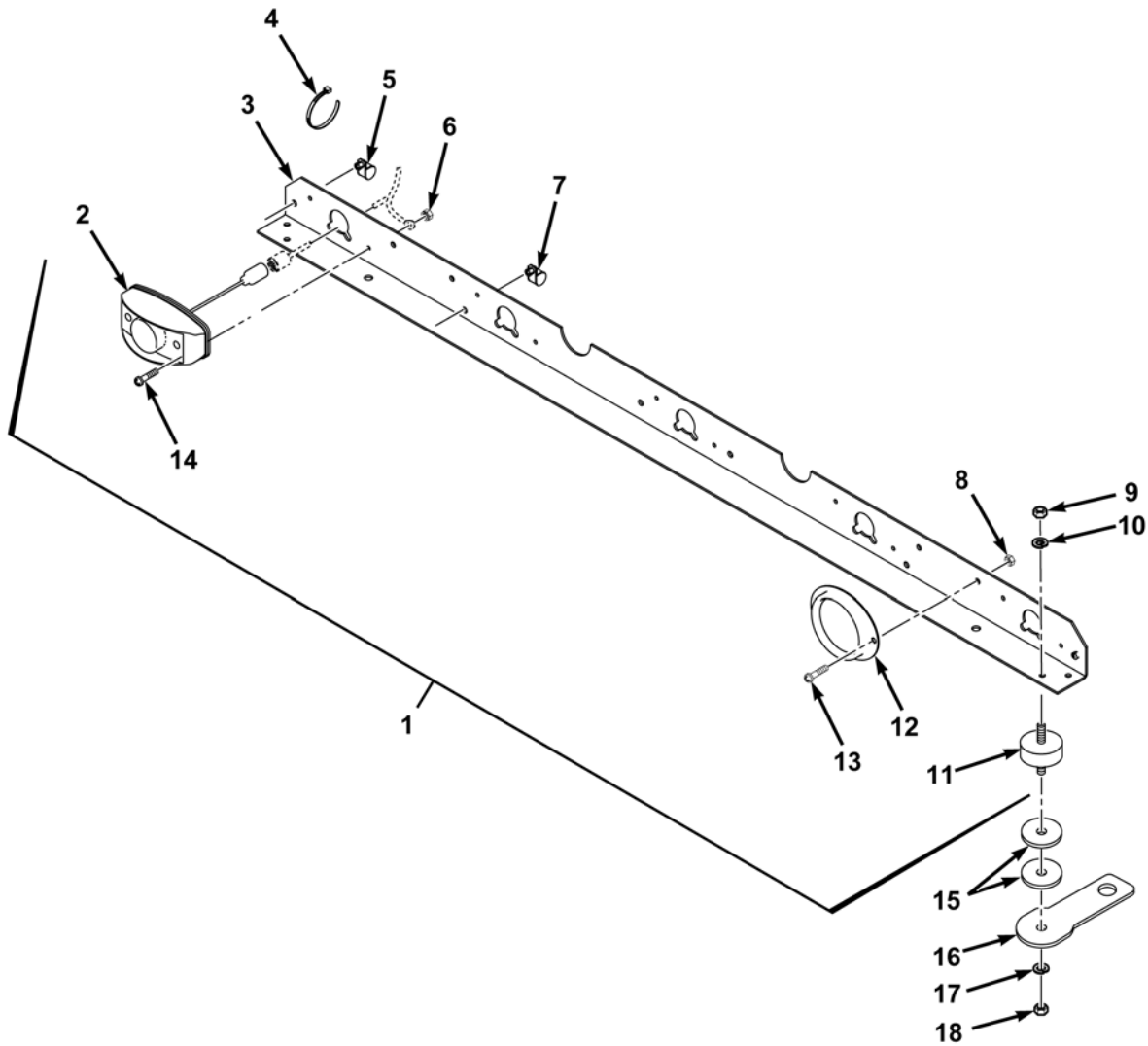


FIG. 24 LIGHT BAR ASSEMBLY

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 0609 - LIGHTS						
FIG. 24 LIGHT BAR ASSEMBLY						
1	PAFZZ		45152	3404581	LIGHT BAR ASSEMBLY, REAR.	1
2	PAFZZ	6220-01-482-6113	45152	3300694	•LIGHT,MARKER,CLEAR, 10-30 V LED	5
3	PAFZZ	5340-01-478-3339	45152	3154864	•BRACKET,MOUNTING.	1
4	PAFZZ	5975-01-512-0283	45152	66182AX	•STRAP,TIEDOWN,ELECT, 3.62 X .094	10
5	PAFZZ	5340-01-224-8368	62060	H360-7-2	•CLAMP,LOOP, 7/16ID.	2
6	PAFZZ	5310-01-288-5096	45152	1571850	•NUT,SELF-LOCKING,AS, #10-24.	10
7	PAFZZ	5340-01-419-1315	83014	H360K2598	•CLAMP,LOOP, 9/16ID.	4
8	PAFZZ	5310-01-066-6759	56878	21NE-040	•NUT,SELF-LOCKING,HE, .25-20	4
9	PAFZZ	5310-01-063-8970	45152	434AX1	•NUT,PLAIN,HEXAGON, .38-16 G5 ZY.	2
10	PAFZZ	5310-01-129-0450	45152	351AX	•WASHER,LOCK, .38 X .68 X .09	2
11	PAFZZ	5342-01-384-9511	45152	1869800	•MOUNT,RESILIENT,WEA.	2
12	PAFZZ	9905-00-205-2795	93568	00328-0003	•REFLECTOR,INDICATIN, RED	2
13	PAFZZ	5305-01-155-5237	45152	1434HX	•SCREW,MACHINE, .25-20 X .50	4
14	PAFZZ	5305-01-249-8564	45152	59031AX	•SCREW,MACHINE, #10-24 X .75.	10
15	PAFZZ	5310-01-479-0591	45152	173JX	WASHER,FLAT, .50 X 1.75 X .10.	4
16	PAFZZ	5340-01-478-3163	45152	3055925	BRACKET,MOUNTING	2
17	PAFZZ	5310-01-129-0450	45152	351AX	WASHER,LOCK, .38 X .68 X .09.	2
18	PAFZZ	5310-01-063-8970	45152	434AX1	NUT,PLAIN,HEXAGON, .38-16 G5 ZY	2
END OF FIGURE						

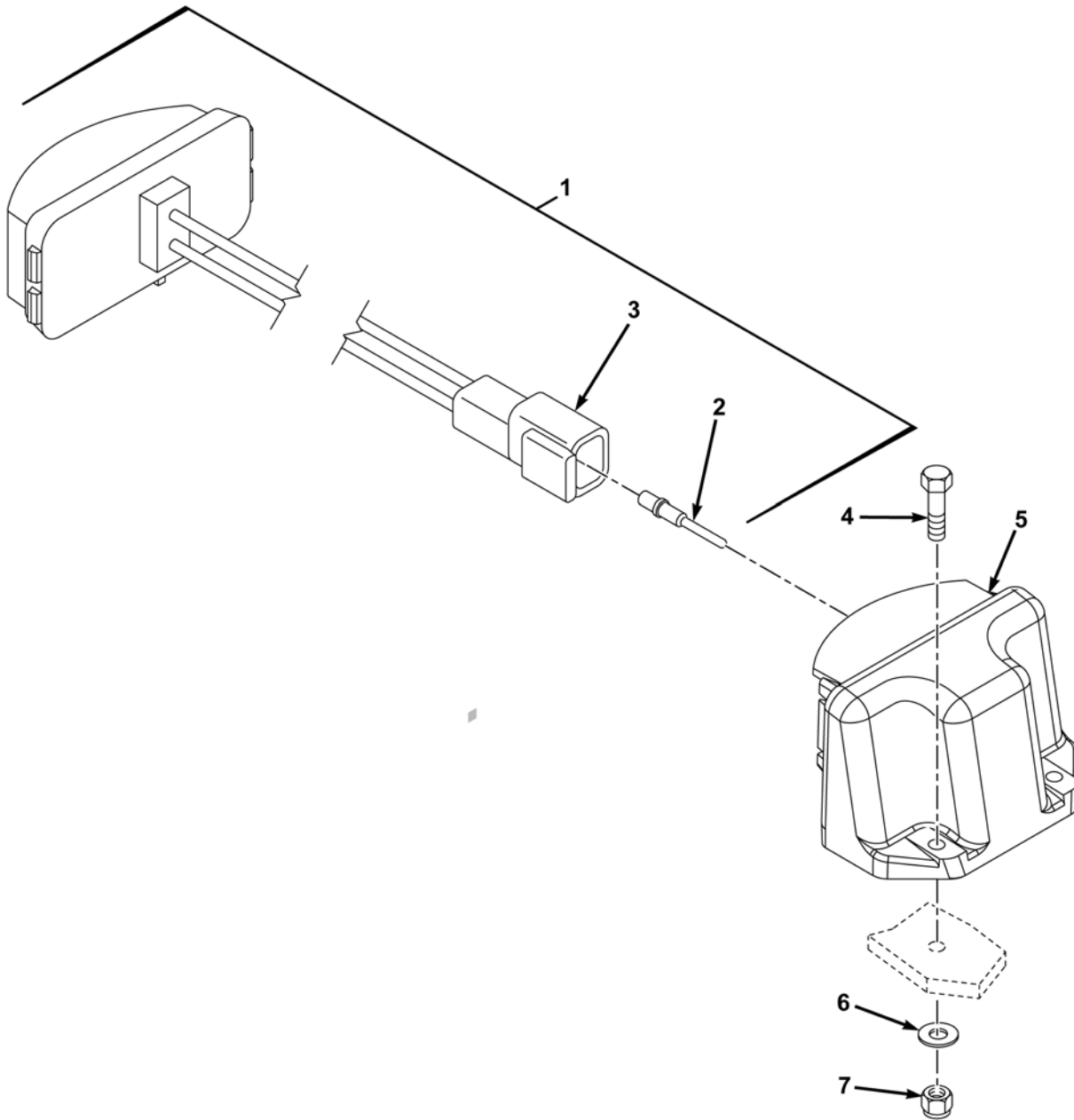


FIG. 25 LICENSE PLATE LIGHT

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0609 - LIGHTS	
					FIG. 25 LICENSE PLATE LIGHT	
1	PBFFF	6210-01-507-8952	13548	15906	LIGHT ASSY,LICENSE	2
2	PAFZZ	5999-01-479-8613	45152	9HB967	•CONTACT,ELECTRICAL	2
3	PAFZZ	5935-01-526-6797	45152	1KK51	•CONNECTOR,RECEPTACLE	1
4	PAFZZ		45152	1978490	SCREW, PAN.....	4
5	PAFZZ		45152	3372209	BRACKET, LIGHT	2
6	PAFZZ		45152	3268682	WASHER, FLAT.....	4
7	PAFZZ	5310-00-262-6355	45152	1376550	NUT, SELF-LOCKING	4
					END OF FIGURE	

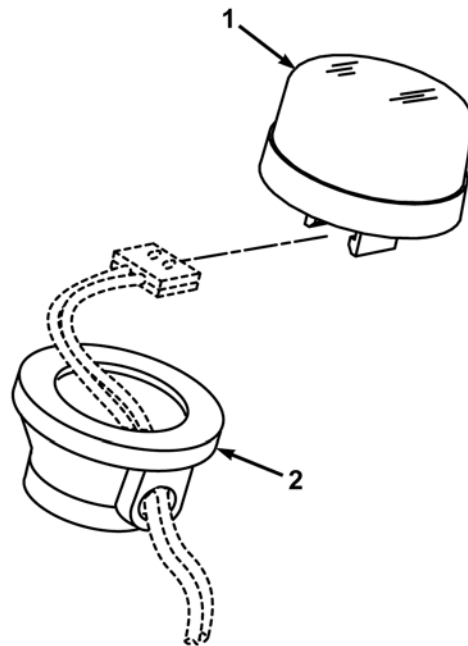


FIG. 26 AIR BAG/RACK LOCK INDICATOR LIGHTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0609 - LIGHTS FIG. 26 AIR BAG/RACK LOCK INDICATOR LIGHTS	
1	PAFZZ		45152	3469597	LIGHT, MARKER, LED, AMBER	2
2	PAFZZ		45152	3469598	GROMMET, MOUNTING	2
					END OF FIGURE	

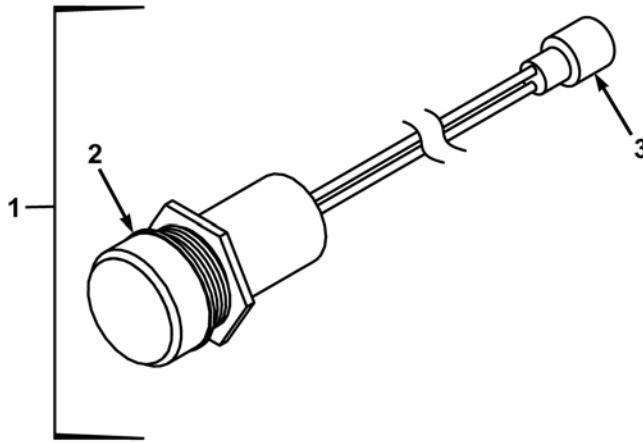


FIG. 27 BLACKOUT INDICATOR LIGHTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0609 - LIGHTS	
					FIG. 27 BLACKOUT INDICATOR LIGHTS	
1	PBFFF	6220-01-515-0670	45152	3368757	INDICATOR, LIGHT	2
2	PAFZZ	5980-01-504-9938	83330	557-1304-203	•LIGHT EMITTING DIODE.	1
3	PAFZZ	5935-01-526-6797	3QPU2	120-1807-000	•CONNECTOR.	1
					END OF FIGURE	

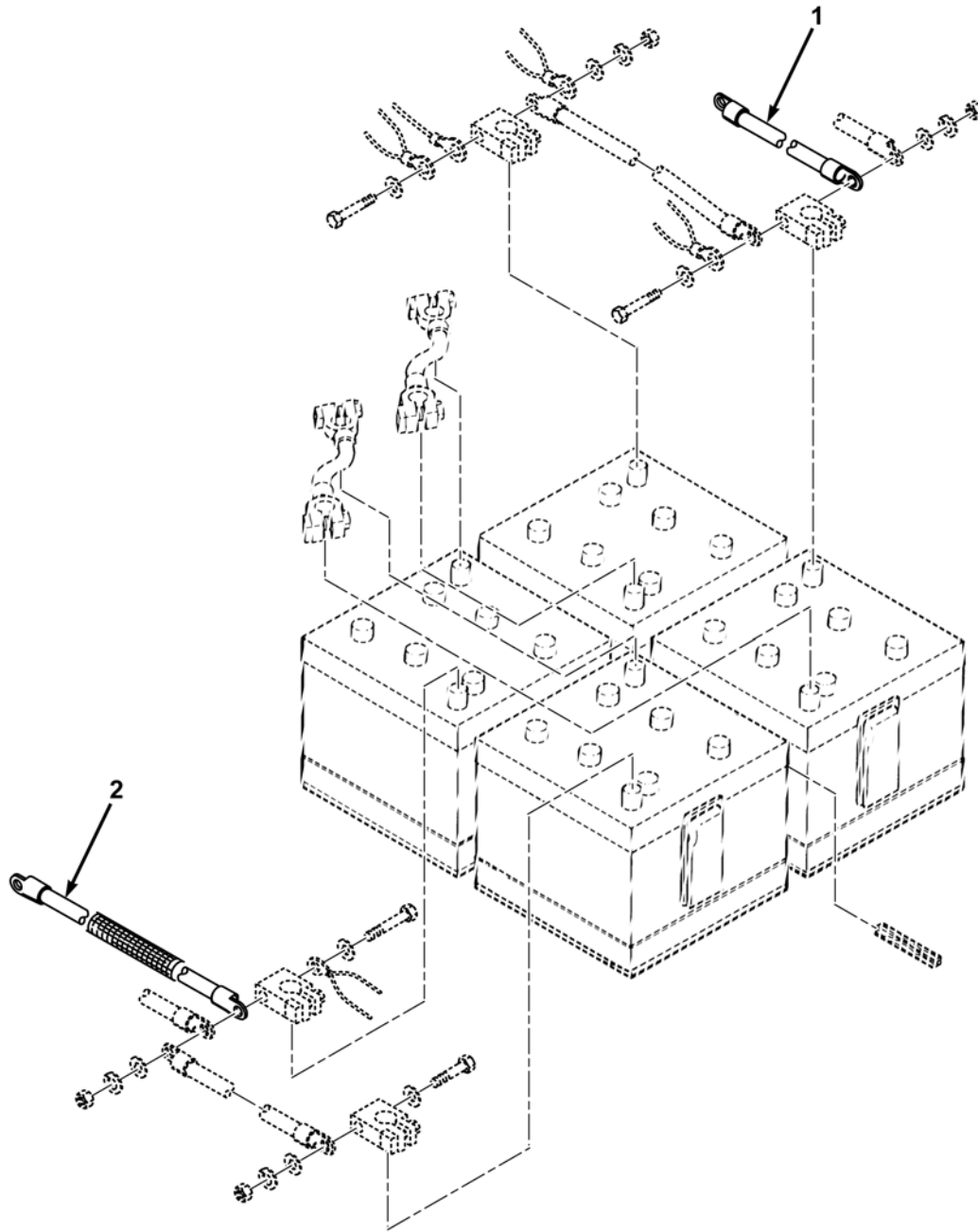


FIG. 28 BATTERY INSTALLATION

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0612 - BATTERIES, STORAGE (WET OR DRY)	
					FIG. 28 BATTERY INSTALLATION	
1	PBFZZ		45152	3442642	CABLE,BATTERY, 000 0 NEGATIVE	1
2	PBFZZ		45152	3442643	CABLE,BATTERY, 000 0 POSITIVE	1
					END OF FIGURE	

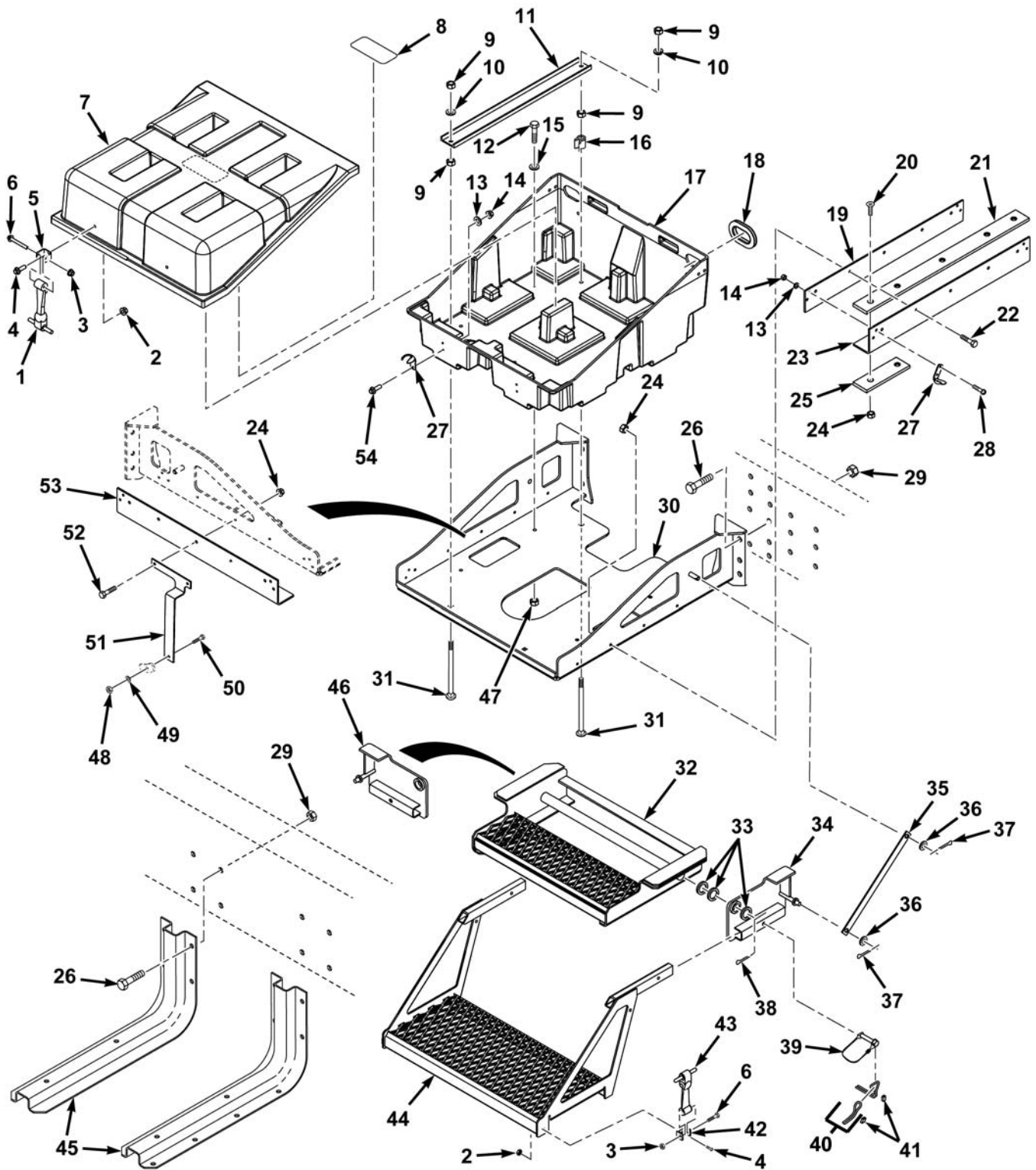


FIG. 29 BATTERY BOX INSTALLATION

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0612 - BATTERIES, STORAGE (WET OR DRY) FIG. 29 BATTERY BOX INSTALLATION	
1	PAFZZ	2540-01-152-7764	64386	67D794	LATCH, HOOD, VEHICULAR	2
2	PAFZZ	5310-01-478-8689	45152	3266308	NUT, SELF-LOCKING, AS, .31-18	4
3	PAFZZ	5310-01-492-5550	45152	3322427	NUT, SELF-LOCKING, HE, .25-20	4
4	PAFZZ	5305-01-480-7045	45152	3266481	SCREW, CAP, HEXAGON, H, .31-18 X 0.75	4
5	PAFZZ	5340-01-156-6776	64386	277-A-80-1	STRAP, RETAINING	2
6	PAFZZ	5305-01-480-9001	45152	3266358	SCREW, CAP, HEXAGON H, .25-20 X 2.00	4
7	PBFZZ	6160-01-479-3938	45152	3285680	COVER, BATTERY RETAINER	1
8	PBFZZ	9905-01-479-1596	45152	3309409	PLATE, IDENTIFICATION	1
9	PAFZZ	5310-01-063-8970	45152	434AX1	NUT, PLAIN, HEXAGON, .38-16	8
10	PAFZZ	5310-01-129-0450	45152	351AX	WASHER, LOCK, .38 X .68 X .09	4
11	PBFZZ	6160-01-479-3924	45152	3303399	RETAINER, BATTERY	2
12	PAFZZ	5305-01-522-9366	45152	69302AX	SCREW, CAP, HEXAGON H, .38-16 X 1.25	4
13	PAFZZ	5310-00-619-1148	80205	MS15795-808	WASHER, FLAT, #10 X .41 X .05	8
14	PAFZZ	5310-00-262-6355	94135	12Z2007-71	NUT, SELF-LOCKING, HE, 10-24	8
15	PAFZZ	5310-00-880-0626	19207	10892331	WASHER, FLAT, .38 X 1.25 X .12	4
16	PAFZZ	5340-01-363-9130	45152	1972230	CLIP, SPRING TENSION	2
17	PBFZZ		45152	3501366	BATTERY, BOX, BOTTOM.	1
18	MOFZZ		45152	1467160-9	QUICKEDGE, MOULDING, MAKE FROM P/N 75000343 (82654), 9 IN. LG	2
19	PBFZZ		45152	3510385	GUIDE, PLATFORM, 26.00 X 3.00 X .12.	2
20	PAFZZ	5306-01-513-3239	45152	3355380	BOLT, INTERNAL WRENCH, .25-20 X .88	10
21	PBFZZ		45152	3510386	GUIDE, PLATFORM, 26.00X2.00X.50	2
22	PAFZZ	5305-01-478-8705	45152	3266312	SCREW, CAP, HEXAGON H, .25-20 X 1.00	8
23	PBFZZ		45152	3510353	BRKT, SLIDE, STEP, REAR.	1
24	PAFZZ	5310-01-478-8687	45152	3266307	NUT, SELF-LOCKING, HE .25-20	20
25	PBFZZ		45152	3517757	GUIDE, PLATFORM, 7.00 X 2.00 X .50.	2
26	PAFZZ	5306-01-106-7496	45152	111316A	BOLT, MACHINE, .62-11 X 1.75.	16
27	PAFZZ	2590-01-517-2878	04664	1331040	BRACKET, VEHICULAR	4
28	PAFZZ	5305-01-504-7887	45152	1656090	SCREW, MACHINE, 10-24 X 1.25.	4
29	PAFZZ	5310-01-111-0645	45152	110311A	NUT, SELF-LOCKING, EX, .62-11	16

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
30	PBFZZ		45152	3510207	BRKT, BATTERY BOX, SUPPORT	1
31	PAFZZ	5306-01-357-2365	45152	2629HX5	BOLT,SQUARE NECK, .38-16 X 10.50 . .	4
32	PBFZZ		45152	3510348	STEP,SLIDE IN, 7.00	1
33	PAFZZ		45152	1166HX	WASHER, 1.03 X 1.75 X .12	6
34	PBFZZ		45152	3510332	BRKT,PLATFORM,MOUNT, REAR	1
35	PBFZZ		45152	3510356	PLATE, 15.00X1.00X.12 ST	2
36	PAFZZ	5310-01-457-8573	45152	720HX	WASHER,FLAT, .50 X 1.06 X .09.	4
37	PAFZZ	5315-00-839-5822	80205	MS24665-353	PIN,COTTER	4
38	PAFZZ	5315-00-298-1481	80205	MS24665-357	PIN,COTTER	2
39	PAFZZ	5315-01-459-1409	96652	28-06	PIN,TOGGLE,HEADED	2
40	MOFZZ		45152	1533100-23	ROPE,WIRE, MAKE FROM WIRE ROPE, P/N M83420-4-010 (81349),23 IN. L	2
41	PAFZZ	4030-01-517-7356	80967	1864270	SWAGING SLEEVE,WIRE	4
42	PAFZZ	5340-01-100-2474	64386	277-A-80ZP	STRAP,RETAINING	2
43	PAFZZ		64386	842-1	HOOK,HOOD,RUBBER	2
44	PBFZZ		45152	3510371	PLATFORM, 11.75X25.12	1
45	PAFZZ		98624	2038301	J-BRACKET,BATTERY BOX	2
46	PBFZZ		45152	3510331	BRACKET,PLATFORM MO, FRONT	1
47	PAFZZ	5310-01-151-1036	45152	115307A	NUT,SELF-LOCKING,EX, .38-16	4
48	PAFZZ	5310-01-066-6759	56878	21NE-040	NUT, SELF-LOCKING, HEX	1
49	PAFZZ	5310-01-353-6045	45152	2302HX	WASHER, FLAT	1
50	PAFZZ	5305-00-068-0509	66195	22492R1	SCREW, CAP, HEXAGON, H.	1
51	PBFZZ		45152	3531998	BRACKET, MUDFLAP ANT	1
52	PAFZZ	5305-01-485-3649	45152	3266313	SCREW, CAP, HEXAGON H, .25-20 X 1.25.	2
53	PBFZZ		45152	3510352	BRACKET, SLIDE STEP, FRONT	1
54	PAFZZ	5305-01-507-8980	45152	1416350	SCREW, MACHINE, 10-24 X .75.	4

END OF FIGURE

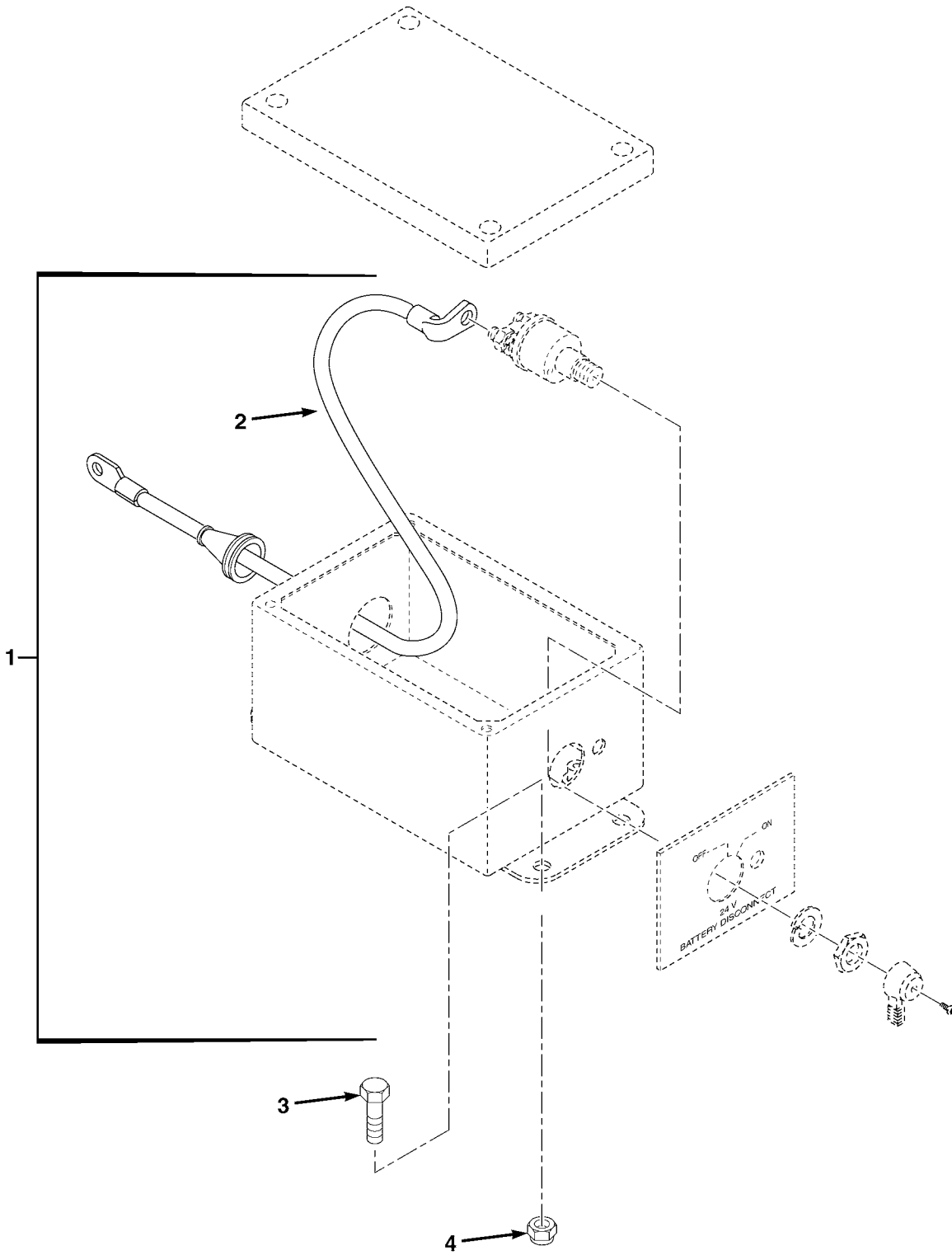


FIG. 30 BATTERY DISCONNECT

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0612 - BATTERIES, STORAGE (WET OR DRY)	
					FIG. 30 BATTERY DISCONNECT	
1	PBFFF		45152	3442640	BOX ASSEMBLY, BATTERY DISCONNECT	1
2	PBFZZ		45152	3442641	•CABLE, BATTERY 2AWG	1
3	PAFZZ	5306-01-061-7416	45152	1366HX1	BOLT, MACHINE, .31-18X.62	4
4	PAFZZ	5310-01-081-5351	72962	42NE-058	NUT, SELF-LOCKING, HE, .31-18	4
					END OF FIGURE	

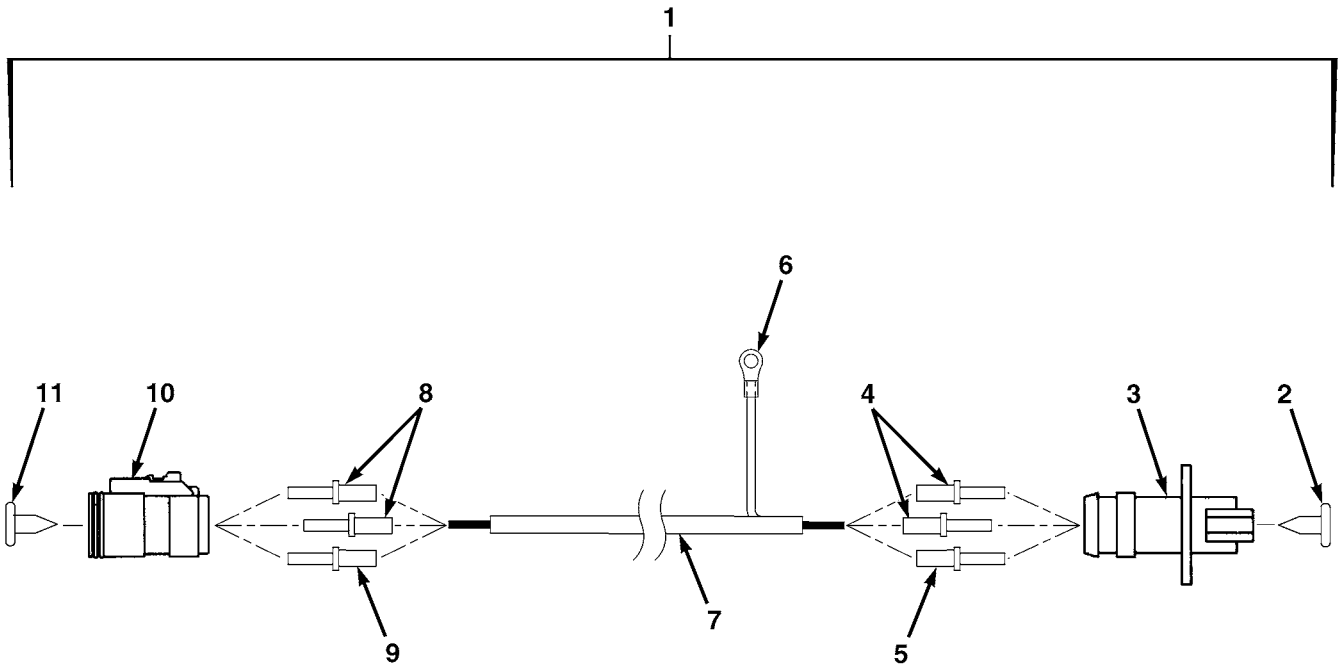


FIG. 31 J1939 CONNECTION

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 0613 - HULL OR CHASSIS WIRING HARNESS						
FIG. 31 J1939 CONNECTION						
1	PBFFF		45152	3434459	CABLE ASSEMBLY,1939.	1
2	PAFZZ	5935-01-470-8337	11139	W3P	•SLEEVE,LOCKING,ELEC.	1
3	PAFZZ	5935-01-480-9080	45152	5HE267	•CONNECTOR,LE08,3 WA	1
4	PAFZZ	5999-01-470-6334	11139	0460-202-1631	•CONTACT,ELECTRICAL	2
5	PAFZZ	5999-01-470-6336	11139	0460-247-1631	•CONTACT,ELECTRICAL	1
6	PAFZZ	5940-00-143-4780	81343	MS25036-108	•TERMINAL,LUG	1
7	XAFZZ		05973	396454-8	•CABLE	1
8	PAFZZ	5999-01-470-6330	11139	0462-201-1631	•CONTACT,ELECTRICAL	2
9	PAFZZ	5999-01-470-6337	11139	0462-221-1631	•CONTACT,ELECTRICAL	1
10	PAFZZ	5935-01-470-2406	11139	DT06-3S-E008	•CONNECTOR,PLUG,ELEC	1
11	PAFZZ	5935-01-470-8343	19207	12421882	•POLARIZING KEY,ELEC	1
END OF FIGURE						

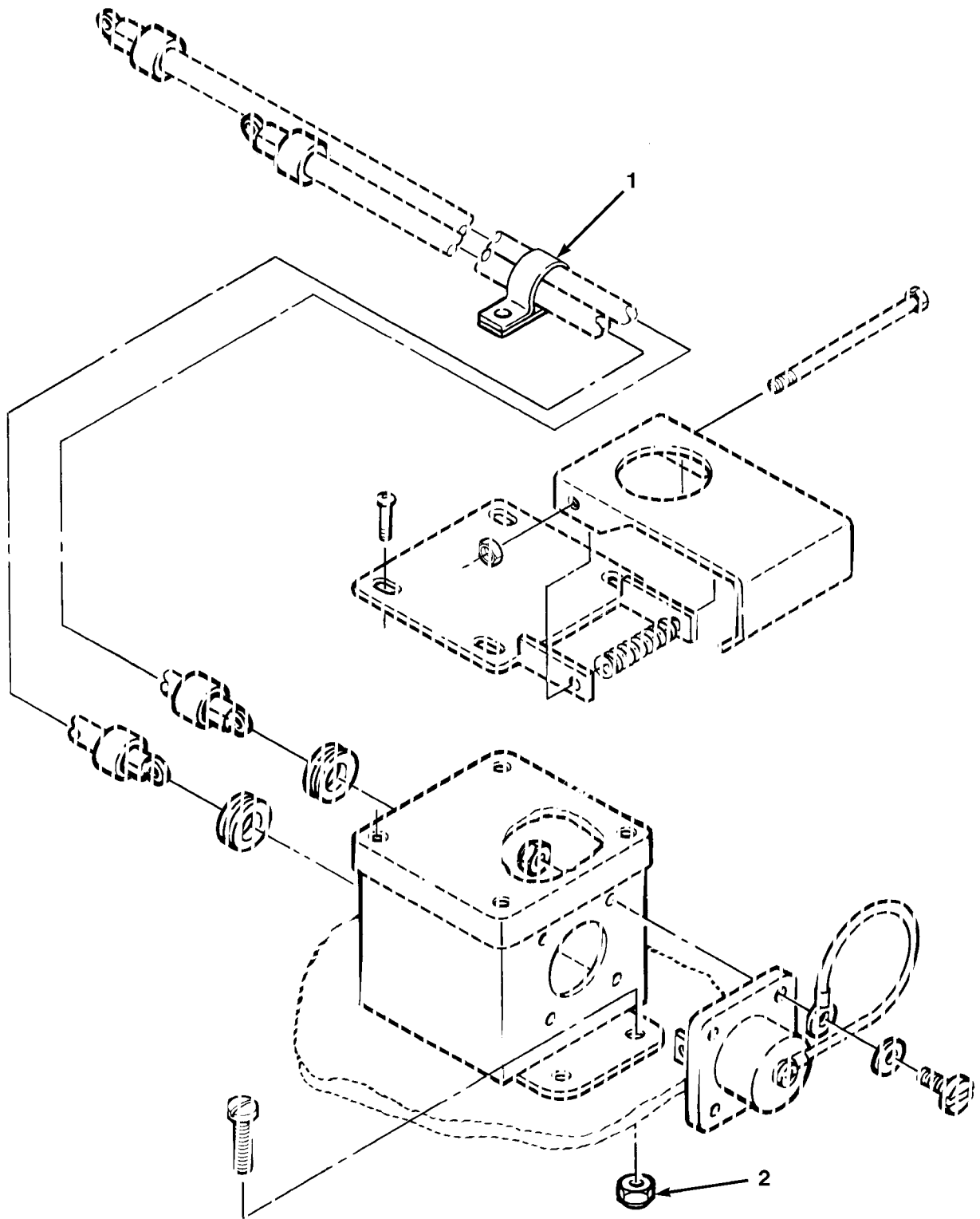


FIG. 32 SLAVE RECEPTACLE ASSEMBLY

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0613 - HULL OR CHASSIS WIRING HARNESS	
					FIG. 32 SLAVE RECEPTACLE ASSEMBLY	
1	PAFZZ	5340-00-224-1204	45152	2288HX	CLAMP,LOOP	1
2	PAFZZ	5310-01-081-5351	72962	42NE-058	NUT,SELF-LOCKING,HE	4
END OF FIGURE						

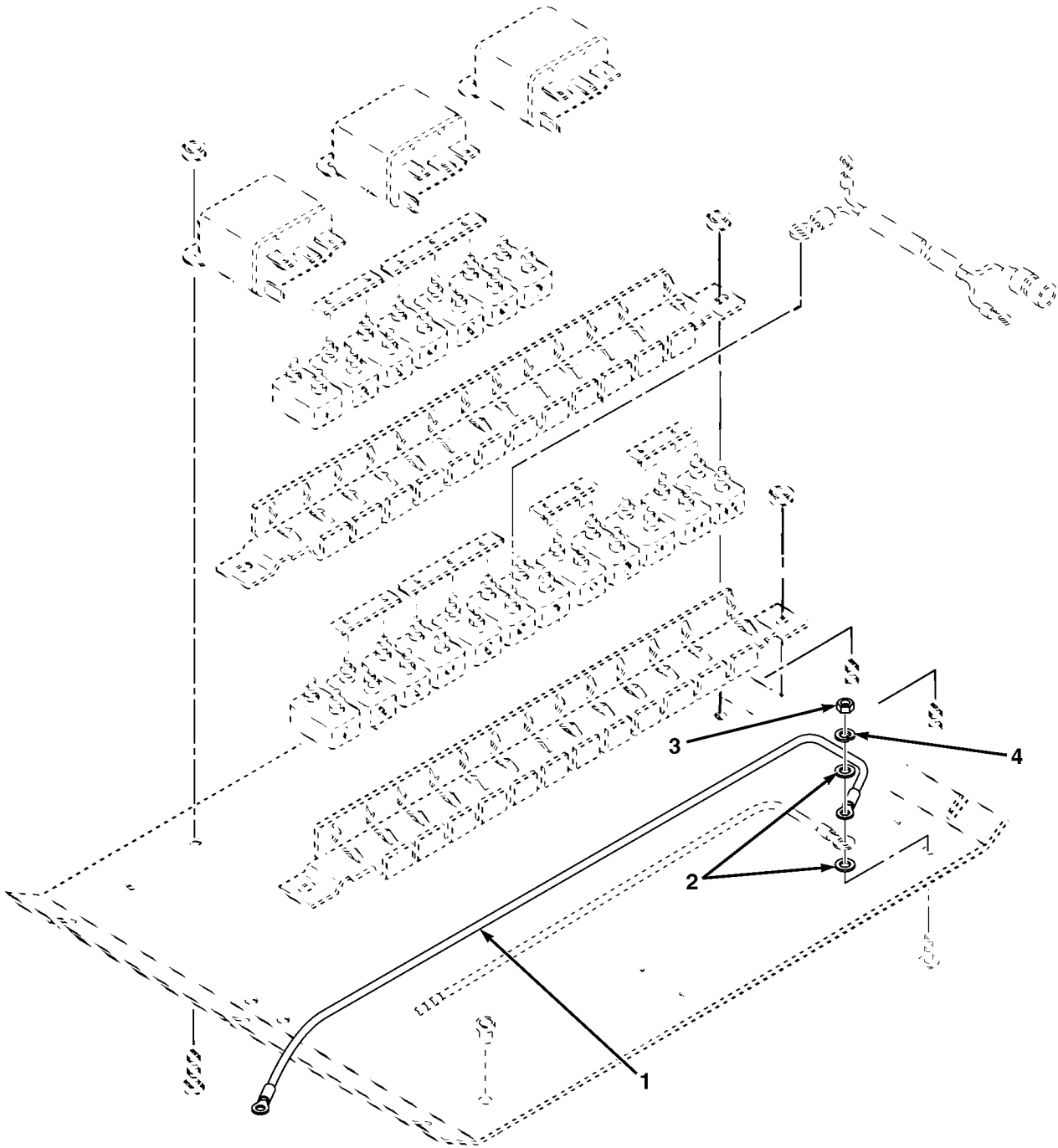


FIG. 33 CIRCUIT BREAKER PANEL WIRE HARNESS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0613 - HULL OR CHASSIS WIRING HARNESS	
					FIG. 33 CIRCUIT BREAKER PANEL WIRE HARNESS	
1	PAFZZ		45152	3482790	WIRE HARNESS	1
2	PAFZZ	5310-00-809-4058	96906	MS27183-10	WASHER,FLAT, .25 x .62 x .06	2
3	PAFZZ	5310-01-058-3183	45152	767HX1	NUT,PLAIN,HEXAGON H, .25-20	1
4	PAFZZ	5310-00-582-5965	80205	MS35338-44	WASHER,LOCK, .25 X .49 X .06.	1
					END OF FIGURE	

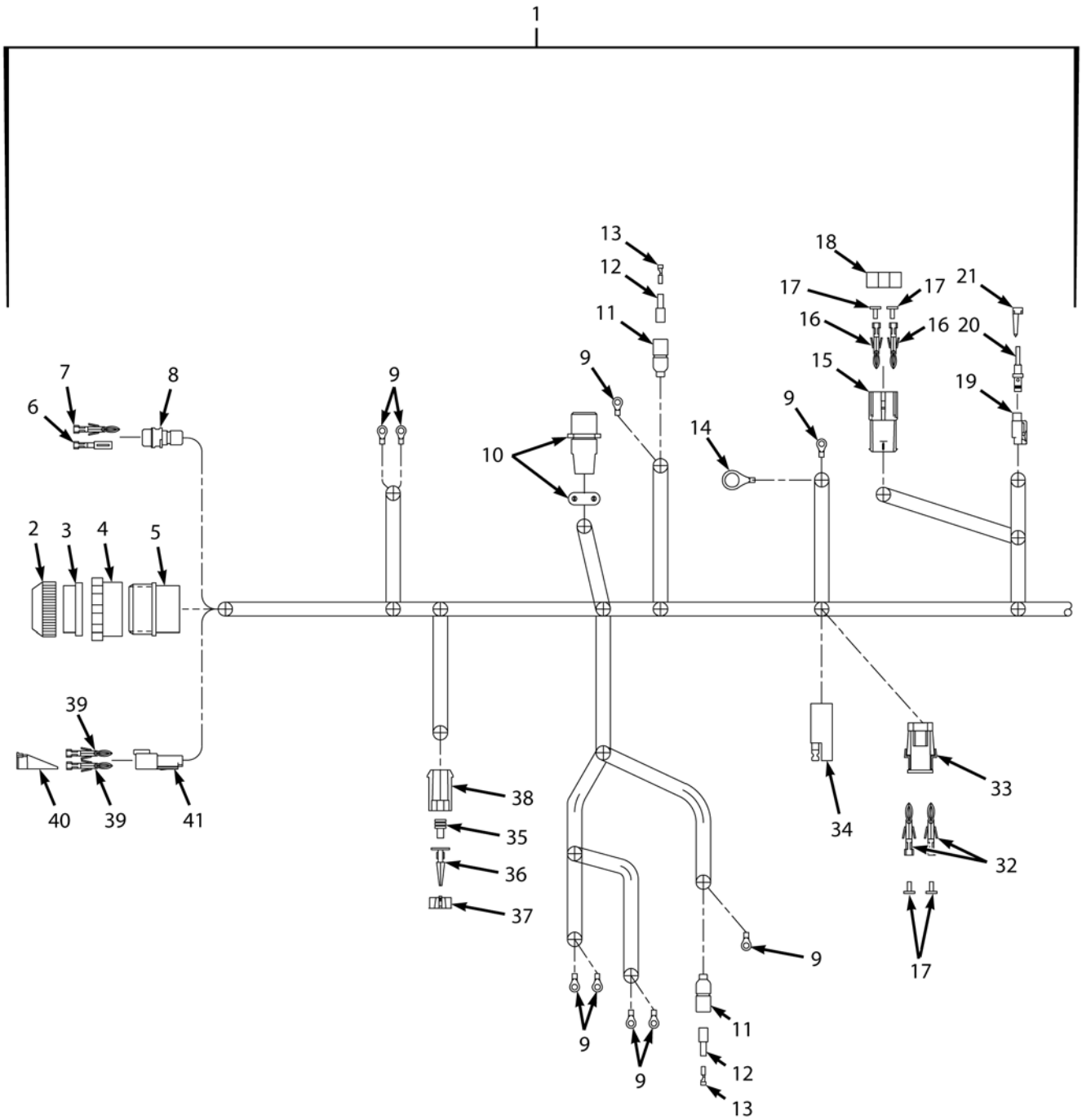


FIG. 34 CHASSIS WIRING HARNESS (SHEET 1 OF 2)

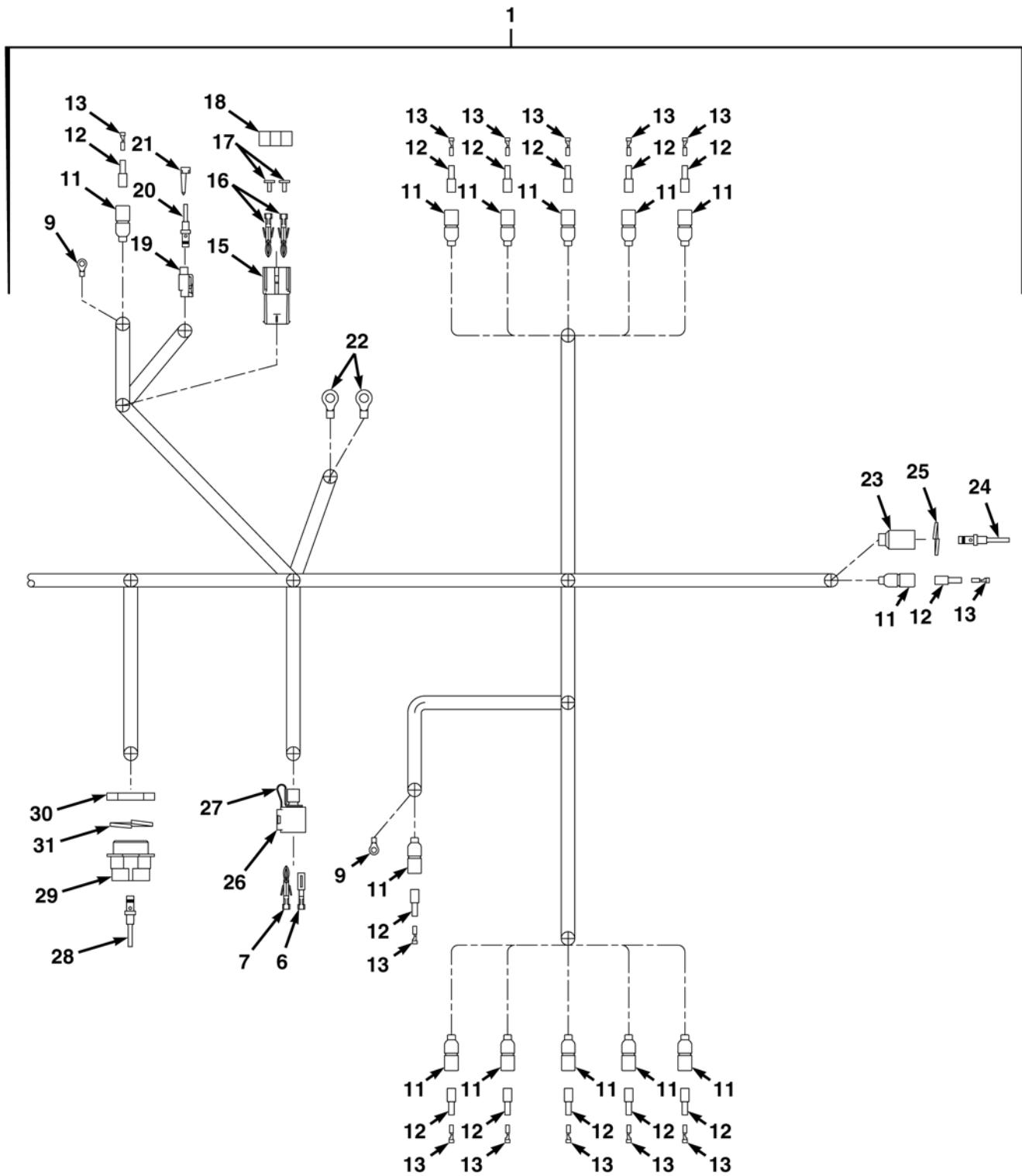


FIG. 34 CHASSIS WIRING HARNESS (SHEET 2 OF 2)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 0613 - HULL OR CHASSIS WIRING HARNESS						
FIG. 34 CHASSIS WIRING HARNESS						
1	PAFFF		45152	3404408	WIRE HARNESS, CHASSI	1
2	PAFZZ	5310-00-393-6685	19207	7723309	•NUT, PLAIN, KNURLED	1
3	PAFZZ	5325-00-309-4017	19207	7974632	•GROMMET, NONMETALLIC	1
4	PAFZZ	5975-00-771-6634	19207	7716634	•NUT, COUPLING, ELECTR	1
5	PAFZZ	5935-00-944-6300	19207	8724642	•CONNECTOR, PLUG, ELEC	1
6	PAFZZ	5999-01-156-6314	71468	110238-0195	•CONTACT, ELECTRICAL	2
7	PAFZZ	5999-01-150-8808	45152	126488A	•CONTACT, ELECTRICAL	2
8	PAFZZ	5935-01-150-8323	11083	7N9737	•CONNECTOR BODY, PLUG	1
9	PAFZZ	5940-00-107-1481	96906	MS20659-104	•TERMINAL, LUG	11
10	PAFZZ	5935-01-508-1705	71468	CA3101F12S-3S-F80-F42	•CONNECTOR, PLUG, ELEC	1
11	PAFZZ	5975-00-660-5962	19207	8724494	•CABLE NIPPLE, ELECTR	15
12	PAFZZ	5970-00-833-8562	19207	8338562	•INSULATOR, BUSHING	15
13	PAFZZ	5940-00-399-6676	19207	8338564	•TERMINAL SET, QUICK	15
14	PAFZZ	5940-00-113-3147	96906	MS20659-127	•TERMINAL, LUG	1
15	PAFZZ	5935-01-339-3227	64678	1530 0002	•CONNECTOR BODY, PLUG	2
16	PAFZZ	5940-01-462-1717	77060	12048159	•TERMINAL, LUG	4
17	PAFZZ	5330-01-292-5293	77060	12015284	•SEAL, CABLE	6
18	PAFZZ	5940-01-462-1718	77060	15300014	•TERMINAL, LUG	2
19	PAFZZ		11139	DTM06-2S	•CONNECTOR, PLUG, ELEC	2
20	PAFZZ	5999-01-480-2343	45152	5HE270	•CONTACT, ELECTRICAL	4
21	PAFZZ	5935-01-446-8180	11139	W2S	•CONNECTOR BODY, PLUG	2
22	PAFZZ	5940-00-113-9819	96906	MS20659-106	•TERMINAL, LUG	2
23	PAFZZ	5935-00-691-5591	97403	13207E6498-2	•SHELL, ELECTRICAL CO	1
24	PAFZZ	5999-00-057-2929	19204	572929	•CONTACT, ELECTRICAL	1
25	PAFZZ	5310-00-833-8567	19207	8338567	•WASHER, SLOTTED	1
26	PAFZZ	5935-01-149-5165	11083	7N9738	•CONNECTOR BODY, PLUG	1
27	PAFZZ	5342-01-270-8588	45152	2AA855	•CLIP, SPECIAL	1
28	PAFZZ	5999-01-280-1438	12361	7-826-000092	•CONTACT, ELECTRICAL	7
29	PAFZZ		11139	HD34-18-8SN-059	•CONNECTOR	1
30	PAFZZ	5310-01-086-7725	11139	114020-90	•NUT, PLAIN, HEXAGON	1
31	PAFZZ	5310-01-081-0798	11139	114021	•WASHER, LOCK	1
32	PAFZZ	5999-01-406-4110	77060	12124582	•CONTACT, ELECTRICAL	2
33	PAFZZ	5935-01-214-4163	22785	12010973	•CONNECTOR BODY, PLUG	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
34	PAFZZ	5995-01-194-0125	45152	104699B	•CABLE ASSEMBLY,POWE	1
35	PAFZZ	2530-01-464-9916	77060	12048086	•BOOT,VEHICULAR COMP	2
36	PAFZZ	5999-01-364-1237	77060	12045773	•CONTACT,ELECTRICAL	2
37	PAFZZ	5935-01-471-1287	77060	12052634	•POLARIZING KEY,ELEC	2
38	PAFZZ	5935-01-470-4143	0FW39	12421884	•CONNECTOR BODY,PLUG	1
39	PAFZZ	5999-01-373-4494	11139	0460-215-16141	•CONTACT,ELECTRICAL	2
40	PAFZZ	5935-01-519-1808	11139	W2P	•RETAINER,ELECTRICAL	1
41	PAFZZ	5935-01-506-5555	0FW39	12422624	•CONNECTOR,PLUG,ELEC	1

END OF FIGURE

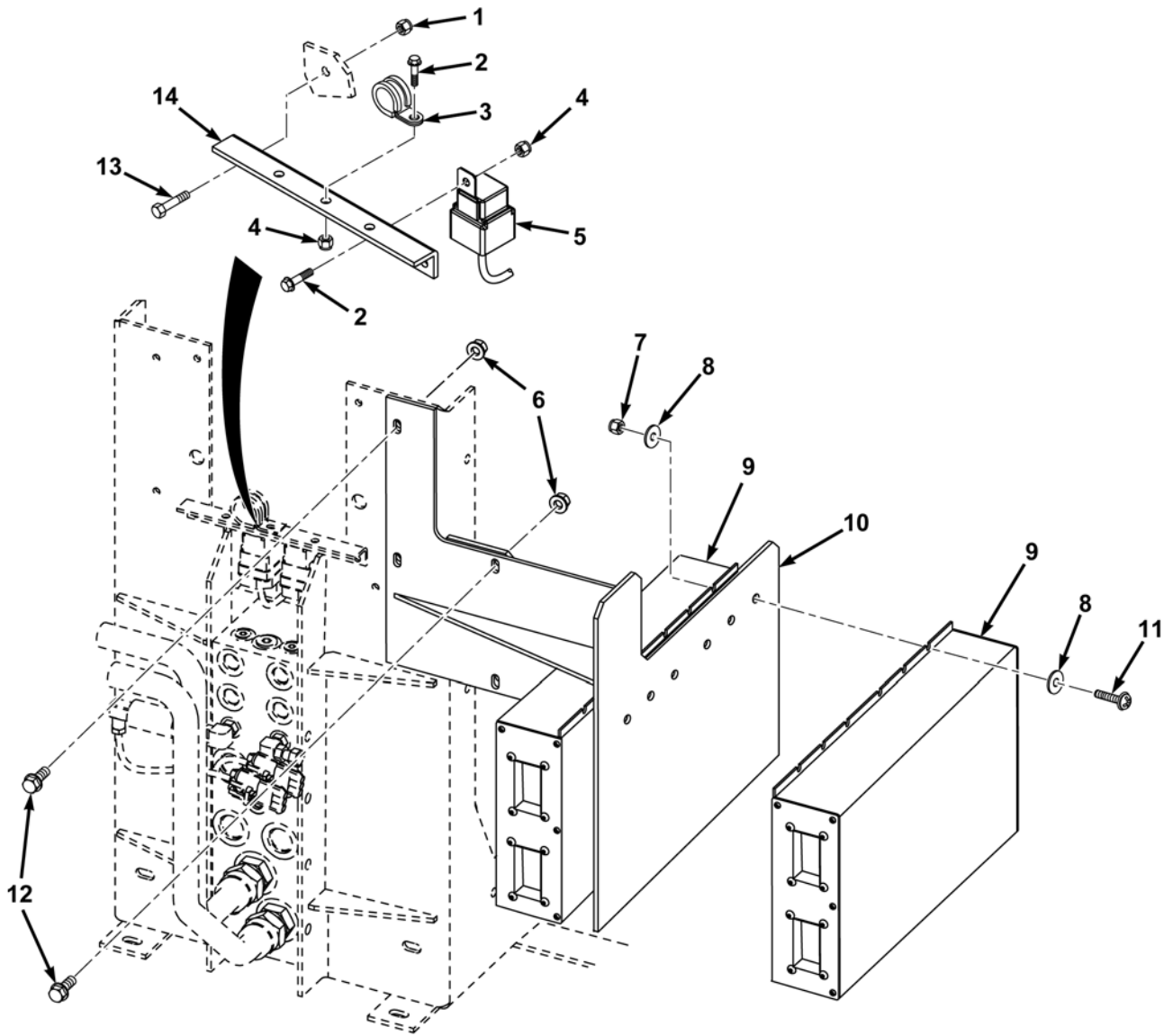


FIG. 35 VEHICLE INTERFACE MODULE

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0613 - HULL OR CHASSIS WIRING HARNESS	
					FIG. 35 VEHICLE INTERFACE MODULE & INHIBIT RELAYS	
1	PAFZZ	5310-01-288-1116	45152	1437220	NUT, SELF-LOCKING, EX	2
2	PAFZZ	5305-01-344-8899	45152	1606140	SCREW, CAP, HEXAGON HEAD	3
3	PAFZZ	5340-00-404-4098	84971	TA720516	CLAMP, LOOP	1
4	PAFZZ	5310-01-346-9445	45152	1600460	NUT, SELF-LOCKING, CL, .25-20	3
5	PAFZZ	5945-01-512-0284	45152	3270348	RELAY, ELECTROMAGNET	2
6	PAFZZ	5310-01-340-5671	45152	1333510	NUT, SELF-LOCKING, EX, .31-18	4
7	PAFZZ	5310-00-208-1918	88044	AN365-1024A	NUT, SELF-LOCKING	6
8	PAFZZ	5310-01-061-7450	45152	2473HX1	WASHER, FLAT	12
9	PBFFF	5895-01-515-2086	45152	3569184	CONTROL, INTERFACE	2
10	PBFZZ		45152	3520184	BRACKET, VIM MOUNTING	1
11	PAFZZ	5305-01-166-4410	45152	1503690	SCREW, MACHINE	6
12	PAFZZ	5305-01-456-9449	45152	1955110	SCREW, CAP, HEXAGON, .31-18X.75	4
13	PAFZZ	5306-01-287-5714	45152	1614120	BOLT, MACHINE	2
14	PAFZZ		45152	3440278	BRACKET	1
					END OF FIGURE	

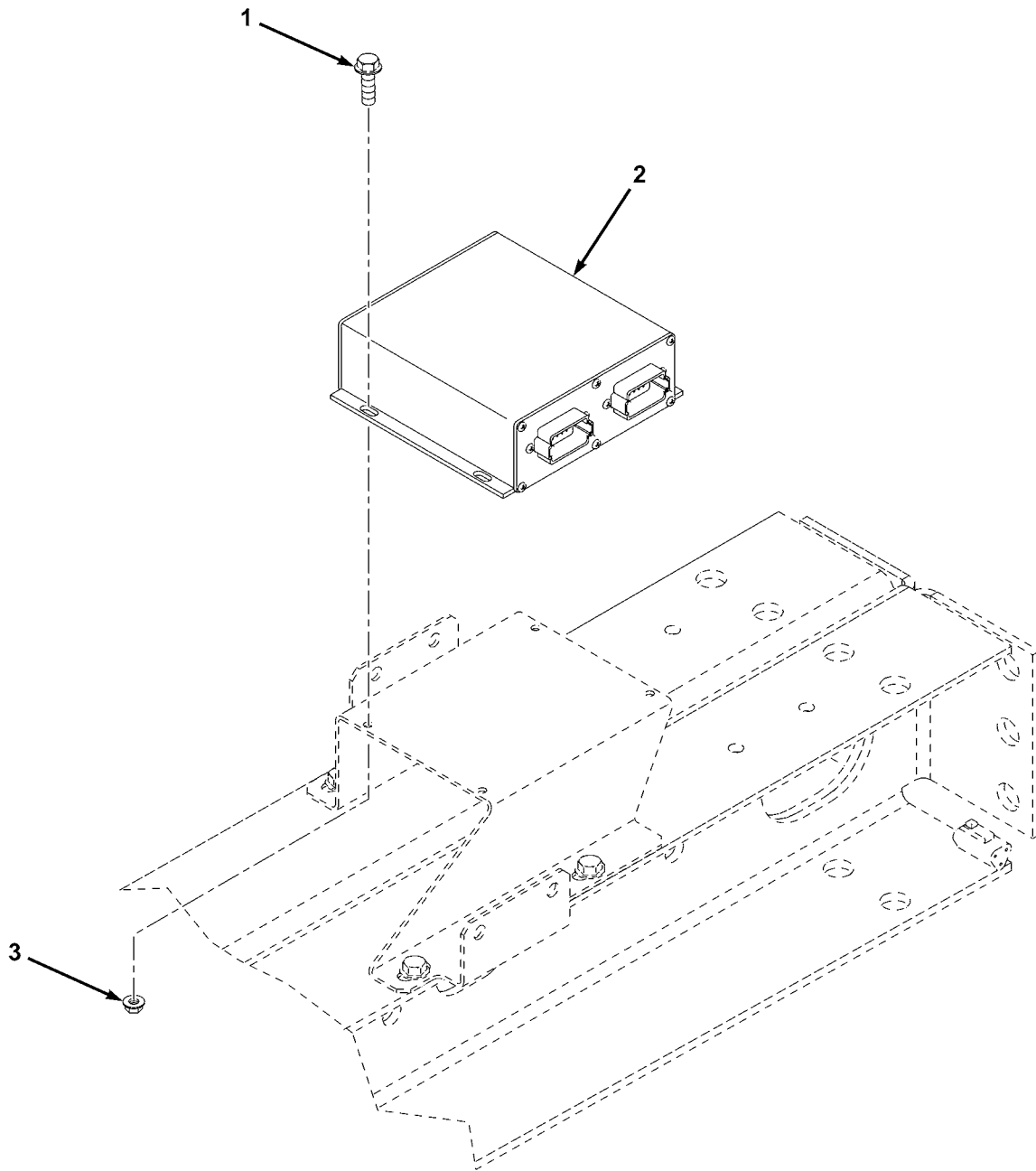


FIG. 36 INPUT MODULE

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0613 - HULL OR CHASSIS WIRING HARNESS	
					FIG. 36 INPUT MODULE	
1	PAFZZ	5305-01-249-8564	45152	59031AX	SCREW,MACHINE, 10-24X.75	4
2	PBFZZ		OENJ2	GB-073-101	MODULE,INPUT	1
3	PAFZZ	5310-00-208-1918	88044	AN365-1024A	NUT,SELF-LOCKING,HE, 10-24	4
					END OF FIGURE	

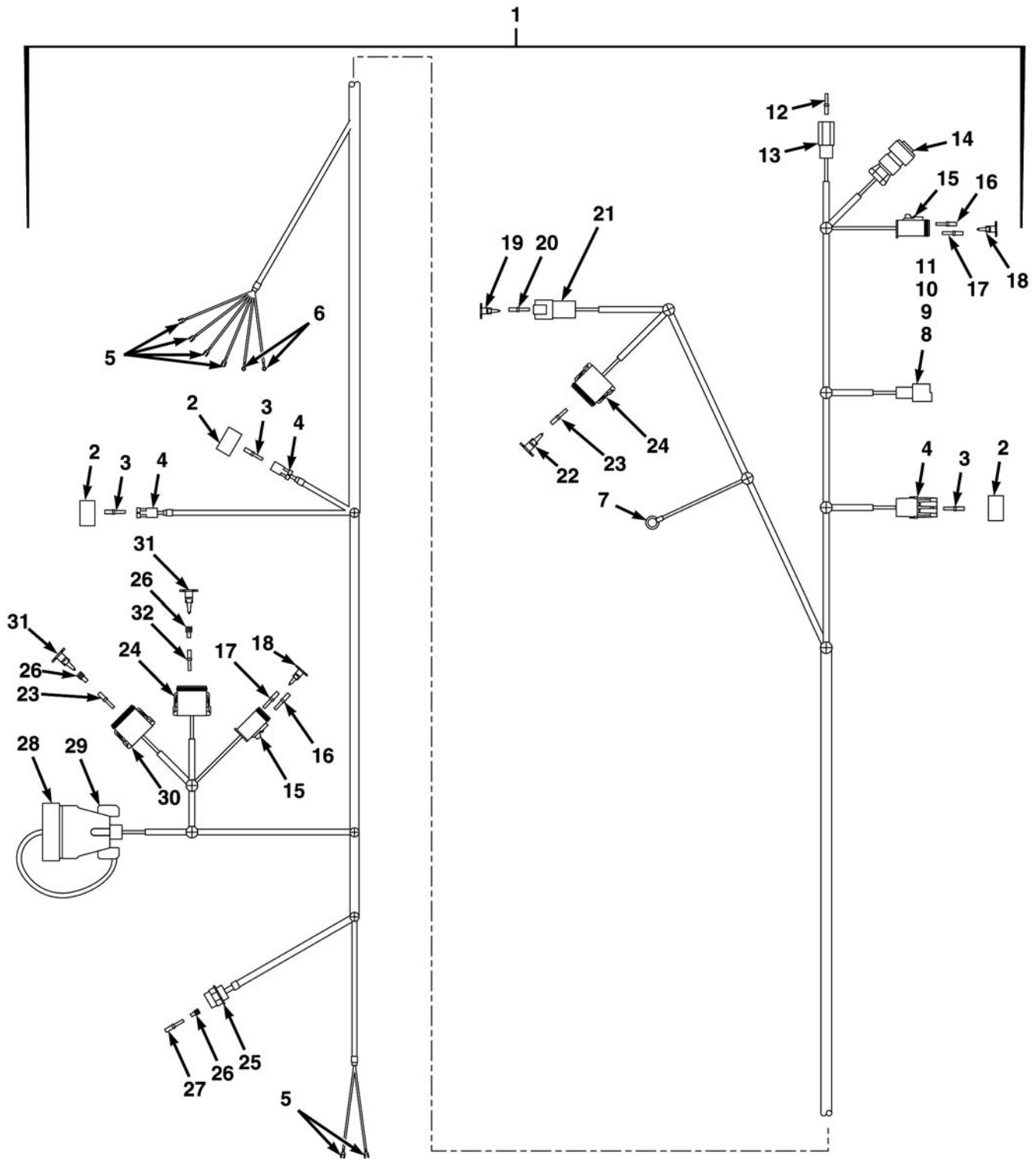


FIG. 37 LHS CHASSIS HARNESS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 0613 - HULL OR CHASSIS WIRING HARNESS FIG. 37 LHS CHASSIS HARNESS						
1	PBFFF		45152	3664564	HARNESS,CHASSIS, LHS, THAAD	1
2	PAFZZ	5975-01-226-8078	77060	12010293	•BOOT,DUST AND MOIST	6
3	PAFZZ	5999-01-406-4110	77060	12124582	•CONTACT,ELECTRICAL	6
4	PAFZZ	5935-01-214-4163	22785	12010973	•CONNECTOR BODY,PLUG,	3
5	PAFZZ	5940-01-168-0192	00779	35771	•TERMINAL,LUG	6
6	PAFZZ	5940-00-143-4771	81343	MS25036-103	•TERMINAL, LUG	2
7	PAFZZ	5940-00-113-9826	96906	MS25036-114	•TERMINAL,LUG	1
8	PAFZZ	5935-01-154-6233	19207	12258940-4	•CONNECTOR,PLUG,ELEC	1
9	PAFZZ	5999-01-156-6314	71468	110238-0195	•CONTACT,ELECTRICAL	2
10	PAFZZ	5999-01-150-8808	45152	126488A	•CONTACT,ELECTRICAL	1
11	PAFZZ	5340-01-229-8464	71468	029-0262-000	•CLIP,SPRING TENSION.	1
12	PAFZZ		11139	0462-203-08141	•CONTACT,ELECTRICAL	1
13	PAFZZ		11139	DTHD06-1-8S	•CONNECTOR,I SOCKET	1
14	PAFZZ	5935-00-435-3945	71468	CA3106E14S-6PF80	•CONNECTOR,PLUG,ELEC	1
15	PAFZZ	5935-01-479-1602	45152	7HR980	•CONNECTOR,PLUG,ELEC, 1939	2
16	PAFZZ	5999-01-470-6337	45152	7HR978	•CONTACT,ELECTRICAL	2
17	PAFZZ	5999-01-470-6330	11139	0462-201-1631	•CONTACT,ELECTRICAL	4
18	PAFZZ	5340-01-479-3023	45152	9HB973	•LOCK,SECONDARY	2
19	PAFZZ	5935-01-523-1409	11139	W6P	•CONNECTOR, RECEPTACLE	1
20	PAFZZ	5999-01-216-3648	11139	0460-202-16141	•CONTACT,ELECTRICAL	5
21	PAFZZ	5935-01-515-2433	45152	2HB193	•CONNECTOR, RECEPTACLE	1
22	PAFZZ	5935-01-454-1789	11139	W12S	•RETAINER,ELECTRICAL	1
23	PAFZZ	5999-01-372-4955	19207	12419140	•CONTACT,ELECTRICAL	19
24	PAFZZ	5935-01-495-3353	45152	7HA302	•PLUG	2
25	PAFZZ		11139	HD36-18-8PN	•CONNECTOR, 8 PIN	1
26	PAFZZ	5935-01-174-1235	11139	114017	•PLUG, END SEAL, ELECTRIC.	8
27	PAFZZ	5999-01-286-5843	12361	7-689-000797	•CONTACT, ELECTRICAL	6
28	PAFZZ		11139	CCUP36-34	•CONNECTOR, CAP, WITH CHAIN. . . .	1
29	PAFZZ		11139	CA3106E36-10SB-F80	•CONNECTOR, 48 SOCKET, 16GA	1
30	PAFZZ	5935-01-495-3346	45152	8HA889	•PLUG	1
31	PAFZZ	5935-01-519-0770	11139	W12S-P012	•RETAINER, ELECTRICAL	2
32	PAFZZ	5999-01-203-6687	11139	0462-201-16141	•CONTACT, ELECTRICAL	11
END OF FIGURE						

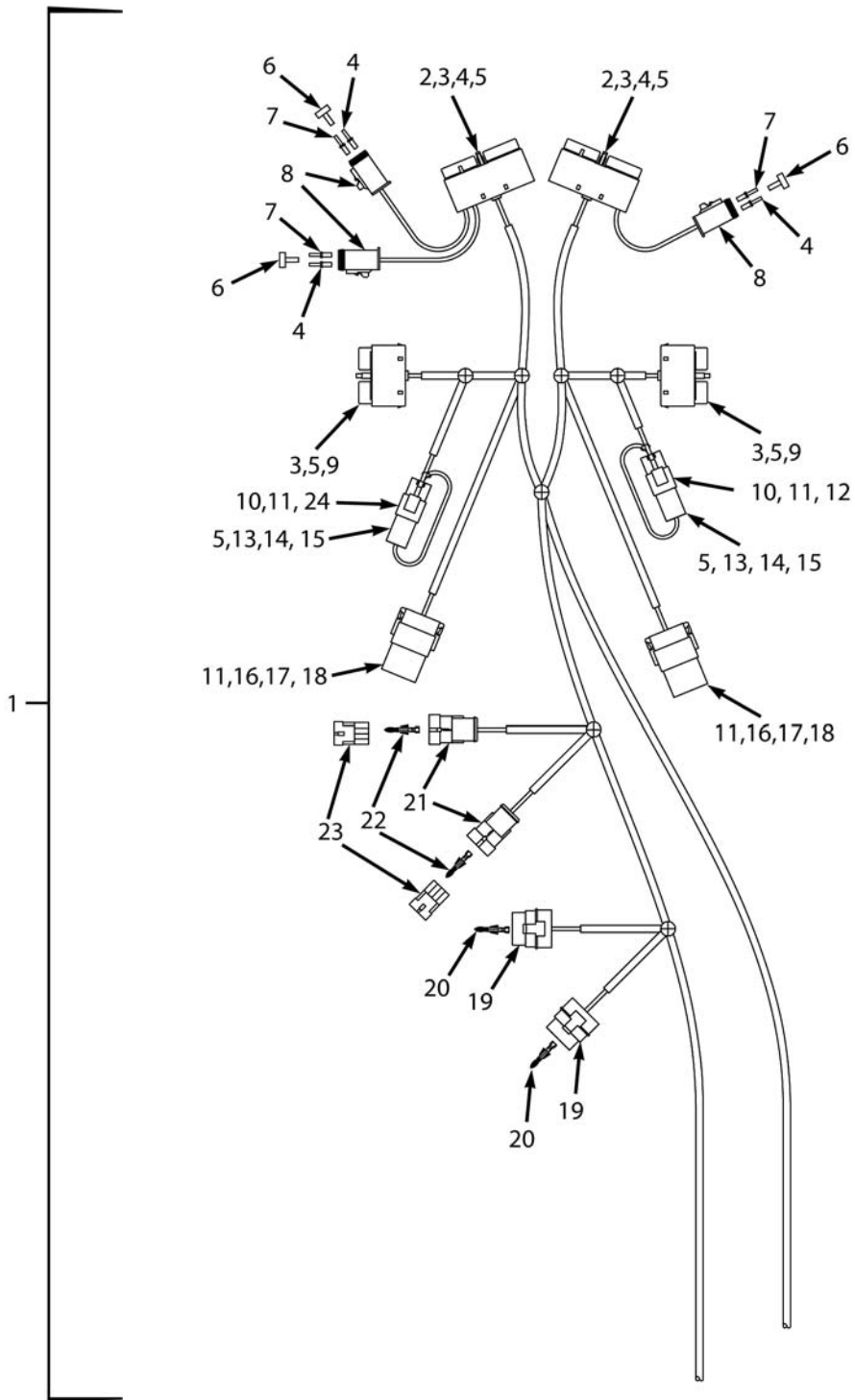


FIG. 38 CONTROL VALVE HARNESS (SHEET 1 OF 3)

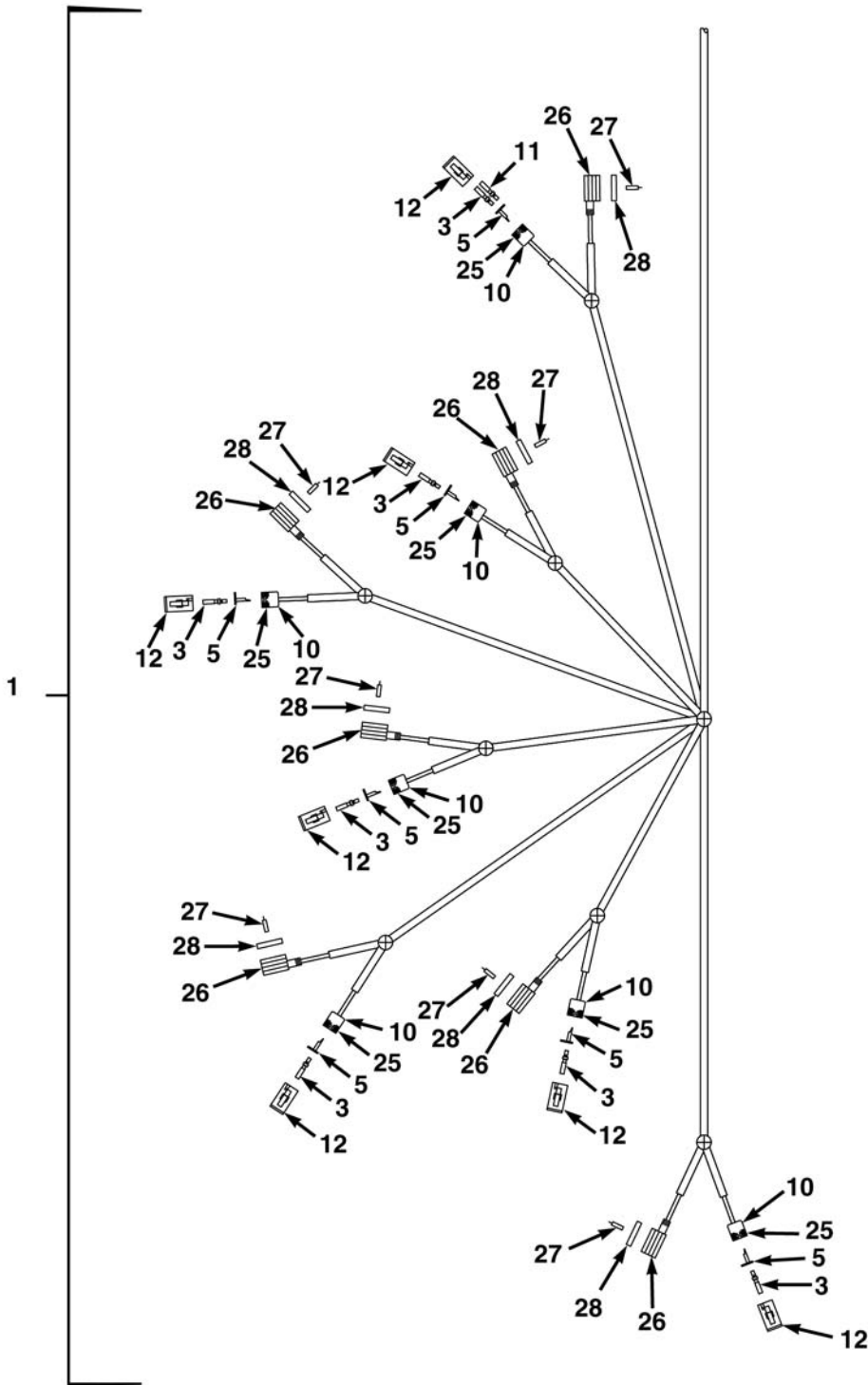


FIG. 38 CONTROL VALVE HARNESS (SHEET 2 OF 3)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 0613 - HULL OR CHASSIS WIRING HARNESS						
FIG. 38 CONTROL VALVE HARNESS						
1	PBFFF		45152	3701117	HARNESS,CONTROL VALVE	1
2	PAFZZ	5935-01-508-2820	11139	DRC18-40SA	•CONNECTOR, BODY, MODULE	2
3	PAFZZ	5999-01-203-6687	45152	2ER654	•CONTACT, ELECTRICAL	133
4	PAFZZ	5999-01-470-6330	11139	0462-201-1631	•CONTACT, ELECTRICAL	12
5	PAFZZ	5935-01-174-1235	11139	114017	•PLUG, END SEAL, ELECTRICAL	46
6	PAFZZ	5340-01-479-3023	45152	9HB973	•LOCK, SECONDARY	3
7	PAFZZ	5999-01-470-6337	45152	7HR978	•CONTACT, ELECTRICAL	3
8	PAFZZ	5935-01-479-1602	45152	7HR980	•CONNECTOR, PLUG, ELECTRICAL	3
9	PAFZZ	5935-01-517-0400	45152	1HA53	•CONNECTOR, PLUG, ELECTRICAL	2
10	PAFZZ	5935-01-480-9083	45152	5HE459	•CONNECTOR, RECEPTACL	9
11	PAFZZ	5999-01-372-4955	11139	5962-202-16141	•CONTACT, ELECTRICAL	39
12	PAFZZ	5935-01-517-6022	11139	W4S-P012	•RETAINER, ELECTRICAL	8
13	PAFZZ	5935-01-503-4847	11139	DT04-4P	•CONNECTOR, PLUG, ELECTRICAL	2
14	PAFZZ	5999-01-373-4494	11139	0460-215-16141	•CONTACT, ELECTRICAL	2
15	PAFZZ	5935-01-503-7348	11139	W4P	•RETAINER, ELECTRICAL	2
16	PAFZZ	5935-01-470-6220	11139	DT06-12SA	•CONNECTOR, PLUG, ELECTRICAL	2
17	PAFZZ	5935-01-454-1789	11139	W12S	•RETAINER, ELECTRICAL	2
18	PAFZZ	5935-01-523-5021	13499	DT04-12PA-P021	•CONNECTOR, PLUG, ELECTRICAL	2
19	PAFZZ		77060	12077951	•CONNECTOR ASSEMBLY	2
20	PAFZZ	2590-01-480-2394	45152	2HK530	•SOCKET, PLUG	8
21	PAFZZ	5999-15-174-6552	A1631	282105-1	•CONTACT, ELECTRICAL	2
22	PAFZZ	5999-15-174-6553	A1631	183024-1	•CONTACT, ELECTRICAL	6
23	PAFZZ		A1631	281934-3	•SEAL,ELECTRICAL	2
24	PAFZZ	5935-01-483-0852	11139	W4S	•CONNECTOR,RECEPTACL	7
25	PAFZZ		11139	DT04-4P-RT01	•SEMICONDUCTOR DEVICE	13
26	PAFZZ		0D5M6	932106-100	•CONNECTOR, PLUG, ELECTRICAL	13
27	PAFZZ	5961-00-181-0661	81349	JANTX1N3957	•SEMICONDUCTOR DEVICE	13
28	PAFZZ	5330-01-355-4809	0D5M6	731739-002	•GASKET	13
29	PAFZZ		71468	CA3106F24-19PF80	•CONNECTOR, PLUG, ELECTRICAL	1
30	PAFZZ	5935-01-112-9782	71468	CA3106F18-1PF80	•CONNECTOR, PLUG, ELECTRICAL	1
31	PAFZZ	5935-01-517-6030	11139	W6S-P012	•RETAINER, ELECTRICAL	1
32	PAFZZ	5935-01-519-1186	11139	DT06-6S-P012	•CONNECTOR, PLUG, ELECTRICAL	1
33	PAFZZ	5935-01-517-8182	13548	94862	•CONNECTOR, PLUG, ELECTRICAL	2
34	PAFZZ	5999-01-150-8808	45152	126488A	•CONTACT, ELECTRICAL	2

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
35	PAFZZ	5342-01-270-8588	45152	2AA855	•CLIP, SPECIAL	2
36	PAFZZ	5999-01-156-6314	71468	110238-0195	•CONTACT, ELECTRICAL	2
37	PAFZZ	5935-01-149-5165	11083	7N9738	•CONNECTOR BODY, PLUG	2
38	PAFZZ	5935-01-484-6537	11139	DT06-4S	•CONNECTOR, PLUG, ELECTRICAL . . .	6
39	PAFZZ	5935-01-339-3227	64678	1530 0002	•CONNECTOR BODY, PLUG	1
40	PAFZZ	5940-01-462-1718	77060	15300014	•TERMINAL, LUG	1
41	PAFZZ	5940-01-462-1717	77060	12048159	•TERMINAL, LUG	2
42	PAFZZ	5975-01-310-5011	77060	12015323	•BOOT, DUST & MOIST	2
43	PAFZZ	5935-01-454-1787	11139	W12P	•RETAINER, ELECTRICAL	1
44	PAFZZ	5935-01-516-9372	11139	DT04-12PA	•CONNECTOR, PLUG, ELECTRICAL	1

END OF FIGURE

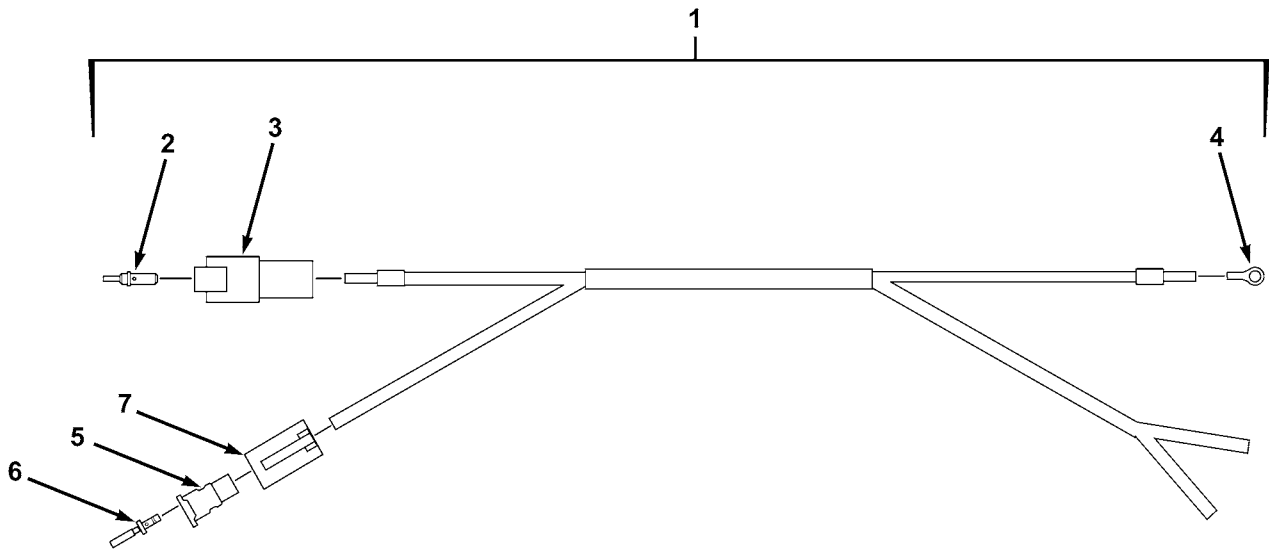


FIG. 39 CAB ADD-ON HARNESS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0613 - HULL OR CHASSIS WIRING HARNESS FIG. 39 CAB ADD-ON HARNESS	
1	PBFFF		45152	3437682	CAB ADD-ON HARNESS	1
2	PAFZZ		11139	0460-204-08141	•TERMINAL,PIN.	1
3	PAFZZ		11139	DTHD04-1-8P	•CONNECTOR,1 PIN.	1
4	PAFZZ	5940-00-114-1300	96906	MS20659-105	•TERMINAL,LUG, #10-12,10 GA	1
5	PAFZZ	5935-01-446-8180	11139	W2S	•CONNECTOR BODY,PLUG	1
6	PAFZZ	5999-01-372-4955	11139	5962-202-16141	•CONTACT,ELECTRICAL	1
7	PAFZZ	5935-01-447-5814	11139	DT06-2S	•CONNECTOR,BODY,PLUG	1
					END OF FIGURE	

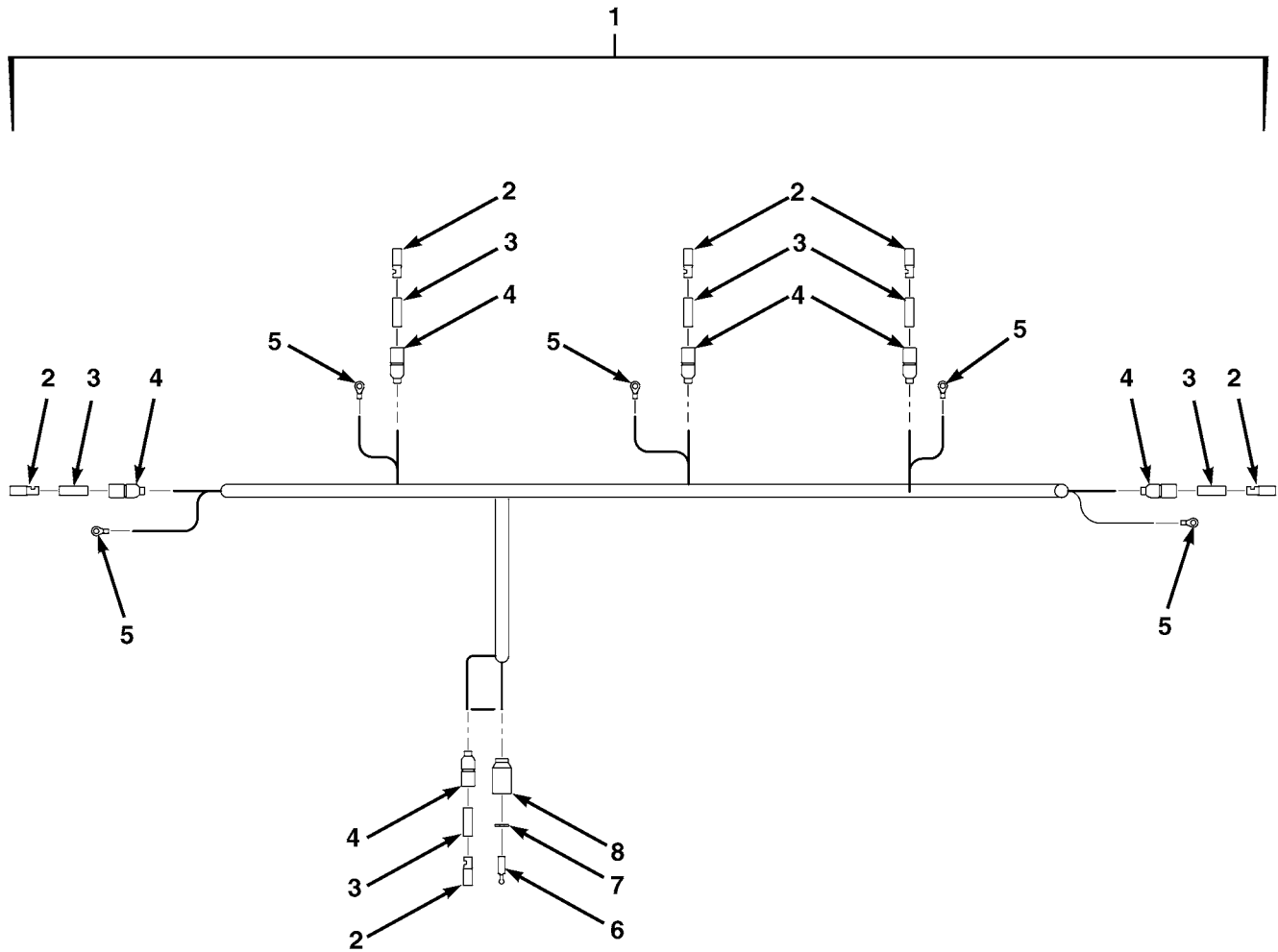


FIG. 40 REAR WIRE HARNESS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0613 - HULL OR CHASSIS WIRING HARNESS FIG. 40 REAR WIRE HARNESS	
1	PBFFF		45152	3503895	WIRE HARNESS,REAR, CLEARANCE LIGHT.....	1
2	PAFZZ	5940-00-399-6676	19207	8338564	•TERMINAL SET,QUICK	6
3	PAFZZ	5970-00-833-8562	19207	8338562	•INSULATOR,BUSHING	6
4	PAFZZ	5975-00-660-5962	19207	8724494	•CABLE NIPPLE,ELECTRICAL.....	6
5	PAFZZ	5940-00-107-1481	96906	MS20659-104	•TERMINAL,LUG	5
6	PAFZZ	5999-00-057-2929	19204	572929	•CONTACT,ELECTRICAL	1
7	PAFZZ	5310-00-833-8567	19207	8338567	•WASHER,SLOTTED.....	1
8	PAFZZ	5935-00-691-5591	97403	13207E6498-2	•SHELL,ELECTRICAL CONNECTOR...	1
					END OF FIGURE	

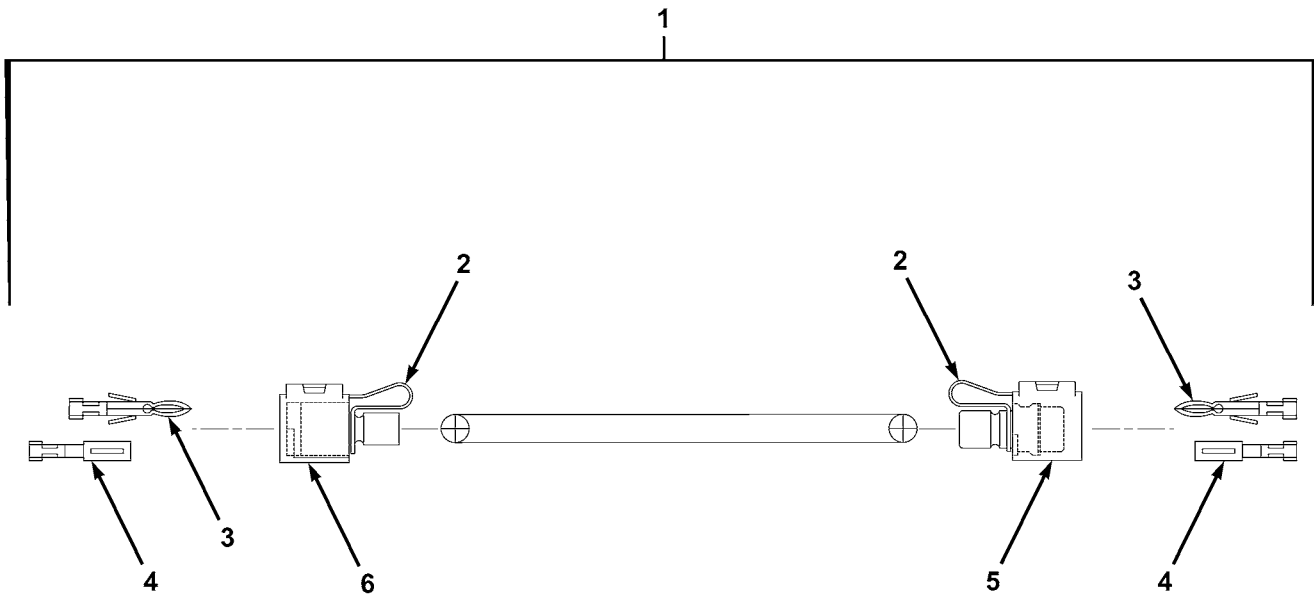


FIG. 41 HARNESS STE-ICE EXTENSION

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0613 - HULL OR CHASSIS WIRING HARNESS FIG. 41 HARNESS STE-ICE EXTENSION	
1	PBFFF		45152	3443918	HARNESS,STE-ICE, EXTENSION	1
2	PAFZZ	5342-01-270-8588	45152	2AA855	•CLIP,SPECIAL	2
3	PAFZZ	5999-01-150-8808	45152	126488A	•CONTACT,ELECTRICAL	2
4	PAFZZ	5999-01-156-6314	71468	110238-0195	•CONTACT,ELECTRICAL	2
5	PAFZZ	5935-01-150-8323	11083	7N9737	•CONNECTOR BODY,PLUG	1
6	PAFZZ	5935-01-149-5165	11083	7N9738	•CONNECTOR BODY,PLUG	1
					END OF FIGURE	

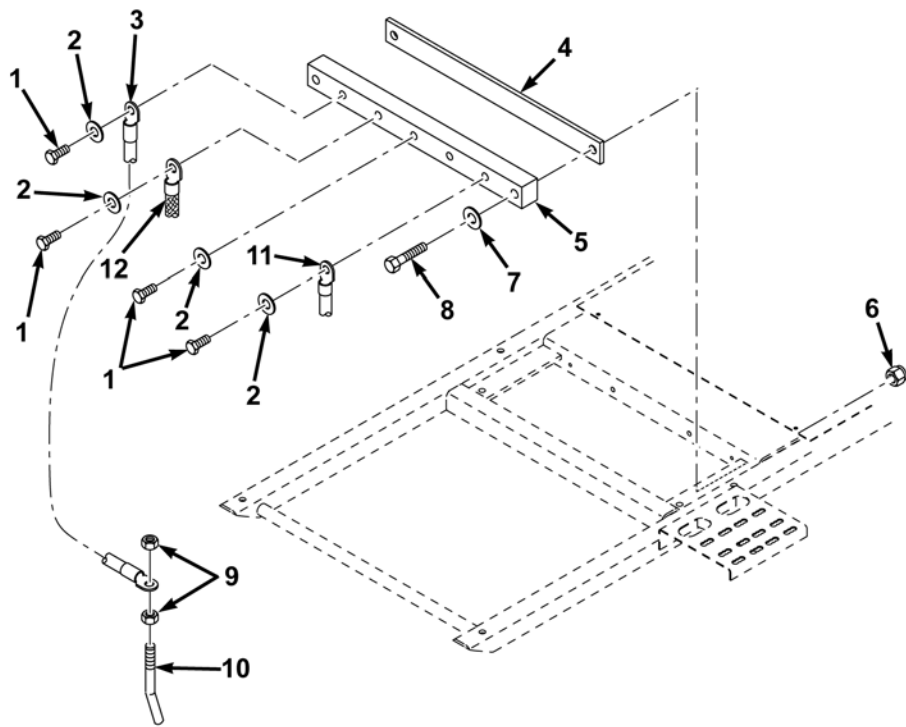
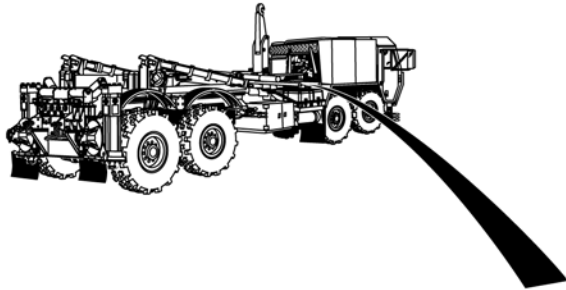


FIG. 42 GROUNDING BAR INSTALLATION

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0613 - HULL OR CHASSIS WIRING HARNESS FIG. 42 GROUNDING BAR INSTALLATION	
1	PAFZZ		45152	2180410	SCREW, CAP, HEXAGON	5
2	PAFZZ		45152	2180420	WASHER, FLAT	5
3	PAFZZ		45152	3451701	CABLE ASSEMBLY	1
4	PAFZZ		45152	2090810	GASKET	1
5	PAFZZ		45152	2094270	BAR, GROUNDING	1
6	PAFZZ	5310-01-288-1116	45152	1437220	NUT, SELF-LOCKING, EX	2
7	PAFZZ	5310-01-236-6412	45152	1437060	WASHER, FLAT	2
8	PAFZZ	5305-00-638-8920	45152	1816HX1	SCREW, CAP, HEXAGON	2
9	PAFZZ	5310-01-122-4500	21102	545X	NUT, PLAIN, HEXAGON	2
10	PAFZZ		45152	2199990	ROD	1
11	PAFZZ		45152	3448502	CABLE ASSEMBLY	1
12	PAFZZ		45152	3448501	CABLE ASSEMBLY	1
END OF FIGURE						

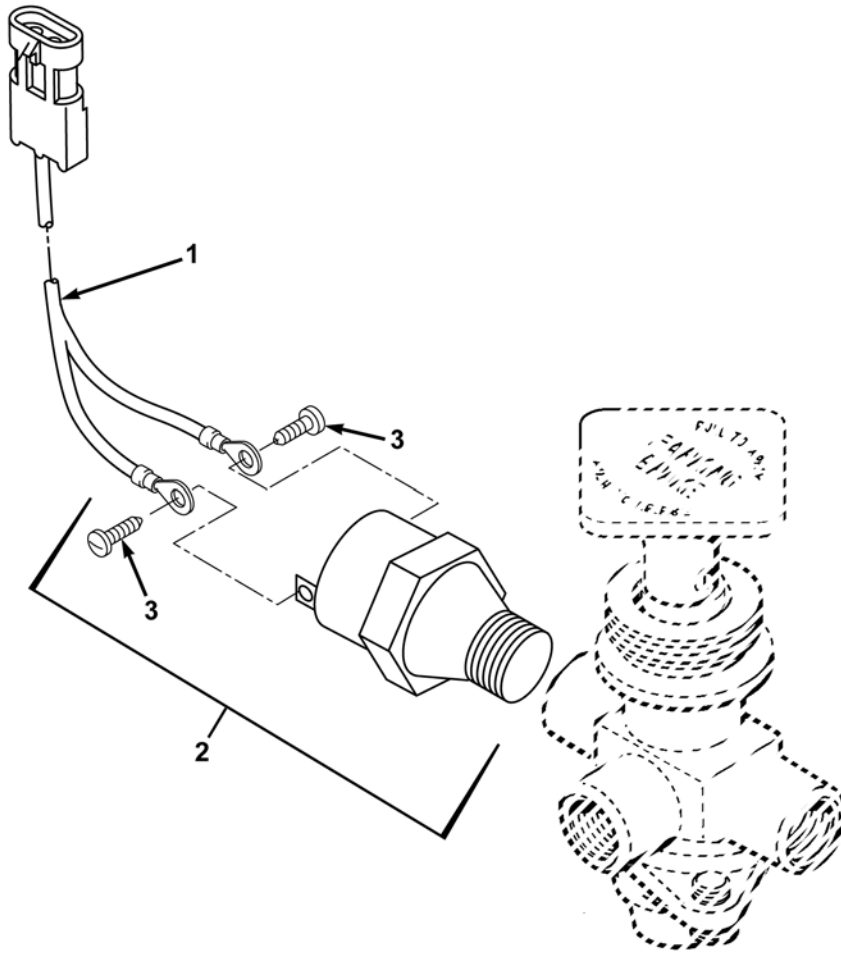


FIG. 43 PARKING BRAKE WIRING

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0613 - HULL OR CHASSIS WIRING HARNESS FIG. 43 PARKING BRAKE WIRING	
1	PAFZZ		45152	3379696	WIRE ASSEMBLY	1
2	PAFZZ	5930-01-503-4591	45152	1509610	SWITCH, PRESSURE	1
3	PAFZZ	5305-01-360-7999	39428	90283A192	•SCREW, MACHINE	2
					END OF FIGURE	

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

RPSTL GROUP 08 - TRANSFER AND FINAL DRIVE ASSEMBLIES

		Figure	Page
GROUP 08	TRANSFER AND FINAL DRIVE ASSEMBLIES		
	0801 POWER TRANSFER AND FINAL DRIVE ASSEMBLIES		
	TRANSFER CASE SUPPORT	44	0163-2
	TRANSFER CASE ASSEMBLY	45	0163-5

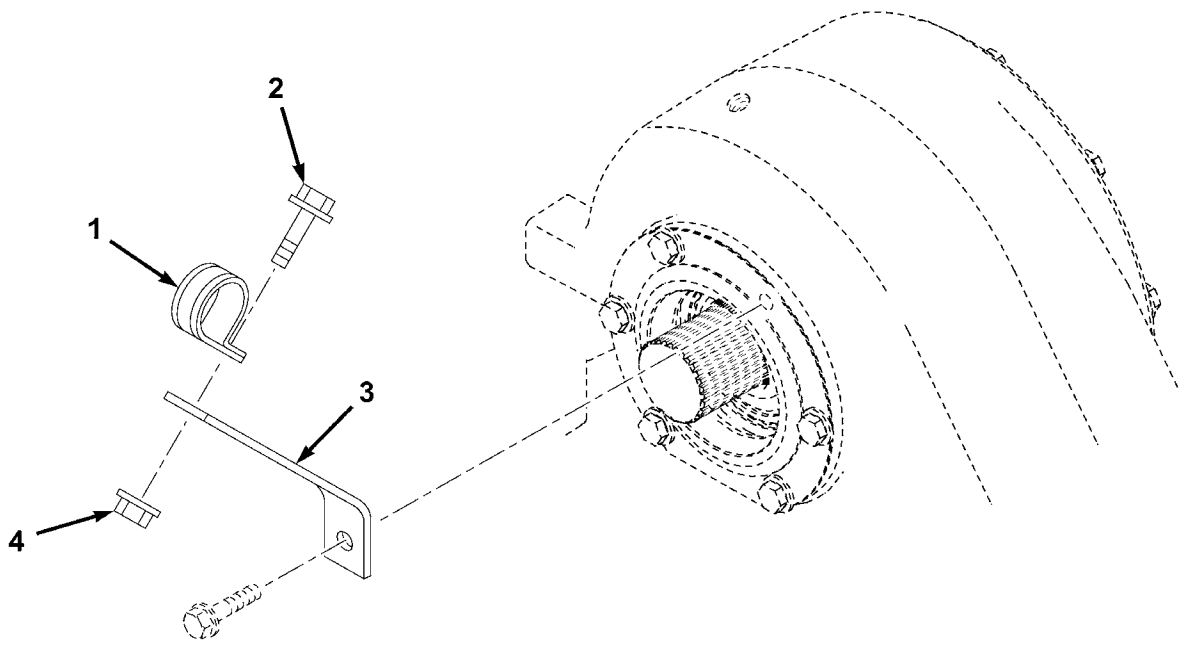


FIG. 44 TRANSFER CASE SUPPORT

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0801 - POWER TRANSFER AND FINAL DRIVE ASSEMBLIES	
					FIG. 44 TRANSFER CASE SUPPORT	
1	PAFZZ	5340-01-133-3738	45152	2682HX	CLAMP,LOOP	1
2	PAFZZ	5305-01-337-9120	45152	1754140	SCREW,CAP,HEXAGON H, .25-20X1.00	1
3	PAFZZ	5340-01-507-9466	45152	1631660	BRACKET,ANGLE	1
4	PAFZZ	5310-01-346-9445	45152	1600460	NUT,SELF-LOCKING,CL, .25-20	1
					END OF FIGURE	

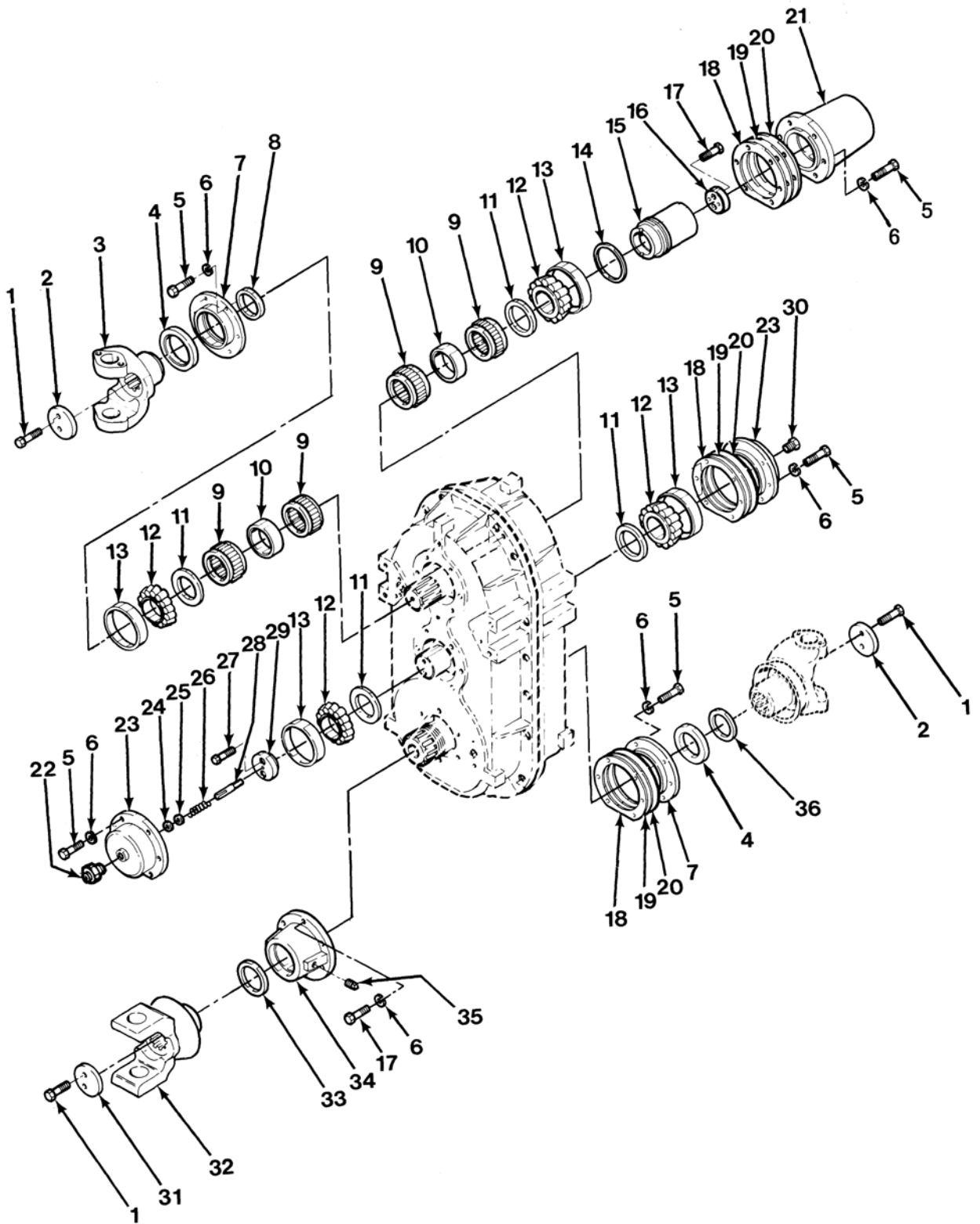


FIG. 45 TRANSFER CASE ASSEMBLY (SHEET 1 OF 2)

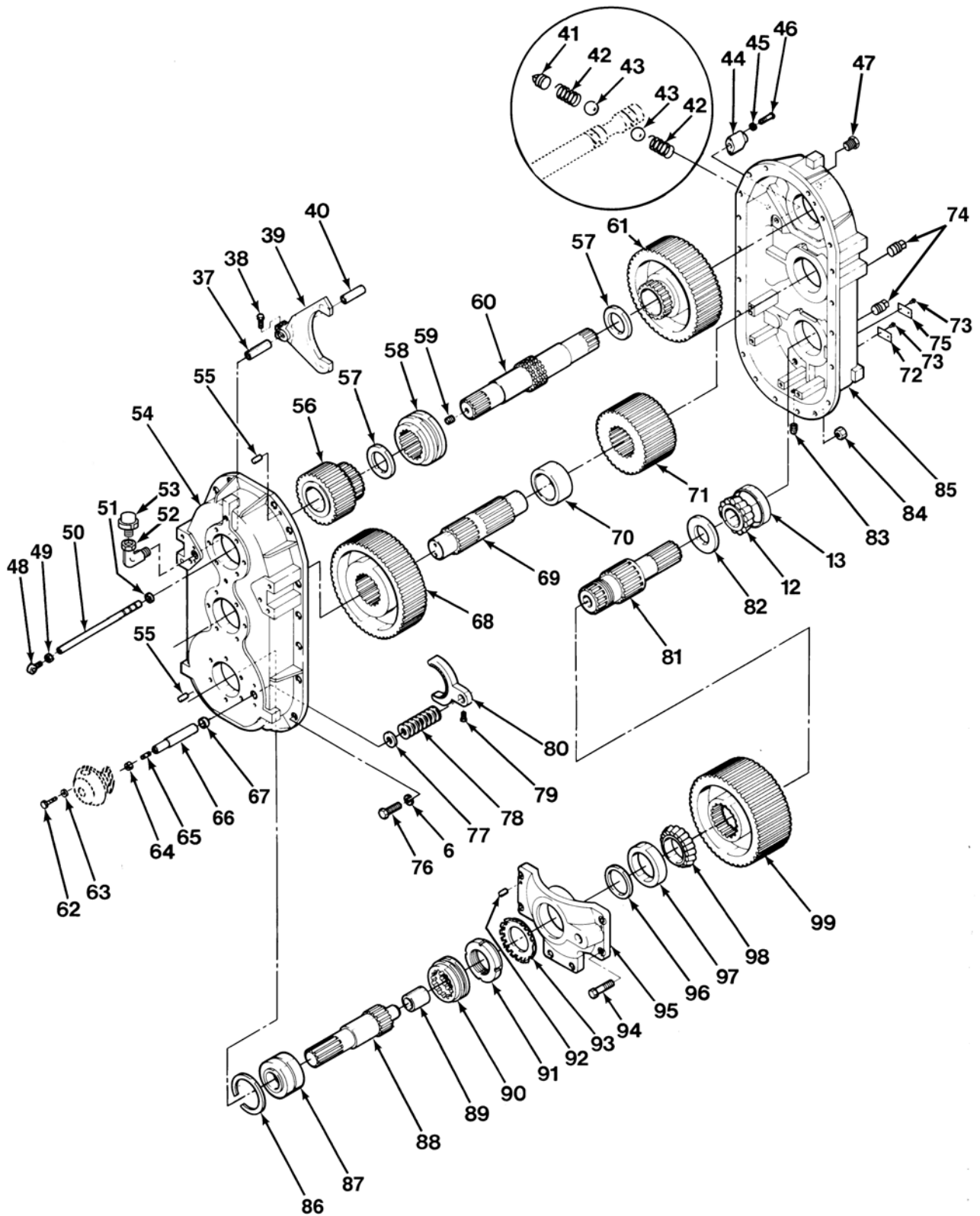


FIG. 45 TRANSFER CASE ASSEMBLY (SHEET 2 OF 2)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 0801 - POWER TRANSFER AND FINAL DRIVE ASSEMBLIES						
FIG. 45 TRANSFER CASE ASSEMBLY						
1	PAFZZ	5305-00-732-0511	80204	B1821BH050C113N	SCREW,CAP,HEXAGON HEAD	6
2	PAFZZ	5340-01-146-3138	45152	127272A	COVER,ACCESS.	2
3	PBFZZ	2520-01-144-7308	72447	6-4-2251	YOKE,UNIVERSAL JOINT	1
4	PBFZZ	5330-00-164-8881	80201	32397	SEAL,PLAIN ENCASED	2
5	PAHZZ	5305-00-732-0511	80204	B1821BH050C113N	SCREW,CAP,HEXAGON HEAD	30
6	PAHZZ	5310-00-584-5272	80205	MS35338-48	WASHER,LOCK.	56
7	PFHZZ	3040-01-145-0531	45152	55019CX	PLATE,RETAINING,SHAFT	2
8	PFHZZ	5365-01-143-7436	45152	1317890	SPACER,RING.	1
9	PAHZZ	3110-00-842-5207	60380	WJ485424	RETAINER AND ROLLER	4
10	PBHZZ	5365-01-330-6435	45152	55028BX	SPACER,RING.	2
11	PBHZZ	5365-01-330-2223	45152	55026BX	SPACER,RING.	4
12	PBHZZ	3110-00-100-0661	60038	641	CONE AND ROLLERS,TAPERED.	5
13	PBHZZ	3110-00-100-0333	81348	FFB187/01-446	CUP,TAPERED ROLLER.	5
14	PAHZZ	2520-01-144-8187	71724	T-560-0379-001	RING,PISTON	1
15	PFHZZ	2520-01-147-1378	45152	1304240	CAP,DUST,PROPELLER.	1
16	PFHZZ	3040-01-144-7314	45152	1304230	PLATE,RETAINING,SHAFT	1
17	PAHZZ	5305-00-071-2069	80204	B1821BH050C150N	SCREW,CAP,HEXAGON HEAD	8
18	PAHZZ	5365-01-081-5323	45152	55084BX	SPACER,PLATE.	9
19	PAHZZ	5365-01-081-9747	45152	55085BX	SHIM	9
20	PAHZZ	5365-01-081-9748	45152	55086BX	SHIM	9
21	PBHZZ	2520-01-146-3139	45152	1304170	HOUSING,POWER TAKE-OFF	1
22	PBHZZ	4730-00-202-9539	45152	166JX	REDUCER,TUBE.	1
23	PBHZZ	3130-01-147-8112	45152	55021CX	HOUSING,BEARING UNIT	2
24	PAHZZ	3120-00-596-7688	71041	TP612	BEARING,WASHER,THRU	1
25	PAHZZ	3120-01-146-9782	45152	40393AX	BEARING,WASHER,THRU	1
26	PBHZZ	5360-01-145-4724	45152	53733AX	SPRING,HELICAL	1
27	PAHZZ	5306-01-234-3782	45152	1413020	BOLT,MACHINE.	2
28	PAHZZ	3040-01-144-8220	45152	61154BX	SHAFT,SHOULDERED	1
29	PFHZZ	3040-01-204-9801	45152	1432440	PLATE,RETAINING,SHAFT	1
30	PAHZZ	5365-00-350-5442	45152	5824FX	PLUG,MACHINE THREAD	1
31	PFFZZ	5365-01-147-6789	45152	127273A	SPACER,PLATE.	1
32	PBFZZ	2520-01-214-2564	72447	6-4-6771X	YOKE,UNIVERSAL JOINT	1
33	PAFZZ	5330-01-147-4919	01212	416624	SEAL,PLAIN ENCASED	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
34	PFHZZ	3110-01-145-8482	45152	55022DX	PLATE,RETAINING	1
35	PAHZZ	4730-00-221-2137	96906	MS20913-2S	PLUG,PIPE	1
36	PAFZZ	5365-01-091-0786	45152	18127FX1	SPACER,RING	1
37	PFHZZ	5365-01-143-6445	45152	59902AX	SPACER,SLEEVE	1
38	PAHZZ	5306-01-172-1556	45152	335BX2	BOLT	2
39	PBHZZ	2520-01-144-7307	45152	64209CX	SHIFTER FORK	1
40	PFHZZ	5365-01-144-7377	45152	59903AX	SPACER,SLEEVE	1
41	PAHZZ	4730-00-221-2136	96906	MS20913-1S	PLUG,PIPE	1
42	PAHZZ	5360-01-086-1419	45152	54396AX	SPRING,HELICAL	2
43	PAHZZ	3110-00-949-1438	11083	4B9880	BALL,BEARING	2
44	PFHZZ	5340-01-144-8237	45152	1321590	COVER,ACCESS	1
45	PAHZZ	5310-01-068-8446	45152	354AX	WASHER,LOCK	2
46	PAHZZ	5305-01-146-4538	24617	9423808	SCREW,CAP,HEXAGON HEAD	2
47	PAHZZ	4730-00-221-2138	94894	1837	COUPLING HALF,QUICK	1
48	PFHZZ	5340-01-145-3255	45152	59899AX	CONNECTOR,ROD END	1
49	PAHZZ	5310-00-834-8734	96906	MS35691-37	NUT,PLAIN,HEXAGON	1
50	PFHZZ	3040-01-144-8216	45152	105761C	SHAFT,STRAIGHT	1
51	PBHZZ	5330-00-846-8177	10988	A11507	SEAL,PLAIN,ENCASED	1
52	PAHZZ	4730-00-253-4413	96906	MS39230-3	ELBOW,PIPE	1
53	PAFZZ	2520-00-395-7722	00736	14132	BREATHER	1
54	PFHZZ	3040-01-457-1054	45152	105900R	HOUSING,FRONT	1
55	PFHZZ	5315-01-081-2925	45152	55075AX	PIN,STRAIGHT,HEADLESS	2
56	PBHZZ	3020-01-144-6426	45152	115403D	GEAR,CLUSTER	1
57	PBHZZ	5365-01-332-2150	45152	55027BX	SPACER,RING	2
58	PBHZZ	3020-01-144-8236	45152	1308950	GEAR,INTERNAL	1
59	PBHZZ	4730-00-044-4861	58536	AA59616ACABDB	PLUG,PIPE	1
60	PBHZZ	3040-01-144-6357	45152	1315270	SHAFT,SHOULDERED	1
61	PBHZZ	3020-01-144-8499	45152	115407D	GEAR,CLUSTER	1
62	PAFZZ	5305-01-210-4595	97403	13222E0109	SCREW,ROLLER ASSY	2
63	PAFZZ	5310-00-637-9541	80205	MS35338-46	WASHER,LOCK	2
64	PAFZZ	5310-00-982-4912	96906	MS21045-5	NUT,SELF-LOCKING,HEX	1
65	PAFZZ	5307-01-145-1644	45152	63216AX	STUD,PLAIN	1
66	PAHZZ	3040-01-144-8218	45152	63219CX	SHAFT,SHOULDERED	1
67	PAHZZ	2520-01-041-3542	45152	31425BX	RING,PILOT	1
68	PBHZZ	3020-01-144-9291	45152	115405D	GEAR,HELICAL	1
69	PBHZZ	3040-01-144-8217	45152	111295D	SHAFT,SHOULDERED	1
70	PBHZZ	5365-01-330-2224	45152	55031BX	SPACER,RING	1
71	PBHZZ	3020-01-144-6417	45152	115404D	GEAR,HELICAL	1
72	PAFZZ	9905-01-144-7860	45152	60009AX	PLATE,INSTRUCTION	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
73	PFFZZ	5315-01-340-1235	45152	1538800	TACK	4
74	PAFZZ	4730-00-221-2140	96906	MS20913-6S	PLUG,PIPE.	2
75	PFFZZ	9905-01-144-7858	45152	11757FX	PLATE,IDENTIFICATION.	1
76	XAHZZ	5305-01-165-2452	45152	1867HX1	SCREW,CAP,HEXAGON.	20
77	PFHZZ	5310-01-143-6449	45152	55068BX	WASHER,FLAT	1
78	PAHZZ	5325-01-127-1390	13226	920123	GROMMET,METALLIC.	8
79	PAHZZ	5305-00-275-8530	24617	0681890	SETSCREW.	1
80	PBHZZ	2520-01-144-8603	45152	55042CX	SHIFTER FORK.	1
81	PBHZZ	3040-01-144-7024	45152	127270D	SHAFT,SHOULDERED	1
82	PBHZZ	5365-01-330-6436	45152	55029BX	SPACER,RING.	1
83	PAFZZ	4730-01-043-9027	36540	402Y23E	PLUG,PIPE,MAGNETIC.	1
84	PAFZZ	5310-01-057-0822	45152	1768HX1	NUT,PLAIN,HEXAGON	20
85	XAHZZ	2520-01-330-0770	45152	117937R	TRANSFER TRANSMISSION	1
86	PAHZZ	5325-00-170-1693	45152	44220AX	RING,RETAINING	1
87	PBHZZ	3110-00-163-9904	60038	462 ASSEMBLY 90300	BEARING,ROLLER,TAPE	1
88	PBHZZ	3040-01-144-8219	45152	127268D	SHAFT,SHOULDERED	1
89	PBHZZ	3120-01-143-6442	45152	1594FX	BUSHING,SLEEVE	1
90	PBHZZ	3040-01-144-8238	45152	55025BX	COLLAR,SHAFT	1
91	PBHZZ	5310-00-243-9295	45152	13387FX	NUT,PLAIN,ROUND.	1
92	PBHZZ	5315-00-156-3104	45152	30190AX	PIN,DOWEL	2
93	PBHZZ	5310-00-186-0977	96906	MS19070-181	WASHER,KEY	1
94	PBHZZ	5305-00-071-1787	80204	B1821BH044C113N	SCREW,CAP,HEXAGON HEAD	6
95	PBHZZ	3110-01-156-5506	45152	111805R	PLATE,RETAINING	1
96	PBHZZ	5365-01-081-3424	45152	55030BX	SPACER,RING.	1
97	PBHZZ	3110-01-037-5496	60038	JM718110	CUP,TAPERED ROLLER.	1
98	PBHZZ	3110-01-037-7207	60038	JM718149	CONE AND ROLLERS,TA	1
99	PBHZZ	3020-01-144-6418	45152	115406D	GEAR,HELICAL.	1

END OF FIGURE

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

RPSTL GROUP 09 - PROPELLER AND PROPELLER SHAFTS

		Figure	Page
GROUP 09	PROPELLER AND PROPELLER SHAFTS		
	0900		
	PROPELLER SHAFTS		
	PROP SHAFT.....	46	0164-2

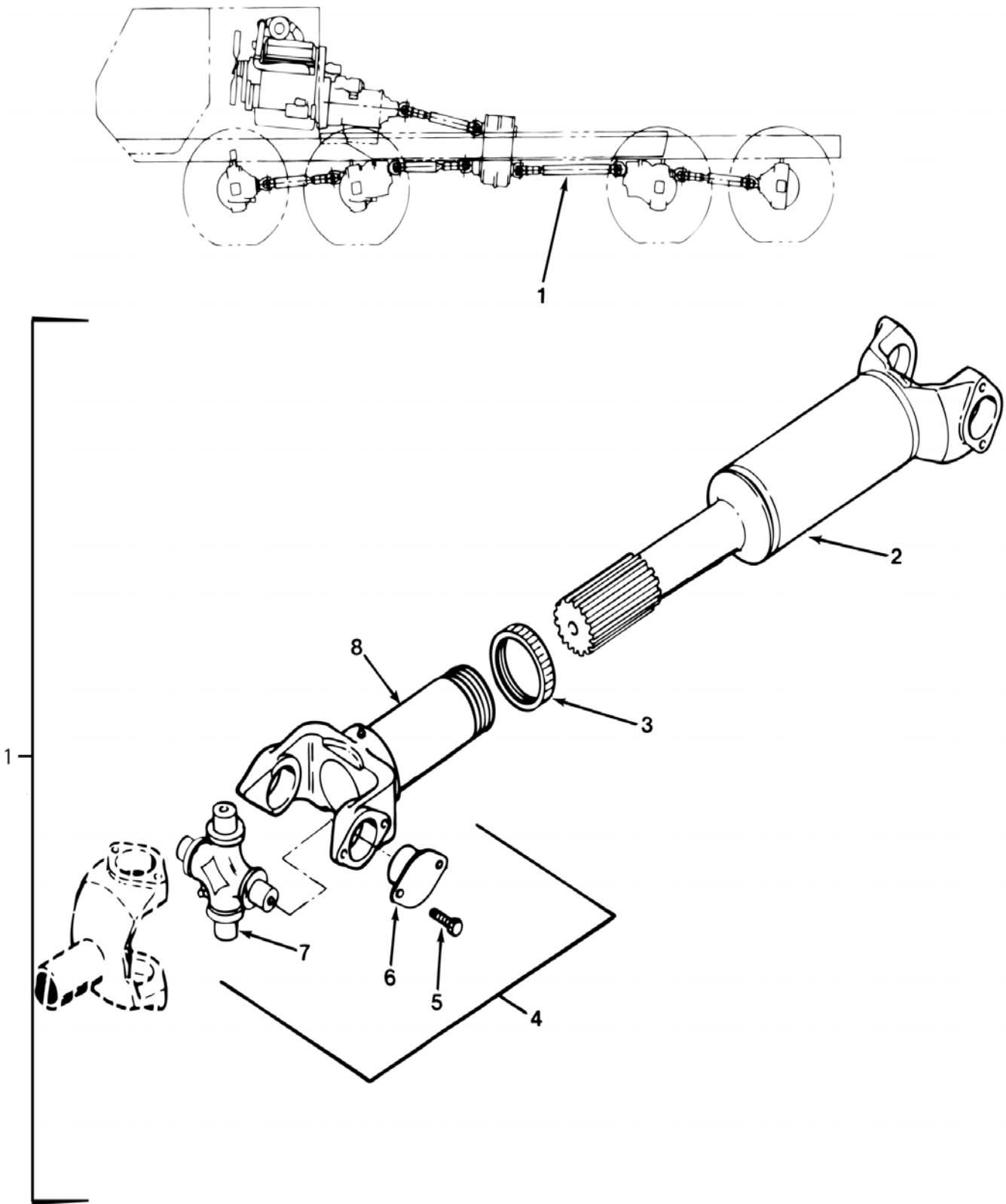


FIG. 46 PROP SHAFT

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0900 - PROPELLER SHAFTS FIG. 46 PROP SHAFT	
1	PBFFF		72447	906354-5031	PROPSHAFT,1710HD, TRANSFER CASE TO NUMBER 3 AXLE	1
2	PBFZZ		72447	6-27-21-5700	•TUBE AND YOKE ASSEMBLY.	1
3	PAFFZ	5340-01-174-7459	72447	6.3-86-18	•CAP,PROTECTIVE,DUST	1
4	PAFZZ	2520-01-082-8619	78500	CP280X	•PARTS KIT,UNIVERSAL.	2
5	PAFZZ	5305-01-421-4222	72447	6-73-209	••SCREW,CAP,HEX HD.	4
6	XAFZZ		72447	6.5-6-158X	••RACE,BEARING	2
7	XAFZZ		72447	6-5-228X	••JOURNAL,SUBASSEMBLY	1
8	PFFZZ	2520-01-267-8757	95019	6-3-2651X	•YOKE,UNIVERSAL JOINT	1
					END OF FIGURE	

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

RPSTL GROUP 11 - REAR AXLE

		Figure	Page
GROUP 11	REAR AXLE		
	1100 REAR AXLE ASSEMBLY		
	AXLE NO. 3	47	0165-2
	AXLE NO. 4	48	0165-4

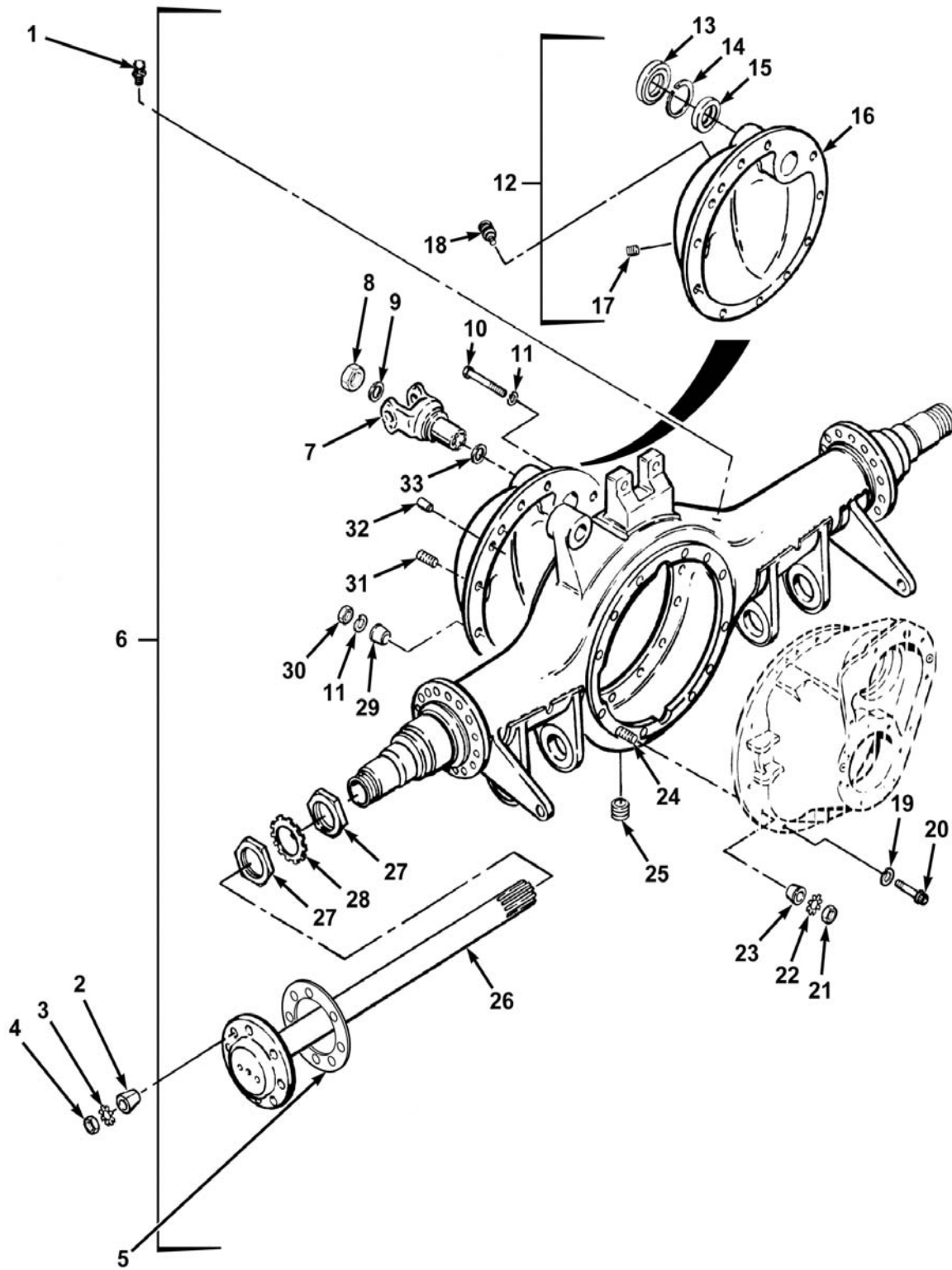


FIG. 47 AXLE NO. 3

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 1100 - REAR AXLE ASSEMBLY FIG. 47 AXLE NO. 3						
1	PAFZZ	4820-01-151-3692	45152	125836A	VALVE, VENT	1
2	PAFZZ	5365-01-120-9671	00905	290	BUSHING, TAPERED	16
3	PAFZZ	5310-01-188-4473	45152	2263HX	WASHER	16
4	PAFZZ	5310-01-061-4476	45152	8TN217	NUT, PLAIN, HEXAGON	16
5	PBFZZ	5330-01-117-1019	52304	13886	GASKET	2
6	PBFHH		45152	3380402	WELDMENT, AXLE	1
7	PAFZZ	2520-01-192-1373	45152	1426400W	•YOKE, UNIVERSAL JOINT	1
8	PBFZZ		52304	210508	•NUT, OUTPUT SHAFT	1
9	PBFZZ		52304	210509	•WASHER, OUTPUT SHAFT	1
10	PAFZZ	5305-01-167-3295	52304	79558	•SCREW, CAP, HEXAGON HEAD	1
11	PAFZZ	5310-01-485-8403	52304	90415	•LOCK WASHER	12
12	PBFFF	5340-01-214-9352	52304	84546	•COVER, ACCESS	1
13	PBFZZ		52304	216480	••OIL SEAL, OUTPUT SHAFT	1
14	PBFZZ	5325-01-156-5280	52304	78937	••RING, RETAINING	1
15	PBFZZ	3110-00-155-6518	01212	MA1211EL	••BEARING, ROLLER, CYLINDRICAL	1
16	XAFHH		52304	107863	••COVER, AXLE HOUSING	1
17	PAFZZ	4730-01-062-4102	52304	90898	••PLUG, HOUSING COVER	1
18	PAFZZ	2520-00-140-3653	57526	C8TZ-4A309-A	•TRAP ASSY, MAGNETIC	1
19	PAFZZ	5310-01-159-2797	52304	11167	•WASHER, LOCK	2
20	PAFZZ	5306-01-155-4335	52304	99708	•BOLT, MACHINE	2
21	PAFZZ	5310-01-151-8342	52304	90208	•NUT, PLAIN, HEXAGON	10
22	PAFZZ	5310-01-148-0232	45152	5EX142	•WASHER, LOCK	10
23	PAFZZ	5365-01-165-2618	52304	83482	•BUSHING, TAPERED	4
24	PAFZZ	5307-01-148-6832	34623	5731205	•STUD, PLAIN	10
25	PAFZZ	4730-01-148-8254	52304	54254	•PLUG, PIPE, MAGNETIC	1
26	PBFZZ		52304	126965	•AXLE SHAFT	2
27	PAFZZ		52304	119881	•NUT, ADJUSTING	4
28	PAFZZ		52304	119883	•LOCKWASHER, BEARING	2
29	PAFZZ	5365-01-156-8063	52304	83481	•BUSHING, TAPERED	4
30	PAFZZ	5310-01-149-4405	52304	42364	•NUT, PLAIN, HEXAGON	11
31	PAFZZ	5307-01-216-6723	52304	49982	•STUD, PLAIN	11
32	PAFZZ	5315-01-147-1132	45152	5EX48	•PIN, STRAIGHT, HEADLESS	1
33	PAFZZ	5310-01-160-7496	52304	78922	•WASHER, RECESSED	1
END OF FIGURE						

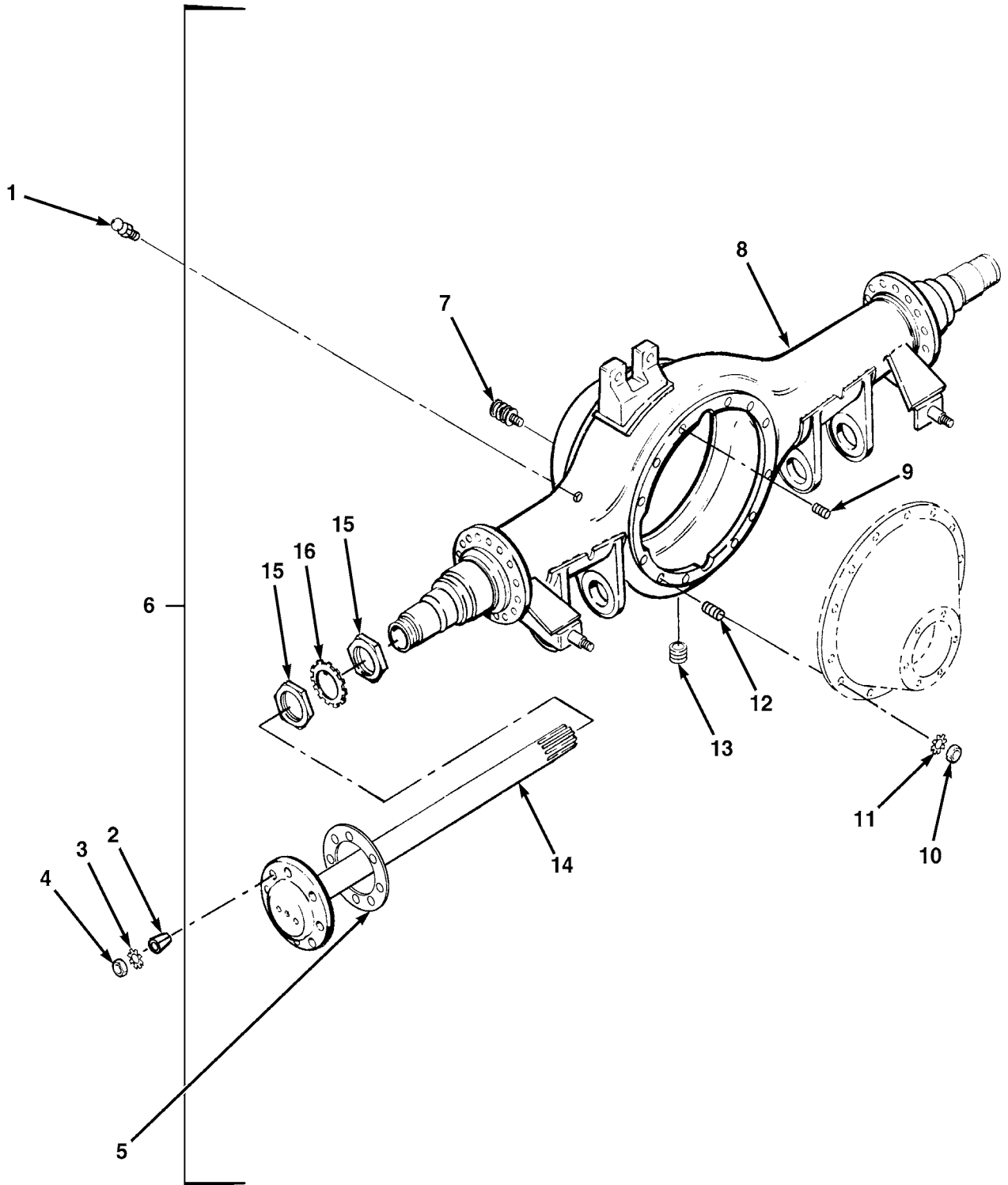


FIG. 48 AXLE NO. 4

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 1100 - REAR AXLE ASSEMBLY FIG. 48 AXLE NO. 4						
1	PAFZZ	4820-01-151-3692	45152	125836A	VALVE,VENT	1
2	PAFZZ	5365-01-120-9671	00905	290	BUSHING,TAPERED	16
3	PAFZZ	5310-01-188-4473	45152	2263HX	WASHER	16
4	PAFZZ	5310-01-061-4476	45152	8TN217	NUT,PLAIN,HEXAGON	16
5	PAFZZ	5330-01-117-1019	52304	13886	GASKET.....	2
6	PBFHH		45152	3380401	WELDMENT,AXLE.....	1
7	PAFZZ	2520-00-140-3653	57526	C8TZ-4A309-A	•TRAP ASSY,MAGNETIC	1
8	XAHZZ		52304	307611	•AXLE HOUSING ASSEMBLY.....	1
9	PAFZZ	5307-01-216-8285	52304	51212	•STUD,PLAIN.....	4
10	PAFZZ	5310-01-151-8342	52304	90208	•NUT,PLAIN,HEXAGON.....	12
11	PAFZZ	5310-01-148-0232	45152	5EX142	•WASHER,LOCK	12
12	PAFZZ	5307-01-148-6832	34623	5731205	•STUD,PLAIN.....	8
13	PAFZZ	4730-01-148-8254	52304	54254	•PLUG,PIPE,MAGNETIC	1
14	PAFZZ		52304	126965	•AXLE SHAFT	2
15	PAFZZ		52304	119882	•NUT,HUB BEARING	4
16	PAFZZ		52304	119883	•LOCKWASHER,BEARING, ADJUSTER.....	2
END OF FIGURE						

END OF WORK PACKAGE

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RPSTL GROUP 12 - BRAKES

		Figure	Page
GROUP 12	BRAKES		
	1202 SERVICE BRAKES		
	FRONT BRAKE ASSEMBLIES.....	49	0166-3
	1208 AIR BRAKE SYSTEM		
	CHASSIS AIR.....	50	0166-6
	CAB AIR.....	51	0166-27
	CHASSIS AIR-RELAY VALVE 3171964.....	52	0166-30

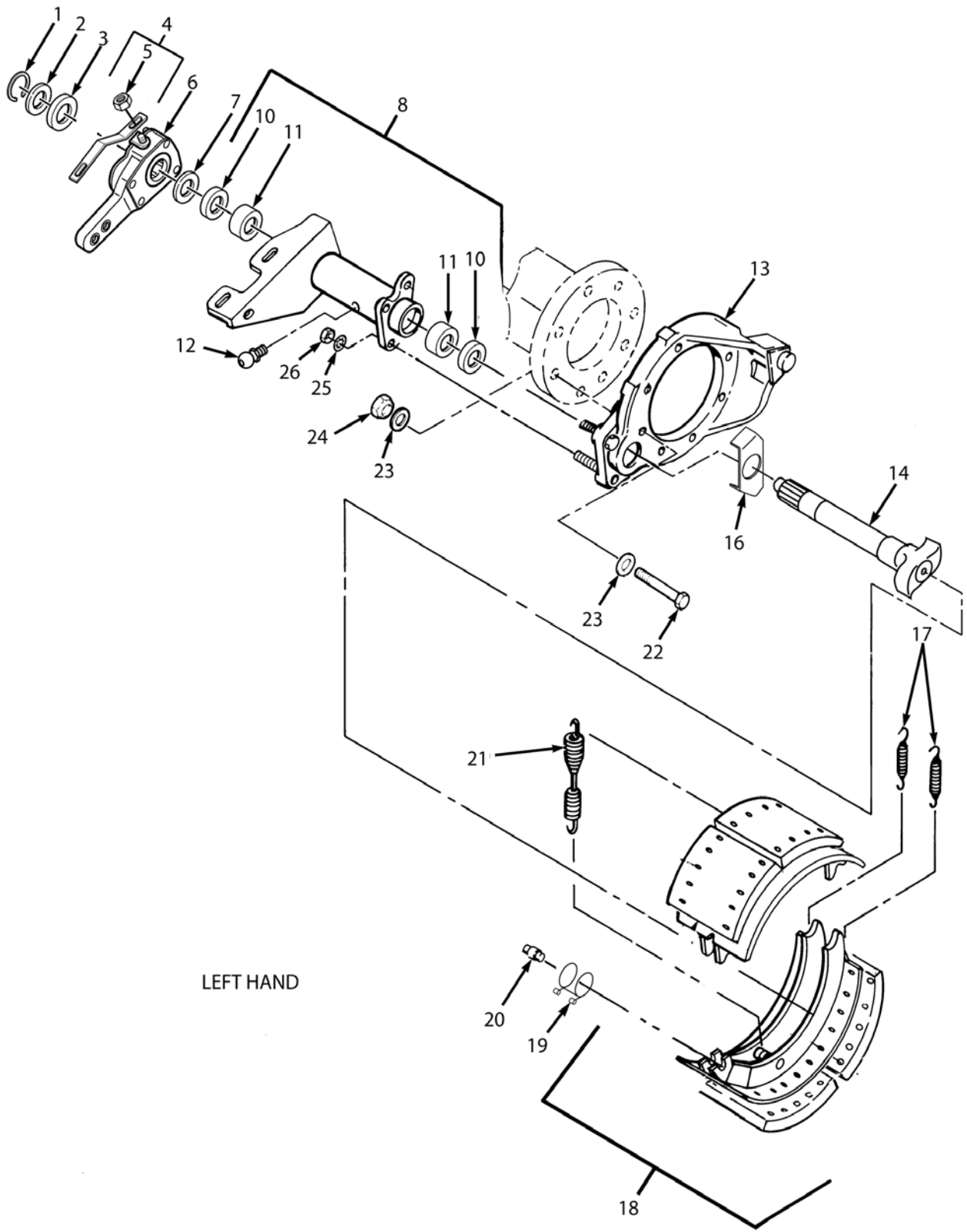


FIG. 49 FRONT BRAKE ASSEMBLIES (SHEET 1 OF 2)

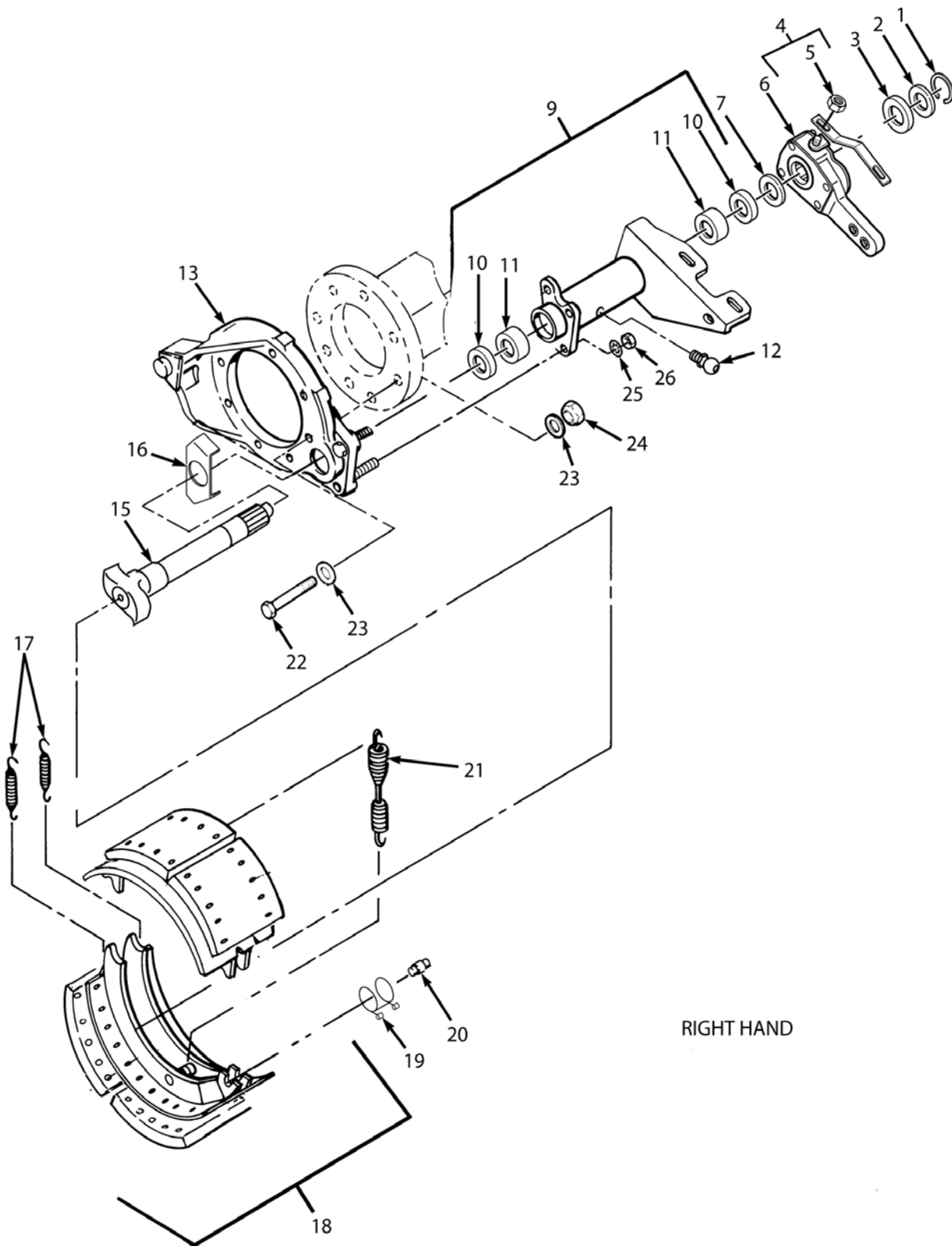


FIG. 49 FRONT BRAKE ASSEMBLIES (SHEET 2 OF 2)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 1202 - SERVICE BRAKES						
FIG. 49 FRONT BRAKE ASSEMBLIES						
1	PAFZZ	5325-01-152-4536	79136	5304-125	RING,RETAINING	2
2	PAFZZ	5310-01-058-4589	52304	23570	WASHER,FLAT	V
3	PAFZZ	5365-01-059-0126	52304	35428	SHIM	V
4	PAFZZ	2530-01-329-4918	45152	2170140	ARM,ANCHOR.....	2
5	PAFZZ	5310-01-340-5671	45152	1333510	•NUT,SELF-LOCKING,EX	1
6	PAFZZ	2530-01-453-9071	45152	2170130	ADJUSTER,RATCHET,BR.....	2
7	PAFZZ	5310-01-110-7815	52304	43943	WASHER,FLAT	V
8	PAFZZ		52304	811308	BRACKET ASSEMBLY, LH	1
9	PAFZZ		52304	811309	BRACKET ASSEMBLY, RH	1
10	PBFZZ	5330-01-113-0593	52304	79903	•SEAL,PLAIN,ENCASED.....	2
11	PBFZZ	3120-01-111-7665	45152	144EX356	•BUSHING,SLEEVE.....	2
12	PAFZZ	4730-01-480-8712	45152	2CP488	FITTING,LUBRICATION.....	2
13	PAFZZ	2530-01-155-4120	52304	805636	SPIDER,BRAKE.....	2
14	PAFZZ	2530-01-503-6764	1MVZ1	806526	CAMSHAFT,ACTUATING, LH	1
15	PFFZZ	2530-01-511-0241	1MVZ1	806527	CAMSHAFT,ACTUATING, RH	1
16	PAFZZ	5310-01-513-0933	1MVZ1	806380	WASHER,CAMSHAFT HEAD	2
17	PAFZZ	5360-01-024-7898	52304	819725	SPRING,HELICAL	4
18	PBFZZ	2530-01-503-6745	1MVZ1	819768	BRAKESHOE.....	4
19	PAFZZ	5340-01-512-6328	1MVZ1	808058	ROLLING RETAINER	4
20	PAFZZ	2530-01-510-3165	52304	806234	ROLLER,CAM BRAKE.....	4
21	PAFZZ	5360-01-503-3209	52304	818278	SPRING,HELICAL	2
22	PAFZZ	5305-01-116-4813	45152	49743AX	SCREW,CAP,HEXAGON HEAD	16
23	PAFZZ	5310-01-061-5301	45152	8865GX	WASHER,FLAT	32
24	PAFZZ	5310-01-061-5678	45152	60861AX	NUT,SELF-LOCKING.....	16
25	PAFZZ	5310-01-155-4318	52304	804304	WASHER,LOCK.....	8
26	PAFZZ	5310-01-163-9298	52304	804024	NUT,PLAIN,HEXAGON	8
END OF FIGURE						

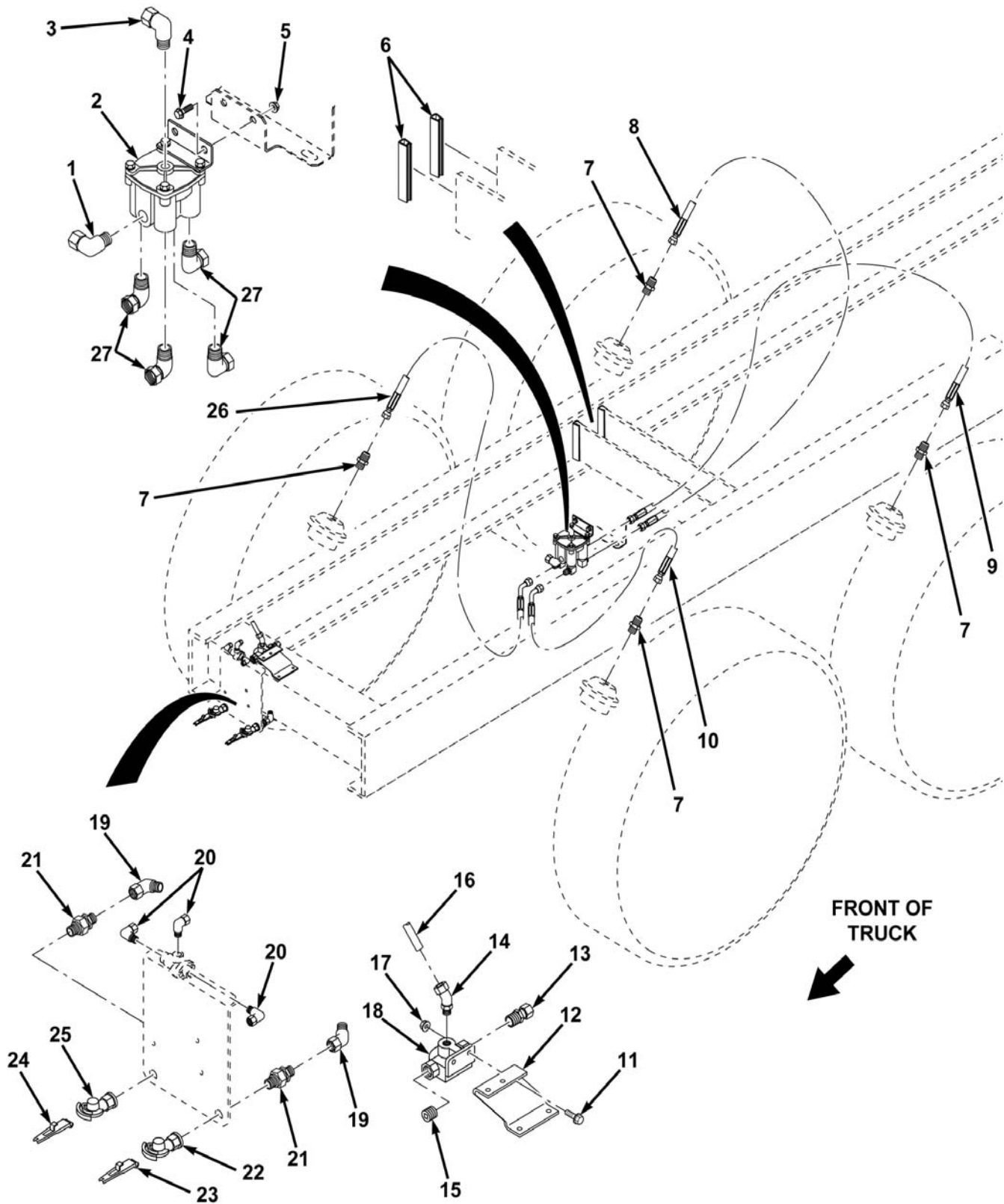


FIG. 50 CHASSIS AIR (SHEET 1 OF 15)

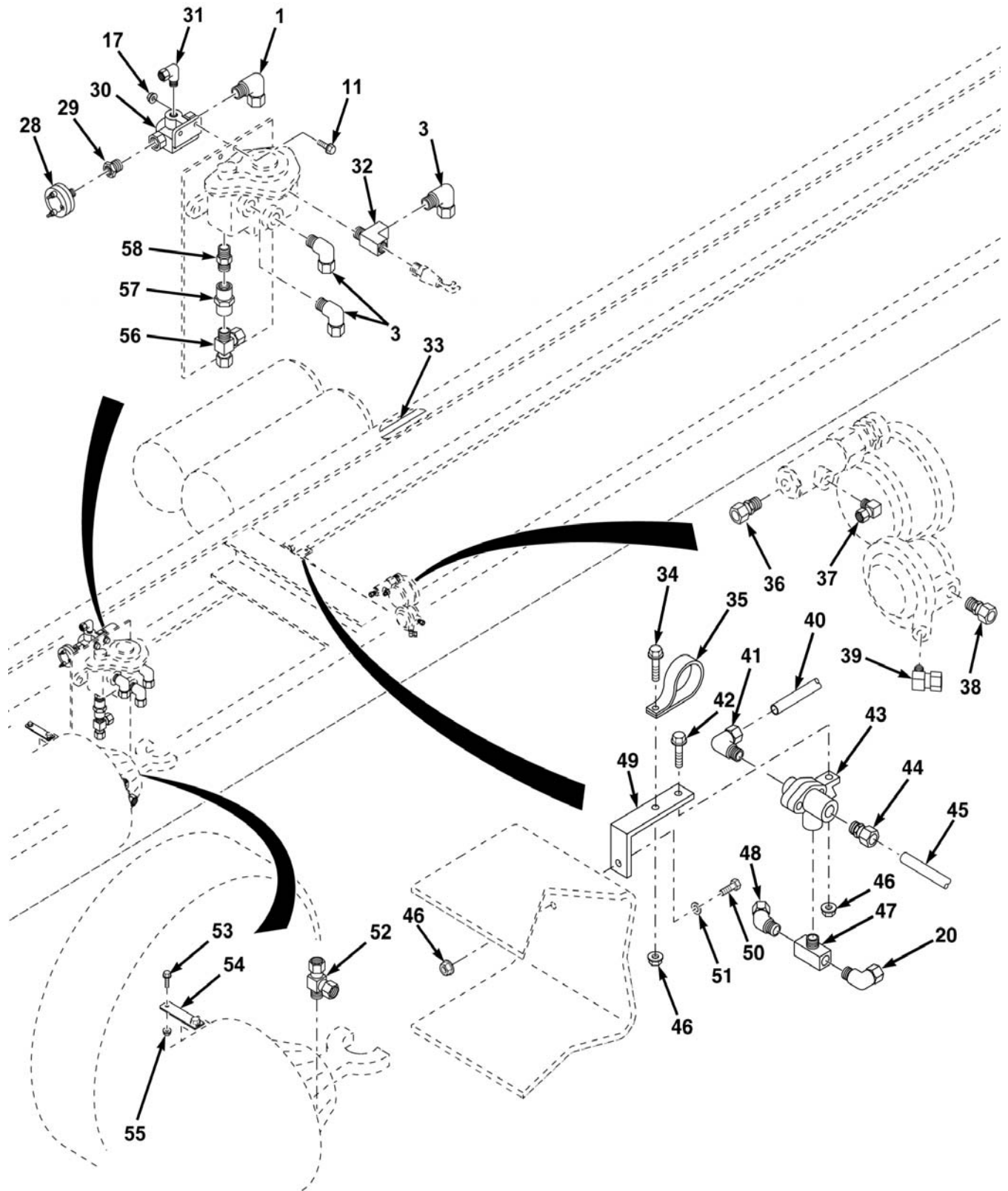


FIG. 50 CHASSIS AIR (SHEET 2 OF 15)

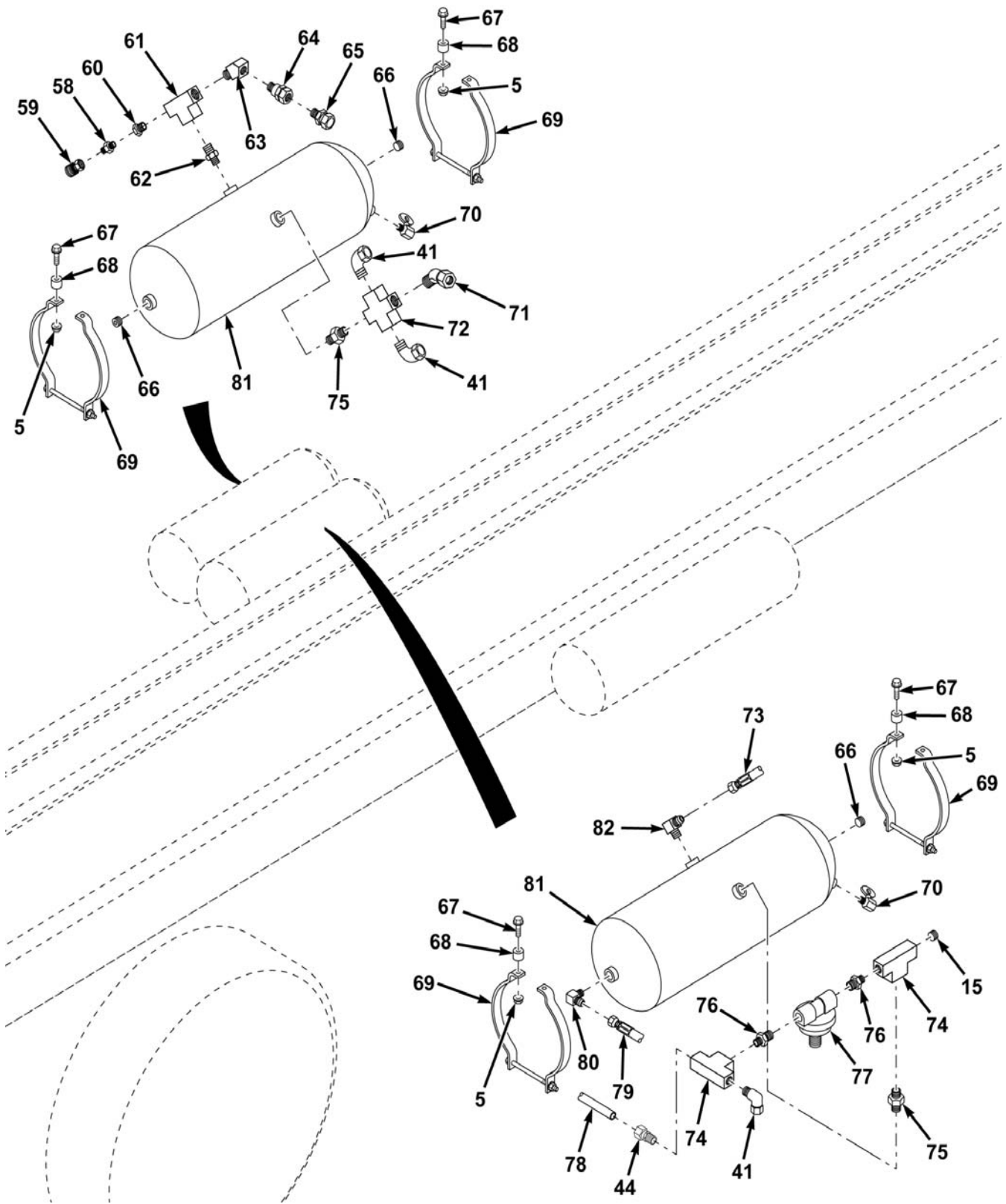


FIG. 50 CHASSIS AIR (SHEET 3 OF 15)

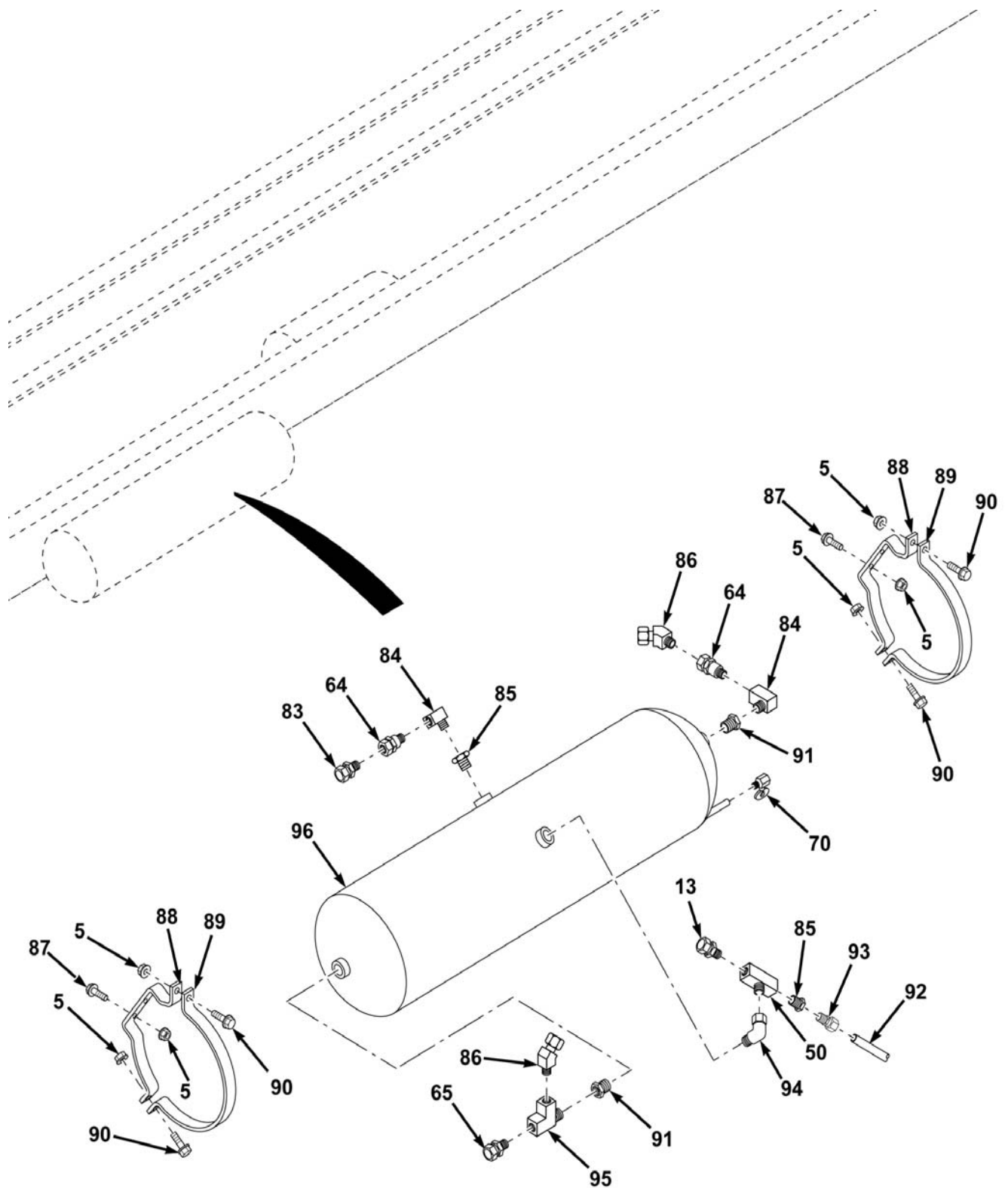


FIG. 50 CHASSIS AIR (SHEET 4 OF 15)

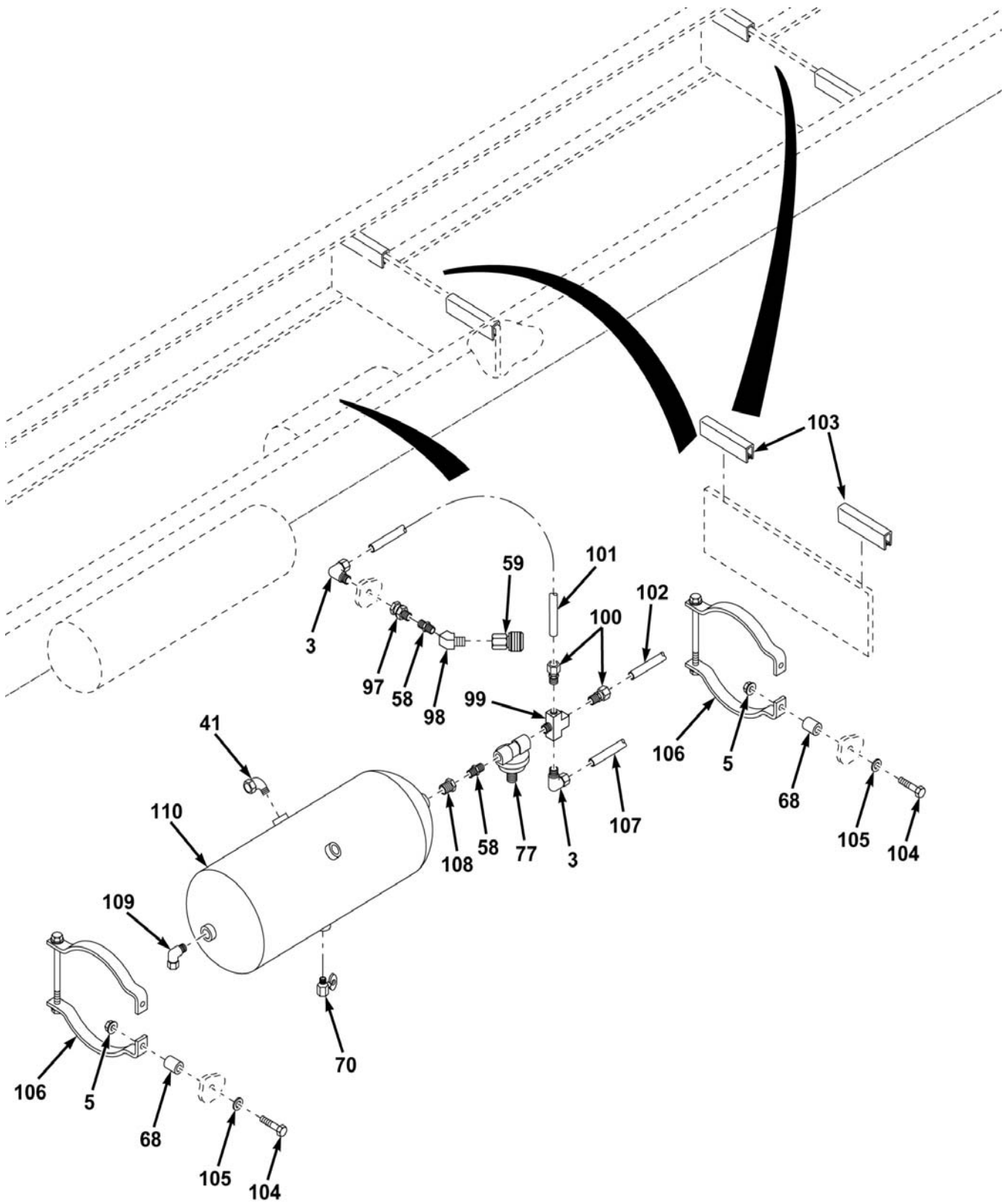


FIG. 50 CHASSIS AIR (SHEET 5 OF 15)

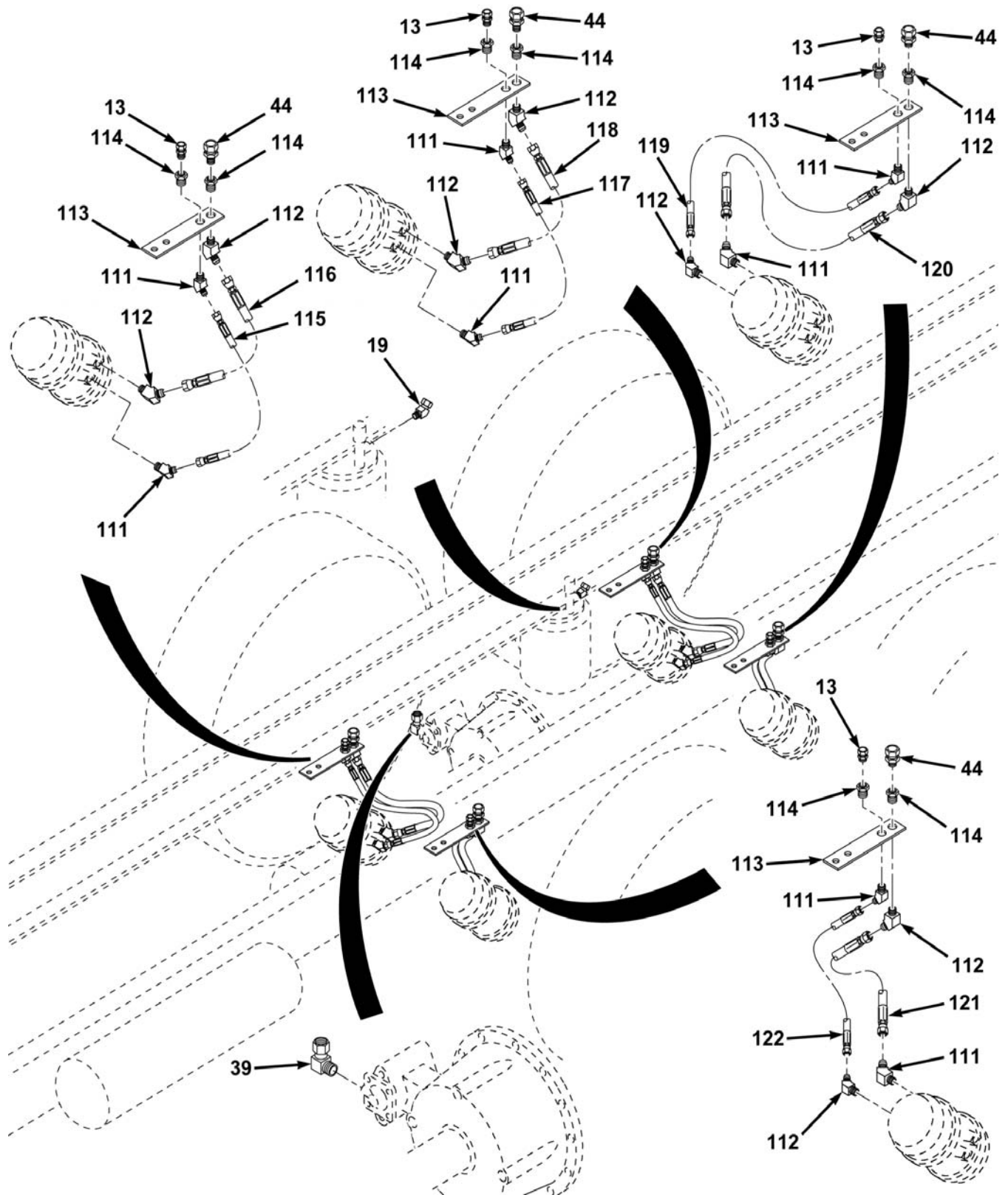


FIG. 50 CHASSIS AIR (SHEET 6 OF 15)

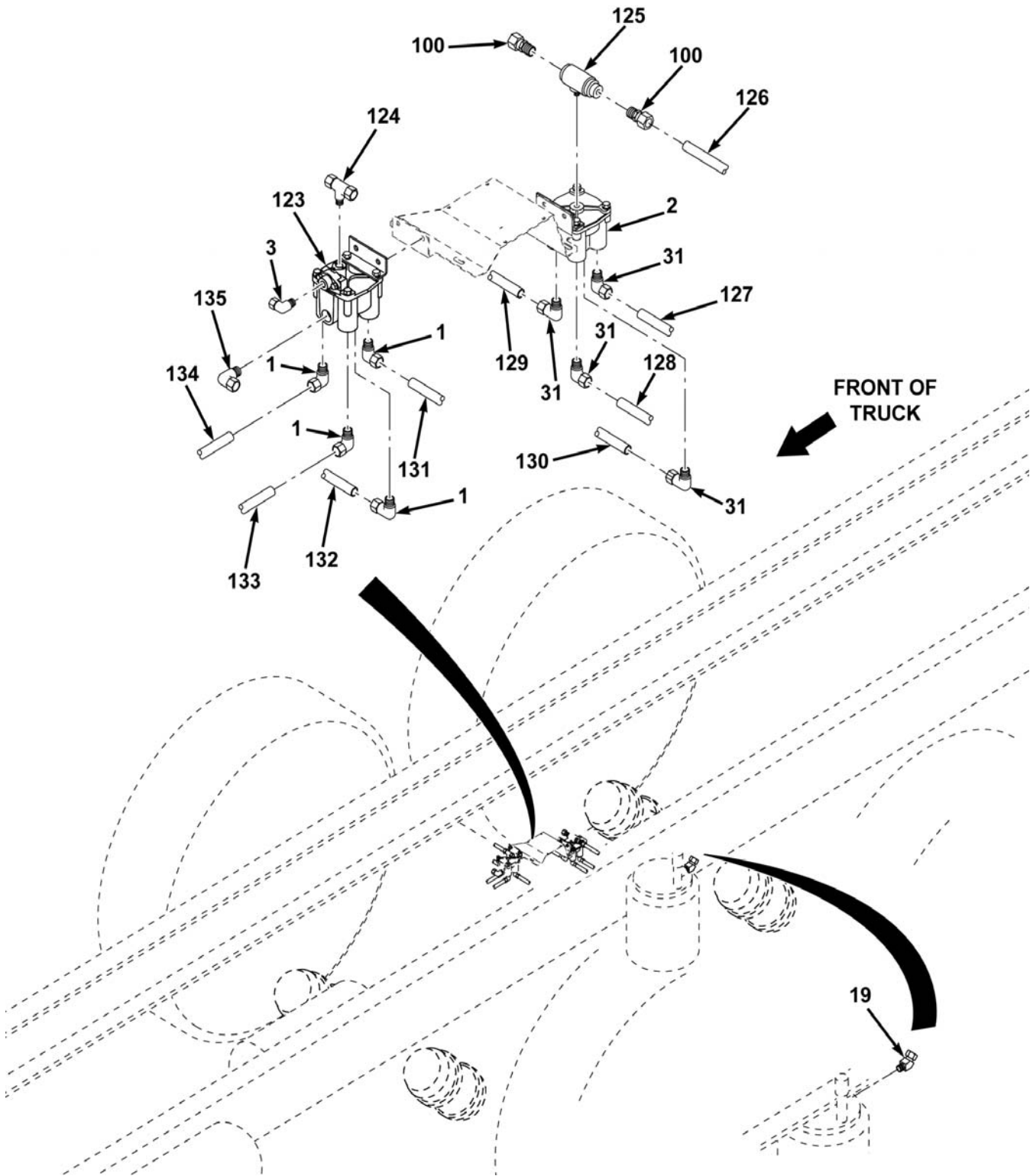


FIG. 50 CHASSIS AIR (SHEET 7 OF 15)

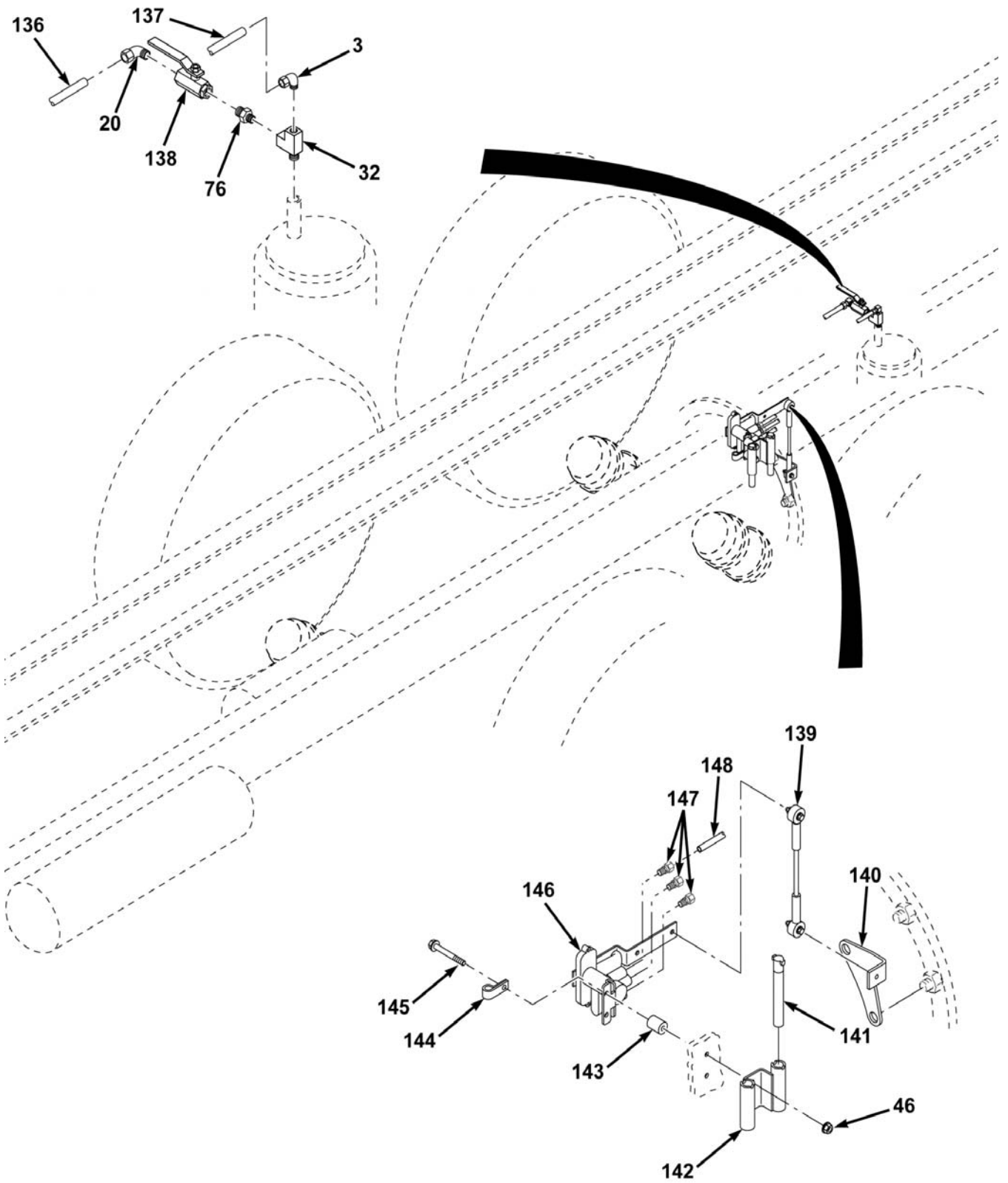


FIG. 50 CHASSIS AIR (SHEET 8 OF 15)

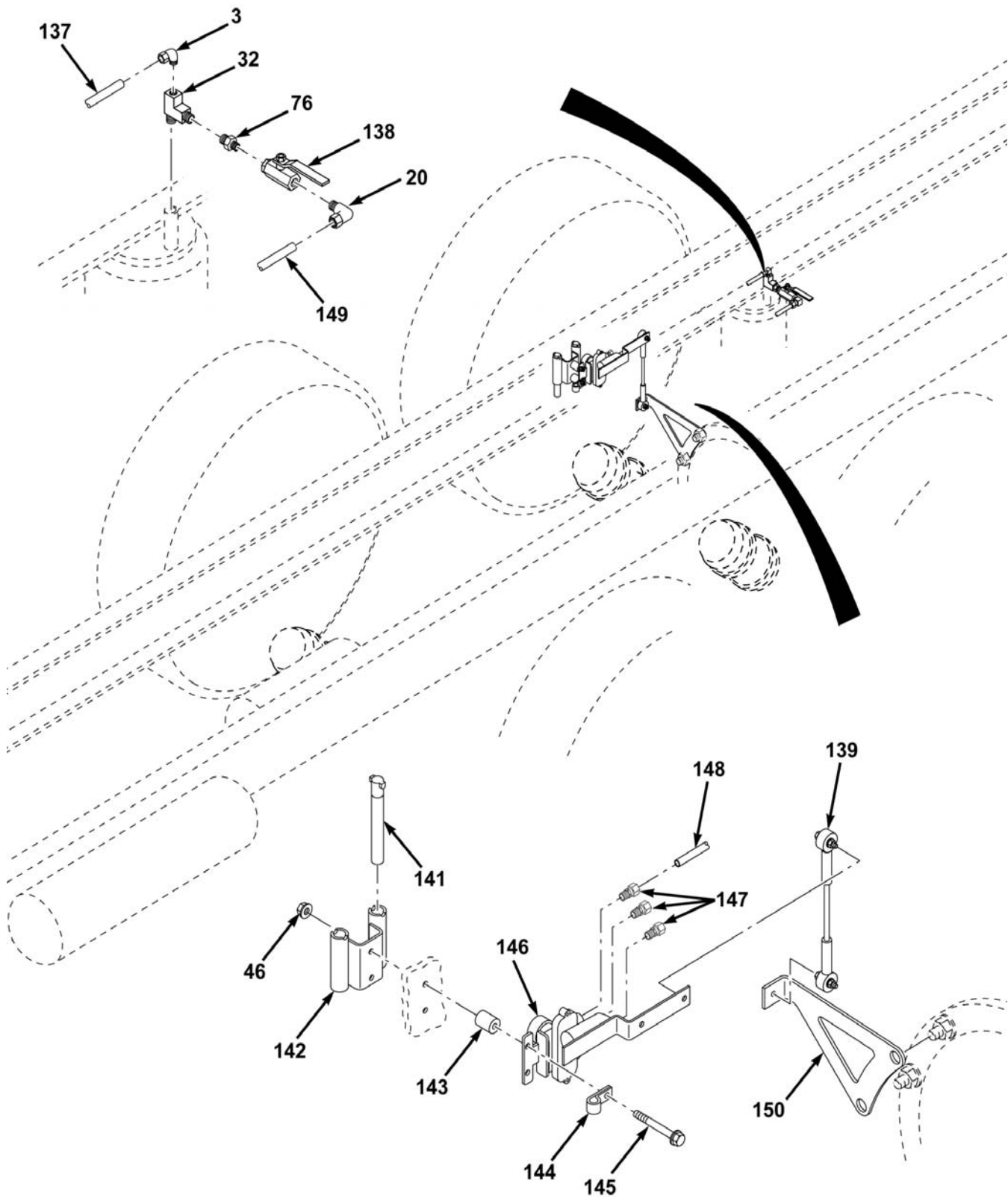


FIG. 50 CHASSIS AIR (SHEET 9 OF 15)

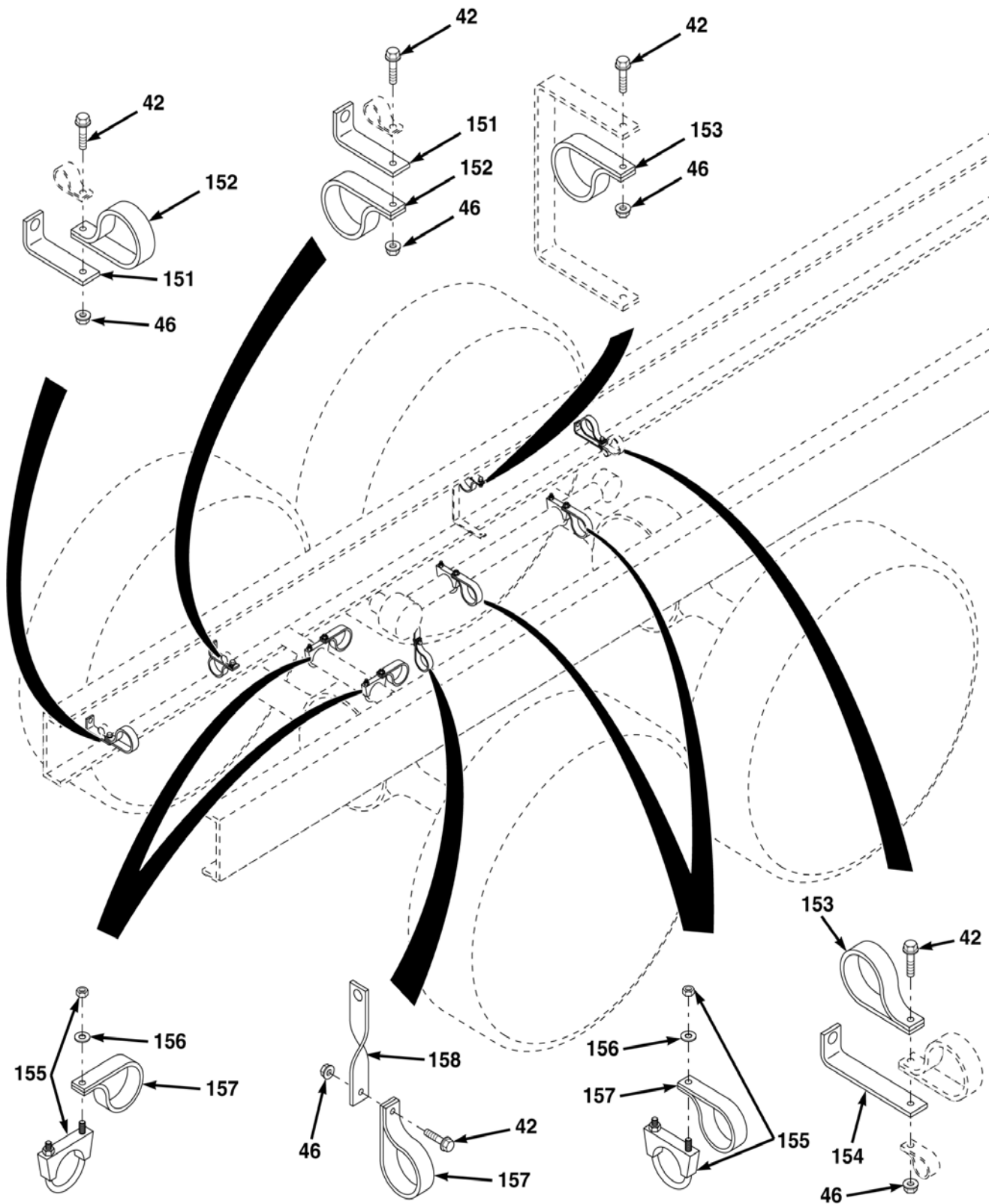


FIG. 50 CHASSIS AIR (SHEET 10 OF 15)

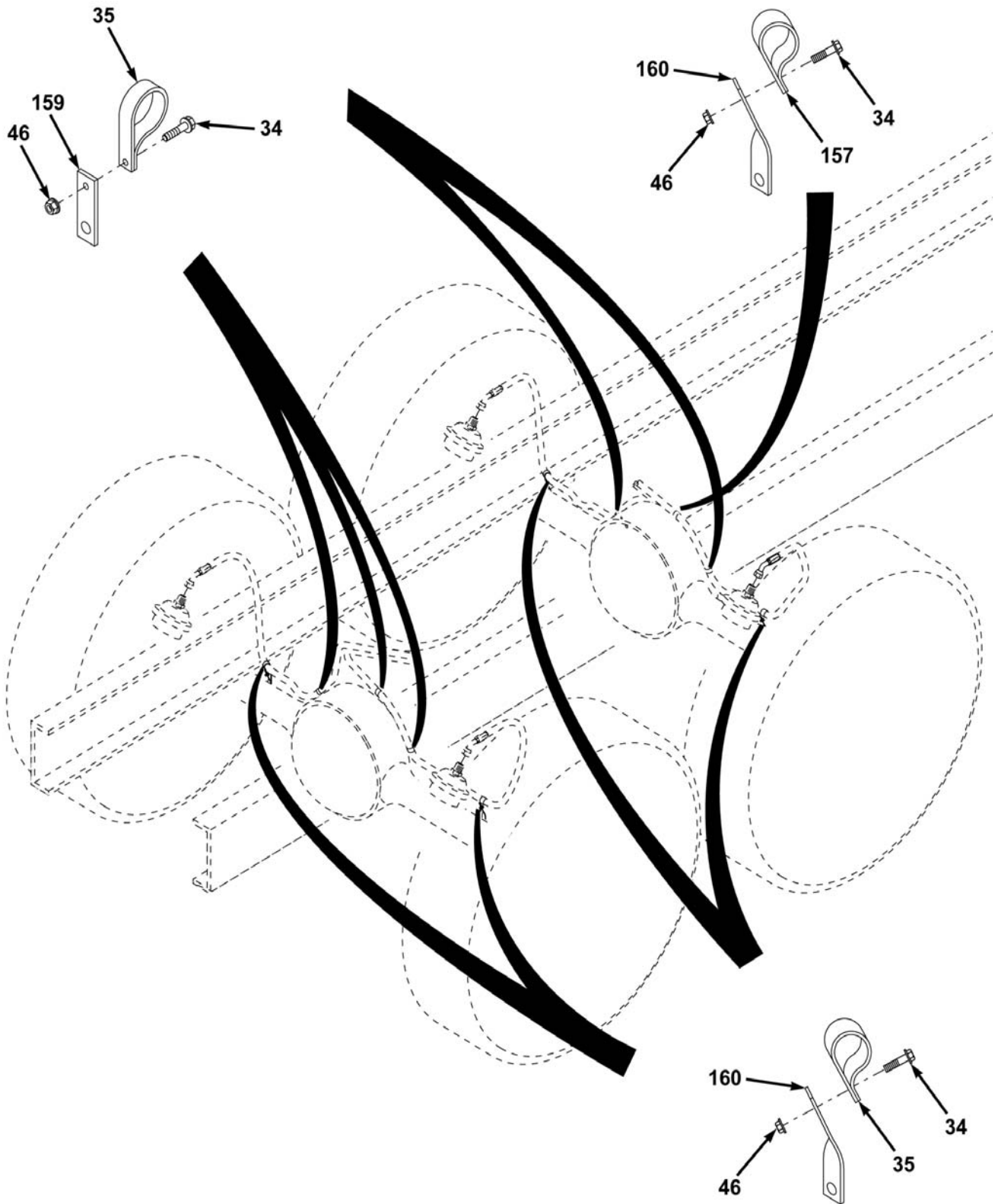


FIG. 50 CHASSIS AIR (SHEET 11 OF 15)

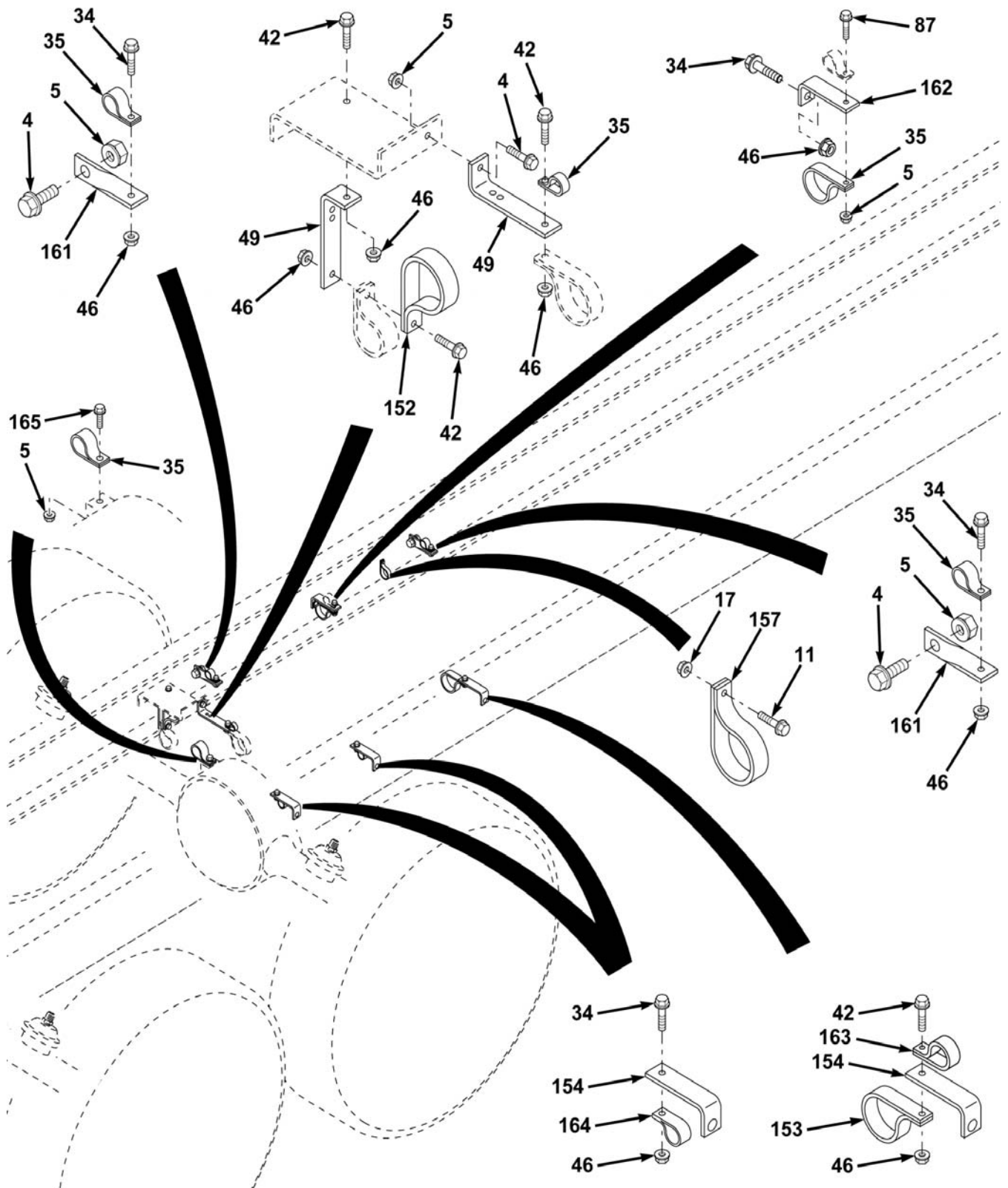


FIG. 50 CHASSIS AIR (SHEET 12 OF 15)

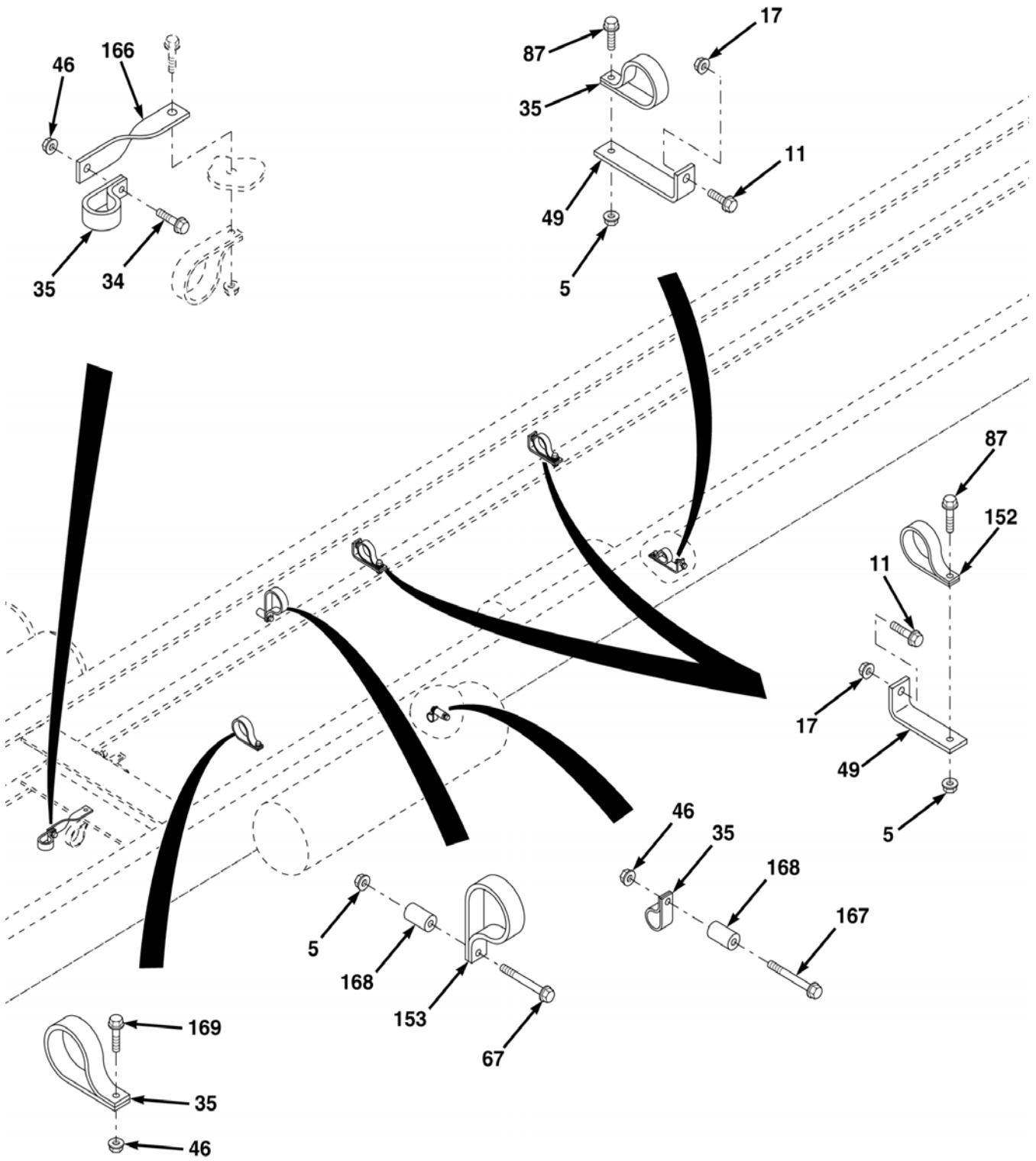


FIG. 50 CHASSIS AIR (SHEET 13 OF 15)

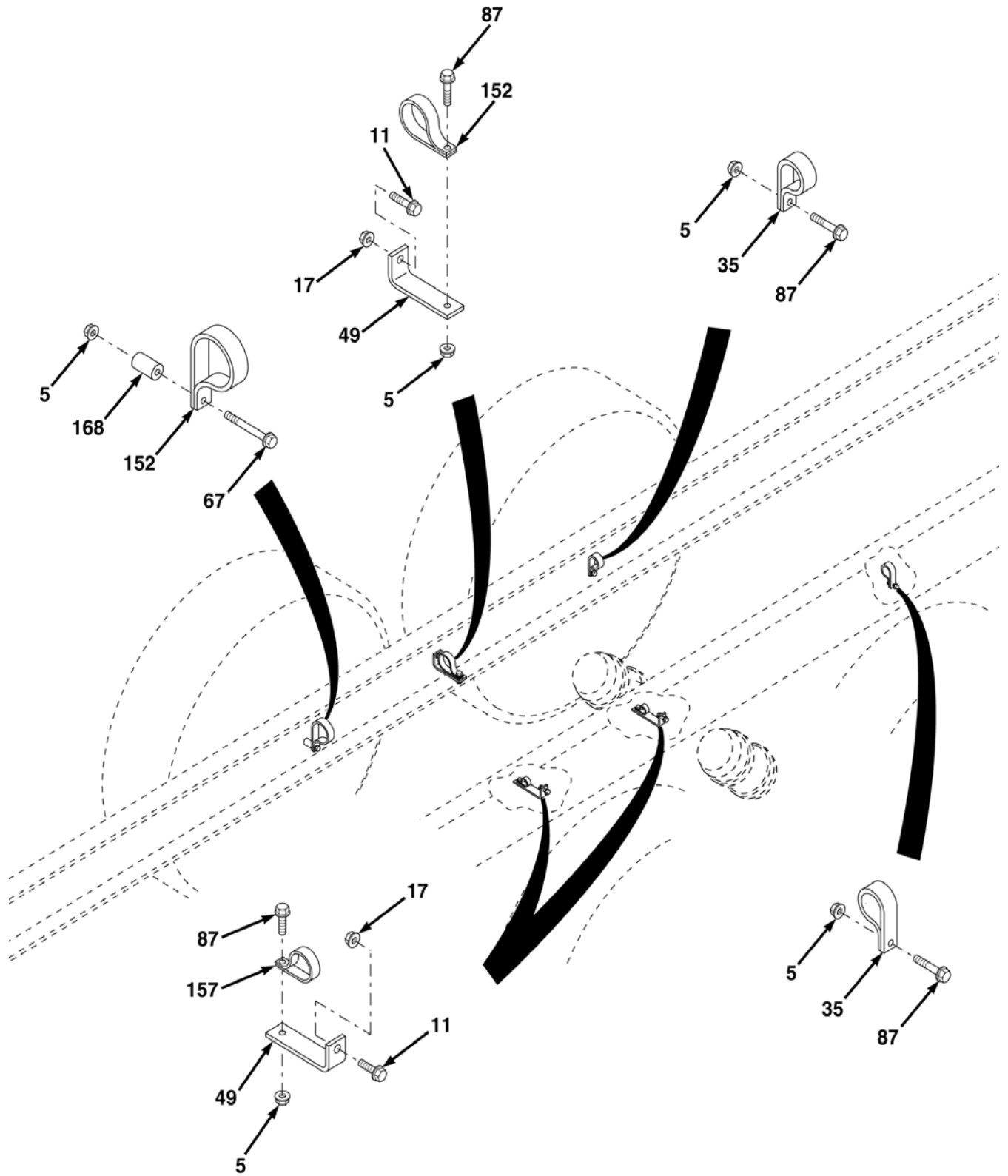


FIG. 50 CHASSIS AIR (SHEET 14 OF 15)

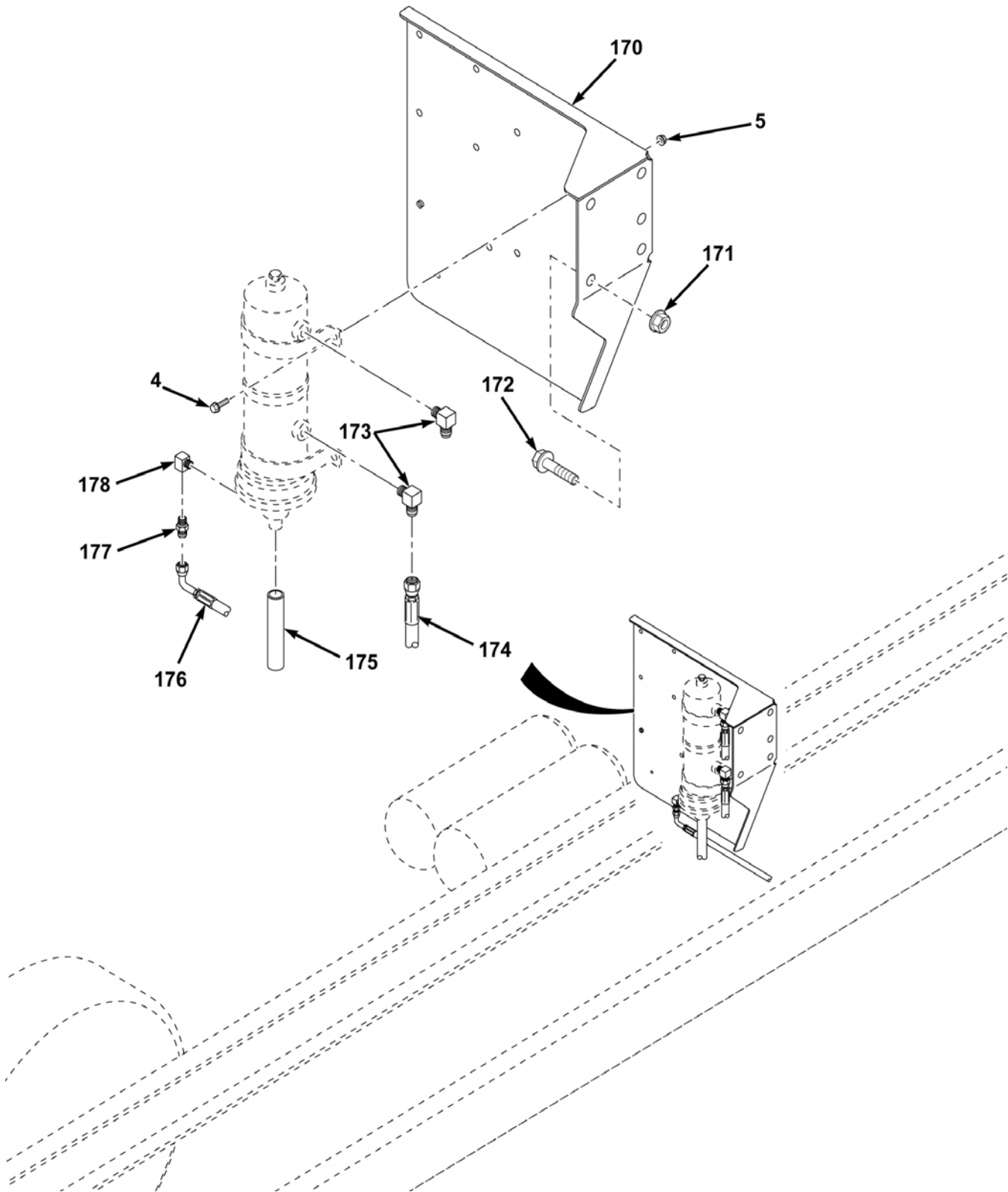


FIG. 50 CHASSIS AIR (SHEET 15 OF 15)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 1208 - AIR BRAKE SYSTEM						
FIG. 50 CHASSIS AIR						
1	PAFZZ	4730-01-102-4123	30327	469F10-8	ELBOW,PIPE TO TUBE.....	6
2	PBFZZ	2530-01-147-9995	06853	102166	VALVE,RELAY,AIR PRE.....	2
3	PAFZZ	4730-00-069-1187	30327	469F6-4	ELBOW, PIPE TO TUBE.....	9
4	PAFZZ	5306-01-287-5714	45152	1614120	BOLT, MACHINE, .38-16 X 1.00 G5 Z...	9
5	PAFZZ	5310-01-288-1116	45152	1437220	NUT,SELF-LOCKING,EX, .38-16 G5 ZY	41
6	MOFZZ		45152	1467160-8	CHANNEL, MAKE FROM MOLDING, P/N 75000743,8 IN LG.....	2
7	PAFZZ	4730-00-289-0382	01276	2021-8-6S	ADAPTER,STRAIGHT,PI, 8JIC-6NPT MM ST.....	4
8	PAFZZ	4720-01-485-5545	45152	3299760	HOSE ASSEMBLY.....	1
9	PAFZZ	4720-01-485-5486	45152	3299761	HOSE ASSEMBLY.....	1
10	PAFZZ	4720-01-485-5548	45152	3299758	HOSE ASSEMBLY.....	1
11	PAFZZ	5305-01-340-0225	45152	1754210	SCREW,CAP,HEXAGON H, .31-18X1.00 G5 Z.....	11
12	PAFZZ		45152	3327920	BRACKET,VALVE, PILOT RELAY.....	1
13	PAFZZ	4730-01-096-9128	93061	68NTA-6-6	ADAPTER,STRAIGHT,PI.....	6
14	PAFZZ	4730-01-096-3169	06853	283249	ELBOW,PIPE TO TUBE.....	1
15	PAFZZ	4730-01-335-2256	93061	219P-6	PLUG, MACHINE THREAD.....	2
16	PAFZZ		45152	3304538	TUBING.....	1
17	PAFZZ	5310-01-340-5671	45152	1333510	NUT,SELF-LOCKING,EX, .31-18 G5 ZY.	11
18	PBFZZ	2530-01-371-1277	06721	N-50009-A	VALVE,SAFETY RELIEF.....	1
19	PAFZZ	4730-01-174-9405	81343	6-4 100302BA	ELBOW, PIPE TO TUBE.....	4
20	PAFZZ	4730-01-244-1226	45152	2991FX	ELBOW,PIPE TO TUBE.....	6
21	PAFZZ	4730-00-720-5002	45152	1656-FX	REDUCER,PIPE.....	2
22	PAFZZ	4730-01-096-3204	45152	18572FX	COUPLING HALF,QUICK.....	1
23	PAFZZ	2530-00-270-3878	06853	220636	DUMMY COUPLING,AUTO.....	1
24	PAFZZ	2530-00-137-9235	06721	N13048A	DUMMY COUPLING,AUTO, WITH CHAIN.....	1
25	PAFZZ	4730-00-595-0083	58536	A52484-1	COUPLING HALF,QUICK.....	1
26	PAFZZ	4720-01-485-6221	45152	3299759	HOSE ASSEMBLY.....	1
27	PAFZZ	4730-00-273-6686	96906	MS51504A8-8	ELBOW, PIPE TO TUBE.....	4
28	PAFZZ	5930-01-076-4114	06853	287416	SWITCH, PRESSURE.....	1
29	PAFZZ	4730-00-202-6491	93061	209P-6-4	BUSHING, PIPE.....	1
30	PAFZZ	2530-01-316-0170	45152	17739FX	VALVE,BRAKE PNEUMATIC.....	1
31	PAFZZ	4730-00-143-9282	45152	111993-A	ELBOW,PIPE TO TUBE.....	5
32	PAFZZ	4730-00-277-9615	08441	A17004-2	TEE, PIPE.....	3

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
33	PAFZZ		45152	3387545	TUBE HARNESS	1
34	PAFZZ	5305-01-344-8899	45152	1606140	SCREW, CAP, HEX HEAD, .25-20 X .75 G5 ZY	17
35	PAFZZ	5340-00-404-4101	75272	C0V1313	CLIP, CSHN, .75ID	21
36	PAFZZ	4730-00-277-8750	81343	4-2 120102BA	ADAPTER, STRAIGHT, PI	1
37	PAFZZ	4730-01-055-4013	06853	283132	ELBOW, PIPE TO TUBE	1
38	PAFZZ	4730-01-091-9212	93061	68NTA-4-4	ADAPTER, STRAIGHT, PI	1
39	PAFZZ	4730-01-086-4064	93061	269NTA-4-4	ELBOW, PIPE TO TUBE	2
40	PAFZZ		45152	3013620	TUBING, 5/8 GRN 35.0 2614	1
41	PAFZZ	4730-01-088-7498	93061	269NTA-10-6	ELBOW, PIPE TO TUBE	5
42	PAFZZ	5305-01-337-9120	45152	1754140	SCREW, CAP, HEXAGON HEAD, .25-20 X 1.00 G5 Z	10
43	PBFZZ	4820-00-728-7467	03533	346-8	VALVE, LINEAR, DIRECT	1
44	PAFZZ	4730-01-082-8799	78330	4484	ADAPTER, STRAIGHT, PI	6
45	PAFZZ		45152	3386118	TUBING, 5/8 RED 100.0 2618	1
46	PAFZZ	5310-01-346-9445	45152	1600460	NUT, SELF-LOCKING, .25-20 G5 ZY	34
47	PAFZZ	4730-00-125-7979	72582	444136	TEE, PIPE	2
48	PAFZZ	4730-01-479-4619	45152	3065702	ADAPTER, FITTING	1
49	PAFZZ	5340-01-155-4433	45152	3693FX2	BRACKET, ANGLE, 4.00 X 1.19 X .19 90	9
50	PAFZZ	5305-01-280-7901	45152	66420AX	SCREW, CAP, HEXAGON HEAD, .25-20 X 1.00 G5 Z	1
51	PAFZZ	5310-00-809-4058	96906	MS27183-10	WASHER, FLAT, .25 X .62 X .06 ZY	1
52	PAFZZ	4730-01-081-5546	93061	VS271NTA-4-4	TEE, PIPE TO TUBE	1
53	PAFZZ	5305-01-167-9408	45152	128131A	SCREW, CAP, HEXAGON HEAD, .50-13X2.00 G8 P	1
54	PFFZZ	5340-01-364-8246	45152	1939610	BRACKET, MOUNTING, 5.00X.25	1
55	PAFZZ	5310-01-159-8178	45152	110310A	NUT, SELF-LOCKING, EX, .50-13 G8 PO	1
56	PAFZZ	4730-01-233-4954	45152	1257FX	TEE, FLANGE TO TUBE	1
57	PAFZZ	4730-00-277-5736	16166	BF-4HP	COUPLING, PIPE	1
58	PAFZZ	4730-00-277-8289	01276	3325X4	NIPPLE, PIPE	4
59	PAFZZ	4730-01-155-3163	01276	FD40-1000-04-04	COUPLING HALF, QUICK, 1/4 FEM	2
60	PAFZZ	4730-01-523-3820	92088	106-0144	NIPPLE, HEX	1
61	PAFZZ	4730-01-235-3007	24617	444124	TEE, PIPE	1
62	PAFZZ	4730-00-287-4852	17590	930743-8584	REDUCER, PIPE	1
63	PAFZZ	4730-00-595-0143	96906	MS14307-4	ELBOW, PIPE	1
64	PAFZZ	4820-00-633-3523	06721	N-30252	VALVE, CHECK	3
65	PAFZZ	4730-01-061-4949	06853	283171	ADAPTER, STRAIGHT, PI	2
66	PAFZZ	4730-01-465-9669	0GYS0	106-0318	PLUG, PIPE	3
67	PAFZZ	5305-01-352-2049	45152	1754290	SCREW, CAP, HEX HEAD, .38-16 X 2.00 G5 Z	10

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
68	PAFZZ	5365-01-154-7172	45152	25628AX	SPACER, SLEEVE, .41ID X 1.00OD X 1.00 THK	12
69	PAFZZ	5340-01-179-4612	06853	281554	STRAP, RETAINING	4
70	PAFZZ	4820-00-142-3036	06853	103385	COCK, DRAIN	4
72	PAFZZ	4730-00-256-4211	81343	AS4858-03	CROSS, PIPE	1
71	PAFZZ	4730-01-479-4619	45152	3065702	ADAPTER, FITTING	1
73	PAFZZ	4720-01-485-5570	45152	3299756	HOSE ASSEMBLY, #4 CR 97.0 2159 ...	1
74	PAFZZ	4730-00-277-7331	21450	444530	TEE, PIPE	2
75	PAFZZ	4730-00-249-9714	92088	106-0192	NIPPLE, PIPE	2
77	PAFZZ	4820-01-132-0583	11331	WM778A	VALVE, DIAPHRAGM	2
76	PAFZZ	4730-00-289-0232	93061	216P-6-4	REDUCER, PIPE	4
78	PAFZZ		45152	3013619	TUBING, NYLON, 5/8 GRN 13.0 2613...	1
79	PAFZZ		87373	P2660606121212-53.00	HOSE ASSEMBLY	1
80	PAFZZ	4730-00-289-4912	96906	MS51504A12	ELBOW, PIPE TO TUBE	1
81	PAFZZ	2530-00-127-8684	06853	282194	TANK, PRESSURE	2
82	PAFZZ	4730-01-167-4388	01276	2024-6-4S	ELBOW, PIPE TO TUBE	1
83	PAFZZ	4730-01-096-9127	01276	1468X6X8	ADAPTER, STRAIGHT, PI	1
84	PAFZZ	4730-00-959-1628	30780	1-2CD45B	ELBOW, PIPE	2
85	PAFZZ	4730-00-278-8575	30327	120B1-2X3-8	REDUCER, PIPE	2
86	PAFZZ	4730-01-096-0574	45152	55137AX	ELBOW, PIPE TO TUBE	2
87	PAFZZ	5306-01-287-5715	45152	1680530	BOLT, MACHINE, .38-16 X 1.25 G5 Z...	13
88	PAFZZ	5340-01-355-6870	45152	1320090	BRACKET, MOUNTING	2
89	PAFZZ	5340-01-355-5258	45152	1336660	BRACKET, MOUNTING	2
90	PAFZZ	5305-01-353-8268	45152	1754300	SCREW, CAP, HEXAGON HEAD, .38-16 X 2.50 G5 Z.	4
91	PAFZZ	4730-00-278-3167	81343	12-8 130140BA	BUSHING, PIPE	2
92	PAFZZ		45152	3029058	TUBING, 3/4 RED 130.0 2014	1
93	PAFZZ	4730-01-108-6410	81343	12-8 100102BA	ADAPTER, STRAIGHT, PI	1
94	PAFZZ	4730-00-278-4822	01276	3400X6	ELBOW, PIPE	1
95	PAFZZ	4730-01-095-2034	93061	2225P-8	TEE, PIPE	1
96	PAFZZ	4310-01-486-1286	0TW02	100121A	TANK, PRESSURE	1
97	PAFZZ	4730-00-919-1803	30327	129B1-4X1-1-2	COUPLING, PIPE	1
98	PAFZZ	4730-00-278-4497	11083	3B6772	ELBOW, PIPE	1
99	PAFZZ		01276	208007-4-4S	ADAPTER, CROSS	1
100	PAFZZ	4730-01-062-2570	81343	6-4 100102BA	ADAPTER, STRAIGHT, PI	4
101	PAFZZ		45152	3013726	TUBING, 3/8 BLK 21.0 2865	1
102	PAFZZ		45152	3386108	TUBING, 3/8 BLU 120.0 2106	1
103	MFFZZ		82654	1467170-24	CHANNEL, NONMETALLIC, MAKE FROM EDGING, P/N 75000349, 24 IN LG	2

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
104	PAFZZ	5305-00-638-8920	80204	B1821BH038C225N	SCREW, CAP, HEXAGON HEAD, .38-16 X 2.25 G5 Z	4
105	PAFZZ	5310-01-062-3379	45152	362AX	WASHER, FLAT, .41 X .81 X .07 ZY	4
106	PAFZZ	5340-00-496-2587	06853	205093	CLAMP, LOOP	2
107	PAFZZ		45152	3386109	TUBING, 3/8 BLU 96.0 2106	1
108	PAFZZ	4730-01-235-5782	93061	209P-12-4	BUSHING, PIPE	1
109	PAFZZ	4730-01-235-2990	09505	4-469-F-10X12	ELBOW, PIPE TO TUBE	1
110	PAFZZ	2530-00-377-8779	06853	217321	TANK, PRESSURE.	1
111	PAFZZ	4730-00-861-0209	01276	2023-6-6S	ELBOW, PIPE TO TUBE	8
112	PAFZZ	4730-01-192-9571	45152	7688GX	ELBOW, PIPE TO HOSE	8
113	PAFZZ		45152	3117486	PLATE, BULKHEAD MTG	4
114	PAFZZ	4730-00-407-0566	06853	A217709	COUPLING, PIPE.	8
115	PAFZZ		87373	P2936868060606-15.8	HOSE ASSEMBLY, 2022	1
116	PAFZZ		87373	P2936868080808-15.8	HOSE ASSEMBLY, 2017	1
117	PAFZZ		87373	P2936868060606-15.8	HOSE ASSEMBLY, 2081	1
118	PAFZZ		87373	P2936868080808-15.8	HOSE ASSEMBLY, 2018	1
119	PAFZZ		87373	P2936868060606-15.8	HOSE ASSEMBLY, 2016	1
120	PAFZZ		87373	P2936868080808-15.8	HOSE ASSEMBLY, 2082	1
121	PAFZZ		87373	P2936868080808-15.8	HOSE ASSEMBLY, 2023	1
122	PAFZZ		87373	P2936868060606-15.8	HOSE ASSEMBLY, 2015	1
123	PAFZZ		45152	3171964	VALVE, RELAY, DOUBLE CHECK.	1
124	PAFZZ	4730-01-097-0386	93061	272NTA-6-4	TEE, PIPE TO TUBE	1
125	PAFZZ	4820-01-147-4995	06853	285683N	VALVE, SHUTTLE	1
126	PAFZZ		45152	3054615	TUBING, 3/8 RED 40.0 2660	1
127	PAFZZ		45152	3386104	TUBING, 3/8 YEL 70.0 2081A	1
128	PAFZZ		45152	3386103	TUBING, 3/8 YEL 66.0 2023A	1
129	PAFZZ		45152	3386099	TUBING, 3/8 YEL 70.0 2022A	1
130	PAFZZ		45152	3386100	TUBING, 3/8 YEL 70.0 2082A	1
131	PAFZZ		45152	3386097	TUBING, 5/8 RED 60.0 2015A	1
132	PAFZZ		45152	3386101	TUBING, 5/8 RED 56.0 2017A	1
133	PAFZZ		45152	3386098	TUBING, 5/8 RED 60.0 2016A	1
134	PAFZZ		45152	3386102	TUBING, 5/8 RED 60.0 2018A	1
135	PAFZZ	4730-01-235-4789	09505	4-469-F-12X08	ELBOW, PIPE TO TUBE	1
136	PAFZZ		45152	3518603	TUBING, 3/8 BLU 29.5 2102A	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
137	PAFZZ		45152	3386106	TUBING, 3/8 BLU 68.0 2102	2
138	PAFZZ		45152	3506740	VALVE, BALL, .38 NPT LOCK	2
139	PAFZZ		45152	3386093	LINKAGE, HEIGHT CONTROL	2
140	PAFZZ		45152	3386095	BRACKET, HEIGHT CNTRL, LINK, LH . .	1
141	PAFZZ		45152	3510270	BOLT, CAGE	4
142	PFFZZ		45152	3509213	BRACKET, CAGE BOLT	2
143	PAFZZ		45152	3512465	SPACER, .26IDX1.00ODX1.31THK. . . .	4
144	PAFZZ	5340-01-479-9054	45152	2290HX	CLAMP, LOOP	2
145	PAFZZ	5305-01-349-4187	45152	1754170	SCREW, CAP, HEXAGON H, .25-20 X 2.50 G5 Z.	4
146	PAFZZ		45152	3309524	VALVE, FLOW CONTROL	2
147	PAFZZ	4730-01-134-0854	81343	6-2 100102BA	ADAPTER, STRAIGHT, PI	6
148	PAFZZ		45152	3386105	TUBING, 3/8 BLU 18.0 2945	2
149	PAFZZ		45152	3386107	TUBING, 3/8 BLU 36.5 2102A	1
150	PAFZZ		45152	3386094	BRACKET HEIGHT CNTRL, LINK, RH . .	1
151	PAFZZ	5340-01-485-6405	45152	3255675	BRACKET,ANGLE,3.50 X 1.19 X .19 90 .	2
152	PAFZZ	5340-01-081-3419	45152	2362HX	CLAMP, LOOP, 2.00ID	7
153	PAFZZ	2510-01-480-1128	45152	3256916	CLIP, CUSHION, 2.25ID	4
154	PAFZZ	5340-01-219-5446	45152	1495570	BRACKET, ANGLE 4.00X1.63X.125 90. .	4
155	PAFZZ	5340-01-351-5690	12088	X125	CLAMP, LOOP	4
156	PAFZZ	5310-01-061-7452	45152	1804HX	WASHER, FLAT, .31X.69X.07 ZY	4
157	PAFZZ	5340-00-224-1204	45152	2288HX	CLAMP, LOOP, 1.50ID	9
158	PAFZZ	2590-01-175-5535	19207	12357810	BRACKET, AIR HOSE, 4.63X.19 TW . . .	1
159	PAFZZ	5340-01-155-1919	45152	1338010	PLATE, MOUNTING	5
160	PAFZZ	5340-01-159-8585	45152	1357480	BRACKET, ANGLE	5
161	PAFZZ	5340-01-154-5247	45152	3737FX4	BRACKET, ANGLE	2
162	PAFZZ	5340-01-158-2086	45152	1353990	BRACKET, ANGLE	1
163	PAFZZ	5340-01-204-4888	84971	TA720-S8	CLIP, CUSHIONED	1
164	PAFZZ	5340-00-404-4100	75272	C0V2113	CLAMP, LOOP, 1.25ID	2
165	PAFZZ	5305-01-340-5061	45152	1754280	SCREW, CAP, HEX HEAD, .38-16X1.50 G5 Z.	1
166	PAFZZ	5340-01-507-8255	45152	1553520	BRACKET, MOUNTING	1
167	PAFZZ	5306-01-338-7270	45152	1754240	BOLT, MACHINE, .31-18X2.50 G5 Z. . . .	1
168	PAFZZ	5365-01-187-5896	45152	22007FX	SPACER, SLEEVE, .385IDX.62ODX1.00THK	3
169	PAFZZ	5305-01-346-3692	45152	1764650	SCREW, CAP, HEXAGON H, .25-20X1.25 G5 Z.	1
170	PAFZZ		45152	3386096	BRACKET, AIR DRYER	1
171	PAFZZ	5310-01-111-0645	45152	110311A	NUT,SELF-LOCKING,EX,.62-11 G8 PO. .	3
172	PAFZZ	5306-01-150-5884	45152	115289A	BOLT, MACHINE, .62-11X1.50 G8 P. . . .	3

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
173	PAFZZ	4730-01-220-5613	96906	MS51504A12-8	ELBOW, PIPE TO TUBE	2
174	PAFZZ		45152	207385100	HOSE ASSEMBLY	1
175	MOFZZ		45152	2794HX-5	HOSE, HOT WATER, MAKE FROM HOSE P/N 19B1D1PLY, 5 IN. LG.	1
176	PAFZZ		45152	3386119	HOSE ASSEMBLY	1
177	PAFZZ	4730-00-837-7073	96906	MS51500A4-4S	ADAPTER, STRAIGHT, PI	1
178	PAFZZ	4730-01-233-4981	01276	3400X4W	ELBOW, PIPE.	1

END OF FIGURE

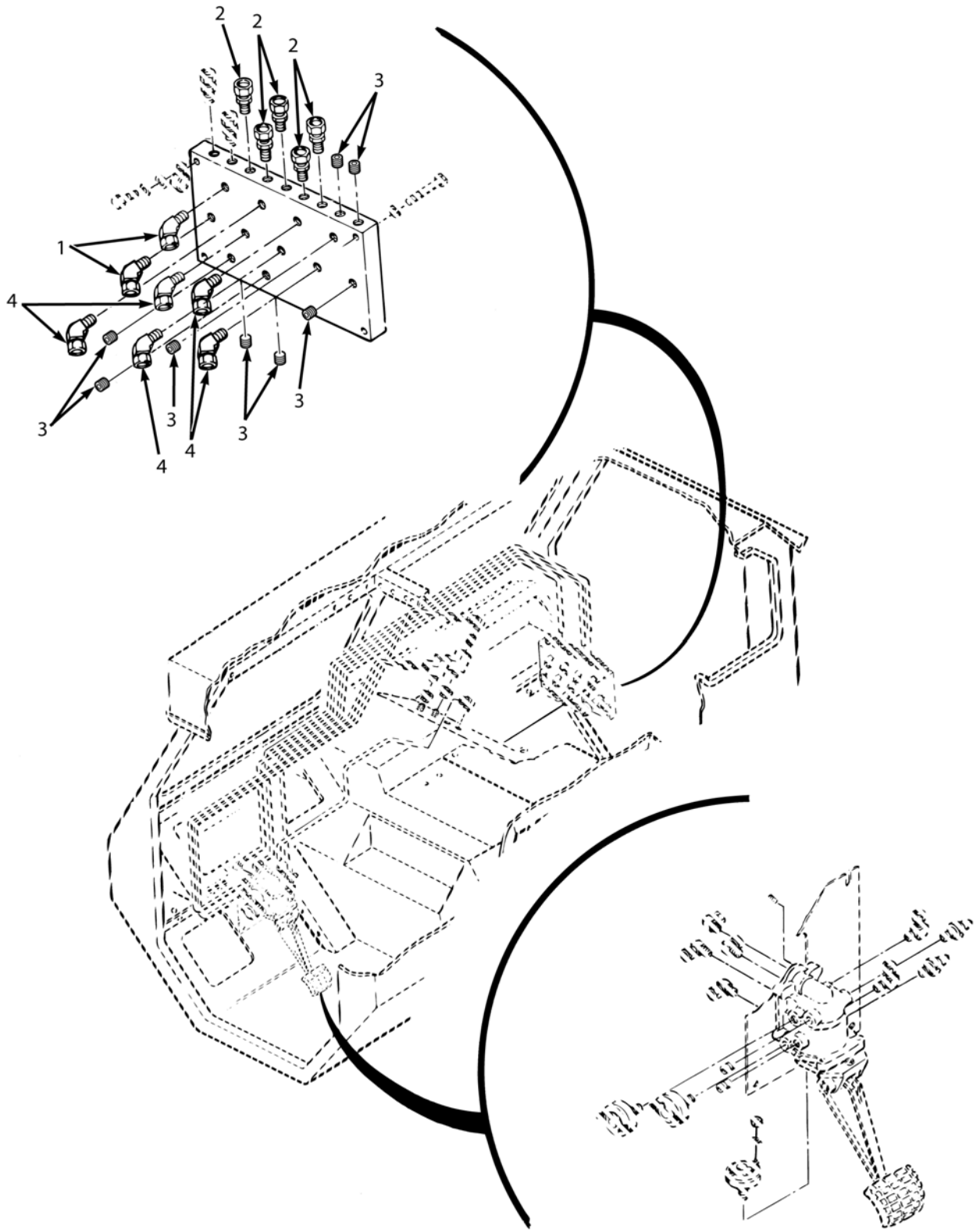


FIG. 51 CAB AIR (SHEET 1 OF 2)

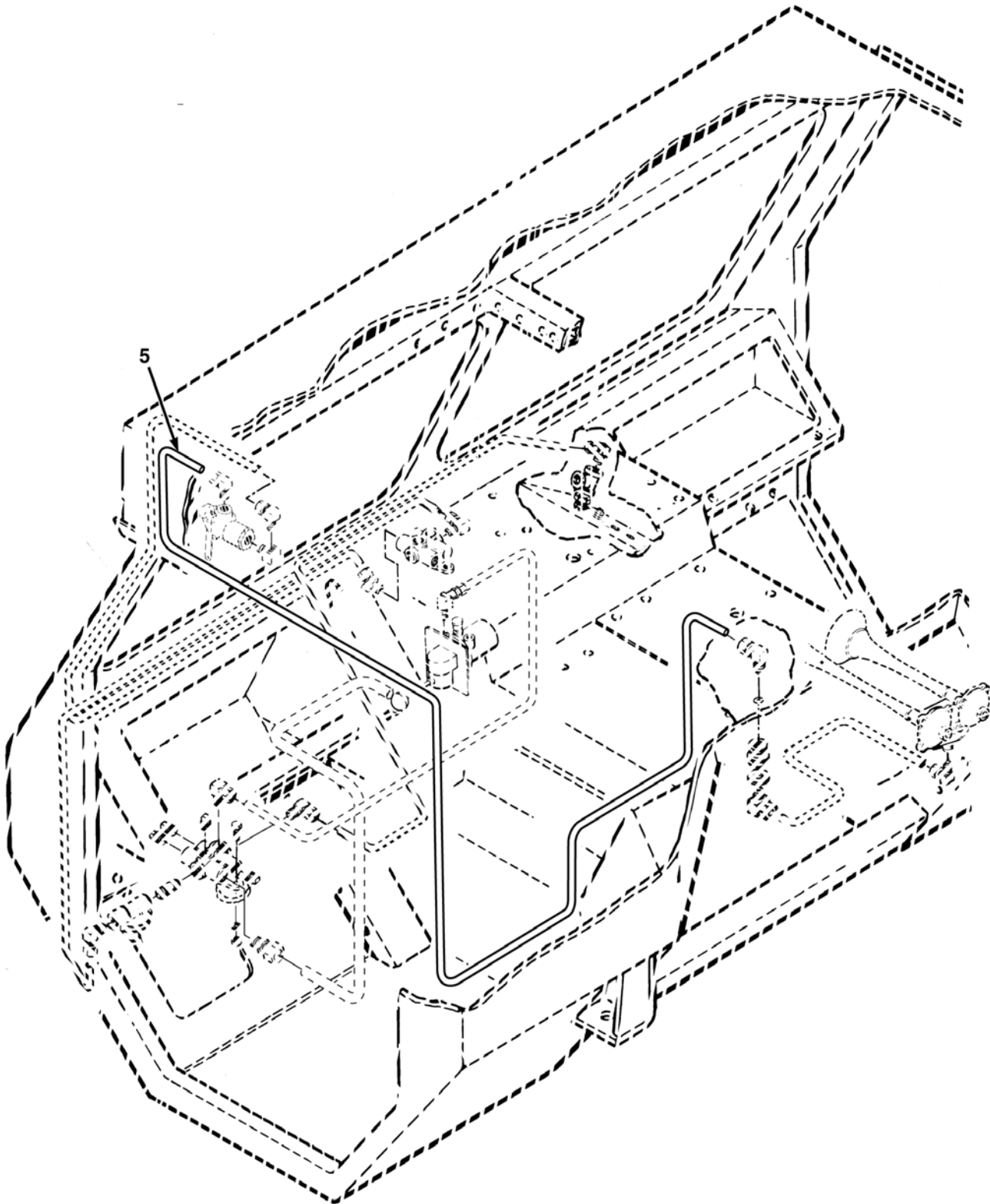


FIG. 51 CAB AIR (SHEET 2 OF 2)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 1208 - AIR BRAKE SYSTEM FIG. 51 CAB AIR	
1	PAFZZ	4730-01-091-8030	93061	279NTA-4-4	ELBOW,PIPE TO TUBE.....	2
2	PAFZZ	4730-01-062-2570	81343	6-4 100102BA	ADAPTER,STRAIGHT,PI.....	5
3	PAFZZ	4730-01-082-1017	45152	111500A	PLUG,PIPE.....	8
4	PAFZZ	4730-01-174-9405	81343	6-4 100302BA	ELBOW,PIPE TO TUBE.....	5
5	PAFZZ		45152	3013684	TUBING,NYLON.....	1
					END OF FIGURE	

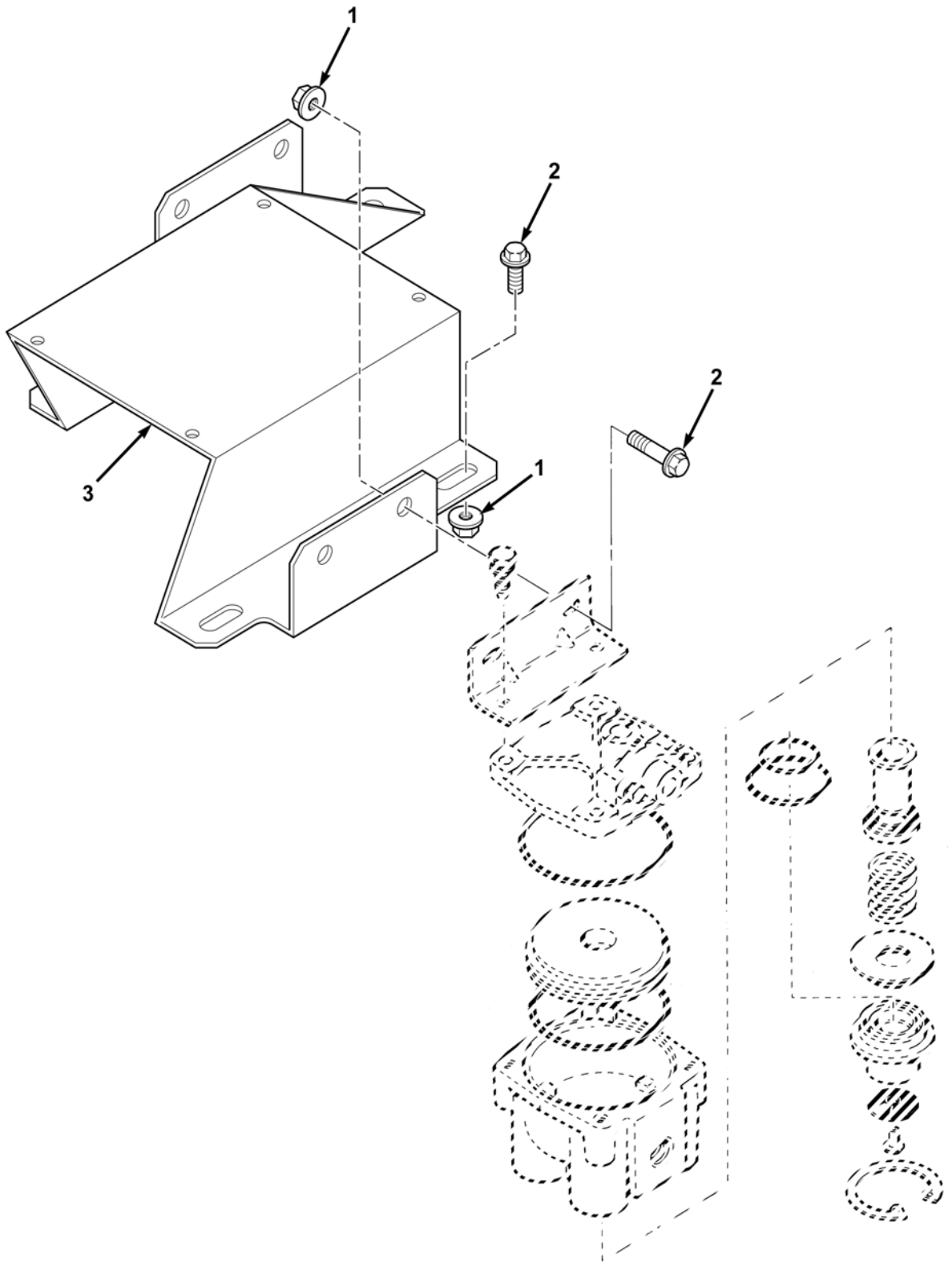


FIG. 52 CHASSIS AIR-RELAY VALVE 3171964

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 1208 - AIR BRAKE SYSTEM FIG. 52 CHASSIS AIR-RELAY VALVE 3171964	
1	PAFZZ	5310-01-288-1116	45152	1437220	NUT,SELF-LOCKING,EX	8
2	PAFZZ	5306-01-287-5714	45152	1614120	BOLT,MACHINE.	8
3	PAFZZ		45152	3476457	BRACKET,INPUT MODULE	1
END OF FIGURE						

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE**RPSTL GROUP 14 - STEERING**

		Figure	Page
GROUP 14	STEERING		
	1411 HOSES, LINES, FITTINGS		
	STEERING HYDRAULIC LINES AND FITTINGS	53	0167-2
	82 L MAIN HYDRAULIC	54	0167-5
	1413 TANKS, RESERVOIRS		
	MAIN HYDRAULIC FILTER - THAAD	55	0167-10

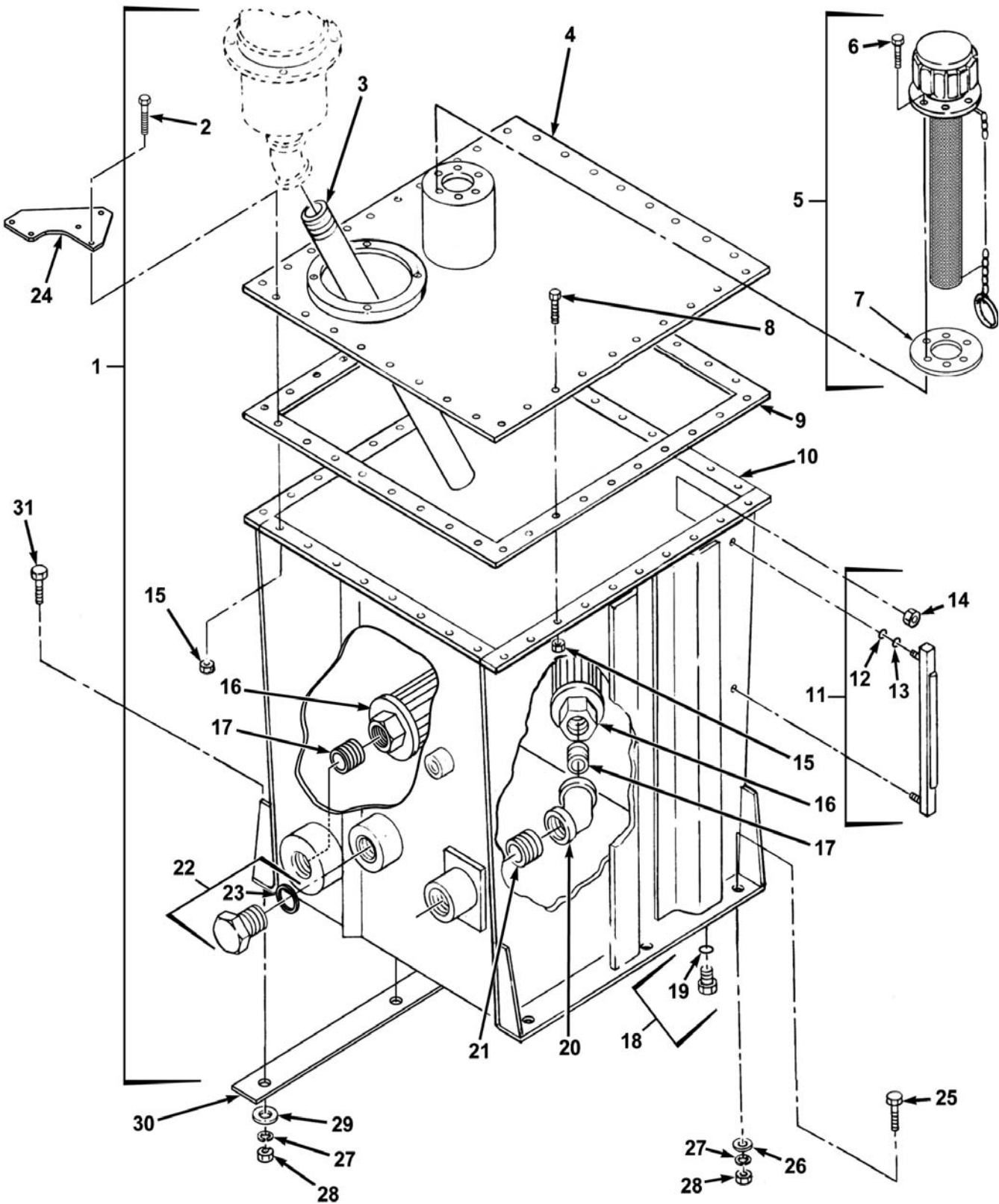


FIG. 53 STEERING HYDRAULIC LINES AND FITTINGS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 1411 - HOSES,LINES,FITTINGS FIG. 53 STEERING HYDRAULIC LINES AND FITTINGS						
1	PAFFF	2530-01-217-8311	45152	1465710U	RESERVOIR,HYDRAULIC	1
2	PAFZZ	5306-01-198-8057	82465	21218CQ0L	•BOLT,MACHINE	3
3	XAFZZ		45152	1466930	•PIPE,METALLIC	1
4	PFFZZ	2530-01-222-4517	45152	1466430W	•COVER,HYDRAULIC RESERVOIR	1
5	PAFZZ	2520-01-485-6386	60827	FB-10-120-305-D	•BREATHER.	1
6	XAFZZ	5305-01-517-0245	45152	1KK239	•SCREW,MACHINE	6
7	PAFZZ	5330-01-406-8221	60827	FB07	•GASKET	1
8	PAFZZ	5306-01-156-8678	4R119	SPLE101D05	•BOLT,MACHINE	33
9	PAFZZ	5330-01-227-9878	45152	1467500	•GASKET	1
10	XAFZZ		45152	1466420W	•RESERVOIR.	1
11	PAFZZ	6680-01-225-0229	45152	1389370	•INDICATOR,SIGHT,LIQUID	1
12	PAFZZ		0CAG9	809680	••O-RING	2
13	PAFZZ		0CAG9	809530	••O-RING	2
14	PAFZZ	5310-01-151-1036	45152	115307A	••NUT,SELF-LOCKING,EX.	2
15	PAFZZ	5310-01-155-1905	45152	115303A	•NUT,SELF-LOCKING,EX	36
16	PAFZZ	4730-01-153-2765	0CAG9	SS100-12N	•STRAINER,SUCTION.	2
17	PAFZZ	4730-00-196-1531	96906	MS51953-172	•NIPPLE,PIPE	2
18	PAFZZ	5365-01-217-4133	01276	900598-8S	•PLUG,MACHINE THREAD	1
19	PAFZZ	5331-01-220-0153	39428	9452K28	••O-RING	1
20	PAFZZ	4730-00-261-4219	96906	MS39231-8	•ELBOW,PIPE	1
21	PAFZZ	4730-00-196-1471	96906	MS51953-169	•NIPPLE,PIPE	1
22	PAFZZ	5365-01-172-3384	01276	900598-20S	•PLUG,MACHINE THREAD	1
23	PAFZZ	5331-01-529-3104	39428	9464K301	••O-RING	1
24	PAFZZ		45152	3521606	PLATE, MOUNTING	1
25	PAFZZ	5305-00-543-2419	80204	B1821BH038C113N	SCREW,CAP,HEXAGON HEAD	3
26	PAFZZ	5310-00-080-6004	96906	MS27183-14	WASHER,FLAT	3
27	PAFZZ	5310-01-129-0450	45152	351AX	WASHER,LOCK.	6
28	PAFZZ	5310-01-288-1116	45152	1437220	NUT,SELF-LOCKING,EX	6
29	PAFZZ	5310-00-880-0626	19207	10892331	WASHER,FLAT	3
30	PAFZZ		45152	1424230	PLATE,CLAMPING	1
31	PAFZZ	5305-00-846-5703	80204	B1821BH038C300N	SCREW,CAP,HEXAGON HEAD	3
END OF FIGURE						

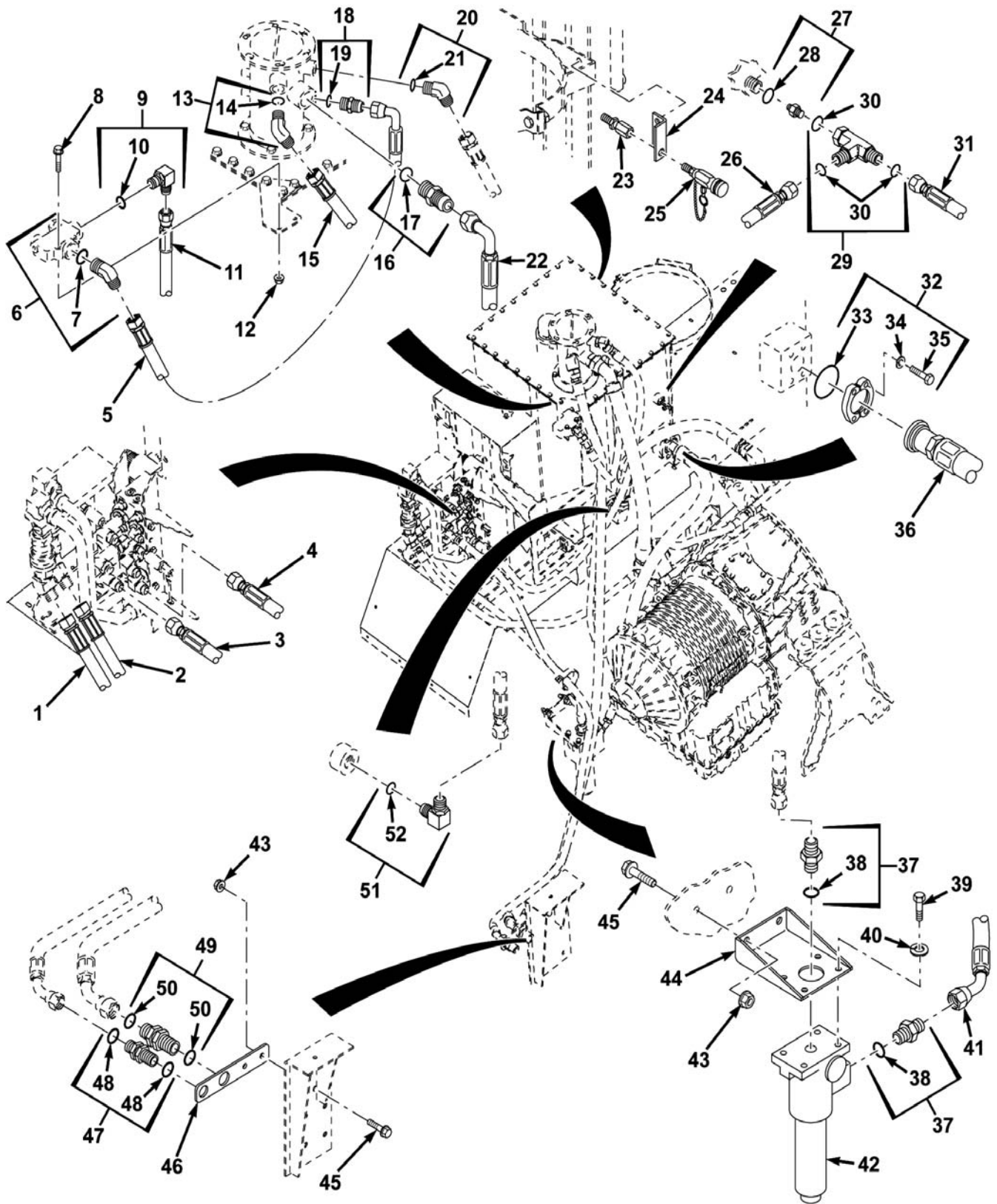


FIG. 54 82 L MAIN HYDRAULIC (SHEET 1 OF 2)

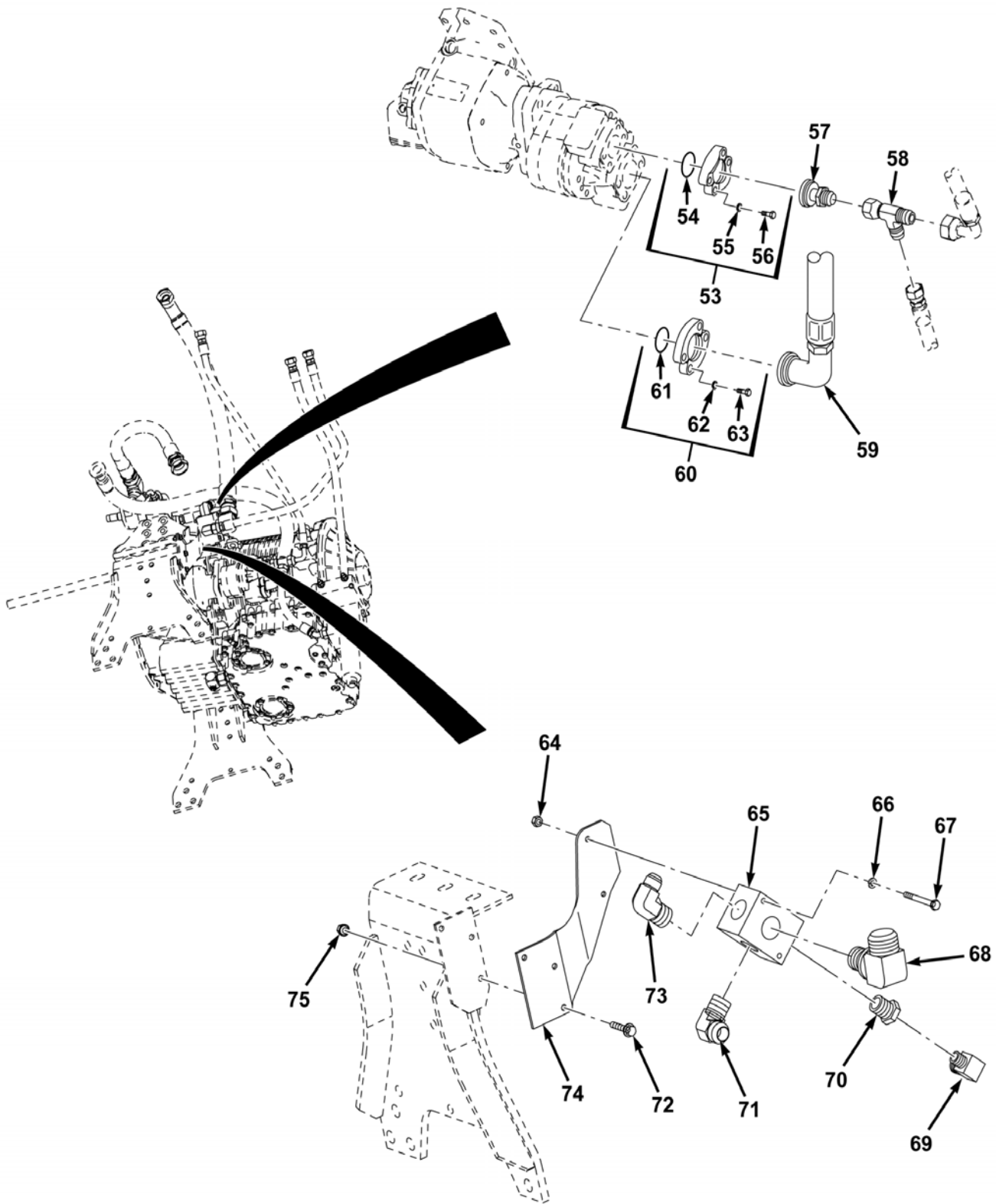


FIG. 54 82 L MAIN HYDRAULIC (SHEET 2 OF 2)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 1411 - HOSES,LINES,FITTINGS						
FIG. 54 82 L MAIN HYDRAULIC						
1	PAFZZ		87373	F421HT0606161616-42.00	HOSE ASSEMBLY	1
2	PAFZZ		87373	F3810606121212-42.75	HOSE ASSEMBLY	1
3	PAFZZ		87373	F451TC06J7121212-79.25	HOSE ASSEMBLY	1
4	PAFZZ		87373	F451TC0606121212-57.00	HOSE ASSEMBLY	1
5	PAFZZ		87373	F3810639121212-28.50	HOSE ASSEMBLY	1
6	PAFZZ		01301	2061-12-10S	FITTING	1
7	PAFZZ	5331-00-939-9095	81343	AS3582-021	•O-RING	1
8	PAFZZ	5306-01-338-7270	45152	1754240	BOLT,MACHINE, .31-18 X 2.50	2
9	PAFZZ	4730-01-077-4889	01276	2062-10-12S	ELBOW,TUBE TO BOSS	1
10	PAFZZ	5331-00-939-9095	81343	AS3582-021	•O-RING	1
11	PAFZZ		87373	F3810639121212-38.25	HOSE ASSEMBLY	1
12	PAFZZ	5310-01-340-5671	45152	1333510	NUT,SELF-LOCKING,EX, .31-10	2
13	PAFZZ	4730-01-522-3506	45152	11026GX	FITTING	1
14	PAFZZ		39428	9751K127	•O-RING	1
15	PAFZZ		87373	F451TC06J7161616-98.75	HOSE ASSEMBLY	1
16	PAFZZ	4730-01-119-6222	01276	202702-20-24S	ADAPTER, STRAIGHT	1
17	PAFZZ		39428	9452K117	•O-RING	1
18	PAFZZ	4730-01-096-9138	96906	MS39324-12-10	ADAPTER, STRAIGHT	1
19	PAFZZ	5331-01-421-1835	39428	9452K74	•O-RING	1
20	PAFZZ	4730-00-903-7176	96906	MS51528A12P	ELBOW, TUBE TO BOSS	1
21	PAFZZ		39428	9751K125	•O-RING	1
22	PAFZZ		87373	P2660637242424-32.75	HOSE ASSEMBLY	1
23	PAFZZ	4730-00-326-2475	30780	4WGBTXS	ADAPTER, STRAIGHT, PI	1
24	PFFZZ		45152	3379635	BRACKET, SAMPLING VALVE	1
25	PAFZZ	4820-01-393-5272	01276	FD15-1026-04	VALVE, BLEEDER, HYDRAULIC.	1
26	PAFZZ		45152	3460095	HOSE ASSEMBLY	1
27	PAFZZ	4730-01-281-0982	01276	FF1852T-0408S	ADAPTER,STRAIGHT	1
28	PAFZZ		39428	2418T141	•O-RING	1
29	PAFZZ	4730-01-281-0976	81343	444-520432	TEE, TUBE	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
30	PAFZZ		39428	9452K59	•O-RING	3
31	PAFZZ		45152	3460094	HOSE ASSEMBLY	1
32	PAFZZ	4730-01-056-8125	45152	66409AX	PARTS KIT, SPLIT FLANGE.	1
33	PAFZZ		39428	9452K69	•O-RING	1
34	PAFZZ	5310-01-482-9242	39428	92146A033	•WASHER, LOCK.	4
35	PAFZZ		39428	92865A716	•SCREW, CAP, HEXAGON HEAD	4
36	PAFZZ		87373	R2661519322024-48.0	HOSE ASSEMBLY	1
37	PAFZZ	4730-00-173-1881	01276	202702T-12-16S	ADAPTER, STRAIGHT.	2
38	PAFZZ	5331-00-182-3115	81343	AS3582-023	•O-RING	1
39	PAFZZ	5305-01-172-2002	45152	316BX1	SCREW, CAP, HEXAGON HEAD.	4
40	PAFZZ	5310-01-081-1283	45152	352AX	WASHER, LOCK	4
41	PAFZZ		45152	3444023	HOSE ASSEMBLY	1
42	PAFZZ	4330-01-192-1726	45152	1446320	FILTER, FLUID	1
43	PAFZZ	5310-01-159-8178	45152	110310A	NUT, SELF-LOCKING, EX, .50-13	4
44	PAFZZ		45152	3437653	BRACKET, FILTER, HIGH PSI	1
45	PAFZZ	5305-01-150-7736	45152	115293A	SCREW, CAP, HEXAGON HEAD.	4
46	PAFZZ		45152	3479417	BRACKET, HYDRAULIC MOUNTING	1
47	PAFZZ	4730-01-351-8097	01276	F1994T0606-214	NIPPLE, TUBE	1
48	PAFZZ	5531-00-942-5120	81343	AS3582-024	•O-RING	2
49	PAFZZ	4730-01-358-8528	01276	FF1994T-1616S	NIPPLE, TUBE	1
50	PAFZZ	5331-01-269-4323	01276	FF9446-21	•O-RING	2
51	PAFZZ	4730-01-088-4454	81343	SAE J514 24-24 070220C	ELBOW, TUBE TO BOSS.	1
52	PAFZZ	5330-01-118-0907	39428	9452K47	•O-RING	1
53	PAFZZ	4730-01-155-4089	01276	FF593-16	FLANGE, PIPE	1
54	PAFZZ		39428	9751K128	•O-RING	1
55	PAFZZ	5310-01-446-0892	39428	92146A031	•WASHER, SELF-LOCKING.	4
56	PAFZZ	5305-01-504-8942	39428	92865A626	•SCREW, CAP, HEX HD.	4
57	PAFZZ		45152	3379624	FITTING, SPLIT FLANGE.	1
58	PAFZZ	4730-00-738-7558	81343	12-12-12070432C	TEE, TUBE	1
59	PAFZZ		87373	F3810637121212-15.50	HOSE ASSEMBLY	1
60	PAFZZ	4730-01-216-7693	01276	FF593-20	PARTS KIT, SPLIT FLANGE.	1
61	PAFZZ		39428	9751K129	•O-RING	1
62	PAFZZ	5310-01-357-8849	39428	91101A032	•WASHER, SELF-LOCKING.	4
63	PAFZZ	5305-01-443-8671	39428	92865A673	•SCREW, CAP, HEX HD.	4
64	PAFZZ	5310-01-063-8970	45152	434AX1	NUT, PLAIN, HEXAGON, .38-16	2
65	PAFZZ	4730-01-157-3574	45152	123614C	MANIFOLD, HYDRAULIC	1
66	PAFZZ	5310-01-129-0450	45152	351AX	WASHER, LOCK, .38 X .68 X .09.	2

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
67	PAFZZ	5305-01-187-5921	45152	2870HX	SCREW, CAP, HEXAGON HEAD, .38-16 X 3.50	2
68	PAFZZ	4730-01-257-4898	01276	2024-20-24S	ELBOW, PIPE TO TUBE	1
69	PAFZZ	4730-01-082-3947	81343	AS5195R1012	ELBOW, PIPE TO TUBE	1
70	PAFZZ		45152	2048HX	BUSHING, REDUCER	1
71	PAFZZ	4730-00-833-9315	01276	2024-16-16S	ELBOW, PIPE TO TUBE	1
72	PAFZZ	5305-01-156-9457	45152	1333170	SCREW, CAP, HEXAGON HEAD, .38-16 X 1.00	3
73	PAFZZ	4730-00-314-7706	01276	2024-16-12S	ELBOW, PIPE TO TUBE	1
74	PAFZZ		45152	3379616	BRACKET, MOUNTING, MANIFOLD....	1
75	PAFZZ	5310-01-151-1036	45152	115307A	NUT, SELF-LOCKING, EX, .38-16	3

END OF FIGURE

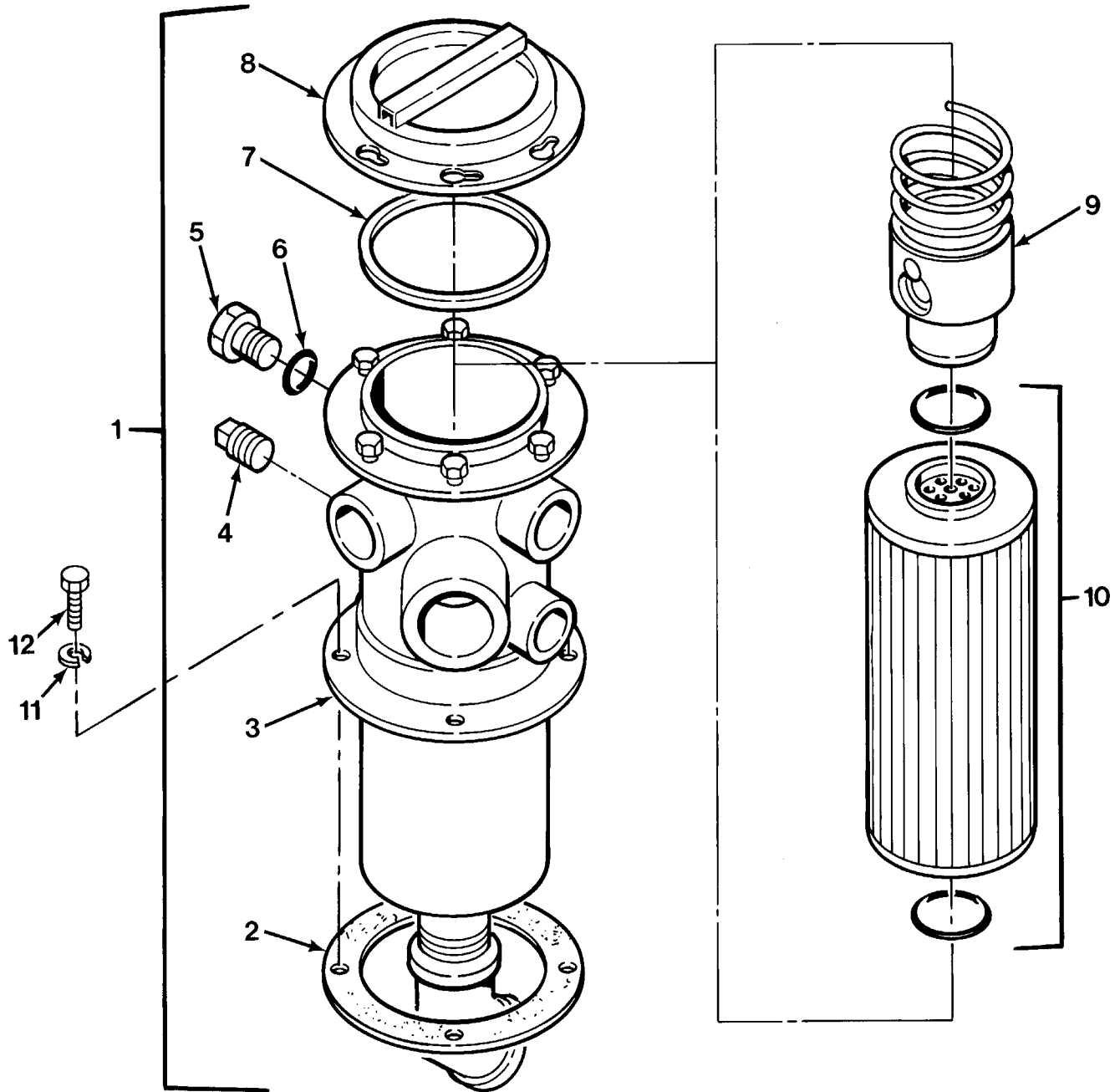


FIG. 55 MAIN HYDRAULIC FILTER - THAAD

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 1413 - TANKS, RESERVOIRS						
FIG. 55 MAIN HYDRAULIC FILTER -						
THAAD						
1	PAFFF	4330-01-232-9955	18350	1303276	FILTER,FLUID	1
2	PAFZZ	5330-01-234-7625	1EP30	HC2124-G475	•GASKET	1
3	XAFZZ		06816	1300504	•HOUSING,FILTER	1
4	PAFZZ	4730-00-221-2137	81343	AS4863SIZE0Z(OD)	•PLUG,PIPE	1
5	XAFZZ		06816	128258	•PLUG,MACHINE THREAD	1
6	PAFZZ	5331-01-260-8952	1EP30	OR-904	•O-RING	1
7	PAFZZ	5330-01-234-2618	06816	1199479	•GASKET	1
8	PAFZZ	5340-01-235-2151	1EP30	P.E.P.4.1.4	•COVER,ACCESS	1
9	PAFZZ	4730-01-232-4790	1EP30	2124 25PSI MANFLD KIT	•MANIFOLD ASSEMBLY,HEAD	1
10	PAFZZ	4330-01-232-8305	18265	P16-7154	•FILTER ELEMENT,FLUID	1
11	PAFZZ	5310-01-129-0450	45152	351AX	WASHER,LOCK	4
12	PAFZZ	5306-01-084-5390	78500	S-268-1	BOLT,MACHINE	4
END OF FIGURE						

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

RPSTL GROUP 15 - FRAME, TOWING ATTACHMENTS, AND DRAWBARS

		Figure	Page
GROUP 15	FRAME, TOWING ATTACHMENTS, AND DRAWBARS		
	1501		
	FRAME ASSEMBLY		
	FRAME ASSEMBLY.....	56	0168-2

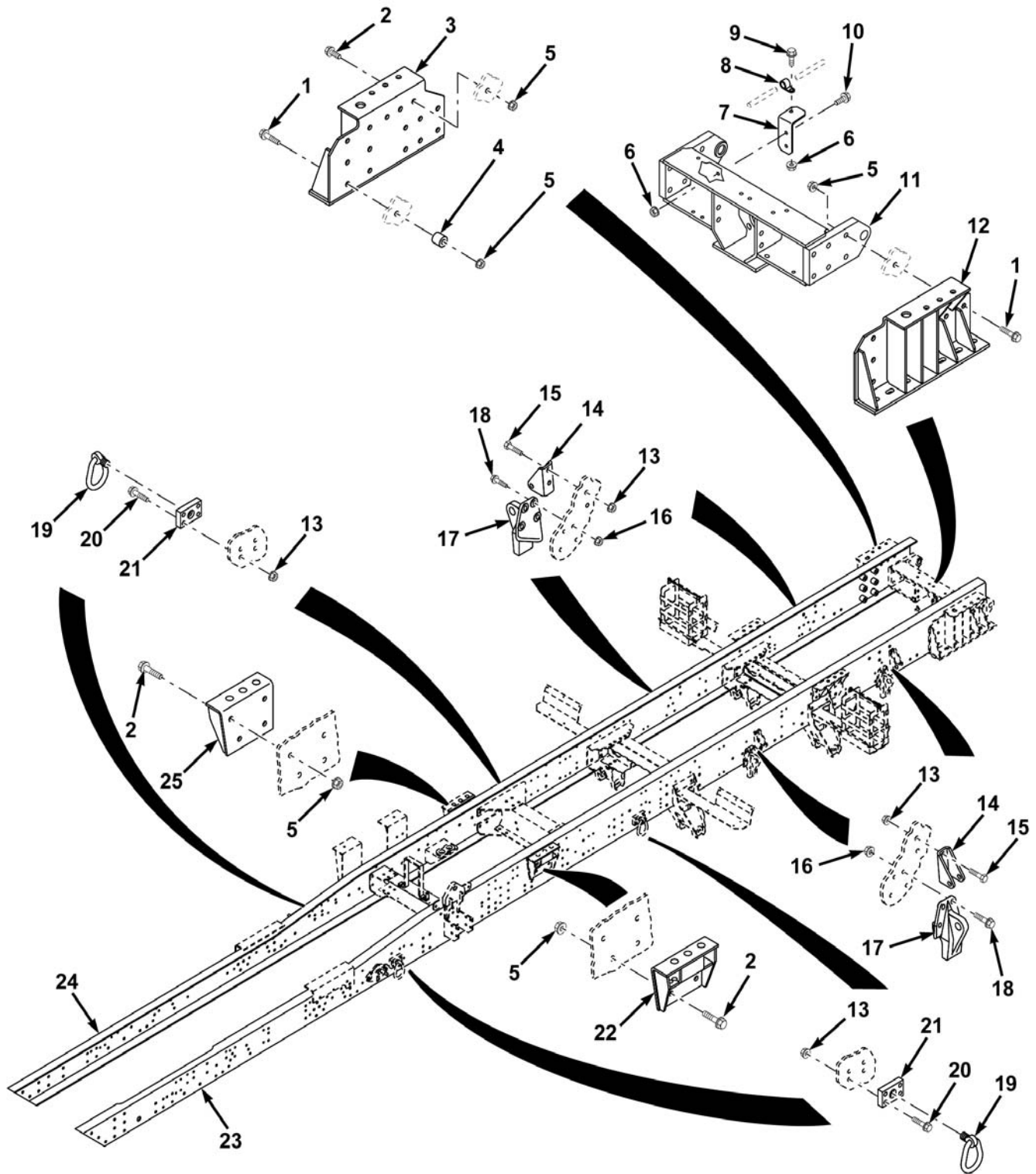


FIG. 56 FRAME ASSEMBLY (SHEET 1 OF 5)

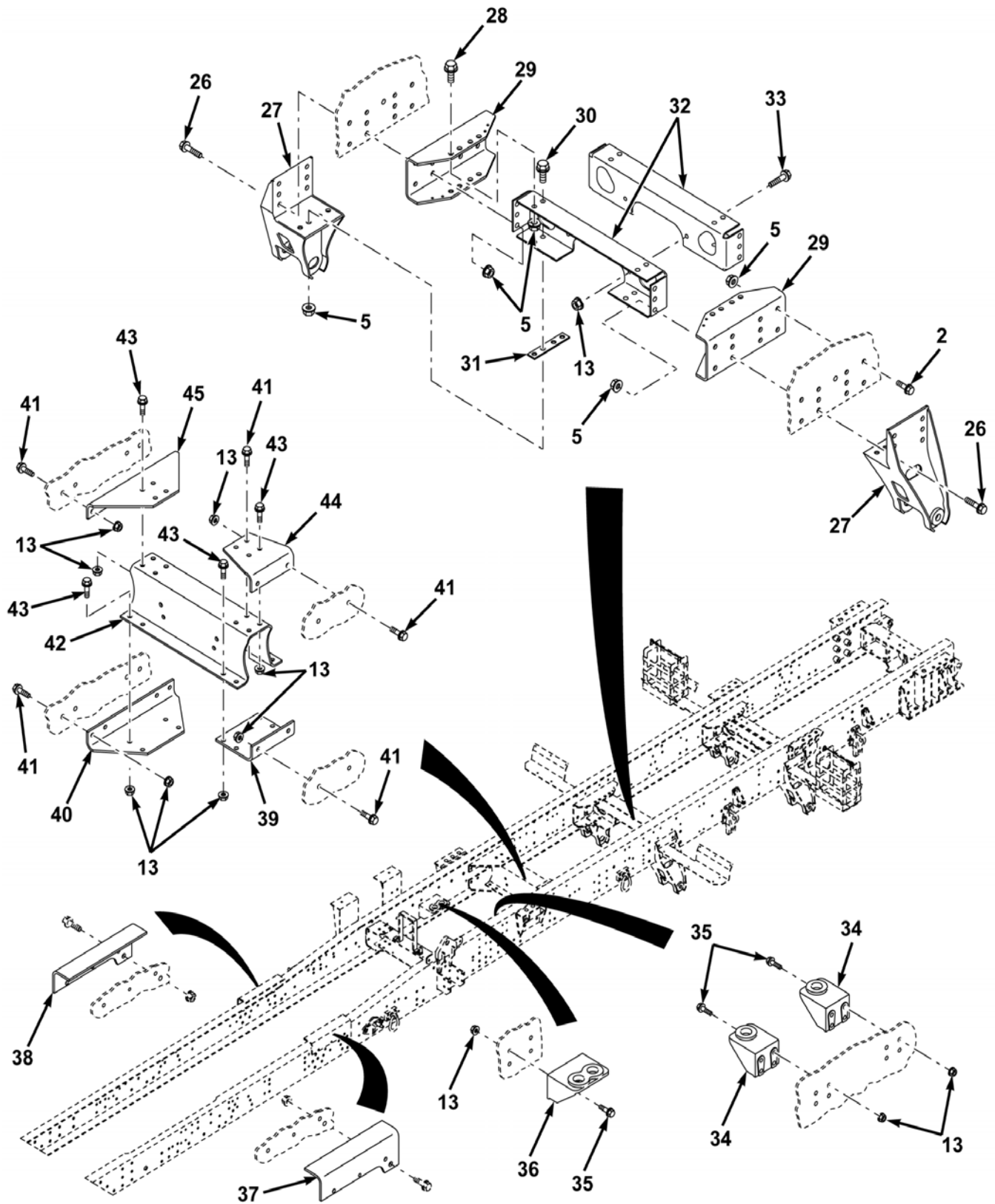


FIG. 56 FRAME ASSEMBLY (SHEET 2 OF 5)

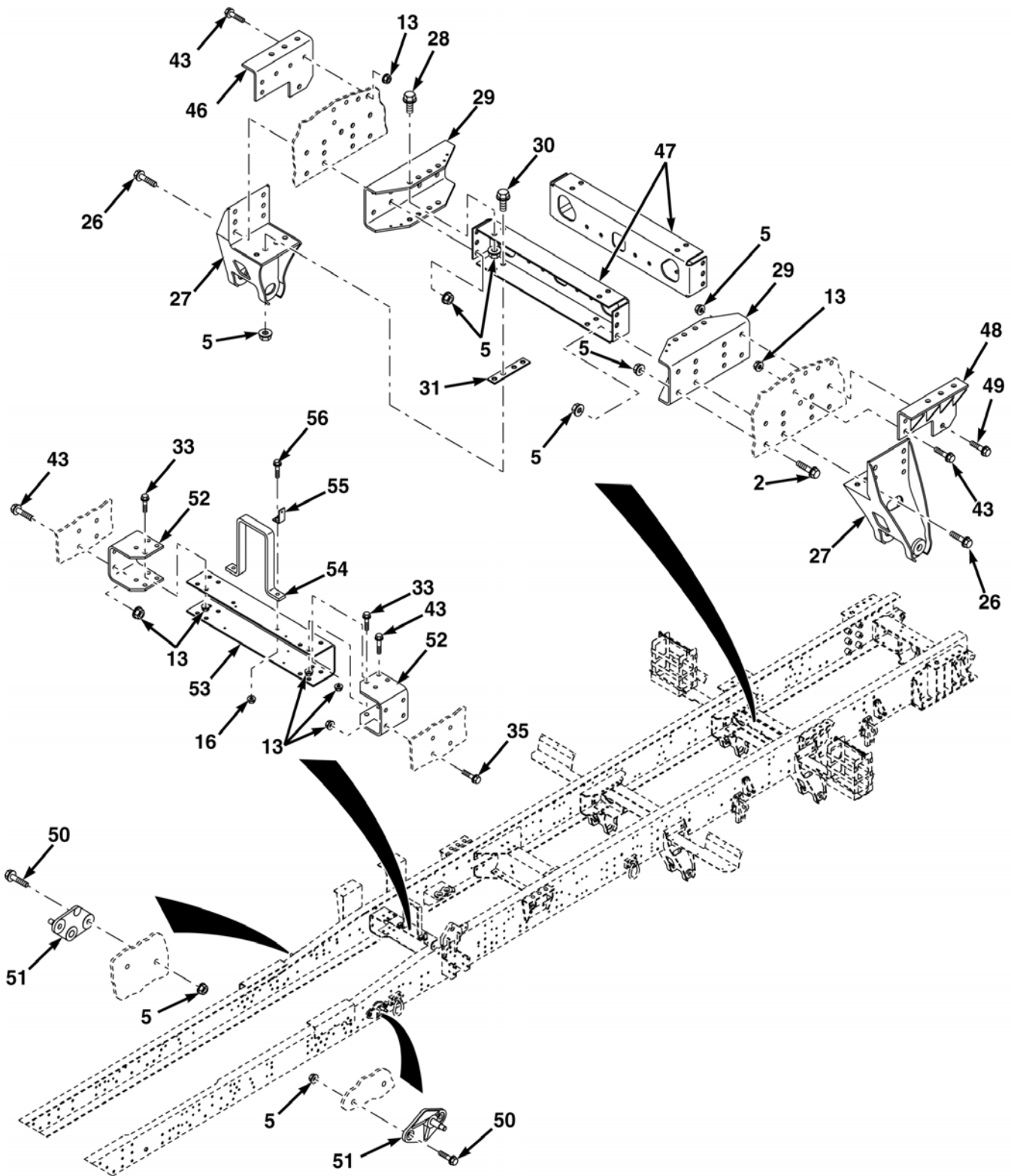


FIG. 56 FRAME ASSEMBLY (SHEET 3 OF 5)

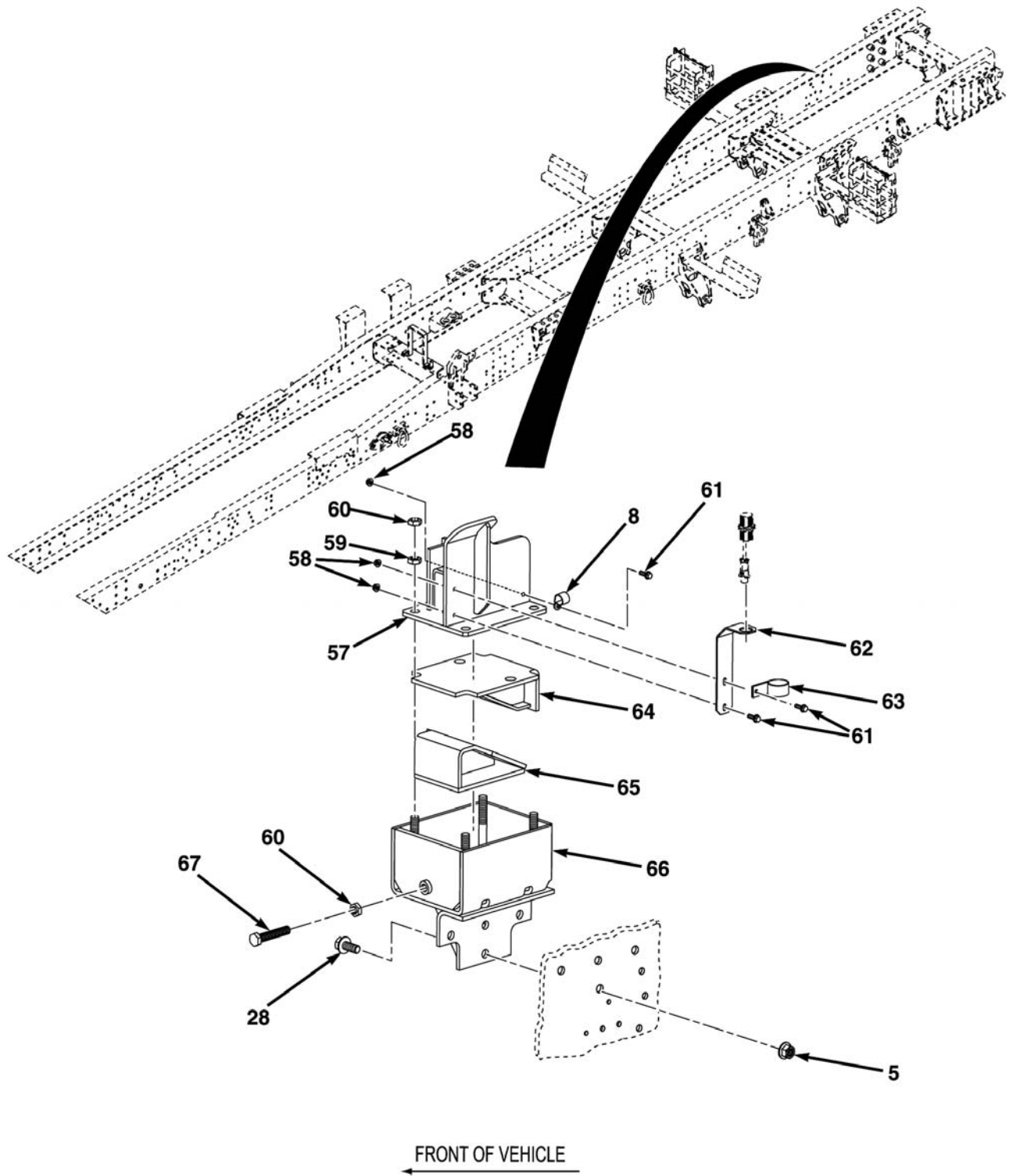


FIG. 56 FRAME ASSEMBLY (SHEET 4 OF 5)

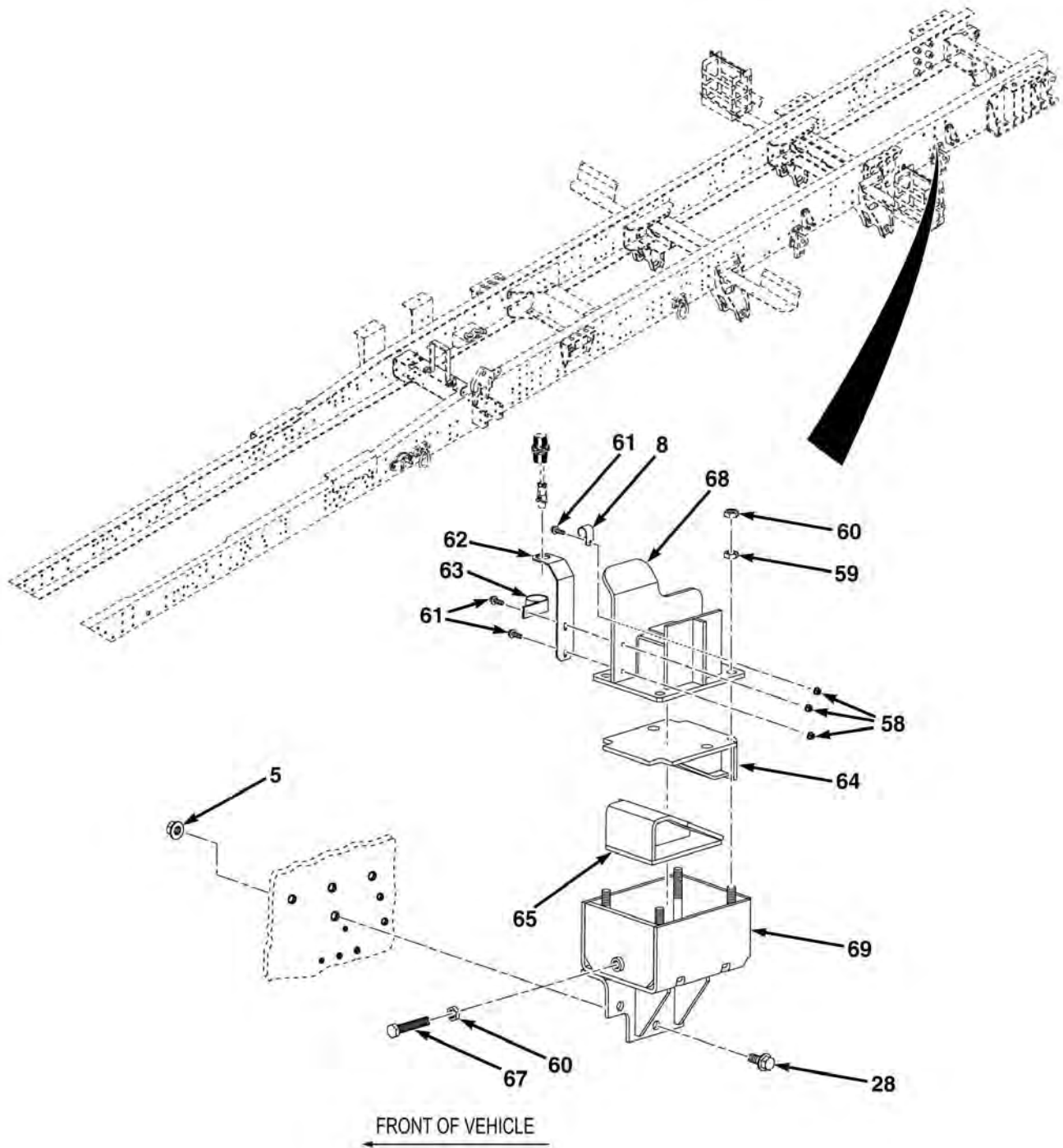


FIG. 56 FRAME ASSEMBLY (SHEET 5 OF 5)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 1501 - FRAME ASSEMBLY						
FIG. 56 FRAME ASSEMBLY						
1	PAHZZ	5305-01-154-4323	45152	1317120	SCREW,CAP,HEXAGON HEAD	24
2	PAHZZ	5305-01-149-1934	45152	111320A	SCREW, CAP, HEXAGON HEAD	26
3	PAHZZ		45152	3480972	OUTRIGGER BRACKET ASSY, RH	1
4	PAHZZ	5365-01-205-2717	45152	1455460	SPACER, SLEEVE.	12
5	PAHZZ	5310-01-150-5918	45152	110312A	NUT, SELF-LOCKING, EX	112
6	PAFZZ	5310-01-346-9445	45152	1600460	NUT, SELF-LOCKING, CL	3
7	PAFZZ		45152	3448499	BRACKET, 4.75 X 3.00 X 10GA.	1
8	PAFZZ	5340-01-479-9054	45152	2290HX	CLAMP, LOOP	3
9	PAFZZ	5305-01-344-8899	45152	1606140	SCREW, CAP, HEXAGON HEAD	1
10	PAFZZ	5305-01-337-9120	45152	1754140	SCREW, CAP, HEXAGON HEAD	2
11	PAHZZ		45152	3398883	CROSSMEMBER, REAR.	1
12	PAHZZ		45152	3480973	OUTRIGGER BRACKET ASSY, LH.	1
13	PAHZZ	5310-01-111-0645	45152	110311A	NUT, SELF-LOCKING, EX	97
14	PAHZZ		45152	2216100	SHOCK BRACKET	4
15	PAHZZ	5305-01-186-5263	45152	55752AX	SCREW, CAP, HEXAGON HEAD	8
16	PAFZZ	5310-01-159-8178	45152	110310A	NUT, SELF-LOCKING, EX	18
17	PFFZZ	2530-01-200-2331	45152	1447430	STOP, AXLE.	4
18	PAFZZ	5305-01-156-5442	45152	111314A	SCREW, CAP, HEXAGON HEAD	16
19	PAFZZ	5306-01-149-6274	80535	0544-2405	BOLT, RING	4
20	PAFZZ	5306-01-150-7726	45152	120622A	BOLT, MACHINE	16
21	PAFZZ	5310-01-152-4703	45152	1348410	NUT, PLAIN RECTANGULAR	4
22	PAHZZ	5340-01-358-9234	45152	1947140W	BRACKET, MOUNTING.	1
23	PFHZZ		45152	3373333	FRAME, DRILLING, LH	1
24	PFHZZ		45152	3373332	FRAME, DRILLING, RH.	1
25	PFHZZ	5340-01-358-9235	45152	1947130W	BRACKET, MOUNTING.	1
26	PAFZZ	5305-01-155-3478	45152	1324980	SCREW, CAP, HEXAGON HEAD	24
27	PFFZZ		45152	3374969	BRACKET KIT, SUSPENSION	1
28	PAHZZ	5306-01-236-1585	45152	1336700	BOLT, MACHINE	24
29	PFHZZ		45152	3373336	BRACKET, CROSSMEMBER	4
30	PAHZZ	5305-01-185-8668	45152	126536A	SCREW, CAP, HEXAGON HEAD	8
31	PFHZZ		45152	2152680	SPACER, FRAME HANGER	4
32	PFHZZ		45152	3373335	CROSSMEMBER.	2
33	PAFZZ	5306-01-150-5884	45152	115289A	BOLT, MACHINE	17
34	PFFZZ	5340-01-237-0843	45152	1322840	CORNER, CASE	2

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
35	PAFZZ	5305-01-147-9723	45152	111317A	SCREW,CAP,HEXAGON HEAD.....	16
36	PFFZZ	5340-01-234-6303	45152	1322820	CORNER,CASE.....	1
37	PFHZZ		45152	3377297	ANGLE, SPACER, LH.....	1
38	PFHZZ		45152	3377298	ANGLE, SPACER, RH.....	1
39	PFHZZ	5340-01-236-6217	45152	1322520	BRACKET, ANGLE.....	1
40	PFFZZ	5340-01-237-5054	45152	1322540	BRACKET, ANGLE.....	1
41	PAFZZ	5306-01-156-5429	45152	115217A	BOLT, MACHINE.....	10
42	PFFZZ	2510-01-232-2914	45152	1337370	FRAME SECTION, STRUCTURE.....	1
43	PAHZZ	5306-01-106-7496	45152	111316A	BOLT, MACHINE.....	30
44	PFHZZ	5340-01-236-6218	45152	1322510	BRACKET, ANGLE.....	1
45	PFFZZ	5340-01-237-5055	45152	1322530	BRACKET, ANGLE.....	1
46	PFHZZ		45152	3381765	BRACKET ASSY, RH REAR.....	1
47	PFHZZ		45152	3373337	CROSSMEMBER.....	2
48	PFHZZ		45152	3381766	BRACKET ASSY, LH REAR.....	1
49	PAFZZ	5305-01-156-5440	45152	1337720	SCREW, CAP, HEXAGON HEAD.....	2
50	PAFZZ	5305-01-149-1935	45152	111454A	SCREW, CAP, HEXAGON HEAD.....	4
51	PFFZZ	5342-01-159-4403	45152	1316190W	BRACKET.....	2
52	PFFZZ	5340-01-234-6310	45152	1363160	BRACKET, DOUBLE ANGLE.....	2
53	PFFZZ	2510-01-232-2913	45152	1363170	FRAME SECTION, STRUCTURE.....	1
54	PAFZZ	3020-01-429-4597	45152	2188150	GUARD, MECHANICAL DRIVE.....	1
55	PAHZZ	5340-01-515-1059	45152	1646060	BRACKET, ANGLE.....	1
56	PAHZZ	5305-01-150-7736	45152	115293A	SCREW, CAP, HEXAGON HEAD.....	2
57	PFFZZ		45152	3681636	SUPPORT, MRP UPPER, LH.....	1
58	PAFZZ	5310-01-340-5671	45152	1333510	NUT, SELF-LOCKING, EX.....	6
59	PAFZZ	5310-01-478-7271	45152	60067AX	NUT, SELF-LOCKING, HEX.....	8
60	PAFZZ		45152	3547031001	NUT, JAM, .75X10.....	10
61	PAFZZ	5305-01-340-0225	45152	1754210	SCREW, CAP, HEXAGON HEAD.....	6
62	PAFZZ		45152	3407090	BRACKET, SWITCH MOUNTING.....	2
63	PAFZZ	5340-00-404-4101	75272	C0V1313	CLAMP, LOOP.....	2
64	PAFZZ		45152	3681642	WEDGE, MRP,UPPER.....	2
65	PAFZZ		45152	3681646	WEDGE, MRP, LOWER.....	2
66	PFFZZ		45152	3682516	SUPPORT, MRP, LOWER, LH.....	1
67	PAFZZ		45152	3684167	SCREW, CAP, HEXAGON HEAD.....	2
68	PFFZZ		45152	3682517	SUPPORT, MRP, UPPER, RH.....	1
69	PFFZZ		45152	3681650	SUPPORT, MRP, LOWER, RH.....	1

END OF FIGURE

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RPSTL GROUP 16 - SPRINGS AND SHOCK ABSORBERS

		Figure	Page
GROUP 16	SPRINGS AND SHOCK ABSORBERS		
	1605 TORQUE, RADIUS, AND STABILIZER RODS		
	REAR SUSPENSION	57	0169-3

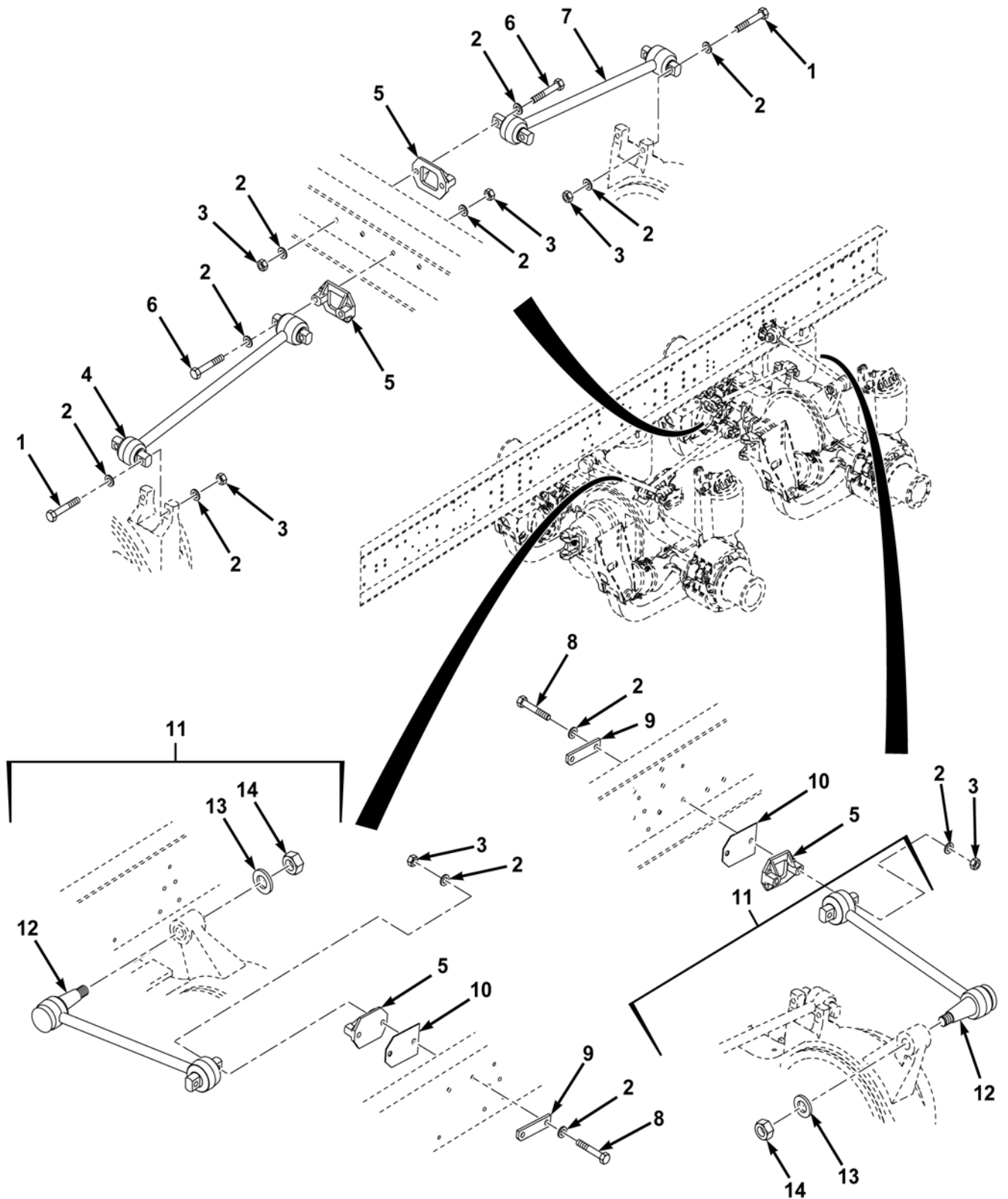


FIG. 57 REAR SUSPENSION (SHEET 1 OF 2)

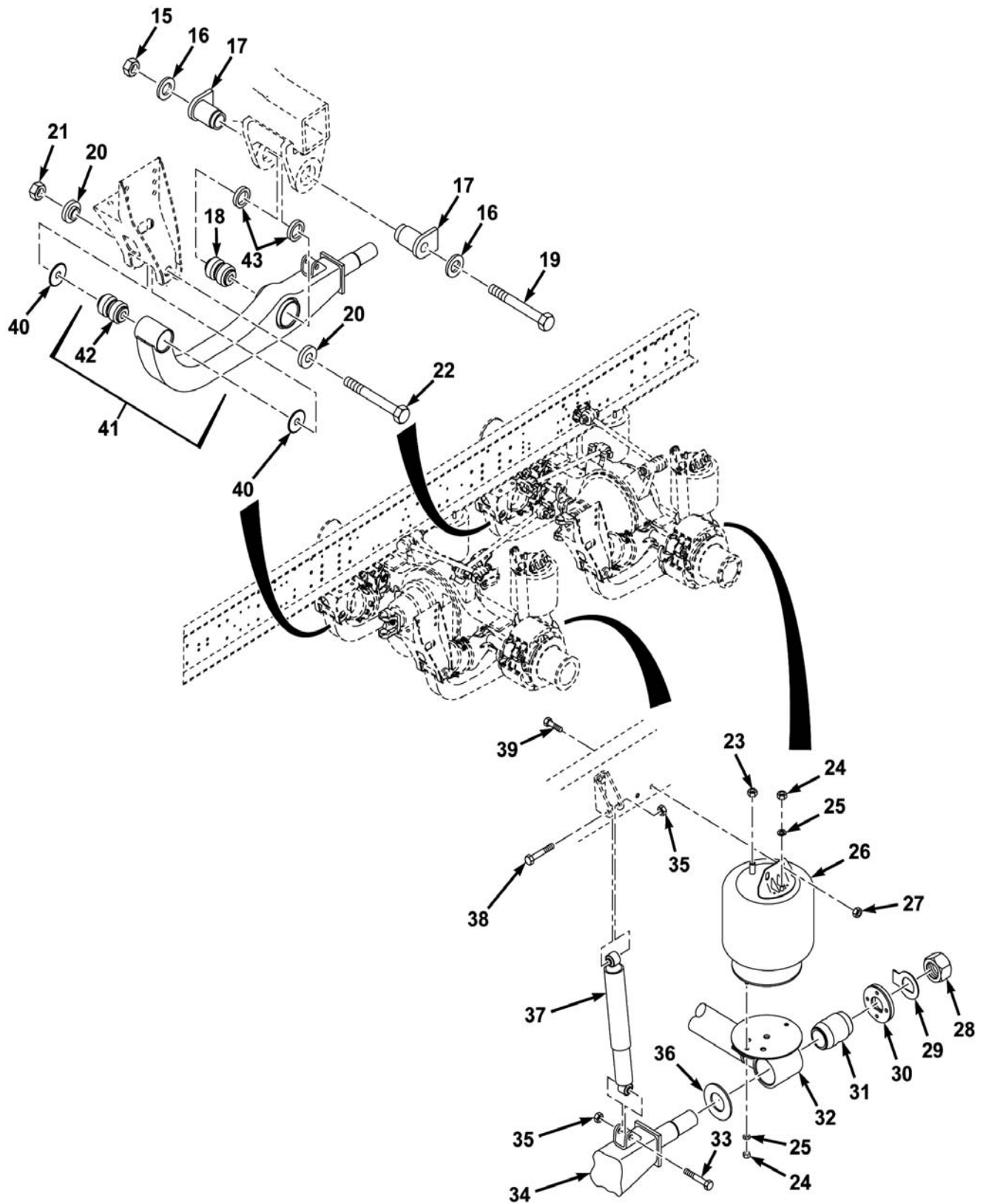


FIG. 57 REAR SUSPENSION (SHEET 2 OF 2)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 1605 - TORQUE, RADIUS, AND STABILIZER RODS FIG. 57 REAR SUSPENSION						
1	PAFZZ	5305-01-243-9406	45152	62048AX	SCREW,CAP,HEX HD, .62-11X3.50	4
2	PAFZZ	5310-01-061-5301	45152	8865GX	WASHER,FLAT, .62X1.31X.10.	24
3	PAFZZ	5310-01-061-5678	45152	60861AX	NUT,SELF-LOCKING,SI, .62-11.	12
4	PAFZZ		27387	TR020070010	ROD,TORQUE.	1
5	PFFZZ	2510-01-153-2738	45152	19AS268	BRACKET,TORQUE ROD	4
6	PAFZZ	5305-00-724-7264	80204	B1821BH063C450N	SCREW,CAP,HEX HD, .62-11X4.50	4
7	PAFZZ		27387	TR020070020	ROD,TORQUE.	1
8	PAFZZ		45152	65397AX	SCREW,CAP,HEX HD, .62-11X5.5	4
9	PAFZZ		45152	3389186	PLATE,REINFORCEMENT	2
10	PAFZZ	5365-01-153-7686	45152	1325680	SPACER,PLATE, 6.00X4.25X.12.	2
11	PAFZZ	2530-01-153-8447	45152	1304080	TORQUE ROD,TANDEM AXLE.	2
12	XAFZZ		45152	1304080XA1	•ROD,TORQUE	1
13	PAFZZ	5310-00-092-6831	45152	AE30574	•WASHER,FLAT, 1.31	1
14	PAFZZ	5310-01-019-3129	45152	19AS543	•NUT,PLAIN,HEXAGON, 1.25-12	1
15	KFFZZ	5310-01-061-1310	98171	934 00 492	NUT,SELF-LOCKING,HEX, .75-10, PART OF KIT P/N 1792770	4
16	KFFZZ		98171	936 00 156	WASHER,PLAIN, .75, PART OF KIT P/N 1792770	8
17	KFFZZ		98171	900 01 002	BUSHING,ADAPTER, PART OF KIT P/N 1792770	8
18	PAFZZ		98171	90008008	BUSHING,CENTER	4
19	KFFZZ		98171	930 03 693	SCREW,CAP,HEX HEAD, .75-10 X 7.50, PART OF KIT P/N 1792770	4
20	KFFZZ	5365-01-466-2026	98171	90008120	BUSHING,BLANK, PART OF KIT P/N 33005218	8
21	KFFZZ	5310-01-309-6495	98171	934 00 506	NUT,SELF-LOCKING,ROUND, 1.125-7, PART OF KIT P/N 33005218	4
22	KFFZZ		98171	93201055	BOLT,HEX, 1.125-7X9.53, PART OF KIT P/N 33005218	4
23	KFFZZ		98171	93400417	NUT,HEX,LOCK, .75-16, PART OF KIT P/N 33005218	4
24	KFFZZ	5310-00-768-0318	96906	MS51967-14	NUT,PLAIN,HEXAGON, .5-13, PART OF KIT P/N 33005218	8
25	KFFZZ	5310-00-584-5272	80205	MS35338-48	WASHER,LOCK, .53, PART OF KIT P/N 33005218	8
26	KFFZZ		98171	90557279	SPRING,AIR, PART OF KIT P/N 33006084	4

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
27	PAFZZ	5310-01-111-0645	45152	110311A	NUT, SELF-LOCKING, EX	8
28	KFFZZ		98171	93400607	NUT,HEX, 2.25-8, PART OF KIT P/N 33005218	4
29	KFFZZ		98171	93600533	WASHER,LOCK TAB, PART OF KIT P/N 33005218	4
30	KFFZZ		98171	90536006	SPACER,LOCKING, PART OF KIT P/N 33005218	4
31	PAFZZ		98171	90008219	BUSHING	4
32	KFFZZ		98171	90546255	BEAM,TRANSVERSE, PART OF KIT P/N 33006084	2
33	KFFZZ		98171	930 03 615	SCREW,CAP,HEX HD, .75-10X4.25, PART OF KIT P/N 33006089	4
34	KFFZZ		98171	90516740	EQUALIZER BEAM,LH, PART OF KIT P/N 33006084	2
35	KFFZZ	5310-01-061-1310	98171	934 00 492	NUT,SELF-LOCKING,HEX, .75-10, PART OF KIT P/N 33006089	8
36	KFFZZ		98171	93600498	WASHER,SPACER, 2.65, PART OF KIT P/N 33005218	4
37	KFFZZ		98171	90045419	SHOCK, PART OF KIT P/N 33006089	4
38	KFFZZ	5305-01-384-3474	0ZLV2	8H8E-21	SCREW,MACHINE, .75-10X3.50, PART OF KIT P/N 33006089	4
39	PAFZZ	5306-01-150-5884	45152	115289A	BOLT, MACHINE	8
40	KFFZZ		98171	93600502	WASHER,PIVOT SPACER, 1.125, PART OF KIT P/N 33005218	8
41	KFFZZ		98171	90516741	EQUALIZER BEAM,RH, PART OF KIT P/N 33006084	2
42	KFFZZ	5365-01-466-2028	98171	90008151	•BUSHING,FRONT, PART OF KIT P/N 33006084	1
43	KFFZZ		98171	90001065	WASHER, PIVOT SPACER	8

END OF FIGURE

END OF WORK PACKAGE

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RPSTL GROUP 18 - BODY, CAB, HOOD, AND HULL

		Figure	Page
GROUP 18	BODY, CAB, HOOD, AND HULL		
	1801 BODY, CAB, HOOD, AND HULL ASSEMBLIES		
	CAB ASSEMBLY	58	0170-
	RIGHT HAND ENGINE ACCESS COVER	59	0170-6
	1802 FENDERS, RUNNING BOARDS		
	LEFT FRONT FENDER	60	0170-8
	RIGHT FRONT FENDER	61	0170-10
	REAR SHEETMETAL ASSEMBLY.....	62	0170-13
	1806 UPHOLSTERY SEATS AND CARPETS		
	SEAT BELT ASSEMBLY	63	0170-18
	1808 STOWAGE RACKS, BOXES, STRAPS		
	STOWAGE BOX ASSEMBLY.....	64	0170-22

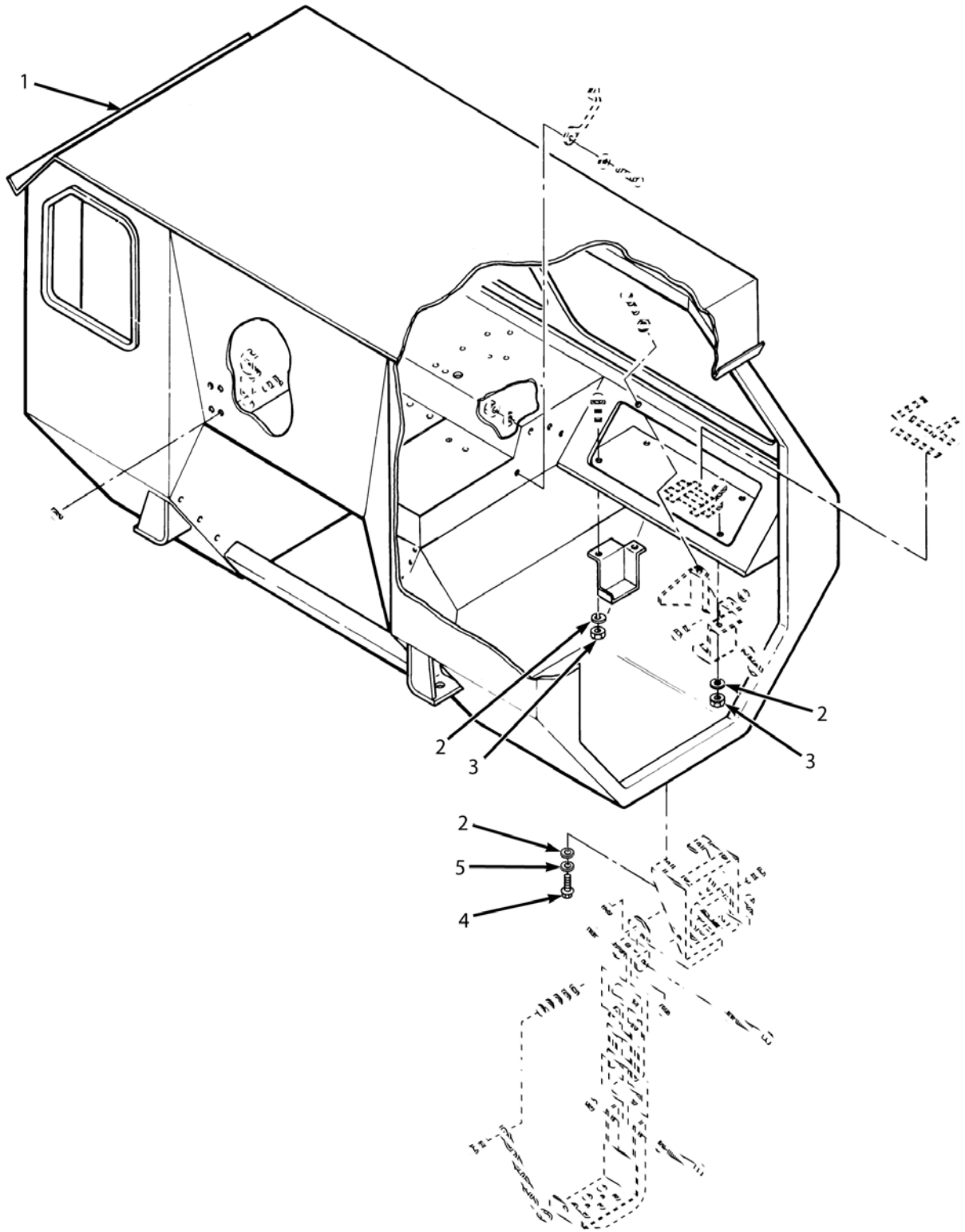


FIG. 58 CAB ASSEMBLY (SHEET 1 OF 2)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 1801 - BODY, CAB, HOOD, AND HULL ASSEMBLIES						
FIG. 58 CAB ASSEMBLY						
1	PBFFF	2510-01-193-1745	45152	3417207	CAB ASSEMBLY	1
2	PAFZZ	5310-01-068-8446	45152	354AX	WASHER,LOCK, .31X.59X.08.	12
3	PAFZZ	5310-01-105-7229	45152	369AX1	NUT,PLAIN,HEXAGON, .31-18	4
4	PAFZZ	5305-01-344-5532	45152	1846HX1	SCREW,CAP,HEXAGON, .31-18X1.00 . .	8
5	PAFZZ	5310-01-061-7452	45152	1804HX	WASHER,FLAT, .31X.69.07	8
6	PAFZZ	5310-01-058-3183	45152	767HX1	NUT,PLAIN,HEXAGON, .25-20	4
7	PAFZZ	5310-01-354-3729	45152	2251HX	WASHER,LOCK, .25X.74X.04.	2
8	PAFZZ	5340-00-404-4100	75272	C0V2113	CLAMP,LOOP	1
9	PAFZZ		45152	3394329	BRKT,IGNITION SWITCH	1
10	PAFZZ	5310-00-809-4058	45152	703HX	WASHER,FLAT, .25X.62X.06.	4
11	PAFZZ	5305-00-068-0509	80204	B1821BH025C125N	SCREW,CAP,HEXAGON, .25-20X1.25 . .	1
12	PAFZZ	5310-00-582-5965	80205	MS35338-44	WASHER,LOCK, .25X.49X.06.	3
13	PAFZZ	5306-01-145-6949	11757	378429-8	BOLT,MACHINE, .25-20X.75	3
END OF FIGURE						

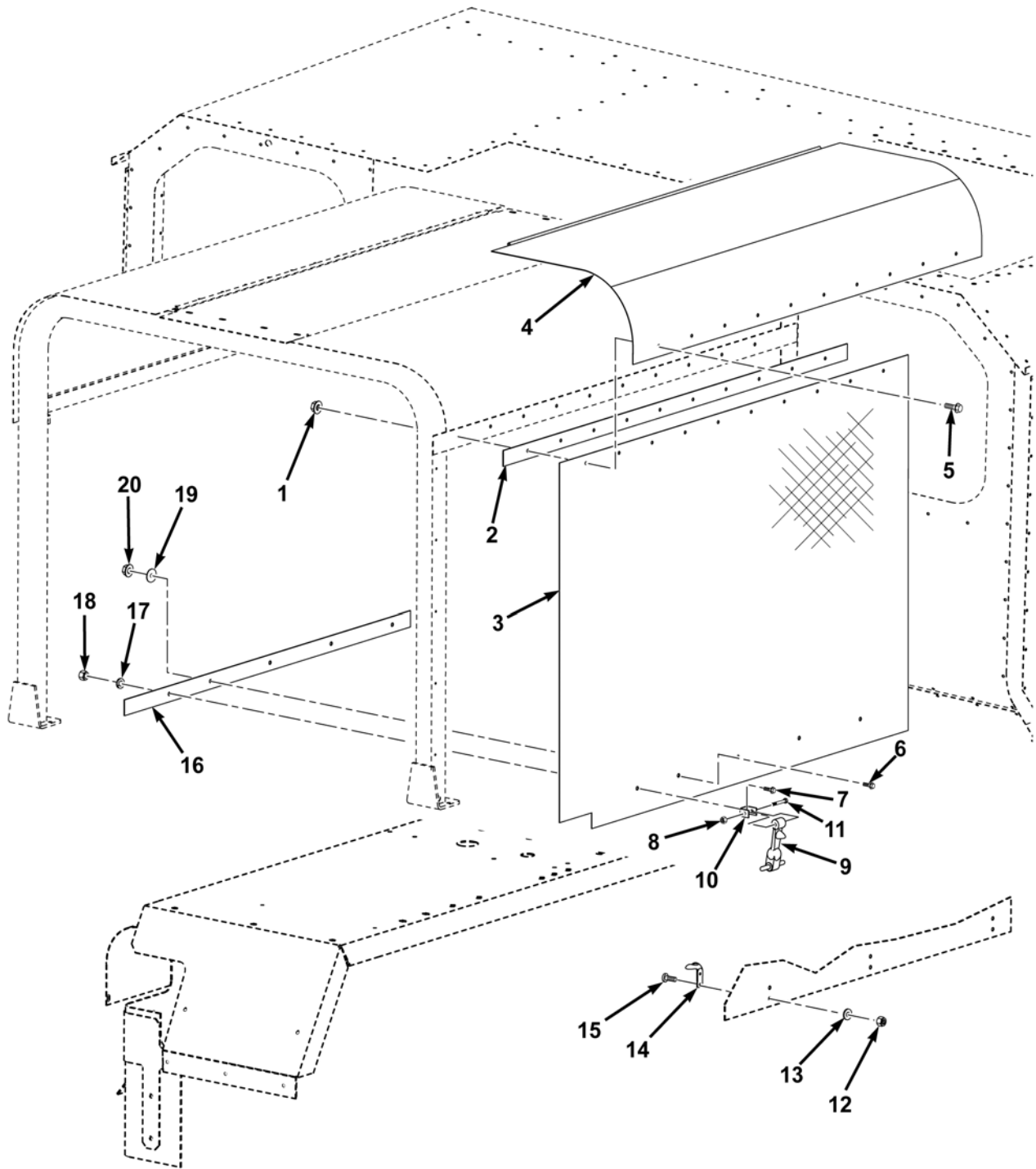


FIG. 59 RIGHT HAND ENGINE ACCESS COVER

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 1801 - BODY, CAB, HOOD, AND HULL ASSEMBLIES	
					FIG. 59 RIGHT HAND ENGINE ACCESS COVER	
1	PAFZZ	5310-01-478-8687	45152	3266307	NUT, SELF-LOCKING, HEX.	10
2	PAFZZ		45152	3500171	PLATE, SPACER	1
3	PBFZZ		45152	3487131	PANEL, ENGINE, RUBBER.	1
4	PBFZZ		45152	3500246	WELDMENT, HOOD ASSEMBLY	1
5	PAFZZ	5305-01-480-2359	45152	3268673	SCREW, CAP, HEX HEAD.	10
6	PAFZZ	5305-01-480-7045	45152	3266481	SCREW, CAP, HEX HEAD.	2
7	PAFZZ	5305-01-062-1017	45152	1367HX1	SCREW, CAP, HEX HEAD.	3
8	PAFZZ	5310-01-066-6759	56878	21NE-040	NUT, SELF-LOCKING, HEX.	3
9	PAFZZ	2540-01-152-7764	64386	67D794	LATCH, HOOD, VEHICULAR	3
10	PAFZZ	5340-01-156-6776	64386	277A801CP	STRAP, RETAINING	3
11	PAFZZ	5305-01-203-8360	12361	7115141450	SCREW, CAP, HEX HEAD.	3
12	PAFZZ	5310-00-208-1918	88044	AN365-1024A	NUT, SELF-LOCKING, HEX.	6
13	PAFZZ	5310-01-361-8388	45152	1379HX	WASHER, FLAT.	6
14	PAFZZ	2590-01-517-2878	04664	1331040	BRACKET, VEHICULAR	3
15	PAFZZ	5305-00-984-6210	77294	416995	SCREW, MACHINE	6
16	PAFZZ		45152	3495893	PLATE, SPACER	1
17	PAFZZ	5310-01-068-8446	45152	354AX	WASHER, LOCK	3
18	PAFZZ	5310-01-105-7229	45152	369AX1	NUT, PLAIN, HEXAGON	3
19	PAFZZ	5310-01-515-2427	45152	3333110	WASHER, FLAT.	2
20	PAFZZ	5310-01-478-8689	45152	3266308	NUT, SELF-LOCKING	2
END OF FIGURE						

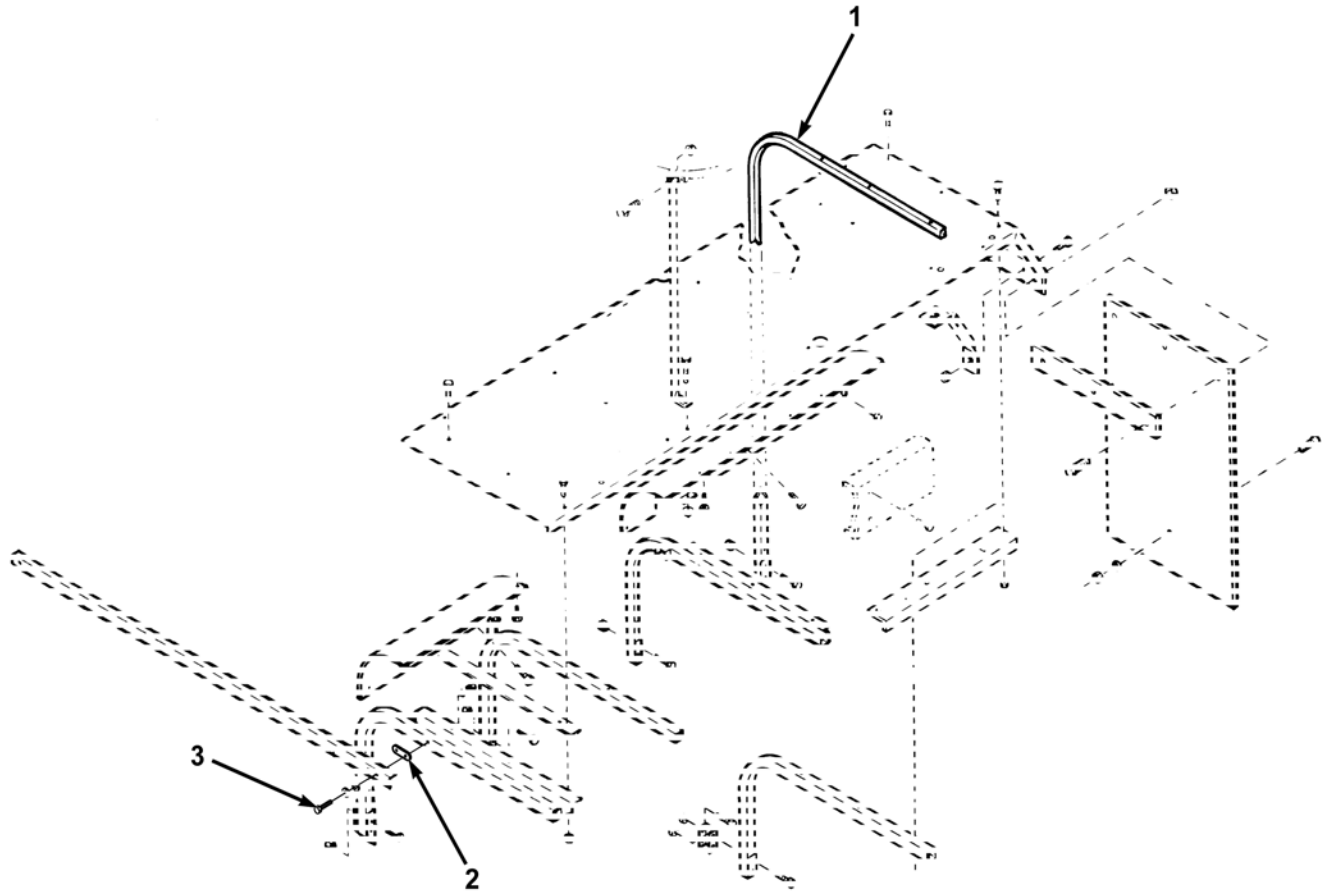


FIG. 60 LEFT FRONT FENDER

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 1802 - FENDERS, RUNNING BOARDS	
					FIG. 60 LEFT FRONT FENDER	
1	PFFZZ		45152	3442623	MOUNT,FENDER.....	1
2	PAFZZ		45152	3482886	SPACER.....	1
3	PAFZZ	5305-01-223-7034	45152	2012HX1	SCREW,MACHINE	2
					END OF FIGURE	

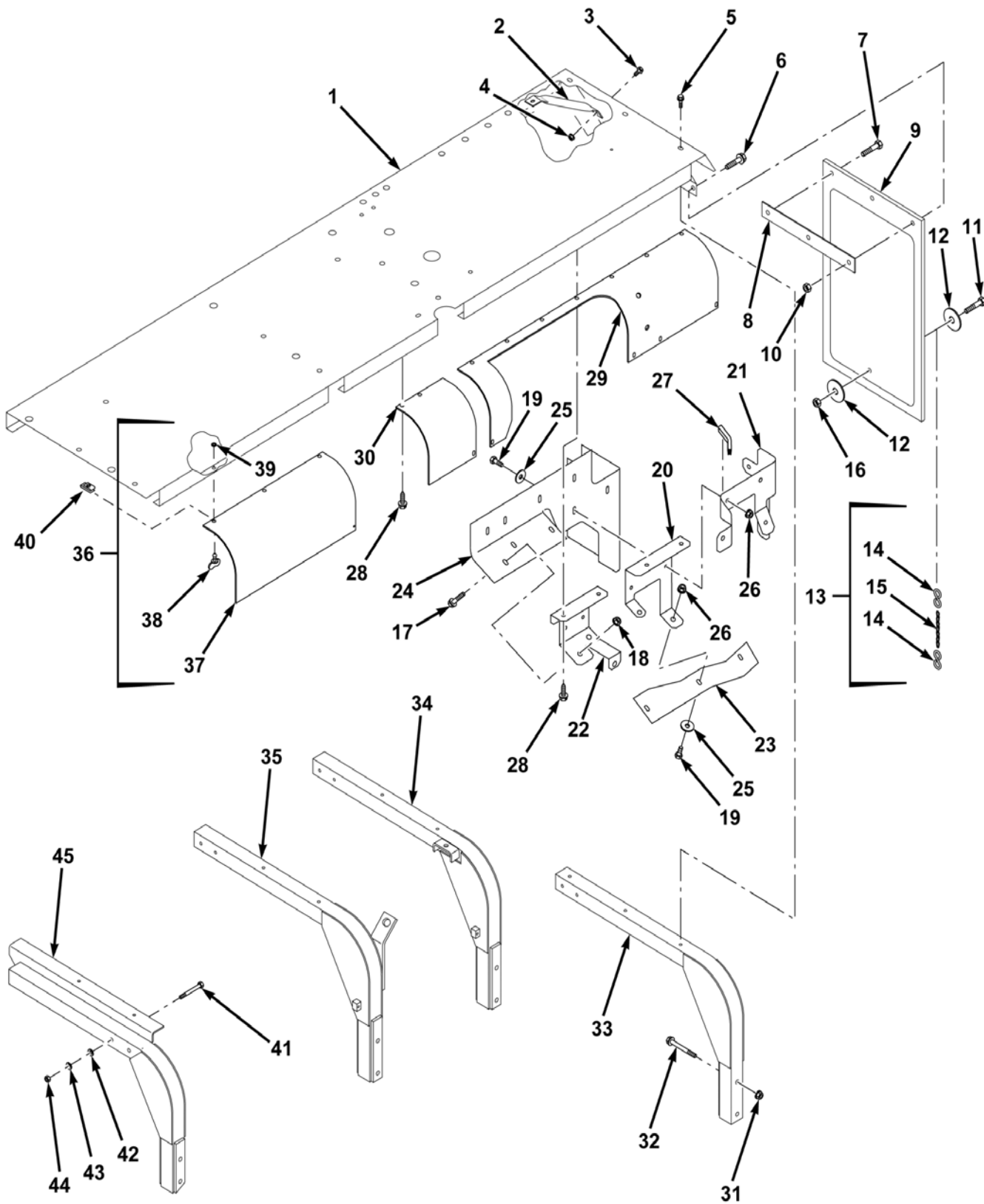


FIG. 61 RIGHT FRONT FENDER

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 1802 - FENDERS, RUNNING BOARDS						
FIG. 61 RIGHT FRONT FENDER						
1	PAFZZ		45152	3484799	FENDER, TOP, RH	1
2	PFFZZ	2510-01-152-7760	45152	1328880	BRACE, FENDER	2
3	PAFZZ	5306-01-156-8678	4R119	SPLE101D05	BOLT, MACHINE, .31 - 18 X 1.00	4
4	PAFZZ	5310-01-155-1905	45152	115303A	NUT, SELF-LOCKING, EX, .31 - 18	4
5	PAFZZ	5305-01-157-5624	45152	1324510	SCREW, TAPPING, .31 - 18 X .75	9
6	PAFZZ	5306-01-198-8057	82465	21218CQ0L	BOLT, MACHINE, .31 - 18 X 1.25	2
7	PAFZZ		45152	1991860	SCREW, CAP, HEX HD, .31 - 18 X 1 .75	1
8	PAFZZ	5340-01-153-0313	45152	1330560	PLATE, MOUNTING	1
9	PAFZZ	2540-01-134-3714	45152	1312410	GUARD, SPLASH, VEHICULAR	1
10	PAFZZ	5310-01-081-5351	08928	SN-524NE-24	NUT, SELF-LOCKING, HEX, .31 - 18	3
11	PAFZZ		45152	66345AX	SCREW, CAP, HEX HD, .25-20 X 1.25	1
12	PAFZZ	5310-01-353-6045	45152	2302HX	WASHER, FLAT, .25 X 1.25 X .06	2
13	PAFFF	4010-01-154-2290	45152	1355460W	CHAIN ASSEMBLY	1
14	PAFZZ	4030-01-155-3557	39428	9427K10	•HOOK, CHAIN	2
15	PAFZZ	4010-01-182-5270	45152	1341850	•CHAIN, WELDLESS	1
16	PAFZZ	5310-01-066-6759	56878	21NE-040	NUT, SELF-LOCKING, HEX, .25-20	1
17	PAFZZ	5305-01-344-8899	45152	1606140	SCREW, CAP, HEX HEAD, .25 - 20 X .75	2
18	PAFZZ	5310-01-478-8687	45152	3266307	NUT, SELF-LOCKING, HEX, .25 - 20	2
19	PAFZZ	5306-01-084-5390	78500	S-268-1	BOLT, MACHINE, .38 - 16 X 1.00	13
20	PFFZZ		45152	3462486	PLATE, SUPPORT	1
21	PFFZZ		45152	3462487	BRACKET, MOUNTING	1
22	PFFZZ		45152	3480185	BRACKET, SUPPORT	1
23	PFFZZ		45152	3480186	SHEET, RUBBER	1
24	PAFZZ		45152	3462488	SHEET, RUBBER	1
25	PAFZZ	5310-00-880-0626	19207	10892331	WASHER, FLAT, .406	13
26	PAFZZ	5310-01-478-7218	45152	3266309	NUT, SELF-LOCKING, ASSY, .38 - 16	13
27	MOFZZ		45152	3175843-6	NONMETALLIC CHANNEL, MAKE FROM QUICKEDGE, P/N 3175843, 6 IN.	1
28	PAFZZ		45152	61678AX	SCREW, TAPPING, HEX, #10 - 16 X .500	9
29	PAFZZ		45152	3462485	PANEL FENDER, RH	1
30	PAFZZ		45152	3478213	PANEL FENDER, RH	1
31	PAFZZ	5310-01-159-8178	45152	110310A	NUT, SELF-LOCKING, EX	8
32	PAFZZ	5305-01-156-8691	45152	121683A	SCREW, CAP, HEXAGON, .50 - 13 X 4.00	8
33	PFFZZ		45152	3465432	MOUNT, FENDER REAR	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
34	PAFZZ		45152	3465431	MOUNT,FENDER.....	1
35	PFFZZ		45152	3465430	MOUNT,FENDER.....	1
36	PAFZZ		45152	3478215	PANEL ASSY.....	1
37	PAFZZ		45152	3478214	•PANEL,FENDER.....	1
38	PAFZZ	5325-00-178-8670	94222	82-12-200-17	•STUD,TURNLOCK FASTENING.....	3
39	PAFZZ	5310-00-949-6139	94222	82-32-101-20	•WASHER,SPLIT.....	3
40	PAFZZ	5325-00-004-5256	94222	82-47-106-15	RECEPTACLE,TURNLOCK.....	3
41	PAFZZ	5305-01-223-7034	45152	2012HX1	SCREW,MACHINE, .38 - 16 X 3.25.....	2
42	PAFZZ	5310-01-062-3379	45152	362AX	WASHER,FLAT, .406.....	2
43	PAFZZ	5310-01-129-0450	45152	351AX	WASHER,LOCK, .38 X .68 X 30 X .09...	2
44	PAFZZ	5310-01-063-8970	45152	434AX1	NUT,PLAIN,HEXAGON, .38 - 16.....	2
45	PFFZZ		45152	3465429	MOUNT,FENDER FRONT.....	1

END OF FIGURE

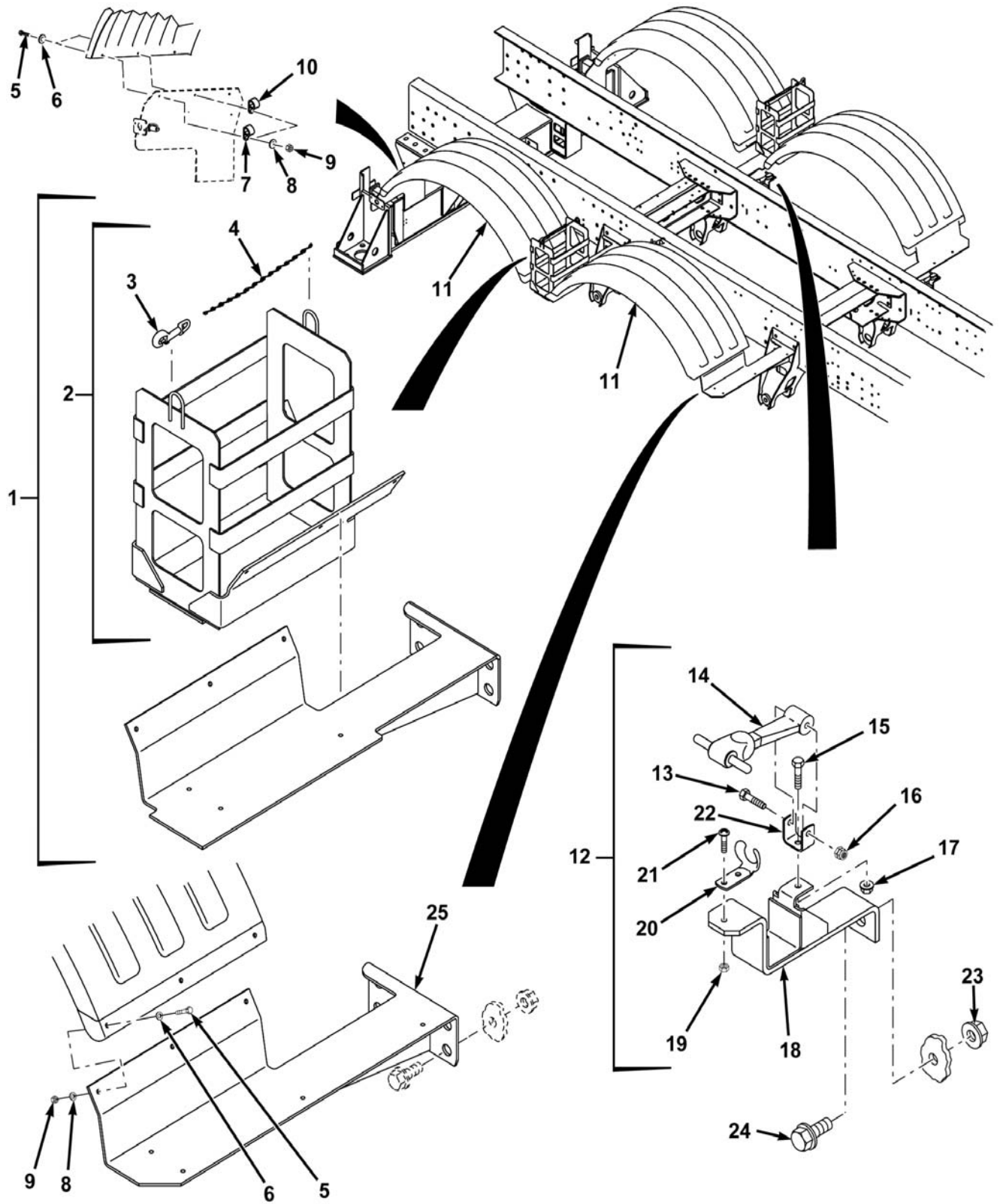


FIG. 62 REAR SHEETMETAL ASSEMBLY (SHEET 1 OF 2)

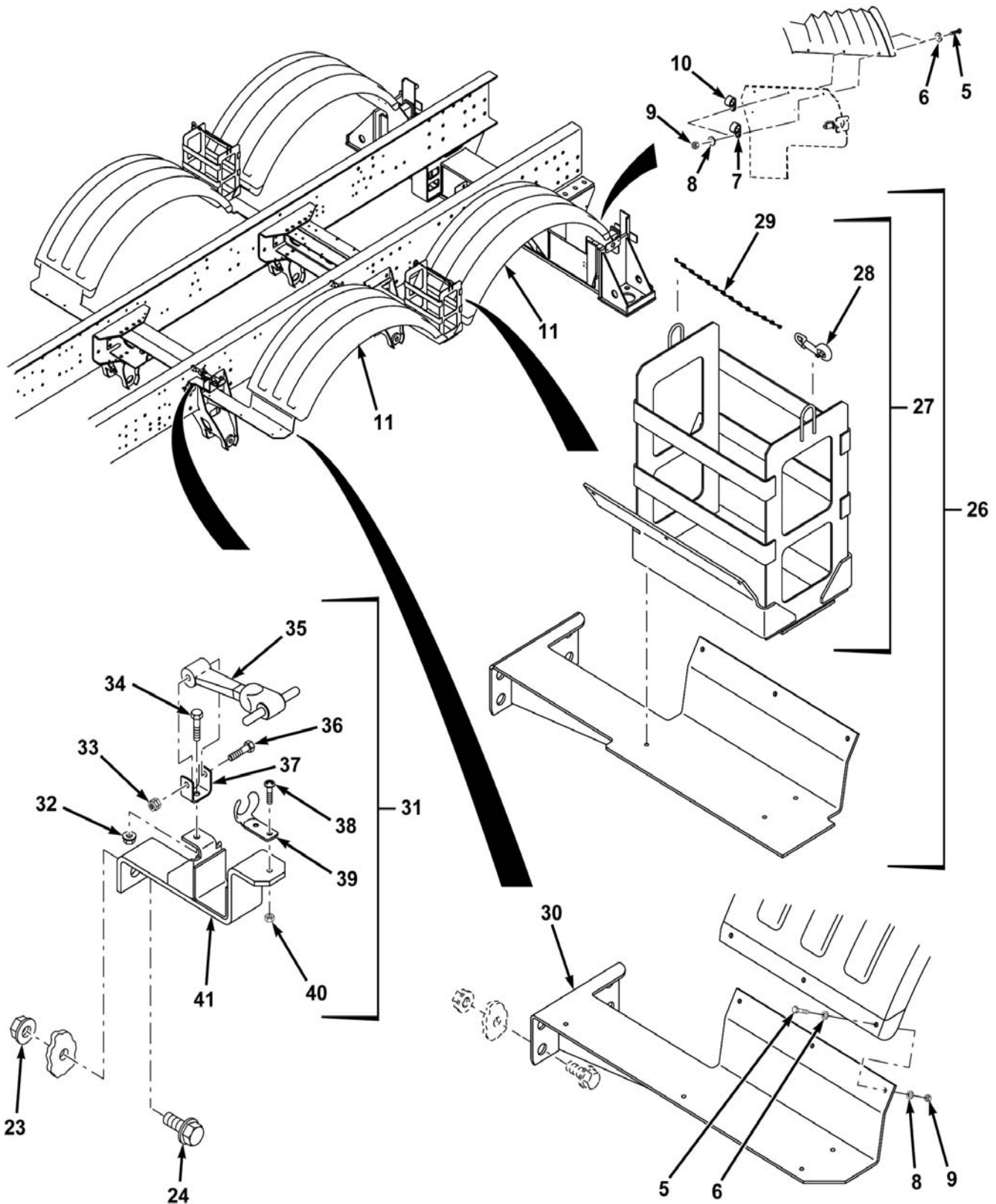


FIG. 62 REAR SHEETMETAL ASSEMBLY (SHEET 2 OF 2)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 1802 - FENDERS, RUNNING BOARDS FIG. 62 REAR SHEETMETAL ASSEMBLY	
1	PBFFF		45152	3498606	BRACKET, FENDER, RH.	1
2	PAFZZ		45152	3498608	•STOWAGE BOX ASSEMBLY.....	1
3	PAFZZ	5340-01-121-8769	39428	3913T11	••SNAP HOOK.....	1
4	PAFZZ		45152	3498701	••CHAIN, PIN.....	1
5	PAFZZ	5305-00-225-3842	80204	B1821BH025C113N	SCREW, CAP, HEX HD, .25-20 X 1.25 ..	24
6	PAFZZ	5310-01-353-6045	45152	2302HX	WASHER, FLAT, .25 X 1.25 X .06	24
7	PAFZZ	5340-00-404-4101	75272	C0V1313	CLAMP, LOOP.....	2
8	PAFZZ	5310-00-809-4058	96906	MS27183-10	WASHER, FLAT .25 X .62 X .06	24
9	PAFZZ	5310-01-066-6759	56878	21NE-040	NUT, SELF-LOCKING, HEX, .25-20.....	24
10	PAFZZ	5340-01-479-9054	45152	2290HX	CLAMP, LOOP.....	4
11	PAFZZ	2510-01-507-9497	45152	3228715	FENDER, VEHICULAR.....	4
12	PFFFF	5340-01-507-9494	45152	3300701	BRACKET, ANGLE.....	1
13	PAFZZ	5305-01-203-8360	12361	7115141450	•SCREW, CAP, HEXAGON, .25-20 X 1.75	1
14	PAFZZ	2540-01-152-7764	45152	1324940	•LATCH, HOOD, VEHICULAR.....	1
15	PAFZZ	5305-01-062-1017	45152	1367HX1	•SCREW, CAP, HEXAGON, .31-18 X .75	1
16	PAFZZ	5310-00-061-4650	96906	M45913/3-4CG8C	•NUT, SELF-LOCKING, .25-20.....	1
17	PAFZZ	5310-01-340-5671	45152	1333510	•NUT, SELF-LOCKING, EX, .31-18.....	1
18	PBFZZ	5340-01-486-4899	45152	3300699	•BRACKET, MOUNTING.....	1
19	PAFZZ	5310-00-208-1918	88044	AN365-1024A	•NUT, SELF-LOCKING, HEX, 10-24.....	2
20	PAFZZ	2590-01-517-2878	04664	1331040	•BRACKET, VEHICULAR.....	1
21	PAFZZ	5305-01-249-8564	45152	59031AX	•SCREW, MACHINE, 10-24 X .75.....	2
22	PAFZZ	5340-01-156-6776	64386	277-A-80-1	•STRAP, RETAINING.....	1
23	PAFZZ	5310-01-111-0645	45152	110311A	NUT, SELF-LOCKING, EX, .62-11.....	2
24	PAFZZ	5306-01-106-7496	45152	111316A	BOLT, MACHINE, .62-11 X 1.75.....	2
25	PBFZZ		45152	3483559	BRACKET, FENDER, RH.	1
26	PBFFF		45152	3498607	BRACKET, FENDER, LH.....	1
27	PAFFF		45152	3498608	•STOWAGE BOX ASSEMBLY.....	1
28	PAFZZ	5340-01-121-8769	39428	3913T11	••SNAP HOOK.....	1
29	PAFZZ		45152	3498701	••CHAIN, PIN.....	1
30	PBFZZ		45152	3448603	BRACKET, FENDER, LH.....	1
31	PAFZZ		45152	3505704	SUPPORT, LADDER, THAAD.....	1
32	PAFZZ	5310-01-340-5671	45152	1333510	•NUT, SELF-LOCKING, EX, .31-18.....	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
33	PAFZZ	5310-00-061-4650	96906	M45913/3-4CG8C	•NUT, SELF-LOCKING,HEX, .25-20	1
34	PAFZZ	5305-01-062-1017	45152	1367HX1	•SCREW, CAP, HEXAGON, .31-18 X .75.	1
35	PAFZZ	2540-01-152-7764	45152	1324940	•LATCH, HOOD, VEHICULAR	1
36	PAFZZ	5305-01-203-8360	12361	7115141450	•SCREW, CAP, HEXAGON HEAD, .25-20 X 1.75	1
37	PAFZZ	5340-01-156-6776	64386	277-A-80-1	•STRAP, RETAINING	1
38	PAFZZ	5305-01-249-8564	45152	59031AX	•SCREW, MACHINE, 10-24 X .75	2
39	PAFZZ	2590-01-517-2878	04664	1331040	•BRACKET, VEHICULAR	1
40	PAFZZ	5310-00-208-1918	88044	AN365-1024A	•NUT, SELF-LOCKING, HEX, 10-24	2
41	PAFZZ		45152	3505700	•ARM, SUPPORT	1

END OF FIGURE

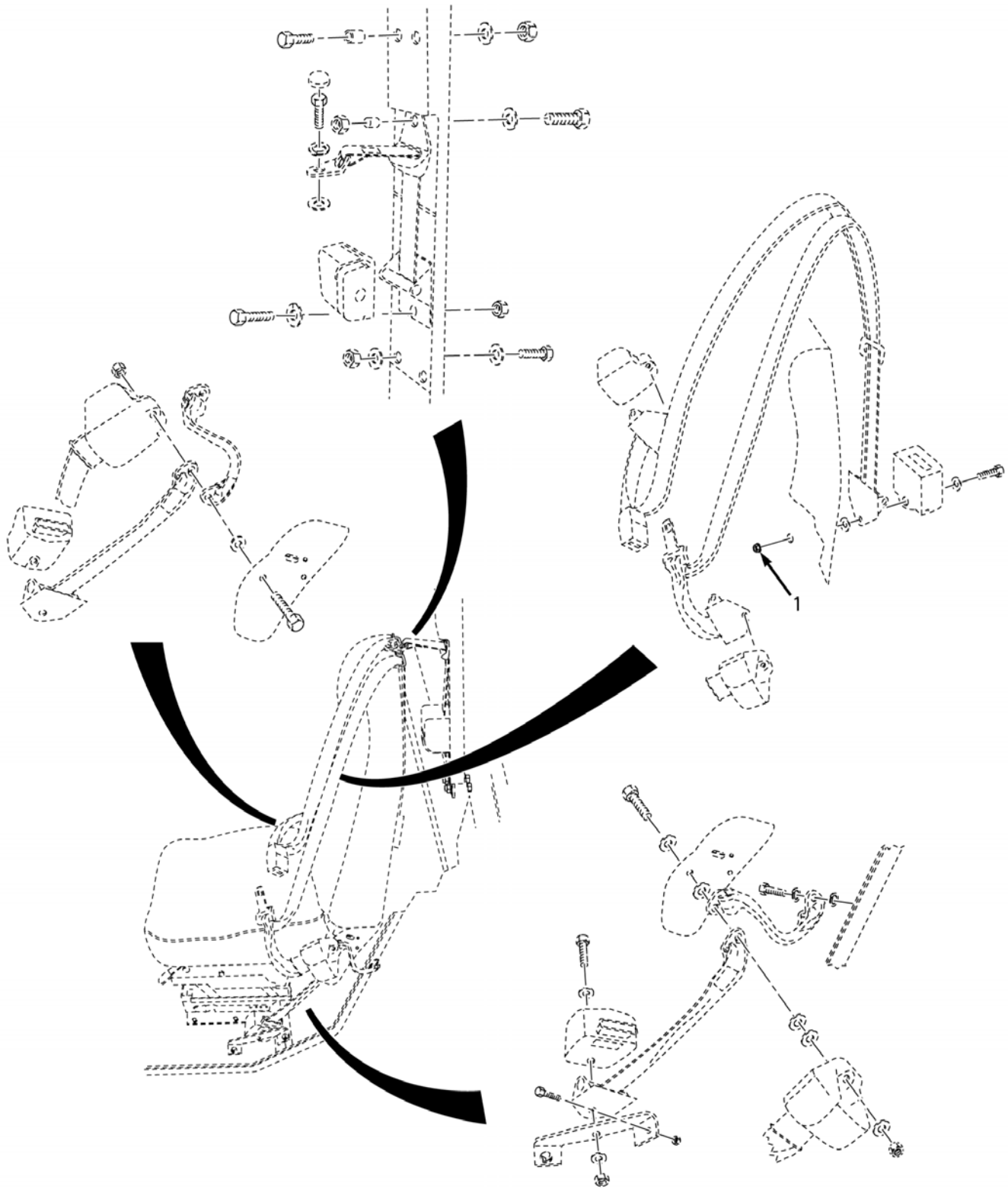


FIG. 63 SEAT BELT ASSEMBLY (SHEET 1 OF 3)

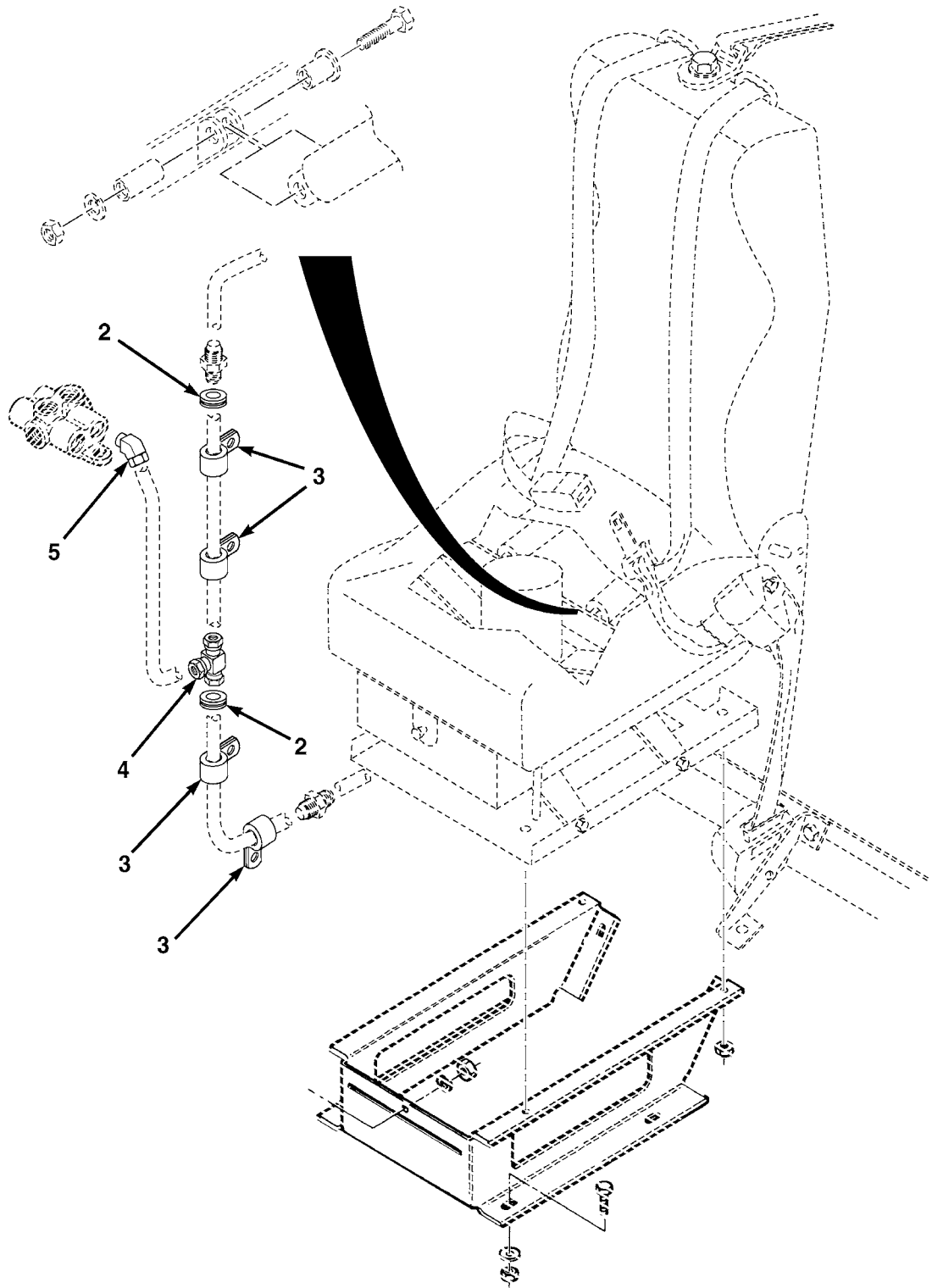


FIG. 63 SEAT BELT ASSEMBLY (SHEET 2 OF 3)

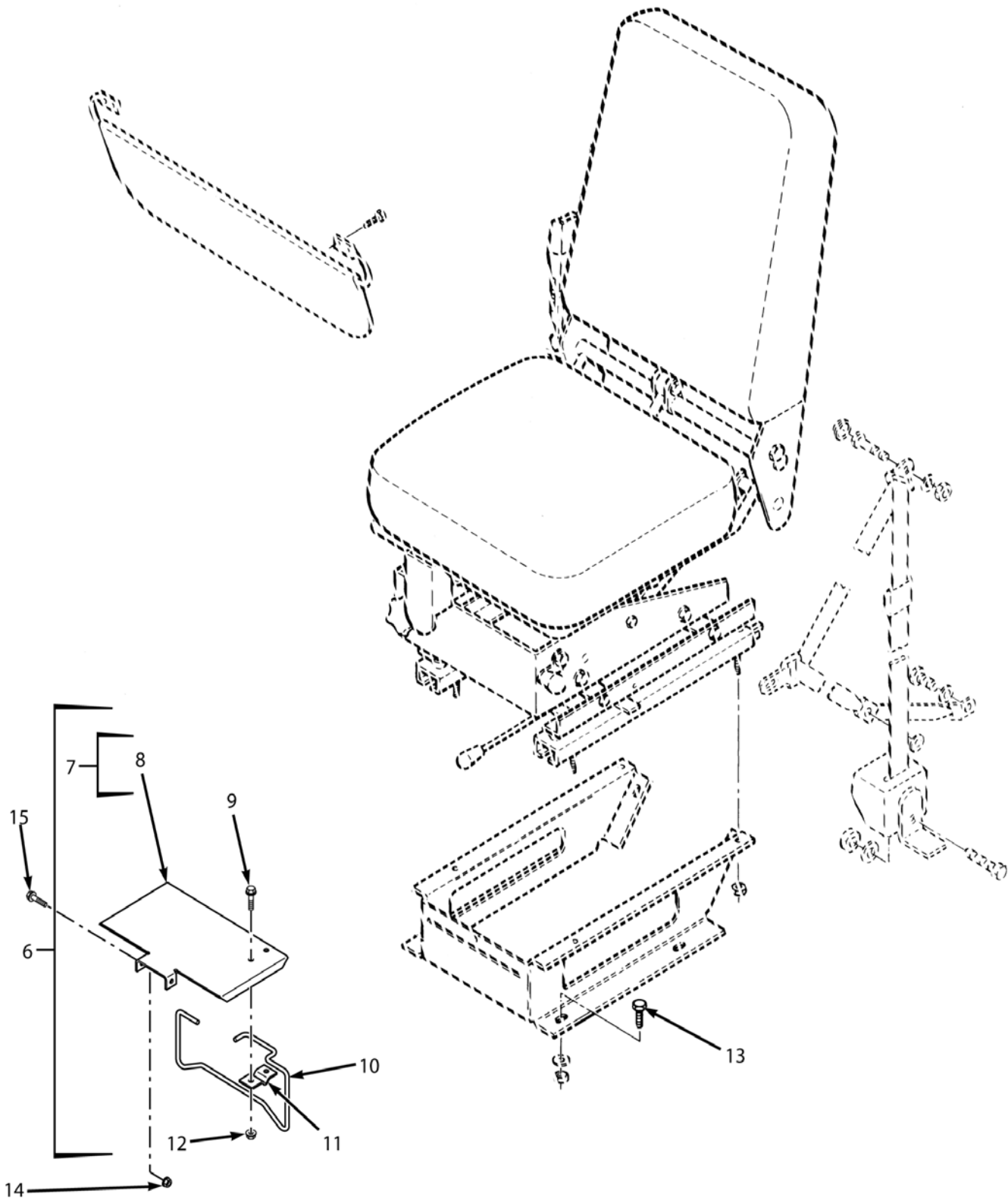


FIG. 63 SEAT BELT ASSEMBLY (SHEET 3 OF 3)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 1806 - UPHOLSTERY SEATS AND CARPETS						
FIG. 63 SEAT BELT ASSEMBLY						
1	PAFZZ	5310-01-466-2695	45152	114927A	NUT,SELF-LOCKING,HEX, .44-14.	4
2	PAFZZ	5325-00-248-7078	55380	RC7156	GROMMET,NONMETALLIC.	2
3	PAFZZ	5340-01-038-9481	75272	C0V050971	CLAMP,LOOP	4
4	PAFZZ	4730-01-095-3430	01276	1464X4	TEE,TUBE	1
5	PAFZZ	4730-00-114-4058	45152	11763FX	ELBOW,PIPE TO TUBE.	1
6	PBFZZ		45152	1754480U	FOOTREST ASSEMBLY	1
7	PAFZZ		45152	1754490W	•PLATFORM ASSEMBLY.	1
8	PAFZZ		45152	1725180	••BRACKET,FOOT REST.	1
9	PAFZZ	5305-01-344-8899	45152	1606140	•SCREW,CAP,HEX HEAD	2
10	PAFZZ	2590-01-354-5102	45152	1754520	•BRACKET,VEHICULAR	1
11	PAFZZ	5340-01-352-8719	45152	1754510	•STRAP,RETAINING	1
12	PAFZZ	5310-01-346-9445	45152	1600460	•NUT,SELF-LOCKING,CL	2
13	PAFZZ	5305-01-479-0981	45152	3266316	SCREW,CAP,HEXAGON, .31-18X1.00 . .	8
14	PAFZZ	5310-01-346-9445	45152	1600460	NUT,SELF-LOCKING,CL	2
15	PAFZZ	5305-01-344-8899	45152	1606140	SCREW,CAP,HEX HEAD.	2
END OF FIGURE						

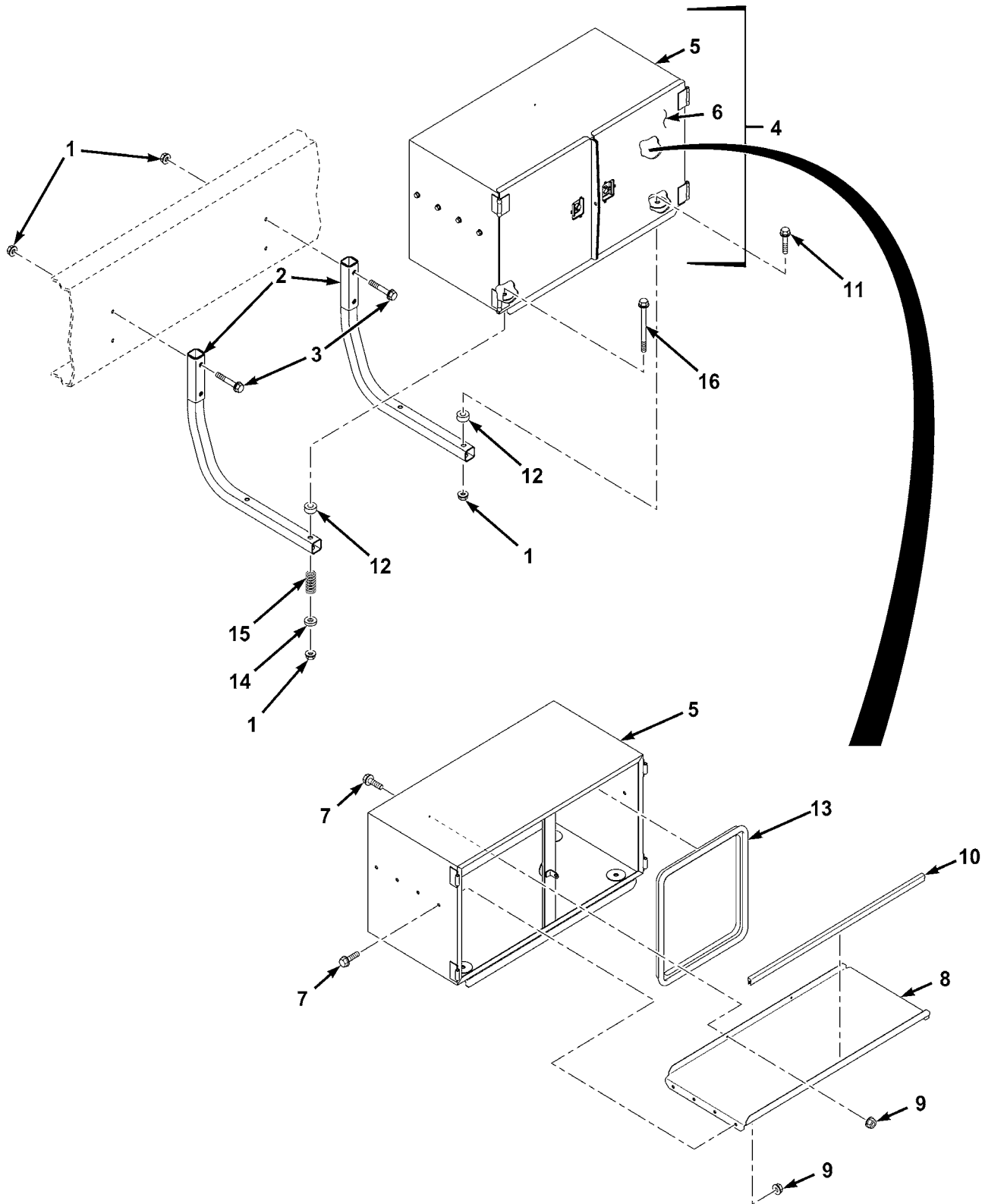


FIG. 64 STOWAGE BOX ASSEMBLY

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 1808 - STOWAGE RACKS, BOXES, STRAPS	
					FIG. 64 STOWAGE BOX ASSEMBLY	
1	PAFZZ	5310-01-111-0645	45152	110311A	NUT,SELF-LOCKING,EX, .62-11 G8	8
2	PAFZZ		45152	3486304	BRACKET,STOWAGE BOX.	2
3	PAFZZ	5306-01-171-5897	45152	123341A	BOLT,MACHINE, .62-11 X 4.00 G8	4
4	PAFZZ		45152	3389314	ASSEMBLY,STOWAGE BOX.	1
5	XAFZZ		45152	3389224	•STOWAGE BOX.	1
6	XAFZZ		45152	2178980	•DOOR ASSEMBLY,STOWAGE	2
7	PAFZZ	5305-01-456-9449	45152	1955110	SCREW,CAP,HEXAGON HEAD, .31-18 X .75 G5	10
8	PAFZZ		45152	2201910	SHELF ASSEMBLY,STOWAGE.	1
9	PAFZZ	5310-01-340-5671	45152	1333510	NUT,SELF-LOCKING,EX, .31-18 G5	10
10	MOFZZ		45152	1467160-43	QUICKEDGE MOULDING, MAKE FROM MOULDING, P/N 75000343,CAGE 82654	1
11	PAFZZ	5306-01-150-7726	45152	120622A	BOLT,MACHINE, .62-11 X 2.50 G8	2
12	PAFZZ	5365-01-201-4780	45152	1404120	BUSHING,NONMETALLIC	4
13	MOFZZ		45152	1878070-84	GASKET,DOOR, MAKE FROM SEAL, P/N 0268, CAGE 06968	2
14	PAFZZ	5310-01-061-5301	45152	8865GX	WASHER,FLAT, .62 X 1.31 X .10.	2
15	PAFZZ	5360-01-167-6410	45152	1401740	SPRING,HELICAL	2
16	PAFZZ	5306-01-169-6379	45152	124125A	BOLT,MACHINE, .62-11 X 6.00 G8	2
END OF FIGURE						

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

RPSTL GROUP 20 - HOIST, WINCH, CAPSTAN, WINDLASS, POWER CONTROL UNIT AND POWER TAKE-OFF

		Figure	Page
GROUP 20	HOIST, WINCH, CAPSTAN, WINDLASS, POWER CONTROL UNIT AND POWER TAKE-OFF		
2000	HOIST, WINCH, CAPSTAN, WINDLASS, POWER CONTROL UNIT, AND POWER TAKE-OFF		
	REAR ROLLER ASSEMBLY	65	0171-2
	REAR ROLLER ASSEMBLY INSTALLATION	66	0171-6
2004	POWER TAKE-OFF ASSEMBLY		
	PTO PUMP ASSEMBLY	67	0171-8
2006	BULLDOZER, TRIPOD, MAIN FRAME, JACK AND MOUNTING		
	OUTRIGGER ASSEMBLY	68	0171-10
	CYLINDER, LOCKING JACK	69	0171-14
	FOUR FUNCTION CONTROL VALVE	70	0171-18
	OUTRIGGER HYDRAULIC LINES AND FITTINGS	71	0171-20
	EXTENSION CYLINDERS	72	0171-28
	THREE FUNCTION CONTROL VALVE	73	0171-30

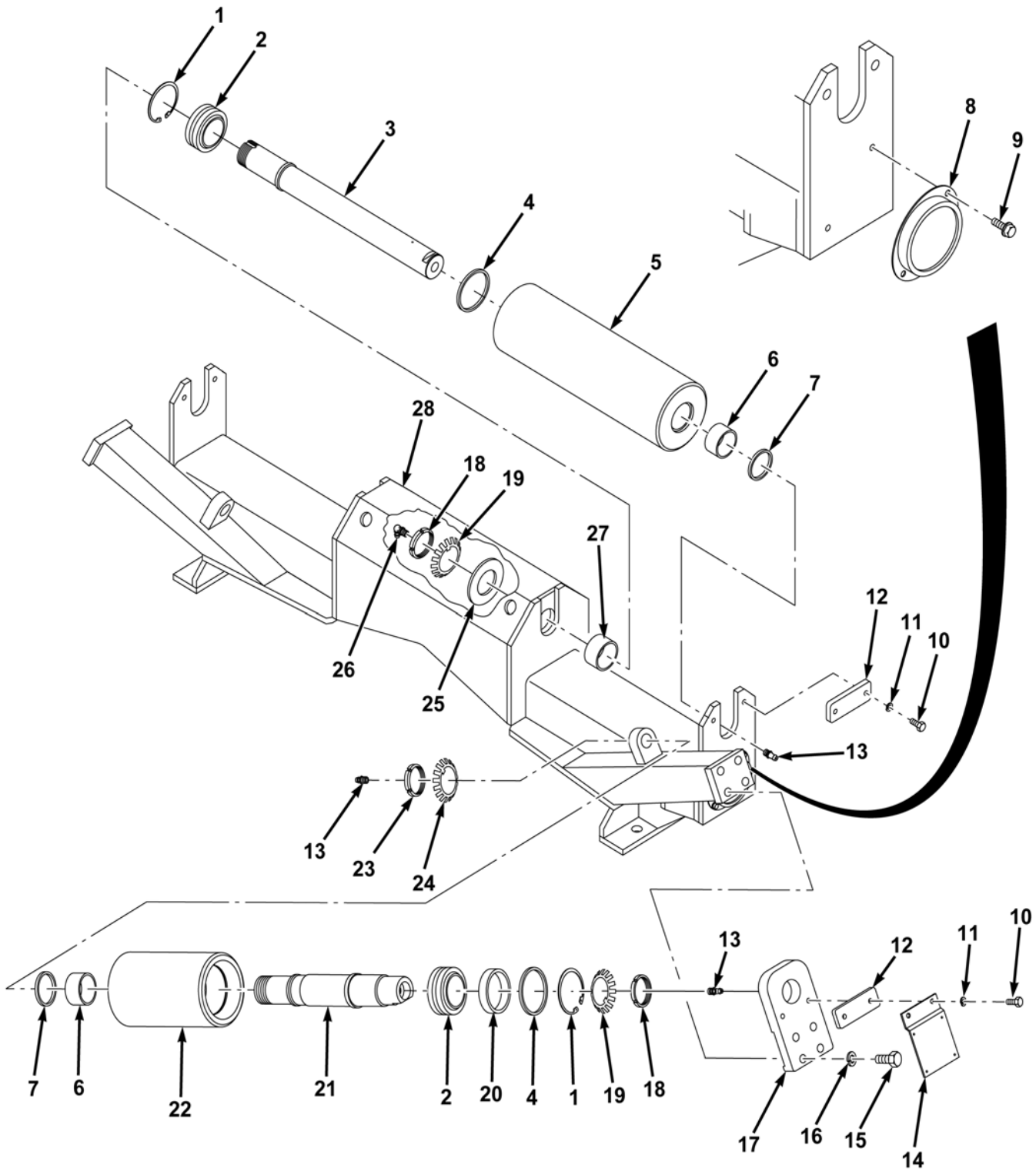


FIG. 65 REAR ROLLER ASSEMBLY

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 2000 - HOIST, WINCH, CAPSTAN, WINDLASS, POWER CONTROL UNIT, AND POWER TAKE-OFF FIG. 65 REAR ROLLER ASSEMBLY	
1	KFFZZ	5325-00-722-8570	79136	N5000-268	RING,RETAINING,PART OF KIT P/NS 3SK804 AND 3SK805,CAGE 45152	4
2	KFFZZ	3120-01-461-8627	2K272	GE45E8-2RS	BEARING,PLAIN,PART OF KIT P/NS 3SK804 AND 3SK805,CAGE 45152	4
3	KFFZZ		45152	1862270	SHAFT,HORIZONTAL ROLLER, PART OF KIT P/N 3SK804,CAGE 45152.	2
4	KFFZZ	5325-01-462-7182	45152	1862320	RING,RETAINING, PART OF KIT P/NS 3SK804 AND 3SK805,CAGE 45152	4
5	KFFZZ	3910-01-397-5277	45152	1862220	ROLLER,CONVEYOR, PART OF KIT P/N 3SK804,CAGE 45152	2
6	KFFZZ	5365-01-457-2368	45152	1862630	BUSHING BLANK, PART OF KIT P/NS 3SK804 AND 3SK805,CAGE 45152	4
7	KFFZZ	5330-01-488-4100	45152	2010580	SEAL,PLAIN,ENCASED, PART OF KIT P/NS 3SK804 AND 3SK805,CAGE 45152	4
8	PAFZZ	9905-00-205-2795	58536	AA52428-1	REFLECTOR,INDICATING	2
9	PAFZZ	5305-01-159-8544	45152	1345280	SCREW,TAPPING, .25-20 X .50	4
10	PAFZZ	5305-01-082-0049	11939	93543216	SCREW,CAP,HEXAGON HEAD, .31-18 X 1.00 GR8	8
11	PAFZZ	5310-01-068-8446	45152	354AX	WASHER,LOCK, .50 X .87 X .12 ZY	8
12	PAFZZ	5340-01-355-3794	45152	1862350	PLATE,MOUNTING	4
13	PAFZZ	4730-01-217-1115	45152	615FX	FITTING,LUBRICATION.	6
14	PFFZZ	5340-01-363-6139	45152	1953740	BRACKET,DOUBLE ANGLE	2
15	PAFZZ	5305-01-328-4384	45152	738HX4	SCREW,CAP,HEXAGON HEAD, .50-13 X 1.25 GR8	8
16	PAFZZ	5310-01-133-2130	45152	355AX	WASHER,LOCK, .50 X .87 X .12 ZY	8
17	PFFZZ	5340-01-355-5248	45152	1862360	PLATE,RETAINING	2
18	PAFZZ	5310-01-459-6206	45152	1862730	NUT,PLAIN,ROUND, PART OF KIT P/NS 3SK804 AND 3SK805,CAGE 45152	4
19	PFFZZ	5310-01-459-6126	2K272	W 09	WASHER,LOCK,1.80 X 2.73 X .058, PART OF KIT P/NS 3SK804 AND 3SK805	4
20	KFFZZ		45152	1862290	RING,ADJUSTING, PART OF KIT P/N 3SK805,CAGE 45152	2
21	KFFZZ		45152	1862260	SHAFT,ANGLED ROLLER, PART OF KIT P/N 3SK805,CAGE 45152	2

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
22	PAFZZ		45152	3484756	ROLLER,ANGLED	2
23	KFFZZ		2K272	NO8 LOCKNUT	NUT,SPECIAL, 1.563-18,PART OF KIT P/N 3SK805,CAGE 45152	2
24	KFFZZ	5310-01-355-8794	2K272	W 08	WASHER,KEY, 1.59 X 2.47 X .06,PART OF KIT P/N 3SK805,CAGE 45152	2
25	PAFZZ	3120-01-355-8843	45152	1862340	BEARING,WASHER,THRU, 1.77 X 3.50 X .31	2
26	PAFZZ	4730-00-172-0034	72741	485-405	FITTING,LUBRICATION	2
27	KFFZZ	3120-01-459-8228	45152	1862330	BEARING,WASHER,THRU, 1.77 X 2.00 X 1.00,PART OF KIT P/N 3SK804,CAGE 45152	2
28	PBFZZ		45152	1862230W	BRACKET,ROLLER MOUNTING	1

END OF FIGURE

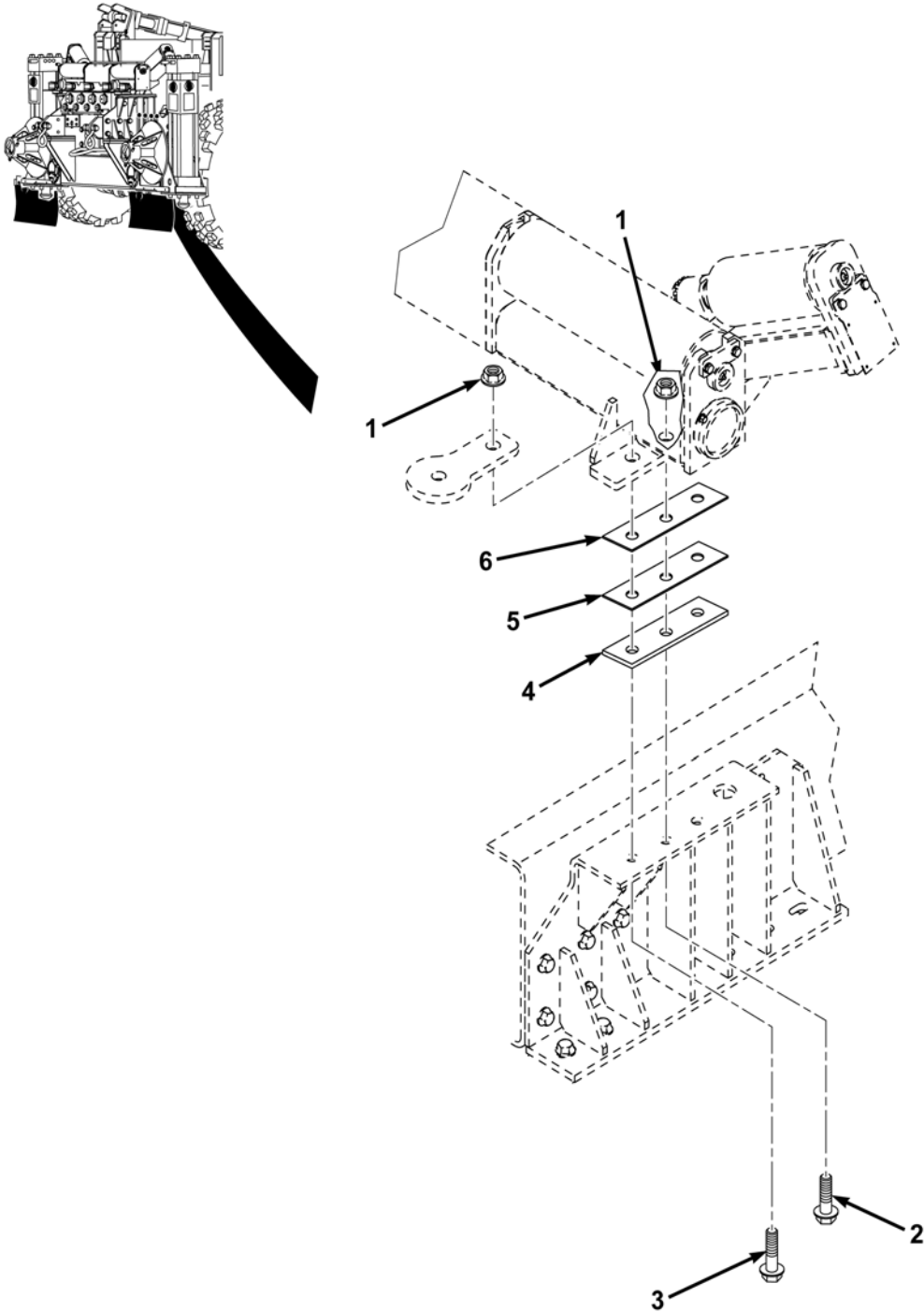


FIG. 66 REAR ROLLER ASSEMBLY INSTALLATION

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 2000 - HOIST, WINCH, CAPSTAN, WINDLASS, POWER CONTROL UNIT, AND POWER TAKE-OFF	
					FIG. 66 REAR ROLLER ASSEMBLY INSTALLATION	
1	PAFZZ	5310-01-150-5918	45152	110312A	NUT,SELF-LOCKING,EX, .75-10 G8	6
2	PAFZZ	5305-01-156-5440	45152	1337720	SCREW,CAP,HEXAGON HEAD, .75-10 X 2.50 G8	4
3	PAFZZ	5305-01-155-3478	45152	1324980	SCREW,CAP,HEXAGON HEAD, .75-10 X 2.75 G8	2
4	PAFZZ	5365-01-479-2249	45152	3055128	SPACER,PLATE, 11.00 X 3.66 X .25	2
5	PAFZZ		45152	3533105	PLATE, 11.00 X 2.38 X .1196 ST	2
6	PAFZZ		45152	3715382	PLATE, 11.00 X 2.38 X .0598	2
					END OF FIGURE	

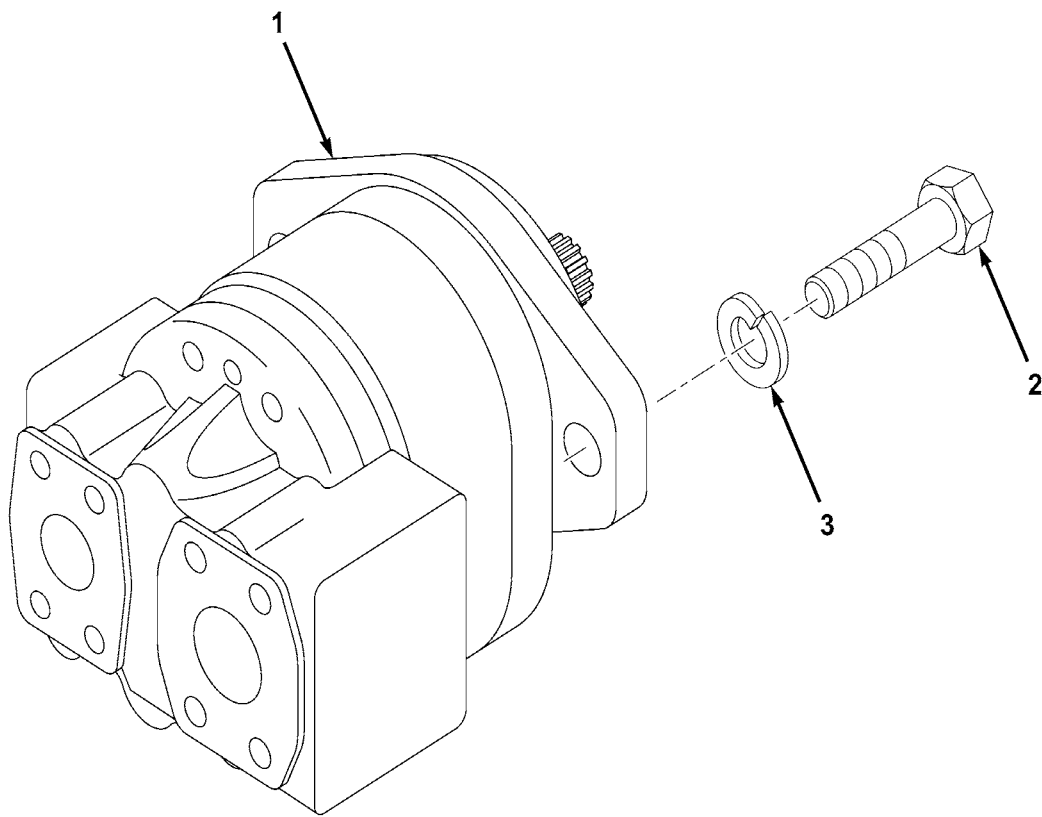


FIG. 67 PTO PUMP ASSEMBLY

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 2004 - POWER TAKE-OFF ASSEMBLY	
					FIG. 67 PTO PUMP ASSEMBLY	
1	PBFZZ		45152	3395836	PUMP,PTO.....	1
2	PAFZZ	5305-01-164-8510	45152	1772HX1	SCREW,CAP,HEXAGON HEAD, .50-13 X 1.75 G5.....	2
3	PAFZZ	5310-01-133-2130	45152	355AX	WASHER,LOCK, .50 X .87 X .127.....	2
					END OF FIGURE	

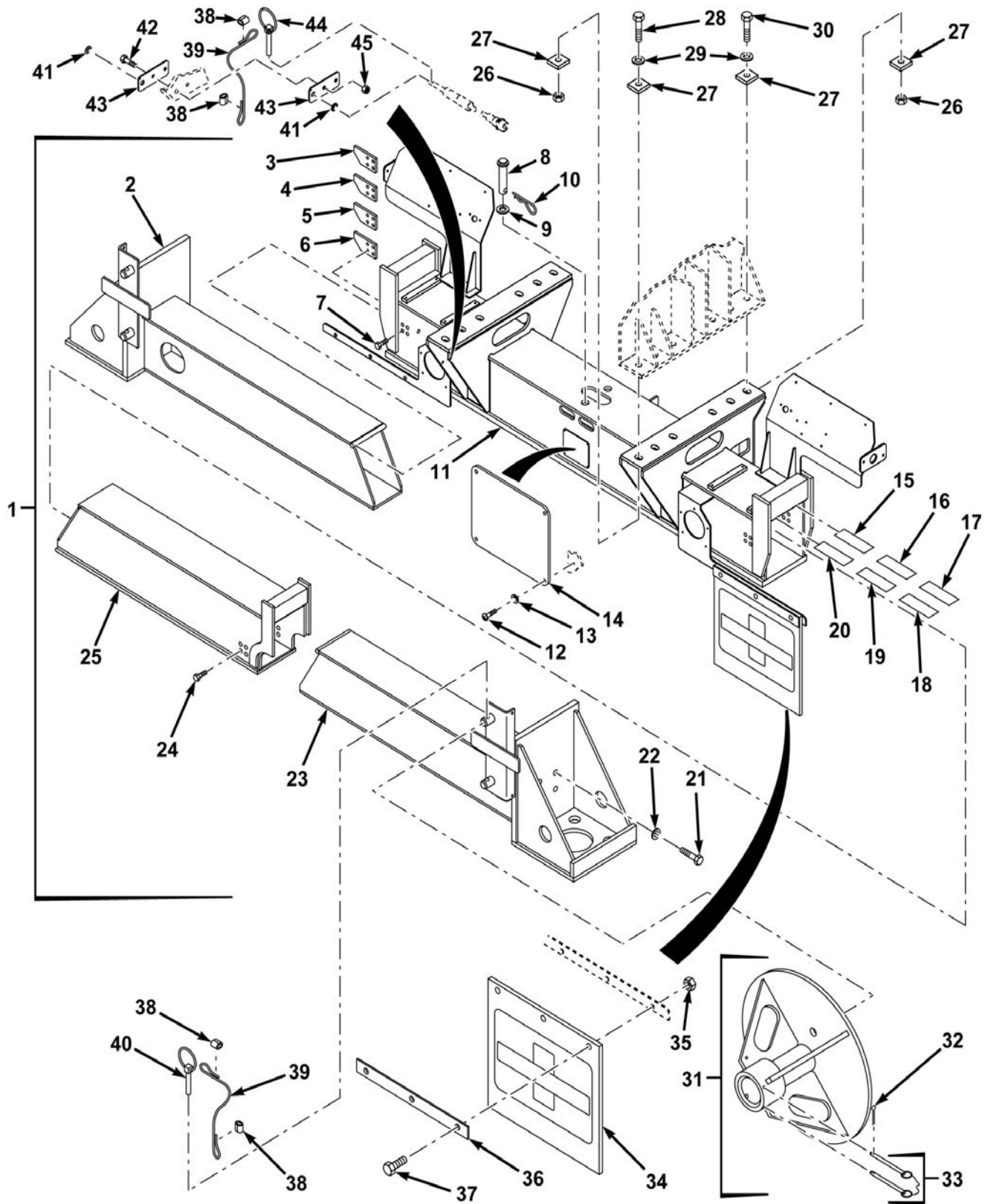


FIG. 68 OUTRIGGER ASSEMBLY

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 2006 - BULLDOZER, TRIPOD, MAIN FRAME, JACK AND MOUNTING FIG. 68 OUTRIGGER ASSEMBLY	
1	PBFZZ		12361	2-198-1-10025	OUTRIGGER ASSEMBLY	1
2	PAFZZ		12361	2-198-1-10028	•OUTER BEAM, LH	1
3	PAFZZ		12361	6-705-170866	•PLATE, .50 THICK	V
4	PAFZZ		12361	6-705-170865	•PLATE, .44 THICK	V
5	PAFZZ		12361	6-705-170864	•PLATE, .38 THICK	V
6	PAFZZ		12361	6-705-170863	•PLATE, .31 THICK	V
7	PAFZZ	5306-00-226-4824	80204	B1821BH031C063N	•BOLT,MACHINE, .31-18 X .625	16
8	PAFZZ	5315-01-224-8380	45152	2CD789	•PIN,SHOULDER,HEADLESS.	2
9	PAFZZ	5310-01-214-4946	45152	2083HX	•WASHER, FLAT, .75 X 1.5 X.13	2
10	PAFZZ	5315-01-220-9567	46156	11	•PIN,LOCK	2
11	PAFZZ		12361	2-198-1-10026	•OUTRIGGER BOX	1
12	PAFZZ	5305-01-494-4151	12361	7111100511	•SCREW,MACHINE	4
13	PAFZZ	5310-01-494-4099	12361	7950100050	•WASHER,LOCK	4
14	PAFZZ		12361	4-198-1-10017	•COVER.	1
15	PAFZZ	5365-01-203-2670	12361	6-705-010524	•SPACER,PLATE, .19 THICK.	V
15	PAFZZ	5365-01-203-0299	12361	6-705-010518	•SPACER,PLATE, .19 THICK.	V
16	PAFZZ	5365-01-206-2346	12361	6-705-010525	•SPACER,PLATE, .25 THICK.	V
16	PAFZZ	5365-01-211-1521	12361	6-705-010519	•SPACER,PLATE, .25 THICK.	V
17	PAFZZ	5365-01-203-0302	12361	6-705-010521	•SPACER,PLATE, .38 THICK.	V
17	PAFZZ	5365-01-205-2884	12361	6-705-010527	•SPACER,PLATE, .38 THICK.	V
18	PAFZZ	5365-01-203-0301	12361	6-705-010520	•SPACER,PLATE, .31 THICK.	V
18	PAFZZ	5365-01-204-8899	12361	6-705-010526	•SPACER,PLATE, .31 THICK.	V
19	PAFZZ	5365-01-203-0298	12361	6-705-010517	•SPACER,PLATE, .12 THICK.	V
19	PAFZZ	5365-01-203-0303	12361	6-705-010523	•SPACER,PLATE, .12 THICK.	V
20	PAFZZ	5365-01-203-6465	12361	6-705-010522	•SPACER,PLATE, 16 GAGE	V
20	PAFZZ	5365-01-203-0300	12361	6-705-010516	•SPACER,PLATE, 16 GAGE	V
21	PAFZZ		12361	7118161250	•SCREW,CAP, 3/8 x 1 1/2	8
22	PAFZZ	5310-01-208-5261	12361	7-949-000377	•WASHER,FLAT, 0.44	8
23	PBFZZ		12361	2-198-1-10029	•OUTER BEAM, RH.	1
24	PAFZZ	5305-01-466-3863	12361	7-118-150450	•SCREW,CAP,HEXAGON HEAD.	16
25	PBFZZ		12361	2-198-1-10027	•INNER BEAM	2
26	PAFZZ	5310-01-478-7271	45152	60067AX	NUT,SELF-LOCKING,HEX, .75-10.	12
27	PAFZZ	5340-01-486-2072	0Y3H3	10823-01832	SPACER,PLATE.	24

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
28	PAFZZ		45152	61068AX	SCREW,CAP,HEXAGON HEAD, .75-10 X 3.50	10
29	PAFZZ	5310-01-214-4946	45152	2083HX	WASHER,FLAT, .75 X 1.5 X .13.....	12
30	PAFZZ	5305-01-338-7301	45152	60026AX	SCREW,CAP,HEXAGON HEAD, .75-10 X 2.50	2
31	PBFZZ		45152	3403355	FLOAT ASSY	2
32	PAFZZ		45152	2CH9	•PIN,COTTER, .25 X 1.75	1
33	PAFZZ		12361	21981000680	•PIN ASSY,OUTRIGGER	1
34	PAFZZ	2540-01-202-5775	45152	1453790	GUARD,SPLASH,VEHICULAR	2
35	PAFZZ	5310-01-177-4625	45152	108708A	NUT,SELF-LOCKING,HEX, .38-16.....	6
36	PAFZZ	5365-01-205-5091	45152	1453780	SPACER,PLATE.....	2
37	PAFZZ	5305-01-304-9375	45152	177FX1	SCREW,CAP,HEXAGON, .38-16 X 1.5 ..	6
38	PAFZZ	4030-01-517-7356	80967	1864270	SWAGING SLEEVE,WIRE.....	10
39	MOFZZ		45152	1533100-78	ROPE,WIRE, MAKE FROM WIRE ROPE P/N M83420-4-010 (81349), 78 IN	1
40	PAFZZ		45152	2192650	PIN LYNCH.	4
41	PAFZZ	5325-01-123-5695	70485	546	GROMMET NONMETALLIC.....	2
42	PAFZZ	5306-01-287-5715	45152	1680530	BOLT, MACHINE	2
43	PAFZZ		45152	3451700	PLATE, 5.00 X 2.00 X 10GA	2
44	PAFZZ	5315-01-395-4217	45152	2053990	PIN, QUICK RELEASE.....	1
45	PAFZZ	5310-01-288-1116	45152	1437220	NUT, SELF-LOCKING, EX	2

END OF FIGURE

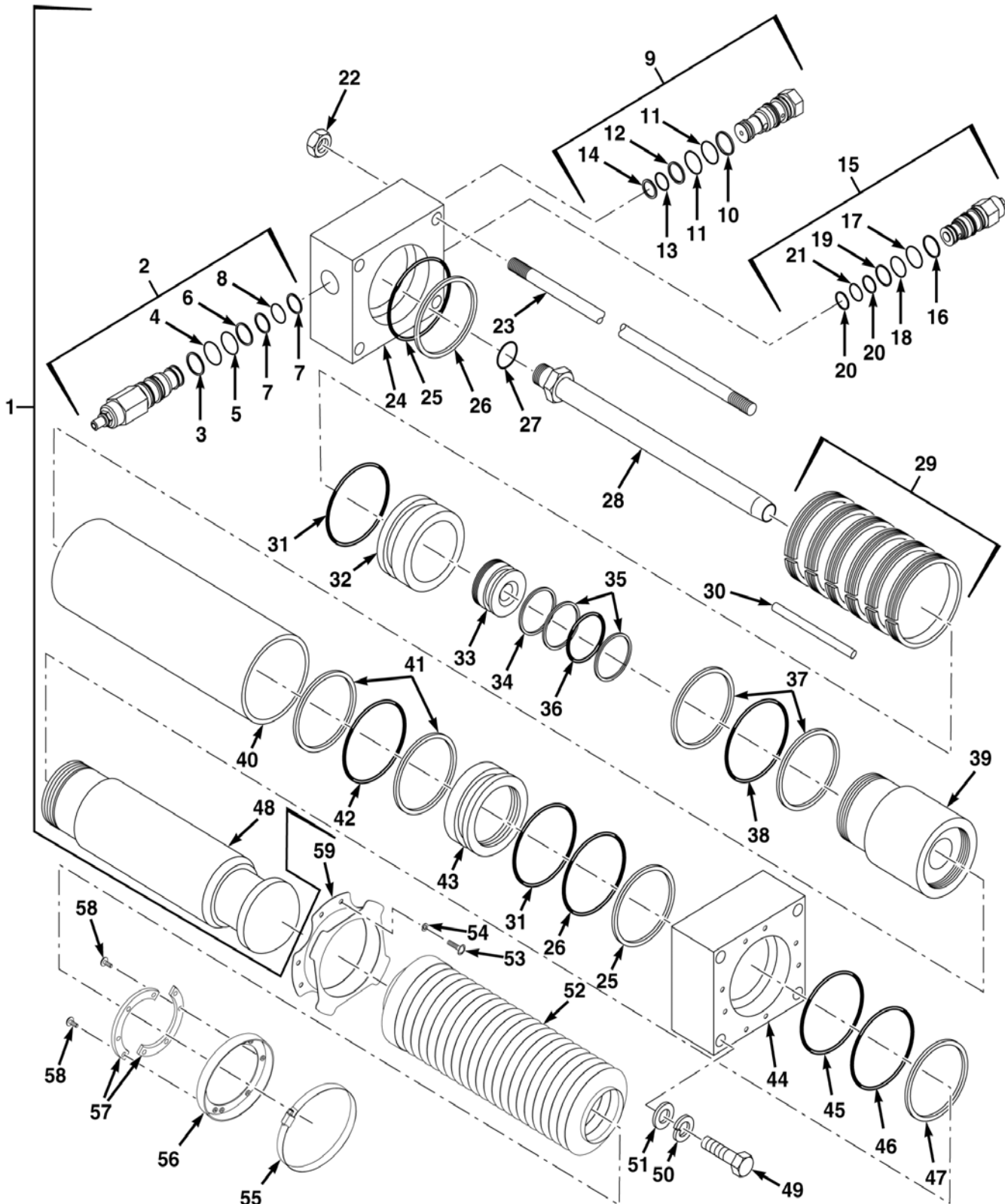


FIG. 69 CYLINDER, LOCKING JACK

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 2006 - BULLDOZER, TRIPOD, MAIN FRAME, JACK AND MOUNTING FIG. 69 CYLINDER, LOCKING JACK	
1	PAFHH		62410	1041113	CYCLINDER, LOCKING	2
2	PAFHH		54035	SCEA-CAN	•SEQUENCE VALVE	1
3	KFFZZ		54035	515-002-021	••RETAINER, PACKING, PART OF KIT P/N 990-202-007,CAGE 54035	1
4	KFFZZ		54035	500-001-021	••O-RING, PART OF KIT P/N 990-202-007,CAGE 54035	1
5	KFFZZ		54035	500-002-020	••O-RING, PART OF KIT P/N 990-202-007,CAGE 54035	1
6	KFFZZ		54035	515-002-020	••RETAINER, PACKING, PART OF KIT P/N 990-202-007,CAGE 54035	1
7	KFFZZ		54035	515-002-018	••RETAINER, PACKING, PART OF KIT P/N 990-202-007,CAGE 54035	2
8	KFFZZ		54035	500-001-018	••O-RING, PART OF KIT P/N 990-202-007,CAGE 54035	1
9	PAFHH	4820-01-317-2748	54035	CSAD-XXN	•VALVE, SHUTTLE	1
10	KFFZZ	5330-01-424-2991	54035	515-002-017	••RETAINER, PACKING, PART OF KIT P/N 990-011-007,CAGE 54035	1
11	KFFZZ	5331-01-420-6083	54035	990-061-007	••O-RING, PART OF KIT P/N 990-011-007,CAGE 54035	2
12	KFFZZ	5330-01-420-6084	54035	515-002-016	••RETAINER, PACKING, PART OF KIT P/N 990-011-007,CAGE 54035	1
13	KFFZZ	5331-01-420-6085	54035	500-002-015	••O-RING, PART OF KIT P/N 990-011-007,CAGE 54035	1
14	KFFZZ	5330-01-420-6086	54035	515-002-015	••RETAINER, PACKING, PART OF KIT P/N 990-011-007,CAGE 54035	1
15	PAFHH		54035	CBDA-LHN	•COUNTERBALANCE VALVE	1
16	KFFZZ		54035	500-001-021	••O-RING, PART OF KIT P/N 990-202-007,CAGE 54035	1
17	KFFZZ		54035	515-002-021	••RETAINER, PACKING, PART OF KIT P/N 990-202-007,CAGE 54035	1
18	KFFZZ		54035	500-002-020	••O-RING, PART OF KIT P/N 990-202-007,CAGE 54035	1
19	KFFZZ		54035	515-002-020	••RETAINER, PACKING, PART OF KIT P/N 990-202-007,CAGE 54035	1
20	KFFZZ		54035	515-002-018	••RETAINER, PACKING, PART OF KIT P/N 990-202-007,CAGE 54035	2
21	KFFZZ		54035	500-001-018	••O-RING, PART OF KIT P/N 990-202-007,CAGE 54035	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
22	PAHZZ		62410	94125	•NUT, 1.00 - 8	4
23	PAHZZ		62410	4193512	•TIE ROD	4
24	XAHZZ		62410	1036332	•BOTTOM.	1
25	KFFZZ		62410	129501	•O-RING, PART OF KIT P/N SKSS088033,CAGE 54035.	2
26	KFFZZ		62410	96344	•BACKUP, PART OF KIT P/N SKSS088033,CAGE 54035.	2
27	KFFZZ		62410	77637	•O-RING, PART OF KIT P/N SKSS088033,CAGE 54035.	1
28	PFFZZ		62410	815350	•FEED TUBE	1
29	PFHZZ		62410	4193514	•LINER	6
30	PFHZZ		62410	4193513	•ALIGNMENT ROD	1
31	KFFZZ		62410	97443	•PISTON SEAL, PART OF KIT P/N SKSS088033,CAGE 54035.	2
32	PFHZZ		62410	1036355	•PISTON.	1
33	XAFZZ		62410	4143276	•CAP,END.	1
34	KFFZZ		62410	97209	•ROD SEAL, PART OF KIT P/N SKSS088033,CAGE 54035.	1
35	KFFZZ		62410	144197	•BACKUP, PART OF KIT P/N SKSS088033,CAGE 54035.	2
36	KFFZZ		62410	76929	•O-RING, PART OF KIT P/N SKSS088033,CAGE 54035.	1
37	KFFZZ		62410	144426	•BACKUP, PART OF KIT P/N SKSS088033,CAGE 54035.	2
38	KFFZZ		62410	76937	•O-RING, PART OF KIT P/N SKSS088033,CAGE 54035.	1
39	PFHZZ		62410	1036336	•ROD MACHINING.	1
40	XAHZZ		62410	4102846	•CASE MACHINING	1
41	KFFZZ		62410	145523	•BACKUP, PART OF KIT P/N SKSS088033,CAGE 54035.	2
42	KFFZZ		62410	145453	•O-RING, PART OF KIT P/N SKSS088033,CAGE 54035.	1
43	PFHZZ		62410	1036334	•PISTON.	1
44	XAHZZ		62410	1042005	•HEAD	1
45	KFFZZ		62410	92448	•WEAR RING, PART OF KIT P/N SKSS088033,CAGE 54035.	1
46	KFFZZ		62410	79609	•U-CUP, PART OF KIT P/N SKSS088033,CAGE 54035.	1
47	KFFZZ		62410	97208	•WIPER, PART OF KIT P/N SKSS088033,CAGE 54035.	1
48	PFHZZ		62410	1042006	•ROD MACHINING.	1
49	PAFZZ		45152	3495272	SCREW,CAP,HEXAGON HEAD, 1.25-7 X 3.50 G8	8

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
50	PAFZZ		0Y3H3	33640	WASHER, LOCK SPLIT, 1.25 X 2.03 X .31	8
51	PAFZZ	5310-01-227-4864	45152	27213AX	WASHER, FLAT, 1.25	8
52	PBFZZ		45152	3680301	BELLOWS, OUTRIGGER	2
53	PAFZZ	5305-01-354-2490	45152	1841HX1	SCREW, CAP, HEX .25-20 X .50 G5 ZY .	16
54	PAFZZ	5310-00-582-5965	00198	196	WASHER, LOCK, SPLIT .25 X .49 X .062ZYHDN	16
55	PAFZZ	4730-00-908-6294	58536	A-A-52506-F-104	CLAMP	2
56	PBFZZ		45152	3680306	COLLAR, LOWER	2
57	PBFZZ		45152	3680302	RING, RETAINER.	4
58	PAFZZ	5305-00-088-8332	80205	MS35190-272	SCREW, FLAT, XR #10-24 X .62 NS ZC .	16
59	PBFZZ		45152	3680305	FLANGE, RETAINING, UPPER	2

END OF FIGURE

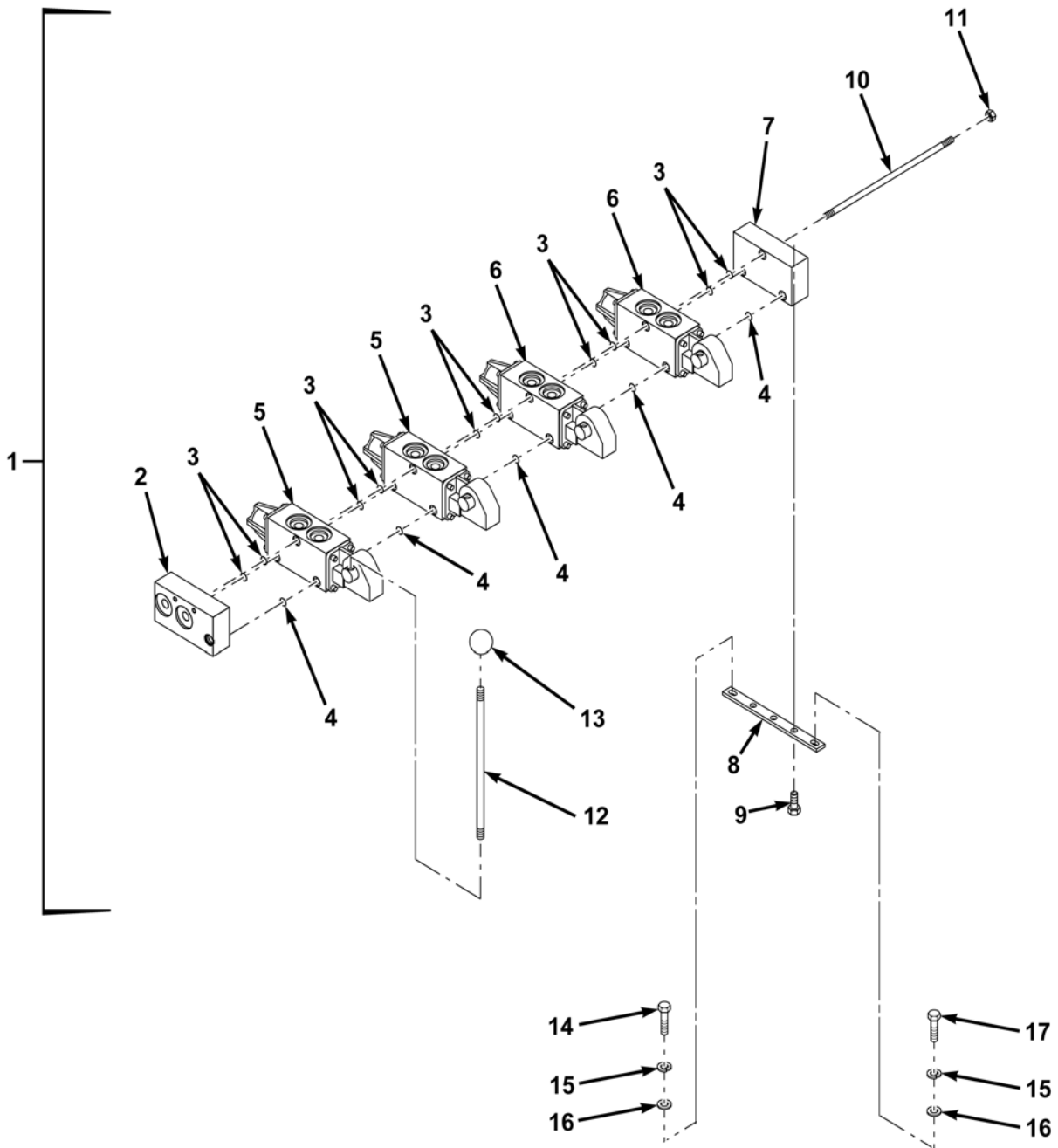


FIG. 70 FOUR FUNCTION CONTROL VALVE

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 2006 - BULLDOZER, TRIPOD, MAIN FRAME, JACK AND MOUNTING	
					FIG. 70 FOUR FUNCTION CONTROL VALVE	
1	PAFFF		45152	3409134	VALVE DIRECTIONAL, CONTROL	1
2	PAFZZ		1CC11	75139-01	•INLET ASSEMBLY	1
3	KFFZZ	5331-00-618-5361	1CC11	2015N304-75	•O-RING, PART OF KIT P/N SKMWH-74,CAGE 1CC11	10
4	KFFZZ	5331-00-579-3158	1CC11	2008N304-75	•O-RING, PART OF KIT P/N SKMWH-74,CAGE 1CC11	5
5	PBFZZ		1CC11	86064-01	•VALVE,MANUALLY OPERATED, SERIES 10	2
6	PBFZZ		1CC11	86065-01	•VALVE,MANUALLY OPERATED, SERIES 10	2
7	PBFZZ		1CC11	75121-05	•OUTLET PLATE	1
8	KFFZZ		1CC11	15030-01	•BRACKET, PART OF KIT P/N 75136-04,CAGE 1CC11	2
9	KFFZZ	5305-01-412-0891	96906	MS24693-94	•SCREW,MACHINE, .25-20 X .5,PART OF KIT P/N 75136-04,CAGE 1CC11	6
10	KFFZZ		1CC11	25013-24SZ	•STUD, .31-18 X 9.312,PART OF KIT P/N 75136-04,CAGE 1CC11	3
11	KFFZZ	5310-01-355-3675	09990	25025-30	•NUT,PLAIN,HEXAGON, .31-18,PART OF KIT P/N 75136-04,CAGE 1CC11	3
12	PBFZZ		1CC11	25028-01	•HANDLE,SHAFT, 3/8-16 X 9.50	4
13	PBFZZ	5355-01-421-3560	09990	25024-01	•KNOB, 3/8-16	4
14	PAFZZ	5306-01-145-6949	11757	378429-8	BOLT,MACHINE.	2
15	PAFZZ	5310-00-582-5965	80205	MS35338-44	WASHER,LOCK.	4
16	PAFZZ	5310-00-809-4058	96906	MS27183-10	WASHER,FLAT	4
17	PAFZZ	5305-00-068-0508	80204	B1821BH025C075N	SCREW,CAP,HEXAGON HEAD	2
END OF FIGURE						

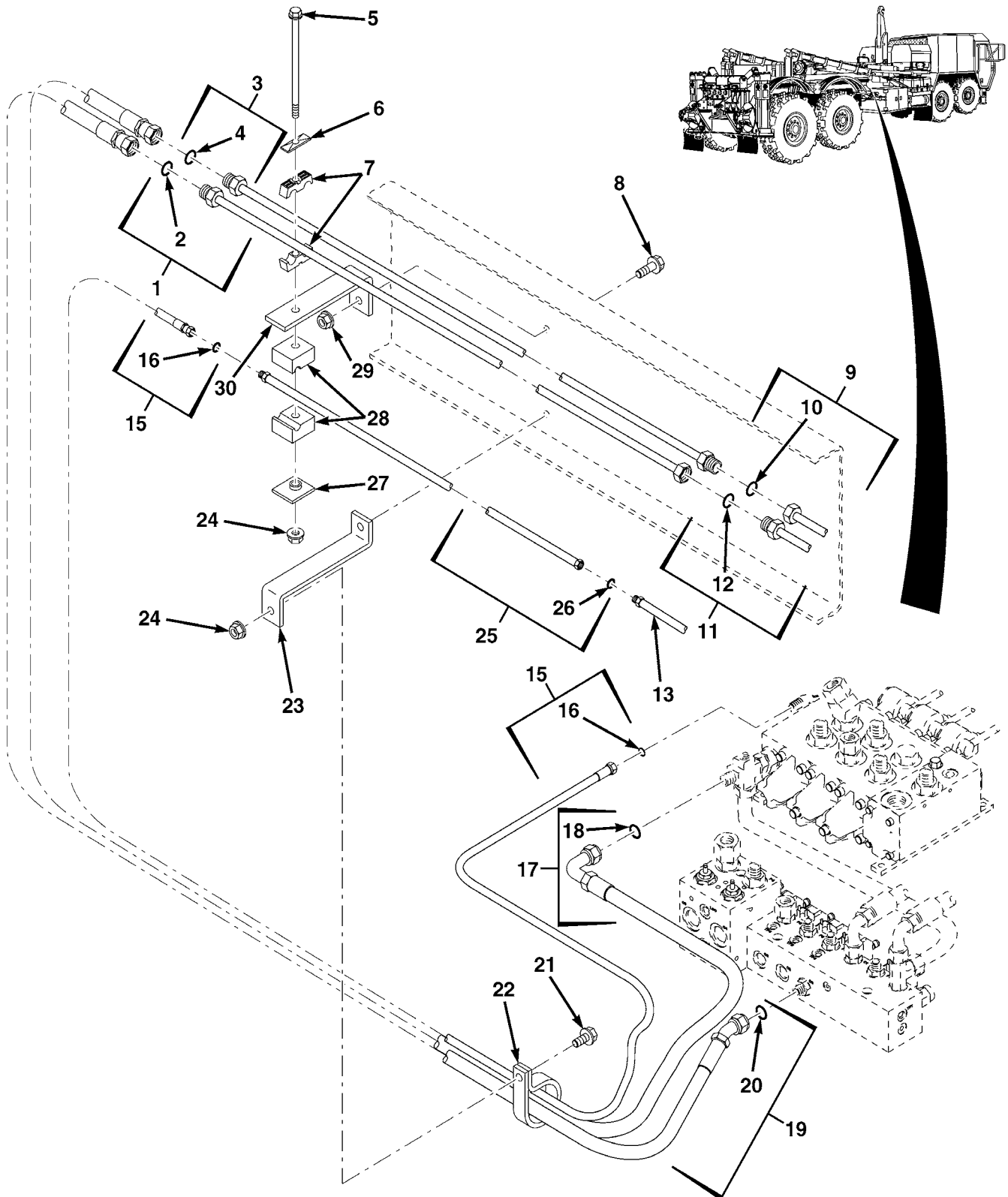


FIG. 71 OUTRIGGER HYDRAULIC LINES AND FITTINGS (SHEET 1 OF 4)

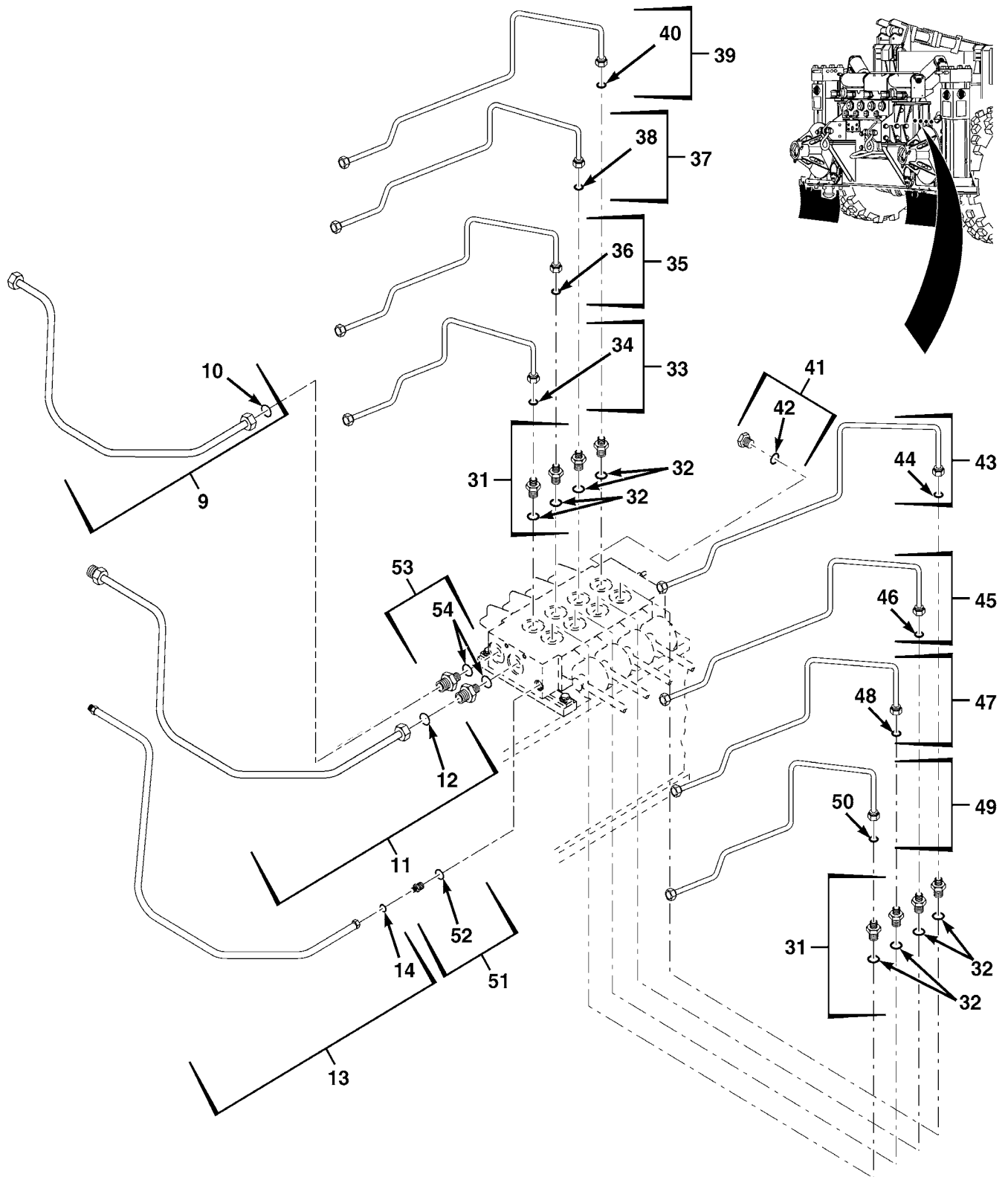


FIG. 71 OUTRIGGER HYDRAULIC LINES AND FITTINGS (SHEET 2 OF 4)

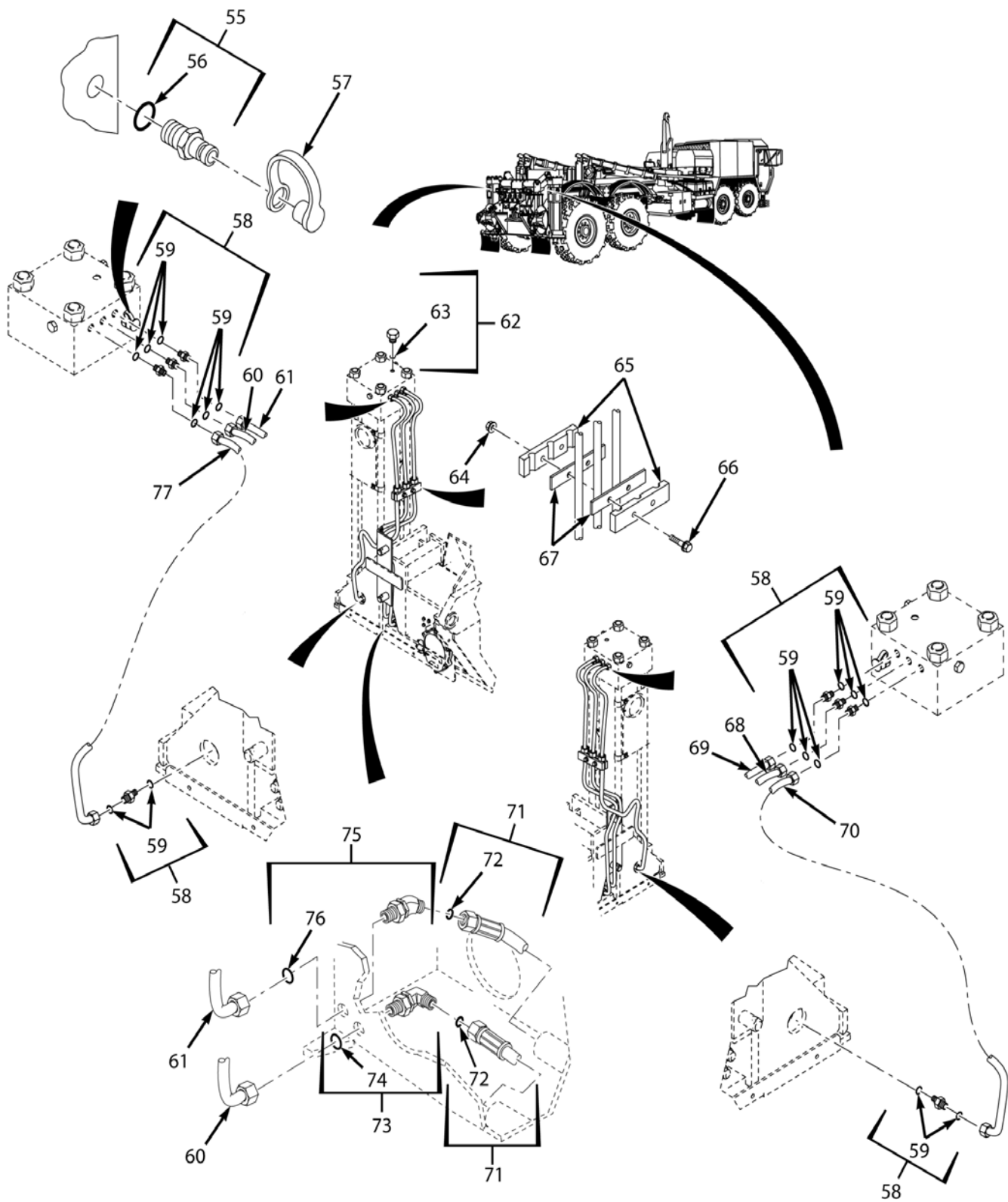


FIG. 71 OUTRIGGER HYDRAULIC LINES AND FITTINGS (SHEET 3 OF 4)

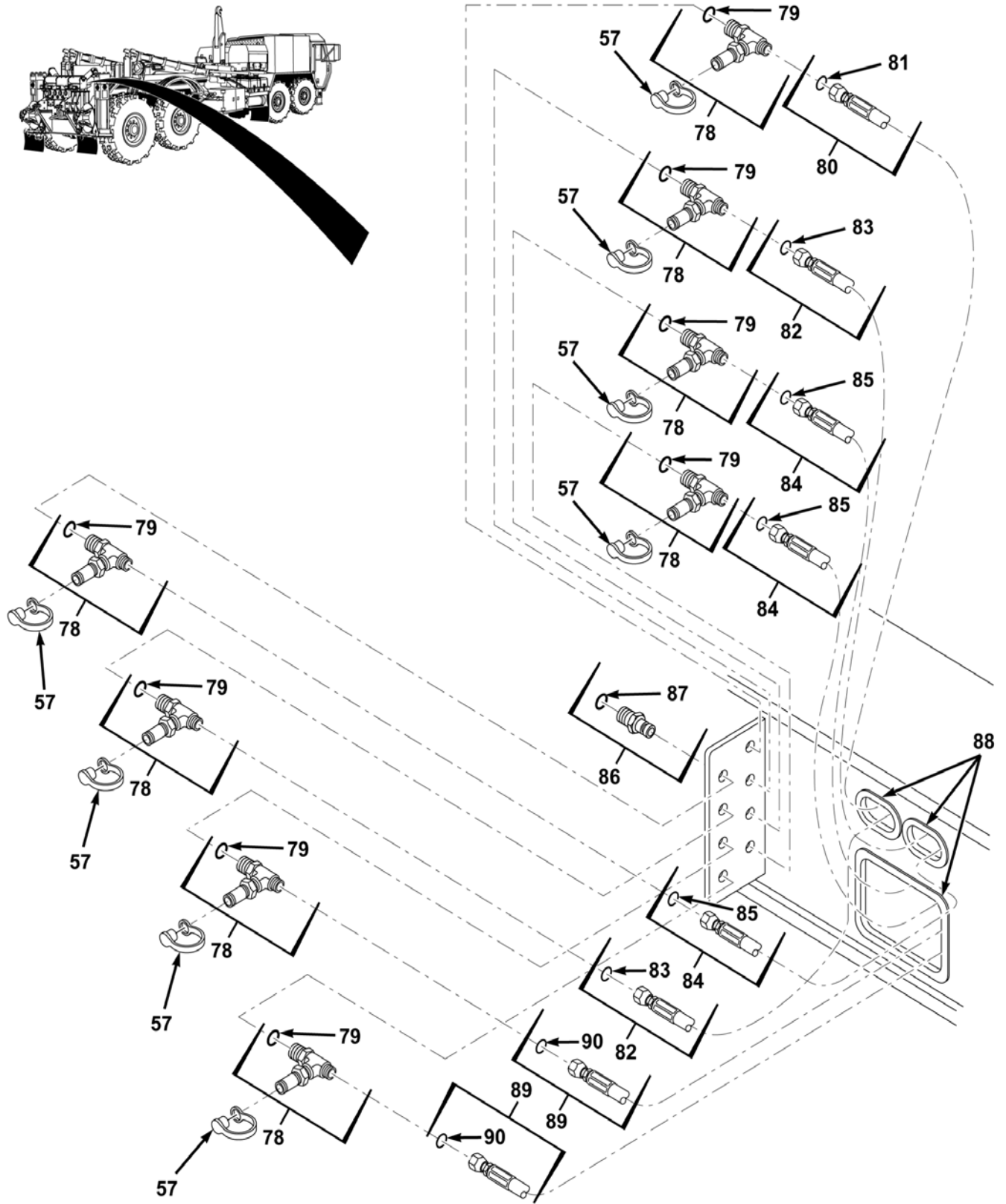


FIG. 71 OUTRIGGER HYDRAULIC LINES AND FITTINGS (SHEET 4 OF 4)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 2006 - BULLDOZER, TRIPOD, MAIN FRAME, JACK AND MOUNTING	
					FIG. 71 OUTRIGGER HYDRAULIC LINES AND FITTINGS	
1	PAFZZ		45152	3400981	TUBE ASSEMBLY	1
2	PAFZZ	5331-01-382-7552	33742	2-018	•O-RING	1
3	PAFZZ		45152	3400980	TUBE ASSEMBLY	1
4	PAFZZ	5331-01-382-7552	33742	2-018	•O-RING	1
5	PAFZZ	5305-01-514-9747	45152	3312106	SCREW,FLANGE,HEXAGON, .25-20 X 3.50	5
6	PAFZZ	5340-01-172-1566	53790	GD-3D	COVER,ACCESS	5
7	PAFZZ	5340-01-355-3733	53790	3190/190-PA	CLAMP,LOOP	5
8	PAFZZ	5306-01-287-5715	45152	1680530	BOLT,MACHINE, .38-16 X 1.25	5
9	PAFZZ		45152	3438110	TUBE ASSEMBLY	1
10	PAFZZ	5331-01-479-0634	02697	2-018 N0552	•O-RING	2
11	PAFZZ		45152	3438111	TUBE ASSEMBLY	1
12	PAFZZ	5331-01-479-0634	02697	2-018 N0552	•O-RING	2
13	PAFZZ		45152	3438112	TUBE ASSEMBLY	1
14	PAFZZ	5331-00-228-7196	01276	22617-12	•O-RING	1
15	PAFZZ		45152	F451TCJJC060606-72.00	HOSE ASSEMBLY	1
16	PAFZZ	5331-01-530-3817	87373	JORG-6	•O-RING	2
17	PAFZZ		45152	F451TCJJC1121212-61.00	HOSE ASSEMBLY	1
18	PAFZZ	5331-01-480-5839	98441	JORG-12	•O-RING	1
19	PAFZZ		87373	F451TCJJC7121212-41.5	HOSE ASSEMBLY	1
20	PAFZZ	5331-01-480-5839	98441	JORG-12	•O-RING	1
21	PAFZZ	5305-01-344-8899	45152	1606140	SCREW,CAP,HEX HEAD, .25-20 X .75	1
22	PAFZZ	5120-01-479-9060	45152	3274706	CLAMP,C	1
23	PAFZZ		45152	3489893	BRACKET	1
24	PAFZZ	5310-01-346-9445	45152	1600460	NUT,SELF-LOCKING,CL, .25-20	6
25	PAFZZ		45152	3424942	TUBE ASSEMBLY	1
26	PAFZZ	5331-01-072-1665	02697	E0798 2-012	•O-RING	1
27	PAFZZ		53790	SP1	PLATE	5
28	PAFZZ		53790	1095-PA	CLAMP,STAUFF	5
29	PAFZZ	5310-01-288-1116	45152	1437220	NUT,SELF-LOCKING,EX, .38-16	5

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
30	PFZZ		45152	3408810	BRACKET	5
31	PAFZZ	4730-01-281-5889	01276	FF1852T-0610S	ADAPTER,STRAIGHT.....	8
32	PAFZZ	5331-00-228-7196	01276	22617-12	•O-RING.....	1
33	PAFZZ		45152	3400869	TUBE ASSEMBLY	1
34	PAFZZ	5331-00-228-7196	01276	22617-12	•O-RING.....	1
35	PAFZZ		45152	3424945	TUBE ASSEMBLY	1
36	PAFZZ	5331-00-228-7196	01276	22617-12	•O-RING.....	1
37	PAFZZ		45152	3424947	TUBE ASSEMBLY	1
38	PAFZZ	5331-00-228-7196	01276	22617-12	•O-RING.....	1
39	PAFZZ		45152	3424949	TUBE ASSEMBLY	1
40	PAFZZ	5331-01-040-4772	00624	22617-10	•O-RING.....	1
41	PAFZZ	5365-01-188-9381	30780	10P50N-S	PLUG,MACHINE THREAD	1
42	PAFZZ	5330-01-168-0885	01276	22617-16	•PACKING,PREFORMED	1
43	PAFZZ		45152	3424948	TUBE ASSEMBLY	1
44	PAFZZ	5331-00-228-7196	01276	22617-12	•O-RING.....	1
45	PAFZZ		45152	3424946	TUBE ASSEMBLY	1
46	PAFZZ	5331-00-228-7196	01276	22617-12	•O-RING.....	1
47	PAFZZ		45152	3424944	TUBE ASSEMBLY	1
48	PAFZZ	5331-00-228-7196	01276	22617-12	•O-RING.....	1
49	PAFZZ		45152	3400868	TUBE ASSEMBLY	1
50	PAFZZ	5331-00-228-7196	01276	22617-12	•O-RING.....	1
51	PAFZZ	4730-01-355-5904	01276	FF1852T00604S	ADAPTER,STRAIGHT.....	1
52	PAFZZ	5331-01-155-4277	09605	853181952	•O-RING.....	1
53	PAFZZ	4730-01-330-6555	01276	FF1852T-1210S	ADAPTER,STRAIGHT.....	2
54	PAFZZ	5330-00-485-3586	02697	3-910	•PACKING,PREFORMED	2
55	PAFZZ	4730-01-222-7576	01276	FD90-1044-04-04	COUPLING HALF,QUICK	2
56	PAFZZ	5331-01-214-4857	00624	FF9446-11	•O-RING.....	1
57	PAFZZ	5340-01-230-2014	01276	FD90-1040-04	CAP,PROTECTIVE,DUST	10
58	PAFZZ	4730-01-269-9540	01276	FF1852T-0606S	ADAPTER,STRAIGHT.....	8
59	PAFZZ	5331-00-228-7196	01276	22617-12	•O-RING.....	2
60	PAFZZ		99103	2094640	TUBE ASSEMBLY	1
61	PAFZZ		99103	2094650	TUBE ASSEMBLY	1
62	PAFZZ	5365-00-382-6713	01276	900598-6S	PLUG,MACHINE THREAD	2
63	PAFZZ	5330-01-314-6768	10001	298329 PIECE 7	•PACKING,PREFORMED	1
64	PAFZZ	5310-01-346-9445	45152	1600460	NUT,SELF-LOCKING,CL, .25-20	4
65	PAFZZ		45152	2205440	CLAMP,BLOCK	4
66	PAFZZ	5305-01-349-4186	45152	1754150	SCREW,CAP,HEXAGON HEAD, .25-20 X 1.50	4
67	XAFZZ		45152	2205450	GASKET.....	4
68	PAFZZ		99103	2094680	TUBE ASSEMBLY	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
69	PAFZZ		99103	2094660	TUBE ASSEMBLY	1
70	PAFZZ		99103	2094670	TUBE ASSEMBLY	1
71	PAFZZ	4720-01-413-2593	13174	600107	HOSE ASSEMBLY, NONMETALLIC	4
72	PAFZZ	5331-00-804-5695	81343	MS28778-6	•O-RING	2
73	PAFZZ		12361	7448060643	FITTING	2
74	PAFZZ	5331-00-804-5695	81343	MS28778-6	•O-RING	2
75	PAFZZ		12361	7448060632	FITTING	2
76	PAFZZ	5331-00-804-5695	81343	MS28778-6	•O-RING	2
77	PAFZZ		99103	2094630	TUBE ASSEMBLY	1
78	PAFZZ		12361	7448060624	FITTING, BULKHEAD TEE	8
79	PAFZZ	5331-01-006-2132	96124	A112-20-12	•O-RING	2
80	PAFZZ		12361	7554200901	HOSE ASSEMBLY	1
81	PAFZZ	5331-00-804-5695	81343	MS28778-6	•O-RING	2
82	PAFZZ	4720-01-488-6120	12361	7-554-204601	HOSE ASSEMBLY, NONMETALLIC	2
83	PAFZZ	5331-00-804-5695	81343	MS28778-6	•O-RING	2
84	PAFZZ	4720-01-477-1465	12361	7554201201	HOSE ASSEMBLY, NONMETALLIC	3
85	PAFZZ	5331-00-804-5695	81343	MS28778-6	•O-RING	2
86	PAFZZ		93061	PD36BTL	FITTING, STRAIGHT	8
87	PAFZZ	5331-01-006-2132	02697	2-012C873-70	•O-RING	2
88	PAFZZ		12361	6637055006	MOULDING	3
89	PAFZZ	4720-01-413-2584	13174	600116	HOSE ASSEMBLY, NONMETALLIC	2
90	PAFZZ	5331-00-804-5695	81343	MS28778-6	•O-RING	2

END OF FIGURE

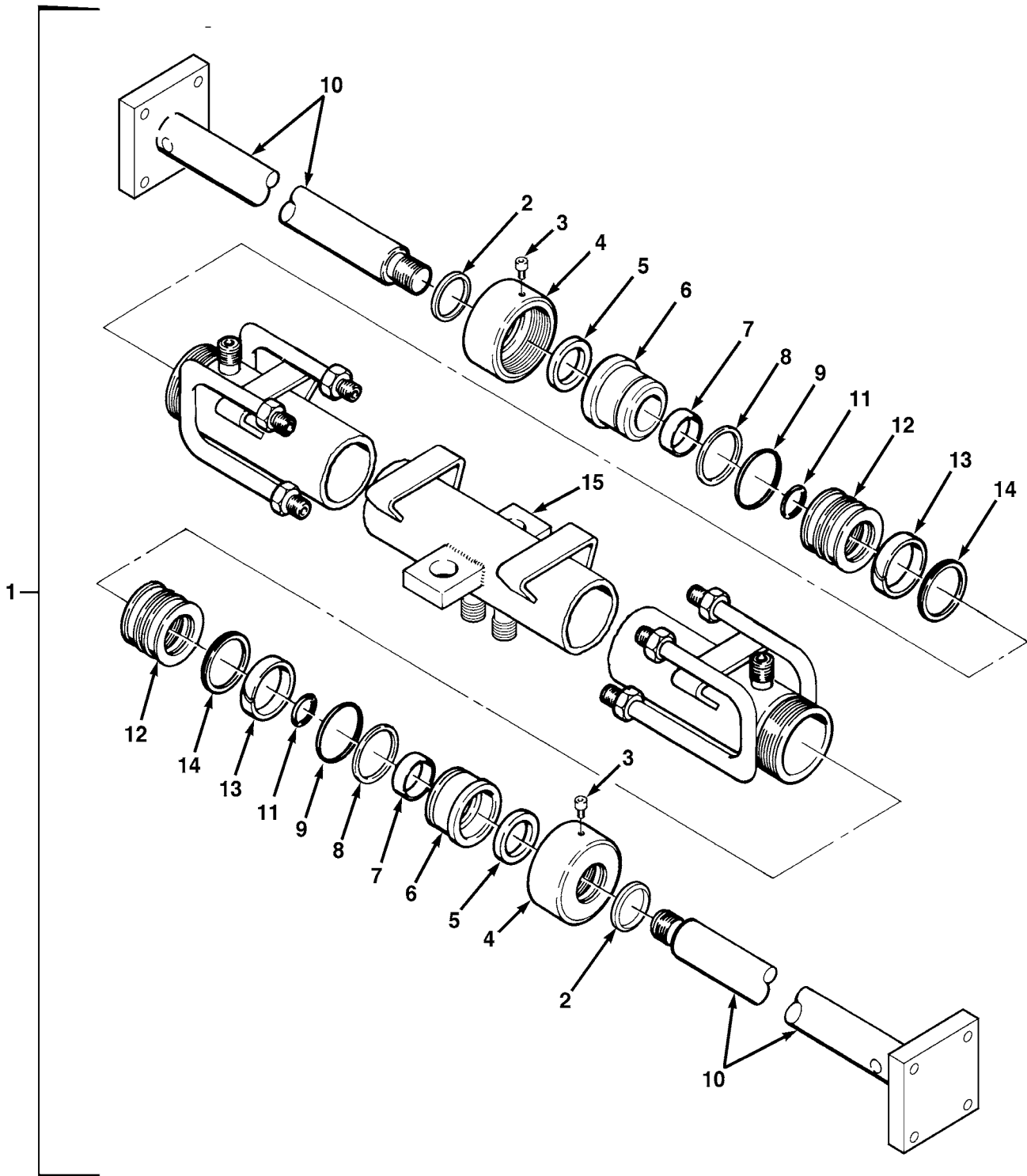


FIG. 72 EXTENSION CYLINDERS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 2006 - BULLDOZER, TRIPOD, MAIN FRAME, JACK AND MOUNTING	
					FIG. 72 EXTENSION CYLINDERS	
1	PAFHH		12361	6-372-100288	CYLINDER ASSEMBLY.....	1
2	KFHZZ	5330-01-369-2298	1XHG5	PWR-1014	•RETAINER,PACKING, PART OF KIT P/N 7373100025	2
3	PAHZZ	5305-01-203-8348	12361	7-099-000378	•SETSCREW	4
4	PFHZZ	3040-01-215-1721	12361	6-753-000591	•CAP,LINEAR ACTUATING	2
5	KFHZZ		12361	7-794-000587	•SEAL,PLAIN,ENCASED, PART OF KIT P/N 7373100025	2
6	PAHZZ	3040-01-200-0938	12361	6-372-002204	•HEAD,LINEAR ACTUATION	2
7	KFHZZ	3040-01-370-2823	12361	7-753-000173	•RING,PISTON, PART OF KIT P/N 7373100025	2
8	KFHZZ		12361	7-754-000121	•PACKING,PREFORMED, PART OF KIT P/N 7373100025	2
9	KFHZZ		12361	7-755-133609	•RETAINER,PACKING, PART OF KIT P/N 7373100025	2
10	PFHZZ		12361	6-768-100207	•ROD WELDMENT	2
11	KFHZZ		12361	7-754-000710	•O-RING, PART OF KIT P/N 7373100025	2
12	PFHZZ		12361	6-701-100015	•PISTON.....	2
13	KFHZZ	4310-01-487-8807	12361	7-753-000197	•RING,PISTON, PART OF KIT P/N 7373100025	2
14	KFHZZ		12361	7-794-001573	•SEAL, PART OF KIT P/N 7373100025..	2
15	PFHZZ		12361	6-372-005005	•BARREL,CYLINDER	1
					END OF FIGURE	

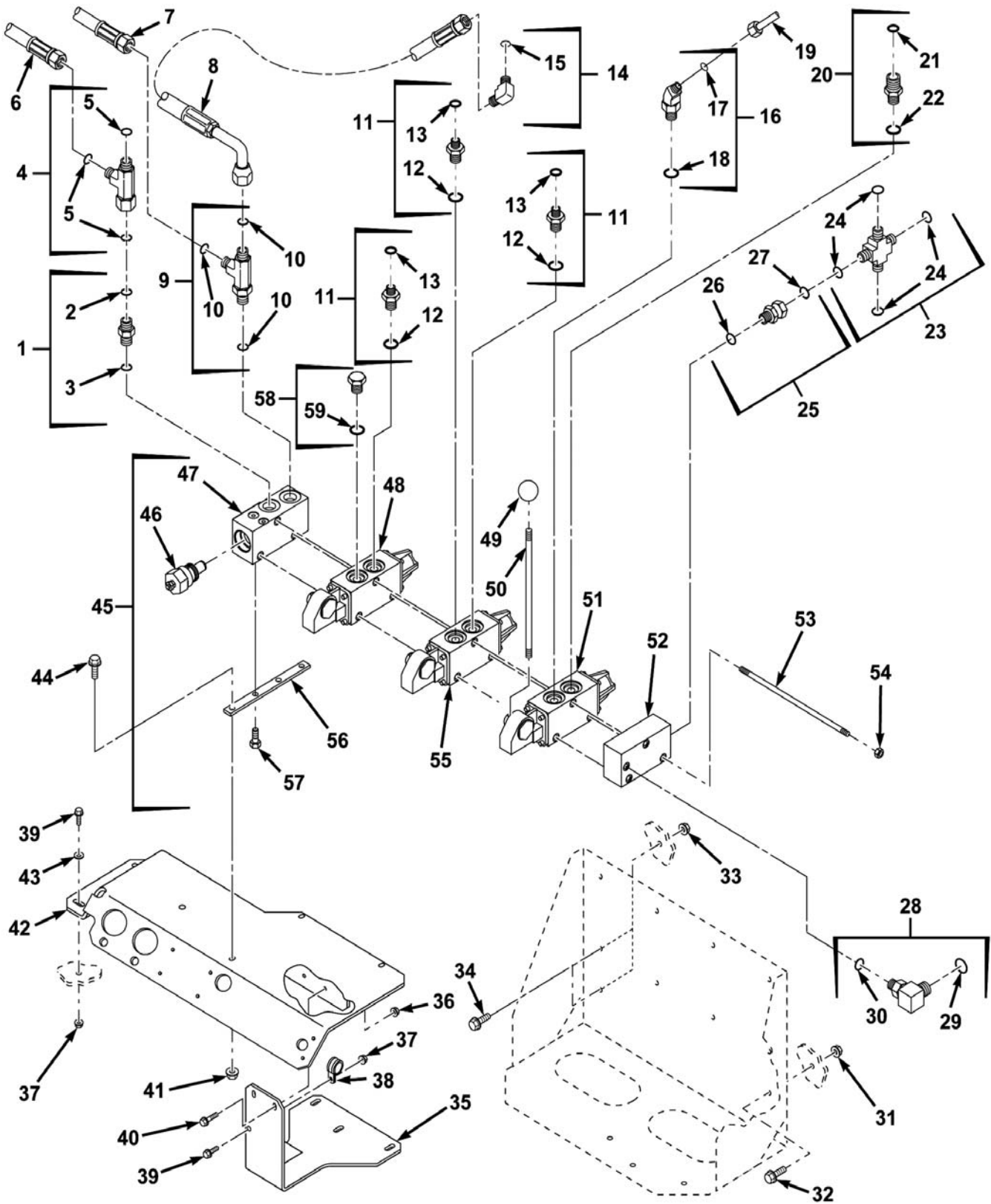


FIG. 73 THREE FUNCTION CONTROL VALVE

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 2006 - BULLDOZER, TRIPOD, MAIN FRAME, JACK AND MOUNTING	
					FIG. 73 THREE FUNCTION CONTROL VALVE	
1	PAFZZ	4730-01-281-0981	01276	FF1852T-1212S	ADAPTER,STRAIGHT.....	1
2	PAFZZ	5331-00-228-7196	01276	22617-12	•O-RING.....	1
3	PAFZZ	5331-01-458-8349	01276	FF9446-18	•O-RING.....	1
4	PAFZZ	4730-01-281-5881	01276	FF2114T-1212S	TEE,TUBE.....	1
5	PAFZZ	5331-01-458-8349	01276	FF9446-18	•O-RING.....	3
6	PAFZZ		45152	3487013	HOSE ASSEMBLY.....	1
7	PAFZZ		45152	3504585	HOSE ASSEMBLY.....	1
8	PAFZZ		45152	3504587	HOSE ASSEMBLY.....	1
9	PAFZZ	4730-01-282-1709	01276	FF1865T-1212S	TEE,TUBE TO BOSS.....	1
10	PAFZZ	5331-01-458-8349	01276	FF9446-18	•O-RING.....	3
11	PAFZZ	4730-01-281-0980	01276	FF1852T-0812S	ADAPTER,STRAIGHT.....	3
12	PAFZZ	5331-00-228-7196	01276	22617-12	•O-RING.....	1
13	PAFZZ	5331-01-269-8580	01276	FF9446-14	•O-RING.....	1
14	PAFZZ	4730-01-459-9926	01276	FF2098T1616S	ELBOW,TUBE.....	1
15	PAFZZ	5331-01-269-4323	01276	FF9446-21	•O-RING.....	1
16	PAFZZ	4730-01-281-1605	01276	FF2068-1612S	ELBOW,TUBE TO BOSS.....	1
17	PAFZZ	5331-01-458-8349	01276	FF9446-18	•O-RING.....	1
18	PAFZZ	5331-00-228-7196	01276	22617-12	•O-RING.....	1
19	PAFZZ		45152	3424956	TUBE ASSEMBLY.....	1
20	PAFZZ	4730-01-280-8348	01276	FF1852T-1612S	ADAPTER,STRAIGHT.....	1
21	PAFZZ	5331-01-458-8349	01276	FF9446-18	•O-RING.....	1
22	PAFZZ	5330-01-168-0885	01276	22617-16	•PACKING,PREFORMED.....	1
23	PAFZZ		93061	12KLO-S	FITTING,CRS,12RS.....	1
24	PAFZZ	5331-01-458-8349	01276	FF9446-18	•O-RING.....	4
25	PAFZZ	4730-01-512-8588	45152	3367298	SWIVEL JOINT,HYDRAULIC.....	1
26	PAFZZ	5331-01-458-8349	01276	FF9446-18	•O-RING.....	1
27	PAFZZ	5331-00-228-7196	01276	22617-12	•O-RING.....	1
28	PAFZZ	4730-01-269-1554	01276	FF1868T-0604S	ELBOW,TUBE TO BOSS.....	1
29	PAFZZ	5331-01-115-8226	81343	AS568-012	•O-RING.....	1
30	PAFZZ	5331-01-155-4277	09605	853181952	•O-RING.....	1
31	PAFZZ	5310-01-111-0645	45152	110311A	NUT,SELF-LOCKING,EX, .62-11 G8 PO .	1
32	PAFZZ	5306-01-106-7496	45152	111316A	BOLT,MACHINE, .62-11 X 1.75 G8 P ...	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
33	PAFZZ	5310-01-150-5918	45152	110312A	NUT,SELF-LOCKING,EX, .75-10 G8 PO .	2
34	PAFZZ	5305-01-149-1935	45152	111454A	SCREW,CAP,HEXAGON HEAD, .75-10 X 2.25 G8 P.	2
35	PAFZZ		45152	3483849	BRACKET,SUPPORT.	1
36	PAFZZ	5310-01-346-9445	45152	1600460	NUT,SELF-LOCKING,CL	2
37	PAFZZ	5310-01-288-1116	45152	1437220	NUT,SELF-LOCKING,EX	3
38	PAFZZ	5340-00-224-1204	45152	2288HX	CLAMP, LOOP	1
39	PAFZZ	5306-01-287-5715	45152	1680530	BOLT, MACHINE, .38-16 X 1.25 G5 Z ...	3
40	PAFZZ	5305-01-344-8899	45152	1606140	SCREW,CAP,HEX HEAD	2
41	PAFZZ	5310-01-340-5671	45152	1333510	NUT, SELF-LOCKING, EX	4
42	PFFZZ		45152	3483853	BRACKET.	1
43	PAFZZ	5310-01-062-3379	45152	362AX	WASHER, FLAT, .41 X .81 X .07 ZY	2
44	PAFZZ	5306-01-341-0712	45152	1756870	BOLT, MACHINE	4
45	PBFFF		1CC11	61041-43	VALVE, CONTROL, THREE SECTION ..	1
46	PAFZZ		1CC11	86270-26	•INLET, SERIES 12	1
47	PBFZZ	4820-01-408-4702	09990	75123-33	•VALVE, SAFETY RELIEF	1
48	PBFZZ		1CC11	86271-24	•VALVE, STACKABLE	1
49	XDFZZ		1CC11	25024-02	•KNOB	3
50	XDFZZ		1CC11	25122-02	•HANDLE	3
51	PBFZZ		1CC11	85879-24	•VALVE, STACKABLE	1
52	PBFZZ		1CC11	75122-23	•OUTLET PLATE, SERIES 12	1
53	KFFZZ		1CC11	25027-28SZ	•STUD, .31-16 X 8.93, PART OF KIT P/N 75136-04, CAGE 1CC11	3
54	KFFZZ		1CC11	16X108SZ	•NUT-HEX, .31-16 ZI, PART OF KIT P/N 75136-04, CAGE 1CC11	3
55	PBFZZ		1CC11	86279-25	•VALVE, STACKABLE	1
56	KFFZZ		1CC11	15030-21	•BRACKET, MOUNTING, PART OF KIT P/N 75136-04, CAGE 1CC11	2
57	KFFZZ		1CC11	3X309SZ	•SCREW, .31-18 X .625, PART OF KIT P/N 75136-04, CAGE 1CC11	4
58	PAFZZ	5365-01-340-3898	01276	900598-12S	PLUG, MACHINE THREAD	1
59	PAFZZ	5331-01-529-3108	39428	9464K77	•O-RING	1

END OF FIGURE

FIELD LEVEL MAINTENANCE

RPSTL GROUP 22 - BODY, CHASSIS OR HULL, AND ACCESSORY ITEMS

		Figure	Page
GROUP 22	BODY, CHASSIS OR HULL, AND ACCESSORY ITEMS		
	2202 ACCESSORY ITEMS		
	REFLECTORS AND BRACKETS.....	74	0172-3
	2210 DATA PLATES AND INSTRUCTION HOLDERS		
	DATA PLATES	75	0172-7
	LHS DATA PLATES	76	0172-11

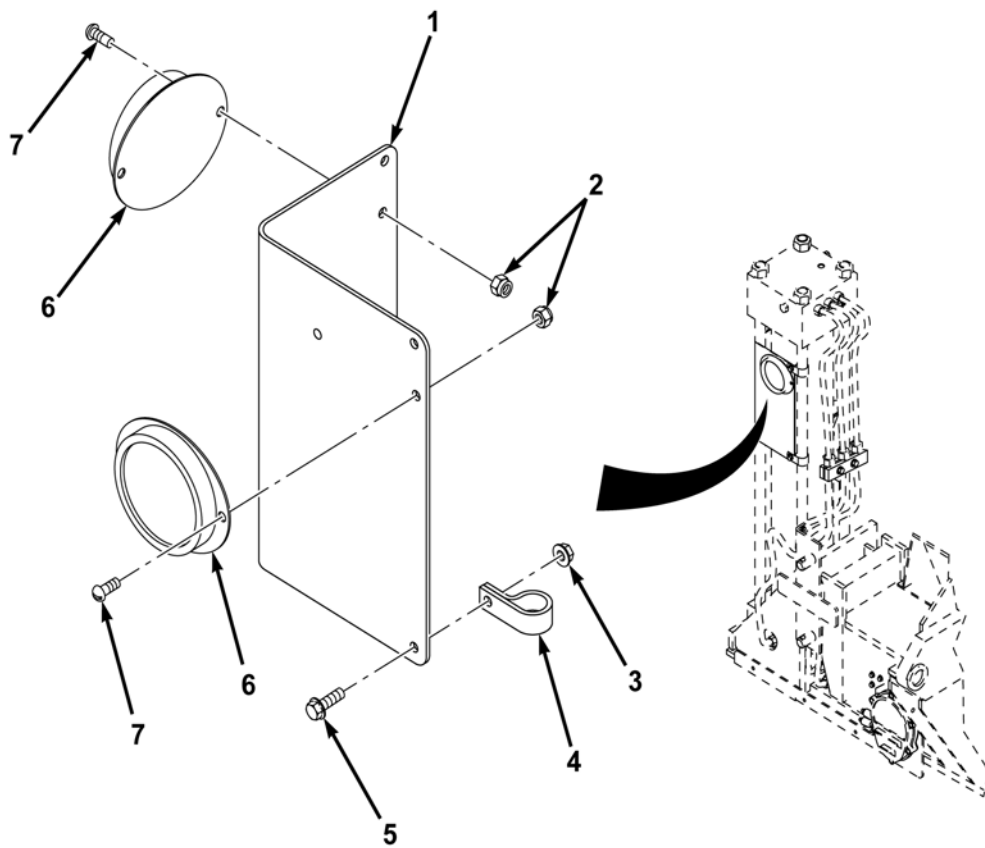


FIG. 74 REFLECTORS AND BRACKETS (SHEET 1 OF 2)

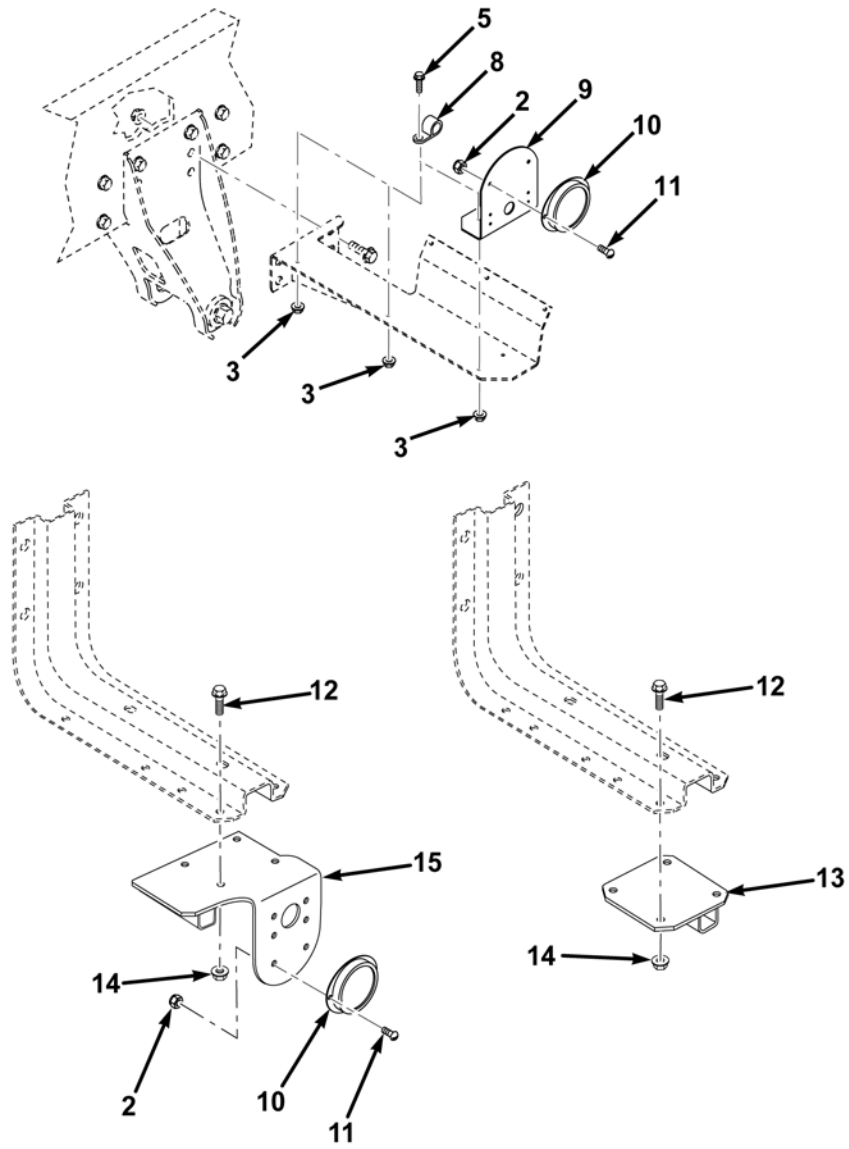


FIG. 74 REFLECTORS AND BRACKETS (SHEET 2 OF 2)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 2202 - ACCESSORY ITEMS						
FIG. 74 REFLECTORS AND						
BRACKETS (SHEET 1 OF 2)						
1	PBFZZ		45152	3421585	BRACKET,REFLECTOR	2
2	PAFZZ	5310-01-066-6759	56878	21NE-040	NUT,SELF-LOCKING,HEX, .25-20 NS. . .	12
3	PAFZZ	5310-01-346-9445	45152	1600460	NUT,SELF-LOCKING,CL, .25-20 G5	12
4	PAFZZ	5340-00-404-4098	75272	COV-1713	CLAMP,LOOP, 1.00 ID	8
5	PAFZZ	5305-01-344-8899	45152	1606140	SCREW,CAP,HEX HEAD, .25-20 X .75 G5	12
6	PAFZZ	9905-00-205-2795	58536	AA52428-1	REFLECTOR,INDICATING, RED.	4
7	PAFZZ	5305-01-155-5237	45152	1434HX	SCREW,MACHINE, .25-20 X .50 NS. . . .	8
8	PAFZZ	5340-01-479-9054	45152	2290HX	CLAMP, LOOP	3
9	PAFZZ		45152	3526741	BRACKET, REFLECTOR.	1
10	PAFZZ	9905-00-202-3639	45152	EE34635	REFLECTOR, AMBER.	2
11	PAFZZ	5305-00-988-1725	80205	MS35206-281	SCREW, MACHINE	4
12	PAFZZ	5305-01-156-9457	45152	1333170	SCREW, CAP, HEXAGON HEAD	8
13	PAFZZ		45152	3496662	BRACKET, SUPPORT	1
14	PAFZZ	5310-01-151-1036	45152	115307A	NUT, SELF-LOCKING, EX	8
15	PAFZZ		45152	3513193	BRACKET, REFLECTOR.	1
END OF FIGURE						

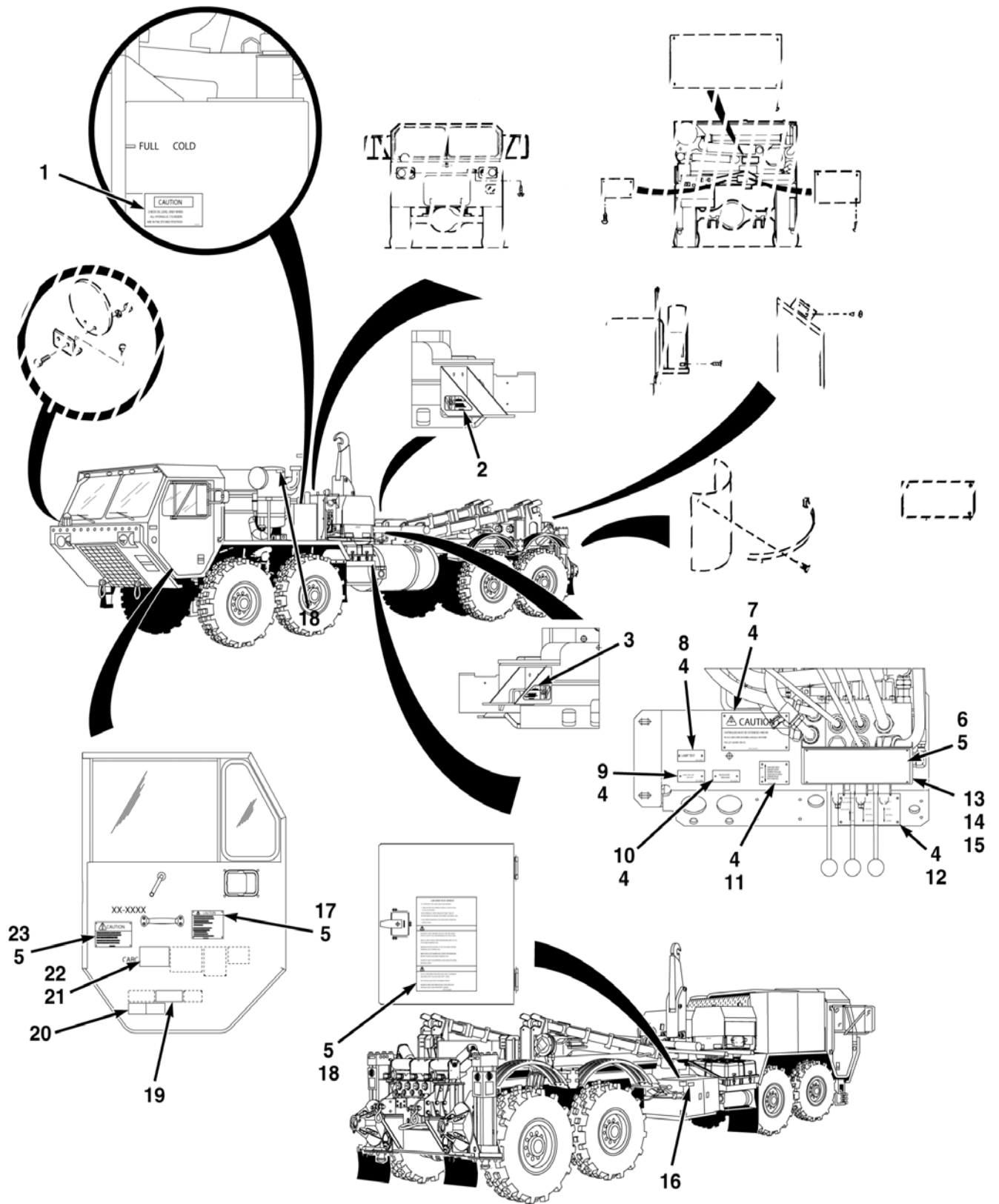


FIG. 75 DATA PLATES (SHEET 1 OF 2)

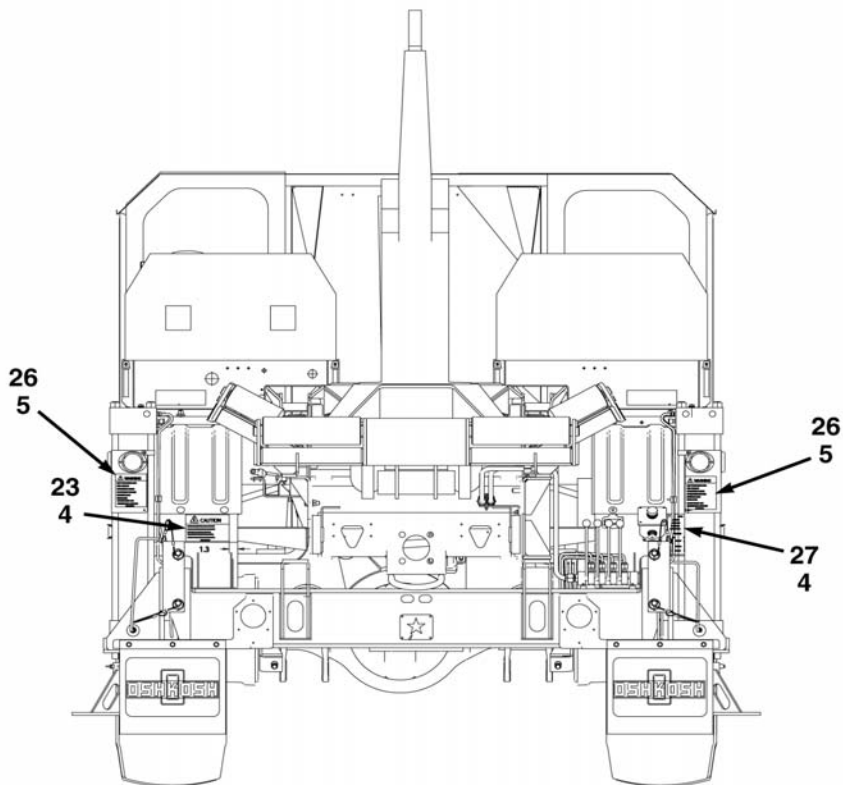
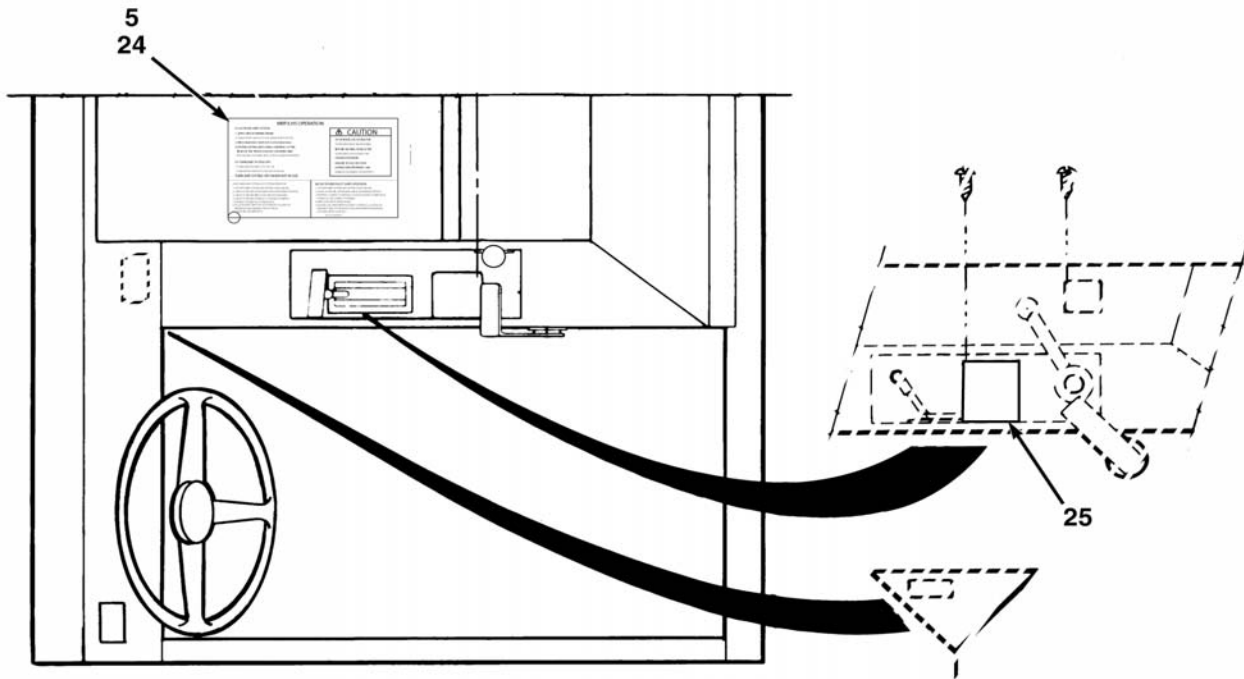


FIG. 75 DATA PLATES (SHEET 2 OF 2)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 2210 - DATA PLATES AND INSTRUCTION HOLDERS						
FIG. 75 DATA PLATES						
1	XDFZZ		45152	3475274	LABEL,CAUTION, HYDRAULIC OIL	1
2	PBFZZ		45152	3506748	LABEL,WARNING, CRUSH HAZARD,RH.	1
3	PBFZZ		45152	3506756	LABEL,DANGER, CRUSH HAZARD,LH	1
4	PAFZZ	5320-00-173-8625	81349	M24243/1F404	RIVET,BLIND	26
5	PAFZZ	5320-01-083-9619	05693	CCP-42	RIVET	38
6	PBFZZ		45152	3500244	LABEL,DANGER/CAUTION, HYDRAULIC CONTROL	1
7	PBFZZ		45152	2202410	LABEL,CAUTION	1
8	XDFZZ		45152	3490724	LABEL,SWITCH, LAMP TEST	1
9	XDFZZ		45152	3469600	LABEL,INDICATOR, AIR BAG	1
10	XDFZZ		45152	3470353	LABEL,INDICATOR, RACK LOCKS	1
11	XDFZZ		45152	3457171	LABEL,GROUND ROD, DRIVER HYDRAULIC CONTROL	1
12	PAFZZ		45152	3442682	LABEL,MRP, HYDRAULIC CONTROL	1
13	PAFZZ	5305-01-337-9120	45152	1754140	SCREW,CAP,HEXAGON, .25-20X1.00	4
14	PAFZZ	5310-00-582-5965	80205	MS35338-44	WASHER,LOCK, .25X.49X.06	4
15	PAFZZ		45152	3500245	BRACKET,LABEL, MOUNTING	1
16	PBFZZ	7690-01-196-0122	45152	1410640	MARKER,ID, NOISE CAUTION	2
17	XDFZZ		45152	3404689	DATA PLATE, CAUTION MRP	1
18	PBFZZ		45152	2202820	DATA PLATE, GROUND ROD DRIVER	1
19	XDFZZ		45152	3363020	LABEL,WARRANTY	1
20	XDFZZ		45152	3363021	LABEL,CAUTION, RUSTPROOFING	1
21	PAFZZ	5305-00-140-8001	80205	MS51861-12	SCREW,TAPPING	22
22	XDFZZ		45152	3400044	LABEL,VEHICLE, DATA SHIPPING	1
23	XDFZZ		45152	2202420	DATA PLATE, CAUTION	2
24	XDFZZ		45152	3404687	DATA PLATE, MRP LHS OPERATION	1
25	PAFZZ	9905-01-479-3068	45152	3064068	PLATE,IDENTIFICATION, VEHICLE	1
26	PBFZZ		45152	2202480	DATA PLATE, WARNING	4
27	XDFZZ		45152	3404779	DATA PLATE, OUTRIGGER OPEN	1
END OF FIGURE						

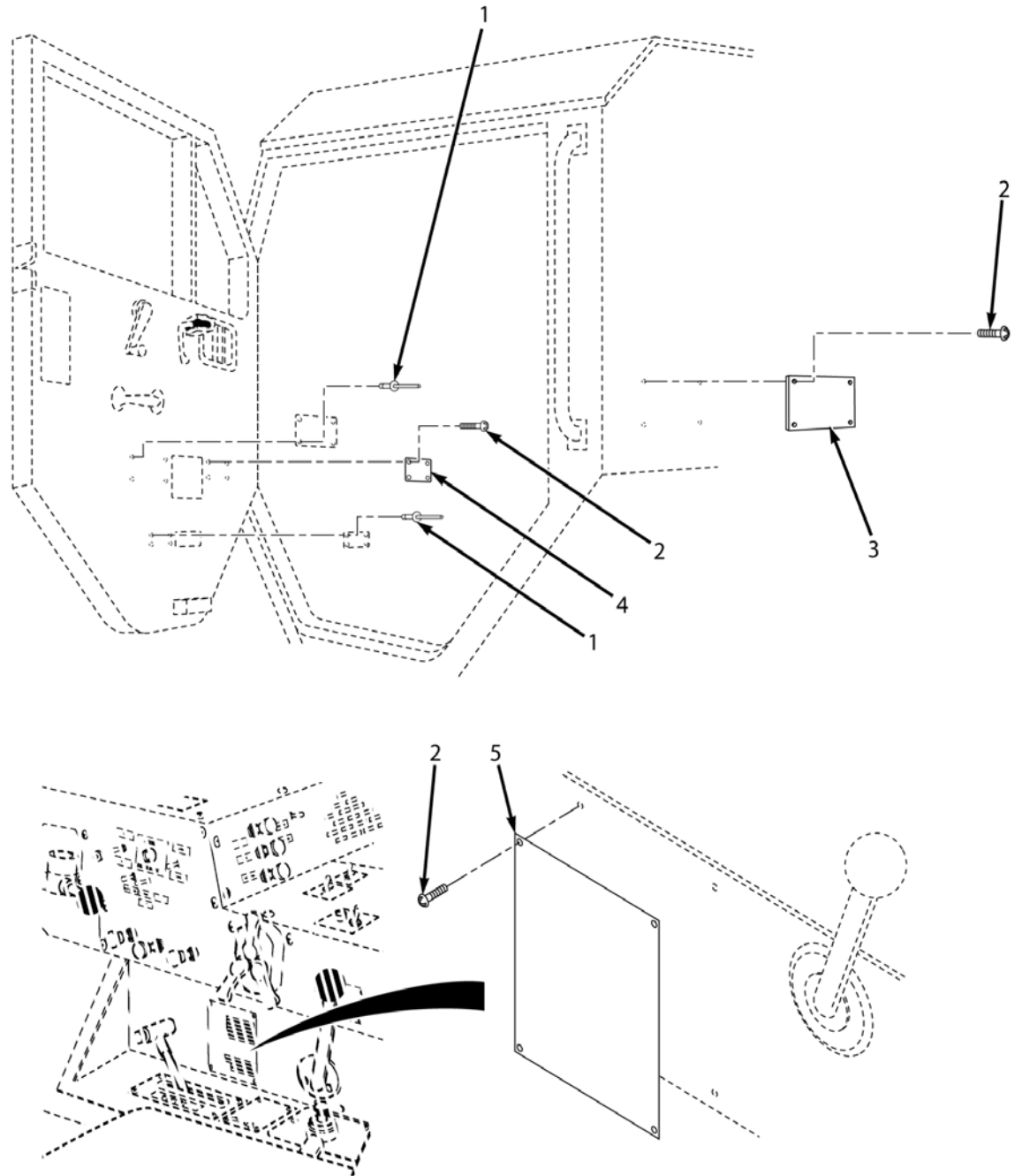


FIG. 76 LHS DATA PLATES (SHEET 1 OF 2)

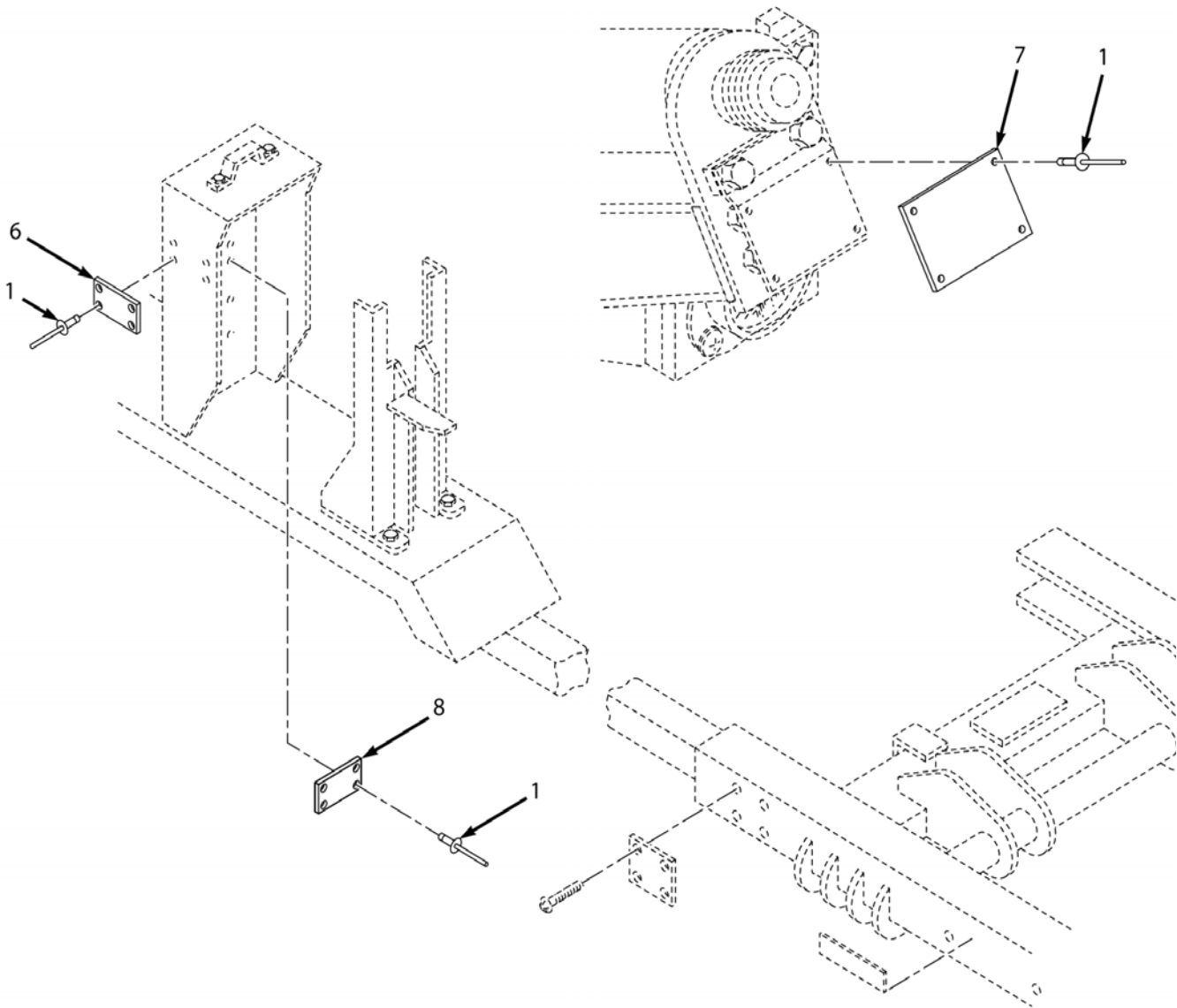


FIG. 76 LHS DATA PLATES (SHEET 2 OF 2)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 2210 - DATA PLATES AND INSTRUCTION HOLDERS FIG. 76 LHS DATA PLATES	
1	PFFZZ	5320-01-351-5621	45152	51945AX	RIVET,BLIND	24
2	PAFZZ	5305-01-134-2052	45152	1381HX1	SCREW,SHEET METAL	16
3	PAFZZ		45152	3400044	DATA PLATE,VEHICLE	1
4	PAFZZ	9905-01-479-3069	45152	3064067	PLATE,IDENTIFICATION.	1
5	PAFZZ	9905-01-479-3068	45152	3064068	PLATE,IDENTIFICATION.	1
6	PAFZZ	9905-01-358-6746	45152	1785220	DATA PLATE,HYDRAULIC SLAVE	1
7	PBFZZ	9905-01-361-8611	45152	1783190	PLATE,INSTRUCTION.	2
8	XDFZZ		45152	3445259	LABEL,OVERRIDE,MANUAL	1
					END OF FIGURE	

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

RPSTL GROUP 23 - MAIN FRAME PROXIMITY HYDRAULICS

		Figure	Page
GROUP 23	MAIN FRAME PROXIMITY HYDRAULICS		
2300	MAIN FRAME PROXIMITY HYDRAULICS		
	DIVERTER MANIFOLD	77	0173-2
2310	HOOK ARM MANIFOLD		
	LHS HOOK ARM MANIFOLD	78	0173-4
2350	MAIN FRAME MANIFOLD		
	MAIN HYDRAULIC MANIFOLD	79	0173-6
	LHS MAIN FRAME MANIFOLD	80	0173-8
2360	MAIN ARM CYLINDER		
	LHS MAIN FRAME CYLINDER	81	0173-10
	LHS HOOK ARM CYLINDER	82	0173-12

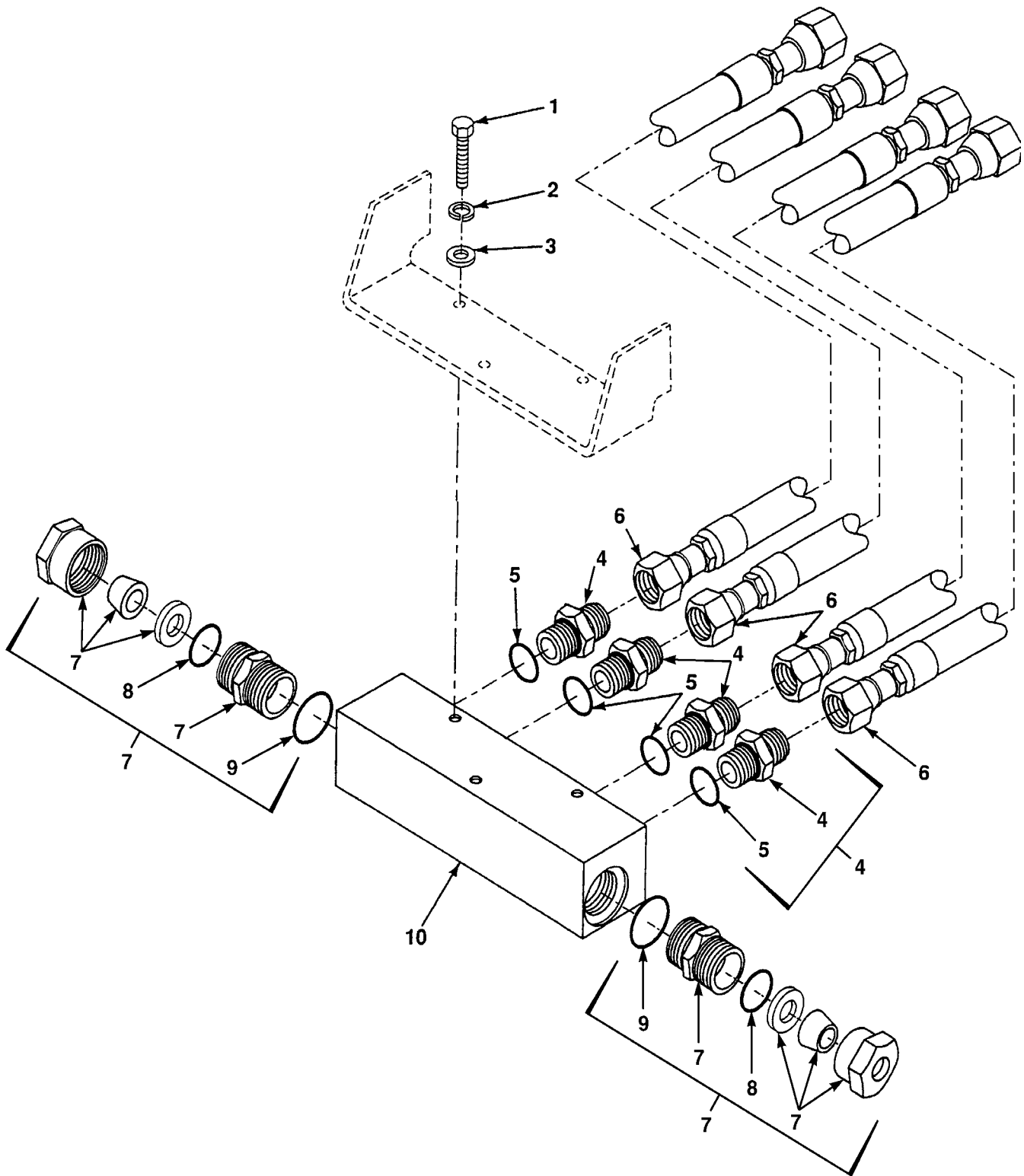


FIG. 77 DIVERTER MANIFOLD

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 2300 - MAIN FRAME PROXIMITY HYDRAULICS FIG. 77 DIVERTER MANIFOLD	
1	PAFZZ	5305-01-344-5532	45152	1846HX1	SCREW,CAP,HEXAGON HEAD	3
2	PAFZZ	5310-01-068-8446	45152	354AX	WASHER,LOCK.	3
3	PAFZZ	5310-01-061-7452	45152	1804HX	WASHER,FLAT	3
4	PAFZZ	4730-01-156-4835	81343	8-8 070120CA	ADAPTER,STRAIGHT.	4
5	PAFZZ	5331-01-244-2273	01276	22617-8	•O-RING.	1
6	PBFZZ	4720-01-356-4555	01276	FK1329HHH0244	HOSE ASSEMBLY,NONMETALLIC.	4
7	PAFZZ	4730-01-356-0687	45152	1890830	ADAPTER,STRAIGHT.	2
8	PAFZZ	5331-01-116-8112	81343	AS568-214	•O-RING.	1
9	PAFZZ	5331-00-395-5737	02697	3-912N552-90	•O-RING.	1
10	PBFZZ	4730-01-356-1018	45152	1891380	MANIFOLD,HYDRAULIC.	1
					END OF FIGURE	

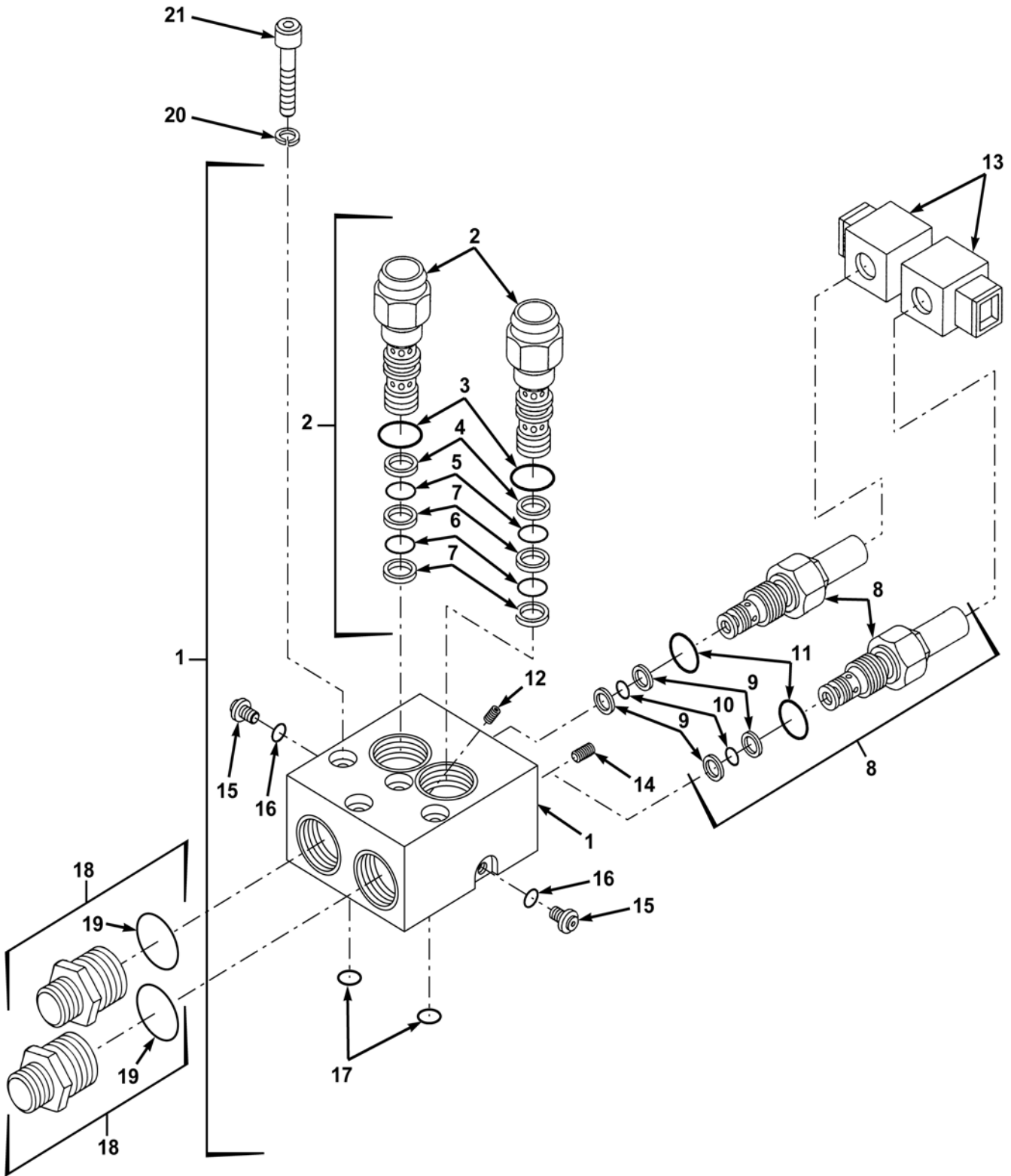


FIG. 78 LHS HOOK ARM MANIFOLD

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 2310 - HOOK ARM MANIFOLD						
FIG. 78 LHS HOOK ARM MANIFOLD						
1	PBFZZ	4730-01-355-5140	45152	1891390	MANIFOLD ASSEMBLY, HYDRAULIC . . .	2
2	PBFFF	4820-01-355-8975	0FHH8	E2A50Y4350NMK2	•VALVE, CHECK	2
3	KFFZZ		0FHH8	8024N912	••PACKING, PREFORMED, PART OF KIT P/N SK3-0039N-1	1
4	KFFZZ		0FHH8	8025N9016	••RING, BACKUP, PART OF KIT P/N SK3-0039N-1	1
5	KFFZZ		0FHH8	8023N7015	••PACKING, PREFORMED, PART OF KIT P/N SK3-0039N-1	1
6	KFFZZ		0FHH8	8022N7017	••PACKING, PREFORMED, PART OF KIT P/N SK3-0039N-1	1
7	KFFZZ		0FHH8	8025N9015	••RING, BACKUP, PART OF KIT P/N SK3-0039N-1	2
8	PAFZF	4810-01-355-8979	0FHH8	GS028000N	•VALVE, SOLENOID	2
9	KFFZZ		0FHH8	900565-012	••RING, BACKUP, PART OF KIT P/N SK3-0088N-1	2
10	KFFZZ		0FHH8	8023N7009	••PACKING, PREFORMED, PART OF KIT P/N SK3-0088N-1	1
11	KFFZZ		0FHH8	8024N908	••PACKING, PREFORMED, PART OF KIT P/N SK3-0088N-1	1
12	PAFZZ	5305-01-355-8980	0FHH8	9P000202	•SETSCREW	2
13	PBFZZ	5950-01-355-7136	0FHH8	CCS024D	•COIL, ELECTRICAL	2
14	PAFZZ	5340-01-389-3537	0FHH8	8H38529/53	•PLUG, PROTECTIVE, DUST	2
15	PAFZZ	5340-01-389-3462	0FHH8	821502M	•PLUG, PROTECTIVE, DUST	2
16	KFFZZ		0FHH8	8024N902	•PACKING, PREFORMED, PART OF KIT P/N 9S000104	2
17	KFFZZ	5331-01-355-9911	0FHH8	8023N7013	•O-RING, PART OF KIT P/N 9S000104 . .	2
18	PAFZZ	4730-01-156-4835	81343	8-8 070120CA	ADAPTER, STRAIGHT	4
19	PAFZZ	5331-01-220-0153	39428	9452K28	•O-RING	1
20	PAFZZ	5310-01-355-8798	45152	1937550	WASHER, LOCK, 3/8	8
21	PAFZZ	5305-01-459-3059	45152	3064801	SCREW, CAP, SOCKET HEAD, 3/8-16 X 2 3/4	8
END OF FIGURE						

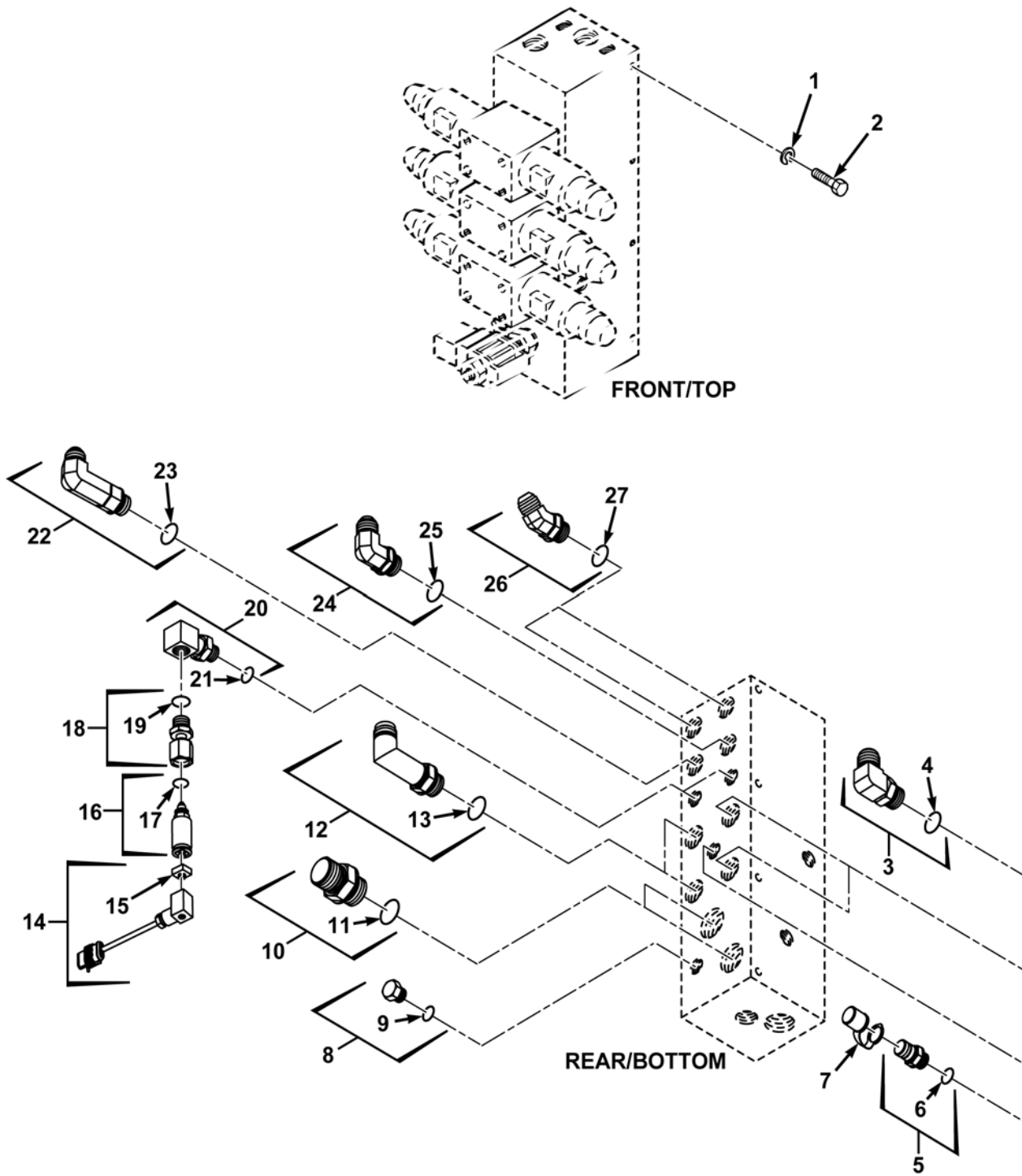


FIG. 79 MAIN HYDRAULIC MANIFOLD

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 2350 - MAIN FRAME MANIFOLD						
FIG. 79 MAIN HYDRAULIC MANIFOLD						
1	PAFZZ	5310-01-129-0450	45152	351AX	WASHER, LOCK	8
2	PAFZZ	5305-01-058-0611	45152	715HX1	SCREW, CAP, HEXAGON	8
3	PAFZZ	4730-01-011-7736	96906	MS51527A12	ELBOW, TUBE TO BOSS	2
4	PAFZZ	5331-01-529-3108	39428	9464K77	•O-RING.	1
5	PAFZZ	4730-01-459-6857	01276	FD90-1044-05-04	COUPLING HALF, QUICK	1
6	PAFZZ	5331-01-213-5212	01276	22617-5	•O-RING.	1
7	PAFZZ	5340-01-230-2014	01276	FD90-1040-04	CAP, PROTECTIVE, DUST	1
8	PAFZZ	5365-01-071-8261	30780	5P5ON-S	PLUG, MACHINE THREAD	1
9	PAFZZ	5331-01-005-0521	81349	M83248/1-206	•O-RING.	1
10	PAFZZ	4730-00-487-2120	01276	202702-16-16S	ADAPTER, STRAIGHT	2
11	PAFZZ	5330-01-341-7530	76301	7M916-125-1	•PACKING, PREFORMED	1
12	PAFZZ	4730-01-355-9003	01276	206209-12-12S	ELBOW, TUBE TO BOSS	2
13	PAFZZ	5331-01-529-3108	39428	9464K77	•O-RING.	1
14	PAFZZ	6150-01-507-5631	45152	3420554	CABLE ASSEMBLY, SPECIAL.	2
15	PAFZZ	5330-01-488-4097	0D5M6	730314-002	•GASKET	1
16	PAFZZ		45152	3278946	TRANSDUCER, PRESSURE	2
17	PAFZZ		0EWP5	230500-0061	•O-RING.	1
18	PAFZZ		45152	3395810	FITTING, STRAIGHT	2
19	PAFZZ	5331-00-166-0988	81343	AS3209-013	•O-RING.	1
20	PAFZZ	4730-01-491-0218	6W637	3279640-1	ELBOW, TUBE.	2
21	PAFZZ		6W637	12SAF05	•O-RING.	1
22	PAFZZ	4730-01-242-1290	01276	206209-8-8S	ELBOW, TUBE TO BOSS	1
23	PAFZZ	5331-01-220-0153	39428	9452K28	•O-RING.	1
24	PAFZZ	4730-00-822-5609	96906	MS51527A8	ELBOW, TUBE TO BOSS	1
25	PAFZZ	5331-01-220-0153	39428	9452K28	•O-RING.	1
26	PAFZZ	4730-00-062-5470	96906	MS51528B8	ELBOW, TUBE TO BOSS	2
27	PAFZZ	5331-01-220-0153	39428	9452K28	•O-RING.	1
END OF FIGURE						

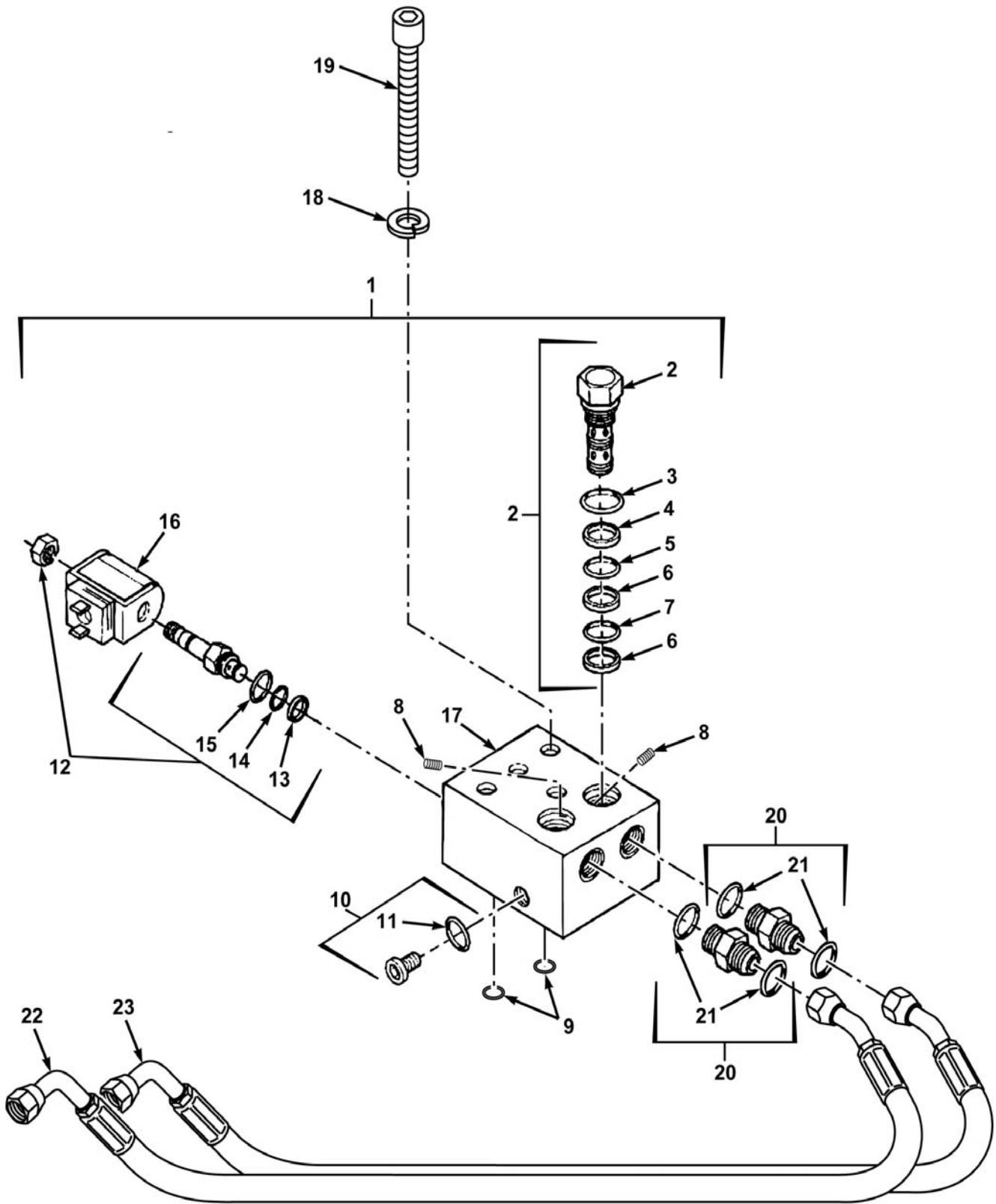


FIG. 80 LHS MAIN FRAME MANIFOLD

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 2350 - MAIN FRAME MANIFOLD FIG. 80 LHS MAIN FRAME MANIFOLD	
1	PAFFF		45152	3055066	MANIFOLD ASSEMBLY, HYDRAULIC, MAIN CYLINDER	2
2	PAFZZ	4820-01-454-2292	0FHH8	E2F050Y4350N	•VALVE, HOLD, BOOM HOIST	2
3	KFFZZ		0FHH8	8024N912	••PACKING, PREFORMED, PART OF KIT P/N 3K30039N-1, CAGE 0FHH8	1
4	KFFZZ		0FHH8	8025N9015	••RING, BACKUP, PART OF KIT P/N 3K30039N-1, CAGE 0FHH8	1
5	KFFZZ		0FHH8	8023N7015	••PACKING, PREFORMED, PART OF KIT P/N 3K30039N-1, CAGE 0FHH8	1
6	KFFZZ		0FHH8	8025N9014	••RING, BACKUP, PART OF KIT P/N 3K30039N-1, CAGE 0FHH8	2
7	KFFZZ		0FHH8	8022N7017	••PACKING, PREFORMED, PART OF KIT P/N 3K30039N-1, CAGE 0FHH8	1
8	PAFZZ	5305-01-355-8980	0FHH8	9P000202	•SETSCREW	2
9	PAFZZ	5331-01-355-9911	0FHH8	8023N7013	•O-RING	2
10	PAFZZ	5340-01-389-3462	0FHH8	821502M	•PLUG, PROTECTIVE, DUS	2
11	XAFZZ		0FHH8	8024N902	••PACKING, PREFORMED	1
12	PAFZZ	4810-01-453-9543	0FHH8	GS027400N	•VALVE, SOLENOID	2
13	KFFZZ		0FHH8	901009-012	••RING, BACKUP, PART OF KIT P/N SK30006N-1, CAGE 0FHH8	1
14	KFFZZ		0FHH8	8023N7009	••PACKING, PREFORMED, PART OF KIT P/N SK30006N-1, CAGE 0FHH8	1
15	KFFZZ		0FHH8	8024N908	••PACKING, PREFORMED, PART OF KIT P/N SK30006N-1, CAGE 0FHH8	1
16	PAFZZ	5950-01-426-7978	0FHH8	CCP024D	•COIL, ELECTRICAL	2
17	XAFZZ		0FHH8	9P000948	•BLOCK M/C	1
18	PAFZZ	5310-01-355-8798	45152	1937550	WASHER, LOCK, 0.385 NOM	8
19	PAFZZ	5305-01-459-3059	45152	3064801	SCREW, CAP, SOCKET HEAD, 0.36-16 X 2.75 IN LG	8
20	PAFZZ	4730-01-156-4835	81343	8-8 070120CA	ADAPTER, STRAIGHT, 0.750-16 JIC	4
21	PAFZZ	5331-00-929-8171	02697	3-908N552-90	•O-RING	2
22	PBFZZ		01276	FU681HHH0290000AA	HOSE ASSEMBLY, RH.	1
22	PBFZZ		01276	FU681HHH0284000AB	HOSE ASSEMBLY, LH.	1
23	PBFZZ		01276	FU681HHH0290000AB	HOSE ASSEMBLY, LH.	1
23	PBFZZ		01276	FU681HHH0284000AA	HOSE ASSEMBLY, RH.	1
END OF FIGURE						

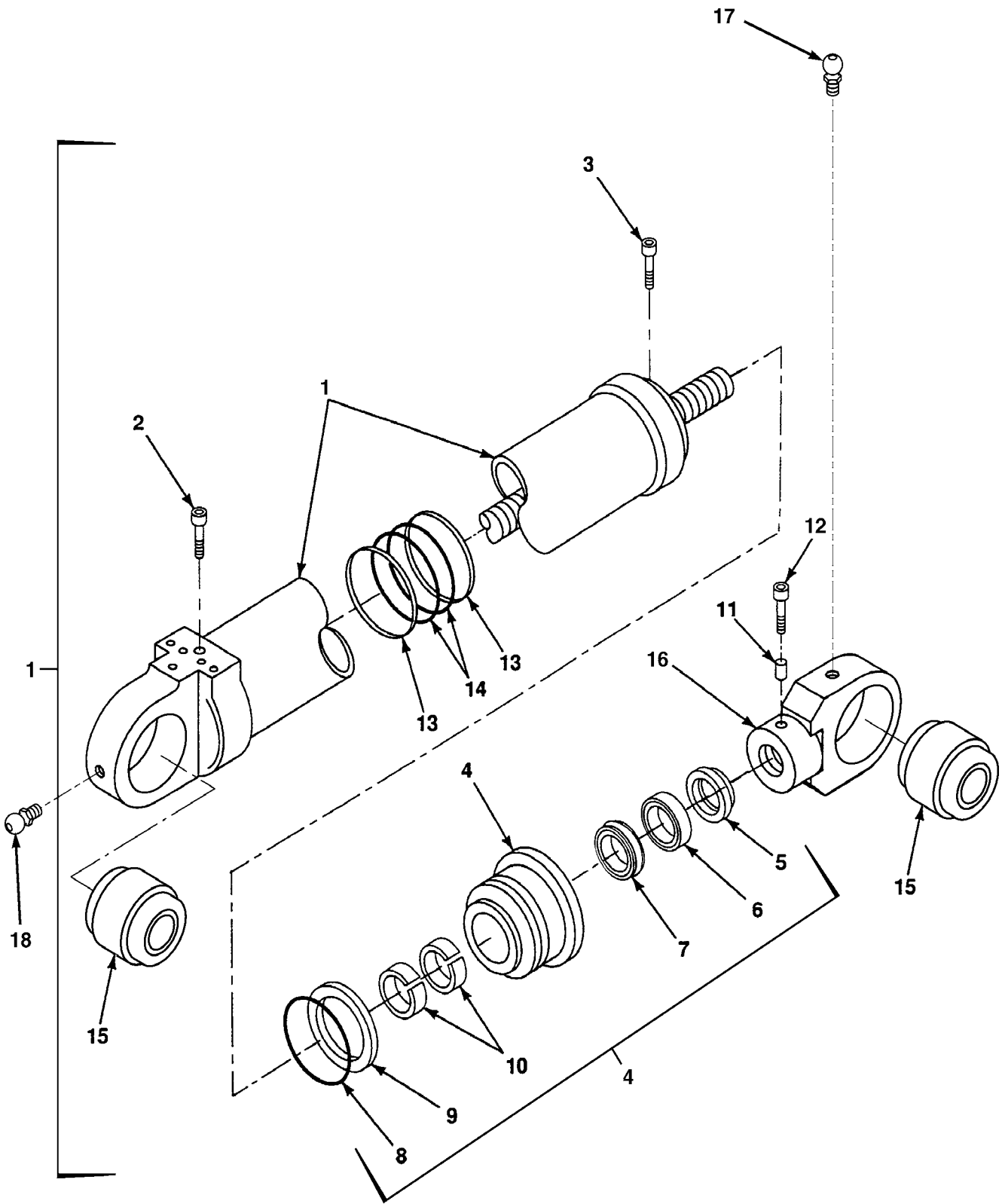


FIG. 81 LHS MAIN FRAME CYLINDER

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 2360 - MAIN ARM CYLINDER FIG. 81 LHS MAIN FRAME CYLINDER	
1	PBFFF	3040-01-356-2707	63899	150235B	CYLINDER ASSY,MAIN.	2
2	PAFZZ	5305-01-355-2643	63899	711009A	•SCREW,CAP,HEXAGON,HEAD.	1
3	PAFZZ	5305-01-355-2641	63899	711053A	•SCREW,CAP,HEXAGON,HEAD.	1
4	PAFZZ	5365-01-355-9965	63899	500419B	•BUSHING,MACHINE.	1
5	KFFZZ		63899	702001A	••WIPER,ROD, PART OF KIT P/N 2GL629.	1
6	KFFZZ		63899	701121A	••SEAL,ROD,PART OF KIT P/N 2GL629.	1
7	KFFZZ		63899	706069A	••STEP SEAL,K-R ASSY, PART OF KIT P/N 2GL629.	1
8	KFFZZ		63899	703425A	••PACKING,PREFORMED, PART OF KIT P/N 2GL629.	1
9	KFFZZ		63899	704425A	••RING,BACKUP, PART OF KIT P/N 2GL629.	1
10	KFFZZ		63899	721175A	••RING,WEAR, PART OF KIT P/N 2GL629.	2
11	PAFZZ	5340-01-372-3982	63899	715001A	•PLUG,PROTECTIVE,DUS.	1
12	PAFZZ	5305-01-355-2642	63899	711083A	•SCREW,CAP,HEXAGON HEAD, QUANTITY 1 PER SET.	1
13	KFFZZ		63899	721176A	•RING,WEAR, PART OF KIT P/N 2GL629.	2
14	KFFZZ		63899	700079A	•RING,PISTON, PART OF KIT P/N 2GL629.	2
15	PAFZZ	3120-00-103-9788	51588	B40L	•BEARING,PLAIN.	2
16	PAFZZ		63899	660184B	•LUG ASSEMBLY.	1
17	PAFZZ	4730-01-217-1115	45152	615FX	FITTING,LUBRICATION.	2
18	PAFZZ	4730-00-172-0034	72741	485-405	FITTING,LUBRICATION.	2
					END OF FIGURE	

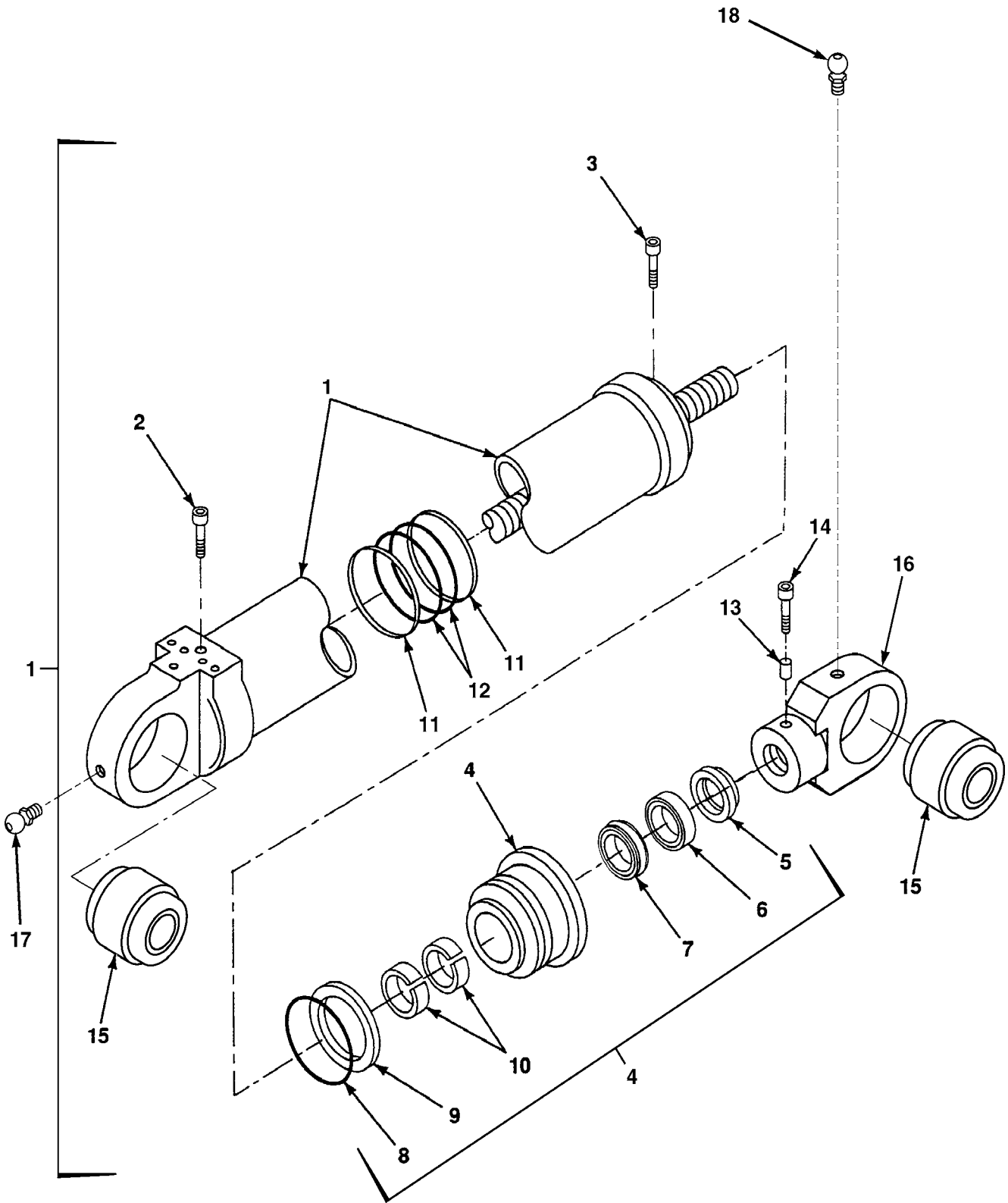


FIG. 82 LHS HOOK ARM CYLINDER

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 2360 - MAIN ARM CYLINDER FIG. 82 LHS HOOK ARM CYLINDER	
1	PBFFF	3040-01-374-4803	45152	1860870	CYLINDER ASSEMBLY,ARM	2
2	PAFZZ	5305-01-355-2643	63899	711009A	•SCREW,CAP,HEXAGON,HEAD.	1
3	PAFZZ	5305-01-355-2641	63899	711053A	•SCREW,CAP,HEXAGON,HEAD.	1
4	PAFZZ	5365-01-355-9965	63899	500419B	•BUSHING,MACHINE	1
5	KFFZZ		63899	702001A	••WIPER,ROD, PART OF KIT P/N 2GL629	1
6	KFFZZ		63899	701121A	••SEAL,ROD, PART OF KIT P/N 2GL629	1
7	KFFZZ		63899	706069A	••STEP SEAL,K-R ASSY, PART OF KIT P/N 2GL629	1
8	KFFZZ		63899	703425A	••PACKING,PREFORMED, PART OF KIT P/N 2GL629	1
9	KFFZZ		63899	704425A	••RING,BACKUP, PART OF KIT P/N 2GL629	1
10	KFFZZ		63899	721175A	••RING,WEAR, PART OF KIT P/N 2GL629	2
11	KFFZZ		63899	721176A	•RING,WEAR, PART OF KIT P/N 2GL629	2
12	KFFZZ		63899	700079A	•RING,PISTON, PART OF KIT P/N 2GL629	2
13	PAFZZ	5340-01-372-3982	63899	715001A	•PLUG,PROTECTIVE,DUST	1
14	PAFZZ	5305-01-355-2642	63899	711083A	•SCREW,CAP,HEXAGON,HEAD.	1
15	PBFZZ	3120-00-103-9788	51588	B40L	•BEARING,PLAIN.	2
16	PAFZZ		63899	660184B	•LUG ASSEMBLY	1
17	PAFZZ	4730-00-172-0034	72741	485-405	FITTING,LUBRICATION.	2
18	PAFZZ	4730-01-217-1115	45152	615FX	FITTING,LUBRICATION.	2
					END OF FIGURE	

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
RPSTL GROUP 24 - HYDRAULIC LIFT COMPONENTS

		Figure	Page
GROUP 24	HYDRAULIC LIFT COMPONENTS		
	2400 MAJOR ASSEMBLAGE		
	LOAD HANDLING SYSTEM ASSEMBLY	83	0174-2
	MRP MOUNTING ON LHS	84	0173-8
	2404 HYDRAULIC TILT CYLINDERS AND TILT CRANK		
	CYLINDER, ELEVATION	85	0174-10
	MRP LOCKING CYLINDER	86	0174-14
	2406 HYDRAULIC LINES AND FITTINGS		
	MANIFOLD, DISTRIBUTION	87	0174-16
	MANIFOLD, DISTRIBUTION, HOSES AND FITTINGS	88	0174-18
	MRP HYDRAULIC LINES AND FITTINGS	89	0174-25

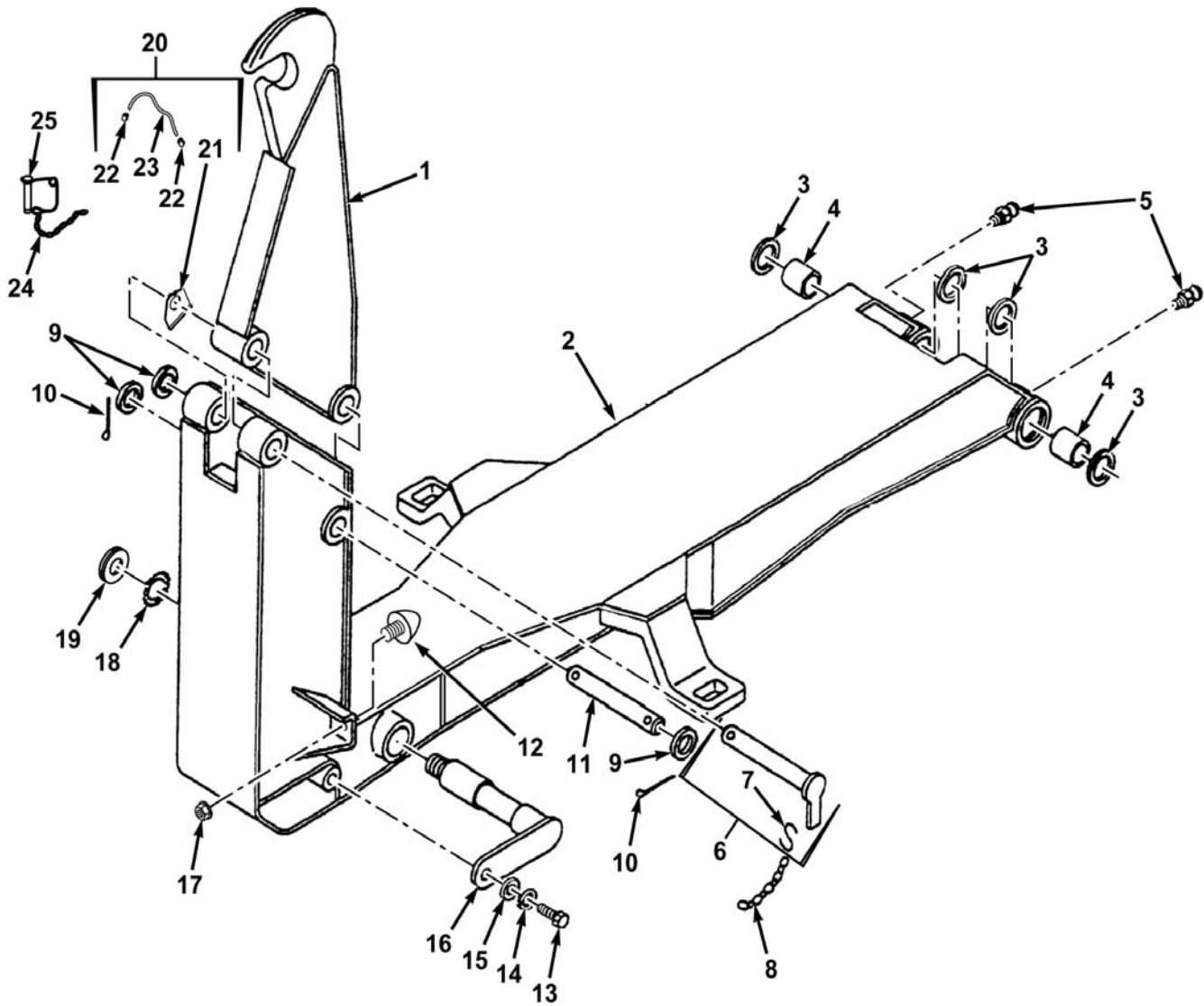


FIG. 83 LOAD HANDLING SYSTEM ASSEMBLY (SHEET 1 OF 3)

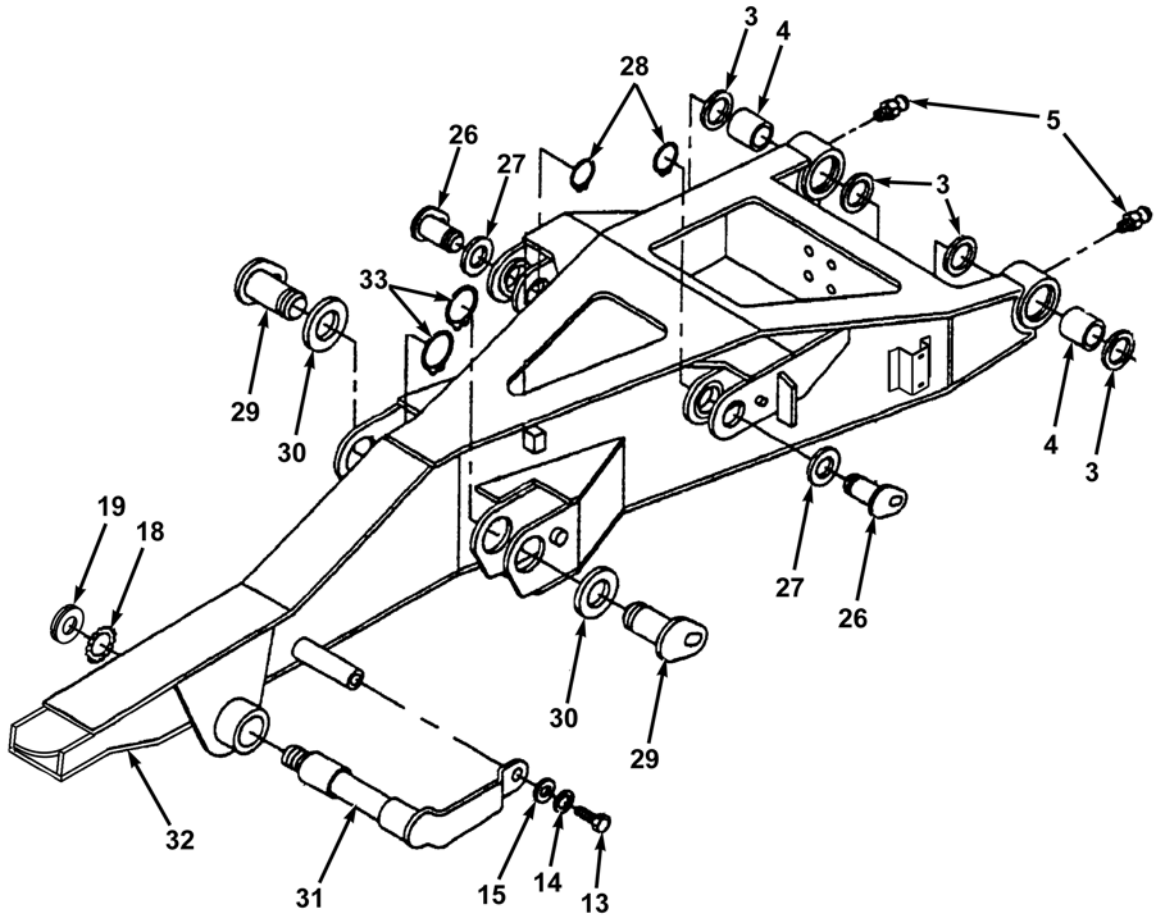


FIG. 83 LOAD HANDLING SYSTEM ASSEMBLY (SHEET 2 OF 3)

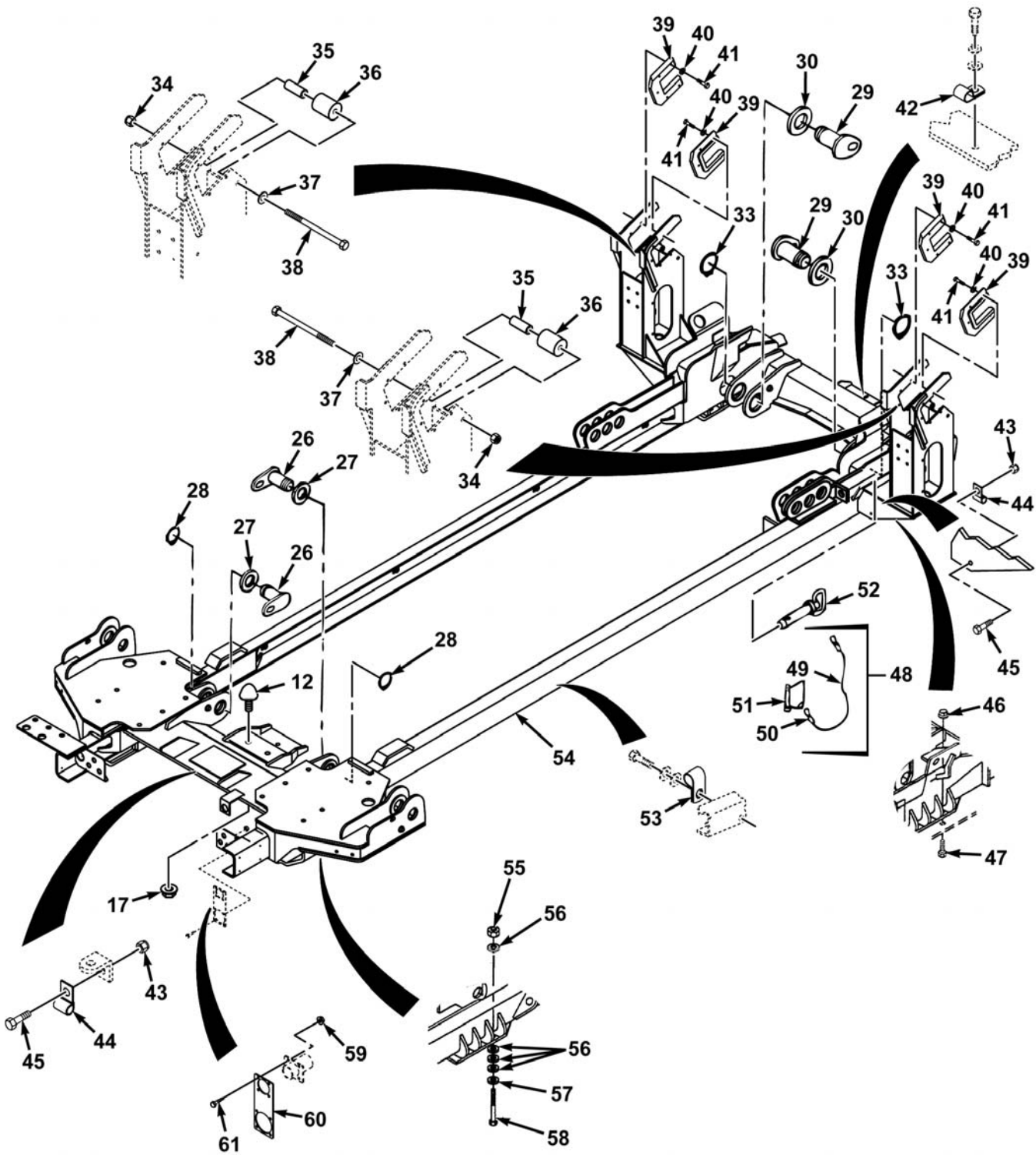


FIG. 83 LOAD HANDLING SYSTEM ASSEMBLY (SHEET 3 OF 3)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 2400 - MAJOR ASSEMBLAGE FIG. 83 LOAD HANDLING SYSTEM ASSEMBLY (SHEET 1 OF 3)						
1	PAFZZ	2540-01-358-1218	45152	1861950	HOOK,PINTLE.....	1
2	PBFZZ	2590-01-414-3179	45152	1861940	ARM,HOOK MACHINING	1
3	PAFZZ	5330-01-355-9269	01212	80X100X10	SEAL,PLAIN.....	8
4	PAFZZ	5365-01-355-9529	45152	1862660	BUSHING,NOMETALLIC	4
5	PAFZZ	4730-01-217-1115	45152	615FX	FITTING,LUBRICATION.....	4
6	PAFZZ	5315-01-361-2721	45152	1862720 W	PIN,STRAIGHT,HEADED	1
7	PAFZZ	4030-01-456-1150	45152	1392720	•HOOK,CHAINS.....	1
8	MOFZZ		45152	1394510-018	CHAIN,WELDED, MAKE FROM CHAIN P/N 031-0424 (80535), 18 IN LG	1
9	PAFZZ	5310-01-216-2799	72447	330734	WASHER,FLAT	3
10	PAFZZ	5315-00-846-4297	80205	MS24665-752	PIN,COTTER	2
11	PAFZZ	5340-01-356-8373	45152	1862770	ROD,STRAIGHT,HEADLESS	1
12	PAFZZ	5340-01-355-9368	45152	1897980	BUMPER,NONMETALLIC	5
13	PAFZZ	5305-00-802-2764	45152	2013HX1	SCREW,CAP,HEXAGON HEAD	2
14	PAFZZ	5310-01-129-0450	45152	351AX	WASHER,LOCK.....	2
15	PAFZZ	5310-00-880-0626	19207	10892331	WASHER,FLAT	2
16	PBFZZ	3040-01-356-4589	45152	1863010W	SHAFT,SHOULDERED	1
17	PAFZZ	5310-01-342-8595	45152	1598030	NUT,SELF-LOCKING,EX	3
18	PAFZZ	5310-01-458-0248	2K272	W 12 LOCKWASHER	WASHER,KEY	2
19	PAFZZ	5310-00-185-6345	96906	MS19068-121	NUT,PLAIN,ROUND.....	2
20	PFFFF	5340-01-462-3361	45152	3205629	BRACKET,MOUNTING	1
21	XAFZZ		45152	3173598	•BRACKET,PIN, RETAINING.....	1
22	PAFZZ	4030-01-517-7356	80967	1864270	•SWAGING SLEEVE,WIRE	2
23	MOFZZ		45152	1533100-005	•ROPE, WIRE, MAKE FROM WIRE ROPE P/N M83420-4-010 (81349), 5 IN LG.....	1
24	MOFZZ		45152	1394510-012	CHAIN,WELDED, MAKE FROM CHAIN P/N 031-0424 (80535), 12 IN LG	1
25	PAFZZ	5315-01-355-3744	45152	3367322	PIN,STRAIGHT,HEADED	1
26	PAFZZ	2530-01-356-4614	45152	1860250 W	ARM ASSEMBLY,PIVOT,.....	4
27	PAFZZ	5365-01-355-7358	45152	1862830	SPACER,RING.....	4
28	PAFZZ	5325-00-175-1315	96906	MS16624-250	RING,RETAINING	4
29	PAFZZ	2530-01-356-4613	45152	1860310 W	ARM ASSY,PIVOT,TRUCK	4
30	PFFZZ	5365-01-355-7357	45152	1862820	SPACER,RING.....	4

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
31	PAFZZ	3040-01-356-6837	45152	1862690W	SHAFT, SHOULDERED	1
32	PBFZZ	2510-01-356-6906	45152	1861830	FRAME, STRUCTURAL	1
33	PAFZZ	5325-00-282-7149	96906	MS16624-315	RING, RETAINING	4
34	PAFZZ	5310-01-288-1116	45152	1437220	NUT, SELF-LOCKING, EX	2
35	PAFZZ	5365-01-368-6147	45152	1953890	SPACER, SLEEVE	2
36	PAFZZ	3120-01-367-9484	45152	1953900	ROLLER, LINEAR ROTARY	2
37	PAFZZ	5310-01-062-3379	45152	362AX	WASHER, FLAT	2
38	PAFZZ	5305-00-509-8103	15434	S170A	SCREW, CAP, HEXAGON	2
39	PAFZZ		45152	3410392	SPACER, INSIDE	4
40	PAFZZ	5310-00-775-5139	24975	2434	WASHER, LOCK	20
41	PAFZZ	5305-01-249-8564	45152	59031AX	SCREW, MACHINE	20
42	PAFZZ	5340-01-204-4888	84971	TA720-S8	CLAMP, LOOP	1
43	PAFZZ	5310-01-346-9445	45152	1600460	NUT, SELF-LOCKING, CL	5
44	PAFZZ	5340-01-479-9054	45152	2290HX	CLAMP, LOOP	5
45	PAFZZ	5305-01-344-8899	45152	1606140	SCREW, CAP, HEXAGON HEAD.	5
46	PAFZZ	5310-01-150-5918	45152	110312A	NUT, SELF-LOCKING, EX	6
47	PAFZZ	5305-01-149-1934	45152	111320A	SCREW, CAP, HEXAGON HEAD.	6
48	PAFZZ	5315-01-363-7062	45152	1965220	PIN, GROOVED, HEADED	2
49	MOFZZ		45152	1533100-022	•ROPE, WIRE, MAKE FROM WIRE ROPE P/N M83420-4-010 (81349), 22 IN LG.	1
50	PPFZZ	4030-01-258-0467	96906	MS51844-43	•SWAGING, SLEEVE, WIRE	2
51	XAFZZ		05FJ2	LX 385	•PIN, LOCK.	1
52	PAFZZ	5315-01-506-8317	45152	3423024	PIN, STRAIGHT, HEADED.	2
53	PAFZZ	5340-00-725-5280	80205	MS21333-125	CLAMP, LOOP	4
54	PBFZZ		45152	3418339	FRAME, COMPRESSION	1
55	PAFZZ	5310-01-343-5712	10001	2533408-26	NUT, SELF-LOCKING, HEX	6
56	PAFZZ	5310-01-038-2294	81349	M12133/1-12P	WASHER, SPRING TENSION	24
57	PAFZZ	5310-01-214-4946	45152	2083HX	WASHER, FLAT	6
58	PAFZZ	5305-01-355-1427	45152	64817AX	SCREW, CAP, HEXAGON HEAD.	6
59	PAFZZ	5310-01-352-7732	45152	1571870	NUT, SELF-LOCKING, ASSY	4
60	PAFZZ		45152	3428433	BRACKET, CONNECTOR	1
61	PAFZZ	5305-01-507-8259	45152	1723840	SCREW, TAPPING.	4

END OF FIGURE

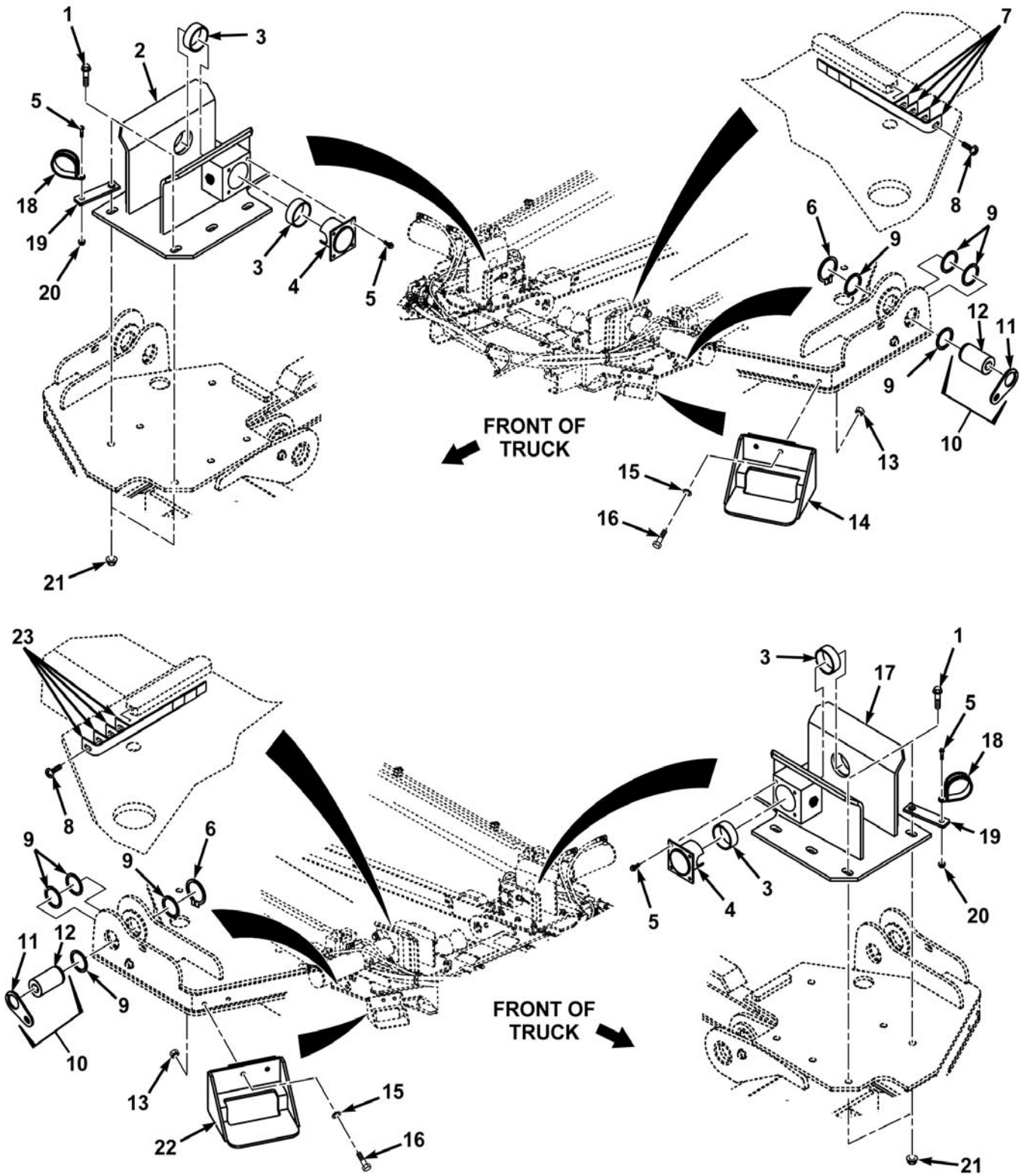


FIG. 84 MRP MOUNTING ON LHS

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
GROUP 2400 - MAJOR ASSEMBLAGE FIG. 84 MRP MOUNTING ON LHS						
1	PAFZZ	5306-01-106-7496	45152	111316A	BOLT, MACHINE	12
2	PFFZZ		45152	3414180	BRACKET, MRP LOCK, RH.	1
3	PAFZZ		45152	3414177	BUSHING.	4
4	PAFZZ		45152	3414178	MRP LOCK TUBE	2
5	PAFZZ	5305-01-344-8899	45152	1606140	SCREW, CAP, HEXAGON	10
6	PAFZZ	5325-00-175-1315	96906	MS16624-250	RING, RETAINING	2
7	PAFZZ		45152	3414168	BRACKET, GUIDE, LH.	4
8	PAFZZ	5305-00-988-1725	80205	MS35206-281	SCREW, MACHINE	2
9	PAFZZ	5365-01-355-7358	45152	1862830	SPACER, RING	8
10	PAFFF	2530-01-356-4614	45152	1860250W	ARM ASSEMBLY, PIVOT.	2
11	PAFZZ		45152	1860270	•PLATE, RETAINER.	1
12	PAFZZ		45152	1860260	•PIN, MAIN CYLINDER	1
13	PAFZZ	5310-01-151-1036	45152	115307A	NUT, SELF-LOCKING, EX	4
14	PAFZZ		45152	3498640	BRACKET, STOP, LH.	1
15	PAFZZ	5310-01-129-0450	45152	351AX	WASHER, LOCK	4
16	PAFZZ	5305-01-458-3646	45152	57144AX	SCREW, CAP, HEXAGON HEAD	4
17	PFFZZ		45152	3414723	BRACKET, MRP LOCK, LH.	1
18	PAFZZ	5340-01-133-3738	45152	2682HX	CLAMP, LOOP	2
19	PAFZZ	5340-01-364-8246	45152	1939610	BRACKET, MOUNTING.	2
20	PAFZZ	5310-01-346-9445	45152	1600460	NUT, SELF-LOCKING	2
21	PAFZZ	5310-01-111-0645	45152	110311A	NUT, SELF-LOCKING, EX	12
22	PAFZZ		45152	3495216	BRACKET, STOP, RH	1
23	PAFZZ		45152	3444132	BRACKET, GUIDE, RH	4
END OF FIGURE						

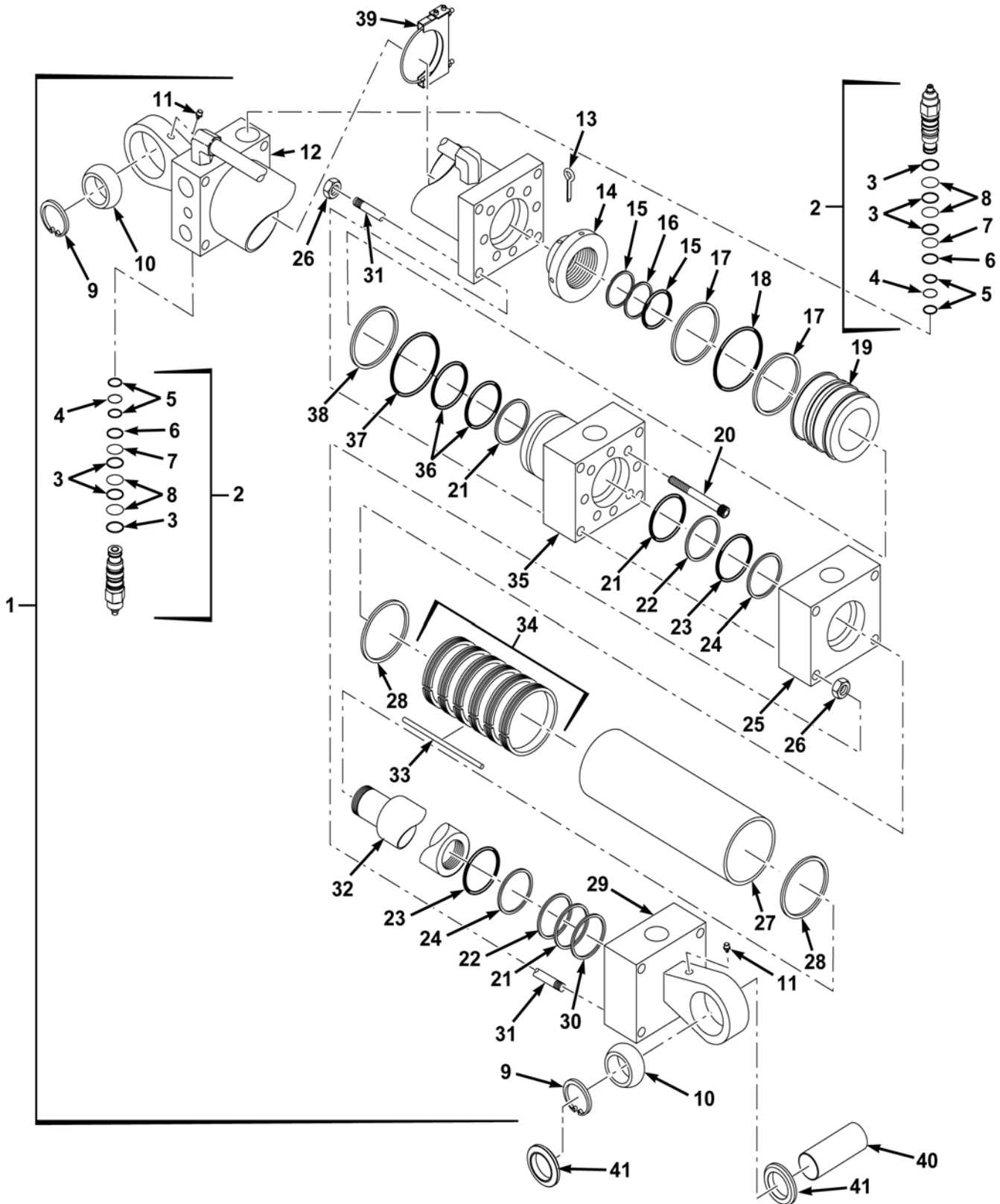


FIG. 85 CYLINDER, ELEVATION

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 2404 - HYDRAULIC TILT CYLINDERS AND TILT CRANK FIG. 85 CYLINDER, ELEVATION	
1	PBFFF		62410	1030357	ELEVATION CYLINDER	2
2	PBFFF		54035	CWEA-LHN	•COUNTERBALANCE VALVE	2
3	KFFZZ		54035	515-002-021	••RETAINER, PACKING, PART OF KIT P/N 990-022-007, CAGE 54035.	3
4	KFFZZ		54035	500-001-018	••O-RING, PART OF KIT P/N 990-022-007, CAGE 54035.	1
5	KFFZZ		54035	515-002-018	••RETAINER, PACKING, PART OF KIT P/N 990-022-007, CAGE 54035.	2
6	KFFZZ		54035	515-002-020	••RETAINER, PACKING, PART OF KIT P/N 990-022-007, CAGE 54035.	1
7	KFFZZ		54035	500-002-020	••O-RING, PART OF KIT P/N 990-022-007, CAGE 54035.	1
8	KFFZZ		54035	500-001-021	••O-RING, PART OF KIT P/N 990-022-007, CAGE 54035.	2
9	PAFZZ		62410	146667	•SNAP RINGS	2
10	XDFZZ		62410	134038	•SELF-ALIGNING BALL.	2
11	PAFZZ	4730-01-217-1115	45152	615FX	•FITTING, LUBRICATION	2
12	PAFZZ		62410	1032180	•CASE	1
13	KFFZZ		62410	127877	•COTTER KEY, PART OF KIT P/N 1032194, CAGE 62410.	1
14	PAFZZ		62410	1032463	•PISTON NUT, 2" - 12	1
15	KFFZZ		62410	144157	•BACKUP, PART OF KIT P/N 1032194, CAGE 62410	2
16	KFFZZ		62410	77630	•O-RING, PART OF KIT P/N 1032194, CAGE 62410	1
17	KFFZZ		62410	135298	•WEAR RING, PART OF KIT P/N 1032194, CAGE 62410.	2
18	KFFZZ		62410	1032198	•PISTON SEAL, PART OF KIT P/N 1032194, CAGE 62410.	1
19	PAFZZ		62410	1032187	•PISTON.	1
20	PAFZZ		62410	91082	•SCREW, .625 - 11 X 2.50	8
21	KFFZZ		62410	127871	•U-CUPS, PART OF KIT P/N 1032194, CAGE 62410	3
22	KFFZZ		62410	135283	•WEAR RING, PART OF KIT P/N 1032194, CAGE 62410.	2
23	KFFZZ		62410	144873	•BACKUP, PART OF KIT P/N 1032194, CAGE 62410	2

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
24	KFFZZ		62410	76902	•O-RINGS, PART OF KIT P/N 1032194, CAGE 62410	2
25	PAFZZ		62410	1032206	•BEAR-LOC HEAD.	1
26	PAFZZ		62410	91618	•NUT, .88 - 14.	8
27	PAFZZ		62410	1032186	•BEAR-LOC CASE.	1
28	PAFZZ		62410	4102031	•BEAR-LOC SPACERS	2
29	PAFZZ		62410	1032192	•ROD END	1
30	KFFZZ		62410	144221	•WIPER, PART OF KIT P/N 1032194, CAGE 62410	1
31	PAFZZ		62410	1032193	•TIE ROD	4
32	PAFZZ		62410	1032191	•ROD	1
33	PAFZZ		62410	1032264	•ALIGNMENT ROD	1
34	XDFZZ		62410	4192545	•BEAR-LOC LINERS	13
35	PAFZZ		62410	1032188	•HEAD GLAND.	1
36	KFFZZ		62410	135284	•WEAR RING, PART OF KIT P/N 1032194, CAGE 62410	2
37	KFFZZ		62410	144203	•BACKUP, PART OF KIT P/N 1032194, CAGE 62410	1
38	KFFZZ		62410	78747	•O-RING, PART OF KIT P/N 1032194, CAGE 62410	1
39	PAFZZ		45152	3437654	BRACKET, SADDLE	6
40	PAFZZ		45152	3416586	PIN, MRP CYLINDER	2
41	PAFZZ		45152	3416587	COLLAR, RETAINER.	4

END OF FIGURE

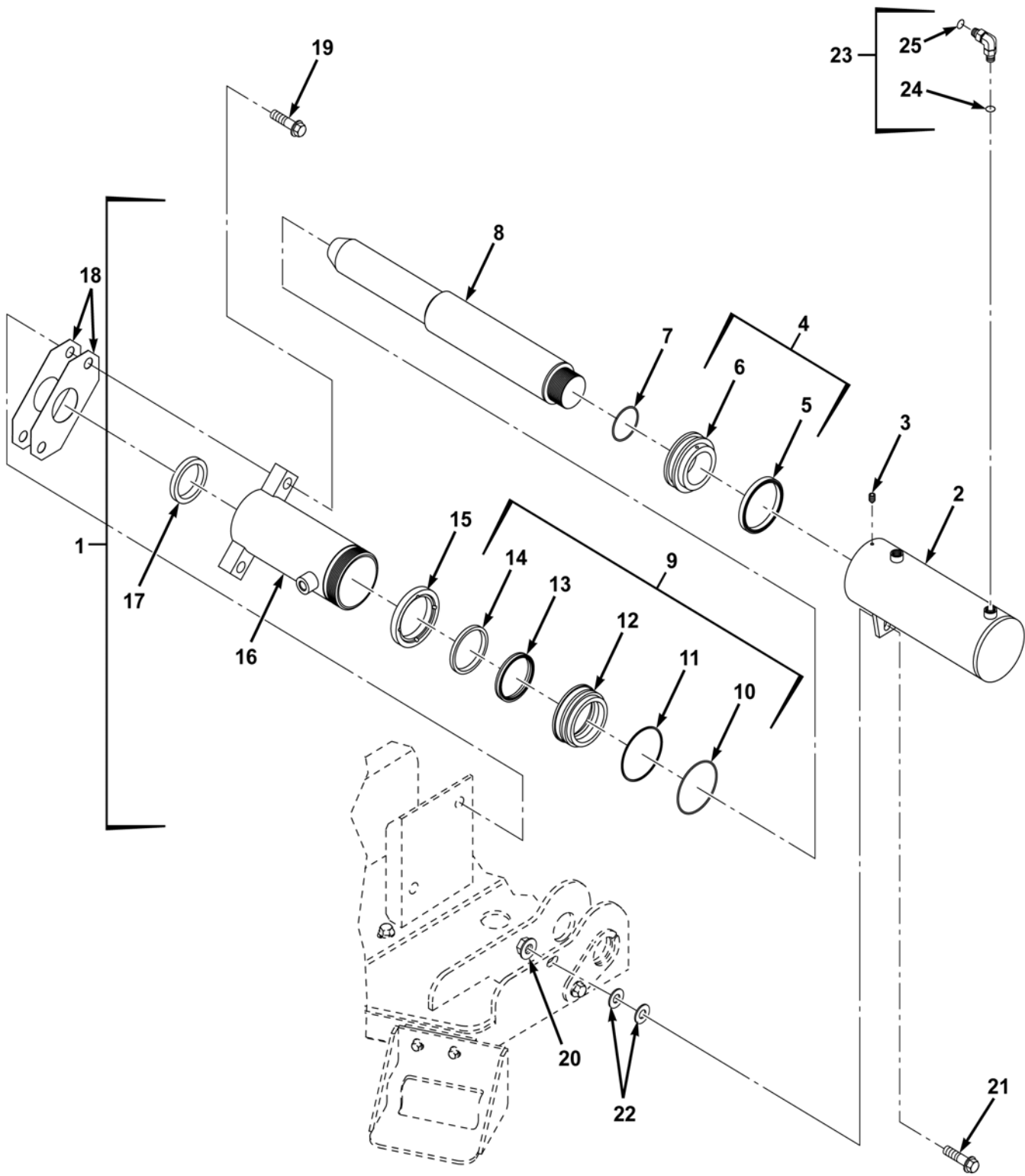


FIG. 86 MRP LOCKING CYLINDER

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 2404 - HYDRAULIC TILT CYLINDERS AND TILT CRANK FIG. 86 MRP LOCKING CYLINDER						
1	PBHHH		40290	140905B	CYLINDER,MRP LOCKING	2
2	PBHZZ		40290	202964B	•BARREL ASSEMBLY	1
3	PAHZZ		40290	715090A	•SET SCREW, .25-20 X .25	1
4	PBHHH		40290	400845B	•PISTON ASSEMBLY	1
5	PAHZZ		40290	700293A	••SEAL,PISTON	1
6	PAHZZ		40290	411284B	••PISTON	1
7	PAHZZ		40290	706111A	•O-RING	1
8	PBHZZ		40290	314037B	•ROD	1
9	PBHHH		40290	500869B	•BEARING ASSEMBLY,ROD	1
10	PAHZZ	5331-00-162-5688	00912	7-57-017	••O-RING	1
11	PAHZZ		40290	704240A	••RING,BACK-UP	1
12	PAHZZ		40290	511248B	••BEARING,ROD	1
13	PAHZZ		40290	701133A	••SEAL,ROD	1
14	PAHZZ		40290	702067A	••WIPER,ROD	1
15	PAHZZ		40290	712174B	•NUT	1
16	PAHZZ		40290	202965B	•EXTENSION,BARREL ASSEMBLY	1
17	PAHZZ		40290	702082A	•WIPER,ROD	1
18	PBHZZ		45152	3414173	PLATE	4
19	PAFZZ	5305-01-149-1935	45152	111454A	SCREW,CAP,HEXAGON HEAD, .75-10 X 32.25	4
20	PAFZZ	5310-01-159-8178	45152	110310A	NUT,SELF-LOCKING,EX, .50-13 G8	2
21	PAFZZ	5305-01-150-7736	45152	115293A	SCREW,CAP,HEXAGON HEAD, .50-13 X 1.50 G8	2
22	PAFZZ	5310-01-457-8573	45152	720HX	WASHER,FLAT, .50 X 1.06 X .09.	V
23	PAFZZ	4730-01-280-8350	81343	6-6 520220CA	ELBOW,TUBE TO BOSS	4
24	PAFZZ	5331-01-198-8439	01276	22617-6	•O-RING	1
25	PAFZZ	5330-01-481-0888	30780	3-906 N0552	•O-RING	1
END OF FIGURE						

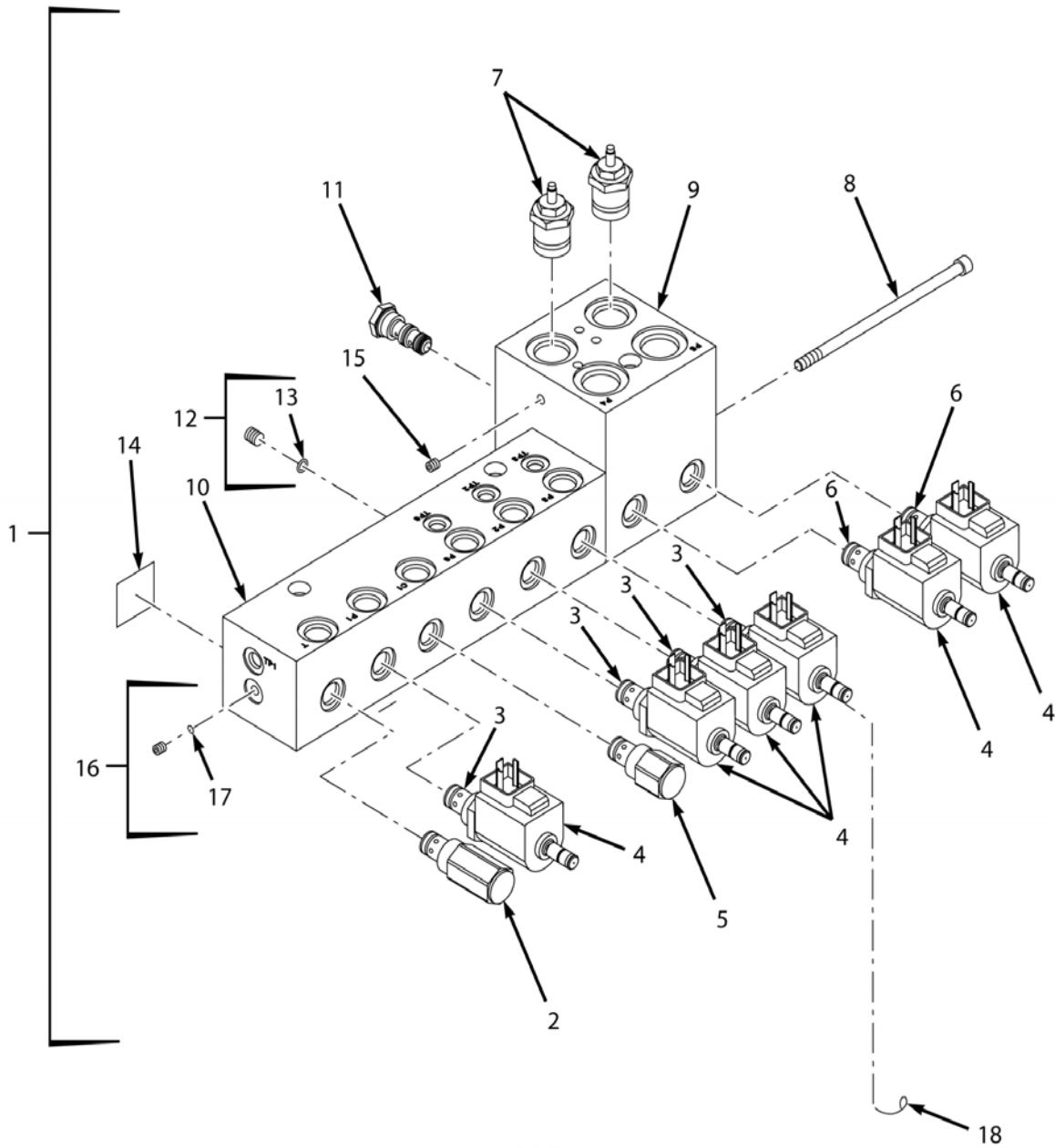


FIG. 87 MANIFOLD, DISTRIBUTION

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 2406 - HYDRAULIC LINES AND FITTINGS	
					FIG. 87 MANIFOLD, DISTRIBUTION	
1	PBFZZ		30058	85006730	MANIFOLD DISTRIBUTION	1
2	PAFZZ		30058	DE-RCA-0407	•VALVE,RELIEF	1
3	PAFZZ		30058	DE-S2B-VM	•VALVE,POPPET	4
4	PAFZZ	5950-01-519-1789	45152	2KK869	•COIL,ELECTRICAL	6
5	PAFZZ	4820-01-519-1785	45152	2KK870	•VALVE,CHECK	1
6	PAFZZ		30058	SJ-S2B-VM	•VALVE,POPPET	2
7	PAFZZ		30058	32000107	•INTERGRATED 1PSC100	2
8	PAFZZ		30058	66700094	•BOLT,MACHINE, 3/8-16 X 4.5	2
9	XAFZZ		30058	30102890	•MANIFOLD	1
10	XAFZZ		30058	30102889	•MANIFOLD	1
11	PAFZZ	4820-01-519-1784	45152	2KK866	•VALVE,CHECK	1
12	PAFZZ	4730-01-519-1745	45152	2KK876	•PLUG,PIPE	1
13	PAFZZ	5331-00-020-0203	81343	M83248/1-904	••O-RING	1
14	XAFZZ		30058	62010018	•TAG,IDENTIFICATION, MANIFOLD	1
15	XAFZZ		30058	61028070	•PLUG,EXPANDER	8
16	XAFZZ		30058	61011005	•PLUG	1
17	PFFZZ	5331-00-165-1981	81343	M83248/2-906	••O-RING	1
18	MOFZZ		45152	25806AX-60	WIRE,SAFETY,MAKE FROM SAFETY WIRE P/N 25806AX (45152), 60 IN LG	1
					END OF FIGURE	

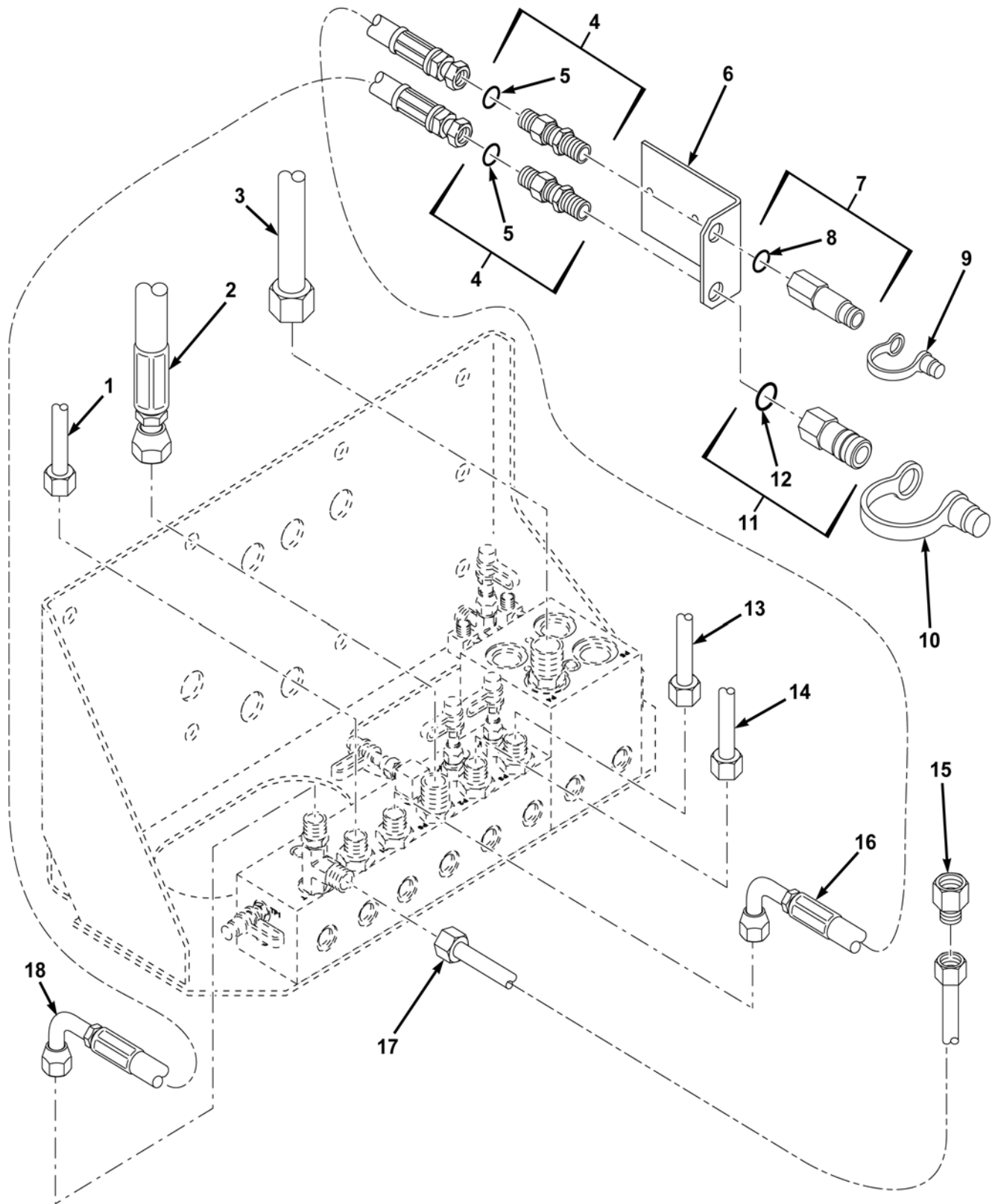


FIG. 88 MANIFOLD, DISTRIBUTION, HOSES AND FITTINGS (SHEET 1 OF 3)

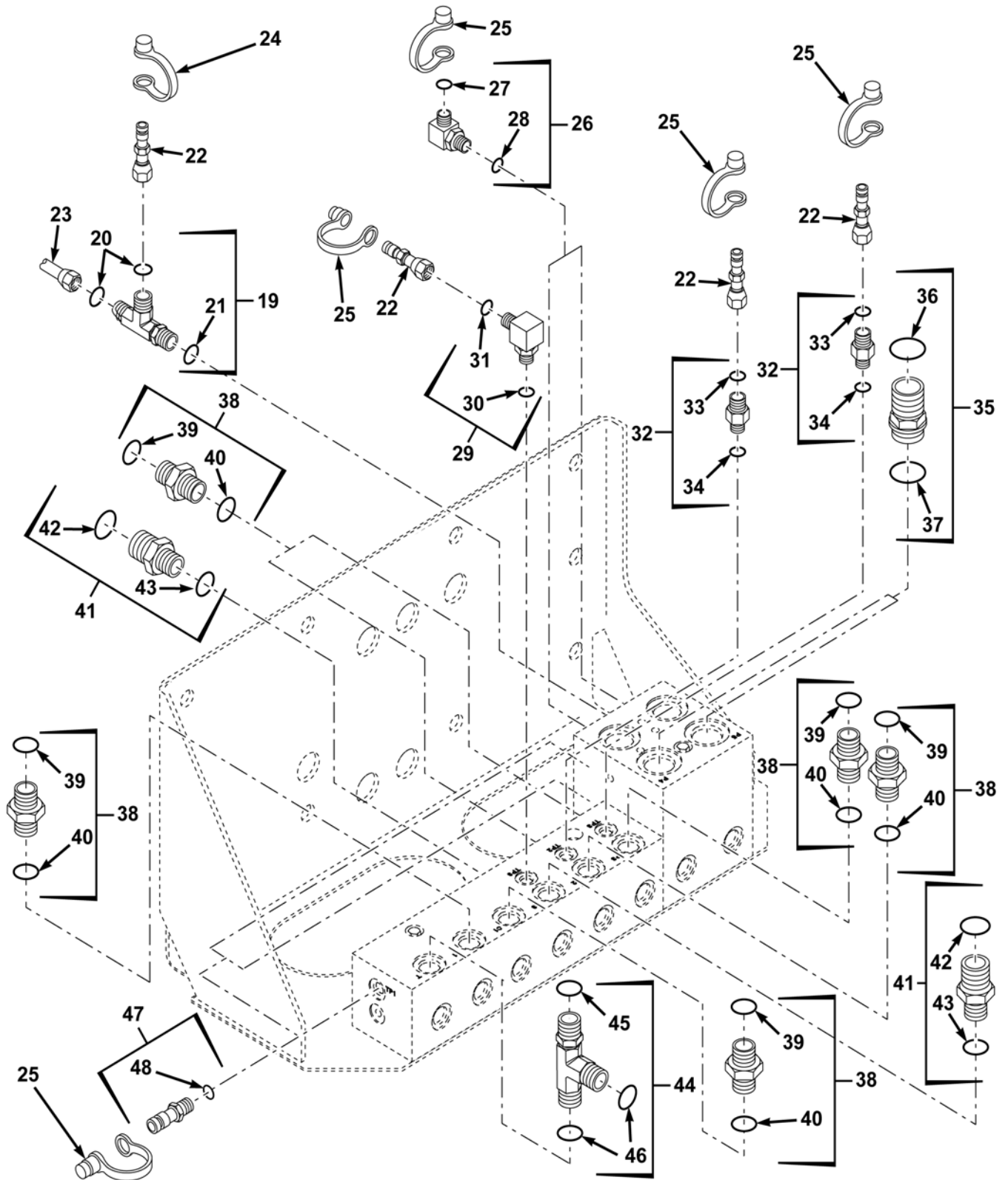


FIG. 88 MANIFOLD, DISTRIBUTION, HOSES AND FITTINGS (SHEET 2 OF 3)

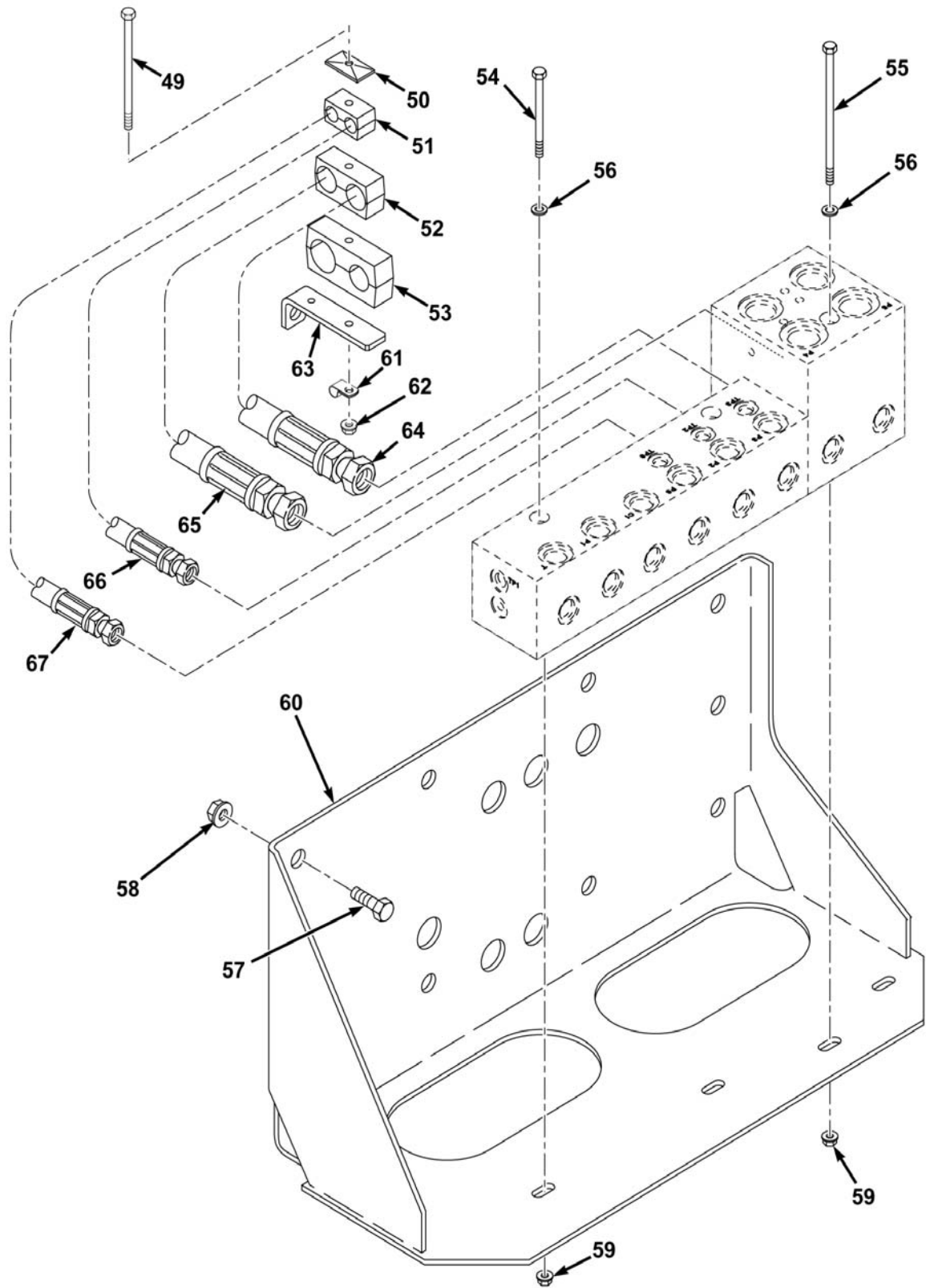


FIG. 88 MANIFOLD, DISTRIBUTION, HOSES AND FITTINGS (SHEET 3 OF 3)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 2406 - HYDRAULIC LINES AND FITTINGS	
					FIG. 88 MANIFOLD, DISTRIBUTION, HOSES AND FITTINGS	
1	PAFZZ		45152	3424951	TUBE ASSEMBLY	1
2	PAFZZ		87373	F451TCJCJ9121212-20.00	HOSE ASSEMBLY	1
3	PAFZZ		45152	3424955	TUBE ASSEMBLY	1
4	PAFZZ	4730-01-515-0423	45152	3367289	ADAPTER,STRAIGHT,PI.	2
5	PAFZZ	5331-01-244-2273	01276	22617-8	•O-RING.	1
6	PAFZZ		45152	3428032	BRACKET, QUICK DISCONNECT	1
7	PAFZZ	4730-01-243-3542	91561	FF-372-8F0	COUPLING HALF,QUICK	1
8	PAFZZ	5331-01-269-8580	01276	FF9446-14	•O-RING.	1
9	PAFZZ	5340-01-366-3341	97111	NR-37	CAP,PROTECTIVE,DUST	1
10	PAFZZ	5340-01-366-3343	97111	NR-50	CAP-PLUG,PROTECTIVE	1
11	PAFZZ	4730-01-244-0080	91561	FF-371-8F0	COUPLING HALF,QUICK	1
12	PAFZZ	5331-01-244-2273	01276	22617-8	•O-RING.	1
13	PAFZZ		45152	3424953	TUBE ASSEMBLY	1
14	PAFZZ		45152	3424952	TUBE ASSEMBLY	1
15	PAFZZ		30780	12-8 TRLON-S	FITTING,STRAIGHT	1
16	PAFZZ		87373	F451TCJCJ9080808-37.00	HOSE ASSEMBLY	1
17	PAFZZ		45152	3428029	TUBE ASSEMBLY	1
18	PAFZZ		87373	F451TCJCJ9090909-35.25	HOSE ASSEMBLY	1
19	PAFZZ	4730-01-281-5893	01276	FF1865T-0606S	TEE,TUBE TO BOSS.	1
20	PAFZZ	5331-01-115-8226	01276	FF9446-12	•O-RING.	2
21	PAFZZ	5331-01-155-4277	09605	853181952	•O-RING.	1
22	PAFZZ		93061	PD36BTL	FITTING,STRAIGHT	4
23	PAFZZ		45152	3494221	HOSE ASSEMBLY	1
24	PAFZZ	5340-01-230-2014	01276	FD90-1040-04	CAP,PROTECTIVE,DUST	1
25	PAFZZ	5340-01-230-2014	01276	FD90-1040-04	CAP,PROTECTIVE,DUST	5
26	PAFZZ	4730-01-283-8195	01276	FF1868T-1212S	ELBOW,TUBE TO BOSS.	2
27	PAFZZ	5330-01-168-0885	01276	22617-16	•PACKING,PREFORMED	1
28	PAFZZ	5331-01-458-8349	01276	FF9446-18	•O-RING.	1
29	PAFZZ	4730-01-269-1554	01276	FF1868T-0604S	ELBOW,TUBE TO BOSS.	1
30	PAOZZ	5331-01-115-8226	45152	2HL545	•O-RING.	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
31	PAOZZ	5331-01-155-4277	09605	853181952	•O-RING	1
32	PAFZZ	4730-01-355-5904	01276	FF1852T00604S	ADAPTER,STRAIGHT	2
33	PAFZZ	5331-01-115-8226	45152	2HL545	•O-RING	1
34	PAFZZ	5331-01-155-4277	09605	853181952	•O-RING	1
35	PAFZZ	4730-01-280-8348	01276	FF1852T-1612S	ADAPTER,STRAIGHT	2
36	PAFZZ	5331-01-269-4323	01276	FF9446-21	•O-RING	1
37	PAFZZ	5331-00-228-7196	01276	22617-12	•O-RING	1
38	PAFZZ	4730-01-282-5081	01276	FF1852T0808-214	ADAPTER,STRAIGHT	6
39	PAFZZ	5331-01-269-8580	01276	FF9446-14	•O-RING	1
40	PAFZZ	5331-01-244-2273	01276	22617-8	•O-RING	1
41	PAFZZ	4730-01-282-1703	01276	FF1852T-1208S	ADAPTER,STRAIGHT	2
42	PAFZZ	5331-01-155-4277	09605	853181952	•O-RING	1
43	PAFZZ	5331-01-458-8349	01276	FF9446-18	•O-RING	1
44	PAFZZ	4730-01-531-3028	01276	FF1865T-0808S	TEE,TUBE TO BOSS	1
45	PAFZZ	5331-01-269-8580	01276	FF9446-14	•O-RING	1
46	PAFZZ	5331-01-244-2273	01276	22617-8	•O-RING	2
47	PAFZZ	4730-01-222-7576	01276	FD90-1044-04-04	COUPLING HALF,QUICK.	3
48	PAFZZ	5331-01-115-8226	45152	2HL545	•O-RING	1
49	PAFZZ		45152	1386070	SCREW,CAP HEX HEAD, 31-18 X 6.00 G5 Z	3
50	PAFZZ	5340-01-327-0449	53790	GD-DS2	COVER,ACCESS.	3
51	PAFZZ		53790	2171/171 DPAH	CLAMP,TWIN .68-.68	3
52	PAFZZ		53790	4285/285 DPAH	CLAMP,TWIN 1.12-1.1	3
53	PAFZZ		53790	5381/285 DPAH	CLAMP,TWIN 1.50-1.1	3
54	PAFZZ	5305-00-781-3928	80204	B1821BH038C400N	SCREW,CAP,HEXAGON HEAD, .38-16 X 4.00 G5 Z	2
55	PAFZZ	5305-01-161-5501	45152	110995A	SCREW,CAP,HEXAGON HEAD, .38-16 X 6.50 G5 Z	1
56	PAFZZ	5310-01-062-3379	45152	362AX	WASHER,FLAT, .41 X .81 X .07 ZY	3
57	PAFZZ	5306-01-150-5884	45152	115289A	BOLT,MACHINE, .62-11 X 1.50 G8 P.	7
58	PAFZZ	5310-01-111-0645	45152	110311A	NUT,SELF-LOCKING,EX, .62-11 G8 PO	7
59	PAFZZ	5310-01-288-1116	45152	1437220	NUT,SELF-LOCKING,EX, .38-16 G5 ZY	3
60	PAFZZ		45152	3483560	BRACKET,MOUNTING, DISTRIBUTION MANIFOLD	1
61	PAFZZ	5340-00-404-4101	75272	C0V1313	CLAMP, LOOP	3
62	PAFZZ	5310-01-340-5671	45152	1333510	NUT,SELF-LOCKING,EX, .31-18 G5 ZY	3
63	PFFZZ		45152	3487057	BRACKET.	3
64	PAFZZ		87373	F451TCJCJ7121212-70.25	HOSE ASSEMBLY	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
65	PAFZZ		87373	F451TCJCJ7121212-67.00	HOSE ASSEMBLY	1
66	PAFZZ		87373	F451TCJCJ7060806-76.25	HOSE ASSEMBLY	1
67	PAFZZ		87373	F451TCJCJ7060806-79.00	HOSE, ASSEMBLY	1
END OF FIGURE						

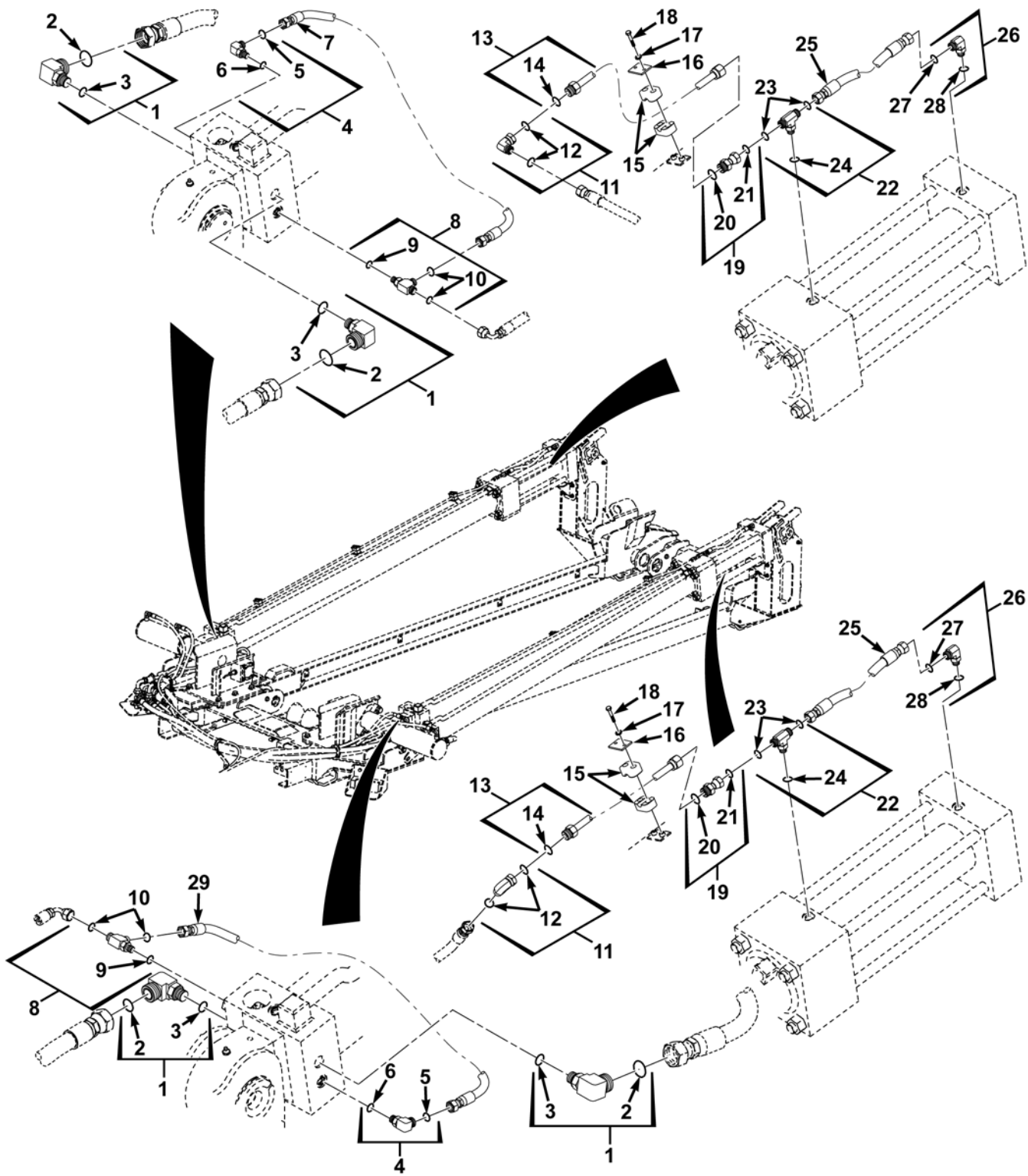


FIG. 89 MRP HYDRAULIC LINES AND FITTINGS (SHEET 1 OF 2)

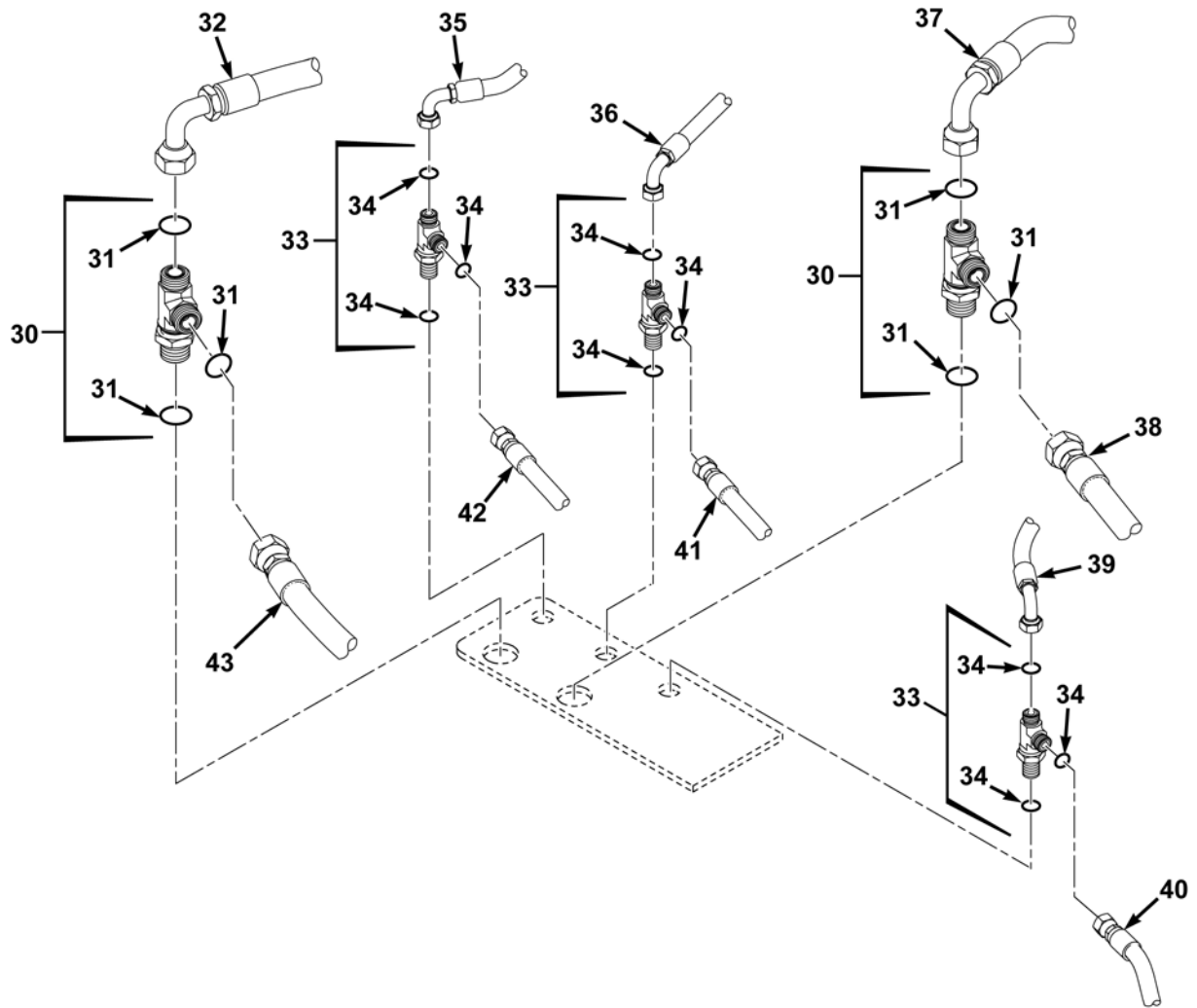


FIG. 89 MRP HYDRAULIC LINES AND FITTINGS (SHEET 2 OF 2)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 2406 - HYDRAULIC LINES AND FITTINGS	
					FIG. 89 MRP HYDRAULIC LINES AND FITTINGS	
1	PAFZZ	4730-01-283-8194	01276	FF1868T-1208S	ELBOW, TUBE TO BOSS	4
2	PAFZZ		39428	9751K126	•O-RING	1
3	PAFZZ	5331-01-220-0153	39428	9452K28	•O-RING	1
4	PAFZZ	4730-01-280-8351	81346	4 520220CA	ELBOW, TUBE TO BOSS	2
5	PAFZZ		39428	9452K59	•O-RING	1
6	PAFZZ		39428	9452K57	•O-RING	1
7	PAFZZ		45152	3460088	HOSE ASSEMBLY	1
8	PAFZZ	4730-01-328-0604	01276	FF1865T-0404S	TEE, TUBE TO BOSS	2
9	PAFZZ		39428	9452K57	•O-RING	1
10	PAFZZ		39428	9452K59	•O-RING	2
11	PAFZZ	4730-01-486-1293	01276	FF2098T-0808S	ELBOW, TUBE TO HOSE	2
12	PAFZZ		39428	9452K73	•O-RING	2
13	PAFZZ		45152	3441375	HOSE ASSEMBLY	2
14	PAFZZ		39428	9452K73	•O-RING	1
15	PAFZZ	5340-01-448-5232	30780	2127PP	CLAMP, BLOCK, SECTION	6
16	PAFZZ	5340-01-355-6821	53790	DP-2W3	COVER, ACCESS	6
17	PAFZZ	5310-00-582-5965	80205	MS35338-44	WASHER, LOCK	12
18	PAFZZ	5305-01-064-5470	45152	45092AX	SCREW, CAP, HEX HD	12
19	PAFZZ		45152	3459370	FITTING, STRAIGHT	2
20	PAFZZ		39428	9452K73	•O-RING	1
21	PAFZZ		39428	9452K136	•O-RING	1
22	PAFZZ	4730-01-327-1846	57598	800744	TEE, TUBE TO BOSS	2
23	PAFZZ		39428	9452K136	•O-RING	2
24	PAFZZ		39428	9452K59	•O-RING	1
25	PAFZZ		45152	3460076	HOSE ASSEMBLY	2
26	PAFZZ	4730-01-280-8350	81343	6-6 520220CA	ELBOW, TUBE TO BOSS	2
27	PAFZZ		39428	9452K136	•O-RING	1
28	PAFZZ		39428	9452K59	•O-RING	1
29	PAFZZ		45152	3460089	HOSE ASSEMBLY	1
30	PAFZZ		45152	3443833	TEE, TUBE TO BOSS	2
31	PAFZZ		39428	9452K79	•O-RING	3
32	PAFZZ		45152	3460091	HOSE ASSEMBLY	1
33	PAFZZ		45152	3398882	TEE, TUBE TO BOSS	3
34	PAFZZ		39428	9452K71	•O-RING	3

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
35	PAFZZ		45152	3505696	HOSE ASSEMBLY	1
36	PAFZZ		45152	3460196	HOSE ASSEMBLY	1
37	PAFZZ		45152	3460090	HOSE ASSEMBLY	1
38	PAFZZ		45152	3460093	HOSE ASSEMBLY	1
39	PAFZZ		45152	3488017	HOSE ASSEMBLY	1
40	PAFZZ		45152	3488016	HOSE ASSEMBLY	1
41	PAFZZ		45152	3460197	HOSE ASSEMBLY	1
42	PAFZZ		45152	3460199	HOSE ASSEMBLY	1
43	PAFZZ		45152	3460092	HOSE ASSEMBLY	1

END OF FIGURE

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

RPSTL GROUP 26 - TOOLS AND TEST EQUIPMENT

		Figure	Page
GROUP 26	TOOLS AND TEST EQUIPMENT		
	2604		
	SPECIAL TOOLS		
	SPECIAL TOOLS	90	0175-2

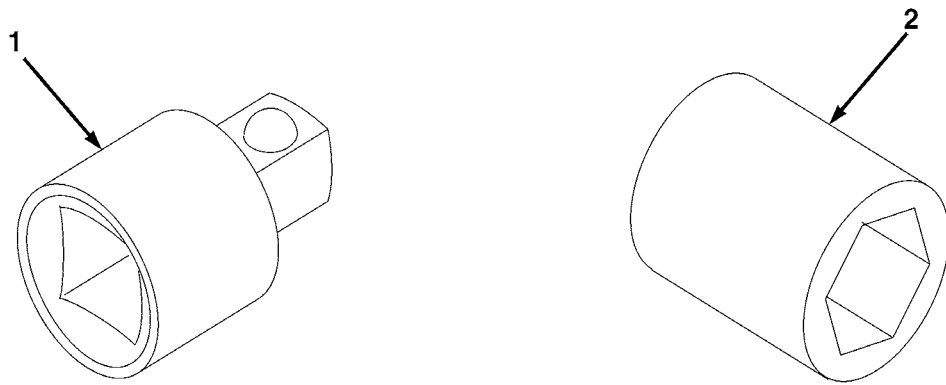


FIG. 90 SPECIAL TOOLS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 0304 - AIR CLEANER FIG. 90 SPECIAL TOOLS	
1	PAFZZ	5120-01-355-1895	55719	GLA72A	ADAPTER, SOCKET WRENCH, 3/4-1 INCH	1
2	PAFZZ		55719	JHW7-6112	SOCKET, 3 1/2 INCH, 1 INCH DRIVE . . .	1
					END OF FIGURE	

END OF TASK

FIELD LEVEL MAINTENANCE

RPSTL GROUP 29 - AUXILIARY GENERATOR AND ENGINE AND CONTROLS

		Figure	Page
GROUP 29	AUXILIARY GENERATOR AND ENGINE AND CONTROLS		
	2900		
	AUXILIARY GENERATOR AND ENGINE AND CONTROLS		
	GENERATOR INSTALLATION.	91	0176-3

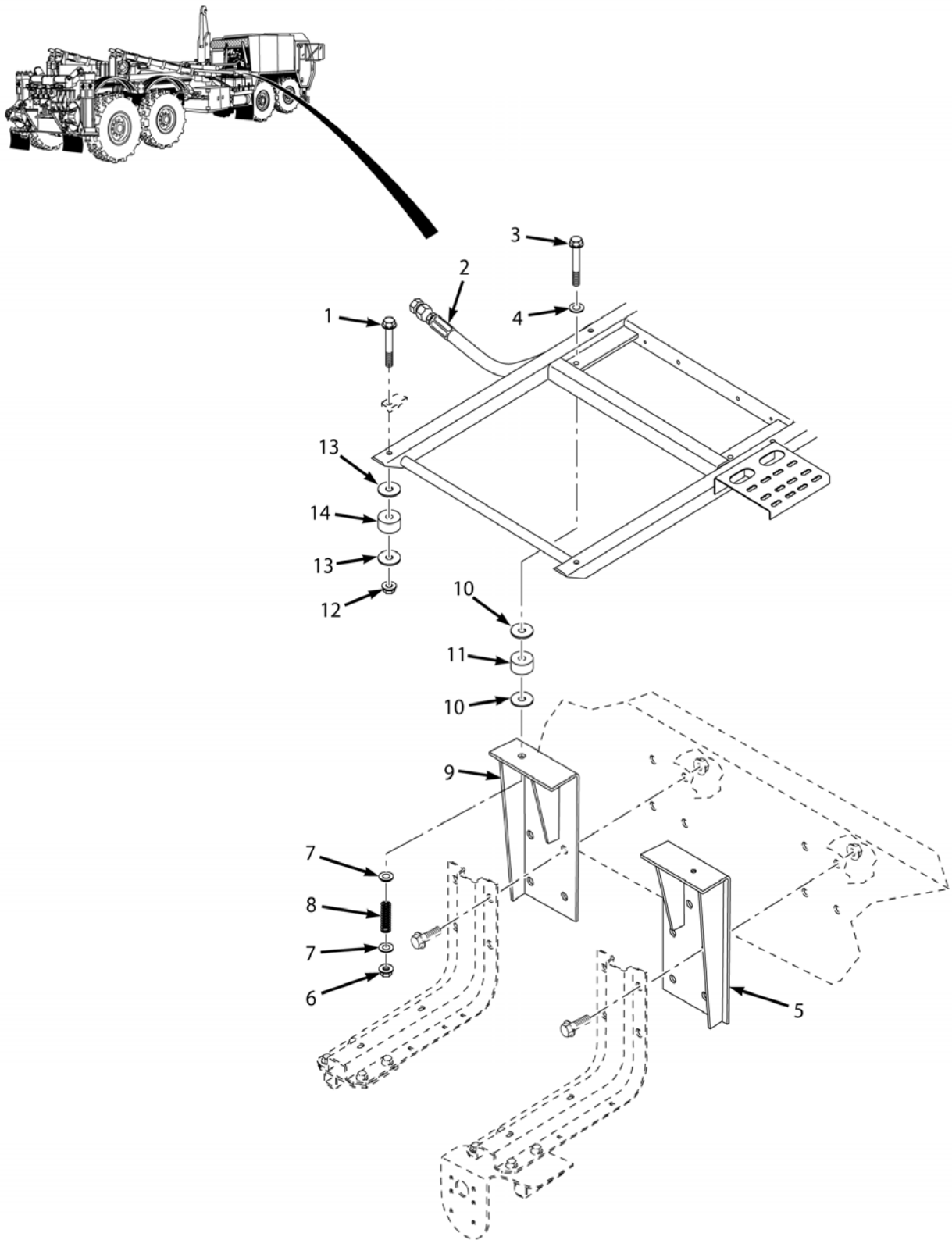


FIG. 91 GENERATOR INSTALLATION (SHEET 1 OF 2)

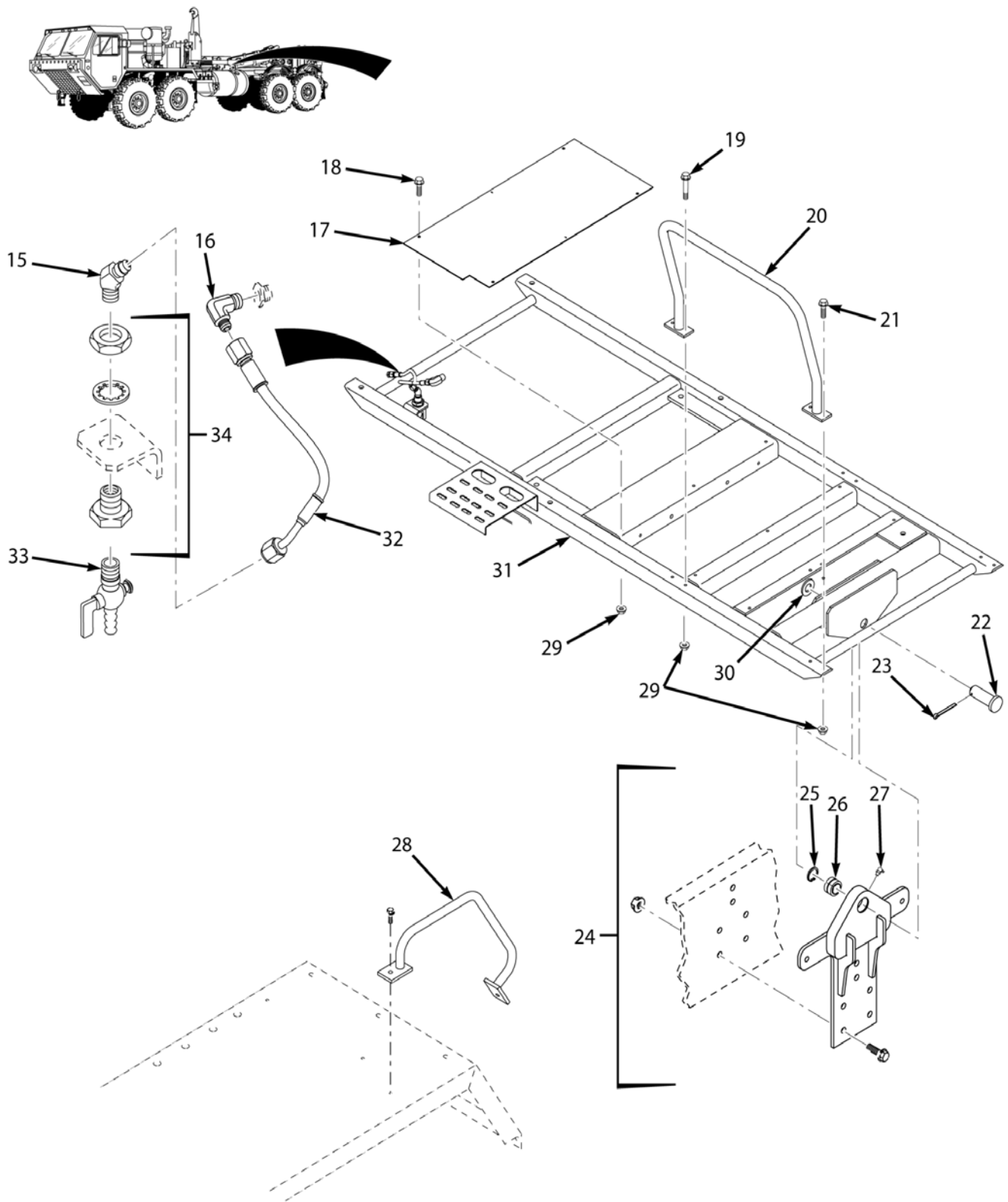


FIG. 91 GENERATOR INSTALLATION (SHEET 2 OF 2)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 2900 - AUXILIARY GENERATOR AND ENGINE AND CONTROLS FIG. 91 GENERATOR INSTALLATION	
1	PAFZZ	5305-01-305-6078	45152	1536340	SCREW,CAP,HEXAGON HEAD, .50X-13 X 2.50 G8 P	4
2	PAFZZ		45152	3519722	HOSE ASSEMBLY, #6 CR 77.5	1
3	PAFZZ	5305-01-154-8485	45152	60222AX	SCREW,CAP,HEXAGON HEAD, .50-13 X 6.50 G5	2
4	PAFZZ	5310-01-457-8573	45152	720HX	WASHER,FLAT, .50 X 1.06 X .09 ZY HDN	2
5	PBFZZ		45152	3470454	BRACKET,GENSET MOUNTING	1
6	PAFZZ	4730-01-208-7068	82465	41280	LOCKNUT,TUBE FITTING, .50-13 G5	2
7	PAFZZ		45152	3008411	WASHER,FLAT, .56 X .38 X .12 ZY HDN	4
8	PAFZZ	5360-01-157-5046	45152	2AH450	SPRING,HELICAL	2
9	PBFZZ		45152	3470455	BRACKET,GENSET MOUNTING	1
10	PAFZZ	5310-01-479-0591	45152	173JX	WASHER,FLAT, .090 X 1.75 X .52.	4
11	PAFZZ	5365-01-201-4780	45152	1404120	BUSHING,NONMETALLIC	2
12	PAFZZ	5310-01-159-8178	45152	110310A	NUT,SELF-LOCKING,EX, .50-13 G8 PO .	4
13	PAFZZ	5310-01-479-0591	45152	173JX	WASHER,FLAT, .090 X 1.75 X .52.	8
14	PAFZZ	5365-01-201-4780	45152	1404120	BUSHING,NONMETALLIC	4
15	PAFZZ	4730-01-238-6442	96906	MS51508B4-4Z	ELBOW,PIPE TO TUBE, 4SAE-4NPT MM ST	1
16	PAFZZ	4730-00-235-1482	93061	249-F-4-6	ELBOW,PIPE TO TUBE, .38 NPTFX X .44 SAE45	1
17	PBFZZ		45152	3478224	PLATE, 26.00 X 12.00 X .0785 ST.	1
18	PAFZZ	5305-01-337-9120	45152	1754140	SCREW,CAP,HEXAGON HEAD, 1.00 X .25-20	6
19	PAFZZ		45152	1754180	SCREW,CAP,FLANGED HEAD, 3.00 X .25-20 UNC	2
20	PBFZZ		45152	3509305	HANDLE,GRAB	1
21	PAFZZ	5305-01-346-3692	45152	1764650	SCREW,CAP,HEXAGON HEAD, 1.25 X .25-20 UNC	2
22	PBFZZ		45152	2093860	PIN	1
23	PAFZZ	2590-01-131-8320	45152	3233FX	PIN, 3/16 X 2 1/4	1
24	PBFZZ		45152	3483601	BRACKET,GENSET, LH MOUNTING,ASSEMBLY	1
25	PAFZZ	5325-01-173-0704	96906	MS16625-3187	•RING,RETAINING	1
26	PBFZZ		45152	2093760	•BEARING,SPHERICAL	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
27	PAFZZ	4730-00-172-0034	72741	485-405	•FITTING,LUBRICATION	1
28	PBFZZ		45152	3509304	HANDLE,GRAB	1
29	PAFZZ	5310-01-346-9445	45152	1600460	NUT,SELF-LOCKING,CL, .25-20 G5	10
30	PAFZZ	5310-01-515-1266	45152	3337896	WASHER,FLAT, 1.25 X 2.25 X .164 DA H.	1
31	PBFZZ		45152	3518888	MOUNT,3K,GENERATOR,SINGLE, WELDMENT.	1
32	PAFZZ		87373	P2930637040404- 10.0	HOSE ASSEMBLY, #4 CR 10.0	1
33	PAFZZ	4820-01-355-7625	72219	44-102-1	COCK,DRAIN	1
34	PAFZZ	4730-00-919-1803	92679	4503264R1	COUPLING,PIPE	1

END OF FIGURE

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
RPSTL GROUP 94 - REPAIR KITS

		Figure	Page
GROUP 94	REPAIR KITS		
	9401		
	REPAIR KITS	N/A	0177-2
	REPAIR KITS		

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 9401 - REPAIR KITS FIG. KITS REPAIR KITS	
1	PAFZZ		1CC11	SKMWH-74	SEAL KIT	1
					O-RING (10) 70-3	
					O-RING (5) 70-4	
					STUD (3) 73-53	
					NUT-HEX (3) 73-54	
					BRACKET,MOUNTING (2) 73-56	
					SCREW (4) 73-57	
2	PAFZZ		54035	SKSS-008033	PARTS KIT,SEAL REPL	2
					O-RING (2) 69-25	
					BACKUP (2) 69-26	
					O-RING (1) 69-27	
					PISTON SEAL (2) 69-31	
					ROD SEAL (1) 69-34	
					BACKUP (2) 69-35	
					O-RING (1) 69-36	
					BACKUP (2) 69-37	
					O-RING (1) 69-38	
					BACKUP (2) 69-41	
					O-RING (1) 69-42	
					WEAR RING (1) 69-45	
					U-CUP (1) 69-46	
					WIPER (1) 69-47	
3	PAFZZ		54035	1032194	SEAL KIT	2
					COTTER KEY (1) 85-13	
					BACKUP (2) 85-15	
					O-RING (1) 85-16	
					WEAR RING (2) 85-17	
					PISTON SEAL (1) 85-18	
					U-CUPS (3) 85-21	
					WEAR RING (2) 85-22	
					BACKUP (2) 85-23	
					O-RINGS (2) 85-24	
					WIPER (1) 85-30	
					WEAR RING (2) 85-36	

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
4	PAFZZ	5340-01-479-5938	45152	1792770	BACKUP (1) 85-37	4
					O-RING (1) 85-38	
					BOLT AND SPACER KIT	
					NUT,SELF-LOCKING,HE (1) 57-15	
					WASHER,PLAIN (2) 57-16	
					BUSHING,ADAPTER (2) 57-17	
					SCREW,CAP,HEX HEAD (1) 57-19	
					FASTENER KIT	
5	KFFZZ		98171	33005218	BUSHING,BLANK (4) 57-20	2
					NUT,SELF-LOCKING,RO (2) 57-21	
					BOLT,HEX (2) 57-22	
					NUT,HEX,LOCK (2) 57-23	
					NUT,PLAIN,HEXAGON (2) 57-24	
					WASHER,LOCK (2) 57-25	
					NUT,HEX (2) 57-28	
					WASHER,LOCK TAB (2) 57-29	
					SPACER,LOCKING (2) 57-30	
					WASHER,SPACER (2) 57-36	
					WASHER,PIVOT SPACER (4) 57-40	
					6	
SPRING,AIR (4) 57-26						
BEAM,TRANSVERSE (2) 57-32						
EQUALIZER BEAM,LH (2) 57-34						
EQUALIZER BEAM,RH (2) 57-41						
BUSHING,FRONT (4) 57-42						
FASTENER KIT (2) KITS-						
SUSPENSION SHOCK KI						
7	PAFZZ		98171	33006089	SCREW,CAP,HEXAGON (1) 46-32	1
					H	
					NUT,SELF-LOCKING,HE (1) 46-34	
					SHOCK (1) 46-36	
					SCREW,MACHINE (1) 46-37	
8	PAFZZ	3990-01-358-1146	45152	3SK804	ROLLER UNIT,RAIL TY	1
					RING,RETAINING (4) 65-1	
					BEARING,PLAIN,SELF- (4) 65-2	
					SHAFT,HORIZONTAL RO (2) 65-3	
					RING,RETAINING (4) 65-4	
					ROLLER,CONVEYOR (2) 65-5	
					BUSHING BLANK (4) 65-6	

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					SEAL,PLAIN,ENCASED (4) 65-7	
					NUT,PLAIN,ROUND (4) 65-18	
					WASHER,LOCK (4) 65-19	
					BEARING,WASHER,THR (2) 65-27	
					U	
9	PAFZZ	3990-01-357-1944	45152	3SK805	ROLLER UNIT,RAIL TY	1
					RING,RETAINING (4) 65-1	
					BEARING,PLAIN,SELF- (4) 65-2	
					RING,RETAINING (4) 65-4	
					BUSHING BLANK (4) 65-6	
					SEAL,PLAIN,ENCASED (4) 65-7	
					NUT,PLAIN,ROUND (4) 65-18	
					WASHER,LOCK (4) 65-19	
					RING,ADJUSTING (2) 65-20	
					SHAFT,ANGLED ROLLER (2) 65-21	
					NUT,SPECIAL (2) 65-23	
					WASHER,KEY (2) 65-24	
10	PFHZZ		12361	7373100025	SEAL KIT	1
					RETAINER,PACKING (2) 72-2	
					SEAL,PLAIN,ENCASED (2) 72-5	
					RING,PISTON (2) 72-7	
					PACKING,PREFORMED (2) 72-8	
					RETAINER,PACKING (2) 72-9	
					O-RING (2) 72-11	
					RING,PISTON (2) 72-13	
					SEAL (2) 72-14	
11	PAFZZ		1CC11	75136-04	ASSEMBLY KIT	1
					BRACKET (2) 70-8	
					SCREW,MACHINE (6) 70-9	
					STUD (3) 70-10	
					NUT,PLAIN,HEXAGON (3) 70-11	
12	PAFZZ	5330-01-332-7167	54035	990-011-007	PARTS KIT,SEAL REPL	2
					RETAINER, PACKING (1) 69-10	
					O-RING (2) 69-11	
					RETAINER, PACKING (1) 69-12	
					O-RING (1) 69-13	
					RETAINER, PACKING (1) 69-14	
13	PAFZZ	5330-01-446-7063	54035	990-022-001	GASKET SET	2
					RETAINER, PACKING (3) 85-3	

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					O-RING (1) 85-4	
					O-RING (2) 85-5	
					RETAINER, PACKING (1) 85-6	
					RETAINER, PACKING (1) 85-7	
					O-RING (2) 85-8	
14	PAFZZ	5330-01-345-2408	54035	990-202-007	PARTS KIT,SEAL REPL	2
					RETAINER, PACKING (1) 69-3	
					O-RING (1) 69-4	
					O-RING (1) 69-5	
					RETAINER, PACKING (1) 69-6	
					RETAINER, PACKING (2) 69-7	
					O-RING (1) 69-8	
					O-RING (1) 69-16	
					RETAINER, PACKING (1) 69-17	
					O-RING (1) 69-18	
					RETAINER, PACKING (1) 69-19	
					RETAINER, PACKING (2) 69-20	
					O-RING (1) 69-21	
END OF FIGURE						

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

RPSTL GROUP 95 - GENERAL USE STANDARDIZED PARTS

		Figure	Page
GROUP 95	GENERAL USE STANDARDIZED PARTS		
	9501		
	HARDWARE SUPPLIES AND BULK MATERIAL		
	BULK MATERIAL	N/A	0178-2

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
					GROUP 9501 - HARDWARE SUPPLIES AND BULK MATERIAL	
					FIG. BULK MATERIAL	
1	PAFZZ	9390-01-085-2839	82654	SF845	NONMETALLIC CHANNEL	V
2	PAFZZ	4010-00-575-6233	81349	M83420-4-010	ROPE,WIRE	V
					END OF FIGURE	

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

RPSTL NSN INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5325-00-004-5256	61	40	2520-00-140-3653	47	18
5331-00-020-0203	87	13	2520-00-140-3653	48	7
4730-00-044-4861	45	59	5305-00-140-8001	75	21
5999-00-057-2929	34	24	4820-00-142-3036	50	70
5999-00-057-2929	40	6	5940-00-143-4771	37	6
5305-00-059-3660	22	2	5940-00-143-4780	31	6
5310-00-061-4650	62	16	4730-00-143-9282	50	31
5310-00-061-4650	62	33	5935-00-146-5811	17	5
4730-00-062-5470	79	26	5935-00-146-5811	18	5
5305-00-068-0508	70	17	3110-00-155-6518	47	15
5305-00-068-0509	29	50	6240-00-155-7866	5	7
5305-00-068-0509	58	11	5315-00-156-3104	45	92
4730-00-069-1187	50	3	5331-00-162-5688	86	10
5305-00-071-1787	45	94	3110-00-163-9904	45	87
5305-00-071-2069	45	17	5330-00-164-8881	45	4
5310-00-080-6004	53	26	5331-00-165-1981	87	17
5305-00-088-8332	69	58	5331-00-166-0988	79	19
5310-00-092-6831	57	13	5325-00-170-1693	45	86
3110-00-100-0333	45	13	4730-00-172-0034	65	26
3110-00-100-0661	45	12	4730-00-172-0034	81	18
4130-00-103-9185	3	6	4730-00-172-0034	82	17
3120-00-103-9788	81	15	4730-00-172-0034	91	27
3120-00-103-9788	82	15	4730-00-173-1881	54	37
5940-00-107-1481	34	9	5320-00-173-8625	75	4
5940-00-107-1481	40	5	5325-00-175-1315	83	28
5940-00-113-3147	34	14	5325-00-175-1315	84	6
5940-00-113-9819	34	22	5325-00-178-8670	61	38
5940-00-113-9826	37	7	5961-00-181-0661	17	7
5940-00-114-1300	39	4	5961-00-181-0661	38	27
4730-00-114-4058	63	5	5331-00-182-3115	54	38
4730-00-125-7979	50	50	5310-00-185-6345	83	19
2530-00-127-8684	50	81	5310-00-186-0977	45	93
2530-00-137-9235	50	24	4730-00-196-1471	53	21

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
4730-00-196-1531	53	17	5331-00-228-7196	88	37
9905-00-202-3639	74	10	4730-00-235-1482	91	16
4730-00-202-6491	50	29	5310-00-243-9295	45	91
4730-00-202-9539	45	22	5325-00-248-7078	63	2
9905-00-205-2795	24	12	4730-00-249-9714	3	15
9905-00-205-2795	65	8	4730-00-249-9714	50	75
9905-00-205-2795	74	6	4730-00-253-4413	45	52
5310-00-208-1918	35	7	4730-00-254-6228	3	1
5310-00-208-1918	36	3	4730-00-256-4211	50	72
5310-00-208-1918	59	12	4730-00-261-4219	53	20
5310-00-208-1918	62	19	5310-00-262-6355	8	17
5310-00-208-1918	62	40	5310-00-262-6355	9	15
4730-00-221-2136	45	41	5310-00-262-6355	23	4
4730-00-221-2137	45	35	5310-00-262-6355	25	7
4730-00-221-2137	55	4	5310-00-262-6355	29	14
4730-00-221-2138	45	47	4730-00-266-0533	1	1
4730-00-221-2140	45	74	2530-00-270-3878	50	23
5340-00-224-1204	3	19	4730-00-273-6686	50	27
5340-00-224-1204	32	1	5305-00-275-8530	45	79
5340-00-224-1204	50	157	4730-00-277-3874	3	17
5340-00-224-1204	73	38	4730-00-277-5736	50	57
5305-00-225-3842	62	5	4730-00-277-7331	50	74
5306-00-226-4824	68	7	4730-00-277-8289	50	58
5331-00-228-7196	71	14	4730-00-277-8750	50	36
5331-00-228-7196	71	32	4730-00-277-9615	50	32
5331-00-228-7196	71	34	4730-00-278-3167	50	91
5331-00-228-7196	71	36	4730-00-278-4497	50	98
5331-00-228-7196	71	38	4730-00-278-4822	3	5
5331-00-228-7196	71	44	4730-00-278-4822	50	94
5331-00-228-7196	71	46	4730-00-278-8575	50	85
5331-00-228-7196	71	48	5325-00-282-7149	83	33
5331-00-228-7196	71	50	4730-00-287-4852	50	62
5331-00-228-7196	71	59	4730-00-289-0232	50	76
5331-00-228-7196	73	2	4730-00-289-0382	50	7
5331-00-228-7196	73	12	4730-00-289-4912	50	80
5331-00-228-7196	73	18	5315-00-298-1481	29	38
5331-00-228-7196	73	27	5325-00-309-4017	34	3

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
4730-00-314-7706	54	73	5310-00-584-5272	45	6
4730-00-326-2475	54	23	5310-00-584-5272	57	25
5365-00-350-5442	45	30	5331-00-588-0892	19	10
2530-00-377-8779	50	110	4730-00-595-0083	50	25
5365-00-382-6713	71	62	4730-00-595-0143	50	63
5310-00-393-6685	34	2	3120-00-596-7688	45	24
5331-00-395-5737	77	9	5331-00-618-5361	70	3
2520-00-395-7722	45	53	5310-00-619-1148	23	3
5940-00-399-6676	34	13	5310-00-619-1148	29	13
5940-00-399-6676	40	2	4820-00-633-3523	50	64
5340-00-404-4098	35	3	5310-00-637-9541	45	63
5340-00-404-4098	74	4	5305-00-638-8920	42	8
5340-00-404-4100	3	23	5305-00-638-8920	50	104
5340-00-404-4100	50	164	5975-00-642-7261	8	10
5340-00-404-4100	58	8	5975-00-642-7261	9	10
5340-00-404-4101	50	43	5975-00-660-5962	34	11
5340-00-404-4101	56	63	5975-00-660-5962	40	4
5340-00-404-4101	62	7	5930-00-689-6786	8	14
5340-00-404-4101	88	61	5935-00-691-5591	34	23
4730-00-407-0566	50	114	5935-00-691-5591	40	8
5935-00-435-3945	37	14	4730-00-720-5002	50	21
5330-00-485-3586	71	54	5325-00-722-8570	65	1
4730-00-487-2120	79	10	5305-00-724-7264	57	6
5340-00-496-2587	50	106	5340-00-725-5280	83	53
5305-00-509-8103	83	38	4820-00-728-7467	50	49
5310-00-542-0087	18	7	5305-00-732-0511	45	1
5310-00-542-0087	19	13	5305-00-732-0511	45	5
5305-00-543-2419	53	25	4730-00-738-7558	54	58
4010-00-575-6233	BULK	2	5310-00-768-0318	57	24
5331-00-579-3158	70	4	5975-00-771-6634	34	4
5310-00-582-5965	20	19	5310-00-775-5139	19	2
5310-00-582-5965	33	4	5310-00-775-5139	83	40
5310-00-582-5965	58	12	5305-00-781-3928	88	54
5310-00-582-5965	69	54	4730-00-800-2046	3	14
5310-00-582-5965	70	15	5305-00-802-2764	83	13
5310-00-582-5965	75	14	5330-00-802-4966	8	11
5310-00-582-5965	89	17	5330-00-802-4966	9	11

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5331-00-804-5695	71	72	5305-00-889-3001	19	5
5331-00-804-5695	71	74	4730-00-903-7176	54	20
5331-00-804-5695	71	83	4730-00-908-6294	69	55
5331-00-804-5695	71	76	4730-00-919-1803	50	97
5331-00-804-5695	71	81	4730-00-919-1803	91	34
5331-00-804-5695	71	85	5331-00-929-8171	80	21
5331-00-804-5695	71	90	5331-00-939-9095	54	7
5310-00-809-4058	20	3	5331-00-939-9095	54	10
5310-00-809-4058	33	2	5331-00-942-5120	54	48
5310-00-809-4058	50	46	5935-00-944-6300	34	5
5310-00-809-4058	58	10	3110-00-949-1438	45	43
5310-00-809-4058	62	8	5310-00-949-6139	61	39
5310-00-809-4058	70	16	4730-00-959-1628	50	84
4730-00-813-9611	3	8	5310-00-982-4912	45	64
4730-00-822-5609	79	24	5305-00-984-6210	59	15
5970-00-833-8562	34	12	5305-00-984-6211	7	1
5970-00-833-8562	40	3	5305-00-988-1724	6	2
5310-00-833-8567	34	25	5305-00-988-1725	74	11
5310-00-833-8567	40	7	5305-00-988-1725	84	8
4730-00-833-9315	54	71	5331-01-005-0521	79	9
5310-00-834-8734	45	49	5331-01-006-2132	71	79
4730-00-837-7073	50	177	5331-01-006-2132	71	87
5315-00-839-5822	29	37	4730-01-011-6003	3	9
3110-00-842-5207	45	9	4730-01-011-7736	79	3
5315-00-846-4297	83	10	5310-01-019-3129	57	14
5305-00-846-5703	53	31	5360-01-024-7898	49	17
5330-00-846-8177	45	51	5305-01-033-8125	8	5
4730-00-861-0209	50	111	5305-01-033-8125	9	5
5940-00-874-9033	19	7	3110-01-037-5496	45	97
5940-00-874-9033	20	7	3110-01-037-7207	45	98
5940-00-874-9033	20	11	5310-01-038-2294	83	56
5940-00-874-9033	20	13	5340-01-038-9481	63	3
5310-00-880-0626	29	15	5331-01-040-4772	71	40
5310-00-880-0626	53	29	2520-01-041-3542	45	67
5310-00-880-0626	61	25	4730-01-043-9027	45	83
5310-00-880-0626	83	15	4730-01-055-4013	50	37
4730-00-881-1161	3	7	4730-01-056-8125	54	32

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5310-01-057-0822	45	84	5305-01-064-5470	20	20
5305-01-058-0611	79	2	5305-01-064-5470	89	18
5310-01-058-3183	33	3	5310-01-066-6759	6	3
5310-01-058-3183	58	6	5310-01-066-6759	20	5
5310-01-058-4589	49	2	5310-01-066-6759	24	8
5365-01-059-0126	49	3	5310-01-066-6759	29	48
5310-01-061-1310	57	15	5310-01-066-6759	59	8
5310-01-061-1310	57	35	5310-01-066-6759	61	16
5310-01-061-4476	47	4	5310-01-066-6759	62	9
5310-01-061-4476	48	4	5310-01-066-6759	74	2
4730-01-061-4949	50	65	5310-01-068-8446	45	45
5310-01-061-5301	49	23	5310-01-068-8446	58	2
5310-01-061-5301	57	2	5310-01-068-8446	59	17
5310-01-061-5301	64	14	5310-01-068-8446	65	11
5310-01-061-5678	49	24	5310-01-068-8446	77	2
5310-01-061-5678	57	3	5365-01-071-8261	79	8
5306-01-061-7416	30	3	5331-01-072-1665	71	26
5310-01-061-7450	35	8	5930-01-076-4114	50	28
5310-01-061-7452	50	156	4730-01-077-4889	54	9
5310-01-061-7452	58	5	5310-01-081-0798	34	31
5310-01-061-7452	77	3	5310-01-081-1283	54	40
5305-01-062-1017	59	7	5315-01-081-2925	45	55
5305-01-062-1017	62	15	5340-01-081-3419	50	152
5305-01-062-1017	62	34	5365-01-081-3424	45	96
4730-01-062-2570	50	100	5365-01-081-5323	45	18
4730-01-062-2570	51	2	5310-01-081-5351	30	4
5310-01-062-3379	50	105	5310-01-081-5351	32	2
5310-01-062-3379	61	42	5310-01-081-5351	61	10
5310-01-062-3379	73	43	4730-01-081-5546	50	51
5310-01-062-3379	83	37	5365-01-081-9747	45	19
5310-01-062-3379	88	56	5365-01-081-9748	45	20
4730-01-062-4102	47	17	5305-01-082-0049	65	10
5310-01-063-8970	24	9	4730-01-082-1017	51	3
5310-01-063-8970	24	18	4730-01-082-3947	54	69
5310-01-063-8970	29	9	2520-01-082-8619	46	4
5310-01-063-8970	54	64	4730-01-082-8799	50	41
5310-01-063-8970	61	44	5320-01-083-9619	75	5

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5306-01-084-5390	55	12	5310-01-111-0645	62	23
5306-01-084-5390	61	19	5310-01-111-0645	64	1
9390-01-085-2839	BULK	1	5310-01-111-0645	73	31
5360-01-086-1419	45	42	5310-01-111-0645	84	21
5305-01-086-3551	18	8	5310-01-111-0645	88	58
5305-01-086-3551	19	12	3120-01-111-7665	49	11
4730-01-086-4064	50	39	5935-01-112-9782	18	3
5310-01-086-7725	34	30	5935-01-112-9782	38	30
4730-01-088-4454	54	51	5935-01-112-9792	18	4
4730-01-088-7498	50	34	5330-01-113-0593	49	10
5365-01-091-0786	45	36	5331-01-115-8226	73	29
4730-01-091-8030	51	1	5331-01-115-8226	88	20
4730-01-091-9212	50	38	5331-01-115-8226	88	30
4730-01-095-2034	50	95	5331-01-115-8226	88	33
4730-01-095-3430	63	4	5331-01-115-8226	88	48
4730-01-096-0574	50	86	5305-01-116-4813	49	22
4730-01-096-3169	50	14	5331-01-116-8112	77	8
4730-01-096-3204	50	22	5330-01-117-1019	47	5
4730-01-096-9127	50	83	5330-01-117-1019	48	5
4730-01-096-9128	50	13	5330-01-118-0907	54	52
4730-01-096-9138	54	18	5310-01-119-1811	19	14
4730-01-097-0386	50	124	4730-01-119-6222	54	16
5340-01-100-2474	29	42	5365-01-120-9671	47	2
4730-01-102-4123	50	1	5365-01-120-9671	48	2
5310-01-105-7229	58	3	5340-01-121-8769	62	3
5310-01-105-7229	59	18	5340-01-121-8769	62	28
5306-01-106-7496	29	26	5310-01-122-4500	42	9
5306-01-106-7496	56	43	5325-01-123-5695	68	41
5306-01-106-7496	62	24	5325-01-127-1390	45	78
5306-01-106-7496	73	32	5310-01-129-0450	24	10
5306-01-106-7496	84	1	5310-01-129-0450	24	17
4730-01-108-6410	50	93	5310-01-129-0450	29	10
5310-01-110-7815	49	7	5310-01-129-0450	53	27
5310-01-111-0645	29	29	5310-01-129-0450	54	66
5310-01-111-0645	50	171	5310-01-129-0450	55	11
5310-01-111-0645	56	13	5310-01-129-0450	61	43
5310-01-111-0645	57	27	5310-01-129-0450	79	1

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5310-01-129-0450	83	14	3020-01-144-9291	45	68
5310-01-129-0450	84	15	3040-01-145-0531	45	7
2590-01-131-8320	91	23	5307-01-145-1644	45	65
4820-01-132-0583	50	77	5340-01-145-3255	45	48
5310-01-133-2130	65	16	5360-01-145-4724	45	26
5310-01-133-2130	67	3	5306-01-145-6949	58	13
5340-01-133-3738	44	1	5306-01-145-6949	70	14
5340-01-133-3738	84	18	3110-01-145-8482	45	34
4730-01-134-0854	50	147	5340-01-146-3138	45	2
5305-01-134-2052	76	2	2520-01-146-3139	45	21
2540-01-134-3714	61	9	5305-01-146-4538	45	46
3120-01-143-6442	45	89	5340-01-146-6910	3	27
5365-01-143-6445	45	37	3120-01-146-9782	45	25
5310-01-143-6449	45	77	5315-01-147-1132	47	32
5365-01-143-7436	45	8	2520-01-147-1378	45	15
3040-01-144-6357	45	60	5330-01-147-4919	45	33
3020-01-144-6417	45	71	4820-01-147-4995	50	125
3020-01-144-6418	45	99	5365-01-147-6789	45	31
3020-01-144-6426	45	56	3130-01-147-8112	45	23
3040-01-144-7024	45	81	5305-01-147-9723	56	35
2520-01-144-7307	45	39	2530-01-147-9995	50	2
2520-01-144-7308	45	3	5310-01-148-0232	47	22
3040-01-144-7314	45	16	5310-01-148-0232	48	11
5365-01-144-7377	45	40	5307-01-148-6832	47	24
9905-01-144-7858	45	75	5307-01-148-6832	48	12
9905-01-144-7860	45	72	4730-01-148-8254	47	25
2520-01-144-8187	45	14	4730-01-148-8254	48	13
3040-01-144-8216	45	50	5305-01-149-1934	56	2
3040-01-144-8217	45	69	5305-01-149-1934	83	47
3040-01-144-8218	45	66	5305-01-149-1935	56	50
3040-01-144-8219	45	88	5305-01-149-1935	73	34
3040-01-144-8220	45	28	5305-01-149-1935	86	19
3020-01-144-8236	45	58	5310-01-149-4405	47	30
5340-01-144-8237	45	44	5935-01-149-5165	34	26
3040-01-144-8238	45	90	5935-01-149-5165	38	37
3020-01-144-8499	45	61	5935-01-149-5165	41	6
2520-01-144-8603	45	80	5306-01-149-6274	56	19

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5306-01-150-5884	50	172	2510-01-153-2738	57	5
5306-01-150-5884	56	33	4730-01-153-2765	53	16
5306-01-150-5884	57	39	5365-01-153-7686	57	10
5306-01-150-5884	88	57	2530-01-153-8447	57	11
5310-01-150-5918	56	5	4730-01-154-2073	3	12
5310-01-150-5918	66	1	4010-01-154-2290	61	13
5310-01-150-5918	73	33	5305-01-154-4323	56	1
5310-01-150-5918	83	46	5340-01-154-5247	50	161
5306-01-150-7726	56	20	5935-01-154-6233	37	8
5306-01-150-7726	64	11	5365-01-154-7172	50	68
5305-01-150-7736	21	10	5305-01-154-8485	91	3
5305-01-150-7736	54	45	5310-01-155-1905	53	15
5305-01-150-7736	56	56	5310-01-155-1905	61	4
5305-01-150-7736	86	21	5340-01-155-1919	50	159
5935-01-150-8323	34	8	4730-01-155-3163	50	59
5935-01-150-8323	41	5	5305-01-155-3478	56	26
5999-01-150-8808	34	7	5305-01-155-3478	66	3
5999-01-150-8808	37	10	4030-01-155-3557	61	14
5999-01-150-8808	38	34	4730-01-155-4089	54	53
5999-01-150-8808	41	3	2530-01-155-4120	49	13
5310-01-151-1036	29	47	5331-01-155-4277	71	52
5310-01-151-1036	53	14	5331-01-155-4277	73	30
5310-01-151-1036	54	75	5331-01-155-4277	88	21
5310-01-151-1036	74	14	5331-01-155-4277	88	31
5310-01-151-1036	84	13	5331-01-155-4277	88	34
4820-01-151-3692	47	1	5331-01-155-4277	88	42
4820-01-151-3692	48	1	5310-01-155-4318	49	25
5310-01-151-8342	47	21	5306-01-155-4335	47	20
5310-01-151-8342	48	10	5340-01-155-4433	50	44
5325-01-152-4536	49	1	5340-01-155-4536	2	11
5310-01-152-4703	56	21	5305-01-155-5237	24	13
2510-01-152-7760	61	2	5305-01-155-5237	74	7
2540-01-152-7764	29	1	4730-01-156-4835	77	4
2540-01-152-7764	59	9	4730-01-156-4835	78	18
2540-01-152-7764	62	14	4730-01-156-4835	80	20
2540-01-152-7764	62	35	5325-01-156-5280	47	14
5340-01-153-0313	61	8	5306-01-156-5429	56	41

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5305-01-156-5440	56	49	5310-01-163-9298	49	26
5305-01-156-5440	66	2	5305-01-164-8510	67	2
5305-01-156-5442	2	12	5305-01-164-9665	19	3
5305-01-156-5442	56	18	5305-01-165-2452	45	76
3110-01-156-5506	45	95	5365-01-165-2618	47	23
5999-01-156-6314	34	6	5305-01-167-3295	47	10
5999-01-156-6314	37	9	4730-01-167-4388	50	82
5999-01-156-6314	38	36	5360-01-167-6410	64	15
5999-01-156-6314	41	4	5305-01-167-9408	50	53
5340-01-156-6776	29	5	5940-01-168-0192	37	5
5340-01-156-6776	59	10	5330-01-168-0885	71	42
5340-01-156-6776	62	22	5330-01-168-0885	73	22
5340-01-156-6776	62	37	5330-01-168-0885	88	27
5365-01-156-8063	47	29	5306-01-169-6379	64	16
5306-01-156-8678	53	8	5306-01-171-5897	64	3
5306-01-156-8678	61	3	5306-01-172-1556	45	38
5305-01-156-8691	61	32	5340-01-172-1566	71	6
5305-01-156-9457	54	72	5305-01-172-2002	54	39
5305-01-156-9457	74	12	5365-01-172-3384	53	22
4730-01-157-3574	54	65	5325-01-173-0704	91	25
5360-01-157-5046	91	8	5935-01-174-1235	18	2
5305-01-157-5624	61	5	5935-01-174-1235	19	9
5340-01-158-2086	50	162	5935-01-174-1235	37	26
5310-01-159-2797	47	19	5935-01-174-1235	38	5
5342-01-159-4403	56	51	5340-01-174-7459	46	3
5310-01-159-8178	2	10	4730-01-174-9405	50	19
5310-01-159-8178	50	55	4730-01-174-9405	51	4
5310-01-159-8178	54	43	2590-01-175-5535	50	158
5310-01-159-8178	56	16	5310-01-177-4625	68	35
5310-01-159-8178	61	31	5340-01-179-4612	50	69
5310-01-159-8178	86	20	4010-01-182-5270	61	15
5310-01-159-8178	91	12	5305-01-185-8668	56	30
5305-01-159-8544	65	9	5305-01-186-5263	56	15
5340-01-159-8585	50	160	5365-01-187-5896	50	168
5340-01-160-2160	3	26	5305-01-187-5921	54	67
5310-01-160-7496	47	33	5310-01-188-4473	47	3
5305-01-161-5501	88	55	5310-01-188-4473	48	3

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5365-01-188-9381	71	41	5365-01-205-2884	68	17
2520-01-192-1373	47	7	5365-01-205-5091	68	36
4330-01-192-1726	54	42	5365-01-206-2346	68	16
4730-01-192-9571	50	112	5975-01-207-0230	19	11
2510-01-193-1745	58	1	5310-01-208-5261	68	22
5995-01-194-0125	34	34	4730-01-208-7068	91	6
5305-01-194-8469	16	4	5305-01-210-4595	45	62
7690-01-196-0122	75	16	5365-01-211-1521	68	16
5306-01-198-8057	53	2	5331-01-213-5212	79	6
5306-01-198-8057	61	6	2520-01-214-2564	45	32
5331-01-198-8439	86	24	5935-01-214-4163	17	2
3040-01-200-0938	72	6	5935-01-214-4163	34	33
2530-01-200-2331	56	17	5935-01-214-4163	37	4
5365-01-201-4780	64	12	5331-01-214-4857	71	56
5365-01-201-4780	91	11	5310-01-214-4946	68	9
5365-01-201-4780	91	14	5310-01-214-4946	68	29
2540-01-202-5775	68	34	5310-01-214-4946	83	57
5365-01-203-0298	68	19	5935-01-214-5259	12	2
5365-01-203-0299	68	15	5935-01-214-5259	13	2
5365-01-203-0300	68	20	5935-01-214-5259	14	6
5365-01-203-0301	68	18	5340-01-214-9352	47	12
5365-01-203-0302	68	17	3040-01-215-1721	72	4
5365-01-203-0303	68	19	5310-01-216-2799	83	9
5365-01-203-2670	68	15	5999-01-216-3648	37	20
5365-01-203-6465	68	20	5307-01-216-6723	47	31
5999-01-203-6687	37	32	4730-01-216-7693	54	60
5999-01-203-6687	38	3	5307-01-216-8285	48	9
5305-01-203-8348	72	3	4730-01-217-1115	65	13
5305-01-203-8360	59	11	4730-01-217-1115	81	17
5305-01-203-8360	62	13	4730-01-217-1115	82	18
5305-01-203-8360	62	36	4730-01-217-1115	83	5
5340-01-204-4888	18	6	4730-01-217-1115	85	11
5340-01-204-4888	50	163	5365-01-217-4133	53	18
5340-01-204-4888	83	42	2530-01-217-8311	53	1
5365-01-204-8899	68	18	5340-01-219-5446	50	154
3040-01-204-9801	45	29	5331-01-220-0153	53	19
5365-01-205-2717	56	4	5331-01-220-0153	78	19

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5331-01-220-0153	79	23	4730-01-235-4789	50	135
5331-01-220-0153	79	25	4730-01-235-5782	50	108
5331-01-220-0153	79	27	5306-01-236-1585	56	28
5331-01-220-0153	89	3	5975-01-236-2902	8	12
4730-01-220-5613	50	173	5975-01-236-2902	9	12
5315-01-220-9567	68	10	5340-01-236-6217	56	39
2530-01-222-4517	53	4	5340-01-236-6218	56	44
4730-01-222-7576	71	55	5310-01-236-6412	42	7
4730-01-222-7576	88	47	5340-01-237-0843	56	34
5305-01-223-7034	60	3	5340-01-237-5054	56	40
5305-01-223-7034	61	41	5340-01-237-5055	56	45
5340-01-224-8368	24	5	4730-01-238-6442	91	15
5315-01-224-8380	68	8	4730-01-242-1290	79	22
6680-01-225-0229	53	11	4730-01-243-3542	88	7
5975-01-226-8078	37	2	5305-01-243-9406	57	1
5310-01-227-4864	69	51	4730-01-244-0080	88	11
5330-01-227-9878	53	9	4730-01-244-1226	50	20
5340-01-229-8464	37	11	5331-01-244-2273	77	5
5340-01-230-2014	71	57	5331-01-244-2273	88	5
5340-01-230-2014	79	7	5331-01-244-2273	88	12
5340-01-230-2014	88	24	5331-01-244-2273	88	40
5340-01-230-2014	88	25	5331-01-244-2273	88	46
2510-01-232-2913	56	53	5305-01-249-8564	22	9
2510-01-232-2914	56	42	5305-01-249-8564	24	14
4730-01-232-4790	55	9	5305-01-249-8564	36	1
4330-01-232-8305	55	10	5305-01-249-8564	62	21
4330-01-232-9955	55	1	5305-01-249-8564	62	38
4730-01-233-4954	50	56	5305-01-249-8564	83	41
4730-01-233-4981	50	178	4730-01-257-4898	54	68
5330-01-234-2618	55	7	4030-01-258-0467	83	50
5306-01-234-3782	45	27	5331-01-260-8952	55	6
5340-01-234-6303	56	36	2520-01-267-8757	46	8
5340-01-234-6310	56	52	4730-01-269-1554	73	28
5330-01-234-7625	55	2	4730-01-269-1554	88	29
5340-01-235-2151	55	8	5331-01-269-4323	54	50
4730-01-235-2990	50	109	5331-01-269-4323	73	15
4730-01-235-3007	50	61	5331-01-269-4323	88	36

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5331-01-269-8580	73	13	5306-01-287-5715	71	8
5331-01-269-8580	88	8	5306-01-287-5715	73	39
5331-01-269-8580	88	39	5310-01-288-1116	4	2
5331-01-269-8580	88	45	5310-01-288-1116	14	1
4730-01-269-9540	71	58	5310-01-288-1116	35	1
5342-01-270-8588	34	27	5310-01-288-1116	42	6
5342-01-270-8588	38	35	5310-01-288-1116	50	5
5342-01-270-8588	41	2	5310-01-288-1116	52	1
5999-01-280-1438	34	28	5310-01-288-1116	53	28
5305-01-280-7901	20	2	5310-01-288-1116	68	45
5305-01-280-7901	50	47	5310-01-288-1116	71	29
4730-01-280-8348	73	20	5310-01-288-1116	73	37
4730-01-280-8348	88	35	5310-01-288-1116	83	34
4730-01-280-8350	86	23	5310-01-288-1116	88	59
4730-01-280-8350	89	26	5310-01-288-5096	22	8
4730-01-280-8351	89	4	5310-01-288-5096	24	6
4730-01-281-0976	54	29	5330-01-292-5293	34	17
4730-01-281-0980	73	11	5930-01-292-6730	5	8
4730-01-281-0981	73	1	5305-01-304-9375	68	37
4730-01-281-0982	54	27	5305-01-305-6078	91	1
4730-01-281-1605	73	16	4730-01-307-3641	3	3
4730-01-281-5881	73	4	5935-01-308-7866	15	6
4730-01-281-5889	71	31	5935-01-308-7866	16	2
4730-01-281-5893	88	19	5310-01-309-6495	57	21
4730-01-282-1703	88	41	5975-01-310-5011	38	42
4730-01-282-1709	73	9	5330-01-314-6768	71	63
4730-01-282-5081	88	38	2530-01-316-0170	50	30
4730-01-283-8194	89	1	4820-01-317-2748	69	9
4730-01-283-8195	88	26	5935-01-317-6762	19	8
5999-01-286-5843	37	27	4730-01-320-5314	3	21
5306-01-287-5714	4	1	5999-01-323-4929	14	7
5306-01-287-5714	35	13	5340-01-327-0449	88	50
5306-01-287-5714	50	4	4730-01-327-1846	89	22
5306-01-287-5714	52	2	4730-01-328-0604	89	8
5306-01-287-5715	14	8	5305-01-328-4384	65	15
5306-01-287-5715	50	87	2530-01-329-4918	49	4
5306-01-287-5715	68	42	2520-01-330-0770	45	85

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5365-01-330-2223	45	11	5306-01-341-0712	73	44
5365-01-330-2224	45	70	5330-01-341-7530	79	11
5365-01-330-6435	45	10	5310-01-342-8595	21	1
5365-01-330-6436	45	82	5310-01-342-8595	83	17
4730-01-330-6555	71	53	5310-01-343-5712	83	55
5365-01-332-2150	45	57	5305-01-344-5532	58	4
5330-01-332-7167	KITS	12	5305-01-344-5532	77	1
4730-01-335-2256	50	15	5305-01-344-8899	35	2
5305-01-337-9120	3	28	5305-01-344-8899	50	40
5305-01-337-9120	35	11	5305-01-344-8899	56	9
5305-01-337-9120	44	2	5305-01-344-8899	61	17
5305-01-337-9120	50	48	5305-01-344-8899	63	9
5305-01-337-9120	56	10	5305-01-344-8899	63	15
5305-01-337-9120	75	13	5305-01-344-8899	71	21
5305-01-337-9120	91	18	5305-01-344-8899	73	40
5306-01-338-7270	50	167	5305-01-344-8899	74	5
5306-01-338-7270	54	8	5305-01-344-8899	83	45
5305-01-338-7301	68	30	5305-01-344-8899	84	5
5935-01-339-3227	34	15	5330-01-345-2408	KITS	14
5935-01-339-3227	38	39	5305-01-346-3692	50	169
5305-01-340-0225	50	11	5305-01-346-3692	91	21
5305-01-340-0225	56	61	5310-01-346-9445	3	25
5315-01-340-1235	45	73	5310-01-346-9445	35	4
5365-01-340-3898	73	58	5310-01-346-9445	44	4
5305-01-340-5061	50	165	5310-01-346-9445	50	45
5310-01-340-5671	3	24	5310-01-346-9445	56	6
5310-01-340-5671	35	6	5310-01-346-9445	63	12
5310-01-340-5671	49	5	5310-01-346-9445	63	14
5310-01-340-5671	50	17	5310-01-346-9445	71	24
5310-01-340-5671	54	12	5310-01-346-9445	71	64
5310-01-340-5671	56	58	5310-01-346-9445	73	36
5310-01-340-5671	62	17	5310-01-346-9445	74	3
5310-01-340-5671	62	32	5310-01-346-9445	83	43
5310-01-340-5671	64	9	5310-01-346-9445	84	20
5310-01-340-5671	73	41	5310-01-346-9445	91	29
5310-01-340-5671	88	62	5305-01-349-4186	71	66
5306-01-341-0712	3	22	5305-01-349-4187	50	145

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5320-01-351-5621	76	1	4730-01-355-5904	88	32
5340-01-351-5690	50	155	5340-01-355-6821	20	18
4730-01-351-8097	54	47	5340-01-355-6821	89	16
5305-01-352-2049	50	67	5340-01-355-6869	2	7
5310-01-352-7732	16	5	5340-01-355-6870	50	88
5310-01-352-7732	19	15	5950-01-355-7136	78	13
5310-01-352-7732	83	59	5365-01-355-7357	83	30
5340-01-352-8719	63	11	5365-01-355-7358	83	27
5310-01-353-6045	29	49	5365-01-355-7358	84	9
5310-01-353-6045	61	12	5935-01-355-7505	20	8
5310-01-353-6045	62	6	5935-01-355-7505	20	15
5305-01-353-8268	50	90	4820-01-355-7625	91	33
5305-01-354-2490	69	53	5340-01-355-8246	20	1
5310-01-354-3729	58	7	5310-01-355-8794	65	24
2590-01-354-5102	63	10	5310-01-355-8798	78	20
6220-01-354-7462	5	4	5310-01-355-8798	80	18
5305-01-355-1427	83	58	3120-01-355-8843	65	25
5120-01-355-1895	90	1	4820-01-355-8975	78	2
5305-01-355-2641	81	3	4810-01-355-8979	78	8
5305-01-355-2641	82	3	5305-01-355-8980	78	12
5305-01-355-2642	81	12	5305-01-355-8980	80	8
5305-01-355-2642	82	14	4730-01-355-9003	79	12
5305-01-355-2643	81	2	5330-01-355-9269	83	3
5305-01-355-2643	82	2	5340-01-355-9368	83	12
5310-01-355-3675	70	11	5365-01-355-9529	83	4
5340-01-355-3733	71	7	5331-01-355-9911	78	17
5315-01-355-3744	83	25	5331-01-355-9911	80	9
5340-01-355-3794	65	12	5365-01-355-9965	81	4
5330-01-355-4809	17	8	5365-01-355-9965	82	4
5330-01-355-4809	20	9	4730-01-356-0687	77	7
5330-01-355-4809	20	16	4730-01-356-1018	77	10
5330-01-355-4809	38	28	3040-01-356-2707	81	1
4730-01-355-5140	78	1	4720-01-356-4555	77	6
5340-01-355-5159	2	8	3040-01-356-4589	83	16
5340-01-355-5248	65	17	2530-01-356-4613	83	29
5340-01-355-5258	50	89	2530-01-356-4614	83	26
4730-01-355-5904	71	51	2530-01-356-4614	84	10

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
3040-01-356-6837	83	31	5365-01-368-6147	83	35
2510-01-356-6906	83	32	5330-01-369-2298	72	2
5340-01-356-8373	83	11	3040-01-370-2823	72	7
5935-01-357-1036	10	3	2530-01-371-1277	50	18
5935-01-357-1036	11	3	5340-01-372-3982	81	11
3990-01-357-1944	KITS	9	5340-01-372-3982	82	13
5306-01-357-2365	29	31	5999-01-372-4955	37	23
5310-01-357-8849	54	62	5999-01-372-4955	38	11
5940-01-357-9199	19	4	5999-01-372-4955	39	6
5940-01-358-1127	19	1	5999-01-373-4494	34	39
3990-01-358-1146	KITS	8	5999-01-373-4494	38	14
2540-01-358-1218	83	1	3040-01-374-4803	82	1
5970-01-358-3441	20	10	5935-01-376-1003	20	4
5970-01-358-3441	20	14	5331-01-382-7552	71	2
9905-01-358-6746	76	6	5331-01-382-7552	71	4
6240-01-358-7127	5	3	5305-01-384-3474	57	38
4730-01-358-8528	54	49	5342-01-384-9511	24	11
5340-01-358-9234	56	22	5340-01-389-3462	78	15
5340-01-358-9235	56	25	5340-01-389-3462	80	10
5305-01-360-7999	43	3	5340-01-389-3537	78	14
5315-01-361-2721	83	6	4820-01-393-5272	54	25
5310-01-361-8388	59	13	5315-01-395-4217	68	44
9905-01-361-8611	76	7	3910-01-397-5277	65	5
6150-01-362-5216	18	1	5999-01-406-4110	17	3
6150-01-362-5217	19	6	5999-01-406-4110	34	32
6150-01-362-5218	20	12	5999-01-406-4110	37	3
6150-01-363-2162	20	6	5330-01-406-8221	53	7
5340-01-363-6139	65	14	4820-01-408-4702	73	47
5315-01-363-7062	83	48	5310-01-409-1675	2	9
5340-01-363-9130	29	16	5305-01-412-0891	70	9
5999-01-364-1237	34	36	4720-01-413-2584	71	89
5340-01-364-8246	50	54	4720-01-413-2593	71	71
5340-01-364-8246	84	19	2590-01-414-3179	83	2
6240-01-365-7995	5	2	5340-01-419-1315	24	7
5340-01-366-3341	88	9	5331-01-420-6083	69	11
5340-01-366-3343	88	10	5330-01-420-6084	69	12
3120-01-367-9484	83	36	5331-01-420-6085	69	13

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5330-01-420-6086	69	14	5331-01-458-8349	73	5
5331-01-421-1835	54	19	5331-01-458-8349	73	10
5355-01-421-3560	70	13	5331-01-458-8349	73	17
5305-01-421-4222	46	5	5331-01-458-8349	73	21
5330-01-424-2991	69	10	5331-01-458-8349	73	24
5950-01-426-7978	80	16	5331-01-458-8349	73	26
5330-01-429-2588	17	4	5331-01-458-8349	88	28
3020-01-429-4597	56	54	5331-01-458-8349	88	43
4730-01-434-7789	3	11	4730-01-459-0000	3	10
5999-01-435-7242	8	6	5315-01-459-1409	29	39
5999-01-435-7242	9	9	6150-01-459-1811	22	5
5305-01-443-8671	54	63	5305-01-459-3059	78	21
5310-01-446-0892	54	55	5305-01-459-3059	80	19
5330-01-446-7063	KITS	13	5310-01-459-6126	65	19
5930-01-446-8152	8	7	5310-01-459-6206	65	18
5930-01-446-8152	9	6	4730-01-459-6857	79	5
5935-01-446-8180	34	21	3120-01-459-8228	65	27
5935-01-446-8180	39	5	5365-01-459-8230	20	22
5935-01-447-5814	39	7	4730-01-459-9926	73	14
5340-01-448-5232	89	15	3120-01-461-8627	65	2
2530-01-453-9071	49	6	5940-01-462-1717	34	16
4810-01-453-9543	80	12	5940-01-462-1717	38	41
5935-01-454-1787	38	43	5940-01-462-1718	34	18
5935-01-454-1789	37	22	5940-01-462-1718	38	40
5935-01-454-1789	38	17	5930-01-462-2954	10	1
4820-01-454-2292	80	2	5340-01-462-3360	20	24
4030-01-456-1150	83	7	5340-01-462-3361	83	20
5305-01-456-9449	35	12	5340-01-462-6138	20	23
5305-01-456-9449	64	7	5325-01-462-7182	65	4
3040-01-457-1054	45	54	5930-01-464-9574	10	2
5365-01-457-2368	65	6	5930-01-464-9574	20	17
5310-01-457-8573	29	36	5930-01-464-9574	20	21
5310-01-457-8573	86	22	5930-01-464-9581	11	2
5310-01-457-8573	91	4	2530-01-464-9916	34	35
5310-01-458-0248	83	18	4730-01-465-9669	50	66
5305-01-458-3646	84	16	5365-01-466-2026	57	20
5331-01-458-8349	73	3	5365-01-466-2028	57	42

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5310-01-466-2695	63	1	5935-01-479-1602	37	15
5305-01-466-3863	68	24	5935-01-479-1602	38	8
5935-01-470-2406	31	10	5330-01-479-2244	22	7
5935-01-470-4143	34	38	5365-01-479-2249	66	4
5935-01-470-6220	38	16	5340-01-479-3023	37	18
5999-01-470-6330	31	8	5340-01-479-3023	38	6
5999-01-470-6330	37	17	9905-01-479-3068	75	25
5999-01-470-6330	38	4	9905-01-479-3068	76	5
5999-01-470-6334	31	4	9905-01-479-3069	76	4
5999-01-470-6336	31	5	6160-01-479-3924	29	11
5999-01-470-6337	31	9	6160-01-479-3938	29	7
5999-01-470-6337	37	16	4730-01-479-4619	50	52
5999-01-470-6337	38	7	4730-01-479-4619	50	71
5935-01-470-8337	31	2	5340-01-479-5938	KITS	4
5935-01-470-8343	31	11	5999-01-479-8613	25	2
5935-01-471-1287	34	37	5340-01-479-9054	50	144
4720-01-477-1465	71	84	5340-01-479-9054	56	8
5340-01-478-3163	24	16	5340-01-479-9054	62	10
5340-01-478-3339	24	3	5340-01-479-9054	74	8
5310-01-478-7218	61	26	5340-01-479-9054	83	44
5310-01-478-7271	56	59	5120-01-479-9060	71	22
5310-01-478-7271	68	26	2510-01-480-1128	50	153
5310-01-478-8687	29	24	5999-01-480-2343	34	20
5310-01-478-8687	59	1	5305-01-480-2359	59	5
5310-01-478-8687	61	18	2590-01-480-2394	38	20
5310-01-478-8689	29	2	5305-01-480-4203	15	7
5310-01-478-8689	59	20	5331-01-480-5839	71	18
5305-01-478-8705	29	22	5331-01-480-5839	71	20
5310-01-479-0591	24	15	5305-01-480-7045	29	4
5310-01-479-0591	91	10	5305-01-480-7045	59	6
5310-01-479-0591	91	13	4730-01-480-8712	49	12
5310-01-479-0616	8	16	5305-01-480-9001	29	6
5310-01-479-0616	9	14	5935-01-480-9080	31	3
5331-01-479-0634	71	10	5935-01-480-9083	38	10
5331-01-479-0634	71	12	5330-01-481-0888	86	25
5305-01-479-0981	63	13	6220-01-482-5320	22	4
9905-01-479-1596	29	8	6220-01-482-5574	22	1

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
6220-01-482-6113	24	2	5305-01-504-7887	29	28
5310-01-482-9242	54	34	5305-01-504-8942	54	56
6220-01-482-9850	23	1	5980-01-504-9938	27	2
5935-01-483-0852	38	24	5935-01-506-5555	34	41
5935-01-484-6537	38	38	5315-01-506-8317	83	52
5305-01-485-3649	29	52	5961-01-507-5297	38	25
4720-01-485-5486	50	9	6150-01-507-5631	79	14
4720-01-485-5545	50	8	5340-01-507-8255	50	166
4720-01-485-5548	50	10	5305-01-507-8256	23	2
4720-01-485-5570	50	73	5305-01-507-8259	83	61
4720-01-485-6221	50	26	6210-01-507-8952	25	1
2520-01-485-6386	53	5	5305-01-507-8980	8	15
5340-01-485-6405	50	151	5305-01-507-8980	9	13
5310-01-485-8403	47	11	5305-01-507-8980	29	54
5975-01-485-8769	22	6	5340-01-507-9466	44	3
4310-01-486-1286	50	96	5340-01-507-9494	62	12
4730-01-486-1293	89	11	2510-01-507-9497	62	11
5340-01-486-2072	68	27	5935-01-508-1705	34	10
5340-01-486-4899	62	18	5935-01-508-2820	38	2
4310-01-487-8807	72	13	2530-01-510-3165	49	20
5330-01-488-4097	79	15	2530-01-511-0241	49	15
5330-01-488-4100	65	7	5975-01-512-0283	24	4
4720-01-488-6120	71	82	5945-01-512-0284	35	5
4730-01-491-0218	79	20	5340-01-512-6328	49	19
5310-01-492-5550	29	3	5930-01-512-8227	15	1
5310-01-494-4099	68	13	4730-01-512-8588	73	25
5305-01-494-4151	68	12	5310-01-513-0933	49	16
5935-01-495-3346	37	30	5306-01-513-3239	29	20
5935-01-495-3353	37	24	5975-01-513-6305	3	20
6220-01-502-7704	5	5	5305-01-514-9747	71	5
5935-01-502-9260	17	6	4730-01-515-0423	88	4
5360-01-503-3209	49	21	6220-01-515-0670	27	1
5930-01-503-4591	43	2	5340-01-515-1059	56	55
5935-01-503-4847	38	13	5310-01-515-1266	91	30
2530-01-503-6745	49	18	5895-01-515-2086	35	9
2530-01-503-6764	49	14	5310-01-515-2427	59	19
5935-01-503-7348	38	15	5935-01-515-2433	37	21

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5935-01-516-9372	38	44	5935-01-519-1808	34	40
5305-01-517-0245	53	6	4730-01-522-3506	54	13
5935-01-517-0400	38	9	5305-01-522-9366	29	12
2590-01-517-2878	29	27	5935-01-523-1409	37	19
2590-01-517-2878	59	14	4730-01-523-3820	50	60
2590-01-517-2878	62	20	5935-01-523-5021	38	18
2590-01-517-2878	62	39	5930-01-525-6330	16	1
5935-01-517-6022	38	12	5930-01-525-6444	16	3
5935-01-517-6030	38	31	5935-01-526-6797	25	3
4030-01-517-7356	29	41	5340-01-527-9898	22	3
4030-01-517-7356	68	38	5331-01-529-3104	53	23
4030-01-517-7356	83	22	5331-01-529-3108	73	59
5935-01-517-8182	38	33	5331-01-529-3108	79	4
5935-01-519-0770	37	31	5331-01-529-3108	79	13
5935-01-519-1186	38	32	5331-01-530-3817	71	16
4730-01-519-1745	87	12	4730-01-531-3028	88	44
4820-01-519-1784	87	11	5999-15-174-6552	38	21
4820-01-519-1785	87	5	5999-15-174-6553	38	22
5950-01-519-1789	87	4			

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

RPSTL PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
98624	AAA01016E		2	4
98624	AAA01020J		2	5
98624	AAA01341A		2	2
98624	AAA01368A		2	3
58536	AA52428-1	9905-00-205-2795	65	8
58536	AA52428-1	9905-00-205-2795	74	6
58536	A-A-52506-F-104	4730-00-908-6294	69	55
58536	AA59616ACABDB	4730-00-044-4861	45	59
45152	AE30574	5310-00-092-6831	57	13
88044	AN365-1024A	5310-00-208-1918	35	7
88044	AN365-1024A	5310-00-208-1918	36	3
88044	AN365-1024A	5310-00-208-1918	59	12
88044	AN365-1024A	5310-00-208-1918	62	19
88044	AN365-1024A	5310-00-208-1918	62	40
81343	AS3209-013	5331-00-166-0988	79	19
81343	AS3582-021	5331-00-939-9095	54	7
81343	AS3582-021	5331-00-939-9095	54	10
81343	AS3582-023	5331-00-182-3115	54	38
81343	AS3582-024	5331-00-942-5120	54	48
81343	AS4858-03	4730-00-256-4211	50	72
81343	AS4863SIZE0Z(OD)	4730-00-221-2137	55	4
81343	AS5195R1012	4730-01-082-3947	54	69
81343	AS568-012	5331-01-115-8226	73	29
81343	AS568-214	5331-01-116-8112	77	8
96124	A112-20-12	5331-01-006-2132	71	79
10988	A11507	5330-00-846-8177	45	51
98624	A-1300-B	5310-01-409-1675	2	9
08441	A17004-2	4730-00-277-9615	50	32

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
1UW16	A 203107	5940-01-357-9199	19	4
06853	A217709	4730-00-407-0566	50	114
58536	A52484-1	4730-00-595-0083	50	25
16166	BF-4HP	4730-00-277-5736	50	57
80204	B1821BH025C075N	5305-00-068-0508	70	17
80204	B1821BH025C113N	5305-00-225-3842	62	5
80204	B1821BH025C125N	5305-00-068-0509	58	11
80204	B1821BH031C063N	5306-00-226-4824	68	7
80204	B1821BH038C113N	5305-00-543-2419	53	25
80204	B1821BH038C225N	5305-00-638-8920	50	104
80204	B1821BH038C300N	5305-00-846-5703	53	31
80204	B1821BH038C400N	5305-00-781-3928	88	54
80204	B1821BH044C113N	5305-00-071-1787	45	94
80204	B1821BH050C113N	5305-00-732-0511	45	1
80204	B1821BH050C113N	5305-00-732-0511	45	5
80204	B1821BH050C150N	5305-00-071-2069	45	17
80204	B1821BH063C450N	5305-00-724-7264	57	6
51588	B40L	3120-00-103-9788	81	15
51588	B40L	3120-00-103-9788	82	15
71468	CA3100F18-1SF80	5935-01-112-9792	18	4
71468	CA3100F24-19P-F80	5935-01-502-9260	17	6
71468	CA3101F10SL-3PF80	5935-01-357-1036	10	3
71468	CA3101F10SL-3PF80	5935-01-357-1036	11	3
71468	CA3101F12S-3S-F80-F42	5935-01-508-1705	34	10
71468	CA3102R18-1S-F80	5935-01-317-6762	19	8
71468	CA3106E14S-6PF80	5935-00-435-3945	37	14
11139	CA3106E36-10SB-F80		37	29
71468	CA3106F10SL3SF80	5935-00-146-5811	17	5
71468	CA3106F10SL3SF80	5935-00-146-5811	18	5
71468	CA3106F18-1PF80	5935-01-112-9782	18	3
71468	CA3106F18-1PF80	5935-01-112-9782	38	30
71468	CA3106F24-19P-F80		38	29
54035	CBDA-LHN		69	15

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
05693	CCP-42	5320-01-083-9619	75	5
0FHH8	CCP024D	5950-01-426-7978	80	16
0FHH8	CCS024D	5950-01-355-7136	78	13
11139	CCUP36-34		37	28
75272	COV-1713	5340-00-404-4098	74	4
75272	COV-2913-Z1	5340-01-146-6910	3	27
78500	CP280X	2520-01-082-8619	46	4
54035	CSAD-XXN	4820-01-317-2748	69	9
54035	CWEA-LHN		85	2
75272	C0V050971	5340-01-038-9481	63	3
75272	C0V1313	5340-00-404-4101	50	43
75272	C0V1313	5340-00-404-4101	56	63
75272	C0V1313	5340-00-404-4101	62	7
75272	C0V1313	5340-00-404-4101	88	61
75272	C0V2113	5340-00-404-4100	3	23
75272	C0V2113	5340-00-404-4100	50	164
75272	C0V2113	5340-00-404-4100	58	8
57526	C8TZ-4A309-A	2520-00-140-3653	47	18
57526	C8TZ-4A309-A	2520-00-140-3653	48	7
30058	DE-RCA-0407		87	2
30058	DE-S2B-VM		87	3
53790	DP-2	5340-01-355-6821	20	18
53790	DP-2W3	5340-01-355-6821	89	16
11139	DRC18-40SA	5935-01-508-2820	38	2
11139	DTHD04-1-8P		39	3
11139	DTHD06-1-8S		37	13
11139	DTM06-2S		34	19
11139	DT04-12PA	5935-01-516-9372	38	44
13499	DT04-12PA-P021	5935-01-523-5021	38	18
11139	DT04-4P	5935-01-503-4847	38	13
11139	DT04-4P-RT01		38	39
11139	DT06-12SA	5935-01-470-6220	38	16
11139	DT06-2S	5935-01-447-5814	39	7

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
11139	DT06-3S-E008	5935-01-470-2406	31	10
11139	DT06-4S	5935-01-484-6537	38	38
11139	DT06-6S-P012	5935-01-519-1186	38	32
45152	EE105327	5305-01-086-3551	18	8
45152	EE105327	5305-01-086-3551	19	12
45152	EE34635	9905-00-202-3639	74	10
82484	E-013-003	6240-01-358-7127	5	3
82484	E-013-014	6240-01-365-7995	5	2
82484	E-013-015	6220-01-502-7704	5	5
02697	E0798 2-012	5331-01-072-1665	71	26
82484	E-131-001	6220-01-354-7462	5	4
0FHH8	E2A50Y4350NMK2	4820-01-355-8975	78	2
0FHH8	E2F050Y4350N	4820-01-454-2292	80	2
60827	FB07	5330-01-406-8221	53	7
60827	FB-10-120-305-D	2520-01-485-6386	53	5
01276	FD15-1026-04	4820-01-393-5272	54	25
01276	FD40-1000-04-04	4730-01-155-3163	50	59
01276	FD90-1040-04	5340-01-230-2014	71	57
01276	FD90-1040-04	5340-01-230-2014	79	7
01276	FD90-1040-04	5340-01-230-2014	88	24
01276	FD90-1040-04	5340-01-230-2014	88	25
01276	FD90-1044-04-04	4730-01-222-7576	71	55
01276	FD90-1044-04-04	4730-01-222-7576	88	47
01276	FD90-1044-05-04	4730-01-459-6857	79	5
81348	FFB187/01-446	3110-00-100-0333	45	13
01276	FF1852T00604S	4730-01-355-5904	71	51
01276	FF1852T00604S	4730-01-355-5904	88	32
01276	FF1852T-0408S	4730-01-281-0982	54	27
01276	FF1852T-0606S	4730-01-269-9540	71	58
01276	FF1852T-0610S	4730-01-281-5889	71	31
01276	FF1852T0808-214	4730-01-282-5081	88	38
01276	FF1852T-0812S	4730-01-281-0980	73	11
01276	FF1852T-1208S	4730-01-282-1703	88	41

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
01276	FF1852T-1210S	4730-01-330-6555	71	53
01276	FF1852T-1212S	4730-01-281-0981	73	1
01276	FF1852T-1612S	4730-01-280-8348	73	20
01276	FF1852T-1612S	4730-01-280-8348	88	35
01276	FF1865T-0404S	4730-01-328-0604	89	8
01276	FF1865T-0606S	4730-01-281-5893	88	19
01276	FF1865T-0808S	4730-01-531-3028	88	44
01276	FF1865T-1212S	4730-01-282-1709	73	9
01276	FF1868T-0604S	4730-01-269-1554	73	28
01276	FF1868T-0604S	4730-01-269-1554	88	29
01276	FF1868T-1208S	4730-01-283-8194	89	1
01276	FF1868T-1212S	4730-01-283-8195	88	26
01276	FF1994T-1616S	4730-01-358-8528	54	49
01276	FF2068-1612S	4730-01-281-1605	73	16
01276	FF2098T-0808S	4730-01-486-1293	89	11
01276	FF2098T1616S	4730-01-459-9926	73	14
01276	FF2114T-1212S	4730-01-281-5881	73	4
91561	FF-371-8F0	4730-01-244-0080	88	11
91561	FF-372-8F0	4730-01-243-3542	88	7
01276	FF593-16	4730-01-155-4089	54	53
01276	FF593-20	4730-01-216-7693	54	60
00624	FF9446-11	5331-01-214-4857	71	56
01276	FF9446-12	5331-01-115-8226	88	20
01276	FF9446-14	5331-01-269-8580	73	13
01276	FF9446-14	5331-01-269-8580	88	8
01276	FF9446-14	5331-01-269-8580	88	39
01276	FF9446-14	5331-01-269-8580	88	45
01276	FF9446-18	5331-01-458-8349	73	3
01276	FF9446-18	5331-01-458-8349	73	5
01276	FF9446-18	5331-01-458-8349	73	10
01276	FF9446-18	5331-01-458-8349	73	17
01276	FF9446-18	5331-01-458-8349	73	21
01276	FF9446-18	5331-01-458-8349	73	24

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
01276	FF9446-18	5331-01-458-8349	73	26
01276	FF9446-18	5331-01-458-8349	88	28
01276	FF9446-18	5331-01-458-8349	88	43
01276	FF9446-21	5331-01-269-4323	54	50
01276	FF9446-21	5331-01-269-4323	73	15
01276	FF9446-21	5331-01-269-4323	88	36
01276	FK1329HHH0244	4720-01-356-4555	77	6
01276	FU681HHH0284000AA		80	23
01276	FU681HHH0284000AB		80	22
01276	FU681HHH0290000AA		80	22
01276	FU681HHH0290000AB		80	23
01276	F1994T0606-214	4730-01-351-8097	54	47
87373	F3810606121212-42.75		54	2
87373	F3810637121212-15.50		54	59
87373	F3810639121212-28.50		54	5
87373	F3810639121212-38.25		54	11
87373	F421HT0606161616-42.00		54	1
45152	F451TCJCJC060606-72.00		71	15
45152	F451TCJCJ1121212-61.00		71	17
87373	F451TCJCJ7060806-76.25		88	66
87373	F451TCJCJ7060806-79.00		88	67
87373	F451TCJCJ7121212-41.5		71	19
87373	F451TCJCJ7121212-67.00		88	65
87373	F451TCJCJ7121212-70.25		88	64
87373	F451TCJCJ9080808-37.00		88	16
87373	F451TCJCJ9090909-35.25		88	18

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
87373	F451TCJCJ9121212- 20.00		88	2
87373	F451TC06J7121212- 79.25		54	3
87373	F451TC06J7161616- 98.75		54	15
87373	F451TC0606121212- 57.00		54	4
OENJ2	GB-073-101		36	2
53790	GD-DS2	5340-01-327-0449	88	50
53790	GD-3D	5340-01-172-1566	71	6
2K272	GE45E8-2RS	3120-01-461-8627	65	2
55719	GLA72A	5120-01-355-1895	90	1
0FHH8	GS027400N	4810-01-453-9543	80	12
0FHH8	GS028000N	4810-01-355-8979	78	8
1EP30	HC2124-G475	5330-01-234-7625	55	2
11139	HD34-18-8SN-059		34	29
11139	HD36-18-8PN		37	25
83014	H360K2598	5340-01-419-1315	24	7
62060	H360-7-2	5340-01-224-8368	24	5
81349	JANTX1N3957	5961-00-181-0661	17	7
81349	JANTX1N3957	5961-00-181-0661	38	27
55719	JHW7-6112		90	2
60038	JM718110	3110-01-037-5496	45	97
60038	JM718149	3110-01-037-7207	45	98
98441	JORG-12	5331-01-480-5839	71	18
98441	JORG-12	5331-01-480-5839	71	20
87373	JORG-6	5331-01-530-3817	71	16
81343	J513 4-4 010102B	4730-00-266-0533	1	1
81343	J514 8-6 070102CA	4730-00-813-9611	3	8
05FJ2	LX 385		83	51
01212	MA1211EL	3110-00-155-6518	47	15
96906	MS14307-4	4730-00-595-0143	50	63
96906	MS15573-3	6240-00-155-7866	5	7

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
80205	MS15795-808	5310-00-619-1148	23	3
80205	MS15795-808	5310-00-619-1148	29	13
96906	MS16624-250	5325-00-175-1315	83	28
96906	MS16624-250	5325-00-175-1315	84	6
96906	MS16624-315	5325-00-282-7149	83	33
96906	MS16625-3187	5325-01-173-0704	91	25
96906	MS19068-121	5310-00-185-6345	83	19
96906	MS19070-181	5310-00-186-0977	45	93
96906	MS20659-104	5940-00-107-1481	34	9
96906	MS20659-104	5940-00-107-1481	40	5
96906	MS20659-105	5940-00-114-1300	39	4
96906	MS20659-106	5940-00-113-9819	34	22
96906	MS20659-127	5940-00-113-3147	34	14
96906	MS20913-1S	4730-00-221-2136	45	41
96906	MS20913-2S	4730-00-221-2137	45	35
96906	MS20913-6S	4730-00-221-2140	45	74
96906	MS21045-5	5310-00-982-4912	45	64
80205	MS21333-125	5340-00-725-5280	83	53
80205	MS24665-353	5315-00-839-5822	29	37
80205	MS24665-357	5315-00-298-1481	29	38
80205	MS24665-752	5315-00-846-4297	83	10
96906	MS24693-94	5305-01-412-0891	70	9
81343	MS25036-103	5940-00-143-4771	37	6
81343	MS25036-108	5940-00-143-4780	31	6
96906	MS25036-114	5940-00-113-9826	37	7
96906	MS27183-10	5310-00-809-4058	20	3
96906	MS27183-10	5310-00-809-4058	33	2
96906	MS27183-10	5310-00-809-4058	50	46
96906	MS27183-10	5310-00-809-4058	62	8
96906	MS27183-10	5310-00-809-4058	70	16
96906	MS27183-14	5310-00-080-6004	53	26
81343	MS28778-6	5331-00-804-5695	71	72
81343	MS28778-6	5331-00-804-5695	71	74

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
81343	MS28778-6	5331-00-804-5695	71	83
81343	MS28778-6	5331-00-804-5695	71	76
81343	MS28778-6	5331-00-804-5695	71	81
81343	MS28778-6	5331-00-804-5695	71	85
81343	MS28778-6	5331-00-804-5695	71	90
80205	MS35190-272	5305-00-088-8332	69	58
80205	MS35206-231	5305-00-889-3001	19	5
96906	MS35206-280	5305-00-988-1724	6	2
80205	MS35206-281	5305-00-988-1725	74	11
80208	MS35206-281	5305-00-988-1725	84	8
80205	MS35338-44	5310-00-582-5965	20	19
80205	MS35338-44	5310-00-582-5965	33	4
80205	MS35338-44	5310-00-582-5965	58	12
80205	MS35338-44	5310-00-582-5965	70	15
80205	MS35338-44	5310-00-582-5965	75	14
80205	MS35338-44	5310-00-582-5965	89	17
80205	MS35338-46	5310-00-637-9541	45	63
80205	MS35338-48	5310-00-584-5272	45	6
80205	MS35338-48	5310-00-584-5272	57	25
96906	MS35691-37	5310-00-834-8734	45	49
96906	MS39230-3	4730-00-253-4413	45	52
96906	MS39231-8	4730-00-261-4219	53	20
96906	MS39324-12-10	4730-01-096-9138	54	18
96906	MS51500A4-4S	4730-00-837-7073	50	177
96906	MS51504A12	4730-00-289-4912	50	80
96906	MS51504A12-8	4730-01-220-5613	50	173
96906	MS51504A8-8	4730-00-273-6686	50	27
96906	MS51508B4-4Z	4730-01-238-6442	91	15
96906	MS51527A12	4730-01-011-7736	79	3
96906	MS51527A8	4730-00-822-5609	79	24
96906	MS51528A12P	4730-00-903-7176	54	20
96906	MS51528B8	4730-00-062-5470	79	26
96906	MS51844-43	4030-01-258-0467	83	50

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
80205	MS51861-12	5305-00-140-8001	75	21
96906	MS51953-169	4730-00-196-1471	53	21
96906	MS51953-172	4730-00-196-1531	53	17
80205	MS51958-64	5305-00-059-3660	22	2
96906	MS51967-14	5310-00-768-0318	57	24
81349	M12133/1-12P	5310-01-038-2294	83	56
81349	M24243/1F404	5320-00-173-8625	75	4
96906	M45913/3-4CG8C	5310-00-061-4650	62	16
96906	M45913/3-4CG8C	5310-00-061-4650	62	33
81349	M5423/01-01	5930-00-689-6786	8	14
81349	M83248/1-206	5331-01-005-0521	79	9
81343	M83248/1-904	5331-00-020-0203	87	13
81343	M83248/2-906	5331-00-165-1981	87	17
81349	M83420-4-010	4010-00-575-6233	BULK	2
2K272	NO8 LOCKNUT		65	23
97111	NR-37	5340-01-366-3341	88	9
97111	NR-50	5340-01-366-3343	88	10
06721	N13048A	2530-00-137-9235	50	24
06721	N-30252	4820-00-633-3523	50	64
79136	N5000-268	5325-00-722-8570	65	1
06721	N-50009-A	2530-01-371-1277	50	18
1EP30	OR-904	5331-01-260-8952	55	6
98624	OS-4546	5340-01-355-5159	2	8
93061	PD36BTL		71	86
93061	PD36BTL		88	22
1EP30	P.E.P.4.1.4	5340-01-235-2151	55	8
1XHG5	PWR-1014	5330-01-369-2298	72	2
18265	P16-7154	4330-01-232-8305	55	10
87373	P2660606121212-53.00		50	79
87373	P2660637242424-32.75		54	22
87373	P2930637040404-10.0		91	32
87373	P2936868060606-15.8		50	117
87373	P2936868060606-15.8		50	119

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
87373	P2936868060606-15.8		50	122
87373	P2936868060606-15.8		50	115
87373	P2936868080808-15.8		50	116
87373	P2936868080808-15.8		50	118
87373	P2936868080808-15.8		50	120
87373	P2936868080808-15.8		50	121
55380	RC7156	5325-00-248-7078	63	2
87373	R2661519322024-48.0		54	36
81343	SAE J514 24-24 070220C	4730-01-088-4454	54	51
54035	SCEA-CAN		69	2
82654	SF 845	9390-01-085-2839	BULK	1
81922	SHC-1022	5975-01-207-0230	19	11
74545	SHC-1032	5975-01-236-2902	8	12
74545	SHC-1032	5975-01-236-2902	9	12
30058	SJ-S2B-VM		87	6
1CC11	SKMWH-74		KITS	1
54035	SKSS-008033		KITS	2
08928	SN-524NE-24	5310-01-081-5351	61	10
4R119	SPLE101D05	5306-01-156-8678	53	8
4R119	SPLE101D05	5306-01-156-8678	61	3
53790	SP1		71	27
0CAG9	SS100-12N	4730-01-153-2765	53	16
15434	S170A	5305-00-509-8103	83	38
78500	S-268-1	5306-01-084-5390	55	12
78500	S-268-1	5306-01-084-5390	61	19
84971	TA720-S8	5340-01-204-4888	18	6
84971	TA720-S8	5340-01-204-4888	50	163
84971	TA720-S8	5340-01-204-4888	83	42
84971	TA720516	5340-00-404-4098	35	3
71041	TP612	3120-00-596-7688	45	24
27387	TR020070010		57	4
27387	TR020070020		57	7
71724	T-560-0379-001	2520-01-144-8187	45	14

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
93061	VS271NTA-4-4	4730-01-081-5546	50	51
60380	WJ485424	3110-00-842-5207	45	9
11331	WM778A	4820-01-132-0583	50	77
2K272	W 08	5310-01-355-8794	65	24
2K272	W 09	5310-01-459-6126	65	19
2K272	W 12 LOCKWASHER	5310-01-458-0248	83	18
11139	W12S	5935-01-454-1789	37	22
11139	W12S-P012	5935-01-519-0770	37	31
11139	W2P	5935-01-519-1808	34	40
11139	W2S	5935-01-446-8180	34	21
11139	W2S	5935-01-446-8180	39	5
11139	W3P	5935-01-470-8337	31	2
11139	W4P	5935-01-503-7348	38	15
11139	W4S	5935-01-483-0852	38	24
11139	W4S-P012	5935-01-517-6022	38	12
11139	W6P	5935-01-523-1409	37	19
11139	W6S-P012	5935-01-517-6030	38	31
11139	W12P	5935-01-454-1787	38	43
11139	W12S	5935-01-454-1789	38	17
12088	X125	5340-01-351-5690	50	155
93568	00328-0003	9905-00-205-2795	24	12
71468	029-0262-000	5340-01-229-8464	37	11
71468	030-2245-001		21	5
11139	0460-202-16141	5999-01-216-3648	37	20
11139	0460-202-1631	5999-01-470-6334	31	4
11139	0460-204-08141		39	2
11139	0460-215-16141	5999-01-373-4494	34	39
11139	0460-215-16141	5999-01-373-4494	38	14
11139	0460-247-1631	5999-01-470-6336	31	5
11139	0462-201-16141	5999-01-203-6687	37	32
11139	0462-201-1631	5999-01-470-6330	31	8
11139	0462-201-1631	5999-01-470-6330	37	17
11139	0462-201-1631	5999-01-470-6330	38	4

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
11139	0462-203-08141		37	12
11139	0462-221-1631	5999-01-470-6337	31	9
80535	0544-2405	5306-01-149-6274	56	19
311K7	08.80.562		15	2
45152	1HA53	5935-01-517-0400	38	9
45152	1KK239	5305-01-517-0245	53	6
45152	1KK51	5935-01-526-6797	25	3
30780	10P50N-S	5365-01-188-9381	71	41
0TW02	100121A	4310-01-486-1286	50	96
311K7	1002884		15	4
311K7	1002885		15	5
311K7	1010924		15	3
06853	102166	2530-01-147-9995	50	2
62410	1030357		85	1
62410	1032180		85	12
62410	1032186		85	27
62410	1032187		85	19
62410	1032188		85	35
62410	1032191		85	32
62410	1032192		85	29
62410	1032193		85	31
54035	1032194		KITS	3
62410	1032198		85	18
62410	1032206		85	25
62410	1032264		85	33
62410	1032463		85	14
06853	103385	4820-00-142-3036	50	70
62410	1036332		69	24
62410	1036334		69	43
62410	1036336		69	39
62410	1036355		69	32
62410	1041113		69	1
62410	1042005		69	44

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
62410	1042006		69	48
45152	104640A	5305-01-164-9665	19	3
45152	104699B	5995-01-194-0125	34	34
45152	105761C	3040-01-144-8216	45	50
45152	105900R	3040-01-457-1054	45	54
81343	10-6 010103B	4730-01-154-2073	3	12
92088	106-0144	4730-01-523-3820	50	60
92088	106-0192	4730-00-249-9714	50	75
0GYS0	106-0318	4730-01-465-9669	50	66
52304	107863		47	16
0Y3H3	10823-01832	5340-01-486-2072	68	27
45152	108708A	5310-01-177-4625	68	35
19207	10892331	5310-00-880-0626	29	15
19207	10892331	5310-00-880-0626	53	29
19207	10892331	5310-00-880-0626	61	25
19207	10892331	5310-00-880-0626	83	15
53790	1095-PA		71	28
46156	11	5315-01-220-9567	68	10
71468	110238-0195	5999-01-156-6314	34	6
71468	110238-0195	5999-01-156-6314	37	9
71468	110238-0195	5999-01-156-6314	38	36
71468	110238-0195	5999-01-156-6314	41	4
45152	11026GX	4730-01-522-3506	54	13
45152	110310A	5310-01-159-8178	2	10
45152	110310A	5310-01-159-8178	50	55
45152	110310A	5310-01-159-8178	54	43
45152	110310A	5310-01-159-8178	56	16
45152	110310A	5310-01-159-8178	61	31
45152	110310A	5310-01-159-8178	86	20
45152	110310A	5310-01-159-8178	91	12
45152	110311A	5310-01-111-0645	29	29
45152	110311A	5310-01-111-0645	50	171
45152	110311A	5310-01-111-0645	56	13

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	110311A	5310-01-111-0645	57	27
45152	110311A	5310-01-111-0645	62	23
45152	110311A	5310-01-111-0645	64	1
45152	110311A	5310-01-111-0645	73	31
45152	110311A	5310-01-111-0645	84	21
45152	110311A	5310-01-111-0645	88	58
45152	110312A	5310-01-150-5918	56	5
45152	110312A	5310-01-150-5918	66	1
45152	110312A	5310-01-150-5918	73	33
45152	110312A	5310-01-150-5918	83	46
45152	110995A	5305-01-161-5501	88	55
45152	111295D	3040-01-144-8217	45	69
45152	111314A	5305-01-156-5442	2	12
45152	111314A	5305-01-156-5442	56	18
45152	111316A	5306-01-106-7496	29	26
45152	111316A	5306-01-106-7496	56	43
45152	111316A	5306-01-106-7496	62	24
45152	111316A	5306-01-106-7496	73	32
45152	111316A	5306-01-106-7496	84	1
45152	111317A	5305-01-147-9723	56	35
45152	111320A	5305-01-149-1934	56	2
45152	111320A	5305-01-149-1934	83	47
45152	111454A	5305-01-149-1935	56	50
45152	111454A	5305-01-149-1935	73	34
45152	111454A	5305-01-149-1935	86	19
45152	111500A	4730-01-082-1017	51	3
52304	11167	5310-01-159-2797	47	19
45152	111805R	3110-01-156-5506	45	95
45152	111993-A	4730-00-143-9282	50	31
11139	114017	5935-01-174-1235	18	2
11139	114017	5935-01-174-1235	19	9
11139	114017	5935-01-174-1235	37	26
11139	114017	5935-01-174-1235	38	5

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
11139	114020-90	5310-01-086-7725	34	30
11139	114021	5310-01-081-0798	34	31
45152	114927A	5310-01-466-2695	63	1
45152	115217A	5306-01-156-5429	56	41
45152	115289A	5306-01-150-5884	50	172
45152	115289A	5306-01-150-5884	56	33
45152	115289A	5306-01-150-5884	57	39
45152	115289A	5306-01-150-5884	88	57
45152	115293A	5305-01-150-7736	21	10
45152	115293A	5305-01-150-7736	54	45
45152	115293A	5305-01-150-7736	56	56
45152	115293A	5305-01-150-7736	86	21
45152	115303A	5310-01-155-1905	53	15
45152	115303A	5310-01-155-1905	61	4
45152	115307A	5310-01-151-1036	29	47
45152	115307A	5310-01-151-1036	53	14
45152	115307A	5310-01-151-1036	54	75
45152	115307A	5310-01-151-1036	74	14
45152	115307A	5310-01-151-1036	84	13
45152	115403D	3020-01-144-6426	45	56
45152	115404D	3020-01-144-6417	45	71
45152	115405D	3020-01-144-9291	45	68
45152	115406D	3020-01-144-6418	45	99
45152	115407D	3020-01-144-8499	45	61
45152	1166HX		29	33
45152	11757FX	9905-01-144-7858	45	75
45152	11763FX	4730-00-114-4058	63	5
45152	117937R	2520-01-330-0770	45	85
52304	119881		47	27
52304	119882		48	15
52304	119883		47	28
52304	119883		48	16
06816	1199479	5330-01-234-2618	55	7

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
30780	1-2CD45B	4730-00-959-1628	50	84
93061	12KLO-S		73	23
6W637	12SAF05		79	21
94135	12Z2007-71	5310-00-262-6355	23	4
94135	12Z2007-71	5310-00-262-6355	29	14
30327	120B1-2X3-8	4730-00-278-8575	50	85
77060	12010293	5975-01-226-8078	37	2
22785	12010973	5935-01-214-4163	17	2
22785	12010973	5935-01-214-4163	34	33
22785	12010973	5935-01-214-4163	37	4
77060	12015284	5330-01-292-5293	34	17
77060	12015323	5975-01-310-5011	38	42
77060	12015792	5935-01-214-5259	12	2
77060	12015792	5935-01-214-5259	13	2
77060	12015792	5935-01-214-5259	14	6
3QPU2	120-1807-000	5935-01-526-6797	27	3
71468	120-1903-000		21	4
71468	120-1905-000		21	8
77060	12045773	5999-01-364-1237	34	36
77060	12048086	2530-01-464-9916	34	35
77060	12048159	5940-01-462-1717	34	16
77060	12048159	5940-01-462-1717	38	41
77060	12052634	5935-01-471-1287	34	37
45152	120622A	5306-01-150-7726	56	20
45152	120622A	5306-01-150-7726	64	11
77060	12077951		38	19
77060	12089188	5999-01-323-4929	14	7
81343	12-12-12070432C	4730-00-738-7558	54	58
77060	12124582	5999-01-406-4110	17	3
77060	12124582	5999-01-406-4110	34	32
77060	12124582	5999-01-406-4110	37	3
45152	121683A	5305-01-156-8691	61	32
19207	12258940-4	5935-01-154-6233	37	8

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	123341A	5306-01-171-5897	64	3
77060	12355107	5330-01-429-2588	17	4
19207	12357810	2590-01-175-5535	50	158
45152	123614C	4730-01-157-3574	54	65
45152	124125A	5306-01-169-6379	64	16
19207	12414500	5930-01-292-6730	5	8
19207	12419140	5999-01-372-4955	37	23
19207	12421882	5935-01-470-8343	31	11
0FW39	12421884	5935-01-470-4143	34	38
0FW39	12422624	5935-01-506-5555	34	41
45152	124623A53		2	6
45152	124661A	5340-01-155-4536	2	11
45152	1257FX	4730-01-233-4954	50	56
45152	125836A	4820-01-151-3692	47	1
45152	125836A	4820-01-151-3692	48	1
45152	126488A	5999-01-150-8808	34	7
45152	126488A	5999-01-150-8808	37	10
45152	126488A	5999-01-150-8808	38	34
45152	126488A	5999-01-150-8808	41	3
45152	126536A	5305-01-185-8668	56	30
52304	126965		47	26
52304	126965		48	14
45152	127268D	3040-01-144-8219	45	88
45152	127270D	3040-01-144-7024	45	81
45152	127272A	5340-01-146-3138	45	2
45152	127273A	5365-01-147-6789	45	31
62410	127871		85	21
62410	127877		85	13
30780	12-8 TRLON-S		88	15
81343	12-8 100102BA	4730-01-108-6410	50	93
81343	12-8 130140BA	4730-00-278-3167	50	91
45152	128131A	5305-01-167-9408	50	53
06816	128258		55	5

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
30327	129B1-4X1-1-2	4730-00-919-1803	50	97
62410	129501		69	25
06816	1300504		55	3
18350	1303276	4330-01-232-9955	55	1
45152	1304080XA1		57	12
45152	1304080	2530-01-153-8447	57	11
45152	1304170	2520-01-146-3139	45	21
45152	1304230	3040-01-144-7314	45	16
45152	1304240	2520-01-147-1378	45	15
45152	1308950	3020-01-144-8236	45	58
45152	1312410	2540-01-134-3714	61	9
45152	1315270	3040-01-144-6357	45	60
45152	1316190W	5342-01-159-4403	56	51
45152	1317120	5305-01-154-4323	56	1
45152	1317890	5365-01-143-7436	45	8
45152	1320090	5340-01-355-6870	50	88
97403	13207E6498-2	5935-00-691-5591	34	23
97403	13207E6498-2	5935-00-691-5591	40	8
45152	1321590	5340-01-144-8237	45	44
97403	13222E0109	5305-01-210-4595	45	62
45152	1322510	5340-01-236-6218	56	44
45152	1322520	5340-01-236-6217	56	39
45152	1322530	5340-01-237-5055	56	45
45152	1322540	5340-01-237-5054	56	40
45152	1322820	5340-01-234-6303	56	36
45152	1322840	5340-01-237-0843	56	34
45152	1324510	5305-01-157-5624	61	5
45152	1324940	2540-01-152-7764	62	14
45152	1324940	2540-01-152-7764	62	35
45152	1324980	5305-01-155-3478	56	26
45152	1324980	5305-01-155-3478	66	3
45152	1325680	5365-01-153-7686	57	10
45152	1328880	2510-01-152-7760	61	2

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	1330560	5340-01-153-0313	61	8
04664	1331040	2590-01-517-2878	29	27
04664	1331040	2590-01-517-2878	59	14
04664	1331040	2590-01-517-2878	62	20
04664	1331040	2590-01-517-2878	62	39
45152	1333170	5305-01-156-9457	54	72
45152	1333170	5305-01-156-9457	74	12
45152	1333510	5310-01-340-5671	3	24
45152	1333510	5310-01-340-5671	35	6
45152	1333510	5310-01-340-5671	49	5
45152	1333510	5310-01-340-5671	50	17
45152	1333510	5310-01-340-5671	54	12
45152	1333510	5310-01-340-5671	56	58
45152	1333510	5310-01-340-5671	62	17
45152	1333510	5310-01-340-5671	62	32
45152	1333510	5310-01-340-5671	64	9
45152	1333510	5310-01-340-5671	73	41
45152	1333510	5310-01-340-5671	88	62
45152	1336660	5340-01-355-5258	50	89
45152	1336700	5306-01-236-1585	56	28
45152	1337370	2510-01-232-2914	56	42
45152	1337720	5305-01-156-5440	56	49
45152	1337720	5305-01-156-5440	66	2
45152	1338010	5340-01-155-1919	50	159
45152	13387FX	5310-00-243-9295	45	91
62410	134038		85	10
45152	1341850	4010-01-182-5270	61	15
45152	1345280	5305-01-159-8544	65	9
45152	1348410	5310-01-152-4703	56	21
62410	135283		85	22
62410	135284		85	36
62410	135298		85	17
45152	1353990	5340-01-158-2086	50	162

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	1354510	5340-01-160-2160	3	26
45152	1355460W	4010-01-154-2290	61	13
45152	1357480	5340-01-159-8585	50	160
45152	1363160	5340-01-234-6310	56	52
45152	1363170	2510-01-232-2913	56	53
45152	1364540	4730-01-320-5314	3	21
45152	1366HX1	5306-01-061-7416	30	3
45152	1367HX1	5305-01-062-1017	59	7
45152	1367HX1	5305-01-062-1017	62	15
45152	1367HX1	5305-01-062-1017	62	34
45152	1376550	5310-00-262-6355	25	7
45152	1379HX	5310-01-361-8388	59	13
45152	1381HX1	5305-01-134-2052	76	2
45152	1386070		88	49
52304	13886	5330-01-117-1019	47	5
52304	13886	5330-01-117-1019	48	5
45152	1389370	6680-01-225-0229	53	11
45152	1392720	4030-01-456-1150	83	7
45152	1394510-012		83	24
45152	1394510-018		83	8
45152	1401740	5360-01-167-6410	64	15
45152	1404120	5365-01-201-4780	64	12
45152	1404120	5365-01-201-4780	91	11
45152	1404120	5365-01-201-4780	91	14
40290	140905B		86	1
15235	141	5310-01-119-1811	19	14
45152	1410640	7690-01-196-0122	75	16
45152	1413020	5306-01-234-3782	45	27
00736	14132	2520-00-395-7722	45	53
45152	1416350	5305-01-507-8980	8	15
45152	1416350	5305-01-507-8980	9	13
45152	1416350	5305-01-507-8980	29	54
56501	142	5975-00-642-7261	8	10

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
56501	142	5975-00-642-7261	9	10
45152	1424230		53	30
45152	1426400W	2520-01-192-1373	47	7
45152	1432440	3040-01-204-9801	45	29
45152	1434HX	5305-01-155-5237	24	13
45152	1434HX	5305-01-155-5237	74	7
45152	1437060	5310-01-236-6412	42	7
45152	1437220	5310-01-288-1116	4	2
45152	1437220	5310-01-288-1116	14	1
45152	1437220	5310-01-288-1116	35	1
45152	1437220	5310-01-288-1116	42	6
45152	1437220	5310-01-288-1116	50	5
45152	1437220	5310-01-288-1116	52	1
45152	1437220	5310-01-288-1116	53	28
45152	1437220	5310-01-288-1116	68	45
45152	1437220	5310-01-288-1116	71	29
45152	1437220	5310-01-288-1116	73	37
45152	1437220	5310-01-288-1116	83	34
45152	1437220	5310-01-288-1116	88	59
45152	144EX356	3120-01-111-7665	49	11
62410	144157		85	15
62410	144197		69	35
62410	144203		85	37
62410	144221		85	30
62410	144426		69	37
45152	1446320	4330-01-192-1726	54	42
45152	1447430	2530-01-200-2331	56	17
62410	144873		85	23
45152	1453780	5365-01-205-5091	68	36
45152	1453790	2540-01-202-5775	68	34
62410	145453		69	42
62410	145523		69	41
45152	1455460	5365-01-205-2717	56	4

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
01276	1464X4	4730-01-095-3430	63	4
45152	1465710U	2530-01-217-8311	53	1
45152	1466420W		53	10
45152	1466430W	2530-01-222-4517	53	4
62410	146667		85	9
45152	1466930		53	3
45152	1467160-43		64	10
45152	1467160-8		50	6
45152	1467160-9		29	18
82654	1467170-24		50	103
45152	1467500	5330-01-227-9878	53	9
01276	1468X6X8	4730-01-096-9127	50	83
45152	1495570	5340-01-219-5446	50	154
63899	150235B	3040-01-356-2707	81	1
1CC11	15030-01		70	8
1CC11	15030-21		73	56
45152	1503670	5305-00-984-6211	7	1
45152	1503690	5305-01-166-4410	35	11
45152	1509610	5930-01-503-4591	43	2
64678	1530 0002	5935-01-339-3227	34	15
64678	1530 0002	5935-01-339-3227	38	39
77060	15300014	5940-01-462-1718	34	18
77060	15300014	5940-01-462-1718	38	40
77060	15300027	5935-01-308-7866	15	6
77060	15300027	5935-01-308-7866	16	2
45152	1533100-005		83	23
45152	1533100-022		83	49
45152	1533100-23		29	40
45152	1533100-78		68	39
45152	1536340	5305-01-305-6078	91	1
45152	1538800	5315-01-340-1235	45	73
45152	1553520	5340-01-507-8255	50	166
45152	1571850	5310-01-288-5096	22	8

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	1571850	5310-01-288-5096	24	6
45152	1571870	5310-01-352-7732	16	5
45152	1571870	5310-01-352-7732	19	15
45152	1571870	5310-01-352-7732	83	59
13548	15906	6210-01-507-8952	25	1
45152	1594FX	3120-01-143-6442	45	89
45152	1598030	5310-01-342-8595	21	1
45152	1598030	5310-01-342-8595	83	17
1CC11	16X108SZ		73	54
45152	1600460	5310-01-346-9445	3	25
45152	1600460	5310-01-346-9445	35	4
45152	1600460	5310-01-346-9445	44	4
45152	1600460	5310-01-346-9445	50	45
45152	1600460	5310-01-346-9445	56	6
45152	1600460	5310-01-346-9445	63	12
45152	1600460	5310-01-346-9445	63	14
45152	1600460	5310-01-346-9445	71	24
45152	1600460	5310-01-346-9445	71	64
45152	1600460	5310-01-346-9445	73	36
45152	1600460	5310-01-346-9445	74	3
45152	1600460	5310-01-346-9445	83	43
45152	1600460	5310-01-346-9445	84	20
45152	1600460	5310-01-346-9445	91	29
45152	1605420	5310-00-542-0087	18	7
45152	1605420	5310-00-542-0087	19	13
45152	1606140	5305-01-344-8899	35	2
45152	1606140	5305-01-344-8899	50	40
45152	1606140	5305-01-344-8899	56	9
45152	1606140	5305-01-344-8899	61	17
45152	1606140	5305-01-344-8899	63	9
45152	1606140	5305-01-344-8899	63	15
45152	1606140	5305-01-344-8899	71	21
45152	1606140	5305-01-344-8899	73	40

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	1606140	5305-01-344-8899	74	5
45152	1606140	5305-01-344-8899	83	45
45152	1606140	5305-01-344-8899	84	5
45152	1614120	5306-01-287-5714	4	1
45152	1614120	5306-01-287-5714	35	13
45152	1614120	5306-01-287-5714	50	4
45152	1614120	5306-01-287-5714	52	2
45152	1631660	5340-01-507-9466	44	3
45152	1646060	5340-01-515-1059	56	55
45152	1656-FX	4730-00-720-5002	50	21
45152	1656090	5305-01-504-7887	29	28
45152	166JX	4730-00-202-9539	45	22
45152	1680530	5306-01-287-5715	14	8
45152	1680530	5306-01-287-5715	50	87
45152	1680530	5306-01-287-5715	68	42
45152	1680530	5306-01-287-5715	71	8
45152	1680530	5306-01-287-5715	73	39
45152	1694010		5	6
45152	1723840	5305-01-507-8259	83	61
45152	1725180		63	8
45152	173JX	5310-01-479-0591	24	15
45152	173JX	5310-01-479-0591	91	10
45152	173JX	5310-01-479-0591	91	13
45152	1754140	5305-01-337-9120	3	28
45152	1754140	5305-01-337-9120	44	2
45152	1754140	5305-01-337-9120	50	48
45152	1754140	5305-01-337-9120	56	10
45152	1754140	5305-01-337-9120	75	13
45152	1754140	5305-01-337-9120	91	18
45152	1754150	5305-01-349-4186	71	66
45152	1754170	5305-01-349-4187	50	145
45152	1754180		91	19
45152	1754210	5305-01-340-0225	50	11

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	1754210	5305-01-340-0225	56	61
45152	1754240	5306-01-338-7270	50	167
45152	1754240	5306-01-338-7270	54	8
45152	1754280	5305-01-340-5061	50	165
45152	1754290	5305-01-352-2049	50	67
45152	1754300	5305-01-353-8268	50	90
45152	1754480U		63	6
45152	1754490W		63	7
45152	1754510	5340-01-352-8719	63	11
45152	1754520	2590-01-354-5102	63	10
45152	1756870	5306-01-341-0712	3	22
45152	1756870	5306-01-341-0712	73	44
45152	1764650	5305-01-346-3692	50	169
45152	1764650	5305-01-346-3692	91	21
45152	1768HX1	5310-01-057-0822	45	84
45152	177FX1	5305-01-304-9375	68	37
45152	1772HX1	5305-01-164-8510	67	2
45152	17739FX	2530-01-316-0170	50	30
45152	1783190	9905-01-361-8611	76	7
45152	1785220	9905-01-358-6746	76	6
45152	1792770	5340-01-479-5938	KITS	4
45152	1804HX	5310-01-061-7452	50	156
45152	1804HX	5310-01-061-7452	58	5
45152	1804HX	5310-01-061-7452	77	3
45152	18127FX1	5365-01-091-0786	45	36
45152	1816HX1	5305-00-638-8920	42	8
A1631	183024-1	5999-15-174-6553	38	22
94894	1837	4730-00-221-2138	45	47
45152	1841HX1	5305-01-354-2490	69	53
45152	1846HX1	5305-01-344-5532	58	4
45152	1846HX1	5305-01-344-5532	77	1
45152	18572FX	4730-01-096-3204	50	22
45152	1860250W	2530-01-356-4614	83	26

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	1860250W	2530-01-356-4614	84	10
45152	1860260		84	12
45152	1860270		84	11
45152	1860310 W	2530-01-356-4613	83	29
45152	1860820	6150-01-362-5216	18	1
45152	1860870	3040-01-374-4803	82	1
45152	1861830	2510-01-356-6906	83	32
45152	1861940	2590-01-414-3179	83	2
45152	1861950	2540-01-358-1218	83	1
45152	1862220	3910-01-397-5277	65	5
45152	1862230W		65	28
45152	1862260		65	21
45152	1862270		65	3
45152	1862290		65	20
45152	1862320	5325-01-462-7182	65	4
45152	1862330	3120-01-459-8228	65	27
45152	1862340	3120-01-355-8843	65	25
45152	1862350	5340-01-355-3794	65	12
45152	1862360	5340-01-355-5248	65	17
45152	1862630	5365-01-457-2368	65	6
45152	1862660	5365-01-355-9529	83	4
45152	1862690W	3040-01-356-6837	83	31
45152	1862720 W	5315-01-361-2721	83	6
45152	1862730	5310-01-459-6206	65	18
45152	1862770	5340-01-356-8373	83	11
45152	1862820	5365-01-355-7357	83	30
45152	1862830	5365-01-355-7358	83	27
45152	1862830	5365-01-355-7358	84	9
45152	1863010W	3040-01-356-4589	83	16
80967	1864270	4030-01-517-7356	29	41
80967	1864270	4030-01-517-7356	68	38
80967	1864270	4030-01-517-7356	83	22
45152	1867HX1	5305-01-165-2452	45	76

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	1869800	5342-01-384-9511	24	11
45152	1878070-84		64	13
45152	1878900	6150-01-363-2162	20	6
45152	1878910	6150-01-362-5218	20	12
45152	1890830	4730-01-356-0687	77	7
45152	1891380	4730-01-356-1018	77	10
45152	1891390	4730-01-355-5140	78	1
45152	1891410	6150-01-362-5217	19	6
45152	1891540	5940-01-358-1127	19	1
45152	1891910W		11	1
45152	1897980	5340-01-355-9368	83	12
45152	19AS268	2510-01-153-2738	57	5
45152	19AS543	5310-01-019-3129	57	14
45152	1924380		13	1
45152	19265FX	5330-01-054-7297	71	77
45152	1930150	5305-01-507-8256	23	2
45152	1937550	5310-01-355-8798	78	20
45152	1937550	5310-01-355-8798	80	18
45152	1938170	5340-01-355-6869	2	7
45152	1939610	5340-01-364-8246	50	54
45152	1939610	5340-01-364-8246	84	19
45152	1947130W	5340-01-358-9235	56	25
45152	1947140W	5340-01-358-9234	56	22
45152	1953740	5340-01-363-6139	65	14
45152	1953890	5365-01-368-6147	83	35
45152	1953900	3120-01-367-9484	83	36
45152	1955110	5305-01-456-9449	35	12
45152	1955110	5305-01-456-9449	64	7
00198	196	5310-00-582-5965	69	54
45152	1965220	5315-01-363-7062	83	48
45152	1972230	5340-01-363-9130	29	16
45152	1978490		25	4
45152	1991860		61	7

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	1997520W	5935-01-376-1003	20	4
45152	2AA855	5342-01-270-8588	34	27
45152	2AA855	5342-01-270-8588	38	35
45152	2AA855	5342-01-270-8588	41	2
45152	2AH450	5360-01-157-5046	91	8
45152	2CD789	5315-01-224-8380	68	8
45152	2CH9		68	32
45152	2CP488	4730-01-480-8712	49	12
45152	2ER654	5999-01-203-6687	38	3
45152	2HB193	5935-01-515-2433	37	21
45152	2HK530	2590-01-480-2394	38	20
45152	2HL545	5331-01-115-8226	88	30
45152	2HL545	5331-01-115-8226	88	33
45152	2HL545	5331-01-115-8226	88	48
45152	2KK866	4820-01-519-1784	87	11
45152	2KK869	5950-01-519-1789	87	4
45152	2KK870	4820-01-519-1785	87	5
45152	2KK876	4730-01-519-1745	87	12
01276	2003-6-10B	4730-00-800-2046	3	14
1CC11	2008N304-75	5331-00-579-3158	70	4
45152	2010580	5330-01-488-4100	65	7
02697	2-012C873-70	5331-01-006-2132	71	87
45152	2012HX1	5305-01-223-7034	60	3
45152	2012HX1	5305-01-223-7034	61	41
45152	2013HX1	5305-00-802-2764	83	13
1CC11	2015N304-75	5331-00-618-5361	70	3
33742	2-018	5331-01-382-7552	71	2
33742	2-018	5331-01-382-7552	71	4
02697	2-018 N0552	5331-01-479-0634	71	10
02697	2-018 N0552	5331-01-479-0634	71	12
45152	2019340		8	13
01276	2021-8-6S	4730-00-289-0382	50	7
01276	2023-6-6S	4730-00-861-0209	50	111

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
01276	2024-16-12S	4730-00-314-7706	54	73
01276	2024-16-16S	4730-00-833-9315	54	71
01276	2024-20-24S	4730-01-257-4898	54	68
01276	2024-6-4S	4730-01-167-4388	50	82
01276	202702T-12-16S	4730-00-173-1881	54	37
01276	202702-16-16S	4730-00-487-2120	79	10
01276	202702-20-24S	4730-01-119-6222	54	16
40290	202964B		86	2
40290	202965B		86	16
98624	2038301		29	45
45152	2048HX		54	70
06853	205093	5340-00-496-2587	50	106
45152	2053990	5315-01-395-4217	68	44
01301	2061-12-10S		54	6
01276	206209-12-12S	4730-01-355-9003	79	12
01276	206209-8-8S	4730-01-242-1290	79	22
01276	2062-10-12S	4730-01-077-4889	54	9
45152	207385100		50	174
01276	208007-4-4S		50	99
45152	2083HX	5310-01-214-4946	68	29
45152	2083HX	5310-01-241-4946	68	9
45152	2083HX	5310-01-214-4946	83	57
93061	209P-12-4	4730-01-235-5782	50	108
93061	209P-6-4	4730-00-202-6491	50	29
93061	209P-8-6	4730-01-459-0000	3	10
45152	2090810		42	4
45152	2090840		14	5
45152	2093760		91	26
45152	2093860		91	22
45152	2094270		42	5
99103	2094630		71	77
99103	2094640		71	60
99103	2094650		71	61

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
99103	2094660		71	69
99103	2094670		71	70
99103	2094680		71	68
56878	21NE-040	5310-01-066-6759	6	3
56878	21NE-040	5310-01-066-6759	20	5
56878	21NE-040	5310-01-066-6759	24	8
56878	21NE-040	5310-01-066-6759	29	48
56878	21NE-040	5310-01-066-6759	59	8
56878	21NE-040	5310-01-066-6759	61	16
56878	21NE-040	5310-01-066-6759	62	9
56878	21NE-040	5310-01-066-6759	74	2
52304	210508		47	8
52304	210509		47	9
82465	21218CQ0L	5306-01-198-8057	53	2
82465	21218CQ0L	5306-01-198-8057	61	6
1EP30	2124 25PSI MANFLD KIT	4730-01-232-4790	55	9
30780	2127PP	5340-01-448-5232	89	15
45152	2152680		56	31
93061	216P-6-4	4730-00-289-0232	50	76
52304	216480		47	13
45152	2170130	2530-01-453-9071	49	6
45152	2170140	2530-01-329-4918	49	4
53790	2171/171 DPAH		88	51
06853	217321	2530-00-377-8779	50	110
45152	2178980		64	6
53790	2180PA	5340-01-355-8246	20	1
45152	2180410		42	1
45152	2180420		42	2
78528	218-1	4730-01-307-3641	3	3
45152	2188150	3020-01-429-4597	56	54
93061	219P-6	4730-01-335-2256	50	15
45152	2192650		68	40
45152	2192840		21	9

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
12361	21981000680		68	33
12361	2-198-1-10025		68	1
12361	2-198-1-10026		68	11
12361	2-198-1-10027		68	25
12361	2-198-1-10028		68	2
12361	2-198-1-10029		68	23
45152	2199990		42	10
45152	22007FX	5365-01-187-5896	50	168
45152	2201910		64	8
93061	2202P-6-6	4730-00-278-4822	3	5
45152	2202410		75	7
45152	2202420		75	23
45152	2202480		75	26
45152	2202820		75	18
45152	2205440		71	65
45152	2205450		71	67
06853	220636	2530-00-270-3878	50	23
45152	2213520		21	6
45152	2216100		56	14
45152	2221970	5365-01-459-8230	20	22
93061	2225P-8	4730-01-095-2034	50	95
66195	22492R1	5305-00-068-0509	29	50
66195	22492R1	5305-00-071-2241	58	14
45152	2251HX	5310-01-354-3729	58	7
00624	22617-10	5331-01-040-4772	71	40
01276	22617-12	5331-00-228-7196	71	14
01276	22617-12	5331-00-228-7196	71	32
01276	22617-12	5331-00-228-7196	71	34
01276	22617-12	5331-00-228-7196	71	36
01276	22617-12	5331-00-228-7196	71	38
01276	22617-12	5331-00-228-7196	71	44
01276	22617-12	5331-00-228-7196	71	46
01276	22617-12	5331-00-228-7196	71	48

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
01276	22617-12	5331-00-228-7196	71	50
01276	22617-12	5331-00-228-7196	71	59
01276	22617-12	5331-00-228-7196	71	78
01276	22617-12	5331-00-228-7196	73	2
01276	22617-12	5331-00-228-7196	73	12
01276	22617-12	5331-00-228-7196	73	18
01276	22617-12	5331-00-228-7196	73	27
01276	22617-12	5331-00-228-7196	88	37
01276	22617-16	5330-01-168-0885	71	42
01276	22617-16	5330-01-168-0885	73	22
01276	22617-16	5330-01-168-0885	88	27
01276	22617-5	5331-01-213-5212	79	6
01276	22617-6	5331-01-198-8439	86	24
01276	22617-8	5331-01-244-2273	77	5
01276	22617-8	5331-01-244-2273	88	5
01276	22617-8	5331-01-244-2273	88	12
01276	22617-8	5331-01-244-2273	88	40
01276	22617-8	5331-01-244-2273	88	46
45152	2263HX	5310-01-188-4473	47	3
45152	2263HX	5310-01-188-4473	48	3
45152	2265340	5340-01-462-3360	20	24
45152	2288HX	5340-00-224-1204	3	19
45152	2288HX	5340-00-224-1204	32	1
45152	2288HX	5340-00-224-1204	50	157
45152	2288HX	5340-00-224-1204	73	38
45152	2290HX	5340-01-479-9054	50	144
45152	2290HX	5340-01-479-9054	56	8
45152	2290HX	5340-01-479-9054	62	10
45152	2290HX	5340-01-479-9054	74	8
45152	2290HX	5340-01-479-9054	83	44
45152	2302HX	5310-01-353-6045	29	49
45152	2302HX	5310-01-353-6045	61	12
45152	2302HX	5310-01-353-6045	62	6

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
0EWP5	230500-0061		79	17
52304	23570	5310-01-058-4589	49	2
45152	2362HX	5340-01-081-3419	50	152
39428	2418T141		54	28
24975	2434	5310-00-775-5139	19	2
24975	2434	5310-00-775-5139	83	40
45152	2473HX1	5310-01-061-7450	35	8
93061	249-F-4-6	4730-00-235-1482	91	16
1CC11	25013-24SZ		70	10
09990	25024-01	5355-01-421-3560	70	13
1CC11	25024-02		73	49
09990	25025-30	5310-01-355-3675	70	11
1CC11	25027-28SZ		73	53
1CC11	25028-01		70	12
1CC11	25122-02		73	50
10001	2533408-26	5310-01-343-5712	83	55
45152	25628AX	5365-01-154-7172	50	68
45152	25806AX-60		87	18
45152	2629HX5	5306-01-357-2365	29	31
98441	2650	4130-00-103-9185	3	6
45152	2682HX	5340-01-133-3738	44	1
45152	2682HX	5340-01-133-3738	84	18
93061	269NTA-10-6	4730-01-088-7498	50	34
93061	269NTA-4-4	4730-01-086-4064	50	39
93061	272NTA-6-4	4730-01-097-0386	50	124
45152	27213AX	5310-01-227-4864	69	51
64386	277-A-80ZP	5340-01-100-2474	29	42
64386	277-A-80-1	5340-01-156-6776	29	5
64386	277-A-80-1	5340-01-156-6776	62	22
64386	277-A-80-1	5340-01-156-6776	62	37
64386	277A801CP	5340-01-156-6776	59	10
93061	279NTA-4-4	4730-01-091-8030	51	1
45152	2794HX-5		50	175

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96652	28-06	5315-01-459-1409	29	39
06853	281554	5340-01-179-4612	50	69
A1631	281934-3		38	23
A1631	282105-1	5999-15-174-6552	38	21
06853	282194	2530-00-127-8684	50	81
06853	283132	4730-01-055-4013	50	37
06853	283171	4730-01-061-4949	50	65
06853	283249	4730-01-096-3169	50	14
06853	285683N	4820-01-147-4995	50	125
45152	2870HX	5305-01-187-5921	54	67
06853	287416	5930-01-076-4114	50	28
00905	290	5365-01-120-9671	47	2
00905	290	5365-01-120-9671	48	2
10001	298329 PIECE 7	5330-01-314-6768	71	63
45152	2991FX	4730-01-244-1226	50	20
30780	3/8 RRS-B	4730-01-434-7789	3	11
11083	3B6772	4730-00-278-4497	50	98
78176	3SB1902-2BH		8	8
78176	3SB1902-2BH		9	7
45152	3SK804	3990-01-358-1146	KITS	8
45152	3SK805	3990-01-357-1944	KITS	9
1CC11	3X309SZ		73	57
45152	3008411		91	7
06090	301A022-4/42	5970-01-358-3441	20	10
06090	301A022-4/42	5970-01-358-3441	20	14
30058	30102889		87	10
30058	30102890		87	9
45152	3013565		3	16
45152	3013619		50	78
45152	3013620		50	35
45152	3013684		51	5
45152	3013726		50	101
45152	30190AX	5315-00-156-3104	45	92

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
13548	30255Y	6220-01-482-5320	22	4
45152	3029058		50	92
45152	3054615		50	126
45152	3055066		80	1
45152	3055128	5365-01-479-2249	66	4
45152	3055925	5340-01-478-3163	24	16
45152	3064067	9905-01-479-3069	76	4
45152	3064068	9905-01-479-3068	75	25
45152	3064068	9905-01-479-3068	76	5
45152	3064801	5305-01-459-3059	78	21
45152	3064801	5305-01-459-3059	80	19
45152	3065702	4730-01-479-4619	50	52
45152	3065702	4730-01-479-4619	50	71
52304	307611		48	8
45152	3117486		50	113
45152	3122223	5340-01-462-6138	20	23
45152	3135832		10	1
40290	314037B		86	8
45152	31425BX	2520-01-041-3542	45	67
45152	3154864	5340-01-478-3339	24	3
45152	316BX1	5305-01-172-2002	54	39
45152	3171964		50	123
45152	3173598		83	21
45152	3175843-2		4	3
45152	3175843-6		61	27
53790	3190/190-PA	5340-01-355-3733	71	7
45152	3196524	5930-01-464-9574	10	2
45152	3196524	5930-01-464-9574	20	17
45152	3196524	5930-01-464-9574	20	21
45152	3196525	5930-01-464-9581	11	2
30058	32000107		87	7
45152	3205629	5340-01-462-3361	83	20
45152	3228715	2510-01-507-9497	62	11

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	3233FX	2590-01-131-8320	91	23
80201	32397	5330-00-164-8881	45	4
45152	3255675	5340-01-485-6405	50	151
45152	3256916	2510-01-480-1128	50	153
45152	3266307	5310-01-478-8687	29	24
45152	3266307	5310-01-478-8687	59	1
45152	3266307	5310-01-478-8687	61	18
45152	3266308	5310-01-478-8689	29	2
45152	3266308	5310-01-478-8689	59	20
45152	3266309	5310-01-478-7218	61	26
45152	3266312	5305-01-478-8705	29	22
45152	3266313	5305-01-485-3649	29	52
45152	3266316	5305-01-479-0981	63	13
45152	3266358	5305-01-480-9001	29	6
45152	3266481	5305-01-480-7045	29	4
45152	3266481	5305-01-480-7045	59	6
45152	3268673	5305-01-480-2359	59	5
45152	3268682	5310-01-479-0616	8	16
45152	3268682	5310-01-479-0616	9	14
45152	3268682		25	6
45152	3270348	5945-01-512-0284	35	5
45152	3274706	5120-01-479-9060	71	22
45152	3278946		79	16
6W637	3279640-1	4730-01-491-0218	79	20
45152	3285680	6160-01-479-3938	29	7
45152	3299756	4720-01-485-5570	50	73
45152	3299758	4720-01-485-5548	50	10
45152	3299759	4720-01-485-6221	50	26
45152	3299760	4720-01-485-5545	50	8
45152	3299761	4720-01-485-5486	50	9
98171	33005218		KITS	5
98171	33006084		KITS	6
98171	33006089		KITS	7

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	3300693	6220-01-482-5574	22	1
45152	3300694	6220-01-482-6113	24	2
45152	3300699	5340-01-486-4899	62	18
45152	3300701	5340-01-507-9494	62	12
45152	3303399	6160-01-479-3924	29	11
45152	3304538		50	16
72447	330734	5310-01-216-2799	83	9
45152	3309409	9905-01-479-1596	29	8
45152	3309524		50	146
45152	3312106	5305-01-514-9747	71	5
45152	3317088	5930-01-525-6330	16	1
45152	3317089	5930-01-525-6444	16	3
45152	3322427	5310-01-492-5550	29	3
01276	3325X4	4730-00-277-8289	50	58
45152	3327920		50	12
45152	3333110	5310-01-515-2427	59	19
45152	3337896	5310-01-515-1266	91	30
45152	335BX2	5306-01-172-1556	45	38
45152	3355380	5306-01-513-3239	29	20
45152	3363020		75	19
45152	3363021		75	20
0Y3H3	33640		69	50
45152	3367289	4730-01-515-0423	88	4
45152	3367298	4730-01-512-8588	73	25
45152	3367322	5315-01-355-3744	83	25
45152	3368757	6220-01-515-0670	27	1
45152	3372209		25	5
45152	3373332		56	24
45152	3373333		56	23
45152	3373335		56	32
45152	3373336		56	29
45152	3373337		56	47
45152	3374969		56	27

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	3377297		56	37
45152	3377298		56	38
45152	3379616		54	74
45152	3379624		54	57
45152	3379635		54	24
45152	3379696		43	1
45152	3380401		48	6
45152	3380402		47	6
45152	3381765		56	46
45152	3381766		56	48
45152	3386093		50	139
45152	3386094		50	150
45152	3386095		50	140
45152	3386096		50	170
45152	3386097		50	131
45152	3386098		50	133
45152	3386099		50	129
45152	3386100		50	130
45152	3386101		50	132
45152	3386102		50	134
45152	3386103		50	128
45152	3386104		50	127
45152	3386105		50	148
45152	3386106		50	137
45152	3386107		50	149
45152	3386108		50	102
45152	3386109		50	107
45152	3386118		50	42
45152	3386119		50	176
45152	3387545		50	33
45152	3389186		57	9
45152	3389224		64	5
45152	3389314		64	4

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	3394329		58	9
45152	3395810		79	18
45152	3395836		67	1
45152	3398656		3	13
45152	3398882		89	33
45152	3398883		56	11
45152	3399970		3	2
01276	3400X4W	4730-01-233-4981	50	178
01276	3400X6	4730-00-278-4822	50	94
45152	3400044		75	22
45152	3400044		76	3
45152	3400868		71	49
45152	3400869		71	33
45152	3400980		71	3
45152	3400981		71	1
45152	3403355		68	31
45152	3404408		34	1
45152	3404581		24	1
45152	3404687		75	24
45152	3404689		75	17
45152	3404702	5961-01-507-5297	38	25
45152	3404779		75	27
45152	3407090		56	62
45152	3408810		71	30
45152	3409134		70	1
45152	3410392		83	39
45152	3411601		5	1
45152	3414168		84	7
45152	3414173		86	18
45152	3414177		84	3
45152	3414178		84	4
45152	3414180		84	2
45152	3414723		84	17

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	3416586		85	40
45152	3416587		85	41
45152	3417207	2510-01-193-1745	58	1
45152	3418339		83	54
45152	3420554	6150-01-507-5631	79	14
45152	3421585		74	1
45152	3423024	5315-01-506-8317	83	52
45152	3424942		71	25
45152	3424944		71	47
45152	3424945		71	35
45152	3424946		71	45
45152	3424947		71	37
45152	3424948		71	43
45152	3424949		71	39
45152	3424951		88	1
45152	3424952		88	14
45152	3424953		88	13
45152	3424955		88	3
45152	3424956		73	19
45152	3428029		88	17
45152	3428032		88	6
45152	3428433		83	60
45152	3428435		17	1
45152	3430876		14	2
45152	3434459		31	1
45152	3437653		54	44
45152	3437654		85	39
45152	3437682		39	1
45152	3438110		71	9
45152	3438111		71	11
45152	3438112		71	13
45152	3440278		35	14
45152	3440282		3	18

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	3441375		89	13
45152	3442623		60	1
45152	3442640		30	1
45152	3442641		30	2
45152	3442642		28	1
45152	3442643		28	2
45152	3442682		75	12
45152	3443833		89	30
45152	3443911		6	1
45152	3443918		41	1
45152	3444023		54	41
45152	3444132		84	23
45152	3445259		76	8
45152	3448499		56	7
45152	3448501		42	12
45152	3448502		42	11
45152	3448503		21	2
45152	3448603		62	30
45152	3451700		68	43
45152	3451701		42	3
45152	3454946		14	3
45152	3456408		21	11
45152	3457171		75	11
45152	3459370		89	19
45152	3460076		89	25
45152	3460088		89	7
45152	3460089		89	29
45152	3460090		89	37
45152	3460091		89	32
45152	3460092		89	43
45152	3460093		89	38
45152	3460094		54	31
45152	3460095		54	26

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	3460196		89	36
45152	3460197		89	41
45152	3460199		89	42
45152	3462485		61	29
45152	3462486		61	20
45152	3462487		61	21
45152	3462488		61	24
45152	3465429		61	45
45152	3465430		61	35
45152	3465431		61	34
45152	3465432		61	33
03533	346-8	4820-00-728-7467	50	49
45152	3469597		26	1
45152	3469598		26	2
45152	3469600		75	9
45152	3470353		75	10
45152	3470454		91	5
45152	3470455		91	9
45152	3475274		75	1
45152	3476457		52	3
45152	3478213		61	30
45152	3478214		61	37
45152	3478215		61	36
45152	3478224		91	17
45152	3479417		54	46
45152	3480185		61	22
45152	3480186		61	23
45152	3480972		56	3
45152	3480973		56	12
45152	3482790		33	1
45152	3482886		60	2
45152	3483559		62	25
45152	3483560		88	60

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	3483601		91	24
45152	3483849		73	35
45152	3483853		73	42
45152	3484756		65	22
45152	3484799		61	1
45152	3486304		64	2
45152	3487013		73	6
45152	3487057		88	63
45152	3487131		59	3
45152	3488016		89	40
45152	3488017		89	39
45152	3489893		71	23
45152	3490724		75	8
45152	3490802		8	1
45152	3490803		9	1
45152	3490808		9	2
45152	3490808-XA1		9	4
45152	3490809		8	2
45152	3490809-XA1		8	4
45152	3494221		88	23
45152	3495216		84	22
45152	3495272		69	49
45152	3495893		59	16
45152	3496500		4	4
45152	3496662		74	13
45152	3498606		62	26
45152	3498607		62	1
45152	3498608		62	2
45152	3498608		62	27
45152	3498640		84	14
45152	3498701		62	4
45152	3498701		62	29
45152	3500171		59	2

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	3500244		75	6
45152	3500245		75	15
45152	3500246		59	4
45152	3500411		14	4
45152	3501366		29	17
45152	3503895		40	1
45152	3504585		73	7
45152	3504587		73	8
45152	3505696		89	35
45152	3505700		62	41
45152	3505704		62	31
45152	3506740		50	138
45152	3506748		75	2
45152	3506756		75	3
45152	3509213		50	142
45152	3509304		91	28
45152	3509305		91	20
45152	351AX	5310-01-129-0450	24	10
45152	351AX	5310-01-129-0450	24	17
45152	351AX	5310-01-129-0450	29	10
45152	351AX	5310-01-129-0450	53	27
45152	351AX	5310-01-129-0450	54	66
45152	351AX	5310-01-129-0450	55	11
45152	351AX	5310-01-129-0450	61	43
45152	351AX	5310-01-129-0450	79	1
45152	351AX	5310-01-129-0450	83	14
45152	351AX	5310-01-129-0450	84	15
45152	3510207		29	30
45152	3510270		50	141
45152	3510331		29	46
45152	3510332		29	34
45152	3510348		29	32
45152	3510352		29	53

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	3510353		29	23
45152	3510356		29	35
45152	3510371		29	44
45152	3510385		29	19
45152	3510386		29	21
45152	3511506		12	1
45152	3512465		50	143
45152	3513193		74	15
45152	3517757		29	25
45152	3518603		50	136
45152	3518888		91	31
45152	3519722		91	2
45152	352AX	5310-01-081-1283	54	40
45152	3520184		35	10
45152	3521606		53	24
45152	3526741		74	9
45152	3531998		29	51
45152	3533105		66	5
45152	354AX	5310-01-068-8446	45	45
45152	354AX	5310-01-068-8446	58	2
45152	354AX	5310-01-068-8446	59	17
45152	354AX	5310-01-068-8446	65	11
45152	354AX	5310-01-068-8446	77	2
52304	35428	5365-01-059-0126	49	3
45152	3547031001		56	60
45152	355AX	5310-01-133-2130	65	16
45152	355AX	5310-01-133-2130	67	3
45152	3569184	5895-01-515-2086	35	9
00779	35771	5940-01-168-0192	37	5
45152	362AX	5310-01-062-3379	50	105
45152	362AX	5310-01-062-3379	61	42
45152	362AX	5310-01-062-3379	73	43
45152	362AX	5310-01-062-3379	83	37

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	362AX	5310-01-062-3379	88	56
45152	3636506	5930-01-512-8227	15	1
45152	3664564		37	1
45152	3681636		56	57
45152	3681642		56	64
45152	3680301		69	52
45152	3680302		69	57
45152	3680305		69	59
45152	3680306		69	56
45152	3681646		56	65
45152	3681650		56	69
45152	3682516		56	66
45152	3682517		56	68
45152	3684167		56	67
45152	369AX1	5310-01-105-7229	58	3
45152	369AX1	5310-01-105-7229	59	18
45152	3693FX2	5340-01-155-4433	50	44
45152	3701117		38	1
45152	3715382		66	6
45152	3715931		7	2
45152	3737FX4	5340-01-154-5247	50	161
11757	378429-8	5306-01-145-6949	58	13
11757	378429-8	5306-01-145-6949	70	14
30780	3-906 N0552	5330-01-481-0888	86	25
02697	3-908N552-90	5331-00-929-8171	80	21
02697	3-910	5330-00-485-3586	71	54
02697	3-912N552-90	5331-00-395-5737	77	9
39428	3913T11	5340-01-121-8769	62	3
39428	3913T11	5340-01-121-8769	62	28
05973	396454-8		31	7
11083	4B9880	3110-00-949-1438	45	43
30780	4WGBTXS	4730-00-326-2475	54	23
40290	400845B		86	4

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
36540	402Y23E	4730-01-043-9027	45	83
45152	40393AX	3120-01-146-9782	45	25
8Z246	4062-006-04141		21	7
62410	4102031		85	28
62410	4102846		69	40
40290	411284B		86	6
00779	41274	5940-00-874-9033	19	7
00779	41274	5940-00-874-9033	20	7
00779	41274	5940-00-874-9033	20	11
00779	41274	5940-00-874-9033	20	13
82465	41280	4730-01-208-7068	91	6
62410	4143276		69	33
01212	416624	5330-01-147-4919	45	33
77294	416995	5305-00-984-6210	59	15
62410	4192545		85	34
62410	4193512		69	23
62410	4193513		69	30
62410	4193514		69	29
12361	4-198-1-10017		68	14
59206	42F-10	4730-00-277-3874	3	17
72962	42NE-058	5310-01-081-5351	30	4
72962	42NE-058	5310-01-081-5351	32	2
81343	4-2 120102BA	4730-00-277-8750	50	36
52304	42364	5310-01-149-4405	47	30
53790	4285/285 DPAH		88	52
45152	434AX1	5310-01-063-8970	24	9
45152	434AX1	5310-01-063-8970	24	18
45152	434AX1	5310-01-063-8970	29	9
45152	434AX1	5310-01-063-8970	54	64
45152	434AX1	5310-01-063-8970	61	44
52304	43943	5310-01-110-7815	49	7
72219	44-102-1	4820-01-355-7625	91	33
45152	44220AX	5325-00-170-1693	45	86

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
24617	444124	4730-01-235-3007	50	61
72582	444136	4730-00-125-7979	50	50
81343	444-520432	4730-01-281-0976	54	29
21450	444530	4730-00-277-7331	50	74
09505	4-469-F-10X12	4730-01-235-2990	50	109
09505	4-469-F-12X08	4730-01-235-4789	50	135
78330	4484	4730-01-082-8799	50	41
3XLF8	4503-1		21	3
92679	4503264R1	4730-00-919-1803	91	34
45152	45092AX	5305-01-064-5470	20	20
45152	45092AX	5305-01-064-5470	89	18
81346	4 520220CA	4730-01-280-8351	89	4
60038	462 ASSEMBLY 90300	3110-00-163-9904	45	87
30327	469F10-8	4730-01-102-4123	50	1
30327	469F6-4	4730-00-069-1187	50	3
72741	485-405	4730-00-172-0034	65	26
72741	485-405	4730-00-172-0034	81	18
72741	485-405	4730-00-172-0034	82	17
72741	485-405	4730-00-172-0034	91	27
30327	49-F-06X06	4730-00-254-6228	3	1
45152	49743AX	5305-01-116-4813	49	22
52304	49982	5307-01-216-6723	47	31
45152	5EX142	5310-01-148-0232	47	22
45152	5EX142	5310-01-148-0232	48	11
45152	5EX48	5315-01-147-1132	47	32
30780	5FNTX-5	4730-01-011-6003	3	9
45152	5HE267	5935-01-480-9080	31	3
45152	5HE270	5999-01-480-2343	34	20
45152	5HE459	5935-01-480-9083	38	10
30780	5P5ON-S	5365-01-071-8261	79	8
54035	500-001-018		69	8
54035	500-001-018		69	21
54035	500-001-018		85	4

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
54035	500-001-021		69	4
54035	500-001-021		69	16
54035	500-001-021		85	8
54035	500-002-015	5331-01-420-6085	69	13
54035	500-002-020		69	5
54035	500-002-020		69	18
54035	500-002-020		85	7
63899	500419B	5365-01-355-9965	81	4
63899	500419B	5365-01-355-9965	82	4
40290	500869B		86	9
40290	511248B		86	12
52304	51212	5307-01-216-8285	48	9
54035	515-002-015	5330-01-420-6086	69	14
54035	515-002-016	5330-01-420-6084	69	12
54035	515-002-017	5330-01-424-2991	69	10
54035	515-002-018		69	7
54035	515-002-018		69	20
54035	515-002-018		85	5
54035	515-002-020		69	6
54035	515-002-020		69	19
54035	515-002-020		85	6
54035	515-002-021		69	3
54035	515-002-021		69	17
54035	515-002-021		85	3
45152	5193HX	5975-01-513-6305	3	20
45152	51945AX	5320-01-351-5621	76	1
98624	5207501		2	1
56501	5262	5331-00-588-0892	19	10
56501	5263	5330-00-802-4966	8	11
56501	5263	5330-00-802-4966	9	11
79136	5304-125	5325-01-152-4536	49	1
45152	53733AX	5360-01-145-4724	45	26
53790	5381/285 DPAH		88	53

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
52304	54254	4730-01-148-8254	47	25
52304	54254	4730-01-148-8254	48	13
45152	54396AX	5360-01-086-1419	45	42
21102	545X	5310-01-122-4500	42	9
70485	546	5325-01-123-5695	68	41
45152	55019CX	3040-01-145-0531	45	7
45152	55021CX	3130-01-147-8112	45	23
45152	55022DX	3110-01-145-8482	45	34
45152	55025BX	3040-01-144-8238	45	90
45152	55026BX	5365-01-330-2223	45	11
45152	55027BX	5365-01-332-2150	45	57
45152	55028BX	5365-01-330-6435	45	10
45152	55029BX	5365-01-330-6436	45	82
45152	55030BX	5365-01-081-3424	45	96
45152	55031BX	5365-01-330-2224	45	70
45152	55042CX	2520-01-144-8603	45	80
45152	55068BX	5310-01-143-6449	45	77
45152	55075AX	5315-01-081-2925	45	55
45152	55084BX	5365-01-081-5323	45	18
45152	55085BX	5365-01-081-9747	45	19
45152	55086BX	5365-01-081-9748	45	20
45152	55137AX	4730-01-096-0574	50	86
83330	557-1304-203	5980-01-504-9938	27	2
45152	55752AX	5305-01-186-5263	56	15
45152	57144AX	5305-01-458-3646	84	16
19204	572929	5999-00-057-2929	34	24
19204	572929	5999-00-057-2929	40	6
34623	5731205	5307-01-148-6832	47	24
34623	5731205	5307-01-148-6832	48	12
45152	5824FX	5365-00-350-5442	45	30
45152	59031AX	5305-01-249-8564	22	9
45152	59031AX	5305-01-249-8564	24	14
45152	59031AX	5305-01-249-8564	36	1

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	59031AX	5305-01-249-8564	62	21
45152	59031AX	5305-01-249-8564	62	38
45152	59031AX	5305-01-249-8564	83	41
11139	5962-202-16141	5999-01-372-4955	38	11
11139	5962-202-16141	5999-01-372-4955	39	6
45152	59899AX	5340-01-145-3255	45	48
45152	59902AX	5365-01-143-6445	45	37
45152	59903AX	5365-01-144-7377	45	40
45152	60009AX	9905-01-144-7860	45	72
13174	600107	4720-01-413-2593	71	71
13174	600116	4720-01-413-2584	71	89
45152	60026AX	5305-01-338-7301	68	30
45152	60067AX	5310-01-478-7271	56	59
45152	60067AX	5310-01-478-7271	68	26
45152	60222AX	5305-01-154-8485	91	3
45152	60697AX	5305-01-194-8469	16	4
45152	60861AX	5310-01-061-5678	49	24
45152	60861AX	5310-01-061-5678	57	3
30058	61011005		87	16
30058	61028070		87	15
1CC11	61041-43		73	45
45152	61068AX		68	28
45152	61154BX	3040-01-144-8220	45	28
45152	615FX	4730-01-217-1115	65	13
45152	615FX	4730-01-217-1115	81	17
45152	615FX	4730-01-217-1115	82	18
45152	615FX	4730-01-217-1115	83	5
45152	615FX	4730-01-217-1115	85	11
45152	61678AX		61	28
30058	62010018		87	14
45152	62048AX	5305-01-243-9406	57	1
81343	6-2 100102BA	4730-01-134-0854	50	147
72447	6-27-21-5700		46	2

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
45152	63216AX	5307-01-145-1644	45	65
45152	63219CX	3040-01-144-8218	45	66
95019	6-3-2651X	2520-01-267-8757	46	8
12361	6-372-002204	3040-01-200-0938	72	6
12361	6-372-005005		72	15
12361	6-372-100288		72	1
72447	6.3-86-18	5340-01-174-7459	46	3
60038	641	3110-00-100-0661	45	12
81343	6-4 100102BA	4730-01-062-2570	50	100
81343	6-4 100102BA	4730-01-062-2570	51	2
81343	6-4 100302BA	4730-01-174-9405	50	19
81343	6-4 100302BA	4730-01-174-9405	51	4
45152	64209CX	2520-01-144-7307	45	39
72447	6/4/2251	2520-01-144-7308	45	3
72447	6-4-6771X	2520-01-214-2564	45	32
45152	64817AX	5305-01-355-1427	83	58
45152	65058AX-24		3	4
72447	6-5-228X		46	7
45152	65397AX		57	8
72447	6.5-6-158X		46	6
81343	6-6 130137B	4730-00-249-9714	3	15
81343	6-6 130138	4730-00-881-1161	3	7
81343	6-6 520220CA	4730-01-280-8350	86	23
81343	6-6 520220CA	4730-01-280-8350	89	26
63899	660184B		81	16
63899	660184B		82	16
45152	66182AX	5975-01-512-0283	24	4
45152	66345AX		61	11
12361	6637055006		71	88
45152	66409AX	4730-01-056-8125	54	32
45152	66420AX	5305-01-280-7901	20	2
45152	66420AX	5305-01-280-7901	50	47
30058	66700094		87	8

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
64386	67D794	2540-01-152-7764	29	1
64386	67D794	2540-01-152-7764	59	9
12361	6-701-100015		72	12
12361	6-705-010516	5365-01-203-0300	68	20
12361	6-705-010517	5365-01-203-0298	68	19
12361	6-705-010518	5365-01-203-0299	68	15
12361	6-705-010519	5365-01-211-1521	68	16
12361	6-705-010520	5365-01-203-0301	68	18
12361	6-705-010521	5365-01-203-0302	68	17
12361	6-705-010522	5365-01-203-6465	68	20
12361	6-705-010523	5365-01-203-0303	68	19
12361	6-705-010524	5365-01-203-2670	68	15
12361	6-705-010525	5365-01-206-2346	68	16
12361	6-705-010526	5365-01-204-8899	68	18
12361	6-705-010527	5365-01-205-2884	68	17
12361	6-705-170863		68	6
12361	6-705-170864		68	5
12361	6-705-170865		68	4
12361	6-705-170866		68	3
72447	6-73-209	5305-01-421-4222	46	5
12361	6-753-000591	3040-01-215-1721	72	4
12361	6-768-100207		72	10
93061	68NTA-4-4	4730-01-091-9212	50	38
93061	68NTA-6-6	4730-01-096-9128	50	13
24617	681890	5305-00-275-8530	45	79
45152	69302AX	5305-01-522-9366	29	12
45152	7HA302	5935-01-495-3353	37	24
45152	7HR978	5999-01-470-6337	37	16
45152	7HR978	5999-01-470-6337	38	7
45152	7HR980	5935-01-479-1602	37	15
45152	7HR980	5935-01-479-1602	38	8
76301	7M916-125-1	5330-01-341-7530	79	11
11083	7N9737	5935-01-150-8323	34	8

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
11083	7N9737	5935-01-150-8323	41	5
11083	7N9738	5935-01-149-5165	34	26
11083	7N9738	5935-01-149-5165	38	37
11083	7N9738	5935-01-149-5165	41	6
63899	700079A		81	14
63899	700079A		82	12
40290	700293A		86	5
63899	701121A		81	6
63899	701121A		82	6
40290	701133A		86	13
63899	702001A		81	5
63899	702001A		82	5
40290	702067A		86	14
40290	702082A		86	17
45152	703HX	5310-00-809-4058	58	10
63899	703425A		81	8
63899	703425A		82	8
40290	704240A		86	11
63899	704425A		81	9
63899	704425A		82	9
63899	706069A		81	7
63899	706069A		82	7
40290	706111A		86	7
12361	7-099-000378	5305-01-203-8348	72	3
63899	711009A	5305-01-355-2643	81	2
63899	711009A	5305-01-355-2643	82	2
63899	711053A	5305-01-355-2641	81	3
63899	711053A	5305-01-355-2641	82	3
63899	711083A	5305-01-355-2642	81	12
63899	711083A	5305-01-355-2642	82	14
12361	7111100511	5305-01-494-4151	68	12
12361	7115141450	5305-01-203-8360	59	11
12361	7115141450	5305-01-203-8360	62	13

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
12361	7115141450	5305-01-203-8360	62	36
12361	7-118-150450	5305-01-466-3863	68	24
12361	7118161250		68	21
40290	712174B		86	15
45152	715HX1	5305-01-058-0611	79	2
63899	715001A	5340-01-372-3982	81	11
63899	715001A	5340-01-372-3982	82	13
40290	715090A		86	3
13548	7197	5975-01-485-8769	22	6
13548	7198	5340-01-527-9898	22	3
45152	720HX	5310-01-457-8573	29	36
45152	720HX	5310-01-457-8573	86	22
45152	720HX	5310-01-457-8573	91	4
63899	721175A		81	10
63899	721175A		82	10
63899	721176A		81	13
63899	721176A		82	11
13548	7240	6220-01-482-9850	23	1
0D5M6	730314-002	5330-01-488-4097	79	15
0D5M6	731739-002	5330-01-355-4809	17	8
0D5M6	731739-002	5330-01-355-4809	20	9
0D5M6	731739-002	5330-01-355-4809	20	16
0D5M6	731739-002	5330-01-355-4809	38	28
12361	7373100025		KITS	10
45152	738HX4	5305-01-328-4384	65	15
12361	7448060624		71	78
12361	7448060632		71	75
12361	7448060643		71	73
1CC11	75121-05		70	7
1CC11	75122-23		73	52
09990	75123-33	4820-01-408-4702	73	47
1CC11	75136-04		KITS	11
1CC11	75139-01		70	2

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
12361	7554200901		71	80
12361	7554201201	4720-01-477-1465	71	84
12361	7-554-204601	4720-01-488-6120	71	82
00912	7-57-017	5331-00-162-5688	86	10
45152	767HX1	5310-01-058-3183	33	3
45152	767HX1	5310-01-058-3183	58	6
45152	7688GX	4730-01-192-9571	50	112
12361	7-689-000797	5999-01-286-5843	37	27
62410	76902		85	24
62410	76929		69	36
62410	76937		69	38
19207	7716634	5975-00-771-6634	34	4
19207	7723309	5310-00-393-6685	34	2
12361	7-753-000173	3040-01-370-2823	72	7
12361	7-753-000197	4310-01-487-8807	72	13
12361	7-754-000121		72	8
12361	7-754-000710		72	11
12361	7-755-133609		72	9
62410	77630		85	16
62410	77637		69	27
12361	7-794-000587		72	5
12361	7-794-001573		72	14
12361	7-826-000092	5999-01-280-1438	34	28
62410	78747		85	38
52304	78922	5310-01-160-7496	47	33
52304	78937	5325-01-156-5280	47	14
72962	79NM04	5310-00-262-6355	8	17
72962	79NM04	5310-00-262-6355	9	15
12361	7-949-000377	5310-01-208-5261	68	22
12361	7950100050	5310-01-494-4099	68	13
52304	79558	5305-01-167-3295	47	10
62410	79609		69	46
19207	7974632	5325-00-309-4017	34	3

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
52304	79903	5330-01-113-0593	49	10
45152	8HA889	5935-01-495-3346	37	30
0FHH8	8H38529/53	5340-01-389-3537	78	14
0ZLV2	8H8E-21	5305-01-384-3474	57	38
45152	8TN217	5310-01-061-4476	47	4
45152	8TN217	5310-01-061-4476	48	4
01212	80X100X10	5330-01-355-9269	83	3
50139	800E-A3L		8	9
50139	800E-A3L		9	8
01121	800EP-M4	5930-01-446-8152	8	7
01121	800EP-M4	5930-01-446-8152	9	6
01121	800E-3X10	5999-01-435-7242	8	6
01121	800E-3X10	5999-01-435-7242	9	9
57598	800744	4730-01-327-1846	89	22
0FHH8	8022N7017		78	6
0FHH8	8022N7017		80	7
0FHH8	8023N7009		78	10
0FHH8	8023N7009		80	14
0FHH8	8023N7013	5331-01-355-9911	78	17
0FHH8	8023N7013	5331-01-355-9911	80	9
0FHH8	8023N7015		78	5
0FHH8	8023N7015		80	5
0FHH8	8024N902		78	16
0FHH8	8024N902		80	11
0FHH8	8024N908		78	11
0FHH8	8024N908		80	15
0FHH8	8024N912		78	3
0FHH8	8024N912		80	3
0FHH8	8025N9014		80	6
0FHH8	8025N9015		78	7
0FHH8	8025N9015		80	4
0FHH8	8025N9016		78	4
52304	804024	5310-01-163-9298	49	26

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
52304	804304	5310-01-155-4318	49	25
52304	805636	2530-01-155-4120	49	13
52304	806234	2530-01-510-3165	49	20
1MVZ1	806380	5310-01-513-0933	49	16
1MVZ1	806526	2530-01-503-6764	49	14
1MVZ1	806527	2530-01-511-0241	49	15
1MVZ1	808058	5340-01-512-6328	49	19
0CAG9	809530		53	13
0CAG9	809680		53	12
52304	811308		49	8
52304	811309		49	9
62410	815350		69	28
52304	818278	5360-01-503-3209	49	21
52304	819725	5360-01-024-7898	49	17
1MVZ1	819768	2530-01-503-6745	49	18
94222	82-12-200-17	5325-00-178-8670	61	38
0FHH8	821502M	5340-01-389-3462	78	15
0FHH8	821502M	5340-01-389-3462	80	10
94222	82-32-101-20	5310-00-949-6139	61	39
94222	82-47-106-15	5325-00-004-5256	61	40
19207	8338562	5970-00-833-8562	34	12
19207	8338562	5970-00-833-8562	40	3
19207	8338564	5940-00-399-6676	34	13
19207	8338564	5940-00-399-6676	40	2
19207	8338567	5310-00-833-8567	34	25
19207	8338567	5310-00-833-8567	40	7
52304	83481	5365-01-156-8063	47	29
52304	83482	5365-01-165-2618	47	23
64386	842-1		29	43
52304	84546	5340-01-214-9352	47	12
30058	85006730		87	1
09605	853181952	5331-01-155-4277	71	52
09605	853181952	5331-01-155-4277	73	30

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
09605	853181952	5331-01-155-4277	88	21
09605	853181952	5331-01-155-4277	88	31
09605	853181952	5331-01-155-4277	88	34
09605	853181952	5331-01-155-4277	88	42
1CC11	85879-24		73	51
1CC11	86064-01		70	5
1CC11	86065-01		70	6
1CC11	86270-26		73	46
1CC11	86271-24		73	48
1CC11	86279-25		73	55
19207	8724494	5975-00-660-5962	34	11
19207	8724494	5975-00-660-5962	40	4
19207	8724642	5935-00-944-6300	34	5
81343	8-8 070120CA	4730-01-156-4835	77	4
81343	8-8 070120CA	4730-01-156-4835	78	18
81343	8-8 070120CA	4730-01-156-4835	80	20
45152	8865GX	5310-01-061-5301	49	23
45152	8865GX	5310-01-061-5301	57	2
45152	8865GX	5310-01-061-5301	64	14
45152	9HB967	5999-01-479-8613	25	2
45152	9HB973	5340-01-479-3023	37	18
45152	9HB973	5340-01-479-3023	38	6
0FHH8	9P000202	5305-01-355-8980	78	12
0FHH8	9P000202	5305-01-355-8980	80	8
0FHH8	9P000948		80	17
98171	900 01 002		57	17
98171	90001065		57	43
98171	90008008		57	18
98171	90008120	5365-01-466-2026	57	20
98171	90008151	5365-01-466-2028	57	42
98171	90008219		57	31
98171	90045419		57	37
0FHH8	900565-012		78	9

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
01276	900598-12S	5365-01-340-3898	73	58
01276	900598-20S	5365-01-172-3384	53	22
01276	900598-6S	5365-00-382-6713	71	62
01276	900598-8S	5365-01-217-4133	53	18
39428	90096A194	5305-01-033-8125	8	5
39428	90096A194	5305-01-033-8125	9	5
0FHH8	901009-012		80	13
52304	90208	5310-01-151-8342	47	21
52304	90208	5310-01-151-8342	48	10
39428	90283A192	5305-01-360-7999	43	3
39428	90353A171	5305-01-480-4203	15	7
52304	90415	5310-01-485-8403	47	11
98171	90516740		57	34
98171	90516741		57	41
98171	90536006		57	30
98171	90546255		57	32
98171	90557279		57	26
72447	906354-5031		46	1
52304	90898	4730-01-062-4102	47	17
62410	91082		85	20
39428	91101A032	5310-01-357-8849	54	62
62410	91618		85	26
13226	920123	5325-01-127-1390	45	78
39428	92146A031	5310-01-446-0892	54	55
39428	92146A033	5310-01-482-9242	54	34
62410	92448		69	45
39428	9263K169		8	3
39428	9263K169		9	3
39428	92865A626	5305-01-504-8942	54	56
39428	92865A673	5305-01-443-8671	54	63
39428	92865A716		54	35
98171	930 03 615		57	33
98171	930 03 693		57	19

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
17590	930743-8584	4730-00-287-4852	50	62
0D5M6	931236-100	5935-01-355-7505	20	8
0D5M6	931236-100	5935-01-355-7505	20	15
98171	93201055		57	22
0D5M6	932106-100		17	9
0D5M6	932106-100		38	26
98171	93400417		57	23
98171	934 00 492	5310-01-061-1310	57	15
98171	934 00 492	5310-01-061-1310	57	35
98171	934 00 506	5310-01-309-6495	57	21
98171	93400607		57	28
11939	93543216	5305-01-082-0049	65	10
98171	936 00 156		57	16
98171	93600498		57	36
98171	93600502		57	40
98171	93600533		57	29
62410	94125		69	22
24617	9423808	5305-01-146-4538	45	46
39428	9427K10	4030-01-155-3557	61	14
39428	9452K117		54	17
39428	9452K136		89	21
39428	9452K136		89	23
39428	9452K136		89	27
39428	9452K28	5331-01-220-0153	53	19
39428	9452K28	5331-01-220-0153	78	19
39428	9452K28	5331-01-220-0153	79	23
39428	9452K28	5331-01-220-0153	79	25
39428	9452K28	5331-01-220-0153	79	27
39428	9452K28	5331-01-220-0153	89	3
39428	9452K47	5330-01-118-0907	54	52
39428	9452K57		89	6
39428	9452K57		89	9
39428	9452K59		54	30

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
39428	9452K59		89	5
39428	9452K59		89	24
39428	9452K59		89	28
39428	9452K59		89	10
39428	9452K69		54	33
39428	9452K71		89	34
39428	9452K73		89	12
39428	9452K73		89	14
39428	9452K73		89	20
39428	9452K74	5331-01-421-1835	54	19
39428	9452K79		89	31
13548	94626	6150-01-459-1811	22	5
39428	9464K301	5331-01-529-3104	53	23
39428	9464K77	5331-01-529-3108	73	59
39428	9464K77	5331-01-529-3108	79	13
39428	9464K77	5331-01-529-3108	79	4
13548	94862	5935-01-517-8182	38	33
62410	96344		69	26
13548	97045	5330-01-479-2244	22	7
62410	97208		69	47
62410	97209		69	34
62410	97443		69	31
39428	9751K125		54	21
39428	9751K126		89	2
39428	9751K127		54	14
39428	9751K128		54	54
39428	9751K129		54	61
54035	990-011-007	5330-01-332-7167	KITS	12
54035	990-022-001	5330-01-446-7063	KITS	13
54035	990-061-007	5331-01-420-6083	69	11
54035	990-202-007	5330-01-345-2408	KITS	14
52304	99708	5306-01-155-4335	47	20

END OF WORK PACKAGE

CHAPTER 7

SUPPORTING INFORMATION

FIELD LEVEL MAINTENANCE

REFERENCES

SCOPE

This work package lists pamphlets, field manuals, forms, supply bulletins, technical bulletins, technical manuals, and miscellaneous publications either referenced in this manual or which apply to the operation and maintenance of the HEMTT THAAD. Web sites which may be useful are also included in this Reference.

DEPARTMENT OF ARMY PAMPHLETS

DA PAM 25-30 Consolidated Index of Army Publications and Blank Forms
 DA PAM 710-2-1 Using Unit Supply System (Manual Procedures)
 DA PAM 750-8 The Army Maintenance Management System (TAMMS) Users Manual

FIELD MANUALS

FM 3-11.3 Multiservice Tactics, Techniques, and Procedures For Chemical, Biological,
 Radiological and Nuclear Contamination Avoidance
 FM 4-25.11 First Aid
 FM 90-3 Desert Operations

FORMS

Refer to DA PAM 750-8, The Army Maintenance Management System (TAMMS) Users Manual, for instructions for the use of maintenance forms pertaining to the vehicle.

DA FORM 2028 Recommended Changes to Publications and Blank Forms
 DA FORM 2401 Organization Control Record for Equipment
 DA FORM 2404 Equipment Inspection and Maintenance Worksheet
 DA FORM 2407 Maintenance Request
 DA FORM 5988E Equipment Inspection Maintenance Worksheet (EGA)
 STANDARD FORM 91 Motor Vehicle Accident Report
 STANDARD FORM 368 Product Quality Deficiency Report

SUPPLY BULLETINS

SB 740-98-1 Storage Serviceability Standard-Tracked Vehicles, Wheeled Vehicles, and
 Component Parts

TECHNICAL BULLETINS

- TB 43-0209 Color, Marking, and Camouflage Painting of Military Vehicles, Construction Equipment, and Materials Handling Equipment
- TB 43-0239 Maintenance in the Desert

TECHNICAL MANUALS

- TM 9-214 Inspection, Care, and Maintenance of Antifriction Bearings
- TM 9-243 Use and Care of Hand Tools and Measuring Tools
- TM 9-247 Materials Used for Cleaning, Preserving, Abrading, and Cementing Ordnance Materiel and Related Materials Including Chemicals
- TM 9-2320-347-10 Operator's Manual, M977 Series, 8x8 Heavy Expanded Mobility Tactical Trucks (HEMTT)
- TM 9-2320-325-14&P Operator's, Organizational, Direct Support, and General Support Maintenance Manual (Including Repair Parts and Special Tools List) for Heavy Expanded Mobility Tactical Trucks (HEMTT)
- TM 9-2320-364-14&P Operator's, Organizational, Direct Support, and General Support Maintenance Manual (Including Repair Parts and Special Tools List) for Palletized Load System (PLS)
- TM 9-4910-571-12&P Operator's and Organizational Maintenance Manual (Including Repair Parts and Special Tools List) for Simplified Test Equipment for Internal Combustion Engines (STE/ICE-R)
- TM 9-4940-468-13 Operator's, Unit, and Direct Support Maintenance Manual for Tool Outfit, Hydraulic Systems Test and Repair Unit (HSTRU)
- TM 9-4940-568-10 Operator's Maintenance Manual for Forward Repair System (FRS)
- TM 38-250 Preparing Hazardous Materials for Military Air Shipments
- TM 43-0139 Painting Instructions for Army Materiel

MISCELLANEOUS PUBLICATIONS

- ASME Y14.38 Abbreviations and Acronyms
- AR 700-138 Army Logistics Readiness and Sustainability
- CTA 8-100 Army Medical Department Expendable/Durable Items
- CTA 50-970 Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items)
- MIL-H-5606 Hydraulic Fluid, Petroleum Base; Aircraft, Missile, and Ordnance
- TC 9-237 Operator's Circular Welding Theory and Application
- TO 00-25-234 General Shop Practice Requirements for the Repair, Maintenance, and Test of Electronic Equipment

WEB SITES

<https://aeps.ria.army.mil> Army Electronic Product Support

<http://www.tea.army.mil> Military Surface Deployment and Distribution Command Transportation Engineering Agency (SDDC TEA)

<http://www.logsa.army.mil> Logistics Support Activity (LOGSA)

<http://www.tacom.army.mil> TACOM Life Cycle Management Command (TACOM LCMC)

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE

MAINTENANCE ALLOCATION CHART (MAC) INTRODUCTION

THE ARMY MAINTENANCE SYSTEM (MAC)

This introduction provides a general explanation of all maintenance and repair functions authorized at the two maintenance levels under the Two-Level Maintenance System concept.

This MAC (immediately following the introduction) designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component shall be consistent with the capacities of the designated maintenance levels, which are shown on the MAC in column (4) as:

Field – includes three subcolumns, Crew (C), Service (O), and Field (F).

Sustainment – includes two subcolumns, Below Depot (H) and Depot (D).

1. **Service maintenance.** The responsibility of using organization to perform maintenance on its assigned equipment. It normally consists of inspecting, servicing, lubricating, adjusting, and replacing parts, minor assemblies, and subassemblies. The replace function for this level of maintenance is indicated by the letter “O” in the third position of the SMR code. An “O” appearing in the fourth position of the SMR code indicate complete repair is possible at the service maintenance level.
2. **Field Maintenance.** Maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion either on the system or after it is removed. The replace function for this level of maintenance is indicated by the letter “F” appearing in the third position of the SMR code. An “F” appearing in the fourth position of the SMR code indicates complete repair is possible at the field maintenance level. Items are returned to the user after maintenance is performed at this level.
3. **Below depot sustainment.** Maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion either on the system or after it is removed. The replace function for this level of maintenance is indicated by the letter “H” appearing in the third position of the SMR code. An “H” appearing in the fourth position of the SMR code indicates complete repair is possible at the below depot sustainment maintenance level. Items are returned to the supply system after maintenance is performed at this level.

The tools and test equipment requirements (immediately following the MAC) list the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from the MAC.

The remarks table (immediately following the tools and test equipment requirements) contains supplemental instructions and explanatory notes for a particular maintenance function.

MAINTENANCE FUNCTIONS

Maintenance functions are limited to and defined as follows:

1. **Inspect.** To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel). This includes scheduled inspection and gagings and evaluation of cannon tubes.

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2. **Test.** To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards on a scheduled basis, i.e., load testing of lift devices and hydrostatic testing of pressure hoses.
 3. **Service.** Operations required periodically to keep an item in proper operating condition; e.g., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases. This includes scheduled exercising and purging of recoil mechanisms. The following are examples of service functions:
 - (a) **Unpack.** To remove from packing box for service or when required for the performance of maintenance operations.
 - (b) **Repack.** To return item to packing box after service and other maintenance operations.
 - (c) **Clean.** To rid the item of contamination.
 - (d) **Touch up.** To spot paint scratched or blistered surfaces.
 - (e) **Mark.** To restore obliterated identification.
 4. **Adjust.** To maintain or regulate, within prescribed limits, by bringing into proper position, or by setting the operating characteristics to specified parameters.
 5. **Align.** To adjust specified variable elements of an item to bring about optimum or desired performance.
 6. **Calibrate.** To determine and cause corrections to be made or to be adjusted on instruments of test, measuring, and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.
 7. **Remove/install.** To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.
 8. **Paint.** To prepare and spray color coats of paint so that the ammunition can be identified and protected. The color indicating primary use is applied, preferably, to the entire exterior surface as the background color of the item. Other markings are to be repainted as original so as to retain proper ammunition identification.
 9. **Replace.** To remove an unserviceable item and install a serviceable counterpart in its place "Replace" is authorized by the MAC and assigned maintenance level is shown as the third position code of the Source, Maintenance and Recoverability (SMR) code.
 10. **Repair.** The application of maintenance services, including fault location/troubleshooting, removal/installation, disassembly/assembly procedures and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

NOTE

The following definitions are applicable to the “repair” maintenance function: Services, inspect, test, service, adjust, align, calibrate, and/or replace.

Fault location/troubleshooting. The process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or Unit Under Test (UUT).

Disassembly/assembly. The step-by-step breakdown (taking apart) of a spare/functional group coded item to the level of its least component, that is assigned as SMR code for the level of maintenance under consideration (i.e., identified as maintenance significant).

Actions. Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing.

11. **Overhaul.** That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.
12. **Rebuild.** Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of material maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (e.g., hours/miles) considered in classifying Army equipment/ components.

EXPLANATION OF COLUMNS IN THE MAC

Column (1) Group Number. Column (1) lists Functional Group Code (FGC) numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the Next Higher Assembly (NHA).

Column (2) Component/Assembly. Column (2) contains the item names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

Column (3) Maintenance Function. Column (3) lists the functions to be performed on the item listed in column (2). (For a detailed explanation of these functions refer to “Maintenance Functions” outlined above).

Column (4) Maintenance Level. Column (4) specifies each level of maintenance authorized to perform each function listed in column (3), by indicating work time required (expressed as man-hours in whole hours or decimals) in the appropriate subcolumn. This work time figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function varies at different maintenance levels, appropriate work time figures are to be shown for each level. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting /fault location time, and quality assurance time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the MAC. The symbol designations for the various maintenance levels are as follows:

Field:

C Operator or Crew maintenance

O Unit maintenance

F Direct Support maintenance

Sustainment:

- L Specialized Repair Activity
- H General Support maintenance
- D Depot maintenance

NOTE

The "L" maintenance level is not included in column (4) of the MAC. Functions to this level of maintenance are identified by work time figure in the "H" column of column (4), and an associated reference code is used in the REMARKS column (6). This code is keyed to the remarks and the SRA complete repair application is explained there.

Column (5) Tools and Equipment Reference Code. Column (5) specifies, by code, those common tool sets (not individual tools), common Test, Measurement and Diagnostic Equipment (TMDE), and special tools, special TMDE and special support equipment required to perform the designated function. Codes are keyed to the entries in the tools and test equipment table.

Column (6) Remarks Code. When applicable, this column contains a letter code, in alphabetical order, which is keyed to the remarks table entries.

EXPLANATION OF COLUMNS IN THE TOOLS AND TEST EQUIPMENT REQUIREMENTS

Column (1) - Tool or Test Equipment Reference Code. The tool or test equipment reference code correlates with a code used in column (5) of the MAC.

Column (2) - Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.

Column (3) - Nomenclature. Name or identification of the tool or test equipment.

Column (4) - National Stock Number (NSN). The NSN of the tool or test equipment.

Column (5) - Tool Number. The manufacturer's part number.

EXPLANATION OF COLUMNS IN THE REMARKS

Column (1) - Remarks Code. The code recorded in column (6) of the MAC.

Column (2) - Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC.

END OF WORK PACKAGE

**FIELD LEVEL MAINTENANCE
MAINTENANCE ALLOCATION CHART (MAC)**

Table 1. Two-Level Maintenance Allocation Chart for THAAD.

(1) Group Number	(2) Component/ Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Test Equipment	(6) Remarks Code
			Field			Sustainment			
			Crew	Service	Field	Below Depot	Depot		
			C	O	F	H	D		
03	FUEL SYSTEM								
0306	Tanks, Lines, Fittings, Headers Fuel Tank and Brackets	Replace		2.0				10, 30	
06	ELECTRICAL SYSTEM								
0606	Engine Safety Controls High Idle/Throttle Inhibit Relays	Replace		0.5				25	
0608	Misc. Items Palm Button Switch(es) and Ground Rod Driver Switch	Replace		0.5				25	
	Lamp Check Switch	Replace		0.2				25	
	LHS Junction Box	Replace		1.5				25	
	Proximity Switch (Hook Arm Down)	Replace		0.5				25	
		Adjust		0.3				25	
		Test		0.5				B	
	Proximity Switch (Hook Arm Up)	Replace		0.5				25	
		Adjust		0.3				25	
		Test		0.5				B	
	Proximity Switch (Main Frame Down)	Replace		0.5				25	
		Adjust		0.3				25	
		Test		0.5				B	

Table 1. Two-Level Maintenance Allocation Chart for THAAD. (Continued)

(1) Group Number	(2) Component/ Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Test Equipment	(6) Remarks Code
			Field			Sustainment			
			Crew	Service	Field	Below Depot	Depot		
			C	O	F	H	D		
0608	Proximity Switch (MRP Present)	Replace		0.5				25	B
		Adjust		0.3				25	
		Test		0.5					
0609	Lights								
	Rear Light Bar Assembly	Replace		1.5				25	
	Auxiliary Work Lamp	Replace		0.3				25	
	Work Lamp Switch	Replace		0.3				25	
	Rack Lock/Air Bag Indicators	Replace		0.3				25	
	Work Light	Replace		0.3				25	
	Repair			0.3					
0612	Batteries, Storage								
	Battery Box	Inspect	0.1						
		Replace		1.4				25	
	Battery Box Support Bracket	Replace		1.4				25	
	Batteries, Terminals and Cables	Inspect	0.1						
		Replace		1.0				25, 30	
0613	Auxiliary Battery Box Brackets	Replace		1.4				25	
	Chassis Wiring								
	Rear Clearance Light Harness	Replace			1.0			25	
		Repair		*					A
	LHS Compression Frame Harness	Replace			2.0			24, 25	
		Repair					*		A
	THAAD Compression Frame Harness	Replace			2.0			25	
		Repair		*					A

Table 1. Two-Level Maintenance Allocation Chart for THAAD. (Continued)

(1) Group Number	(2) Component/ Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Test Equipment	(6) Remarks Code
			Field			Sustainment			
			Crew	Service	Field	Below Depot	Depot		
			C	O	F	H	D		
0613	THAAD Control Valve Harness	Replace			3.0			25	
		Repair		*					A
	Marker/Clearance Light	Replace		0.5				25	
	LHS Cab Control Module	Replace		0.5				25	
	THAAD Cab Add-On Wire Harness	Replace			1.0			25	
		Repair		*					A
11	REAR AXLE								
1100	Rear Axle Assembly								
	Axles No. 3 and No. 4	Align			2.0			25	
		Replace			6.0			17, 25	
12	BRAKES								
1208	Air Brake System								
	Chassis Air Line	Replace		*				17, 25	A
	Chassis Air Fitting	Replace		0.3				17, 25	
	Cab Parking Brake Pressure Switch	Replace		0.5				25	
	Air Reservoir No. 1 and No. 3	Replace		1.5				17, 25	
	Brake Relay Valves	Replace		1.0				17, 25	
15	FRAME, TOWING ATTACHMENTS AND DRAWBARS								
1501	Frame Assembly								
	Ladder Bracket	Replace		0.5				25	
	Generator Platform	Replace		2.5				25	
	Rear Roller Assembly Reflector	Replace		0.3				25	

Table 1. Two-Level Maintenance Allocation Chart for THAAD. (Continued)

(1) Group Number	(2) Component/ Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Test Equipment	(6) Remarks Code
			Field			Sustainment			
			Crew	Service	Field	Below Depot	Depot		
			C	O	F	H	D		
1501	Rear Roller Assembly	Replace		1.0				25	A
	Shock Mount Bracket	Replace		0.5				25	
	MRP Lock Cylinders and Brackets	Replace		4.0				10, 17, 25	
		Repair				*			
	MRP Rear Support Brackets	Replace		1.5				25	
	Slide Step and Bracket	Replace		2.0				25	
	Isolator Stop Bracket	Replace		1.0				25	
	MRP Control Valve Brackets	Replace		4.0				25	
	Fuel/Water Separator Guard	Replace		0.5				25	
1505	Bridge Launching and Retrieving Components								A
	Angled Roller	Replace		1.0				25	
		Repair				*			
	MRP Elevation Cylinder Stowage Bracket Rollers	Replace		0.3				25	
	MRP Elevation Cylinder Stowage Bracket Wear Pads	Replace		1.0				25	
	Horizontal Roller	Replace		2.0				25	
		Repair				*			
	LHS Hook	Replace		0.2				25	
	LHS Rubber Bumper	Replace		0.3				25	
1507	Leveling Jacks								A
	Outrigger Assembly	Replace			2.0			10, 17, 25, 31	
16	Springs and Shock Absorbers								
1601	Springs								

Table 1. Two-Level Maintenance Allocation Chart for THAAD. (Continued)

(1) Group Number	(2) Component/ Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Test Equipment	(6) Remarks Code	
			Field			Sustainment				
			Crew	Service	Field	Below Depot	Depot			
			C	O	F	H	D			
1604	Suspension Air Spring	Replace		1.0				17, 25, 29		
	Shock Absorber Equipment									
1605	Shock Absorber	Replace		0.3				25, 30		
		Inspect	0.2							
1805	Torque, Radius and Stabilizer Rods									
	Torque Rod	Replace		1.2				9, 25, 31		
	Transverse Beam	Replace		1.2				1, 21, 25, 29, 31		
	Equalizing Beam	Replace		1.3				19, 25, 31		
18	Body, Cab, Hood and Hull									
	1801	Body, Cab, Hood and Hull Accessories								
	1802	Right-Hand Engine Access Cover	Replace		0.2				25	
		Fenders, Running Boards with Mounting and Attaching Parts								
	1808	Rear Fenders and Mounting Brackets	Replace		1.0				25	
		Rear Mud Flap	Replace		0.5				25	
		Splash Guards	Replace		0.2				25	
	1808	Stowage Boxes								
		Stowage Box (BII)	Replace		0.4				25	
		Static Reel	Replace		0.3				25	

Table 1. Two-Level Maintenance Allocation Chart for THAAD. (Continued)

(1) Group Number	(2) Component/ Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Test Equipment	(6) Remarks Code
			Field			Sustainment			
			Crew	Service	Field	Below Depot	Depot		
			C	O	F	H	D		
22	Body, Chassis or Hull and Accessory Items								
2202	Accessory Items								
	Grounding Bar	Replace		0.5			25		
	Ground Cables	Replace		3.0			25		
2210	Data Plates and Instruction Holders								
	Data Plate (Generic)	Replace		0.5			4, 5, 23, 25		
24	Hydraulic Lift Components								
2400	Compression Frame	Replace			4.0		10, 17, 25, 31		
	LHS Hook Arm Frame	Replace			1.8		12, 13, 14, 15, 16, 25, 28		
	LHS Main Frame	Repair			4.0		10, 12, 13, 14, 15, 16, 17, 25, 28		
2402	Hydraulic Control Valve								
	Directional Control Valve	Replace			1.0		10, 25		
	Free-Flow Valve and Coil	Replace			0.6		10, 25, 30		
	Relief Valve	Replace			0.5		10, 25, 30		
2403	Hydraulic Controls and Linkages								
	MRP Control Valve	Replace			1.2		10, 17, 25		
		Repair				*		A	
	Outrigger Control Valve	Replace			1.2		10, 17, 25		
		Repair				*		A	
	LHS Main Frame Tube	Replace					10, 17, 25		
2404	Hydraulic Tilt Cylinders								

Table 1. Two-Level Maintenance Allocation Chart for THAAD. (Continued)

(1) Group Number	(2) Component/ Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Test Equipment	(6) Remarks Code
			Field			Sustainment			
			Crew	Service	Field	Below Depot	Depot		
			C	O	F	H	D		
2404	MRP Elevation Cylinders	Replace			1.1			10, 17, 25	
		Repair				*			A
2404	LHS Hook Arm Cylinder	Replace			1.4			10, 17, 25	
		Repair				*			A
2405	LHS Main Frame Cylinder	Replace			1.1			10, 17, 25	
		Repair				*			A
2405	Hydraulic Lift Cylinders								
	Outrigger Stabilizer Cylinder	Replace			1.0			10, 17, 20, 25	
		Repair				*			A
29	Outrigger Extension Cylinder	Replace			3.0			10, 17, 25	
		Repair				*			A
2938	Auxiliary Generator and Engine								
2960	Engine Priming System, Lines and Pumps								
	Generator Fuel Supply Line	Replace		0.3				17, 25	
42	Sending Units								
	Fuel Level Sending Unit	Replace		0.5				25	
4202	Electrical Equipment								
	Electrical Controls								
4206	VIM Units and Mounting Bracket	Replace		1.0				25	
	Input Module and Mounting Bracket	Replace		0.5				25	
4206	Thermostatic, Automatic and Manual Control Devices								
	MRP Elevation Cylinder Stowed Switch	Replace		0.5				25	

Table 1. Two-Level Maintenance Allocation Chart for THAAD. (Continued)

(1) Group Number	(2) Component/ Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Test Equipment	(6) Remarks Code
			Field			Sustainment			
			Crew	Service	Field	Below Depot	Depot		
			C	O	F	H	D		
4206	Parking Brake Interlock Pressure Switch	Adjust		0.5				25	
		Replace		0.3				25	
		Replace		0.3				25	
		Replace		0.5				25	
		Adjust		0.5				25	
		Replace		0.5				25	
		Adjust		0.5				25	
43	Hydraulic and Air System								
4300	Hydraulic System								
4301	Main Hydraulic Pressure Adjustments	Adjust			*		2, 3, 7, 8, 25, 27	A	
	Filters, Hoses								
4305	Hydraulic Fluid Filter Assembly and Bracket	Replace			1.0		10, 17, 25		
	Hydraulic Hose	Replace			*		17, 25	A	
	Hydraulic Manifolds								
	LHS Main Manifold/ Bracket	Replace			0.6		10, 17, 25, 29		
	LHS Main Frame Cylinder Manifold	Replace			1.0		10, 17, 25		
4308	LHS Hook Arm Manifold	Repair				*		A	
		Replace			1.6		10, 17, 25		
		Repair				*		A	
		Replace			1.5		10, 17, 25		
	Distribution Manifold	Repair				*		A	
		Liquid Tanks or Reservoirs							

Table 1. Two-Level Maintenance Allocation Chart for THAAD. (Continued)

(1) Group Number	(2) Component/ Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Test Equipment	(6) Remarks Code
			Field			Sustainment			
			Crew	Service	Field	Below Depot	Depot		
			C	O	F	H	D		
4308	Hydraulic Reservoir	Replace		1.5				10, 17, 25	
	Hydraulic Reservoir Drain/ Fill	Inspect	0.1						
		Service		1.0				10, 25	
	Hydraulic Reservoir Top Plate and Sight Glass	Replace			1.0			25, 29	
	Hydraulic Reservoir Strainers	Replace			0.5			25	
4317	Hydraulic Reservoir Filter and Housing	Replace		0.6				10, 25	
	Manifold and/or Control Valves								
4320	Ball Valve (Suspension)	Replace		0.5				17, 25, 29	
	Air Controls								
	Height Control Linkage	Replace		0.5				25, 29	
		Adjust		0.3				17, 25	
	Height Control Valve	Replace		0.7				17, 25, 29	

Table 2. Tools and Test Equipment for THAAD.

Tool or Test Equipment	Maintenance Level	Nomenclature	National Stock Number	Tool Number
1	F	Adapter, Socket (3/4 in. Female to 1 in. Male)	5120-01-355-1895	GLA72A
2	F	Adapter, Straight, PI	4730-01-373-0474	GAH20-1/4NPT-V
3	F	Coupling Half, Quick	4730-01-264-0689	FD90-1021-04-04
4	O	Drill, Electric, Portable, 1/4 in.	5130-00-889-8993	1070
5	O	Drill Set, Twist	5133-00-449-6775	GGG-D-751
6	F	Forward Repair System (FRS)	4940-01-463-7940	RIA149000
7	F	Gage, Pressure, Dial	6685-01-373-7976	356021
8	F	Hose Assembly, Nonme	4720-01-373-9871	SMS-20-060-A
9	O	Jack Kit, Hydraulic, Hand	5120-00-587-4144	GGG-J-60

Table 2. Tools and Test Equipment for THAAD. (Continued)

Tool or Test Equipment	Maintenance Level	Nomenclature	National Stock Number	Tool Number
10	F	Pan, Drain	4910-00-387-9592	17942
11	F	Pliers, Channel Lock	5120-00-287-2412	GGG-W-649
12		Pliers, Retaining, Qty: 1 per set	5120-01-375-5699	2BH95
13		Remover, Bearing and	5120-01-457-4153	2215090
14		Remover, Bearing and (Large)	5120-01-457-3911	2215070
15		Remover, Bearing and (Small)	5120-01-457-3912	2215060
16		Screw, Lead	5120-01-457-3913	2215080
17	F	Set, Cap and Plug	5340-00-450-5718	10935405
18	F	Shop Equipment, Automotive Maintenance and Repair: Field Maintenance, Basic Less Power	4910-00-754-0705	SC 4910-95-A31
19	F	Shop Equipment, Automotive Maintenance and Repair: Field Maintenance Supplemental Set No. 2, Less Power	4910-00-754-0707	
20	F	Shop Equipment, Machine Shop: Field Maintenance Basic, Less Power	3470-00-754-0708	
21	F	Socket 3 1/2 in.		JHW7-6112
22	F	Standard Automotive Tool Set (SATS)	4910-01-490-6453	SC-4910-95-A81
23	O	Tool Kit, Blind Rivet	5180-01-201-4978	D-100-MIL-1
24	F	Tool Kit, Electrical	5180-00-876-9336	7550526
25	O	Tool Kit, General Mechanic's: Automotive	5180-00-177-7033	SC5180-90-N26
26	F	Tool Kit, Master Mechanics	5180-00-699-5273	SC5180-90-CL-N05
27	F	Valve, Pneumatic, Tan	4820-01-312-9207	TCM20-1/4NPT-V
28		Washer, Flat	5310-00-092-6831	AE30574
29	O	Wrench, Torque (0-44 lb-ft [0-60 N•m])	5120-01-112-9531	TESI60
30	O	Wrench, Torque (0-175 lb-ft [0-237 N•m])	5120-00-640-6364	A-A-2411
31	O	Wrench, Torque (0-600 lb-ft [0-814 N•m])	5120-00-221-7983	SW130-301

Table 3. Remarks for THAAD.

Remark Code	Remarks
A	No specific times established. Times required for replacement or repair will depend on extent of work required.
B	No specific times established. Times required for test will depend on extent of testing required.

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
MANDATORY REPLACEMENT PARTS LIST

MANDATORY REPLACEMENT PARTS LIST

This work package includes a list of all mandatory replacement parts referenced in the task initial setups and procedures. These are items that must be replaced during maintenance whether they have failed or not. This includes items based on usage intervals such as miles, time, rounds fired, etc.

Explanation of Columns in the Mandatory Replacement Parts List

Column (1) - Item No. This number is assigned to the entry in the list and is referenced in the work packages to identify the item (e.g. Retaining Ring (WP 0129, Item 1)).

Column (2) - Part Number/(CAGEC). Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity) which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify and item or range of items. The manufacturer's Commercial and Government Entity Code (CAGEC) is also included.

Column (3) - National Stock Number (NSN). This is the national Stock Number (NSN) assigned to the item, use it to requisition the item.

Column (4) - Nomenclature. This column lists the item by noun nomenclature and other descriptive features (e.g. Retaining Ring).

Column (5) - Qty. This is the total quantity of parts required to preform the tasks.

Table 1. Mandatory Replacement Parts List.

(1) Item Number	(2) Part Number/ CAGEC	(3) National Stock Number	(4) Description	(5) QTY
1	33640		LOCKWASHER	
2	3381765		LOCKNUT	
3	3437654		LOCKNUT	
4	3460089		PACKING, PREFORMED	
5	90516740		LOCKNUT	
6	108708A/ 45152	5310-01-177-4625	LOCKNUT	
7	110310A/ 45152	5310-01-159-8178	LOCKNUT	
8	110311A/ 45152	5310-01-111-0645	LOCKNUT	

Table 1. Mandatory Replacement Parts List. (Continued)

(1) Item Number	(2) Part Number/ CAGEC	(3) National Stock Number	(4) Description	(5) QTY
9	110311A/ 45152	5310-01-111-0645	LOCKNUT	
10	110312A/ 45152	5310-01-150-5918	LOCKNUT	
11	115303A/ 45152	5310-01-155-1905	LOCKNUT	
12	115307A/ 45152	5310-01-151-1036	LOCKNUT	
13	1199479/ 06816	5330-01-234-2618	SEAL	
14	12SAF05		PACKING, PREFORMED	
15	12Z2007- 71/ 94135	5310-00-262-6355	LOCKNUT	
16	1331040/ 04664	2590-01-517-2878	LOCKNUT	
17	1333510/ 45152	5310-01-340-5671	LOCKNUT	
18	1385650/ 45152	4730-01-208-7068	LOCKNUT	
19	141/ 15235	5310-01-119-1811	LOCKNUT	
20	142/ 56501	5975-00-642-7261	LOCKNUT	
21	1437220/ 45152	5310-01-288-1116	LOCKNUT	
22	1467500/ 45152	5330-01-227-9878	GASKET	
23	1571850/ 45152	5310-01-288-5096	LOCKNUT	
24	1571870/ 45152	5310-01-352-7732	LOCKNUT	
25	1598030/ 45152	5310-01-342-8595	LOCKNUT	
26	1600460/ 45152	5310-01-346-9445	LOCKNUT	
27	1605420/ 45152	5310-00-542-0087	LOCKNUT	

Table 1. Mandatory Replacement Parts List. (Continued)

(1) Item Number	(2) Part Number/ CAGEC	(3) National Stock Number	(4) Description	(5) QTY
28	1862660/ 45152	5365-01-355-9529	BUSHING, NONMETALLIC	
29	1862690W /45152	3040-01-356-6837	RING, RETAINING	
30	1878070/ 45152	5330-01-248-1401	GASKET	
31	1890800/ 45152	4730-01-356-8646	PACKING, PREFORMED (Part of Kit)	
32	1890800/ 45152	4730-01-356-8646	LOCKWASHER (Part of kit)	
33	1937550/ 45152	5310-01-355-8798	LOCKWASHER	
34	196/ 80205	5310-00-582-5965	LOCKWASHER	
35	19AS543/ 45152	5310-01-019-3129	LOCKNUT	
36	2-018 N0552/ 02697	5331-01-479-0634	PACKING, PREFORMED	
37	2- 116N552- 90/ 02697	5331-01-054-8419	PACKING, PREFORMED	
38	2- 116N552- 90/ 02697	5331-01-054-8419	PACKING, PREFORMED	
39	2150HX1/ 45152	5310-01-141-5565	LOCKWASHER 1	
40	21NE-040/ 56878	5310-01-066-6759	LOCKNUT	
41	22617-12/ 01276	5331-00-228-7196	PACKING, PREFORMED	
42	22617-16/ 72464	5330-01-168-0885	PACKING, PREFORMED	
43	22617-5/ 01276	5331-01-213-5212	PACKING, PREFORMED	
44	22617-6/ 01276	5331-01-198-8439	PACKING, PREFORMED	

Table 1. Mandatory Replacement Parts List. (Continued)

(1) Item Number	(2) Part Number/ CAGEC	(3) National Stock Number	(4) Description	(5) QTY
45	22617-8/ 01276	5331-01-244-2273	PACKING, PREFORMED	
46	2434/ 24975	5310-00-775-5139	LOCKWASHER	
47	24665- 357/ 80205	5315-00-298-1481	PIN, COTTER	
48	2473HX1/ 56878	5310-01-061-7450	LOCKNUT	
49	2HL545/ 45152	5331-01-028-0816	PACKING, PREFORMED	
50	3- 908N552- 90/ 02697	5331-00-929-8171	PACKING, PREFORMED	
51	3- 912N552- 90/ 02697	5331-00-395-5737	PACKING, PREFORMED	
52	3233FX/ 45152	2590-01-131-8320	PIN, COTTER	
53	3266307/ 45152	5310-01-478-8687	LOCKNUT	
54	3266307/ 45152	5310-01-478-8687	LOCKNUT.	
55	3266308/ 45152	5310-01-478-8689	LOCKNUT	
56	3266309/ 45152	5310-01-478-7218	LOCKNUT	
57	3309409/ 45152	9905-01-479-1596	PLATE	
58	3322427/ 45152	5310-01-492-5550	LOCKNUT	
59	351AX/ 45152	5310-01-129-0450	LOCKWASHER	
60	352AX/ 45152	5310-01-081-1283	LOCKWASHER	
61	354AX/ 45152	5310-01-068-8446	LOCKWASHER	
62	355AX 45152	5310-01-133-2130	LOCKWASHER	

Table 1. Mandatory Replacement Parts List. (Continued)

(1) Item Number	(2) Part Number/ CAGEC	(3) National Stock Number	(4) Description	(5) QTY
63	361AX/ 45152		PIN, COTTER	
64	3-906 N0552/ 30780	5330-01-481-0888	PACKING, PREFORMED	
65	3-910/ 02697	5330-00-485-3586	PACKING, PREFORMED	
66	4503264R 1/ 92679	4730-00-919-1803	LOCKWASHER (Part of Kit)	
67	51945AX/ 45152	5320-01-351-5621	RIVET, BLIND	
68	5262/ 56501	5331-00-588-0892	PACKING, PREFORMED	
69	5263/ 56501	5330-00-802-4966	PACKING, PREFORMED	
70	60861AX/ 45152	5310-01-061-5678	LOCKNUT	
71	731739- 002/ 0D5M6	5330-01-355-4809	GASKET	
72	767HX1/ 45152	5310-01-058-3183	LOCKNUT	
73	79501000 50/ 12361	5310-01-494-4099	LOCKWASHER	
74	7M916- 125-1/ 76301	5330-01-341-7530	PACKING, PREFORMED	
75	8023N700 9		PACKING, PREFORMED	
76	8023N701 1/ 0FHH	5331-01-460-9149	PACKING, PREFORMED	
77	8023N701 3	5331-01-355-9911	PACKING, PREFORMED (Part of Kit)	
78	8023N901 1		PACKING, PREFORMED (Part of Kit)	
79	8024N904		PACKING, PREFORMED (Part of Kit)	

Table 1. Mandatory Replacement Parts List. (Continued)

(1) Item Number	(2) Part Number/ CAGEC	(3) National Stock Number	(4) Description	(5) QTY
80	8024N906		PACKING, PREFORMED (Part of Kit)	
81	8024N908	5331-01-457-1834	PACKING, PREFORMED	
82	8024N908	5331-01-457-1834	PACKING, PREFORMED (Part of Kit)	
83	8024N910		PACKING, PREFORMED (Part of Kit)	
84	809680/ 24346		PACKING, PREFORMED	
85	80x100x10 /01212	5330-01-355-9269	SEAL	
86	85318195 2/ 09605	5331-01-155-4277	PACKING, PREFORMED	
87	90008008/ 98171		BUSHING	
88	90008151/ 98171	5365-01-466-2028	BUSHING, BLANK	
89	90008219/ 98171		BUSHING	
90	92146A03 3/ 39428	5310-01-482-9242	LOCKWASHER	
91	9263K169		PACKING, PREFORMED	
92	934 00 492/ 98171	5310-01-061-1310	LOCKNUT	
93	934 00 506/ 98171	5310-01-309-6495	LOCKNUT (Part of Kit P/N 33005218)	
94	93400060/ 98171	5310-01-355-0937	LOCKNUT	
95	9451K128		PACKING, PREFORMED	
96	9452K136		PACKING, PREFORMED	
97	9452K177		PACKING, PREFORMED	

Table 1. Mandatory Replacement Parts List. (Continued)

(1) Item Number	(2) Part Number/ CAGEC	(3) National Stock Number	(4) Description	(5) QTY
98	9452K28		PACKING, PREFORMED	
99	9452K28/ 39428	5331-01-220-0153	PACKING, PREFORMED	
100	9452K57		PACKING, PREFORMED	
101	9452K57		PACKING, PREFORMED	
102	9452K59		PACKING, PREFORMED	
103	9452K59		PACKING, PREFORMED	
104	9452K69		PACKING, PREFORMED	
105	9452K71		PACKING, PREFORMED	
106	9452K73		PACKING, PREFORMED	
107	9452K74		PACKING, PREFORMED	
108	9452K79		PACKING, PREFORMED	
109	9452K9		PACKING, PREFORMED	
110	9464K301/ 39428	5331-01-529-3104	PACKING, PREFORMED	
111	9464K77/ 39428	5331-01-529-3108	PACKING, PREFORMED	
112	9751K125		PACKING, PREFORMED	
113	9751K126		PACKING, PREFORMED	
114	9751K127		PACKING, PREFORMED	
115	A112-20- 12/ 96124	5331-01-006-2132	PACKING, PREFORMED	
116	A3231/ 72464	5330-01-163-7432	GASKET	
117	AN365- 1024A/ 88044	5310-00-208-1918	LOCKNUT	
118	AS3209- 013/ 0XK26	5331-00-166-0988	PACKING, PREFORMED	

Table 1. Mandatory Replacement Parts List. (Continued)

(1) Item Number	(2) Part Number/ CAGEC	(3) National Stock Number	(4) Description	(5) QTY
119	AS3582-023/ 81343	5331-00-182-3115	PACKING, PREFORMED	
120	AS568-214/ 81343	5331-01-116-8112	PACKING, PREFORMED	
121	E0798 2-012/ 02697	5331-01-072-1665	PACKING, PREFORMED	
122	FB07/ 60827	5330-01-406-8221	GASKET	
123	FF9446-11/ 00624	5331-01-214-4857	PACKING, PREFORMED	
124	FF9446-12/ 01276	5331-01-115-8226	PACKING, PREFORMED	
125	FF9446-14/ 01276	5331-0-269-8580	PACKING, PREFORMED	
126	FF9446-18/ 01276	5331-01-458-8349	PACKING, PREFORMED	
127	FF9446-21/ 01276	5331-01-269-4323	PACKING, PREFORMED	
128	HC2124-G475/ 1EP30	5330-01-234-7625	GASKET	
129	M83248/1-206/ 81349	5331-01-005-0521	PACKING, PREFORMED	
130	MS16224-250	5325-00-175-1315	RING, RETAINING	
131	MS16624-315/ 96906	5325-00-282-7149	RING, RETAINING	
132	MS16625-3187/ 96906	5325-01-173-0707	RING, RETAINING	

Table 1. Mandatory Replacement Parts List. (Continued)

(1) Item Number	(2) Part Number/ CAGEC	(3) National Stock Number	(4) Description	(5) QTY
133	MS16625-3187/96906	5325-01-173-0704	RING, RETAINING	
134	MS19068-121/96906	5310-00-185-6345	LOCKNUT	
135	MS24665-353/96906	5315-00-839-5822	PIN, COTTER	
136	MS24665-768/96906	5315-00-899-5931	PIN, COTTER	
137	MS28778-6/96906	5331-00-804-5695	PACKING, PREFORMED	
138	MS35338-48/0158B	5310-00-584-5272	LOCKNUT	
139	MS35338-48/0158B	5310-00-584-5272	LOCKWASHER	
140	MS35338-44/80205	5310-00-582-5965	PACKING, PREFORMED	
141	MS35338-138/U7709	5310-00-933-8120	LOCKWASHER	
142	MS45904-76/96906	5310-00-061-1258	LOCKWASHER	
143	OR-904/1EP30	5331-01-260-8952	PACKING, PREFORMED	
144	SK3-002N1/0FHH8	5330-01-357-7512	PACKING, PREFORMED (Part of Kit)	
145	SN-524NE-24/08928	5310-01-081-5351	LOCKNUT	
146	W 09/2K272	5310-01-459-6126	LOCKWASHER	

Table 1. Mandatory Replacement Parts List. (Continued)

(1) Item Number	(2) Part Number/ CAGEC	(3) National Stock Number	(4) Description	(5) QTY
147	W 12 LOCKWAS HER/ 2K272	5310-01-458-0248	LOCKWASHER	

END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
COMPONENT OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII)

SCOPE

This work package lists COEI and BII for the HEMTT THAAD to help you inventory items for safe and efficient operation of the equipment.

GENERAL

The COEI and BII information is divided into the following lists:

Components of End Item (COEI). This list is for information purposes only and is not authority to requisition replacements. These items are part of the HEMTT THAAD. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Items of COEI are removed and separately packaged for transportation or shipment only when transferred between property accounts. Items of COEI are removed and separately packaged for transportation or shipment only when necessary. Illustrations are furnished to help you find and identify the items.

Basis Issue Items (BII). These essential items are required to place the HEMTT THAAD into operation, operate it, and to do emergency repairs. Although shipped separately packaged, BII must be with the HEMTT THAAD during operation and when it is transferred between property accounts. Listing these items is your authority to request/requisition them for replacement based on authorization of the end item by the TOE/MTOE. Illustrations are furnished to help you find and identify the items.

EXPLANATION OF COLUMNS IN THE COEI LIST AND BII LIST

Column (1) Item Number. Gives you the reference number of the item listed.

Column (2) National Stock Number (NSN). Identifies the National Stock Number (NSN) of the item to be used for requisitioning purposes.

Column (3) Description, Part Number/(CAGEC). Identifies the Federal Item Name, followed by a minimum description when needed. The last line below the description is the part number and the Commercial and Government Entity Code (CAGEC) (in parentheses).

Column (4) Usable on Code. When applicable, gives you a code if the item you need is not the same for different models of equipment. These codes are identified below:

<u>Code</u>	<u>Used On</u>
XXX Model	XXX

Column (5) U/I. Unit of Issue (U/I) indicates the physical measurement or count of the item as issued per the National Stock Number (NSN) shown in column (2).

Column (6) Quantity Required (Qty. Req.) Indicates the quantity of the item required to be used with/on vehicle.

Table 1. Components of End Item.

(1) Item Number	(2) National Stock Number (NSN)	(3) Description, Part Number/ (CAGEC)	(4) Usable On Code	(5) U/I	(6) Qty. Rqr.
1	4730-01-282-5081	Adapter, 1803200 (45152)		ea.	1
2	4730-01-281-0985	Adapter, Straight, TU, 1781120 (45152)		ea.	1
3		Bracket, Ladder Adapter Assy., LH, 3499638 (45152)		ea.	1
4		Bracket, Ladder Adapter Assy., RH, 3499637 (45152)		ea.	1
5	5365-01-201-4780	Bushing, Nonmetallic, 1404120 (45152)		ea.	4
6	6150-01-022-6004	Cable Assembly, Power, 1307560 (45152)		ea.	1

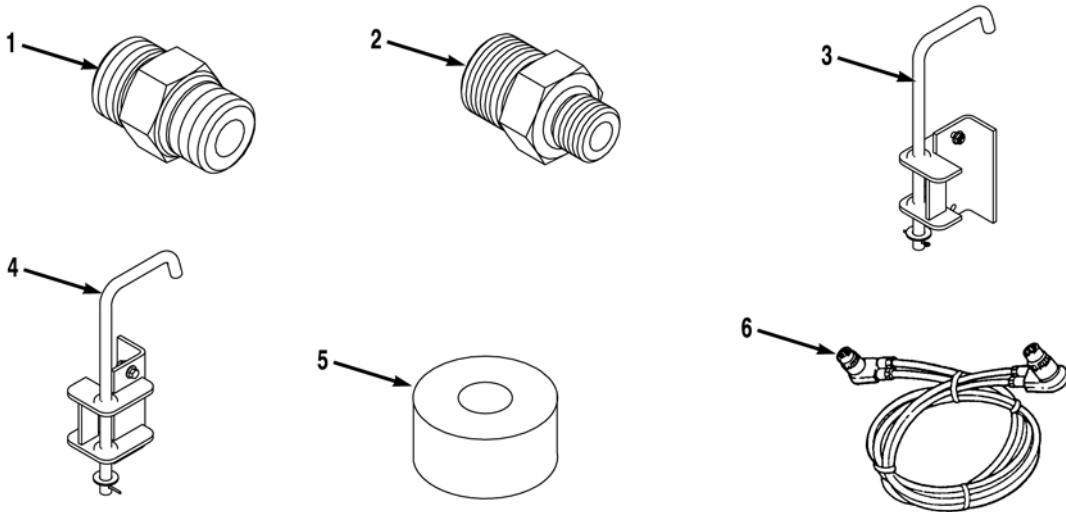


Table 1. Components of End Item. (Continued)

(1) Item Number	(2) National Stock Number (NSN)	(3) Description, Part Number/ (CAGEC)	(4) Usable On Code	(5) U/I	(6) Qty. Rqr.
7		Driver, Ground Rod, 3522647 (45152)		ea.	1
8	5340-01-366-3343	Dust Plug, 3/8 in., 3367276 (45152)		ea.	1
9	5340-01-366-3341	Dust Cap, 3/8 in., 3367277 (45152)		ea.	1
10		Elbow Male 90, .38 NPTFX 44SAE 45, 3055073 (45152)		ea.	1
11	4730-01-244-0080	Fitting, ST, 6QDC-8ORG FF, ST, 3367275 (45152)		ea.	1
12		Fitting, ST, 6QDC-8ORG FF, MF, 3367274 (45152)		ea.	1

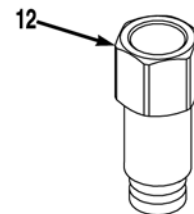
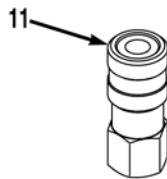
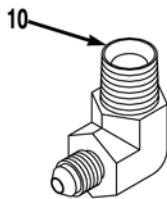
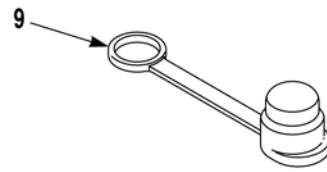
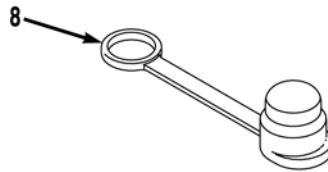
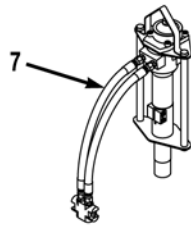


Table 1. Components of End Item. (Continued)

(1) Item Number	(2) National Stock Number (NSN)	(3) Description, Part Number/ (CAGEC)	(4) Usable On Code	(5) U/I	(6) Qty. Rqr.
13		Hose Assembly, 2180940 (45152)		ea.	2
14	5440-01-342-0700	Ladder, 2019940 (45152)		ea.	1
15	5310-01-159-8178	Nut, Self-locking, LKSP,.50-13 GI PO, 110310A (45152)		ea.	4
16	5305-01-305-6078	Screw, Cap, Hexagon H, 153640 (45152)		ea.	4
17	5310-01-479-0591	Washer, Flat, 173JX (45152)		ea.	8

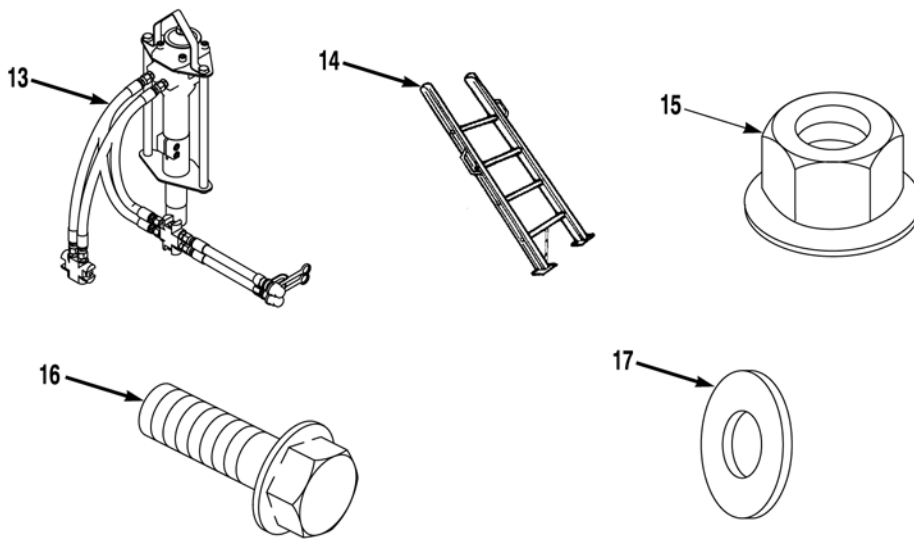


Table 2. Basic Issue Items.

(1) Illustration Number	(2) National Stock Number (NSN)	(3) Description, Part Number/ (CAGEC)	(4) Usable On Code	(5) U/I	(6) Qty. Rqr.
1	8150-01-353-2497	Bag, Textile, 1362710 (45152)		ea.	1
2	5140-01-167-1541	Bag, Tool, 1350190 (45152)		ea.	1
3	7510-00-889-3494	Binder, Loose-leaf, 1362730 (45152)		ea.	1
4	4010-01-200-1506	Chain, Assy, Axle, 1452490 (45152)		ea.	1
5	4010-01-249-0548	Chain, Utility, 1307530 (45152)		ea.	1
6	2540-01-165-6136	Chock, Wheel-track, 1350250 (45152)		ea.	4
7	4210-01-133-9053	Fire Extinguisher, 10 BC, 1347000 (45152)		ea.	1

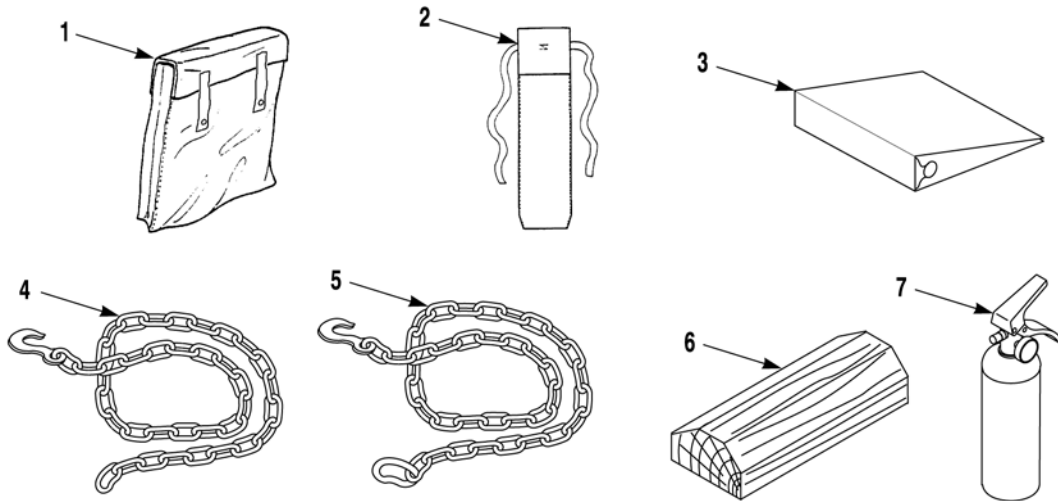


Table 2. Basic Issue Items. (Continued)

(1) Illustration Number	(2) National Stock Number (NSN)	(3) Description, Part Number/ (CAGEC)	(4) Usable On Code	(5) U/I	(6) Qty. Rqr.
8		First Aid Kit, 1307520 (45152)		ea.	1
9	4910-01-386-4300	Gage/Inflator, Pneumatic, 2007140 (45152)		ea.	1
10	4910-01-003-9599	Gage, Tire Pressure Kit, ZC, 1352190 (45152)		ea.	2
11	5340-01-209-7841	Handle, Extension, 1347720 (45152)		ea.	1
12	5120-01-233-9508	Handle, Socket Wrench, 1049TR (45152)		ea.	1
13	6150-01-320-0719	Harness, Work Lamp, 1771530W (45152)		ea.	1
14	6150-01-180-6035	Harness, Work Lamp, 1419770 U (45152)		ea.	1

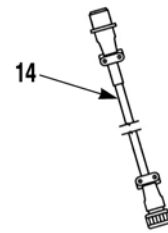
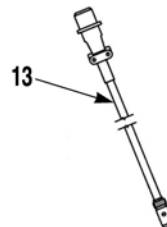
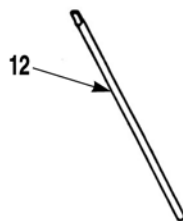
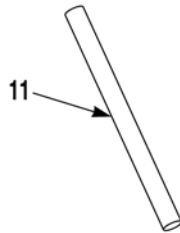
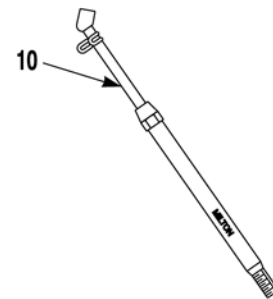
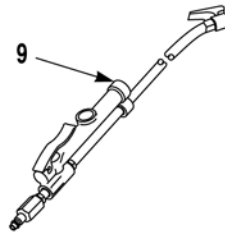
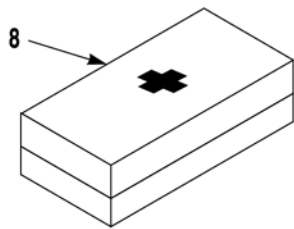


Table 2. Basic Issue Items. (Continued)

(1) Illustration Number	(2) National Stock Number (NSN)	(3) Description, Part Number/ (CAGEC)	(4) Usable On Code	(5) U/I	(6) Qty. Rqr.
15	4720-01-493-6466	Hose Assy., Slave, 3294652 (45152)		ea.	1
16		Hose Assy, Tire Inflation, 2155210 U (45152)		ea.	2
17	5120-01-146-8096	Jack, Hydraulic, Hand, 1318250 (45152)		ea.	1
18	6220-01-326-2286	Lamp, Work, 1770010 (45152)		ea.	1
19	5310-01-081-5351	Nut, Hex, LKNY, 2560HX, 0.31- 18 NS ZC (45152)		ea.	4
20		Padlock Set, 3536504 (45152)		ST	1
21	5340-00-158-3805	Padlock, Without Chain, Steering Wheel, 1619180 (45152)		ea.	1

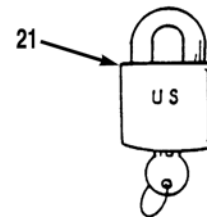
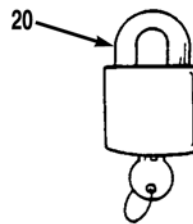
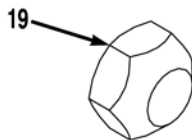
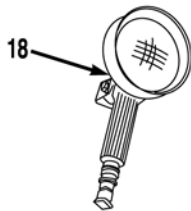
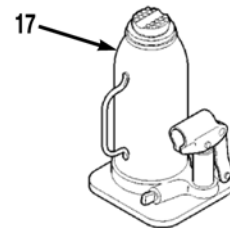
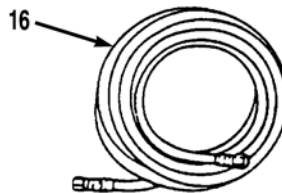
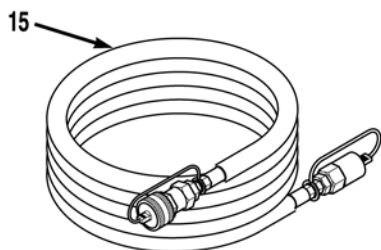


Table 2. Basic Issue Items. (Continued)

(1) Illustration Number	(2) National Stock Number (NSN)	(3) Description, Part Number/ (CAGEC)	(4) Usable On Code	(5) U/I	(6) Qty. Rqr.
22	2540-01-165-5987	Plate, Jack Base, 1350610W (45152)		ea.	1
23	5120-01-480-0640	Pliers, 10 in. Adjustable Joint, 1350150 (45152)		ea.	1
24	5306-00-816-5272	Screw, Cap, Hex HD, .031-18 x 2.00 G5 Z, 1803HX1 (45152)		ea.	4
25		Screw, Cap, SOC, .62-11 x 11.75 G8 PO A, 3476262 (45152)		ea.	1
26		Screwdriver, 32746AX (45152)		ea.	1
27	5120-00-293-3309	Screwdriver, Standard, 1350160 (45152)		ea.	1
28	4030-00-377-1397	Shackle, Anchor, Limp Home, 1361760 (45152)		ea.	1

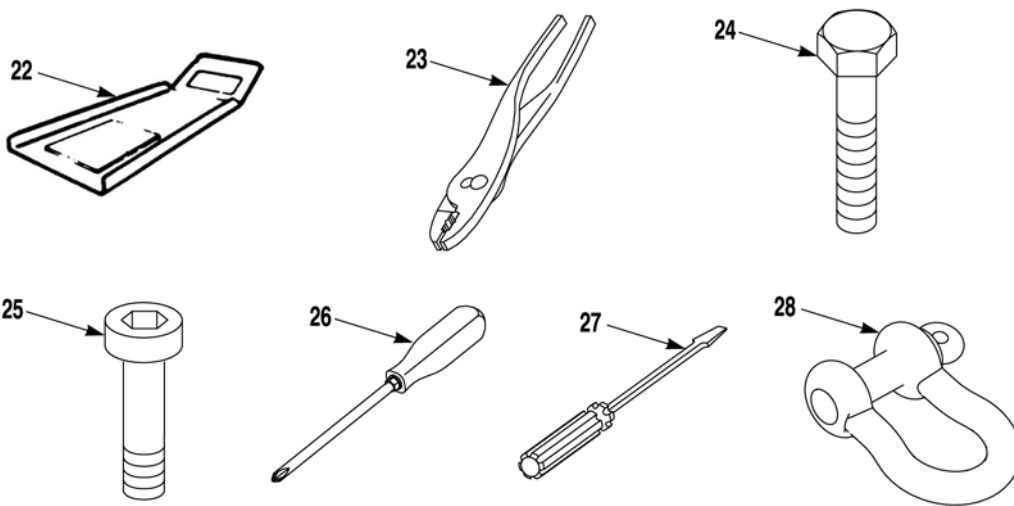
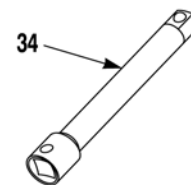
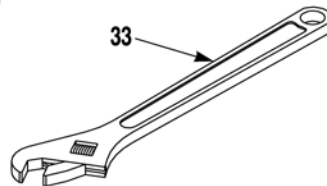
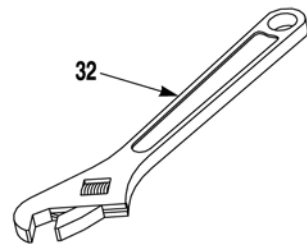
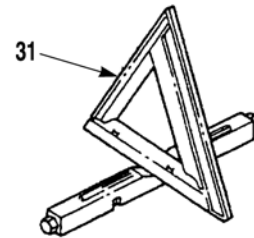
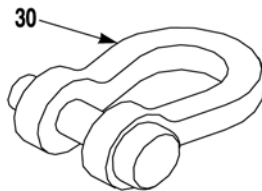
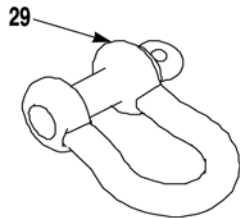


Table 2. Basic Issue Items. (Continued)

(1) Illustration Number	(2) National Stock Number (NSN)	(3) Description, Part Number/ (CAGEC)	(4) Usable On Code	(5) U/I	(6) Qty. Rqr.
29	4030-01-197-2334	Shackle, Slings, 1451750 (45152)		ea.	2
30	4030-01-316-1552	Shackle, Towing, 1307540 (45152)		ea.	2
31	9905-01-480-0644	Warning Kit, Highway, 64326BX (45152)		ea.	1
32	5120-01-436-2924	Wrench, Adjustable, 8 in., 1350180 (45152)		ea.	1
33	5120-00-264-3796	Wrench, Adjustable, 12 in., 120405A (45152)		ea.	1
34	5120-01-070-8386	Wrench, Socket, 1048-TR (45152)		ea.	1



END OF WORK PACKAGE

FIELD LEVEL MAINTENANCE
EXPENDABLE SUPPLIES AND MATERIALS LIST

SCOPE

This appendix lists expendable and durable supplies and materials you will need to operate and maintain the THAAD. This listing is for informational purposes only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items), or CTA 8-100, Army Medical Department Expendable/Durable Items.

EXPLANATION OF COLUMNS

- a. Column (1) - Item Number.** This number is assigned to the entry in the listing and is referenced in Initial Setup to identify the material (e.g., Cloth, Cleaning, Low-lint (WP 0186, Item 8)).
- b. Column (2) - Level.** This column identifies the lowest level of maintenance that requires the listed item.
- C - Operator/Crew
- F - Field Level Maintenance
- c. Column (3) - National Stock Number.** This is the National Stock Number assigned to the item; use it to request or requisition the item.
- d. Column (4) - Description.** Indicates the Federal Item name, part number, and the Commercial and Government Entity (CAGE) Code.
- e. Column (5) - Unit of Measure (U/M).** Indicates the measure used in performing the actual maintenance function. This measure is expressed by two-character alphabetical abbreviations (e.g., ea, in, pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

Table 1. Expendable and Durable Supplies and Materials List.

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
1			Additive, Hydraulic Oil 2222070 (45152)	
2	F	8040-00-142-9193	Adhesive (05972), 49550	
3	O	8040-01-260-1939	Adhesive RTV 738 (71984) 5 oz tube	oz
4	O	8040-01-514-8984	Adhesive-Sealant, RTV 108 (01139)	
5	O	8040-00-938-6860	Adhesive Spray (04963) (OSK P/N 1537350) (81348), MMM-A-1058	
6	O	8040-01-250-3969	Adhesive, Thread Locking (05972) (Loctite 242) (OSK P/N 65270AX)	ea
7	O	6850-01-474-2319	Cleaning Compound, Solvent, 1 gallon can, MIL- PRF-680 Type II, (81349)	gl

Table 1. Expendable and Durable Supplies and Materials List. (Continued)

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
		6850-01-474-2317	Cleaning Compound, Solvent, 5 gallon can, MIL-PRF-680 Type II, (81349)	co
		6850-01-474-2316	Cleaning Compound, Solvent, 55 gallon drum, MIL-PRF-680 Type II, (83149)	dr
		6850-01-474-2318	Cleaning Compound, Solvent, 1 gallon can, MIL-PRF-680 Type III, (83149)	gl
		6850-01-474-2320	Cleaning Compound, Solvent, 5 gallon can, MIL-PRF-680 Type III, (83149)	bx
		6850-01-474-2321	Cleaning Compound, Solvent, 5 gallon can, MIL-PRF-680 Type III, (83149)	dr
8	O	7920-00-044-9281	Cloth, Cleaning, Low-lint (58536), A-A-59323	
9		8030-01-521-8383	Compound, Antiseize (45152) 1302130	
10	O		Compound, Corrosion Preventive (45152) (OSK P/N 1388330), 8 oz can	oz
11			Item deleted	
12	F		Compound, Sealing, Loctite #242 (80244) MIL-S-46163A, Type 2, Grade N	
		8030-01-104-5392	10 milliliter bottle (32345), 879217-00	bt
		8030-01-025-1692	250 milliliter bottle (81349), MIL-S-46163	bt
13	O		Compound, Sealing Loctite #609 (05972) (80244) MIL-R-46082B Type 1	
		8030-00-180-6150	10 milliliter bottle	bt
		8030-00-180-6222	50 milliliter bottle	bt
		8030-00-891-8358	250 milliliter bottle	bt
14	O	8030-01-026-1538	Compound, Sealing, Pipe Thread 56941 (05972) (OSK P/N 56437AX)	cc
15	O	8030-01-054-0740	Compound, Sealing, Pipe Thread, Loctite 592 (05972), 59231 (OSK P/N 702350-X)	
16	O	8030-01-166-0675	Compound, Sealing, Pipe Thread, Loctite 567 (56747), 50 ml tube (05972)	
17		8040-00-092-2816	Epoxy (96900) 04001	ea
18	C		Grease, Automotive and Artillery GAA (MIL-PRF-109244)	
		9150-00-065-0029 9150-01-197-7688	2-1/4-oz tube	oz
		9150-01-197-7693	14-oz cartridge (81349), M-10924-B	oz
		9150-01-197-7690	1-lb can (81349), M-10924-C	lb

Table 1. Expendable and Durable Supplies and Materials List. (Continued)

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
		9150-01-197-7689	6.5-lb can (81349), M-10924-D	lb
		9150-01-197-7692	35-lb can (81349), M-10924-E	lb
		9150-01-197-7691	120-lb can (81349), M-10924-F	lb
19			Item Deleted	
20	F	8010-01-309-0328	Hardener, Epoxy, High Solids (45152) 1934140	qt
21	O		Oil, Hydraulic OE/HDO 10 (81349) MIL-PRF-2104	ea
		9150-00-189-6727	1 quart can M2104-1-IOW	qt
		9150-00-183-7807	55 gallon drum MIL-PRF-2104G	gl
22	C		Oil, Lubricating, Internal Combustion Engine, Tactical Service MIL-PRF-2104, (OE/HDO 15W/40)	
		9150-01-152-4117	1-qt can (81349), MIL-PRF-2104	qt
		9150-01-178-4725	24 qt box (81349), MIL-PRF-2104	qt
		9150-01-152-4118	5 gallon can (81349), MIL-PRF-2104	gl
		9150-01-152-4119	55 gallon drum (81349), M2104-5-15W/40	gl
23	C		Oil, Lubricating, OE/HDO 10 (MIL-PRF-2104)	
		9150-00-189-6727	1-qt can (81349), M2104-1-10W	qt
		9150-00-186-6668	5-gal can (81349), MIL-PRF-2104	gl
		9150-00-191-2772	55-gal drum, 18 gage (98308), BRAYC0421C	gl
24			Item Deleted	
25	C		Oil, Lubricating, OE/HDO 30 (SAE 30) (MIL-PRF-2104)	
		9150-00-186-6681	1-qt can (81349), MIL-PRF-2104	qt
		9150-00-188-9858	5-gal drum (81349), MIL-PRF-2104	gl
		9150-00-189-6729	55-gal drum, 18 gage (81349), MIL-PRF-2104	gl
26	O	5350-00-186-8818	Paper, Abrasive, Garnet (Emery Cloth) P-P-121 (0W360), ANSI B74.18	
		5350-00-221-0884	80-grit (0W360), ANSI B74.18	
		5350-00-271-7930	180-grit (0W360), ANSI B74.18	
27	O	8010-01-309-0327	Primer, Epoxy, High Solids Chemical Agent Resistant Coating (CARC) Off White (MIL-P-53022) Type II (09225) (P/N 3848WEP-RD)	
28	O		Rust Preventive MIL-PRF-16173 Texaco Type "L", OSK #19AS436 (45152)	

Table 1. Expendable and Durable Supplies and Materials List. (Continued)

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
		8030-00-062-5866	1-qt can (81349), MIL-PRF-16173	qt
		8030-00-231-2345 8030-00-244-1293	1-gal can (81349), MIL-PRF-16173	gl
		8030-00-244-1293	5-gal pail (81349), MIL-PRF-16173	gl
		8030-00-244-1294	55-gal drum, 18 gage (81349), MIL-PRF-16173	gl
29	O	9160-01-515-2484	Sealant, RTV200 Electrical (OSK P/N 3119525)(45152)	
30	O	8010-01-515-2408	Sealant, Solvent Resistant (3265034)	
31	C	7930-00-634-3935 7930-00-579-8532	Soap Chips, P-S-579 200 lb drum (81346), ASTM 0 496 100 lb drum (81348), P-S-1792	lb
32	O	8135-00-178-9200	Tags, Identification (MIL-T-12755) (58536), A-A-1916 1000 per ctn.	ctn
33	O	5970-00-644-3167	Tape, Insulation, Electrical (MIL-T-50886) (80063), TL83	
34	O	5975-01-034-5871	Ties, Cable, Plastic (81343), MS3367-7-0	

END OF WORK PACKAGE

.ALPHABETICAL INDEX

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TM 9-2320-440-13&P

By Order of the Secretary of the Army:

GEORGE W. CASEY, JR.
General, United States Army
Chief of Staff

Official:

A handwritten signature in black ink that reads "Joyce E. Morrow". The signature is written in a cursive style with a large, stylized initial "J".

JOYCE E. MORROW
Administrative Assistant to the
Secretary of the Army

1020102

DISTRIBUTION: To be distributed in accordance with the initial distribution number (IDN) 345083, requirements for TM 9-2320-440-13&P.

RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS For use of this form, see AR 25-30; the proponent agency is ODISC4.						Use Part II (reverse) for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).	DATE Date you filled out this form.
TO: <i>(Forward to proponent of publication or form) (Include ZIP Code)</i> U.S. Army TACOM Life Cycle Management Command ATTN: AMSTA-LCL-MPP/TECH PUBS 1 Rock Island Arsenal, Rock Island, IL 61299-7630						FROM: <i>(Activity and location) (Include ZIP Code)</i> Your mailing address	
PART I – ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS							
PUBLICATION/FORM NUMBER TM 9-2320-440-13&P						DATE 27 Aug 10	Title Operator & Field Maintenance Manual w/RPSTL for HEMTT / THAAD Carrier
ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON (Provide exact wording of recommended changes, if possible).	
						SAMPLE	
<i>*Reference to line numbers within the paragraph or subparagraph.</i>							
TYPED NAME, GRADE OR TITLE <i>Your Name</i>						TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	Signature <i>Your Signature</i>

TO: (Forward direct to addressee listed in publication) U. S. Army TACOM Life Cycle Management Command ATTN: AMSTA-LCL-MPP/TECH PUBS 1 Rock Island Arsenal, Rock Island, IL 61299-7630	FROM: (Activity and location) (Include ZIP Code) Your address	DATE Date you filled out this form
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PART II – REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

PUBLICATION NUMBER TM 9-2320-440-13&P	DATE 27 Aug 10	TITLE Operator & Field Maintenance Manual w/RPSTL for HEMTT/THAAD Carrier
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PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION
SAMPLE								

PART III – REMARKS (Any general remarks or recommendations, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)

TYPED NAME, GRADE OR TITLE Your Name	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE Your Signature
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TO: (Forward direct to addressee listed in publication) U. S. Army TACOM Life Cycle Management Command ATTN: AMSTA-LCL-MPP/TECH PUBS 1 Rock Island Arsenal, Rock Island, IL 61299-7630	FROM: (Activity and location) (Include ZIP Code)	DATE
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TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE
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RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS						Use Part II (reverse) for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).	DATE
For use of this form, see AR 25-30; the proponent agency is ODISC4.							
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<i>*Reference to line numbers within the paragraph or subparagraph.</i>							
TYPED NAME, GRADE OR TITLE				TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION		SIGNATURE	

TO: (Forward direct to addressee listed in publication) U. S. Army TACOM Life Cycle Management Command ATTN: AMSTA-LCL-MPP/TECH PUBS 1 Rock Island Arsenal, Rock Island, IL 61299-7630	FROM: (Activity and location) (Include ZIP Code)	DATE
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PART II – REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

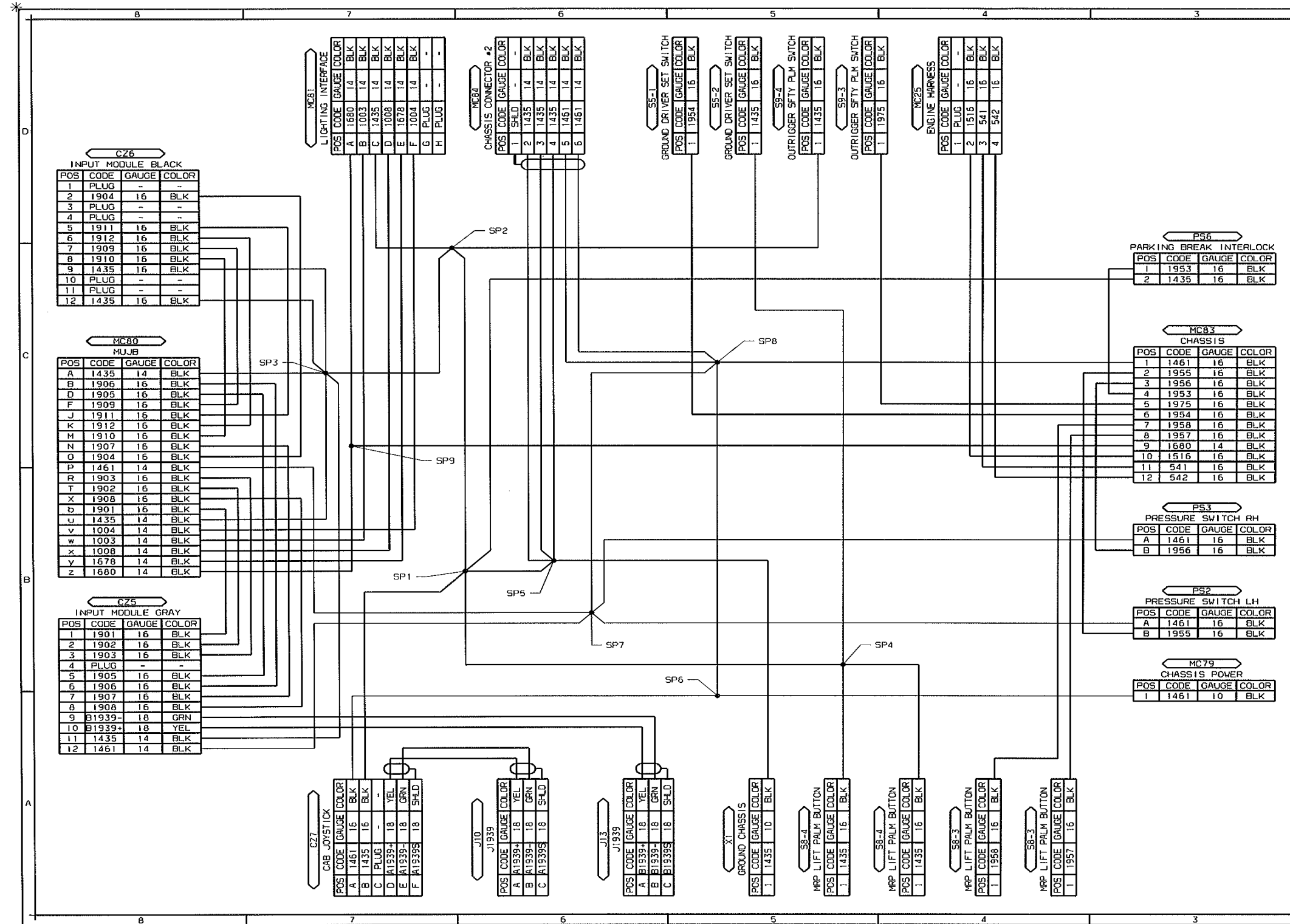
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PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION

PART III – REMARKS *(Any general remarks or recommendations, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)*

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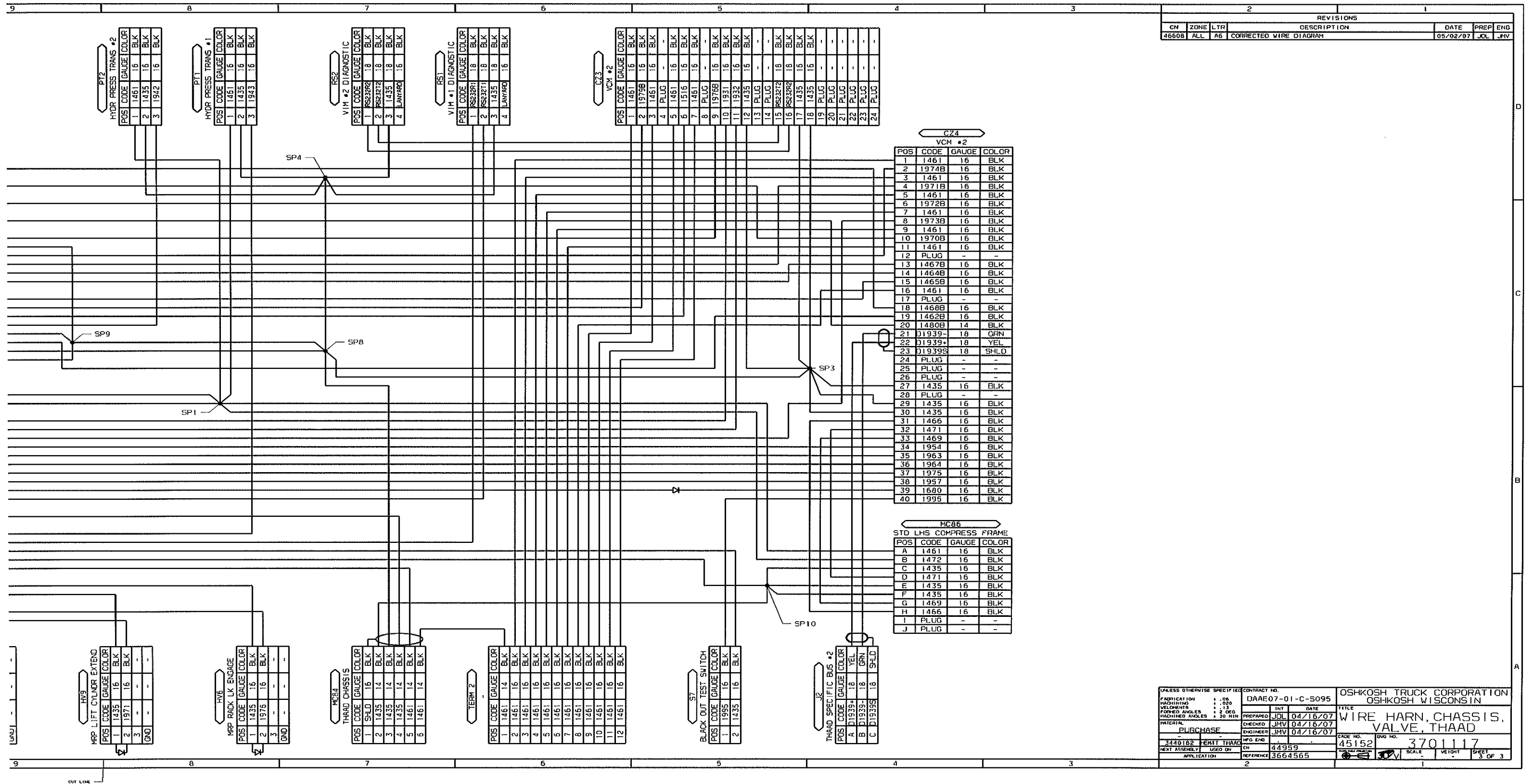
TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE
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REVISIONS						
CN	ZONE	LTR	DESCRIPTION	DATE	PREP	ENG
-	-	-	-	-	-	-



FABRICATION		CONTRACT NO.		OSHKOSH TRUCK CORPORATION	
MACHINING		DAAE07-01-C-S095		OSHKOSH WISCONSIN	
WELDMENTS		PREPARED	INT	DATE	TITLE
FORMED ANGLES		AM		08/16/06	WIRE HARNESS
MATERIAL		CHECKED	JMV	08/25/06	CHASSIS, LHS, THAAD
PURCHASE		ENGINEER	JMV	08/25/06	
3440182 XHT1 THAAD		MFG END	TMO	08/25/06	DWG NO. 45152
NEXT ASSEMBLY USED ON		CH	40984		DWG NO. 3664564
APPLICATION		REFERENCE	3428434	SCALE	VEITCH
					SHEET 2 OF 2

FO-1. THAAD Electrical Schematics (Sheet 1 of 4)

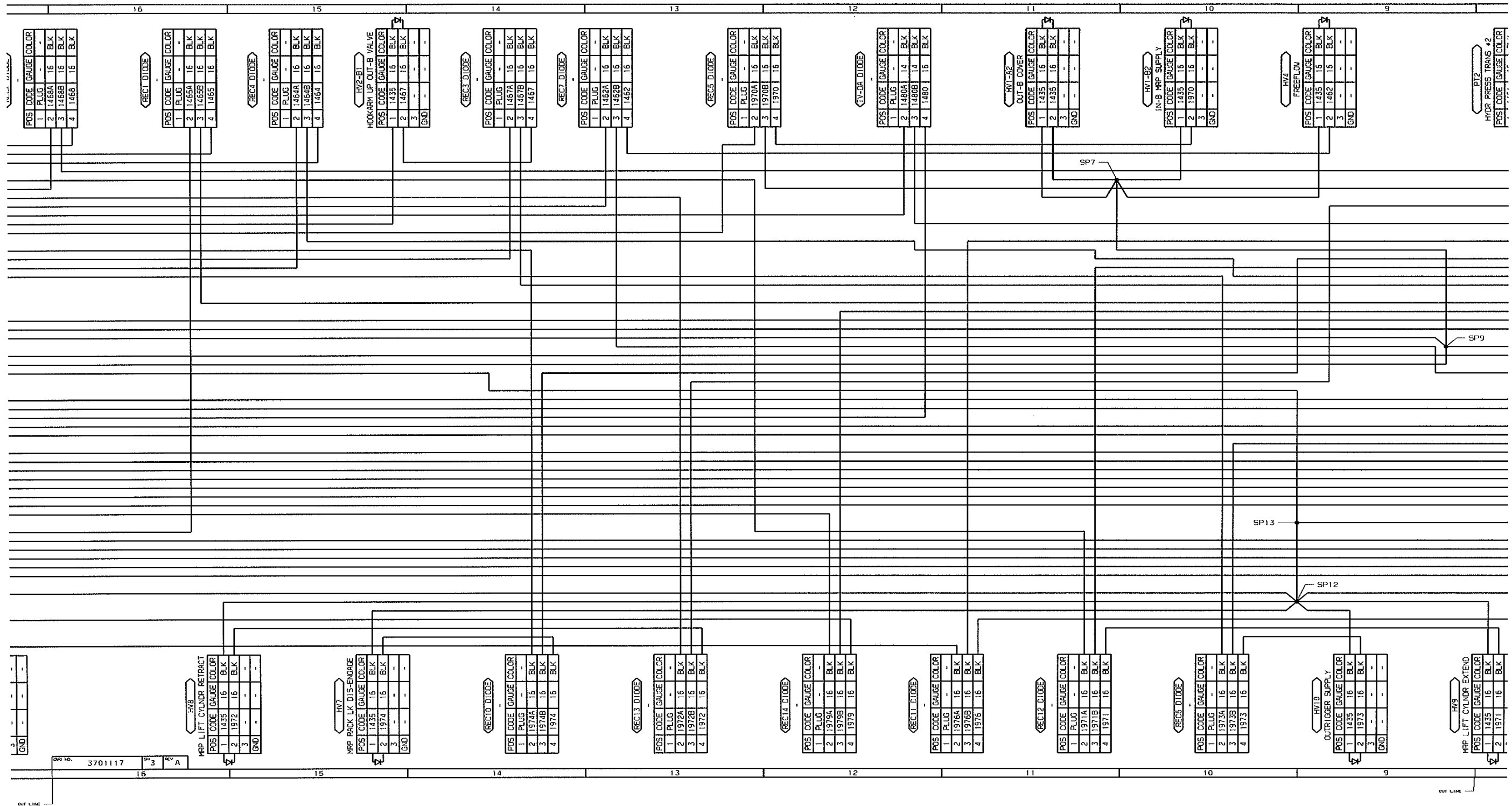


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2	1974B	16	BLK
3	1461	16	BLK
4	1971B	16	BLK
5	1461	16	BLK
6	1972B	16	BLK
7	1461	16	BLK
8	1973B	16	BLK
9	1461	16	BLK
10	1970B	16	BLK
11	1461	16	BLK
12	PLUG	-	-
13	1467B	16	BLK
14	1464B	16	BLK
15	1465B	16	BLK
16	1461	16	BLK
17	PLUG	-	-
18	1468B	16	BLK
19	1462B	16	BLK
20	1480B	14	BLK
21	D1939-	18	GRN
22	D1939+	18	YEL
23	D1939S	18	SHLD
24	PLUG	-	-
25	PLUG	-	-
26	PLUG	-	-
27	1435	16	BLK
28	PLUG	-	-
29	1435	16	BLK
30	1435	16	BLK
31	1466	16	BLK
32	1471	16	BLK
33	1469	16	BLK
34	1954	16	BLK
35	1963	16	BLK
36	1964	16	BLK
37	1975	16	BLK
38	1957	16	BLK
39	1680	16	BLK
40	1995	16	BLK

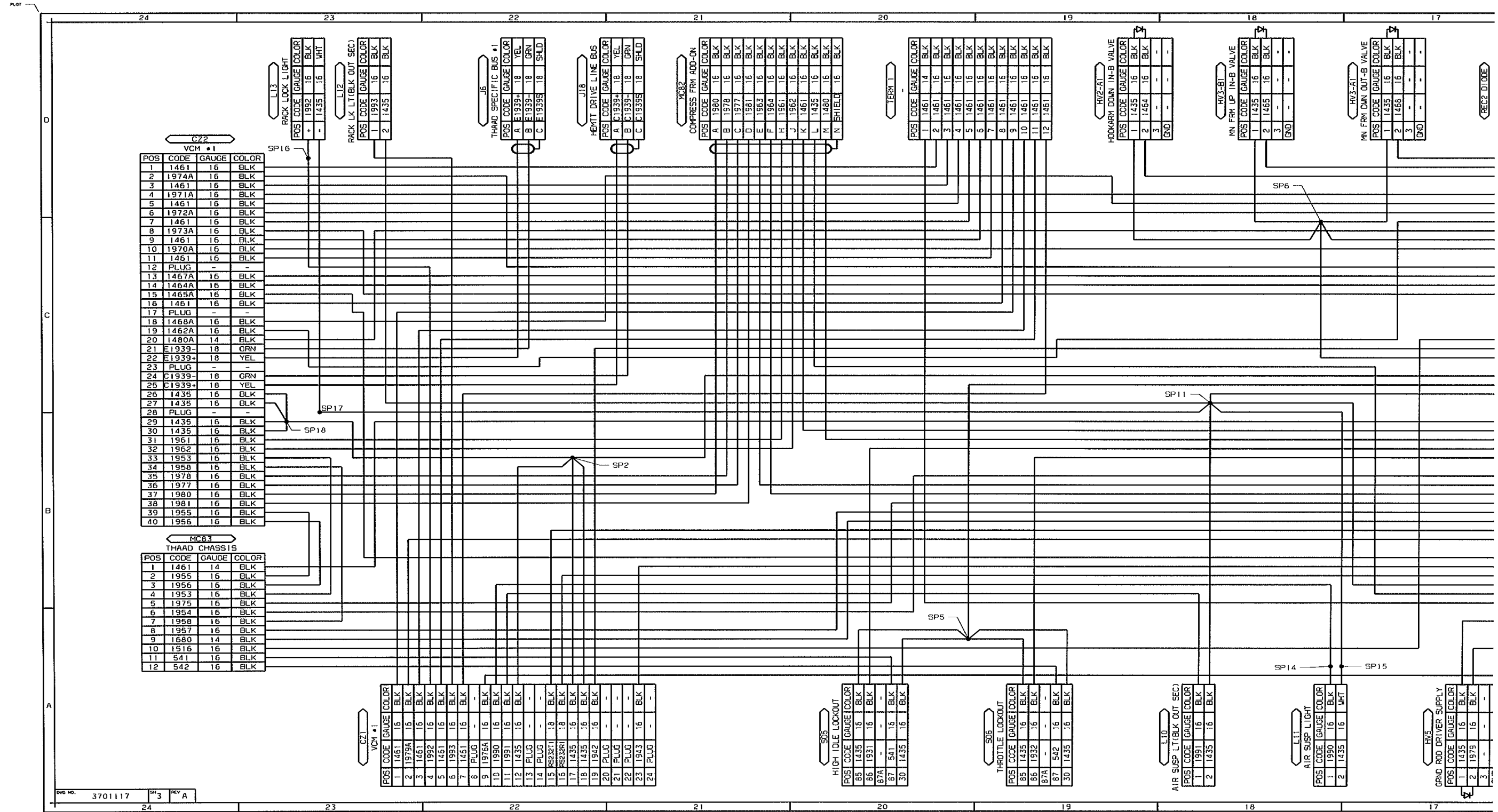
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E	1435	16	BLK
F	1435	16	BLK
G	1469	16	BLK
H	1466	16	BLK
I	PLUG	-	-
J	PLUG	-	-

UNLESS OTHERWISE SPECIFIED		CONTRACT NO.		OSHKOSH TRUCK CORPORATION	
FABRICATION	1.08	DAAE07-01-C-5095		OSHKOSH WISCONSIN	
MACHINING	1.50			TITLE	
WELDMENTS	1.13			WIRE HARNESS CHASSIS	
FORMED ANGLES	1.2 DEG			VALVE, THAAD	
MACHINED ANGLES	1.30 MIN			PREPARED	JCL 04/16/07
PURCHASE		ENGINEER	JMV 04/16/07	CHECKED	JMV 04/16/07
3440182	WENT THAAD	INFO ENG		DATE NO.	45152
NEXT ASSEMBLY	USED ON	CN	44959	DWG NO.	3701117
APPLICATION	REFERENCE	3664565		SCALE	

FO-1. THAAD Electrical Schematics (Sheet 2 of 4)



FO-1. THAAD Electrical Schematics (Sheet 3 of 4)



FO-1. THAAD Electrical Schematics (Sheet 4 of 4)

ZONE/LTR	REVISIONS	DATE	APPROVED
F11 A1	ADDED DOUBLE CHECK VALVE	08-27-02	CIV
C22 A2	REMOVED AIR FILTERS	08-27-02	CIV
B1	ADDED AIR SUSPENSION LINES AND HEIGHT CONTROL VALVES	08-19-03	JR2
A2E	UPDATED DRAWING PER CURRENT ENG PROCEDURES	08-19-03	JR2
E21	ADDED NOTES 2-4	08-19-03	JR2
C1	ADDED BRAKE APPLICATION CONVERTER SWITCH	05-14-04	BOO

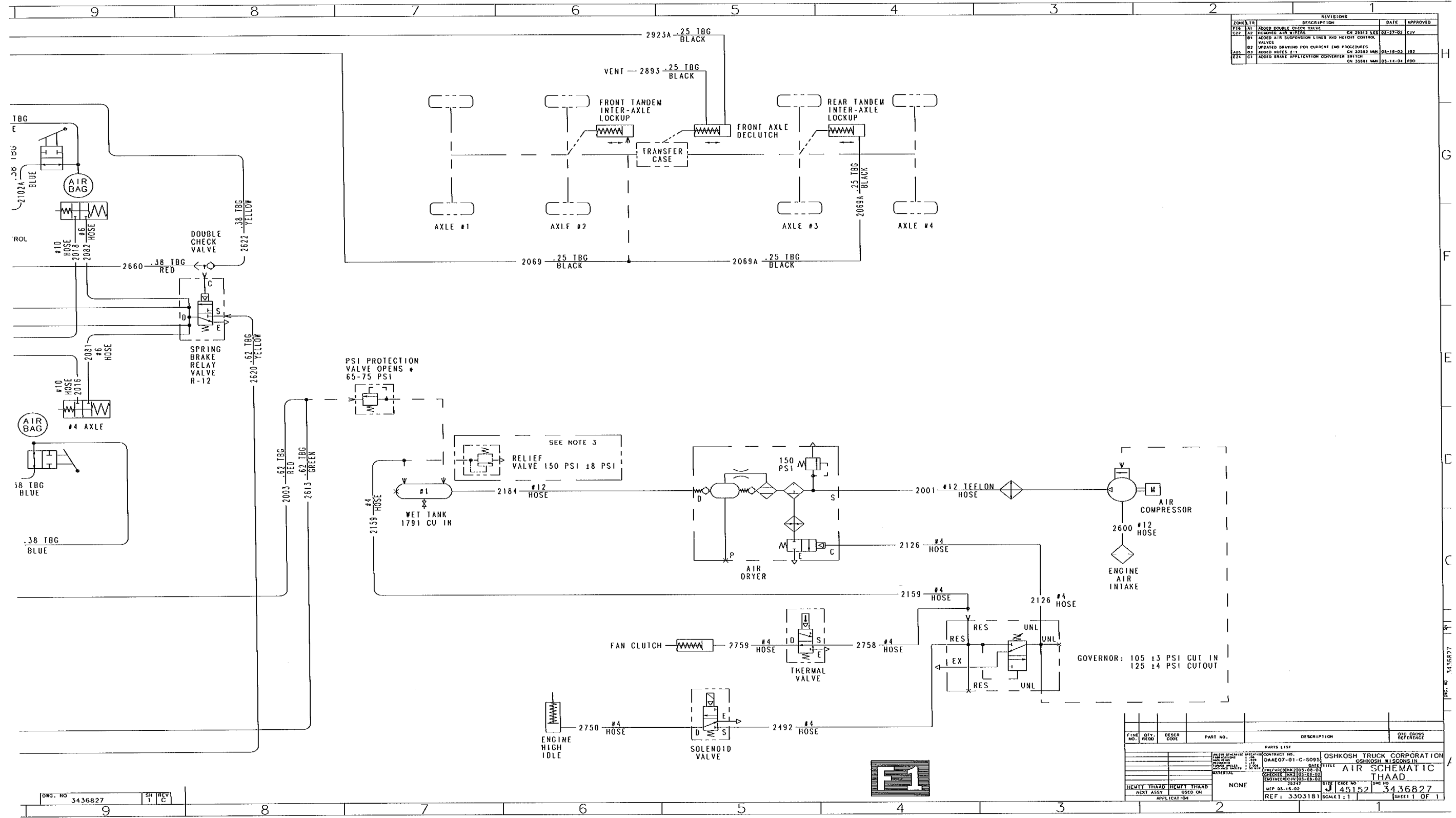
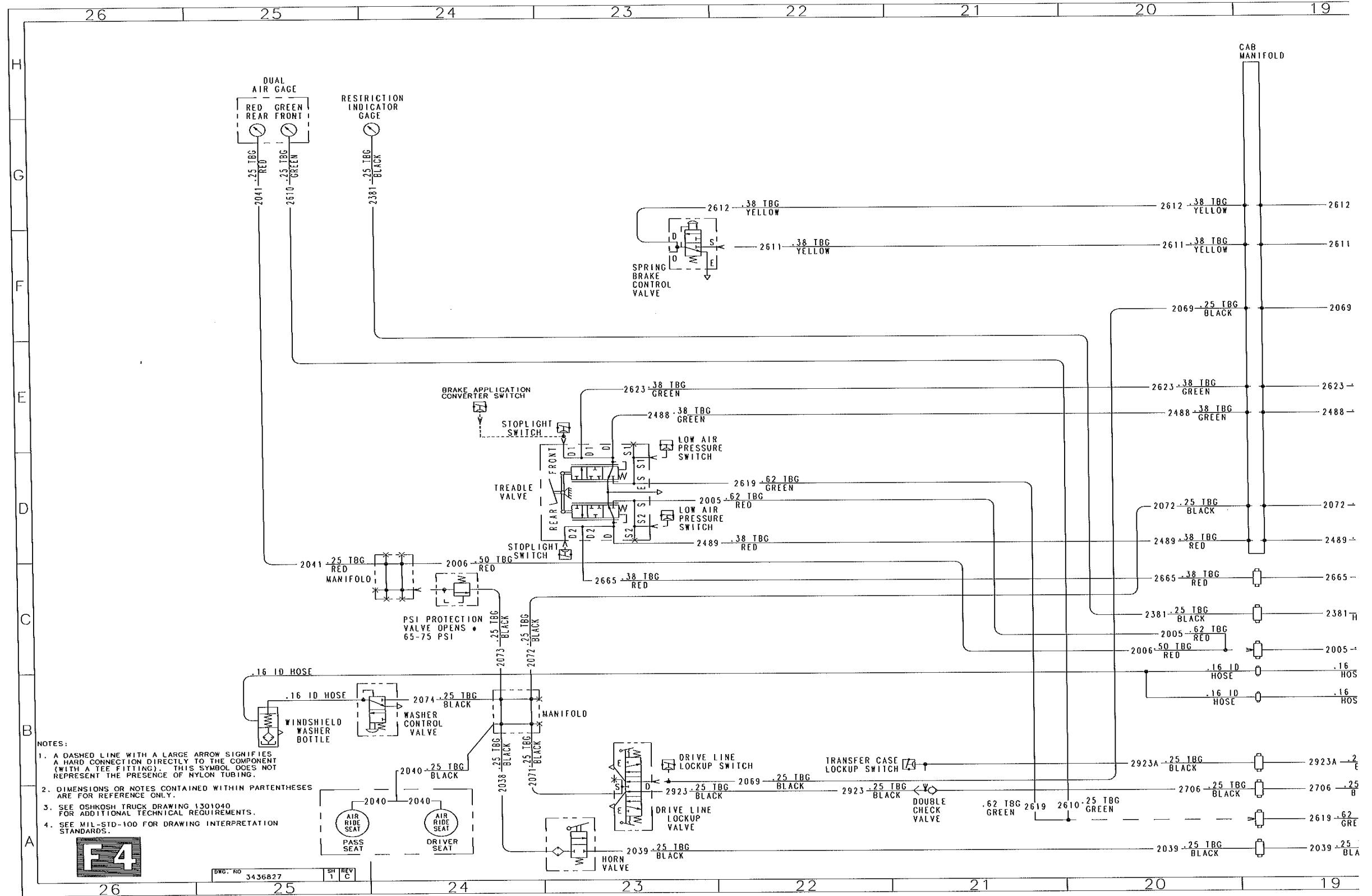


FIG. NO.	QTY.	DESCR.	PART NO.	DESCRIPTION	QTY. GROUP REFERENCE
PARTS LIST					
CONTRACT NO. OSHKOSH TRUCK CORPORATION					
DAAE07-01-C-5095 OSHKOSH WISCONSIN					
TITLE AIR SCHEMATIC					
THAAD					
DRAWN BY: J. TRAYLOR					
CHECKED BY: J. TRAYLOR					
DATE: 05-15-02					
SCALE: 1:1					
SHEET 1 OF 1					

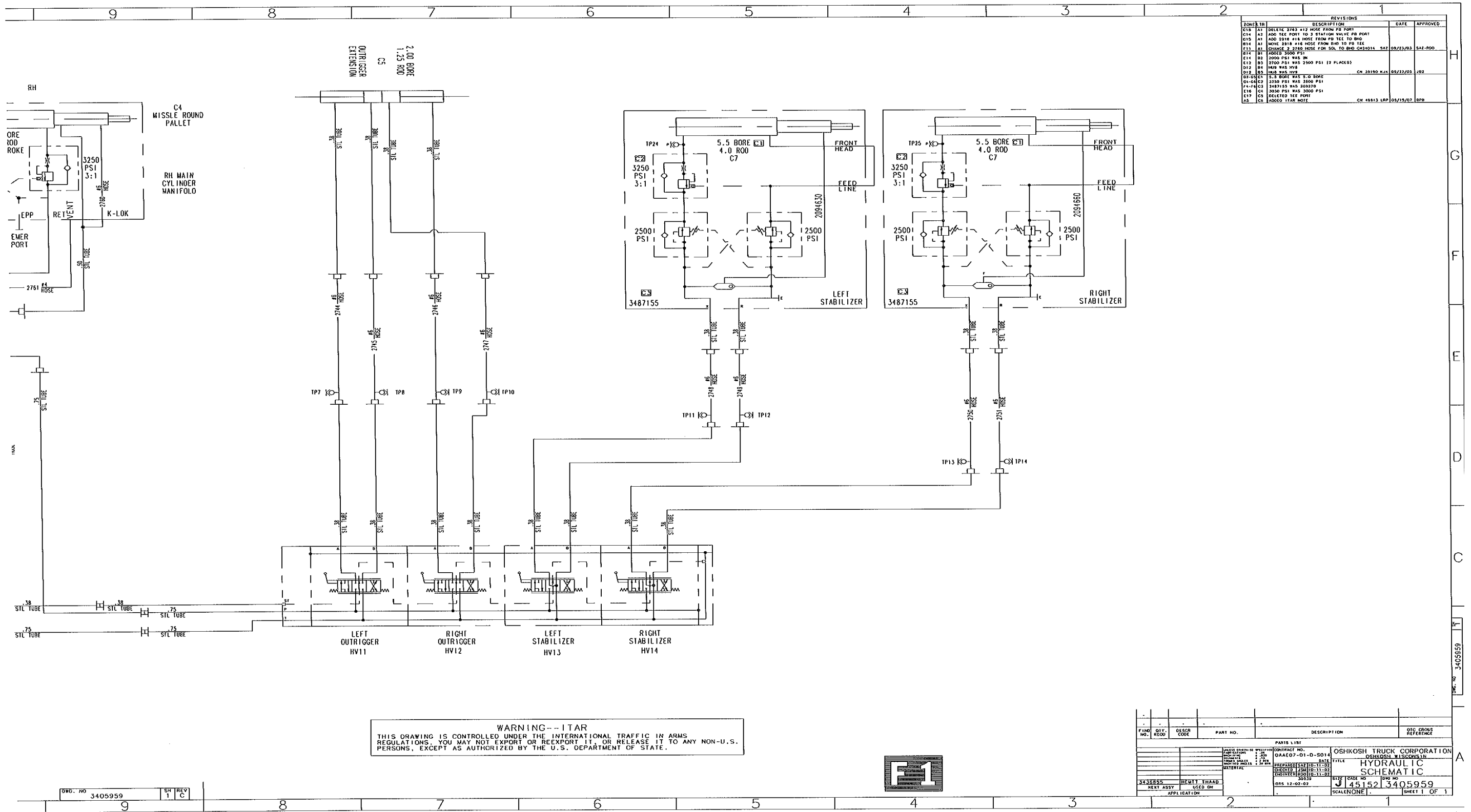
DWG. NO. 3436827 SH 1 REV C



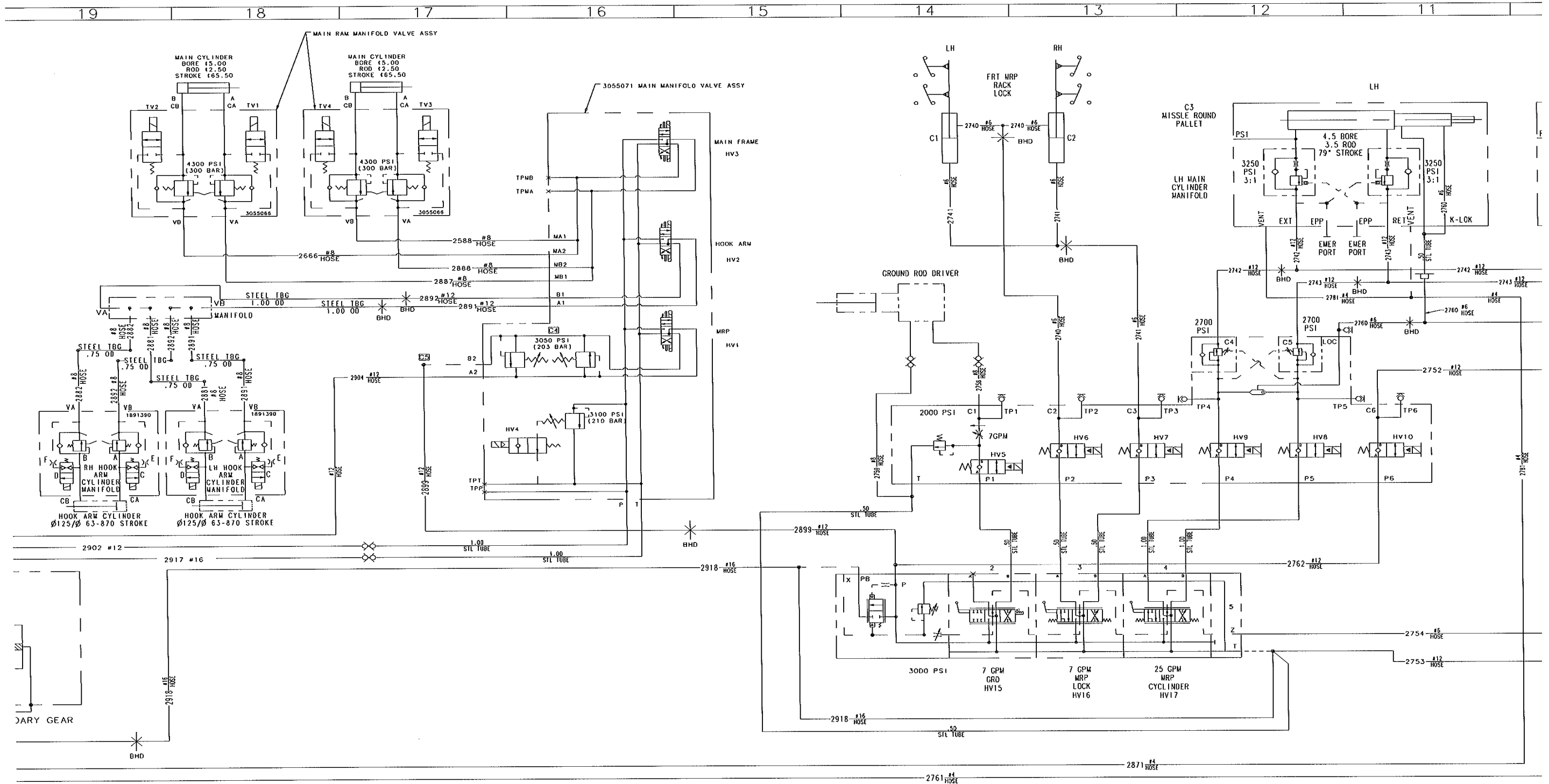
- NOTES:
1. A DASHED LINE WITH A LARGE ARROW SIGNIFIES A HARD CONNECTION DIRECTLY TO THE COMPONENT (WITH A TEE FITTING). THIS SYMBOL DOES NOT REPRESENT THE PRESENCE OF NYLON TUBING.
 2. DIMENSIONS OR NOTES CONTAINED WITHIN PARENTHESES ARE FOR REFERENCE ONLY.
 3. SEE OSHKOSH TRUCK DRAWING 1301040 FOR ADDITIONAL TECHNICAL REQUIREMENTS.
 4. SEE MIL-STD-100 FOR DRAWING INTERPRETATION STANDARDS.



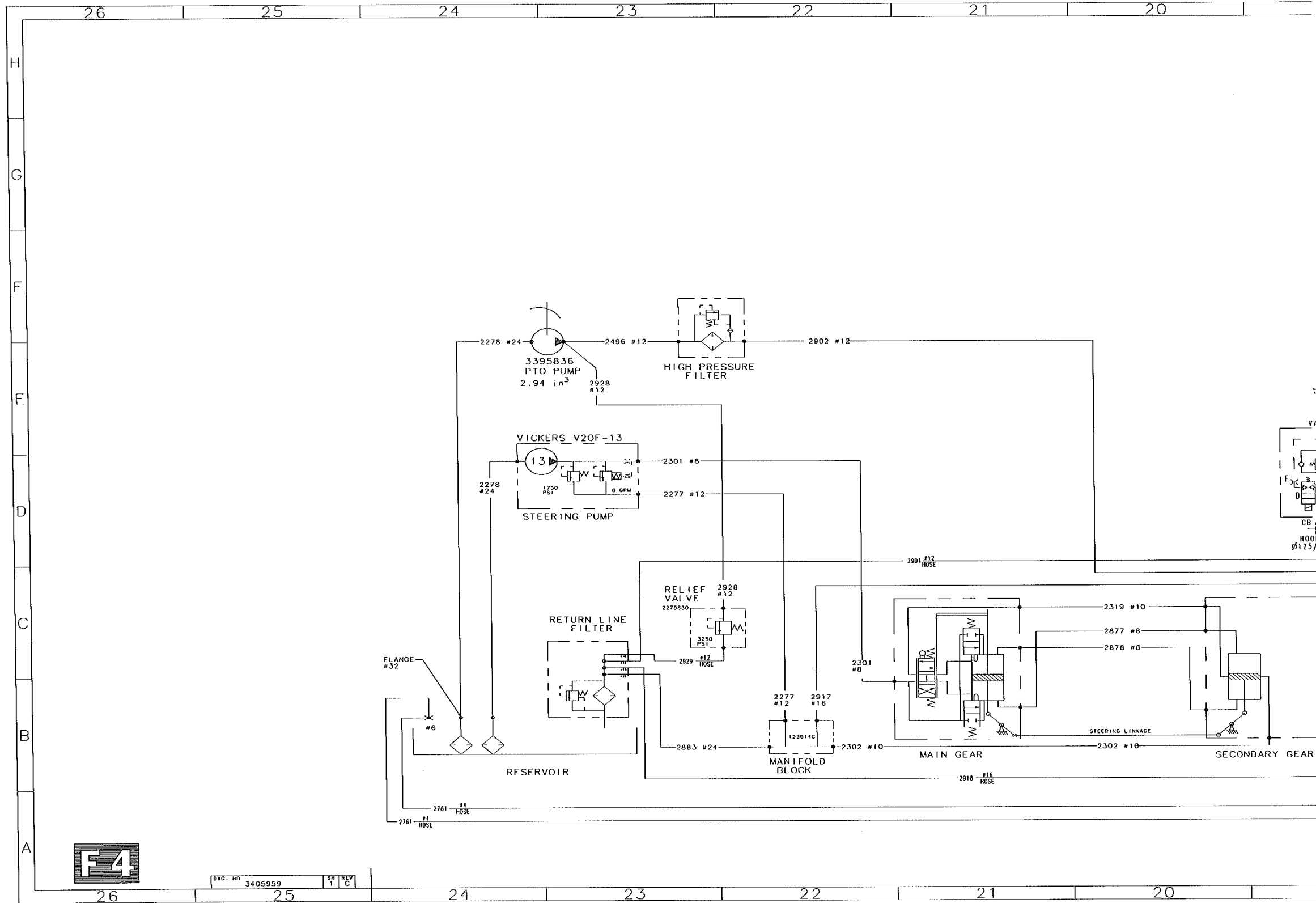
DRG. NO 3436827 SH. REV 1 C



FO-3. THAAD Hydraulic Schematics (Sheet 1 of 3)



OWC. NO 3405959 SH 1 C



FO-3. THAAD Hydraulic Schematics (Sheet 3 of 3)

THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 Centimeter=10 Millimeters=0.01 Meters=0.3937 Inches
 1 Meter=100 Centimeters=1000 Millimeters=39.37 Inches
 1 Kilometer=1000 Meters=0.621 Miles

SQUARE MEASURE

1 Sq Centimeter=100 Sq Millimeters=0.155 Sq Inches
 1 Sq Meter=10,000 Sq Centimeters=10.76 Sq Feet
 1 Sq Kilometer=1,000,000 Sq Meters=0.386 Sq Miles

WEIGHTS

1 Gram=0.001 Kilograms=1000 Milligrams=0.035 Ounces
 1 Kilogram=1000 Grams=2.2 Lb
 1 Metric Ton=1000 Kilograms=1 Megagram=1.1 Short Tons

CUBIC MEASURE

1 Cu Centimeter=1000 Cu Millimeters=0.06 Cu Inches
 1 Cu Meter=1,000,000 Cu Centimeters=35.31 Cu Feet

LIQUID MEASURE

1 Milliliter=0.001 Liters=0.0338 Fluid Ounces
 1 Liter=1000 Milliliters=33.82 Fluid Ounces

TEMPERATURE

$5/9 (^{\circ}\text{F} - 32) = ^{\circ}\text{C}$
 212° Fahrenheit is equivalent to 100° Celsius
 90° Fahrenheit is equivalent to 32.2° Celsius
 32° Fahrenheit is equivalent to 0° Celsius
 $9/5 \text{ C}^{\circ} + 32 = \text{F}^{\circ}$

APPROXIMATE CONVERSION FACTORS

<u>TO CHANGE</u>	<u>TO</u>	<u>MULTIPLY BY</u>
Inches.....	Centimeters.....	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles.....	Kilometers.....	1.609
Square Inches.....	Square Centimeters.....	6.451
Square Feet.....	Square Meters.....	0.093
Square Yards.....	Square Meters.....	0.836
Square Miles.....	Square Kilometers.....	2.590
Acres.....	Square Hectometers.....	0.405
Cubic Feet.....	Cubic Meters.....	0.028
Cubic Yards.....	Cubic Meters.....	0.765
Fluid Ounces.....	Milliliters.....	29.573
Pints.....	Liters.....	0.473
Quarts.....	Liters.....	0.946
Gallons.....	Liters.....	3.785
Ounces.....	Grams.....	28.349
Pounds.....	Kilograms.....	0.454
Short Tons.....	Metric Tons.....	0.907
Pound-Feet.....	Newton-Meters.....	1.356
Pounds/Sq Inch.....	Kilopascals.....	6.895
Miles per Gallon.....	Kilometers per Liter.....	0.425
Miles per Hour.....	Kilometers per Hour.....	1.609

<u>TO CHANGE</u>	<u>TO</u>	<u>MULTIPLY BY</u>
Centimeters.....	Inches.....	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers.....	Miles.....	0.621
Sq Centimeters.....	Square Inches.....	0.155
Square Meters.....	Square Feet.....	10.764
Square Meters.....	Square Yards.....	1.196
Square Kilometers.....	Square Miles.....	0.386
Sq Hectometers.....	Acres.....	2.471
Cubic Meters.....	Cubic Feet.....	35.315
Cubic Meters.....	Cubic Yards.....	1.308
Milliliters.....	Fluid Ounces.....	0.034
Liters.....	Pints.....	2.113
Liters.....	Quarts.....	1.057
Liters.....	Gallons.....	0.264
Grams.....	Ounces.....	0.035
Kilograms.....	Pounds.....	2.205
Metric Tons.....	Short Tons.....	1.102
Newton-Meters.....	Pound-Feet.....	0.738
Kilopascals.....	Pounds per Sq Inch.....	0.145
Km per Liter.....	Miles per Gallon.....	2.354
Km per Hour.....	Miles per Hour.....	0.621

