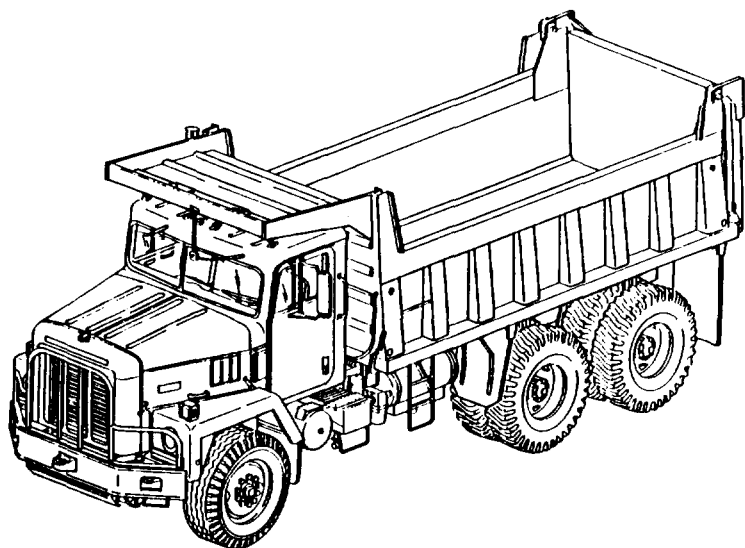


**TECHNICAL MANUAL**  
**ORGANIZATIONAL MAINTENANCE MANUAL**  
**VOLUME 2 OF 2**



**ORGANIZATIONAL  
MAINTENANCE  
INSTRUCTIONS -  
CONTINUED  
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**TRUCK, DUMP, 20-TON, 6 x 4  
ON-OFF HIGHWAY, 71,000 GVW  
IHC MODEL F-5070 (CCE)  
(NSN 3805-00-192-7249)**

**Approved for Public Release Distribution is Unlimited.**

**JANUARY 1988**

**HEADQUARTERS, DEPARTMENT OF THE ARMY**

CHANGE  
NO. 1

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
Washington D.C., 25 February 1993

**ORGANIZATIONAL MAINTENANCE MANUAL  
VOLUME 2 OF 2  
TRUCK, DUMP: 20-TON, 6 X 4,  
ON-OFF HIGHWAY, 71,000 GVW  
(NSN 3805-00-192-7249)**

**IHC MODEL F-5070 (CCE)**

TM 5-3805-254-20-2, dated 20 January 1988, is changed as follows:

1. Remove old pages and insert new pages.
2. New or changed material is indicated by a vertical bar in the margin and by a vertical bar adjacent to the TA number.

<b>Remove Pages</b>	<b>Insert Pages</b>
<i>iii and 2-664</i>	<i>iii and 2-664</i>
<i>2-837 and 2-838</i>	<i>2-837 and 2-838</i>
<i>2-895 and 2-896</i>	<i>2-895 through 2-896</i>
<i>2-917 and 2-918</i>	<i>2-917 and 2-918</i>
<i>2-939 and 2-940</i>	<i>2-939 and 2-940</i>
<i>None</i>	<i>2-946.1 through 2-946.9/(2-946.10 blank)</i>
<i>2-947 and 2-948</i>	<i>2-947 and 2-948</i>
<i>2-975 and 2-976</i>	<i>2-975 and 2-976</i>
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<i>2-995 through 2-998</i>	<i>2-995 through 2-998</i>
<i>2-1001 and 2-1002</i>	<i>2-1001 and 2-1002</i>
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<i>2-1025 through 2-1028</i>	<i>2-1025 through 2-1028</i>
<i>2-1031 through 2-1034</i>	<i>2-1031 through 2-1034</i>
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<i>2-1241 and 2-1242</i>	<i>2-1241 and 2-1242</i>
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<i>2-1257 and 2-1258</i>	<i>2-1257 and 2-1258</i>
<i>2-1261 through 2-1272</i>	<i>2-1261/(2-1262 blank) and 2-1272</i>
<i>None</i>	<i>2-1274.1 through 2-1274.3/(2-1274.4 blank)</i>
<i>2-1275 through 2-1280</i>	<i>2-1275 and 2-1275.0, and 2-1280</i>

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None  
2-1285 through 2-1290  
None  
A-1 and A-2  
B-1 through B-29/(B-30 blank)  
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Index 7 through Index 22  
Index 27 through Index 38  
Index 41 and Index 42

**Insert Pages (Con't)**

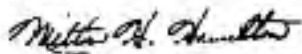
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A-1 and A-2  
B-1 through B-22  
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3. File this change sheet in front of the publication for reference purposes.

By Order of the Secretary of the Army:

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General, United States Army  
Chief of Staff

Official:

  
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03710

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To be distributed in accordance with DA Form 12-25-E, Block 1970, requirements for TM 5-3805-254-20-2.

**WARNING****EXHAUST GAS CAN KILL YOU**

Exhaust gas is without color or smell, but can kill you. Breathing exhaust gas produces symptoms of headache, dizziness, loss of muscular control, a sleepy feeling, and coma. Brain damage or death can result from heavy exposure of exhaust fumes of fuel-burning internal combustion engines. Exhaust gases can become dangerously concentrated under conditions of no air movement. Precautions must be followed to ensure crew safety when the engine of any vehicle is operated for any purpose.

1. DO NOT operate vehicle engine inside building unless ample ventilation is available.
2. DO NOT idle engine for long periods without ventilator blower operating.
3. DO NOT drive any vehicle with inspection plates, cover plates, or engine compartment doors removed unless necessary for maintenance purposes.
4. BE ALERT at all times during vehicle operation for exhaust odors and exposure symptoms. If either is present, IMMEDIATELY VENTILATE personnel compartments. If symptoms persist, remove affected crew to fresh air; keep warm; DO NOT PERMIT PHYSICAL EXERCISE; and, if necessary, give artificial respiration.
5. FOR ARTIFICIAL RESPIRATION, REFER TO FM 21-11.
6. BE AWARE; the field protective mask for chemical-biological-radiological (CBR) protection will not protect you from exhaust gas fumes.

THE BEST DEFENSE AGAINST ENGINE EXHAUST FUMES IS GOOD VENTILATION.

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**WARNING**

Diesel fuel burns easily. Do not smoke or allow flames nearby. Disconnect batteries when working on fuel system. Failure to observe these precautions could cause serious injury or death to personnel.

**WARNING**

Naphtha and its fumes are harmful and flammable. Do not use near open flame. Do not smoke while using naphtha. Use only in well-ventilated area. Naphtha can catch fire, and fumes can explode causing injury.

**WARNING**

Do not let positive wire touch metal surfaces at any time. Personal injury and equipment damage will occur.

**WARNING**

Edges of exhaust system components are sharp. Care must be taken to prevent personal injury.

**WARNING**

Metal edges of air cleaner housing are sharp. Care must be taken to prevent personal injury.

**WARNING**

Do not drain rear axle housing oil when hot. Hot oil can burn you.

**WARNING**

Do not drain interaxle differential oil when hot. Hot oil can burn you.

**WARNING**

Hot transmission oil can burn you. Care must be taken to prevent personal injury.

**WARNING**

Do not check rear axle housing oil level when hot. Hot oil can burn you.

**WARNING**

Support blocks must be used to support dump body weight. Death or serious injury could result if personnel fail to observe this warning.

**WARNING**

Make sure all personnel are clear of dump body before lowering, to prevent injury.

**WARNING**

Do not operate engine after removing turbocharger piping. Foreign matter could enter turbocharger air inlet pipe causing injury to personnel and damage to turbocharger.

**WARNING**

Do not touch heat shrinkable tubing for at least 30 seconds after heating. Hot tubing can burn you.

**WARNING**

Do not smoke or allow open flames or sparks into areas where alcohol is being used. Failure to observe this precaution could cause death or serious injury to personnel.

**WARNING**

Care must be taken when taking off canister to prevent spilling alcohol. Injury to personnel could occur.

**WARNING**

Electrical parts solvent cleaning compound is flammable, and reacts violently with certain metals. Boiling point is 114°F (46°C). Do not wear jewelry. Wear safety goggles, rubber gloves, and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

**WARNING**

Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and cause damage to equipment. Refer to TM 9-247.

**WARNING**

Parts of brake assembly will be coated with asbestos dust. Breathing this dust may be hazardous to your health. Use filter mask approved for use against asbestos dust. Never use compressed air or dry brush to clean these assemblies. Dust shall be removed using industrial type vacuum cleaner equipped with high efficiency filter system. Clean dirt or mud from brake assemblies with bristle brush or cloth, and water.

**WARNING**

Due to excessive weight, assistance will be needed to prevent personal injury when lifting heavy parts.

**WARNING**

Due to excessive weight, assistance will be needed to lift and remove pintle hook assembly from rear chassis cross-member. Serious injury to personnel could result.

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

**WARNING**

Hot engine oil could burn you. Care must be taken to prevent personal injury.

**WARNING**

Safety goggles must be worn when working with air lines to prevent personal injury.

**WARNING**

Safety goggles must be worn, when using chisel or drill, to prevent eye injury caused by flying steel chips.

**WARNING**

Safety goggles must be worn to prevent eye injury from flying metal chips when using compressed air, or striking metal surfaces.

**WARNING**

Safety goggles must be worn when using wire brush. Flying rust or metal particles could cause eye injury.

**WARNING**

Safety goggles must be worn when using a portable electric drill. Flying metal particles could cause eye injury.

**WARNING**

Brake springs under tension can injure or kill. Use extreme care to prevent injury. Safety goggles must be worn.

**WARNING**

Disconnect battery ground cable before cleaning or replacing parts. This will keep you from getting shocked or damaging parts.

**WARNING**

Batteries must be disconnected before working near electrical components. Failure to observe this precaution could cause serious injury to personnel or damage to equipment.

**WARNING**

Drain air from airbrake system before removing lines or fittings to avoid injury to personnel from compressed air.

**WARNING**

Particles blown by compressed air are hazardous. Make certain the airstream is directed away from user and other personnel in the area. Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa). User must wear safety goggles or face shield to prevent personal injury.

**WARNING**

Stand to side of axle flange while striking to prevent injury from flying lock collars.

**WARNING**

Due to excessive weight and size, assistance will be needed when handling dry air reservoir. Failure to observe this precaution could cause injury to personnel.

**WARNING**

Assistant must support muffler to prevent falling and causing personal injury.

**WARNING**

Assistance will be needed to support hood panel to prevent falling and causing personal injury.

**WARNING**

Assistance will be needed to support air dryer to prevent injury to personnel.

**WARNING**

Assistant must support fuel tank support to prevent falling and causing injury.

**WARNING**

When jacking vehicle, be sure vehicle is on level ground. Put blocks in front and behind each wheel to prevent vehicle from moving, and support vehicle with trestle stands to prevent personnel injury.

**WARNING**

Do not operate engine after removing air cleaner housing. Foreign matter could enter turbocharger air inlet pipe causing injury to personnel and damage to turbocharger.

**WARNING**

Due to excessive weight, care must be taken to prevent front hub and brakedrum assembly from falling. Do not pull out too far on spindle. Serious injury to personnel could result.

**WARNING**

Due to excessive weight, assistance will be needed to lift hub and brakedrum assembly. Failure to observe this precaution could cause serious injury to personnel.

**WARNING**

Remove all jewelry, prior to performing any electrical troubleshooting, to prevent accidental short circuits and/or electric shock.

**WARNING**

Starter motor solenoid battery terminal is capable of delivering high voltage. Do not touch or let tools or metal parts touch starter motor solenoid battery terminal or ground. Severe personal injury or death could occur.

**WARNING**

Do not smoke, use open flame, or allow sparks near batteries. Mixture of oxygen and hydrogen gases released from batteries is highly flammable and can explode causing injury to personnel.



**WARNING**

Due to excessive weight, assistance will be needed to lift and take off exhaust diverter.

**WARNING**

When removing battery cables, disconnect ground cable first. When installing battery cables, connect ground cable last. When two ground cables are used, both cables must be disconnected prior to working on equipment where shorting of cables can occur. In correct cable replacement sequence is extremely dangerous. Accidental contact of tools with vehicle causes direct short, resulting in arcing and instant heating of tool and causing painful burns. Shorted battery may explode, causing injury to personnel.

**WARNING**

When removing battery cables, disconnect negative (-) cable first. Failure to observe this precaution could cause injury to personnel or damage to equipment.

**WARNING**

When installing battery cables, connect negative (-) cable last. Failure to observe this precaution could cause injury to personnel or damage to equipment.

**WARNING**

Do not operate engine after removing air filter element. Foreign matter could enter turbocharger air inlet pipe and could cause damage to turbocharger or injury to personnel.

**WARNING**

Do not touch heater coil of glow plug when testing. Severe personal injury could occur.

**WARNING**

Safety props and support blocks must be used to support dump body to prevent falling and causing injury to personnel.

**WARNING**

Be careful when removing radiator cap. If engine is hot, escaping steam could burn you. Use a rag to cover radiator cap. Unscrew cap just enough to allow any built-up pressure to escape. When all pressure has been relieved, unscrew cap and take off.

**WARNING**

Rubber apron, safety gloves, and safety goggles must be worn when working with batteries. Failure to observe this precaution could cause serious injury to personnel.

**WARNING**

Although KEY SWITCH must be on and battery ground cable connected to test electrical circuit voltage, turn off KEY SWITCH and disconnect battery ground cable before doing resistance tests or replacing parts. This will keep you from getting shocked and prevent damage to parts and equipment.

**WARNING**

Care must be taken when working under hood while engine is running. Hands must be kept away from belts, fan, and other moving parts. Failure to observe this precaution could cause serious injury to personnel.

**WARNING**

Do not attempt to disconnect hydraulic lines and fittings while engine is running or before hydraulic system pressure has been released. When engine is running, hydraulic system is under pressure. Hydraulic system pressure should be 0 psi (0 kPa) before lines are disconnected. A line or fitting disconnected under pressure will blow off with great force and can cause injury to personnel.

**WARNING**

When increasing air pressure in tires, be careful not to exceed recommended pressure, to prevent personal injury or damage to equipment.

**WARNING**

Draining hot cooling system is not recommended. If coolant must be drained with engine hot, use gloves to protect against hot coolant. Severe burns could result.

**WARNING**

Ensure that vehicle is on level ground and that rear wheels are chocked to prevent vehicle from moving or severe injury to personnel may result.

**WARNING**

When performing parking brake troubleshooting, follow procedure exactly. Release of trapped air inside brake chamber can cause brakes to apply suddenly, causing injury to personnel.

**WARNING**

Do not operate dump truck with tires of different construction. Injury to personnel and equipment could occur.

**WARNING**

No welding, grinding or use of heat producing devices permitted near fuel tank unless fuel tank has been cleaned and purged of all flammable liquids and vapors. Failure to observe these precautions could cause serious injury to personnel.

**WARNING**

Exhaust system parts become very hot when engine is running. Allow time for parts to cool before working on exhaust system. Hot exhaust system parts will cause serious burns.

**WARNING**

Be careful when bleeding torque converter cooler. Escaping steam and coolant could burn you. Open draincock just enough to allow any built up pressure to escape.

**WARNING**

Cab floor boards have sharp edges. Care must be taken to prevent injury to personnel.

**WARNING**

Use care when removing damaged headlight assembly, broken glass or sharp metal could cut you.

**WARNING**

Due to excessive weights, assistance will be needed to support battery box, to prevent personal injury.

**WARNING**

Care must be taken when removing lamp that is cracked or gray in color to prevent personal injury.

**WARNING**

Do not drain steering system when hot. Hot oil can burn you.

**WARNING**

Do not drain oil reservoir when hot. Hot oil can burn you.

**WARNING**

Seat belts must be positioned correctly for proper operation.

**WARNING**

To prevent injury, make sure all personnel are clear of tailgate when body is in raised position.

**WARNING**

Drain air from air tank system before removing lines or fittings to avoid injury to personnel from compressed air.

**Organizational Maintenance Manual**

**TRUCK, DUMP: 20-TON, 6 x 4,  
ON-OFF HIGHWAY, 71,000 GVW,  
IHC MODEL F-5070 (CCE)  
(NSN 3805-00-192-7249)**

**REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS**

You can help improve this manual. If you find any mistakes, or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual directly to: Commander, U.S. Army Tank-Automotive Command, ATTN: AMSTA-MBS, Warren, MI 48397-5000. A reply will be sent to you.

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\* This manual supersedes organizational portion of TM 5-3805-254-14&P1 dated August 1980 and TM 5-3805-254-14&P2 dated June 1980 including all changes.

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**HOW TO USE THIS MANUAL**

This manual is designed to help you maintain the IHC Model F-5070 (CCE) dump truck.

The front cover table of contents is provided for quick reference to important information. There is also an index, located in the back of this manual, for use in locating specific items of information.

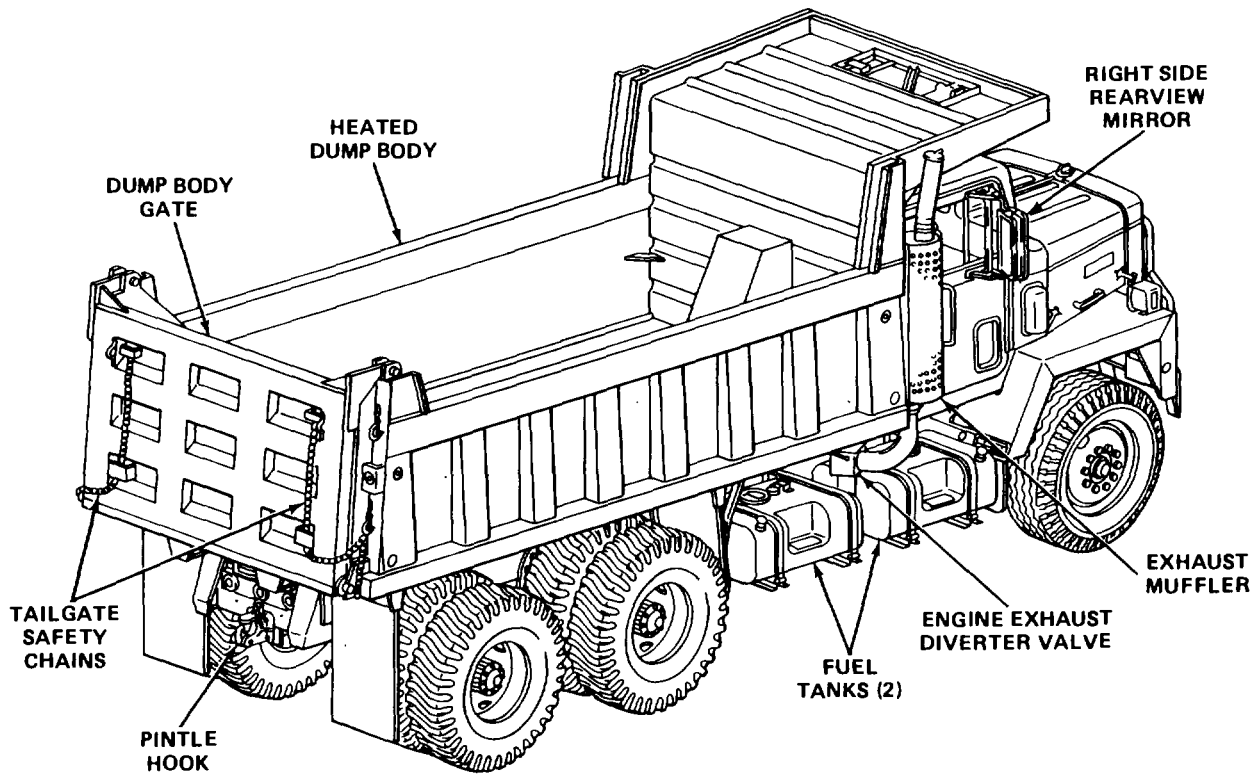
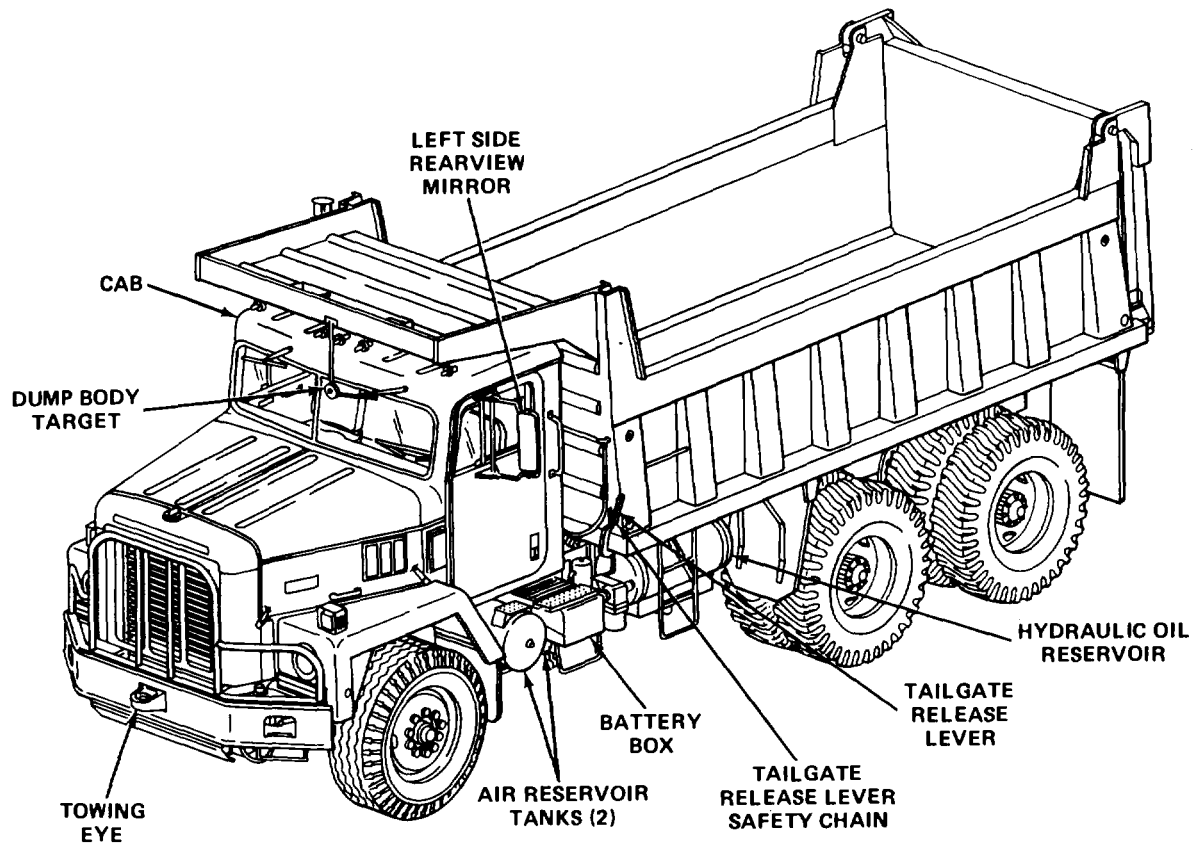
Measurements in this manual are given in both US standard and metric units. A metric to US standard conversion chart can be found on the inside back cover.

Read all preliminary information found at the beginning of each task. It has important information and safety instructions you must follow before beginning the task.

Equipment locator illustrations are also provided throughout the maintenance procedures. These illustrations are for use in locating components and assemblies of the overall equipment. It should be noted that the locator illustrations do not always reflect the equipment condition listed in the initial setup at the beginning of each task.

Warning pages are located in the front of this manual. You should read the warnings before operating or doing maintenance on the equipment.

A subject index appears at the beginning of each chapter listing sections that are included in that chapter. A more specific subject index is located at the beginning of each section to help you find the exact paragraph you're looking for.



Truck, Dump: 20-Ton, 6x4, On-Off Highway, 71,000 GVW, IHC Model F-5070 (CCE)

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**GENERATOR DRIVEBELTS**

This task covers:

- a. Removal (page 2-665)
- b. Installation (page 2-666)
- c. Adjustment (page 2-666)

**INITIAL SETUP**

Tools

- Bar, pry, 16-inch
- Gage, belt-tension, 30 to 180 lb (14 to 82 kg)
- Wrench, box-end, 3/4-inch (two required)

Personnel Required

One

Equipment Condition

Right side hood panel opened (page 2-424).

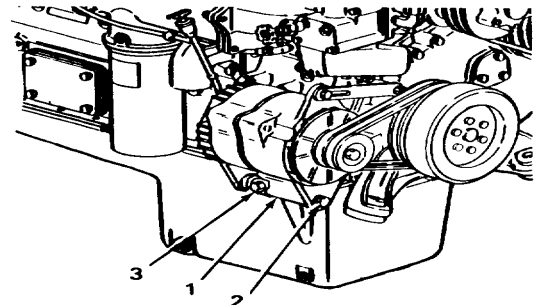
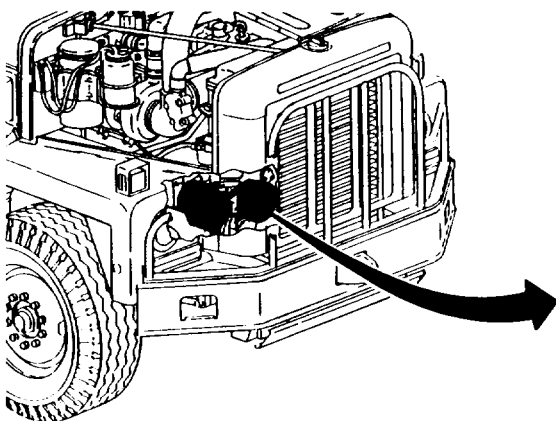
Materials/Parts

Drivebelt, V, matched set of two

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

**REMOVAL**

- |                         |                       |   |
|-------------------------|-----------------------|---|
| 1. Mounting bracket (1) | Screw (2) and nut (3) | Using two 3/4-inch box-end wrenches, loosen one turn. |
|-------------------------|-----------------------|---|



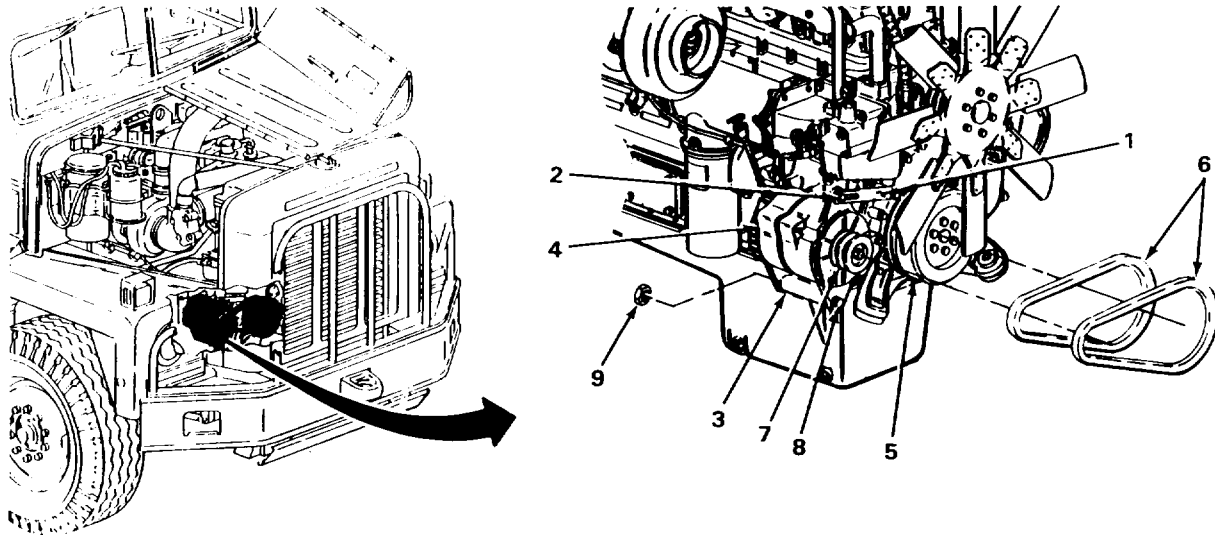
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**GENERATOR DRIVEBELTS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
2. Adjusting strap (1)	Screw (2)	Using 3/4-inch box-end wrench, loosen one turn.
3. Mounting bracket (3)	Generator (4)	Using 16-inch pry bar, push generator toward crankshaft pulley (5) to loosen drivebelts (6).
4. Crankshaft pulley (5) and generator pulley (7)	Two drivebelts (6)	Take off.
INSTALLATION		
5.	Two new drivebelts (6)	Put in place in pulley grooves.
<b><u>CAUTION</u></b>		
Do not overtighten drivebelts, damage to generator could occur.		
6. Mounting bracket (3)	Generator (4)	Pull generator away from crankshaft pulley (5), to seat drivebelts (6) in pulley grooves, and hold.
7. Adjusting strap (1)	Screw (2)	Screw in until snug, using 3/4-inch box-end wrench, to hold drivebelts (6) in pulley grooves.
ADJUSTMENT		
8. Generator (4) and adjusting strap (1)	Two new drivebelts (6) and screw (2)	<ol style="list-style-type: none"> <li>a. Loosen screw.</li> <li>b. Pull generator away from crankshaft pulley (5) until 110 pounds (50 kg) of tension is measured using 30 to 180 lb (14 to 82 kg) belt-tension gage and 16-inch pry bar.</li> <li>c. Screw in and tighten screw using 3/4-inch box-end wrench.</li> </ol>
9. Mounting bracket (3)	Screw (8) and nut (9)	Screw in and tighten using two 3/4-inch box-end wrenches.

**GENERATOR DRIVEBELTS - CONTINUED**



**NOTE**

FOLLOW-ON MAINTENANCE: Close right side hood panel (page 2-424).

**TASK ENDS HERE**

**GENERATOR AND REGULATOR**

This task covers:

- a. Removal (page 2-668)
- b. Installation (page 2-668)
- c. Adjustment (page 2-670)

**INITIAL SETUP**

**Tools**

- Wrench, box-end, 3/4-inch (two required)
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 1/2-inch

**Materials/Parts**

- Lockwasher, clamp
- Lockwasher, generator harness
- Lockwashers, mounting screws (two required)

**Personnel Required**

One

**Equipment Condition**

Right side hood panel opened (page 2-424).  
 Battery ground cable disconnected (page 2-424).

**GENERATOR AND REGULATOR - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
1. Generator pulley (1) and crankshaft pulley (2)	Two drivebelts (3)	Take off (page 2-665).
2. Generator (4)	Screw (5), lockwasher (6), and clamp (7)	a. Using 1/2-inch open-end wrench, unscrew and take out. b. Get rid of lockwasher.
3.	Rubber boot (12)	Slide back and take off.
4.	Nut (9), lockwasher (10), and wire connector (11)	a. Using 7/16-inch open-end wrench, unscrew and take off. b. Get rid of lockwasher.
5.	Push-on connector (8)	Pull off.
6. Adjusting strap (13)	Screw (14) and lockwasher (15)	a. Using 3/4-inch box-end wrench, unscrew and take out. b. Get rid of lockwasher.
7. Mounting bracket (16)	Screw (17), nut (18), and lockwasher (19)	a. Using two 3/4-inch box-end wrenches, unscrew and take out. b. Get rid of lockwasher.

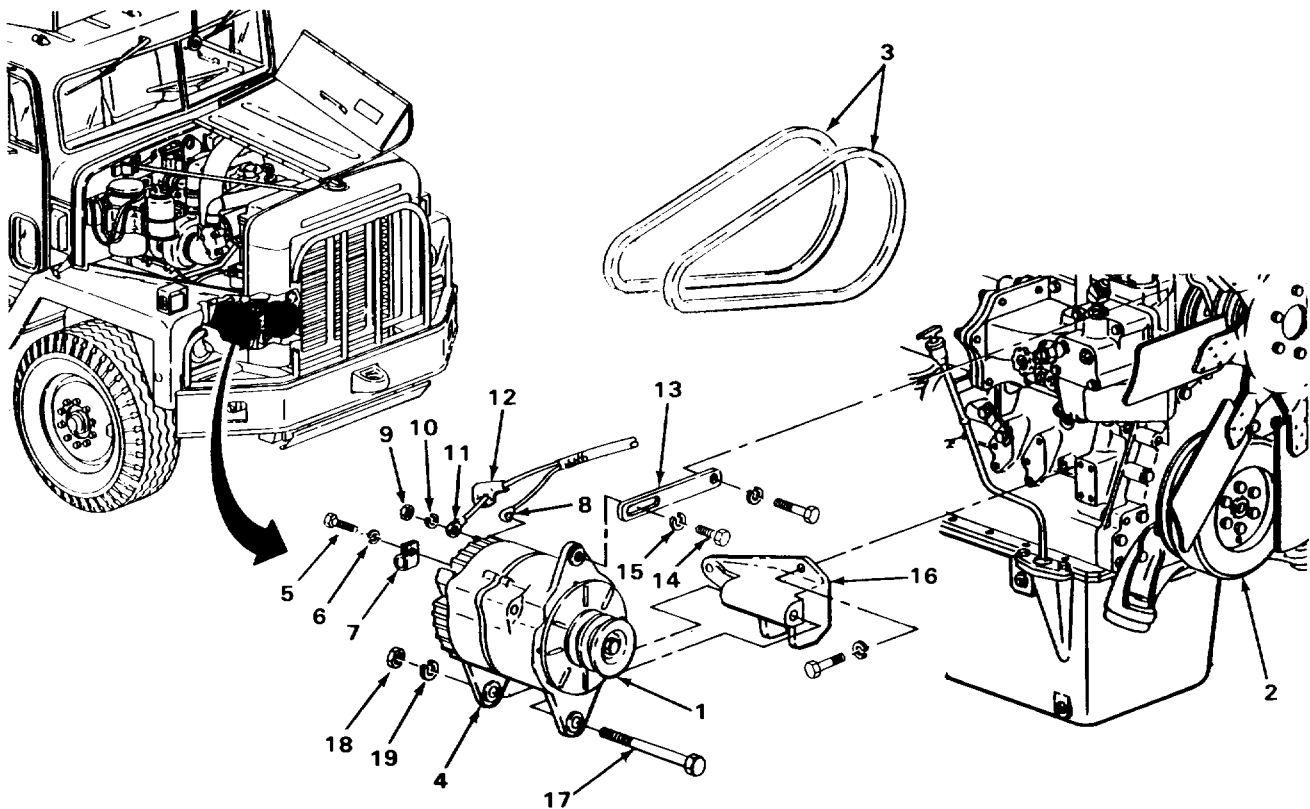
**CAUTION**

Use care when performing steps 8 and 9. Damage to generator could occur.

8.	Generator (4)	Carefully take out.
<b>INSTALLATION</b>		
9.	Generator (4)	Carefully put in.
10. Mounting bracket (16)	Screw (17), nut (18), and new lockwasher (19)	Screw in until snug using 3/4-inch box-end wrench.
11. Adjusting strap (13)	Screw (14) and new lockwasher (15)	Screw in until snug using 3/4-inch box-end wrench.

**GENERATOR AND REGULATOR - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
12. Generator (4)	Push-on connector (8)	Push on.
13.	Wire connector (11), new lockwasher (10), and nut (9)	Screw on and tighten using 7/16-inch open- end wrench.
14.	Rubber boot (12)	Put on.
15.	Screw (5), new lockwasher (6), and clamp (7)	Screw in and tighten using 1/2-inch open- end wrench.
16. Generator pulley (1) and crankshaft pulley (2)	Two drivebelts (3)	a. Put on (page 2-665). b. Adjust (page 2-665).



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**GENERATOR AND REGULATOR - CONTINUED**

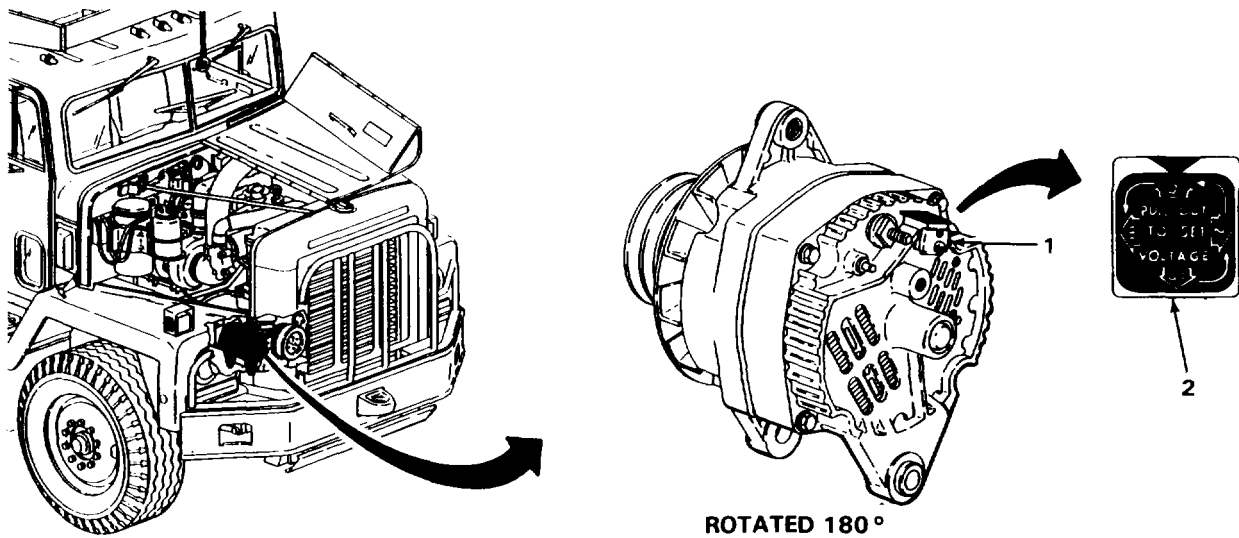
LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

**ADJUSTMENT**

**NOTE**

Adjust generator if ampere output is not within 10 percent of rated output stamped on generator. Go to Troubleshooting (page 2-43).

- |                        |                            |   |
|------------------------|----------------------------|---|
| 17. Connector body (1) | Voltage adjustment cap (2) | <ul style="list-style-type: none"> <li>a. Take out.</li> <li>b. Rotate 90-degrees clockwise to raise ampere output, and counterclockwise to lower ampere output.</li> <li>c. Put in.</li> </ul> |
|------------------------|----------------------------|---|



**NOTE**

**FOLLOW-ON MAINTENANCE:**

- 1. Connect battery ground cable (page 2424).
- 2. Close right side hood panel (page 2-424).

**TASK ENDS HERE**

**GENERATOR PULLEY**

This task covers:

- a. Removal (page 2-671)
- b. Cleaning (page 2-672)
- c. Inspection/Replacement (page 2-672)
- d. Installation (page 2-673)

**INITIAL SETUP**

Tools

- Gloves, safety
- Goggles, safety
- Gun, blow, air
- Handle, ratchet, 1/2-inch drive
- Hose, air, assembly
- Key, 5/16-inch screw, socket head
- Puller, mechanical
- Screwdriver, flat-tip, 1/8-inch
- Socket, flare, 15/16-inch, 1/2-inch drive
- Wrench, torque, 1/2-inch drive, 0 to 175 ft lb (0 to 245 N•m)

Materials/Parts

Solvent, drycleaning (item 19, appendix C)

Personnel Required

One

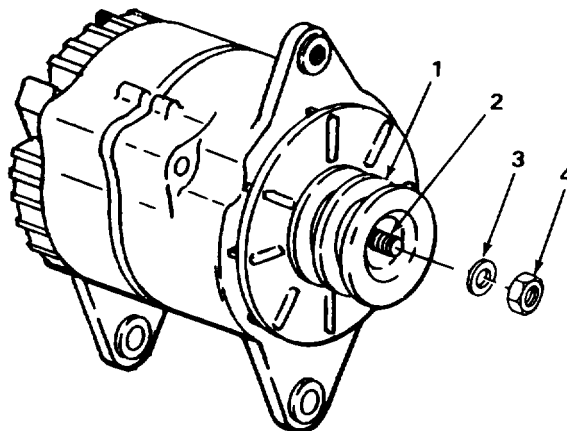
Equipment Condition

Generator removed (page 2-667).

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

**REMOVAL**

- |   |                                    |   |
|---|------------------------------------|---|
| <p>1. Generator pulley (1) and armature (2)</p> | <p>Nut (3) and flat washer (4)</p> | <p>Using 5/16-inch socket head screw key, 15/16-inch 1/2-inch drive flare socket, and ratchet handle, unscrew and take off.</p> |
|---|------------------------------------|---|



TA244131

**GENERATOR PULLEY - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
2.	Armature (1)	Generator pulley (2)
		Using mechanical puller, pull off.

CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

Parts must be cleaned thoroughly. For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

3.	All parts	Using drycleaning solvent, clean thoroughly.
----	-----------	--

**WARNING**

Particles blown by compressed air are hazardous. Make certain the air stream is directed away from user and other personnel in the area. Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa). User must wear safety goggles or face shield to prevent injury to personnel.

4.	All parts	Using air blow gun and air hose assembly, blow dry.
----	-----------	---

INSPECTION/REPLACEMENT

**NOTE**

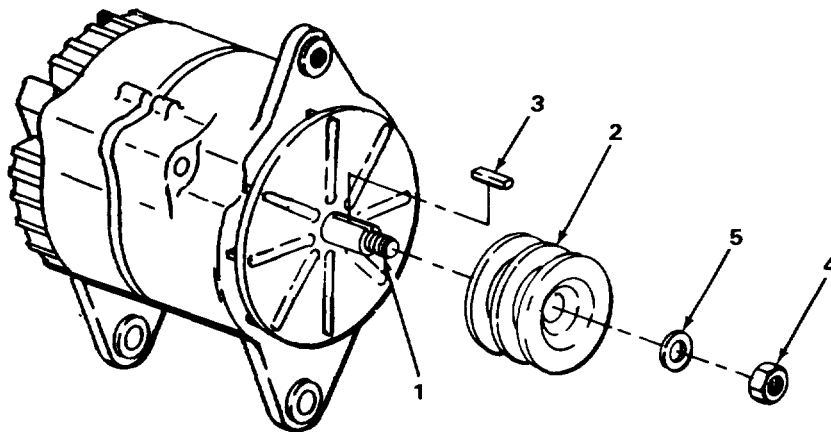
Replace all damaged or defective parts. For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

**GENERATOR PULLEY - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
5.	Generator pulley (2)	Look for dents, cracks, or breaks in pulley groove.
6.	All threaded parts	Look for damaged threads or rounded heads.

**INSTALLATION**

- |  |                             |  |
|--|-----------------------------|--|
| 7. Armature (1)                          | Generator pulley (2)        | a. Aline slot in pulley with key (3) in armature.<br>b. Put on.  |
| 8. Generator pulley (2) and armature (1) | Nut (4) and flat washer (5) | Screw on and torque to 40 to 60 ft lb (55 to 80 N•m) using 5/16-inch socket head screw key, 15/16-inch socket head screw key, 15/16-inch 1/2-inch drive flare socket, and 0 to 175 ft lb (0 to 245 N•m) torque wrench. |



**NOTE**

FOLLOW-ON MAINTENANCE: Install generator (page 2-667).

**TASK ENDS HERE**

TA244132



## ENGINE OIL PRESSURE SWITCH

This task covers:

- a. Removal (page 2-674)
- b. Installation (page 2-674)

### INITIAL SETUP

**Tools**

Screwdriver, flat-tip, 3/16-inch  
Wrench, open-end, 7/16-inch

**Materials/Parts**

Rags, wiping (item 15, appendix C)  
Tags, marker (item 21, appendix C)  
Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**Equipment Condition**

Left side hood panel opened (page 2-424).

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

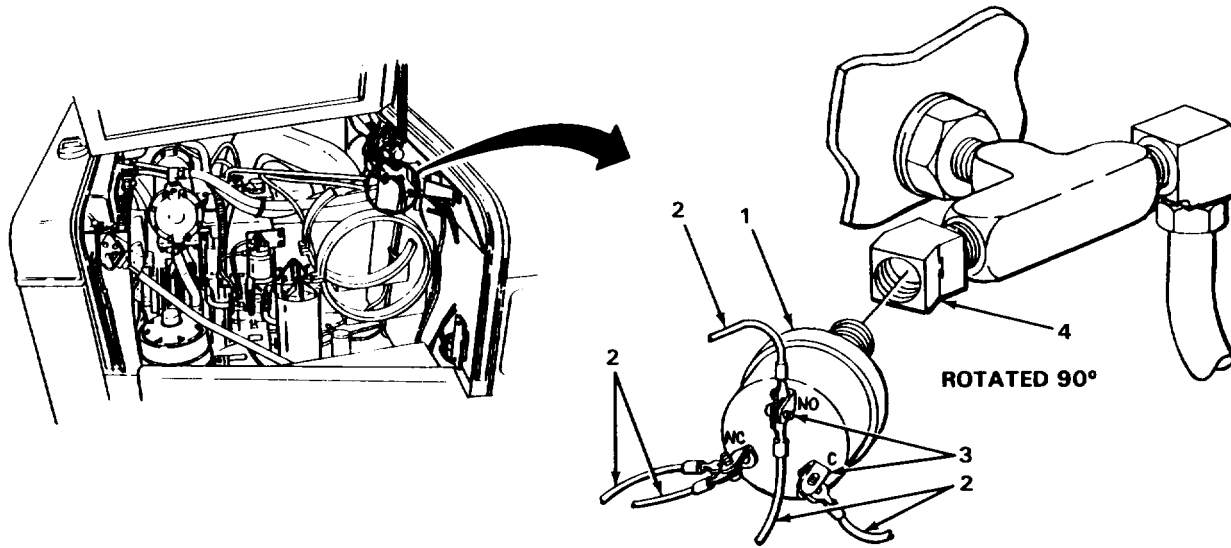
### REMOVAL

- |   |  |  |
|---|--|--|
| <p><b>1.</b> Engine oil pressure switch (1)</p> | <p>Five wires (2) and three screws (3)</p> | <ul style="list-style-type: none"> <li>a. Tag wires (page 2-424).</li> <li>b. Using 3/16-inch flat-tip screwdriver, unscrew and take out.</li> <li>c. Move wires aside.</li> </ul> |
| <p><b>2.</b> Elbow (4)</p>                      | <p>Engine oil pressure switch (1)</p>      | <p>Using 7/16-inch open-end wrench, unscrew and take out.</p>  |

### INSTALLATION

- |   |  |  |
|---|--|--|
| <p><b>3.</b> Elbow (4)</p>                      | <p>Engine oil pressure switch (1)</p>      | <ul style="list-style-type: none"> <li>a. Wipe pipe threads clean using wiping rag.</li> <li>b. Wrap pipe threads with antiseizing tape (page 2-424).</li> <li>c. Screw in and tighten using 7/16-inch open-end wrench.</li> </ul> |
| <p><b>4.</b> Engine oil pressure switch (1)</p> | <p>Five wires (2) and three screws (3)</p> | <ul style="list-style-type: none"> <li>a. Put wires in correct position.</li> <li>b. Screw in and tighten using 3/16-inch flat-tip screwdriver.</li> <li>c. Get rid of tags.</li> </ul>  |

**ENGINE OIL PRESSURE SWITCH - CONTINUED**



**NOTE**

FOLLOW-ON MAINTENANCE: Close left side hood panel (page 2-424).

**TASK ENDS HERE**

**ENGINE WATER TEMPERATURE SWITCH**

This task covers:

- a. Removal (page 2-676)
- b. Installation (page 2-676)

**INITIAL SETUP**

**Tools**

Wrench, box-end, 1/4-inch  
Wrench, open-end, 1-inch

**Materials/Parts**

Lockwasher, wire (three required)  
Rags, wiping (item 15, appendix C)  
Tags, marker (item 21, appendix C)  
Tape, antiseizing (item 22, appendix C)

**Personnel Required**

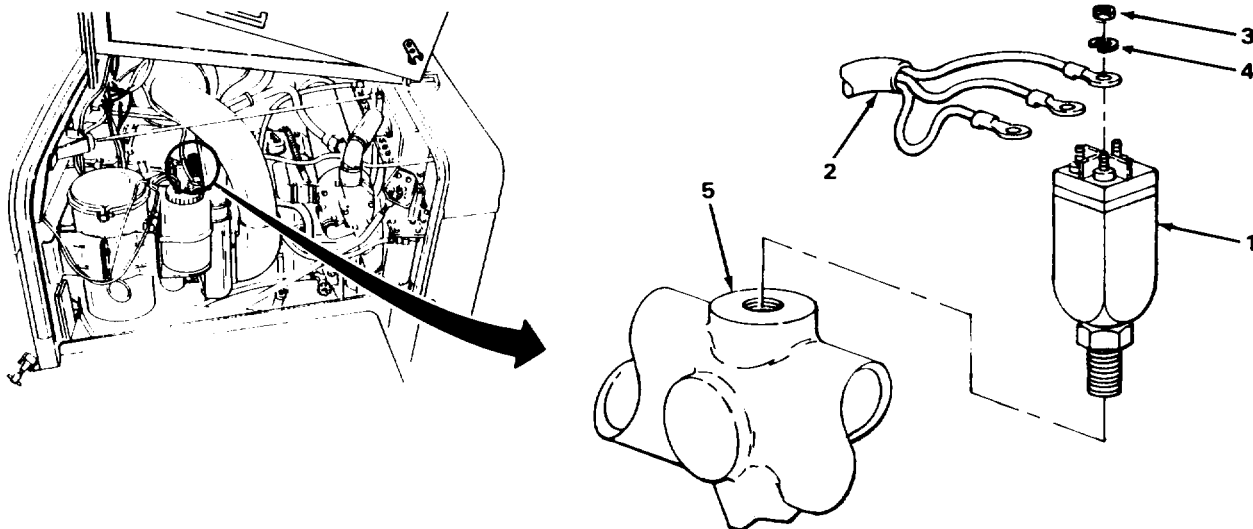
One

**Equipment Condition**

Right side hood panel opened (page 2-424).  
Cooling system drained (page 2-628).

**ENGINE WATER TEMPERATURE SWITCH - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
1. Engine water temperature switch (1)	Three wires (2), three nuts (3), and three lockwashers (4)	a. Tag wires (page 2-424). b. Using 1/4-inch box-end wrench, unscrew and take out. c. Move wires aside. d. Get rid of lockwashers.
2. Water manifold (5)	Engine water temperature switch (1)	Using 1-inch open-end wrench, unscrew and take out.
<b>INSTALLATION</b>		
3. Water manifold (5)	Engine water temperature switch (1)	a. Wipe pipe threads clean using wiping rag. b. Wrap pipe threads with antiseizing tape (page 2-424). c. Screw in and tighten using 1-inch open-end wrench.
4. Engine water temperature switch (1)	Three wires (2), three new lockwashers (4), and three nuts (3)	a. Put wires in correct position. b. Screw on and tighten using 1/4-inch box-end wrench. c. Get rid of tags.



TA244134

**ENGINE WATER TEMPERATURE SWITCH - CONTINUED****NOTE****FOLLOW-ON MAINTENANCE:**

1. Fill cooling system (page 2-628).
2. Close right side hood panel (page 2-424).

**TASK ENDS HERE****TRANSMISSION OIL PRESSURE SWITCH**

---

This task covers:

- a. Removal (page 2-678)
  - b. Installation (page 2-678)
- 

**INITIAL SETUP****Tools**

Container, 10-gallon  
 Screwdriver, flat-tip, 3/16-inch  
 Wrench, open-end, 5/8-inch  
 Wrench, open-end, 11/16-inch

**Personnel Required**

One

**References**

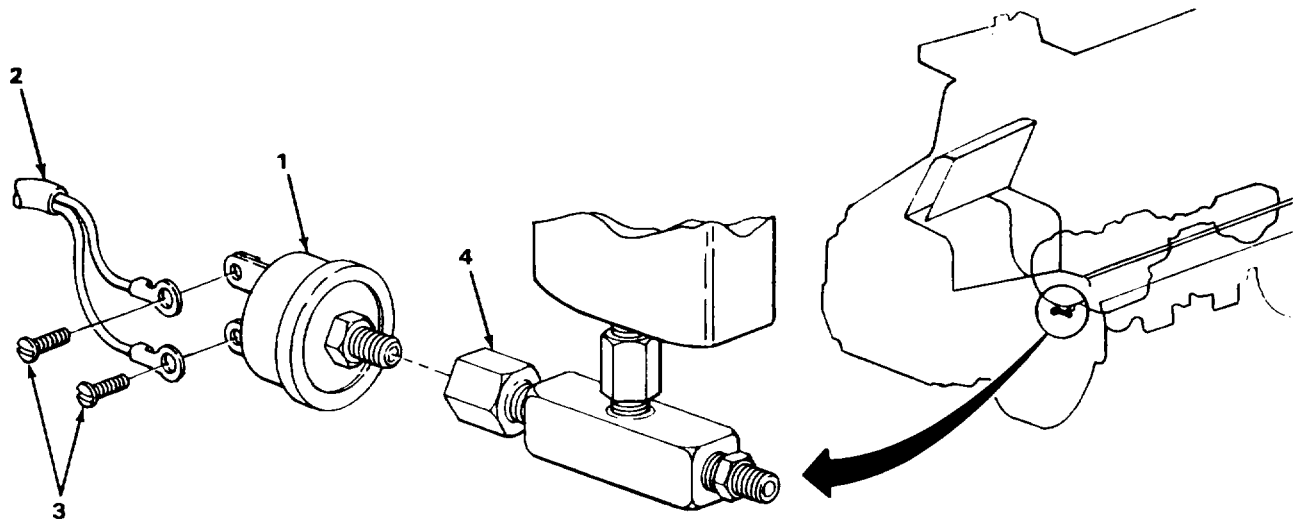
TM 5-3805-254-10 (Operator's Manual)

**Materials/Parts**

Rags, wiping (item 15, appendix C)  
 Tags, marker (item 21, appendix C)  
 Tape, antiseizing (item 22, appendix C)

**ENGINE WATER TEMPERATURE SWITCH - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
1. Transmission oil pressure switch (1)	Two wires (2) and two screws (3)	a. Tag wires (page 2-424). b. Using 3/16-inch flat-tip screwdriver, unscrew and take out. c. Move wires aside.
2. Adapter (4)	Transmission oil pressure switch (1)	a. Place 10-gallon container underneath. b. Using 5/8-inch and 11/16-inch open-end wrenches, unscrew and take out.
<b>INSTALLATION</b>		
3. Adapter (4)	Transmission oil pressure switch (1)	a. Clean pipe threads using wiping rag. b. Wrap pipe threads with antiseizing tape (page 2-424). c. Screw in and tighten using 5/8-inch and 11/16-inch open-end wrenches.
4. Transmission oil pressure switch (1)	Two wires (2) and two screws (3)	a. Put wires in correct position. b. Screw in and tighten using 3/16-inch flat-tip screwdriver. c. Get rid of tags.



TA244135

**TRANSMISSION OIL PRESSURE SWITCH - CONTINUED**

**NOTE**

FOLLOW-ON MAINTENANCE: Fill transmission (page 2-900).

**TASK ENDS HERE**

**LEFT BRAKE LIGHT SWITCH**

---

This task covers:

- a. Removal (page 2-680)
  - b. Installation (page 2-680)
- 

**INITIAL SETUP**

Tools

- Screwdriver, flat-tip, 1/4-inch
- Wrench, open-end, 9/16-inch
- Wrench, open-end, 11/16-inch

Personnel Required

One

Equipment Condition

- Airbrake system drained (page 2-1034).
- Battery ground cable disconnected (page 2-424).
- Left cab door opened (page 2-424).

Materials/Parts

- Lockwasher, switch (two required)
- Rags, wiping (item 15, appendix C)
- Tags, marker (item 21, appendix C)
- Tape, antiseizing (item 22, appendix C)

**2-679**

**LEFT BRAKE LIGHT SWITCH - CONTINUED**

---

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

---

REMOVAL

**CAUTION**

Use care when working behind instrument panel to prevent breaking or disconnecting wires.

- |                                       |   |   |
|---------------------------------------|---|---|
| <p>1. Left brake light switch (1)</p> | <p>Two screws (2), two lockwashers (3), and two wires (4)</p> | <ul style="list-style-type: none"> <li>a. Tag wires (page 2-424).</li> <li>b. Using 1/4-inch flat-tip screwdriver, unscrew and take out.</li> <li>c. Get rid of lockwashers.</li> <li>d. Move wires aside.</li> </ul> |
| <p>2. Adapter (5)</p>                 | <p>Left brake light switch (1)</p>                            | <p>Using 9/16-inch and 11/16-inch open-end wrenches, unscrew and take out.</p>  |

INSTALLATION

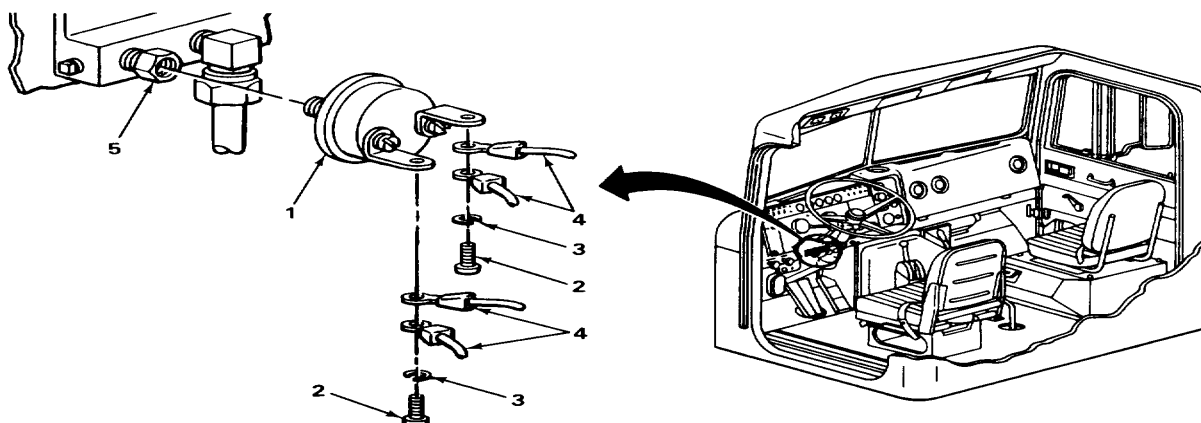
### **CAUTION**

Use care when working behind instrument panel to prevent breaking or disconnecting wires.

- |                                |  |   |
|--------------------------------|--|---|
| 3. Adapter (5)                 | Left brake light switch (1)                                | a. Clean pipe threads with wiping rag.<br>b. Wrap pipe threads with antiseizing tape (page 2-424).<br>c. Screw in and tighten using 9/16-inch and 11/16-inch open-end wrenches. |
| 4. Left brake light switch (1) | Two wires (4), two new lockwashers (3), and two screws (2) | a. Put wires in correct position.<br>b. Screw in and tighten using 1/4-inch flat-tip screwdriver.<br>c. Get rid of tags.  |

**2-680**

**LEFT BRAKE LIGHT SWITCH - CONTINUED**



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Close left cab door (page 2-424).
2. Connect battery ground cable (page 2-424).

**TASK ENDS HERE**

**RIGHT BRAKE LIGHT SWITCH**

---

This task covers:

- a. Removal (page 2-682)
  - b. Installation (page 2-682)
- 

**INITIAL SETUP**

**Tools**

Screwdriver, flat-tip, 1/4-inch  
Wrench, open-end, 9/16-inch

**Materials/Parts**

Lockwasher, switch (two required)  
Rags, wiping (item 15, appendix C)  
Tags, marker (item 21, appendix C)  
Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**Equipment Condition**

Airbrake system drained (page 2-1034).  
Battery ground cable disconnected  
(page 2-424).  
Left cab door opened (page 2-424).



**RIGHT BRAKE LIGHT SWITCH - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL

**CAUTION**

Use care when working behind instrument panel to prevent breaking or disconnecting wires.

1	Right brake light switch (1)	Two screws (2), two lockwashers (3), and two wires (4)	<ul style="list-style-type: none"> <li>a Tag wires (page 2-424).</li> <li>b Using 1/4-inch flat-tip screwdriver, unscrew and take out.</li> </ul>
c	Get rid of lockwashers.		
d	Move wires aside.		
2	Right brake manifold (5)	Right brake light switch (1)	Using 9/16-inch open-end wrench, unscrew and take out.

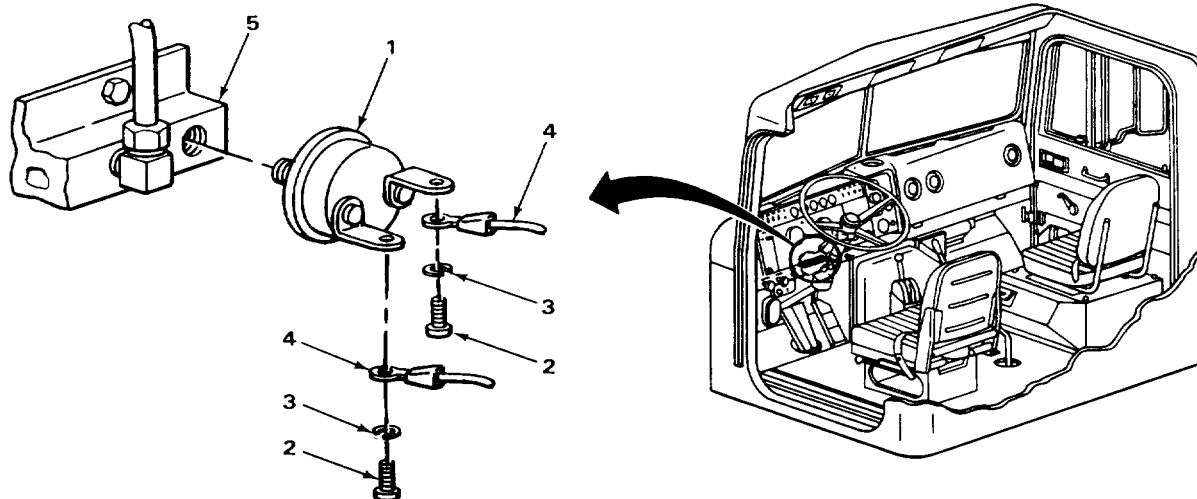
INSTALLATION

**CAUTION**

Use care when working behind instrument panel to prevent breaking or disconnecting wires.

3	Right manifold (5)	Right brake light switch (1)	<ul style="list-style-type: none"> <li>a Clean pipe threads with wiping rag.</li> <li>b Wrap pipe threads with antiseizing tape (page 2-424).</li> <li>c Screw in and tighten using 9/16-inch open-end wrench.</li> </ul>
4	Right brake light switch (1)	Two wires (4), two new lockwashers (3), and two screws (2)	<ul style="list-style-type: none"> <li>a Put wires in correct position.</li> <li>b Screw in and tighten using 1/4-inch flat-tip screwdriver.</li> <li>c Get rid of tags.</li> </ul>

**RIGHT BRAKE LIGHT SWITCH - CONTINUED**



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Connect battery ground cable (page 2-424).
2. Close left cab door (page 2-424).

**TASK ENDS HERE**

**ENGINE COMPRESSION BRAKE PRESSURE SWITCH**

---

This task covers:

- a. Removal (page 2-684)
- b. Installation (page 2-684)

**INITIAL SETUP**

**Tools**

- Container, 6-gallon
- Screwdriver, flat-tip, 3/16-inch
- Wrench, open-end, 7/16-inch

**Personnel Required**

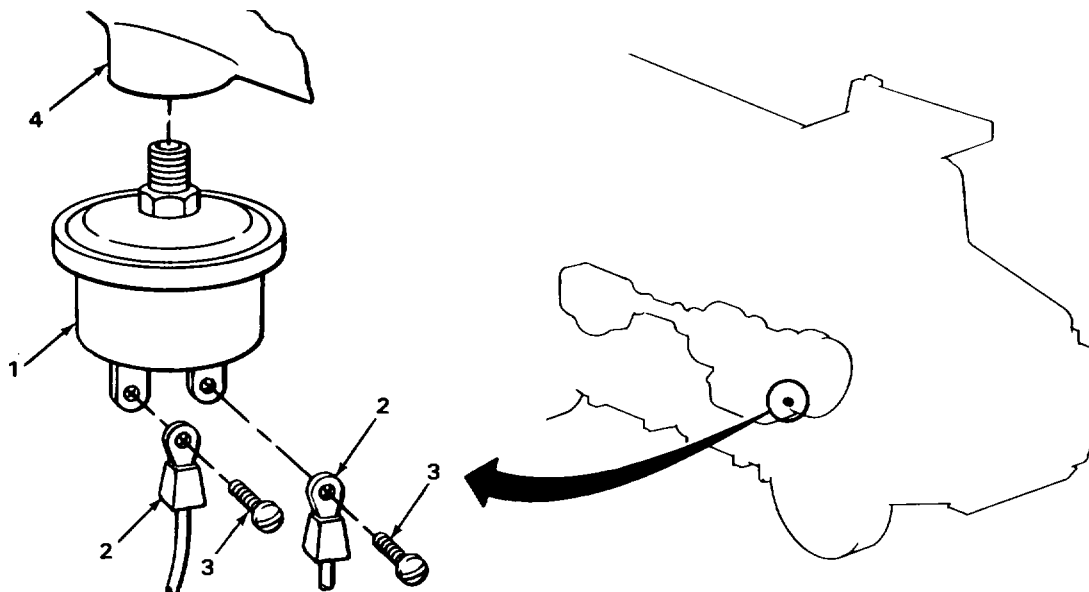
One

**Materials/Parts**

- Rags, wiping (item 15, appendix C)
- Tags, marker (item 21, appendix C)
- Tape, antiseizing (item 22, appendix C)

**ENGINE COMPRESSION BRAKE PRESSURE SWITCH - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
1	Engine Compression brake pressure switch (1)	Two wires (2) and two screws (3) a Tag wires (page 2-424). b Using 3/16-inch flat-tip screwdriver, unscrew and take out. c Move wires aside.
2	Torque converter housing (4)	Engine Compression brake pressure switch (1) a Place 6-gallon container underneath. b Using 7/16-inch open-end wrench, unscrew and take out.
<b>INSTALLATION</b>		
3	Torque converter housing (4)	Engine Compression brake pressure switch (1) a Clean pipe threads using wiping rag. b Wrap pipe threads with antiseizing tape (page 2-424). c Screw in and tighten using 7/16-inch open-end wrench.
4	Engine Compression brake pressure	Two screws (3) and two wires (2) switch (1) a Put wires in correct position. b Screw in and tighten using 3/16-inch flat-tip screwdriver. c Get rid of tags.



**ENGINE COMPRESSION BRAKE PRESSURE SWITCH - CONTINUED**

**NOTE**

FOLLOW-ON MAINTENANCE: Fill transmission (page 2-900).

**TASK ENDS HERE**

**TRANSMISSION OIL TEMPERATURE SENDER**

This task covers:

- a Removal (page 2-685)
- b Installation (page 2-686)

**INITIAL SETUP**

**Tools**

- Container, 6-gallon
- Wrench, box-end, 3/8-inch
- Wrench, open-end, 15/16-inch

**Personnel Required**

One

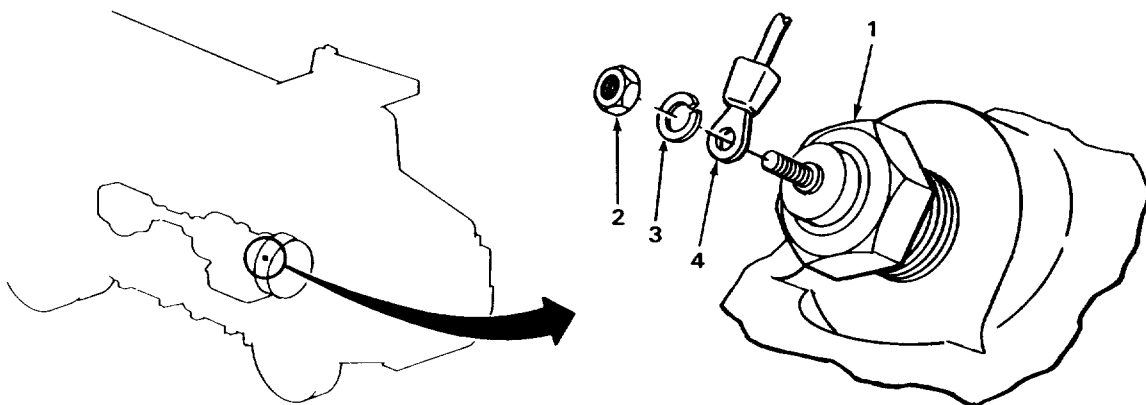
**Materials/Parts**

- Lockwasher, switch
- Rags, wiping (item 15, appendix C)

LOCATION	ITEM	ACTION REMARKS
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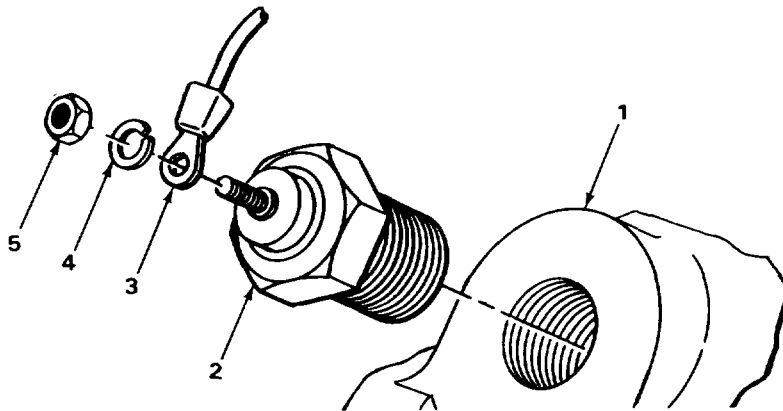
**REMOVAL**

- |   |   |                                       |  |
|---|---|---------------------------------------|--|
| 1 | Transmission oil temperature sender (1) | Nut (2), lockwasher (3), and wire (4) | <ul style="list-style-type: none"> <li>a Using 3/8-inch box-end wrench, unscrew and take off.</li> <li>b Get rid of lockwasher.</li> </ul> |
|---|---|---------------------------------------|--|



**TRANSMISSION OIL TEMPERATURE SENDER - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
2. Torque converter housing (1) sender (2)	Transmission oil temperature unscrew and take out.	a. Place 6-gallon container underneath. b. Using 15/16-inch open-end wrench,
INSTALLATION		
3 Torque converter housing (1)	Transmission oil temperature sender (2)	a Clean pipe threads using wiping rag. b Screw in and tighten using 15/16-inch open-end wrench.
4 Transmission oil temperature sender (2)	Wire (3), new lock-washer (4), and nut (5)	a Put wire in place. b Screw in and tighten using 3/8-inch box-end wrench.



**NOTE**

FOLLOW-ON MAINTENANCE: Fill transmission (page 2-900).

**TASK ENDS HERE**

TA244140

**TRANSMISSION OIL TEMPERATURE SWITCH**

This task covers:

- a. Removal (page 2-687)
- b. Installation (page 2-688)

**INITIAL SETUP**

**Tools**

- Container, 6-gallon
- Wrench, box-end, 3/8-inch
- Wrench, open-end, 15/16-inch
- Wrench, open-end, 1-inch

**Personnel Required**

One

**Materials/Parts**

- Lockwasher, sender
- Rags, wiping (item 15, appendix C)

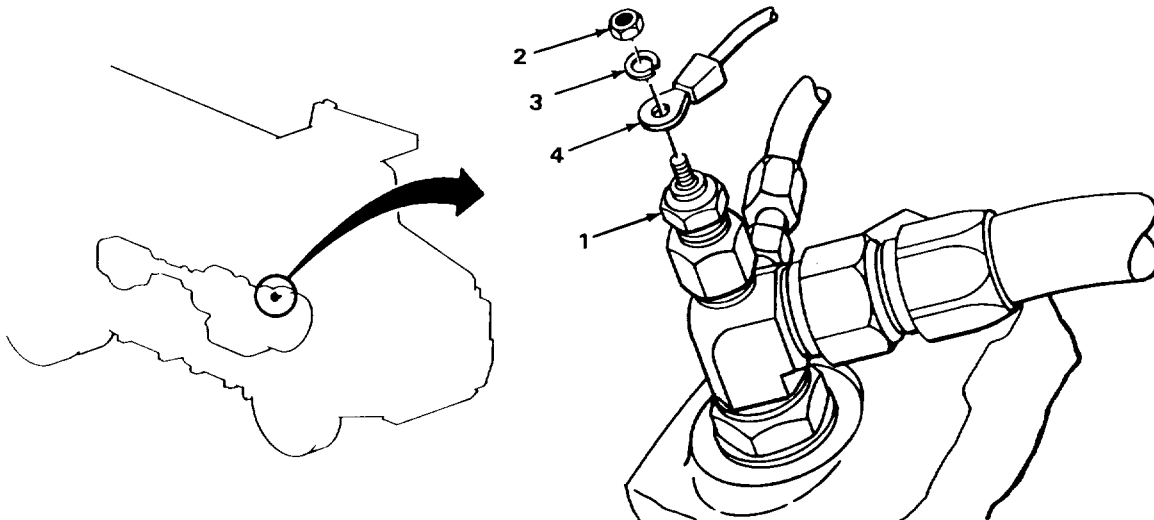
LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

**REMOVAL**

1 Transmission oil temperature switch (1)

Nut (2), lockwasher (3), and wire (4)

- a Using 3/8-inch box-end wrench, unscrew and take off.
- b Get rid of lockwasher.



TA244141

**TRANSMISSION OIL TEMPERATURE SWITCH - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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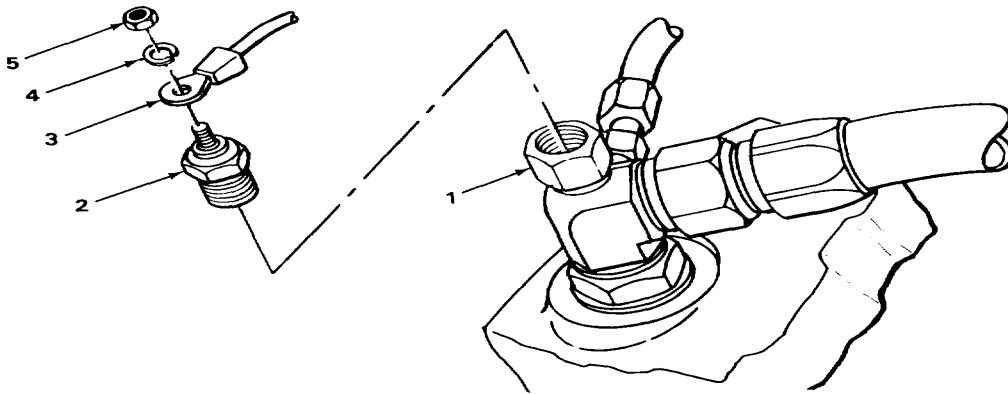
REMOVAL - CONTINUED

2	Adapter (1)	Transmission oil temperature switch (2)	a Place 6-gallon container underneath. b Using 15/16-inch and 1-inch open-end wrenches, unscrew and take out.
---	-------------	---	--

INSTALLATION

3	Adapter (1)	Transmission oil temperature switch (2)	a Clean pipe threads using wiping rags. b Screw in and tighten using 15/16-inch and 1-inch open-end wrenches.
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4	Transmission oil temperature switch (2)	Wire (3), new lock-washer (4), and nut (5)	a Put wire in place. b Screw on and tighten using 3/8-inch box-end wrench.
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**NOTE**

FOLLOW-ON MAINTENANCE: Fill transmission (page 2-900).

**TASK ENDS HERE**

TA244142

## BACKUP LIGHT SWITCH

This task covers:

- a. Removal (page 2-689)
- b. Installation (page 2-690)

### INITIAL SETUP

**Tools**

Container, 6-gallon  
Wrench, open-end, 1-inch

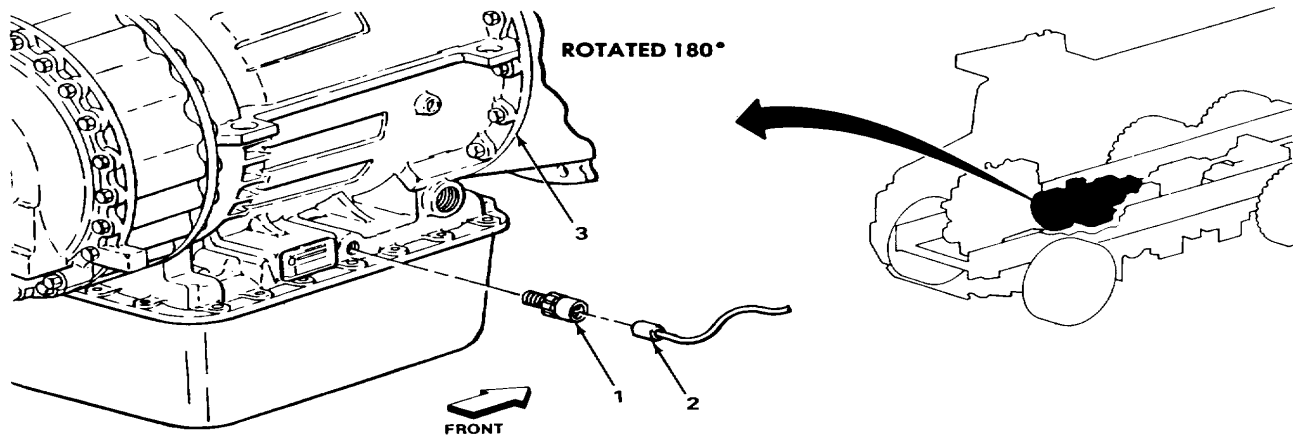
**Personnel Required**

One

**Materials/Parts**

Rags, wiping (item 15, appendix C)  
Tape, antiseizing (item 22, appendix C)

	LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>			
1	Backup light switch (1)	Wire (2)	Pull off.
2	Transmission (3)	Backup light switch (1)	a Place 6-gallon container underneath. b Using 1-inch open-end wrench, unscrew and take out.

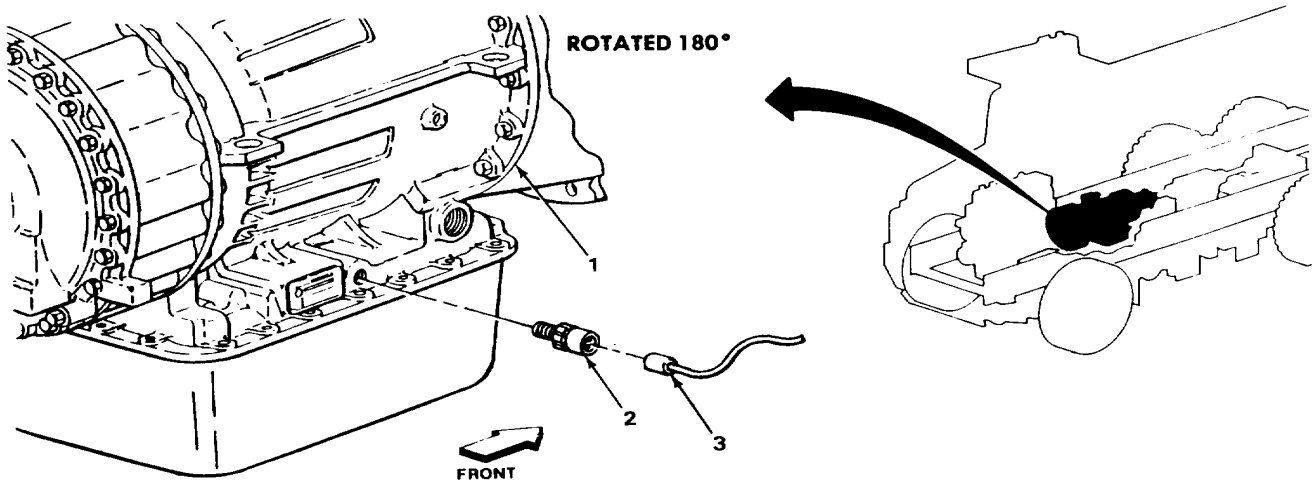


TA244143



**BACKUP LIGHT SWITCH - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
3. Transmission (1)	Backup light switch (2)	a Clean pipe threads with wiping rag. b Wrap pipe threads with antiseizing tape (page 2-424). c Screw in and tighten using 1-inch open-end wrench.
4. Backup light switch (2)	Wire (3)	Push on.



**NOTE**

FOLLOW-ON MAINTENANCE: Fill transmission (page 2-900).

**TASK ENDS HERE**

**NEUTRAL SAFETY SWITCH**

This task covers:

- a. Removal (page 2-691)
- b. Installation (page 2-692)

**NEUTRAL SAFETY SWITCH - CONTINUED**

**INITIAL SETUP**

**Tools**

Container, 6-gallon  
Wrench, open-end, 7/8-inch

**Personnel Required**

One

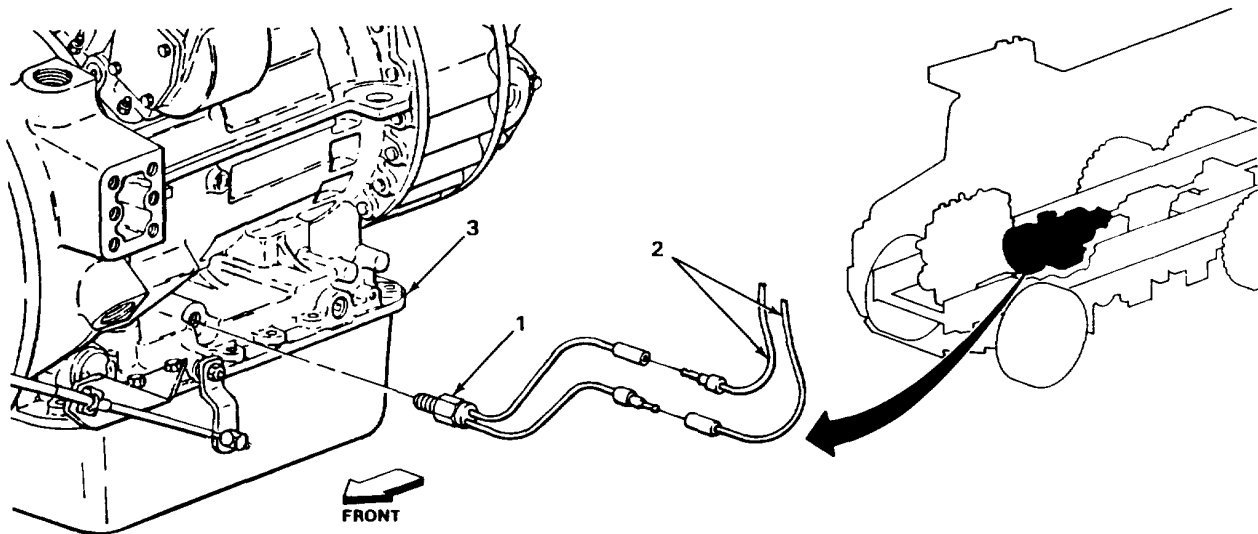
**Materials/Parts**

Rags, wiping (item 15, appendix C)  
Tape, antiseizing (item 22, appendix C)

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**

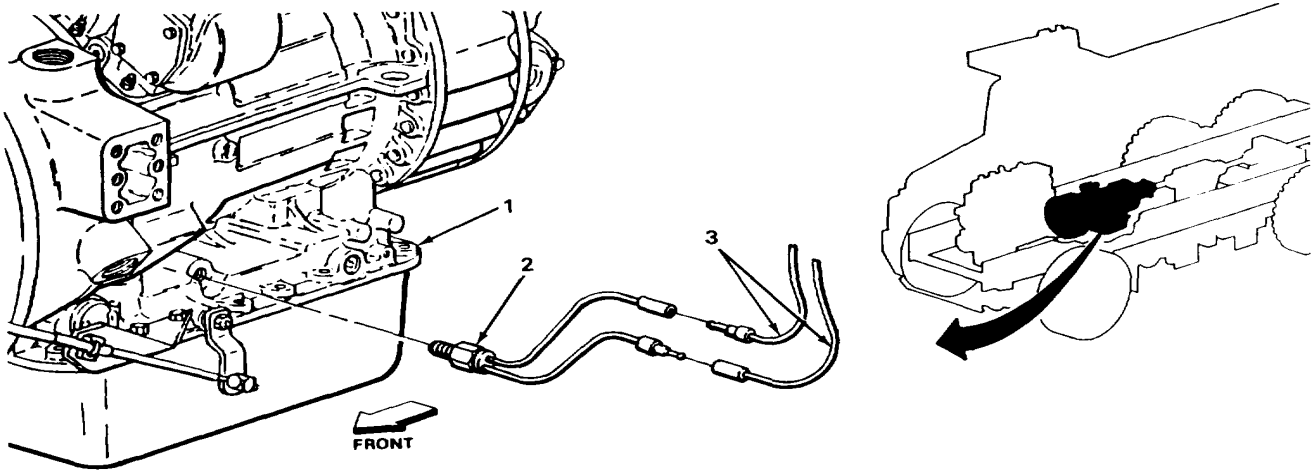
- |   |                           |                           |   |
|---|---------------------------|---------------------------|---|
| 1 | Neutral safety switch (1) | Two wires (2)             | Pull apart.   |
| 2 | Transmission (3)          | Neutral safety switch (1) | a Place 6-gallon container underneath.<br>b Using 7/8-inch open-end wrench, unscrew and take out. |



TA244145

**NEUTRAL SAFETY SWITCH - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
3. Transmission (1)	Neutral safety switch (2)	a Clean pipe threads with wiping rag. b Wrap pipe threads with antiseizing tape (page 2-424). c Screw in and tighten using 7/18-inch open-end wrench.
4. Neutral safety switch (2)	Two wires (3)	Push together.



**NOTE**

FOLLOW-ON MAINTENANCE: Fill transmission (page 2-900).

**TASK ENDS HERE**

**POWER TAKE OFF LIGHT SWITCH**

This task covers:

- a Removal (page 2-693)
- b Installation (page 2-694)

TA244146

**POWER TAKE OFF LIGHT SWITCH - CONTINUED**

**INITIAL SETUP**

Tools

- Flashlight
- Screwdriver, cross-tip, number one
- Screwdriver, flat-tip, 3/16-inch
- Wrench, open-end, 7/8-inch

Personnel Required

One

Equipment Condition

Left cab door opened (page 2-424).

Materials/Parts

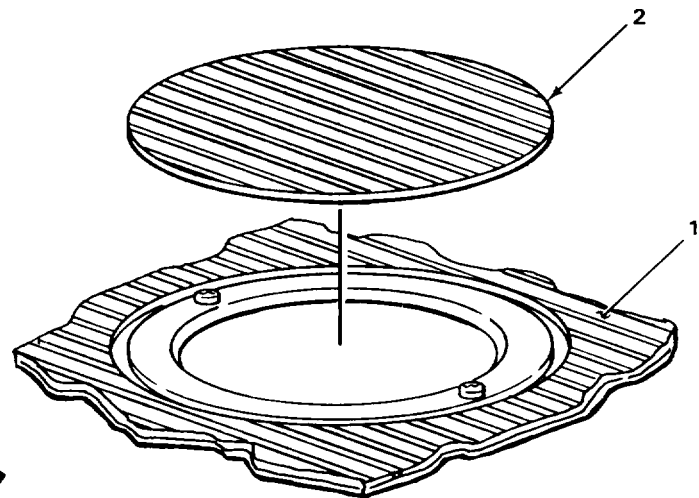
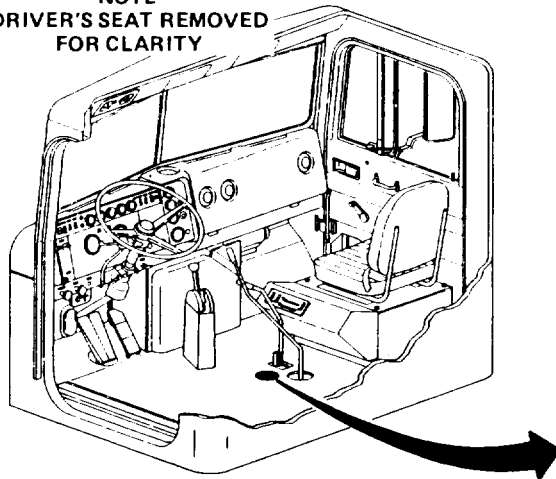
- Lockwasher, switch
- Rags, wiping (item 15, appendix C)

LOCATION	ITEM	ACTION REMARKS
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REMOVAL

1	Cab floor (1)	Floor mat insert (2)	Take out.
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**NOTE  
DRIVER'S SEAT REMOVED  
FOR CLARITY**



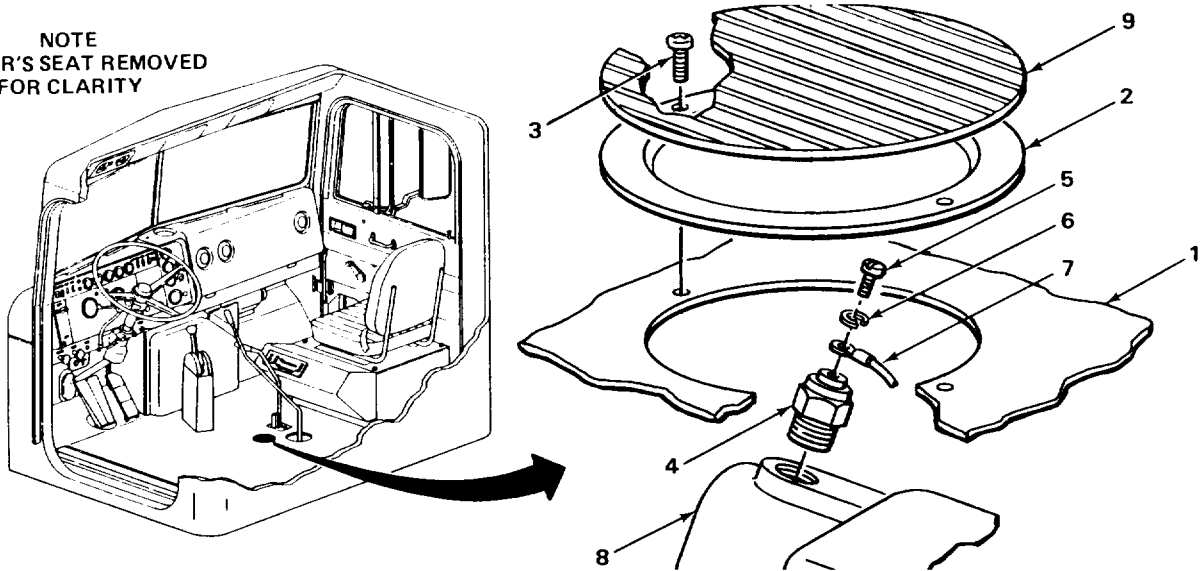
TA244147

**POWER TAKE OFF LIGHT SWITCH - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
2	Cab floor (1)	Power take off cover plate (2) and two screws (3)	Using number one cross-tip screwdriver, unscrew and take out.
<b><u>WARNING</u></b>			
Cab floor boards have sharp edges Care must be taken to prevent injury to personnel.			
3	Power take off light switch (4)	Screw (5), lock-washer (6), and wire (7)	a Using 3/16-inch flat-tip screwdriver and flashlight, unscrew and take out. b Get rid of lockwashers.
4	Power take off (8)	Power take off light switch (4)	Using 7/8-inch open-end wrench and flashlight, unscrew and take out.
INSTALLATION			
<b><u>WARNING</u></b>			
Cab floor boards have sharp edges Care must be taken to prevent injury to personnel.			
5	Power take off (8)	Power take off light switch (4)	a Clean pipe threads with wiping rag. b Screw in and tighten using 7/8-inch open-end wrench and flashlight.
6	Power take off light switch (4)	Wire (7), new lock-washer (6), and screw (5)	Screw in and tighten using 3/16-inch flat-tip screwdriver.
7	Cab floor (1)	Power take off cover plate (2) and two screws (3)	a Put in place. b Screw in and tighten using number one cross-tip screwdriver.
8		Floor mat insert (9)	Put in place

**POWER TAKE OFF LIGHT SWITCH - CONTINUED**

**NOTE**  
DRIVER'S SEAT REMOVED  
FOR CLARITY



**NOTE**

FOLLOW-ON MAINTENANCE: Close left cab door (page 2-424).

**TASK ENDS HERE**

**ENGINE COMPRESSION BRAKE THROTTLE SWITCH**

This task covers:

- a. Removal (page 2-696)
- b. Installation (page 2-696)
- c. Adjustment (page 2-696)

**INITIAL SETUP**

**Tools**

Wrench, box-end, 7/16-inch  
Wrench, open-end, 1/2-inch (two required)

**Materials/Parts**

Lockwasher, switch (two required)  
Tags, marker (item 21, appendix C)

**Personnel Required**

One

**Equipment Condition**

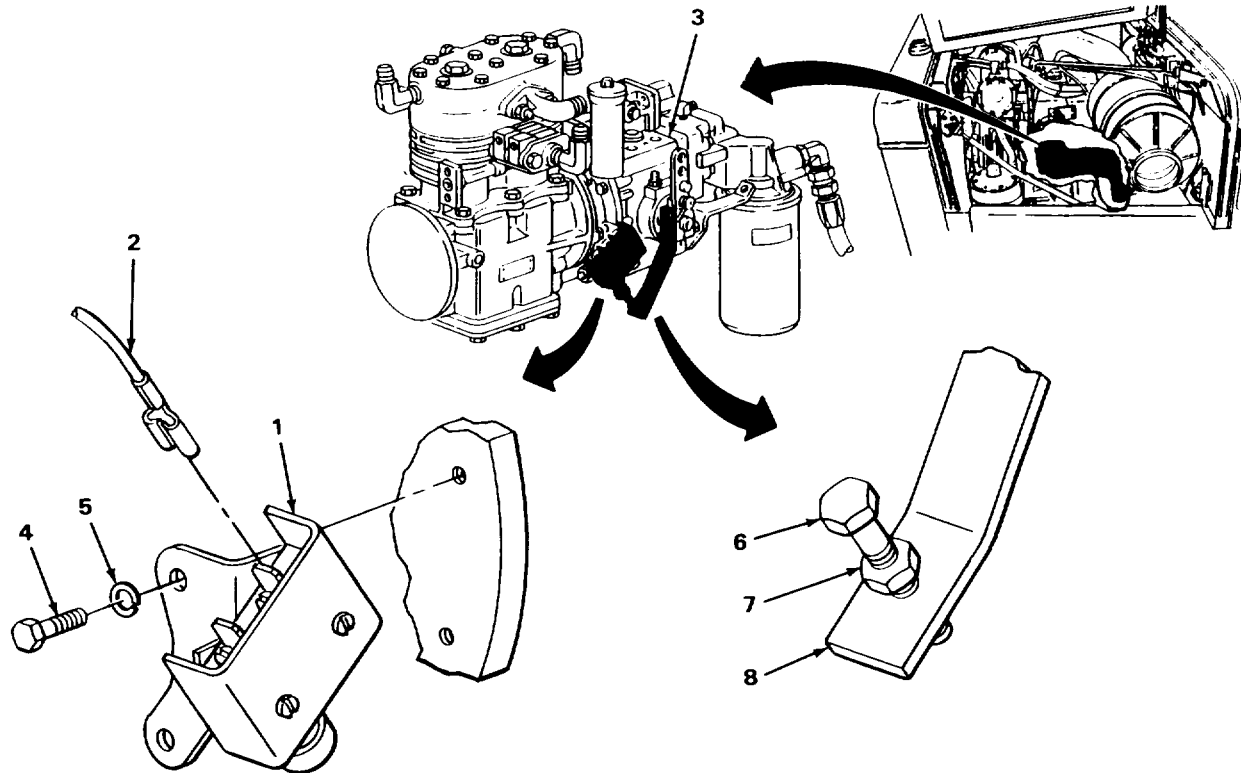
Left side hood panel opened (page 2-424).

TA244148

## ENGINE COMPRESSION BRAKE THROTTLE SWITCH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Engine compression brake throttle switch (1)	Two wires (2)	a. Tag (page 2-424). b. Take off.
2.	Fuel pump (3)	Engine compression brake throttle switch (1), two screws (4), and two lockwashers (5)	a. Using 7116-inch box-end wrench, unscrew and take out. b. Get rid of lockwashers.
INSTALLATION			
3.	Fuel pump (3)	Engine compression brake throttle switch (1), two new lockwashers (5), and two screws (4)	Screw in and tighten using 7116-inch box-end wrench.
4.	Engine compression brake throttle switch (1)	Two wires (2)	a. Put on. b. Get rid of tags.
ADJUSTMENT			
<b>NOTE</b>			
Engine compression brake throttle switch adjustment must be performed with throttle control pedal in idle position.			
5.	Adjusting screw (6)	Jamnut (7)	Using two 1/2-inch open-end wrenches, loosen one turn.
6.	Actuator arm (8) brake	Adjusting screw (6)	a. Screw in until engine compression throttle switch button (9) opens. <b>Listen for click to open.</b> b. Screw out until engine compression brake throttle switch button (9) closes. <b>Listen for click to close.</b>
7.	Adjusting screw (6)	Jamnut (7)	Screw on and tighten using two 1/2-inch open-end wrenches.

**ENGINE COMPRESSION BRAKE THROTTLE SWITCH - CONTINUED**



**NOTE**

FOLLOW-ON MAINTENANCE: Close left side hood panel (page 2-424).

**TASK ENDS HERE**

**LOW AIR-PRESSURE WARNING LIGHT SWITCH**

This task covers:

- a. Removal (page 2-698)
- b. Installation (page 2-698)

**INITIAL SETUP**

**Tools**

Pliers, slip-joint, 8inch  
Screwdriver, flat-tip, 3/16-inch

**Materials/Parts**

Lockwasher, switch  
Rags, wiping (item 15, appendix C)



**LOW AIR-PRESSURE WARNING LIGHT SWITCH - CONTINUED**

**INITIAL SETUP - CONTINUED**

Personnel Required

One

Equipment Condition

Airbrake system drained  
(page 2-1034).

Equipment Condition - Continued

Battery ground cable disconnected  
(page 2-424).  
Left cab door opened (page 2-424).

LOCATION	ITEM	ACTION REMARKS
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REMOVAL

**CAUTION**

Use care when working behind instrument panel to prevent breaking or disconnecting wires.

- |    |  |   |   |
|----|--|---|---|
| 1. | Low air-pressure warning light switch (1)  | Screw (2), lock-washer (3), and two wires (4) | a. Using 3/16-inch flat-tip screwdriver, unscrew and take out.<br>b. Get rid of lockwasher. |
| 2. | Left manifold (5) warning light switch (1) | Low air-pressure take out.                    | Using 8-inch slip-joint pliers, unscrew and   |

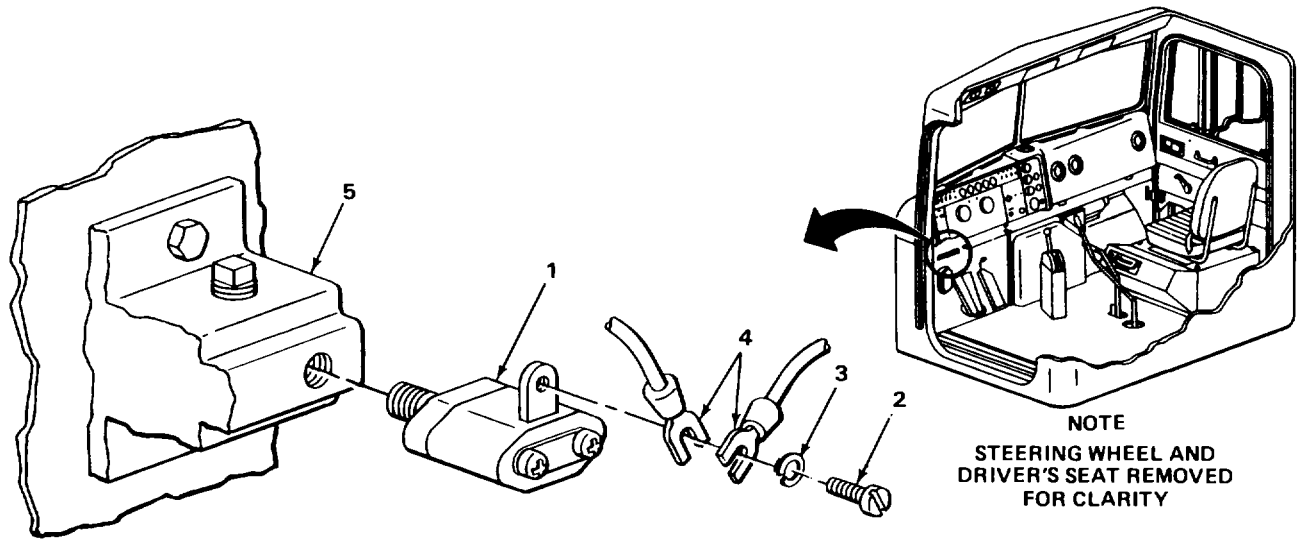
INSTALLATION

**CAUTION**

Use care when working behind instrument panel to prevent breaking or disconnecting wires.

- |    |   |  |   |
|----|---|--|---|
| 3. | Left manifold (5)                         | Low air-pressure warning light switch (1)        | a. Clean pipe threads with wiping rag.<br>b. Screw in and tighten using 8-inch slip-joint pliers. |
| 4. | Low air-pressure warning light switch (1) | Two wires (4), new lockwasher (3), and screw (2) | a. Put wires in place.<br>b. Screw in and tighten using 3/16-inch flat-tip screwdriver.           |

**LOW AIR-PRESSURE WARNING LIGHT SWITCH - CONTINUED**



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Connect battery ground cable (page 2-424).
2. Close left cab door (page 2-424).

**TASK ENDS HERE**

**LOW AIR-PRESSURE WARNING BUZZER SWITCH**

This task covers:

- a. Removal (page 2-700)
- b. Installation (page 2-700)

**INITIAL SETUP**

**Tools**

- Pliers, slip-joint, 8inch
- Screwdriver, flat-tip, 3/16-inch

**Personnel Required**

One

**Materials/Parts**

- Lockwasher, switch
- Rags, wiping (item 15, appendix C)

**Equipment Condition**

Airbrake system drained (page 2-1034).

TA244150

**LOW AIR-PRESSURE WARNING BUZZER SWITCH - CONTINUED****INITIAL SETUP - CONTINUED**

Equipment Condition - Continued

Battery ground cable disconnected (page 2-424).  
Left cab door opened (page 2-424).

LOCATION	ITEM	ACTION REMARKS
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**REMOVAL****CAUTION**

Use care when working behind instrument panel to prevent breaking or disconnecting wires.

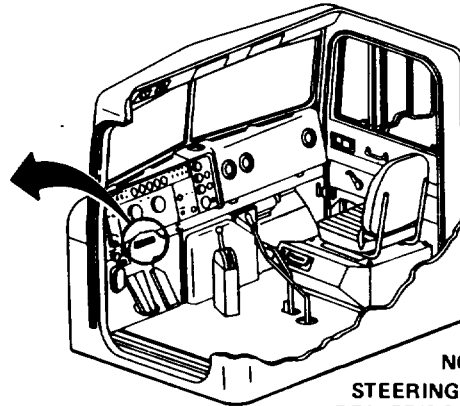
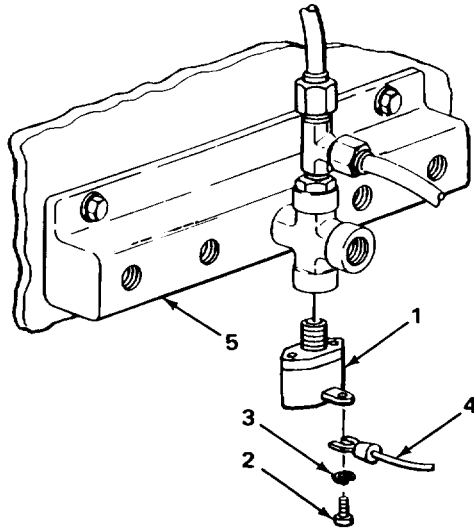
- |    |  |  |   |
|----|--|--|---|
| 1. | Low air-pressure warning buzzer switch (1) | Screw (2), lock-washer (3), and wire (4)   | a. Using 3/16-inch flat-tip screwdriver, unscrew and take out.<br>b. Get rid of lockwasher. |
| 2. | Right manifold (5)                         | Low air-pressure warning buzzer switch (1) | Using 8-inch slip-joint pliers, unscrew and take out.                                       |

**INSTALLATION****CAUTION**

Use care when working behind instrument panel to prevent breaking or disconnecting wires.

- |    |  |  |   |
|----|--|--|---|
| 3. | Right manifold (5)                         | Low air-pressure warning buzzer switch (1)   | a. Clean pipe threads with wiping rag.<br>b. Screw in and tighten using 8-inch slip-joint pliers. |
| 4. | Low air-pressure warning buzzer switch (1) | Wire (4), new lock-washer (3), and screw (2) | a. Put wire in place.<br>b. Screw in and tighten using 3/16-inch flat-tip screwdriver.            |

**LOW AIR-PRESSURE WARNING BUZZER SWITCH - CONTINUED**



**NOTE**  
**STEERING WHEEL AND**  
**DRIVER'S SEAT REMOVED**  
**FOR CLARITY**

**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Connect battery ground cable (page 2-424).
2. Close left cab door (page 2-424).

**TASK ENDS HERE**

**PRIMARY MAGNETIC SWITCH**

This task covers:

- a. Removal (page 2-702)
- b. Installation (page 2-702)

**INITIAL SETUP**

**Tools**

- Screwdriver, cross-tip, number two
- Wrench, box-end, 3/8-inch
- Wrench, box-end, 11/2-inch

**Materials/Parts**

- Lockwasher, mounting screw (two required)

**Materials/Parts - Continued**

- Lockwasher, large (two required)
- Lockwasher, small (two required)
- Tags, marker (item 21, appendix C)

**Personnel Required**

One

## PRIMARY MAGNETIC SWITCH - CONTINUED

## INITIAL SETUP - CONTINUED

Equipment Condition

Left side hood panel opened  
(page 2-424).

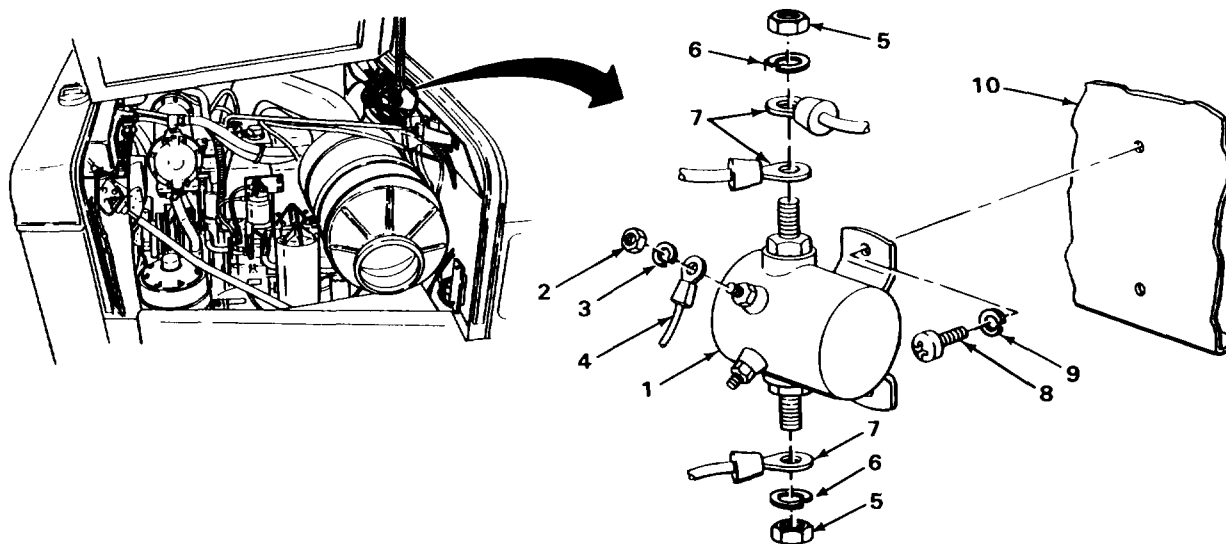
Battery ground cable disconnected  
(page 2-424).

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Primary magnetic switch (1)	Two nuts (2), two lockwashers (3), and two wires (4)	a. Tag wires (page 2-424). b. Using 3/8-inch box-end wrench, unscrew and take out. c. Get rid of lockwashers.
2.	Two nuts (5), two lockwashers (6), and three wires (7)	a. Tag wires (page 2-424). b. Using 1/2-inch box-end wrench, unscrew and take out. c. Get rid of lockwashers.
3.	Two screws (8) and two lockwashers (9)	a. Using number two cross-tip screwdriver, unscrew and take out. b. Get rid of lockwashers.
INSTALLATION		
4. Firewall (10)	Primary magnetic switch (1)	Put in place and hold.
5. Primary magnetic switch (1)	Two screws (8) and two new lockwashers (9)	Screw in and tighten using number two cross-tip screwdriver.
6.	Three wires (7), two new lockwashers (6), and two nuts (5)	a. Put wires in place. b. Screw in and tighten using 112-inch box-end wrench. c. Get rid of tags.

**PRIMARY MAGNETIC SWITCH - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

- |    |  |   |
|----|--|---|
| 7. | Two wires (4), two new lockwashers (3), and two nuts (2) | a. Put wires in place.<br>b. Screw in and tighten using 3/8-inch box-end wrench.<br>c. Get rid of tags. |
|----|--|---|



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Connect battery ground cable (page 2-424).
2. Close left side hood panel (page 2-424).

**TASK ENDS HERE**

**SECONDARY MAGNETIC SWITCH**

This task covers:

- a. Removal (page 2-704)
- b. Installation (page 2-704)

**SECONDARY MAGNETIC SWITCH - CONTINUED**

**INITIAL SETUP**

Tools

- Wrench, box-end, 11/32-inch
- Wrench, box-end, 7/16-inch
- Wrench, box-end, 5/8-inch
- Wrench, open-end, 7/16-inch

Personnel Required

One

Equipment Condition

- Battery ground cable disconnected (page 2-424).
- Right cab door opened (page 2-424).
- Instrument panel pad removed (page 2-424).

Materials/Parts

- Lockwasher, mounting (two required)
- Lockwasher, small (two required)
- Lockwasher, large (two required)
- Tags, marker (item 21, appendix C)

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL

**CAUTION**

Use care when working behind instrument panel pad to prevent breaking or disconnecting wires.

1.	Secondary magnetic switch (1)	Nut (2), wire (3), and two lockwashers (4)	<ul style="list-style-type: none"> <li>a. Tag wire (page 2-424).</li> <li>b. Using 11/32-inch box-end wrench, unscrew and take out.</li> <li>c. Get rid of lockwashers.</li> </ul>
2.		Two nuts (5), four wires (6), and two lockwashers (7)	<ul style="list-style-type: none"> <li>a. Tag wires (page 2-424).</li> <li>b. Using 5/8-inch box-end wrench, unscrew and take out.</li> <li>c. Get rid of lockwashers.</li> </ul>
3.		Two screws (8), two lockwashers (9), and two nuts (10)	<ul style="list-style-type: none"> <li>a. Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out.</li> <li>b. Get rid of lockwashers.</li> </ul>

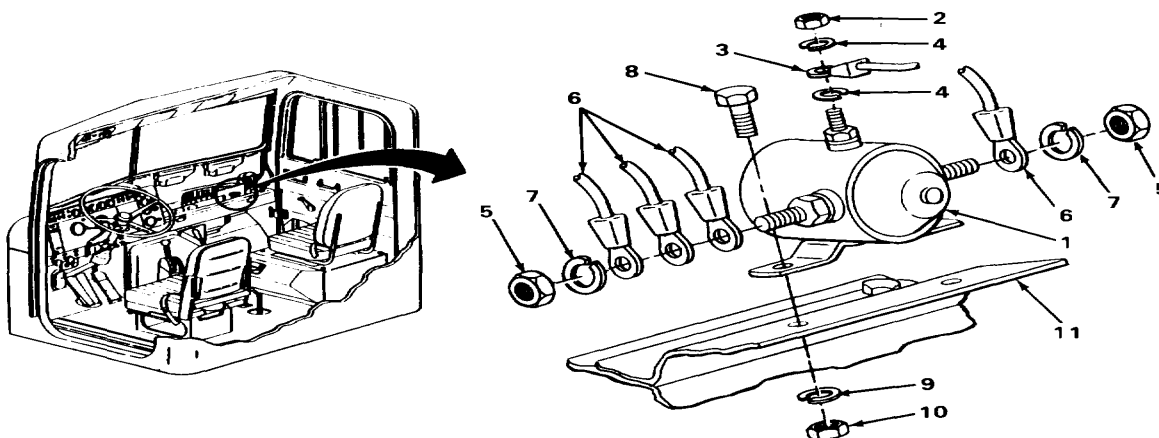
INSTALLATION

**CAUTION**

Use care when working behind instrument panel pad to prevent breaking or disconnecting wires.

**SECONDARY MAGNETIC SWITCH - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
4. Firewall (11)	Secondary magnetic switch (1)	Put in place and hold.
5. Secondary magnetic switch (1)	Two screws (8), two new lockwashers (9), and two nuts (10)	Screw in and tighten using 7/16-inch box-end and 7/16-inch open-end wrenches.
6.	Two new lockwashers (7), four wires (6), and two nuts (5)	a. Put wires in place. b. Screw on and tighten using 5/8-inch box-end wrench. c. Get rid of tags.
7.	Two new lockwashers (4), wire (3), and nut (2)	a. Put wire in place. b. Screw on and tighten using 11/32-inch box-end wrench. c. Get rid of tags.



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Connect battery ground cable (page 2-424) TA244153
2. Install instrument panel pad (page 2-424) 2-705
3. Close right cab door (page 2-424).

**TASK ENDS HERE**

TA244153



**FREQUENCY SENSING RELAY SWITCH**

This task covers:

- a. Removal (page 2-706)
- b. Installation (page 2-706)

**INITIAL SETUP**

Tools

Screwdriver, flat-tip, 3/16-inch  
Wrench, box-end, 7/16-inch

Materials/Parts

Tags, marker (item 21, appendix C)

Personnel Required

One

Equipment Condition

Battery ground cable disconnected (page 2-424).  
Left side hood panel opened (page 2-424).

LOCATION	ITEM	ACTION REMARKS
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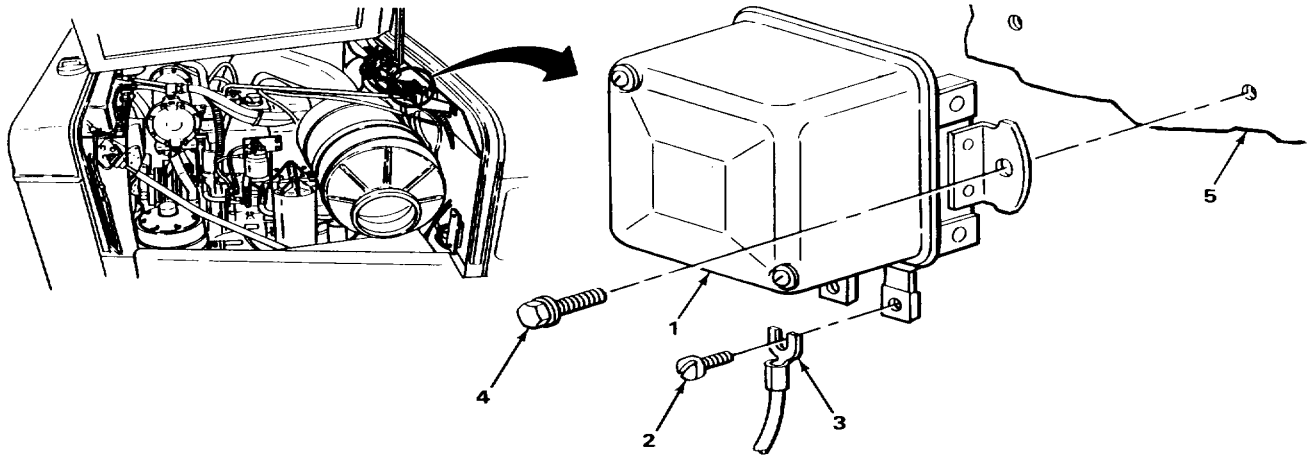
REMOVAL

1.	Frequency sensing relay switch (1)	Two screws (2) and two wires (3)	a. Tag wires (page 2-424). b. Using 3/16-inch flat-tip screwdriver, unscrew and take off.
2.		Two screws (4)	Using 7/16-inch box-end wrench, unscrew and take out.

INSTALLATION

3.	Firewall (5) and frequency sensing relay switch (1)	Two screws (4) end wrench.	Screw in and tighten using 7/16-inch box-
4.		Two wires (3) and two screws (2)	a. Screw in and tighten using 3/16-inch flat-tip screwdriver. b. Get rid of tags.

**FREQUENCY SENSING RELAY SWITCH - CONTINUED**



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Connect battery ground cable (page 2-424).
2. Close left side hood panel (page 2-424).

**TASK ENDS HERE**

**HORN RELAY**

This task covers:

- a. Removal (page 2-708)
- b. Installation (page 2-708)

**INITIAL SETUP**

**Tools**

- Wrench, box-end, 7/16-inch
- Wrench, open-end, 7/16-inch

**Materials/Parts**

- Lockwasher, mounting (two required)

**Personnel Required**

One

**Equipment Condition**

- Battery ground cable disconnected (page 2-424).
- Instrument panel pad removed (page 2-424)
- Right cab door opened (page 2-424).

TA244154

**HORN RELAY - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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REMOVAL

**CAUTION**

Use care when working behind instrument panel pad to prevent breaking or disconnecting wires.

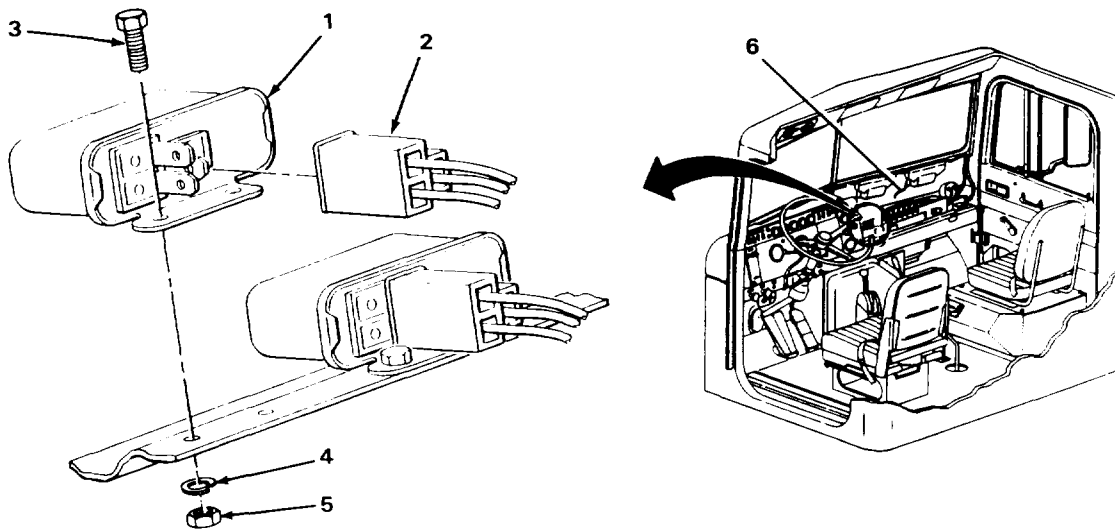
1.	Horn relay (1)	Three wires (2)	Pull off.
2.		Two screws (3), two lockwashers (4), and two nuts (5)	Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out.

INSTALLATION

**CAUTION**

Use care when working behind instrument panel pad to prevent breaking or disconnecting wires.

3.	Firewall (6) and horn relay (1)	Two screws (3), two new lockwashers (4), and two nuts (5)	Screw in and tighten using 7/16-inch box-end and open-end wrenches.
4.		Three wires (2)	Push on.



TA244155

**HORN RELAY - CONTINUED**

**NOTE**

FOLLOW-ON MAINTENANCE:

1. Connect battery ground cable (page 2-424).
2. Install instrument panel pad (page 2-424).
3. Close right cab door (page 2-424).

**TASK ENDS HERE**

**LOW AIR-PRESSURE WARNING BUZZER**

This task covers:

- a. Removal (page 2-710)
- b. Installation (page 2-710)

**INITIAL SETUP**

Tools

Wrench, box-end, 7/16-inch One  
 Wrench, open-end, 7/16-inch

Personnel Required

Equipment Condition

Materials/Parts

Lockwasher, mounting (two required)

Battery ground cable disconnected  
 (page 2-424).  
 Instrument panel pad removed (page 2-424).  
 Right cab door opened (page 2-424).

## LOW AIR-PRESSURE WARNING BUZZER - CONTINUED

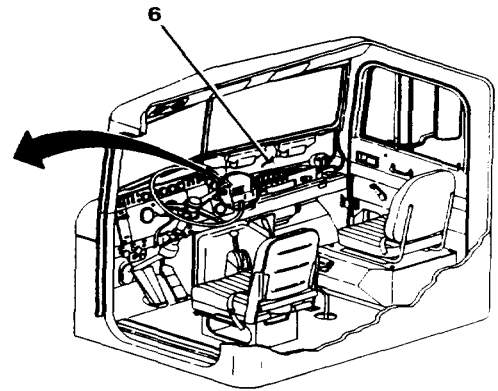
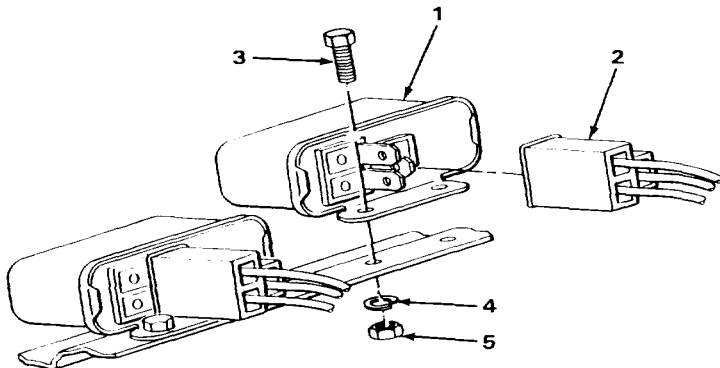
LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL</b>			
<b><u>CAUTION</u></b>			
Use care when working behind instrument panel pad to prevent breaking or disconnecting wires.			
1.	Low air-pressure warning buzzer (1)	Three wires (2)	Pull off.
2.		Two screws (3), two lockwashers (4), and two nuts (5)	Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out.

## INSTALLATION

### **CAUTION**

Use care when working behind instrument panel pad to prevent breaking or disconnecting wires.

- |    |  |   |   |
|----|--|---|---|
| 3. | Firewall (6) and low air-pressure warning buzzer (1) | Two screws (3), two new lockwashers (4), and two nuts (5) | Screw in and tighten using 7/16-inch open-end and 7/16-inch box-end wrenches. |
| 4. |  | Three wires (2)   | Push on.  |



TA244156

LOW AIR-PRESSURE WARNING BUZZER - CONTINUED

**NOTE**

FOLLOW-ON MAINTENANCE:

1. Connect battery ground cable (page 2-424).
2. Install instrument panel pad (page 2-424).
3. Close right cab door (page 2-424).

**TASK ENDS HERE**

**TURN SIGNAL AND HAZARD FLASHER**

---

This task covers:

- a. Removal (page 2-712)
  - b. Disassembly (page 2-712)
- 

INITIAL SETUP:

Tools

Screwdriver, cross-tip, number two

Personnel Required

One

Equipment Condition

Battery ground cable disconnected  
(page 2-424).

Instrument panel pad removed (page 2-424).  
Right cab door opened (page 2-424).

**2-711**

**TURN SIGNAL AND HAZARD FLASHER - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL

**CAUTION**

Use care when working behind instrument panel pad to prevent breaking or disconnecting wires.

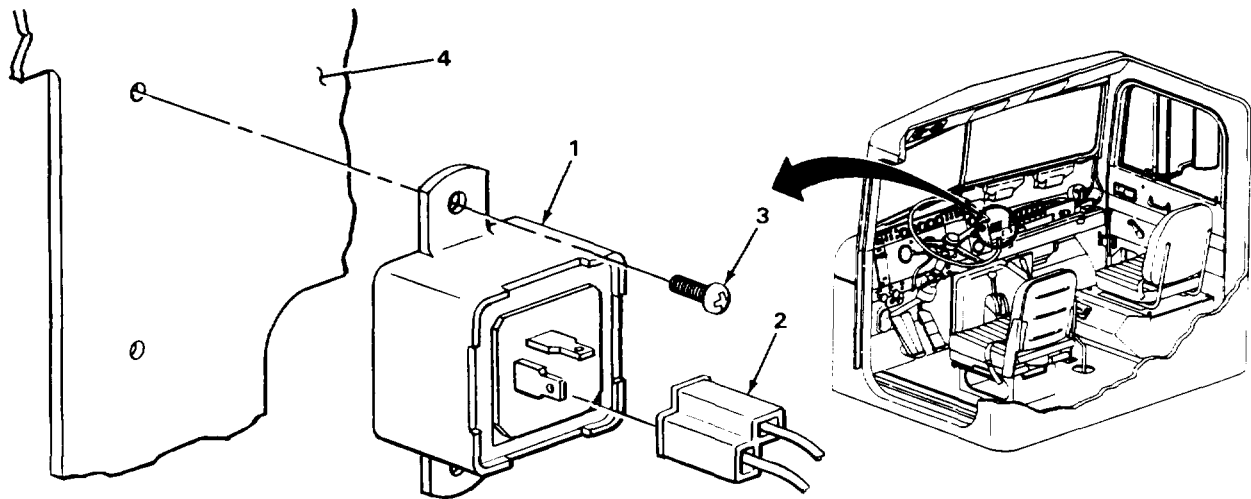
- |                                       |                |   |  |
|---------------------------------------|----------------|---|--|
| 1. Turn signal and hazard flasher (1) | Two wires (2)  | Pull off.                               |  |
| 2. unscrew and take out.              | Two screws (3) | Using number two cross-tip screwdriver, |  |

INSTALLATION

**CAUTION**

Use care when working behind instrument panel pad to prevent breaking or disconnecting wires.

- |  |                |  |  |
|--|----------------|--|--|
| 3. Firewall (4) and turn signal and hazard flasher (1) | Two screws (3) | Screw in and tighten using number two cross-tip screwdriver. |  |
| 4. Two wires (2)                                       | Push on.       |  |  |



TA244157

**TURN SIGNAL AND HAZARD FLASHER - CONTINUED****NOTE****FOLLOW-ON MAINTENANCE:**

1. Connect battery ground cable (page 2-424).
2. Install instrument panel pad (page 2-424).
3. Close right cab door (page 2-424).

**TASK ENDS HERE****HORN BUTTON**

---

**This task covers:**

- |                          |  |
|--------------------------|--|
| a. Removal (page 2-714)  | c. Inspection/Replacement (page 2-714) |
| b. Cleaning (page 2-714) | d. Installation (page 2-714)           |
- 

**INITIAL SETUP:****Tools**

Screwdriver, cross-tip, number two

**Materials/Parts**

Rags, wiping (item 15, appendix C)

**Personnel Required**

One

**Equipment Condition**Battery ground cable disconnected  
(page 2-424).

Left cab door opened (page 2-424).

**2-713**



**HORN BUTTON - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
1. Steering wheel (1)	Horn button (2)	Turn counterclockwise and take out.
2.	Contact cup (3)	Take out.
3.	Spring (4)	Take out.
4.	Three screws (5) and horn plate (6)	Using number two cross-tip screwdriver, unscrew and take out.

**CLEANING****NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

- |              |                              |  |
|--------------|------------------------------|--|
| 5. All parts | Wipe clean using wiping rag. |  |
|--------------|------------------------------|--|

**INSPECTION/REPLACEMENT****NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

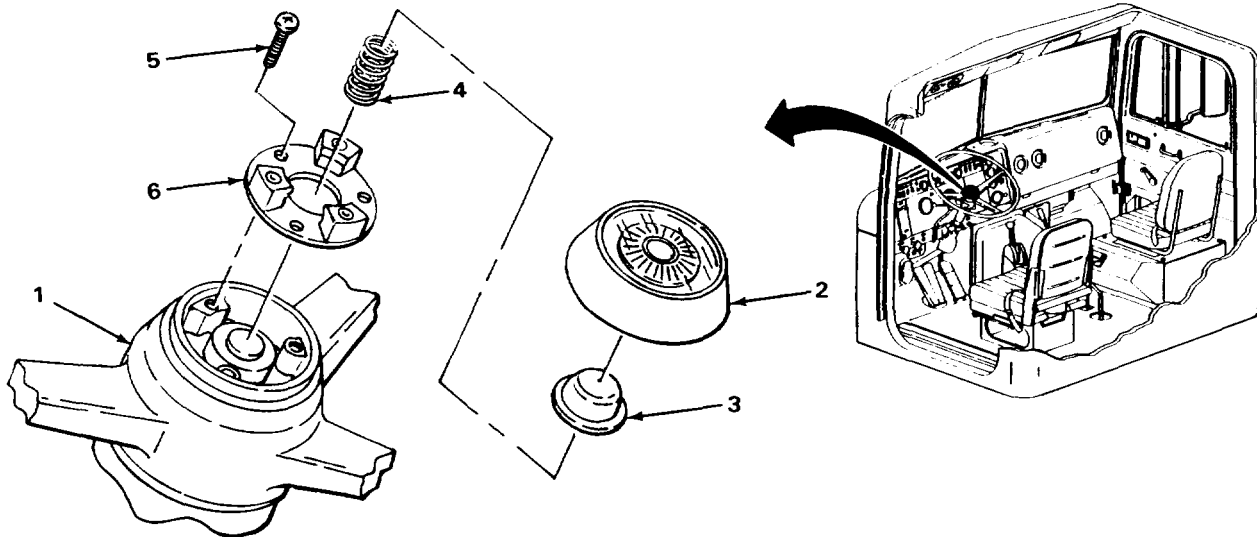
- |    |                    |   |
|----|--------------------|---|
| 6. | Horn button (2)    | Look for cracks or breaks.                  |
| 7. | Horn plate (5)     | Look for cracks or burn holes.              |
| 8. | Spring (4)         | Look for cracks or breaks.                  |
| 9. | All threaded parts | Look for damaged threads and rounded heads. |

**INSTALLATION**

- |                        |  |   |
|------------------------|--|---|
| 10. Steering wheel (1) | Three screws (5)<br>and horn plate (6) | Screw in and tighten using number two<br>cross-tip screwdriver. |
|------------------------|--|---|

**HORN BUTTON - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
11. Steering wheel (1)	Spring (4)	Put in place.	
12.	Contact cup (3)	Put in place.	
13.	Horn button (2)	Put in place and turn clockwise to lock.	



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Connect battery ground cable (page 2-424).
2. Close left cab door (page 2-424).

**TASK ENDS HERE**

**HORN**

This task covers:

- a. Removal (page 2-716)
- b. Installation (page 2-716)

**HORN - CONTINUED**

INITIAL SETUP:

Tools

Wrench, open-end, 1/2-inch (two required)

Materials/Parts

Lockwasher, mounting

Personnel Required

One

Equipment Condition

Right side hood panel opened (page 2-424).

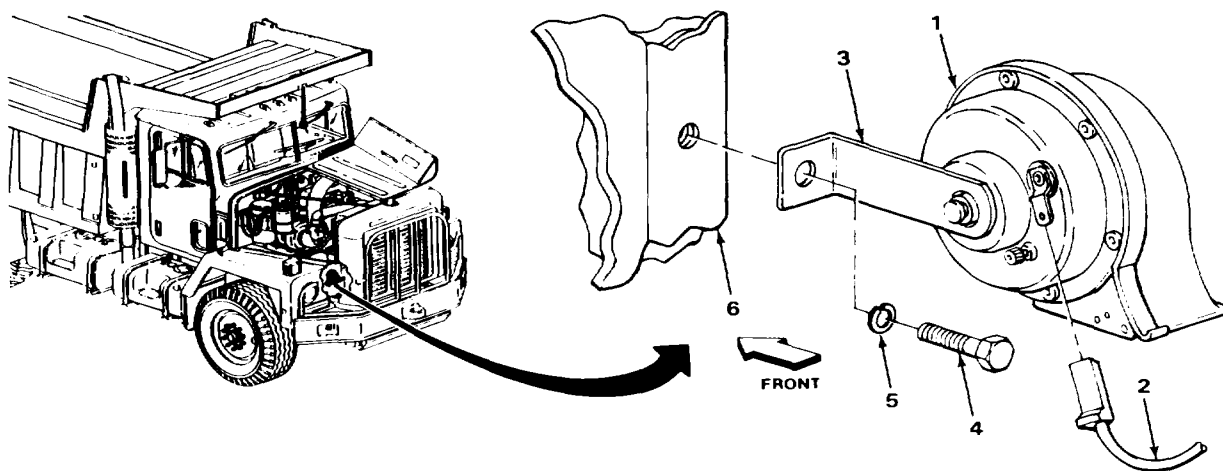
LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL

- |                         |                              |   |  |
|-------------------------|------------------------------|---|--|
| 1. Horn (1)             | Wire (2)                     | Pull off.   |  |
| 2. Mounting bracket (3) | Screw (4) and lockwasher (5) | a. Using two 1/2-inch open-end wrenches, unscrew and take out.<br>b. Get rid of lockwasher. |  |

INSTALLATION

- |  |                                  |  |  |
|--|----------------------------------|--|--|
| 3. Mounting bracket (3) and fan shroud (6) | Screw (4) and new lockwasher (5) | Screw in and tighten using two 1/2-inch open-end wrenches. |  |
| 4. Horn (1)                                | Wire (2)                         | Push on.   |  |



**HORN - CONTINUED****NOTE**

FOLLOW-ON MAINTENANCE: Close right side hood panel (page 2-424).

**TASK ENDS HERE****ALARM BELL**

---

This task covers:

- a. Removal (page 2-718)
  - b. Installation (page 2-718)
- 

**INITIAL SETUP:****Tools**

Screwdriver, cross-tip, number two  
Screwdriver, flat-tip, 3/16-inch  
Wrench, box-end, 3/8-inch

**Materials/Parts**

Lockwasher, mounting (three required)  
Tags, marker (item 21, appendix C)

**Personnel Required**

One

**Equipment Condition**

Right cab door opened (page 2-424).  
Instrument panel pad removed (page 2-424).

**2-717**

**ALARM BELL - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL

**CAUTION**

Use care when working behind instrument panel pad to prevent breaking or disconnecting wires.

1.	Alarm bell (1)	Three screws (2), three nuts (3), three lockwashers (4), and three spacers (5)	a. Using 3/8-inch box-end wrench and number two cross-tip screwdriver, un- screw and take out. b. Get rid of lockwashers.
2.		Two screws (6) and two wires (7)	a. Tag wires (page 2-424). b. Using 3/16-inch flat-tip screwdriver, unscrew and take out.

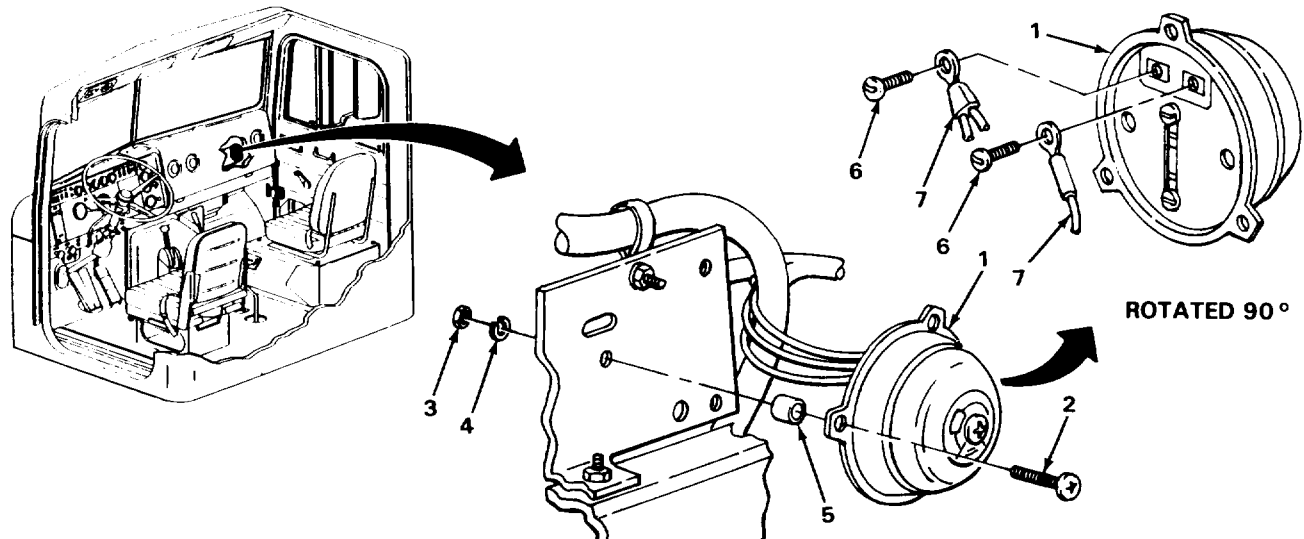
INSTALLATION

**CAUTION**

Use care when working behind instrument panel pad to prevent breaking or disconnecting wires.

3.	Alarm bell (1)	Two wires (7) and two screws (6)	a. Put wires in place. b. Screw in and tighten using 3/16-inch flat-tip screwdriver. c. Get rid of tags.
4.		Three spacers (5), three screws (2), three new lock- washers (4), and three nuts (3)	Screw in and tighten using 3/8-inch box- end wrench and number two cross-tip screwdriver.

**ALARM BELL - CONTINUED**



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Install instrument panel pad (page 2-424).
2. Close right cab door (page 2-424).

**TASK ENDS HERE**

**DOMELIGHT**

This task covers:

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>a. Removal (page 2-720)</li> <li>b. Cleaning (page 2-720)</li> </ol> | <ol style="list-style-type: none"> <li>c. Inspection/Replacement (page 2-720)</li> <li>d. Installation (page 2-721)</li> </ol> |
|---|--|

**INITIAL SETUP:**

**Tools**

- Screwdriver, cross-tip, number one
- Screwdriver, flat-tip, 3/16-inch

**Materials/Parts**

- Rags, wiping (item 15, appendix C)
- Tags, marker (item 21, appendix C)

**DOMELIGHT - CONTINUED**

INITIAL SETUP - CONTINUED

Personnel Required

One

Equipment Condition

Left cab door opened (page 2-424).

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL

1.	Dome light base (1)	Dome light lens (2)	Using 3/16-inch flat-tip screwdriver, pry out.
2.		Lamp (3)	Take out.
3.		Two screws (4)	Using number one cross-tip screwdriver, unscrew and take out.
4.		Two wires (5)	a. Tag (page 2-424). b. Pull off.

CLEANING

**NOTE**

Clean all parts thoroughly.

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

5.	All parts	Clean using wiping rag.
----	-----------	-------------------------

INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

**2-720**

**DOME LIGHT - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

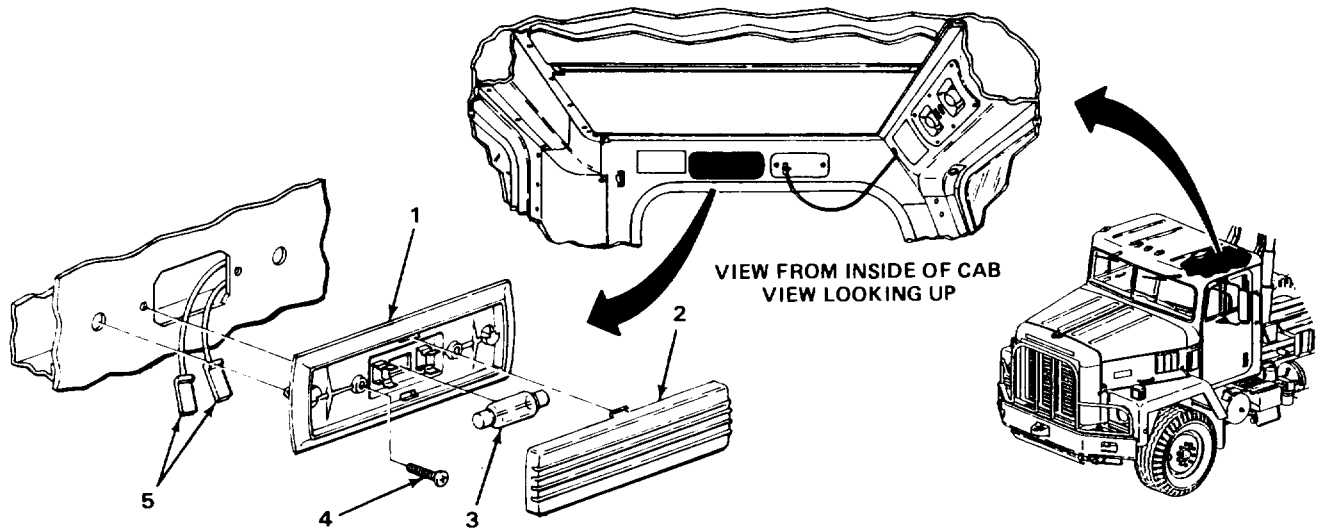
**NOTE**

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

6.	Dome light lens (2)	a.	Look for cracks or chips.
		b.	Look for dark spots.
7.	Dome light base (1)	a.	Look for cracks or chips.
		b.	Look for corroded connectors.
8.	Lamp (3)		Look for cracks or corroded ends.
9.	All threaded parts		Look for damaged threads or damaged heads.

**INSTALLATION**

10.	Dome light base (1)	Two wires (5)	a.	Push on.
			b.	Get rid of tags.



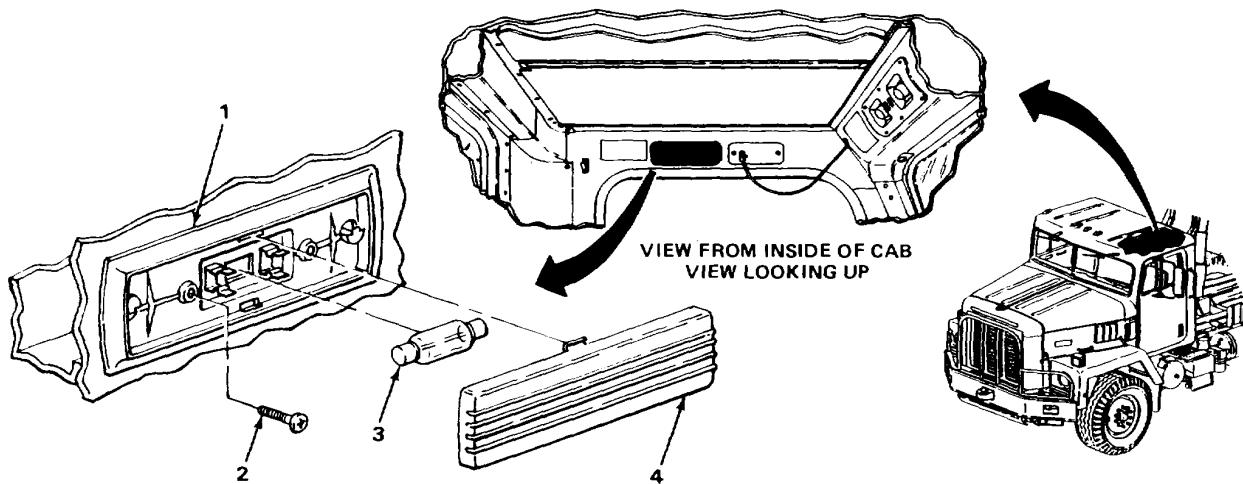
TA244161



**DOMELIGHT - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION - CONTINUED</b>			
11. Dome light base (1)	Two screws (2)	Screw in and tighten using number one cross-tip screwdriver.	
12.	Lamp (3)	Put in place.	
13.	Dome light lens (4)	Put in place.	

**NOTE**



FOLLOW-ON MAINTENANCE: Close left cab door (page 2-424).

**TASK ENDS HERE**

**DOMELIGHT/PANEL LAMP SWITCH**

This task covers:

- a. Removal (page 2-723)
- b. Installation (page 2-724)

**DOME/PANEL LAMP SWITCH - CONTINUED**

**INITIAL SETUP:**

Tools

Screwdriver, cross-tip, number one

Materials/Parts

Tags, marker (item 21, appendix C)

Personnel Required

One

Equipment Condition

Battery ground cable disconnected (page 2-424).

Left cab door opened (page 2-424).

Upper center instrument panel opened (page 2-424).

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL

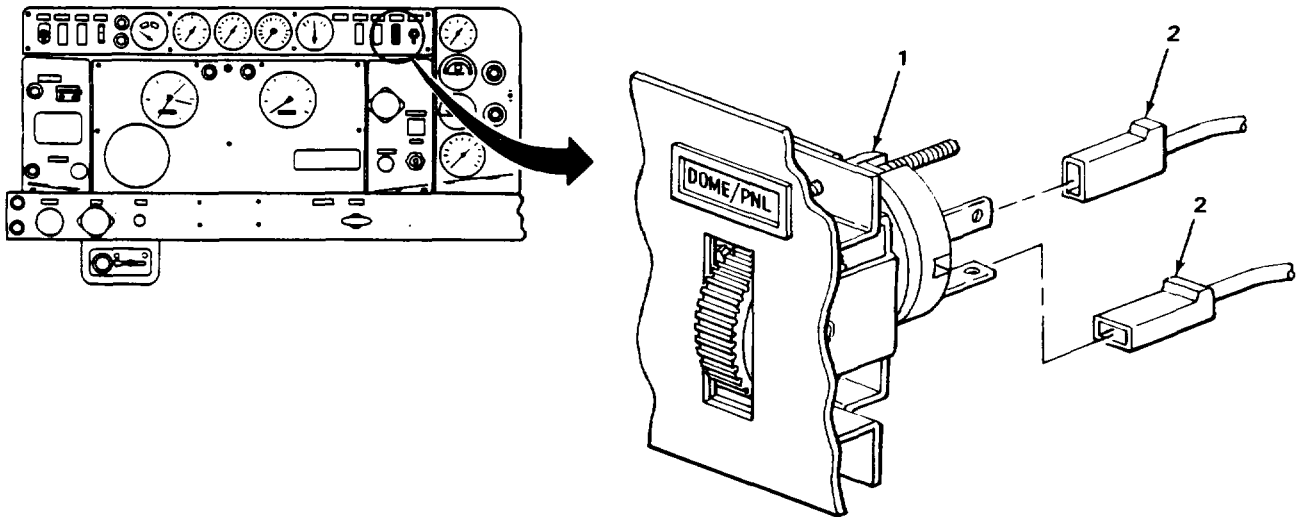
**CAUTION**

Use care when working behind upper center instrument panel to prevent breaking or disconnecting wires.

1. Dome/panel lamp switch (1)

Two connectors (2)

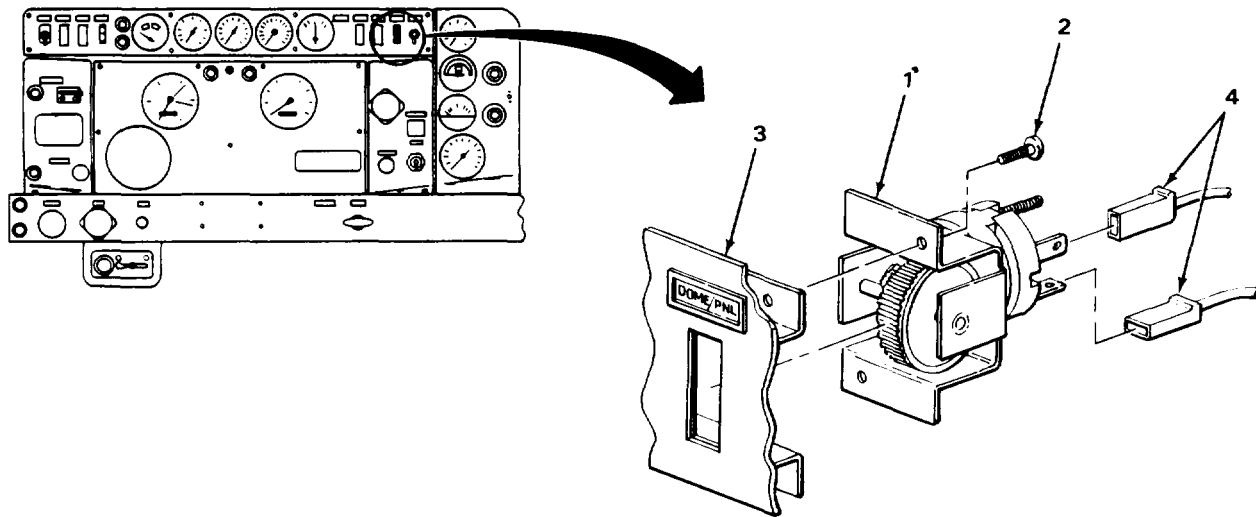
- a. Tag (page 2-424).
- b. Pull off.



2-723

**DOME/PANEL LAMP SWITCH - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL - CONTINUED</b>			
2. Dome/panel lamp switch (1)	Two screws (2)		Using number one cross-tip screwdriver, unscrew and take out.
<b>INSTALLATION</b>			
<b><u>CAUTION</u></b>			
Use care when working behind upper center instrument panel to prevent breaking or disconnecting wires.			
3. Upper center instrument panel (3)	Dome/panel lamp switch (1)		Put in place and hold.
4. Dome/panel lamp switch (1)	Two screws (2)		Screw in and tighten using number one cross-tip screwdriver.
5.	Two connectors (4)		a. Push on. b. Get rid of tags.



TA244164

**DOME/PANEL LAMP SWITCH - CONTINUED****NOTE****FOLLOW-ON MAINTENANCE:**

1. Close upper center instrument panel (page 2-424).
2. Connect battery ground cable (page 2-424).
3. Close left cab door (page 2-424).

**TASK ENDS HERE****LIGHTS SWITCH**


---

This task covers:

- a. Removal (page 2-726)
  - b. Installation (page 2-726)
- 

**INITIAL SETUP:****Tools**

Wrench, open-end, 9/16-inch

**Materials/Parts**

Tags, marker (item 21, appendix C)

**Personnel Required**

One

**Equipment Condition**

Battery ground cable disconnected  
(page 2-424).

Left cab door opened (page 2-424).

Upper center instrument panel opened  
(page 2-424).

**2-725**

**LIGHTS SWITCH - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

## REMOVAL

**CAUTION**

Use care when working behind upper center instrument panel to prevent breaking or disconnecting wires.

- |                                      |                      |  |
|--------------------------------------|----------------------|--|
| 1. LIGHTS switch (1)                 | Eight connectors (2) | a. Tag wires (page 2-424).<br>b. Pull off.             |
| 2.                                   | Nut (3)              | Using 9/16-inch open-end wrench, unscrew and take out. |
| 3. Upper center instrument panel (4) | LIGHTS switch (1)    | Take out.  |

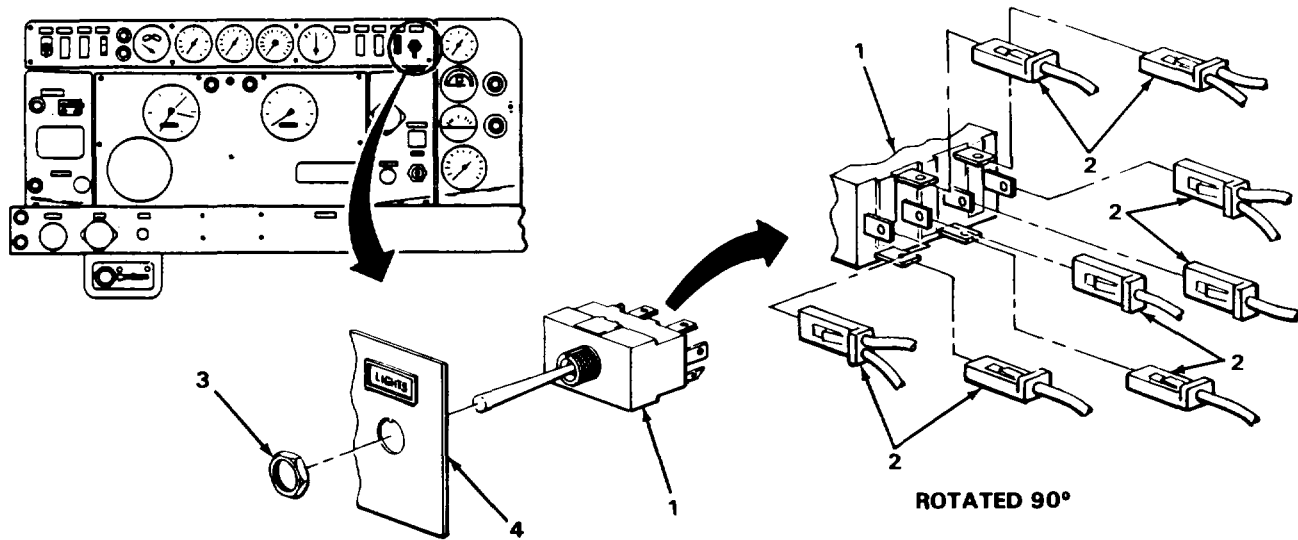
## INSTALLATION

**CAUTION**

Use care when working behind upper center instrument panel to prevent breaking or disconnecting wires.

- |                                      |                   |   |
|--------------------------------------|-------------------|---|
| 4. Upper center instrument panel (4) | LIGHTS switch (1) | Put in place.   |
| 5. LIGHTS switch (1)                 | Nut (3)           | Screw in and tighten using 9/16-inch open-end wrench.             |
| 6. Eight connectors (2)              |                   | a. Put in correct position.<br>b. Push on.<br>c. Get rid of tags. |

LIGHTS SWITCH - CONTINUED



**NOTE**

FOLLOW-ON MAINTENANCE:

1. Connect battery ground cable (page 2-424).
2. Close upper center instrument panel (page 2-424).
3. Close left cab door (page 2-424).

**TASK ENDS HERE**

**FUEL GAGE**

This task covers:

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>a. Removal (page 2-728)</li> <li>b. Inspection/Replacement (page 2-728)</li> </ol> | <ol style="list-style-type: none"> <li>c. Installation (page 2-729)</li> </ol> |
|---|--|

INITIAL SETUP:

Tools

Wrench, box-end, 5/16-inch  
 Wrench, box-end, 3/8-inch

Materials/Parts

Lockwashers, gage (two required)  
 Lockwashers, wires (two required)  
 Tags, marker (item 21, appendix C)

**FUEL GAGE - CONTINUED**

INITIAL SETUP - CONTINUED

Personnel Required

One

Equipment Condition

Battery ground cable disconnected  
(page 2-424).

Equipment Condition - Continued

Left cab door opened (page 2-424).  
Upper center instrument panel opened  
(page 2-424).

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL

**CAUTION**

Use care when working behind upper center instrument panel to prevent breaking or disconnecting wires.

1.	Fuel gage (1)	Light socket (2)	Pull out.
2.		Two nuts (3), two lockwashers (4), and two wires (5)	<ul style="list-style-type: none"> <li>a. Tag wires (page 2-424).</li> <li>b. Using 5116-inch box-end wrench, unscrew and take out.</li> <li>c. Get rid of lockwashers.</li> </ul>
3.	Mounting bracket (6)	Two nuts (7) and two lockwashers (8)	<ul style="list-style-type: none"> <li>a. Using 318-inch box-end wrench, unscrew and take out.</li> <li>b. Get rid of lockwashers.</li> </ul>
4.	Fuel gage (1)	Mounting bracket (6)	Take off.
5.	Upper center instrument panel (9)	Fuel gage (1)	Take out.

INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

FUEL GAGE - CONTINUED

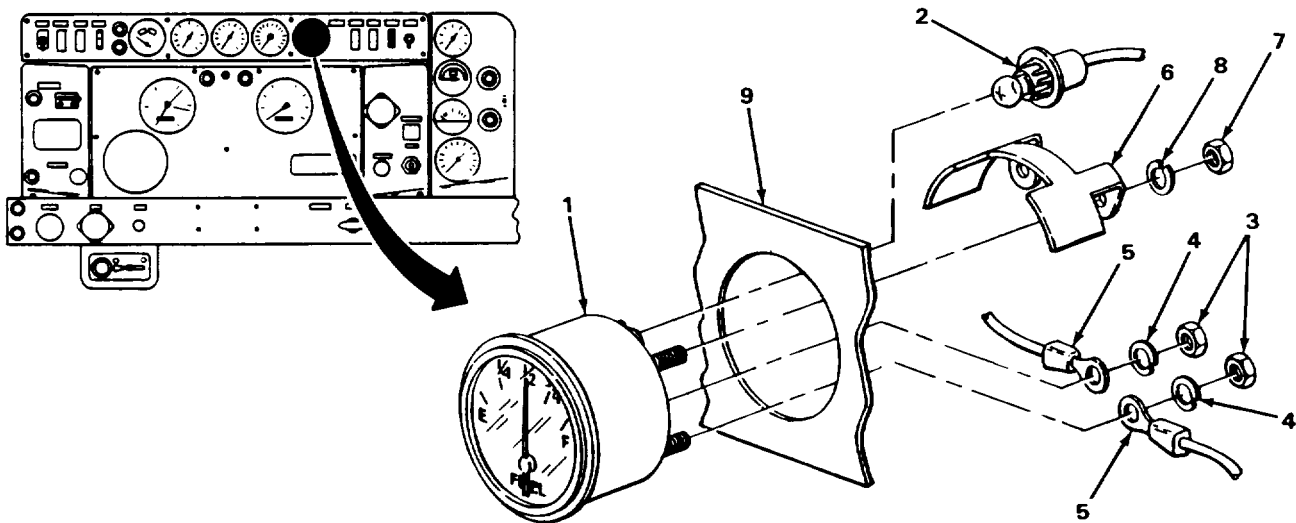
LOCATION	ITEM	ACTION	REMARKS
6.	Fuel gage (1)	a. Look for cracks or dents. b. Check to see if gage is readable.	
7.	Mounting bracket (6)	Look for bends or breaks.	
8.	All threaded parts	Look for damaged threads or rounded nuts.	

INSTALLATION

**CAUTION**

Use care when working behind upper center instrument panel to prevent breaking or disconnecting wires.

9.	Upper center instrument panel (9)	Fuel gage (1)	Put in and hold. <b>Position as shown.</b>
10.	Fuel gage (1)	Mounting bracket (6)	Put on.
11.	Mounting bracket (6)	Two new lockwashers (8) and two nuts (7)	Screw on and tighten using 3/8-inch box-end wrench.



TA244166

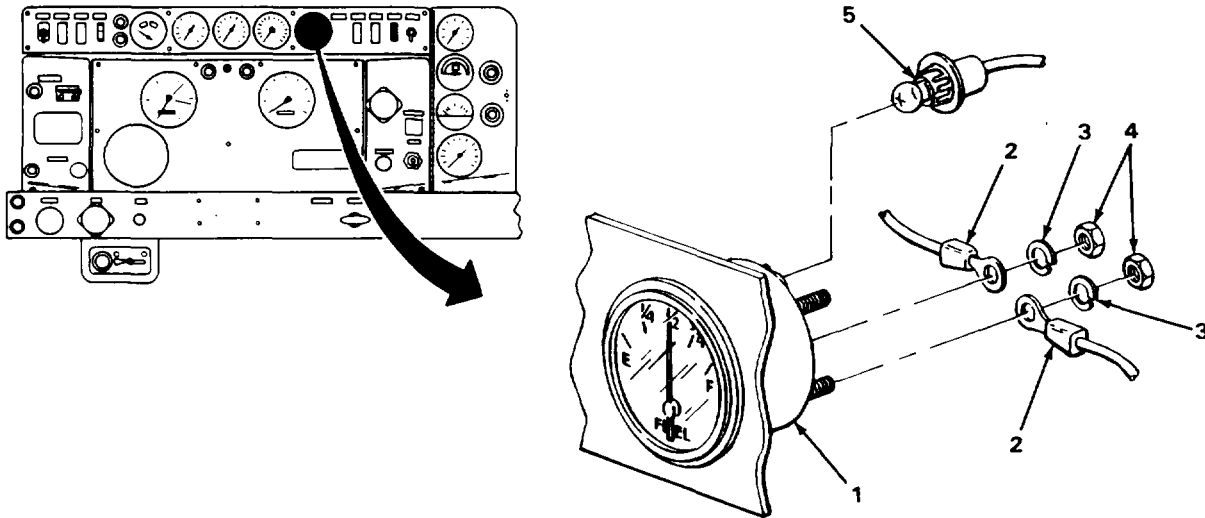


**FUEL GAGE - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

INSTALLATION - CONTINUED

- |                   |  |   |  |
|-------------------|--|---|--|
| 12. Fuel gage (1) | Two wires (2), two new lockwashers (3), and two nuts (4) | a. Put wires in correct position.<br>b. Screw in and tighten using 5/16-incl box-end wrench.<br>c. Get rid of tags. |  |
| 13.               | Light socket (5)   | Push in.  |  |



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Close upper center instrument panel (page 2-424).
2. Connect battery ground cable (page 2-424).
3. Close left cab door (page 2-424).

**TASK ENDS HERE**

**AMMETER**

This task covers:

- |  |                              |
|--|------------------------------|
| a. Removal (page 2-731)                | c. Installation (page 2-732) |
| b. Inspection/Replacement (page 2-732) |                              |

**AMMETER - CONTINUED**

INITIAL SETUP:

Tools

Wrench, box-end, 5/16-inch  
Wrench, box-end, 3/8-inch

Materials/Parts

Lockwasher, wire  
Lockwasher, mounting bracket  
(two required)  
Tags, marker (item 21, appendix C)

Personnel Required

One

Equipment Condition

Battery ground cable disconnected  
(page 2-424).  
Left cab door opened (page 2-424).  
Upper center instrument panel opened  
(page 2-424).

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL

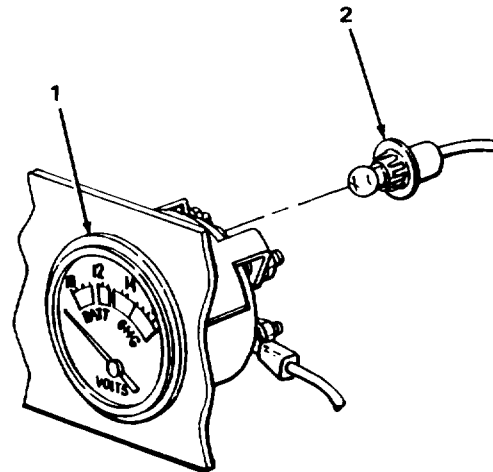
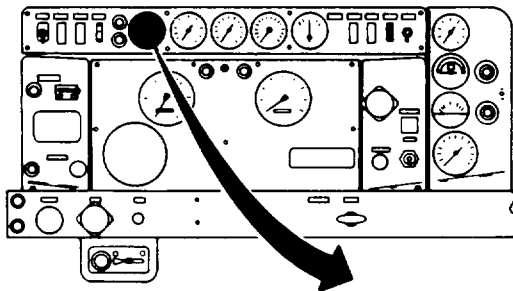
**CAUTION**

Use care when working behind upper center instrument panel to prevent breaking or disconnecting wires.

1. Ammeter (1)

Light socket (2)

Pull out.



TA244168

**AMMETER - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
2. Ammeter (1)	Nut (2), lockwashers (3), and wire (4)	a. Tag wire (page 2-424). b. Using 5/16-inch box-end wrench, unscrew and take out. c. Get rid of lockwasher.
3.	Two nuts (5), two lockwashers (6), and wire (7)	a. Tag wire (page 2-424). b. Using 3/8-inch box-end wrench, unscrew and take out. c. Get rid of lockwashers.
4.	Mounting bracket (8)	Take off.
5. Upper center instrument panel (9)	Ammeter (1)	Take out.

## INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

6.	Ammeter (1)	a. Look for cracks or dents. b. Check to see if gage is readable.
7.	Mounting bracket (8)	Look for bends or breaks.
8.	All threaded parts	Look for damaged threads or rounded nuts.

## INSTALLATION

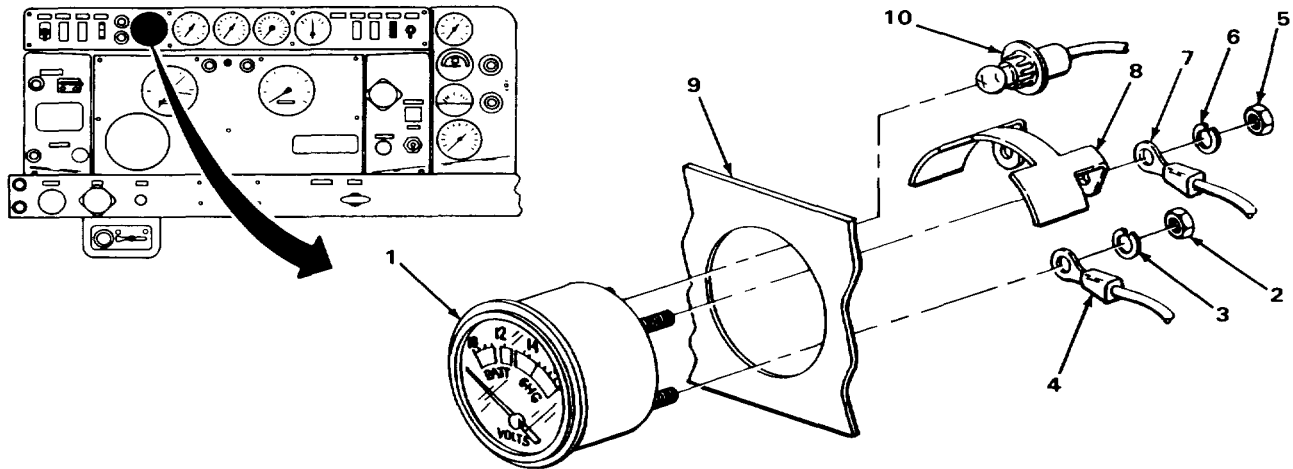
**CAUTION**

Use care when working behind upper center instrument panel to prevent breaking or disconnecting wires.

9. Upper center instrument panel (9)	Ammeter (1)	Put in and hold. <b>Position as shown.</b>
--------------------------------------	-------------	---

AMMETER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
10. Ammeter (1)	Mounting bracket (8)	Put in place.	
11.	Wire (7), two new lockwashers (6), and two nuts (5)	a. Screw on and tighten using 3/18-inch box-end wrench. b. Get rid of tags.	
12.	Wire (4), new lock-washer (3), and nut (2)	a. Screw on and tighten using 5/16-inch box-end wrench. b. Get rid of tags.	
13 Light socket (10)	Push in.		



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Install upper center instrument panel (page 2-424).
2. Connect battery ground cable (page 2-424).
3. Close left cab door (page 2-424).

**TASK ENDS HERE**

**GLOW PLUG SWITCH**

This task covers:

- a. Removal (page 2-734)
- b. Installation (page 2-734)

INITIAL SETUP:

Tools

Screwdriver, cross-tip, number one

Personnel Required

One

Equipment Condition

Battery ground cable disconnected (page 2-424).

Upper center instrument panel opened (page 2-424).

Left cab door opened (page 2-424).

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL

**CAUTION**

Use care when working behind upper center instrument panel to prevent breaking or disconnecting wires.

- |    |                                   |                      |   |
|----|-----------------------------------|----------------------|---|
| 1. | Glow plug switch (1)              | Two connectors (2)   | a. Tag (page 2-424).<br>b. Pull off.                          |
| 2. |                                   | Two screws (3)       | Using number one cross-tip screwdriver, unscrew and take out. |
| 3  | Upper center instrument panel (4) | Glow plug switch (1) | Take out.   |

INSTALLATION

**CAUTION**

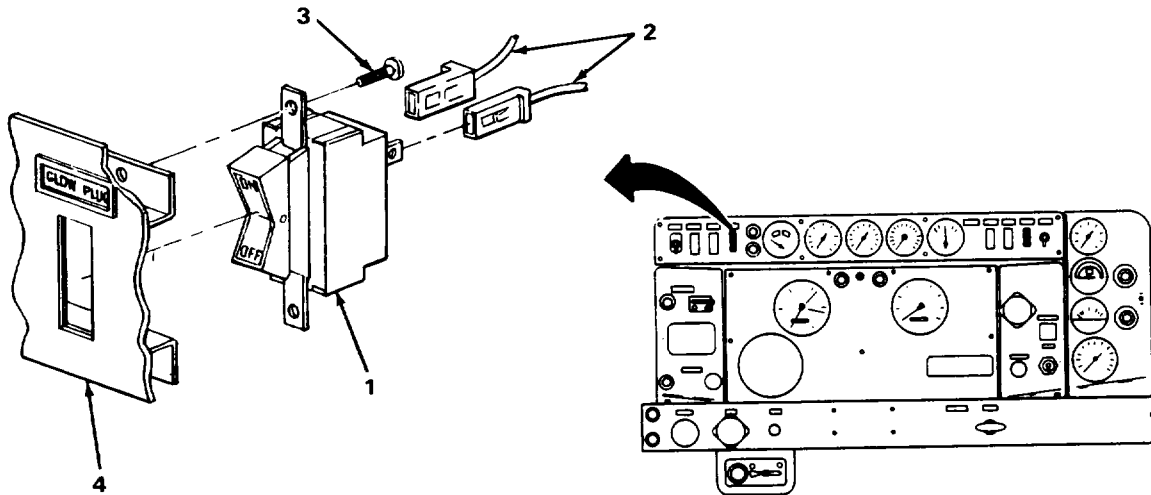
Use care when working behind upper center instrument panel to prevent breaking or disconnecting wires.

- |    |                                   |                      |  |
|----|-----------------------------------|----------------------|--|
| 4. | Upper center instrument panel (4) | Glow plug switch (1) | Put in place.  |
| 5. | Glow plug switch (1)              | Two screws (3)       | Screw in and tighten using number one cross-tip screwdriver. |

**GLOW PLUG SWITCH - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

- |    |                    |                                    |  |
|----|--------------------|------------------------------------|--|
| 6. | Two connectors (2) | a. Push on.<br>b. Get rid of tags. |  |
|----|--------------------|------------------------------------|--|



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Close upper center instrument panel (page 2-424).
2. Connect battery ground cable (page 2-424).
3. Close left cab door (page 2424).

**TASK ENDS HERE**

**ENGINE COMPRESSION BRAKE SWITCH**

This task covers:

- a. Removal (page 2-736)
- b. Installation (page 2-736)

**ENGINE COMPRESSION BRAKE SWITCH - CONTINUED**

INITIAL SETUP:

Tools	Equipment Condition
Pliers, slip-joint, 8-inch	Battery ground cable disconnected (page 2-424).
Materials/Parts	Upper center instrument panel opened (page 2-424).
Tags, marker (item 21, appendix C)	Left cab door opened (page 2-424).
Personnel Required	
One	

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL

**CAUTION**

Use care when working behind upper center instrument panel to prevent breaking or disconnecting wires.

1.	Engine compression brake switch (1)	Two connectors (2)	a. Tag (page 2-424). b. Pull off.
2.		Locknut (3)	Using 8-inch slip-joint pliers, unscrew and take off.
3.		Nameplate (4)	Take off.
4.	Instrument panel (5)	Engine compression brake switch (1)	Take out.
5.	Engine compression brake switch (1)	Nut (6)	Unscrew and take off.

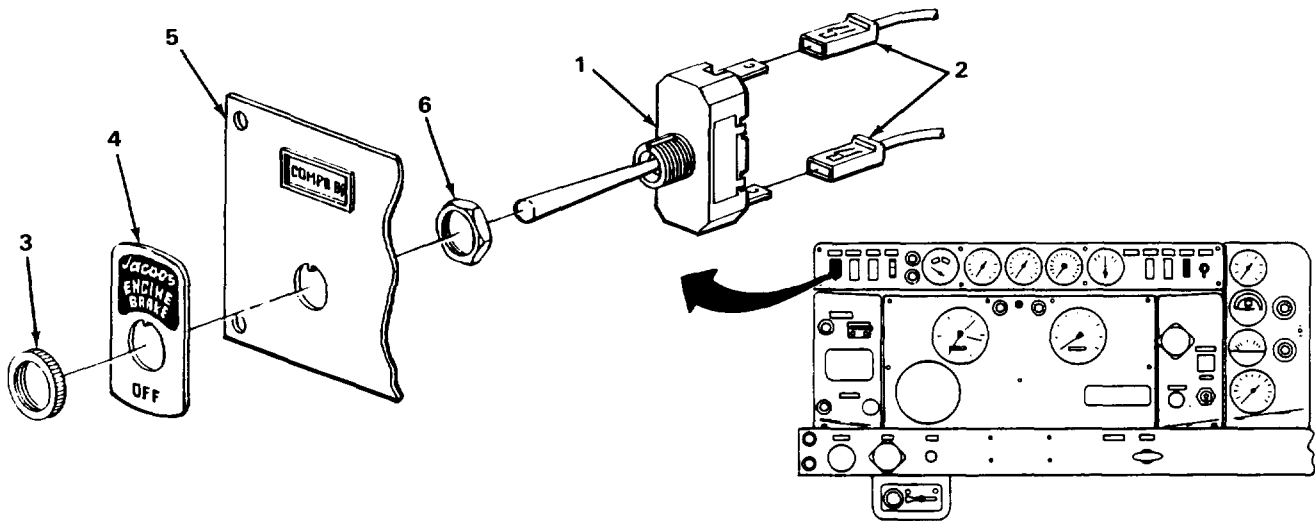
INSTALLATION

**CAUTION**

Use care when working behind upper center instrument panel to prevent breaking or disconnecting wires.

**ENGINE COMPRESSION BRAKE SWITCH - CONTINUED**

	LOCATION	ITEM	ACTION	REMARKS
6.	Engine compression brake switch (1)	Nut (6)	Screw on completely and then unscrew one turn.	
7.	Instrument panel (5)	Engine compression brake switch (1)	Put in place.	
8.	Engine compression brake switch (1)	Nameplate (4)	Put in place.	
9.		Locknut (3)	Screw on and tighten using 8-inch slip-joint pliers.	<b>If locknut will not screw on, adjust nut (6).</b>
10.		Two connectors (2)	a. Push on.	



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Close upper center instrument panel (page 2-424).
2. Connect battery ground cable (page 2-424).
3. Close left cab door (page 2-424).

TA244171

**TASK ENDS HERE**



**ENGINE START BUTTON**

This task covers:

- a. Removal (page 2-738)
- b. Installation (page 2-739)

**INITIAL SETUP:**

**Tools**

Wrench, box-end, 5/16-inch  
 Wrench, box-end, 3/4-inch

**Personnel Required**

One

**Equipment Condition**

Battery ground cable disconnected (page 2-424).  
 Left side cab door opened (page 2-424).  
 Right side instrument panel opened (page 2-424).

**Materials/Parts**

Lockwasher, switch  
 Lockwasher, wire connectors (two required)  
 Tags, marker (item 21, appendix C)

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

**REMOVAL**

**CAUTION**

Use care when working behind instrument panel to prevent breaking or disconnecting wires.

1.	Engine start button (1)	Boot (2)	Unscrew and take off.
2.		Nut (3) and lockwasher (4)	<ul style="list-style-type: none"> <li>a. Using 3/4-inch box-end wrench, unscrew and take off.</li> <li>b. Get rid of lockwasher.</li> </ul>
3.	Instrument panel (5)	Engine start button (1)	Carefully move back behind right instrument panel (6).
4.	Engine start button (1)	Two nuts (7), two lockwashers (8), and three wires (9)	<ul style="list-style-type: none"> <li>a. Tag wires (page 2-424).</li> <li>b. Using 5/16-inch box-end wrench, unscrew and take off.</li> <li>c. Get rid of lockwashers.</li> </ul>

**ENGINE START BUTTON - CONTINUED**

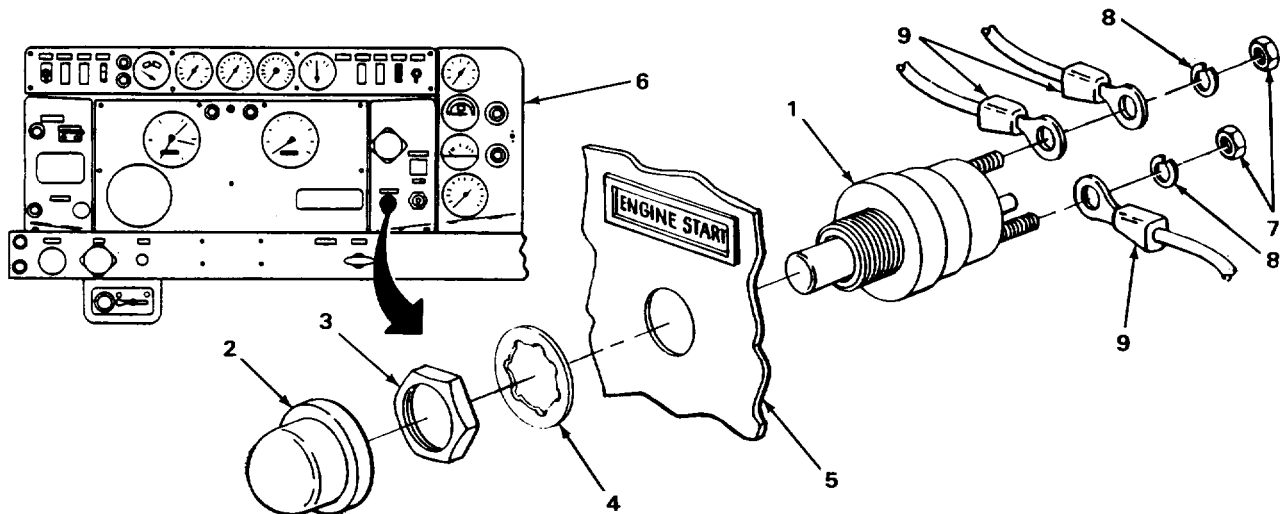
LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

INSTALLATION

**CAUTION**

Use care when working behind instrument panel to prevent breaking or disconnecting wires.

- |                            |  |   |
|----------------------------|--|---|
| 5. Engine start button (1) | Three wires (9), two new lockwashers (8), and two nuts (7) | a. Put connectors in place.<br>b. Screw on and tighten using 5/16-inch box-end wrench.<br>c. Get rid of tags. |
| 6. Instrument panel (5)    | Engine start button (1)                                    | Put in place.   |
| 7. Engine start button (1) | New lockwasher (4) and nut (3)                             | Screw on and tighten using 3/4-inch box-end wrench.   |
| 8. Boot (2)                | Screw on and tighten.                                      |   |



TA244172

**ENGINE START SWITCH - CONTINUED**

**NOTE**

FOLLOW-ON MAINTENANCE:

1. Close right side instrument panel (page 2-424).
2. Connect battery ground cable (page 2-424).
3. Close left side cab door (page 2-424).

**TASK ENDS HERE**

**KEY SWITCH**

---

This task covers:

- a. Removal (page 2-740)
  - b. Installation (page 2-741)
- 

INITIAL SETUP:

Tools Equipment Condition

Wrench, box-end, 1 18-inch

Battery ground cable disconnected  
(page 2-424).

Materials/Parts

Tags, marker (item 21, appendix C)

Right side instrument panel opened  
(page 2-424).

Left side cab door opened (page 2-424).

Personnel Required

One

---

		ACTION
LOCATION	ITEM	REMARKS

---

REMOVAL

**CAUTION**

Use care when working behind instrument panel to prevent breaking or disconnecting wires.

- |                   |                    |  |
|-------------------|--------------------|--|
| 1. Key switch (1) | Six connectors (2) | <ol style="list-style-type: none"> <li>a. Tag (page 2-424).</li> <li>b. Pull off.</li> </ol> |
|-------------------|--------------------|--|

**KEY SWITCH - CONTINUED**

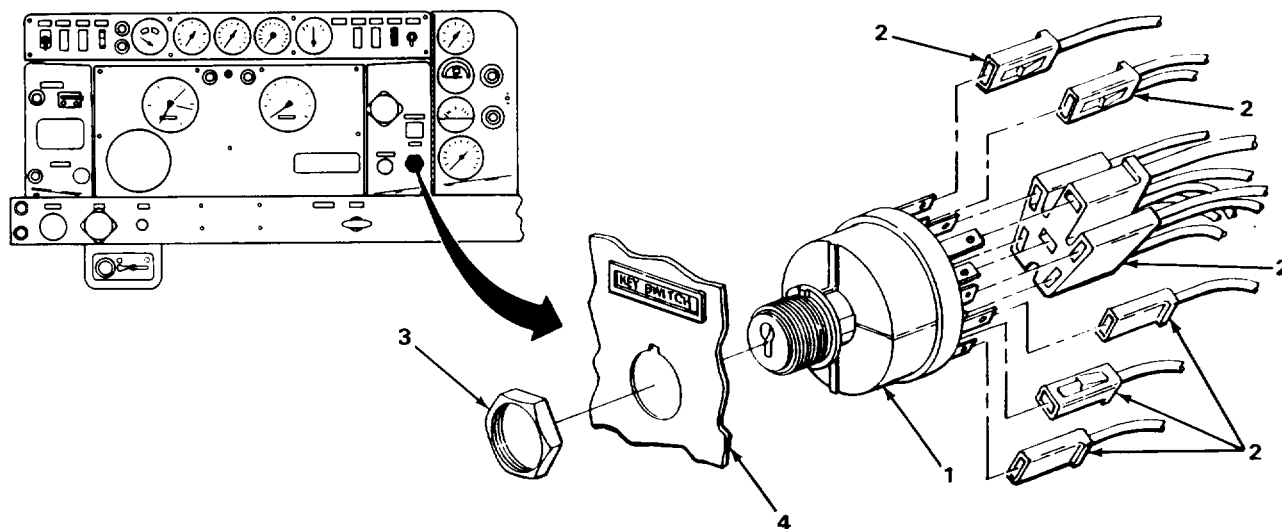
LOCATION	ITEM	ACTION	REMARKS
2.	Key switch (1) screw and take off.	Nut (3)	Using 1 18-inch open-end wrench, un-
3.	Instrument panel (4)	Key switch (1)	Take out.

**INSTALLATION**

**CAUTION**

Use care when working behind instrument panel to prevent breaking or disconnecting wires.

4.	Instrument panel (4)	Key switch (1)	Put in place.
5.	Key switch (1) end wrench.	Nut (3)	Screw in and tighten using 1 118-inch open-
6.	Six connectors (2)		a. Push on. b. Get rid of tags.



TA244173

**KEY SWITCH - CONTINUED**

**NOTE**

FOLLOW-ON MAINTENANCE:

1. Close side right instrument panel (page 2-424).
2. Connect battery ground cable (page 2-424).
3. Close left side cab door (page 2-424).

**TASK ENDS HERE**

**HEADLIGHT BEAM SELECTOR SWITCH**

---

This task covers:

- a. Removal (page 2-742)
  - b. Installation (page 2-743)
- 

**INITIAL SETUP**

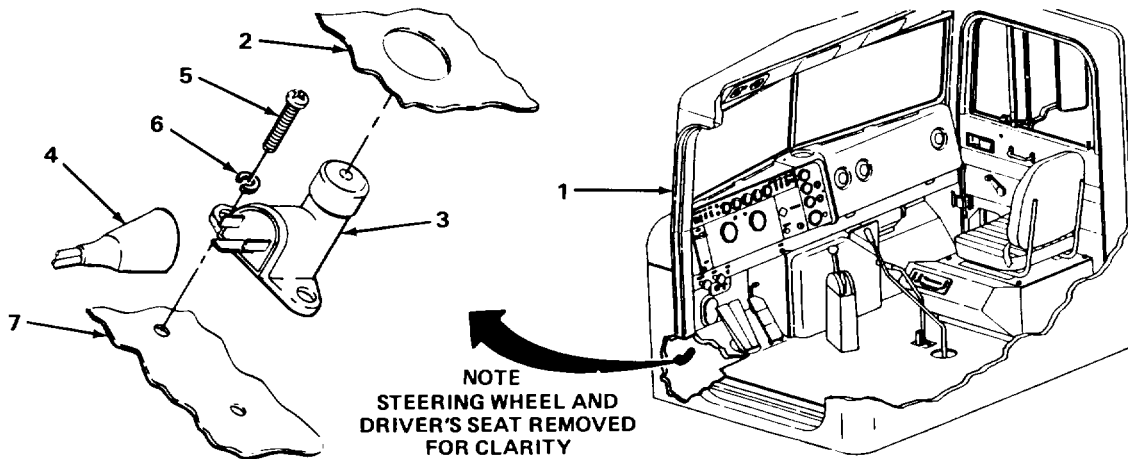
Tools	Personnel Required
Screwdriver, cross-tip, number three	One
Materials/Parts	Equipment Condition
Lockwasher, switch (two required)	Left side cab door opened (page 2-424).

---

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
1. Cab (1)	Floormat (2)	Lift up and pull back.
2. Headlight beam selector switch (3)	Connector (4)	Pull off.
3.	Two screws (5) and two lockwashers (6)	<ol style="list-style-type: none"> <li>a. Using number three cross-tip screwdriver, unscrew and take out.</li> <li>b. Get rid of lockwashers.</li> </ol>
4. Cab floor (7)	Headlight beam selector switch (3)	Take out.

**HEADLIGHT BEAM SELECTOR SWITCH - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
5. Cab floor (7)	Headlight beam selector switch (3)	Put in place.	
6. Headlight beam selector switch (3)	Two screws (5) and two new lock-washers (6)	Screw in and tighten using number three cross-tip screwdriver.	
7.	Connector (4)	Push on.	
8. Cab (1)	Floormat (2)	Put in place.	



**NOTE**

FOLLOW-ON MAINTENANCE: Close left side cab door (page 2-424).

**TASK ENDS HERE**

TA244174

## TURN SIGNAL SWITCH

This task covers:

- a. Removal (page 2-744)
- b. Installation (page 2-746)

### INITIAL SETUP

**Tools**

Pliers, diagonal-cutting, 6-inch  
Screwdriver, cross-tip, number one  
Wrench, open-end, 9/16-inch (two  
required)

**Materials/Parts**

Lockwasher, bracket (three required)  
Strap, tiedown, self-locking (item 20,  
appendix C)

**Personnel Required**

One

**Equipment Condition**

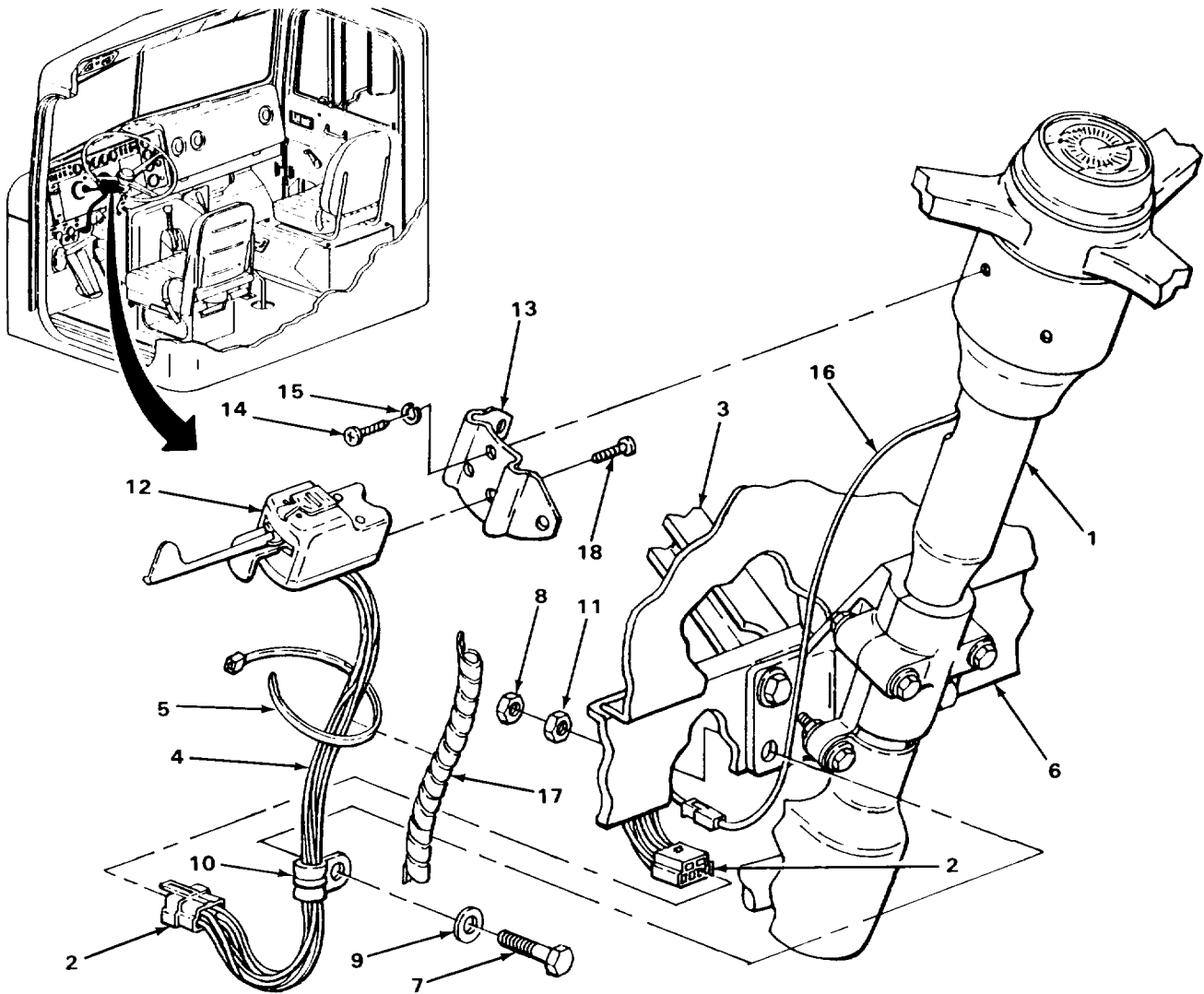
Battery ground cable disconnected  
(page 2-424).  
Left side cab door opened (page 2-424).

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
1. Steering column (1)	Connector (2)	Pull apart.
2. Instrument panel support (3) and wire harness (4)	Electrical tiedown strap (5)	a. Using 6-inch diagonal-cutting pliers, cut. b. Get rid of.
3. Instrument panel (6) and screw (7)	Jamnut (8)	Using two 9/16-inch open-end wrenches, unscrew and take out.
4. Instrument panel (6)	Screw (7), flat washer (9), clamp (10), and nut (11)	Using two 9/16-inch open-end wrenches, unscrew and take out.
5. Steering column (1)	Turn signal switch (12), bracket (13), three screws (14), and three lockwashers (15)	a. Using number one cross-tip screwdriver, unscrew and take out. b. Get rid of lockwashers.

TURN SIGNAL SWITCH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

- |    |  |                                     |  |
|----|--|-------------------------------------|--|
| 6. | Wire harness (4)<br>and horn wire (16) | Protective<br>covering (17)         | Take off.  |
| 7. | Turn signal<br>switch (12)             | Bracket (13) and<br>two screws (18) | Using number one cross-tip screwdriver,<br>unscrew and take off. |



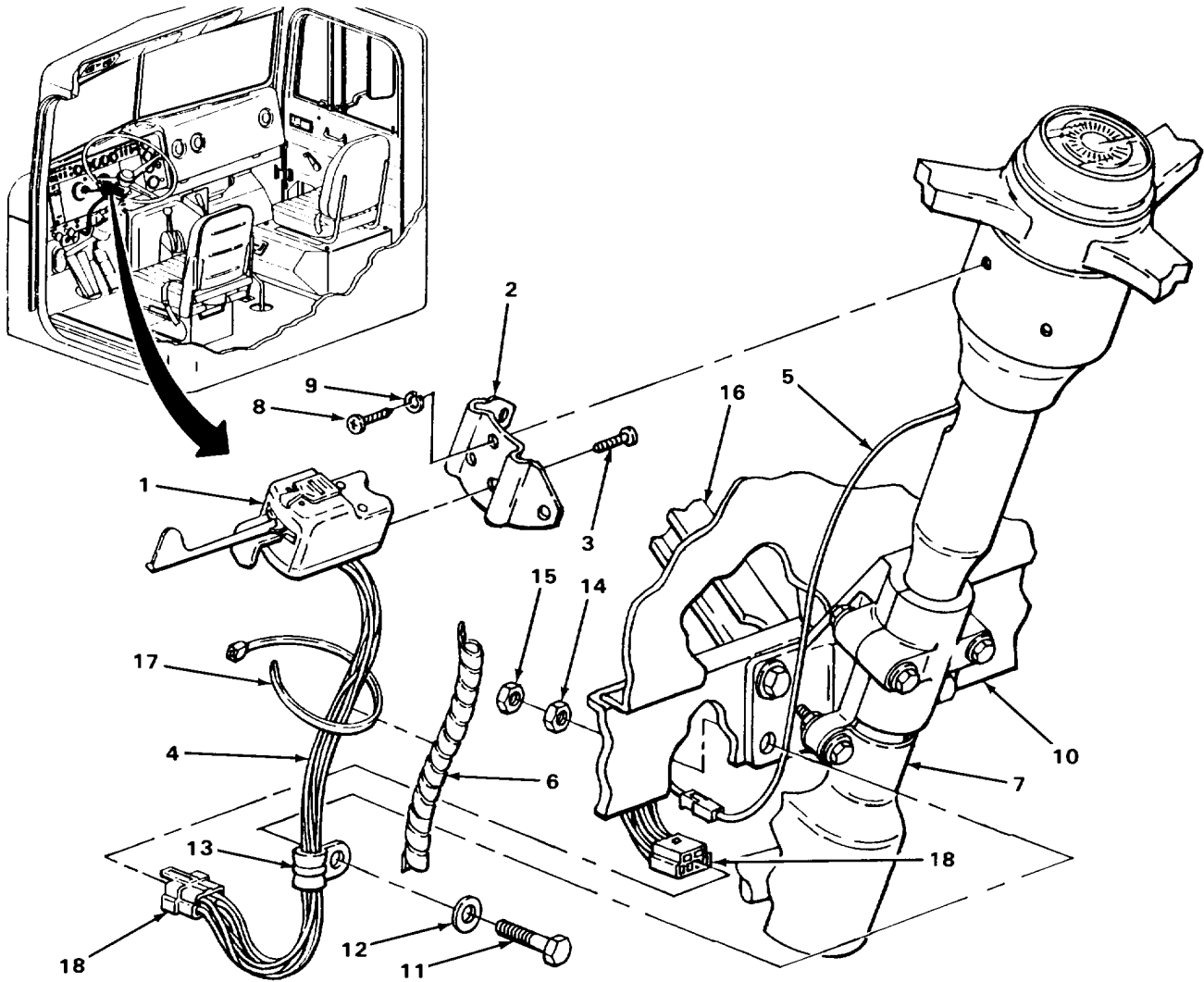
TA244175



## TURN SIGNAL SWITCH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
8. Turn signal switch (1)	Bracket (2) and two screws (3)	Screw in and tighten using number one cross-tip screwdriver.	
9. Wire harness (4) and horn wire (5)	Protective covering (6)	Put on.	
10. Steering column (7)	Turn signal switch (1), bracket (2), three screws (8), and three new lockwashers (9)	Screw in and tighten using number one cross-tip screwdriver.	
11. Instrument panel (10) (13), and nut (14)	Screw (11), flat washer (12), clamp	Screw in and tighten using two 9/16-inch open-end wrenches.	
12. Instrument panel (10) and screw (11)	Jamnut (15)	Screw on and tighten using two 9/16-inch open-end wrenches.	
13. Instrument panel support (16) and wire harness (4)	New electrical tiedown strap (17)	Wrap loosely.	
14. Steering column (7)	Connector (18)	Push together.	

TURN SIGNAL SWITCH - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Connect battery ground cable (page 2-424).
2. Close side left cab door (page 2-424).

TASK ENDS HERE

**ENGINE COMPRESSION BRAKE 15 AMP CIRCUIT BREAKER**

---

This task covers:

- a. Removal (page 2-748)
  - b. Installation (page 2-749)
- 

**INITIAL SETUP**

Tools

Wrench, box-end, 3/8-inch

Materials/Parts

Nut, self-locking (two required)  
 Tags, marker (item 21, appendix C)

Personnel Required

One

Equipment Condition

Battery ground cable disconnected  
 (page 2-424).  
 Right side cab door opened (page 2-424).  
 Right instrument panel pad removed  
 (page 2-424).

---

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

---

**REMOVAL**

**CAUTION**

Use care when working behind right instrument panel pad to prevent breaking or disconnecting wires.

1.	Circuit breaker (1)	Two self-locking nuts (2) and two wires (3)	<ul style="list-style-type: none"> <li>a. Tag wires (page 2-424).</li> <li>b. Using 3/8-inch box-end wrench, unscrew and take off.</li> <li>c. Get rid of self-locking nuts.</li> </ul>
2.		Two nuts (4) and two flat washers (5)	Using 3/8-inch box-end wrench, unscrew and take off.
3.	Circuit breaker panel (6)	Circuit breaker (1)	Slide up and take out.

ENGINE COMPRESSION BRAKE 15 AMP CIRCUIT BREAKER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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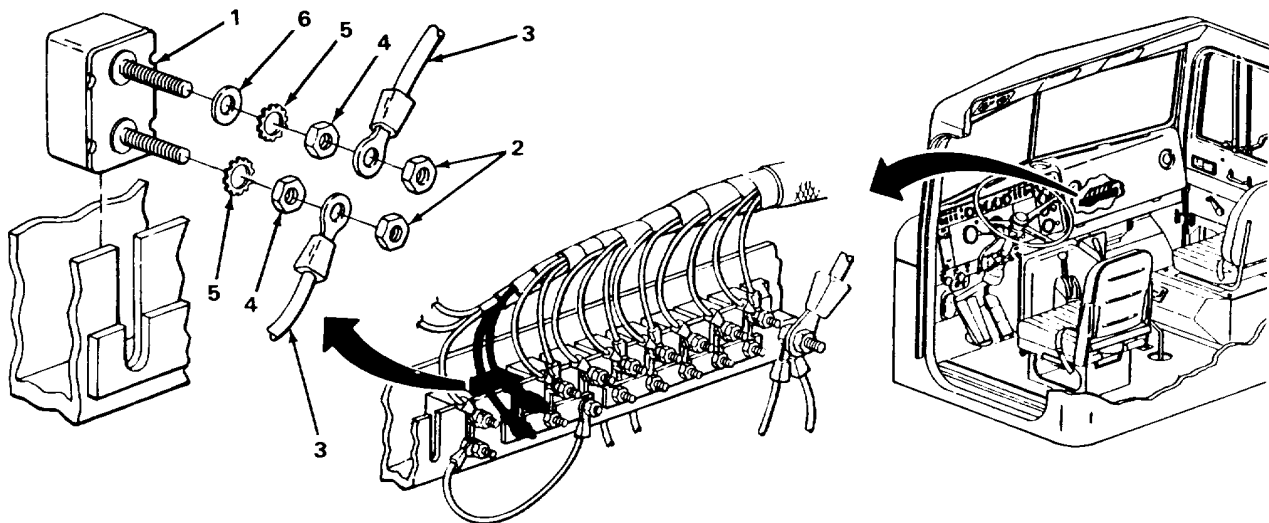
INSTALLATION

**CAUTION**

Use only correct amperage circuit breakers, to prevent damage to equipment.

Use care when working behind right instrument panel pad, to prevent breaking or disconnecting wires.

- |                              |   |  |
|------------------------------|---|--|
| 4. Circuit breaker panel (6) | Circuit breaker (1)                             | Slide down into place.   |
| 5. Circuit breaker (1)       | Two flat washers (5) and two nuts (4)           | Screw on and tighten using 3/8-inch box-end wrench.  |
| 6.                           | Two wires (3) and two new self-locking nuts (2) | <ul style="list-style-type: none"> <li>a. Put wires in place.</li> <li>b. Screw on and tighten using 3/8-inch box-end wrench.</li> <li>c. Take tags off wires.</li> <li>d. Get rid of tags.</li> </ul> |



T244177

**ENGINE COMPRESSION BRAKE 15 AMP CIRCUIT BREAKER - CONTINUED**

**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Connect battery ground cable (page 2-424).
2. Install right instrument panel pad (page 2-424).
3. Close right side cab door (page 2-424).

**TASK ENDS HERE**

**BACKUP LIGHT 20 AMP CIRCUIT BREAKER**

This task covers:

- a. Removal (page 2-750)
- b. Installation (page 2-751)

**INITIAL SETUP**

Tools	Personnel Required
Wrench, box-end, 3/8-inch	One
Materials/Parts	Equipment Condition
Lockwasher, circuit breaker (two required)	Battery ground cable disconnected (page 2-424).
Nut, self-locking (two required)	Right side cab door opened (page 2-424).
Tags, marker (item 21, appendix C)	Right instrument panel pad removed (page 2-424).

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

**REMOVAL**

**CAUTION**

Use care when working behind right instrument panel pad to prevent breaking or disconnecting wires.

1.	Circuit breaker (1)	Two self-locking nuts (2) and two wires (3)	<ol style="list-style-type: none"> <li>a. Tag wires (page 2-424).</li> <li>b. Using 3/8-inch box-end wrench, unscrew and take off.</li> <li>c. Get rid of self-locking nuts.</li> </ol>
2.		Two nuts (4), two lockwashers (5), and flat washer (6)	<ol style="list-style-type: none"> <li>a. Using 3/8-inch box-end wrench, unscrew and take off.</li> <li>b. Get rid of lockwashers</li> </ol>

**BACKUP LIGHT 20 AMP CIRCUIT BREAKER - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
3. Circuit breaker panel (7)	Circuit breaks	Slide up and take out.	

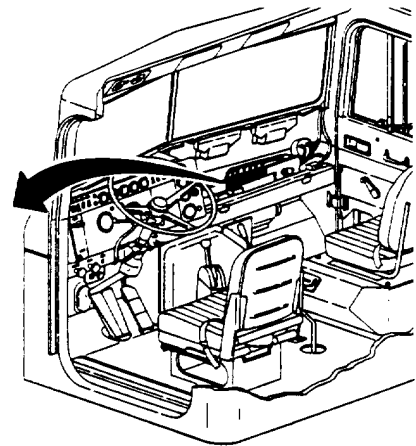
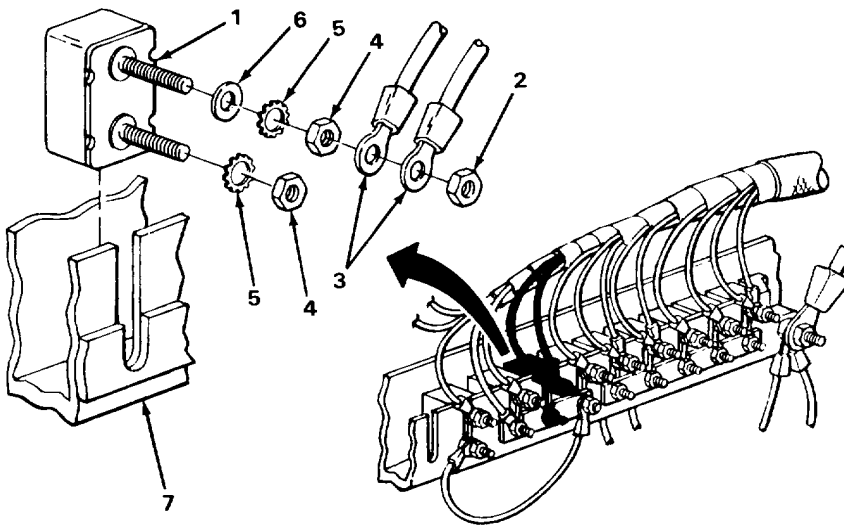
**INSTALLATION**

**CAUTION**

Use only correct amperage circuit breaker, to prevent damage to equipment.

Use care when working behind right instrument panel pad to prevent breaking or disconnecting wires.

- |                              |  |  |
|------------------------------|--|--|
| 4. Circuit breaker panel (7) | Circuit breaker (1)  | Slide down into place.   |
| 5. Circuit breaker (1)       | Flat washer (6), two new lockwashers (5), and two nuts (4) | Screw on and tighten using 3/8-inch box-end wrench.  |
| 6. Two wires (3) and         | a. Put wires in place. two new self-locking nuts (2)       | b. Screw on and tighten using 3/8 inch box-end wrench.<br>c. Take off tags.<br>d. Get rid of tags. |



TA244178

**BACKUP LIGHT 20 AMP CIRCUIT BREAKER - CONTINUED**

**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Connect battery ground cable (page 2-424).
2. Install right instrument panel pad (page 2-424).
3. Close right side cab door (page 2-424).

**TASK ENDS HERE**

**HEATER 40 AMP CIRCUIT BREAKER**

This task covers:

- a. Removal (page 2-752)
- b. Installation (page 2-753)

**INITIAL SETUP**

<p>Tools</p> <p>Wrench, box-end, 3/8-inch</p>	<p>Personnel Required</p> <p>One</p>
<p>Materials/Parts</p> <p>Lockwasher, circuit breaker (two required)</p> <p>Nut, self-locking</p> <p>Tags, marker (item 21, appendix C)</p>	<p>Equipment Condition</p> <p>Battery ground cable disconnected (page 2-424).</p> <p>Right side cab door opened (page 2-424).</p> <p>Right instrument panel pad removed (page 2-424).</p>

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**

**CAUTION**

Use care when working behind right instrument panel pad to prevent breaking or disconnecting wires.

<ol style="list-style-type: none"> <li>1. Circuit breaker (1)</li> </ol>	<p>Self-locking nut (2) and two wires (3) screw and take off.</p>	<ol style="list-style-type: none"> <li>a. Tag wires (page 2-424).</li> <li>b. Using 3/8-inch box-end wrench, un-</li> <li>c. Get rid of self-locking nut.</li> </ol>
<ol style="list-style-type: none"> <li>2.</li> </ol>	<p>Two nuts (4), two lockwashers (5), and flat washer (6)</p>	<ol style="list-style-type: none"> <li>a. Using 3/8-inch box-end wrench, un-</li> <li>b. Get rid of lockwashers.</li> </ol>

HEATER 40 AMP CIRCUIT BREAKER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
3. Circuit breaker panel (7)	Circuit breaker (1)	Slide up and take out.	

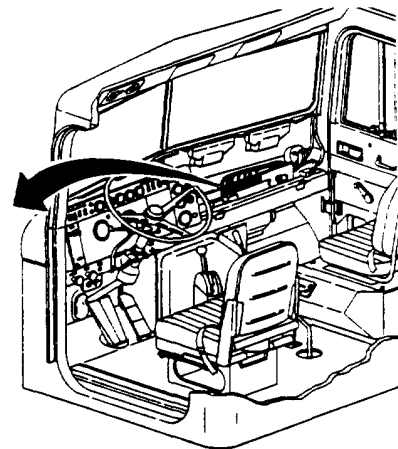
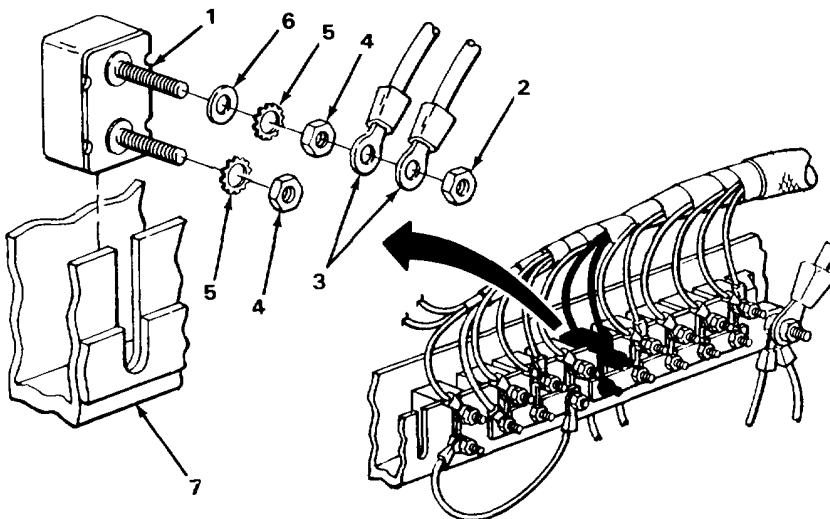
INSTALLATION

**CAUTION**

Use only correct amperage circuit breaker, to prevent damage to equipment.

Use care when working behind right instrument panel pad to prevent breaking or disconnecting wires.

4. Circuit breaker panel (7)	Circuit breaker (1)	Slide down into place.	
5. Circuit breaker (1)	Flat washer (6), two new lockwashers (5), and two nuts (4)	Screw on and tighten using 3/8-inch box-end wrench.	
6.	Two wires (3) and new self-locking nut (2)	<ol style="list-style-type: none"> <li>Put wires in place.</li> <li>Screw on and tighten using 3/8 inch box-end wrench.</li> <li>Take off tags.</li> <li>Get rid of tags.</li> </ol>	



TA244179



**HEATER 40 AMP CIRCUIT BREAKER - CONTINUED**

**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Connect battery ground cable (page 2-424).
2. Install right instrument panel pad (page 2-424).
3. Close right side cab door (page 2-424).

**TASK ENDS HERE**

**HORN 20 AMP CIRCUIT BREAKER**

This task covers:

- a. Removal (page 2-754)
- b. Installation (page 2-755)

**INITIAL SETUP**

Tools	Personnel Required
Wrench, box-end, 3/8-inch	One
Materials/Parts	Equipment Condition
Lockwasher, circuit breaker (two required)	Battery ground cable disconnected (page 2-424).
Nut, self-locking (two required)	Right side cab door opened (page 2-424).
Tags, marker (item 21, appendix C)	Right instrument panel pad removed (page 2-424).

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL

**CAUTION**

Use care when working behind right instrument panel pad to prevent breaking or disconnecting wires.

1.	Circuit breaker (1)	Two self-locking nuts (2) and two wires (3)	<ol style="list-style-type: none"> <li>a. Tag wires (page 2-424).</li> <li>b. Using 3/8-inch box-end wrench, unscrew and take off.</li> <li>c. Get rid of self-locking nuts.</li> </ol>
2.		Two nuts (4), two lockwashers (5), and flat washer (6)	<ol style="list-style-type: none"> <li>a. Using 3/8-inch box-end wrench, unscrew and take off.</li> <li>b. Get rid of lockwashers.</li> </ol>

**HORN 20 AMP CIRCUIT BREAKER - CONTINUED**

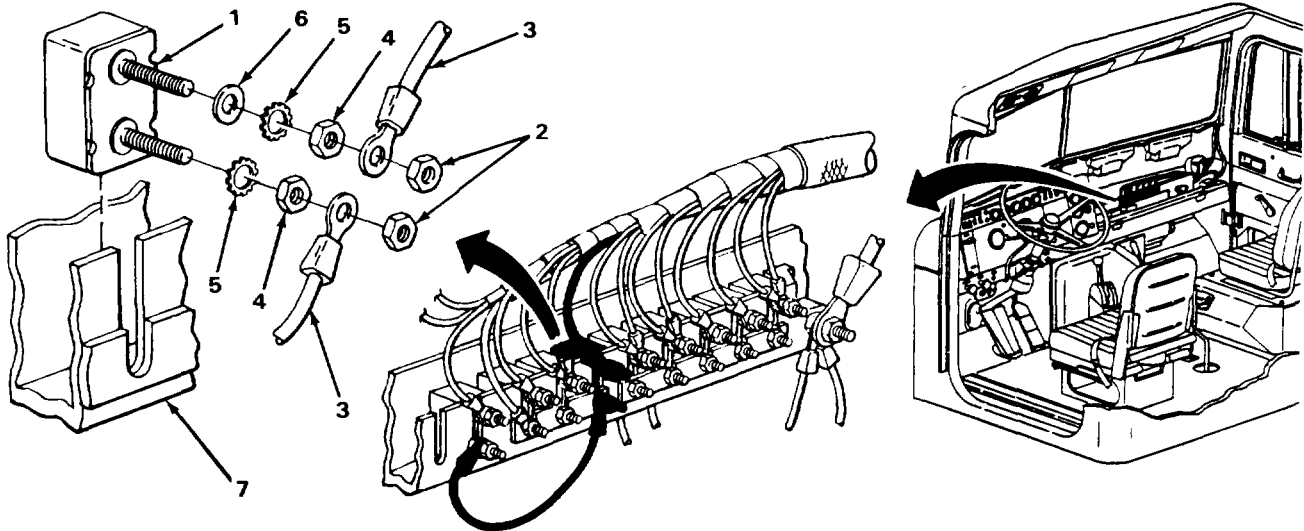
LOCATION	ITEM	ACTION	REMARKS
3. Circuit breaker panel (7)	Circuit breaker (1)	Slide up and take out.	
INSTALLATION			

**CAUTION**

Use only correct amperage circuit breaker, to prevent damage to equipment.

Use care when working behind right instrument panel pad to prevent breaking or disconnecting wires.

- |                              |  |  |
|------------------------------|--|--|
| 4. Circuit breaker panel (7) | Circuit breaker (1)  | Slide down into place.   |
| 5. Circuit breaker (1)       | Flat washer (6), two new lockwashers (5), and two nuts (4) | Screw on and tighten using 3/8-inch box-end wrench.  |
| 6. Two wires (3) and         | a. Put wires in place. two new self-locking nuts (2)       | b. Screw on and tighten using 3/8-inch box-end wrench.<br>c. Take off tags.<br>d. Get rid of tags. |



TA244180

**HORN 20 AMP CIRCUIT BREAKER - CONTINUED**

**NOTE**

FOLLOW-ON MAINTENANCE:

1. Connect battery ground cable (page 2-424).
2. Install right instrument panel pad (page 2-424).
3. Close right side cab door (page 2-424).

**TASK ENDS HERE**

**GLOW PLUG AND CIGAR LIGHTER 40 AMP CIRCUIT BREAKER**

This task covers:

- a. Removal (page 2-756)
- b. Installation (page 2-757)

**INITIAL SETUP**

Tools	Personnel Required
Wrench, box-end, 3/8-inch	One
Materials/Parts	Equipment Condition
Lockwasher, circuit breaker (two required)	Battery ground cable disconnected (page 2-424).
Nut, self-locking	Right side cab door opened (page 2-424).
Tags, marker (item 21, appendix C)	Right instrument panel pad removed (page 2-424).

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

**REMOVAL**

**CAUTION**

Use care when working behind right instrument panel pad to prevent breaking or disconnecting wires.

- |    |                     |  |  |
|----|---------------------|--|--|
| 1. | Circuit breaker (1) | Self-locking nut (2) and two wires (3)                 | <ol style="list-style-type: none"> <li>a. Tag wires (page 2-424).</li> <li>b. Using 3/8-inch box-end wrench, unscrew and take off.</li> <li>c. Get rid of self-locking nut.</li> </ol> |
| 2. |                     | Two nuts (4), two lockwashers (5), and flat washer (6) | <ol style="list-style-type: none"> <li>a. Using 3/8-inch box-end wrench, unscrew and take off.</li> <li>b. Get rid of lockwashers.</li> </ol>  |

**GLOW PLUG AND CIGAR LIGHTER 40 AMP CIRCUIT BREAKER - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
3. Circuit breaker panel (7)	Circuit breaker (1)	Slide up and take out.	

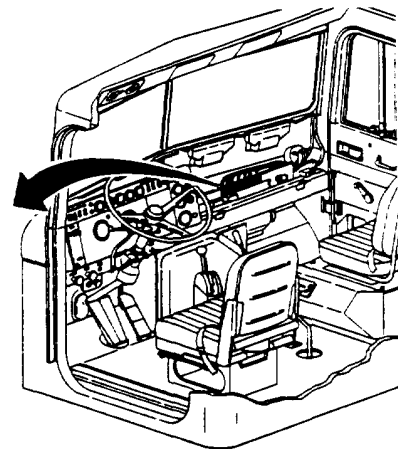
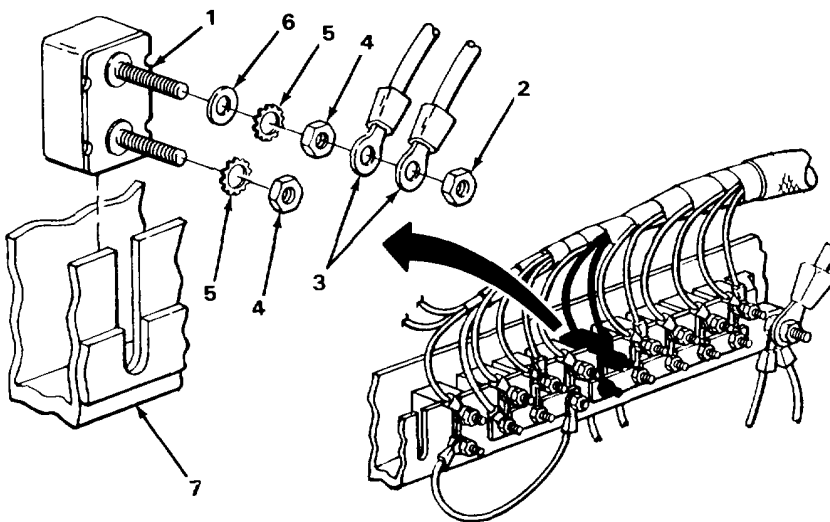
**INSTALLATION**

**CAUTION**

Use only correct amperage circuit breaker, to prevent damage to equipment.

Use care when working behind right instrument panel pad to prevent breaking or disconnecting wires.

- |                              |  |  |
|------------------------------|--|--|
| 4. Circuit breaker panel (7) | Circuit breaker (1)  | Slide down into place.   |
| 5. Circuit breaker (1)       | Flat washer (6), two new lockwashers (5), and two nuts (4) | Screw on and tighten using 3/8 inch box-end wrench.  |
| 6. Two wires (3)             | a. Put wires in place and new self-locking nut (2)         | b. Screw on and tighten using 3/8-inch box-end wrench.<br>c. Take off tags.<br>d. Get rid of tags. |



TA244181

**GLOW PLUG AND CIGAR LIGHTER 40 AMP CIRCUIT BREAKER - CONTINUED**

**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Connect battery ground cable (page 2-424).
2. Install right instrument panel pad (page 2-424).
3. Close right side cab door (page 2-424).

**TASK ENDS HERE**

**STOP AND DOME LIGHT 30 AMP CIRCUIT BREAKER**

This task covers:

- a. Removal (page 2-758)
- b. Installation (page 2-759)

**INITIAL SETUP**

<p>Tools</p> <p>Wrench, box-end, 3/8-inch</p>	<p>Personnel Required</p> <p>One</p>
<p>Materials/Parts</p> <p>Lockwasher, circuit breaker (two required)</p> <p>Nut, self-locking</p> <p>Tags, marker (item 21, appendix C)</p>	<p>Equipment Condition</p> <p>Battery ground cable disconnected (page 2-424).</p> <p>Right cab side door opened (page 2-424).</p> <p>Right instrument panel pad removed (page 2-424).</p>

<b>LOCATION</b>	<b>ITEM</b>	<b>ACTION</b>	<b>REMARKS</b>
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**REMOVAL**

**CAUTION**

Use care when working behind right instrument panel pad to prevent breaking or disconnecting wires.

<ol style="list-style-type: none"> <li>1. Circuit breaker (1)</li> </ol>	<p>Self-locking nut (2) and two wires (3)</p>	<ol style="list-style-type: none"> <li>a. Tag wires (page 2-424).</li> <li>b. Using 3/8-inch box-end wrench, unscrew and take off.</li> <li>c. Get rid of self-locking nut.</li> </ol>
<ol style="list-style-type: none"> <li>2.</li> </ol>	<p>Two nuts (4), two lockwashers (5), and flat washer (6)</p>	<ol style="list-style-type: none"> <li>a. Using 3/8-inch box-end wrench, unscrew and take off.</li> <li>b. Get rid of lockwashers.</li> </ol>

**STOP AND DOME LIGHT 30 AMP CIRCUIT BREAKER - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
3. Circuit breaker panel (7)	Circuit breaker (1)	Slide up and take out.	

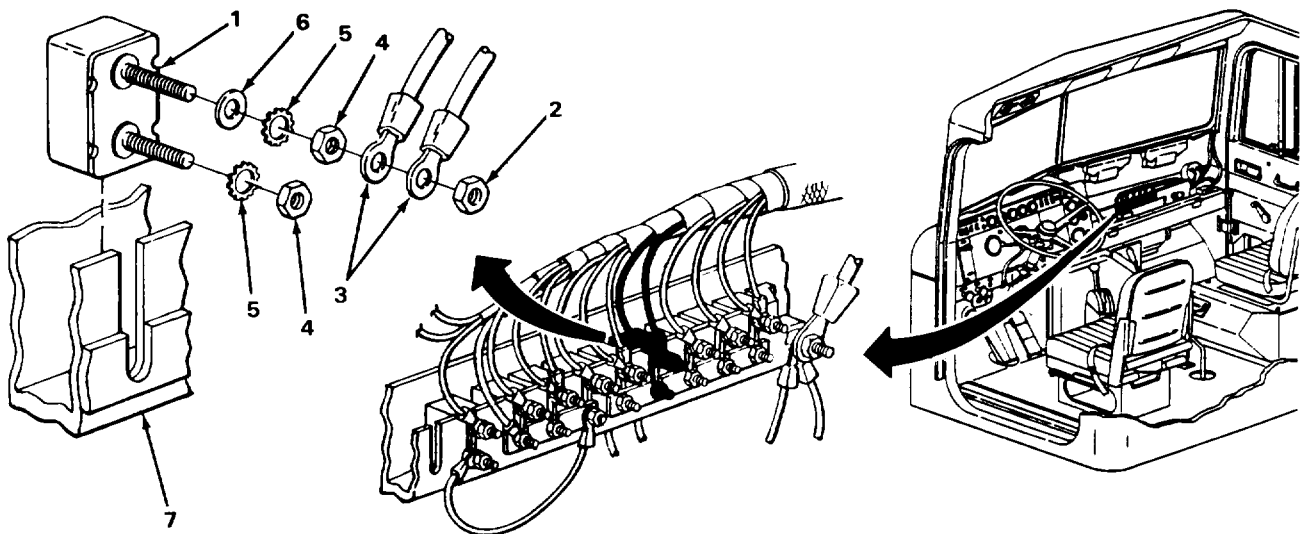
**INSTALLATION**

**CAUTION**

Use only correct amperage circuit breaker, to prevent damage to equipment.

Use care when working behind right instrument panel pad to prevent breaking or disconnecting wires.

4. Circuit breaker panel (7)	Circuit breaker (1)	Slide down into place.	
5. Circuit breaker (1)	Flat washer (6), two new lockwashers (5), and two nuts (4)	Screw on and tighten using 3/8-inch box-end wrench.	
6.	Two wires (3) and new self-locking nut (2)	<ul style="list-style-type: none"> <li>a. Put wires in place.</li> <li>b. Screw on and tighten using 3/8-inch box-end wrench.</li> <li>c. Take off tags.</li> <li>d. Get rid of tags.</li> </ul>	



TA244182

**STOP AND DOME LIGHT 30 AMP CIRCUIT BREAKER - CONTINUED**

**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Connect battery ground cable (page 2-424).
2. Install right instrument panel pad (page 2-424).
3. Close right side cab door (page 2-424).

**TASK ENDS HERE**

**TAIL AND PANEL LIGHT 20 AMP CIRCUIT BREAKER**

This task covers:

- a. Removal (page 2-760)
- b. Installation (page 2-761)

**INITIAL SETUP**

**Tools**

Wrench, box-end, 3/8-inch

**Personnel Required**

One

**Materials/Parts**

Lockwasher, circuit breaker (two required)  
 Nut, self-locking  
 Tags, marker (item 21, appendix C)

**Equipment Condition**

Battery ground cable disconnected (page 2-424).  
 Right cab door opened (page 2-424).  
 Right instrument panel pad removed (page 2-424).

**LOCATION**

**ITEM**

**ACTION**

**REMARKS**

**REMOVAL**

**CAUTION**

Use care when working behind right instrument panel pad to prevent breaking or disconnecting wires.

- |    |  |   |   |
|----|--|---|---|
| 1. | Circuit breaker (1)                                    | Self-locking nut (2) and wire (3) screw and take off. | a. Tag wire (page 2-424).<br>b. Using 3/8-inch box-end wrench, un-                    |
|    |  |   | c. Get rid of self-locking nut.   |
| 2. | Two nuts (4), two lockwashers (5), and flat washer (6) |   | a. Using 3/8-inch box-end wrench, unscrew and take off.<br>b. Get rid of lockwashers. |

**TAIL AND PANEL LIGHT 20 AMP CIRCUIT BREAKER - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
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3. Circuit breaker panel (7)	Circuit breaker (1)	Slide up and take out.	
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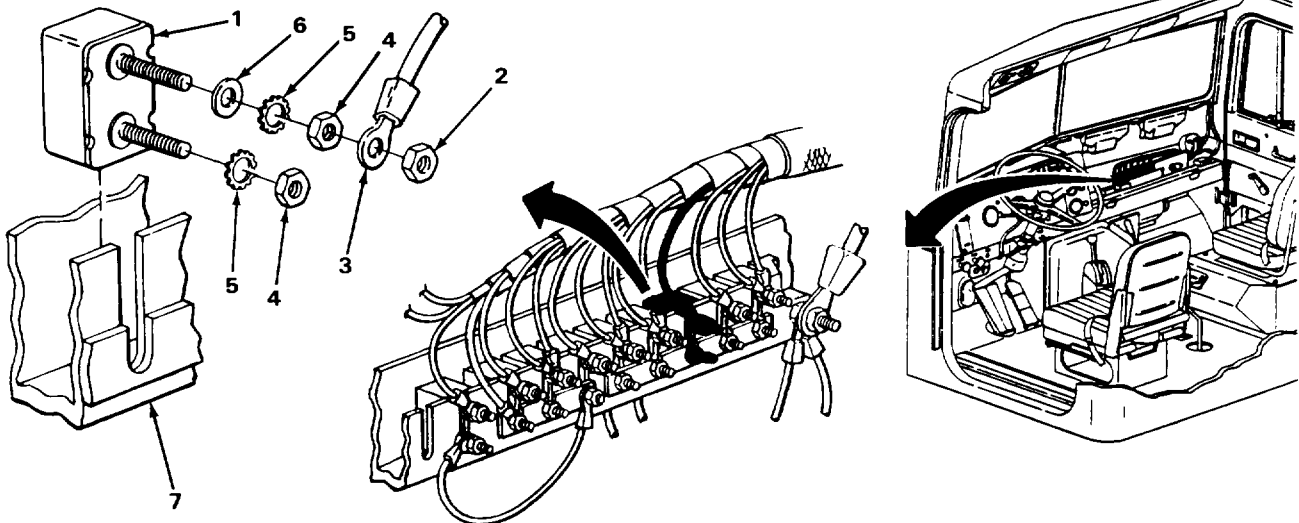
**INSTALLATION**

**CAUTION**

Use only correct amperage circuit breaker, to prevent damage to equipment.

Use care when working behind right instrument panel pad to prevent breaking or disconnecting wires.

4. Circuit breaker panel (7)	Circuit breaker (1)	Slide down into place.	
5. Circuit breaker (1)	Flat washer (6), two new lockwashers (5), and two nuts (4)	Screw on and tighten using 3/8-inch box-end wrench.	
6.	Wire (3) and new self-locking nut (2)	<ul style="list-style-type: none"> <li>a. Put wire in place.</li> <li>b. Screw on and tighten using 3/8-inch box-end wrench.</li> <li>c. Take off tag.</li> <li>d. Get rid of tag.</li> </ul>	



TA244183



**TAIL AND PANEL LIGHT 20 AMP CIRCUIT BREAKER - CONTINUED**

**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Connect battery ground cable (page 2-424).
2. Install right instrument panel pad (page 2-424).
3. Close right side cab door (page 2-424).

**TASK ENDS HERE**

**HEADLIGHT 20 AMP CIRCUIT BREAKER**

This task covers:

- a. Removal (page 2-762)
- b. Installation (page 2-763)

**INITIAL SETUP**

**Tools**

Wrench, box-end, 3/8-inch

**Personnel Required**

One

**Materials/Parts**

Lockwasher, circuit breaker (two required)  
 Nut, self-locking  
 Tags, marker (item 21, appendix C) (page 2-424).

**Equipment Condition**

Battery ground cable disconnected (page 2-424).  
 Right cab door opened (page 2-424).  
 Right instrument panel pad removed

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**

**CAUTION**

Use care when working behind right instrument panel pad to prevent breaking or disconnecting wires.

- |    |                     |  |   |
|----|---------------------|--|---|
| 1. | Circuit breaker (1) | Self-locking nut (2) and wire (3)                      | <ol style="list-style-type: none"> <li>a. Tag wire (page 2-424).</li> <li>b. Using 3/8-inch box-end wrench, unscrew and take off.</li> <li>c. Get rid of self-locking nut.</li> </ol> |
| 2. |                     | Two nuts (4), two lockwashers (5), and flat washer (6) | <ol style="list-style-type: none"> <li>a. Using 3/8-inch box-end wrench, unscrew and take off.</li> <li>b. Get rid of lockwashers.</li> </ol>   |

HEADLIGHT 20 AMP CIRCUIT BREAKER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
3. Circuit breaker panel (7)	Circuit breaker (1)	Slide up and take out.	

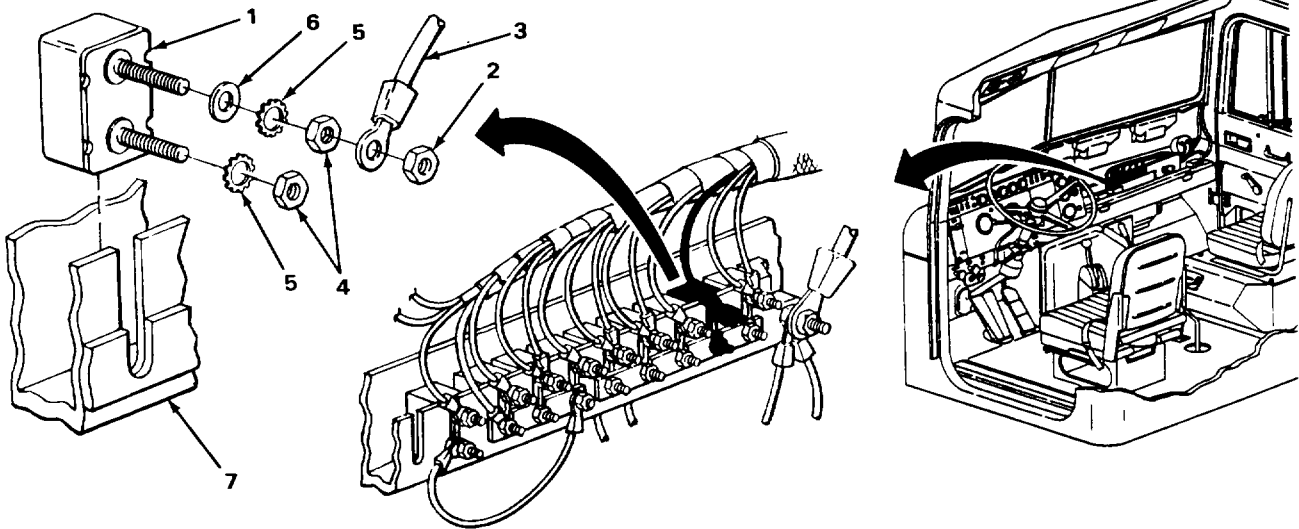
INSTALLATION

**CAUTION**

Use only correct amperage circuit breaker, to prevent damage to equipment.

Use care when working behind right instrument panel pad to prevent breaking or disconnecting wires.

- |                              |  |   |
|------------------------------|--|---|
| 4. Circuit breaker panel (7) | Circuit breaker (1)  | Slide down into place.  |
| 5. Circuit breaker (1)       | Flat washer (6), two new lockwashers (5), and two nuts (4) | Screw on and tighten using 3/8-inch box-end wrench.   |
| 6.                           | Wire (3) and new self-locking nut (2)                      | <ol style="list-style-type: none"> <li>Put wire in place.</li> <li>Screw on and tighten using 3/8-inch box-end wrench.</li> <li>Take off tag.</li> <li>Get rid of tag.</li> </ol> |



TA244184

**HEADLIGHT 20 AMP CIRCUIT BREAKER - CONTINUED**

**NOTE**

FOLLOW-ON MAINTENANCE:

1. Connect battery ground cable (page 2-424).
2. Install right instrument panel pad (page 2-424).
3. Close right side cab door (page 2-424).

**TASK ENDS HERE**

**MARKER LIGHT 30 AMP CIRCUIT BREAKER**

This task covers:

- a. Removal (page 2-764)
- b. Installation (page 2-765)

**INITIAL SETUP**

Tools	Personnel Required
Wrench, box-end, 3/8-inch	One
Materials/Parts	Equipment Condition
Lockwasher, circuit breaker (two required)	Battery ground cable disconnected (page 2-424).
Nut, self-locking	Right side cab door opened (page 2-424).
Tags, marker (item 21, appendix C)	Instrument panel pad removed (page 2-424).

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

**CAUTION**

Use care when working behind right instrument panel pad to prevent breaking or disconnecting wires.

1.	Circuit breaker (1)	Self-locking nut (2) and two wires (3)	<ol style="list-style-type: none"> <li>a. Tag wires (page 2-424).</li> <li>b. Using 3/8-inch box-end wrench, unscrew and take off.</li> <li>c. Get rid of self-locking nut.</li> </ol>
2.		Two nuts (4), two lockwashers (5), and flat washer (6)	<ol style="list-style-type: none"> <li>a. Using 3/8-inch box-end wrench, unscrew and take off.</li> <li>b. Get rid of lockwashers.</li> </ol>

MARKER LIGHT 30 AMP CIRCUIT BREAKER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
3. Circuit breaker	Circuit breaker (1) panel (7)	Slide up and take out.	

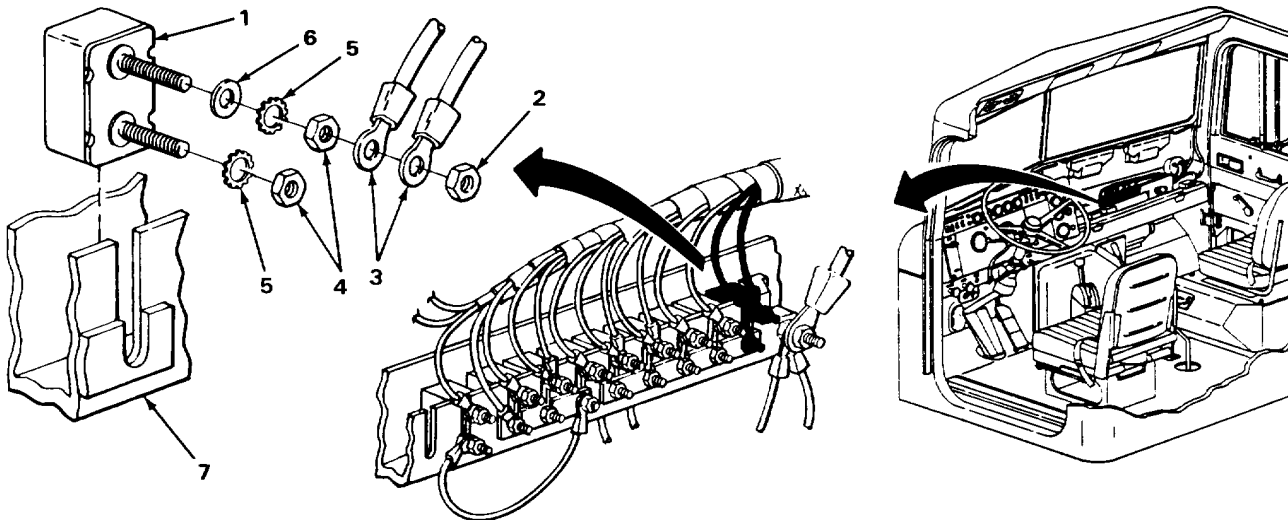
INSTALLATION

**CAUTION**

Use only correct amperage circuit breaker, to prevent damage to equipment.

Use care when working behind right instrument panel pad to prevent breaking or disconnecting wires.

- |                              |  |  |
|------------------------------|--|--|
| 4. Circuit breaker panel (7) | Circuit breaker (1)  | Slide down into place.   |
| 5. Circuit breaker (1)       | Flat washer (6), two new lockwashers (5), and two nuts (4) | Screw on and tighten using 3/8-inch box-end wrench.  |
| 6.                           | Two wires (3) and new self-locking nut (2)                 | <ul style="list-style-type: none"> <li>a. Put wires in place.</li> <li>b. Screw on and tighten using 3/8-inch box-end wrench.</li> <li>c. Take off tags.</li> <li>d. Get rid of tags.</li> </ul> |



TA244185

**MARKER LIGHT 30 AMP CIRCUIT BREAKER - CONTINUED**

**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Connect battery ground cable (page 2-424).
2. Install instrument panel pad (page 2-424).
3. Close right side cab door (page 2-424).

**TASK ENDS HERE**

**FUSE BLOCK**

This task covers:

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>a. Removal (page 2-766)</li> <li>b. Inspection/Replacement</li> <li>c. (page 2-767)</li> </ol> | <ol style="list-style-type: none"> <li>c. Installation (page 2-768)</li> </ol> |
|---|--|

**INITIAL SETUP**

<p>Tools</p> <p>Screwdriver, cross-tip, number two</p> <p>Materials/Parts</p> <p>Tags, marker (item 21, appendix C)</p> <p>Personnel Required</p> <p>One</p>	<p>Equipment Condition</p> <p>Battery ground cable disconnected (page 2-424).</p> <p>Right side cab door opened (page 2-424).</p> <p>Right instrument panel opened (page 2-424).</p> <p>Instrument panel pad removed (page 2-424).</p>
--	--

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**

**CAUTION**

Use care when working behind instrument panel to prevent breaking or disconnecting wires.

- |   |                        |                  |
|---|------------------------|------------------|
| <ol style="list-style-type: none"> <li>1. Fuse block (1)</li> </ol> | <p>Three fuses (2)</p> | <p>Take out.</p> |
|---|------------------------|------------------|

**2-766**

FUSE BLOCK - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
2. Fuse block (1)	Five connectors (3)	a. Tag (page 2-424). b. Pull off.	
3.	Two screws (4)	Using number two cross-tip screwdriver, unscrew and take out.	
4. Instrument panel reinforcement (5)	Fuse block (1)	Take out.	

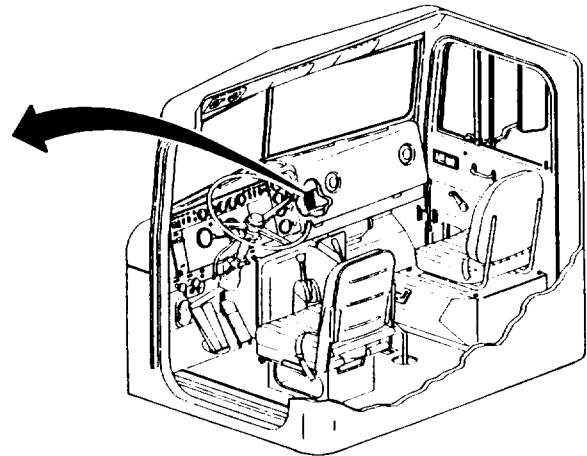
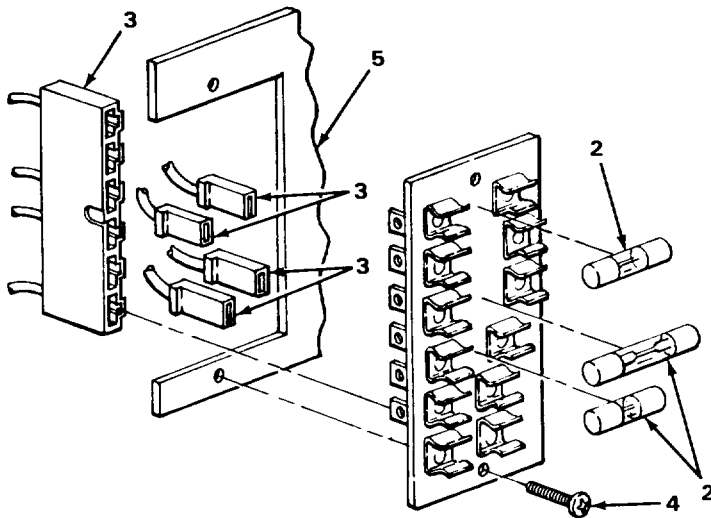
INSPECTION/REPLACEMENT

NOTE

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

- |    |                    |  |
|----|--------------------|--|
| 5. | Fuse block (1)     | Look for cracks, breaks or corrosion.      |
| 6. | All threaded parts | Look for damaged threads or rounded heads. |



TA244186

FUSE BLOCK - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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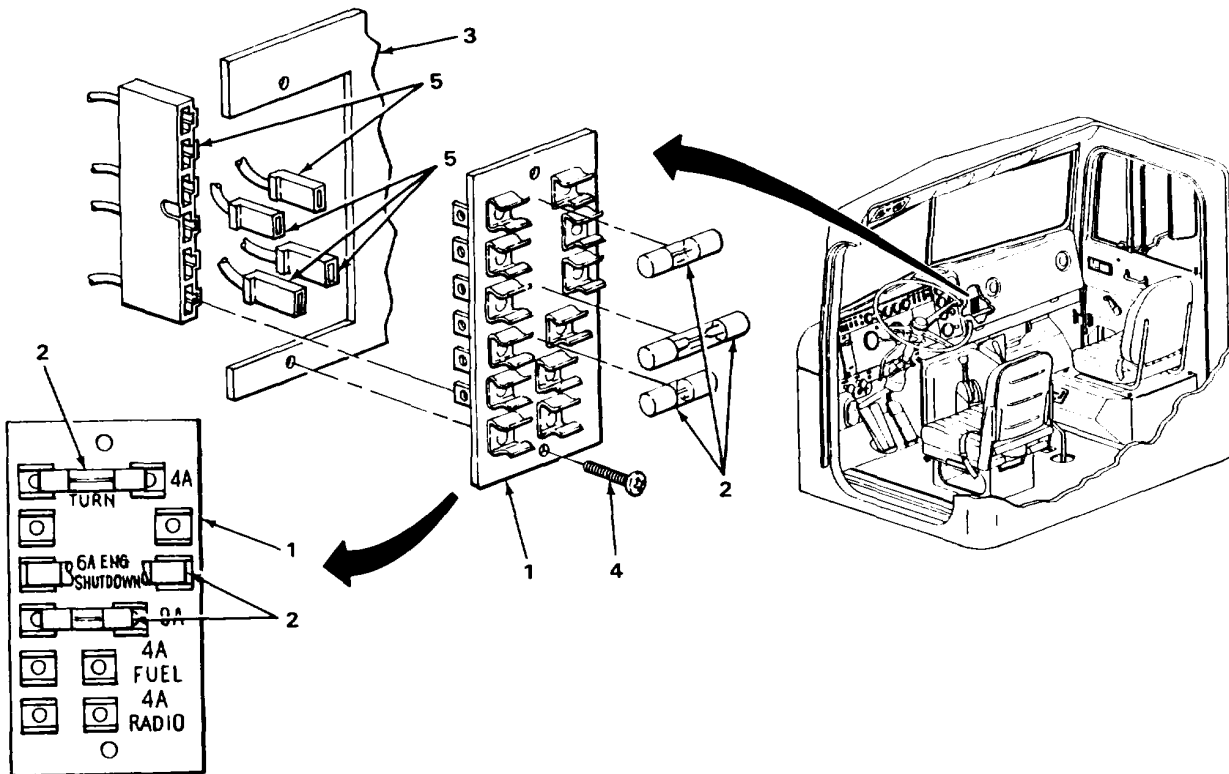
INSTALLATION

**CAUTION**

Use only correct amperage fuses, to prevent damage to equipment.

Use care when working behind instrument panel to prevent breaking or disconnecting wires.

- |                                       |                     |  |
|---------------------------------------|---------------------|--|
| 7. Fuse block (1)                     | Three fuses (2)     | Put in.<br><b>Use correct fuses only.</b>                    |
| 8. Instrument panel reinforcement (3) | Fuse block (1)      | Put in place and hold.                                       |
| 9. Fuse block (1)                     | Two screws (4)      | Screw in and tighten using number two cross-tip screwdriver. |
| 10.                                   | Five connectors (5) | a. Push on.<br>b. Takeoff tags.<br>c. Get rid of tags.       |



TA244187

TA244187

**FUSE BLOCK - CONTINUED****NOTE****FOLLOW-ON MAINTENANCE:**

1. Connect battery ground cable (page 2-424).
2. Close right instrument panel (page 2-424).
3. Install instrument panel pad (page 2-424).
4. Close right side cab door (page 2-424).

**TASK ENDS HERE****IGN SYSTEM STARTER CIRCUIT BREAKER**

This task covers:

- a. Removal (page 2-770)
- b. Installation (page 2-770)

**INITIAL SETUP****Tools**

Screwdriver, flat-tip, 3/8-inch  
Wrench, box-end, 7/16-inch (two  
required)

**Materials/Parts**

Lockwasher, circuit breaker (two  
required)  
Lockwasher, mounting bracket (two  
required)  
Tags, marker (item 21, appendix C)

**Personnel Required**

One

**Equipment Condition**

Battery ground cable disconnected  
(page 2-424).  
Right cab door opened (page 2-424).  
Instrument panel pad removed (page 2-424).  
Engine cover removed (page 2-1270).

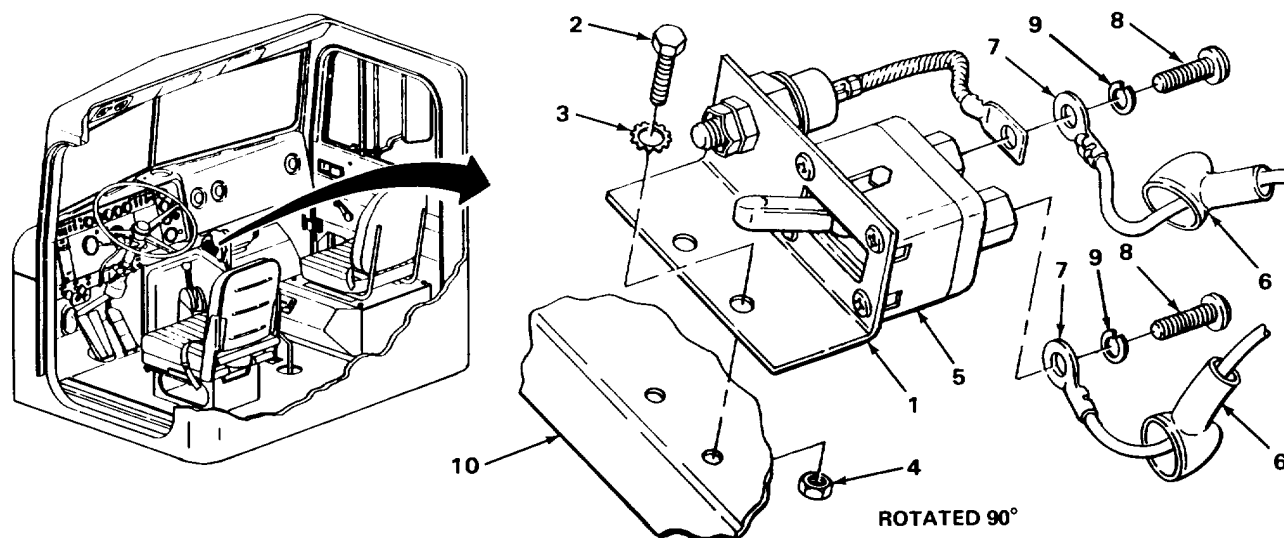
**2-769**



## IGN SYSTEM STARTER CIRCUIT BREAKER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL</b>			
<b><u>CAUTION</u></b>			
Use care when working behind instrument panel to prevent breaking or disconnecting wires.			
1. Mounting bracket (1)	Two screws (2), two lockwashers (3), and two nuts (4)	a. Using two 7/16-inch box-end wrenches, unscrew and take out. b. Get rid of lockwashers.	
2. Circuit breaker (5)	Rubber boot (6)	Pull off and slide back.	
3.	Two wires (7), two screws (8), and two lockwashers (9)	a. Tag wires (page 2-424). b. Using 3/8-inch flat-tip screwdriver, unscrew and take out. c. Get rid of lockwashers.	
4. Lower instrument panel support (10)	Circuit breaker (5)	Take out.	
<b>INSTALLATION</b>			
<b><u>CAUTION</u></b>			
Use care when working behind instrument panel to prevent breaking or disconnecting wires.			
5. Lower instrument panel support (10)	Circuit breaker (5)	Put in place and hold.	
6. Circuit breaker (5)	Two wires (7), two screws (8), and two new lockwashers (9)	a. Put wires in correct position. b. Screw in and tighten using 3/8-inch flat-tip screwdriver. c. Take off tags. d. Get rid of tags.	
7.	Rubber boot (6)	Slide down and put on.	
8. Mounting bracket (1)	Two screws (2), two new lockwashers (3), and two nuts (4)	Screw in and tighten using two 7/16-inch box-end wrenches.	

**IGN SYSTEM STARTER CIRCUIT BREAKER - CONTINUED**



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Connect battery ground cable (page 2-424).
2. Install instrument panel pad (page 2-424).
3. Install engine cover (page 2-1270).
4. Close right side cab door (page 2-424).

**TASK ENDS HERE**

**CENTER ENGINE SIDE OF FIREWALL JUNCTION BOX**

This task covers:

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>a. Removal (page 2-772)</li> <li>b. Inspection/Replacement (page 2-772)</li> </ol> | <ol style="list-style-type: none"> <li>c. Installation (page 2-773)</li> </ol> |
|---|--|

**INITIAL SETUP**

**Tools**

Screwdriver, cross-tip, number two  
Wrench, box-end, 3/8-inch

**Materials/Parts**

Nut, self-locking (sixteen required)  
Tags, marker (item 21, appendix C)

**CENTER ENGINE SIDE OF FIREWALL JUNCTION BOX - CONTINUED**

**INITIAL SETUP - CONTINUED**

Personnel Required

One

Equipment Condition

Battery ground cable disconnected (page 2-424).  
Right and left side hood panels opened (page 2-424).

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
1. Junction box (1) and cover (3)	Two wingscrews (2)	Unscrew and take out.
2. Thirty wires (4) and sixteen self-locking	nuts (5)	a. Tag wires (page 2-424). b. Using 3/8-inch box-end wrench, unscrew and take off. c. Get rid of self-locking nuts.
3. Firewall (6)	Two screws (7), two cover mounting brackets (8), and junction box (1)	Using number two cross-tip screwdriver, unscrew and take out.

**INSPECTION/REPLACEMENT**

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

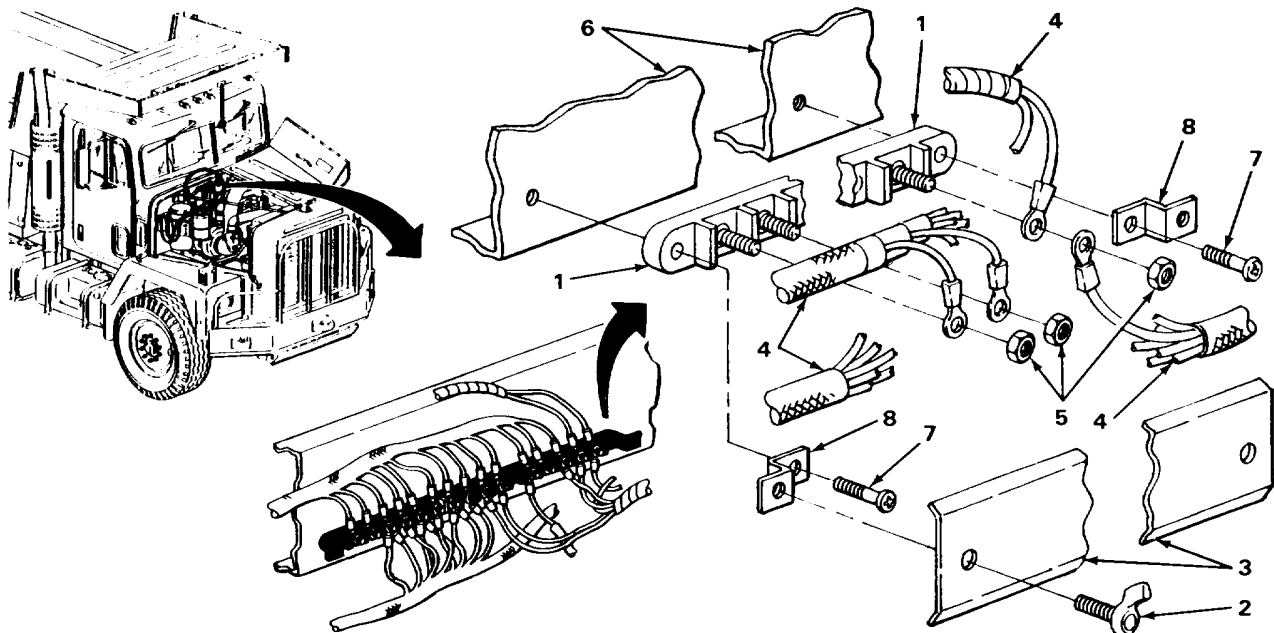
4.	Junction box (1)	Look for cracks, breaks, or corrosion.
5.	Cover mounting brackets (8)	Look for cracks, breaks, or bends.
6.	All threaded parts heads.	Look for damaged threads or rounded

CENTER ENGINE SIDE OF FIREWALL JUNCTION BOX - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

INSTALLATION

- |    |                  |   |   |
|----|------------------|---|---|
| 7. | Firewall (6)     | Junction box (1), two cover mounting brackets (8), and two screws (7) | Screw in and tighten using number two cross-tip screwdriver.  |
| 8. | Junction box (1) | Thirty wires (4) and sixteen new self-locking nuts (5)                | a. Put wires in place. See table below.<br>b. Screw on and tighten using 3/8-inch box-end wrench.<br>c. Take off tags.<br>d. Get rid of tags. |
| 9. |                  | Cover (3) and two wingscrews (2)                                      | a. Put cover in place.<br>b. Screw in and tighten.  |



WIRE	54A	64A	58D	57	52	56	53	85A	18A	19		19A	30	77C	2	2A
POST	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
WIRE			58A 58	57	52A 52	56	53A 53	85	18A	19		19A		77C	2	2A

TA244189

**CENTER ENGINE SIDE OF FIREWALL JUNCTION BOX - CONTINUED**

**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Connect battery ground cable (page 2-424).
2. Close right and left side hood panels (page 2-424).

**TASK ENDS HERE**

**RIGHT ENGINE SIDE OF FIREWALL JUNCTION BOX**

---

This task covers:

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>a. Removal (page 2-774)</li> <li>b. Inspection/Replacement (page 2-775)</li> </ol> | <ol style="list-style-type: none"> <li>c. Installation (page 2-776)</li> </ol> |
|---|--|
- 

**INITIAL SETUP**

<p>Tools</p> <p>Wrench, box-end, 38-inch Wrench, box-end, 7/16-inch Wrench, open-end, 7/16-inch</p> <p>Materials/Parts</p> <p>Nut, self-locking (eight required) Tags, marker (item 21, appendix C)</p>	<p>Personnel Required</p> <p>One</p> <p>Equipment Condition</p> <p>Battery ground cable disconnected (page 2-424). Right side hood panel opened (page 2-424).</p>
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LOCATION	ITEM	ACTION REMARKS
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**REMOVAL**

1.	Junction box (1)	Two wingnuts (2) and cover (3)	Unscrew and take off.
2.		Ten wires (4) and eight self-locking nuts (5)	<ol style="list-style-type: none"> <li>a. Tag wires (page 2-424).</li> <li>b. Using 3/8-inch box-end wrench, unscrew and take off.</li> <li>c. Get rid of self-locking nuts.</li> </ol>

**RIGHT ENGINE SIDE OF FIREWALL JUNCTION BOX - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
3. Junction box (1)	Two wires (6) and nut (7)	a. Tag wires (page 2-424). b. Using 7/16-inch box-end wrench, unscrew and take off.	
4. Firewall (8)	Two nuts (9) and junction box (1)	Using 7/16-inch open-end wrench and 7/16-inch box-end wrench, unscrew and take off.	

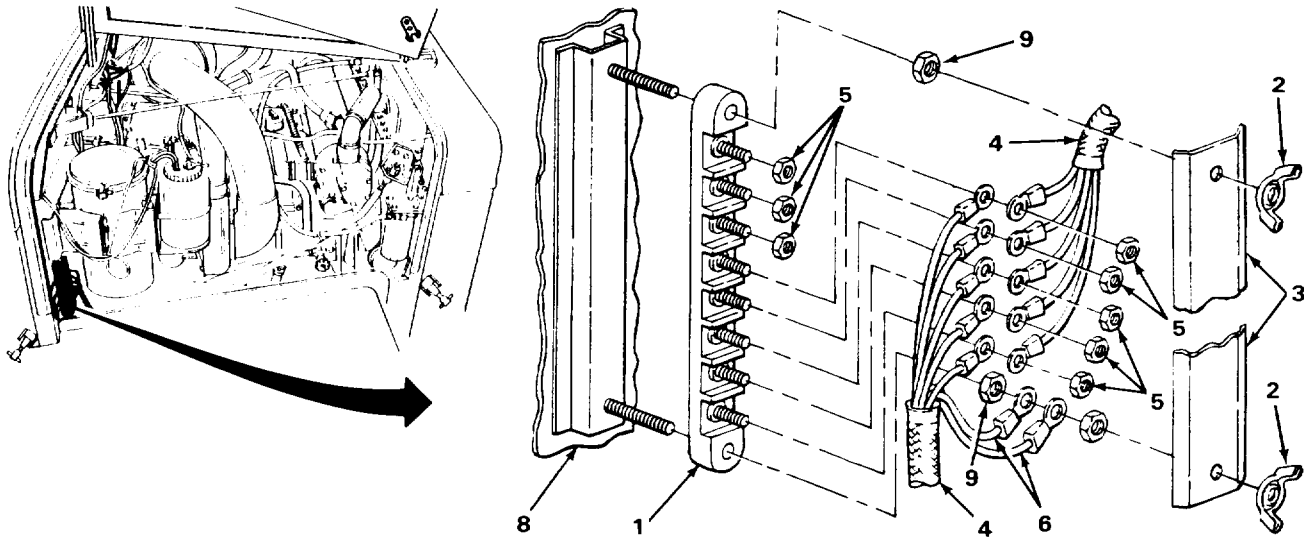
**INSPECTION/REPLACEMENT**

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

- |    |                    |  |
|----|--------------------|--|
| 5. | Junction box (1)   | Look for cracks, breaks, or corrosion.     |
| 6. | Cover (3)          | Look for cracks or breaks.                 |
| 7. | All threaded parts | Look for damaged threads or rounded heads. |



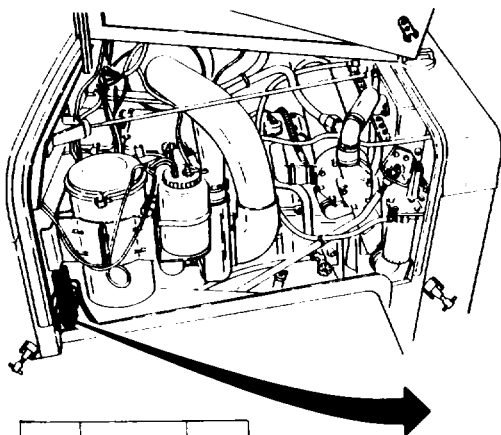
TA244190

RIGHT ENGINE SIDE OF FIREWALL JUNCTION BOX - CONTINUED

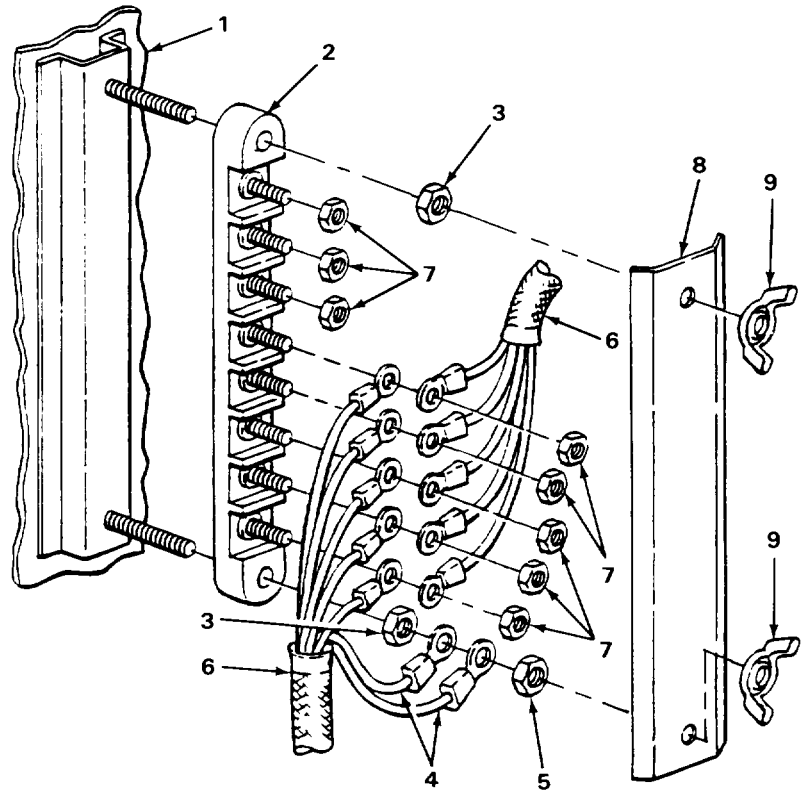
LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

INSTALLATION

- |     |                  |   |  |
|-----|------------------|---|--|
| 8.  | Firewall (1)     | Junction box (2) and two nuts (3)                 | <ol style="list-style-type: none"> <li>Put junction box in place.</li> <li>Screw on and tighten using 7/16-inch open-end wrench and 7/16-inch box-end wrench.</li> </ol>                               |
| 9.  | Junction box (2) | Two wires (4) and nut (5)                         | <ol style="list-style-type: none"> <li>Put wires in place. See table below.</li> <li>Screw on and tighten using 7/16-inch box-end wrench.</li> <li>Take off tags.</li> <li>Get rid of tags.</li> </ol> |
| 10. |                  | Ten wires (6) and eight new self-locking nuts (7) | <ol style="list-style-type: none"> <li>Put wires in place.</li> <li>Screw on and tighten using 3/8-inch box-end wrench.</li> <li>Takeoff tags.</li> <li>Get rid of tags.</li> </ol>                    |
| 11. |                  | Cover (8) and two wingnuts (9)                    | <ol style="list-style-type: none"> <li>Put cover in place.</li> <li>Screw on and tighten.</li> </ol>   |



	1	
	2	
	3	
85	4	85
53A	5	53
52A	6	52
57	7	55
58A	8	58
11A	GROUND	11



TA244191

**RIGHT ENGINE SIDE OF FIREWALL JUNCTION BOX - CONTINUED****NOTE****FOLLOW-ON MAINTENANCE:**

1. Connect battery ground cable (page 2-424).
2. Close right side hood panel (page 2-424).

**TASK ENDS HERE****LEFT ENGINE SIDE OF FIREWALL JUNCTION BOX**

This task covers:

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>a. Removal (page 2-778)</li> <li>b. Inspection/Replacement<br/>(page 2-778)</li> </ol> | <ol style="list-style-type: none"> <li>c. Installation (page 2-778)</li> </ol> |
|---|--|

**INITIAL SETUP**

## Tools

Wrench, box-end, 3/8-inch  
 Wrench, box-end, 7/16-inch  
 Wrench, open-end, 7/16-inch

## Materials/Parts

Nut, self-locking (eight required)  
 Tags, marker (item 21, appendix C)

## Personnel Required

One

## Equipment Condition

Battery ground cable disconnected  
 (page 2-424).  
 Left side hood panel opened (page 2-424).

**2-777**

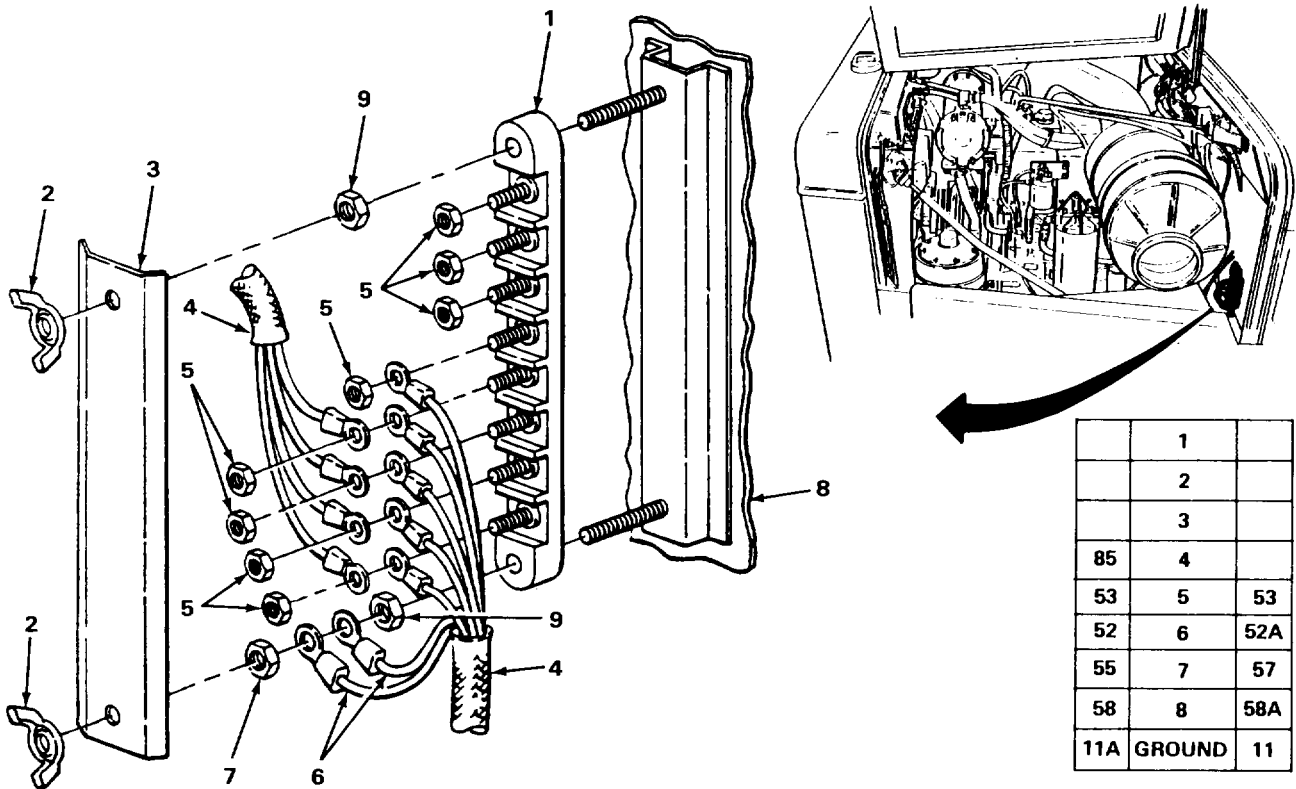


## LEFT ENGINE SIDE OF FIREWALL JUNCTION BOX - CONTINUED

LOCATION	ITEM	ACTION REMARKS	
<b>REMOVAL</b>			
1.	Junction box (1)	Two wingnuts (2) and cover (3)	Unscrew and take off.
2.	Nine wires (4) and eight self-locking nuts (5)		a. Tag wires (page 2-424). b. Using 3/8-inch box-end wrench, unscrew and take off. c. Get rid of self-locking nuts.
3.	Two wires (6) and nut (7)		a. Tag wires (page 2-424). b. Using 7/16-inch box-end wrench, unscrew and take off.
4.	Firewall (8)	Two nuts (9) and junction box (1)	Using 7/16-inch open-end wrench and 7/16-inch box-end wrench, unscrew and take off.
<b>INSPECTION/REPLACEMENT</b>			
<b>NOTE</b>			
Replace all damaged or defective parts.			
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).			
5.	Junction box (1)		Look for cracks, breaks, or corrosion.
6.	Cover (3)		Look for cracks or breaks.
7.	All threaded parts		Look for damaged threads or rounded heads.
<b>INSTALLATION</b>			
8.	Firewall (8)	Junction box (1) and two nuts (9)	a. Put junction box in place. b. Screw on and tighten using 7/16-inch open-end wrench and 7/16-inch box-end wrench.

LEFT ENGINE SIDE OF FIREWALL JUNCTION BOX - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
9.	Junction box (1) Two wires (6) and nut (7)	a. Put wires in place. b. Screw on and tighten using 7/16-inch box-end wrench. c. Take off tags. d. Get rid of tags.	
10.	Nine wires (4) and eight new self-locking nuts (5)	a. Put wires in place. See table below. b. Screw on and tighten using 7/16-inch box-end wrench. c. Take off tags. d. Get rid of tags.	
11.	Cover (3) and two wingnuts (2)	a. Put cover in place. b. Screw on and tighten.	



	1	
	2	
	3	
85	4	
53	5	53
52	6	52A
55	7	57
58	8	58A
11A	GROUND	11

TA244192

**LEFT ENGINE SIDE OF FIREWALL JUNCTION BOX - CONTINUED**

**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Connect battery ground cable (page 2-424).
2. Close left side hood panel (page 2-424).

**TASK ENDS HERE**

**FRONT REAR OF CAB JUNCTION BOX**

This task covers:

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>a. Removal (page 2-780)</li> <li>b. Inspection/Replacement (page 2-782)</li> </ol> | <ol style="list-style-type: none"> <li>c. Installation (page 2-782)</li> </ol> |
|---|--|

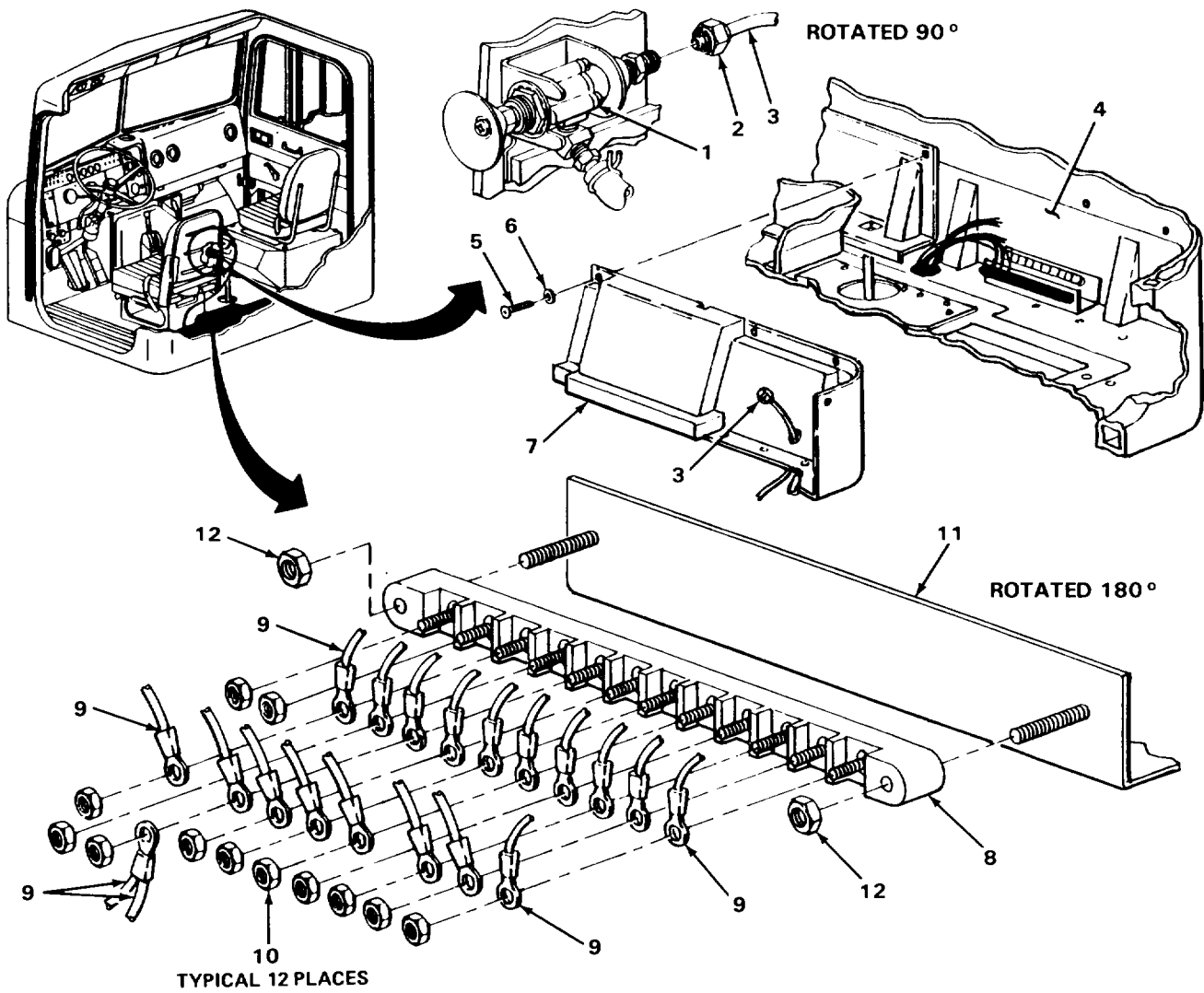
**INITIAL SETUP**

<p><b>Tools</b></p> <p>Screwdriver, cross-tip, number two  Wrench, box-end, 3/8-inch  Wrench, box-end, 7/16-inch  Wrench, open-end, 9/16-inch</p> <p><b>Materials/Parts</b></p> <p>Nut, self-locking (12 required)  Tags, marker (item 21, appendix C)</p>	<p><b>Personnel Required</b></p> <p>One</p> <p><b>Equipment Condition</b></p> <p>Battery ground cable disconnected (page 2-424).  Left side cab door opened (page 2-424).  Airbrake system drained (page 2-1034).</p>
--	---

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
1.	Driver seat valve assembly (1) Line nut (2) and air line (3)	Using 9/16-inch open-end wrench, unscrew and take off.
2.	Left lower rear molding (4) washers (6)	Using number two cross-tip screwdriver, unscrew and take out.
3.	Left side rear cab wall (7) molding (4)	<ol style="list-style-type: none"> <li>a. Push air line through hole in molding.</li> <li>b. Take out molding.</li> </ol>

FRONT REAR OF CAB JUNCTION BOX - CONTINUED

LOCATION	ITEM	ACTION REMARKS
4. Junction box (8)	Nineteen wires (9) and twelve self-locking nuts (10)	a. Tag wires (page 2-424). b. Using 3/8-inch box-end wrench, unscrew and take off. c. Get rid of self-locking nuts.
5. Junction box support (11)	Two nuts (12) and junction box (8)	Using 7/16-inch box-end wrench, unscrew and take off.

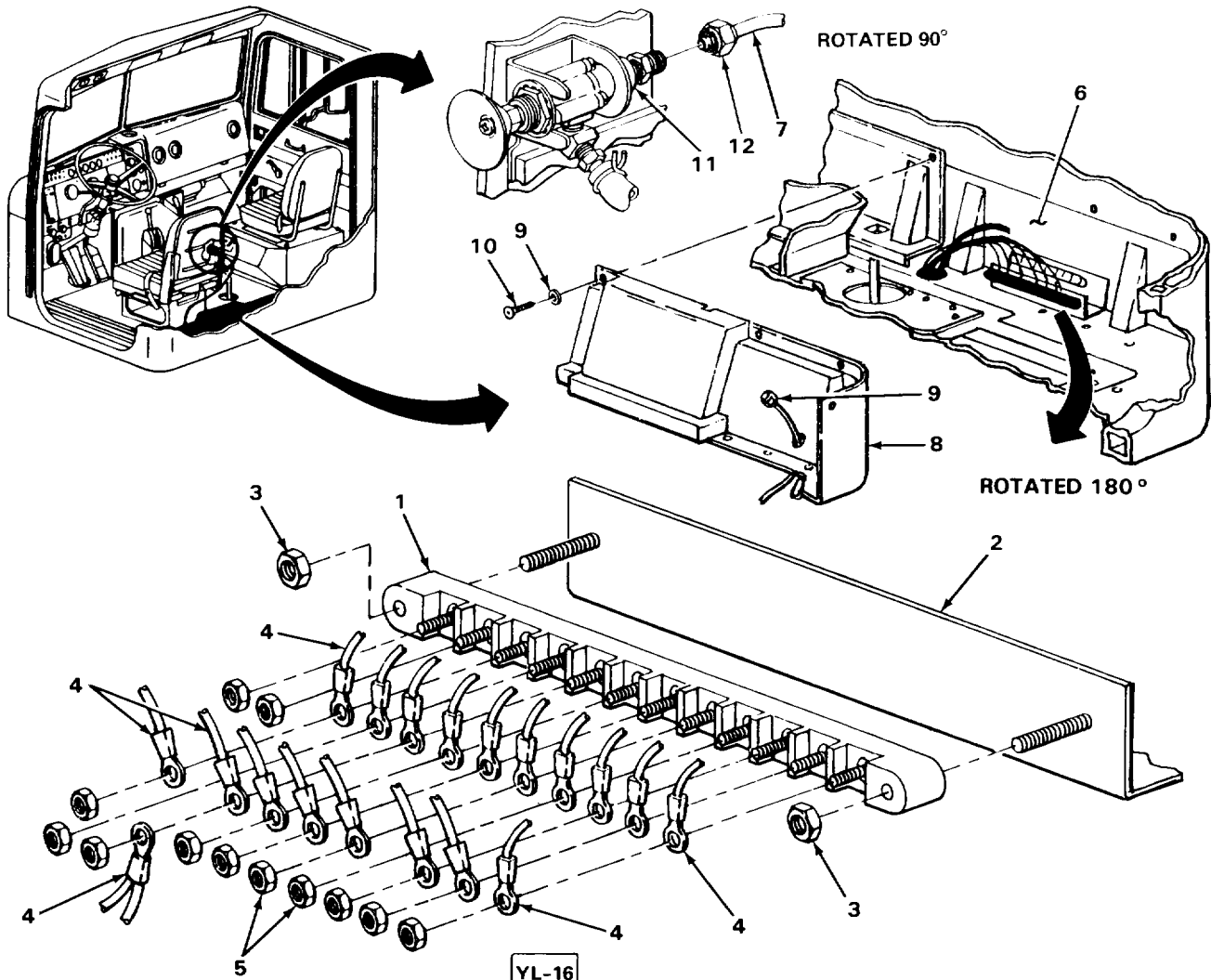


TA244193

## FRONT REAR OF CAB JUNCTION BOX - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION/REPLACEMENT</b>			
<b>NOTE</b>			
Replace all damaged or defective parts.			
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).			
6.	Junction box (1)	Look for cracks, breaks, or corrosion.	
7.	All threaded parts heads.	Look for damaged threads or rounded	
<b>INSTALLATION</b>			
8.	Junction box support (2)	Junction box (1) and two nuts (3)	a. Put junction box in place. See table below. b. Screw on and tighten using 7/16-inch box-end wrench.
9.	Junction box (1)	Nineteen wires (4) and twelve new self-locking nuts (5)	a. Put wires in place. b. Screw on and tighten using 3/8-inch box-end wrench. c. Take off tags. d. Get rid of tags.
10.	Left side rear cab wall (6)	Air line (7) and left lower rear molding (8)	a. Push air line through hole in molding. b. Put molding in place.
11.	Left lower rear molding (8)	Eight flat washers (9) and eight screws (10)	Screw in and tighten using number two cross-tip screwdriver.
12.	Driver seat valve assembly (11)	Air line (7) and line nut (12)	a. Put line in place. b. Screw on and tighten using 9/16-inch open-end wrench.

FRONT REAR OF CAB JUNCTION BOX - CONTINUED



TYPICAL 12 PLACES

WIRE	TYPICAL 12 PLACES											
	12	11	10	9	8	7	6	5	4	3	2	1
			17B		71A	31	31A	32A		17C	17B	36
			17B	37G	17A	31	31A	92A	32A	17C	17B	36
POST	12	11	10	9	8	7	6	5	4	3	2	1

YL-16  
GN-14

2-X-68

NOTE

FOLLOW-ON MAINTENANCE:

1. Connect battery ground cable (page 2-424).
2. Close left side cab door (page 2-424). TA244194

TASK ENDS HERE

TA244194

**REAR REAR OF CAB JUNCTION BOX**

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This task covers:

- a. Removal (page 2-784)
  - b. Inspection/Replacement (page 2-786)
  - c. Installation (page 2-786)
- 

**INITIAL SETUP**

Tools

Screwdriver, cross-tip, number two  
 Wrench, box-end, 3/8-inch  
 Wrench, box-end, 7/16-inch  
 Wrench, open-end, 9/16-inch

Materials/Parts

Nut, self-locking (eight required)  
 Tags, marker (item 21, appendix C)

Personnel Required

One

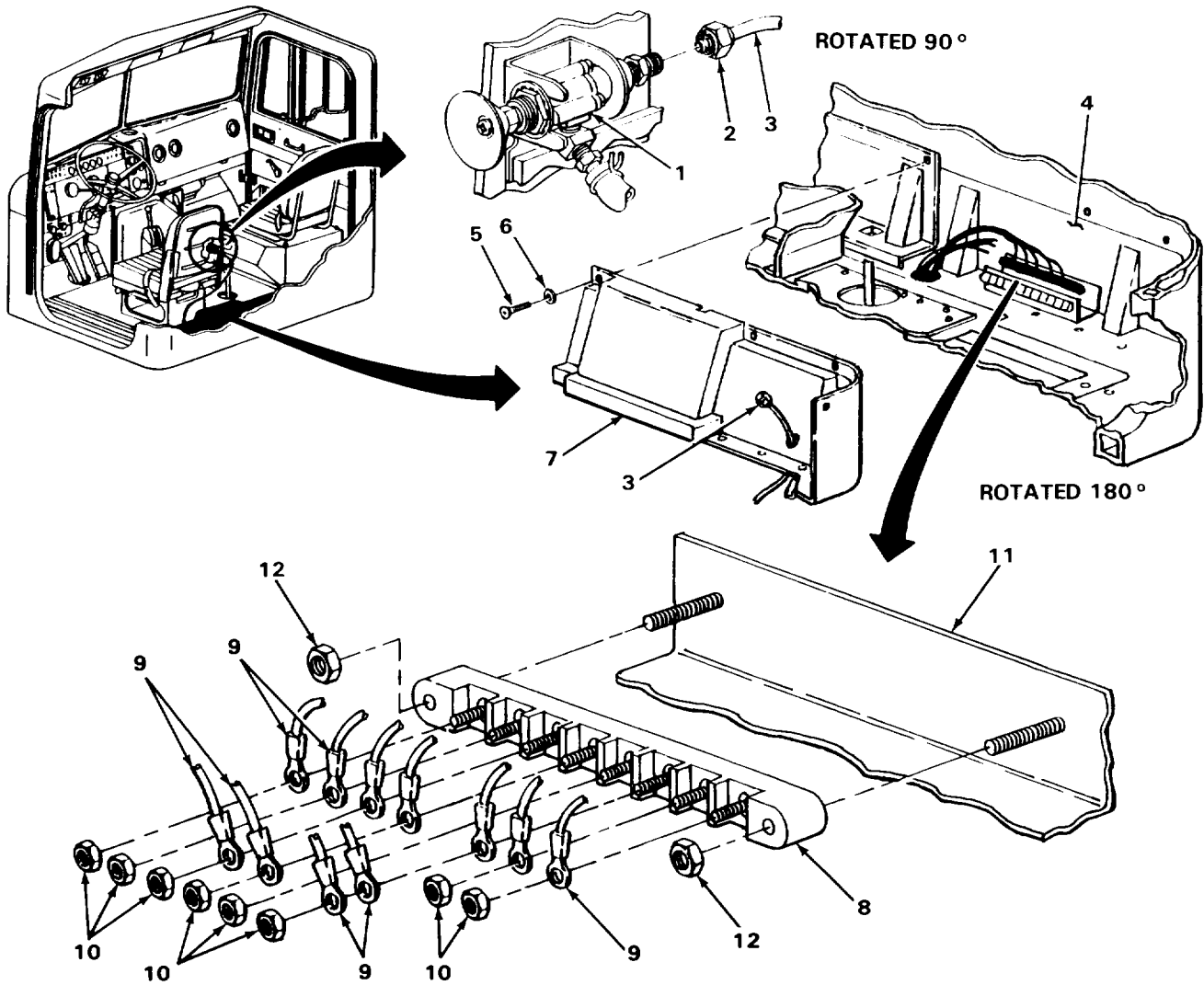
Equipment Condition

Battery ground cable disconnected (page 2-424).  
 Left cab side door opened (page 2-424).  
 Airbrake system drained (page 2-1034).

---

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
1.	Driver seat valve assembly (1) Line nut (2) and air line (3)	Using 9/16-inch open-end wrench, unscrew and take off.
2.	Left lower rear molding (4) Eight screws (5) and eight flat washers (6)	Using number two cross-tip screwdriver, unscrew and take out.
3.	Left side rear cab wall (7) Air line (3) and left lower rear molding (4)	a. Push air line through hole in molding. b. Take out molding.
4.	Junction box (8) Eleven wires (9) and eight self-locking nuts (10)	a. Tag wires (page 2-424). b. Using 3/8-inch box-end wrench, unscrew and take off. c. Get rid of self-locking nuts.
5.	Junction box support (11) Two nuts (12) and junction box (8)	Using 7/16-inch box-end wrench, unscrew and take off.

REAR REAR OF CAB JUNCTION BOX - CONTINUED



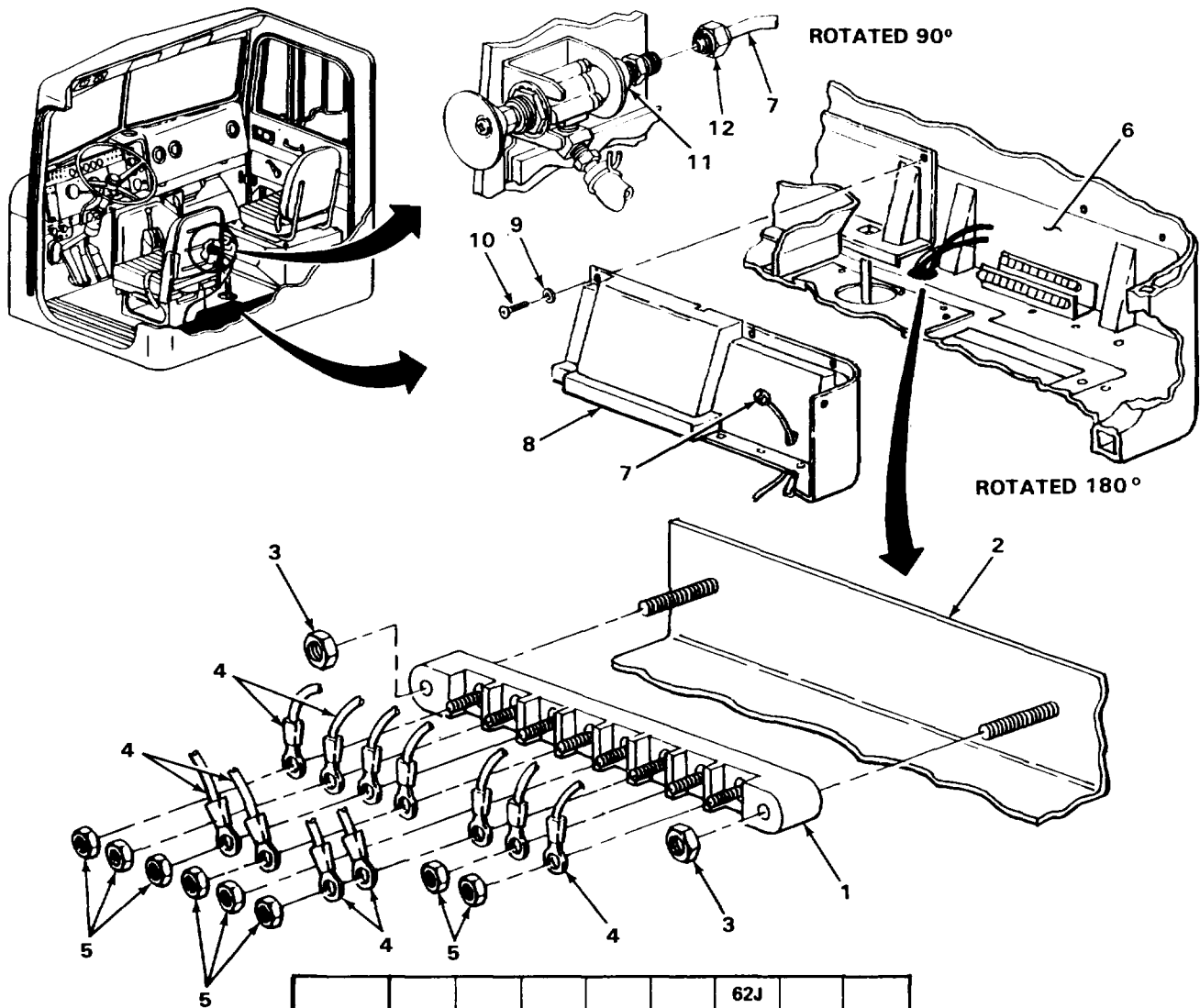
TA244195



## REAR REAR OF CAB JUNCTION BOX - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION/REPLACEMENT</b>			
<b>NOTE</b>			
Replace all damaged or defective parts.			
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).			
6.	Junction box (1)		Look for cracks, breaks, or corrosion.
7.	All threaded parts		Look for damaged threads or rounded heads.
<b>INSTALLATION</b>			
8.	Junction box support (2)	Junction box (1) and two nuts (3)	a. Put junction box in place. b. Screw on and tighten using 7/16-inch box-end wrench.
9.	Junction box (1)	Eleven wires (4) and eight new self-locking nuts (5)	a. Put wires in place. See table below. b. Screw on and tighten using 3/8-inch box-end wrench. c. Take off tags. d. Get rid of tags.
10.	Left side rear cab wall (6)	Air line (7) and left lower rear molding (8)	a. Push air line through hole in molding. b. Put molding in place.
11.	Left lower rear molding (8)	Eight flat washers (9) and eight screws (10)	Screw in and tighten using number two cross-tip screwdriver.
12.	Driver seat valve assembly (11)	Air line (7) and line nut (12)	a. Put line in place. b. Screw on and tighten using 9/16-inch open-end wrench.

REAR REAR OF CAB JUNCTION BOX - CONTINUED



WIRE			14YL	14GN		62J		
	70B	70D	56B	57B		68A	58B	72
POST	8	7	6	5	4	3	2	1

NOTE

FOLLOW-ON MAINTENANCE:

1. Connect battery ground cable (page 2-424).
2. Close left cab door (page 2-424).

TASK ENDS HERE

TA244196

**LEFT STOPLIGHT/TAILLIGHT ASSEMBLY**

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This task covers:

- a. Removal (page 2-788)
  - b. Disassembly (page 2-788)
  - c. Inspection/Replacement (page 2-789)
  - d. Assembly (page 2-790)
  - e. Installation (page 2-790)
- 

**INITIAL SETUP**

Tools

Screwdriver, cross-tip, number one  
Wrench, box-end, 7/16-inch

Personnel Required

One

Materials/Parts

Gasket, lens, stoplight/taillight assembly  
Lockwasher, stoplight/taillight assembly  
(three required)  
Tags, marker (item 21, appendix C)

---

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
1.	Stoplight/taillight assembly (1)	Terminal cover (2) and four screws (3)
Using number one cross-tip screwdriver, unscrew and take out.		
2.	Seven wires (4)	
a. Tag wires (page 2-424). b. Take off.		
3.	Bracket (5)	Stoplight/taillight assembly (1), three nuts (6), and three lockwashers (7)
a. Hold stoplight/taillight assembly. b. Using 7/16-inch box-end wrench, unscrew and take out. c. Get rid of lockwashers.		
<b>DISASSEMBLY</b>		
4.	Stoplight/taillight assembly (1) gasket (10)	Four screws (8), lens (9), and
a. Using number one cross-tip screwdriver, unscrew and take out. b. Get rid of gasket.		
5.	Tail, turn, and stop lamp (11)	
Push in, turn counterclockwise, and take out.		
6.	Backup lamp (12)	
Push in, turn counterclockwise, and take out.		

LEFT STOPLIGHT/TAILLIGHT ASSEMBLY - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

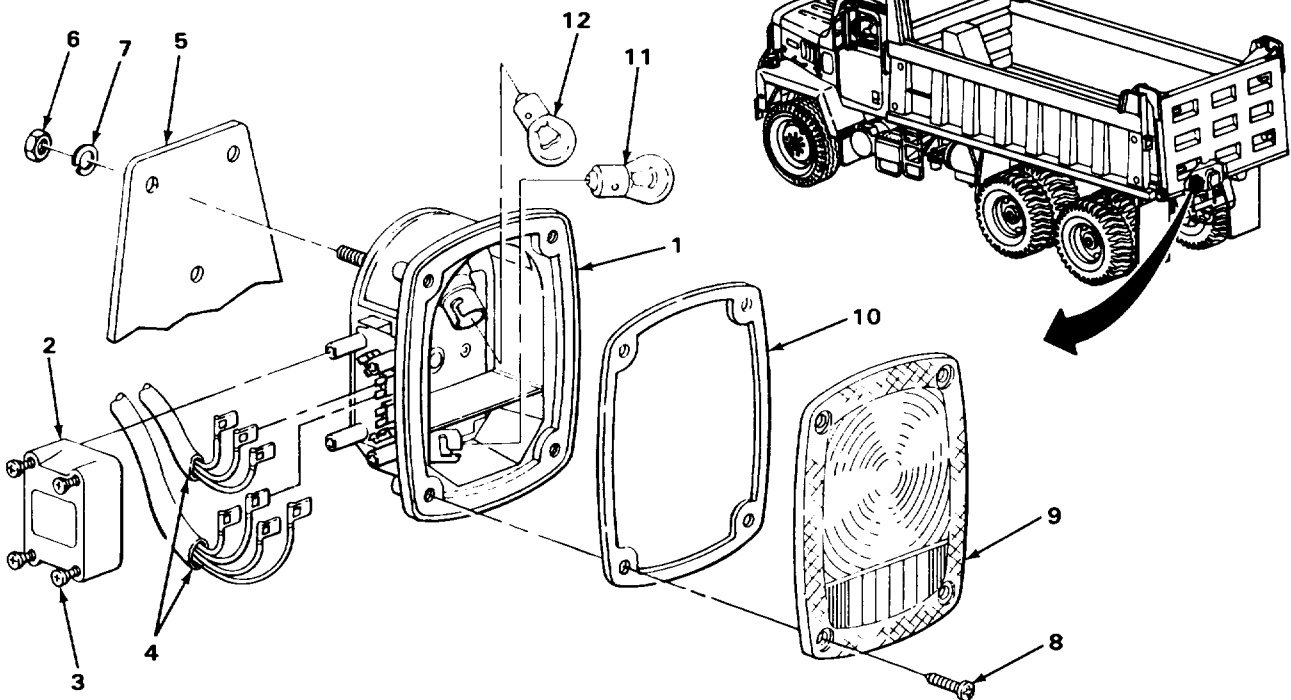
INSPECTION/REPLACEMENT

NOTE

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

- |    |   |  |
|----|---|--|
| 7. | Stoptlight/taillight assembly (1), lens (9), and terminal cover (2) | Look for cracks, breaks, or corrosion. |
| 8. | All threaded parts heads.   | Look for damaged threads or rounded    |

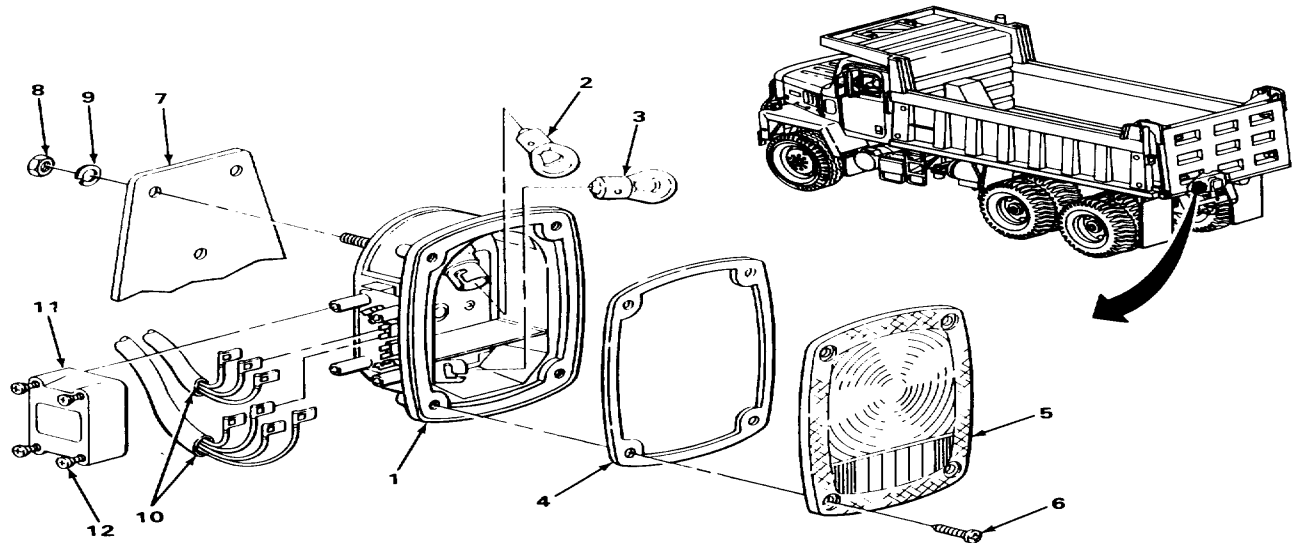


TA244197

## LEFT STOPLIGHT/TAILLIGHT ASSEMBLY - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>ASSEMBLY</b>			
9.	Stoplight/taillight	Backup lamp (2) assembly (1)	<ul style="list-style-type: none"> <li>a. Aline pins on lamp with slots in stoplight/taillight assembly.</li> <li>b. Push in, turn clockwise, and release.</li> </ul>
10.		Tail, turn, and stop lamp (3)	<ul style="list-style-type: none"> <li>a. Aline pins on lamp with slot in stoplight/taillight assembly.</li> <li>b. Push in, turn clockwise, and release. <b>If lamp will not turn, take out, turn 180 degrees, and repeat a and b.</b></li> </ul>
11.		New gasket (4), lens (5), and four screws (6)	<ul style="list-style-type: none"> <li>a. Put gasket in place.</li> <li>b. Put lens in place.</li> <li>c. Screw in and tighten using number one cross-tip screwdriver.</li> </ul>
<b>INSTALLATION</b>			
<b>NOTE</b>			
Taillight and bracket mating surfaces must be free of paint, dirt, and grease to ensure proper ground.			
12.	Bracket (7)	Stoplight/taillight assembly (1), three nuts (8), and three new lockwashers (9)	<ul style="list-style-type: none"> <li>a. Hold stoplight/taillight assembly in place.</li> <li>b. Screw in and tighten using 7/16 inch box-end wrench.</li> </ul>
13.	Stoplight/taillight (1)	Seven wires (10)	<ul style="list-style-type: none"> <li>a. Put wires in correct position and push on.</li> <li>b. Take off tags.</li> <li>c. Get rid of tags.</li> </ul>
14.		Terminal cover (11) and four screws (12)	<ul style="list-style-type: none"> <li>a. Put cover in place.</li> <li>b. Screw in and tighten using number one cross-tip screwdriver.</li> </ul>

**LEFT STOPLIGHT/TAILLIGHT - CONTINUED**



**TASK ENDS HERE**

**RIGHT STOPLIGHT/TAILLIGHT ASSEMBLY**

This task covers:

- a. Removal (page 2-792)
- b. Disassembly (page 2-792)
- c. Inspection/Replacement (page 2-792)
- d. Assembly (page 2-793)
- e. Installation (page 2-794)

**INITIAL SETUP**

**Tools**

Screwdriver, cross-tip, number one  
Wrench, box-end, 7/16-inch

**Personnel Required**

One

**Materials/Parts**

Gasket, lens, stoplight/taillight assembly  
Lockwasher, stoplight/taillight assembly  
(three required)  
Tags, marker (item 21, appendix C)

TA244198

## RIGHT STOPLIGHT/TAILLIGHT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL</b>			
1.	Stoplight/taillight assembly (1)		Using number one cross-tip screwdriver, unscrew and take out.
2.			a. Tag wires (page 2-424). b. Take off.
3.	Bracket (5)		a. Hold stoplight/taillight. b. Using 7/16-inch box-end wrench, unscrew and take out. c. Get rid of lockwashers.
<b>DISASSEMBLY</b>			
4.	Stoplight/taillight (1) gasket (10)		a. Using number one cross-tip screwdriver, unscrew and take out. b. Get rid of gasket.
5.	Tail, turn, and stop lamp (11)		Push in, turn counterclockwise, and take out.
6.	Backup lamp (12) out.		Push in, turn counterclockwise, and take out.

## INSPECTION/REPLACEMENT

**NOTE**

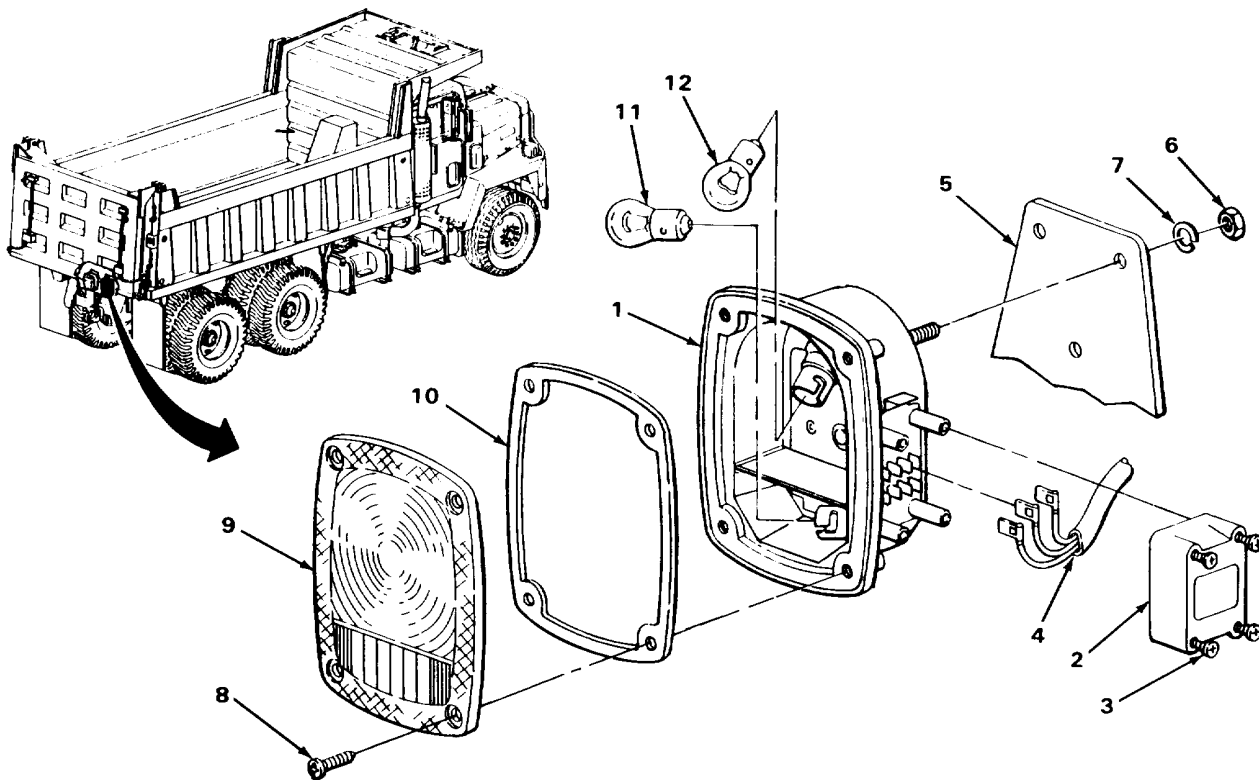
Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

7.	Stoplight/taillight (1), lens (9), and terminal cover (2)		Look for cracks, breaks, or corrosion.
8.	All threaded parts		Look for damaged threads or rounded heads.

RIGHT STOPLIGHT/TAILLIGHT - CONTINUED

LOCATION	ITEM	ACTION REMARKS
<b>ASSEMBLY</b>		
9. Stoplight/taillight assembly (1)	Backup lamp (12)	a. Aline pins on lamp with slot in stoplight/taillight assembly. b. Push in, turn clockwise, and release.
10. Tail, turn, and	stop lamp (11)	a. Aline pins on lamp with slot in stoplight/taillight assembly. b. Push in, turn clockwise, and release. <b>If lamp will not turn, take out, turn 180 degrees, and repeat a and b.</b>
11.	New gasket (10), lens (9), and four screws (8)	a. Put gasket in place. b. Put lens in place. c. Screw in and tighten using number one cross-tip screwdriver.



TA244199



RIGHT STOPLIGHT/TAILLIGHT ASSEMBLY - CONTINUED

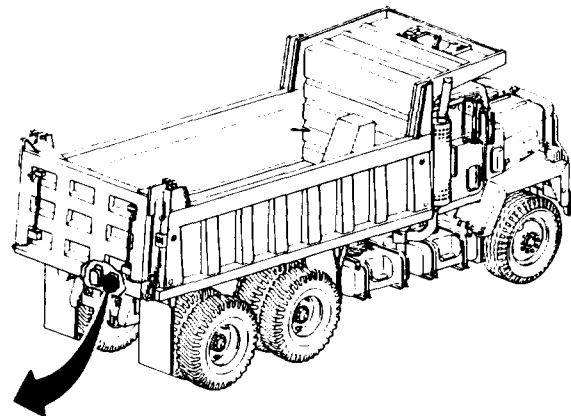
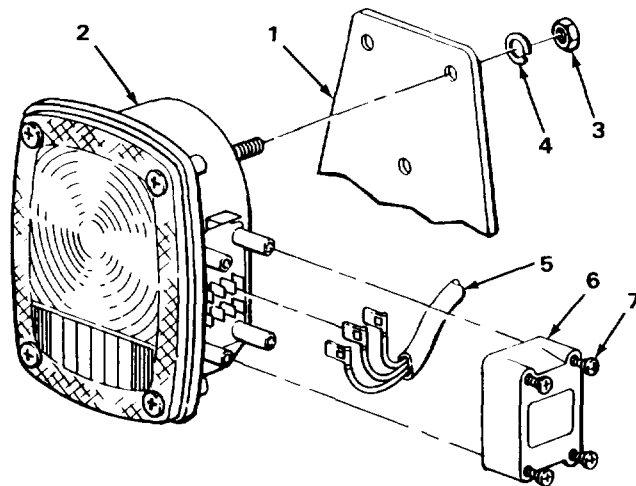
LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION

NOTE

Stoptlight/taillight assembly and bracket mating surfaces must be free of paint, dirt, and grease to ensure proper ground.

- |                                       |  |  |
|---------------------------------------|--|--|
| 12. Bracket (1)                       | Stoptlight/taillight assembly (2), three nuts (3), and three new lockwashers (4) | <ul style="list-style-type: none"> <li>a. Hold stoptlight/taillight assembly in place.</li> <li>b. Screw in and tighten using 7/16-inch box-end wrench.</li> </ul> |
| 13. Stoptlight/taillight assembly (2) | Three wires (5)  | <ul style="list-style-type: none"> <li>a. Put wires in correct position and push on.</li> <li>b. Take off tags.</li> <li>c. Get rid of tags.</li> </ul>            |
| 14.                                   | Terminal cover (6) and four screws (7)   | <ul style="list-style-type: none"> <li>a. Put cover in place.</li> <li>b. Screw in and tighten using number one cross-tip screwdriver.</li> </ul>                  |



TASK ENDS HERE

TA244200

**FRONT TURN SIGNAL**

This task covers:

- a. Removal (page 2-795)
- b. Disassembly (page 2-796)
- c. Inspection/Replacement (page 2-796)
- d. Assembly (page 2-797)
- e. Installation (page 2-799)

**INITIAL SETUP**

**Tools**

Screwdriver, cross-tip, number one  
Wrench, box-end, 1/2-inch (two required)

**Materials/Parts**

Gasket, lens (two required)  
Gasket, marker lens

**Materials/Parts - Continued**

Lockwasher, mounting (four required)  
Pad, mounting

**Personnel Required**

One

LOCATION	ITEM	ACTION	REMARKS
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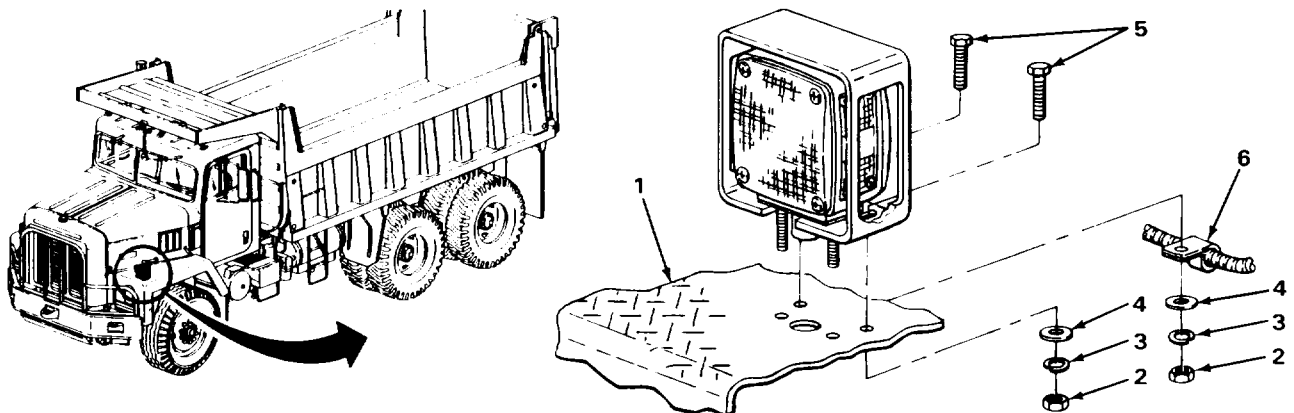
**REMOVAL**

**NOTE**

Steps given are typical for both left and right front turn signals.

- 1. Front fender (1) Four nuts (2), four lockwashers (3), four flat washers (4), two screws (5), and clamp (6)

- a. Using two 1/2-inch open-end wrenches, unscrew and take off.
- b. Get rid of lockwashers.



TA244201

**FRONT TURN SIGNAL - CONTINUED**

LOCATION	ITEM	ACTION REMARKS	
<b>REMOVAL - CONTINUED</b>			
2.	Turn signal (1)	Connector (2)	Pull out.
3.	Front fender (3)	Turn signal (1), and guard (4)	Take off.
<b>DISASSEMBLY</b>			
4.	Guard (4)	Turn signal (1)	Take out.
5.	Turn signal (1)	Mounting pad (5)	a. Take off. b. Get rid of.
6.		Four screws (6), amber lens (7), and gasket (8)	a. Using number one cross-tip screw- driver, unscrew and take out. b. Get rid of gasket.
7.		Four screws (9), red lens (10), and gasket (11)	a. Using number one cross-tip screw- driver, unscrew and take out. b. Get rid of gasket.
8.		Four screws (12), marker lens (13), and gasket (14)	a. Using number one cross-tip screw- driver, unscrew and take out. b. Get rid of gasket.
9.		Turn signal lamp (15)	Push in, turn counterclockwise and take out.
10.		Marker lamp (16) out.	Push in, turn counterclockwise and take out.

**INSPECTION/REPLACEMENT**

**NOTE**

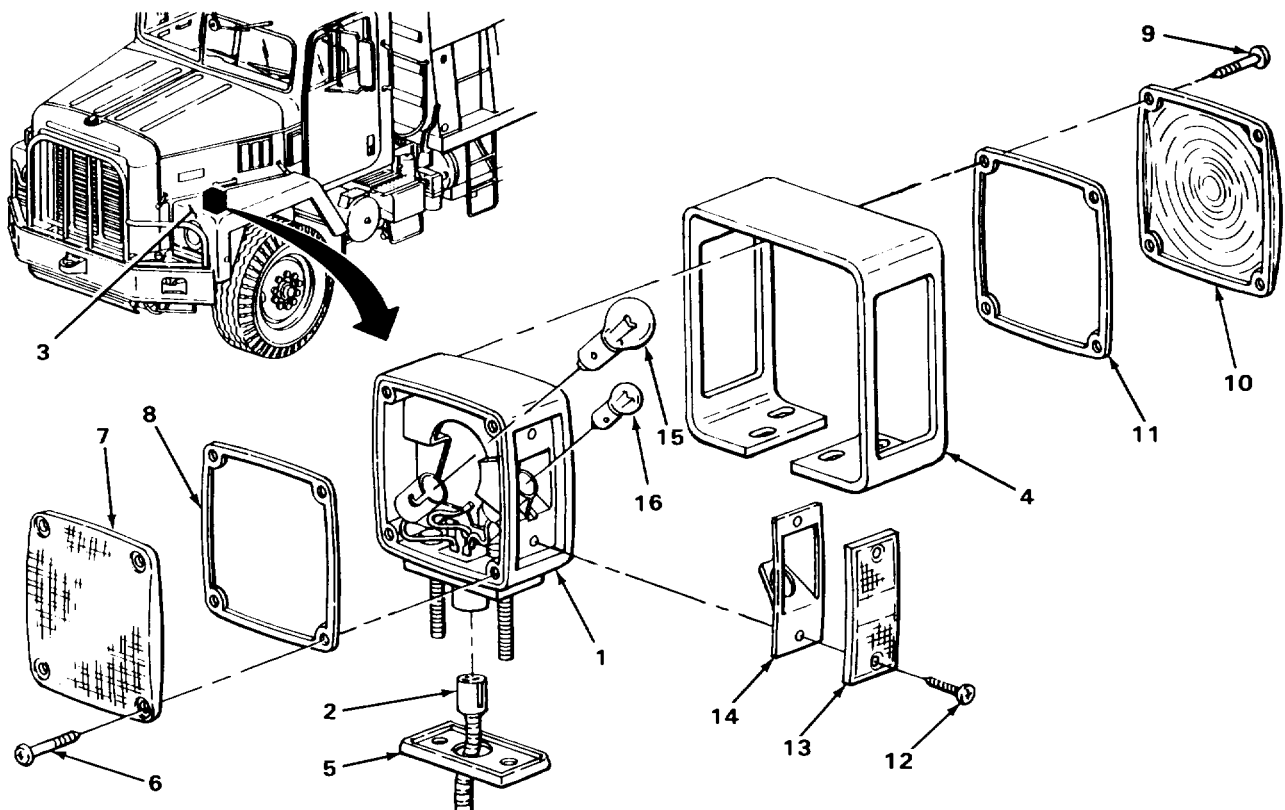
Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

11.	Turn signal (1), and lenses (7,10, and 13)	Look for cracks, breaks or corrosion.
12.	All threaded parts	Look for damaged threads or rounded heads.

FRONT TURN SIGNAL - CONTINUED

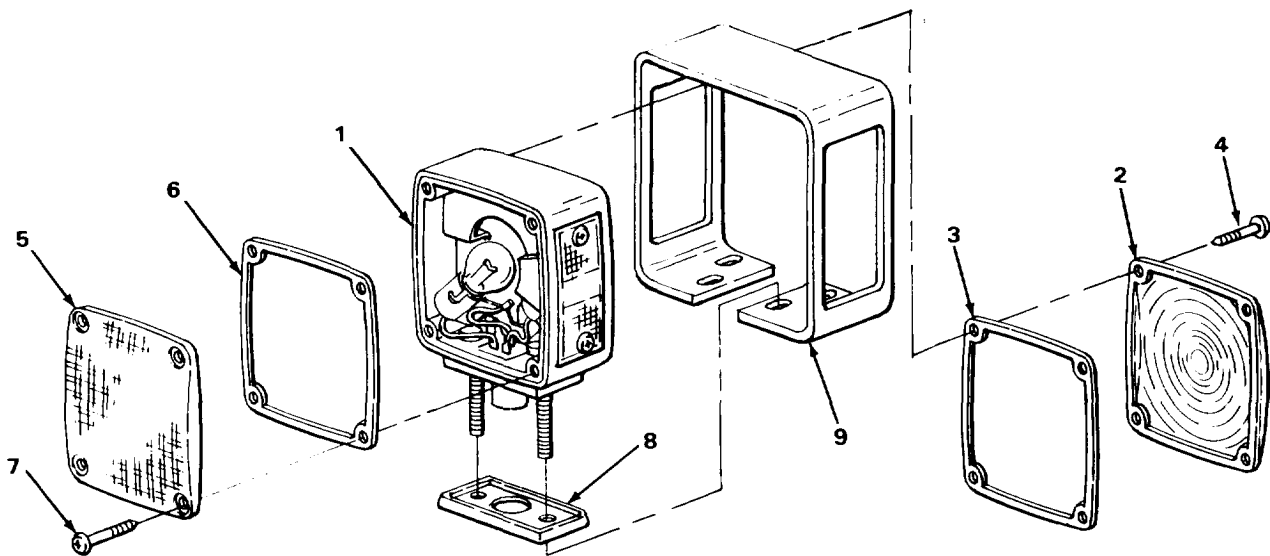
LOCATION	ITEM	ACTION REMARKS
<b>ASSEMBLY</b>		
13. Turn signal (1)	Marker lamp (16)	a. Aline pins on lamp with slot in turn signal. b. Push in, turn clockwise and release.
14.	Turn signal lamp (15)	a. Aline pins on lamp with slot in turn signal. b. Push in, turn clockwise and release.
15.	Marker lens (13), new gasket (14), and four screws (12)	a. Put gasket in place. b. Put lens in place. c. Screw in and tighten using number one cross-tip screwdriver.



TA244202

FRONT TURN SIGNAL - CONTINUED

LOCATION	ITEM	ACTION REMARKS
<b>ASSEMBLY - CONTINUED</b>		
16. Turn signal (1)	Red lens (2), new gasket (3), and four screws (4) cross-tip screwdriver.	a. Put gasket in place. b. Put lens in place. c. Screw in and tighten using number one
17.	Amber lens (5), new gasket (6), and four screws (7) cross-tip screwdriver.	a. Put gasket in place. b. Put lens in place. c. Screw in and tighten using number one
18.	New mounting pad (8)	Put in place.
19. Guard (9)	Turn signal (1)	Put in.



TA244203

**FRONT TURN SIGNAL - CONTINUED**

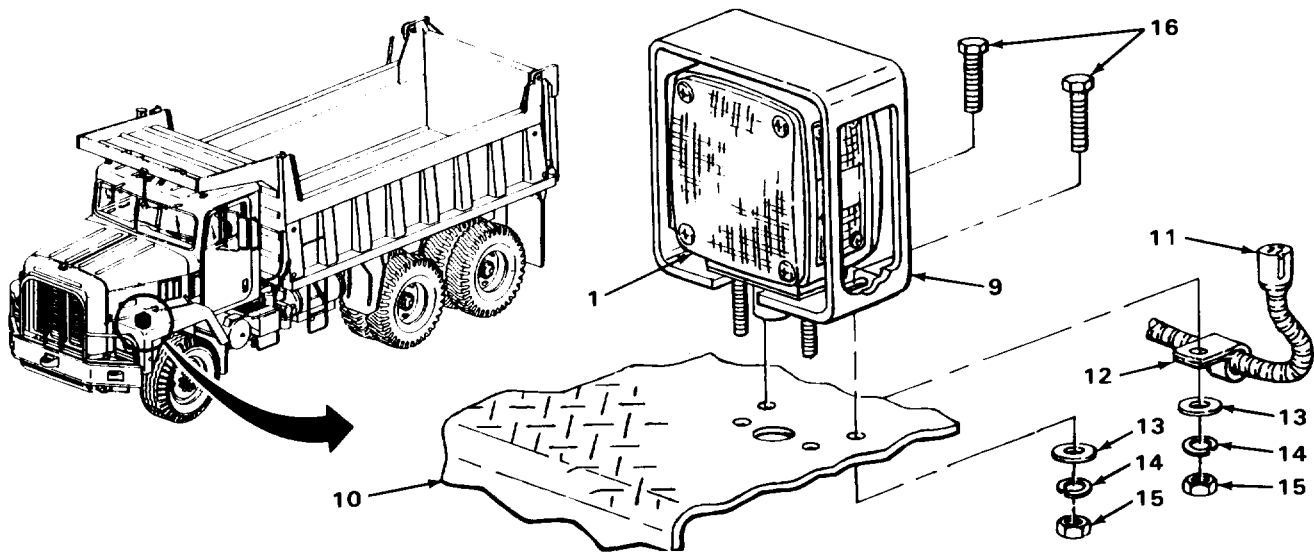
LOCATION	ITEM	ACTION	REMARKS
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**INSTALLATION**

**NOTE**

Steps given are typical for both left and right front turn signals.

20. Front fender (10) and guard (9)	Turn signal (1)	Put in place and hold.
21. Turn signal (1)	Connector (11)	Push in.
22. Front fender(10)	Clamp (12), four flat washers (13), four new lockwashers (14), four nuts (15), and two screws (16)	a. Put clamp in place. b. Screw on and tighten using two 1/2-inch box-end wrenches.



**TASK ENDS HERE**

**FRONT MARKER LIGHT**

This task covers:

- a. Removal (page 2-800)
- b. Inspection/Replacement (page 2-800)
- c. Installation (page 2-801)

TA244204

**FRONT MARKER LIGHT - CONTINUED**

---

**INITIAL SETUP**

Tools	Personnel Required
Screwdriver, cross-tip, number one	One
Materials/Parts	
Gasket, lens	

---

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

---

**REMOVAL**

**NOTE**

Steps given are typical for both left and right front marker lights.  
 This procedure is limited to the replacement of lens, gasket, and lamp.

- |    |                 |   |   |
|----|-----------------|---|---|
| 1. | Turn signal (1) | Four screws (2), lens (3), and gasket (4) | a. Using number one cross-tip screwdriver, unscrew and take out.<br>b. Get rid of gasket. |
| 2. |                 | Marker lamp (5)                           | Push in, turn counterclockwise and take out.  |

**INSPECTION/REPLACEMENT**

**NOTE**

Replace all damaged or defective parts.  
 For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

- |    |                    |   |
|----|--------------------|---|
| 3. | Lens (3)           | Look for cracks or breaks.  |
| 4. | Turn signal (1)    | Look for cracks, breaks or corrosion.<br><b>If defective, replace front turn signal (page 2-795).</b> |
| 5. | All threaded parts | Look for damaged threads or rounded heads.  |

**FRONT MARKER LIGHT - CONTINUED**

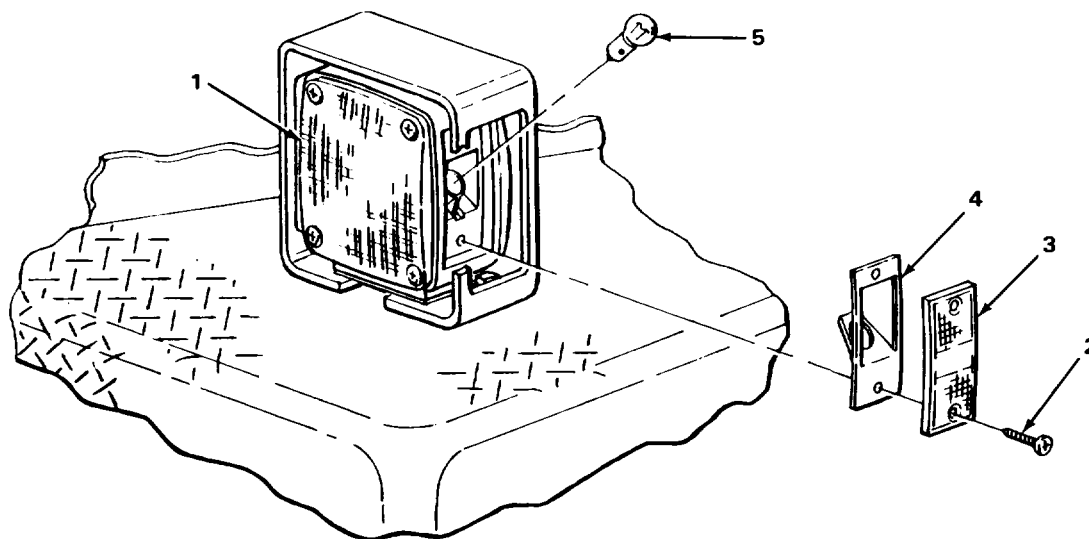
LOCATION	ITEM	ACTION REMARKS
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INSTALLATION

**NOTE**

Steps given are typical for both left and right front marker lights.

- |    |                 |   |   |
|----|-----------------|---|---|
| 6. | Turn signal (1) | Marker lamp (5)                               | <ul style="list-style-type: none"> <li>a. Aline pins on lamp with slot in turn signal.</li> <li>b. Push in, turn clockwise and release.</li> </ul>                                |
| 7. |                 | New gasket (4), lens (3), and four screws (2) | <ul style="list-style-type: none"> <li>a. Put gasket in place.</li> <li>b. Put lens in place.</li> <li>c. Screw in and tighten using number one cross-tip screwdriver.</li> </ul> |



**TASK ENDS HERE**

**CAB ROOF MARKER LIGHT AND CLEARANCE LIGHT**

This task covers:

- a. Removal (page 2-802)
- b. Inspection/Replacement (page 2-804)
- c. Installation (page 2-804)



**CAB ROOF MARKER LIGHT AND CLEARANCE LIGHT - CONTINUED**

INITIAL SETUP

Tools

Screwdriver, cross-tip, number one  
 Screwdriver, cross-tip, number two  
 Screwdriver, flat-tip, 3/16-inch

Personnel Required

One

Materials/Parts

Gasket, lens

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL

**NOTE**

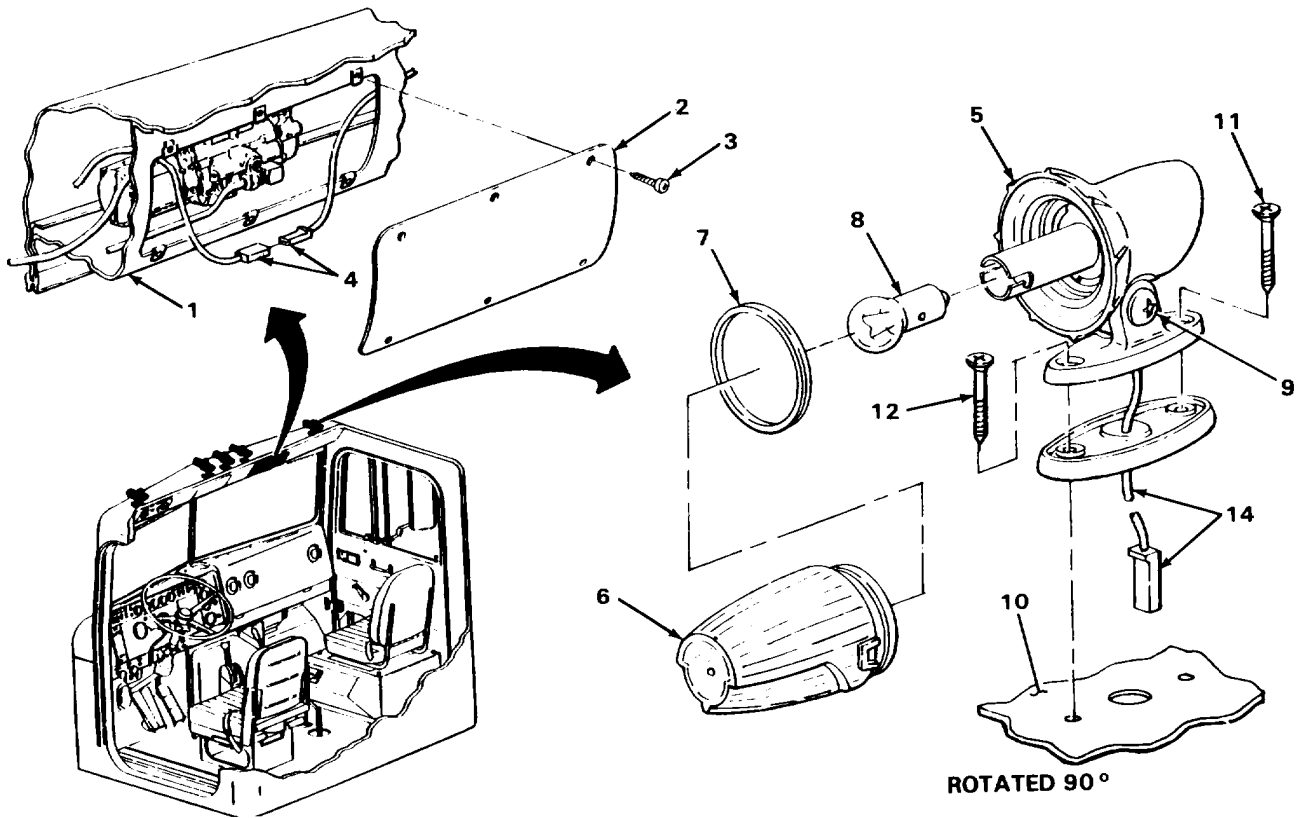
Steps given are typical for both marker lights and clearance lights.

Take off cover nearest to marker light or clearance light to be removed.

1. Cab ceiling (1)	Cover (2) and six screws (3)	Using number one cross-tip screwdriver, unscrew and take out.
2.	Connector (4)	Pull apart.
3. Marker light body (5)	Lens (6) and gasket (7)	a. Using 3/16-inch flat-tip screwdriver, out. b. Get rid of gasket.
4.	Lamp (8)	Push in, turn counterclockwise and take out.
5.	Adjustment screw (9)	Using 3/16-inch flat-tip screwdriver, loosen.
6. Cab roof (10)	Marker light body (5)	Bend forward.
7. Marker light body (5)	Rear screw (11)	Using number two cross-tip screwdriver, unscrew and take out.
8. Cab roof (10)	Marker light body (5)	Bend to rear.

CAB ROOF MARKER LIGHT AND CLEARANCE LIGHT - CONTINUED

LOCATION	ITEM	ACTION REMARKS
9. Marker light body (5)	Front screw (12)	Using number two cross-tip screwdriver, unscrew and take out.
10. Cab roof (10)	Marker light body (5), pad (13), and wire (14)	Pull up and take out.



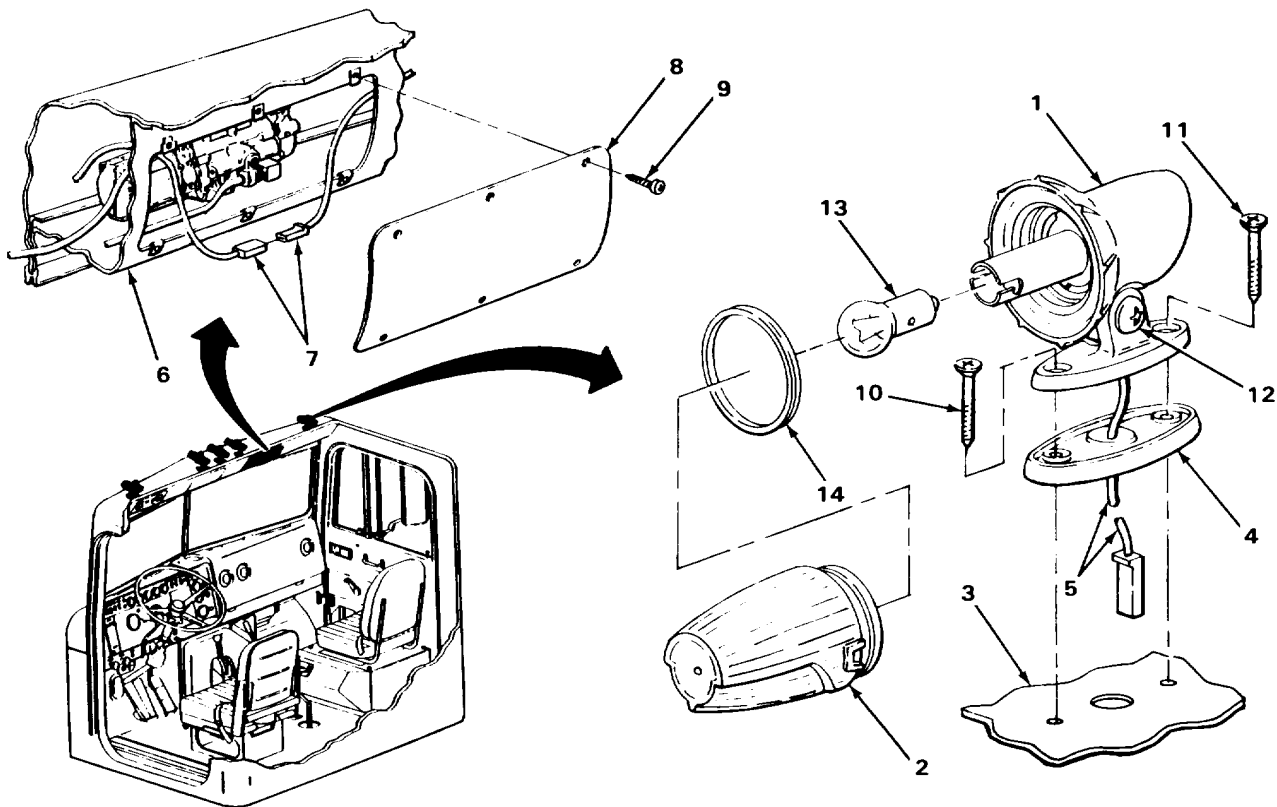
TA244206

## CAB ROOF MARKER LIGHT AND CLEARANCE LIGHT - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSPECTION/REPLACEMENT		
<b>NOTE</b>		
Replace all damaged or defective parts.		
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).		
11.	Marker light body (1)	Look for cracks, breaks or corrosion.
12.	Lens (2)	Look for cracks or breaks.
13.	All threaded parts	Look for damaged threads or rounded heads.
INSTALLATION		
<b>NOTE</b>		
Steps given are typical for both marker lights and clearance lights.		
14. Cab roof (3)	Marker light body (2), pad (4), and wire (5)	a. Put wire through hole in pad. b. Put wire through hole in roof. c. Put marker light in place.
15. Cab ceiling (6)	Connector (7)	Push together.
16.	Cover (8) and six screws (9)	a. Put cover in place. b. Screw in and tighten using number one cross-tip screwdriver.
17. Cab roof (3)	Marker light body (1)	Bend to rear.
18. Marker light body (1)	Front screw (10)	Screw in and tighten using number two cross-tip screwdriver.
19. Cab roof (3)	Marker light body (1)	Bend forward.
20. Marker light body (1)	Rear screw (11)	Screw in and tighten using number two cross-tip screwdriver.
21. Cab roof (3)	Marker light body (1) and adjustment screw (12)	a. Bend light into position. b. Tighten adjustment screw using 3/16-inch flat-tip screwdriver.

CAB ROOF MARKER LIGHT AND CLEARANCE LIGHT - CONTINUED

LOCATION	ITEM	ACTION REMARKS
22. Marker light body (1)	Lamp (13)	a. Aline pins on lamp with slots in marker light body. b. Push in, turn clockwise and release.
23.	New gasket (14) and lens (2)	a. Put gasket in place. b. Push on and snap in place.



TASK ENDS HERE

TA244207

**DUMP BODY MARKER LIGHT**

---

This task covers:

- a. Removal (page 2-806)
  - b. Installation (page 2-806)
- 

**INITIAL SETUP**

## Tools

Screwdriver, flat-tip, 3/16-inch

## Personnel Required

One

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

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**REMOVAL****NOTE**

Steps given are typical for seven body marker lights.

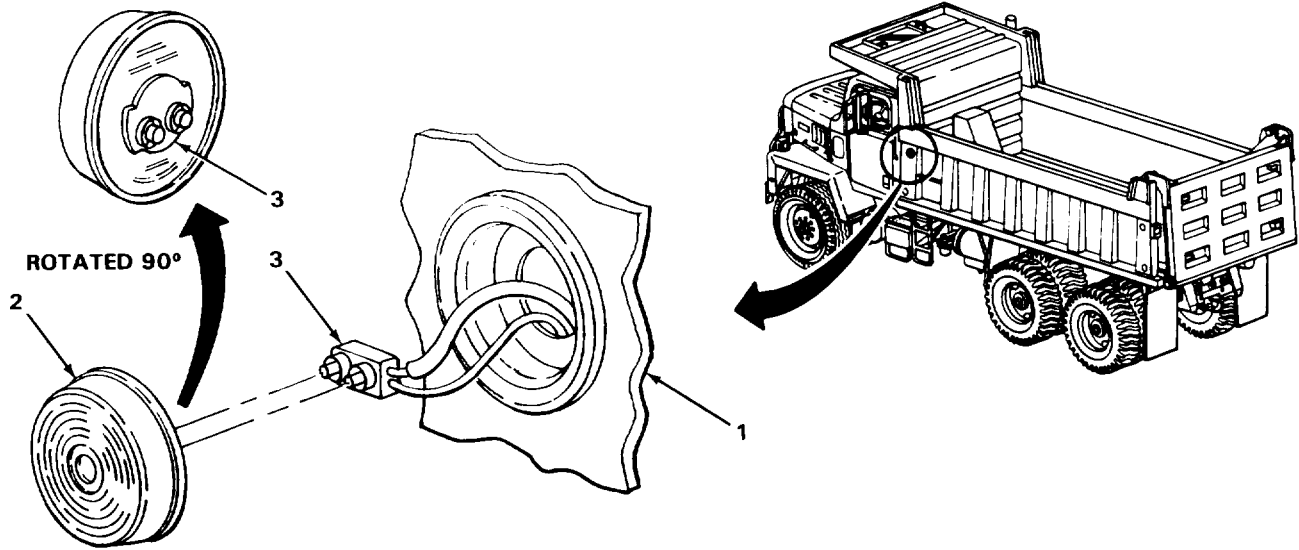
- |                     |                  |  |
|---------------------|------------------|--|
| 1. Dump body (1)    | Marker light (2) | Using 3/16-inch flat-tip screwdriver, pry out. |
| 2. Marker light (2) | Connector (3)    | Pull apart.                                    |

**INSTALLATION****NOTE**

Steps given are typical for seven body marker lights.

- |                     |                  |                   |
|---------------------|------------------|-------------------|
| 3. Marker light (2) | Connector (3)    | Push together.    |
| 4. Dump body (1)    | Marker light (2) | Press into place. |

**DUMP BODY MARKER LIGHT - CONTINUED**



**TASK ENDS HERE**

**HEADLIGHT ASSEMBLY**

This task covers:

- a. Removal (page 2-808)
- b. Inspection/Replacement (page 2-810)
- c. Installation (page 2-810)
- d. Alinement (page 2-812)

**INITIAL SETUP**

**Tools**

- Chalk
- Pliers, longnose, 6-inch
- Screwdriver, cross-tip, number one
- Screwdriver, flat-tip, 3/16-inch
- Square, carpenter's
- Tape, measure, 50-foot

**Materials/Parts**

- Gasket, fender basket

**Personnel Required**

Two

TA244208

## HEADLIGHT ASSEMBLY - CONTINUED

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

## REMOVAL

**WARNING**

Use care when removing damaged headlight assembly, broken glass or sharp metal could cut you.

**NOTE**

Steps given are typical for both left and right headlight assemblies.

To remove lamp only perform steps 1 thru 4.

- |               |                         |  |
|---------------|-------------------------|--|
| 1. Fender (1) | Bezel (2) and screw (3) | <ul style="list-style-type: none"> <li>a. Using number one cross-tip screwdriver, unscrew and take out screw.</li> <li>b. Lift up and take off bezel.</li> </ul> |
|---------------|-------------------------|--|

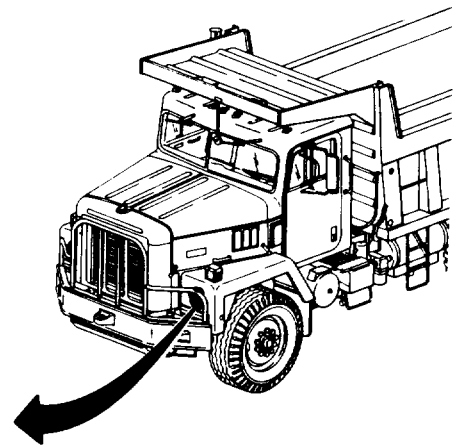
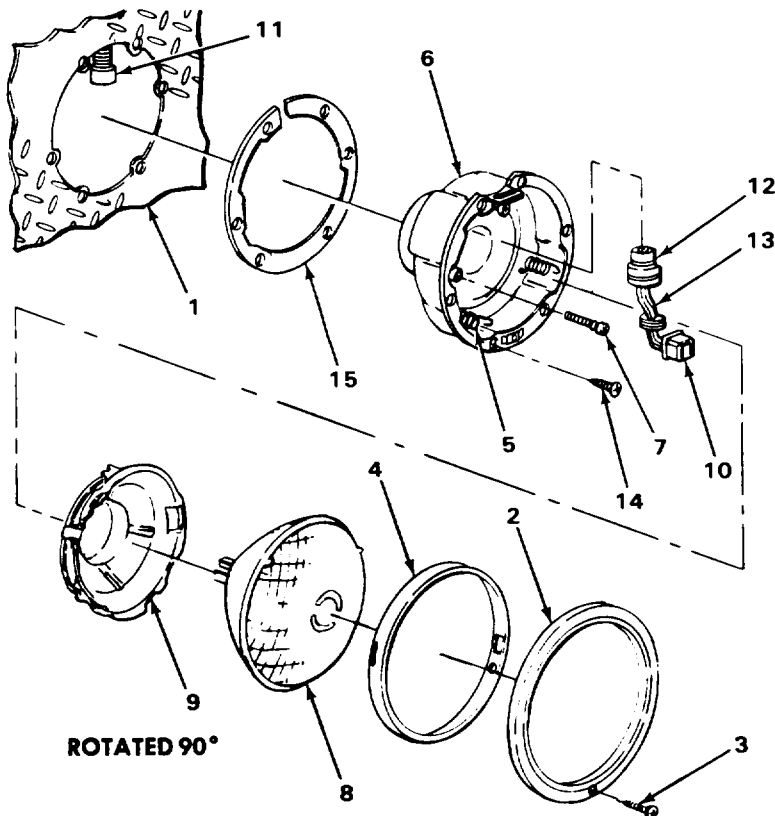
**NOTE**

Hold retaining ring, lamp, and adjustment basket in place when performing step 2.

- |  |   |   |
|--|---|---|
| 2. Ring (4)  | Spring (5)                                    | Using 6-inch longnose pliers, unhook and take off.  |
| 3. Fender basket (6) and two adjustment screws (7) | Ring (4), lamp (8), and adjustment basket (9) | <ul style="list-style-type: none"> <li>a. Lift up from fender basket recess.</li> <li>b. Take out and hold.</li> <li>c. Lift up and take off retaining ring.</li> </ul> |
| 4. Connector (10)                                  | Lamp (8) and adjustment basket (9)            | <ul style="list-style-type: none"> <li>a. Pull apart and take out lamp.</li> <li>b. Take out adjustment basket.</li> </ul>  |
| 5. Underfender(11)                                 | Connector (12)                                | Pull apart.   |
| 6. Fender basket (6)                               | Harness (13)                                  | Using 3/16-inch flat-tip screwdriver, pry out.  |

HEADLIGHT ASSEMBLY - CONTINUED

LOCATION	ITEM	ACTION REMARKS
7.	Two adjustment screws (7)	Using number one cross-tip screwdriver, unscrew and take out.
8. Fender (1)	Four screws (14), fender basket (6), and gasket (15)	a. Using number one cross-tip screwdriver, unscrew and take out. b. Get rid of gasket.



TA244209



## HEADLIGHT ASSEMBLY - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSPECTION/REPLACEMENT		
<b>NOTE</b>		
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).		
Replace all damaged or defective parts.		
9.	Bezel (1), ring (2), adjustment basket (3), and fender basket (4)	Look for bends, breaks or corrosion.
10.	Fender basket (4)	Spring (5) a. Look for loose rivet. b. Look for straightened or broken coils.
11.	Two adjustment screw sockets (6)	a. Look for cracks or breaks. b. Look for loose rivets.
12.	Two adjustment	Look for worn slot or bent shank. screws (7)
13.	Adjustment basket (3)	Adjustment tabs (8) and tongue (9) Look for bends, breaks or corrosion.
14.	Harness (10)	Grommet (11) Look for cracks, tears or worn groove.
15.	Two connectors (12) and (13)	Look for cracks, breaks or corroded ends.

## INSTALLATION

**NOTE**

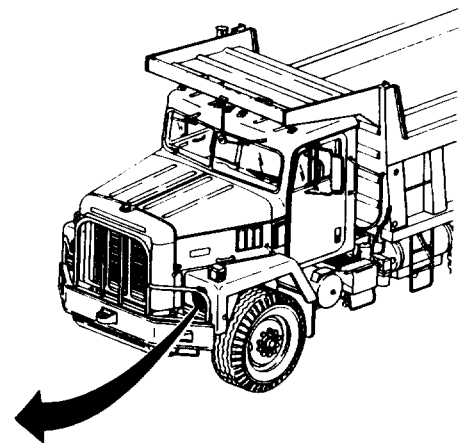
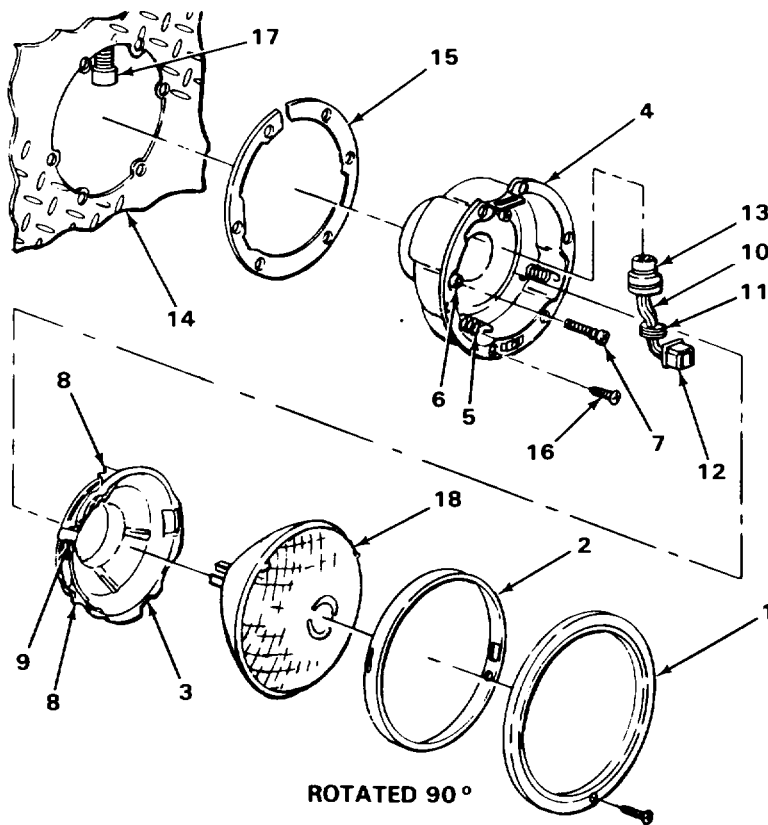
Steps given are typical for both left and right headlight assemblies.

To install lamp only perform steps 21 thru 24.

Install fender basket with harness grommet hole in 12 o'clock position.

HEADLIGHT ASSEMBLY - CONTINUED

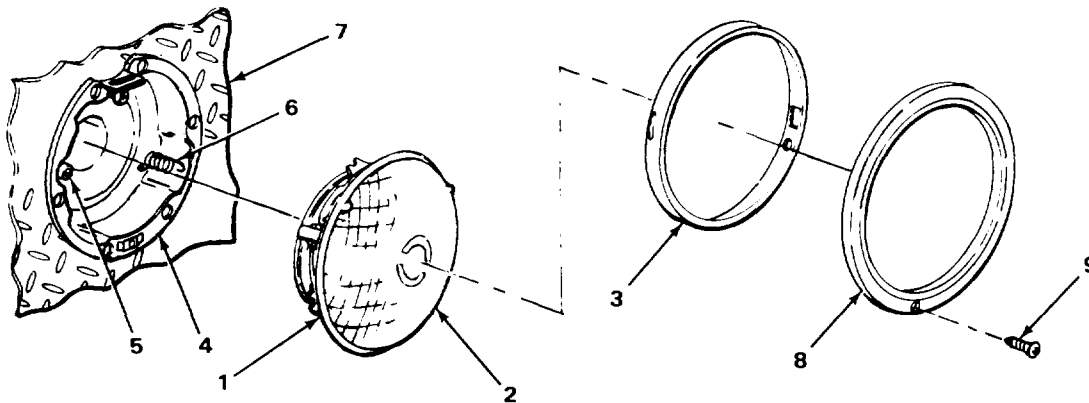
LOCATION	ITEM	ACTION REMARKS
16. Fender (14)	New gasket (15), fender basket (4), and four screws (16)	Screw in and tighten using number one cross-tip screwdriver.
17. Fender basket (4)	Two adjustment screws (7)	Screw in five turns using number one cross-tip screwdriver.
18.	Harness (10)	Press into place.
19. Underfender(17)	Connector(13)	Push together.
20. Connector(12)	Adjustment basket (3) and lamp (18)	a. Put connector through adjustment basket. b. Push together and put in place.



TA244210

HEADLIGHT ASSEMBLY - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
21. Adjustment basket (1) and lamp (2)	Ring (3)	Align tongue of adjustment basket with slot of ring, push down and snap in place.
22. Fender basket (4) and two adjustment screws (5)	Ring (3), lamp (2), and adjustment basket (1)	Put adjustment basket tabs into adjustment screw slots, push down and hold.
23. Ring (3)	Spring (6)	Hook through hole in ring.
24. Fender (7)	Bezel (8) and screw (9)	a. Put tongue of bezel into slot of fender basket (4), push down and hold. b. Screw in and tighten using number one cross-tip screwdriver.



ALINEMENT

NOTE

This procedure should only be performed when alinement tool or screen is not available.

Headlight alinement must be performed on level surface with wall at one end and in shaded area.

TA244211

HEADLIGHT ASSEMBLY - CONTINUED

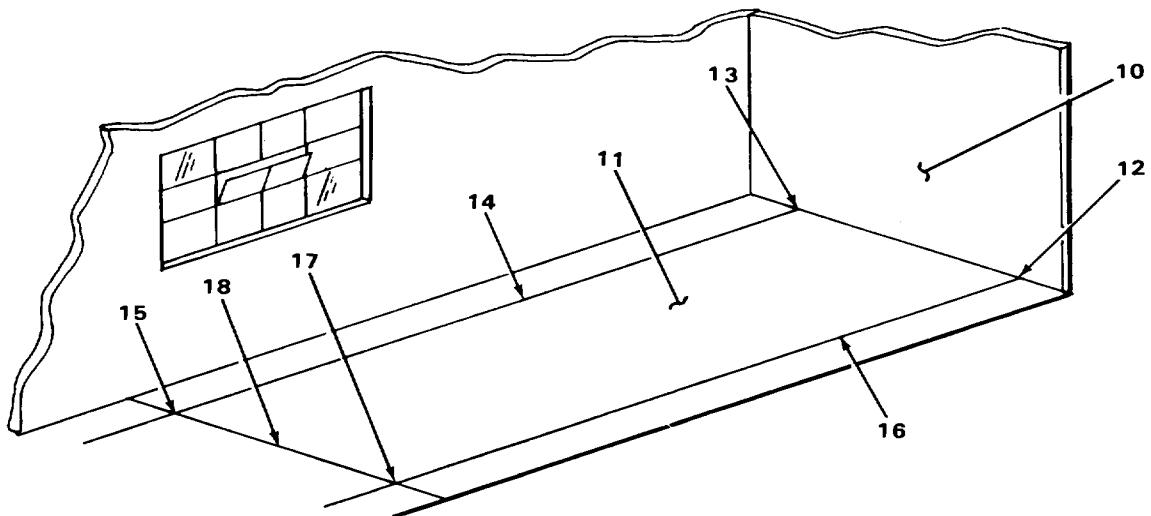
LOCATION	ITEM	ACTION REMARKS
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**NOTE**

The purpose of steps 25, 26, and 27 is to make sure that both left and right headlights are equally 25 feet (7.6 meters) from wall or screen.

Assistance will be needed to perform this task.

25. Level area and wall (10)	Floor (11)	<ul style="list-style-type: none"> <li>a. Using chalk, make mark (12) where wall meets floor.</li> <li>b. Using 50-foot tape measure and chalk, measure 6 feet 5 1/2 inches (1.97 m) to left of mark (12) and make mark (13) where wall meets floor.</li> <li>c. Using carpenter's square, 50-foot tape measure and chalk, measure straight out from mark (13) 27 feet 11 1/2 inches (8.52 m) on floor and draw line (14).</li> <li>d. Make mark (15) at end of line (14).</li> <li>e. Using carpenter's square, 50-foot tape measure and chalk, measure straight out from mark (12) 27 feet 11 1/2 inches (8.52 m) on floor and draw line (16).</li> <li>f. Make mark (17) at end of line (16).</li> <li>g. Using 50-foot tape measure and chalk, draw line (18) between mark (15) and mark (17) and extend line (18) 3 feet (.91 m) at both ends.</li> </ul>
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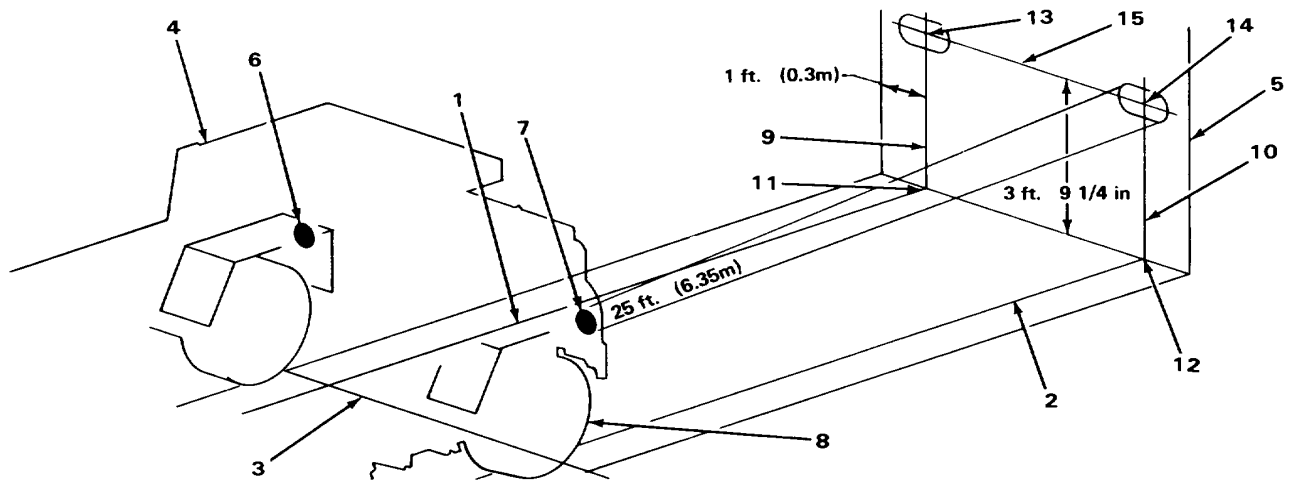
TA244212

## HEADLIGHT ASSEMBLY - CONTINUED

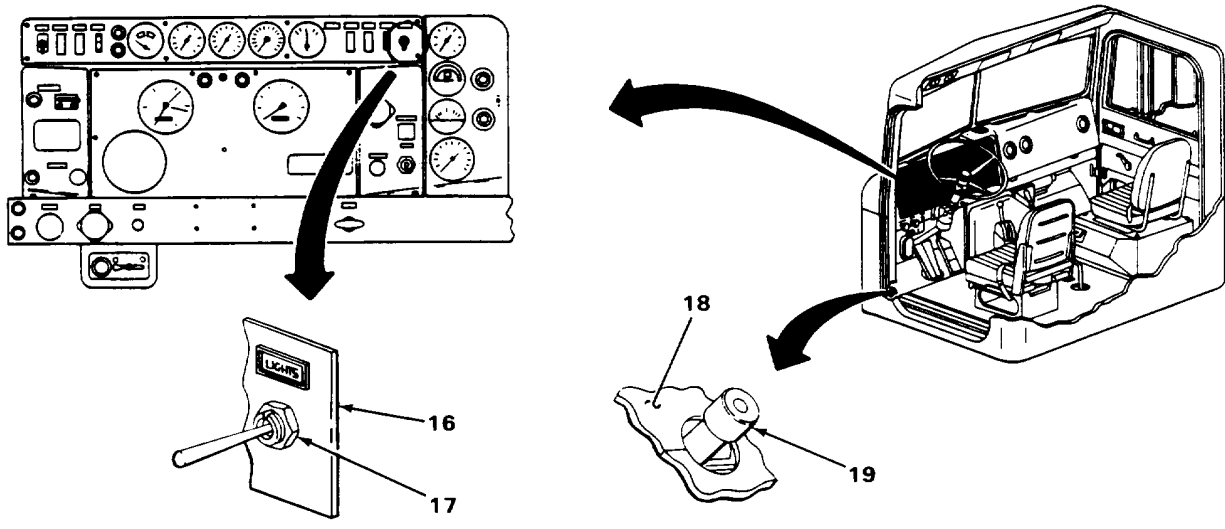
LOCATION	ITEM	ACTION REMARKS
ALINEMENT - CONTINUED		
<b>NOTE</b>		
Have assistant drive truck while you direct him.		
26. Lines (1, 2, and 3)	Truck (4)	Using lines (1 and 2) to guide driver, park truck so the center of each front wheel is directly over line (3) and tires are evenly placed on lines (1 and 2).
27. Wall (5)	Lamps (6 and 7)	Using 50-foot tape measure, check distance between lamps and wall. <b>Move truck to plus or minus 1/2-inch (1.27 cm).</b>
28. Truck (4)	Ten tires (8)	Check for correct inflation (page 1-20).
29. Wall (5)	Lines (9 and 10)	a. Using chalk and carpenter's square, draw lines (9 and 10) 3-feet 9 1/4-inches (1.15 m) straight up from marks (11 and 12) and make marks (13 and 14) at end of lines (9 and 10). b. Using chalk and 50-foot tape measure, extend lines (9 and 10) 1-foot (.3 m).
30.	Line (15)	Using chalk and 50-foot tape measure, draw line (15) between marks (13 and 14) and extend 1-foot (.3 m) at both ends.

HEADLIGHT ASSEMBLY - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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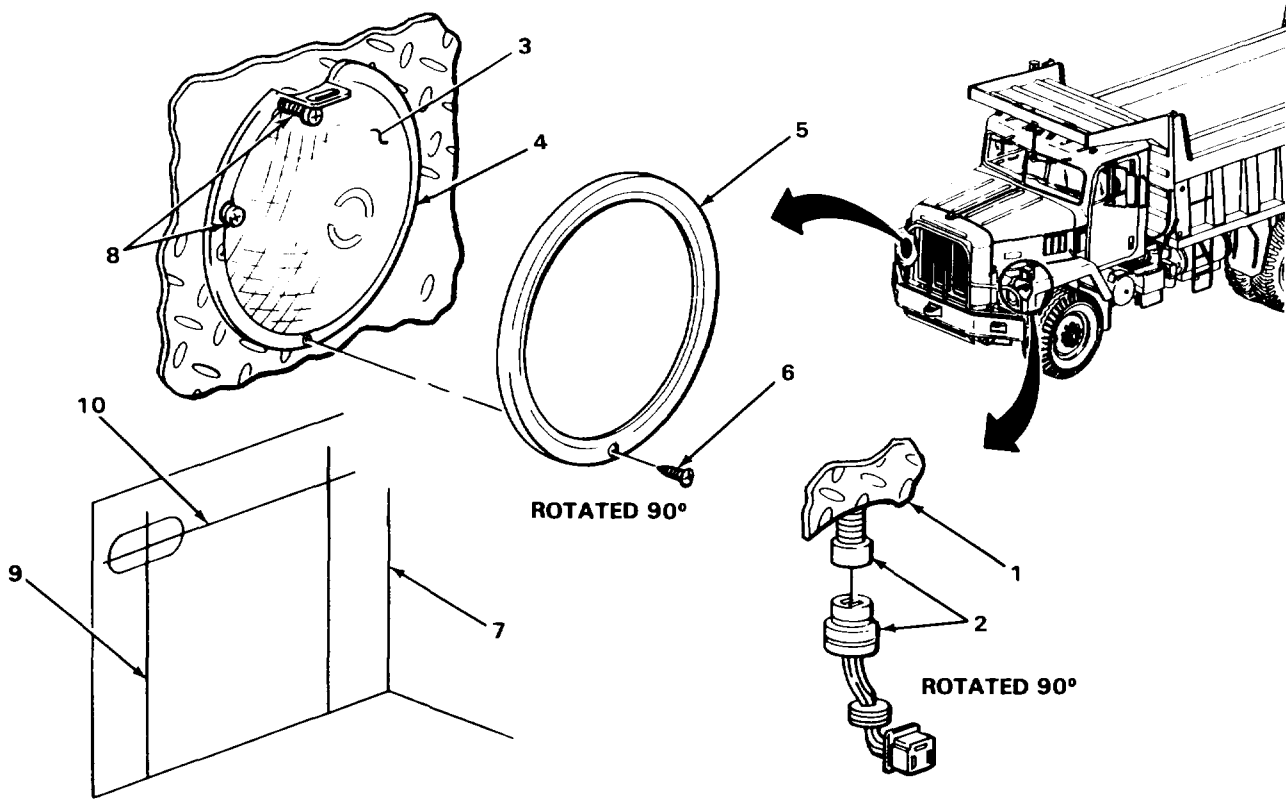
- |                           |                                |   |
|---------------------------|--------------------------------|---|
| 31. Instrument panel (16) | Headlight switch (17)          | Put in on position.                     |
| 32. Cab floor (18)        | Headlight selector switch (19) | Push in and release to select highbeam. |



TA244213

HEADLIGHT ASSEMBLY - CONTINUED

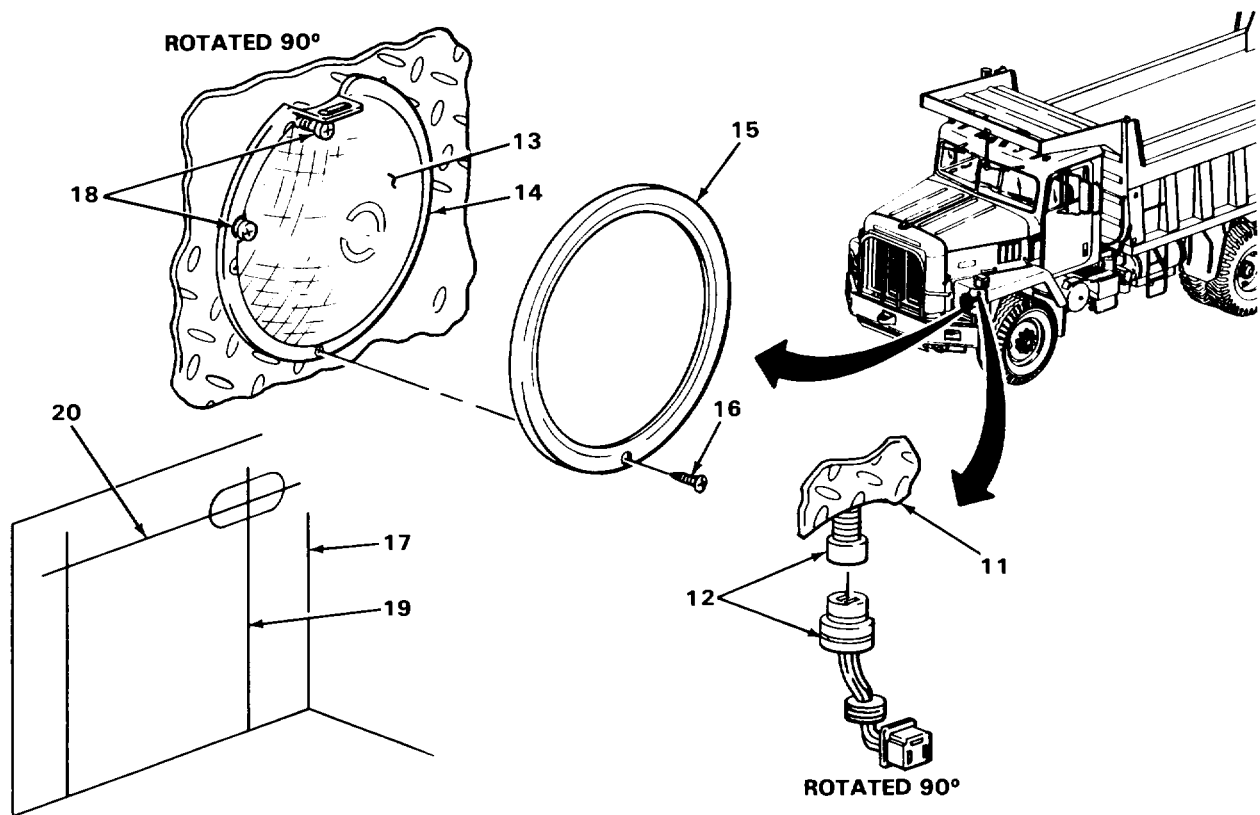
LOCATION	ITEM	ACTION REMARKS
ALINEMENT - CONTINUED		
33. Under right fender (1)	Connector (2)	Pull apart to disconnect lamp (3).
34. Left fender basket (4)	Bezel (5) and screw (6)	a. Using number one cross-tip screwdriver, unscrew and take out screw. b. Lift up and take off bezel.
35. Wall (7)	Two adjustment screws (8)	Using number one cross-tip screwdriver, turn until center of brightest part of headlight is where lines (9 and 10) cross.
36. Right fender (1)	Connector (2)	Push together.
37. Left fender basket (4)	Bezel (5) and screw (6)	a. Put tongue of bezel into slot of fender basket, push down and hold. b. Screw in and tighten using number one cross-tip screwdriver.



TA244214

HEADLIGHT ASSEMBLY - CONTINUED

LOCATION	ITEM	ACTION REMARKS
38. Under left fender (11)	Connector (12)	Pull apart to disconnect lamp (13).
39. Right fender basket (14)	Bezel (15) and screw (16)	a. Using number one cross-tip screwdriver, unscrew and take out screw. b. Lift up and take off bezel.
40. Wall (17)	Two adjustment screws (18)	Using number one cross-tip screwdriver, turn until center of brightest part of headlight is where lines (19 and 20) cross.
41. Under left fender (11)	Connector (12)	Push together.
42. Right fender basket (14)	Bezel (15) and screw (16)	a. Put tongue of bezel into slot of fender basket, push down and hold. b. Screw in and tighten using number one cross-tip screwdriver.



TA244215

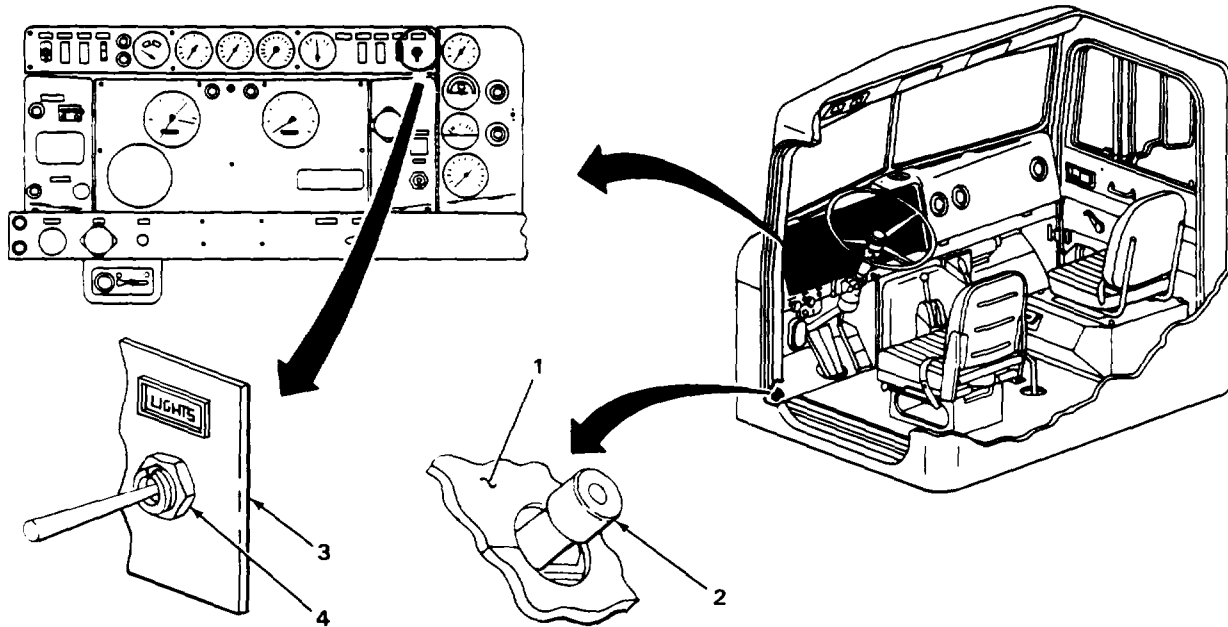


HEADLIGHT ASSEMBLY - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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ALINEMENT - CONTINUED

- |                          |                               |  |
|--------------------------|-------------------------------|--|
| 43. Cab floor (1)        | Headlight selector switch (2) | Push in and release to select lowbeam. |
| 44. Instrument panel (3) | Headlight switch (4)          | Put in off position.                   |



TASK ENDS HERE

TA244216

**BATTERY POSITIVE-TO-NEGATIVE CONNECTOR CABLE**

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This task covers:

- |                             |  |
|-----------------------------|--|
| a. Removal (page 2-820)     | d. Inspection/Replacement (page 2-822) |
| b. Disassembly (page 2-820) | e. Assembly (page 2-822)               |
| c. Cleaning (page 2-820)    | f. Installation (page 2-822)           |
- 

**INITIAL SETUP****Tools**

Apron, rubber  
Cleaner, battery terminal  
Gloves, safety  
Goggles, safety  
Puller, battery terminal  
Wrench, open-end, 1/2-inch (two required)  
Wrench, open-end, 9/16-inch (two required)

**Personnel Required**

One

**Equipment Condition**

Battery ground cable disconnected (page 2-424).

**Materials/Parts**

Grease, GAA (item 10, appendix C)  
Rags, wiping (item 15, appendix C)  
Soda, bicarbonate (item 17, appendix C)

**BATTERY POSITIVE-TO-NEGATIVE CONNECTOR CABLE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
<b><u>WARNING</u></b>		
Rubber apron, safety gloves, and safety goggles must be worn when working with batteries. Failure to observe this precaution could cause serious injury to personnel.		
Do not smoke, use open flame, or allow sparks near batteries. Mixture of oxygen and hydrogen gases released from batteries is highly flammable and can explode causing injury to personnel.		
<b>NOTE</b>		
Steps given are typical for both positive-to-negative connector cables.		
1. Two hooks (1)	Two latches (2)	Lift up and take off.
2. Battery compartment (3)	Cover (4)	Lift up and take out.
3. Terminal (5)	Screw (6) and nut (7)	Using two 1/2-inch open-end wrenches, unscrew two turns.
4. Post (8)	Terminal (5)	Using battery terminal puller, pull off.
5. Terminal (9)	Screw (10) and nut (11)	Using two 1/2-inch open-end wrenches, unscrew two turns.
6. Post (12)	Terminal (9) and cable (13)	Using battery terminal puller, pull off and take out.

## DISASSEMBLY

**NOTE**

Steps given are typical for both positive-to-negative connector cables.

- |                            |   |  |
|----------------------------|---|--|
| 7. Two terminals (5 and 9) | Two screws (6 and 10) and two nuts (7 and 11)               | Using two 1/2-inch open-end wrenches, unscrew and take out.  |
| 8. Cable (13)              | Two terminals (5 and 9), two screws (14), and two nuts (15) | Using two 9/16-inch open-end wrenches, unscrew and take out. |

## CLEANING

**WARNING**

Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and cause damage to equipment. Refer to TM 9-247.

**BATTERY POSITIVE-TO-NEGATIVE CONNECTOR CABLE - CONTINUED**

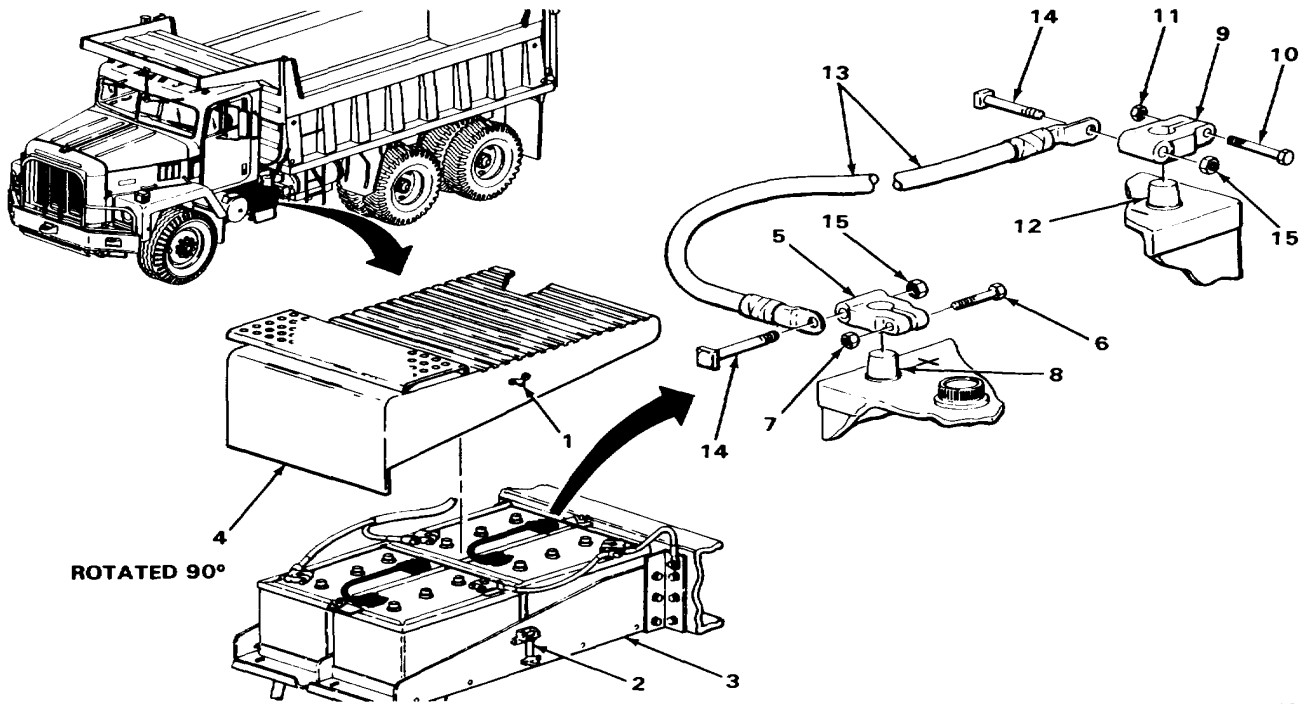
LOCATION	ITEM	ACTION REMARKS
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**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

Steps given are typical for both positive-to-negative connector cables.

- |     |  |  |
|-----|--|--|
| 9.  | Two posts<br>(8 and 12)  | <ul style="list-style-type: none"> <li>a. Using weak solution of bicarbonate soda, water and wiping rags, clean.</li> <li>b. Using wiping rags, dry.</li> <li>c. Using battery terminal cleaner, clean.</li> </ul> |
| 10. | Two terminals<br>(5 and 9)   | <ul style="list-style-type: none"> <li>a. Using weak solution of bicarbonate soda, water and wiping rags, clean.</li> <li>b. Using wiping rags, dry.</li> <li>c. Using battery terminal cleaner, clean.</li> </ul> |
| 11. | Four screws (6, 10 and 14), four nuts (7, 11 and 15), and cable (13) | <ul style="list-style-type: none"> <li>a. Using weak solution of bicarbonate soda, water and wiping rags, clean.</li> <li>b. Using wiping rags, dry.</li> </ul>  |

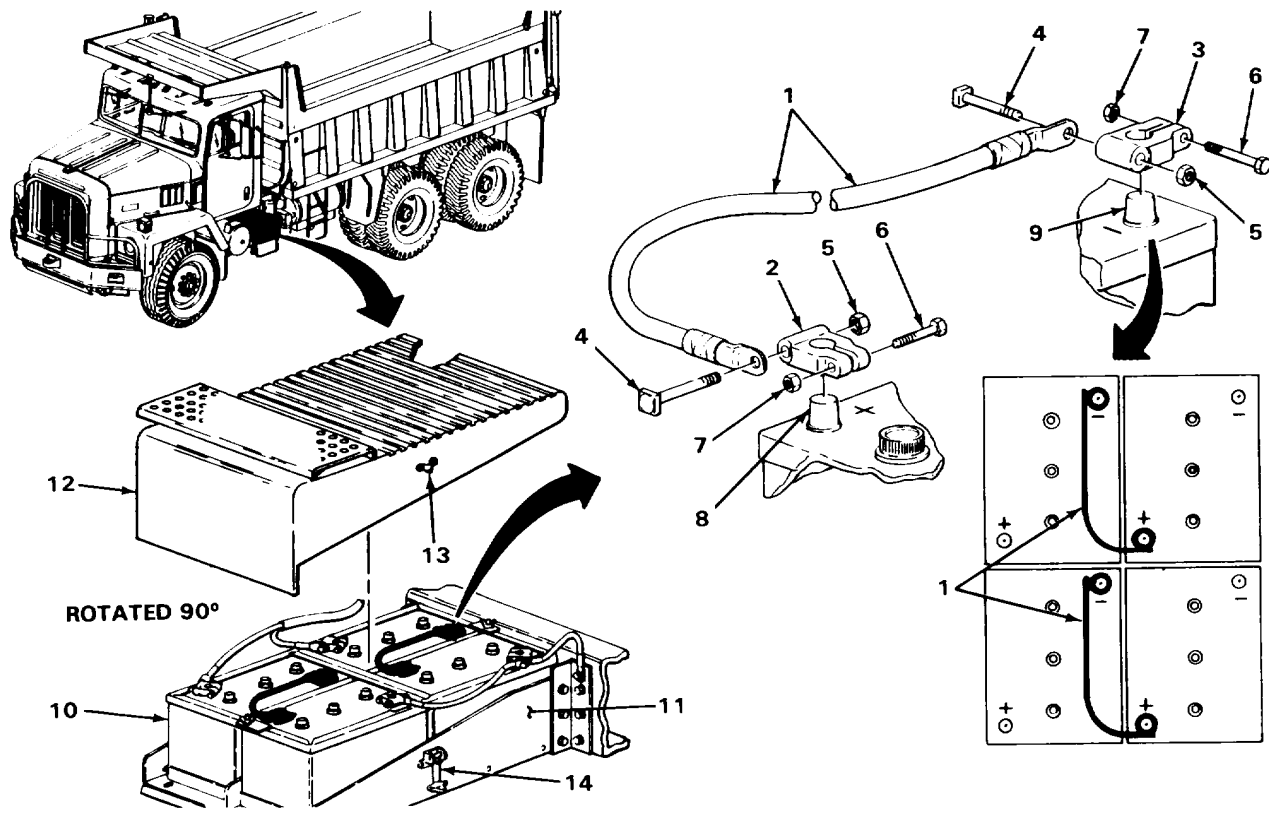


**BATTERY POSITIVE-TO-NEGATIVE CONNECTOR CABLE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
INSPECTION/REPLACEMENT		
<b>NOTE</b>		
Replace all damaged or defective parts.		
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).		
Steps given are typical for both battery positive-to-negative connector cables.		
12.	Cable (1)	Look for corroded ends or worn cable covering.
13.	Two terminals (2 and 3)	Look for cracks, breaks or corroded mating surfaces.
14.	All threaded parts	Look for damaged threads or rounded heads.
ASSEMBLY		
<b>NOTE</b>		
Steps given are typical for both positive-to-negative connector cables.		
15. Cable (1)	Two terminals (2 and 3), two screws (4), and two nuts (5)	Screw in and tighten using two 9/16-inch open-end wrenches.
16. Two terminals (2 and 3)	Two screws (6) and two nuts (7)	Screw in two turns using two 1/2-inch open-end wrenches.
Do not tighten.		
INSTALLATION		
<b>NOTE</b>		
Steps given are typical for both positive-to-negative connector cables.		
17. Post (8)	Cable (1) and terminal (2)	Put on.

**BATTERY POSITIVE-TO-NEGATIVE CONNECTOR CABLE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
18. Post (9)	Terminal (3)	Put on.
19. Cable (1) and two terminals (2 and 3)	Two screws (6) and two nuts (7)	Screw in and tighten using two 1/2-inch open-end wrenches.
20. Two batteries (10)	Two posts (8 and 9) and two terminals (2 and 3)	Apply GAA grease.
21. Battery compartment (11)	Cover (12)	Put in place.
22. Two hooks (13)	Two latches (14)	Lift up, put in place and release.



**NOTE**

FOLLOW-ON MAINTENANCE: Connect battery ground cable (page 2-424).

**TASK ENDS HERE**

## BATTERY NEGATIVE CABLE

This task covers:

- |                             |  |
|-----------------------------|--|
| a. Removal (page 2-824)     | d. Inspection/Replacement (page 2-827) |
| b. Disassembly (page 2-826) | e. Assembly (page 2-827)               |
| c. Cleaning (page 2-826)    | f. Installation (page 2-828)           |

### INITIAL SETUP

#### Tools

Apron, rubber  
 Brush, wire  
 Cleaner, battery terminal  
 Extension, 6-inch, 1/2-inch drive  
 Gloves, safety  
 Goggles, safety  
 Handle, ratchet, 1/2-inch drive  
 Knife, pocket  
 Puller, battery terminal  
 Socket, 3/4-inch, 1/2-inch drive  
 Wrench, box-end, 3/4-inch  
 Wrench, open-end, 1/2-inch (two required)

#### Tools - Continued

Wrench, open-end, 9/16-inch (two required)

#### Materials/Parts

Grease, GAA (item 10, appendix C)  
 Rags, wiping (item 15, appendix C)  
 Soda, bicarbonate (item 17, appendix C)

#### Personnel Required

One

LOCATION	ITEM	ACTION REMARKS
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### WARNING

Rubber apron, safety gloves, and safety goggles must be worn when working with batteries. Failure to observe this precaution could cause serious injury to personnel.

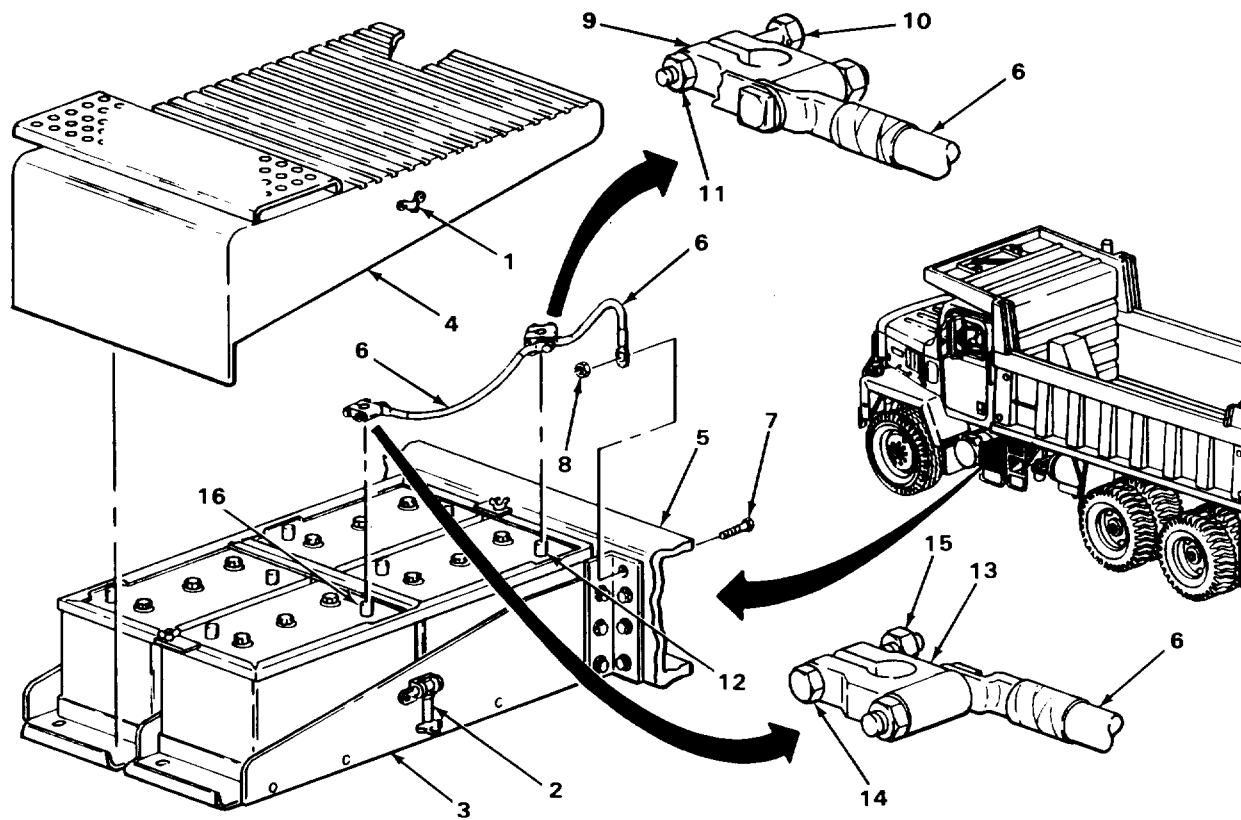
Do not smoke, use open flame, or allow sparks near batteries. Mixture of oxygen and hydrogen gases released from batteries is highly flammable and can explode causing injury to personnel.

### REMOVAL

- |                            |                                   |   |
|----------------------------|-----------------------------------|---|
| 1. Two hooks (1)           | Two latches (2)                   | Lift up and take off.   |
| 2. Battery compartment (3) | Cover (4)                         | Lift up and take out.   |
| 3. Left frame rail (5)     | Cable (6), screw (7), and nut (8) | Using 3/4-inch 1/2-inch drive socket, 6-inch extension, ratchet handle and 3/4-inch box-end wrench, unscrew and take off. |

**BATTERY NEGATIVE CABLE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
4. Terminal (9)	Screw (10) and nut (11)	Using two 1/2-inch open-end wrenches. unscrew two turns. <b>Do not take out.</b>
5. Post (12)	Terminal (9)	Using battery terminal puller, lift up and take off.
6. Terminal (13)	Screw (14) and nut (15)	Using two 1/2-inch open-end wrenches, unscrew two turns. <b>Do not take out.</b>
7. Post (16)	Terminal (13) and cable (6)	Using battery terminal puller, lift up and take out.



TA244219

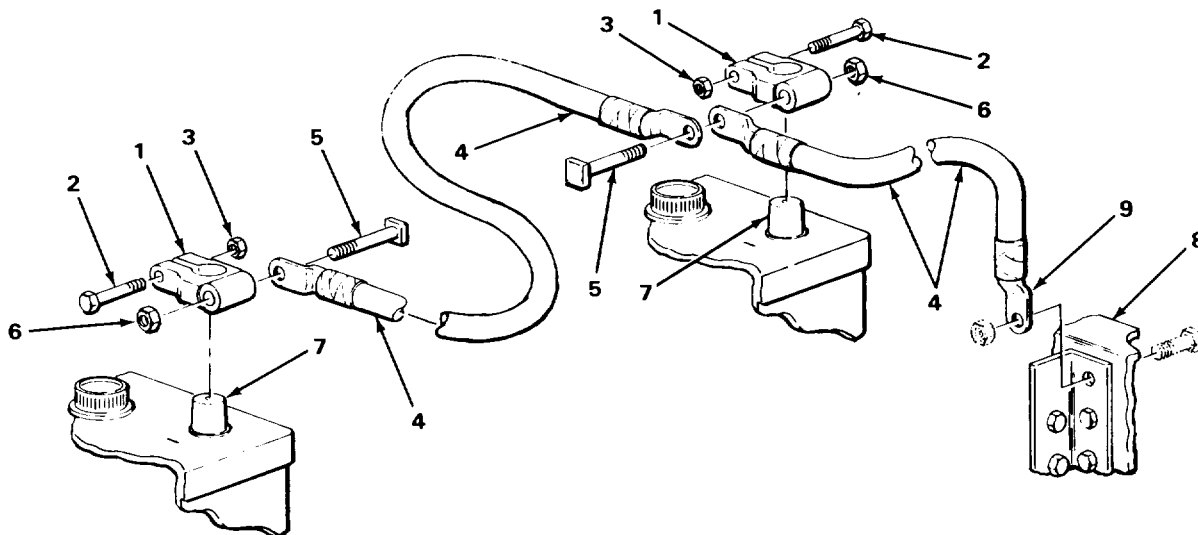


**BATTERY NEGATIVE CABLE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS	
<b>DISASSEMBLY</b>			
8.	Two terminals (1)	Two screws (2) and two nuts (3)	Using two 1/2-inch open-end wrenches, unscrew and take out.
9.	Two cables (4)	Two terminals (1), two screws (5), and two nuts (6)	Using two 9/16-inch open-end wrenches, unscrew and take out.
<b>CLEANING</b>			
<b><u>WARNING</u></b>			
Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and cause damage to equipment. Refer to TM 9-247.			
<b>NOTE</b>			
For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).			
10.	Two posts (7)	<ul style="list-style-type: none"> <li>a. Using weak solution of bicarbonate soda, water and wiping rags, clean.</li> <li>b. Using wiping rags, dry.</li> <li>c. Using battery terminal cleaner, clean.</li> </ul>	
11.	Two terminals (1)	<ul style="list-style-type: none"> <li>a. Using weak solution of bicarbonate soda, water and wiping rags, clean.</li> <li>b. Using wiping rags, dry.</li> <li>c. Using battery terminal cleaner, clean.</li> </ul>	
12.	Four screws (2 and 5), four nuts (3 and 6), and two cables (4)	<ul style="list-style-type: none"> <li>a. Using weak solution of bicarbonate soda, water and wiping rags, clean.</li> <li>b. Using wiping rags, dry.</li> </ul>	
<b><u>WARNING</u></b>			
Safety goggles must be worn when using wire brush. Flying rust or metal particles could cause eye injury.			
13.	Left frame rail (8)	Cable ground area (9)	<ul style="list-style-type: none"> <li>a. Using pocket knife, scrape clean.</li> <li>b. Using wire brush, clean.</li> </ul>

**BATTERY NEGATIVE CABLE - CONTINUED**

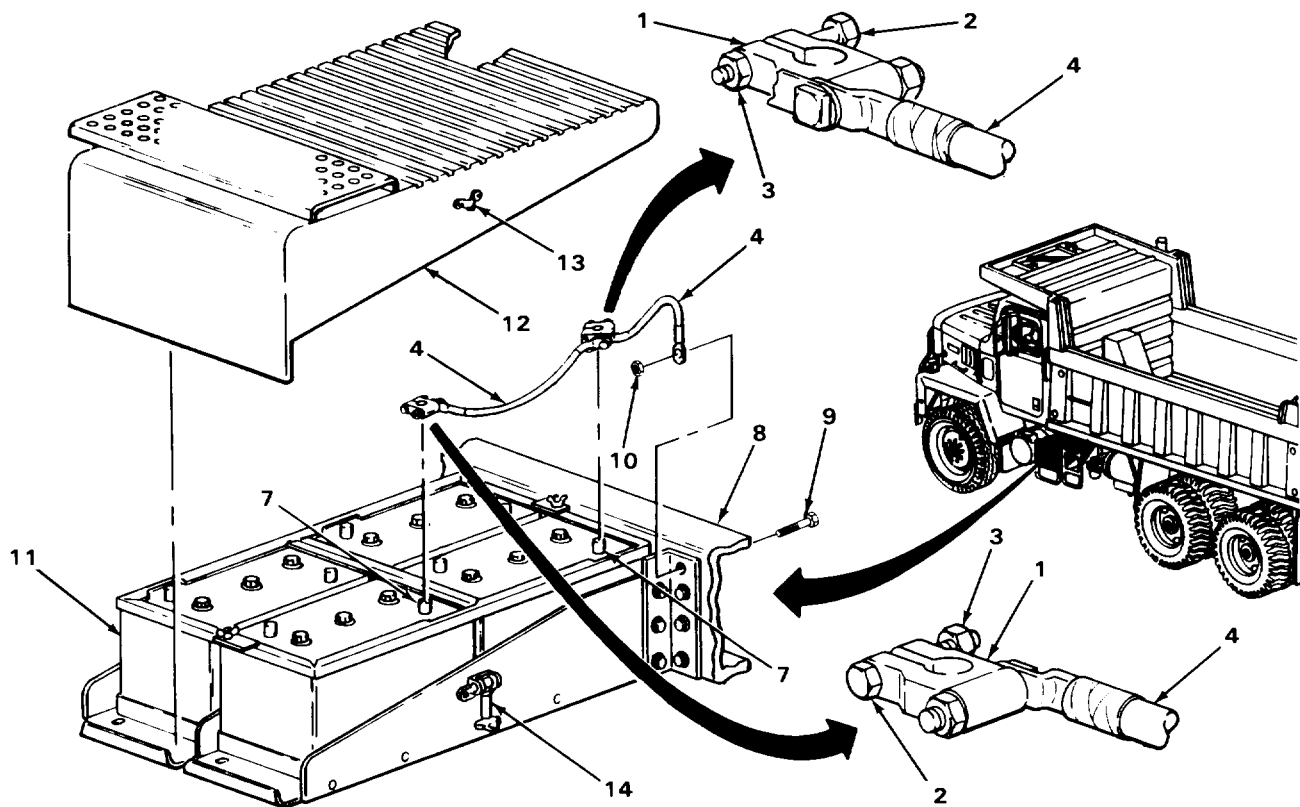
LOCATION	ITEM	ACTION REMARKS
INSPECTION/REPLACEMENT		
<b>NOTE</b>		
Replace all damaged or defective parts.		
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).		
14.	Two terminals (1)	Look for cracks, breaks or corroded mating surfaces.
15.	Two cables (4)	Look for corroded ends or worn cable coverings.
16.	All threaded parts	Look for damaged threads or rounded heads.
ASSEMBLY		
17. Two cables (4)	Two terminals (1), two screws (5), and two nuts (6)	Screw in and tighten using two 9/16-inch open-end wrenches.
18. Two terminals (1)	Two screws (2) and two nuts (3)	Screw in two turns using two 1/2-inch open-end wrenches. <b>Do not tighten.</b>



TA244220

**BATTERY NEGATIVE CABLE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>INSTALLATION</b>		
19. Two posts (7)	Two terminals (1)	Put in place.
20. Two terminals (1)	Two screws (2) and two nuts (3)	a. Screw in and tighten using two 1/2-inch open-end wrenches. b. Apply GAA grease.
21. Left frame rail (8)	Cable (4), screw (9), and nut (10)	Screw in and tighten using 3/4-inch 1/2-inch drive socket, 6-inch extension, ratchet handle, and 3/4-inch box-end wrench.
22. Battery compartment (11)	Cover (12)	Put in place.
23. Two hooks (13)	Two latches (14)	Lift up, put in place, and release.



TA244221

**TASK ENDS HERE**

**BATTERY POSITIVE CABLE**


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This task covers:

- |                             |  |
|-----------------------------|--|
| a. Removal (page 2-830)     | d. Inspection/Replacement (page 2-833) |
| b. Disassembly (page 2-832) | e. Assembly (page 2-834)               |
| c. Cleaning (page 2-832)    | f. Installation (page 2-834)           |
- 

**INITIAL SETUP****Tools**

Apron, rubber  
 Cleaner, battery terminal  
 Gloves, safety  
 Goggles, safety  
 Puller, battery terminal  
 Wrench, box-end, 7/16-inch (two required)  
 Wrench, box-end, 3/4-inch  
 Wrench, open-end, 1/2-inch (two required)  
 Wrench, open-end, 9/16-inch (two required)

**Materials/Parts**

Detergent, liquid, GP (item 7, appendix C)  
 Grease, GAA (item 10, appendix C)

**Materials/Parts - Continued**

Lockwasher, clamp (two required)  
 Lockwasher, solenoid  
 Rags, wiping (item 15, appendix C)  
 Soda, bicarbonate (item 17, appendix C)

**Personnel Required**

Two

**Equipment Condition**

Battery ground cable disconnected (page 2-424).  
 Left side hood panel opened (page 2-424).

**BATTERY POSITIVE CABLE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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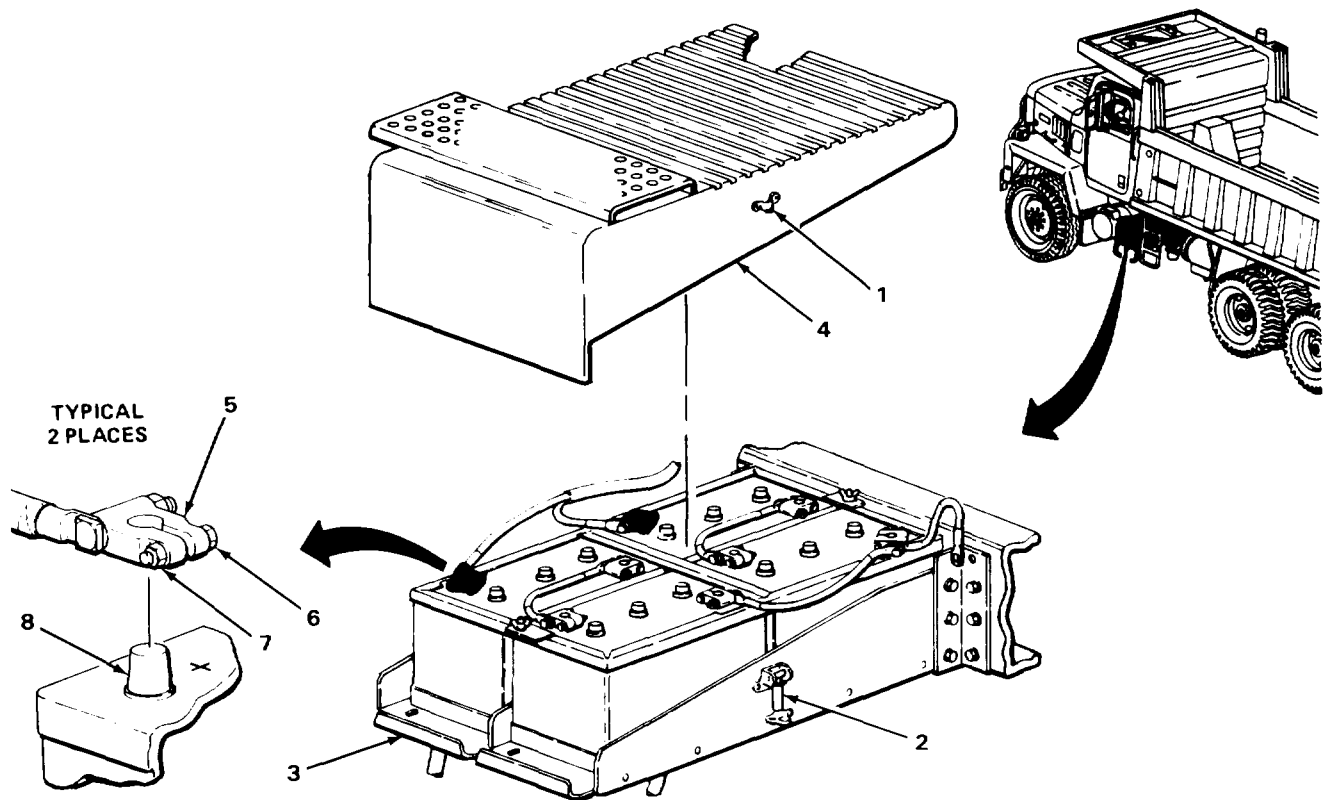
REMOVAL

**WARNING**

Rubber apron, safety gloves, and safety goggles must be worn when working with batteries. Failure to observe this precaution could cause serious injury to personnel.

Do not smoke, use open flame, or allow sparks near batteries. Mixture of oxygen and hydrogen gases released from batteries is highly flammable and can explode causing injury to personnel.

- |                            |                          |  |
|----------------------------|--------------------------|--|
| 1. Two hooks (1)           | Two latches (2)          | Lift up and take off.                                    |
| 2. Battery compartment (3) | Cover (4)                | Lift up and take out.                                    |
| 3. Terminal (5)            | Screw (6)<br>and nut (7) | Using two 1/2-inch open-end wrenches, unscrew two turns. |
| 4. Post (8)                | Terminal (5)             | Using battery terminal puller, pull off.                 |



TA244222

BATTERY POSITIVE CABLE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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**NOTE**

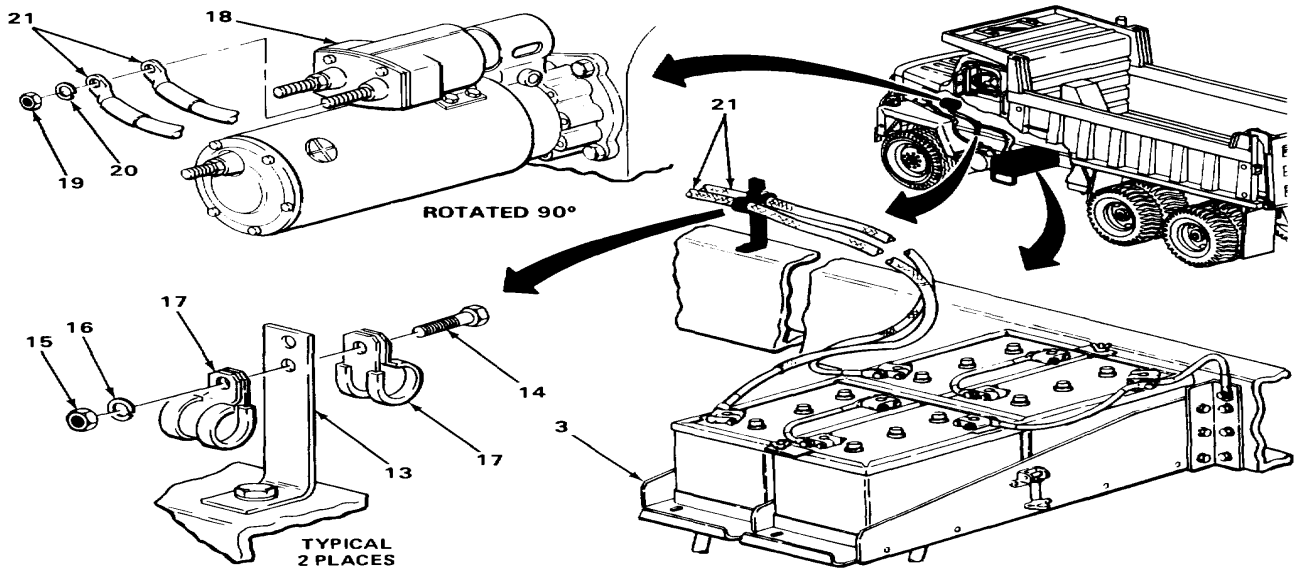
Steps given are typical for both brackets.

5 Bracket (13)	Two screws (14), two nuts (15), two lockwashers (16), and	a Using two 7/16-inch box-end wrenches, unscrew and take out. b Get rid of lockwashers. four clamps (17)
6 Starter solenoid (18)	Nut (19), lockwasher (20), and two cables (21)	a Using 3/4-inch box-end wrench, unscrew and take off. b Get rid of lockwasher.

**NOTE**

Assistance will be needed to guide cables when performing step 9.

7 Battery compartment (3)	Two cables (21)	With assistance, carefully take out.
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TA244223

**BATTERY POSITIVE CABLE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY		
8	Two terminals (1) Two screws (2) and two nuts (3)	Using two 1/2-inch open-end wrenches, unscrew and take out.
9	Two cables (4) Two terminals (1), two screws (5), and two nuts (6)	Using two 9/16-inch open-end wrenches, unscrew and take out.
10	Two coverings (7)	Take off.

**CLEANING****WARNING**

Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and cause damage to equipment Refer to TM 9-247.

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

11	Two posts (8)	a Using weak solution of bicarbonate soda, water and wiping rags, clean. b Using wiping rags, dry. c Using battery terminal cleaner, clean.
12	Two terminals (1)	a Using weak solution of bicarbonate soda, water and wiping rags, clean. b Using wiping rags, dry. c Using battery terminal cleaner, clean.
13	Four screws (2 and 5), four nuts (3 and 6), and two cables (4)	a Using weak solution of bicarbonate soda, water and wiping rags, clean. b Using wiping rags, dry.
14	Two coverings (7) and two clamps (9)	a Using liquid detergent and water, clean. b Using wiping rags, dry.

**BATTERY POSITIVE CABLE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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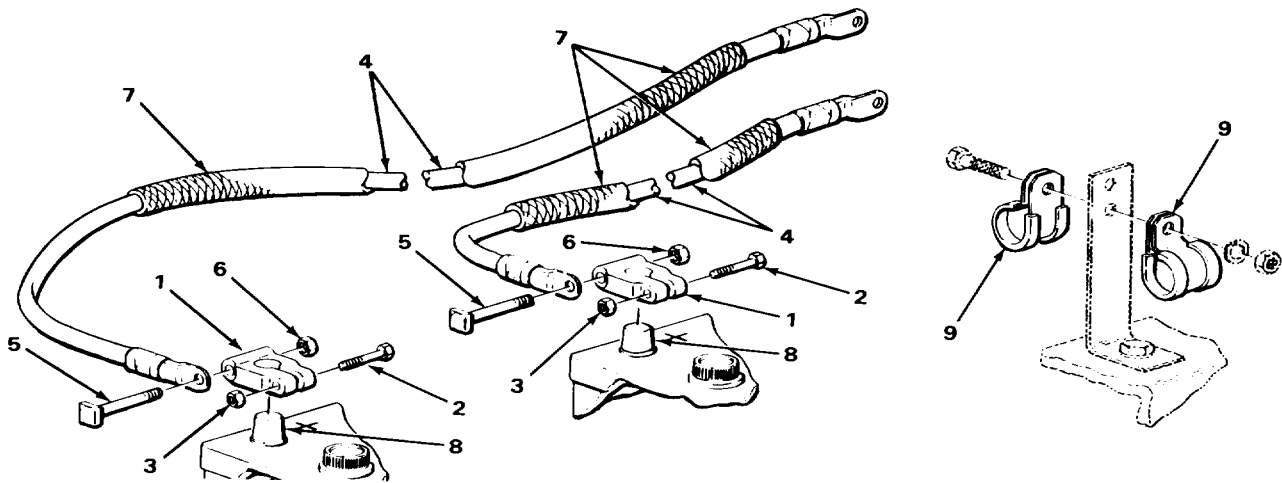
INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

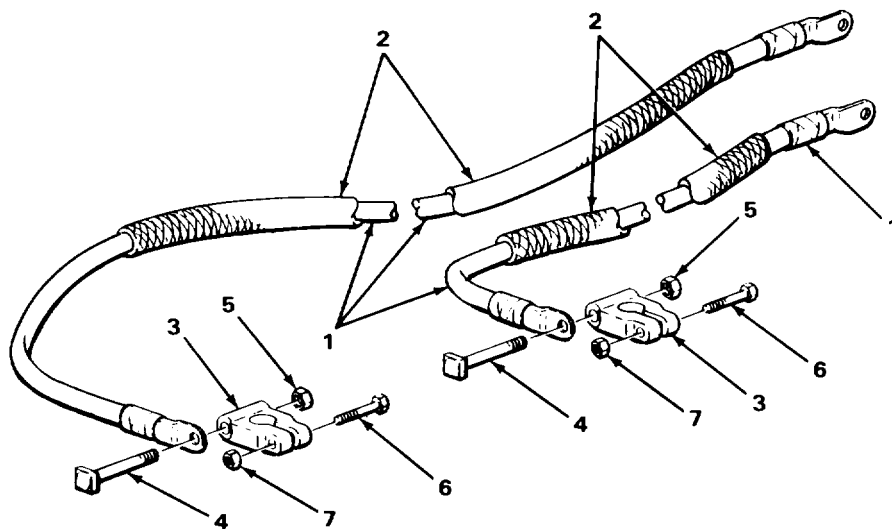
15	Two terminals (1)	Look for cracks, breaks or corroded mating surfaces.
16	Two cables (4)	Look for corroded ends or worn cable covering.
17	Two coverings (7)	Look for worn areas, cracks or gouges.
18	Four clamps (9)	Look for breaks, cracks or bends.





**BATTERY POSITIVE CABLE - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
ASSEMBLY			
19	Two cables (1)	Two coverings (2)	Put on.
20	Two terminals (3), two screws (4), and two nuts (5)		Screw on and tighten using two 9/16-inch open-end wrenches.
21	Two terminals (3)	Two screws (6) and two nuts (7)	Screw in two turns, using two 1/2-inch open-end wrenches. <b>Do not tighten.</b>



INSTALLATION

**NOTE**

Assistance will be needed to guide cables when performing step 22.

22 Battery compartment (8)

Two cables (1)

With assistance carefully put in place.

TA244663

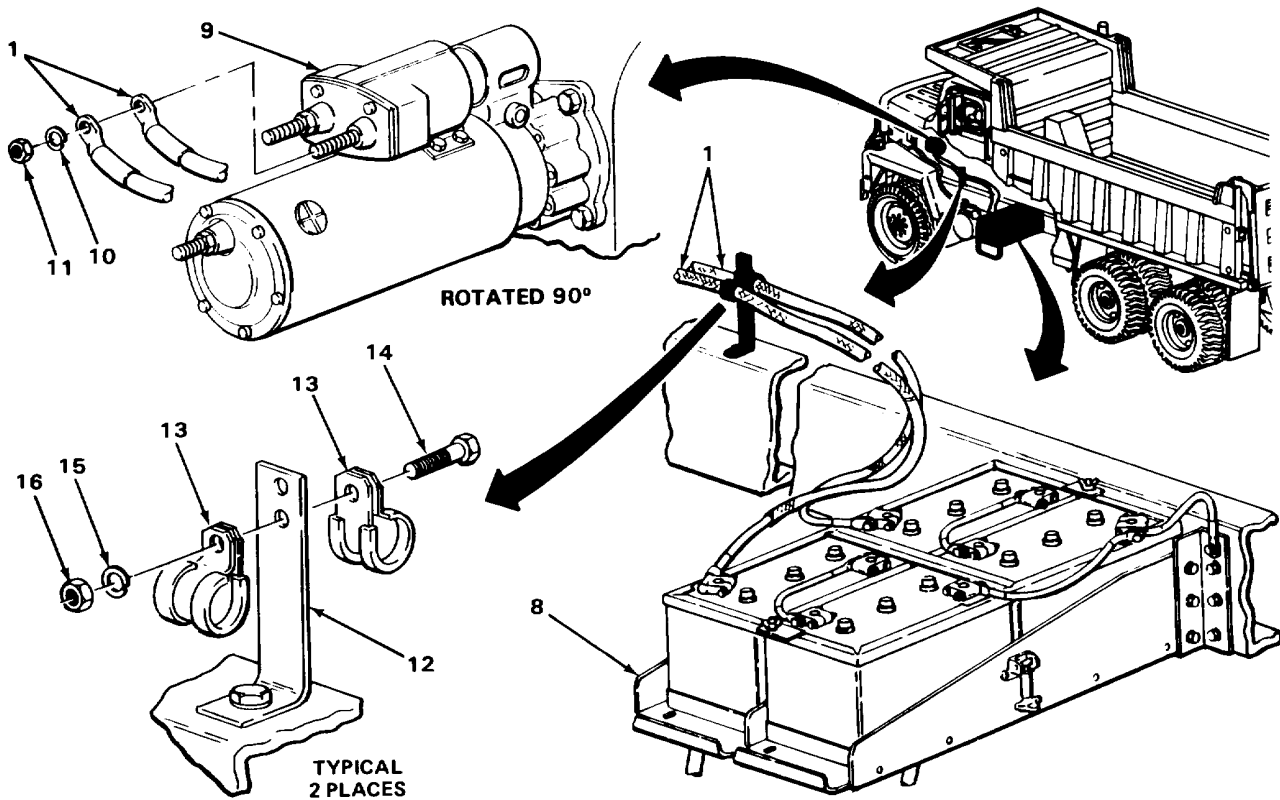
**BATTERY POSITIVE CABLE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
23 Starter solenoid (9)	Two cables (1), new lockwasher (10), and nut (11)	a Put cables on. b Screw on and tighten using 3/4-inch box-end wrench.

**NOTE**

Steps given are typical for both brackets.

24 Two brackets (12) and two cables (1)	Four clamps (13), two screws (14), two new lock- washers (15), and two nuts (16)	a Put clamps on cables. b Screw in and tighten using two 7/16-inch box-end wrenches.
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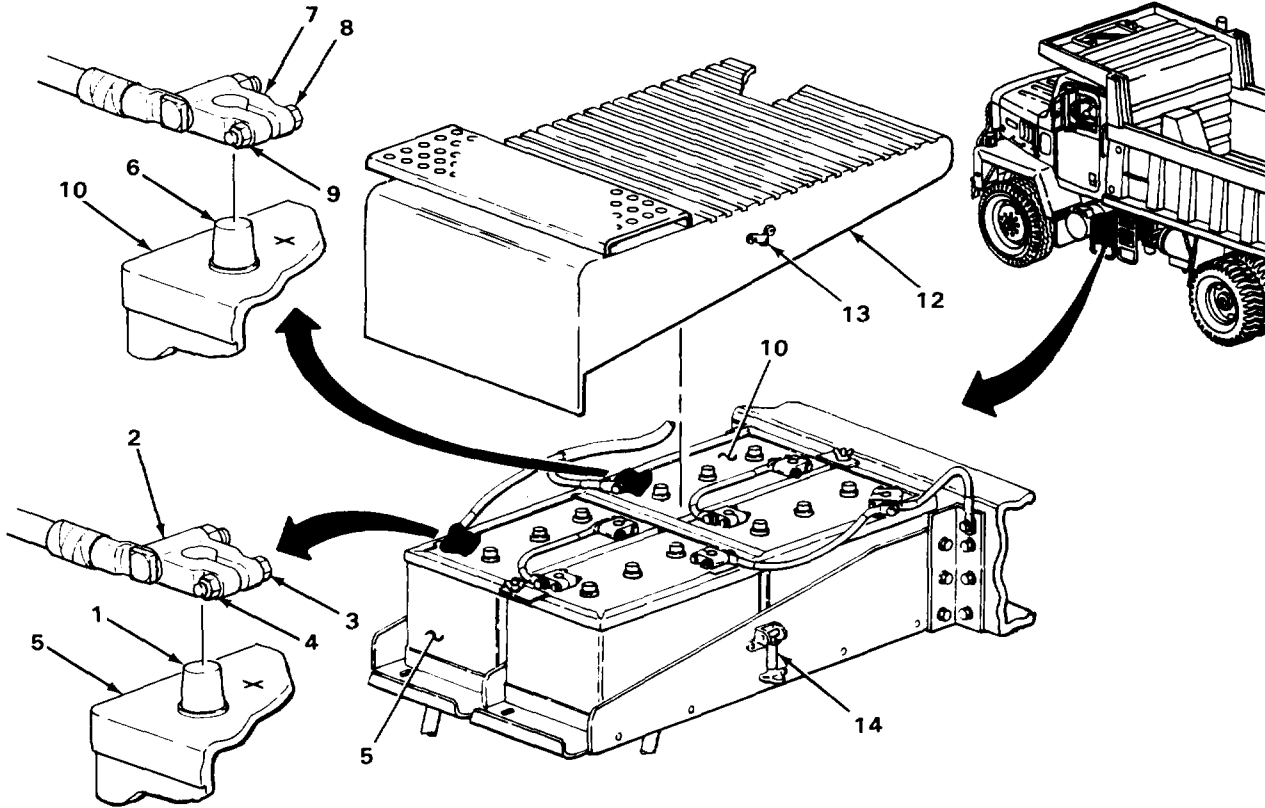


TA244225

**BATTERY POSITIVE CABLE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
25 Post (1)	Terminal (2)	Put on.
<b><u>CAUTION</u></b>		
Do not overtighten terminals, failure to observe this precaution could cause damage to terminals or posts.		
26 Terminal (2)	Screw (3) and nut (4)	Screw in and tighten using two 1/2-inch open-end wrenches.
27 Battery (5)	Terminal (2) and post (1)	Apply GAA grease.
28 Post(6)	Terminal (7)	Put on.
29 Terminal (7)	Screw (8) and nut (9)	Screw in and tighten using two 1/2-inch open-end wrenches.
30 Battery (10)	Terminal (7) and post (6)	Apply GAA grease.
31 Battery compartment (11)	Cover (12)	Put in place.
32 Two hooks (13)	Two latches (14)	Lift up, put in place and release.

**BATTERY POSITIVE CABLE - CONTINUED**



**NOTE**

FOLLOW-ON MAINTENANCE: Connect battery ground cable (page 2-424).

**TASK ENDS HERE**

TA244226

**STORAGE BATTERIES**

This task covers:

- |                         |                                       |
|-------------------------|---------------------------------------|
| a Testing (page 2-838)  | d Inspection/Replacement (page 2-840) |
| b Removal (page 2-839)  | e Installation (page 2-841)           |
| c Cleaning (page 2-840) |                                       |

**INITIAL SETUP**

**Tools**

- Apron, rubber
- Brush, wire
- Carrier, storage battery
- Cleaner, battery terminal
- Gloves, safety
- Goggles, safety
- Wrench, box-end, 9/16-inch

**Personnel Required**

One

**Equipment Condition**

Battery cables disconnected (page 2-424).

**References**

**Materials/Parts**

- Grease, GAA (item 10, appendix C)
- Rags, wiping (item 15, appendix C)
- Soda, bicarbonate (item 17, appendix C)

TM 9-6140-200-14 (Operator's, Unit, Intermediate Direct Support, and Intermediate General Support Maintenance Manual for Lead-Acid Storage Batteries)

LOCATION	ITEM	ACTION REMARKS
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**WARNING**

Rubber apron, safety gloves, and safety goggles must be worn when working with batteries. Failure to observe this precaution could cause serious injury to personnel.

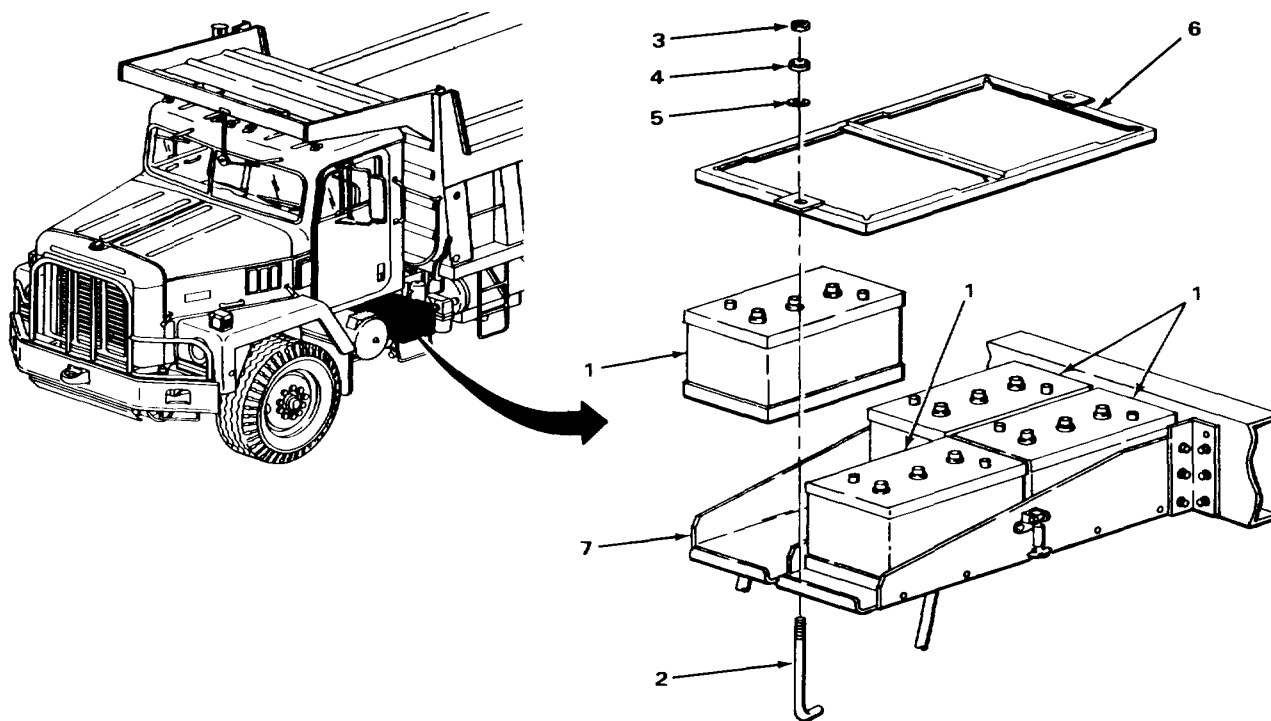
Do not smoke, use open flame, or allow sparks near batteries. Mixture of oxygen and hydrogen gases released from batteries is highly flammable and can explode causing injury to personnel.

**TESTING**

1	Four storage batteries (1)	Test (TM 96140-200-14).
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**STORAGE BATTERIES - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
2 Two battery hold-down bolts (2)	Two nuts (3), two gaskets (4), and two flat washers (5)	Using 9/16-inch, box-end wrench, unscrew and take off.
3 Four storage batteries (1)	Holddown retainer (6)	Take off.
4 Battery tray (7)	Two battery hold-down bolts (2)	Take off.
5	Four storage batteries (1)	Using storage battery carrier, take out.



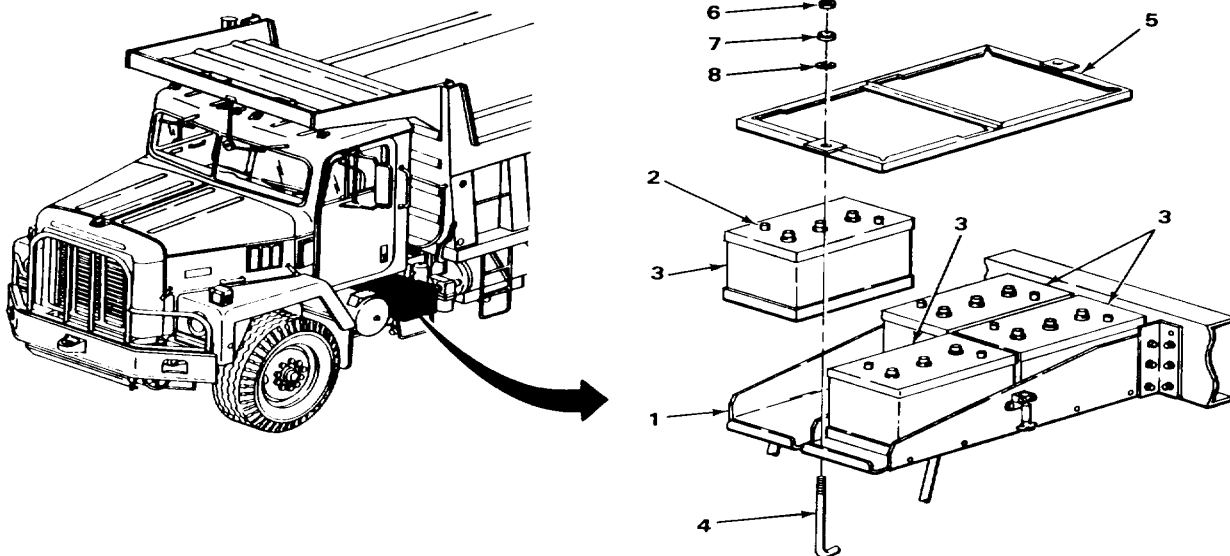
TA244227

## STORAGE BATTERIES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
CLEANING		
<b>NOTE</b>		
For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).		
6	Battery tray (1)	<ul style="list-style-type: none"> <li>a Using weak solution of bicarbonate soda, water, and wiping rag, clean.</li> <li>b Using wire brush, clean.</li> <li>c Using clean dry wiping rags, wipe clean and dry.</li> </ul>
7	Posts (2)	<ul style="list-style-type: none"> <li>a Using weak solution of bicarbonate soda, water, and wiping rags, clean.</li> <li>b Using battery terminal cleaner, clean.</li> <li>c Using clean dry wiping rags, wipe clean and dry.</li> </ul>
8	All metal parts	<ul style="list-style-type: none"> <li>a Using weak solution of bicarbonate soda, water, and wiping rags, clean.</li> <li>b Using wire brush, clean.</li> <li>c Using clean dry wiping rags, wipe clean and dry.</li> </ul>
INSPECTION/REPLACEMENT		
<b>NOTE</b>		
Replace all damaged or defective parts.		
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).		
9	Four storage batteries (3)	Check for cracks or breaks.
10	All metal parts	Check for cracks, breaks, or corrosion.
11	All threaded parts	Check for damaged threads or rounded heads.

STORAGE BATTERIES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
<b><u>WARNING</u></b>		
Do not smoke, use open flame, or allow sparks near batteries. Mixture of oxygen and hydrogen gases released from batteries is highly flammable and can explode causing serious injury or death.		
12 Battery tray (1)	Four storage batteries (3)	Put in place using storage battery carrier.
13	Two battery hold-down bolts (4)	Put in place.
14 Four storage batteries (3)	Hold-down retainer (5)	Put in place.
15 Two battery hold-down bolts (4)	Two nuts (6), two gaskets (7), and two flat washers (8)	Screw on and tighten using 9/16-inch box-end wrench.



**NOTE**  
 FOLLOW-ON MAINTENANCE: Connect battery cables (page 2-424)

**TASK ENDS HERE**



**BATTERY BOX**

This task covers:

- |   |                          |   |                                     |
|---|--------------------------|---|-------------------------------------|
| a | Removal (page 2-842)     | d | Inspection/Replacement (page 2-840) |
| b | Disassembly (page 2-845) | e | Assembly (page 2-850)               |
| c | Cleaning (page 2-848)    | f | Installation (page 2-855)           |

**INITIAL SETUP**

**Tools**

- Apron, rubber
- Gloves, safety
- Goggles, safety
- Handle, ratchet, 1/2-inch drive
- Screwdriver, 1/4-inch, flat-tip
- Socket, 9/16-inch, 112-inch drive
- Wrench, box-end, 318-inch
- Wrench, box-end, 9/16-inch
- Wrench, box-end, 3/4-inch
- Wrench, open-end, 3/8-inch
- Wrench, open-end, 1/2-inch
- Wrench, open-end, 3/4-inch

**Materials/Parts - Continued**

- Lockwashers, battery retainers (four required)
- Lockwashers, step (four required)
- Lockwashers, upper step (four required)
- Rags, wiping (item 15, appendix C)
- Soda, bicarbonate (item 17, appendix C)
- Solvent, drycleaning (item 19, appendix C)

**Personnel Required**

Two

**Equipment Condition**

**Materials/Parts**

- Detergent, liquid (item 7, appendix C)
- Lockwashers, battery box assembly (six required)
- Lockwashers, battery holddown (two required)

- Batteries removed (page 2-838).
- Wet air reservoir removed (page 2-986).

LOCATION	ITEM	ACTION	REMARKS
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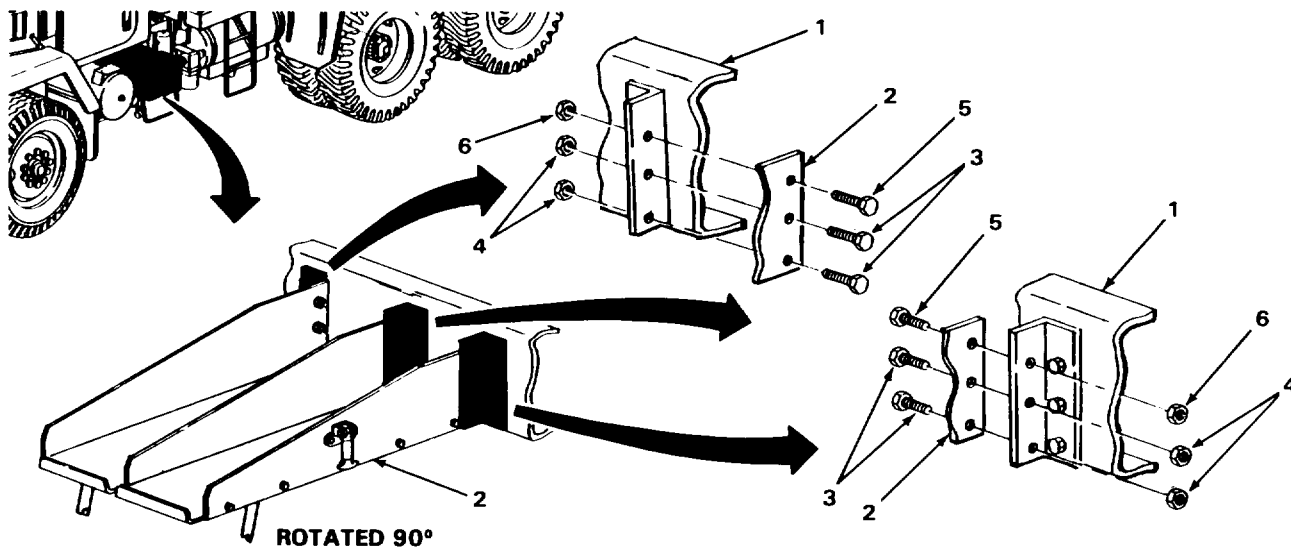
**REMOVAL**

**WARNING**

Rubber apron, safety gloves, and safety goggles must be worn when working with batteries Failure to observe this precaution could cause serious injury.

**BATTERY BOX - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
1 Frame rail (1)	Battery box (2)	a Using weak solution of bicarbonate soda, water, and wiping rags, clean. b Using wiping rags, dry.
2 Battery box (2)	Six screws (3) and six nuts (4)	Using 3/4-inch box-end wrench, and 3/4-inch open-end wrench, unscrew and take out.
<b><u>WARNING</u></b>		
Due to excessive weights, assistance will be needed to support battery box, to prevent personal injury.		
3	Three screws (5) and three nuts (6) and take off.	a Using 3/4-inch box-end wrench and 3/4-inch open-end wrench, unscrew b With assistance, take off battery box.



BATTERY BOX - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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REMOVAL - CONTINUED

**NOTE**

If brackets are to be removed perform steps 4 and 5.

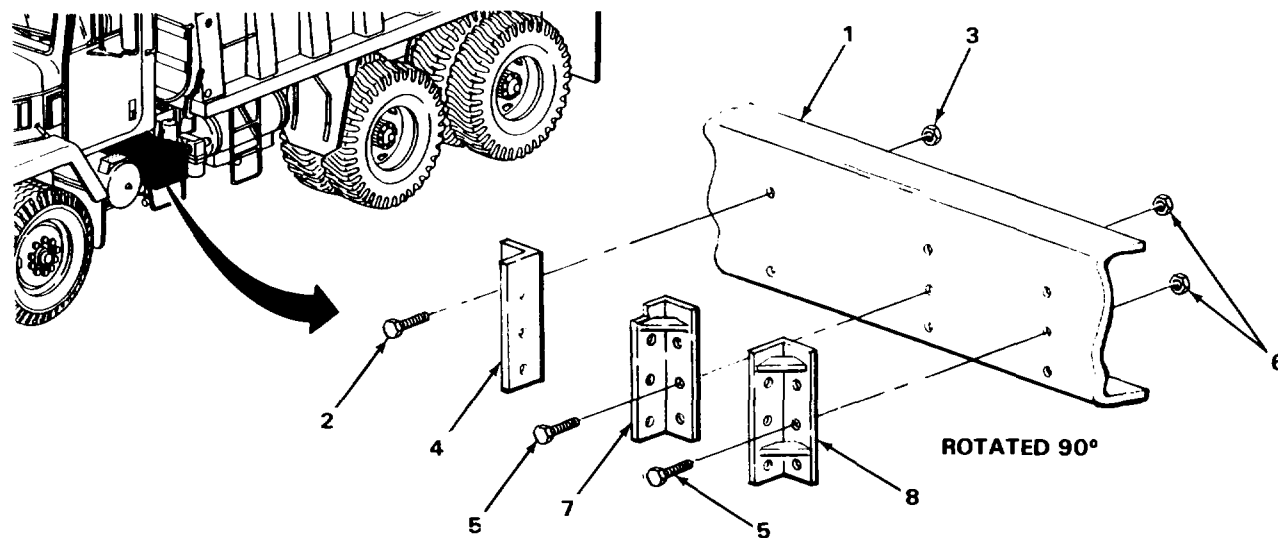
Step 4 is for front bracket only.

4	Frame rail (1)  Two screws (2), two nuts (3), and front bracket (4)	<ul style="list-style-type: none"> <li>a Using 3/4-inch box-end wrench and 3/4-inch open-end wrench, unscrew and take out.</li> <li>b Take off front bracket.</li> </ul>
---	---	--

**NOTE**

step 5 is typical for both center and rear mounting brackets.

5	Six screws (5), six nuts (6), center bracket (7), and rear bracket (8)	<ul style="list-style-type: none"> <li>a Using 3/4-inch box-end wrench and 3/4-inch open-end wrench, unscrew and take off.</li> <li>b Take off center and rear brackets.</li> </ul>
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TA244230

BATTERY BOX - CONTINUED

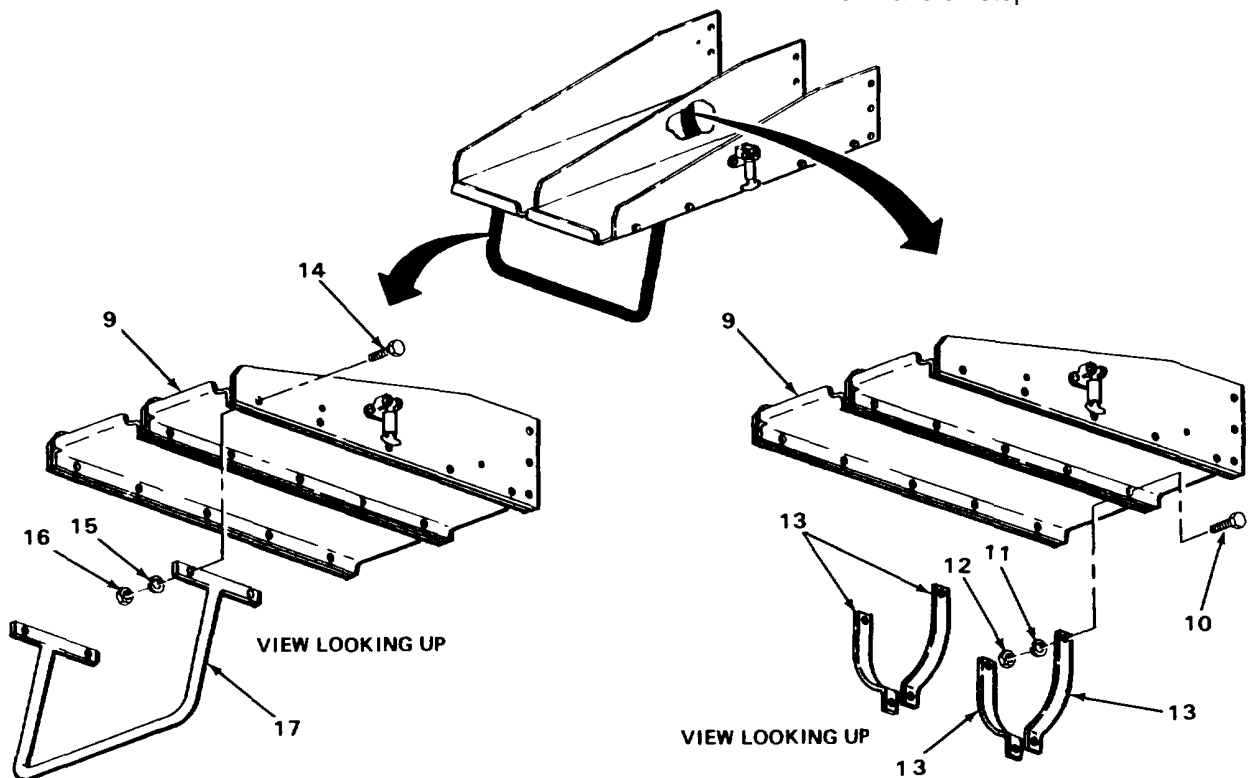
LOCATION	ITEM	ACTION REMARKS
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DISASSEMBLY

NOTE

Step 7 is typical for all four support straps.

6	Battery box (9)	Four screws (10), four lockwashers (11), four nuts (12), and four support straps (13)	a Using 9/16-inch, 1/2-inch drive socket and ratchet handle and 9/16-inch box-end wrench, unscrew and take off. b Get rid of lockwashers. c Take off support straps.
7		Four screws (14), four lockwashers (15), four nuts (16), and step (17)	a Using 9/16-inch, 1/2-inch drive socket and ratchet handle and 9/16-inch box- end wrench, unscrew and take off. b Get rid of lockwashers. c Take off step.

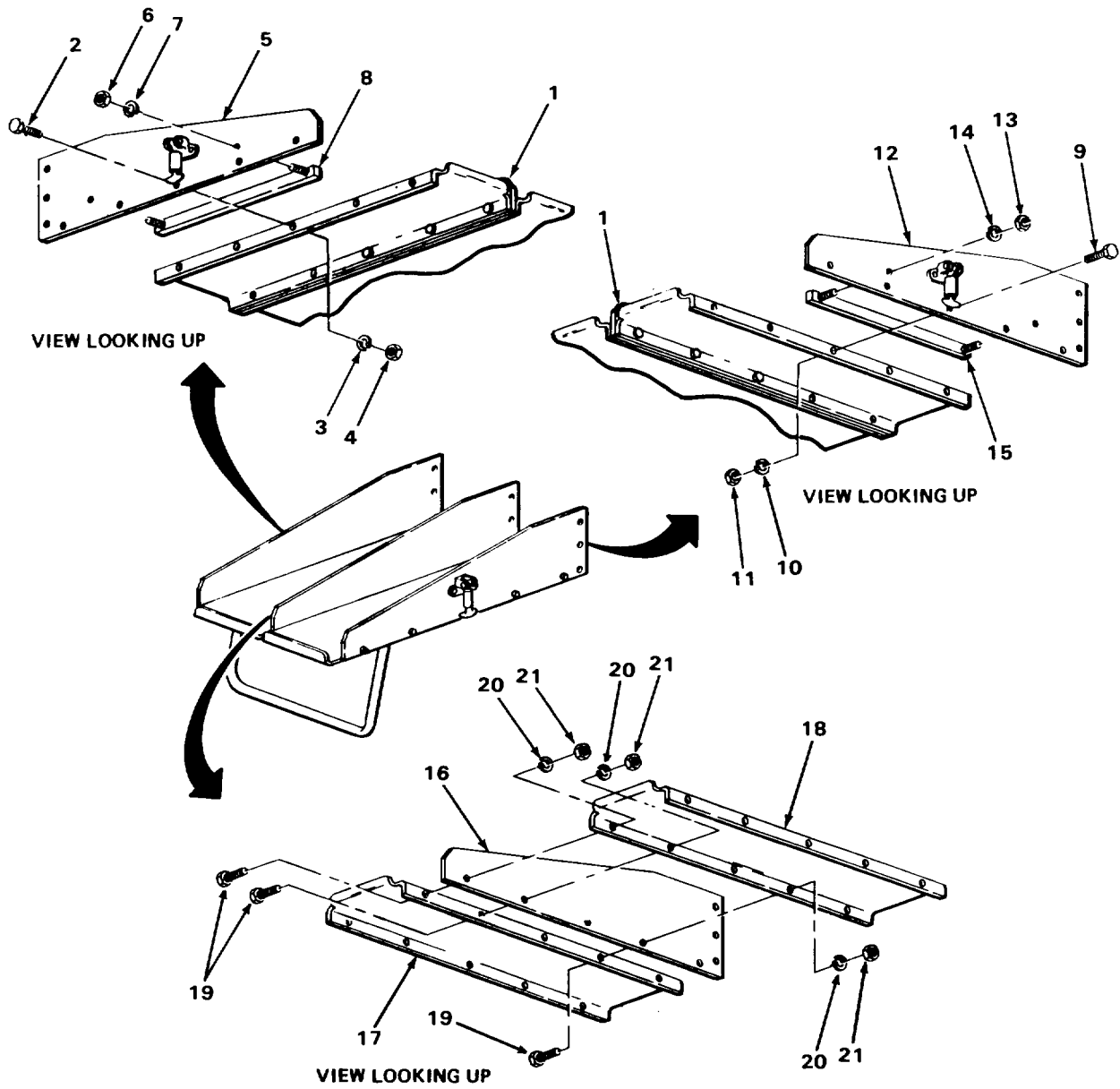


TA244231

## BATTERY BOX - CONTINUED

LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY - CONTINUED		
8 Battery box (1)	Screw (2), lockwasher (3), nut (4), and side panel (5)	a Using 9/16-inch, 1/2-inch drive socket and ratchet handle and 9/16-inch box-end wrench, unscrew and take off. b Get rid of lockwasher. c Take off side panel.
9 Side panel (5)	Two nuts (6), two lockwashers (7), and battery retainer (8)	a Using 3/8-inch open-end wrench, unscrew and take off. b Get rid of lockwashers. c Take off battery retainer.
10 Battery box (1)	Three screws (9), three lockwashers (10), three nuts (11), and side panel (12)	a Using 9/16-inch, 1/2-inch drive socket and ratchet handle and 9/16-inch box-end wrench, unscrew and take off. b Get rid of lockwashers. c Take off side panel.
11 Side panel (12)	Two nuts (13), two lockwashers (14), and battery retainer (15)	a Using 3/8-inch open-end wrench, unscrew and take off. b Get rid of lockwashers. c Take off battery retainer.
12 Center panel (16)	Two trays (17) and (18), three screws (19), three lockwashers (20), and three nuts (21)	a Using 9/16-inch, 1/2-inch drive socket and ratchet handle and 9/16-inch box-end wrench, unscrew and take off. b Get rid of lockwashers. c Take apart two trays and center panel (16).

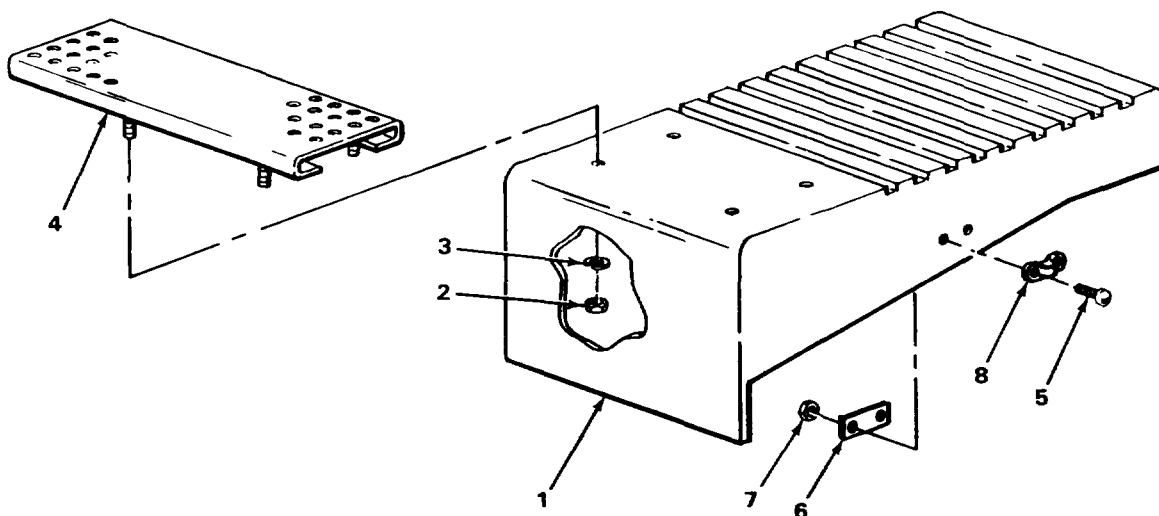
BATTERY BOX - CONTINUED



TA244232

**BATTERY BOX - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY - CONTINUED		
13 Cover (1)	Four nuts (2), four lockwashers (3), and upper step (4)	a Using 1/2-inch open-end wrench, unscrew and take off. b Get rid of lockwashers. c Take off upper step.
14	Four screws (5), two plates (6), four nuts (7), and two hooks (8)	a Using 3/8-inch box-end wrench and 11/4-inch flat-tip screwdriver, unscrew b. and take off.



**CLEANING**

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (590C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

TA244233

**BATTERY BOX - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>NOTE</b>		
For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).		
15	All metal parts	Clean, using drycleaning solvent and wiping rags.
16	Cover (1) and two battery retainers (9)	Clean, using liquid detergent with water and wiping rags.

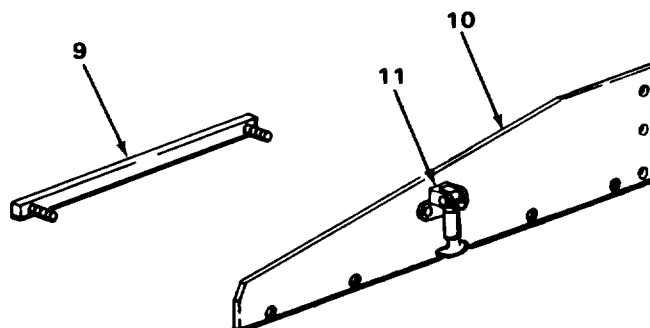
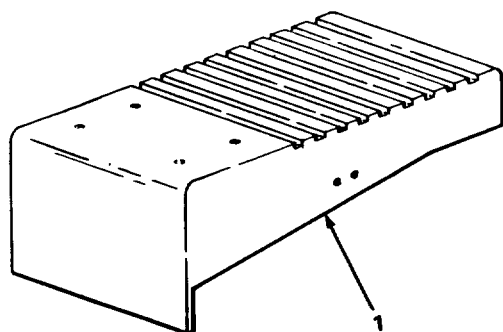
**INSPECTION/REPLACEMENT**

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

17	Cover (1) and two battery retainers (9)	Look for cracks or breaks.
18	Two side panels (10) Two hooks (11)	Pull up and check for spring tension and release. <b>Hook should be under spring tension and return when released.</b>

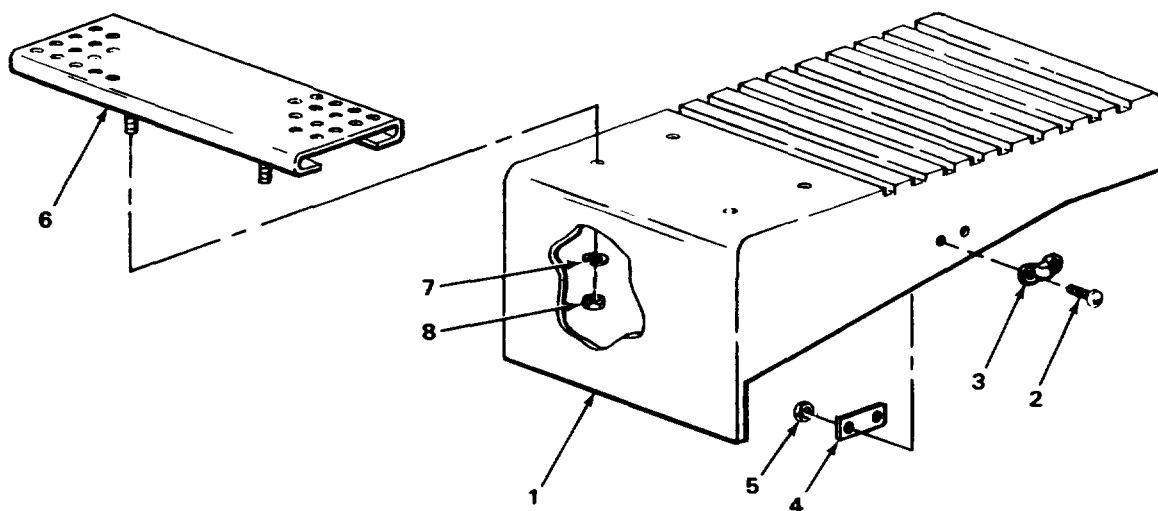


TA244234



**BATTERY BOX - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
INSPECTION/REPLACEMENT- CONTINUED		
19	All metal parts	Look for cracks, breaks, or corroded areas.
20	All threaded parts	Look for damaged threads or rounded heads.
ASSEMBLY		
21 Cover (1)	Four screws (2), four hooks (3), four plates (4), and four nuts (5)	a Put in place. b Screw on and tighten, using 3/8-inch box-end wrench and 1/4-inch flat-tip screwdriver.
22	Upper step (6), four new lockwashers (7), and four nuts (8)	a Put upper step in place. b Screw on and tighten, using 1/2-inch open-end wrench.



TA244235

**BATTERY BOX - CONTINUED**

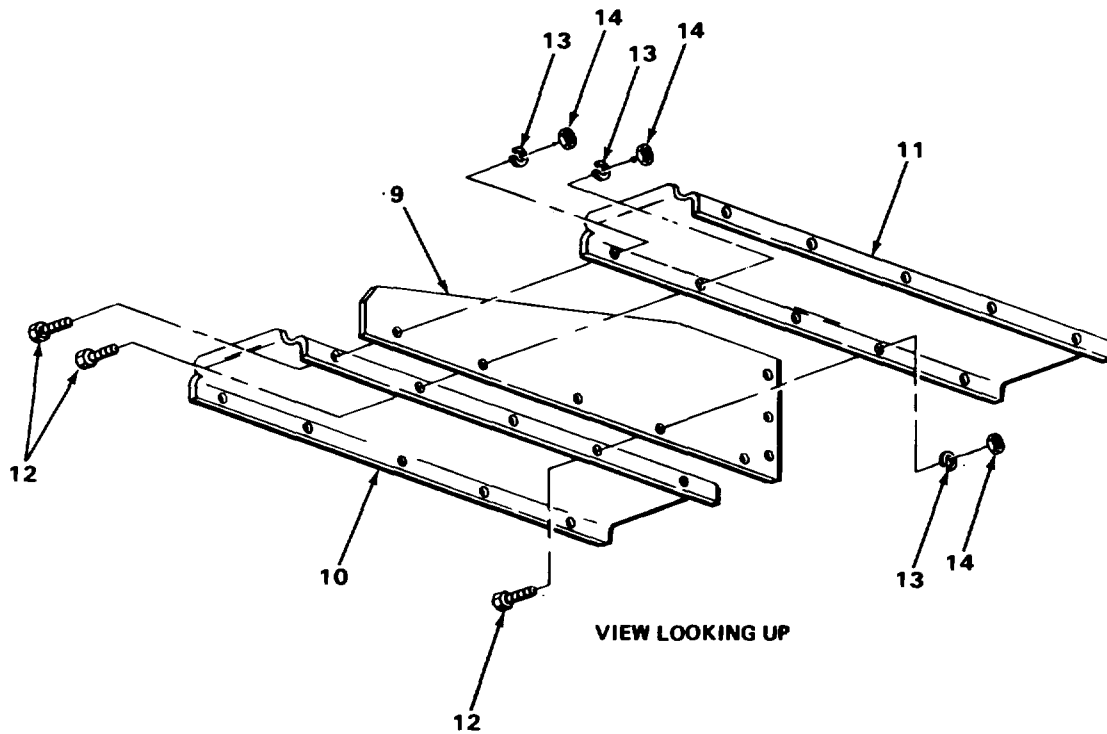
LOCATION	ITEM	ACTION REMARKS
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**NOTE**

Position trays with five holes towards center panel Position center panel as shown.

Hardware must be installed as shown.

23	Center panel (9)	Two trays (10) and (11), three screws (12), three new lockwashers (13), and three nuts (14)	<ul style="list-style-type: none"> <li>a Aline center panel and two trays.</li> <li>b Screw in and tighten using 9/16-inch, 11/2-inch drive socket and ratchet handle and 9/16-inch box-end wrench.</li> </ul>
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TA244236

BATTERY BOX - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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ASSEMBLY - CONTINUED

**NOTE**

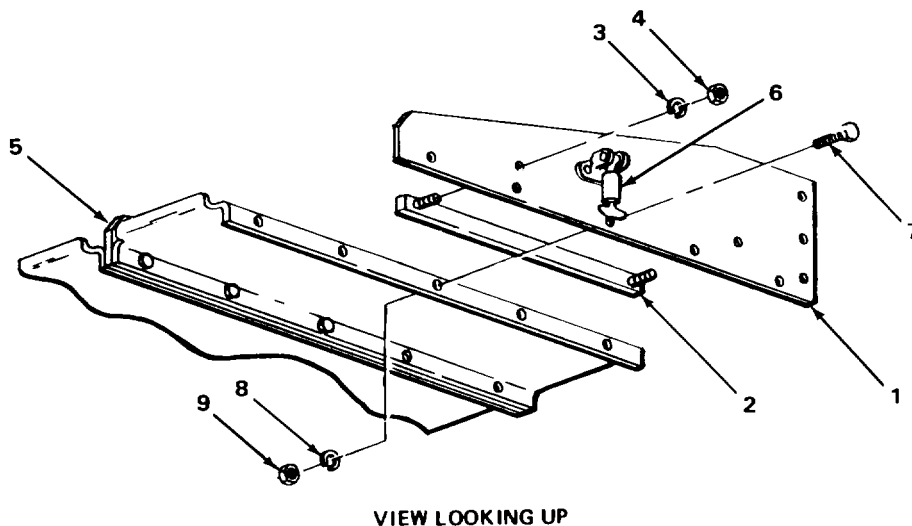
Position battery retainer and side panel as shown.

24	Side panel (1)  Battery retainer (2), two new lock-washers (3), and two nuts (4)	<ul style="list-style-type: none"> <li>a Put in place.</li> <li>b Screw on and tighten, using 3/8-inch box-end wrench.</li> </ul>
----	--	---

**NOTE**

Hardware must be installed in location and direction shown.

25	Battery box (5)  Side panel (1), three screws (7),  three new lock-washers (8), and three nuts (9)	<ul style="list-style-type: none"> <li>a Put in place. <b>Hook (6) must face towards outside of battery box.</b></li> <li>b Screw on and tighten using 9/16-inch, 1/2-inch drive socket and ratchet handle and 9/16-inch box-end wrench.</li> </ul>
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TA244237

**BATTERY BOX - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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**NOTE**

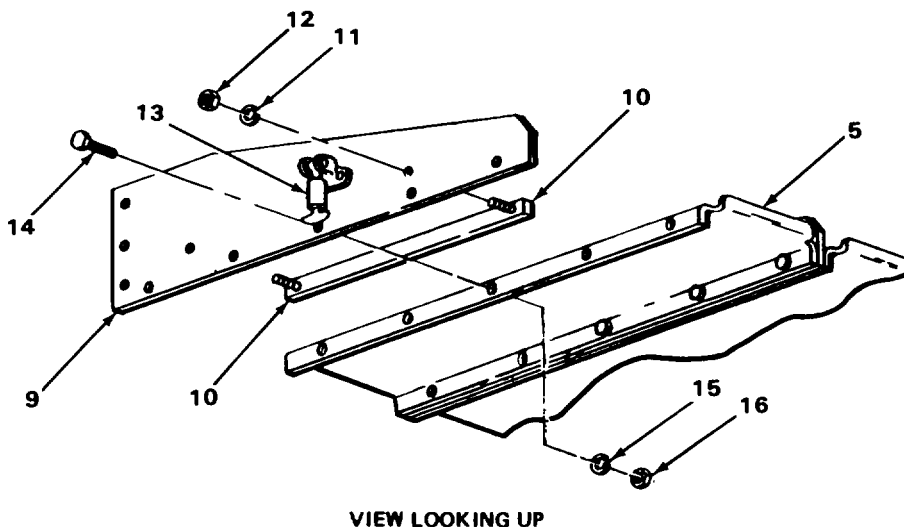
Position battery retainer and side panel as shown.

26	Side panel (9)	Battery retainer (10), two new lock-washers (11), and two nuts (12) <ul style="list-style-type: none"> <li>a Put in place.</li> <li>b Screw on and tighten, using 3/8inch box-end wrench.</li> </ul>
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**NOTE**

Hardware must be installed in location and direction shown.

27	Battery box (5)	Side panel (9), screw (14), new lockwasher (15), and nut (16) <ul style="list-style-type: none"> <li>a Put in place. <b>Hook (13) must face towards outside of battery box.</b></li> <li>b Screw on and tighten, using 9/16-inch, 1/2-inch drive socket and ratchet handle and 9116-inch, box-end wrench.</li> </ul>
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TA244238

**BATTERY BOX - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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ASSEMBLY - CONTINUED

**NOTE**

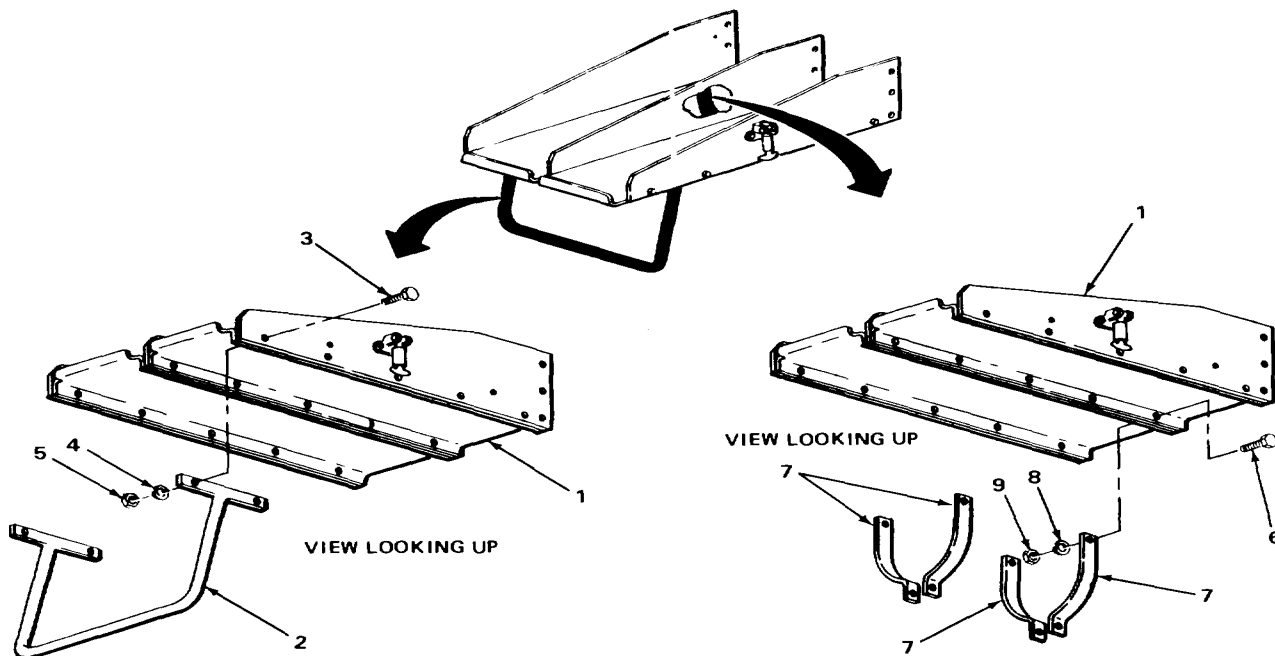
Hardware must be installed facing center of battery box.

28	Battery box (1)	<p>Step (2), four screws (3), four new lockwashers (4), and four nuts (5)</p> <p>a Put step in place. b Screw in and tighten, using 9/16-inch, 11/2-inch drive socket and ratchet handle and 9/16-inch box-end wrench.</p>
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**NOTE**

Hardware and straps must be installed in location and direction shown.

29	<p>Four screws (6), four straps (7), four new lockwashers (8), and four nuts (9)</p>	<p>a Put in place. b Screw on and tighten, using 9/16-inch, 1/2-inch drive socket and ratchet handle and 9/16-inch box-end wrench.</p>
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TA244239

**BATTERY BOX - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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INSTALLATION

**NOTE**

If battery box mounting brackets were removed perform steps 30 and 31.

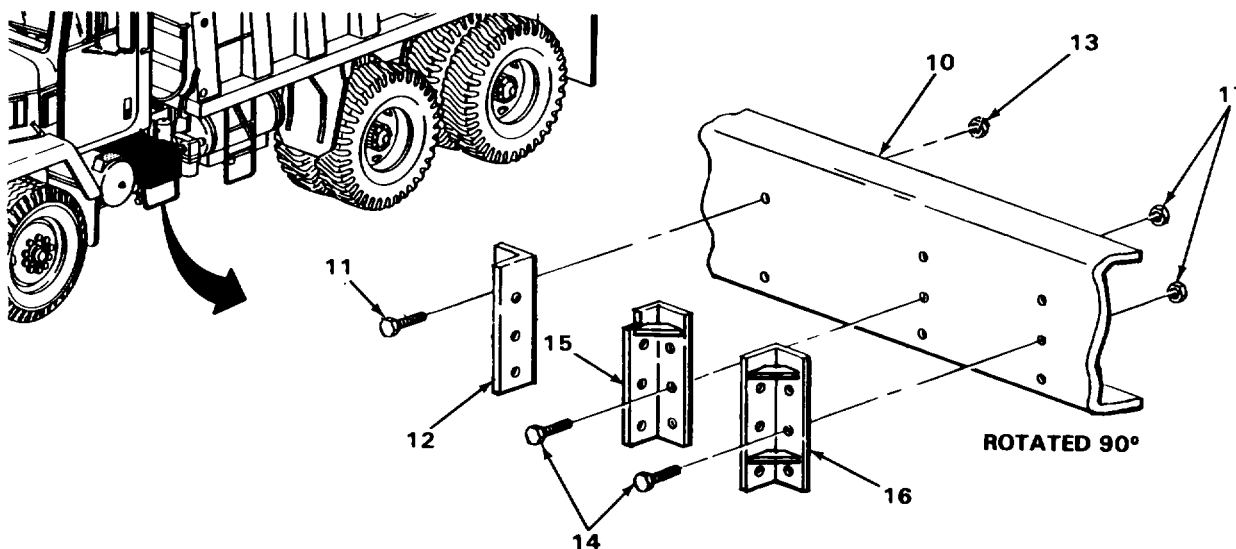
Step 30 is for front bracket only.

30	Frame rail (10)  Two screws (11), front bracket (12), and two nuts (13)	a Aline holes. b Screw on and tighten, using 3/4-inch box-end wrench and 3/4-inch open-end wrench.
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**NOTE**

Step 31 is typical for both center and rear brackets.

31	Six screws (14), center bracket (15), rear bracket (16), and six nuts (17)	a Aline holes. b Screw on and tighten, using 3/4-inch box-end wrench and 3/4-inch open-end wrench.
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TA244240

**BATTERY BOX - CONTINUED**

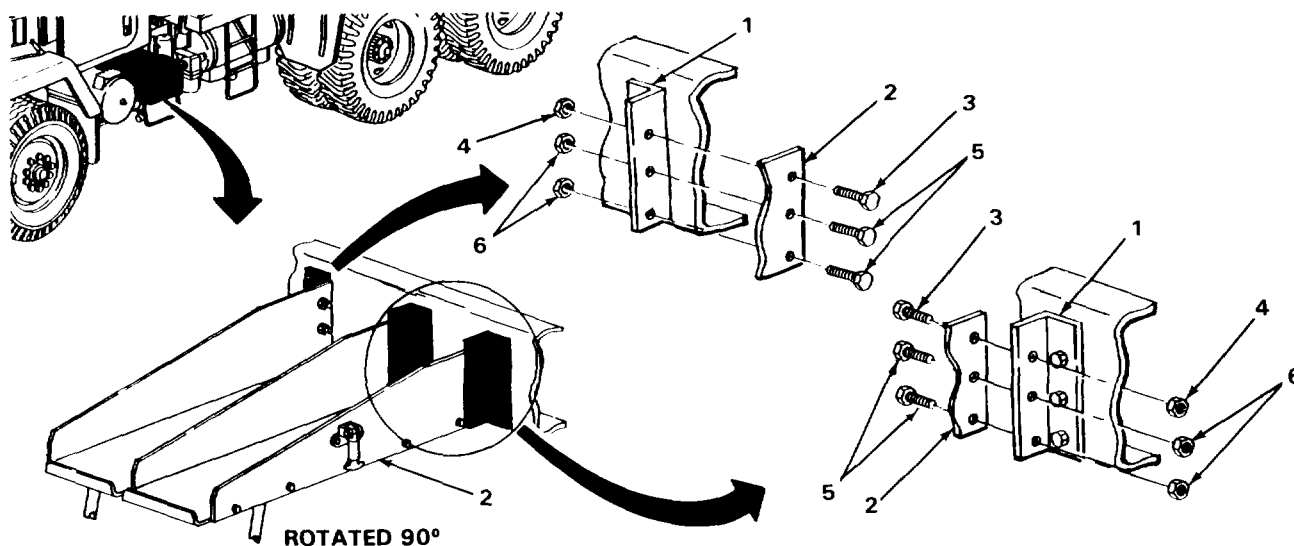
LOCATION	ITEM	ACTION REMARKS
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INSTALLATION - CONTINUED

**WARNING**

Due to excessive weight, assistance will be needed to support battery box to prevent personal injury.

32	Three brackets (1)  Battery box (2), three screws (3), and three nuts (4)	a With assistance put on. b Screw on and tighten, using 3/4-inch box-end wrench and 3/4-inch open-end wrench.
33	Six screws (5) and three nuts (6)	Screw on and tighten, using 3/4-inch box- end wrench and 3/4-inch open-end wrench.



**NOTE**

FOLLOW-ON MAINTENANCE:

- 1 Install batteries (page 2-838).
- 2 Install wet air reservoir (page 2-986).

**TASK ENDS HERE**

TA244241

**OPTICAL LIGHT LAMP**

This task covers:

- a Removal (page 2-857)
- b Installation (page 2-857)

**INITIAL SETUP**

Personnel Required

One

Equipment Condition

Battery cables disconnected (page 2-424).  
 Left side cab door opened (page 2-424).  
 Lower center instrument panel opened (page 2-424).

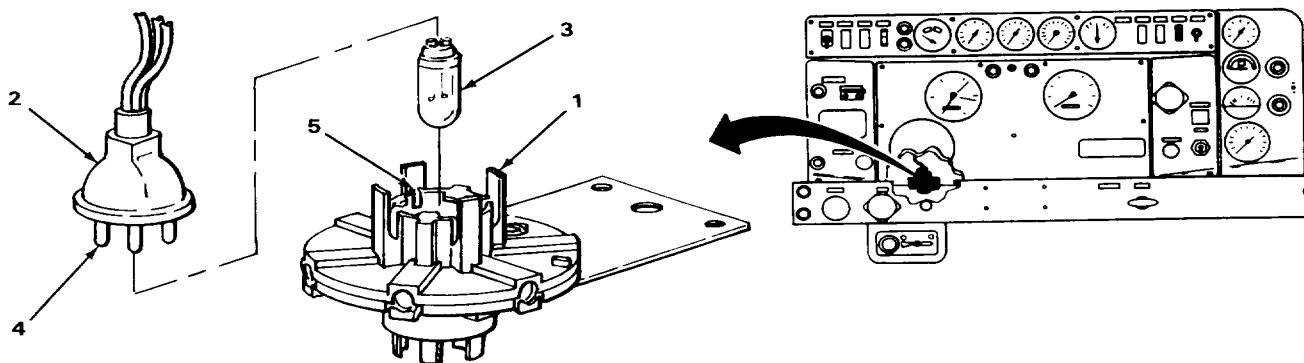
LOCATION	ITEM	ACTION REMARKS
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**REMOVAL**

- |   |                            |            |                                     |
|---|----------------------------|------------|-------------------------------------|
| 1 | Optical light assembly (1) | Socket (2) | Turn counterclockwise and pull out. |
| 2 | Socket (2)                 | Lamp (3)   | Pull out.                           |

**INSTALLATION**

- |   |                            |                               |  |
|---|----------------------------|-------------------------------|--|
| 3 | Socket (2)                 | Lamp (3)                      | Put in.  |
| 4 | Optical light assembly (1) | Socket (2)<br>light assembly. | a Aline tabs (4) on socket with slots (5) on<br>b Put in and turn clockwise. |



TA244242



**OPTICAL LIGHT LAMP - CONTINUED**

**NOTE**

FOLLOW-ON MAINTENANCE:

- 1 Close lower center instrument panel (page 2-424).
- 2 Connect battery cables (page 2-424).
- 3 Close left side cab door (page 2-424).

**TASK ENDS HERE**

**OPTICAL LIGHT ASSEMBLY**

This task covers:

a	Removal (page 2-858)	c	Assembly (page 2-859)
b	Disassembly (page 2-858)	d	Installation (page 2-859)

**INITIAL SETUP**

**Tools**

- Screwdriver, cross-tip, number one
- Screwdriver, flat-tip, 3/16-inch
- Wrench, box-end, 1/4-inch

**Personnel Required**

One

**Equipment Condition**

**Materials/Parts**

- Lockwasher, bracket

Battery cables disconnected (page 2-424).  
 Left side cab door opened (page 2-424).  
 Left center instrument panel opened (2-424).

LOCATION	ITEM	ACTION REMARKS
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**REMOVAL**

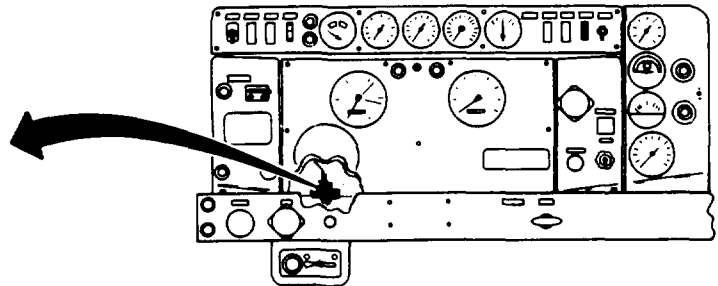
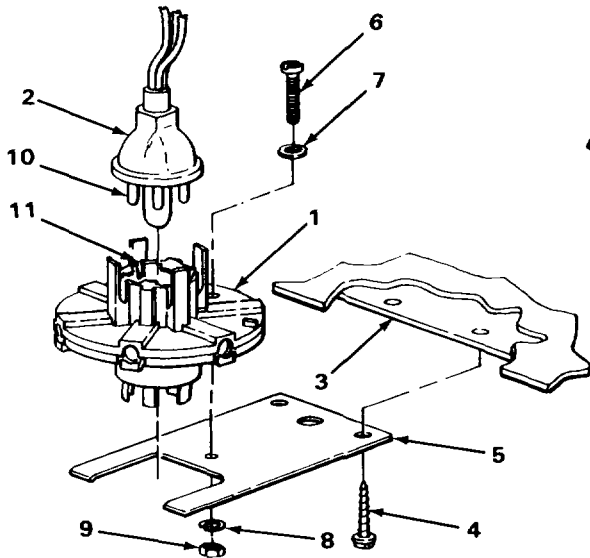
1	Optical light assembly (1)	Socket (2)	Turn counterclockwise and pull out.
2	Lower instrument panel (3)	Two screws (4) and bracket (5)	a Using number one cross-tip screwdriver, unscrew and take out. b Take off bracket.

**DISASSEMBLY**

3	Bracket (5) and optical light assembly (1)	Screw (6), flat washer (7), lockwasher (8), and nut (9)	a Using 3/16-inch flat-tip screwdriver and 1/4-inch box-end wrench, unscrew and take off. b Get rid of lockwasher.
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OPTICAL LIGHT ASSEMBLY - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>ASSEMBLY</b>			
4	Bracket (5) and optical light assembly (1)	Screw (6), flat washer (7), new lockwasher (8), and nut (9)	a Put bracket in place. b Screw in and tighten using 3/16-inch flat-tip screwdriver and 1/4-inch box-end wrench.
<b>INSTALLATION</b>			
5	Lower instrument panel (3)	Two screws (4) and bracket (5)	a Put bracket in place. b Screw in and tighten using number one cross-tip screwdriver.
6	Optical light assembly (1)	Socket (2) on optical light assembly.	a Aline tabs (10) on socket with slots (11)
b	Put in and turn clockwise.		



**NOTE**

**FOLLOW-ON MAINTENANCE:**

- 1 Close lower center instrument panel (page 2-424)
- 2 Connect battery cables (page 2-424)
- 3 Close left side cab door (page 2-424).

**TASK ENDS HERE**

TA244243

**RIGHT INSTRUMENT PANEL OPTICAL RIBBON**

This task covers:

- a Removal (page 2-860)
- b Installation (page 2-862)

**INITIAL SETUP**

**Tools**

Screwdriver, cross-tip, number one  
 Screwdriver, flat-tip, 1/8-inch  
 Screwdriver, flat-tip, 1/4-inch  
 Wrench, box-end, 7/16-inch (two required)

**Materials/Parts**

Lockwasher, power take off control to lower center instrument panel (two required)

**Personnel Required**

One

**Equipment Condition**

Battery cables disconnected (page 2-424).  
 Left side cab door opened (page 2-424).  
 Lower center instrument panel opened (page 2-424).  
 Right instrument panel opened (page 2-424).

LOCATION	ITEM	ACTION REMARKS
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**REMOVAL**

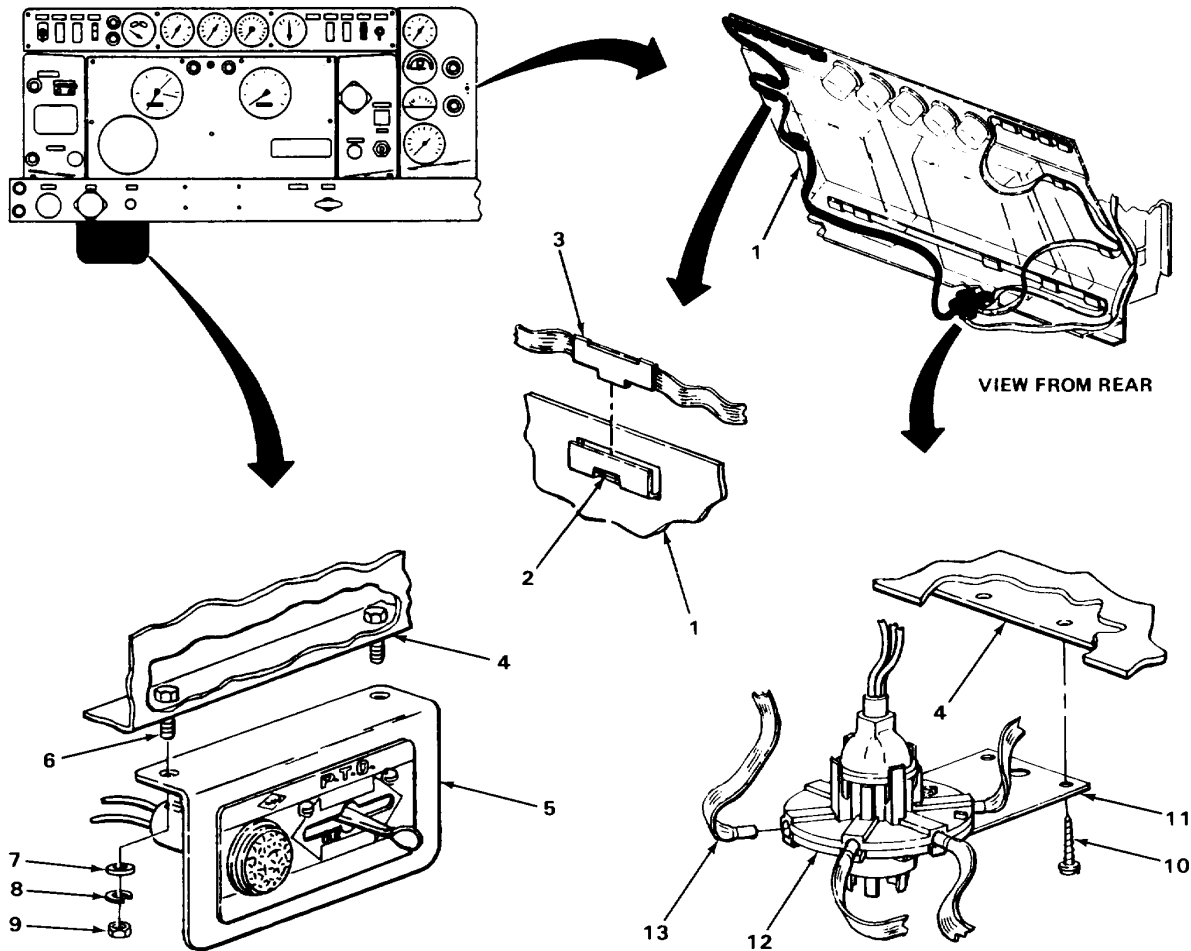
**NOTE**

Steps given are typical for removal of four identification tabs from four bezels.

1	Rear of instrument panel (1)	Bezel (2) and identification tab (3)	<ul style="list-style-type: none"> <li>a Using 1/8-inch flat-tip screwdriver, pry rear of bezel back and take out identification tab.</li> <li>b Take out bezel.</li> <li>c Repeat step a until all four identification tabs and bezels have been removed.</li> </ul>
2	Lower center instrument panel (4) screws (6), two flat washers (7), two lockwashers (8), and two nuts (9)	Power take off control (5), two b Do not remove screws from lower center instrument panel. c	<ul style="list-style-type: none"> <li>a Using two 7/16-inch box-end wrenches, unscrew and take off. Take off power take off control.</li> <li>c Get rid of lockwashers.</li> </ul>

RIGHT INSTRUMENT PANEL OPTICAL RIBBON - CONTINUED

LOCATION	ITEM	ACTION REMARKS
3. b. Take out bracket.	Two screws (10) and bracket (11)	a. Using number one cross-tip screw- driver, unscrew and take out.
4. Optical light assembly (12)	Optical ribbon (13)	Using 1/4-inch, flat-tip screwdriver, lift up plastic tab and pull out optical ribbon.



TA244244

RIGHT INSTRUMENT PANEL OPTICAL RIBBON - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION

NOTE

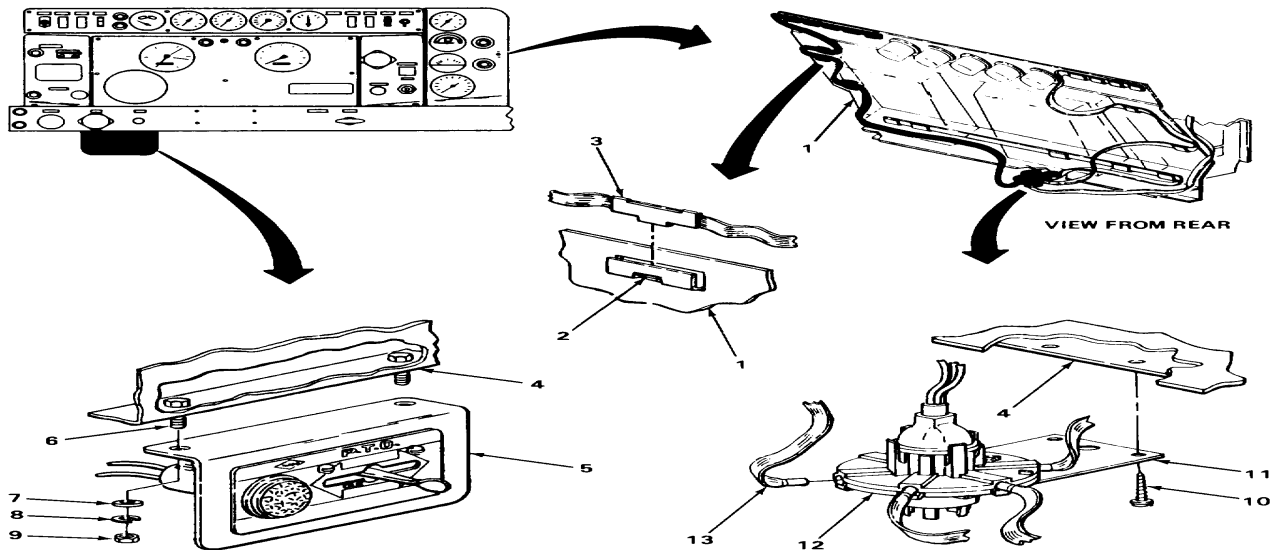
Steps given are typical for the installation of four identification tabs into four bezels.

When installing optical ribbon be sure to start at end farthest away from optical light assembly.

5. Rear of instrument panel (1)

Bezel (2) and identification tab (3)

- a. Put in place.
- b. Push identification tab into bezel.
- c. Repeat step b until all identification tabs are installed in bezels.



6. Optical light assembly (4)

Optical ribbon (5)

Push in.

7. Lower center instrument panel (6)

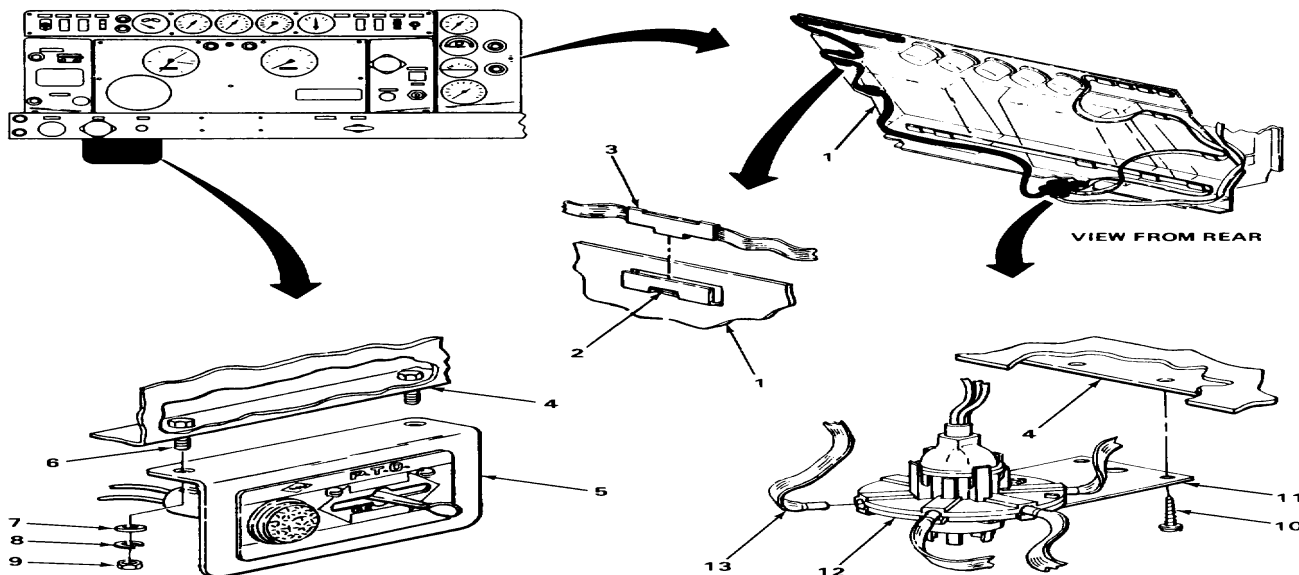
Two screws (7) and bracket (8)

- a. Put bracket in place.
- b. Screw in and tighten using number one cross-tip screwdriver.

RIGHT INSTRUMENT PANEL OPTICAL RIBBON - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

- |    |   |  |  |
|----|---|--|--|
| 8. | Power take off control (9), two screws (10), two inch, box-end wrenches. flat washers (11), two new lockwashers (12), and two nuts (13) | a. Put power take off control in place.<br>b. Screw in and tighten using two 7/16- |  |
|----|---|--|--|



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Close lower center instrument panel (page 2-424).
2. Connect battery cables (page 2-424).
3. Close right instrument panel (page 2-424). TA244246
4. Close left side cab door (page 2-424). 2863

**TASK ENDS HERE**

**LOWER INSTRUMENT PANEL OPTICAL RIBBON**

This task covers:

- a. Removal (page 2-864)
- b. Installation (page 2-866)

**INITIAL SETUP**

**Tools**

Screwdriver, cross-tip, number one  
 Screwdriver, flat-tip, 118-inch  
 Screwdriver, flat-tip, 1/4-inch  
 Wrench, box-end, 7/16-inch  
 (two required)

**Materials/Parts**

Lockwasher, power take off control  
 to lower center instrument panel  
 (two required)

**Personnel Required**

One

**Equipment Condition**

Battery cables disconnected (page 2-424).  
 Left side cab door opened (page 2-424).  
 Lower center instrument panel opened  
 (page 2-424).

LOCATION	ITEM	ACTION	REMARKS
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3. Two screws (10) and a. Using number one cross-tip screw-

**REMOVAL**

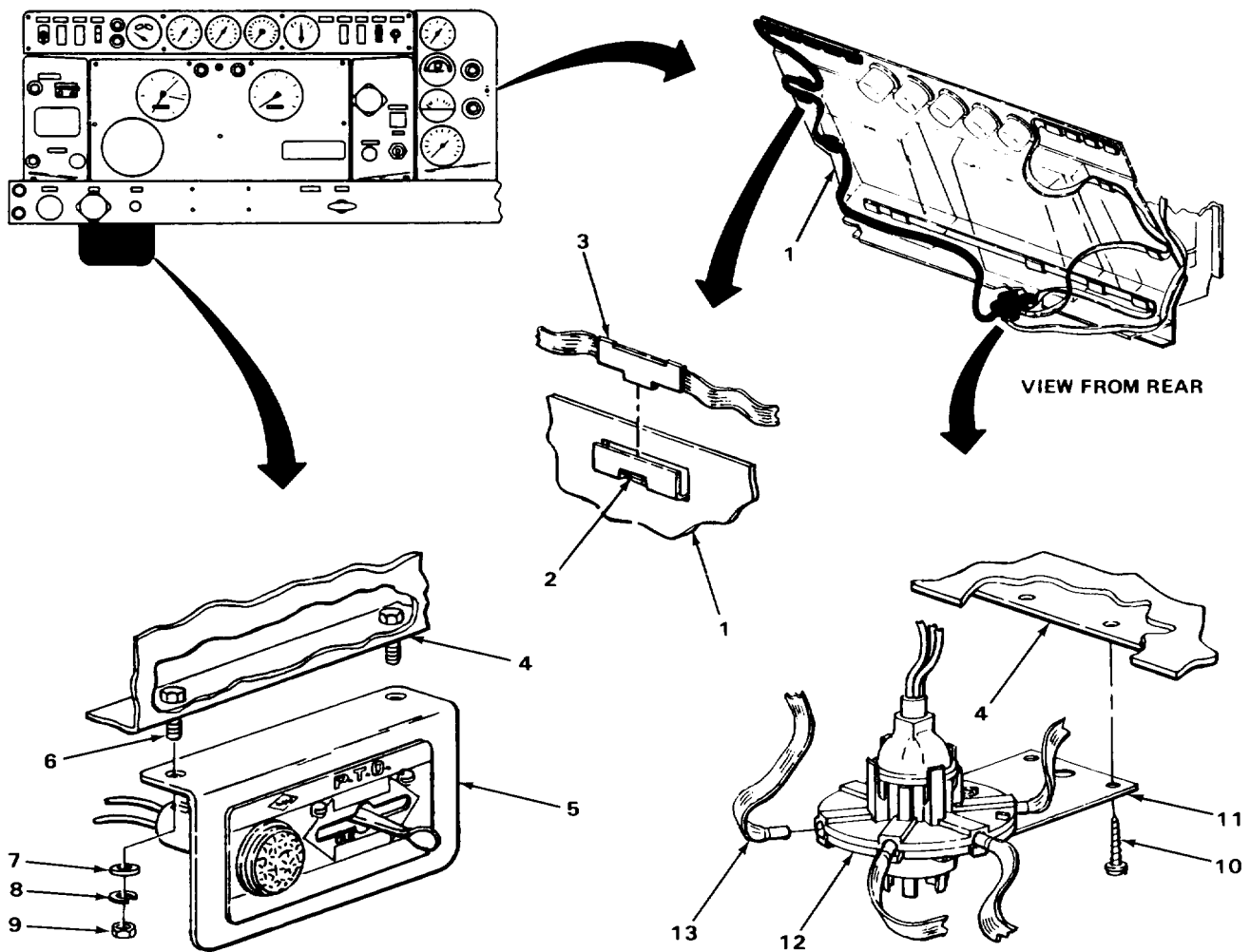
**NOTE**

Steps given are typical for removal of three identification tabs from three bezels.

1. Rear of instrument panel (1)	Bezel (2) and identification tab (3)	<ul style="list-style-type: none"> <li>a. Using 1/8-inch flat-tip screwdriver, pry rear of bezel back and take out identification tab.</li> <li>b. Take out bezel.</li> <li>c. Repeat step a until all three identification tabs and bezels have been removed.</li> </ul>	
2. Lower center instrument panel (4)	Power take off control (5), two screws (6), two flat washers (7), two lockwashers (8), and two nuts (9)	<ul style="list-style-type: none"> <li>a. Using two 7/16-inch box-end wrenches, unscrew and take off.</li> <li>b. Take off power take off control. Do not remove screws from lower center instrument panel.</li> <li>c. Get rid of lockwashers.</li> </ul>	

LOWER INSTRUMENT PANEL OPTICAL RIBBON - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
3.	Two screws (10) and bracket (11)	a. Using number one cross-tip screwdriver, unscrew and take out. b. Take out bracket.	
4. Optical light assembly (12)	Optical ribbon (13)	Using 1/4-inch flat-tip screwdriver, lift up plastic tab and pull out optical ribbon.	





LOWER INSTRUMENT PANEL OPTICAL RIBBON - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION  
NOTE

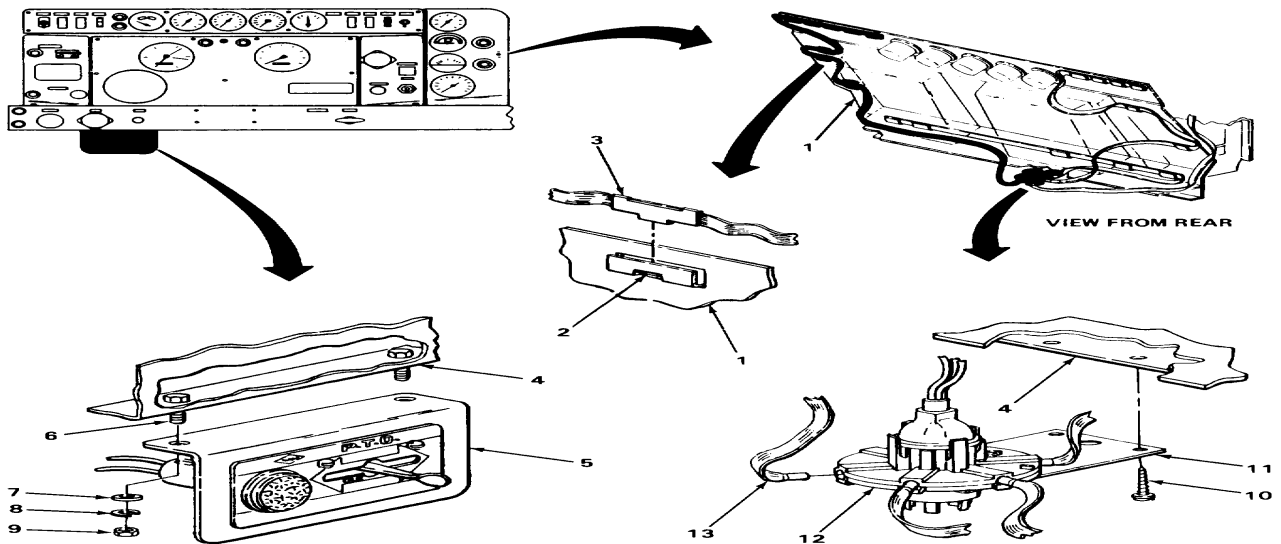
Steps given are typical for the installation of three identification tabs into three bezels.

When installing optical ribbon be sure to start at end farthest away from optical light assembly.

5. Rear of instrument panel (1)

Bezel (2) and identification tab (3)

- a. Put in place.
- b. Push identification tab into bezel.
- c. Repeat step b until all identification tabs are installed in bezels.



6. Optical light assembly (4)

Optical ribbon (5)

Push in.

7. Lower center instrument panel (6)

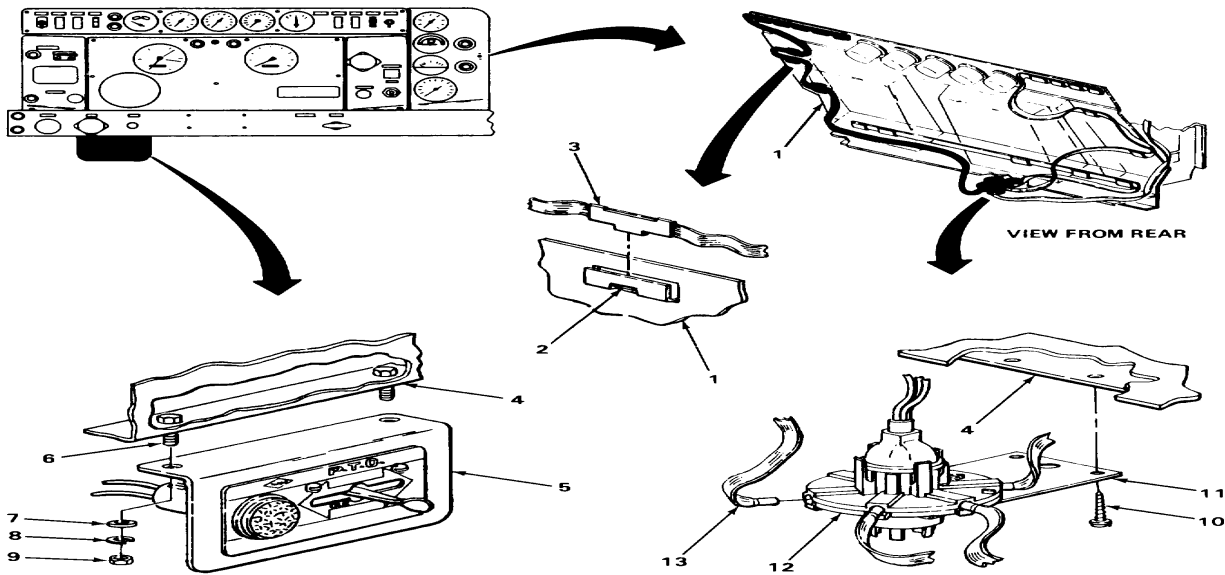
Two screws (7) and bracket (8)

- a. Put bracket in place.
- b. Screw in and tighten using number one cross-tip screwdriver.

RIGHT INSTRUMENT PANEL OPTICAL RIBBON - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

- |    |  |  |  |
|----|--|--|--|
| 8. | Power take off control (9), two screws (10), two flat washers (11), two new lockwashers (12), and two nuts(1 | a. Put power take off control in place.<br>b. Screw in and tighten using two 7/16-inch box-end wrenches. |  |
|----|--|--|--|



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Close lower center instrument panel (page 2-424).
2. Connect battery cables (page 2-424).
3. Close left side cab door (page 2-424).

**TASK ENDS HERE**

**LEFT INSTRUMENT PANEL OPTICAL RIBBON**

This task covers:

- a. Removal (page 2-868)
- b. Installation (page 2-870)

**INITIAL SETUP**

**Tools**

Screwdriver, cross-tip, number one  
 Screwdriver, flat-tip, 118-inch  
 Screwdriver, flat-tip, 114-inch  
 Wrench, box-end, 7/16-inch  
 (two required)

**Materials/Parts**

Lockwasher, power take off control  
 to lower center instrument panel  
 (two required)

**Personnel Required**

One

**Equipment Condition**

Battery cables disconnected (page 2-424).  
 Left side cab door opened (page 2-424).  
 Lower center instrument panel opened  
 (page 2-424).

LOCATION	ITEM	ACTION	REMARKS
3.	Two screws (10) and a.	Using number one cross-tip screw-	

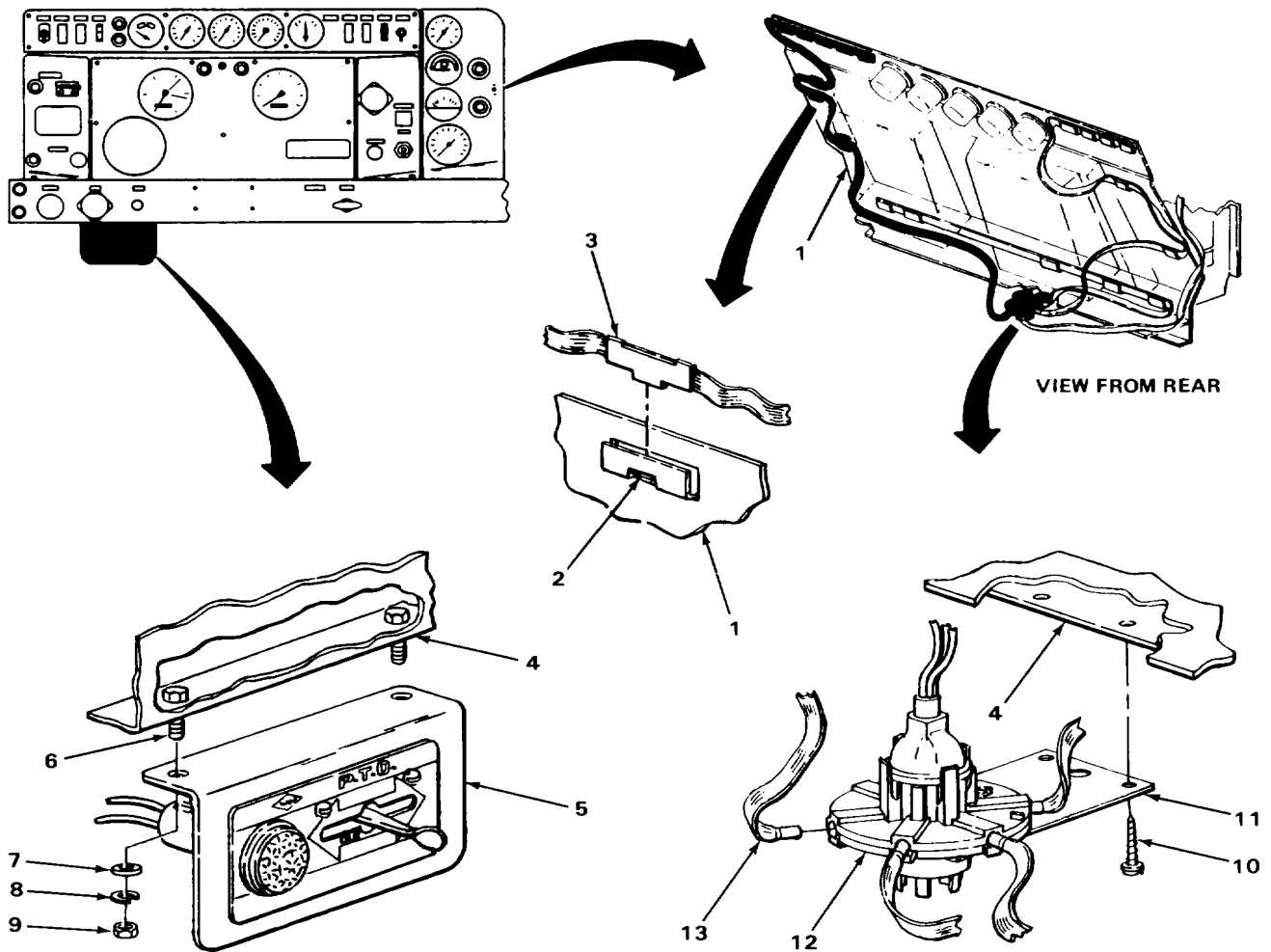
**REMOVAL**

**NOTE**

Step 1 is typical for removal of three identification tabs from three bezels.

1. Rear of instrument panel (1)	Bezel (2) and identification tab (3)	<ul style="list-style-type: none"> <li>a. Using 1/8-inch flat-tip screwdriver, pry rear of bezel back and take out identification tab.</li> <li>b. Take out bezel.</li> <li>c. Repeat step a until all three identification tabs and bezels have been removed.</li> </ul>	
2. Lower center instrument panel (4)	Power take off control (5), two screws (6), two flat washers (7), two lockwashers (8), and two nuts (9)	<ul style="list-style-type: none"> <li>a. Using two 7/16-inch box-end wrenches, unscrew and take off.</li> <li>b. Take off power take off control. Do not remove screws from lower center instrument panel.</li> <li>c. Get rid of lockwashers.</li> </ul>	

LOCATION	ITEM	ACTION REMARKS
3.	Two screws (10) and bracket (11)	a. Using number one cross-tip screw- driver, unscrew and take out. b. Take out bracket.
4. Optical light assembly (12)	Optical ribbon (13)	Using 114-inch flat-tip screwdriver, lift up plastic tab and pull out optical ribbon.



TA244245

LEFT INSTRUMENT PANEL OPTICAL RIBBON - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

3. Two screws (10) and a. Using number one cross-tip screw-

INSTALLATION

NOTE

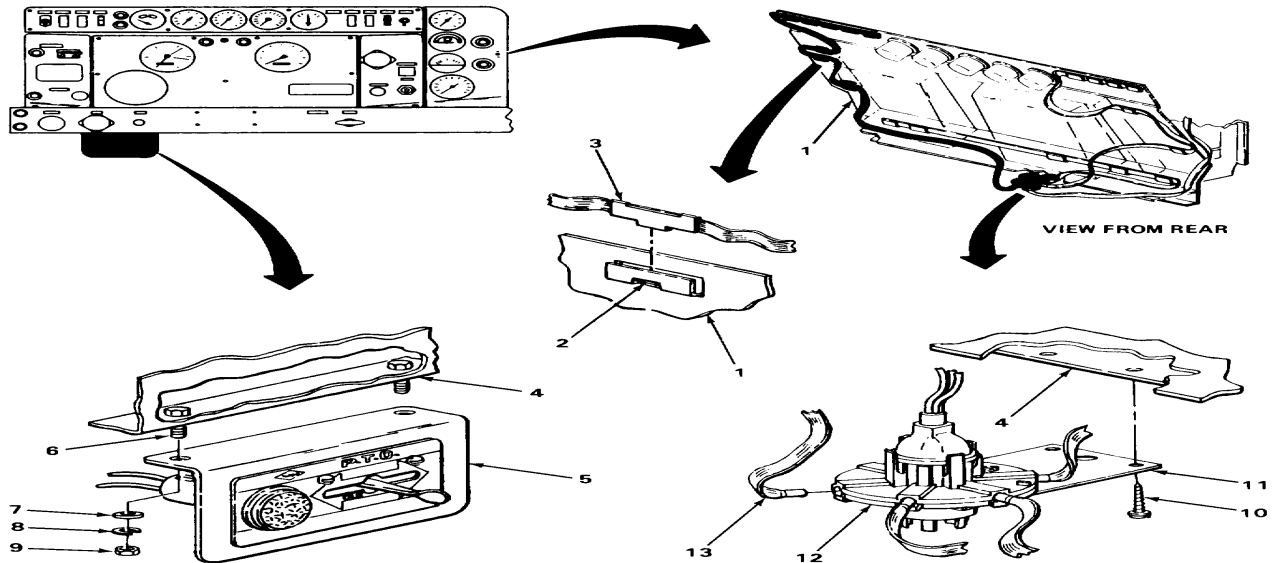
Step 5 is typical for installation of three identification tabs into three bezels.

When installing optical ribbon be sure to start at end farthest away from optical light assembly.

5. Rear of instrument panel (1)

Bezel (2) and identification tab (3)

a. Put in place.  
b. Push identification tab into bezel.  
c. Repeat step b until all identification tabs are installed in bezels.



6. Optical light assembly (4) Push in. optical ribbon (5)

7. Lower center instrument panel (6) Two screws (7) and bracket (8) cross-tip screwdriver.

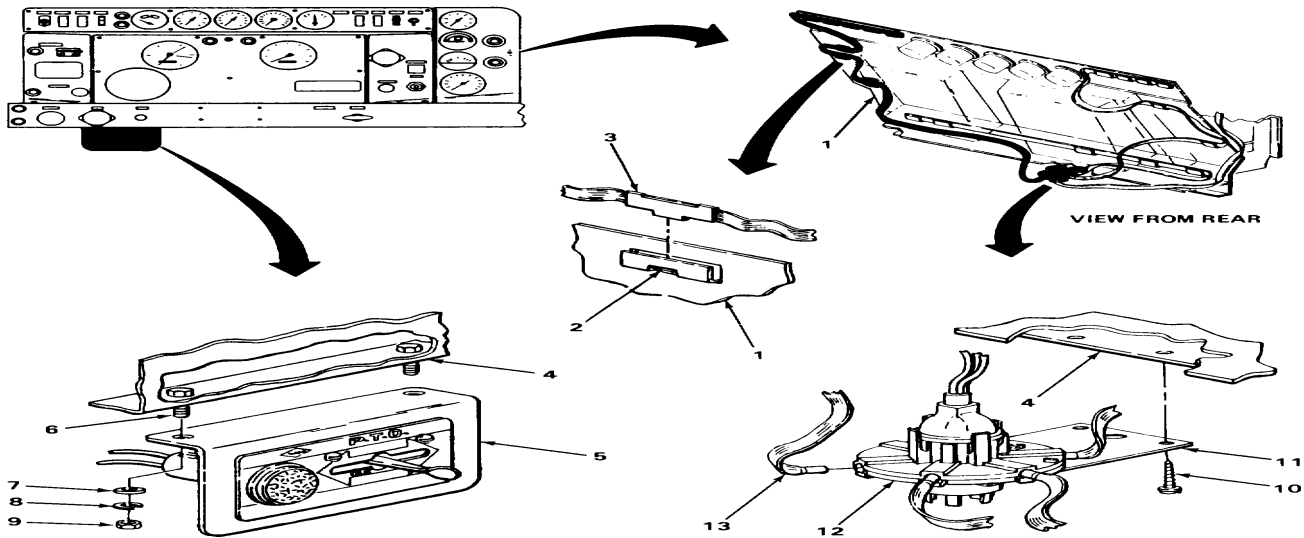
Two screws (7) and bracket (8)

a. Put bracket in place.  
b. Screw in and tighten using number one

LEFT INSTRUMENT PANEL OPTICAL RIBBON - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

- |    |   |  |  |
|----|---|--|--|
| 8. | Power take off control (9), two screws (10), two flat washers (11), two new lockwashers (12), and two nuts (13) | a. Put power take off control in place.<br>b. Screw in and tighten using two 7/16-inch box-end wrenches. |  |
|----|---|--|--|



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Close lower center instrument panel (page 2-424).
2. Connect battery cables (page 2-424).
3. Close left side cab door (page 2-424).

**TASK ENDS HERE**

**UPPER INSTRUMENT PANEL OPTICAL RIBBON**

---

This task covers:

- a. Removal (page 2-872)
  - b. Installation (page 2-875)
- 

**INITIAL SETUP**

(two required)

**Tools**

- Scissors, 5inch
- Screwdriver, cross-tip, number one
- Screwdriver, flat-tip, 1/8-inch
- Screwdriver, flat-tip, 114-inch
- Wrench, box-end, 7/16-inch (two required)

**Materials/Parts**

- Lockwasher, power take off control to lower center instrument panel (two required)
- Tape, masking (item 25, appendix C)

**Personnel Required**

One

**Equipment Condition**

- Battery cables disconnected (page 2-424).
  - Left side cab door opened (page 2-424).
  - Lower center instrument panel opened (page 2-424).
- 

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

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**REMOVAL**

1. Cover plate (1) to front trim panel head retainer (2)	Six screws (3)	Using number one cross-tip screwdriver, unscrew and take out.	
2. Front trim panel head retainer (2)	Cover plate (1)	Take off.	

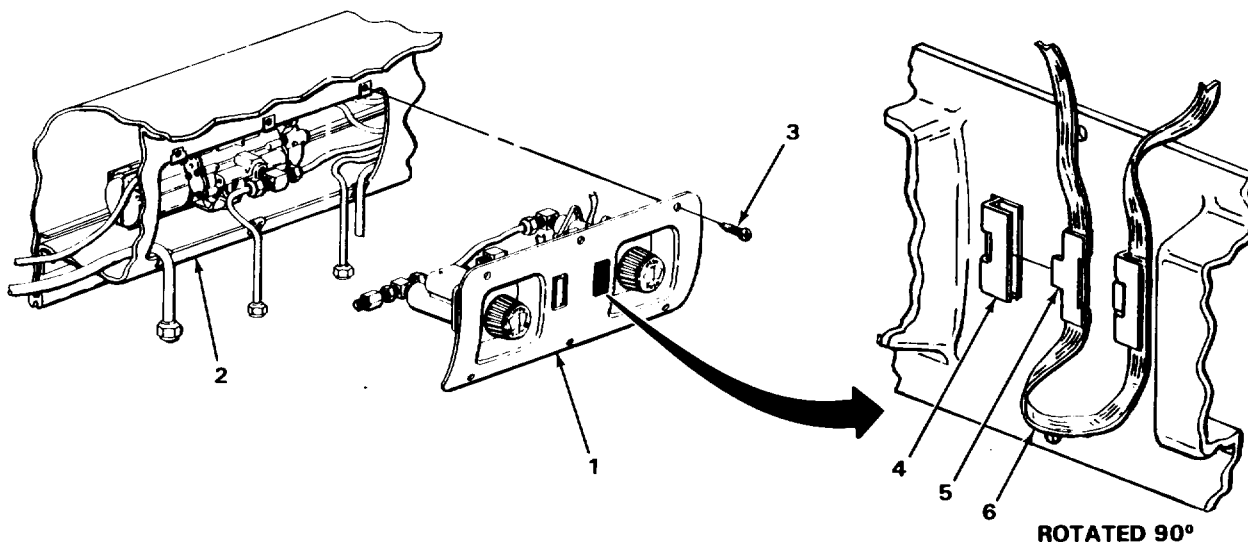
**NOTE**

Steps given are typical for removal of two identification tabs from two bezels.

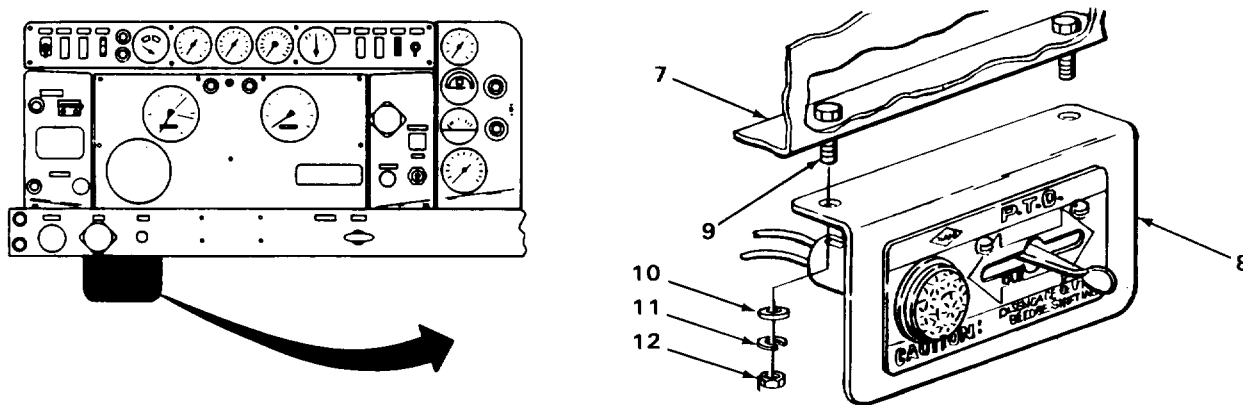
3. Cover plate (1) Bezel (4) and identification tab (5)	<ul style="list-style-type: none"> <li>a. Using 118-inch flat-tip screwdriver, pry rear of bezel back and take out identification tab.</li> <li>b. Take out bezel.</li> <li>c. Repeat step a until two identification tabs and bezels have been removed.</li> </ul>
---	---

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

- |                       |                             |  |
|-----------------------|-----------------------------|--|
| 4. Optical ribbon (6) | Two identification tabs (5) | a. Using 5-inch scissors cut off.<br>b. Tape new optical ribbon to old optical ribbon. |
|-----------------------|-----------------------------|--|



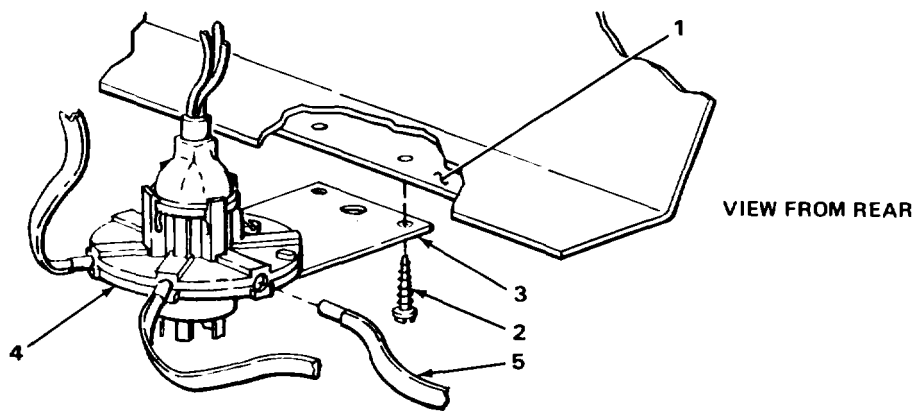
- |                                      |  |  |
|--------------------------------------|--|--|
| 5. Lower center instrument panel (7) | Power take off control (8), two screws (9), two flat washers (10), two lockwashers (11), and two nuts (12) | a. Using two 7/16-inch box-end unscrew and take off.<br>b. Take off power take off control. Do not remove screws from lower center instrument panel.<br>c. Get rid of lockwashers. |
|--------------------------------------|--|--|





UPPER INSTRUMENT PANEL OPTICAL RIBBON - CONTINUED

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL - CONTINUED</b>		
6. Lower center instrument panel (1)	Two screws (2) bracket (3)	a Using number one cross-tip screwdriver, unscrew and take out. b. Take out bracket.
7. Optical light assembly (4)	Optical ribbon (5)	Using 1/4-inch flat-tip screwdriver, lift up plastic tab and pull out optical ribbon.



**CAUTION**

Care must be taken when pulling optical ribbon through tube to prevent damage or breaking.

8. Tube (6)	Optical ribbon (7)	Pull through until new optical ribbon comes through.
-------------	--------------------	--

**CAUTION**

Care must be taken when removing tape holding optical ribbons together, to prevent damage to new optical ribbon.

9.	Optical ribbon (7)	Remove old optical ribbon from new optical ribbon.
----	--------------------	--

TA244254

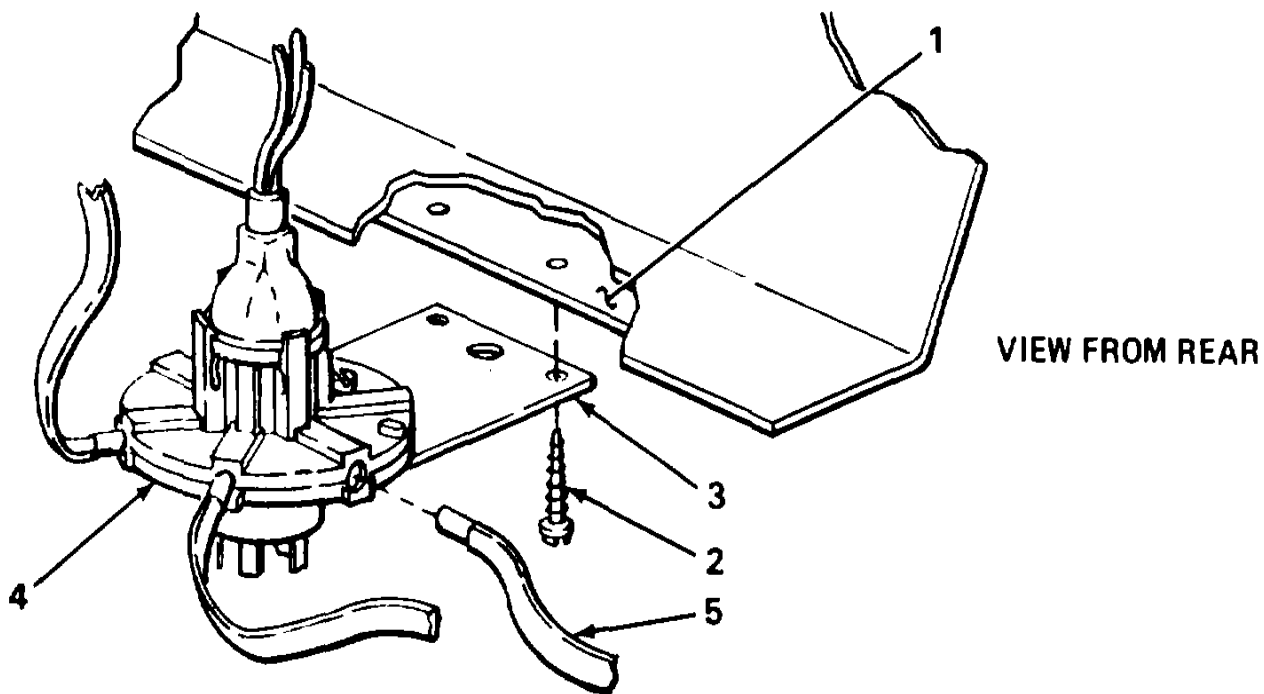
LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

INSTALLATION

NOTE

Steps given are typical for installation of two identification tabs into two bezels.

10. Cover plate (8)	Bezel (9) and identification tab (10)	a. Put in place. b. Push identification tab into bezel. c. Repeat step b until two identification tabs are installed in bezels.
---------------------	---------------------------------------	---

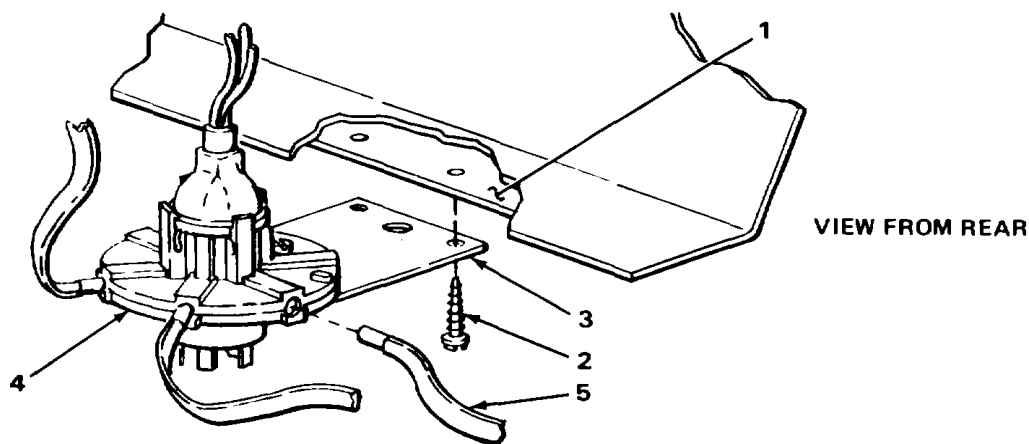


UPPER INSTRUMENT PANEL OPTICAL RIBBON - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION - CONTINUED

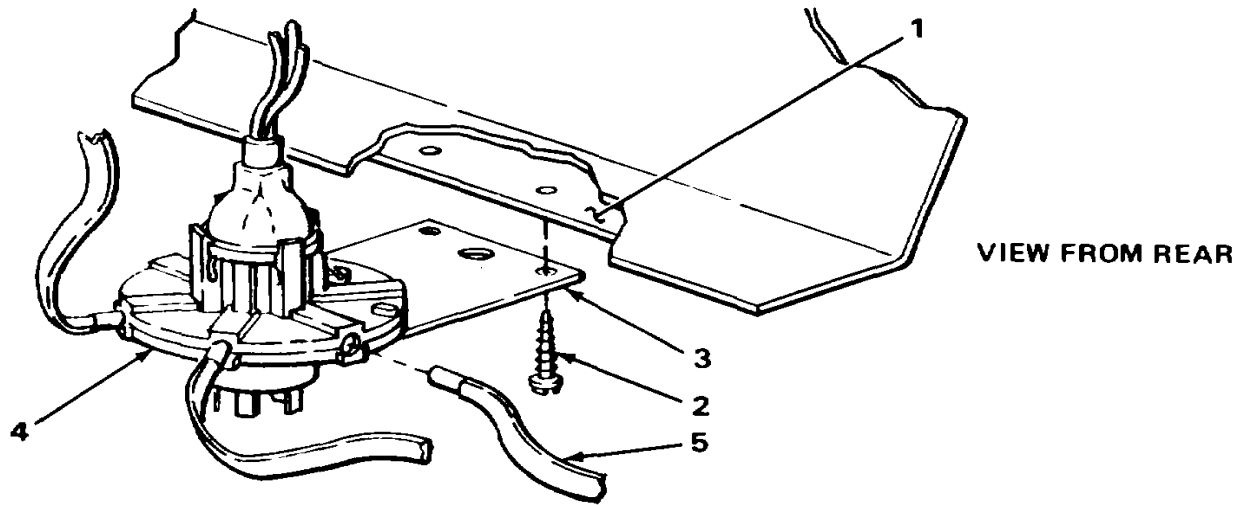
- |   |                 |  |  |
|---|-----------------|--|--|
| 11. Front trim panel head retainer (1)                    | Cover plate (2) | Put in place.  |  |
| 12. Cover plate (2) to front trim panel head retainer (1) | Six screws (3)  | Screw in and tighten using number one cross-tip screwdriver. |  |



- |                                       |   |   |  |
|---------------------------------------|---|---|--|
| 13. Optical light assembly (4)        | Optical ribbon (5)  | Push in.  |  |
| 14. Lower center instrument panel (6) | Two screws (7) and bracket (8)  | a. Put bracket in place.<br>b. Screw in and tighten using number one cross-tip screwdriver. |  |
| 15.                                   | Power take off control (9), two screws (10), two flat washers (11), two new lockwashers (12), and two nuts (13) | a. Put in place.<br>b. Screw in and tighten using two 7/16-inch box-end wrenches.           |  |

TA244256

UPPER INSTRUMENT PANEL OPTICAL RIBBON - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Connect battery cables (page 2424).
2. Close lower center instrument panel (page 2-424).
3. Close left side cab door (page 2-424).

TASK ENDS HERE

AUTOMATIC OVERRIDE MODULE

---

This task covers:

- a. Removal (page 2-878)
  - b. Installation (page 2-878)
- 

INITIAL SETUP

Tools

Screwdriver, cross-tip, number three  
Wrench, box-end, 11132-inch

Materials/Parts

Tags, marker (item 21, appendix C)

**AUTOMATIC OVERRIDE MODULE - CONTINUED**

**INITIAL SETUP - CONTINUED**

Personnel Required

One

Equipment Condition

Battery ground cable disconnected (page 2-424).  
 Right side cab door opened (page 2-424).  
 Instrument panel pad removed (page 2-424).

LOCATION	ITEM	ACTION	REMARKS
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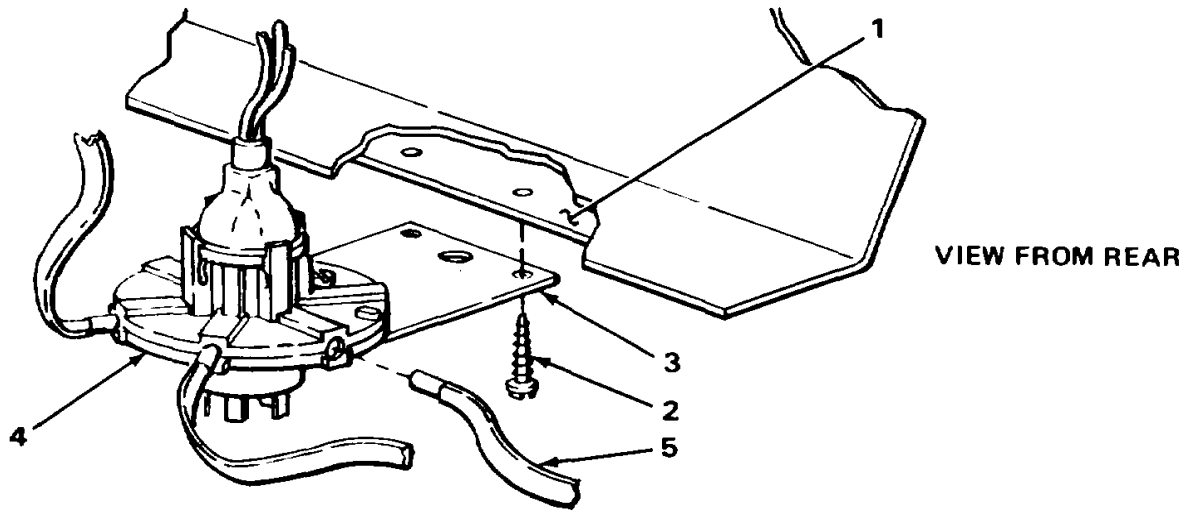
**REMOVAL**

**NOTE**

For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).

1. Automatic override module (1)	Four nuts (2) and four wire terminals (3)	<ul style="list-style-type: none"> <li>a. Tag wires.</li> <li>b. Using 11132-inch, box-end wrench, unscrew and take off four nuts.</li> <li>c. Take off four wire terminals.</li> </ul>	
2. Support (4)	Two screws (5), automatic override module (1), and two flat washers (6)	<ul style="list-style-type: none"> <li>a. Using number three cross-tip screwdriver, unscrew and take out two screws.</li> <li>b. Take off automatic override module.</li> <li>c. Take off two flat washers.</li> </ul>	
<b>INSTALLATION</b>			
3.	Two screws (5), automatic override module (1), and two flat washers (6)	<ul style="list-style-type: none"> <li>a. Put flat washers in place.</li> <li>b. Put automatic override module in place.</li> <li>c. Screw in and tighten using number three cross-tip screwdriver.</li> </ul>	
4. Automatic override module (1)	Four nuts (2) and four wire terminals (3)	<ul style="list-style-type: none"> <li>a. Put wire terminals in place.</li> <li>b. Screw on and tighten using 11132-inch box-end wrench.</li> <li>c. Take off tags.</li> <li>d. Get rid of tags.</li> </ul>	

**AUTOMATIC OVERRIDE MODULE - CONTINUED**



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Connect battery ground cable (page 2-824).
2. Install instrument panel pad (page 2-424).
3. Close right side cab door (page 2-424).

**TASK ENDS HERE**

**POWER TAKE-OFF (PTO) INDICATOR LAMP**

---

This task covers:

- a. Removal (page 2-880)
  - b. Installation (page 2-880)
- 

**INITIAL SETUP**

Personnel Required

One

Equipment Condition

Left side cab door opened (page 2-424).

---

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

---

**REMOVAL**

**WARNING**

Care must be taken when removing lamp that is cracked or gray in color to prevent personal injury.

**CAUTION**

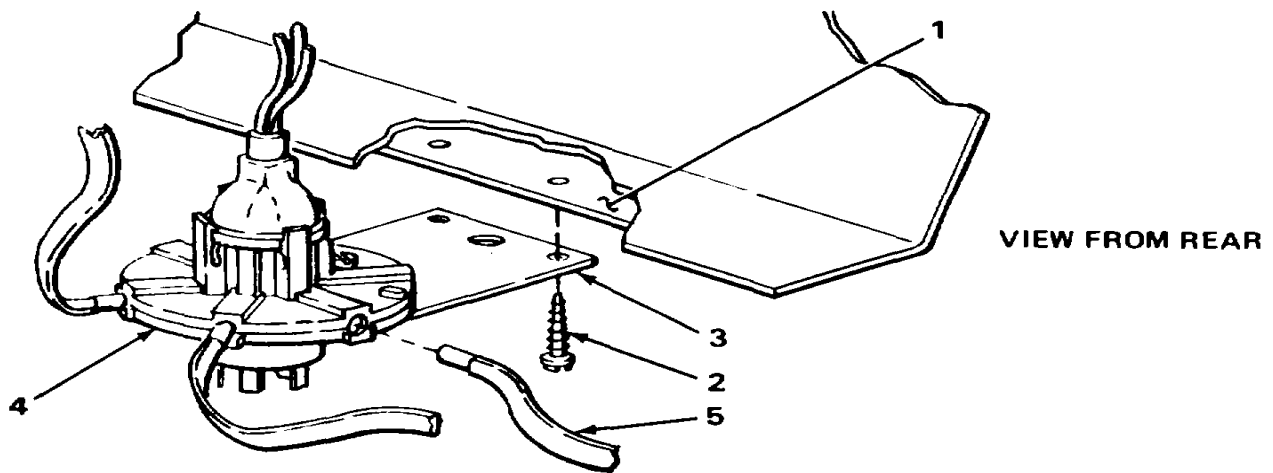
To prevent damaging socket, do not twist to side while removing.

1. Rear of indicator (1)	Socket (2)	Pull out.	
2. Socket (2)	Lamp (3)	Push in, turn counterclockwise, and pull out.	

**INSTALLATION**

3. Socket (2)	Lamp (3)	a. Put in place. b. Push in, turn clockwise, and release.	
4. Rear of indicator (1)	Socket (2)	Put in.	

**POWER TAKE-OFF (PTO) INDICATOR LAMP - CONTINUED**



**NOTE**

FOLLOW-ON MAINTENANCE: Close left side cab door (page 2-424).

**TASK ENDS HERE**

**UPPER INSTRUMENT PANEL GAGE LAMPS**

---

This task covers:

- a. Removal (page 2-882)
- b. Installation (page 2-882)

TA244259



**UPPER INSTRUMENT PANEL GAGE LAMPS - CONTINUED**

**INITIAL SETUP**

Personnel Required

One

Equipment Condition

Left side cab door opened (page 2-424).  
Upper center instrument panel opened  
(page 2-424).

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

**REMOVAL**

**WARNING**

Care must be taken when removing lamp that is cracked or gray in color to prevent personal injury.

**NOTE**

Steps given are typical for removal of five upper instrument panel gage lamps.

1. Rear of gage (1)	Socket (2)	Pull out.
2. Socket (2)	Lamp (3)	Push in, turn counterclockwise, and pull out.

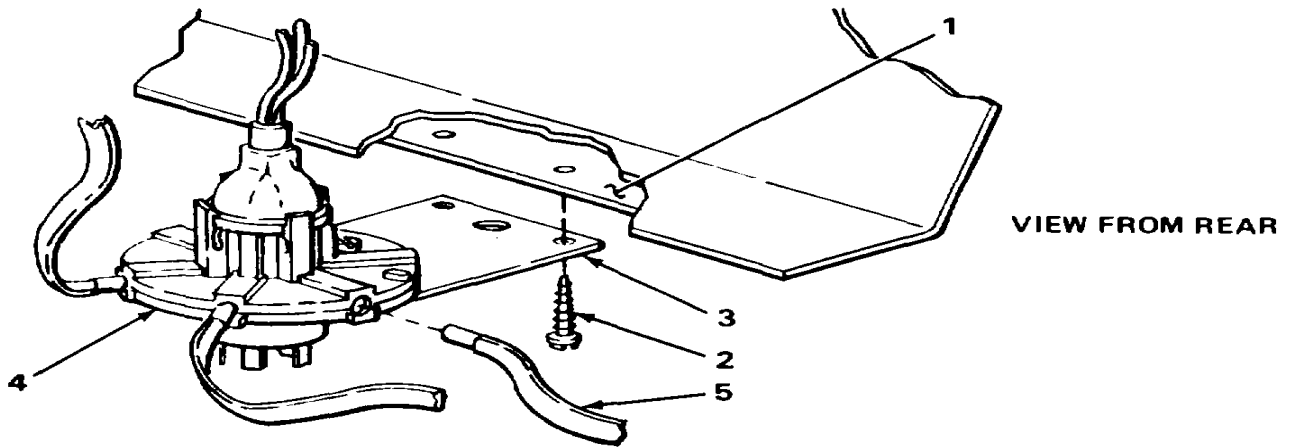
**INSTALLATION**

**NOTE**

Steps given are typical for installation of five upper instrument panel gage lamps.

3. Socket (2)	Lamp (3)	a. Put in place. b. Push in, turn clockwise, and release.
4. Rear of gage (1)	Socket (2)	Put in.

**UPPER INSTRUMENT PANEL GAGE LAMPS - CONTINUED**



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Close upper center instrument panel (page 2-424).
2. Close left side cab door (page 2-424).

**TASK ENDS HERE**

**UPPER INSTRUMENT PANEL INDICATOR LAMPS**

---

This task covers:

- a. Removal (page 2-884)
  - b. Installation (page 2-884)
- 

**INITIAL SETUP**

Personnel Required

One

Equipment Condition

Left side cab door opened (page 2-424).  
Upper center instrument panel opened (page 2-424).

UPPER INSTRUMENT PANEL INDICATOR LAMPS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

3. Two screws (10) and a.	Using number one cross-tip screw-		
---------------------------	-----------------------------------	--	--

REMOVAL

**WARNING**

Care must be taken when removing lamp that is cracked or gray in color to prevent personal injury.

**NOTE**

Steps given are typical for removal of two upper instrument panel indicator lamps.

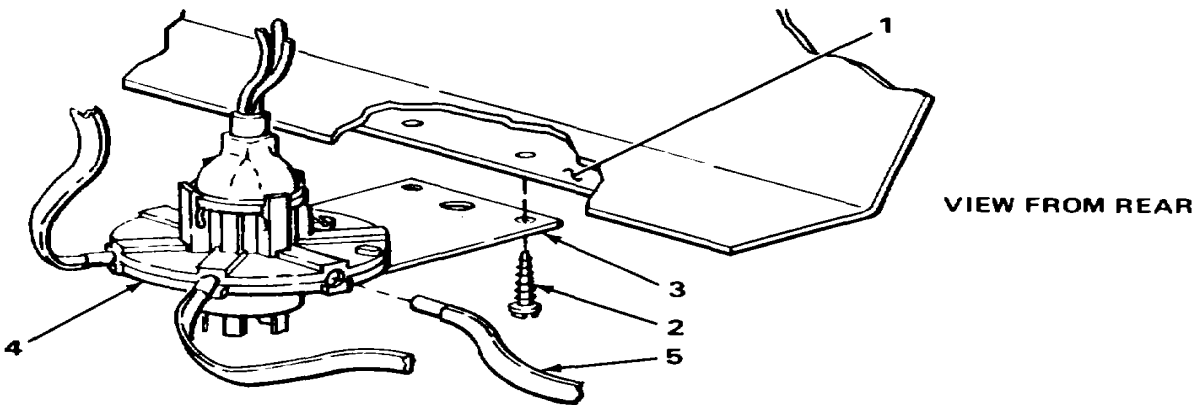
1. Rear of	Socket (2)	Pull out. indicator (1)
2. Socket (2)	Lamp (3)	Push in, turn counterclockwise, and pull out.

INSTALLATION

**NOTE**

Steps given are typical for installation of two upper instrument panel indicator lamps.

3. Socket (2)	Lamp (3)	a. Put in place. b. Push in, turn clockwise, and release.
4. Rear of gage (1)	Socket (2)	Put in.



TA244245

**UPPER INSTRUMENT PANEL INDICATOR LAMPS - CONTINUED**

**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Close upper center instrument panel (page 2-424).
2. Close left side cab door (page 2-424).

**TASK ENDS HERE**

**LEFT SIDE LOWER INSTRUMENT PANEL INDICATOR LAMP**

---

This task covers:

- a. Removal (page 2-886)
  - b. Installation (page 2-886)
- 

**INITIAL SETUP**

Personnel Required

One

Equipment Condition

Left side cab door opened (page 2-424).  
 Left side lower instrument panel opened  
 (page 2-424).

LEFT SIDE LOWER INSTRUMENT PANEL INDICATOR LAMP - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL

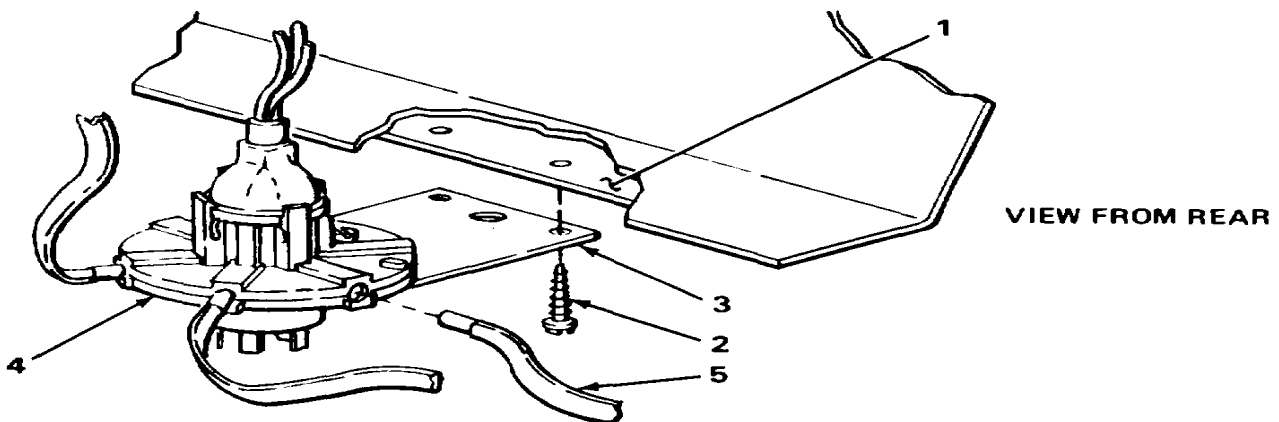
**WARNING**

Care must be taken when removing lamp that is cracked or gray in color to prevent personal injury.

1. Rear of indicator (1)	Socket (2)	Pull out.	
2. Socket (2)	Lamp (3)	Push in, turn counterclockwise, and pull out.	

INSTALLATION

3. Socket (2)	Lamp (3)	a. Put in place. b. Push in, turn clockwise, and release.	
4. Rear of indicator (1)	Socket (2)	Pull out.	



NOTE

FOLLOW-ON MAINTENANCE:

1. Close left side lower instrument panel (page 2-424).
2. Close left side cab door (page 2-424).

TASK ENDS HERE

TA244262

**LOWER CENTER INSTRUMENT PANEL GAGE LAMPS**

This task covers:

- a. Removal (page 2-887)
- b. Installation (page 2-887)

**INITIAL SETUP**

Personnel Required

One

Equipment Condition

Left side cab door opened (page 2-424).  
Lower center instrument panel opened (page 2-424).

LOCATION	ITEM	ACTION	REMARKS
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**NOTE**

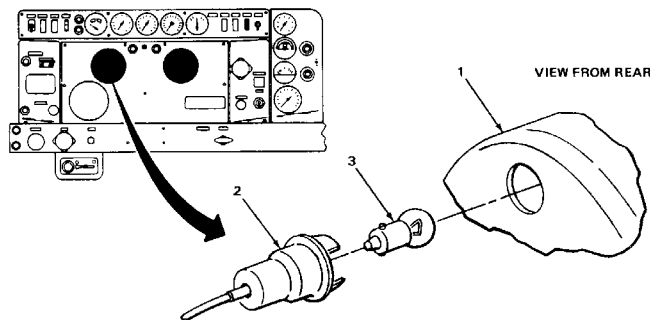
Steps given are typical for two instrument panel lamps.

**REMOVAL**

1. Rear of gage (1)	Socket (2)	Pull out.	
2. Socket (2) out.	Lamp (3)	Push in, turn counterclockwise, and pull	

**INSTALLATION**

3. Socket (2)	Lamp (3)	a. Put in place. b. Push in, turn clockwise, and release.	
4. Rear of gage (1)	Socket (2)	Put in.	



TA244263

**LOWER CENTER INSTRUMENT PANEL GAGE LAMPS - CONTINUED**

**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Close lower center instrument panel (page 2-424).
2. Close left side cab door (page 2-424).

**TASK ENDS HERE**

**TURN SIGNAL INDICATOR LAMPS**

---

This task covers:

- a. Removal (page 2-888)
  - b. Installation (page 2-888)
- 

**INITIAL SETUP**

Personnel Required

One

Equipment Condition

Left side cab door opened (page 2-424).  
Lower center instrument panel opened (page 2-424).

---

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

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**REMOVAL**

**WARNING**

Care must be taken when removing lamp that is cracked or gray in color to prevent personal injury.

**NOTE**

Steps given are typical for removal of both turn signal indicator lamps.

1. Rear of indicator (1)	Socket (2)	Pull out.	
2. Socket (2)	Lamp (3)	Push in, turn counterclockwise, and pull out.	

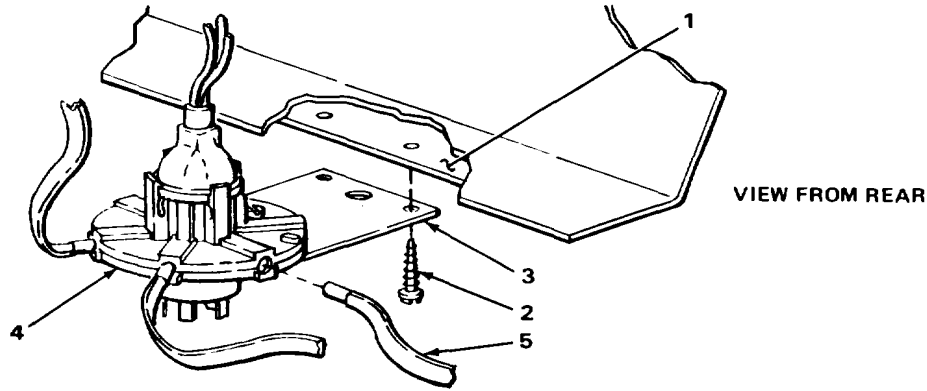
**INSTALLATION**

**NOTE**

Steps given are typical for installation of both turn signal indicator lamps.

TURN SIGNAL INDICATOR LAMPS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
3. Socket (2)	Lamp (3)	a. Put in place. b. Push in, turn clockwise, and release.	
4. Rear of gage (1)	Socket (2)	Put in.	



NOTES

FOLLOW-ON MAINTENANCE:

1. Close lower center instrument panel (page 2-424).
2. Close left side cab door (page 2-424).

TASK ENDS HERE

RIGHT INSTRUMENT PANEL GAGE LAMPS

This task covers:

- a. Removal (page 2-890)
- b. Installation (page 2-890)

INITIAL SETUP

Personnel Required

One

Equipment Condition

Left side cab door opened (page 2-424).  
Right instrument panel opened (page 2-424).

TA244264



**RIGHT INSTRUMENT PANEL GAGE LAMPS - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

**REMOVAL**

**WARNING**

Care must be taken when removing lamp that is cracked or gray in color to prevent personal injury.

**NOTE**

Steps given are typical for removal of three right instrument panel gage lamps.

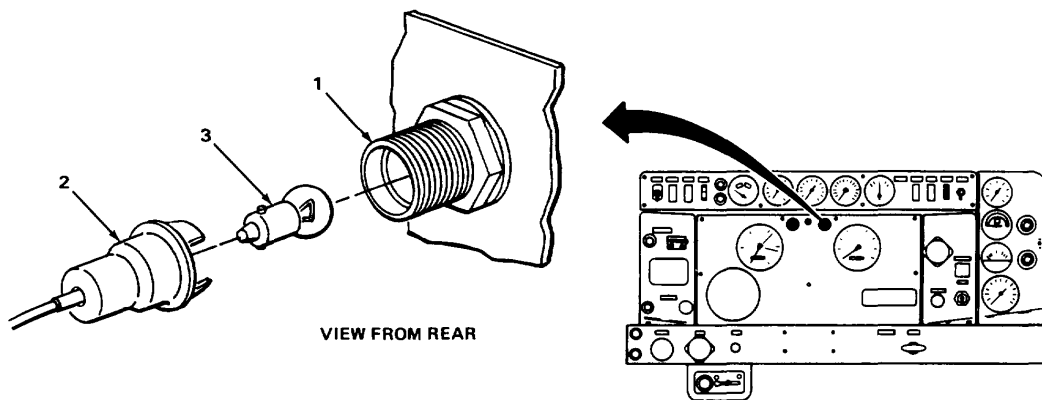
1. Rear of gage (1)	Socket (2)	Pull out.
2. Socket (2)	Lamp (3)	Push in, turn counterclockwise, and pull out.

**INSTALLATION**

**NOTE**

Steps given are typical for installation of three right instrument panel gage lamps.

3. Socket (2)	Lamp (3)	a. Put in place. b. Push in, turn clockwise, and release.
4. Rear of gage (1)	Socket (2)	Put in.



TA244265

**RIGHT INSTRUMENT PANEL GAGE LAMPS - CONTINUED**

**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Close right instrument panel (page 2-424).
2. Close left side cab door (page 2-424).

**TASK ENDS HERE**

**RIGHT INSTRUMENT PANEL INDICATOR LAMPS**

---

This task covers:

- a. Removal (page 2-892)
  - b. Installation (page 2-892)
- 

**INITIAL SETUP**

Personnel Required

One

Equipment Condition

Left side cab door opened (page 2-424).  
Right instrument panel opened (page 2-424).

RIGHT INSTRUMENT PANEL INDICATOR LAMPS - CONTINUED

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LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

**WARNING**

Care must be taken when removing lamp that is cracked or gray in color to prevent personal injury.

**NOTE**

Steps given are typical for removal of two right instrument panel indicator lamps.

1. Rear of indicator (1)	Socket (2)	Pull out.	
2. Socket (2)	Lamp (3)	Push in, turn counterclockwise, and pull out.	

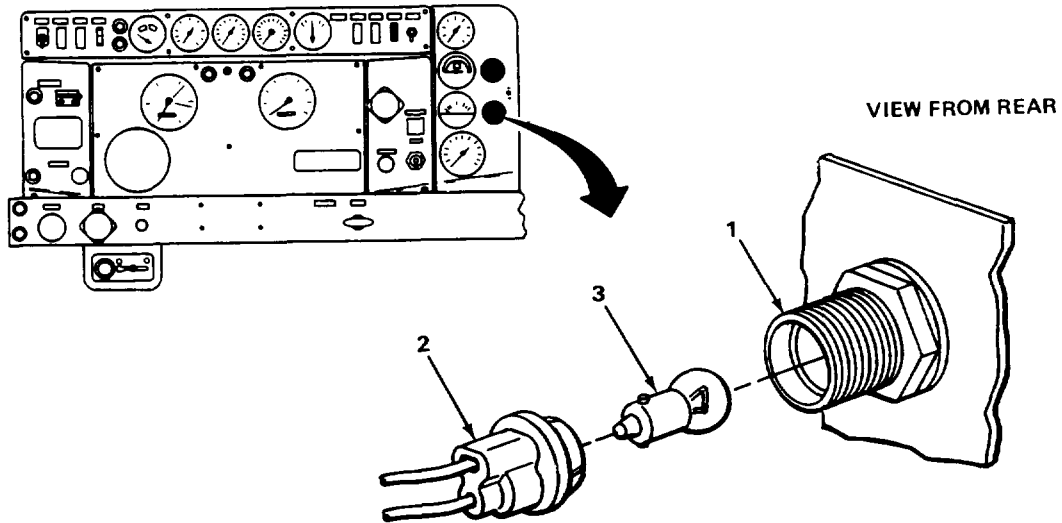
INSTALLATION

**NOTE**

Steps given are typical for installation of two right instrument panel indicator lamps.

3. Socket (2)	Lamp (3)	a. Put in place. b. Push in, turn clockwise, and release.	
4. Rear of indicator (1)	Socket (2)	Put in.	

RIGHT INSTRUMENT PANEL INDICATOR LAMPS - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Close right instrument panel (page 2-424).
2. Close left side cab door (page 2-424).

TASK ENDS HERE

**TRANSMISSION POSITION INDICATOR LAMP**

This task covers:

- a. Removal (page 2-894)
- b. Installation (page 2-894)

**INITIAL SETUP**

Tools

Screwdriver, cross-tip, number-one

Personnel Required

One

Equipment Condition

Left side cab door opened (page 2-424).

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

**REMOVAL**

1	Shift control	Two screws (2) assembly (1)	Using number-one cross-tip screwdriver, unscrew and take out.
2.		Position strip lens (3)	Take out.
3	Socket (4) out.	Lamp (5)	Push in, turn counterclockwise, and pull

**INSTALLATION**

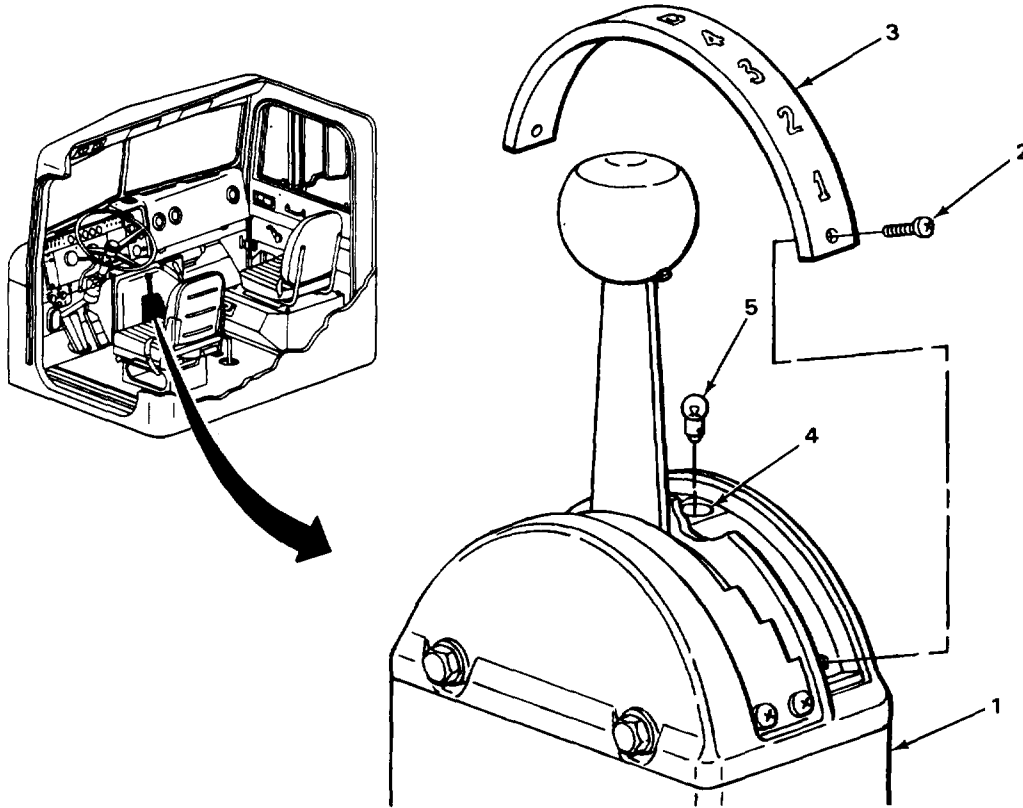
4.	Socket (4) release.	Lamp (5)	Put in place, push in, turn clockwise, and
5.	Shift control assembly (1)	Position strip lens (3)	Put in place. <b>Position with R toward front of dump truck.</b>

**CAUTION**

Care must be used when tightening screws. Overtightening screws can cause plastic position strip lens to crack.

6.		Two screws (2)	Screw in and tighten using number-one cross-tip screwdriver.
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TRANSMISSION POSITION INDICATOR LAMP - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE: Close left side cab door (page 2-424).

TASK ENDS HERE

TA244267

## SLAVE RECEPTACLE

This task covers:

- a. Removal (page 2-895.0)
- b. Cleaning (page 2-895.0)
- c. Installation (page 2-895.2)

### INITIAL SETUP

#### Equipment Conditions

Battery cables disconnected (page 2-424).  
Left and right side hood panels opened (page 2-424).

#### Tools/Test Equipment

Wrench, box-end, 1/2-inch (two required)  
Wrench, box-end, 3/4-inch  
Wrench, open-end, 3/4-inch

#### Materials/Parts

Detergent, liquid, GP (item 7, appendix C)  
Rags, wiping (item 15, appendix C)  
Lockwasher, slave receptacle to splash plate (four required)  
Lockwasher, starter solenoid  
Lockwasher, engine

#### Personnel Required

One

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

### REMOVAL

1. Starter solenoid (1)	Nut (2), lockwasher (3), slave receptacle cable (4), and cable (5)	a. Using 3/4-inch box-end wrench, unscrew, and take off. b. Get rid of lockwasher.	
2. Left side of engine (6)	Screw (7), lockwasher (8), and slave receptacle cable (9)	a. Using 1/4-inch box-end wrench, unscrew, and take off. b. Get rid of lockwasher.	
3. Left splash plate (10)	Four nuts (11), lockwashers (12), and screws (13)	a. Using two 1/2-inch box-end wrenches, unscrew, and take out. b. Get rid of lockwashers.	
4.	Slave receptacle (14)	Take off.	

### CLEANING

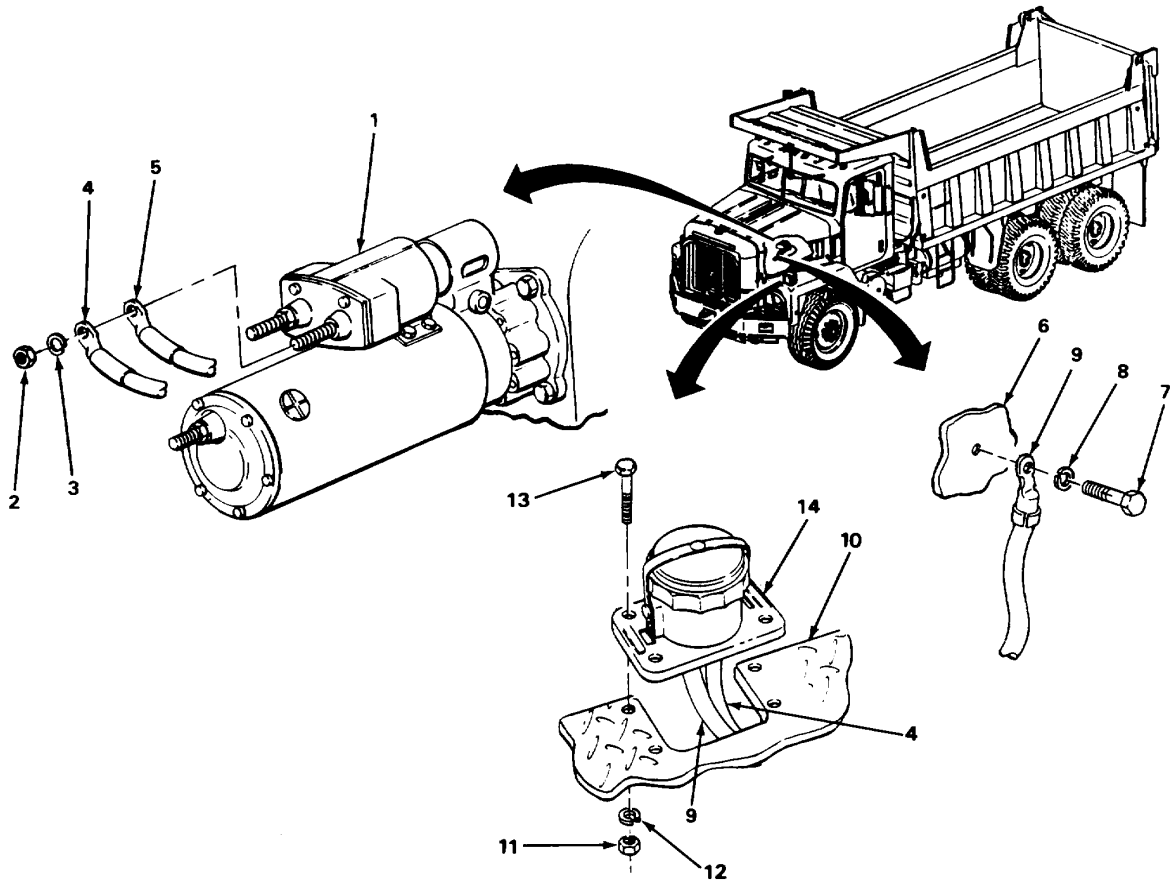
#### NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

5.	Slave receptacle (14) and two slave receptacle cables (4 and 9)	a. Using liquid detergent and water, clean. b. Using wiping rags, dry.	
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SLAVE RECEPTACLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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TA702130 I

Change 1 2-895.1



**SLAVE RECEPTACLE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
<b>NOTE</b>		
For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).		
<b>INSTALLATION</b>		
6. Left splash plate (1)	Slave receptacle (2)	Put in place.
7.	Four screws (3), new lockwashers (4), and nuts (5)	Screw on and tighten using two 1/2-inch, box-end wrenches.
8. Left side of engine (6)	Slave receptacle cable (7), new lockwasher (8), and screw (9)	Screw on and tighten using 3/4-inch box-end wrench.
9. Starter solenoid (10)	Cable (11), slave receptacle cable (12), new lockwasher (13), and nut (14)	a. Put on cables. b. Screw on and tighten using 3/4-inch box-end wrench.

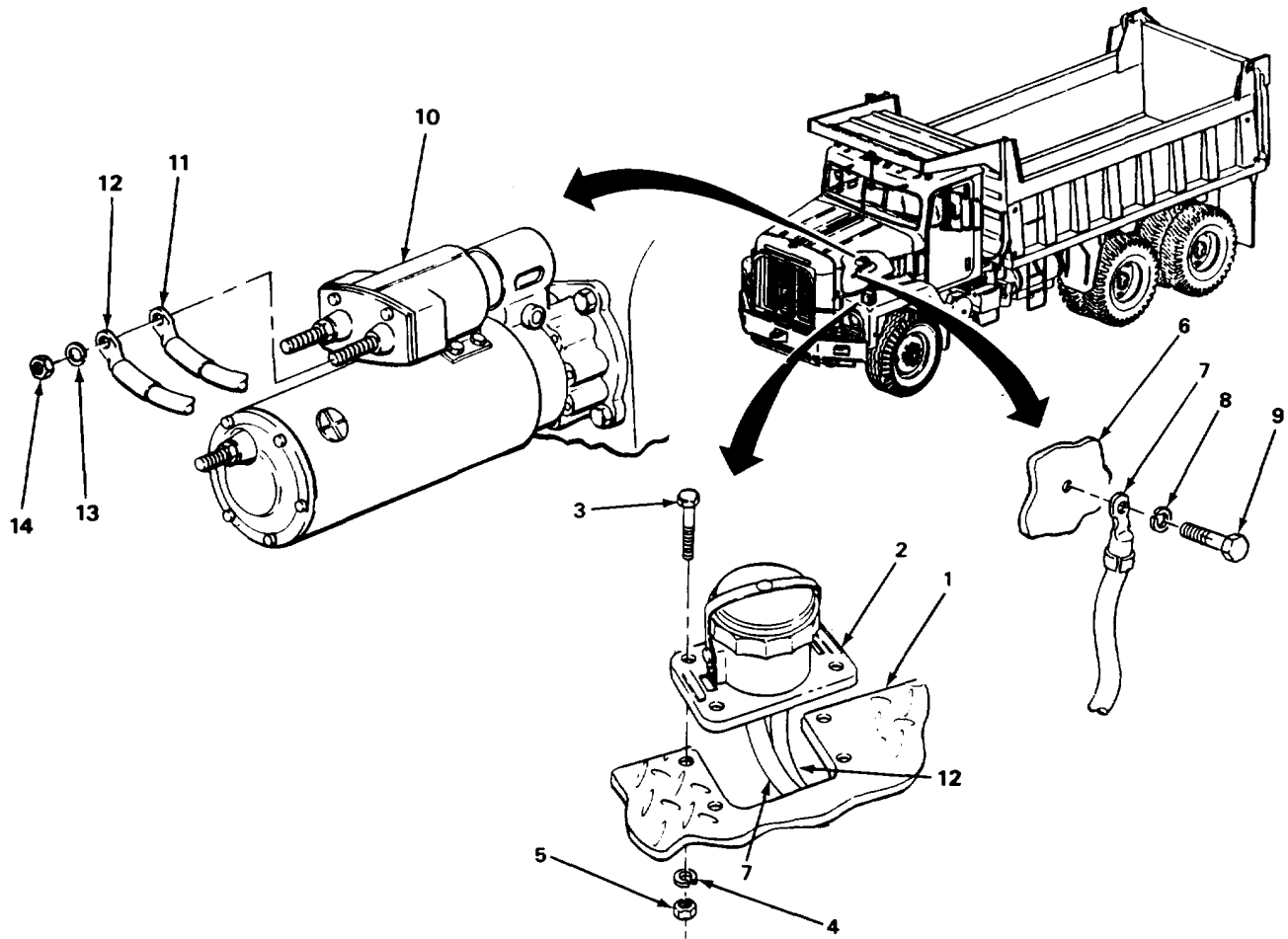
**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Close left and right side hood panels (page 2-424).
2. Connect battery cables (page 2-424).

SLAVE RECEPTACLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------



TASK ENDS HERE

TA702131

Change 1 2-895.3

**STARTER MOTOR**

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This task covers:

- a. Removal (page 2-896)
  - b. Installation (page 2-898)
- 

**INITIAL SETUP**

Tools

- Screwdriver, flat-tip, 1/4-inch
- Wrench, box-end, 3/4-inch
- Wrench, box-end, 15116-inch
- Wrench, half-moon, 9/16-inch

Materials/Parts

- Lockwasher, starter motor mounting (three required)
- Lockwasher, solenoid ground
- Lockwasher, starter motor ground

Personnel Required

Two

Equipment Condition

Battery cables disconnected (page 2-424).  
Rear engine cover removed (page 2-1270).

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LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**

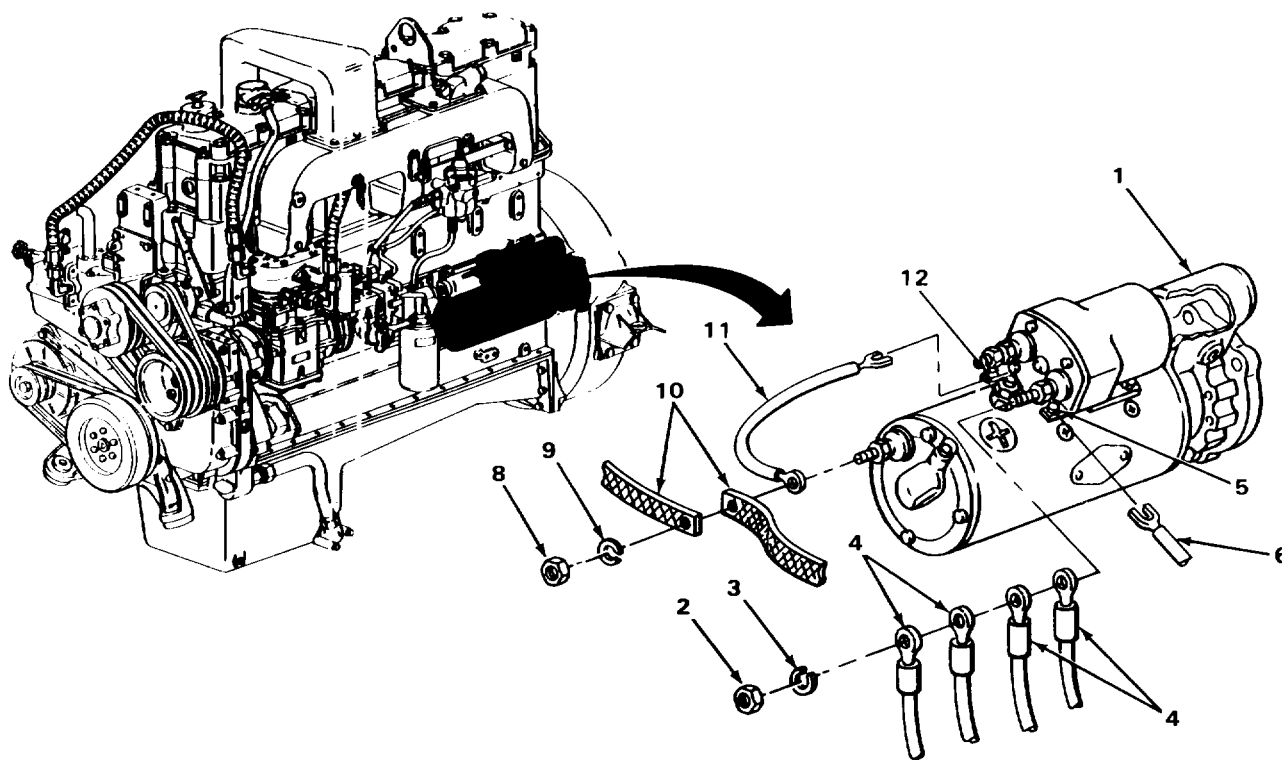
**NOTE**

**For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).**

1. Starter motor solenoid (1)	Nut (2), lockwasher (3), and four wires (4)	<ul style="list-style-type: none"> <li>a. Tag wires.</li> <li>b. Using 3/4-inch box-end wrench, unscrew and take off.</li> <li>c. Get rid of lockwasher.</li> <li>d. Take off four wires.</li> </ul>	
2.	Screw (5) and wire (6)	<ul style="list-style-type: none"> <li>a. Tag wire.</li> <li>b. Using 1/4-inch flat-tip screwdriver, loosen.</li> <li style="padding-left: 20px;"><b>Do not take out.</b></li> <li>c. Take off wire.</li> </ul>	

STARTER MOTOR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
3. Starter motor (7)	Nut (8), lockwasher (9), two ground straps (10), and ground wire (11)	a. Tag wires. b. Using 3/4-inch box-end wrench, unscrew and take off. c. Get rid of lockwasher. d. Take off two ground straps and ground wire.
4. Starter motor solenoid (1)	Screw (12)	Using 1/4-inch flat-tip screwdriver, loosen.
5.	Wire (11)	Take off.



## STARTER MOTOR - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL - CONTINUED</b>			
6	Starter motor (1)	Screw (2) and lockwasher (3)	<ul style="list-style-type: none"> <li>a Using 9/16-inch half-moon wrench, unscrew and take out.</li> <li>b Get rid of lockwasher.</li> </ul>
<b><u>WARNING</u></b>			
<b>Due to excessive weight, care must be taken to prevent personal injury or damage to equipment.</b>			
<b>NOTE</b>			
<b>Have assistant support starter motor.</b>			
7.		Two screws (4) and two lockwashers (5)	<ul style="list-style-type: none"> <li>a Using 15/16-inch box-end wrench, unscrew and take out.</li> <li>b Get rid of lockwashers.</li> <li>c With assistance, pull starter motor forward, down, and out of chassis.</li> </ul>
<b>INSTALLATION</b>			
8	Starter motor solenoid (6)	Ground wire (7)	Put in place.
9.		Screw (8)	Tighten using 1/4-inch flat-tip screwdriver.
<b><u>WARNING</u></b>			
<b>Due to excessive weight, care must be taken to prevent personal injury or damage to equipment.</b>			
10	Starter motor (1)	Screw (2) and new lockwasher (3)	<ul style="list-style-type: none"> <li>a With assistance, put starter motor in place.</li> <li>b Screw in and tighten using 9/16-inch half-moon wrench.</li> </ul>
11.		Two screws (4) and two new lockwashers (5)	Screw in and tighten using 15/16-inch box-end wrench.
12.		Nut (9), new lockwasher (10), ground wire (7), and two ground straps (11)	<ul style="list-style-type: none"> <li>a Put ground wire and two ground straps in place.</li> <li>b Screw on and tighten using 3/4-inch box-end wrench.</li> </ul>

STARTER MOTOR - CONTINUED

13. Starter motor solenoid (6)

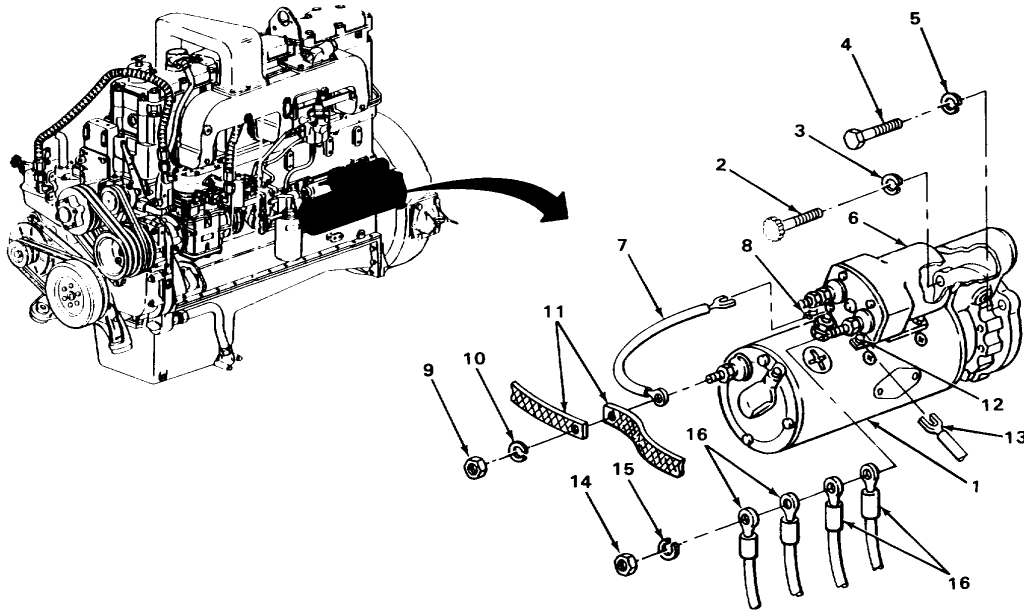
Screw (12) and wire (13)

- a. Put wire in place.
- b. Tighten using 1/4-inch flat-tip screwdriver.

14.

Nut (14), new lock-washer (15), and

- a. Put four wires in place.
- b. Screw on and tighten using 3/4-inch four wires (16) box-end wrench.



NOTE

FOLLOW-ON MAINTENANCE:

- 1. Install rear engine cover (page 2-1270).
- 2. Connect battery cables (page 2-424).

TASK ENDS HERE

TA244269

**Section XI. TRANSMISSION MAINTENANCE**

	Page		Page
Auxiliary Transmission	2-932	Transmission Shift Cable	2-919
Internal Oil Filter	2-907	Transmission Shift Control	2-909
Oil Filler Tube and Dipstick	2-927	Transmission Shift Control	
Remote Oil Filter Cartridge	2-935	Stand	2-917
Transmission Oil Pan	2-900		

**TRANSMISSION OIL PAN**

This task covers:

- |                          |  |
|--------------------------|--|
| a. Draining (page 2-901) | d. Inspection/Replacement (page 2-904) |
| b. Removal (page 2-902)  | e. Installation (page 2-904)           |
| c. Cleaning (page 2-903) | f. Filling (page 2-906)                |

**INITIAL SETUP****Tools**

Container, 12-gallon  
 Extension, 10-inch, 1/2-inch drive  
 Gloves, safety  
 Goggles, safety  
 Handle, ratchet, 1/2-inch drive  
 Pliers, round nose, 8-inch  
 Socket, 11/2-inch, 11/2-inch drive  
 Wrench, open-end, 1 1/16-inch  
 Wrench, torque, 0 to 175 ft lb  
 (0 to 245 N.m)

**Materials/Parts**

Cotter pin, shift cable swivel  
 Gasket, oil pan  
 Lockwasher, shift cable bracket  
 (two required)

**Materials/Parts - Continued**

Oil, transmission (item 8, appendix C)  
 Rags, wiping (item 15, appendix C)  
 Solvent, dry cleaning (item 19, appendix C)

**Personnel Required**

Two

**Equipment Condition**

Right side hood panel opened (page 2-424).

**References**

TM 5-3805-254-10 (Operator's Manual)  
 LO 5-3805-254-12 (Lubrication Order)

TRANSMISSION OIL PAN - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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DRAINING

**WARNING**

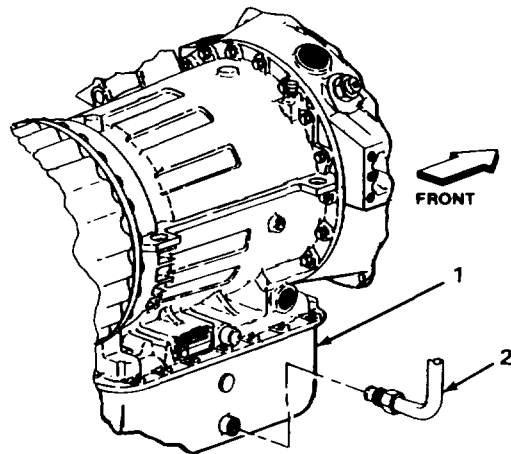
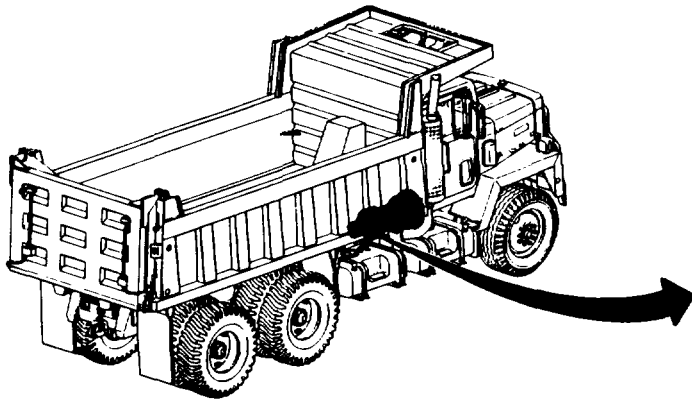
Safety goggles must be worn when working under truck to prevent eye injury.

Hot transmission oil can burn you. Care must be taken to prevent personal injury.

**NOTE**

Transmission oil must be warm and engine shut down (TM 5-3805-254-10) before draining transmission.

1. Transmission oil pan (1)	Oil filler tube (2)	a. Place 12-gallon container underneath. b. Using 1 1/16-inch open-end wrench, slowly loosen and take off. <b>Move out of way.</b> c. Allow oil to drain. d. Get rid of drained oil (page 2-424).
-----------------------------	---------------------	---



TA244269



**TRANSMISSION OIL PAN - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL</b>			
2	Shift control Cotter pin (2) swivel lever (1)	a Using 8-inch roundnose pliers, straighten ends and pull out. b Get rid of.	
3.	Two flat washers (3) and shift cable swivel (4)	Take off.	
4	Transmission oil pan (5)	Two screws (6), two a lockwashers (7), shift cable bracket (8), and two spacers (9)	Using 112-inch, 112-inch drive socket, 10-inch extension, and ratchet handle, unscrew and take out. <b>Move shift cable bracket out of way.</b> b Get rid of lockwashers.
<b>NOTE</b>			
<b>Assistance will be needed when performing steps 5 and 6.</b>			
5.	Twenty-one a screws (10)	Have assistant hold transmission oil pan in place. b Using 112-inch, 1/2-inch drive socket, 10-inch extension, and ratchet handle, unscrew and take out.	
<b>NOTE</b>			
<b>Care must be taken not to tilt transmission oil pan to prevent oil from spilling.</b>			
6.	Transmission oil pan (5) and oil pan gasket (11)	a Take off. b Drain oil. c Get rid of drained oil (page 2-424). d Take off gasket. e Get rid of gasket.	

TRANSMISSION OIL PAN - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

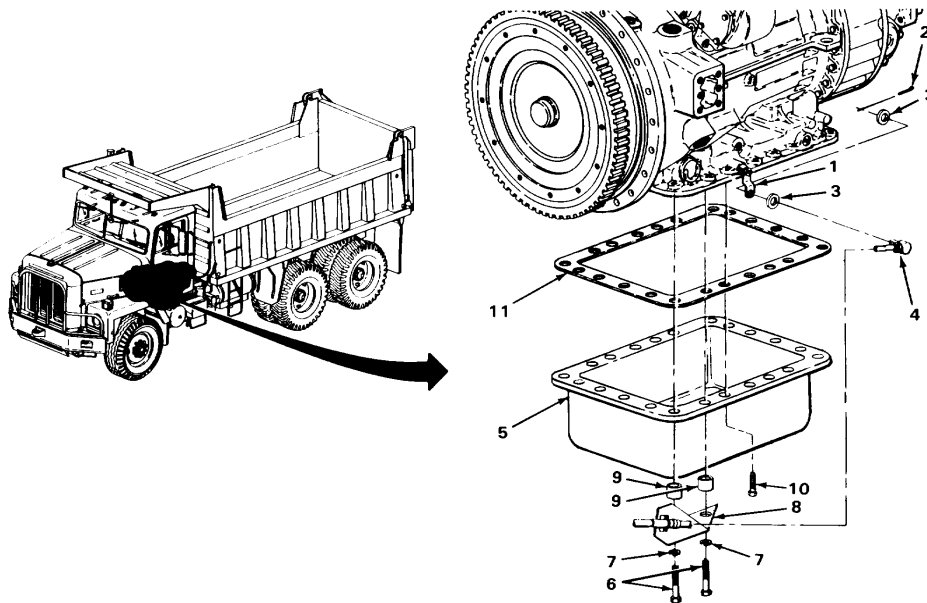
**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (590C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

*For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).*

- |    |                          |   |
|----|--------------------------|---|
| 7. | Transmission oil pan (5) | Clean using drycleaning solvent and wiping rag. |
| 8. | All metal parts          | Clean using drycleaning solvent and wiping rag. |



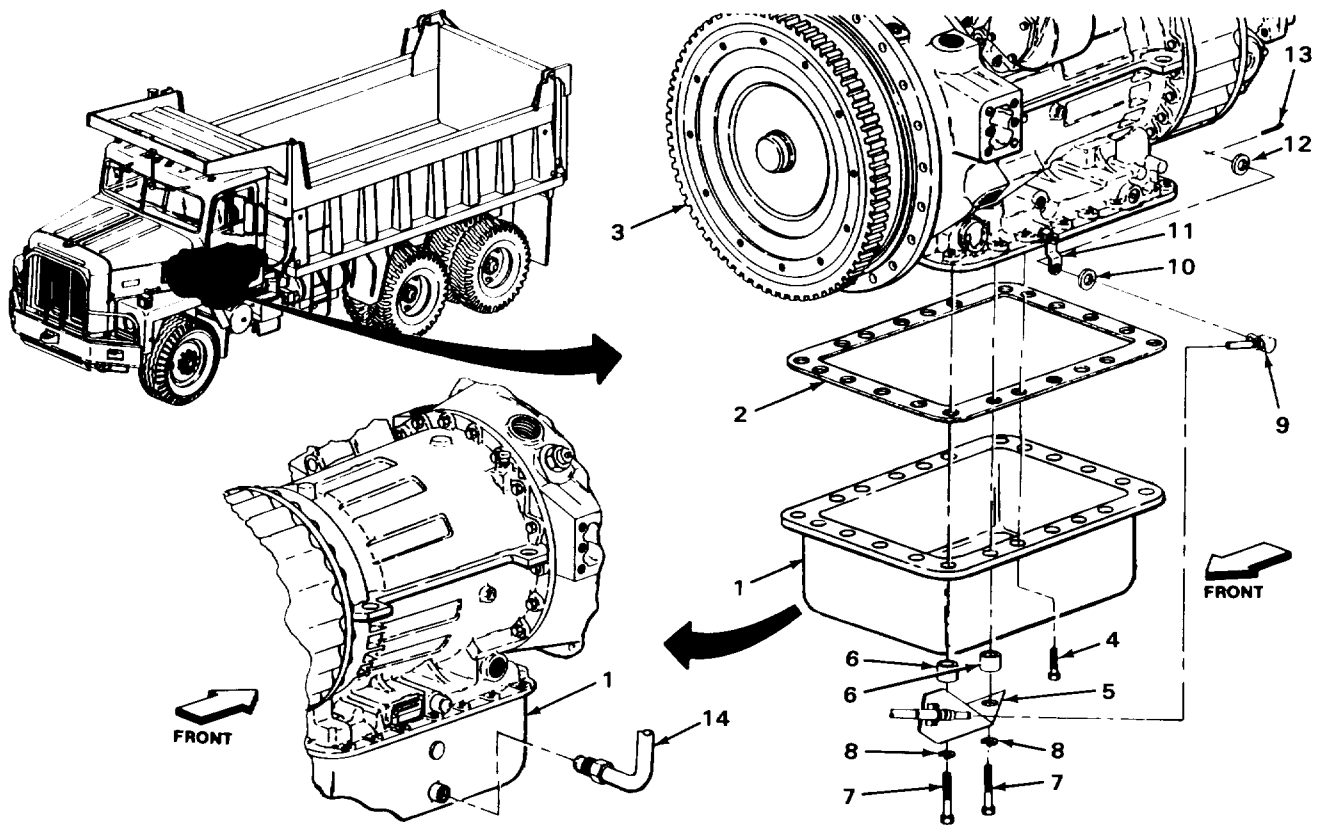
TA244271

## TRANSMISSION OIL PAN - CONTINUED

LOCATION	ITEM	ACTION REMARKS
<b>INSPECTION/REPLACEMENT</b>		
<b>NOTE</b>		
<b>Replace all damaged or defective parts.</b>		
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).		
9.	Transmission oil pan (1)	a Look for cracks, breaks, or severe dents. b Look for damaged oil filler tube threads.
10	All threaded parts	Look for damaged threads or rounded heads.
<b>INSTALLATION</b>		
11 Transmission oil pan (1)	New gasket (2)	Put on.
12 Main transmission (3)	Transmission oil pan (1) and twenty-one screws (4)	a Put transmission oil pan in place. b Screw in and torque evenly to 17 to 20 ft lb (23 to 27 N.m) using 112-inch, 1/2-inch drive socket, 10-inch extension, and 0 to 175 ft lb (0 to 245 N.m) torque wrench.
13 Transmission oil pan (1)	Shift cable bracket (5) and two spacers (6)	Put in place.
14.	Two screws (7) and two new lock-washers (8)	Screw in and torque to 17 to 20 ft lb (23 to 27 N.m) using 1/2-inch, 1/2-inch drive socket, 10-inch extension, and 0 to 175 ft lb (0 to 245 N.m) torque wrench.
15 Shift cable swivel (9)	Flat washer (10)	Put on.
16 Shift control swivel lever (11)	Shift cable swivel (9)	Put in.

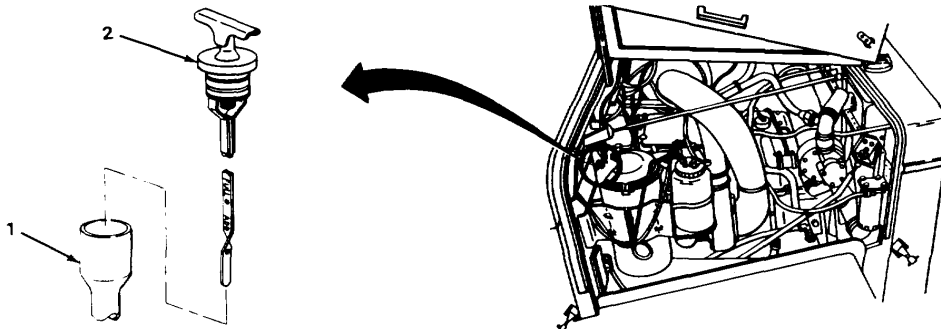
TRANSMISSION OIL PAN - CONTINUED

LOCATION	ITEM	ACTION REMARKS
17. Shift cable swivel (9)	Flat washer (12) and new cotter pin (13)	a. Put on flat washer. b. Put in cotter pin and bend back ends using 8-inch roundnose pliers.
18. Transmission oil pan (1)	Oil filler tube (14)	Screw on and tighten using 1 1/16-inch open-end wrench.



TRANSMISSION OIL PAN - CONTINUED

LOCATION	ITEM	ACTION REMARKS
<b>FILLING</b>		
19. Oil filler tube (1)	Dipstick (2)	Turn handle counterclockwise and pull out.
20.	Oil filler tube (1)	Add proper amount and grade of transmission oil (LO 53805-254-12).
21.	Dipstick (2)	Put in.
22.	Dump truck	a. Start engine (TM 5-3805254-10). b. Move transmission selector lever through all driving ranges. c. Allow TRANSMISSION TEMP gage to indicate 1600 to 2000F. d. Perform step b again. e. Put transmission selector lever in N (neutral).
23.	Dipstick (2)	a. Wipe clean with wiping rag. b. Push in as far as possible. c. Pull out and check oil level. <b>Oil level should be between FULL and ADD marks on dipstick.</b> <b>If oil is at ADD or below, perform step 21 again.</b> <b>If oil is above FULL mark on dipstick, drain oil to reach proper level.</b> <b>If oil level is between FULL and ADD marks, push in dipstick and turn handle clockwise to tighten.</b>



TA244269

**TRANSMISSION OIL PAN - CONTINUED****NOTE**

**FOLLOW-ON MAINTENANCE:** Close right side hood panel (page 2-424).

**TASK ENDS HERE**

**INTERNAL OIL FILTER**

This task covers:

- a. Removal (page 2-908)
- b. Installation (page 2-908)

**INITIAL SETUP**

## Tools

Extension, 3-inch, 1/2-inch drive  
 Goggles, safety  
 Handle, ratchet, 112-inch drive  
 Socket, 112-inch, 1/2-inch drive  
 Wrench, torque, 0 to 175 ft lb  
 (0 to 245 N.m)

## Personnel Required

One

## Equipment Condition

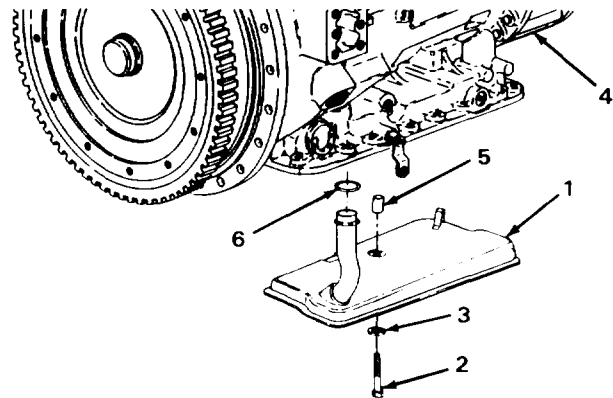
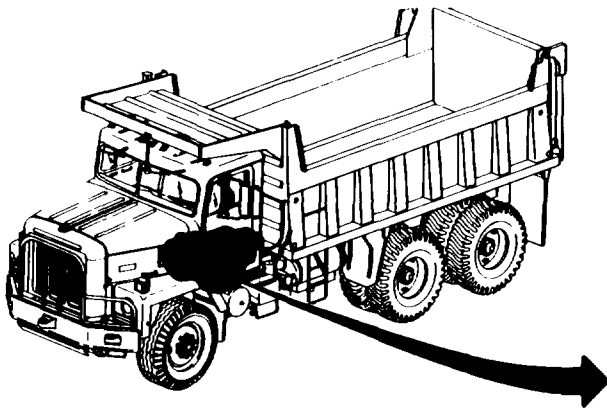
Transmission oil pan removed (page 2-900).

## Materials/Parts

Filter, oil, internal  
 Ring, seal, filter

INTERNAL OIL FILTER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL</b>			
<b><u>WARNING</u></b>			
<b>Safety goggles must be worn when working under truck to prevent eye injury.</b>			
1. Internal oil filter (1)	Screw (2) and flat washer (3)	Using 1/2-inch, 1/2-inch drive socket, 3-inch extension, and ratchet handle, unscrew and take out.	
2. Main transmission (4)	Internal oil filter (1), spacer (5), and filter seal ring (6)	a. Take off. b. Get rid of internal oil filter and filter seal ring.	
<b>INSTALLATION</b>			
3. New internal oil filter(1)	New filter seal ring (6)	Put on.	
4. Main transmission (4)	New internal oil filter (1) and spacer (5)	Put in.	
5. Internal oil filter (1)	Screw (2) and flat washer (3)	Screw in and torque to 10 to 13 ft lb (14 to 18 N.m) using 1/2-inch, 1/2-inch drive socket, 3-inch extension, and 0 to 175 ft lb (0 to 245 N.m) torque wrench.	



TA244274

**INTERNAL OIL FILTER - CONTINUED****NOTE**

**FOLLOW-ON MAINTENANCE:** Install transmission oil pan (page 2-900).

**TASK ENDS HERE****TRANSMISSION SHIFT CONTROL**

This task covers:

- |                          |  |
|--------------------------|--|
| a. Removal (page 2-910)  | c. Inspection/Replacement (page 2-913) |
| b. Cleaning (page 2-913) | d. Installation (page 2-914)           |

**INITIAL SETUP****Tools**

Extension, 10-inch, 1/2-inch drive  
 Gloves, safety  
 Goggles, safety  
 Handle, ratchet, 1/2-inch drive  
 Pen, marking  
 Pliers, roundnose, 8-inch  
 Socket, 1/2-inch, 1/2-inch drive  
 Wrench, box-end, 3/8-inch  
 Wrench, box-end, 7/16-inch  
 Wrench, box-end, 1/2-inch  
 Wrench, torque, 0 to 175 ft lb  
 (0 to 245 N.m)

**Materials/Parts**

Cotter, pin, shift cable swivel  
 Lockwasher, control stand (four  
 required)

**Materials/Parts - Continued**

Lockwasher, shift cable bracket (two required)  
 Lockwasher, side cover (four required)  
 Lockwasher, U-bolt (two required)  
 Nut, self-locking, shift control  
 Rags, wiping (item 15, appendix C)  
 Solvent, drycleaning (item 19, appendix C)

**Personnel Required**

One

**Equipment Condition**

Left side cab door opened (page 2-424).



TRANSMISSION SHIFT CONTROL - CONTINUED

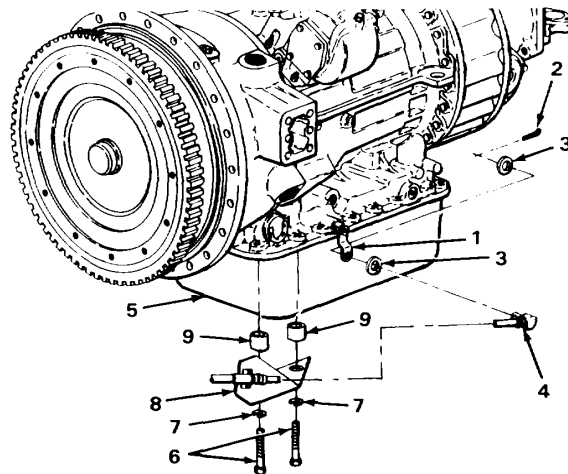
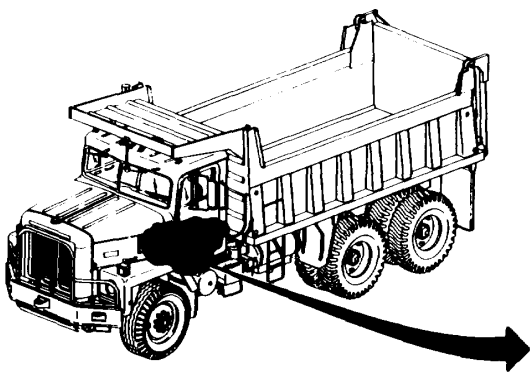
LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

1	Shift control swivel lever (1) Cotter pin (2) a	Using 8-inch roundnose pliers, straighten ends and pull out. b Get rid of.	
2.	Two flat washers (3) and shift cable swivel (4)	Take off.	
3	Transmission oil pan (5) Two screws (6), two a lockwashers (7), shift cable bracket (8), and two spacers (9)	Using 11/2-inch, 1/2-inch drive socket, 10-inch extension, and ratchet handle, unscrew and take out. Move shift cable bracket out of way. b Get rid of lockwashers.	

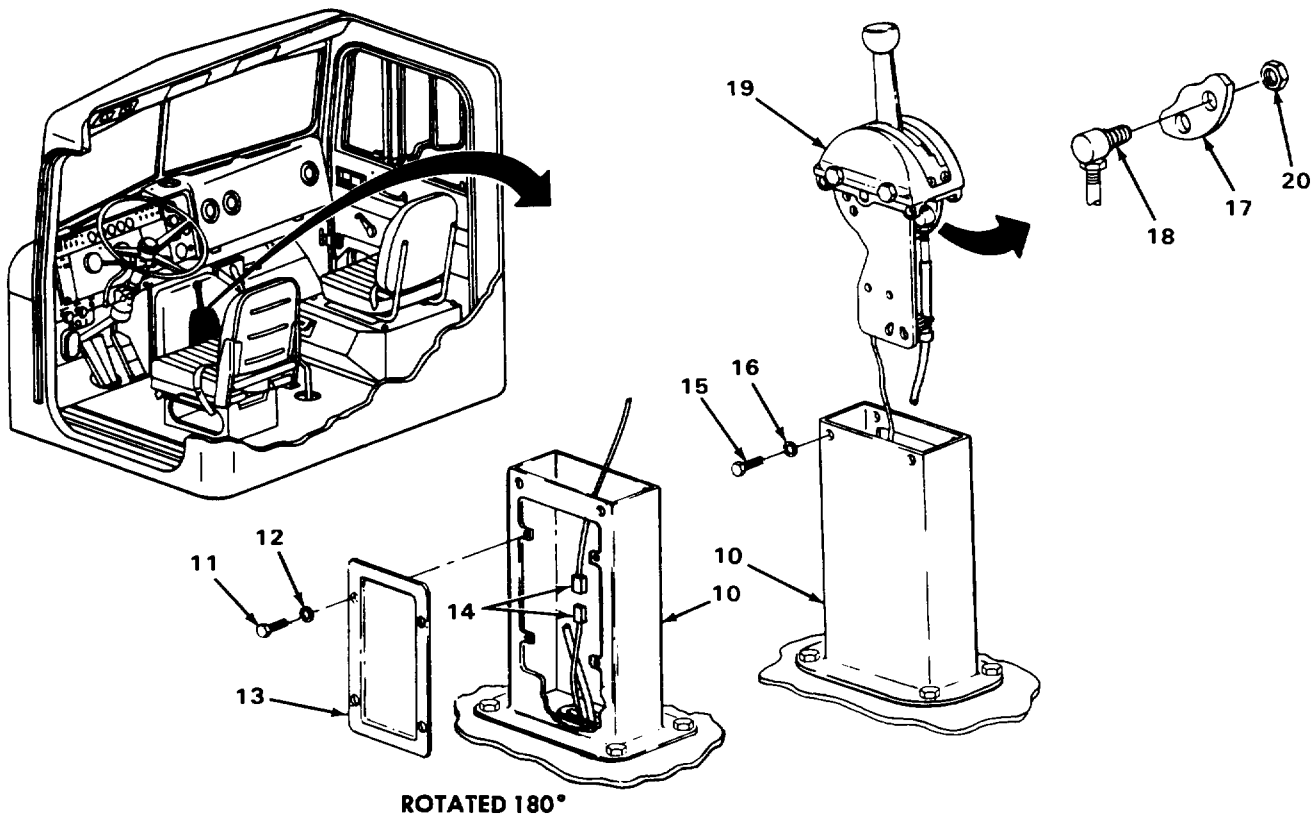


4.	Transmission shift Four screws (11), control stand (10) (12), and side cover (13)	a. Using 7/16-inch box-end wrench, un-four lockwashers screw and take out. b. Get rid of lockwashers. c. Take off side cover.	
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TA244275

TRANSMISSION SHIFT CONTROL - CONTINUED

LOCATION	ITEM	ACTION REMARKS
5	Indicator light wire connector (14)	Pull apart.
6	Four screws (15) and four lock-washers (16)	Using 7/16-inch box-end wrench, unscrew and take out.
7 Shift lever plate (17)	Shift cable swivel (18)	Using marking pen, mark location.
8 Transmission shift control (19)	Self-locking nut a (20) and shift cable swivel (18)	Using 11/2-inch box-end wrench, unscrew and take off, b Get rid of self-locking nut. c Take out shift cable swivel.



TA244276

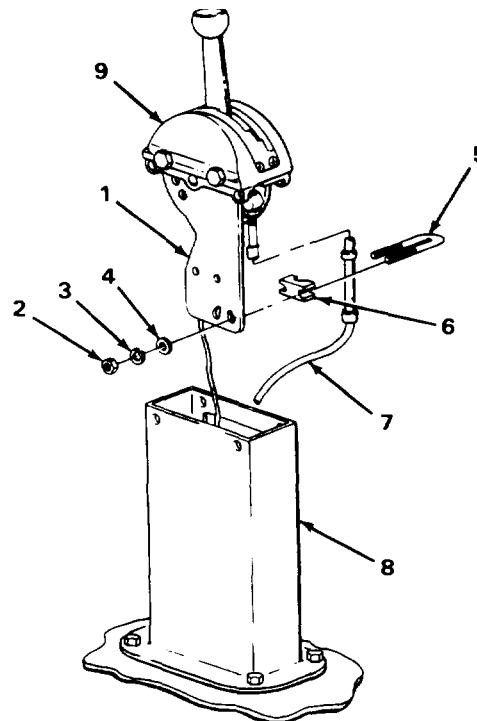
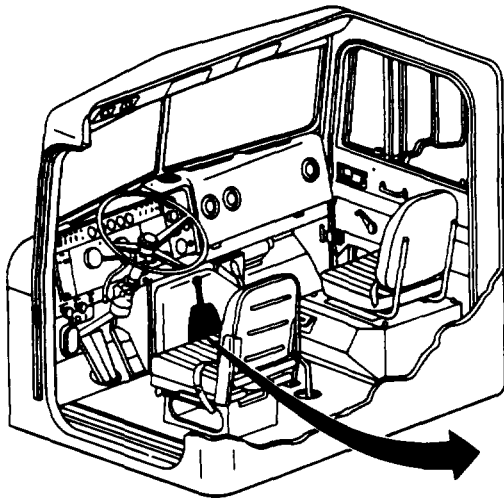
TRANSMISSION SHIFT CONTROL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL - CONTINUED

9 Adapter plate (1)	Two nuts (2), two lockwashers (3), flat washers (4), U-bolt (5), spacer (6), and shift control cable (7)	<ul style="list-style-type: none"> <li>a Using 3/8-inch box-end wrench, undo screw and take off.</li> <li>b Get rid of lockwashers.</li> <li>c Take off U-bolt and spacer.</li> <li>d Take off shift control cable.</li> </ul>	<b>Do not let shift control cable fall through hole in floor.</b>
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10 Transmission shift control stand (8)	Transmission shift control (9)	Take out.	
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TA244277

TRANSMISSION SHIFT CONTROL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (590C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

11.	All metal parts	Clean using drycleaning solvent and wiping rag.	
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INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

12.	All threaded parts	Look for damaged threads or rounded heads.	
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## TRANSMISSION SHIFT CONTROL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
13	Transmission shift control (1)	Shift control lever (2)	Put in driving range 1.
14	Transmission shift control stand (3)	Transmission shift control (1)	Put in.
15	Shift lever plate (4)	Shift cable swivel (5)	Put in hole marked during removal.
16	Shift cable swivel (5)	New self-locking nut (6)	Screw on and tighten using 11/2-inch box-end wrench.
17	Adapter plate (7)	Shift control cable (8), spacer (9), U-bolt (10), two flat washers (11), two new lockwashers (12), and two nuts (13) side, loosen two nuts, adjust, and retighten.	<ul style="list-style-type: none"> <li>a Put shift control cable in position.</li> <li>b Put in spacer and U-bolt.</li> <li>c Screw on and tighten using 3/8-inch box-end wrench.</li> </ul> <p><b>Make sure shift control cable is not being forced to one side. If shift control cable is being forced to one</b></p>
18	Transmission shift control stand (3)	Indicator light wire connector (14)	<p>Aline and push together.</p> <p><b>Make sure indicator light wire (15) is clear of all moving parts.</b></p>
19		Four screws (16) and four new lockwashers (17)	Screw in and tighten using 7/16-inch box-end wrench.
20		Side cover (18), four screws (19), and four new lockwashers (20)	<ul style="list-style-type: none"> <li>a Put side cover in place.</li> <li>b Screw in and tighten using 7/16-inch box-end wrench.</li> </ul>

TRANSMISSION SHIFT CONTROL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (590C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

11	All metal parts	Clean using drycleaning solvent and wiping rag.	
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INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

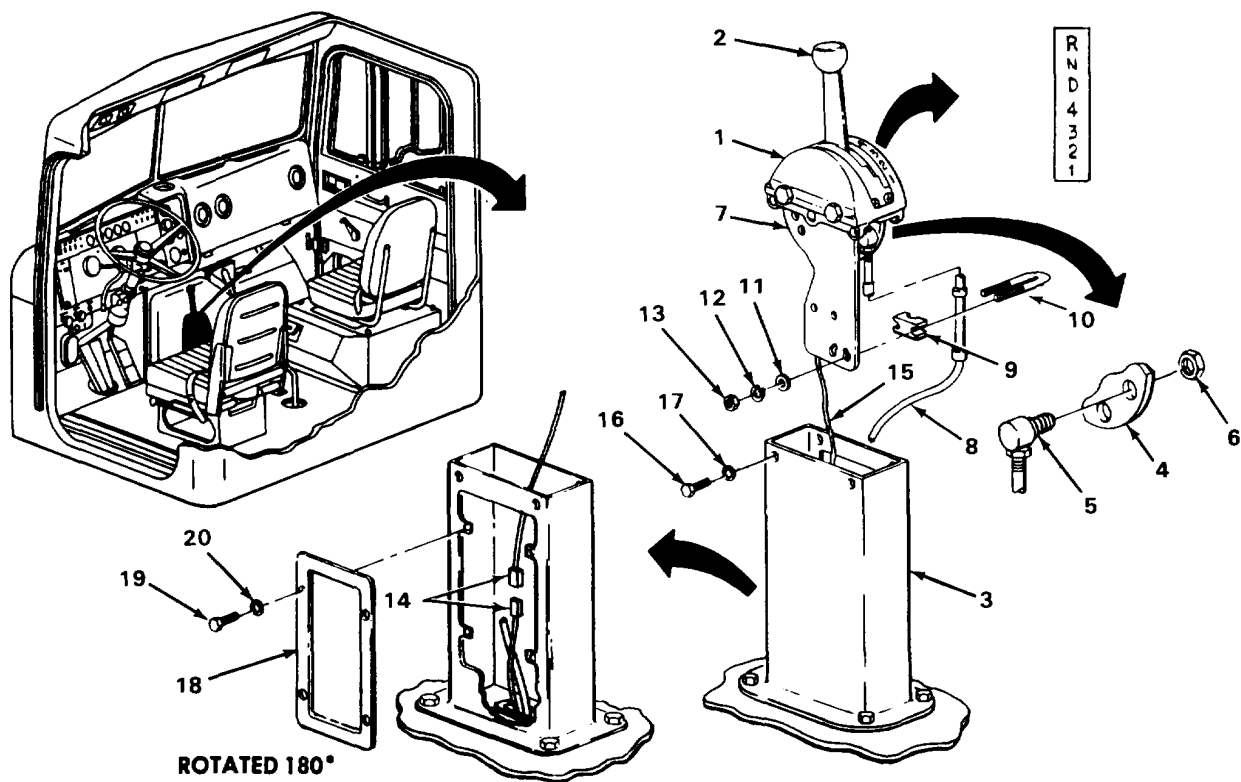
12	All threaded parts	Look for damaged threads or rounded heads.	
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## TRANSMISSION SHIFT CONTROL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
13	Transmission shift Control (1)	Shift control lever (2)	Put in driving range 1.
14	Transmission shift Control stand (3)	Transmission shift control (1)	Put in.
15	Shift lever late (4)	Shift cable swivel (5)	Put in hole marked during removal.
16	Shift cable swivel (5)	New self-locking nut (6)	Screw on and tighten using 11/2-inch box-end wrench.
17	Adapter plate (7)	Shift control cable (8), spacer (9), U-bolt (10), two flat washers (11), two new lockwashers (12), and two nuts (13)	<p>a Put shift control cable in position.</p> <p>b Put in spacer and U-bolt.</p> <p>c Screw on and tighten using 3/8-inch box-end wrench.</p> <p><b>Make sure shift control cable is not being forced to one side. If shift control cable is being forced to one side, loosen two nuts, adjust, and retighten.</b></p>
18	Transmission shift control stand (3)	Indicator light wire connector (14)	<p>Aline and push together.</p> <p><b>Make sure indicator light wire (15) is clear of all moving parts.</b></p>
19		Four screws (16) and four new lockwashers (17)	Screw in and tighten using 7/16-inch box-end wrench.
20		Side cover (18), four screws (19), and four new lockwashers (20)	<p>a Put side cover in place.</p> <p>b Screw in and tighten using 7/16-inch box-end wrench.</p>

**TRANSMISSION SHIFT CONTROL - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
21. Transmission shift control (1)	Shift control lever (2)	Put in position N.

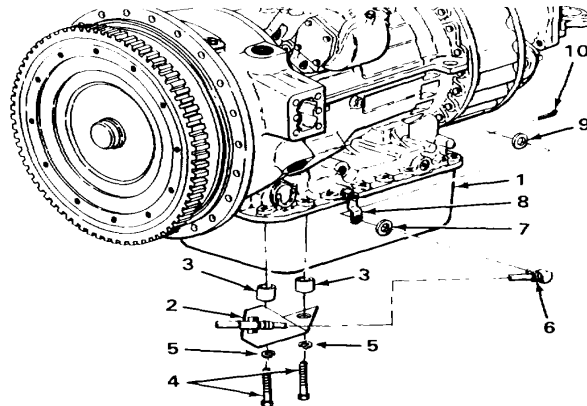
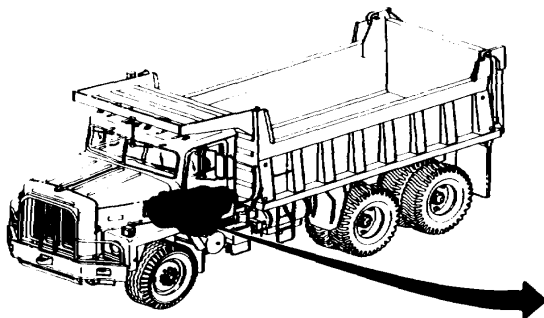


TA244278



**TRANSMISSION SHIFT CONTROL - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>INSTALLATION - CONTINUED</b>		
22. Transmission oil pan (1)	Shift cable bracket (2) and two spacers (3)	Put in place.
23.	Two screws (4) and two new lock-washers (5)	Screw in and torque to 17 to 20 ft lb (23 to 27 N.m) using 1/2-inch, 1/2-inch drive socket, 10-inch extension, and 0 to 175 ft lb (0 to 245 N.m) torque wrench.
24. Shift cable swivel (6)	Flat washer (7)	Put on.
25. Shift control swivel lever (8)	Shift cable swivel (6)	Put in.
26. Shift cable swivel (6)	Flat washer (9) and new cotter pin (10)	a. Put on flat washer. b. Put in cotter pin and bend back ends using 8-inch roundnose pliers.



**NOTE**

FOLLOW-ON MAINTENANCE: Close left cab door (page 2-424).

**TASK ENDS HERE**

TA244279

**TRANSMISSION SHIFT CONTROL STAND**

This task covers:

- a. Removal (page 2-917)
- b. Cleaning (page 2-918)
- c. Inspection/Replacement (page 2-918)
- d. Installation (page 2-919)

**INITIAL SETUP**

**Tools**

Brush, wire  
 Extension, 6-inch, 112-inch drive  
 Gloves, safety  
 Goggles, safety  
 Handle, ratchet, 1/2-inch drive  
 Socket, 7/16-inch, 112-inch drive

**Personnel Required**

One

**Equipment Condition**

Transmission shift control removed  
 (page 2-909).

**Materials/Parts**

Grommet  
 Rags, wiping (item 15, appendix C)  
 Solvent, drycleaning (item 19,  
 appendix C)

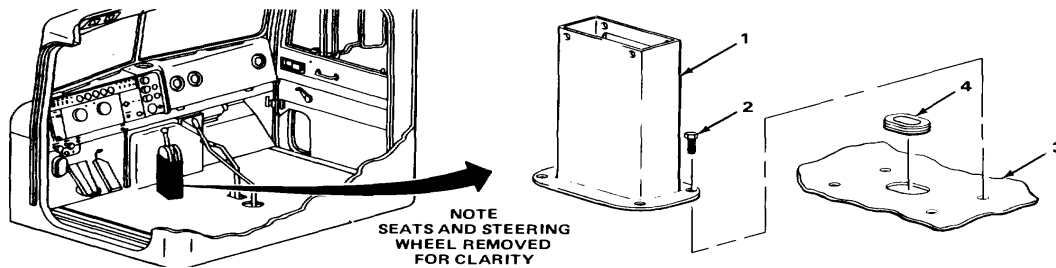
**References**

TM 43-0139 (Painting Instructions for Army  
 Materiel)

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**

1. Transmission shift control stand (1)
    - Four screws (2)
  2. Cab floor (3)
    - Transmission shift control stand (1) and grommet (4)
- Using 7/16-inch, 1/2-inch drive socket, 6-inch extension, and ratchet handle, unscrew and take out.
- a. Take off.
  - b. Get rid of grommet.



TA244280

**TRANSMISSION SHIFT CONTROL STAND - CONTINUED**

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LOCATION	ITEM	ACTION	REMARKS
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CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (590C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

For more information on how to clean parts, go to **General Maintenance Instructions (page 2-424)**.

- |    |                                      |  |  |
|----|--------------------------------------|--|--|
| 3. | Transmission shift control stand (1) | <ul style="list-style-type: none"> <li>a. Clean rust or corrosion using wire brush.</li> <li>b. Clean using drycleaning solvent and wiping rag.</li> <li>c. To touchup or repaint, refer to TM 43-0139.</li> </ul> |  |
| 4. | All metal parts                      | Clean using drycleaning solvent and wiping rag.  |  |

**INSPECTION/REPLACEMENT**

**NOTE**

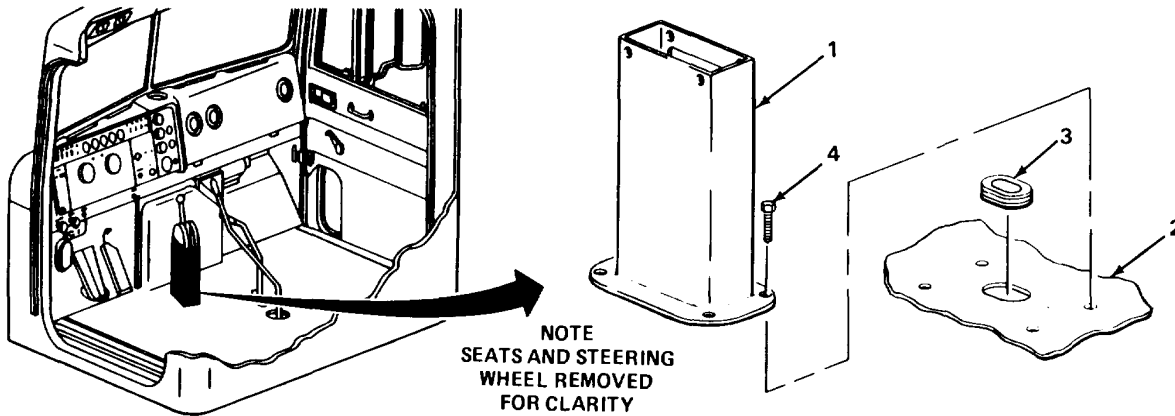
**Replace all damaged or defective parts.**

For more information on how to inspect parts, go to **General Maintenance Instructions (page 2-424)**.

- |    |                                      |  |  |
|----|--------------------------------------|--|--|
| 5. | Transmission shift control stand (1) | <ul style="list-style-type: none"> <li>a. Look for excessive rust or corrosion.</li> <li>b. Look for severe dents or distortion which could effect installation or operation of transmission shift control.</li> </ul> |  |
| 6. | All threaded parts                   | Look for damaged threads or rounded heads.   |  |

**TRANSMISSION SHIFT CONTROL STAND - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
7. Cab floor (2)	New grommet (3)	Put in.	
8.	Transmission shift control stand (1)	Put in position.	
9. Transmission shift control stand (1)	Four screws (4)	Screw in and tighten using 7/16-inch, 112-inch drive socket, 6-inch extension, and ratchet handle.	



**NOTE**

**FOLLOW-ON MAINTENANCE:** Install transmission shift control (page 2-909).

**TASK ENDS HERE**

**TRANSMISSION SHIFT CABLE**

**This task covers:**

- a. Removal (page 2-920)
- b. Disassembly (page 2-920)
- c. Cleaning (page 2-922)
- d. Inspection/Replacement (page 2-922)
- e. Assembly (page 2-922)
- f. Installation (page 2-924)
- g. Adjustment (page 2-924)

**TRANSMISSION SHIFT CABLE - CONTINUED**

**INITIAL SETUP**

Tools

- Gloves, safety
- Goggles, safety
- Pliers, roundnose, 8-inch
- Pliers, slip-joint, 12-inch
- Wrench, box-end, 3/8-inch
- Wrench, open-end, 7/16-inch

Materials/Parts

- Cotter pin, shift cable swivel (if required)
- Grommet (Shift cable)

Materials/Parts - Continued

- Lockwasher, U-bolt (two required)
- Rags, wiping (item 15, appendix C)
- Solvent, drycleaning (item 19, appendix C)

Personnel Required

Two

Equipment Condition

Transmission shift control removed (page 2-909).

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**

**WARNING**

**Safety goggles must be worn when working under truck to prevent eye injury.**

**NOTE**

Equipment condition leaves transmission shift cable disconnected and ready to be pulled out of truck.

Assistance will be needed to remove transmission shift cable from under truck.

- |    |               |                              |  |
|----|---------------|------------------------------|--|
| 1. | Cab floor (1) | Transmission shift cable (2) | Pull out.  |
| 2. |               | Grommet (3)                  | <ul style="list-style-type: none"> <li>a. Take out.</li> <li>b. Get rid of.</li> </ul> |

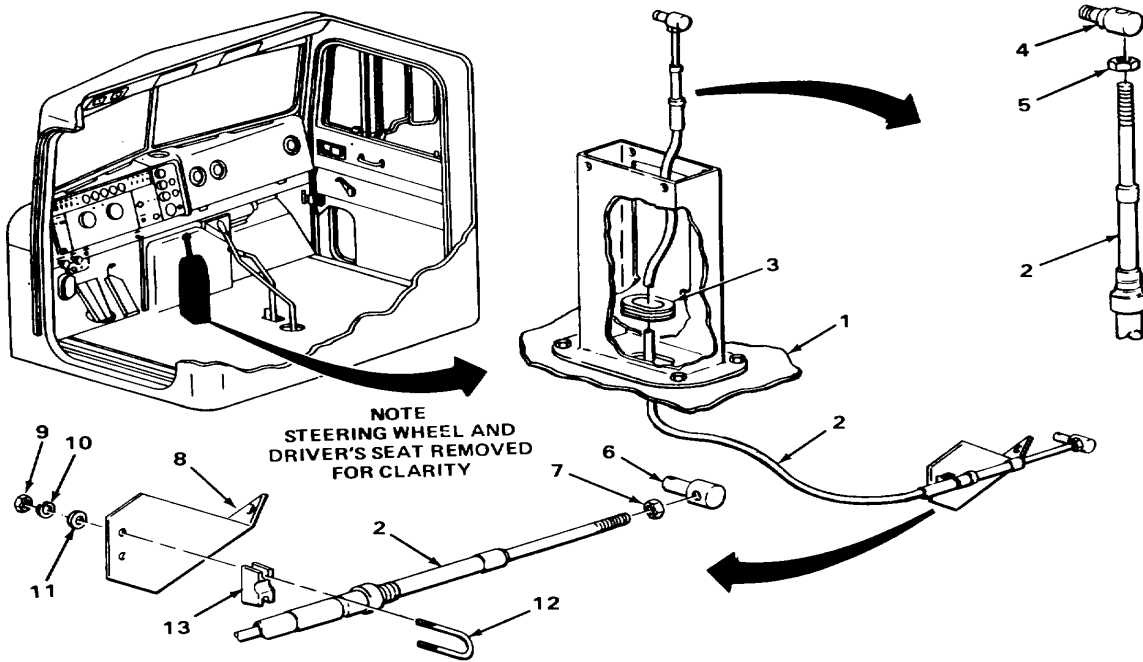
**DISASSEMBLY**

- |    |                              |                                       |   |
|----|------------------------------|---------------------------------------|---|
| 3. | Transmission shift cable (2) | Shift cable swivel (4) and jamnut (5) | <ul style="list-style-type: none"> <li>a. Using 12-inch slip-joint pliers and 7/16-inch open-end wrench, loosen.</li> <li>b. Screw off shift cable swivel.</li> <li>c. Screw off jamnut.</li> </ul> |
|----|------------------------------|---------------------------------------|---|

**2-920**

TRANSMISSION SHIFT CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
4.	Shift cable swivel (6) and jamnut (7)	a. Using 12-inch slip-joint pliers and 7116-inch open-end wrench, loosen. b. Screw off shift cable swivel. c. Screw off jamnut.	
5. Shift cable bracket (8)	Two nuts (9), two lockwashers (10), two flat washers (11), U-bolt (12), and spacer (13)	a. Using 3/8-inch box-end wrench, unscrew and take off. b. Get rid of lockwashers. c. Take off U-bolt and spacer. d. Get rid of transmission shift cable.	



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## TRANSMISSION SHIFT CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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## CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (590C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

6.	All metal parts	Clean using drycleaning solvent and wiping rag.	
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## INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

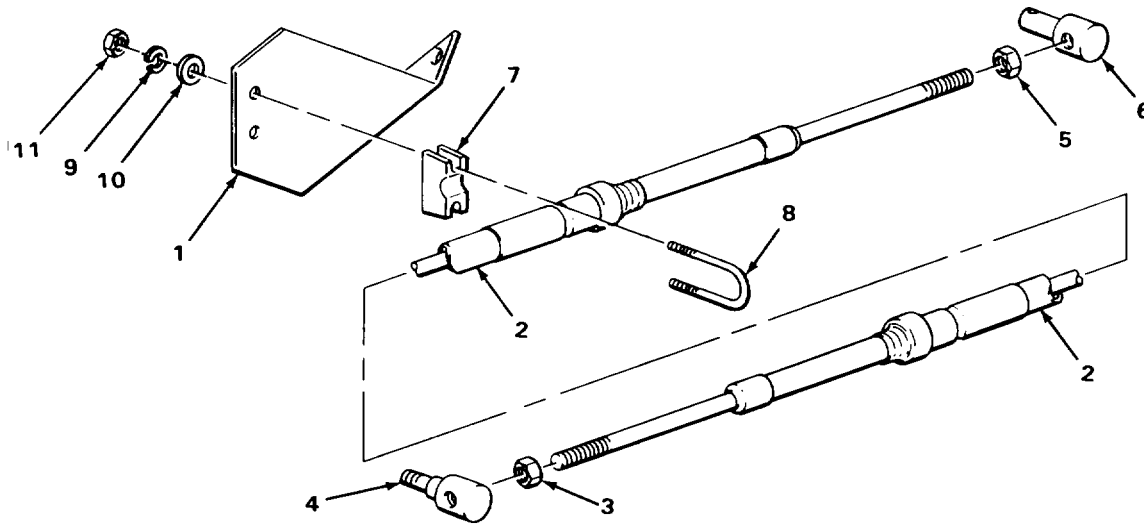
7.	Shift cable bracket (1)	Look for cracks or breaks.	
8.	All threaded parts	Look for damaged threads or rounded heads.	

## ASSEMBLY

9.	New transmission shift cable (2)	Jamnut (3) and shift cable swivel (4)	a. Screw on. <b>Allow two threads to stick out from top of shift cable swivel.</b> b. Tighten using 12-inch slip-joint pliers and 7/16-inch open-end wrench.
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TRANSMISSION SHIFT CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
10.	Jamnut (5) and shift cable swivel (6)	Screw on.	<b>Allow four threads to stick out from top of shift cable swivel. Do not tighten at this time.</b>
11.	Shift cable bracket (1), spacer (7), U-bolt (8), two new lockwashers (9), two flat washers (10), and two nuts (11)	a. Put in position. b. Screw on and tighten using 3/8-inch box-end wrench.	

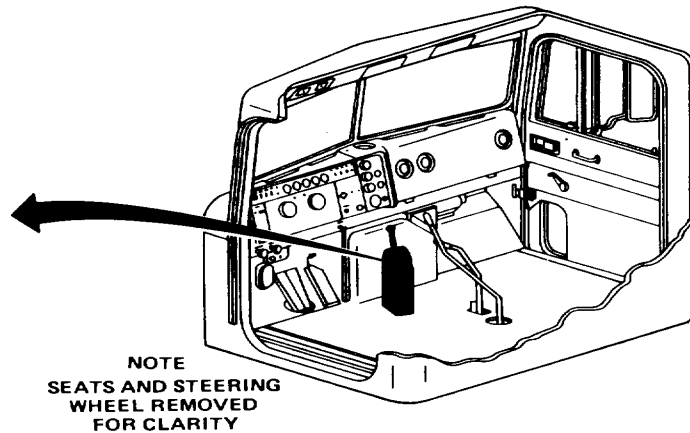
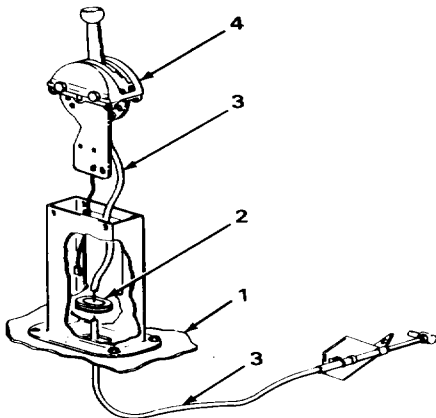


TA244283



**TRANSMISSION SHIFT CABLE - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
12. Cab floor (1)	New grommet (2)	Put in.	
<b>NOTE</b>			
Assistance will be needed under truck to push and guide transmission shift cable up through hole in cab floor.			
13.	Transmission shift cable (3)	With assistance, put in.	
14.	Transmission shift control (4)	Install (page 2-909).	



**ADJUSTMENT**

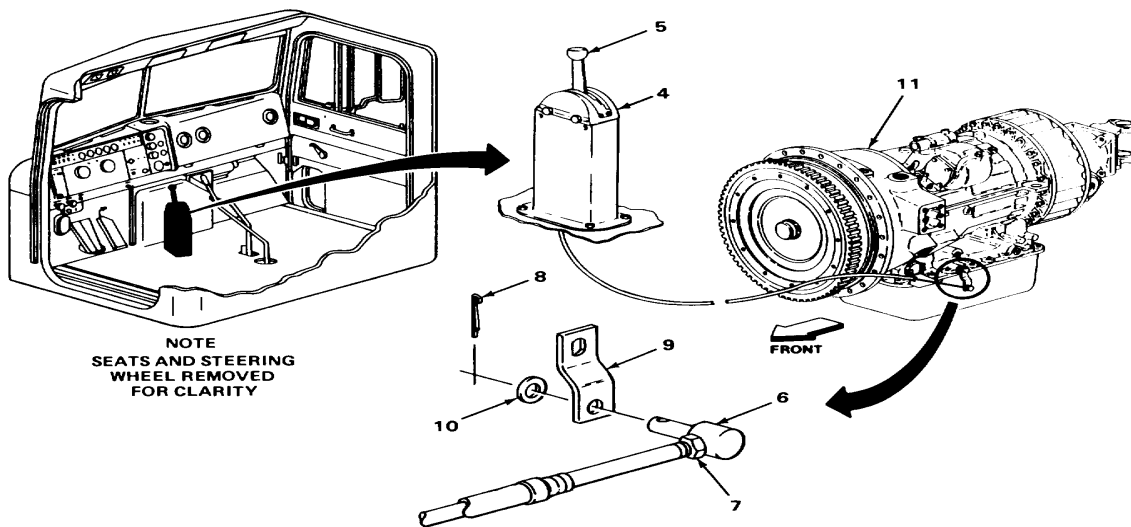
**NOTE**

Transmission shift cable adjustments are performed with shift control lever and shift control swivel lever in N (neutral) position. Perform steps 16 thru 19 only if transmission shift cable is already connected to shift control swivel lever.

TA244284

TRANSMISSION SHIFT CABLE - CONTINUED

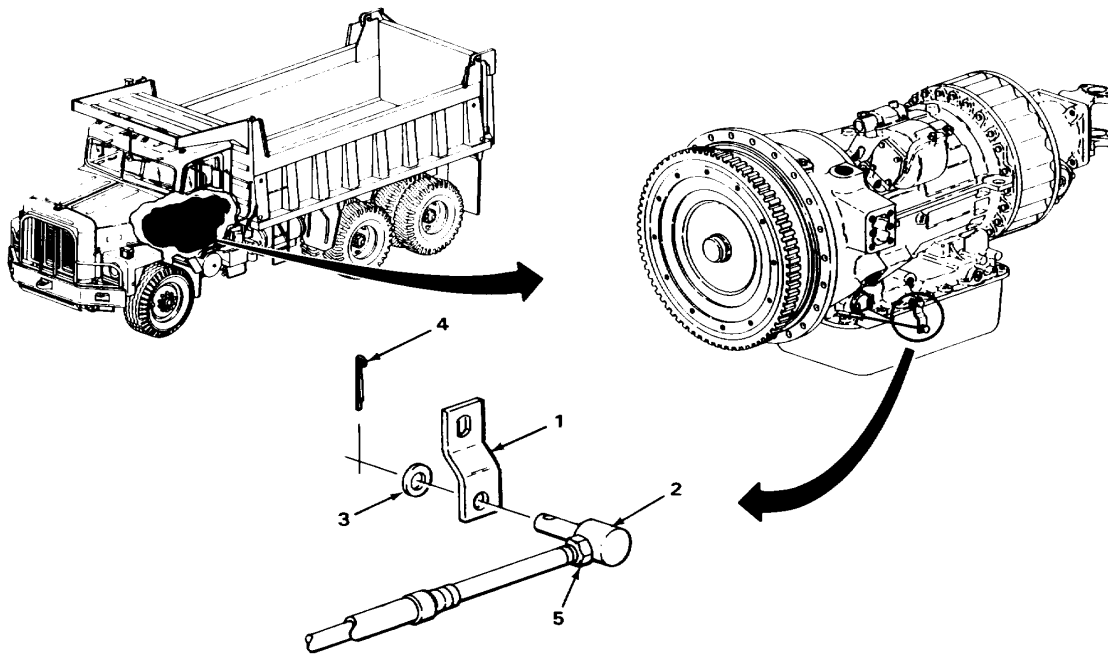
LOCATION	ITEM	ACTION	REMARKS
15. Transmission shift control (4)	Shift control lever (5)	Put in N (neutral) position.	
16. Shift cable swivel (6)	Jamnut (7)	Using 7/16-inch open-end wrench, loosen.	
17.	Cotter pin (8)	a. Using 8-inch roundnose pliers, straighten ends and pull out. b. Get rid of.	
18. Shift control swivel lever (9)	Shift cable swivel (6) and flat washer (10)	Take out.	
19. Main transmission (11)	Shift control swivel lever (9)	a. Move forward to last position. <b>Clicks will be felt as each position is selected.</b> b. Move rearward one click. <b>This is the N (neutral) position.</b>	



TA244285

TRANSMISSION SHIFT CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>ADJUSTMENT - CONTINUED</b>			
20. Shift control swivel lever (1)	Shift cable swivel (2) and flat washer (3)	Put in.	<b>Check for loose fit. If tight on one side, take out and turn one thread at a time away from tight side and recheck until loose fit is met. If loose fit, go to step 21.</b>
21. Shift cable swivel (2)	New cotter pin (4)	Put in and bend back ends using 8-inch roundnose pliers.	
22.	Jamnut (5)	Tighten using 7/16-inch open-end wrench.	



TASK ENDS HERE

TA244286

**OIL FILLER TUBE AND DIPSTICK**

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This task covers:

- a. Removal (page 2-928)
  - b. Cleaning (page 2-929)
  - c. Inspection/Replacement (page 2-930)
  - d. Installation (page 2-930)
- 

**INITIAL SETUP**

## Tools

Container, 12-gallon  
Gloves, safety  
Goggles, safety  
Wrench, box-end, 7/16-inch  
Wrench, box-end, 15/16-inch  
Wrench, open-end, 7/16-inch  
Wrench, open-end, 1 1/16-inch

## Personnel Required

One

## Equipment Condition

Engine cover removed (page 2-424)  
Right side hood panel opened (page 2-424)

## Materials/Parts

Lockwasher, clamp screw  
Rags, wiping (item 15, appendix C)  
Solvent, drycleaning (item 19, appendix C)

**2-927**

OIL FILLER TUBE AND DIPSTICK - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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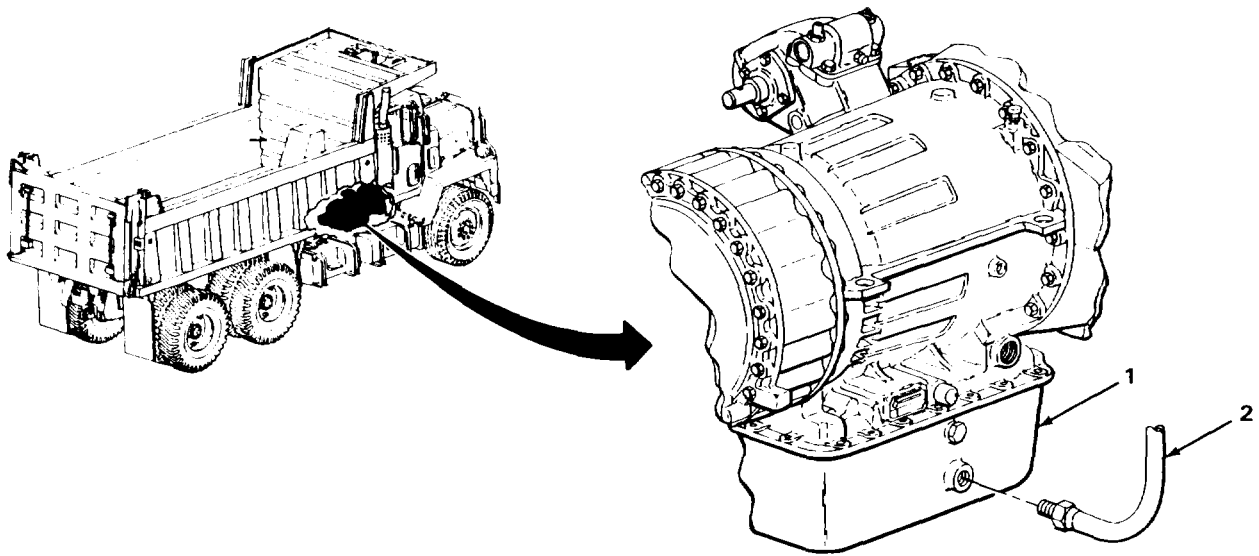
REMOVAL

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

Hot transmission oil can burn you. Care must be taken to prevent personal injury.

- |                             |                     |  |
|-----------------------------|---------------------|--|
| 1. Transmission oil pan (1) | Oil filler tube (2) | <ul style="list-style-type: none"> <li>a. Place 12-gallon container underneath.</li> <li>b. Using 1 1/16-inch open-end wrench, slowly loosen and take off.</li> <li>c. Allow oil to drain.</li> <li>d. Get rid of drained oil (page 2-424).</li> </ul> |
|-----------------------------|---------------------|--|



- |                      |   |  |
|----------------------|---|--|
| 2. Bracket (3)       | Screw (4), flat washer (5), lock-washer (6), nut (7), and clamp (8) | <ul style="list-style-type: none"> <li>a. Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out.</li> <li>b. Get rid of lockwasher.</li> <li>c. Take clamp off oil filler tube (2).</li> <li>d. Take out oil filler tube (2).</li> </ul> |
| 3. Oil fillertube(9) | Dipstick (10)   | Turn handle counterclockwise and pull out.   |

TA244287

OIL FILLER TUBE AND DIPSTICK - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

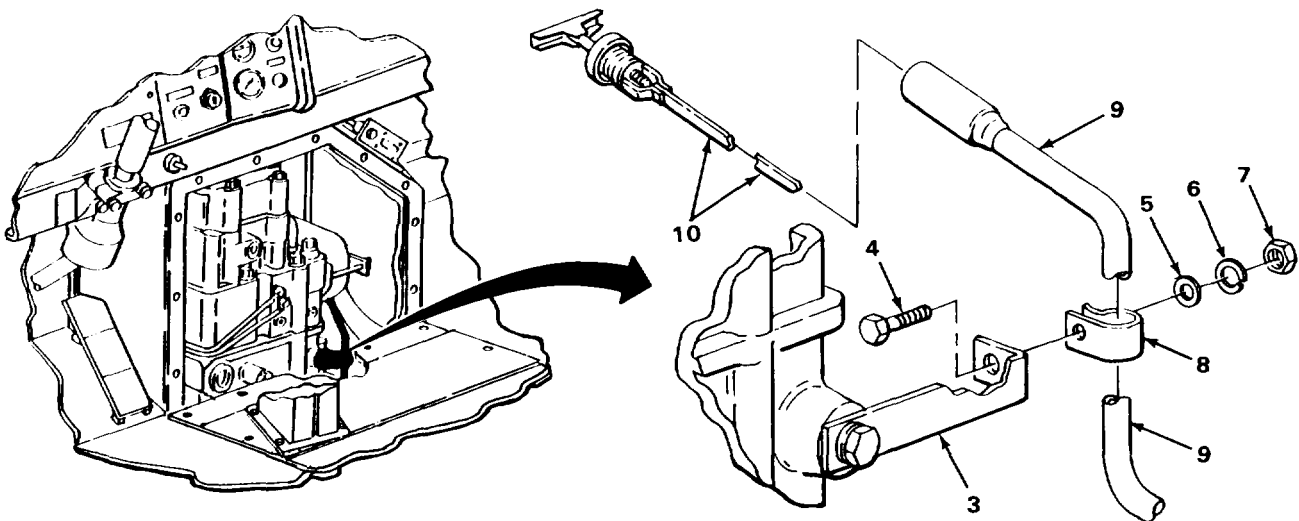
**WARNING**

Drycleaning solvent PD680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (590C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

- |    |                 |   |
|----|-----------------|---|
| 4. | All metal parts | Clean using drycleaning solvent and wiping rag. |
|----|-----------------|---|



TA244288

OIL FILLER TUBE AND DIPSTICK - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSPECTION/REPLACEMENT

**NOTE**

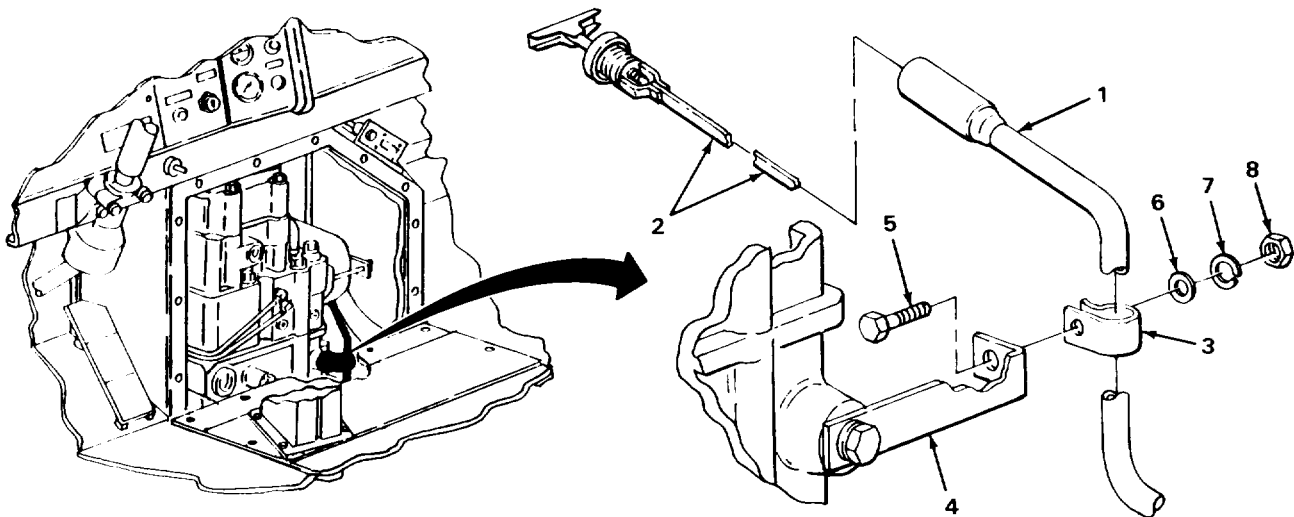
**Replace all damaged or defective parts.**

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

5.	Oil filler tube (1)	Look for cracks, bends, or kinks.
6.	Dipstick (2)	a. Look for cracks, breaks, or bends. b. Look for cracked rubber plug.
7.	All threaded parts	Look for damaged threads or rounded heads.

INSTALLATION

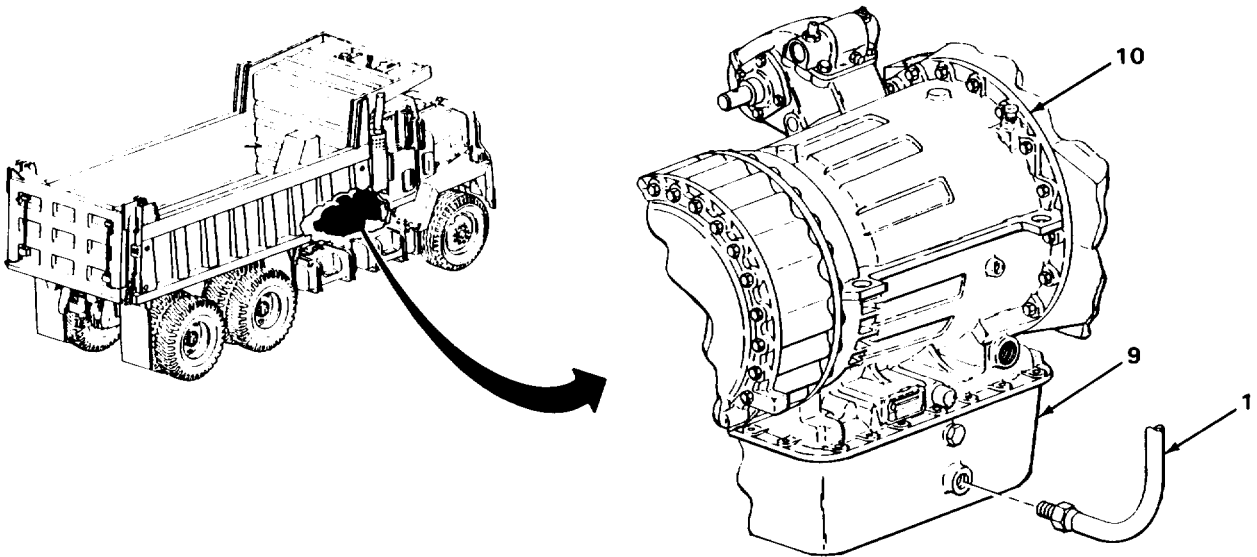
8.	Oil filler tube (1)	Clamp (3)	Put on.
9.	Bracket (4)	Clamp (3), screw (5), flat washer (6), new lockwasher (7), and nut (8)	a. Aline clamp and bracket holes. b. Screw on and tighten using 7/16-inch box-end and 7/16-inch open-end wrenches.



TA244289

OIL FILLER TUBE AND DIPSTICK - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
10. Transmission oil pan (9)	Oil filler tube (1) open-end wrench.	Screw on and tighten using 1 1/16-inch	
11.	Main transmission (10)	Fill. (See Transmission Oil Pan, page 2-900).	



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Close right side hood panel (page 2-424). TA244290
2. Install engine cover (page 2-424). 2-931

**TASK ENDS HERE**

TA244290

2-931



**AUXILIARY TRANSMISSION**

---

This task covers:

- a. Oil Level Check (page 2-932)
  - b. Draining (page 2-933)
  - c. Filling (page 2-934)
  -
- 

**INITIAL SETUP**

Tools

- Container, 10-gallon
- Goggles, safety
- Key, square, 112-inch
- Pump, lubricating, bucket
- Wrench, open-end, 15116-inch

Personnel Required

One

Equipment Condition

Truck on level ground.

Materials/Parts

- Oil, lubricating (item 14, appendix C)
- Rags, wiping (item 15, appendix C)
- Tape, antiseizing (item 22, appendix C)

References

- LO 5-3805-254-12 (Lubrication Order)
  - TM 5-3805-254-10 (Operator's Manual)
- 

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

---

**OIL LEVEL CHECK**

**WARNING**

**Safety goggles must be worn when working under truck to prevent eye injury.**

Do not check oil level when hot. Hot oil can burn you.

- |    |  |   |
|----|--|---|
| 1. | Auxiliary<br>Filler plug (2)<br>transmission (1) | a. Wipe filler plug and area around it, clean using wiping rag.<br>b. Using 15/16-inch open-end wrench, unscrew and take out.   |
| 2. | Auxiliary<br>transmission (1)                    | Insert finger through filler plug hole.<br><b>If oil is up to filler plug hole, oil is at proper level. Go to step 6. If oil is below filler plug hole, oil must be added. Go to step 4, 5 and 6.</b> |

AUXILIARY TRANSMISSION - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

DRAINING

**WARNING**

**Safety goggles must be worn when working under truck to prevent eye injury.**

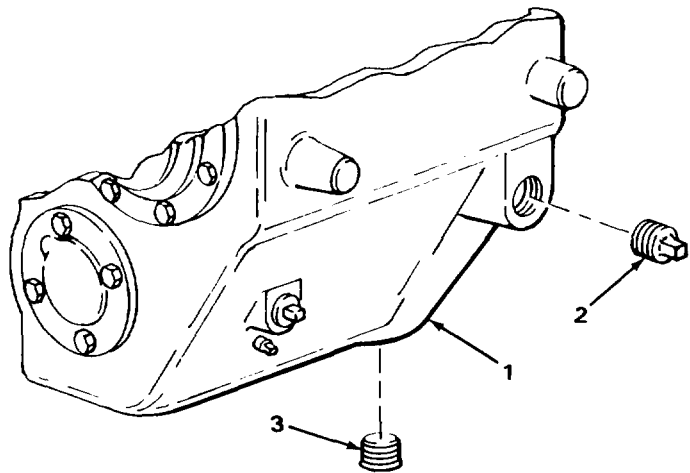
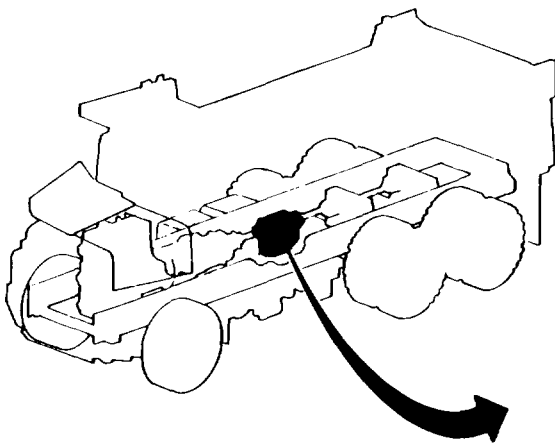
Do not drain oil when hot. Hot oil can burn you.

**NOTE**

**Auxiliary transmission oil must be warm and engine shut down (TM 5-3805-254-10).**

If filler plug was not removed, do step 1.

- |    |               |   |
|----|---------------|---|
| 3. | Drainplug (3) | <ol style="list-style-type: none"> <li>a. Place 10-gallon container underneath.</li> <li>b. Wipe drainplug and area around it, clean using wiping rag.</li> <li>c. Using 1/2-inch square key, unscrew and take out.</li> <li>d. Allow oil to drain.</li> <li>e. Get rid of drained oil (page 2-424).</li> </ol> |
|----|---------------|---|



TA244291

**AUXILIARY TRANSMISSION - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
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**FILLING**

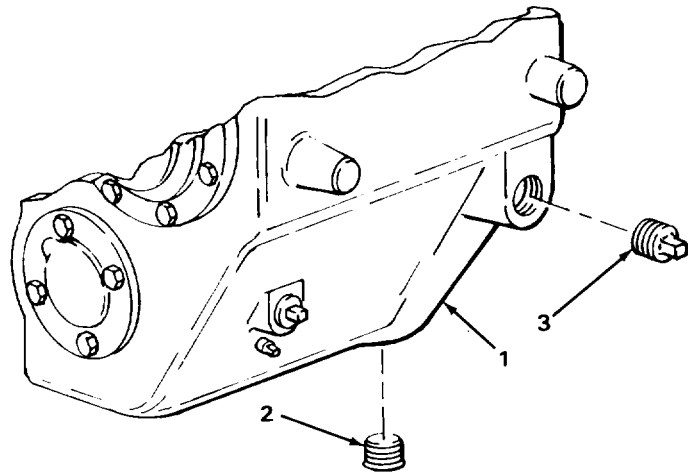
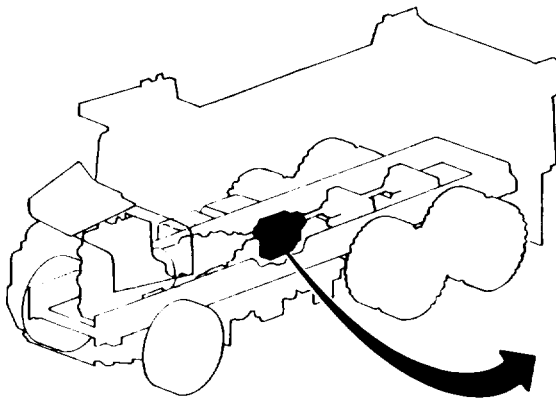
**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

- |    |           |                                   |  |
|----|-----------|-----------------------------------|--|
| 4. | Auxiliary | Drainplug (2)<br>transmission (1) | <ul style="list-style-type: none"> <li>a. Wipe clean using wiping rag.</li> <li>b. Wrap pipe threads with antiseizing tape.</li> <li>c. Screw in and tighten using 11/2-inch square key.</li> </ul>  |
| 5. |           | Auxiliary<br>transmission (1)     | Using lubricating bucket pump, fill through filler plug hole until oil comes out (LO 5-3805-254-12).   |
| 6. |           | Filler plug (3)                   | <ul style="list-style-type: none"> <li>a. Wipe clean using wiping rag.</li> <li>b. Wrap threads with antiseizing tape.</li> <li>c. Screw in and tighten using 15/16-inch open-end wrench.</li> </ul> |



**TASK ENDS HERE**

TA244292

**REMOTE OIL FILTER CARTRIDGE**

---

This task covers:

- |                          |  |
|--------------------------|--|
| a. Removal (page 2-936)  | c. Inspection/Replacement (page 2-938) |
| b. Cleaning (page 2-936) | d. Installation (page 2-938)           |
- 

**INITIAL SETUP**

## Tools

Brush, wire  
Container, 10-gallon  
Gloves, safety  
Goggles, safety  
Wrench, box-end, 7/16-inch  
Wrench, box-end, 1 1/8-inch

## Materials/Parts

Cartridge, oil filter  
Ring

## Materials/Parts - Continued

Rags, wiping (item 15, appendix C)  
Solvent, drycleaning (item 19, appendix C)  
Tape, antiseizing (item 22, appendix C)

## Personnel Required

One

## References

TM 5-3805-254-10 (Operator's Manual)

**2-935**

## REMOTE OIL FILTER CARTRIDGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL</b>			
<b><u>WARNING</u></b>			
Safety goggles must be worn when working under truck to prevent eye injury.			
Hot transmission oil can burn you. Care must be taken to prevent personal injury.			
1.	Remote oil filter (1)	Drainplug (2)	a. Place 10-gallon container underneath. b. Using 7/16-inch box-end wrench, unscrew and take out. c. Allow oil to drain. d. Get rid of drained oil (page 2-424).
<b>NOTE</b>			
Hold oil filter canister while performing next step.			
2.		Retaining screw (3)	Using 1 1/8-inch box-end wrench, unscrew and loosen. <b>Retaining screw remains in oil filter canister.</b>
3.		Oil filter canister (4) and ring (5)	a. Take off. b. Get rid of ring.
4.	Oil filter canister (4)	Oil filter cartridge (6)	a. Take out. b. Get rid of.

**CLEANING****WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (590C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

Safety goggles must be worn when using wire brush. Flying rust and metal particles can cause eye injury.

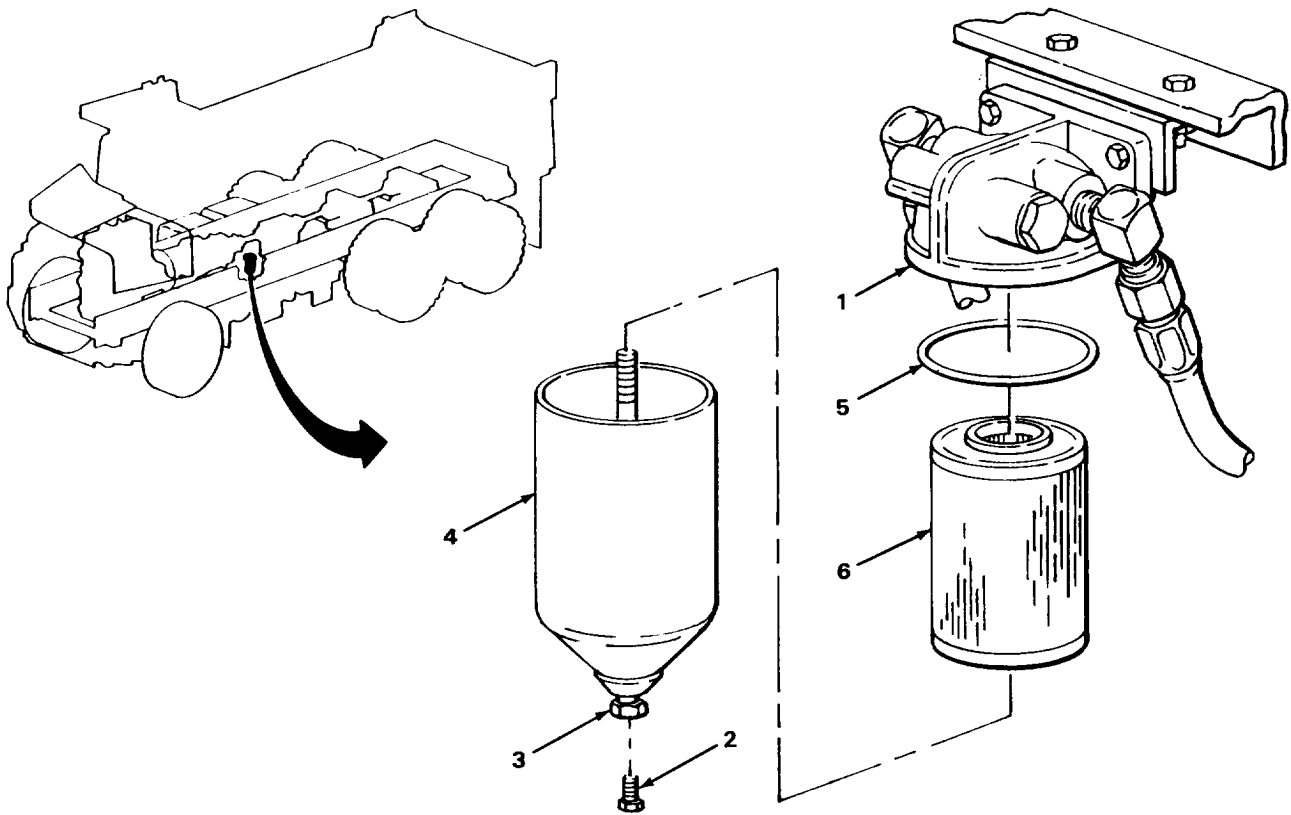
REMOTE OIL FILTER CARTRIDGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

- |    |                         |  |
|----|-------------------------|--|
| 5. | Oil filter canister (4) | <ul style="list-style-type: none"> <li>a. Clean rust and corrosion from outside surface using wire brush.</li> <li>b. Clean inside and outside surfaces using drycleaning solvent and wiping rag.<br/><b>Be sure to remove all built-up sludge from inside surface.</b></li> </ul> |
|----|-------------------------|--|



TA244293

## REMOTE OIL FILTER CARTRIDGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

## INSPECTION/REPLACEMENT

**NOTE**

**Replace all damaged or defective parts.**

For more information on how to inspect parts, go to General Maintenance Instructions (page 2424).

6.	Oil filter canister (1)	a. Look for cracks, breaks, or chips. b. Look for excessive rust on inside surface.	
7.	All threaded parts	Look for damaged threads or rounded heads.	

## INSTALLATION

**CAUTION**

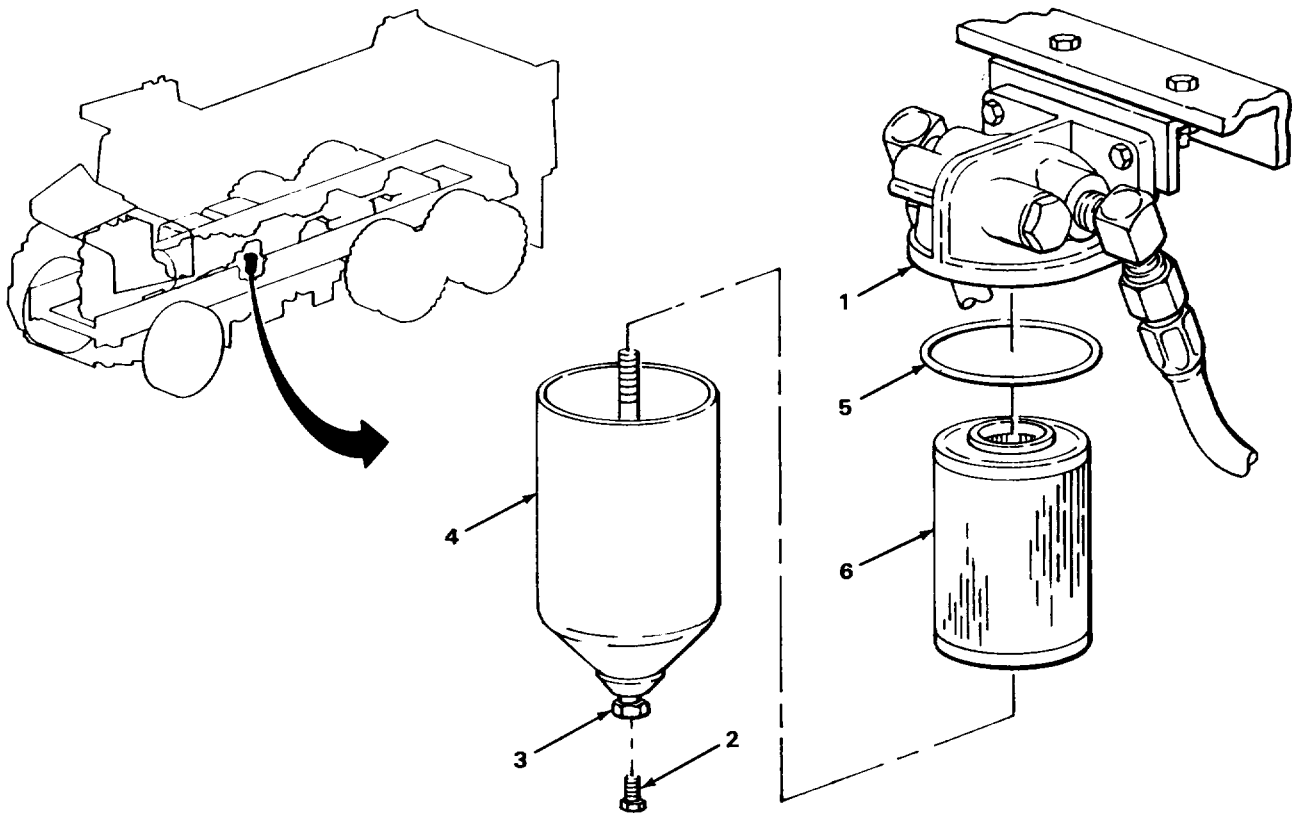
**Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.**

**NOTE**

**For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).**

8.	Oil filter canister (1)	New oil filter cartridge (2)	Put in.
9.	Remote oil filter (3)	Ring (4)	Put in groove.
10.	Oil filter canister (1) and retaining screw (5)	Oil filter canister (1) and retaining screw (5)	a. Put oil filter canister in position. b. Screw on and tighten using 1 1/8-inch box-end wrench.
11.	Oil filter canister (1)	Drainplug (6)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 7/16-inch box-end wrench.
12.	Dump truck	Transmission	a. Start engine and check transmission oil level (TM 5-3805-254-10). b. Check for leaks.

REMOTE OIL FILTER CARTRIDGE - CONTINUED



TASK ENDS HERE

Section XII. PROPELLER SHAFTS AND UNIVERSAL JOINT MAINTENANCE

For propeller shaft and universal joint maintenance refer to Preventative Maintenance checks and Services (PMCS) page 2-34 and Lubrication Order (LO 5380525412). The intervals specified are based on operation under normal conditions. Modification of the recommended intervals may be required under unusual operating conditions.

TA244294



**Section XIII. REAR AXLE MAINTENANCE**

Page Page

Interaxle Differential .....	2-945	Rear Axle Housing.....	2-942
Power Divider Hoses, Tubes, and Fittings .....	2-946.1	Rear Axle Housing Breather.....	2-940

**REAR AXLE HOUSING BREATHER**

This task covers:

- |                          |  |
|--------------------------|--|
| a. Removal (page 2-940)  | c. Inspection/Replacement (page 2-941) |
| b. Cleaning (page 2-940) | d. Installation (page 2-941)           |

**INITIAL SETUP**

Tools	Materials/Parts
Gloves, safety	Solvent, drycleaning (item 19, appendix C)
Goggles, safety	
Gun, air blow	Personnel Required
Hose, air assembly	
Wrench, open-end, 3/4-inch	One

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

**REMOVAL**

**NOTE**

**Steps given are typical for both rear axle housing breathers.**

1. Rear axle housing (1)	Rear axle housing breather (2)	Using 3/4-inch open-end wrench, unscrew and take out.
--------------------------	--------------------------------	---

**CLEANING**

**WARNING**

**Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.**

REAR AXLE HOUSING BREATHER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

**WARNING**

Particles blown by compressed air are hazardous. Make certain the air stream is directed away from user and other personnel in the area. Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa). User must wear safety goggles or face shield to prevent personnel injury.

- |    |                                |  |  |
|----|--------------------------------|--|--|
| 2. | Rear axle housing breather (2) | a. Clean with drycleaning solvent.<br>b. Using air blow gun and air hose assembly, blow out air passage. |  |
|----|--------------------------------|--|--|

INSPECTION/REPLACEMENT

**NOTE**

Replace breather if damaged or defective.

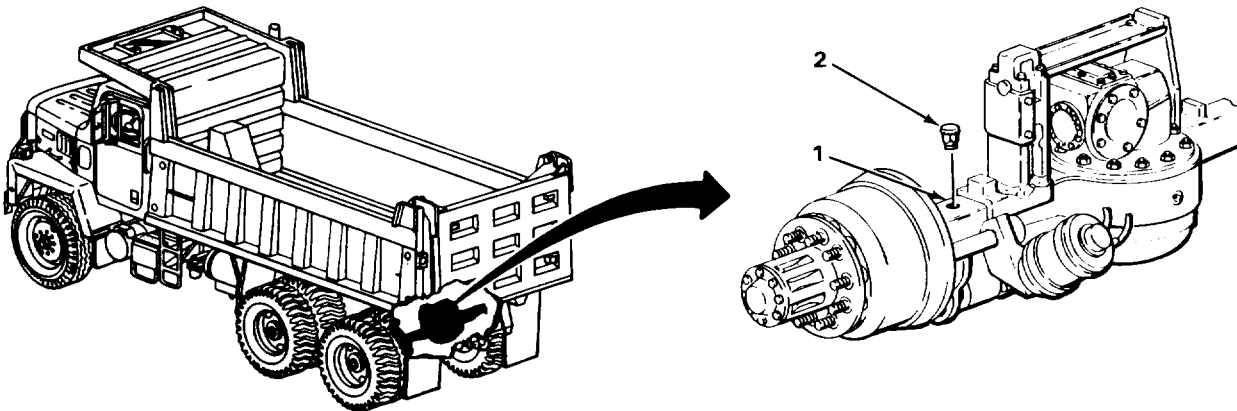
- |    |                                |  |  |
|----|--------------------------------|--|--|
| 3. | Rear axle housing breather (2) | a. Look for cracks, breaks, or corrosion.<br>b. Look for clogged breather passage.<br>c. Look for damaged threads. |  |
|----|--------------------------------|--|--|

INSTALLATION

**CAUTION**

Overtightening rear axle breather could cause damage to axle housing or breather.

- |    |                       |                                |  |
|----|-----------------------|--------------------------------|--|
| 4. | Rear axle housing (1) | Rear axle housing breather (2) | Screw in and tighten using 3/4-inch open-end wrench. |
|----|-----------------------|--------------------------------|--|



TASK ENDS HERE

TA244295

**REAR AXLE HOUSING**

---

This task covers:

- a. Oil level check (page 2-942)
  - b. Draining (page 2-943)
  - c. Filling (page 2-944)
- 

**INITIAL SETUP**

<p>Tools</p> <p>Container, 10-gallon Key, square, 1/2-inch Pump, bucket, lubricating</p> <p>Materials/Parts</p> <p>Oil, lubricating (item 4 appendix C) Rags, wiping (item 5 appendix C) Tape, antiseizing (item 22 appendix C)</p>	<p>Personnel Required</p> <p>One</p> <p>Equipment Condition</p> <p>On level ground</p> <p>References</p> <p>TM 5-3805-254-10 (Operator's Manual) LO 5-3805-254-12 (Lubrication Order)</p>
---	---

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LOCATION	ITEM	ACTION	REMARKS
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**OIL LEVEL CHECK**

**WARNING**

**Do not check rear axle housing oil level when hot. Hot oil can burn you.**

**NOTE**

**Steps given are typical for both rear axle housings.**

<p>1. Rear axle housing (1)</p> <p>2.</p> <p>3.</p> <p>4.</p>	<p>Filler plug (2)</p> <p>Filler plug (2)</p> <p>Rear axle housing (1)</p> <p>Rear axle housing (1)</p>	<p>Using wiping rag, wipe filler plug and area around it clean.</p> <p>Using 1/2-inch square key, unscrew and take out.</p> <p>a. Insert finger through filler plug hole. b. If oil is up to filler plug hole, oil is at correct level. Go to step 5. c. If oil is below filler plug hole, go to step 4.</p> <p>Using lubricating bucket pump, fill through filler plug hole to correct level.</p>
---	---	--

REAR AXLE HOUSING - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

- |    |                 |   |  |
|----|-----------------|---|--|
| 5. | Filler plug (2) | <ul style="list-style-type: none"> <li>a. Using antiseizing tape, wrap threads.</li> <li>b. Screw in and tighten using 1/2-inch square key.</li> <li>c. Using wiping rag, wipe filler plug and area around it clean.</li> </ul> |  |
|----|-----------------|---|--|

**DRAINING**

**WARNING**

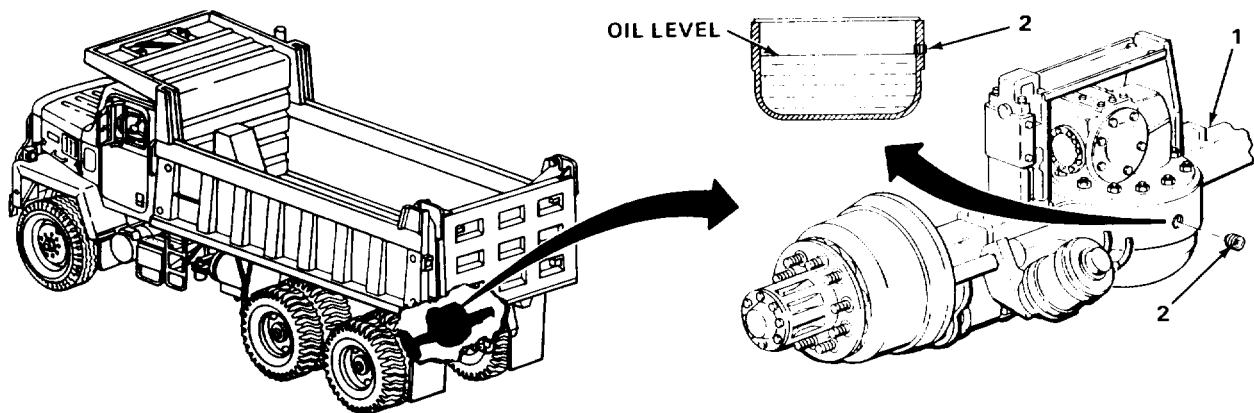
**Do not drain rear axle housing oil when hot. Hot oil can burn you.**

**NOTE**

**Rear axle housing oil must be warm and engine shut down (TM 5-3805-254-10) before draining.**

Steps given are typical for both rear axle housings.

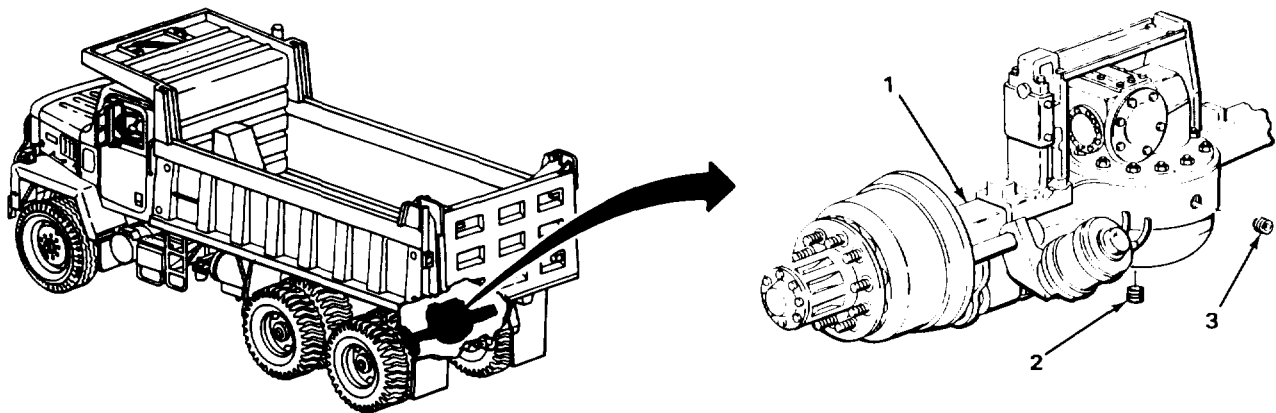
- |                          |   |  |  |
|--------------------------|---|--|--|
| 6. Rear axle housing (1) | Filler plug (2) and magnetic drain plug (3) | <ul style="list-style-type: none"> <li>a. Using wiping rag, wipe filler plug, magnetic drainplug, and area around it clean.</li> <li>b. Place 10-gallon container underneath.</li> <li>c. Using 1/2-inch square key, unscrew and take out.</li> <li>d. Allow oil to drain.</li> <li>e. Get rid of drained oil (page 2-424).</li> </ul> |  |
|--------------------------|---|--|--|



TA244296

REAR AXLE HOUSING - CONTINUED

LOCATION	ITEM	ACTION REMARKS
<b>FILLING</b>		
<b>NOTE</b>		
<p>For more information on how to use antiseizing tape, go to <b>General Maintenance Instructions (page 2-424)</b>.</p>		
7. Rear axle housing (1)	Magnetic drain plug (2)	<ul style="list-style-type: none"> <li>a. Using wiping rag, wipe magnetic drain plug clean.</li> <li>b. Using antiseizing tape wrap threads.</li> <li>c. Screw in and tighten using 1/2-inch square key.</li> </ul>
8.	Rear axle housing (1)	Using lubricating bucket pump, fill through filler plug hole, until oil comes out.
9.	Filler plug (3)	<ul style="list-style-type: none"> <li>a. Using antiseizing tape, wrap threads.</li> <li>b. Screw in and tighten using 1/2-inch square key.</li> <li>c. Using wiping rag, wipe filler plug and area around it clean.</li> </ul>



TA244297

## INTERAXLE DIFFERENTIAL

---

This task covers:

- a Draining (page 2-946)
  - b Filling (page 2-946)
- 

### INITIAL SETUP

#### Tools

Container, 2-gallon  
Key, square, 1/2-inch  
Pump, bucket, lubricating   References  
Wrench, open-end, 5/8-inch

#### Personnel Required

One

LO 5-3805-254-12 (Lubrication Order)

#### Materials/Parts

Oil, lubricating (item 14, appendix C)  
Rags, wiping (item 15, appendix C)  
Tape, antiseizing (item 22, appendix C)

INTERAXLE DIFFERENTIAL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

DRAINING

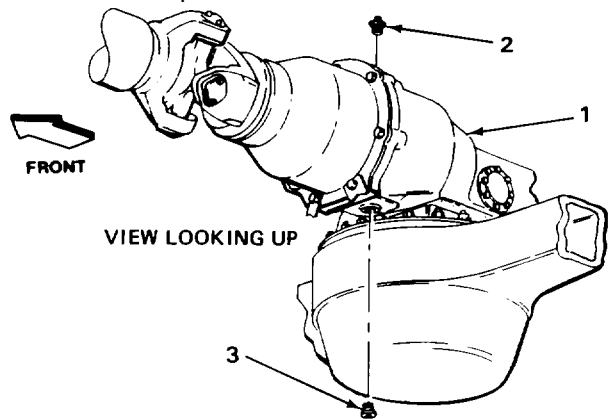
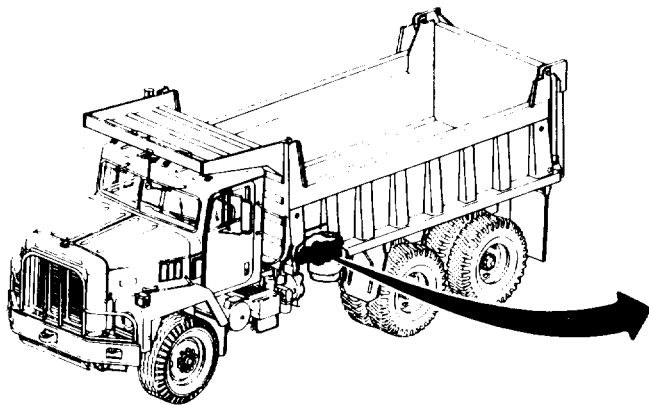
**WARNING**

Do not drain interaxle differential oil when hot. Hot oil can burn you.

1	Interaxle	Filler plug (2) differential (1)	<ul style="list-style-type: none"> <li>a Using wiping rag, wipe filler plug and area around it clean.</li> <li>b Using 5/8-inch open-end wrench, unscrew and take out.</li> </ul>
2	0	Drainplug (3)	<ul style="list-style-type: none"> <li>a Using wiping rag, wipe drainplug and area around it clean.</li> <li>b Using 1/2-inch square key, unscrew and take out.</li> <li>c Using 2-gallon container, allow oil to drain.</li> <li>d Get rid of drained oil (page 2-424).</li> <li>e Wrap threads with antiseizing tape (2-424).</li> <li>f Screw in and tighten using 1/2-inch square key.</li> </ul>

FILLING

3	Interaxle differential (1)	Using lubricating bucket pump fill through filler plug hole (LO 5-3805-254-12).
4	Filler plug (2)	<ul style="list-style-type: none"> <li>a Wrap threads with antiseizing tape (2-424).</li> <li>b Screw in and tighten using 5/8-inch open-end wrench.</li> </ul>



TA244298

TASK ENDS HERE

TA244298

**POWER DIVIDER HOSES, TUBES, AND FITTINGS**

---

This task covers:

- |   |                                       |   |                             |
|---|---------------------------------------|---|-----------------------------|
| a | Removal (page 2-946.2)                | c | Installation (page 2-946.6) |
| b | Inspection/Replacement (page 2-946.5) |   |                             |
- 

**INITIAL SETUP**

**Equipment Conditions**

- Lower center instrument panel opened (page 2-438)
- Upper center instrument panel opened (page 2-439)

**Materials/Parts**

- Tags, marking (item 21, appendix C)
- Lockwasher, cab floor
- Lockwasher, front crossmember (two required)
- Lockwasher, drop elbow

**Tools/Test Equipment**

- Wrench, box-end, 7/16-inch (two required)
- Wrench, box-end, 3/4-inch (two required)
- Wrench, open-end, 9/16-inch (two required)
- Wrench, open-end, 1-inch (two required)

**Personnel Required**

Two

---

**Change 1 2-946.1**



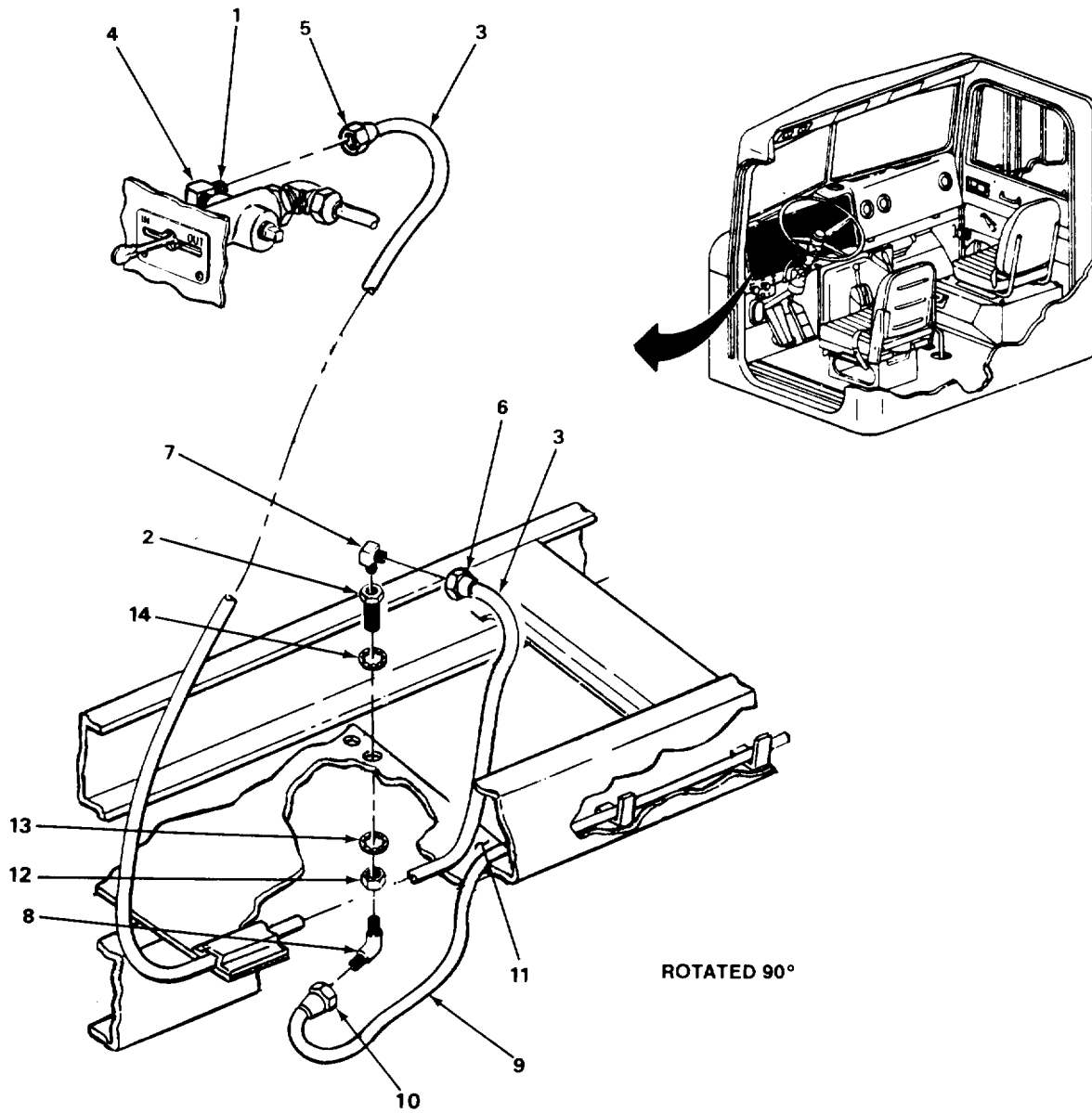
## POWER DIVIDER HOSES, TUBES, AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
<u>CAUTION</u>		
Use care when working behind instrument panel to prevent breaking or disconnecting wires. NOTE		
For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).		
1	Power divider control valve (1) to cab floor adapter (2)	Tube (3) Tag.
2	Elbow (4)	Line nut (5) Using 9/16-inch open-end wrench, unscrew, and take off.
3	Power divider control valve (1)	Elbow (4) Using 9/16-inch open-end wrench, unscrew, and take off.
4	Cab floor adapter (2)	Line nut (6), tube (3), and elbow (7) a Using 9/16-inch open-end wrench, unscrew, and take off. b Take out tube.
5	Elbow (8)	Tube (9) Tag.
6		Line nut (10) Using 9/16-inch open-end wrench, unscrew, and take off.
7	Cab floor adapter (2)	Elbow (8) Using 9/16-inch open-end wrench, unscrew, and take off.
8	Cab floor (11)	Nut (12), washer (13), cab floor adapter (2), and lockwasher (14) a Using 1-inch open-end wrench, unscrew, and take off. b Get rid of lockwasher.

Change 1 2-946.2

POWER DIVIDER HOSES, TUBES, AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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TA702132

Change 1 2-946.3

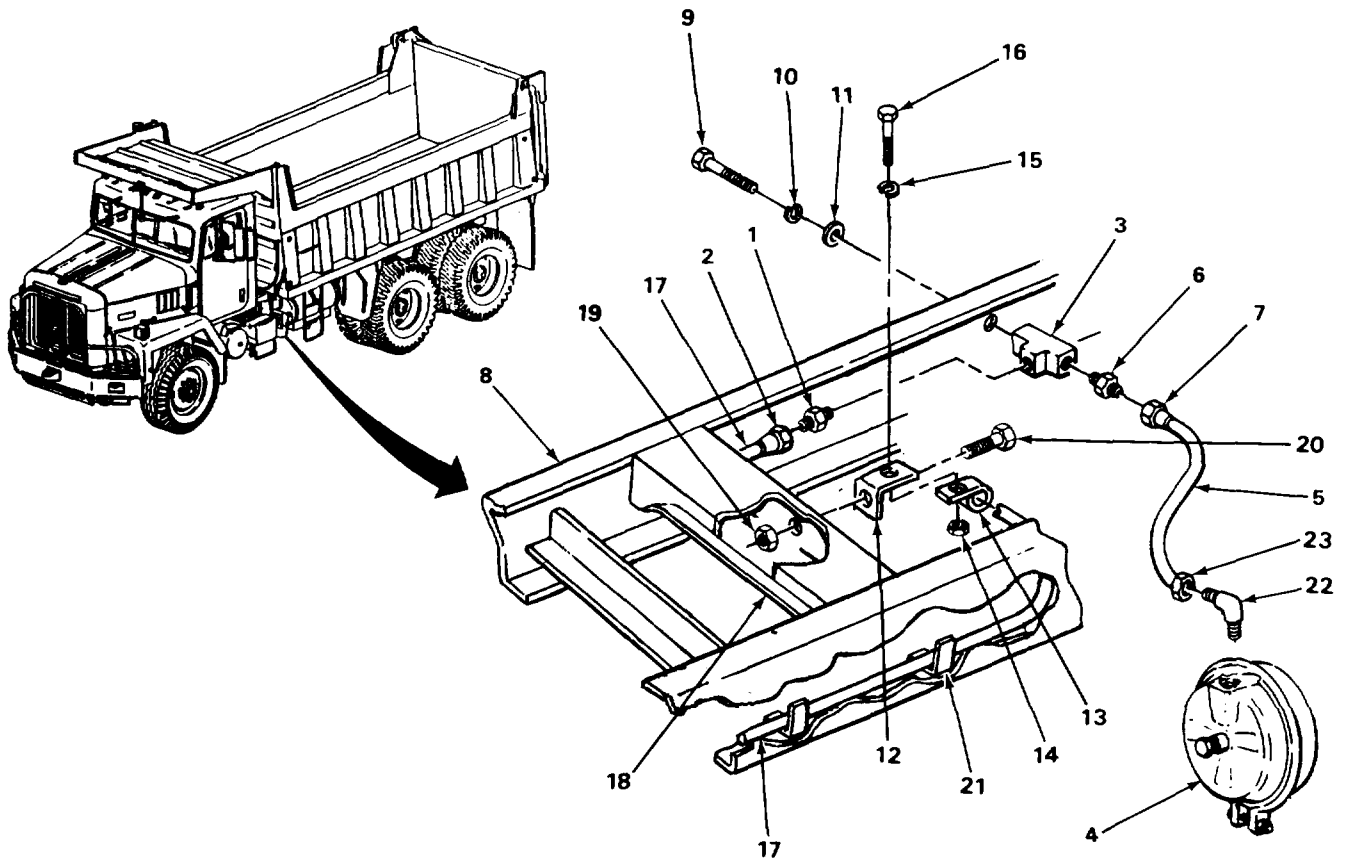
## POWER DIVIDER HOSES, TUBES, AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS	
REMOVAL - CONTINUED			
9	Adapter (1)	Line nut (2)	Using 9/16-inch open-end wrench, unscrew, and take off.
10	Drop elbow (3)	Adapter (1)	Using 9/16-inch open-end wrench, unscrew, and take off.
11	Drop elbow (3) to power divider (4)	Hose (5)	Tag.
12	Adapter (6)	Line nut (7)	Using 9/16-inch open-end wrench, unscrew, and take off.
13	Drop elbow (3)	Adapter (6)	Using 9/16-inch open-end wrench, unscrew, and take off.
14	Frame (8)	Screw (9), lockwasher (10), and washer (11)	a Using 7/16-inch box-end wrench, unscrew, and take off. b. Get rid of lockwasher.
15	Drop elbow (3)	Take off.	
16	Two extension clips wrenches, (12)	Two clamps (13), nuts (14), lockwashers (15), and screws (16)	a Using two 7/16-inch box-end unscrew, and take off. b Get rid of lockwashers.
17	Tube (17)	Two clamps (13)	Take off.
18	Frame crossmember (18)	Two extension clips (12), nuts (19), and screws (20)	Using two 3/4-inch box-end wrenches, unscrew, take off.
19	Four clamps (21)	Tube (17)	Take off.
20	Elbow (22)	Line nut (23)	Using 9/16-inch open-end wrench, unscrew, and takeoff.
21	Hose (5)	Take off.	
22	Power divider (4)	Elbow (22)	Using 9/16-inch open-end wrench, unscrew, and take off.

Change 1 2-946.4

POWER DIVIDER HOSES, TUBES, AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------



INSPECTION/REPLACEMENT

NOTE

Replace all damaged or defective parts go to General Maintenance Instructions (page 2-424).

For more information on how to inspect parts,

- 23
- 24
- 25

- Hose (5) and tube (17)
- All threaded parts
- All metal parts

- Look for cracks, breaks, and wear.
- Look for damaged threads or rounded heads.
- Look for cracks and breaks.

TA702133

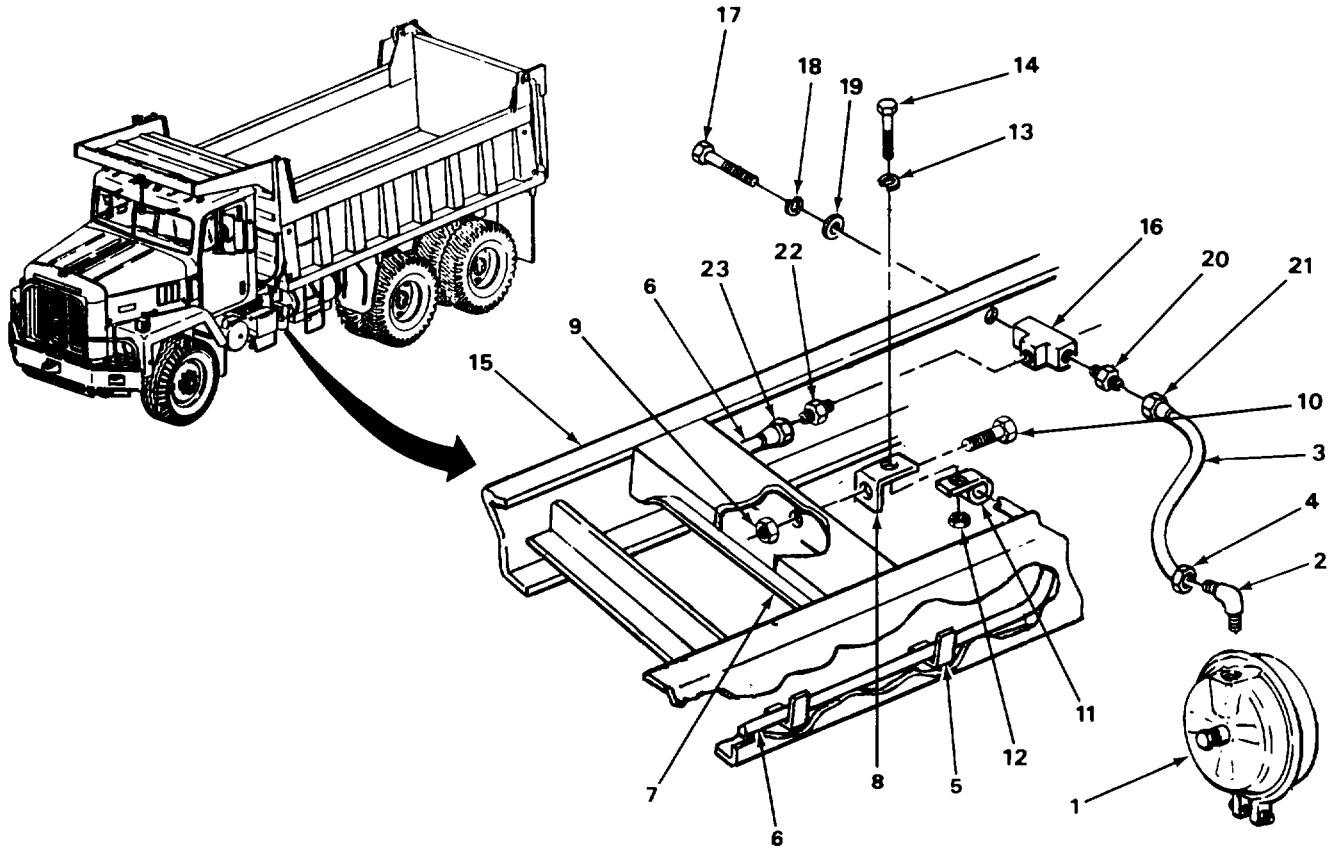
Change 1 2-946.5

## POWER DIVIDER HOSES, TUBES, AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS	
INSTALLATION			
26	Power divider (1)	Elbow (2)	Screw on and tighten using 9/16-inch open-end wrench.
27	Elbow (2)	Hose (3)	Put in place.
28		Line nut (4)	Screw on and tighten using 9/16-inch open-end wrench.
29	Four clamps (5)	Tube (6)	Put on.
30	Frame crossmember (7)	Two extension clips (8), nuts (9), and screws (10)	Screw on and tighten using two 3/4-inch box-end wrenches.
31	Tube (6)	Two clamps (11)	Put on.
32	Two extension clips (8)	Two clamps (11), nuts (12), new lockwashers (13), and screws (14)	Screw on and tighten using two 7/16-inch box-end wrenches.
33	Frame (15)	Drop elbow (16)	Put in place.
34		Screw (17), new lockwasher (18), and washer (19)	Screw on and tighten using 7/16-inch box-end wrench.
35	Drop elbow (16)	Adapter (20)	Screw on and tighten using 9/16-inch open-end wrench.
36	Adapter (20)	Line nut (21)	a Screw on and tighten using 9/16-inch open-end wrench. b Get rid of tags.
37	Drop elbow (16)	Adapter (22)	Screw on and tighten using 9/16-inch open-end wrench.
38	Adapter (22)	Line nut (23)	Screw on and tighten using 9/16-inch open-end wrench.

POWER DIVIDER HOSES, TUBES, AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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TA702134

Change 1 2-946.7

## POWER DIVIDER HOSES, TUBES, AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
39 Cab floor (1)	Nut (2), washer (3), cab floor adapter (4), and new lockwasher (5)	Screw on and tighten using 1-inch open-end wrench.
40 Cab floor adapter (4)	Elbow (6)	Screw on and tighten using 9/16-inch open-end wrench.
41 Elbow (6)	Line nut (7) and tube (8)	Screw on and tighten using 9/16-inch open-end wrench.
42 Cab floor adapter (4)	Line nut (9), tube (10), and elbow (11)	a Put tube in place. b Screw on and tighten using 9/16-inch open-end wrench.
43 Power divider control valve (12)	Elbow (13) wrench.	Screw on and tighten using 9/16-inch open-end wrench.
44 Elbow (13)	Line nut (14)	a Screw on and tighten using 9/16-inch open-end wrench. b Get rid of tags.

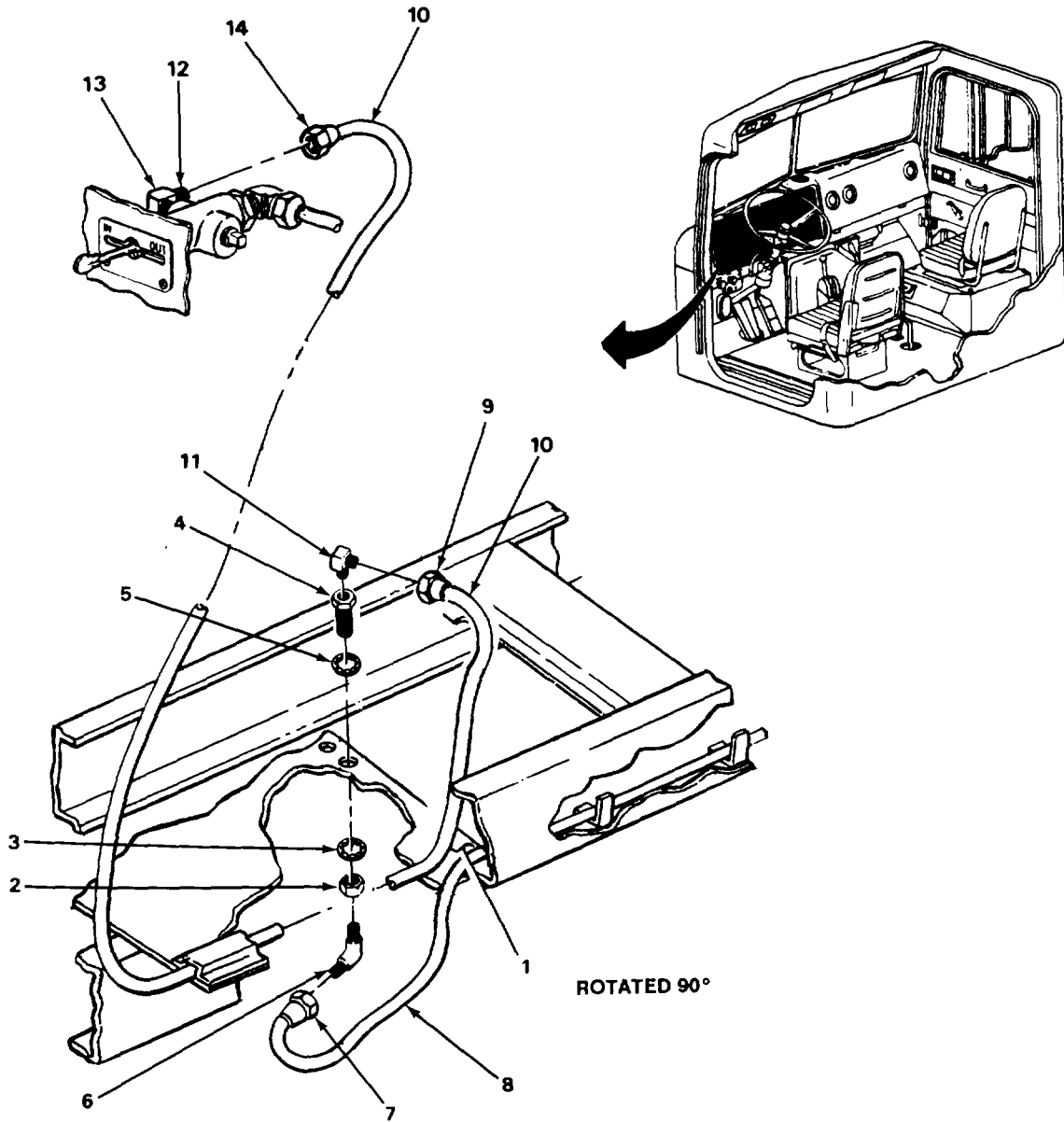
**NOTE**

## FOLLOW-ON MAINTENANCE:

- 1 Close upper center instrument panel (page 2-439).
- 2 Close lower center instrument panel (page 2-438).

POWER DIVIDER HOSES, TUBES, AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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TASK ENDS HERE

TA702135

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Section XIV. BRAKE SYSTEM MAINTENANCE

	Page		Page
Airbrake Cylinder Control Valve .....	2-1034.1	Front Brakes .....	2-947
Airbrake System Draining.....	2-1034	Front Brake Limiting and Quick Release Valve .....	2-1084.1
Air Compressor Governor to Air Dryer Lines and Fittings.....	2-1040	Front Brake Limiting and Quick Release Valve to Brake Treadle Valve Hose.....	2-1084
Air Compressor Governor to Wet Air Reservoir Lines and Fittings.....	2-1046	Front Brake Limiting Control Valve Hoses and Fittings .....	2-1159
Air Compressor to Air Dryer Hose and Lines.....	2-1035	Front Rear Quick Release Valve .....	2-1088.1
Air Dryer .....	2-1002	Front Rear Quick Release Valve to Parking Airbrake Chamber Hoses .....	2-1088.3
Air Dryer Cartridge.....	2-1014	Front Rear T-Fitting.....	2-1093.0
Alcohol Evaporator .....	2-995	Front Rear T-Fitting to Service Airbrake Chamber Hoses.....	2-1093.1
Brake Pedal.....	2-1021	Front Relay Valve.....	2-1098.1
Brake Treadle Valve to Double Check Valve T-Fitting Hose.....	2-1062	Front Relay Valve T-Fitting to Rear Relay Valve Hose.....	2-1105
Brake Treadle Valve and Right Manifold Hoses.....	2-1052	Front Relay Valve to Front Rear T-Fitting Hose.....	2-1099
Brake Treadle Valve to T-Mani- fold Hoses.....	2-1067	Front Relay Valve to Rear Relay Valve Hose.....	2-1101
Cab Floor Through Connector to Double Check Valve Hose.....	2-1108	Left Front Wheel to Front Brake Limiting and Quick Release Valve Hoses .....	2-1115
Chassis 90-Degree Elbow .....	2-1151.0	Parking Brake Control Valve.....	2-1024.1
Chassis T-Fitting .....	2-1151.2	Parking Brake Lines .....	2-1025
Chassis T-Fitting to Chassis 90-Degree Elbow Hose .....	2-1151.3	Rear Brakes .....	2-955
Chassis T-Fitting to Double Check Valve Hose .....	2-1143	Rear Rear Quick Release Valve .....	2-1130.1
Chassis T-Fitting to Front Rear Quick Release Valve Hose.....	2-1146	Rear Rear Quick Release Valve to Parking Airbrake Chamber Hoses .....	2-1131
Chassis 90-Degree Elbow to Rear Rear Quick Release Valve Hose .....	2-1157	Rear Rear Quick Release Valve to Service Airbrake Chamber Hoses .....	2-1136
Double Check Valve .....	2-1148.1	Rear Relay Valve .....	2-1140.1
Double Check Valve T-Fitting to Front Relay Valve T-Fitting Hose .....	2-1149	Rear Relay Valve to Rear Rear Quick Release Valve Hose .....	2-1140.3
Double Check Valve to Double Check Valve T-Fitting Hose .....	2-1071	Right Front Wheel to Front Brake Limiting and Quick Release Valve Hoses .....	2-1122
Dry Air Reservoir .....	2-975	T-Manifold .....	2-1077.0
Dry Air Reservoir to Front Relay Valve Hose .....	2-1080	Wet Air Reservoir .....	2-986
Dry Air Reservoir to T-Manifold Hoses .....	2-1074	Wet Air Reservoir to Air Dryer Hose.....	2-1154
Dry Air Reservoir to Wet Air Reservoir Hoses.....	2-1077.2		

**FRONT BRAKES**

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This task covers:

- |                                       |                             |
|---------------------------------------|-----------------------------|
| a Removal (page 2-948)                | d Installation (page 2-952) |
| b Cleaning (page 2-950)               | e Adjustment (page 2-954)   |
| c Inspection/Replacement (page 2-950) |                             |
- 

**INITIAL SETUP**

**Tools**

- Brush, cleaning
- Gage, depth, tire tread
- Gloves, safety
- Goggles, safety
- Mask, filter
- Pliers, repair, brake
- Screwdriver, flat-tip, 3/8-inch
- Tool, adjusting, brake
- Vacuum, industrial-type

**Personnel Required**

One

**Equipment Condition**

Front wheel removed (page 2-1168).  
 Front hub and brakedrum assembly removed (page 2-1175).

**Materials/Parts**

- Grease, GAA (item 10, appendix C)
- Rags, wiping (item 15, appendix C)
- Solvent, drycleaning (item 19, appendix C)

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LOCATION	ITEM	ACTION REMARKS
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**REMOVAL**

**WARNING**

Parts of the service brake assembly will be coated with asbestos dust. Breathing this dust may be hazardous to your health. Use a filter mask approved for use against asbestos dust. Never use compressed air or dry brush to clean these assemblies. Dust shall be removed using an industrial-type vacuum cleaner with a high-efficiency filter system.

**NOTE**

Steps given are typical for right side and left side front brakes.

1 Dust shield (1)	Two brakeshoes (2) and brake spider (3)	Using industrial type vacuum, clean asbestos dust and dirt.
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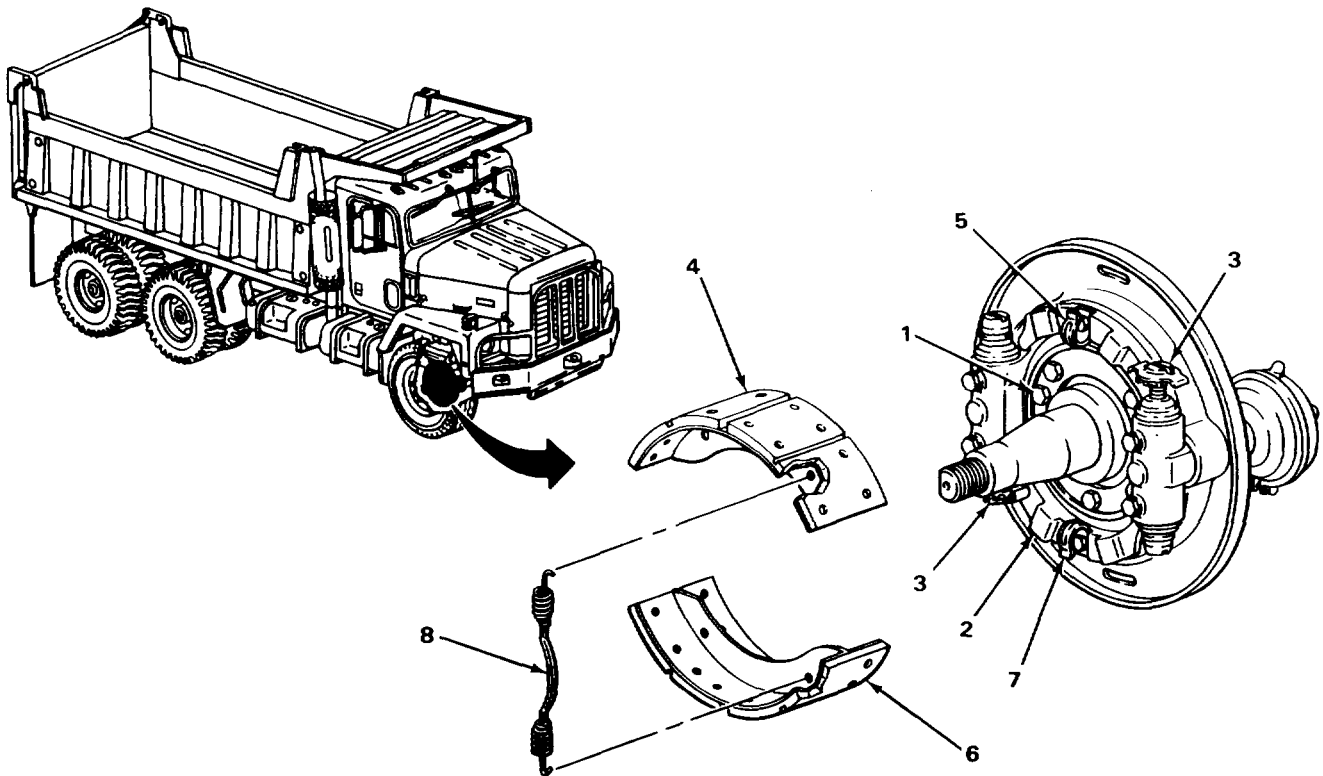
FRONT BRAKES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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**WARNING**

Brake springs under tension can injure or kill Use extreme care to prevent injury Safety goggles must be worn.

2	Two brakeshoes (2)	Two brake springs (4)	Using brake repair pliers, take off.
3	Brake spider (3)	Two brakeshoes (2)	Take off.



TA244299

**FRONT BRAKES - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (590C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

Parts of the service brake assembly will be coated with asbestos dust. Breathing this dust may be hazardous to your health. Use a filter mask approved for use against asbestos dust. Never use compressed air or dry brush to clean these assemblies. Dust shall be removed using an industrial-type vacuum cleaner with a high-efficiency filter system.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

4	Dust shield (1) and brake spider (2)	<ul style="list-style-type: none"> <li>a Clean using drycleaning solvent and cleaning brush.</li> <li>b Wipe clean using wiping rag.</li> </ul>
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INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

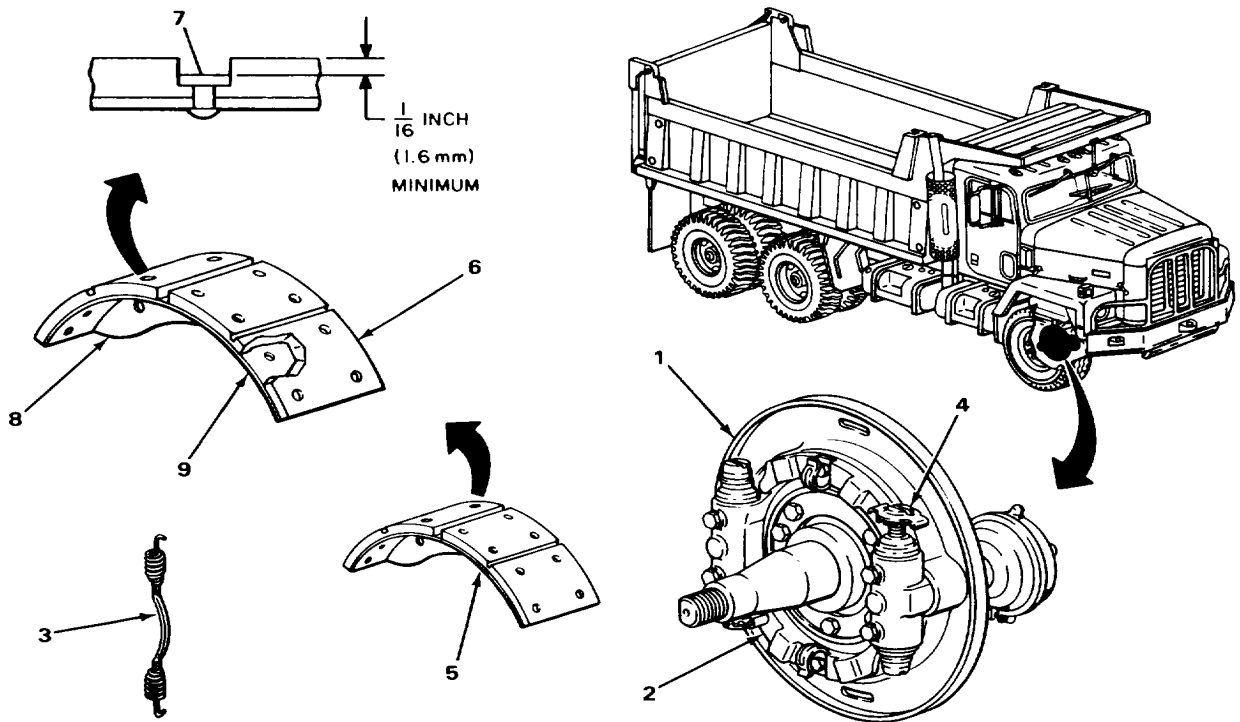
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

Steps given are typical for both brakeshoes.

5	Two brake springs (3)	<ul style="list-style-type: none"> <li>a Look for cracked, broken, or stretched coils.</li> <li>b Look for broken or distorted ends.</li> </ul>
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FRONT BRAKES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
6	Two adjusting screw rings (4)	Look for missing or broken teeth or binding. <b>If damaged, notify higher category of maintenance.</b>
7	Two brakeshoes (5)	<ul style="list-style-type: none"> <li>a Look for oil soaked, cracked, burned, or chipped lining (6).</li> <li>b Using tire tread depth gage, check that lining (6) thickness is more than 1/16-inch (1.6 mm) above rivets (7).</li> <li>c Look for loose, broken, or missing rivets (7).</li> <li>d Look for twisted or cracked web (8).</li> <li>e Look for twisted or cracked table (9).</li> <li>f Look for cracked welds between web (8) and table (9).</li> </ul>



TA244300

**FRONT BRAKES - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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INSTALLATION

**NOTE**

Steps given are typical for right and left front brakes.

8	Brake spider (1)	Four brakeshoe rest pads (2)	Coat with thin layer of grease. Wipe off excess.
9		Two adjusting screw rings (3)	Turn until fully closed. Do not tighten.

**CAUTION**

Make sure hands are free of grease when handling brakeshoes to prevent grease from getting on linings.

**NOTE**

Position brakeshoes on brake spider with DRUM ROTATION stamping facing out and arrows facing forward direction of wheels.

10	Brake spider (1)	Upper brakeshoe (4)	Position behind upper holddown clip (5) and into slots of both adjusting screw rings (3).
11		Lower brakeshoe (6)	Position behind lower holddown clip (7) and up into slots of both adjusting screw rings (3).

**WARNING**

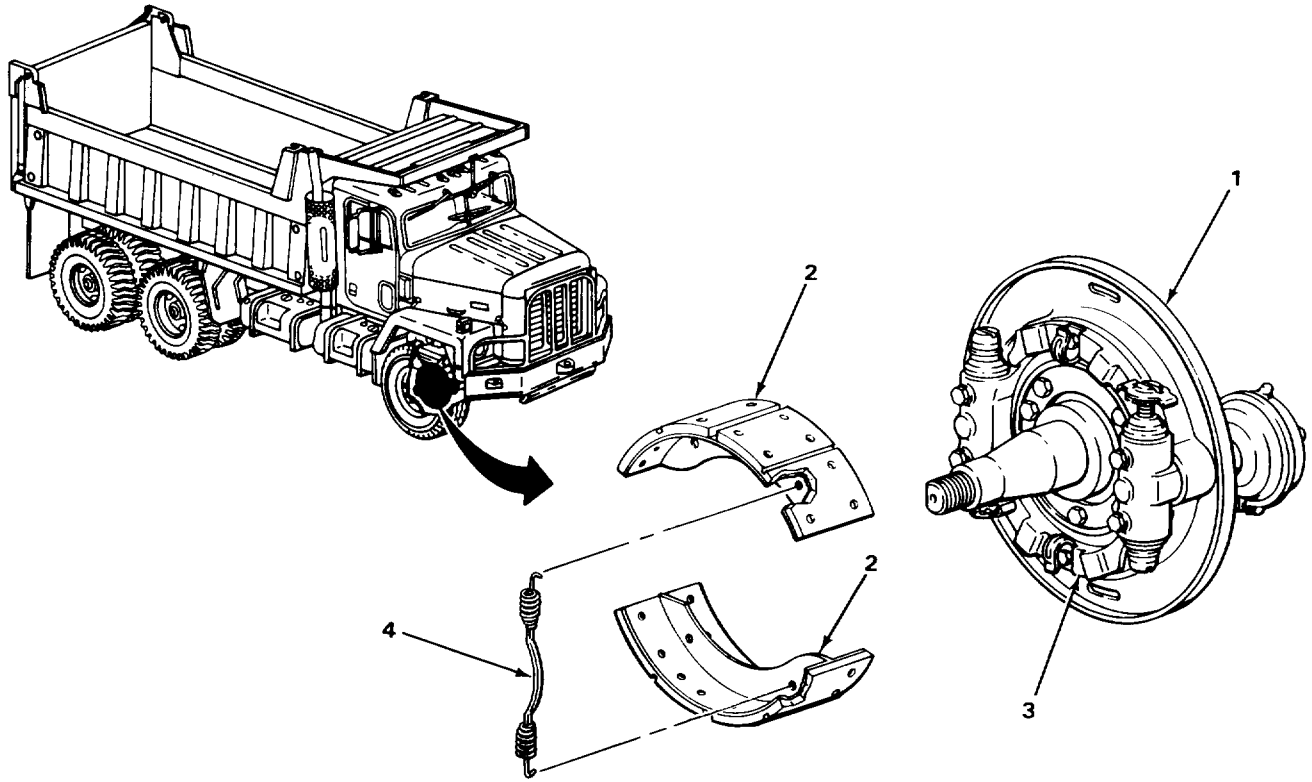
Brake springs under tension can injure or kill Use extreme care to prevent injury Safety goggles must be worn.

**NOTE**

Hold upper and lower brakeshoes together when performing next step.

FRONT BRAKES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
12 Upper brakeshoe (4) and lower brake- shoe (6)	Two brake springs (8)	a Hook into holes in upper brakeshoe. b Connect to holes in lower brakeshoe using brake repair pliers.



TA244301

FRONT BRAKES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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INSTALLATION - CONTINUED

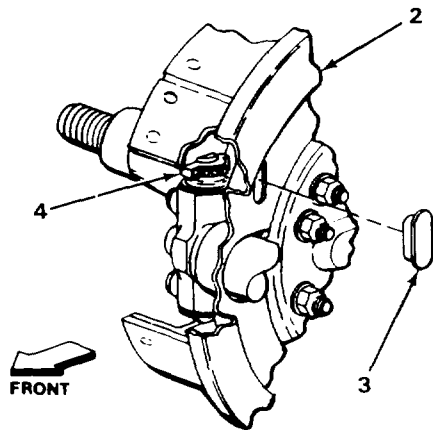
13	Front hub and brake-drum assembly (1)	Install (page 2-1175).
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ADJUSTMENT

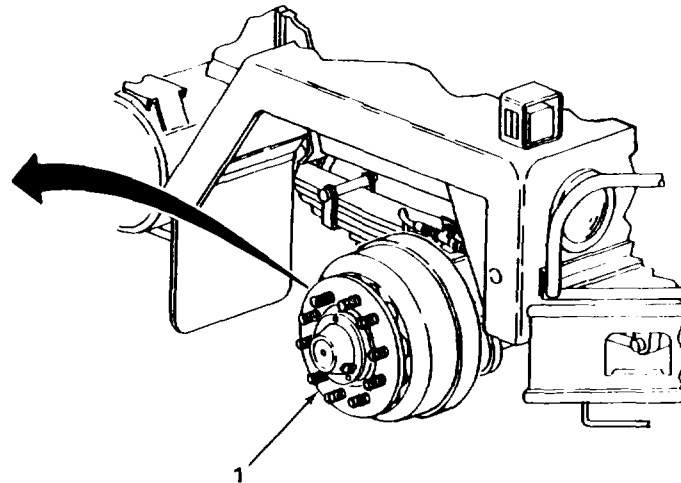
**NOTE**

Steps given are typical for adjusting upper and lower brakeshoes on right and left front wheels.

14	Dust shield (2)	Cover (3)	Pry out using 3/8-inch flat-tip screwdriver.
15	Adjusting screw ring (4)		While slowly turning front hub, adjust each adjusting screw ring until a heavy drag is felt, then back off each adjusting screw ring to allow a slight drag using brake adjusting tool.
16		Cover (3)	Push into place.



TYPICAL 4 PLACES



**NOTE**

FOLLOW-ON MAINTENANCE: Install front wheel (page 2-1168).

TA244302  
TASK ENDS HERE



**REAR BRAKES**


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This task covers:

- a. Removal (page 2-956)
  - b. Cleaning (page 2-961)
  - c. Inspection/Replacement (page 2-963)
  - d. Installation (page 2-965)
  - e. Adjustment (page 2-973)
- 

**INITIAL SETUP****Tools**

Brush, cleaning  
 Brush, wire  
 Gage, depth, tire tread  
 Gloves, safety  
 Goggles, safety  
 Hammer, ball-peen, 2-pound  
 Hammer, plastic-face  
 Handle, ratchet, 1/2-inch drive  
 Mask, filter  
 Pliers, brake repair  
 Pliers, retaining ring  
 Pliers, roundnose, 8-inch  
 Press, anchor pin  
 Screwdriver, flat-tip, 1/8-inch  
 Socket, 3/4-inch, 112-inch drive  
 Socket, 15/16-inch, 1/2-inch drive  
 Vacuum, industrial-type  
 Wrench, box-end, 9/16-inch  
 Wrench, box-end, 15/16-inch  
 Wrench, open-end, 15/16-inch

**Materials/Parts**

Compound, antiseizing (item 4, appendix C)  
 Cotter pin, clevis  
 Grease, GAA (item 10, appendix C)

**Materials/Parts - Continued**

Locknut, airbrake chamber (two required)  
 Locknut, brake spider (eight required)  
 Lockwasher, brake spider (eight required)  
 Lockwasher, camshaft bracket (four required)  
 Packing, anchor pin (four required)  
 Packing, brake camshaft  
 Rags, wiping (item 15, appendix C)  
 Ring, slack adjuster (one required)  
 Ring, anchor pin (four required)  
 Screw, dust shield (six required)  
 Solvent, drycleaning (item 19, appendix C)

**Personnel Required**

Two

**Equipment Condition**

Rear hub and brakedrum assembly removed (page 2-1188).

**References**

TM 5-3805-254-10 (Operator's Manual)

REAR BRAKES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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REMOVAL

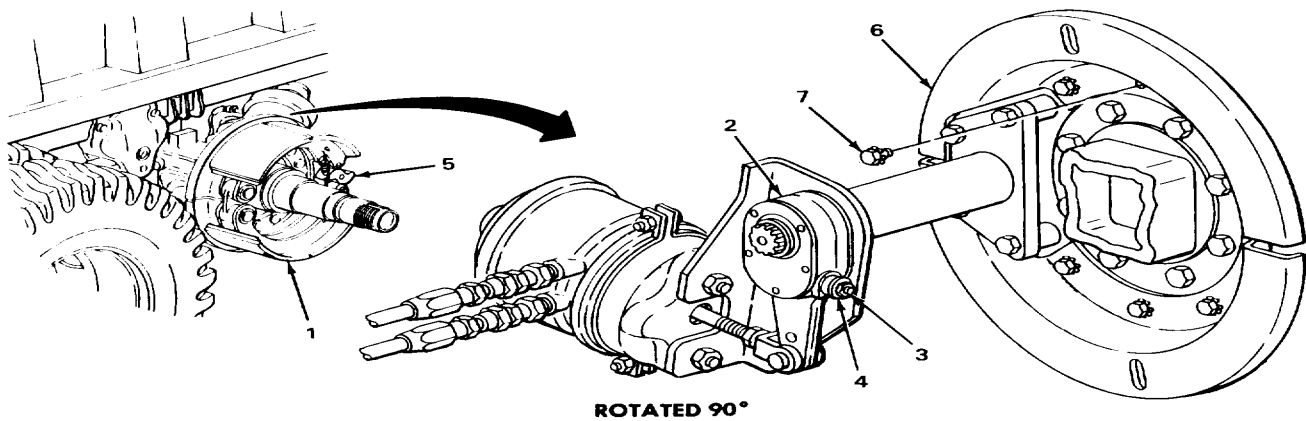
**WARNING**

Parts of the service brake assembly will be coated with asbestos dust. Breathing this dust may be hazardous to your health. Use a filter mask approved for use against asbestos dust. Never use compressed air or dry brush to clean these assemblies. Dust shall be removed using an industrial-type vacuum cleaner with a high-efficiency filter system.

**NOTE**

Steps given are typical for right and left front rear and rear rear brakes.

1	Brake assembly (1)	Using industrial-type vacuum, clean off asbestos dust.
2	Slack adjuster (2)	Adjusting screw (3) and locking sleeve (4)
3	Upper dust shield (6)	Three screws (7)
		screw and take out.
4	Upper dust shield (6)	a Using 9/16-inch box-end wrench, un-
		b Get rid of.
		Take off.



TA244657

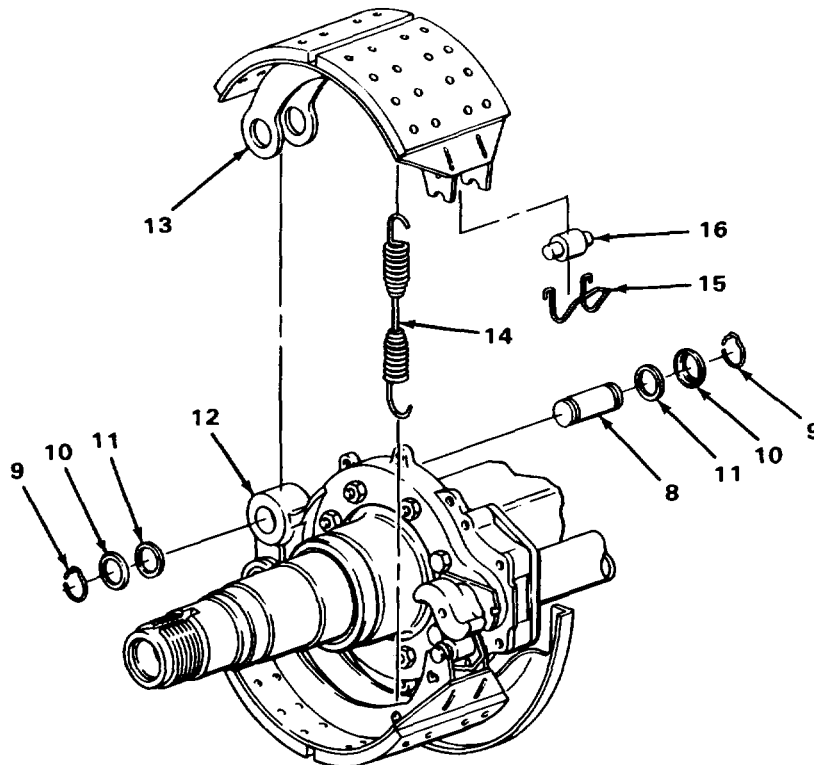
REAR BRAKES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
5 Upper anchor pin (8)	Two rings (9), two packing retainers (10), and two packings (11)	a Using 1/8-inch flat-tip screwdriver, pry off rings. b Take off packing retainers and packings. c Get rid of rings and packings.
6 Brake spider (12)	Upper anchor pin (8)	Using anchor pin press, press out.

**WARNING**

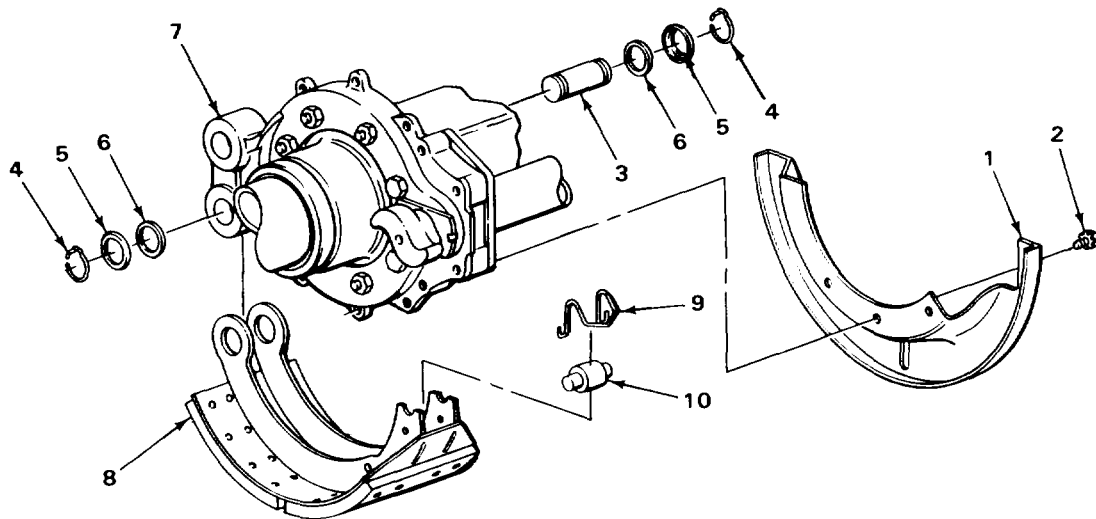
Brake springs under tension can injure or kill Use extreme care to prevent injury Safety goggles must be worn.

7	Upper brakeshoe (13) and brake spring (14)	a Lift upper brakeshoe from anchor pin side and twist forward to free brake spring. b Take off upper brakeshoe and brake spring.
8	Upper brakeshoe (13)	Clip (15) and brake roller (16) Take off.



REAR BRAKES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
9 Lower dust shield (1)	Three screws (2)	a Using 9/16-inch box-end wrench, unscrew and take out. b Get rid of.
10	Lower dust shield (1)	Take off.
11 Lower anchor pin (3)	Two rings (4), two packing retainers (5), and two packings (6)	a Using 1/8-inch flat-tip screwdriver, pry off rings. b Take off packing retainers and packings. c Get rid of rings and packings.
12 Brake spider (7)	Lower anchor pin (3) and lower brake-shoe (8)	a Using anchor pin press, press out anchor pin. b Take off lower brakeshoe.
13 Lower brakeshoe (8)	Clip (9) and brake roller (10)	Take off.



TA244304

REAR BRAKES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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**NOTE**

If brakeshoes only are being replaced, go to cleaning (page 2-961).

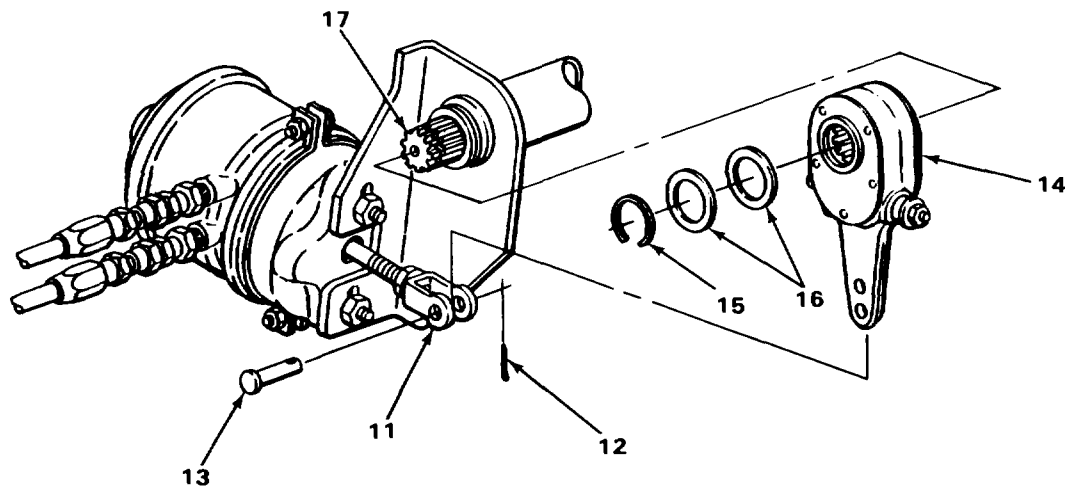
If slack adjuster is being replaced, perform steps 14, 15, and 16.

If brake camshaft is being replaced, perform steps 14 thru 19.

If camshaft bracket is being replaced, perform steps 14 thru 23.

If brake spider is being replaced, perform steps 14 thru 26.

14	Clevis (11)	Cotter pin (12) and yoke pin (13)	<ul style="list-style-type: none"> <li>a Using 8-inch roundnose pliers, take out cotter pin.</li> <li>b Get rid of cotter pin.</li> <li>c Take out yoke pin.</li> </ul>
15	Slack adjuster (14)	Ring (15) and two flat washers (16)	<ul style="list-style-type: none"> <li>a Using retaining ring pliers, take off ring.</li> <li>b Get rid of ring.</li> <li>c Take off flat washers.</li> </ul>
16	Brake camshaft (17)	Slack adjuster (14)	Using 2-pound ball-peen hammer, tap gently and pull off.



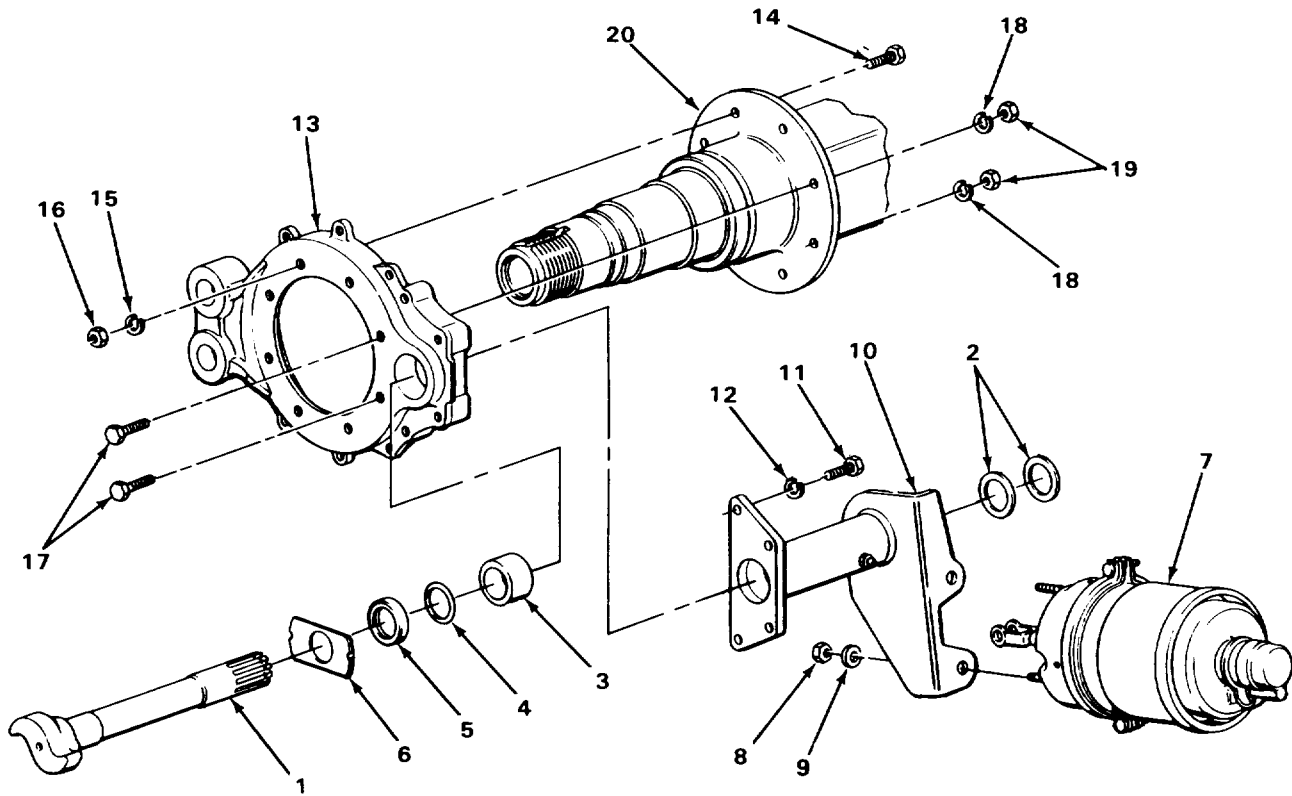
TA244305

## REAR BRAKES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
17 Brake camshaft (1)	Two flat washers (2)	Take off.
18	Brake camshaft (1)	Pull out.
19	Sleeve bushing (3), packing (4), packing retainer (5), and plate (6)	a Slide off. b Get rid of packing.
20 Airbrake chamber (7)	Two locknuts (8) and two flat washers (9)	a Using 15/16-inch box-end wrench, unscrew and take off. b Get rid of locknuts.
<b><u>CAUTION</u></b>		
Do not allow airbrake chamber to hang by airbrake hoses Damage to airbrake hoses could result.		
21 Camshaft bracket (10)	Airbrake chamber (7)	Lift off and set aside.
22	Four screws (11) and four lockwashers (12)	a Using 3/4-inch 1/2-inch drive socket and ratchet handle, unscrew and take out. b Get rid of lockwashers.
23	Camshaft bracket (10)	Take off.
24 Brake spider (13)	Six screws (14), six lockwashers (15), and six locknuts (16)	a Using 15/16-inch, 1/2-inch drive socket, ratchet handle, and 15/16-inch box-end wrench, unscrew and take off. b Get rid of lockwashers and locknuts.
25	Two screws (17), two lockwashers (18), and two locknuts (19)	a Using 15/16-inch, 1/2-inch drive socket, ratchet handle, and 15/16-inch box-end wrench, unscrew and take off. b Get rid of lockwashers and locknuts.

REAR BRAKES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
26 Rear axle housing (20)	Brake spider (13)	Take off.



CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, TA244306 and get medical aid. If contact with eyes is made, flush your eyes with water and get 2-961 medical aid immediately.

TA244306

## REAR BRAKES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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## CLEANING - CONTINUED

**WARNING**

Parts of the service brake assembly will be coated with asbestos dust. Breathing this dust may be hazardous to your health. Use a filter mask approved for use against asbestos dust. Never use compressed air or dry brush to clean these assemblies. Dust shall be removed using an industrial-type vacuum cleaner with a high-efficiency filter system.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

27	Upper dust shield (1), lower dust shield (2), and brake spider (3)	a Clean using drycleaning solvent and cleaning brush. b Wipe clean using wiping rag.
28	Brake camshaft (4) cleaning brush.	a Clean using drycleaning solvent and b Wipe clean using wiping rag.

**WARNING**

Safety goggles must be worn when using wire brush. Flying rust and metal particles can cause eye injury.

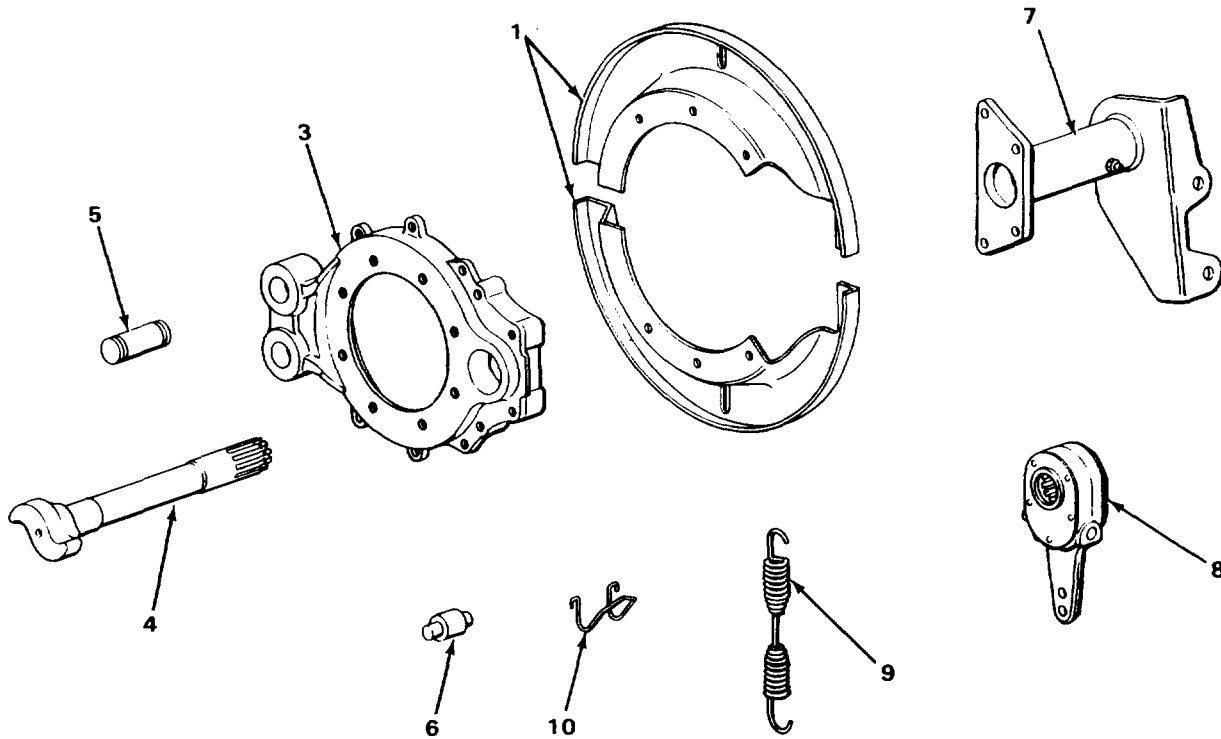
29	Upper and lower anchor pins (5) and brake rollers (6) and wiping rag.	a Clean off rust and scale using wire brush. b Wipe clean using drycleaning solvent
30	Camshaft bracket (7)	a Clean inside and outside using dry-cleaning solvent and cleaning brush. b Wipe clean using wiping rag.
31	Slack adjuster (8)	a Clean spline and outside surfaces using drycleaning solvent and cleaning brush. b Wipe clean using wiping rag.



REAR BRAKES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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32	Brake spring (9), clip (10), and all screws	Clean using drycleaning solvent and wiping rag.
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INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

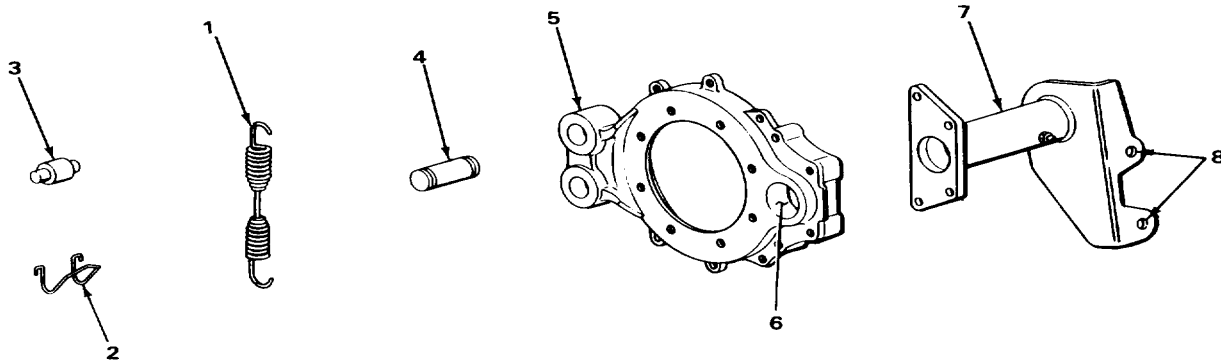
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

Steps given are typical for both brakeshoes and their components.

TA244307

REAR BRAKES - CONTINUED

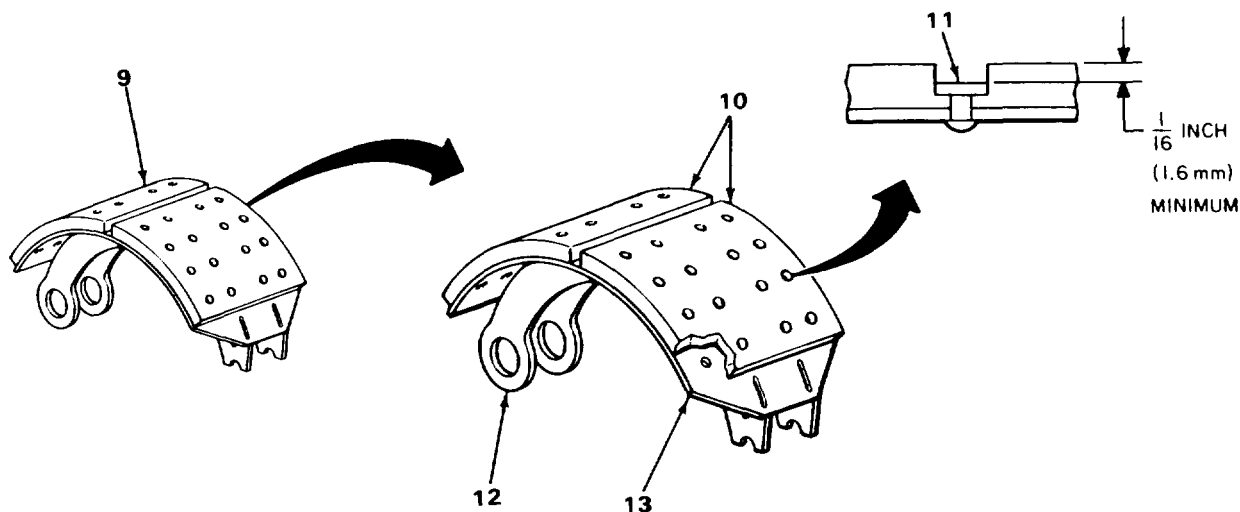
LOCATION	ITEM	ACTION REMARKS
INSPECTION/REPLACEMENT- CONTINUED		
32	Brake spring (1) and clip (2)	<ul style="list-style-type: none"> <li>a Look for cracked, broken, or stretched coils or bends.</li> <li>b Look for broken or distorted ends.</li> </ul>
33	Brake rollers (3)	Look for deep grooves or excessive wear.
34	Anchor pins (4)	<ul style="list-style-type: none"> <li>a Look for damaged retaining ring groove.</li> <li>b Look for excessive rust or deep grooves.</li> <li>c Look for chips, burrs, or gouges.</li> </ul>
35	Brake spider (5)	<ul style="list-style-type: none"> <li>a Look for cracks near anchor pinholes.</li> <li>b Look for scored, oversized, or distorted anchor pinholes.</li> <li>c Look for scored or loose sleeve bushing (6).</li> </ul> <p><b>If sleeve bushing is scored or loose, refer to higher category of maintenance.</b></p>
36	Camshaft bracket (7)	<ul style="list-style-type: none"> <li>a Look for cracked or broken welds.</li> <li>b Look for cracked or broken screw tabs (8).</li> </ul>
37	All threaded parts	Look for damaged threads or rounded heads.



TA244308

REAR BRAKES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
38.	Brakeshoe (9)	<ul style="list-style-type: none"> <li>a. Look for oil soaked, cracked, burned, or chipped lining (10).</li> <li>b. Using tire tread depth gage, check that lining (10) thickness is more than 1/16-inch (1.6 mm) above rivets (11).</li> <li>c. Look for loose, broken, or missing rivets (11).</li> <li>d. Look for twisted or cracked web (12).</li> <li>e. Look for twisted or cracked table (13).</li> <li>f. Look for cracked or broken welds between web (12) and table (13).</li> </ul>



INSTALLATION

**NOTE**

If brakeshoes only are being replaced, go to step 54.

If brake spider is being replaced, perform steps 39 thru 53.

If camshaft bracket is being replaced, perform steps 43 thru 53.

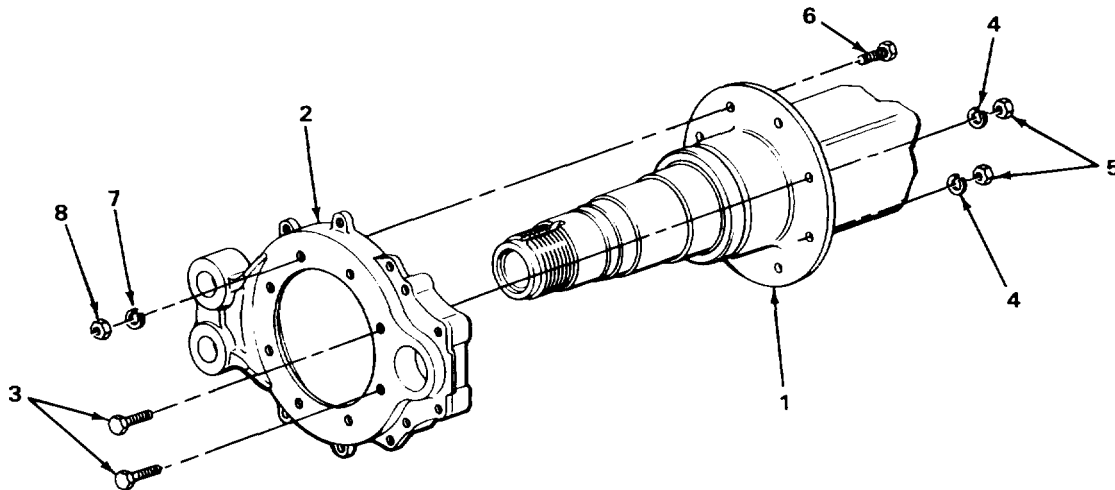
If brake camshaft is being replaced, perform steps 47 thru 53.TA244309

If slack adjuster is being replaced, perform steps 50 thru 53.

TA244309

REAR BRAKES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
39. Rear axle housing (1)	Brake spider (2)	Put in place and aline holes.
40. Brake spider (2)	Two screws (3), two new lockwashers (4), and two new locknuts (5)	Put in holes from front of brake spider. Do not tighten.
41.	Six screws (6), six new lockwashers (7), and six new locknuts (8)	Put in remaining six holes from rear of brake spider. Do not tighten.
42.	Two screws (3) and six screws (6)	Tighten on alternate sides using 15/16-inch, 1/2-inch drive socket, ratchet handle, and 15/16-inch box-end wrench.

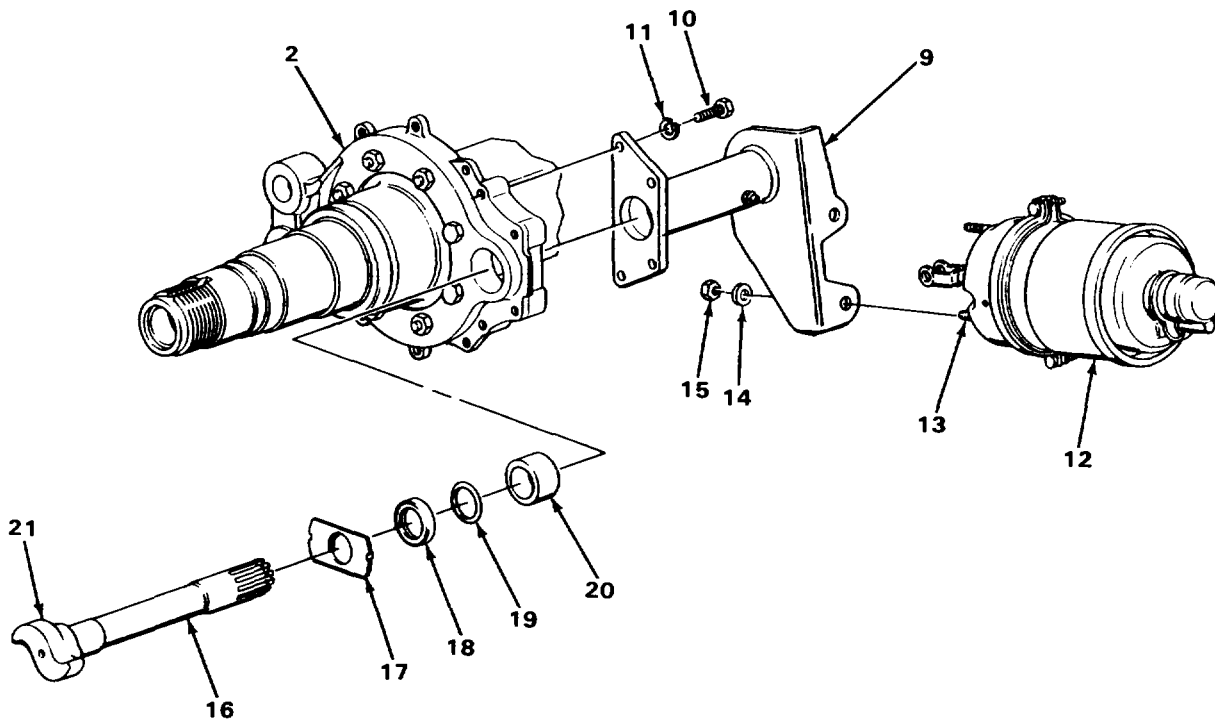


43. Brake spider (2)	Camshaft bracket (9)	Put in place and aline holes.
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TA24431 0

REAR BRAKES - CONTINUED

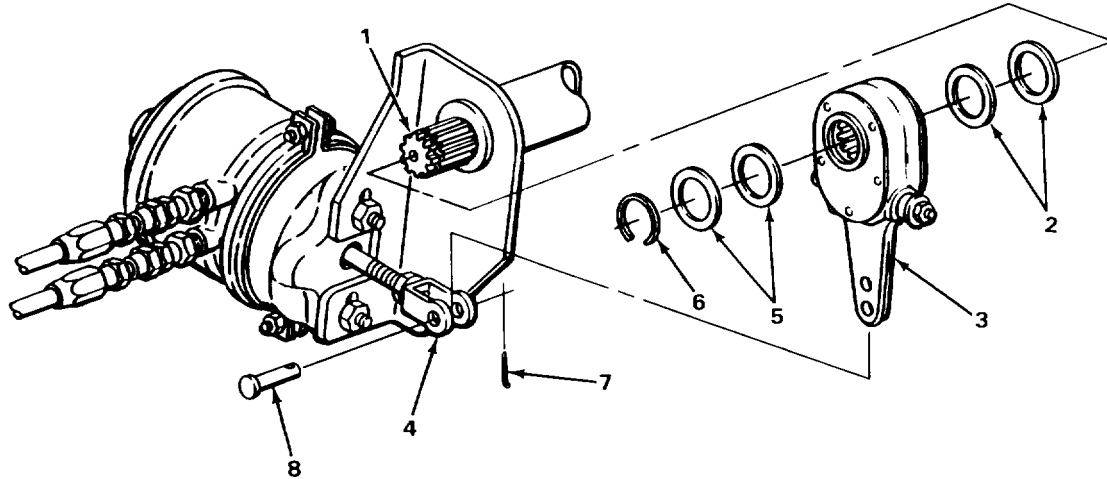
LOCATION	ITEM	ACTION REMARKS
44.	Four screws (10) and four new lockwashers (11)	Screw in and tighten using 3/4-inch, 112- inch drive socket and ratchet handle.
45. Camshaft bracket (9)	Airbrake chamber (12)	Aline two studs (13) with holes and push into place.
46. Two studs (13)	Two flat washers (14) and two new locknuts (15)	Screw on and tighten using 15116-inch box- end wrench.
47. Brake camshaft (16)	Plate (17), packing retainer (18), new	a. Put on. b. Coat shaft with GAA grease. packing (19), and sleeve bushing (20)
48. Camshaft bracket (9)	Brake camshaft (16)	Put in. <b>Place brake camshaft S-head (21) in horizontal position shown.</b>



TA244311

REAR BRAKES - CONTINUED

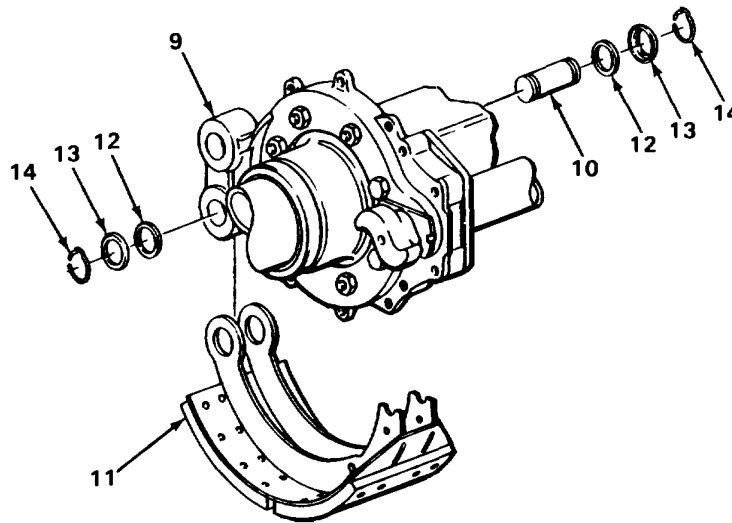
LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
49. Brake camshaft (1)	Two flat washers (2)	Put on.	
<b>NOTE</b>			
Make sure brake camshaft S-head is in horizontal position.			
50. Brake camshaft (1)	Slack adjuster (3)	a. Coat splines with antiseizing compound. b. Put on.	<b>Position lower hole as close as possible to clevis (4).</b>
51.	Two flat washers (5)	Put on.	
52.	New ring (6)	Put into groove using retaining ring pliers.	<b>Make sure entire ring is in groove.</b>
53. Slack adjuster (3)	Clevis (4), new cotter pin (7), and yoke pin (8)	a. Aline lower hole in slack adjuster with clevis. b. Put in yoke pin. c. Put cotter pin through yoke pin and bend ends enough to prevent falling out.	



TA244312

REAR BRAKES - CONTINUED

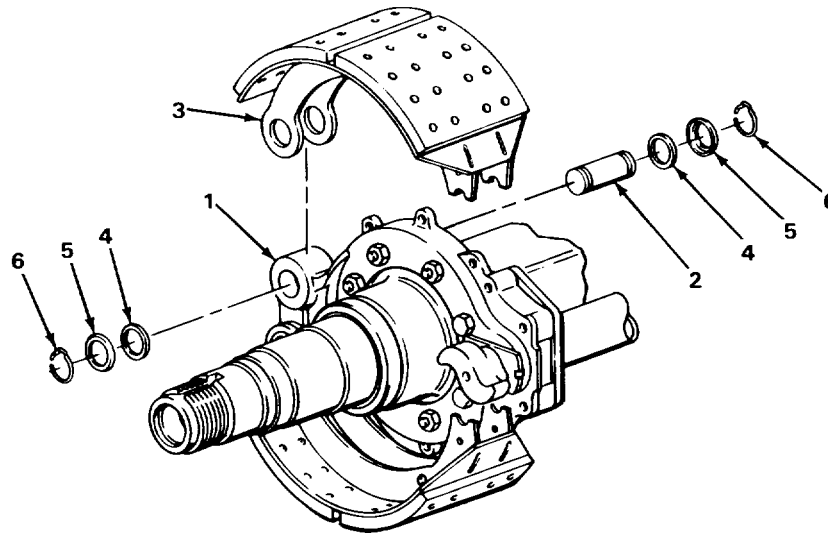
LOCATION	ITEM	ACTION REMARKS
54. Brake spider (9)	Lower anchor pin (10) and lower brakeshoe (11)	a. Coat lower anchor pin and brake spider bore with antiseizing compound. b. Place lower brakeshoe in position. c. Push lower anchor pin into place. <b>If necessary, tap in using plastic-face hammer.</b>
55. Lower anchor pin (10)	Two new packings (12) and two packing retainers (13)	Put on.
56.	Two new rings (14)	Put into groove. <b>Make sure entire ring is in groove.</b>



TA244313

REAR BRAKES - CONTINUED TM 5-3805-254-20-2

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
57. Brake spider (1)	Upper anchor pin (2) and upper brake-shoe (3)	a. Coat upper anchor pin and brake spider bore with antiseizing compound. b. Place upper brakeshoe in position. c. Push upper anchor pin into place. <b>If necessary, tap in using plastic-face hammer.</b>
58. Upper anchor pin (2)	Two new packings (4) and two packing retainers (5)	Put on.
59.	Two new rings (6)	Put in groove using retaining ring pliers. <b>Make sure rings are in grooves.</b>



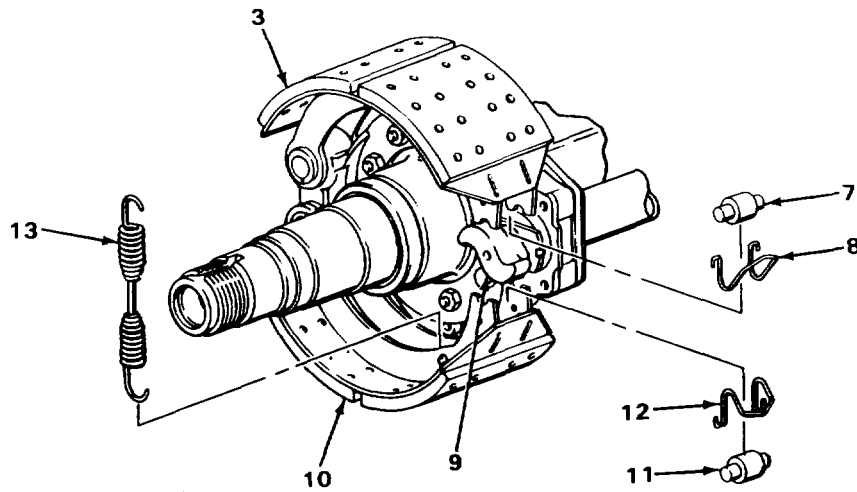
60. Upper brakeshoe (3)	Brake roller (7) and clip (8)	a. Coat brake roller and brake camshaft S-head (9) with a thin layer of GAA grease. b. Put brake roller in position. c. Position clip around brake roller and connect to upper brakeshoe.
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TA244314



REAR BRAKES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
61. Lower brakeshoe (10)	Brake roller (11)	a. Coat brake roller with a thin layer of GAA and clip (12) grease. b. Hold brake roller in place. c. Position clip around brake roller and connect to lower brakeshoe.
62. Upper brakeshoe (3) and lower brakeshoe (10)	Brake spring (13)	Hook onto upper brakeshoe and connect to lower brakeshoe using brake repair pliers.

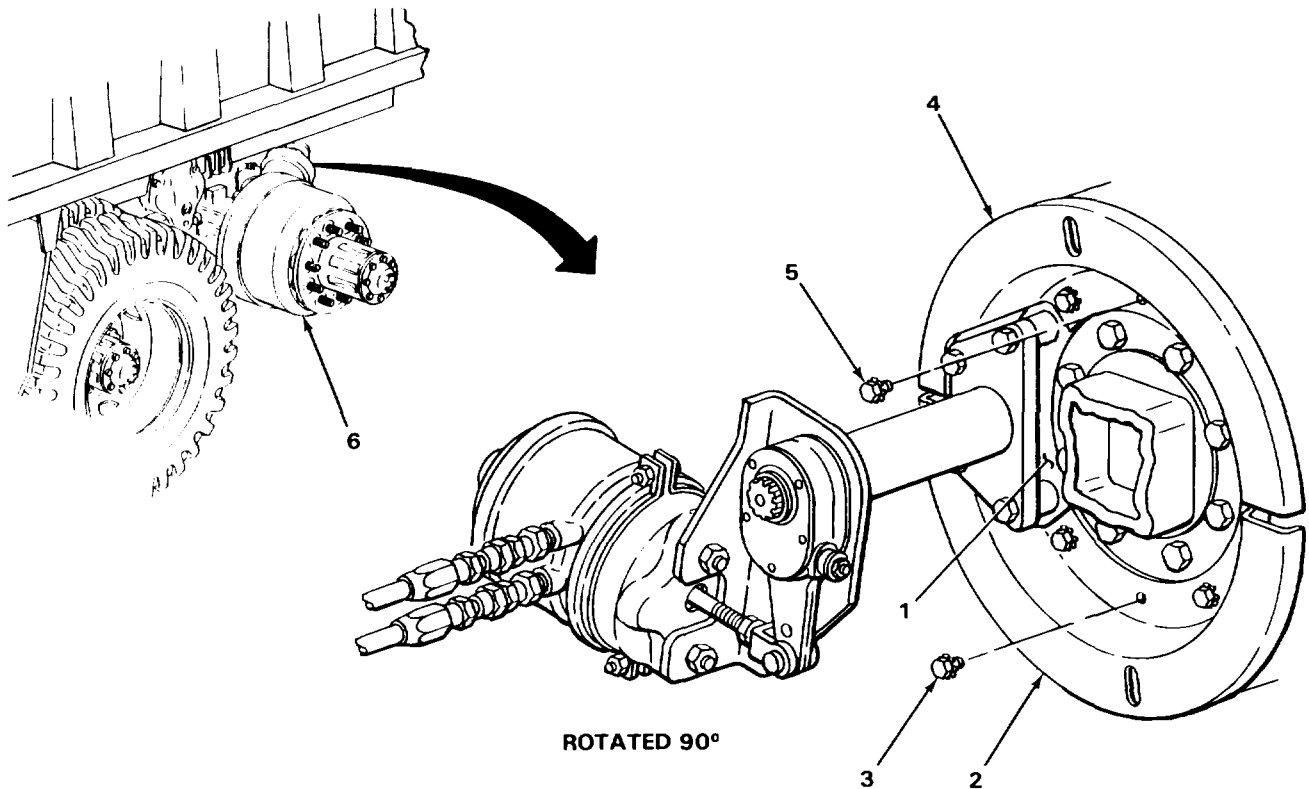


2-971

TA244315

REAR BRAKES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
63. Brake spider (1)	Lower dust shield (2)	Put in place and aline.	
64. Lower dust	Three new screws (3)	Screw in and tighten using 9/16-inch box-end wrench.	
65. Brake spider (1)	Upper dust shield (4)	Put in place and aline.	
66. Upper dust shield (4)	Three new screws (5)	Screw in and tighten using 9/16-inch box-end wrench.	
67.	Rear hub and brake-drum assembly (6)	Install (page 2-1188).	



TA244316

REAR BRAKES - CONTINUED

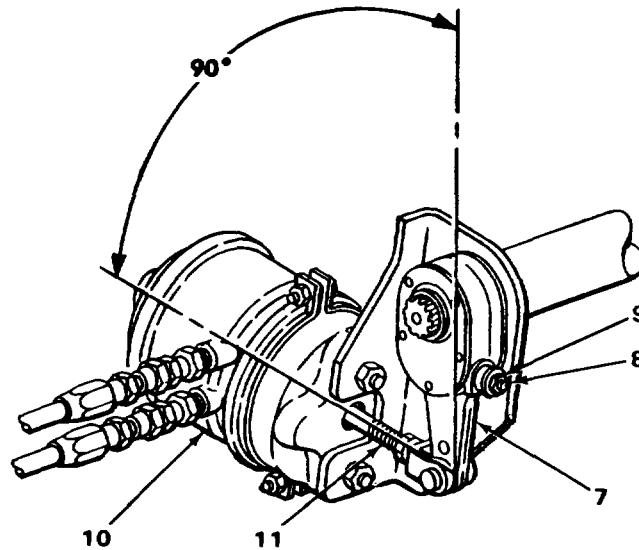
LOCATION	ITEM	ACTION REMARKS
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ADJUSTMENT

**NOTE**

Steps given are typical for right and left front rear and rear rear brakes.

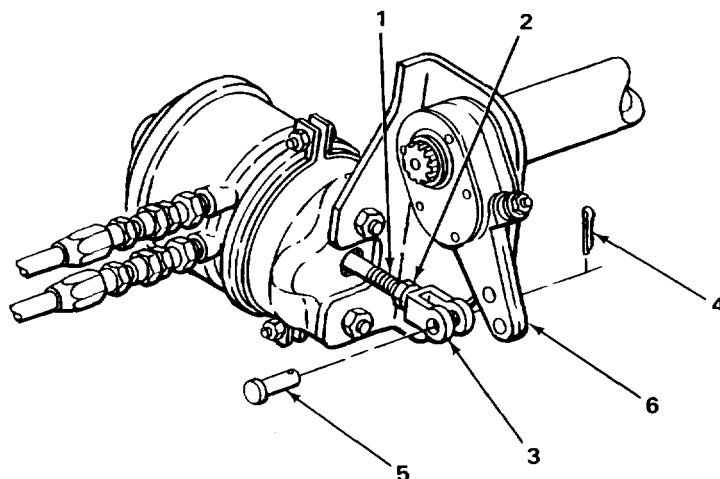
68. Slack adjuster (7)	Adjusting screw (8) and locking sleeve (9)	While slowly turning rear hub, push in locking sleeve and adjust until a heavy drag is felt, then back off to allow a slight drag using 9/16-inch box-end wrench.
69. Airbrake chamber (10)	Push rod (11) and slack adjuster (7)	<ol style="list-style-type: none"> <li>a. Start engine to build up air pressure (TM 5-3805254-10).</li> <li>b. Have assistant hold down brake pedal.</li> <li>c. Check for 90-degree angle between push rod and slack adjuster.</li> </ol> <p><b>See illustration.</b>  <b>If angle is correct, shut down engine(TM 5-3805254-10) and task ends here.</b>  <b>If angle is less than 90-degrees, have assistant release brake pedal and perform steps 70 thru 74.</b></p>



TA244317

REAR BRAKES - CONTINUED TM 5380-25420-2

LOCATION	ITEM	ACTION REMARKS
ADJUSTMENT - CONTINUED		
70. Push rod (1)	Nut (2) and clevis (3)	Using 15/16-inch open-end wrench, loosen and move nut away from clevis.
71. Clevis (3)	Cotter pin (4) and yoke pin (5)	a. Using 8-inch roundnose pliers, take out cotter pin. b. Take out yoke pin.
72. Push rod (1)	Clevis (3)	Turn to adjust to position needed.
73. Clevis (3)	Nut (2)	Turn toward clevis and tighten using 15/16-inch open-end wrench.
74. Slack adjuster (6)	Clevis (3), cotter pin (4), and yoke pin (5)	a. Aline lower hole in slack adjuster with clevis. b. Put in yoke pin. c. Put cotter pin through yoke pin. d. Bend back ends of cotter pin using 8-inch roundnose pliers. e. Perform step 69 again.



**NOTE**

FOLLOW-ON MAINTENANCE: Install rear hub and brakedrum assembly (page 1188).

**TASK ENDS HERE**

**DRY AIR RESERVOIR**


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This task covers:

- |                             |  |
|-----------------------------|--|
| a. Removal (page 2-976)     | d. Inspection/Replacement (page 2-980) |
| b. Disassembly (page 2-978) | e. Assembly (page 2-982)               |
| c. Cleaning (page 2-980)    | f. Installation (page 2-984)           |
- 

**INITIAL SETUP:****Tools**

Brush, wire  
 Extension, 6-inch, 112-inch drive  
 Flashlight  
 Gloves, safety  
 Goggles, safety  
 Handle, ratchet, 1/2-inch drive  
 Socket, deep, 9/16-inch, 112-inch drive  
 Socket, square, 3/8-inch, 1/2-inch drive  
 Wrench, box-end, 9/16-inch  
 Wrench, open-end, 9/16-inch  
 Wrench, open-end, 3/4-inch  
 Wrench, open-end, 11/16-inch  
 Wrench, open-end, 13/16-inch  
 Wrench, open-end, 7/8-inch  
 Wrench, open-end, 1-inch  
 Wrench, open-end, 1 1/4-inch  
 Wrench, open-end, 1 3/8-inch

**Materials/Parts**

Locknut, step (four required)  
 Lockwasher, cable assembly (two required)  
 Rags, wiping (item 15, appendix C)  
 Solvent, drycleaning (item 19, appendix C)  
 Tags, marker (item 21, appendix C)  
 Tape, antiseizing (item 22, appendix C)

**Personnel Required**

Two

**References**

TM 43-0139 (Painting Instructions for Army Materiel)

**Change 1 2-975**

## DRY AIR RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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## REMOVAL

**WARNING**

Drain air from airbrake system before removing lines or fittings to avoid injury to personnel from compressed air.

- |    |                       |                    |  |
|----|-----------------------|--------------------|--|
| 1. | Dry air reservoir (1) | Two draincocks (2) | Turn to open.<br><b>Allow all compressed air to drain.</b> |
|----|-----------------------|--------------------|--|

**NOTE**

For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).

- |    |                           |  |   |
|----|---------------------------|--|---|
| 2. | 90-degree elbow (3)       | Airhose to tee (4)   | a. Tag.<br>b. Using 1-inch open-end wrench, unscrew and take off.   |
| 3. | 45-degree elbow (5)       | Airhose to tee (6)   | a. Tag.<br>b. Using 1-inch open-end wrench, unscrew and take off.   |
| 4. | 90-degree elbow (7)       | Airhose to relay valve (8)                                     | a. Tag.<br>b. Using 1 1/4-inch open-end wrench, unscrew and take off.   |
| 5. | 90-degree elbow (9)       | Airhose to wet air reservoir rear (10)                         | a. Tag.<br>b. Using 7/8-inch open-end wrench, unscrew and take off.   |
| 6. | 90-degree elbow(11)       | Airhose to wet air reservoir front (12)                        | a. Tag.<br>b. Using 7/8-inch open-end wrench, unscrew and take off.   |
| 7. | Two cable assemblies (13) | Two nuts (14), two lockwashers (15), and two flat washers (16) | a. Using 9/16-inch, 1/2-inch drive deep socket, 6-inch extension, and ratchet handle, unscrew and take off.<br>b. Get rid of lockwashers. |
| 8. | Bracket (17)              | Two cable assemblies (13)                                      | Pull out and move out of way.   |

DRY AIR RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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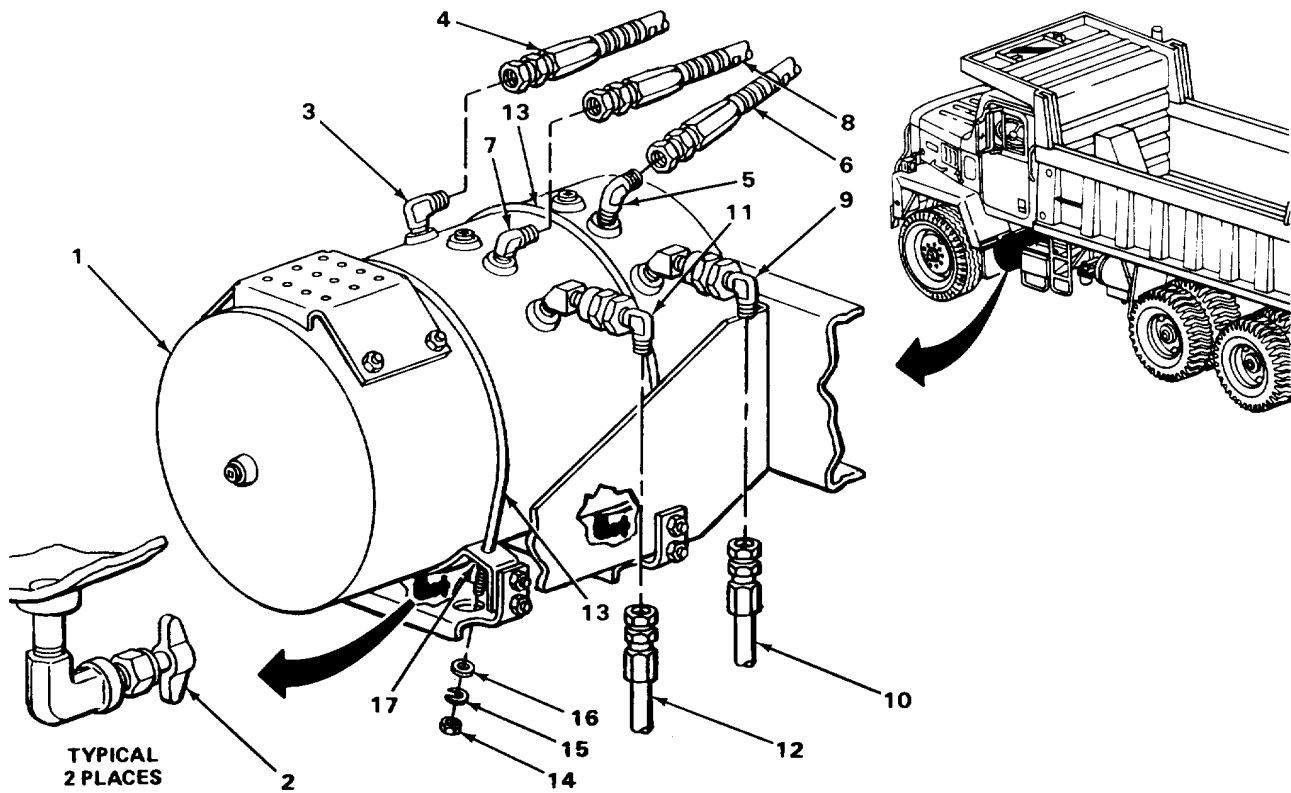
**WARNING**

Due to excessive weight and size, assistance will be needed when handling dry air reservoir. Failure to observe this precaution could cause injury to personnel.

**CAUTION**

Care must be taken not to drop dry air reservoir. Damage to fittings or draincocks could occur.

- |    |              |                       |  |
|----|--------------|-----------------------|--|
| 9. | Bracket (17) | Dry air reservoir (1) | With assistance, lift up and pull out. |
|----|--------------|-----------------------|--|



TA244319

## DRY AIR RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY		
10. Dry air reservoir (1)	90-degree elbow (2)	Using 13/16-inch open-end wrench, unscrew and take out.
11.	45-degree elbow (3)	Using 3/4-inch open-end wrench, unscrew and take out.
12.	90-degree elbow (4)	Using 7/8-inch open-end wrench, unscrew and take out.
13. Check valve (5)	90-degree elbow (6)	Using 1 3/8-inch and 13/16-inch open-end wrenches, unscrew and take out.
14. 45-degree elbow (7)	Check valve (5)	Using 1 3/8-inch open-end wrench, unscrew and take out.
15. Dry air reservoir (1)	45-degree elbow (7)	Using 1-inch open-end wrench, unscrew and take out.
16. Check valve (8)	90-degree elbow (9)	Using 1 3/8-inch and 13/16-inch open-end wrenches, unscrew and take out.
17. 45-degree elbow (10)	Check valve (8)	Using 1 3/8-inch open-end wrench, unscrew and take out.
18. Dry air reservoir (1)	45-degree elbow (10)	Using 1-inch open-end wrench, unscrew and take out.
19. Four step studs (11)	Four locknuts (12) and four flat washers (13)	a. Using 9/16-inch box-end wrench, unscrew and take out. b. Get rid of locknuts.
20.	Step (14)	Take off.

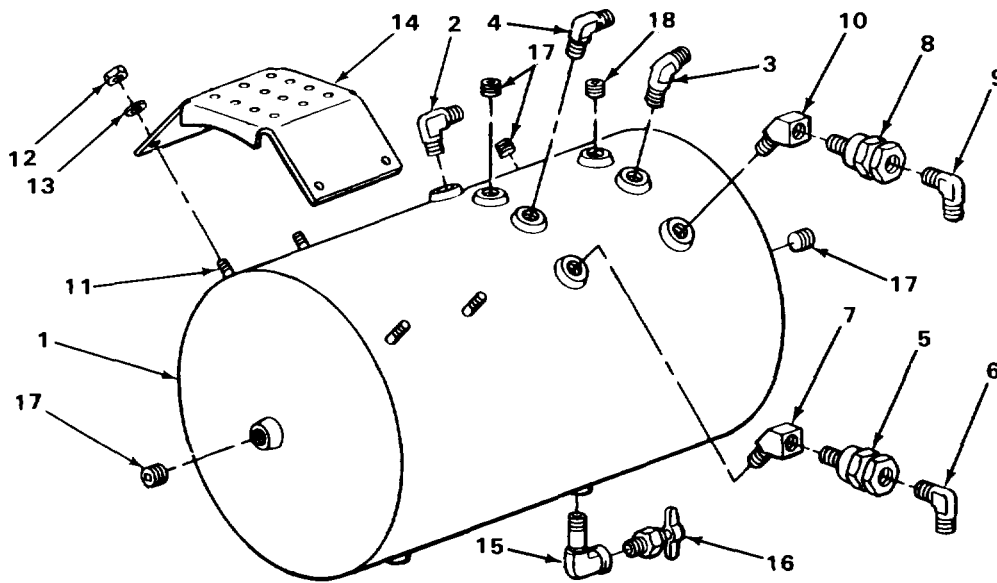
**NOTE**

Steps 21 and 22 are typical for both draincocks.



DRY AIR RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
21. 90-degree elbow (15)	Draincock (16)	Using 9/16-inch open-end wrench, unscrew and take out.
22. Dry air reservoir (1)	90-degree elbow (15)	Using 11/16-inch open-end wrench, unscrew and take out.
23.	Five plugs (17)	Using 3/8-inch, 1/2-inch drive square socket and ratchet handle, unscrew and take out.



TA244320

**DRY AIR RESERVOIR - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

Safety goggles must be worn when using wire brush. Flying rust and metal particles can cause eye injury.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

24.	Dry air reservoir (1)	<ul style="list-style-type: none"> <li>a. Clean rust, scale, and corrosion from outside surfaces using wire brush.</li> <li>b. Wipe clean using drycleaning solvent and wiping rag.</li> <li>c. To touchup or repaint, refer to TM 43-0139.</li> </ul>
25.	Step (2)	<ul style="list-style-type: none"> <li>a. Clean rust, scale, and corrosion using wire brush.</li> <li>b. Wipe clean using drycleaning solvent and wiping rag.</li> <li>c. To touchup or repaint, refer to TM 43-0139.</li> </ul>

INSPECTION/REPLACEMENT

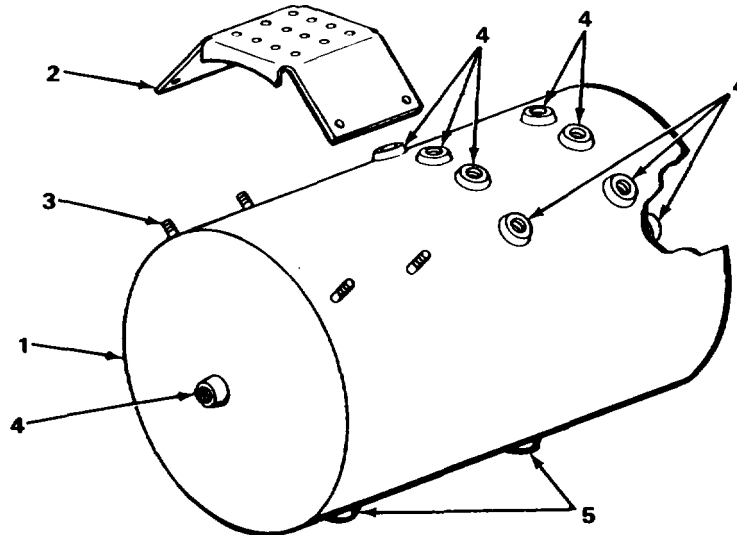
**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

DRY AIR RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
26.	Dry air reservoir (1)	a. Look for cracks or broken welds. b. Look for stripped or broken step studs (3). c. Look for stripped or cracked elbow and plug bosses (4). d. Look for stripped or cracked draincock bosses (5). e. Using flashlight, look inside for excessive rust or corrosion.
27.	Step (2)	a. Look for cracks, breaks, or bends. b. Look for distorted step stud holes.
28.	All threaded parts	Look for damaged threads or rounded heads.



TA244321

## DRY AIR RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
ASSEMBLY		
<b><u>CAUTION</u></b>		
Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.		
<b><u>NOTE</u></b>		
For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).		
Position all elbows as shown in illustration.		
29. Dry air reservoir (1)	45-degree elbow (2)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 1-inch open-end wrench.
30. 45-degree elbow (2)	Check valve (3)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 1 3/8-inch open-end wrench.
31. Check valve (3)	90-degree elbow (4)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 1 3/8-inch and 13/16-inch open-end wrenches.
32. Dry air reservoir (1)	45-degree elbow (5)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 1-inch open-end wrench.
33. 45-degree elbow (5)	Check valve (6)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 1 3/8-inch open-end wrench.
34. Check valve (6)	90-degree elbow (7)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 1 3/8-inch and 13/16-inch open-end wrenches.
35. Dry air reservoir (1)	90-degree elbow (8)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 7/8-inch open-end wrench.
36.	45-degree elbow (9)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 3/4-inch open-end wrench.
37.	90-degree elbow (10)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 13/16-inch open-end wrench.

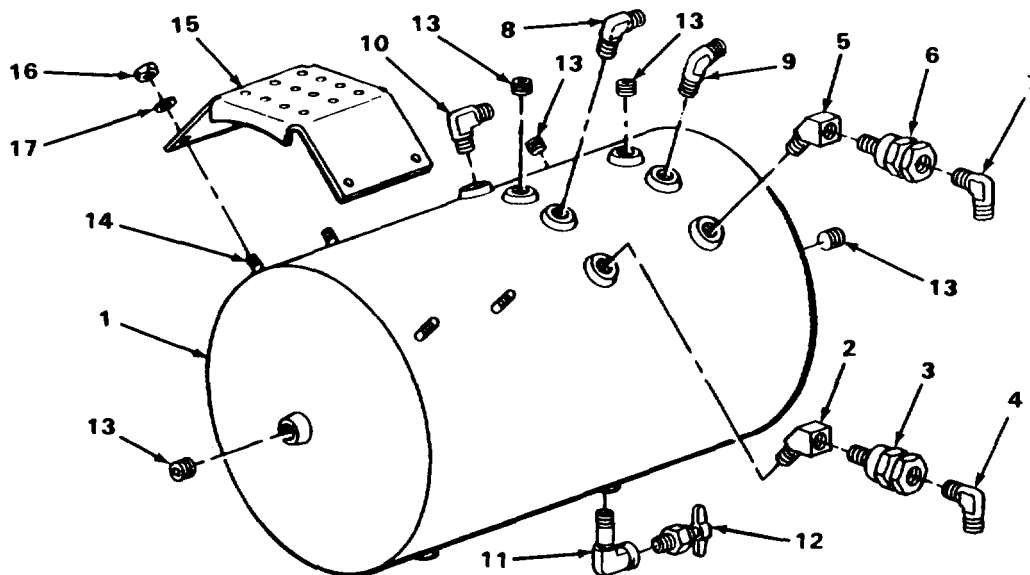
DRY AIR RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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**NOTE**

Steps 38 and 39 are typical for both draincocks.

38.	90-degree elbow (11)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 11/16-inch open-end wrench. <b>Position facing rear of dry air reservoir.</b>
39.	90-degree elbow (11) Draincock (12)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 9/16-inch open-end wrench. c. Turn to close.
40.	Dry air reservoir (1) Five plugs (13)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 38-inch, 1/2-inch drive square socket and ratchet handle.
41.	Four step studs (14) Step (15)	Put on.
42.	Four new locknuts (16) and four flat washers (17)	Screw on and tighten using 9/16-inch box-end wrench.



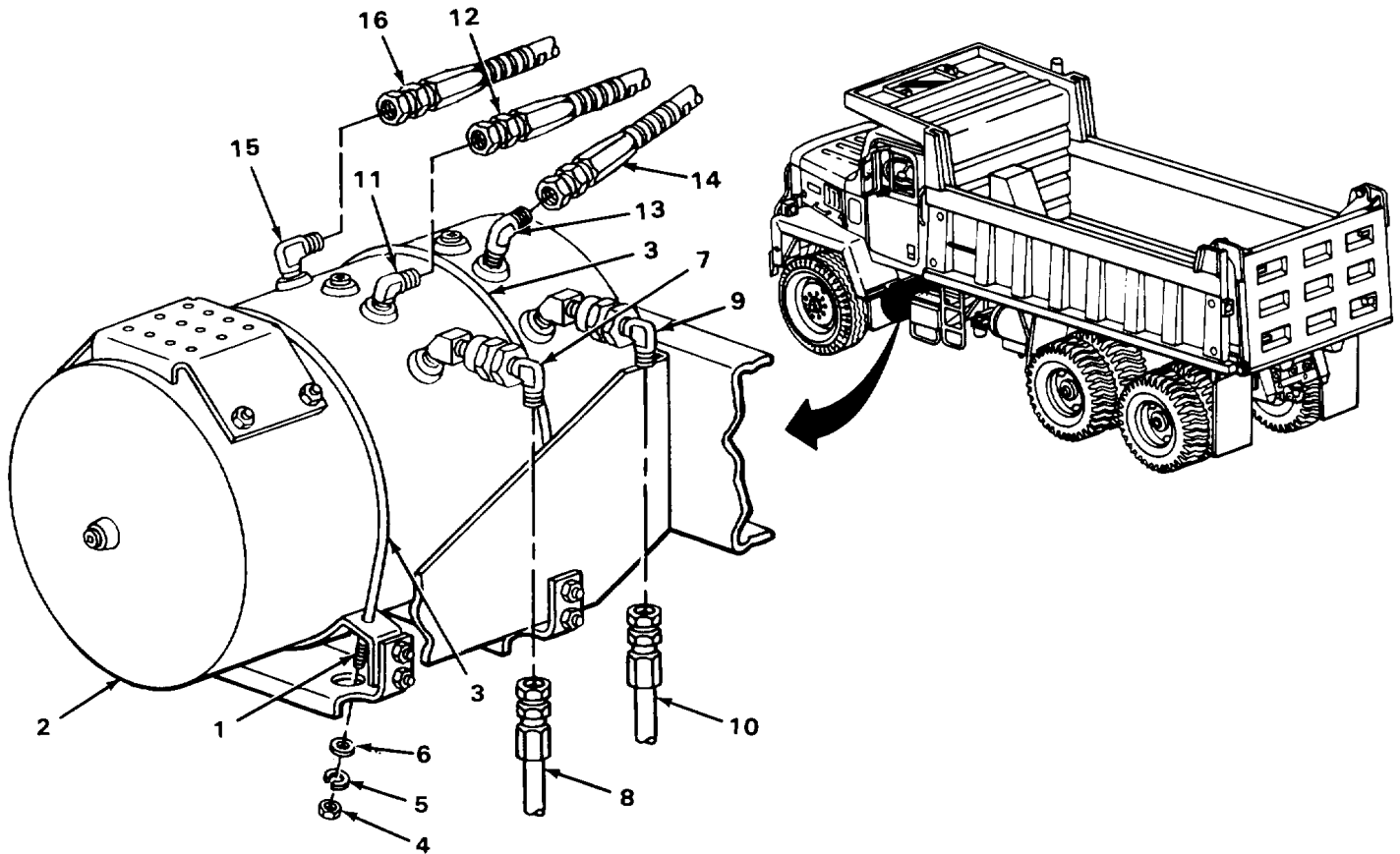
TA244322

## DRY AIR RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
<b><u>WARNING</u></b>		
Due to excessive weight and size, assistance will be needed when handling dry air reservoir. Failure to observe this precaution could cause injury to personnel.		
<b><u>CAUTION</u></b>		
Care must be taken not to drop dry air reservoir. Damage to fittings or draincocks could occur.		
43. Bracket (1)	Dry air reservoir (2)	With assistance, put on.
44.	Two cable assemblies (3)	Put over dry air reservoir (2) and through bracket.
45. Two cable assemblies (3)	Two nuts (4), two new lockwashers (5), and two flat washers (6)	Screw on and tighten using 9/16-inch, 112-inch drive deep socket, 6inch extension, and ratchet handle.
46. Dry air reservoir (2)	90-degree elbow (7)	Wrap pipe threads with antiseizing tape.
47. 90-degree elbow (7)	Airhose to wet air	a. Screw on and tighten using 7/8-inch reservoir rear (8)open-end wrench. b. Take off tag. c. Get rid of tag.
48. Dry air reservoir (2)	90-degree elbow (9)	Wrap pipe threads with antiseizing tape.
49. 90-degree elbow (9)	Airhose to wet air reservoir front (10)	a. Screw on and tighten using 7/8-inch open-end wrench. b. Take off tag. c. Get rid of tag.
50. Dry air reservoir (2)	90-degree elbow (11)	Wrap pipe threads with antiseizing tape.
51. 90-degree elbow (11)	Airhose to relay valve (12)	a. Screw on and tighten using 1 1/4-inch open-end wrench. b. Take off tag. c. Get rid of tag.

DRY AIR RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
52. Dry air reservoir (2)	45-degree elbow (13)	Wrap pipe threads with antiseizing tape.
53. 45-degree elbow (13)	Airhose to tee (14)	a. Screw on and tighten using 1-inch open-end wrench. b. Take off tag. c. Get rid of tag.
54. Dry air reservoir (2)	90-degree elbow (15)	Wrap pipe threads with antiseizing tape.
55. 90-degree elbow (15)	Airhose to tee (16)	a. Screw on and tighten using 1-inch open-end wrench. b. Takeoff tag. c. Get rid of tag.



TA244323

TASK ENDS HERE

**WET AIR RESERVOIR**

This task covers:

- |                             |  |
|-----------------------------|--|
| a. Removal (page 2-986)     | d. Inspection/Replacement (page 2-990) |
| b. Disassembly (page 2-988) | e. Assembly (page 2-991)               |
| c. Cleaning (page 2-988)    | f. Installation (page 2-994)           |

**INITIAL SETUP:**

**Tools**

- Brush, wire
- Flashlight
- Gloves, safety
- Goggles, safety
- Punch, pin, 1/4-inch
- Wrench, box-end, 9/16-inch (two required)
- Wrench, open-end, 3/8-inch
- Wrench, open-end, 9/16-inch
- Wrench, open-end, 5/8-inch
- Wrench, open-end, 11/16-inch
- Wrench, open-end, 3/4-inch (two required)
- Wrench, open-end, 13/16-inch
- Wrench, open-end, 7/8-inch
- Wrench, open-end, 1-inch
- Wrench, open-end, 11/8-inch

**Materials/Parts**

- Locknut, clamp (two required)
- Rags, wiping (item 15, appendix C)
- Solvent, drycleaning (item 19, appendix C)
- Tape, antiseizing (item 22, appendix C)
- Tags, marker (item 21, appendix C)

**Personnel Required**

Two

**References**

TM 43-0139 (Painting Instructions for Army Materiel)

LOCATION	ITEM	ACTION REMARKS
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**REMOVAL**

**WARNING**

Drain air from airbrake system before removing lines or fittings to avoid injury to personnel from compressed air.

- |                          |                           |  |
|--------------------------|---------------------------|--|
| 1. Wet air reservoir (1) | Automatic drain valve (2) | Using 1/4-inch pin punch, push in on manual drain pin (3) and allow compressed air to drain. |
|--------------------------|---------------------------|--|

**NOTE**

For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).

**Change 1 2-986**



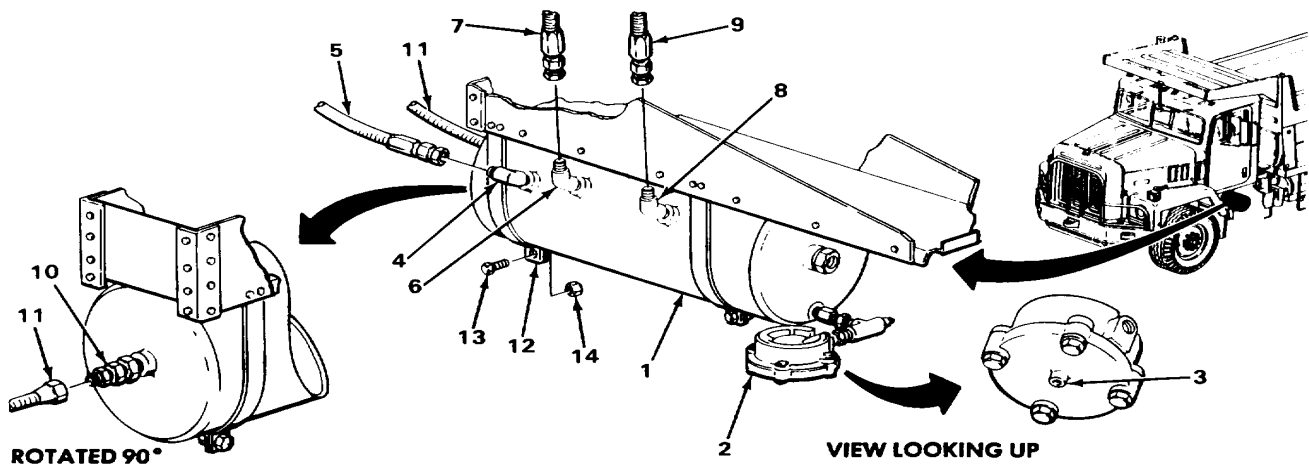
**WET AIR RESERVOIR - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
2. 90-degree elbow (4)	Airhose to air dryer (5)	a. Tag. b. Using 1-inch open-end wrench, unscrew and take off.
3. 45-degree elbow (6)	Airhose to dry air reservoir rear (7)	a. Tag. b. Using 7/8-inch open-end wrench, unscrew and take off.
4. 45-degree elbow (8)	Airhose to dry air reservoir front (9)	a. Tag. b. Using 7/8-inch open-end wrench, unscrew and take off.
5. Fitting (10)	Air line to compressor governor (11)	Using 11/16-inch and 9/16-inch open-end wrenches, unscrew and take off.
6. Two clamps (12)	Two screws (13) and two locknuts (14)	a. Using two 9/16-inch box-end wrenches, unscrew and take off. b. Get rid of locknuts.

**CAUTION**

Care must be taken not to drop wet air reservoir. Damage to fittings or automatic drain valve could occur.

7. Two clamps (12)      Wet air reservoir (1)      Take out.



## WET AIR RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY		
8. Wet air reservoir (1)	90-degree elbow (2) and 45-degree elbows (3 and 4)	Using 13/16-inch open-end wrench, unscrew and take out.
9. Fitting (5)	Fitting (6)	Using 11/16-inch and 9/16-inch open-end wrenches, unscrew and take out.
10. Fitting (7)	Fitting (5)	Using 7/8-inch and 11/16-inch open-end wrenches, unscrew and take out.
11. Wet air reservoir (1)	Fitting (7)	Using 7/8-inch open-end wrench, unscrew and take out.
12. Fitting (8)	Automatic drain valve (9)	Using 1 1/8-inch and 11/16-inch open-end wrenches, unscrew and take out.
13. Tee fitting (10)	Fitting (8)	Using 3/4-inch and 11/16-inch open-end wrenches, unscrew and take out.
14.	Plug (11)	Using 3/8-inch open-end wrench, unscrew and take out.
15. Fitting (12)	T-fitting (10)	Using two 3/4-inch open-end wrenches, unscrew and take off.
16. Wet air reservoir (1)	Fitting (12)	Using 3/4-inch open-end wrench, unscrew and take out.
17. Fitting (13)	Pressure relief valve (14)	Using 7/8-inch and 5/8-inch open-end wrenches, unscrew and take out.
18. Wet air reservoir (1)	Fitting (13)	Using 7/8-inch open-end wrench, unscrew and take out.

## CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

WET AIR RESERVOIR - CONTINUED TM 5-38052542

LOCATION	ITEM	ACTION REMARKS
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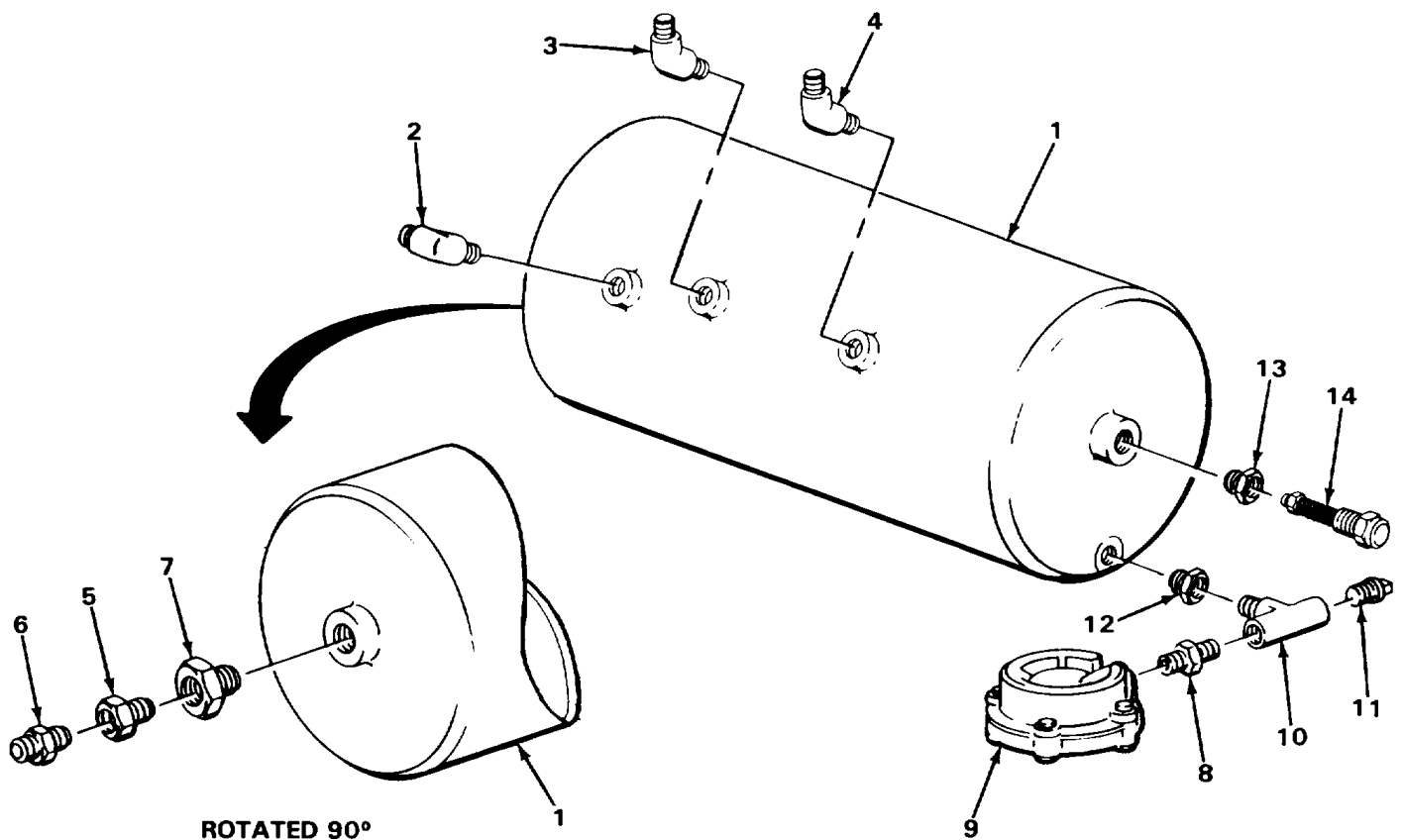
**WARNING**

Safety goggles must be worn when using wire brush. Flying rust and metal particles can cause eye injury.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

- |     |                           |  |
|-----|---------------------------|--|
| 19. | Wet air reservoir (1)     | <ul style="list-style-type: none"> <li>a. Clean rust, scale, and corrosion from outside surfaces using wire brush.</li> <li>b. Wipe clean using drycleaning solvent and wiping rag.</li> <li>c. To touchup or repaint, refer to TM 43-0139.</li> </ul> |
| 20. | Automatic drain valve (9) | Wipe clean using drycleaning solvent and wiping rag.   |



TA244325

WET AIR RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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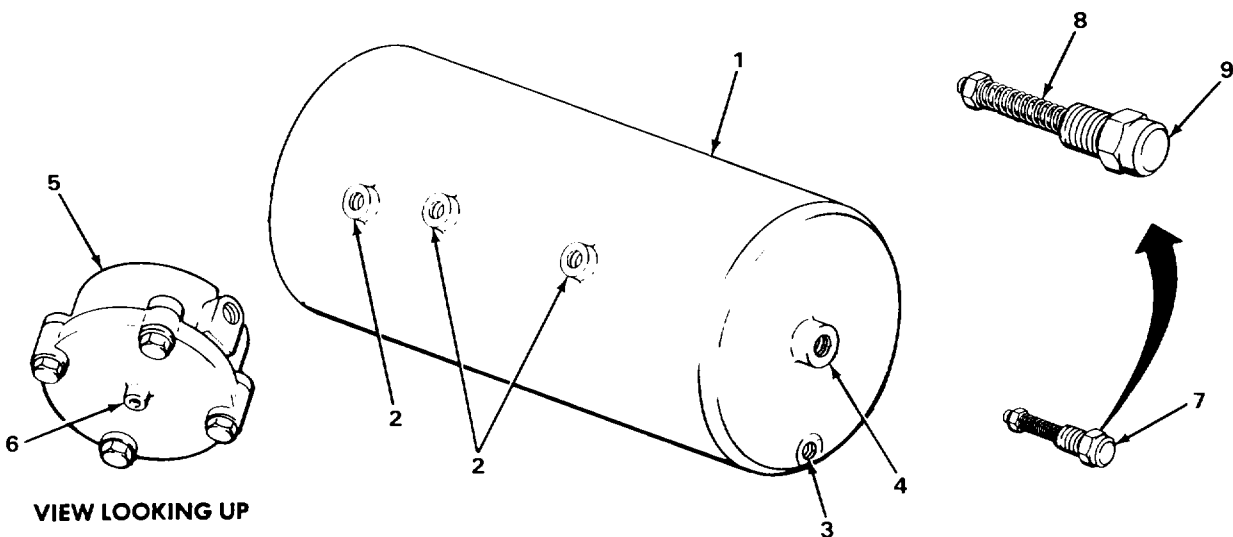
INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

21.	Wet air reservoir (1)	<ul style="list-style-type: none"> <li>a. Look for cracked or broken welds.</li> <li>b. Look for stripped or broken elbow bosses (2).</li> <li>c. Look for stripped or broken automatic drain valve boss (3) and pressure relief valve boss (4).</li> <li>d. Using flashlight, look inside for excessive rust or corrosion.</li> </ul>
22.	Automatic drain valve (5)	<ul style="list-style-type: none"> <li>a. Look for cracks, breaks, or chips.</li> <li>b. Look for frozen manual drain pin (6). <b>If damaged, notify higher category of maintenance.</b></li> </ul>
23.	Pressure relief valve (7)	<ul style="list-style-type: none"> <li>a. Look for broken or frozen spring (8).</li> <li>b. Look for bent, dented, or cracked cap (9). <b>If damaged, notify higher category of maintenance.</b></li> </ul>
24.	All threaded parts	Look for damaged threads or rounded heads.



TA244326

WET AIR RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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ASSEMBLY

**CAUTION**

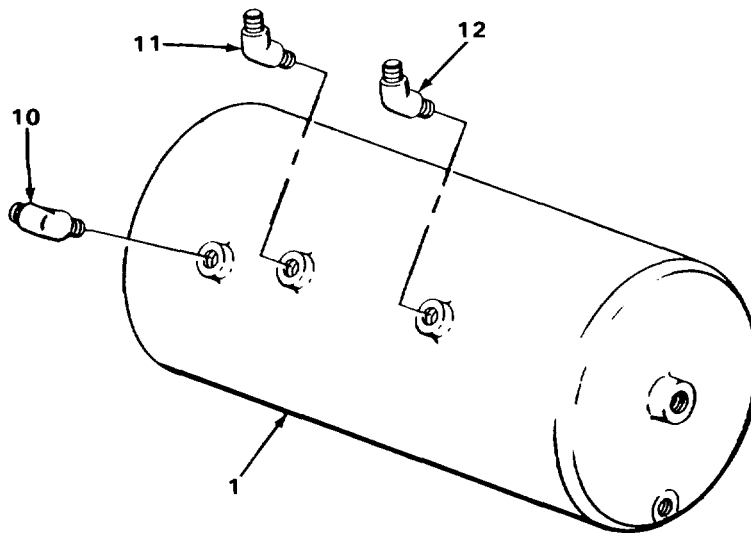
Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

Position all elbows as shown in illustration.

- |     |                       |                      |  |
|-----|-----------------------|----------------------|--|
| 25. | Wet air reservoir (1) | 90-degree elbow (10) | <ul style="list-style-type: none"> <li>a. Wrap pipe threads with antiseizing tape.</li> <li>b. Screw in and tighten using 13/16-inch open-end wrench.</li> </ul> |
| 26. |                       | 45-degree elbow (11) | <ul style="list-style-type: none"> <li>a. Wrap pipe threads with antiseizing tape.</li> <li>b. Screw in and tighten using 13/16-inch open-end wrench.</li> </ul> |
| 27. |                       | 45-degree elbow (12) | <ul style="list-style-type: none"> <li>a. Wrap pipe threads with antiseizing tape.</li> <li>b. Screw in and tighten using 13/16-inch open-end wrench.</li> </ul> |



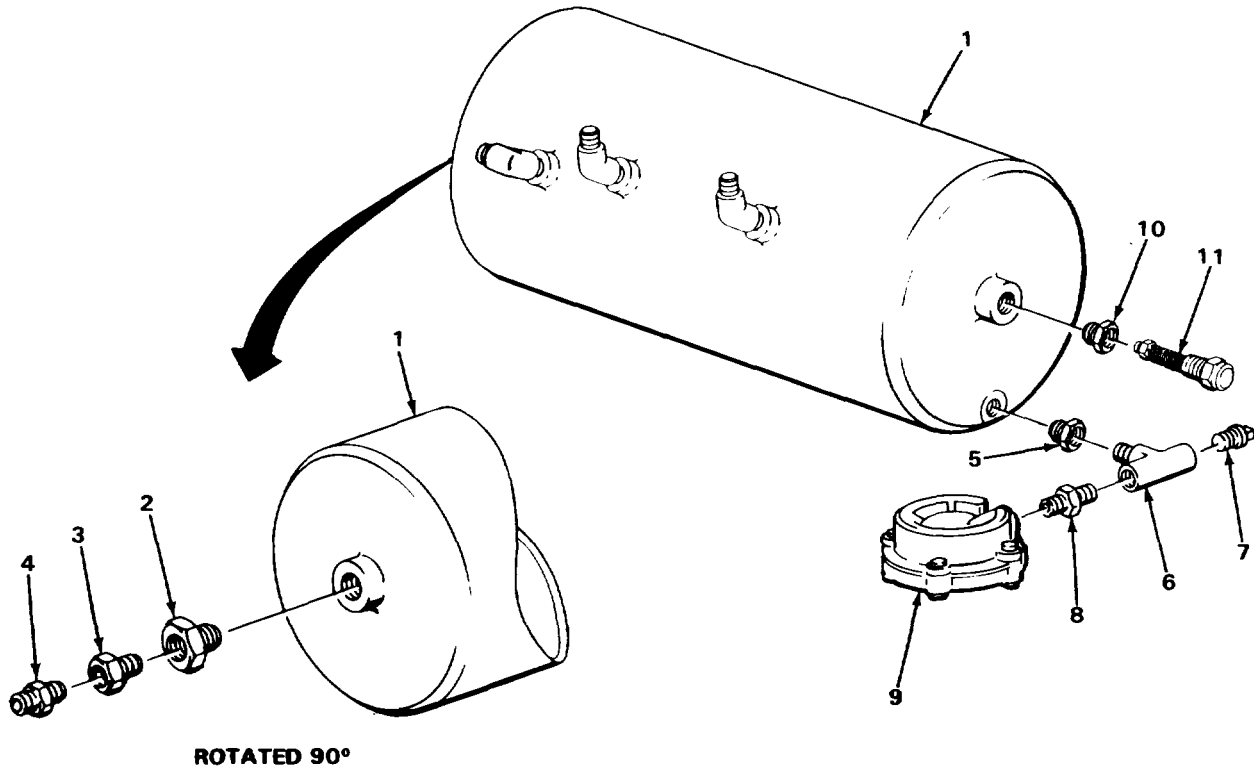
TA244327

## WET AIR RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
ASSEMBLY - CONTINUED		
28. Wet air reservoir (1)	Fitting (2)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 7/8-inch open-end wrench.
29. Fitting (2)	Fitting (3)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 7/8-inch and 11/16-inch open-end wrenches.
30. Fitting (3)	Fitting (4)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 11/16-inch and 9/16-inch open-end wrenches.
31. Wet air	Fitting (5) reservoir (1)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 3/4-inch open-end wrench.
32. Fitting (5)	T-fitting (6)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 3/4-inch open-end wrench. <b>Put in vertical position.</b>
33. T-fitting (6)	Plug (7)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 3/8-inch open-end wrench.
34.	Fitting (8)	a. Wrap smaller and larger diameter pipe threads with antiseizing tape. b. Screw in and tighten using 11/16-inch open-end wrench.
35. Fitting (8)	Automatic drain valve (9)	Screw on and tighten using 1 1/8-inch open-end wrench.
36. Wet air reservoir (1)	Fitting (10)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 7/8-inch open-end wrench.

WET AIR RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
37. Fitting (10)	Pressure relief valve (11)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 7/8-inch and 5/8-inch open-end wrenches.



TA244328

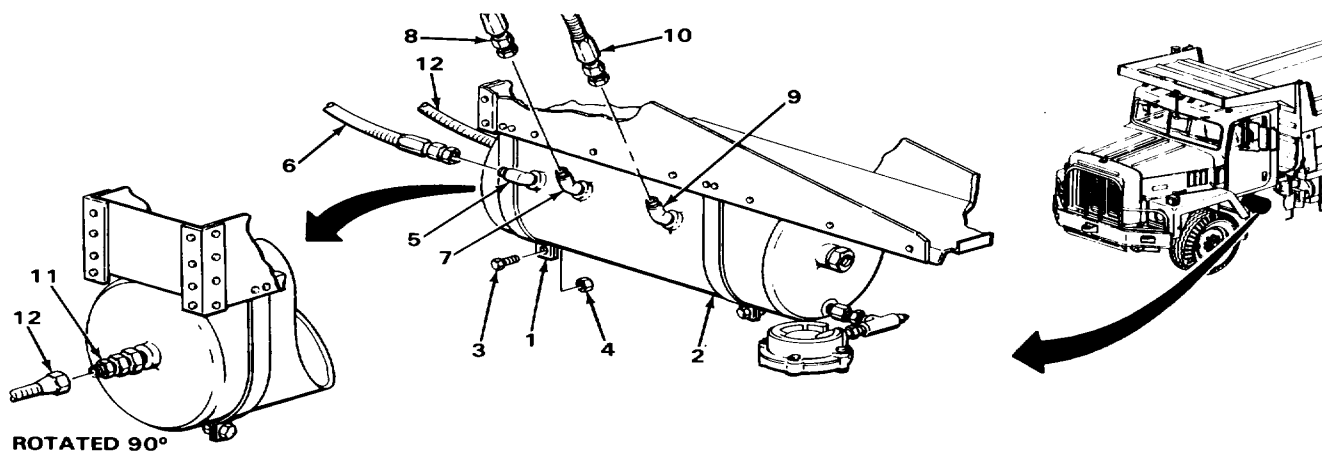
## WET AIR RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
<b><u>CAUTION</u></b>		
Care must be taken not to drop wet air reservoir. Damage to fittings or automatic drain valve could occur.		
Antiseizing tape must be used on all pipe threads to provide a good seal and prevent threaded parts from seizing.		
<b><u>NOTE</u></b>		
For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).		
38. Two clamps (1)	Wet air reservoir (2)	Put in place.
39.	Two screws (3) and two new locknuts (4)	Screw in and tighten using two 9/16-inch box-end wrenches.
40. Wet air reservoir (2)	90-degree elbow (5)	Wrap pipe threads with antiseizing tape.
41. 90-degree elbow (5)	Airhose to air	a. Screw on and tighten using 1-inch open-dryer (6)end wrench. b. Take off tag. c. Get rid of tag.
42. Wet air reservoir (2)	45-degree elbow (7)	Wrap pipe threads with antiseizing tape.
43. 45-degree elbow (7)	Airhose to dry air	a. Screw on and tighten using 7/8-inch reservoir rear (8)open-end wrench. b. Take off tag. c. Get rid of tag.
44. Wet air reservoir (2)	45-degree elbow (9)	Wrap pipe threads with antiseizing tape.
45. 45-degree elbow (9)	Airhose to dry air	a. Screw on and tighten using 7/8-inch reservoir front (10)open-end wrench. b. Take off tag. c. Get rid of tag.
46. Wet air reservoir (2)	Fitting (11)	Wrap pipe threads with antiseizing tape.



**WET AIR RESERVOIR - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
47. Fitting (11)	Air line to compressor governor (12)	Screw on and tighten using 11/16-inch and 9/16-inch open-end wrenches.



**TASK ENDS HERE**

**ALCOHOL EVAPORATOR**

This task covers:

- |                             |  |
|-----------------------------|--|
| a. Removal (page 2-996)     | d. Inspection/Replacement (page 2-998) |
| b. Disassembly (page 2-996) | e. Assembly (page 2-1000)              |
| c. Cleaning (page 2-998)    | f. Installation (page 2-1001)          |

**INITIAL SETUP:**

**Tools**

- Gloves, safety
- Goggles, safety
- Wrench, box-end, 7/16-inch
- Wrench, open-end, 7/16-inch
- Wrench, box-end, 1/2-inch
- Wrench, open-end, 1/2-inch
- Wrench, open-end, 9/16-inch
- Wrench, open-end, 5/8-inch

**Materials/Parts**

- Lockwasher, bracket (five required)
- Rags, wiping (item 15, appendix C)
- Solvent, drycleaning (item 19, appendix C)
- Washer, rubber, air tube (one required)

**Personnel Required**

One

TA244329

## ALCOHOL EVAPORATOR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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## REMOVAL

**WARNING**

Do not smoke or allow open flames or sparks into areas where alcohol is being used. Failure to observe this precaution could cause death or serious injury to personnel.

Care must be taken when taking off canister to prevent spilling alcohol. Injury to personnel could result.

- |                |               |                       |
|----------------|---------------|-----------------------|
| 1. Housing (1) | Cannister (2) | Unscrew and take off. |
|----------------|---------------|-----------------------|

**NOTE**

For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).

- |                              |  |   |
|------------------------------|--|---|
| 2. 90-degree elbow (3)       | Vacuum hose (4)  | a. Tag.<br>b. Using 9/16-inch open-end wrench, unscrew and take off.  |
| 3. 90-degree elbow (5)       | Airhose (6)  | a. Tag.<br>b. Using 9/16-inch open-end wrench, unscrew and take off.  |
| 4. Bracket (7)               | Three screws (8), three lockwashers (9), and three nuts (10)   | a. Using 7/16-inch open-end and 7/16-inch box-end wrenches, unscrew and take off.<br>b. Get rid of lockwashers. |
| 5. Housing (1)               | Take off.  |   |
| 5.1.                         | Two screws (10.1), two lockwashers (10.2), and two nuts (10.3) | a. Using 1/2-inch open-end and 1/2-inch box-end wrenches, unscrew, and take off.<br>b. Get rid of lockwashers.  |
| 5.2. Mounting bracket (10.4) | Bracket (7)  | Take off.   |

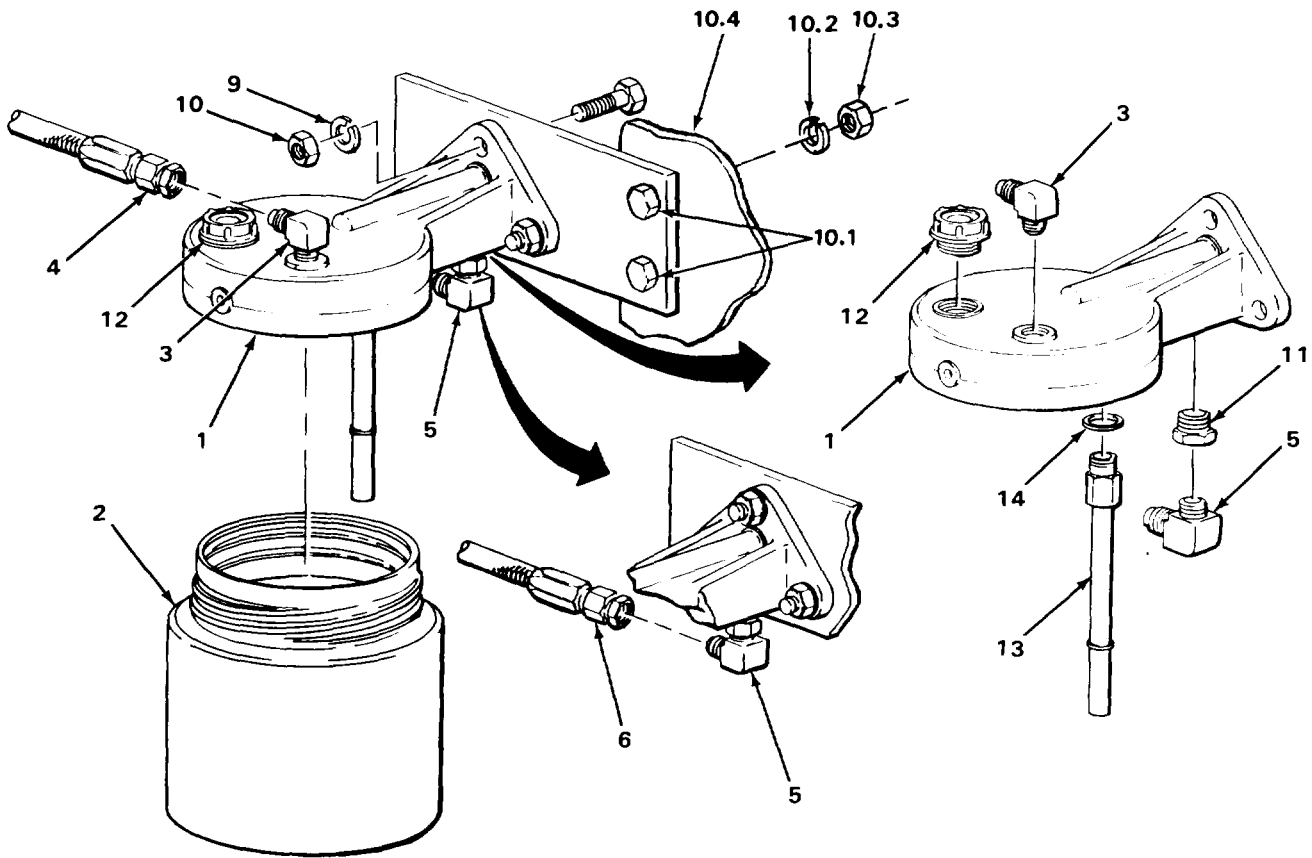
## DISASSEMBLY


- |                 |                     |  |
|-----------------|---------------------|--|
| 6. Housing (1)  | 90-degree elbow (3) | Using 1/2-inch open-end wrench, unscrew and take out.                |
| 7. Fitting (11) | 90-degree elbow (5) | Using 5/8-inch and 1/2-inch open-end wrenches, unscrew and take out. |

Change 1 2-996

ALCOHOL EVAPORATOR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
8.	Fitting (11)	Using 5/8-inch open-end wrench, unscrew and take out.
9.	Fill cap (12)	Unscrew and take off.
10.	Air tube (13) and rubber washer (14)	a. Using 7/16-inch open-end wrench, unscrew and take out. b. Get rid of rubber washer.



TA702136 

Change 1 2-997

**ALCOHOL EVAPORATOR - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

11.	Housing (1)	Wipe clean using drycleaning solvent and wiping rag.
12.	Cannister (2)	Wipe inside and outside clean using drycleaning solvent and wiping rag.

INSPECTION/REPLACEMENT

**NOTE**

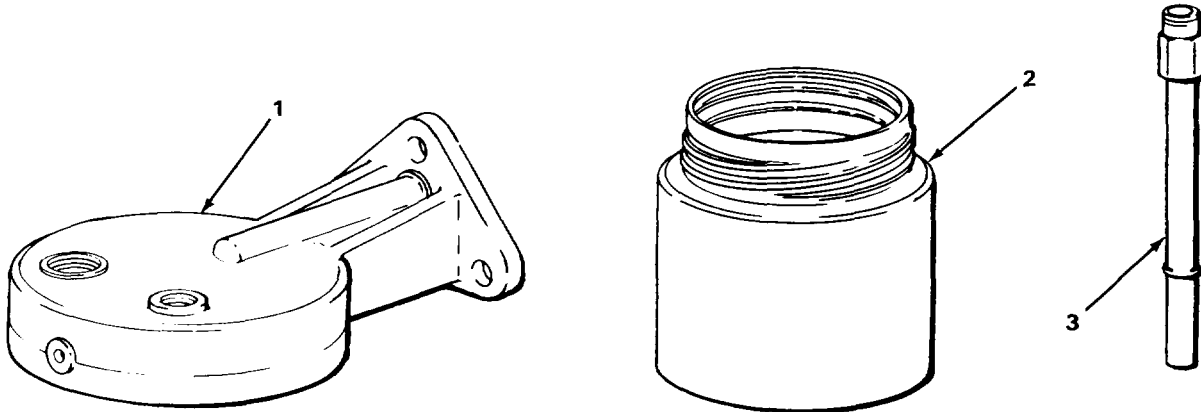
Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

13.	Housing (1)	<ul style="list-style-type: none"> <li>a. Look for cracks or breaks.</li> <li>b. Look for stripped or damaged elbow or fitting hole threads.</li> <li>c. Look for damaged cannister screw threads.</li> </ul>
14.	Air tube (3)	<ul style="list-style-type: none"> <li>a. Look for cracks or breaks on sides.</li> <li>b. Look for clogged hole on end.</li> <li>c. Look for stripped or damaged threads.</li> </ul>

ALCOHOL EVAPORATOR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
15.	Cannister (2)	a. Look for severe dents or distorted screw threads. b. Look for holes, breaks, or cracks.
16.	All threaded parts	Look for damaged threads or rounded heads.



2-999

TA244331

ALCOHOL EVAPORATOR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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ASSEMBLY

**CAUTION**

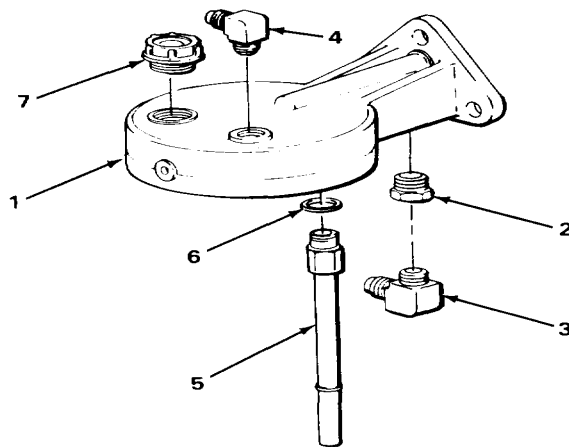
Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

Position all elbows as shown in illustration.

17. Housing (1)	Fitting (2)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 5/8-inch open-end wrench.
18. Fitting (2)	90-degree elbow (3)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 5/8-inch and 1/2-inch open-end wrenches.
19. Housing (1)	90-degree elbow (4)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 1/2-inch open-end wrench.
20.	Air tube (5) and new rubber washer (6)	Screw in and tighten using 7/16-inch open-end wrench. <b>Do not overtighten.</b>
21.	Fill cap (7)	Screw on.

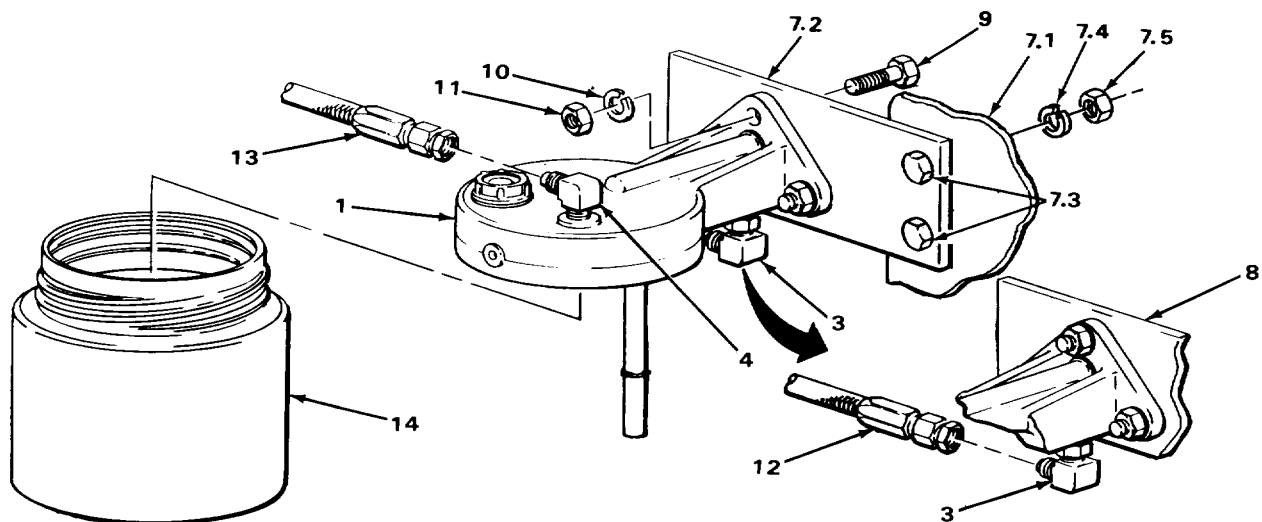


TA244332

ALCOHOL EVAPORATOR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
21.1. Mounting bracket (7.1)	Bracket (7.2)	Put in place.
21.2.	Two screws (7.3), two new lockwashers (7.4), and two nuts (7.5)	Screw on and tighten using 1/2-inch box-end and 1/2-inch open-end wrenches.
22. Bracket (8)	Housing (1)	Put in place.
23.	Three screws (9), three new lock- washers (10), and three nuts (11)	Screw on and tighten using 7/16-inch box- end and 7/16-inch open-end wrenches.
24. Housing (1)	90-degree elbow (3)	Wrap pipe threads with antiseizing tape.
25. 90-degree elbow (3)	Airhose (12)	Screw on and tighten using 9/16-inch open- end wrench.
26. Housing (1)	90-degree elbow (4)	Wrap pipe threads with antiseizing tape.
27. 90-degree elbow (4)	Vacuum hose (13)	Screw on and tighten using 9/16-inch open- end wrench.
28. Housing (1)	Cannister (14)	Screw on and hand tighten.

TA702137



TASK ENDS HERE

TA702137

**AIR DRYER**

This task covers:

- |                              |   |
|------------------------------|---|
| a. Removal (page 2-1002)     | d. Inspection/Replacement (page 2-1008) |
| b. Disassembly (page 2-1004) | e. Assembly (page 2-1009)               |
| c. Cleaning (page 2-1006)    | f. Installation (page 2-1012)           |

**INITIAL SETUP:**

**Tools**

- Brush, wire
- Extension, 3-inch, 1/2-inch drive
- Gloves, safety
- Goggles, safety
- Handle, ratchet, 1/2-inch drive
- Punch, pin, 1/4-inch
- Socket, 3/4-inch, 1/2-inch drive
- Wrench, box-end, 1/2-inch (two required)
- Wrench, box-end, 9/16-inch (two required)
- Wrench, box-end, 3/4-inch
- Wrench, box-end, 7/8-inch
- Wrench, open-end, 3/8-inch
- Wrench, open-end, 5/8-inch
- Wrench, open-end, 3/4-inch
- Wrench, open-end, 13/16-inch
- Wrench, open-end, 15/16-inch
- Wrench, open-end, 1-inch
- Wrench, open-end, 1 1/4-inch

**Materials/Parts**

- Lockwasher, clamp to bracket (four required)
- Lockwasher, cap screw (two required)
- Rags, wiping (item 15, appendix C)
- Solvent, drycleaning (item 19, appendix C)
- Tags, marker (item 21, appendix C)
- Tape, antiseizing (item 22, appendix C)

**Personnel Required**

Two

**References**

TM 43-0139 (Painting Instructions for Army Materiel)-

LOCATION	ITEM	ACTION REMARKS
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**REMOVAL**

**WARNING**

Drain air from airbrake system before removing lines or fittings to avoid injury to personnel from compressed air.

- |                          |                           |  |
|--------------------------|---------------------------|--|
| 1. Wet air reservoir (1) | Automatic drain valve (2) | Using 1/4-inch pin punch, push in on manual drain pin (3) and allow compressed air to drain. |
|--------------------------|---------------------------|--|

**Change 1 2-1002**



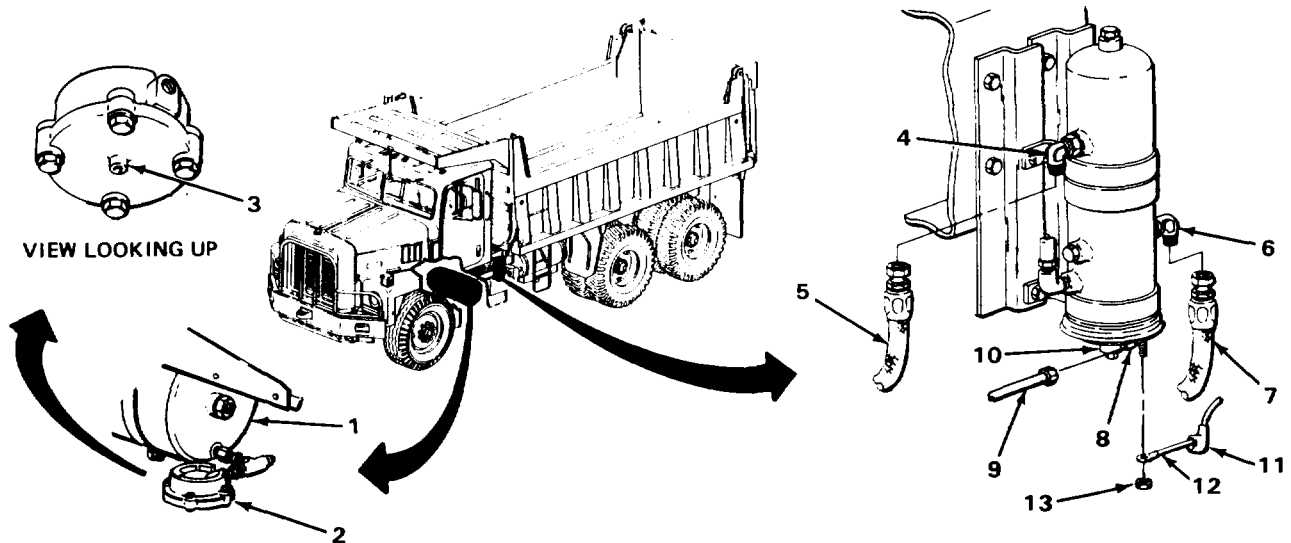
**AIR DRYER - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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**NOTE**

For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).

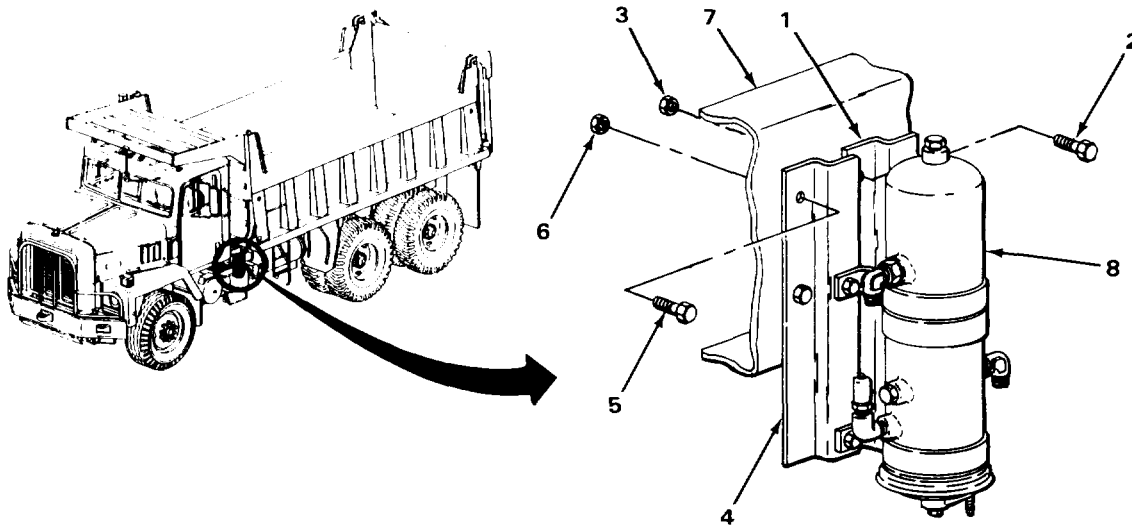
2.	90degree elbow (4)	Outlet airhose (5)	a. Tag. b. Using 1-inch open-end wrench, unscrew and take off.
3.	90-degree elbow (6)	Inlet air line (7)	a. Tag. b. Using 15/16-inch open-end wrench, unscrew and take off.
4.	45-degree elbow (8)	Governor line (9)	a. Tag. b. Using 5/8-inch open-end wrench, unscrew and take off.
5.	Head assembly (10)	Boot (11)	Pull back.
6.	Heater wire (12)	Nut (13)	Using 3/8-inch open-end wrench, unscrew and take off.
7.	Head assembly (10)	Heater wire (12)	Take off.



TA244334

**AIR DRYER - CONTINUED** TM 5380-2520-2

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL - CONTINUED</b>		
<b><u>WARNING</u></b>		
Assistance will be needed to support air dryer when performing steps 8 thru 10 to prevent injury to personnel.		
8. Right bracket (1)	Two screws (2) and two nuts (3)	Using 3/4-inch, 1/2-inch drive socket, 3-inch extension, ratchet handle, and 3/4-inch box-end wrench, unscrew and take out.
9. Left bracket (4)	Two screws (5) and two nuts (6)	Using 3/4-inch, 1/2-inch drive socket, 3-inch extension, ratchet handle, and 3/4-inch box-end wrench, unscrew and take out.
10. Frame rail (7)	Air dryer (8)	With assistance, take off.



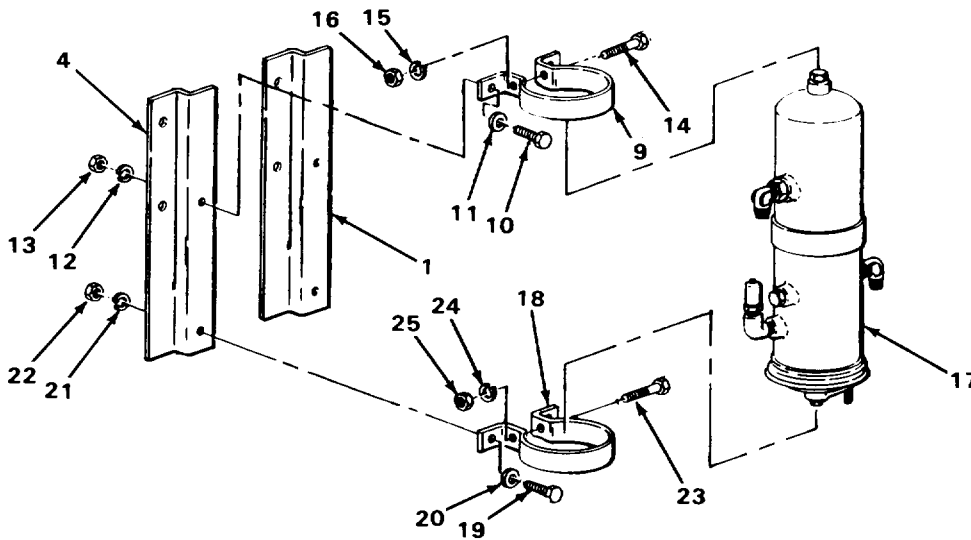
**DISASSEMBLY**

11. Top clamp (9)	Two screws (10), two flat washers (11), two lockwashers (12), and two nuts (13)	<ol style="list-style-type: none"> <li>a. Using two 9/16-inch box-end wrenches, unscrew and take out.</li> <li>b. Get rid of lockwashers.</li> </ol>
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TA244335

AIR DRYER - CONTINUED

LOCATION	ITEM	ACTION REMARKS
12.	Cap screw (14), lockwasher (15), and nut (16)	a. Using two 1/2-inch box-end wrenches, unscrew and take out. b. Get rid of lockwashers.
13. Air dryer (8)	Top clamp (9)	Open and slide off.
14. Bottom clamp (17)	Two screws (18), two flat washers (19), two lock- washers (20), and two nuts (21)	a. Using two 9/16-inch box-end wrenches, unscrew and take off. b. Get rid of lockwashers.
15.	Right bracket (1) and left bracket (4)	Take off.
16.	Cap screw (22), lockwasher (23), and nut (24)	a. Using two 1/2-inch box-end wrenches, unscrew and take out. b. Get rid of lockwashers.
17. Air dryer (8)	Bottom clamp (17)	Open and slide off.



TA244336

**AIR DRYER - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY - CONTINUED		
18. Air dryer (1)	Two plugs (2)	Using 7/8-inch box-end wrench, unscrew and take out.
19.	90-degree elbow (3)	Using 3/4-inch open-end wrench, unscrew and take out.
20. Check valve (4)	90-degree elbow (5)	Using 1 1/4-inch and 13/16-inch open-end wrenches, unscrew and take out.
21. Air dryer (1)	Check valve (4)	Using 1 1/4-inch open-end wrench, unscrew and take out.
22. 90-degree elbow (6)	Pressure relief valve (7)	Using 3/4-inch open-end wrench, unscrew and take out.
23. Air dryer (1)	90-degree elbow (6)	Using 13/16-inch open-end wrench, unscrew and take out.
24. Head assembly (8)	45-degree elbow (9)	Using 5/8-inch open-end wrench, unscrew and take out.

## CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

Safety goggles must be worn when using wire brush. Flying rust or metal particles could cause eye injury.

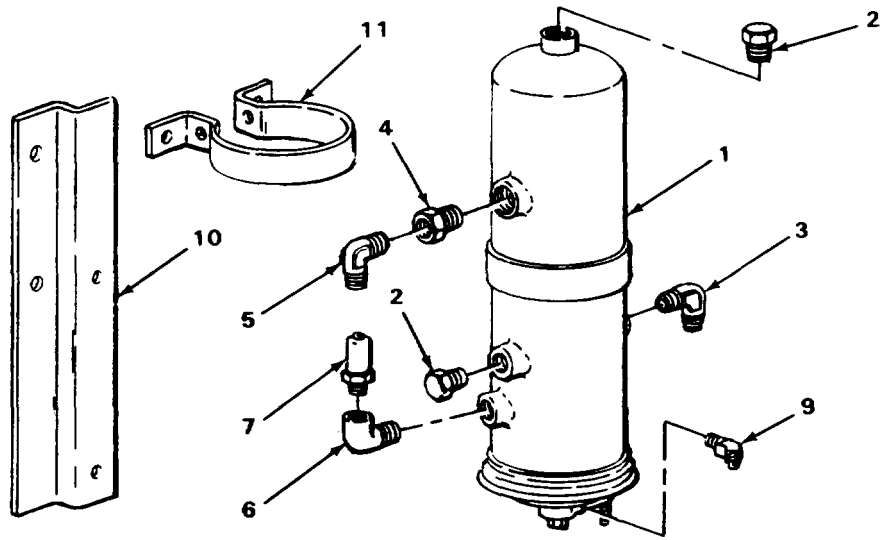
**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

**2-1006**

AIR DRYER - CONTINUED

LOCATION	ITEM	ACTION REMARKS
25.	Air dryer (1)	a. Clean rust, scale, and corrosion from outside surfaces using wire brush. b. Wipe clean using drycleaning solvent and wiping rag. c. To touch-up or repaint, refer to TM 43-0139.
26.	Two brackets (10)	a. Clean rust, scale, and corrosion using and two clamps (11) wire brush. b. Wipe clean using drycleaning solvent and wiping rag. c. To touchup or repaint, refer to TM 43-0139.



TA244337

**AIR DRYER - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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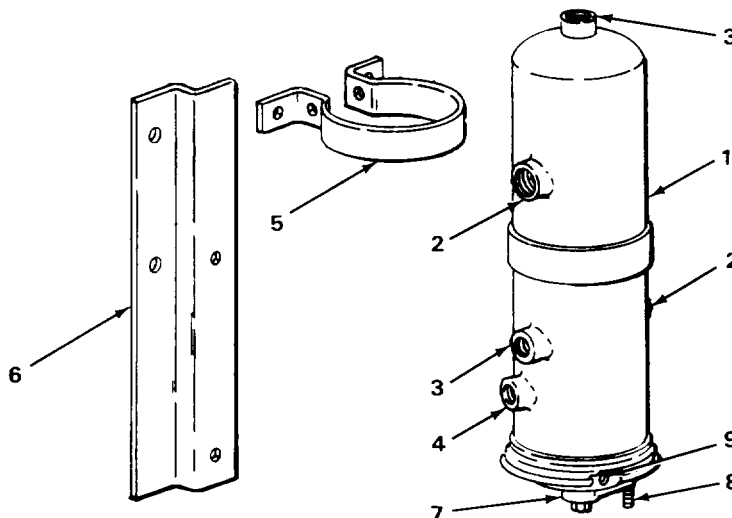
INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

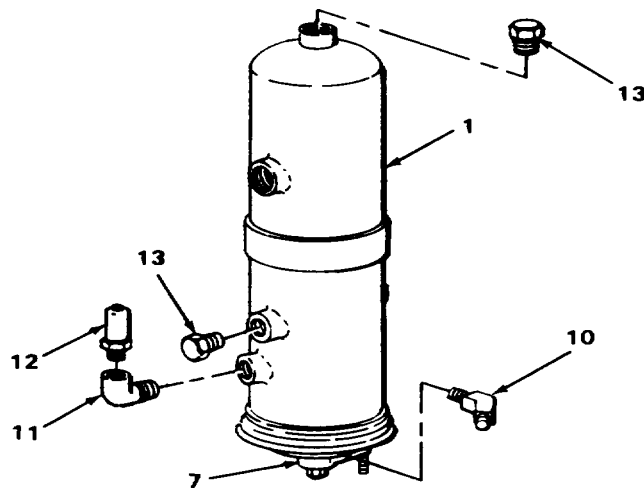
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

27.	Air dryer (1)	<ul style="list-style-type: none"> <li>a. Look for cracks or broken welds.</li> <li>b. Look for stripped or cracked elbow bosses (2) or plug bosses (3).</li> <li>c. Look for stripped or cracked pressure relief valve boss (4).</li> </ul>
28.	Two clamps (5)	<ul style="list-style-type: none"> <li>a. Look for cracks, breaks, or twists.</li> <li>b. Look for distorted or oversized holes.</li> </ul>
29.	Two brackets (6)	<ul style="list-style-type: none"> <li>a. Look for cracks, breaks, or bends.</li> <li>b. Look for distorted or oversized holes.</li> </ul>
30.	Head assembly (7)	<ul style="list-style-type: none"> <li>a. Look for cracks or breaks.</li> <li>b. Look for broken heater wire terminal (8).</li> <li>c. Look for stripped governor line boss (9).</li> </ul>
31.	All threaded parts	Look for damaged threads or rounded heads.



**AIR DRYER - CONTINUED** TM 5-3805254-20-2

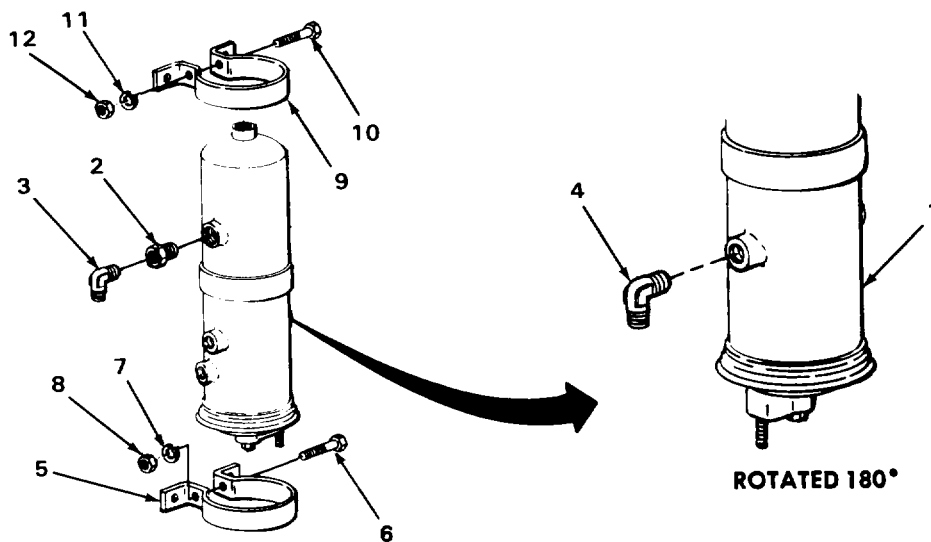
LOCATION	ITEM	ACTION REMARKS
ASSEMBLY		
<b><u>CAUTION</u></b>		
Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.		
<b><u>NOTE</u></b>		
For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).		
Position all elbows as shown in illustration.		
32. Head assembly (7)	45-degree elbow (10)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 5/8-inch open-end wrench.
33. Air dryer (1)	90-degree elbow (11)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 13116-inch open-end wrench.
34. 90-degree elbow (11)	Pressure relief valve (12)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 3/4-inch open-end wrench.
35. Airdryer (1)	Two plugs (13)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 7/8-inch box-end wrench.



TA244339

AIR DRYER - CONTINUED

LOCATION	ITEM	ACTION REMARKS
ASSEMBLY - CONTINUED		
36. Air dryer (1)	Check valve (2)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 1 1/4-inch open-end wrench.
37. Check valve (2)	90-degree elbow (3)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 1 1/4-inch and 13/16-inch open-end wrenches.
38. Air dryer (1)	90-degree elbow (4)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 3/4-inch open-end wrench.
39.	Bottom clamp (5)	Open and slide on.
40. Bottom clamp (5)	Cap screw (6), new lockwasher (7), and nut (8)	Put in place. <b>Do not tighten.</b>
41.	Top clamp (9)	Open and slide on.
42. Top clamp (9)	Cap screw (10), new lockwasher (11), and nut (12)	Put in place. <b>Do not tighten.</b>



TA244340



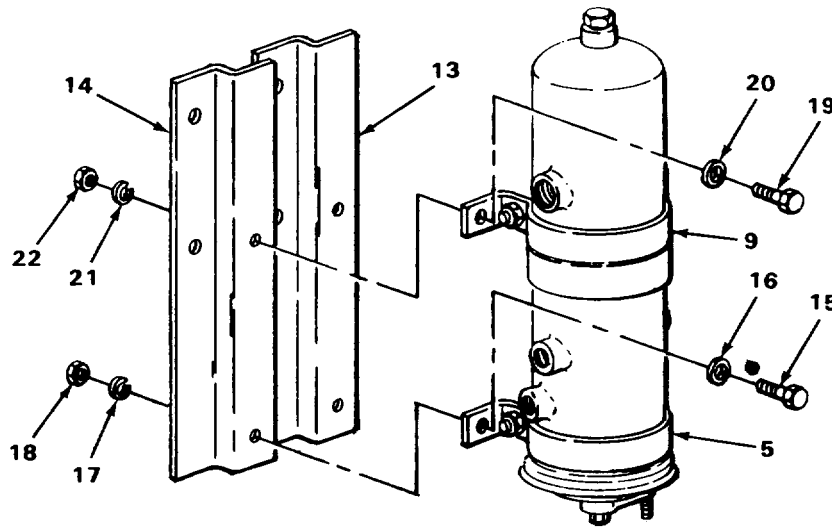
AIR DRYER - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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**NOTE**

Position right and left brackets as shown in illustration.

- |  |   |  |
|--|---|--|
| 43. Bottom clamp (5) and top clamp (9) | Right bracket (13) and left bracket (14)  | Put into position.   |
| 44. Bottom clamp (5)                   | Two screws (15), two flat washers (16), two new lockwashers (17), and two nuts (18) | Screw in and tighten using two 9/16-inch box-end wrenches. |
| 45. Top clamp (9)                      | Two screws (19), two flat washers (20), two new lockwashers (21), and two nuts (22) | Screw in and tighten using two 9/16-inch box-end wrenches. |



TA244341

**AIR DRYER - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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INSTALLATION

**WARNING**

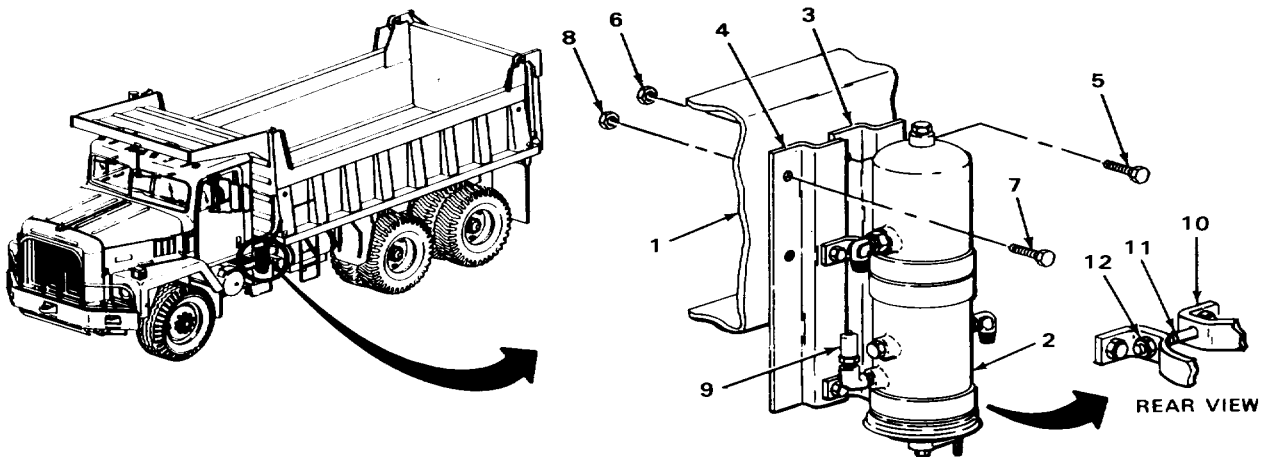
Assistance will be needed to support air dryer while performing steps 46, 47, and 48. Failure to observe this precaution could cause injury to personnel.

46. Frame rail (1)	Air dryer (2), right bracket (3), and left bracket (4)	Put in place aligning holes in right and left brackets with holes in frame rail.
47. Right bracket (3)	Two screws (5) and two nuts (6)	Screw in and tighten using 3/4-inch, 11/2-inch drive socket, 3-inch extension, ratchet handle, and 3/4-inch box-end wrench.
48. Left bracket (4)	Two screws (7) and two nuts (8)	Screw in and tighten using 3/4-inch, 1/2-inch drive socket, 3-inch extension, ratchet handle, and 3/4-inch box-end wrench.
49. Air dryer (2)	Pressure relief valve (9)	Turn air dryer to position pressure relief valve toward front of dump truck.

**NOTE**

Step 50 is typical for top and bottom clamps.

50. Clamp (10)	Pinch screw (11) and nut (12)	Tighten using two 1/2-inch box-end wrenches.
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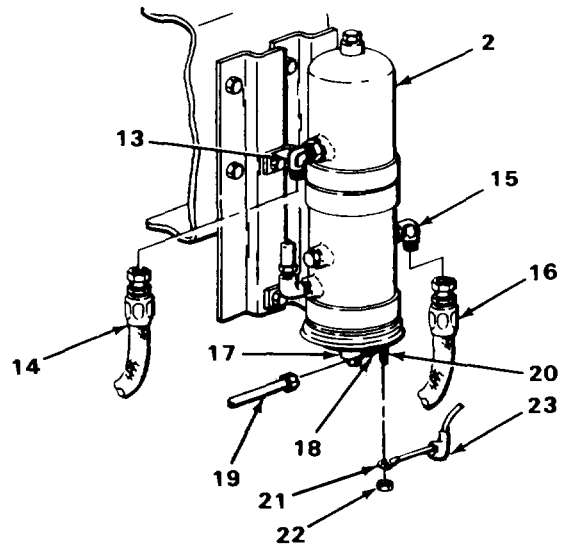
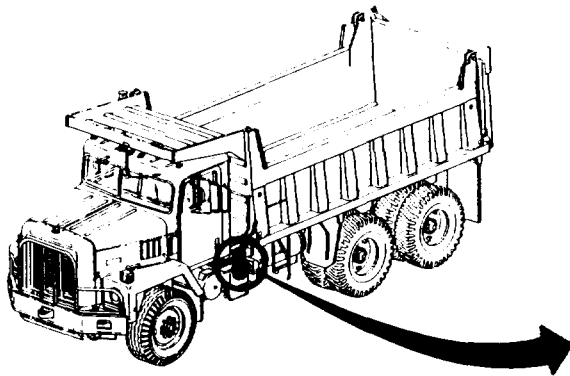


51. Air dryer (2)	90-degree elbow (13)	Wrap pipe threads with antiseizing tape.
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TA244342

**AIR DRYER - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
52. 90-degree elbow (13)	Outlet airhose (14)	a. Screw on and tighten using 1-inch open-end wrench. b. Take off tag. c. Get rid of tag.
53. Air dryer (2)	90-degree elbow (15)	Wrap pipe threads with antiseizing tape.
54. 90-degree elbow (15)	Inlet air line (16)	a. Screw on and tighten using 15/16-inch open-end wrench. b. Takeoff tag. c. Get rid of tag.
55. Head assembly (17)	45-degree elbow (18)	Wrap pipe threads with antiseizing tape.
56. 45-degree elbow (18)	Governor line (19)	a. Screw on and tighten using 5/8-inch open-end wrench. b. Take off tag. c. Get rid of tag.
57. Terminal (20)	Heater wire (21), nut (22), and boot (23)	a. Put on heater wire. b. Screw on and tighten nut using 3/8-inch open-end wrench. c. Push boot over nut.



TA244343

**AIR DRYER CARTRIDGE**

This task covers:

- |                              |   |
|------------------------------|---|
| a. Removal (page 2-1014)     | d. Inspection/Replacement (page 2-1018) |
| b. Disassembly (page 2-1016) | e. Assembly (page 2-1019)               |
| c. Cleaning (page 2-1016)    | f. Installation (page 2-1020)           |

**INITIAL SETUP:**

**Tools**

- Gloves, safety
- Goggles, safety
- Hammer, plastic-face
- Handle, ratchet, 1/2-inch drive
- Screwdriver, cross-tip, number two
- Screwdriver, flat-tip, 3/8-inch
- Socket, deep, 3/4-inch, 1/2-inch drive
- Wrench, box-end, 7/16-inch
- Wrench, box-end, 11/16-inch
- Wrench, open-end, 3/8-inch
- Wrench, open-end, 5/8-inch

**Materials/Parts**

- Cartridge, air dryer
- Locknut, cartridge

**Materials/Parts - Continued**

- Lockwasher, check ball retaining screw
- Lockwasher, head assembly (three required)
- Oil, lubricating (item 14, appendix C)
- Ring set
- Rags, wiping (item 15, appendix C)
- Solvent, drycleaning (item 19, appendix C)
- Tags, marker (item 21, appendix C)
- Tape, antiseizing (item 22, appendix C)
- Valve, ball check

**Personnel Required**

One

**Equipment Condition**

Airbrake system drained (page 2-1034).

LOCATION	ITEM	ACTION REMARKS
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**REMOVAL**

**NOTE**

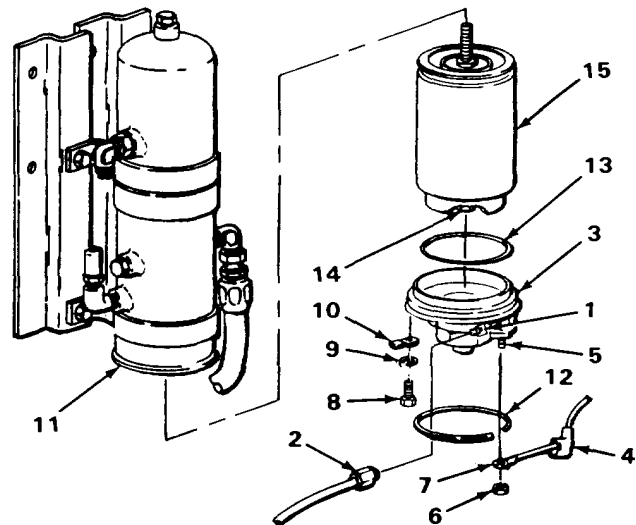
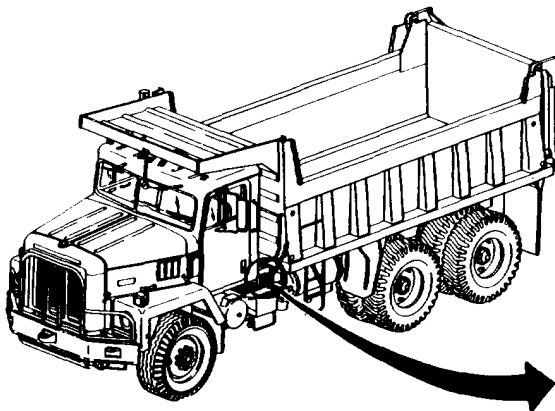
For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).

- |                        |                             |  |
|------------------------|-----------------------------|--|
| 1. 45-degree elbow (1) | Governor line (2)           | a. Tag.<br>b. Using 5/8inch open-end wrench, unscrew and take off. |
| 2. Head assembly (3)   | Boot (4)                    | Pull back.   |
| 3. Terminal (5)        | Nut (6) and heater wire (7) | Using 3/8-inch open-end wrench, unscrew and take off.              |

**2-1014**

**AIR DRYER CARTRIDGE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
4. Head assembly (3)	Three screws (8), three lockwashers (9), and three clips (10)	a. Using 7/16-inch box-end wrench, unscrew and take off. b. Get rid of lockwashers.
<b><u>CAUTION</u></b>		
Care must be taken not to strike heater wire terminal or 45-degree elbow.		
5. Air dryer (11)	Head assembly (3)	Using plastic-face hammer, strike gently to push up.
6.	Retaining ring (12)	Using 3/8-inch flat-tip screwdriver, pry out from notch.
7.	Head assembly (3)	Pull out.
8.	Ring (13)	a. Take out. b. Get rid of.
9.	Cartridge screw (14) and cartridge (15)	Using 3/4-inch, 1/2-inch drive deep socket and ratchet handle, unscrew and lower cartridge.



TA244344

## AIR DRYER CARTRIDGE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY		
<b><u>CAUTION</u></b>		
Position cartridge with cartridge locknut facing up to prevent beads from spilling.		
10. Cartridge (1)	Cartridge locknut (2) and cartridge screw (3)	a. Using 3/4-inch 1/2-inch drive deep socket, ratchet handle, and 11/16-inch box-end wrench, unscrew and take off cartridge locknut. b. Get rid of cartridge locknut. <b>Do not take out cartridge screw.</b>
11.	Plate (4), washer (5), and spring (6)	Take out.
12.	Cartridge (1)	Get rid of.
13. Plate (4)	Two rings (7)	a. Take off. b. Get rid of.
14.	Screw (8), lock-washer (9), and clip (10)	a. Using number two cross-tip screw-driver, unscrew and take off. b. Get rid of lockwasher.
15.	Ball check valve (11)	a. Take out. b. Get rid of.

## CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

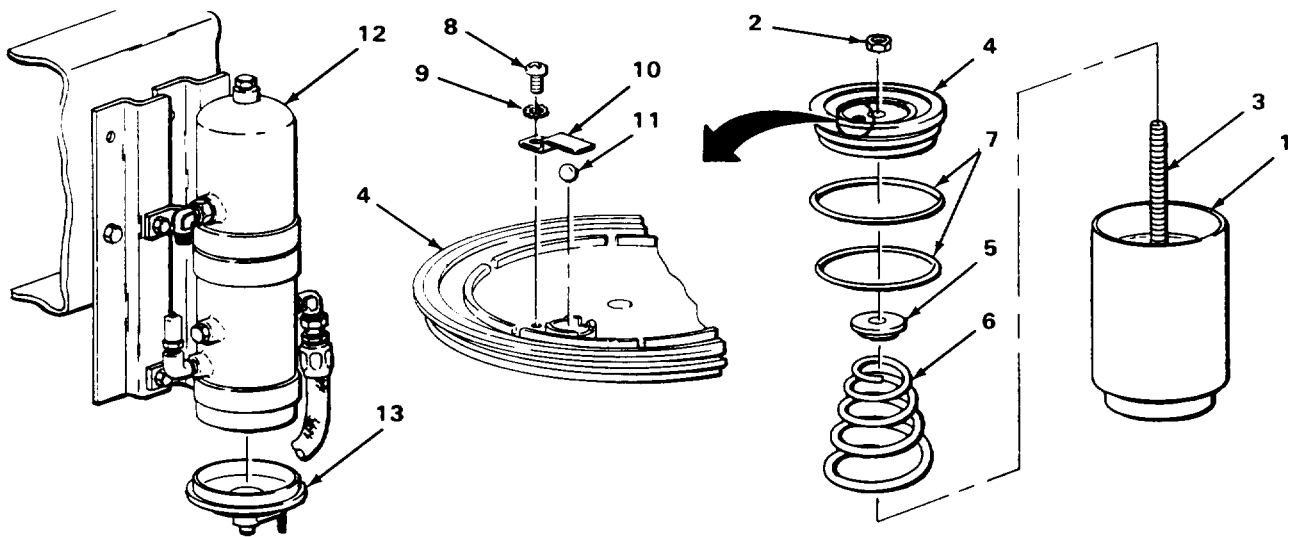
**AIR DRYER CARTRIDGE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

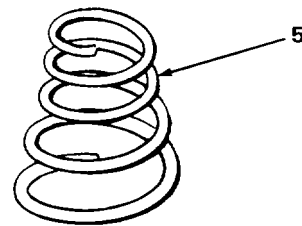
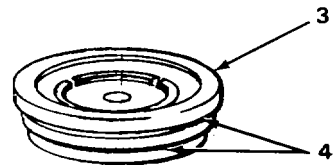
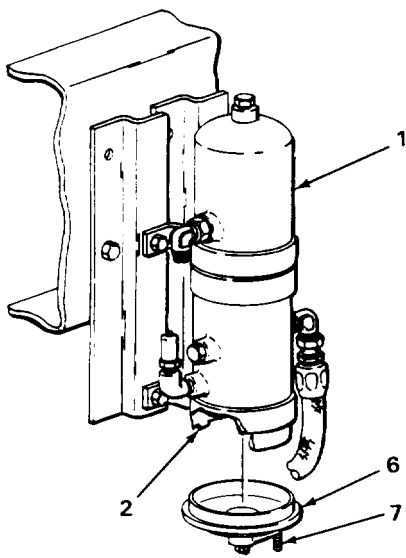
16.	Air dryer (12)	Wipe inside clean using drycleaning solvent and wiping rag.
17.	Plate (4)	Clean using drycleaning solvent and wiping rag.
18.	Head assembly (13)	Clean using drycleaning solvent and wiping rag.
19.	Washer (5) and spring (6)	Clean using drycleaning solvent and wiping rag.



TA244345

**AIR DRYER CARTRIDGE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
INSPECTION/REPLACEMENT		
<b>NOTE</b>		
Replace all damaged or defective parts.		
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).		
20.	Air dryer (1)	a. Look for bent or broken retaining ring flange (2). b. Look inside for excessive rust, scale, or corrosion. <b>If excessive rust or corrosion is found, replace air dryer (page 2-1002).</b>
21.	Plate (3)	a. Look for cracks, breaks, or dents. b. Look for cracked or broken O-ring grooves (4).
22.	Spring (5)	Look for stretched or broken coils.
23.	Head assembly (6)	a. Look for cracks or breaks. b. Look for broken heater wire terminal (7).
24.	All threaded parts	Look for defective threads or rounded heads.



TA244346



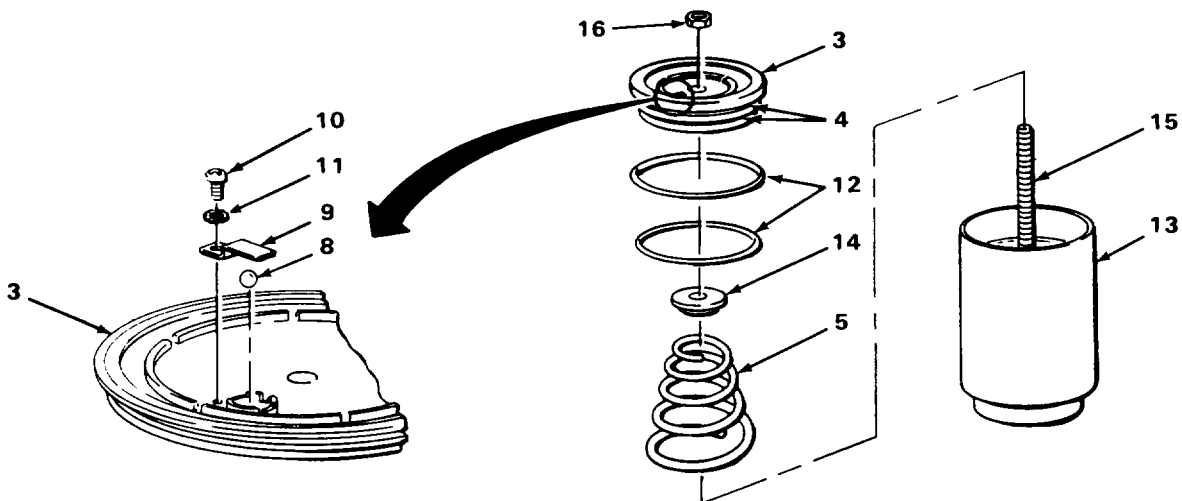
**AIR DRYER CARTRIDGE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
ASSEMBLY		
<b>CAUTION</b>		
Position new cartridge with cartridge locknut facing up to prevent beads from spilling.		
25. Plate (3)	New ball check valve (8) and clip (9)	a. Drop in ball check valve. b. Put retaining clip in position.
26.	Screw (10) and new lockwasher (11)	Screw in and tighten using number two cross-tip screwdriver.
27.	Two new rings (12)	a. Coat with lubricating oil. b. Put into ring grooves (4).
28. New cartridge (13)	Spring (5) and washer (14)	Put in. <b>Position large diameter of spring facing down.</b>

**NOTE**

Hold cartridge screw from being pushed out when performing next step.

29.	Plate (3)	Put on.
30. Cartridge screw (15)	New cartridge locknut (16)	Screw on and tighten using 3/4-inch 112-inch drive deep socket, ratchet handle, and 11/16-inch box-end wrench.

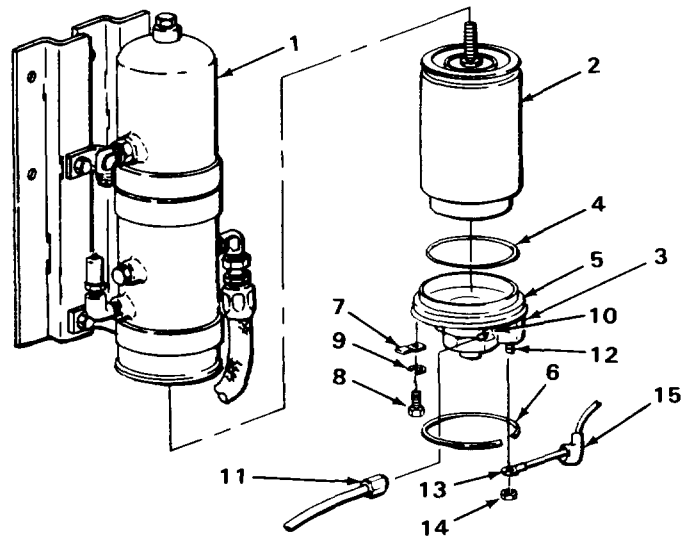
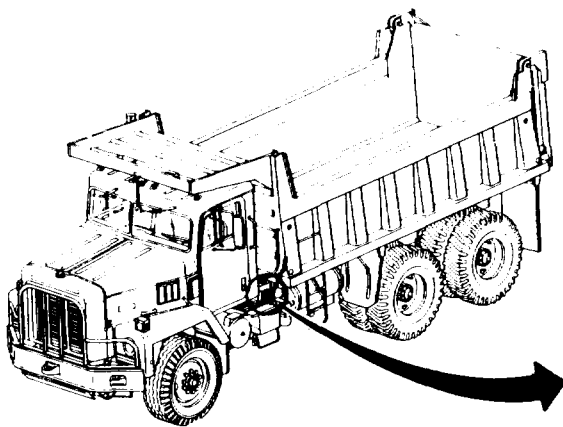


TA244347

## AIR DRYER CARTRIDGE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
<b>NOTE</b>		
Position new cartridge as shown in illustration.		
31. Air dryer (1)	New cartridge (2)	Screw in and tighten using 3/4-inch 1/2-inch drive deep socket and ratchet handle.
32. Head assembly (3)	New ring (4)	a. Coat with lubricating oil. b. Put on up to lip (5).
<b>NOTE</b>		
Position head assembly as shown in illustration.		
33. Air dryer (1)	Head assembly (3)	Put in.
34.	Ring (6)	a. Push up head assembly (3). b. Put in ring. c. Release head assembly.
<b>NOTE</b>		
Position three clips as shown in illustration.		
35. Head assembly (3)	Three clips (7)	Put into position.
36.	Three screws (8) and three new lockwashers (9)	Screw in and tighten using 7/16-inch box-end wrench.
<b>NOTE</b>		
For more information on antiseizing tape, go to General Maintenance Instructions (page 2-424).		
37.	45-degree elbow (10)	Wrap pipe threads with antiseizing tape.
38. 45-degree elbow (10)	Governor line (11)	a. Screw on and tighten using 5/8-inch open-end wrench. b. Get rid of tag.
39. Terminal (12)	Heater wire (13), nut (14), and	a. Put on heater wire. b. Screw on and tighten nut using 3/8-inch boot (15) open-end wrench. c. Push boot over nut.

**AIR DRYER CARTRIDGE - CONTINUED**



**NOTE**

FOLLOW-ON MAINTENANCE: Fill airbrake system (TM 5-3805-254-10).

**TASK ENDS HERE**

**BRAKE PEDAL**

This task covers:

- |                              |   |
|------------------------------|---|
| a. Removal (page 2-1022)     | d. Inspection/Replacement (page 2-1023) |
| b. Disassembly (page 2-1022) | e. Assembly (page 2-1024)               |
| c. Cleaning (page 2-1022)    | f. Installation (page 2-1024)           |

**INITIAL SETUP:**

**Tools**

- Brush, cleaning
- Brush, wire
- Gloves, safety
- Goggles, safety
- Pliers, long-nose, 6-inch

**Materials/Parts**

- Cotter pin (two required)
- Grease, GAA (item 10, appendix C)
- Rags, wiping (item 15, appendix C)
- Solvent, drycleaning (item 19, appendix C)

**Personnel Required**

One

TA244348

**BRAKE PEDAL - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
1. Brake pin (1)	Cotter pin (2)	a. Using 6-inch long-nose pliers, bend back ends and pull out. b. Get rid of.
2. Brake pedal (3)	Brake pin (1)	Using 6-inch long-nose pliers, pull out.
3.	Brake pedal (3)	Take off.
<b>DISASSEMBLY</b>		
4. Roller pin (4)	Cotter pin (5)	a. Using 6-inch long-nose pliers, bend back ends and pull out. b. Get rid of.
5. Brake pedal (3)	Roller pin (4)	Using 6-inch long-nose pliers, pull out.
6.	Roller (6)	Take out.

**CLEANING****WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

Safety goggles must be worn when using wire brush. Flying rust or metal particles could cause eye injury.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

7.	Brake pedal (3)	Clean using drycleaning solvent and cleaning brush.
8.	Roller (6)	a. Clean rust using wire brush. b. Wipe clean using drycleaning solvent and wiping rag.

**BRAKE PEDAL - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
9.	Brake pin (1) and roller pin (4)	a. Clean rust using wire brush. b. Wipe clean using drycleaning solvent and wiping rag.

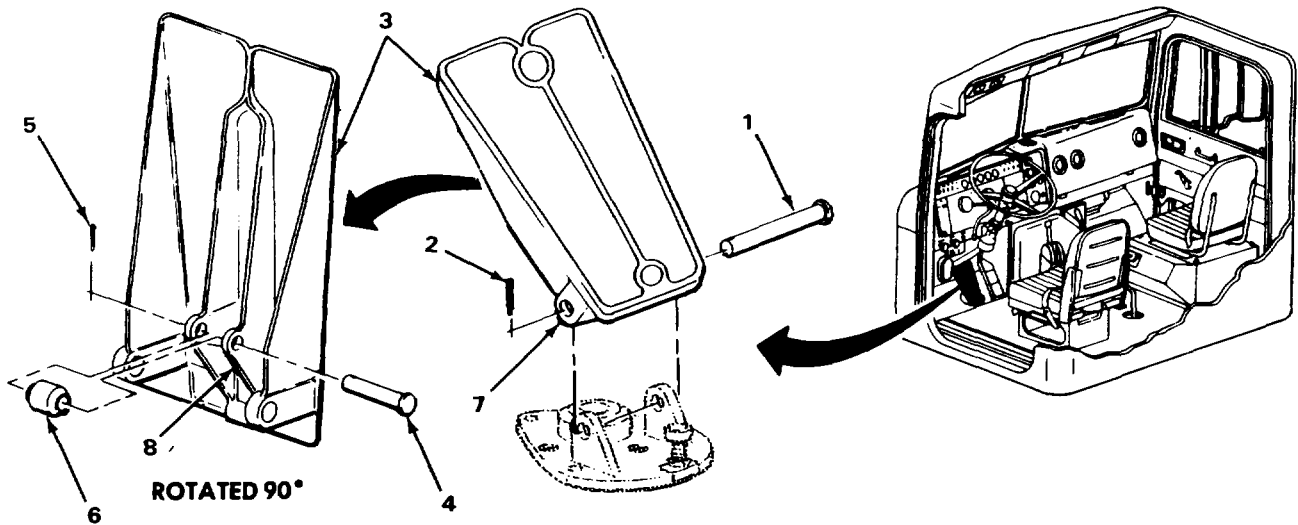
**INSPECTION/REPLACEMENT**

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

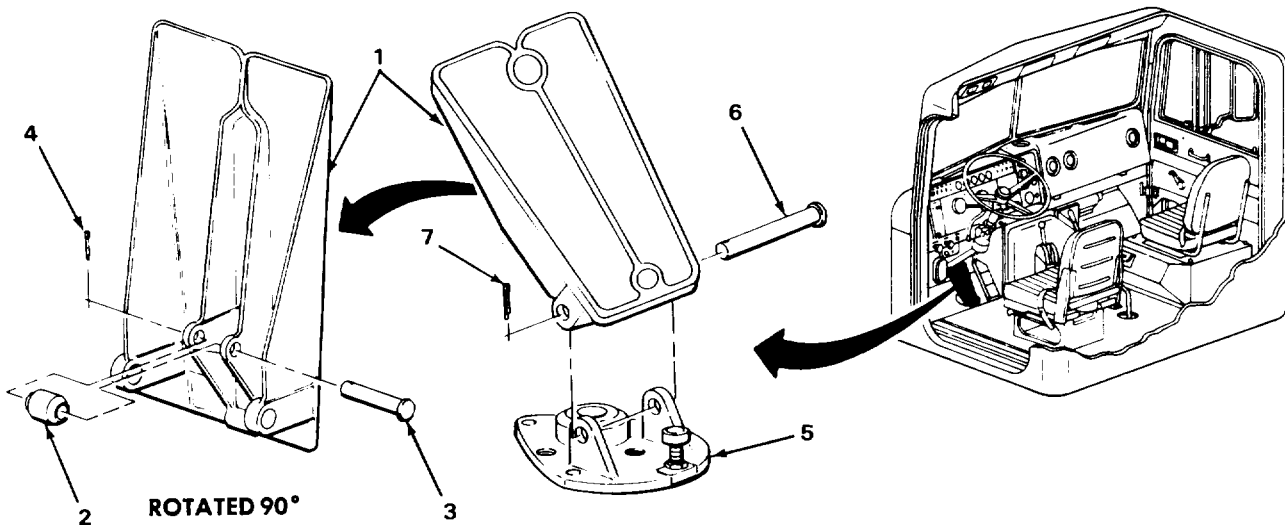
10.	Brake pedal (3)	a. Look for cracks or breaks near brake pin bosses (7) and roller pin bosses (8). b. Look for worn or distorted brake pin (1) and roller pin (4) holes.
11.	Brake pin (1) and roller pin (4)	Look for cracks, breaks, bends, or grooves.
12.	Roller (6)	a. Look for cracks, breaks, or dents. b. Look for worn or distorted areas.



TA244349

**BRAKE PEDAL - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>ASSEMBLY</b>		
13. Brake pedal (1)	Roller (2)	a. Coat with thin layer of GAA grease. b. Put in.
14.	Roller pin (3)	a. Coat with thin layer of GAA grease. b. Put in.
15. Roller pin (3)	New cotter pin (4)	Put in and bend back ends using 6-inch long-nose pliers.
<b>INSTALLATION</b>		
16. Treadle mounting plate (5)	Brake pedal (1)	Put in position.
17. Brake pedal (1)	Brake pin (6)	a. Coat with thin layer of GAA grease. b. Put in.
18. Brake pin (6)	New cotter pin (7)	Put in and bend back ends using 6-inch long-nose pliers.



**TASK ENDS HERE**

TA244350

## PARKING BRAKE CONTROL VALVE

This task covers:

- a. Removal (page 2-1024.1) b. Installation (page 2-1024.2)

### INITIAL SETUP:

#### Equipment Conditions

Lower center instrument panel removed (page 2-424).  
 Parking brake lines and fittings removed (page 2-1025).

#### Tools/Test Equipment

Screwdriver, cross-tip, number one  
 Wrench, open-end, 7/16-inch

#### Materials/Parts

Lockwasher, control valve (two required)

#### Personnel Required

One

LOCATION	ITEM	ACTION	REMARKS
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### REMOVAL

1. Parking brake control valve (1)

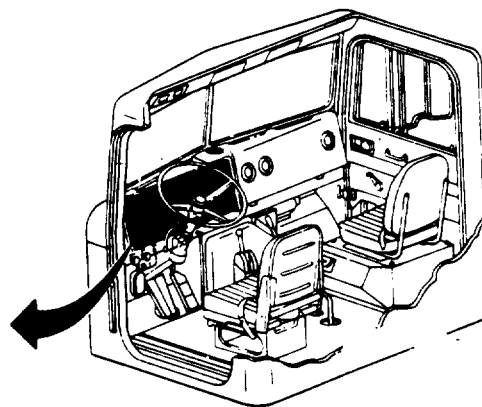
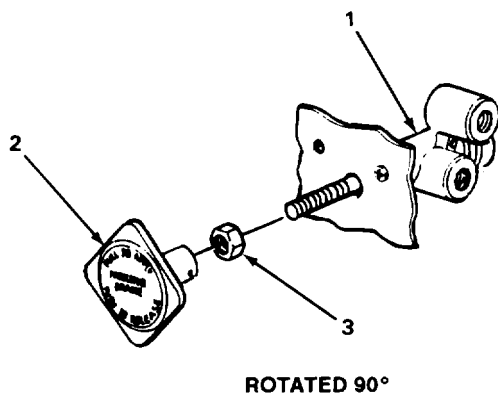
Knob (2)

Unscrew and take off.

- 2.

Nut (3)

Using 7/16-inch open-end wrench, unscrew, and take off.

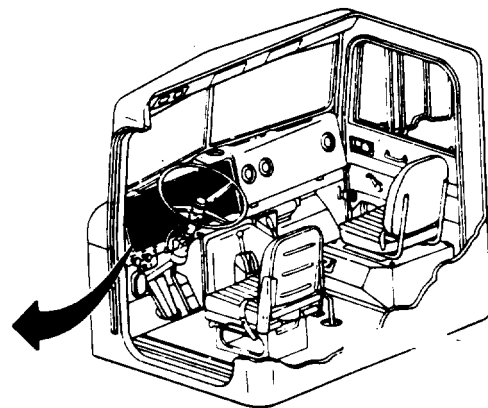
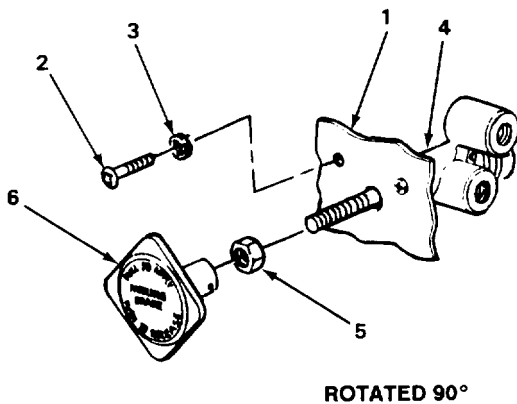


TA702138

Change 1 2-1024.1

**PARKING BRAKE CONTROL VALVE - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL - CONTINUED</b>			
3. Instrument panel (1)	Two screws (2) and lockwashers (3)	a. Using number one cross-tip screwdriver, unscrew, and take off.	
4.	Parking brake control valve (4)	b. Get rid of lockwashers. Take off.	
<b>INSTALLATION</b>			
5. Instrument panel (1)	Parking brake control valve (4)	Put in place.	
6.	Two screws (2) and new lockwashers (3)	Screw in and tighten using number one cross-tip screwdriver.	
7. Parking brake control valve (4)	Nut (5)	Using 7/16-inch open-end wrench, screw on. <b>Do not tighten.</b>	
8.	Knob (6)	Screw on.	
9.	Nut (5)	Using 7/16-inch open-end wrench, tighten against knob (2).	



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Install parking brake lines and fittings (page 2-1025).
2. Install lower center instrument panel (page 2-424).

**TASK ENDS HERE**



**PARKING BRAKE LINES**

---

This task covers:

- a. Removal (page 2-1026)
  - b. Inspection/Replacement (page 2-1029)
  - c. Installation (page 2-1030)
- 

**INITIAL SETUP:****Tools**

Screwdriver, cross-tip, number two  
Wrench, box-end, 3/8-inch  
Wrench, open-end, 9/16-inch  
Wrench, open-end, 5/8-inch

**Materials/Parts**

Tags, marker (item 21, appendix C)  
Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**Equipment Condition**

Left side cab door opened (page 2-424).  
Right instrument panel opened (page 2-424).  
Instrument panel pad removed (page 2-424).  
Airbrake system drained (page 2-1034).

**2-1025**

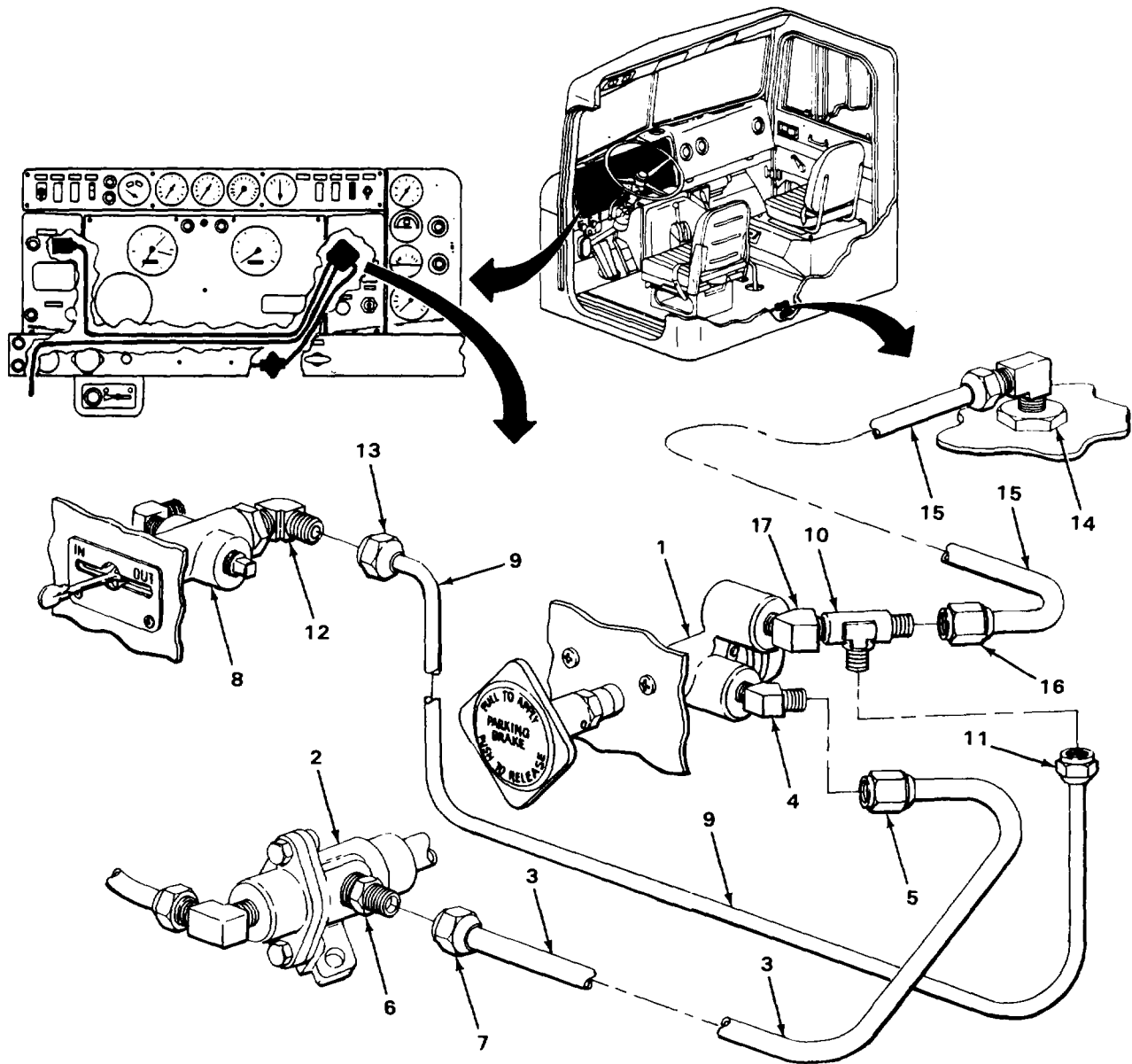
## PARKING BRAKE LINES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
<b><u>CAUTION</u></b>		
Care must be taken when working behind instrument panel to prevent damaging wires or components.		
<b><u>NOTE</u></b>		
For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).		
1. Parking brake control valve (1) to double check valve (2)	Air line (3)	Tag.
2.	Line nut (5) and 45-degree elbow (4)	Using 5/8-inch open-end wrench, unscrew and take off.
3.	Line nut (7), air line (3), and fitting (6)	a. Using 5/8-inch open-end wrench, unscrew and take off. b. Take out air line.
4. Parking brake control valve (1) to power divider control valve (8)	Air line (9)	Tag.
5. T-fitting (10)	Line nut (11)	Using 9/16-inch open-end wrench, unscrew and take off.
6. Power divider control valve (8)	Line nut (13), air line (9), and 90-degree elbow (12)	a. Using 9/16-inch open-end wrench, unscrew and take off. b. Take out air line.
7. Parking brake control valve (1) to cab floor through-connector (14)	Air line (15)	Tag.

Change 1 2-1026

PARKING BRAKE LINES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
8. Parking brake control valve (1)	Line nut (16), T-fitting (10), and 45-degree elbow (17)	Using 5/8-inch and 9/16-inch open-end wrenches, unscrew and take off.



TA702140

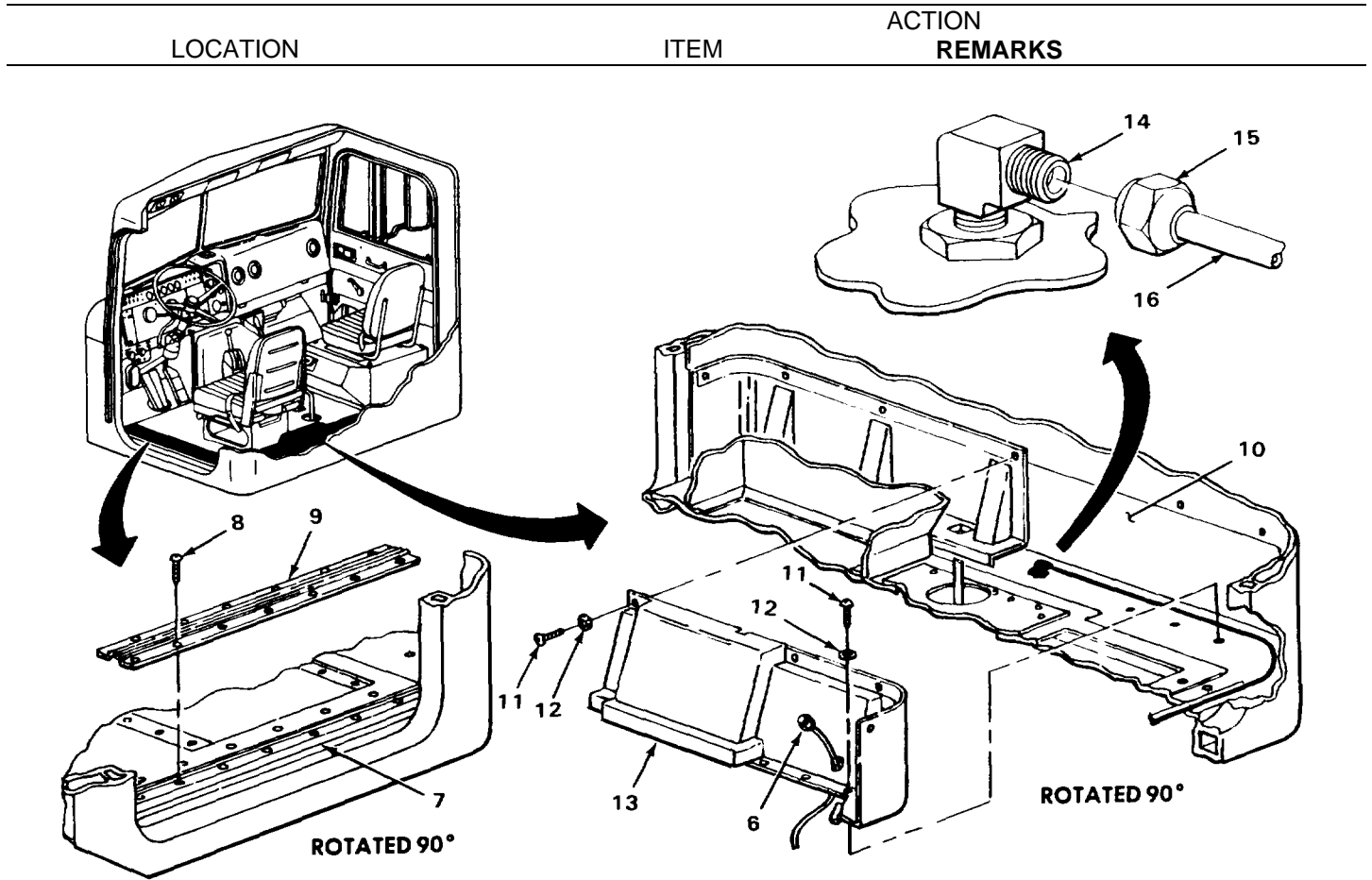
Change 1 2-1027

**PARKING BRAKE LINES - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL - CONTINUED</b>		
9. Driver's side firewall (1)	Screw (2) and clamp (3)	a. Using 3/8-inch box-end wrench, unscrew and take out. b. Take off clamp.
10. Driver's seat valve assembly (4)	Line nut (5) and air line (6)	Using 9/16-inch open-end wrench, unscrew and take off.
11. Left side cab floor (7)	Fourteen screws (8) and left scuff plate (9)	a. Using number two cross-tip screwdriver, unscrew and take out. b. Take off left scuff plate.
12. Left side rear cab wall (10)	Eight screws (11), eight flat washers (12), and left lower rear molding (13)	a. Using number two cross-tip screwdriver, unscrew and take out. b. Push air line (6) through hole while taking off left lower rear molding. <b>Be careful not to bend or crimp air line.</b>
13. Cab floor through-connector 90-degree elbow (14)	Line nut (15) and air line (16)	a. Using 5/8-inch open-end wrench, unscrew and take off. b. Take out air line.

TA244352

PARKING BRAKE LINES - CONTINUED



INSPECTION/REPLACEMENT

NOTE

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

- |     |                    |  |
|-----|--------------------|--|
| 14. | All air lines      | <ul style="list-style-type: none"> <li>a. Look for cracks, breaks, crimps, or chafing.</li> <li>b. Look for cracked or distorted line nuts.</li> </ul> |
| 15. | All threaded parts | Look for damaged threads or rounded heads.   |

TA244353

**PARKING BRAKE LINES - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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**INSTALLATION**

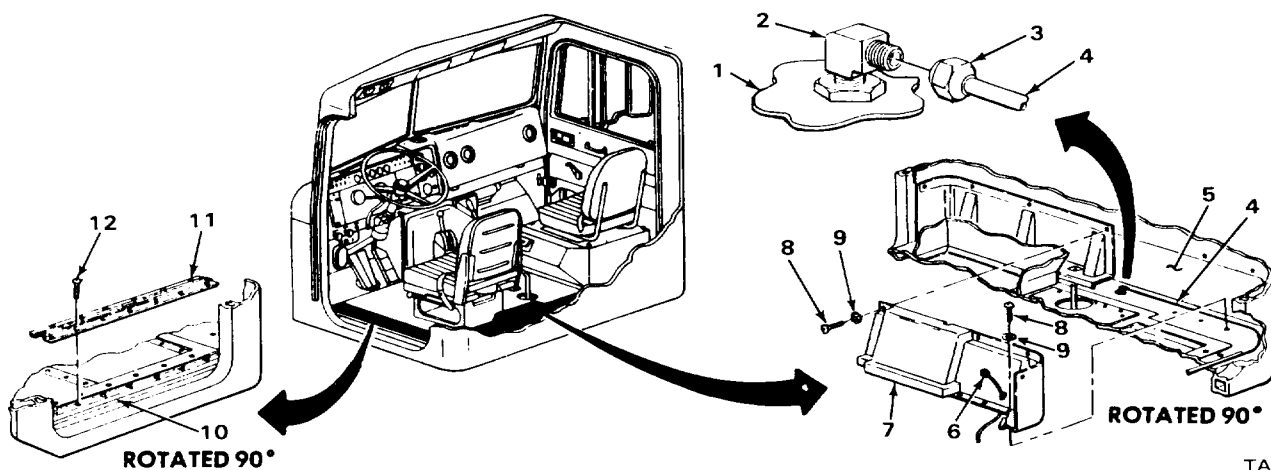
**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

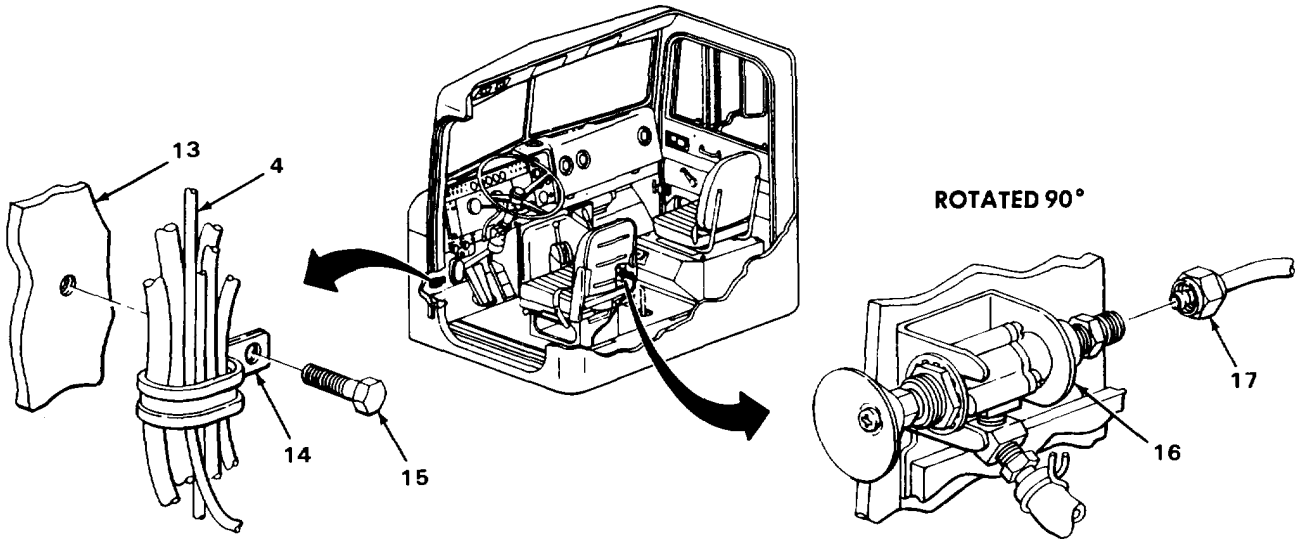
16. Cab rear floor (1)	Cab floor through connector 90-degree elbow (2)	Wrap pipe threads with antiseizing tape.
17. Cab floor through connector 90-degree elbow (2)	Line nut (3) and air line (4)	a. Screw on and tighten using 5/8-inch open-end wrench. b. Route air line as shown.
18. Left side rear cab wall (5) molding (7)	Air line (6) and left lower rear	a. Push air line through hole. b. Put left lower rear molding in position.
19. Left lower rear molding (7) washers (9)	Eight screws (8) and eight flat	Screw in and tighten using number two cross-tip screwdriver.
20. Left side cab floor (10) screws (12)cross-tip screwdriver.	Left scuff plate (11) and fourteen	a. Put left scuff plate in position. b. Screw in and tighten using number two



TA244354

**PARKING BRAKE LINES - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
22. Driver's side firewall (13)	Air line (4), clamp (14), and screw (15)	a. Put clamp around air line. b. Screw in and tighten using 3/18-inch box-end wrench.
23. Driver's seat valve assembly (16)	Air line (17)	Screw on and tighten using 9/16-inch open-end wrench.



**CAUTION**

Care must be taken when working behind instrument panel to prevent damaging wires or components.

TA244355

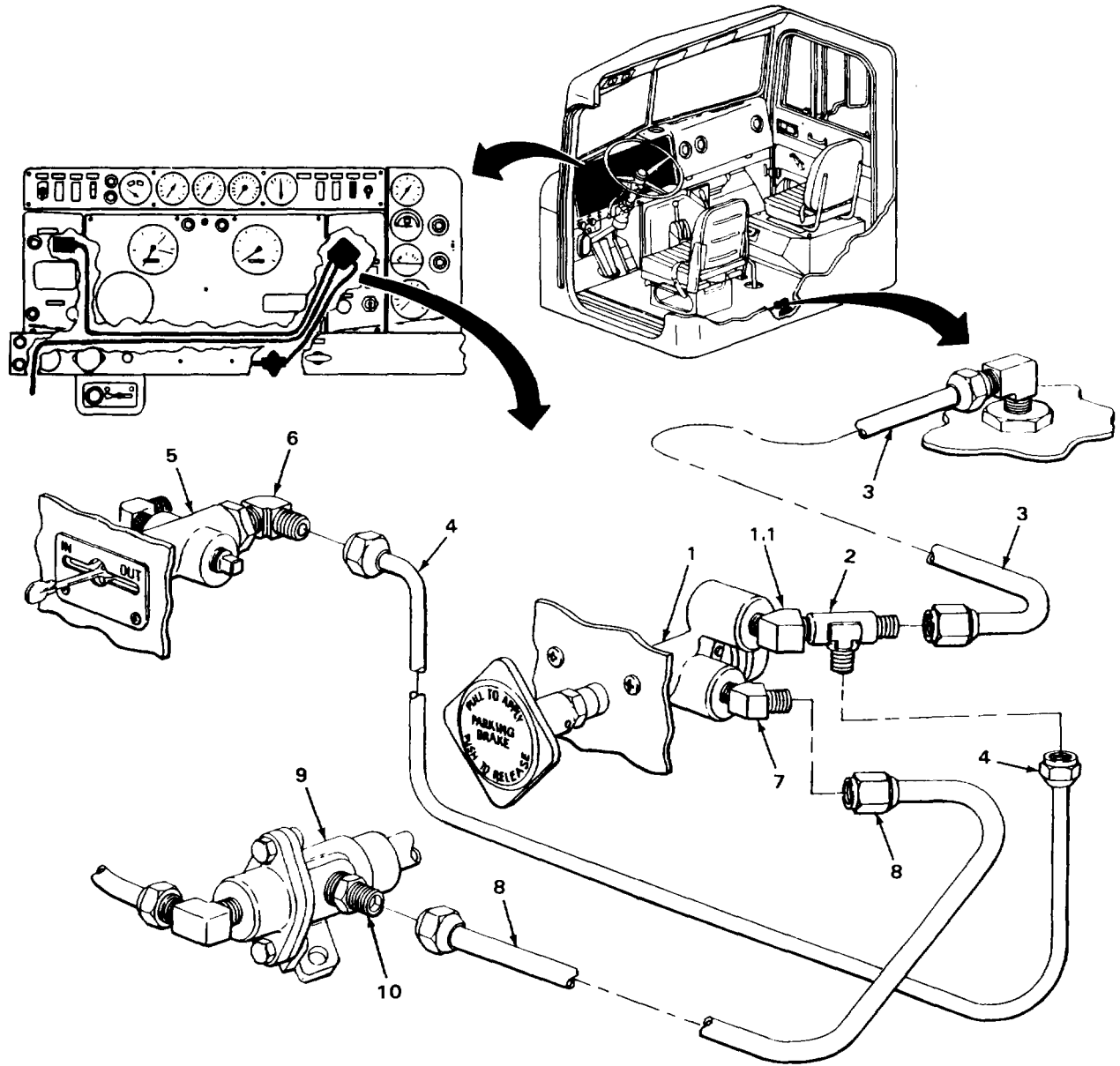
## PARKING BRAKE LINES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
<b>NOTE</b>		
See tags for air line locations.		
24. Parking brake control valve (1)	45-degree elbow (1.1) and T-fitting (2)	Wrap pipe threads with antiseizing tape.
25.	45-degree elbow (1.1), T-fitting (2), and air line (3)	a. Screw on and tighten using 5/18inch open-end wrench. b. Take off tag. c. Get rid of tag.
26.	Air line (4)	Screw on and tighten using 9/16-inch open-end wrench.
27. Power divider control valve (5)	90-degree elbow (6)	Wrap pipe threads with antiseizing tape.
28.	90-degree elbow (6) and air line (4)	a. Screw on and tighten using 9/16-inch open-end wrench. b. Take off tag. c. Get rid of tag.
29. Parking brake control valve (1)	45-degree elbow (7)	Wrap pipe threads with antiseizing tape.
30.	45-degree elbow (7) and air line (8)	Screw on and tighten using 5/8-inch open-end wrench.
31. Double check valve (9)	Fitting (10)	Wrap pipe threads with antiseizing tape.
32.	Fitting (10) and air line (8)	a. Screw on and tighten using 5/8-inch open-end wrench. b. Take off tag. c. Get rid of tag.

Change 1 2-1032



PARKING BRAKE LINES - CONTINUED



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Install instrument panel pad (page 2-424).
2. Close right instrument panel (page 2-424). Change 12-1033
3. Close left side cab door (page 2-424).

**TASK ENDS HERE**

**AIRBRAKE SYSTEM DRAINING**

This task covers:

Draining

INITIAL SETUP:

Personnel Required

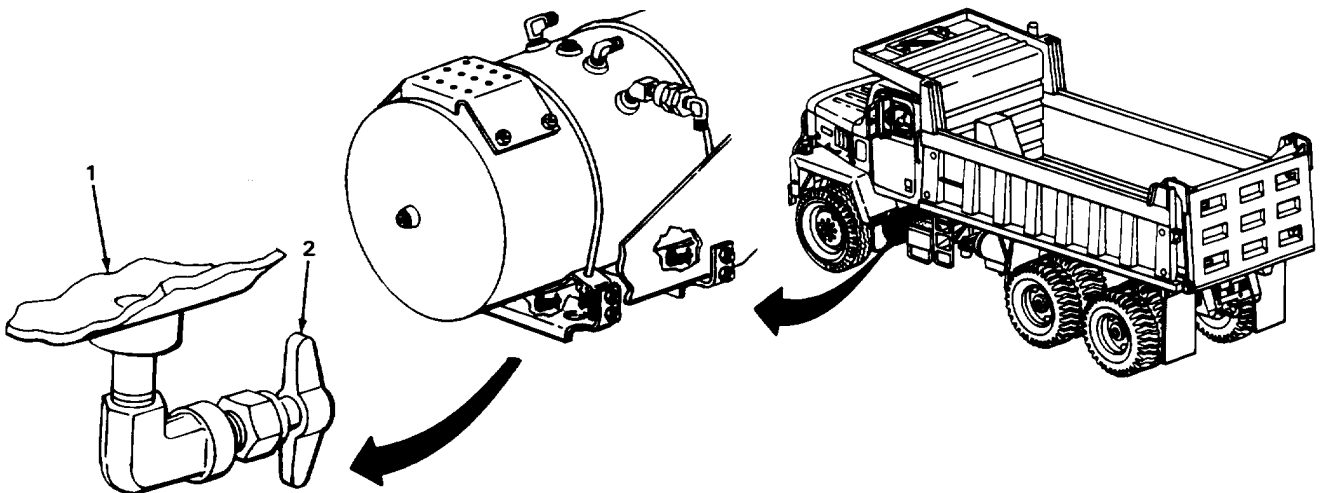
One

LOCATION	ITEM	ACTION	REMARKS
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**WARNING**

Drain air from airbrake system before removing hoses, lines or fittings to avoid injury to personnel from compressed air.

- |                          |                    |  |
|--------------------------|--------------------|--|
| 1. Dry air reservoir (1) | Two draincocks (2) | <ul style="list-style-type: none"> <li>a. Turn counterclockwise to open and allow compressed air to drain.</li> <li>b. Turn clockwise to close.</li> </ul> |
|--------------------------|--------------------|--|



TYPICAL (2) PLACES

TA244357

**TASK ENDS HERE**

**AIRBRAKE CYLINDER CONTROL VALVE**

This task covers:

a. Removal (page 2-1034.1)

b. Installation (page 2-1034.2)

**INITIAL SETUP:**

**Equipment Conditions**

Front brake limiting control valve hoses and fittings disconnected (page 2-1159).

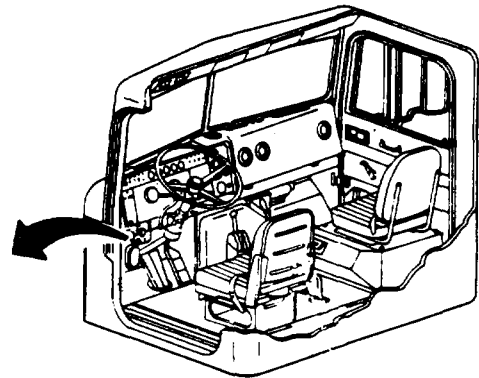
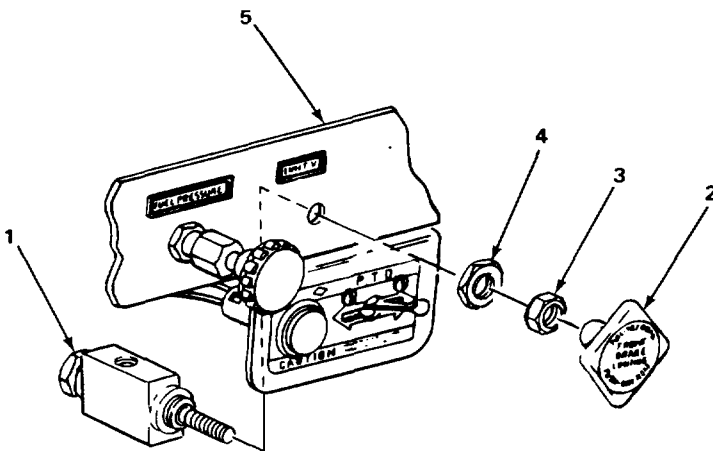
**Tools/Test Equipment**

Wrench, box-end, 7/16-inch  
Wrench, open-end, 1-inch

**Personnel Required**

One

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL</b>			
1. Airbrake cylinder control valve (1)	Knob (2)	Unscrew and take off.	
2.	Nut (3)	Using 7/16-inch open-end wrench, unscrew, and take off.	
3.	Nut (4)	Using 1-inch open-end wrench, unscrew, and take off.	
4. Instrument panel (5)	Airbrake cylinder control valve (1)	Take off.	



TA702142

Change 1 2-1034.1

**AIRBRAKE CYLINDER CONTROL VALVE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
5. Instrument panel (1)	Airbrake cylinder control valve (2)	Put in place.
6. Airbrake cylinder control valve (2)	Nut (3)	Screw on and tighten using 1 -inch open-end wrench.
7.	Nut (4)	Screw on using 7/16-inch open-end wrench. <b>Do not tighten.</b>
8.	Knob (5)	Screw on.
9.	Nut (4)	Using 7/16-inch open-end wrench, tighten against knob (2).

**NOTE**

FOLLOW-ON MAINTENANCE: Connect front brake limiting control valve hoses and fittings (page 2-1159).

**TASK ENDS HERE**

TA702143

**Change 1 2-1034.2**

**AIR COMPRESSOR TO AIR DRYER HOSE AND LINES**


---

This task covers:

- |                           |   |
|---------------------------|---|
| a. Removal (page 2-1036)  | c. Inspection/Replacement (page 2-1037) |
| b. Cleaning (page 2-1037) | d. Installation (page 2-1038)           |
- 

**INITIAL SETUP:****Tools**

Gloves, safety  
 Goggles, safety  
 Wrench, box-end, 7/16-inch  
 Wrench, open-end, 7/16-inch  
 Wrench, open-end, 15/16-inch  
 Wrench, open-end, 1-inch

**Materials/Parts**

Detergent, liquid, GP (item 7, appendix C)  
 Lockwasher, clamp screw, front  
 Lockwasher, clamp screw, rear (two required)

**Materials/Parts - Continued**

Rags, wiping (item 15, appendix C)  
 Solvent, drycleaning (item 19, appendix C)  
 Tags, marker (item 21, appendix C)  
 Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**Equipment Condition**

Airbrake system drained (page 2-1034).  
 Left side hood panel opened (page 2-424).

---

**2-1035**

## AIR COMPRESSOR TO AIR DRYER HOSE AND LINES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
<b>WARNING</b>		
Safety goggles must be worn when working under truck to prevent eye injury.		
<b>NOTE</b>		
Air line is in three sections. Tag sections from front to rear of truck as section 1, section 2, and section 3.		
For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).		
1. Air compressor (1)	Air line (2)	Tag.
2. Air line (2)	Line nut (3)	Using 1-inch open-end wrench, unscrew and take off.
3. Three clamps (4)	Screw (5), lock-washer (6), and nut (7)	a. Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out. b. Get rid of lockwasher. c. Take clamps off air line (2).
4. Air line (2) and airhose (8)	Line nut (9) and line nut (10)	a. Using 1-inch and 15/16-inch open-end wrenches, unscrew and take off. b. Take out air line (2).
5.	Airhose (8)	Tag.
6. Airhose (8) and air line (11)	Line nut (12) and line nut (13)	a. Using 1-inch and 15/16-inch open-end wrenches, unscrew and take off. b. Take out airhose (8).
7.	Air line (11)	Tag.

**NOTE**

Step 9 is typical for two clamp assemblies.

8. Air line (11)	Screw (14), lock-washer (15), nut (16), clamp (17), and clamp (18)	a. Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out. b. Get rid of lockwasher. c. Take clamp (17) off air line.
9. Air dryer (19) and 90-degree elbow (20)	Line nut (21) and air line (11)	a. Using 15/16-inch open-end wrench, unscrew and take off. b. Take out air line.

**AIR COMPRESSOR TO AIR DRYER HOSE AND LINES - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>CLEANING</b>		
<b>WARNING</b>		
<p>Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.</p>		
<b>NOTE</b>		
<p>For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).</p>		
10.	Airhose (8)	Clean using liquid detergent and wiping rag.
11.	All metal parts	Clean using drycleaning solvent and wiping rag.

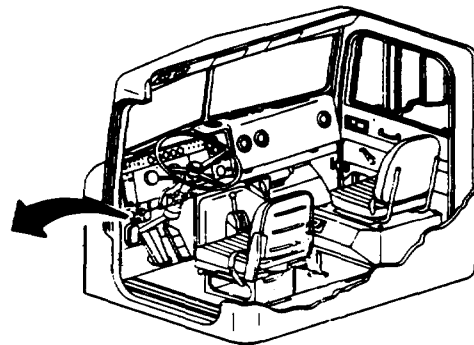
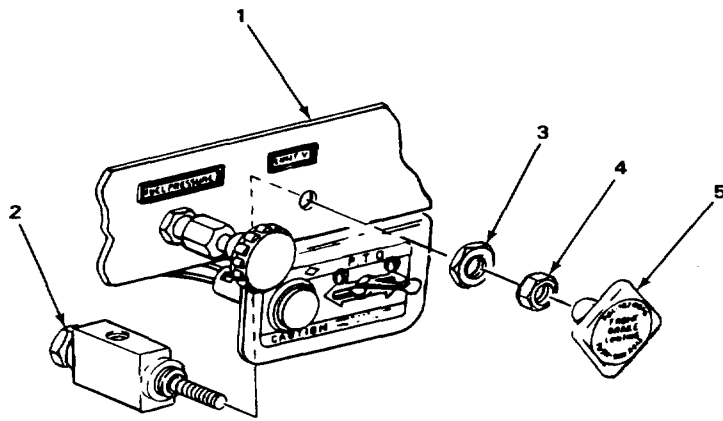
**INSPECTION/REPLACEMENT**

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

12.	Air lines (2 and 11) and airhose (8)	<ul style="list-style-type: none"> <li>a. Look for cracks, breaks, kinks, or chafing.</li> <li>b. Look for excessive rust or corrosion.</li> </ul>
13.	All threaded parts	Look for damaged threads or rounded heads.



TA244358

## AIR COMPRESSOR TO AIR DRYER HOSE AND LINES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

## INSTALLATION

**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

Air line is in three sections, see tags for correct locations.

14. Air dryer (1)	90-degree elbow (2)	Wrap pipe threads with antiseizing tape.
15. 90-degree elbow (2)	Air line (3)	a. Screw on and tighten using 15/16-inch open-end wrench. b. Take off tag. c. Get rid of tag.

**NOTE**

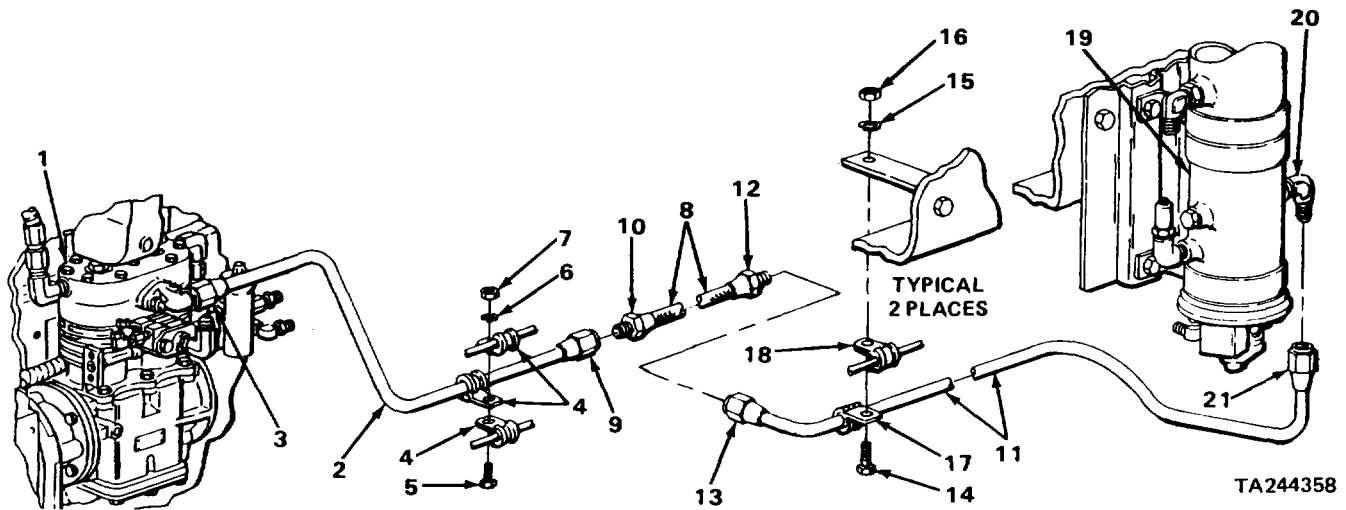
Step 15 is typical for two clamp assemblies.

16. Clamp bracket (4) and air line (3)	Clamp (5), clamp (6), screw (7), new lockwasher (8), and nut (9)	a. Put clamp (5) around air line and position with clamp (6) on clamp bracket. b. Screw in and tighten using 7/16-inch box-end and 7/16-inch open-end wrenches.
17.	Airhose (10)	Wrap both male pipe threads with antiseizing tape.
18. Air line (3) and airhose (10)	Line nut (11) and line nut (12)	a. Screw on and tighten using 1-inch and 15/16-inch open-end wrenches. b. Take tag off air hose. c. Get rid of tag.
19. Airhose (10) and air line (13)	Line nut (14) and line nut (15)	a. Screw on and tighten using 1-inch and 15/16-inch open-end wrenches. b. Take tag off air line. c. Get rid of tag.



**AIR COMPRESSOR TO AIR DRYER HOSE AND LINES - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
20. Air line (13)	Clamp (16)	Put on and aline with holes in two clamps.
21. Clamp (16) and two clamps (17)	Screw (18), new lockwasher (19), and nut (20)	Screw in and tighten using 7/16-inch box-end and 7/16-inch open-end wrenches.
22. Air compressor (21)	90-degree elbow (22)	Wrap pipe threads with antiseizing tape.
23. 90-degree elbow (22)	Air line (13)	Screw on and tighten using 1-inch open-end wrench.



**NOTE**

FOLLOW-ON MAINTENANCE: Close left side hood panel (page 2-424).

**TASK ENDS HERE**

TA244359

**AIR COMPRESSOR GOVERNOR TO AIR DRYER LINES AND FITTINGS**

This task covers:

- |                           |   |
|---------------------------|---|
| a. Removal (page 2-1040)  | c. Inspection/Replacement (page 2-1043) |
| b. Cleaning (page 2-1042) | d. Installation (page 2-1044)           |

INITIAL SETUP:

Tools

- Gloves, safety
- Goggles, safety
- Wrench, box-end, 7/16-inch
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 9/16-inch
- Wrench, open-end, 5/8-inch

Materials/Parts

- Lockwasher, clamp screw, front
- Lockwasher, clamp screw, rear
- Rag, wiping (item 15, appendix C)

Materials/Parts - Continued

- Solvent, drycleaning (item 19, appendix C)
- Tags, marker (item 21, appendix C)
- Tape, antiseizing (item 22, appendix C)

Personnel Required

One

Equipment Condition

- Airbrake system drained (page 2-1034).
- Left side hood panel opened (page 2-424).

LOCATION	ITEM	ACTION REMARKS
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REMOVAL

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

**NOTE**

Air line is in three sections. Tag sections from front to rear of truck as section 1, section 2, and section 3.

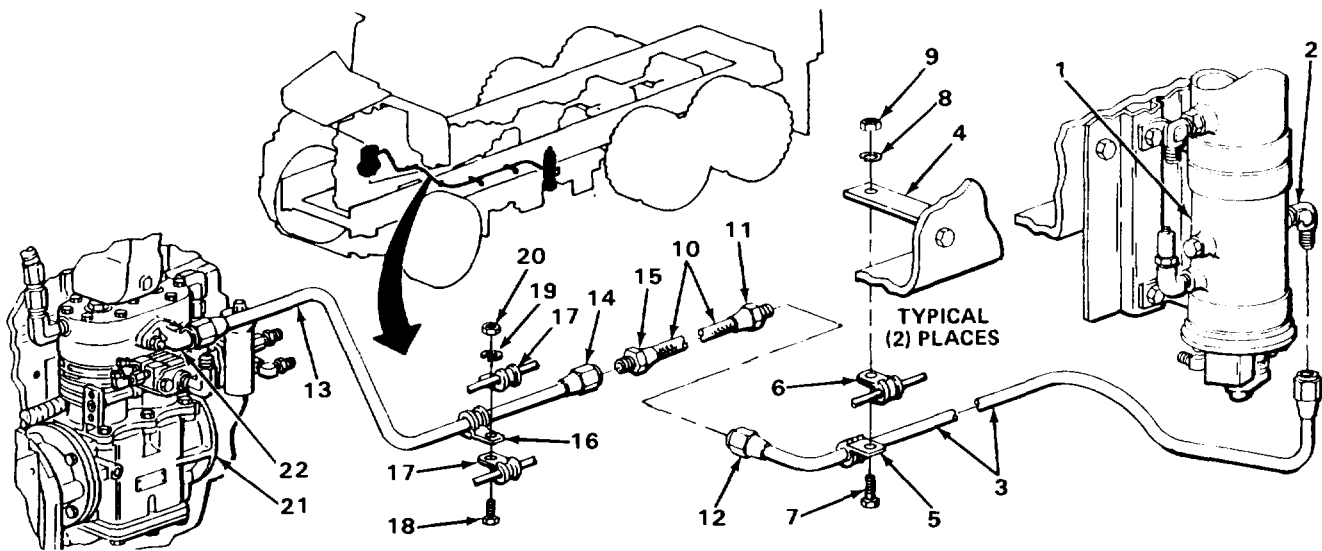
For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).

- |    |                             |              |   |
|----|-----------------------------|--------------|---|
| 1. | Air compressor governor (1) | Air line (2) | Tag.  |
| 2. | Air line (2)                | Line nut (3) | Using 5/8-inch open-end wrench, unscrew and take off. |

**2-1040**

**AIR COMPRESSOR GOVERNOR TO AIR DRYER LINES AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
3. Three clamps (4)	Screw (5), lock-washer (6), and nut (7)	a. Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out. b. Get rid of lockwasher. c. Take clamp off air line (2).
4. Adapter (8)	Line nut (9)	a. Using 5/8-inch and 9/16-inch open-end wrenches, unscrew and take off. b. Take out air line (2).
5. Connector (10)	Adapter (8)	Using 9/16-inch and 7/16-inch open-end wrenches, unscrew and take off.
6. Line nut (11)	Connector (10)	Using 9/16-inch and 7/16-inch open-end wrenches, unscrew and take off.
7.	Air line (12)	Tag.



TA244360

## AIR COMPRESSOR GOVERNOR TO AIR DRYER LINES AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
8. Air line (1)	Line nut (2) and connector (3)	a. Using 9/16-inch and 7/16-inch open-end wrenches, unscrew and take off. b. Take out air line.
9. Adapter (4)	Connector (3)	Using 9/16-inch and 7/16-inch open-end wrenches, unscrew and take off.
10. Line nut (5)	Adapter (4)	Using 5/8-inch and 9/16-inch open-end wrenches, unscrew and take off.
11.	Air line (6)	Tag.
12. Air line (6)	Screw (7), lock-washer (8), nut (9), and clamp (10)	a. Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out. b. Get rid of lockwasher. c. Take off clamp.
13. 45-degree elbow (11)	Line nut (12)	a. Using 5/8-inch open-end wrench, unscrew and take off. b. Take out air line (6).

## CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

14.	All metal parts	Clean using drycleaning solvent and wiping rag.
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**AIR COMPRESSOR GOVERNOR TO AIR DRYER LINES AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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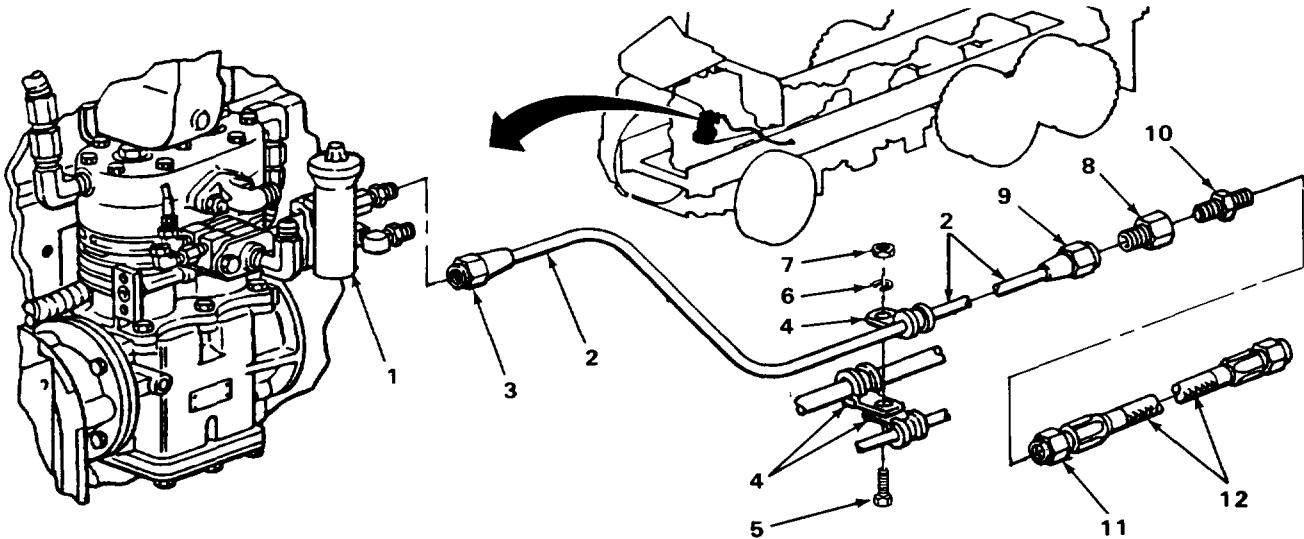
INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

- |     |                    |  |
|-----|--------------------|--|
| 15. | All air lines      | <ul style="list-style-type: none"> <li>a. Look for cracks, breaks, kinks, or chafing.</li> <li>b. Look for excessive rust or corrosion.</li> </ul> |
| 16. | All threaded parts | Look for damaged threads or rounded heads.   |



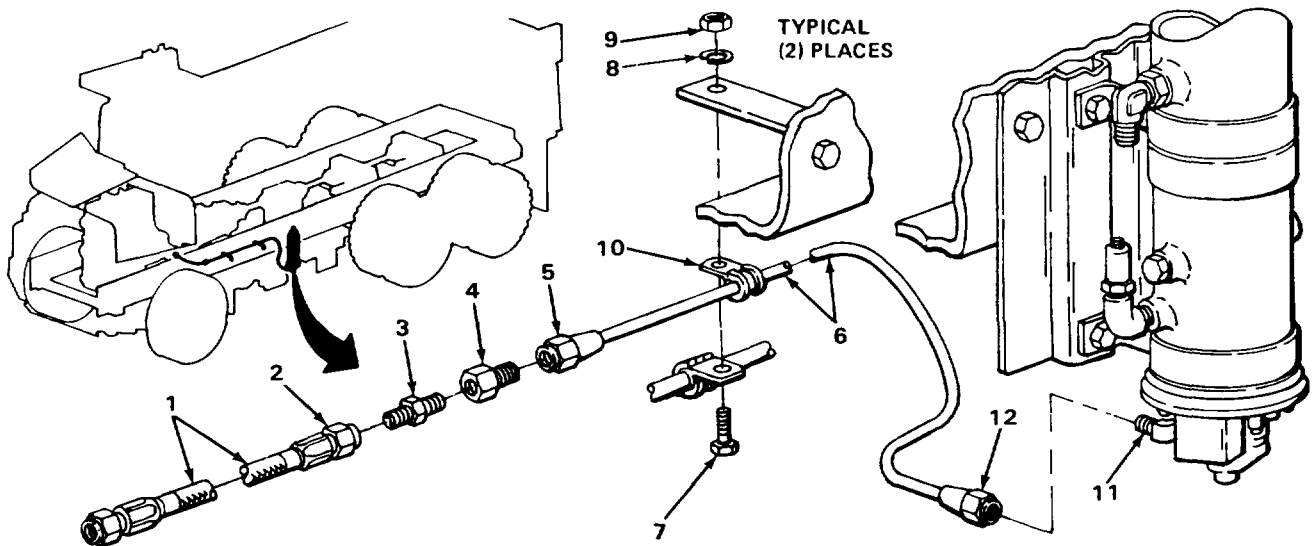
TA244361

## AIR COMPRESSOR GOVERNOR TO AIR DRYER LINES AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
<b><u>CAUTION</u></b>		
Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.		
<b>NOTE</b>		
For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).		
Air line is in three sections. See tags for correct locations.		
17. Air dryer (1)	45-degree elbow (2)	Wrap pipe threads with antiseizing tape.
18. 45-degree elbow (2)	Air line (3) and line nut (4)	a. Screw on and tighten using 5/8-inch open-end wrench. b. Take off tag. c. Get rid of tag.
19. Clamp bracket (5) and air line (3)	Clamp (6), clamp (7), screw (8), new lockwasher (9), and nut (10)	a. Put clamp (6) around air line and position with clamp (7) on clamp bracket. b. Screw in and tighten using 7/16-inch box-end and 7/16-inch open-end wrenches.
20.	Adapter (11)	Wrap pipe threads with antiseizing tape.
21. Adapter (11)	Line nut (12)	Screw on and tighten using 5/8-inch and 9/16-inch open-end wrenches.
22.	Connector (13)	Wrap both male pipe threads with antiseizing tape.
23.	Connector (13)	Screw in and tighten using 9/16-inch and 7/16-inch open-end wrenches.
24. Connector (13)	Air line (14) and line nut (15)	a. Screw on and tighten using 5/8-inch and 9/16-inch open-end wrenches. b. Take off tag. c. Get rid of tag.
25.	Connector (16)	Wrap both male pipe threads with antiseizing tape.
26. Air line (14)	Connector (16) and line nut (17)	Screw on and tighten using 9/16-inch and 7/16-inch open-end wrenches.
27. Connector (16)	Adapter (18)	Screw on and tighten using 9/16-inch and 7/16-inch open-end wrenches.

**AIR COMPRESSOR GOVERNOR TO AIR DRYER LINES AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
28.	Adapter (18)	Wrap pipe threads with antiseizing tape.
29. Air line (19)	Adapter (18) and line nut (20)	a. Screw on and tighten using 5/8-Inch and 9/16-inch open-end wrenches. b. Take tag off air line. c. Get rid of tag.
30.	Clamp (21)	Put on and align holes in two clamps (22).
31. Clamps (21 and 22)	Screw (23), new lockwasher (24), and nut (25)	Screw in and tighten using 7/16-inch box-end and 7/16-inch open-end wrenches.
32. Air compressor governor (26)	90-degree elbow (27)	Wrap pipe threads with antiseizing tape.
33. 90-degree elbow (27)	Line nut (28)	Screw on and tighten using 5/8-inch open-end wrench.



**NOTE**

FOLLOW-ON MAINTENANCE: Close left side hood panel (page 2-424).

**TASK ENDS HERE**

TA244362

**AIR COMPRESSOR GOVERNOR TO WET AIR RESERVOIR LINES AND FITTINGS**

This task covers:

- |                           |   |
|---------------------------|---|
| a. Removal (page 2-1046)  | c. Inspection/Replacement (page 2-1049) |
| b. Cleaning (page 2-1048) | d. Installation (page 2-1050)           |

INITIAL SETUP:

Tools

- Gloves, safety
- Goggles, safety
- Wrench, box-end, 7/16-inch
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 9/16-inch
- Wrench, open-end, 5/8-inch
- Wrench, open-end, 11/16-inch

Materials/Parts

- Lockwasher, clamp screw, front
- Rags, wiping (item 15, appendix C)
- Solvent, drycleaning (item 19, appendix C)

Materials/Parts - Continued

- Tags, marker (item 21, appendix C)
- Tape, antiseizing (item 22, appendix C)

Personnel Required

One

Equipment Condition

- Airbrake system drained (page 2-1034).
- Left side hood panel opened (page 2-424).

LOCATION	ITEM	ACTION REMARKS
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REMOVAL

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

**NOTE**

Air line is in three sections. Tag sections from front to rear of truck as section 1, section 2, and section 3.

For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).

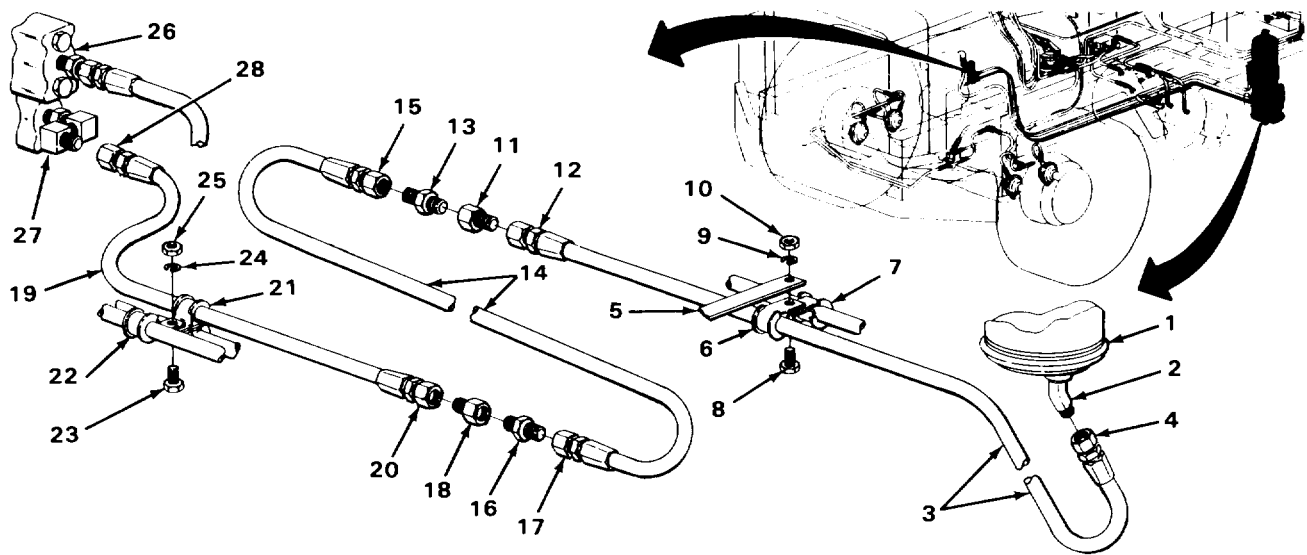
- |    |                             |                                |   |
|----|-----------------------------|--------------------------------|---|
| 1. | Air compressor governor (1) | Air line (2)                   | Tag.  |
| 2. | Air line (2)                | Line nut (3) and adapter (3.1) | Using 5/8-inch open-end wrench, unscrew and take off. |

**Change 1 2-1046**



**AIR COMPRESSOR GOVERNOR TO WET AIR RESERVOIR LINES AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
3. Three clamps (4)	Screw (5), lock-washer (6), and nut (7)	a. Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out. b. Get rid of lockwasher. c. Take clamp off air line (2).
4. Adapter (8)	Line nut (9)	a. Using 5/8-inch and 9/16-inch open-end wrenches, unscrew and take off. b. Take out air line (2).
5. Connector (10)	Adapter (8)	Using 9/16-inch and 7/16-inch open-end wrenches, unscrew and take off.
6. Line nut (11)	Connector (10)	Using 9/16-inch and 7/16-inch open-end wrenches, unscrew and take off.
7.	Air line (12)	Tag.



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Change 1 2-1047

**AIR COMPRESSOR GOVERNOR TO WET AIR RESERVOIR LINES AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
8. Air line (1)	Line nut (2) and connector (3)	a. Using 9/16-inch and 7/16-inch open-end wrenches, unscrew and take off. b. Take out air line.
9. Adapter (4)	Connector (3)	Using 9/16-inch and 7/16-inch open-end wrenches, unscrew and take off.
10. Line nut (5)	Adapter (4)	Using 11/16-inch and 9/16-inch open-end wrenches, unscrew and take off.
11.	Air line (6)	Tag.
12. Wet air reservoir (7)	Line nut (9) and fitting (8)	a. Using 11/16-inch and 9/16-inch open-end wrenches, unscrew and take off. b. Take out air line (6).

## CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

13.	All metal parts	Clean using drycleaning solvent and wiping rag.
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**Change 1 2-1048**

**AIR COMPRESSOR GOVERNOR TO WET AIR RESERVOIR LINES AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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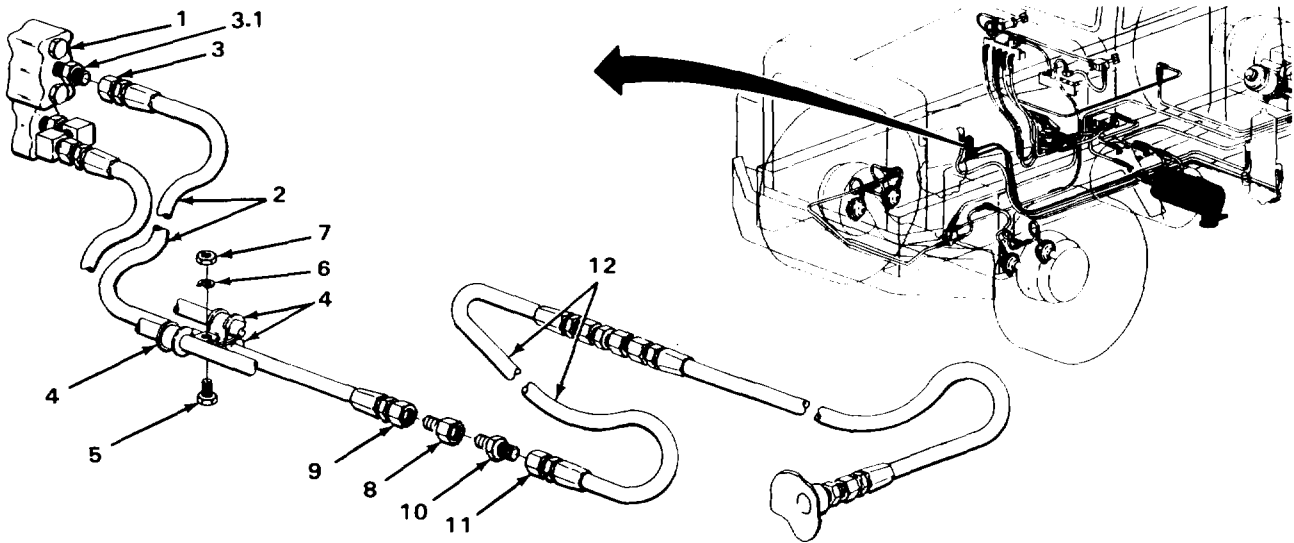
INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

- |     |                    |  |
|-----|--------------------|--|
| 14. | All air lines      | a. Look for cracks, breaks, kinks, or chafing.<br>b. Look for excessive rust or corrosion. |
| 15. | All threaded parts | Look for damaged threads or rounded heads.   |



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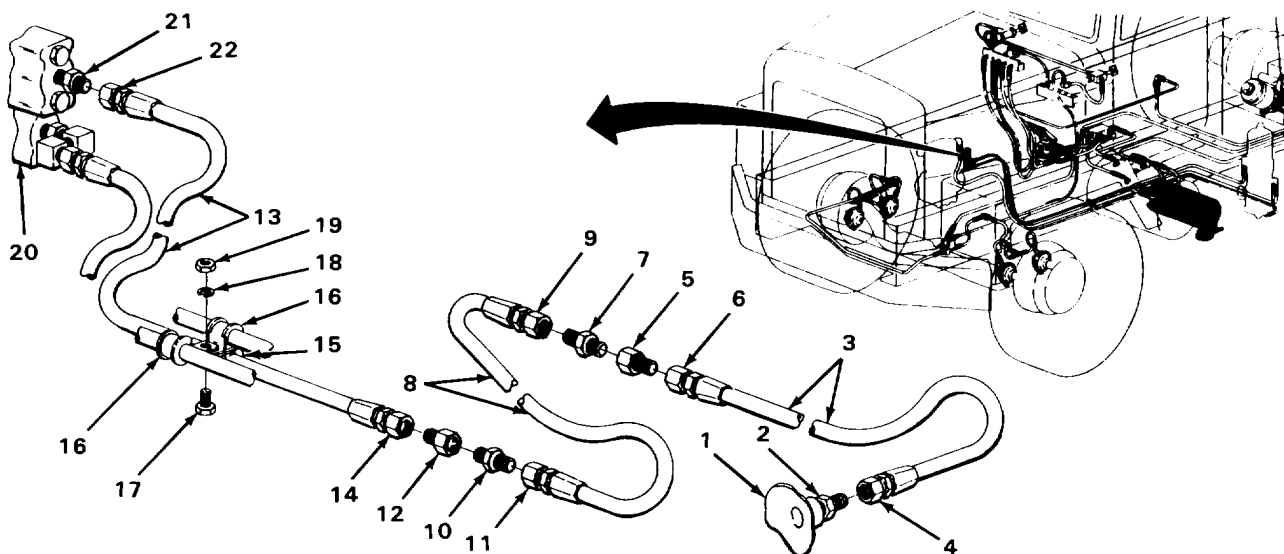
## AIR COMPRESSOR GOVERNOR TO WET AIR RESERVOIR LINES AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
<b><u>CAUTION</u></b>		
Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.		
<b><u>NOTE</u></b>		
For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).		
Air line is in three sections. See tags for correct locations.		
16. Wet air reservoir (1)	Fitting (2)	Wrap pipe threads with antiseizing tape.
17.	Fitting (2), air line (3), and line nut (4)	a. Screw on and tighten using 11/16-inch and 9/16-inch open-end wrenches. b. Take off tag. c. Get rid of tag.
18.	Adapter (5)	Wrap pipe threads with antiseizing tape.
19. Adapter (5)	Line nut (6)	Screw on and tighten using 11/16-inch and 9/16-inch open-end wrenches.
20.	Connector (7)	Wrap both male pipe threads with antiseizing tape.
21. Adapter (5)	Connector (7)	Screw on and tighten using 9/16-inch and 7/16-inch open-end wrenches.
22. Connector (7)	Air line (8) and line nut (9)	a. Screw on and tighten using 5/8-inch and 9/16-inch open-end wrenches. b. Take off tag. c. Get rid of tag.
23.	Connector (10)	Wrap both male pipe threads with antiseizing tape.
24. Air line (8)	Connector (10) and line nut (11)	Screw on and tighten using 9/16-inch and 7/16-inch open-end wrenches.

**Change 1 2-1050**

**AIR COMPRESSOR GOVERNOR TO WET AIR RESERVOIR LINES AND FITTINGS - CONTINUED**

	LOCATION	ITEM	ACTION REMARKS
25.	Connector (10)	Adapter (12)	Screw on and tighten using 9/16-inch and 7/16-inch open-end wrenches.
26.		Adapter (12)	Wrap pipe threads with antiseizing tape.
27.	Air line (13)	Adapter (12) and line nut (14)	a. Screw on and tighten using 5/8-inch and 9/16-inch open-end wrenches. b. Take tag off air line. c. Get rid of tag.
28.		Clamp (15)	Put on and align holes in two clamps (16).
29.	Clamps (15 and 16)	Screw (17), new lockwasher (18), and nut (19)	Screw on and tighten using 7/16-inch box-end and 7/16-inch open-end wrenches.
30.	Air compressor governor (20)	Adapter (21)	Wrap pipe threads with antiseizing tape.
31.		Adapter (21) and line nut (22)	Screw on and tighten using 5/8-inch open-end wrench.



**NOTE**

FOLLOW-ON MAINTENANCE: Close left side hood panel (page 2-424).

**TASK ENDS HERE**

**BRAKE TREADLE VALVE AND RIGHT MANIFOLD HOSES**

This task covers:

- |                           |   |
|---------------------------|---|
| a. Removal (page 2-1052)  | c. Inspection/Replacement (page 2-1056) |
| b. Cleaning (page 2-1056) | d. Installation (page 2-1057)           |

INITIAL SETUP:

Tools

- Gloves, safety
- Goggles, safety
- Extension, 3inch, 1/2-inch drive
- Handle, ratchet, 1/2-inch drive
- Socket, 1/2-Inch, 1/2-inch drive
- Wrench, box-end, 7/16-inch
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 11/16-inch
- Wrench, open-end, 3/4-inch
- Wrench, open-end, 7/8-inch
- Wrench, open-end, 1-inch

Materials/Parts

- Detergent, liquid, GP (item 7, appendix C)
- Lockwasher, brake treadle valve mounting plate (six required)

Materials/Parts - Continued

- Lockwasher, clamp screw (two required)
- Rags, wiping (item 15, appendix C)
- Solvent, drycleaning (item 19, appendix C)
- Tags, marker (item 21, appendix C)
- Tape, antiseizing (item 22, appendix C)

Personnel Required

Two

Equipment Condition

- Airbrake system drained (page 2-1034).
- Left side hood panel opened (page 2-424).
- Air filter element removed (page 2-462).
- Left side floor mat removed (page 2-1276).

LOCATION	ITEM	ACTION REMARKS
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REMOVAL

**NOTE**

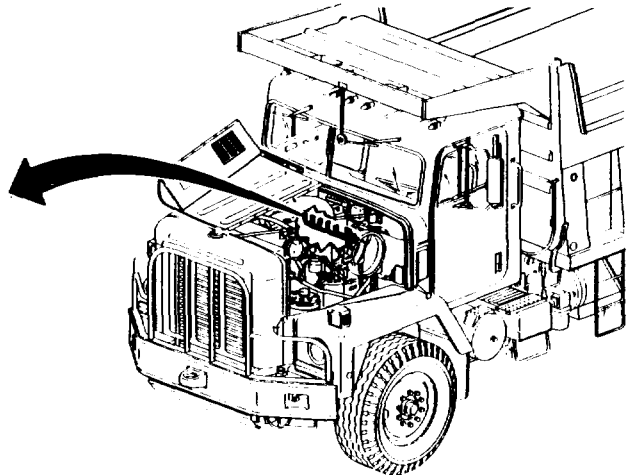
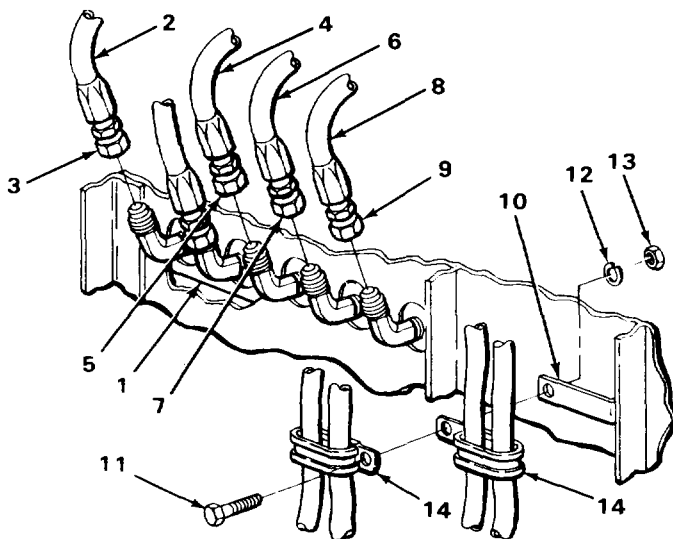
Tag air hoses to ensure correct installation.

For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).

- |    |                    |              |   |
|----|--------------------|--------------|---|
| 1. | Right manifold (1) | Airhose (2)  | Tag as no. 1.   |
| 2. |                    | Line nut (3) | Using 3/4-inch open-end wrench, unscrew and take off. |

**BRAKE TREADLE VALVE AND RIGHT MANIFOLD HOSES - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
3.	Airhose (4)	Tag as no. 2.
4.	Line nut (5)	Using 3/4-inch open-end wrench, unscrew and take off.
5.	Airhose (6)	Tag as no. 3.
6.	Line nut (7)	Using 7/8-inch open-end wrench, unscrew and take off.
7.	Airhose (8)	Tag as no. 4.
8.	Line nut (9)	Using 7/8-inch open-end wrench, unscrew and take off.
9.	Two clamp brackets (10)	a. Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out. b. Get rid of two lockwashers.
10.	Four clamps (14)	Take off.



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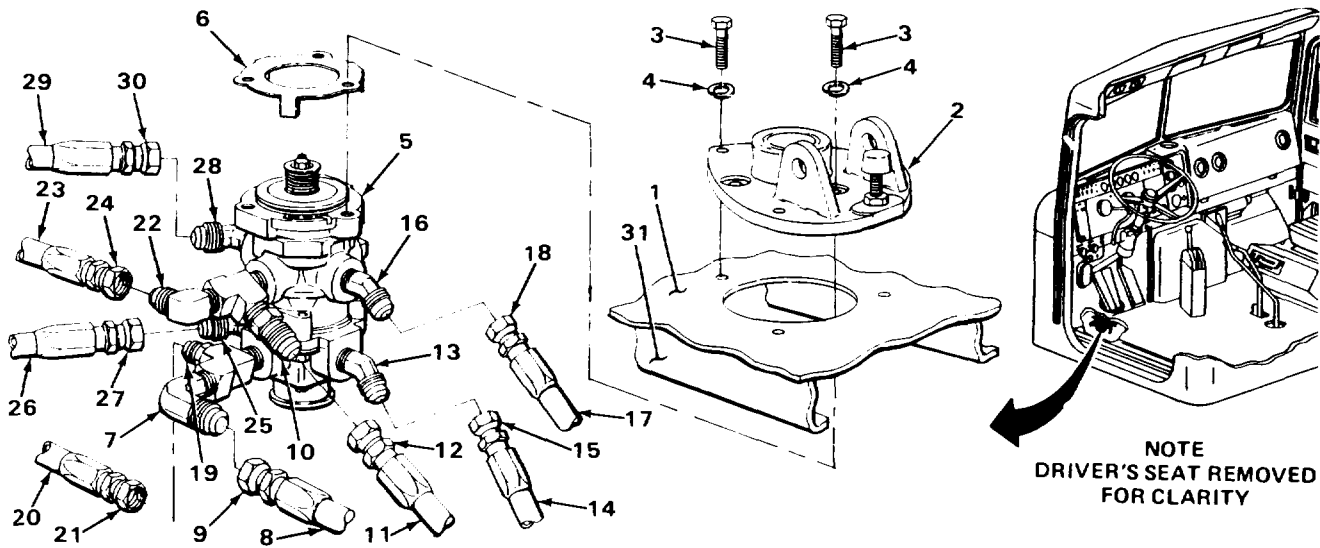
## BRAKE TREADLE VALVE AND RIGHT MANIFOLD HOSES - CONTINUED

	LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED			
11.	Top of cab floor (1)	Brake pedal	Remove (page 2-1021).
12.	Brake treadle valve mounting plate (2)	Six screws (3) and six lockwashers (4)	a. Using 1/2-inch, 1/2-inch drive socket, 3-inch extension, and ratchet handle, unscrew and take out. b. Get rid of six lockwashers.
13.	Top of cab floor (1)	Brake treadle valve mounting plate (2)	Take out.
14.		Brake treadle valve (5)	Push down through cab floor as far as possible. <b>Do not force.</b>
<b><u>WARNING</u></b>			
Safety goggles must be worn when working under truck to prevent eye injury.			
15.	Brake treadle valve (5)	Spacer (6)	Take off.
16.	90-degree elbow (7)	Airhose (8)	Tag.
17.		Line nut (9)	a. Using 1-inch open-end wrench, unscrew and take off. b. Move air line (8) out of way.
18.	Fitting (10)	Airhose (11)	Tag.
19.		Line nut (12)	a. Using 1-inch and 7/8-inch open-end wrenches, unscrew and take off. b. Move air line (11) out of way.
20.	45-degree elbow(13)	Airhose (14)	Tag.
21.		Line nut (15)	a. Using 7/8-inch open-end wrench, unscrew and take off. b. Move air line (14) out of way.
22.	45-degree elbow (16)	Airhose (17)	Tag.
23.		Line nut (18)	a. Using 7/8-inch open-end wrench, unscrew and take off. b. Move air line (17) out of way.
24.	Fitting (19)	Airhose (20)	Tag as no. 2.



**BRAKE TREADLE VALVE AND RIGHT MANIFOLD HOSES - CONTINUED**

	LOCATION	ITEM	ACTION	REMARKS
25.		Line nut (21)		Using 3/4-inch and 11/16-inch open-end wrenches, unscrew and take off.
26.	90-degree elbow (22)	Airhose (23)		Tag as no. 3.
27.		Line nut (24)		Using 7/8-inch open-end wrench, unscrew and take off.
28.	45-degree elbow (25)	Airhose (26)		Tag as no. 1.
29.		Line nut (27)		Using 3/4-inch open-end wrench, unscrew and take off.
30.	45-degree elbow (28)	Airhose (29)		Tag as no. 4.
31.		Line nut (30)		Using 7/8-inch open-end wrench, unscrew and take out.
32.	Under cab floor (31)	Brake treadle		Take out valve (5)
33.		Airhoses tagged Nos. 1 thru 4		Pull out.



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## BRAKE TREADLE VALVE AND RIGHT MANIFOLD HOSES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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## CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

34.	Four airhoses	Clean using liquid detergent and wiping rag.
35.	All metal parts	Clean using drycleaning solvent and wiping rag.

## INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

36.	Four airhoses	a. Check for cracks, breaks, chafing, or hardness. b. Look for excessive rust or corrosion.
37.	All threaded parts	Look for damaged threads or rounded heads.

**BRAKE TREADLE VALVE AND RIGHT MANIFOLD HOSES - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

INSTALLATION

**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

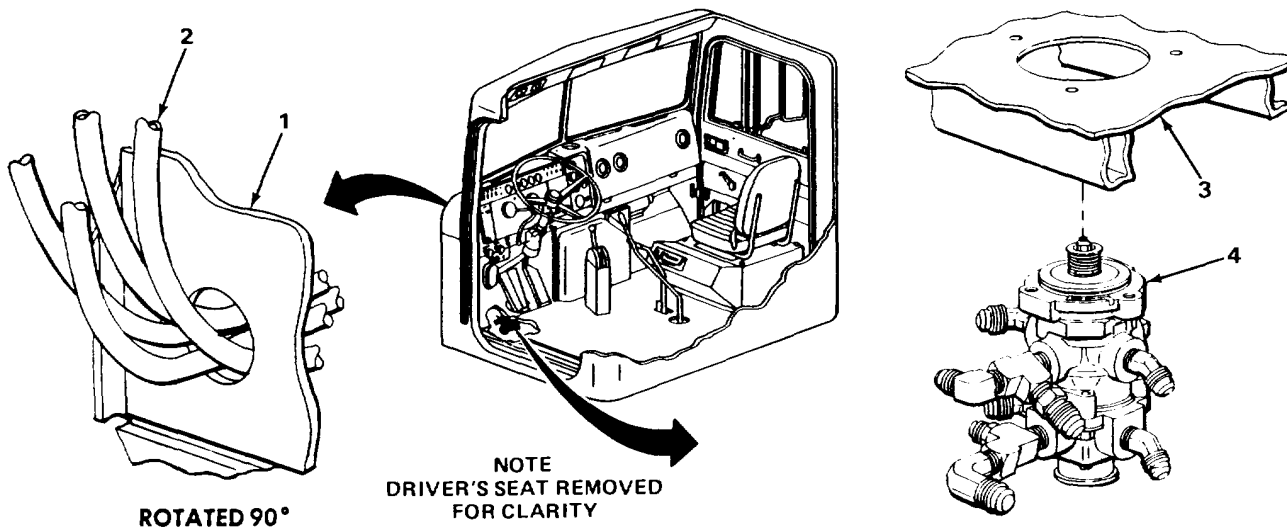
See tags for correct location of airhoses.

Step 38 is for four airhoses tagged nos. 1 thru 4.

38.	Engine side of firewall (1)	Four airhoses (2)	Push through hole until visible from under cab floor (3).
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**NOTE**

Assistance will be needed when performing steps 39 thru 59.



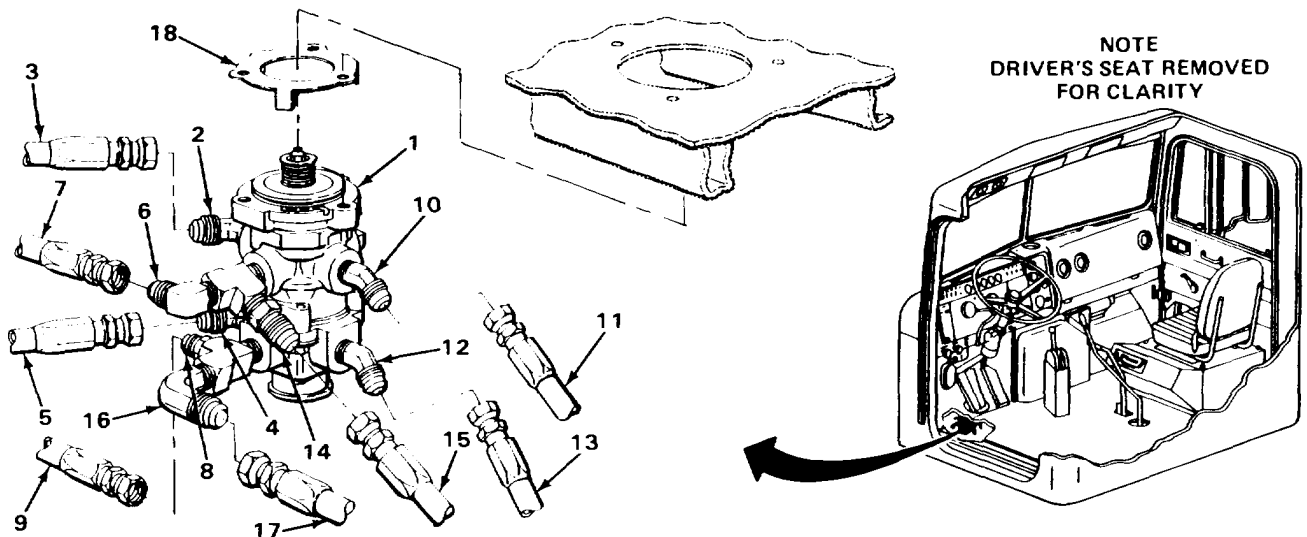
TA244368

## BRAKE TREADLE VALVE AND RIGHT MANIFOLD HOSES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
40.	Brake treadle valve (1)	45-degree elbow (2)	Wrap pipe threads with antiseizing tape.
41.	45-degree elbow (2)	Airhose tagged no. 4 (3)	a. Screw on and tighten using 7/8-inch open-end wrench. b. Take off tag. c. Get rid of tag.
42.	Brake treadle valve (1)	45-degree elbow (4)	Wrap pipe threads with antiseizing tape.
43.	45-degree elbow (4)	Airhose tagged no. 1 (5)	a. Screw on and tighten using 3/4-inch open-end wrench. b. Take off tag. c. Get rid of tag.
44.	Brake treadle valve (1)	90-degree elbow (6)	Wrap pipe threads with antiseizing tape.
45.	90-degree elbow (6)	Airhose tagged no. 3 (7)	a. Screw on and tighten using 7/8-inch open-end wrench. b. Take off tag. c. Get rid of tag.
48.	Brake treadle valve (1)	Fitting (8)	Wrap pipe threads with antiseizing tape.
47.	Fitting (8)	Airhose tagged no. 2 (9)	a. Screw on and tighten using 3/4-inch and 11/16-inch open-end wrenches. b. Takeoff tag. c. Get rid of tag.
48.	Brake treadle valve (1)	45-degree elbow (10)	Wrap pipe threads with antiseizing tape.
49.	45-degree elbow (10)	Airhose (11)	a. Screw on and tighten using 7/8-inch open-end wrench. b. Take off tag. c. Get rid of tag.
50.	Brake treadle valve (1)	45-degree elbow (12)	Wrap pipe threads with antiseizing tape.

**BRAKE TREADLE VALVE AND RIGHT MANIFOLD HOSES - CONTINUED**

	LOCATION	ITEM	ACTION REMARKS
51.	45-degree elbow (12)	Airhose (13)	a. Screw on and tighten using 7/8-inch open-end wrench. b. Take off tag. c. Get rid of tag.
52.	Brake treadle valve (1)	Fitting (14)	Wrap pipe threads with antiseizing tape.
53.	Fitting (14)	Airhose (15)	a. Screw on and tighten using 1-inch and 7/8-inch open-end wrenches. b. Take off tag. c. Get rid of tag.
54.	Brake treadle valve (1)	90-degree elbow (16)	Wrap pipe threads with antiseizing tape.
55.	90degree elbow (16)	Airhose (17)	a. Screw on and tighten using 1-inch open-end wrench. b. Take off tag. c. Get rid of tag.
56.	Brake treadle	Spacer (18)	Aline and put on.



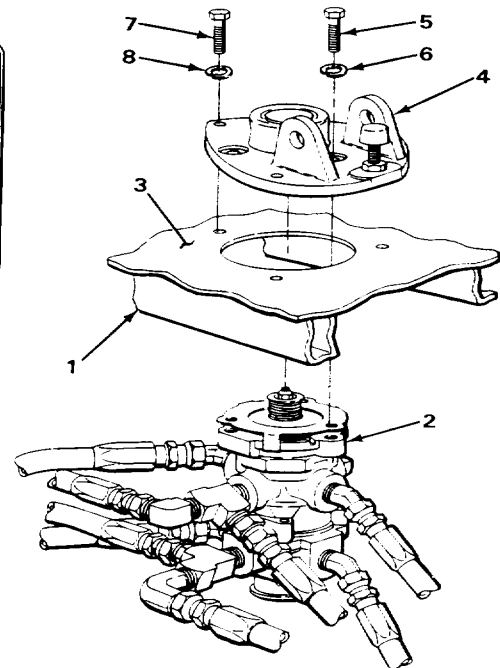
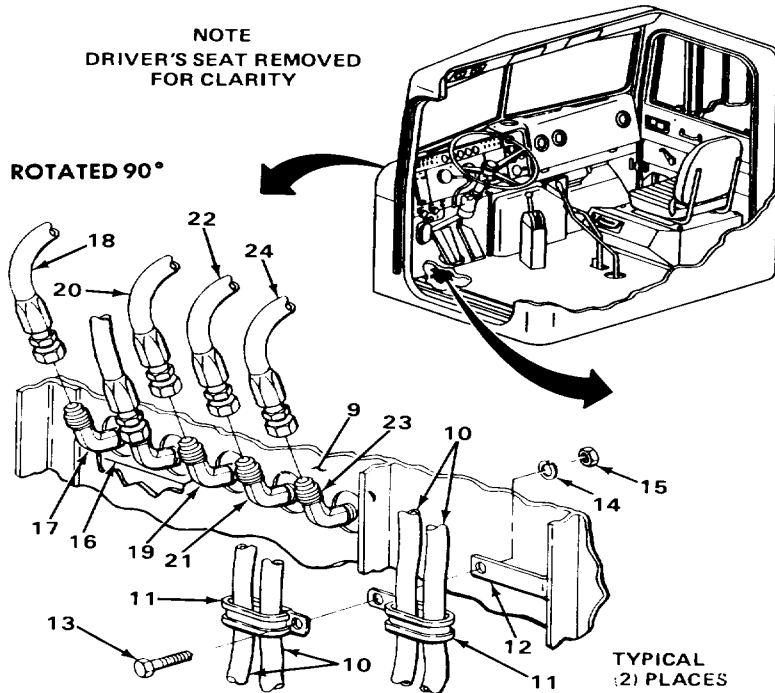
TA244369

## BRAKE TREADLE VALVE AND RIGHT MANIFOLD HOSES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
<b><u>WARNING</u></b>		
Safety goggles must be worn when working under truck to prevent eye injury.		
57. Under cab floor (1)	Brake treadle valve (2)	Have assistant push into hole and hold in position.
58. Top of cab floor (3)	Brake treadle valve mounting plate (4)	Put in position and aline with holes on brake treadle valve (2).
59. Brake treadle valve mounting plate (4)	Three screws (5) and three new lockwashers (6)	Screw in until snug, by hand.
60.	Three screws (7) and three new lockwashers (8)	Screw in and tighten using 1/2-inch, 1/2-inch drive socket, 3-inch extension, and ratchet handle.
61.	Three screws (5)	Tighten using 1/2-inch, 1/2-inch drive socket, 3-inch extension, and ratchet handle.
62.	Brake pedal	Install (page 2-1021).
63. Engine side of firewall (9)	Four airhoses (10) and four clamps (11)	Put clamps around airhoses as shown.
64. Two clamp brackets (12)	Four clamps (11)	Put in position and aline holes in clamps with holes in clamp brackets.
65.	Two screws (13), two new lockwashers (14), and two nuts (15)	Screw in and tighten using 7/16-inch box-end and 7/16-inch open-end wrenches.
66. Right manifold (16)	45-degree elbow (17)	Wrap pipe threads with antiseizing tape.
67. 45-degree elbow (17)	Airhose tagged no. 1 (18)	a. Screw on and tighten using 3/4-inch open-end wrench. b. Take off and get rid of tag.
68. Right manifold (16)	45-degree elbow (19)	Wrap pipe threads with antiseizing tape.
69. 45-degree elbow (19)	Airhose tagged no. 2 (20)	a. Screw on and tighten using 3/4-inch open-end wrench. b. Take off and get rid of tag.

**BRAKE TREADLE VALVE AND RIGHT MANIFOLD HOSES - CONTINUED**

	LOCATION	ITEM	ACTION REMARKS
70.	Right manifold (16)	45-degree elbow (21)	Wrap pipe threads with antiseizing tape.
71.	45-degree elbow (21)	Airhose tagged no. 3 (22)	a. Screw on and tighten using 7/8-inch open-end wrench. b. Take off tag. c. Get rid of tag.
72.	Right manifold (16)	45-degree elbow (23)	Wrap pipe threads with antiseizing tape.
73.	45-degree elbow (23)	Airhose tagged no. 4 (24)	a. Screw on and tighten using 7/8-inch open-end wrench. b. Take off tag. c. Get rid of tag.



**FOLLOW-ON MAINTENANCE:**

1. Install air filter element (page 2-462).
2. Close left side hood panel (page 2-424).
3. Install left side floor mat (page 2-1276).

**TASK ENDS HERE**

TA244370

**BRAKE TREADLE VALVE TO DOUBLE CHECK VALVE T-FITTING HOSE**

This task covers:

- |                           |   |
|---------------------------|---|
| a. Removal (page 2-1062)  | c. Inspection/Replacement (page 2-1064) |
| b. Cleaning (page 2-1064) | d. Installation (page 2-1064)           |

**INITIAL SETUP:**

**Tools**

- Gloves, safety
- Goggles, safety
- Wrench, box-end, 7/16-inch
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 13/16-inch
- Wrench, open-end, 7/8-inch
- Wrench, open-end, 1-inch

**Materials/Parts**

- Detergent, liquid, GP (item 7, appendix C)
- Lockwasher, clamp screw (four required)
- Rags, wiping (item 15, appendix C)

**Materials/Parts - Continued**

- Solvent, drycleaning (item 19, appendix C)
- Tags, marker (item 21, appendix C)
- Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**Equipment Condition**

Airbrake system drained (page 2-1034).

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

**REMOVAL**

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

**NOTE**

Tag airhoses to ensure correct installation.

For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).

- |    |                     |              |   |
|----|---------------------|--------------|---|
| 1. | 90-degree elbow (1) | Airhose (2)  | Tag.  |
| 2. |                     | Line nut (3) | a. Using 1-inch open-end wrench, unscrew and take off.<br>b. Move airhose (2) out of way. |
| 3. | Fitting (4)         | Airhose (5)  | Tag.  |



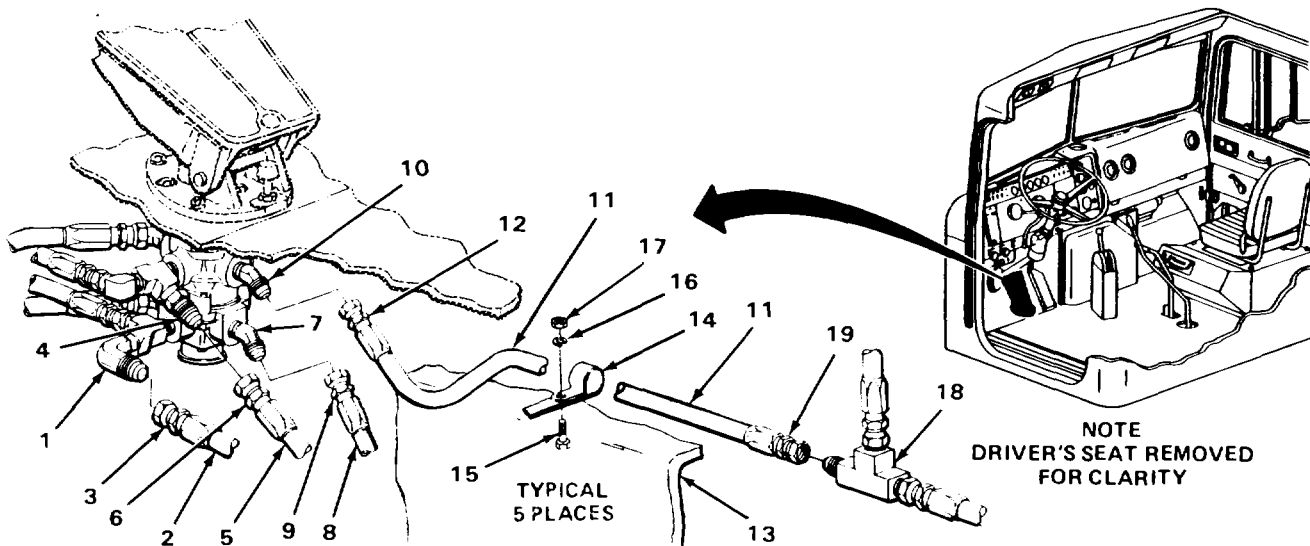
**BRAKE TREADLE VALVE TO DOUBLE CHECK VALVE T-FITTING HOSE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
4.	Line nut (6)	a. Using 1-inch and 7/8-inch open-end wrenches, unscrew and take off. b. Move airhose (5) out of way.
5.	45-degree elbow (7)	Tag.
6.	Line nut (9)	a. Using 7/8-inch open-end wrench, unscrew and take off. b. Move airhose (8) out of way.
7.	45-degree elbow (10)	Tag.
8.	Line nut (12)	Using 7/8-inch open-end wrench, unscrew and take off.

**NOTE**

Step 9 is typical for four clamps.

9.	Left frame rail (13) and airhose (11)	Clamp (14), screw (15), lockwasher (16), and nut (17)	a. Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out. b. Get rid of lockwasher. c. Take clamp off airhose.
10.	Double check valve T-fitting (18)	Line nut (19)	a. Using 7/8-inch and 13/16-inch open-end wrenches, unscrew and take off. b. Take out airhose (11).



TA244371

**BRAKE TREADLE VALVE TO DOUBLE CHECK VALVE T-FITTING HOSE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

11.	Airhose	Clean using liquid detergent and wiping rag.
12.	All metal parts	Clean using drycleaning solvent and wiping rag.

INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

13.	Airhose	<ul style="list-style-type: none"> <li>a. Check for cracks, breaks, chafing, or hardness.</li> <li>b. Look for excessive rust or corrosion.</li> </ul>
14.	All threaded parts	Look for damaged threads or rounded heads.

INSTALLATION

**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

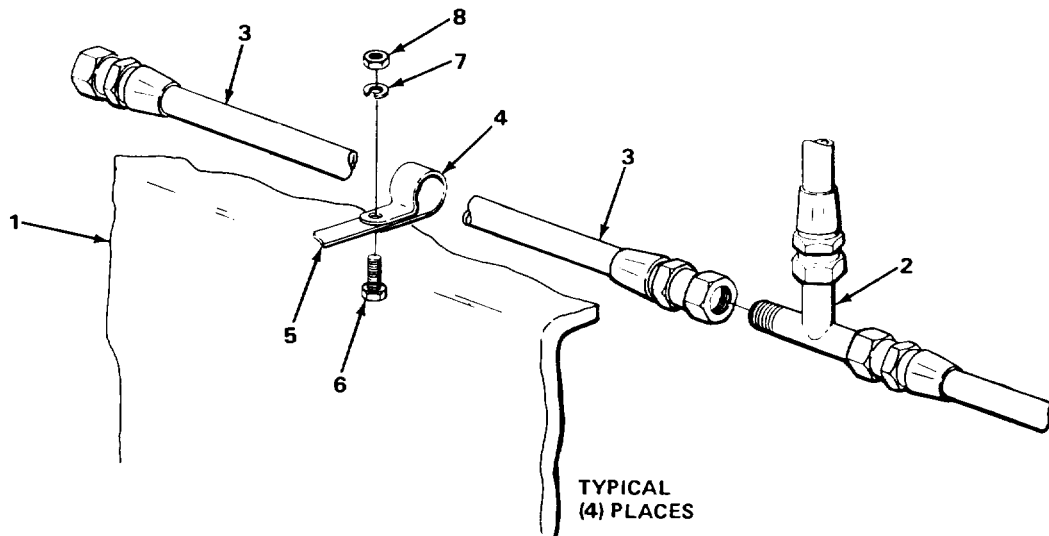
**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

See tags for correct location of airhoses.

**BRAKE TREADLE VALVE TO DOUBLE CHECK VALVE T-FITTING HOSE - CONTINUED**

	LOCATION	ITEM	ACTION REMARKS
15.	Left frame rail (1)	Double check valve T-fitting (2)	Wrap pipe threads with antiseizing tape.
16.	Double check valve T-fitting (2)	Airhose (3)	Screw on and tighten using 7/8-inch and 13/16-inch open-end wrenches.
<b>NOTE</b>			
Steps 17 and 18 are typical for four clamps.			
17.	Airhose (3)	Clamp (4)	Put on.
18.	Clamp bracket (5)	Clamp (4), screw (6), new lock- washer (7), and nut (8)	a. Aline holes in clamp and clamp bracket. b. Screw in and tighten using 7/16-inch box-end and 7/16-inch open-end wrenches.
19.	Left frame rail (1)	Airhose (3)	Route.

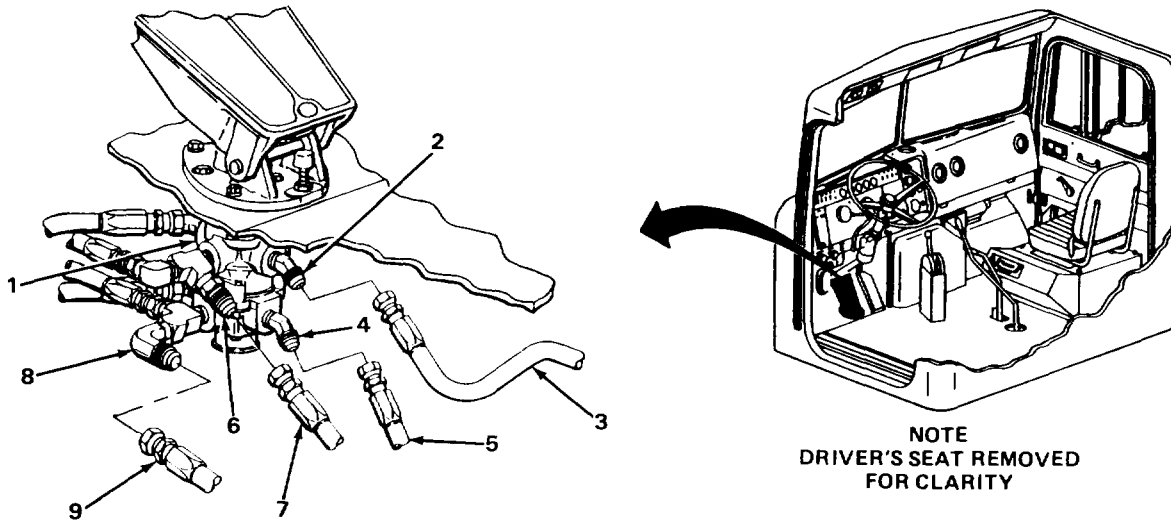


TA244372

## BRAKE TREADLE VALVE TO DOUBLE CHECK VALVE T-FITTING HOSE - CONTINUED

	LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED			
20.	Brake treadle valve (1)	45-degree elbow (2)	Wrap pipe threads with antiseizing tape.
21.	45-degree elbow (2)	Airhose (3)	a. Screw on and tighten using 7/8-inch open-end wrench. b. Takeoff tag. c. Get rid of tag.
22.	Brake treadle valve (1)	45-degree elbow (4)	Wrap pipe threads with antiseizing tape.
23.	45-degree elbow (4)	Airhose (5)	a. Screw on and tighten using 7/8-inch open-end wrench. b. Takeoff tag. c. Get rid of tag.
24.	Brake treadle valve (1)	Fitting (6)	Wrap pipe threads with antiseizing tape.
25.	Fitting (6)	Airhose (7)	a. Screw on and tighten using 1-inch and 7/8-inch open-end wrenches. b. Takeoff tag. c. Get rid of tag.
26.	Brake treadle valve (1)	90-degree elbow (8)	Wrap pipe threads with antiseizing tape.
27.	90-degree elbow (8)	Airhose (9)	a. Screw on and tighten using 1-inch open-end wrench. b. Takeoff tag. c. Get rid of tag.

**BRAKE TREADLE VALVE TO DOUBLE CHECK VALVE T-FITTING HOSE - CONTINUED TM 5-3805-254-20-2**



**TASK ENDS HERE**

**BRAKE TREADLE VALVE TO T-MANIFOLD HOSES**

This task covers:

- a. Removal (page 2-1068)
- b. Cleaning (page 2-1068)
- c. Inspection/Replacement (page 2-1069)
- d. Installation (page 2-1070)

**INITIAL SETUP:**

**Tools**

- Gloves, safety
- Goggles, safety
- Wrench, box-end, 7/16-inch
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 7/8-inch
- Wrench, open-end, 1-inch

**Materials/Parts**

- Detergent, liquid, GP (item 7, appendix C)
- Lockwasher, clamp screw
- Rags, wiping (item 15, appendix C)

**Materials/Parts - Continued**

- Solvent, drycleaning (item 19, appendix C)
- Tags, marking (item 21, appendix C)
- Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**Equipment Condition**

Airbrake system drained (page 2-1034).

TA244373

## BRAKE TREADLE VALVE TO T-MANIFOLD HOSES - CONTINUED

LOCATION	ITEM	ACTION REMARKS	
REMOVAL			
<b><u>WARNING</u></b>			
Safety goggles must be worn when working under truck to prevent eye injury.			
<b>NOTE</b>			
Tag air hoses to ensure correct installation.			
For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).			
1.	90-degree elbow (1)	Airhose (2)	Tag.
2.		Line nut (3)	Using 1-inch open-end wrench, unscrew and take off.
3.	Fitting (4)	Airhose (5)	Tag.
4.		Line nut (6)	Using 1-inch and 7/8-inch open-end wrenches, unscrew and take off.
5.	T-manifold (6.1)	Line nut (8) and 45-degree elbow (7)	Using 1-inch open-end wrench, unscrew and take off.
6.		Line nut (10) and 45-degree elbow (9)	Using 1-inch open-end wrench, unscrew and take off.
7.	Undercab floor (11)	Screw (12), lock-washer (13), nut (14), and clamp (15)	a. Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out. b. Take clamp off airhoses (2 and 5).
8.		Airhoses (2 and 5)	Take out.

## CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

Change 1 2-1068

**BRAKE TREADLE VALVE TO T-MANIFOLD HOSES - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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**NOTE**

For more Information on how to clean parts, go to General Maintenance Instructions (page 2-424).

9.	Airhoses (2 and 5)	Clean using liquid detergent and wiping rag.
10.	All metal parts	Clean using drycleaning solvent and wiping rag.

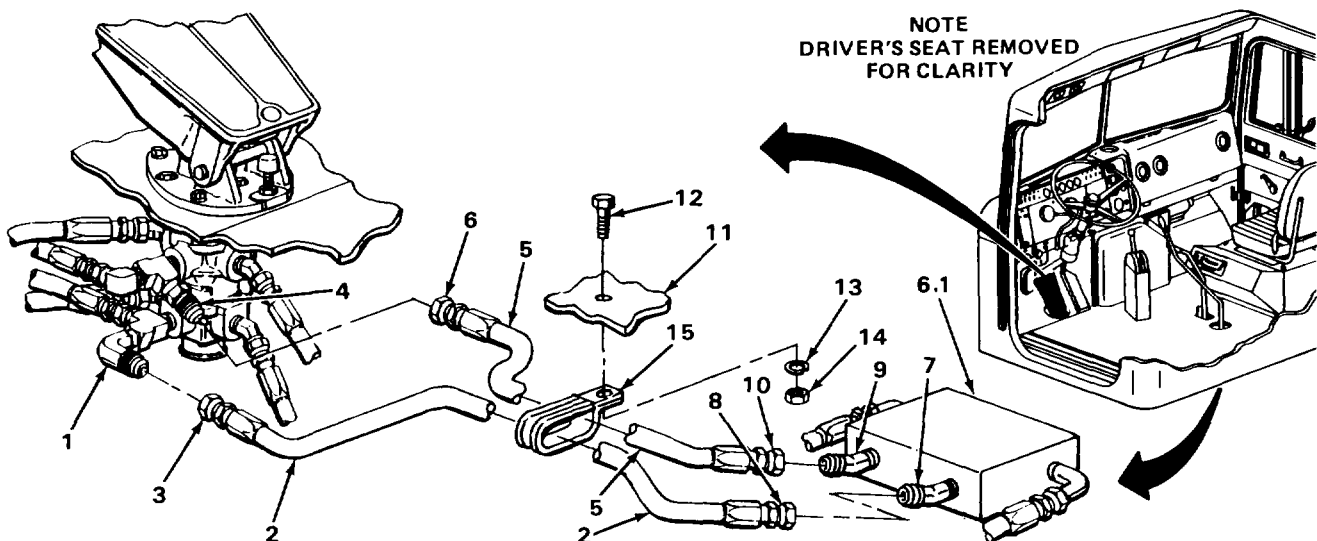
**INSPECTION/REPLACEMENT**

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

11.	Airhoses (2 and 5)	a. Check for cracks, breaks, chafing, or hardness. b. Look for excessive rust or corrosion.
12.	All threaded parts	Look for damaged threads or rounded heads.



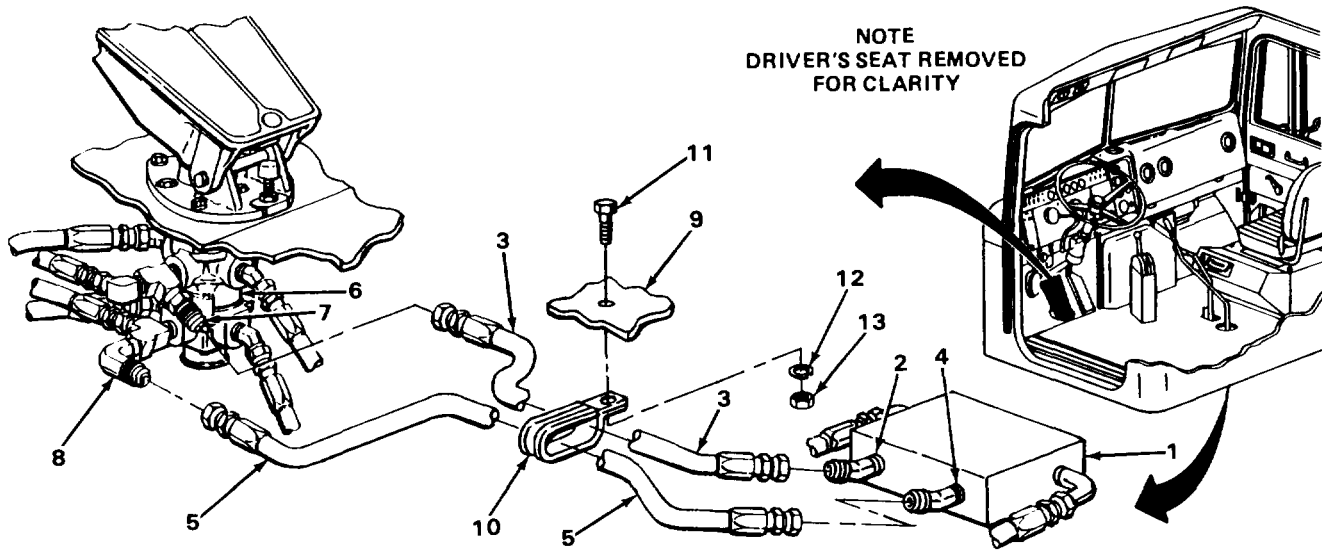
## BRAKE TREADLE VALVE TO T-MANIFOLD HOSES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION			
<b><u>CAUTION</u></b>			
Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.			
<b><u>NOTE</u></b>			
For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).			
See tags for correct location of airhoses.			
13.	T-manifold (1)	45-degree elbow (2)	Wrap pipe threads with antiseizing tape.
14.		45-degree elbow (2) and airhose (3)	Screw on and tighten using 1-inch open-end wrench.
15.	T-manifold (1)	45-degree elbow (4)	Wrap pipe threads with antiseizing tape.
16.		45-degree elbow (4) and airhose (5)	Screw on and tighten using 1-inch open-end wrench.
17.	Brake treadle valve (6)	Fitting (7)	Wrap pipe threads with antiseizing tape.
18.	Fitting (7)	Airhose (3)	a. Screw on and tighten using 1-inch and 7/8-inch open-end wrenches. b. Takeoff tag. c. Get rid of tag.
19.	Brake treadle valve (6)	90-degree elbow (8)	Wrap pipe threads with antiseizing tape.
20.	90-degree elbow (8)	Airhose (5)	a. Screw on and tighten using 1-inch open-end wrench. b. Take off tag. c. Get rid of tag.
21.	Under cab floor (9)	Clamp (10), screw (11), new lockwasher (12), and nut (13)	a. Put clamp around air hoses (3 and 5) and put in position. b. Screw in and tighten using 7/16-inch box-end and 7/16-inch open-end wrenches.

Change 1 2-1070



**BRAKE TREADLE VALVE TO T-MANIFOLD HOSES - CONTINUED**



**TASK ENDS HERE**

**DOUBLE CHECK VALVE TO DOUBLE CHECK VALVE T-FITTING HOSE**

This task covers:

- |                           |   |
|---------------------------|---|
| a. Removal (page 2-1072)  | c. Inspection/Replacement (page 2-1072) |
| b. Cleaning (page 2-1072) | d. Installation (page 2-1072)           |

**INITIAL SETUP:**

**Tools**

- Goggles, safety
- Wrench, open-end, 5/8-inch
- Wrench, open-end, 3/4-inch

**Personnel Required**

One

**Materials/Parts**

- Detergent, liquid, GP (item 7, appendix C)
- Rags, wiping (item 15, appendix C)
- Tape, antiseizing (item 22, appendix C)

**Equipment Condition**

Airbrake system drained (page 2-1034).

TA244375

**DOUBLE CHECK VALVE TO DOUBLE CHECK VALVE T-FITTING HOSE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

1.	Double check valve (7)	Line nut (2) and 45-degree elbow (1)	Using 3/4-inch open-end wrench, unscrew and take off.
2.	Fitting (3)	Line nut (4) and airhose (5)	<ul style="list-style-type: none"> <li>a. Using 3/4-inch and 5/8-inch open-end wrenches, unscrew and take off.</li> <li>b. Take out airhose.</li> </ul>

CLEANING

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

3.	Airhose (5)	Clean using liquid detergent and wiping rag.
----	-------------	--

INSPECTION/REPLACEMENT

**NOTE**

Replace damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

4.	Airhose (5)	<ul style="list-style-type: none"> <li>a. Check for cracks, breaks, chafing, or hardness.</li> <li>b. Look for excessive rust or corrosion.</li> </ul>
5.	All threaded parts	Look for damaged threads or rounded heads.

INSTALLATION

**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

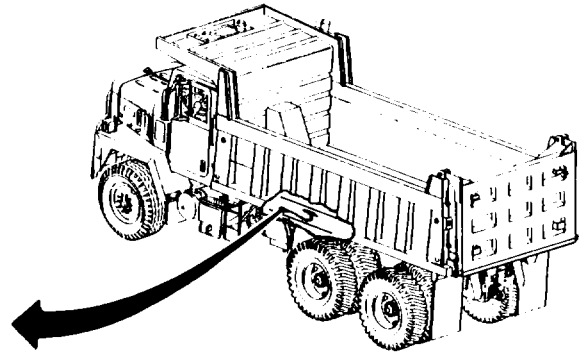
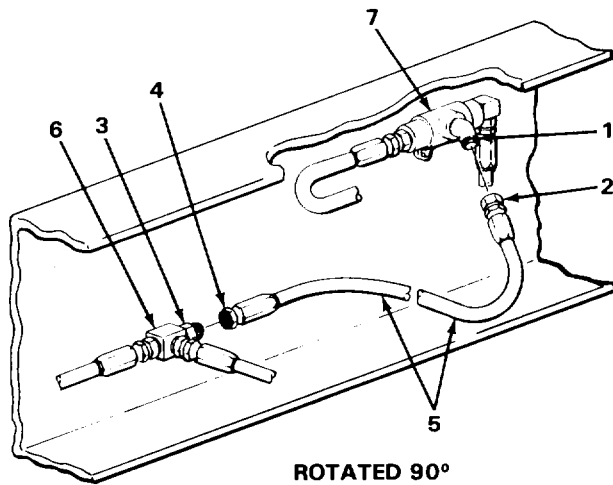
**DOUBLE CHECK VALVE TO DOUBLE CHECK VALVE T-FITTING HOSE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

- |    |                                     |                     |   |
|----|-------------------------------------|---------------------|---|
| 6. | Double check valve tee (6)          | Fitting (3)         | Wrap pipe threads with antiseizing tape.                            |
| 7. | Fitting (3)                         | Airhose (5)         | Screw on and tighten using 3/4-inch and 5/8-inch open-end wrenches. |
| 8. | Double check valve (7)              | 45-degree elbow (1) | Wrap pipe threads with antiseizing tape.                            |
| 9. | 45-degree elbow (1) and airhose (5) |                     | Screw on and tighten using 3/4-inch open-end wrench.                |



**TASK ENDS HERE**

Change 1 2-1073

TA244376

**DRY AIR RESERVOIR TO T-MANIFOLD HOSES**

This task covers:

- |                           |   |
|---------------------------|---|
| a. Removal (page 2-1074)  | c. Inspection/Replacement (page 2-1075) |
| b. Cleaning (page 2-1075) | d. Installation (page 2-1076)           |

INITIAL SETUP:

Tools

Goggles, safety  
Wrench, open-end, 1-inch

Materials/Parts

Detergent, liquid, GP (item 7, appendix C)  
Rags, wiping (item 15, appendix C)  
Tape, antiseizing (item 22, appendix C)

Personnel Required

One

Equipment Condition

Airbrake system drained (page 2-1034).

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

1.	90-degree elbow (1)	Line nut (2)	Using 1-inch open-end wrench, unscrew and take off.
2.	45-degree elbow (3)	Line nut (4)	Using 1-inch open-end wrench, unscrew and take off.
3.	T-manifold (4.1)	Line nut (6), airhose (7), and 90-degree elbow (5)	a. Using 1-inch open-end wrench, unscrew and take off. b. Take out airhose.
4.		Line nut (9), airhose (10), and 90-degree elbow (8)	a. Using 1-inch open-end wrench, unscrew and take off. b. Take out airhose.

**Change 1 2-1074**

**DRY AIR RESERVOIR TO T-MANIFOLD HOSES - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

**CLEANING**

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

5.	Airhoses (7 and 10)	Clean using liquid detergent and wiping rag.
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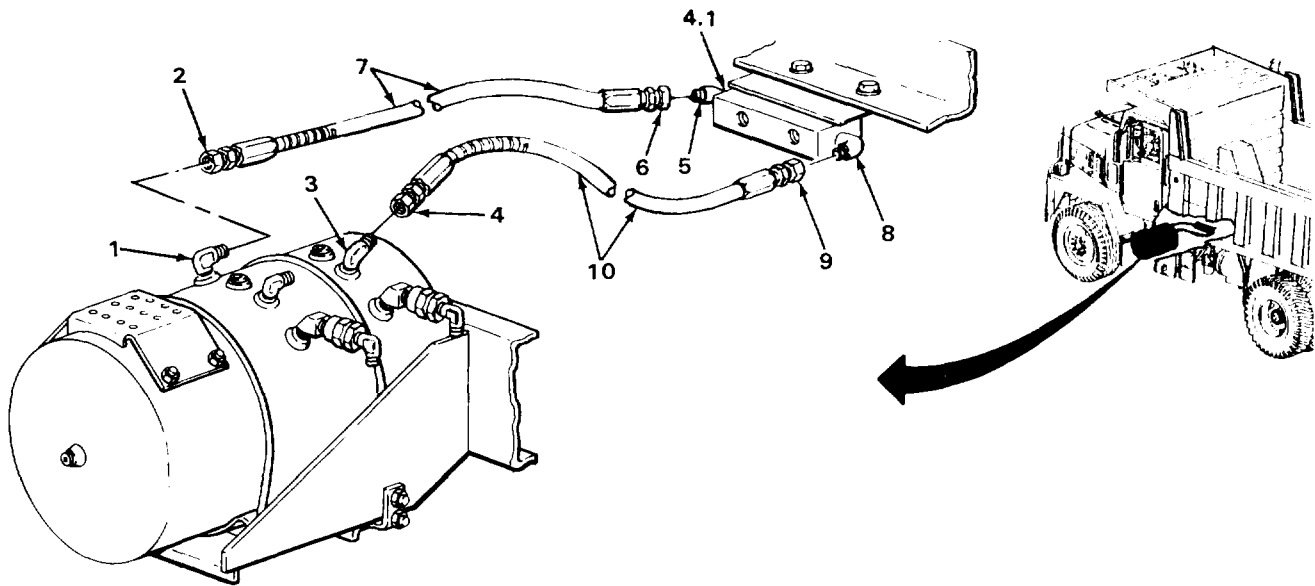
**INSPECTION/REPLACEMENT**

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

6.	Airhoses (7 and 10)	a. Check for cracks, breaks, chafing, or hardness. b. Look for excessive rust or corrosion.
7.	All threaded parts	Look for damaged threads or rounded heads.



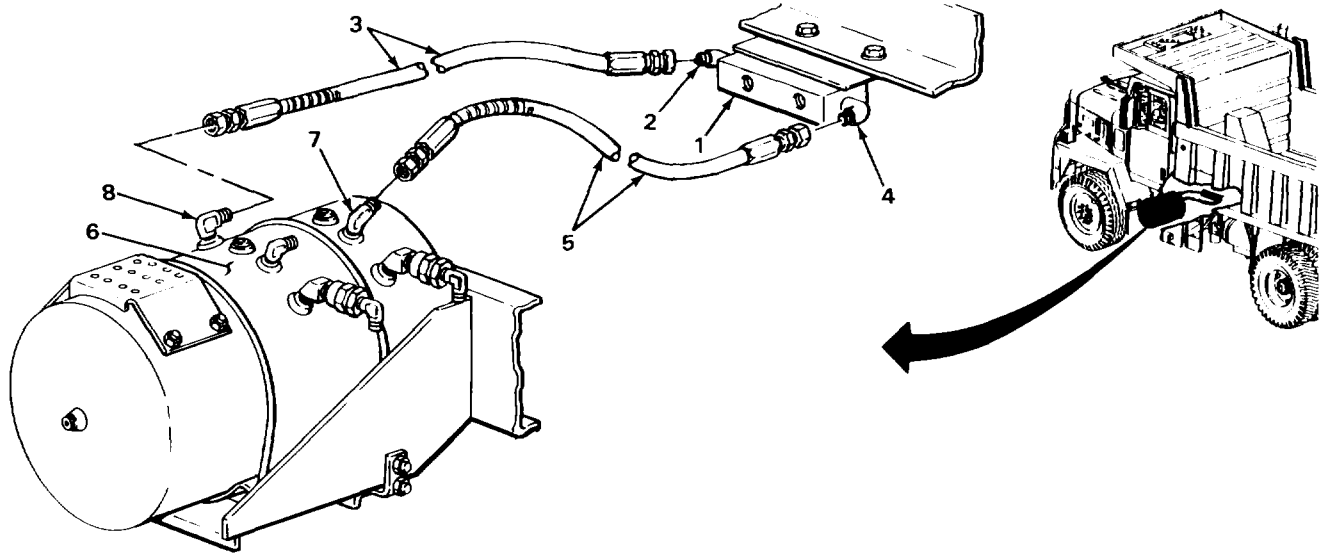
TA702146

**DRY AIR RESERVOIR TO T-MANIFOLD HOSES - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
<b><u>CAUTION</u></b>		
Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.		
<b><u>NOTE</u></b>		
For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).		
8.	T-manifold (1)	90-degree elbow (2)
Wrap pipe threads with antiseizing tape.		
9.	90-degree elbow (2) and airhose (3)	
Screw on and tighten using 1-inch open-end wrench.		
10.	T-manifold (1)	90-degree elbow (4)
Wrap pipe threads with antiseizing tape.		
11.	90-degree elbow (4) and airhose (5)	
Screw on and tighten using 1-inch open-end wrench.		
12.	Dry air reservoir (6)	
45-degree elbow (7)		Wrap pipe threads with antiseizing tape.
13.	45-degree elbow (7)	Airhose (5)
Screw on and tighten using 1-inch open-end wrench.		
14.	Dry air reservoir (6)	
90-degree elbow (8)		Wrap pipe threads with antiseizing tape.
15.	90-degree elbow (8)	Airhose (3)
Screw on and tighten using 1-inch open-end wrench.		

**Change 1 2-1076**

DRY AIR RESERVOIR TO T-MANIFOLD HOSES - CONTINUED



TASK ENDS HERE

TA244378

Change 1 2-1077

**T-MANIFOLD**

This task covers:

- a. Removal (page 2-1077.0)
- b. Installation (page 2-1077.0)

**INITIAL SETUP:**

**Equipment Conditions**

Dry air reservoir to T-manifold hoses disconnected (page 2-1074).

Brake treadle valve to T-manifold hoses disconnected (page 2-1067).

**Materials/Parts**

Lockwasher, T-manifold (four required)

**Personnel Required**

One

**Tools/Test Equipment**

Goggles, safety  
Wrench, box-end, 7/16-inch  
Wrench, open-end, 7/16-inch

LOCATION	ITEM	ACTION REMARKS
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**REMOVAL**

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

1.	T-manifold (1)	Two nuts (2), lockwashers (3), and screws (4)	<ul style="list-style-type: none"> <li>a. Using 7/16-inch open-end wrench and 7/16-inch box-end wrench, unscrew, and take off.</li> <li>b. Get rid of lockwashers.</li> </ul>
2.	Bracket (5)	T-manifold (1)	Take off.
3.	Cab floor (6)	Two nuts (7), lockwashers (8), and screws (9)	<ul style="list-style-type: none"> <li>a. Using 7/16-inch open-end wrench and 7/16-inch box-end wrench, unscrew, and take off.</li> <li>b. Get rid of lockwashers.</li> </ul>
4.	Bracket (5)	Take off.	

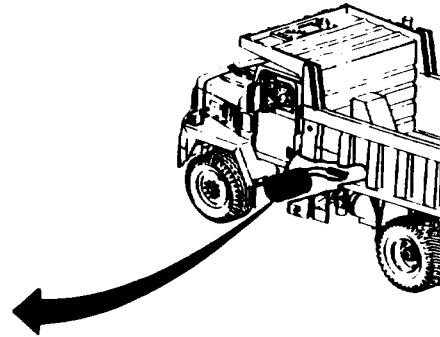
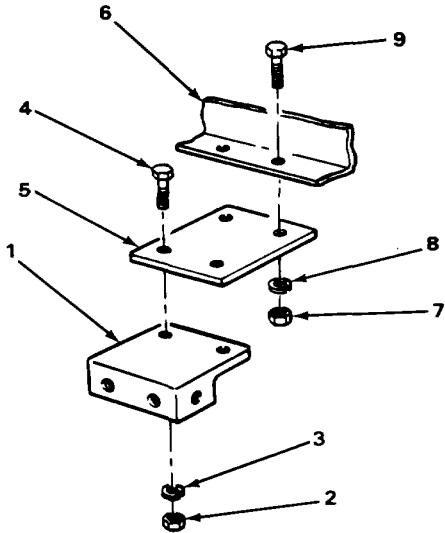
**INSTALLATION**

5.	Cab floor (6)	Bracket (5)	Put in place.
6.		Two nuts (7), new lockwashers (8), and screws (9)	Screw in and tighten using 7/16-inch box-end wrench and 7/16-inch open-end wrench.
7.	Bracket (5)	T-manifold (1)	Put in place.



T-MANIFOLD - CONTINUED

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------



8. T-manifold (1)

Two nuts (2), new lockwashers (3), and screws (4)

Screw in and tighten using 7/16-inch box-end wrench and 7/16-inch open-end wrench.

**NOTE**

FOLLOW-ON MAINTENANCE:

1. Connect brake treadle valve to T-manifold hoses (page 2-1067).
2. Connect dry air reservoir to T-manifold hoses (page 2-1074).

**TASK ENDS HERE**

TA702147

Change 1 2-1077.1

**DRY AIR RESERVOIR TO WET AIR RESERVOIR HOSES**

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This task covers:

- |                           |   |
|---------------------------|---|
| a. Removal (page 2-1078)  | c. Inspection/Replacement (page 2-1078) |
| b. Cleaning (page 2-1078) | d. Installation (page 2-1079)           |
- 

**INITIAL SETUP:****Tools**

Goggles, safety  
Wrench, open-end, 7/8-inch

**Materials/Parts**

Detergent, liquid, GP (item 7, appendix C)  
Rags, wiping (item 15, appendix C)  
Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**Equipment Condition**

Airbrake system drained (page 2-1034).

**Change 1 2-1077.2/(2-1077.3 blank)**

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**DRY AIR RESERVOIR TO WET AIR RESERVOIR HOSES - CONTINUED**


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LOCATION	ITEM	ACTION REMARKS
REMOVAL		
<b><u>WARNING</u></b>		
Safety goggles must be worn when working under truck to prevent eye injury.		
1.	90-degree elbow (1) Line nut (2)	Using 7/8-inch open-end wrench, unscrew and take off.
2.	90degree elbow (3) Line nut (4)	Using 7/8-inch open-end wrench, unscrew and take off.
3.	45-degree elbow (5) Line nut (6) and airhose (7)	a. Using 7/8-inch open-end wrench, un- screw and take off. b. Take out airhose.
4.	45-degree elbow (8) Line nut (9) and airhose (10)	a. Using 7/8-inch open-end wrench, un- screw and take off. b. Take out airhose.

## CLEANING

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

5.	Airhoses (7 and 10)	Clean using liquid detergent and wiping rag.
----	---------------------	--

## INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

6.	Airhoses (7 and 10)	a. Check for cracks, breaks, chafing, or hardness. b. Look for excessive rust or corrosion.
7.	All threaded parts	Look for damaged threads or rounded heads.

DRY AIR RESERVOIR TO WET AIR RESERVOIR HOSES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION

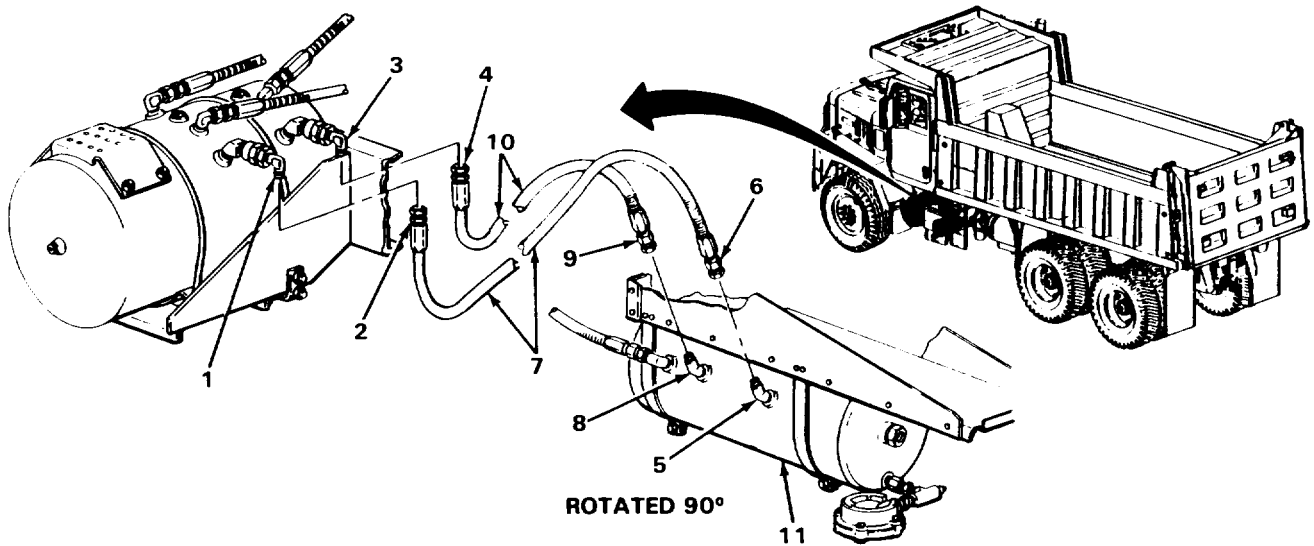
**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

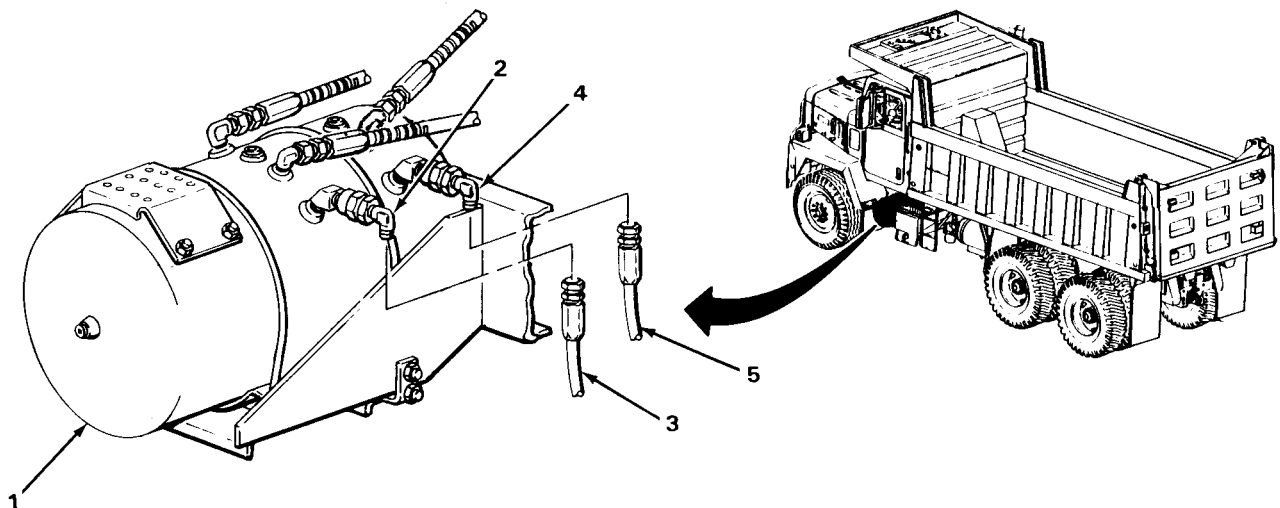
- |     |                        |                     |  |
|-----|------------------------|---------------------|--|
| 8.  | Wet air reservoir (11) | 45-degree elbow (8) | Wrap pipe threads with antiseizing tape.             |
| 9.  | 45-degree elbow (8)    | Airhose (10)        | Screw on and tighten using 7/8-inch open-end wrench. |
| 10. | Wet air reservoir (11) | 45-degree elbow (5) | Wrap pipe threads with antiseizing tape.             |
| 11. | 45-degree elbow (5)    | Airhose (7)         | Screw on and tighten using 7/8-inch open-            |



TA244380

**DRY AIR RESERVOIR TO WET AIR RESERVOIR HOSES - CONTINUED**

	LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION - CONTINUED</b>				
12.	Dry air reservoir (1)	90-degree elbow (2)		Wrap pipe threads with antiseizing tape.
13.	90-degree elbow (2)	Airhose (3)		Screw on and tighten using 7/8-inch open-end wrench.
14.	Dry air reservoir (1)	90-degree elbow (4)		Wrap pipe threads with antiseizing tape.
15.	90-degree elbow (4)	Airhose (5)		Screw on and tighten using 7/8-inch open-end wrench.



**TASK ENDS HERE**

**DRY AIR RESERVOIR TO FRONT RELAY VALVE HOSE**

This task covers:

- a. Removal (page 2-1081)
- b. Cleaning (page 2-1082)
- c. Inspection/Replacement (page 2-1082)
- d. Installation (page 2-1083)

TA244379

**DRY AIR RESERVOIR TO FRONT RELAY VALVE HOSE - CONTINUED**

INITIAL SETUP:

Tools

- Gloves, safety
- Goggles, safety
- Wrench, box-end, 7/16-inch
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 1 1/16-inch
- Wrench, open-end, 1 1/4-inch

Materials/Parts

- Detergent, liquid, GP (item 7, appendix C)
- Lockwasher, clamp screw (three required)

Materials/Parts - Continued

- Rags, wiping (item 15, appendix C)
- Solvent, drycleaning (item 19, appendix C)
- Tape, antiseizing (Item 22, appendix C)

Personnel Required

One

Equipment Condition

Airbrake system drained (page 2-1034).

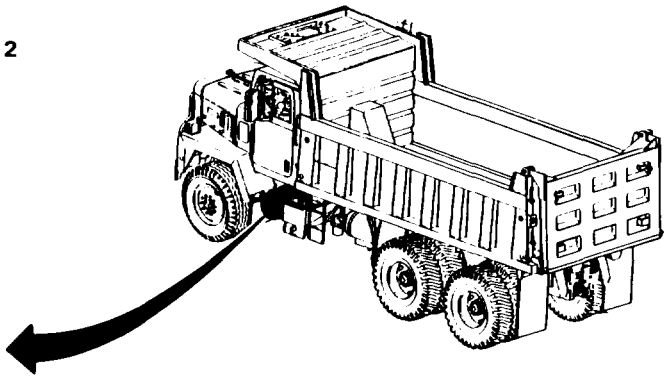
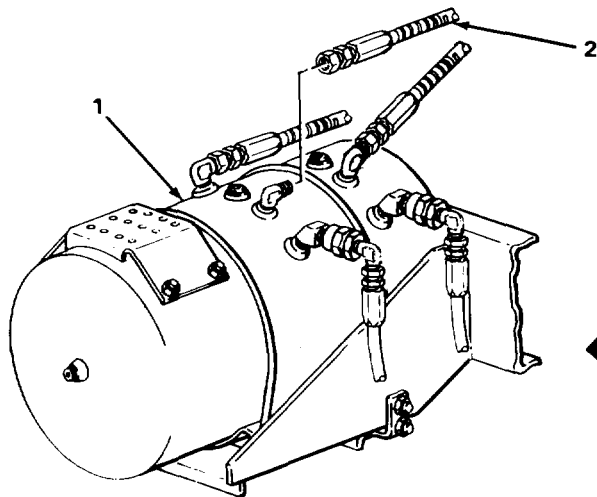
LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

- |    |                       |             |   |
|----|-----------------------|-------------|---|
| 1. | Dry air reservoir (1) | Airhose (2) | Using 1 1/4-inch open-end wrench, unscrew and take off. |
|----|-----------------------|-------------|---|



## DRY AIR RESERVOIR TO FRONT RELAY VALVE HOSE - CONTINUED

---

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
<b>NOTE</b>			
Step 2 is typical for three clamps.			
2.	Left frame rail (1) and airhose (2)	Clamp (3), screw (4), lockwasher (5), and nut (6)	<ol style="list-style-type: none"> <li>Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out.</li> <li>Get rid of lockwasher.</li> <li>Take clamp off airhose.</li> </ol>
3.	Front relay valve (9)	Line nut (8), airhose (2), and fitting (7)	<ol style="list-style-type: none"> <li>Using 1 1/4-inch and 1 1/16-inch open-end wrenches, unscrew and take off.</li> <li>Take out airhose.</li> </ol>

### CLEANING

#### WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

#### **NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

4.	Airhose (2)	Clean using liquid detergent and wiping rag.
5.	All metal parts	Clean using drycleaning solvent and wiping rag.

### INSPECTION/REPLACEMENT

#### **NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

**Change 1 2-1082**

**DRY AIR RESERVOIR TO FRONT RELAY VALVE HOSE - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
6.	Airhose (2)	a. Check for cracks, breaks, chafing, or hardness. b. Look for rust or corrosion.	
7.	All threaded parts	Look for damaged threads or rounded heads.	

**INSTALLATION**

**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

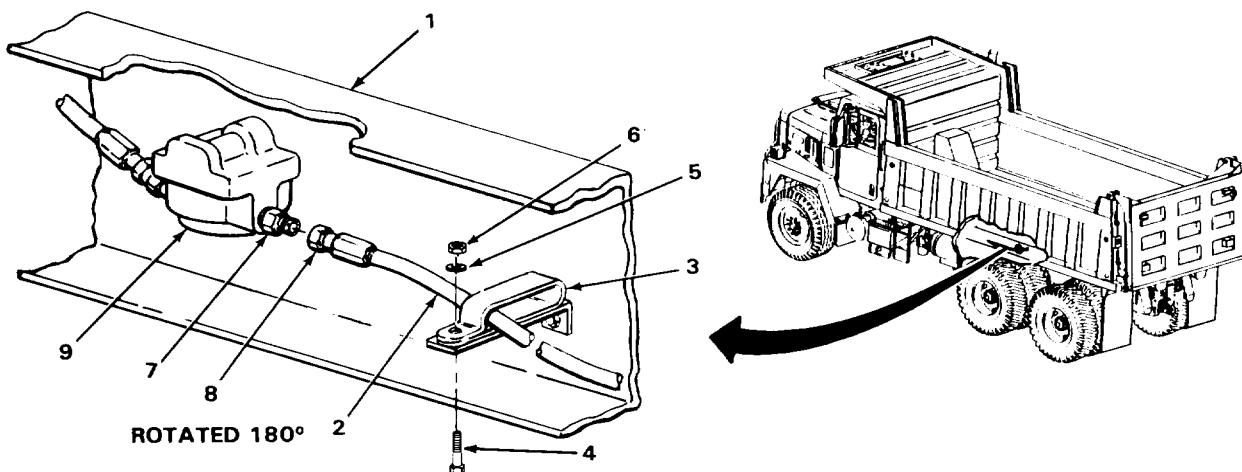
For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

8.	Front relay valve (9)	Fitting (7)	Wrap pipe threads with antiseizing tape.
9.		Fitting (7) and airhose (2)	Screw on and tighten using 1 1/4-inch and 1 1/16-inch open-end wrenches.

**NOTE**

Steps 10 and 11 are typical for three clamps.

10.	Airhose (2)	Clamp (3)	Put on.
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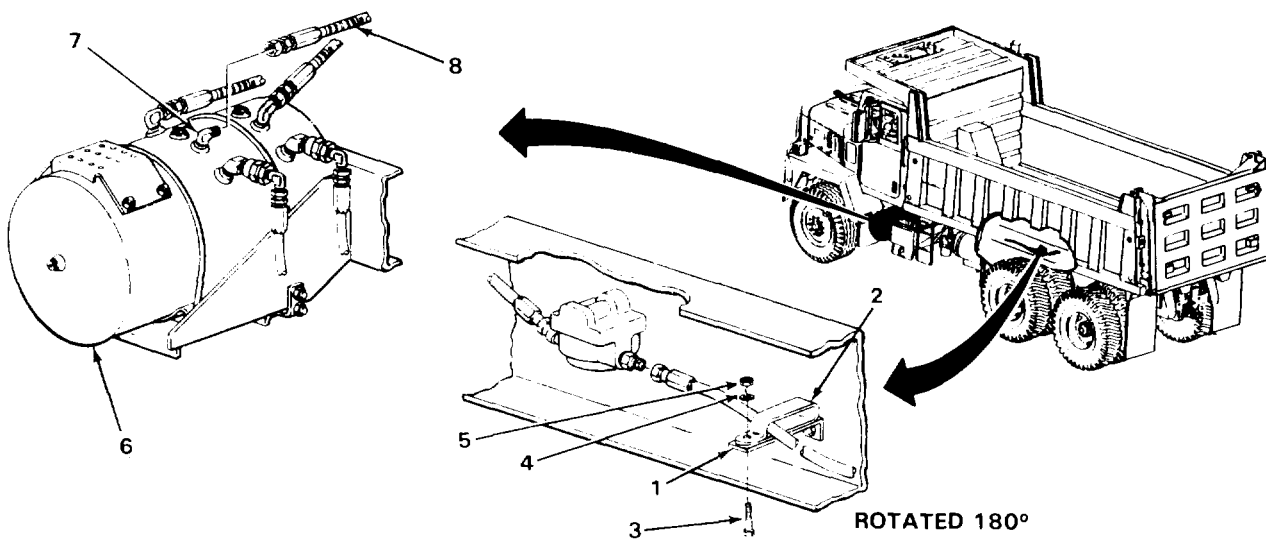


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DRY AIR RESERVOIR TO FRONT RELAY VALVE HOSE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
11.	Clamp bracket (1)	Clamp (2), screw (3), new lockwasher (4), and nut (5)	a. Aline holes in clamp and clamp bracket. b. Screw in and tighten using 7/16-inch box-end and 7/16-inch open-end wrenches.
12.	Dry air reservoir (6)	90-degree elbow (7)	Wrap pipe threads with antiseizing tape.
13.	90-degree elbow (7)	Airhose (8)	Screw on and tighten using 1 1/4-inch open-end wrench.



TASK ENDS HERE

**FRONT BRAKE LIMITING AND QUICK RELEASE VALVE**

This task covers:

- a. Removal (page 2-1084.2)
- b. Installation (page 2-1084.2)

**INITIAL SETUP:**

**Equipment Conditions**

- Front brake limiting and quick release valve to brake treadle valve hose disconnected (page 2-1084)
- Left front wheel to front brake limiting and quick release valve hose disconnected (page 2-1115)
- Right front wheel to front brake limiting and quick release valve hose disconnected (page 1-1122).
- Front brake limiting control valve hose and fitting disconnected (page 2-1159).

**Materials/Parts**

Lockwasher, quick release valve (two required)

**Tools/Test Equipment**

- Goggles, safety
- Wrench, box-end, 7/16-inch
- Wrench, open-end, 7/16-inch

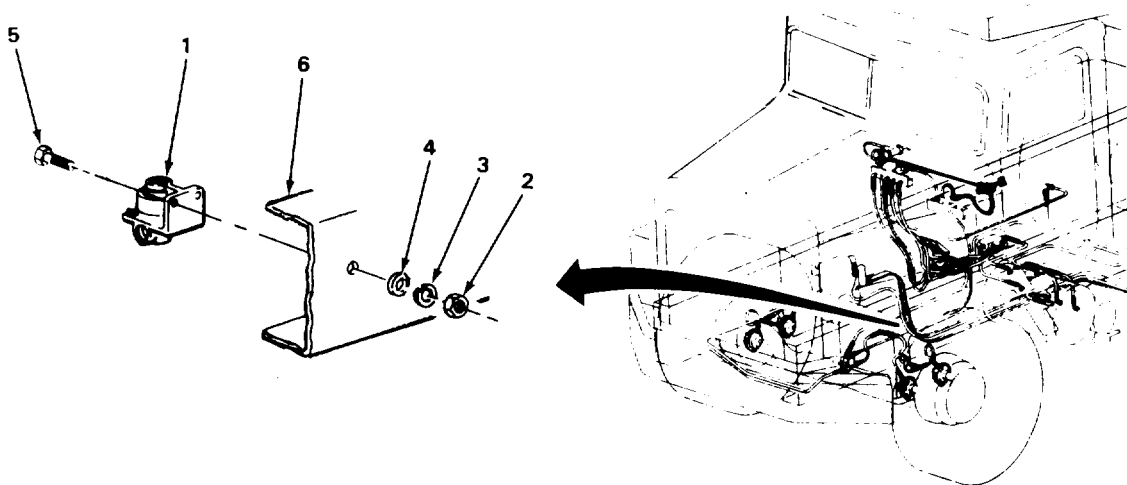
**Personnel Required**

One

**Change 1 2-1084.1**

**FRONT BRAKE LIMITING AND QUICK RELEASE VALVE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
<b><u>WARNING</u></b>		
Safety goggles must be worn when working under truck to prevent eye injury.		
1. Front brake limiting and quick release valve (1)	Two nuts (2), lockwashers (3), washers (4), and screws (5)	a. Using 7/16-inch open-end wrench and 7/16-inch box-end wrench, unscrew, and take off. b. Get rid of lockwashers.
2. Left frame rail (6)	Front brake limiting and quick release valve (1)	Take off.
<b>INSTALLATION</b>		
3. Left frame rail (6)	Front brake limiting and quick release valve (1)	Put in place.
4. Front brake limiting and quick release valve (1)	Two nuts (2), new lockwashers (3), washers (4), and screws (5)	Screw in and tighten using 7/16-inch box-end wrench and 7/16-inch open-end wrench.



**FRONT BRAKE LIMITING AND QUICK RELEASE VALVE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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**NOTE**

FOLLOW-ON MAINTENANCE:

1. Connect front brake limiting control valve hose and fitting (page 2-1159).
2. Connect front wheel to front brake limiting and quick release valve hose (page 2-1122).
3. Connect left front wheel to front brake limiting and quick release valve hose (page 2-1115).
4. Connect front brake limiting and quick release valve to brake treadle valve hose (page 2-1084).

**TASK ENDS HERE**

**FRONT BRAKE LIMITING AND QUICK RELEASE VALVE TO BRAKE TREADLE VALVE HOSE**

This task covers:

- |                           |   |
|---------------------------|---|
| a. Removal (page 2-1085)  | c. Inspection/Replacement (page 2-1086) |
| b. Cleaning (page 2-1086) | d. Installation (page 2-1087)           |

**Change 1 2-1084.3/(2-1084.4 blank)**

**FRONT BRAKE LIMITING AND QUICK RELEASE VALVE TO BRAKE TREADLE VALVE HOSE - CONTINUED**

INITIAL SETUP:

Tools

- Gloves, safety
- Goggles, safety
- Wrench, box-end, 7/16-inch
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 7/8-inch

Materials/Parts

- Detergent, liquid, GP (item 7, appendix C)
- Lockwasher, clamp screw (two required)
- Rags, wiping (item 15, appendix C)

Materials/Parts - Continued

- Solvent, drycleaning (item 19, appendix C)
- Tape, antiseizing (item 22, appendix C)

Personnel Required

One

Equipment Condition

- Airbrake system drained (page 2-1034).
- Left side hood panel opened (page 2-424).

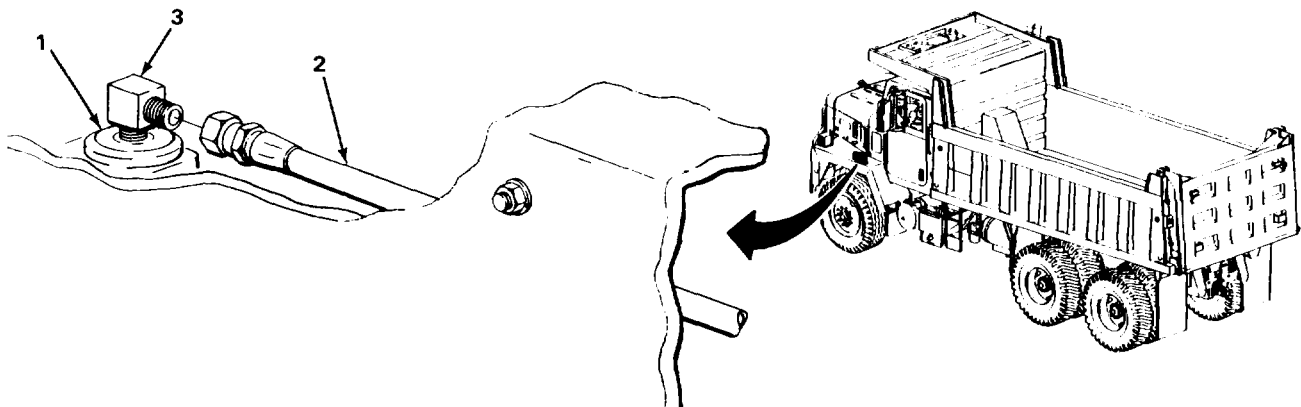
LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

- |    |  |                                     |   |
|----|--|-------------------------------------|---|
| 1. | Front brake limiting and quick release valve (1) | Airhose (2) and 90-degree elbow (3) | Using 7/8-inch open-end wrench, unscrew and take off. |
|----|--|-------------------------------------|---|



TA702149

## FRONT BRAKE LIMITING AND QUICK RELEASE VALVE TO BRAKE TREADLE VALVE HOSE - CONTINUED

	LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED			
2.	Left frame rail (1) and airhose (2)	Clamp (3), screw (4), lockwasher (5), and nut (6)	a. Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out. b. Get rid of lockwasher. c. Take clamp off airhose.
3.	Engine side of firewall (7) and airhose (2)	Clamp (8), screw (9), lockwasher (10), and nut (11)	a. Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out. b. Get rid of lockwasher. c. Take clamp off airhose.
4.	Brake treadle valve (12)	Line nut (13) and airhose (2)	a. Using 7/8-inch open-end wrench, unscrew and take off. b. Take out airhose.

### CLEANING

#### **WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

#### **NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

5.	Airhose (2)	Clean using liquid detergent and wiping rag.
6.	All metal parts	Clean using drycleaning solvent and wiping rag.

### INSPECTION/REPLACEMENT

#### **NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

**FRONT BRAKE LIMITING AND QUICK RELEASE VALVE TO BRAKE TREADLE VALVE HOSE - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
7.	Airhose (2)	a. Check for cracks, breaks, chafing, or hardness. b. Look for excessive rust or corrosion.	
8.	All threaded parts	Look for damaged threads and rounded heads.	

**INSTALLATION**

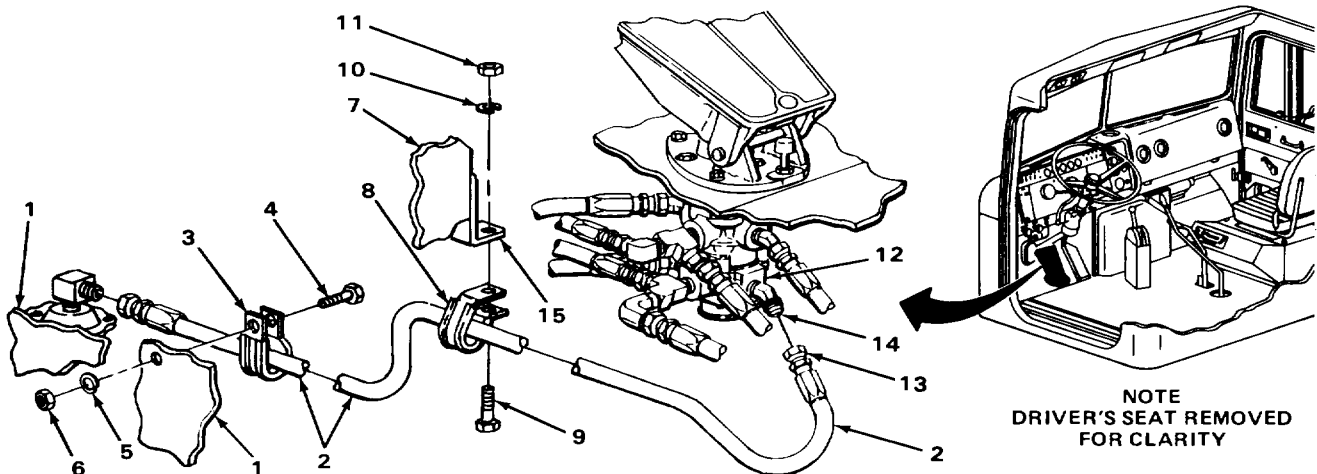
**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

9.	Brake treadle valve (12)	45-degree elbow (14)	Wrap pipe threads with antiseizing tape.
10.	45-degree elbow (14)	Airhose (2)	Screw on and tighten using 7/8-inch open-end wrench.
11.	Clamp bracket (15)	Clamp (8), screw (9), new lockwasher (10), and nut (11)	a. Put clamp on airhose (2). b. Aline holes in clamp and clamp bracket. c. Screw in and tighten using 7/16-inch box-end and 7/16-inch open-end wrenches.

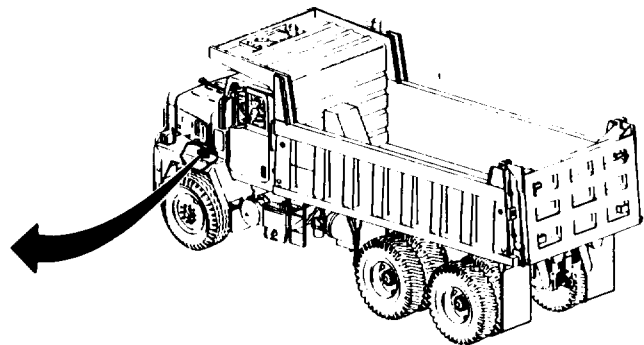
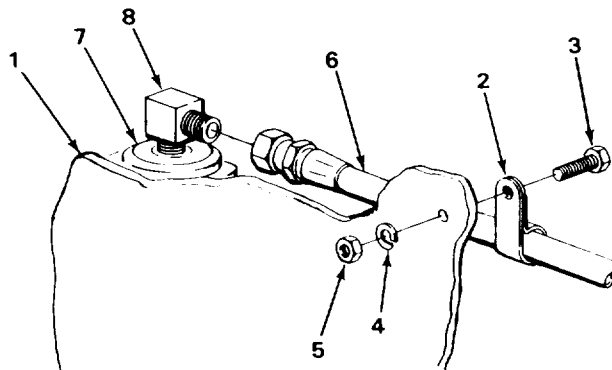


**NOTE**  
DRIVER'S SEAT REMOVED FOR CLARITY

TA244384

**FRONT BRAKE LIMITING AND QUICK RELEASE VALVE TO BRAKE TREADLE VALVE HOSE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
12. Left frame rail (1)	Clamp (2), screw (3), new lockwasher (4), and nut (5)	a. Put clamp on airhose (6). b. Aline holes in clamp and left frame rail. c. Screw in and tighten using 7/16-inch box-end and 7/16-inch open-end wrenches.
13. Front brake limiting and quick release valve (7)	90-degree elbow (8)	Wrap pipe threads with antiseizing tape.
14.	90-degree elbow (8) and airhose (6)	Screw on and tighten using 7/8-inch open-end wrench.



**NOTE**

FOLLOW-ON MAINTENANCE: Close left side hood panel (page 2-424).

**TASK ENDS HERE**

TA244385

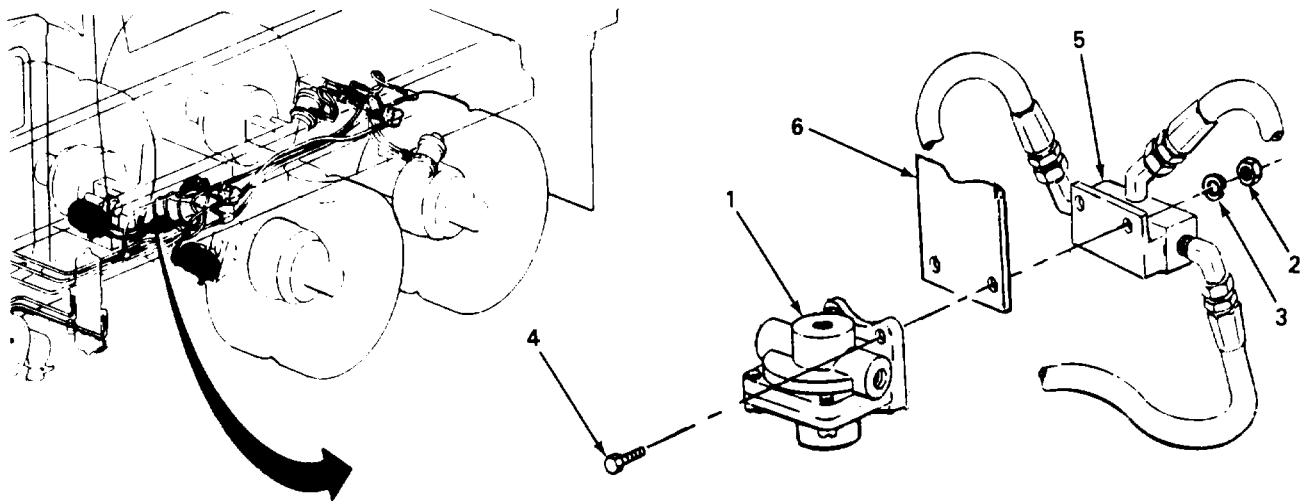
Change 1 2-1088





**FRONT REAR QUICK RELEASE VALVE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
<b><u>WARNING</u></b>		
Safety goggles must be worn when working under truck to prevent eye injury.		
1. Front rear quick release valve (1)	Two nuts (2), lockwashers (3), and screws (4)	a Using 7/16-inch open-end wrench and 7/16-inch box-end wrench, unscrew, and take off. b Get rid of lockwashers. <b>Front rear T-fitting (5) is also removed.</b>
2. Bracket (6)	Front rear quick release valve (1)	Take off.
<b>INSTALLATION</b>		
3. Bracket (6)	Front rear quick release valve (1)	Put in place.
4. Front rear quick release valve (1)	Two nuts (2), new lockwashers (3), and screws (4) installed.	Screw in and tighten using 7/16-inch box-end wrench and 7/16-inch open-end wrench. Front rear quick release valve (5) is also



TA702150

Change 1 2-1088.2

**FRONT REAR QUICK RELEASE VALVE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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**NOTE**

FOLLOW-ON MAINTENANCE:

1. Connect chassis T-fitting to front rear quick release valve hose (page 2-1146).
2. Connect front rear quick release valve to parking airbrake chamber hose (page 2-1088.3).

**TASK ENDS HERE**

**FRONT REAR QUICK RELEASE VALVE TO PARKING AIRBRAKE CHAMBER HOSES**

This task covers:

- |                           |   |
|---------------------------|---|
| a. Removal (page 2-1089)  | c. Inspection/Replacement (page 2-1091) |
| b. Cleaning (page 2-1090) | d. Installation (page 2-1092)           |

**Change 1 2-1088.3/(2-1088.4 blank)**

**FRONT REAR QUICK RELEASE VALVE TO PARKING AIRBRAKE CHAMBER HOSES - CONTINUED**

INITIAL SETUP:

Tools Materials/Parts - Continued

Gloves, safety  
 Goggles, safety  
 Wrench, box-end, 7/16-inch  
 Wrench, open-end, 7/16-inch  
 Wrench, open-end, 5/8-inch  
 Wrench, open-end, 11/16-inch  
 Wrench, open-end, 3/4-inch

Rags, wiping (item 15, appendix C)  
 Solvent, drycleaning (item 19, appendix C)  
 Tags, marker (item 21, appendix C)  
 Tape, antiseizing (item 22, appendix C)

Personnel Required

One

Materials/Parts

Detergent, liquid, GP (item 7, appendix C)  
 Lockwasher, clamp screw

Equipment Condition

Airbrake system drained (page 2-1034).

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

**WARNING**

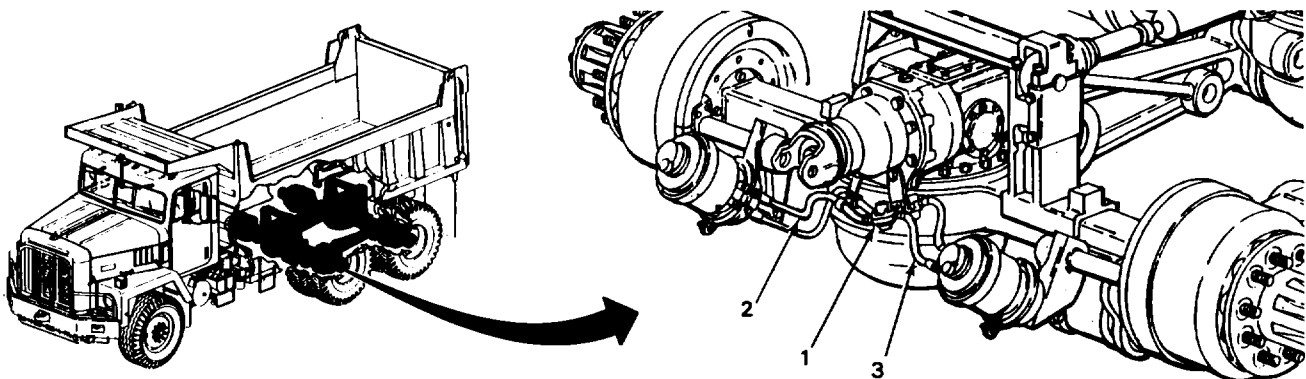
Safety goggles must be worn when working under truck to prevent eye injury.

**NOTE**

Tag airhoses to ensure correct installation.

For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).

- |    |                                    |  |      |
|----|------------------------------------|--|------|
| 1. | Front rear quick release valve (1) | Right airhose (2) and left airhose (3) | Tag. |
|----|------------------------------------|--|------|



TA702151

## FRONT REAR QUICK RELEASE VALVE TO PARKING AIRBRAKE CHAMBER HOSES - CONTINUED

LOCATION	ITEM	ACTION REMARKS	
REMOVAL - CONTINUED			
2.	Front rear quick release valve (0.1)	Line nut (2) and fitting (1)	Using 3/4-inch and 11/16-inch open-end wrenches, unscrew and take off.
3.		Line nut (4) and 45-degree elbow (3)	Using 3/4-inch open-end wrench, unscrew and take off.
4.	Right parking air-brake chamber (5)	Line nut (7) and fitting (6)	Using 3/4-inch and 5/8-inch open-end wrenches, unscrew and take off.
5.	Left parking air-brake chamber (8)	Line nut (10), fitting (9), and left airhose (11)	a. Using 3/4-inch and 5/8-inch open-end wrenches, unscrew and take off. b. Take out left airhose.
6.	Clamp bracket (12)	Screw (13), lock-washer (14), nut (15), and two clamps (16)	a. Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out. b. Get rid of lockwasher. c. Take clamp off right airhose (17) only. d. Take out right airhose (17).

## CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

7.	Two airhoses (11 and 17)	Clean using liquid detergent and wiping rag.
8.	All metal parts	Clean using drycleaning solvent and wiping rag.

**Change 1 2-1090**

FRONT REAR QUICK RELEASE VALVE TO PARKING AIRBRAKE CHAMBER HOSES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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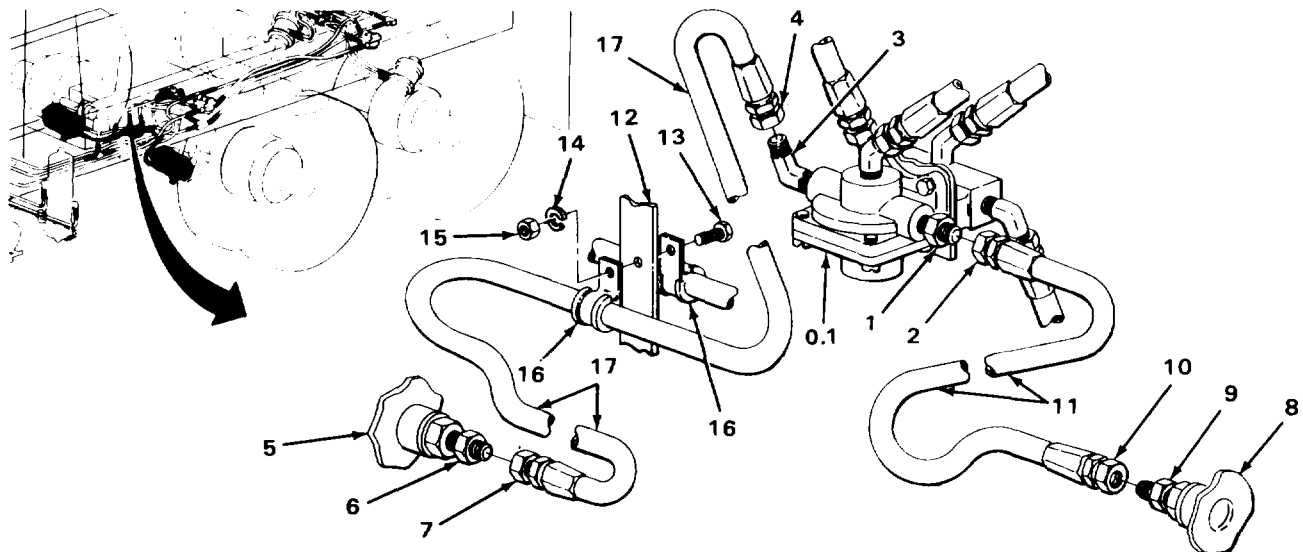
INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

- |     |                             |  |
|-----|-----------------------------|--|
| 9.  | Two airhoses<br>(11 and 17) | <ul style="list-style-type: none"> <li>a. Check for cracks, breaks, chafing, or hardness.</li> <li>b. Look for excessive rust or corrosion.</li> </ul> |
| 10. | All threaded parts          | Look for damaged threads or rounded heads.   |



TA702152

Change 1 2-1091

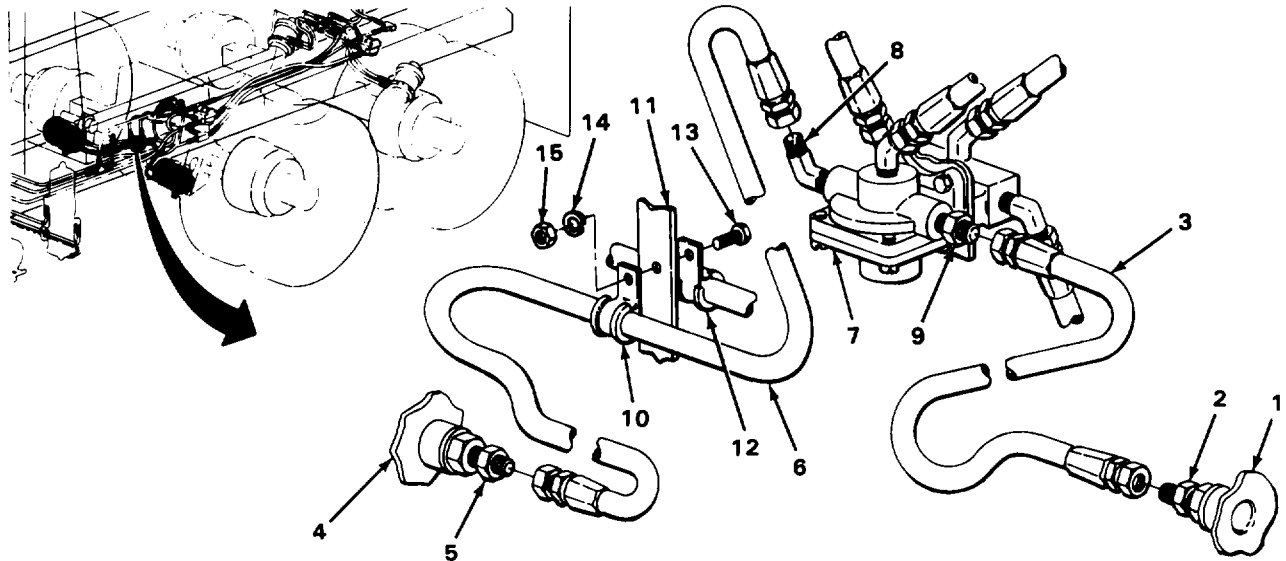
## FRONT REAR QUICK RELEASE VALVE TO PARKING AIRBRAKE CHAMBER HOSES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
<b><u>CAUTION</u></b>		
Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.		
For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).		
See tags for correct location of airhoses.		
11. Left parking air-brake chamber (1)	Fitting (2)	Wrap pipe threads with antiseizing tape.
12.	Fitting (2) and left airhose (3)	Screw on and tighten using 3/4-inch and 5/8-inch open-end wrenches.
13. Right parking air-brake chamber (4)	Fitting (5)	Wrap pipe threads with antiseizing tape.
14.	Fitting (5) and right airhose (6)	Screw on and tighten using 3/4-inch and 5/8-inch open-end wrenches.
15. Front rear quick release valve (7)	45-degree elbow (8)	Wrap pipe threads with antiseizing tape.
16.	45-degree elbow (8) and right airhose (6)	a. Screw on and tighten using 3/4-inch open-end wrench. b. Take off tag. c. Get rid of tag.
17.	Fitting (9)	Wrap pipe threads with antiseizing tape.
18.	Fitting (9) and left airhose (3)	a. Screw on and tighten using 3/4-inch and 11/16-inch open-end wrenches. b. Take off tag. c. Get rid of tag.

Change 1 2-1092

FRONT REAR QUICK RELEASE VALVE TO PARKING AIRBRAKE CHAMBER HOSES - CONTINUED

LOCATION	ITEM	ACTION REMARKS	
19.	Right alrhone (6)	Clamp (10)	Put on.
20.	Clamp bracket (11)	Clamp (10), clamp (12), screw (13), new lockwasher (14), and nut (15)	a. Allne holes In clamps and clamp bracket. b. Screw In and tighten using 7/16-Inch box-end and 7/16-Inch open-end wrenches.



TASK ENDS HERE

TA244388

Change 1 2-1093



**FRONT REAR T-FITTING**

This task covers:

a. Removal (page 2-1093.0)

b. Installation (page 2-1093.0)

**INITIAL SETUP:****Equipment Conditions**

Front rear T-fitting to service airbrake chamber hoses disconnected (page 2-1093.1).  
Front relay valve to front rear T-fitting hose disconnected (page 2-1099).

**Materials/Parts**

Lockwasher, T-manifold (two required)  
Personnel Required  
One

**Tools/Test Equipment**

Goggles, safety  
Wrench, box-end, 7/16-inch  
Wrench, open-end, 7/16-inch

LOCATION	ITEM	ACTION REMARKS
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**REMOVAL****WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

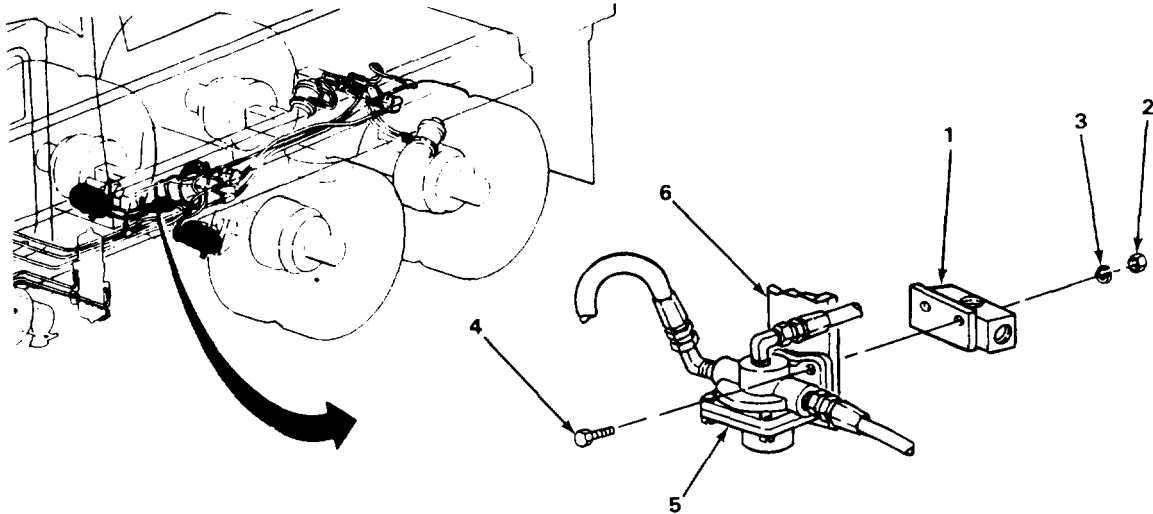
1. Front rear 7/16-inch T-fitting (1)	Two nuts (2), lockwashers (3), and screws (4)	a Using 7/16-inch open-end wrench and box-end wrench, unscrew, and take off. b Get rid of lockwashers. <b>Front rear quick release valve (5) is also removed.</b>
2. Bracket (6)	Front rear T-fitting (1)	Take off.

**INSTALLATION**

3. Bracket (6)	Front rear T-fitting (1)	Put in place.
4. Front rear T-fitting (1)	Two nuts (2), new lockwashers (3), and screws (4)	Screw in and tighten using 7/16-inch box-end wrench and 7/16-inch open-end wrench. <b>Front rear quick release valve (5) is also installed.</b>

**FRONT REAR T-FITTING - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Connect front relay valve to front rear T-fitting hose (page 2-1099).
2. Connect front rear T-fitting to service airbrake chamber hoses (page 2-1093.1).

**TASK ENDS HERE**

**FRONT REAR T-FITTING TO SERVICE AIRBRAKE CHAMBER HOSES**

This task covers:

- |                           |   |
|---------------------------|---|
| a. Removal (page 2-1094)  | c. Inspection/Replacement (page 2-1096) |
| b. Cleaning (page 2-1096) | d. Installation (page 2-1096)           |

TA702153

**Change 1 2-1093.1**

**FRONT REAR T-FITTING TO SERVICE AIRBRAKE CHAMBER HOSES - CONTINUED**

INITIAL SETUP:

Tools

- Gloves, safety
- Goggles, safety
- Wrench, box-end, 7/16-inch
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 5/8-inch
- Wrench, open-end, 3/4-inch

Materials/Parts

- Detergent, liquid, GP (item 7, appendix C)
- Lockwasher, clamp screw

Materials/Parts - Continued

- Rags, wiping (item 15, appendix C)
- Solvent, drycleaning (item 19, appendix C)
- Tags, marker (item 21, appendix C)
- Tape, antiseizing (item 22, appendix C)

Personnel Required

One

Equipment Condition

Airbrake system drained (page 2-1034).

LOCATION	ITEM	ACTION REMARKS
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REMOVAL

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

**NOTE**

Tag airhoses to ensure correct installation.

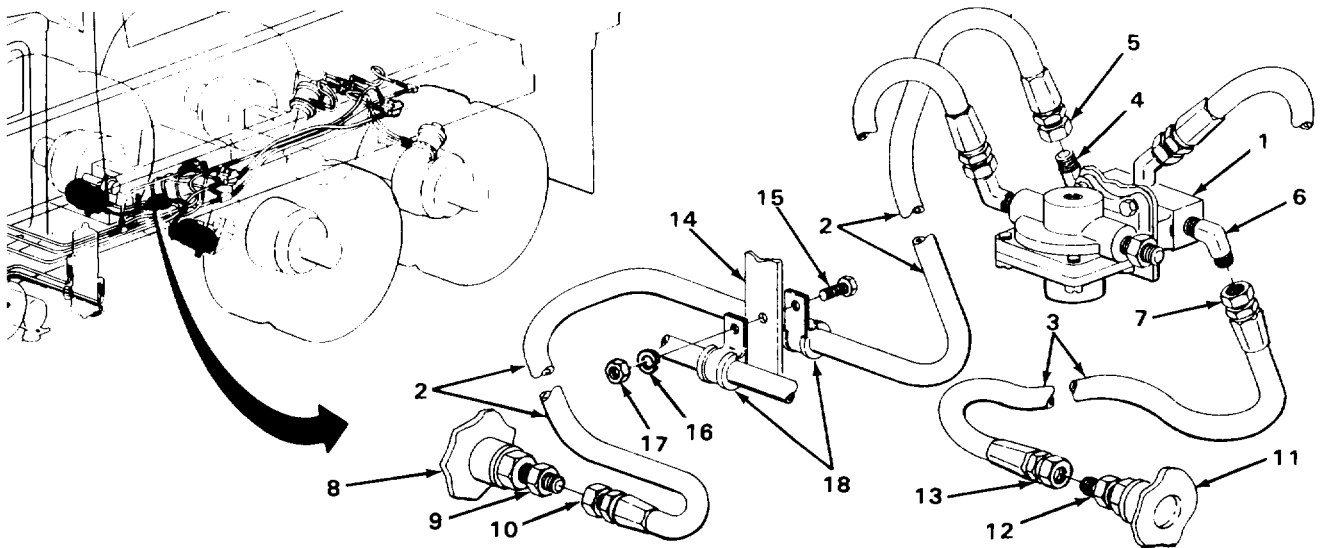
For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).

1.	Front rear T-fitting (1)	Right airhose (2) and left airhose (3)	Tag.
2.		Line nut (5) and 45-degree elbow (4)	Using 3/4-inch open-end wrench, unscrew and take off.
3.		Line nut (7) and 45-degree elbow (6)	Using 3/4-inch open-end wrench, unscrew and take off.
4.	Right service air-brake chamber (8)	Line nut (10) and fitting (9)	Using 3/4-inch and 5/8-inch open-end wrenches, unscrew and take off.

**Change 1 2-1094**

FRONT REAR T-FITTING TO SERVICE AIRBRAKE CHAMBER HOSES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
5. Left service air-brake chamber (11)	Line nut (13) and fitting (12)	a. Using 3/4-inch and 5/8-inch open-end wrenches, unscrew and take off. b. Take out left airhose (3).
6. Clamp bracket (14)	Screw (15), lock-washer (16), nut (17), and two clamps (18)	a. Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out. b. Get rid of lockwasher. c. Take clamp off right airhose (2) only. d. Take out right airhose (2).



TA244389

Change 1 2-1095

## FRONT REAR T-FITTING TO SERVICE AIRBRAKE CHAMBER HOSES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

## CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

7.	Two airhoses	Clean using liquid detergent and wiping rag.
8.	All metal parts	Clean using drycleaning solvent and wiping rag.

## INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

9.	Two airhoses	<ul style="list-style-type: none"> <li>a. Check for cracks, breaks, chafing, or hardness.</li> <li>b. Look for excessive rust or corrosion.</li> </ul>
10.	All threaded parts	Look for damaged threads or rounded heads.

## INSTALLATION

**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

FRONT REAR T-FITTING TO SERVICE AIRBRAKE CHAMBER HOSES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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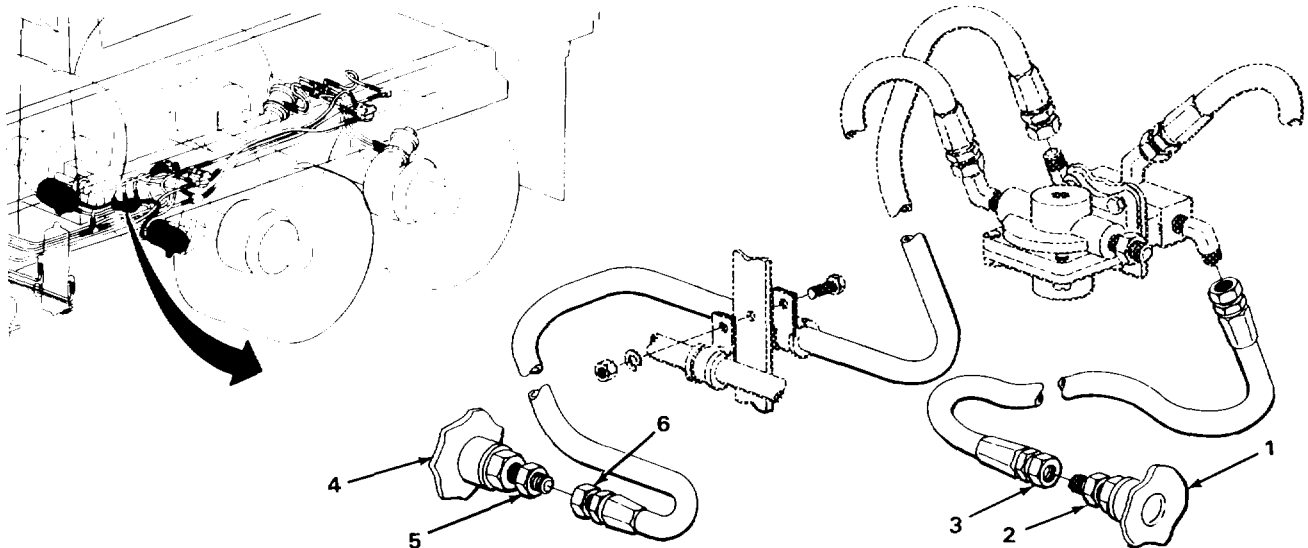
**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

**NOTE**

See tags for correct location of airhoses.

- |   |                                   |   |
|---|-----------------------------------|---|
| 11. Left service air-brake chamber (1)  | Fitting (2)                       | Wrap pipe threads with antiseizing tape.                            |
| 12.                                     | Fitting (2) and left airhose (3)  | Screw on and tighten using 3/4-inch and 5/8-inch open-end wrenches. |
| 13. Right service air-brake chamber (4) | Fitting (5)                       | Wrap pipe threads with antiseizing tape.                            |
| 14.                                     | Fitting (5) and right airhose (6) | Screw on and tighten using 3/4-inch and 5/8-inch open-end wrenches. |

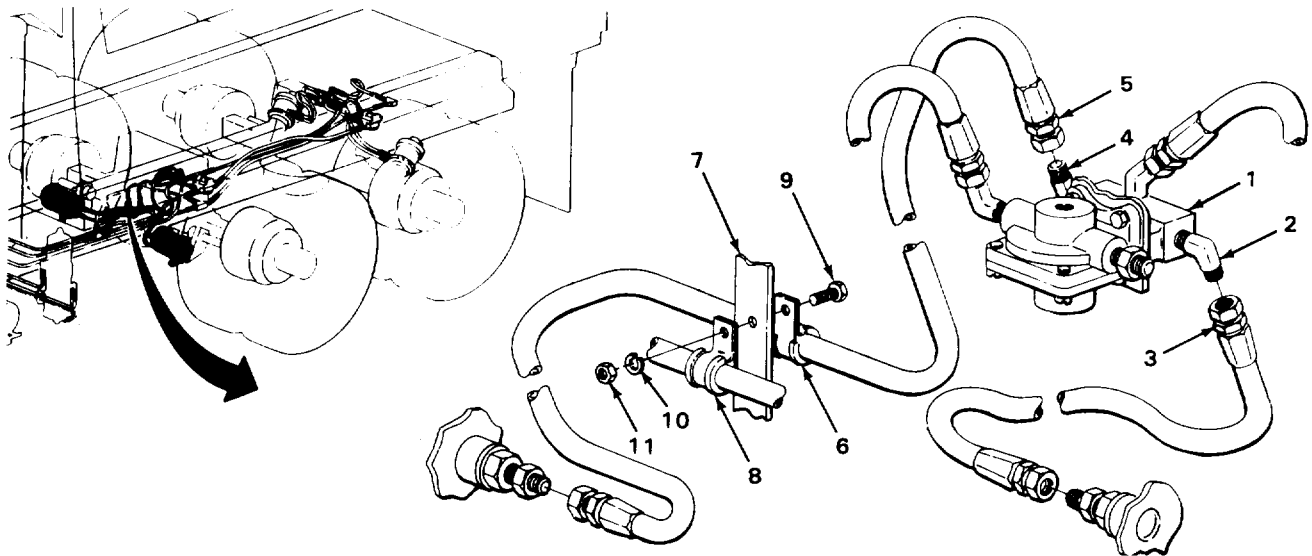


TA244390

Change 1 2-1097

FRONT REAR T-FITTING TO SERVICE AIRBRAKE CHAMBER HOSES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
15.	Front rear T-fitting (1)	45-degree elbow (2)	Wrap pipe threads with antiseizing tape.
16.		45-degree elbow (2) and left airhose (3)	a. Screw on and tighten using 3/4-inch open-end wrench. b. Take off tag. c. Get rid of tag.
17.		45-degree elbow (4)	Wrap pipe threads with antiseizing tape.
18.		45-degree elbow (4) and right airhose (5)	a. Screw on and tighten using 3/4-inch open-end wrench. b. Take off tag. c. Get rid of tag.
19.	Right airhose (5)	Clamp (6)	Put on.
20.	Clamp bracket (7)	Clamp (6), clamp (8), screw (9), new lockwasher (10), and nut (11)	a. Aline holes in clamps and clamp bracket. b. Screw in and tighten using 7/16-inch box-end and 7/16-inch open-end wrenches.



TASK ENDS HERE

**FRONT RELAY VALVE**

This task covers:

- a. Removal (page 2-1098.2)
- b. Installation (page 2-1098.2)

**INITIAL SETUP:**

Equipment Conditions

Double check valve T-fitting to front relay valve  
 T-fitting hose disconnected (page 2-1149)  
 Front relay valve to front rear T-fitting hose disconnected (page 2-1099)  
 Dry air reservoir to front relay valve hose disconnected (page 2-1080)  
 Front relay valve T-fitting to rear relay valve hose disconnected (page 2-1105).  
 Front relay valve to rear relay valve hose disconnected (page 2-1101).

Materials/Parts

Tape, antiseizing (item 22, appendix C)  
 Lockwasher, relay valve (two required)

Personnel Required

One

Tools/Test Equipment

Goggles, safety  
 Wrench, box-end, 7/16-inch  
 Wrench, open-end, 7/16-inch  
 Wrench, open-end, 3/4-inch

**Change 1 2-1098.1**



## FRONT RELAY VALVE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
<b><u>WARNING</u></b>			
Safety goggles must be worn when working under truck to prevent eye injury.			
1.	Front relay valve (1)	Two nuts (2), lockwashers (3), and screws (4)	a Using 7/16-inch open-end wrench and 7/16-inch box-end wrench, unscrew, and take off. b Get rid of lockwashers.
2.	Bracket (5)	Front relay valve (1)	Take off.
3.	Front relay valve (1)	T-fitting (6)	Using 3/4-inch open-end wrench, unscrew, and take off.

## INSTALLATION

**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

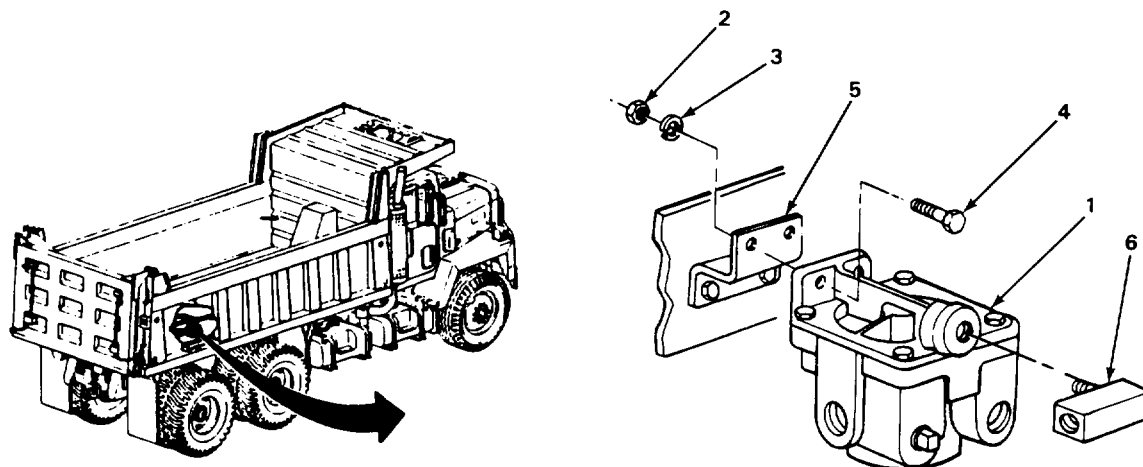
For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

4.	Front relay valve (1)	T-fitting (6) 2-424).	a Wrap pipe threads with antiseizing tape (page b Screw in and tighten using 3/4-inch open-end wrench.
5.	Bracket (5)	Front relay valve (1)	Put in place.
6.	Front relay valve (1)	Two nuts (2), new lockwashers (3), and screws (4)	Screw in and tighten using 7/16-inch box-end wrench and 7/16-inch open-end wrench.

**Change 1 2-1098.2**

FRONT RELAY VALVE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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**NOTE**

FOLLOW-ON MAINTENANCE:

1. Connect front relay valve to front rear relay valve hose (page 2-1101).
2. Connect front relay valve T-fitting to rear relay valve hose (page 2-1105).
3. Connect dry air reservoir to front relay valve hose (page 2-1080).
4. Connect front relay valve to front rear T-fitting hose (page 2-1099).
5. Connect double check valve T-fitting to front relay valve T-fitting hose (page 2-1149).

**TASK ENDS HERE**

TA702154

Change 1 2-1098.3/(2-1098.4 blank)

**FRONT RELAY VALVE TO FRONT REAR T-FITTING HOSE**

This task covers:

- a. Removal (page 2-1099)
- b. Cleaning (page 2-1100)
- c. Inspection/Replacement (page 2-1100)
- d. Installation (page 2-1100)

**INITIAL SETUP:**

**Tools**

Goggles, safety  
Wrench, open-end, 7/8-inch

**Materials/Parts**

Detergent, liquid, GP (item 7, appendix C)  
Rags, wiping (item 15, appendix C)  
Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**Equipment Condition**

Airbrake system drained (page 2-1034).

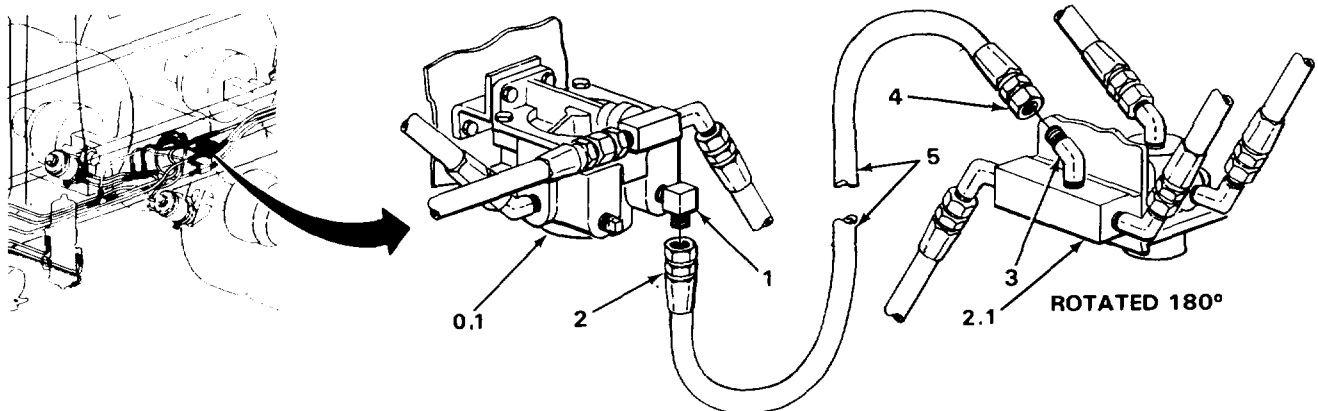
LOCATION	ITEM	ACTION REMARKS
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**REMOVAL**

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

- |    |                            |                                      |   |
|----|----------------------------|--------------------------------------|---|
| 1. | Front relay valve (0.1)    | Line nut (2) and 90-degree elbow (1) | Using 7/8-inch open-end wrench, unscrew and take off.   |
| 2. | Front rear T-fitting (2.1) | Line nut (4) and 45-degree elbow (3) | <ul style="list-style-type: none"> <li>a. Using 7/8-inch open-end wrench, unscrew, and take off.</li> <li>b. Take out airhose (5).</li> </ul> |

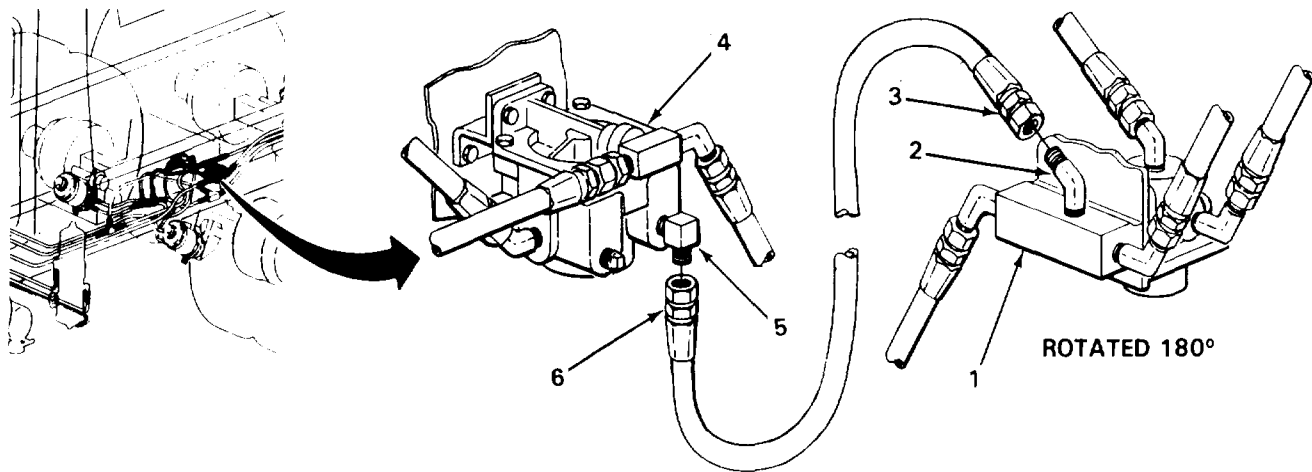


TA702155

## FRONT RELAY VALVE TO FRONT REAR T-FITTING HOSE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
CLEANING		
<b>NOTE</b>		
For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).		
3.	Airhose	Clean using liquid detergent and wiping rag.
INSPECTION/REPLACEMENT		
<b>NOTE</b>		
Replace all damaged or defective parts.		
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).		
4.	Airhose	a. Check for cracks, breaks, chafing, or hardness. b. Look for excessive rust or corrosion.
5.	All threaded parts	Look for damaged threads or rounded heads.
INSTALLATION		
<b><u>CAUTION</u></b>		
Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.		
<b>NOTE</b>		
For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).		
6.	Front rear T-fitting (1)	45-degree elbow (2) Wrap pipe threads with antiseizing tape.
7.		45-degree elbow (2) and line nut (3) Screw on and tighten using 7/8-Inch open-end wrench.
8.	Front relay valve (4)	90-degree elbow (5) Wrap pipe threads with antiseizing tape.
9.		90-degree elbow (5) and line nut (6) Screw on and tighten using 7/8-inch open-end wrench.

**FRONT RELAY VALVE TO FRONT REAR T-FITTING HOSE - CONTINUED**



**TASK ENDS HERE**

**FRONT RELAY VALVE TO REAR RELAY VALVE HOSE**

This task covers:

- |                           |   |
|---------------------------|---|
| a. Removal (page 2-1102)  | c. Inspection/Replacement (page 2-1103) |
| b. Cleaning (page 2-1102) | d. Installation (page 2-1103)           |

**INITIAL SETUP:**

**Tools**

- Gloves, safety
- Goggles, safety
- Wrench, box-end, 7/16-inch
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 1 1/4-inch

**Materials/Parts**

- Detergent, liquid, GP (item 7, appendix C)
- Lockwasher, clamp screw (two required)

**Materials/Parts - Continued**

- Rags, wiping (item 15, appendix C)
- Solvent, drycleaning (item 19, appendix C)
- Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**Equipment Condition**

Airbrake system drained (page 2-1034).

TA244393

**FRONT RELAY VALVE TO REAR RELAY VALVE HOSE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

1.	Front relay valve (0.1)	Line nut (2) and 45-degree elbow (1)	Using 1 1/4-inch open-end wrench, unscrew and take off.
2.	Rear relay valve (2.1)	Line nut (4) and 45-degree elbow (3)	Using 1 1/4-inch open-end wrench, unscrew and take off.

**NOTE**

Step 3 is typical for two clamp assemblies.

3.	Clamp bracket (5)	Screw (6), lock-washer (7), nut (8), and clamp (9)	<ul style="list-style-type: none"> <li>a. Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out.</li> <li>b. Get rid of lockwasher.</li> <li>c. Take clamps off airhose (10).</li> <li>d. Take out airhose (10).</li> </ul>
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CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

4.	Airhose (10)	Clean using liquid detergent and wiping rag.
5.	All metal parts	Clean using drycleaning solvent and wiping rag.

FRONT RELAY VALVE TO REAR RELAY VALVE HOSE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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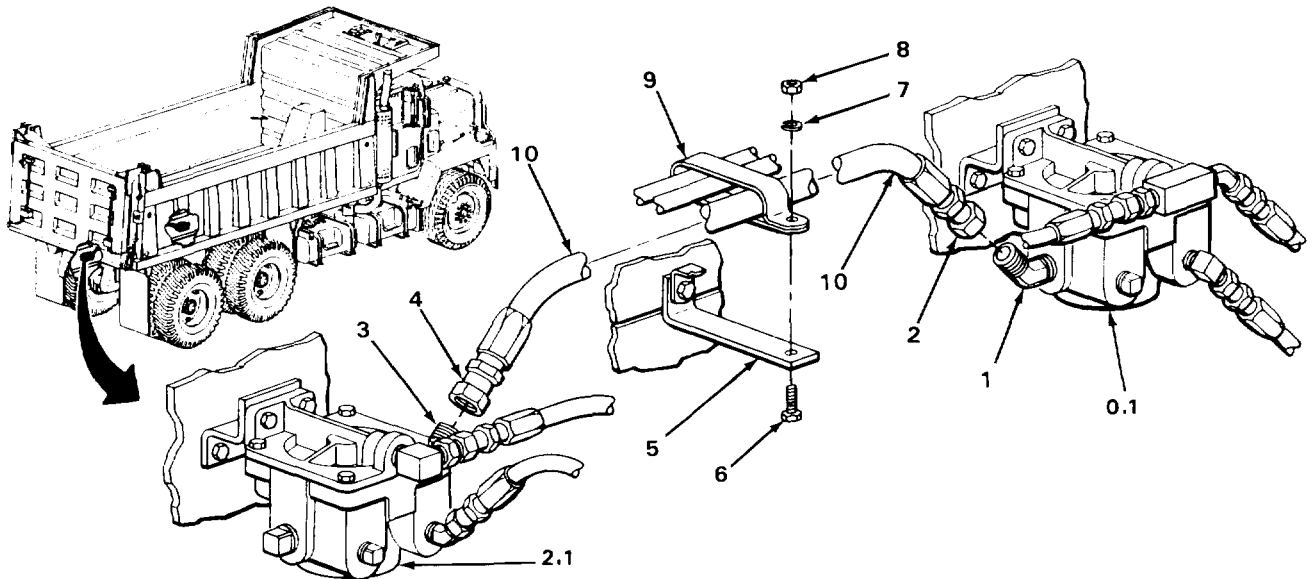
INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

- |    |                    |  |
|----|--------------------|--|
| 6. | Airhose (10)       | <ul style="list-style-type: none"> <li>a. Check for cracks, breaks, chafing, or hardness.</li> <li>b. Look for excessive rust or corrosion.</li> </ul> |
| 7. | All threaded parts | Look for damaged threads or rounded heads.   |



INSTALLATION

**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

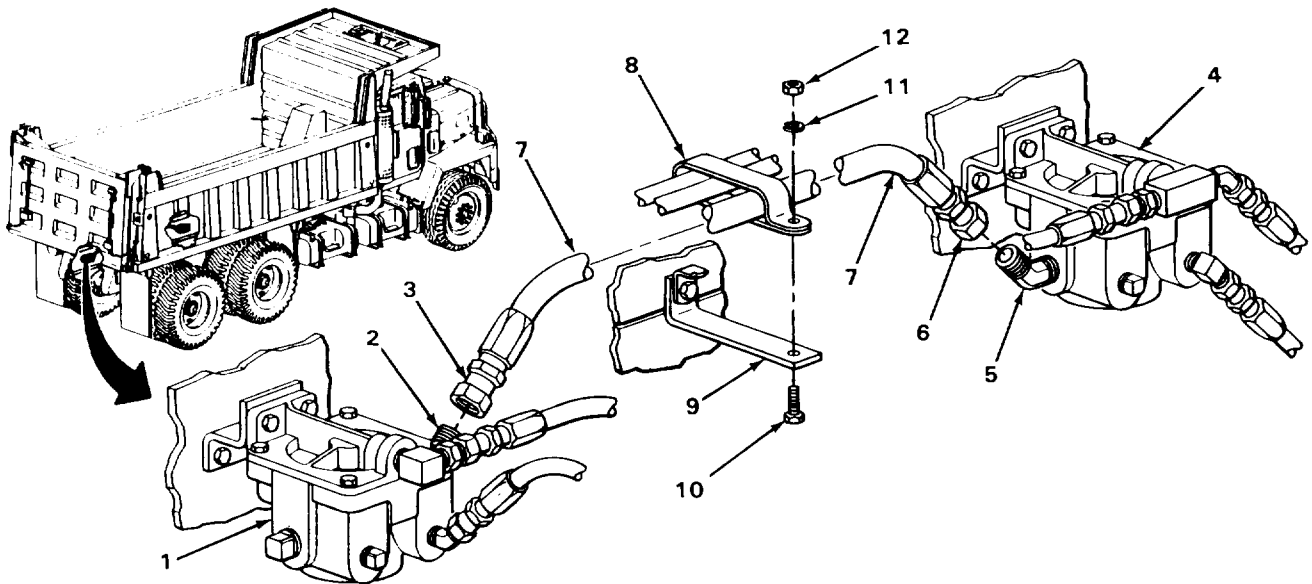
FRONT RELAY VALVE TO REAR RELAY VALVE HOSE - CONTINUED

	LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED			
8.	Rear relay valve (1)	45-degree elbow (2)	Wrap pipe threads with antiseizing tape.
9.		45-degree elbow (2) and line nut (3)	Screw on and tighten using 1 1/4-inch open-end wrench.
10.	Front relay valve (4)	45-degree elbow (5)	Wrap pipe threads with antiseizing tape.
11.		45-degree elbow (5) and line nut (6)	Screw on and tighten using 1 1/4-inch open-end wrench.

**NOTE**

Steps 12 and 13 are typical for two clamp assemblies.

12.	Airhose (7)	Clamp (8)	Put on.
13.	Clamp bracket (9)	Clamp (8), screw (10), new lock-washer (11), and nut (12)	<ol style="list-style-type: none"> <li>Aline holes in clamp and clamp bracket.</li> <li>Screw in and tighten using 7/16-inch box-end and 7/16-inch open-end wrenches.</li> </ol>



**TASK ENDS HERE**

TA244395

Change 1 2-1104



**FRONT RELAY VALVE T-FITTING TO REAR RELAY VALVE HOSE**

This task covers:

- a. Removal (page 2-1105)
- b. Cleaning (page 2-1106)
- c. Inspection/Replacement (page 2-1106)
- d. Installation (page 2-1107)

**INITIAL SETUP:**

**Tools**

- Gloves, safety
- Goggles, safety
- Wrench, box-end, 7/16-inch
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 3/4-inch
- Wrench, open-end, 7/8-inch

**Materials/Parts**

- Detergent, liquid, GP (item 7, appendix C)
- Lockwasher, clamp screw

**Materials/Parts - Continued**

- Rags, wiping (item 15, appendix C)
- Solvent, drycleaning (item 19, appendix C)
- Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**Equipment Condition**

Airbrake system drained (page 2-1034).

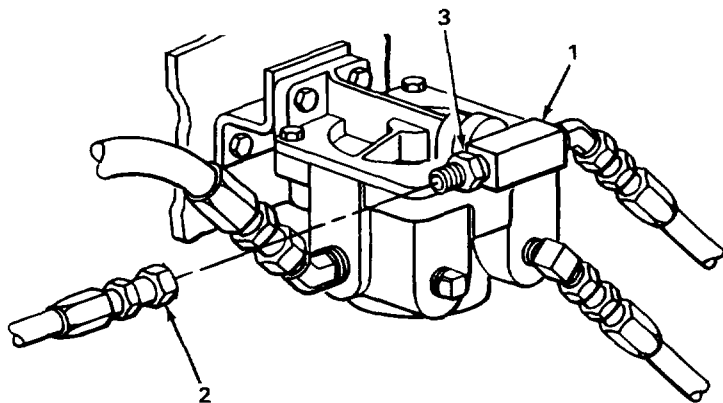
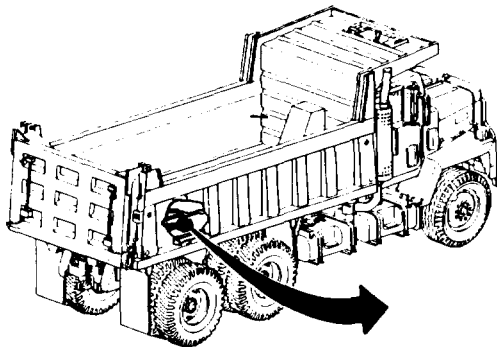
LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

- |    |                                 |                              |  |
|----|---------------------------------|------------------------------|--|
| 1. | Front relay valve T-fitting (1) | Line nut (2) and fitting (3) | Using 7/8-inch and 3/4-inch open-end wrenches, unscrew and take off. |
|----|---------------------------------|------------------------------|--|



TA702157

## FRONT RELAY VALVE T-FITTING TO REAR RELAY VALVE HOSE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
2.	Rear relay valve (9)	Line nut (2) and 90-degree elbow (1)	Using 7/8-inch open-end wrench, unscrew and take off.
<b>NOTE</b>			
Step 3 is typical for two clamp assemblies.			
3.	Clamp bracket (3)	Screw (4), lock-washer (5), nut (6), and clamp (7)	<ol style="list-style-type: none"> <li>a. Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out.</li> <li>b. Get rid of lockwasher.</li> <li>c. Take clamp off airhose (8).</li> <li>d. Take out airhose (8).</li> </ol>

## CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

4.	Airhose (8)	Clean using liquid detergent and wiping rag.
5.	All metal parts	Clean using drycleaning solvent and wiping rag.

## INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

**Change 1 2-1106**

**FRONT RELAY VALVE T-FITTING TO REAR RELAY VALVE HOSE - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
6.	Airhose (8)	a. Check for cracks, breaks, chafing, or hardness. b. Look for excessive rust or corrosion.	
7.	All threaded parts	Look for damaged threads or rounded heads.	

**INSTALLATION**

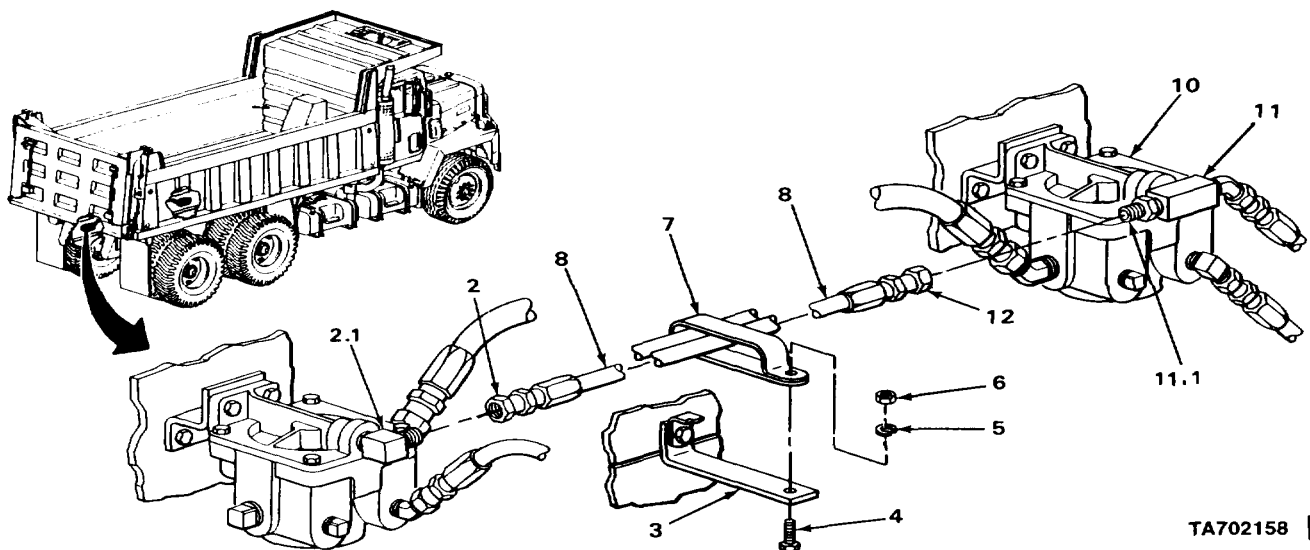
**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

8.	Rear relay valve (9)	90-degree elbow (1)	Wrap pipe threads with antiseizing tape.
9.	90-degree elbow (1)	90-degree elbow (1) and line nut (2)	Screw on and tighten using 7/8-inch open-end wrench.
10.	Front relay valve (10)	Front relay valve T-fitting (11) and fitting (11.1)	Wrap pipe threads with antiseizing tape.
11.		Front relay valve T-fitting (11), fitting (11.1), and line nut (12)	Screw on and tighten using 7/8-inch and 3/4-inch open-end wrenches.



TA702158 ■

**FRONT RELAY VALVE T-FITTING TO REAR RELAY VALVE HOSE - CONTINUED**

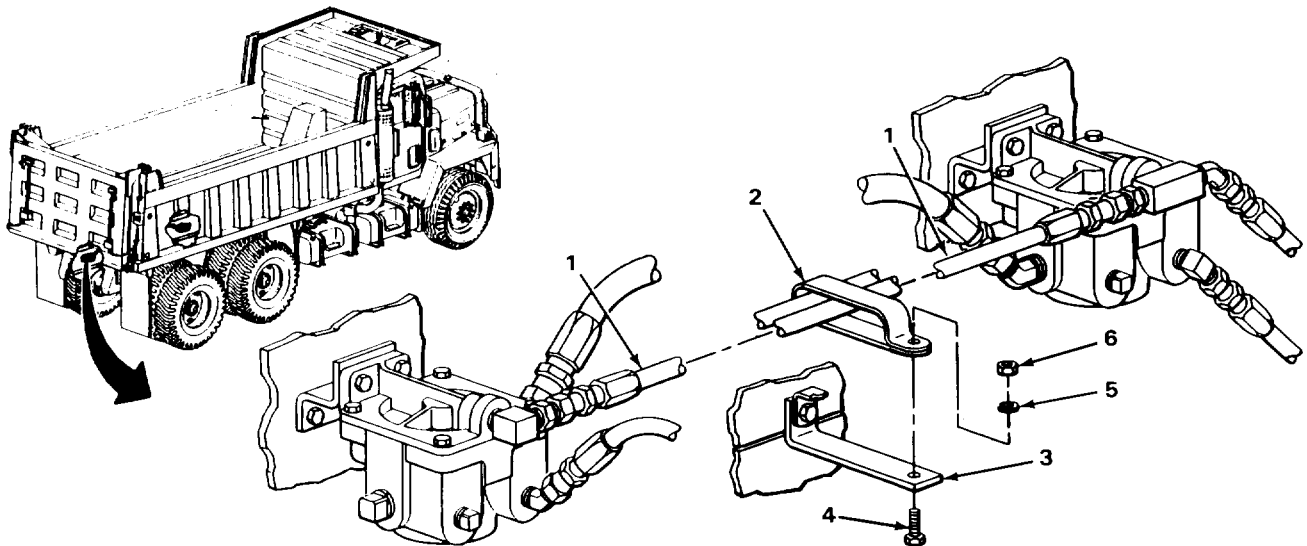
LOCATION	ITEM	ACTION REMARKS
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INSTALLATION - CONTINUED

**NOTE**

Steps 12 and 13 are typical for two clamp assemblies.

12.	Airhose (1)	Clamp (2)	Put on.
13.	Clamp bracket (3)	Clamp (2), screw (4), new lockwasher (5), and nut (6)	a. Aline holes in clamp and clamp bracket. b. Screw in and tighten using 7/16-inch box-end and 7/16-inch open-end wrenches.



**TASK ENDS HERE**

**CAB FLOOR THROUGH CONNECTOR TO DOUBLE CHECK VALVE HOSE**

This task covers:

- |                           |   |
|---------------------------|---|
| a. Removal (page 2-1109)  | c. Inspection/Replacement (page 2-1112) |
| b. Cleaning (page 2-1112) | d. Installation (page 2-1112)           |

TA244398

**CAB FLOOR THROUGH CONNECTOR TO DOUBLE CHECK VALVE HOSE - CONTINUED**

**INITIAL SETUP:**

**Tools**

- Gloves, safety
- Goggles, safety
- Screwdriver, cross-tip, number two
- Wrench, box-end, 7/16-inch
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 1/2-inch
- Wrench, open-end, 9/16-inch
- Wrench, open-end, 5/8-inch
- Wrench, open-end, 3/4-inch
- Wrench, open-end, 1-inch
- Wrench, open-end, 1 1/8-inch
- Left cab door opened (page 2-424).

**Materials/Parts - Continued**

- Rags, wiping (item 15, appendix C)
- Solvent, drycleaning (item 19, appendix C)
- Tape, antiseizing (item 22, appendix C)

**Personnel Required**

Two

**Equipment Condition**

Airbrake system drained (page 2-1034).

**Materials/Parts**

- Detergent, liquid, GP (item 7, appendix C)
- Lockwasher, clamp screw (three required)

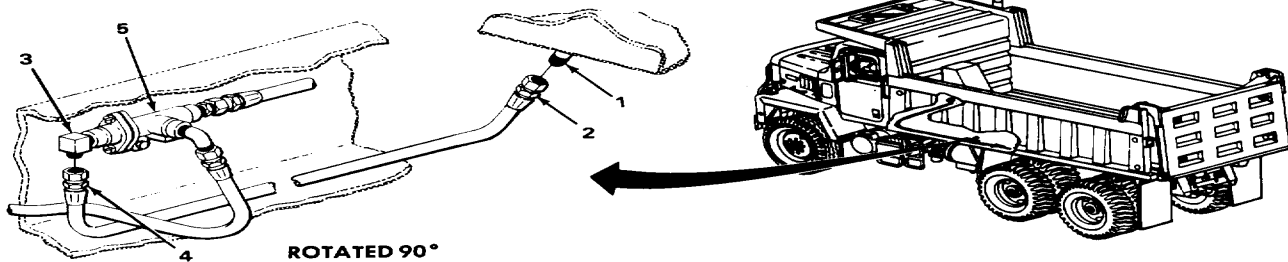
LOCATION	ITEM	ACTION REMARKS
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**REMOVAL**

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

- |    |   |                                      |   |
|----|---|--------------------------------------|---|
| 1. | Cab floor through-connector 45-degree elbow (1) | Line nut (2)                         | Using 3/4-inch open-end wrench, unscrew and take off. |
| 2. | Double check valve (5)                          | Line nut (4) and 90-degree elbow (3) | Using 3/4-inch open-end wrench, unscrew and take off. |



TA702159

CAB FLOOR THROUGH CONNECTOR TO DOUBLE CHECK VALVE HOSE - CONTINUED

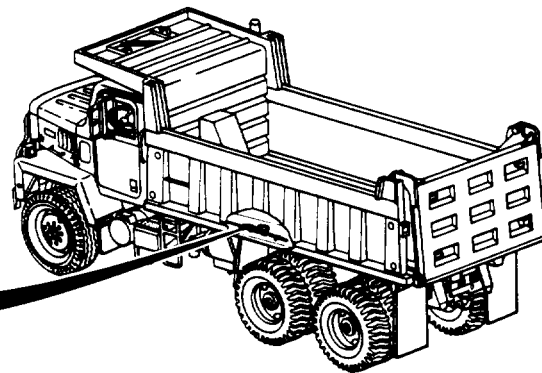
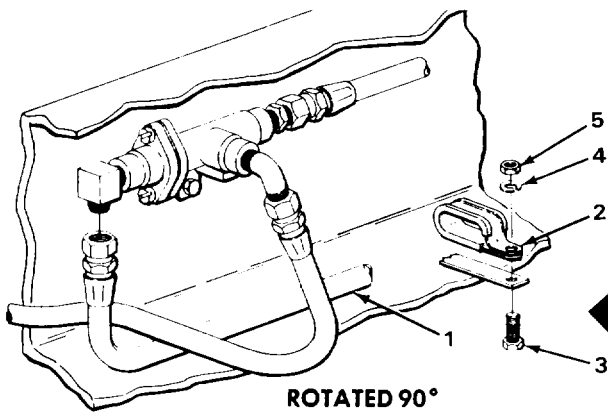
LOCATION	ITEM	ACTION REMARKS
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REMOVAL - CONTINUED

**NOTE**

Step 3 is typical for three clamp assemblies.

- |    |             |   |  |
|----|-------------|---|--|
| 3. | Airhose (1) | Clamp (2), screw (3), lockwasher (4), and nut (5) | <ul style="list-style-type: none"> <li>a. Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out.</li> <li>b. Get rid of lockwasher.</li> <li>c. Take clamp off airhose.</li> <li>d. Take out airhose.</li> </ul> |
|----|-------------|---|--|



- |    |  |  |  |
|----|--|--|--|
| 4. | Driver's seat valve assembly (6)                 | Line nut (7) and air line (8)  | <ul style="list-style-type: none"> <li>a. Using 9/16-inch open-end wrench, unscrew and take off.</li> <li>b. Move air line out of way.</li> </ul>  |
| 5. | Left side rear cab wall (9)                      | Eight screws (10), eight flat washers (11), and left lower rear molding (12) | <ul style="list-style-type: none"> <li>a. Using number two cross-tip screwdriver, unscrew and take out.</li> <li>b. Push air line (8) through hole while taking off left lower rear molding.<br/><b>Be careful not to bend or crimp air line.</b></li> </ul> |
| 6. | Cab floor through-connector 90-degree elbow (13) | Line nut (14) and air line (15)  | <ul style="list-style-type: none"> <li>a. Using 5/8-inch open-end wrench, unscrew and take off.</li> <li>b. Move air line out of way.</li> </ul>   |
| 7. |  | Cab floor through-connector 90-degree elbow (13)                             | Using 9/16-inch open-end wrench, unscrew and take off.   |

TA244400

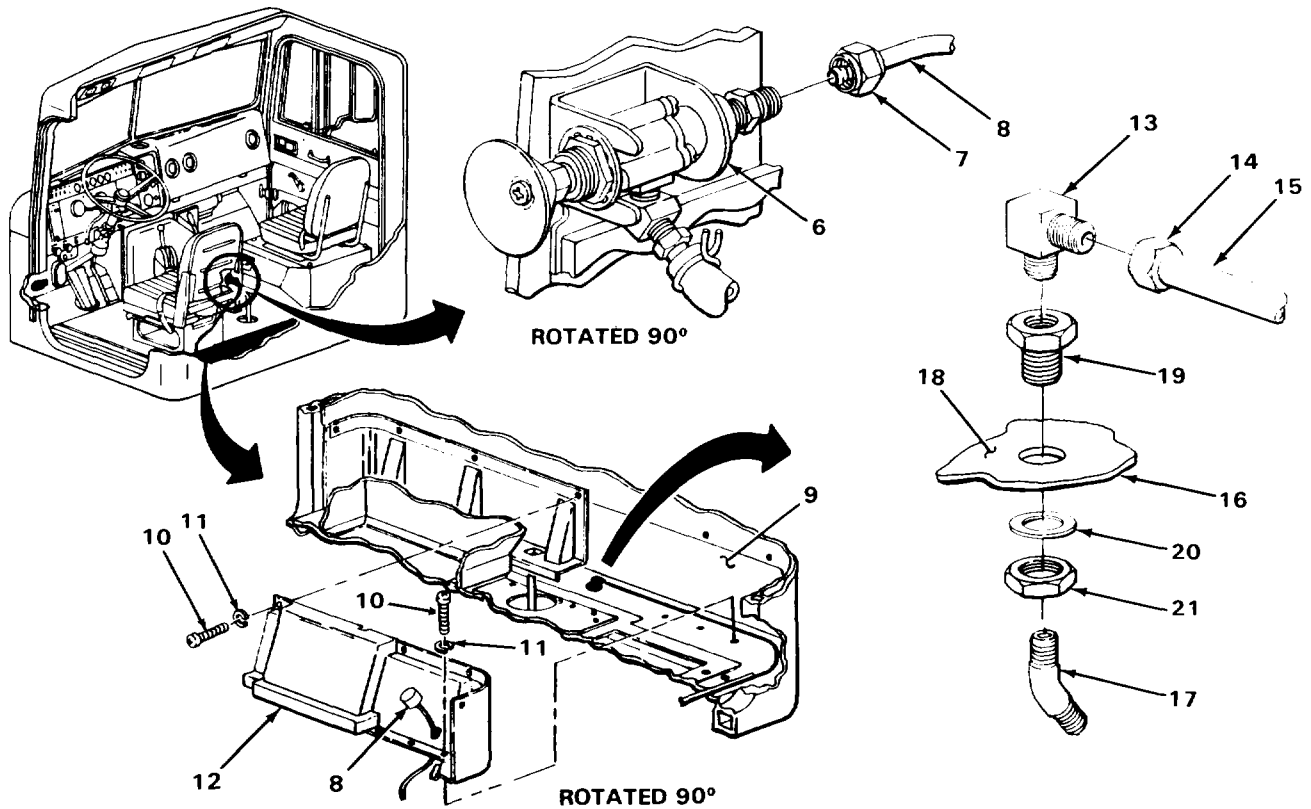
CAB FLOOR THROUGH CONNECTOR TO DOUBLE CHECK VALVE HOSE - CONTINUED

	LOCATION	ITEM	ACTION REMARKS
8.	Under cab floor (16)	Cab floor through-connector 45-degree elbow (17)	Using 9/16-inch open-end wrench, unscrew and take off.

**NOTE**

Assistance will be needed when performing step 9.

9.	Top of cab floor (18) and under cab floor (16)	Anchor coupling (19), flat washer (20), and nut (21)	Using 1 1/8-inch and 1-inch open-end wrenches, unscrew and take out.
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TA244401

**CAB FLOOR THROUGH CONNECTOR TO DOUBLE CHECK VALVE HOSE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

10.	Airhose	Clean using liquid detergent and wiping rag.
11.	All metal parts	Clean using drycleaning solvent and wiping rag.

INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

12.	Airhose	<ul style="list-style-type: none"> <li>a. Check for cracks, breaks, chafing, or hardness.</li> <li>b. Look for excessive rust or corrosion.</li> </ul>
13.	All threaded parts	Look for damaged threads or rounded heads.

INSTALLATION

**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

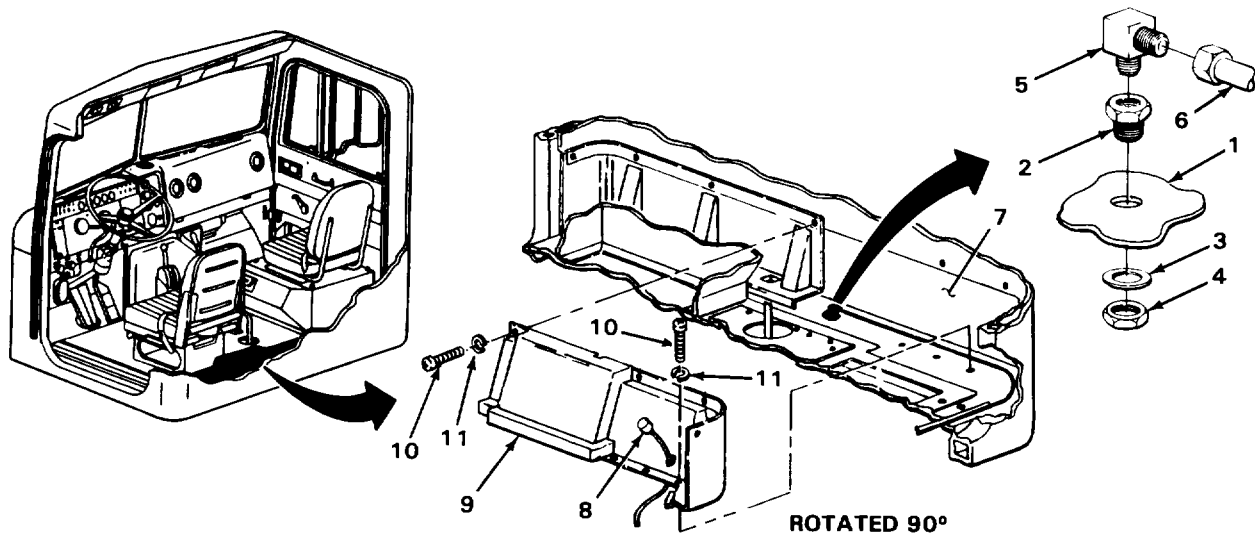
For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).



CAB FLOOR THROUGH CONNECTOR TO DOUBLE CHECK VALVE HOSE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
14. Top of cab floor (1)	Anchor coupling (2)	Put in.
<b>NOTE</b>		
Assistance will be needed when performing step 15.		
15. Anchor coupling (2)	Flat washer (3) and nut (4)	Screw on and tighten using 1 1/8-inch and 1-inch open-end wrenches.
16.	Cab floor through-connector 90-degree elbow (5)	a. Wrap both male pipe threads with anti-seizing tape. b. Screw in and tighten using 9/16-inch open-end wrench. <b>Position to face left cab door.</b>
17. Cab floor through-connector 90-degree elbow (5)	Air line (6)	Screw on and tighten using 5/8-inch open-end wrench.
18. Left side rear cab wall (7)	Air line (8) and left lower rear molding (9)	a. Push air line through hole in left lower rear molding. b. Put left lower rear molding in position.
19. Left lower rear molding (9)	Eight screws (10) and eight flat washers (11)	Screw in and tighten using number two cross-tip screwdriver.

TA244402



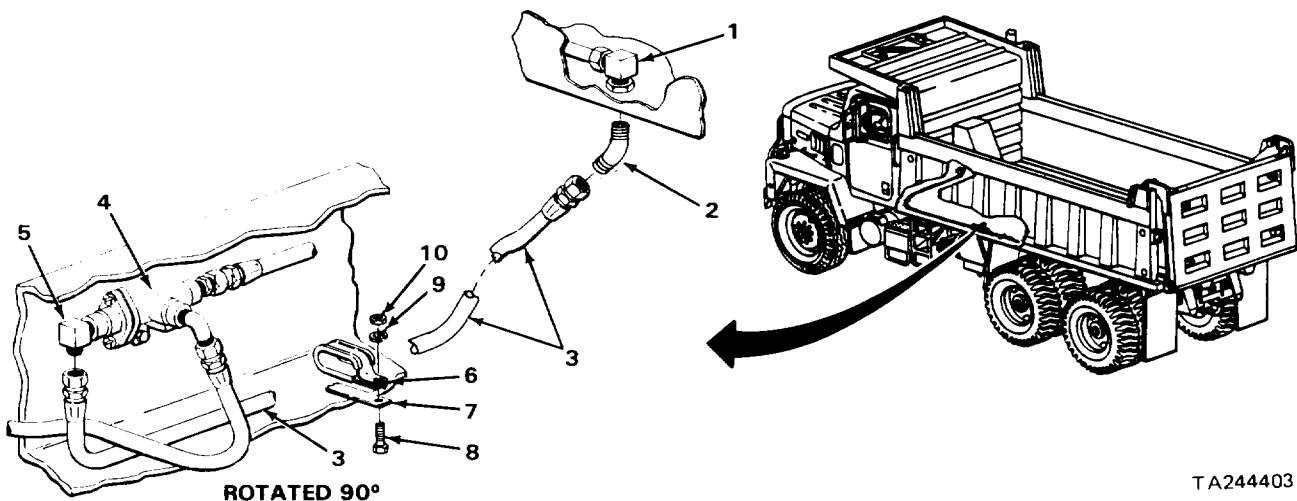
**CAB FLOOR THROUGH CONNECTOR TO DOUBLE CHECK VALVE HOSE - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
<b>WARNING</b>			
Safety goggles must be worn when working under truck to prevent eye injury.			
20.	Anchor coupling (1) Cab floor through-connector 45-degree elbow (2)	a. Wrap both male pipe threads with anti-seizing tape. b. Screw in and tighten using 9/16-inch open-end wrench.	<b>Position to face left side cab door.</b>
21.	Cab floor through connector 45-degree elbow (2)	Screw on and tighten using 3/4-inch open-end wrench.	
22.	Double check valve (4)	Wrap pipe threads with antiseizing tape.	
23.	90-degree elbow (5) and airhose (3)	Screw on and tighten using 3/4-inch open-end wrench.	

**NOTE**

Steps 24 and 25 are typical for three clamp assemblies.

24.	Airhose (3)	Clamp (6)	Put on.
25.	Clamp bracket (7)	Clamp (6), screw (8), new lockwasher (9), and nut (10)	a. Aline holes in clamp and clamp bracket. b. Screw in and tighten using 7/16-inch box-end and 7/16-inch open-end wrenches.



**CAB FLOOR THROUGH CONNECTOR TO DOUBLE CHECK VALVE HOSE - CONTINUED**

**NOTE**

FOLLOW-ON MAINTENANCE: Close left cab door (page 2-424).

**TASK ENDS HERE**

**LEFT FRONT WHEEL TO FRONT BRAKE LIMITING AND QUICK RELEASE VALVE HOSES**

This task covers:

- a. Removal (page 2-1116)
- b. Cleaning (page 2-1118)
- c. Inspection/Replacement (page 2-1118)
- d. Installation (page 2-1118)

**INITIAL SETUP:**

**Tools**

- Gloves, safety
- Goggles, safety
- Wrench, open-end, 1/2-inch
- Wrench, open-end, 5/8-inch
- Wrench, open-end, 11/16-inch
- Wrench, open-end, 3/4-inch
- Wrench, open-end, 7/8-inch
- Wrench, open-end, 1-inch
- Wrench, open-end, 1 1/8-inch
- Wrench, open-end, 1 7/16-inch

**Materials/Parts**

- Detergent, liquid, GP (item 7, appendix C)
- Lockwasher, anchor coupling (two required)

**Materials/Parts - Continued**

- Rags, wiping (item 15, appendix C)
- Solvent, drycleaning (item 19, appendix C)
- Tags, marker (item 21, appendix C)
- Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**Equipment Condition**

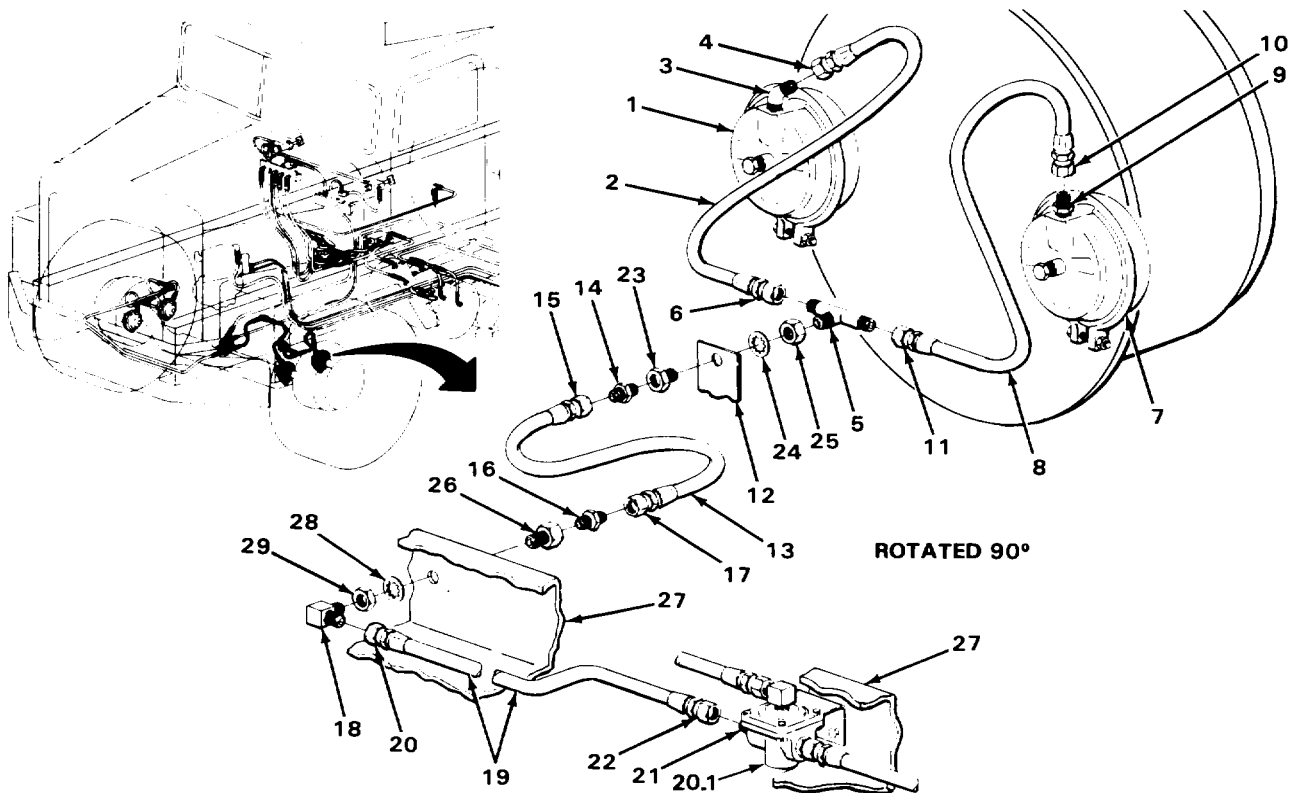
- Airbrake system drained (page 2-1034).
- Left side hood panel opened (page 2-424).
- Left front wheel removed (page 2-1168).

## LEFT FRONT WHEEL TO FRONT BRAKE LIMITING AND QUICK RELEASE VALVE HOSES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
<b><u>WARNING</u></b>		
Safety goggles must be worn when working under truck to prevent eye injury.		
<b>NOTE</b>		
For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).		
1.	Rear airbrake chamber (1)	Airhose (2) Tag.
2.		Line nut (4) and 45-degree elbow (3) Using 3/4-inch open-end wrench, unscrew and take off.
3.	T-fitting (5)	Line nut (6) and airhose (2) a. Using 3/4-inch open-end wrench, unscrew and take off. b. Take out airhose.
4.	Front airbrake chamber (7)	Airhose (8) Tag.
5.		Line nut (10) and fitting (9) Using 3/4-inch and 5/8-inch open-end wrenches, unscrew and take off.
6.	T-fitting (5)	Line nut (11) and airhose (8) a. Using 3/4-inch open-end wrench, unscrew and take off. b. Take out airhose.
7.	Bracket (12)	Airhose (13) Tag.
8.	Fitting (14)	Line nut (15) Using 3/4-inch and 5/8-inch open-end wrenches, unscrew and take off.
9.	Fitting (16)	Line nut (17) and airhose (13) a. Using 3/4-inch and 11/16-inch open-end wrenches, unscrew and take off. b. Take out airhose.
10.	90-degree elbow (18)	Airhose (19) Tag.
11.		Line nut (20) Using 1-inch open-end wrench, unscrew and take off.
12.	Front brake limiting and quick release valve (20.1)	Line nut (22), fitting (21), and airhose (19) a. Using 1-inch and 7/8-inch open-end wrenches, unscrew and take off. b. Take out airhose.

LEFT FRONT WHEEL TO FRONT BRAKE LIMITING AND QUICK RELEASE VALVE HOSES - CONTINUED

	LOCATION	ITEM	ACTION REMARKS
13.	Anchor coupling (23)	Fitting (14)	Using 1-inch and 5/8-inch open-end wrenches, unscrew and take out.
14.		T-fitting (5)	Using 1/2-inch open-end wrench, unscrew and take out.
15.	Bracket (12)	Anchor coupling (23), lockwasher (24), and nut (25)	a. Using 1 1/8-inch and 1-inch open-end wrenches, unscrew and take out. b. Get rid of lockwasher.
16.	Anchor coupling (26)	Fitting (16)	Using 1 18-inch and 11/16-inch open-end wrenches, unscrew and take out.
17.		90-degree elbow (18)	Using 3/4-inch open-end wrench, unscrew and take out.
18.	Left frame rail (27)	Anchor coupling (26), lockwasher (28), and nut (29)	a. Using 1 7/16-inch and 1 1/8-inch open-end wrenches, unscrew and take out. b. Get rid of lockwasher.



TA702160

**LEFT FRONT WHEEL TO FRONT BRAKE LIMITING AND QUICK RELEASE VALVE HOSES - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
CLEANING		
<b><u>WARNING</u></b>		
<p>Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.</p>		
<b>NOTE</b>		
<p>For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).</p>		
19.	Four airhoses	Clean using liquid detergent and wiping rag.
20.	All metal parts	Clean using drycleaning solvent and wiping rag.

**INSPECTION/REPLACEMENT**

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

21.	Four airhoses	<ul style="list-style-type: none"> <li>a. Check for cracks, breaks, chafing, or hardness.</li> <li>b. Look for excessive rust or corrosion.</li> </ul>
22.	All threaded parts	Look for damaged threads or rounded heads.

**INSTALLATION**

**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

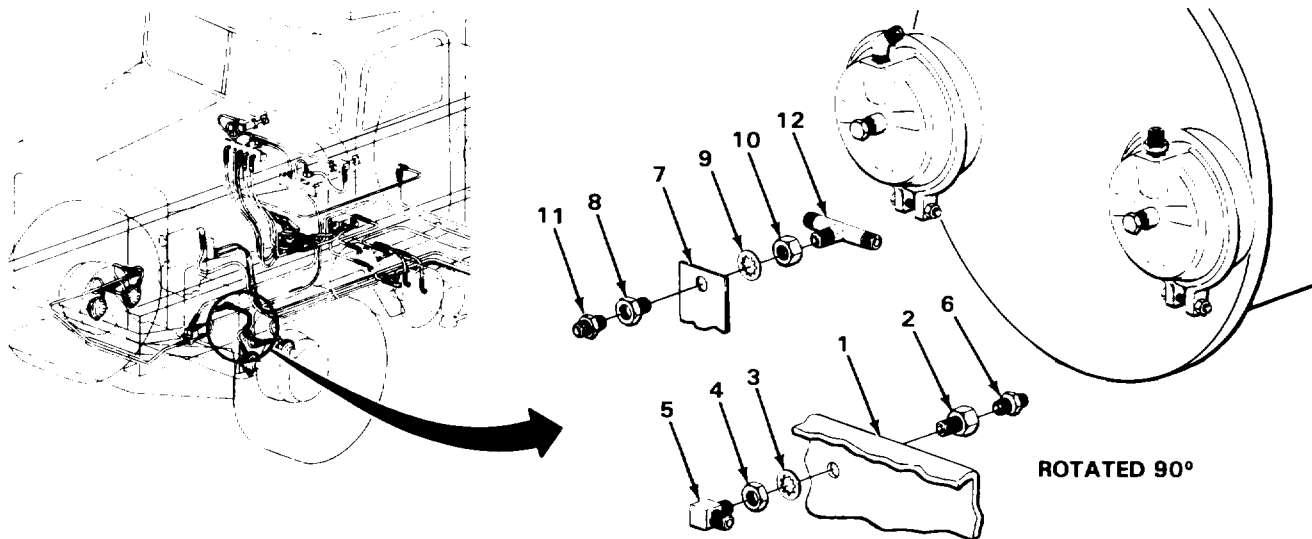
**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

See tags for correct location of airhoses.

LEFT FRONT WHEEL TO FRONT BRAKE LIMITING AND QUICK RELEASE VALVE HOSES - CONTINUED

	LOCATION	ITEM	ACTION REMARKS
23.	Left frame rail (1)	Anchor coupling (2)	Put in.
24.	Anchor coupling (2)	New lockwasher (3) and nut (4)	Screw on and tighten using 1 7/16-inch and 1 1/8-inch open-end wrenches.
25.		90-degree elbow (5)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 3/4-inch open-end wrench. <b>Position to face front of truck.</b>
26.		Fitting (6)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 1 1/8-inch and 11/16-inch open-end wrenches.
27.	Bracket (7)	Anchor coupling (8)	Put in.
28.	Anchor coupling (8)	New lockwasher (9) and nut (10)	Screw on and tighten using 1 1/8-inch and 1-inch open-end wrenches.
29.		Fitting (11)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 1-inch and 5/8-inch open-end wrenches.
30.		T-fitting (12)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 1/2-inch open-end wrench. <b>Position ends horizontally</b>



TA244405

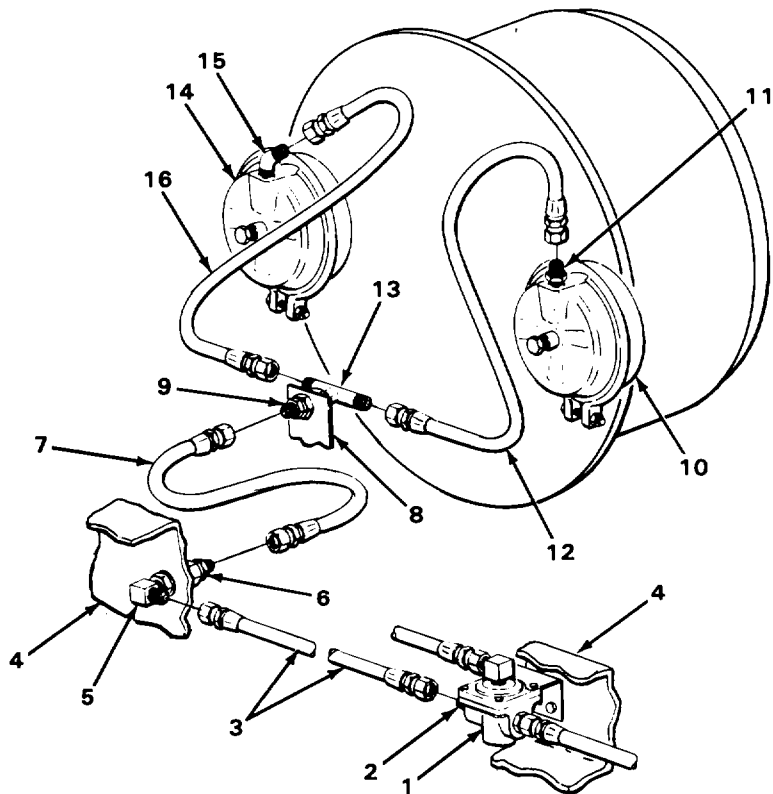
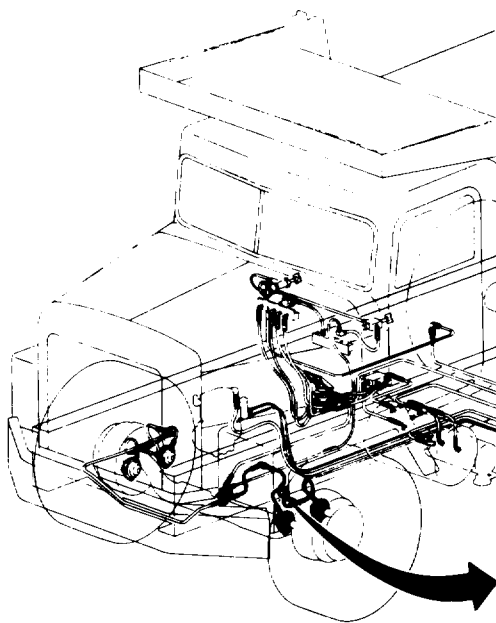
## LEFT FRONT WHEEL TO FRONT BRAKE LIMITING AND QUICK RELEASE VALVE HOSES - CONTINUED

	LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED			
31.	Front brake limiting and quick release valve (1)	Fitting (2)	Wrap pipe threads with antiseizing tape.
32.		Fitting (2) and airhose (3)	Screw on and tighten using 1-inch and 7/8-inch open-end wrenches.
33.	Left frame rail (4)	90-degree elbow (5)	Wrap pipe threads with antiseizing tape.
34.	90-degree elbow (5)	Airhose (3)	a. Screw on and tighten using 1-inch open-end wrench. b. Take off tag. c. Get rid of tag.
35.	Left frame rail (4)	Fitting (6)	Wrap pipe threads with antiseizing tape.
36.	Fitting (6)	Airhose (7)	Screw on and tighten using 3/4-inch and 11/16-inch open-end wrenches.
37.	Bracket (8)	Fitting (9)	Wrap pipe threads with antiseizing tape.
38.	Fitting (9)	Airhose (7)	a. Screw on and tighten using 3/4-inch and 5/8-inch open-end wrenches. b. Take off tag. c. Get rid of tag.
39.	Front airbrake chamber (10)	Fitting (11)	Wrap pipe threads with antiseizing tape.
40.		Fitting (11) and airhose (12)	Screw on and tighten using 3/4-inch and 5/8-inch open-end wrenches.
41.	Bracket (8)	T-fitting (13)	Wrap pipe threads with antiseizing tape.
42.	T-fitting (13)	Airhose (12)	a. Screw on and tighten using 3/4-inch open-end wrench. b. Take off tag. c. Get rid of tag.
43.	Rear airbrake chamber (14)	45-degree elbow (15)	Wrap pipe threads with antiseizing tape.



LEFT FRONT WHEEL TO FRONT BRAKE LIMITING AND QUICK RELEASE VALVE HOSES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
44.	45-degree elbow (15) and airhose (16)	Screw on and tighten using 3/4-inch open-end wrench.
45.	Bracket (8)	Wrap pipe threads with antiseizing tape.
46.	T-fitting (13)	a. Screw on and tighten using 3/4-inch open-end wrench. b. Take off tag. c. Get rid of tag.



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Install left front wheel (page 2-1168).
2. Close left side hood panel (page 2-424).

**RIGHT FRONT WHEEL TO FRONT BRAKE LIMITING AND QUICK RELEASE VALVE HOSES**

This task covers:

- |                           |   |
|---------------------------|---|
| a. Removal (page 2-1122)  | c. Inspection/Replacement (page 2-1126) |
| b. Cleaning (page 2-1126) | d. Installation (page 2-1126)           |

INITIAL SETUP:

Tools

- Gloves, safety
- Goggles, safety
- Wrench, box-end, 7/16-inch
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 1/2-inch
- Wrench, open-end, 5/8-inch
- Wrench, open-end, 11/16-inch
- Wrench, open-end, 3/4-inch
- Wrench, open-end, 7/8-inch
- Wrench, open-end, 1-inch
- Wrench, open-end, 1 1/8-inch
- Wrench, open-end, 1 7/16-inch

Materials/Parts

- Detergent, liquid, GP (item 7, appendix C)
- Lockwasher, anchor coupling (two required)

Materials/Parts - Continued

- Lockwasher, clamp (three required)
- Rags, wiping (item 15, appendix C)
- Solvent, drycleaning (item 19, appendix C)
- Tags, marker (item 21, appendix C)
- Tape, antiseizing (item 22, appendix C)

Personnel Required

One

Equipment Condition

- Airbrake system drained (page 2-1034).
- Left and right side hood panels opened (page 2-424).
- Right front wheel removed (page 2-1168).

LOCATION	ITEM	ACTION REMARKS
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REMOVAL

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

**NOTE**

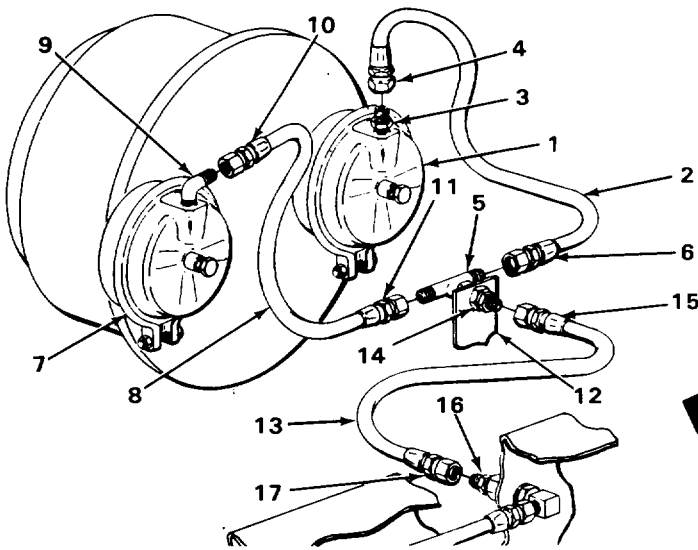
Tag airhoses to ensure correct installation.

For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).

- |    |                           |                              |  |
|----|---------------------------|------------------------------|--|
| 1. | Rear airbrake chamber (1) | Airhose (2)                  | Tag.   |
| 2. |                           | Line nut (4) and fitting (3) | Using 3/4-inch and 5/8-inch open-end wrenches, unscrew and take off. |

**RIGHT FRONT WHEEL TO FRONT BRAKE LIMITING AND QUICK RELEASE VALVE HOSES - CONTINUED**

	LOCATION	ITEM	ACTION REMARKS
3.	T-fitting (5)	Line nut (6) and airhose (2)	a. Using 3/4-inch open-end wrench, unscrew and take off. b. Take out airhose.
4.	Front airbrake chamber (7)	Airhose (8)	Tag.
5.		Line nut (10) and 45-degree elbow (9)	Using 3/4-inch open-end wrench, unscrew and take off.
6.	T-fitting (5)	Line nut (11) and airhose (8)	a. Using 3/4-inch open-end wrench, unscrew and take off. b. Take out airhose.
7.	Bracket (12)	Airhose (13)	Tag.
8.	Fitting (14)	Line nut (15)	Using 3/4-inch and 5/8-inch open-end wrenches, unscrew and take off.
9.	Fitting (16)	Line nut (17) and airhose (13)	a. Using 3/4-inch and 11/16-inch open-end wrenches, unscrew and take off. b. Take out airhose.



TA244407

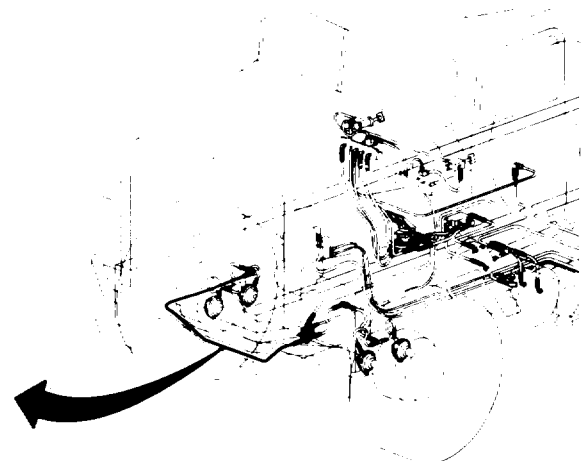
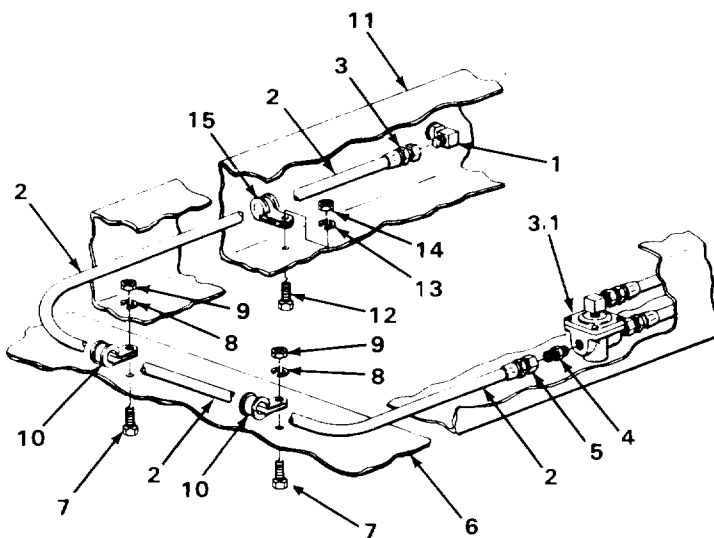
**RIGHT FRONT WHEEL TO FRONT BRAKE LIMITING AND QUICK RELEASE VALVE HOSES - CONTINUED**

	LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED			
10.	90-degree elbow (1)	Airhose (2)	Tag.
11.		Line nut (3)	Using 1-inch open-end wrench, unscrew and take off.
12.	Front brake limiting and quick release valve (3.1)	Line nut (5) and fitting (4)	Using 1-inch and 7/8-inch open-end wrenches, unscrew and take off.

**NOTE**

Step 13 is typical for two clamp assemblies on front crossmember.

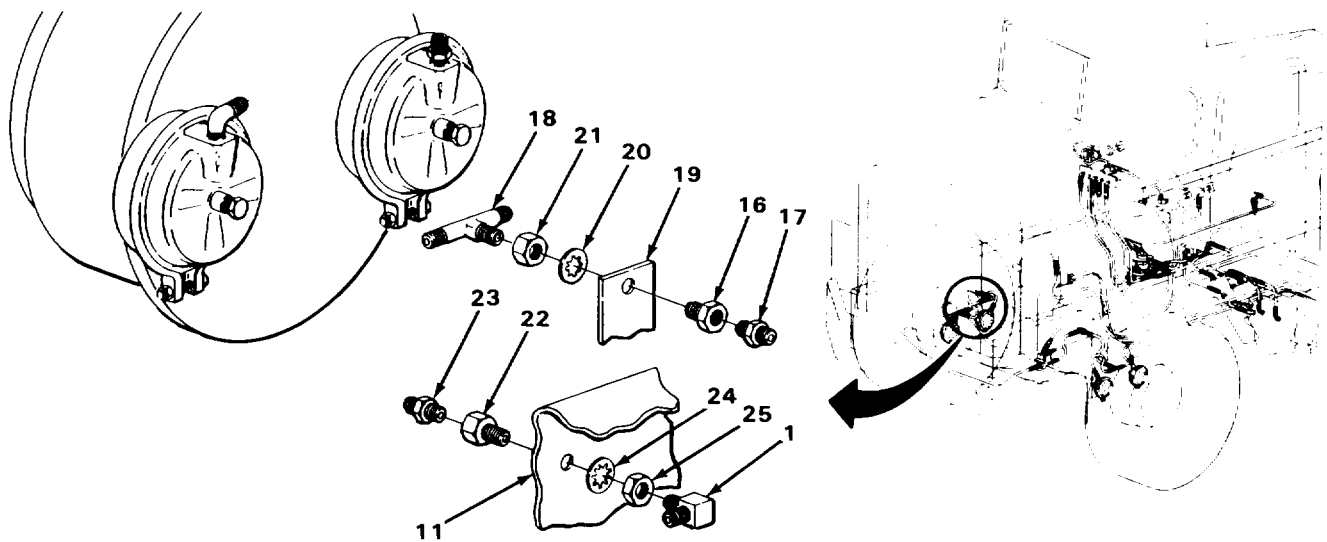
13.	Front cross-member (6)	Screw (7), lock-washer (8), nut (9), and clamp (10)	<ol style="list-style-type: none"> <li>Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out.</li> <li>Get rid of lockwasher.</li> <li>Take clamp off airhose (2).</li> </ol>
14.	Right frame rail (11)	Screw (12), lock-washer (13), nut (14), and clamp (15)	<ol style="list-style-type: none"> <li>Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out.</li> <li>Get rid of lockwasher.</li> <li>Take clamp off airhose (2).</li> <li>Take out airhose.</li> </ol>



TA702162

**RIGHT FRONT WHEEL TO FRONT BRAKE LIMITING AND QUICK RELEASE VALVE HOSES - CONTINUED**

	LOCATION	ITEM	ACTION REMARKS
15.	Anchorcoupling (16)	Fitting (17)	Using 1-inch and 5/8-inch open-end wrenches, unscrew and take out.
16.		T-fitting (18)	Using 1/2-inch open-end wrench, unscrew and take out.
17.	Bracket (19)	Anchor coupling (16), lockwasher (20), and nut (21)	a. Using 1 1/8-inch and 1-inch open-end wrenches, unscrew and take out. b. Get rid of lockwasher.
18.	Anchor coupling (22)	Fitting (23)	Using 1 11/8-inch and 11/16-inch open-end wrenches, unscrew and take out.
19.		90-degree elbow (1)	Using 3/4-inch open-end wrench, unscrew and take out.
20.	Right frame rail (11)	Anchor coupling (22), lockwasher (24), and nut (25)	a. Using 1 7/16-inch and 1 11/8-inch open-end wrenches, unscrew and take out. b. Get rid of lockwasher.



TA244409

**RIGHT FRONT WHEEL TO FRONT BRAKE LIMITING AND QUICK RELEASE VALVE HOSES -  
CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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**CLEANING**

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

21.	Four airhoses	Clean using liquid detergent and wiping rag.
22.	All metal parts	Clean using drycleaning solvent and wiping rag.

**INSPECTION/REPLACEMENT**

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

23.	Four airhoses	a. Check for cracks, breaks, chafing, or hardness. b. Look for excessive rust or corrosion.
24.	All threaded parts	Look for damaged threads or rounded heads.

**INSTALLATION**

**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

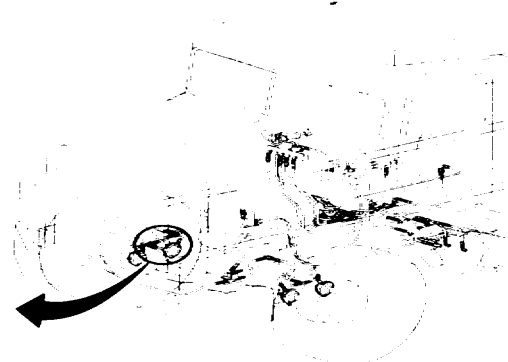
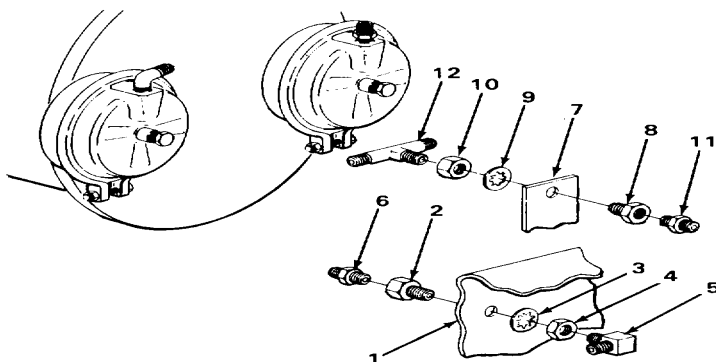
**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

See tags for correct location of airhoses.

**RIGHT FRONT WHEEL TO FRONT BRAKE LIMITING AND QUICK RELEASE VALVE HOSES - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
<b><u>WARNING</u></b>			
Safety goggles must be worn when working under truck to prevent eye injury.			
25.	Right frame rail (1)	Anchor coupling (2)	Put in.
26.	Anchor coupling (2)	New lockwasher (3) and nut (4)	Screw on and tighten using 1 7/16-inch and 1 1/8-inch open-end wrenches.
27.		90-degree elbow (5)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 3/4-inch open-end wrench. <b>Position to face front of truck.</b>
28.		Fitting (6)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 1 1/8-inch and 11/16-inch open-end wrenches.
29.	Bracket (7)	Anchor coupling (8)	Put in.
30.	Anchor coupling (8)	New lockwasher (9) and nut (10)	Screw on and tighten using 1 1/8-inch and 1-inch open-end wrenches.
31.		Fitting (11)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 1-inch and 5/8-inch open-end wrenches.
32.		T-fitting (12)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 1/2-inch open-end wrench. <b>Position ends horizontally.</b>



TA244410

**RIGHT FRONT WHEEL TO FRONT BRAKE LIMITING AND QUICK RELEASE VALVE HOSES -  
CONTINUED**

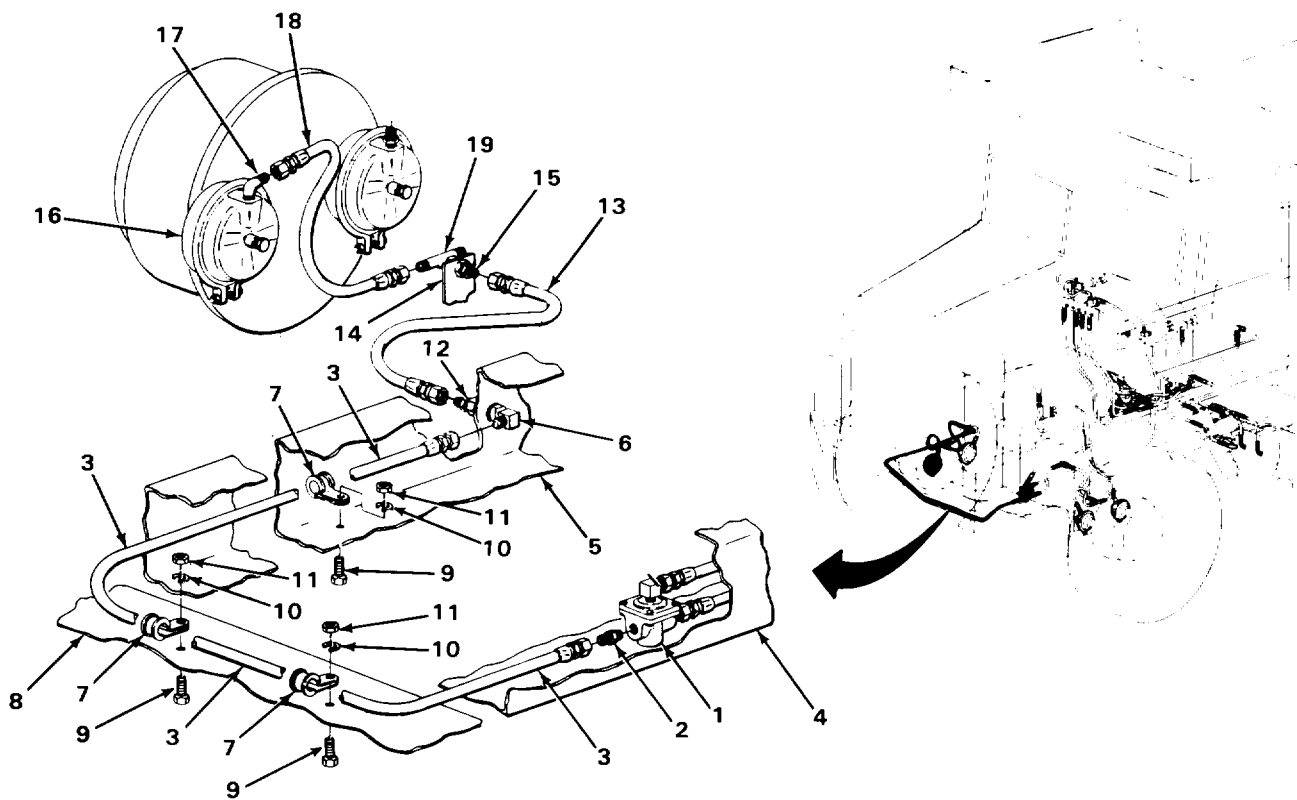
	LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED			
33.	Front brake limiting and quick release valve (1)	Fitting (2)	Wrap pipe threads with antiseizing tape.
34.		Fitting (2) and airhose (3)	Screw on and tighten using 1-inch and 7/8-inch open-end wrenches.
35.	Left frame rail (4) to right frame rail (5)	Airhose (3)	Route.
36.	Right frame rail (5)	90-degree elbow (6)	Wrap pipe threads with antiseizing tape.
37.	90-degree elbow (6)	Airhose (3)	a. Screw on and tighten using 1-inch open-end wrench. b. Takeoff tag. c. Get rid of tag.
<b>NOTE</b>			
Steps 38 and 39 are typical for three clamp assemblies.			
38.	Airhose (3)	Clamp (7)	Put on.
39.	Right frame rail (5) and front cross-member (8)	Clamp (7), screw (9), new lockwasher (10), and nut (11)	a. Aline holes. b. Screw in and tighten using 7/16-inch box-end and 7/16-inch open-end wrenches.
40.	Right frame rail (5)	Fitting (12)	Wrap pipe threads with antiseizing tape.
41.	Fitting (12)	Airhose (13)	Screw on and tighten using 3/4-inch and 11/16-inch open-end wrenches.
42.	Bracket (14)	Fitting (15)	Wrap pipe threads with antiseizing tape.

**Change 1 2-1128**



**RIGHT FRONT WHEEL TO FRONT BRAKE LIMITING AND QUICK RELEASE VALVE HOSES - CONTINUED**

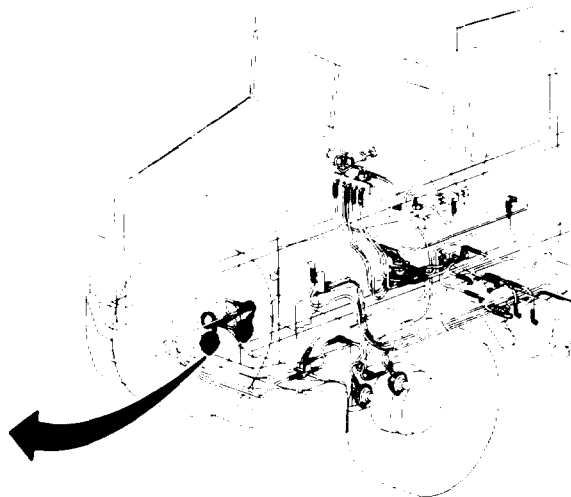
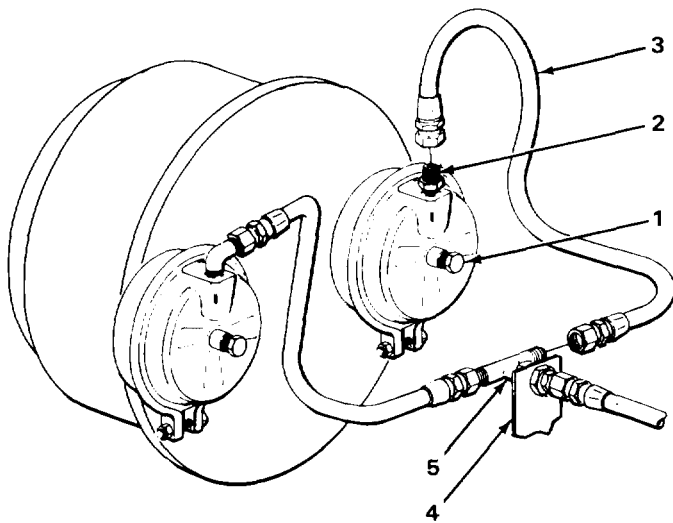
LOCATION	ITEM	ACTION REMARKS
43. Fitting (15)	Airhose (13)	a. Screw on and tighten using 3/4-inch and 5/8-inch open-end wrenches. b. Take off tag. c. Get rid of tag.
44. Front airbrake chamber (16)	45-degree elbow (17)	Wrap pipe threads with antiseizing tape.
45.	45-degree elbow (17) and airhose (18)	Screw on and tighten using 3/4-inch open-end wrench.
46. Bracket (15)	T-fitting (19)	Wrap pipe threads with antiseizing tape.
47. T-fitting (19)	Airhose (18)	a. Screw on and tighten using 3/4-inch open-end wrench. b. Take off tag. c. Get rid of tag.



TA244411

**RIGHT FRONT WHEEL TO FRONT BRAKE LIMITING AND QUICK RELEASE VALVE HOSES CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>INSTALLATION - CONTINUED</b>		
48. Rear airbrake chamber (1)	Fitting (2)	Wrap pipe threads with antiseizing tape.
49.	Fitting (2) and airhose (3)	Screw on and tighten using 3/4-inch open-end wrench.
50. Bracket (4)	T-fitting (5)	Wrap pipe threads with antiseizing tape.
51. T-fitting (5)	Airhose (3)	a. Screw on and tighten using 3/4-inch open-end wrench. b. Take off tag. c. Get rid of tag



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Install right front wheel (page 2-1168).
2. Close left and right side hood panels (page 2-424).

**TASK ENDS HERE**

TA244412

Change 1 2-1130

**REAR REAR QUICK RELEASE VALVE**

This task covers:

- a. Removal (page 2-1130.1) b. Installation (page 2-1130.2)

**INITIAL SETUP**

Equipment Conditions

Parking and service airbrake hoses disconnected as required (page 2-1131, 2-1136, 2-1140.3, 2-1157).

Tools/Test Equipment

Goggles, safety  
Wrench, box-end, 7/16-inch  
Wrench, open-end, 7/16-inch

Materials/Parts

Lockwasher, quick release valve (two required)

Personnel Required

One

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**

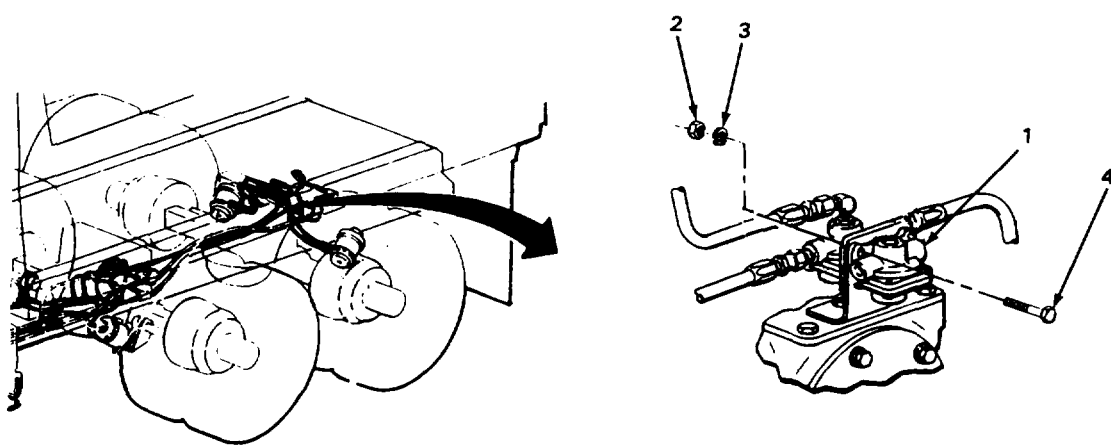
**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

**NOTE**

Steps 1 and 2 are typical to remove only one or both quick release valves.

- |   |  |   |
|---|--|---|
| <p>1. Rear rear quick release valve (1)</p> | <p>Two nuts (2), lockwashers (3), and screws (4)</p> | <p>a. Using 7/16-Inch open-end wrench and 7/16-inch box-end wrench, unscrew, and take off.<br/>b. Get rid of lockwashers.</p> |
|---|--|---|



**REAR REAR QUICK RELEASE VALVE - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL - CONTINUED**

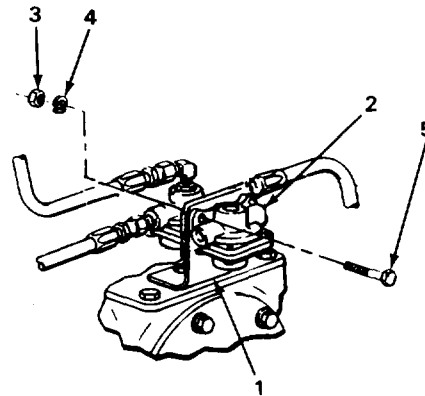
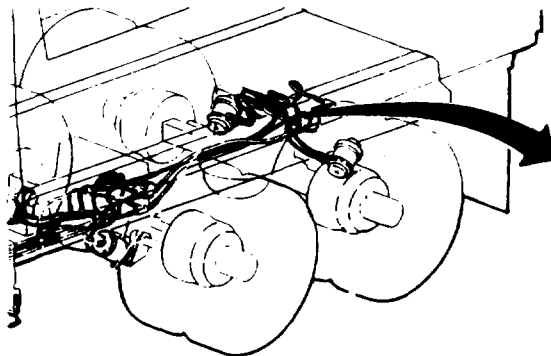
2. Bracket (1)	Rear rear quick release valve (2)	Take off.	
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**INSTALLATION**

**NOTE**

Steps 3 and 4 are typical to install only one or both quick release valves.

3. Bracket (1)	Rear rear quick release valve (2)	Put in place.	
4. Rear rear quick release valve (2)	Two nuts (3), new lockwashers (4), and screws (5)	Screw in and tighten using 7/16-inch box-end wrench and 7/16-inch open-end wrench.	



**NOTE**

**FOLLOW-ON MAINTENANCE:** Connect parking and service airbrake hoses as required (page 2-1131, 2-1136, 2-1140.3, and 2-1157).

**TASK ENDS HERE**

TA702164

Change 1 2-1130.2

**REAR REAR QUICK RELEASE VALVE TO PARKING AIRBRAKE CHAMBER HOSES**

---

This task covers:

- |                           |   |
|---------------------------|---|
| a. Removal (page 2-1132)  | c. Inspection/Replacement (page 2-1134) |
| b. Cleaning (page 2-1133) | d. Installation (page 2-1134)           |
- 

**INITIAL SETUP**

## Tools

Gloves, safety  
 Goggles, safety  
 Wrench, box-end, 7/16-inch  
 Wrench, open-end, 7/16-inch  
 Wrench, open-end, 5/8 inch  
 Wrench, open-end, 11/16-inch  
 Wrench, open-end, 3/4-inch

## Materials/Parts

Detergent, liquid, GP (item 7, appendix C)  
 Lockwasher, clamp screw (two required)

## Materials/Parts - Continued

Rags, wiping (item 15, appendix C)  
 Solvent, drycleaning (item 19, appendix C)  
 Tags, marker (item 21, appendix C)  
 Tape, antiseizing (item 22, appendix C)

## Personnel Required

One

## Equipment Condition

Airbrake system drained (page 2-1034).

**2-1131**

REAR REAR QUICK RELEASE VALVE TO PARKING AIRBRAKE CHAMBER HOSES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

**NOTE**

Tag airhoses to ensure correct installation.

For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).

1. Rear rear quick release valve (1)	Right airhose (2) and left airhose (3)	Tag.	
2.	Line nut (5) and fitting (4)	Using 3/4-inch and 11/16-inch open-end wrenches, unscrew and take off.	
3.	Line nut (7) and fitting (6)	Using 3/4-inch and 11/16-inch open-end wrenches, unscrew and take off.	
4. Right parking air-brake chamber (8)	Fitting (9), line nut (10), and right airhose (2)	Using 3/4-inch and 5/8-inch open-end wrenches, unscrew and take off.	
5. Left parking air-brake chamber (11)	Fitting (12), line nut (13), and left airhose (3)	Using 3/4-inch and 5/8-inch open-end wrenches, unscrew and take off.	

**NOTE**

Step 6 is typical for two clamp assemblies.

6. Right airhose (2) and left airhose (3)	Two clamps (14), screw (15), lock-washer (16), and nut (17)	<ol style="list-style-type: none"> <li>a. Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out.</li> <li>b. Get rid of lockwasher.</li> <li>c. Take clamps off right airhose (2) and left airhose (3).</li> <li>d. Take out right airhose (2) and left airhose (3).</li> </ol>	
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REAR REAR QUICK RELEASE VALVE TO PARKING AIRBRAKE CHAMBER HOSES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

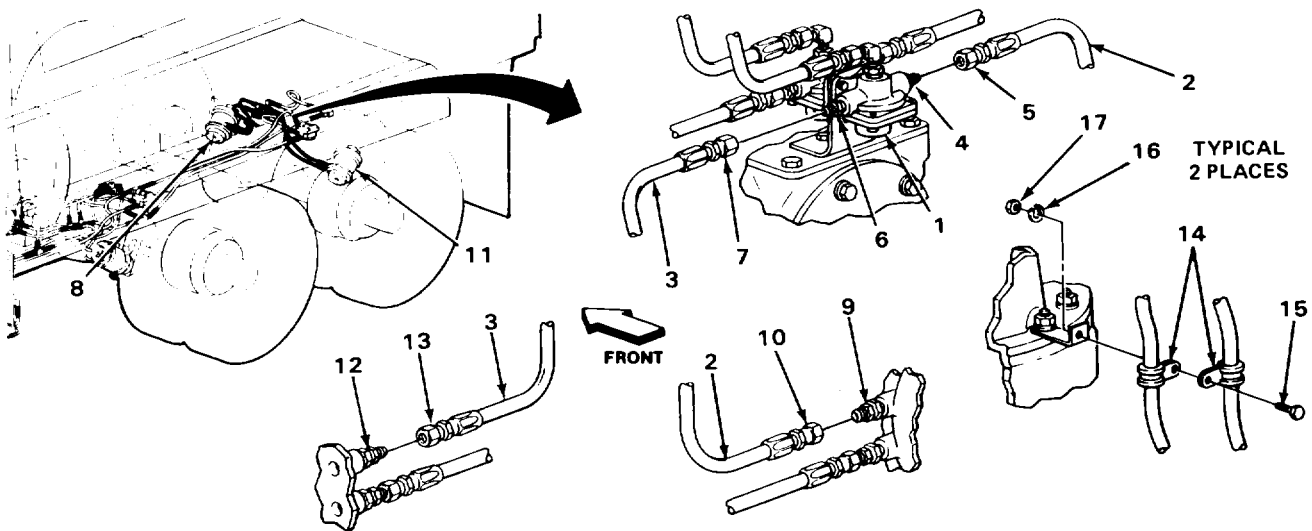
**WARNING**

Drycleaning solvent PD680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (590C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

- |    |                           |   |
|----|---------------------------|---|
| 7. | Two airhoses<br>(2 and 3) | Clean using liquid detergent and wiping rag.    |
| 8. | All metal parts           | Clean using drycleaning solvent and wiping rag. |



TA244413

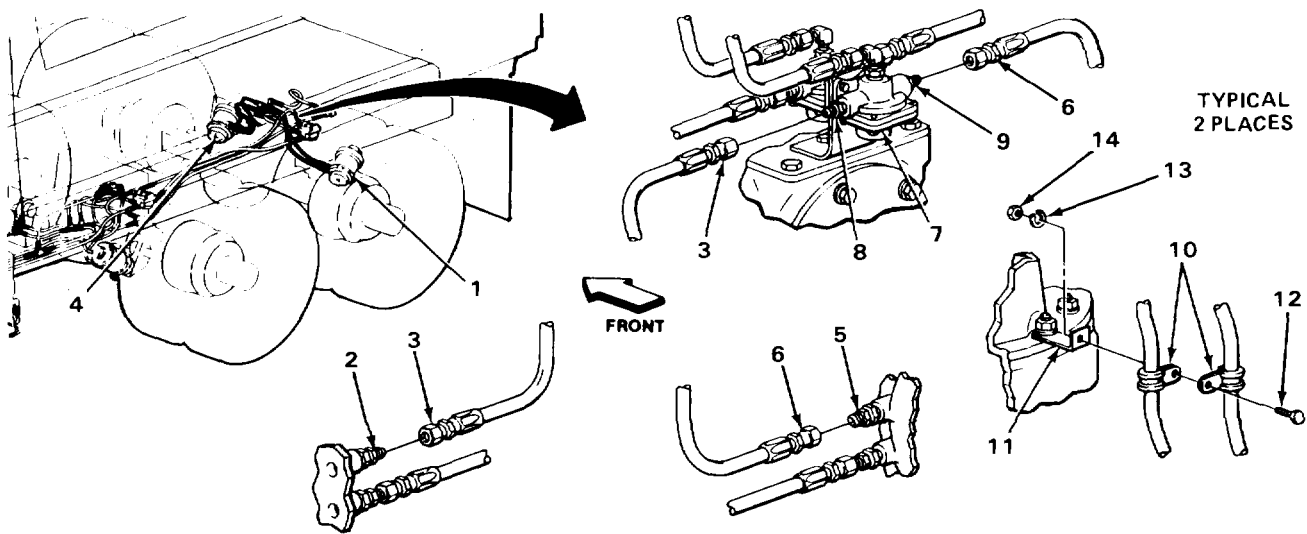
## REAR REAR QUICK RELEASE VALVE TO PARKING AIRBRAKE CHAMBER HOSES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION/REPLACEMENT</b>			
<b>NOTE</b>			
Replace all damaged or defective parts.			
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).			
9.	Two airhoses	a. Check for cracks, breaks, chafing, or hardness. b. Look for excessive rust or corrosion.	
10.	All threaded parts	Look for damaged threads or rounded heads.	
<b>INSTALLATION</b>			
<b>CAUTION</b>			
Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.			
<b>NOTE</b>			
For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).			
See tags for correct location of airhoses.			
11. Left parking air-brake chamber (1)	Fitting (2)	Wrap pipe threads with antiseizing tape.	
12. Fitting (2)	Left airhose (3)	Screw on and tighten using 3/4-inch and 5/8-inch open-end wrenches.	
13. Right parking air-brake chamber (4)	Fitting (5)	Wrap pipe threads with antiseizing tape.	
14. Fitting (5)	Right airhose (6)	Screw on and tighten using 3/4-inch and 5/8-inch open-end wrenches.	
15. Rear rear quick release valve (7)	Fitting (8)	Wrap pipe threads with antiseizing tape.	
16.	Fitting (8) and left airhose (3)	a. Screw on and tighten using 3/4-inch and 11/16-inch open-end wrenches. b. Take off tag. c. Get rid of tag.	



REAR REAR QUICK RELEASE VALVE TO PARKING AIRBRAKE CHAMBER HOSES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
17.	Fitting (9)	Wrap pipe threads with antiseizing tape.	
18.	Fitting (9) and right airhose (6)	a. Screw on and tighten using 3/4-inch and 11/16-inch open-end wrenches. b. Take off tag. c. Get rid of tag.	
<b>NOTE</b>			
Steps 19 and 20 are typical for two clamp assemblies.			
19. Left airhose (3) and right airhose (6)	Two clamps (10)	Put on.	
20. Clamp bracket (11)	Two clamps (10), screw (12), new lockwasher (13), and nut (14)	a. Aline holes in clamps and clamp bracket. b. Screw in and tighten using 7/16-inch box-end and 7/16-inch open-end wrenches.	



TASK ENDS HERE

TA244414

Change 1 2.1135

**REAR REAR QUICK RELEASE VALVE TO SERVICE AIRBRAKE CHAMBER HOSES**

---

This task covers:

- a. Removal (page 2-1136)
  - b. Cleaning (page 2-1138)
  - c. Inspection/Replacement (page 2-1138)
  - d. Installation (page 2-1138)
- 

**INITIAL SETUP**

Tools

- Gloves, safety
- Goggles, safety
- Wrench, box-end, 7/16-inch
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 5/18 inch
- Wrench, open-end, 11/16-inch
- Wrench, open-end, 3/4-inch

Materials/Parts

- Detergent, liquid, GP (item 7, appendix C)
- Lockwasher, clamp screw (two required)

Materials/Parts - Continued

- Rags, wiping (item 15, appendix C)
- Solvent, drycleaning (item 19, appendix C)
- Tags, marker (item 21, appendix C)
- Tape, antiseizing (item 22, appendix C)

Personnel Required

One

Equipment Condition

Airbrake system drained (page 2-1034).

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LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**

**WARNING**

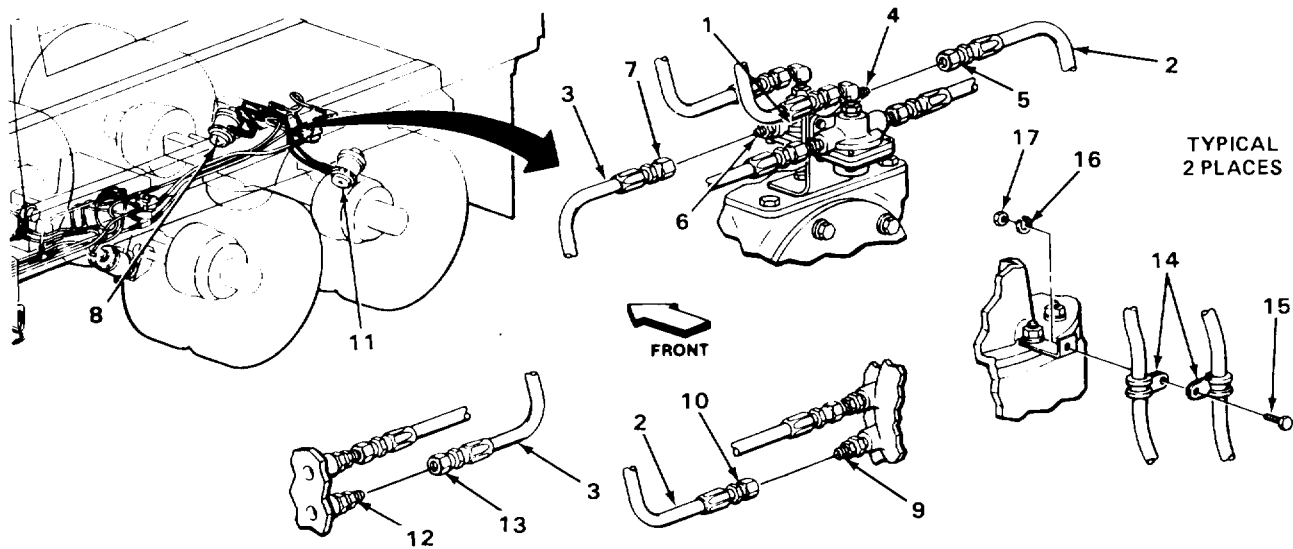
Safety goggles must be worn when working under truck to prevent eye injury.

**NOTE**

Tag airhoses to ensure correct installation.

For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).

- |    |                                   |  |  |
|----|-----------------------------------|--|--|
| 1. | Rear rear quick release valve (1) | Right airhose (2) and left airhose (3) | Tag.   |
| 2. |                                   | Line nut (5) and fitting (4)           | Using 3/4-inch and 11/16-inch open-end wrenches, unscrew and take off. |
| 3. |                                   | Line nut (7) and fitting (6)           | Using 3/4-inch and 11/16-inch open-end wrenches, unscrew and take off. |



**REAR REAR QUICK RELEASE VALVE TO SERVICE AIRBRAKE CHAMBER HOSES - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
4. Right service air-brake chamber (8)	Fitting (9), line nut (10), and right airhose (2)		Using 3/4-inch and 5/8-inch open-end wrenches, unscrew and take off.
5. Left service air-brake chamber (11)	Fitting (12), line nut (13), and left airhose (3)		Using 3/4-inch and 5/8-inch open-end wrenches, unscrew and take off.
<b>NOTE</b>			
Step 6 is typical for two clamp assemblies.			
6. Right airhose (2) and left airhose (3)	Two clamps (14), screw (15), lock-washer (16), and nut (17)	a. Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out. b. Get rid of lockwasher. c. Take clamps off right airhose (2) and left airhose (3). d. Take out right airhose (2) and left airhose (3).	

REAR REAR QUICK RELEASE VALVE TO SERVICE AIRBRAKE CHAMBER HOSES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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**CLEANING**

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (590C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

- |    |                 |   |
|----|-----------------|---|
| 7. | Two airhoses    | Clean using liquid detergent and wiping rag.    |
| 8. | All metal parts | Clean using drycleaning solvent and wiping rag. |

**INSPECTION/REPLACEMENT**

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

- |     |                    |  |
|-----|--------------------|--|
| 9.  | Two airhoses       | <ul style="list-style-type: none"> <li>a. Check for cracks, breaks, chafing, or hardness.</li> <li>b. Look for excessive rust or corrosion.</li> </ul> |
| 10. | All threaded parts | Look for damaged threads or rounded heads.   |

**INSTALLATION**

**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

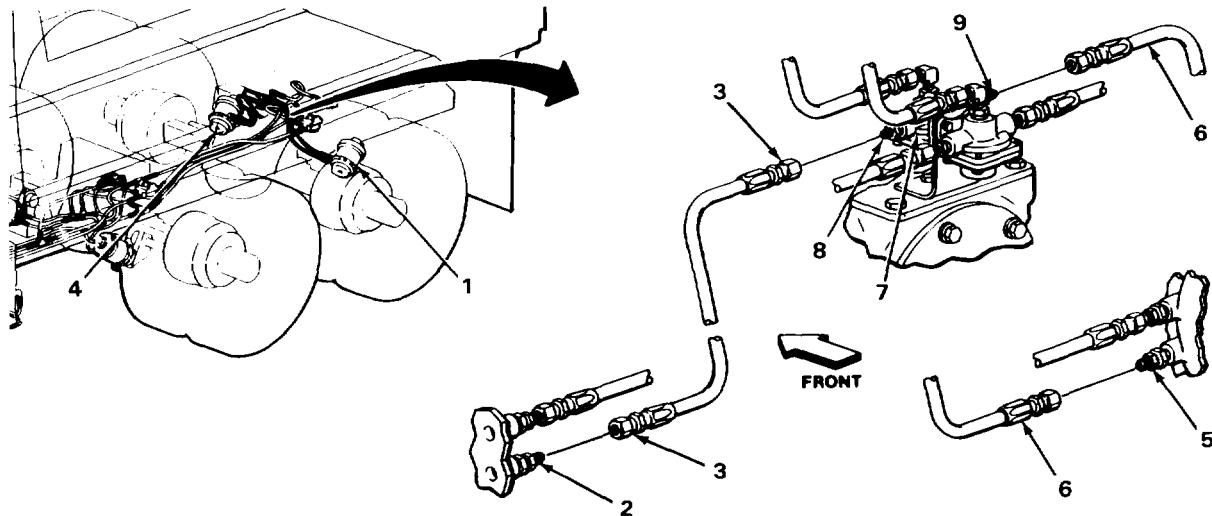
**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

See tags for correct location of airhoses.

REAR REAR QUICK RELEASE VALVE TO SERVICE AIRBRAKE CHAMBER HOSES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
11. Left service air-brake chamber (1)	Fitting (2)	Wrap pipe threads with antiseizing tape.	
12. Fitting (2)	Left airhose (3)	Screw on and tighten using 3/4-inch and 5/8-inch open-end wrenches.	
13. Right service air-brake chamber (4)	Fitting (5)	Wrap pipe threads with antiseizing tape.	
14. Fitting (5)	Right airhose (6)	Screw on and tighten using 3/4-inch and 5/8-inch open-end wrenches.	
15. Rear rear quick release valve (7)	Fitting (8)	Wrap pipe threads with antiseizing tape.	
16.	Fitting (8) and left airhose (3)	a. Screw on and tighten using 3/4-inch and 11/16-inch open-end wrenches. b. Take off tag. c. Get rid of tag.	
17.	Fitting (9)	Wrap pipe threads with antiseizing tape.	
18.	Fitting (9) and right airhose (6)	a. Screw on and tighten using 3/4-inch and 11/16-inch open-end wrenches. b. Take off tag. c. Get rid of tag.	



TA244416

REAR REAR QUICK RELEASE VALVE TO SERVICE AIRBRAKE CHAMBER HOSES - CONTINUED

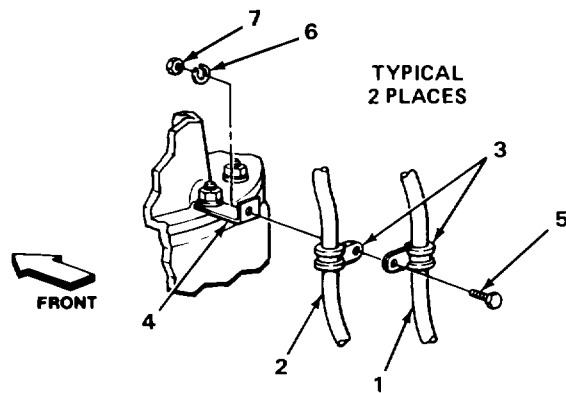
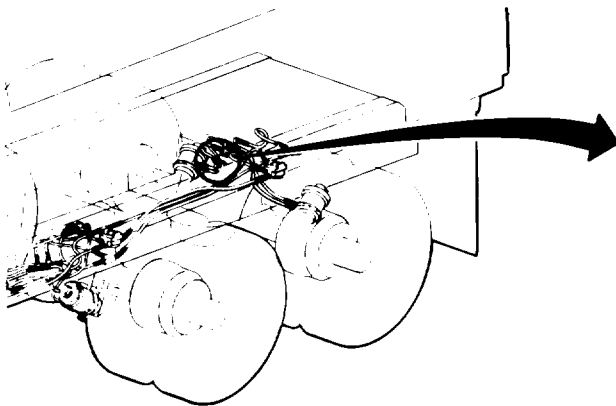
LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION - CONTINUED

NOTE

Steps 19 and 20 are typical for two clamp assemblies.

- |  |   |   |
|--|---|---|
| 19. Left airhose (1) and right airhose (2) | Two clamps (3)  | Put on.   |
| 20. Clamp bracket (4)                      | Two clamps (3), screw (5), new lock-washer (6), and nut (7) | <ul style="list-style-type: none"> <li>a. Aline holes in clamps and clamp bracket.</li> <li>b. Screw in and tighten using 7/16-inch box-end and 7/16-inch open-end wrenches.</li> </ul> |



TASK ENDS HERE

TA244417

Change 1 2-1140

**REAR RELAY VALVE**

---

This task covers:

- a. Removal (page 2-1140.2) b. Installation (page 2-1140.2)
- 

**INITIAL SETUP**

Equipment Conditions

Materials/Parts

Front relay valve T-fitting to rear relay valve hose disconnected (page 2-1105).

Lockwasher, relay valve (two required)

Rear relay valve to rear rear quick release valve hose disconnected (page 2-1140.3).

Personnel Required

Front relay valve to rear relay valve hose disconnected (page 2-1101).

One

Tools/Test Equipment

Goggles, safety

Wrench, box-end, 7/16-inch

Wrench, open-end, 7/16-inch

---

**Change 1 2-1140.1**

REAR RELAY VALVE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

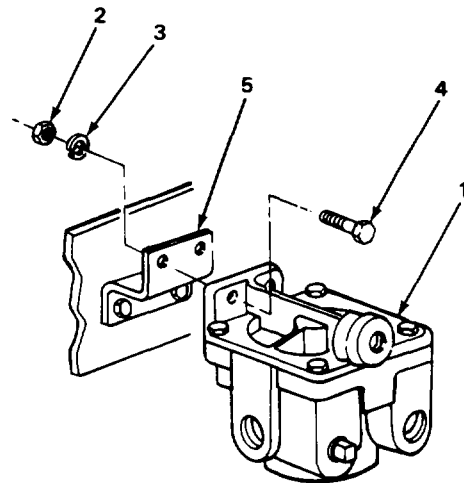
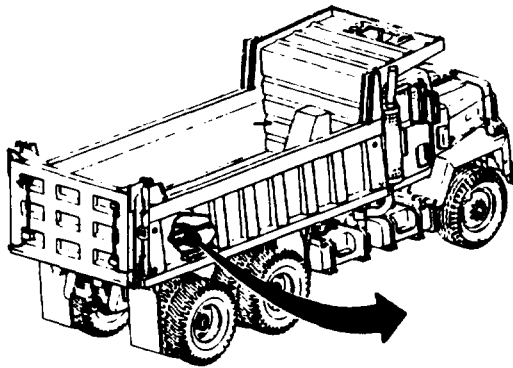
**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

- |                         |   |   |
|-------------------------|---|---|
| 1. Rear relay valve (1) | Two nuts (2), lockwashers (3), and screws (4) | a. Using 7/16-inch open-end wrench and 7/16-inch box-end wrench, unscrew, and take off.<br>b. Get rid of lockwashers. |
| 2. Bracket (5)          | Rear relay valve (1)                          | Take off.   |

INSTALLATION

- |                         |   |  |
|-------------------------|---|--|
| 3. Bracket (5)          | Rear relay valve (1)                              | Put in place.  |
| 4. Rear relay valve (1) | Two nuts (2), new lockwashers (3), and screws (4) | Screw in and tighten using 7/16-inch box-end wrench and 7/16-inch open-end wrench. |



TA702166



**REAR RELAY VALVE - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

**NOTE**

FOLLOW-ON MAINTENANCE:

1. Connect front relay valve to rear relay valve hose (page 2-1101).
2. Connect rear relay valve to rear rear quick release valve hose (page 2-1140.3).
3. Connect front relay valve T-fitting to rear relay valve hose (page 2-1105).

**TASK ENDS HERE**

**REAR RELAY VALVE TO REAR REAR QUICK RELEASE VALVE HOSE**

This task covers:

- |                           |   |
|---------------------------|---|
| a. Removal (page 2-1141)  | c. Inspection/Replacement (page 2-1142) |
| b. Cleaning (page 2-1142) | d. Installation (page 2-1142)           |

**Change 1 2-1140.3/(2-1140.4 blank)**

REAR RELAY VALVE TO REAR REAR QUICK RELEASE VALVE HOSE - CONTINUED

INITIAL SETUP

Tools

Goggles, safety  
Wrench, open-end, 7/8-inch

Personnel Required

One

Materials/Parts

Detergent, liquid, GP (item 7, appendix C)  
Rags, wiping (item 15, appendix C)  
Tape, antiseizing (item 22, appendix C)

Equipment Condition

Airbrake system drained (page 2-1034).

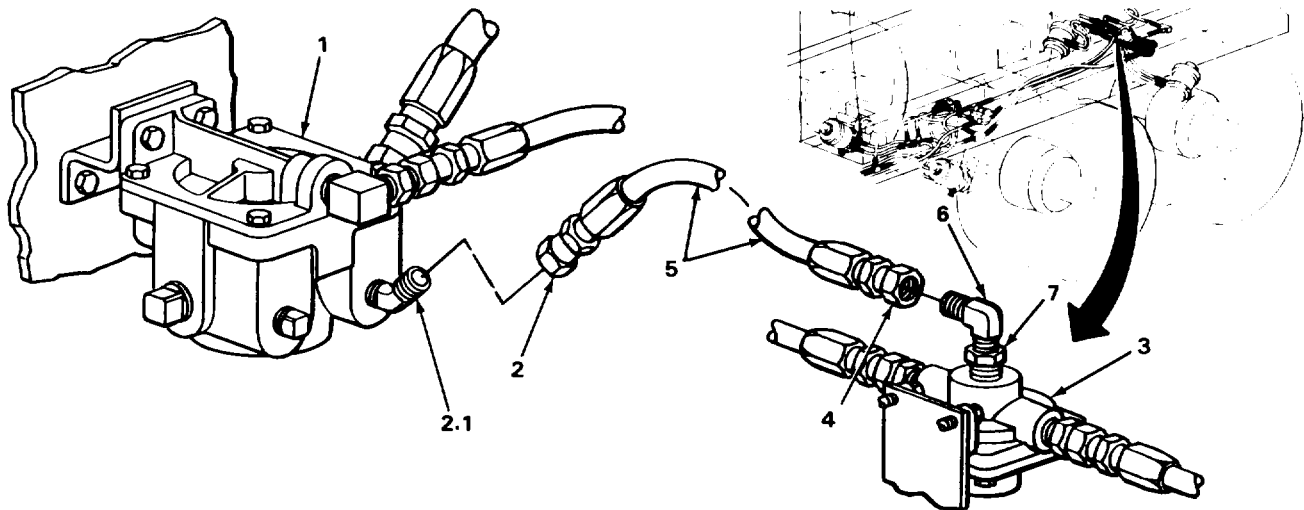
LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

- |    |                                   |   |  |
|----|-----------------------------------|---|--|
| 1. | Rear relay valve (1)              | Line nut (2) and 45-degree elbow (2.1)                          | Using 7/8-inch open-end wrench, unscrew and take off.                            |
| 2. | Rear rear quick release valve (3) | Line nut (4), airhose (5), 90-degree elbow (6), and adapter (7) | a. Using 7/8-inch open-end wrench, unscrew and take off.<br>b. Take out airhose. |



REAR RELAY VALVE TO REAR REAR QUICK RELEASE VALVE HOSE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

**CLEANING**

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

- |    |         |  |  |
|----|---------|--|--|
| 3. | Airhose |  | Clean using liquid detergent and wiping rag. |
|----|---------|--|--|

**INSPECTION/REPLACEMENT**

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

- |    |                    |  |  |
|----|--------------------|--|--|
| 4. | Airhose            |  | a. Check for cracks, breaks, chafing, or hardness.<br>b. Look for excessive rust or corrosion. |
| 5. | All threaded parts |  | Look for damaged threads or rounded heads.   |

**INSTALLATION**

**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

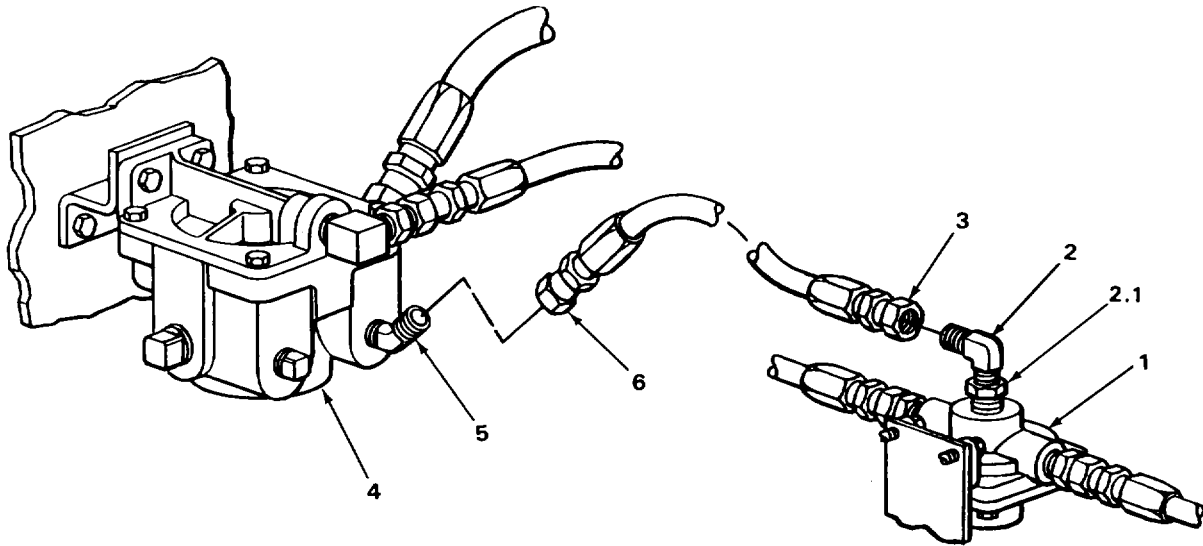
For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

- |    |                                   |  |  |
|----|-----------------------------------|--|--|
| 6. | Rear rear quick release valve (1) | 90-degree elbow (2) and adapter (2.1)                | Wrap pipe threads with antiseizing tape.             |
| 7. |                                   | Adapter (2.1), 90-degree elbow (2), and line nut (3) | Screw on and tighten using 7/8-inch open-end wrench. |

**Change 1 2-1142**

REAR RELAY VALVE TO REAR REAR QUICK RELEASE VALVE HOSE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
8.	Rear relay valve (4)	45-degree elbow (5)	Wrap pipe threads with antiseizing tape.
9.	45-degree elbow (5) and line nut (6)	Screw on and tighten using 7/8-inch open-end wrench.	I



TASK ENDS HERE

CHASSIS T-FITTING TO DOUBLE CHECK VALVE HOSE

This task covers:

- a. Removal (page 2-1144)
- b. Cleaning (page 2-1144)
- c. Inspection/Replacement (page 2-1144)
- d. Installation (page 2-1145)

INITIAL SETUP

Tools

- Goggles, safety
- Wrench, open-end, 5/8-inch
- Wrench, open-end, 3/4-inch

Materials/Parts

- Detergent, liquid, GP (item 7, appendix C)
- Rags, wiping (item 15, appendix C)
- Tape, antiseizing (item 22, appendix C)

**CHASSIS T-FITTING TO DOUBLE CHECK VALVE HOSE - CONTINUED**

**INITIAL SETUP - CONTINUED**

Personnel Required

One

Equipment Condition

Airbrake system drained (page 2-1034).

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

**REMOVAL**

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

- |                           |  |  |
|---------------------------|--|--|
| 1. Chassis T-fitting (7)  | Line nut (2) and fitting (1)                       | Using 3/4-inch and 5/8-inch open-end wrenches, unscrew and take off.             |
| 2. Double check valve (6) | Line nut (4), airhose (5), and 45-degree elbow (3) | a. Using 3/4-inch open-end wrench, unscrew and take off.<br>b. Take out airhose. |

**CLEANING**

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

- |                |  |
|----------------|--|
| 3. Airhose (5) | Clean using liquid detergent and wiping rag. |
|----------------|--|

**INSPECTION/REPLACEMENT**

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

- |    |                    |   |
|----|--------------------|---|
| 4. | Airhose (5)        | a. Check for cracks, breaks, chaffing, or hardness.<br>b. Look for excessive rust or corrosion. |
| 5. | All threaded parts | Look for damaged threads or rounded heads.  |

**CHASSIS T-FITTING TO DOUBLE CHECK VALVE HOSE - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
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**INSTALLATION**

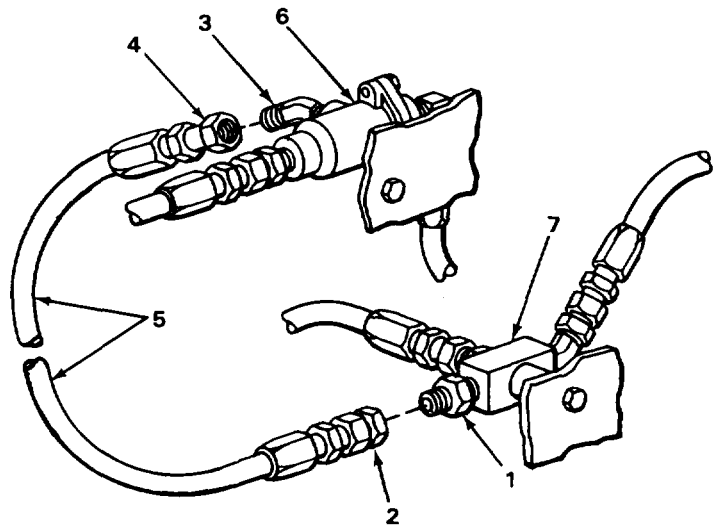
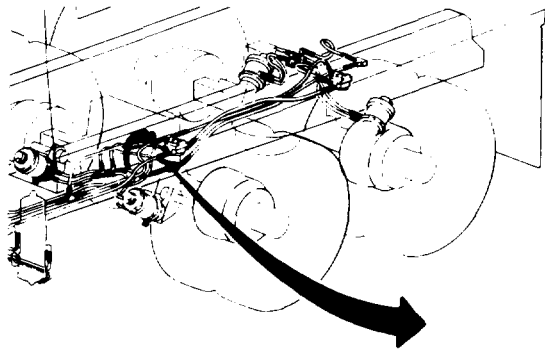
**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

- |                           |                                      |   |
|---------------------------|--------------------------------------|---|
| 6. Double check valve (6) | 45-degree elbow (3)                  | Wrap pipe threads with antiseizing tape.                            |
| 7.                        | 45 degree elbow (3) and line nut (4) | Screw on and tighten using 3/4-inch open-end wrench.                |
| 8. Chassis T-fitting (7)  | Fitting (1)                          | Wrap pipe threads with antiseizing tape.                            |
| 9.                        | Fitting (1) and line nut (2)         | Screw on and tighten using 3/4-inch and 5/8-inch open-end wrenches. |



**TASK ENDS HERE**

**CHASSIS T-FITTING TO FRONT REAR QUICK RELEASE VALVE HOSE**

---

This task covers:

- a. Removal (page 2-1146)
  - b. Cleaning (page 2-1146)
  - c. Inspection/Replacement (page 2-1147)
  - d. Installation (page 2-1148)
- 

**INITIAL SETUP**

Tools

- Goggles, safety
- Wrench, open-end, 5/8-inch
- Wrench, open-end, 3/4-inch

Personnel Required

One

Equipment Condition

Materials/Parts

Airbrake system drained (page 2-1034).

- Detergent, liquid, GP (item 7, appendix C)
  - Rags, wiping (item 15, appendix C)
  - Tape, antiseizing (item 22, appendix C)
- 

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

---

**REMOVAL**

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

- |    |                                      |  |  |
|----|--------------------------------------|--|--|
| 1. | Chassis T-fitting (0.1)              | Line nut (2) and fitting (1)                       | Using 3/4-inch and 5/8-inch open-end wrenches, unscrew and take off.   |
| 2. | Front rear quick release valve (2.1) | Line nut (4), airhose (5), and 45-degree elbow (3) | <ul style="list-style-type: none"> <li>a. Using 3/4-inch open-end wrench, unscrew and take off.</li> <li>b. Take out airhose.</li> </ul> |

**CLEANING**

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

- 3. Airhose (5)                      Clean using liquid detergent and wiping rag.

**Change 1 2-1146**

CHASSIS T-FITTING TO FRONT REAR QUICK RELEASE VALVE HOSE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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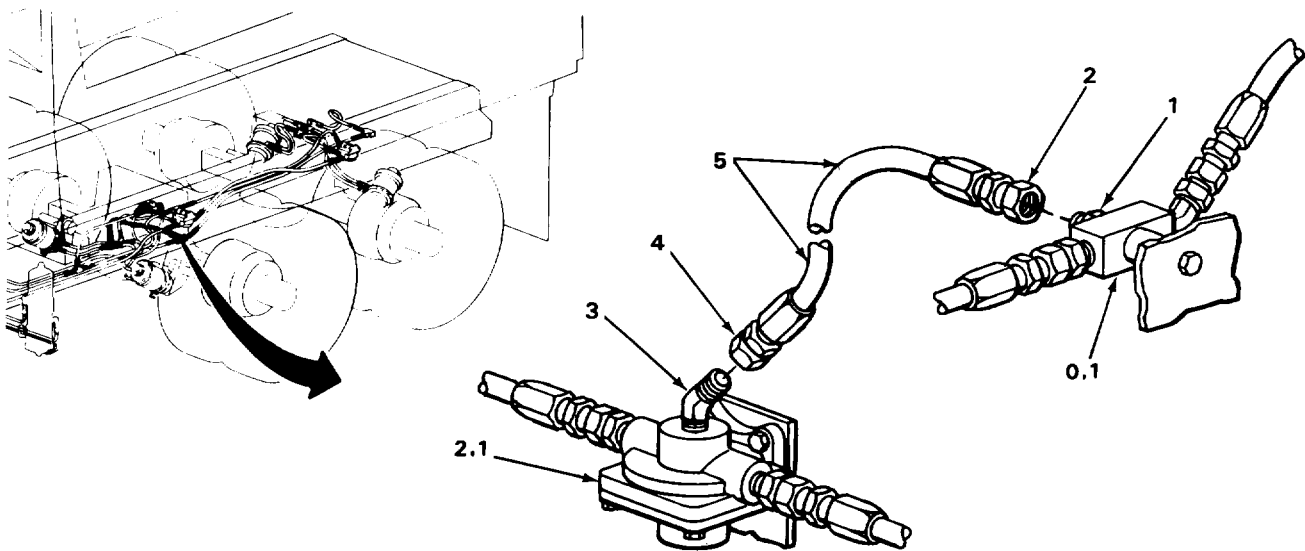
INSPECTION/REPLACEMENT

NOTE

Replace damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

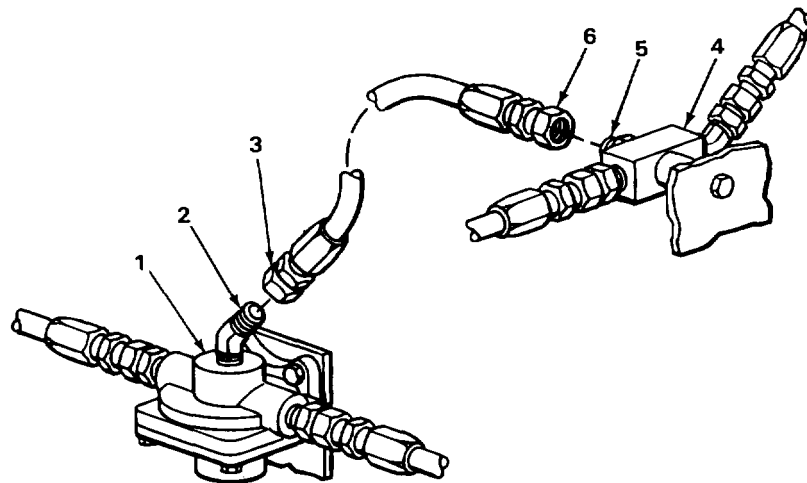
- |    |                    |  |
|----|--------------------|--|
| 4. | Airhose (5)        | <ul style="list-style-type: none"> <li>a. Check for cracks, breaks, chafing, or hardness.</li> <li>b. Look for excessive rust or corrosion.</li> </ul> |
| 5. | All threaded parts | Look for damaged threads or rounded heads.   |





**CHASSIS T-FITTING TO FRONT REAR QUICK RELEASE VALVE HOSE - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
<b><u>CAUTION</u></b>			
Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.			
<b><u>NOTE</u></b>			
For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).			
6. Front rear quick release valve (1)	45-degree elbow (2)	Wrap pipe threads with antiseizing tape.	
7.	45-degree elbow (2) and line nut (3)	Screw on and tighten using 3/4-inch open-end wrench.	
8. Chassis T-fitting (4)	Fitting (5)	Wrap pipe threads with antiseizing tape.	
9.	Fitting (5) and line nut (6)	Screw on and tighten using 3/4-inch and 5/8-inch open-end wrenches.	



**TASK ENDS HERE**

TA244658

**DOUBLE CHECK VALVE**

---

This task covers:

- a. Removal (page 2-1148.2) b. Installation (page 2-1148.2)
- 

**INITIAL SETUP**

Equipment Conditions	Materials/Parts
Chassis T-fitting to double check valve hose disconnected (page 2-1143). Cab floor through connector to double check valve hose disconnected (page 2-1108).	Tape, antiseizing (item 22, appendix C) Lockwasher, double check valve
	Personnel Required
Tools/Test Equipment	One
Goggles, safety Wrench, box-end, 7/16-inch Wrench, open-end, 7/16-inch Wrench, open-end, 3/4-inch (two required)	

---

**Change 1 2-1148.1**

## DOUBLE CHECK VALVE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL</b>			
<b><u>WARNING</u></b>			
Safety goggles must be worn when working under truck to prevent eye injury.			
1.	Fitting (1)	Line nut (2) and air hose (3)	a. Using two 3/4-inch open-end wrenches, unscrew, and take off. b. Move air hose out of way.
2.	Double check valve (4)	Fitting (1)	Using 3/4-inch open-end wrench, unscrew, and take off.
3.		Nut (5), lockwasher (6), and screw (7)	a. Using 7/16-inch open-end wrench and 7/16-inch box-end wrench, unscrew, and take off. b. Get rid of lockwasher.
4.	Left frame rail (8)	Double check valve (4)	Take off.

**INSTALLATION****CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

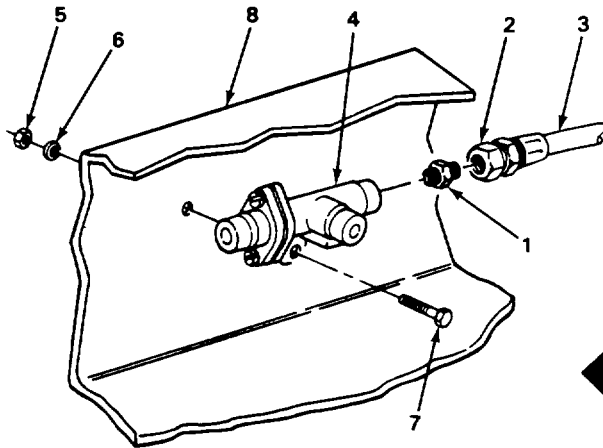
**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

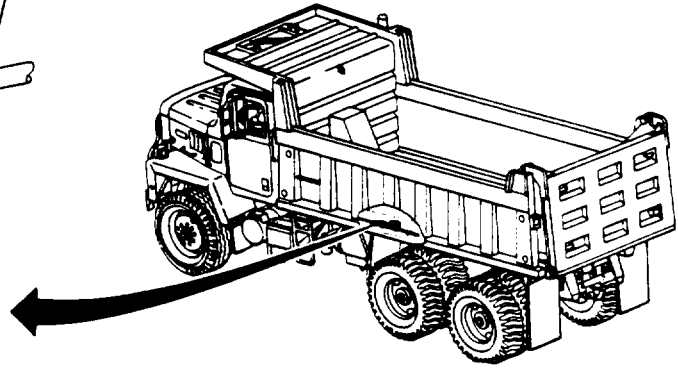
5.	Left frame rail (8)	Double check valve (4)	Put in place.
6.	Double check valve (4)	Nut (5), lockwasher (6), and screw (7)	Screw in and tighten using 7/16-inch box-end wrench and 7/16-inch open-end wrench.
7.		Fitting (1)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 3/4-inch open-end wrench.
8.	Fitting (1)	Line nut (2) and air hose (3)	Screw on and tighten using two 3/4-inch open-end wrenches.

DOUBLE CHECK VALVE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------



ROTATED 90°



**NOTE**

FOLLOW-ON MAINTENANCE:

1. Connect cab floor through connector to double check valve hose (page 2-1108).
2. Connect T-fitting to double check valve hose (page 2-1143).

**TASK ENDS HERE**

TA702170 I

Change 1 2-1148.3/(2-1148.4 blank)

**DOUBLE CHECK VALVE T-FITTING TO FRONT RELAY VALVE T-FITTING HOSE**

This task covers:

- a. Removal (page 2-1149)
- b. Cleaning (page 2-1150)
- c. Inspection/Replacement (page 2-1150)
- d. Installation (page 2-1150)

**INITIAL SETUP**

Tools

- Goggles, safety
- Wrench, open-end, 7/8-inch

Personnel Required

One

Materials/Parts

- Detergent, liquid, GP (item 7, appendix C)
- Rags, wiping (item 15, appendix C)
- Tape, antiseizing (item 22, appendix C)

Equipment Condition

Airbrake system drained (page 2-1034).

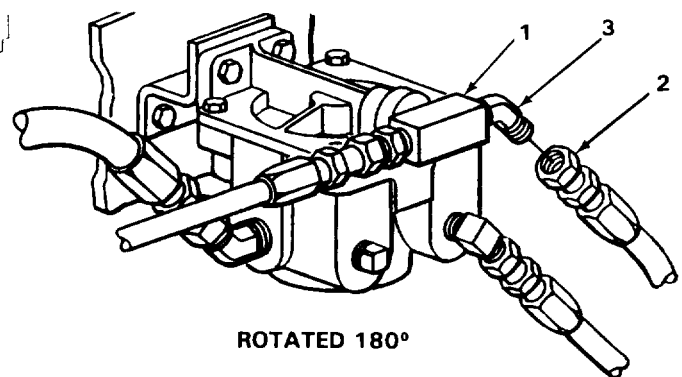
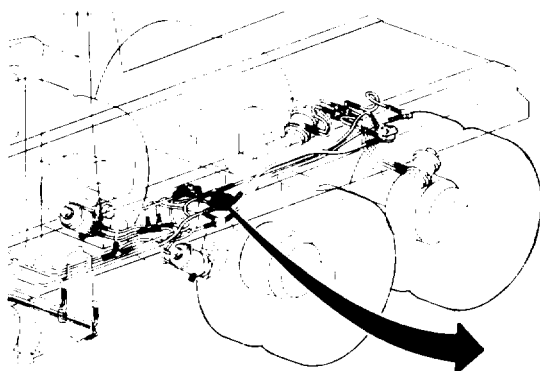
LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

- |  |                                      |   |
|--|--------------------------------------|---|
| 1. Front relay valve T-fitting (1) and take off. | Line nut (2) and 45-degree elbow (3) | Using 7/8-inch open-end wrench, unscrew |
|--|--------------------------------------|---|



**DOUBLE CHECK VALVE T-FITTING TO FRONT RELAY VALVE T-FITTING HOSE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

**REMOVAL - CONTINUED**

- |    |                                  |                              |  |
|----|----------------------------------|------------------------------|--|
| 2. | Double check valve T-fitting (1) | Line nut (2) and airhose (3) | <ul style="list-style-type: none"> <li>a. Using 7/8-inch open-end wrench, unscrew and take off.</li> <li>b. Take out airhose.</li> </ul> |
|----|----------------------------------|------------------------------|--|

**CLEANING**

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

- |    |             |  |
|----|-------------|--|
| 3. | Airhose (3) | Clean using liquid detergent and wiping rag. |
|----|-------------|--|

**INSPECTION/REPLACEMENT**

**NOTE**

Replace damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

- |    |                    |  |
|----|--------------------|--|
| 4. | Airhose (3)        | <ul style="list-style-type: none"> <li>a. Check for cracks, breaks, chafing, or hardness.</li> <li>b. Look for excessive rust or corrosion.</li> </ul> |
| 5. | All threaded parts | Look for damaged threads or rounded heads.   |

**INSTALLATION**

**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

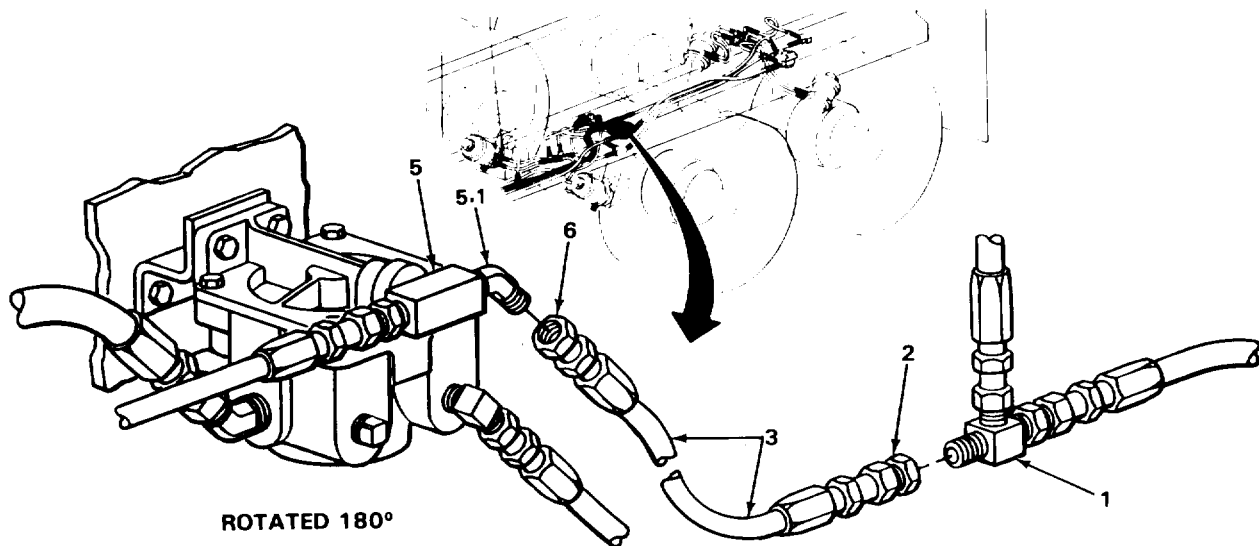
**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

- |    |                                 |                       |  |
|----|---------------------------------|-----------------------|--|
| 6. | Front relay valve T-fitting (5) | 45-degree elbow (5.1) | Wrap pipe threads with antiseizing tape. |
|----|---------------------------------|-----------------------|--|

**DOUBLE CHECK VALVE T-FITTING TO FRONT RELAY VALVE T-FITTING HOSE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
7 Front relay valve T-fitting (5)	45-degree elbow (5.1) and line nut (6)	Screw on and tighten using 7/8-inch open- end wrench.
8	Double check valve T-fitting (1)	Wrap pipe threads with antiseizing tape.
9 Double check valve T-fitting (1)	Line nut (2)	Screw on and tighten using 7/8-inch open-



TASK ENDS HERE

TA702172

Change 1 2-1151

**CHASSIS 90-DEGREE ELBOW**

This task covers:

- a Removal (page 2-1151.0) b Installation (page 2-1151.0)

**INITIAL SETUP**

**Equipment Conditions**

Chassis T-fitting to chassis 90-degree elbow hose disconnected (page 2-1151.4).  
 Chassis 90-degree elbow to rear rear quick release valve hose (page 2-1157).

**Materials/Parts**

Lockwasher, elbow  
 Personnel Required  
 One

**Tools/Test Equipment**

Goggles, safety  
 Wrench, box-end, 7/16-inch

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

**REMOVAL**

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

1	Left frame rail (1)	Screw (2) and lockwasher (3)	a Using 7/16-inch box-end wrench, unscrew, and take off. b Get rid of lockwasher.
2		Chassis 90-degree elbow (4)	Take off.

**INSTALLATION**

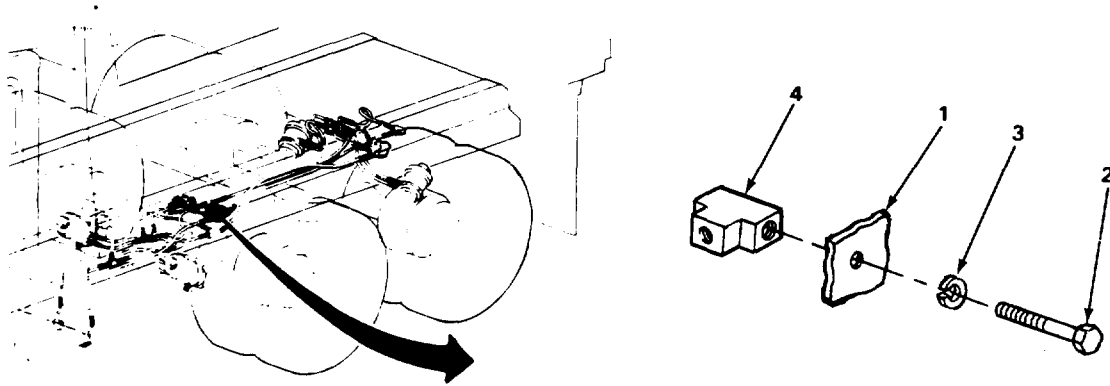
3	Left frame rail (1)	Chassis 90-degree elbow (4)	Put in place.
4		Screw (2) and new lockwasher (3)	Screw in and tighten using 7/16-inch box-end wrench.

**Change 1 2-1151.0**



**CHASSIS 90-DEGREE ELBOW - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------



**NOTE**

**FOLLOW-ON MAINTENANCE:**

- 1 Connect chassis 90-degree elbow to rear rear quick release valve hose (page 2-1157).
- 2 Connect chassis T-fitting to chassis 90-degree elbow hose (page 2-1151.4).

**TASK ENDS HERE**

TA702173

**Change 1 2-1151.1**

**CHASSIS T-FITTING**

This task covers:

- |                           |                                |
|---------------------------|--------------------------------|
| a Removal (page 2-1151.2) | b Installation (page 2-1151.2) |
|---------------------------|--------------------------------|

**INITIAL SETUP**

**Equipment Conditions**

Chassis T-fitting to front rear quick release valve hose disconnected (page 2-1146).  
 Chassis T-fitting to double check valve hose disconnected (page 2-1143).  
 Chassis T-fitting to chassis 90-degree elbow hose disconnected (page 2-1152)

**Materials/Parts**

Lockwasher, T-fitting  
 Personnel Required  
 One

**Tools/Test Equipment**

Goggles, safety  
 Wrench, box-end, 7/16-inch

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

**REMOVAL**

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

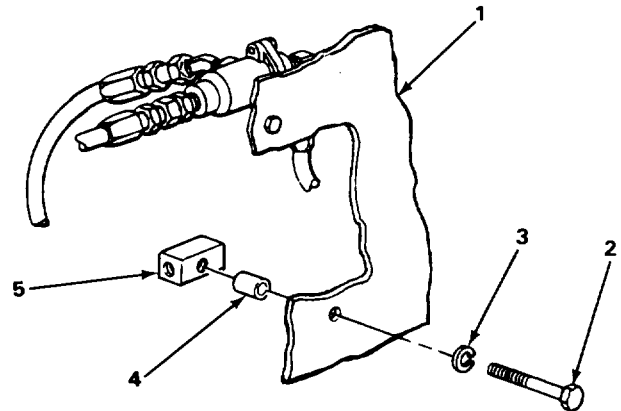
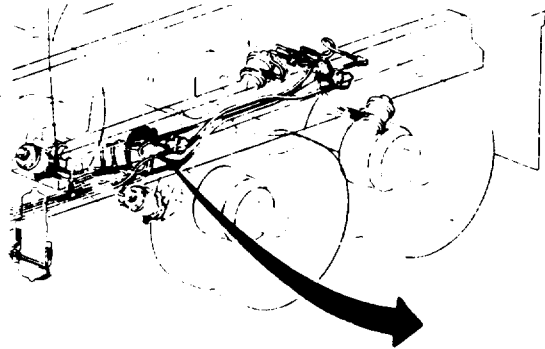
1	Left frame rail (1)	Screw (2) and lockwasher (3)	a Using 7/16-inch box-end wrench, unscrew, and take off. b Get rid of lockwasher.
2		Spacer (4) and chassis T-fitting (5)	Take off.

**INSTALLATION**

3	Left frame rail (1)	Spacer (4) and chassis T-fitting (5)	Put in place.
4		Screw (2) and new lockwasher (3)	Screw in and tighten using 7/16-inch box-end wrench.

**CHASSIS T-FITTING - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------



**NOTE**

**FOLLOW-ON MAINTENANCE:**

- 1 Connect chassis T-fitting to chassis 90-degree elbow hose (page 2-1152).
- 2 Connect chassis T-fitting to double check valve hose (page 2-1143).
- 3 Connect chassis T-fitting to front rear quick release valve hose (page 2-1146).

**TASK ENDS HERE**

**CHASSIS T-FITTING TO CHASSIS 90-DEGREE ELBOW HOSE**

This task covers:

- |                          |  |
|--------------------------|--|
| a Removal (page 2-1152)  | c Inspection/Replacement (page 2-1152) |
| b Cleaning (page 2-1152) | d Installation (page 2-1153)           |

**CHASSIS T-FITTING TO CHASSIS 90-DEGREE ELBOW HOSE - CONTINUED**

**INITIAL SETUP**

<p><b>Tools</b></p> <p>Goggles, safety  Wrench, open-end, 11/16-inch  Wrench, open-end, 3/4-inch</p> <p><b>Materials/Parts</b></p> <p>Detergent, liquid, GP (item 7, appendix C)  Rags, wiping (item 15, appendix C)  Tape, antiseizing (item 22, appendix C)</p>	<p><b>Personnel Required</b></p> <p>One</p> <p><b>Equipment Condition</b></p> <p>Airbrake system drained (page 2-1034).</p>
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LOCATION	ITEM	ACTION REMARKS
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**REMOVAL**

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

1	Chassis T-fitting (7)	Line nut (2) and 45-degree elbow (1)	Using 3/4-inch open-end wrench, unscrew and take off.
2	Chassis 90-degree (6)	Line nut (4), airhose (5), and fitting (3)	<ul style="list-style-type: none"> <li>a Using 3/4-inch and 11/16-inch open-end wrenches, unscrew and take off.</li> <li>b Take out airhose.</li> </ul>

**CLEANING**

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

3	Airhose (5)	Clean using liquid detergent and wiping rag.
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**INSPECTION/REPLACEMENT**

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

**CHASSIS T-FITTING TO CHASSIS 90-DEGREE ELBOW HOSE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
4	Airhose (5)	a Check for cracks, breaks, chafing, or hardness. b Look for excessive rust or corrosion.
5	All threaded parts	Look for damaged threads or rounded heads.

**INSTALLATION**

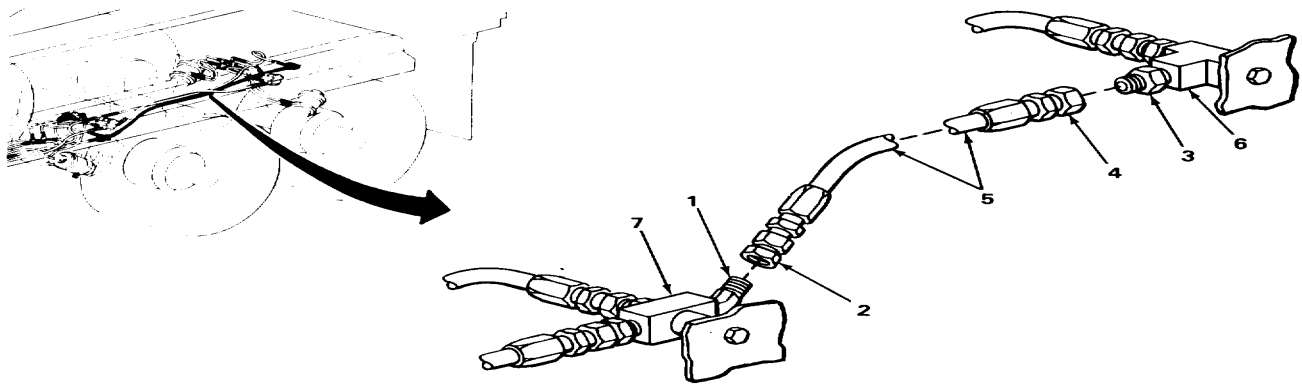
**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

8	Chassis 90-degree elbow (6)	Fitting (3)	Wrap pipe threads with antiseizing tape.	
7		Fitting (3) and line nut (4)	Screw on and tighten using 3/4-inch and 11/16-inch open-end wrenches.	
8	Chassis T-fitting (7)	45-degree elbow (1)	Wrap pipe threads with antiseizing tape.	
9		45-degree elbow (1) and line nut (2)	Screw on and tighten using 3/4-inch open-end wrench.	



**TASK ENDS HERE**

**WET AIR RESERVOIR TO AIR DRYER HOSE**

This task covers:

- |   |                        |   |                                      |
|---|------------------------|---|--------------------------------------|
| a | Removal (page 2-1154)  | c | Inspection/Replacement (page 2-1155) |
| b | Cleaning (page 2-1154) | d | Installation (page 2-1156)           |

**INITIAL SETUP**

**Tools**

- Goggles, safety
- Wrench, open-end, 1-inch

**Personnel Required**

One

**Equipment Condition**

Airbrake system drained (page 2-1034).

**Materials/Parts**

- Detergent, liquid GP (item 7, appendix C)
- Rags, wiping (item 15, appendix C)
- Tape, antiseizing (item 22, appendix C)

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

**REMOVAL**

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

1	90-degree elbow (1)	Line nut (2)	Using 1-inch open-end wrench, unscrew and take off.
2	90-degree elbow (3)	Line nut (4) and airhose (5)	a Using 1-inch open-end wrench, unscrew and take off. b Take out airhose.

**CLEANING**

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

3	Airhose (5)	Clean using liquid detergent and wiping rag.
---	-------------	--

WET AIR RESERVOIR TO AIR DRYER HOSE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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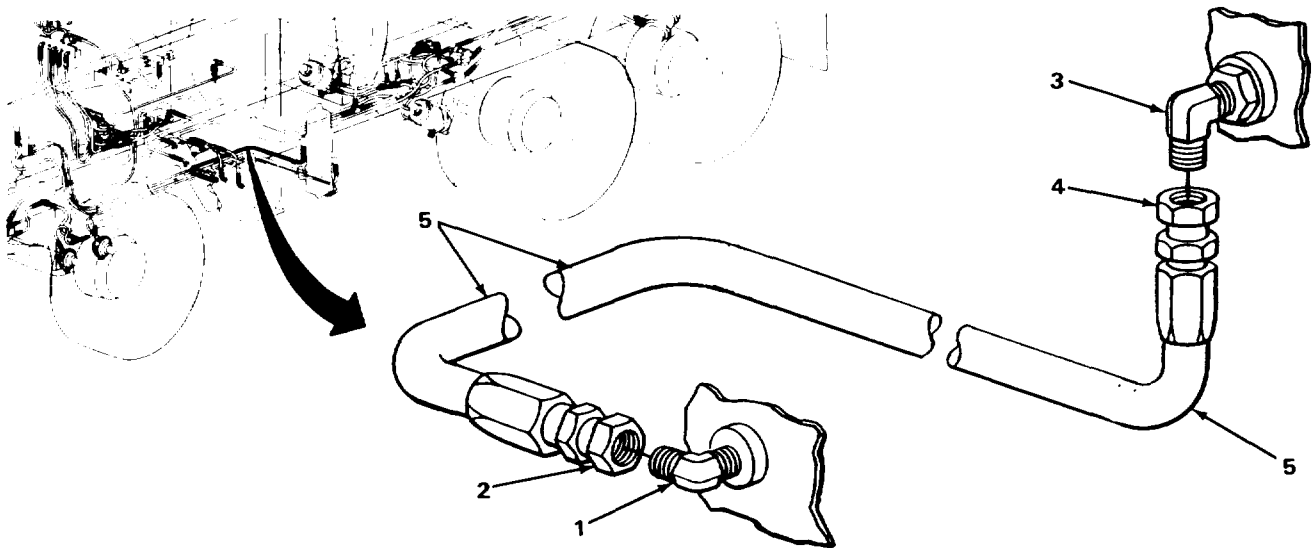
INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

4	Airhose (5) hardness.	a Check for cracks, breaks, chafing, or b Look for excessive rust or corrosion.
5	All threaded parts	Look for damaged threads or rounded heads.



TA244425

**WET AIR RESERVOIR TO AIR DRYER HOSE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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INSTALLATION

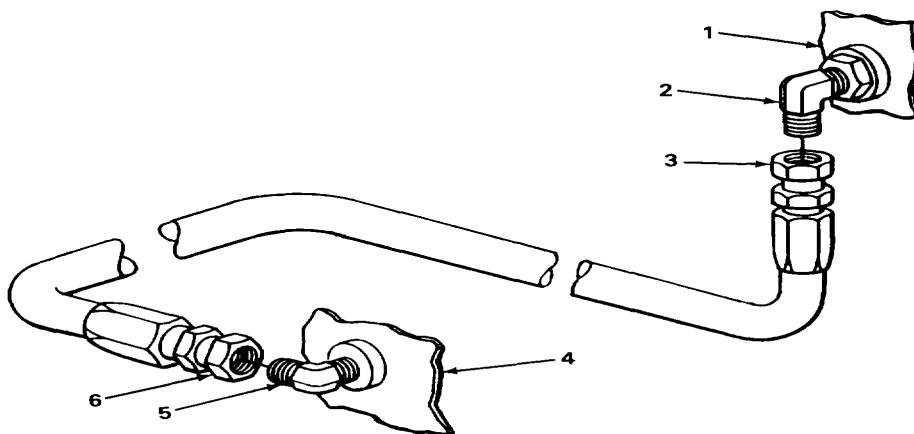
**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

6	Air dryer (1)	90-degree elbow (2)	Wrap pipe threads with antiseizing tape.
7	90-degree elbow (2)	Line nut (3)	Screw on and tighten using 1-inch open-end wrench.
8	Wet air reservoir (4)	90-degree elbow (5)	Wrap pipe threads with antiseizing tape.
9	90-degree elbow (5)	Line nut (6)	Screw on and tighten using 1-inch open-end wrench.



TA244426



**CHASSIS 90-DEGREE ELBOW TO REAR REAR QUICK RELEASE VALVE HOSE**

This task covers:

- |                          |  |
|--------------------------|--|
| a Removal (page 2-1157)  | c Inspection/Replacement (page 2-1158) |
| b Cleaning (page 2-1158) | d Installation (page 2-1158)           |

**INITIAL SETUP**

**Tools**

- Goggles, safety
- Wrench, open-end, 11/16-inch
- Wrench, open-end, 3/4-inch

**Personnel Required**

One

**Equipment Condition**

Airbrake system drained (page 2-1034).

**Materials/Parts**

- Detergent, liquid, GP (item 7, appendix C)
- Rags, wiping (item 15, appendix C)
- Tape, antiseizing (item 22, appendix C)

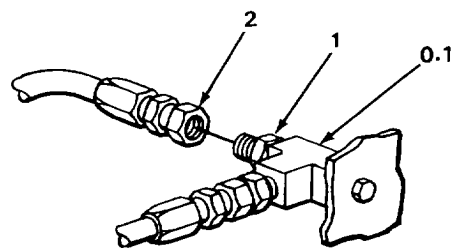
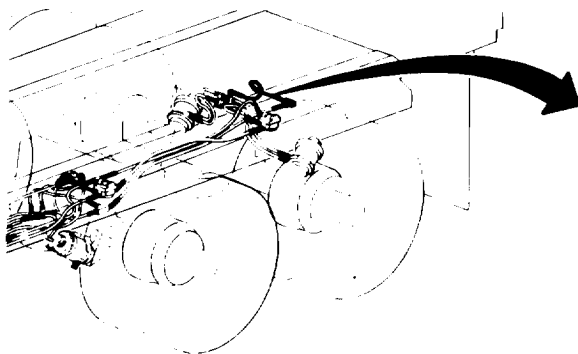
LOCATION	ITEM	ACTION REMARKS
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**REMOVAL**

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

- |   |                               |                              |  |
|---|-------------------------------|------------------------------|--|
| 1 | Chassis 90-degree elbow (0.1) | Line nut (2) and fitting (1) | Using 3/4-inch and 11/16-inch open-end wrenches, unscrew and take off. |
|---|-------------------------------|------------------------------|--|



TA702175

**CHASSIS 90-DEGREE ELBOW TO REAR REAR QUICK RELEASE VALVE HOSE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL - CONTINUED</b>		
2	Rear rear quick release valve (4)	Line nut (2), 90-degree elbow (1), and adapter (4.1)
		a Using 3/4-inch open-end wrench, unscrew and take off. b Take out airhose.

**CLEANING****NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

3	Airhose (3)	Clean using liquid detergent and wiping rag.
---	-------------	--

**INSPECTION/REPLACEMENT****NOTE**

Replace damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

4	Airhose (3)	Check for cracks, breaks, chafing, or hardness.
5	All threaded parts	Look for damaged threads or rounded heads.

**INSTALLATION****CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

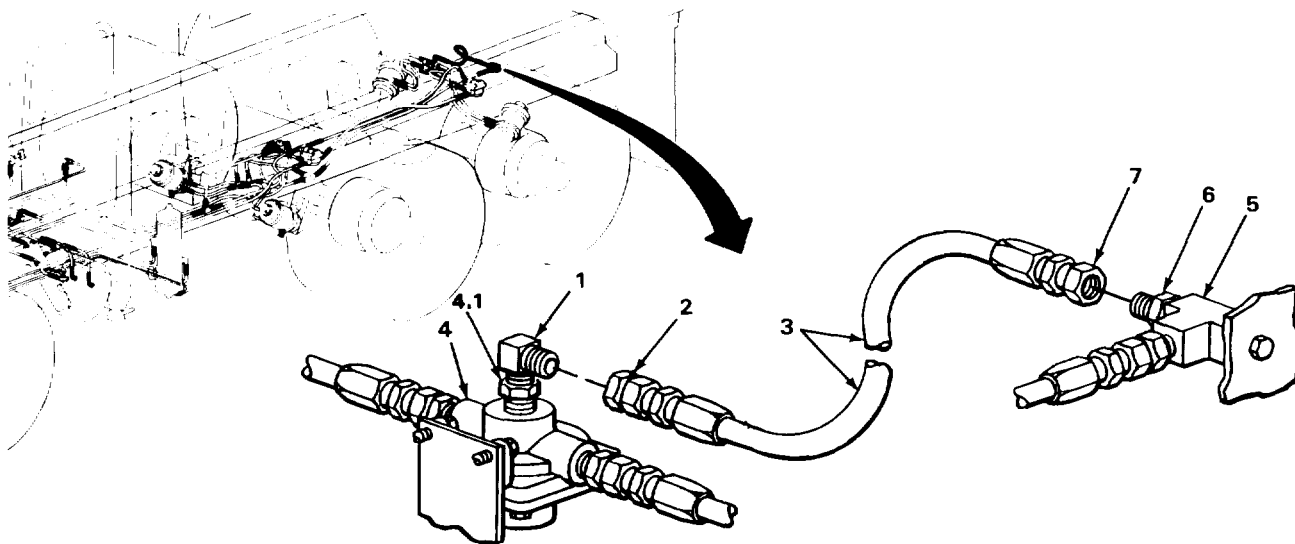
For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

6	Rear rear quick release valve (4)	90-degree elbow (1) and adapter (4.1)	Wrap pipe threads with antiseizing tape.
---	-----------------------------------	--	--

**Change 1 2-1158**

**CHASSIS 90-DEGREE ELBOW TO REAR REAR QUICK RELEASE VALVE HOSE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
7	Adapter (4.1), 90-degree elbow (1), and line nut (2)	Screw on and tighten using 3/4-inch open-end wrench.
8 Chassis 90-degree elbow (5)	Fitting (6)	Wrap pipe threads with antiseizing tape.
9 Fitting (6)	Line nut (7)	Screw on and tighten using 3/4-inch and 11/16-inch open-end wrenches.



**TASK ENDS HERE  
FRONT BRAKE LIMITING CONTROL VALVE HOSES AND FITTINGS**

This task covers:

- a Removal (page 2-1160)
- b Cleaning (page 2-1162)
- c Inspection/Replacement (page 2-1163)
- d Installation (page 2-1164)

TA702176

**FRONT BRAKE LIMITING CONTROL VALVE HOSES AND FITTINGS - CONTINUED**

INITIAL SETUP

Tools

- Gloves, safety
- Goggles, safety
- Wrench, box-end, 7/16-inch
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 1/2-inch
- Wrench, open-end, 9/16-inch
- Wrench, open-end, 1-inch
- Wrench, open-end, 1 1/8-inch

Materials/Parts - Continued

- Rags, wiping (item 15, appendix C)
- Solvent, drycleaning (item 19, appendix C)
- Tags, marker (item 21, appendix C)
- Tape, antiseizing (item 22, appendix C)

Personnel Required

Two

Materials/Parts

- Detergent, liquid, GP (item 7, appendix C)
- Lockwasher, anchor coupling (two required)
- Lockwasher, clamp screw (two required)

Equipment Condition

- Airbrake system drained (page 2-1034).
- Left side hood panel opened (page 2-424).
- Air cleaner removed (page 2-446).
- Left side cab door opened (page 2-424).

LOCATION	ITEM	ACTION REMARKS
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REMOVAL

**WARNING**

Safety goggles must be worn when working under truck to prevent eye injury.

**NOTE**

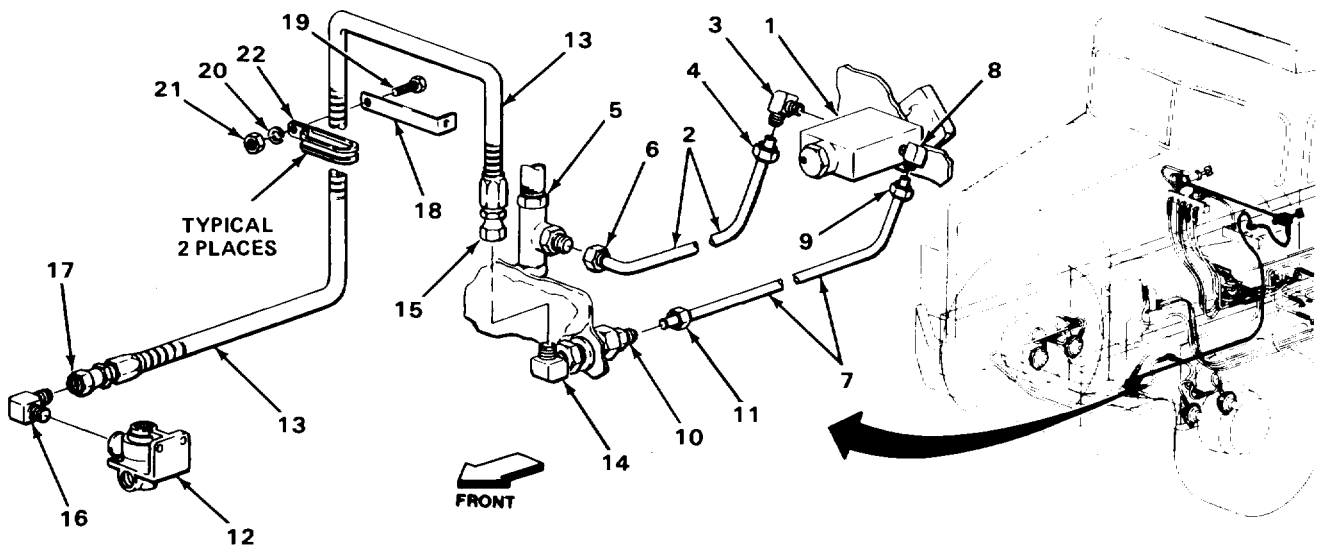
Tag airhoses to ensure correct installation.

For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).

1	Front brake limiting control valve (1)	Airhose (2)	Tag.
2		Line nut (4) and 90-degree elbow (3)	Using 9/16-inch open-end wrench, unscrew and take off.
3	T-fitting (5)	Line nut (6) and airhose (2)	a Using 9/16-inch open-end wrench, unscrew and take off. b Take out airhose.
4	Front brake limiting control valve (1)	Airhose (7)	Tag.

**FRONT BRAKE LIMITING CONTROL VALVE HOSES AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
5	Line nut (9) and 90-degree elbow (8)	Using 9/16-inch open-end wrench, unscrew and take off.
6	Fitting (10)	a Using 9/16-inch and 7/16-inch open-end wrenches, unscrew and take off. b Take out airhose.
7	Front brake limiting and quick release valve (12)	Tag.
8	90-degree elbow (14)	Using 9/16inch open-end wrench, unscrew and take off.
9	Front brake limiting and quick release valve (12)	Using 9/16-inch open-end wrench, unscrew and take off.
10	Two clamp brackets (18)	a Using 7/16-inch box-end and 7/16-inch open-end wrenches, unscrew and take out. b Get rid of lockwashers.
11	Airhose (13)	a Take off. b Take out airhose.



TA244429

Change 1 2-1161

## FRONT BRAKE LIMITING CONTROL VALVE HOSES AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED	-	
12 Driver's side of firewall (1)	Fitting (2) and take out.	Using 7/16-inch box-end wrench, unscrew
13 Engine side of firewall (3)	90-degree elbow (4) and take out.	Using 1/2-inch open-end wrench, unscrew
<b>NOTE</b>		
Assistance will be needed when performing step 14.		
14 Driver's side of firewall (1) and engine side of firewall (3)	Nut (5), two lock-washers (6), and anchor coupling (7)	a Using 1 1/8-inch and 1-inch open-end wrenches, unscrew and take out. b Get rid of lockwashers.
CLEANING		
<b><u>WARNING</u></b>		
Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (590C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.		
<b>NOTE</b>		
For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).		
15	Three airhoses	Clean using liquid detergent and wiping rag.
16	All metal parts	Clean using drycleaning solvent and wiping rag.

FRONT BRAKE LIMITING CONTROL VALVE HOSES AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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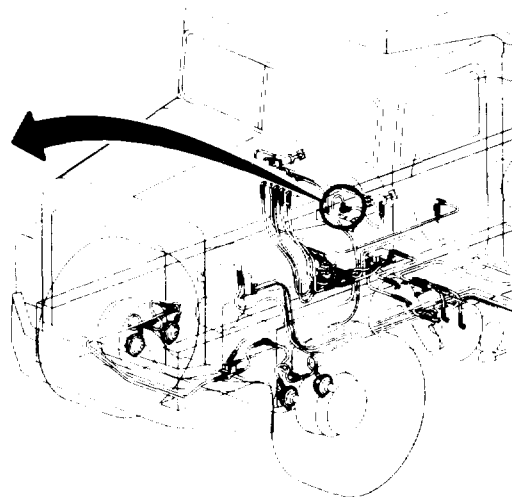
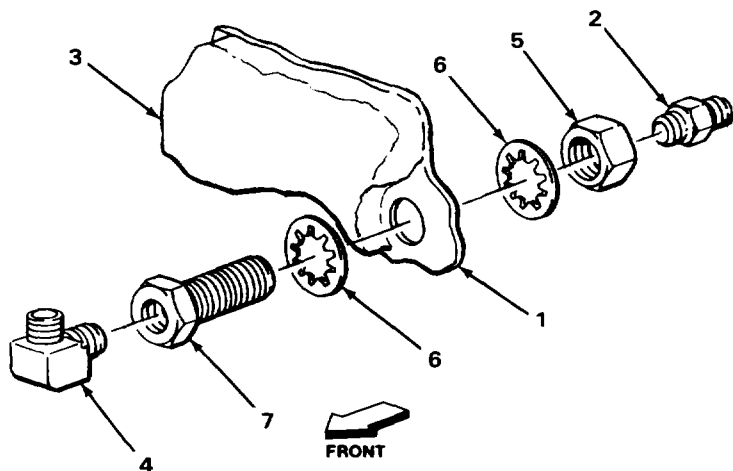
INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more Information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

17	Three airhoses	a Check for cracks, breaks, chafing, or hardness.
18	All threaded parts	b Look for excessive rust or corrosion. Look for damaged threads or rounded heads.



TA244430

## FRONT BRAKE LIMITING CONTROL VALVE HOSES AND FITTINGS - CONTINUED

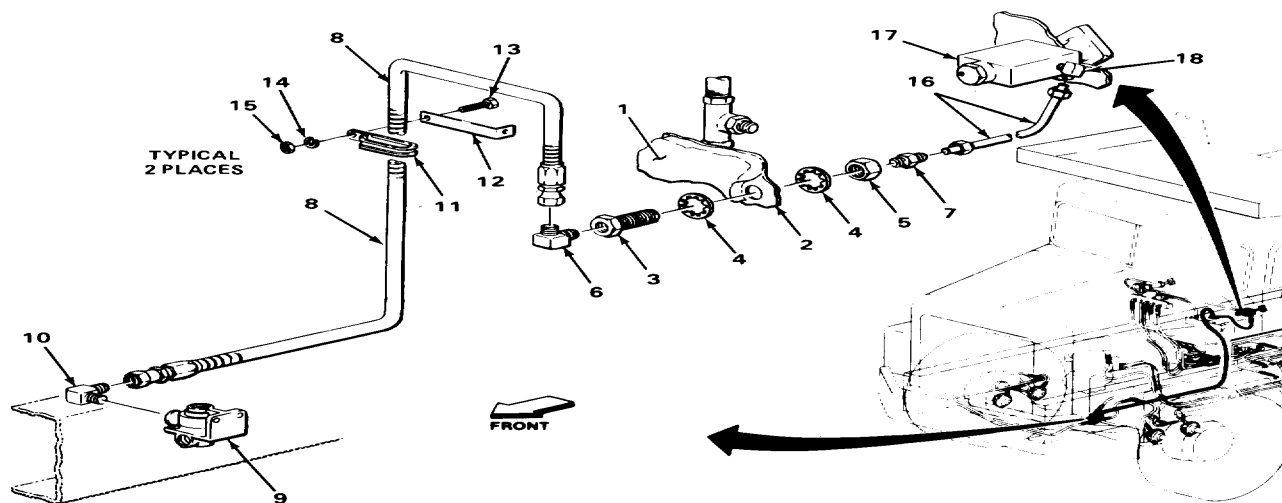
LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
<b><u>CAUTION</u></b>		
Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.		
<b><u>NOTE</u></b>		
For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).		
See tags for correct location of airhoses.		
Assistance will be needed when performing step 19.		
19	Engine side of firewall (1) and driver's side of firewall (2)	Anchor coupling (3), two new lockwashers (4), and nut (5)
		a Put anchor coupling in position. b Screw in and tighten using 1 118-inch and 1-inch open-end wrenches.
20	Engine side of firewall (1)	90-degree elbow (6)
		a Wrap pipe threads with antiseizing tape. b Screw in and tighten using 1/2-inch open-end wrench. Position to face up.
21	Driver's side of firewall (2)	Fitting (7)
		a Wrap pipe threads with antiseizing tape. b Screw in and tighten using 7116-inch box-end wrench.
22	Engine side of firewall (1)	90-degree elbow (6)
		Wrap pipe threads with antiseizing tape.
23	90-degree elbow (6)	Airhose (8)
		Screw on and tighten using 9116-inch open-end wrench.
24	Front brake limiting and quick release valve (9)	90-degree elbow (10)
		Wrap pipe threads with antiseizing tape.
25		90-degree elbow (10) and airhose (8)
		a Screw on and tighten using 9116-inch open-end wrench. b Take off tag. c Get rid of tag.
26	Airhose (8)	Two clamps (11)
		Put on.

Change 1 2-1164



FRONT BRAKE LIMITING CONTROL VALVE HOSES AND FITTINGS - CONTINUED

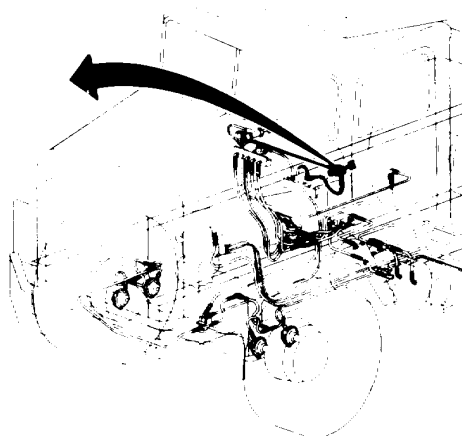
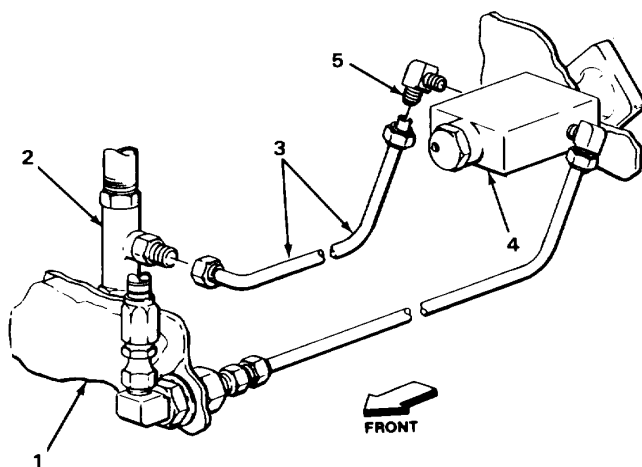
LOCATION	ITEM	ACTION REMARKS
27 Two clamp brackets (12)	Two clamps (11), two screws (13), two new lockwashers (14), and two nuts (15)	a Aline holes in clamps and clamp brackets. b Screw in and tighten using 7/16-inch box-end and 7/16-inch open-end wrenches.
28 Driver's side of firewall (2)	Fitting (7)	Wrap pipe threads with antiseizing tape.
29 Fitting (7)	Airhose (16)	Screw on and tighten using 9/16-inch and 7/16-inch open-end wrenches.
30 Front brake limiting control valve (17)	90-degree elbow (18)	Wrap pipe threads with antiseizing tape.
31	90-degree elbow (18) and airhose (16)	a Screw on and tighten using 9/16-inch open-end wrench. b Take off tag. c Get rid of tag.



Change 1 2-1165

**FRONT BRAKE LIMITING CONTROL VALVE HOSES AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
32 Right manifold (1)	T-fitting (2)	Wrap pipe threads with antiseizing tape.
33 T-fitting (2)	Airhose (3)	Screw on and tighten using 9/16-inch open-end wrench.
34 Front brake limiting control valve (4)	90-degree elbow (5)	Wrap pipe threads with antiseizing tape.
35	90-degree elbow (5) and airhose (3)	a Screw on and tighten using 9/16-inch open-end wrench. b Take off tag. c Get rid of tag.



**NOTE**

**FOLLOW-ON MAINTENANCE:**

- 1 Install air cleaner (page 2-446).
- 2 Close left side hood panel (page 2-424).
- 3 Close left side cab door (page 2-424).

**TASK ENDS HERE**

**Change 1 2-1166/(2-1167 blank)**

**Section XV. WHEEL, TIRE, HUB AND DRUM MAINTENANCE**

	Page		Page
Front Hub and Brakedrum Assembly and Wheel Bearings .....	2-1175	Rear Hub and Brakedrum Assembly and Wheel Bearings.....	2-1188
Front Wheel.....	2-1168	Rear Wheel.....	2-1171

**FRONT WHEEL**

This task covers:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>a Removal (page 2-1168)</li> <li>b Disassembly/Repair/Assembly<br/>(page 2-1169)</li> </ul> | <ul style="list-style-type: none"> <li>c Installation (page 2-1169)</li> </ul> |
|--|--|

**INITIAL SETUP**

<p><b>Tools</b></p> <p>Handle, hinged, 3/4-inch drive          Socket, 1 1/2-inch, 3/4-inch drive          Truck, wheel, lift          Wrench, torque, 0 to 600 ft lb          (0 to 814 N.m)</p> <p>Personnel Required</p> <p>Two</p>	<p><b>Equipment Condition</b></p> <p>If air pressure gage shows less than normal pressure, start dump truck to build up air pressure. Shut down when air pressure builds up to between 90 and 125 psi (TM 5-3805-254-10).          Dump truck jacked and supported (page 2-424).</p> <p><b>References</b></p> <p>TM 9-2610-200-14 (Tire Manual)</p>
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LOCATION	ITEM	ACTION REMARKS
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**REMOVAL**

**NOTE**

- Steps given are typical for right and left front wheels.
- Assistant must apply dump truck brakes to allow loosening of lug nuts.
- Lug nuts on right side of dump truck have right-hand threads and lug nuts on left side of dump truck have left-hand threads.

**Change 1 2-1168**

FRONT WHEEL - CONTINUED

LOCATION	ITEM	ACTION REMARKS
1 Ten hub studs (1)	Ten lug nuts (2)	Using 1 1/2-inch, 3/4-inch drive socket and hinged handle, unscrew and take off.

**NOTE**

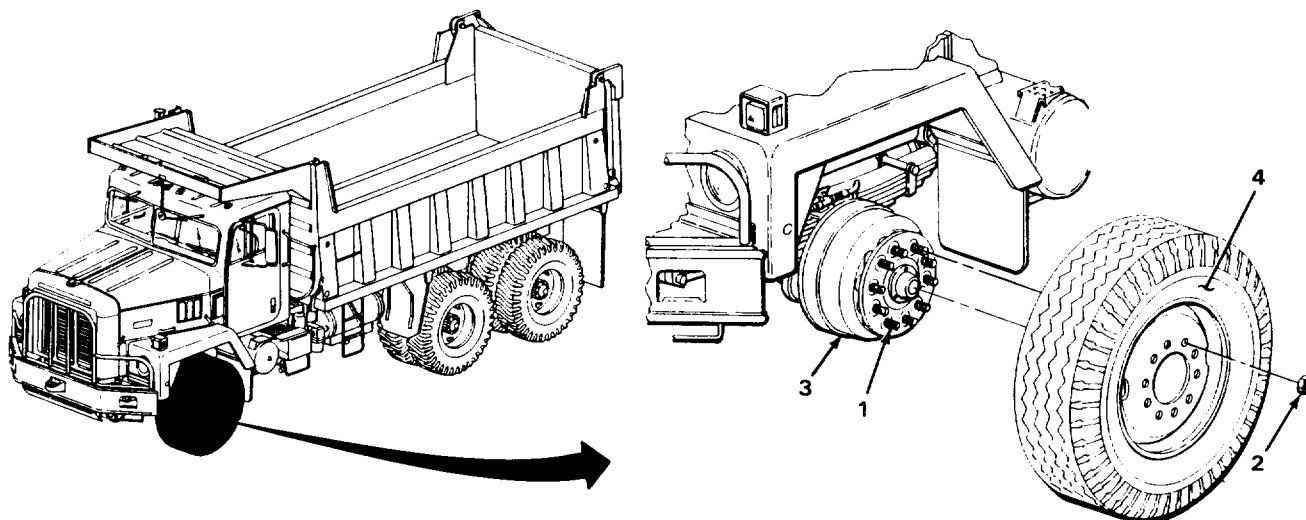
Assistance will be needed to support wheel on wheel lift truck.

2 Front hub (3)	Wheel (4)	<ul style="list-style-type: none"> <li>a Position wheel lift truck underneath.</li> <li>b Raise wheel lift truck to support weight of wheel.</li> <li>c Using wheel lift truck, pull off wheel.</li> <li>d Lower wheel lift truck and take off wheel.</li> </ul>
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DISASSEMBLY/REPAIR/ASSEMBLY

**NOTE**

To disassemble, repair, and assemble wheels and tires, refer to TM 9-2610-200-14



**INSTALLATION**

**NOTE**

INSTALLATION Steps given are typical for right and left front wheels.

TA244433

**FRONT WHEEL - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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INSTALLATION - CONTINUED

**NOTE**

Assistance will be needed to support wheel on wheel lift truck.

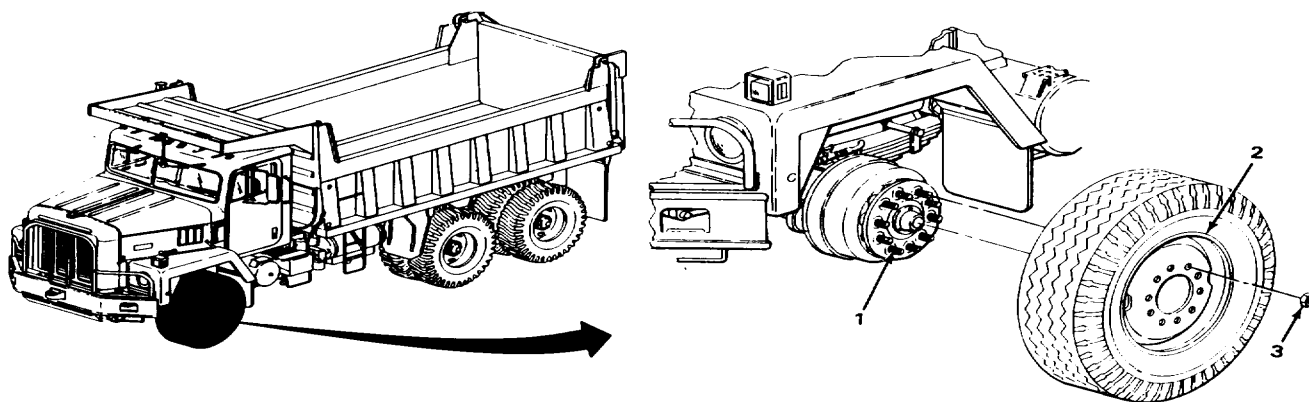
3	Ten hub studs (1)	Wheel (2)	<ul style="list-style-type: none"> <li>a Put on wheel lift truck.</li> <li>b Raise wheel lift truck and put in position.</li> <li>c Aline holes in wheel with ten hub studs and push into place.</li> <li>d Lower wheel lift truck.</li> </ul>
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**NOTE**

Assistant must apply dump truck brakes to allow tightening of lug nuts.

Lug nuts on right side of dump truck have right-hand threads and lug nuts on left side of dump truck have left-hand threads.

4	Ten lug nuts (3)	<ul style="list-style-type: none"> <li>a Screw on and alternately tighten using 1 1/2-inch, 314-Inch drive socket and hinged handle.</li> <li>b Tighten to 450 to 500 ft lbs (610 to 678 N.m) using 1 11/2-inch, 3/4inch drive socket and hinged handle and 0 to 600 ft lbs (0 to 814 N.m) torque wrench.</li> </ul>
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**NOTE**

FOLLOW-ON MAINTENANCE: Dump truck lowered and supports removed (page 2-424).

**TASK ENDS HERE**

TA244434

**REAR WHEEL**

This task covers:

- a Removal (page 2-1171)
- b Disassembly/Repair/Assembly (page 2-1172)
- c Installation (page 2-1173)

**INITIAL SETUP**

**Tools**

Handle, hinged, 3/4-inch drive  
 Socket, square, 13/16-inch, 3/4-inch drive  
 Wrench, torque, 0 to 600 ft lb (0 to 814 N.m)  
 Socket, 1 1/2-inch, 3/4-inch drive  
 Truck, lift, wheel

**Equipment Condition**

If air pressure gage shows less than normal pressure, start dump truck to build up air pressure. Shut down when air pressure builds up to between 90 and 125 psi. (TM 5-3805-254-10).  
 Dump truck jacked and supported (page 2-424).

**Personnel Required**

Two

**References**

TM 9-2610-200-14 (Tire Manual)

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

**REMOVAL**

**NOTE**

Steps given are typical for right and left front rear and rear rear wheels.

Engage parking brake (TM 5-3805-254-10) or have assistant apply dump truck brakes to allow loosening of lug nuts and wheel studs.

Lug nuts and wheel studs on right side of dump truck have right-hand threads and lug nuts and wheel studs on left side of dump truck have left-hand threads.

**Change 1 2-1171**

**REAR WHEEL - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL - CONTINUED

**NOTE**

To remove outer wheel only, perform steps 1 and 2.

To remove outer wheel and inner wheel, perform steps 1 thru 4.

1	Ten wheel studs (1)  Ten lug nuts (2)	Using 1 1/2-inch, 3/4-inch drive socket and hinged handle, unscrew and take off.
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**NOTE**

Assistance will be needed to support wheel on wheel lift truck.

2	Rear hub (3)  Outer wheel (4)	<ul style="list-style-type: none"> <li>a Position wheel lift truck underneath.</li> <li>b Raise wheel lift truck to support weight of wheel.</li> <li>c Using wheel lift truck, pull off wheel.</li> <li>d Lower wheel lift truck and take off wheel.</li> </ul>
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3	Ten hub studs (5)  Ten wheel studs (1)	Using 13/16-inch, 3/4-inch drive square socket and hinged handle, unscrew and take off.
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**NOTE**

Assistance will be needed to support wheel on wheel lift truck.

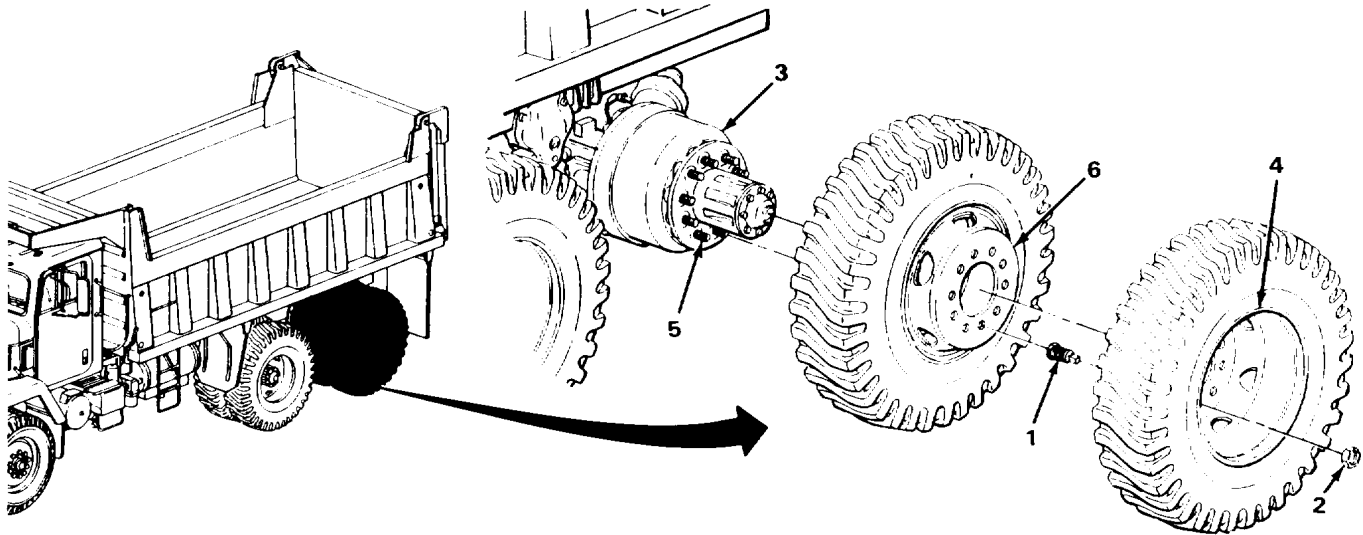
4	Rear hub (3)  Inner wheel (6)	<ul style="list-style-type: none"> <li>a Position wheel lift truck underneath.</li> <li>b Raise wheel lift truck to support weight of wheel.</li> <li>c Using wheel lift truck, pull off wheel.</li> <li>d Lower wheel lift truck and take off wheel.</li> </ul>
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DISASSEMBLY/REPAIR/ASSEMBLY

**NOTE**

To disassemble, repair, and assemble wheels and tires, refer to TM 9-2610-200-14.

## REAR WHEEL - CONTINUED



## INSTALLATION

**NOTE**

Steps given are typical for right and left front rear and rear rear wheels.

Engage parking brake (TM 5-3805-254-10) or have assistant apply dump truck brakes to allow tightening of lug nuts and wheel studs.

Lug nuts and wheel studs on right side of dump truck have right-hand threads and lug nuts and wheel studs on left side of dump truck have left-hand threads.

To install inner wheel and outer wheel, perform steps 5 thru 8.

To install outer wheel only, perform steps 7 and 8.

Assistance will be needed to support wheel on wheel lift truck.



## REAR WHEEL - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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## INSTALLATION - CONTINUED

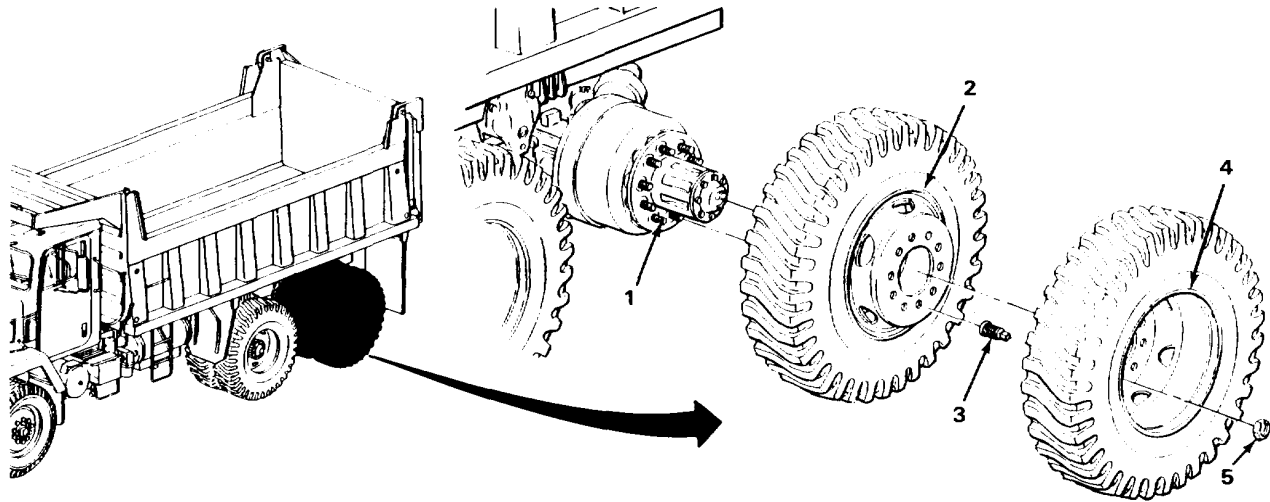
5	Ten hub studs (1)	Inner wheel (2)	<ul style="list-style-type: none"> <li>a Put on wheel lift truck.</li> <li>b Raise wheel lift truck and put in position.</li> <li>c Aline holes in wheel with ten hub studs and push into place.</li> <li>d Lower wheel lift truck.</li> </ul>
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**CAUTION**

Always tighten the inner nuts 50 foot pounds (68 N.m) more than the outer nuts and never let the outer nuts get below 400 foot pounds (542 N.m).

6		Ten wheel studs (3)	<ul style="list-style-type: none"> <li>a Screw on and alternately tighten using 13/16-inch, 3/4-inch drive square socket and hinged handle.</li> <li>b Tighten to 450 to 500 ft lbs (610 to 678 N.m) using 13/16-inch, 3/4-inch square socket and hinged handle and 0 to 600 ft lbs (0 to 814 N.m) torque wrench.</li> </ul>
7	Ten wheel studs (3)	Outer wheel (4)	<ul style="list-style-type: none"> <li>a Put on wheel truck.</li> <li>b Raise wheel lift truck and put in position.</li> <li>c Aline holes in wheel with ten wheel studs and push into place.</li> <li>d Lower wheel lift truck.</li> </ul>
8		Ten lug nuts (5)	<ul style="list-style-type: none"> <li>a Screw on and alternately tighten using 1 1/2-inch, 3/4-inch drive socket and hinged handle.</li> <li>b Tighten to 400 to 450 ft lbs (542 to 610 N.m) using 1 1/2-inch, 3/4-inch drive socket and hinged handle and 0 to 600 ft lbs (0 to 814 N.m) torque wrench.</li> </ul>

**REAR WHEEL - CONTINUED**



**NOTE**

FOLLOW-ON MAINTENANCE: Dump truck lowered and supports removed (page 2-424).

**TASK ENDS HERE**

**FRONT HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS**

This task covers:

- |                             |  |
|-----------------------------|--|
| a Removal (page 2-1176)     | d Inspection/Replacement (page 2-1180) |
| b Disassembly (page 2-1178) | e Assembly (page 2-1184)               |
| c Cleaning (page 2-1178)    | f Installation (page 2-1184)           |

**INITIAL SETUP**

**Tools**

- Adjusting tool, brake
- Blocks, wood, 4 x 4 x 18-inch (22 x 22 x 46 cm) (three required)
- Brush, cleaning
- Gloves, safety
- Goggles, safety
- Hammer, cross-peen, 3-pound
- Pan, drain, 1-gallon
- Pliers, roundnose, 8-inch
- Puller
- Punch, driftpin, brass
- Screwdriver, flat-tip, 3/8-inch
- Socket, 2 3/4-inch, 112-inch drive
- Wrench, adjustable
- Wrench, box-end, 7/16-inch

**Tools - Continued**

- Wrench, hex, 5/16-inch
- Wrench, torque, 0 to 150 ft lb (0 to 210 N.m)

**Materials/Parts**

- Cup, inner bearing (if needed)
- Cup, outer bearing (if needed)
- Gasket, grease cap (one required)
- Lockwasher, grease cap (three required)
- Oil, lubricating (item 14, appendix C)
- Pin, cotter (one required)
- Rags wiping (item 15, appendix C)
- Seal, grease (one required)
- Solvent, drycleaning (item 19, appendix C)

**FRONT HUB AND BREAKDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED**

**INITIAL SETUP - CONTINUED**

Personnel Required

References

Two  
Equipment Condition  
Front wheels removed (page 2-1168)

LO 5-3805-254-12 (Lubrication order)

LOCATION	ITEM	ACTION REMARKS
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REMOVAL

**NOTE**

Steps given are typical for right and left front hubs.

1	Front hub (1)	Turn and check for drag caused by binding brakes. If drag is felt, perform steps 2, 3, and 4. If no drag is felt, go to step 5.
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**NOTE**

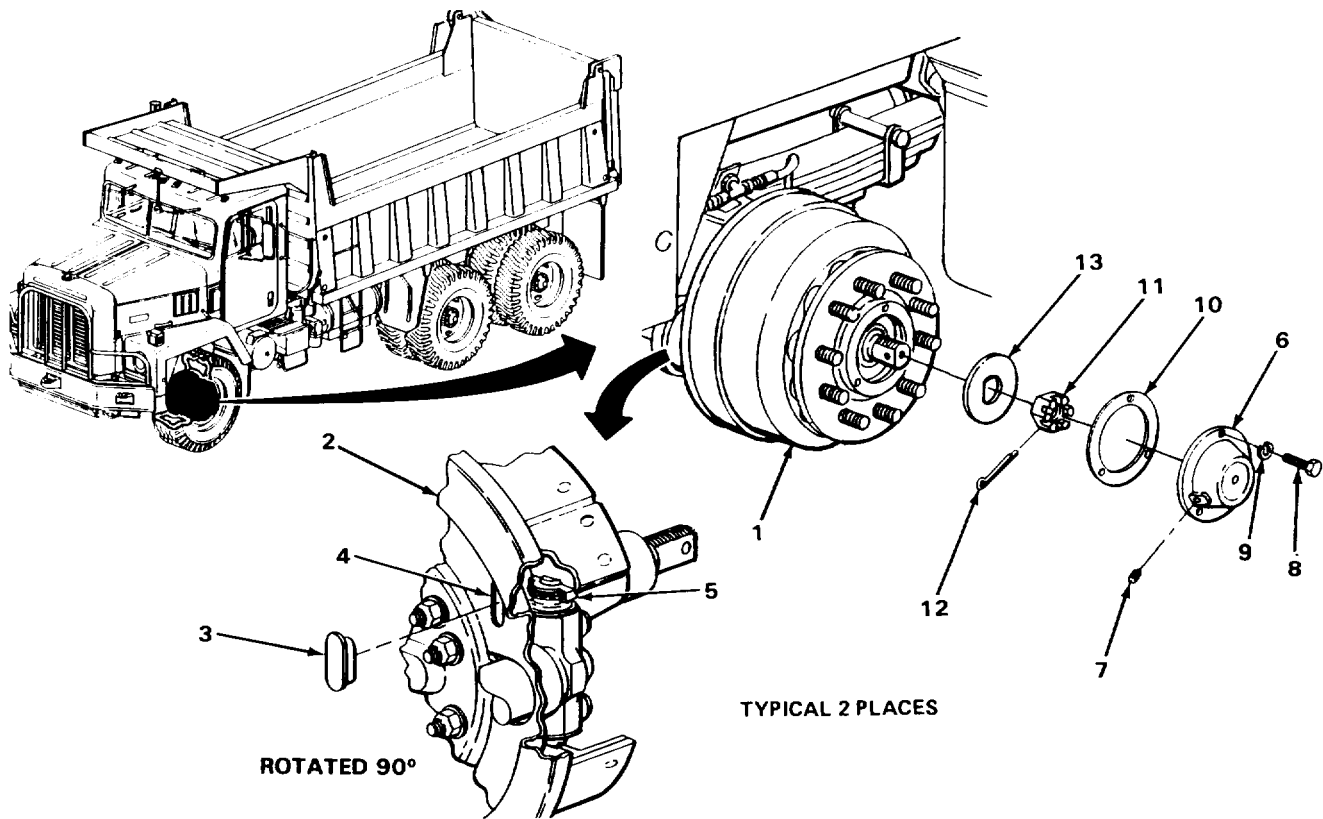
Both front and rear brake adjusters must be taken out of adjustment.

Steps given are typical for front and rear brake adjusters.

2	Dust shield (2) out.	Cover (3)	Using 3/8-inch flat-tip screwdriver, pry
3	Adjuster slot (4) to allow front hub to move freely.	Brake adjuster (5)	Using brake adjusting tool, loosen enough
4	Cover (3) Push into place.		
5	Grease cap (6)	Plug (7)	a Turn front hub to position plug at bottom. b Place drain pan underneath. c Using 5/16-inch hex wrench, unscrew and take out. d Allow oil to drain. e Screw in hand tight. f Get rid of drained oil (page 2-424).
6	Three screws (8) and three lockwashers (9)		a Using 7/16-inch box-end wrench, unscrew and take out. b Get rid of lockwashers.

**FRONT HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
7 Front hub (1)	Grease cap (6) and gasket (10)	a Take off. b Get rid of gasket.
8 Adjusting nut (11)	Cotter pin (12)	a Using 8-inch roundnose pliers, bend back ends and take out. b Get rid of.
9 Front hub (1)	Adjusting nut (11) and washer (13)	Using adjustable wrench, unscrew and take off.



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## FRONT HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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## REMOVAL - CONTINUED

**WARNING**

Due to excessive weight, care must be taken to prevent front hub and brakedrum assembly from falling. Do not pull out too far on spindle. Serious injury to personnel could result.

**NOTE**

Assistance will be needed to perform steps 10 and 11.

10	Spindle	(1) Front hub (2) and outer bearing (3)	a Pull front hub out enough to free outer bearing. b Push front hub back in.
c	Take out outer bearing.		

**WARNING**

Due to excessive weight, assistance will be needed to lift hub and brakedrum assembly. Failure to observe this precaution could cause serious injury to personnel.

11	Front hub (2) and	With assistance, take off. brakedrum (4)
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## DISASSEMBLY

12	Front hub (2)	Grease seal (5)	a Using 3/8-inch flat-tip screwdriver, pry out. b Get rid of.
13	Inner bearing (6)	Take out.	

## CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (590C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

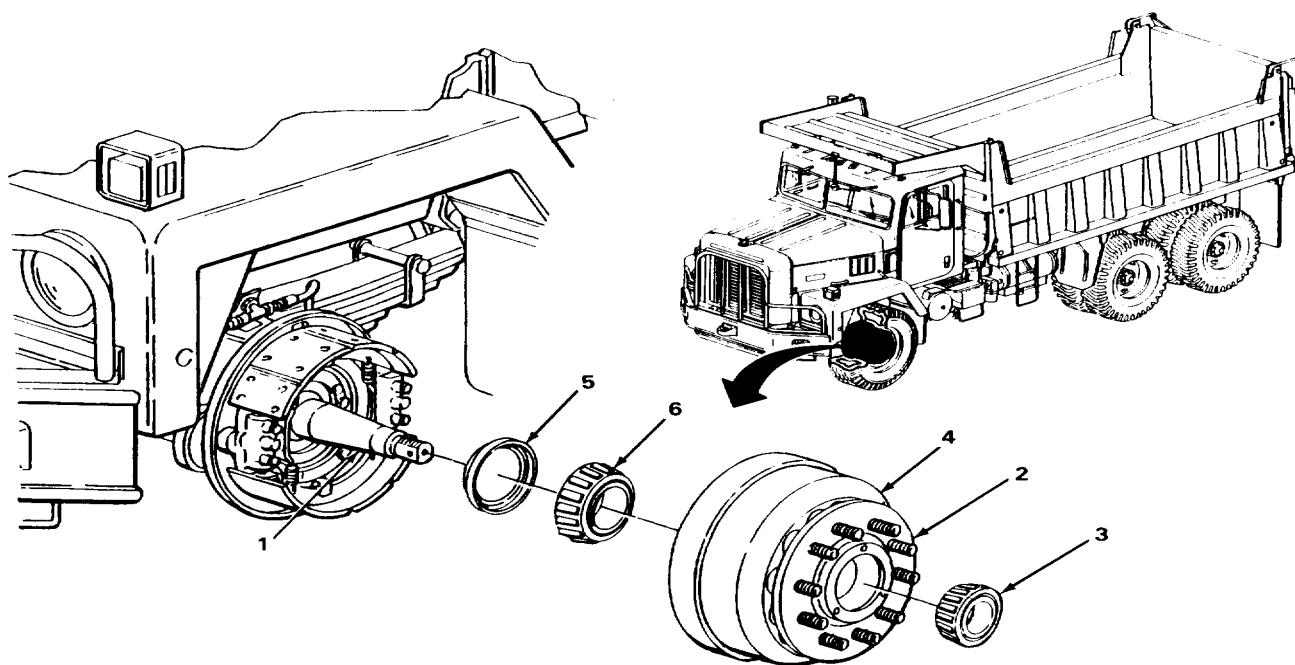
**FRONT HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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NOTE

For more information on how to clean parts, go to General Maintenance Instructions, (page 2-424).

14	Front hub (2) and brakedrum (4)	a Clean outside, inside, and bearing cups using drycleaning solvent and cleaning brush. b Wipe clean using wiping rag.
15	Outer bearing (3) and inner bearing (6)	a Clean using drycleaning solvent and cleaning brush. b Wipe clean using wiping rag.
16	Spindle (1)	a Clean grease from threads and bearing surfaces using drycleaning solvent and wiping rag. b Wipe clean using wiping ran



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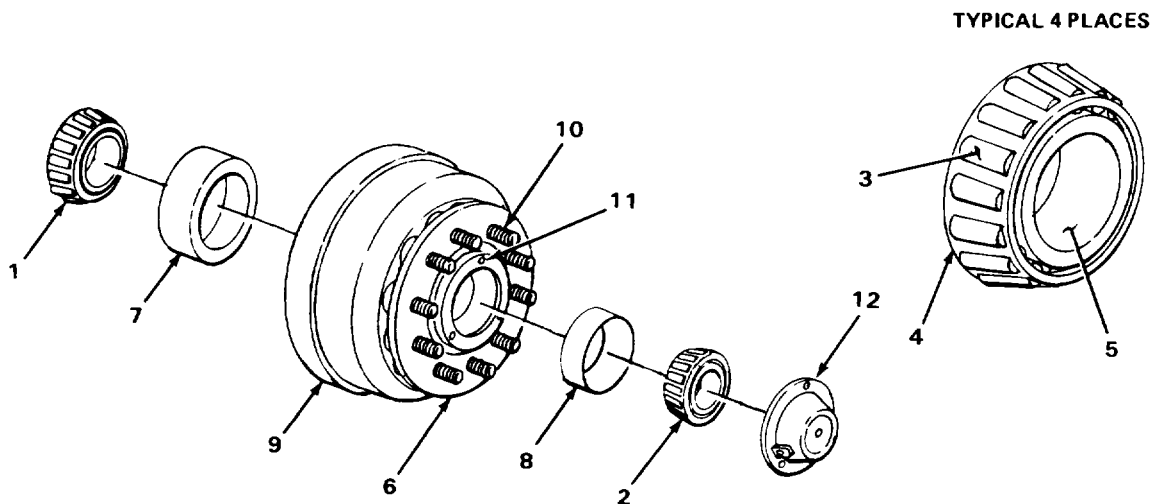
## FRONT HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSPECTION/REPLACEMENT		
<b>NOTE</b>		
For more information on how to inspect parts, go to General Maintenance Instructions, (page 2-424).		
Replace all damaged or defective parts.		
A blue color on metal parts indicates a dry overheated condition.		
17	Inner bearing (1) and outer bearing (2)	<ul style="list-style-type: none"> <li>a Look for chipped, pitted, scored, blued, or loose rollers (3).</li> <li>b Look for cracked or worn roller cage (4).</li> <li>c Look for scored, cracked, or blued inner race (5).</li> </ul>
18	Front hub (6)	<ul style="list-style-type: none"> <li>a Inner bearing cup (7) and outer bearing cup (8) Look for cracks, pits, scores, or blueing. Replace if damaged, steps 26 thru 29.</li> <li>b Check for looseness in front hub. If loose, replace front hub, steps 22 thru 25.</li> </ul>
19	Front hub (6) and brakedrum (9)	<ul style="list-style-type: none"> <li>a Look for cracks across face or near bearing cups (7 and 8).</li> <li>b Look for stripped, bent, or broken hub studs (10). <b>Replace if damaged, steps 22 thru 25.</b></li> <li>c Look for damaged grease capscrew holes (11).</li> <li>d Look for cracks, heat spots, pitting deep grooves, or out-of-round in brakedrum. <b>Replace if damaged, steps 22 thru 25.</b> <b>If minor grooves or pitting is found, notify higher category of maintenance.</b></li> </ul>
20	Grease cap (12)	Look for cracks, chips, burrs, or broken level window (13).

**FRONT HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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21	All threaded parts	Look for damaged threads or rounded heads.
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**WARNING**

Due to excessive weight, assistance will be needed to lift hub and breakdrum assembly. Failure to observe this precaution could cause serious injury to personnel.

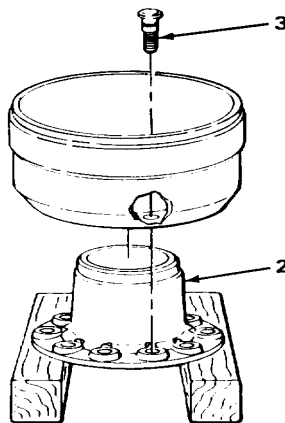
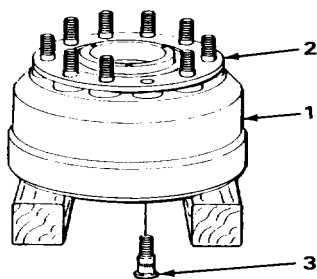
**NOTE**

Steps 22 thru 25 are typical for all ten hub studs.



**FRONT HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED**

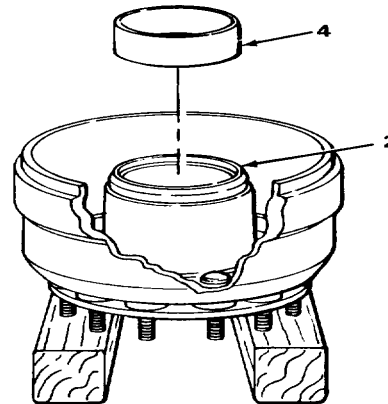
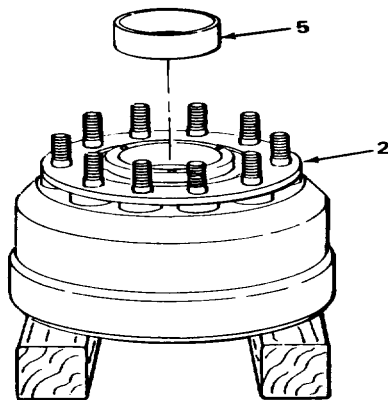
LOCATION	ITEM	ACTION REMARKS
INSPECTION/REPLACEMENT - CONTINUED		
22	Brakedrum (1)	Position on wood blocks with hub studs facing up.
<b><u>WARNING</u></b>		
Safety goggles must be worn to prevent eye injury from flying metal chips when using compressed air, or striking metal surfaces.		
23	Front hub (2)	Hub stud (3)
Using 3-pound cross-peen hammer, drive out.		
<b>NOTE</b>		
If brakedrum or front hub is to be replaced, replace before performing following step.		
24	Brakedrum (1) and front hub (2)	<ul style="list-style-type: none"> <li>a Put brakedrum onto front hub.</li> <li>b Position on wood blocks with brakedrum facing up.</li> <li>c Aline hub stud holes.</li> </ul>
25	Brakedrum (1)	Hub stud (3)
<ul style="list-style-type: none"> <li>a Put into hub stud hole.</li> <li>b Drive in using 3-pound cross-peen hammer and brass driftpin punch.</li> </ul>		
<b>Make sure hub stud is flush against brakedrum</b>		



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FRONT HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED

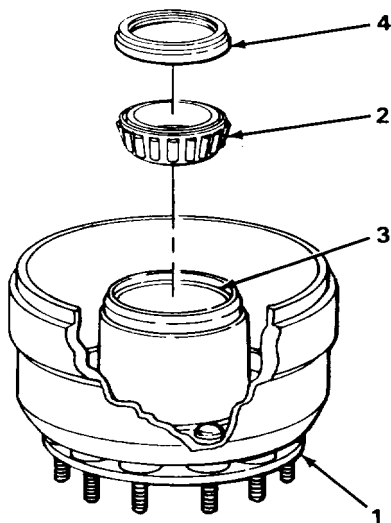
LOCATION	ITEM	ACTION REMARKS
26 Front hub (2)	Inner bearing cup (4)	a Position rear hub on wood blocks. b Using puller, pull out. c Get rid of.
27	New inner bearing cup (4)	a Position level and square. b Drive in until flush with top of front hub using wood block and 3-pound cross-peen hammer. c Seat completely by tapping on alternate sides using 3-pound cross-peen hammer and brass driftpin punch. <b>Make sure inner bearing cup is flush with machined surface inside front hub.</b>
28	Outer bearing cup (5)	a Position rear hub on wood blocks. b Using puller, pull out. c Get rid of.
29	New outer bearing cup (5)	a Position level and square. b Drive in until flush with top of front hub using wood block and 3-pound cross-peen hammer. c Seat completely by tapping on alternate sides using 3-pound cross-peen hammer and brass driftpin punch. <b>Make sure outer bearing cup is flush with machined surface inside front hub.</b>



TA244441

**FRONT HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
ASSEMBLY		
30 Front hub (1)	Inner bearing (2) and inner bearing cup (3)	Soak inner bearing and coat inner bearing cup with lubricating oil (LO 5-3805-254-12).
31 Inner bearing cup (3)	Inner bearing (2)	Put in.
32 Front hub (1)	New grease seal (4)	a Position level and square. b Tap in until flush with top of front hub using wood block and 3-pound cross-peen hammer. <b>Make sure grease seal is level.</b>



INSTALLATION

**WARNING**

Due to excessive weight, assistance will be needed to lift hub and brake drum assembly. Failure to observe this precaution could cause serious injury to personnel

TA244442

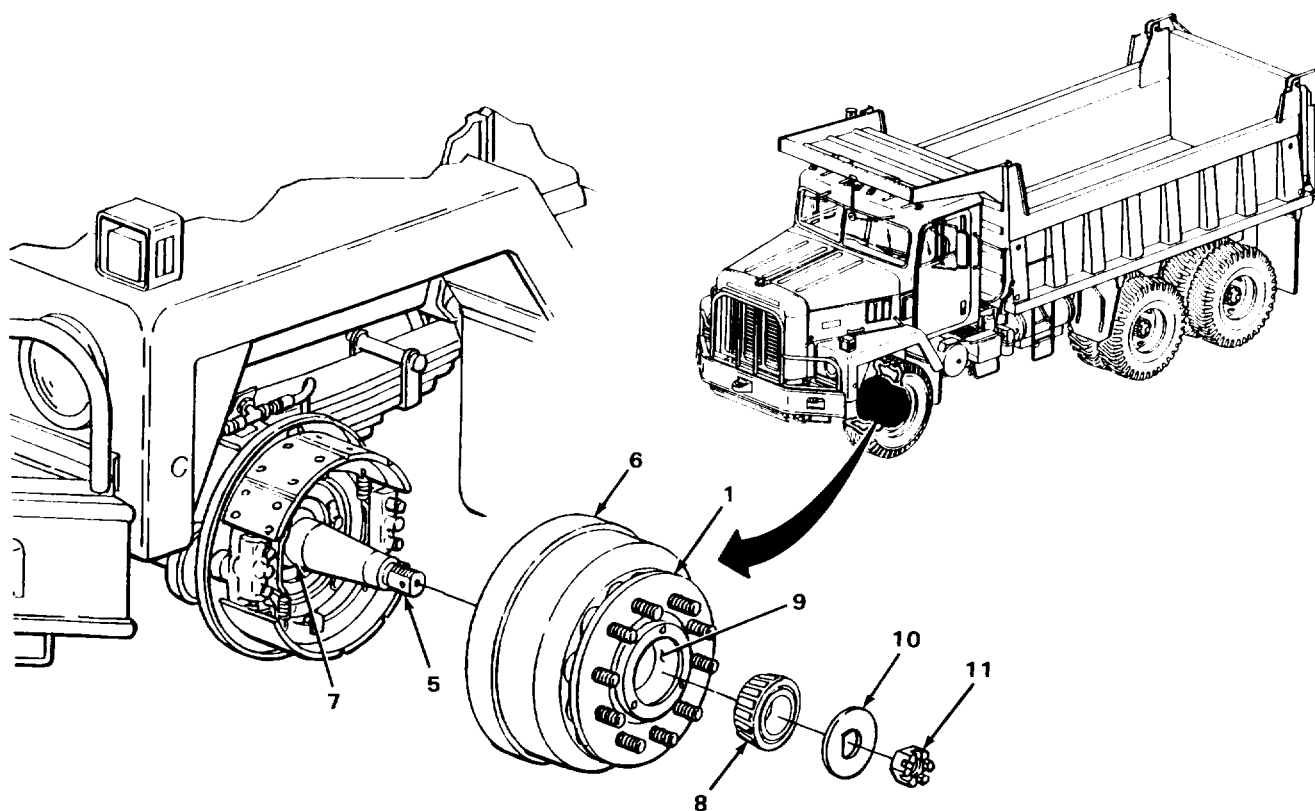
FRONT HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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**NOTE**

Steps given are typical for right and left front hubs.

33	Spindle (5)	Front hub (1) and brakedrum (6)	<ul style="list-style-type: none"> <li>a Coat spindle with lubricating oil.</li> <li>b With assistance, put on.</li> </ul> <p><b>Make sure inner bearing is seated on inner race (7) on spindle.</b></p>
34		Outer bearing (8)	<ul style="list-style-type: none"> <li>a Soak outer bearing and coat outer bearing cup (9) and inner race (7) on spindle with lubricating oil (LO 5-3805-254-12).</li> <li>b Put on.</li> </ul>
35		Washer (10) and adjusting nut (11)	<ul style="list-style-type: none"> <li>a Put on washer.</li> <li>b Screw on adjusting nut until snug.</li> </ul>



TA244443

## FRONT HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
36 Spindle (1)	Front hub (2)	Push onto spindle as far as possible.
37	Adjusting nut (3)	<ul style="list-style-type: none"> <li>a While slowly turning front hub, torque to 50 ft lb (70 N.m) using 2 3/4-inch 1/2-inch drive socket and 0 to 150 ft lb (0 to 210 N.m) torque wrench.</li> <li>b Loosen adjusting nut one-quarter turn using adjustable wrench. If slots in adjusting nut and hole in spindle do not align, tighten adjusting nut to nearest hole.</li> </ul>
38 Spindle (1)	New cotter pin (4)	Put in and bend back ends using 8-inch roundnose pliers.
39 Front hub (2)	New gasket (5) and grease cap (6)	Put in position.
40 Grease cap (6)	Three screws (7) and three new lockwashers (8)	Screw in and tighten using 7/16-inch box-end wrench.
41	Plug (9)	Turn front hub to position plug at 12 o'clock.
42	Plug (9)	<ul style="list-style-type: none"> <li>a Unscrew and take out.</li> <li>b Fill through plug hole to correct level as indicated on grease cap (LO 5-3805-254-12).</li> <li>c Screw in and tighten using 5/16-inch hex wrench.</li> </ul>

**NOTE**

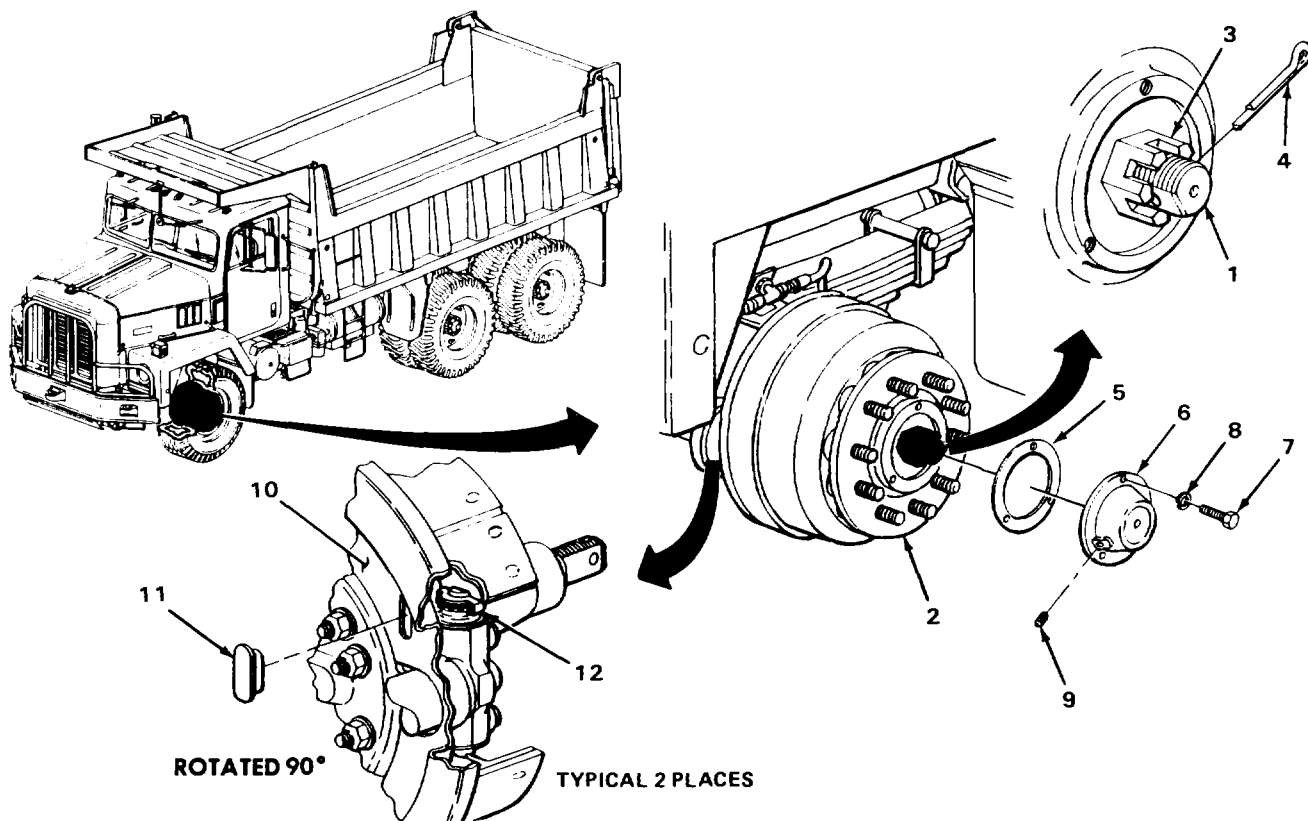
If brakes were taken out of adjustment or need to be adjusted, perform steps 43, 44, and 45.

Both front and rear brake adjusters must be adjusted.

Steps given are typical for both brake adjusters.

**FRONT HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
43 Dust shield (10)	Cover (11)	Using 3/8-inch flat-tip screwdriver, pry out.
44	Brake adjuster (12)	While slowly turning front hub, adjust each brake adjuster, until a slight drag is felt, using brake adjusting tool.
45	Cover (11)	Push into place.



TA244444

**NOTE**  
FOLLOW-ON MAINTENANCE: Install front wheels (page 2-1168).

**TASK ENDS HERE**

**REAR HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS**

This task covers:

- |   |                           |   |                                      |
|---|---------------------------|---|--------------------------------------|
| a | Removal (page 2-1188)     | d | Inspection/Replacement (page 2-1192) |
| b | Disassembly (page 2-1191) | e | Assembly (page 2-1198)               |
| c | Cleaning (page 2-1192)    | f | Installation (page 2-1198)           |

**INITIAL SETUP**

**Tools**

- Bar, pinch, 26-inch
- Blocks, wood, 4 x 4 x 18-inch (22 x 22 x 46 cm) (five required)
- Brush, cleaning
- Gloves, safety
- Goggles, safety
- Hammer, ball-peen, 1-pound
- Hammer, cross-peen, 3-pound
- Hammer, cross-peen, 12-pound
- Handle, hinged, 3/4-inch drive
- Handle, ratchet, 1/2-inch drive
- Pan, drain, 1-gallon
- Puller
- Punch, driftpin, brass
- Screwdriver, flat-tip, 1/2-inch
- Socket, deep, 3/4-inch, 1/2-inch drive
- Socket, 15/16-inch, 1/2-inch drive
- Socket, 4-inch, 3/4-inch drive
- Wrench, torque, 0 to 600 ft lb (0 to 814 N.m), 3/4-inch drive

**Materials/Parts**

- Cup, bearing, inner (one required)
- Cup, bearing, outer (one required)
- Gasket, flange, axle (one required)
- Gasket, seal, outer (one required)
- Grease, GAA (item 10, appendix C)
- Nuts, self-locking (eight required)
- Rags, wiping (item 15, appendix C)
- Seal, inner (one required)
- Seal, outer (one required)
- Solvent, drycleaning (item 19, appendix C)

**Personnel Required**

Three

**Equipment Condition**

Rear wheel removed (page 2-1171).

**References**

LO 5-3805-254-12 (Lubrication Order)

LOCATION	ITEM	ACTION REMARKS
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**REMOVAL**

**NOTE**

Steps given are typical for right and left front rear and rear rear hubs.

**2-1188**

**REAR HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED**

ACTION LOCATION	ITEM	REMARKS
1 Air brake chamber (1)	Cover (2)	Using 26-inch pinch bar, pry off. Cover will hang from air chamber.
2	Caging bolt (3)	Loosen fully using 3/4-inch, 1/2-inch drive deep socket and ratchet handle.
3 Axle flange (4)	Eight self-locking nuts (5)	a Using 15/16-inch, 1/2-inch drive socket and ratchet handle, unscrew and take off. b Get rid of.

**WARNING**

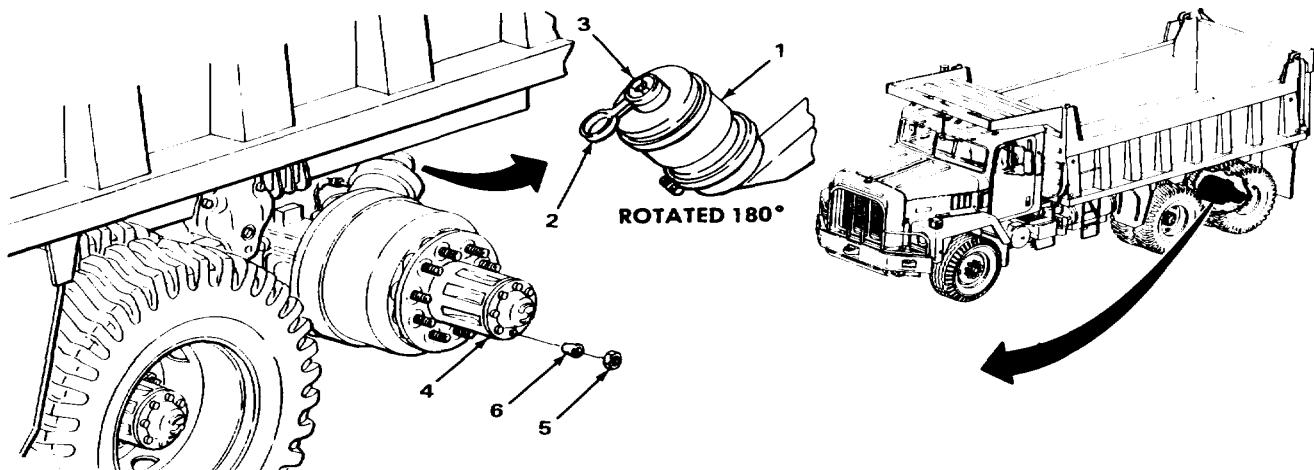
Safety goggles must be worn to prevent eye injury from flying metal chips when using compressed air, or striking metal surfaces.

Stand to side of axle flange while striking to prevent injury from flying lock collars.

**CAUTION**

Care must be taken not to damage axle flange studs.

4 Axle flange (4)	Eight lock collars (6)	a Place 1-gallon drain pan underneath. b Using 12-pound cross-peen hammer, strike sharply on edge of axle flange to loosen. c Take out lock collars. d Get rid of drained oil (page 2-424).
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TA244445



**REAR HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED**

ACTION LOCATION	ITEM	REMARKS
REMOVAL - CONTINUED		
5 Rear hub (1)	Axle (2) and axle flange gasket (3)	a Pull out axle. b Take off gasket. c Get rid of gasket.
6	Outer seal (4) and outer seal gasket (5)	a Take off. b Get rid of outer seal and outer seal gasket.
7 Spindle (6)	Locknut (7)	Using 4-inch, 3/4-inch drive socket and hinged handle, unscrew and take off.
8	Adjusting nut lock (8)	Pull off.
9	Adjusting nut (9)	Using 4-inch, 3/4-inch drive socket and hinged handle, unscrew and take off.

**WARNING**

Due to excessive weight, care must be taken to prevent rear hub and brakedrum assembly from falling. Do not pull out too far on spindle. Serious injury to personnel could result.

**NOTE**

Assistance will be needed to perform steps 10 and 11.

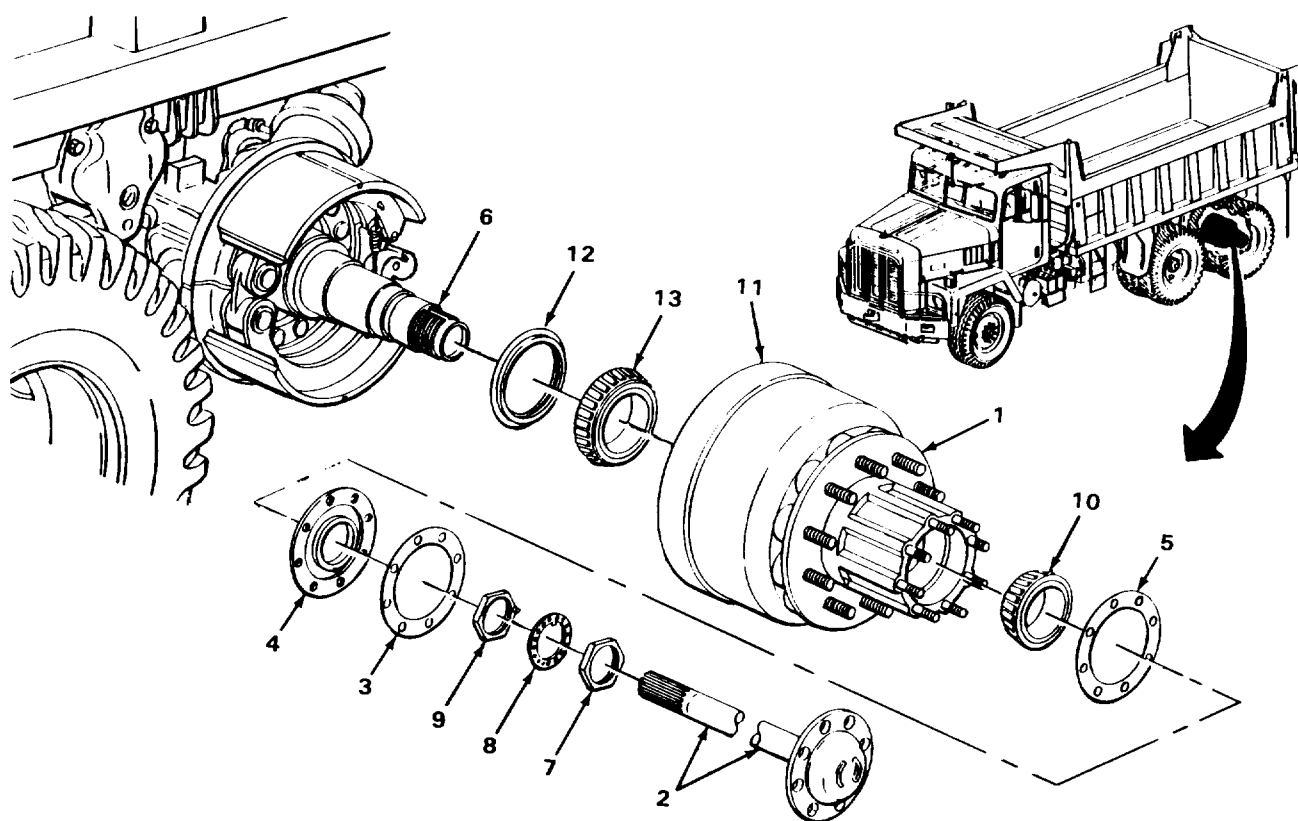
10	Rear hub (1) and outer bearing (10)	a Pull rear hub out enough to free outer bearing. b Push rear hub back in. c Take off outer bearing.
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**WARNING**

Due to excessive weight, assistance will be needed to lift hub and brakedrum assembly. Failure to observe this precaution could cause serious injury to personnel.

REAR HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
11 Spindle (6)	Rear hub (1) and brakedrum (11)	With two assistants, take off.
DISASSEMBLY		
12 Rear hub (1)	Inner seal (12)	a Using 26-inch pinch bar, pry out. b Get rid of.
13	Inner bearing (13)	Take out.



TA244446

## REAR HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
CLEANING		
<b><u>WARNING</u></b>		
Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (590C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.		
<b>NOTE</b>		
For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).		
14	Rear hub (1) and brakedrum (2) brush.	a Clean outside, inside, and bearing cups using drycleaning solvent and cleaning  b Wipe clean using wiping rag.
15	Outer bearing (3) and inner bearing (4)	a Clean using drycleaning solvent and cleaning brush. b Wipe clean using wiping rag.
16	Spindle (5)	a Clean threads using drycleaning solvent and cleaning brush. b Clean bearing and seal surfaces using drycleaning solvent and wiping rag. c Wipe clean using wiping rag.

## INSPECTION/REPLACEMENT

**NOTE**

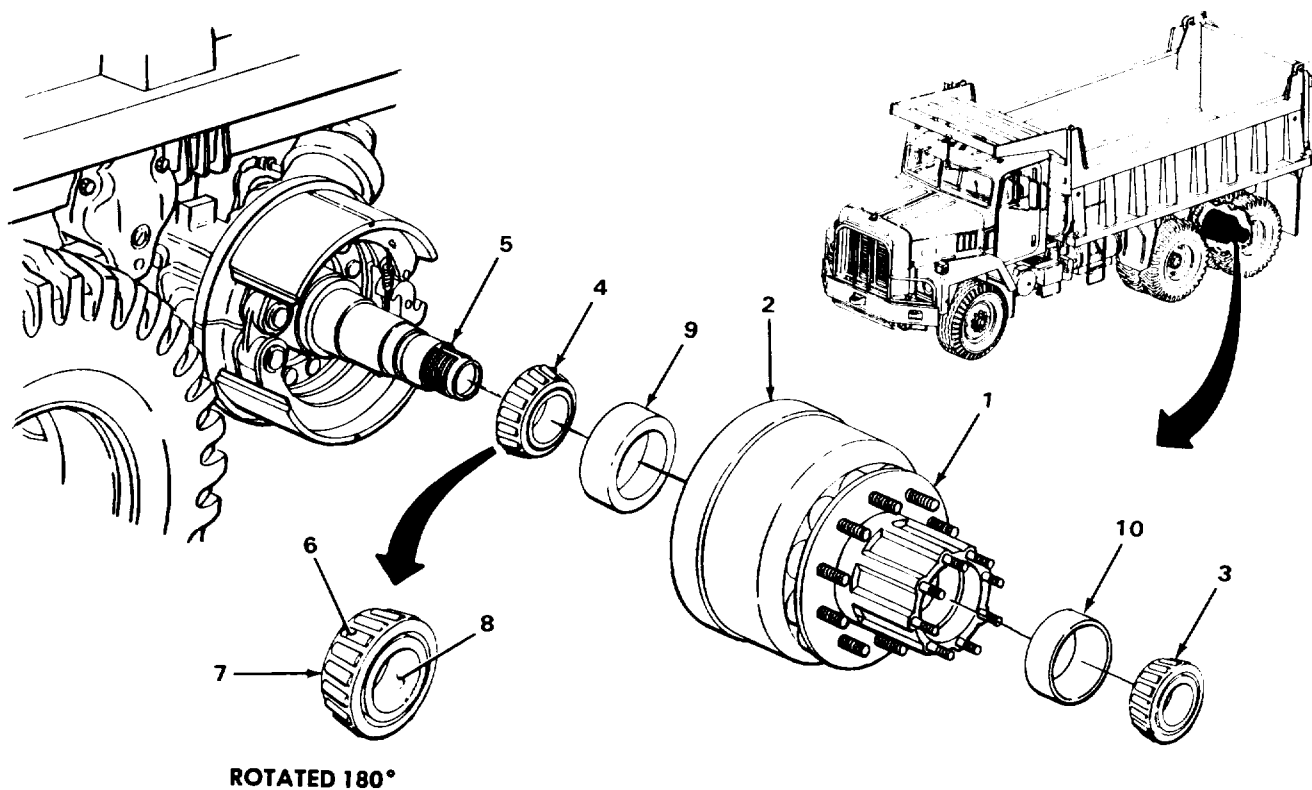
Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

A blue color on metal parts indicates a dry overheated condition.

REAR HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED

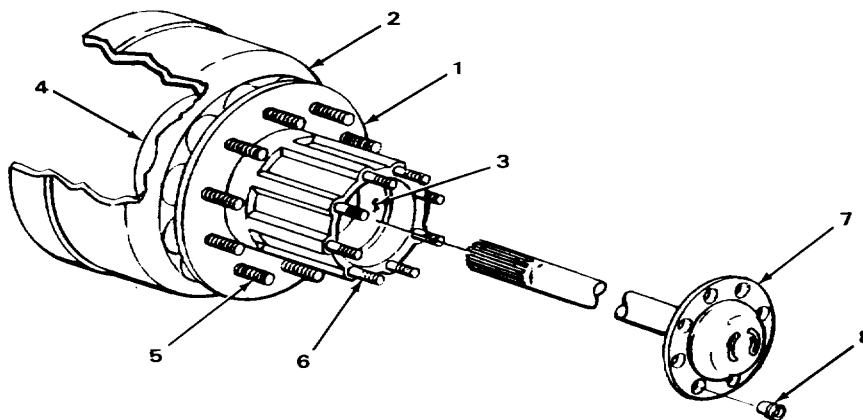
LOCATION	ITEM	ACTION REMARKS
17	Outer bearing (3) and inner bearing (4)	a Look for chipped, pitted, scored, blued, or loose rollers (6). b Look for cracked or scored roller cage (7). c Look for scored or blued inner race (8).
18 Rear hub (1)	Inner bearing cup (9) and outer bearing cup (10)	a Look for cracks, pits, scores, or blueing. Replace if damaged, steps 27 thru 30. b Check for looseness in rear hub. If loose, replace rear hub, steps 23 thru 26



TA244447

REAR HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSPECTION/REPLACEMENT - CONTINUED		
19	Rear hub (1) and brakedrum (2)	a Look for cracks across face or near bearing cups (3 and 4). b Look for stripped, bent, or broken hub studs (5). <b>Replace if damaged, steps 23 thru 26.</b> c Look for stripped, bent, or broken axle flange studs (6). <b>If damaged, notify higher category of maintenance.</b> d Look for cracks, heat spots, pitting, deep grooves, or out-of-round in brakedrum. <b>Replace if damaged, steps 23 thru 26. If minor grooves or pitting is found, notify higher category of maintenance.</b>
20	Axle flange (7)	Look for bends or out-of-round axle flange stud holes.
21	Lock collars (8)	Look for cracks, breaks, chips, or dents.
22	All threaded parts	Look for damaged threads or rounded heads.



TA244448

**REAR HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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**WARNING**

Due to excessive weight, assistance will be needed to lift hub and breakdrum assembly. Failure to observe this precaution could cause serious injury to personnel.

**NOTE**

Steps 23 thru 26 are typical for all ten hub studs.

23	Brakedrum (2)	Position on wood blocks with hub studs facing up.
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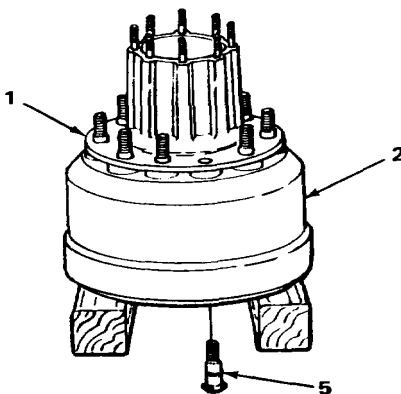
**WARNING**

Safety goggles must be worn to prevent eye injury from flying metal chips.

24 Rear hub (1)	Hub stud (5)	Using 3-pound cross-peen hammer, drive out.
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**NOTE**

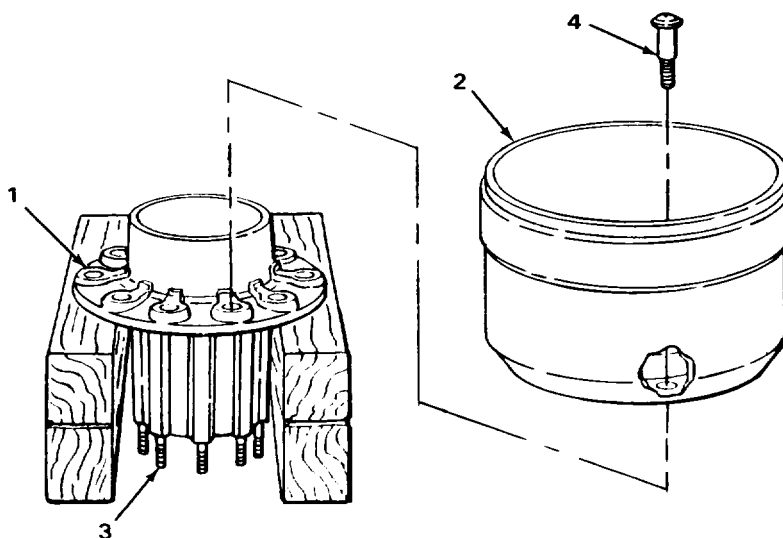
If brakedrum or rear hub is to be replaced, replace before performing step 25.



TA244449

REAR HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSPECTION/REPLACEMENT - CONTINUED		
25	Rear hub (1) and brakedrum (2)	a Position rear hub on wood blocks with axle flange studs (3) facing down. b Position brakedrum on rear hub facing up. c Aline hub stud holes.
26	Brakedrum (2)	a Put into hub stud hole. b Drive in using 3-pound cross-peen hammer and brass driftpin punch. <b>Make sure hub stud is flush against brakedrum.</b>

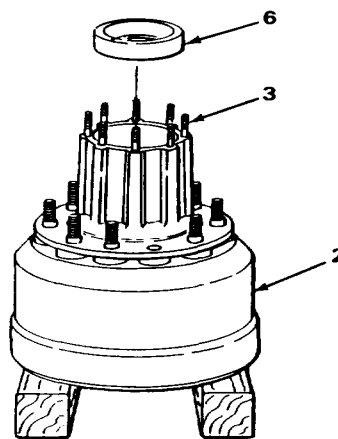
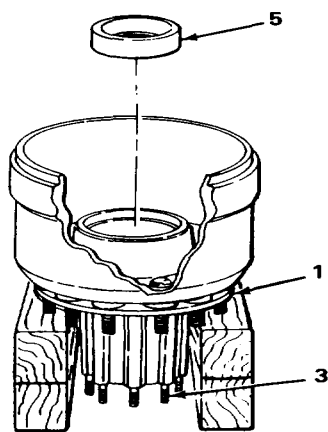


27	Rear hub (1)	Inner bearing cup (5)  a Position rear hub on wood blocks with axle flange studs (3) facing down. b Using puller, pull out. c Get rid of.
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TA244450

REAR HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
28	New inner bearing cup (5)	a Position level and square. b Drive in until flush with top of rear hub using wood block and 3-pound cross-peen hammer. c Seat completely by tapping on alternate sides using brass driftpin punch and 3-pound cross-peen hammer. <b>Make sure inner bearing cup is flush with machined surface inside rear hub.</b>
29	Outer bearing cup (6)	a Position brakedrum (2) on wood blocks with axle flange studs (3) facing up. b Using puller, pull out. c Get rid of.
30	New outer bearing cup (6)	a Position level and square. b Drive in until flush with top of rear hub using wood block and 3-pound cross-peen hammer. c Seat completely by tapping on alternate sides using brass driftpin punch and 3-pound cross-peen hammer. <b>Make sure outer bearing cup is flush with machined surface inside rear hub.</b>



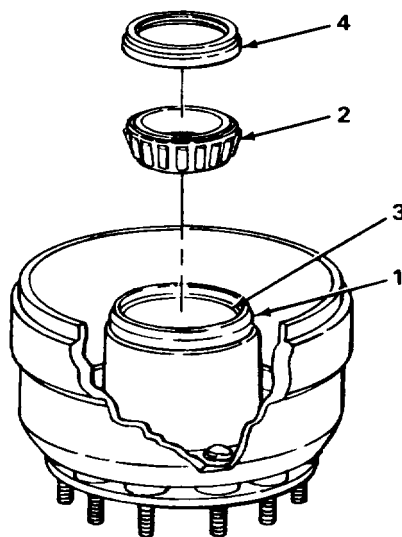
TA244451



REAR HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
ASSEMBLY		
31 Rear hub (1)	Inner bearing (2) and inner bearing cup (3)	Pack inner bearing and coat inner bearing cup with grease (LO 5-3805-254-12).
32 Inner bearing	Inner bearing (2) cup (3)	Put in.
33 Rear hub (1)	New inner seal (4)	a Position level and square. b Tap in until flush with top of rear hub using wood block and 1-pound ball-peen hammer.

**Make sure inner grease seal is level.**



**WARNING**

Due to excessive weight, assistance will be needed to lift hub and brake drum assembly. Failure to observe this precaution could cause serious injury to personnel.

TA244452

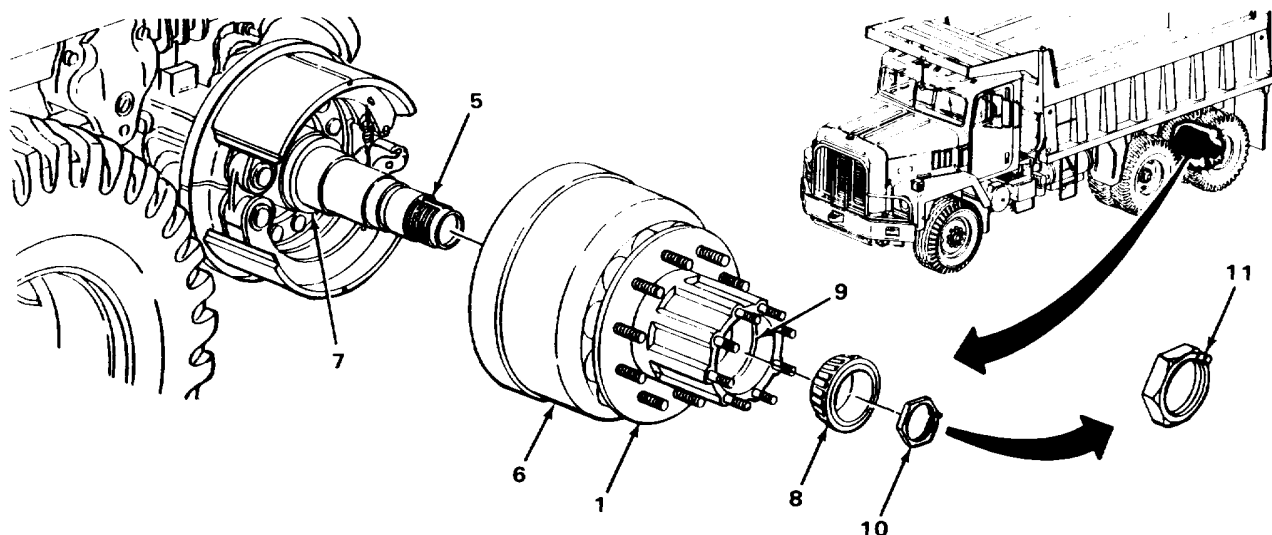
REAR HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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**NOTE**

Steps given are typical for right and left front rear and rear rear hubs.

34	Spindle (5)	Rear hub (1) and brakedrum (6)	<ul style="list-style-type: none"> <li>a Coat spindle with grease (LO 5-3805-254-12).</li> <li>b With assistance, put on. <b>Make sure inner bearing is seated on inner race (7) on spindle.</b></li> </ul>
35		Outer bearing (8)	<ul style="list-style-type: none"> <li>a Pack outer bearing and coat outer bearing cup (9) with grease (LO 5-3805-254-12).</li> <li>b Put on.</li> </ul>
36		Adjusting nut (10)	<ul style="list-style-type: none"> <li>a Position with pin (11) facing out and screw on and tighten until snug.</li> <li>b While slowly turning rear hub (1), torque to 50 ft lb (70 N.m) using 4-inch, 3/4-inch drive socket and 0 to 600 ft lb (0 to 814 N.m) torque wrench.</li> <li>c Loosen one-quarter turn using 4-inch, 3/4-inch drive socket and hinged handle</li> </ul>

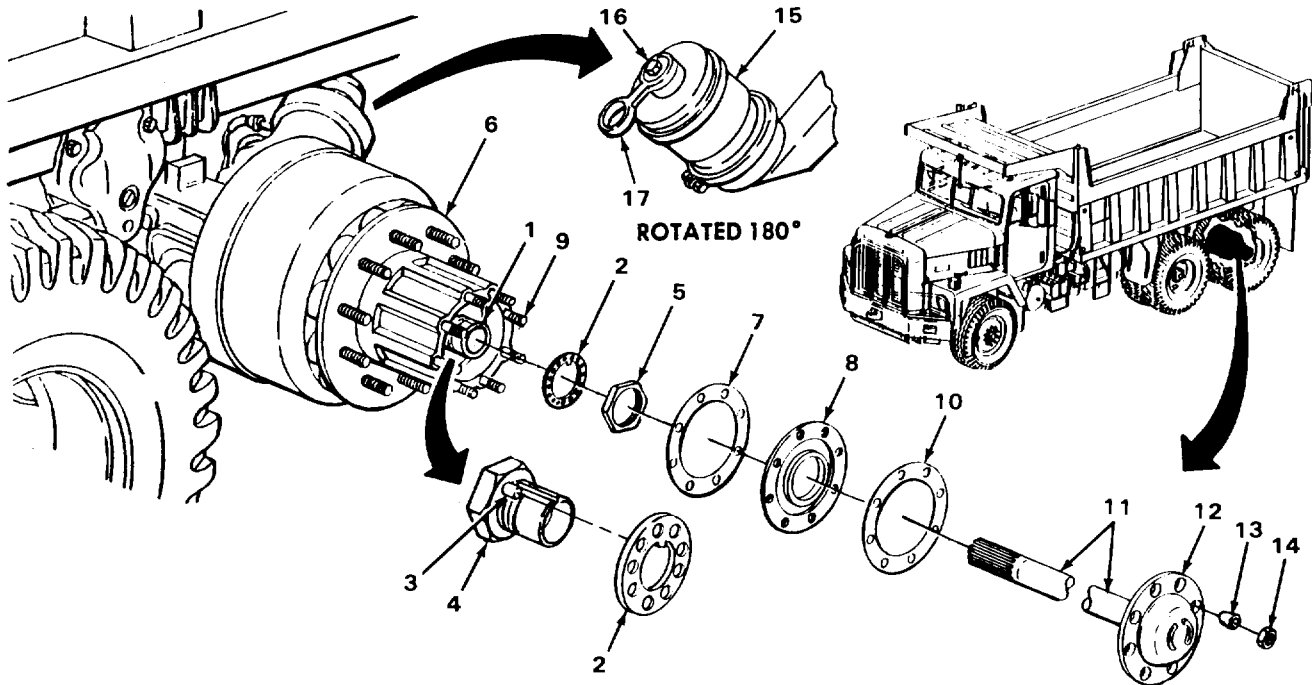


TA244453

## REAR HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
37 Spindle (1)	Adjusting nut lock (2)	Put on and aline hole in adjusting nut lock with pin (3) on adjusting nut (4). <b>If hole and pin do not aline, tighten adjusting nut to nearest hole and push adjusting nut lock into place.</b>
38	Locknut (5)	a Screw on until snug. b Torque to 250 ft lb (350 N.m) using 4-inch, 3/4-inch drive socket and 0 to 600 ft lb (0 to 814 N.m) torque wrench.
39 Rear hub (6)	New outer seal gasket (7) and new outer seal (8)	Put in position on axle flange studs (9).
40	New axle flange gasket (10)	Put in position on axle flange studs (9).
41 Spindle (1)	Axle (11)	a Push in and aline axle flange (12) holes with axle flange studs (9) on rear hub (6). b Push into position.
42 Axle flange(12)	Eight lock collars (13) and eight new self-locking nuts (14)	a Put on. b Tighten on alternate sides using 15116-inch, 1/2-inch drive socket and ratchet handle.
43 Air brake chamber (15)	Caging bolt (16)	Tighten fully using 3/4-inch, 1/2-inch drive deep socket and ratchet handle.
44	Cover (17)	Push on.

REAR HUB AND BRAKEDRUM ASSEMBLY AND WHEEL BEARINGS - CONTINUED



**NOTE**

FOLLOW ON MAINTENANCE:

1. Install rear wheel (page 2-1168).
2. Check rear axle oil level (page 2-942).

TA244454

Change 1 2-1201

**Section XVI. STEERING SYSTEM MAINTENANCE**

	Page		Page
Draining Steering System .....	2-1207	Pump Bypass Hose and Fittings .....	2-1232
Filling Steering System .....	2-1243	Pump-to-Left Steering Gear	
Filter .....	2-1202	Hose and Fittings .....	2-1228
Left Steering Gear-to-Reservoir		Reservoir-to-Pump Hose and	
Hose and Fittings .....	2-1212	Fittings .....	2-1224
Left Steering Gear-to-Right Steering		Right Steering Gear-to-Left	
Gear Hose and Fittings .....	2-1215	Steering Gear Hose and	
Oil Reservoir .....	2-1237	Fittings.....	2-1220

**FILTER**

This task covers:

- |   |                        |   |                                      |
|---|------------------------|---|--------------------------------------|
| a | Removal (page 2-1203)  | c | Inspection/Replacement (page 2-1205) |
| b | Cleaning (page 2-1204) | d | Installation (page 2-1206)           |

**INITIAL SETUP**

**Tools**

- Container, 6-gallon
- Gloves, safety
- Goggles, safety
- Gun, blow, air
- Hose, air, assembly
- Pliers, slip-joint, 8-inch
- Wrench, open-end, 7/16-inch

**Materials/Parts**

- Element, filter, reservoir
- Lockwashers, reservoir (eight required)
- Oil, lubricating, reservoir (item 14, appendix C)
- Ring, reservoir
- Rags, wiping (item 15, appendix C)

**Materials/Parts - Continued**

- Solvent, drycleaning (item 19, appendix C)
- Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**Equipment Condition**

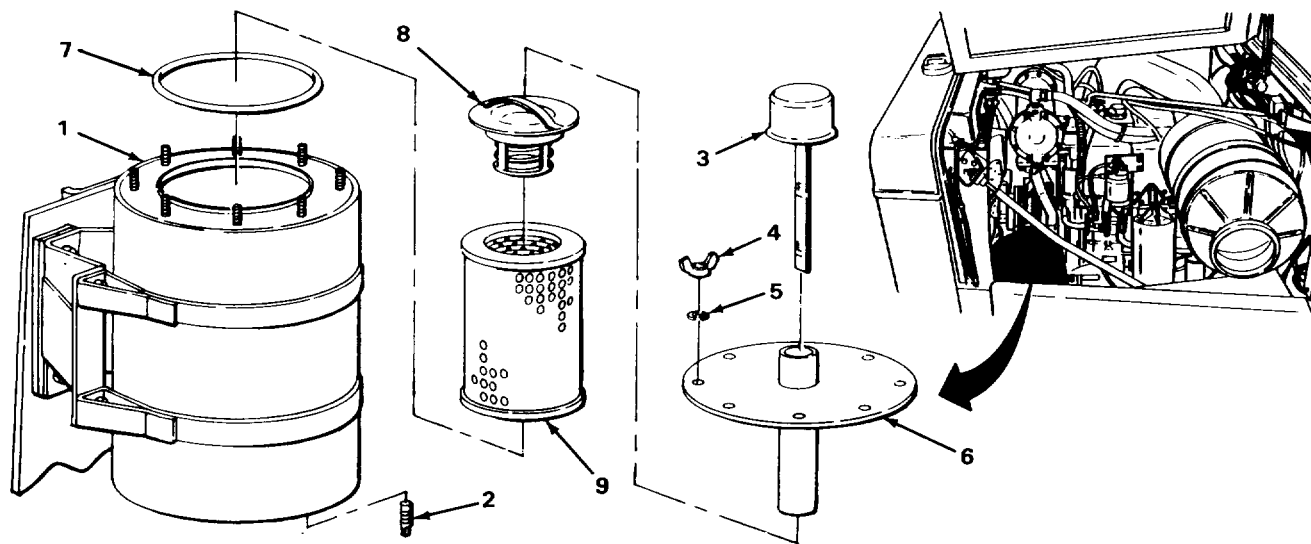
- Left side hood panel opened (page 2-424).
- Left side cab door opened (page 2-424).

**References**

TM 5-3805-254-10 (Operator's Manual)

FILTER - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1	Reservoir (1)	Drainplug (2)
		a Place 6-gallon container underneath. b Using 7/16-inch open-end wrench, unscrew and take out. <b>Allow oil to drain.</b>
2	Cap (3)	Pull up and out.
3	Eight wingnuts (4) and eight lockwashers (5)	a Using 8-inch slip-joint pliers, unscrew and take off. b Get rid of lockwashers.
4	Cover (6)	Take off.
5	Ring (7)	a Take off.
b	Get rid of.	
6	Relief valve (8)	Take out.
7	Filter element (9)	a Take out. b Get rid of.



TA244455

**FILTER - CONTINUED**

ACTION LOCATION	ITEM	REMARKS
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CLEANING

**WARNING**

Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and cause damage to equipment Refer to TM 9-247.

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable Wear protective safety goggles and gloves and use only in a well-ventilated area Avoid contact with skin, eyes, and clothes and do not breathe vapors Do not use near open flame or excessive heat The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (590C) If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

All parts must be cleaned thoroughly.

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

8	All parts	Using drycleaning solvent, clean thoroughly.
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**WARNING**

Particles blown by compressed air are hazardous Make certain the air stream is directed away from user and other personnel in the area Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa) User must wear safety goggles or face shield to prevent injury to personnel.

9	All parts	Using air blow gun and air hose assembly, blow dry.
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10	Reservoir (1)	Using wiping rag, wipe clean.
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**FILTER - CONTINUED**

ACTION LOCATION	ITEM	REMARKS
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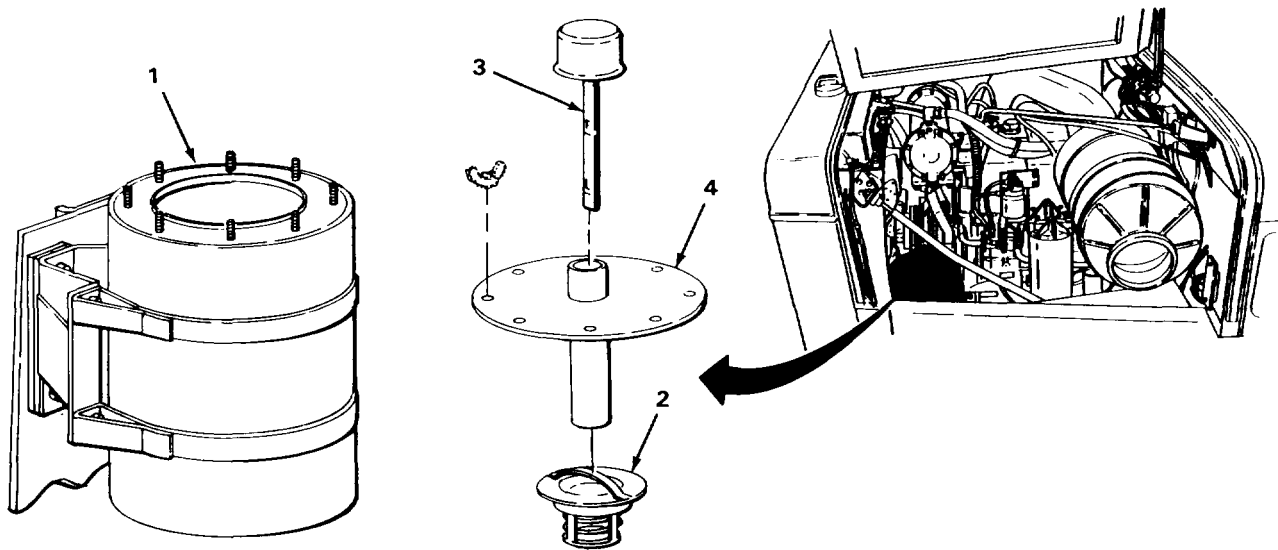
INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

11	Relief valve (2)	a Look for clogged or torn screen. b Look for broken spring.
12	Cap (3)	a Look for clogged vent holes. b Look for bends or cracks.
13	Cover (4)	Look for bends or cracks.
14	All threaded parts	Look for damaged threads or rounded heads.



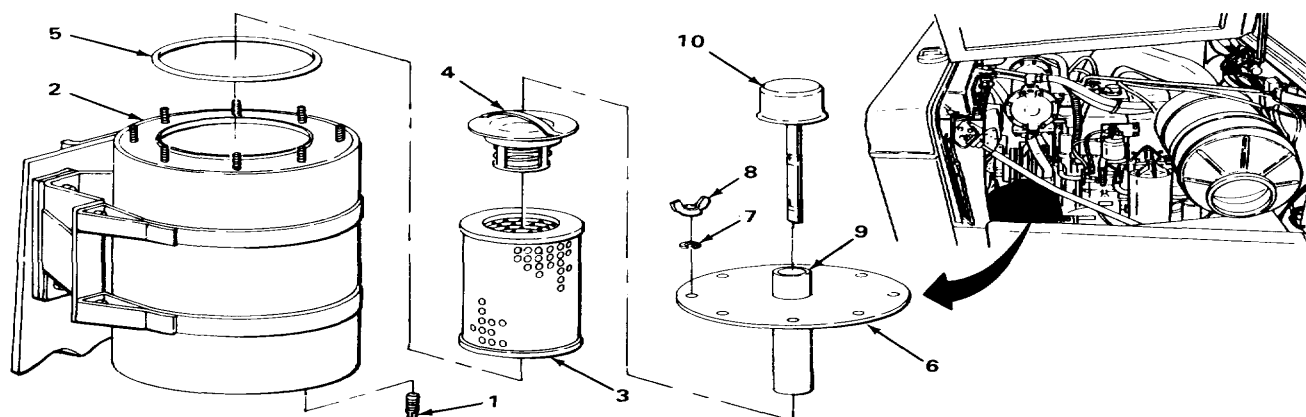
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## FILTER - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
15	Drainplug (1)	Wrap threads with antiseizing tape (page 2-424).
16	Reservoir (2)	Drainplug (1)
		Screw in and tighten using 7/16-inch open-end wrench.
17	New filter element (3)	Put in.
18	Relief valve (4)	Put in.
19	New ring (5)	Put on.
20	Cover (6)	Put on.
21	Eight new lock-washers (7) and eight wingnuts (8)	Screw on and tighten using 8-inch slip-joint pliers.
22	Filler neck (9)	Fill with lubricating oil to 4 inches (10.16 cm) below top of filler neck.
23	Cap (10)	Put on.
<b>NOTE</b>		
Start engine (TM 5-3805-254-10) and allow engine to idle Turn wheels to full left and full right three times Shut down engine (TM 5-3805-254-10).		
24	Cap (10)	a Pull up and out. b Using wiping rag, wipe clean. c Put on and push in completely. d Pull up and out. <b>If oil is up to (F) full mark, go to step 25.</b> <b>If oil is below (F) full mark, repeat steps 21 thru 24.</b>
25	Cap (10)	Put on.

**FILTER - CONTINUED**



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Close left side hood panel (page 2-424).
2. Close left side cab door (page 2-424).

**TASK ENDS HERE**

**DRAINING STEERING SYSTEM**

---

This task covers:

Draining (2-1207)

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**INITIAL SETUP**

**Tools**

- Container, 6-gallon
- Wrench, open-end, 7/16-inch (two required)
- Wrench, open-end, 9/16-inch
- Wrench, open-end, 1 1/16-inch
- Wrench, open-end, 7/8-inch

**Materials/Parts**

- Lockwasher, clamp
- Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**Equipment Condition**

Left side hood panel opened (page 2-424).

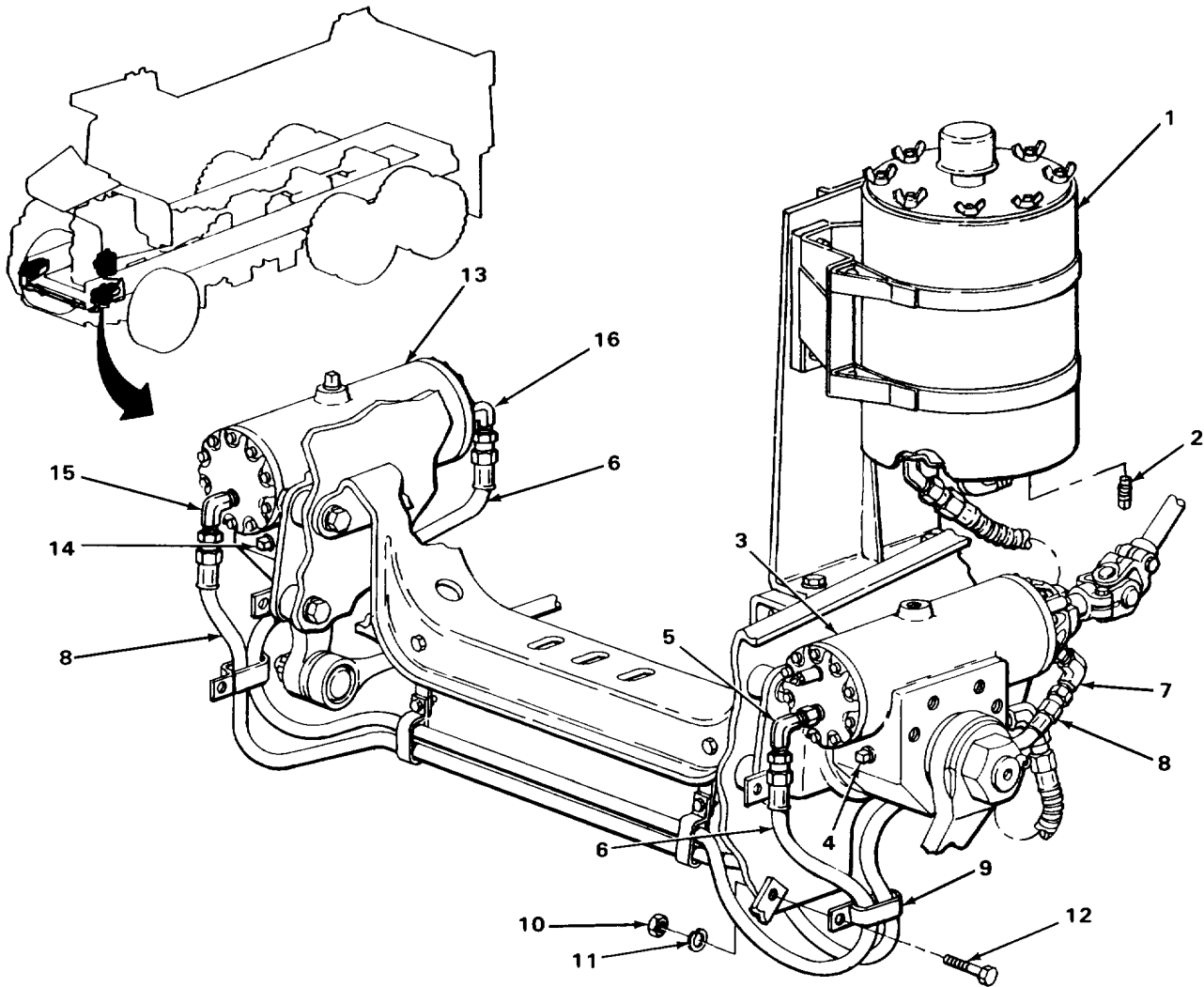
## DRAINING STEERING SYSTEM - CONTINUED

LOCATION	ITEM	ACTION REMARKS
<b><u>WARNING</u></b>		
Do not drain steering system when hot		Hot oil can burn you.
1	Reservoir (1)  Drainplug (2)	a Place 6-gallon container underneath. b Using 7/16-inch open-end wrench, unscrew and take out. <b>Allow oil to drain.</b>
2	Left steering gear (3)  Drainplug (4) b	a Place 6-gallon container underneath. Using 9/16-inch open-end wrench, unscrew and take out. <b>Allow oil to drain.</b>
3	Elbow (5)  Hose (6)	Using 11/16-inch and 7/8-inch open-end wrenches, unscrew and take off.
4	Elbow (7)  Hose (8)	Using 11/16-inch and 7/8-inch open-end wrenches, unscrew and take off.
5	Clamp (9)  Nut (10), lockwasher (11), and screw (12)	a Using two 7/16-inch open-end wrenches, unscrew and take out- b Get rid of lockwasher.
6	Right steering gear (13)  Drainplug (14)	a Place 6-gallon container underneath. b Using 9/16-inch open-end wrench, unscrew and take out. <b>Allow oil to drain.</b>
7	Elbow (15)  Hose (8)	Using 11/16-inch and 7/8-inch open-end wrenches, unscrew and take off. <b>Allow oil to drain.</b>

**DRAINING STEERING SYSTEM - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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8 Elbow (16)	Hose (6)	Using 11/16-inch and 7/8-inch open-end wrenches, unscrew and take off. <b>Allow oil to drain.</b>
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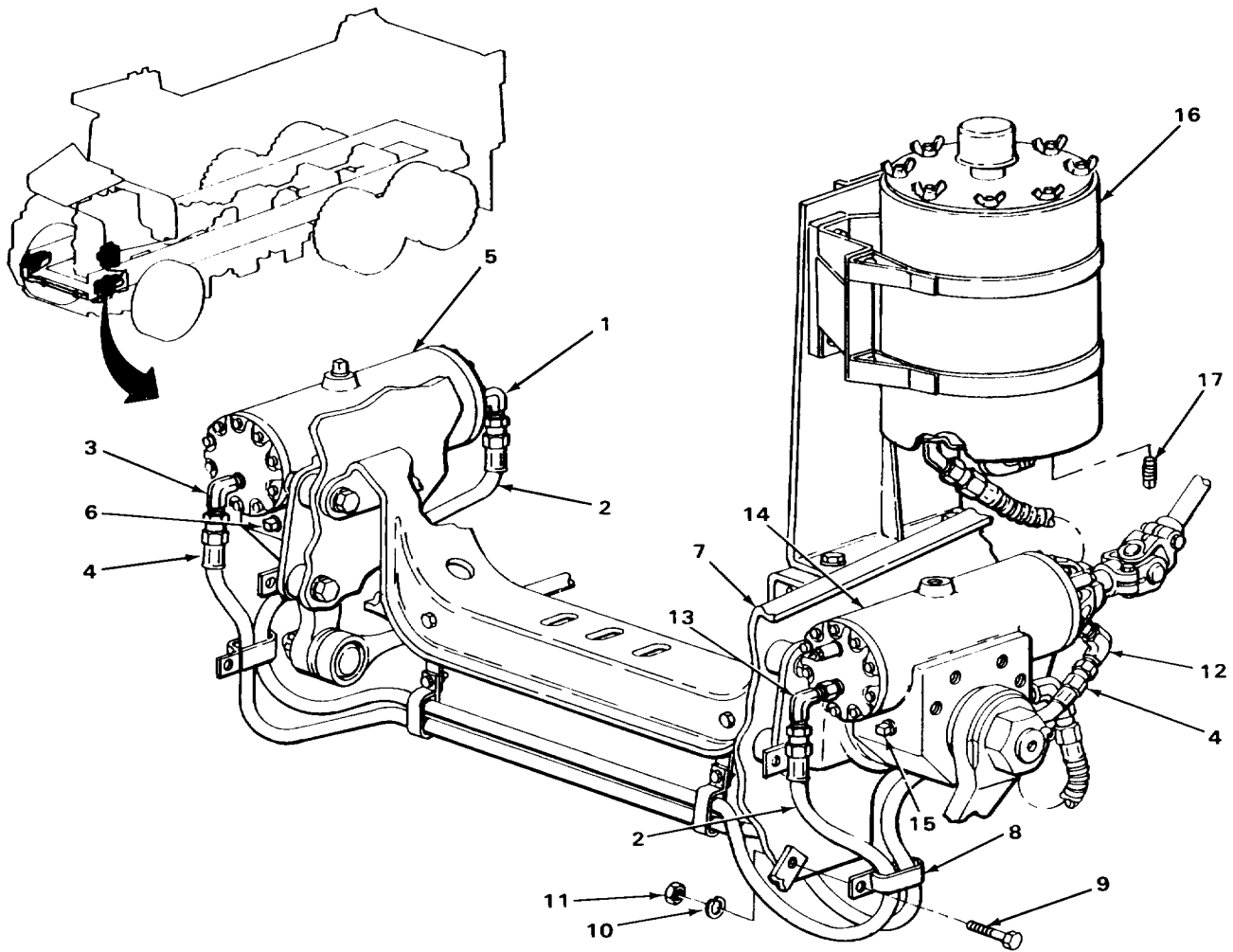


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## DRAINING STEERING SYSTEM - CONTINUED

LOCATION	ITEM	ACTION REMARKS
9 Elbow (1)	Hose (2)	Screw on and tighten using 11/16-inch and 7/8-inch open-end wrenches.
10 Elbow (3)	Hose (4)	Screw on and tighten using 11/16-inch and 7/8-inch open-end wrenches.
<b><u>CAUTION</u></b>		
Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.		
<b>NOTE</b>		
For more information on how to use antiseizing tape go to General Maintenance Instructions (page 2-424).		
11 Right steering gear (5)	Drainplug (6)	a Wrap with antiseizing tape. Screw in and tighten using 9/16-inch open-end wrench.
12 Left frame rail (7)	Clamp (8), screw (9), new lockwasher (10), and nut (11)	Screw in and tighten using two 7/16-inch open-end wrenches.
13 Elbow (12)	Hose (4)	Screw on and tighten using 11/16-inch and 7/8-inch open-end wrenches.
14 Elbow (13)	Hose (2)	Screw on and tighten using 11/16-inch and 7/8-inch open-end wrenches.
15 Left steering gear (14)	Drainplug (15)	a Wrap with antiseizing tape. b Screw in and tighten using 9/16-inch open-end wrench.
16 Reservoir (16)	Drainplug (17)	a Wrap with antiseizing tape. b Screw in and tighten using 7/16-inch open-end wrench.

**DRAINING STEERING SYSTEM - CONTINUED**



**CAUTION**

Do not start engine with steering system drained.

**NOTE**

FOLLOW-ON MAINTENANCE:

- 1 Close left side hood panel (page 2-424)
- 2 Fill steering system (page 2-1243)

**TASK ENDS HERE**

## LEFT STEERING GEAR-TO-RESERVOIR HOSE AND FITTINGS

This task covers:

- |   |                        |   |                                      |
|---|------------------------|---|--------------------------------------|
| a | Removal (page 2-1212)  | c | Inspection/Replacement (page 2-1214) |
| b | Cleaning (page 2-1212) | d | Installation (page 2-1214)           |

### INITIAL SETUP

#### Tools

Container, 6-gallon  
 Goggles, safety  
 Gun, blow, air  
 Hose, air assembly  
 Wrench, open-end, 3/4-inch  
 Wrench, open-end, 1-inch

#### Personnel Required

One

#### Equipment Condition

Left side hood panel opened (page 2-424).

#### Materials/Parts

Detergent, liquid, GP (item 7, appendix C)  
 Tape, antiseizing (item 22, appendix C)

LOCATION	ITEM	ACTION REMARKS
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### REMOVAL

1	Elbow (1)	Hose (2)	a Place 6-gallon container underneath. b Using 3/4-inch and 1-inch open-end wrenches, unscrew and take off. <b>Allow oil to drain.</b>
2	Reservoir (3)	Elbow (1)	Using 3/4-inch open-end wrench, unscrew and take out.
3	Elbow (4)	Hose (2)	Using 3/4-inch and 1-inch open-end wrenches, unscrew and take off.
4	Left steering	Elbow (4) gear (5)	Using 3/4-inch open-end wrench, unscrew and take out.

### CLEANING

#### **WARNING**

Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and cause damage to equipment Refer to TM 9-247.

**LEFT STEERING GEAR-TO-RESERVOIR HOSE AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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**NOTE**

Hose and fittings must be cleaned thoroughly.

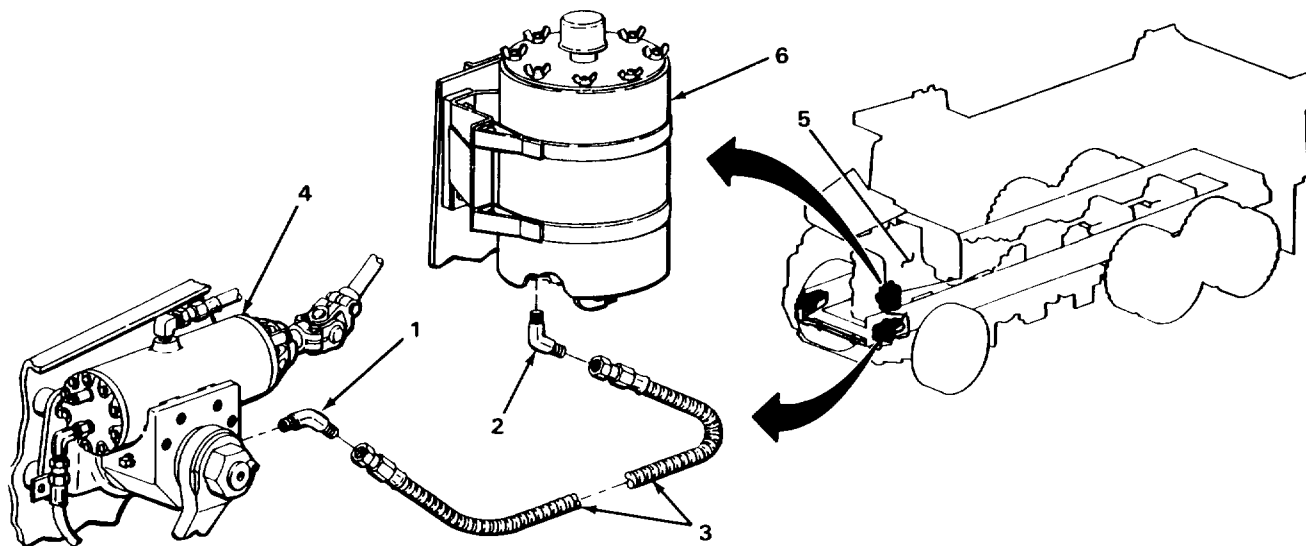
For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

5	All parts	Using detergent and water, clean thoroughly.
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**WARNING**

Particles blown by compressed air are hazardous. Make certain the air stream is directed away from user and other personnel in the area. Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa). User must wear safety goggles or face shield to prevent injury to personnel.

6	All parts	Using air blow gun and air hose assembly, blow dry.
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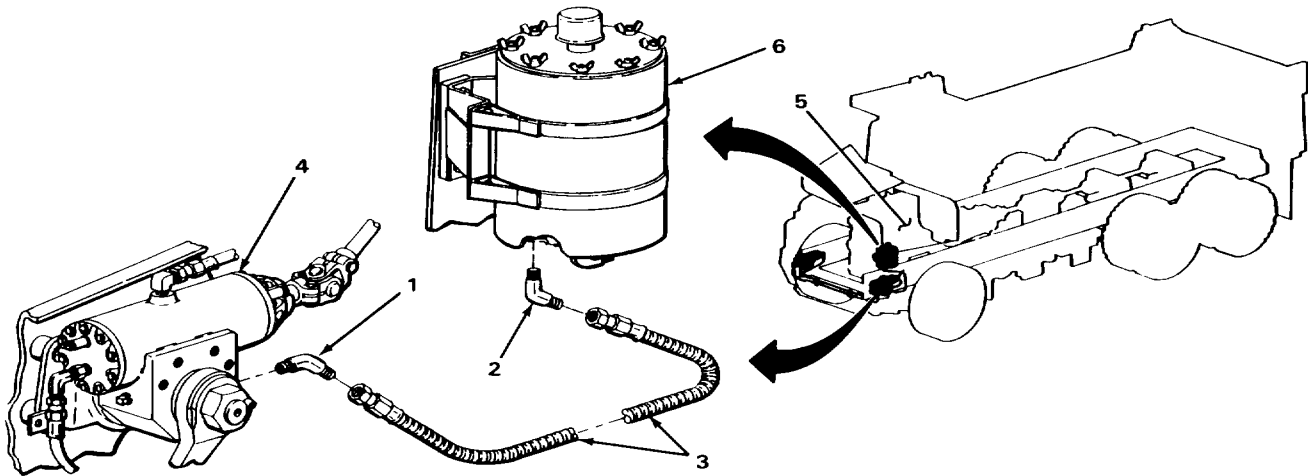
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## LEFT STEERING GEAR-TO-RESERVOIR HOSE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSPECTION/REPLACEMENT		
<b>NOTE</b>		
Replace all damaged or defective parts.		
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).		
7	Elbow (1) and elbow (2)	Look for bends, dents, or cracks.
8	Hose (3)	Look for worn areas or gouges.
9	All threaded parts	Look for damaged threads or rounded nuts.
INSTALLATION		
10	Left steering gear (4)	Elbow (1) (page 2-424). Wrap pipe threads with antiseizing tape
11	Elbow (1)	Screw in and tighten using 3/4-inch open-end wrench.
12	Elbow (1)	Hose (3) Screw on and tighten using 3/4-inch and 1-inch open-end wrenches.
13	Reservoir (6)	Elbow (2) Wrap pipe threads with antiseizing tape (page 2-424).
14	Elbow (2)	Elbow (2) Screw in and tighten using 3/4-inch open-end wrench.
15	Elbow (2)	Hose (3) Screw on and tighten using 3/4-inch and 1-inch open-end wrench.
16	Left side of engine (5)	Reservoir (6) Fill (page 2-1243).

**LEFT STEERING GEAR-TO-RESERVOIR HOSE AND FITTINGS - CONTINUED**



**NOTE**

FOLLOW-ON MAINTENANCE: Close left side hood panel (page 2-424).

**TASK ENDS HERE**

**LEFT STEERING GEAR-TO-RIGHT STEERING GEAR HOSE AND FITTINGS**

This task covers:

- |   |                        |   |                                      |
|---|------------------------|---|--------------------------------------|
| a | Removal (page 2-1216)  | c | Inspection/Replacement (page 2-1218) |
| b | Cleaning (page 2-1216) | d | Installation (page 2-1218)           |

**INITIAL SETUP**

**Tools**

- Container, 6-gallon
- Goggles, safety
- Gun, blow, air
- Hose, air assembly
- Wrench, box-end, 7/16-inch (two required)
- Wrench, open-end, 11/16-inch
- Wrench, open-end, 3/4-inch
- Wrench, open-end, 7/8-inch

**Materials/Parts**

- Detergent, liquid, GP (item 7, appendix C)
- Lockwasher, clamp (four required)
- Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**Equipment Condition**

Right side hood panel opened (page 2-424).

TA244461

## LEFT STEERING GEAR-TO-RIGHT STEERING GEAR HOSE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS	
REMOVAL			
1	Elbow (1)	Hose (2)	a Place 6-gallon container underneath. b Using 11/16-inch and 7/8-inch open-end wrenches, unscrew and take off. <b>Allow oil to drain.</b>
2	Adapter (3)	Elbow (1)	Using 11/16-inch and 3/4-inch open-end wrenches, unscrew and take out.
3	Left steering gear (4)	Adapter (3)	Using 3/4-inch open-end wrench, unscrew and take out.
4	Four clamps (5)	Four screws (6), four nuts (7), and four lockwashers (8)	a Using two 7/16-inch box-end wrenches, unscrew and take out. b Get rid of lockwashers.
5		Hose (2)	Take out.
6	Elbow (9)	Hose (2)	Using 11/16-inch and 7/8-inch open-end wrenches, unscrew and take off.
7	Right steering gear (10)	Elbow (9)	Using 11/16-inch open-end wrench, unscrew and take out.

## CLEANING

**WARNING**

Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and cause damage to equipment Refer to TM 9-247.

**NOTE**

Hose and fittings must be cleaned thoroughly.

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

8	All parts	Using detergent and water, clean thoroughly.
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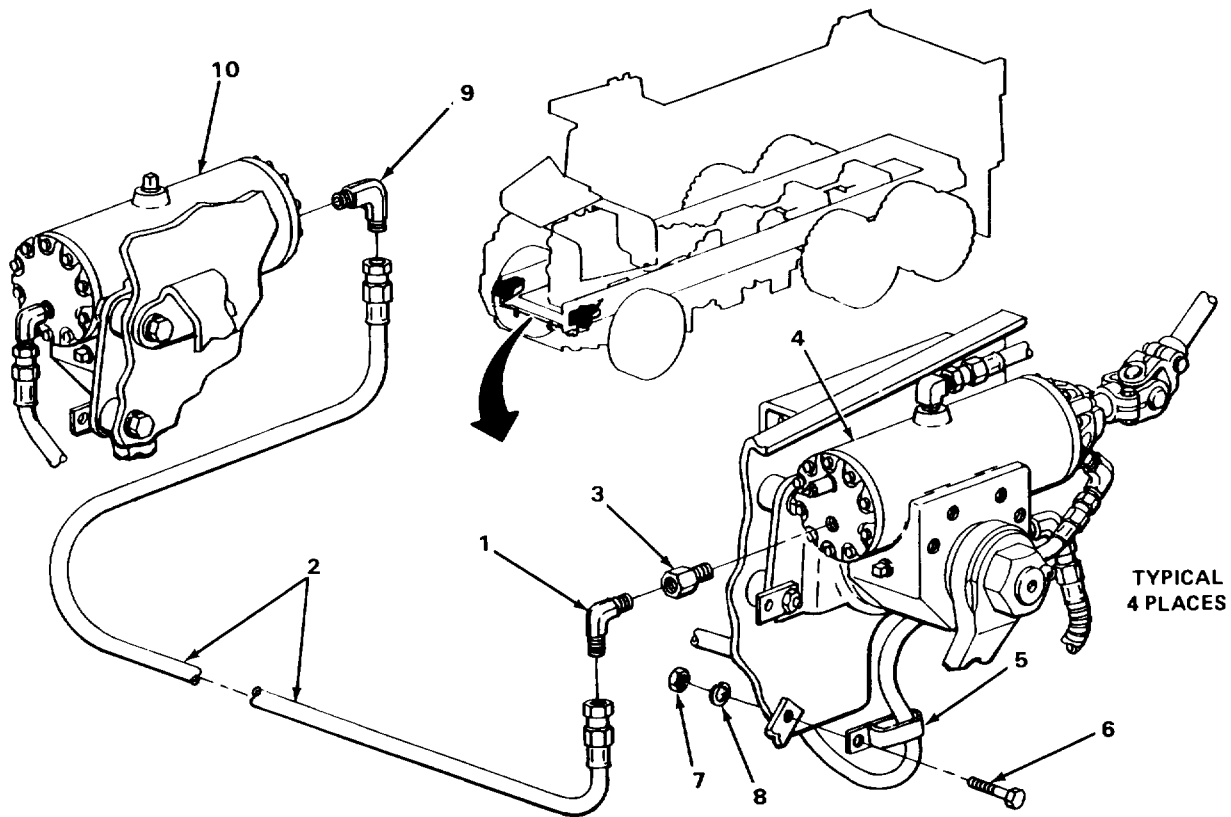
LEFT STEERING GEAR-TO-RIGHT STEERING GEAR HOSE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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**WARNING**

Particles blown by compressed air are hazardous. Make certain the air stream is directed away from user and other personnel in the area. Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa). User must wear safety goggles or face shield to prevent injury to personnel.

9	All parts	Using air blow gun and air hose assembly, blow dry.
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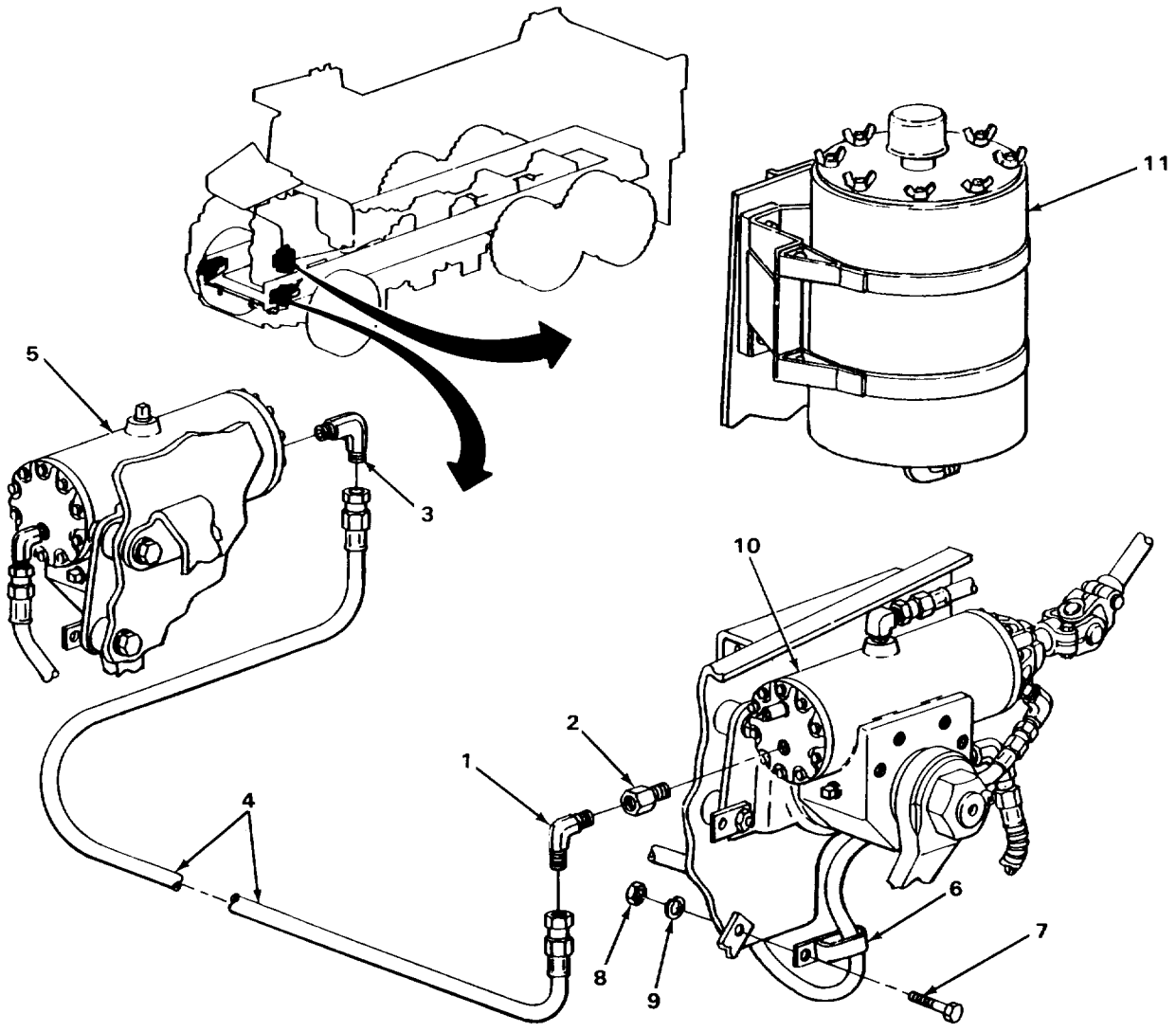
TA244462

## LEFT STEERING GEAR-TO-RIGHT STEERING GEAR HOSE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSPECTION/REPLACEMENT		
<b>NOTE</b>		
Replace all damaged or defective parts.		
For more information on how to inspect parts go to General Maintenance Instructions (page 2-424).		
10	Elbow (1), adapter (2), and elbow (3)	Look for bends, dents, or cracks.
11	Hose (4)	Look for worn areas or gouges.
12	All threaded parts	Look for damaged threads or rounded heads.
INSTALLATION		
13	Right steering gear (5)	Elbow (3) a Wrap pipe threads with antiseizing tape (page 2-424). b Screw in and tighten using 11/16-inch open-end wrench.
14	Elbow (3)	Hose (4) Screw on and tighten using 11/16-inch and 7/8-inch open-end wrenches.
15	Four clamps (6)	Hose (4) Put in.
16	Four screws (7), four nuts (8), and four new lock-washers (9)	Screw in and tighten using two 7/16-inch box-end wrenches.
17	Left steering gear (10)	Adapter (2) (page 2-424). a Wrap threads with antiseizing tape b Screw in and tighten using 3/4-inch open-end wrench.
18	Adapter (2)	Elbow (1) a Wrap threads with antiseizing tape (page 2-424). b Screw in and tighten using 11/16-inch and 3/4-inch open-end wrenches.

LEFT STEERING GEAR-TO-RIGHT STEERING GEAR HOSE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
19 Elbow (1)	Hose (4)	Screw on and tighten using 11/16-inch and 7/8-inch open-end wrenches.
20 Reservoir (11)	Fill (page 2-1243).	



**NOTE**

FOLLOW-ON MAINTENANCE: Close right side hood panel (page 2-424).

**TASK ENDS HERE**

**RIGHT STEERING GEAR-TO-LEFT STEERING GEAR HOSE AND FITTINGS**

This task covers:

- |   |                        |   |                                      |
|---|------------------------|---|--------------------------------------|
| a | Removal (page 2-1220)  | c | Inspection/Replacement (page 2-1222) |
| b | Cleaning (page 2-1221) | d | Installation (page 2-1222)           |

**INITIAL SETUP**

**Tools**

- Container, 6-gallon
- Goggles, safety
- Gun, blow, air
- Hose, air assembly
- Wrench, box-end, 7/16-inch (two required)
- Wrench, open-end, 11/16-inch
- Wrench, open-end, 3/4-inch
- Wrench, open-end, 7/8-inch

**Materials/Parts**

- Detergent, liquid, GP (item 7, appendix C)
- Lockwasher, clamp (four required)
- Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
1	Elbow (1)	Hose (2)
		a Place 6-gallon container underneath. b Using 11/16-inch and 7/8-inch open-end wrenches, unscrew and take off. Allow oil to drain.
2	Right steering gear (3)	Elbow (1)
		Using 11/16-inch open-end wrench, unscrew and take out.
3	Four clamps (4)	Four screws (5), four nuts (6), and four lockwashers (7)
		a Using two 7/16-inch box-end wrenches, unscrew and take out. b Get rid of lockwashers.
4		Hose (2)
		Take out.
5	Elbow (8)	Hose (2)
		Using 11/16-inch and 7/8-inch open-end wrenches, unscrew and take off.
6	Adapter (9)	Elbow (8)
		Using 11/16-inch and 3/4-inch open-end wrenches, unscrew and take out.
7	Left steering gear (10)	Adapter (9)
		Using 3/4-inch open-end wrench, unscrew and take out.

**RIGHT STEERING GEAR-TO-LEFT STEERING GEAR HOSE AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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CLEANING

**WARNING**

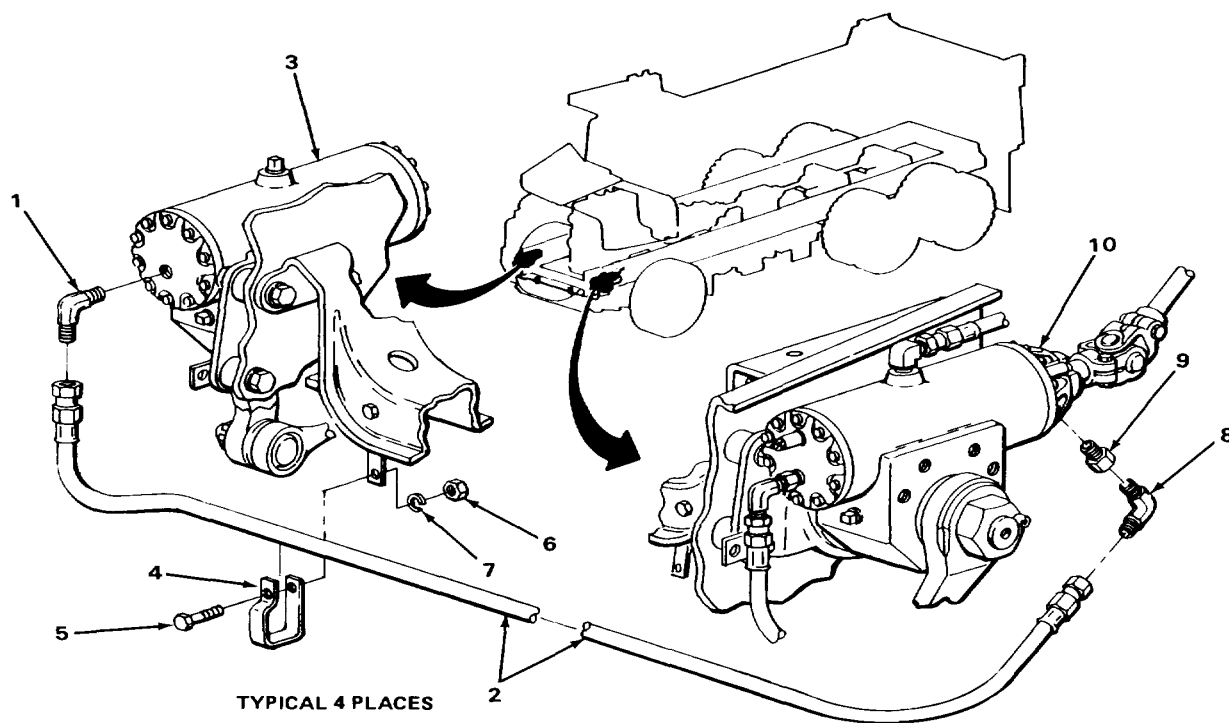
Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and cause damage to equipment Refer to TM 9-247.

**NOTE**

Hoses and fittings must be cleaned thoroughly.

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

8	Elbow (1), hose (2), elbow (8), and adapter (9)	Using detergent and water, clean thoroughly.
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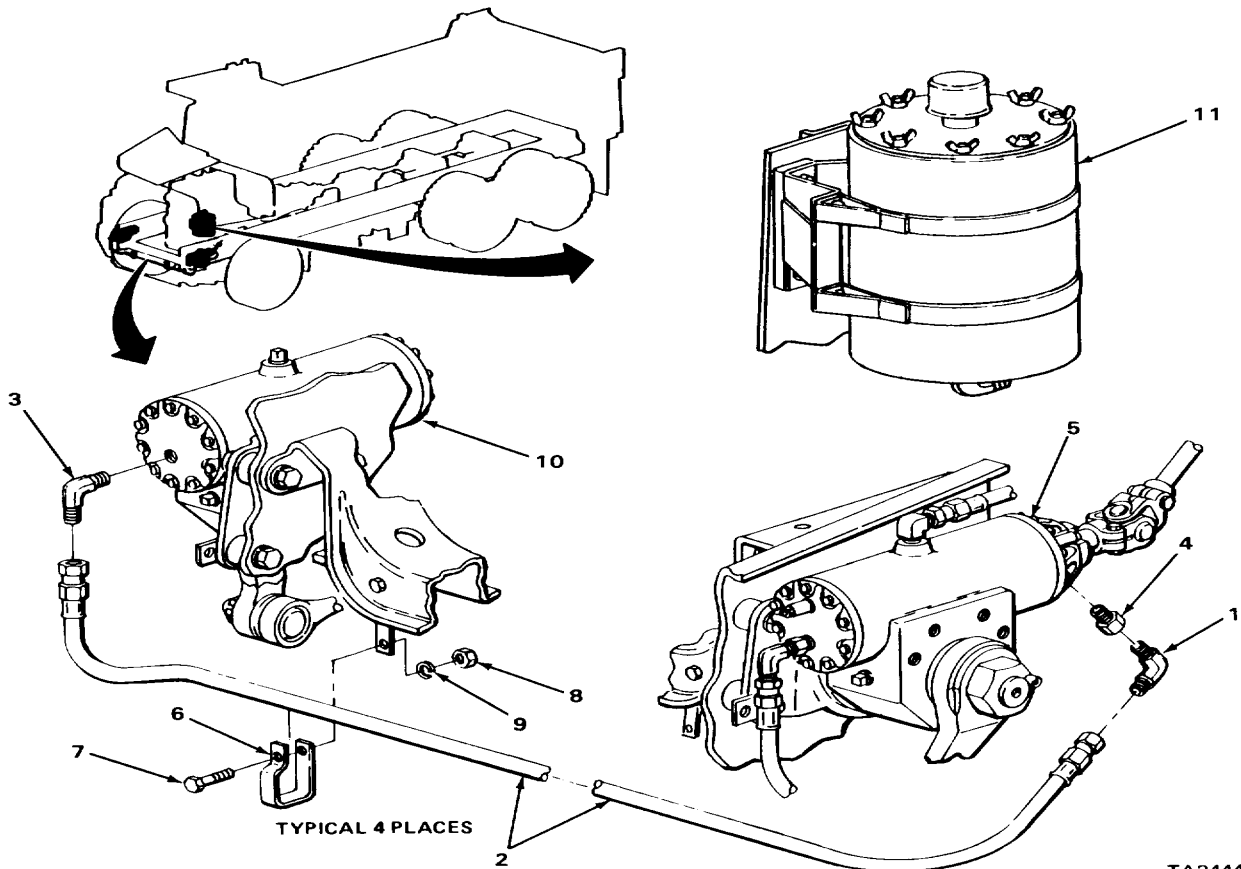


**RIGHT STEERING GEAR-TO-LEFT STEERING GEAR HOSE AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
CLEANING - CONTINUED		
<b><u>WARNING</u></b>		
Particles blown by compressed air are hazardous. Make certain the air stream is directed away from user and other personnel in the area. Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa). User must wear safety goggles or face shield to prevent injury to personnel.		
9	Elbow (1), hose (2), elbow (3), and adapter (4)	Using air blow gun and air hose assembly, blow dry.
INSPECTION/REPLACEMENT		
<b>NOTE</b>		
Replace all damaged or defective parts.		
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).		
10	Elbow (1), elbow (3), and adapter (4)	Look for bends, dents, or cracks.
11	Hose (2)	Look for worn areas or gouges.
12	All threaded parts	Look for damaged threads or rounded heads.
INSTALLATION		
13	Left steering gear (5)	Adapter (4) (page 2-424).
		a Wrap pipe threads with antiseizing tape
		b Screw in and tighten using 3/4-inch open-end wrench.
14	Adapter (4)	Elbow (1)
		a Wrap pipe threads with antiseizing tape (page 2-424).
		b Screw in and tighten using 11/16-inch and 3/4-inch open-end wrenches.
15	Elbow (1)	Hose (2)
		Screw on and tighten using 11/16-inch and 7/8-inch open-end wrenches.
16	Four clamps (6)	Hose (2)
		Put in.

**RIGHT STEERING GEAR-TO-LEFT STEERING GEAR HOSE AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
17	Four screws (7), four nuts (8), and four new lock- washers (9)	Screw in and tighten using two 7/16-inch box-end wrenches.
18 Right steering gear (10)	Elbow (3)	a Wrap pipe threads with antiseizing tape (page 2-424). b Screw in and tighten using 11/16-inch open-end wrench.
19 Elbow (3)	Hose (2)	Screw on and tighten using 11/16-inch and 7/8-inch open-end wrenches.
20	Reservoir (11)	Fill (page 2-1243).



TA244465

**TASK ENDS HERE**

**RESERVOIR-TO-PUMP HOSE AND FITTINGS**

This task covers:

- |   |                        |   |                                      |
|---|------------------------|---|--------------------------------------|
| a | Removal (page 2-1224)  | c | Inspection/Replacement (page 2-1226) |
| b | Cleaning (page 2-1225) | d | Installation (page 2-1226)           |

**INITIAL SETUP**

**Tools**

- Container, 6-gallons
- Goggles, safety
- Gun, blow, air
- Hose, air assembly
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 1 5/16-inch
- Wrench, open-end, 1 11/2-inch (two required)

**Materials/Parts**

- Detergent, liquid, GP (item 7, appendix C)
- Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**Equipment Condition**

Right side hood panel opened (page 2-424).

LOCATION	ITEM	ACTION REMARKS
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**REMOVAL**

1	Reservoir (1)	Drainplug (2)	a Place 6-gallon container underneath. b Using 7/16-inch open-end wrench, unscrew and take out. <b>Allow oil to drain.</b>
2	Elbow (3)	Hose (4)	Using 1 5/16-inch and 1 11/2-inch open-end wrenches, unscrew and take off.
3	Reservoir (1)	Elbow (3)	Using 1 5/16-inch open-end wrench, unscrew and take out.
4	Elbow (5)	Hose (4)	Using two 1 1/2-inch open-end wrenches, unscrew and take off.

RESERVOIR-TO-PUMP HOSE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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CLEANING

**WARNING**

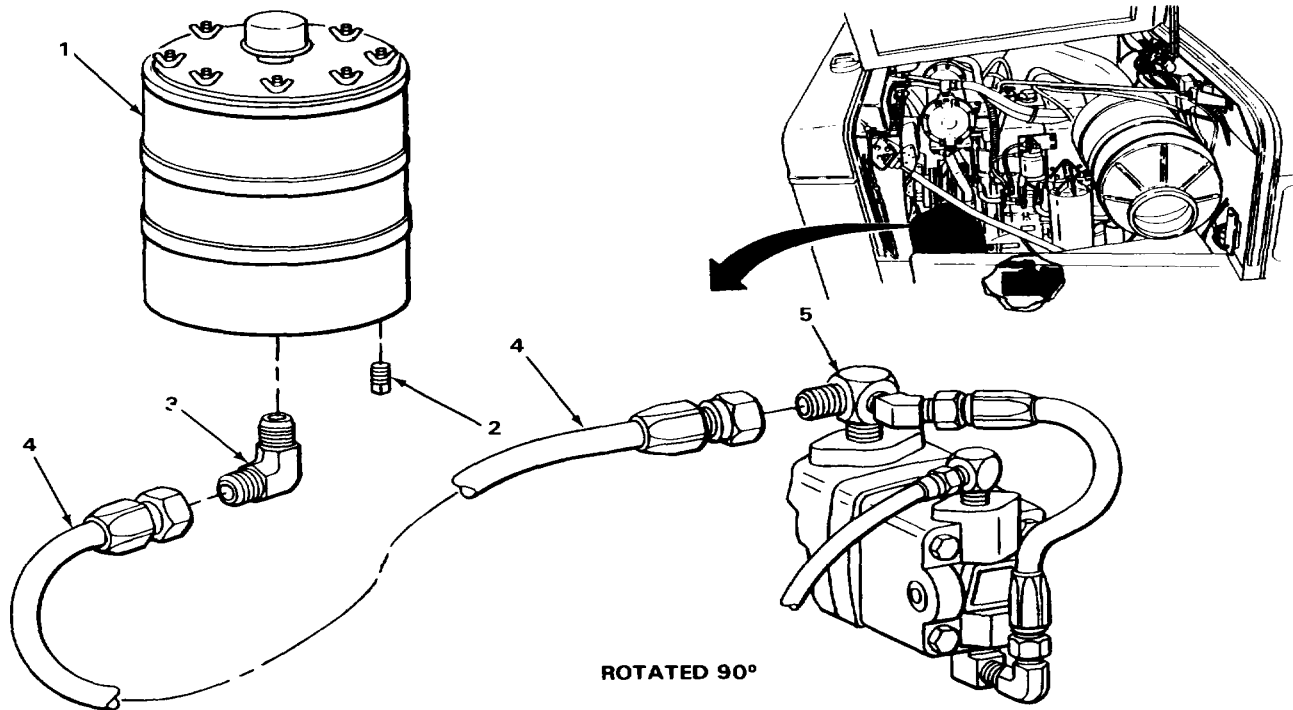
Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and cause damage to equipment Refer to TM 9-247.

**NOTE**

Hose and fittings must be cleaned thoroughly.

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

- |   |   |   |
|---|---|---|
| 5 | Elbow (3), hose (4),<br>and drainplug (2) | Using detergent and water, clean<br>thoroughly. |
|---|---|---|



ROTATED 90°

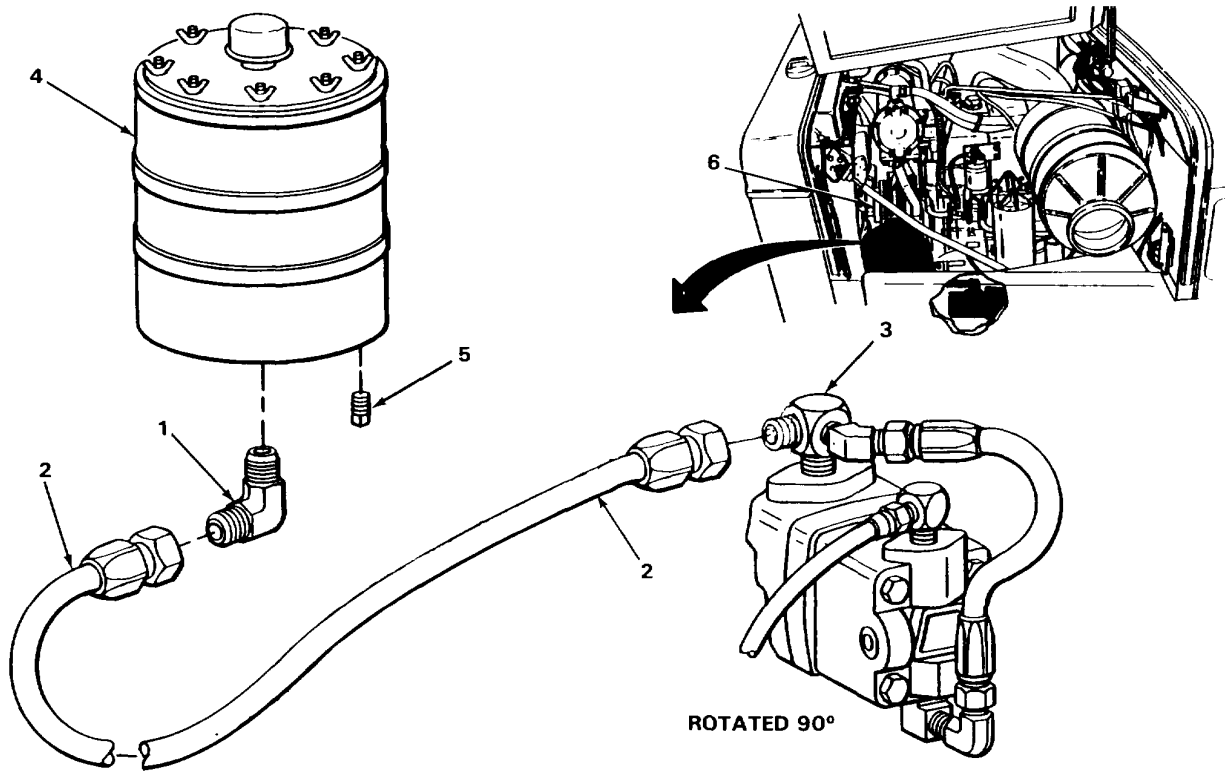
TA244466

## RESERVOIR-TO-PUMP HOSE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
CLEANING - CONTINUED		
<b><u>WARNING</u></b>		
Particles blown by compressed air are hazardous. Make certain the air stream is directed away from user and other personnel in the area. Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa). User must wear safety goggles or face shield to prevent injury to personnel.		
6	Elbow (1) and hose (2)	Using air blow gun and air hose assembly, blow dry.
INSPECTION/REPLACEMENT		
<b>NOTE</b>		
Replace all damaged or defective parts.		
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).		
7	Elbow (1)	Look for bends, dents, or cracks.
8	Hose (2)	Look for worn areas or gouges.
9	All threaded parts	Look for damaged threads or rounded heads.
INSTALLATION		
10	Elbow (3)	Screw on and tighten using two 1 1/2-inch open-end wrenches.
11	Reservoir (4)	a Wrap pipe threads with antiseizing tape (page 2-424). b Screw in and tighten using 1 5/16-inch open-end wrench.
12	Elbow (1)	Screw on and tighten using 1 1/2-inch and 1 5/16-inch open-end wrenches.
13	Reservoir (4)	a Wrap pipe threads with antiseizing tape (page 2-424). b Screw in and tighten using 7/16-inch open-end wrench.

RESERVOIR-TO-PUMP HOSE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
14 Left side of engine (6)	Reservoir (4)	Fill (page 2-1243).



**FOLLOW-ON MAINTENANCE:** **NOTE** Close left side hood panel (page 2-424) 2-1227

**TASK ENDS HERE**

TA244467

2-1227

**PUMP-TO-LEFT STEERING GEAR HOSE AND FITTINGS**

This task covers:

- |   |                        |   |                                      |
|---|------------------------|---|--------------------------------------|
| a | Removal (page 2-1228)  | c | Inspection/Replacement (page 2-1230) |
| b | Cleaning (page 2-1229) | d | Installation (page 2-1230)           |

**INITIAL SETUP**

**Tools**

- Container, 6-gallon
- Goggles, safety
- Gun, blow, air
- Hose, air assembly
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 13/16-inch
- Wrench, open-end, 7/8-inch (two required)

**Materials/Parts**

- Detergent, liquid, GP (item 7, appendix C)
- Ring, elbow pump
- Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**Equipment Condition**

Left side hood panel opened (page 2-424).

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
1	Reservoir (1)  Drainplug (2)	a Place 6-gallon container underneath. b Using 7/16-inch open-end wrench, unscrew and take out. <b>Allow oil to drain.</b>
2	Elbow (3)  Hose (4)	Using 13/16-inch and 7/8-inch open-end wrenches, unscrew and take off.
3	Left steering  Elbow (3) gear (5)	Using 13/16-inch open-end wrench, unscrew and take out.
4	Elbow (6)  Hose (4)	Using two 7/8-inch open-end wrenches, unscrew and take off.
5	Pump (7)  Elbow (6) and Ring (8)	a Using 7/8-inch open-end wrench, unscrew and take out. b Get rid of ring.

PUMP-TO-LEFT STEERING GEAR HOSE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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CLEANING

**WARNING**

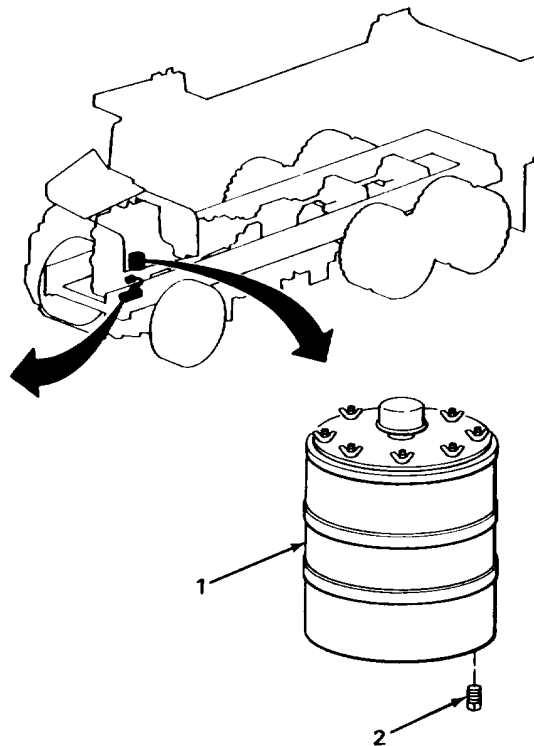
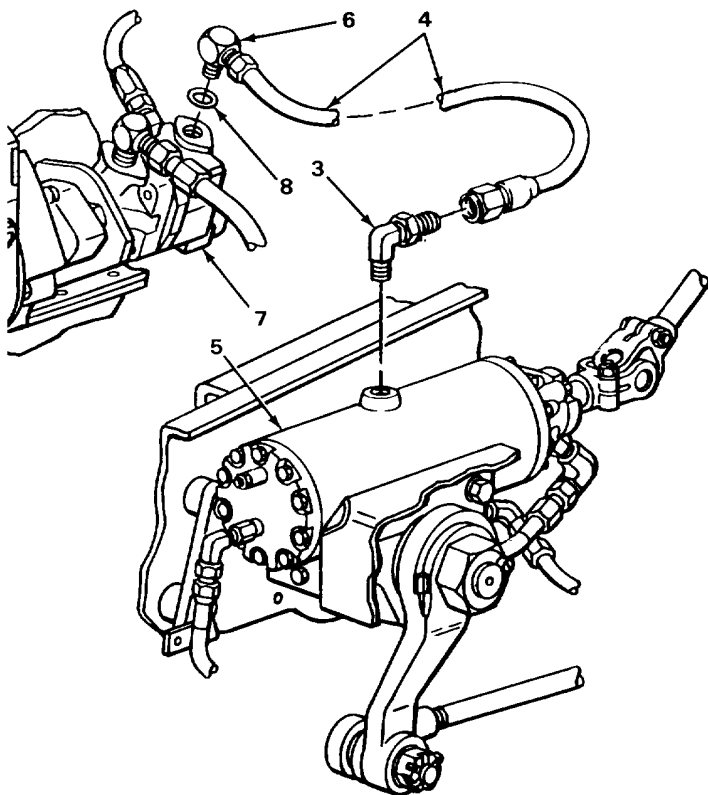
Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and cause damage to equipment Refer to TM 9-247.

**NOTE**

Hose and fittings must be cleaned thoroughly.

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

6	Elbow (3), hose (4), elbow (6), and	Using detergent and water, clean thoroughly.
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TA244468

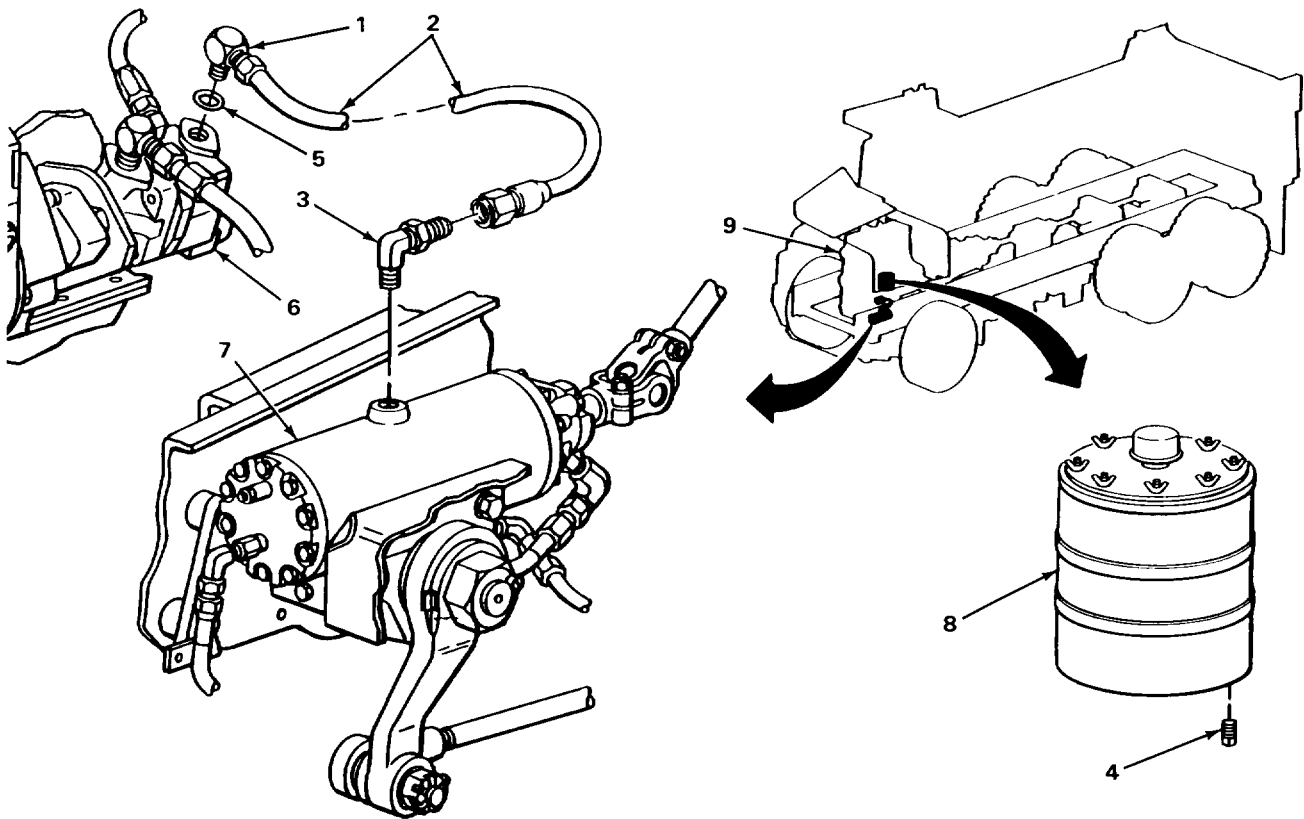


**PUMP-TO-LEFT STEERING GEAR HOSE AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS	
CLEANING - CONTINUED			
<b><u>WARNING</u></b>			
<p>Particles blown by compressed air are hazardous. Make certain the air stream is directed away from user and other personnel in the area. Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa). User must wear safety goggles or face shield to prevent injury to personnel.</p>			
7	Elbow (1), hose (2), elbow (3), and drainplug (4)	Using air blow gun and air hose assembly, blow dry.	
INSPECTION/REPLACEMENT			
<b>NOTE</b>			
<p>Replace all damaged or defective parts.</p> <p>For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).</p>			
8	Elbow (1) and elbow (3)	Look for bends, dents, or cracks.	
9	Hose (2)	Look for worn areas or gouges.	
10	All threaded parts	Look for damaged threads or rounded heads.	
INSTALLATION			
11	Elbow(1)	New ring (5)	Put on.
12	Pump (6)	Elbow (1) and new ring (5)	Screw on and tighten using two 7/8-inch open-end wrenches.
13	Elbow (1)	Hose (2)	Screw on and tighten using two 7/8-inch open-end wrenches.
14	Left steering	Elbow (3) gear (7)	<ul style="list-style-type: none"> <li>a Wrap pipe threads with antiseizing tape (page 2-424).</li> <li>b Screw in and tighten using 13/16-inch open-end wrench.</li> </ul>

**PUMP-TO-LEFT STEERING GEAR HOSE AND FITTINGS - CONTINUED**

ACTION LOCATION	ITEM	REMARKS
15 Elbow (3)	Hose (2)	Screw on and tighten using 13/16-inch and 7/8-inch open-end wrenches.
16 Reservoir (8)	Drainplug (4)	a Wrap pipe threads with antiseizing tape (page 2-424). b Screw in and tighten using 7/16-inch open-end wrench.
17 Left side of engine (9)	Reservoir (8)	Fill (page 2-1243).



**NOTE**

FOLLOW-ON MAINTENANCE: Close left side hood panel (page 2-424).

**TASK ENDS HERE**

**PUMP BYPASS HOSE AND FITTINGS**

This task covers:

- |   |                        |   |                                      |
|---|------------------------|---|--------------------------------------|
| a | Removal (page 2-1232)  | c | Inspection/Replacement (page 2-1234) |
| b | Cleaning (page 2-1234) | d | Installation (page 2-1235)           |

**INITIAL SETUP**

**Tools**

- Container, 6-gallon
- Goggles, safety
- Gun, blow, air
- Hose, air assembly
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 3/4-inch
- Wrench, open-end, 13/16-inch
- Wrench, open-end, 1-inch
- Wrench, open-end, 1 1/2-inch (two required)

**Materials/Parts**

- Detergent, liquid, GP (item 7, appendix C)

**Materials/Parts - Continued**

- Solvent, drycleaning (item 19, appendix C)
- Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

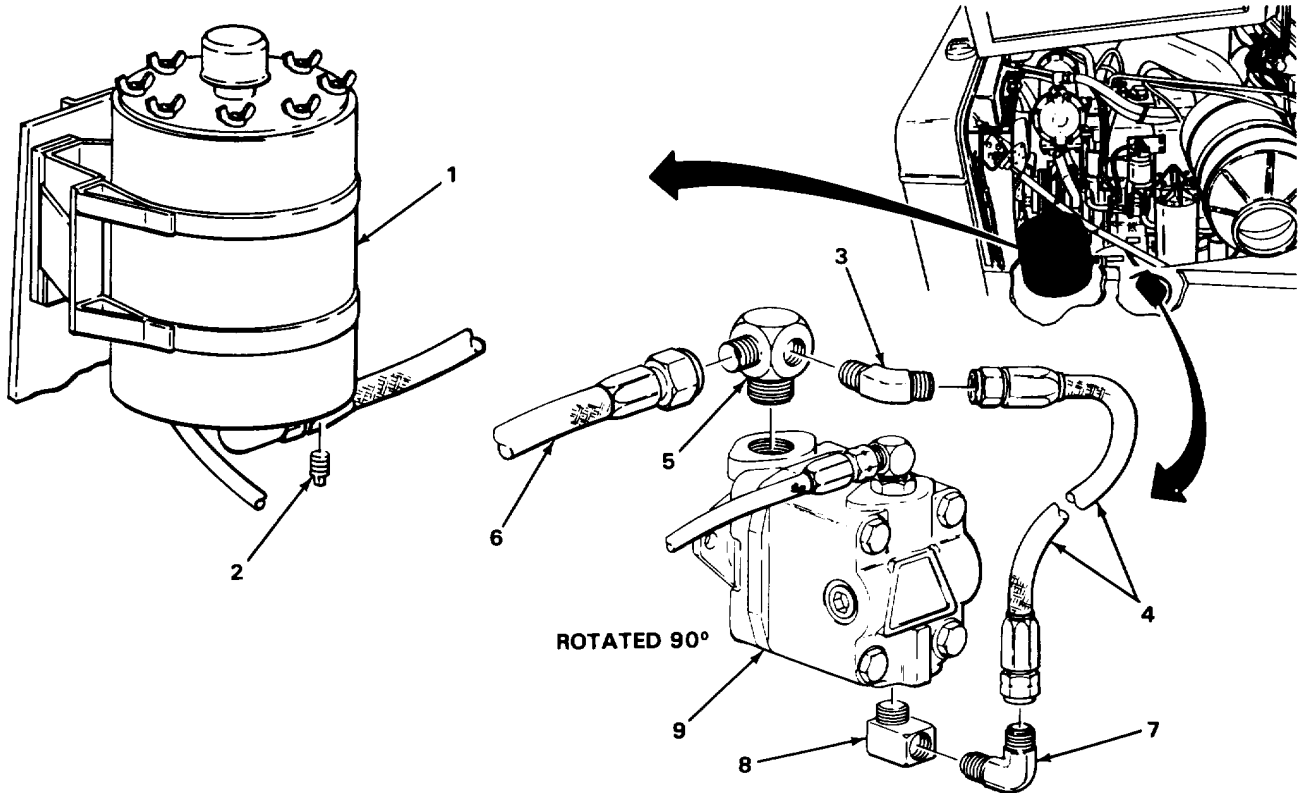
**Equipment Condition**

- Left side hood panel opened (page 2-424).
- Left side cab door opened (page 2-424).

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
1	Reservoir (1)	Drainplug (2)
		<ul style="list-style-type: none"> <li>a Place 6-gallon container underneath.</li> <li>b Using 7/16-inch open-end wrench, unscrew and take out.</li> </ul> <p style="text-align: center;"><b>Allow oil to drain.</b></p>
2	Elbow (3)	Hose (4)
		Using 3/4-inch and 1-inch open-end wrenches, unscrew and take off.
3	Elbow (5)	Elbow (3)
		Using 3/4-inch and 1 1/2-inch open-end wrenches, unscrew and take out.
4		Hose (6)
		Using two 1 1/2-inch open-end wrenches, unscrew and take off.
5	Elbow (7)	Hose (4)
		Using 13/16-inch and 1-inch open-end wrenches, unscrew and take off.

PUMP BYPASS HOSE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
6 Elbow (8)	Elbow (7)	Using 13/16-Inch and 1-Inch open-end wrenches, unscrew and take out.
7 Pump (9)	Elbow (8)	Using 1-inch open-end wrench, unscrew and take out.



TA244470

**PUMP BYPASS HOSE AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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CLEANING

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (590C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

Improper cleaning methods and use of unauthorized cleaning liquids or solvent can injure personnel. Refer to TM 9-247.

**NOTE**

Hoses and fittings must be cleaned thoroughly.

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

8	All metal parts thoroughly.	Using drycleaning solvent, clean
9	Hose (1)	Using detergent and water, clean thoroughly.

**WARNING**

Particles blown by compressed air are hazardous. Make certain the air stream is directed away from user and other personnel in the area. Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa). User must wear safety goggles or face shield to prevent injury to personnel.

10	All parts	Using air blow gun and air hose assembly, blow dry.
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INSPECTION/REPLACEMENT

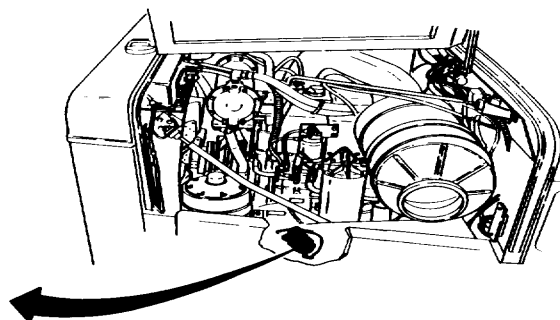
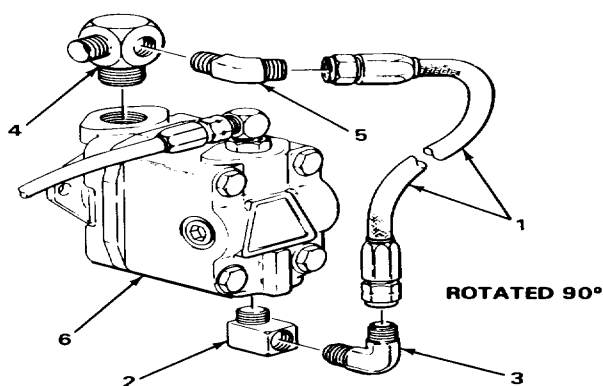
**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

**PUMP BYPASS HOSE AND FITTINGS - CONTINUED**

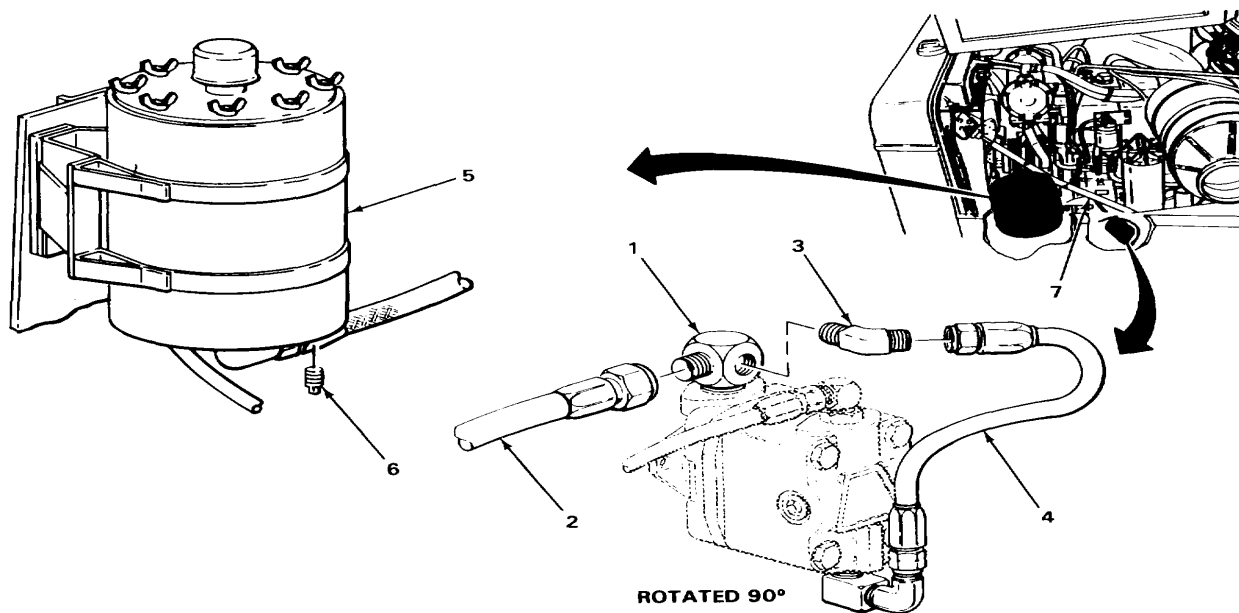
LOCATION	ITEM	ACTION REMARKS
11	Elbows (2, 3, 4, and 5)	Look for bends, dents, or cracks.
12	Hose (1)	Look for worn areas or gouges.
13	All threaded parts	Look for damaged threads or rounded heads.
<b>INSTALLATION</b>		
14 Pump (6)	Elbow (2)	<ul style="list-style-type: none"> <li>a Wrap pipe threads with antiseizing tape (page 2-424).</li> <li>b Screw in and tighten using 1-inch open-end wrench.</li> </ul>
15 Elbow (2)	Elbow (3)	<ul style="list-style-type: none"> <li>a Wrap pipe threads with antiseizing tape (page 2-424).</li> <li>b Screw in and tighten using 13/16-inch and 1-inch open-end wrenches.</li> </ul>
16 Elbow (3)	Hose (1)	Screw on and tighten using 1-inch and 13/16-inch open-end wrenches.
17 Pump (6)	Elbow (4)	<ul style="list-style-type: none"> <li>a Wrap pipe threads with antiseizing tape (page 2-424).</li> <li>b Screw in and tighten using 1 1/2-inch open-end wrench.</li> </ul>



TA244471

**PUMP BYPASS HOSE AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
18 Elbow (1)	Hose (2)	Screw on and tighten using two 1 1/2-inch open-end wrenches.
19	Elbow (3)	a Wrap pipe threads with antiseizing tape (page 2-424). b Screw in and tighten using 3/4-inch and 1 1/2-inch open-end wrenches.
20 Elbow (3)	Hose (4)	Screw on and tighten using 3/4-inch and 1-inch open-end wrenches.
21 Reservoir (5)	Drainplug (6)	a Wrap pipe threads with antiseizing tape (page 2-424). b Screw in and tighten using 7/16-inch open-end wrench.
22 Left side of engine (7)	Reservoir (5)	Fill (page 2-1243).



TA244472

**PUMP BYPASS HOSE AND FITTINGS - CONTINUED**

**NOTE**

FOLLOW-ON MAINTENANCE:

1. Close left side hood panel (page 2-424).
2. Close left side cab door (page 2-424).

**TASK ENDS HERE**

**OIL RESERVOIR**

This task covers:

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>a. Removal (page 2-1238)</li> <li>b. Disassembly (page 2-1239)</li> <li>c. Cleaning (page 2-1240)</li> </ol> | <ol style="list-style-type: none"> <li>d. Inspection/Replacement (page 2-1240)</li> <li>e. Assembly (page 2-1241)</li> <li>f. Installation (page 2-1241)</li> </ol> |
|---|---|

**INITIAL SETUP**

**Tools**

- Gloves, safety
- Goggles, safety
- Gun, blow, air
- Hose, air assembly
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 1/2-inch (two required)
- Wrench, open-end, 9/16-inch
- Wrench, open-end, 3/4-inch (two required)
- Wrench, open-end, 1-inch
- Wrench, open-end, 1 5/16-inch
- Wrench, open-end, 1 1/2-inch

**Materials/Parts**

- Lockwasher, bracket (four required)
- Lockwasher, strap (two required)
- Solvent, drycleaning (item 19, appendix C)
- Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**Equipment Condition**

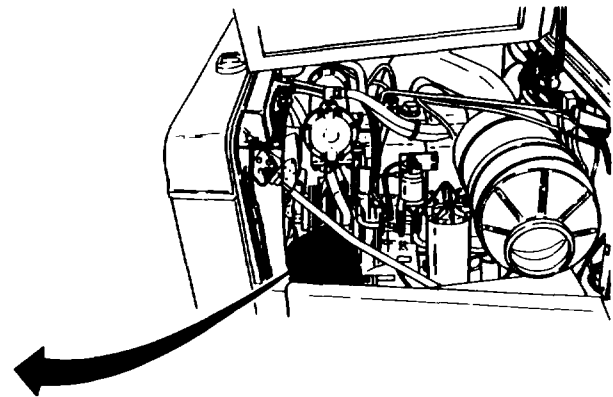
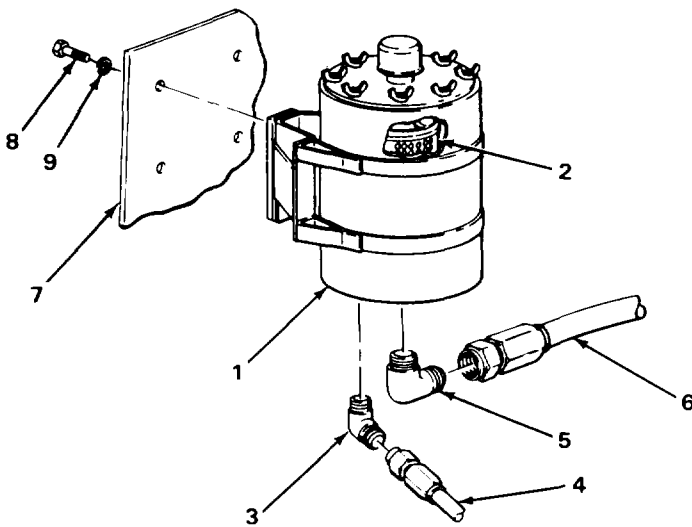
Left side hood panel opened (page 2-424).

**Change 1 2-1237**



OIL RESERVOIR - CONTINUED

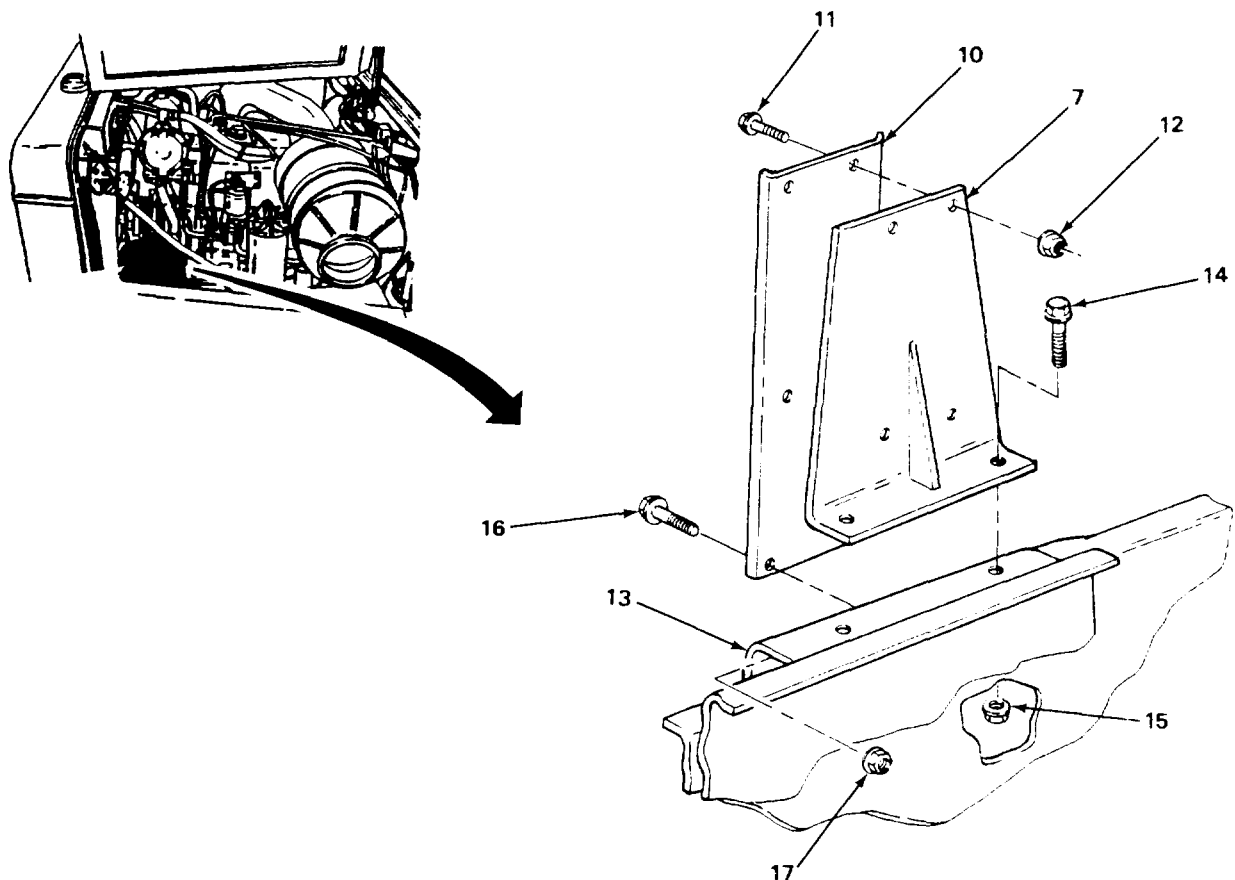
LOCATION	ITEM	ACTION REMARKS
REMOVAL		
<b><u>WARNING</u></b>		
Do not drain oil reservoir when hot. Hot oil can burn you.		
1. Reservoir (1)	Filter (2)	Remove (page 2-1237).
2. Elbow (3)	Hose (4)	Using 3/4-inch and 1-inch open-end wrenches, unscrew and take off.
3. Reservoir (1)	Elbow (3)	Using 3/4-inch open-end wrench, unscrew and take out.
4. Elbow (5)	Hose (6)	Using 1 5/16-inch and 1 1/2-inch open-end wrenches, unscrew and take off.
5. Reservoir (1)	Elbow (5)	Using 1 5/16-inch open-end wrench, unscrew and take off.
6. Bracket (7)	Four screws (8) and four lockwashers (9)	a. Using 9/16-inch open-end wrench, unscrew and take out. b. Get rid of lockwashers.
7.	Reservoir (1)	Take out.



TA244473

OIL RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
7.1. Support (10)	Four screws (11) and nuts (12)	Using two 3/4-inch open-end wrenches, unscrew, and take out.
7.2. Engine mount bracket (13)	Two screws (14) and nuts (15)	Using two 3/4-inch open-end wrenches, unscrew, and take out.
7.3.	Bracket (7)	Take off.
7.4.	Two screws (16) and nuts (17)	Using two 3/4-inch open-end wrenches, unscrew, and take out.
7.5.	Support (10)	Take off.



TA702177

OIL RESERVOIR - CONTINUED

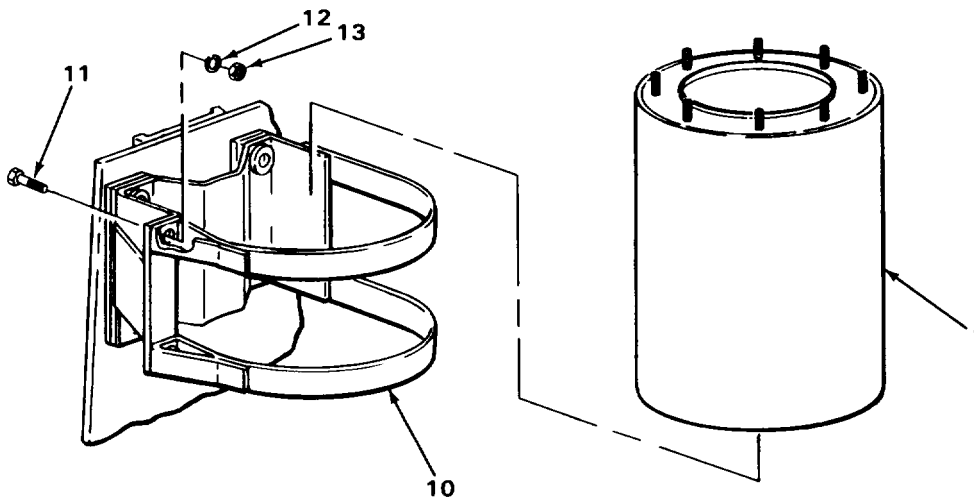
LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

DISASSEMBLY

**NOTE**

Note position of reservoir in strap before disassembly to ensure correct repositioning during assembly.

- |               |  |  |
|---------------|--|--|
| 8. Strap (10) | Two screws (11), two lockwashers (12), and two nuts (13) | a. Using two 1/2-inch open-end wrenches, unscrew and take out.<br>b. Get rid of lockwashers. |
| 9.            | Reservoir (1)  | Take out.  |



TA244474

## OIL RESERVOIR - CONTINUED

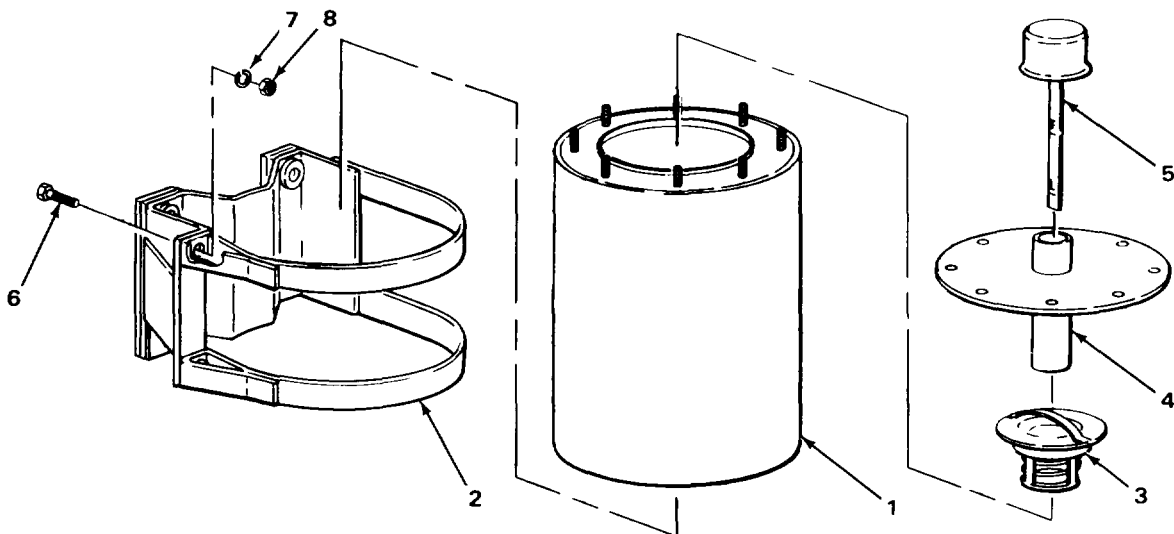
LOCATION	ITEM	ACTION REMARKS
CLEANING		
<b><u>WARNING</u></b>		
<p>Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.</p>		
<p>Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and cause damage to equipment. Refer to TM 9-247.</p>		
<b>NOTE</b>		
<p>All parts must be cleaned thoroughly.</p>		
<p>For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).</p>		
10.	All parts	Using drycleaning solvent, clean thoroughly.
<b><u>WARNING</u></b>		
<p>Particles blown by compressed air are hazardous. Make certain the air stream is directed away from user and other personnel in the area. Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa). User must wear safety goggles or face shield to prevent injury to personnel.</p>		
11.	All parts	Using air blow gun and air hose assembly, blow dry.
INSPECTION/REPLACEMENT		
<b>NOTE</b>		
<p>Replace all damaged or defective parts.</p>		
<p>For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).</p>		
12.	Reservoir (1)	Look for bends, dents, or cracks.
<b>2-1240</b>		

OIL RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
13.	Strap (2)	Look for cracks or breaks.
14.	Relief valve (3)	a. Look for clogged or torn screen. b. Look for broken spring.
15.	Cover (4)	Look for bends, dents, or cracks.
16.	Cap (5)	a. Look for clogged vent holes. b. Look for bends or cracks.
17.	All threaded parts	Look for damaged threads or rounded heads.

ASSEMBLY

18. Strap (2)	Reservoir (1)	Put in. <b>Position as noted in disassembly.</b>
19.	Two screws (6), two new lockwashers (7), and two nuts (8)	Screw in and tighten using two 1/2-inch open-end wrenches.



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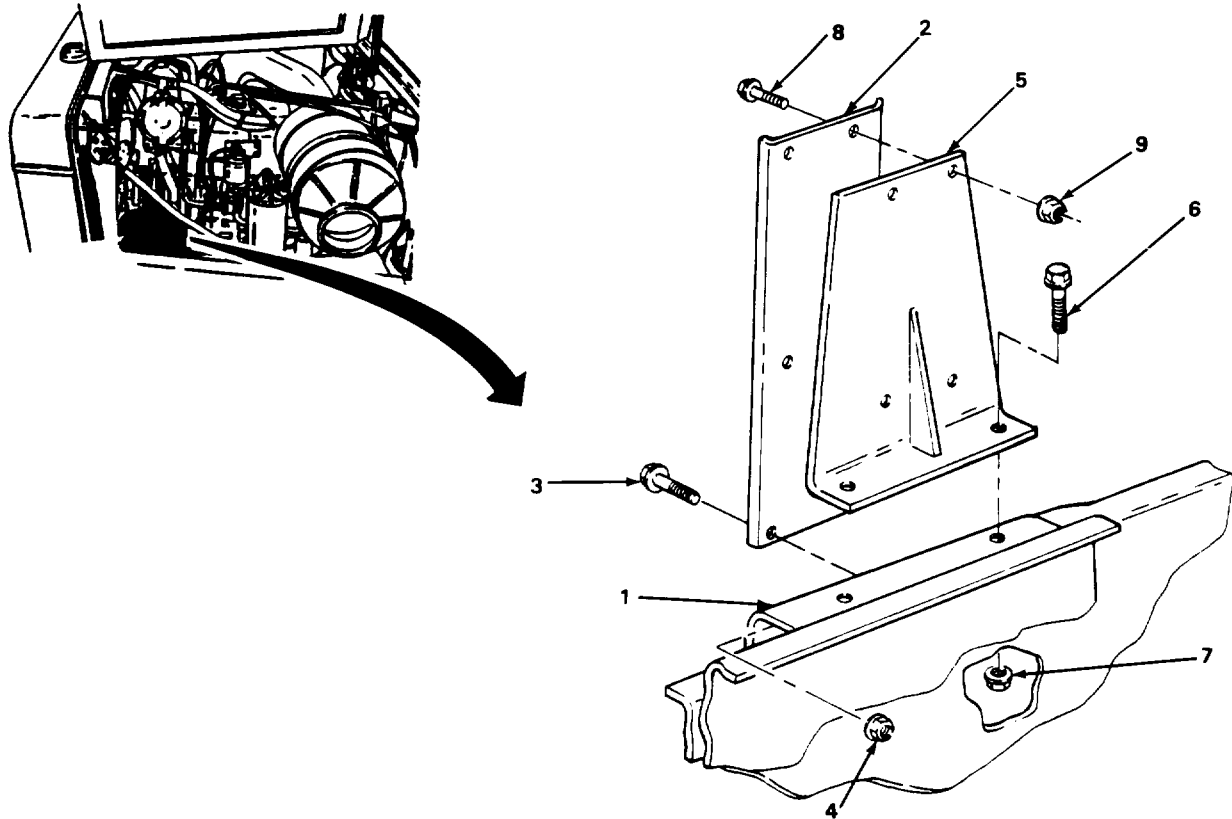
**OIL RESERVOIR - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>INSTALLATION</b>		
20. Engine mount bracket (1)	Support (2)	Put into place.
21.	Two screws (3) and nuts (4)	Screw in and tighten using two 3/4-inch open-end wrenches.
21.1.	Bracket (5)	Put into place.
21.2.	Two screws (6) and nuts (7)	Screw in and tighten using two 3/4-inch open-end wrenches.
21.3. Support (2)	Four screws (8) and nuts (9)	Screw in and tighten using two 3/4-inch open-end wrenches.
21.4. Bracket (5)	Reservoir (10)	Put into place.
21.5.	Four screws (11) and four new lockwashers (12)	Screw in and tighten using 9/16-inch open-end wrench.

**Change 1 2-1241.0**

OIL RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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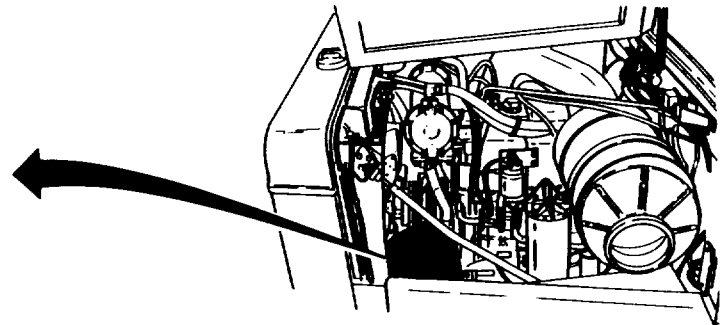
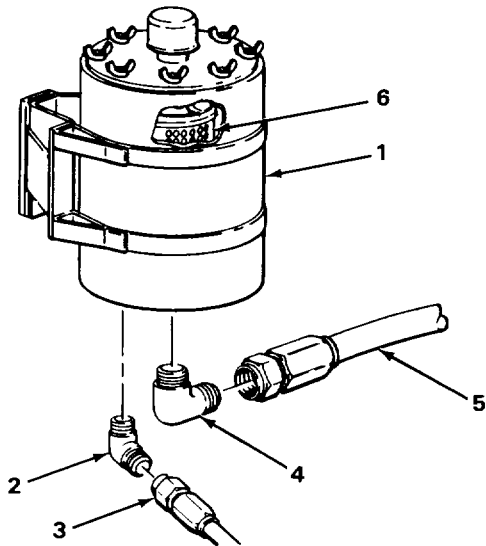


TA702179

Change 1 2-1241.1

**OIL RESERVOIR - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>INSTALLATION - CONTINUED</b>		
22. Reservoir (1)	Elbow (2)	a. Wrap pipe threads with antiseizing tape (page 2-424). b. Screw in and tighten using 1 5/16-inch open-end wrench.
23. Elbow (2)	Hose (3)	Screw on and tighten using 1 5/16-inch and 1 1/2-inch open-end wrenches.
24. Reservoir (1)	Elbow (4)	a. Wrap pipe threads with antiseizing tape (page 2-424). b. Screw in and tighten using 3/4-inch open-end wrench.
25. Elbow (4)	Hose (5)	Screw on and tighten using 3/4-inch and 1-inch open-end wrenches.
26. Reservoir (1)	Filter (6)	Install (page 2-1237).



**NOTE**

FOLLOW-ON MAINTENANCE: Close left side hood panel (page 2-424).

**TASK ENDS HERE**

TA244476



**FILLING STEERING SYSTEM**

This task covers:

Filling (page 2-1243)

**INITIAL SETUP**

**Tools**

- Pliers, roundnose, 8-inch
- Puller, mechanical, cinch
- Scale, machinist, 6-inch
- Wrench, open-end, 1 5/16-inch

**Materials/Parts**

- Oil, lubricating (item 14, appendix C)
- Pin, cotter, drag link (two required)
- Rag, wiping (item 15, appendix C)

**Personnel Required**

Two

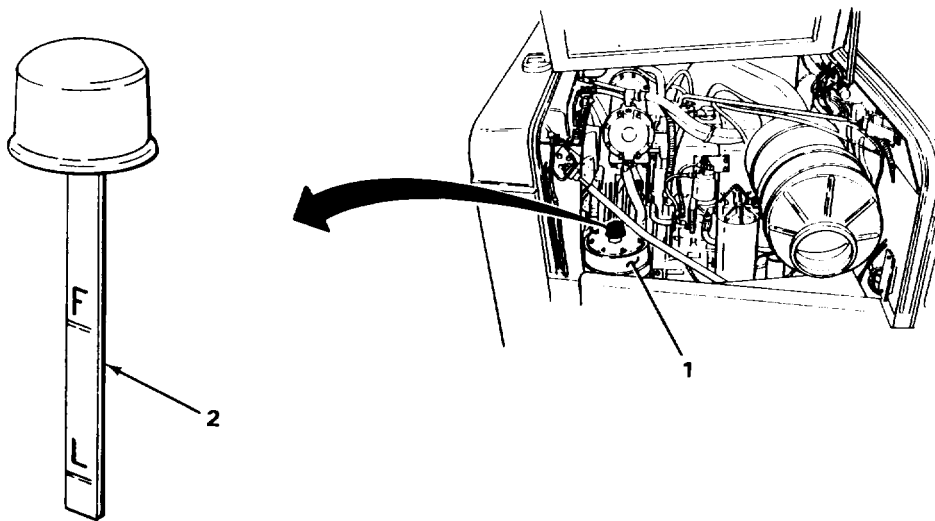
**Equipment Condition**

- Left cab door opened (page 2-424).
- Left side hood panel opened (page 2-424).

**References**

TM 5-3805-254-10 (Operator's Manual)

LOCATION	ITEM	ACTION REMARKS
1. Reservoir (1)	Cap (2)	Pull up and out.



TA244477

## FILLING STEERING SYSTEM - CONTINUED

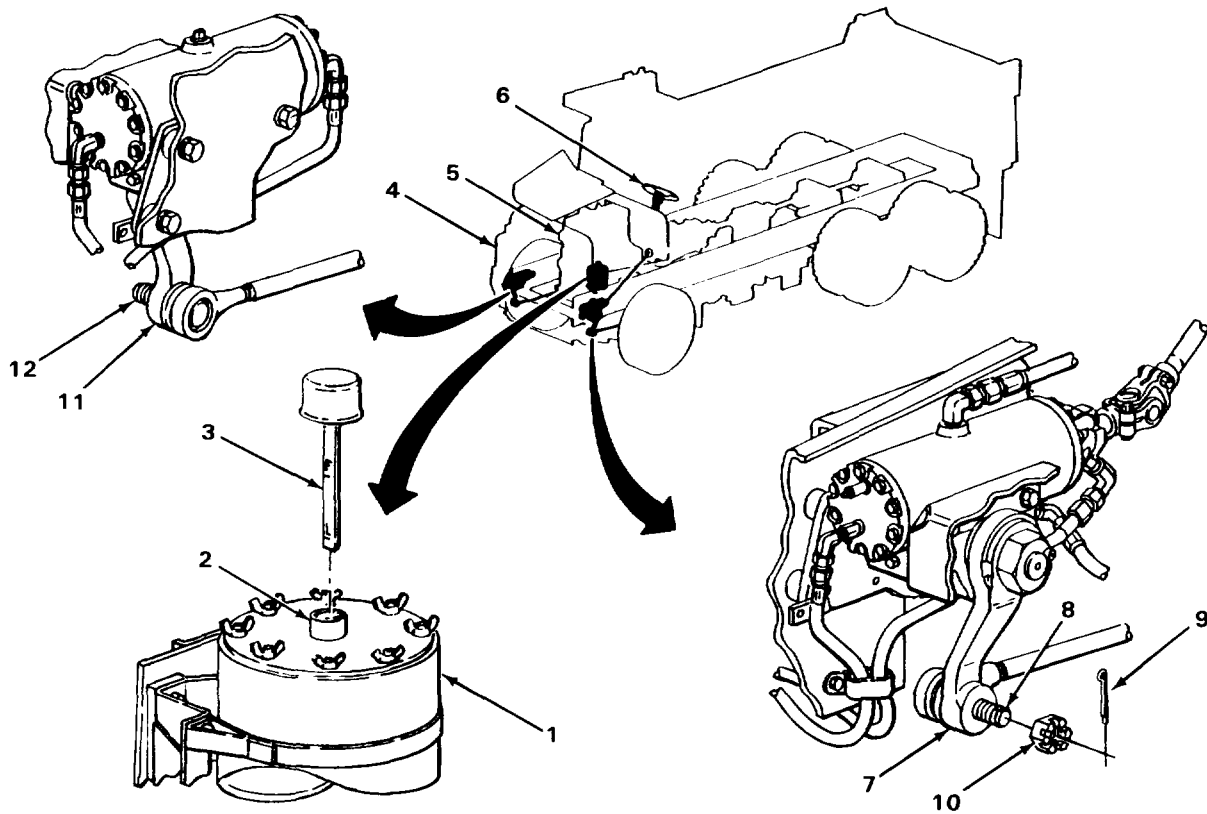
LOCATION	ITEM	ACTION REMARKS
2. Reservoir (1)	Filler neck (2)	Fill with lubricating oil to 4 inches (10.16 cm) below top of filler neck using 6-inch machinist scale.
3.	Cap (3)	Put on.
<b><u>CAUTION</u></b>		
Failure to perform the following steps could cause serious damage to equipment.		
4. Dump truck (4)	Engine (5)	a. Start (TM 5-3805-254-10). b. Let idle.
5.	Steering wheel (6)	Slowly turn to full left and to full right three times.
6.	Engine (5)	Shut down (TM 5-3805-254-10).
7. Reservoir (1)	Cap (3)	a. Pull up and out. b. Using wiping rag, wipe clean. c. Put in completely. d. Pull up and out. <b>If oil is up to F (full) mark go to step 8. If oil is below F (full) mark repeat steps 2 thru 7.</b>
8.	Cap (3)	Put on.
9. Dump truck (4)	Engine (5)	a. Start (TM 5-3805-254-10). b. Run at 900 rpm.
10.	Steering wheel (6)	Slowly turn to full left and to full right for three minutes.
11.	Engine (5)	Shut down (TM 53805-254-10).
12. Engine (5)	Reservoir (1)	Repeat steps 1, 2, and 3.

**NOTE**

Steps 13, 14, and 15 are typical for both left and right steering arms.

**FILLING STEERING SYSTEM - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
13. Left steering arm (7) and link end (8)	Cotter pin (9)	a. Using 8-inch roundnose pliers, straighten ends and take out. b. Get rid of.
14.	Nut (10)	Using 1 5/16-inch open-end wrench, unscrew and take off.
15. Left steering arm (7)	Link end (8)	Using 8-inch mechanical puller, screw in and take out.
16. Right steering arm (11)	Link end (12)	Repeat steps 13, 14, and 15.



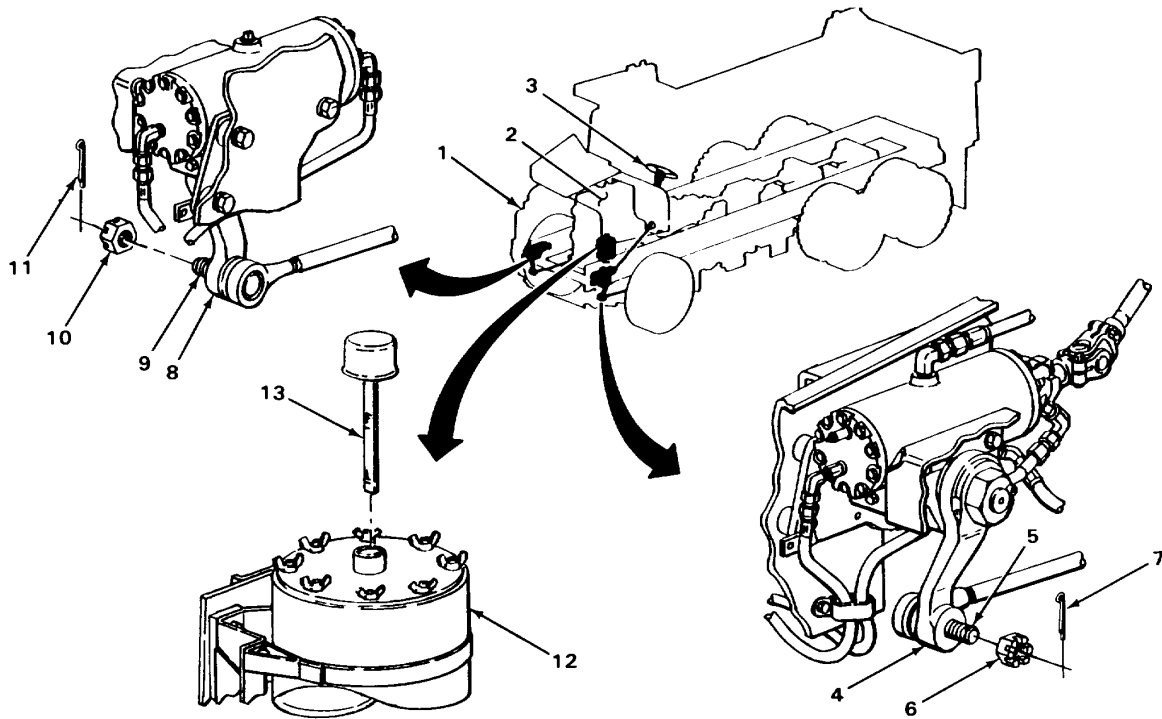
TA244478

## FILLING STEERING SYSTEM - CONTINUED

LOCATION	ITEM	ACTION REMARKS
FILLING - CONTINUED		
17	Dump truck (1) Engine (2)	a. Start (Refer to TM 5-3805-254-10). b. Let idle.
<b><u>WARNING</u></b>		
Stand clear of steering arms while performing step 18. Failure to observe this precaution could cause serious injury to personnel.		
<b><u>CAUTION</u></b>		
Do not move steering arms by hand. Air could be pulled back into system.		
<b>NOTE</b>		
Assistance will be needed to perform steps 18 thru 22.		
Steps 18 thru 22 are typical for both left and right steering arms.		
18.	Steering wheel (3)	a. Have assistant turn steering wheel to full left and hold until right steering arm moves to stop. b. Turn to full right and hold until right steering arm moves to stop. c. Repeat a and b three times. d. Turn to align left steering arm with link end.
19.	Engine (2)	Shut down (TM 5-3805-254-10).
20.	Left steering arm (4)	Put in.
21.	Link end (5) Nut (6)	Screw on and tighten using 1 5/16-inch open-end wrench. <b>Aline hole in link end with slot in nut.</b>
22.	Link end (5) and nut (6)	Put in and bend ends back using 8-inch roundnose pliers (page 2-424).
23.	Dump truck (1) Engine (2)	a. Start (TM 5-3805-254-10). b. Let idle.
24.	Dump truck (1) Steering wheel (3) and right steering arm (8)	Repeat step 18.

**FILLING STEERING SYSTEM - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
25.	Engine (2)	Shut down (TM 5-3805-254-10).
26. Right steering arm (8)	Link end (9), nut (10), and new cotter pin (11)	Repeat steps 20, 21, and 22.
27. Reservoir (12)	Cap (13)	<ol style="list-style-type: none"> <li>Repeat steps 1 thru 6.</li> <li>Pull up and out.</li> <li>Using wiping rag, wipe clean.</li> <li>Put in completely.</li> <li>Pull up and out.</li> <li>If oil is below F (full) repeat step 27 until oil level is full.</li> </ol>



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Close left side cab door (page 2-424).
2. Close left side hood panel (page 2-424).

**TASK ENDS HERE**

**Section XVII. FRAME AND TOWING ATTACHMENT MAINTENANCE**

Page

Pintle Hook 2-1248

**PINTLE HOOK**

This task covers:

- a. Removal (page 2-1248)
- b. Installation (page 2-1249)

**INITIAL SETUP**

**Tools**

- Extension, 6-inch, 1/2-inch drive
- Goggles, safety
- Handle, ratchet, 1/2-inch drive
- Socket, 1 1/8-inch, 1/2-inch drive
- Wrench, box-end, 1 1/8-inch
- Wrench, torque, 0-300 ft lb  
(0 to 420 N•m), 1/2-inch drive

**Personnel**

Two

**Equipment Condition**

Parking brake engaged (TM 5-3805-254-10)

**Materials/Parts**

Lockwasher, pintle hook (four required)

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

**REMOVAL**

**WARNING**

Due to excessive weight, assistance will be needed to lift and remove pintle hook assembly from rear chassis cross-member. Serious injury to personnel could result.

Safety goggles must be worn when working under truck to prevent eye injury.

- |    |                               |  |   |
|----|-------------------------------|--|---|
| 1. | Rear chassis cross-member (1) | Four screws (2), four nuts (3), and four lockwashers (4) | <ul style="list-style-type: none"> <li>a. Using 1/2-inch drive 6-inch extension, ratchet handle, 1 1/8-inch socket and 1 1/8-inch box-end wrench, with assistance, unscrew and take off.</li> <li>b. Get rid of lockwashers.</li> </ul> |
| 2. | Pintle hook (5)               |  | With assistance, take off.  |

**PINTLE HOOK - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

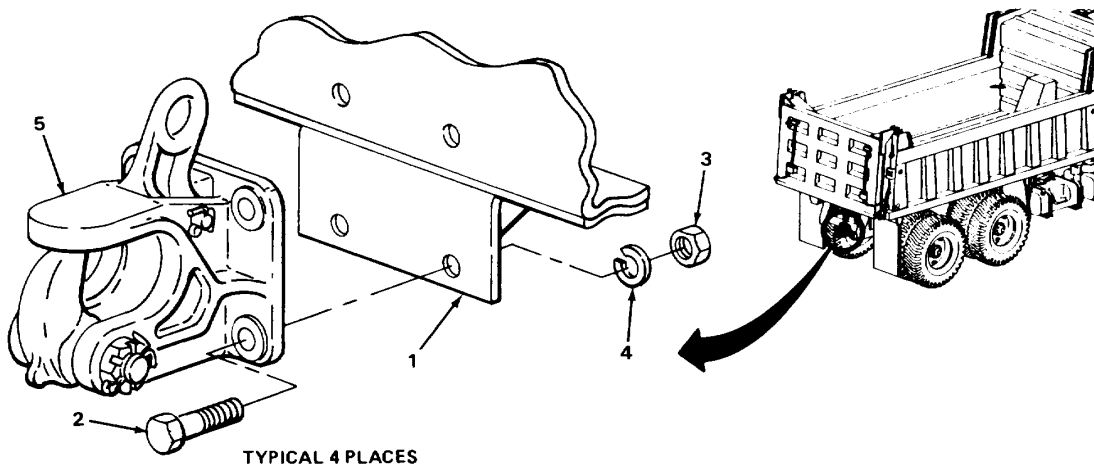
**INSTALLATION**

**WARNING**

Due to excessive weight, assistance will be needed to lift and remove pintle hook assembly from rear chassis cross-member. Serious injury to personnel could result.

Safety goggles must be worn when working under truck to prevent injury.

- |    |  |                 |   |
|----|--|-----------------|---|
| 1. | Rear chassis cross-member (1)                                | Pintle Hook (5) | With assistance, put in place.  |
| 2. | Four screws (2), four nuts (3), and four new lockwashers (4) |                 | a. With assistance, align screws in pintle hook (5) and rear chassis cross-member (1).<br>b. Screw nuts on screws and torque to 250 ft lb (281 N•m) using 1/2-inch drive 6-inch extension, 1 1/8-inch socket, torque wrench, 0 to 250 ft lb (0 to 420 N•m) and 1 1/8-inch box-end wrench. |



**NOTE**

FOLLOW ON MAINTENANCE: Disengage parking brake (TM 5-3805-254-10)

**TASK ENDS HERE**

TA244480

**Section XVIII. BODY, CAB, AND HOOD MAINTENANCE**

Page	Page
Driver's Seat..... 2-1274.1	Passenger Seat.....2-1272
Driver's Seat Covers and Pan..... 2-1275	Pioneer Tool Rack Replacement .....2-1284.1
.....	Radiator Grille .....2-1284.3
.....	Seat Belts.....2-1282
Hood..... 2-1251	Splash Guards .....2-1280

**HOOD**

This task covers:

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>a. Removal (page 2-1252)</li> <li>b. Disassembly (page 2-1254)</li> <li>c. Inspection/Replacement (page 2-1256)</li> </ul> | <ul style="list-style-type: none"> <li>d. Assembly (page 2-1258)</li> <li>e. Installation (page 2-1260)</li> </ul> |
|---|--|

**INITIAL SETUP**

**Tools**

- Handle, ratchet, 1/2-inch drive
- Pliers, slip-joint, 8-inch
- Screwdriver, cross-tip, number two
- Screwdriver, cross-tip, number three
- Socket, 7/16-inch, 1/2-inch drive
- Socket, 1/2-inch, 1/2-inch drive
- Wrench, box-end, 7/16-inch
- Wrench, box-end, 1/2-inch
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 1/2-inch

**Materials/Parts**

- Cotter pin, anchor pin (four required)
- Lockwasher, hood handle (four required)

**Materials/Parts - Continued**

- Nut, self-locking, center hood rod retainer to cowl (two required)
- Nut, self-locking, center hood rod retainer to fire wall bracket (two required)
- Nut, self-locking, hood rest to hood (two required)

**Personnel Required**

Three

**Equipment Condition**

Left and right side hood panels opened (page 2-424).



## HOOD - CONTINUED

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

## REMOVAL

**WARNING**

Assistance is needed to support hood panel to prevent falling and causing personal injury.

- |                                 |  |   |
|---------------------------------|--|---|
| 1. Right hood rest (1)          | Screw (2) and self-locking nut (3)             | <ul style="list-style-type: none"> <li>a. Using 1/2-inch drive, 7/16-inch socket, ratchet handle, and 7/16-inch box-end wrench, unscrew and take off.</li> <li>b. Get rid of self-locking nut.</li> <li>c. Place right side hood panel on top of left hood panel.</li> </ul>      |
| 2. Center hood rod retainer (4) | Two screws (5) and two self-locking nuts (6)   | <ul style="list-style-type: none"> <li>a. Using number three cross-tip screwdriver and 1/2-inch open-end wrench, unscrew and take off.</li> <li>b. Get rid of self-locking nuts.</li> <li>c. With two assistants, close right side hood panel.</li> </ul>                         |
| 3. Left hood rest (7)           | Screw (8) and self-locking nut (9)             | <ul style="list-style-type: none"> <li>a. Using 1/2-inch drive, 7/16-inch socket, ratchet handle, and 7/16-inch box-end wrench, unscrew and take off.</li> <li>b. Get rid of self-locking nut.</li> <li>c. Place left side hood panel on top of right side hood panel.</li> </ul> |
| 4. Center hood rod retainer (4) | Two screws (10) and two self-locking nuts (11) | <ul style="list-style-type: none"> <li>a. Using number three cross-tip screwdriver and 1/2-inch open-end wrench, unscrew and take off.</li> <li>b. Get rid of self-locking nuts.</li> <li>c. With two assistants, close left side hood panel.</li> </ul>                          |

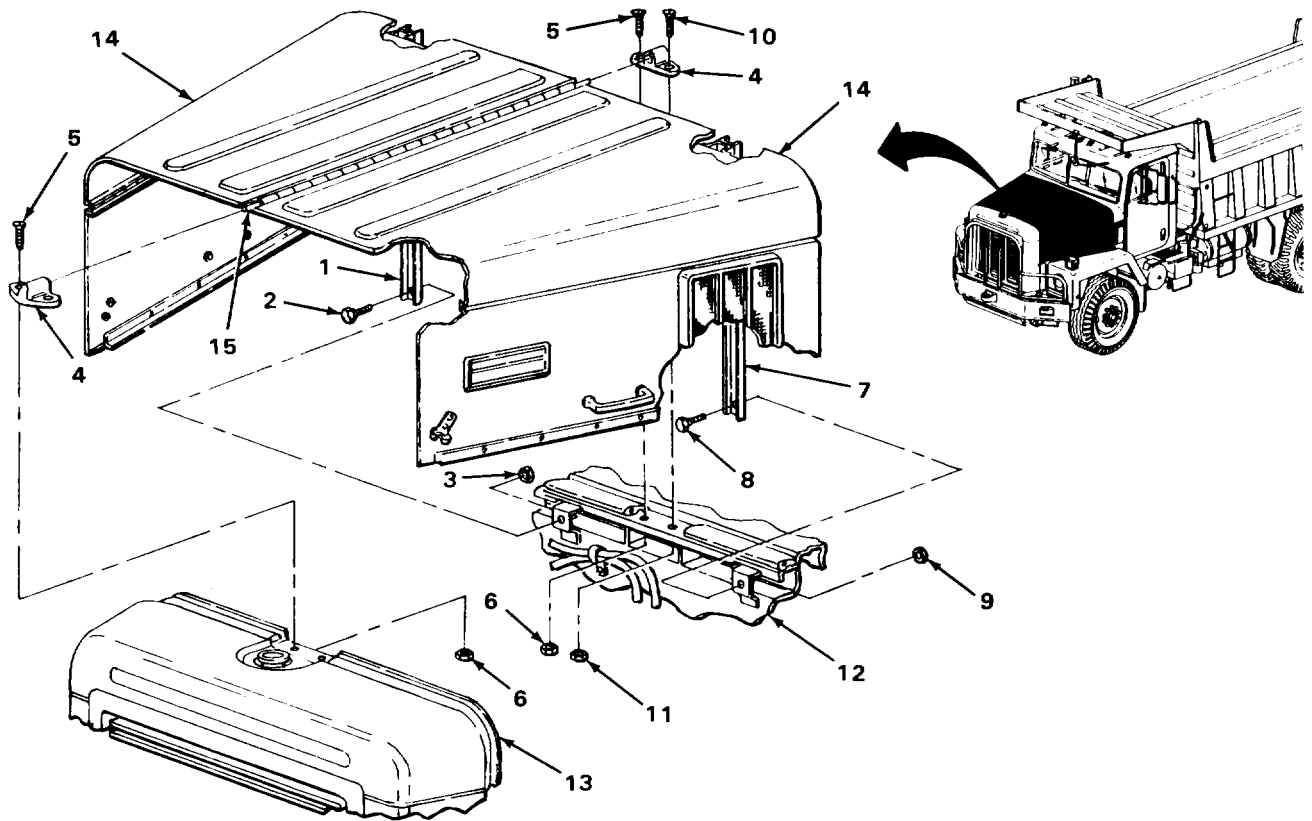
HOOD - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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**WARNING**

Due to excessive weight, assistance is needed to prevent personal injury when lifting heavy parts.

- |                                      |                              |                                |
|--------------------------------------|------------------------------|--------------------------------|
| 5. Cowl (12) and radiator shell (13) | Hood assembly (14)           | With two assistants, take off. |
| 6. Center hood hinge pin (15)        | Center hood rod retainer (4) | Take off.                      |



TA244481

HOOD - CONTINUED

LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY		
7. Right side hood panel (1)	Hood handle (2), two screws (3), and two lockwashers (4)	a. Using number three cross-tip screwdriver, unscrew and take out. b. Get rid of lockwashers.
8. Hood rest (5)	Shoulder bolt (6) and nut (7)	Using 1/2-inch drive, 1/2-inch socket, ratchet handle, and 1/2-inch box-end wrench, unscrew and take out.
9. Hood brackets (8)	Two screws (9) and two nuts (10)	Using number two cross-tip screwdriver and 1/2-inch box-end wrench, unscrew and take off.

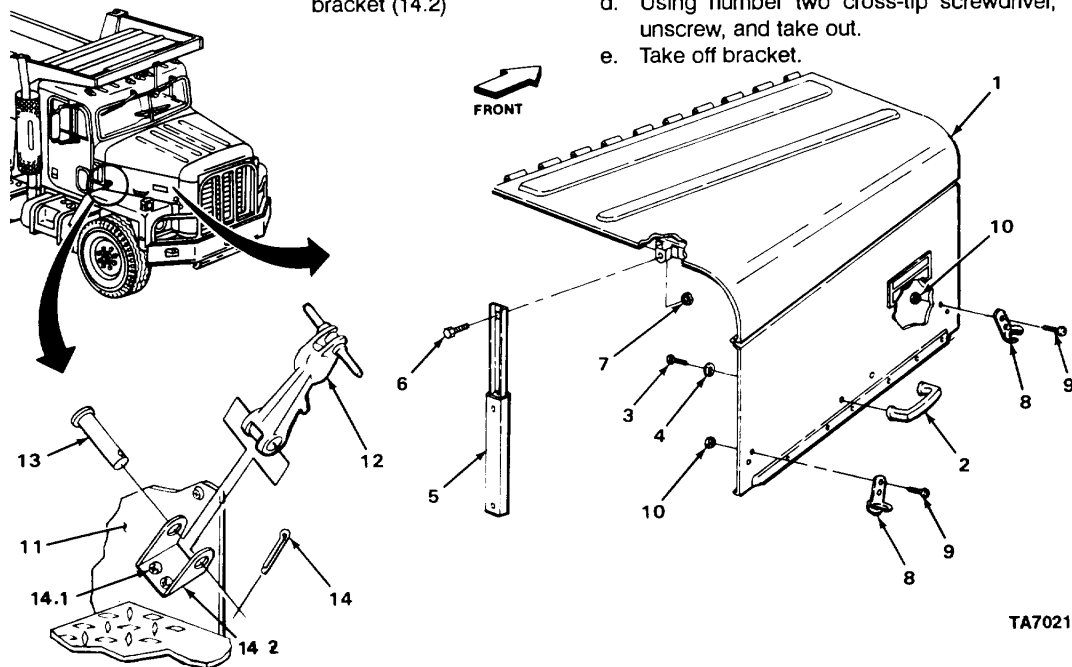
**NOTE**

All four hood latches are removed the same way.

10. Right side cab (11)

Hood latch hook (12), anchor pin (13), cotter pin (14), two screws (14.1), and bracket (14.2)

- Using 8-inch slip-joint pliers, take out cotter pin.
- Take out anchor pin.
- Take off hood latch hook.
- Using number two cross-tip screwdriver, unscrew, and take out.
- Take off bracket.

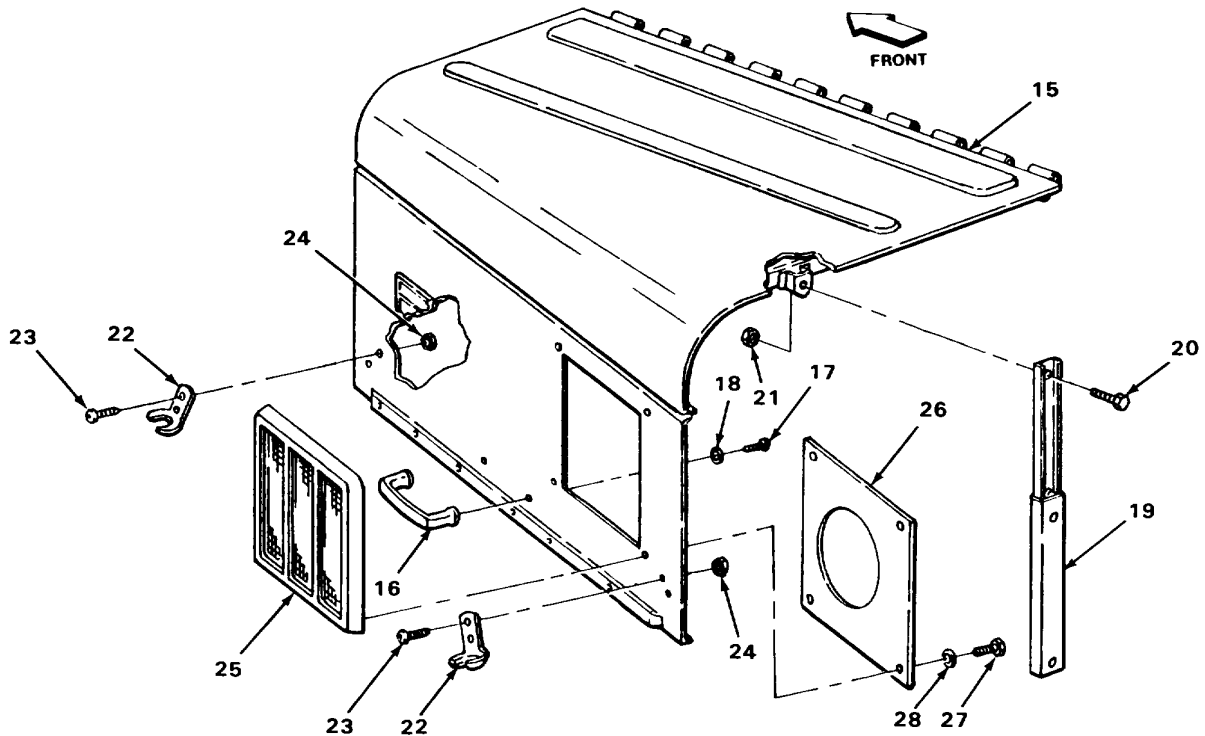


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HOOD - CONTINUED

LOCATION	ITEM	ACTION REMARKS
11. Left side hood panel (15)	Hood handle (16), two screws (17), and two lockwashers (18)	a. Using number three cross-tip screwdriver, unscrew and take out. b. Get rid of lockwashers.
12. Hood rest (19)	Shoulder bolt (20) and nut (21)	Using 1/2-inch drive, 1/2-inch socket, ratchet handle, and 1/2-inch box-end wrench, unscrew and take out.
13. Hood brackets (22)	Two screws (23) and two nuts (24)	Using number two cross-tip screwdriver and 1/2-inch box-end wrench, unscrew and take off.
14. Air intake deflector (25) and intake cover plate (26)	Four bolts (27) and four flat washers (28)	Using 7/16-inch open-end wrench, unscrew and take out.



TA244483

HOOD - CONTINUED

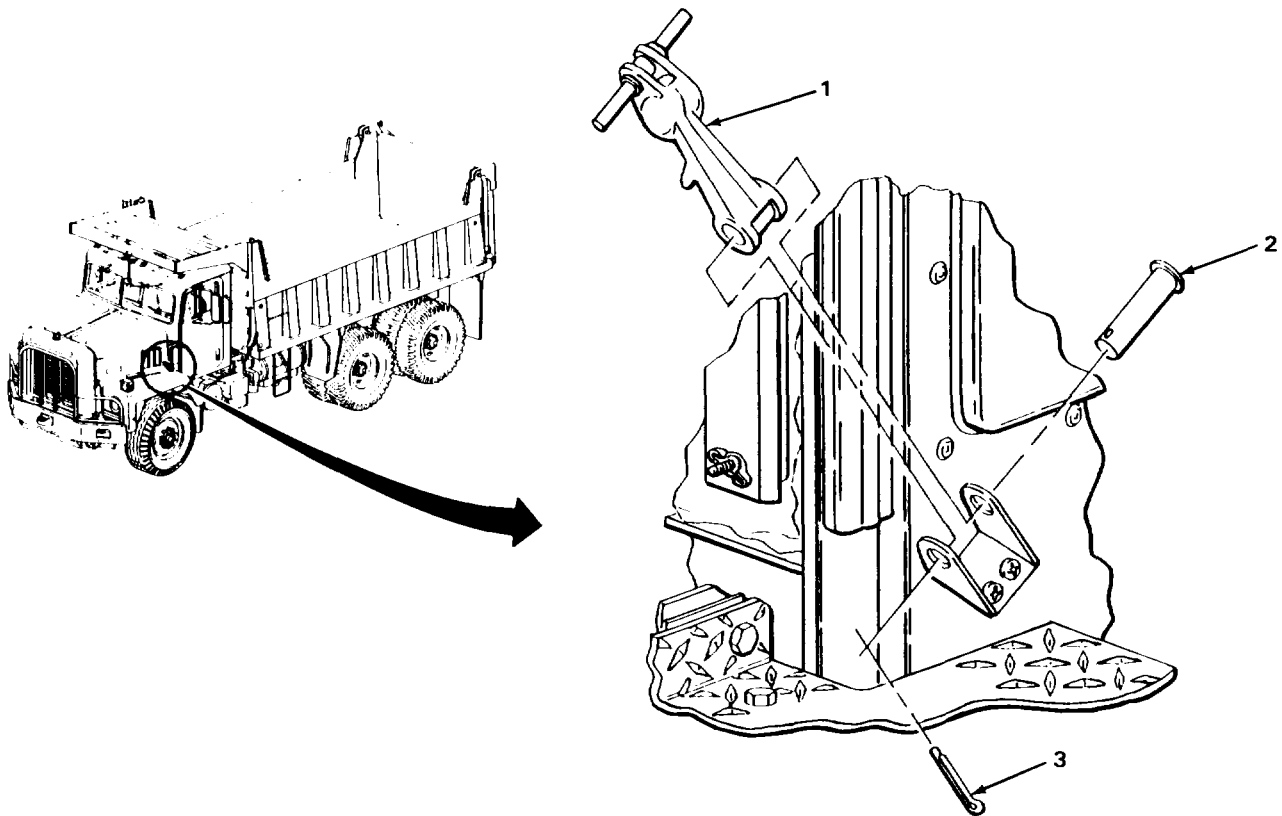
LOCATION	ITEM	ACTION REMARKS
INSPECTION/REPLACEMENT		

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

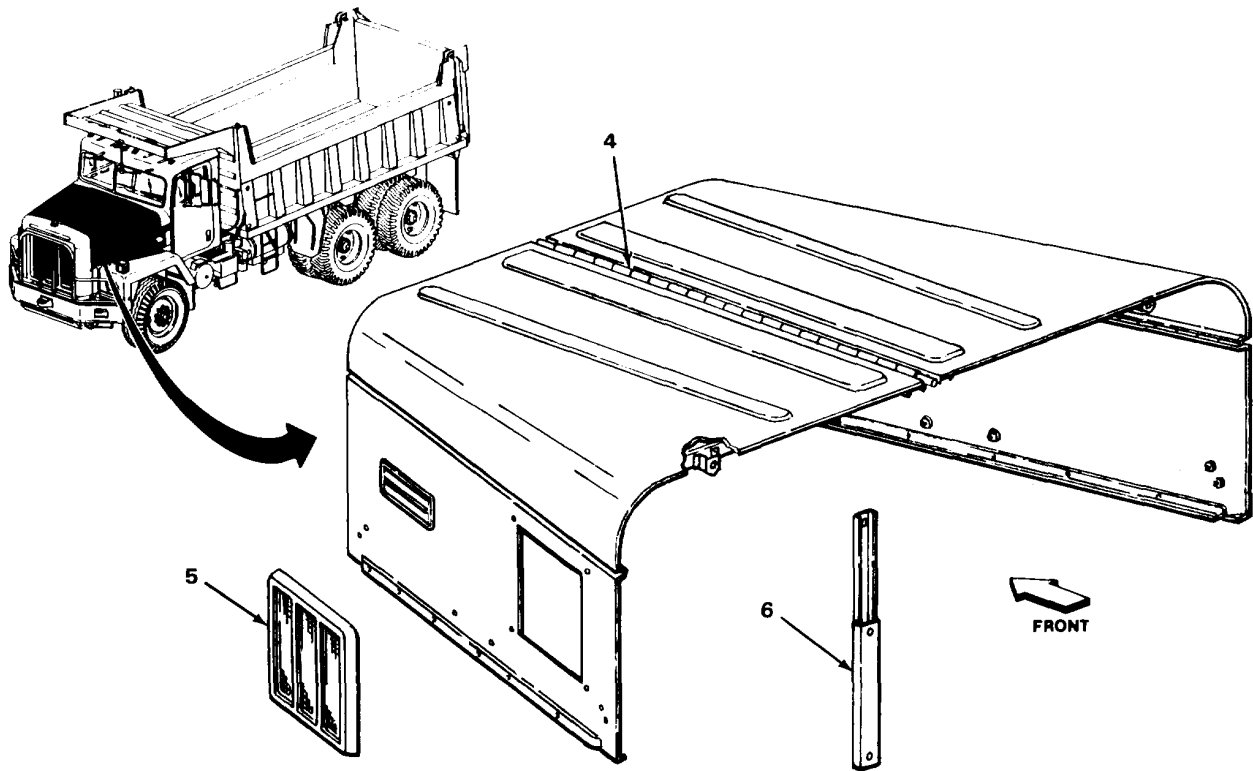
- |     |                      |  |
|-----|----------------------|--|
| 15. | Hood latch hooks (1) | Look for cracks, brittleness, and broken pieces.               |
| 16. | Anchor pins (2)      | Look for cracks, breaks, and wear.                             |
| 17. | Cotter pins (3)      | Check for breaks or distortion.<br><b>Replace as required.</b> |



TA244484

HOOD - CONTINUED

LOCATION	ITEM	ACTION REMARKS
18.	Hood panels (4)	Check welded and riveted areas for cracks or breaks.
19.	Air intake deflector (5)	Check for dents or tears.
20.	Hood rests (6)	Check for twists, bends, or improper action.
21.	All threaded parts	a. Look for damaged threads or rounded heads. b. Check cross-tip grooves for wear.



TA244485

HOOD - CONTINUED

LOCATION	ITEM	ACTION REMARKS
ASSEMBLY		
22. Right side hood panel (1)	Hood handle (2), two screws (3), and two new lockwashers (4)	Screw in and tighten using number three cross-tip screwdriver.
23. Hood rest (5)	Shoulder bolt (6) and nut (7)	Screw in and tighten using 1/2-inch drive, 1/2-inch socket, ratchet handle, and 1/2-inch box-end wrench.
24. Hood brackets (8)	Two screws (9) and two nuts (10)	Screw in and tighten using number two cross-tip screwdriver and 1/2-inch box-end wrench.

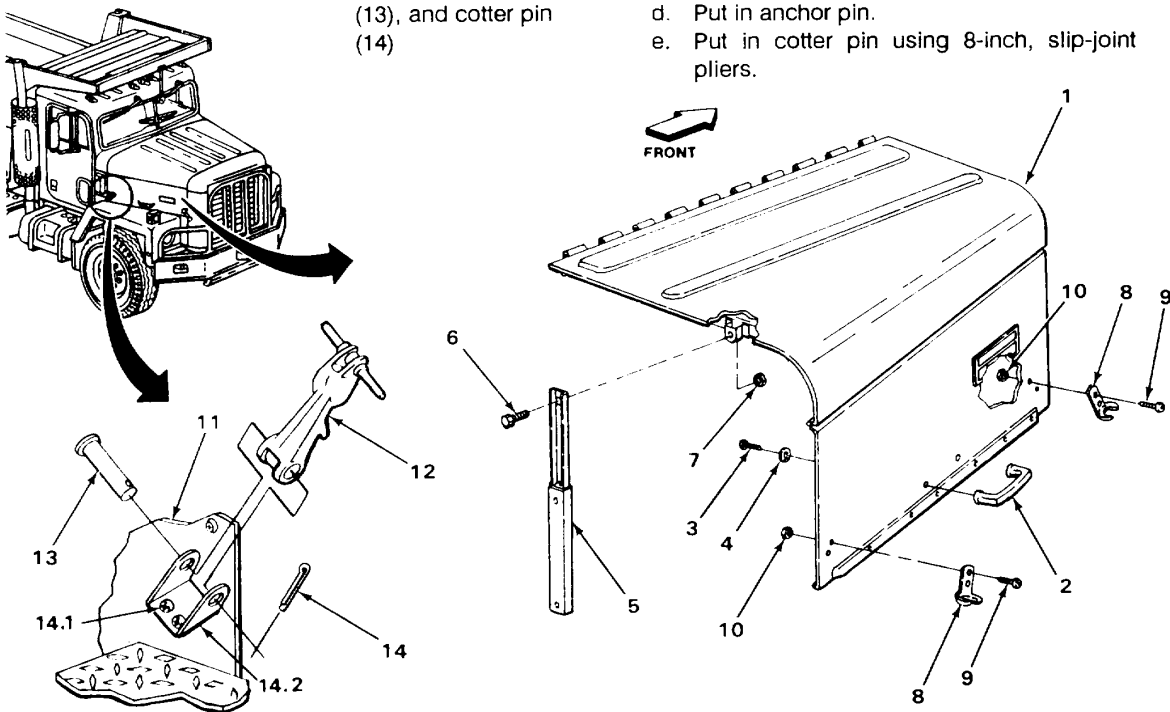
NOTE

All four hood latches are installed the same way.

25. Right side cab (11)

Bracket (14.2), two screws (14.1), hood latch hook (12), anchor pin (13), and cotter pin (14)

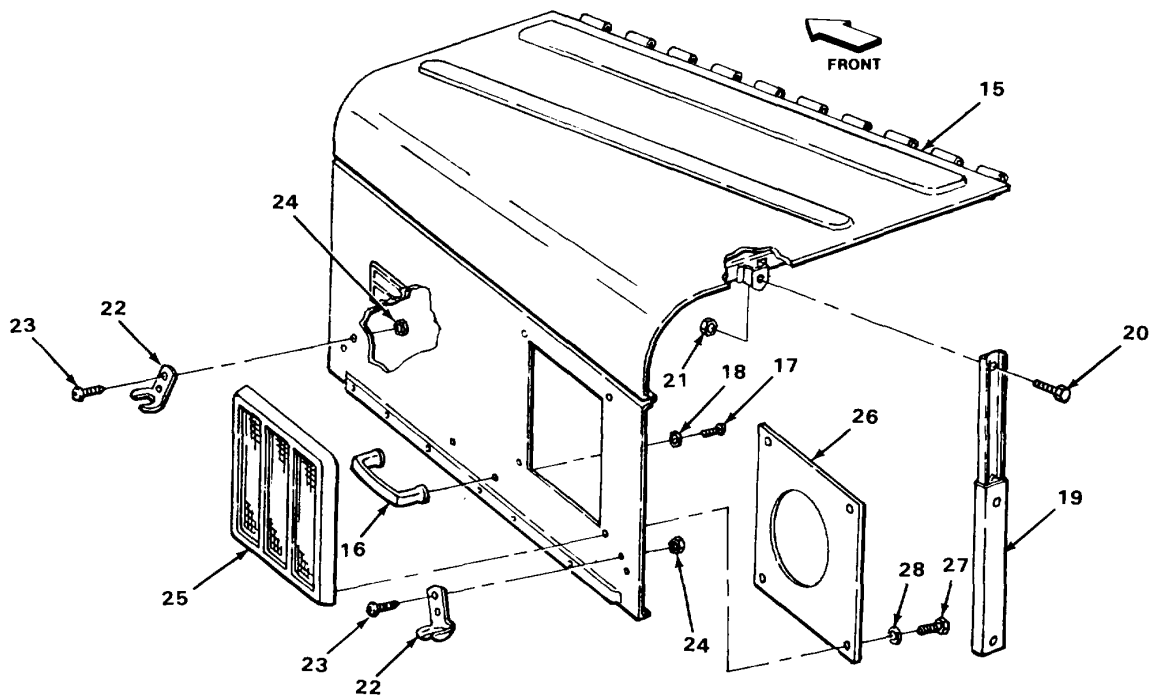
- a. Put bracket in place.
- b. Screw in and tighten using number two cross-tip screwdriver.
- c. Put hood latch hook in place.
- d. Put in anchor pin.
- e. Put in cotter pin using 8-inch, slip-joint pliers.



TA702181

HOOD - CONTINUED

LOCATION	ITEM	ACTION REMARKS
26. Left side hood panel (15)	Hood handle (16), two screws (17), and two new lockwashers (18)	Screw in and tighten using number three cross-tip screwdriver.
27. Hood rest (19)	Shoulder bolt (20) and nut (21)	Screw in and tighten using 1/2-inch drive, 1/2-inch socket, ratchet handle, and 1/2-inch box-end wrench.
28. Hood brackets (22)	Two screws (23) and two nuts (24)	Screw in and tighten using number two cross-tip screwdriver and 1/2-inch box-end wrench.
29. Air intake deflector (25) and intake cover plate (26)	Four bolts (27) and four flat washers (28)	Screw in and tighten using 7/16-inch open-end wrench.



TA244487



## HOOD - CONTINUED

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

## INSTALLATION

**WARNING**

Due to excessive weight, assistance is needed to prevent personal injury when lifting heavy parts.

- |     |                             |                              |   |
|-----|-----------------------------|------------------------------|---|
| 30. | Center hood hinge pin (1)   | Center hood rod retainer (2) | Put on.   |
| 31. | Cowl and radiator shell (3) | Hood assembly (4)            | With two assistants, place in position and align boltholes. |

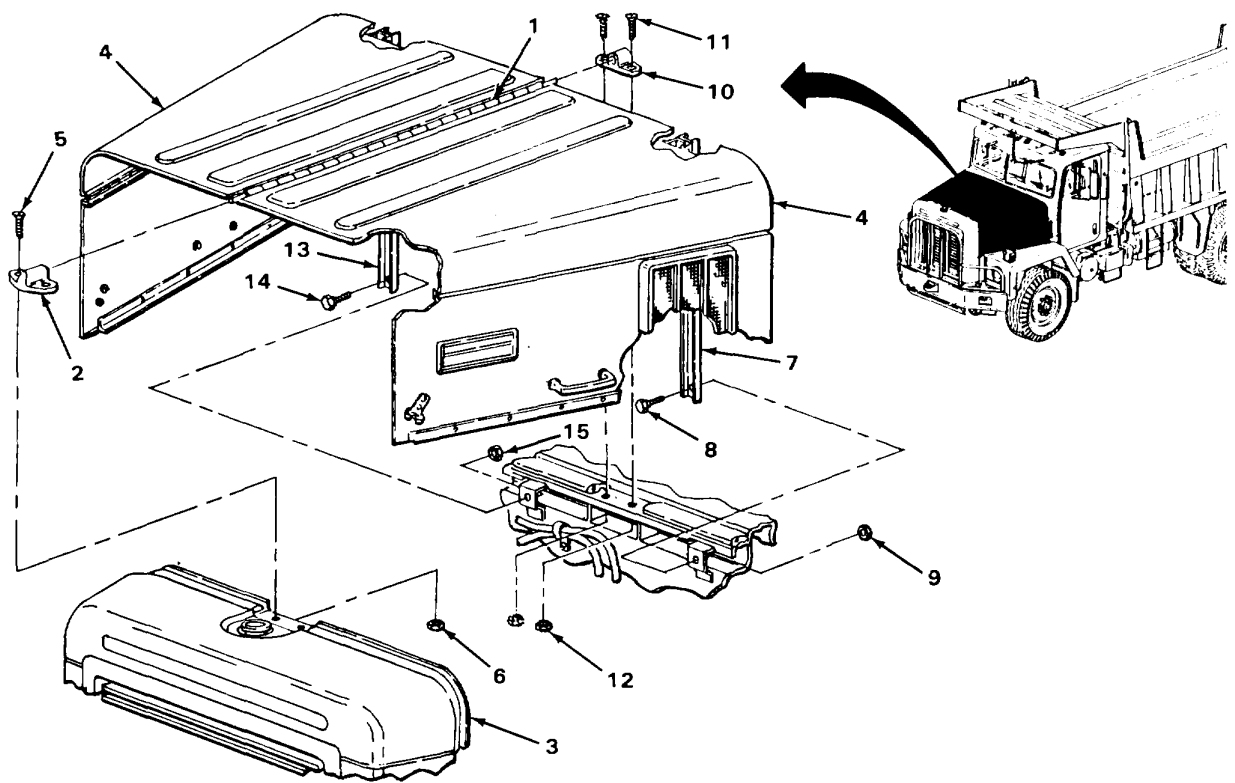
**WARNING**

Assistance is needed to support hood panel to prevent falling and causing personal injury.

- |     |  |  |   |
|-----|--|--|---|
| 32. | Left side center hood rod retainer (2)   | Two screws (5) and two new self-locking nuts (6)   | <ol style="list-style-type: none"> <li>Place left side hood panel on top of right side hood panel.</li> <li>Screw in and tighten using number three cross-tip screwdriver and 1/2-inch open-end wrench.</li> </ol>  |
| 33. | Hood rest (7)                            | Screw (8) and new self-locking nut (9)             | <ol style="list-style-type: none"> <li>With two assistants, support hood in open position.</li> <li>Screw in and tighten using 1/2-inch drive, 7/16-inch socket, ratchet handle, and 7/16-inch box-end wrench.</li> <li>With two assistants, close left side hood panel.</li> </ol> |
| 34. | Right side center hood rod retainer (10) | Two screws (11) and two new self-locking nuts (12) | <ol style="list-style-type: none"> <li>Place right side hood panel on top of left side hood panel.</li> <li>Screw in and tighten using number three cross-tip screwdriver and 1/2-inch open-end wrench.</li> </ol>  |

HOOD - CONTINUED

LOCATION	ITEM	ACTION REMARKS
35. Hood rest (13)	Screw (14) and new self-locking nut (15)	a. With two assistants, support hood in open position. b. Screw in and tighten using 1/2-inch drive, 7/16-inch socket, ratchet handle, and 7/16-inch box-end wrench. c. With two assistants, close right side hood panel.



**NOTE**

FOLLOW-ON MAINTENANCE: Close left and right side hood panels (page 2-424).

**TASK ENDS HERE**

Pages 2-1262 through 2-1271 are rescinded.

TA244488

**PASSENGER SEAT**

This task covers:

- |   |                               |
|---|-------------------------------|
| a. Removal (page 2-1272)                | d. Assembly (page 2-1274)     |
| b. Inspection/Replacement (page 2-1272) | e. Installation (page 2-1274) |
| c. Disassembly (page 2-1273)            |                               |

**INITIAL SETUP**

- |  |   |
|--|---|
| <b>Tools</b>   | <b>Personnel Required</b>   |
| Handle, ratchet, 1/2-inch drive<br>Screwdriver, cross-tip, number two<br>Screwdriver, flat-tip, 1/4-inch<br>Socket, 9/16-inch, 1/2-inch drive<br>Staple gun, 3/8-inch capacity | One<br><br>Equipment Condition<br><br>Right cab door opened (page 2-424). |
| <b>Materials/Parts</b>   |   |
| Lockwasher, seat frame to heater box<br>cover (four required)<br>Staples, 3/8-inch (as required)   |   |

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

**REMOVAL**

- |  |  |   |
|--|--|---|
| <b>1.</b> Seat frame (1)                   | Seat cushion (2)   | Lift up and take off.   |
| <b>2.</b> Seat frame (1) to heater box (3) | Four screws (4), four lockwashers (5), and four flat washers (6) | a. Using 1/2-inch drive, 9/16 inch socket and ratchet handle, unscrew and take out.<br>b. Get rid of lockwashers. |
| <b>3.</b> Heater box (3)                   | Seat frame (1)   | Take out.   |
| <b>4.</b> Seat frame (1)                   | Back cushion (7) and four screws (8)                             | a. Using number two cross-tip screwdriver, unscrew and take out.<br>b. Take off back cushion.                     |

**INSPECTION/REPLACEMENT**

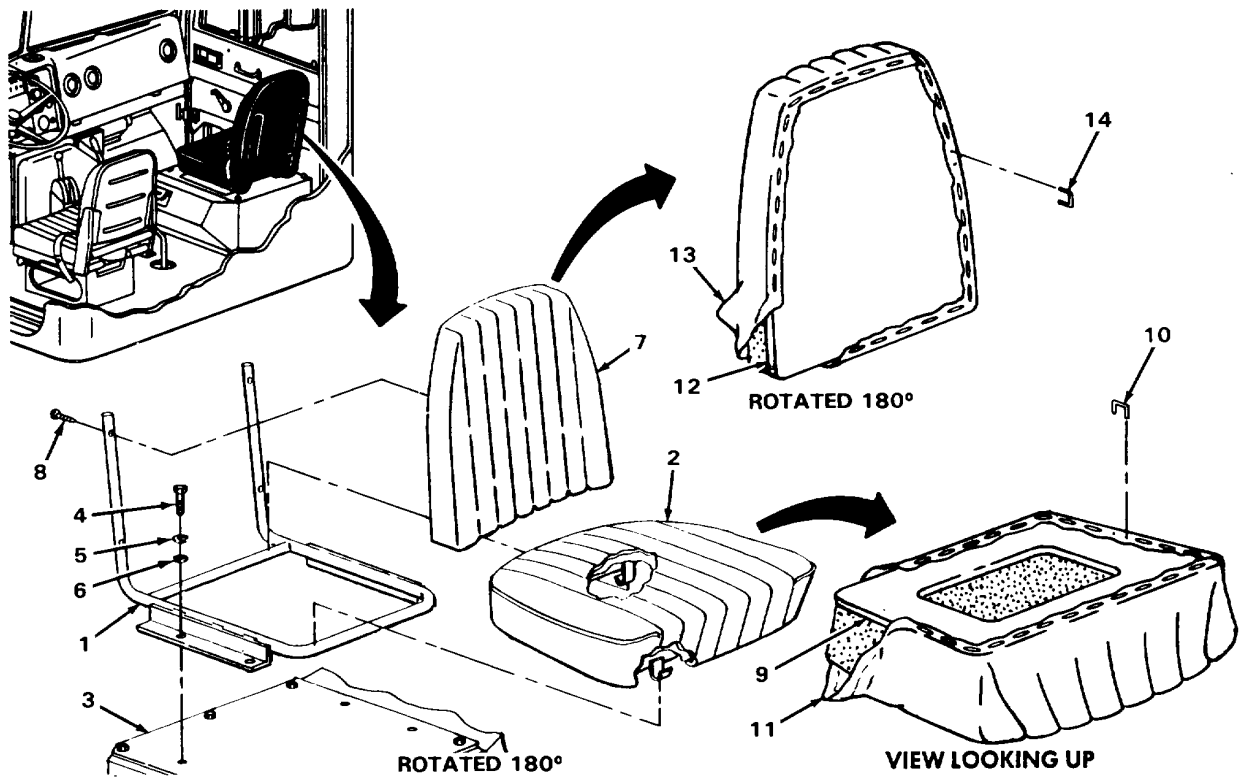
**NOTE**

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

- |           |                |   |
|-----------|----------------|---|
| <b>5.</b> | Seat frame (1) | Look for cracks, breaks on bends.<br><b>If damage, replace.</b> |
|-----------|----------------|---|

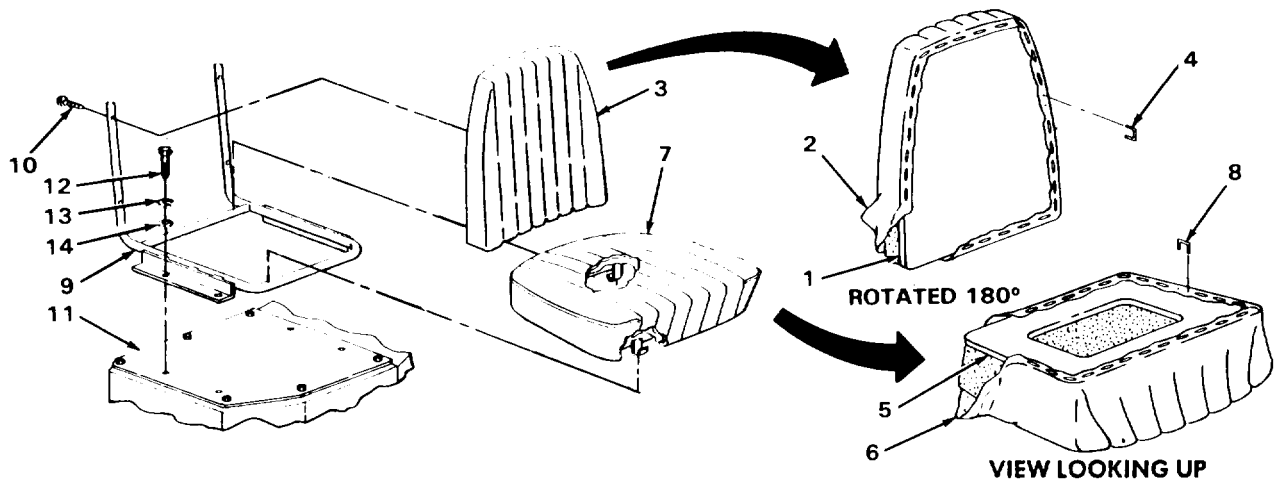
PASSENGER SEAT - CONTINUED

LOCATION	ITEM	ACTION REMARKS
6.	Seat cushion (2) and back cushion (7)	Look for rips or tears. <b>If damaged, perform steps 7 thru 10.</b>
<b>DISASSEMBLY</b>		
7. Seat cushion support (9)	Staples (10), seat cushion (2) and cover (11)	a. Using 1/4-inch flat-tip screwdriver, pry staples away from seat cushion. b. Get rid of staples. c. Take cover off seat cushion.
8. Back cushion support (12)	Staples (13), back cushion (7) and cover (14)	a. Using 1/4-inch flat-tip screw driver, pry staples away from back cushion. b. Get rid of staples. c. Take cover off back cushion.



TA244661

LOCATION	ITEM	ACTION REMARKS
<b>ASSEMBLY</b>		
9. Back cushion support (1)	Cover (2), and back cushion (3)	Put cover on back cushion.
10. Back cushion (3)	Back cushion support (1), cover (2) and staples (4).	Using staple gun and 3/8-inch staples, attach cover to back cushion support.
11. Seat cushion support (5)	Cover (6) and seat cushion (7)	Put cover on seat cushion.
12. Seat cushion (7)	Seat cushion support (5), cover (6) and staples (8).	Using staple gun and 3/4-inch staples, attach cover to seat cushion support.
<b>INSTALLATION</b>		
13. Seat frame (9)	Back cushion (3) and four screws (10)	a. Put back cushion in place. b. Screw in and tighten using number two cross-tip screwdriver.
14. Heater box (11)	Seat frame (9)	Put in place.
15. Seat frame (9) to heater box (11)	Four screws (12), four new lockwashers (13) and four flat washers (14)	Screw in and tighten using 1/2-inch drive, 9/16 socket and ratchet handle.
16. Seat frame (9)	Seat cushion (7)	Put in position and push down until cushion snaps into place.



**NOTE**

FOLLOW-ON MAINTENANCE: Close right cab door (page 2-424).

**TASK ENDS HERE**

TA244497

**DRIVER'S SEAT**

---

This task covers:

- a. Removal (page 2-1274.2)
  - b. Installation (page 2-1274.2)
- 

**INITIAL SETUP**

**Equipment Conditions**

Airbrake system drained (page 2-1034).

**Tools/Test Equipment**

Handle, ratchet, 3/8-in drive  
Socket, 1/2-inch, 3/8-Inch drive  
Extension, 3-inch, 3/8-inch drive  
Wrench, open-end, 7/16-inch  
Wrench, open-end, 9/16-inch

**Materials/Parts**

Lockwasher, driver's seat (four required)  
Lockwasher, seat riser (four required)

**Personnel Required**

One

---

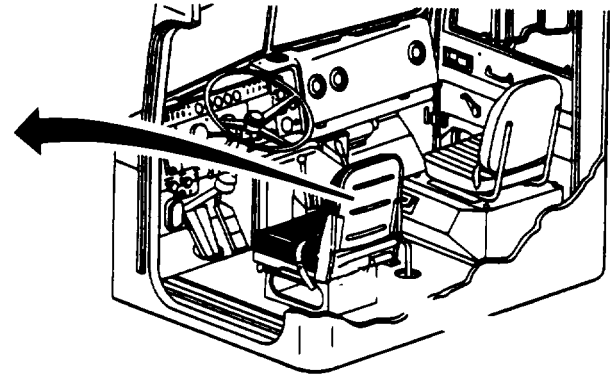
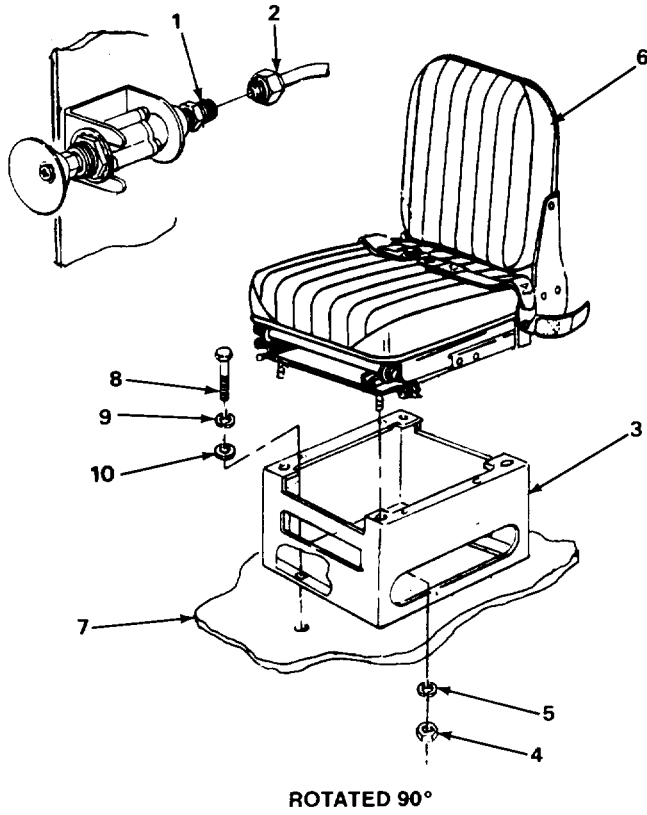
**Change 1 2-1274.1**

## DRIVER'S SEAT - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
<b><u>WARNING</u></b>		
Drain air from airbrake system before removing fittings to avoid injury to personnel from compressed air.		
1. Pipe nipple (1)	Air hose (2)	Using 7/16-inch and 9/16-inch open-end wrenches, unscrew, and take off.
2. Seat riser (3)	Four nuts (4) and lockwashers (5)	a. Using 1/2-inch, 3/8-inch drive socket, 3-inch extension, and ratchet handle, unscrew, and take out. b. Get rid of lockwashers.
3.	Driver's seat (6)	Take out.
4. Floorboards (7)	Four screws (8), lockwashers (9), and washers (10)	a. Using 1/2-inch, 3/8-inch drive socket, 3-inch extension, and ratchet handle, unscrew, and take out. b. Get rid of lockwashers.
5.	Seat riser (3)	Take out.
INSTALLATION		
6. Floorboards (7)	Seat riser (3)	Put in place.
7.	Four screws (8), new lockwashers (9), and washers (10)	Screw in and tighten using 1/2-inch, 3/8-inch drive socket, 3-inch extension, and ratchet handle.
8. Seat riser (3)	Driver's seat (6)	Put in place.
9.	Four nuts (4) and new lockwashers (5)	Screw in and tighten, using 1/2-inch, 3/8-inch drive socket, 3-inch extension, and ratchet handle.
10. Pipe nipple (1)	Air hose (2)	Screw on and tighten using 7/16-inch and 9/16-inch open-end wrenches.

**DRIVER'S SEAT - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------



**TASK ENDS HERE**

TA702182

Change 1 2-1274.3/(2-1274.4 blank)



**DRIVER'S SEAT COVERS AND PAN**

This task covers:

- a. Removal (page 2-1275)
- b. Installation (page 2-1275)

**INITIAL SETUP**

**Tools**

Screwdriver, flat-tip, 1/4-inch  
Wrench, box-end, 7/16-inch

**Equipment Condition**

Left cab door opened (page 2-424)

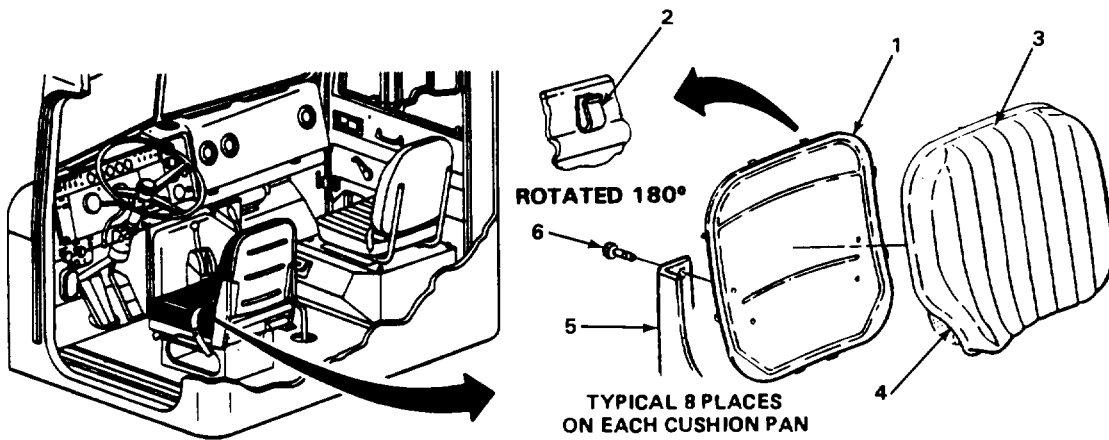
LOCATION	ITEM	ACTION REMARKS
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**NOTE**

Steps given are typical for seat and back cushion covers.

**REMOVAL**

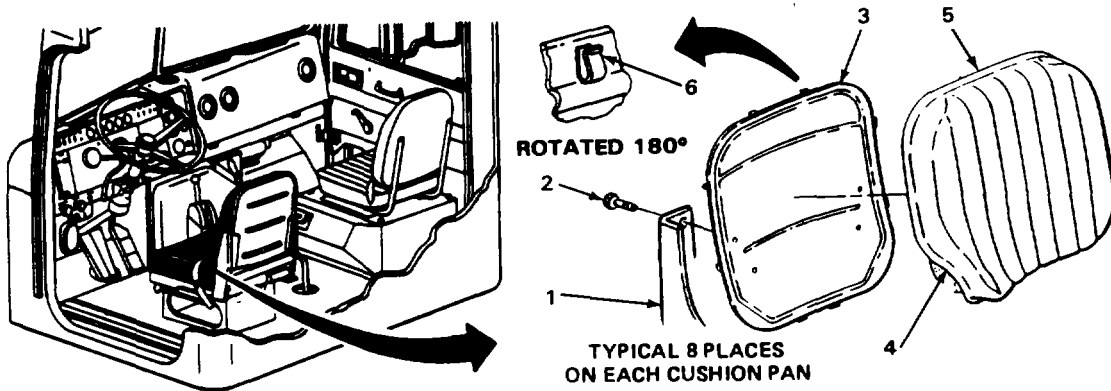
- |                      |   |  |
|----------------------|---|--|
| 1. Cushion pan (1)   | Eight clips (2), cushion (3), and cover (4) | <ul style="list-style-type: none"> <li>a. Using 1/4-inch flat-tip screwdriver, pry clips away from cushion.</li> <li>b. Take cushion off cushion pan.</li> <li>c. Pull cover off cushion.</li> </ul> |
| 2. Driver's seat (5) | Four screws (6) and cushion pan (1)         | Take off.  |



TA702183

**DRIVER'S SEAT COVERS AND PAN - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
3. Driver's seat (1)	Four screws (2) and cushion pan (3)	Put on and tighten using 7/16-inch box-end wrench.
4. Cushion pan (3)	Cover (4), cushion (5), and eight clips (6)	a. Put cover on cushion. b. Put cushion on cushion pan and pry clips over cushion using 1/4-inch flat-tip screwdriver.



**NOTE**

FOLLOW-ON MAINTENANCE: Close left cab door (page 2-424).

**TASK ENDS HERE**

Pages 2-1276 through 2-1279 are rescinded.

TA702184

Change 1 2-1275.0

**SPLASH GUARDS**

---

This task covers:

- a. Removal (page 2-1280)
  - b. Installation (page 2-1280)
- 

**INITIAL SETUP**

Tools	Personnel Required
Wrench, box-end, 1/2-inch Wrench, box-end, 9/16-inch	One
<b>Materials/Parts</b>	
Lockwasher, splash guards (four required)	

---

**REMOVAL**

**NOTE**

Steps given are typical for both splash guards.

- |                         |   |  |
|-------------------------|---|--|
| 1. Mounting bracket (1) | Four bolts (2), four lockwashers (3), and four nuts (4) | Using 9/16-inch and 1/2-inch box-end wrenches, unscrew and take out. |
| 2.                      | Splash guard (5) and bracket (6)                        | Take off.  |

**INSTALLATION**

- |                         |                                  |               |
|-------------------------|----------------------------------|---------------|
| 3. Mounting bracket (1) | Splash guard (5) and bracket (6) | Put in place. |
|-------------------------|----------------------------------|---------------|

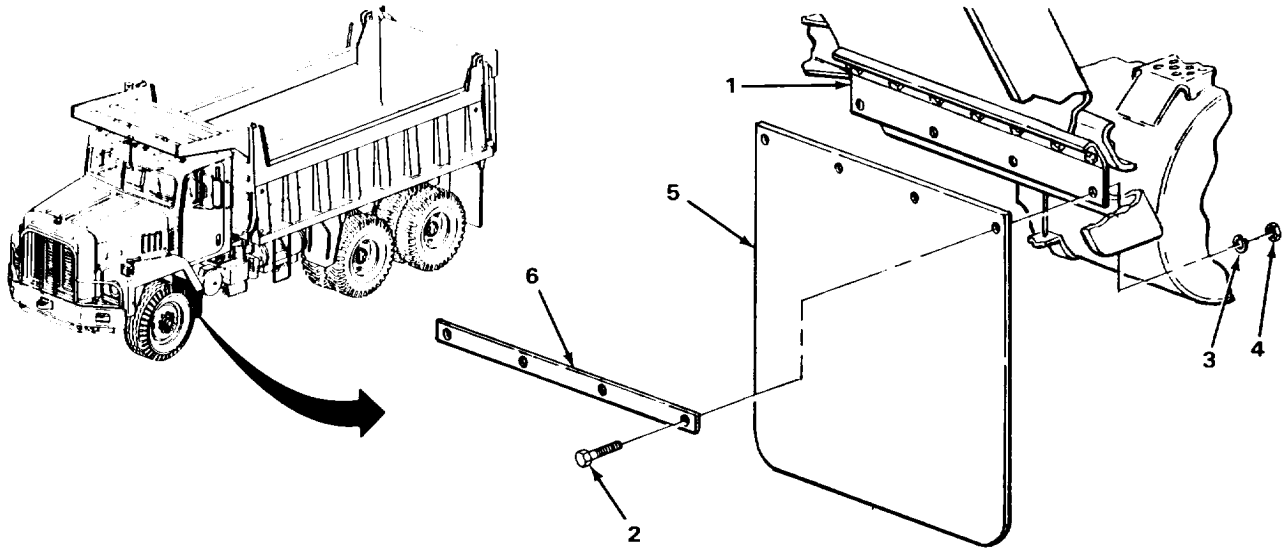
**SPLASH GUARDS**

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

4.

Four bolts (2), four new lockwashers (3), and four nuts (4)

Screw in and tighten using 9/16-inch and 1/2-inch box-end wrenches.



TA244501

2-1281

**SEAT BELTS**

---

This task covers:

- a. Removal (page 2-1282)
  - b. Installation (page 2-1282)
- 

**INITIAL SETUP**

Tools

Handle, ratchet, 1/2-inch drive  
 Socket, 5116-inch, 1/2-inch drive  
 Wrench, box-end, 3/4-inch  
 Wrench, open-end, 11/16-inch

Personnel Required

One

Equipment Condition

Cab doors opened (page 2-424).

---

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
1. Right side rear cab wall (1)	Two bolts (2) and seat belts (3)	<ul style="list-style-type: none"> <li>a. Using 3/4-inch box-end wrench, unscrew bolts and take out.</li> <li>b. Take off seat belts.</li> </ul>
2. Driver's seat (4)	Two bolts (5), two nuts (6), and seat belts (7)	<ul style="list-style-type: none"> <li>a. Using 1/2-inch drive 5/16-inch socket, ratchet handle, and 11/16-inch open-end wrench, unscrew bolts and nuts and take out.</li> <li>b. Take off seat belts.</li> </ul>

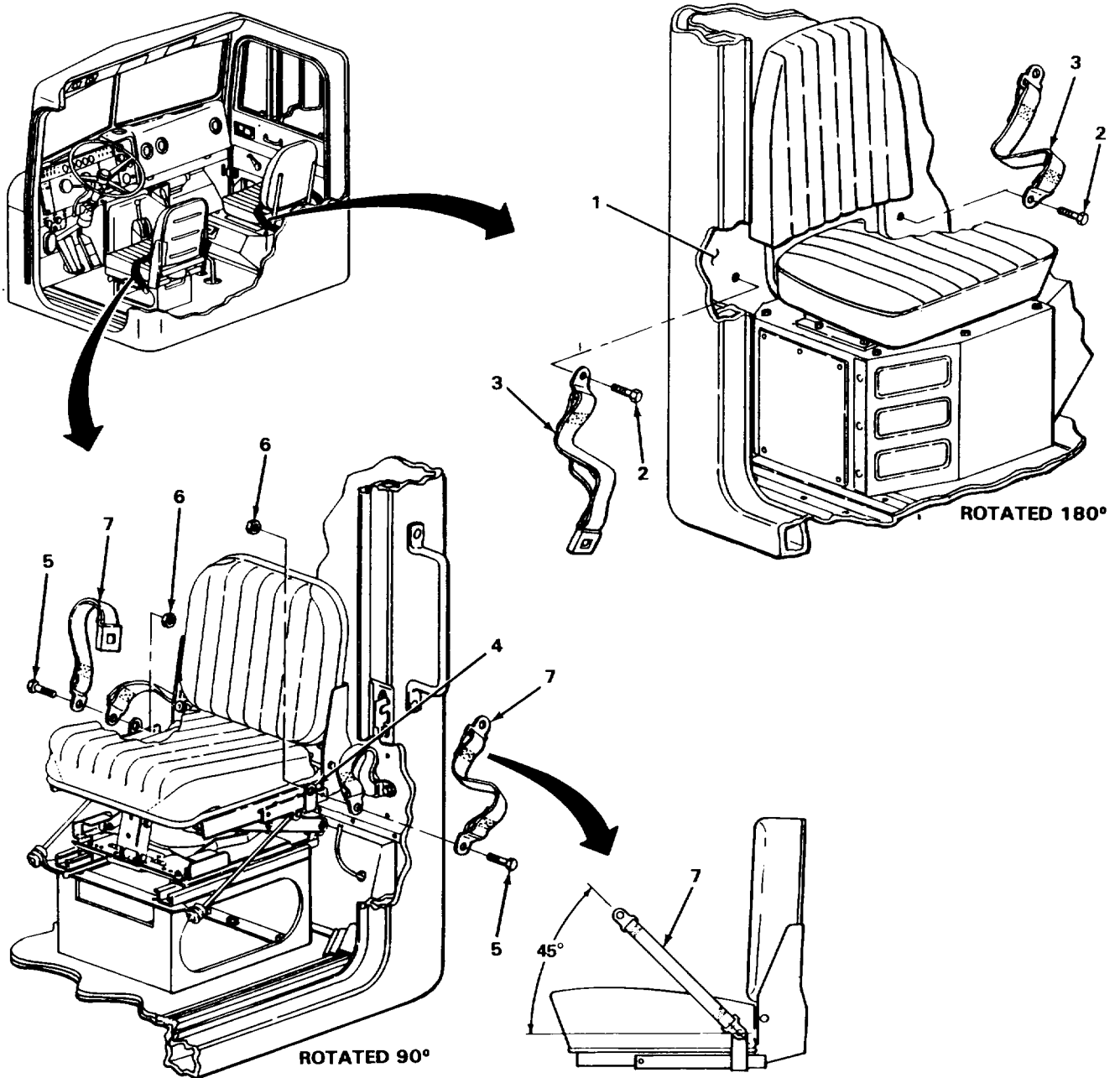
**INSTALLATION**

**WARNING**

Seat belts must be positioned correctly for proper operation.

- |                     |   |  |
|---------------------|---|--|
| 3. Drivers seat (4) | Two bolts (5), two nuts (6), and seat belts (7) | <ul style="list-style-type: none"> <li>a. Put seat belts in place.</li> <li>b. Position seat belt at 45-degree angle.</li> <li>c. Screw in and tighten bolts and nuts using 1/2-inch drive 15/16-inch socket, ratchet handle, and 11/16-inch open-end wrench.</li> </ul> |
|---------------------|---|--|

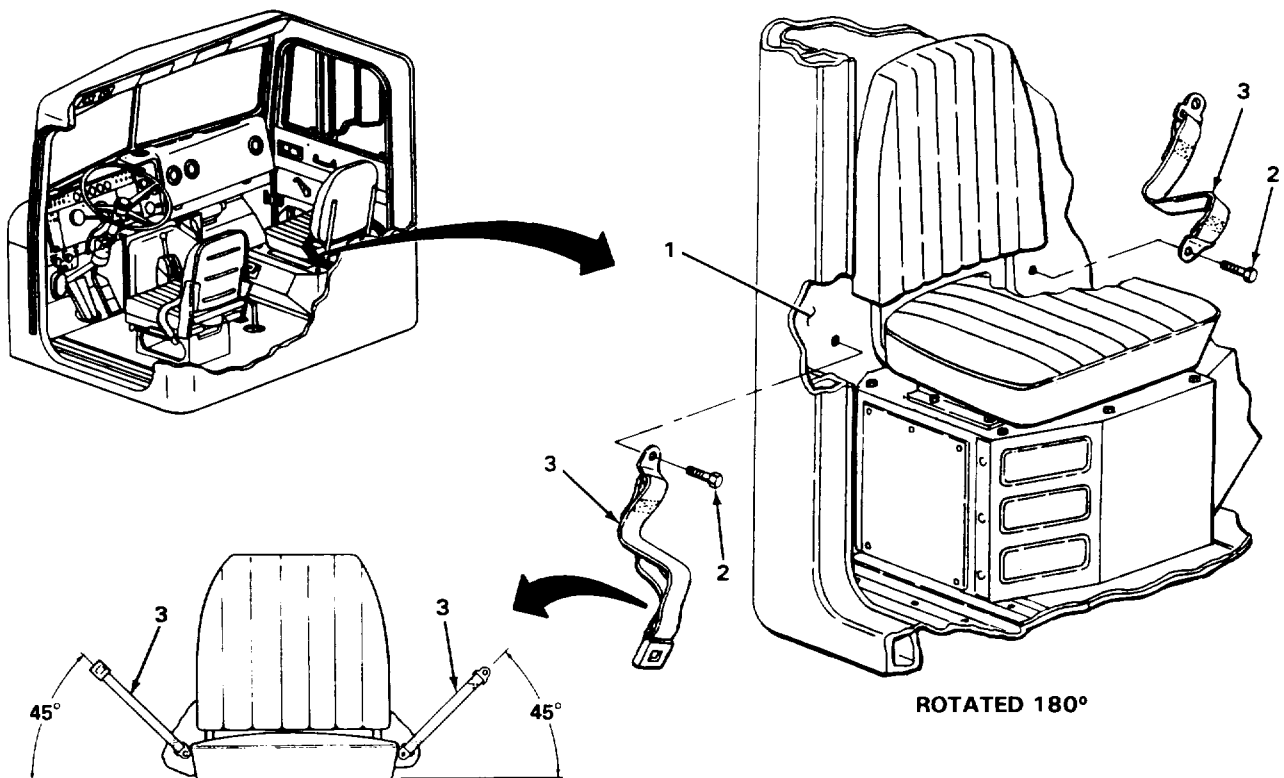
SEAT BELTS - CONTINUED



TA244502

SEAT BELTS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
4. Right side rear cab wall (1)	Two bolts (2) and seat belts (3)	a. Put seat belts in place. b. Position seat belt at 45-degree angle on right side rear cab wall. c. Screw in and tighten bolts using 3/4-inch box-end wrench.



NOTE

FOLLOW-ON MAINTENANCE: Close cab doors (page 2-424).

TASK ENDS HERE

TA244503

**PIONEER TOOL RACK**

This task covers:

- a. Removal (page 2-1284.1)
- b. Installation (page 2-1284.2)

**INITIAL SETUP**

Tools/Test Equipment

Handle, ratchet, 1/2-inch drive  
 Socket, deep, 9/16-inch, 1/2-inch drive  
 Wrench, box, 9/16-inch

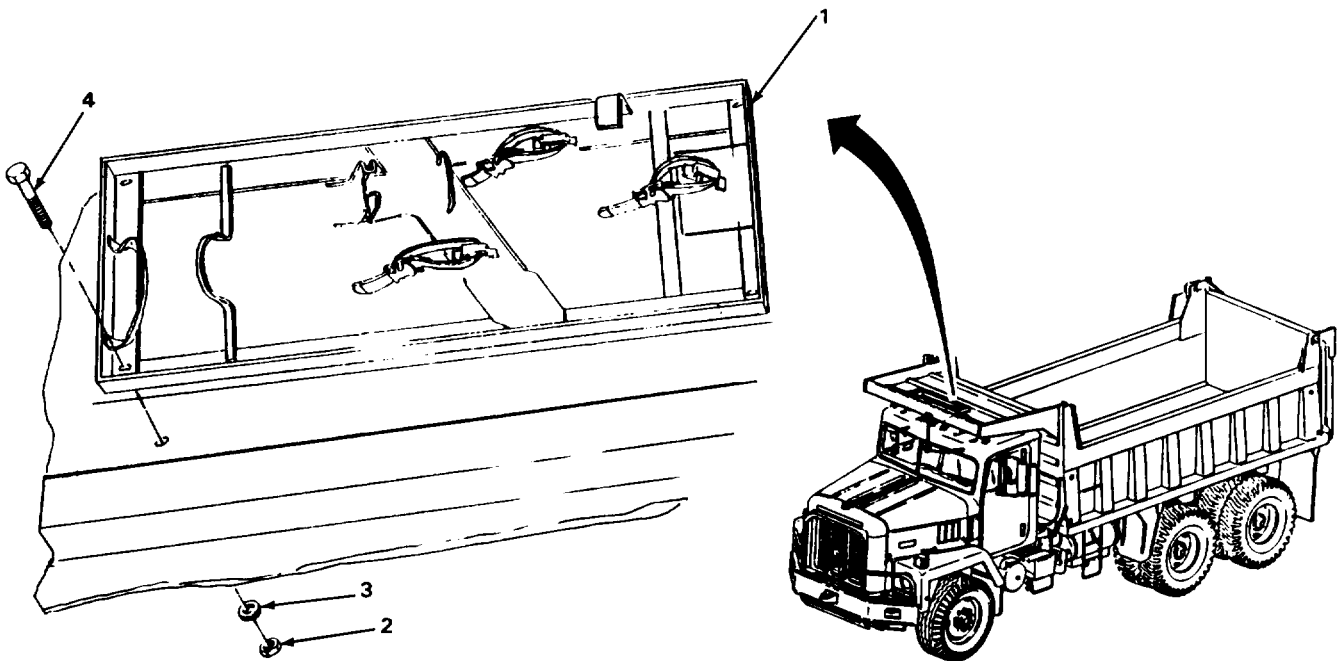
Personnel Required

Two

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

**REMOVAL**

- |                    |  |   |
|--------------------|--|---|
| 1. Top of body (1) | Four nuts (2), washers (3), and screws (4) | Using 9/16-inch, 1/2-inch drive deep socket, ratchet handle, and 9/16-inch box-end wrench, unscrew, and take off. |
|--------------------|--|---|



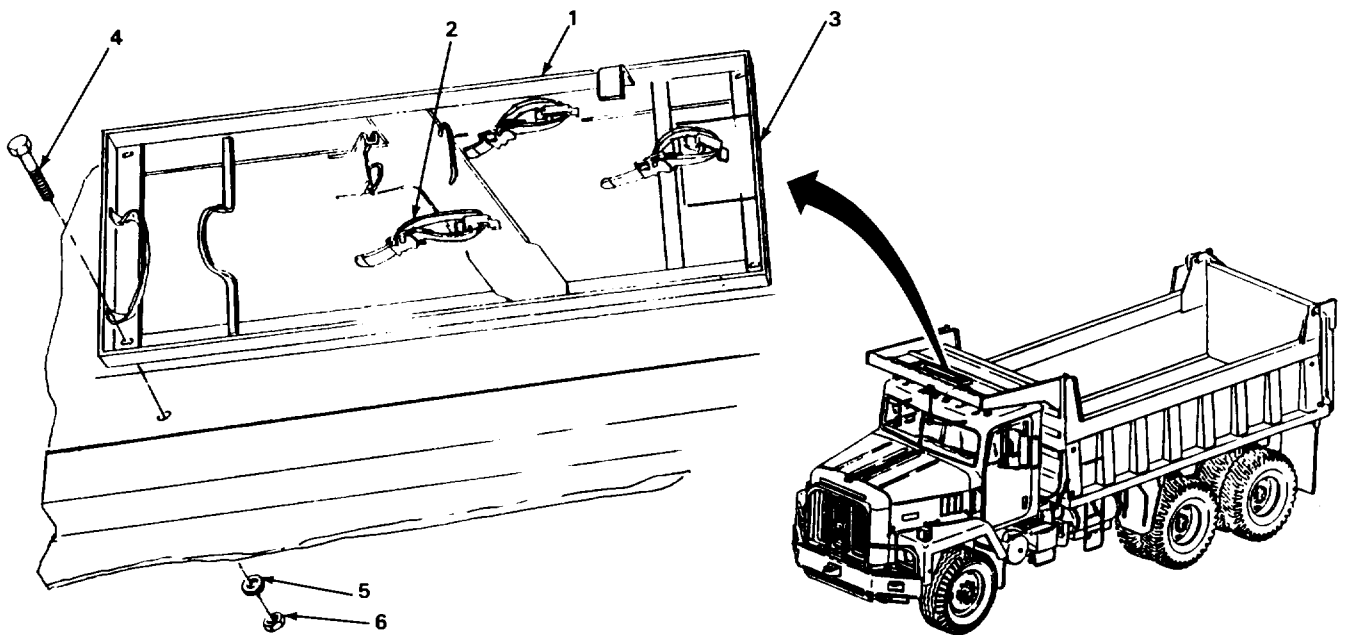
TA702185

Change 1 2-1284.1



**PIONEER TOOL RACK - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL - CONTINUED</b>			
2.	Tool rack (1)	With assistance, take off.	
3. Tool rack (1)	Strap (2)	Put on.	
<b>INSTALLATION</b>			
4. Tool rack (1)	Strap (2)	Put on.	
5. Top of body (3)	Tool rack (1)	With assistance, put on.	
6.	Four screws (4), washers (5), and nuts (6)	Screw on and tighten using 9/16-inch, 1/2-inch drive deep socket, ratchet handle, and 9/16-inch box-end wrench.	



**TASK ENDS HERE**

TA702186

**RADIATOR GRILLE**

This task covers:

- a. Removal (page 2-1284.3)
- b. Installation (page 2-1284.4)

**INITIAL SETUP**

Materials/Parts

Seven speed nuts

Personnel Required

One

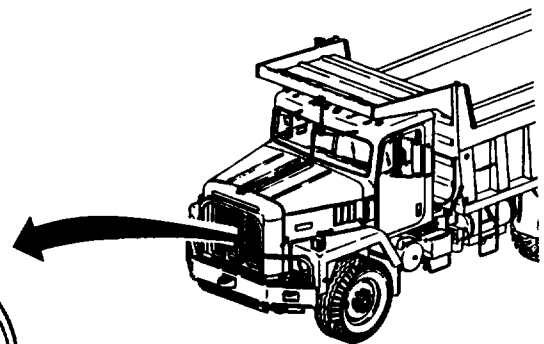
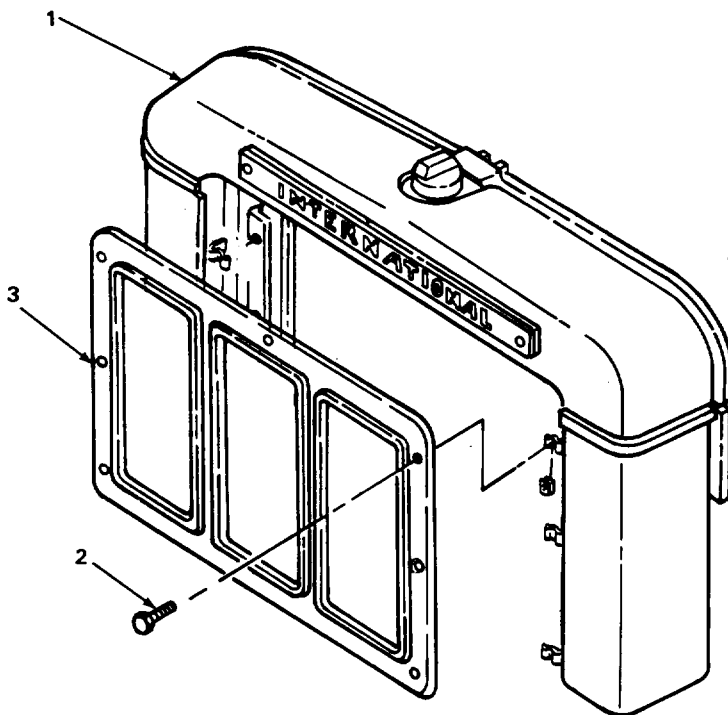
Tools/Test Equipment

Screwdriver, cross-tip, number three

LOCATION	ITEM	ACTION REMARKS
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**REMOVAL**

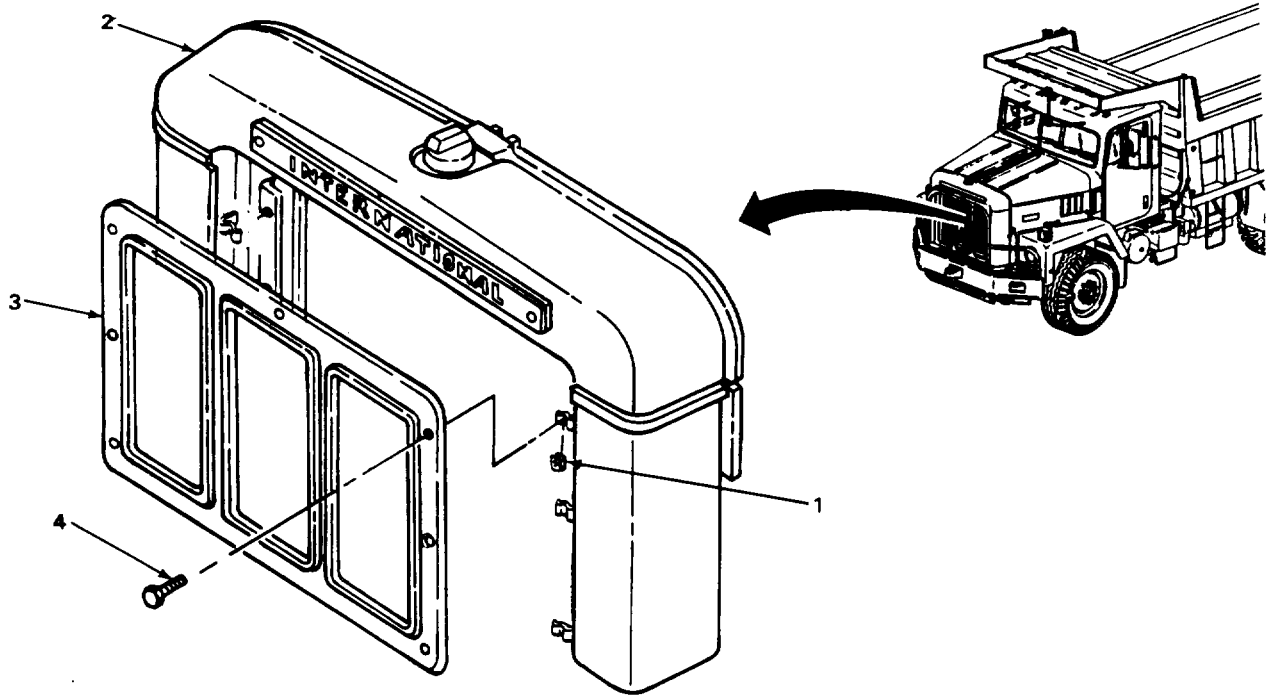
- |                       |  |  |
|-----------------------|--|--|
| 1. Radiator shell (1) | Seven screws (2) and radiator grille (3) | Using 1/2-inch, 3/8-inch drive socket and 3/8-inch drive ratchet handle, unscrew and take off. |
|-----------------------|--|--|



TA702187

**RADIATOR GRILLE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL - CONTINUED</b>		
2.	Seven speed nuts (1)	a. Take off. b. Get rid of.
<b>INSTALLATION</b>		
3. Radiator shell (2)	Seven speed nuts (1)	Put into position on radiator shell.
4.	Radiator grille (3) and seven screws (4)	a. Put radiator grille in position. b. Screw in and tighten using 1/2-inch, 3/8-inch drive socket, and 3/8-inch drive ratchet handle.



**TASK ENDS HERE**

Pages 2-1285 through 2-1289 are rescinded.

TA702188

**Section XIX. BODY AND CHASSIS ACCESSORY ITEM MAINTENANCE**

Page	Page
Air Horn ..... 2-1345	Windshield Washer Control .....2-1342
Air Horn Control Valve..... 2-1355	Windshield Washer Reservoir
Data and Instruction Plates ..... 2-1350	and Pump .....2-1349.1
Dump Body Reflectors ..... 2-1321	Windshield Wiper Control .....2-1337
Front Fender Reflectors ..... 2-1320	Windshield Wiper Motor .....2-1324
Heater Core Hoses..... 2-1304	Windshield Wiper Blade.....2-1299
Rearview Mirror Assembly..... 2-1290	Wiper Blade and Arm .....2-1301

**REARVIEW MIRROR ASSEMBLY**

---

This task covers:

- a. Removal (page 2-1291)
- b. Installation (page 2-1294)
- c. Adjustment (page 2-1296)

---

**INITIAL SETUP**

**Tools**

- Handle, ratchet, 3/8inch drive
- Screwdriver, cross-tip, number two
- Socket, deep-well, 7/16-inch,  
    3/8-inch drive
- Wrench, box-end, 7/16-inch
- Wrench, box-end, 1/2-inch

**Materials/Parts**

- Lockwasher, nut to mirror head  
    (two required)

**Materials/Parts - Continued**

- Lockwasher, support bar to upper mirror  
    mounting bracket
- Lockwasher, rearview mirror arm to lower  
    mirror mounting bracket
- Lockwasher, weld screw to lower mirror  
    mounting bracket

**Personnel Required**

Two

**Change 1 2-1290**

REARVIEW MIRROR ASSEMBLY - CONTINUED

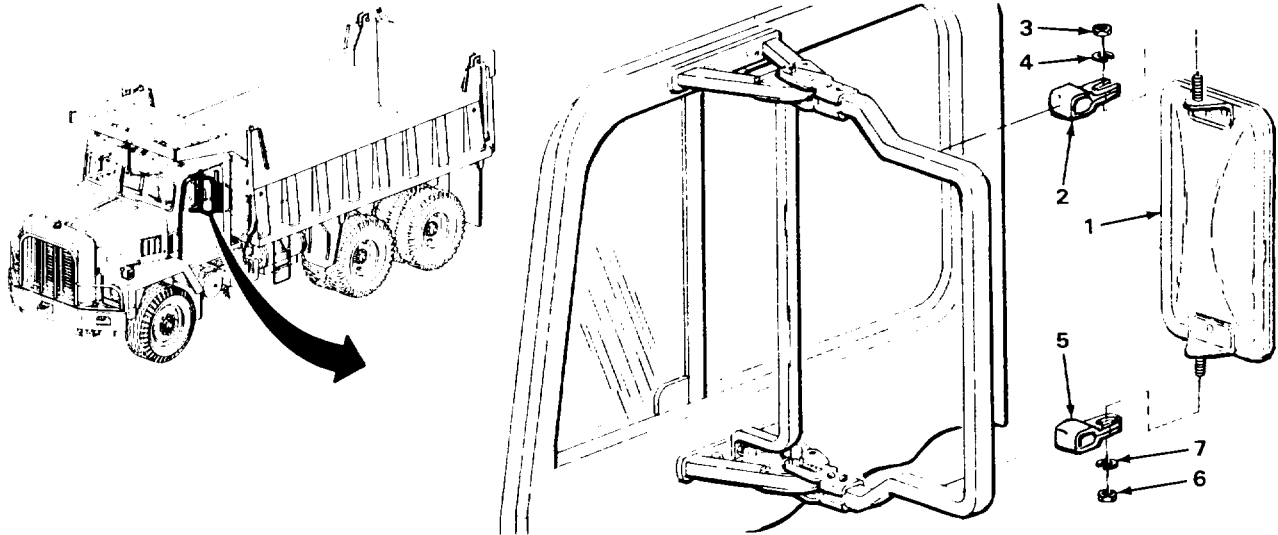
LOCATION	ITEM	ACTION REMARKS
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REMOVAL

**NOTE**

Except as noted, the steps in this task are the same for both right and left rearview mirror assemblies. The left rearview mirror assembly is used as the example.

- |  |                                   |   |
|--|-----------------------------------|---|
| <p>1. Mirror head (1) to upper mirror clamp (2)</p>        | <p>Nut (3) and lockwasher (4)</p> | <p>a. Using 1/2-inch box-end wrench, holding mirror head, unscrew and take off.<br/>b. Get rid of lockwasher.</p> |
| <p>2. Mirror head (1) to lower mirror clamp (5)</p>        | <p>Nut (6) and lockwasher (7)</p> | <p>a. Using 1/2-inch box-end wrench, holding mirror head, unscrew and take off.<br/>b. Get rid of lockwasher.</p> |
| <p>3. Upper mirror clamp (2) to lower mirror clamp (5)</p> | <p>Mirror head (1)</p>            | <p>Take off.</p>  |



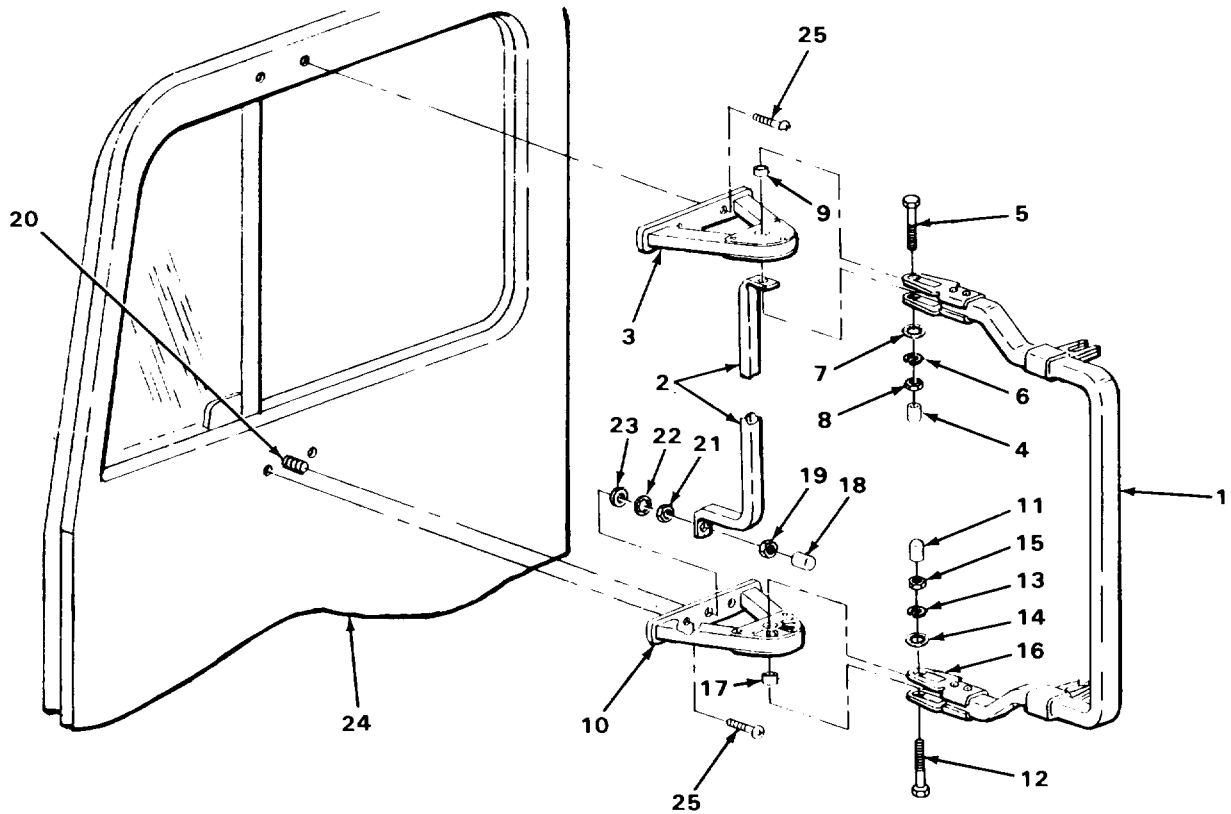
TA244509

## REARVIEW MIRROR ASSEMBLY - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
4. Rearview mirror arm (1) to support bar (2) and upper mirror mounting bracket (3)	Dome nut cap (4)	Unscrew and take off by hand.
5.	Bolt (5), lockwasher (6), flat washer (7), and nut (8)	a. Using 7/16-inch, 3/8-inch drive deep-well socket and ratchet handle, unscrew and take off. b. Get rid of lockwasher.
6. Upper mirror mounting bracket (3)	Spacer (9)	Take out.
7. Rearview mirror arm (1) to lower mirror mounting bracket (10)	Dome nut cap (11)	Unscrew and take off by hand.
8.	Bolt (12), lockwasher (13), flat washer (14), nut (15), and mirror index spring (16)	a. Using 7/16-inch, 3/8-inch drive deep-well socket and ratchet handle, unscrew and take off. b. Get rid of lockwasher.
9. Lower mirror mounting bracket (10)	Spacer (17)	Take out.
10. Upper mirror mounting bracket (3) to lower mirror mounting bracket (10)	Rearview mirror arm (1)	Take off.
11. Support bar (2) to lower mirror mounting bracket (10)	Dome nut cap (18)	Unscrew and take off by hand.
12.	Nut (19)	Using 7/16-inch, 3/8-inch drive deep-well socket and ratchet handle, unscrew and take off.
13. Lower mirror mounting bracket (10)	Support bar (2)	Take off.

REARVIEW MIRROR ASSEMBLY - CONTINUED

LOCATION	ITEM	ACTION REMARKS
14. Weld screw (20)	Nut (21), lockwasher (22), and flat washer (23)	a. Using 7/16-inch, 3/8-inch drive deep-well socket and ratchet handle, unscrew and take off. b. Get rid of lockwasher.
15. Upper mirror mounting bracket (3) to door (24)	Two screws (25)	Using number two cross-tip screwdriver, unscrew and take out.
16. Door (24)	Upper mirror mounting bracket (3)	Take off.
17. Lower mirror mounting bracket (10) to door (24)	Two screws (25)	Using number two cross-tip screwdriver, unscrew and take out.
18. Door (24)	Lower mirror mounting bracket (10)	Take off.



TA244510

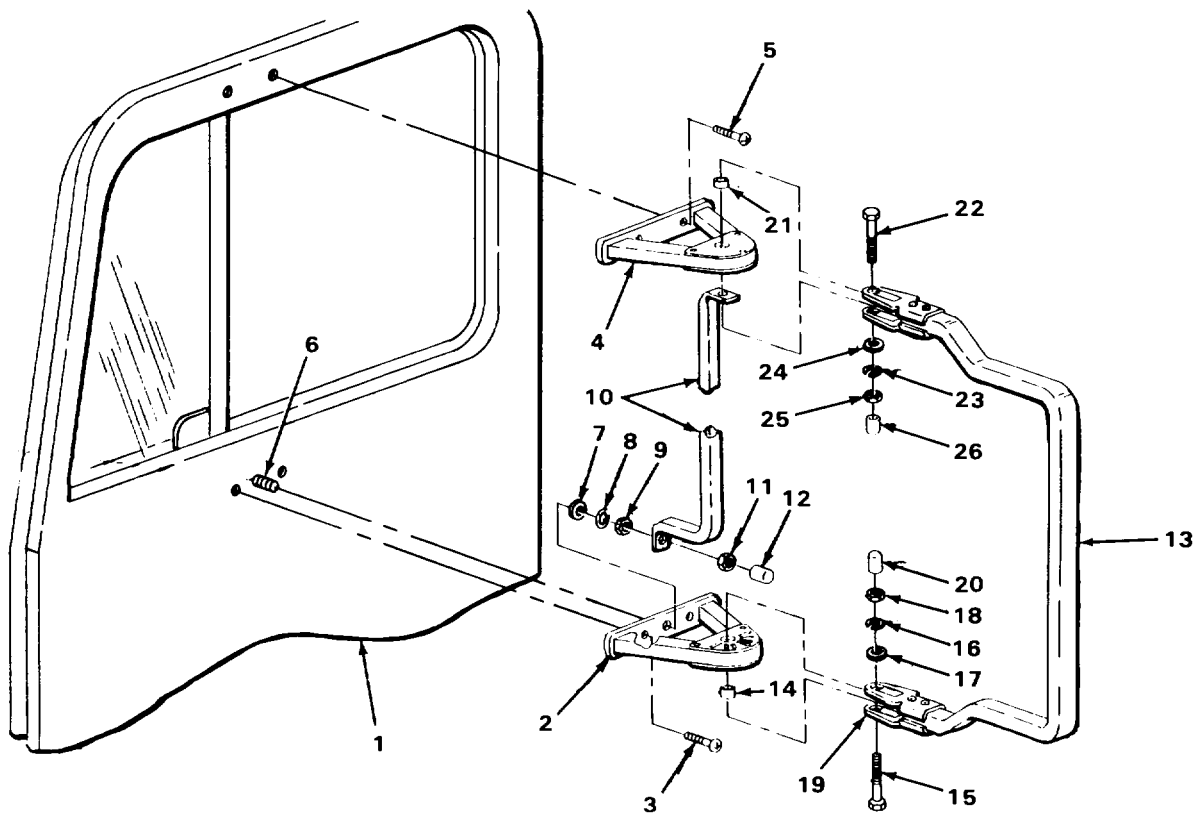
## REARVIEW MIRROR ASSEMBLY - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
19. Door (1)	Lower mirror mounting bracket (2)	Place in position.
20. Lower mirror mounting bracket (2) to door (1)	Two screws (3)	Screw in and tighten using number two cross-tip screwdriver.
21. Door (1)	Upper mirror mounting bracket (4)	Place in position.
22. Upper mirror mounting bracket (4) to door (1)	Two screws (5)	Screw in and tighten using number two cross-tip screwdriver.
23. Weld screw (6)	Flat washer (7), new lockwasher (8), and nut (9)	Screw on and tighten using 7/16-inch, 3/8-inch drive deep-well socket and ratchet handle.
24. Lower mirror mounting bracket (2)	Support bar (10)	Place in position.
25. Support bar (10) to lower mirror mounting bracket (2)	Nut (11)	Screw on and tighten using 7/16-inch, 3/8-inch drive deep-well socket and ratchet handle.
26.	Dome nut cap (12)	Screw on and tighten.
27. Upper mirror mounting bracket (4) to lower mirror mounting bracket (2)	Rearview mirror arm (13)	Place in position.
28. Lower mirror mounting bracket (2)	Spacer (14)	Place in position.
29. Rearview mirror arm (13) to lower mirror mounting bracket (2)	Bolt (15), new lockwasher (16), flat washer (17), nut (18), and mirror index spring (19)	Screw in and tighten using 7/16-inch, 3/8-inch drive deep-well socket and ratchet handle.



REARVIEW MIRROR ASSEMBLY - CONTINUED

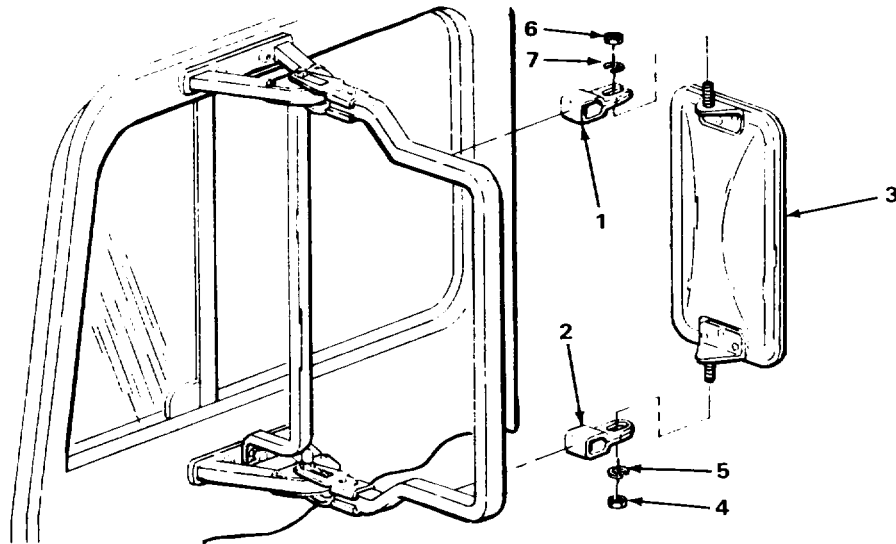
LOCATION	ITEM	ACTION REMARKS
30. Rearview mirror arm (13) to lower mirror mounting bracket (2)	Dome nut cap (20)	Screw on and tighten.
31. Upper mirror mounting bracket (4)	Spacer (21)	Place in position.
32. Rearview mirror arm (13) to support bar (10) and upper mirror mounting bracket (4)	Bolt (22), new lock-washer (23), flat washer (24), and nut (25)	Screw in and tighten using 7/16-inch, 3/8-inch drive deep-well socket and ratchet handle.
33.	Dome nut cap (26)	Screw on and tighten.



TA244511

**REARVIEW MIRROR ASSEMBLY - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>INSTALLATION - CONTINUED</b>		
34. Upper mirror clamp (1) to lower mirror clamp (2)	Mirror head (3)	Place in position and hold.
35. Mirror head (3) to lower mirror clamp (2)	Nut (4) and new lockwasher (5)	Screw on and tighten using 1/2-inch box-end wrench.
36. Mirror head (3) to upper mirror clamp (1)	Nut (6) and new lockwasher (7)	Screw on and tighten using 1/2-inch box-end wrench.



**ADJUSTMENT**

**NOTE**

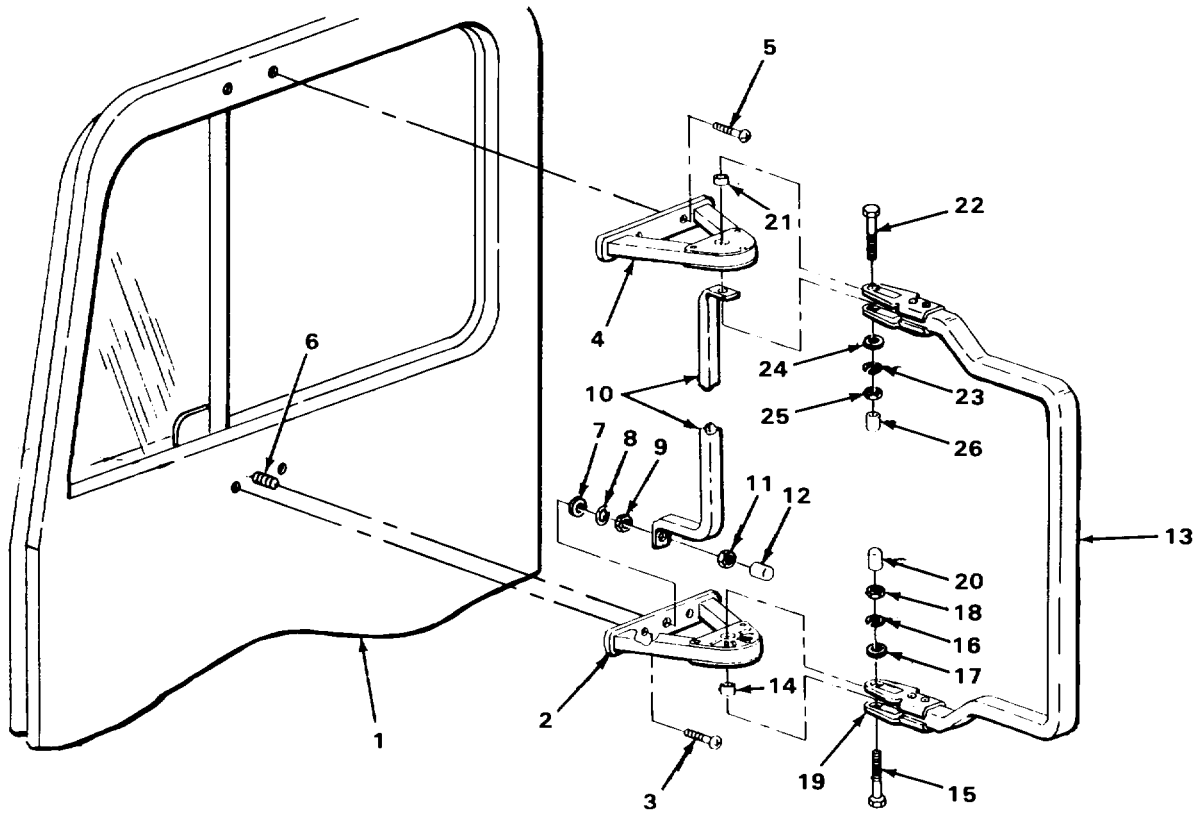
Steps given are typical for adjusting right and left rear view mirrors.

Assistant will be needed to adjust right rear view mirror.

37. Rearview mirror arm (8) to mirror mounting brackets (9 and 10)	Two dome nut caps (11 and 12)	Unscrew and take off by hand.
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REARVIEW MIRROR ASSEMBLY - CONTINUED

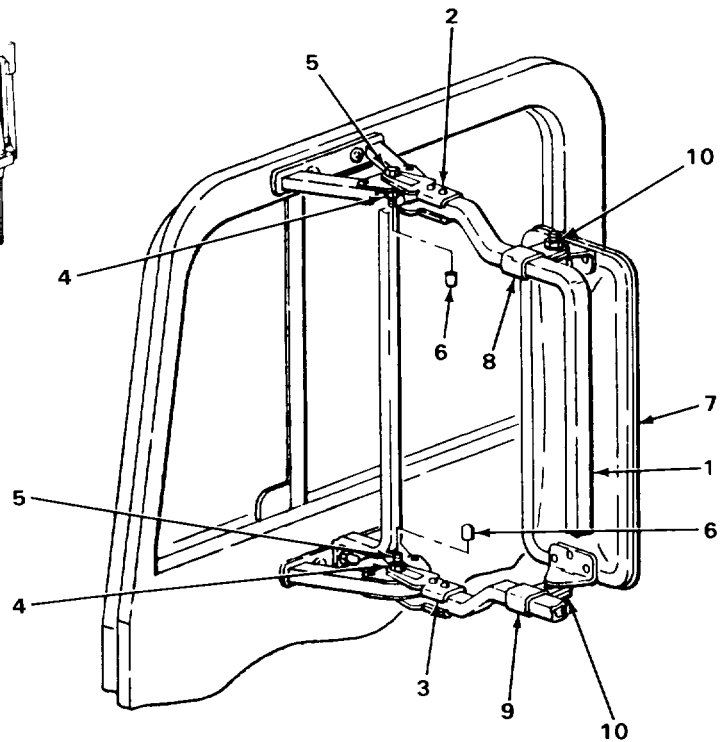
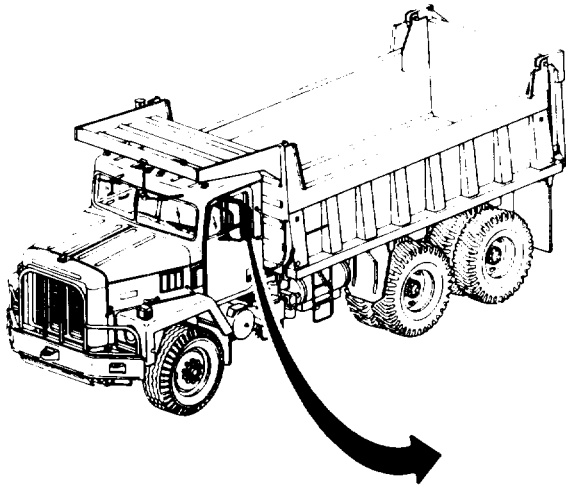
LOCATION	ITEM	ACTION REMARKS
38.	Two nuts (13) and two screws (14)	Loosen using two 7/16-inch box-end wrenches.
39. Mirror head (3) to mirror clamps (1 and 2)	Two nuts (4 and 6)	Loosen using 1/2-inch box-end wrench.
40.	Mirror head (3) and rearview mirror arm (8)	Adjust as necessary.



TA244513

**REARVIEW MIRROR ASSEMBLY - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
ADJUSTMENT - CONTINUED		
41. Rearview mirror arm (1) to mirror mounting brackets (2 and 3)	Two nuts (4) and two screws (5)	Tighten using 7/16-inch box-end wrench.
42.	Two dome nut caps (6)	Screw on and tighten.
43. Mirror head (7) to mirror clamps (8 and 9)	Two nuts (10)	Tighten using 1/2-inch box-end wrench.



**TASK ENDS HERE**

TA244514

**WINDSHIELD WIPER BLADE**

This task covers:

- a. Inspection (page 2-1299)
- b. Removal (page 2-1300)
- c. Installation (page 2-1300)

**INITIAL SETUP**

Tools	Personnel Required
Handle, ratchet, 1/4-inch drive Screwdriver, flat-tip, 1/8-inch Socket, 1/4-inch, 1/4-inch drive	One

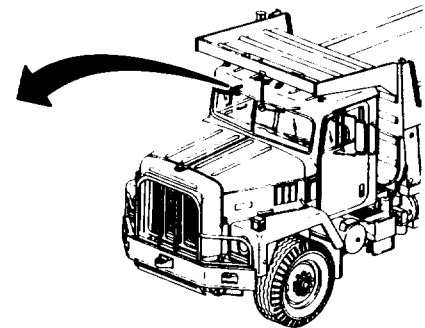
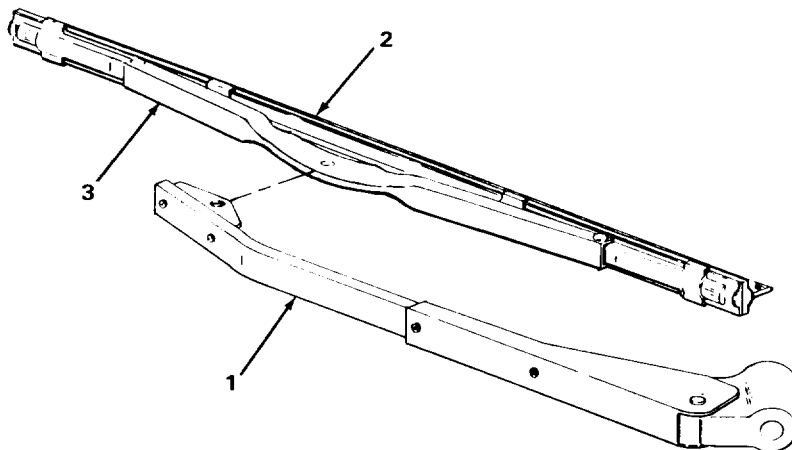
LOCATION	ITEM	ACTION REMARKS
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**INSPECTION**

**NOTE**

The steps in this task are typical for both left and right windshield wiper blades.

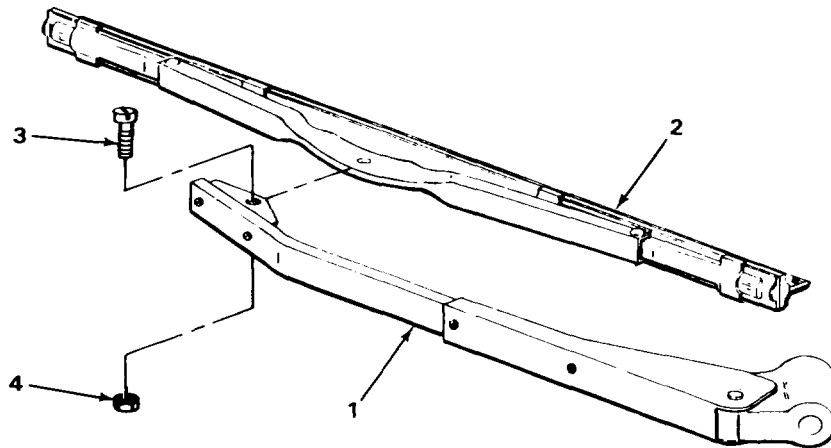
- |                  |                                    |  |
|------------------|------------------------------------|--|
| 1. Wiper arm (1) | Wiper blade (2)<br>and support (3) | a. Inspect for cracked, chipped, torn, or worn rubber.<br>b. Inspect support for cracks or broken springs. |
|------------------|------------------------------------|--|



TA244515

**WINDSHIELD WIPER BLADE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
2. Wiper arm (1) to wiper blade (2)	Screw (3) and nut (4)	Using 1/4-inch, 1/4-inch drive socket and ratchet handle and 1/8-inch flat-tip screwdriver, unscrew and take off.
3. Wiper arm (1)	Wiper blade (2)	Take off.
<b>INSTALLATION</b>		
4. Wiper arm (1)	Wiper blade (2)	Place in position.
5. Wiper arm (1) to wiper blade (2)	Screw (3) and nut (4)	Screw in and tighten using 1/4-inch, 1/4-inch drive socket and ratchet handle and 1/8-inch flat-tip screwdriver.



**TASK ENDS HERE**

TA244516

**WIPER BLADE AND ARM**

This task covers:

- a. Removal (page 2-1301)
- b. Installation (page 2-1302)
- c. Adjustment (page 2-1302)

**INITIAL SETUP**

**Tools**

- Bar, pinch, 12-inch
- Hammer, hand, 12-ounce
- Handle, ratchet, 1/4-inch drive
- Punch, flat-tip, 3/8-inch
- Screwdriver, flat-tip, 1/8-inch
- Socket, 1/4-inch, 1/4-inch drive
- Wrench, box-end, 5/8-inch

**Personnel Required**

One

**Equipment Condition**

Engine started to build up air pressure (TM 5-3805-254-10).

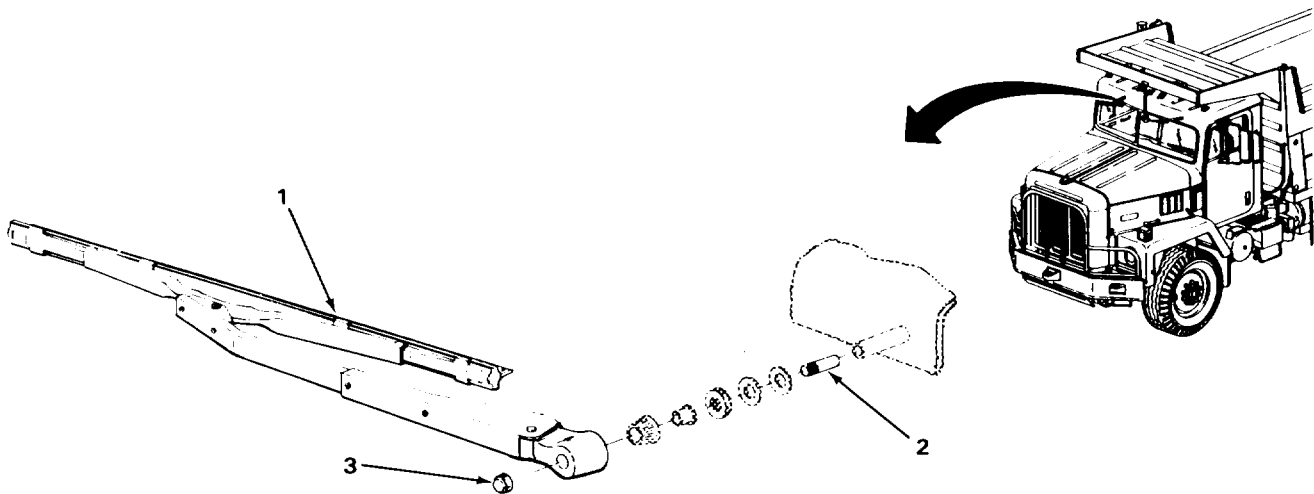
LOCATION	ITEM	ACTION REMARKS
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**REMOVAL**

**NOTE**

The steps in this task are typical for both left and right wiper arm and blade.

- |   |               |  |
|---|---------------|--|
| 1. Wiper arm assembly (1) to driver shaft (2) | Acorn nut (3) | Using 5/8-inch box-end wrench, unscrew and take off. |
|---|---------------|--|



TA244517

**WIPER BLADE AND ARM - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL - CONTINUED</b>		
2. Driver shaft (1)	Acorn nut (2) and wiper arm (3)	a. Using 5/8-inch box-end wrench, unscrew and take off. b. Using 12-inch pinch bar, pry off.
3. Wiper arm (3)	Driver nut (4)	Using 3/8-inch flat-tip punch and 12-ounce hammer, tap out.
4. Wiper arm (3) to wiper blade (5)	Screw (6) and nut (7)	Using 1/4-inch, 1/4-inch drive socket and ratchet handle and 1/8-inch flat-tip screwdriver, unscrew and take off.
5. Wiper arm (3)	Wiper blade (5)	Take off.
<b>INSTALLATION</b>		
6. Wiper arm (3)	Wiper blade (5)	Place in position.
7. Wiper arm (3) to wiper blade (5)	Screw (6) and nut (7)	Screw on and tighten using 1/4-inch, 1/4-inch drive socket and ratchet handle and 1/8-inch flat-tip screwdriver.
8. Driver shaft (1)	Driver nut (4)	Place into position.
9.	Wiper arm (3)	Place into position.
10. Wiper arm (3) to driver shaft (1)	Acorn nut (2)	Screw on and tighten using 5/8-inch box-end wrench.

] ADJUSTMENT

**NOTE**

Make sure air pressure is approximately 70 psi (482.3 kPa) for correct adjustment.

11. Wiper arm (3) to driver shaft (1)	Acorn nut (2)	Using 5/8-inch box-end wrench, unscrew and take off.
12. Driver shaft (1)	Wiper arm (3)	Using 12-inch pinch bar, pry off.
13. Wiper arm (3)	Driver nut (4)	Using 3/8-inch flat-tip punch and 12-ounce hammer, tap out.



**WIPER BLADE AND ARM - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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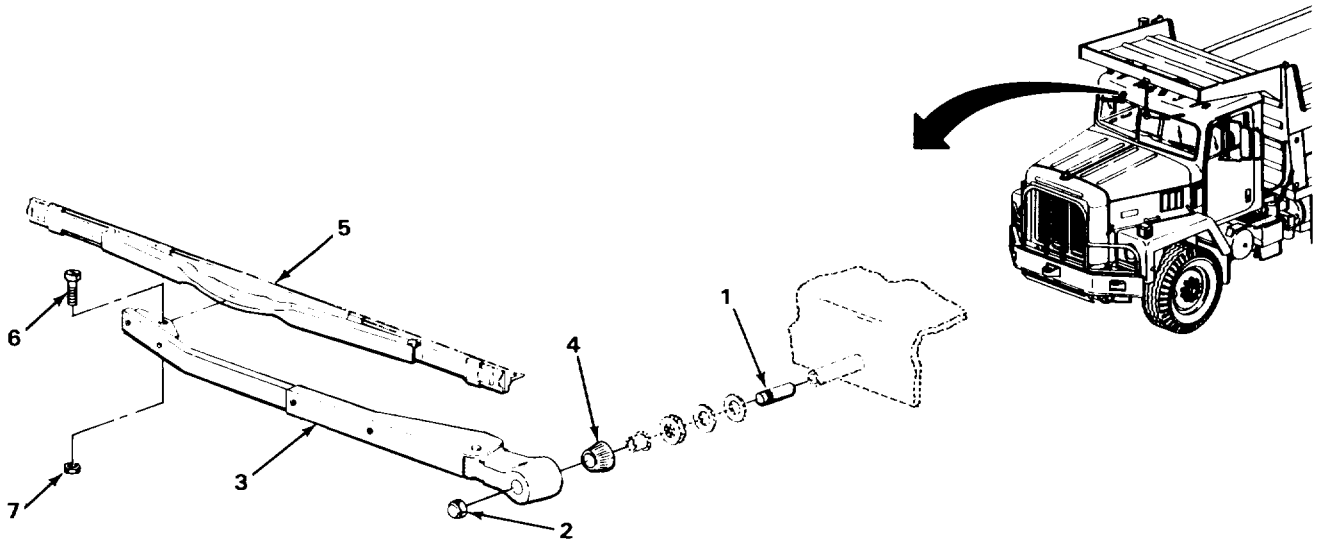
**NOTE**

For proper adjustment of windshield wipers, windshield wiper switch must be turned to the left to place windshield wipers in the park position.

- |     |                                   |                |   |
|-----|-----------------------------------|----------------|---|
| 14. | Driver shaft (1)                  | Driver nut (4) | Place into position.                                |
| 15. | Wiper arm (3)                     | Acorn nut (2)  | Place into position.                                |
| 16. | Wiper arm (3) to driver shaft (1) | Acorn nut (2)  | Screw on and tighten using 5/8-inch box-end wrench. |

**NOTE**

Repeat steps 11 thru 16 until wiper blades stop 1 inch away from top of windshield.



**NOTE**

FOLLOW-ON MAINTENANCE: Shut off engine (TM 5-3805-254-10).

**TASK ENDS HERE**

TA244518

## HEATER CORE HOSES

---

This task covers:

- a. Removal (page 2-1305)
  - b. Cleaning (page 2-1311)
  - c. Inspection/Replacement (page 2-1312)
  - d. Installation (page 2-1313)
- 

### INITIAL SETUP

#### Tools

Gloves, safety  
Goggles, safety  
Pliers, slip-joint, 8-inch  
Screwdriver, flat-tip, 1/4-inch  
Wrench, box-end, 7/16-inch (two required)  
Wrench, box-end, 1/2-inch

#### Materials/Parts

Detergent, liquid, GP (item 7, appendix C)  
Lockwasher, clamp support bracket

#### Materials/Parts - Continued

Lockwasher, clamp under cab floor  
Lockwasher, stud, inner fender well  
Rags, wiping (item 15, appendix C)  
Solvent, drycleaning (item 19, appendix C)

#### Personnel Required

One

#### Equipment Condition

Right side hood panel opened (page 2-424).  
Cooling system drained (page 2-628).

**HEATER CORE HOSES - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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REMOVAL

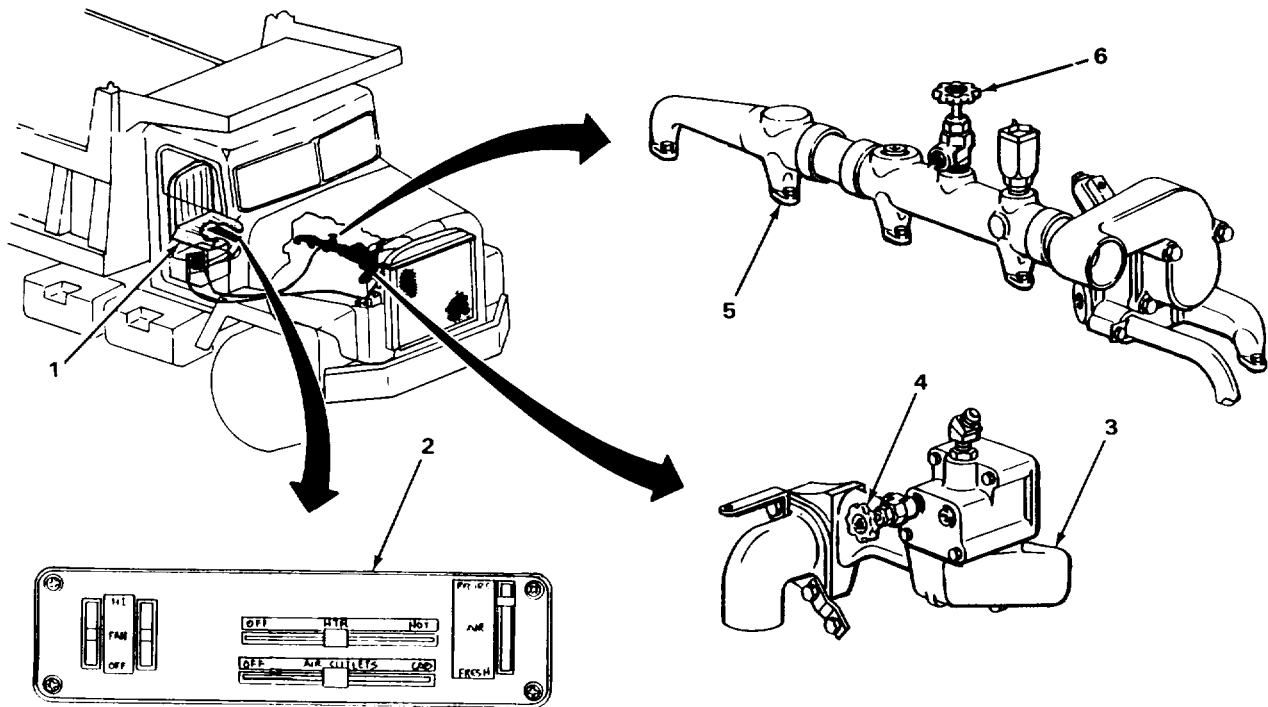
**NOTE**

Steps 1, 2, and 3 are typical for removal of both inlet and outlet hoses.

Steps 4 thru 16 are for removal of inlet hose only.

Steps 17 thru 29 are for removal of outlet hose only.

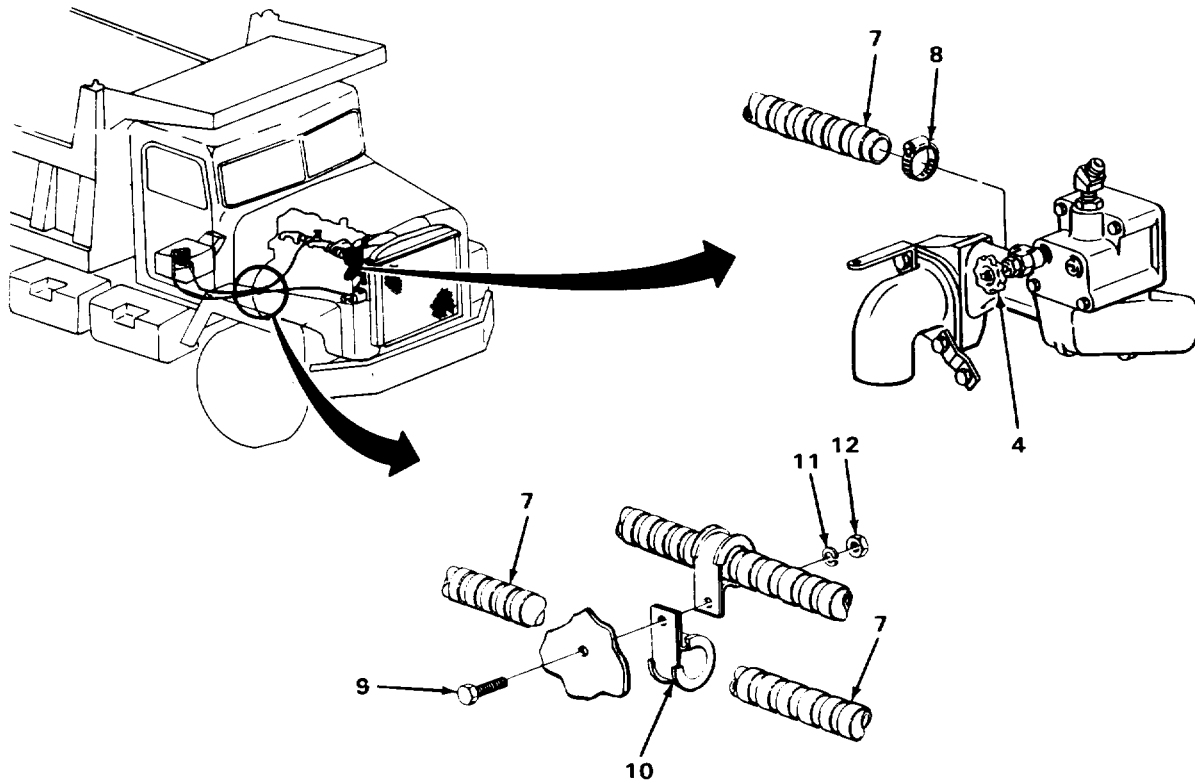
- |                       |                              |  |
|-----------------------|------------------------------|--|
| 1. Passenger seat (1) | Heater temperature valve (2) | Move to OFF position.                                    |
| 2. Water pump (3)     | Shutoff valve (4)            | Using 8-inch slip-joint pliers, turn clockwise to close. |
| 3. Water manifold (5) | Shutoff valve (6)            | Using 8-inch slip-joint pliers, turn clockwise to close. |



TA244519

HEATER CORE HOSES - CONTINUED

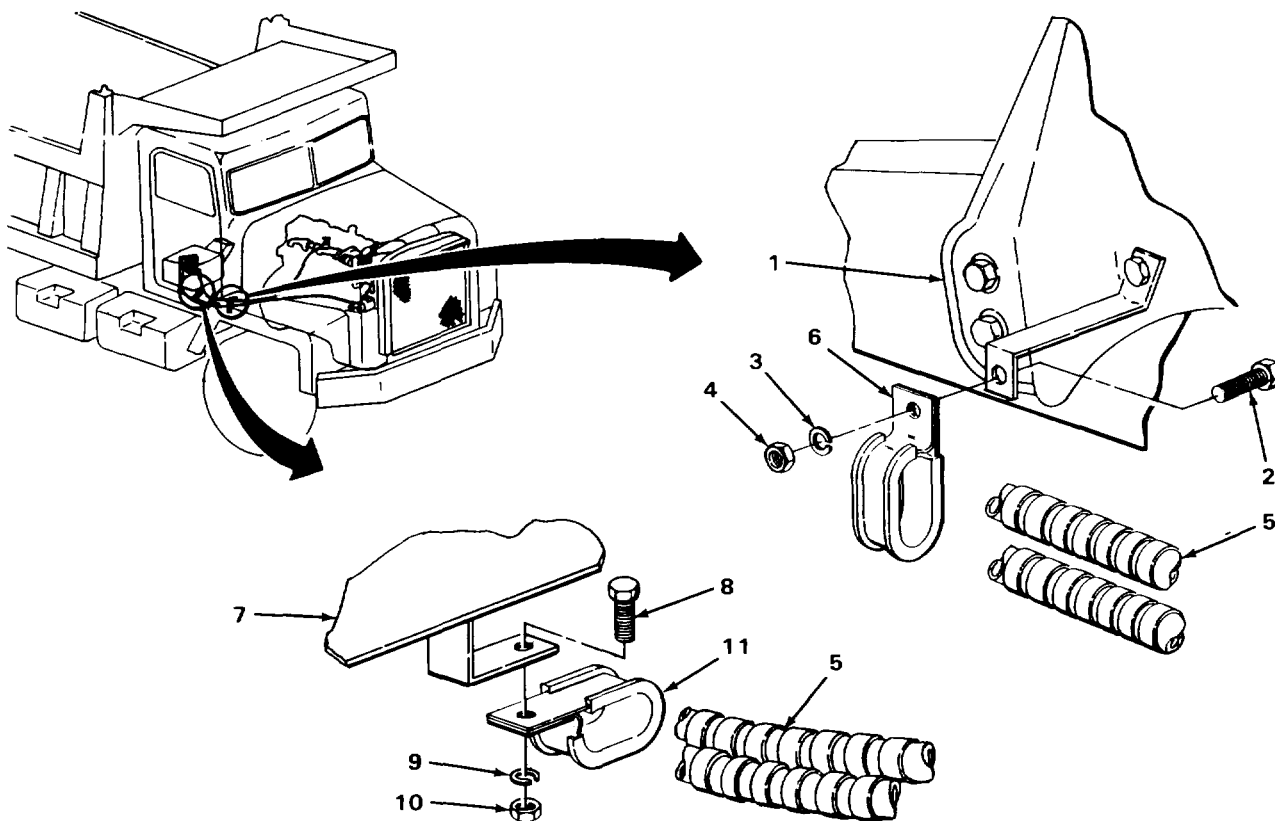
LOCATION	ITEM	ACTION REMARKS
4. Inlet hose (7)	Hose clamp (8)	Using 1/4-inch flat-tip screwdriver, loosen.
5. Shutoff valve (4)	Inlet hose (7) and hose clamp (8)	Take off.
6. Screw (9)	Clamp (10), lock-washer (11), and nut (12)	a. Using 1/2-inch box-end wrench, unscrew and take off. b. Take off clamp. c. Get rid of lockwasher.



TA244520

HEATER CORE HOSES - CONTINUED

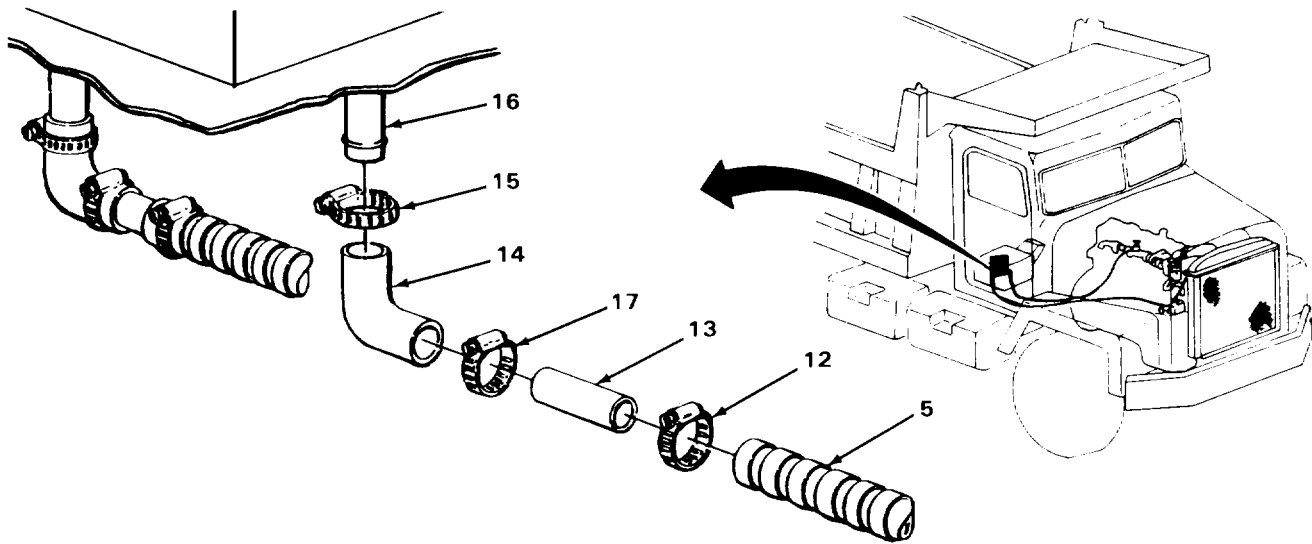
LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
7. Support bracket (1)	Screw (2), lock-washer (3), and nut (4)	a. Using two 7/16-inch box-end wrenches, unscrew and take off. b. Get rid of lockwasher.
8. Inlet hose (5)	Clamp (6)	Take off.
9. Under cab floor (7)	Screw (8), lock-washer (9), and nut (10)	Using two 7/16-inch box-end wrenches, unscrew and take off.
10. Inlet hose (5)	Clamp (11)	Take off.



TA244521

HEATER CORE HOSES - CONTINUED

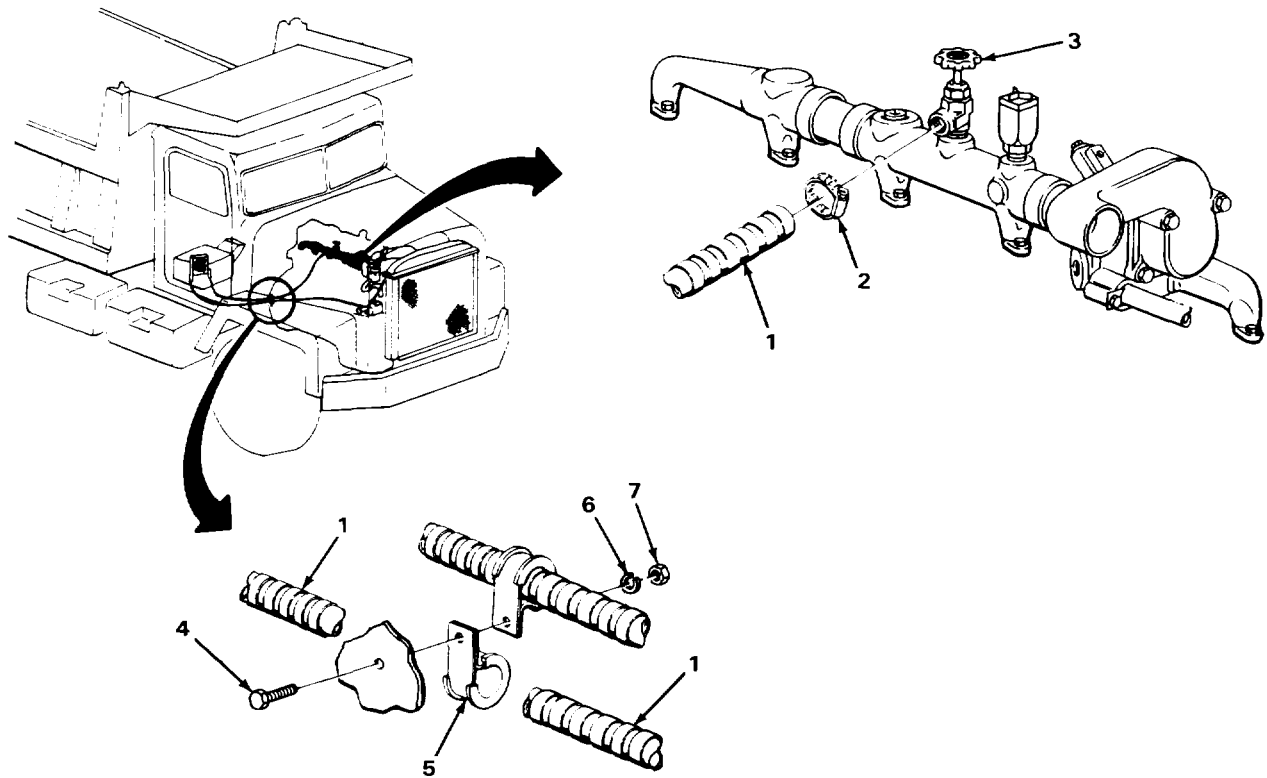
LOCATION	ITEM	ACTION REMARKS
11. Inlet hose (5)	Hose clamp (12)	Using 1/4-inch flat-tip screwdriver, loosen.
12. Pipe (13)	Inlet hose (5) and hose clamp (12)	Take off.
13. Preformed inlet hose (14)	Hose clamp (15)	Using 1/4-inch flat-tip screwdriver, loosen.
14. Heater core tube (16)	Preformed inlet hose (14) and hose clamp (15)	Take off.
15. Preformed inlet hose (14)	Hose clamp (17)	Using 1/4-inch flat-tip screwdriver, loosen.
16. Pipe (13)	Preformed inlet hose (14) and hose clamp (17)	Take off.



TA244522

HEATER CORE HOSES - CONTINUED

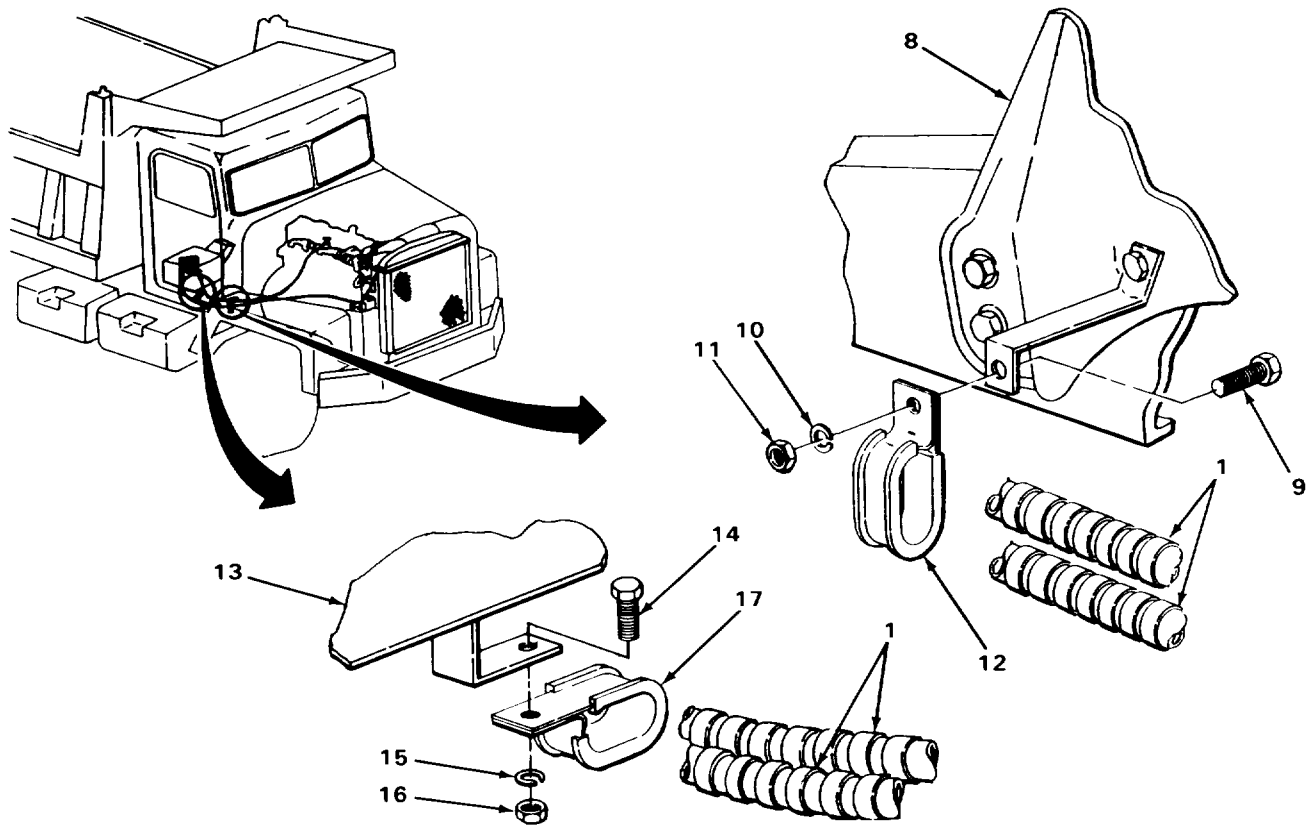
LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
17. Outlet hose (1)	Hose clamp (2)	Using 1/4-inch flat-tip screwdriver, loosen.
18. Shutoff valve (3)	Outlet hose (1) and hose clamp (2)	Take off.
19. Screw (4)	Clamp (5), lock-washer (6), and nut (7)	a. Using 1/2-inch box-end wrench, unscrew and take off. b. Take off clamp. c. Get rid of lockwasher.



TA244523

HEATER CORE HOSES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
20. Support bracket (8)	Screw (9), lock-washer (10), and nut (11)	a. Using two 7/16-inch box-end wrenches, unscrew and take off. b. Get rid of lockwasher.
21. Outlet hose (1)	Clamp (12)	Take off.
22. Under cab floor (13)	Screw (14), lock-washer (15), and nut (16)	a. Using two 7/16-inch box-end wrenches, unscrew and take off. b. Get rid of lockwasher.
23. Outlet hose (1)	Clamp (17)	Take off.



TA244524



**HEATER CORE HOSES - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL - CONTINUED</b>		
24. Outlet hose (1)	Hose clamp (2)	Using 1/4-inch flat-tip screwdriver, loosen.
25. Pipe (3)	Outlet hose (1) and hose clamp (2)	Take off.
26. Preformed outlet hose (4)	Hose clamp (5)	Using 1/4-inch flat-tip screwdriver, loosen.
27. Heater core tube (6)	Preformed outlet hose (4) and hose clamp (5)	Take off.
28. Preformed outlet hose (4)	Hose clamp (7)	Using 1/4-inch flat-tip screwdriver, loosen.
29. Pipe (3)	Preformed outlet hose (4) and hose clamp (7)	Take off.

**CLEANING****NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

- |            |                  |  |
|------------|------------------|--|
| <b>30.</b> | All rubber parts | <ul style="list-style-type: none"> <li>a. Clean with solution of liquid detergent and water.</li> <li>b. Rinse in clean water.</li> <li>c. Using clean, dry rags, wipe dry.</li> </ul> |
|------------|------------------|--|

HEATER CORE HOSES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

- |     |                 |   |
|-----|-----------------|---|
| 31. | All metal parts | <ul style="list-style-type: none"> <li>a. Clean with drycleaning solvent.</li> <li>b. Using clean, dry rags, wipe dry.</li> </ul> |
|-----|-----------------|---|

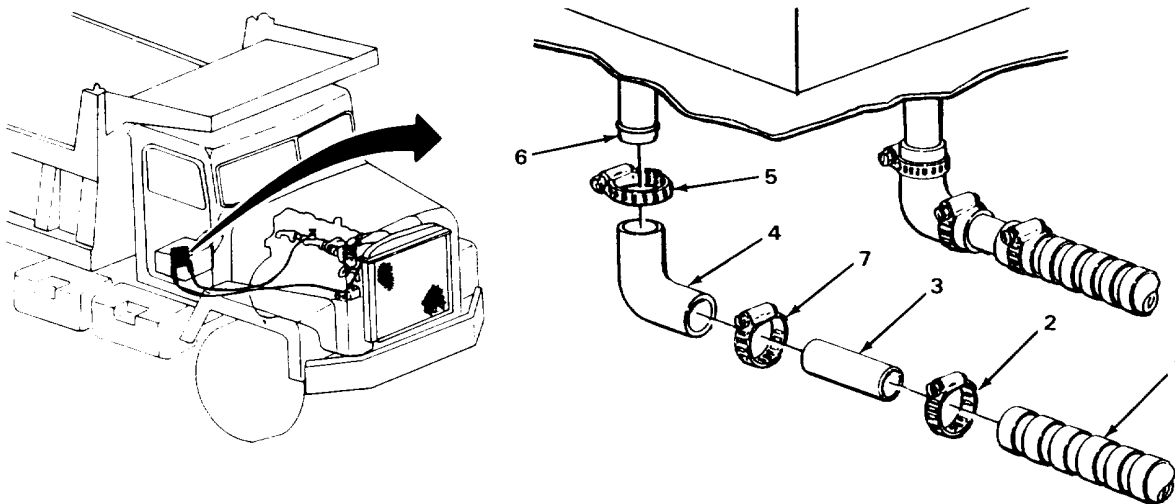
INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

- |     |                    |   |
|-----|--------------------|---|
| 32. | All rubber parts   | Look for cracks, breaks, chafing, and hardness. |
| 33. | All metal parts    | Look for cracks and breaks.                     |
| 34. | All threaded parts | Look for damaged threads and rounded heads.     |



TA244526

**HEATER CORE HOSES - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION

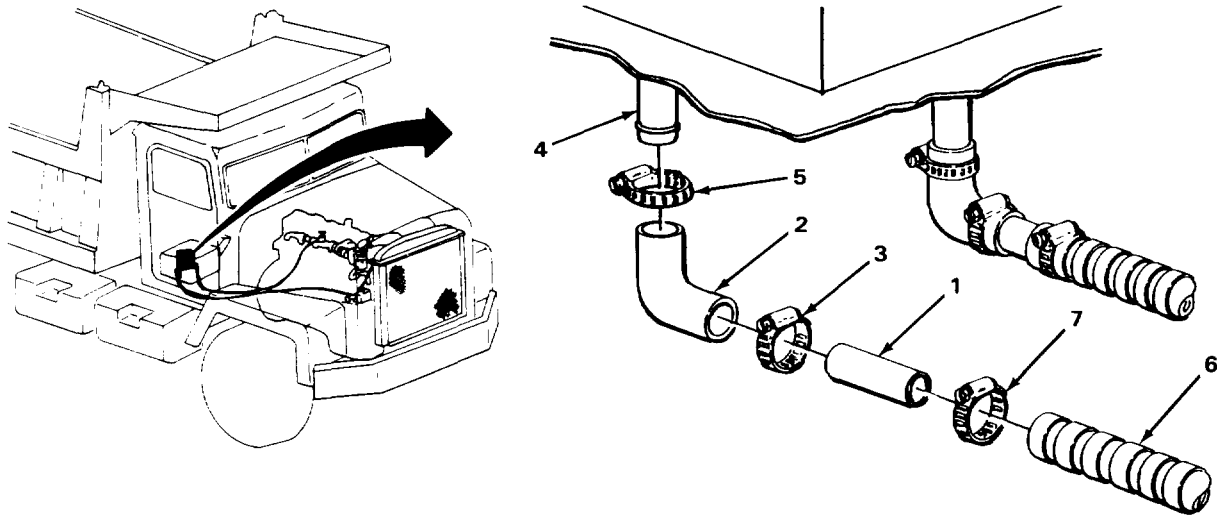
**NOTE**

Steps 35 thru 45 are for installation of outlet hose.

Steps 46 thru 59 are for installation of inlet hose.

Steps 60, 61, and 62 are typical for installation of both inlet and outlet hoses.

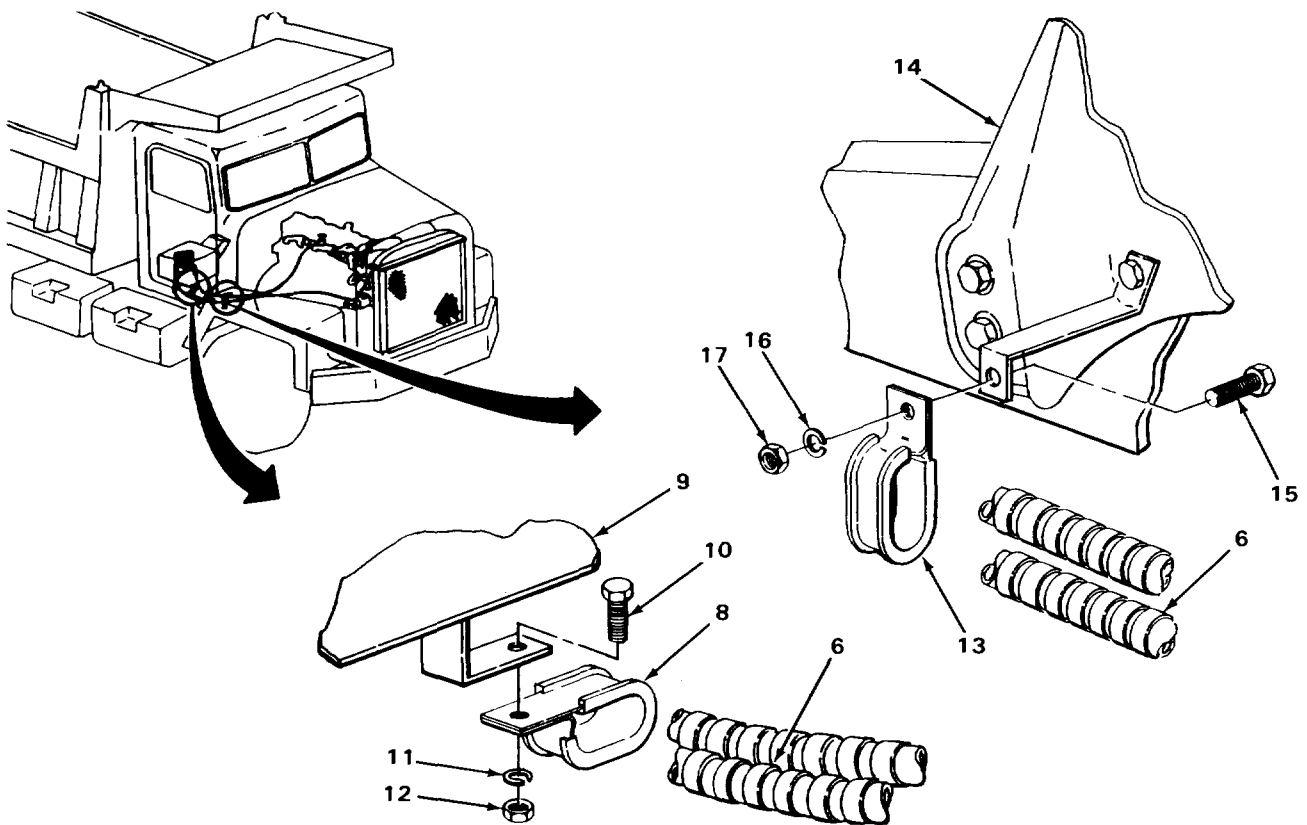
35. Pipe (1)	Preformed outlet hose (2) and hose clamp (3) screwdriver.	a. Put on. b. Tighten using 1/4-inch flat-tip
36. Heater core tube (4)	Preformed outlet hose (2) and hose clamp (5)	a. Put on. b. Tighten using 1/4-inch flat-tip screwdriver.
37. Pipe (1)	Outlet hose (6) and hose clamp (7)	a. Put on. b. Tighten using 1/4-inch flat-tip screwdriver.



TA244527

HEATER CORE HOSES - CONTINUED

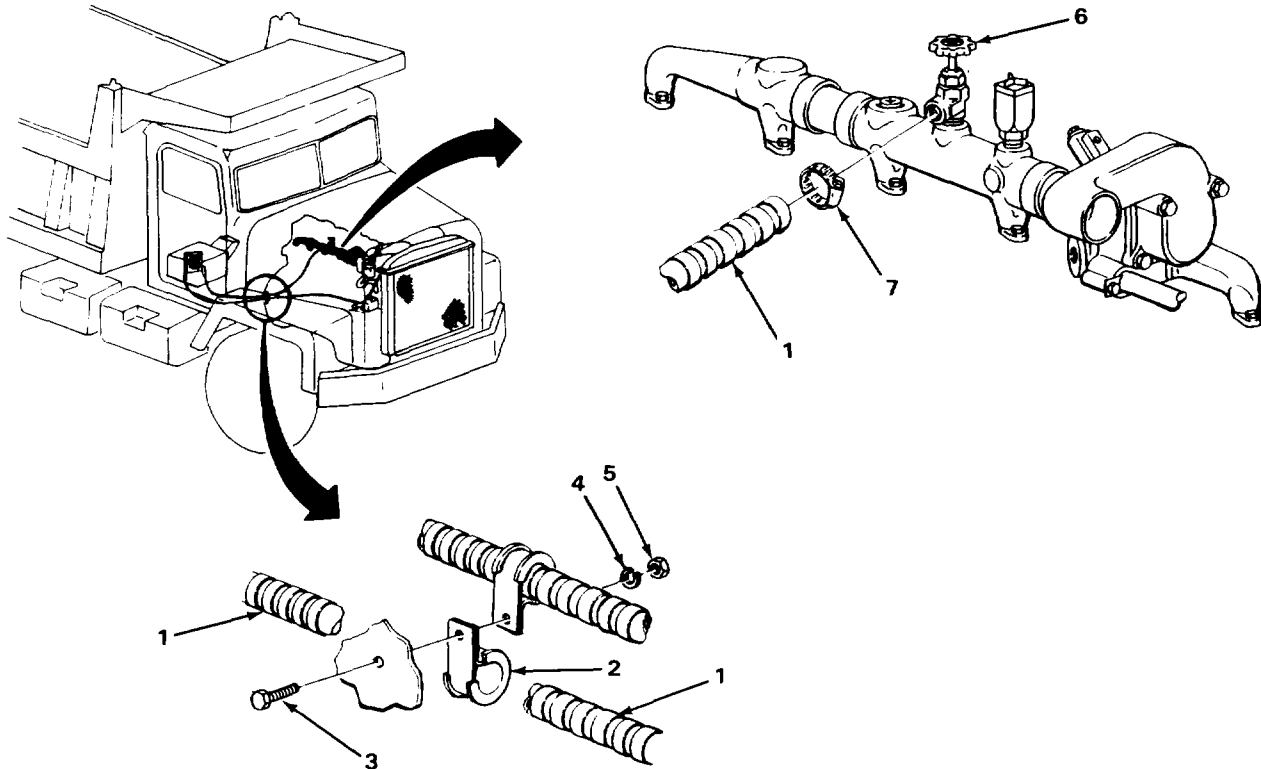
LOCATION	ITEM	ACTION REMARKS
38. Outlet hose (6)	Clamp (8)	Put on.
39. Under cab floor (9)	Clamp (8), screw (10), new lock-washer (11), and nut (12)	a. Put clamp in place. b. Screw in and tighten using two 7/16-inch box-end wrenches.
40. Outlet hose (6)	Clamp (13)	Put on.
41. Support bracket (14)	Clamp (13), screw (15), new lock-washer (16), and nut (17)	a. Put clamp in place. b. Screw in and tighten using two 7/16-inch box-end wrenches.



TA244528

**HEATER CORE HOSES - CONTINUED**

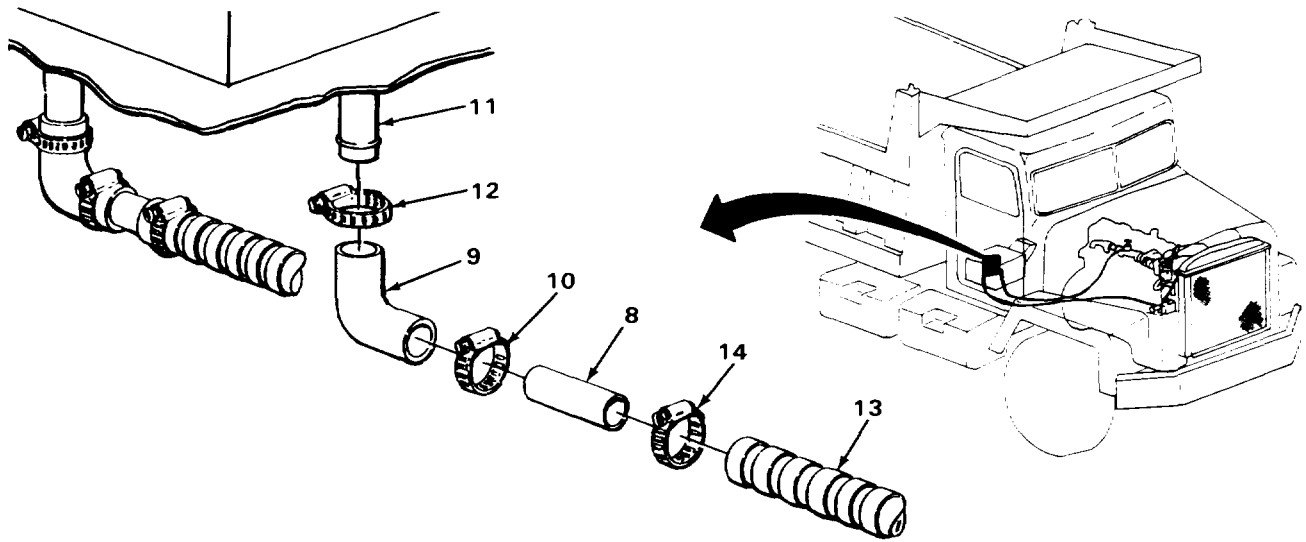
LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
42. Outlet hose (1)	Clamp (2)	Put on.
43. Stud (3)	Clamp (2), new lock-washer (4), and nut (5)	a. Put clamp in place. b. Screw on and tighten using 1/2-inch, box-end wrench.
44. Shutoff valve (6)	Outlet hose (1) and hose clamp (7)	Put on.
45. Outlet hose (1)	Hose clamp (7)	Tighten using 1/4-inch flat-tip screwdriver.



TA244529

HEATER CORE HOSES - CONTINUED

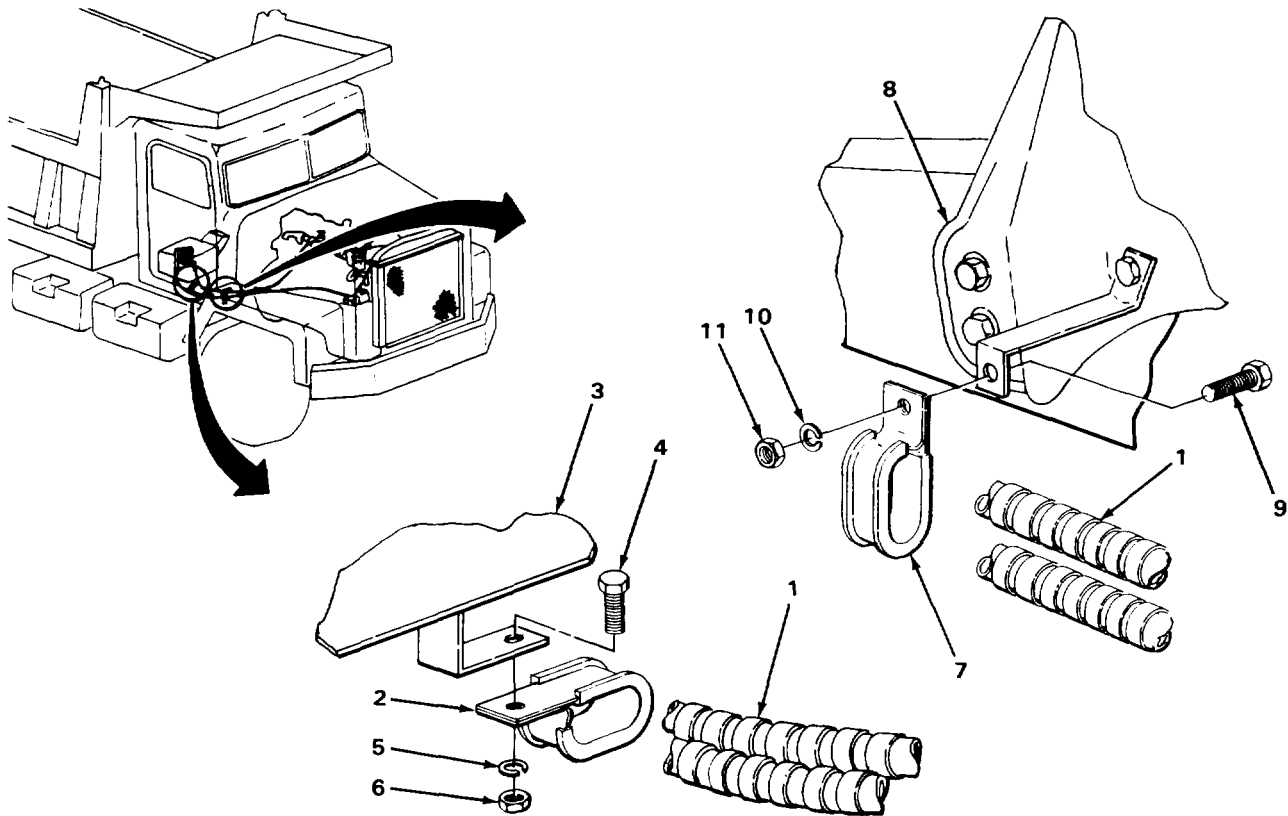
LOCATION	ITEM	ACTION REMARKS
46. Pipe(8)	Preformed inlet hose (9) and hose clamp (10)	Put on.
47. Preformed inlet hose (9)	Hose clamp (10)	Tighten using 1/4-inch flat-tip screwdriver.
48. Heater core tube (11)	Preformed inlet hose (9) and hose clamp (12)	Put on.
49. Preformed inlet hose (9)	Hose clamp (12)	Tighten using 1/4-inch flat-tip screwdriver.
50. Pipe (8)	Inlet hose (13) and hose clamp (14)	Put on.
51. Inlet hose (13)	Hose clamp (14)	Tighten using 1/4-inch flat-tip screwdriver.



TA244530

HEATER CORE HOSES - CONTINUED

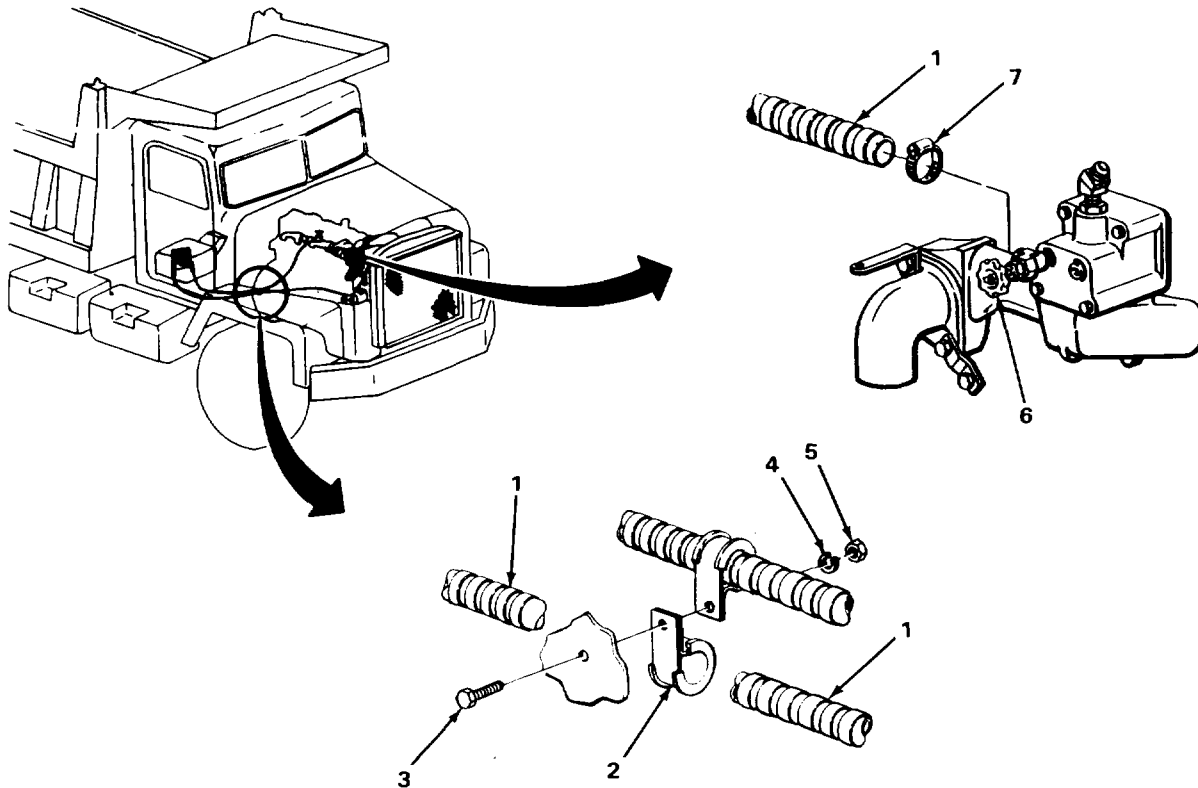
LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
52. Inlet hose (1)	Clamp (2)	Put on.	
53. Under cab floor (3)	Clamp (2), screw (4), new lockwasher (5), and nut (6)	a. Put clamp in place. b. Screw in and tighten using two 7/16-inch box-end wrenches.	
54. Inlet hose (1)	Clamp (7)	Put on.	
55. Support bracket (8)	Clamp (7), screw (9), new lockwasher (10), and nut (11)	a. Put clamp in place. b. Screw in and tighten using two 7/16-inch box-end wrenches.	



TA244531

HEATER CORE HOSES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
56. Inlet hose (1)	Clamp (12)	Put on.
57. Screw (13)	Clamp (12), new lockwasher (14), and nut (15)	a. Put clamp in place. b. Screw in and tighten using 1/2-inch box-end wrench.
58. Shutoff valve (16)	Inlet hose (1) and hose clamp (17)	Put on.
59. Inlet hose (1)	Hose clamp (17)	Tighten using 1/4-inch flat-tip screwdriver.

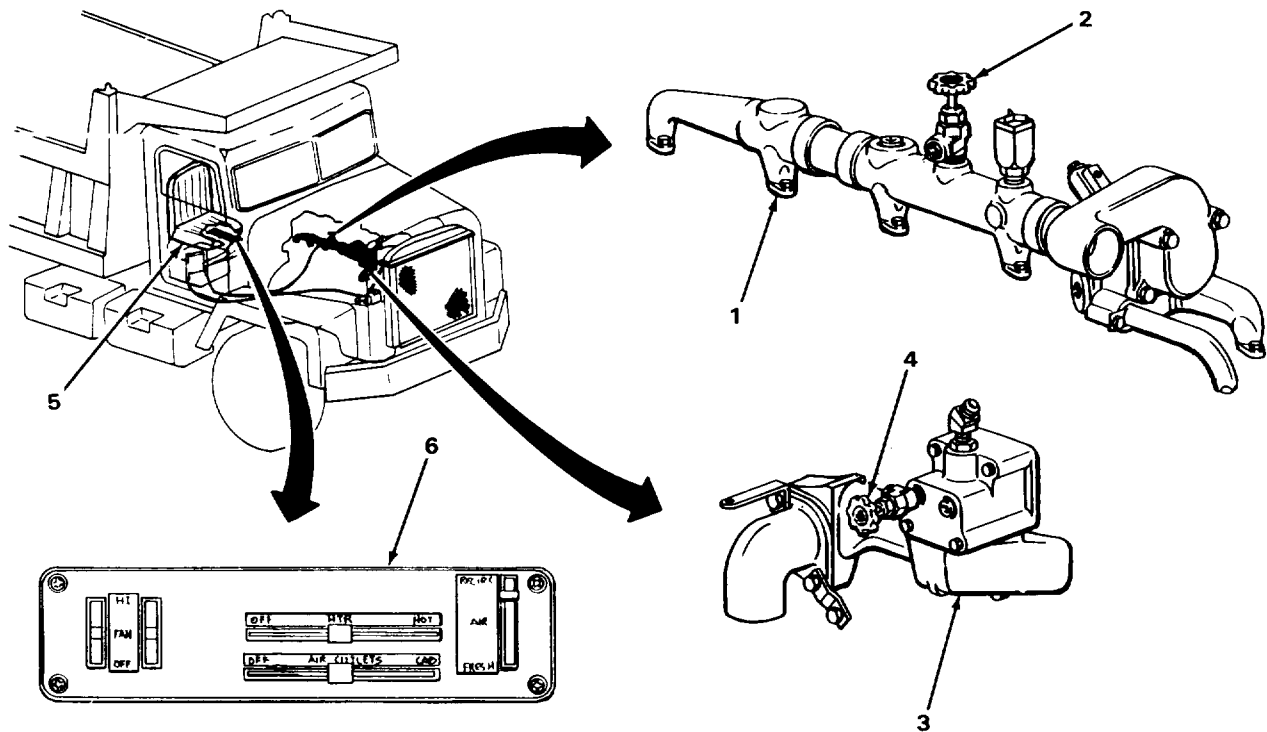


TA244532



**HEATER CORE HOSES - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
60. Water manifold (1)	Shutoff valve (2)	Turn counterclockwise to open using 8-inch slip-joint pliers.
61. Water pump (3)	Shutoff valve (4)	Turn counterclockwise to open using 8-inch slip-joint pliers.
62. Passenger seat (5)	Heater temperature valve (6)	Move to ON position.



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Close right side hood panel (page 2-424).
2. Fill cooling system (page 2-628).

**TASK ENDS HERE**

TA244533

## FRONT FENDER REFLECTORS

---

This task covers:

- a. Removal (page 2-1320)
  - b. Installation (page 2-1320)
- 

### INITIAL SETUP

**Tools**

Screwdriver, cross-tip, number one  
Wrench, box-end, 3/8-inch

**Personnel Required**

One

**Materials/Parts**

Reflector, amber, front fenders  
(two required)

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LOCATION	ITEM	ACTION REMARKS
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### REMOVAL

**NOTE**

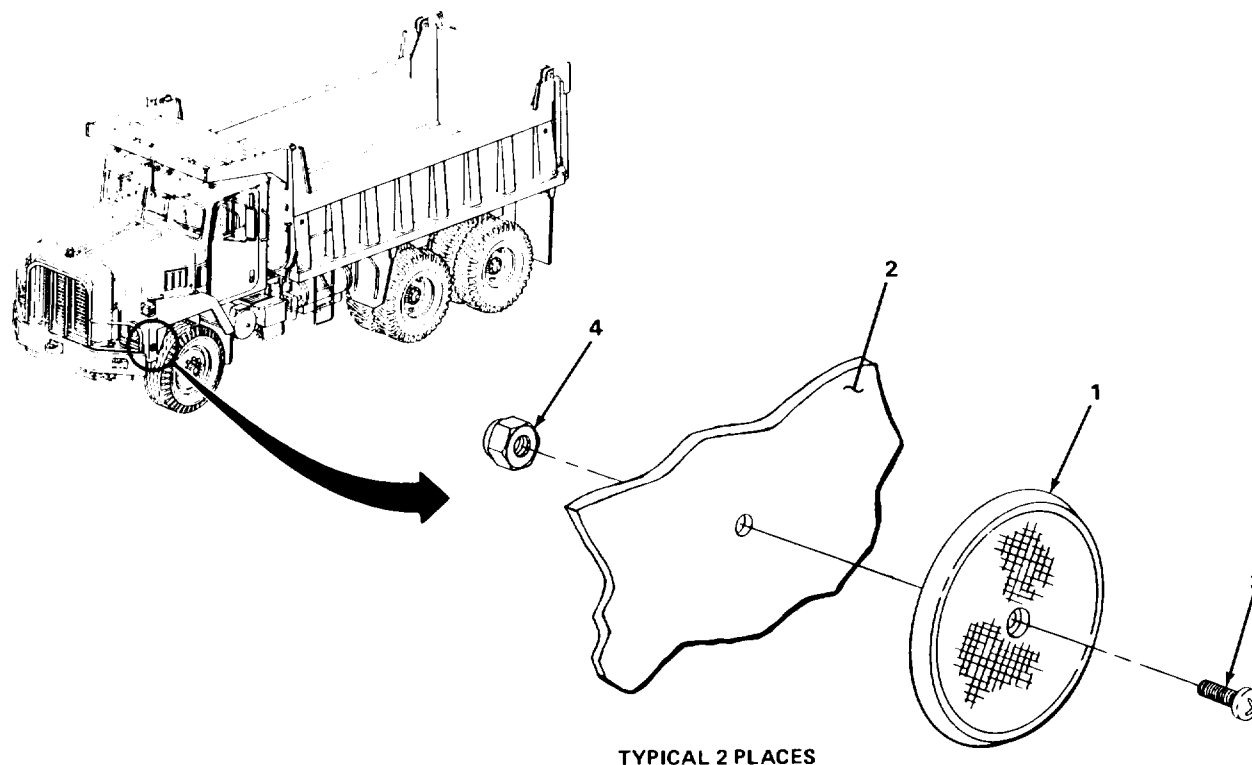
The following procedure is typical for both front fenders.

1. Amber reflector (1) to front fender (2)	Screw (3) and nut (4)	Using number one cross-tip screwdriver and 3/8-inch box-end wrench, unscrew and take off.
2. Front fender (2)	Amber reflector (1)	a. Take off. b. Get rid of reflector.

### INSTALLATION

3. Front fender (2)	New amber reflector (1)	Place in position.
4. New amber reflector (1) to front fender (2)	Screw (3) and nut (4)	Screw in and tighten using number one cross-tip screwdriver and 3/8-inch box-end wrench.

**FRONT FENDER REFLECTORS - CONTINUED**



**TASK ENDS HERE**

**DUMP BODY REFLECTORS**

This task covers:

- a. Removal (page 2-1322)
- b. Installation (page 2-1323)

**INITIAL SETUP**

**Tools**

Chisel, cold-hand, 1/4-inch  
 Drill, electric, portable, 1/4-inch  
 Drill, twist, number seven  
 Goggles, safety  
 Hammer, ball-peen, 12-ounce  
 Handle, tap, adjustable  
 Punch, pin-drive, straight, 3/16-inch  
 Screwdriver, cross-tip, number two  
 Tap, 1/4-inch, 20-NC

**Materials/Parts**

Reflector, amber, dump body (two required)  
 Reflector, red, dump body (two required)  
 Reflectors, red, tailgate (two required)  
 Screws, 1/4-inch, NC (12 required)

TA244534

**DUMP BODY REFLECTORS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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REMOVAL

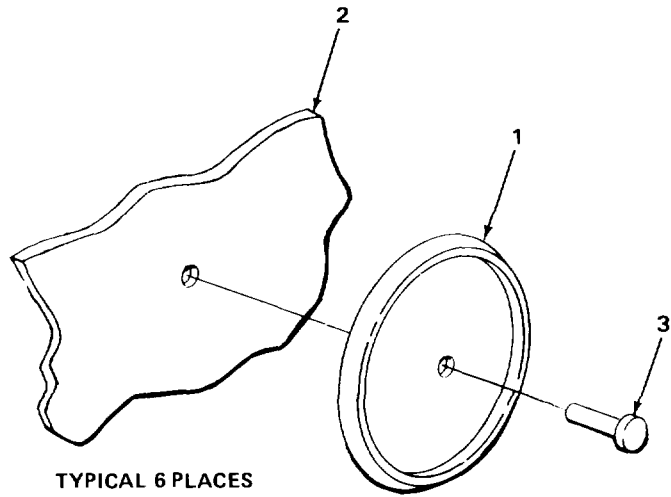
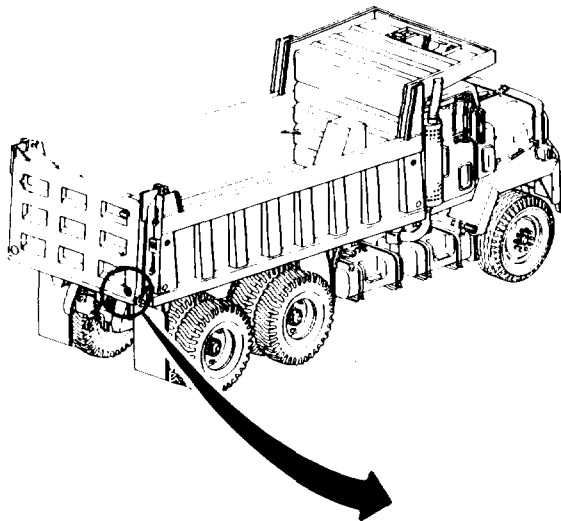
**WARNING**

Safety goggles must be worn, when using chisel and drill, to prevent eye injury caused by flying steel chips.

**NOTE**

There are six reflectors on the dump body. The two front reflectors are amber; the four rear reflectors are red. The four rear reflectors are initially installed with rivets.

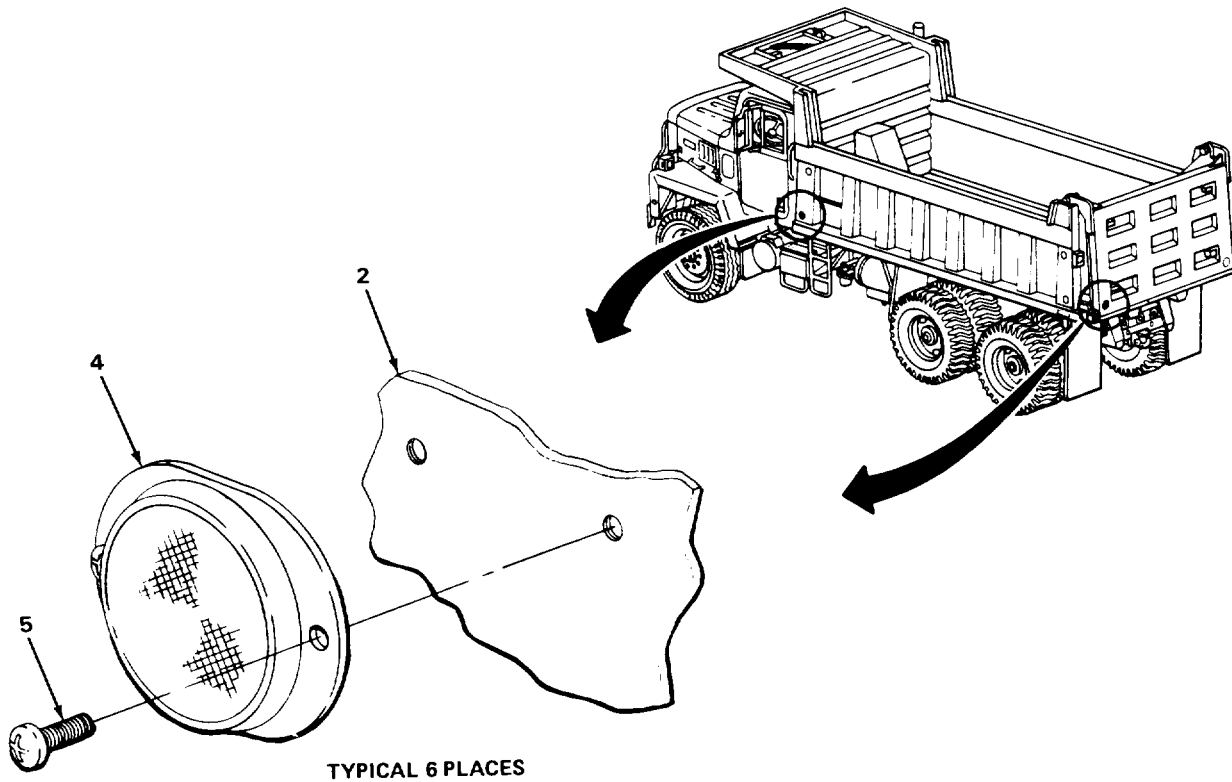
- |                              |               |   |
|------------------------------|---------------|---|
| 1. Reflector (1) to body (2) | Rivet (3)     | <ul style="list-style-type: none"> <li>a. Using 12-ounce ball-peen hammer and 1/4-inch cold-hand chisel, cut off.</li> <li>b. Using 12-ounce ball-peen hammer and 3/16-inch straight drive-pin punch, tap out.</li> </ul> |
| 2. Body (2)                  | Reflector (1) | <ul style="list-style-type: none"> <li>a. Take off.</li> <li>b. Get rid of reflector.</li> </ul>  |



TA244535

DUMP BODY REFLECTORS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
3. Body (2)	New reflector (4)	a. Place in position. b. Drill two holes using 1/4-inch portable electric drill and number seven twist drill. c. Tap two holes using 1/4-inch 20-NC tap and adjustable tap handle.
4. New reflector (4) to body (2)	Two screws (5)	Screw in and tighten using number two cross-tip screwdriver.



TASK ENDS HERE

TA244536

**WINDSHIELD WIPER MOTOR**

This task covers:

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>a. Removal, Driver's Side<br/>(page 2-1324)</li> <li>b. Installation, Driver's Side<br/>(page 2-1328)</li> </ul> | <ul style="list-style-type: none"> <li>c. Removal, Passenger's Side<br/>(page 2-1331)</li> <li>d. Installation, Passenger's Side<br/>(page 2-1334)</li> </ul> |
|---|---|

**INITIAL SETUP**

**Tools**

- Screwdriver, cross-tip, number one
- Wrench, box-end, 7/16-inch
- Wrench, box-end, 15/16-inch
- Wrench, open-end, 1/2-inch
- Wrench, open-end, 9/16-inch

**Materials/Parts**

- Tags, marker (item 21, appendix C)
- Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**Equipment Condition**

Wiper blades and arms removed  
(page 2-1301).  
Left side cab door opened (page 2-424).

LOCATION	ITEM	ACTION REMARKS
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**REMOVAL, DRIVER'S SIDE**

**NOTE**

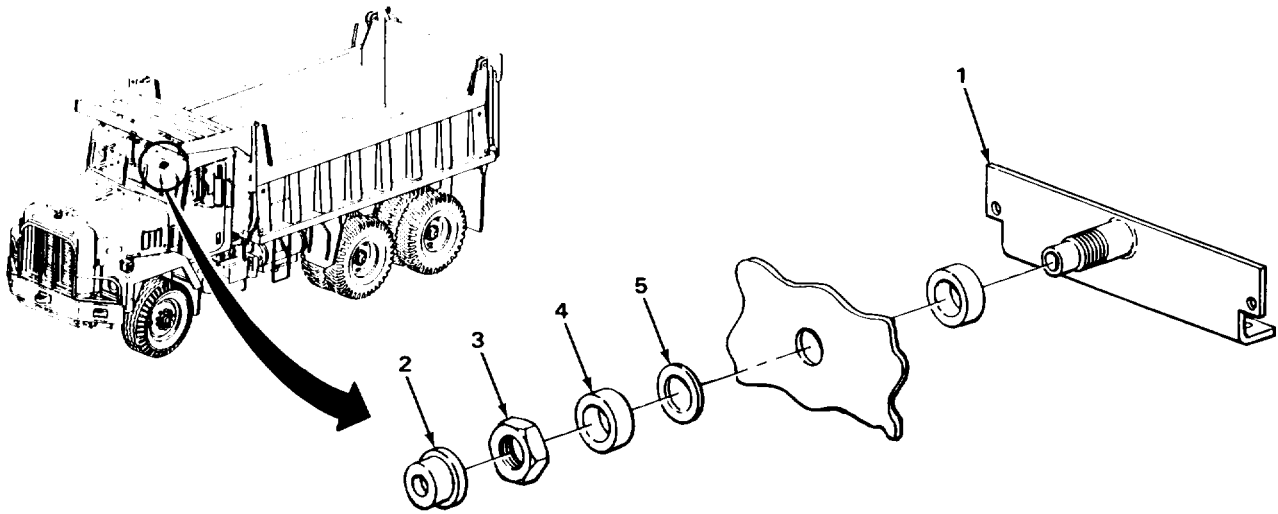
Tag all line fittings before removing for correct identification when installing.

For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).

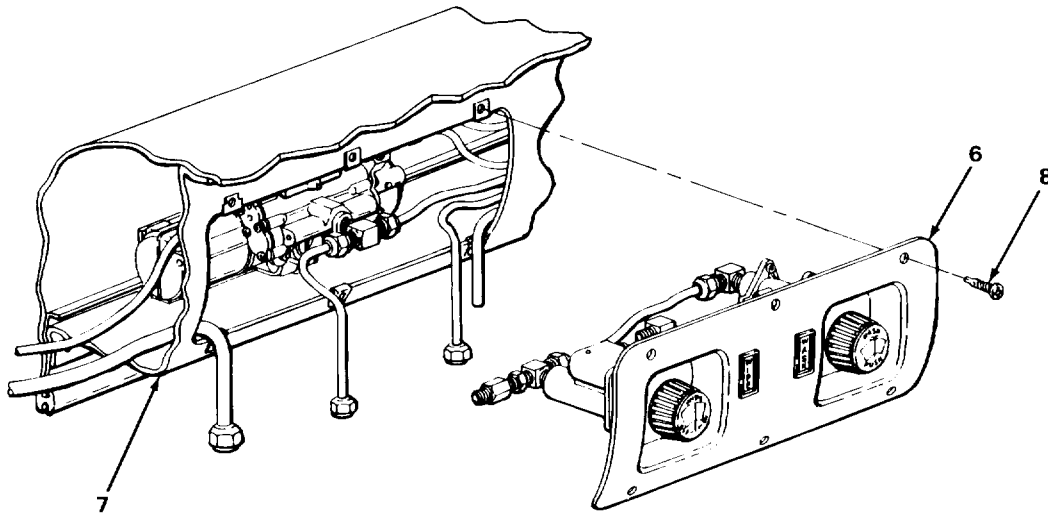
- |  |   |  |
|--|---|--|
| <ul style="list-style-type: none"> <li>1. Wiper mount<br/>bracket (1)</li> </ul> | <ul style="list-style-type: none"> <li>Weather seal (2)</li> </ul>                            | <ul style="list-style-type: none"> <li>Take off.</li> </ul>  |
| <ul style="list-style-type: none"> <li>2.</li> </ul>                             | <ul style="list-style-type: none"> <li>Locknut (3)</li> </ul>                                 | <ul style="list-style-type: none"> <li>Using 15/16-inch box-end wrench, unscrew and take off.</li> </ul> |
| <ul style="list-style-type: none"> <li>3.</li> </ul>                             | <ul style="list-style-type: none"> <li>Outer spacer (4) and<br/>leather washer (5)</li> </ul> | <ul style="list-style-type: none"> <li>Take off.</li> </ul>  |

WINDSHIELD WIPER MOTOR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------



- |  |                 |   |
|--|-----------------|---|
| 4. Cover plate (6) to front trim panel head retainer (7) | Six screws (8)  | Using number one cross-tip screwdriver, unscrew and take out. |
| 5. Front trim panel head retainer (7)                    | Cover plate (6) | Take off.   |

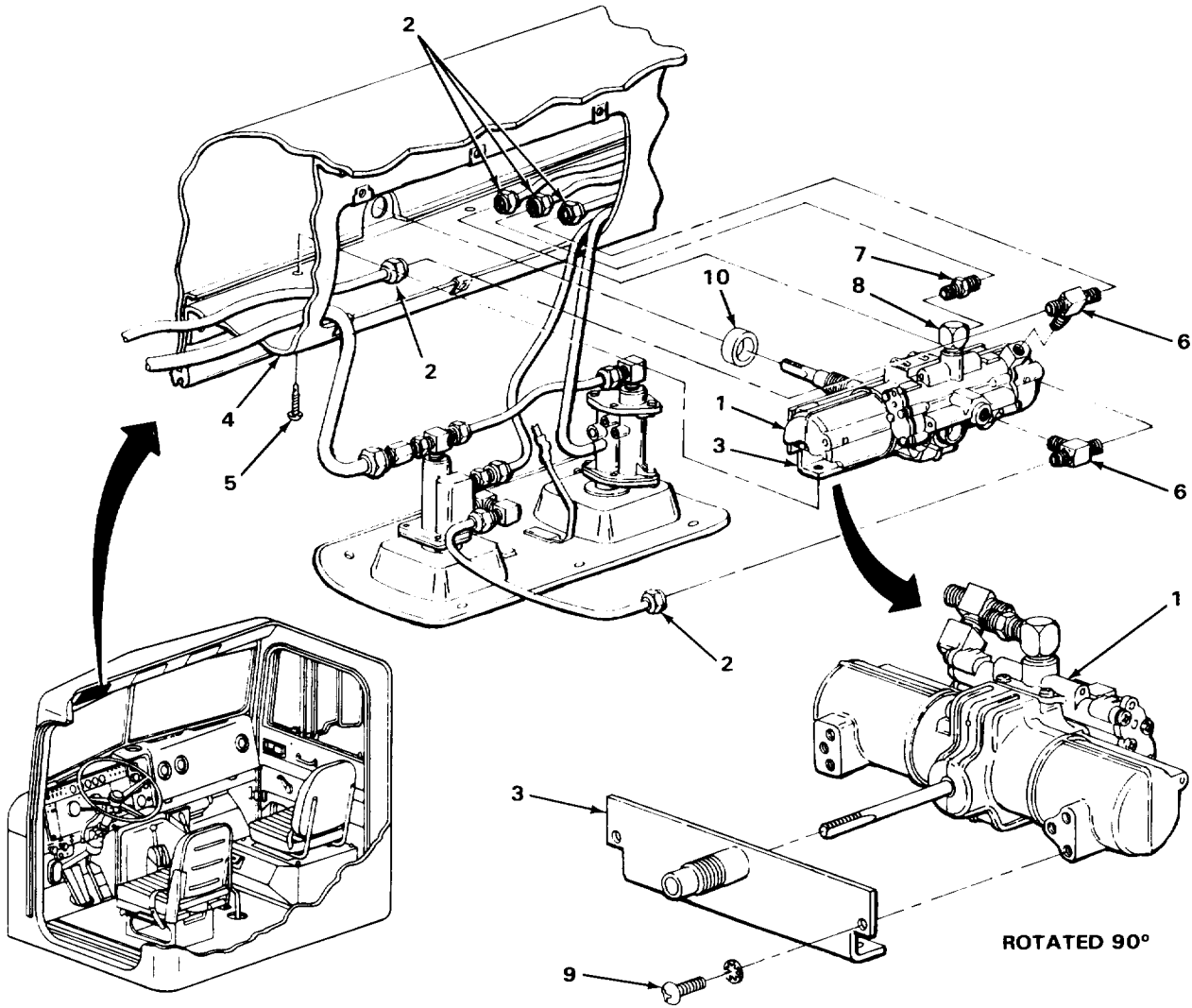


## WINDSHIELD WIPER MOTOR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL, DRIVER'S SIDE - CONTINUED		
6. Windshield wiper motor (1)	Five line fittings (2)	a. Using 9/16-inch open-end wrench, unscrew and take off. b. Tag line fittings.
7. Wiper mount bracket (3) to front trim panel head retainer (4)	Two screws (5)	Using number one cross-tip screwdriver, unscrew and take out.
8. Front trim panel head retainer (4)	Windshield wiper motor (1)	Take out.
9. Windshield wiper motor (1)	Two tee fittings (6)	Using 1/2-inch open-end wrench, unscrew and take off.
10.	Adapter fitting (7)	Using 7/16-inch box-end wrench, unscrew and take off.
11.	Fitting (8)	Using 1/2-inch open-end wrench, unscrew and take off.
12. Wiper mount bracket (3) to windshield wiper motor (1)	Two screws (9) unscrew and take out.	Using number one cross-tip screwdriver,
13. Windshield wiper motor (1)	Wiper mount bracket (3)	Take off.
14.	Inner spacer (10)	Take off.



WINDSHIELD WIPER MOTOR - CONTINUED

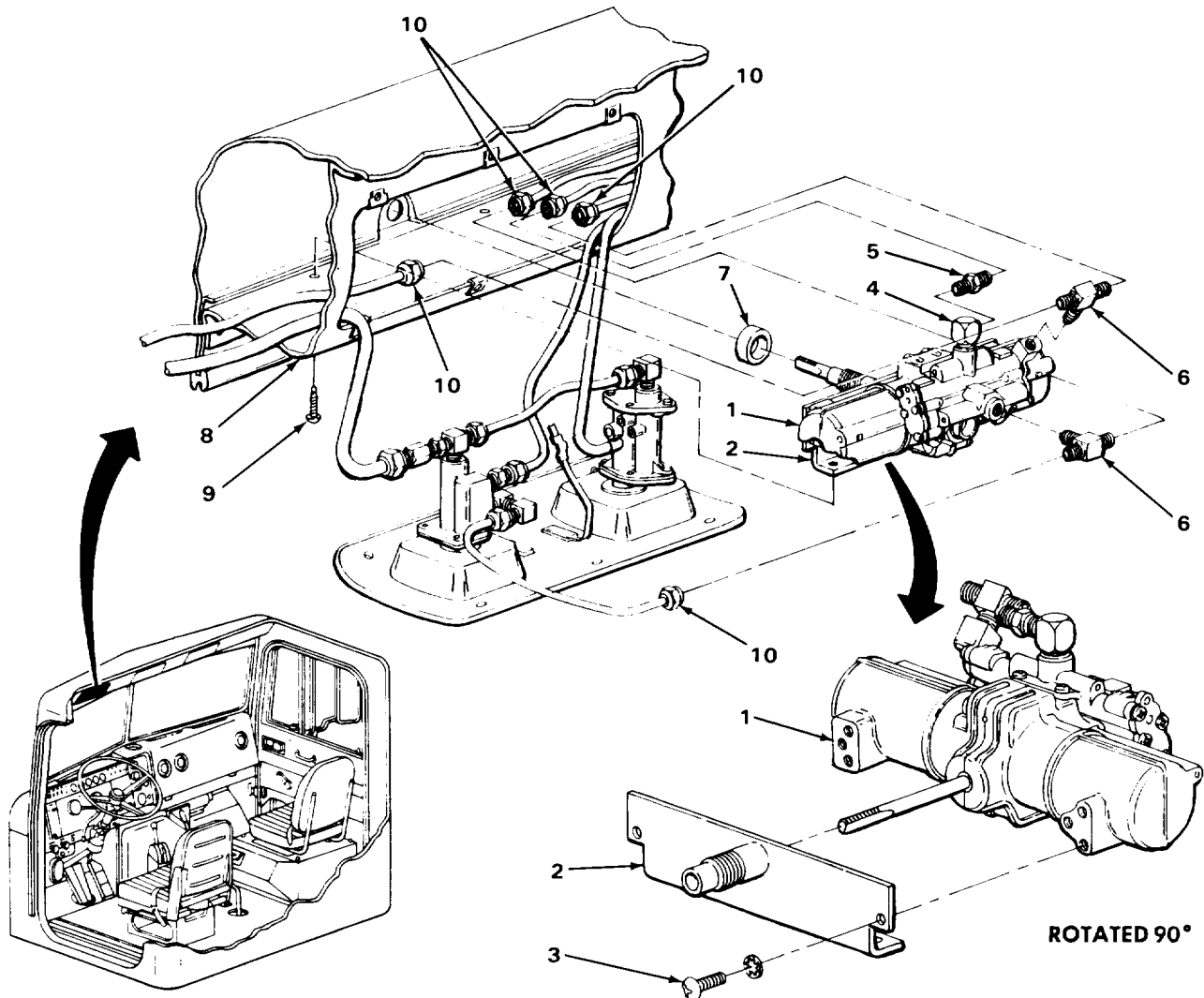


TA244538

**WINDSHIELD WIPER MOTOR - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
INSTALLATION, DRIVER'S SIDE		
15. Windshield wiper motor (1)	Wiper mount bracket (2)	Place in position.
16. Wiper mount bracket (2) to windshield wiper motor (1)	Two screws (3)	Screw in and tighten using number one cross-tip screwdriver.
<b><u>CAUTION</u></b>		
Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.		
<b><u>NOTE</u></b>		
For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).		
17. Windshield wiper motor (1)	Fitting (4)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 1/2-inch open-end wrench.
18. Windshield wiper motor(1)	Adapter fitting (5)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 7/16-inch box-end wrench.
19.	Two tee fittings (6)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 1/2-inch open-end wrench.
20. Wiper mount bracket (2)	Inner spacer (7)	Place in position.
21. Front trim panel head retainer (8)	Windshield wiper motor (1)	Place in position.
22. Wiper mount bracket (2) to front trim panel head retainer (8)	Two screws (9)	Screw in and tighten using number one cross-tip screwdriver.
23. Windshield wiper motor (1)	Five line fittings (10)	a. Screw on and tighten using 9/16-inch open-end wrench. b. Take tags off.

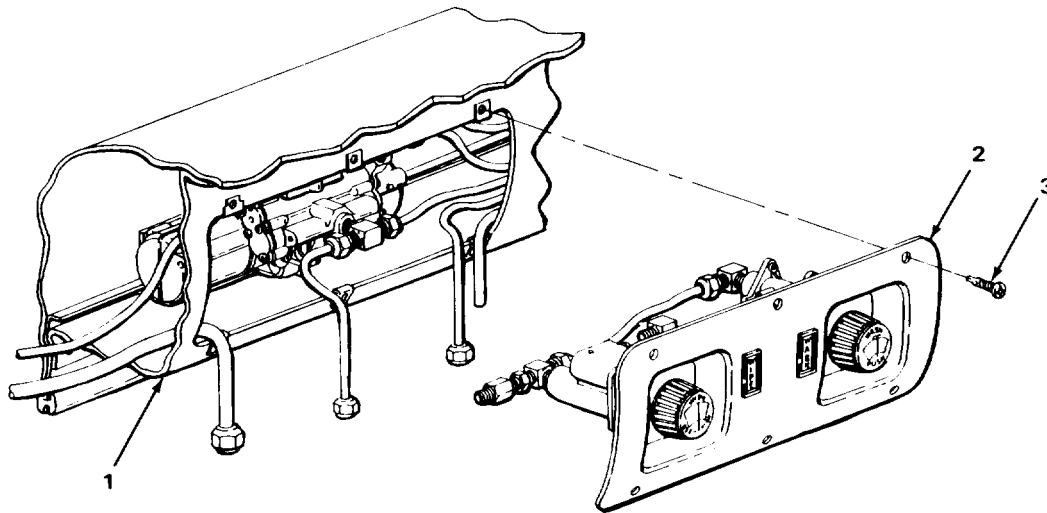
WINDSHIELD WIPER MOTOR - CONTINUED



TA244539

**WINDSHIELD WIPER MOTOR - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
INSTALLATION, DRIVER'S SIDE - CONTINUED		
24. Front trim panel head retainer (1)	Cover plate (2)	Place in position.
25. Cover plate (2) to front trim panel head retainer (1)	Six screws (3)	Screw in and tighten using number one cross-tip screwdriver.

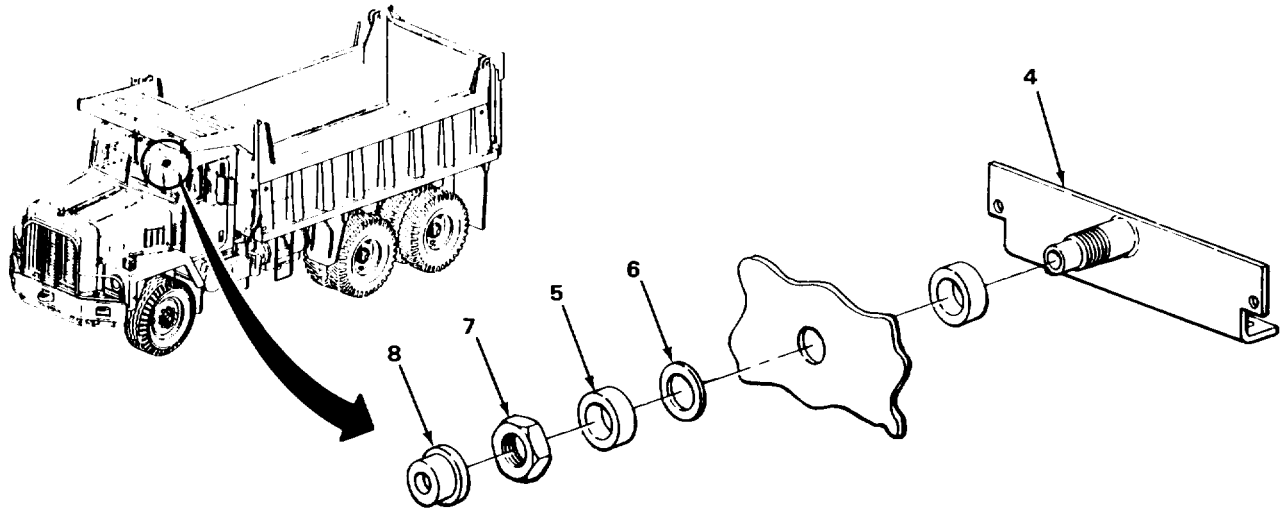


26. Wiper mount bracket (4)	Outer spacer (5) and leather washer (6)	Place in position.
27.	Locknut (7)	Screw on and tighten using 15/16-inch box-end wrench.
28.	Weather seal (8)	Place in position.

TA244540

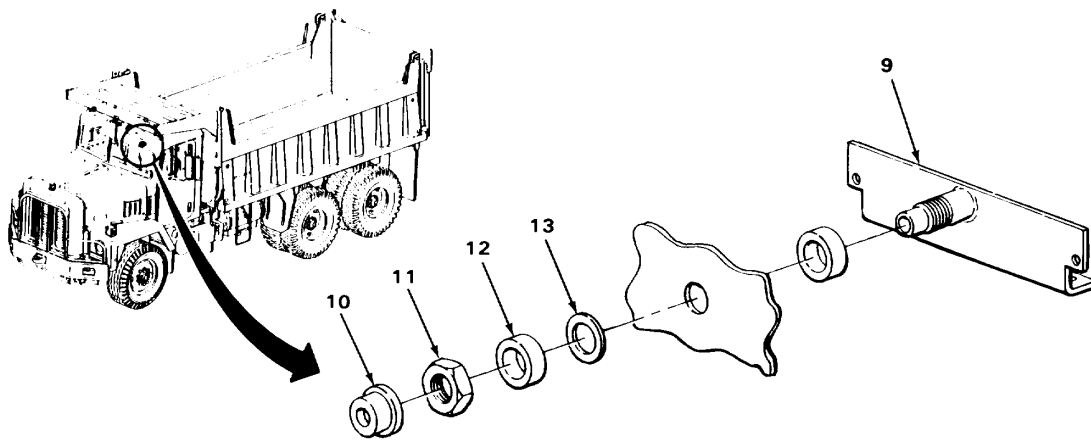
WINDSHIELD WIPER MOTOR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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REMOVAL, PASSENGER'S SIDE

- |     |                         |   |  |
|-----|-------------------------|---|--|
| 29. | Wiper mount bracket (9) | Weather seal (10)                         | Take off.  |
| 30. |                         | Locknut (11)                              | Using 15/16-inch box-end wrench, unscrew and take off. |
| 31. |                         | Outer spacer (12) and leather washer (13) | Take off.  |

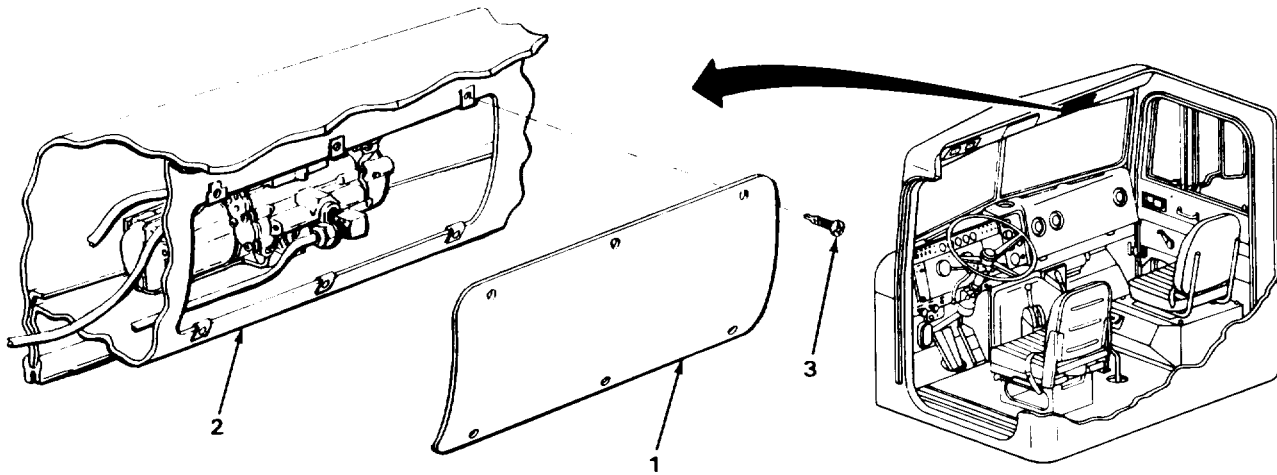


**WINDSHIELD WIPER MOTOR - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL, PASSENGER'S SIDE - CONTINUED

- |     |   |                 |   |
|-----|---|-----------------|---|
| 32. | Cover plate (1) to front trim panel head retainer (2) | Six screws (3)  | Using number one cross-tip screwdriver, unscrew and take out. |
| 33. | Front trim panel head retainer (2)                    | Cover plate (1) | Take off.   |

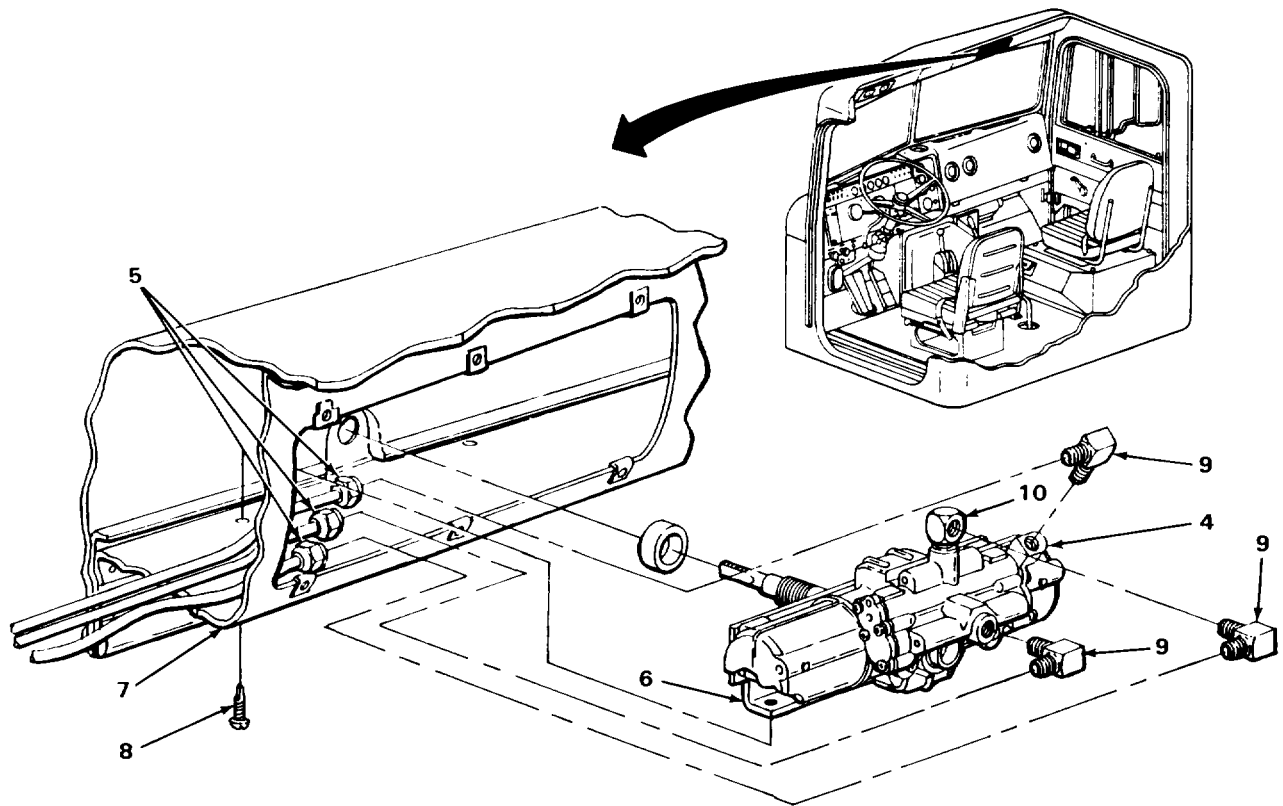


- |     |   |                         |  |
|-----|---|-------------------------|--|
| 34. | Windshield wiper motor (4)                                    | Three line fittings (5) | <ul style="list-style-type: none"> <li>a. Using 9/16-inch open-end wrench, unscrew and take off.</li> <li>b. Tag line fittings.</li> </ul> |
| 35. | Wiper mount bracket (6) to front trim panel head retainer (7) | Two screws (8)          | Using number one cross-tip screwdriver, unscrew and take out.  |

TA244542

**WINDSHIELD WIPER MOTOR - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
36. Front trim panel head retainer (7)	Windshield wiper motor (4)	Take out.
37. Windshield wiper motor (4)	Three elbow fittings (9)	Using 1/2-inch open-end wrench, unscrew and take off.
38.	Fitting (10)	Using 1/2-inch open-end wrench, unscrew and take off.



TA244543

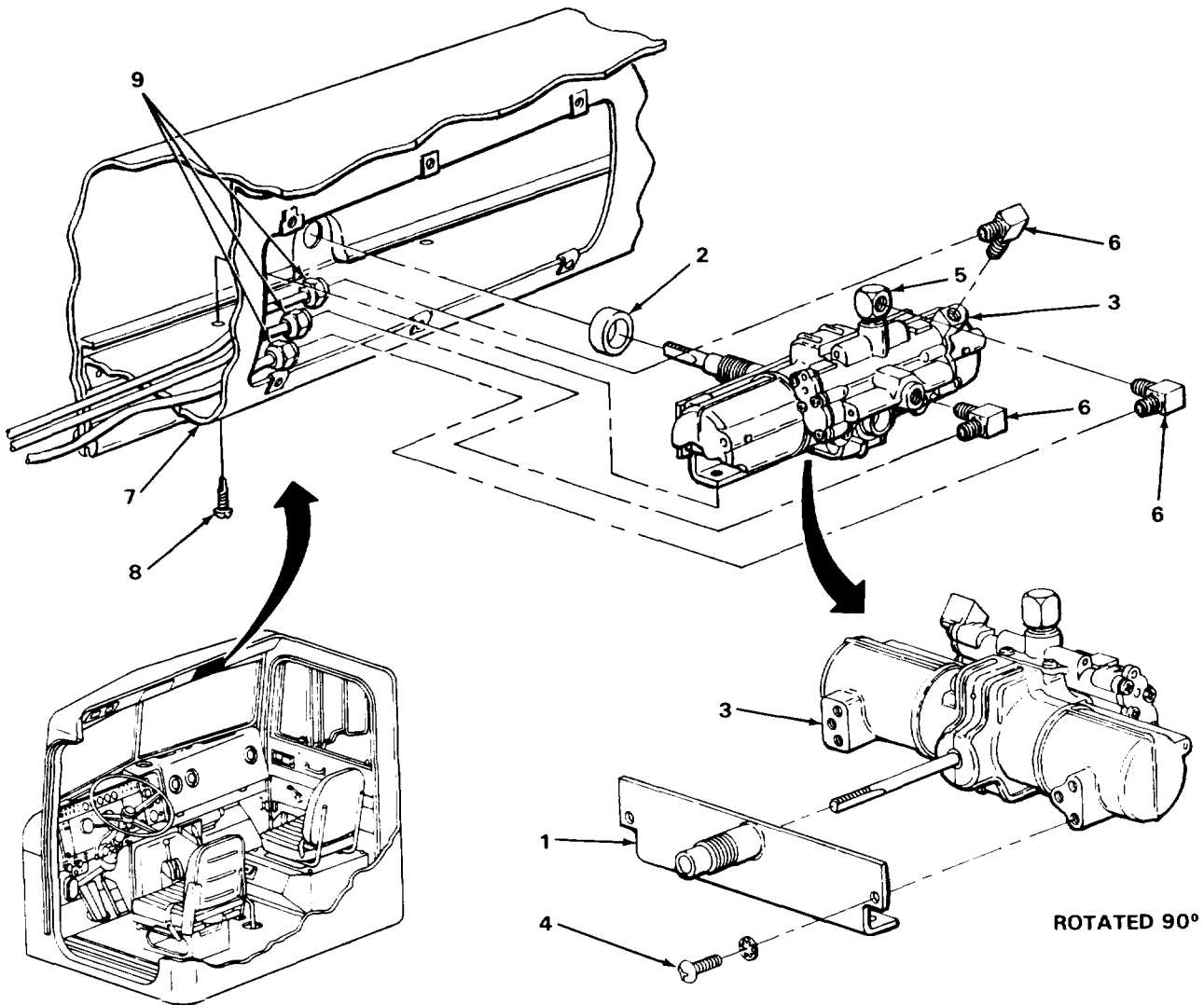
**WINDSHIELD WIPER MOTOR - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL, PASSENGER'S SIDE - CONTINUED</b>		
39. Wiper mount bracket (1)	Inner spacer (2)	Take off.
40. Wiper mount bracket (1) to windshield wiper motor (3)	Two screws (4)	Using number one cross-tip screwdriver, unscrew and take out.
41. Windshield wiper motor (3)	Wiper mount bracket (1)	Take off.
<b>INSTALLATION, PASSENGER'S SIDE</b>		
42. Windshield wiper motor (3)	Wiper mount bracket (1)	Place in position.
43. Wiper mount bracket (1) to windshield wiper motor (3)	Two screws (4)	Screw in and tighten using number one cross-tip screwdriver.
<b><u>CAUTION</u></b>		
Antiseizing tape must be used on all pipe threads to provide a good seal to prevent threaded parts from seizing.		
<b><u>NOTE</u></b>		
For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).		
44. Windshield wiper motor (3) open-end wrench.	Fitting (5)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 1/2-inch
45. Windshield wiper motor (3)	Three elbow fittings (6)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 1/2-inch open-end wrench.
46. Wiper mount bracket (1)	Inner spacer (2)	Place in position.
47. Front trim panel head retainer (7)	Windshield wiper motor (3)	Place in position.



**WINDSHIELD WIPER MOTOR - CONTINUED**

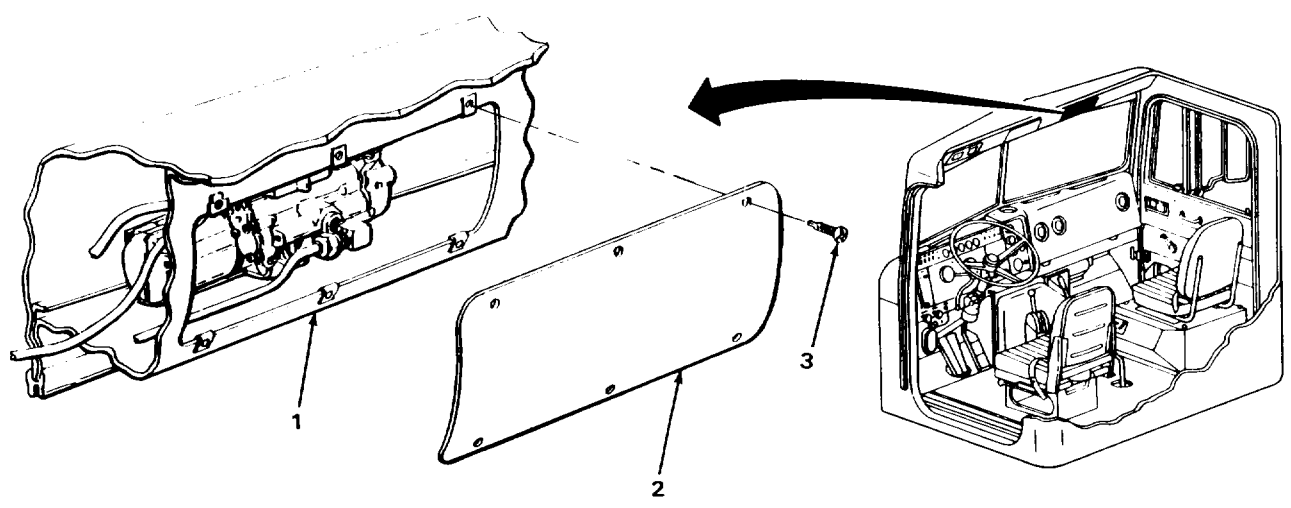
LOCATION	ITEM	ACTION REMARKS
48. Wiper mount bracket (1) to front trim panel head retainer (7)	Two screws (8)	Screw in and tighten using number one cross-tip screwdriver.
49. Windshield wiper motor (3)	Three line fittings (9)	a. Screw on and tighten using 9/16-inch open-end wrench. b. Take tags off.



TA244544

**WINDSHIELD WIPER MOTOR - CONTINUED**

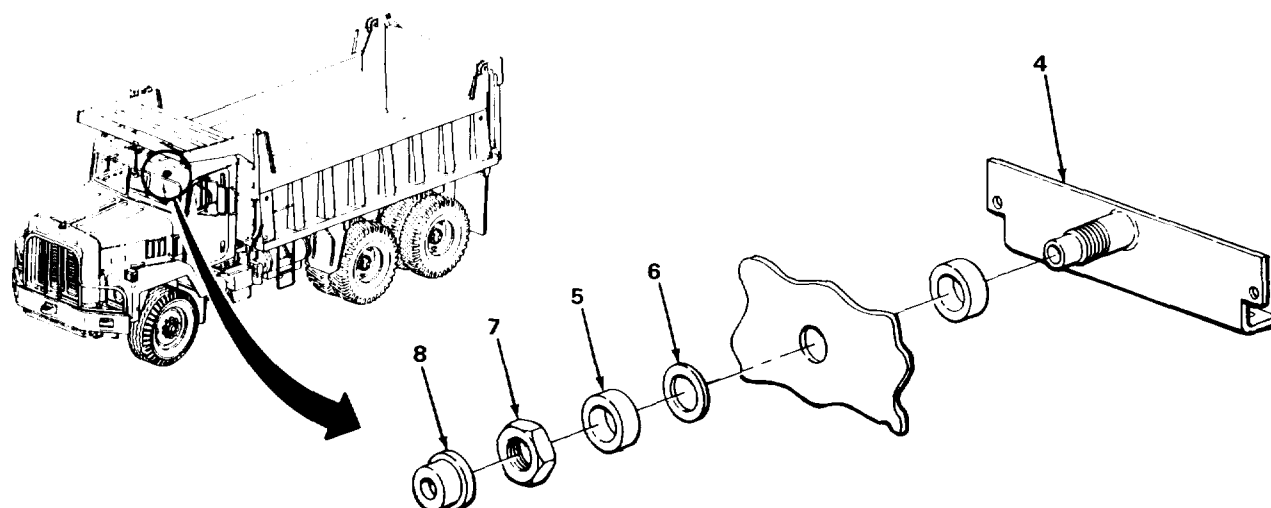
LOCATION	ITEM	ACTION REMARKS
<b>INSTALLATION, PASSENGER'S SIDE - CONTINUED</b>		
50. Front trim panel head retainer (1)	Cover plate (2)	Place in position.
51. Cover plate (2) to front trim panel head retainer (1)	Six screws (3)	Screw in and tighten using number one cross-tip screwdriver.



52. Wiper mount bracket (4)	Outer spacer (5) and leather washer (6)	Place in position.
53.	Locknut (7)	Screw on and tighten using 15/16-inch box-end wrench.
54.	Weather seal (8)	Place in position.

TA244545

**WINDSHIELD WIPER MOTOR - CONTINUED**



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Install wiper blade and arm (page 2-1301).
2. Close left side cab door (page 2-424).

**TASK ENDS HERE**

**WINDSHIELD WIPER CONTROL**

This task covers:

- a. Removal (page 2-1338)
- b. Installation (page 2-1340)

**INITIAL SETUP**

**Tools**

- Screwdriver, cross-tip, number one
- Wrench, hex-head, 5/64-inch
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 9/16-inch
- Wrench, open-end, 5/8-inch
- Wrench, open-end, 1 3/16-inch

**Materials/Parts**

- Lockwasher, windshield wiper control to cover plate
- Tags, marker (item 21, appendix C)
- Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

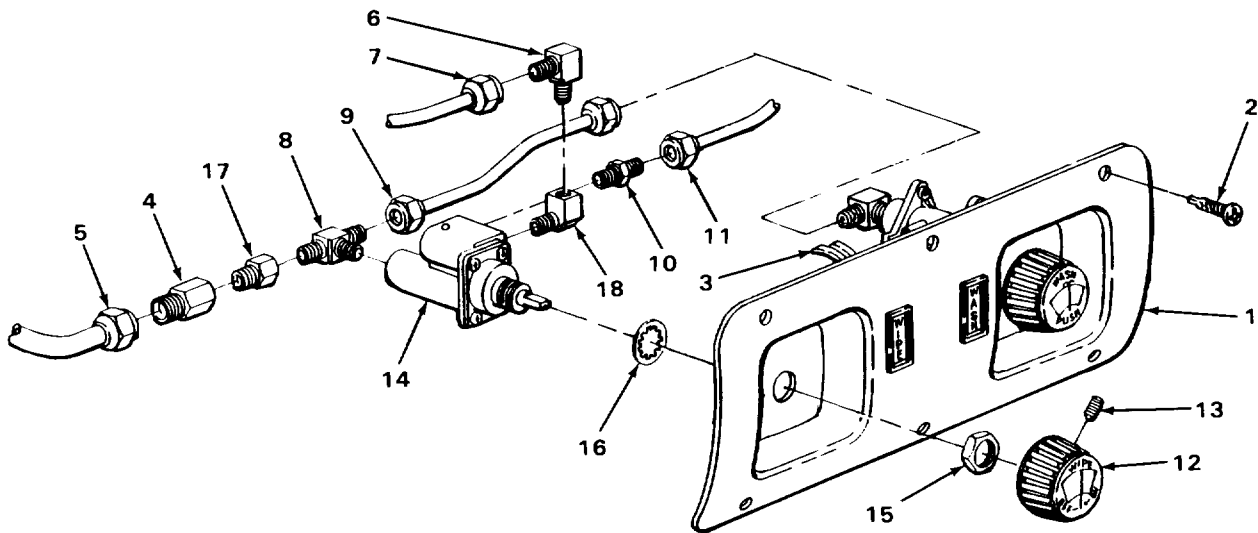
TA244546

## WINDSHIELD WIPER CONTROL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL</b>			
1	Cover plate (1)	Six screws (2)	Using number one cross-tip screwdriver, unscrew and take out.
2		Cover plate (1)	Take down.
3		Optical ribbon (3)	Take off.
<b>NOTE</b>			
Tag all line fittings before removing for correct identification when installing.			
For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).			
4	Fitting (4)	Line fitting (5)	a Using 5/8-inch open-end wrench, unscrew and take off. b Tag line fitting.
5	Elbow fitting (6)	Line fitting (7)	a Using 9/16-inch open-end wrench, unscrew and take off. b Tag line fitting.
6	T-fitting (8)	Line fitting (9)	a Using 9/16-inch open-end wrench, unscrew and take off. b Tag line fitting.
7	Adapter fitting (10)	Line fitting (11)	a Using 9/16-inch open-end wrench, unscrew and take off. b Tag line fitting.
8	Windshield wiper control knob (12) to cover plate (1)	Setscrew (13)	Using 5/64-inch hex-head wrench, loosen one turn.
9	Cover plate (1)	Windshield wiper control knob (12)	Take off.
10	Windshield wiper control (14)	Nut (15)	Using 13/16-inch open-end wrench, unscrew and take off.

WINDSHIELD WIPER CONTROL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
11	Cover plate (1)	Windshield wiper control (14)	Take off.
12	Windshield wiper control (14)	Lockwasher (16)	a Take off. b Get rid of lockwasher.
13	T-fitting (8) to windshield wiper control (14)	Fitting (4)	Using 9/16-inch and 1/2-inch open-end wrenches, unscrew and take off.
14	T-fitting (8)	Fitting (17)	Using 1/2-inch open-end wrench, unscrew and take off.
15	Windshield wiper control (14)	Adapter fitting (10)	Using 7/16-inch open-end wrench, unscrew and take out.
16	Elbow fitting (18)	Elbow fitting (6)	Using 1/2-inch open-end wrench, unscrew and take off.
17	Windshield wiper control (14)	Elbow fitting (18)	Using 9/16-inch open-end wrench, unscrew and take out.
18		T-fitting (8)	Using 1/2-inch open-end wrench, unscrew and take off



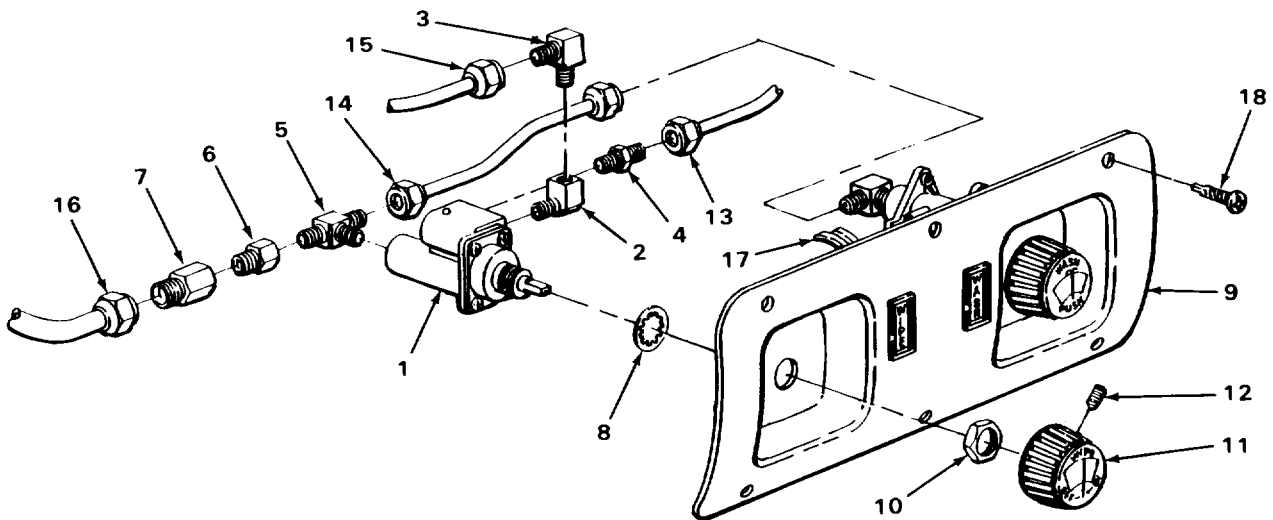
TA244547

## WINDSHIELD WIPER CONTROL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
<b><u>CAUTION</u></b>			
Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.			
<b><u>NOTE</u></b>			
For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).			
19	Windshield wiper control (1) open-end wrench.	Elbow fitting (2)	a Wrap pipe threads with antiseizing tape. b Screw in and tighten using 9/16-inch
20	Elbow fitting (2) open-end wrench.	Elbow fitting (3)	a Wrap pipe threads with antiseizing tape. b Screw in and tighten using 1/2-inch
21	Windshield wiper control (1) open-end wrench.	Adapter fitting (4)	a Wrap pipe threads with antiseizing tape. b Screw in and tighten using 7/16-inch
22		T-fitting (5)	a Wrap pipe threads with antiseizing tape. b Screw in and tighten using 1/2-inch open-end wrench.
23	T-fitting (5)	Fitting (6)	a Wrap pipe threads with antiseizing tape. b Screw in and tighten using 1/2-inch open-end wrench.
24	T-fitting (5) to windshield wiper control (1)	Fitting (7)	a Wrap pipe threads with antiseizing tape. b Screw in and tighten using 9/16-inch open-end wrench.
25	Windshield wiper control (1)	New lockwasher (8)	Place in position.
26	Cover plate (9) control (1)	Windshield wiper	Place in position.
27	Windshield wiper control (1)	Nut (10) open-end wrench.	Screw on and tighten using 13/16-inch
28	Cover plate (9) control knob (11)	Windshield wiper	Place in position.

WINDSHIELD WIPER CONTROL - CONTINUED

LOCATION	ITEM	ACTION REMARKS
29 Windshield wiper control knob (11) to cover plate (9)	Setscrew (12)	Tighten using 5/64-inch hex-head wrench.
30 Adapter fitting (4)	Line fitting (13)	a Screw on and tighten using 9/16-inch open-end wrench. b Take off tag.
31 T-fitting (5)	Line fitting (14)	a Screw on and tighten using 9/16-inch open-end wrench. b Take off tag.
32 Elbow fitting (3)	Line fitting (15)	a Screw on and tighten using 9/16-inch open-end wrench. b Take off tag.
33 Fitting (7)	Line fitting (16)	a Screw on and tighten using 5/8-inch open-end wrench. b Take off tag.
34 Cover plate (9)	Optical ribbon (17)	Snap into position.
35 Cover plate (9)	Place in position.	
36 Cover plate (9)	Six screws (18)	Screw in and tighten using number one cross-tip screwdriver.



TA244548

**WINDSHIELD WASHER CONTROL**

This task covers:

- a. Removal (page 2-1342)
- b. Installation (page 2-1343)

**INITIAL SETUP**

**Tools**

- Screwdriver, cross-tip, number one
- Wrench, hex-head, 5/64-inch
- Wrench, open-end, 1/2-inch
- Wrench, open-end, 9/16-inch
- Wrench, open-end, 5/8-inch

**Materials/Parts**

Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL</b>			
1	Cover plate (1)	Six screws (2)	<ul style="list-style-type: none"> <li>a Using number one cross-tip screwdriver, unscrew and take out.</li> <li>b Take down cover plate.</li> </ul>
2	Optical ribbon (3)	Take off.	
3	Windshield washer control knob (4) to cover plate (1)	Setscrew (5)	Using 5/64-inch hex-head wrench, loosen one turn.
4	Cover plate (1)	Windshield washer control knob (4)	Take off.
5	Windshield washer control (6)	Nut (7)	Using 5/8-inch open-end wrench, unscrew and take off.
6	Cover plate (1) control (6)	Windshield washer	Take out.
7	Windshield washer control (6)	Flat washer (8)	Take off.
8	Elbow fitting (9) to windshield washer control (6)	Line fitting (10)	Using 9/16-inch open-end wrench, unscrew and take off.



**WINDSHIELD WASHER CONTROL - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
9 Windshield washer control (6)	Elbow fitting (9)	Using 1/2-inch open-end wrench, unscrew and take off.	
10	Rubber hose (11)	Take off.	
<b>INSTALLATION</b>			
11 Windshield washer control (6)	Rubber hose (11)	Place in position.	

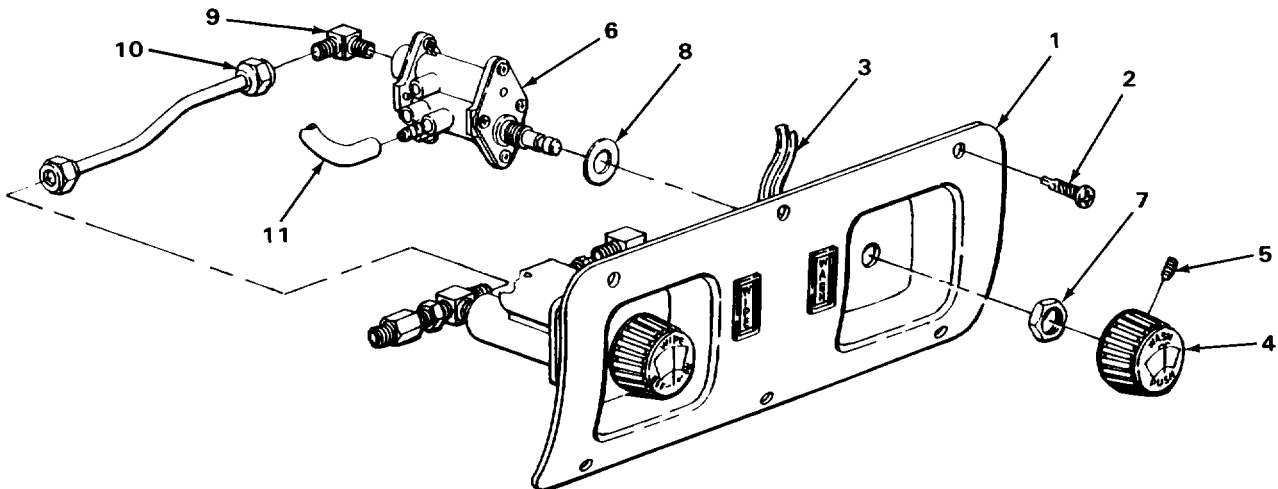
**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

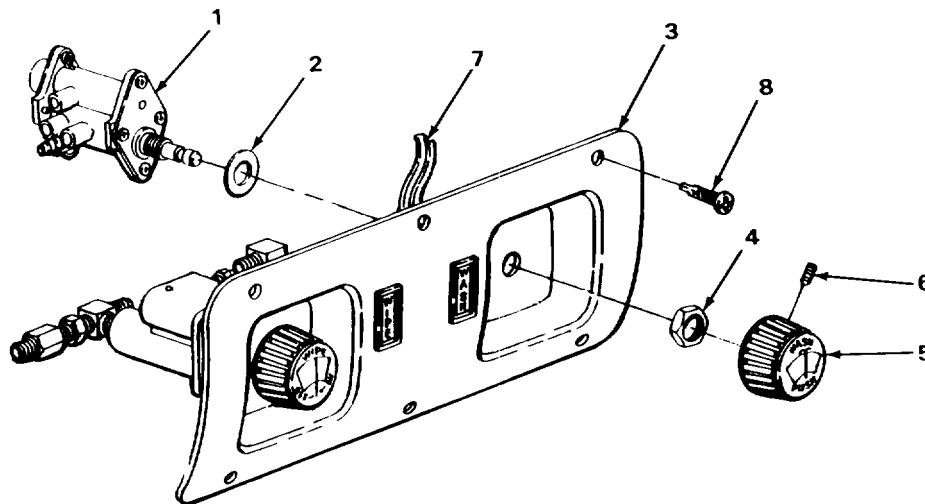
- |    |  |  |
|----|--|--|
| 12 | Elbow fitting (9)                                  | <ul style="list-style-type: none"> <li>a Wrap pipe threads with antiseizing tape.</li> <li>b Screw in and tighten using 1/2-inch open-end wrench.</li> </ul> |
| 13 | Elbow fitting (9) to windshield washer control (6) | Line fitting (10)<br><br>Screw on and tighten using 9/16-inch open-end wrench.   |



TA244549

**WINDSHIELD WASHER CONTROL - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>INSTALLATION - CONTINUED</b>		
14 Windshield washer control (1)	Flat washer (2)	Place in position.
15 Cover plate (3) control (1)	Windshield washer	Place in position.
16 Windshield washer control (1)	Nut (4)	Screw on and tighten using 5/8-inch open-end wrench.
17 Cover plate (3)	Windshield washer control knob (5)	Place in position.
18 Windshield washer control knob (5) to cover plate (3)	Setscrew (6)	Screw in and tighten using 5/64-inch hex-head wrench.
19 Cover plate (3)	Optical ribbon (7)	Snap into position.
20	Cover plate (3)	Place in position.
21	Six screws (8)	Screw in and tighten using number one cross-tip screwdriver.



TA244550

TASK ENDS HERE

**WINDSHIELD WASHER RESERVOIR AND PUMP**

This task covers:

- a Removal (page 2-1344.1)
- b Installation (page 2-1344.2)

**INITIAL SETUP**

Equipment Condition

Right side hood panel opened (page 2-424)

Tools

Wrench, box-end, 7/16-inch  
Wrench, open-end, 7/16-inch

Materials/Parts

Lockwasher, reservoir mounting bracket  
(four required)

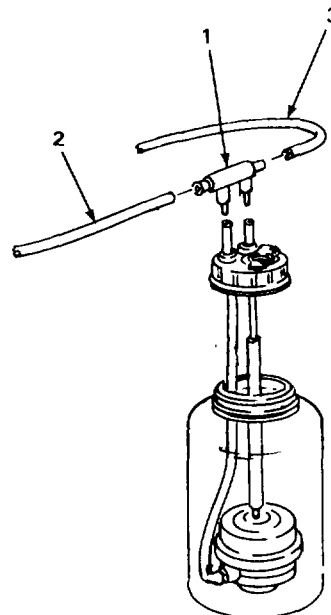
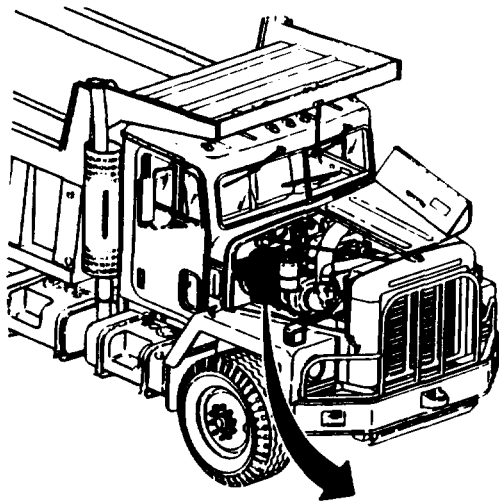
Personnel Required

One  
removed (page 2-424).

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

1	Air valve (1)	Hose (2) and hose (3)	Disconnect.
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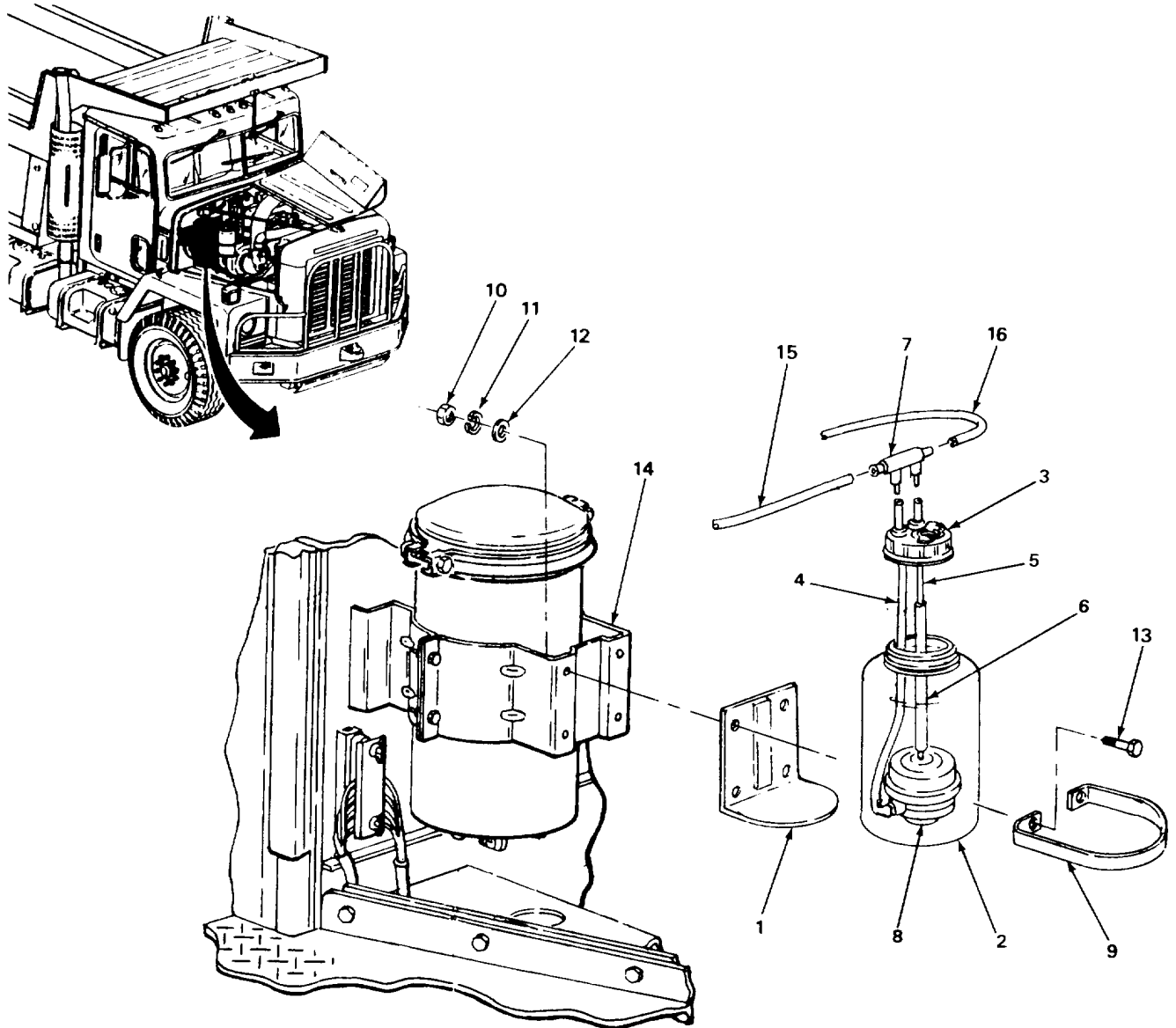


## WINDSHIELD WASHER RESERVOIR AND PUMP - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL - CONTINUED</b>			
2	Reservoir mounting bracket (1)	Tank (2)	Take out.
3	Tank (2)	Cap (3)	Unscrew and take off.
4	Cap (3)	Hose (4), hose (5), tubing (6), air valve (7), and windshield washer pump (8)	Remove.
5	Strap (9)	Four locknuts (10), lockwashers (11), washers (12), and	a Using 7/16-inch open-end wrench and 7/16-inch box-end wrench, unscrew, and take off. b Get rid of lockwashers. bolts (13)
6	Bracket (14)	Strap (9) and reservoir mounting bracket (1)	Take off.
<b>INSTALLATION</b>			
7	Bracket (14)	Strap (9) and reservoir mounting bracket (1)	Put in place
8	Strap (9)	Four locknuts (10), new lockwashers (11), washers (12), and bolts (13)	Screw in and tighten, using 7/16-inch box-end wrench and 7/16-inch open-end wrench.
9	Cap (3)	Hose (4), hose (5), tubing (6), air valve (7), and windshield washer pump (8)	Install.
10	Tank (2)	Cap (3)	Screw in and tighten.
11	Reservoir mounting bracket (1)	Tank (2)	Put in place.
12	Air valve (7)	Hose (15) and hose (16)	Connect.

WINDSHIELD WASHER RESERVOIR AND PUMP - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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NOTE

FOLLOW-ON MAINTENANCE: Close right side hood panel (page 2-424).

TASK ENDS HERE

TA702190

Change 1 2-1344.3/(2-1344.4 blank)

**AIR HORN**

This task covers:

- a. Removal (page 2-1345)
- b. Installation (page 2-1348)

**INITIAL SETUP**

**Tools**

- Pliers, slip-joint, 6-inch
- Screwdriver, cross-tip, number two
- Screwdriver, cross-tip, number three
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 9/16-inch

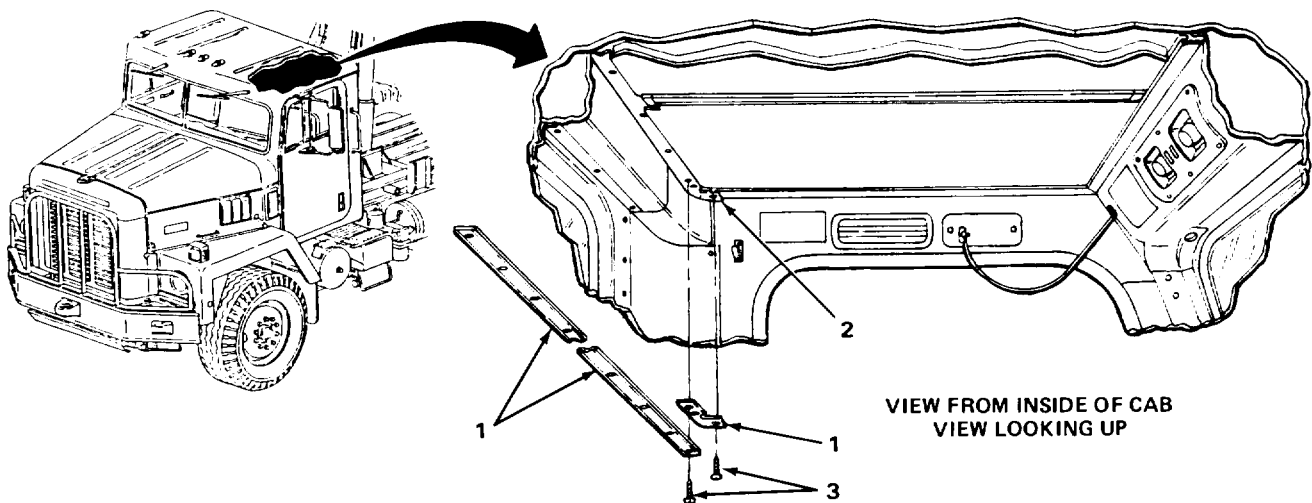
**Materials/Parts**

- Lockwasher, air horn (three required)
- Tape, antiseizing (item 22, appendix C)

**Personnel Required**

Two

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL</b>			
1 Molding (1) to head lining (2)	Fourteen screws (3)	Using number two cross-tip screwdriver, unscrew and take out.	
2 Head lining (2)	Molding (1)	Take off.	

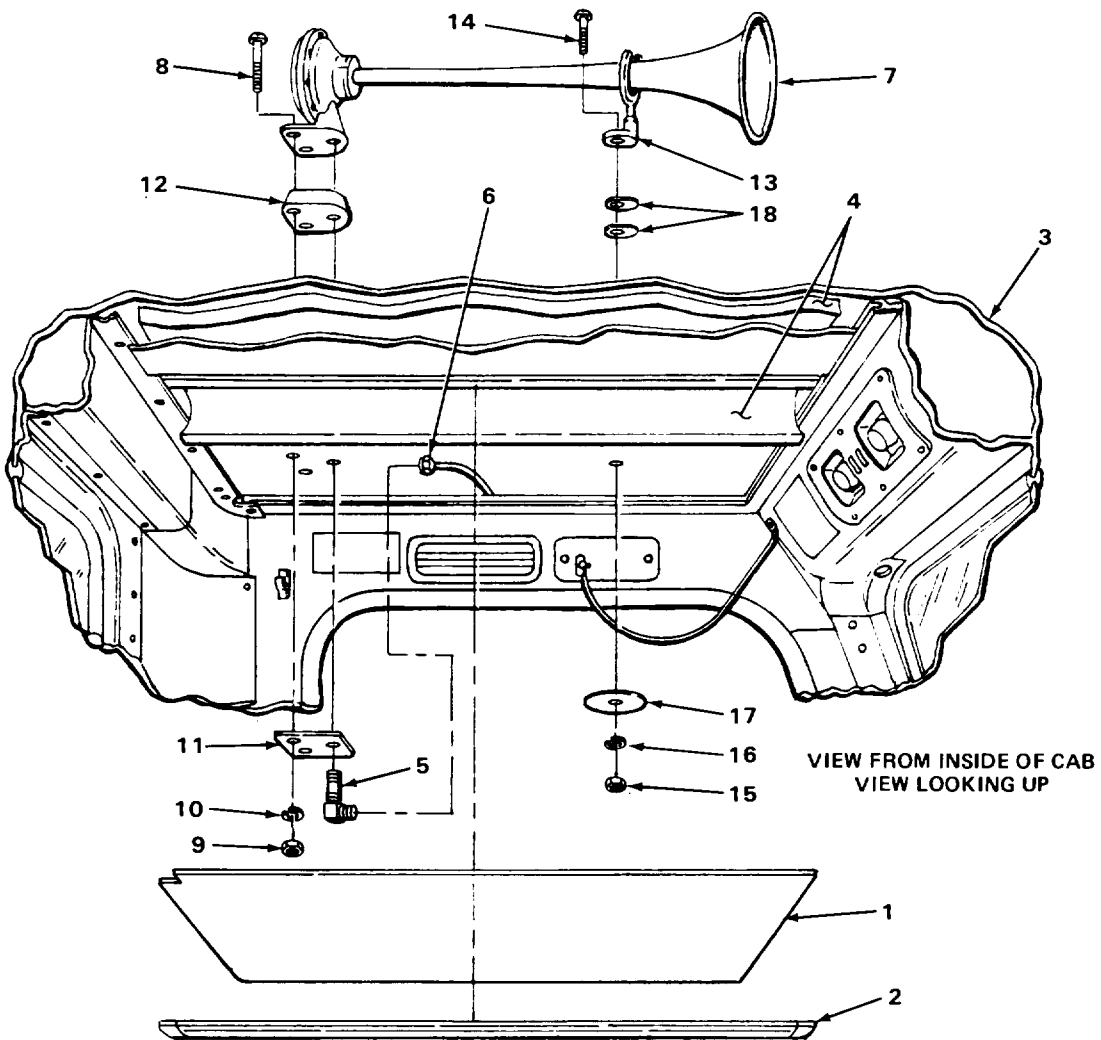


TA244551

## AIR HORN - CONTINUED

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL - CONTINUED</b>		
3	Head lining (1) Retainer (2)	Take down.
4	Cab ceiling (3) Head lining (1)	Take down.
5	Insulation (4)	Peel down gently.
6	Fitting (5) Line fitting (6)	Using 9/16-inch open-end wrench, unscrew and take off.
7	Air horn (7) Fitting (5)	Using 9/16-inch open-end wrench, unscrew and take out.
8	Air horn (7) to cab ceiling (3) Two screws (8), two nuts (9), and two lockwashers (10)	a Using number three cross-tip screwdriver and 7/16-inch open-end wrench, with assistance, unscrew and take off. b Get rid of lockwashers.
9	Cab ceiling (3) plate (11) Reinforcing	Take down.
10	Rubber mount (12)	Take off.
11	Air horn (7) Slide forward and take off.	
12	Yoke (13) to cab ceiling (3) Screw (14), nut (15), and lockwasher (16)	a Using number three cross-tip screwdriver and 7/16-inch open-end wrench, with assistance, unscrew and take off. b Get rid of lockwasher.
13	Cab ceiling (3) Reinforcing plate (17)	Take down.
14	Yoke (13) and two weather seals (18)	Take off.

AIR HORN - CONTINUED



TA244552



## AIR HORN - CONTINUED

LOCATION	ITEM	ACTION REMARKS
<b>INSTALLATION</b>		
15 Cab ceiling (1)	Yoke (2) and two weather seals (3)	Place in position.
16 Yoke (2) to cab ceiling (1)	Screw (4)	Place in position.
17 Cab ceiling (1)	Reinforcing plate (5)	Place in position and hold.
18	Nut (6) and new lockwasher (7) wrench, screw on and tighten.	With assistance, using number three cross-tip screwdriver and 7/16-inch open-end
19	Air horn (8)	Slide through yoke and into position.
20 Air horn (8) to cab ceiling (1)	Rubber mount (9)	Place in position.
21 Air horn (8)	Two screws (10)	Place in position.
22 Cab ceiling (1)	Reinforcing plate (11)	Place in position and hold.
23 Air horn (8) to cab ceiling (1)	Two nuts (12) and two new lockwashers (13)	With assistance, using number three cross-tip screwdriver and 7/16-inch open-end wrench, screw on and tighten.

**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

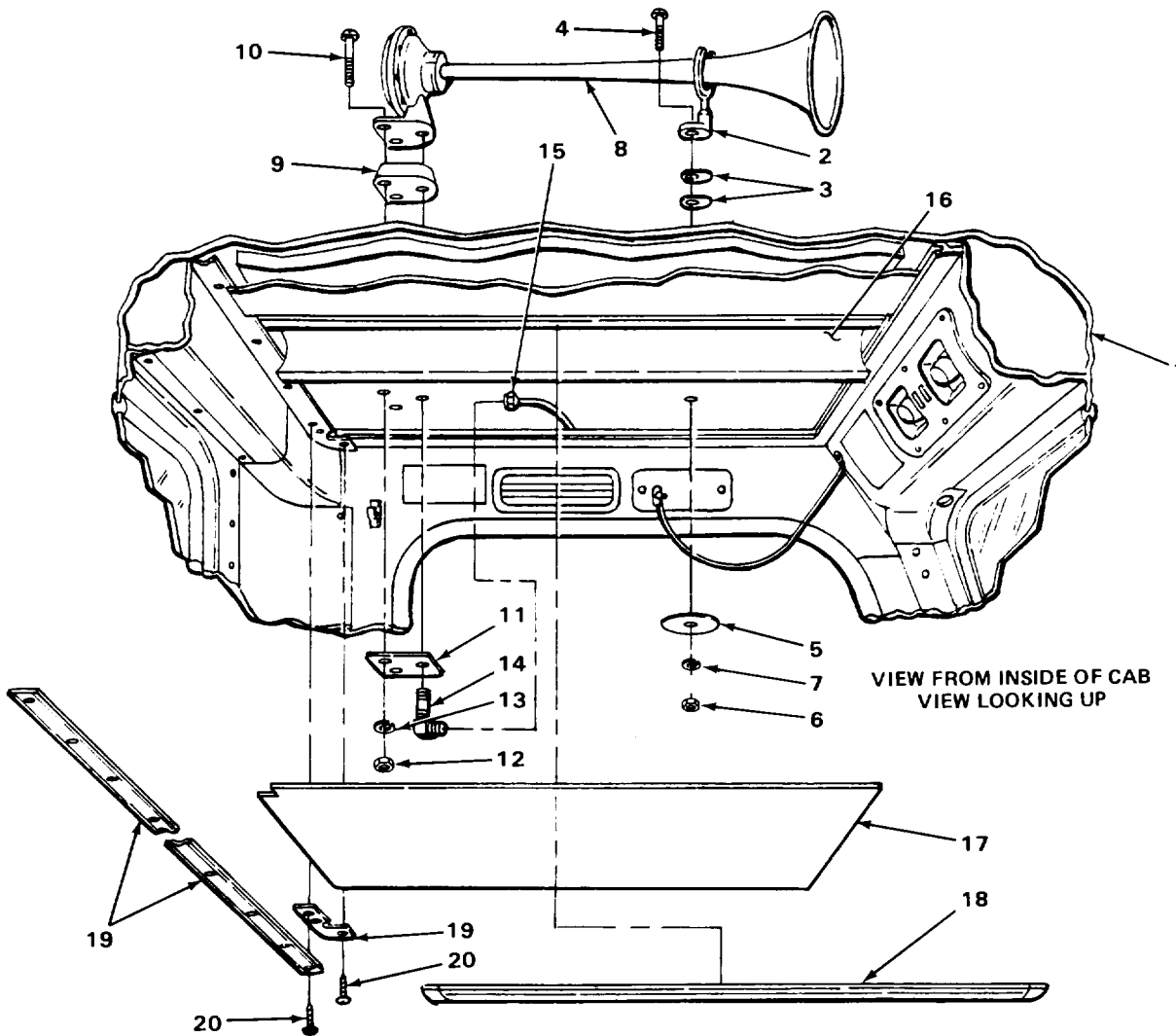
**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

24 Air horn (8)	Fitting (14)	a Wrap pipe threads with antiseizing tape. b Screw in and tighten using 9/16-inch open-end wrench.
25 Fitting (14)	Line fitting (15)	Screw on and tighten using 9/16-inch open-end wrench.
26 Cab ceiling (1)	Insulation (16)	Place in position.

AIR HORN - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
27 Cab ceiling (1)	Head lining (17)	Place in position.	
28 Head lining (17)	Retainer (18)	Snap in position.	
29	Molding (19)	Place in position and hold.	
30 Molding (19) to head lining (17)	Fourteen screws (20)	With assistance, using number two cross-tip screwdriver, screw in and tighten.	



**TASK ENDS HERE**

**2-1349**

**DATA AND INSTRUCTION PLATES**

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This task covers:

- a Removal (page 2-1350)
  - b Cleaning (page 2-1352)
  - c Installation (page 2-1353)
- 

**INITIAL SETUP**

Tools

- Bit, drill, 1/8-inch
- Bit, drill, 5/32-inch
- Drill, portable, electric, 1/4-inch
- Goggles, safety Personnel Required
- Knife, putty
- Screwdriver, cross-tip, number one
- Screwdriver, cross-tip, number two

Materials/Parts

- Data and instruction plates (as required)
- Naptha (item 11, appendix C)

Materials/Parts - Continued

- Rags, wiping (item 15, appendix C)
- Screw, self-tapping (as required)

One

Equipment Condition

Right and left cab doors opened (page 2-424).

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LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**

**NOTE**

Step 1 is typical for the removal of all data and instruction plates attached with adhesive.

- |                            |                       |                                |
|----------------------------|-----------------------|--------------------------------|
| 1. Automatic override      | Four nuts (2) and     | a. Tag wires.                  |
| 1 Inside driver's door (1) | Instruction plate (2) | Using putty knife, scrape off. |

**WARNING**

Safety goggles must be worn when using a portable electric drill. Flying metal particles can cause eye injury.

**NOTE**

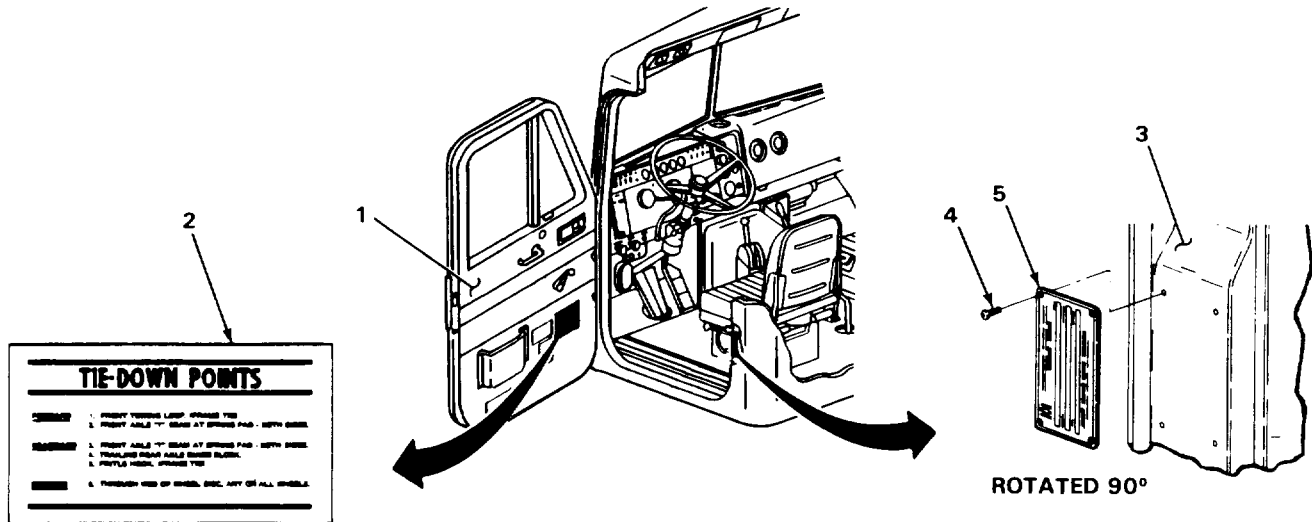
Steps 2 and 3 are typical for the removal of all data and instruction plates attached with rivets.

DATA AND INSTRUCTION PLATES - CONTINUED

2 Door frame (3)

Four rivets (4) and data plate (5)

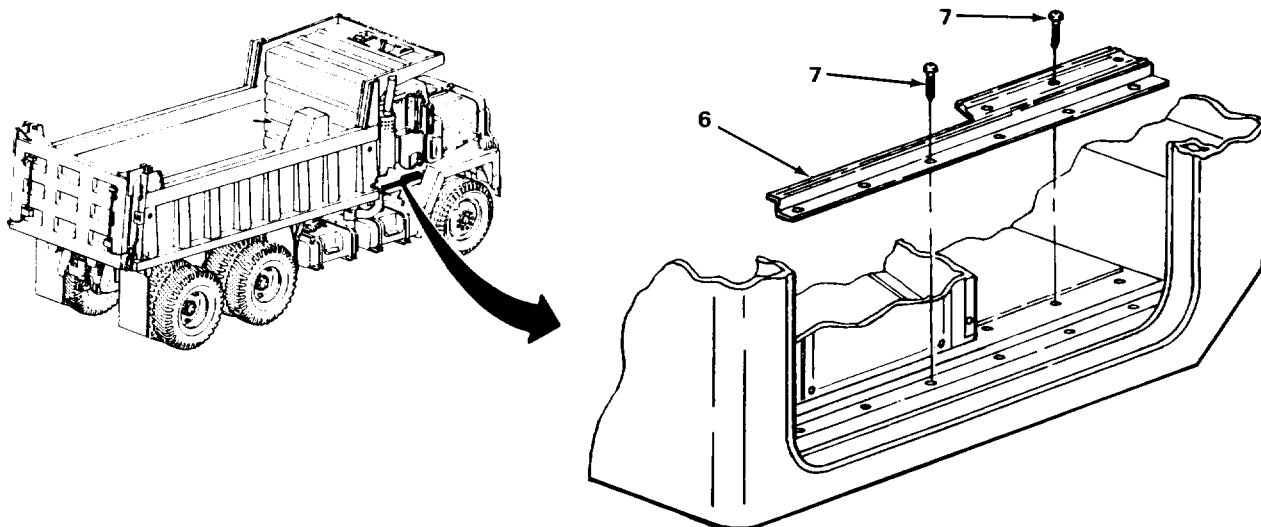
- a Using 1/8-inch drill bit and 1/4-inch portable electric drill, drill out rivets.
- b Take off data plate.



3 Right side kick panel (6)

Nine screws (7)

- a Using number two cross-tip screwdriver, unscrew and take out.
- b Take off right side kick panel.



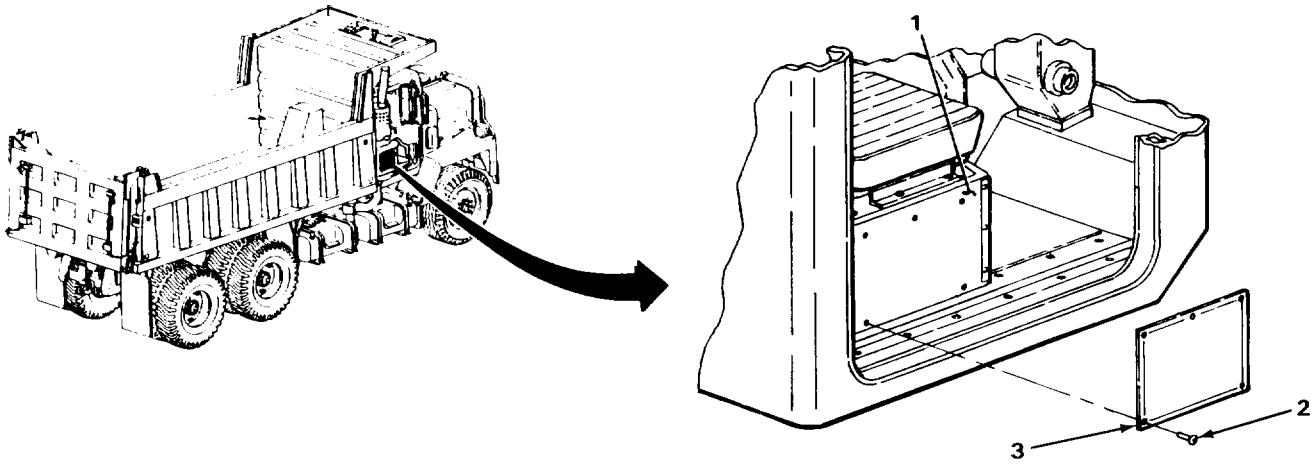
TA244554

DATA AND INSTRUCTION PLATES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL - CONTINUED

4 Heater box (1)	Five rivets (2) and wiring circuit diagram plate (3)	<ul style="list-style-type: none"> <li>a Using 5/32-inch drill bit and 1/4-inch portable electric drill, drill out rivets.</li> <li>b Take off wiring circuit diagram plate.</li> </ul>	
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CLEANING

**WARNING**

Naphtha and its fumes are harmful and flammable. Do not use near open flame. Do not smoke while using naphtha. Use only in well-ventilated area. Naphtha can catch fire, and fumes can explode causing injury.

**NOTE**

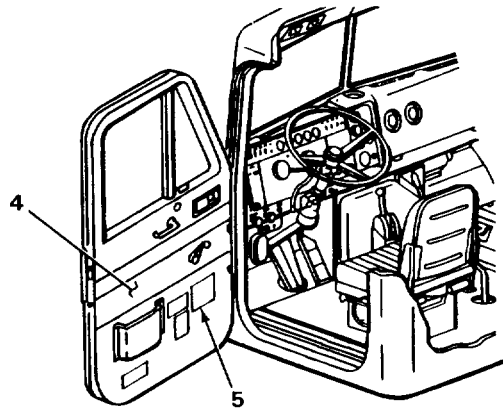
For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

5 Inside driver's door (4)	Old adhesive (5)	Using naphtha and rag, clean off old adhesive.	
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TA244555

DATA AND INSTRUCTION PLATES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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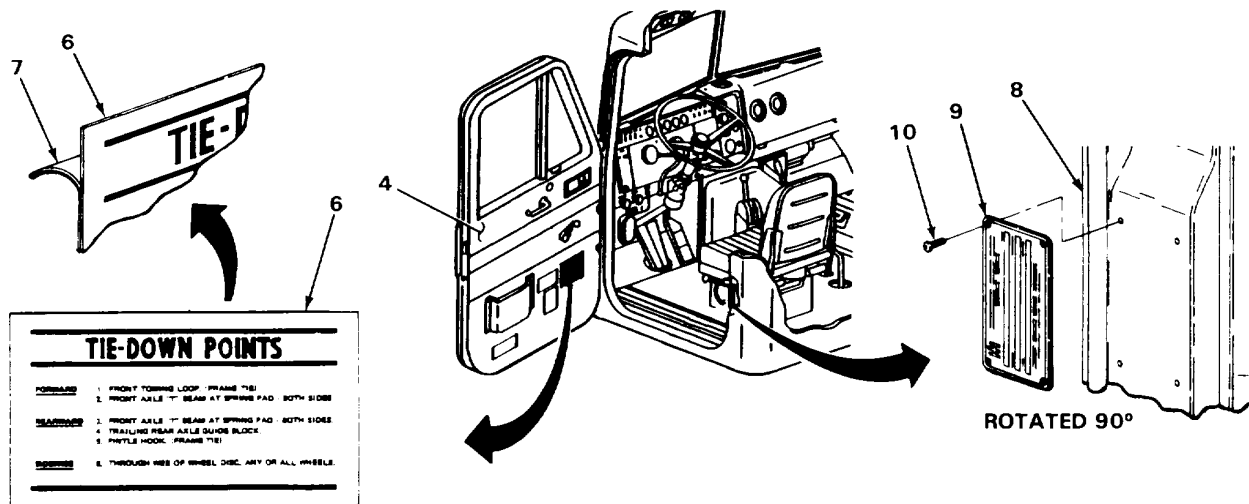


INSTALLATION

NOTE

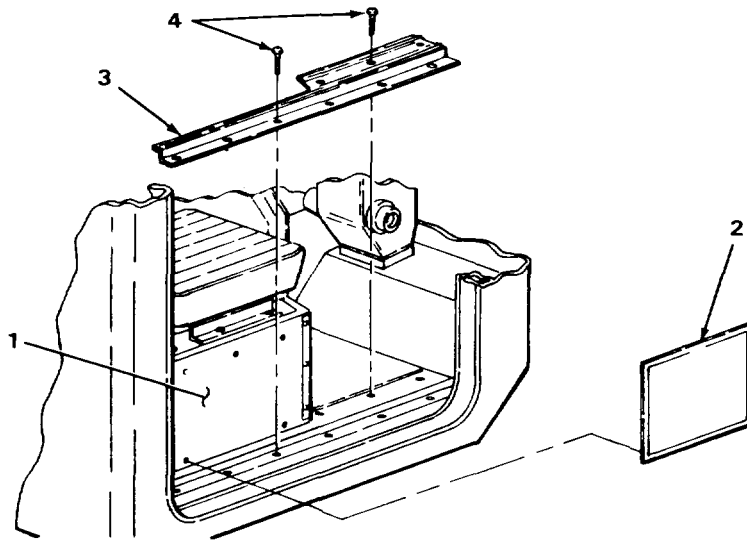
Steps given are typical for installation of all data and instruction plates attached with adhesive and screws.

6	Inside driver's door (4)	New instruction plate (6)	a Peel off paper backing (7). b Stick on inside driver's door (4).
7	Door frame (8)	New data plate (9)	Put in place.
8	New data plate (9)	Four self-tapping screws (10)	Screw in and tighten using number one cross-tip screwdriver.



DATA AND INSTRUCTION PLATES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION - CONTINUED</b>			
9 Heater box (1)	New wiring circuit diagram (2)	Put on.	
10 Right side kick panel (3)	Nine screws (4)	a Put right side kick panel in place. b Screw in and tighten using number two cross-tip screwdriver.	



**NOTE**

FOLLOW-ON MAINTENANCE: Close right and left cab doors (page 2-424).

**TASK ENDS HERE TA244557**



**AIR HORN CONTROL VALVE**

This task covers:

- a Removal (page 2-1355)
- b Disassembly (page 2-1357)
- c Cleaning (page 2-1358)
- d Inspection/Replacement (page 2-1358)
- e Assembly (page 2-1358)
- f Installation (page 2-1360)

**INITIAL SETUP**

Tools

- Brush, cleaning
- Pliers, slip-joint, 6-inch long
- Screwdriver, number one, cross-tip
- Wrench, open-end, 11/2-inch
- Wrench, open-end, 9/16-inch
- Wrench, open-end, 5/8-inch
- Wrench, open-end, 11/16-inch
- Wrench, open-end, 13/16-inch

Materials/Parts

- Detergent, liquid GP (item 14, appendix C)
- Pin, cotter

Materials/Parts - Continued

- Rags, wiping (item 15, appendix C)
- Tags, marker (item 21, appendix C)
- Tape, antiseizing (item 22, appendix C)

Personnel Required

One

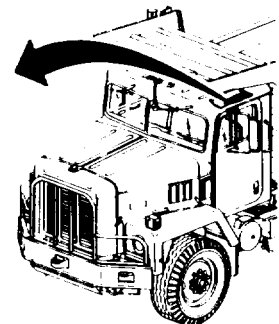
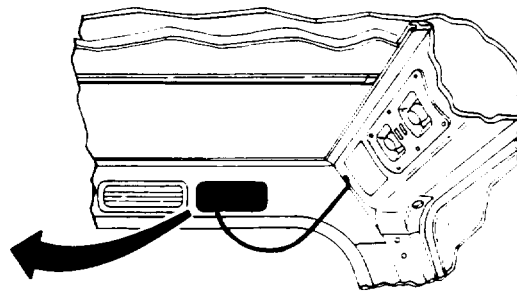
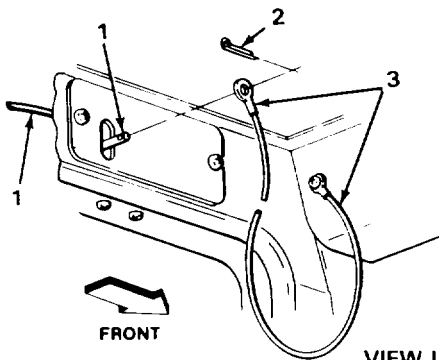
Equipment Condition

Air system drained (page 2-1034)

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**

1 Lever (1)	Cotter pin (2) and pull chain (3)	<ul style="list-style-type: none"> <li>a Using 6-inch slip-joint pliers take out cotter pin.</li> <li>b Take off pull chain.</li> <li>c Get rid of cotter pin.</li> </ul>	
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TA244558

**AIR HORN CONTROL VALVE - CONTINUED**

<b>LOCATION</b>	<b>ITEM</b>	<b>ACTION</b>	<b>REMARKS</b>
<b>REMOVAL - CONTINUED</b>			
2	Head panel (1)	Screw (2) and pull chain (3)	Using number one cross-tip screwdriver, unscrew and take off.
3	Panel (4)	Two screws (5) and cover (6)	Using number one cross-tip screwdriver, unscrew and take off.
4	Air horn control valve (7)	Two screws (8)	Using number one cross-tip screwdriver, unscrew and take out.
5	Panel (9)	Two screws (10)	Using number one cross-tip screwdriver, unscrew and take out.

**CAUTION**

Use care when removing bracket, damage to air lines may result.

6	Access hole (11)	Bracket (12)	<ul style="list-style-type: none"> <li>a While holding air horn control valve (7) push bracket back until lever (13) is disconnected from lever (14).</li> <li>b Take out bracket.</li> </ul>
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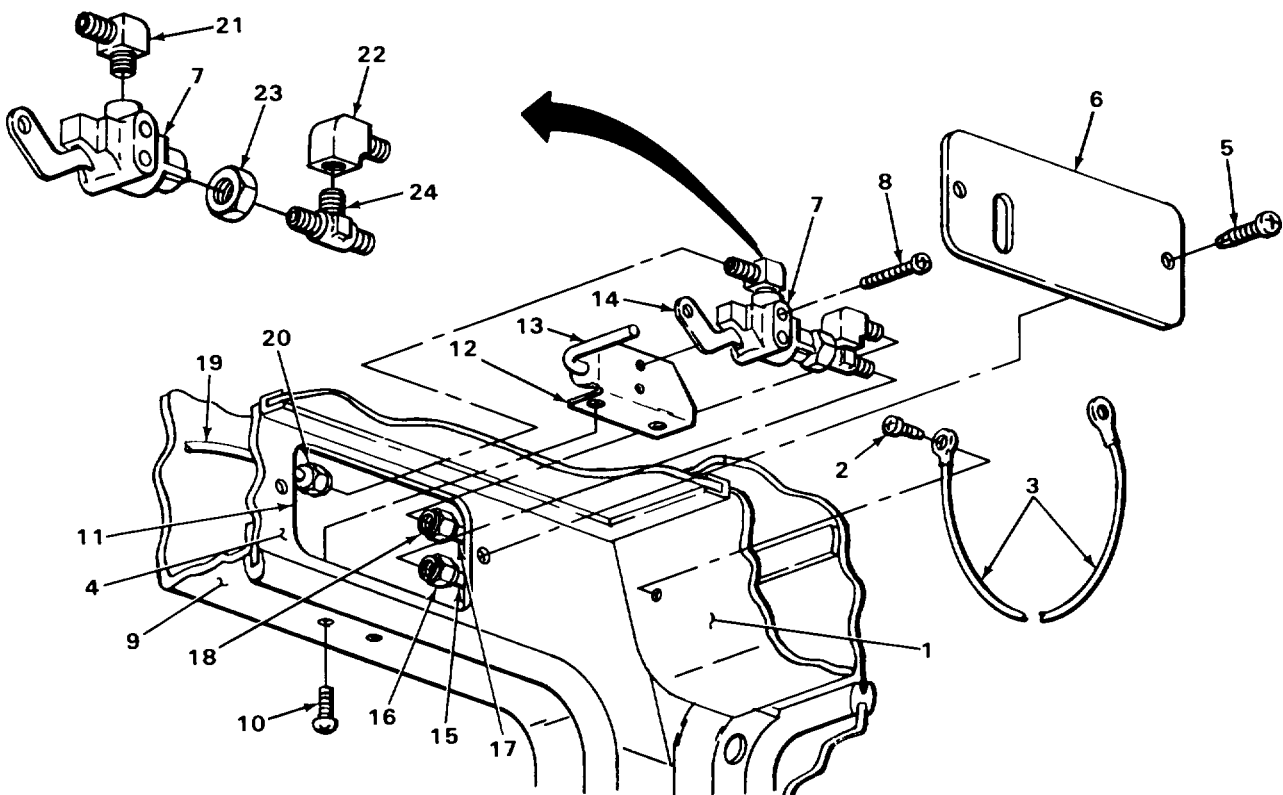
**NOTE**

For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).

7	Air line (15)	Line nut (16)	<ul style="list-style-type: none"> <li>a Tag air line.</li> <li>b Using 1/2-inch and 5/8-inch open-end wrenches, unscrew and take off.</li> </ul>
8	Air line (17)	Line nut (18)	<ul style="list-style-type: none"> <li>a Tag air line.</li> <li>b Using 5/8-inch and 11/16-inch open-end wrenches, unscrew and take off.</li> </ul>
9	Air line (19)	Line nut (20) and air horn control valve (7)	<ul style="list-style-type: none"> <li>a Tag air line.</li> <li>b Using 1/2-inch and 5/8-inch open-end wrenches, unscrew and take off.</li> <li>c Take out air horn control valve.</li> </ul>

**AIR HORN CONTROL VALVE - CONTROL**

LOCATION	ITEM	ACTION REMARKS
<b>DISASSEMBLY</b>		
10 Air horn Control valve (7)	Elbow Fitting (21)	Using 1/2-inch open-end wrench, unscrew and take off.
11	Elbow Fitting (22)	Using 11/16-inch and 1/2-inch open-end wrenches, unscrew and take off.
12	Locknut (23) and tee fitting (24)	a Using 13/16-inch open-end wrench, loosen lock nut. b Using 1/2-inch open-end wrench, unscrew and take off. c Unscrew and take lock nut off of tee fitting.



**AIR HORN CONTROL VALVE - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
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**CLEANING**

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

13	Air horn control valve (1), two elbow fittings (2 and 3), locknut (4), and tee fitting (5)	<ul style="list-style-type: none"> <li>a Clean with solution of liquid detergent and water.</li> <li>b Rinse in clean water.</li> <li>c Using clean wiping rags, wipe dry.</li> </ul>	
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**INSPECTION/REPLACEMENT**

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

14	Air horn control valve (1)	Look for cracks, breaks, and damaged threads.	
15	Two elbow fittings (2 and 3), locknut (4), and tee fitting (5)	Look for cracks, breaks, and damaged threads.	

**ASSEMBLY**

**NOTE**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

For more information on how to use antiseizing tape, go to General Maintenance Instructions.

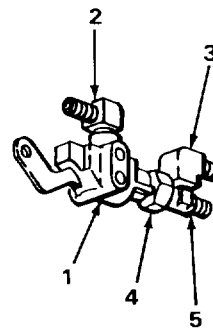
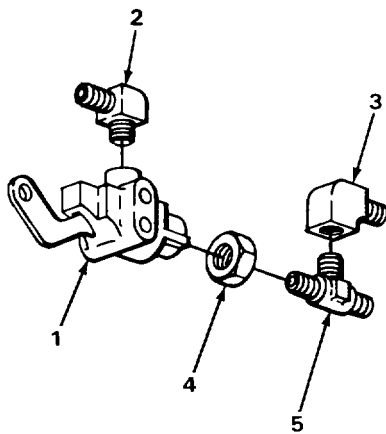
AIR HORN CONTROL VALVE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

**NOTE**

Assemble fittings in directions shown in illustration.

16	Air horn control valve (1) Elbow fitting (2)	a Wrap pipe threads with antiseizing tape. b Screw on and tighten using 1/2-inch open-end wrench.	
17	Locknut (4) and tee fitting (5)	a Wrap pipe threads with antiseizing tape. b Screw locknut on to tee fitting until locknut reaches end of threads. c Screw in tee fitting until snug, and tighten 2 turns using 1/2-inch open-end wrench. d Tighten locknut using 13/16-inch and 1/2-inch open-end wrenches.	
18	Elbow fitting (3)	a Wrap pipe threads with antiseizing tape. b Screw on and tighten using 11/16-inch and 1/2-inch open-end wrench.	



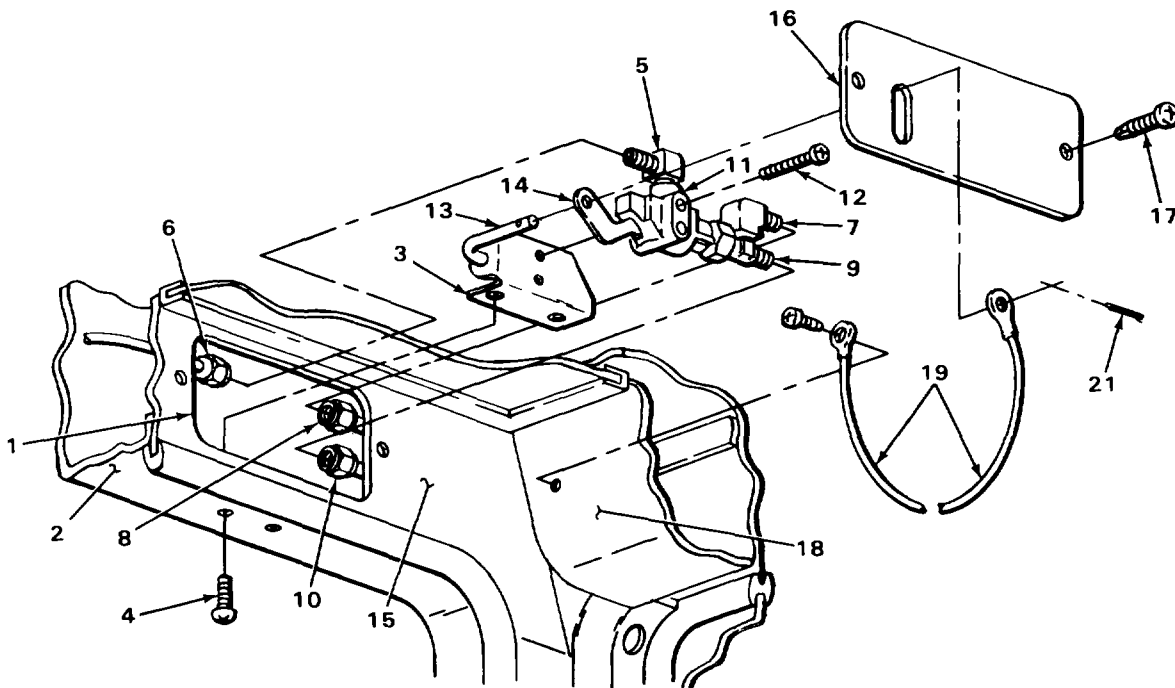
TA244560

## AIR HORN CONTROL VALVE -CONTINUED

LOCATION	ITEM	ACTION REMARKS
<b>INSTALLATION</b>		
19 Access hole (1) and panel (2)	Bracket (3) and two screws (4)	a Put in bracket and aline holes in bottom of bracket with holes in panel (2). b Screw in two screws using number one cross-tip screwdriver.
20 Elbow fitting (5)	Line nut (6)	a Screw on using 9/16-inch open-end wrench. <b>Do not tighten.</b> b Take off tag. c Get rid of tag.
21 Elbow fitting (7)	Line nut (8)	a Screw on using 5/8-inch open-end wrench. <b>Do not tighten.</b> b Take off tag. c Get rid of tag.
22 Tee fitting (9)	Line nut (10)	a Screw on using 5/8-inch open-end wrench. <b>Do not tighten.</b> b Take off tag. c Get rid of tag.
23 Bracket (3)	Air horn control valve (11), and two screws (12)	a Put in while alining lever (13) with hole in lever (14). b Screw in two screws and tighten using number one cross-tip screwdriver.
24 Panel (2)	Two screws (4)	Tighten, using number one cross-tip screwdriver.
25 Elbow fitting (5)	Line nut (6)	Tighten, using 9/16-inch and 1/2-inch open-end wrenches.
26 Elbow fitting (7)	Line nut (8)	Tighten, using 5/8-inch and 11/16-inch open-end wrenches.

**AIR HORN CONTROL VALVE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
27 Tee fitting (9)	Line nut (10)	Tighten, using 5/8-inch and 1/2-inch open-end wrenches.
28 Panel (15)	Cover (16) and two screws (17)	a Put cover in place. b Screw in two screws and tighten, using number one cross-tip screwdriver.
29 Head panel (18)	Pull chain (19) and screw (20)	a Put pull chain in position. b Screw in and tighten using number one cross-tip screwdriver.
30 Lever (1)	Pull chain (19) and new cotter pin (21)	a Put pull chain in place. b Put in and bend ends back using 6-inch slip-joint pliers



**TASK ENDS HERE**

TA244561

**Section XX. HYDRAULIC AND FLUID SYSTEM MAINTENANCE**

Page	Page
Dump Body Control Lever and ..... Linkage ..... 2-1367	Reservoir-To-Pump Suction Hose and Fittings ..... 2-1390
Hydraulic Filter and Housing ..... 2-1362	Valve-To-Cylinder Pressure Hoses and Fittings ..... 2-1400
Hydraulic Oil Reservoir ..... 2-1375	Valve-To-Reservoir Return Hose and Fittings ..... 2-1395
Pump-To-Valve Pressure Hose and ..... Fittings ..... 2-1385	

**HYDRAULIC FILTER AND HOUSING**

This task covers:

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>a Removal (page 2-1362)</li> <li>b Cleaning (page 2-1364)</li> </ul> | <ul style="list-style-type: none"> <li>c Inspection/Replacement (page 2-1364)</li> <li>d Installation (page 2-1365)</li> </ul> |
|---|--|

**INITIAL SETUP**

**Tools**

- Container, 6-gallon
- Extension, 10-inch
- Gloves, safety
- Goggles, safety
- Gun, blow, air
- Handle, ratchet, 1/2-inch drive
- Hose, air, assembly
- Screwdriver, flat-tip, 3/16-inch
- Socket, 5/8-inch, 1/2-inch drive
- Wrench, open-end, 7/16-inch

**Materials/Parts**

- Element, filter, hydraulic
- Gasket, ring, hydraulic filter
- Solvent, drycleaning (item 19, appendix C)
- Tape, antiseizing (item 22, appendix C) \_

**Personnel Required**

One

**References**

LO 5-3805-254-12 (Lubrication Order)

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**

**WARNING**

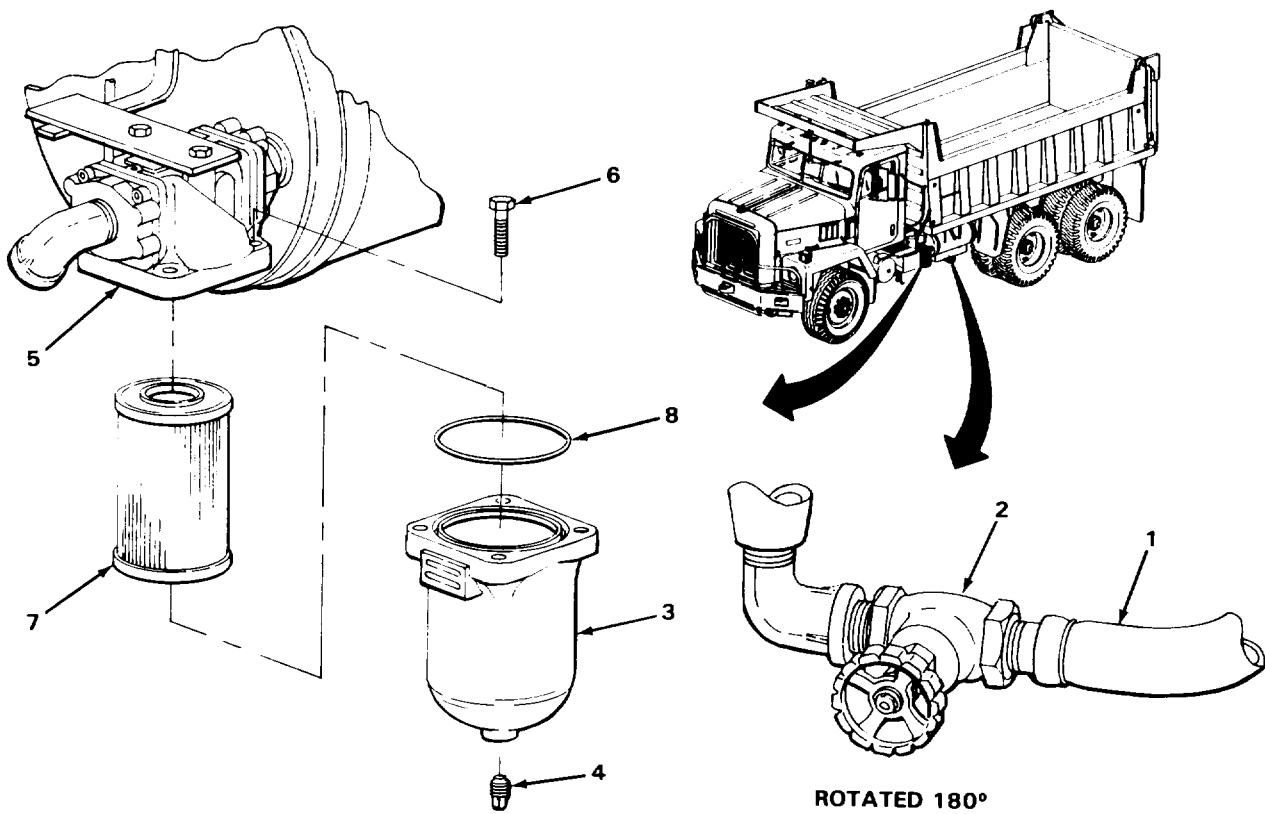
Do not drain hydraulic oil when hot. Hot oil can burn you.

- |                    |           |                          |
|--------------------|-----------|--------------------------|
| 1 Suction hose (1) | Valve (2) | Turn clockwise to close. |
|--------------------|-----------|--------------------------|



HYDRAULIC FILTER AND HOUSING - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
2	Filter housing (3)	Drainplug (4)	Using 7/16-inch open-end wrench, unscrew and take out.
3	Filter head (5) to filter housing (3)	Four screws (6)	Using 5/8-inch 1/2-inch drive socket, 10-inch extension, and ratchet handle, unscrew and take out.
4	Hydraulic filter element (7)	a Take out. b Get rid of.	
5	Gasket (8)	a Using 3/16-inch flat-tip screwdriver, take out. b Get rid of.	



TA244562

HYDRAULIC FILTER AND HOUSING - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

**WARNING**

Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and cause damage to equipment. Refer to TM 9-247.

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (590C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

All parts must be cleaned thoroughly.

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

6	All parts	Using drycleaning solvent, clean thoroughly.	
---	-----------	--	--

**WARNING**

Particles blown by compressed air are hazardous. Make certain the airstream is directed away from user and other personnel in the area. Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa). User must wear safety goggles or face shield to prevent injury to personnel.

7	All parts	Using air blow gun and air hose assembly, blow dry.	
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INSPECTION/REPLACEMENT

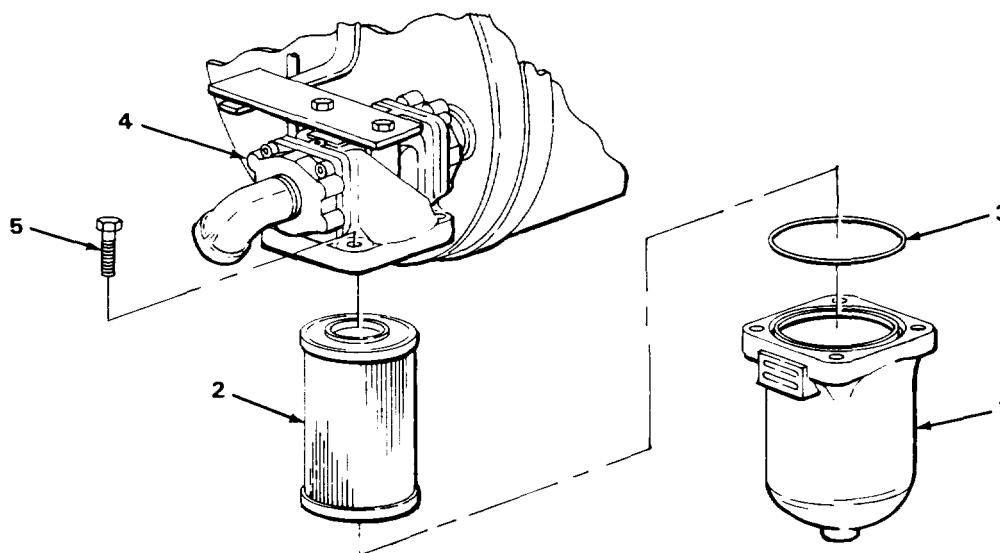
**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

HYDRAULIC FILTER AND HOUSING - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
8	Filter housing (1)	a. Look for cracks or dents. b. Look for damaged threads. c. Look for worn or damaged ring groove.	
9	All threaded parts	Check for damaged threads or rounded heads.	
<b>INSTALLATION</b>			
10 . Filter housing (1)	New hydraulic filter element (2)	Put in.	
11	New gasket (3)	Put in.	
12 Filter head (4) to filter housing (1)	Four screws (5)	Screw in and tighten using 5/8-inch 1/2-inch drive socket, 10-inch extension, and ratchet handle.	



TA244563

HYDRAULIC FILTER AND HOUSING - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION - CONTINUED

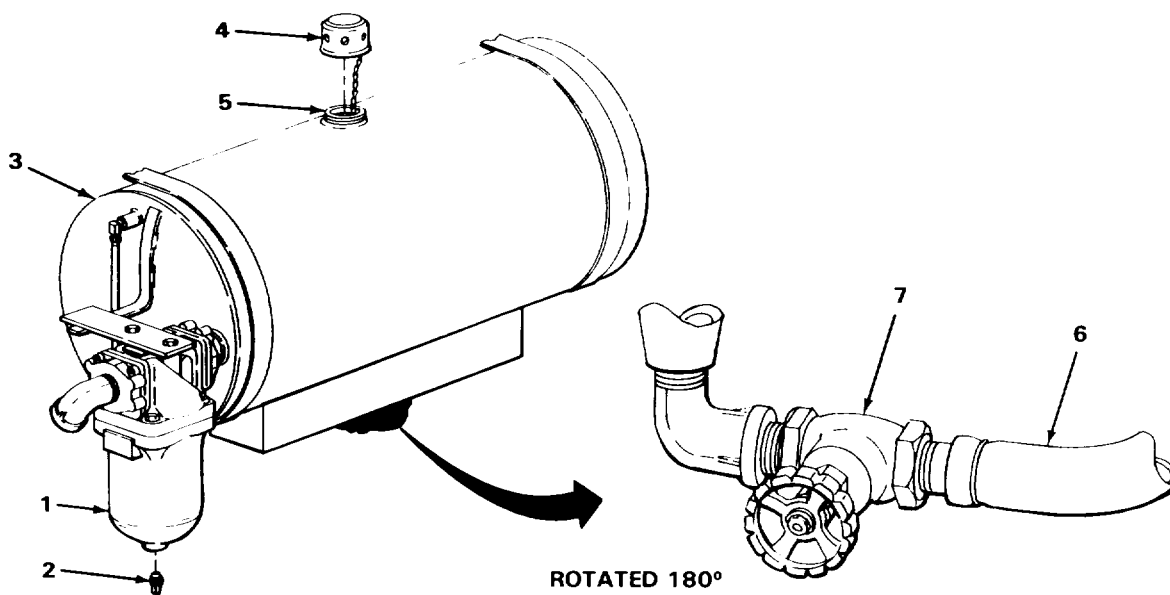
**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

13	Filter housing (1)	Drainplug (2)	a. Wrap pipe threads with antiseizing tape. b. Screw in and tighten using 7/16-inch open-end wrench.
14.	Reservoir (3)	Cap (4)	Take off.
15		Filler neck (5)	Fill with lubricating oil (LO 5-3805-254-12).
16.	Suction hose (6)	Valve (7)	Turn counterclockwise to open.



TASK ENDS HERE

TA244564

**DUMP BODY CONTROL LEVER AND LINKAGE**

This task covers:

- a Removal (page 2-1367)
- b Inspection/Replacement
- c Installation/Adjustment (page 2-1370)  
(page 2-1370)

**INITIAL SETUP**

**Tools**

- Pliers, long-nose, 6-inch
- Pliers, slip-joint, 8-inch (two required)
- Tape, measuring, steel, 25-foot
- Wrench, box-end, 7/16-inch
- Wrench, open-end, 3/4-inch

Materials/Parts (page 2-1262).

- Pin, cotter, clevis pin
- Lockwasher, clamp (six required)

**Personnel Required**

Two

**Equipment Condition**

Left side cab door opened (page 2-424).  
Center floor board cover plate removed

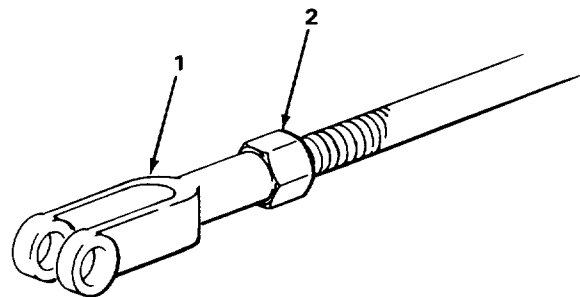
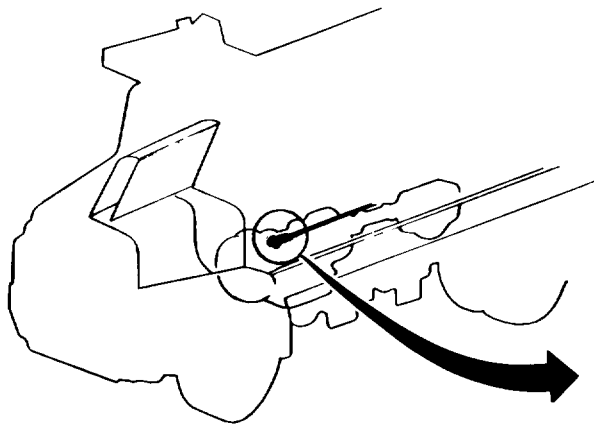
LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**

1. Clevis (1)

Nut (2)

Using 3/4-inch open-end wrench and 8-inch slip-joint pliers, loosen one turn.



TA244565

DUMP BODY CONTROL LEVER AND LINKAGE - CONTINUED

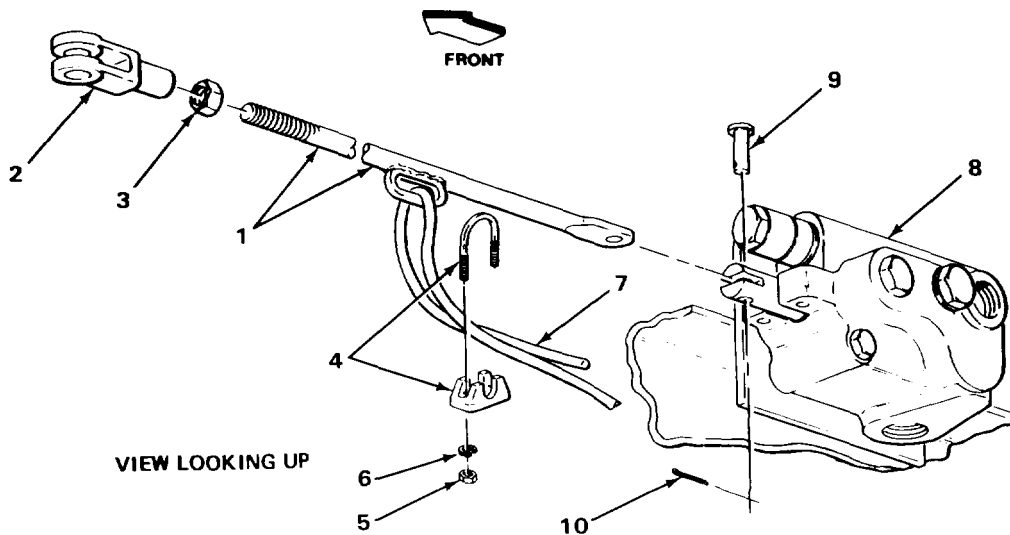
LOCATION	ITEM	ACTION	REMARKS
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REMOVAL - CONTINUED

NOTE

Count threads on rod before removing clevis, for correct adjustment when installing.

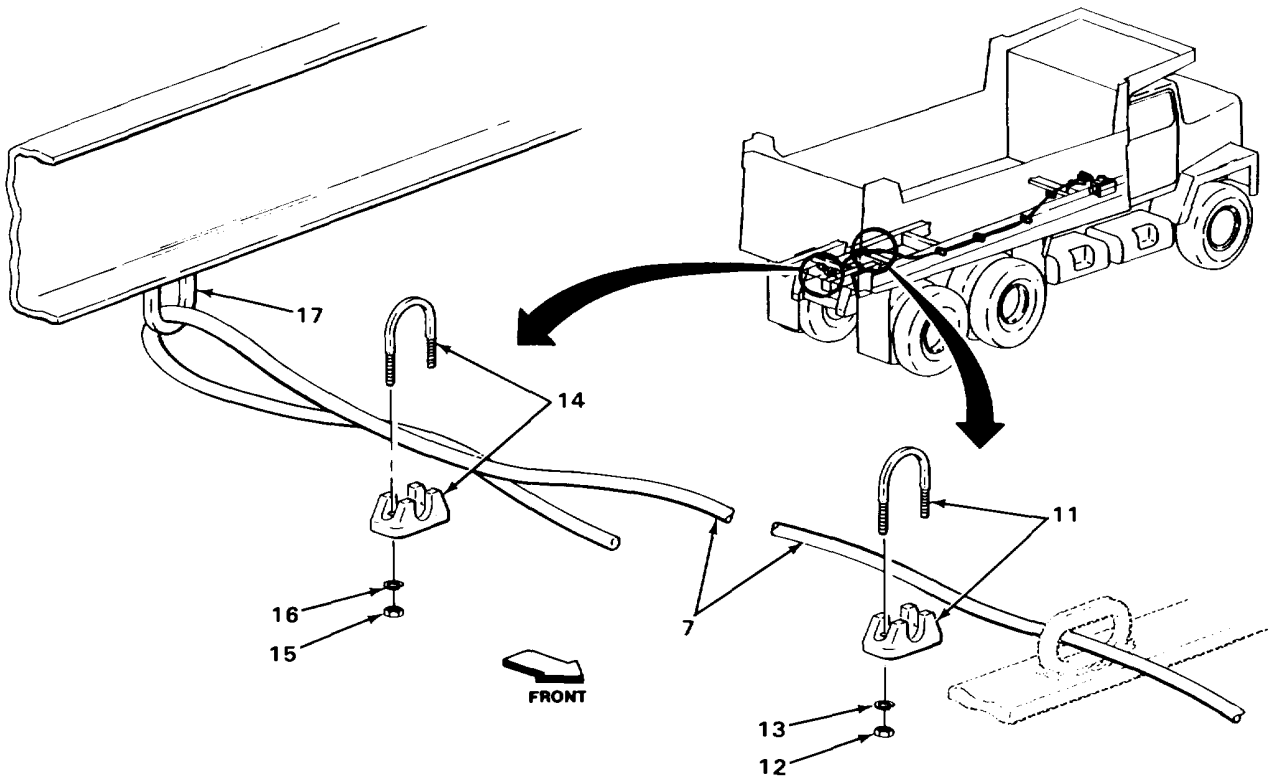
2. Rod (1)	Clevis (2)	Using two 8-inch slip-joint pliers, unscrew and take off.
3.	Nut (3)	Using 3/4-inch open-end wrench and 8-inch slip-joint pliers, unscrew and take off.
4. Clamp (4)	Two nuts (5) and two lockwashers (6)	a. Using 7/16-inch box-end wrench, unscrew and take off. b. Get rid of lockwashers.
5. Cable (7)	Clamp (4)	Take off.
6. Control valve (8) and clevis pin (9)	Cotter pin (10)	a. Using 6-inch long-nose pliers, straighten ends and take out. b. Get rid of.
7. Control valve (8)	Clevis pin (9)	Using 8inch slip-joint pliers, take out.
8. Rod (1)	Take out.	



TA244566

DUMP BODY CONTROL LEVER AND LINKAGE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
9. Clamp (11)	Two nuts (12) and two lockwashers (13)	a. Using 7/16-inch box-end wrench, unscrew and take off. b. Get rid of lockwashers.
10. Cable (7)	Clamp (11)	Take off.
11. Clamp (14)	Two nuts (15) and two lockwashers (16)	a. Using 7/16-inch box-end wrench, unscrew and take off. b. Get rid of lockwashers.
12. Cable (7)	Clamp (14)	Take off.
13. Eye (17)	Cable (7)	Take out.



TA244567

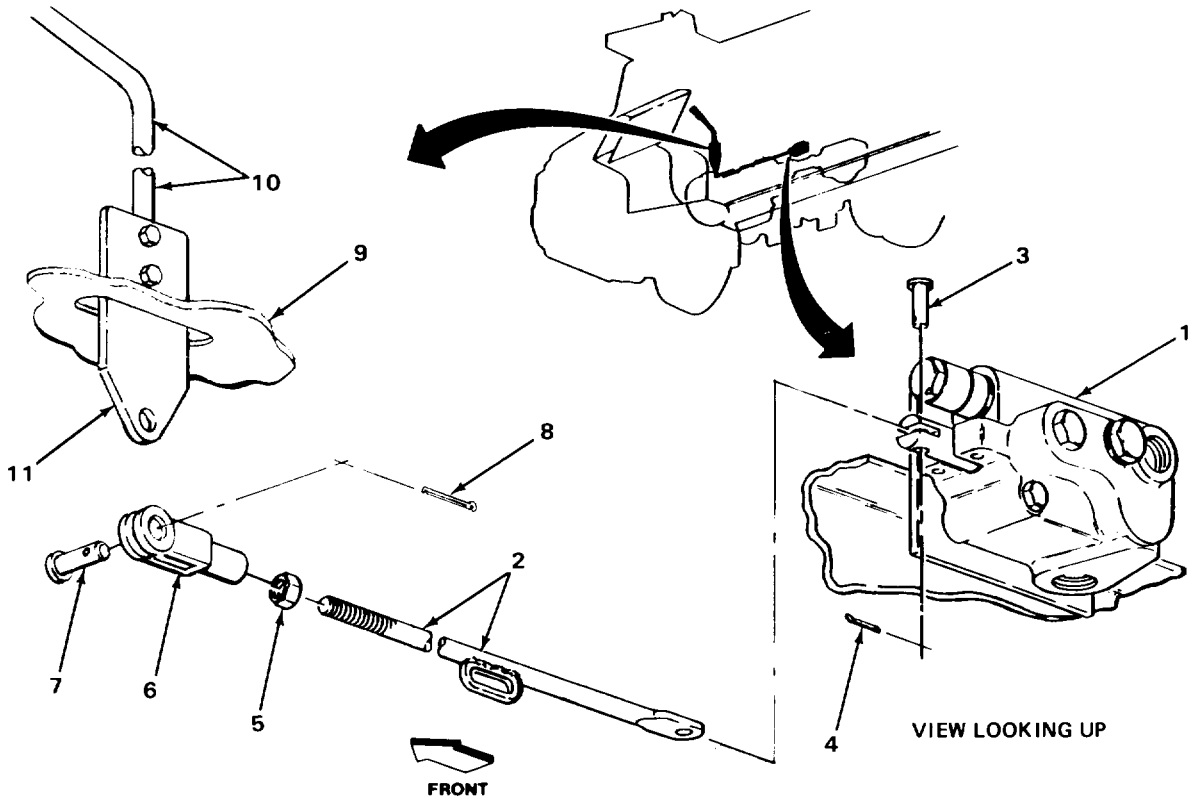
## DUMP BODY CONTROL LEVER AND LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION/REPLACEMENT</b>			
<b>NOTE</b>			
Replace all damaged or defective parts.			
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).			
14.	All metal parts		Look for wear, bends, breaks, or corrosion.
15.	All threaded parts		Look for damaged threads or rounded heads.
<b>INSTALLATION/ADJUSTMENT</b>			
16	Control valve (1)	Rod (2)	Put in.
17	Rod (2)	Pin (3)	Put in using 8-inch slip-joint pliers.
18	Pin (3)	New cotter pin (4)	Put in and bend back ends using 6-inch long nose pliers.
19.	Rod (2)	Nut (5)	Screw on completely using 3/4-inch open-end wrench and 8-inch slip-joint pliers.
20.		Clevis (6)	Screw on using two 8-inch slip-joint pliers. <b>Screw on number of threads counted during removal.</b>
21.	cover plate	Center floorboard	Install (page 2-1262).
22.	Pin (7)	Cotter pin (8)	a. Using 6-inch long-nose pliers, straighten ends and take out. b. Get rid of.
23.	Clevis (6)	Nut (5)	Using 3/4-inch open-end wrench and 8-inch slip-joint pliers, loosen four turns.
24.	Cab floor (9)	Dump body control lever (10)	Have assistant put in and hold in neutral position.



DUMP BODY CONTROL LEVER AND LINKAGE - CONTINUED

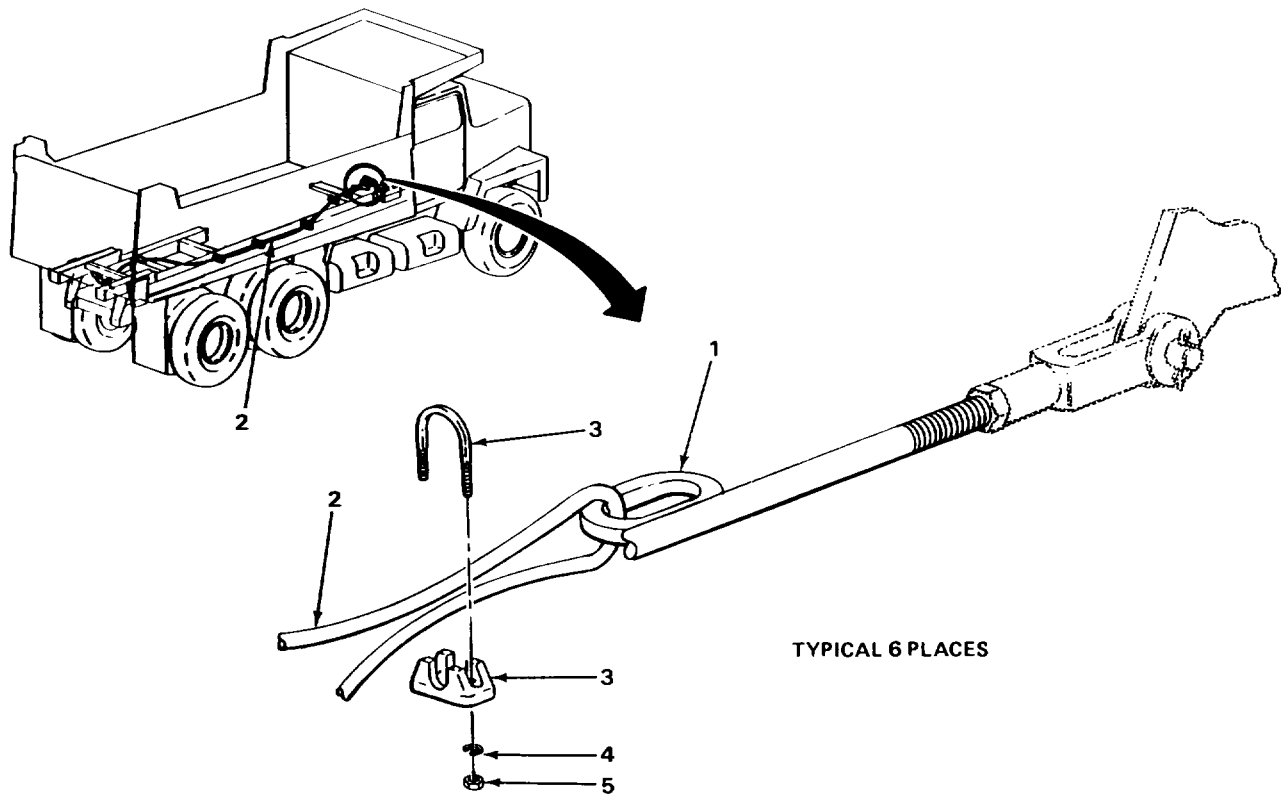
LOCATION	ITEM	ACTION REMARKS
<b>INSTALLATION</b>		
25. Dump body control lever arm (11)	Pin (7) and clevis (6)	a. Put pin through clevis and dump body control lever arm (11). b. Check that pin moves freely. c. If pin does not move freely, take out pin and turn clevis in or out to adjust. d. Put pin back in.
26.	Pin (7) and new cotter pin (8)	a. Put in. b. Bend back ends using 6-inch long-nose pliers (page 2-424).
27. Clevis (6)	Nut (5)	Tighten using 3/4-inch open-end wrench and 8-inch slip-joint pliers.



TA244568

DUMP BODY CONTROL LEVER AND LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION - CONTINUED</b>			
28. Eye (1)	Cable (2)	Put through and bend over.	
29. Cable (2)	Clamp (3)	Put on.	
30. Clamp (3)	Two new lockwashers (4) and two nuts (5)	Screw on and tighten using 7/16-inch box-end wrench.	
31. Six eyes (6)	Cable (2)	Pull through.	



TA244569

**DUMP BODY CONTROL LEVER AND LINKAGE - CONTINUED**

**WARNING**

To prevent injury, make sure all personnel are clear of tailgate when body is in raised position.

**CAUTION**

Do not hold dump body control lever in back position for any length of time when hydraulic cylinder is fully extended.

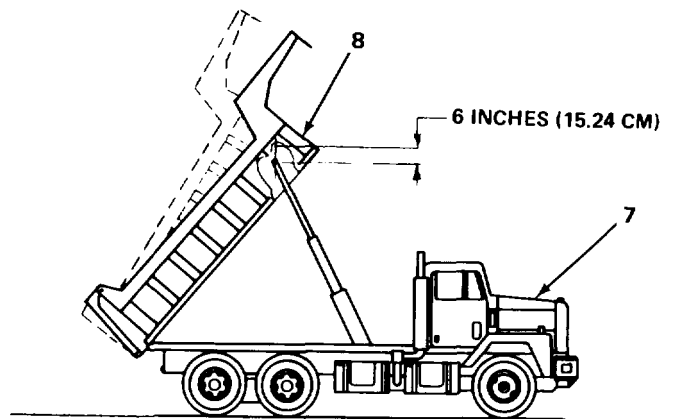
**NOTE**

Assistance will be needed to perform steps 30 thru 38.

32. Dump truck (7)

Dump body (8)

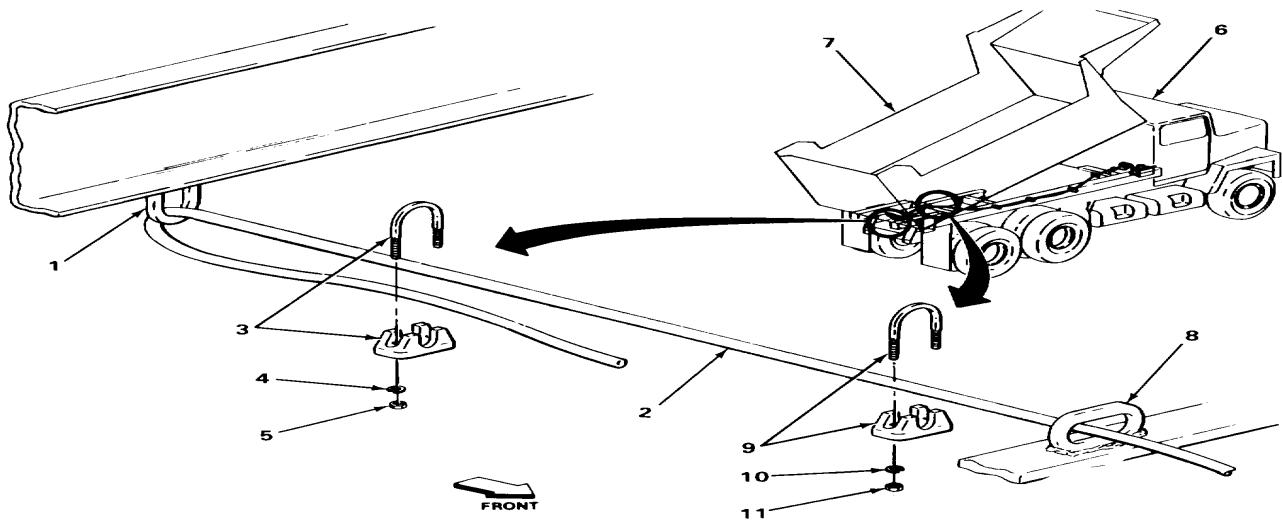
- a. Raise (page 2-424).
- b. Measure from cylinder top pin using 25 foot steel tape measure.
- c. Lower 6 inches (15.24 cm).
- d. Block in lowered 6-inch position.
- e. Hold dump body control lever in neutral position.



TA244570

DUMP BODY CONTROL LEVER AND LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION - CONTINUED</b>			
33. Eye (1)	Cable (2)	Pull to rear and bend over.	
34. Cable (2)	Clamp (3)	Put on.	
35. Clamp (3)	Two new lockwashers (4) and two nuts (5)	Screw on and tighten using 7/16-inch box-end wrench.	
36 Dump truck (6)	Dump body (7)	Lower (page 2-424).	
37 Eye (8)	Cable (2)	Pull to rear.	
38. Cable (2)	Clamp (9)	a. Put on. b. Using 25-foot steel tape measure, adjust 1-inch (25.4 mm) to rear of eye.	
39. Clamp (9)	Two new lockwashers (10) and two nuts (11)	Screw on and tighten using 7/16-inch box-end wrench.	



TA244571

TA244571

**DUMP BODY CONTROL LEVER AND LINKAGE - CONTINUED****NOTE**

FOLLOW-ON MAINTENANCE: Close left side cab door (page 2-424).

**TASK ENDS HERE****HYDRAULIC OIL RESERVOIR**

This task covers:

- |   |                           |   |                                      |
|---|---------------------------|---|--------------------------------------|
| a | Removal (page 2-1376)     | d | Inspection/Replacement (page 2-1380) |
| b | Disassembly (page 2-1377) | e | Assembly (page 2-1380)               |
| c | Cleaning (page 2-1378)    | f | Installation (page 2-1383)           |

**INITIAL SETUP****Tools**

Container, 6gallon  
 Gloves, safety  
 Goggles, safety  
 Gun, air, blow  
 Hose, air, assembly  
 Jack, floor, hydraulic, 20-ton  
 Key, hex, 5/16-inch  
 Screwdriver, flat-tip, 1/4-inch  
 Wrench, open-end, 7/16-inch  
 Wrench, open-end, 9/16-inch  
 Wrench, open-end, 5/8-inch  
 Wrench, open-end, 3/4-inch  
 Wrench, open-end, 1 1/16-inch  
 Wrench, open-end, 1 3/8-inch  
 Wrench, open-end, 1 1/2-inch  
 Wrench, open-end, 1 3/4-inch  
 Wrench, open-end, 1 7/8-inch  
 Wrench, pipe, 18-inch (two required)

**Materials/Parts**

Lockwasher, strap (two required)  
 Oil, lubricating, OE/HDO/30 (item 14, appendix C)  
 Ring, filter housing  
 Rags, wiping (item 15, appendix C)  
 Solvent, drycleaning (item 19, appendix C)  
 Tape, antiseizing (item 22, appendix c)

**Personnel Required**

Three

**References**

LO 5-3805-254-12 (Lubrication Order)

**HYDRAULIC OIL RESERVOIR - CONTINUED**

**REMOVAL**

- |                       |               |  |
|-----------------------|---------------|--|
| 1. Reservoir (1)      | Valve (2)     | Turn clockwise to close.   |
| 2. Hose (3)           | Clamp (4)     | a. Place 6-gallon container underneath.<br>b. Using 1/4-inch flat-tip screwdriver, unscrew and take off.   |
| 3. Nipple (5)         | Hose (3)      | a. Take off.<br>b. Allow oil to drain.   |
| 4. Reservoir (1)      | Valve (2)     | a. Place 6-gallon container underneath.<br>b. Slowly turn counterclockwise to open.<br>c. Allow oil to drain.                                    |
| 5. Union (6)          | Hose (7)      | a. Place 6-gallon container underneath.<br>b. Using 1 3/8-inch and 1 1/2-inch open-end wrenches, unscrew and take out.<br>c. Allow oil to drain. |
| 6. Filter housing (8) | Drainplug (9) | a. Place 6-gallon container underneath.<br>b. Using 7/16-inch open-end wrench, unscrew and take out.<br>c. Allow oil to drain.                   |

**NOTE**

Assistance will be needed to perform steps 7 and 8.

- |                                      |  |   |
|--------------------------------------|--|---|
| 7. Two straps (10) and reservoir (1) | Two nuts (11) and two lockwashers (12) | a. Using 20-ton hydraulic floor jack, have two assistants hold reservoir.<br>b. Using 15/16-inch open-end wrench, unscrew and take off.<br>c. Get rid of lockwashers. |
|--------------------------------------|--|---|

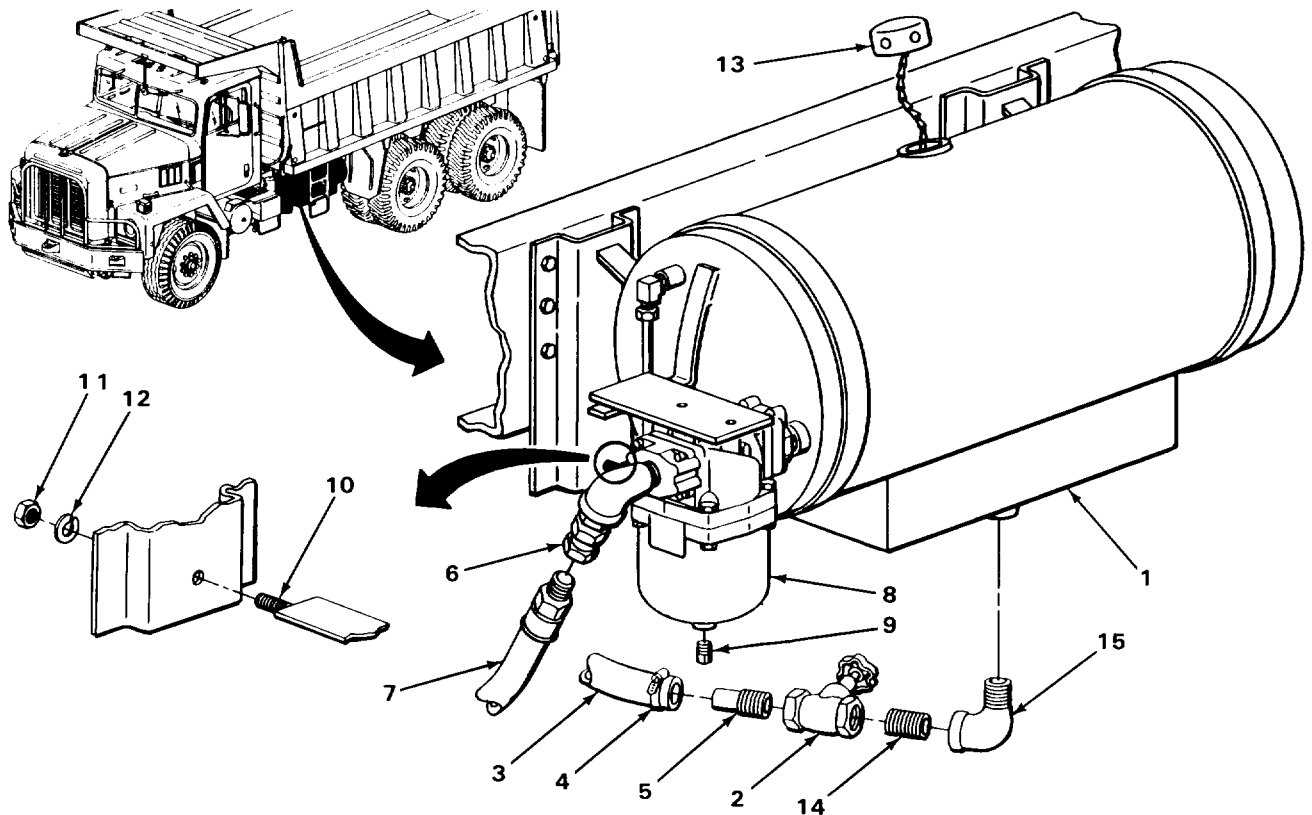
**CAUTION**

Use care when removing reservoir and fittings, damage could occur.

- |                    |               |  |
|--------------------|---------------|--|
| 8. Two straps (10) | Reservoir (1) | With assistance, using 20-ton hydraulic floor jack, take down and out. |
|--------------------|---------------|--|

HYDRAULIC OIL RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
<b>DISASSEMBLY</b>		
9. Reservoir (1)	Cap (13)	Take off.
10. Valve (2)	Nipple (5)	Using 1 7/8-inch open-end and 18-inch pipe wrenches, unscrew and take out.
11. Nipple (14)	Valve (2)	Using 1 7/8-inch open-end and 18-inch pipe wrenches, unscrew and take off.
12. Elbow (15)	Nipple (14)	Using two 18-inch pipe wrenches, unscrew and take out.
13. Reservoir (1)	Elbow (15)	Using 18-inch pipe wrench, unscrew and take out.



TA244572

## HYDRAULIC OIL RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
<b>DISASSEMBLY - CONTINUED</b>		
14. Two elbows (1)	Two nuts (2) and sight glass (3)	Using 9/16-inch and 5/8-inch open-end wrenches, unscrew and take out.
15. Sight glass (3)	Two nuts (2)	Take off.
16. Reservoir (4)	Two elbows (1)	Using 9/16-inch open-end wrench, unscrew and take out.
17. Bushing (5)	Union (6)	Using 1 1/2-inch and 1 3/4-inch open-end wrenches, unscrew and take out.
18. Elbow (7)	Bushing (5)	Using 1 3/4-inch open-end and 18-inch pipe wrenches, unscrew and take out.
19. Filter housing (8)	Elbow (7)	Using 18-inch pipe wrench, unscrew and take out.
20.	Two screws (9)	Using 3/4-inch open-end wrench, unscrew and take out.
21. Reservoir (4)	Filter housing (8), four hex-head screws (10), and ring (11)	a. Using 5/16-inch hex key, unscrew and take out. b. Get rid of ring. c. Set filter housing aside for assembly.
22. Nipple (12)	Filter housing flange (13)	Using 18-inch pipe wrench, unscrew and take off.
23. Reservoir (4)	Nipple (12)	Using 18-inch pipe wrench, unscrew and take out.

**CLEANING****WARNING**

Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and cause damage to equipment. Refer to TM 9-247.



HYDRAULIC OIL RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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**WARNING**

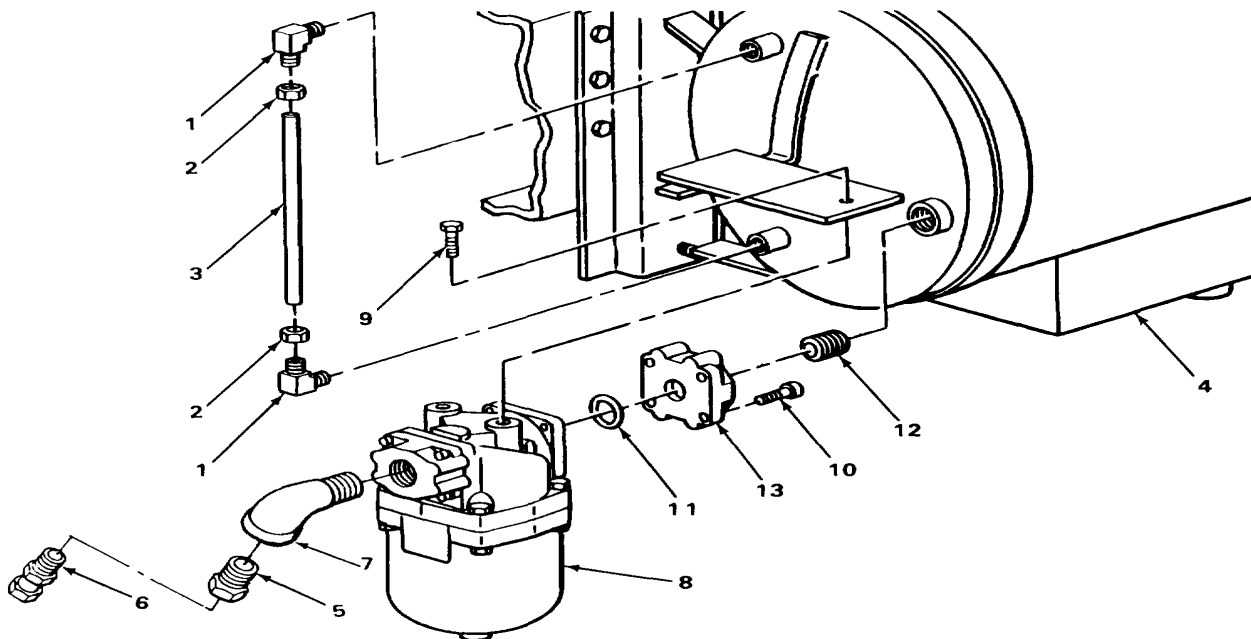
Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (590C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

All parts must be cleaned thoroughly.

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

- |     |                 |   |
|-----|-----------------|---|
| 24. | All metal parts | Using drycleaning solvent and wiping rag, clean thoroughly. |
|-----|-----------------|---|



TA244573

TA244573

## HYDRAULIC OIL RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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## CLEANING - CONTINUED

**WARNING**

Particles blown by compressed air are hazardous. Make certain the air stream is directed away from user and other personnel in the area. Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa). User must wear safety goggles or face shield to prevent injury to personnel.

25.	All parts	Using air blow gun and air hose assembly, blow dry.	
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## INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

26.	Reservoir (1)	For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424). a. Look for holes or large dents. b. Look for cracks in welded areas. c. Look for pitted areas inside.	
27.	Sight glass (2)	a. Look for cracks. b. Check for clearness of glass.	
28.	Cap (3)	a. Look for dents or cracks. b. Look for clogged vent holes.	
29.	All threaded parts	Look for damaged threads or rounded heads.	

## ASSEMBLY

**CAUTION**

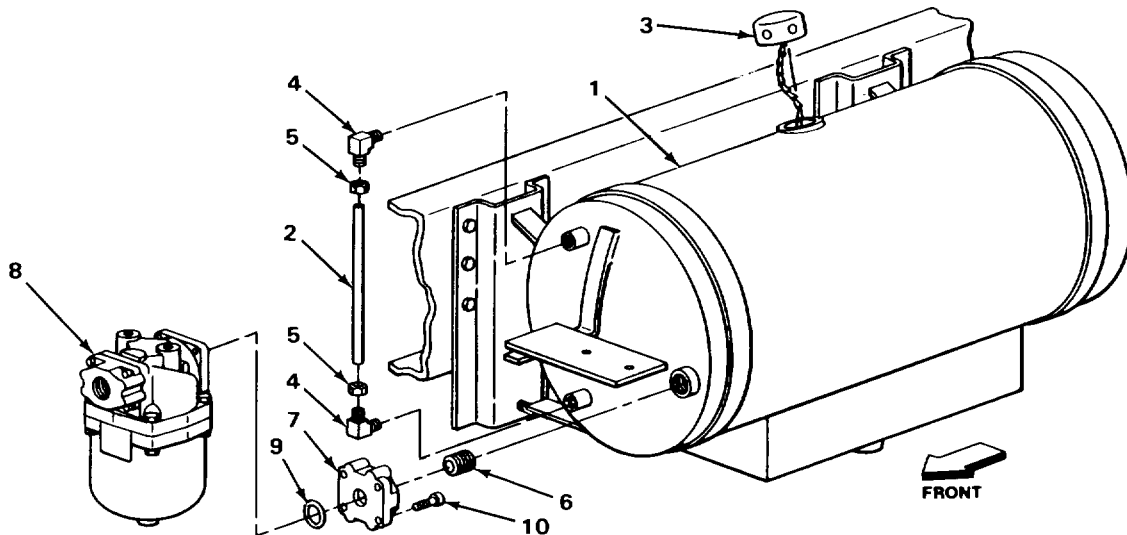
Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

HYDRAULIC OIL RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
30. Reservoir (1)	Two elbows (4)	a. Wrap pipe threads with antiseizing tape (page 2-424). b. Screw in and tighten using 9/16-inch open-end wrench.
31. Sight glass (2)	Two nuts (5)	Put on.
32. Two elbows (4)	Sight glass (2) and two nuts (5)	a. Put in place. b. Screw in and tighten using 9/16-inch and 5/8-inch open-end wrenches.
33. Reservoir (1)	Nipple (6)	a. Wrap pipe threads with antiseizing tape (page 2-424). b. Screw in and tighten using 18-inch pipe wrench.
34. Nipple (6)	Filter housing flange (7)	Screw on and tighten using 18-inch pipe wrench.
35. Filter housing flange (7)	Filter housing (8), new ring (9), and four hex-head screws (10)	a. Put ring in place. b. Screw in and tighten using 5/16-inch hex key.



TA244574

## HYDRAULIC OIL RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
<b>ASSEMBLY - CONTINUED</b>		
36. Filter housing (1)	Two screws (2)	Screw in and tighten using 3/4-inch open-end wrench.
37. (page 2-424).	Elbow (3)	a. Wrap pipe threads with antiseizing tape b. Screw in and tighten using 18-inch pipe wrench.
38. Elbow (3)	Bushing (4)	a. Wrap pipe threads with antiseizing tape (page 2424). b. Screw in and tighten using 1 3/4-inch open-end and 18-inch pipe wrench.
39. Bushing (4)	Union (5)	a. Wrap pipe threads with antiseizing tape (page 2-424). b. Screw in and tighten using 1 11/2-inch and 1 3/4-inch open-end wrenches.
40. Reservoir (6)	Elbow (7)	a. Wrap pipe threads with antiseizing tape (page 2-424). b. Screw in and tighten using 18-inch pipe wrench.
41. Elbow (7)	Nipple (8)	a. Wrap pipe threads with antiseizing tape (page 2-424). b. Screw in and tighten using two 18-inch pipe wrenches.
42. Nipple (8)	Valve (9)	Screw in and tighten using 1 7/8-inch open-end and 18-inch pipe wrenches.
43. Valve (9)	Nipple (10)	a. Wrap pipe threads with antiseizing tape (page 2-424). b. Screw in and tighten using 1 7/8-inch open-end and 18-inch pipe wrenches.
44. Filter housing (1)	Drainplug (11)	a. Wrap pipe threads with antiseizing tape (page 2-424). b. Screw in and tighten using 7/16-inch open-end wrench.

HYDRAULIC OIL RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION

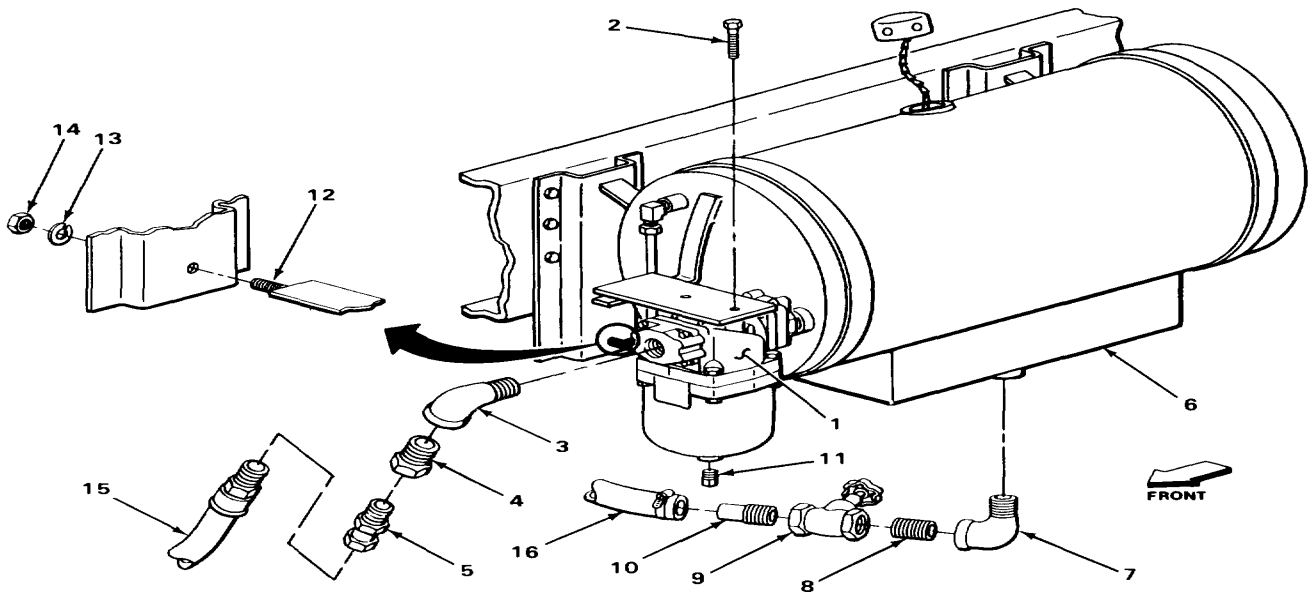
**CAUTION**

Use care when installing reservoir, damage to reservoir or fittings could occur.

**NOTE**

Assistance will be needed to perform steps 45 and 46.

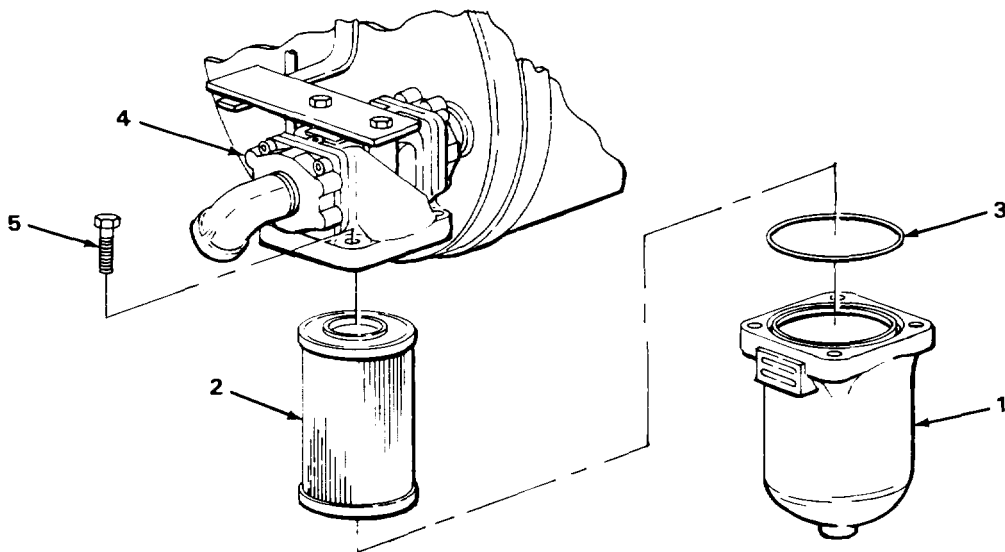
45 Two straps (12)	Reservoir (6)	With two assistants, put in place and hold using 20-ton hydraulic floor jack.
46	Two new lockwashers (13) and two nuts (14)	Screw in and tighten using 15/16-inch open-end wrench.
47 Union (5)	Hose (15)	Screw in and tighten using 1 3/8-inch and 1 1/2-inch open-end wrenches.
48. Nipple (10)	Hose (16)	Put on.



TA244575

HYDRAULIC OIL RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
<b>INSTALLATION - CONTINUED</b>		
49 Hose (1)	Clamp (2)	a. Put in place. b. Screw on and tighten using 1/4-inch flat-tip screwdriver.
50 Reservoir (3)	Filler neck (4) and cap (5)	a. Fill with lubricating oil until sight glass (6) is full. b. Put cap on reservoir.
51 Dump truck (7)	Dump body (8)	a. Raise (page 2-424). b. Lower (page 2-424).
52 Reservoir (3)	Filler neck (4)	Repeat step 50 until full.



TASK ENDS HERE

TA24576

## PUMP-TO-VALVE PRESSURE HOSE AND FITTINGS

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This task covers:

- a. Removal (page 2-1386)c. Inspection/Replacement (page 2-1388)
  - b. Cleaning (page 2-1386)d. Installation (page 2-1388)
- 

### INITIAL SETUP

#### Tools

- Brush, cleaning
- Container, 6-gallon
- Gloves, safety
- Goggles, safety
- Gun, blow, air
- Hose, air assembly
- Wrench, open-end, 1 1/4-inch  
(two required)
- Wrench, open-end, 1 3/8-inch

#### Materials/Parts

- Detergent, liquid, GP (item 7, appendix C)
- Oil, lubricating, OE/HDO/30 (item 14,  
appendix C)
- Solvent, drycleaning (item 19, appendix C)
- Tape, antiseizing (item 22, appendix C)

#### Personnel Required

One

#### Equipment Condition

Dump body raised and secured (page 2-424).

#### References

(LO 5-3805-254-12) Lubrication Order

**PUMP-TO-VALVE PRESSURE HOSE AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL</b>		
<b><u>WARNING</u></b>		
Do not drain hydraulic oil when hot. Hot oil could burn you.		
1. Elbow (1)	Hose (2)	a. Place 6-gallon container underneath. b. Using two 1 1/4-inch open-end wrenches, unscrew and take out. c. Allow oil to drain. d. Get rid of drained oil.
2. Pump (3)	Elbow (1)	Using 1 1/4-inch open-end wrench, unscrew and take out.
3. Elbow (4)	Hose (2)	a. Place 6-gallon container underneath. b. Using two 1 1/4-inch open-end wrenches, unscrew and take out. c. Allow oil to drain. d. Get rid of drained oil.
4. Bushing (5)	Elbow (4)	Using 1 1/4-inch and 1 3/8-inch open-end wrenches, unscrew and take out.
wrenches, unscrew and take out.		
5. Valve (6)	Bushing (5)	Using 1 3/8-inch open-end wrench, unscrew and take out.

**CLEANING**

**WARNING**

Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and cause damage to equipment. Refer to TM 9-247.

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (590C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.



**PUMP-TO-VALVE PRESSURE HOSE AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
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9. Clamp (11)	Two nuts (12) and	a. Using 7/16-inch box-end wrench, un-	
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**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

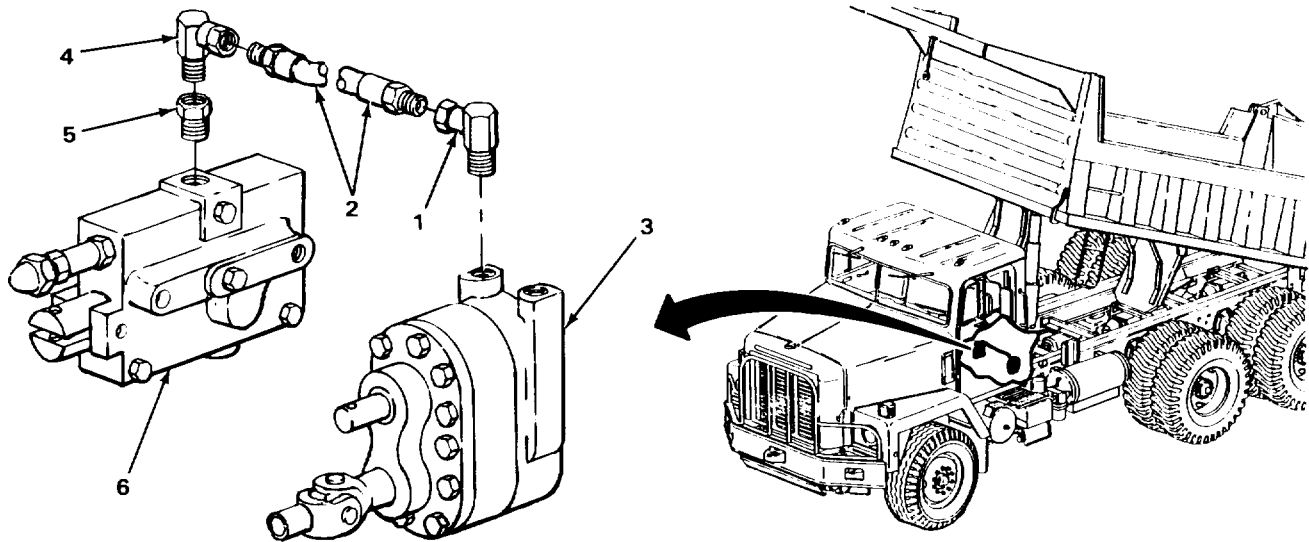
6.	Elbows (1 and 4) and bushing (5)	Using drycleaning solvent and cleaning brush, clean thoroughly.	
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7.	Hose (2)	Using liquid detergent, cleaning brush, and water, clean thoroughly.	
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**WARNING**

Particles blown by compressed air are hazardous. Make certain the airstream is directed away from user and other personnel in the area. Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa). User must wear safety goggles or face shield to prevent injury to personnel.

8.	All parts	Using blow gun and air hose assembly, blow dry.	
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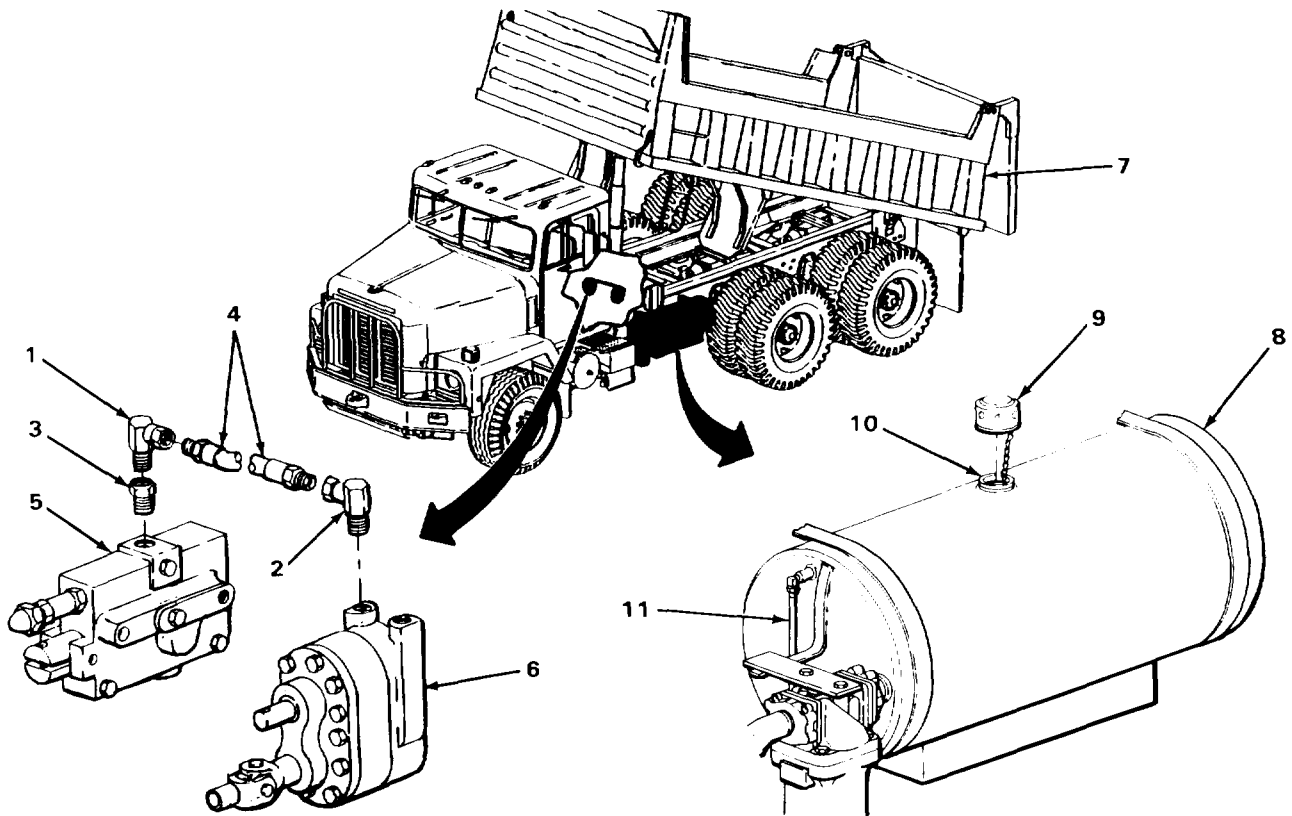
TA244577

## PUMP-TO-VALVE PRESSURE HOSE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION/REPLACEMENT</b>			
<b>NOTE</b>			
Replace all damaged or defective parts.			
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).			
9.	Two elbows (1 and 2) and bushing (3)		Look for cracks, bends, or dents.
10.	Hose (4)		Look for cracks, gouges, or worn areas.
11.	All threaded parts		Look for damaged threads or rounded heads.
<b>INSTALLATION</b>			
12. Valve (5)	Bushing (3)		a. Wrap pipe threads with antiseizing tape (page 2-424). b. Screw in and tighten using 1 3/8-inch open-end wrench.
13. Bushing (3)	Elbow (1)		a. Wrap pipe threads with antiseizing tape (page 2-424). b. Screw in and tighten using 1 1/4-inch and 1 3/8-inch open-end wrenches.
14. Elbow (1)	Hose (4)		Screw in and tighten using two 1 1/4-inch open-end wrenches.
15. Pump (6)	Elbow (2)		a. Wrap pipe threads with antiseizing tape (page 2-424). b. Screw in and tighten using two 1 1/4-inch open-end wrenches.
16. Elbow (2)	Hose (4)		Screw in and tighten using two 1 1/4-inch open-end wrenches.
17. Dump body (7)	Lower completely (page 2-424).		
18. Reservoir (8)	Cap (9)		Turn counterclockwise and take off.
19. Filler neck (10) is full.	Fill with lubricating oil until sight glass (11)		

PUMP-TO-VALVE PRESSURE HOSE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
20.	Dump body (7)	a. Raise completely then lower completely (page 2-424).	b. Repeat steps 19 and 20 until sight glass (11) is full.
21. Reservoir (8)	Cap (9) Put in place and turn clockwise to close		



TA244578

TASK ENDS HERE

**RESERVOIR-TO-PUMP SUCTION HOSE AND FITTINGS**

This task covers:

- a. Removal (page 2-1390)
- b. Cleaning (page 2-1392)
- c. Inspection/Replacement (page 2-1392)
- d. Installation (page 2-1393)

**INITIAL SETUP**

**Tools**

- Brush, cleaning
- Container, 6-gallon
- Gloves, safety
- Goggles, safety
- Gun, blow, air
- Hose, air assembly
- Screwdriver, flat-tip, 1/4-inch
- Wrench, pipe, 18-inch (two required)

**Materials/Parts**

- Detergent, liquid, GP (item 7, appendix C)

**Materials/Parts - Continued**

- Solvent, drycleaning (item 19, appendix C)
- Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**References**

LO 5-3805-254-12 (Lubrication Order)

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**

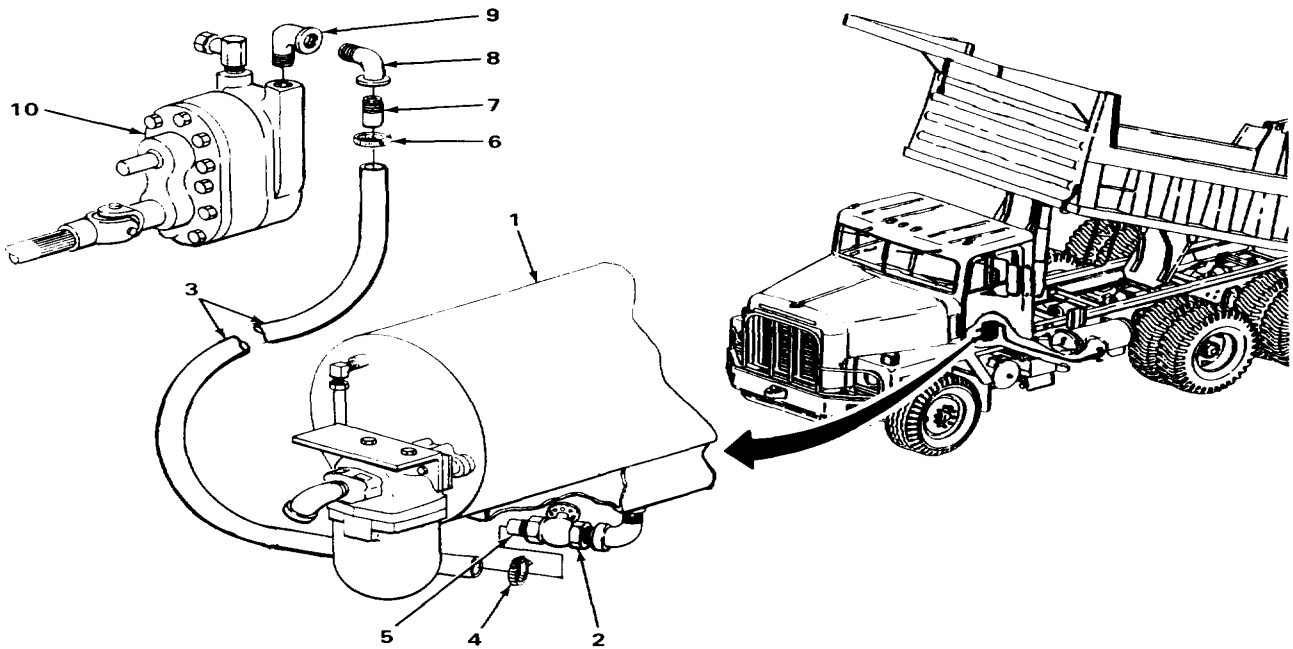
**WARNING**

Do not drain hydraulic oil when hot. Hot oil could burn you.

1. Reservoir (1)	Valve (2)	Turn clockwise to close.	
2. Hose (3)	Clamp (4)	a. Place 6-gallon container underneath. b. Using 1/4-inch flat-tip screwdriver, unscrew and take off.	
3. Nipple (5)	Hose (3)	a. Take off. b. Allow oil to drain. c. Get rid of drained oil.	
4. Hose (3)	Clamp (6)	a. Place 6-gallon container underneath. b. Using 1/4-inch flat-tip screwdriver, unscrew and take off.	

RESERVOIR-TO-PUMP SUCTION HOSE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
5. Nipple (7)	Hose (3)	a. Take off. b. Allow oil to drain. c. Take out.
6. Elbow (8)	Nipple (7)	Using two 18-inch pipe wrenches, unscrew and take out.
7. Elbow (9)	Elbow (8)	Using two 18-inch pipe wrenches, unscrew and take out.
8. Pump (10)	Elbow (9)	a. Using 18-inch pipe wrench, unscrew and take out. b. Allow oil to drain. c. Get rid of drained oil.



TA244579

**RESERVOR-TO-PUMP SUCTION HOSE AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
9. Clamp (11)	Two nuts (12) and	a. Using 7/16-inch box-end wrench, un-

**CLEANING**

**WARNING**

Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and cause damage to equipment. Refer to TM 9-247.

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (590C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

9.	All metal parts	Using drycleaning solvent and cleaning brush, clean thoroughly.
10.	Hose (1)	Using liquid detergent and cleaning brush, clean thoroughly.

**WARNING**

Particles blow by compressed air are hazardous. Make certain the airstream is directed away from user and other personnel in the area. Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa). User must wear safety goggles or face shield to prevent injury to personnel.

11.	All parts	Using blow gun and air hose assembly, blow dry.
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**INSPECTION/REPLACEMENT**

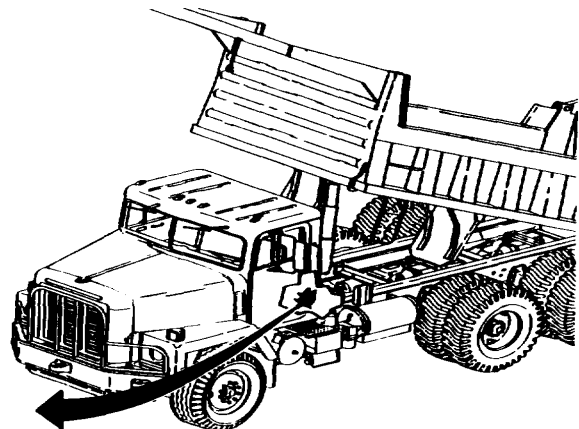
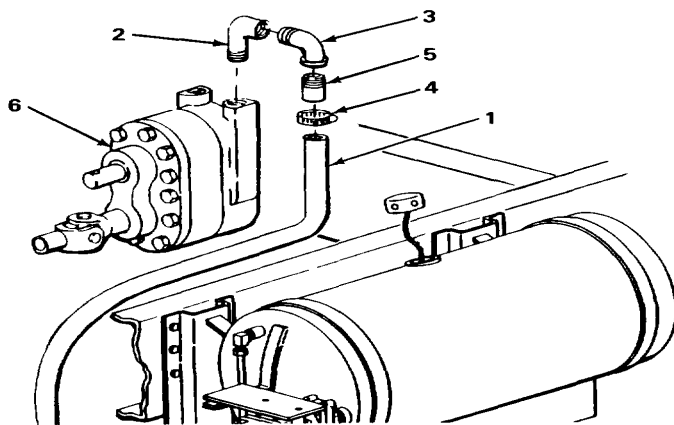
**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

RESERVOR-TO-PUMP SUCTION HOSE AND FITTINGS - CONTINUED

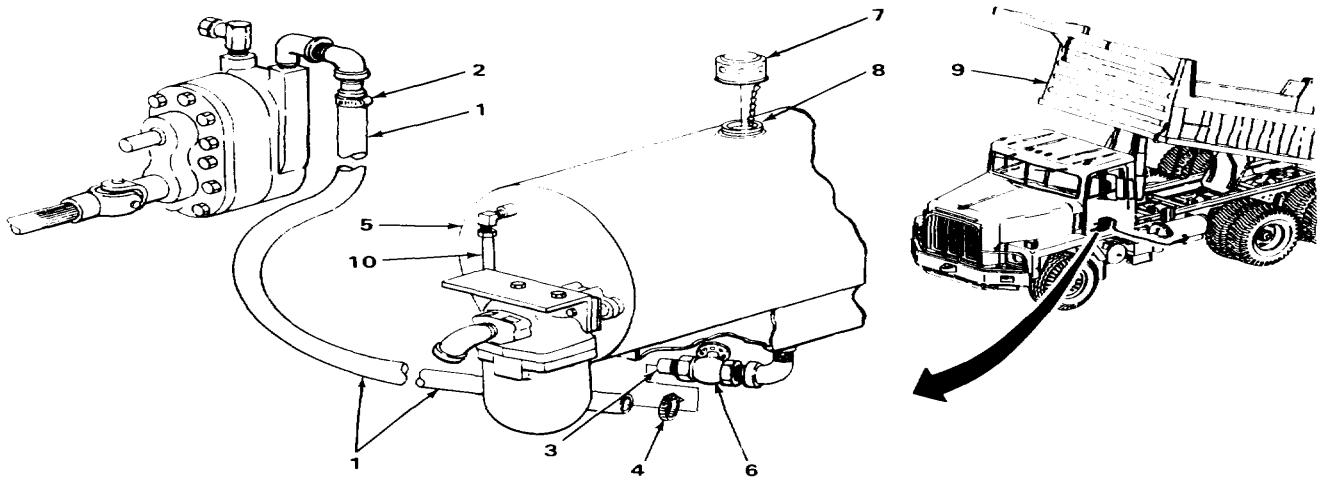
LOCATION	ITEM	ACTION	REMARKS
12.	Two elbows (2 and 3), two clamps (4), and nipple (5)		Look for cracks, dents, or bends.
13.	Hose (1)		Look for cracks, gouges, or worn areas.
14.	All threaded parts		Look for damaged threads or rounded heads.
<b>INSTALLATION</b>			
15. Pump (6)	Elbow (2)	a. Wrap pipe threads with antiseizing tape (page 2-424). b. Screw in and tighten using 18-inch pipe wrench.	
16. Elbow (2)	Elbow (3)	a. Wrap pipe threads with antiseizing tape (page 2-424). b. Screw in and tighten using two 18-inch pipe wrenches.	
17. Elbow (3)	Nipple (5)	a. Wrap pipe threads with antiseizing tape (page 2-424). b. Screw in and tighten using two 18-inch pipe wrenches.	
18. Nipple (5)	Hose (1)		Push on.



TA244580

## RESERVOR-TO-PUMP SUCTION HOSE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION - CONTINUED</b>			
19. Hose (1)	Clamp (2)	a. Put in place. b. Screw on and tighten using 1/4-inch flat-tip screwdriver.	
20. Nipple (3)	Hose (1)	Put on.	
21. Hose (1)	Clamp (4)	a. Put in place. b. Screw on and tighten using 1/4-inch flat-tip screwdriver.	
22. Reservoir (5)	Valve (6)	Turn counterclockwise to open.	
23.	Cap (7)	Turn counterclockwise and take off.	
24.	Filler neck (8)	Fill with lubricating oil (LO 5-3805-254-12) until sight glass (10) is full.	
25.	Dump body (9)	a. Raise completely, then lower completely (page 2-424). b. Repeat steps 24 and 25 until sight glass (10) is full.	
26. Reservoir (5)	Cap (7)	Put in place and turn clockwise.	



TASK ENDS HERE

TA244581



**VALVE-TO-RESERVOIR RETURN HOSE AND FITTINGS**

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This task covers:

- |                           |   |
|---------------------------|---|
| a. Removal (page 2-1396)  | c. Inspection/Replacement (page 2-1398) |
| b. Cleaning (page 2-1396) | d. Installation (page 2-1398)           |
- 

**INITIAL SETUP**

## Tools

Brush, cleaning  
Container, 6-gallon  
Gloves, safety  
Goggles, safety  
Gun, blow, air  
Hose, air assembly  
Wrench, box-end, 1 5/8-inch  
Wrench, open-end, 1 3/8-inch  
Wrench, open-end, 1 1/2-inch

## Materials/Parts

Detergent, liquid, GP (item 7,  
appendix C)  
Oil, lubricating (item 14, appendix C)

## Materials/Parts - Continued

Rags, wiping (item 15, appendix C)  
Solvent, drycleaning (item 19, appendix C)  
Tape, antiseizing (item 22, appendix C)

## Personnel Required

One

## References

LO 5-3805-254-12 (Lubrication Order)

## VALVE-TO-RESERVOIR RETURN HOSE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
9. Clamp (11)	Two nuts (12) and	a. Using 7/16-inch box-end wrench, un-	
<b>REMOVAL</b>			
<b><u>WARNING</u></b>			
Do not drain hydraulic oil when hot. Hot oil could burn you.			
1 Union (1)	Hose (2)	a Place 6-gallon container underneath. b Using 1 3/8-inch and 1 11/2-inch open-end wrenches, unscrew and take out. c Allow oil to drain. d Get rid of drained oil.	
2 Elbow (3)	Hose (2)	Using 1 3/8-inch and 1 1/2-inch open-end wrenches, unscrew and take out.	
3 Bushing (4)	Elbow (3)	Using 1 11/2-inch and 1 5/8-inch box-end wrenches, unscrew and take out.	
4 Valve (5)	Bushing (4)	a Using 1 5/8-inch box-end wrench, unscrew and take out. b Using wiping rag, clean area of excess oil.	

**CLEANING****WARNING**

Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and cause damage to equipment. Refer to TM 9-247.

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 1000F (380C) and for type #2 is 138°F (590C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

VALVE-TO-RESERVOIR RETURN HOSE AND FITTINGS - CONTINUED

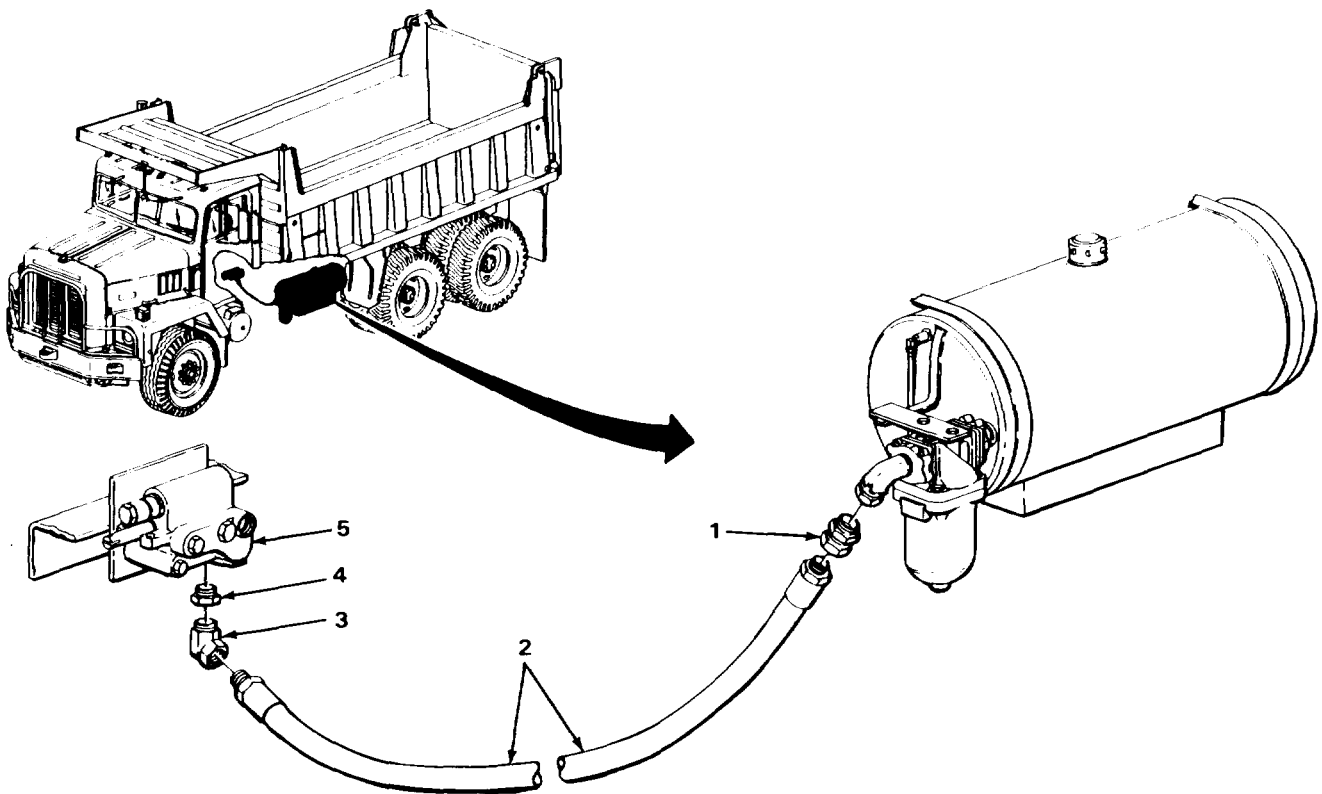
LOCATION	ITEM	ACTION	REMARKS
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9. Clamp (11)	Two nuts (12) and	a. Using 7/16-inch box-end wrench, un-	
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**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

5	Union (1), elbow (3) and bushing (4)	Using drycleaning solvent and cleaning brush, clean thoroughly.
6	Hose (2)	Using liquid detergent, cleaning brush and water, clean thoroughly.



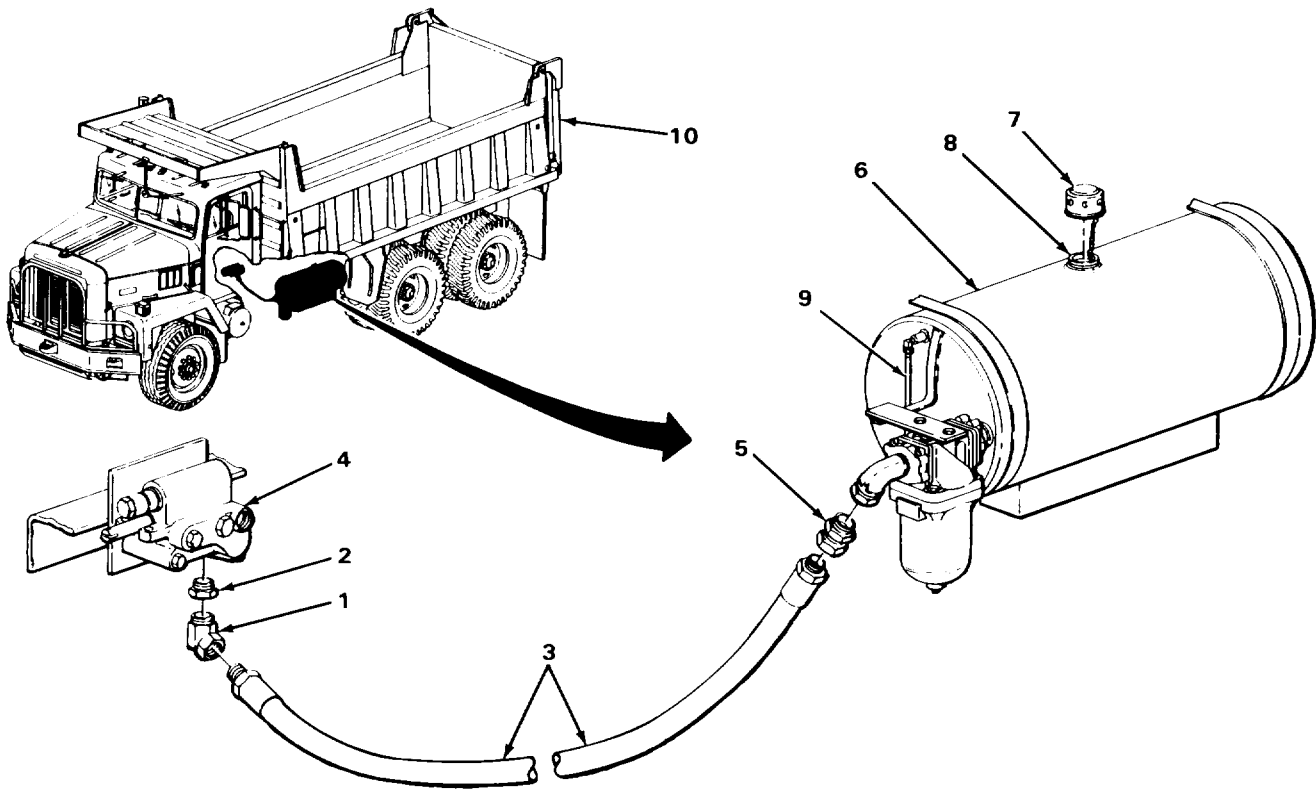
TA244564

## VALVE-TO-RESERVOIR RETURN HOSE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>CLEANING - CONTINUED</b>			
<u><b>WARNING</b></u>			
Particles blown by compressed air are hazardous. Make certain the airstream is directed away from user and other personnel in the area. Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa). User must wear safety goggles or face shield to prevent injury to personnel.			
7	All parts		Using blow gun and air hose assembly, blow dry.
<b>INSPECTION/REPLACEMENT</b>			
<b>NOTE</b>			
Replace all damaged or defective parts.			
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).			
8	Elbow (1) and		Look for cracks, bends, or dents. bushing (2)
9	Hose (3)		Look for cracks, gouges, or worn areas.
10	All threaded parts		Look for damaged threads or rounded heads.
<b>INSTALLATION</b>			
11	Valve (4)	Bushing (2)	a Wrap pipe threads with antiseizing tape (page 2-424). b Screw in and tighten using 1 5/8-inch box-end wrench.
12	Bushing (2)	Elbow (1)	a Wrap pipe threads with antiseizing tape (page 2-424). b Screw in and tighten using 1 1/2-inch and 1 5/8-inch open-end wrenches.
13	Elbow (1)	Hose (3)	a Wrap pipe threads with antiseizing tape (page 2-424). b Screw in and tighten using 1 3/8-inch and 1 1/2-inch open-end wrenches.

VALVE-TO-RESERVOIR RETURN HOSE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
14 Union (5)	Hose (3)	Screw in and tighten using 1 3/8-inch and 1 1/2-inch open-end wrenches.
15 Reservoir (6)	Cap (7)	Turn counterclockwise and take off.
16	Filler neck (8)	Fill with lubricating oil until sight glass (9) is full.
17	Dump body (10)	a Raise completely than lower completely (page 2-424). b Repeat steps 16 and 17 until sight glass (9) is full.
18 Reservoir (6)	Cap (7)	Put in place and turn clockwise.



TASK ENDS HERE

**VALVE-TO-CYLINDER PRESSURE HOSE AND FITTINGS**

This task covers:

- a Removal (page 2-1400)
- b Cleaning (page 2-1403)
- c Inspection/Replacement (page 2-1404)
- d Installation (page 2-1404)

**INITIAL SETUP**

Tools

- Brush, cleaning
- Container, 6-gallon
- Gloves, safety
- Goggles, safety
- Gun, blow, air
- Hose, air assembly
- Wrench, box-end, 1 3/8-inch
- Wrench, open-end, 1 1/2-inch
- Wrench, pipe, 18-inch

Materials/Parts

- Detergent, liquid, GP (item 7, appendix C)
- Oil, lubricating, OEIHDO/30 (item 14, appendix C)
- Solvent, drycleaning (item 19, appendix C)

Materials/Parts - Continued

Tape, antiseizing (item 22, appendix C)

Personnel Required

One

Equipment Condition

Dump body raised and secured (page 2-424).

References

LO 53805-254-12 (Lubrication Order)

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**

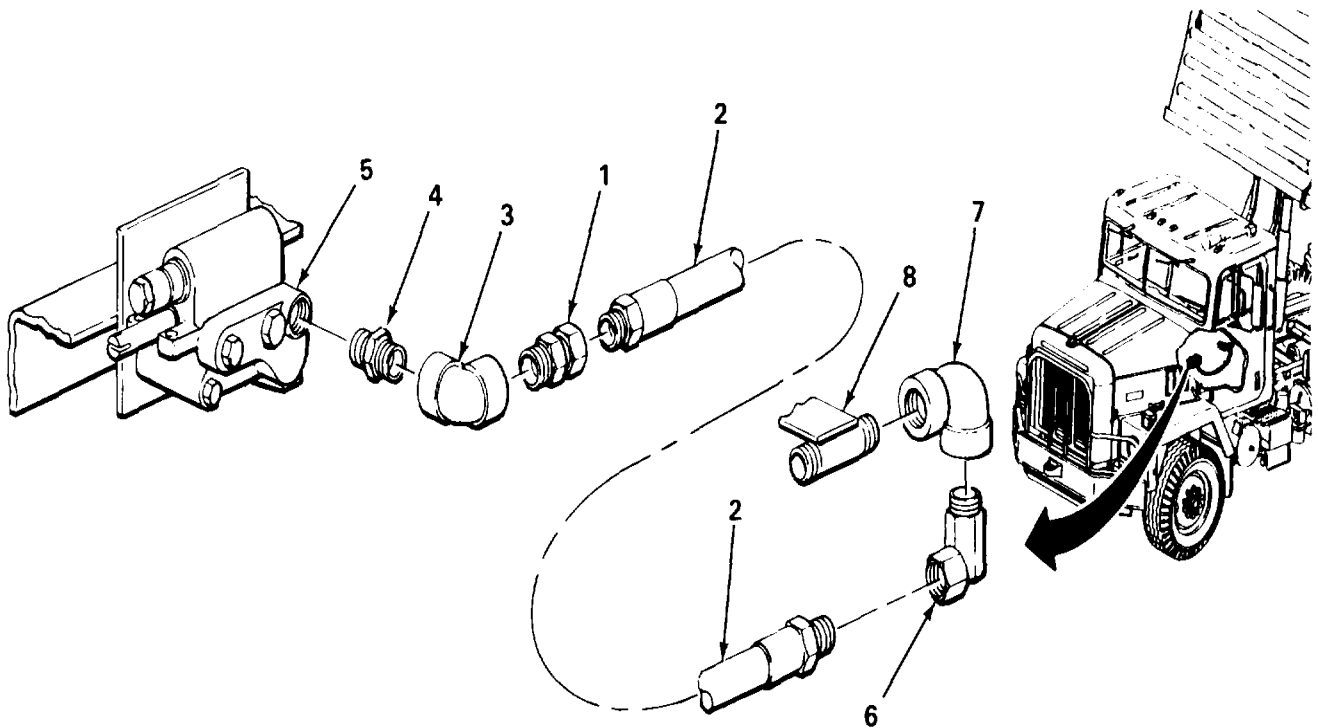
**WARNING**

Do not drain hot hydraulic oil      Hot oil could burn you.

1	Union (1)	Hose (2)	<ul style="list-style-type: none"> <li>a Place 6-gallon container underneath.</li> <li>b Using 1 3/8-inch and 1 1/2-inch open-end wrenches, unscrew and take out.</li> <li>c Allow oil to drain.</li> <li>d Get rid of drained oil (page 2-424).</li> </ul>
2	Elbow (3)	Union (1)	Using 1 1/2-inch open-end wrench and 18-inch pipe wrench, unscrew and take out.

VALVE-TO-CYLINDER PRESSURE HOSE AND FITTINGS - CONTINUED

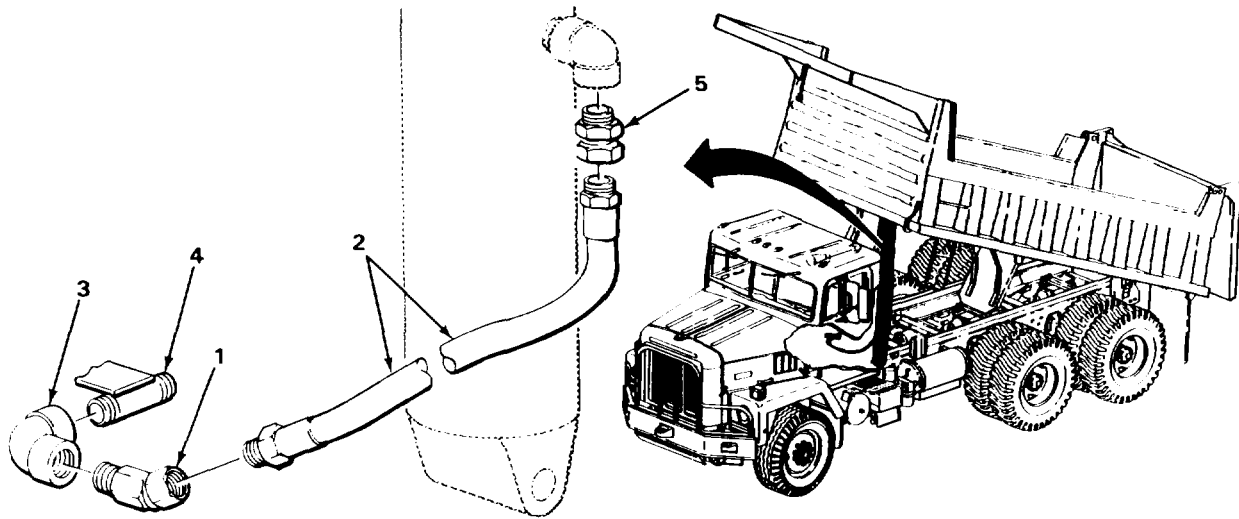
LOCATION	ITEM	ACTION	REMARKS
3 Fitting (4)	Elbow (3)	Using 1 3/8-inch open-end wrench and 18-inch pipe wrench, unscrew and take out.	
4 Valve (5)	Fitting (4)	Using 1 3/8-inch open-end wrench, unscrew and take out.	
5 Elbow (6)	Hose (2)	Using 1 3/8-inch and 1 1/2-inch open-end wrenches, unscrew and take out.	
6 Elbow (7)	Elbow (6)	Using 1 1/2-inch open-end wrench and 18-inch pipe wrench, unscrew and take out.	
7 Nipple (8)	Elbow (7)	Using 18-inch pipe wrench, unscrew and take out.	



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VALVE-TO-CYLINDER PRESSURE HOSE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL - CONTINUED</b>			
8 Elbow (1)	Hose (2)		Using 1 3/8-inch and 1 1/2-inch open-end wrenches, unscrew and take out.
9 Elbow (3)	Elbow (1)		Using 1 1/2-inch open-end wrench and 18-inch pipe wrench, unscrew and take out.
10 Nipple (4)	Elbow (3)		Using 18-inch pipe wrench, unscrew and take out.
11 Union (5)	Hose (2)		Using 1 3/8-inch and 1 1/2-inch open-end wrenches, unscrew and take out.



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VALVE-TO-CYLINDER PRESSURE HOSE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
9. Clamp (11)	Two nuts (12) and	a. Using 7/16-inch box-end wrench, un-

CLEANING

**WARNING**

Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and cause damage to equipment. Refer to TM 9-247.

**WARNING**

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective safety goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flashpoint for type #1 drycleaning solvent is 100°F (380C) and for type #2 is 138°F (590C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, flush your eyes with water and get medical aid immediately.

**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

12	All metal parts	Using drycleaning solvent and cleaning brush, clean thoroughly.
13	Two rubber hoses	Using liquid detergent, water, and cleaning brush, clean thoroughly.

**WARNING**

Particles blown by compressed are hazardous Make certain the airstream is directed away from user and other personnel in the area Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa) User must wear safety goggles or face shield to prevent injury to personnel.

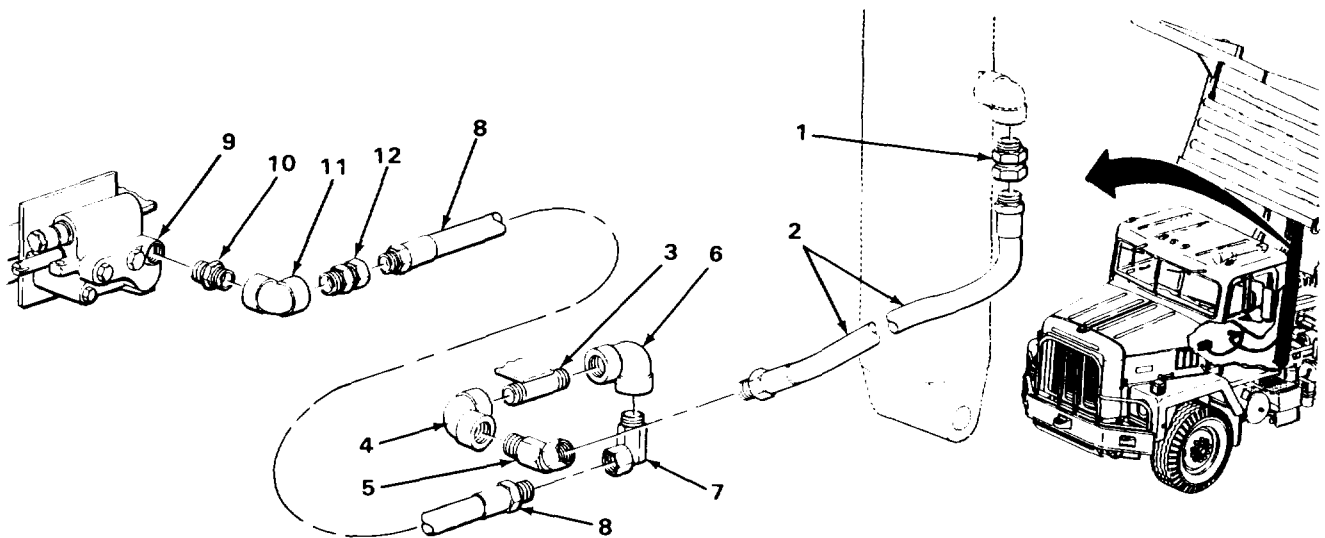
14	All parts	Using blow gun and air hose assembly, blow dry.
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## VALVE-TO-CYLINDER PRESSURE HOSE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION/REPLACEMENT</b>			
<b>NOTE</b>			
Replaced all damaged or defective parts.			
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).			
15	All metal parts		Look for cracks, bends or dents.
16	Two rubber hoses		Look for cracks, gouges or worn areas.
17	All threaded parts		Look for damaged threads or rounded heads.
<b>INSTALLATION</b>			
<b><u>CAUTION</u></b>			
Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.			
<b>NOTE</b>			
For more information on how to use antiseizing tape, go to General Maintenance Instructions.			
18 Union (1)	Hose (2)	a	Wrap pipe threads with antiseizing tape (page 2-424).
		b	Screw in and tighten using 1 3/8-inch and 1 1/2-inch open-end wrenches.
19 Nipple (3)	Elbow (4)		Screw in and tighten using 18-inch pipe wrench.
20 Elbow (4)	Elbow (5)	a	Wrap pipe threads with antiseizing tape (page 2-424).
		b	Screw in and tighten using 1 1/2-inch open-end wrench and 18-inch pipe wrench.
21 Elbow (5)	Hose (2)	a	Wrap pipe thread with antiseizing tape (page 2-424).
		b	Screw in and tighten using 1 3/8-inch and 1 1/2-inch open-end wrenches.
22 Nipple (3)	Elbow (6)		Screw in and tighten using 18-inch pipe wrench.

VALVE-TO-CYLINDER PRESSURE HOSE AND FITTINGS - CONTINUED

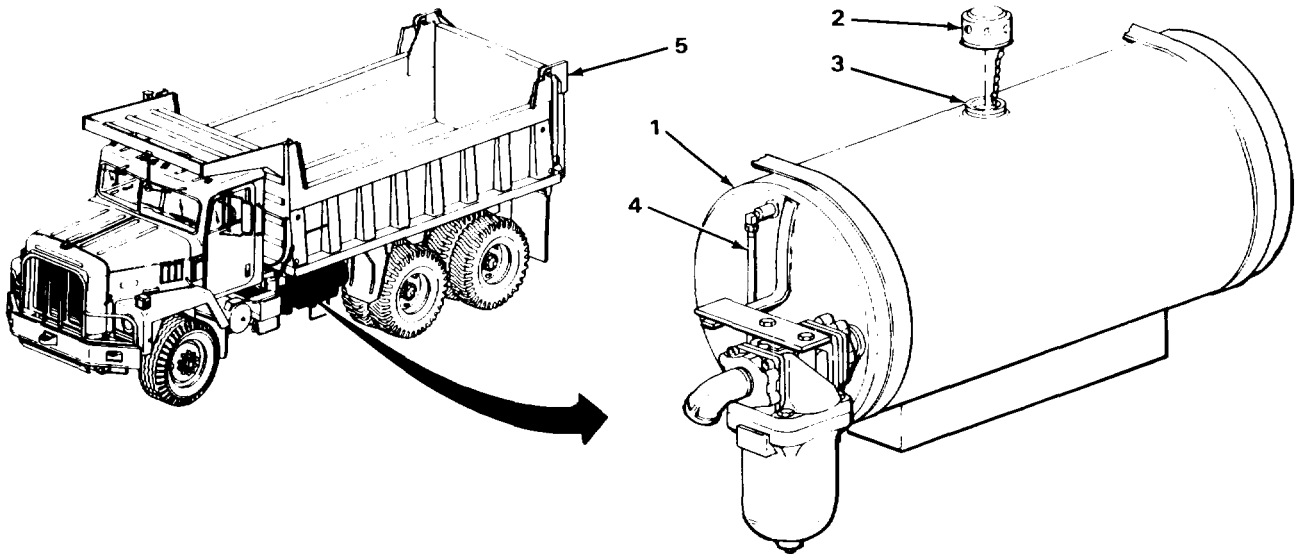
LOCATION	ITEM	ACTION REMARKS
23 Elbow (6)	Elbow (7)	a Wrap pipe threads with antiseizing tape. b Screw in and tighten using 1 1/2-inch open-end wrench and 18-inch pipe wrench.
24 Elbow (7)	Hose (8)	a Wrap pipe threads with antiseizing tape b Screw in and tighten using 1 3/8-inch and 1 1/2-inch open-end wrenches. 25 Valve (9) Fitting (10) a Wrap pipe threads with antiseizing tape. b Screw in and tighten using 1 3/8-inch box-end wrench.
26 Fitting (10)	Elbow (11)	Screw in and tighten using 1 3/8-inch open-end wrench and 18-inch pipe wrench.
27 Elbow (11)	Union (12)	a Wrap pipe threads with antiseizing tape. b Screw in and tighten using 1 1/2-inch open-end wrench and 18-inch pipe wrench.
28 Union (12)	Hose (8)	a Wrap pipe threads with antiseizing tape. b Screw in and tighten using 1 3/8-inch and 1 1/2-inch open-end wrenches.



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VALVE-TO-CYLINDER PRESSURE HOSE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION - CONTINUED</b>			
29 Dump body	Lower (page 2-424).		
30 Reservoir (1)	Cap (2)	Turn counterclockwise and take off.	
31	Filler neck (3)		Fill with lubricating oil until sight glass (4) is full.
32	Dump body (5)	a Raise completely then lower completely (page 2-424). b Repeat steps 31 and 32 until sight glass (4) is full.	
33 Reservoir (1)	Cap (2)	Put in place and turn clockwise.	



2-1406/(2-1407 blank)

TA244587

**Section XXI. GAGES (NONELECTRICAL), WEIGHING AND MEASURING DEVICE MAINTENANCE**

Page	Page
Air Cleaner Vacuum Gage .....2-1466	Speedometer.....2-1408
Air Cleaner Vacuum Gage Line and.....	Speedometer Drive Cable.....2-1414
Fittings.....2-1481	Tachometer .....2-1411
Air Pressure Gage.....2-1478	Tachometer Drive Cable .....2-1420
Air Pressure Gage Line and.....	Transmission Oil Pressure
Fittings.....2-1490	Gage.....2-1447
Engine Oil Pressure Gage.....2-1426	Transmission Oil Pressure Gage
Engine Oil Pressure Gage Line.....	Line and Fittings.....2-1450
and Fittings.....2-1429	Water Temperature Gage and
Fuel Pressure Gage .....2-1475	Line.....2-1469

**SPEEDOMETER**

This task covers:

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>a Removal (page 2-1408)</li> <li>b Inspection/Replacement (page 2-1410)</li> </ul> | <ul style="list-style-type: none"> <li>c Installation (page 2-1410)</li> </ul> |
|---|--|

**INITIAL SETUP**

Tools

- Wrench, open-end, 3/8-inch
- Wrench, open-end, 3/4-inch

Materials/Parts

- Lockwasher, mounting bracket (two required)

Personnel Required

One

Equipment Condition

- Lower center instrument panel opened (page 2-424).
- Left side cab door opened (page 2-424).

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**

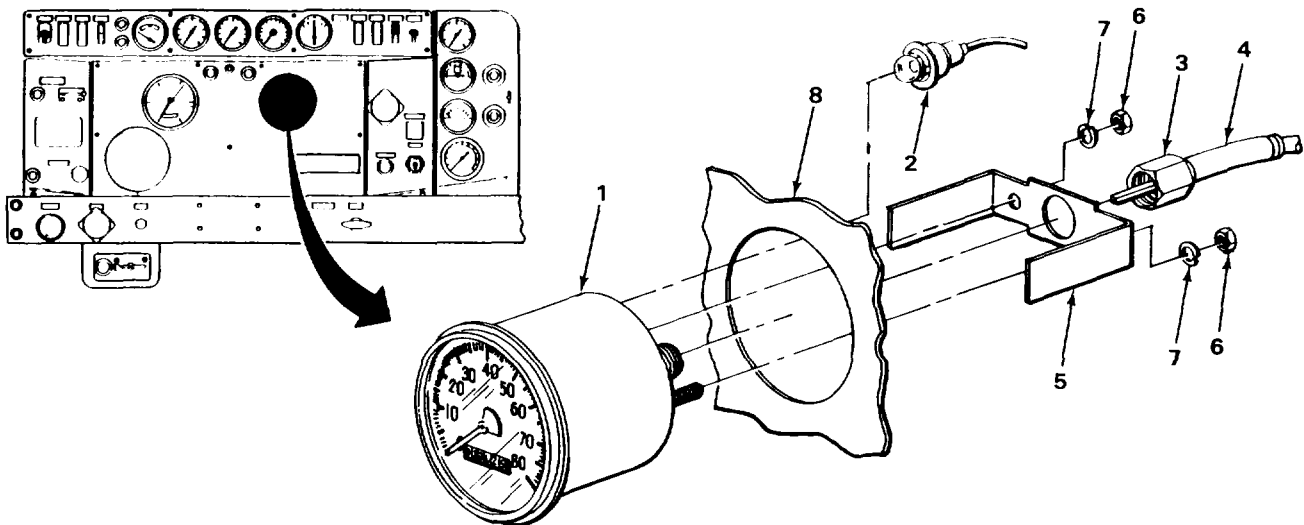
**CAUTION**

Use care when working behind lower center instrument panel to prevent breaking or disconnecting wires.

1 Speedometer (1)	Light socket (2)	Pull out.
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**SPEEDOMETER - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
2	Cable retainer nut (3)	Using 3/4-inch open-end wrench, unscrew and slide back.	
3	Speedometer drive cable (4)	Pull out.	
<b>NOTE</b>			
Hold speedometer against lower center instrument panel when performing steps 4 and 5.			
4	Mounting bracket (5)	Two nuts (6) and two lockwashers (7)	a Using 3/8-inch open-end wrench, unscrew and take off. b Get rid of lockwashers.
5	Speedometer (1)	Mounting bracket (5)	Take off.
6	Lower center instrument panel (8)	Speedometer (1)	Take out.



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**SPEEDOMETER - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
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**INSPECTION/REPLACEMENT**

**NOTE**

Replace all damaged or defective parts.

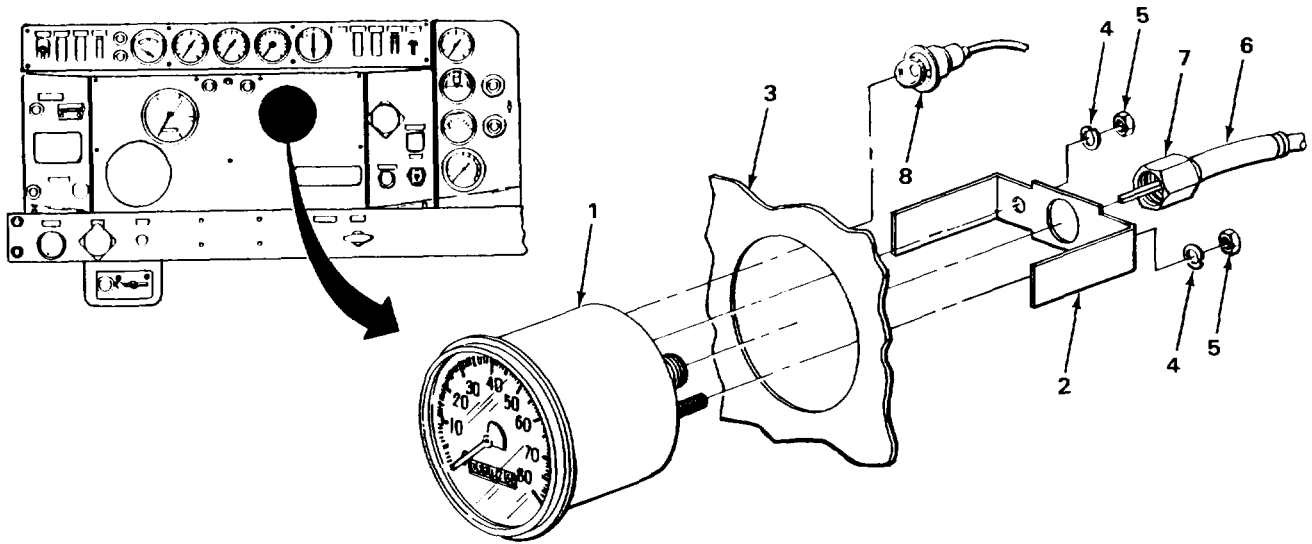
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

7	Speedometer (1)	<ul style="list-style-type: none"> <li>a Look for cracks, dents, or damaged threads.</li> <li>b Check to see if gage is readable.</li> </ul>	
8	Mounting bracket (2)	Look for cracks, bends, or breaks.	

**INSTALLATION**

9	Lower center instrument panel (3) Speedometer (1)	Put in and hold. <b>Position as shown.</b>	
10	Speedometer (1) Mounting bracket (2)	Put on.	
11	Mounting bracket (2) Two new lockwashers (4) and two nuts (5)	Screw on and tighten using 3/8-inch open-end wrench.	
12	Speedometer (1) Speedometer drive cable (6)	Put in. <b>Aline square end of drive tip with square hole of speedometer.</b>	
13	Cable retainer nut (7)	Screw on and tighten using 3/4-inch open-end wrench.	
14	Light socket (8)	Push in.	

**SPEEDOMETER - CONTINUED**



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Close lower center instrument panel (page 2-424).
2. Close side left cab door (page 2-424).

**TASK ENDS HERE**

**TACHOMETER**

This task covers:

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>a Removal (page 2-1412)</li> <li>b Inspection/Replacement (page 2-1412)</li> </ul> | <ul style="list-style-type: none"> <li>c Installation (page 2-1413)</li> </ul> |
|---|--|

**INITIAL SETUP**

**Tools**

- Wrench, open-end, 3/8-inch
- Wrench, open-end, 3/4-inch

**Materials/Parts**

- Lockwasher, mounting bracket  
(two required)

**Personnel Required**

One

**Equipment Condition**

- Lower center instrument panel opened  
(page 2-424).
- Left side cab door opened (page 2-424).



TACHOMETER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

**CAUTION**

Use care when working behind lower center instrument panel to prevent breaking or disconnecting wires.

1	Tachometer (1)	Light socket (2)	Pull out.
2		Cable retainer nut (3)	Using 3/4-inch open-end wrench, unscrew and slide back.
3		Tachometer drive cable (4)	Pull out.

**NOTE**

Hold tachometer against lower center instrument panel when performing steps 4 and 5.

4	Mounting bracket (5)	Two nuts (6) and two lockwashers (7)	a Using 3/8-inch open-end wrench, unscrew and take off. b Get rid of lockwashers.
5	Tachometer (1)	Mounting bracket (5)	Take off.
6	Lower center instrument panel (8)	Tachometer (1)	Take out.

INSPECTION/REPLACEMENT

**NOTE**

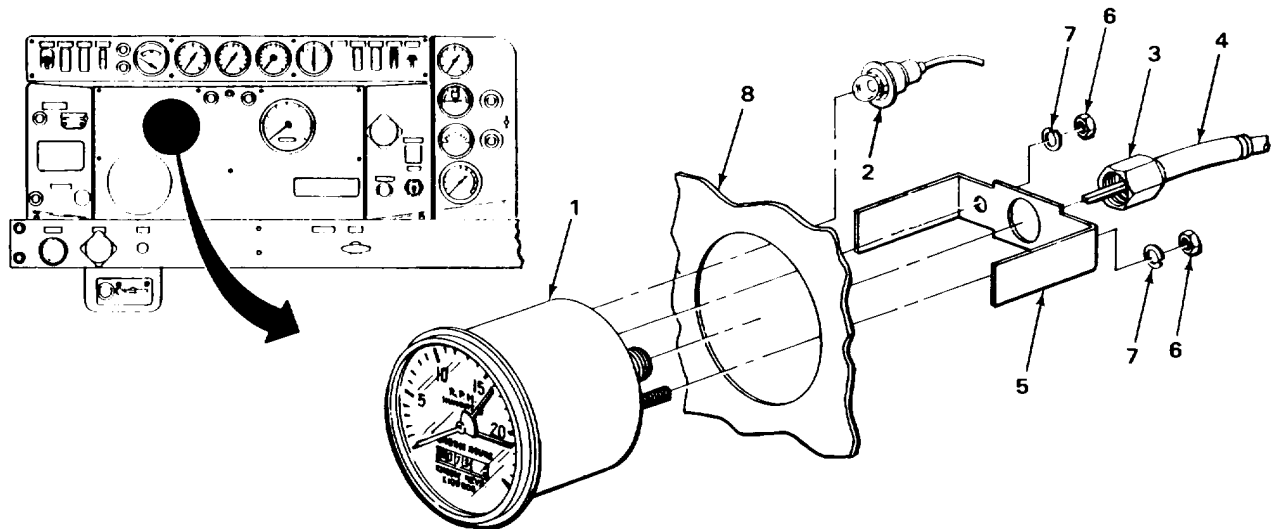
Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

7		Tachometer (1)	a Look for cracks, dents, or damaged threads. b Check to see if gage is readable.
8		Mounting bracket (5)	Look for cracks, bends, or breaks.

TACHOMETER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
9 Lower center instrument panel (8)	Tachometer (1)	Put in and hold.	<b>Position as shown.</b>
10 Tachometer (1)	Mounting bracket (5)	Put on.	
11 Mounting bracket (5)	Two new lockwashers (7) and two nuts (6)	Screw on and tighten using 3/8-inch open-end wrench.	
12 Tachometer (1)	Tachometer drive cable (4)	Put in.	<b>Align square end of cable with square hole of tachometer.</b>
13	Cable retainer nut (3)	Screw on and tighten using 3/4-inch open-end wrench.	
14	Light socket (2)	Push in.	



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Close lower center instrument panel (page 2-424)
2. Close left side cab door (page 2-424).

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TASK ENDS HERE

**SPEEDOMETER DRIVE CABLE**

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This task covers:

- a Removal (page 2-1414)
  - b Inspection/Replacement (page 2-1416)
  - c Installation (page 2-1416)
- 

**INITIAL SETUP**

Tools

- Wrench, box-end, 7/16-inch (two required)
- Wrench, open-end, 3/4-inch
- Wrench, open-end, 1-inch
- Left side cab door opened (page 2-424).

Materials/Parts

- Lockwasher, left frame rail (two required)
- Lockwasher, engine side of firewall
- Rags, wiping (item 15, appendix C)

Personnel Required

One

Equipment Condition

- Lower center instrument panel opened (page 2-424).
  - Left side hood panel opened (page 2-424).
  - Air cleaner housing removed (page 2-452).
- 

LOCATION	ITEM	ACTION	REMARKS
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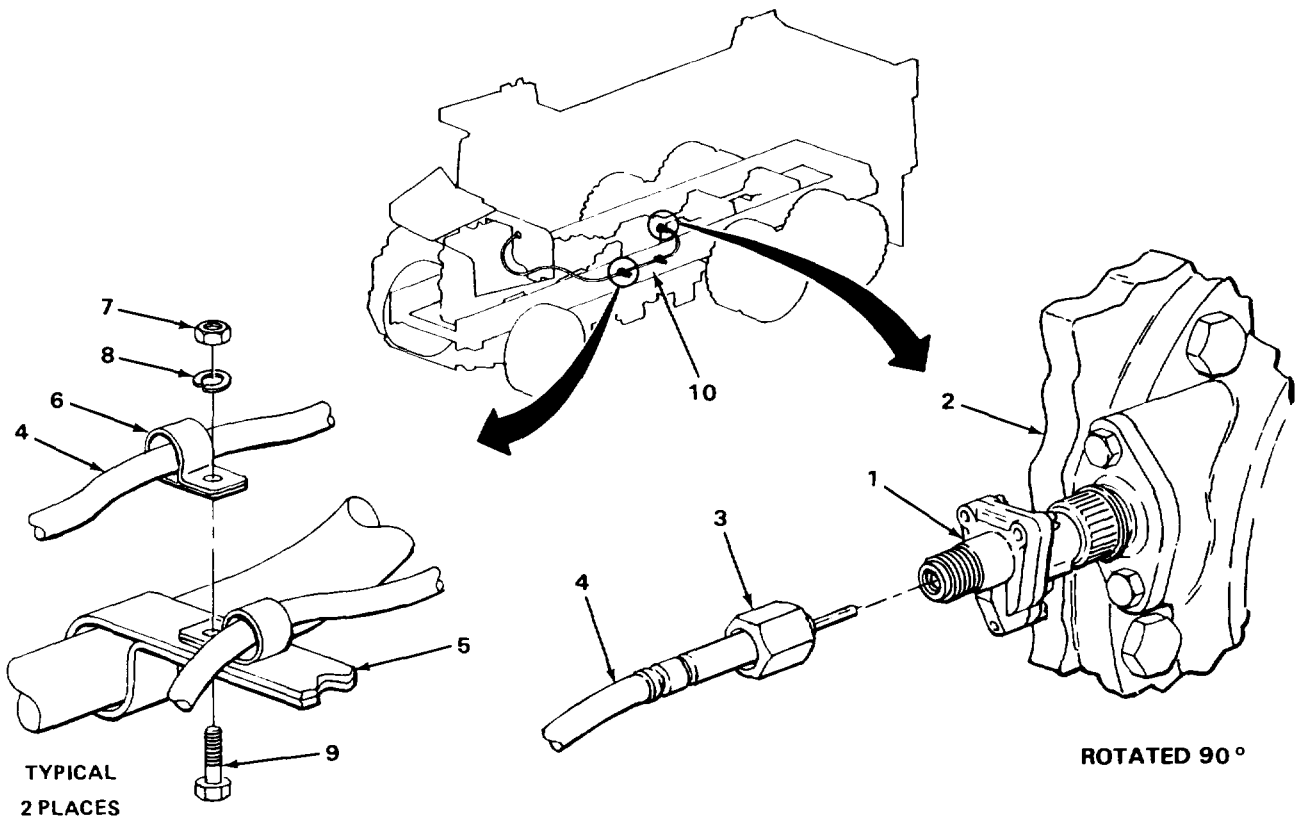
**REMOVAL**

1. Adapter (1) on auxiliary	Cable retainer nut (3) transmission (2)	a Using wiping rag, wipe clean. b Holding adapter and using 1-inch open-end wrench, unscrew and slide back.	
2.	Speedometer drive cable (4)	Pull out.	
3. Two extensions (5)	Two clips (6), two nuts (7), two lockwashers (8), and two screws (9)	a Using two 7/16-inch box-end wrenches, unscrew and take out. b Get rid of lockwashers.	
4. Speedometer drive cable (4)	Two clips (6)	Take off.	

SPEEDOMETER DRIVE CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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5. Left frame rail (10)	Speedometer drive cable (4)	Push up over automatic transmission harness.	<b>Make sure automatic transmission harness is clear of speedometer drive cable.</b>
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**CAUTION**

Use care when working behind lower center instrument panel to prevent breaking or disconnecting wires.

TA244591

**SPEEDOMETER DRIVE CABLE - CONTINUED**

<b>LOCATION</b>	<b>ITEM</b>	<b>ACTION</b>	<b>REMARKS</b>
<b>REMOVAL - CONTINUED</b>			
6	Speedometer (1) Cable retainer nut (2)	Using 3/4-inch open-end wrench, unscrew and slide back.	
7	Speedometer drive cable (3)	Pull out.	
8	Engine side of firewall (4) Grommet (5)	Take out.	
9	Speedometer drive cable (3)	Pull through.	
10	Extension (6) Clip (7), nut (8), lockwasher (9), and screw (10)	a Using two 7/16-inch box-end wrenches, unscrew and take out. b Get rid of lockwasher.	
11	Engine side of firewall (4) Speedometer drive cable (3)	Take out.	
12	Speedometer drive cable (3) Clip (7)	Take off.	

**INSPECTION/REPLACEMENT****NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instruction (page 2-424).

13	Speedometer drive cable (3)	Look for worn cable covering.	
14	Cable drive tip ends (11)	Look for rounded drive tip ends.	
15	Cable retainer nut (2)	Look for damaged threads or rounded heads.	
<b>INSTALLATION</b>			
16	Engine side of firewall (4) Speedometer drive cable (3)	Put small end through speedometer drive cable hole.	

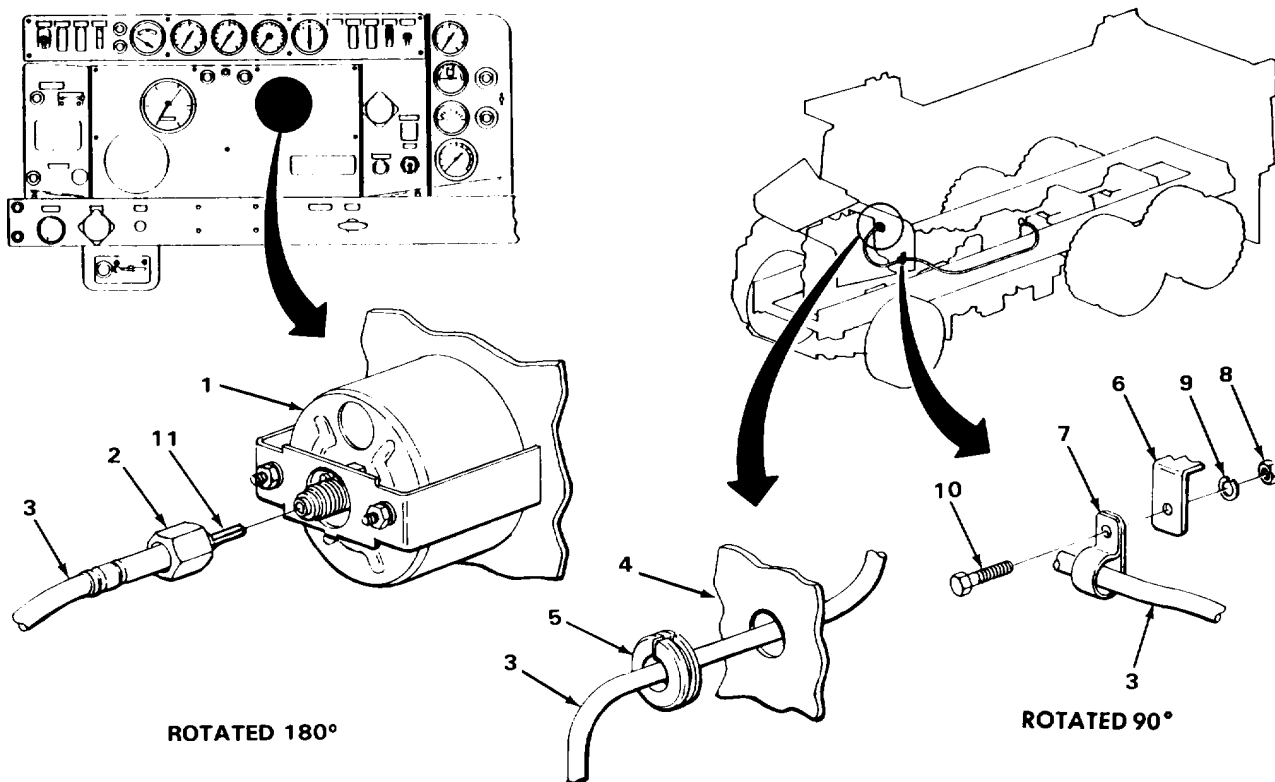
**SPEEDOMETER DRIVE CABLE - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
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**CAUTION**

Use care when working behind lower center instrument panel to prevent breaking or disconnecting wires.

17 Speedometer (1)	Speedometer drive cable (3)	Put in.	<b>Align square end of drive tip (11) with square hole of speedometer.</b>
18	Cable retainer nut (2)	Screw on and tighten using 3/4-inch open-end wrench.	
19 Engine side of firewall (4-	Grommet (5)	Put in.	

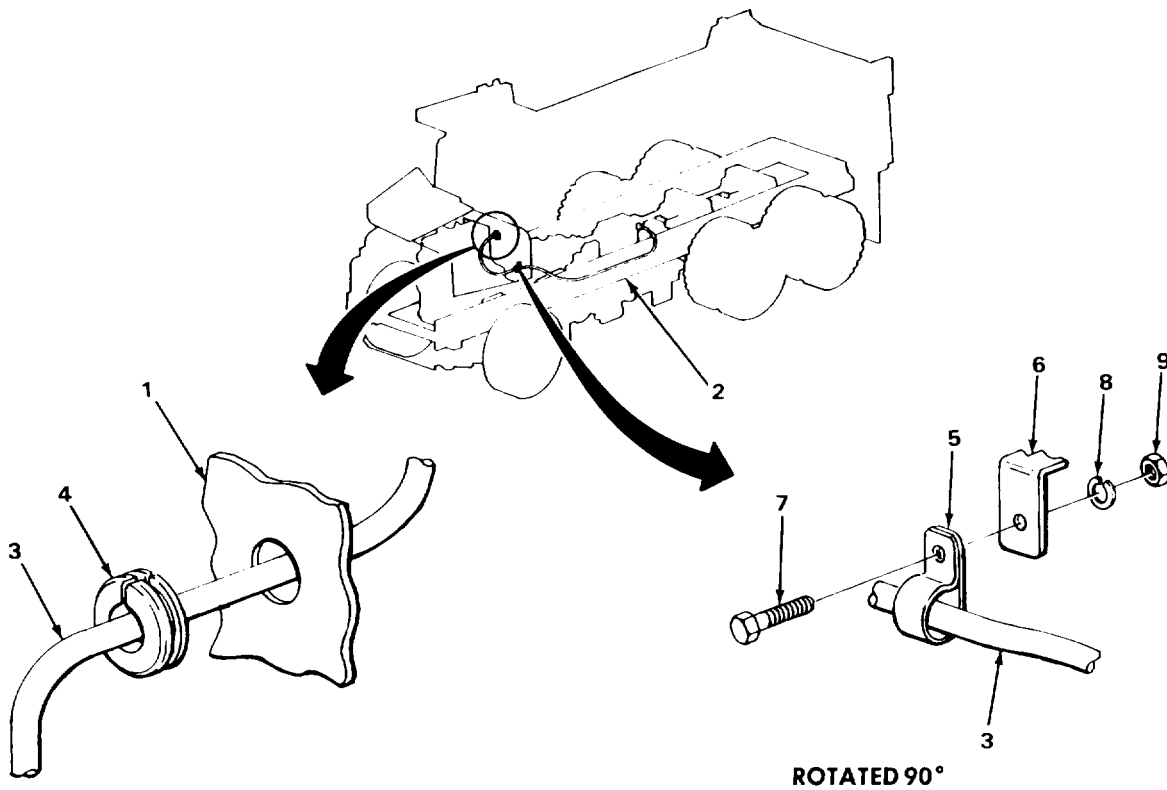


**SPEEDOMETER DRIVE CABLE - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
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**INSTALLATION - CONTINUED**

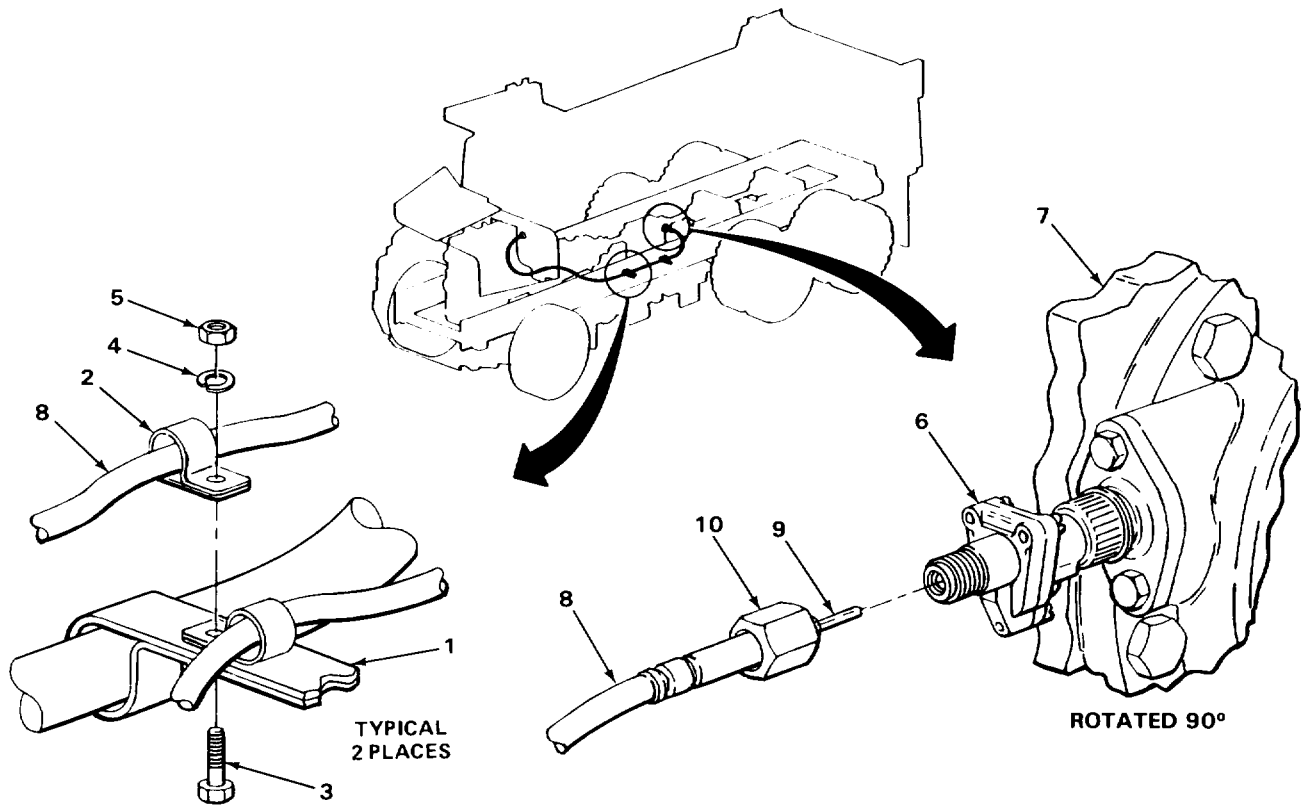
- |  |  |  |  |
|--|--|--|--|
| 20 Engine side of firewall (1) and left frame rail (2) | Speedometer drive cable (3) and grommet (4)          | Push down.   |  |
| 21 Speedometer drive cable (3)                         | Clip (5)   | Put on.  |  |
| 22 Extension (6)                                       | Clip (5), screw (7), new lockwasher (8), and nut (9) | Screw in and tighten using two 7/16-inch box-end wrenches. |  |



- |                                 |               |         |  |
|---------------------------------|---------------|---------|--|
| 23. Speedometer drive cable (3) | Two clips (4) | Put on. |  |
|---------------------------------|---------------|---------|--|

**SPEEDOMETER DRIVE CABLE - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
24. Extension (1)	Two clips (2), two screws (3), two new lockwashers (4), and two nuts (5)	Screw in and tighten using two 7/16-inch box-end wrenches.	
25. Adapter (6) on auxiliary transmission (7)	Speedometer drive cable (8)	Put in. <b>Align square end of drive tip (9) with square hole of adapter.</b>	
26. Cable retainer nut (10)	Holding adapter, screw on and tighten using 1-inch open-end wrench.		



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Close lower center instrument panel (page 2-424).
2. Close left side cab door (page 2-424).
3. Close left side hood panel (page 2-424).
4. Install air cleaner housing panel (page 2-452).

**TASK ENDS HERE**



**TACHOMETER DRIVE CABLE**

---

This task covers:

- a. Removal (page 2-1420)
  - b. Inspection/Replacement (page 2-1422)
  - c. Installation (page 2-1422)
  -
- 

**INITIAL SETUP**

Tools

- Pliers, diagonal-cutting, 6-inch
- Screwdriver, cross-tip, number two
- Wrench, open-end, 3/4-inch
- Wrench, open-end, 1-inch

Materials/Parts

- Adhesive, liquid rubber (item 1, appendix C)
- Lockwasher (two required)
- Strap, tiedown (item 20, appendix C)
- Tape, pressure-sensitive (item 22, appendix C)

Personnel Required

One

Equipment Condition

- Lower center instrument panel opened (page 2-424).
  - Left side hood panel opened (page 2-424).
  - Left side cab door opened (page 2-424).
- 

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**

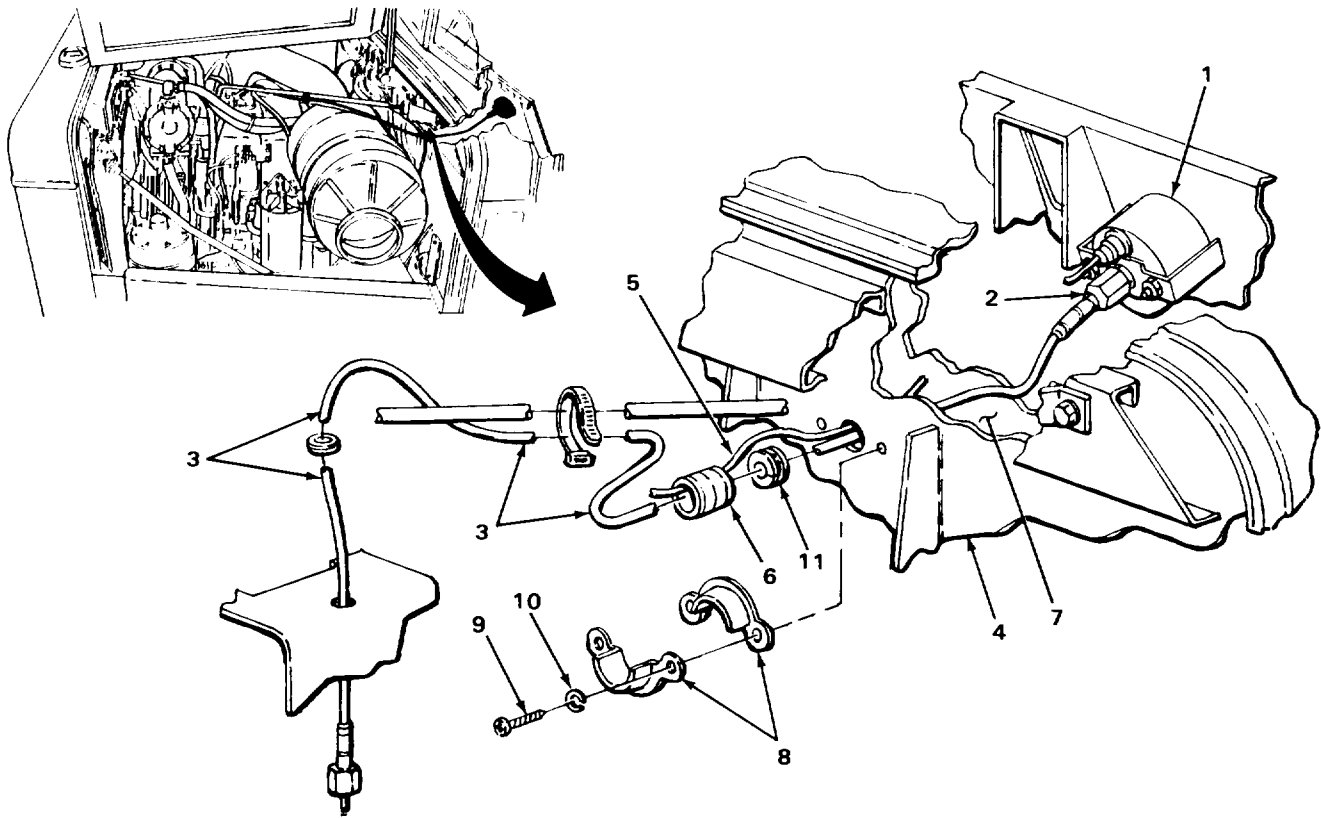
**CAUTION**

Use care when working behind lower center instrument panel to prevent breaking or disconnecting wires.

1	Tachometer (1) Cable retainer nut (2)	Using 3/4-inch open-end wrench, unscrew and slide back.	
2	Tachometer drive cable (3)	Pull out.	
3	Engine side of fire-wall (4), tachometer drive cable (3), and windshield wiper exhaust hose (5) Pressure-sensitive tape (6)	a Take off. b Get rid of.	

TACHOMETER DRIVE CABLE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
4 Engine side of firewall (4)	Insulation (7)	Pull back. <b>Screws are behind Insulation.</b>
5	Grommet retainer halves (8), two screws (9), and two lockwashers (10)	a Using number two cross-tip screw-driver, unscrew and take out. b Get rid of lockwashers.
6	Grommet (11)	Take out.
7 R	Tachometer drive	Pull through.



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## TACHOMETER DRIVE CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL - CONTINUED</b>			
8	Left radiator stabilizer rod (1) and tachometer drive cable (2)	Electrical tiedown strap (3)	a Using 6-inch diagonal-cutting pliers, cut off. b Get rid of strap.
9	Fuel filter bracket (4)	Grommet (5)	Take out.
10	Tachometer drive housing (6)	Cable retainer nut (7)	Using 1-inch open-end wrench, unscrew and slide back.
11		Tachometer drive cable (2)	Pull out.
12	Fuel filter bracket (4)	Tachometer drive cable (2)	Take out.

**INSPECTION/REPLACEMENT****NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

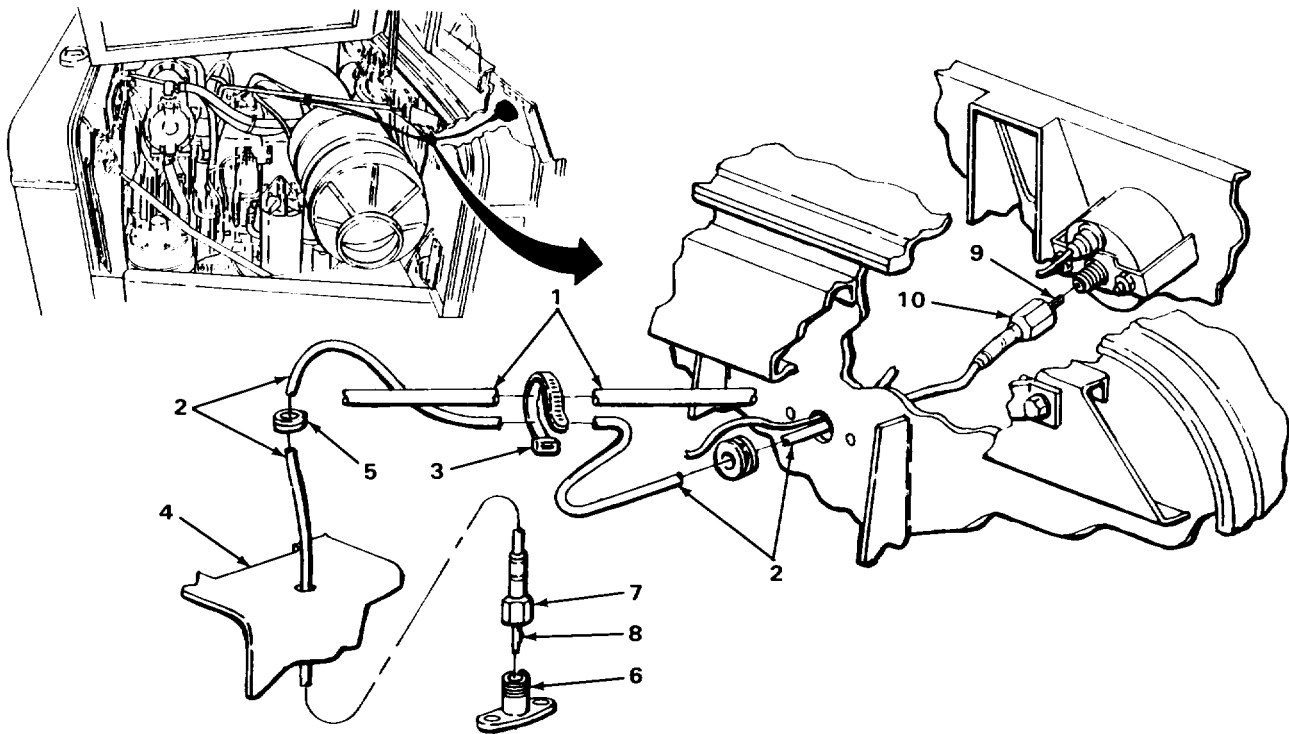
13		Tachometer drive cable (2)	Look for worn cable covering.
14		Cable drive tip ends (8 and 9)	Look for rounded drive tip ends.
15		Cable retainer nuts (7 and 10)	Look for damaged threads or rounded heads.

**INSTALLATION**

16	Fuel filter bracket (4)	Tachometer drive cable (2)	Put large end through grommet hole.
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TACHOMETER DRIVE CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
17 Tachometer drive housing (6)	Tachometer drive cable (2)	Put in.	<b>Align tongue of cable drive tip end (8) with slot of tachometer drive housing.</b>
18	Cable retainer nut (7)	Screw on and tighten using 1-inch open-end wrench.	
19 Fuel filter bracket (4) and tachometer drive cable (2)	Grommet (5)	Put in.	



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## TACHOMETER DRIVE CABLE - CONTINUED

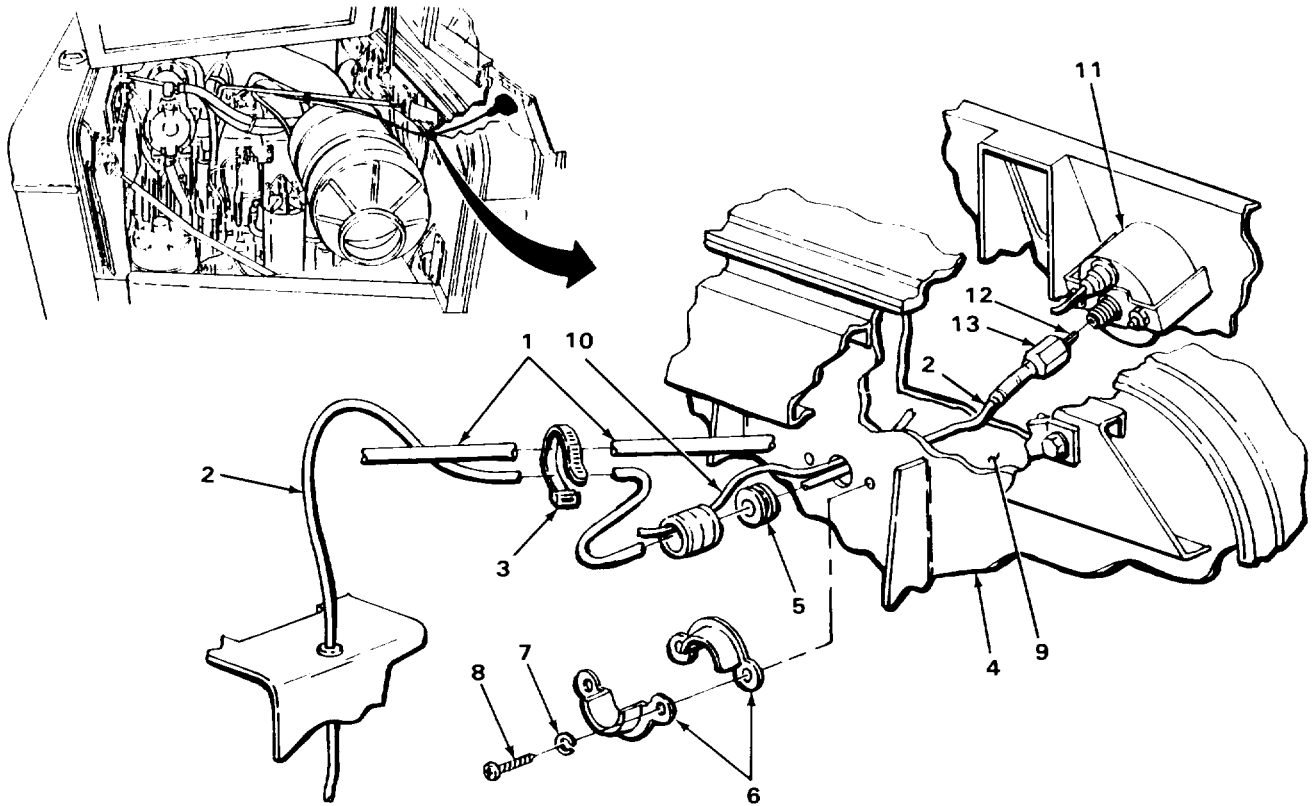
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION - CONTINUED</b>			
20	Left radiator stabilizer rod (1) and tachometer drive cable (2)		Wrap loosely.
21	Engine side of firewall (4)		Push through tachometer drive cable hole.
22	Tachometer drive cable (2)		a Put on. b Slide into place.
23	Engine side of firewall (4)		Screw in and tighten using number two cross-tip screwdriver.
24			Insulation (9)
25			Glue into place using liquid rubber adhesive.
			Tachometer drive cable (2) and windshield wiper exhaust hose (10)
			Wrap using pressure-sensitive adhesive tape.

**CAUTION**

Use care when working behind lower center instrument panel to prevent breaking or disconnecting wires.

26	Tachometer (11)	Tachometer drive cable (2)	Put in. <b>Aline square end of drive tip (12) with square hole of tachometer.</b>
27		Cable retainer nut (13)	Screw on and tighten using 3/4-inch open-end wrench.

TACHOMETER DRIVE CABLE - CONTINUED



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Close left side hood panel (page 2-424).
2. Close lower center instrument panel (page 2-424).
3. Close left side cab door (page 2-424).

**TASK ENDS HERE**

**ENGINE OIL PRESSURE GAGE**

This task covers:

- a Removal (page 2-1426)
- b Inspection/Replacement (page 2-1427)
- c Installation (page 2-1428)

**INITIAL SETUP**

Tools

Wrench, open-end, 3/8-inch  
 Wrench, open-end, 9/16-inch  
 (two required)

Materials/Parts

Lockwasher (two required)

Personnel Required

One

Equipment Condition

Upper center instrument panel opened  
 (page 2-424).  
 Left side cab door opened (page 2-424).

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

**CAUTION**

Use care when working behind upper center instrument panel to prevent breaking or disconnecting wires.

1	Gage (1)	Light socket (2)	Pull out.
2	Adapter (3)	Line (4)	Using two 9/16-inch open-end wrenches, unscrew and take off.
3	Gage (1)	Adapter (3)	Using 9/16-inch open-end wrench, unscrew and take out.
4		Two nuts (5) and two lockwashers (6)	a Hold gage. b Using 3/8-inch open-end wrench, unscrew and take out. c Get rid of lockwashers.
5		Mounting bracket (7)	Take off.
6	Upper center instrument panel (8)	Gage (1)	Take out.

ENGINE OIL PRESSURE GAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

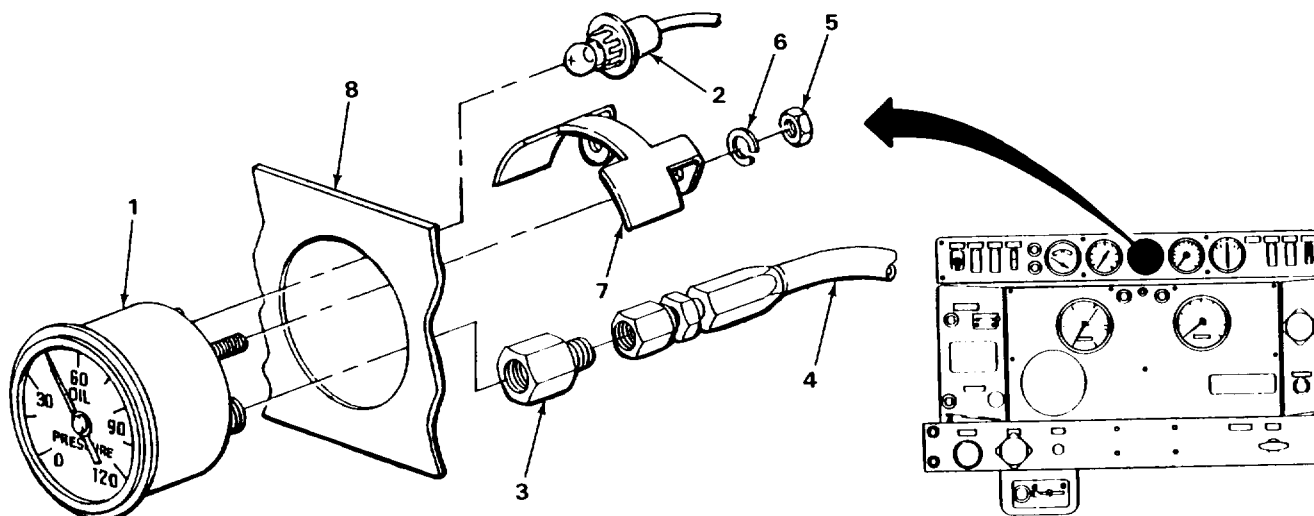
INSPECTION/REPLACEMENT

NOTE

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

- |    |                      |  |
|----|----------------------|--|
| 7. | Gage (1)             | a. Look for cracks, dents, or damaged threads.<br>b. Check to see if gage is readable. |
| 8. | Mounting bracket (7) | Look for cracks, bends, or breaks.   |
| 9. | All threaded parts   | Look for damaged threads or rounded  |



TA244598



ENGINE OIL PRESSURE GAGE - CONTINUED

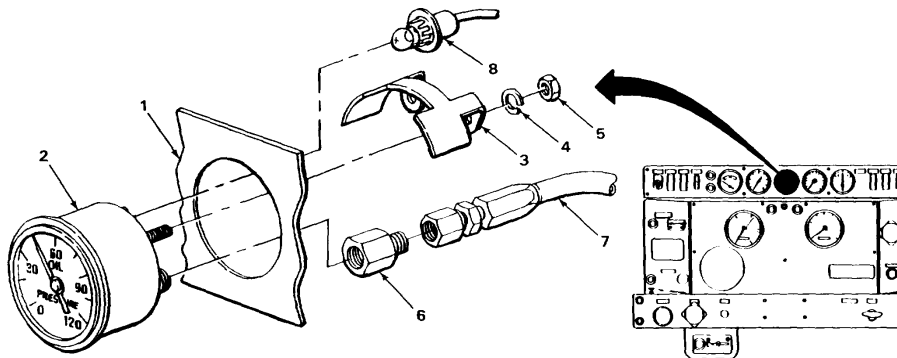
LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION

**CAUTION**

Use care when working behind upper center instrument panel to prevent breaking or disconnecting wires.

10. Upper center instrument panel (1)	Gage (2)	Put in and hold. <b>Position as shown.</b>
11. Gage (2)	Mounting bracket (3)	Put on.
12. Mounting bracket (3)	Two new lockwashers (4) and two nuts (5)	Screw on and tighten using 3/8-inch open-end wrench.
13. Gage (2)	Adapter (6)	Screw on and tighten using 9/16-inch open-end wrench.
14. Adapter (6)	Line (7)	Screw on and tighten using two 9/16-inch open-end wrenches.
15. Gage (2)	Light socket (8)	Push in.



**NOTE**

FOLLOW-ON MAINTENANCE:

1. Close upper center instrument panel (page 2-424).
2. Close left side cab door (page 2-424).

**TASK ENDS HERE**

TA244599

**ENGINE OIL PRESSURE GAGE LINE AND FIT**

---

This task covers:

- |                              |   |
|------------------------------|---|
| a. Removal (page 2-1430)     | d. Inspection/Replacement (page 2-1438) |
| b. Disassembly (page 2-1436) | e. Assembly (page 2-1439)               |
| c. Cleaning (page 2-1438)    | f. Installation (page 2-1440)           |
- 

**INITIAL SETUP****Tools**

Extension, 10-inch, 1/2-inch drive  
 Goggles, safety  
 Gun, blow, air  
 Handle, ratchet, 1/2-inch drive  
 Hose, air, assembly  
 Pliers, diagonal-cutting, 6-inch  
 Screwdriver, flat-tip, 3/16-inch  
 Socket, deep, 1 1/8-inch, 1/2-inch drive  
 Wrench, open-end, 7/16-inch (two required)  
 Wrench, open-end, 1/2-inch  
 Wrench, open-end, 9/16-inch (two required)  
 Wrench, open-end, 3/4-inch  
 Wrench, open-end, 1-inch  
 Wrench, open-end, 1 1/8-inch

**Materials/Parts**

Detergent, liquid, GP (item 7, appendix C)  
 Lockwasher  
 Strap, tiedown (item 20, appendix C)  
 Tags, marker (item 21, appendix C)  
 Tape, antiseizing (item 22, appendix C)

**Personnel Required**

Two

**Equipment Condition**

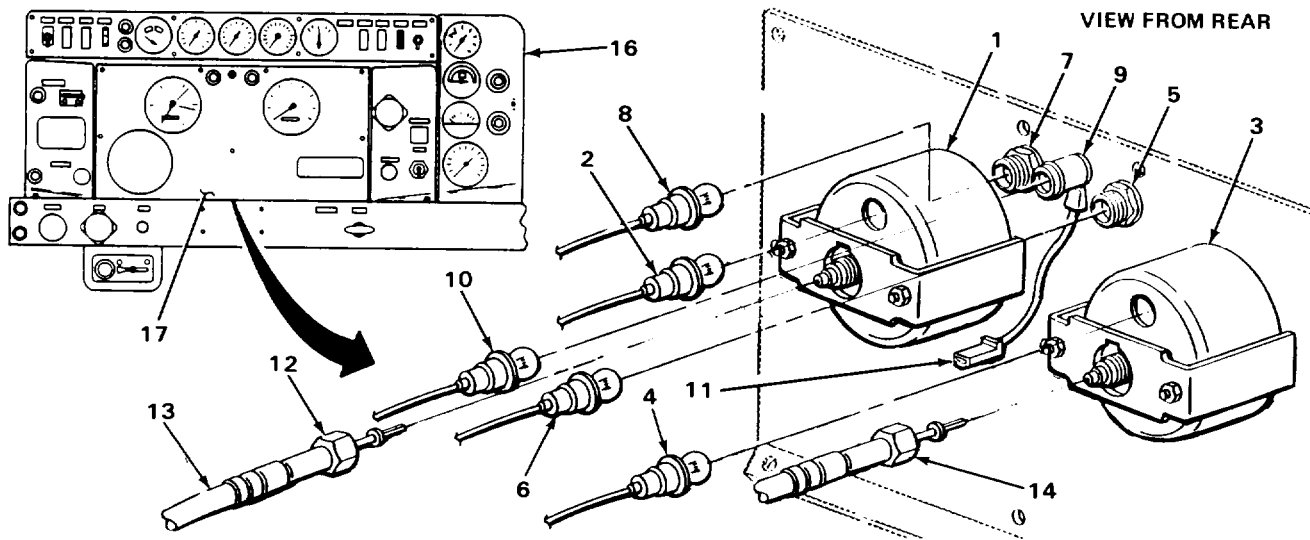
Left side cab door opened (page 2-424).  
 Air cleaner housing removed (page 2-452).  
 Upper center instrument panel opened (page 2-424).  
 Lower center instrument panel opened (page 2-424).

## ENGINE OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL</b>			
<b>CAUTION</b>			
Use care when working behind instrument panel to prevent breaking or disconnecting wires.			
<b>NOTE</b>			
Tag all light sockets, wires, lines and cables before removing, for correct identification when installing.			
For more information on how to tag parts, go to General Maintenance Instructions.			
1. Speedometer (1)	Light socket (2)	a. Tag. b. Pull out.	
2. Tachometer (3)	Light socket (4)	a. Tag. b. Pull out.	
3. Left directional indicator (5)	Light socket (6)	a. Tag. b. Pull out.	
4. Right directional indicator (7)	Light socket (8)	a. Tag. b. Pull out.	
5. High beam indicator (9)	Light socket (10)	a. Tag. b. Pull out.	
6.	Ground wire (11)	a. Tag. b. Pull out.	
7. Speedometer (1)	Cable retainer nut (12)	a. Tag. b. Using 3/4-inch open-end wrench, unscrew and slide back.	

ENGINE OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

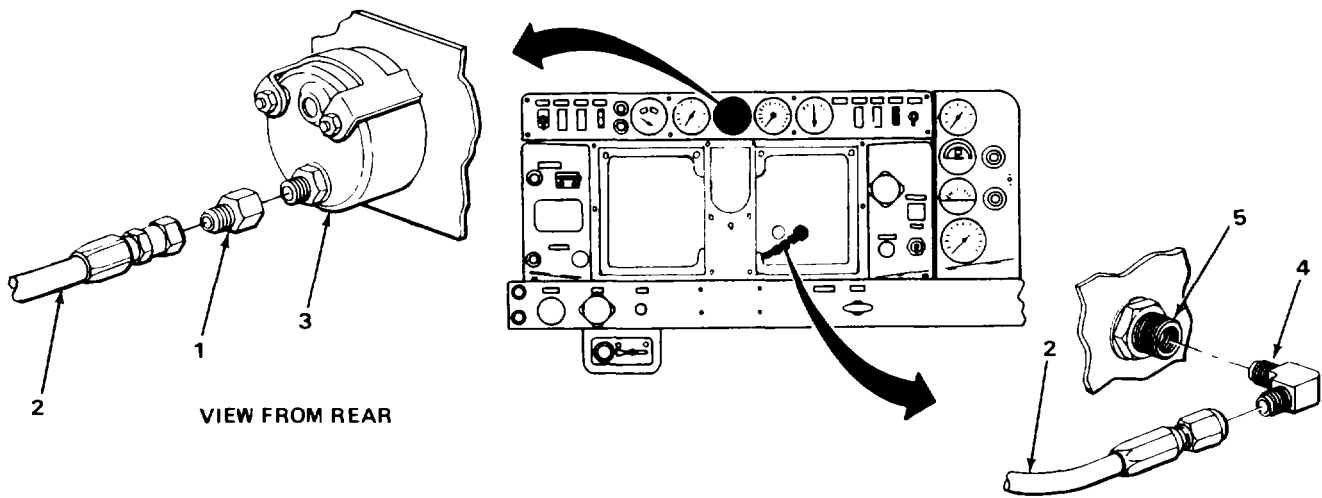
LOCATION	ITEM	ACTION	REMARKS
8. Speedometer (1)	Speedometer drive cable (13)	Pull out.	
9. Tachometer (3)	Cable retainer nut (14)	a. Tag. b. Using 3/4-inch open-end wrench, unscrew and slide back.	
10.	Tachometer drive cable (15)	Pull out.	
11. Instrument panel (16)	Lower center instrument panel (17)	Take out.	



TA244601

ENGINE OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL - CONTINUED</b>			
12. Adapter (1)	Line (2)	a. Tag. b. Using two 9/16-inch open-end wrenches, unscrew and take off.	
13. Gage (3)	Adapter (1)	Using 9/16-inch open-end wrench, unscrew and take off.	
14. 90-degree elbow (4)	Line (2)	Using 1/2-inch and 9/16-inch open-end wrenches, unscrew and take off.	
15. Bulkhead fitting (5)	90-degree elbow (4)	Using 1/2-inch open-end wrench, unscrew and take out.	

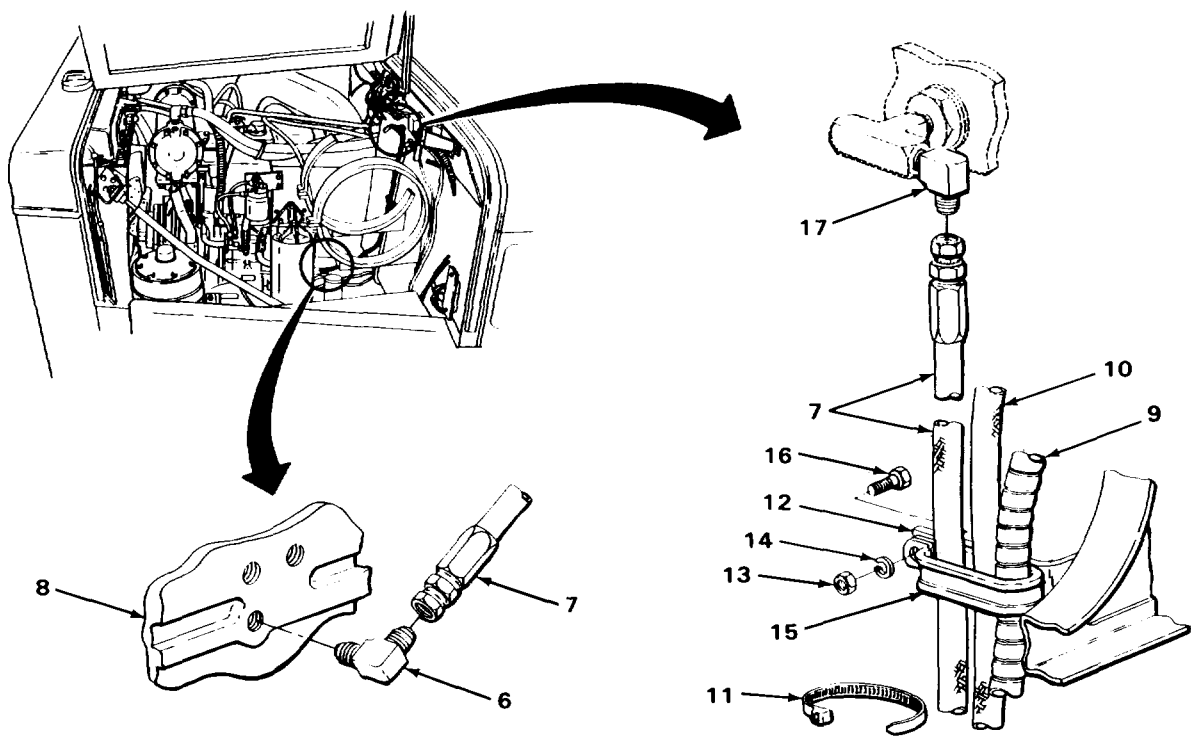


16. 90-degree elbow (6)	Line (7)	a. Tag. b. Using 1/2-inch and 9/16-inch open-end wrenches, unscrew and take off.	
17. Lower left side of cylinder block (8)	90-degree elbow (6)	Using 1/2-inch open-end wrench, unscrew and take out.	

TA244602

ENGINE OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

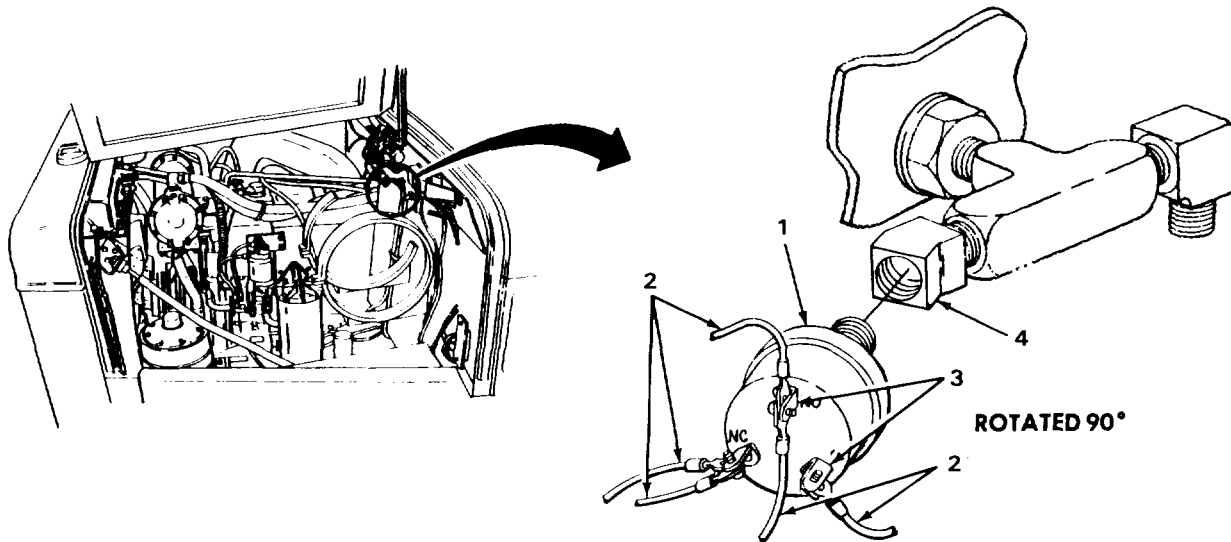
LOCATION	ITEM	ACTION REMARKS
18. Airhose (9), fuel hose (10), and line (7)	Electrical tiedown strap (11)	a. Using 6-inch diagonal-cutting pliers, cut and take off. b. Get rid of strap.
19. Bracket (12)	Nut (13), lockwasher (14), clamp (15), and screw (16)	a. Using two 7/16-inch open-end wrenches, unscrew and take out. b. Get rid of lockwasher.
20. 90-degree elbow (17)	Line (7)	Using 1/2-inch and 9/16-inch open-end wrenches, unscrew and take off.



TA244603

ENGINE OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL - CONTINUED</b>			
21. Oil pressure switch (1)	Five wires (2) and three screws (3)	a. Tag wires. b. Using 3/16-inch flat-tip screwdriver, loosen screws. <b>Do not take out screws.</b> c. Take off wires.	
22. 45-degree elbow (4)	Oil pressure switch (1)	Using 7/16-inch open-end wrench, unscrew and take out.	



**NOTE**

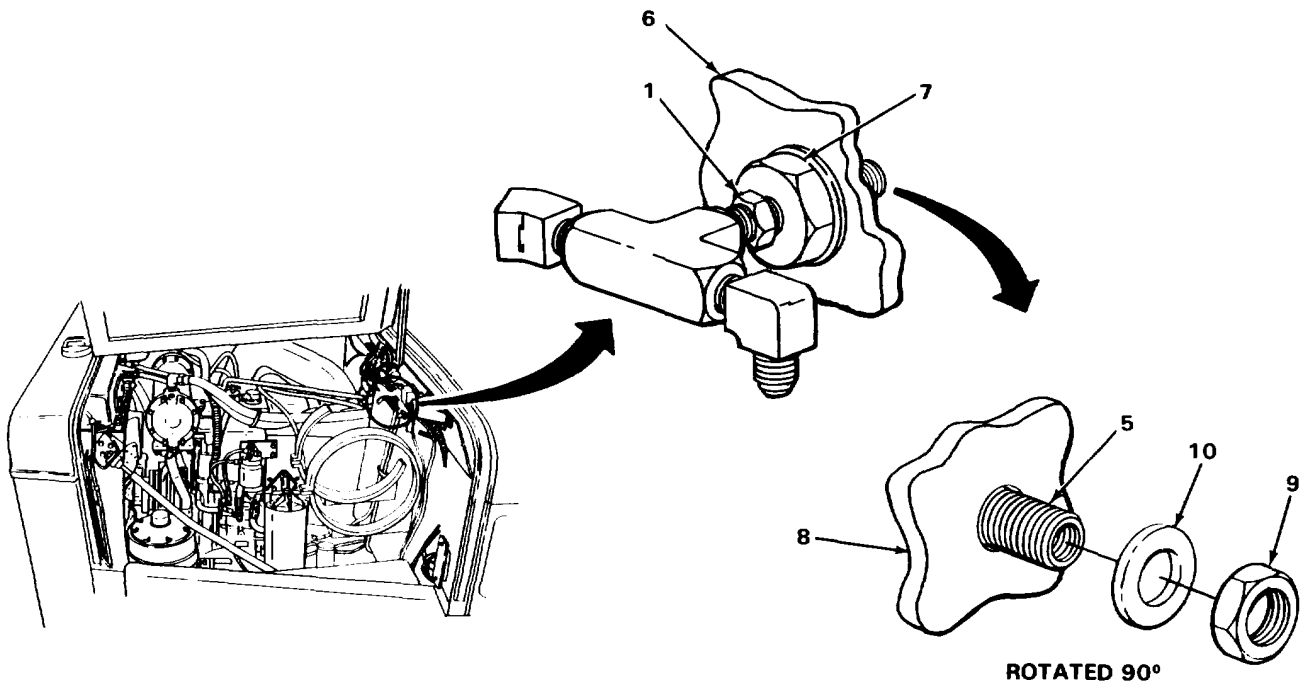
Assistance will be required to perform steps 23 and 24.

23. Bulkhead fitting (5) engine side of firewall (6)	Nut (7)	Using 1-inch open-end wrench, hold nut from turning.
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TA244604

ENGINE OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
24. Bulkhead fitting (5) and driver's side of firewall (8)	Nut (9) and flat washer (10)	Using 1/2-inch drive, 1 118-inch deep socket, 10-inch extension, and ratchet handle, unscrew and take off.



TA244605



ENGINE OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL - CONTINUED

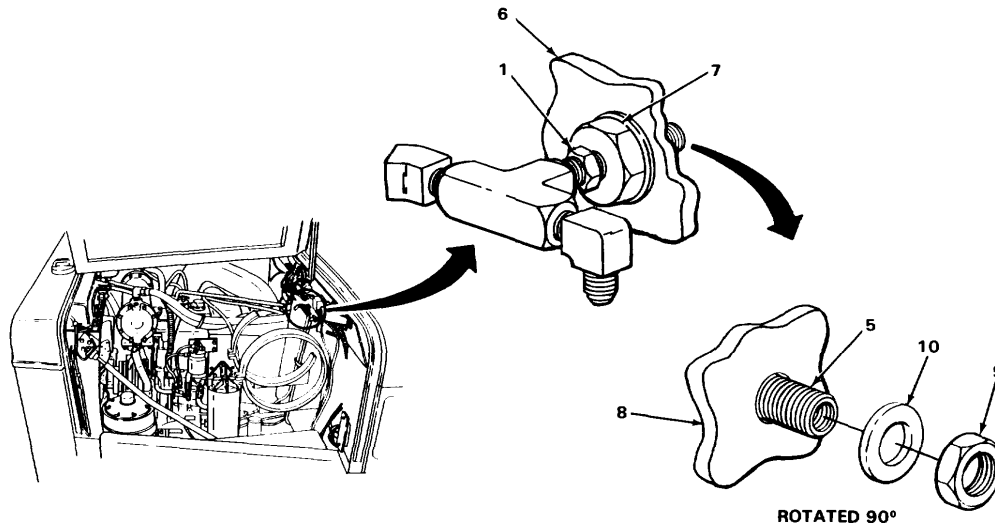
**CAUTION**

Use care when removing fittings and flat washer, to prevent damage.

**NOTE**

Before removing fittings and flat washer, make sure to note location and position of 45 and 90-degree elbows, for correct assembly.

- |                                 |  |  |
|---------------------------------|--|--|
| 25. Engine side of firewall (1) | 45-degree elbow (2), T-fitting (3), 90-degree elbow (4), straight pipe fitting (5), large nut (6), and flat washer (7) | a. Take out.<br>b. Take off flat washer. |
|---------------------------------|--|--|



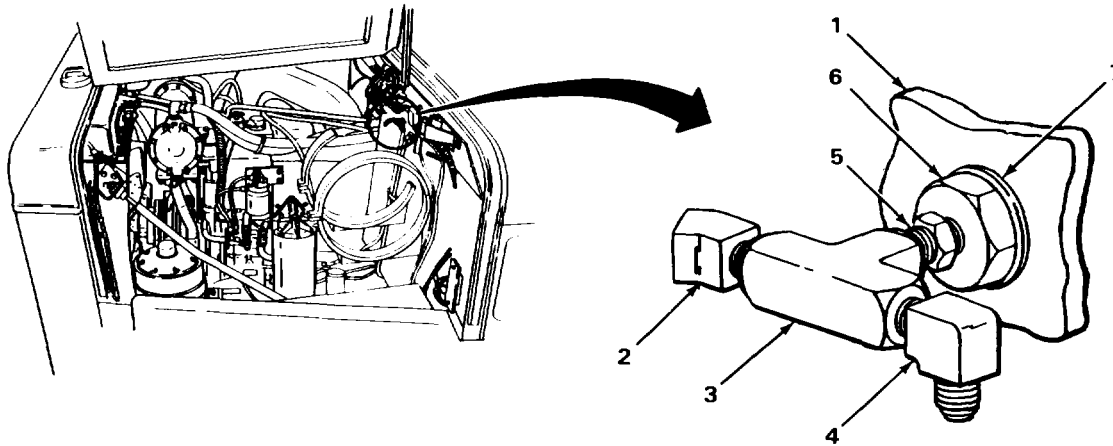
**DISASSEMBLY**

- |                               |                                 |  |
|-------------------------------|---------------------------------|--|
| 26. T-fitting (3)             | 45-degree elbow (2)             | Using two 9/16-inch open-end wrenches, unscrew and take out.           |
| 27.                           | 90-degree elbow (4)             | Using 1/2-inch and 9/16-inch open-end wrenches, unscrew and take out.  |
| 28. Straight pipe fitting (5) | T-fitting (3)                   | Using 7/16-inch and 9/16-inch open-end wrenches, unscrew and take off. |
| 29. Bulkhead fitting (7)      | Small nut (8) and large nut (6) | Using 1-inch and 1 1/8-inch open-end wrenches, screw on and tighten.   |

TA244606

ENGINE OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
30. Bulkhead fitting (7)	Straight pipe fitting (5)	Using 7/16-inch and 1-inch open-end wrenches, unscrew and take out.	
31.	Small nut (8) and large nut (6)	Using 1-inch and 1 1/8-inch open-end wrenches, unscrew and take off.	



TA244607

2-1437

## ENGINE OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>CLEANING</b>			
<b>WARNING</b>			
Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and cause damage to equipment. Refer to TM 9-247.			
<b>NOTE</b>			
All lines and fittings must be cleaned thoroughly.			
For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).			
32.	All parts	Using liquid detergent and water, clean thoroughly.	
<b>WARNING</b>			
Particles blown by compressed air are hazardous. Make certain the airstream is directed away from user and other personnel in the area. Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa). User must wear safety goggles or face shield to prevent injury to personnel.			
33.	All parts	Using air blow gun and air hose assembly, blow dry.	
<b>INSPECTION/REPLACEMENT</b>			
<b>NOTE</b>			
Replace all damaged or defective parts.			
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).			
34.	Lines (1)	Look for cracks, gouges, or worn line covering.	
35.	All threaded parts	Look for damaged threads or rounded heads.	
36. Lines (1) and elbow (9)	Flare seats	Look for cracks, bends, or dents.	

ENGINE OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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ASSEMBLY

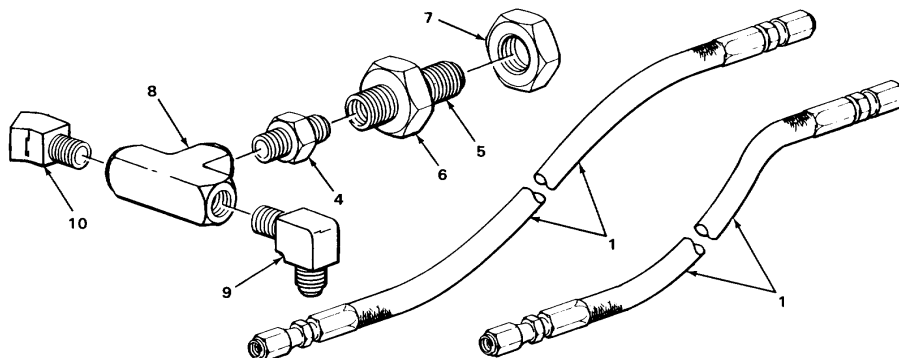
**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

- |     |  |   |
|-----|--|---|
| 37. | Straight pipe fitting (4)                                  | Wrap pipe threads with antiseizing tape.                              |
| 38. | Bulkhead fitting (5)<br>Small nut (6)<br>and large nut (7) | Screw on and tighten using 1-inch and 1 1/8-inch open-end wrenches.   |
| 39. | Straight pipe fitting (4)                                  | Screw in and tighten using 7/16-inch and 1-inch open-end wrenches.    |
| 40. | Large nut (7)  | Unscrew and take off using 1-inch and 1 1/8-inch open-end wrenches.   |
| 41. | Straight pipe fitting (4)<br>T-fitting (8)                 | Screw on and tighten using 7/16-inch and 9/16-inch open-end wrenches. |
| 42. | 90-degree elbow (9)<br>and 45-degree elbow (10)            | Wrap pipe threads with antiseizing tape.                              |



TA244608

ENGINE OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

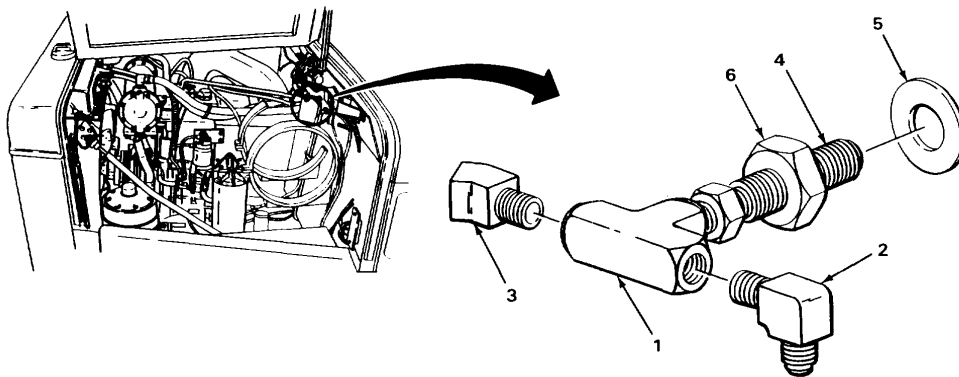
LOCATION	ITEM	ACTION	REMARKS
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ASSEMBLY - CONTINUED

NOTE

Make sure 45 and 90-degree elbows are assembled in same position and location as noted in removal.

- |                          |                     |   |
|--------------------------|---------------------|---|
| 43. T-fitting (1)        | 90-degree elbow (2) | Screw in and tighten using 1/2-inch and 9/16-inch open-end wrenches.          |
| 44.                      | 45-degree elbow (3) | Screw in and tighten using two 9/16-inch open-end wrenches.                   |
| 45. Bulkhead fitting (4) | Flat washer (5)     | Put on.   |
| 46.                      | Small nut (6)       | Turn small nut until a few threads can be seen on T-fitting side of bulkhead. |



INSTALLATION

- |                                 |  |                                 |
|---------------------------------|--|---------------------------------|
| 47. Engine side of firewall (7) | Bulkhead fitting (4), small nut (6), flat washer (5), straight pipe fitting (8), T-fitting (1), 45-degree elbow (3), and 90-degree elbow (2) | Put into bulkhead fitting hole. |
|---------------------------------|--|---------------------------------|

TA244609

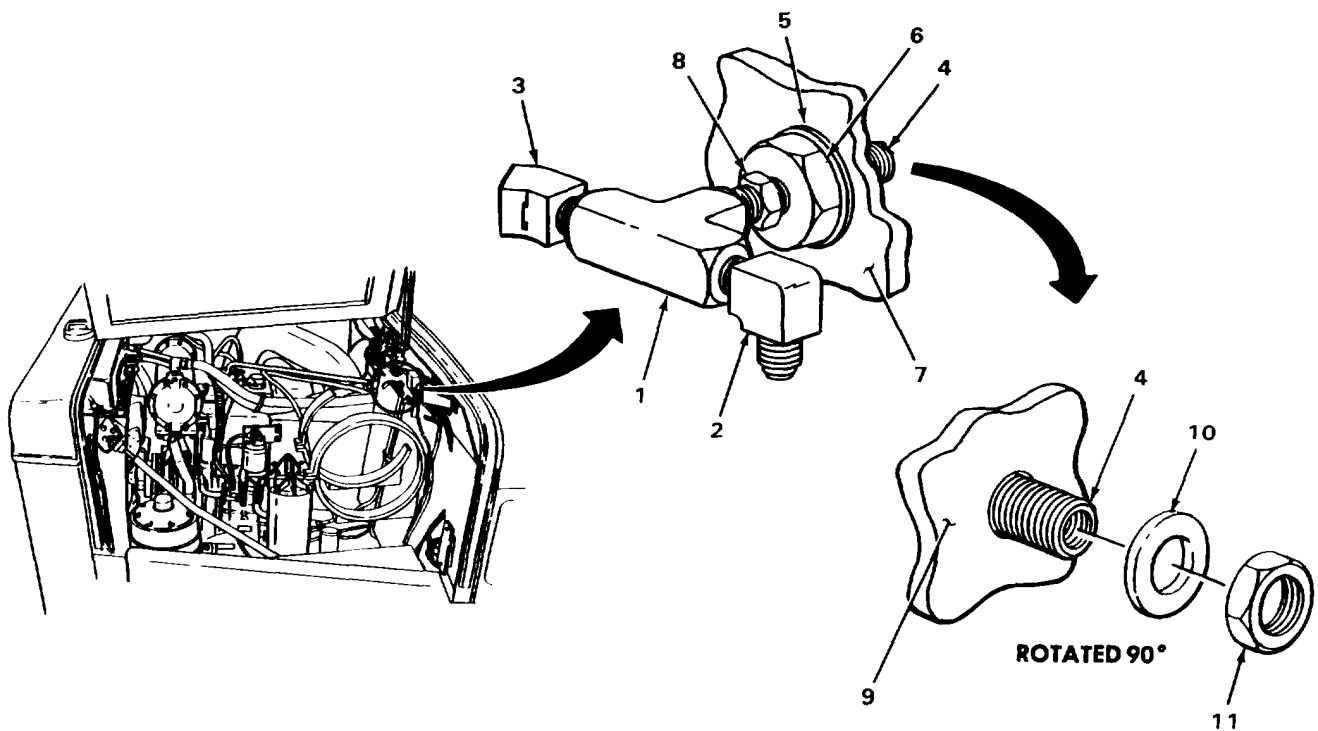
ENGINE OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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**NOTE**

Assistance will be required to perform steps 48, 49, and 50.

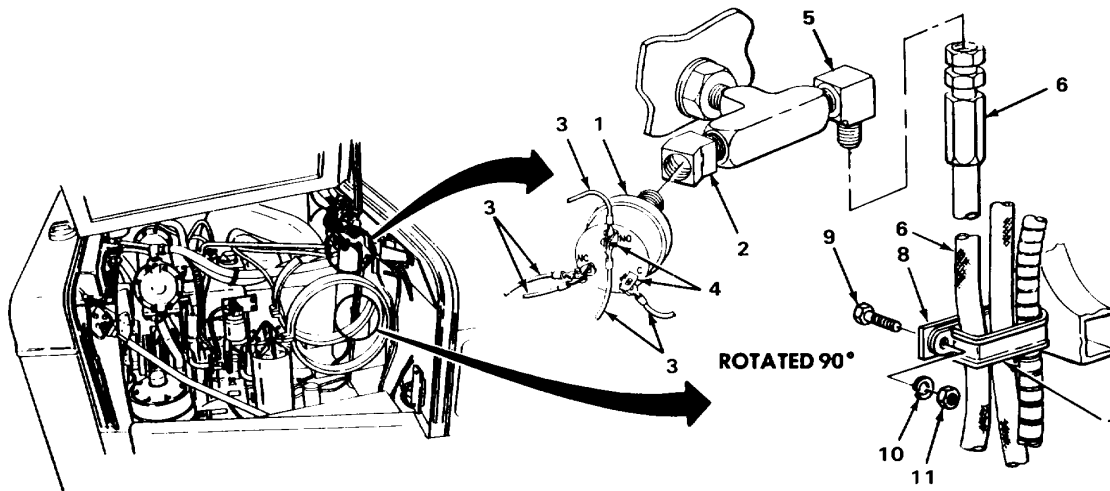
- |  |                  |  |
|--|------------------|--|
| 48. Engine side of firewall (7)                            | Small nut (6)    | Hold nut from turning using 1-inch open-end wrench.  |
| 49. Driver's side of firewall (9) and bulkhead fitting (4) | Flat washer (10) | Put on.  |
| 50.  | Large nut (11)   | Screw on and tighten using 1/2-inch drive, 1 1/8-inch deep socket, 10-inch extension and ratchet handle. |



TA244610

ENGINE OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

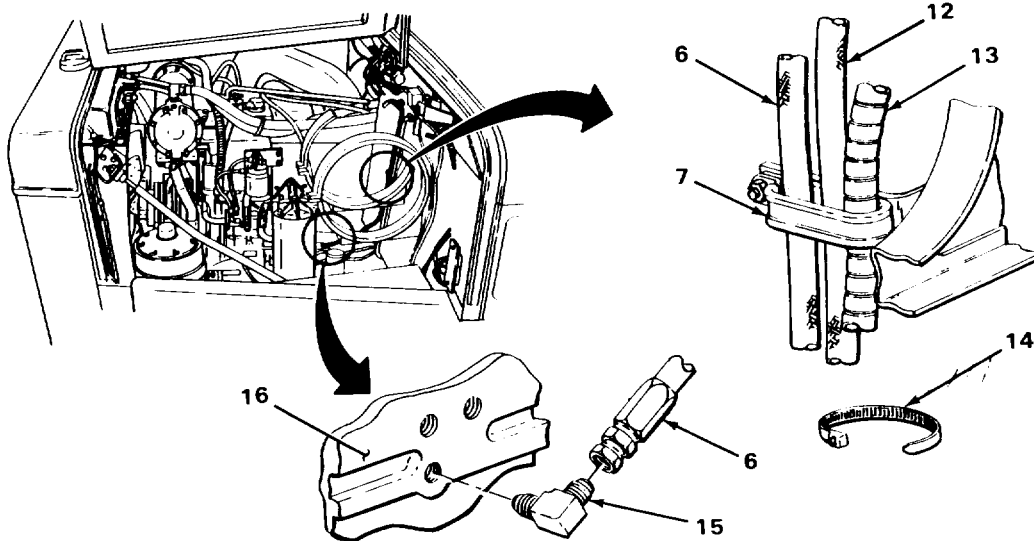
LOCATION	ITEM	ACTION REMARKS
<b>INSTALLATION - CONTINUED</b>		
51.	Oil pressure switch (1)	Wrap pipe threads with antiseizing tape (page 2-424).
52. 45-degree elbow (2)	Oil pressure switch (1)	Screw in and tighten using 7/16-inch open-end wrench.
53. Oil pressure switch (1)	Five wires (3)	Put wires under correct screw heads.
54.	Three screws (4)	a. Screw in and tighten using 3/16-inch flat-tip screwdriver. b. Get rid of tags.
55. 90-degree elbow (5)	Line (6)	Screw on and tighten using 11/2-inch and 9/16-inch open-end wrenches.
56. Clamp (7)	Line (6)	a. Put in. b. Close clamp (7).
57. Bracket (8)	Screw (9), clamp (7), new lockwasher (10) and nut (11)	Screw in and tighten using two 7/16-inch open-end wrenches.



TA244611

ENGINE OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
58. Line (6), fuel hose (12), and airhose (13)	New electrical tie-down strap (14)	Wrap.
59.	90-degree elbow (15)	Wrap pipe threads with antiseizing tape (page 2-424).
60. Lower left side of cylinder block (16)	90-degree elbow (15)	Screw in and tighten using 1/2-inch open-end wrench.
61. 90-degree elbow (15)	Line (6)	a. Screw on and tighten using 1/2-inch and 9/16-inch open-end wrenches. b. Get rid of tone



TA244612



ENGINE OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

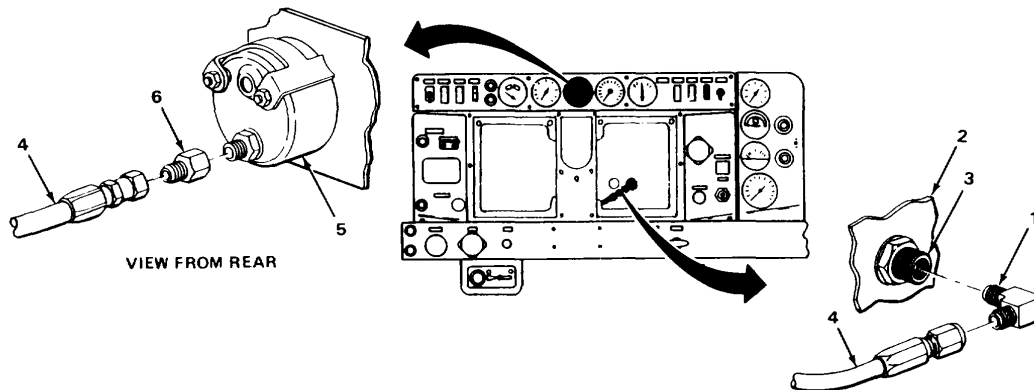
LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION - CONTINUED

**CAUTION**

Use care when working behind instrument panel to prevent breaking or disconnecting wires.

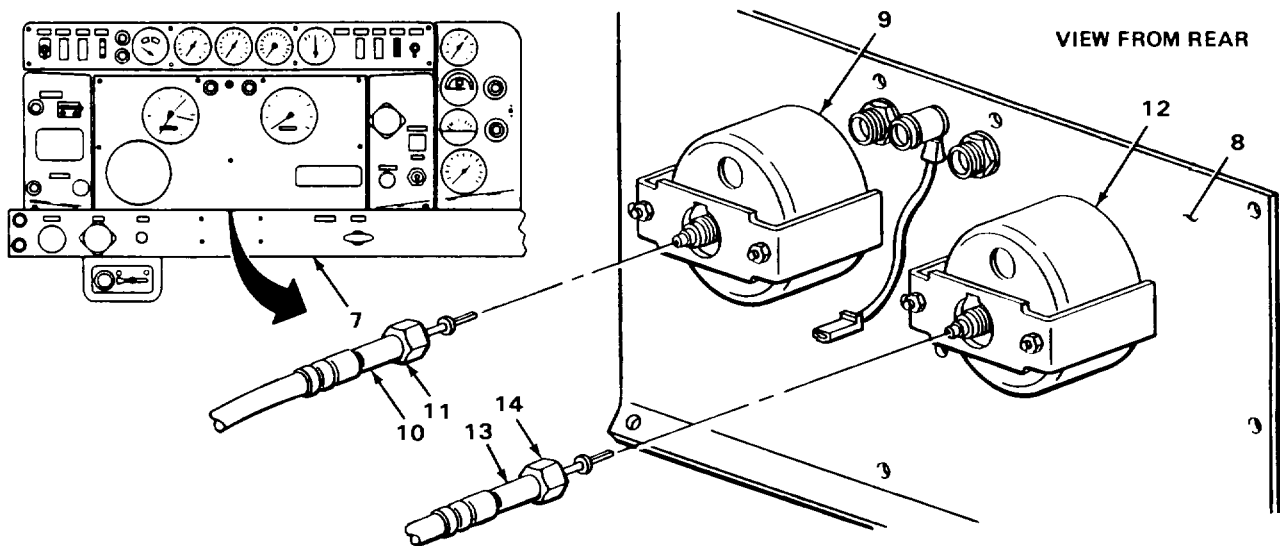
- |  |  |  |  |
|--|--|--|--|
| 62. 90-degree elbow (1)                                    | Wrap pipe threads with antiseizing tape. |  |  |
| 63. Driver's side of firewall (2) and bulkhead fitting (3) | 90-degree elbow (1) end wrench.          | Screw in and tighten using 1/2-inch open-  |  |
| 64. 90-degree elbow (1)                                    | Line (4)                                 | Screw on and tighten using 1/2-inch and 9/16-inch open-end wrenches.                 |  |
| 65. Gage (5)   | Adapter (6)                              | Screw on and tighten using 9/16-inch open-end wrench.                                |  |
| 66. Adapter (6)  | Line (4)                                 | a. Screw on and tighten using two 9/16-inch open-end wrenches.<br>b. Get rid of tag. |  |



TA244613

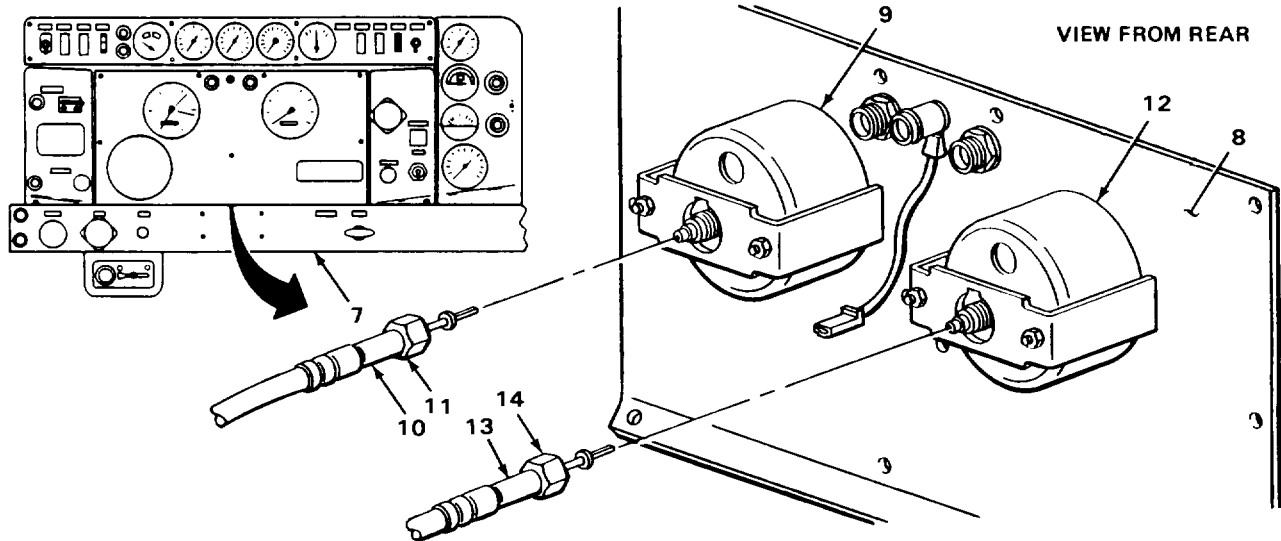
ENGINE OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
67. Instrument panel (7)	Lower center instrument panel (8)	Put in.	
68. Tachometer (9)	Tachometer drive cable (10)	Put in.	<b>Aline square end of drive tip with square hole in tachometer.</b>
69.	Cable retainer nut (11)	Screw on and tighten using 3/4-inch open-end wrench.	
70. Speedometer (12)	Speedometer drive cable (13)	Put in.	<b>Aline square end of drive tip with square hole in speedometer.</b>
71.	Cable retainer nut (14)	Screw on and tighten using 3/4-inch open-end wrench.	



ENGINE OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION - CONTINUED</b>			
72. High beam indicator (1)	Ground wire (2)	a. Push on. b. Get rid of tag.	
73.	Light socket (3)	a. Push in. b. Get rid of tag.	
74. Right directional indicator (4)	Light socket (5)	a. Push in. b. Get rid of tag.	
75. Left directional indicator (6)	Light socket (7)	a. Push in. b. Get rid of tag.	
76. Tachometer (8)	Light socket (9)	a. Push in. b. Get rid of tag.	
77. Speedometer (10)	Light socket (11)	a. Push in. b. Get rid of tag.	



TA244615

**ENGINE OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED****NOTE**

## FOLLOW-ON MAINTENANCE:

1. Close upper center instrument panel (page 2-424).
2. Close lower center instrument panel (page 2-424).
3. Install air cleaner housing (page 2-452).
4. Close left side cab door (page 2-424).

**TASK ENDS HERE****TRANSMISSION OIL PRESSURE GAGE**

---

This task covers:

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>a. Removal (page 2-1447)</li> <li>b. Inspection/Replacement<br/>(page 2-1448)</li> </ol> | <ol style="list-style-type: none"> <li>c. Installation (page 2-1448)</li> </ol> |
|---|---|
- 

**INITIAL SETUP**

## Tools

Wrench, open-end, 3/8-inch  
 Wrench, open-end, 9/16-inch  
 (two required)

## Personnel Required

One

## Equipment Condition

## Materials/Parts

Right instrument panel opened (page 2-424).  
 Lockwasher, gage (two required)  
 Tape, antiseizing (item 22, appendix C)

Left side cab door opened (page 2-424).

**2-1447**

## TRANSMISSION OIL PRESSURE GAGE - CONTINUED

LOCATION	ITEM	ACTION REMARKS	
<b>REMOVAL</b>			
<b><u>CAUTION</u></b>			
Use care when working behind instrument panel to prevent breaking or disconnecting wires.			
1.	Gage (1)	Light socket (2)	Pull out.
2.	Elbow (3)	Line (4)	Using two 9/16-inch open-end wrenches, unscrew and take off.
3.	Gage (1)	Elbow (3)	Using 9/16-inch open-end wrench, unscrew and take off.
4.		Two nuts (5) and two lockwashers (6)	a. Hold gage. b. Using 3/8-inch open-end wrench, unscrew and take off. c. Get rid of lockwashers.
5.		Mounting bracket (7)	Take off.
6.	Right instrument panel (8)	Gage (1)	Take out.

**INSPECTION/REPLACEMENT****NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

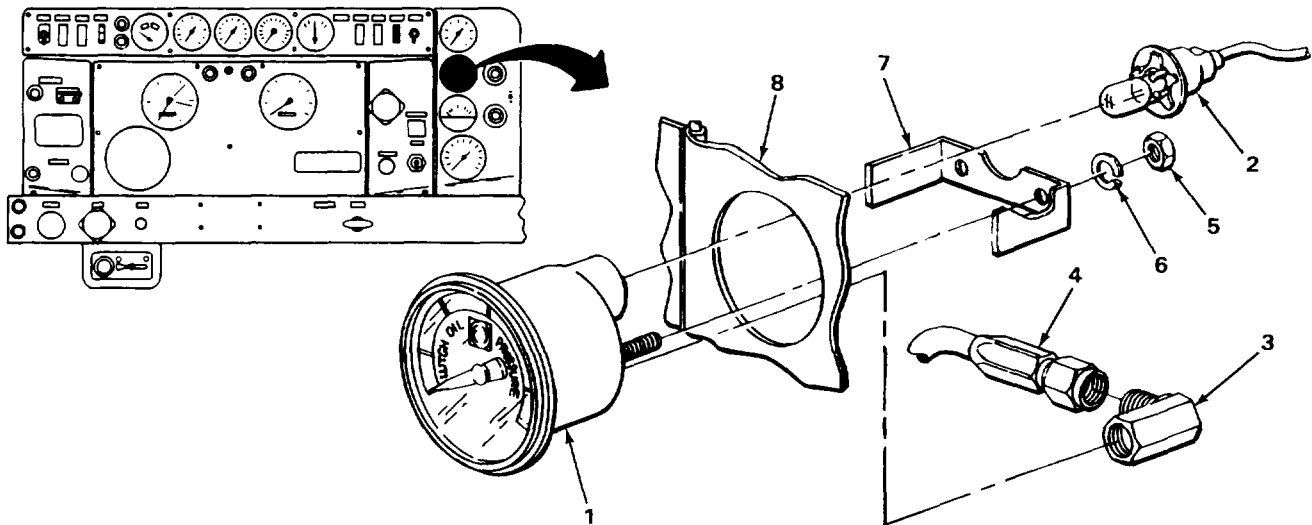
7.	Gage (1)	a. Look for cracks or dents. b. Check to see if gage is readable.
8.	Mounting bracket (7)	Look for cracks, bends, or breaks.
9.	All threaded parts	Look for damaged threads or rounded heads.

**INSTALLATION**

10.	Gage (1)	Wrap pipe threads with antiseizing tape (page 2-424).
-----	----------	---

TRANSMISSION OIL PRESSURE GAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
11. Right instrument panel (8)	Gage (1)	Put in and hold.	<b>Position as shown.</b>
12. Gage (1)	Mounting bracket (7)	Put on.	
13.	Two new lockwashers (6) and two nuts (5)	Screw on and tighten using 3/8-inch open-end wrench.	
14. Gage (1)	Elbow (3)	Screw on and tighten using 9/16-inch open-end wrench.	<b>Position as shown.</b>
15. Elbow (3)	Line (4)	Screw on and tighten using two 9/16-inch open-end wrenches.	
16. Gage (1)	Light socket (2)	Push in.	



**NOTE**

FOLLOW-ON MAINTENANCE:

1. Close right instrument panel (page 2-424).
2. Close left side cab door (page 2-424).

**TASK ENDS HERE**

TA244616

**TRANSMISSION OIL PRESSURE GAGE LINE AND FITTINGS**

---

This task covers:

- a. Removal (page 2-1450)
  - b. Cleaning (page 2-1457)
  - c. Inspection/Replacement (page 2-1457)
  - d. Installation (page 2-1458)
- 

**INITIAL SETUP**

**Tools**

- Extension, 10-inch, 112-inch drive
- Goggles, safety
- Gun, blow, air
- Handle, ratchet, 112-inch drive
- Hose, air, assembly
- Screwdriver, flat-tip, 3/16-inch
- Socket, deep, 1 1/8 inch, 1/2-inch drive
- Wrench, open-end, 7/16-inch (two required)
- Wrench, open-end, 1/2-inch
- Wrench, open-end, 9/16-inch (two required)
- Wrench, open-end, 3/4-inch
- Wrench, open-end, 1-inch

**Materials/Parts**

- Detergent, liquid, GP (item 7, appendix C)
- Tags, marker (item 21, appendix C)
- Tape, antiseizing (item 22, appendix C)
- Lockwasher, clamp (three required)

**Personnel Required**

Two

**Equipment Condition**

- Left side cab door opened (page 2-424).
  - Air cleaner housing removed (page 2-452).
  - Upper center instrument panel opened (page 2-424).
  - Lower center instrument panel opened (page 2-424).
- 

**LOCATION**

**ITEM**

**ACTION**

**REMARKS**

---

**REMOVAL**

**CAUTION**

Use care when working behind lower center instrument panel to prevent breaking or disconnecting wires.

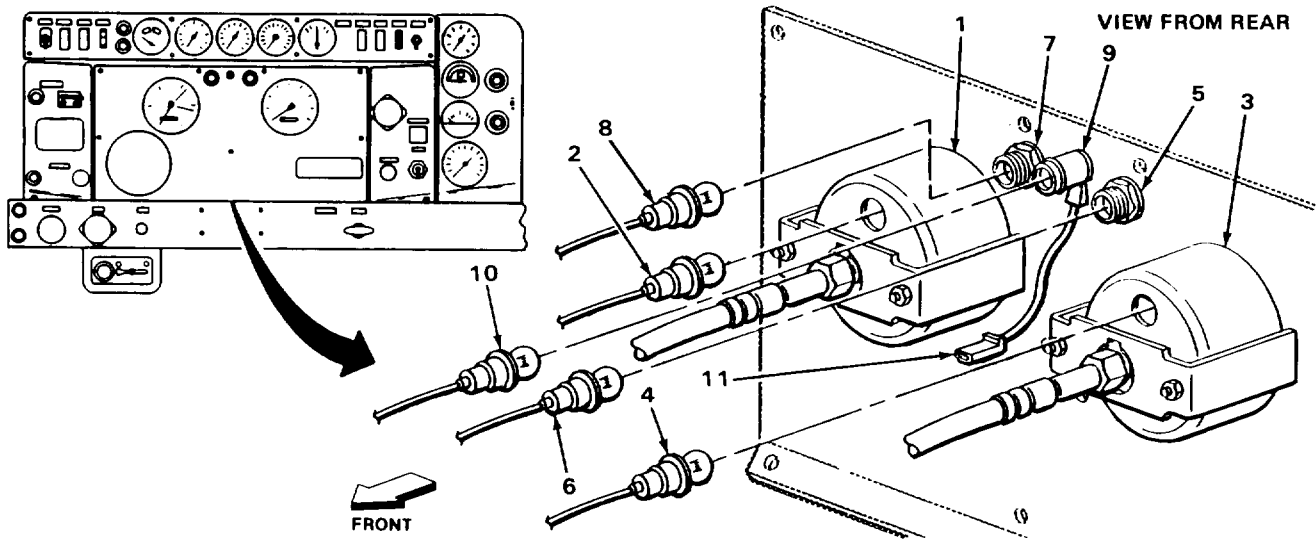
**NOTE**

Tag all light sockets, lines, wires, and cables before removing for correct identification when installing.

For more information on how to tag parts, go to General Maintenance Instructions (page 2-424).

TRANSMISSION OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
1. Speedometer (1)	Light socket (2)	a. Tag. b. Pull out.	
2. Tachometer (3)	Light socket (4)	a. Tag. b. Pull out.	
3. Left directional indicator (5)	Light socket (6)	a. Tag. b. Pull out.	
4. Right directional indicator (7)	Light socket (8)	a. Tag. b. Pull out.	
5. High beam indicator (9)	Light socket (10)	a. Tag. b. Pull out.	
6.	Ground wire (11)	a. Tag. b. Pull out.	



TA244617



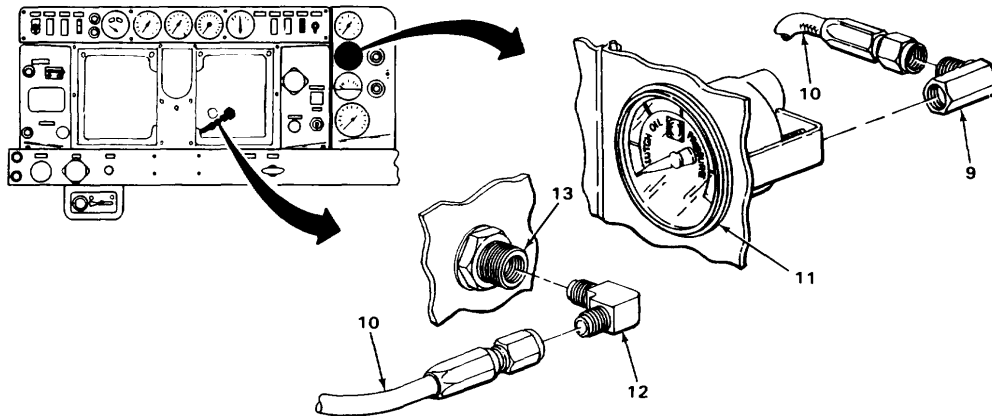
TRANSMISSION OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
<b>REMOVAL - CONTINUED</b>		
7. Speedometer (1)	Cable retainer nut (2)	a. Tag. b. Using 3/4-inch open-end wrench, unscrew and slide back.
8.	Speedometer drive cable (3)	Pull out.
9. Tachometer (4)	Cable retainer nut (5)	a. Tag. b. Using 3/4-inch open-end wrench, unscrew and slide back.
10.	Tachometer drive cable (6)	Pull out.
11. Instrument panel (7)	Lower center instrument panel (8)	Take out.
12. 90-degree elbow (9)	Line (10)	a. Tag. b. Using two 9/16-inch open-end wrenches, unscrew and take off.
13. Gage (11)	90-degree elbow (9)	Using 9/16-inch open-end wrench, unscrew and take off.

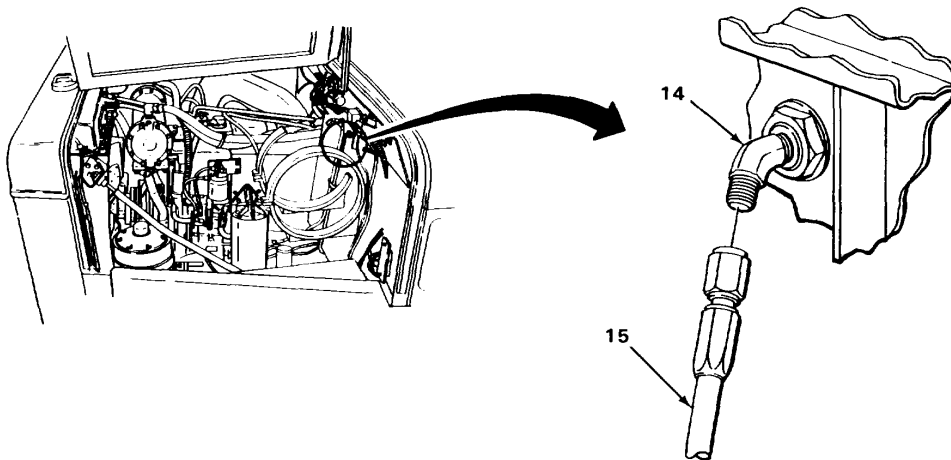
TA244618

TRANSMISSION OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
14. 90-degree elbow (12)	Line (10)	Using 1/2-inch and 9/16-inch open-end wrenches, unscrew and take off.	
15. Bulkhead fitting (13)	90-degree elbow (12) and take out.	Using 1/2-inch open-end wrench, unscrew	



16. 45-degree elbow(14)	Line (15)	Using 7/16-inch and 9/16-inch open-end wrenches, unscrew and take off.
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TA244619

TRANSMISSION OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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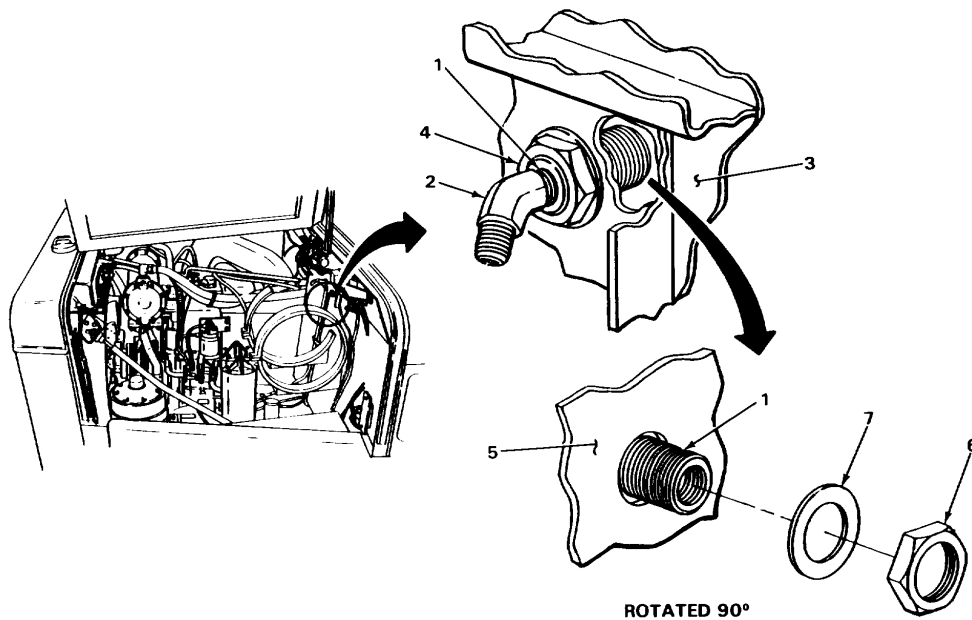
REMOVAL - CONTINUED

- |                          |                     |  |
|--------------------------|---------------------|--|
| 17. Bulkhead fitting (1) | 45-degree elbow (2) | Using 7/16-inch open-end wrench, unscrew and take out. |
|--------------------------|---------------------|--|

**NOTE**

Assistance will be required to perform steps 18 and 19.

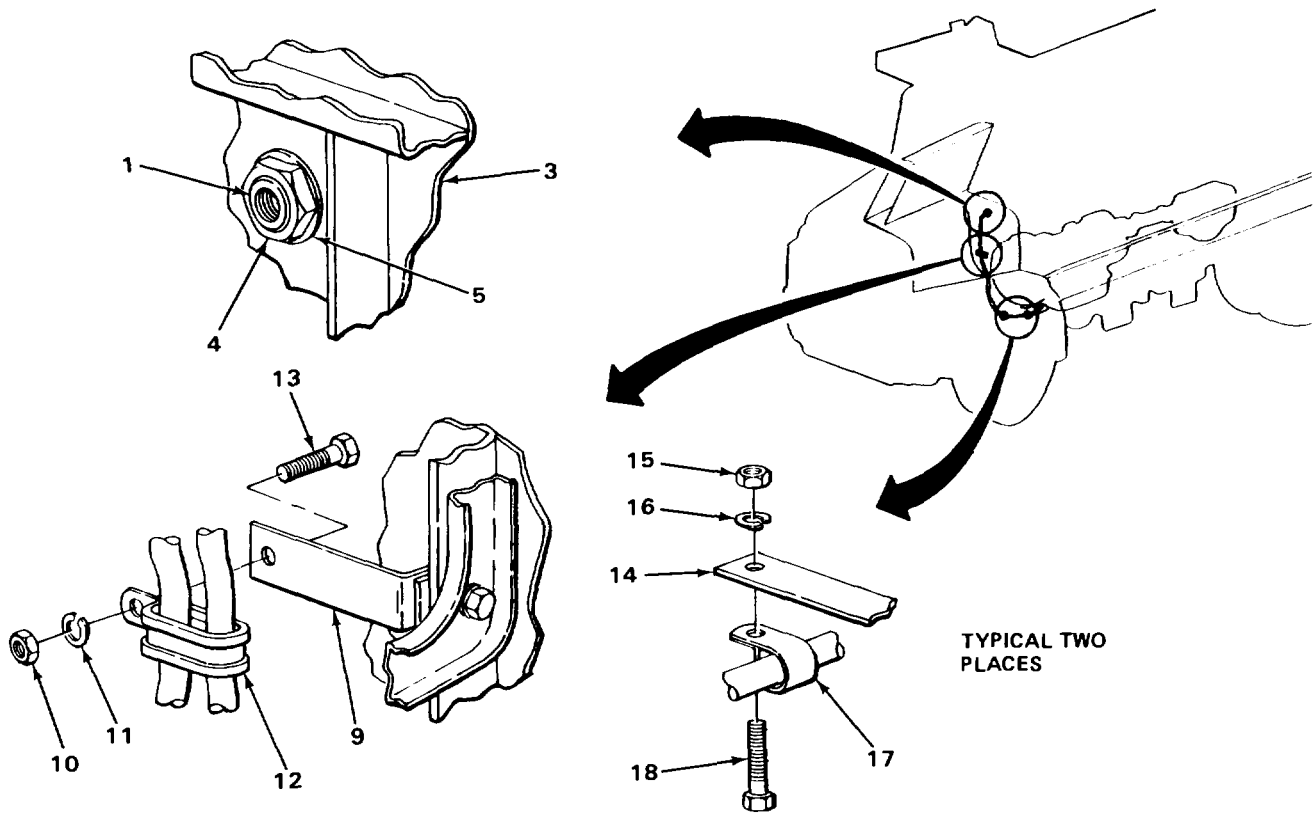
- |   |                             |  |
|---|-----------------------------|--|
| 18. Bulkhead fitting (1) on engine side of firewall (3) | Nut (4)                     | Using 1-inch open-end wrench, hold nut from turning.                         |
| 19. Bulkhead fitting (1) on driver's side of            | Nut (6) and flat washer (7) | Using 1/2-inch drive, 1 1/8-inch deep socket, 10-inch extension, and ratchet |



TA244620

TRANSMISSION OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

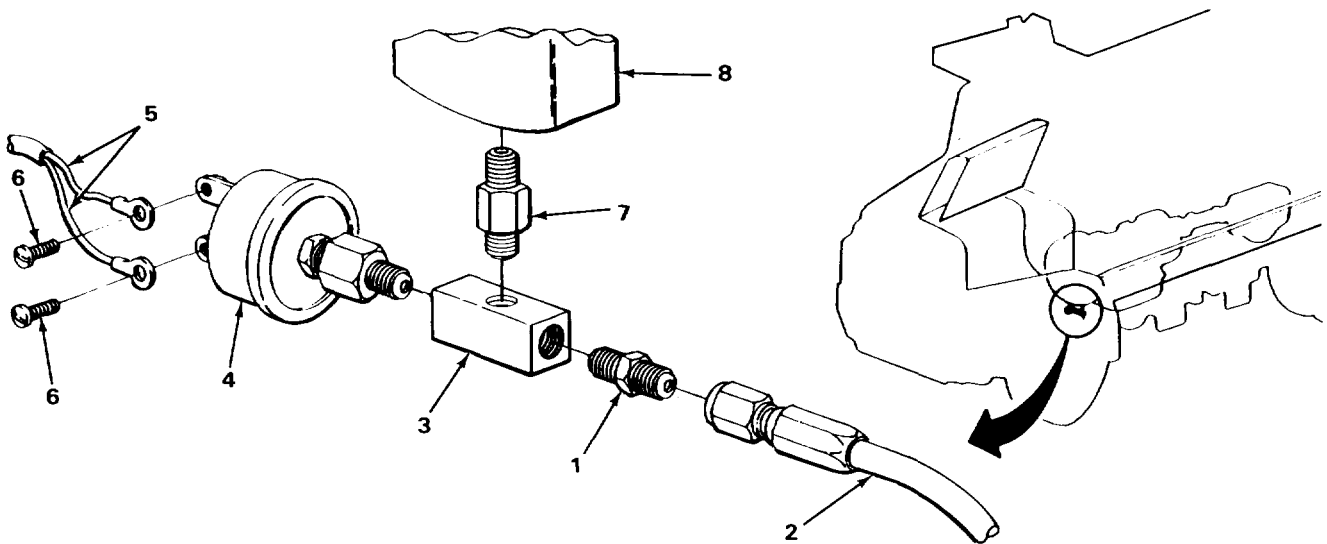
LOCATION	ITEM	ACTION REMARKS
20. Engine side of firewall (3)	Bulkhead fitting (1), nut (4), and flat washer (8)	Take out.
21. Bracket (9)	Nut (10), lockwasher (11), clamp (12), and screw (13)	a. Using two 7/16-inch open-end wrenches, unscrew and take out. b. Get rid of lockwasher.
22. Brackets (14)	Nuts (15), lockwashers (16), clamps (17), and screws (18)	a. Using two 7/16-inch open-end wrenches, unscrew and take out. b. Get rid of lockwashers.



TA244621

TRANSMISSION OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL - CONTINUED</b>			
23. Straight pipe fitting (1)	Line (2)	Using 7/16-inch and 9/16-inch open-end wrenches, unscrew and take off.	
24. T-fitting (3)	Straight pipe fitting (1)	Using 7/16-inch and 9/16-inch open-end wrenches, unscrew and take out.	
25. Oil pressure switch (4)	Two wires (5)	Tag.	
26.	Two screws (6)	Using 3/16-inch flat-tip screwdriver, unscrew and take out.	
27. T-fitting (3)	Oil pressure switch (4)	Using two 9/16-inch open-end wrenches, unscrew and take out.	
28. Straight pipe fitting (7)	T-fitting (3)	Using 7/16-inch and 9/16-inch open-end wrenches, unscrew and take off.	
29. Torque converter housing (8)	Straight pipe fitting (7)	Using 7/16-inch open-end wrench, unscrew and take out.	



TA244622

**TRANSMISSION OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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CLEANING

**WARNING**

Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and cause damage to equipment Refer to TM 9-247.

**NOTE**

All lines and fittings must be cleaned thoroughly.

For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

30	All parts	Using liquid detergent and water, clean thoroughly.
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**WARNING**

Particles blown by compressed air are hazardous Make certain the airstream is directed away from user and other personnel in the area Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa) User must wear safety goggles or face shield to prevent injury to personnel.

31	All parts	Using air blow gun and air hose assembly, blow dry.
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INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

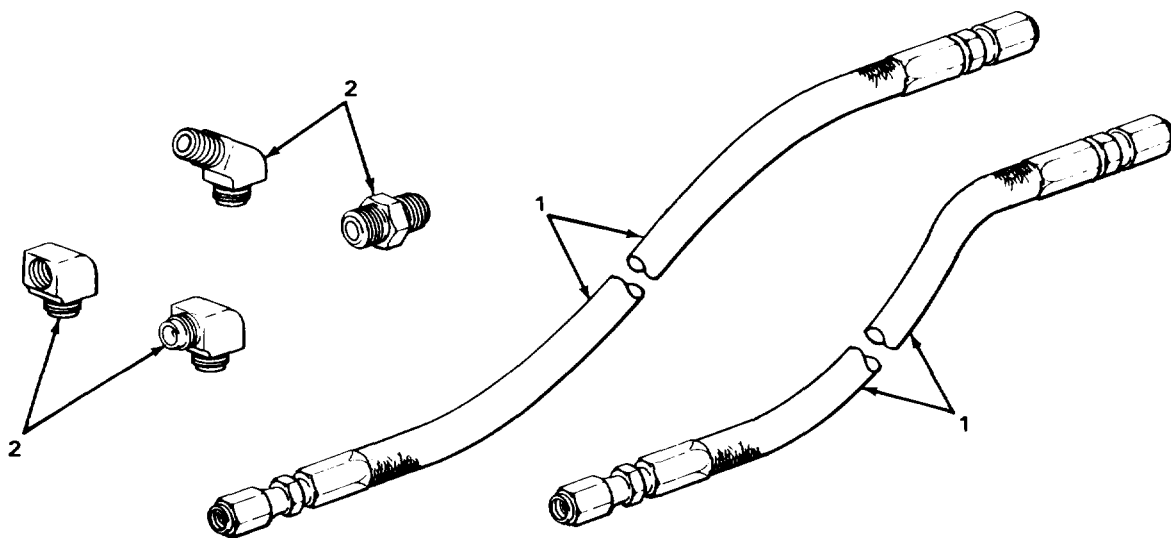
32	All threaded parts	Look for damaged threads or rounded heads.
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**TRANSMISSION OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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INSPECTION/REPLACEMENT - CONTINUED

33	Lines (1)	Look for cracks, gouges, or worn line covering.
34 Lines (1) and fittings (2)	Flare seats (3)	Look for cracks, bends, or dents.



INSTALLATION

**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

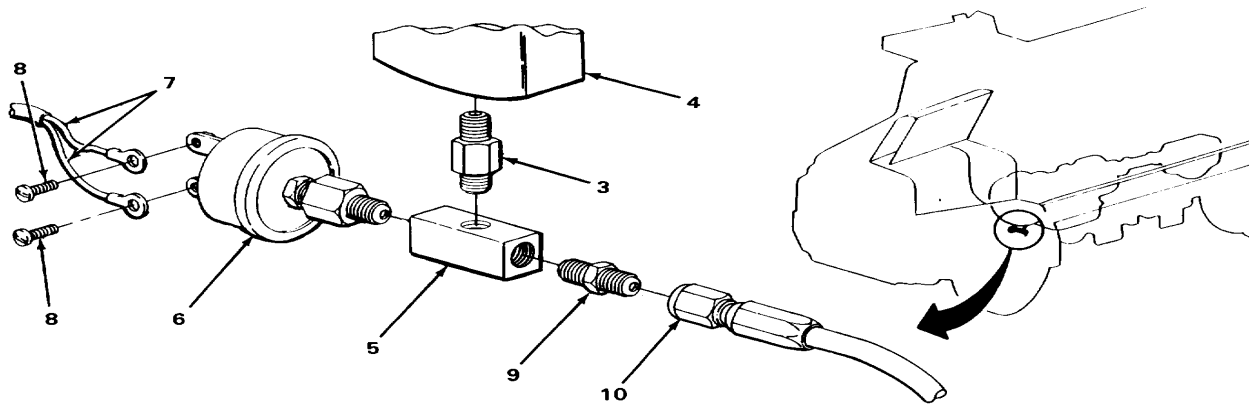
For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

35	Straight pipe fitting (3)	Wrap pipe threads with antiseizing tape (page 2-424).
36 Torque converter housing (4)	Straight pipe fitting (3)	Screw in and tighten using 7/16-inch open-end wrench.

TA244623

TRANSMISSION OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
37	Straight pipe fitting (3)	T-fitting (5) Screw on and tighten using 7/16-inch and 9/16-inch open-end wrenches.
38	Oil pressure switch (6)	Wrap pipe threads with antiseizing tape (page 2-424).
39	T-fitting (5)	Oil pressure switch (6) Screw in and tighten using two 9/16-inch open-end wrenches.
<b>NOTE</b>		
Install wires and lines as tagged in removal.		
40	Oil pressure switch (6)	Two wires (7) and two screws (8) a Screw in and tighten using 3/16-inch flat-tip screwdriver. b Get rid of tags.
41	Straight pipe fitting (9)	Wrap pipe threads with antiseizing tape (page 2-424).
42	T-fitting (5)	Straight pipe fitting (9) Screw in and tighten using 7/16-inch and 9/16-inch open-end wrenches.
43	Straight pipe fitting (9)	Line (10) Screw on and tighten using 7/16-inch and 9/16-inch open-end wrenches.



TA244626

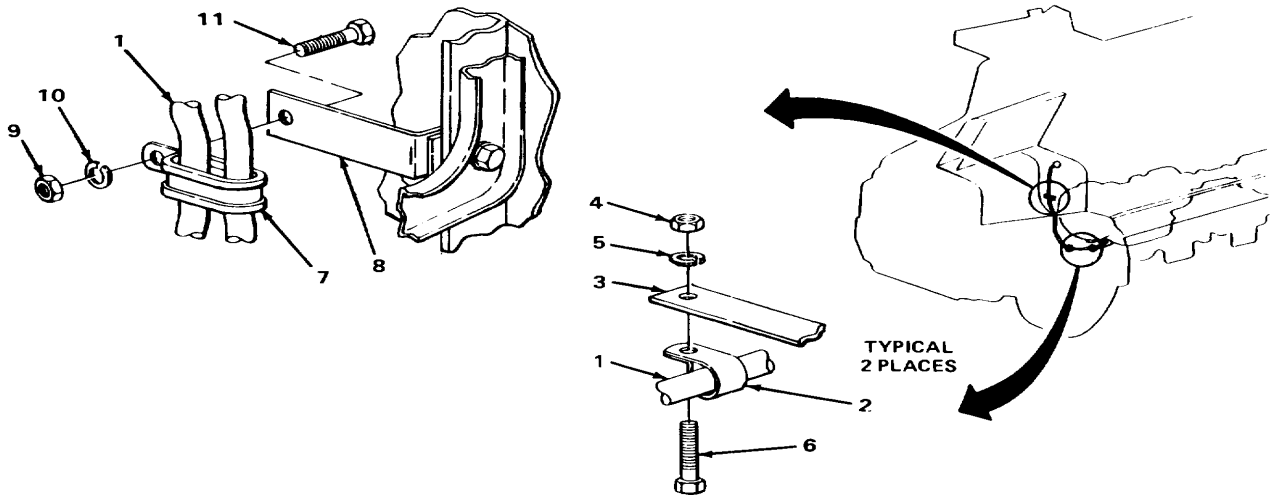


TRANSMISSION OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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INSTALLATION - CONTINUED

44	Line (1)	Two clamps (2)	Put on.
45	Brackets (3)	Nuts (4), new lockwashers (5), clamps (2), and screws (6)	Screw in and tighten using two 7/16-inch open-end wrenches.
46	Line (1)	Clamp (7)	Put on.
47	Bracket (8)	Nut (9), new lockwasher (10), clamp (7), and screw (11)	Screw in and tighten using two 7/16-inch open-end wrenches.



48	Bulkhead fitting (12)	Small nut (13)	Screw on until a few threads can be seen at one end.
49	Flat washer (14)	Put on.	
50	Engine side of firewall (15)	Bulkhead fitting (12), small nut (13), and flat washer (14)	Put in.

TA244625

**TRANSMISSION OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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NOTE

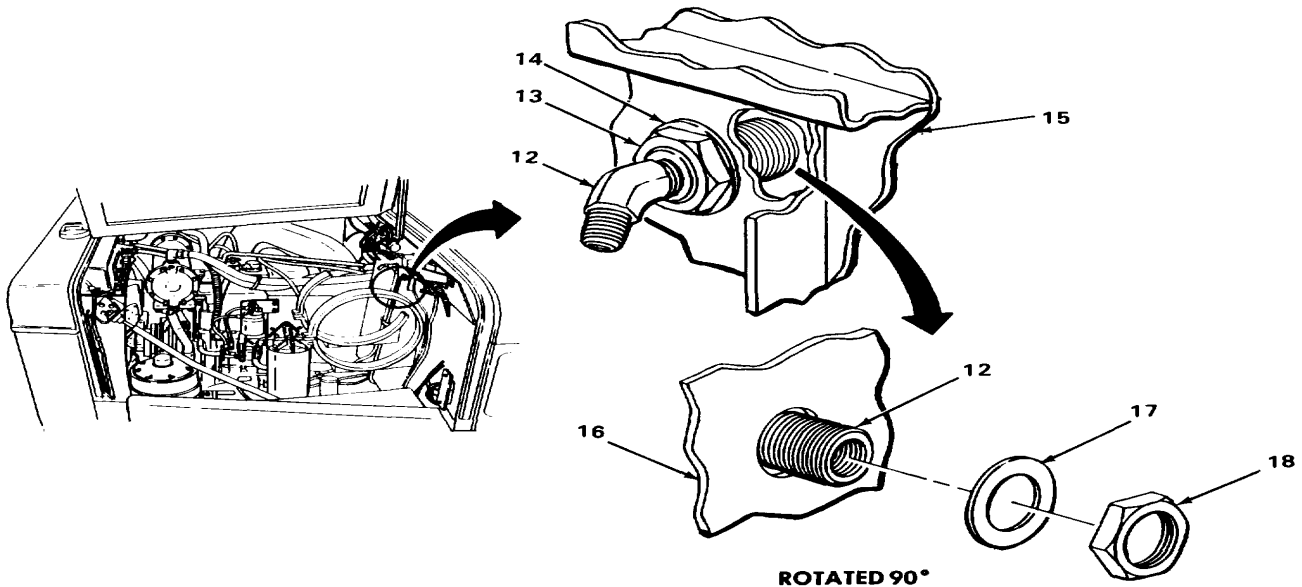
Assistance will be required to perform steps 51, 52, and 53.

51 Small nut (13) Hold nut from turning using 1-inch open-end wrench.

52 Bulkhead fitting (12) on driver's side of firewall (16) Flat washer (17) Put on.

53 Nut (18) Screw on and tighten using 11/2-inch drive, 1 11/8-inch deep socket, 10-inch extension, and ratchet handle.

TA244626  
2-1461

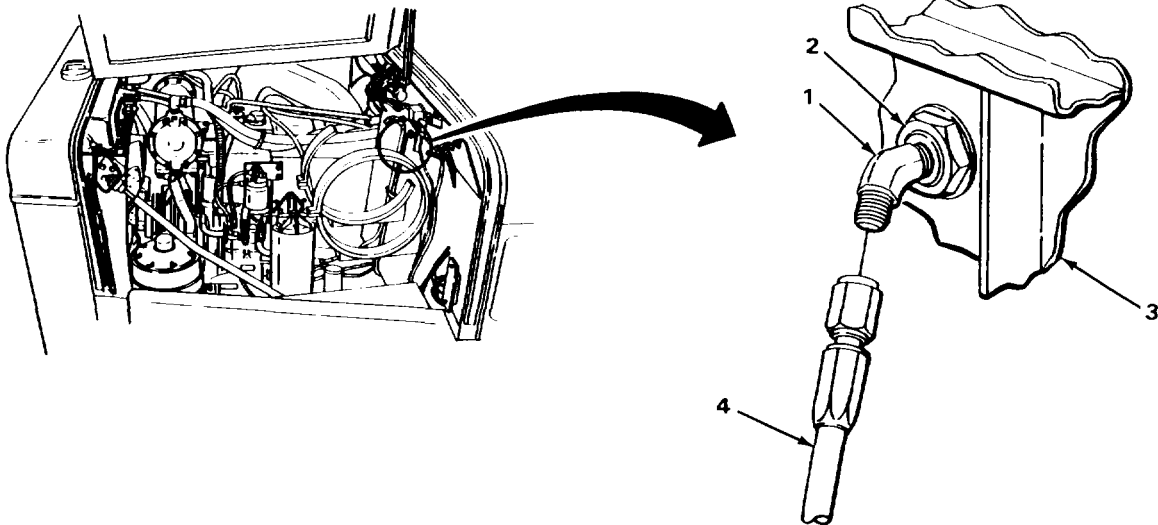


TA244626

2-1461

TRANSMISSION OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
54	45-degree elbow (1)	Wrap pipe threads with antiseizing tape (page 2-424).
55 Bulkhead fitting (2) on engine side of firewall (3)	45-degree elbow (1)	Screw in and tighten using 7/16-inch open-end wrench. Position elbow toward line.
56 45-degree elbow (1)	Line (4)	Screw on and tighten using 7/16-inch and 9/16-inch open-end wrenches.



57	90-degree elbow (5)	Wrap pipe threads with antiseizing tape (page 2-424).
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**CAUTION**

Use care when working behind instrument panel to prevent breaking or disconnecting wires.

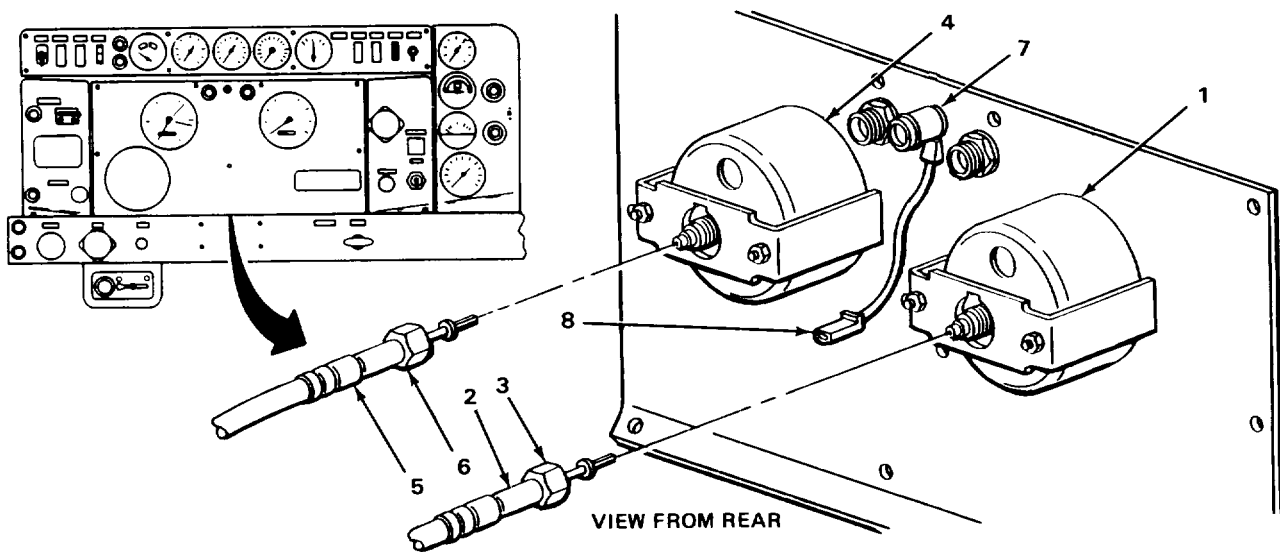
58 Bulkhead fitting (3) on driver's side of firewall (6)	90-degree elbow (5)	Screw in and tighten using 1/2-inch open-end wrench.
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TA244627



TRANSMISSION OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED

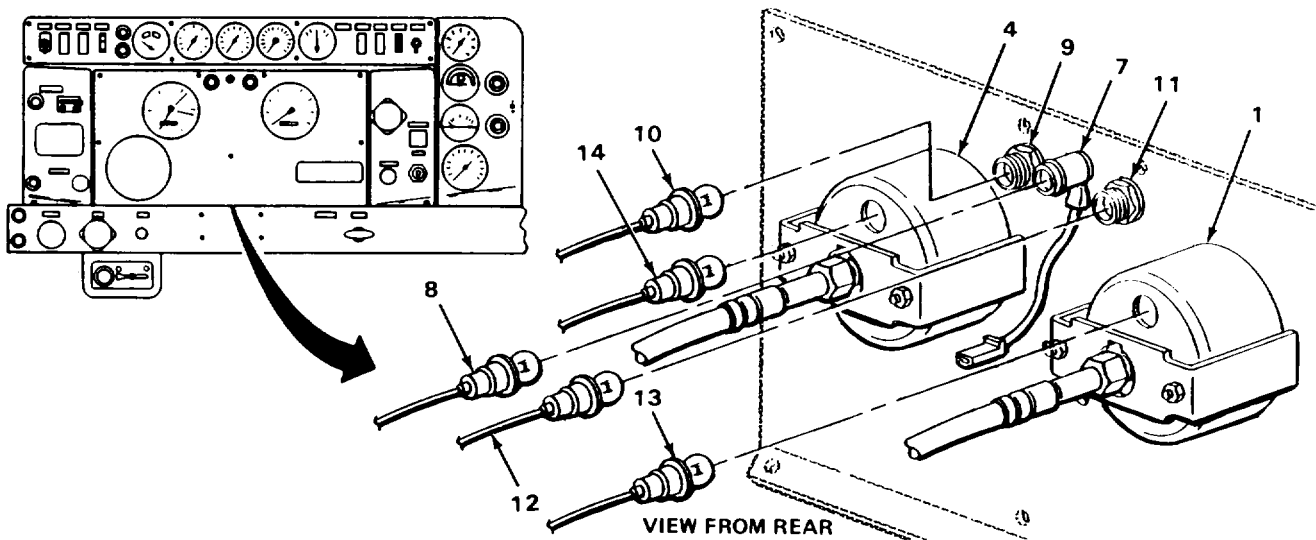
LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
64 Tachometer (1)	Tachometer drive cable (2)	Put in. Aline square end of drive tip with square hole of tachometer.
65	Cable retainer nut (3)	Screw on and tighten using 3/4-inch open-end wrench.
66 Speedometer (4)	Speedometer drive cable (5)	Put in. Aline square end of drive tip with square hole of speedometer.
67	Cable retainer nut (6)	Screw on and tighten using 3/4-inch open-end wrench.
68 High beam indicator (7)	Ground wire (8)	a Put on. b Get rid of tag.



TA244629

**TRANSMISSION OIL PRESSURE GAGE LINE AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
69	High beam indicator (7)	a Push in. b Get rid of tag.	
70	Right directional indicator (9)	a Push in. b Get rid of tag.	
71	Left directional indicator (11)	a Push in. b Get rid of tag.	
72	Tachometer (1)	a Push in. b Get rid of tag.	
73	Speedometer (4)	a Push in. b Get rid of tag.	



**NOTE**

**FOLLOW-ON MAINTENANCE:**

- 1 Close upper center instrument panel (page 2-424)
- 2 Close lower center instrument panel (page 2-424).
- 3 Install air cleaner housing (page 2-452)
- 4 Close left side cab door (page 2-424).

**TASK ENDS HERE**

TA244630

**AIR CLEANER VACUUM GAGE**

This task covers:

- a Removal (page 2-1466)
- b Inspection/Replacement (page 2-1467)
- c Installation (page 2-1468)

**INITIAL SETUP**

**Tools**

- Wrench, open-end, 3/8-inch
- Wrench, open-end, 9/16-inch (two required)
- Wrench, open-end, 3/4-inch

- Lockwasher, gage (two required)
- Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**Equipment Condition**

- Left side cab door opened (page 2-424).
- Right instrument panel opened (page 2-424).

LOCATION	ITEM	ACTION REMARKS
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**REMOVAL**

**CAUTION**

Use care when working behind right instrument panel to prevent breaking or disconnecting wires.

1	Elbow (1)  Line (2)	Using two 9/16-inch open-end wrenches, unscrew and take off.
2	Adapter (3)  Elbow (1)	Using 9/16-inch and 3/4-inch open-end wrenches, unscrew and take out.
3	Gage (4)  Adapter (3)	Using 3/4-inch open-end wrench, unscrew and take off.
4	Two nuts (5) and two lockwashers (6)	<ul style="list-style-type: none"> <li>a Hold gage.</li> <li>b Using 3/8-inch open-end wrench, unscrew and take off.</li> <li>c Get rid of lockwashers.</li> </ul>
5	Mounting bracket (7)	Take off.

**AIR CLEANER VACUUM GAGE - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
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6	Right instrument panel (8)	Gage (4)	Take out.
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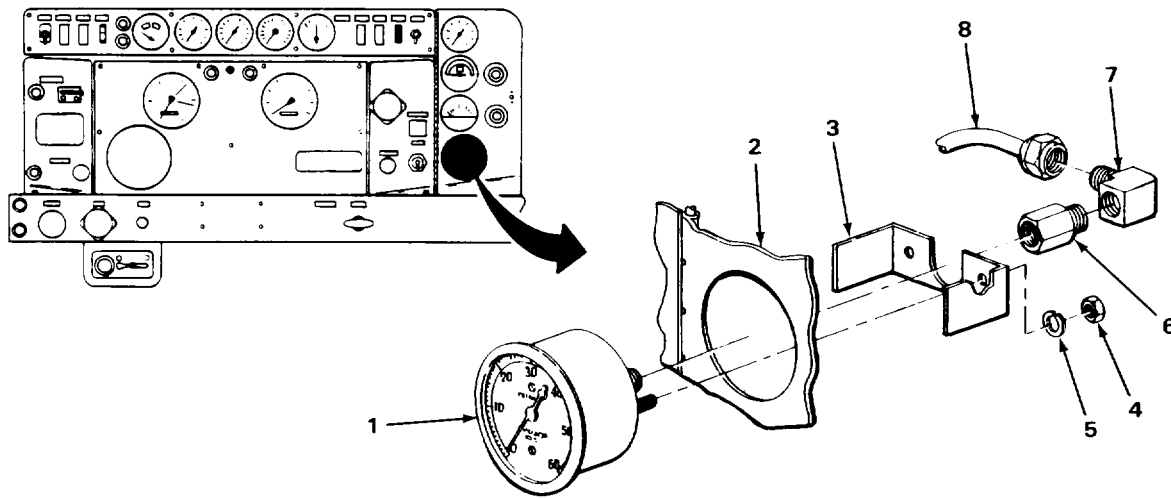
**INSPECTION/REPLACEMENT**

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

7	Gage (4)	a Look for cracks or dents. b Check to see if gage is readable.
8	Mounting bracket (7)	Look for cracks, bends, or breaks.
9	All threaded parts	Look for damaged threads or rounded heads.

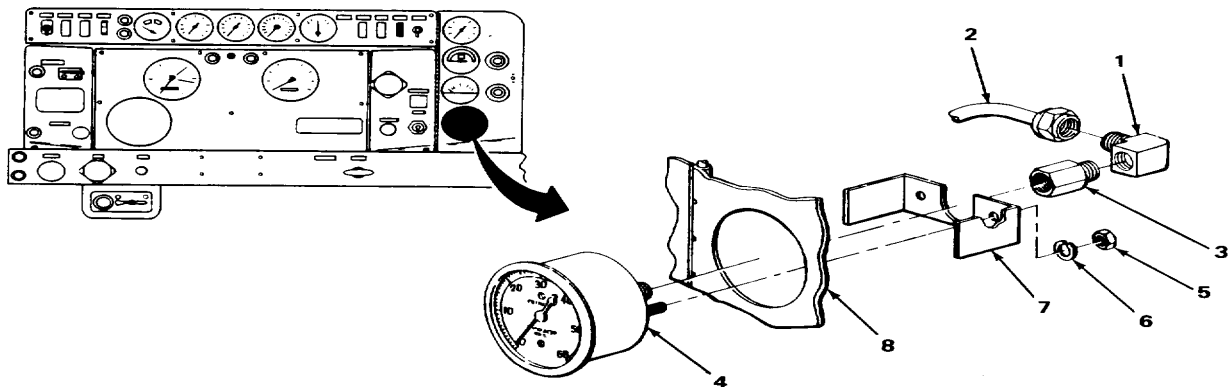


TA244631



**AIR CLEANER VACUUM GAGE - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
10	Gage (1)	Wrap pipe threads with antiseizing tape (page 2-424).	
11	Right instrument panel (2)	Gage (1) Position as shown.	Put in and hold.
12	Gage (1)	Mounting bracket (3)	Put on.
13	Two nuts (4) and two new lockwashers (5)		Screw on and tighten using 3/8-inch open-end wrench.
14	Adapter (6)		Screw on and tighten using 3/4-inch open-end wrench.
15	Elbow (7)		Wrap pipe threads with antiseizing tape (page 2-424).
16	Adapter (6)	Elbow (7)	Screw in and tighten using 9/16-inch and 3/4-inch open-end wrenches. Position as shown.
17	Elbow (7)	Line (8)	Screw on and tighten using two 9/16-inch open-end wrenches.



TA244632

**AIR CLEANER VACUUM GAGE - CONTINUED****NOTE****FOLLOW-ON MAINTENANCE:**

- 1 Close right instrument panel (page 2-424).
- 2 Close left side cab door (page 2-424).

**TASK ENDS HERE****WATER TEMPERATURE GAGE AND LINE**


---

This task covers:

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>a Removal (page 2-1470)</li> <li>b Inspection/Replacement<br/>(page 2-1471)</li> </ol> | <ol style="list-style-type: none"> <li>c Installation (page 2-1472)</li> </ol> |
|---|--|
- 

**INITIAL SETUP****Tools**

Piers, diagonal-cutting, 6-inch  
 Wrench, open-end, 31/8-inch  
 Wrench, open-end, 5/8-inch  
 Wrench, open-end, 7/8-inch

**Materials/Parts**

Lockwasher, gage (two required)  
 Strap, tiedown (item 20, appendix C)

**Personnel Required**

One

**Equipment Condition**

Left side cab door opened (page 2-424).  
 Upper center instrument panel opened  
 (page 2-424).  
 Right and left side hood panels opened  
 (page 2-424)  
 Cooling system drained (page 2-628).

**WATER TEMPERATURE GAGE AND LINE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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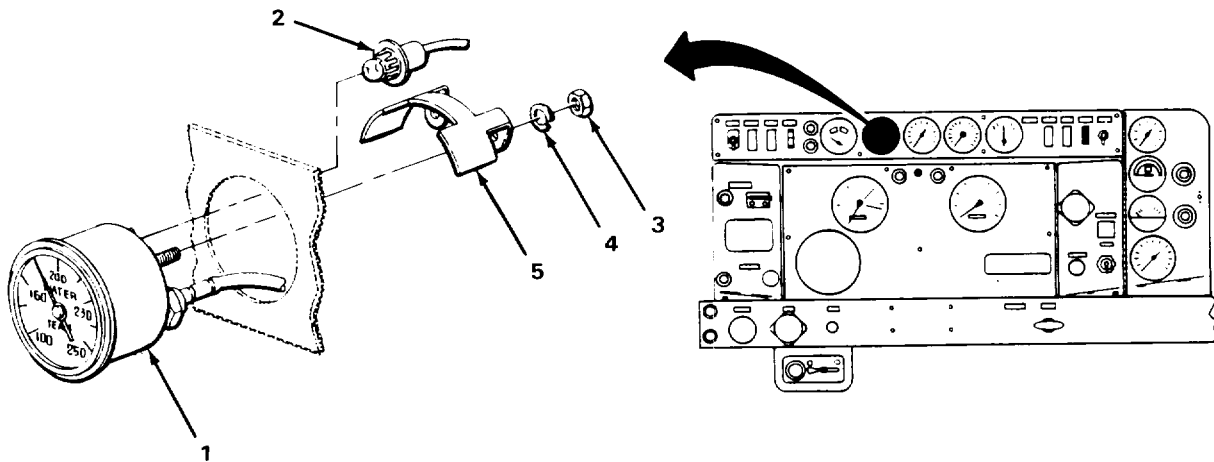
REMOVAL

**CAUTION**

Use care when working behind upper center instrument panel to prevent breaking or disconnecting wires.

Make sure water temperature gage is not disconnected from line. Damage to gage will occur.

1	Gage (1)	Light socket (2)	Pull out.
2		Two nuts (3) and two lockwashers (4)	a Using 3/8-inch open-end wrench, unscrew and take off. b Get rid of lockwashers.
3		Mounting bracket (5)	Take off.



4	Engine side of firewall (6) and bracket (7)	Electrical tiedown strap (8)	a Using 6-inch diagonal-cutting pliers, cut off. b Get rid of strap.
5	Front water manifold (9)	Line retainer nut (10)	Using 5/8-inch and 7/8-inch open-end wrenches, unscrew and slide back.

TA244633

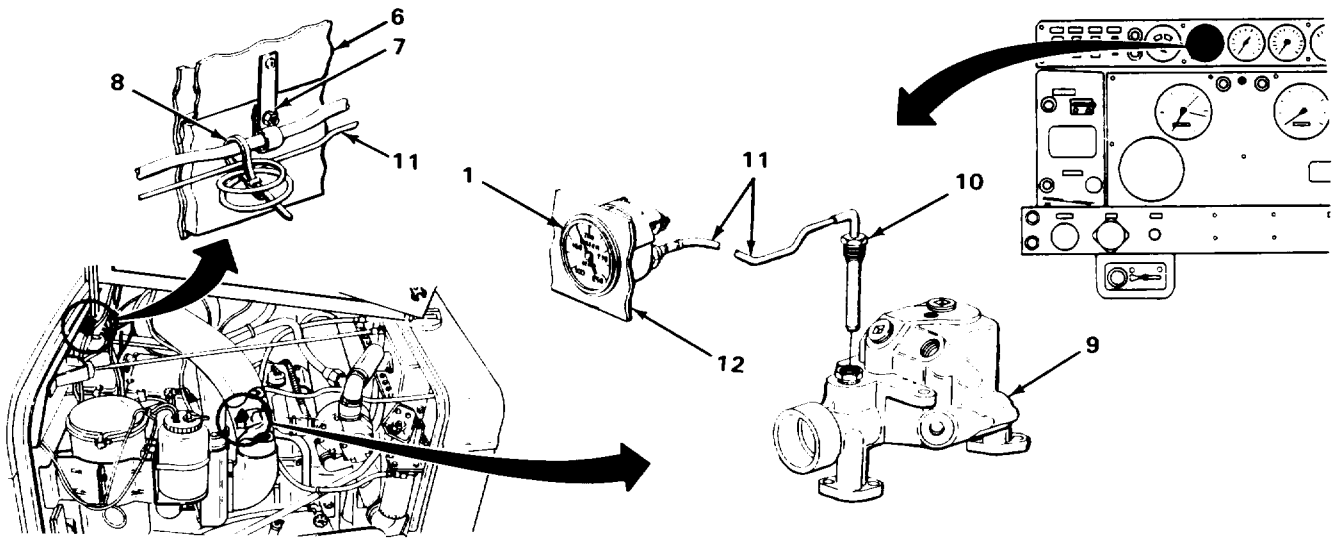
**WATER TEMPERATURE GAGE AND LINE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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**CAUTION**

Use care when performing steps 6 and 7 to prevent damage to water temperature gage and line.

6	Front water manifold (9)	Line (11)	Take out.
7	Upper center instrument panel (12)	Gage (1) and line (11)	Carefully pull through.



**INSPECTION/REPLACEMENT**

**NOTE**

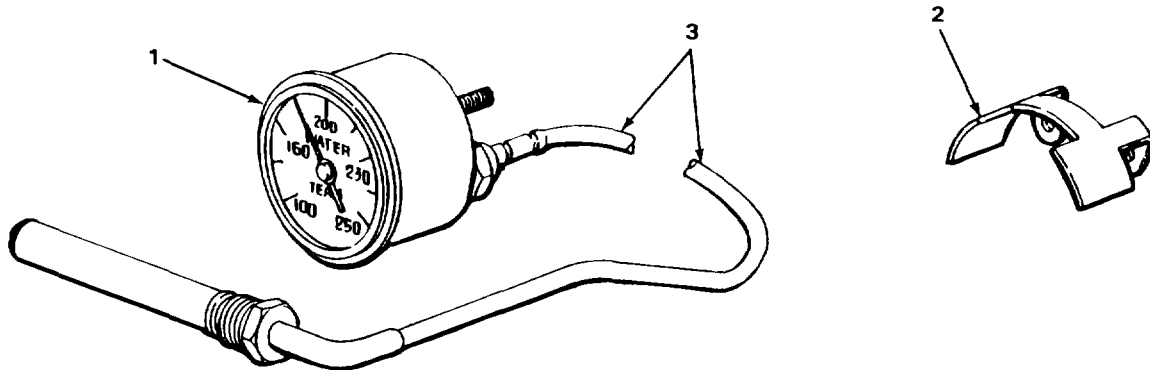
Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

TA244634

**WATER TEMPERATURE GAGE AND LINE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
<b>INSPECTION/REPLACEMENT - CONTINUED</b>		
8	Gage (1)	a. Look for cracks or dents. b. Check to see if gage is readable.
9	Mounting bracket (2)	Look for cracks, bends, or breaks.
10	Line (3)	Look for cracks, kinks, or worn line covering.
11	All threaded parts	Look for damaged threads or rounded heads.



**INSTALLATION**

**CAUTION**

Make sure water temperature gage is not disconnected from line. Damage to gage will occur.

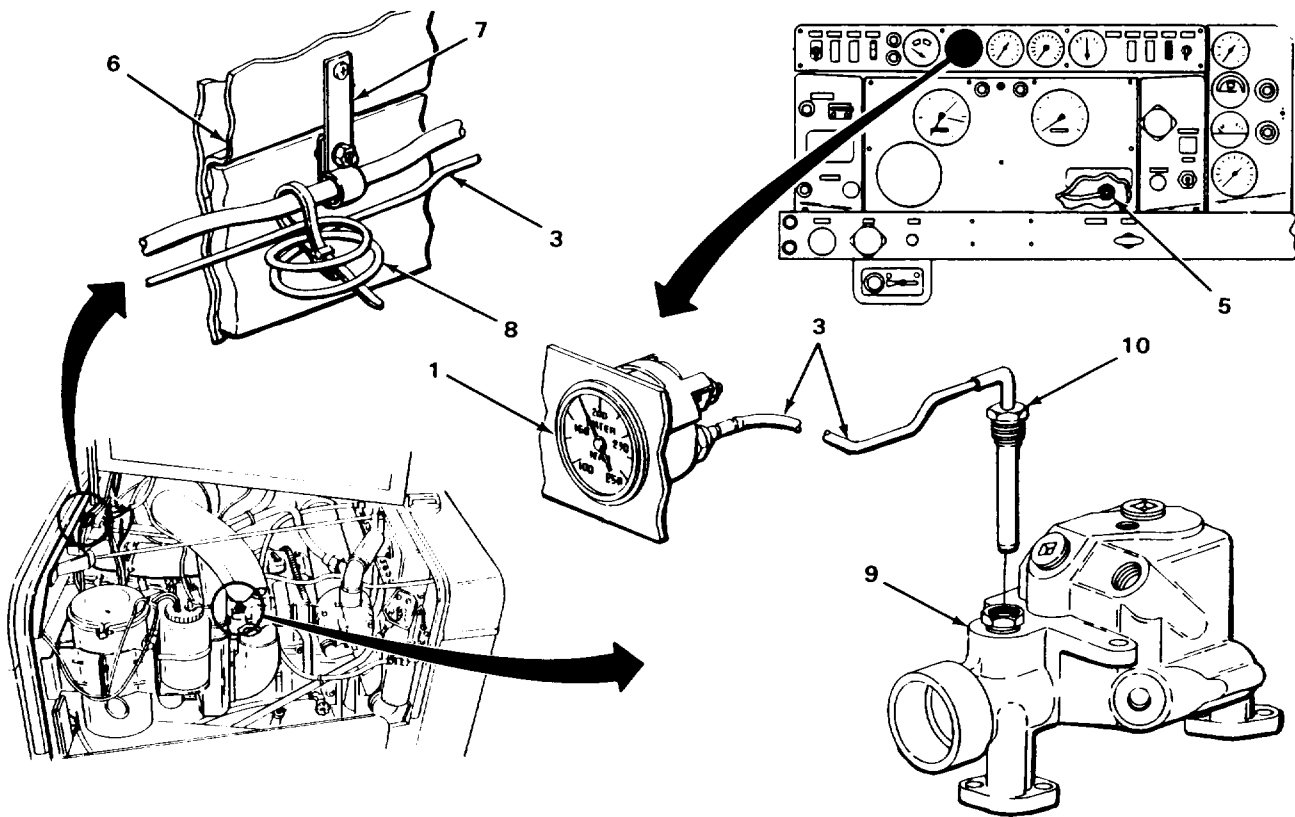
Use care when working behind upper center instrument panel to prevent breaking or disconnecting wires.

Use care when performing steps 12 and 13 to prevent damage to water temperature gage and line.

TA244635

**WATER TEMPERATURE GAGE AND LINE - CONTINUED**

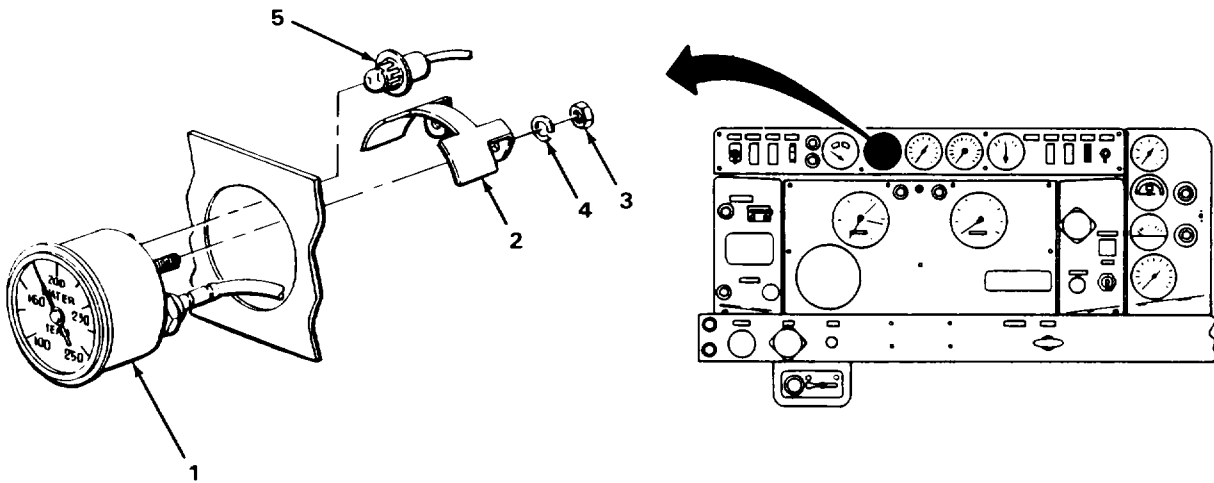
LOCATION	ITEM	ACTION REMARKS
12 Upper center instrument panel (4) and driver's side of firewall (5)	Gage (1) and line (3)	Carefully put through. Position gage as shown.
13 Engine side of firewall (6), bracket (7), and line (3)	New electrical tiedown strap (8)	Wrap loosely.
14 Front water manifold (9)	Line (3)	Put in.
15	Line retainer nut (10)	Screw in and tighten using 5/8-inch and 7/8-inch open-end wrenches.



TA244636

**WATER TEMPERATURE GAGE AND LINE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
16 Gage (1)	Mounting bracket (2)	Put on.
17	Two nuts (3) and two new lockwashers (4)	Screw on and tighten using 3/8-inch open- end wrench. lockwashers (4)
18	Light socket (5)	Push in.



**NOTE**

**FOLLOW-ON MAINTENANCE:**

- 1 Close center instrument panel (page 2-424).
- 2 Fill cooling system (page 2-628).
- 3 Close left side cab door (page 2-424).
- 4 Close right and left side hood panels (page 2-424).

**TASK ENDS HERE**

TA244637

**FUEL PRESSURE GAGE**

This task covers:

- a Removal (page 2-1475)
- b Inspection/Replacement (page 2-1476)
- c Installation (page 2-1476)

**INITIAL SETUP**

**Tools**

Wrench, open-end, 3/8-inch  
 Wrench, open-end, 9/16-inch (two required)

**Materials/Parts**

Lockwasher, gage (two required)  
 Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**Equipment Condition**

Left side cab door opened (page 2-424).  
 Right instrument panel opened (page 2-424).

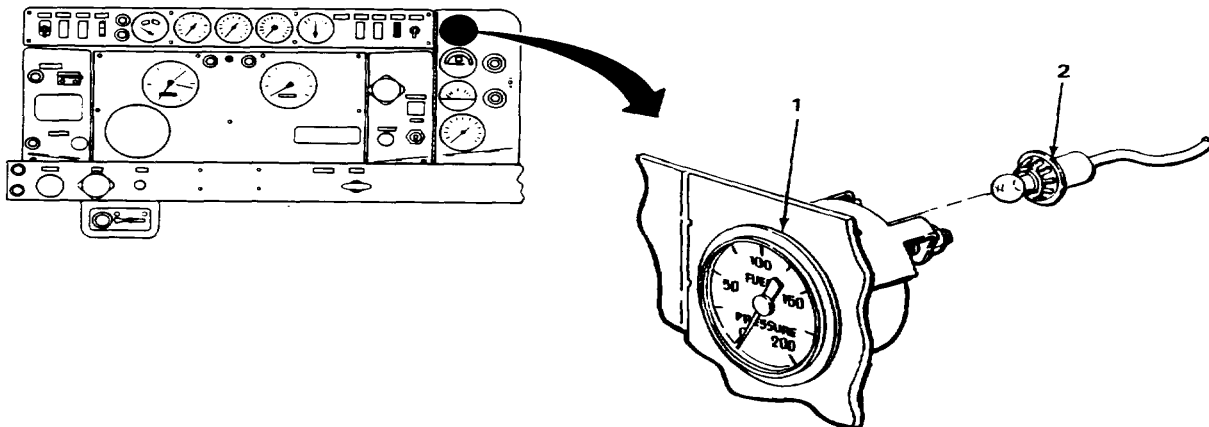
LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

**REMOVAL**

**CAUTION**

Use care when working behind right instrument panel to prevent breaking or disconnecting wires.

- 1 Gage (1)
- Light socket (2)
- Pull out.



TA244638



**FUEL PRESSURE GAGE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
2 Elbow (1)	Line (2)	Using two 9/16-inch open-end wrenches, unscrew and take off.
3 Gage (3)	Elbow (1)	Using 9/16-inch open-end wrench, unscrew and take off.
4	Two nuts (4) and two lockwashers (5) screw and take off.	a Hold gage. b Using 3/8-inch open-end wrench, unscrew and take off.
5.	Mounting bracket (6)	c Get rid of lockwashers. Take off.
6 Right instrument panel (7)	Gage (3)	Take out.

INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

7.	Gage (3)	a Look for cracks or dents. b Check to see if gage is readable.
9.	Mounting bracket (6) All threaded parts	Look for cracks, bends, or breaks. Look for damaged threads or rounded heads.

INSTALLATION

**CAUTION**

Use care when working behind right instrument panel to prevent breaking or disconnecting wires.

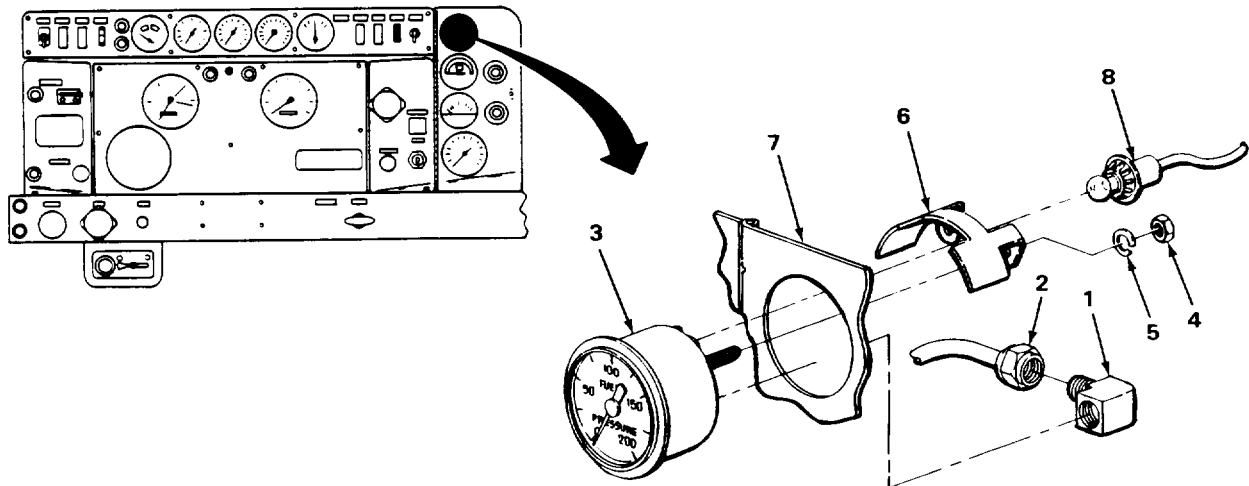
FUEL PRESSURE GAGE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
10	Gage (3)	Wrap pipe threads with antiseizing tape (page 2-424).
11 Right instrument panel (7)	Gage (3)	Put in and hold. Position as shown.
12 Gage (3)	Mounting bracket (6)	Put on.
13 Gage (3)	Two new lockwashers (5) and two nuts (4)	Screw on and tighten using 3/8-inch open-end wrench.

**NOTE**

Position elbow so that male threads are pointing toward hinge in instrument panel.

14	Elbow (1)	Screw on and tighten using 9/16-inch open-end wrench. <b>Position as shown.</b>
15 Elbow (1)	Line (2)	Screw on and tighten using two 9/16-inch open-end wrenches.
16 Gage (3)	Light socket (8)	Push in.



TA244639

**FUEL PRESSURE GAGE - CONTINUED**

**NOTE**

FOLLOW-ON MAINTENANCE:

- 1 Close right instrument panel (page 2-424).
- 2 Close left side cab door (page 2-424).

**TASK ENDS HERE**

**AIR PRESSURE GAGE**

This task covers:

- |  |                              |
|--|------------------------------|
| a Removal (page 2-1478)                | c Installation (page 2-1480) |
| b Inspection/Replacement (page 2-1479) |                              |

**INITIAL SETUP**

**Tools**

Wrench, open-end, 1/2-inch  
Wrench, open-end, 9/16-inch

**Materials/Parts**

Tags, marker (item 21, appendix C)  
Tape, antiseizing (item 22, appendix C)

**Personnel Required**

One

**Equipment Condition**

Left side cab door opened (page 2-424).  
Upper center instrument panel opened (page 2-424).

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

**REMOVAL**

**CAUTION**

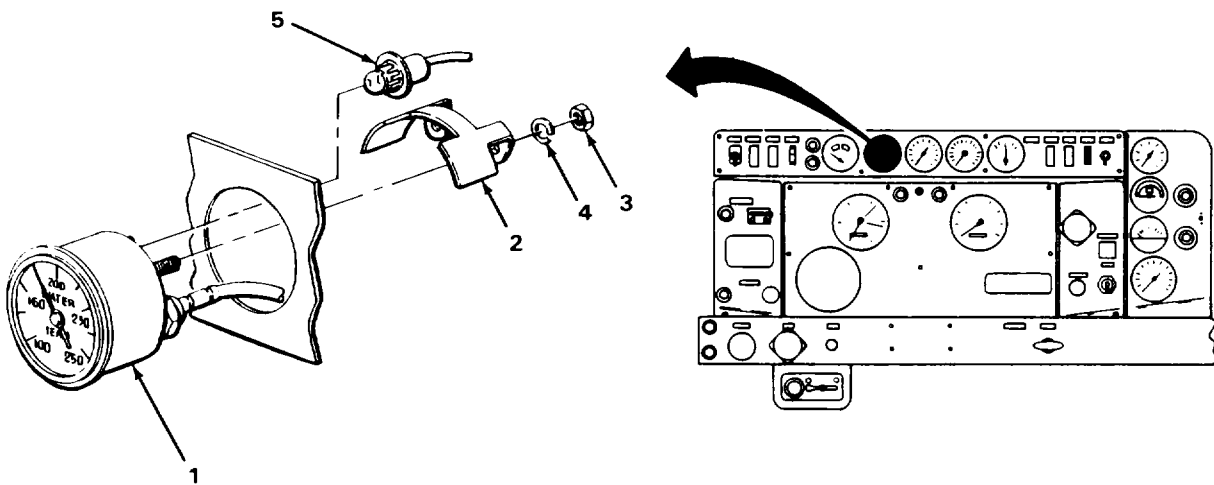
Use care when working behind upper center instrument panel to prevent breaking or disconnecting wires.

Pull out.

- |                    |                  |  |
|--------------------|------------------|--|
| 1 Gage (1)         | Light socket (2) |  |
| 2 Two adapters (3) | Two lines (4)    | a Tag (page 2-424).<br>b Using 1/2-inch and 9/16-inch open-end wrenches, unscrew and take off. |

**AIR PRESSURE GAGE - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
3 Gage (1)	Two adapters (3)	Using 1/2-inch and 9/16-inch open-end wrenches, unscrew and take off.
4 Two nuts (5)		a Hold gage. b Using 9/16-inch open-end wrench, unscrew and take off.
5	Mounting bracket (6)	Take off.
6 Upper instrument panel (7)	Gage (1)	Take out.



**INSPECTION/REPLACEMENT**

**NOTE**

Replace all damaged or defective parts.

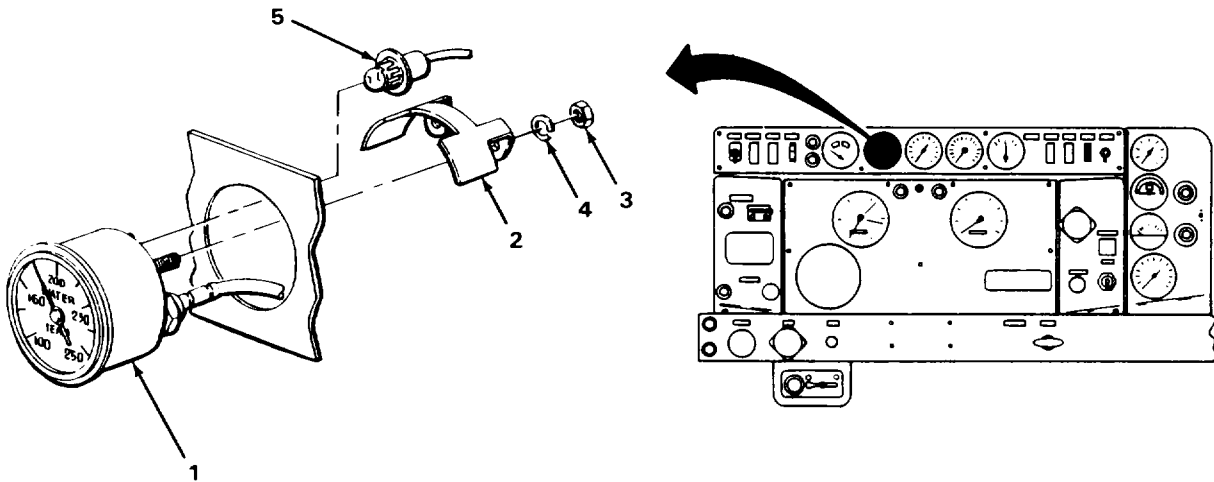
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

TA244640

## AIR PRESSURE GAGE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSPECTION/REPLACEMENT - CONTINUED		
7	Gage (1)	a Look for cracks or dents. b Check to see if gage is readable.
8	Mounting bracket (2)	Look for cracks, bends, or breaks.
9	All threaded parts	Look for damaged threads or rounded heads.
INSTALLATION		
<b><u>CAUTION</u></b>		
Use care when working behind upper center instrument panel to prevent breaking or disconnecting wires.		
10	Gage (1)	Wrap pipe threads with antiseizing tape (page 2-424).
11	Upper center instrument panel (3)	Put in and hold. Gage (1)
		Position as shown.
12	Gage (1)	Mounting bracket (2)
		Put on.
13	Two nuts (4)	Screw on and tighten using 9/16-inch open-end wrench.
14		Screw on and tighten using 1/2-inch and 9/16-inch open-end wrenches.
15	Two adapters (5)	a Screw on and tighten using 1/2-inch and 9/16-inch open-end wrenches b Get rid of tags.
16	Gage (1)	Light socket (7)
		Push in.

**AIR PRESSURE GAGE - CONTINUED**



**NOTE**

**FOLLOW-ON MAINTENANCE:**

- 1 Close upper center instrument panel (page 2-424).
- 2 Close left side cab door (page 2-424).

**TASK ENDS HERE**

**AIR CLEANER VACUUM GAGE LINE AND FITTINGS**

This task covers:

- |                          |  |
|--------------------------|--|
| a Removal (page 2-1482)  | c Inspection/Replacement (page 2-1486) |
| b Cleaning (page 2-1484) | d Installation (page 2-1486)           |

**INITIAL SETUP**

**Tools**

- Goggles, safety
- Gun, blow, air
- Hose, air, assembly
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 1/2-inch
- Wrench, open-end, 9/16-inch (two required)
- Wrench, open-end, 3/4-inch

**Materials/Parts**

- Adhesive, liquid rubber (item 1, appendix C)
- Detergent, liquid, GP (item 7, appendix C)
- Tape, antiseizing (item 22, appendix C)

**AIR CLEANER VACUUM GAGE LINE AND FITTINGS - CONTINUED**

INITIAL SETUP - CONTINUED

Personnel Required

One

Equipment Condition

Left cab door opened (page 2-424).  
Right instrument panel opened  
(page 2-424).

Equipment Condition - Continued

Right and left side hood panels opened  
(page 2-424).

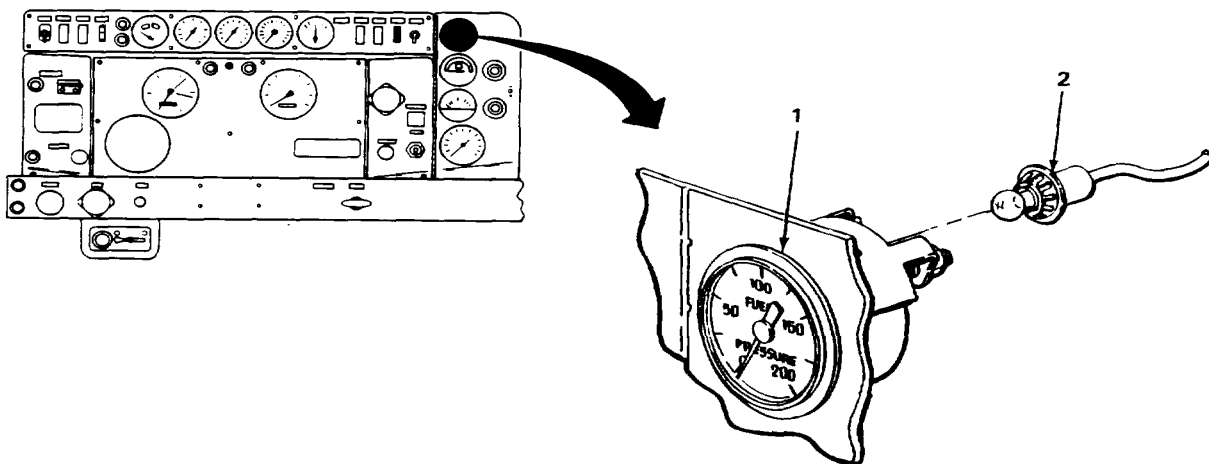
LOCATION	ITEM	ACTION REMARKS
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REMOVAL

**CAUTION**

Use care when working behind right instrument panel to prevent breaking or disconnecting wires.

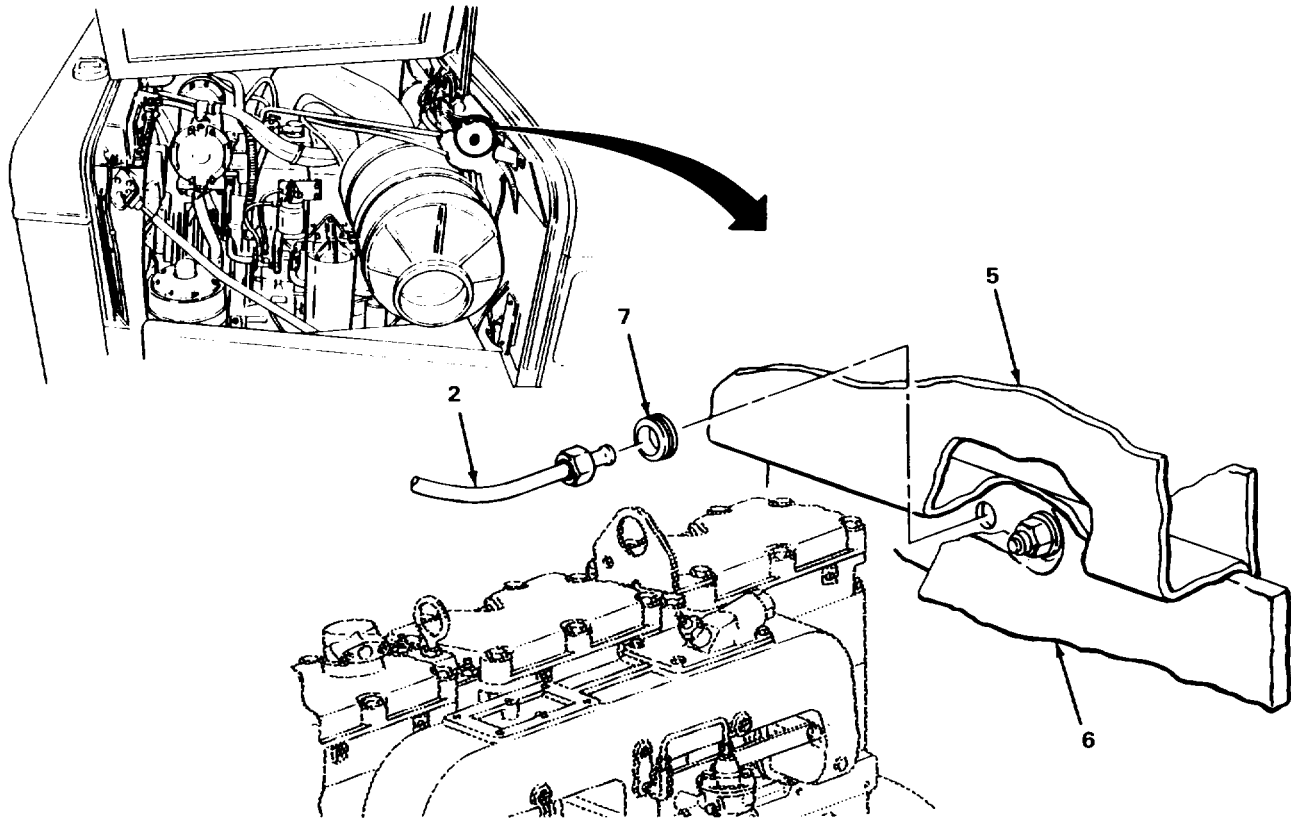
- |               |             |   |
|---------------|-------------|---|
| 1 Elbow (1)   | Line (2)    | Using two 9/16-inch open-end wrenches, unscrew and take off.          |
| 2 Adapter (3) | Elbow (1)   | Using 3/4-inch and 9/16-inch open-end wrenches, unscrew and take off. |
| 3 Gage (4)    | Adapter (3) | Using 3/4-inch open-end wrench, unscrew and take off.                 |



TA244642

**AIR CLEANER VACUUM GAGE LINE AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
4 Engine side of firewall (5) and line (2)	Insulation (6)	Pull back.
5	Grommet (7)	Take out.
6 Engine side of firewall (5)	Line (2)	Pull through.



**NOTE**

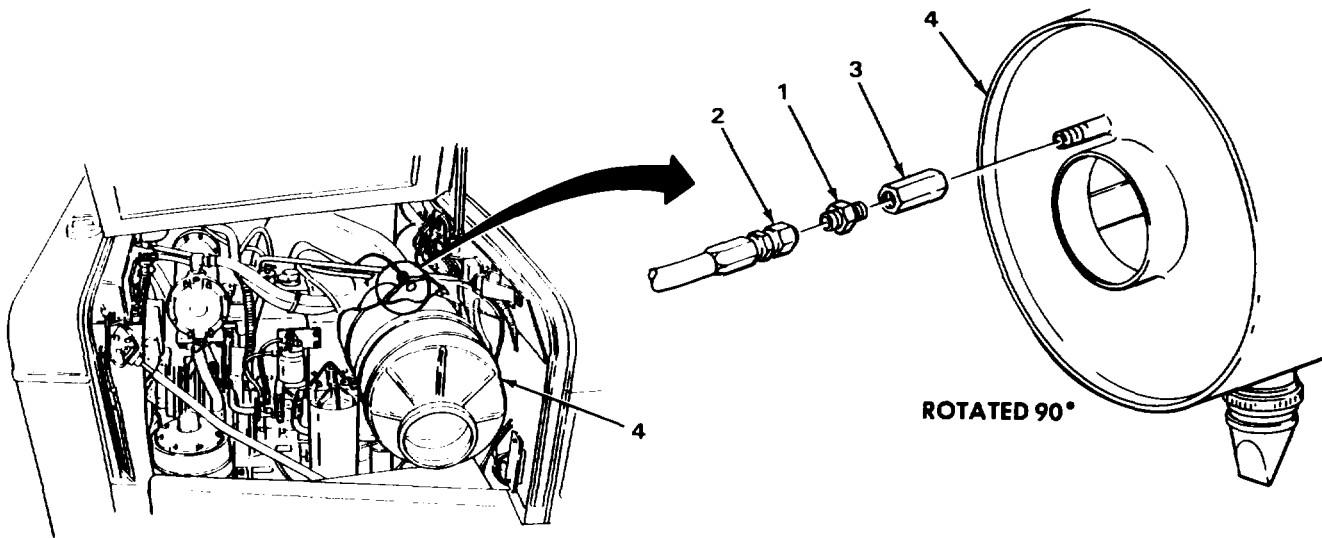
Perform steps 7, 8, and 9 from right side of engine.

TA244643



**AIR CLEANER VACUUM GAGE LINE AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
7	Straight pipe fitting (1)	Using 9/16-inch and 7/16-inch open-end wrenches, unscrew and take off.
8	Coupling (3)	Using 7/16-inch and 1/2-inch open-end wrenches, unscrew and take out.
9	Air cleaner housing (4)	Using 1/2-inch open-end wrench, unscrew and take off.



**CLEANING**

**WARNING**

Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and cause damage to equipment Refer to TM 9-247.

**NOTE**

Line and fittings must be cleaned thoroughly.

TA244644

**AIR CLEANER VACUUM GAGE LINE AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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**NOTE**

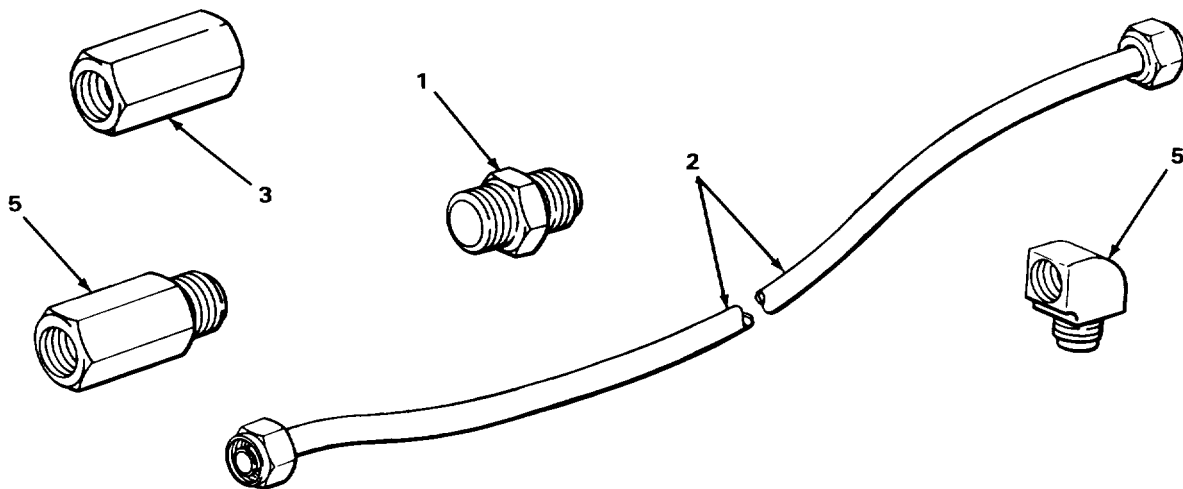
For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

10	All parts	Using liquid detergent and water, clean thoroughly.
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**WARNING**

Particles blown by compressed air are hazardous. Make certain the air stream is directed away from user and other personnel in the area. Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa). User must wear safety goggles or face shield to prevent injury to personnel.

11	Line (2), fittings (1 and 5), and coupling (3)	Using air blow gun and air hose assembly, blow dry.
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TA244645

**AIR CLEANER VACUUM GAGE LINE AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
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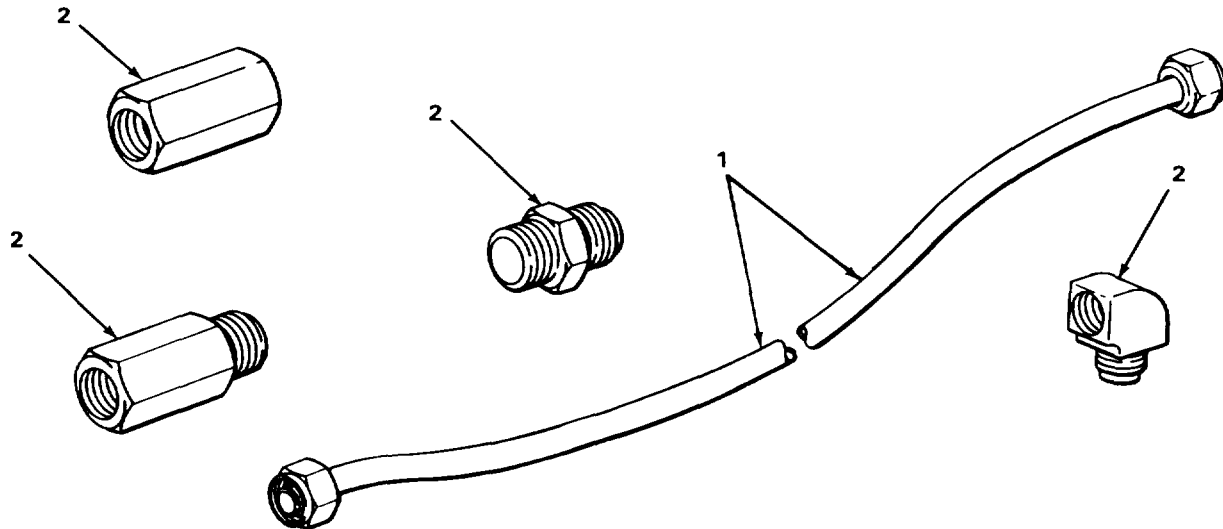
INSPECTION/REPLACEMENT

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

12	Line (1)	Look for cracks, kinks, or burn holes.
13 Line (1) and fittings (2)	Flare seats	Look for cracks, bends, or dents.
14	All threaded parts	Look for damaged threads or rounded heads.



INSTALLATION

**CAUTION**

Antiseizing tape must be used on all pipe threads to provide a good seal and to prevent threaded parts from seizing.

TA244646

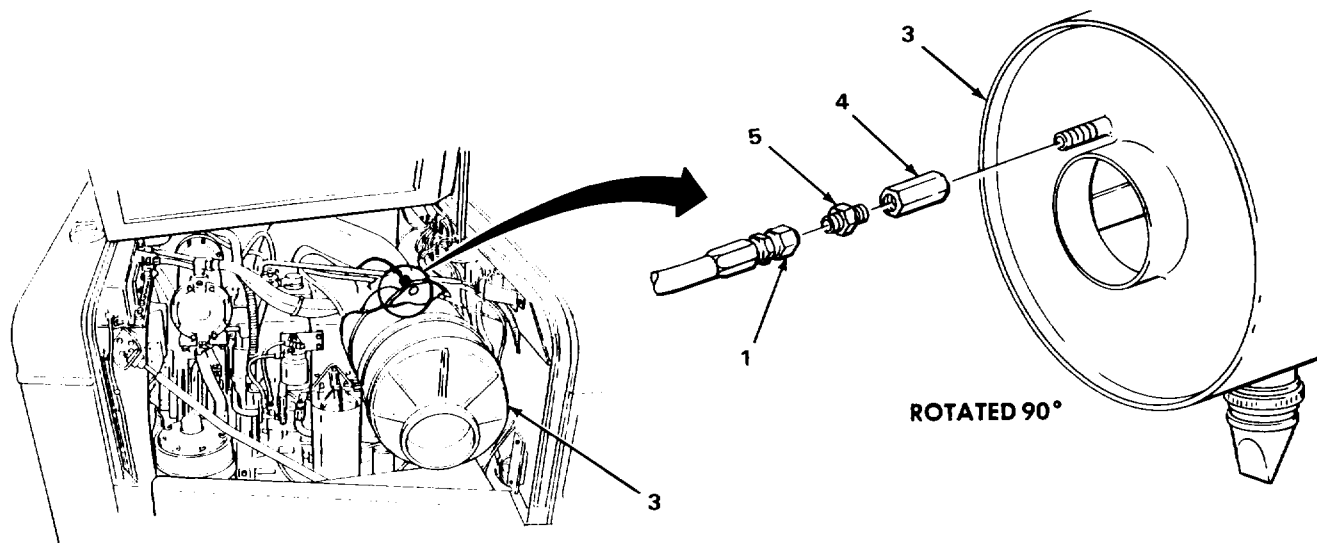
**AIR CLEANER VACUUM GAGE LINE AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
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**NOTE**

For more information on how to use antiseizing tape, go to General Maintenance Instructions (page 2-424).

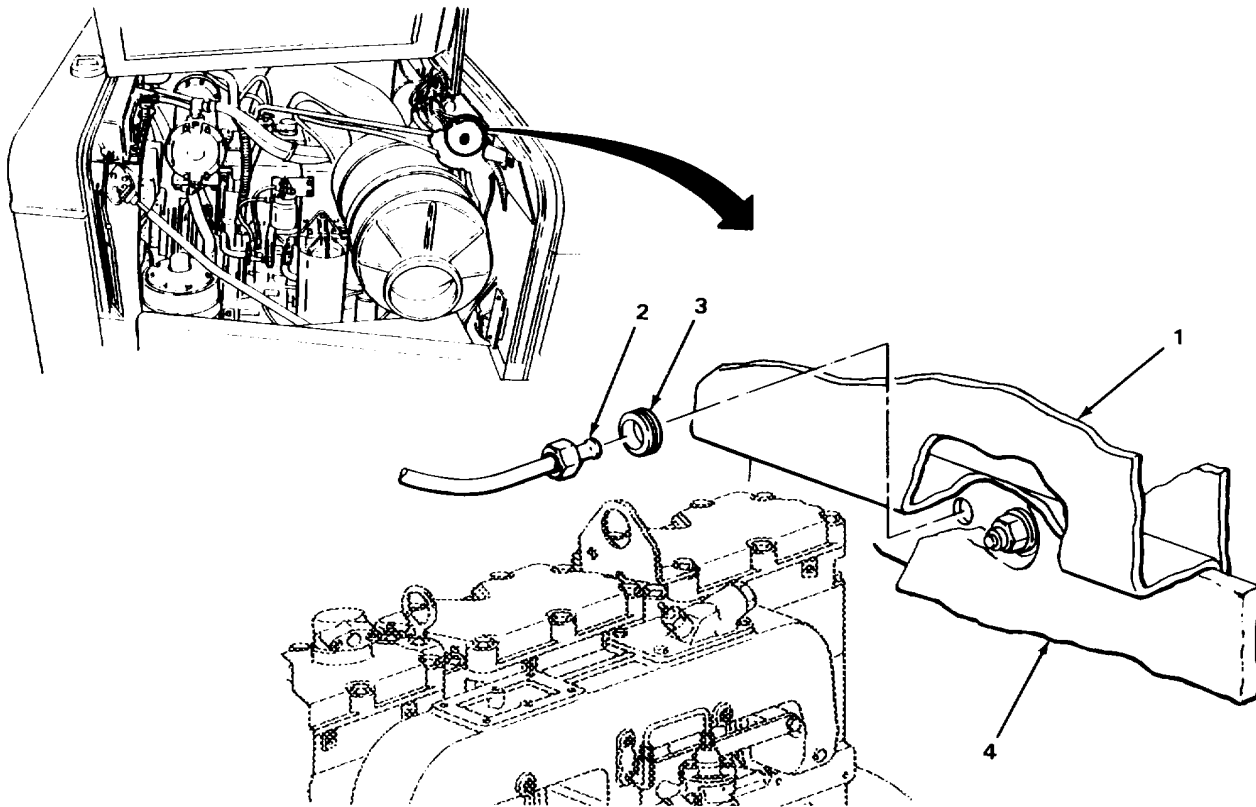
- |                               |                           |  |
|-------------------------------|---------------------------|--|
| 15.                           | Air cleaner housing (3)   | Wrap pipe threads with antiseizing tape (page 2-424).                |
| 16.                           | Coupling (4)              | Screw on and tighten using 11/2-inch open-end wrench.                |
| 17.                           | Straight pipe fitting (5) | Wrap pipe threads with antiseizing tape (page 2-424).                |
| 18. Coupling (4)              | Straight pipe fitting (5) | Screw in and tighten using 7/16-inch and 1/2-inch open-end wrenches. |
| 19. Straight pipe fitting (5) | Line (1)                  | Screw on and tighten using 7/16inch and 9/16-inch open-end wrenches. |



TA244647

**AIR CLEANER VACUUM GAGE LINE AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION - CONTINUED</b>			
20. Engine side of firewall (1)	Line (2)	Put through line hole.	
21.	Grommet (3)	Put in.	
22.	Insulation (4)	Glue into place using liquid rubber adhesive.	



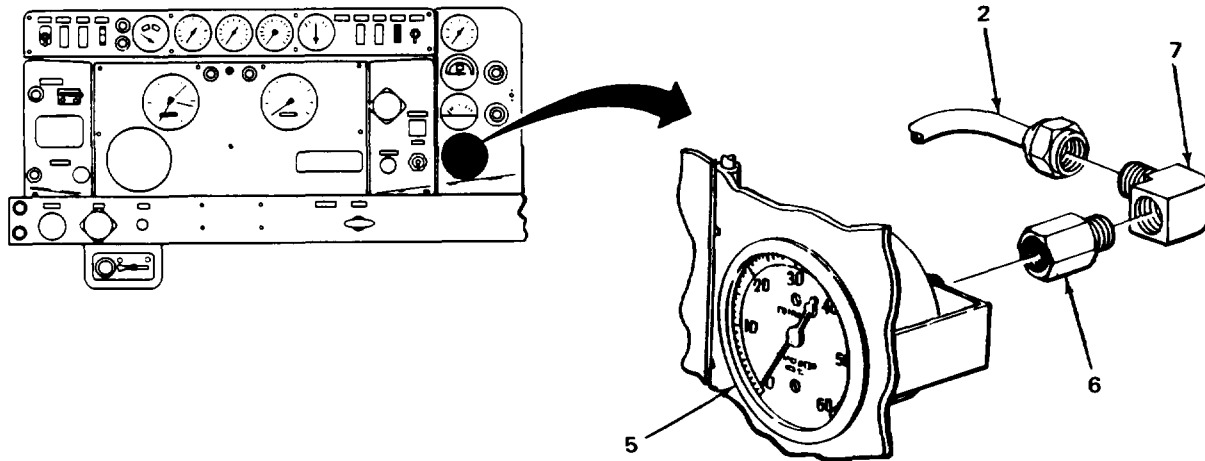
**CAUTION**

Use care when working behind right instrument panel to prevent breaking or disconnecting wires.

TA244648

**AIR CLEANER VACUUM GAGE LINE AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
23.	Gage (5)	Wrap pipe threads with antiseizing tape (page 2-424).
24.	Adapter (6)	Screw on and tighten using 3/4-inch open-end wrench.
25.	Adapter (6)	Wrap pipe threads with antiseizing tape.
26.	Elbow (7)	Screw on and tighten using 9/16-inch and 3/4-inch open-end wrenches. <b>Position as shown.</b>
27. Elbow (7)	Line (2)	Screw on and tighten using two 9/16-inch open-end wrenches.



**NOTE**

**FOLLOW-ON MAINTENANCE:**

1. Close right instrument panel (page 2-424).
2. Close left side cab door (page 2-424).
3. Close left and right side hood panels (page 2-424).

**TASK ENDS HERE**

TA244649

**AIR PRESSURE GAGE LINES AND FITTINGS**

This task covers:

- a. Removal (page 2-1490)
- b. Cleaning (page 2-1493)
- c. Inspection/Replacement (page 2-1494)
- d. Installation (page 2-1494)

**INITIAL SETUP**

Tools

- Goggles, safety
- Gun, blow, air
- Hose, air, assembly
- Wrench, open-end, 7116-inch
- Wrench, open-end, 1/2-inch
- Wrench, open-end, 9116-inch (two required)

Personnel Required

One

Equipment Condition

Left side cab door opened (page 2-424).  
Upper center instrument panel opened (page 2-424).

Materials/Parts

- Detergent, liquid, GP (item 7, appendix C)
- Tags, marker (item 21, appendix C)
- Tape, antiseizing (item 22, appendix C)

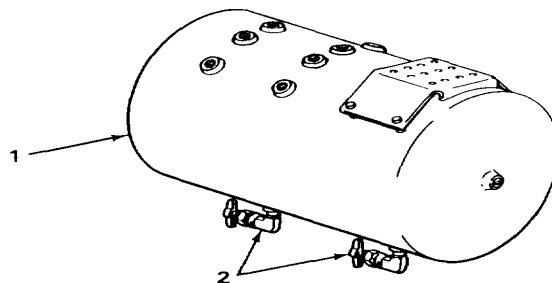
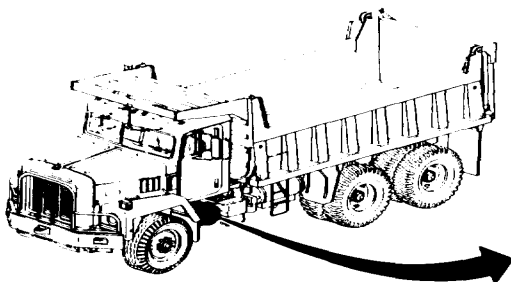
LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**

**WARNING**

Drain air from air tank system before removing lines or fittings to avoid injury to personnel from compressed air.

- |                                 |                           |   |
|---------------------------------|---------------------------|---|
| <p>1. Dry air reservoir (1)</p> | <p>Two draincocks (2)</p> | <p>a. Turn counterclockwise to open.<br/><b>Allow compressed air to drain.</b></p> <p>b. Turn clockwise to close.</p> |
|---------------------------------|---------------------------|---|



TA244650

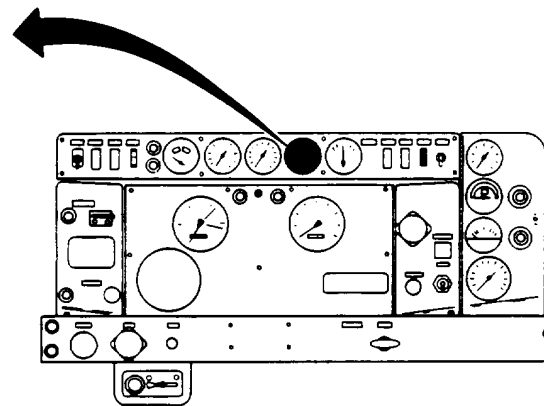
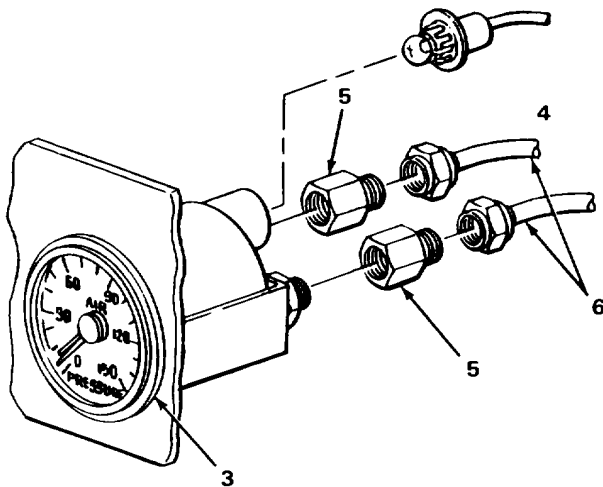
**AIR PRESSURE GAGE LINES AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

**CAUTION**

Use care when working behind upper center instrument panel to prevent breaking or disconnecting wires.

- |                     |                  |  |  |
|---------------------|------------------|--|--|
| 2. Gage (3)         | Light socket (4) | Pull out.  |  |
| 3. Two adapters (5) | Two lines (6)    | a. Tag (page 2-424).<br>b. Using 1/2-inch and 9/16-inch open-end wrenches, unscrew and take off. |  |
| 4. Gage (3)         | Two adapters (5) | Using 1/2-inch and 9/16-inch open-end wrenches, unscrew and take off.                            |  |



**CAUTION**

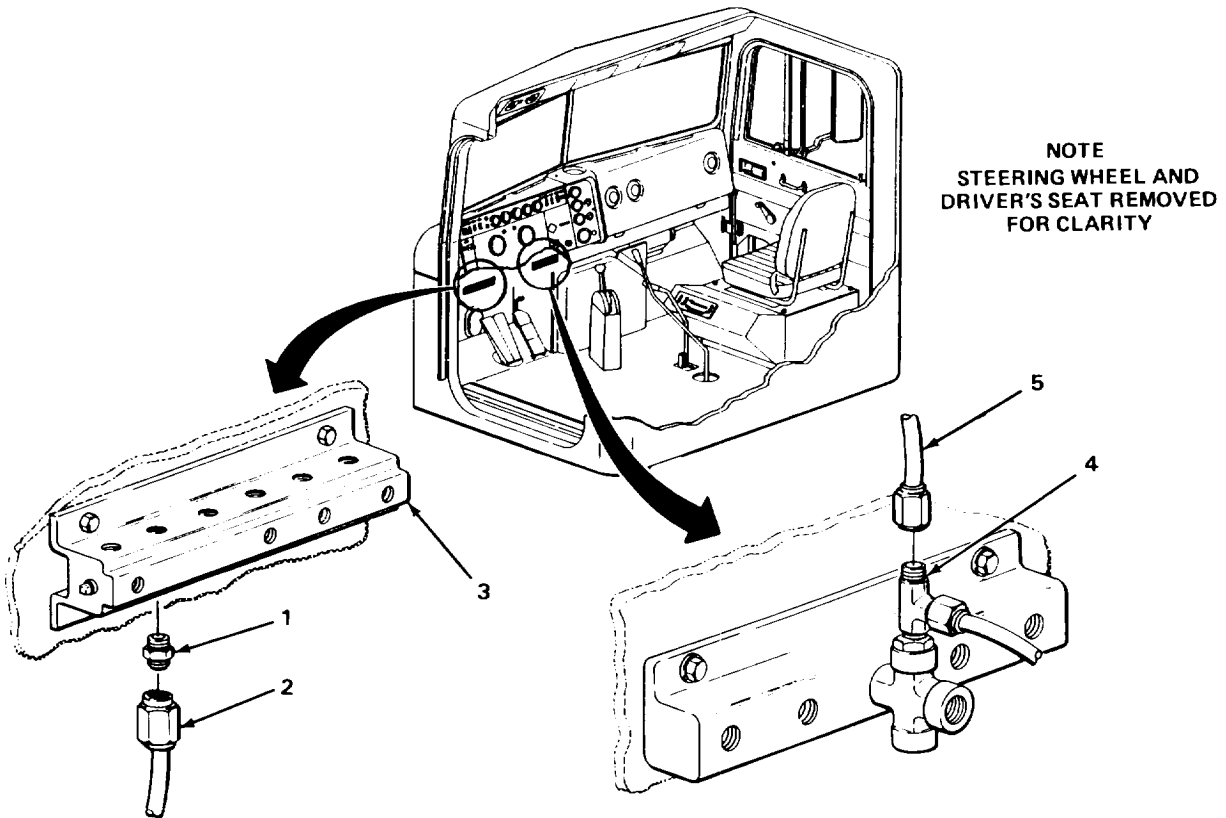
Use care when performing steps 5, 6, and 7 to prevent damage to air pressure switches, wires, and lines.

TA244651



AIR PRESSURE GAGE LINES AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL - CONTINUED</b>			
5. Straight pipe fitting (1)	Line (2)	Using two 9/16-inch open-end wrenches, unscrew and take off.	
6. Air manifold (3)	Straight pipe fitting (1)	Using 9/16-inch open-end wrench, unscrew and take out.	
7. T-fitting (4)	Line (5)	Using 7/16-inch and 9/16-inch open-end wrenches, unscrew and take off.	



TA244652

**AIR PRESSURE GAGE LINES AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
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**CLEANING**

**WARNING**

Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and cause damage to equipment. Refer to TM 9-247.

**NOTE**

All lines and fittings must be cleaned thoroughly.

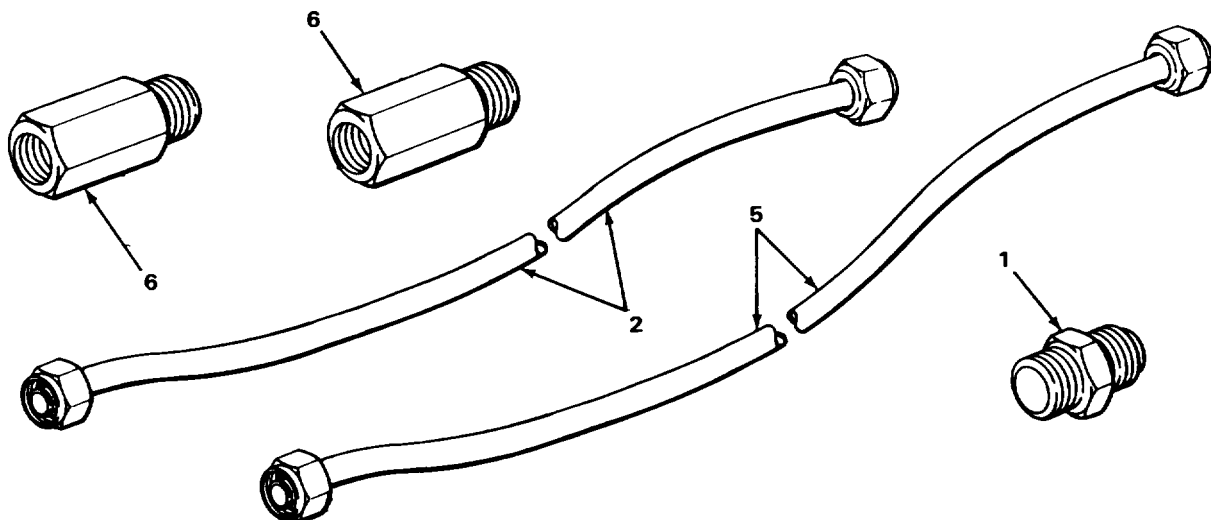
For more information on how to clean parts, go to General Maintenance Instructions (page 2-424).

- |    |  |  |
|----|--|--|
| 8. | Lines (2 and 5) and fittings (1 and 6) | Using liquid detergent and water clean thoroughly. |
|----|--|--|

**WARNING**

Particles blown by compressed air are hazardous. Make certain the air stream is directed away from user and other personnel in the area. Compressed air used for cleaning purposes shall not exceed 30 psi (207 kPa). User must wear safety goggles or face shield to prevent injury to personnel.

- |    |  |  |
|----|--|--|
| 9. | Lines (2 and 5) and fittings (1 and 6) | Using air blow gun and air assembly, blow dry. |
|----|--|--|



TA244653

**AIR PRESSURE GAGE LINES AND FITTINGS - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
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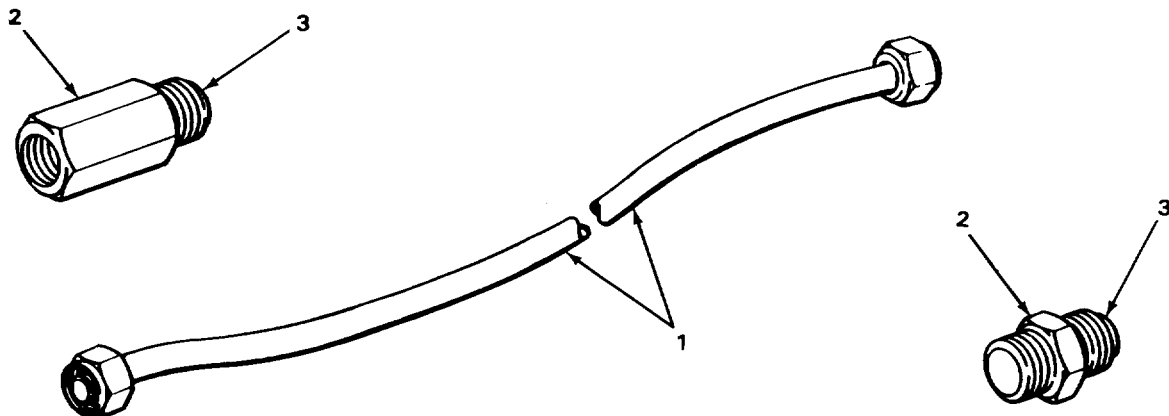
**INSPECTION/REPLACEMENT**

**NOTE**

Replace all damaged or defective parts.

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-424).

- |                                |                    |   |
|--------------------------------|--------------------|---|
| 10.                            | Lines (1)          | Look for cracks, kinks, or burn holes.    |
| 11. Lines (1) and fittings (2) | Flare seats (3)    | Look for cracks, dents, or bends.         |
| 12.                            | All threaded parts | Look for damaged threads or rounded nuts. |



**INSTALLATION**

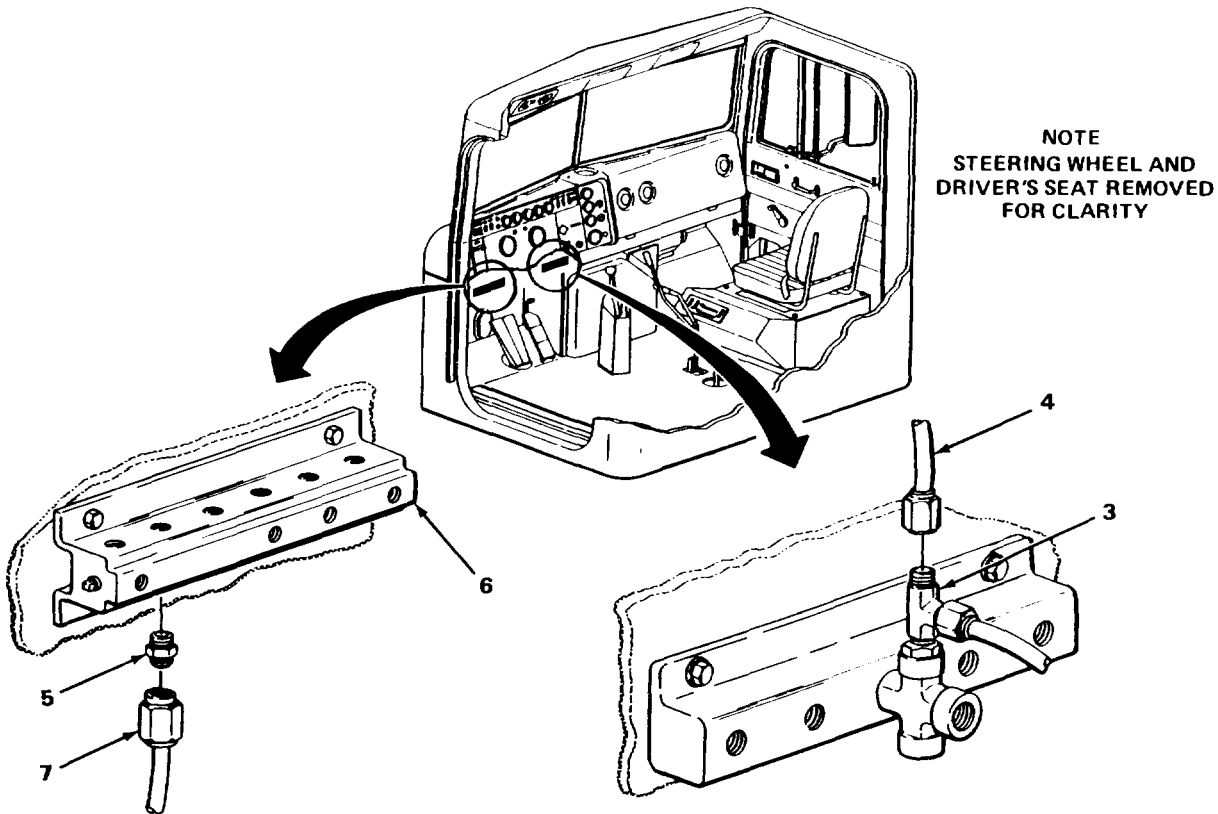
**CAUTION**

Use care when performing steps 13 thru 16 to prevent damage to air pressure switches, wires, and lines.

TA244654

AIR PRESSURE GAGE LINES AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
13. T-fitting (3)	Line (4)	Screw on and tighten using 7/16-inch and 9/16-inch open-end wrenches.	
14.	Straight pipe fitting (5)	Wrap pipe threads with antiseizing tape (page 2-424).	
15. Air manifold (6)	Straight pipe fitting (5)	Screw in and tighten using 9/16-inch open-end wrench.	
16. Straight pipe fitting (5)	Line (7) open-end wrenches.	Screw on and tighten using two 9/16-inch	



TA244655

## AIR PRESSURE GAGE LINES AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
<b>INSTALLATION - CONTINUED</b>		
17.	Two adapters (1)	Wrap pipe threads with antiseizing tape (page 2-424).
<b><u>CAUTION</u></b>		
Use care when working behind upper center instrument panel to prevent breaking or disconnecting wires.		
18. Gage (2)	Two adapters (1)	Screw on and tighten using 1/2-inch and 9/16-inch open-end wrenches.
19. Two adapters (1)	Two lines (3)	a. Screw on and tighten using 1/2-inch and 9/16-inch open-end wrenches. b. Get rid of tags.
20. Gage (2)	Light socket (4)	Push in.

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**NOTE**

FOLLOW-ON MAINTENANCE:

1. Close upper center instrument panel (page 2-424).
2. Close left side cab door (page 2-424).

**TASK ENDS HERE**

TA244656

**2-1496**

## APPENDIX A

## REFERENCES

**A-1. SCOPE.**

This appendix lists all forms, technical bulletins, technical manuals, and miscellaneous publications referenced in this manual.

**A-2. PUBLICATION INDEX.**

The following indexes should be consulted frequently for latest changes or revisions and for new publications relating to material covered in this technical manual.

Consolidated Index of Army Publications and Blank Forms.....	DA Pam 310-1
The Army Maintenance Management System .....	DA Pam 738-750
US Army Equipment Index of Modification Work Orders .....	DA Pam 25-30

**A-3. FORMS.**

Recommended Changes to Publications and Blank Forms.....	DA Form 2028
Recommended Changes to Equipment Technical Publications .....	DA Form 2028-2
Equipment Inspection and Maintenance Worksheet.....	DA 2404
Preventive Maintenance Schedule and Record .....	DD 314
Processing and Deprocessing Record for Shipment, Storage, and Issue of Vehicles and Spare Engines.....	DD 1397
Product Quality Deficiency Report.....	SF 368

**A-4. TECHNICAL MANUALS.**

Administrative Storage of Equipment.....	TM 740-90-1
Inspection, Care, and Maintenance of Antifriction Bearings.....	TM 9-214
Materials Used for Cleaning, Preserving, Abrading, and Cementing Ordnance Material and Related Materials Including Chemicals .....	TM 9-247
Operator's Manual .....	TM 5-3805-254-10
Operator's Manual for Welding Theory and Application.....	TM 9-237
Operator's, Unit, Intermediate Direct Support, and Intermediate General Support Maintenance Manual for Lead-Acid Storage Batteries .....	TM 9-6140-200-14
Organizational and Direct Support Maintenance (Including RPSTL) for Army Oil Analysis Sampling Valve Army Oil Analysis Program Nonaeronautical Equipment.....	TM 9-2300-422-23&P
Unit Maintenance Repair Parts and Special Tools Lists .....	TM 5-3805-254-20P
Operator's, Unit, Direct Support and General Support Maintenance Manual for Care, Maintenance, Repair, and Inspection of Pneumatic Tires and Inner Tubes .....	TM 9-2610-200-14
Painting Instructions for Army Materiel.....	TM 43-0139
Procedures for Destruction of Tank-Automotive Equipment to Prevent Enemy Use.....	TM 750-244-6

**A-5. TECHNICAL BULLETINS.**

Elimination of Combustibles from Interiors of Metal or Plastic  
Gasoline and Diesel Fuel Tanks ..... TB 750-1047

Equipment Improvement Report and Maintenance Digest  
(US Series Army Tank-Automotive Command) ..... TB 43-0001-39

Purging, Cleaning and Coating Interior Ferrous and  
Tern Sheet Vehicle Fuel Tanks ..... TB 43-0212

Tactical Wheeled Vehicles: Repair of Frames ..... TB 9-2300-247-40

Use of Antifreeze Solutions, Antifreeze Extender, Cleaning Compounds  
and Test Kit in Engine Cooling Systems ..... TB 750-651

**A-6. MISCELLANEOUS PUBLICATIONS.**

First Aid for Soldiers ..... FM 21-11

Lubrication Order for Dump Truck.....LO 5-3805-254-12

**Change 1 A-2**

**APPENDIX B****MAINTENANCE ALLOCATION CHART****Section I. INTRODUCTION****B-1. GENERAL.**

a. This section provides a general explanation of all maintenance and repair functions authorized at the various maintenance levels.

b. The Maintenance Allocation Chart (MAC) in Section II 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 will be consistent with the capacities and capabilities of the designated maintenance levels.

c. Section III lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from Section II.

d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

**B-2. MAINTENANCE FUNCTIONS.**

Maintenance functions will be limited to and defined as follows:

a. 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).

b. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. Service. Operations required periodically to keep an item in proper operating condition, i.e., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases.

d. Adjust. To maintain or regulate, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.

e. Aline. To adjust specified variable elements of an item to bring about optimum or desired performance.

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test, measuring, and diagnostic equipments 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.

g. 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.

h. Replace. To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and is shown as the third position of the SMR code.

i. Repair. The application of maintenance services, including fault location/troubleshooting, removal/installation, and 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.



**B-2. MAINTENANCE FUNCTIONS - CONTINUED.**

J. Overhaul. That maintenance effort (service/action) prescribed to restore an item to a completely service able/operational condition as required by maintenance standards in appropriate technical publications (I.e., DMWR). Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

k. 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 materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc.) considered in classifying Army equipment/components.

**B-3. EXPLANATION OF COLUMNS IN THE MAC, Section II.**

a. Column 1, Group Number. Column 1 lists functional group code numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly. End item group number shall be "00."

b. Column 2, Component/Assembly. Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. 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, see paragraph C-2.)

d. Column 4, Maintenance Level. Column 4 specifies, by the listing of a work time figure in the appropriate subcolumn(s), the level of maintenance authorized to perform the function listed in Column 3. This 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 vary at different maintenance levels, appropriate work time figures will 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/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the Maintenance Allocation Chart.

The symbol designations for the various maintenance levels are as follows:

C	.....	Operator or Crew
O	.....	Organizational Maintenance
F	.....	Direct Support Maintenance
H	.....	General Support Maintenance
D	.....	Depot Maintenance

e. Column 5, Tools and Equipment. Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, TMDE, and support equipment required to perform the designated function.

f. Column 6, Remarks. This column shall, when applicable, contain a letter code, in alphabetic order, which shall be keyed to the remarks contained in Section IV.

**B-4. EXPLANATION OF COLUMNS IN TOOL AND TEST EQUIPMENT REQUIREMENTS, Section III.**

a. Column 1, Tool or Test Equipment Reference Code. The tool and test equipment reference code correlates with a code used in the MAC, Section II, Column 5.

b. Column 2, Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.

**B-4. EXPLANATION OF COLUMNS IN TOOL AND TEST EQUIPMENT REQUIREMENTS, Section III CONTINUED.**

c. Column 3, Nomenclature. Name or identification of the tool or test equipment.

d. Column 4, National/NATO Stock Number. The National or NATO Stock Number of the tool or test equipment.

e. Column 5, Tool Number. The manufacturer's part number.

**B-5. EXPLANATION OF COLUMNS IN REMARKS, Section IV.**

a. Column 1, Reference Code . The code recorder in Column 6, Section II

b. Column 2, Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Section II.

**Section II. MAINTENANCE ALLOCATION CHART**

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT	(6) REMARKS	
			Unit		DS	GS			Depot
			C	O	F	H			D
01	ENGINE								
0100	Engine Assembly	Inspect Service Replace Repair Overhaul	0.5	0.2	8.0 8.0	54.0	79.0	1,3 1,4,10 1,4 1,4	
	Engine Mount	Replace			4.0			1,4	
0101	Crankcase, Block, Cylinder Head Engine Block	Inspect Repair				2.0 40.0		1,4 1,4	
	Cylinder Head	Inspect Repair Replace			1.0 7.0 10.0			1,4 1,4 1,4	
	Cylinder and Sleeve Assembly	Replace				18.0		1,4	

Change 1 B-3

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT	(6) REMARKS	
			Unit		DS	GS			Depot
			C	O	F	H			D
0102	Crankshaft	Replace				6.0		1,4	B
	Crankshaft and Main Bearings	Repair				17.3		1,4	
	Main Seals	Replace				20.0		1,4	
	Vibration Damper	Replace			1.3			1,4	
	Crankshaft Groove Pulley	Replace			1.0			1,4	
0103	Flywheel Assembly	Replace			4.0			1,4	1,4,11-14
	Flywheel Housing	Replace			2.0				
	Flywheel	Replace							
0104	Torque Converter Flex Drive Plate	Replace			1.5			1,4	C
	Pistons and Connecting Rods	Replace				27.0		1,4	
	Connecting Rod Assembly	Repair				8.0		1,4	
0105	Piston	Replace				8.0		1,4	1,4
	Piston	Repair				8.0		1,4	
	Valves, Camshafts, and Timing System	Adjust			1.8			1,4	
	Valves	Replace			14.0			1,4	
0105	Camshaft and Bearings	Replace				27.0		1,4	1,4
	Cam Follower	Replace			12.0			1,4	
	Cam Follower	Repair			0.5			1,4	
	Pushrods	Replace			8.0			1,4	
	Rocker Arm	Adjust			1.0			1	
	Rocker Arm	Replace			2.5			1	
	Rocker Arm Covers	Replace			2.0			1	
Timing Gear	Replace			3.5			1,4		

Change 1 B-4

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			Unit		DS	GS	Depot		
			C	O	F	H	D		
0106	Engine Lubrication System								
	Oil Pump	Replace			1.0			1	
		Repair			3.0			1,4	
	Oil Cooler	Replace			1.0			1	
		Repair			3.0			1,4	
	Oil Filter	Service		0.5				1	
		Repair		1.0				1	
	Auxiliary Oil Filter	Service		0.5				1	
		Replace		0.5				1	
		Repair		0.5				1	
	Oil Pan	Inspect	0.1						
		Replace			6.0			1,4	
	External Lines	Inspect		0.1					
		Replace		1.0				1	
Oil Breather	Replace		0.2				1		
Oil Pressure Regulator	Replace		0.3				1		
Oil Gage (Dipstick)	Replace		0.5						
0108	Manifolds								
	Intake	Replace			2.2			1	
	Exhaust	Replace			2.8			1	
0109	Accessory Driving Mechanisms								
	Accessory Drive	Replace			3.0			1,4	
		Repair				5.2		1,4	
	Pulley Fan and Water	Repair			1.0			1,4	
0112	Engine Brake								
	Engine Compression	Replace			2.0			1,4	
	Brake	Repair			4.2			1,4	
	Controls	Adjust			1.0			1	
		Replace			2.0			1	

Change 1 B-5

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			Unit		DS	GS	Depot		
			C	O	F	H	D		
03	<b>FUEL SYSTEM</b>								
0301	Carburetor, Fuel Injector	Test Replace Repair			1.0 1.0		1.0	8,9 1 8,9	
0302	Fuel Pumps Pump Assembly	Test Adjust Replace Calibrate Repair			1.0 1.0 2.0		1.0	8,9 1 1,4 8,9 8,9	
	Fuel Pump Filter	Service Replace		1.0 0.5			2.0	1 1	
	Aneroid Control	Replace Repair			1.2		2.5	1 8,9	
0304	Air Cleaner	Service Replace Repair		1.0 0.5 1.0				1,2 1 1	
0305	Supercharger, Blower, Turbocharger, or Altitude Compensator Turbocharger	Inspect Replace Repair	0.1			3.0 2.0		1 1,4	
	Air Inlet	Inspect Replace		0.1 0.3				1	
0306	Tanks, Lines, Fittings, Headers Fuel Tank	Inspect Replace Repair	0.1	1.0		3.0		1 1,6,7	
	Fuel Lines	Inspect Replace	0.1			4.0		1	
	Fuel Solenoid	Replace Repair				1.5 1.0		1 1	
0309	Fuel Filters	Service Replace	0.1 0.5					1	

Change 1 B-6

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			Unit		DS	GS	Depot		
			C	O	F	H	D		
0311	Engine Starting Aids	Test		0.5				1,2	
	Glow Plug and Preheater	Replace		1.5				1	
	Primer Pumps	Replace		1.0				1	
0312	Accelerator, Throttle, or Choke Controls	Replace		0.5				1	
	Accelerator Pedal and Linkage	Repair		0.5				1	
	Throttle Control and Linkage	Adjust		0.2				1	
		Replace		1.0				1	
<b>04</b>	<b>EXHAUST SYSTEM</b>								
0401	Muffler and Pipes	Inspect	0.1						
		Replace		2.0				1	
	Exhaust Pipe Rain Cap	Inspect	0.1						
		Replace		0.5				1	
	Exhaust Diverter	Inspect	0.1						
		Replace		2.0				1	
<b>05</b>	<b>COOLING SYSTEM</b>								
0501	Radiator, Evaporative Cooler, or Heat Exchang- er Radiator	Inspect	0.2						
		Test		0.2				3	
		Service		0.5				1,3	
		Replace			2.0			1,4	
		Repair			3.0			1,6,7	
		Replace		0.2				1	
	Draincocks Shutter Assembly	Replace			1.5			1	
		Repair			2.5			1	
0502	Cowling, Deflectors, Air Ducts, Shrouds, Etc. Fan Shroud	Replace			1.0			1	

Change 1 B-7

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			Unit		DS	GS	Depot		
			C	O	F	H	D		
0503	Water Manifold, Headers, Thermostats, and Hous- ing Gaskets Lines, Fittings, and Hoses	Inspect	0.1						
		Replace		2.5				1	
		Replace		1.0				1,2	
0504	Water Pump	Replace			0.5			1,4	
		Inspect	0.1						
		Replace		2.5				1,4	
0504	Idle Pulley	Adjust		0.2				1	
		Replace			1.0			1	
		Repair			1.0			1,4	
0505	Water Pump Belt	Adjust		0.2				1	
		Replace			1.0			1	
		Service		0.5				1,4	
0505	Fan Assembly	Replace			1.0			1,4	
		Repair		1.5				1,4	
		Inspect	0.1						
0505	Fan Drivebelts	Adjust		0.5				1	
		Replace		1.0				1	
		Replace		0.3				1	
0508	Water Filter	Replace		0.3				1	
<b>06</b>	<b>ELECTRICAL SYSTEM</b>								
0601	Generator, Alternator Alternator and Regulator	Inspect	0.2						
		Test		0.2				1,2	
		Adjust		0.2				1,2	
0601	Drivebelts	Replace		1.0				1,2	
		Repair			1.5			8,9	
		Inspect	0.1						
0601	Alternator Pulley	Adjust		0.2				1	
		Replace		0.3				1	
		Replace		1.0				1	

Change 1 B-8

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			Unit		DS	GS	Depot		
			C	O	F	H	D		
0603	Starting Motor Starter Motor	Test			0.2			8,9	
		Replace		0.5				1	
		Repair			1.3			8,9	
	Starter Motor Solenoid	Test		0.2				1,3	
		Replace			0.5			8	
0607	Instrument or Engine Control Panel	Inspect	0.1						
		Test		0.2				1,3	
		Replace		0.5				1	
	Instrument Panel Circuit Breakers	Test		0.2				1,3	
		Replace		0.5				1	
	Instrument Panel Lamps and Fuses	Inspect	0.1						
		Replace		0.5				1	
	Instrument Panel Wiring	Test		0.2				1,3	
Replace			3.5				1		
Optical Ribbon	Repair		1.0				1		
0608	Miscellaneous Items								
	Turn Signal Switch	Replace		0.5				1	
	Circuit Breakers and Switches	Test		0.2				1,3	
	Junction Box, Terminal Block	Replace		0.5				1	
	Fuse Block	Replace		0.5				1	
Transmission Indicator	Replace		1.0				1		
0609	Lights Headlights	Inspect	0.1						
		Adjust		0.3				1	
		Replace		1.0				1	
	Tail and Signal Lights	Inspect	0.1						
		Replace		1.0				1	
	Lamps Domelight	Repair		0.5				1	F
		Replace		0.5				1	

Change 1 B-9



Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			Unit		DS	GS	Depot		
			C	O	F	H	D		
0609	Lights - Continued Marker Lights	Inspect	0.1						
		Replace		0.5				1	
		Repair		0.6				1	
0610	Sending Units and Warn- ing Switches Warning Buzzer	Inspect	0.1						
		Test		0.3				1,3	
		Replace		0.3				1	
		Oil Pressure Switch		Replace	0.8				1
		Fuel Level		Replace	0.4				1
		Water Temperature Backup		Replace	0.2				1
0611	Horn, Siren Horn Relay Alarm Bell	Replace		0.6				1	
		Replace		0.3				1	
		Replace		0.5				1	
0612	Batteries, Storage	Inspect	0.1						
		Test		0.2				1,3	
		Service		0.4					
		Replace		0.5				1	
		Cables		Replace	0.3				1
0612	Battery Box	Replace		1.0				1	
		Repair		1.0				1	
0613	Hull or Chassis Wiring Harness Body and Chassis Wiring Engine Wiring Reverse Polarity Protection Transmission Wiring	Replace			16.0			1,4	
		Repair		6.0				1,2	
		Replace			4.0			1,4	
		Repair		2.0				1,2	
		Replace		0.5				1,2	
		Replace			2.0			1,4	
		Repair		2.5				1,4	

Change 1 B-10

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT	(6) REMARKS	
			Unit		DS	GS			Depot
			C	O	F	H			D
07	TRANSMISSION								
0700	Transmission Assembly Transmission Assembly Auxiliary	Inspect Service Replace Repair	0.2	0.2	3.0		3.0	1 1,4 1,4	A
0701	Transmission Shafts Auxiliary Transmission Gear Shafts Auxiliary Transmission Bearings/Seals	Replace Replace					6.0 3.0	1,4 1,4	
0704	Transmission Top Cover Assembly Auxiliary Transmission Cover/Forks Auxiliary Transmission Linkage/Control	Replace Repair Replace			1.0 1.0 0.6			1 1,4 1	
0705	Transmission Shifting Components Main Transmission Shifter Assembly Main Transmission Shifter Cable	Replace Repair Replace		2.0 2.0 1.0				1 1 1	
0708	Torque Converter or Fluid Coupling Torque Converter Lockup Clutch	Replace Repair Replace Repair					2.5 2.0 6.0 1.0	1,4,11-16 1,4,11-16 1,4,11-16 1,4,11-16	
0710	Transmission Assembly and Associated Parts Main Transmission	Inspect Service Replace Repair Overhaul	0.3	0.2	5.0		6.0 16.0	1,3 1,4,11,12 1,4,11-29 1,4,11-29	A

Change 1 B-11

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT	(6) REMARKS	
			Unit		DS	GS			Depot
			C	O	F	H			D
0713	Intermediate Clutch	Replace				4.0		1,4	
	Main Transmission Input Shaft and Forward Clutch	Repair				5.0		1,4,25,26	
	Main Transmission Third Clutch, Center Support, and Second Clutch	Replace				4.0		1,4	
		Repair				5.0		1,4	
	Main Transmission Fourth Clutch	Replace				3.0		1	
		Repair				4.0		1,4,25,27	
0714	Main Transmission Control Valve	Replace				2.0		1,4	
		Repair				2.0		1,4	
	Main Transmission Modulator Valve	Replace				2.0		1	
		Repair				4.0		1	
0721	Coolers, Pumps, Motors								
	Oil Cooler	Replace				2.0		1	
		Repair				4.0		1	
	Main Transmission Oil Filters, Internal/Remote	Replace	2.0					1	
09	Main Transmission Oil Lines/Fittings	Replace				1.0		1	
	<b>PROPELLER, PROPELLER SHAFTS, UNIVERSAL JOINTS, COUPLER, AND CLAMP ASSEMBLY</b>								
0900	Propeller Shafts	Inspect	0.1						
		Service		0.3				2	
		Replace			2.5			1,4	
	Universal Joint	Inspect	0.1						
	Service			0.3				2	
	Replace				2.5			1,4	
	Flange/Slingers	Replace				2.5		1,4	

Change 1 B-12

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT	(6) REMARKS	
			Unit		DS	GS			Depot
			C	O	F	H			D
0900	Propeller Shafts - Continued Yokes and Slip Joints	Replace			2.5			1,4	
<b>10</b>	<b>FRONT AXLE</b>								
1000	Front Axle Assembly	Replace			5.0				1,4
1004	Steering and Leaning Wheel Mechanism Spindles and Knuckles	Replace Repair					3.5 8.0		1,4 1,4
	Kingpins and Bushings Steering Arms	Replace Replace			1.0		3.5		1,4 1,4
<b>11</b>	<b>REAR AXLE</b>								
1100	Rear Axle Assembly	Service Replace Repair		0.5	5.0				1,2 1,4 1,4
	Axle Shafts Axle Breather	Replace Service Replace			1.5		7.5		1,4 1,2
	Plugs and Covers	Replace		0.2 0.3	0.5				1 1,4
	Equalizer Beams Equalizer Beams Bushings	Replace Replace Replace					16.0 3.0		1,4 1,4 1,4
1101	Housing, Beam, Housing Covers, Plugs, Seals, Etc. Axle Housings	Replace			10.0				1,4
1102	Differential Front and Rear Differential	Replace Repair			8.0 2.0				1,4 1,4
	Interaxle Differential	Service Replace Repair		0.4	6.5 1.5				2 1,4 1,4

Change 1 B-13

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			Unit		DS	GS	Depot		
			C	O	F	H	D		
1102	Differential - Continued Interaxle Differential Air Chamber	Adjust Replace Repair			0.8 1.5 1.5			1 1 1	
	Interaxle Differential Lever Control	Replace		2.0				1	
<b>12</b>	<b>BRAKES</b>								
1201	Handbrakes Parking Brake Housing	Replace		4.5				1,2	
1202	Service Brakes Brakeshoes	Inspect Adjust Replace		0.5 0.5 3.5				1 1,2	
	Brake Camshaft Slack Adjuster	Replace Adjust Replace		3.0 0.3 1.5				1 1 1	
1206	Mechanical Brake Sys- tem Brake Pedal	Replace		0.3				1	
1208	Airbrake System Alcohol Evaporator	Inspect Service Replace	0.1	0.3 1.0				1	
	Air Dryer	Inspect Service Replace		0.2 0.4 0.6				1 1 1	
	Brake Chamber	Inspect Replace	0.1	1.5				1	
	Treadle Valve	Test Replace	0.1	1.5				1 1	
	Parking Brake Control Valve	Replace		0.5				1	
	Front Brake Limiting Control Valve	Replace		0.5				1	
			<b>Change 1 B-14</b>						

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			Unit		DS	GS	Depot		
			C	O	F	H	D		
1208	Airbrake System - Con- tinued Lines and Fittings Quick-release Valve Double Check Valve Relay Valve Reservoir	Replace		1.0			1		
		Replace		0.5			1		
		Replace		0.4			1		
		Replace		0.5			1		
		Inspect	0.1						
		Service Replace	0.1 1.1		1				
1209	Air Compressor Assembly  Governor Assembly	Replace		2.5			1,4		
		Repair		1.5			1,4		
		Adjust		0.3			1		
		Replace		1.0			1		
		Repair		2.0			1,4		
13	WHEELS AND TRACKS								
1311	Wheel Assembly Wheel Alignment Adjust Front Hub Assembly  Rear Hub Assembly  Bearings and Seal  Service Brakedrum  Disc Wheel Assembly	Inspect		0.8				3	
		Adjust		0.5				1,3	
		Replace		2.0				1,3	
		Repair				3.0		1,4	
		Replace		2.0				1,3	
		Repair				3.5		1,4	
		Service		1.5				3	
		Replace		1.5				1,3	
		Replace		0.6				1,2	
		Repair				1.0		4	
Repair		0.2				2			
Repair		1.0				1,2			
1313	Tires, Tubes, Tire Chains Tire and Tube Assembly	Inspect	0.5						
		Replace		2.0				2	
		Repair				1.3		2	J

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			Unit		DS	GS	Depot		
			C	O	F	H	D		
14	<b>STEERING</b>								
1401	Mechanical Steering Gear Assembly Steering Wheel Tie-rod and Drag Link	Replace Inspect Adjust Replace Repair	0.1		1.0			1,4 1,3 1,4 1,4	
	Steering Column	Service Replace Repair Replace		0.2	4.0 3.0 3.5 0.8			1,4 2 1,4 1,4 1,4	
1407	Power Steering Gear Assembly	Inspect Service Adjust Replace Repair	0.2	0.2				2 1 1,4 1,4	
						5.0			
1410	Hydraulic Pump or Fluid Motor Assembly Hydraulic Pump	Replace Repair			0.8			1,4 1,4	
						2.5			
1411	Hoses, Lines, Fittings Hydraulic Hose Assemblies Lines and Fittings	Replace Replace		0.8 0.5				1 1	
1413	Tanks, Reservoirs Power Steering Oil Reservoir	Inspect Replace Repair	0.1	0.2 1.0				1,2 1,2	

Change 1 B-16

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			Unit		DS	GS	Depot		
			C	O	F	H	D		
<b>15</b>	<b>FRAME, TOWING AT- TACHMENTS, DRAW- BARS, AND ARTICULA- TION SYSTEMS</b>								
1501	Frame Assembly	Inspect	0.1						
	Front Bumper	Repair Replace			2.0	8.0	1,4 1,4	K	
1503	Pintles and Towing Attachments								
	Front Towing Eye	Replace	0.1	2.0			1,3		
	Rear Pintle	Inspect Replace		1.0			1,3		
<b>16</b>	<b>SPRINGS AND SHOCK ABSORBERS</b>								
1601	Springs								
	Front Spring	Inspect Replace	0.1			3.0	1,4		
	Rear Spring	Inspect Replace	0.1			6.0	1,4		
1605	Torque, Radius, and Stabilizer Rods								
	Aligning Rod Assembly	Replace Repair			2.0 7.0		1,4 1,4		
<b>18</b>	<b>BODY, CAB, HOOD, AND HULL</b>								
1801	Body, Cab, Hood, and Hull Assemblies								
	Cab Assembly	Replace Repair			8.0 6.0		1,4 1,4	K	
	Hood	Replace		1.5			1,3		
	Grille	Replace			2.0		1,4		

Change 1 B-17



Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			Unit		DS	GS	Depot		
			C	O	F	H	D		
1801	Body, Cab, Hood, and Hull Assemblies - Con- tinued								
	Door Assemblies	Replace			2.0			1,4	
		Repair			3.0			1,4	
	Mudflaps	Replace		1.5				1	
1802	Fenders, Running Boards with Mounting and At- taching Parts, Outriggers, Windshield, Glass, Etc.								
	Fenders	Replace			1.5			1,4	
		Repair			1.0			1,4,5	
	Splashguards	Replace			1.5			1	
	Windshield and Glass	Inspect	0.1						
	Replace			2.5			1		
	Door and Rear Glass	Inspect	0.1						
		Replace			1.0			1	
1805	Floors, Subfloors, and Related Components								
	Floor and Related Components	Replace			1.0			1	
1806	Upholstery, Seats, and Carpets								
	Seats	Inspect	0.1						
		Replace		0.5				1	
		Repair			1.0			1,4	
	Driver's Seat Shock Absorber	Replace			0.5			1	
	Seatbelt	Inspect	0.1						
		Replace		0.3				1	
1810	Cargo Body								
	Dump Body	Replace			2.5			1,4,6,7	
		Repair			2.0			6,7	
	Tailgate	Replace			1.5			1,4	

Change 1 B-18

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			C	O	F	H	D		
1810	<i>Cargo Body - Continued</i>								
	Hinges, Pins, and Locks	Replace			2.0			1	
	Bracket and Frame	Replace				3.0		1,4	
	Control Levers and Linkage	Replace		0.5				1	
<b>20</b>	<b>HOIST, WINCH, CAPSTAN, WINDLASS, POWER CONTROL UNIT, AND POWER TAKE-OFF</b>								
2004	<i>Power Take-off Assembly</i>	Inspect Replace Repair	0.1		2.0		1.0	1 1,4	
	Lever Control	Replace			4.0			1	
	Power Take-off Shaft	Replace			2.0			1	
	Shifter Cover Assembly	Replace Repair			6.0 1.0			1 1,4	
<b>22</b>	<b>BODY, CHASSIS, AND HULL ACCESSORY ITEMS</b>								
2202	<i>Accessory Items</i>								
	Rearview Mirror Assembly	Inspect Replace	0.1	0.2	1				
	Air Horn	Replace		0.5	1				
	Windshield Wiper Motor	Replace		1.0	1				
	Wiper Arms and Blades	Adjust Replace		0.2 0.2	1 1				
	Windshield Washer Assembly	Inspect Replace	0.1	0.5				1	I
	Heater and Defroster Fan Motor	Replace		0.5				1	
	Heater Core	Replace Repair			0.5 1.0			1 1,4	
		<b>Change 1 B-19</b>							

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			C	O	F	H	D		
2202	<i>Accessory Items - Con- tinued</i>								
	Heater Hoses	Inspect Replace		0.3 1.2				1	
	Reflectors	Replace		0.3				1	
2210	<i>Data Plates and Instruction Holders</i>	Inspect Replace	0.1	0.3				1,3	
<b>24</b>	<b>HYDRAULIC AND FLUID SYSTEMS</b>								
2401	<i>Pump and Motor</i>								
	Pump Assembly	Replace Repair			1.0 1.5			1,4 1,4	
2402	<i>Manifold and/or Control Valves</i>								
	Hydraulic Control Valve	Adjust Replace Repair			0.5 1.0 1.5			1 1 1,4	
2403	<i>Hydraulic Controls and/or Manual Controls</i>								
	Control Lever and Linkage	Replace Repair		0.5 0.5				1 1	
2406	<i>Strainers, Filters, Lines, and Fittings, Etc.</i>								
	Hydraulic Filter	Inspect Replace	0.1	0.5				1,2	
	Hydraulic Lines and Fittings	Replace		0.5				1,2	
2407	<i>Hydraulic Cylinder</i>								
	Hydraulic Lift Cylinder	Inspect Replace Repair	0.1		2.0 2.0			1,4 1,4	
		<b>Change 1 B-20</b>							

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			C	O	F	H	D		
2408	Liquid Tanks or Reservoirs								
	Hydraulic Reservoir	Inspect Service Replace	0.1	2.0	2.0			1,4	
<b>47</b>	<b>GAGES (NONELECTRICAL), WEIGHING AND MEASURING DEVICES</b>								
4701	Instruments								
	Speedometer	Replace		1.0				1	
	Tachometer	Replace		1.0				1	
	Tachometer Drive	Replace Repair			2.0 1.0			1 1	
	Drive Cables	Replace		0.5				1	
4702	Gages, Mountings, Lines, and Fittings								
	Gages	Inspect Replace	0.1	1.0				1	

**Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS**

(1) TOOL OR TEST EQUIPMENT REF CODE	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
1	O,F,H	Tool Kit, General Mechanic's, Automotive	5180-00-177-7033	
2	O	Shop Equipment, Automotive Maintenance and Repair: Organizational Maintenance Common No. 1, Less Power	4910-00 754-0654	

## Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS - CONTINUED

(1) TOOL OR TEST EQUIPMENT REF CODE	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
3	O	Shop Equipment, Automotive Maintenance and Repair: Organizational Maintenance Common No. 2, Less Power	4910-00-754-0650	
4	F,H	Shop Equipment, Automotive Maintenance and Repair: Field Maintenance, Basic Less Power	4910-00-705-0705	
5	F,H	Tool Kit, Body and Fender Repair	5180-00-754-0643	
6	F,H	Tool Kit, Welder's	5180-00-754-0661	
7	F	Shop Equipment, Welding, Field Maintenance	4940-00-357-7260	
8	F,H	Tool Kit, Automotive Fuel and Electrical System Repair	5180-00-754-0655	
9	F,H	Shop Equipment, Fuel and Electrical System Engine: Field Maintenance, Basic Less Power	4940-00-754-0714	
10	H	Lifting Eye		
11	H	Fixture, Holding	5120-01-115-1165	J-24310
12	H	Stand (1), Maintenance, Automotive Engine	4910-00-808-3372	J29109
13	H	Lifting Bracket, Fly	5120-01-116-6049	J-24365
14	H	Pin, Straight, Threaded	5315-01-158-3973	J24315-2
15	H	Puller, Bearing, Pump	5120-01-115-1164	J-25007
16	H	Installer, Spring, Ro	5120-01-115-1158	J-24218-2
17	H	Pin, Straight, Threaded	5315-01-158-3942	J24315-3
18	H	Bracket, Lifting	5120-01-115-1157	J-24196
19	H	Lifting Bracket, Cen	5120-01-116-6048	J-241
20	H	Plate, Pressure, Comp	4910-01-158-3972	J24208-3
21	H	Installer, Lever, Sea	5120-01-115-1161	J-26282
22	H	Compressor, Sprint	5120-01-048-2160	J24219
23	H	Installer, Bearing, N	5120-01-115-1160	J-24197
24	H	Handle, Drive	5120-00-677-2259	J8092
25	H	Compressor, Spring	5120-01-048-2159	J24204-3
<b>Change 1 B-22</b>				

**Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS**

(1) TOOL OR TEST EQUIPMENT REF CODE	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
26	H	Compressor, Ring	5120-01-048-3130	J24204-1
27	H	Bar and Stud Assembly	5120-01-048-2159	J24204-2
28	H	Installer, Lockring	5120-01-054-4050	J24453
29	H	Installer, Orifice, P	5120-01-054-4053	J24369

**Section IV. REMARKS**

REFERENCE CODE	REMARKS
A	Inspection limited to visual checks for leaks, fluid levels, loose components, and listening for unusual noises.
B	Overhaul of crankshaft includes metalizing, grinding, and alining.
C	Replacement of connecting rod includes alinement.
D	Repair limited to removing and installing new gasket.
E	Adjust includes rotating adjustment cap.
F	Repair of taillights and signal lights limited to lens, gasket, and lamp replacement.
G	Item requires special handling or condemnation procedures. Refer to TM 9-6140-200-14 for lead-acid storage battery procedures.
H	Repair of wiring harness limited to terminal and hardware replacement.
I	Inspection limited to checking fluid level.
J	Refer to TM 9-2610-200-14 for tire and tube repair.
K	Repair consists of welding, straightening, and reconditioning the damaged part or parts. Refer to TB 9-2300-247-40.

Change 1 B-23/(B-24 blank)

**APPENDIX C****EXPENDABLE SUPPLIES AND MATERIALS LIST  
Section I. INTRODUCTION****C-1. SCOPE.**

This appendix lists expendable supplies and materials you will need to operate and maintain the F-5070 Dump Truck.

**C-2. EXPLANATION OF COLUMNS.**

a. Column 1, Item number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material.

b. Column 2, Level. This column identifies the lowest level of maintenance that requires the listed item.

C - Operator/Crew

O - Organizational

c. Column 3, National Stock Number. This national stock number is assigned to an item. Use it to request or requisition the item.

d. Column 4, Description. Indicates Federal item name and a description if necessary. The last line for each item indicates the Federal Supply Code for Manufacturer (FSCM) in parentheses followed by the part number.

e. Column 5, Unit of Measure (U/M). Indicates measure used in performing actual maintenance functions. This measure is expressed by a two-character alphabetical abbreviation.

## Section II. EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION  PART NO. AND FSCM	(5) UNIT OF MEAS.
1	O	8040-00-893-1882	Adhesive, Liquid Rubber, MMM-A-1617, Type 11, 3-ounce (89-ml) Can	oz
2	O	5350-00-221-0872	Crocus Cloth, 50-Sheet Package P-C-458 P/N A-A-1206 (81348)	sh
3	O	5350-00-192-5050	Cloth, Emery, Silicone, Carbide, 50-Sheet Package P-C-458 (58536)	sh
4	O	9150-00-398-4170	Compound, Antiseizing, Grease, Special Purpose and Lubricant, 1-Pound (454-Gram) Can (07644)	lb
5	O	6850-00-935-1082	Compound, Cleaning, Trichloroethylene (MIL-C-81302) 55-gal (208-Liter) Drum	gl
6	O	6850-00-181-7933	Coolant, Antifreeze, Permanent, Ethylene Glycol, Inhibited, MIL-A-46153 (81348) 5-Gallon (18.93-Liter)	gl
	O	6850-00-181-7940	55-Gallon (208-Liter) Drum	gl
7	O	7930-00-282-9699	Detergent, Liquid, GP, WS 1-Gallon (3.785-Liter) Can, MIL-D-16791 (81349)	gl
8	O	9150-00-698-2382	Fluid, Transmission, Automatic (AFT) A-A Service Protection 1-Quart (0.946-Liter) Can (24617)	qt
9	O	3439-00-255-9935	Flux, Rosin Base OF506 (81348)	lb
10	O	8150-00-190-0904	Grease, GAA, Automotive and Artillery (MIL-G-10924) (81349) 1-Pound (454-Gram) Can	lb
11	O	6810-00-238-8119	Naptha, Alipnat 1GL(81348)	gl
12	O	9140-00-286-5294	Oil, Fuel, Diesel, DF-2 Regular (81348) VV-F-800 55-Gallon (208-Liter Drum)	gl



## Section II. EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION  PART NO. AND FSCM	(5) UNIT OF MEAS.
13	O	9150-00-270-0067	Oil, Gear, GO 85W/140 (MIL-L-2150) (81348) 5-Gallon Can (18.93-Liter) Can 55-Gallon Drum (208-Liter) Drum	gl gl
14	O	9150-00-186-6181 9150-00-188-9858 9150-00-188-9859  9150-00-189-6792	Oil, Lubricating, OE/HDO/30, MIL-L-2104C (81349) 1-Quart (0.946-Liter) Can Type 1 5-Gallon (18.93-Liter) Can 55-Gallon (208-Liter) Drum (16-Gage) 55-Gallon (208-Liter) Drum (18-Gage) (15958)	qt gl gl  gl
15	C	7920-00205-1711	Rags, Wiping, 50-Pound (22.7-kg) Bale P/N-A-A-531 (58536)	bl
16	O	8040-00-225-4548	Sealer, Silicone Rubber 12-ounce (355-mi) Package (81349)	oz
17	O	6810-00-264-6618	Soda, bicarbonate O-S-576 (81348)	lb
18	O	3439-00-555-4629	Solder, rosin core, 1132-inch Diameter, 1-Pound (454-Gram) Spool (81348)	lb
19	O	6850-00-664-5285 6850-00-281-1985 6850-00-285-0811	Solvent, Drycleaning, Type II, P-D-680 (81348) 1-Quart (0.946-Liter) Can 1-Gallon (3.785-Liter) Can 55-Gallon (208-Liter) Drum	qt gl gl
20	O	5975-00-570-9598	Strap, Tiedown, Self-Locking, Type I, Class 1, 5-Inches (13-cm) Long (96906)	ea
21	O	9950-00-537-3534	Tags, Marker MIL-T-12755 Box of 50, (81349)	ea
22	O	8030-00-889-3535	Tape, Antiseizing, Pipe-Joint Sealer 1/4-inch (0.4-cm) Wide, 54-Foot (16.5-m) Long (71643) 1/2-inch (1.3-cm) Wide, 22-Foot (6.7-m) Long (76381)	22.

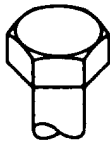




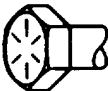



## Section II. EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION  PART NO. AND FSCM	(5) UNIT OF MEAS.
23	O	5640-00-103-2254	Tape Duct, 60-Yard (54-m) Roll, C-519 (07124)	yd
24	O	5970-00-184-2022	Tape, Electrical, Insulation, Grade A, Spec HH-T-0011, 1132-Inch (0.08-cm) Thick, 2-Inch (5.09-cm) Wide	ft
25	O	Tape, Masking		
26	O	7510-973-9513	Tape, Pressure Sensitive, Adhesive, 2-Inch (5.08-cm) Wide, MIL-T-23397 (81349)	rl
27	O	5970-00-815-1295	Tubing, Heat Shrinkable MIL-I-2305315 (81349)	ft
28	O	Wire, Mechanics	<b>C4</b>	

APPENDIX D

TORQUE LIMITS

CAPSCREW MARKING

Current Usage	Much Used	Much Used	Used at Times	Used at Times
Quality of Material	Indeterminate	Minimum Commercial	Medium Commercial	Best Commercial
SAE Grade Number	1 or 2	5	6 or 7	8
Capscrew Head Markings			6  7 	 
Manufacturer's marks may vary				
These are all SAE Grade 5 (3 line)				
				

TORQUE VALUES

If replacement capscrews are of a higher grade than originally supplied, use torque specifications for that placement. This will prevent equipment damage due to overtightening.

Capscrew Body Size (Inches) - (Thread)	Torque		Torque		Torque		Torque	
	Ft Lb	(N.m)	Ft Lb	(N.m)	Ft Lb	(N.m)	Ft Lb	(N.m)
1/4	20	5 (7)	8	(11)	10	(14)	12	(16)
	28	6 (8)	10	(14)			14	(19)
5/16	18	11 (15)	17	(23)	19	(26)	24	(33)
	24	13 (18)	19	(26)			27	(37)
3/8	16	18 (24)	31	(42)	34	(46)	44	(60)
	24	20 (27)	35	(47)			49	(66)
7/16	14	28 (38)	49	(66)	55	(75)	70	(95)
	20	30 (41)	55	(75)			78	(106)
1/2	13	39 (53)	75	(102)	85	(115)	105	(142)
	20	41 (56)	85	(115)			120	(163)
9/16	12	51 (69)	110	(149)	120	(163)	155	(210)
	18	55 (75)	120	(163)			170	(231)
5/8	11	83 (113)	150	(203)	167	(226)	210	(285)
	18	95 (129)	170	(231)			240	(325)
3/4	10	105 (142)	270	(366)	280	(380)	375	(508)
	16	115 (156)	295	(400)			420	(569)
7/8	9	160 (217)	395	(536)	440	(597)	605	(820)
	14	175 (237)	435	(590)			675	(915)
1	8	235 (319)	590	(800)	660	(895)	910	(1234)
	14	250 (339)	660	(895)			990	(1342)

TA244665

**TORQUE VALUES - CONTINUED**

**NOTE**

Always use the torque values listed above when specific torque values are not available.

Do not use above values in place of those specified in other sections of this manual; special attention should be observed when using SAE Grade 6, 7, and 8 capscrews.

The above is based on use of clean, dry threads.

Reduce torque by 10 percent when engine oil is used as a lubricant.

Reduce torque by 20 percent if new plated capscrews are used.

Capscrews threaded into aluminum may require reductions in torque of 30 percent or more of Grade 5 capscrews torque and must attain two capscrew diameters of thread engagement.

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By Order of the Secretary of the Army:

CARL E. VUONO  
*General, United States Army*  
*Chief of Staff*

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Distribution:

To be distributed in accordance with DA Form 12-25A, Unit Maintenance requirements for Truck, Dump, 20T, 6x4 On-Off Highway, 71,000 GVW, Model F5070 (CCE)

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## THE METRIC SYSTEM AND EQUIVALENTS

### LINEAR MEASURE

- 1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
- 1 Meter = 100 Centimeters = 1,000 Millimeters = 39.37 Inches
- 1 Kilometer = 1,000 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

### CUBIC MEASURE

- 1 Cu Centimeter = 1,000 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 = 1,000 Milliliters = 33.82 Fluid Ounces

### TEMPERATURE

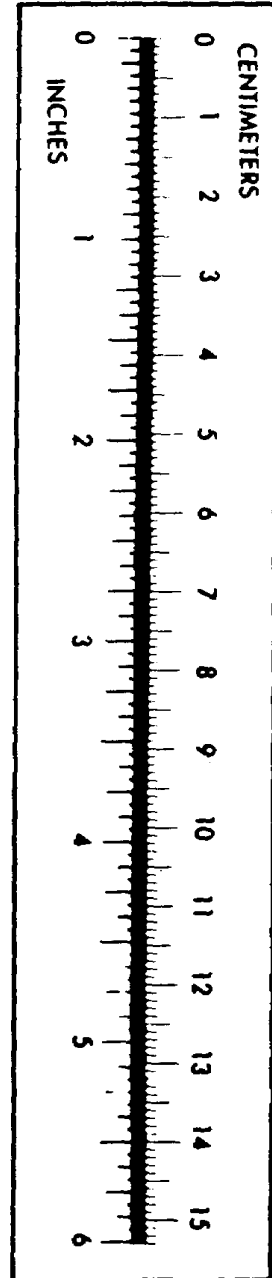
- $5/9 (^{\circ}\text{F} - 32) = ^{\circ}\text{C}$
- 212 $^{\circ}$  Fahrenheit is equivalent to 100 $^{\circ}$  Celsius
- 90 $^{\circ}$  Fahrenheit is equivalent to 32.2 $^{\circ}$  Celsius
- 32 $^{\circ}$  Fahrenheit is equivalent to 0 $^{\circ}$  Celsius
- $9/5 \text{ C}^{\circ} + 32 = \text{F}^{\circ}$

### WEIGHTS

- 1 Gram = 0.001 Kilograms = 1,000 Milligrams = 0.035 Ounces
- 1 Kilogram = 1,000 Grams = 2.2 lb.
- 1 Metric Ton = 1,000 Kilograms = 1 Megagram = 1.1 Short Tons

### APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
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 Per Square Inch	Kilopascals	6.895
Miles Per Gallon	Kilometers Per Liter	0.425
Miles Per Hour	Kilometers Per Hour	1.609
TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square 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 Square Inch	0.145
Kilometers Per Liter	Miles Per Gallon	2.354
Kilometers Per Hour	Miles Per Hour	0.621



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