

TECHNICAL MANUAL

**OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT,
GENERAL SUPPORT AND DEPOT MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS INFORMATION AND
SUPPLEMENTAL MAINTENANCE INSTRUCTIONS)**

FOR

**TRUCK, DUMP, 20 TON, 6X4,
ON-OFF HIGHWAY 71,000 GVW,
IHC MODEL F-5070 (CCE)
(NSN 3805-00-192-7249)**

HEADQUARTERS, DEPARTMENT OF THE ARMY

AUGUST 1980

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TECHNICAL MANUAL }
No. 5-3805-254-14&P-1 }

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, 22 August 1980

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GENERAL SUPPORT AND DEPOT MAINTENANCE MANUAL
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TRUCK, DUMP, 20 TON, 6X4, ON-OFF HIGHWAY
71,000 GVW, IHC MODEL F-5070 (CCE)
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REPORTING OF ERRORS

You can improve this manual by recommending improvements using DA Form 2028 (Recommended Changes to Publications and Blank Forms) or DA Form 2028-2 located in the back of this manual. Mail the form direct to Commander, US Army Tank-Automotive Materiel Readiness Command, ATTN: DRSTA-MBS, Warren, MI 48090. A reply will be furnished direct to you.

- PART ONE. DUMP TRUCK OPERATOR'S MANUAL
TWO. SUPPLEMENTAL OPERATING, MAINTENANCE AND REPAIR PARTS INSTRUCTIONS
THREE. SPECIAL PARTS CATALOG

NOTE

Refer to TM 5-3805-254-14&P-2 for Special Service Manual.

Credit is hereby given to International Harvester Company for permission to reproduce the following manuals procured under Contract No. DSA-700-72-C9235:

- Operator's Manual No. 1086872-R1
Special Parts Catalog No. 1086677-R1

This technical manual is an authentication of the manufacturer's commercial literature and does not conform with the format and content specified in AR 310-3, Military Publications. This technical manual does, however, contain available information that is essential to the operation and maintenance of the equipment.

PART ONE
OPERATOR'S MANUAL

INTERNATIONAL HARVESTER COMPANY

OPERATOR'S MANUAL

NO. 1086872-R 2

FOR

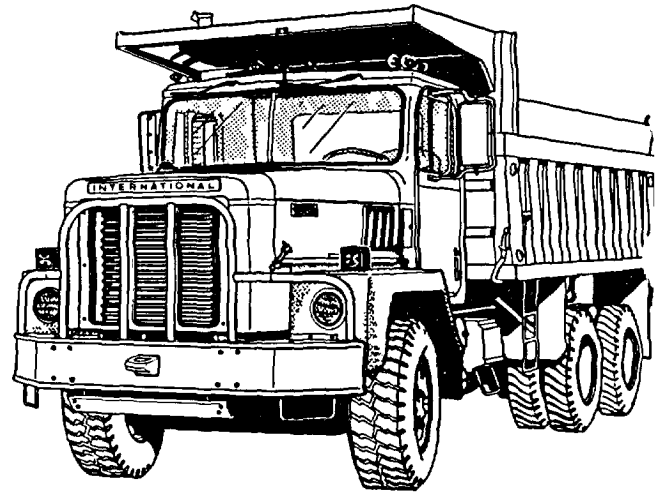
TRUCK, DUMP, 20 TON, ON/OFF HIGHWAY

(184 INCH WHEELBASE, MODEL F-5070)

PRODUCED FOR U.S. ARMY

ON CONTRACT NO. DSA-700-72-C-9235

**INTERNATIONAL®
OPERATOR'S
MANUAL
1086872-R2 (REV. 1/76)**



MT 16403

**F - 5070 PAYSTAR
SERIES
Cont. DSA-700-72-C-9235**

OPERATION - PREVENTATIVE MAINTENANCE AND LUBRICATION

IMPORTANT

You were presented with an "Owners Service Policy" by the dealership from whom you purchased your new International vehicle.

Should the occasion arise where warranty service is required it will be necessary that you present to the servicing dealer this "Owners Service Policy" to verify warranty qualification.

For this reason it is important that this policy be kept with the vehicle at all times.

LINE SETTING TICKET									
TRUCK DIVISION									
DATE BUILT	DATE SHIPPED	PLANT NO.	CONTRACT	LINE OFF	SUBS. DATE	DIFF.	GROUP NO.	LOG NO.	LINE BALANCE NO.
VIN				CHASSIS NUMBER					
SHP NO.				ENGINE NUMBER					
MEMBER									
DUAL FIVE TON LOOPS									
TAPERED REAR FRAME									
FRONT AXLE									
SPRING ASSEMBLY									
HUBS AND EYES									
BRAKE GROUP									
PNE. WHEEL LIGHT VALVE									
SEMI TRAIL CORN									
FUELING AIR REEV									
DIESEL DRAIN VALVE									
HYDRA PUMP STRG. GEAR									
PROPELLER SHAFT									
SIGNALS									
ELECT. SYSTEM									
2 COMB. TRAIL									
SHOULDER HALF CHROME									
TRAIL LIGHTING CABLE									
WATER TEMP. & OIL PRESS									
TRAIL MARKER LT.									
RADIO & ANTENNA									
SPEEDO & MISC.									
CLUTCH									
ENGINE									
RADIATOR ASSEMB.									
LUBRICANT OIL FILTER									
TRANSMISSION									
REAR AXLE									
WHEELS									
TIRES									



The code numbers on the line setting ticket positively identify units used in building your vehicle. You can be sure of getting the correct replacement parts if you take the line setting ticket in the glove compartment with you.

DO NOT REMOVE THE LINE SETTING TICKET ATTACHED TO THE VEHICLE.

MT-16757

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A WORD TO OWNER AND OPERATOR

Every effort has been made to assure that your new vehicle has been engineered and manufactured to provide continued trouble-free service. Materials selected to manufacture the many parts which make up the vehicle exhaustive test and research to make certain that acceptable, safe service life is realized.

There is, however, an area in which the vehicle owner plays an important part and which determines in a large measure the extent of continued, safe trouble-free service to be realized from the owner's investment in the vehicle. This has to do with the responsibility which rests with the owner in seeing that the vehicle receives proper care through following the periodic lubricating procedures and arranging for regular inspection intervals to assure that parts that normally deteriorate are replaced or repaired. In addition, it would be good practice to ask your IH dealer or Service Center to make an inspection of the running gear of your vehicle at least once a year. The lubrication intervals present a good opportunity to inspect the vehicle, and we suggest that the following points be checked at these intervals.

AXLES, BODY AND CHASSIS COMPONENTS: Check to assure that axle mounting U-bolt nuts, body mounting brackets and chassis components (attaching or mounting bolts and nuts) are securely tightened.

ENGINE EXHAUST SYSTEM: Mufflers, exhaust pipes etc. All joints tight. No leaks in the system.

ELECTRICAL: Loose, weathered, cracked or broken wires replaced to safeguard against breakdown on the road or possible shorts.

PIPES, HOSES: Leakage, air, water or hydraulic lines. Check pipes and hose routing. They should not be pushed over against hot exhaust pipes or near the exhaust. Replace cracked, weathered or deteriorated hoses.

LINKAGES: Transmission and brake rods, clevis pins and lock pins should be in good repair and secure. Control linkages properly adjusted.

BRAKES AND BRAKE LININGS: Brake linkages, controls and the condition of brake linings should be part of the periodic inspections.

Have your vehicle's brake system inspected at least once each year. Where vehicles are used in severe service or in considerable

stop and go service, more frequent inspections should be scheduled.

RUBBER PARTS: Rubber is subject to deterioration wherever it is used. Brake cylinder parts, both air and hydraulic, should be considered for periodic replacement based upon the severity and length of service. Usually careful inspection by experienced mechanics will disclose the need for attention. Some parts, such as air brake chamber diaphragm, should be inspected once a year or every 50,000 miles and replaced if considered unserviceable for further use.

STEERING: Check tie-rod and drag-link and clamp bolts. They must be tight. Ask your service mechanic to examine the steering mechanism.

Minor adjustments could head off future problems.

WHEELS, RIMS, TIRES: Check condition of and tighten wheel and rim mounting bolts and nuts. Examine condition of tires. Cut or broken tire casings should be replaced. Keep tires inflated properly.

A good general vehicle check by an experienced serviceman will give you assurance that your vehicle is still in a safe condition, ready to work for you.

VEHICLE CERTIFICATION LABEL

A Vehicle Certification Label is affixed to all vehicles in addition to the serial or warranty plate. This label certifies that the vehicle conforms to all applicable Federal Motor Vehicle Safety Standards in effect at the date of manufacture. Do not remove or deface this label. The label contains the Certified Gross Vehicle Weight Rating (GVWR) and Gross Axle Weight Rating (GAWR). The GVWR means the maximum design weight of the vehicle including the vehicle itself and everything that is loaded into or onto the single vehicle. The GAWR is the maximum weight that any one axle can carry. Note that the sum of the axle GAWR's may be greater than the GVWR, so that it is not necessarily proper to load both axles at the same time to the maximum capacity shown for each. The maximum GVWR should never be exceeded.

The GAWR is the maximum weight measured at the ground permissible on that axle system. These ratings are developed on the basis of the minimum component capability, be it axles, springs or tires.

For assistance in understanding your vehicle weight carrying capability, consult your local International Harvester dealer or branch.

SPECIFICATIONS

ENGINE	NTC-290
Cylinders	6
Bore & Stroke	5-1/2 x 6 Inches
Piston Displacement (Cu. In.)	855
Horsepower	290 @ 2100 RPM
Firing Order	1-5-3-6-2-4
ELECTRICAL	
Electrical System, 12 Volt	Negative Ground

TO THE OPERATOR

The purpose of this manual is to familiarize you with the controls of your vehicle and to provide sufficient information to enable you to perform minor routine services necessary for continued efficient operation. To protect your equipment, study this manual before you start to operate the vehicle.

When you need parts, always give the unit code number, vehicle model and chassis serial number, and the serial number of the unit for which the parts are required. We suggest that you write these serial numbers in the spaces provided so that you have them at hand when parts are required. Request the salesman to assist you in obtaining these serial numbers when the vehicle is delivered to you.

If you need major information not given in this manual, or if you require services of a trained serviceman, we urge you to use the extensive facilities offered by IH dealers and branches in your locality. IH dealers and branches keep abreast of the best methods of servicing IH equipment, and have up-to-date facilities for providing prompt, first-class service. They carry ample stocks of essential International service parts.

NOTE: For Cummins Engines refer to their Engine Operator's Manual for detailed Diesel Engine information.

VEHICLE MODEL

(Stamped on plate cab door inner panel, left side.)

CHASSIS SERIAL NUMBER

(Stamped on frame left side rail, front)

ENGINE SERIAL NUMBER

(Cummins engines stamped on plate, left side of gear case, front of engine.)

TRANSMISSION NUMBER

(From specification cards.)

FRONT AXLE NUMBER

(From specification card)

REAR AXLE NUMBER

(From specification card.)

OPERATION

BREAK-IN DIESEL ENGINE (Except IH Diesel Engines)

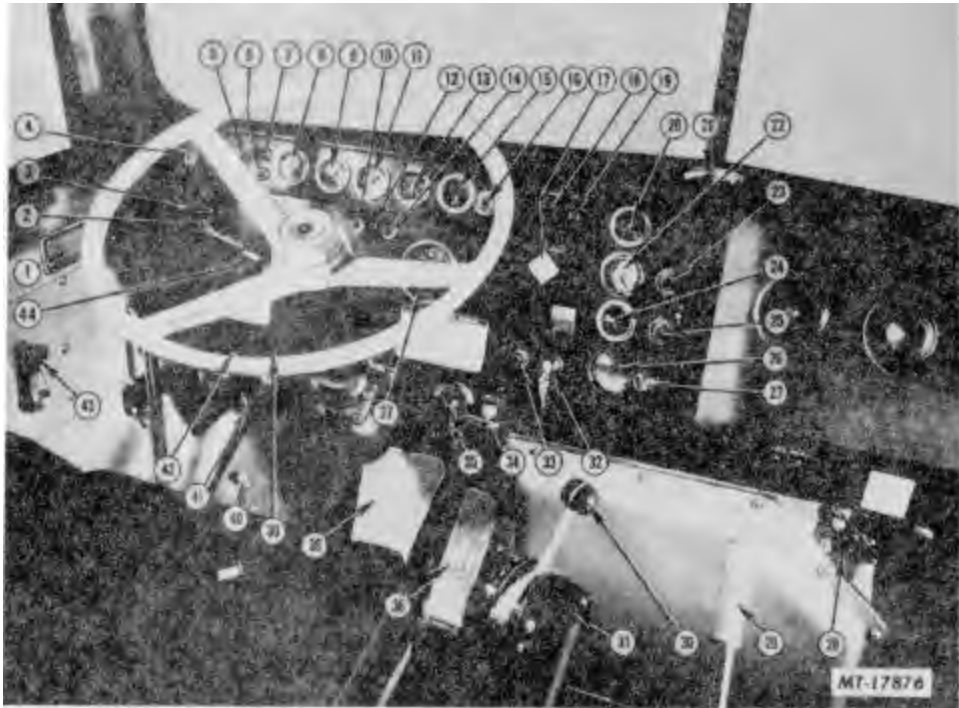
The way you operate your new engine during the first 100 hours' service will have an important effect on the life of the engine and its parts. Its moving parts are closely fitted for long service, and even though all diesel engines are run on a dynamometer for several hours before they leave the factory, an additional period may be required before uniform oil films are established between all mating parts.

During the first 100 hours' service:

1. Operate most of the time at one-half to three-quarters throttle. Do not operate at maximum horsepower for more than five minutes at a time.
2. Do not idle the engine for long periods.
3. Keep a close watch on your instruments. Back off on throttle if water temperature exceeds 190 degree F.
4. Drive in a gear low enough so that you can accelerate under any condition to prevent lugging your engine. **DO NOT LUG THE ENGINE AT ANY TIME.**

"During this break-in period, avoid full throttle starts and, if possible, abrupt stops. Gentle braking during the first hundred miles of operation will result in longer brake life and better future performance. Avoid hard stops especially during the first 250 miles of operation, since brake misuse during this period could sharply reduce future brake efficiency."

OPERATION



1. Door Control
2. Turn Indicator Control
3. Power Divider Lock Control
4. Exhaust Brake Switch
5. Glow Plug Switch
6. Oil-Water Temperature Indicator Light
7. Glow Plug Indicator Light
8. Battery-Generating System Indicator Gauge
9. Water Temperature Gauge
10. Left Turn Indicator Light
11. Oil Pressure Gauge, Engine
12. Headlight High Beam Indicator Light
13. Air Pressure Gauge
14. Right Turn Indicator Light
15. Fuel Level Gauge
16. Low Air Pressure Light
17. Parking Brake Control
18. Dome and Panel Lights
19. Headlights
20. Fuel Pressure Gauge
21. Ash Receptacle
22. Transmission Oil Pressure Gauge
23. Transmission Oil Pressure Indicator Light
24. Transmission Oil Temperature Gauge
25. Transmission Oil Temperature Indicator Light
26. Air Cleaner Restriction Gauge
27. Cigarette Lighter
28. Circuit Breaker Switch-Start-Run
29. Dump Body Control
30. Automatic Transmission Control
31. Auxiliary Transmission Control
32. Starting Switch Key
33. Starting Button
34. Throttle Control
35. Emergency Brake Release
36. Accelerator Pedal
37. Speedometer and Odometer
38. Brake Pedal
39. Front Wheel Brake Limiting Valve
40. Headlight Beam Selector
41. Power Take Off Control
42. Fuel Primer Pump
43. Window Regulator
44. Tachometer (Behind Turn Signal Control)

OPERATION

DOOR CONTROL AND LOCK (Inside and Outside)

To open door from inside or outside, insert finger tips into door control recess and pull handle outward.



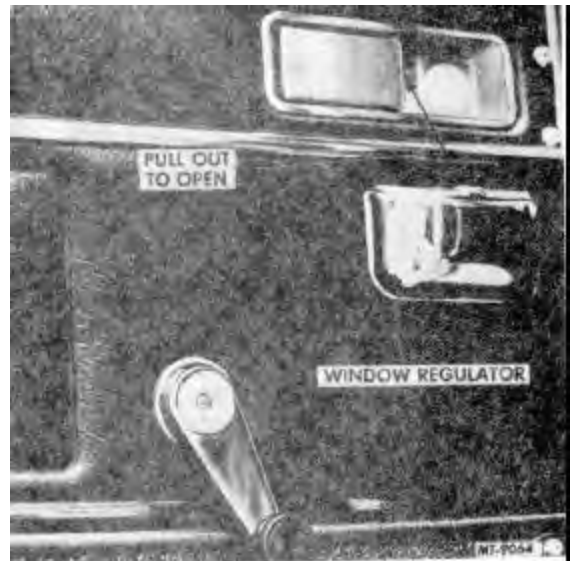
To lock door from inside, push down on lock button located at rear edge of door. To unlock, pull button up.

To lock door from outside, insert key into lock; turn key 1/4 turn clockwise (towards rear of vehicle). Turn key back to original position and remove key.

To unlock door from outside, turn key 1/4 turn counter-clockwise (toward front of vehicle). Turn key back to original position and remove.

DOOR GLASS WINDOW REGULATOR

To lower door glass, turn window regulator handle clockwise. To raise glass, turn handle counterclockwise.



SEAT BELTS

Use of Seat Belts. Seat belts should be worn at all times. Before fastening a front seat belt, always adjust the driver's seat to the position in which you will drive. Seat belts should be worn across the pelvic region (hip bone) and adjusted snugly. Never adjust a seat belt across the abdomen.

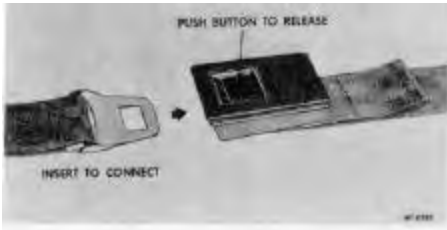


To lengthen the belt, tip the buckle end downward, as shown, and pull the buckle until the belt ends can be joined.



OPERATION

Insert tongue into open end of buckle and snap together. The belt can be shortened after it is connected by pulling on the loose end until the belt is snug and comfortable. Push in on the button release latch to remove the seat belt.



When adjusting shoulder belt, for proper slack, place fist on chest under strap. Shoulder belt should not be tight across body.

Buckle shoulder belt in same manner as regular seat belt.

Always pull the belt completely out of the retractor before adjusting and fastening the other half of the belt unit.

Care of Seat Belts. Seat belts should receive the same care as the finest fabric.

Clean with mild soap; do not use cleaning solvents or abrasives.

CAUTION: Do not bleach or re-dye color of webbing as same may cause a severe loss of tensile strength.

Keep belts flat to avoid twisting and roping when not being used. Do not place heavy or sharp objects on belts.

The entire seat belt assembly should be inspected periodically for corrosion, wear, fraying or weak spots. The seat belt mounting bolts should be tight at all times. Any seat belt severely strained in an accident should be replaced immediately. All belts should be replaced at least every five years.

CAUTION: Shoulder belt should never be worn without regular lap seat belt.

STARTING SWITCH AND KEYS

Turning key to the RIGHT, then pushing in the starting button (transmission in neutral) STARTS THE ENGINE. Leaving it turned to the RIGHT leaves the fuel shut off valve and all electrical units "ON".



With the key turned to the LEFT, all electrical units controlled by the switch are "ON" (except the diesel engine fuel shut off valve)

ENGINE STARTING: Cummins Diesel Engine

1. Set the parking brake control.
2. Place the transmission control in the neutral position.
3. Pull out the throttle control or depress the accelerator sufficiently to "crack" the throttle; the engine will then run at "fast idle" speed. The throttle control should be gradually pushed in until the proper idling speed is obtained.
4. Pull out the compression release control (If so equipped.)
5. Turn starting switch key to right and push in on starting button. Release starting button the instant the engine starts.

NOTE: To avoid possible damage to the starting mechanism, release the starting button as soon as the engine starts. Never push starting button while the engine is running. If the engine does not start promptly, DO NOT OVERTAX THE STARTING MOTOR OR THE BATTERY. Do not use the starting motor longer than 30 seconds at a time.

Wait at least 15 seconds between attempts to start the engine to prevent heat (generated in the starting motor) from scorching the starting motor commutator.

NOTE: A manual override switch is provided on the forward end of the electric fuel shut-off

valve above the fuel pump. In case the electric fuel shut-off valve is inoperative, turn switch to the right to open the fuel shut-off valve.

6. After three or four seconds of cranking push in the compression release control (if so equipped) and continue to crank until the engine starts. Release starting button the instant the engine starts.

NOTE: Do not run the starting motor for more than approximately 30 seconds at any time. If the engine fails to start or makes a false start, do not turn the starting switch key again until the engine has come to a complete stop.

CAUTION: Do not start or run an engine in a closed garage. Exhaust gas from all internal combustion engines' contains poisonous carbon monoxide gas which is odorless, tasteless, and colorless. Keep the garage doors wide open when starting and keep your cab completely ventilated at all times to avoid drowsiness.

COLD WEATHER STARTING AIDS

As an aid in starting the engine in cold weather temperatures, an intake air preheater arrangement may be used.

The preheater equipment consists of a hand priming pump to pump fuel into the intake manifold, a glow plug electrically heated by the battery, and a switch to turn on the glow plug when fuel is pumped into the intake air.

CAUTION: Do not use ether in conjunction with the preheater.

To use the preheater for cold starting follow this starting procedure:

1. Disengage clutch.
2. Do not accelerate engine during the starting procedure.
3. Push glow plug switch located to the left of the operator to "ON" position. Red indicator light must be on.
4. After red light has been on for 20 seconds, start cranking the engine. As soon as engine begins rotating, operate the preheater priming pump to maintain 40 to 60 psi fuel pressure. Use of primer located at the instrument panel lower left side before the 20 second interval will wet glow plug and prevent heating.
5. If engine does not start within 20 seconds, stop cranking. Wait 30 seconds and repeat cranking operation.

6. After engine starts, pump primer slowly to keep engine idling smoothly. In cold weather this may require 4 to 5 minutes, or longer. Do not accelerate engine.

7. After engine has warmed up until it does not falter between primer strokes, stop pumping. Close primer and lock. Turn off glow plug switch. (Red indicator light will go off.)

DO NOT USE PREHEATER WHEN TRUCK IS IN MOTION. THE PREHEATER BURNS INCOMING AIR, AND MAY RESULT IN DAMAGE TO THE ENGINE.

ENGINE SHUTDOWN

A basic rule of good engine operation concerns the importance of idling the engine from three to five minutes before shutting down. This few minutes idling allows the lubricating oil and water to carry heat away from the iron masses.

The larger the engine, the greater the need for this idling period and of course, the length of the idling period should somewhat follow the size of the engine in order to avoid seals or like features of an engine being damaged by rising heat.

Cummins Diesel Engine:

To stop the engine turn the starting switch to "OFF".

Pulling the control out will stop the engine. If the engine has been stopped by pulling the control, the shutdown latch assembly located at inlet side of engine blower must be reset before engine can be started.

CAUTION: If engine has had to be stopped using the emergency shut-down, the cause should be found before the engine is started again.

TEMPERATURE GAUGE

The temperature gauge indicates the temperature of the coolant in the cooling system.

The gauge operates only when the starting switch is turned to "ON" position, or is turned to the left to operate the accessories. If the indicator suddenly rises to the 240 degree position, the engine should be stopped and the cause of overheating determined.

SPEEDOMETER AND ODOMETER

The speedometer indicates the vehicle speed in miles (or kilometers, if so adapted) per hour. The odometer records the total number of miles traveled. The units operate through a flexible cable from the transmission.

OIL PRESSURE GAUGE - ENGINE

The engine oil pressure gauge indicates the amount of oil pressure being delivered to the engine. At engine idle speed, the oil pressure should be approximately 15-30 pounds; at normal operation speeds, 30-70 pounds.

If gauge fluctuates or does not register when the engine is operating, stop the engine immediately and correct cause.



GAUGE, BATTERY GENERATING SYSTEM INDICATOR

The battery, generating system indicator gauge indicates the condition of the battery, alternator and the voltage regulator.

The gauge is divided into two sections, one marked BATT (battery); the other marked GEN (generating system).

With starting switch on, before starting engine the gauge will show the condition of the battery. The battery section of the gauge is subdivided into three colored segments.

- GREEN a well-charged battery
- YELLOW a low battery charge
- RED a very low battery charge

With the engine running at operating speeds, the gauge will show the condition of the generating system. The generating section of the gauge is divided into two colored segments:

- GREEN generating system working properly.
- RED voltage output too high.

Constant reading in either RED area indicates that a complete check of the battery and generating system be made.

Range given is from 2000 to 2600 engine r.p.m. for operation to 10,000 ft. altitude.

TACHOMETER

The tachometer (combined with the tachograph) indicates the engine speed in revolutions per minute and

records the number of hours the engine has operated. The hour meter is based upon an average of 100,000 revolutions per hour.

Keep your eye on the tachometer and observe engine speed to avoid "overspeeding" and "lugging" the engine.

For cruising on level highways, operate the engine at approximately 85 per cent of governed speed or about three-quarters throttle.

Where you advance to full throttle and the engine cannot reach governed R.P.M., the engine is lugging. To avoid lugging the engine, select gears which will permit your engine to reach governed R.P.M. when you advance to full throttle.

ASH RECEPTACLE

The ash receptacle is located on top and in the center of the instrument panel and is convenient to both the operator and passenger.

LIGHT CONTROL SWITCHES

The light control switches are located to the left and right of the steering wheel at the top of the instrument panel and are marked respectively.

HEADLIGHT BEAM SELECTOR

The foot-operated beam selector, convenient to the driver's left foot, is used to control the upper and lower headlight beams. Use of the beam selector permits the driver to lower the headlight beam when approaching or passing vehicles, and to raise the headlight beam for open highway use or whenever necessary. A red light (on the instrument panel) glows when the headlights are on "upper" beam.



WINDSHIELD WIPER CONTROL (Air)

The windshield wiper motor is located at the top edge of the windshield on left side of cab.

Turning the control to the left starts the air wipers. The speed of the air wipers is regulated by rotating the control. To position the wiper blades in the "park" position, turn the control to the extreme right.



AIR GAUGE, INDICATOR LIGHT AND LOW AIR PRESSURE BUZZER (Air Brakes)

Should the air pressure in the air brake system fall below approximately 60 pounds, a warning buzzer will sound.

The warning buzzer will automatically shut off when the air pressure in the system is sufficient (approximately 60 pounds) to operate the vehicle.

FUEL GAUGE

The fuel gauge is electrically operated and indicates the level of the fuel in the tank. The gauge registers only when the starting switch is "ON" or the key is turned to the "accessory" position. **NOTE: Gauge pointer may not necessarily return to lowest reading when key is turned to "OFF".**

FUEL TANK

As fuel is consumed, air is drawn through the vent into the fuel tank. Under certain climatic conditions, with a quick drop in temperature and the vehicle inoperative, moisture may accumulate in the fuel tank. Therefore, keep the fuel tank filled, as much as practical, to avoid moisture accumulation.

CIGARETTE LIGHTER

The cigarette lighter is located on the instrument panel to the right of the operator. Push the lighter knob in all the way. The lighter will automatically return to the normal position when it is ready for use.

WINDSHIELD WASHERS

To operate the windshield washers, press in on the button located at the top edge of the windshield to spray solution on the windshield. Then, turn on the windshield wipers to clean the windshield.

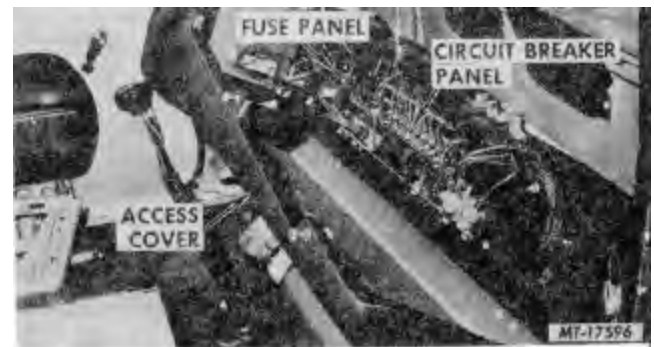
Keep the fluid reservoir filled with water at all times. I.H. windshield washer solvent added to water will aid in cutting road film and grease on the windshield and, during cold weather, will prevent freezing of the water in the container.

THROTTLE CONTROL

The throttle control located to the right of the operator and at the lower edge of the instrument panel may be used to open the throttle slightly when starting the engine, or to set the throttle at any position to maintain a constant engine speed.

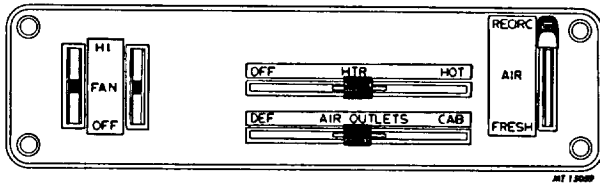
CIRCUIT BREAKERS AND FUSES

The various electrical units on these chassis are protected by individual circuit breakers and fuses conveniently located behind panel in approximately the center of the Instrument Panel.

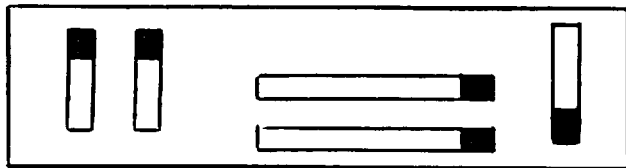


OPERATION

HEATING, VENTILATING AND DEFROSTING



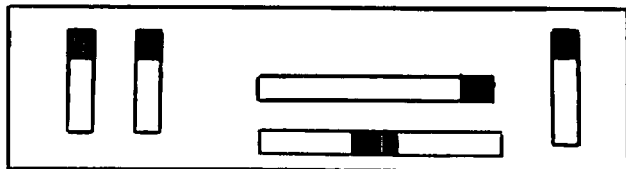
HEATING To use as a fresh air heater, move "AIR" inlet control lever to "FRESH". Adjust temperature "HTR" (HEAT) lever as required to give the desired degree of heat. Full right "HOT" position provides maximum heat. Move "AIR OUTLETS" control lever as desired to control air flow. For MAXIMUM AIR FLOW, move both "FAN" switches to "HI". Switches can be operated in any speed combination.



MT-15062

Fresh Air Heat

To use as a recirculating type heater, operate heater controls in normal manner and move "AIR" inlet control lever to "RECIRC".



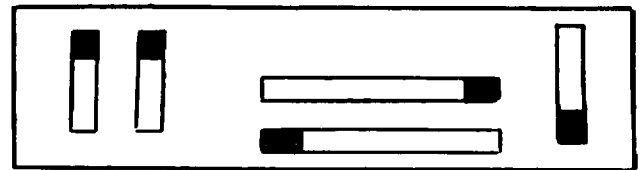
MT-15065

Recirculating Heat

DEFROSTING

To obtain maximum defrosting, move "HTR" lever to "HOT". Place "AIR OUTLETS" lever at "DEF" and "AIR" lever to "FRESH". Adjust blower speeds to provide desired air flow.

To put all air on windshield, move "AIR OUTLETS" control lever to "DEF", close floor outlet.



MT-15067

Defrost

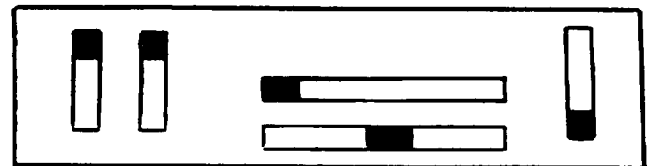
CAUTION: To clear the system of humid air, operate blowers for 30 seconds at "Hi" speed before moving "AIR OUTLETS" lever to "DEF".

This will minimize rapid fogging of the glass, which can occur if humid air is blown onto a cool windshield.

To improve defroster efficiency, remove ice and/or snow from glass area.

FRESH AIR VENTILATION To permit fresh air to enter directly into the cab, push in air door control (left ventilator).

To direct fresh air through the heater for distribution through the cab air outlets, place the control panel "HTR" lever in the "OFF" position. Move the "AIR" lever to "FRESH". Move "AIR OUTLETS" lever to direct air stream as desired. Adjust blower speed and air registers for desired air flow. Blowers may be operated individually or simultaneously in any available speed combination.



MT-15060

ENGINE BRAKE CONTROL OPERATION

After the engine has reached normal operating temperature and before starting a trip, position the manual control switch on the instrument panel to "ON."

When the vehicle is in motion, the engine brake control is in operation when the operator's foot is removed from the accelerator pedal.

The engine brake may be used in general whenever decelerating the vehicle is required, such as, descending grades, city traffic or approaching traffic lights.

OPERATION

A "rule-of-thumb" for gear selection is that the operator should estimate the gear he would use to climb the grade he is about to descend.

Generally this same gear can be used for controlled descent of the hill with the Engine Brake.

IMPORTANT: The engine should never be allowed to exceed the governed speed. Use the service brakes intermittently or shift to a higher transmission range to prevent engine overspeed.

Using an Engine Brake on ice or slick roads can be very successful. The Engine Brake is a very gentle retarder and can be used effectively on icy pavement by selecting a higher than normal gear for the given road speed. The engine will then operate at a reduced RPM thereby reducing the retarding effect when the Engine Brake is energized.

BRAKE PEDAL (Air Brakes)

When making a stop for a traffic light or going down a long grade, do not "fan" the air brake pedal rapidly as this wastes air pressure. On long grades, use snubbing "on-off" brake application to reduce the possibility of extreme heat and wear to the brake lining. Another good policy to follow is to let the engine assist in reducing the vehicle speed. The best way to make a stop is to apply the brakes as hard at first as the road and load conditions will permit and then gradually reduce the pressure, so that at the end of the stop there is sufficient air pressure to hold the vehicle.

POWER DIVIDER LOCK CONTROL (For Tandem Drive Axles) (Air Operated)

The power divider lock control located below the instrument panel (left side) is used with vehicles equipped with dual rear axles having interaxle differentials.

For normal driving on hard surface roads the control should remain in the "OUT" (unlocked) position.



To transmit equal power to both rear axles when under heavy load when one or both wheels of the axle are slipping, the control should be in the "IN" (locked) position. A red warning light located beside the power divider lock indicates when the control is in locked position.

NOTE: Move control to "IN" (locked) position only at low speed and never when wheels are slipping.

OPERATION

FRONT WHEEL BRAKE LIMITING VALVE CONTROL (Air Brakes)

The front wheel brake limiting valve control is mounted on the lower edge of the instrument panel to the left of the steering column.



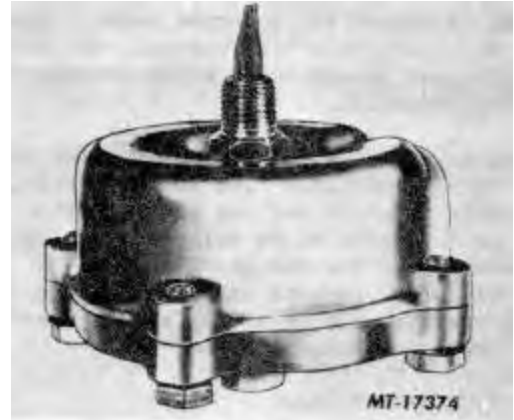
The valve enables the driver to set his brake power in accordance with varying road conditions. When operating a vehicle unloaded or over slippery roads, the driver pulls out the limiting valve, which automatically limits the maximum air pressure admitted to the front wheel brake chambers.

When operating a vehicle with a load or over dry roads, the driver pushes the valve control into the dry road position. This automatically allows the maximum air pressure to be supplied to the front wheel brake chambers as well as the rear brake chambers.

AUTOMATIC RESERVOIR DRAIN VALVE

DESCRIPTION

The DV-2 Automatic Reservoir Drain Valve ejects moisture and contaminants from the reservoir in which it is connected. It operates automatically and requires no manual assistance or control lines from other sources.



PARKING BRAKE CONTROL

The primary purpose of this brake is to hold the vehicle in a parked position or to assist in bringing it to an emergency stop. The parking brake should not be used to brake the vehicle during normal driving.



To apply the parking brake pull out on control. To release the parking brake push in on control. **NOTE: DO NOT APPLY FOOT BRAKE WHILE PARKING BRAKE IS APPLIED.**

Upon loss of air pressure or reduction of air pressure in the vehicle air system, the parking brakes will automatically apply,

OPERATION

thereby providing an effective emergency brake.

If the chassis is equipped with a protected reservoir the parking brake will not automatically apply.

The parking brake cylinder differ from the service brake cylinders in that the parking brake cylinder apply the brakes by spring pressure and release them by air pressure where as the service brake cylinders apply the brakes with air pressure and release them by spring pressure.

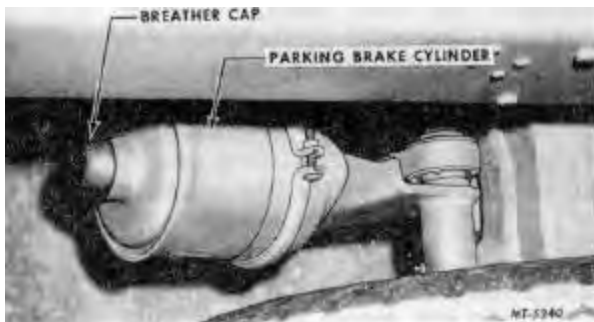
The parking brake unit requires approximately 60 pounds air pressure before brakes can be released.

Manual Release

In event of air failure on the road or for towing the vehicle, the spring brake can be released by removing breather cap and backing off (counterclockwise) the release bolt approximately 1-3/4" until brake shoes are free from brake drums.

IMPORTANT: Before releasing spring brakes, be sure vehicle is properly blocked so that when brakes are released vehicle cannot move.

To Reset Brakes



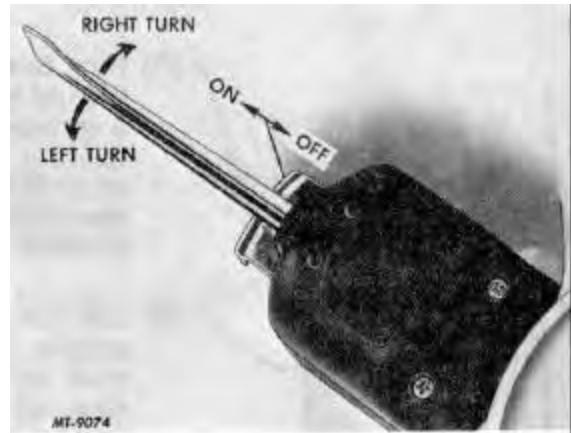
1. Charge brake system with 60 pounds air pressure.
2. Turn release bolt clockwise until tight. (Approximately 50 ft. lbs. torque.)
3. Install breather cap with stainless steel screen facing down.

TURN INDICATOR CONTROL

The turn indicator control is located on the steering column below the steering wheel. To signal for a right turn, push the control away from you. For a left turn, pull the control toward you. Signal lights on the front and rear of the truck and on the instrument panel

"blink" on and off when the turn indicator is operating.

TRAFFIC HAZARD WARNING LIGHT SWITCH



The traffic hazard warning light switch is required in several states to flash both front and rear directional signals simultaneously, thus warning oncoming traffic of an emergency. The switch is located on the left side of the steering column.

With the turn signal lever in center position, pull switch out to operate signal lights. To turn off, move turn indicator control to either right or left turn position, then move back to center position. With switch pulled out, both turn indicator lights on the instrument panel flash, indicating operation of both front and rear directional signal lights. Hazard warning operation is indicated by simultaneous flashing of both turn signal indicators. Hazard warning system should be used for emergency only in compliance with the laws of the state in which the vehicle is registered.

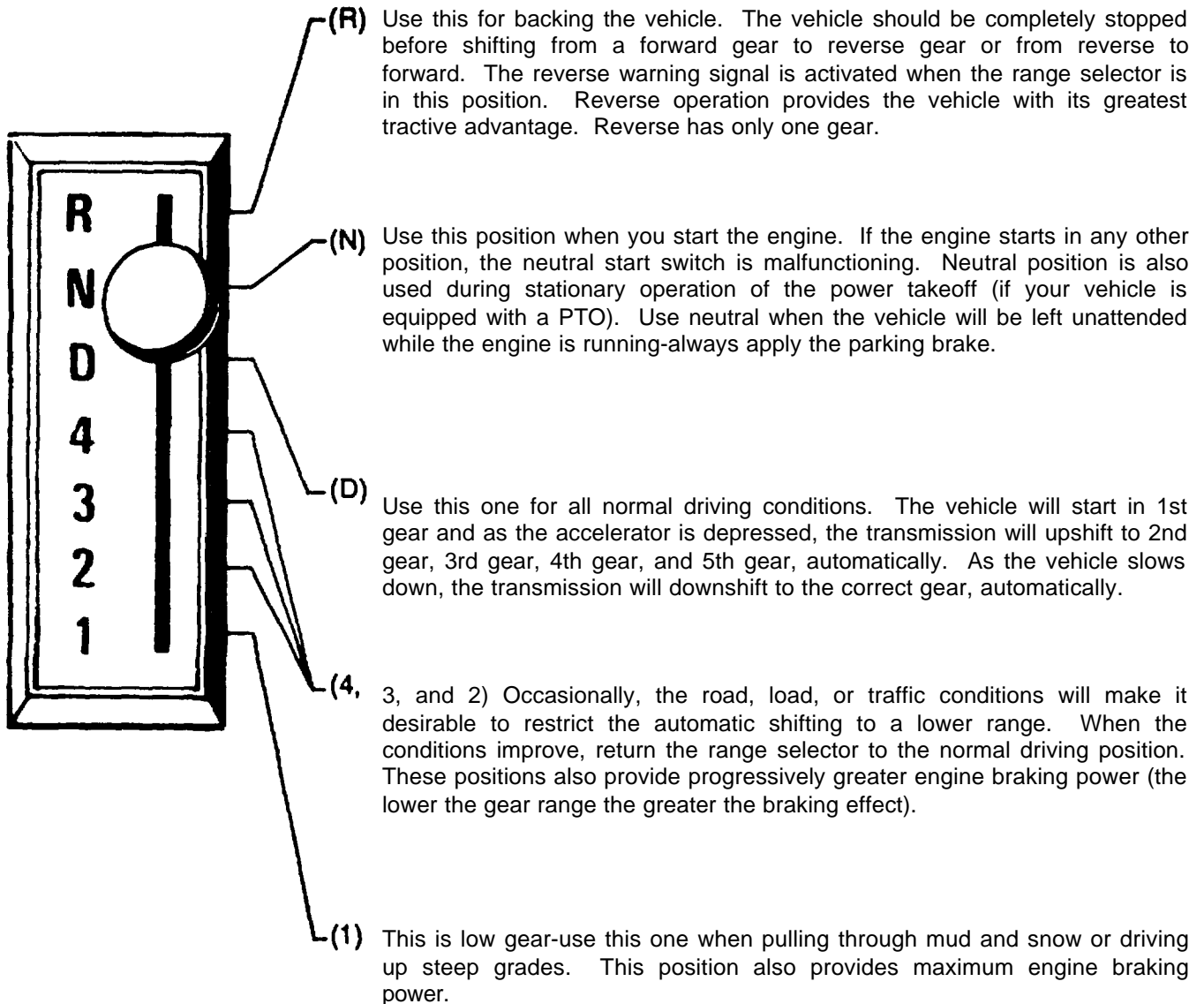
REAR VIEW MIRROR

The rear view mirror contributes to safe operation of the vehicle and can be adjusted to the position desired by the operator.

DRIVING THE VEHICLE (Automatic Transmission)

Operation of the automatic transmission is controlled by a selector lever mounted on the cab floor (Console). The position of the lever is clearly shown by a range indicator. When the instrument panel lights are turned on the quadrant is illuminated.

HT-750 CRD RANGE SELECTOR POSITIONS



MT 17878

In the lower ranges (1, 2, 3, and 4), the transmission will not upshift above the highest gear selected unless the recommended engine governed speed for that gear is exceeded.

OPERATION

TRANSMISSION CONTROL (Auxiliary)

The auxiliary transmission, used in conjunction with the main transmission, provides additional gear ratios. The auxiliary transmission (in addition to the main transmission) must be placed in one of the driving positions / before power can be transferred to the rear wheels.

The auxiliary transmission control protrudes through the cab floor and gear shifting is similar to the main transmission.

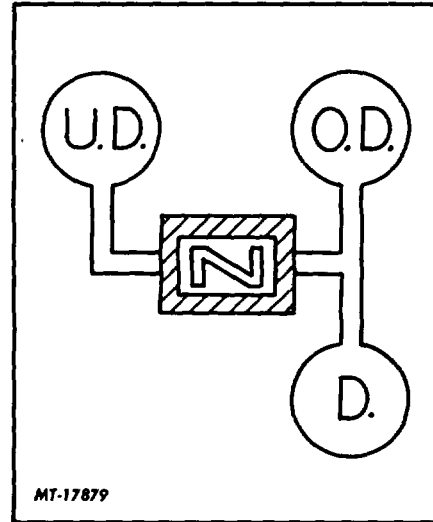
The operator can, after knowledge of his load and road condition, manipulate the gear ratios of a main and auxiliary transmission to obtain the most efficient operation and road speed for his particular operation.

Selection of the "UD" (underdrive) gear in the auxiliary transmission gives a greater gear reduction than provided by the main transmission and can be used with any of the main transmission ratios. This ratio is generally used where the vehicle is under heavy load and additional torque is required.

The selection of the "OD" (overdrive) gear in the auxiliary transmission provides a gear ratio to permit increased road speeds in the various transmission ratios.

CAUTION: When auxiliary transmissions are used in combination with automatic transmissions a loaded vehicle should not be started with the auxiliary in the "OD" (overdrive) position.

The selection of the "D" (direct drive) gear does not change the gear ratio provided by the main transmission but is used where the gear ratios in the main transmission are adequate to handle the vehicle operation.



**AUXILIARY TRANSMISSION
CODE 13538**

Auxiliary Transmission Code 13538

DRIVING THE TRUCK

1. Always check the brake system before attempting to drive the truck. Observe the air gauge to determine if the minimum of 60 pounds pressure exists and familiarize yourself with the brake pedal action.

Warm Up Engine Before Applying Load

It is very important that any engine be warmed up before applying load.

The warm-up period provides time for the lubricating oil to establish a film between moving parts.

In colder areas where temperature is often below 32 degrees F, the warm-up period for turbocharged engine is especially important. The cold external oil lines leading to the turbocharger will tend to slow oil flow until the oil warms up.

Slow oil flow to the turbo-charger reduces the oil available for the bearings; therefore, before applying load or speed above 1000 rpm to the engine make sure to:

WARM UP THE ENGINE FOR A MINIMUM OF FIVE MINUTES AT OR BELOW 1000 RPM BEFORE APPLYING LOAD.

GOVERNED SPEEDS - ENGINE

All diesel engines are equipped with governors to prevent speeds in excess of maximum ratings.

The governor has two functions: First, it provides the exact amount of fuel needed for

OPERATION

idling when the throttle is in idling position.

Second, it overrides the throttle and shuts off fuel if engine r.p.m. exceeds the maximum rated speed.

PARKING THE VEHICLE

CAUTION: When parking you Diesel truck, do not leave transmission in gear; if truck rolls, engine could start by heat of compression. Use hand brake for parking. When parking on a grade, block wheels or turn to curb.

RAISING THE HOOD

To raise the hood (right or left side), release the two latches, pull up to release. Then, raise the hood sufficiently to permit the ratchet type hood rest to engage and hold the hood open.

To close the hood, raise the hood sufficiently to permit disengagement of the ratchet. Lower the hood slowly. Engage the two holddown latches.



MAINTENANCE

OPERATOR'S MAINTENANCE

The following pages cover minor servicing and maintenance instructions which should be performed to assure efficient operation of the truck.

PAINT, BRIGHT METAL AND UPHOLSTERY MAINTENANCE

Frequent and regular washing, will lengthen the life of your new vehicle's painted finish and bright metal trim.

Washing. Wash your vehicle often with warm or cold water to remove dirt and preserve the original luster of the paint. Never wash the vehicle in the direct rays of the hot sun nor when the sheet metal is hot to the touch, as this may cause streaks on the finish. Do not use hot water or strong soaps or detergents or

wipe off dirt when the surface is dry as this will scratch the paint.

Avoid waxing or polishing new vehicles.

With the paint materials used on present production IH vehicles, it is definitely harmful to the life of the paint to use any kind of polish on a new truck. Polishes and combination cleaner and polish waxes all contain abrasives which cut through the skin of the enamel film, thus exposing the pigment to ultra-violet attach which accelerates chalking and dulling of the paint.

In those cases where the vehicle paint has chalked or dulled from age or weather conditions, then a cleaner and polish could be used.

Bright Metal Care. Bright metal such as anodized aluminum, chrome and stainless steel require the same washing as painted surfaces. A non-abrasive chrome cleaner may be used sparingly to clean the bright metal. Do not use steel wool. Use of automobile wax or polish on bright metal usually will restore the original brightness.

Upholstery Care. Use a whisk broom and vacuum cleaner to remove loose dust and dirt from the upholstery and floor. Vinyl and woven plastic upholstery can be washed with warm water and mild soap, wipe dry, If commercial cleaners are used, follow instructions supplied with cleaner.

LUBRICATION

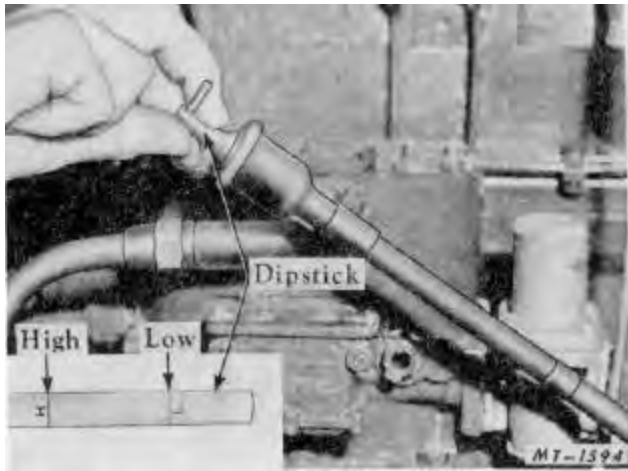
Have the truck properly lubricated at regular intervals according to the lubrication instructions and diagrams shown in this manual.

MAINTENANCE

ENGINE OIL

NOTE: Be sure the oil level in the crankcase is between the "L" (Low) and "H" (High) marks on the oil dipstick.

Keep oil level as near the high level mark / as possible. Never operate an engine with oil level below low level mark.



Check oil level 15 minutes or more after engine is shut down.

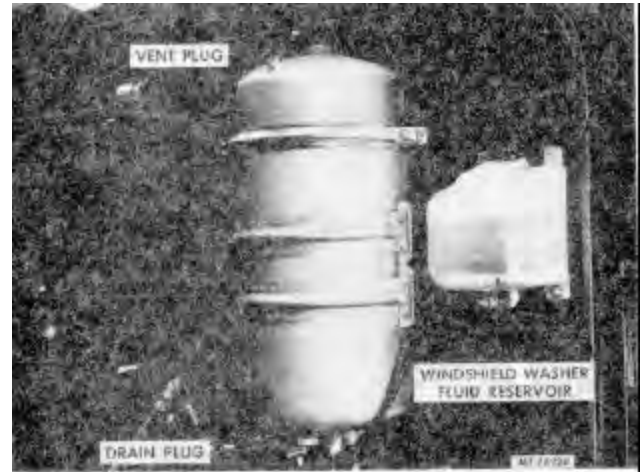
When checking the oil level, the dipstick must be withdrawn and wiped clean, then inserted all the way and again withdrawn for a true reading.

Never check the oil level with the engine running as an inaccurate reading will be obtained.

Use only a good grade and proper viscosity engine oil.

OIL FILTER-ENGINE (Auxiliary)

If your vehicle is equipped with an auxiliary oil filter it has a replaceable element. Proper maintenance and frequent element replacement will enable the oil filter to maintain clean lubrication and extend engine life.



ENGINE AIR CLEANER (Dry Type)

The dry type air cleaner employs a dual dry system, combining a centrifugal cleaning stage with a special paper filter.

Do not use oil. Refer to the lubrication instructions when servicing.

NOTE: Operator must cover air cleaner air intake opening when servicing chassis to prevent dirt or foreign matter entering.

CHANGE FUEL FILTER ELEMENT

REPLACEABLE ELEMENT

1. Remove drain plug from bottom of filter case and drain contents.
2. Loosen bolt at top of fuel filter. Take out dirty element, clean filter case and install a new element.
3. Fill filter case with clean fuel to aid in faster pick-up of fuel. Install a new gasket in filter head and assemble case and element. Tighten center bolt to 20 to 25 ft-lbs (2.8 to 3.5 kgm) with a torque wrench.

CLEAN FUEL PUMP SCREEN AND MAGNET

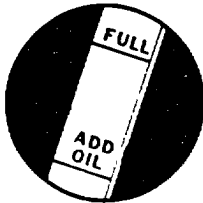
1. Loosen and remove cap at top of fuel pump. Remove spring. Lift out filter screen assembly.

MAINTENANCE

2. Separate screen retainer and magnet. On some units magnet and screen are one integral unit. Magnet action in filter screen will remove any metal particles that may enter fuel system.
3. Clean screen and magnet in cleaning solvent and dry with compressed air.
4. Reassemble magnet in screen. Install filter screen assembly in fuel pump with hole down.
5. Replace spring on top of filter screen assembly.
6. Replace cap; tighten to 20/25 foot pounds.

IMPORTANCE OF PROPER OIL LEVEL

Since the transmission oil cools, lubricates and transmits power, it is important that the proper oil level be maintained at all times. If the level is too low, the converter and clutches will not receive an adequate supply. This can result in poor performance or transmission failure. If the level is too high, the oil will foam, causing the transmission to overheat. Check the oil level at intervals specified in your vehicle service instructions, or more frequently, if operating conditions indicate. Report any abnormal oil level to your maintenance personnel.



OIL SPECIFICATIONS

Only Dexron® automatic transmission fluid is recommended. When the ambient temperature is below -10°F, an auxiliary preheat is required. Raise the temperature above -10°F before operating the transmission.

KEEP OIL CLEAN

It is absolutely necessary that the oil put into the transmission be clean. Oil must be handled in clean containers, fillers, etc to prevent foreign material from entering the transmission.

CAUTION: Containers that have been used for anti-freeze (ethylene glycol) should not be used for oil going into any machinery.

OIL CHECK PROCEDURE

Before checking the oil level, clean around the end of the fill pipe before removing the dipstick. Dirt or foreign matter must not be permitted to enter the oil system because it can cause valves to stick, cause undue wear of transmission parts or clog passages. Check the oil level by the following procedure:

1. Operate the transmission in a drive range until normal operating temperature (160-220°F) is reached.
2. Shift through all drive ranges to fill the clutches and oil passages.
3. Park the vehicle on a level spot, shift to neutral (N) and apply the parking brake. Let the engine run at idle speed.
4. Check the oil level after wiping the dipstick clean. The safe operating level is between the FULL and ADD marks on the dipstick.
5. If not within this range, add or drain oil as necessary to bring the level to the FULL mark.

HOW TO KEEP LITTLE PROBLEMS FROM BECOMING BIG PROBLEMS

By observing the operation of the transmission and making a few periodic checks, minor mechanical problems can be kept from becoming major overhaul.

If one of these conditions occur-

- Shifting feels odd.
- Transmission automatically up-shifts or downshifts at irregular intervals.

Notify your vehicle maintenance personnel.

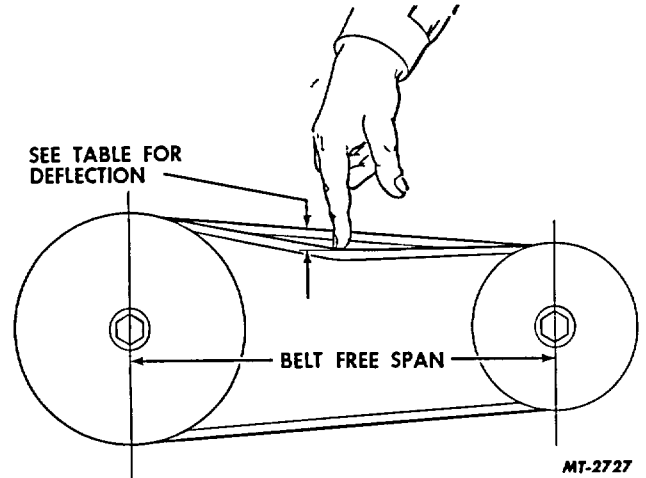
MT17877

FAN BELT ADJUSTMENT

Always show ten distance between pulley centers so the belt can be installed without force.

NOTE: REPLACE BELTS IN COMPLETE SETS

Tighten fan belts so that the pressure of the index finger will depress as shown.



FAN BELT TENSION

BELT WIDTH	DEFLECTION PER FT. OF SPAN
1/2"	13/32"
11/16"	13/32"
3/4"	7/16"
7/8"	1/2"
1"	9/16"

POWER STEERING PUMP OIL RESERVOIR

The oil level in the reservoir must be maintained to the "F" mark on the dipstick type indicator attached to the filler cap.



MAINTENANCE

Power Steering Oil Reservoir Filter

A replaceable type filter element is located in the pump reservoir. Remove reservoir cover and filter element. Clean inside of reservoir with lint-free cloth. Install new filter element and replace cover. Refer to the lubrication instructions.

ALTERNATOR - Self-Rectifying (Precautions)

Before connecting a fast charger, booster battery or installing a new battery extreme caution must be used to make sure that the ground polarities of the fast charger, booster battery or alternator (when installing a battery) are matched to the ground polarity of the vehicle battery. Improper usage of fast charger, hook-up of booster battery or installing battery can cause damage to the electrical system or to the alternator.

NOTE: Do not attempt to polarize the alternator.

RADIATOR CAP

The radiator cap is the pressure-sealing type. Its purpose is to maintain the cooling system under slight pressure, increasing the boiling point of the cooling solution and preventing loss of the solution due to evaporation or overflow.

CAUTION: When removing the pressure type cap from the radiator perform the operation in two steps. Loosen the cap slowly to its first notch position, then pause a moment. This will avoid possible scalding by hot water or steam. Then continue to turn the cap to the left until you remove it.

RADIATOR COOLANT LEVEL

Do not fill the radiator completely full. Maintain the coolant level about one inch below the top of the radiator upper tank to allow for coolant expansion.

If the coolant in the radiator should get extremely low and the engine very hot, let the engine cool for approximately 15 minutes before adding coolant; then, with the engine running, add coolant slowly. Adding a large quantity of cold water or coolant to a hot engine may crack the cylinder head or crankcase.

ANTI-FREEZE

The cooling system of your new vehicle is filled at the factory with I.H. Permanent-Type Anti-Freeze and will protect the cooling system

down to 34 degree F below zero. (50-50 solution of permanent type)

This factory-fill coolant solution is formulated to withstand one full year of normal operation without draining.

Be sure to check the anti-freeze protection level before cold weather. I.H. Permanent-Type Anti-Freeze may be added undiluted if protection below -20 degrees F is required.

FILLING THE COOLING SYSTEM

To eliminate air being trapped within the engine or heater, the following procedure should be followed when filling the engine coolant system.

1. Fill cooling system until coolant reaches bottom of radiator filler opening. Let stand approximately 5 minutes; recheck level.
2. Set parking brake and start engine.
3. Allow engine to operate without radiator cap at a fast idle until the engine reaches its normal operating temperature.
4. After engine reaches its normal operating temperature, trapped air will be expelled from system.
5. With engine still running, add sufficient coolant to bring level to approximately one inch below bottom of filler neck. Install radiator cap.

THERMOSTAT (Cooling System)

The thermostat is the nonadjustable type and is incorporated in the cooling system for the purpose of retarding or restricting circulation of water or coolant to achieve rapid engine warm-up. The thermostat is located in the cylinder head water manifold at the water outlet.

Engine overheating and loss of coolant is sometimes due to an inoperative thermostat.

When this condition exists, check the thermostat with an accurate high temperature thermometer by submerging in hot water.

RADIATOR SHUTTERS (Automatic)

Automatic radiator shutters maintain a predetermined higher engine temperature without interrupting the coolant flow. This results in greatly increased engine efficiency and economy as well as improved heater performance.

COOLING SYSTEM CLEANING

Once a year or more often, depending upon the type of coolant used, the cooling system

MAINTENANCE

should be drained and thoroughly flushed. This is particularly important before using anti-freeze.

Unless the water in the cooling system is treated with a corrosion preventive, rust and scale will eventually clog up passages in the radiator and water jackets. This condition is aggravated in some localities by formation of insoluble salts from the water used.

IH cleaning solutions are available which have proven very successful in removing accumulation of rust, scale, sludge, and grease. This solution should be used according to the recommendation on container.

NOTE: Do not use chemical mixtures to stop radiator leaks except in an emergency. Never use such solutions instead of needed radiator repair.

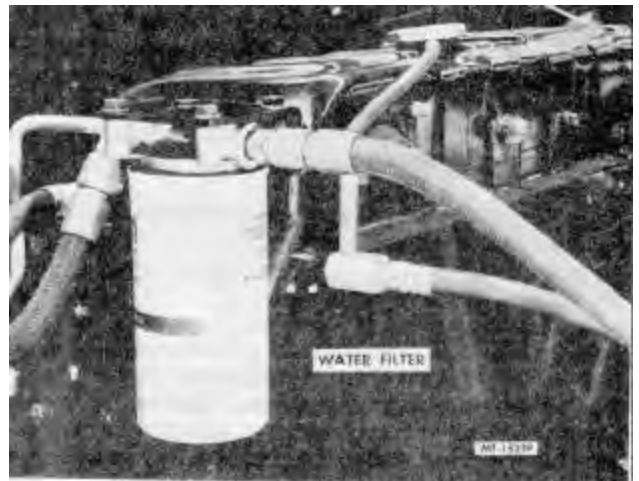
When draining the cleaning solution, disconnect the radiator outlet hose, as large particles of sediment will not pass through the drain. Also open the drain on the right side of the crankcase toward the rear of diesel engines. Drain plugs are located on the right and left sides near the front on V-8 engines.

WATER FILTER (SPIN-ON TYPE)

If your vehicle is equipped with a cooling system water filter, filter should be replaced every 10,000 miles or as necessary to keep the cooling system free of contaminants.

Procedure for servicing the spin-on type water filter is as follows:

1. Remove water filter assembly by turning counterclockwise with the hands or a suitable tool. Clean filter mounting pad.
2. Coat the gasket on the new filter with a film of grease or oil.
3. Place the new filter in position on the center tube. Hand tighten 1/2 to 3/4 of a turn after gasket first contacts base of mounting pad. Do not overtighten.
4. Start engine and check for leaks.



COLD WEATHER PREPARATION

If the truck is to be operated in temperatures of 32 degrees F, or lower, observe the following precautions:

ENGINE OIL

The intervals at which engine oil must be changed depend upon the type and quality of oil used, and the type and severity of the operation. Oil changing is closely related to filter element and air cleaner cleaning and changing.

Laboratory tests of used oils, by oil suppliers, will assist in determining the advisable oil drain period.

AXLE AND TRANSMISSION

Severe cold weather may make it advisable to change to a lighter grade lubricant in the transmission and the rear axle differential. A lubricant of lighter viscosity will provide better lubrication to the moving parts.

MAINTENANCE

COOLING SYSTEM

For cold weather protection, use a 50-50 solution permanent type which contains an effective rust corrosion preventive.

Before adding the antifreeze, check the following:

1. Inspect all hoses. Tighten all hose clamps. Check for leaks.

2. Inspect the water pump for leaks.

3. Inspect the fan belt and adjust to proper tension. If the belt is worn or oil-soaked, replace it.

4. Position the vehicle so the engine is level. This will permit all water to drain from the cooling system.

5. Remove the radiator filler cap and open the radiator drain; also open the crankcase water drains and thoroughly drain the cooling system. Then close both drains and use a recognized cleaning solution, following the manufacturer's instructions.

6. Leave the radiator filler cap off and run the engine for about one-half hour or until the engine gets hot. Then disconnect the radiator outlet hose to allow the larger particles of sediment to pass through; also open both drains. Drain and flush thoroughly with clean water. Close both drains and securely fasten the radiator outlet hose.

7. Put the required amount of antifreeze into the cooling system. Add soft or rain water if available and inspect the hose connections for leaks.

Do not use calcium chloride or salt solutions.

TRUCK STORAGE INSTRUCTIONS

1. General Instructions.
2. Fourth Month Storage Service.
3. Once a Month Storage Service After Four Months.

1. GENERAL INSTRUCTIONS

Adequate protection and storage of new vehicles is a strict responsibility of the dealer or branch.

The following procedures are to be used for storing all vehicles. Satisfactory storage arrangements are less

costly and troublesome in the long run than haphazard, unplanned methods.

Claims arising from loss and damage that occur while the vehicle is in storage will not be considered for reimbursement by the Warranty Processing Center.

As rapid stock turnover is desirable, sales efforts should be centered on those vehicles that have been on hand and in storage for the longest period of time.

Check your own arrangements against the following suggestions and correct situations which create unnecessary expense and selling problems.

Parking Area

Whenever possible, vehicles should be stored indoors in a dry, well ventilated area and protected from sunlight. When circumstances do not permit, definite precautions must be taken \ to eliminate conditions which would result in product deterioration, unwarranted expense, and later customer dissatisfaction.

CAUTION:

A. Do not park near transformers or electrical motors, as when the protection wax contained in the tire compound cracks, ozone in the air will attack the exposed area.

B. Do not park near trees, or where high weeds or grass exist. This will prevent damage from birds, tree and weed sap or insects which cause stain.

C. Do not park near railroad tracks, industrial smoke areas, paint shops, or where street and road splash could contact vehicle.

D. When the vehicle cannot be parked on a level surface, block wheels.

Body-Cab

A. If necessary wash vehicle. Washing should be followed by wiping of horizontal surfaces to remove any water. Never wash the vehicle in the direct rays of the hot sun nor when the sheet metal is hot to the touch, as this may cause streaks on the finish. Do not use hot water or strong soaps or detergents or wipe off dirt when the surface is dry as this will scratch the paint.

B. Avoid waxing or polishing new vehicles. With the paint material used on present production IH vehicles, it is definitely harmful to the life of the paint to use any kind of polish on a new vehicle. Polishes and combination cleaner and polish waxes all contain abrasives which cut through the skin of the

MAINTENANCE

enamel film, thus exposing the pigment to ultra-violet attack which accelerates chalking and dulling of the paint.

C. Carefully check the paint and touch up all exposed primed or raw metal surfaces to prevent rust.

D. Clean and wax all chrome and stainless steel metal parts with a thick coat of custom auto wax to prevent discoloration from the elements. NOTE: After each washing be sure that the chrome and bright metal parts are rewaxed as necessary.

2. FOURTH MONTH STORAGE SERVICE

The operations defined below should be performed on all new vehicles which have been in storage four months.

Operations To Be Performed

A. Start engine and operate at fast idle until normal engine operating temperature is reached.

B. Operate air conditioner (if equipped) for a few moments.

C. Rinse wash vehicle.

D. Touch up any paint damage.

E. Clean and wax bright metal.

F. Check battery water level and specific gravity.

NOTE: If gravity is under 1.225, recharge battery.

G. Check radiator coolant level. Also check coolant for adequate freeze protection.

H. Install fuel tank rust inhibitor kit No. 285 037 C91 (steel tanks only).

I. Check to assure all tires are inflated (visually).

J. Drive vehicle to parking area. Refer to parking area Cautions outlined under General Instructions.

K. Drain air brake reservoir(s), then close drain cock.

L. Cover end of vertical exhaust stacks.

M. Disconnect battery(s) ground cable. This will prevent accidental starting, or shorting of the electrical system.

N. To prevent fading of the interior trim when the vehicle is exposed to the ultraviolet rays of the sun, spray or apply a coating of Bon-Ami or similar substance on the inside of the windshield and windows.

3. ONCE A MONTH STORAGE SERVICE AFTER FOUR MONTHS.

A. Remove vertical exhaust stack covers.

B. Connect battery(s) ground cable.

C. Start engine and operate at fast idle until normal engine operating temperature is reached.

D. Operate air conditioner (if equipped) for a few moments.

E. **IMPORTANT:** Where vehicles are stored outside, particularly along coastal areas, paint and bright metal deterioration will be more rapid due to prevailing salt water atmosphere and high humidity. For this reason it may be necessary to wash the vehicle and wax the chrome and stainless steel metal parts once a month. This operation must be determined by the branch or dealer.

F. Check tire pressure visually.

G. Engage and disengage clutch and parking brake.

H. Disconnect battery(s) ground cable. This will prevent accidental starting or shorting of the electrical system.

I. Install vertical exhaust stack covers.

MAINTENANCE

HEADLIGHT REMOVAL



1. Remove the headlight rim retaining screws and remove the headlight rim.

2. Unhook the headlight retaining spring from the headlight retainer.



3. Remove the sealed-beam unit from the headlight and disconnect the three-way connector at the rear. Hold the three-way connector firmly to avoid damage to the wiring. Remove the headlight retainer from the sealed-beam unit.

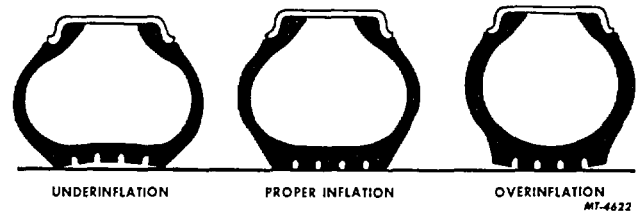
4. It is good practice to aim headlights for maximum illumination for night driving and assure that the headlight aiming does not conflict with existing laws and regulations.



TIRES

Inflation pressures should be checked when tires are cool, using an accurate tire pressure gauge. Check pressures at regular intervals.

Bleeding the air from hot tires is dangerous and should not be attempted. While the pressure will be reduced, an increase in temperature of the tire will take place as soon as driving is resumed and tire failure will result.



UNDERINFLATION

Too little air pressure increases deflection, causes the tread to wipe and scuff over the road, results in extra strain on the tire, and increases the chances for bruising.

PROPER INFLATION

Maintaining the proper air pressure provides maximum road contact and results in increased tire life.

OVERINFLATION

Overinflation reduces tire deflection and tire contact area, causing the tire to ride on the crown, and results in rapid wear in the center of the tread.

TIRE AND WHEEL BALANCE

Front wheel shimmy, wandering, and cupped tires are caused by an out-of-balance condition of one or both front tires. If the tires are changed because of a flat tire or to equalize wear, it is advised that they be checked for balance before operating the truck.

IMPORTANT - IMPORTANT -

WHEN INSTALLING REAR WHEELS, BE SURE HAND HOLE ON INSIDE WHEEL, IS OVER BRAKE DRUM INSPECTION HOLE.

MAINTENANCE

LOAD AND INFLATION CHART

WIDE BASE TIRES FOR TRUCKS, BUSES, TRAILERS AND
MULTIPURPOSE PASSENGER VEHICLES USED IN HIGHWAY SERVICE
(Bias and Radial Ply Tubeless)

TIRE AND RIM ASSOCIATION STANDARD

TIRES USED AS SINGLES

Tire Identification		Tire Load Limits at Various Inflation Pressures							
Size	Load Range	45	50	55	60	65	70	75	80
16.5 x 22.5	H	6590	7010	7410	7790	8170	8540	8890	9230

TIRES USED AS DUALS

Tire Identification		Tire Load Limits at Various Inflation Pressures							
Size	Load Range		55	60	65	70	75	80	
12.00 x 20	G		4930	5190	5440	5680	5910	6140	

NOTE: For sustained high speed driving over 60 mph, cold inflation pressures must be increased 10 psi above those specified by the table for the load being carried (but not to exceed 100 psi). Where the 10 psi pressure adjustment for sustained high speed is limited by the maximum of 100 psi, speed must be limited to 60 mph. (COLD INFLATION PRESSURES MUST NEVER EXCEED 100 PSI.)

CONVERSION OF PLY RATING TO LOAD RANGE DESIGNATION	
Load Range	Replaces Ply Rating
A	2
B	4
C	6
D	8
E	10
F	12
G	14
H	16
J	18
L	20
M	22
N	24

TIRE MATCHING (DUAL TIRES)

Use care in matching dual tires. Tires which differ more than 1/4 inch in diameter or 3/4 inch in circumference should not be mounted on the same dual wheel. Should it become necessary to mount two tires of unequal size on the same dual wheel, place the larger or less worn tire on the outside.

TIRE MATCHING (TANDEM DRIVE AXLES)

When mounting tires on tandem drive axles, follow the same instructions as specified for dual tires. However, never install the four largest tires on one driving axle and the four smallest tires on the other. This method of tire mounting will cause high axle lubricant temperatures which may lead to premature axle failure.

TIRE SWITCHING SEQUENCE

Tires should be cross switched at regular intervals to attain maximum tire life.

FRONT WHEEL ALIGNMENT

To guard against excessive tire wear, have the front wheel alignment inspected occasionally by your IH Branch or Dealer for toe-in.

MAINTENANCE

camber, and axle caster.

WHEEL AND RIM MOUNTING NUTS

Disc Wheels

1. Mounting faces of the hub, wheel, and nut must be free from dirt or excess paint. Mounting faces which have been damaged from wear or abuse must be repaired or replaced.

2. Right hand threads are used on the right side of the vehicle and left hand threads on the left side.

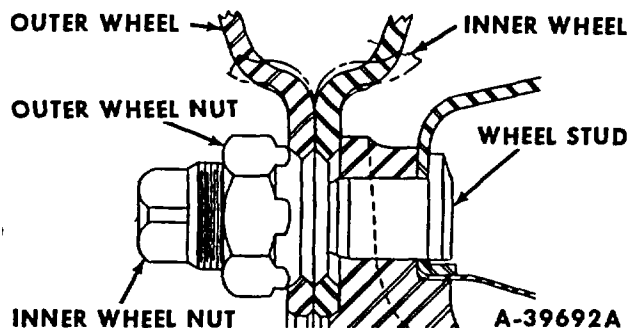
3. Tighten the wheel nuts alternately.

4. Tighten the single wheel mounting stud nuts to 450-500 foot pounds torque.

5. On dual wheels loosen the outer nuts before attempting to tighten the inner nuts. Tighten inner nuts to 500 feet pounds torque and outer nuts to 450 foot pounds torque.

NOTE: Always tighten the inner nuts 50 foot pounds more than the outer nuts and never let the outer nuts get below 400 foot pounds.

It is good practice to repeatedly (daily) tighten the wheel nuts during the first 500 miles of service on new trucks and any time the wheels have been removed. Regular inspection periods should be established to assure keeping the nuts tight.



BATTERY



Keep the batteries fully charged and check the solution level at least every 15 days during hot weather and 30 days in cold weather.

The solution in each cell should be 3/8" above the separator plates, or to the indicator level. When the solution is below this level, add distilled water, using a clean syringe. Acid or electrolyte should never be added except by skilled battery personnel.

Under no circumstances should any special battery "dopes", solution, or powders be added to batteries.

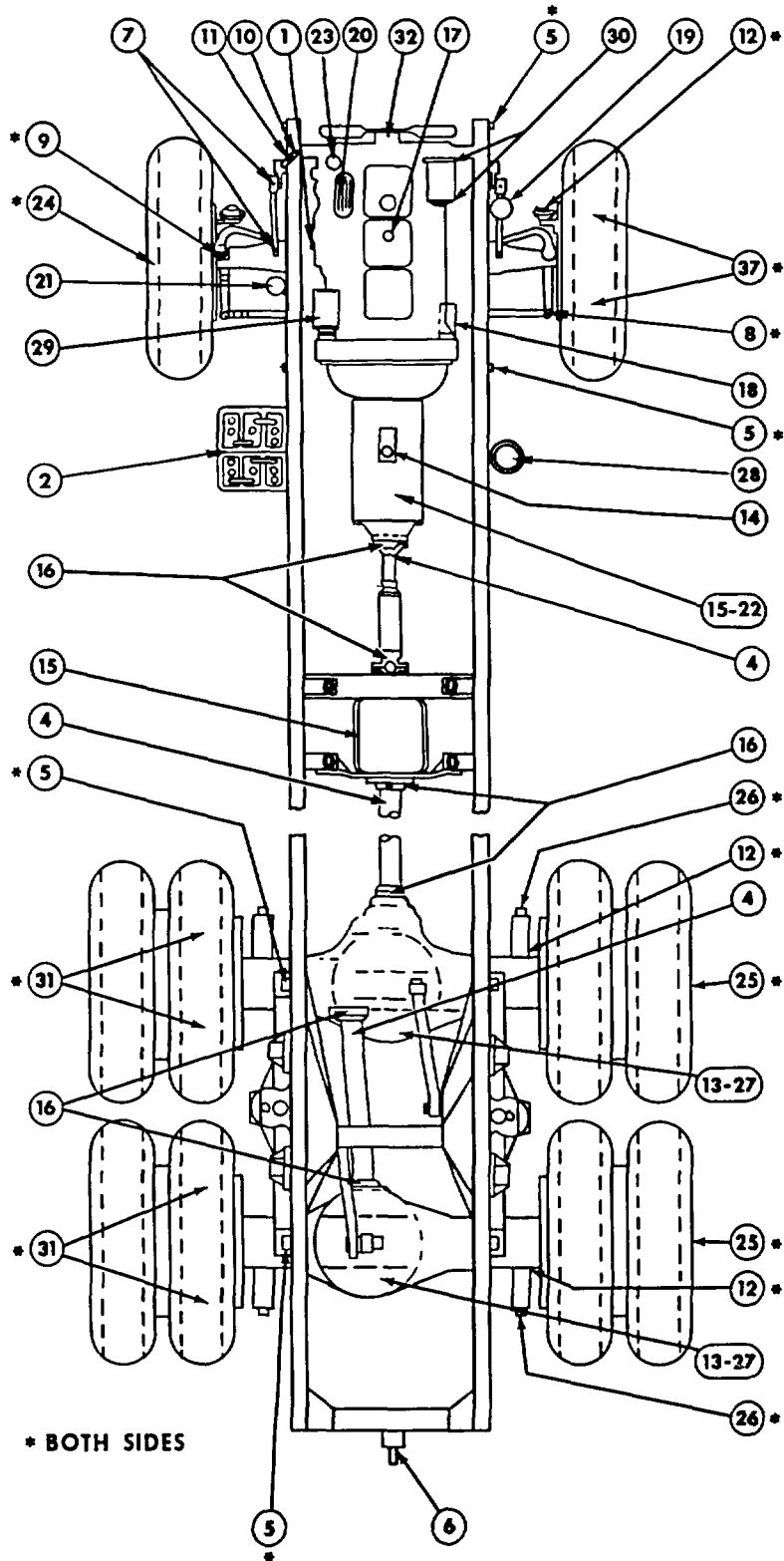
Test the specific gravity of the electrolyte in each cell with a hydrometer at least once a month. A hydrometer reading of 1.260 at 80 degrees F. indicates a full charge. Never allow the battery to fall below 1.225 which indicates half charged. A discharged battery will freeze at 20 degrees F. above zero. A fully charged battery will withstand temperatures as low as 80 degrees F. below zero.

Battery cable terminals must be clean and tight. Use hot water and common baking soda for removing terminal corrosion and for cleaning the top of the battery. Brighten the contact surface with steel wool, apply a light coat of vaseline or chassis lubricant, and reassemble. Be sure the terminals are clamped tightly and that the battery is clamped securely in the battery box.

When working around the terminals and batteries use extra care to avoid shorting. A good practice is to insulate pliers and screwdrivers used with this system. **DO NOT CHECK BATTERY CONDITION BY SHORTING (FLASHING) ACROSS TERMINALS.**

CAUTION: Hydrogen gas is produced in the normal operation of the battery. Therefore, to prevent a fire or dangerous explosion, it is imperative that flames or sparks (that could be caused by the use of jumper cables) be kept away from the vent openings of the battery.

LUBRICATION



* BOTH SIDES

LUBRICATION DIAGRAM MT-17880

LUBRICATION

Lubrication instructions in this manual show recommended mileage lubrication intervals.

These mileages represent requirements for normal services. For severe service or unusual operating conditions, these intervals should be reduced accordingly.

LUBRICATION INSTRUCTIONS

DAILY

1. Diesel Engines: Crankcase oil level must be maintained between the "H" (high) and "L" (low) marks on dipstick. **NOTE:** Keep oil level as near the high level mark as possible.

Cummins Diesel Engines: Refer to "Lubricant and Fuel" following UNIT REFILL CAPACITIES for oil specifications and viscosity.

AS REQUIRED

2. Battery: Add distilled water to indicator level. Do not overfill.

3. Power Steering Pump Reservoir: Keep reservoir filled to indicator level with SAE 10W-30 engine oil.

1600 to 3200 km (1000 to 2000 Miles)

4. Propeller Shaft Slip Joint: Under low pressure force small amount of IH 251H EP grease or equivalent NLGI #2 multi-purpose lithium grease into joint. Excessive pressure and lubricant will damage oil seals.

5. Spring Shackles, Spring Pins and Packs: Lubricate through fittings until old lubricant, dirt and water are expelled. Use IH 251H EP grease or equivalent NLGI #2 multi-purpose lithium grease.

6. Pintle Hook: Lubricate with engine oil.

7. Drag Link Ball Joints: Lubricate through fittings until old lubricant, dirt and water are expelled. Use IH 251H EP grease or equivalent NLGI #2 multi-purpose lithium grease.

8. Tie Rod Ends: (Lubricate through fittings until old lubricant, dirt and water are expelled. Use IH 251H EP grease or equivalent NLGI #2 multi-purpose lithium grease.

Cab Lock Levers: (not shown on diagram)

9. King Pin Bushings: Lubricate through fittings until old lubricant, dirt and water are expelled. Use IH 251H EP grease or equivalent NLGI #2 multi-purpose lithium grease.

10. Steering Column Slip Joint: Lubricate under low pressure. Use IH 251H EP grease or equivalent NLGI #2 multi-purpose lithium grease. **NOTE: Too much pressure will damage oil seals.**

11. Steering Column Universal Joint and Pillar Block Bearing (not shown): Lubricate under low pressure. Use IH 251H EP grease or equivalent NLGI #2 multi-purpose lithium grease. **NOTE: Too much pressure will damage oil seals.**

12. Brake Camshafts and Slack Adjusters (Front and Rear): Do not over-lubricate. Use IH 252 H EP grease or equivalent NLGI #2 multipurpose lithium grease. Slack adjusters without fittings or plugs require no lubrication.

13. Rear Axles, Forward and Rear and Power Divider: Operate truck; then let stand five minutes before checking the lubricant level in forward rear axle. Keep filled to plug level. Drain at first 3000 miles and every 50,000 miles or twice a year thereafter. Use SP type lubricant, SAE-90 viscosity year around, meeting MIL-L-2105B specification and supplied by a reputable refinery. (SP must not contain zinc.) For abnormally high temperature, severe service (hot climate, off highway operation where vehicle is in low speed, heavy hauling for prolonged periods), use SAE-140. (Keep axle vents clean and free from obstruction.) In new or rebuilt axles, add gear lubricant to power divider (see quantity specified) before initial running to insure proper lubrication of pinion bearings. **NOTE:** Traction equalizer axles, add 20 cc (2/3 ounce) of IH-LS additive for each 0.47 liter (1 pint) of SP lubricant used.

Accelerator Linkage (not shown on diagram): Lubricate linkage, pivot pins and sliding surfaces with light engine oil.

Radiator Shutter and Linkage (not shown on diagram): Vehicles equipped with automatic modulated control radiator shutters (thermostat element mounted in bottom tank of radiator), **DO NOT OIL PINS AND SLIDING SURFACES AT FREQUENT INTERVALS.** Vane bearings should be cleaned with light or penetrating oil and blown out with air **ONLY** when servicing complete shutter assembly. Do not oil Cadillac shutters.

Door Latches and Striker Plates (not shown on diagram): Lubricate with stick lubricant.

14. Transmission Remote Control: Lubricate linkage with light engine oil.

15. Transmission (Automatic): Only Dexron automatic transmission fluid is recommended. When the ambient temperature is below -23 degrees C (-10 degrees F) an auxiliary preheat is required. Raise the temperature above -23 degrees C (-10 degrees F) before operating the transmission.

LUBRICATION

15. Continued:

Transmission (Auxiliary): Keep filled to plug level. Drain and flush twice each year or every 16,000 km (10,000 miles). Use straight mineral oil SAE-90 for temperature -18 degrees C (0 degrees F) and up. Use SAE-80 for temperatures below -18 degrees C (0 degrees F). **SPECIAL RECOMMENDATIONS:** Where temperature is consistently below -18 degrees C (0 degrees F) and where parked vehicles are exposed to unusual cold for long periods, use SAE-75. Where temperatures are consistently above 32 degrees C (90 degrees F) or unusually hot, use SAE-140 straight mineral oil.

4800 to 8000 km (3000 to 5000 Miles)

16. Propeller Shaft and Steering Column Universal Joints: Lubricate under low pressure. Use IH 251H EP grease or equivalent NLGI #2 multi-purpose lithium grease. **NOTE: Too much pressure will damage oil seals.**

4800 to 9500 km (3000 to 6000 Miles)

17. Engine Crankcase: Drain and refill (engine hot). **NOTE: More frequent oil changes are required depending upon the rate of oil contamination caused by extreme dusty conditions, multi-stop and cold weather operation. Select oil viscosity grades from chart.**

18. Oil Filter Engine (Full Flow): Remove oil filter body and element. Clean inside of filter body and install new element. Operate engine a few minutes and check filter for leaks. **NOTE: More frequent element changes are required depending on the rate of oil contamination caused by extreme dusty conditions, multi-stop and cold weather operation.**

19. Oil Filter (Engine) (Auxiliary): Every 6000 miles remove drain plug from bottom of oil filter and drain oil. Remove oil filter cover, cartridge retaining nut and cartridge. Clean inside of filter and install new cartridge. Install cover and drain plug. Add an extra 14 quarts of engine oil to crankcase to fill filter and cartridge. Start engine and loosen vent plug in cover. Tighten vent plug when oil appears at plug. Operate engine a few minutes and check filter for leaks. **NOTE: More frequent cartridge changes are required depending on the rate of oil contamination caused by extreme dusty conditions, multi-stop and cold weather operation.**

20. Air Cleaner Strainer (Air Compressor): Remove element from air cleaner. Replace element if necessary.

Oil element very lightly with SAE-30 oil to aid in capturing dirt particles. Trucks operating under extreme dusty conditions, service strainer as required.

16,000 to 32,000 km (10,000 to 20,000 Miles)

21. Fuel Filters (Engines): Replaceable type element. Open drain cocks on filter and allow fuel oil to drain out. Close drain cock. Remove and discard filtering element. Wash shell with clean fuel oil and insert new element. Fill cavity between element and shell two thirds full of clean oil. Install new gasket and assemble. Remove filler plug at top of filter or strainer and complete filling with clean fuel. Run engine and check for leaks at all fuel tube connections.

Fuel Strainer and Fuel Filter: Replaceable type element. Open drain cocks on filter and allow fuel oil to drain out. Close drain cock. Remove and discard filtering element. Wash shell with clean fuel oil and insert new element. Fill cavity between element and shell two thirds full of clean fuel. Install new gasket and assemble. Remove filler plug at top of filter or strainer and complete filling with clean fuel. Run engine and check for leaks at all fuel tube connections.

22. Oil Filter (Transmission): Change filter element at transmission lubricant change interval once each year or every 25,000 miles.

Door Lock Cylinders (not shown on diagram): Twice each year or every 20,000 miles, inject 3 or 4 drops of lock oil through keyhole.

23. Power Steering Pump Filter Element: Every 32,000 km (20,000 miles) remove reservoir cover and filter element. Clean inside of reservoir with a lint free cloth. Install new filter element and replace cover. **NOTE: Trucks operating in dusty areas will require changing the filter element more often.**

24. Wheel Bearings (Front): **OIL** Keep hub filled to proper level. Clean and inspect wheel bearing and spindles. Refill with SAE-30 heavy duty engine oil or rear axle gear lubricant. Adjust wheel bearings. **CAUTION: Do not pre-load wheel bearing.**

25. Wheel Bearings (Rear): **GREASE** Clean and inspect wheel bearings and hubs. Repack with IH 251H EP grease or equivalent NLGI #2 multi-purpose lithium grease. Adjust bearings. **NOTE: Do not mix different type lubricants. Be certain to thoroughly clean all old lubricant from bearings and hubs before repacking.**

Window Regulator (not shown on diagram): Remove door panel and lubricate regulator gear teeth, pin and slide with IH 251H EP grease or equivalent NLGI #2 multi-purpose grease.

LUBRICATION

25. Continued:

Cab Door Check (not shown on diagram): Lubricate cab door check with IH 251H EP grease or equivalent NLGI #2 multi-purpose grease.

Speedometer and Tachometer Head Oil Wick (not shown on diagram): Twice each year or every 24,000 to 32,000 km (15,000 to 20,000 miles), place 1 or 2 drops of 3-in-1 oil or its equivalent in the oil wick cup at rear of head.

26. Parking Brake Cylinder: Every 3 months or 32,000 km (20,000 miles) add 59 cc (2 ounces) of light engine oil to the brake cylinder through the air inlet.

80,000 km (50,000 miles)

27. Rear Axle: Drain at 80,000 km (50,000 miles) or twice a year. Use SP type lubricant (SAE-90 viscosity) year around, meeting MIL-L-2105B specification and supplied by a reputable refiner. (SP must not contain zinc.) For abnormally high temperature, severe service (hot climate, off highway operation where vehicle is in low speed, heavy hauling for prolonged periods) use SAE-140. NOTE: Traction equalizer axles add 20 cc (2/3 ounce) of IH-LS additive for each .47 liter (1 pint) of SP lubricant used.

240,000 km (150,000 Miles)

Or As Required

28. Air Cleaner: Daily inspection of air cleaner dust cup should be made if dust conditions warrant. Do not allow dust deposits to build up past a 2" level in cup. Replace element.

For servicing under 240,000 km (150,000 miles) observe the following:

Air Pressure Cleaning: Compressed air can be used to blow out the element from the clean air side out.

Washing Procedure: Filter element can be washed with any good non-sudsing, household detergent. Use warm water 49 degrees 60 degrees C (120 degrees 140 degrees F). Flush filter with gentle stream until drain water is clean. Air dry element before using. ALSO INSPECT after every cleaning for damage or rupture. Wipe all internal parts clean before reassembling. Replace gasket regularly.

AT REASSEMBLY OR OVERHAUL

29. Starting Motor: Lubricate commutator end frame bushing and bushing to drive housing of all cranking motors with a few drops of engine oil every 500 hours if oil cups or plugs are provided. DO NOT over-lubricate. Most cranking motors are semi-permanently lubricated and require lubrication only at time of engine overhaul.

30. Alternator: Bearings are prelubricated; no periodic lubrication required. At reassembly or overhaul, fill bearing reservoir one-quarter full with ball bearing lubricant.

31. Brake Shoe Anchor Pins and Cams: Do not over-lubricate. Coat with IH 2511 EP grease or equivalent NLGI #2 multi-purpose lithium grease at assembly.

32. Water Pump and Fan Hub: At engine overhaul, disassemble, clean and pack water pump and fan hub bearings 1/2 to 2/3 full of grease. Use a multi-purpose industrial grease. If equipped with fittings or plugs lubricate with a "shot" (tablespoonful) of grease every 20,000 to 25,000 miles.

UNIT REFILL CAPACITIES

(U.S. MEASURES)

CRANKCASE

Engine oil capacities listed in quarts. (See note for special oil pans.)

ENGINE	DRY ENGINE WITH FILTER	DRY ENGINE WITHOUT FILTER	WET ENGINE WITH FILTER SERVICED	WET ENGINE WITHOUT FILTER SERVICED
NTC 290	24	--	23	19

ENGINE OIL FILTER - AUXILIARY

CODE	CAPACITY-QUARTS
12814	14

NOTE: FOR TYPE OF LUBRICANT AND FUEL SEE LUBRICANT AND FUEL FOLLOWING UNIT REFILL CAPACITIES

ENGINE	COOLING SYSTEM CAPACITY (QUARTS) (APPROX.)
NTC-290	56

The cooling system should be filled within one inch of the top of the radiator upper tank. Then run engine for twenty minutes and refill radiator to the above indicated level for safe operation.

NOTE: Do not use soluble oil in radiator when corrosion resistor is used.

TRANSMISSION

Model	Code	Capacity, Pints
T-475 (IH)	13475	64
HT-750 (Allison)		

AUXILIARY TRANSMISSION

Model	Code	Capacity, Pints
AT-538	13538	12

Power Steering System with Reservoir 15 qts. (Approx.)

REAR AXLE

Model	Code	Capacity, Pints	
RA-3-U-14368	Tandem Drive	Double Reduction	
		<u>Forward</u>	<u>Rear</u>
		30	28

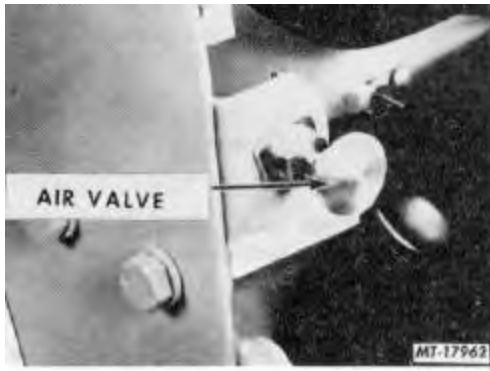
OPERATION

AIR SUSPENSION SEAT



The "Air Viking" seat can be adjusted to each driver's weight and size.

An easy-to-operate push-pull air valve regulates the seat to the most comfortable position and weight adjustment.



ADJUSTMENTS

Fore-Aft

The seat assembly moves forward or rearward four (4") inches along ball bearing slides to suit length of the driver's legs.



Back Angle

The back rest angle has three (3) positions to accommodate the driver's preference.

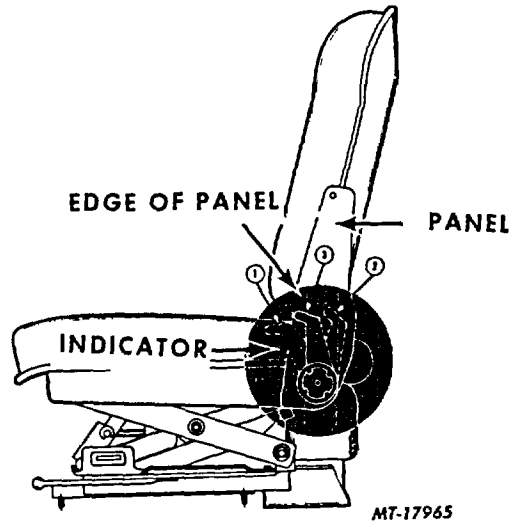


Ride Level Indicator

The indicator located inside the left panel provides positive assurance that the seat is properly adjusted for the driver's weight.

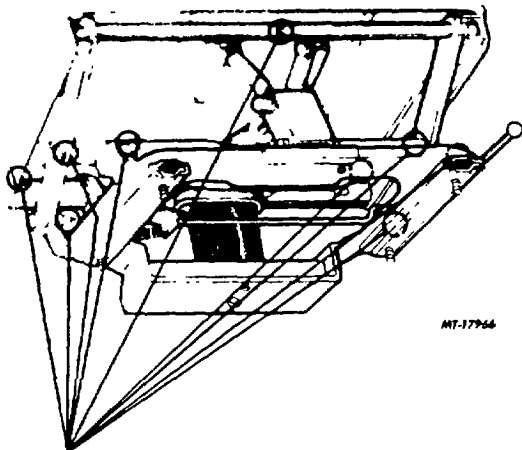
1. If there is too much air pressure, the indicator (1) will be forward of the panel edge.
2. If insufficient air exists, the indicator (2) will remain behind panel edge.
3. Adjust air pressure until indicator (3) is even with the panel edge.

OPERATION



LUBRICATION

Lubricate the air suspension seat at locations shown using IH 251H EP grease or equivalent NLGI #2 multi-purpose lithium grease.



LUBRICATION POINTS

ENGINE OPERATING INSTRUCTIONS

The engine operator must assume responsibility of engine care while engine is being operated. There are comparatively few rules which operator must observe to get best service from a Cummins Diesel.

NEW AND REBUILT ENGINE BREAK-IN

Cummins engines are run-in on dynamometers before being shipped from the factory and are ready to be put to work in applications such as emergency fire trucks.

In other applications, the engine can be put to work, but the operator has an opportunity to establish conditions

for optimum service life during initial 100 hours or 3000 mi. (4827 km) of service by:

1. Operating as much as possible in half to three-quarter throttle or load range.
2. Avoiding operation for long periods at engine idle speeds, or at maximum horsepower levels in excess of five minutes.
3. Developing the habit of watching engine instruments closely during operation and letting up on throttle if oil temperature reaches 250 deg. F (121 deg. C) or coolant temperature exceeds 190 deg. F (88 deg. C).
4. Operating with a power requirement that allows acceleration to governed speed when conditions require more power.
5. Checking oil level at each 300 mi. (483 km) or 10 hours during the break-in period.

PRE-STARTING INSTRUCTIONS FIRST TIME

PRIMING THE FUEL SYSTEM

1. Fill fuel filter with clean No. 2 diesel fuel oil meeting the specifications outlined in Section 3.
 - a. With PT (type G) fuel pump, fill pump through plug next to tachometer drive with clean fuel.
 - b. With PT (type G) VS fuel pump, remove suction line and wet gear pump gears with clean fuel.
2. Check and fill fuel tanks.

3. If injector and valve or other adjustments have been disturbed by any maintenance work, check to be sure they have been properly adjusted before starting the engine.

PRIMING THE LUBRICATING SYSTEM

NOTE: On turbocharged engines, remove oil inlet line from the turbocharger and prelubricate bearing by adding 2 to 3 oz. (50 to 60 cc) of clean lubricating oil. Reconnect oil supply line.

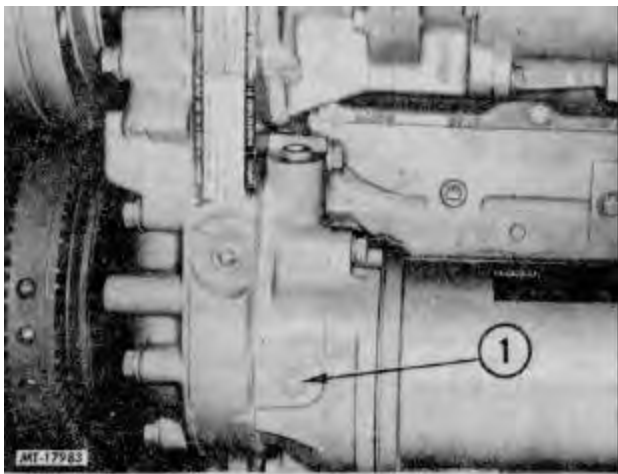
1. Fill crankcase to "L" (low) mark on dipstick. See Lubricating Oil Specifications, Section 3.

OPERATION

2. Remove plug from head of lubricating oil filter housing (Fig's. 1-1 and 1-2) or filter can to prime system.

Caution: Do not prime engine lubricating system from by-pass filter.

3. Connect a hand- or motor-driven priming pump line from source of clean lubricating oil to plug boss in housing.



4. Prime until a 30 psi (2.1 kg/sq cm) minimum pressure is obtained.

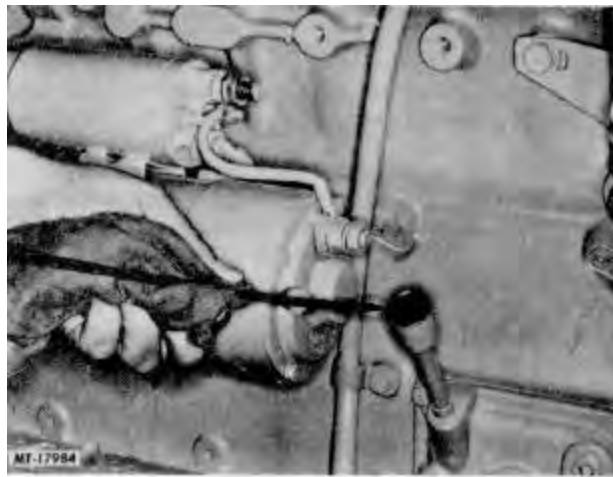
5. Crank engine at least 15 seconds (with fuel shut-off valve closed or disconnected to prevent starting), while maintaining external oil pressure at a minimum of 15 psi (1.1 kg/sq cm).

6. Remove external oil supply and replace plug in lubricating oil filter housing, torque 15 to 20 ft-lbs (2.1 to 2.8 kg m).

Caution: Clean area of any lubricating oil spilled while priming or filling crankcase.

7. Fill crankcase to "H" (high) mark on dipstick with oil meeting specifications, listed in Section 3. No change in oil viscosity or type is needed for new or newly rebuilt engines.

A dipstick oil gauge is located on the side of the engine. Fig. 1-3. The dipstick has an "H" (high) (1) and "L" (low) (2) level mark to indicate lubricating oil supply. The dipstick must be kept with the oil pan, or engine, with which it was originally supplied. Cummins oil pans differ in capacity with different type installations and oil pan part numbers.



CHECK AIR CONNECTIONS

Check air connections to compressor and air equipment, as used, and to air cleaners and air crossovers to assure all are secured.

CHECK ENGINE COOLANT SUPPLY

1. Remove radiator cap and check engine coolant supply. Add coolant as needed to completely fill system. See Section 3 for coolant specifications.

2. Make visual check for leaks and open water filter shut-off valves.

STARTING THE ENGINE

Starting requires only that clean air and fuel be supplied to the combustion chamber in proper quantities at the correct time.

NORMAL STARTING PROCEDURE

If fuel system is equipped with overspeed stop, push "Reset" button before attempting to start engine.

1. Set throttle for idle speed.

Caution: Protect the turbocharger during the start-up by not opening throttle or accelerating above 1000 RPM until normal engine idle speed oil pressure registers on gauge.

2. Disengage driven unit or make sure gears are in neutral.

3. Open manual fuel shut-down valve, if engine is so equipped. Electric shut-down valves operate as switch is turned on.

OPERATION

4. Pull the compressions release (if so equipped).
5. Press starter button or turn switch-key to "start" position.

Caution: To prevent permanent cranking motor damage, do not crank engine for more than 30 seconds continuously. If engine does not fire within first 30 seconds, wait one to two minutes before re cranking.

6. A manual override knob provided on the forward end of the electric shut-down valve allows the valve to be opened in case of electric power failure. To use, open by turning fully clockwise; return to run position after electric repair.

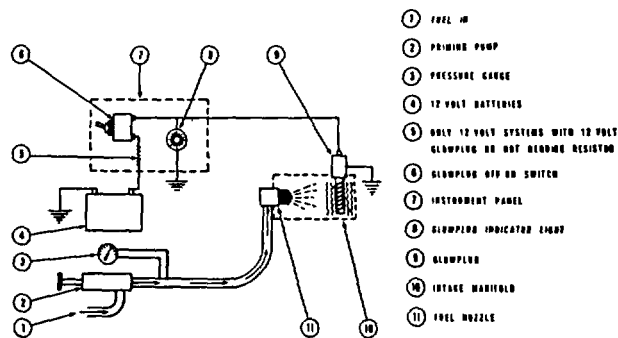
7. After three or four seconds of cranking, close the compression release (if so equipped) and continue to crank until the engine fires.

Caution: After engine has run for a few minutes, shut it down and allow time for oil to drain back into pan. Check engine oil level again; add oil as necessary to bring oil level to "H" mark on dipstick. The drop in oil level is due to absorption by the oil filter and filling of the oil cooler. Never operate the engine with oil level below the low level mark or above the high level mark.

COLD-WEATHER STARTING

To aid in starting engine when temperature is 50 deg. F (10 deg. C) or below, an intake air preheater is available. Preheater equipment consists of a hand-priming pump to pump fuel into intake manifold, a glow plug which is electrically heated by battery and a switch to turn on glow plug. Fuel burns in the intake manifold and heats intake air. See Fig's. 1-4 and 1-5.

Caution: Do not use ether in conjunction with the preheater. To do so could result in a fire.



MF 17968

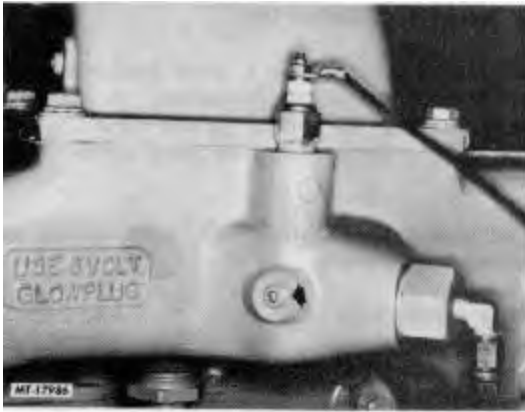
To use the preheater for cold starting:

1. Set throttle in idle position. Do not accelerate engine during the starting procedure.
2. Turn glow plug toggle switch to "ON" position. Red indicator light must be on.
3. After red light has been on for 20 seconds, start cranking the engine. As soon as engine begins rotating, operate the preheater priming pump to maintain 80 to 100 psi (5.6 to 7.0 kg/sq cm) fuel pressure. Use of primer before the 20-second interval will wet glow plug and prevent heating.

NOTE: On engines equipped with an oil pressure safety switch, the fuel by-pass switch must be in "start" position before operating priming pump. Hold the fuel by-pass switch in "start" position until engine oil pressure reaches 7 to 10 psi (0.5 to 0.7 kg/sq cm); then, move to "run" position.

4. If engine does not start within 30 seconds, stop cranking. Wait one to two minutes and repeat cranking operation.
5. After engine starts, pump primer slowly to keep engine idling smoothly. In cold weather this may require 4 to 5 minutes or longer.
Do not accelerate engine.
6. When the engine has warmed up so it does not falter between primer strokes, stop pumping. Close and lock primer. Turn off glow plug toggle switch. (Red indicator light will go out).

OPERATION



GOVERNED SPEEDS

All Cummins engines are equipped with governors to prevent speeds in excess of maximum or predetermined lower speed rating, except when pushed by load downhill, etc.

The governor has two functions: First, it provides the exact amount of fuel needed for idling when the throttle is in idling position. Second, it overrides the throttle and shuts off fuel if engine rpm exceeds the maximum rated speed.

Speeds listed in Table 1-2 are for engines rated at maximum rpm and fuel rate; many engines are set at other values due to equipment being powered or loads applied to equipment and engine.

USE THE TACHOMETER

Rated engine speed is the rpm attained at full load. Governed engine speed is the highest rpm a properly adjusted governor will allow the engine to turn, no load. Governed engine speed must never be exceeded on downgrades or any other condition in which the load drives the engine.

OIL TEMPERATURE GAUGE

The oil temperature gauge normally should read between 180 deg. F (82 deg. C) and 225 deg. F (115 deg. C) for best lubrication. Under full load conditions, a temperature of 250 deg. F (121 deg. C) for a short period is not to be considered cause for alarm.

Caution: Any sudden increase in oil temperature which is not caused by load increase is a warning of possible mechanical failure and should be investigated at once.

During warm-up period, apply load gradually until oil temperature reaches 140 deg. F (60 deg. C). While oil is cold it does not do a good job of lubricating. Continuous operation with oil temperatures much below 140 deg. F (60 deg. C) increases likelihood of crankcase dilution and acids in the lubricating oil which quickly accelerate engine wear.

WATER TEMPERATURE GAUGE

A water temperature of 165 to 195 deg. F (74 to 91 deg. C) is the best assurance that cylinder liners are heated to the proper temperature to support good combustion and that working parts of the engine have expanded

FAILURE TO START

1. If the engine gives no indication of starting during the first three full strokes of the preheater pump, touch-check the intake manifold for heat. If there is no heat, check electric wiring. If wiring is all right, remove 1/8 inch pipe plug (1, Fig. 1-5) from manifold near glow plug and carefully check for flame while a helper performs the preceding Steps 2, 3 and 4.

2. If no flame is observed, close glow plug manual switch for 15 seconds and observe glow plug through 1/8 inch pipe plug hole. The glow plug should be white hot; if not, connect wiring to a 6 or 12-volt (as used) source and check amperage; it should be 30 to 32 (minimum). If glow plug is all right, check manual switch and resistor (if used) and replace if necessary.

ENGINE WARM-UP

When the engine is started, it takes a while to get the lubricating oil film re-established between shafts and bearings and between pistons and liners. The most favorable clearances between moving parts are obtained only after all engine parts reach normal operating temperature. Avoid seizing pistons in liners and running dry shafts in dry bearings by bringing the engine up to operating speed gradually as it warms up.

On some emergency equipment (such as fire engines) warm-up may not be necessary due to equipment being housed inside a heated building.

ENGINE SPEEDS

IDLE SPEEDS

In most applications engine idle speeds are 580 to 650 rpm; however, the parasitic load may require a slightly higher value to smooth cut operation.

OPERATION

evenly to the most favorable oil clearances. See "Engine Warm-up."

When water temperature is too low, the cylinder walls retard heating of air during compression and delay ignition. This causes incomplete combustion, detonation, excessive exhaust smoke and high fuel consumption.

Overheating problems require mechanical correction. It may be caused by loose water pump belts, a clogged cooling system, or insufficient radiator capacity. Report cases of overheating to the Maintenance Department for correction. 200 deg. F (93 deg. C) maximum engine coolant temperature should not be exceeded.

Keep thermostats in the engine summer and winter, avoid long periods of idling, and take necessary steps to keep water temperatures up to a minimum of 165 deg. F (74 deg. C). If necessary in cold weather, use radiator shutters or cover a part of the radiator to prevent overcooling. (Refer to "Cold-Weather Operation.")

OIL PRESSURE GAUGE

The oil pressure gauge indicates any drop in lubricating oil pressure or mechanical malfunction in the lubricating oil system. The operator should note loss of oil pressure immediately and shut down the engine before the bearings are ruined.

Normal Operating Pressures at 225 deg. F (107 deg. C) are:

Table 1-2: Oil Pressure PSI (kg/sq cm)

Engine Series	Idle Speed	Rated Speed
NH-NT SUPER 250	5/29 (9.4/1.71)	40/75 (2.8/5.3)

For record purposes these readings are more accurate and reliable when taken immediately after an oil change.

NOTE: Individual engines may vary from above normal pressures. Observe and record pressures when engine is new to serve as a guide for indication of progressive engine condition. (High oil pressure during start-up is not cause for

ENGINE EXHAUST OBSERVATION

The engine exhaust is a good indicator of engine operation and performance. A smoky exhaust may be due to a poor grade of fuel, dirty air cleaner, overfueling, or poor mechanical conditions.

If engine exhaust is smoky, corrective action should be taken.

ATTENTION OPERATOR

Cummins Diesel Engines have been built by Cummins to comply with the requirements of the Federal (U.S.) Clean Air Act. Proper Maintenance of the Engine, which is the responsibility of the owner/operator, is essential to keep emission levels low.

Once the engine is placed in service the responsibility for meeting state and local regulations must necessarily be with the owner/operator.

Observation of good operating practices, regular maintenance and proper adjustments are factors which will help stay within the regulations.

MAXIMUM HORSEPOWER REQUIREMENTS

Maximum horsepower is attained only at rated engine rpm. Whenever engine rpm is pulled down by overload, horsepower is lost and continues to be lost as long as the engine continues to lose rpm. When full horsepower is needed, operate engine as near rated rpm as possible. This rule applies to all applications (except Power-Torque Engines).

One rule sums up all rules for proper operation to give the power needed and best performance from the equipment: **ALWAYS OPERATE SO POWER REQUIREMENT WILL ALLOW THE ENGINE TO ACCELERATE TO, OR MAINTAIN, GOVERNED RPM WHEN ADVANCING TO FULL THROTTLE.**

When more power is required, bring engine speed near the governor. This will produce the additional horsepower needed.

SHIFT TO A LOWER GEAR WHEN THE LOAD PULLS DOWN ENGINE RPM

The practice of shifting gears next to safety observance is a most important phase of good engine operation.

The shift point differs from unit to unit depending upon engine rated speed, torque peak point, and transmission or gear splits

OPERATION

available; therefore, it is not always possible to state exactly at which speed to shift unless all the variable facts are known. A good rule is "shift down at the same engine speed the tachometer indicated immediately after shifting up." On a steep grade, start down-shift before the engine actually pulls down to shifting speed, because the truck will lose speed while shifting gears.

Failure to shift down at the right time, or a delayed down-shift will result in the engine failing to reach full power, and make another down-shift necessary.

When approaching a hill, open throttle smoothly to start the up-grade at full power, then shift down as soon as the engine has dropped to shifting speed. Do not wait until the engine is below shifting speed. Less gear shifts will be required and average road speed will be higher if this is done smoothly.

DOWNHILL OPERATION

The Cummins Diesel is effective as a brake on downhill grades, but care must be exercised not to overspeed the engine going downhill. The governor has no control over engine speed when it is being pushed by the loaded vehicle.

Never turn off the switch key while going downhill. With the engine still in gear, fuel pressure will build up against the shut-down valve and may prevent it from opening when the switch key is turned on.

USE BRAKE AS NEEDED TO PREVENT EXCESSIVE ENGINE SPEEDS

Use a combination of brakes and gears to keep vehicle under control at all times, and to KEEP ENGINE SPEED BELOW RATED GOVERNED RPM.

AUXILIARY BRAKING SYSTEM

Some trucks are equipped with auxiliary braking equipment which utilize the engine as a braking device to reduce wear on the normal truck brake system.

CUMMINS ENGINE COMPANY, INC. WARRANTY DOES NOT COVER ENGINE DAMAGE RESULTING FROM USE OF AUXILIARY BRAKING SYSTEMS SINCE SUCH DAMAGE CAN BE CAUSED BY IMPROPER APPLICATION, LACK OF MAINTENANCE, INCORRECT USE OR MALFUNCTION OF SUCH BRAKES.

EXHAUST BRAKE

So called because closing of a valve in the exhaust system retains compressions pressures within the exhaust manifold and engine cylinders to utilize these pressures to reduce speed. Compression braking is most efficient when engine is permitted to turn at same speeds as for efficient power and may be used as much and as often as possible.

JACOBS ENGINE BRAKE

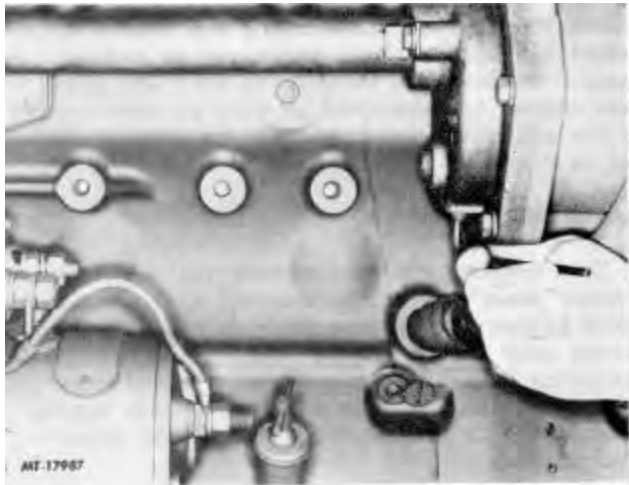
This braking system converts the engine into a power absorbing air compressor using a master slave piston arrangement to open engine exhaust valves near top of engine compression stroke releasing pressures to exhaust. The effect being a net energy loss since work done during compression is not returned during the expansion process.

The operator selects a gear which will provide a balance between engine speed and road speed. If engine exceeds maximum rated rpm for a designed road speed, a lower gear can be selected, or intermittent use can be made of vehicle service brakes. Selection of a lower gear will generally allow complete control of vehicle by the brake leaving the service brakes in reserve for emergency stops.

HIGH-ALTITUDE OPERATION

Engines lose horsepower when operated at high altitude because the air is too thin to burn as much fuel as at sea level. This loss is about 3 percent for each 1000 ft. (304.8 m) altitude above sea level for a naturally aspirated engine. Most turbocharged engines are rated for higher altitudes than naturally aspirated engines. (See Engine Specification Tables at front of this manual.) An engine will have a smoky exhaust at high altitude unless a lower gear is used so the engine will not demand full-fuel from the fuel system unless the engine is altitude compensated by the use of a turbocharger. Shift gears as needed to avoid exhaust smoke.

OPERATION



ENGINE SHUT-DOWN

IDLE ENGINE A FEW MINUTES BEFORE SHUT-DOWN

It is important to idle an engine 3 to 5 minutes before shutting it down to allow lubricating oil and water to carry heat away from the combustion chamber, bearings, shafts, etc. This is especially important with turbocharged engines.

The turbocharger contains bearings and seals that are subject to the high heat of combustion exhaust gases. While the engine is running, this heat is carried away by oil circulation, but if the engine is stopped suddenly, the turbocharger temperature may rise as much as 100 deg. F (47 deg. C). The results of extreme heat may be seized bearings or loose oil seals.

DO NOT IDLE ENGINE FOR EXCESSIVELY LONG PERIODS

Long periods of idling are not good for an engine because operating temperatures drop so low the fuel may not burn completely. This will cause carbon to clog the injector spray holes and piston rings.

If engine coolant temperature becomes too low, raw fuel will wash lubricating oil off cylinder walls and dilute crankcase oil so all moving parts of the engine will suffer from poor lubrication.

If the engine is not being used, shut it down.

TURN SWITCH KEY TO "OFF" POSITION TO SHUT DOWN THE ENGINE

The engine can be shut-down completely by turning off the switch key on installations equipped with an

electric shut-down valve, or by turning the manual shut-down valve knob. Turning off the switch key which controls the electric shut-down valve always stops the engine unless override button on shut-down valve has been locked in open position. If manual override on electric shut-down valve is being used, turn button full counterclockwise to stop engine. Refer to "Normal Starting Procedure," Page 1-2. Valve cannot be reopened by switch key until after engine comes to complete stop.

CAUTION: NEVER LEAVE SWITCH KEY OR OVERRIDE BUTTON IN VALVE OPEN OR IN RUN POSITION WHEN ENGINE IS NOT RUNNING. WITH OVERHEAD TANKS THIS WOULD ALLOW FUEL TO DRAIN INTO CYLINDERS, CAUSING HYDRAULIC LOCK.

DO NOT USE THE COMPRESSION RELEASE LEVER TO STOP THE ENGINE

Some engines are equipped with a compression release lever. Pulling this lever lifts the intake or exhaust (depending on engine model) valve push tubes and opens the valves. The push tubes are lifted off their sockets and extensive wear on the balls and sockets will result from using the compression release to stop the engine.

The compression release lever can be used as an aid in cranking, before starting, or while making injector and valve adjustment, but not i to stop the engine.

STOP ENGINE IMMEDIATELY IF ANY PARTS FAIL

Practically all failures give some warning to the operator before the parts fail and ruin the engine. Many engines are saved because alert operators heed warning signs (sudden drop in oil pressure, unusual noises, etc.) and immediately shut down the engine. A delay of ten seconds after a bearing failure causes a knock, may result in a ruined crankshaft or allow a block to be ruined by a broken connecting rod.

COLD-WEATHER PROTECTION

1. For cold-weather operation, use of permanent-type ethylene glycol-base antifreeze with rust inhibitor additives is recommended. See Section 3.

2. To drain cylinder block and head on an Inline 855 Series Engine, open petcock in thermostat housing and remove drain plug in rear of oil cooler cover or at rear of block.

OPERATION

OPERATOR'S DAILY REPORT

MAKE A DAILY REPORT OF ENGINE OPERATION TO THE MAINTENANCE DEPARTMENT

The engine must be maintained in top mechanical condition if the operator is to get optimum satisfaction from its use.

Engine adjustments, etc., are the work of the Maintenance Department. However, the Maintenance Department needs daily running reports from the operator to make necessary adjustments in the time allotted between runs and to make provisions for more extensive maintenance work as the reports indicate the necessity.

Comparison and intelligent interpretation of the daily report along with a practical follow-up action will eliminate practically all road failures and emergency repairs.

Report to the Maintenance Department any of the following conditions:

1. Low lubricating oil pressure.
2. Low power.
3. Abnormal water or oil temperature.
4. Unusual engine noise.
5. Excessive smoke.
6. Excessive use of coolant, fuel or lubricating oil.
7. Any fuel, coolant or lubricating oil leaks.

MAINTENANCE

ENGINE MAINTENANCE SCHEDULE

Preventive maintenance performed on schedule is the easiest, as well as the least expensive type of maintenance. It permits the Maintenance Department to do work on schedule, rather than at inconvenient hours.

Accessories must have a place in the maintenance schedule the same as the basic engine, for an accessory failure may put the entire engine out of operation. Consult accessory manufacturer for maintenance recommendations.

A GOOD MAINTENANCE SCHEDULE DEPENDS ON ENGINE APPLICATION

Actual operating environment of the engine must govern the establishment of the maintenance schedule. Some engines operate under rather clean conditions,

some under moderately dusty conditions and others under severely dusty or dirty conditions; each type of operation must be analyzed as the maintenance schedule is established.

Hours of operation, miles (kilometers), or calendar period as shown on Page 2-2 are convenient units of measurement, and should be used to set up the maintenance schedule interval basis. These periods, as stated, are based on average operating conditions.

EXTENDING THE MAINTENANCE SCHEDULE

Any change in the established maintenance schedule should be preceded by a complete reanalysis of the operation. A lubricating oil analysis should be the major factor used in establishing the original maintenance schedule; it should be studied before making any change in or extending the schedule periods. In extremely dirty and under severe operating conditions, the scheduled maintenance period may even need reducing. Again the operation should be re-analyzed and a lubricating oil analysis should be made. Extending or reducing the schedule period should be done only after a complete study; basically, it should be the same as used in establishing the original maintenance schedule period.

USING THE SUGGESTED SCHEDULE CHECK SHEET

The maintenance schedule check sheet is designed as a guide until adequate experience is obtained to establish a schedule to meet a specific operation.

A detailed list of component checks is provided through several check periods; also a suggested schedule basis is given for hours of operation, calendar of time or miles (kilometers) driven.

A maintenance schedule should be established using the check sheet as a guide; the result will be a maintenance program to fit a specific operation.

The check sheet shown can be reproduced by any printer so the forms may be available for use. The person making each check can then indicate directly on the sheet that the operation has been completed. When a complete column (under A, B, C, etc.) of checks is indicated, the engine will be ready for additional service until the next check is due.

STORAGE FOR ENGINES OUT OF SERVICE

If an engine remains out of service for three or four weeks (maximum six months) and

MAINTENANCE

its use is not immediately forthcoming, special precautions should be taken to prevent rust.

Contact the nearest Cummins Distributor for information concerning engine storage procedures.

LUBRICATION AND FUEL

LUBRICATING OIL

Lubricating oil is used in Cummins engines to lubricate moving parts, provide internal cooling and keep the engine clean by suspending contaminants until removed by the oil filters.

Lubricating oil also acts as a combustion seal and protects internal parts from rust and corrosion.

The use of quality lubricating oil, combined with appropriate lubricating oil, drain and filter change intervals, is an important factor in extending engine life. Cummins Engine Company, Inc. does not recommend any specific brand of lubricating oil. The responsibility for meeting the specifications, quality and performance of lubricating oils must necessarily rest with the oil supplier.

TABLE 3-1: OIL RECOMMENDATIONS

LIGHT SERVICE ONLY (STOP-AND-GO) ALL DIESEL MODELS	NATURALLY ASPIRATED DIESEL MODELS
AP1 Class CC/SC 2/5 1.85% Maximum Sulfated Ash Content 3	AP1 Class CC 1 1.85% Maximum Sulfated Ash Content 3
TURBOCHARGED DIESEL MODELS	ALL NATURAL GAS MODELS ALL SERVICE
AP1 Class CC/CD 2 1.85% Maximum Sulfated Ash Content 3	AP1 Class CC 03 to .85% Sulfated Ash Content 4

1. AP1 classification CC and CD quality oils as used in turbocharged engines and AP1 classification CC/SC quality oils as used for stop-and-go service are satisfactory for use in naturally aspirated engines.

2. AP1 classification CC/SC and CC/CD indicate that the oil must be blended to the quality level required by both specifications. The range of oil quality permitted by the CC classification is so broad that some oils that

meet the classification will not provide adequate protection (varnish and ring sticking) for engines operated in certain applications. For example, turbocharged engines require the additional protection provided by the CD classification. Engines operated in stop and go service require the additional protection provided by the SC classification.

3. A sulfated ash limit has been placed on all lubricating oils for Cummins engines because past experience has shown that high ash oils may produce harmful deposits on valves that can progress to guttering and valve burning.

4. Completely ashless oils or high ash content oils, are not recommended for use in gas engines; a range of ash content is specified.

5. SD or SE may be substituted for SC.

BREAK IN OILS

Special "Break-In" lubricating oils are not recommended for new or rebuilt Cummins Engines. Use the same lubricating oil as will be used for the normal engine operation.

VISCOSITY RECOMMENDATIONS

1. Multigraded lubricating oils may be used in applications with wide variations in ambient temperatures if they meet the appropriate performance specifications and ash content limits shown in Table 3-1. Multigraded oils are generally produced by adding viscosity index improver additives to a low viscosity base stock to retard thinning effects at operating temperatures. Poor quality multigraded oils use a viscosity index improver additive which has a tendency to lose its effectiveness after a short period of use in a high speed engine. These oils should be avoided.

2. Oils which meet the low temperature SAE viscosity standard (O deg F (-18 deg C) carry a suffix "W". Oils that meet the high temperature viscosity SAE standard 210 deg F (99 deg C) as well as the low temperature carry both viscosity ratings example 20-20W. See Table 3-2.

TABLE 3-2: OPERATING TEMPERATURES VS VISCOSITY	
AMBIENT TEMPERATURES	VISCOSITY
-10 deg. F (-23 deg. C) and below	See Table 3-3.
-10 to 30 deg. F (-23 to -1 deg. C)	10W
20 to 60 deg. F (-7 to 16 deg. C)	20-20W
40 deg. F (4 deg. C) and above	30

ARCTIC OPERATIONS

For operation in areas where the ambient temperature is consistently below -10 deg. F (-23 deg. C) and there is no provision for keeping engines warm during shutdowns, the lubricating oil should meet the requirements in Table 3-3.

Due to extreme operating conditions, oil change intervals should be carefully evaluated paying particular attention to viscosity changes and total base number decrease. Oil designed to meet MIL-L-10295-A, which is void, and SAE 5W oils should not be used.

TABLE 3-3: ARCTIC OIL RECOMMENDATIONS

PARAMETER (TEST METHOD)	SPECIFICATIONS
Performance Quality Level	AP1 class CC/SC API class CC/CD
SAE Viscosity Grade	10W-20, 10W-30, 10W-40
Viscosity -30 deg. F (ASTM D-445)	10,000 Centistokes Maximum
Pour Point (ASTM D-97)	At least 10 deg. F (6 deg. C) below lowest expected ambient temp- erature
Ash, sulfated (ASTM D-874)	1.85 wt. % Maximum

Maintenance Schedule

EQUIPMENT NO. _____ ENGINE SERIAL NO. _____
 MECHANIC _____ MILEAGE, HOURS _____
 TIME SPENT _____ CHECK PERFORMED _____
 PARTS ORDER NO. _____ DATE _____

Cummins Automotive Engines

Check each operation as performed.

A—Daily	B—Check	C—Check	D—Check	E—Check	Seasonal
<input type="checkbox"/> Check Operator Report	<input type="checkbox"/> Repeat "A"	<input type="checkbox"/> Repeat "A" and "B"	<input type="checkbox"/> Repeat "A, B and C"	<input type="checkbox"/> Repeat "A, B, C and D"	<input type="checkbox"/> Spring and Fall
<input type="checkbox"/> Check Leaks and Correct <input type="checkbox"/> Check Engine Oil Level <input type="checkbox"/> Check Oil Bath Cleaner Oil Level <input type="checkbox"/> Check Completely for Damage	<input type="checkbox"/> Change Engine Oil <input type="checkbox"/> Change Full-Flow Filter Elements <input type="checkbox"/> Change By-Pass Filter Element <input type="checkbox"/> Record Oil Pressure <input type="checkbox"/> Change Fuel Filter(s) <input type="checkbox"/> Check Air Piping and Mountings <input type="checkbox"/> Check Air Cleaner Restriction — Service Element(s)/Oil Level as Required <input type="checkbox"/> Clean Crankcase Breather <input type="checkbox"/> Check Throttle Linkage <input type="checkbox"/> Change Water Filter ² <input type="checkbox"/> Check Engine Coolant <input type="checkbox"/> Check and Adjust Belt Tension <input type="checkbox"/> Adjust Injectors, Crossheads and Valves ³	<input type="checkbox"/> Clean Engine <input type="checkbox"/> Check Alternator and Cranking Motor Brushes and Commutators <input type="checkbox"/> Adjust Injectors, Crossheads and Valves <input type="checkbox"/> Check Exhaust Back Pressure <input type="checkbox"/> Check Vibration Damper <input type="checkbox"/> Check Fuel Manifold Pressure <input type="checkbox"/> Change Aneroid Oil and Replace Aneroid Breather <input type="checkbox"/> Check Aneroid Adjustment <input type="checkbox"/> Inspect Water Pump, Idler Pulley and Fan Hub	<input type="checkbox"/> Clean and Calibrate Injectors <input type="checkbox"/> Replace Fuel Pump Screen and Magnet <input type="checkbox"/> Check Fuel Pump Calibration <input type="checkbox"/> Clean Turbocharger/Check Clearance <input type="checkbox"/> Inspect/Install Rebuilt Units as Necessary <input type="checkbox"/> Replace Bellows and Calibrate Aneroid <input type="checkbox"/> Clean Oil Bath Air Cleaner <input type="checkbox"/> Rebuild or Replace Water Pump	<input type="checkbox"/> "In Chassis Inspection" <input type="checkbox"/> Check Engine Blow-By	<input type="checkbox"/> Clean Cooling System <input type="checkbox"/> Check Hose <input type="checkbox"/> Clean Electrical Connections <input type="checkbox"/> Check Cold Starting Aid <input type="checkbox"/> Check Thermal Controls <input type="checkbox"/> Check Mountings <input type="checkbox"/> Check Fan Mountings <input type="checkbox"/> Check Crankshaft End Clearance
Interval Basis ¹	B	C	D	E	
Miles Hours Calendar	10,000 250 3 Mos.	50,000 1,250 1 Year	150,000 3,750 2 Years	300,000 7,500 4 Years	Line haul
Notes: 1. Perform checks on operating basis of interval that occurs first. Normally calendar period is used only when mileage is less than 1/3 that suggested during the three (3) month period. 2. At any time cooling system is completely drained and/or flushed, use DCA pre-charge element until next "B" Check. 3. At first oil change or initial inspection, adjust injectors and valves, thereafter at "C" Check.					

MAINTENANCE

ATTENTION OWNER

Your Cummins Diesel Engine has been built by Cummins to comply with the requirements of the Federal (U.S.) Clean Air Act. Proper Maintenance of the Engine, which is your responsibility, is essential to keep emission levels low. This Section sets forth the maintenance schedule which you should follow.

TO PROVE THAT YOU HAVE PROPERLY MAINTAINED THE ENGINE YOU SHOULD RETAIN RECORDS, SUCH AS WORK ORDERS -AND RECEIPTS; SHOWING THAT SCHEDULED MAINTENANCE HAS BEEN PERFORMED.

The maintenance record form on this page is for your convenience.

Maintenance Performance Record

Engine Serial No. _____
 Owner Name _____

Engine Model _____
 Equipment Name/Number _____

Interval Basis						Actual	Distributor/Dealer	Authorized
Mileage	Check	Mileage	Check	Other	Date	Mileage	Location/Shop	Signature
6,000	A, B	10,000	A, B					
12,000	A, B	20,000	A, B					
18,000	A, B	30,000	A, B					
24,000	A, B	40,000	A, B					
30,000	A, B, C							
36,000	A, B	50,000	A, B, C					
42,000	A, B	60,000	A, B					
48,000	A, B	70,000	A, B					
54,000	A, B	80,000	A, B					
60,000	A, B, C	90,000	A, B					
66,000	A, B							
72,000	A, B	100,000	A, B, C					
78,000	A, B	110,000	A, B					
84,000	A, B	120,000	A, B					
90,000	A, B, C, D	130,000	A, B					
96,000	A, B	140,000	A, B					
102,000	A, B	150,000	A, B, C, D					

MAINTENANCE

'A' MAINTENANCE CHECKS

CHECK LEAKS AND CORRECT

Check for evidence of external air, coolant or oil leakage. Tighten capscrews, fittings, connections or replace gaskets as necessary to correct. Check oil dipstick and filler tube caps. Fig. 2-1. See that they are tightened securely.

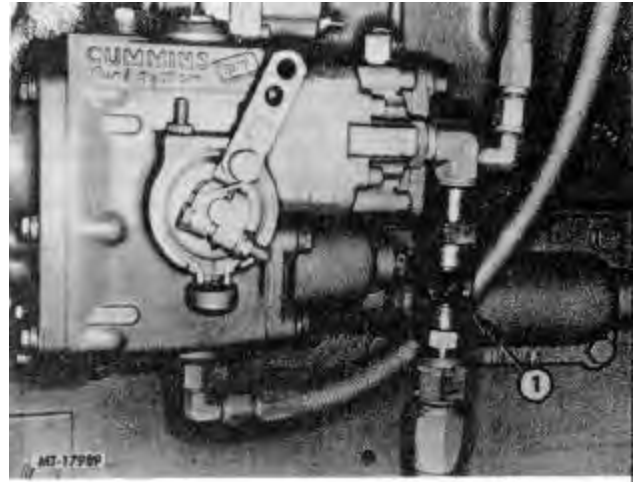
If there are indications of air leaks on suction side of fuel pump, check for air leaks by placing ST-998 Sight Gauge (1, Fig. 2-2) in the line between fuel filter(s) or fuel tank and pump. Bubbles or "milky" appearance indicates an air leak. Find and correct.

ENGINE OIL LEVEL

1. Check oil level with dipstick oil gauge located on the engine. For accurate readings, oil level should not be checked until oil has settled into pan after engine shut-down. Keep dipstick with the engine and oil pan with which it was originally furnished. Keep oil level as near "H" (high) mark as possible.

CAUTION: NEVER OPERATE THE ENGINE WITH OIL LEVEL BELOW THE "L" (LOW) MARK OR ABOVE THE "H" (HIGH) MARK.

2. Add oil as necessary of the same quality and brand as already in the engine. See Section 3.



CHECK OIL BATH CLEANER OIL LEVEL

Daily check oil level in oil bath air cleaner to be sure oil level in oil cup is at indicated mark. To remove oil cup, loosen wing nuts. During wet weather and in winter months, excessive moisture in air cleaner oil sometimes causes cleaner to become flooded and results in oil pull-over or plugging of the bottom air cleaner screen. Add or change oil as necessary.

CHECK COMPLETELY FOR DAMAGE

Visually check fuel system, aneroid (if used), etc. for misadjustment or tampering, check all systems and connections for leaks or damage.

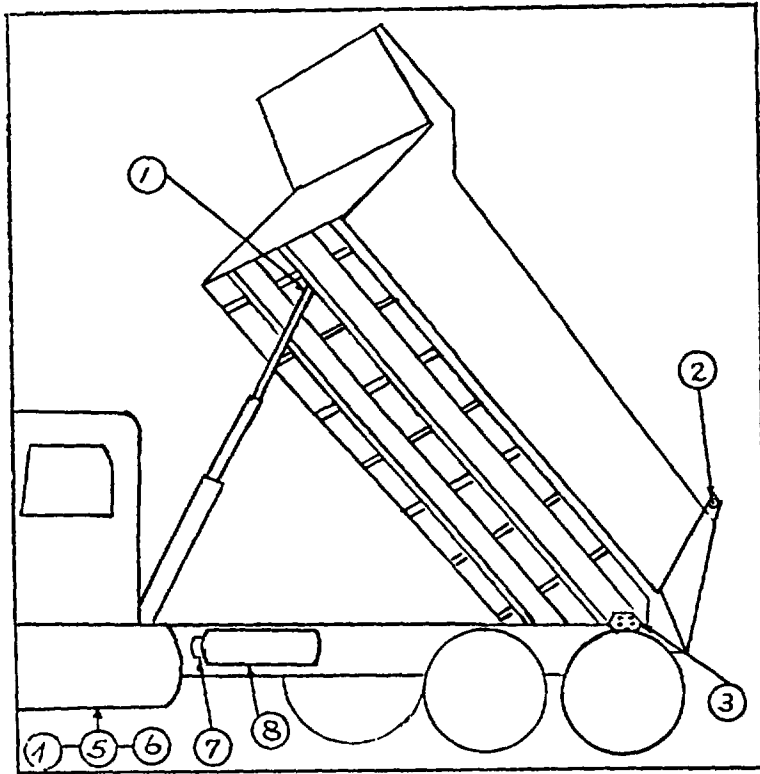
DUMP BODY OPERATING INSTRUCTIONS

To operate dump body, proceed in the following manner: Bring vehicle to halt, set brakes, put main transmission into first or any drive gear. Switch dash PTO lever to on position red light will indicate in gear. Move main transmission shift lever to neutral. Hoist is now ready to be operated. Lift safety latch, located along side of pump valve lever, move pump valve lever to raise position. Main valve is spring loaded, and must be held in raise or lower position; if released will return to a hold or neutral position. When unit reaches it's maximum dump angle, it will automatically pull the control valve to a neutral position.

It is suggested that unit be operated not to exceed 1500 engine rpm's. If you desire to spread or move when dumping, proceed same as outlined above. Move transmission lever to first gear only, and proceed as slowly as possible, not to exceed the 1500 engine rpm's.

OPERATION OF AIR BLEEDER VALVE (use only when needed)

Located at top of cylinder is an air bleeder valve. With body raised to raise position, and with safety props put into sockets, bleeder valve may then be opened to bleed off air in hydraulic system. It is suggested that you use a pair of hand pliers to open and close thumb pet cock. Due to the vibration of diesel engine, if this is tightened with bare hands, it sometimes has a tendency to vibrate open, causing an oil leakage. It is, therefore, suggested that pet cock be snugged with pliers. Use hydraulic oil (Gulf 562 or approved equal). When you check hydraulic oil, the sight gauge should have approximately one to two inches of oil showing when hoist is in raised position. When hoist is in down or lower position, sight gauge should show full.



LUBRICATION CHART

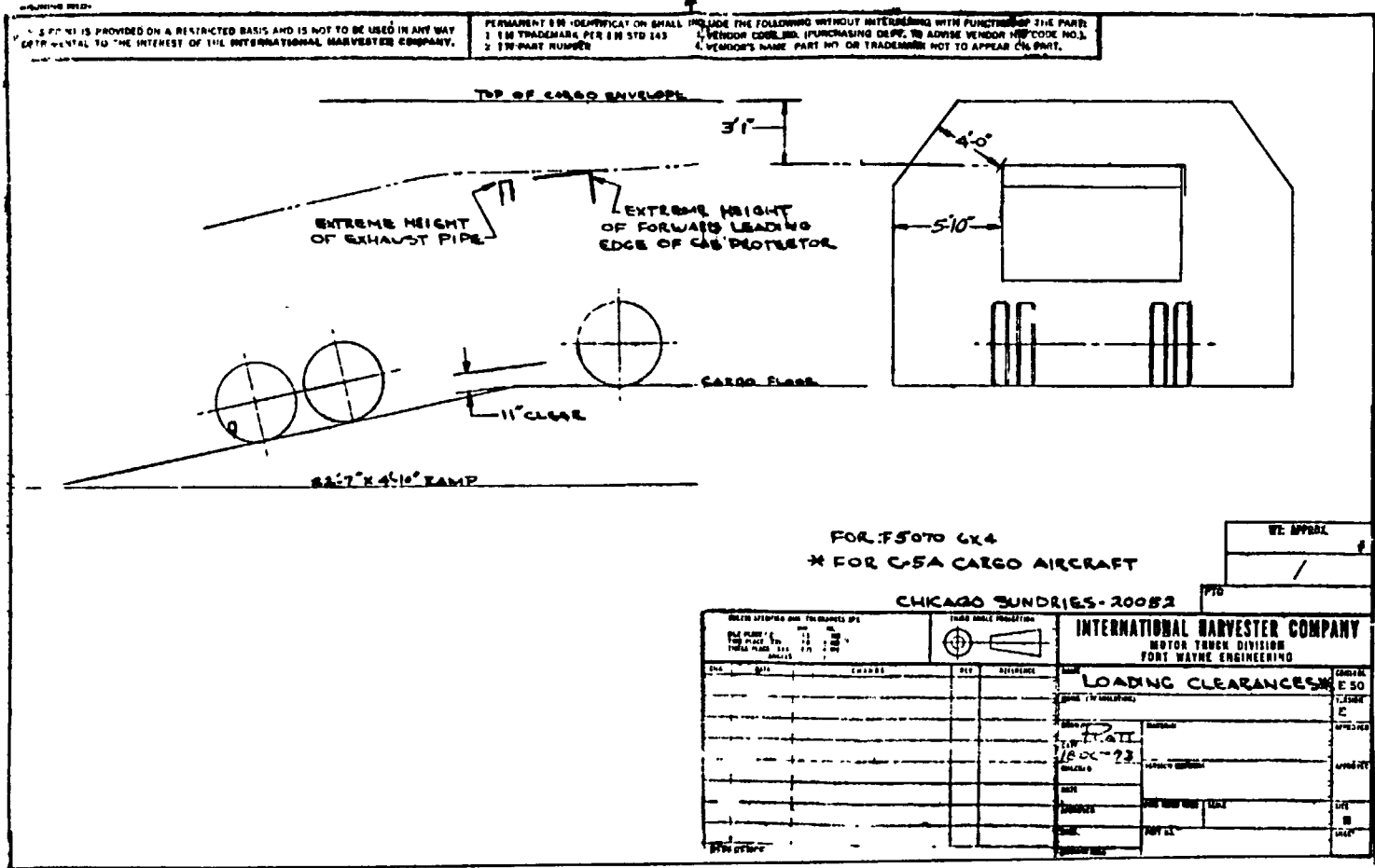
<u>NO.</u>	<u>DESCRIPTION</u>	<u>LUBRICATION FREQUENCY</u>
1	Cylinder	Monthly*
2	Tail Gate Pins (2)	"
3	Body Hinges (2)	"
4	Universal Joint	Semi-Monthly*
5	Spline	" "
6	Universal Joint	" "
7	Oil Tank Sight Gage	Check Daily
8	*Oil Reservoir	Maintain Clean & Full

NOTE: To lubricate universal Joint (4), remove cover plate under floor mat, (2 Screws) right of drivers' seat.

*Minimum Requirement.

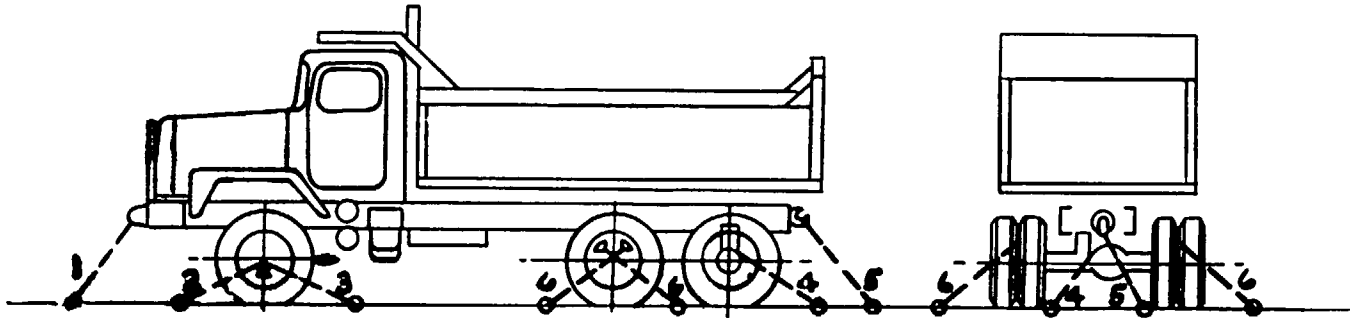
* Gulf 562 Hydraulic Oil

THIELE, INCORPORATED
 WINDBER, PA 15963
 PHONE: 814-467-4504
 A-1368



INTERNATIONAL F-5070 6X4 CCE

RECOMMENDED TIE-DOWN POINTS

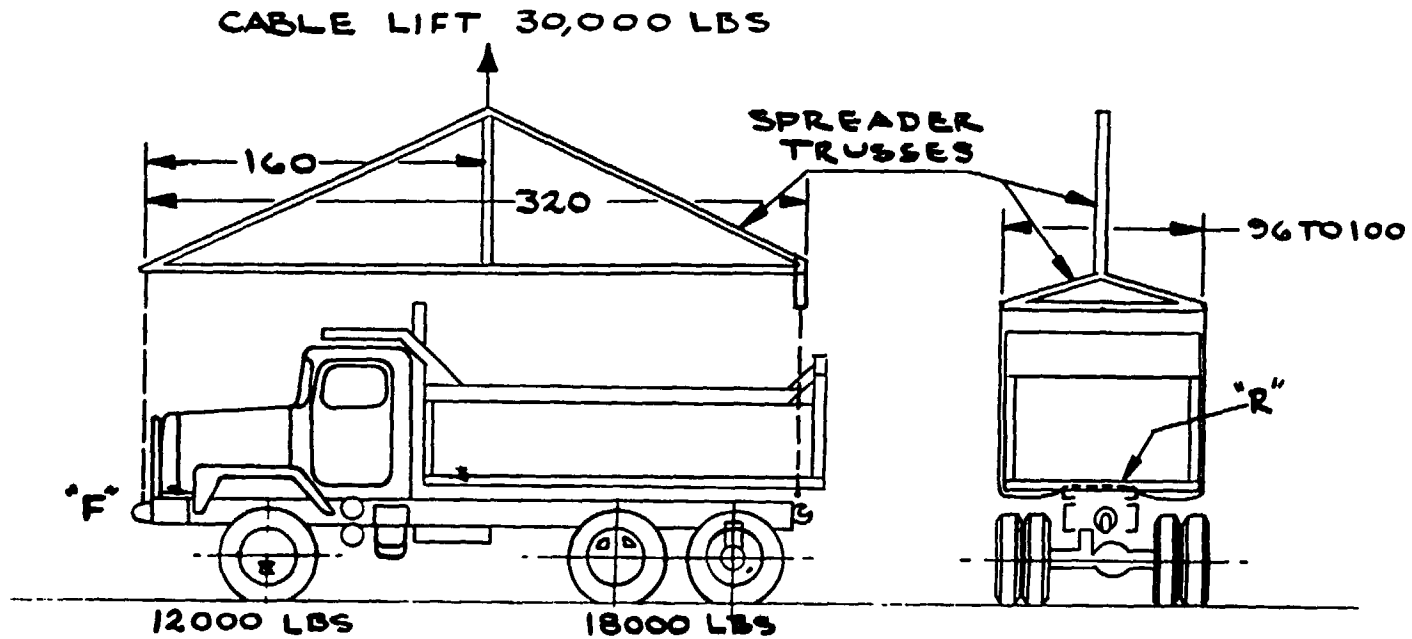


FORWARD: 1. FRONT TOWING LOOP. (FRAME TIE)
2. FRONT AXLE "I"-BEAM AT SPRING PAD-BOTH SIDES.

REARWARD: 3. FRONT AXLE "I"-BEAM AT SPRING PAD-BOTH SIDES.
4. TRAILING REAR AXLE GUIDE BLOCK.
5. PINTLE HOOK. (FRAME TIE)

SIDWISE: 6. THROUGH WEB OF WHEEL DISC, ANY OR ALL WHEELS.

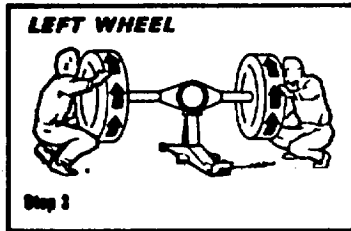
INTERNATIONAL F-5070 6X4 CCE



CABLE SLING LIFT DIAGRAM

NOTE: PLATFORM SLING OR RAMP LOADING IS RECOMMENDED
(F) FRONT TOWING LOOP.
(R) REAR CHAIN TO BE PLACED ABOVE BODY LONGITUDE MEMBERS

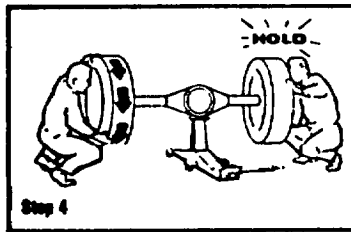
How to test the NoSPIN for proper installation and operation



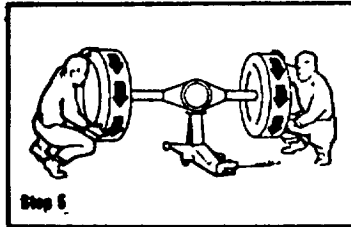
STEP 1 Raise driving axle from floor so that tires are completely free.

STEP 2 Place transmission in gear.

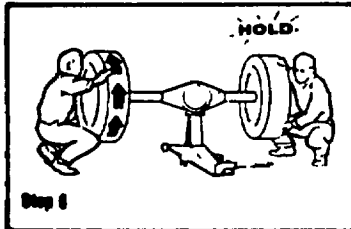
STEP 3. With an assistant on the reverse side, start test by rotating both wheels in a forward direction as far as possible (normally, both wheels will be stopped after rotating only a few inches).



STEP 4. With one person firmly holding the right wheel forward (against the stop), rotate the left wheel rearward while listening for a regular indexing or clicking sound (the right wheel must be held firmly against the stop or left wheel will not disengage freely).



STEP 5. Rotate both wheels rearward as far as possible (again, both wheels will be stopped after rotating only a few inches).



STEP 6. With an assistant on the reverse side firmly holding the right wheel in a rearward position (against the stop), rotate the left wheel forward, again listening for an indexing or clicking sound. (Again, the right wheel must be held firmly against the stop or the left wheel will not disengage freely).

REPEAT STEPS 3, 4, 5 and 6 (see steps 3B, 4B, 5B and 6B, illustrated in panels to right) except this time hold the left wheel against the stops and rotate the right wheel (Steps 4B & 6B).

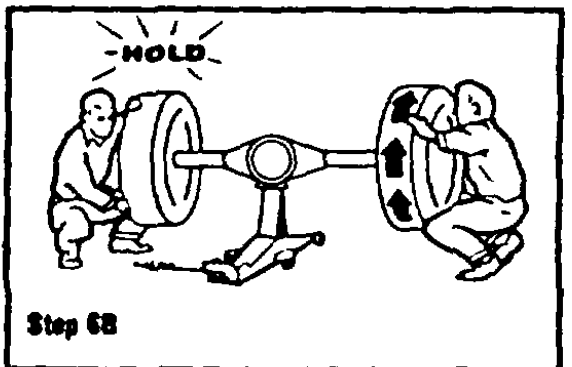
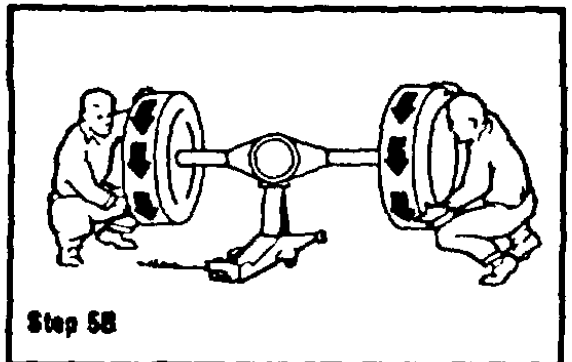
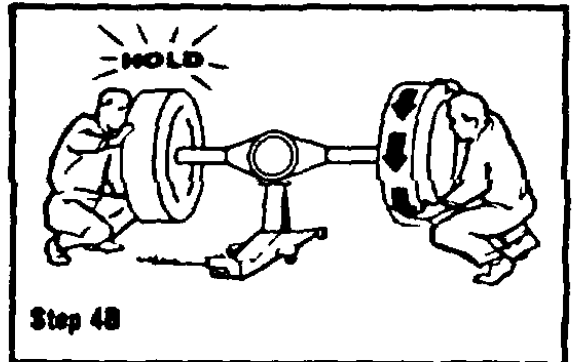
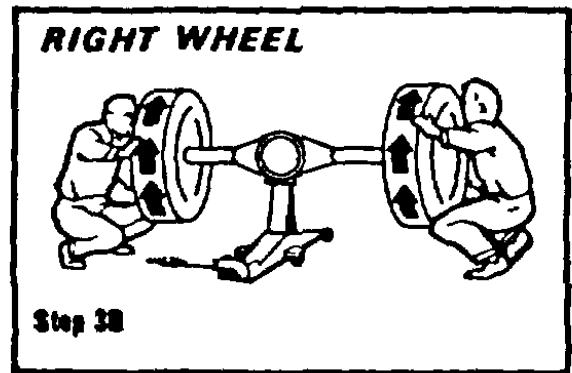
NOTES ON TESTING:

IF PROPERLY INSTALLED, the rotating (or overturning) wheel should cam out easily by hand and rotate freely in both directions and may produce a light indexing or clicking sound.

WITH THE STANDARD-TYPE NoSPIN, the clicking or indexing noise is normal and quite prominent as the driven clutch alternately disengages from the spider and then reindexes with the spider during the time it is rotating.

WITH THE SILENT-TYPE NoSPIN, however, any light indexing noises will be heard and possibly none at all. The rotating wheel should cam out easily by hand, should rotate freely in both directions and not reindex until pressure is relaxed or the direction of rotation reversed. If you do hear repeated loud indexing or clicking sounds when checking a silent type NoSPIN, one of the holdout ring and clutch assemblies may not be properly assembled to the spider. (If a NoSPIN is disassembled for any reason, be sure to see the Service Manual for proper reassembly.)

IF EITHER WHEEL (of either type NoSPIN) DOES NOT ROTATE OR CAM FREELY IN BOTH DIRECTIONS, recheck each step in the installation procedure. Also, check both hand and foot brakes for possible drag caused by improper adjustment. Check again to be sure that all thrust washers have been removed.



**NEW MOTOR VEHICLE WARRANTY
FLEETSTAR SERIES AND LARGER**

International Harvester Company warrants to the first user purchaser of each new International motor vehicle that it is free from defects in material and workmanship under normal use and service, its obligation under this warranty being limited to repairing or replacing, as the Company may elect, any part or parts thereof, including all equipment or trace accessories (except tires and tubes and diesel engines not manufactured by the Company as these items are warranted separately by their respective manufacturers) supplied by the International Harvester Company, which shall be returned to the seller's place of business, or if the first user purchaser is in transit or has moved, to the most convenient International Truck Dealer authorized to handle motor vehicles of the model covered by this warranty, with transportation charges prepaid, and as to which examination shall disclose to the Company's satisfaction to have been thus defective, provided that such part or parts shall be so returned not later than twelve (12) months after delivery of such vehicle to the first user purchaser, and that at the time of such return, the said vehicle shall not have been operated in excess of fifty thousand (50,000) miles, or, if the engine is also used as a power source for other than propelling the vehicle, the engine shall not have been used or operated in excess of three thousand (3,000) hours of operation. Such defective part or parts will be repaired or replaced on a pro-rata basis to the first user purchaser at the seller's place of business or if the first user purchaser is in transit or has moved, to the most convenient International Truck Dealer authorized to handle motor vehicles of the model covered by this warranty. The amount of prorated credit allowable for repairing or replacing any such defective part including the cost of installation shall be a percentage of the servicing location's price of the parts and labor charges to the first user purchaser, such amount to be determined by using the percentage indicated in the following chart which applies to the greatest period of service:

MILES, MONTHS AND HOURS OF SERVICE, WHICHEVER IS GREATEST

<u>Miles</u>	<u>Months</u>	<u>Hours</u>	<u>Percentage of Part and Labor Price Allowable to Purchaser</u>
0-12,000	12	0 - 360	100%
12,001-20,000	12	361 - 600	80%
20,001-30,000	12	601 - 900	60%
30,001-40,000	12	901 - 1,200	40%
40,001-50,000	12	1,201 - 1,500	20%
Over 50,000	Over 12	Over 1,500	0%

This warranty shall not apply (1) to normal maintenance services or adjustments, including but not limited to, fuel system cleaning, wheel alignment and balancing, engine tune-up, brake inspection or adjustment, nor to the replacement of spark plugs, ignition points, condensers, lubricants and filters when such replacements or adjustments are made as part of any such normal maintenance service, (2) to any vehicle which shall have been repaired or altered outside of a Company authorized service center in any way so as, in the Company's Judgment, to affect adversely its stability or reliability, nor which has been subject to misuse, negligence or accident, nor to any vehicle which shall have been operated at a speed exceeding the factory rated speed, or loaded beyond the factory rated load capacity, (3) to any vehicle on which the odometer has been disconnected or the mileage reading has been altered and the vehicle's actual mileage cannot be readily determined, or (4) to any minor service adjustment or repair requiring less than twenty-five (\$25.00) parts and labor to complete provided the vehicle had been operated in excess of 12,000 miles.

FIVE STAR WARRANTY ON MAJOR COMPONENTS

International Harvester Company also warrants to the first user purchaser that the following listed components purchased as original equipment on a new International motor vehicle, are free from defects in material and workmanship under normal use and service for twenty-four (24) months from date of delivery to the first user purchaser or one hundred thousand (100,000) miles of operation, or, if the engine is also used as a power source for other than propelling the vehicle, until it has been used or operated for three-thousand (3,000) hours of operation, whichever first occurs:

Basic engine (from crankshaft pulley to and including flywheel and water pump, including fuel injection pump, turbocharger, injectors, but excluding all other fuel, cooling, electrical, and filtration system components, and all other attaching accessories, and also excluding Detroit Diesel, Cummins and Caterpillar engines)

Main transmission, auxiliary transmission and transfer case less controls and attachments. Rear axle housing, differential, power divider and non-driving rear axle (less wheel ends, axle shafts, controls and attachments).
 Main frame.
 Front axle "I" beam, front drive axle housings and differential (less outer ends).

International Harvester Company's obligation under this extended warranty shall be limited to allowing credit to the first user purchaser on a pro-rata basis, for any parts which shall be returned to the seller's place of business, or if the first user purchaser is in transit or has moved, to the most convenient International Truck Dealer authorized to handle motor vehicles of the model covered by this warranty with transportation charges prepaid and as to which examination shall disclose to the Company's satisfaction to have been thus defective. The amount of prorated credit allowable for repairing or replacing any such defective part including the cost of installation shall be a percentage of the servicing location's price of the parts and labor charges to the first user purchaser, such amount to be determined by using the percentage indicated in the following chart which applies to the greatest period of service.

MILES, MONTHS AND HOURS OF SERVICE, WHICHEVER IS GREATEST

Gasoline Engine and all other Warranted Components---

<u>Miles</u>	<u>Months</u>	<u>Hours</u>	<u>Percentage of Part and Labor Price Allowable to Purchaser</u>
12,001-25,000	More than 12, but less than 15	361 - 800	80%
25,001-50,000	15 or more, but less than 18	801 - 1,500	60%
50,001-75,000	18 or more, but less than 21	1,501 - 2,200	40%
75,001-100,000	21st through 24th month	2,201 - 3,000	20%
Over 100,000	Beyond 24th month	Over 3,000	0%

IH Diesel Engine Only---

<u>Miles</u>	<u>Months</u>	<u>Hours</u>	<u>Percentage of Parts Price Allow. to Purch.</u>	<u>Percentage of Labor Price Allow. to Purch.</u>
12,001- 50,000	More than 12, thru 24th	361 - 1,500	100%	100%
50,001-100,000	More than 12, thru 24th	1,501 - 3,000	100%	50%
Over 100,000	Beyond 24th Month	Over 3,000	0%	0%

This warranty shall not apply (1) to normal maintenance service or adjustments; (2) to any vehicle which shall have been repaired or altered outside of a Company authorized service center in any way so as, in the Company's judgment, to affect adversely its stability or reliability, nor which has been subject to misuse, negligence or accident, nor to any vehicle which shall have been operated at a speed exceeding the factory rated speed, or loaded beyond the factory rated load capacity; or (3) to any vehicle on which the odometer has been disconnected or the mileage reading has been altered and the vehicle's actual mileage cannot be readily determined.

THESE WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED (OTHER THAN THE COMPANY'S EMISSION CONTROL SYSTEMS WARRANTY) INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE, ALL OTHER REPRESENTATIONS TO THE FIRST USER PURCHASER, AND ALL OTHER OBLIGATIONS OR LIABILITIES, INCLUDING LIABILITY FOR INCIDENTAL AND CONSEQUENTIAL DAMAGES, ON THE PART OF THE COMPANY OR THE SELLER. No person is authorized to give any other warranties or to assume any other liability on the Company's behalf unless made or assumed in writing by the Company, and no person is authorized to give any warranties or to assume any liabilities on the seller's behalf unless made or assumed in writing by the seller.

International Harvester Company

WARRANTY

DETROIT AUTOMOTIVE

Each new NoSPIN differential or new parts for same are warranted by Detroit Automotive to be free from defects in material and workmanship under normal recommended use and service for same period (of time, mileage or hours of use) as the other axle parts are warranted by the axle manufacturer provided failure is not caused by wear to or failure of other axle parts. The Company's obligation under this warranty is limited to making good at its factory any NoSPIN differential assembly or parts thereof which shall be returned to it, and which Company's examination shall disclose to its satisfaction to have been thus defective.

This warranty shall not apply to any unit which has been subject to misuse, negligence or accident, or which has been repaired or altered outside the Company's factory in any way which would affect its stability or reliability.

When an adjustment is sought, by reason of the above warranty, claim must be made in writing on the standard Returned Material Data Form which is furnished upon request. All information requested on the form must be received by Detroit Automotive before returned material can be accepted. The entire NoSPIN assembly or parts thereof should then be returned prepaid, for analysis of the reported failure. Strict compliance with these requirements is necessary for proper consideration of each warranty claim.

THIS WARRANTY SHALL BE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OR FITNESS AND MERCHANTABILITY.

PLEASE KEEP THIS PORTION OF THE WARRANTY CARD

Should your NoSPIN require replacement due to any of the circumstances covered by our Warranty on the reverse side of this card, you may use either of the following methods to receive immediate satisfaction: return the complete differential, along with this card to your nearest authorized NoSPIN Distributor, or write for a Returned Material Data Form, fill it out and include the form when you ship the unit directly to the factory, freight prepaid and insured. All replacement merchandise will be shipped to you freight collect. Sorry, we are not responsible for labor charges incurred for removing or installing.

MODEL _____ DATE PURCHASED _____
YOUR NAME _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____
DEALER'S NAME _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____

Detroit Automotive, 11445 Stephens Drive, Warren, Michigan 48090

IMPORTANT:
RETURN THIS PORTION OF THE WARRANTY CARD. In order for your warranty to be valid, this portion of the warranty card must be accurately filled out and returned to the factory no later than 14 days after the date of purchase. Failure to comply will forfeit all warranty privileges.

NoSPIN MODEL NUMBER _____
DATE NoSPIN INSTALLED _____
AT SPEEDOMETER READING OF _____ MILES
VEHICLE (Make, Model and Serial Number) TO
WHICH NoSPIN WAS ADAPTED _____

MAXIMUM GROSS VEHICLE WEIGHTS:
Chassis _____ Body _____ Payload _____
DISTRIBUTOR or DEALER FROM WHOM NoSPIN
WAS PURCHASED
NAME _____
ADDRESS _____
CITY and STATE _____ ZIP _____
VEHICLE OWNER _____
(Corporation or Individual)
OWNER'S ADDRESS _____
OWNER'S SIGNATURE _____
DATE _____

Detach and return to Detroit Automotive.

CUMMINS WARRANTY

100,000 MILES, 3,600 HOURS, TWO YEARS

This warranty applies to highway engines and marine main propulsion engines marketed for use in the United States or Canada under the trademark "Cummins".

Cummins engines are warranted to be free from defects in workmanship and material, under normal use and service, for two years or 100,000 miles or 3,600 hours of operation, whichever shall occur first, from the date of delivery to the first purchaser, but subject to the following conditions. Until the engine shall have achieved 10,000 miles or 1,800 hours of operation, whichever shall occur first, from the date of delivery to the first purchaser, Cummins will bear reasonable labor costs required to repair or replace any part found by it to be defective as stated below, provided the repairs or replacements are made by Cummins at its plant in Columbus, Indiana, or by an authorized Distributor or Dealer at the place of business of such Distributor or Dealer. Thereafter, and for the remainder of this warranty, Cummins, at its sole option, may pay a portion of such labor costs. This warranty does not include engine removal and reinstallation expense.

EMISSION WARRANTY

In addition to the foregoing, Cummins warrants to the ultimate purchaser and each subsequent purchaser that each engine which is manufactured on or after January 1, 1972, and which is in a vehicle designed for transporting persons or property on a street or highway, is designed, built and equipped so as to conform at the time of sale by Cummins with all U.S. Federal emission standards applicable at the time of manufacture and that is free from defects in materials and workmanship which would cause it not to meet these standards within the period of five (5) years, 100,000 miles, or 3,000 hours of operation, whichever occurs first, as measured from the date of delivery of the engine to the ultimate purchaser. Failures, other than those resulting from defects in materials or workmanship, which arise solely as a result of owner abuse and/or lack of proper maintenance are not covered by this warranty.

NOTE:

The responsibility of Cummins under these warranties is limited to repairing or, at its option, replacing, subject to the provisions set forth above, any part that, upon examination is disclosed to the

satisfaction of Cummins to have been defective and that is returned, with transportation charges prepaid, to the Cummins factory in Columbus, Indiana, or to a Distributor or Dealer authorized by Cummins to perform warranty repairs.

None of the warranties stated herein apply to (i) any engine that shall have been subject to overspeeding, misuse, negligence, or accident, (ii) any engine that shall have been repaired or altered by anyone who is not an authorized Cummins Distributor or Dealer in such a way that, in the judgment of Cummins, its performance and reliability are adversely affected, (iii) any part of an engine improperly applied or installed, (iv) failures in any way resulting from use of parts not manufactured or approved by Cummins, or (v) normal maintenance services including, but not limited to, engine tune-up and the repair or replacement of filters and belts.

Cummins shall not be liable for loss of time to the user while the engine or other equipment is out of commission.

Starters, generators, transmissions, clutches, radiators, and other accessory items not manufactured by Cummins are warranted by their respective manufacturers, and are not warranted by Cummins.

There are no warranties, express or implied, including warranties of merchantability or fitness for a particular purpose, by Cummins or any Distributor or Dealer, regarding Cummins engines (as defined above) except the warranties specified herein. No person is authorized to bind Cummins for any such other warranty.

HYCO, INC.

CLAIMS, WARRANTIES, DEFECTIVE MERCHANDISE

We warrant the merchandise furnished by us to be free from defect in material and workmanship. No other warranty, express or implied, whether of fitness, merchantability or of any other kind, shall exist, all such warranties being waived by Buyer. Upon receipt of notice of any claim by the Buyer for defects in workmanship or material, we shall have the option, to be exercised immediately, either of inspecting any allegedly defective merchandise in the Buyer's hands or of requesting its return to us. We will, at our option either repair, replace or give Buyer proper credit for merchandise determined by us to be defective. Such repair, replacement, or credit shall constitute our sole obligation under this warranty, and we shall not be liable for damages or losses resulting directly or indirectly from the use, or resale by Buyer, of defective merchandise, nor shall we be liable in any way with respect to merchandise which has been further processed. In the event any liability shall be imposed on us by law for our negligence, if any, in the production or delivery of the items covered by this Agreement, the damages recoverable in such case by Buyer, or anyone claiming through Buyer, shall in no event exceed damages sustained by Buyer on account (1) of bodily injuries, and (2) physical injury to or destruction of property. In no event shall we be liable for loss by Buyer, its customers or the users of its products, of the use of any equipment, physically injured or destroyed or for any loss of revenue or profits resulting from damage to such equipment.

PART TWO
REPAIR PARTS INFORMATION
AND
SUPPLEMENTAL MAINTENANCE INSTRUCTIONS

USER MAINTENANCE SUPPORT PLAN
FOR
TRUCK, DUMP, 20 TON, 6 X 4, ON-OFF
HIGHWAY, 71000 GVW, CCE
NSN 3805-00-192-7249

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SECTION I INTRODUCTION

1-1. SCOPE

The instructions in this supplemental operating, maintenance and repair parts instructions (SOMARPI) are for:

- a. The user of the 20 Ton Dump Truck.
- b. Maintenance personnel responsible for maintaining and/or re pairing the Dump Truck.
- c. Supply personnel responsible for requisitioning and stockage of repair parts.

1-2. MILSTRIP REQUISITION IDENTIFICATION AND CONTROL

a. Parts Requisition Identification and Control

(1) A combination of Project and Weapon System Codes will be used for identification and controls of CCE parts requisitions. Three (3) CCE Project Codes and a unique Army Weapon System Designator Code (WSDC) are assigned to the CCE Dump Truck.

(2) The purpose and intended use of the CCE Project Code is to identify manufacturer's part numbered items to the Defense Construction Supply Center (DCSC) for the action DCSC will take in support of the CCE Plan. A CCE Project Code will be used on all non-NSN requisitions and routed to DCSC. The CCE Project Code will have a two-fold meaning: (1) to identify the requisition to a specific CCE end item, and (2) to identify the routing of parts shipments either by the Direct Support System (DSS) procedures, or by non-DSS procedures. National Stock Numbered (NSN) items identified in the initial recommended Prescribed Load List and Authorized Stockage List (PLL/ASL) as well as non-stocked NSN items will use the standard supply system and DSS assigned codes when applicable, on the requisition.

(3) The WSDC will be used on all parts requisitions (NSN or non-NSN) submitted for support and will be used in conjunction with the Logistics Intelligence File (LIF) in accumulation of Demand/Consumption, Life Cycle Costing Analysis and to provide and overview of the CCE Plan for reporting and analysis.

b. Codes.

(1) CCE Project Code.

CODE DEFINITION

XDX
(USAREUR) Indicates the requisition is in support of CCE and designates part shipments to the East Coast Consolidation/Containerization Point (New Cumberland Army Depot).

XDL
(USARPAC) Indicates the requisition is in support of CCE and designates parts shipments to the West Coast Consolidation/Containerization Point (Sharpe Army Depot).

XDO
(CONUS)
(USARAL)
(USARSO) Indicates the requisition is in support of CCE but will be treated as non-DSS. Parts shipments will be made directly from Depot/Vendor to requisitioners.

(2) WEAPON SYSTEM DESIGNATOR CODE (WSDC)

"7X" is the assigned WSDC for the Dump Truck.

(3) DISTRIBUTION CODE

Code "F" will be cited in Card Column (CC) 54 for all CONUS only requisitions.

All OCONUS will cite the applicable code as cited in AR 725-50.

c. MILSTRIP Requisition Card Column (CC Entries.)

(1) NSN Requisitions: See Appendix 1-D for CC entries.

(2) Non-NSN Requisitions: See Appendix 1-C for CC entries.

d. Requisitioning and Flow of Requisitions.

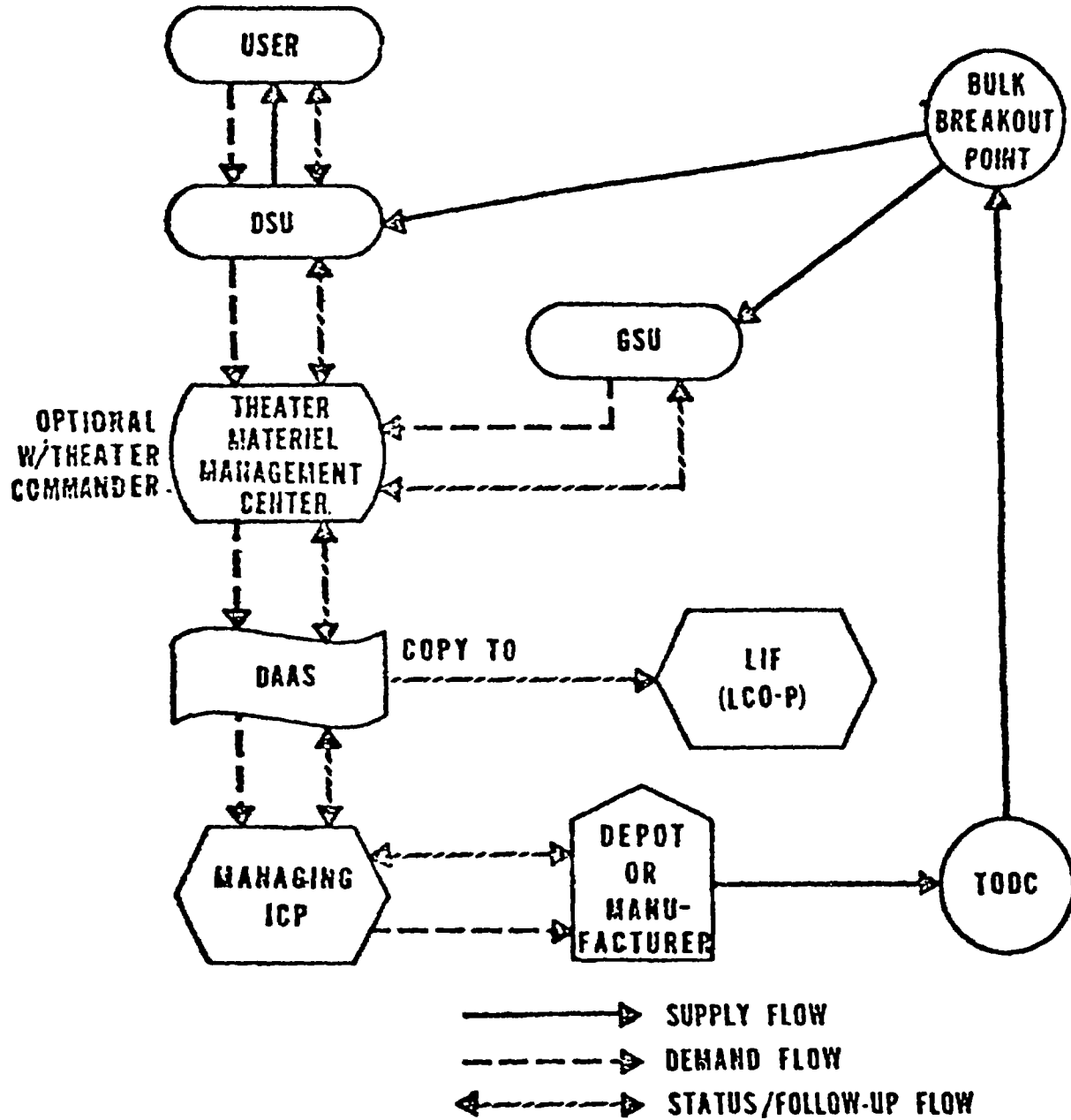
- (1) NSN Requisitions: See Paragraph 2-10 titled "Repair Parts and Support" and Appendix 1-A.
- (2) Non-NSN Requisitions: See paragraph 2-10 titled "Repair Parts and Support" and Appendix 1-B.

1-3. MAINTENANCE FORMS AND RECORDS

DA Forms and procedures used for the equipment Maintenance Records will be those prescribed in section II, paragraph 2-12 of this SOMARPI.

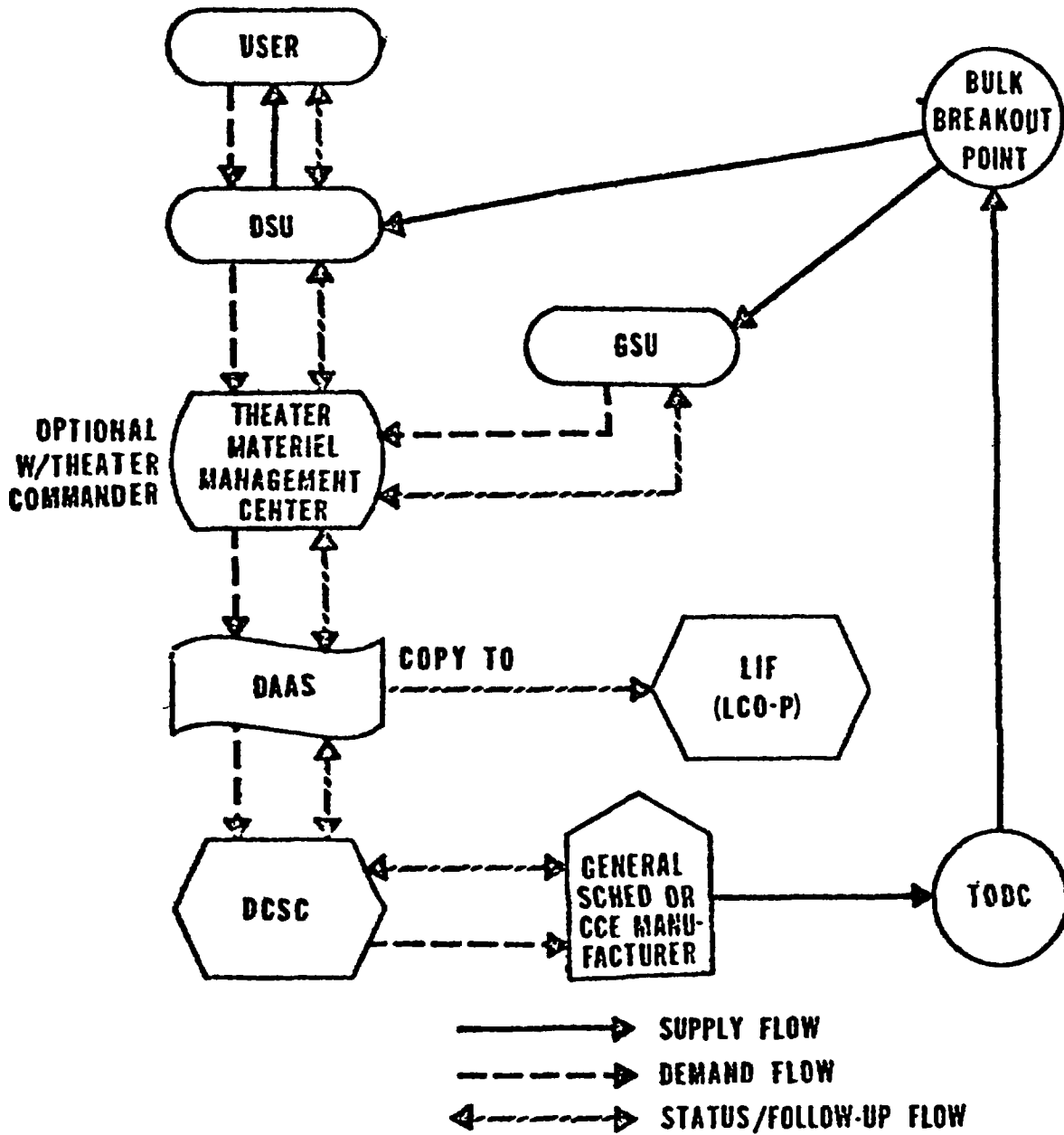
APPENDIX 1-A

FLOW OF REQUISITIONS AND MATERIEL
CCE PARTS (NSN)



APPENDIX 1-B

FLOW OF REQUISITIONS AND MATERIEL
CCE PARTS (NON-NSN)



APPENDIX 1-C

NON-NSN SAMPLE FORMAT

MILSTRIP REQUISITION FOR CCE

CARD COLUMN	DESCRIPTION OF DATA	MANDATORY ENTRY FOR CCE
1-3	Document Identifier Code	AØB - CONUS AØ2 - Overseas
4-6	Routing Identifier Code	Always S9C
7	Media/Status Code	
8-22	Part Number	
23-22	Unit of Issue	
25-29	Quantity	
30-43	Document Number	
44	Demand Code	
45-50	Supplementary Address	
51	Signal Code	
52-53	Fund Code	
54-56	Distribution Code	CC-54 "F" For CONUS CC-55-56 Weapon System Code
57-59	Project Code	CCE (DSS) Code
60-61	Priority Code	
62-64	Required Delivery Date	
65-66	Advice Code	
67-69	Blank	
70-80	Blank	

APPENDIX 1-D

NSN SAMPLE FORMAT

MILSTRIP REQUISITION FOR CCE

CARD COLUMN	DESCRIPTION OF DATA	MANDATORY ENTRY FOR CCE
1-3	Document Identifier Code	AØA-CONUS AØ1-Overseas
4-6	Routing Identifier Code	
7	Media/Status Code	
8-22	FSN	
23-24	Unit of Issue	
25-29	Quantity	
30-43	-Document Number	
44	Demand Code	
45-50	Supplementary Address	
51	Signal Code	
52-53	Fund Code	
54-56	Distribution Code	CC-54 "F" For CONUS CC-55-56 Weapon System Code
57-59	Project Code	
60-61	Priority Code	
62-64	Required Delivery Date	
65-66	Advice Code	
67-69	Blank	
70-80	Blank	

SECTION II

MAINTENANCE SUPPORT DATA

MSP No. 5-3805-254

February 1974

2-1. PURPOSE

The Dump Truck is a 20 ton on-off highway, 71000 Gross Vehicle Weight Rating (GVWR) and is to be used for transporting materials for the construction/rehabilitation of roads, airfields, ports, beach and marine POL facilities world-wide.

2-2. DESCRIPTION

a. The Dump Truck is a 20 ton, 6 x 4, 71000 GVWR on-off highway model with a 12 cubic yard struck (water level) capacity rear dump body on a conventional. commercial design and heavy duty constructed chassis. The dump truck will carry a payload of 40000 pounds. It has at GVWR, a geared high speed capability of 40 mph minimum and a low speed and torque capability to ascend, stop and restart on a 30 percent grade. The dump body is an extra heavy-duty contractor's type, engine exhaust heated with a diverter valve, double action offset top hinge manual control tailgate, front telescopic type hoist system, with a hydraulic control lock and manual safety strut, a gear type hydraulic pump and a 25 micron type filter. The front tire and rim assembly differ in size and configuration. Spares (front and rear) are furnished as Prescribed Load List (PLL) items and as an assembled component.

b. It will perform:

- (1) Short haul dumping cycles on secondary roads of under 3 miles for at least 10 hours without refueling.
- (2) Long haul dumping cycles on secondary roads and sustained average high speeds of 40 mph for a minimum of 200 miles without refueling.
- (3) It will provide a balanced axle weight distribution At GVWR without any axle exceeding its rated load or 26,500 pounds, whichever is lower.

(4) The operator of the vehicle conducts the operation of the dump body and tailgate from within the cab.

c. Dimensions.

The dimensions of the Dump Truck are as follows:

Overall length	319 inches
Overall width	101 inches
Overall Height	125 inches
Wheelbase	184 inches
Bumper to back of cab	114 inches
Cab to axle	120 inches
Interior size of cab	69 inches X 57 inches
Axleweight	Front: 12,700 lb.; Rear: 18,300 lb

(5) Operational and maintenance procedures are covered in the manufacturer's manuals overpacked with the equipment. The category of maintenance for the dump truck will be in accordance with Maintenance Allocation Chart (MAC). (See Appendix 2-B of the SOMARPI) Refer to paragraph 2-10 of this SOMARPI for requisitioning of repair parts and support. The intended uses are as follows:

(a) Intended Use.

The dump truck is primarily intended for use in transporting materials for the construction/rehabilitation of roads, airfields, ports, beach and marine POL facilities world-wide. It is capable of providing rapid transport of capacity payloads in mud, sand, snow and off-road terrain, with and without payload, up to the limit of traction. The equipment that may be serviced by the dump truck are:

- Concrete Pavers
- Asphalt Spreaders
- Chip Spreaders
- Rock Crushers
- Conveyers
- Storage Bins
- Asphalt Pug Mills
- Motorized Bucket Loaders, 2-1/2 thru 6 cubic yard sizes
- Powered excavators up to 2 cubic yard size

2-3. SUPPORTING DATA

See Appendix 2-A.

2-4. PROCUREMENT STATUS

- a. This is a multi-year (5 year) procurement.
- b. The procurement was awarded under contract DSA 700-72-C-9235.
- c. Quantity procured for FY 72-140 each and 140 for each succeeding 5 fiscal year. A total of 700 dump trucks.

2-5. CONDITIONS OF EMPLOYMENT

- a. The dump truck is capable of being operated, stored and used in wet-warm, wet-hot, intermediate hot-dry and cold climatic conditions.
- b. Turn around cycle for the dump truck is:
 - (1) Short hauls (3 miles) 1 hour.
 - (2) Long hauls (200 miles) 8 hours.
- c. The Department of the Army (DA) approved mission profile is 12000 miles per year with daily usage or 8 - 10 hour shifts.
- d. Perform variable dumping cycles involving transport of payload materials; the act of loading, payload hauling, dumping, and returning empty constitute each dumping cycle.
- e. Dump in a fixed location; i.e., stockpiling.
- f. Dump during slow forward travel in a controlled uniform spreading lift; i.e., road bad spreading.
- g. Provide clean-body-dumping of loose, aggregate materials.
- h. Dump on longitudinal grades, side slopes and uneven ground normally encountered at earthmoving construction job dumping sites.

2-6. MAINTENANCE CONCEPT

- a. The introduction of the CCE dump truck will not introduce any new requirements for special consideration. The existing Organizational, Direct and General Support maintenance organizations will be utilized for support of the dump truck.

b. Nature and Extent of Maintenance

(1) Authorized Maintenance

(a) The DSU and GSU maintenance will be accomplished before evacuation of items to the next higher maintenance functions of lower categories. Maintenance units may exceed their authorized scopes and functions when authorized by the next higher maintenance support commander.

(b) The maintenance burden categories are as follows:

1. Organizational Maintenance - 25%
2. Direct Support Maintenance - 50%
3. General Support Maintenance - 25%
4. Depot Maintenance - Only for complete overhaul or rebuild.

(2) Operator/Crew Maintenance

Operator/crew maintenance consists of daily checks, servicing and adjustments to obtain and maintain a specific mission profile. Repair by Operator/crew is limited to minor adjustments which do not require disassembly.

(3) Organizational Maintenance

Organizational Maintenance will be accomplished by adjusting or replacing accessible parts, assemblies and modules (an item assembly, or component, which is designed to be handled as a single unit to facilitate supply and/or maintenance) which do not require disassembly, special tools, or test equipment.

(4) Direct Support Maintenance

Direct Support Maintenance will:

(a) Provide quick response to "on equipment" repairs consisting of complete adjustments and replacement of designated parts, assemblies and modules to return the end item to operation ready status.

(b) Perform "off equipment" repair to designated assembled module and by replacing special kits and authorized piece parts.

(5) General Support Maintenance

General Support Maintenance will repair and return to the Supply System designated assembled modules which overflow from or exceed the capability of direct support maintenance. General Support Maintenance will perform limited piece part repair and overhaul of selected major assemblies or components.

(6) Depot Maintenance

(a) Depot Maintenance will overhaul items of equipment, assemblies and components for return to supply stock in accordance with normal Army Maintenance procedures.

(b) The government may enter into an overhaul and/or rebuild contract with the truck manufacturer when determined to be more economical or feasible (see Appendix 2-C).

(c) Maintenance Expenditure Limit is 65% throughout its life expectancy of 12 years.

(d) Mission essentiality:
None

(e) Maintenance Allocation Chart
See Appendix 2-B

2-7. USING ORGANIZATIONS

	<u>TABLES OF ORGANIZATION AND EQUIPMENT</u>	<u>BASIS OF ISSUE</u>
5-054D	Engineer Light Equipment Company	9
5-058G	Engineer Light Equipment Company	9
5-114D	Engineer Construction Support Company	4
5-114G	Engineer Construction Support Company	4
5-115E	Engineer Construction Battalion	25
5-115G	Engineer Construction Battalion	25
5-117D	Engineer Equipment Maintenance Company	7

TABLES OF ORGANIZATION AND EQUIPMENT

BASIS OF ISSUE

5-117E	Engineer Equipment Maintenance Company	7
5-117G	Engineer Equipment Maintenance Company	7
5-118D	Engineer Construction Company	6
5-118G	Engineer Construction Company	6
5-124D	Engineer Dump Truck Company	42
5-124G	Engineer Dump Truck Company	42
5-124H	Engineer Dump Truck Company	42

2-8. SUPPORT ORGANIZATION AND EQUIPMENT

TABLES OF ORGANIZATION AND EQUIPMENT

BASIS OF ISSUE

5-114D	Engineer Construction Support Company	4
5-114G	Engineer Construction Support Company	4
5-117D	Engineer Equipment and Maintenance Company	7
5-117E	Engineer Equipment and Maintenance Company	7
5-117G	Engineer Equipment and Maintenance Company	7

2-9. SUPPORT EQUIPMENT

No support equipment required.

2-10. REPAIR PARTS AND SUPPORT

a. Parts Support.

Supply support and management in general will follow the current standard military system. Initial issues of the Prescribed Load List (PLL) and Authorized Stockage List (ASL) will be shipped concurrently with the end item to overseas destinations. Parts must be requisitioned as required for end items delivered in CONUS.

NOTE: A copy of the PLL and ASL lists are overpacked with the manuals.

(1) The PLL represents a 15 day initial supply of repair parts required at organizational level for support. of the dump truck.

(2) The ASL represents an initial 45 day supply of repair parts required at direct and general support levels. This direct support supply will also be used to replenish the PLL.

(3) The initial PLL/ASL list contains the recommended list of parts to support a quantity of end items operating 8 hours per day, 5 days per week.

(4) Manufacturers Part Number/National Stock Number (MPN/NSN) Cross-reference will be broadcast-through the Army Master Data File (AMDF).

(5) Replenishment of PLL/ASL items and other identified NSN items will be by BSN through the existing military supply system by managing activities having Federal Supply Class responsibility as follows:

(a) Organizational

Each using organization will stock the PLL stockage based upon the number of assigned dump trucks. This stockage must provide for 15 days consumption and must contain only those items required to perform the organization functions authorized in the MAC. This stockage will be replenished on a demand basis from the supporting DSU. The using organization is authorized to request parts not contained in this stockage list that are required to perform maintenance authorized in accordance with the MAC.

(b) Direct Support Unit (DSU)

Each using organization authorized to perform direct support maintenance and/or each separate DSU will provide for 45 days consumption and must contain only those items required to perform the direct support functions authorized in the MAC. This stockage will contain a provision for re-supply of any user PLL for each of the using organizations. The ASL will be replenished on a demand basis by the supporting depot for those items with NSNs and by Defense Construction Supply Center (DCSC) for those dump truck parts identified by MPNs. All requisitions will be routed through the Defense Automatic Addressing System (DAAS) for routing the NSN or

non-SN requisitions to the appropriate source of supply. The DSU is authorized to request parts not contained in this stockage list that are required to perform Direct Support functions authorized in accordance with the MAC.

(c) General Support Unit (GSU)

In each theater of deployment there will be at least one GSU designated by the Theater Commander to support the CCE dump truck. This unit will provide for 45 days consumption and must contain only those items required to perform the general support functions authorized in the MAC. This stockage will not contain a provision to re-supply any Organizational PLL or Direct Support ASL. The ASL will be replenished on a demand basis by the supporting depot for those items with NSNs and by DCSC for those dump truck parts identified by Manufacturers Part Numbers (MPNs). All requisitions will be routed through the DAAS for routing the NSN or non-NSN requisitions to the appropriate source of supply. The GSU is authorized to request parts not contained in this stockage list that is required to perform general support functions authorized in accordance with the MAC.

b. Requisition of Repair Parts

(1) The organizational units will requisition from DSU by NSN or by manufacturer's code and part number.

(2) The DSU will fill the requisition from stock on hand, or if stock is not on hand, prepare a MILSTRIP requisition (in accordance with paragraph 1-2 of this UMSP and AR 725-50). Insure that the CCE project code (if non-FSN), the WDSC, the Routing Identifier Code (always S9C if non-FSN) and the Distribution Code are included in the requisition. The requisition will be forwarded to the Theater Materiel Management Center (TMMC) for control and funding purposes.

NOTE: If the manufacturer's code and part number will not fit in the available card columns 8 through 22 of the A02/AOB requisitions, prepare an A05/AOE (Exception Data) requisition and mail to DCSC (S9C).

(3) General Support Requisitioning: The GSU will prepare and submit requisitions in the same manner as cited for DSU above.

(4) The TMMC will forward the requisitions to Defense Automatic Address System (DAAS). After an edit review of the DLSC file by DAAS to determine if an SSN has been assigned, non-NSN requisitions will be forwarded to DCSC, and those having an NSN will be forwarded to the appropriate supply managing activity. Further, DAAS will provide images of requisitions to LCO-P for the LIF. This action is triggered in DAAS by the distribution code entered in CC54 of the requisition. To insure all CCE requisitions are recorded in the LIF at LCO-P, all CONUS requisitions submitted in support of CCE must have an "F" entered in CC54 or the requisition. Overseas requisitions should have the appropriate distribution code entered (as required by MILSTRIP procedures, AR 725-50).

(5) Except for local purchased items and A05/AOE (Long Part Number) requisitions, all requisitions submitted by both CONUS and OCONUS will be routed through DAAS. The CCE Project Code entered in CC57-59 of the A02/AOB requisition will preclude the need for exception data and allow the processing of non-NSN requisitions at DCSC.

(6) The CCE Project Code will identify the requisition to a specific CCE end item, and will be used by DCSC to identify the end item contractor for processing procurement actions.

- c. Class II, IV and V material. There are no class II, IV and V material involved on the CCE dump truck.
- d. Care and Preservation. There are no special requirements for care and preservation on the dump truck.
- e. Depot Level Inventory of Repair Parts. The Depot Level Inventory of CCE dump truck parts peculiar are stocked in CONUS depots only.

2-11. PERSONNEL AND TRAINING

a. MOS Requirements

- (1) Operator: Motor Transport Operator MOS 64C
- (2) Organizational:
 - Wheeled Vehicle Mechanic MOS 62B
 - Welder MOS 44C
- (3) Direct Support: Fuel/Electrical
 - Systems Repairman MOS 63G
 - Automotive Repairman MOS 62H
 - Metal Body Repairman MOS 44B

(4)	General Support: Fuel/Electrical Systems Repairman	MOS	63G
	Automotive Repairman	MOS	63H
	Metal Body Repairman	MOS	44B
(5)	Depot: Fuel/Electrical Systems Repairman	MOS	63G
	Automotive Repairman	MOS	63H
	Metal Body Repairman	MOS	44B

b. Training

(1) TARCOM will provide New Equipment Training Teams (NETTs) and New Material Introductory Teams (NMITs) upon request.

(a) The NETT will possess the capability to train key personnel of receiving command in the operation and maintenance of the new equipment.

(b) The NMIT will provide major commanders and their staffs with briefings designed to provide advance information that will assist the commander's concern in obtaining an early operational capability.

(2) Requests for NETTs and NMITs should be forwarded through appropriate command channels to the Commander, U.S. Army Tank-Automotive Materiel Readiness Command, ATTN: DRSTA-MVB, Warren, MI 48090.

2-12. TAMMS

The Army Maintenance Management System (TAMMS) applies as follows:

- (a) Army Equipment Log Book Binder NSN 7510-00-889-3494.
- (b) Case, Maintenance and Operational Manuals, NSN 7520-00-559-5618.
- (c) DA Form 2407, Maintenance Request.
- (d) DA Form 2408, Equipment Log Book Assembly (Records).
- (e) DA Form 2408-1, Equipment Daily or Monthly Log.
- (f) DA Form 2408-5, Equipment Modification Record.
- (g) DA Form 2408-9, Equipment Control Record.
- (h) DA Form 2408-10, Equipment Component Register.
- (i) DA Form 2408-14, Uncorrected Fault Record.
- (j) DA Form 2409, Equipment Maintenance Log (Consolidated).

2-13. FACILITIES

No special maintenance facilities are required for the truck.

2-14. LOGISTICS ASSISTANCE (AR 700-4)

US Army Tank-Automotive Materiel Readiness Command's Field Maintenance Technicians stationed at CONUS and OCONUS installations are available to furnish on-site training and/or technical assistance. When training or technical assistance is required, contract the appropriate Logistics Assistance Office (LAO) listed in Appendix B, AR 700-4.

2-15. RELIABILITY AND MAINTAINABILITY REQUIREMENTS

Reliability and maintainability requirements are the manufacturers prime requisite for this item of equipment.

2-16. WARRANTY

The contractor warrants for one year after delivery, all supplies furnished under the contract. All assemblies and components warranties are cited in the equipment publications. Failure of this defective components, parts or assemblies covered by the manufacturer's warranty are to be processed under the warranty claims action published in TM 38-750, paragraph 3-7.4.2.

2-17. EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIRs)

Submit EIRs in accordance with instructions contained in TM 38-750.

2-18. DESTRUCTION TO PREVENT ENEMY USE

Refer to TM 750-244-3, Procedures for Destruction of Equipment to Prevent Enemy Use.

2-19. FIRE PROTECTION

- a. A hand operated fire extinguisher is to be installed at the discretion of the Commanding Officer.
- b. For usage refer to TB 5-4200-200-10, Hand Portable Fire Extinguisher approved for army users.

2-20. SHIPMENT AND STORAGE

- a. Shipment and Storage. See TB 740-97-2, Preservation of USAMEC Mechanical Equipment for Shipment and Storage.
- b. Administrative Storage. See TM 740-90-1 for Administrative Storage of Equipment.

2-21. MANUFACTURER'S FIELD COMPAGNS AND MODIFICATIONS

Modification of the dump truck will be applied by the dump truck manufacturer after the US Government approval of the field campaign or modification plan (See Appendix 2-E).

2-22. BASIC ISSUE ITEM LIST AND ITEMS TROOP INSTALLED OR AUTHORIZED LIST

See Appendix 2-F of this SOMARPI.

2-23. MAINTENANCE AND OPERATING SUPPLY LIST

See Appendix 2-G of this SOMARPI.

2-24. SUPPLEMENTAL OPERATING MAINTENANCE AND REPAIR PARTS INSTRUCTIONS

A manual that furnishes the user a procedure for evaluating the readiness condition of the equipment to perform its primary mission, with normal maintenance support (See Appendix 2-H of this SOMARPI).

APPENDIX 2-A

**SUPPORTING DATA FOR MAJOR AND SECONDARY END ITEMS AND MULTI-USE COMPONENTS
(AMC 715-50)**

NOMENCLATURE	FEDERAL STOCK NUMBER (FSN) (1)	TYPE CLASSIFICATION STATUS			AGENCY RESPONSIBLE FOR LOGISTICAL SUPPORT	OPERATIONAL READINESS FLOAT	
		ITEM NUMBER	ACTION (2)	DATE		QUANTITY OR %	REFERENCE DOCUMENTS
Truck, Dump 20 Ton (CCE)	3805-00-192-7249	Z93567			TARCOM	5%	SB 5-83

(1) Insert the Federal Supply Classification (FSC) code number if the FSN is not known.

(2) If current classification of required items is other than STD-A. Sufficient information will be included to indicate the availability at the time of delivery of the materiel for which the plan is prepared.

APPENDIX 2-B
SECTION I - INTRODUCTION
MAINTENANCE ALLOCATION CHART
TRUCK, DUMP, 20 TON (CCE)

1. GENERAL:

a. This section will provide a general explanation of all maintenance and repair functions authorized at various maintenance levels.

b. Section II designates overall responsibility for the performance of maintenance functions on the identified end item or component and the work measurement time required to perform the functions by the designated maintenance level. The implementation of the maintenance functions upon the end item or component will be consistent with the assigned maintenance function.

c. Section III lists the special tools and test equipment required for each maintenance function as referenced in Section II.

d. Section IV contains supplemental instructions, explanatory notes, and/or illustrations required for particular maintenance functions.

2. EXPLANATION OF COLUMNS IN SECTION II:

a. GROUP NUMBER COLUMN 1. The functional group is a standardized system to index material for ready identification. The basic or two digit code identifies the major assembly and the next two digits identify the sub-assembly and/or part within the assembly. (See TB-750-93-1) Functional Group Codes 01 Engine through code 99 parts peculiar.

b. FUNCTIONAL GROUP COLUMN 2. This column contains a brief description of the components of each assembly group.

c. MAINTENANCE FUNCTIONS COLUMN 3. This column lists the various maintenance functions (A thru K) and will indicate the lowest maintenance category authorized to perform these functions. The symbol designations for the various maintenance categories are as follows:

- C - Operator or crew
- O - Organizational maintenance
- F - Direct support maintenance
- H - General support maintenance
- D - Depot maintenance

The maintenance functions are defined as follows:

A - INSPECT. To determine serviceability of an item by comparing its physical, mechanical and electrical characteristics with manufacturer standards.

B - TEST. To, verify serviceability and to detect electrical or mechanical failure by use of test equipment.

C - SERVICE. To clean, to preserve, to charge, and to add fuel lubricants, cooling agents and air. If it is desired that elements such as painting and lubricating be defined separately, they maybe so listed.

D - ADJUST. To rectify to the extent necessary to bring into proper operating range.

E - ALIGN. To adjust specified variable elements of an item to bring to optimum performance.

F - CALIBRATE. To determine the corrections to be made in the readings of instruments or test equipment used in precise measurement. Consists of the comparison 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 with the certified standard.

G - INSTALL. To set up for use in an operational environment such as an emplacement, site or vehicle.

H - REPLACE. To replace unserviceable items with serviceable like items.

I - REPAIR. Those maintenance operations necessary to restore an item to serviceable condition through correction of material damage or specific failure. Repair may be accomplished at each category of maintenance.

J - OVERHAUL. That maintenance effort (service/action) necessary to restore an item to a completely serviceable/ operational condition as prescribed by maintenance standards (i.e., DMWR) in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

K - REBUILD. The highest degree of material maintenance. Rebuild consists of restoring equipment as nearly as possible to new condition in accordance with original manufacturer's standards. Rebuild is performed only when required by operational considerations or other paramount factors and then only at depot maintenance category. Rebuild reduces to zero the hours or miles the equipment, or component thereof, has been in use.

d. TOOLS AND EQUIPMENT COLUMN 4. This column is provided for referencing by code the special tools and test equipment (Section III) required to perform the maintenance functions (Section II).

e. REMARKS COLUMN 5. This column is provided for referencing by code remarks (Section IV) pertinent to the maintenance functions, and recoverability of items.

3. EXPLANATION OF COLUMN IN SECTION III:

a. REFERENCE CODE. This column consists of a number and a letter separated by a dash. The number references the T&TE requirements column on the MAC. The letter represents the specific maintenance function the item is to be used with. The letter is representative of column A through K on the MAC.

b. MAINTENANCE CATEGORY. This column shows the lowest level of maintenance authorized to use the special tool or test equipment.

c. NOMENCLATURE. This column lists the name and identification of the tool or test equipment.

d. TOOL NUMBER. This column list the manufacturer's code and part number, or Federal Stock Number of tools and test equipment.

4. EXPLANATION OF COLUMN IN SECTION IV

a. REFERENCE CODE. This column consists of two letters separated by a dash, both of which are referenced to section II. The first letter references column 5 and the second letter references a maintenance function, column 3, A through K.

EXCEPTION: Code a-D denotes a recoverable item/assembly that is to be returned to depot for overhaul or rebuild when unserviceable economically repairable.

b. REMARKS. This column lists information pertinent to the maintenance function being performed as indicated on the MAC, SECTION II.

Section II. MAINTENANCE ALLOCATION CHART

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINT FUNCTION	MAINTENANCE LEVEL					TOOLS & EQUIP	REMARKS
			C	O	F	H	D		
01	ENGINE								
0100	ENGINE 99048-85	TEST SERVICE REPLACE REPAIR OVERHAUL		1.5 .8	6.0 8.0		79.0		1.10.12 13.
	ENGINE MOUNTS	REPLACE			4.0				
0101	CYLINDER BLOCK	REPLACE OVERHAUL				24.0 60.0			1.14
	CYLINDER HEAD TACOBS BREAK	REPLACE OVERHAUL			2.0	3.0			
0102	CRANKSHAFT	REPLACE				6.0			11.
	MAIN BEARINGS	REPLACE				6.0			

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINT FUNCTION	MAINTENANCE LEVEL					TOOLS & EQUIP	REMARKS
			C	O	F	H	D		
0103	FLY WHEELHOUSING	REPLACE REPAIR			4.0 4.0			1.	
	FLEX PLATE	REPLACE			3.0				
0104	PISTONS RINGS AND CONNECTING RODS	REPLACE				8.0		1.2	
0105	VALVES	ADJUST REPLACE			1.0 2.0			1.15.	
	CAMSHAFT	INSPECT REPLACE				8.0 7.0			
	TIMING GEARS	REPLACE			3.5				
0106	ENGINE LUBRICATION SYSTEM							1.	
	OIL PAN	REPLACE REPAIR			6.0 7.0				
	OIL PUMP	TEST REPLACE OVERHAUL			1.0	1.0 2.0			
	OIL COOLER AND FILTER	SERVICE REPLACE	1.0	1.0					
	ENGINE OIL FILTER	REPLACE		1.0					

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINT FUNCTION	MAINTENANCE LEVEL					TOOLS & EQUIP	REMARKS
			C	O	F	H	D		
0108	MANIFOLDS, IN TAKE AND EXHUAST	REPLACE REPAIR		1.0	2.0			1.	
0109	ACCESSORY DRIVE GEAR	REPLACE				3.0		1.	
03	FUEL SYSTEM							1.5.6. 7.8. 16.	
0301	FUEL INJECTOR	TEST · REPLACE REPAIR			1.0	1.0			
0302	FUEL PUMP	TEST REPLACE REPAIR			1.0	1.0	1.0	1.	
0304	AIR CLEANER	SERVICE REPLACE	1.0 .5					1.	
0305	TURBO CHARGER	REPLACE OVERHAUL			1.0	3.0		1. 1.	
0306	TANKS	REPLACE REPAIR		1.0 1.0					
0309	FUEL FILTERS	SERVICE REPLACE	.1	.5				1.	
0311	GLOWPLUG AND PRIMER PUMP	TEST REPLACE		.5 1.0				1.	

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINT FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS & EQUIP	(6) REMARKS
			C	O	F	H	D		
			0312	ACCELERATOR	REPLACE		.5		
04	EXHUAUST SYSTEM							1.	
0401	MUFFLER AND PIPES	REPLACE		2.0					
05	COOLING SYSTEM							1	
0501	RADIATOR	SERVICE TEST REPLACE REPAIR	.2	.5 2.0	3.0			1. 1.	
0502	SHROUD	REPLACE		1.0					
0503	THERMOSTAT	TEST REPLACE		1.0 1.0				1.	
0504	WATER PUMP OVERHAUL	REPLACE		1.5		2.0			
0505	FAM	REPLACE		1.0				1.9.12.	
	BEARINGS, SHAFT & PULLEY	SERVICE REPLACE		0.2	1.0				
	BLADE AND GUARD	REPLACE REPAIR		0.5 0.3					
	BELT, FAN DRIVE C	ADJUST REPLACE		0.2 0.3					
0508	WATER FILTER ELEMENT	REPLACE		0.3				1.	

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINT FUNCTION	MAINTENANCE LEVEL					TOOLS & EQUIP	REMARKS
			C	O	F	H	D		
06	ELECTRICAL SYSTEM								
0601	ALTERNATOR w/REGULATOR	TEST ADJUST REPLACE REPAIR OVERHAUL		0.2 0.2 1.0	1.5	2.0		1.	
	BELT DRIVE	ADJUST REPLACE		0.2 0.3					
0603	STARTING MOTOR MOTOR STARTING	TEST REPLACE REPAIR OVERHAUL		0.2 0.5	1.3	2.0		1.	
	BUSHES	REPLACE			0.8				
	SOLENOID	TEST REPLACE REPAIR		0.2	0.5 1.0				
0606	ENGINE SAFETY CONTROLS	TEST REPLACE		0.2 0.5				1.	
0607	INSTRUMENT OR ENGINE CONTROL PANEL							1.	
	SWITCHES GAGES METERS AND LIGHTS	PLACE		0.5					

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINT FUNCTION	MAINTENANCE LEVEL					TOOLS & EQUIP	REMARKS
			C	O	F	H	D		
0608	BULBS AND FUSES	REPLACE		0.5				1.	
	WIRING PANEL	REPLACE REPAIR		0.3 0.5					
	MISCELLANEOUS ITEMS TURN SIGNAL ASSY	REPLACE REPAIR		0.5 1.0					
	SWITCHES, TERMINAL- BLOCKS CIRCUIT BREAKERS	REPLACE		0.5					
0609	LIGHTS HEAD, TAIL, SIGNAL	PLACE REPAIR		1.2 0.5				1.	
	LAMPS	REPLACE		0.5					
	DOMES AND MARKER	REPLACE REPAIR		0.5 0.2					
	SENDING UNITS AND WARNING SWITCHES	TEST REPLACE		0.2 0.3					
0611	HORN HORN, BUTTON AND RELAY	REPLACE		0.3				1.	
0612	BATTERIES, STORAGE BATTERIES	TEST SERVICE REPLACE		0.2 0.4 0.5				1.	
	CABLES	REPLACE REPAIR		0.3 0.5					

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINT FUNCTION	MAINTENANCE LEVEL					TOOLS & EQUIP	REMARKS
			C	O	F	H	D		
	BOX BATTERY	REPLACE REPAIR		1.0 0.5					
07 0700	TRANSMISSION TRANSMISSION ASSY. (AUTO)								
	TRANSMISSION	SERVICE REPLACE REPAIR OVERHAUL		0.2	5.0	6.0 16.0		1.	
0701	GEARS, SHAFTS	REPLACE				6.0		1.	
	CLUTCHES, BANDS BEARING, SEALS OIL FILTER, INTERVAL OIL FILTER, REMOTE	REPLACE REPLACE REPLACE SERVICE REPLACE REPAIR			2.0	2.0 3.0			
	ELEMENT	REPLACE		0.5					
	BREATHER	SERVICE REPLACE		0.2 0.2					
	FLYWHEEL	REPLACE REPAIR			2.0 1.5				
	RING GEAR	REPLACE			1.5				

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINT FUNCTION	MAINTENANCE LEVEL					TOOLS & EQUIP	REMARKS
			C	O	F	H	D		
0708	HOSES, PIPES, FITTINGS	REPLACE REPAIR		0.8 1.0					
	TORQUE CONVERTER ASSY								
	TORQUE CONVERTER	REPLACE				2.0		1.	
	BEARING, SEALS	REPLACE				2.5			
	PUMP, TURBINE	REPLACE				1.5			
0700	LOCK-UP CLUTCH	REPLACE				1.0			
	TRANSMISSION ASSY (AUX)							1.	
	TRANSMISSION	SERVICE REPLACE REPAIR OVERHAUL		0.2	3.0		3.0 6.5		
0701	GEARS, SHAFTS	REPLACE				3.0		1.	
	BEARING, SEALS	REPLACE				2.5			
0704	COVER, FORKS	REPLACE REPAIR			1.0		1.0	1.	
	CONTROLS, LINKAGE	INSPECT REPLACE		0.2 0.6					

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINT FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS & EQUIP	(6) REMARKS
			C	O	F	H	D		
			09	PROPELLER. SHAFTS					
0900	PROPELLER SHAFTS								
	SHAFT ASSY, PROPELLER	REPLACE			2.5			1.	
	UNIVERSAL JOINTS	REPAIR			2.5				
		INSPECT	0.1						
		REPLACE			2.5				
10	FRONT AXLE								
1000	FRONT AXLE ASSY	REPLACE			5.0			1.	
		REPAIR				8.0			
	KNUCKLE, SPINDLE	REPLACE				3.5			
		REPAIR				8.0			
	KING PIN AND BUSHING	REPLACE				3.5			
	ARM, STEERING TIE ROD	ADJUST			1.0				
		REPLACE			1.5				
11	REAR AXLE							1.	
1100	AXLE ASSY								

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINT FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS & EQUIP	(6) REMARKS
			C	O	F	H	D		
1102	AXLE ASSY	REPLACE REPAIR OVERHAUL			5.0 7.5 10.5				
	SHAFT, AXLE	REPLACE			1.5				
	VENT AIR	SERVICE REPLACE		0.2 0.3					
	PLUGS, COVERS	REPLACE			0.5				
	DIFFERENTIAL								
	DIFFERENTIAL ASSY	REPLACE REPAIR OVERHAUL			2.0	5.0 6.0		1.	
	INTERAXLE DIFF	REPLACE REPAIR OVERHAUL			1.5	2.5 4.0			
	CHAMBER AIRSHIFT	ADJUST REPLACE REPAIR			0.8 1.5 1.5				
1108	WALKING BEAMS, STUB AXLES AND PARTS							1.	
	WALKING BEAM	REPLACE REPAIR				16.0 3.0			
	BUSHINGS	INSPECT REPLACE		0.2		3.0			

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINT FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS & EQUIP	(6) REMARKS
			C	O	F	H	D		
			12	BRAKES					
1201	HAND BRAKES								
	BRAKE SHOES	ADJUST REPLACE	0.1	1.0					
	BRAKE DRUM	REPLACE REPAIR		1.5	1.0				
1202	SERVICE BRAKE							1.	
	BRAKE SHOE ASSY	REPLACE REPAIR		1.0	3.0				
1206	MECHANICAL BRAKE CONTROLS							1.	
	ADJUSTER, SLACK	ADJUST REPLACE		0.3	1.5				
120E	AIR BRAKE SYSTEM							1.	
	BRAKE CHAMBERS	REPLACE REPAIR			1.5 2.0				
	VALVE, TREADLE	TEST REPLACE	0.1		1.5				
	VALVE, HAND BRAKE	REPLACE			0.5				
	VALVE, CONTROL, CHECK	REPLACE			0.5				
	HOSELINES, FITTINGS	REPLACE		1.0					

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINT FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS & EQUIP	(6) REMARKS
			C	O	F	H	D		
			1209	AIR COMPRESSOR					
	AIR COMPRESSOR ASSY	REPLACE REPAIR OVERHAUL			2.0 1.5		4.0		
	GOVERNOR	ADJUST(REPLACE			0.3 1.0				
	AIR INTAKE CLEANER	ADJUST REPLACE		0.2 0.5					
13	WHEELS & DRUMS								
1311	WHEEL ASSEMBLY						1.		
	HUB ASSY, FRONT	REPLACE REPAIR		2.0	3.0				
1311	DRUMS, SERVICE BRAKE	SERVICE REPLACE		0.1 0.6			1.		
	BEARINGS, SEALS	ADJUST REPLACE		1.5 4.0					
	DISC WHEEL, REAR	REPLACE		1.0					
	HUB ASSY, REAR	REPLACE REPAIR		2.0	3.5				
	RING, LOCK	REPLACE		0.5					
	TIRES						1.		
	TIRES, FRONT	SERVICE REPLACE		0.1	2.0				
	TIRES, REAR	SERVICE REPLACE		0.1	2.0				

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINT FUNCTION	MAINTENANCE LEVEL					TOOLS & EQUIP	REMARKS
			C	O	F	H	D		
14	STEERING							1.	
1401	MECHANICAL STEERING GEAR ASSY.								
	STEERING WHEEL	REPLACE			1.0				
	TIE RODS, DRAGLINK	REPLACE REPAIR			0.5 1.0				
1407	POWER STEERING GEAR ASSY							1.	
	STEERING GEAR ASSY	SERVICE ADJUST REPLACE REPAIR	0.2		1.5 3.0		5.0		
1410	HYDRAULIC PUMP							1.	
	PUMP ASSY	REPLACE REPAIR			0.2		2.5		
	SHAFT OIL SEAL	REPLACE			0.8				
	BELT, DRIVE	ADJUST REPLACE		0.2 0.5					
	PULLEY	REPLACE			0.5				

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINT FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS & EQUIP	(6) REMARKS
			C	O	F	H	D		
			1411	HOSES, LINES, FITTINGS					
	HOSE ASSEMBLIES	REPLACE		0.8					
	LINES, FITTINGS	REPLACE		0.5					
		REPAIR		1.0					
1413	TANKS, RESERVOIRS						1.		
	RESERVOIR, POWER STEER	SERVICE	0.2						
		REPLACE	1.0						
35	FRAME								
1501	FRAME ASSEMBLY						1.		
	FRAME	REPAIR				8.0			
	BUMPER, FRONT	REPLACE			2.0				
		REPAIR			2.5				
1503	REAR TOWING PIN						1.		
	TOWING EYE, PINTLE	REPLACE		2.0					
		REPAIR		1.5					
16	SPRINGS AND SHOCK ABSORBERS								
1601	SPRINGS						1.		
	SPRING ASSY, FRONT	REPLACE				3.0			
	SPRING ASSY, REAR	REPLACE				6.0			

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINT FUNCTION	MAINTENANCE LEVEL					TOOLS & EQUIP	REMARKS
			C	O	F	H	D		
1604	TORQUE, RADIUS AND STABILIZER RODS							1.	
	ROD ASSY, TORQUE	REPLACE				2.0			
18	BODY CAB, HOOD, HULL								
1801	CAB, HOOD, HULL ASSY							1.	
	CAB ASSY	REPLACE REPAIR			8.0 6.0				
	HOOD, SIDE PANELS, VENTILATORS	REPLACE REPAIR		1.5 1.5					
	DOOR ASSY	REPLACE REPAIR			2.0 3.0				
1802	FENDERS, WINDSHIELD, GLASS							1.	
	FENDERS	REPLACE REPAIR			4.0 5.0				
	WINDSHIELD GLASS	REPLACE			2.5				
	DOOR AND WINDOW GLASS	REPLACE			1.0				

1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINT FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS & EQUIP	(6) REMARKS	
			C	O	F	H	D			
			1805	FLOORS FLOOR BOARD, INSERTS	REPLACE		1.0			
1806	SEATS, MATS' SEAT ASSY PASSENGER CUSHION & BACK SEAT ASSY, DRIVER CYLINDER, AIR SHOCK ABSORBER BELT, SAFETY MAT, FLOOR	REPLACE REPAIR. REPLACE REPAIR ADJUST REPLACE REPAIR REPLACE REPLACE REPLACE REPLACE		0.5 1.0 0.2 1.0 0.1 0.3 0.2			1.0 1.0 2.0 0.5 0.5	1.0		
1810	DUMP BODY BODY TAILGATE HINGES, PINS, LOCKS ROCK EJECTORS	REPAIR REPAIR REPLACE REPAIR					2.5 1.5 2.0 0.5	1.		
20	HOIST AND POWER TAKE-OFF									
2004	POWER TAKE-OFF POWER TAKE-OFF ASSY SHAFT AND GEARS	REPLACE REPAIR OVERHAUL REPLACE			2.0 1.0			3.0 2.0	1.	
22	MISCELLANEOUS CHASSIS AND ACCESSORY ITEMS							1.		

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINT FUNCTION	MAINTENANCE LEVEL					TOOLS & EQUIP	REMARKS
			C	O	F	H	D		
2204	ACCESSORY ITEMS MIRROR, ASSY, .REAR VIEW HORN MOTOR, WINDSHIELD WIPER BLADE AND ARM, WIPER	REPLACE REPLACE REPLACE ADJUST REPLACE		0.2 0.5 1.0 0.2 0.2					
2207	HEATER ASSY MOTOR AND FAN CORE DUCT HOSES	TEST REPLACE TEST REPLACE REPAIR REPLACE			0.3 0.5 0.5 0.5 1.0			1.	
20	HYDRAULIC LIFT COMPONENTS								
2001	HOIST ASSY, DUMP BRACKETS AND FRAME	REPLACE REPAIR REPAIR				4.0 2.0 3.0		1.	
2001	HYDRAULIC PUMP	TEST REPLACE REPAIR			0.5 1.0		1.5		
2001	DRIVE SHAFT UNIVERSAL JOINT	REPLACE REPAIR REPLACE			0.5 0.5 1.0			1.	

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINT FUNCTION	MAINTENANCE LEVEL					TOOLS & EQUIP	REMARKS
			C	O	F	H	D		
2001	HYDRAULIC CONTROL VALVE	TEST ADJUST REPLACE REPAIR			0.5 0.5 1.0 1.5				
2001	CONTROL LEVERS AND LINKAGE	REPLACE REPAIR		0.5 0.5				1.	
2001	HYDRAULIC CYLINDER	REPLACE REPAIR OVERHAUL			2.0 2.0	5.5			
2001	HYDRAULIC LINEST FITTINGS	REPLACE		0.5				1.	
20	HYDRAULIC FLUID, AIR AND VACUUM SYSTEM							1.	
	LIQUID TANK OR RESERVOIR	SERVICE REPLACE REPAIR		0.2	2.0 3.0				
2001	AIR TANKS OR RESERVOIRS							1.	
	AIR RESERVOIRS	SERVICE REPLACE REPAIR	0.2		1.0 1.0				
47	GAGES (NON ELECTRICAL)								

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINT FUNCTION	MAINTENANCE LEVEL					TOOLS & EQUIP	REMARKS
			C	O	F	H	D		
4700	INSTRUMENTS (SPEED AND DISTANCE)							1.	
4701	SPEEDOMETER	REPLACE		1.0					
	TACHOMETER	REPLACE		1.0					
	DRIVE CABLES	REPLACE		0.5					

Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS

TOOL OR TEST EQUIPMENT REFERENCE CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
12.	F, H	Torque Wrench, 2500 Ft lb Model PD2501	5120-00-482-2543	Y81747
13.	H, D	Compression Test Adapter		PLT-521-8
14.	H	Cylinder Head Water Test Kit		PLT-508
15.	F	Spring Load Tester Valve & Clutch Spring Tester		PLT-100
16.	H	Adapter for Pressure Teating Valve Housing to Injection Nozzle Lines	Part of PLT-365-2	4092

TOOL OR TEST EQUIPMENT REFERENCE CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
1.		Unless otherwise noted, all maintenance functions can be accomplished with the tools contained in the following common tool sets		
	F, H	Shop Equip Contact Maint Truck Mounted	4940-00-294-9518	LIN T10138
	F, H	Shop Equip Gen Purp Repair Semitrir MTD	4940-00-287-4894	LIN T10549
	F, H	Shop Equip Org Repair Light Truck MTD	4940-00-294-9516	LIN T13152
	F, H	Pool Kit Automotive Fuel and Elec Sys Repair	4910-00-754-0655	LIN W32456
	O, F, H	Pool Kit Auto Maint: ORG Maint Common #1	4910-00-754-0654	LIN W32593
	F, H	Pool Kit Auto Maint: ORG Maint Common #2	4910-00-754-0650	LIN W32730
	O, F, H	Tool Kit Auto Mech: Light Weight	5180-00-177-7033	LIN W33004
	F, H	Tool Kit Master Mech: Equip Maint & Repair	5180-00-699-5273	LIN W45060
	F, H	Wrench Set Socket: 3/4" Drive Hex Type	5130-00-357-5135	LIN Y75239
	F, H	Wrench Torque: 3/4" Drive 100-500 lb Capacity	5120-00-542-5577	LIN Y84966
	F, H	Shop Eqp Fuel & Elec Sys Engine	4910-00-754-0714	T30414
	F, H	Shop Set Fuel & Elec Sys Supp No. 2	4910-00-390-7775	T30688
	F, H	Test Set DSL Inj	4910-00-317-8265	V73742

TOOL OR TEST EQUIPMENT REFERENCE CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
	F, H	Shop Eqp Auto Maint & Rpr Org Suppl No. 1 Less Power	4910-00-754-0653	W32867
	F, H	Shop Eqp Machine Shop	3740-00-754-0708	T15644
	F, H	Tool Kit Machinist	5280-00-511-1950	W44512
	F, H	Shop Eqp Welding	3740-00-357-7268	T16714
	F, H	Tool Kit Body and Fender Repair	5180-00-754-0643	W33680
	F, H	Multimeter	6625-00-999-7465	M80242
2.	H	Conn Rd Bushing Removal and installing Tool		PLT-544-1
3.	F	Vibration Damper Hub with Wear Sleeve & Damper		PLT-542
4.	H	Crank Shaft Gear Nut Torque Wrench Adapter		PLT-518
5.	H	Injector Sleeve Puller		PLT-507-3
6.	H	Injector Sleeve Bottom Tool		PLT-507-4
7.	H	Injector Rolling Sleeve		PLT-507-1
8.	H	Injector Sleeve Reamer and Guide Bushing		PLT-507-2
9.	F	Fan Drive Pulley Puller		PLT-506
10.	H	Cyl Sleeve Puller		PLT-502-3
11.	H	Rear Crank Shaft Oil Seal		PLT-513-7A

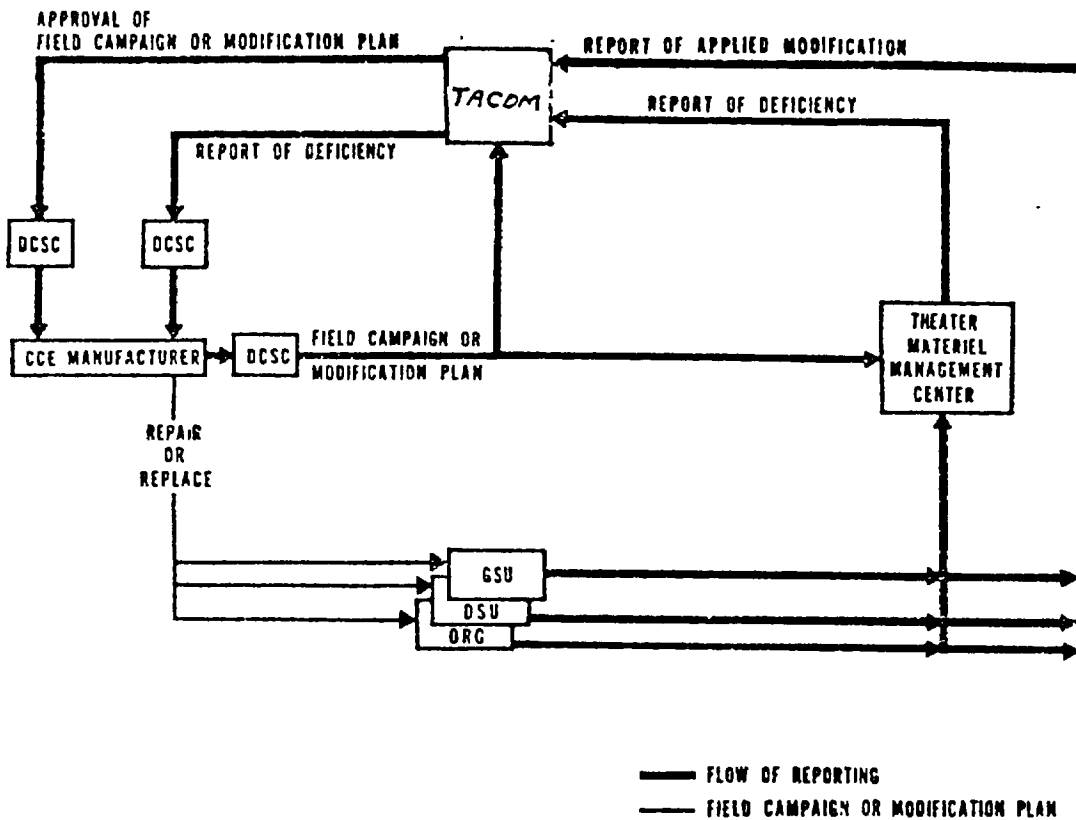
Section IV. REMARKS

REFERENCE CODE	REMARKS
A-B	Test includes operation and compression
B-K	Rebuild of crankshaft includes chrome plating and grinding.
C-I	Repair of Connecting rods includes alignment.
D-B	Test includes on vehicle test.
D-D	Adjust includes rotating adjustment cap
E-I	Repair of Starter includes replacement of brushes and Solenoid only.
F-I	Repair includes replacing ring gear.
G-I	Repair includes replacing shaft seals only
H-I	Repair includes replacing packing only.
R-D	Return to depot for maintenance when unserviceable economically repairable.

APPENDIX 2-D

DELETED

CCE MANUFACTURER FIELD CAMPAIGNS AND MODIFICATION PROCEDURES



APPENDIX 2-F
BASIC ISSUE ITEM LIST AND ITEMS
TROOP INSTALLED OR AUTHORIZED

SECTION I INTRODUCTION

1. SCOPE

This appendix list basic issue items, items troop installed or authorized which accompany the CCE Dump Truck, and required by the crew/operator for operation, installation, or operators maintenance.

2. GENERAL

This basic issue items, items troop installed or authorized list is divided into the following sections:

a. BASIC ISSUE ITEMS LIST-SECTION II. A list, in alphabetical sequence, of items which are furnished with, and which must be turned in with the end item.

b. ITEMS TROOP INSTALLED OR AUTHORIZED LIST-SECTION III. A list, in alphabetical sequence of items which at the descretion of the unit commander may accompany the end item, but are NOT subject to be turned in with the end item.

3. EXPLANATION OF COLUMNS

The following provides an explanation of columns in the tabular list of Basic Issue Items, Section II, and Items Troop Installed or Authorized, Section III.

a. SOURCE, MAINTENANANCE, AND RECOVERABILITY CODE(S)(SMR): The SMR code is a five letter code composed of three parts consisting of a two (2) position source code, a two position maintenance code and a one (1) position recoverability code.

(1) SOURCE CODE (1st and 2nd position). The source code indicates the manner of acquiring support items for maintenance, repair, or overhaul of end items. The source code is as follows:

CODE

PF

DEFINITION

Support Equipment which will not be stocked but which will be centrally procured on demand.

(2) MAINTENANCE CODES (3rd and 4th position). The maintenance code entered in the 3rd position indicates the lowest maintenance level authorized to replace the item. The maintenance code entered in the 4th position indicates whether the item is to be repaired and identifies the lowest maintenance level with the capability to perform complete repair. The maintenance codes are as follows:

<u>CODE</u>	<u>DEFINITION</u>
O	Item is removed or replaced at organizational level (3rd position)
Z	Non-repairable - No repairs authorized (4th position)

(3) RECOVERABILITY CODE (5th position). The recoverability code indicates the disposition action on unserviceable items.

<u>CODE</u>	<u>DEFINITION</u>
Z	Non-repairable item. When unserviceable, condemn and dispose of at the level indicated in position three (3).

b. NATIONAL STOCK NUMBER. This column indicates the National Stock Number assigned to the item and will be used for requisitioning purposes.

c. DESCRIPTION. This column indicates the Federal Item Name and any additional description of the item required.

d. UNIT OF MEASURE (U/M). A 2 character alphabetic abbreviation indicating the amount or quantity of the item upon which the allowances are based, e.g., ft, ea, pr, etc.

e. QUANTITY FURNISHED WITH EQUIPMENT (BIIL only). This column indicates the quantity of an item furnished with the equipment.

f. QUANTITY AUTHORIZED (Items Troop Installed or Authorized Only). This column indicates the quantity of the item authorized to be used with the equipment.

g. ILLUSTRATION (BIIL only). This column is divided as follows:

(1) FIGURE NUMBER. Indicates the figure number of the illustration in which the item is shown.

(2) ITEM NUMBER. Indicates the callout number used to reference the item in the illustration.

NOTE: Paragraphs 4 to be used if applicable.

(4) SPECIAL INFORMATION. Identification of the usable on codes included in column 3 of this publication are:

CODE
None

USED ON
None

SECTION II. BASIC ISSUE ITEMS LIST

(1)	(2)	(3)		(4)	(5)	(6)	
SMR CODE	NATIONAL STOCK NUMBER	REF NO.& MFR CODE ON CODE	DESCRIPTION USABLE	UNIT OF MEAS	QTY FURN WITH EQUIP	(A) FIG NO.	(B) ITEM NO.
			NONE FOR THE DUMP TRUCK				

SECTION III. ITEMS TROOP INSTALLED OR AUTHORIZED LIST

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF NO. & MFR CODE USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY AUTH
PFOZZ	7510-889-3454	Binder, Log Book MIL-B-43064 (81349)	EA	1
PFOZZ	7520-559-9618	Case, Cotton Duck MIL-B-11743 (81349)	EA	1
PFOZZ		Wrench, Lug 58607R1 (31007)	EA	1
PFOZZ		Handle, Lug Wrench 27718HC (31007)	EA	1

APPENDIX 2-G

MAINTENANCE AND OPERATING SUPPLY LIST (CCE)

(1) NOMENCLATURE MANUFACTURER SERIAL NUMBER RANGE		(2) TRUCK, DUMP, 20 TON INTERNATIONAL HARVESTER COMPANY CGB13638 through DGB16067 (Non-consecutive)			(3) DATE 14 February 1974	
(1) COMPONENT APPLICATION	(2) MFG. PART NO. AND FSCM	(3) DESCRIPTION	(4) QUANTITY REQUIRED F/INITIAL OPERATION	(5) QUANTITY REQUIRED F/8 HRS OPERATION	(6) REMARKS	
Engine		Oil, lubricating 55 Gallon Drum MIL L2104			(1) Includes quantity of oil to fill engine oil system as follows: 24 quarts - Crankcase 14 quarts - Oil Filter	
	9150-188-9859	OE/HD030	38 Qts	See note (1)	(2) Refer to lubrication diagram and instructions in commercial operators manual for application and replenishment intervals.	
	9150-191-2772	OE/HD010				
Transmission Automatic	9150-698-2382	Dexron Type A 1 Qt	32 Qts	See note (2)	(3) Tank Capacity	
	9150-657-4959	Dexron Type A 5 Gal				
Transmission Auxiliary	9150-577-5844	GO 90 5 gal MIL L2105	12 Pints	See note (2)	(4) Radiator Capacity equals 56 quarts, antifreeze =28 quarts Water =28 quarts	
le Forward-Rear	9150-577-5844	GO 90 5 Gal MIL L2105	30 Pints	See note (2)	Commercial Permanent Type Ethylene-Glycol Anti-freeze may be used.	
Rear-Rear	9150-577-5844	GO 90 5 Gal MIL L2105	28 Pints	See note (2)	(5) Refer to Federal Supply Catalog C9100-IL for requisition- ing information.	
Power Steering	9150-246-7923	OE/HDO 10W30 5 Gal MIL L2104	15 Qts	See note (2)		
Front Wheels	9150-188-9859	OE/HDO 30 MIL L2104	2 Qts	See note (2)		

Chassis	9150-190-0905	Grease-Automotive and Artillery-Multipurpose Grease, 5 lb Can GAA	1 1/2 lb	See Note (2)
Dump Hoist Reservoir	9150-985-7232	Lube Oil, Hydraulic and Light Turbine, 5 gallon. OHA Mil L17672 Symbol 2075TH	33 Gallon	See Note (2)
Fuel system	9140-286-5294	Diesel Fuel #2 DF 2 Regular, Bulk Spec W-F-800	100 Gallon 70 Gallon	See note (3)
Radiator	6850-243-1992 6850-644-1409	Antifreeze: Ethylene Glycol Fed Spec O-A-548 1 Gallon Can 55 Gallon Drum	28 Quarts	See Note (4)

APPENDIX 2-H

**PREVENTIVE MAINTENANCE CHECKS AND SERVICE
FOR
TRUCK, DUMP 20 TON, 6X4,
ON-OFF HIGHWAY, DIESEL POWERED, 71000 GVW
INTERNATIONAL HARVESTER COMPANY MODEL F-5070
COMMERCIAL CONSTRUCTION EQUIPMENT (CCE)**

	<u>Paragraph</u>
SECTION I. GENERAL	2-6
II. DUMP TRUCK EVALUATION PROCEDURE	2-6-1

SECTION I.

PREVENTIVE MAINTENANCE CHECKS AND SERVICES

2-6. General:

To insure that the distributor is ready for operation at all times, it must be inspected systematically so that defects may be discovered and corrected before they result in serious damage or failure. Table 2 contains a tabulated listing of preventive maintenance checks and services to be performed by organizational maintenance personnel. All deficiencies and shortcomings will be recorded as well as the corrective action taken on DA Form 2404 at the earliest possible opportunity.

2-6-1. Organizational Preventive Maintenance Checks and Services:

- a. The item numbers of Table 2 indicate the sequence of the PMCS. Perform at the intervals shown below:
 - (1) Do your (Q) PREVENTIVE MAINTENANCE once each 3 months.
 - (2) Do your (S) PREVENTIVE MAINTENANCE twice a year, on each 6 months.
 - (3) Do your (A) PREVENTIVE MAINTENANCE once each year.
 - (4) Do your (B) PREVENTIVE MAINTENANCE once each two year.
 - (5) Do your (H) PREVENTIVE MAINTENANCE at the hour interval listed.
 - (6) Do your (MI) PREVENTIVE MAINTENANCE when the mileage of the vehicle reaches the amount listed.
- b. If something doesn't work, troubleshoot it with the instructions in this manual Ai notify your supervisor.
- c. Always do your preventive maintenance in the same order, so it gets to be a habit. Once you've had some practice you'll spot anything wrong in a hurry.
- d. If anything looks wrong and you can't fix it, write it down on your DA Form 2404. If you find something seriously wrong, report it to direct support as soon as possible.
 - (1) Keep it clean: Dirt, grease, oil, and debris only get in the way and may cover up a serious problem. Clean as you work and as needed. Use dry cleaning solvent (SD-2) to clean metal surfaces. Use soap and water when you clean rubber or plastic material.

WARNING

Dry cleaning solvent SD-2, used to clean parts is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 138°F.

(2) Bolts, nuts, and screws: Check that they are not loose, missing, bent, or broken. You can't try them all with a tool, of course, but look for chipped paint, bare metal, or rust around bolt heads. Tighten any that you find loose.

(3) Welds: Look for loose or chipped paint, rust, or gaps where parts are welded together. If you find a bad weld, report it to direct support.

(4) Electric wire's and connectors: Look for cracked or broken insulation, bare wires, and loose or broken connectors. Tighten loose connections and make sure the wires are in good condition.

(5) Hoses and fluid lines: Look for wear, damage, and leaks. Make sure clamps and fittings are tight. Wet spots show leaks, of course, but a stain around a fitting or connector can mean a leak. If a leak comes from a loose fitting or connector, tighten it. If something is broken or worn out, either correct it or report it to direct support (refer to MAC chart).

e. It is necessary for you to know how fluid leaks affect the status of your equipment. The following are definitions of the types/classes of leakage you need to know to be able to determine the status of your equipment. Learn and be familiar with them and REMEMBER When in doubt, notify your supervisor!

Leakage definitions for Organization PMCS.

CLASS I Seepage of fluid (as indicated by wetness or discoloration) not great enough to form drops.

CLASS II Leakage of fluid great enough to form drops but not enough to cause drops to drip from the item being checked/inspected.

CLASS III Leakage of fluid great enough to form drops that fall from the item being checked/inspected.

ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES

Truck, Dump, 20 Ton,.F5070

Q-QUARTERLY

S-SEMIANNUALLY

A-ANNUALLY

B-BIENNIALY

H-HOURS

M-MILES

ITEM NO	INTERVAL						ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AN HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED <u>PERFORM ALL OPERATOR PMCS FIRST</u>
	Q	S	A	B	H	M	
1							NOTE PERFORM OPERATOR/CREW PMCS PRIOR TO OR IN CONJUNCTION WITH ORGANIZATIONAL PMCS.
	•						COOLING SYSTEM
	•						a. Check radiator for damage or obstruction. Remove any debris which would restrict air flow.
					•		b. Inspect hoses and lines for evidence of leaks, abrasions, kinked or restricted areas and insecure mountings.
			•				c. Drain and flush radiator and engine.
2							d. Check antifreeze protection (REF TB 750-651).
	•						e. Check water pump, hoses and pipes for leaks.
							BATTERIES
	•						a. Check for obvious defects, such as cracked case, burnt, broken, or loose battery terminals.
							b. Check battery compartment for corrosion.
						c. Clean filler cap vent holes.	
						d. Check specific gravity of electrolyte in each cell (REF TM 9-6140-200-14).	

ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES

Truck, Dump, 20 Ton,.F5070

Q-QUARTERLY

S-SEMIANNUALLY

A-ANNUALLY

B-BIENNIALLY

H-HOURS

M-MILES

ITEM NO	INTERVAL						ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AN HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED <u>PERFORM ALL OPERATOR PMCS FIRST</u>
	Q	S	A	B	H	M	
3	•						AIR RESERVOIRS Inspect tanks, lines and fittings for leaks or damage.
4	•						V-BELTS AND PULLEYS a. Replace badly worn, frayed or deteriorated belts. b. Check for loose or damaged pulleys. c. Check belt tension. Correct adjustment is 3/4 inch deflection midway between pulleys.
5			•				FUEL FILTERS Remove and clean body shells and replace filter elements.
6	•						DRIVE SHAFTS AND UNIVERSAL JOINTS Inspect for loose mounting, wear or damage. Replace if damaged.
7	•						ENGINE Check oil cooler for leaks and secure mounting.
8			•				AXLES, BODY AND CHASSIS COMPONENTS Check for loose axle mounting u-bolt nuts, body mounting brackets and chassis components (See torque charts in service manuals).

9

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EXHAUST SYSTEM

Check to assure that all joints on muffler and exhaust pipes are tight and free of leaks.

10

•

ELECTRICAL

Check wiring for loose, cracked or broken wires, replace if necessary.

11

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STEERING

Check tie-rod ends, drag link and clamp bolts for looseness.

12

•

HYDRAULIC SYSTEM

Check hydraulic reservoir and lines for leaks.

13

•

TRANSMISSION

Drain and flush.

PREVENTIVE MAINTENANCE CHECKS AND SERVICES

Maintenance Forms and Records

Every mission begins and ends with the paperwork. There isn't much of it, but you have to keep it up. The forms and records you fill out have several uses.

They are a permanent record of the services, repairs, and modifications made on your vehicle. They are reports to organizational maintenance and to your commander. And they are a checklist for you when you want to know what is wrong with the vehicle after its last use, and whether those faults have been fixed.

For the information you need on forms and records, see TM 38-750.

Preventive Maintenance Checks and Services

1. Do your (B) PREVENTIVE MAINTENANCE Just before you operate the vehicle. Pay attention to the CAUTIONS and WARNINGS.
2. Do your (D) of PREVENTIVE MAINTENANCE while the equipment and/or its component systems are in operation.
3. Do your (A) PREVENTIVE MAINTENANCE right after operating the vehicle. Pay attention to the CAUTIONS and WARNINGS.
4. Do your (W) PREVENTIVE MAINTENANCE weekly.
5. Do your (M) PREVENTIVE MAINTENANCE once a month.
6. If something doesn't work, troubleshoot it with the instructions in this manual and notify your supervisor.
7. Always do your PREVENTIVE MAINTENANCE in the same order so it gets to be a habit. Once you've had some practice, you'll spot anything wrong in a hurry.
8. If anything looks wrong and you can't fix it, write it on your DA Form 2404. If you find something seriously wrong, report it to organizational maintenance RIGHT NOW.
9. When you do your PREVENTIVE MAINTENANCE, take along the tools you need to make all the checks. You always-need a rag or two.

A - Keep it clean: Dirt, grease, oil, and debris only get in the way and may cover up a serious problem. Clean as you work and as needed. Use dry cleaning solvent (SD-2) on all metal surfaces. Use soap and water when you clean rubber or plastic material.

WARNING

Dry cleaning solvent, used to clean parts is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 138° F.

B - Bolts, nuts, and screws: Check them all for obvious looseness, missing, bent or broken condition. You can't try them all with a tool, of course, but look for chipped paint, bare metal, or rust around bolt heads. If you find one you think is loose, tighten it, or report it to organizational maintenance if you can't tighten it.

C - Welds: Look for loose or chipped paint, rust, or gaps where parts are welded together. If you find a bad weld, report it to organizational maintenance.

D - Electric wires and connectors: Look for cracked or broken insulation, bare wires, and loose or broken connectors. Tighten loose connectors and make sure the wires are in good shape.

E - Hoses and fluid lines: Look for wear, damage, and leaks, and make sure clamps and fittings are tight. Wet spots show leaks, of course. But a stain around a fitting or connector can mean a leak. If a leak comes from a loose fitting or connector, tighten it. If something is broken or worn out, report it to organizational maintenance.

10. It is necessary for you to know how fluid leakage affects the status of your vehicle. The following are definitions of the types/classes of leakage an operator or crew member needs to know to be able to determine the status of his/her vehicle. Learn, then be familiar with them and REMEMBER WHEN IN DOUBT, NOTIFY YOUR SUPERVISOR!

Leakage Definitions for Crew/Operator PMCS

- | | |
|-----------|--|
| Class I | Seepage of fluid (as indicated by wetness or discoloration) not great enough to form drops. |
| Class II | Leakage of fluid great enough to form drops but not enough to cause drops to drip from item being checked/inspected. |
| Class III | Leakage of fluid great enough to form drops that fall from the item being checked/inspected. |

CAUTION

EQUIPMENT OPERATION IS ALLOWABLE WITH MINOR LEAKAGES (CLASS I OR II). OF COURSE, CONSIDERATION MUST BE GIVEN TO THE FLUID CAPACITY IN THE ITEM/SYSTEM BEING CHECKED/INSPECTED. WHEN IN DOUBT, NOTIFY YOUR SUPERVISOR.

SECTION II OPERATOR, CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES

B-BEFORE D-DURING A-AFTER W-WEEKLY M-MONTHLY

ITEM NO.	INTERVAL					ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/ AVAILABLE IF:
	B	D	A	W	M		
						<p align="center"><u>NOTE</u></p> <p align="center">Perform weekly as well as before PMC's if:</p> <p>a. You are the assigned drive but have not operated the vehicle since the last weekly.</p> <p>b. You are operating the vehicle for the first time.</p> <p>Make the Following walk around checks.</p> <p>EXTERIOR OF VEHICLE</p> <p>a. Check tires for uneven wear, cuts, cracks, imbedded foreign objects and improper inflation.</p> <p>b. Check for proper inflation (See load and inflation chart on next page).</p> <p align="center"><u>NOTE</u></p> <p align="center">Use the lowest possible tire pressure to do the job. Also see page of information package in this SOMARPI.</p> <p>c. Check for evidence of leakage (oil, fuel, hydraulic fluid or coolant) on or under vehicle.</p> <p>d. Check for obvious body, cab, undercarriage and component damage, loose or missing parts.</p>	<p>Tire has cuts or abrasions which would result in tire failure during operation. On or more tires missing or unserviceable.</p> <p>Class III leaks or any fuel leakage.</p>

**MAINTENANCE
LOAD AND INFLATION CHART**

WIDE BASE TIRES FOR TRUCKS, BUSES, TRAILERS AND
MULTIPURPOSE PASSENGER VEHICLES USED IN HIGHWAY SERVICE
(Bias and Radial Ply Tubeless)
TIRE AND RIM ASSOCIATION STANDARD

TIRES USED AS SINGLES

Tire identification		Tire Load Limits at Various Inflation Pressures							
Size	Load Range	45	50	55	60	65	70	75	80
16.3 x 22.5	H	6590	701	7410	7790	8170	8540	8890	9230

TIRES USED AS DUALS

Tire identification		Tire Load Limits at Various Inflation Pressures							
Size	Load Range		55	60	65	70	75	80	
12.00 x 20	G		4930	5190	5440	5680	5910	6140	

**CONVERSION OF PLY RATING TO
LOAD RANGE DESIGNATION**

Load Range	Replaces Ply Rating
A	2
B	4
C	6
D	8
E	10
F	12
G	14
H	16
J	18
L	20
M	22
N	24

TIRE MATCHING (DUAL TIRES)

Use care in matching dual tires. Tires, which differ more than 1/4 inch in diameter or 3/4 inch in circumference, should not be mounted on the same dual wheel. Should it become necessary to mount two tires of unequal size on the same dual wheel, place the larger or less worn tire on the outside.

TIRE MATCHING (TANDEM DRIVE AXLES)

When mounting tires on tandem drive axles, follow the same instructions as specified for dual tires. However, never install the four largest tires on one driving axle and the four smallest tires on the other. This method of tire mounting will cause high axle lubricant temperatures which may lead to premature axle

TIRE SWITCHING SEQUENCE

Tires should be cross switched at regular intervals to attain maximum tire life.

FRONT WHEEL ALIGNMENT

To guard against excessive tire wear, have the front wheel alignment inspected occasionally by your IH Branch or Dealer for toe-in.

SECTION II OPERATOR CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES
Truck, Dump, 20 Ton F5070

B-BEFORE D-DURING A-AFTER W-WEEKLY M-MONTHLY

ITEM NO.	INTERVAL					ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/ AVAILABLE IF:
	B	D	A	W	M		
2		• • •				<p>(Exterior of Vehicle Contd)</p> <p>e. Check condition of :</p> <p>(1) Windshield and windows.</p> <p>(2) Windshield wiper arms and blades.</p> <p>(3) Mirrors.</p> <p>(4) Operation of doors.</p> <p>(5) Visually check lights for broken lens; accumulation of foreign materials detracting from visibility.</p> <p>(6) Check lights for proper operation.</p> <p>BATTERIES</p> <p>a. Inspect for cracks and leaks.</p> <p>b. Check level of electrolyte. Maintain level to the split ring.</p> <p align="center"><u>NOTE</u></p> <p>Use distilled water if electrolyte is not available; In freezing temperatures run the engine for 15 minutes to allow added water to mix with electrolyte.</p>	

3

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(Exterior of Vehicle Contd)

WARNING

Do not smoke or allow open flame in the vicinity while checking or filling battery. The battery generates hydrogen, a highly explosive gas.

ENGINE

Check engine oil. Oil level should be between the L (low) and H (high) level.

NOTE

Do not over fill.

COOLING SYSTEM

- a. Check coolant level in radiator. Maintain coolant level to about 1 inch below the top of the radiator upper tank.
- b. Check radiator core for obstructions that would restrict air flow.

•

AIR CLEANER

Check air cleaner restriction gauge. When red flag reaches top of gauge, replace element. Reset indicator by pushing reset button.

SECTION II OPERATOR CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES

Truck, Dump, 20 Ton F5070

B-BEFORE D-DURING A-AFTER W-WEEKLY M-MONTHLY

ITEM NO.	INTERVAL					ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/ AVAILABLE IF:
	B	D	A	W	M		
6		•				INSTRUMENTS With engine running, check the gage readings. Gages should read in normal operating ranges as follows: (1) Engine oil pressure 30-70 PSI (2) Engine oil temperature 180°-225°F (3) Water temperature 165°-195°F (4) Air pressure 60 PSI MIN	Pressure/temperature gages within ranges specified.
7				•		V-BELTS Check all belts for looseness, frayed condition or deterioration.	Belt(s) missing or broken.
8			•			AIR RESEVOR(S) Drain moisture and sediment.	

ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES

Q-QUARTERLY

S-SEMIANNUALLY

A-ANNUALLY

B-BIENNIALLY

H-HOURS

M-MILES

ITEM NO	INTERVAL						ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AN HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED <u>PERFORM ALL OPERATOR PMCS FIRST</u>
	Q	S	A	B	H	M	
1							<u>NOTE</u>
							PERFORM OPERATOR/CREW PMCS PRIOR TO OR IN CONJUNCTION WITH ORGANIZATIONAL PMCS.
							COOLING SYSTEM
		•					a. Check radiator for damage or obstruction. Remove any debris which would restrict air flow.
		•					b. Inspect hoses and lines for evidence of leaks, abrasions, kinked or restricted areas and insecure mountings.
2				•			c. Drain and flush radiator and engine.
			•				d. Check antifreeze protection (REF.TB 750-651).
		•					e. Check water pump, hoses and pipes for leaks.
							BATTERIES
		•					a. Check for obvious defects, such as cracked case, burnt, broken or loose battery terminals.
	•					b. Check-battery compartment for corrosion.	
	•					c. Clean filler cap vent holes.	
	•					d. Check specific gravity of electrolyte in each cell (REF TM 9-6140-200-14)	

ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES

Truck, Dump, 20 Ton, F5070

Q-QUARTERLY

S-SEMIANNUALLY

A-ANNUALLY

B-BIENNIALLY

H-HOURS

M-MILES

ITEM NO	INTERVAL						ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AN HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED PERFORM ALL OPERATOR PMCS FIRST
	Q	S	A	B	H	M	
3	•						AIR RESERVOIRS Inspect tanks, lines and fittings for leaks or damage.
4	•						V-BELTS AND PULLEYS a. Replace badly worn, frayed or deteriorated belts. b. Check for loose or damaged pulleys. c. Check belt tension. Correct adjustment is 3/4 inch deflection midway between pulleys.
5			•				FUEL FILTERS Remove and clean body shells and replace filter elements.
6	•						DRIVE SHAFTS AND UNIVERSAL JOINTS Inspect for loose mounting, wear or damage. Replace if damaged.
7	•						ENGINE Check oil cooler for leaks and secure mounting.
8			•				AXLES, BODY AND CHASSIS COMPONENTS Check for loose axle mounting u-bolt nuts, body mounting brackets and chassis components (See torque charts In service manuals).

9

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EXHAUST SYSTEM

Check to assure that all joints on muffler and exhaust pipes are tight and free of leaks.

10

•

ELECTRICAL

Check wiring for loose, cracked or broken wires, replace if necessary.

11

•

STEERING

Check tie-rod ends, drag link and clamp bolts for looseness.

12

•

HYDRAULIC SYSTEM

Check hydraulic reservoir and lines for leaks.

13

•

TRANSMISSION

Drain and flush.

APPENDIX 2-I

INFORMATION PACKAGE

FOR

CCE-IHC PAYSTAR F5070, 6 X 4

71,000 GVWR DUMP TRUCK, 20 TON

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CCE-IHC paystar, F5070, 6 X 4 Dump Truck, 71,000 GVWR, 20 Ton

MAINTENANCE CONTACTS

November 1979

TARCOM Maint.

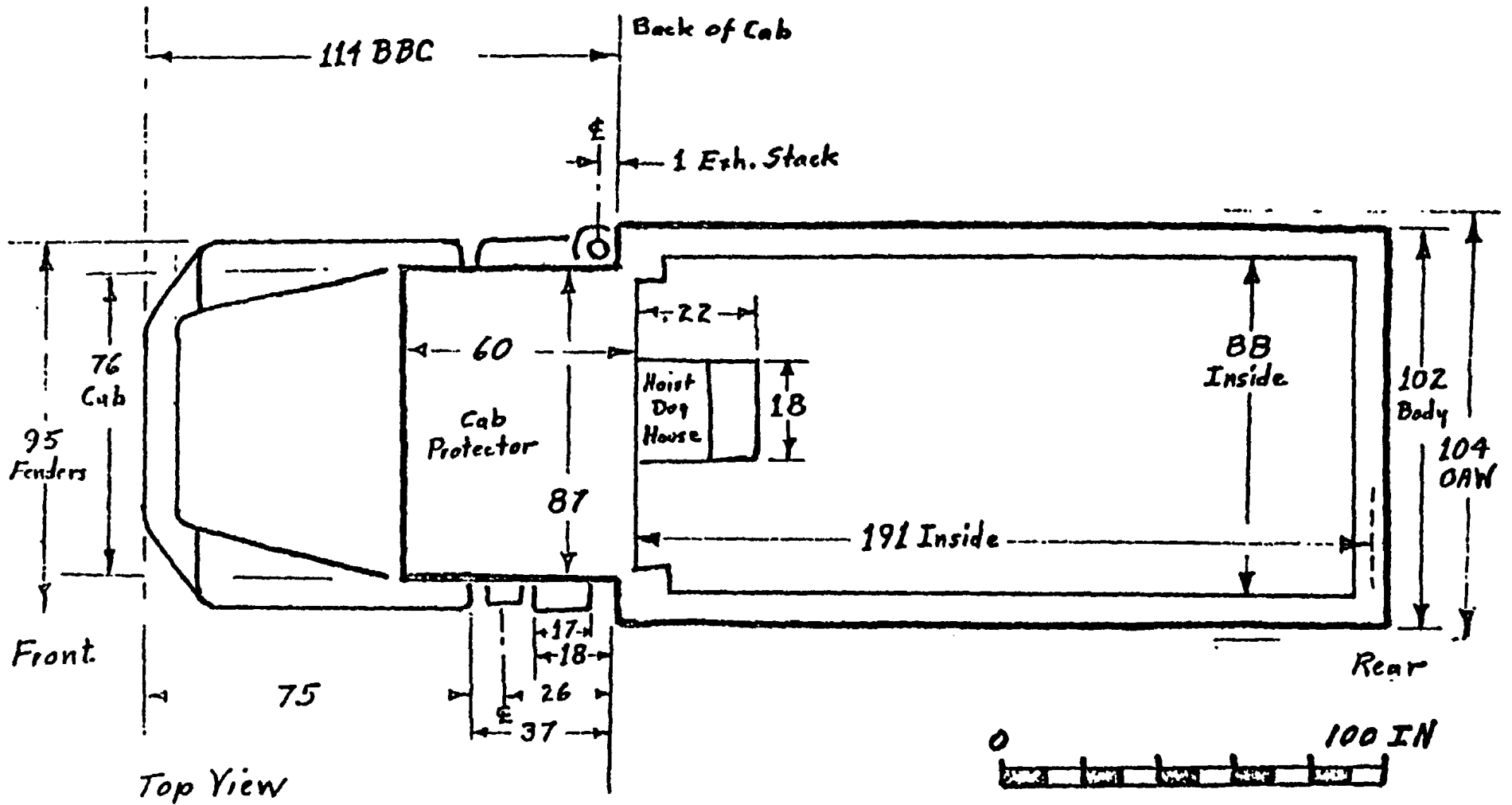
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TARCOM
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Warren, MI 48090

Tel. AV 273-3383/3358/3375

Project Engr.

Commander
MERADCOM
ATTN: DRDME-HK
Ft. Belvoir, VA 22060

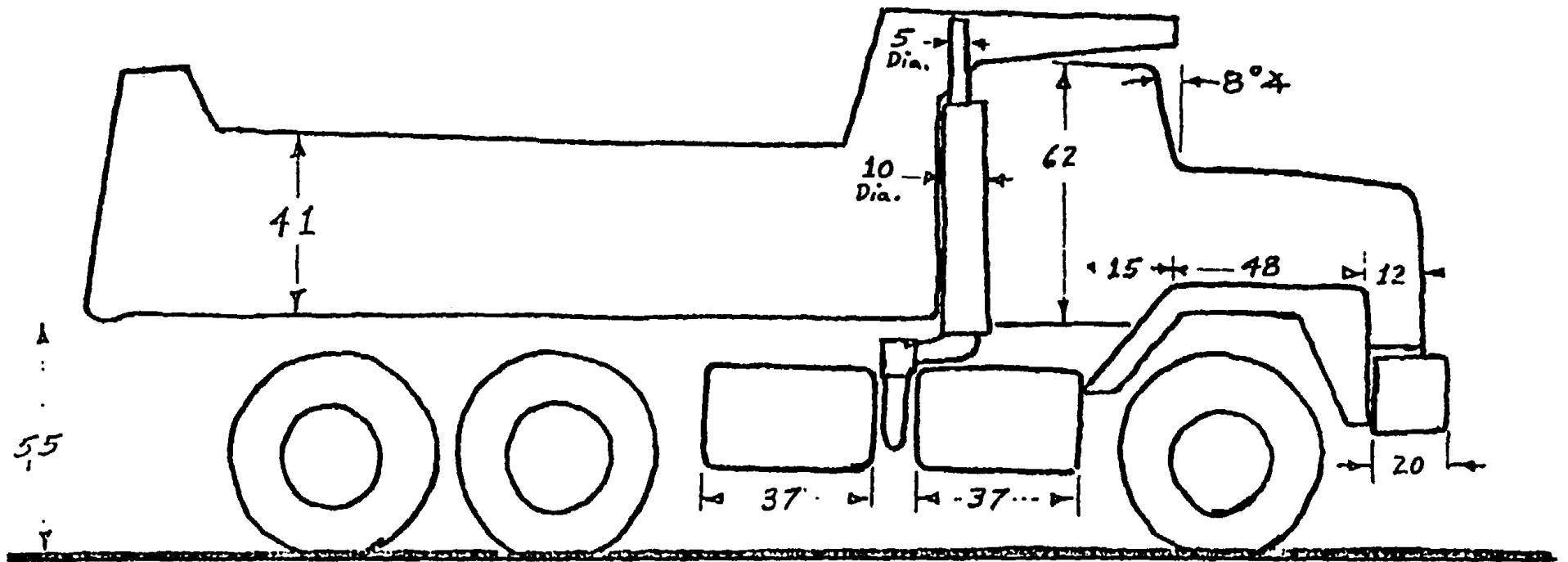
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Truck, Dump, 20-Ton, 6 x 4, On Off Highway, 71,000 GVWR (CCE)

International Harvester Paystar F 5070 w/ Thiele Body

Scale 1/40

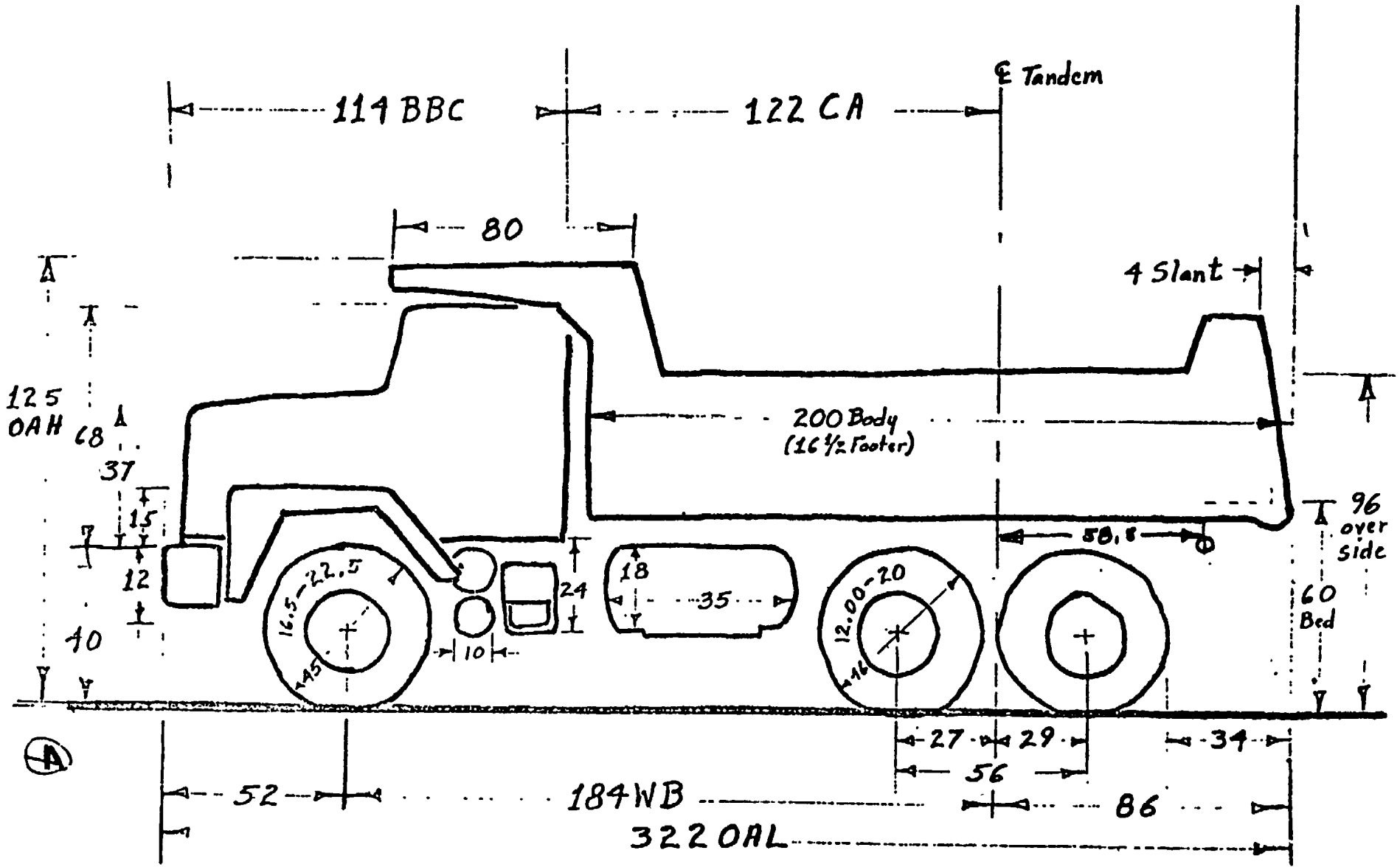


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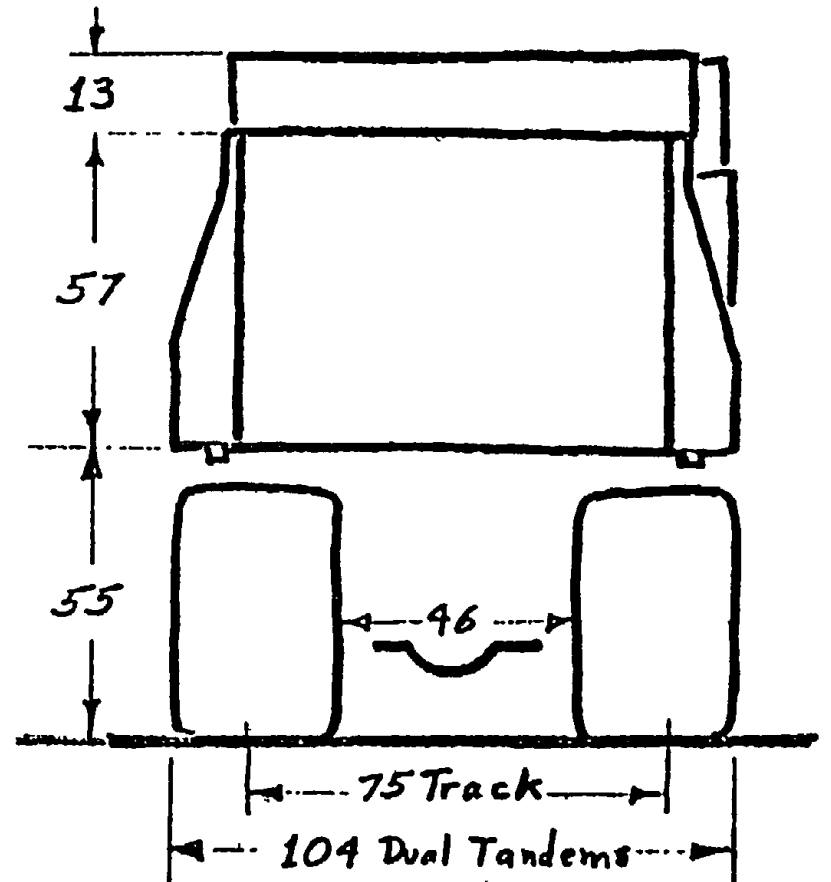
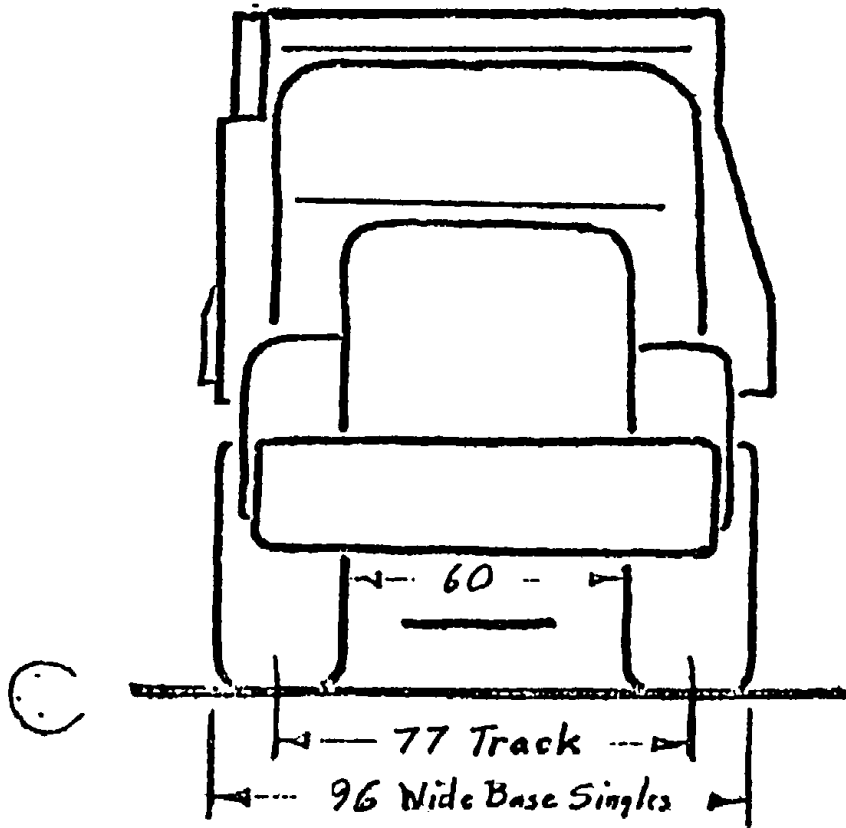
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Curb Side

Scale 1/40

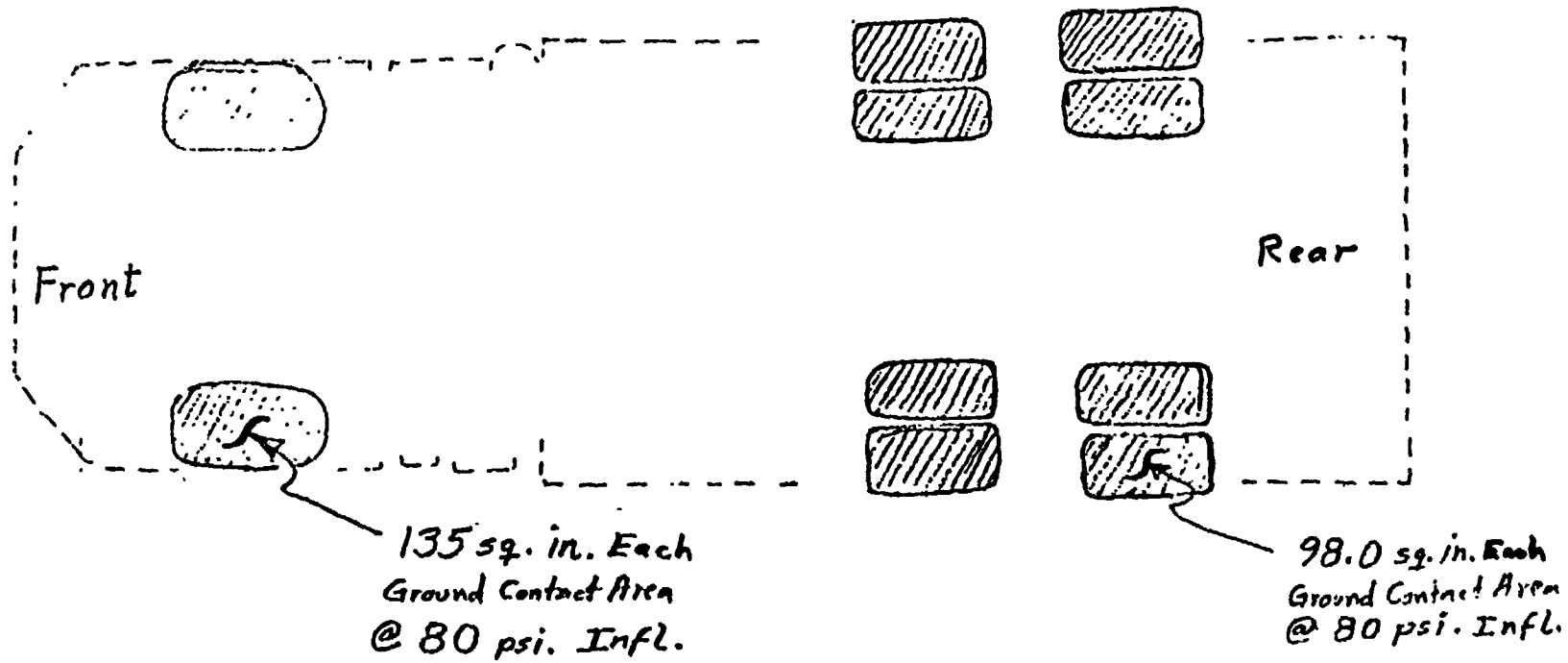


Road Side



Front & Rear Views

Scale 1/40



CCE-IHC Dump Truck Footprint Data

<u>Feature</u>	<u>Front</u>	<u>Rear</u>
Loading@ Ground w/ 71,000 GVWR	18000- lb. (First Article Test Report, 16 Feb 74 w/corrections).	53,000 lb.
Loading @ Ground w/ 31,000, Curb Wt.	12,700 lb. (First Article Test Report, 16 Feb 74 w/corrections).	18,300 lb.
Tires, Size & LR/PR):	16.5-22.5, LRH (16PR)	12.00-20, LRG (14PR)
Tire Quantity & Tread	2 ea. WB Singles/Traction	8 ea. ML Duals/Rock
Inflation	80 psi	80 psi
Axles:	Dead, Stear Type	Live, Dbl-Red. Type
Track Centerline	77 in.	75 in.
Inside Dim.	60 in.	46 in.
Outside Dim.	96 in.	104 in.
Ground Contact Pressures		
@ GVWR	66.7 psi	67.6 psi
@ Curb Weight	47.0 psi	23.3 psi
Vehicle Classification		
@ GVWR		Class 40
@ Curb Weight		Class 14
		⑧ ○ MERADCOM Ft. Belvoir, VA 19 July 1976

**CONTRACT DSA 700-72-C-9235
IH F-5070 DUMP TRUCK (CCE)**

Identity of equipment as requested during First Article Evaluation Meeting of December 17, 18 and 19, 1973.

Page Spec.	Specification Requirement	Comments
8	*Hoist	
	Reservoir - 32.7 Gal. Capacity	
	*Filter - 25 Micron - Marvel Engrg. Co.	"TB" Series, "T" Type sag. 265201-0000 Element 576366-5125
	*Pump -' Gear	Peabody Galion, Model 200
	*Relief Valve - In Control Valve	(Gresen Mfg. Co. Control Valve, Model WP-3; 40 GPM)
	*Cylinder	Peebody Galion, Model 84140 B [Hyco]
	Engine	
	Turbo, 820 Cu. in. - NTC-290 Cummins	855 Cu.In. 290 GR HP 2100; 265 Net HP
	*Filter (s)'- Full Flow Cummins 158139 & By Pass Fleetguard 750	
	*Oil Cooler - Std. W/Engine	Cummins 210832
	*Tanks - 100 Gal. - Dual 50, RH	IHC 50 Gal. Tandem
	*Fuel Filter - 4 Qt. Cummins	Cumimins 15616A
	*Turbocharger - VT .50 Cummins	Cummins 204495
	*Shutters - Auto. Modulated	Evans Products Co. Par: 1E232
	*Air Cleaner - Multi-stage	Canadian Fram, 900 Cfm C242093

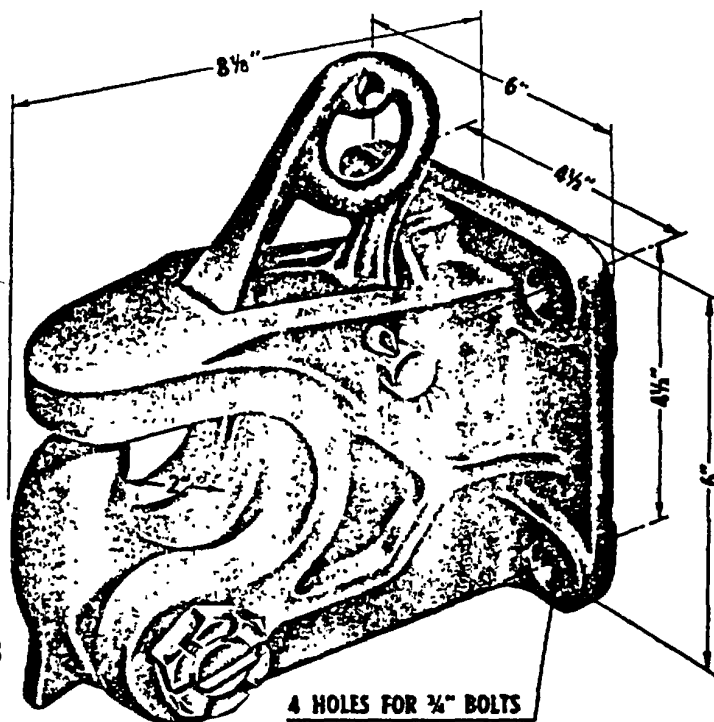
Page Spcc:	Specification Requirement	Comments
	*Exhaust - Vertical Stack, Bright Metal, Guarded	Muffler is Donaldson Co. Part #MTM10-0038
12	Transmission	
	*5-Speed Auto.	Allison 5SPD, Model HT7SOCRD.
	*3-Speed Aux. - Spicer 8031R	
	*Morse Control	Morse Controls D66683
	*Dump PTO	Chelsea, Model 26DDP, air operate
	*Filter	AC Spark Plug Type PM-13-5
	*Exchanger - Standard	Cummins 101783
	*Press Gauge	Allison Div. of Detroit Diesel Part #6838452
12	Drive Shafts	
	*Heavy duty - 1700-1800, Spicer	
12	Front Axle	
	*H.D. Non-Driving - Timken, Model FL-901	
	*Oil Wheel Seals - Chicago Rawhide Part 0521933	
12	Rear Tandem Axle	
	*H.D. Driving	Rockwell Std., Model STDD (Tander:
	*Carrier Type - Double Red, Rockwell Std.	
	*Interwheel Differentials	Detroit model 350-10 (2 Req'd)
	*Remote Lock Out (Inter-axle)	Bendix Corp. 228729

.Spec.	Requirement	Comments
13	Tires Front 16.5-22.5 16.5-22.5 Hard Rock Lug-16 Ply }RL-16 Goodyear, Hwy. Duty Road Lug Rear 12.00x20 12.00x20 Hard Rock Lug - 14 Ply HRL-14 Goodyear, Hard Rock Lug 20x8.0 Rims 20 x 8.0	
13	Suspension *Front-leaf - IH-Leaf 18,000# *Rear-Tandem-Beam - Hendrickson Steel Spring, RT500 Cap. 55,000#	
14	Steering Power - Sheppard H1-292 - Dual Power Units *9 Qt. Reservoir	Deluxe Products 328250
14	Brakes - Air *12 CFM Comp. - Standard *Alc. Evap. - Alc. Evap. *Drier - Drier *Drains, Auto. *FW Limiting - FT; Limiting *Rr Quick Release - Rr Quick Release *Air Gauge-Buzzer Light - Standard *Emerg. Brake - IHC Piggy Back	Bendix-Westinghouse 284959 Bendix-Westinghouse 279406 Bendix-Westinghouse 284947 Bendix-Westinghouse DV-2 Wagner AD-73373 Powers Controls N-20824 AC Spark Plug 6461087 Cole-Hersee PL519-101 HMGM Type 30
16	Electrical - 12 Volt *4-6V 160 AMP - 4-6V 208 A *75 A Alternator - 80 A Alternator	Prestolite 26-2471-C Delco 1100080 (27 SI)

Specification Requirement	Comments
*Rev. Polarity Prot. - Rev. Pol. Prot.	Spencer Thermo Co. SK6364
*Starter-to Eng. - Standard	Delco 1114112
*Neutral Starter Sw - Standard	Allison 6835004
*Eng Run Inh. Sw. - Eng. Run Inh. Sw.	Delco-Remy 1114238
Chassis - Cab	
*Rear Tow Pintle - Yes	Holland Hitch 400B - 12 Ton Cap
*Air' Wipers - Standard	Sprague Devices Inc. GS-1434
Access Hole and Cover	IH, In Cab Floor, Cover #IH-520157-C1
*W/S Washers - Air - Air W/S Wash.	Sprague - Devices Inc. - SPRA-KLEER
*2 W.C. Mirrors - 2 W.C. Mirrors	Beach Mfg. Co. 516284,5-C91 (IH#)
*1 Air Horn - 1 Air Horn	Grover Prod. 1700
*4-way Seat - Air Bostrom	Bostrom Air Viking 43346-001
30,000 BTU Heat/Def. - 42,000 BTU Heat	IR Blend-Air, Integral With Cab
*Speedometer - Standard	Stewart-Warner ES-550-CL
*Tachometer - Standard	Stewart-Warner ES-551-ADP
*Emerg. Eng. Stop	Kysor 33000
*B.U. Alarm	Body Co; furnished
*Exh. Brake - Jacobs Brake	Model #25B

**Heavy Duty
JUPLER**

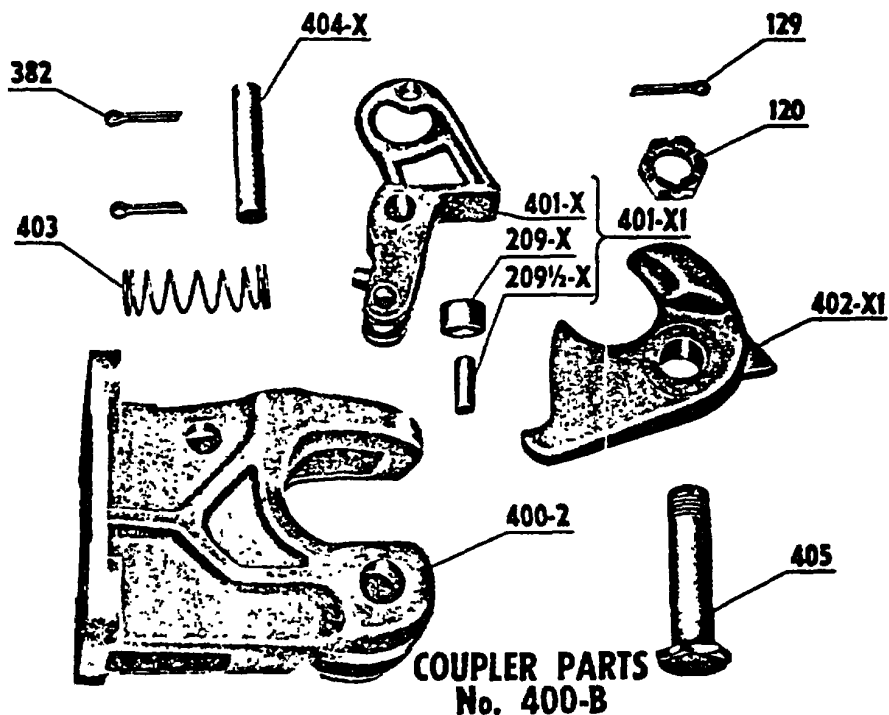
**Model
400-B**



Detail Drawings
on Request

Variations Can Be
Made Upon Customer
Specifications

DESCRIPTION	WEIGHT	CAPACITY
Automatic Coupler	24 Pounds	12 Tons



Vehicle Classification Data

The CCE-IHC 20 ton Dump Truck has the following bridge structure classifications:

Empty	Class 14
-------	----------

At 71,000 GVWR	Class 40
----------------	----------

Keep the front grill, bridge class number at "40", unless you are convoying the truck, empty.

Payload Volume/Soil Density Relationship

CCE-IHC Dump Truck is limited physically to 71,000 lb. GVWR. Heaped CCE-

IHC Dump Truck payload at 15 cy:

	<u>@3000 lb/cy</u>	<u>@2600 lb/cy</u>	<u>@2200 lb/cy</u>
Payload	45,000 lb.	39,000 lb.	33,000 lb.
Curb Wt	<u>31,000 lb.</u>	<u>31,000 lb.</u>	<u>31,000 lb.</u>
GVW	76,000 lb. (Overload by 5000 lb.)	70,000 lb.	64,000 lb.

Struck CCE-IHC Dump Truck payload at 12 cy (level-off body by dragging bucket

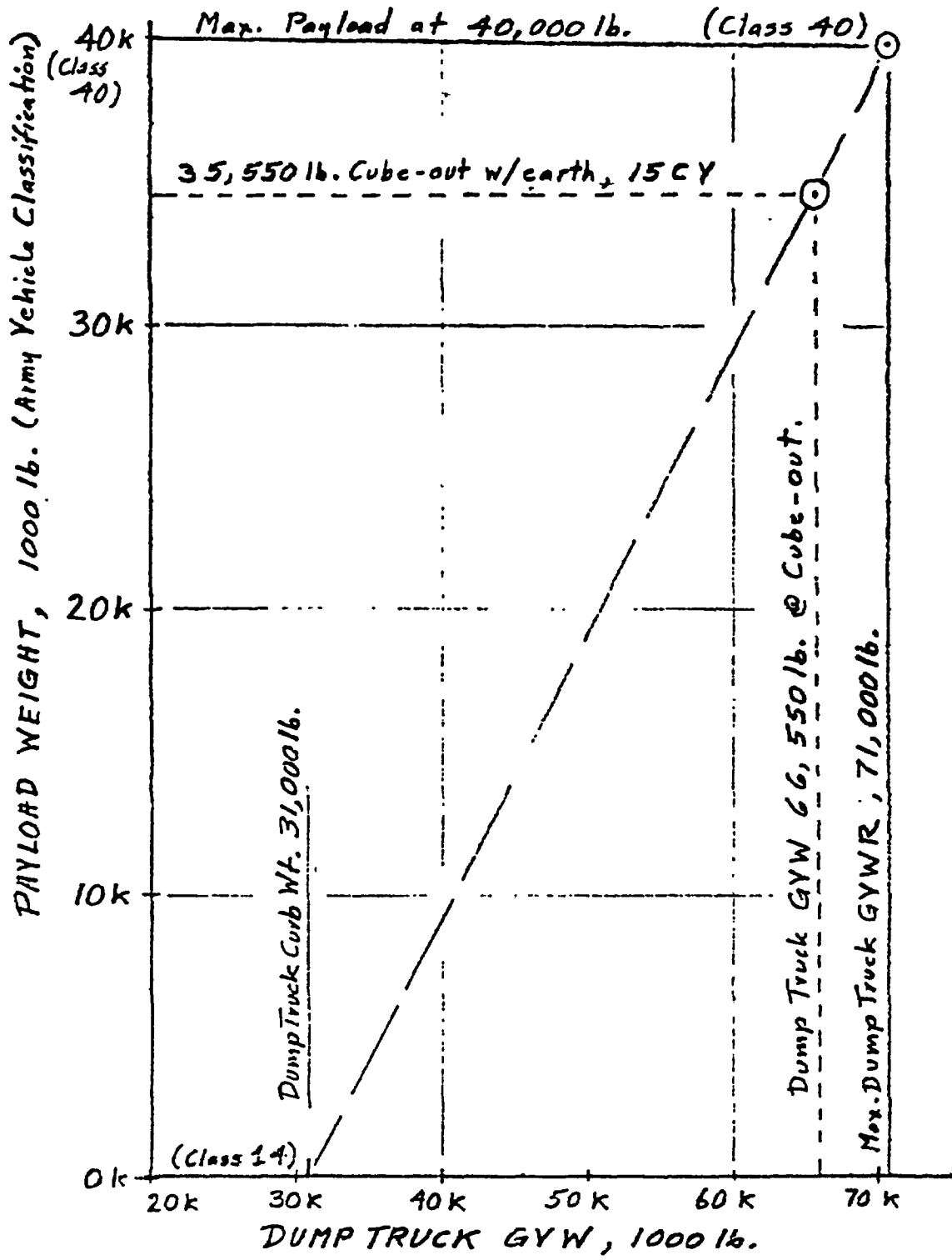
across top of load at body side height):

	<u>@.3000 lb/cy</u>	<u>@2600 lb/cy</u>	<u>@2200 lb/cy</u>
Payload	36,000 lb.	31,200 lb.	26,400 lb.
Curb Wt	<u>31,000 lb.</u>	<u>31,000 lb.</u>	<u>31,000 lb.</u>
GVW	67,000 lb.	62,200 lb.	57,400 lb.

Therefore, to avoid overloads, (1) determine the weight of 1 cubic foot of payload aggregate at X lb., (2) multiply by 27 to get the approximate weight per cubic yard, (3) read the GVW of the truck and payload, and (4) compare with the lowest capability of the route to be traveled. This determines whether the CCE-IHC Dump Truck haul is to be run at heaped capacity or at struck capacity.

CCE Dump Truck Soil Density Chart; Pounds of Payload Weight

Cu. Yd of Payload	3000 lb/CY	2900 lb/CY	2800 lb/CY	2700 lb/CY	2600 lb/CY	2500 lb/CY	2400 lb/CY	Ave Earth Per Sae 2370 lb/CY	2300 lb/CY	2200 lb/CY
20	60,000	58000	56000	54000	52000	50000	48000	47400	46000	44000
19						47500	45600	45030	43700	41800
18				48600	46800	45000	43200	42660	41400	39600
17		49300	47600	45900	44200	442500	40800	40290	39100	31400
16	48000	46400	44800	43200	41600	40000	38400	37920	36800	35200
15	45000	43500	42000	40500	39000	37500	36000	35550	34500	33000
14	42000	40600	39200	37800	36400	35000	33600	33180	32200	30800
13	39000	37700	36400	35100	33800	32500	31200	q30810	29900	28600
12	36000	34800	33600	32400	31200	30000	28800	28440	27600	26400
11	33000	31900	30800	29700	28600	27500	26400	26070	25300	24200
10	30000	29000	28000	27000	26000	25000	24000	23700	23000	22000
9	27000	26100	25200	24300	23400	22500	21600	21330	20700	19800
8	24000	23200	22400	21600	20800	20000	19200	18960	18400	17600
7	21000	20300	19600	18900	18200	17500	16800	16590	16100	15400
6	18000	17400	16800	16200	15600	15000	14400	14220	13800	13200
7	21000	20300	19600	18900	18200	17500	16800	16590	16100	15400
6	18000	17400	16800	16200	15600	15000	14400	14220	13800	13200
5	15000	14500	14000	13500	13000	12500	12000	11850	11500	11000
4	12000	11600	11200	10800	10400	10000	9600	9480	9200	8800
3	9000	8700	8400	8100	7800	7500	7200	7110	6900	6600
2	6000	5800	5600	5400	5200	5000	4800	4740	4600	4400
1	3000	2900	2800	2700	2600	2500	2400	2370	2300	2200



Typical Materials

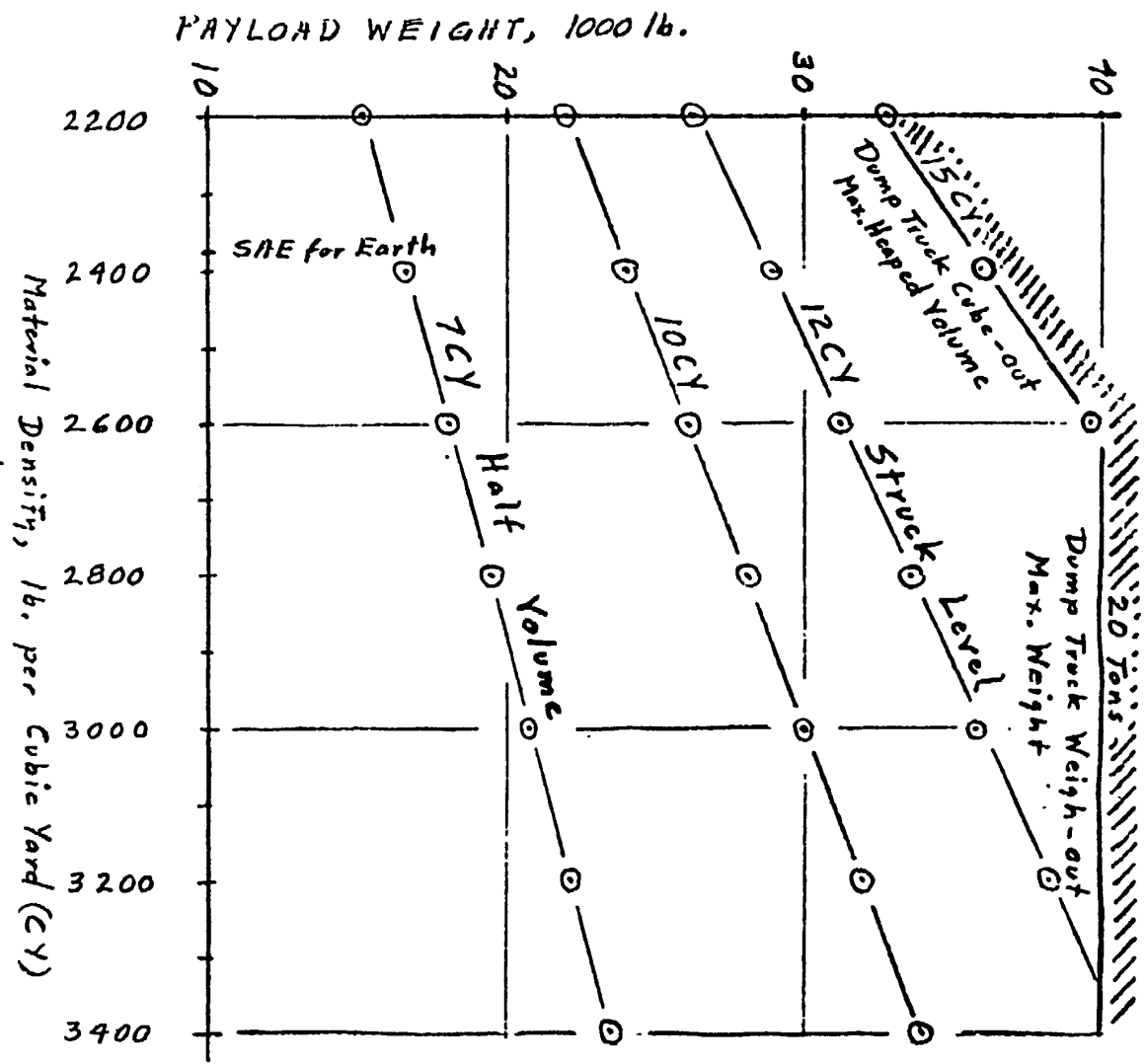
Loose Clay
Loose Dirt & Earth
Rip-Rap

Limestone, Marble
Sand & Gravel
Asphalt
Loose Sand
Crushed Granite

Wet Sand
Bluestone
Gravel
Mud

Wet Sand

Rock
Metal Ore



PAYLOAD WEIGHT, 1000 lb.

Material Density, lb. per Cubic Yard (CY)

MERADCOM
18 July 76

Engine

You have a trucker's diesel engine. It's the 335 diesel dorated down to 290 HP for long life. When you start It, let her idle, moderately, to warm-up. Don't beat it at governed 2100 RPM, just to quiet the noisy low air pressure buzzer, until you're given the cylinders, pistons, and turbo charger time to adjust to engine running temperature - about 2- to 5- minutes, at least. Do the same when you shut her down - let her Idle to cool-off.

Your engine is equipped with a warning system for high cool and temperature and low oil pressure. Don't let it scare you, if it goes off. Merely pull over to the side of the road, activate your hazard warning lamps, check your gages and trouble-shoot the truck, Correction of the problem will turn OFF the warning system.

Powershift Transmission and Aux Box

Double-clutching, three or four times just to make it look hard, is OUT on your new CCE.-LHC Dump Truck. Like the Owner-Operator Professional Truckers, you've got a powershift main and three range aux box to get power or speed. The S speed main provides you flexibility for load hauling in each of the three, aux box ranges. These are (1) Underdrive for slugging it out off-road up to 10 mph; (2) Directdrive for heavy hauling up to 32 mph; and (3) Overdrive for light hauling and coming home empty up to 42 mph.

The main transmission is the powershift type, like other earthmoving equipment, however, you also have automatic range shifting, similar to your car. Even though the torque converter has a big, engine-cooled, heat exchanger on top of the engine, prolonged stalling or heavy operation of the main transmission, out of torque converter lock-up, can cause overheating and the transmission high-temperature light to come on. If you do overheat, shift to neutral and cool things down by speeding up the engine. Never shut her off and let her cook, except when low fluid pressure also occurs. To keep from overheating, look at your tach and keep those engine RPM's up by shifting the aux box to match your terrain conditions. This main transmission is a trucker's type, not a passenger car type, so keep checking the dip stick for fluid, like it says in the manual. For towing other vehicles, use the torque converter and first gear in the main and directdrive in the aux box. This will avoid blowing the "safety fuse" - your U-joints. Your high engine torque times converter stall, times first gear, times

"Underdrive", and times the rear tandem double-reduction ratios could and will cause something to give. Use your power wisely.

Don't shift your aux box on the run. Come to a stop first and then select the aux box range that will do your job. Keep with that ratio until you stop again. The aux box is a heavy duty type and is not intended as a splitter transmission. Don't complicate it and round-off gear teeth!

CCE-IHC Dump Trk.

SHIFT CHART

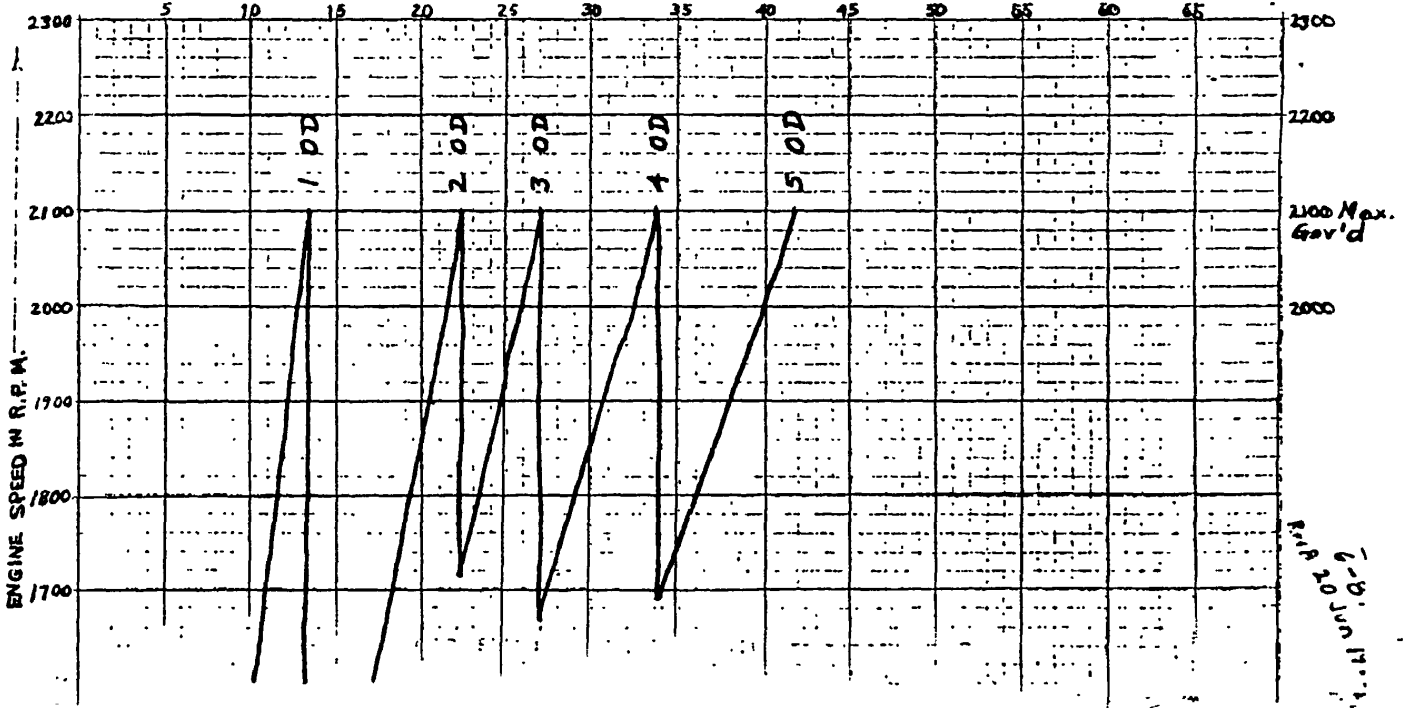
w/ Aux Box.
Overdrive
Ratio 0.75:1

5th	1.00	6.23	41.9
4th	1.24	7.71	33.7
3rd	1.55	9.66	27.0
2nd	1.89	11.78	22.1
1st	3.19	19.89	13.1
7.5:1	7.02	43.74	0

ENGINE IHC 290
AT 2100 R.P.M.
Powershift & Aux. Box
TRANSMISSION
Allison HT750CRD
Spicer R 8031 R
REAR AXLE STD
R.A. RATIO 8.31:1
TIRE SIZE
12.00-20 ML

FRONT AXLE _____
FRONT RATIO _____
TRANSMISSION _____
REAR AXLE _____
R.A. RATIO _____
TIRE SIZE _____

CHASSIS MODEL CCE-IHC, 71000GVWR Dump Trk.
IHC F5070 w/Thiele 12 CY Dump Body
CUSTOMER US Army MERDC, Fort Belvoir, VA.



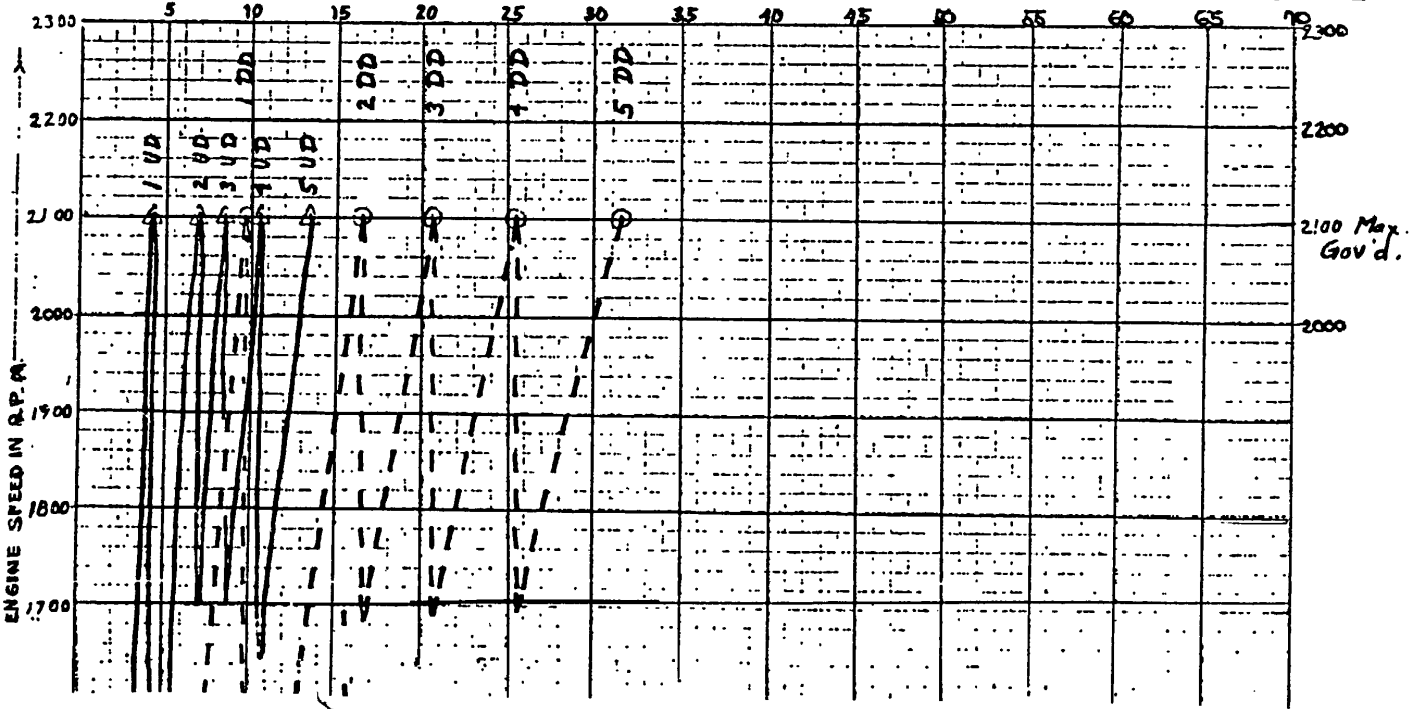
CCE-IHC Dump Trk.

SHIFT CHART

5th	DD	1.00	0.31	31.4
4th		1.21	10.20	25.3
3rd		1.55	12.68	20.3
2nd		1.89	15.71	16.6
1st		3.19	26.51	9.8
1st	TC	7.02	50.32	0
Aux Box				
Direct drive				
Ratio 1:00:1				

ENGINE # NTC 290
 AT 2100 R.P.M.
 Powershift & Aux Box
 TRANSMISSION
 Allison HT750 CRD
 Spicer R 8031 R
 REAR AXLE STD
 R.A. RATIO 831:1
 TIRE SIZE
 12.00 20 ML
 CHASSIS MODEL CCE-IHC 71000 GWR Dump Trk.
 IHC F5070 w/Trk 12 CY Dump Body
 CUSTOMER US Army M.E.R.D.C., Fort Belvoir, VA.

ENGINE	AT	R.P.M.	5th	1.00	19.78	19.2
			4th	1.21	21.53	10.6
			3rd	1.55	30.00	8.5
			2nd	1.89	37.38	7.0
			1st	3.19	63.10	4.1
			1st TC	7.02	138.82	0
Aux Box						
Underdrive						
Ratio 2.38:1						



Tires and Wheels

The CCE-IHC Dump Trucks are equipped with ML (Mining and Logging) type tires. These are not highway tires. As explained in the Tire and Rim Yearbook' (and repeated in the Engineering Data Books at your friendly local tire dealer), ML tires need to be treated kindly in "Intermittent Service". High heat in each ML tire's shoulder is the potential problem, so- On hot days, with a heavy, heaped payload, over 50 miles one way travel:

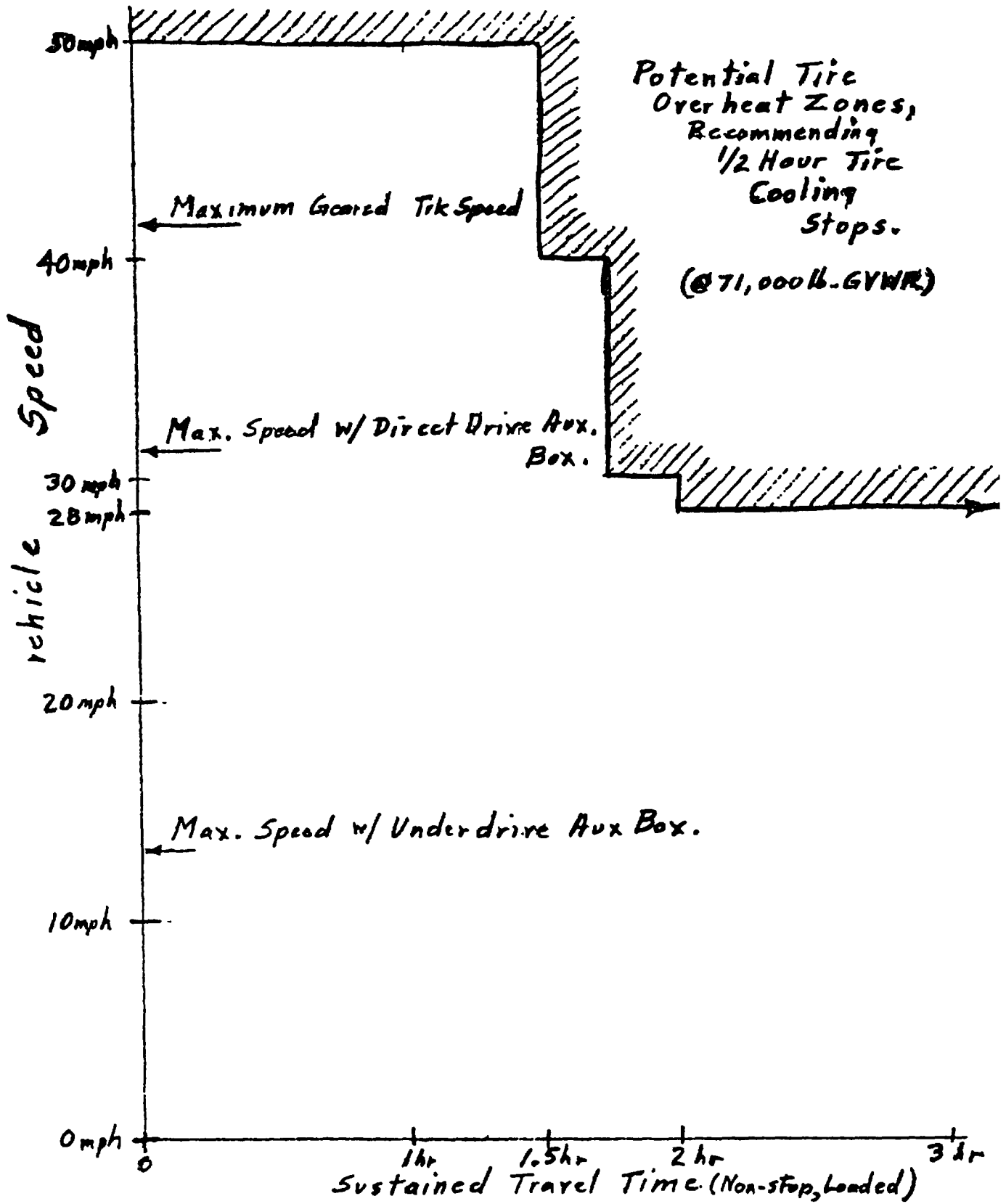
- run in "Underdrive" or "Directdrive" aux box ranges (NOT IN "OVERDRIVE") to keep speed down.
- use "Overdrive" range for coming back empty, only.
- cruise along up to 30 mph, when on paved road; tires heat-up on paved highways more than on gravel or soil roadways.
- during Before-Operation-Service and only if the tires are cold and have not been run, check your tire pressure all 10 of 'em including the inner duals. When you're satisfied that the only contacts you have with the ground, your tires, are adequately inflated and in-balance, within a few psi, then you're able to safely put your trust and 71,000 pounds on these 10 tires.

To eliminate all ML-tire heat restrictions:

- cruise at speeds up to 28 nmph, maximum; up to 1900 RPM in 5th, Directdrive (travel distance is unlimited, at maximum loading and this speed).

running in cold weather, at night, and during rain eliminates the heating. problems

- reduce payload weight - keep total dump truck weight below 64,000 pounds gross.



Braking Systems

Brake systems provided are Service Brakes, Emergency Brakes, Parking Brakes and Retarder Brakes, You're familiar with the service brakes operated by the foot treadle. In an emergency, the emergency brake system can be applied manually by pulling the yellow, diamond shaped knob with the right hand. When you pull it, though, expect a "dynamite brake application", since the springs in each rear chamber release and lock the rear tandem. With lowering of air pressure through leaks or a broken hose, the emergency brake system will also apply. While the emergency brake system is intended, by the U. S. Department of Transportation (DOT) to stop the truck, be careful that your truck doesn't stop all of the traffic behind you! Get use to these emergency brakes, before you have an emergency Know how to apply and release with a good air supply and, how to do it without. sufficient air pressure charge.

The Parking Brake System is also operated by pulling out the yellow, diamond shaped knob. At a halt, pull the knob and-all of the wheels on the rear tandem are mechanically spring applied so you can walk away from the truck, empty or loaded, on grades up through 30%.

Over in the upper left hand corner of the dash is a little, toggle switch. This is to turn-on the engine-retarder brake system. This is your "Take Brake." You can leave your Jake Brake on all the time, leave it off all the time, or switch it on and off, as you desire. With the Jake Brake on, the truck operates normally

- no change -, except when you take your foot completely off of the accelerator, while the truck is traveling at speed. With the Jake Brake switched on, you can

charge an up-grade at wide open throttle, cruise over the crest at part throttle, and then control your speed down hill by working the accelerator between Idle and part throttle, as determined by the grade steepness. The Jake Brake retards the truck by completely fouling-up the valve train and opening the intake valve near top-dead-center of the "power stroke". The engine becomes an air compressor, driven by the truck's speed and momentum. The Jake Brake provides you with about 3/4 of the horsepower, for slowing down, that the Cummins provides, for wide-open-throttle acceleration. For safety, an immediate change from full engine braking to full acceleration is available by merely depressing the accelerator treadle. The Jake Brake switches to normal engine idle at stops, preventing engine stalls. You have to use the service brake to stop the truck. The Jake Brake is excellent in stop-and-go traffic, in hilly terrain, and on long down grades. The Jake Brake provides safe, controlled dynamic braking, prevents engine overcooling by adding heat, saves service brakes for stopping, and greatly increases mileage between brake reline jobs.

CCE-IHC Dump Truck's Heated Body

Forward:

The suggestor recommends that the engine-exhaust-heated body on the CCEIHC 20 Ton Dump Truck is merely a nice-to-have feature and deleting this requirement would save the Government quite a sum of tax money.

a. It is recommended that the suggestion to delete the heated body on the CCE Dump Truck not be accepted.

b. The Suggestor is in error in the belief that the heated body is only useful with hot asphalt mix in cold weather. Commercial users have cited the following advantages for a heated body that will save much more than its initial first cost in lower maintenance over the truck's life time.

(1) The prime advantage of the heated body is to reduce sticking of the payload material to the body. Common practice, learned by even the inexperienced drivers, is to suddenly "jump" the truck forward with the body fully hoisted and then slam on the brakes to dislodge any stuck material. Going forward swings the tailgate rearward and the sudden stop slams the tailgate into the body with sufficient shock to dislodge most materials. Repetition insures dumping of the whole load. Damage shows up in metal fatigue, broken welds, buckled plates, peened and cocked pivot pins, and damaged corner posts. With the heated body, even wet sand, clay and loam payloads slide out easily on the dry bed surface. These factors are important in all environmental conditions; tropic, temperate and arctic.

(2) The heated body prevents freezing of payloads to the bed in cold weather. This admittedly is a function of below-freezing-temperatures, length of hauls, and risk of occurrences during the life of the truck. Commercial users advocate the heated body as a form of insurance. Most geographical areas above 35° latitude (e.g. North Carolina, Missouri, and New Mexico) have periods of freezing weather that affect dump truck service. Commercial users can stop operations and so can the US Army in time of peace. During an emergency, the US Army's mission is more important than weather stoppages or a \$300 savings on a \$30,000 dump truck, one percent of the purchase price.

(3) The heated body provides for hauling of hot asphalt mixes for medium distances without the need for dump bed lower insulations of lumber and for shorter distances without the need for tarpaulin covers on top.

c. The Suggestor cites the safety hazards of a heated body. The CCE dump truck, following the commercial practice of the knowledgeable commercial dump truck users, requires that the exhaust system be fitted with a manually operated diverter valve box. This box provides the user with the choice

of sending the heated exhaust gases either through the body, to provide body heat, or through the vertical, along-pabrexhaust-stack, same as a conventional truck. Thus, when the conditions and situation requires a heated body, the body can be heated. When a heated body is not needed, flip the diverter valve and the exhaust gases are routed out the stack pipe. In addition, it should be noted that while the exhaust gases out of the diesel engine are 900°F to 1100°F, the 5 inch diameter exhaust tubing in the airstream under the truck is cooled somewhat by the time it reaches the body. Upon entering the body, the approximately 7000 pounds of steel and the even heat distribution paths under the 1/4 inch thick steel plate floor guarantee that the engine exhaust gases will not cause an over-heating problem. The body has too great a mass and heat surface area in the truck's moving airstream for over-heating to be a problem. Further, the exhaust gases enter the body on the curb side and the driver's access ladder is on the opposite, road side.

d. The use of a heavy tarpaulin is needed for hot asphalt mix, however, legislation has been passed in a number of states requiring a tarpaulin be in place and secured over all trucks loaded with loose payloads. Users report that climbing up on the box and dragging a tarpaulin over the load is far too expensive in worn and torn tarpaulins and in accident costs from driver falls. Commercial users buy a properly engineered tarpaulin cover and emplacement assembly, cranked into both cover and retract position by the driver, all while standing firmly on the ground along side of his truck. Again, the initial cost is higher, but the overall costs and problems are lower, resulting in a substantial net savings.

e. The Suggestor's interest in reduction of hazards and in realizing a savings of the CCE dump truck is very much appreciated. In this instance, with the selective type body heating system, the advantages of being able to heat the body when and as needed are considered to be well worth the 1% cost increase on each truck.

Tire Inflation Mose

Feb 1975

Suggestion 1-7-7

4. Reasons for Action Taken or Recommended.

a. This suggestion recommends that the CCE-IHC Paystar F5070, 20 Ton Dump Truck, 6x4, 71,000 GVWR, be equipped with an air brake pressure connection and a hose with inflation chuck for tire inflation in the field.

b. The Military Design M-Series 2 1/2, 5, and 10 Ton truck fleet have an air hose, quick-disconnect on the fire wall for the purpose of tire inflation in the field. The 830-B and 290-M Medium Rubber Tired Tractors are equipped with an air brake gladhand and a hose with inflation gage and chuck for the same purpose.

c. The suggestion is partially approved, based on the needs of in-field tire inflation by each using unit. It is believed that a complete CCE-IHC dump truck retrofit would not be appropriate at this time, since the cost of an MWO and its across the truck fleet implementation could far exceed the cost of daily tire pressure checks that are required by "Before Service" PM. The risk of tire loss and tire fires resulting is not sufficient to warrant retrofitting each CCE-IHC Dump Truck, except on a using unit evaluation basis, as determined by each dump truck user.

SUGGESTED
CCE-IHC Pavstar F5070 On-Board Tire Inflation Methods

1. The following guidance is presented for those users that require tire inflation capability in the field.

a. Concern for safety and Department of Transportation Federal Motor Vehicle Safety Regulations require that all auxiliary systems using air brake pressure must be safe-guarded to prevent loss of air lower than that pressure at which effective, legal brake stopping ability is still available.

b. As a result, the air brake pressure take-off selection is limited to the two following methods:

Method 1. From the First (Wet) Air Brake Reservoir:

(a) Remove an unused plug from the reservoir and add a new pressure protection valve same as used in the line to the air operated PTO assembly for the dump body hoist pump. The new pressure protection valve should be bracket mounted to a rigid member of the truck to prevent vibration. Do not install the valve in such a position that water can enter the openings, freeze, and cause the valve to be inoperative. Orient the valve so that water will drain out. Downstream of the pressure protection valve, install a shut-off cock and an emergency type air brake gladhand with dust cover (per SAE 1318 preferred or, optionally MS 35746). This will provide the on-vehicle parts to connect the tire inflation hose assembly.

(b) Obtain the same tire inflation hose, gage, and chuck assembly as on the 830-B and 290-M Medium, Rubber Tired, 4x4 Tractors. This assembly consists of a mating gladhand a length of air hose, an inflation gage, and a captive chained double chuck assembly compatible with both truck and bus valve stem and large bore earthmover valve stem.

(c) Connect all the on-vehicle components with the same reuseable swivel fittings and minimum 5/8 inch size flexible hose as used on the dump truck's brake system (SAE 10ORS fittings and SAE J1402, type D, Class II, hose).

(d) A hose bracket can be fabricated from metal strapping and sheet metal and installed in the cab, either behind the driver's or the passenger's seats, for in-cab storage of the tire inflation hose and chuck assembly.

(e) This system would provide sufficient compressed air capacity for servicing the CCE-IHC dump truck as well as other engineer vehicles in the field.

(f) This system is also applicable to the 25 Ton Truck, Mounted Hydraulic Crane and other vehicles, commercial or modified commercial, in troop units.

Method 2. From the Body Hoist PTO Pressure Protection Valve:

(a) Locate the dump body hoist PTO pressure protection valve under the cab. Tracing the system air flow, as verified by the valve markings, determine the outlet or downstream port.

(b) Install a T-fitting, a shut-off cock, and a gladhand to the PTO pressure protection valve outlet. Plumb with reuseable fittings and flexible hose.

(c) The tire inflation hose, gage, and chuck of the Medium 4x4 Tractor is also applicable for use of this method.

c. Users intending to implement this -suggestion are cautioned not to use the Military Design truck fleet quick-disconnect fittings in lieu of the SAE J318 air brake gladhand. The air brake gladhand has a much greater air flow capacity and is a readily available, industry standardized part.

d. Of the two methods (Method 1 or Method 2) described in lb., Method 1 should be considered much more favorable than Method 2. The CCE dump truck has a heavy duty brake system, including a water-cooled, engine lubricated, gear-driven 12 CFM air compressor, that will facilitate tire inflation use without overheating. The take-off from the first (wet) air brake reservoir will provide the volume of air necessary to inflate not only the CCE dump truck tires, but also the tires of earthmoving and construction equipment at the same Job sites where the CCE dump truck is operating. Method 2 (using the take-off from the hoist PTO circuit) may be lower in initial cost (since a new pressure protection valve is not required) but it has the major disadvantage of a low air volume due to line restrictions and an unacceptably long inflation time to inflate large size tires.

e. As a bonus, the Method 1 tire inflator may also be used to recharge all components of the CCE dump truck's air brake system by slave air pressure hose from another vehicle having air pressure.

A CLEAN Dump Truck Air Cleaner Insures Good Breaking

To insure precleaned air, the CCE Dump Truck's air intake to the air brake compressor is piped into the engine's intake manifold, downstream of the dry type air cleaner. So long as you perform your PM servicing of the air cleaner element, you will provide sufficient volume of good clean air for both the engine and the brake system. Keep an eye on the instrument panel air cleaner restriction gage and on the air brake reservoir pressure gage. The air cleaner restriction gage tells how much air both engine and brakes are going to get while the reservoir pressure gage tells how much air brake pressure you have left. A dirty air cleaner will starve both the engine and the brake system for air. With a clean air cleaner element, you'll avoid a smoking engine exhaust and avoid actuating the low air pressure buzzer during repeated braking. So, if you see smoke out the exhaust and the cab gets too noisy, merely clean or renew the air cleaner element to get back to normal.

THE TWELVE COMMANDMENTS OF DUMP TRUCKING

1. Thou shalt NOT dump while on unlevel ground having one set of tires more than 4-inches higher than thy other set, for surely one day thy load will hang-up on the low side and thy dump truck will fall down beside thee. Great oaths and sworn statements as to how many times thou hast dumped thy load in worst places shall be to no purpose for dump truck buddies will forsake thee, thy motor pool officer will bring forth a statement of charges, and thy prospects for future driving anything bigger than a wheelbarrow with leather gloves will be much in doubt.
2. Thou shalt be darn sure that thy PTO and thy hydraulic pump are NOT engaged whilst thy travel upon the road or highways. The view of 12-miles of power and telephone cable draped gracefully around thy cab protector and hoist cylinder is not pleasing to responsible authorities and, further, the sight of thy dump body resting firmly propped as a third pier of a two pier bridge doth stir them to such great anger that thou art compelled to dwell in their guardhouse for many days and many nights and to be deprived of feminine companionship, strong drink, Saturday football, and all pay and allowances during that time.
3. Thou shalt NOT permit another rig to dump whilst alongside thine, not to thy left and not to thy right, lest the dump truck driver be lacking in skill and upset his truck on top of thine. The humor of such an occurrence may elicit smiles and boisterous laughter from thy buddies but will not be apparent to thy sergeant and should only be reported unto him after determining that in neither hand does he hold a tire billy or other blunt instrument.
4. Thou shalt be certain that thy hydraulic system and thy hydraulic system's hoses are in good condition at all times lest a hydraulic system malfunction or a worn hose blow out at a time whilst thou tryest to dump a 40,000 pound load, 30 miles from the motor pool in 15 degree windy weather and thou findest it necessary to unload it 10-pounds at a time with a shovel, hand operated, long handle, M1A7.
5. Thou shalt permit filling of thy dump body only up to within 6 inches of the top of thy sides or thy side-boards and, further, thou shalt NOT allow rocks, gravel, sand, or any other commodity to spill from thy vehicle lest they cut a tire or bash in the windshield of the Provost Marshal behind thee. A calamity of that nature may cause thee and thy dump truck to be considered a hazard to the motoring public in general and Provost Marshals in particular and thee to be considered unfit to fill out dump truck trip tickets, carry a dump truck license in thy chaindrive wallet, or other emblems of thy dump truck driving profession.

6. Thou shalt NOT permit dozers or loaders to make any contact with thy dump truck, neither from the front, nor from the rear, nor from either side, for the appearance of thy truck will be much the worse after such contact, thy motor pool sergeant will rant and rave, and thy combined depot maintenance shop rascals will make thee and thy outfit, pay dearly. in both downtime and money to correct the damages.
7. Thou shalt become wise in the nature of the commodities that thou haulest. If a load of lime or cement is allowed to get wet, it will stay in thy dump bed forever; if a load of wet sticky clay is dumped, prevail on thy buddy to observe that thy load is not hanging up in thy dump body, else thou may return with a load on.
8. Thy tires shall be checked for adequate pressure daily, and tire valve caps kept tight, and tires whacked with a club every time thou stoppest, lest thy first knowledge of a flat is when thy buddy drives along side of thee and waves, blows his air horns, and points meaningless gestures toward thy rear tandems, saying "Dum Dum Dump, Thou Art On Fire!"
9. Thou shalt drive thy dump truck as if it were an arm of thyself and neither lug thy engine or over-rev thy engine, and never crash shift thy aux box on-the-run, and avoid rocks and potholes that may be strewn in thy path to test thy ability. If the time is cometh when thou must take thy truck through the valley of rough going, provide her with tender loving care at the first opportunity for truly thou art a professional dump truck driver.
10. Thou shalt NOT use ether and glow plugs at the same time else thy intake manifold shall verily depart from thy engine. In freezing weather divert thy exhaust through thy dump body for a little heat goeth a long way to prevent freezing of thy load to thy body.
11. When thou dumpeth hot asphalt in a paver hopper, have thy paver operator signal thee to keep the hopper loaded, neither too full nor too empty. When thy body is hoisted too high and thou overloadeth the hopper, hot asphalt will rise up and heap hot coals upon thy tail, taillamps, mud flaps and even thy brake chambers.
12. Blessed are the careful and wise dump truck drivers for they generally remain drivers of big dump trucks and seldom revert to pushing wheelbarrows. Thy shalt respect, honor, and obey thy dump truck and her wiley ways. Thou shalt consort with other dump truck operators and in the telling of tall tales, glean from them their dump trucking secrets. Thou shalt practice the art of dump trucking common sense to perfect thy profession. Verily, then it will be said that he who heeds and obeys all these commandments and covets his dump truck is a dump truck driver and not a dumb, truck driver.

Suggestion 76-D-256

CCE-IHC Paystar F5070
20 Ton Dump Truck, 6x4, 71,000 GVWR

Method of Bleeding of Dump Hoist Cylinder

76-D-256

16. SUGGESTION NUMBER
(Enter if Item 10B is "X'd")

15. SUBJECT OF SUGGESTION (Enter if Items 10B is "X'd")

17. DESCRIPTION (Describe the Current Situation and your Suggestion for Change or improvement. Include where and how it can be used, and identify estimated tangible/intangible benefits which would result from adoption.)

The present method of bleeding the hoist cylinder is:

1. Raise dump body high enough to expose hoist bleed access hole, located at the front center of truck body, to gain access to the hoist bleed valve.
2. Personnel then climb onto the engine hood and lay across the roof of the cab, reach through the access hole, then with pliers gradually loosen the air valve to bleed off trapped air.

Danger exists with this method. If, during this, operation, the truck body should accidentally fall, the person's body could be pierced by the body target located at the forward end of the cab protector. This concealed danger to personnel could be eliminated by providing a hoist bleed access hole with cover plate located on the front box (hoist housing). Old access hole should be covered to prevent use. Now to bleed the hoist, personnel would stand inside the dump body, remove the bleed hole cover plate, and the body would then be raised and the trapped air bled off. This new method of bleeding the hoist cylinder would eliminate the possibility of serious injury by the dump body target if the dump body should accidentally fall when bleeding the hoist cylinder.

Suggestion 76-D-256

4. Reasons for Action Taken or Recommended.

a. The suggestion recommends that the hoist cylinder bleed valve be accessible from inside of the dump body through access plates rather than from the front of the body while personnel lay on the roof of the cab of the CCE-IHC Paystar F5070 20 Ton Dump Truck, 6x4, 71,000 GVWR. There is no easy, safe method of bleeding air out of the hoist cylinder.

b. The present frontal approach has the danger of the mechanic getting hit by the dump body target or the cab protector, if he neglects to use the maintenance safety struts and a long 4x4 minimum size timber located near the body pivot pins, so that the body's descent must stop prior to danger.

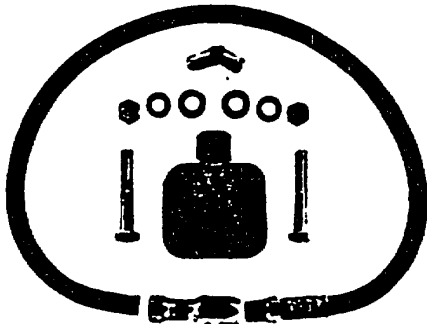
c. The suggested in-body approach can be even more dangerous. The mechanic has no handholds or step surface available while the body is being raised. Such steps and grab handles would be soon rendered useless as a result of aggregate wear and destruction by rocks. The mechanic could slip and fall from the doghouse to the tailgate, a distance of 16 feet. In addition, removal of the bleedhole cover plate would be a major problem. In the dump body, users have had very poor experience in any attempts to have fasteners, that are exposed to aggregate and rocks, remain removable after periods of use. Capscrews become banged and worn and flush-type fasteners are deformed and can not be removed.

d. Removal of the body target is not a solution. The body target is the only visual means by which the driver is sure the dump body is seated on the chassis and remains seated on the chassis during travel.

We've reduced the time it takes to bleed our cylinder. To nothing.

Now every standard Hycotel® single-acting telescopic cylinder comes equipped with an automatic air bleeder. So you can completely eliminate time-consuming and potentially hazardous manual air bleeding from your maintenance routine.

You don't need a wrench. You don't need a mechanic. You don't need a helper. The new bleeder valve automatically allows the escape of trapped air from the cylinder every time the system is operated. And it's yours at no extra charge on all standard Hycotel single-acting telescopic cylinders.

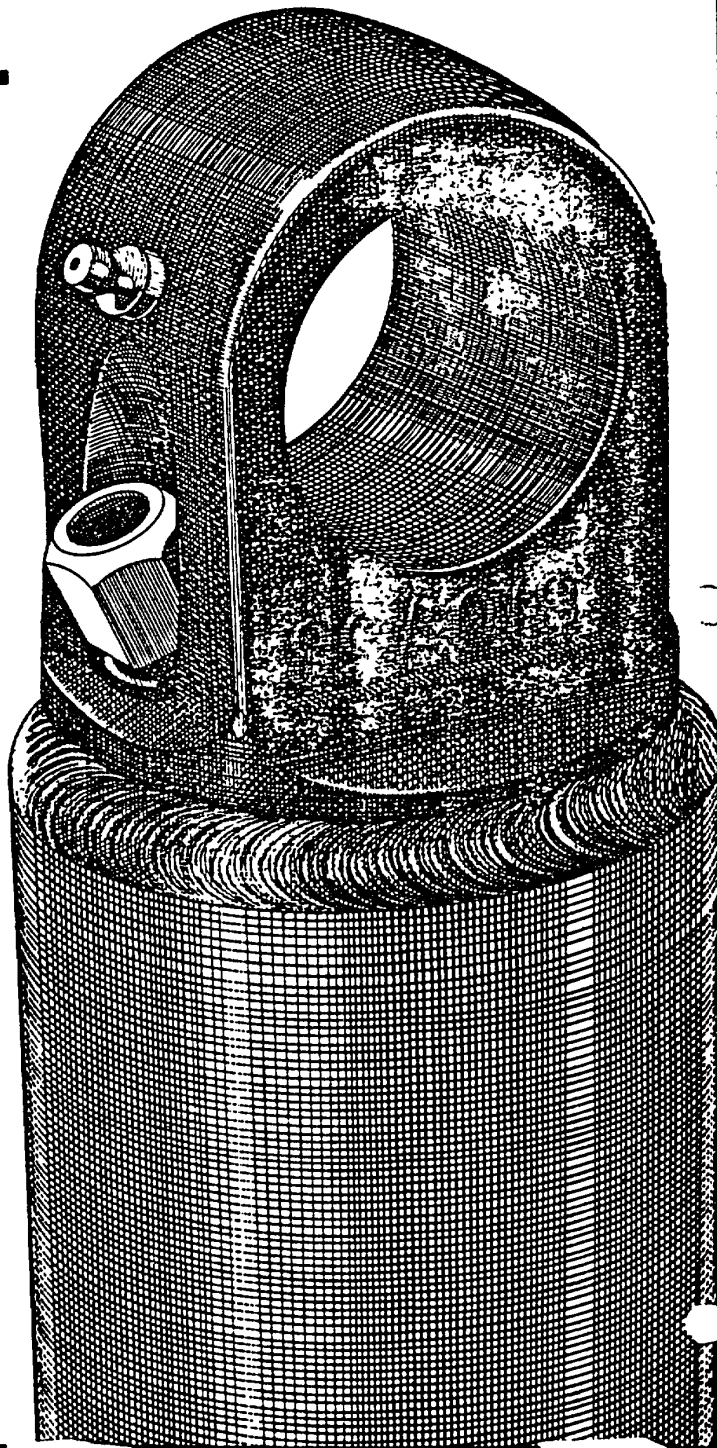


It's also available in a low cost retrofit kit, for older model Hyco cylinders. Easy to install, it's adaptable to other popular makes as well. For full details on the Hyco Automatic Air Bleeder®, write to Hyco, 1401 Jacobson Avenue, Ashland, Ohio 44805. Phone: (419) 323-1593, Telex: 987-440, Cable: HYCO ALND.

*Patent Pending

HYCO DIVISION
The Weatherhead Company

A Subsidiary of  DANA CORPORATION



Suggestion 76-D-254

CCE-IHC Paystar F5070
Dump Truck, 6x4, 71,000 GVWR

Cab Protector

76-D-254

15. SUBJECT OF SUGGESTION (*Enter if Items 10B is "X'd"*)
(*Enter if Item 10B is "X'd"*)

16. SUGGESTION NUMBER

17. DESCRIPTION (*Describe the Current Situation and your Suggestion for Change or improvement. Include where and how it can be used, and identify estimated tangible/intangible benefits which would result from adoption.*)

The present design of the cab protector has the surface plate designed with corrugation running across; i.e., horizontal to the truck line. This condition traps water and causes rust. This unsatisfactory condition can be eliminated and still retain cab protector strength by making the surface plate flat then provide 3 Each - 2-3/4 x 1" U channels running longitudinally. Channels would be welded all around to the front lip then staggered welded to the surface plate. This configuration is currently being used on numerous commercial dump trucks.

Suggestion 726 -D-254

4. Reasons for Action Taken or Recommended.

a. The suggestion advocated a design change for the sheet metal and reinforcing members on the CCE-IHC Paystar F5070 20 Ton Dump Truck, 6x4, 71,000 GVWR. This truck is primarily a working tool, the same as a bulldozer. The surface interior of the truck body (including its cab protector) can be compared to the surface face of the dozer blade, since both are in contact with abrasive earth and aggregate. Both surfaces become devoid of any paint, both surfaces become rusty, and both surfaces should be kept clean to the best practicability of using troops. The metal thickness are sufficient to give a life-time of service without failure due to rusting. The trapped water does not of itself cause rust. It is the combination of both oxygen and moisture that rusts steel when it is exposed and unable to be protected.

b. The suggestion neglects the fact that with the reinforcement across the cab protector, it did not deform when loaded with 2200 lbs. of aggregate. The reinforcement adequately tied together the cab protector ends and thus met the load carrying criteria of 2000 lb. minimum. With the reinforcement longitudinally only, retesting would be required to prove the adequacy of the redesign. It is conceded that the suggested configuration for the cab protector may be employed on numerous other commercial dump trucks, however, they may not be as large a cab protector as on the CCE dump truck and many commercial users do not specify that the cab protector be load bearing. Test data is still the only way to verify body design and integrity.

CCE - IHC Paystar F5070
Dump Truck, 6x4, 71,000 GVWR

Dump Body OSHA Maintenance Struts.

FR-286-76

Supports-20 Ton Dump Truck, Model 5070

15. SUBJECT OF SUGGESTION (Enter if Items 10B is "X'd")

16. SUGGESTION NUMBER
(Enter if Item 10B is "X'd")

17. DESCRIPTION (Describe the Current Situation and your Suggestion for Change or improvement. Include where and how it can be used, and identify estimated tangible/intangible benefits which would result from adoption.)

I suggest that a 1/8 inch cable be attached to the dump bed supports and through the under portion of the bed of the new 20 ton dump trucks, model 5070, to allow the supports to be raised without the driver crawling under the dump, bed. Present practice of supporting the dump beds in the raised position overnight means that the operator must raise the bed to full height, get out of the cab and under the raised dump bed, and raise and lock the dump bed supports in position so the bed can then be lowered. It is only natural that the operator leaves the engine running while doing this. The vibrations caused by an idling diesel engine are sufficient to cause the dump lever to fall to the lowering position, or in case of a hydraulic failure, the weight of the dump bed would crush the operator between the bed and the dual wheels.

SUGGESTION FINISHED? Refer to Instruction Numbers 2 & 3 on reverse side of this set.

NEED MORE SPACE? Reverse entire set. Pull out ling carbons. Reverse and reinsert long carbons. Continue under Item 16.

DA FORM **1045**
1 Sep 72

REPLACES EDITION OF 1 AUG 67, WHICH IS OBSOLETE.

COPY 1

Suggestion FR-286-76

4. Reasons for action taken or recommended.

a. The suggestion advocated the attachment of a cable to the dump truck body's OSHA maintenance struts on the sides of the CCE-IHC, 71,000 GVWR Dump Truck. This truck is primarily a working tool, the same as a bulldozer. The interior of the dump body can be compared to the face of the dozer blade, since both are in contact with abrasive earth. Both surfaces become devoid of any paint, both surfaces become rusty, and, to the best ability of user troops, both should be kept clean. The dozer blade must be lowered to the ground for safety when parked. The dump body should likewise be lowered to the chassis for safety when parked. The dozer blade cylinders are hard chrome plated end, as such, are impervious to corrosion. However, the dump body hoist cylinder has thin chrome plate and, therefore, should be fully lowered to protect it from rust that will cut the packing glands of the telescopic tubes. The safety aspect includes the possibility that, in an abnormally high wind gust, the dump body could act as a sail of a boat and tip the truck over. Therefore, do not use the safety maintenance struts to hoist the CCE dump truck body when parked. These struts are required by OSHA (49 CFR 1926) for safe maintenance operations requiring mechanics to work under the hoisted body. Don't worry about inside body rust. The metal thickness is sufficient to give a life-time of service without rusting out. It has 8-gage sheet metal for the cab protector, sides, and tail gate and 1/4 inch plate on the floor.

b. The dump hoist lever is of the dead man type, in that it is spring loaded into the "Hold" position. It takes a force to overcome the resistance of the centering return springs on the hoist valve to engage "Lower" or "Hoist" positions. The lever also has a neutral hold lock to prevent lever movement from hold. The dump body hydraulic hoist system has safeguards to prevent other than a split cylinder or blown packing gland from causing the dump body to fall in case of a hydraulic failure. On the cylinder is a pilot operated valve that locks the hydraulic oil inside of the cylinder under all conditions, except when the control valve over-pressurizes the locking springs of the ports to raise or lower the cylinder. Therefore, the possibility of the dump body coming down by itself would only occur in a freak accident. The hydraulic system is as safe as practicable.

CCE-IHC 20 Ton Dump Truck Exhaust System Leakage Tolerance.

1. Complaints have been received from Army, field user units regarding exhaust system leakage of the CCE-IHC Paystar F5070 Dump Truck. Being a commercial heavy truck, the exhaust system was required to be in conformance with the Department of Transportation's Federal Motor Carrier Safety Regulations (49 CFR 393.83). The CCE Dump Truck met these requirements for the first production model and subsequent production dump trucks should also be in compliance.
2. Field tests by safety personnel at one user unit at Fort Meade have made safety checks of exhaust gases in the cab of the dump trucks that were leaking and determined that the quantity of leakage was below the allowable safety level and was not considered harmful in the cases tested. Diesel engine exhaust gases are relatively low in carbon monoxide content and, when the truck is moving, the closed cab is slightly pressurized with fresh air from the (1) front cowl air scoop.
3. The commercial criteria for the CCE-IHC dump truck and other heavy trucks is that no exhaust gas leakage be permitted at exhaust pipe connections forward of the rear of the cab, after a break-in period allowance for those connections that have been taken apart for maintenance.
4. The maximum carbon monoxide (CO) contamination inside of the cab with a leaking exhaust system is considered to be when the CO content of 50 parts per million (ppm) is reached. The method of test for CO contamination is standardized for all vehicles by the Society of Automotive Engineers in the SAE Handbook, SAE 3989 - "Carbon Monoxide Concentration Test Procedure."
5. Any exhaust system leakage that causes the truck to exceed the legal noise level limits, both in-cab and drive-by, shall not be permitted.
6. For the commercial heavy truck users, the DOT Bureau of Motor Carrier (BMC) safety inspectors "write-up" the in-service trucks of these users for any exhaust plumbing leakage that occurs below and forward of the rear outside wall of the truck cab. The BMC inspectors recognize that flexible section joints will initially leak when first put in service, however after break-in, the diesel engine's carbon black will soon plug up pin-hole type leaks. The fact that carbon black is present means that the connection has been leaking in the past. BMC inspectors are instructed to see the leak point and to feel the exhaust gases with the engine running prior to declaring the vehicle "out-of-service" (deadlined) for under cab leakage. Exhaust gas leakage rearward of the cab is "written up, " but should not deadline the truck.

CCE-IHC 20 Ton Dump Truck Hot Asphalt Handling Mission

1. Information from field user units -state that the CCE-IHC Paystar F5070 Dump Truck, 6x4, 71,000 GVWR, has had damage to its rear combination lamps and splash guards when dumping hot asphalt into asphalt paver hoppers.
2. The user further reports that, to correct this situation, they fabricated "U" type, splash guard brackets and fastened them to the underside of the dump bed to hold the splash guards up away from the asphalt mix during dumping. The rear combination lamps were inverted and raised. An extension shield was fabricated and added to the bottom rear portion of the dump bed to prevent the asphalt mix from falling in between the paver hopper and the rear of the truck.
3. Similar modifications to those made by the reporting user unit are fabricated on the dump trucks used by commercial asphalt paving contractors.
4. Those using units whose mission includes handling hot asphalt mix for pavers could fabricate splash guard holders, raise the rear combination lamps up higher, and add a bolt-on type spill pan extension as necessary, following commercial practice of local paving contractors in their local area. Sheet metal deflectors below the rear combination lamps can be used to deflect the asphalt mix back into the hopper. Some pavers use captive chained alligator battery clamps to hold the splash guards out of the way of the asphalt mix.
5. Both the dump truck driver and the asphalt paver operator need to coordinate their signals to smoothly and easily dump the CCE dump truck's payload into the hopper with as constant a mix flow as possible. The CCE dump truck's payload is about 3-times the volume of the previous M51 GI dump truck, so the driver has to take it very easy with his dumping rate. If he does not, the mix will overload the paver's hopper. The force of the hot asphalt mix, trying to leave the dump body, will cause the mix to flow forward and up in between the rear of the dump body and the front of the hopper. Here, the hot mix will remain long enough to cause damage to the lamps, splash guards, brake chambers, and other parts that cannot withstand the 400°F, heat. Hot asphalt mix acts like a thick liquid. With the dump body raised too high, the weight of the mix still in the body tends to have a squirting effect on the mix in the hopper. While the 16 1/2 foot long body has a lower center of gravity for roading stability, this same feature results in a large force downward on the asphalt mix when the body is being raised during dumping. The paver operator, in addition to following his paver guide marker, keeping his lane thickness even and speed under control, must now direct the truck driver's rate of feed into the hopper to keep it filled, neither short of mix nor overloaded.

7. Commercial heavy truck exhaust system plumbing is designed in segments to provide ease of maintenance and lower segment replacement costs for the user. Two types of connector clamps are commercially available; the V-bolt clamp, such as furnished on the CCE dump truck, and, optionally, a double bolted sleeve clamp, spanning either side of the pipe joint. Both the V-bolt and the sleeve clamps require periodic tightening of nuts to maintain the connections gas tight. At each connection, both connecting pipe sections must be round, without dents, dings, and other damage that may have occurred in shipping and handling prior to installation. Any damage in the coupling area will result in leakage and require rework to correct. Overtightening and possible stripping of the clamp's threads will not correct poorly fitted pipes.

6. The rear combination lamps are furnished of the best lamp materials commercially available. These lenses and lamp bodies are molded of poly-carbonate plastic (Lexan, same as specified on the military design combination lamps). This poly-carbonate plastic warps from heat at approximately 280°F and melts at approximately 470°F. Therefore, more heat resistant materials are not commercially available, with the exception of glass. Glass lenses are totally unacceptable (and obsolete) because of breakage.

7. The rear combination lamps are in compliance with the DOT Federal Motor Vehicle Safety Standards (49 CFR 571.108) and are imprinted with the SAE function compliance code letters SAE-IST. The rear combination lamps are located within the DOT height limits of not less than 15 inches and not more than 72 inches. The splash guards and installation also comply with the contract requirements.

8. Considering the amount of hot asphalt paving operations performed by user units in the field, it is not recommended that all CCE dump trucks be modified to incorporate splash guard brackets, spill pan extensions, and guarding and relocating the rear combination lamps. Instead, it is recommended that those user units be fully informed of the modification information available and implement the modification as required. It is recognized that driver and operator familiarization of both the dump truck and the paver will not solve the damage problems.

Breakage of Dual Tandem Valve Stem Extensions

1. The inner duals on the CCE-IHC 20 Ton Dump Truck are equipped with valve stem extensions, since the offset of the disc wheels with 12.00-20 ML (Mining and Logging) tires will not allow clearance in the wheel's hand hole to remove the valve cap, check the tire pressure, and inflate the tire with the available length of valve stem in the tube. The valve stem extension serves the purpose of bringing the tube's valve stem outboard, where the tire can be routinely serviced without removal of the outer dual. As is stated in the manual, the CCE dump truck's tire inflation is very important to obtain reasonable tire life and prevent possible tire fires from under inflation. Therefore, these extensions should receive maximum care and attention.
2. The tube's valve stem is brass and the valve extensions are brass. There have been reports that the extensions were originally installed far too tight. Inspect the trucks and replace those extensions having stripped threads or crushed mating surfaces. When reinstalling the extensions on the valve stem, be aware that the brass metal is soft. Tighten only to the point that the extension is secure and air tight without damaging threads or the tubing barrels. Do not forget to always reinstall the valve caps to keep the air in the tires and exclude dirt from the valve core seats.
3. Normally, rocks between the tires won't do much more than bend these soft metal extensions. Prolonged spinning of the rear tandem in mud and in brush could cause breakage. Part of the PM servicing of the truck should be to insure that the valve stem extensions are functional, because if the truck user is unable to check and inflate the inner duals, the result will be running on under-inflated tires. The truck's only contact with the ground is through its 10 tires and they have to carry their portion of the 65,000 to 70,000 pounds of loaded truck. These valve stem extensions, then, are certainly one area in which "ZERO DEFECTS" need to be practiced,
4. Do not take the "easy way" out and leave both the extensions and the valve caps off, figuring the inner duals can be checked and inflated by pushing the chuck on the wide-open valve stem of the tube. Dirt will get lodged in the valve core seat and result in a leaker with continual, under-inflation. The inner dual is the bad place to have a leaker and a worse place to have a tire fire that could destroy the truck.

CCE-IHC Paystar F5070 20 Ton Dump Truck. Main Powershift Transmission
Fluid for Allison HT750CRD; Auxiliary 3 Speed Transmission Fluid for Spicer
R8031 R

The one-and-only transmission fluid for your CCE Dump's MAIN BOX is that ATF-DEXRON FLUID, like it says in the IHC Manuals.

The Automatic Transmission Fluid (ATF) comes to you as follows:

By the Quart	NSN 9150-00-698-2382.
By the 5 Gal. Container	NSN 9150-00-657-4959.

The 3 Speed AUX BOX uses 10 W 30 engine oil, like it says in the IHC Manuals, or OE30.

TRANSPORTING OF TROOPS IN DUMP TRUCKS

For many years throughout history most armies have transported troops in and on their trucks, cargo, stakes, dumps and all other body styles that are available.

With the introduction of the CCE-IHC 20 Ton Dump Truck, this method of transporting troops should be either discontinued or employed only on an emergency basis with extreme caution to avoid injury and criticism. The current emphasis is on safety. As a result of accidents to civilian personnel in the back of trucks, the local and federal Governments since 1957 have been enforcing the requirements of Title 49, Code of Federal Regulations 398.5, controlling transportation of passengers in motor vehicles. The Federal Regulations require a specific seat for each passenger.

The military design, M -Series, 2 1/2 and 5 Ton trucks are intended for transport of both cargo and personnel. Folding seats are provided and the tailgate steps facilitate climbing in and out.

The CCE-IHC 20 Ton Dump Truck, just like other commercial dump trucks, is designed and intended for loading, hauling and dumping of aggregate. These trucks are not suitable for transporting personnel. Except in an extreme emergency, transporting personnel in a commercial dump truck is an unacceptable hazard because of the following:

- a. The rear tandem is too stiff and the rear tire inflation is too high to provide any ride quality; passengers may be thrown from the dump bed.
- b. The inside of the dump bed is smooth insuring ready flow of aggregates; passengers have no handholds to prevent injuries.
- c. Except for one small ladder on the front road side of the bed there is no safe way for personnel to climb into and out of the 60 inch high dump body.

CCE DUMP TRUCK PTO OPERATION

1. There is a report of breakage of the PTO-to-hoist pump drive shaft on the CCE-IHC Paystar F5070, 20-Ton Dump Truck. These shafts are highly susceptible to damage by both commercial and military users, therefore, the proper PTO method of engagement, as cited in the manuals and expanded herein, must be emphasized. Otherwise, when the PTO drive shafts are under heavy loads, such as the dumping cycles, they will shear and deadline the truck.
2. Operators must be cautioned to do the following, in operating the hoist system:
 - a. Idle the engine.
 - b. Step on and hold the service brake treadle or pull out the emergency parking brake, yellow diamond shaped knob.
 - c. Shift the powershift transmission into any gear, stalling the torque convertor.
 - d. Switch "ON" the PTO air control lever to engage the sliding PTO driven gear to the transmission drive gear. The red PTO lamp will come "ON", indicating that the PTO has shifted into gear with the transmission. If it doesn't, see step "e" and "f" below. (Caution, don't speed up the engine yet and don't move the hoist control from its locked, neutral location).
 - e. Ease off and reapply the brakes to rotate the transmission gears, thus making sure that the pressurized PTO air cylinder shifts the PTO driven gear into full mesh with the transmission driving gear (and that the two gears are NOT just tooth-to-tooth contact, waiting to mesh).
 - f. Shift the powershift transmission into " N" (neutral) and listen to the sound of the engine and pump being underload. Shift the transmission back into gear, if the noise feedback indicates gear clashing from the PTO and transmission gears. Repeat as often as needed to insure gear engagement and get the red light "ON".
 - g. Then and only then should you first move the hoist control valve lever from neutral (don't forget to release the safety lock) and accelerate the engine for hoist operation. The manual suggests that you not exceed 1500 engine RPM, but this engine RPM should be an operator's mandatory

limit, not merely suggested. With the PTO being driven at approximately 3 times engine speed, any PTO and pump overspeeding will damage these components. With the PTO mounted at the eleven o'clock position on the transmission, overspeeding damage to the PTO usually will require an overhaul to a very expensive automatic transmission, that would otherwise last the life of the truck. Carefully watch the tach and get use to the 1500 RPM engine sound limit.

h. When operating in cold weather, usually defined as colder than 400F, let the PTO and hoist pump circulate the oil with the engine at or a little above idle RPM to ease the load on the hoist hydraulic system and to warm up the system. Leave the hoist control valve in neutral during warm up and don't race the engine.

i. Upon completion of hoist operation always move the hoist control to neutral and lock it. Most important, switch the PTO air control valve to "OFF", disengaging the PTO drive. Never transport away from the dumping site or travel down the road with the PTO engaged.

3. Adherence to the operation in 2 above is intended to ease the shock loading of PTO engagement and reduce PTO drive shaft breakage. Operator impatience, over a period of time; is the indirect cause of hoist drive shaft breakage. In the CCE-IHC dump truck, the PTO driven gears have a mechanical connection to the pump all of the time. There is no gradual application of power. Upon PTO engagement and upon rotation of the transmission gear train, the hoist pump must either turn or some part of its drive train fail. The PTO shaft breakage factors are as follows:

- a. "PTO tooth-to-tooth gear hanging" and subsequent slamming engagement, when gears begin to rotate (brakes released or transmission shifted into neutral) .
- b. PTO overspeed as a result of operation in the range of from 1500 to 2100 RPM engine speed.
- c. PTO engagement on the run (at any speed) without benefit of stopping the transmission drive gear rotation.
- d. Cold starting of the hydraulic pump having the hydraulic oil partially solidified from the cold weather.

- e. Mechanical areas including poor welds, soft or cut woodruff keys, sloppy splines and U-joint bearings, and missed or inadequate lubrication, based on PTO usage.
- f. With the PTO engaged, rapid acceleration of the engine.
- g. Any and all combinations of the above.

4. The above rationale points to the wisdom of the commercial dump truck users in advocating that, for dump truck applications, the PTO should be of the "hot shift" type, be equipped with a PTO controlled engine speed governor system, and the hydraulic pump should be integrally bolted onto the PTO. The hot shift PTO, as opposed to the current, sliding gear PTO, provides the benefits of having a constantly engaged driven gear, a multiple plate hydraulic clutch pack which slips during engagement, and an integrally mounted hydraulic pump without need of driveshaft, U-joints, or slip joint. While the hot shift PTO and pump features cost more in first cost initially, the result is a much higher truck availability and reliability and a reduction in the overall cost during the truck's life. The driver merely engages and disengages the PTO without any specific operational procedure to memorize. The optional engine RPM speed governor permits engine operation only in the safe range whenever the PTO is engaged.

BRAKE SYSTEM AIR DRIER TLC INSTRUCTIONS

The CCE-IHC Dump Truck has an air brake system drier installed on the road side frame rail near the rear of the cab. The air drier is plumbed between the air compressor and the first wet brake reservoir, as close to the reservoir as possible. The air drier is of the desiccant (moisture absorbent crystals) type that removes and traps liquid contaminants, airborne water vapor, and carbon particles and has an automatic spitter valve at the bottom to exhaust the collected liquid waste. The air drier is purposely in an area of air flow, when the truck is in motion. Since the cooling effect of the airflow is important to the life of the replaceable, desiccant crystals, make certain that the air flow is not interrupted by excess mud, dirt, and dust. Also watch for excess buildup of paint on the housing which could interfere with proper transfer of heated compressor air to the much cooler ambient air flow. The air drier, in concert with the wet and dry reservoir automatic spitter valves, functions to keep moisture, compressor engine oil, and carbon particles out of the air system's valves, brake chambers, and wiper motors. The air drier will keep the rest of the air system as maintenance free as possible. A telltale sign that the air drier needs PM servicing is when the automatic spitter valve on the air reservoir under the steps begins to exhaust excess moisture and sludge. This moisture and sludge should have been exhausted by the air drier's spitter valve.

Periodically bleed the air system of all air pressure at the bottom, open the drier housing, and inspect and replace the desiccant crystals inside the canister.

Brake Adjustments, Front vs Rear

On the CCE-IHC Dump Truck, the rear tandem, S-cam, foundation brakes require manual adjustment to the slack adjusters, while the front axle wedge brakes have automatic adjusters built-in. With this set-up, commercial users report the likelihood of brake unbalance of the foundation brakes unless the rear tandem is readjusted at relatively short mileage or unless automatic rear slack adjusters are substituted on all tandem chambers. What happens is that the front brakes keep automatically readjusting at short mileage as the front brake linings wear and the rear tandem does less and less work as the tandem linings wear. Soon the front brakes end up doing most of the stopping of the truck. Also, front brake lining wear is further accelerated with even shorter mileage between automatic readjustment cycles. Unbalance between front and rear axles causes front axle lockups on slippery roads and gravel and could result in an accident. You're also going to go through many sets of front linings.

It is very important to keep the front and rear brakes doing their portion of the stopping power for the truck, based on the loaded front and rear axles weights. When loaded and after a few brake stops, cautiously feel the brake drums, all 6 of them, and see if they are all about the same temperature. Also, watch for any front axle lockup or swerving tendencies. Have a couple buddies check your rear tandem slack adjusters very often for correct angle settings. As you make a gradual brake application from the cab, your buddies should observe that all 4 of the push-rods of the brake chambers come out at about the same time, that they evenly push out at the same rate of speed, and that they all stop in the fully applied position with the push-rod and the slack adjuster making a nice, 90° angle. This means that the rear tandem is doing its share of the stopping job. If the push-rod over travels, so that the chamber side has an angle of less than 90°, then your front brakes are doing a lot of stopping work and the rear tandem is going along for the ride. Readjust the rear tandem as soon as possible to insure safe, balanced brakes!

Heated Dump Body

1. Field users of the CCE IHC Dump Trucks have reported that cargo fires have occurred when transporting combustible material in the dump trucks for long distances. Users should be aware that the CCE -IHC Dump Truck is intended primarily for use as a dump truck in the same role as its commercial counterpart. The truck will haul earth, sand, gravel, asphalt paving mix, and rock and do a good job. While it can transport snow, leaves, refuse, and barracks bags, these are not the normal payloads of an on-off road dump! The truck's suspension is too stiff for transporting light payloads economically. In prolonged use, the truck will beat itself apart through vibration and cause high maintenance costs.
2. The CCE dump also has peculiar characteristics with combustible payloads in the bed. If the engine exhaust diverter valve is routing the exhaust through the dump bed (instead of out the vertical stack pipe), combustible payloads (such as leaves and barracks bags) can build up enough heat at the surface of the bed, to catch the payload on fire near the end of prolonged travel. Even if you position the diverter valve to route the exhaust gases through the stack pipe, watch it! The diverter valve is spring loaded. The spring is relatively weak and the payload will not deflect the springs and tires when traveling over rough pavement. The result is the vibrations and shocks may overcome the diverter valve spring and alternately send the exhaust gases through dump body and the exhaust stack at random.
3. For both combustible payloads, construction material payloads, and aggregates, you should decide where you want the diverter valve positioned and then secure the valve in a positive manner in that position to insure that it stays put. Heavy wire and screen door or other types of springs with hooks or alligator clamps are suggested to keep the valve from flapping. Remember, the load of laundry you burn up may include your own.
4. The diverter flipper and valve body are made of 1/4-inch plate and designed to work freely with large clearances. Close tolerances to achieve a perfect fit are not practical in this engine-exhaust-gas environment. Close tolerances would result in binding and an inoperative diverter valve, caused by heat warpage of the parts and carbon buildup. Field user complaints that the diverter valve does not properly seal off the dump bed from the exhaust gases and heat are not valid for dump trucks. Cargo trucks are available to users and should be used to transport combustible materials.

5. For those users who need a stronger keeper to hold the diverter valve flipper in each position, the following solution is offered. Leave the existing spring between the handle and its fixed welded bolt on the valve body. Install a new auxiliary spring (of the screen door type) on the eye of the flipper handle (see Fig. 1). Use an S-clip to secure the eye to the spring wire. On the free end of the spring, add a heavy duty, spring loaded, alligator, clamp of the type used in electrical work. An alligator clamp 2 to 4 inches long should do it. The exhaust clamp at the diverter valve stack pipe to muffler junction makes a good place to anchor the battery clamp. Orient the muffler clamp so that the nuts aim rearward. Fabricate an auxiliary spring clamp bracket from heavy sheet metal to provide an anchor point for the alligator clamp. Since the exhaust system is subjected to a lot of vibration, the spring clamp bracket layout should include wings on the sides and a folded-over, jaw-filler on the bottom to prevent the alligator clamp from sliding off of the bracket. Check the auxiliary spring tension in both the "through stack" and "through body" flipper positions. You want somewhere between 10- to 25-pounds of tension on the spring to hold the flipper valve in its setting. If the spring is too loose, cut off a number of coils and, with needle nose pliers, form a new loop in the wire.

HEATED DUMP BODY
ENGINE EXHAUST DIVERTER VALVE

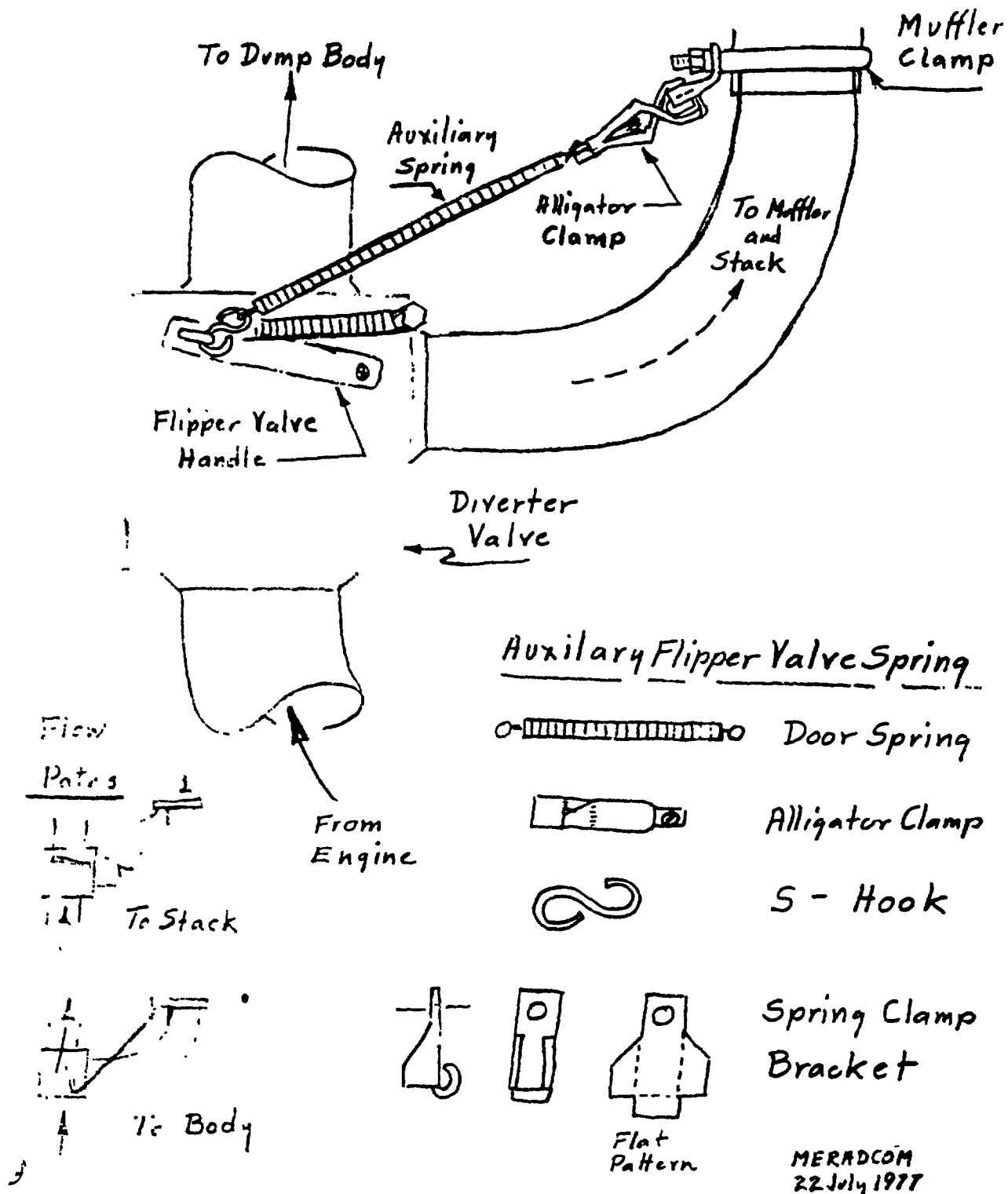


Fig. 1

DUMP BODY AND FRONT END REFLECTORS

When looking at the back end of your CCE-IHC 20 Ton Dump Truck, please look carefully and see if some of the truck's decorations are missing. When it left the manufacturer, the truck dump body had two red reflectors pasted on the tailgate facing rearward and two more reflectors pasted on the body corner posts, one facing each side. As mounted, these reflectors are subject to damage and loss from both the material that you haul and from the tailgate being slammed against the body during dumping. These reflectors are necessary to show other drivers that your truck is in front of them during the hours of darkness. Be sure you have all the reflectors in working condition and keep these good people off your tailgate.

To keep the replacement, rear facing reflectors working, relocate them into a better protected location on the upper metal part of the splash guard bracket. This bracket is recessed up under the dump body forward of the rear floor lip and tailgate.. The bracket will also protect the reflector from the shock of banging the tailgate. In lieu of the paste-on, replacement reflectors, two horizontal, size 9/32 inch holes (3 -15/16 inches apart on-centers) should be drilled to permit installing(by bolts and nuts) either commercial reflectors or the Military MS35387 reflectors, same as is used on GI trucks.

For added safety, as a commander approved option, user units may wish to follow the GI truck lead and install two additional, MS35387, amber reflectors on the front fenders of the dump truck, facing forward. These reflectors should be located in the upper, outside fender corners to prevent the grill guards from obstructing the light source and the reflected light. Secure the reflectors with' bolts and nuts.

HOIST SYSTEM HYDRAULIC OIL FILTER AND RESERVOIR

Users of the CCE-IHC, Paystar F5070, 20 Ton Dump Truck have been experiencing failures of the reservoir inlet pipe and oil filter support bracket. These items provide the mounting for the return line oil filter. The method of mounting and weight of the filter and its hose, cantilevered out from the reservoir, imposes too much load on the pipe and bracket to withstand the shock and vibration of dump truck service.

The pipe and support bracket can be reinforced to support the oil filter or the oil filter can be relocated onto the truck frame to alleviate the problem.

To support the oil filter in its existing location, fillet weld vertical gussets of the triangular type, between the pipe and the lower reservoir head sheet. Weld one gusset on the inner side pipe radius and one on the outer side pipe radius to stiffen the pipe primarily from up and down vibration and secondarily from transverse horizontal vibration. One, single gusset, under the pipe, won't provide sufficient side-to-side support for the heavy oil filter, so twin parallel gussets are needed. Next reinforce the old or make a new support bracket for anchoring the oil filter housing to the reservoir tank. Since the truck frame and the reservoir do not vibrate together, do not mount this bracket to the frame or to the frame mount of the reservoir. Instead, weld the support bracket to the top of the reservoir tank head sheet and bolt the oil filter housing to the bracket. Near the oil filter end of the bracket, intentionally add vertical gussets so that mechanics cannot use the oil filter as a step surface to support their weight.

To relocate the oil filter to a new location, be sure to choose a place and method that will not interfere with the air flow around the frame mounted air drier for the air brake system. This air drier is just ahead of the hoist reservoir and needs all the air flow it can get to cool the hot, compressed air from the air brake compressor and take out the moisture before the flow into the first air reservoir. Obstructions and brackets near the air drier will cause it to run hot and increase truck air brake maintenance. Also keep in mind, the fact that sharp hose bends and 90P fittings in a hydraulic

ALTERNATOR CHARGING AND DEAD BATTERY RELATIONSHIP

1. Reports from the users have indicated that some CCE-IHC 20 Ton Dump Trucks are experiencing a problem in keeping the batteries in sufficient state of charge to start the engine in the morning. The CCE Dump Truck is equipped with a Cummins NTC 290 Diesel, a high torque 12-volt starter motor, an 80 amp capacity SAE J180 alternator, and 4 each, 6-volt batteries in series-parallel arrangement. These component ratings are commercially matched to start this engine and maintain charged batteries in heavy duty commercial dump truck service.
2. The Cummins Diesel with 855 cubic inch displacement demands a large quantity of electrical power from the batteries to start. The colder the weather, the more power that is required. The starter current draws nearly 900 amperes from the two 12-volt pairs of 6-volt batteries. After engine start, the state of charge of the batteries tells the alternator how much of its 80 amp capacity the alternator needs to produce to replace the quantity (amps) of electricity used in starting. The many factors involved in recharging the batteries include interrelationship of alternator output, engine speed, time of recharge, and condition of wiring at each connector including frame grounds. Table 1 illustrates the dead battery problems.
3. For normal service involving sufficient truck operational time, the alternator is sized and the batteries have the capacity to maintain the truck operational. For abnormal service where the truck is only exercised occasionally, the batteries should be connected to a portable battery charger as needed to maintain a fully charged condition.
 - a. Alternators: Higher capacity alternators can be substituted. Any alternator meeting SAE J180, double lug, single wire, will be interchangeable with the present 80 amp alternator; select from 90 and 103 amp ratings, however, running time of recharging will still be a major factor in keeping the batteries charged. Substituting a 103 amp alternator for the present 80 amp alternator will result in only a slight decrease in time needed for recharging the batteries. The present engine to alternator pulley speed ratio is 2.8:1. This provides a 5900 maximum alternator RPM at 2100 engine governed RPM. For long life and maintenance-free alternator operation, do not repulley this or any alternator to exceed the maximum of 6000 alternator RPM at engine governed RPM.

restrict oil flow, so relocate the oil filter in a location where gentle hose bends and, at the maximum, 450 fittings can be used. A location inside of the frame should be evaluated.

Construct a short, heavy L-bracket to match and hold the oil filter head with the least distance possible from the frame. The L-bracket should have at least two heavy triangular vertical gussets between the legs to provide strength. Remember the bracket has to support not only the filter filled with oil but the weights of the connecting hose lines, the bend forces of the hose lines and the forces exerted by the oil pressure flowing through these bends which want to straighten them out. Now, add to this the vibration of a washboard roadway and the chuckholes encountered by the truck when empty.

CONTINUOUSLY CONNECTED VOLTMETER INSTRUMENT PANEL
GAGE AND DEAD BATTERIES

1. An EIR has been received on the CCE-IHC 20 Ton Dump Truck, Paystar F5070, which attributes dead battery conditions to the truck manufacturer's commercial practice of connecting the voltmeter to a "hot" terminal thus providing a continuous operating gage with no means of shutoff. The gage operation is not wired through the ignition switch.
2. With the voltmeter alone discharging the 4-battery pack on the CCE-IHC Dump Truck, the fully charged batteries would be dead in a 9 1/2 month time period. The voltmeter current consumption pulls about six hundredths of an ampere-hour from the 416 ampere-hours of the battery pack. It is apparent that the voltmeter is not the immediate cause of the batteries going dead.
3. Regardless of the vehicle, the major cause of batteries going dead is the combination of electrical leakage across the top of dirty batteries and insufficient vehicle alternator charge and operating time. The publications of the battery and truck manufacturers (for commercial users) and of TMs and PS Magazine (for Army users) tell the story on cleaning, servicing and charging of batteries.
4. The reason that the truck manufacturer wires the voltmeter directly to a "hot" battery terminal with no disconnect is to insure that the voltmeter's correct reading is available to the driver before the engine start is attempted. By reading the voltmeter immediately upon getting into the truck, the driver is able to check the condition of his batteries without any external charge or discharge causing reading errors. The various makes and models of voltmeters all have a dampening fluid in them to prevent needle vibration. As a result, it takes time for the voltmeter needle to move up from the off indication to the battery condition. Turning the ignition switch to the " on" position could cause enough of a battery discharge to reflect low battery charge state reading. Reading the voltmeter after operation also creates an error, because the alternator, during charging, puts a surface charge on the battery plates. Readings after operation make the batteries look to be in good condition even though they may need attention..

5. The EIR suggested moving the live, voltmeter wire No. 27 of the circuit breaker panel from its present, continuously 'hot' terminal and reconnecting with wire No. 14B, the top terminal of the magnetic switch. This change will function to disconnect the voltmeter from the system, whenever the ignition switch is "OFF". With this change in voltmeter wiring, users lose the battery condition indication before starting. The alternator charge indication is not affected. The EIR stated the local IHC dealer concurred in the change and said that it would have no ill effects on the truck's electrical system. This is true in part. With this change in voltmeter wiring the primary purpose of the voltmeter, to indicate the correct range (voltage) of alternator charging of the electrical system, is not affected. The change does result in the users losing the before operation battery condition indication and the ability to take action to service those low charge batteries before they fail to start the truck. This presumes that the drivers look at and interpret the voltmeter readings before they start the engine or otherwise drain the batteries.

PTO OVERSPEEDING PROBLEM

1. Field users are reporting that the CCE-IHC 20 Ton Dump Truck PTO, for the dump body hydraulic hoist system, is being damaged by overspeeding of the engine during the hoist cycle. The PTO and the dump body manufacturers warn that the engine foot throttle should be depressed only far enough to reach 1500 RPM engine speed while dumping. The engine is governed at 2100 RPM (about 2350 RPM during no load overrun). Therefore, it is in the hands of the dump truck operator as to whether or not he operates his CCE-IHC dump truck so as to not damage the PTO and hoist pump.

2. Overspeeding of the PTO driven components has been a commercial user problem for many years. These users employ two principal methods of achieving limited engine speed for PTO operation as follows:

a. Marking Method: Label the tachometer dial at the maximum recommended engine speed of the PTO/pump component supplier with the words "MAX PTO" and then mark with a red colored band on the tachometer bezel from this engine speed limit on up to the maximum engine speed reading of the tachometer. (For the CCE- IHC dump truck application, the label would be applied near the 1500 RPM reading of the dial and the red band would be applied between 1500 RPM through 2100 RPM).

b. Governor Method: Install a Manual Variable Speed (MVS) PTO governor on the engine fuel pump control lever.

The marking method works satisfactory for some users. Its simplicity of application on the truck is the major benefit. The major disadvantage lies in the fact that some drivers don't observe the engine speed limit for PTO operation and overspeed damage to PTO components still occur. The Marking Method (see Figure 1) involves applying the words, "PTO MAX" on strips of self-adhesive, red tape and after cleaning, sticking this label at the maximum recommended engine speed limit of the tachometer. The tachometer bezel is then painted with red paint from this limit around to the maximum engine speed reading. The users train the drivers not to operate the engine in the red band of the tachometer, whenever the PTO is engaged. This labeling and banding has proven more satisfactory than a separate decal on the instrument panel. Some drivers ignore the markings and still overspeed the PTO System.

The governor method eliminates the PTO overspeed problems. The main advantage lies in the fact that the driver cannot physically overspeed the components, since the engine -RPM is limited during PTO operation mode. This method does require the addition of a few components to the truck. For the CCE-IHC dump truck application with the air operated PTO system, the added parts include only a new air line and an air cylinder and mounting hardware. The governor method involves adding a Manual Variable Speed (MVS) Governor (see Figure 2) on the engine throttle control lever at the engine fuel rump and preventing speeding of the engine in excess of the recommended speed setting. The Army's CCE-IHC dump truck is equipped with an air control in the cab for driver engagement of the PTO. This air control furnishes air for the PTO shift air cylinder. The MVS governor is added by (1) installing a T-fitting in the PTO air line between the PTO dash control and the PTO shift air cylinder, (2) running an added air line over to the engines fuel pump rack control, and (3) adding a small air cylinder with adjustable mount to stop the fuel control lever. The mechanic sets the air cylinder to restrict the fuel pump lever arc to a maximum of 1500 RPM with air pressure supplied when the PTO control is "ON" and insures there is no lever arc travel interference when the PTO control is "OFF". A return spring in the air cylinder automatically retracts the piston, allowing unrestricted, full travel of the fuel pump control lever. The normal size of the air cylinder used is the 4 inch length having a 1 inch diameter piston.

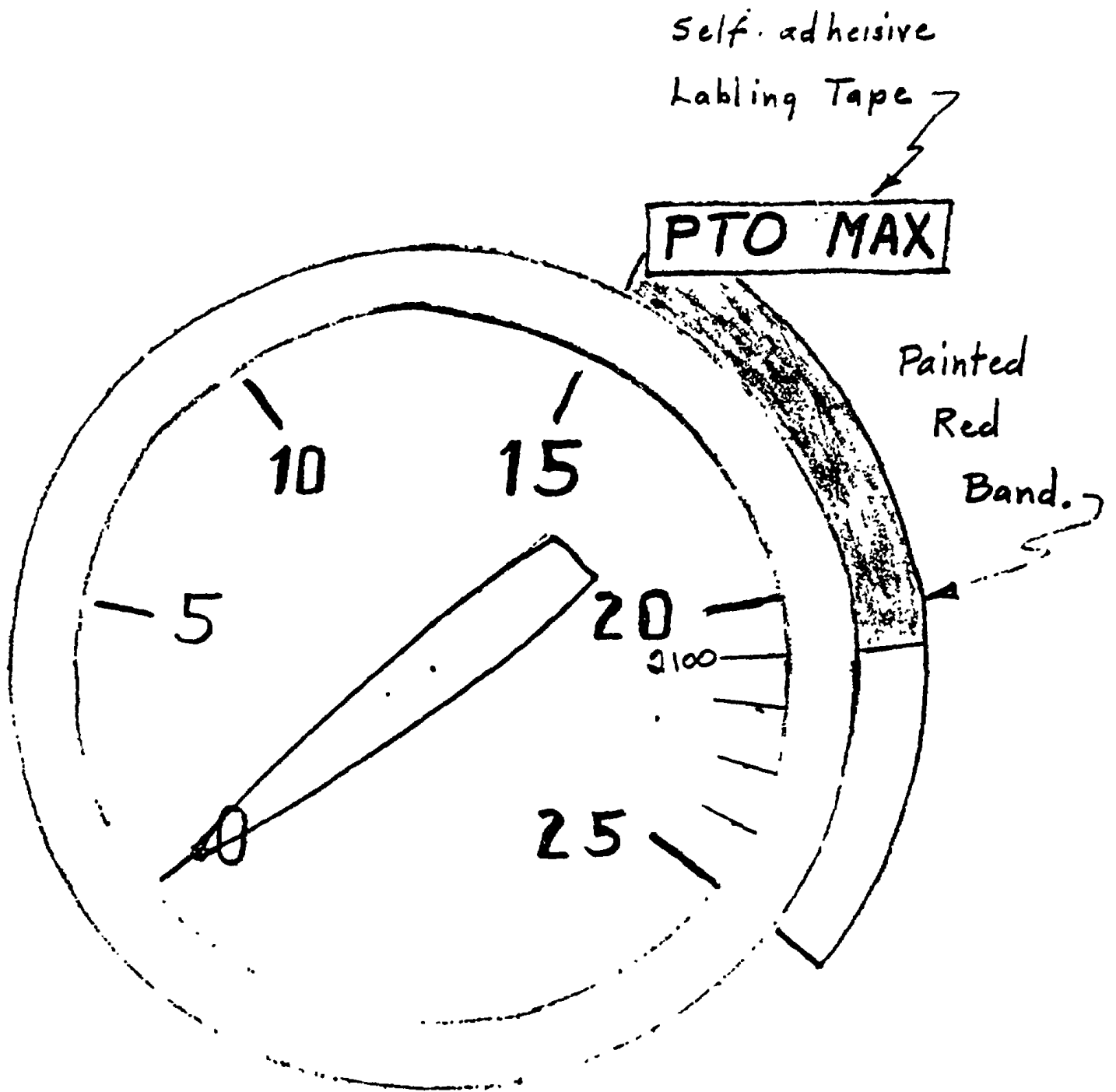


Figure 1. Tachometer PTO Markings

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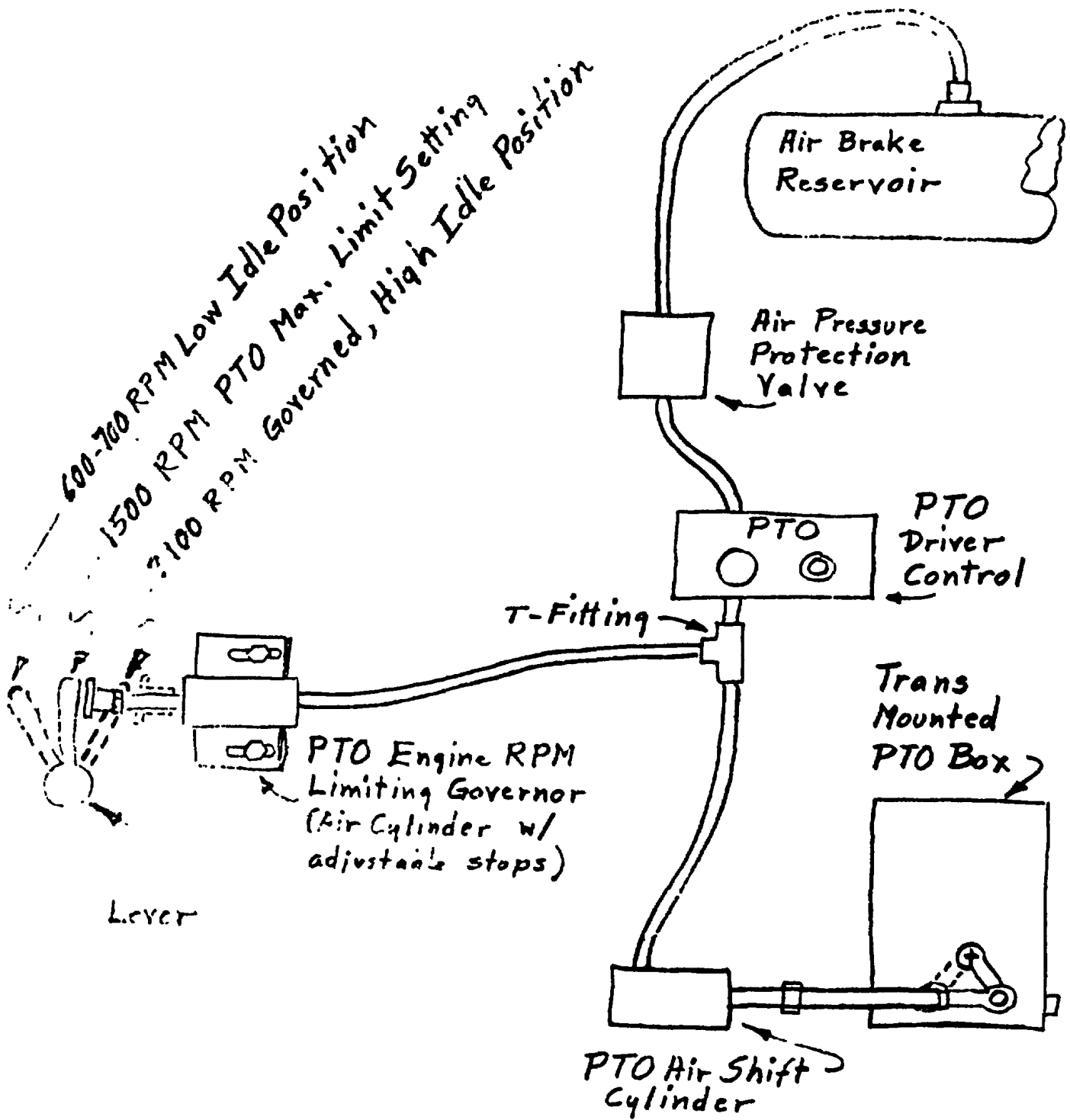


Figure 2. Manual Variable Speed PTO Governor

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CHAFING OF HOSE AND WIRING

1. Users are reporting cases where the various hose lines and electrical harnesses are rubbing on each other and chafing against other components of the CCE-IHC 20 Ton Dump Truck. This also occurs on other vehicles.

2. Users can reduce the effects of rubbing and chafing by protecting, securing, and rerouting the lines. The accompanying guidance is recommended in the following order preference:

a. Protection of lines: Many commercial users advocate protection of these lines, especially in locales where the lines must remain flexible. The protection method also reduces the mechanic's time necessary for component maintenance. Examine each vehicle for potential trouble spots. For those areas where there is a risk of rubbing or chafing occurring, cut and slit a length of scrapped garden hose or heavier scrapped water hose. Install the slit hose over the lines for protection. Secure the hose with screw type hose clamps, one fastening each end. Check this protection on a 6 month or a yearly basis and replace the worn hose with more scrap hose, when necessary. This method won't affect the maintenance of the line being protected nor increase the time to replace nearby components. The added scrap hose continues to rub and is sacrificed without complicating the vehicle with added brackets, holders, or other components that get in the way of future maintenance. Another trick is to use the hose as a continuous bracket, since the hose and line is usually stiffer than the original line was alone. Commercial users occasionally provide U-shaped brackets to aim the stiffer hose and line assembly out of the way of damage. The bracket is fastened to the vehicle and the line leg of the U-bracket aimed in the desired path. The screw type hose clamp secures the hose assembly to the bracket in the aimed path.

b. Securing lines: Brackets are good, but there are a number of tricks -of-the-trade necessary to prevent the brackets from causing more problems-than they are worth'. The purpose of a bracket is to

clamp and secure a line out of harm's way. Make sure that the bracket will hold the line away from the danger and-not in the path of future trouble. Next, make sure that the bracket won't chafe the line (wrap metal brackets with a plastic sleeve or double overlay wraps of plastic tape). Prevent all relative motion between the bracket and the line being protected. Brackets can chew into these lines to the same degree as the original object. Don't fasten brackets onto components that could result in new maintenance problems, such as the following:

(1) Watch attaching brackets under the heads of torqued cap screws that could cause gaskets to leak.

(2) Watch bracket attachment to a "blind component" that is easily removed, but could cause the whole chassis wiring harness to be broken because the protecting bracket could not be seen until after removal.

(3) Don't drill bracket mounting holes in any of the vehicle structural members, especially truck frame rails. These highly stressed components must remain free of holes that concentrate the stress forces of sever operation.

c. Rerouting lines: Rerouting of lines is sometimes necessary to solve a problem installation. On all vehicles, the safest place for routing of lines is on the upper, inner side of channel and framing members, away from moving and articulating components and out of the mud, debris, and road splash areas. The prime candidate lines in need of rerouting are the chassis-to-body interface lines, added after the chassis was completed. Other candidates include lines relocated in error during maintenance and lines subject to damage as a result of the abnormal vehicle usage that was not intended by the vehicle manufacturer. Rerouting of lines is tricky and requires a trained eye to evaluate all possibilities. Before any relocation attempt, obtain a length of scrap line and make a trial installation temporarily securing the line in the new location. Review the installation for other hidden hazards and ask other personnel to review the rerouted line path for you. Then when you are sure the path is the best, change the line to the new location. If longer or shorter lines are required, remember to measure the length needed twice and cut the new length once!

TOWING OF DISABLED ARMY COMMERCIAL VEHICLES

1. Field users are reporting major problems in towing of commercial, vehicles that are inoperative. This problem is especially true in recovery of disabled CCE-IHC 20 Ton Dump Trucks and CCE-P&H 25 Ton Hydraulic Cranes. The users report that the M-Series Military 5 Ton, 6 x 6, Medium Wrecker Trucks (M62, M543, M816 or M819 Models) experience serious towing, steering, and braking hazards during attempts of recovery of these heavy commercial vehicles. Even more problems can be expected in the future as an increasing number and variations of commercial vehicles are assigned to troop users.

2. Commercial users have the same problems and are using many ways to solve it. These methods include low bed semitrailer recovery, commercial-type-wrecker recovery, and tow bar recovery. In addition, the towing vehicle used in the latter two methods must always be greater in actual weight than the vehicle being towed. Commercially, the disabled vehicle's actual weight should not exceed 45% of the towing vehicle's actual weight. Following this rule, only a fully loaded CCE-IHC 20 Ton Dump Truck, at 71,000 lb GVWR, should use a tow bar to tow an empty CCE Dump Truck at 32,000 lb curb weight. However, it is quite often that a wrecker is dispatched to the site of the disabled vehicle without knowledge of its actual weight. For this reason, commercial wrecker-crane firms, which service the trucking industry, maintain a fleet of light, medium, and heavy wrecker trucks necessary to accomplish any job. They have also found it to be less costly to respond with a larger wrecker than might be needed to avoid damage to equipment and excessive recovery time. Commercial users send service trucks and mechanics to the disabled vehicle to correct electrical, fuel, and tire problems. The tractor-trailer and wrecker are reserved only for cases of engine failures, drive train failures, and accidents.

3. Preparation of disabled vehicle for recovery.

a. The tractor-trailer method of recovery involves the least preparation, only requiring that the vehicle be dragged or pushed on the low bed semitrailer and adequately secured. The disabled vehicle must be chained down to the semitrailer D-rings with come-a-longs at the vehicle's front end, rear end, and axle-suspension assemblies. Do not depend solely on the vehicle's locked spring brakes and weight to keep the vehicle on the semitrailer. All semitrailer payloads must be tied down with sufficient number of attachment having the sum of the ratings that will equal or exceed the weight of the

payload. The Federal Motor Vehicle Safety Regulations (49 CFR 393.85) apply and tell how to do it. See your local-legal office for copies of the United States Code of Federal Regulations (CFR).

b. The power train and spring applied brakes must be disengaged on the disabled vehicle whenever recovery is performed by towing from the front end. Towing from the rear end on the dead front axle is the exception. Those vehicles with aux boxes behind the main transmission, including the CCE-IHC 20 Ton Dump Truck and the CCE-P&H 25 Ton Hydraulic Truck Crane, need only have the aux box shifted into neutral to disengage the power train. It is a good idea to wrap a couple turns of rope around the aux box cab control lever and tie the ends of the rope to fixed items in the 'cab. This secures the lever in neutral and precludes the remote possibility of towing vibration or shock from accidentally shifting the aux box into gear. Those vehicles with transfer cases or without an aux box must have the axle U-joint(s) disconnected and the loose drive shaft(s) secured to a frame member. A second method of disconnecting the drive train is to remove the drive axle shafts, wrap them in a clean cloth, and stow them in the cab. Trailer axle hub caps must be bolted onto the hub to prevent entrance of dirt. Sets of trailer caps or metal plate equivalents are carried in the wrecker's tool boxes. On most disabled vehicles the rear spring brakes have been applied. These vehicles cannot be moved until the spring brakes have either been released by fully charging the reservoirs or manually caging each spring chamber. Slave charging of the disabled commercial vehicle reservoirs to release the parking brakes should be used only for tractor-trailer recovery to move the vehicle onto the low bed semitrailer. For hoist and tow and tow bar recovery, either the disabled vehicle must be hoisted from the rear or the spring brakes must be manually caged. There is a danger in towing of a commercial vehicle with fully charged reservoirs. If the air system has any leaks and if the driver guiding the disabled vehicle uses the service brakes, the emergency-parking system may go into an automatic and uncontrolled brake application while being towed. On older vehicles (pre-121), the spring brakes will "dynamite" somewhere about 45 to 60 psi reservoir pressure. On newer vehicles the spring brake application will gradually (or suddenly) begin brake application after the reservoir has dropped below 90 psi with increasing torque as the pressure goes lower. **CAUTION: Caging of the spring brakes is only for the occasional emergency situation and the spring brakes must be uncaged before returning to service. Caged spring brakes make the emergency-parking brake system dangerously inoperative.**

4. Truck-tractor semitrailer disabled vehicle recovery. Loading of the disabled vehicle on a truck-tractor low boy semitrailer, as cited above, is the safest,

5. Tow bar recovery. Towing of a disabled vehicle by another vehicle, without raising an end of the disabled vehicle off the ground and transferring weight to the towing vehicle, can not be recommended, except in cases of emergency and then only for short distances of 1 mile or less. Speeds must be kept under 20 mph. Even slower speeds are necessary on curves, turns, and maneuvers. Also remember, only one of the vehicles has braking, so the combined stopping distances are at least 4 times as great.

Suggestion 222-C-77

CCE - IHC Paystar F5070
20 Ton Dump Truck, 6x4, 71,000 GVWR

Hydraulic Hoist Filter Mount

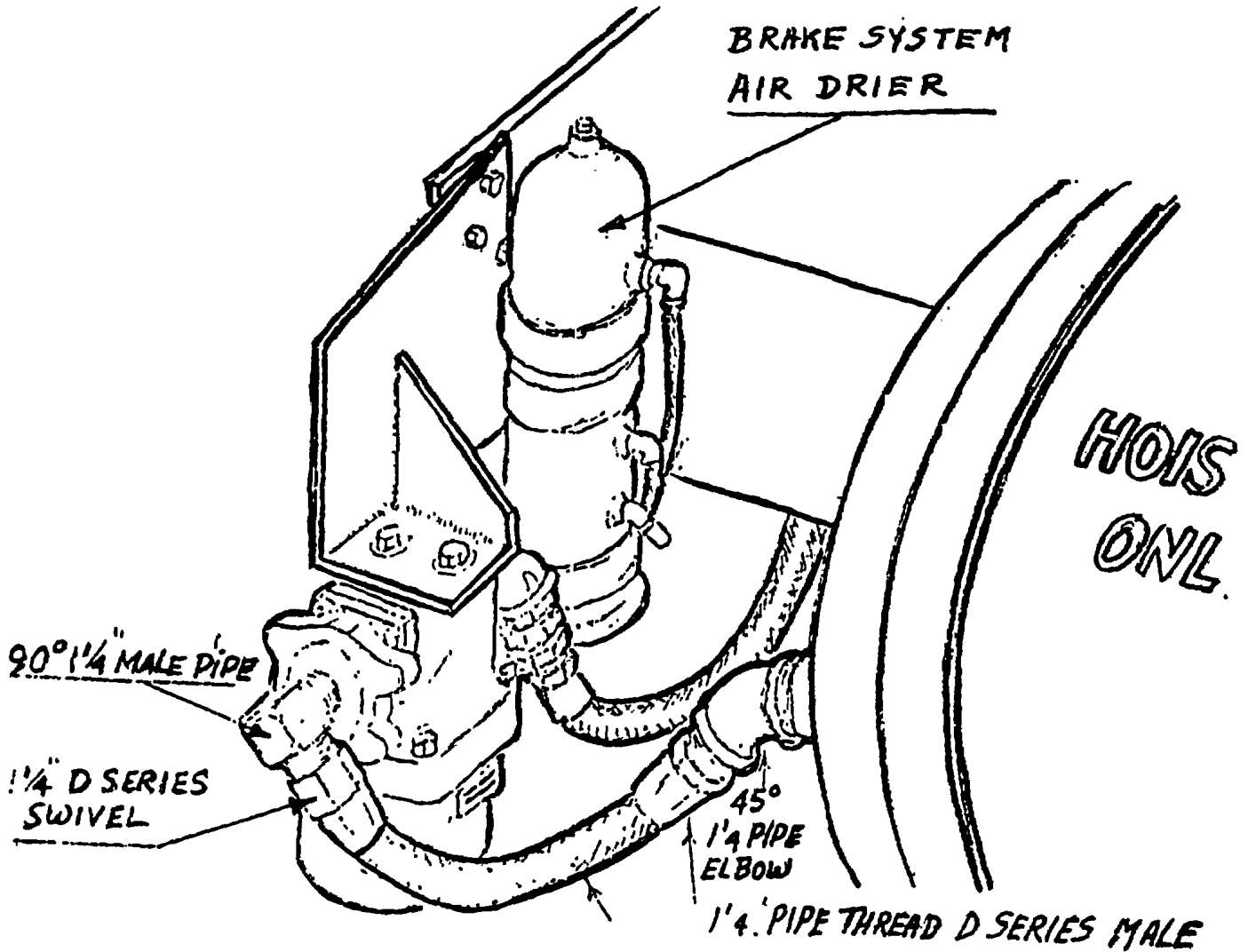
20-TON DUMP TRUCK, RELOCATION OF HOIST FILTER ASSEMBLY	222-C-77
14. SUBJECT OF SUGGESTION	15. SUGGESTION NUMBER
16. DESCRIPTION (<i>Describe the Current Situation and your Suggestion for Change or improvement. Include where and how it can be used, and identify estimated tangible/intangible benefits which would result from adoption.</i>)	
There is an inherent defect in the 20 Ton Dump Hoist Hydraulic Filter attachment	
where it mounts on the hydraulic tank. The constant vibration while the vehicle is	
in operation fatigues the metal where the fitting is welded to the tank causing oil	
to leak out. The present reinforcing bracket is not adequate to prevent this failure	
from recurring.	
The attached sketch shows our idea of an improved system where the filter is L	
mounted separate, avoiding further damage and leakage.	
This fix has been successfully applied to all 16 ea 20 Ton Dump Trucks received	
at and operated by the Engineer Bn. No further problems are	
anticipated. EIR submitted, attached sketch submitted as follow up to EIR.	
SUGGESTION FINISHED? Refer to Instruction Numbers 2 & 3 on reverse side of this set. NEED MORE SPACE? Reverse entire set. Pull out ling carbons. Reverse and reinsert long carbons. Continue under Item 16.	

DA FORM 1045
1 SEP. 72

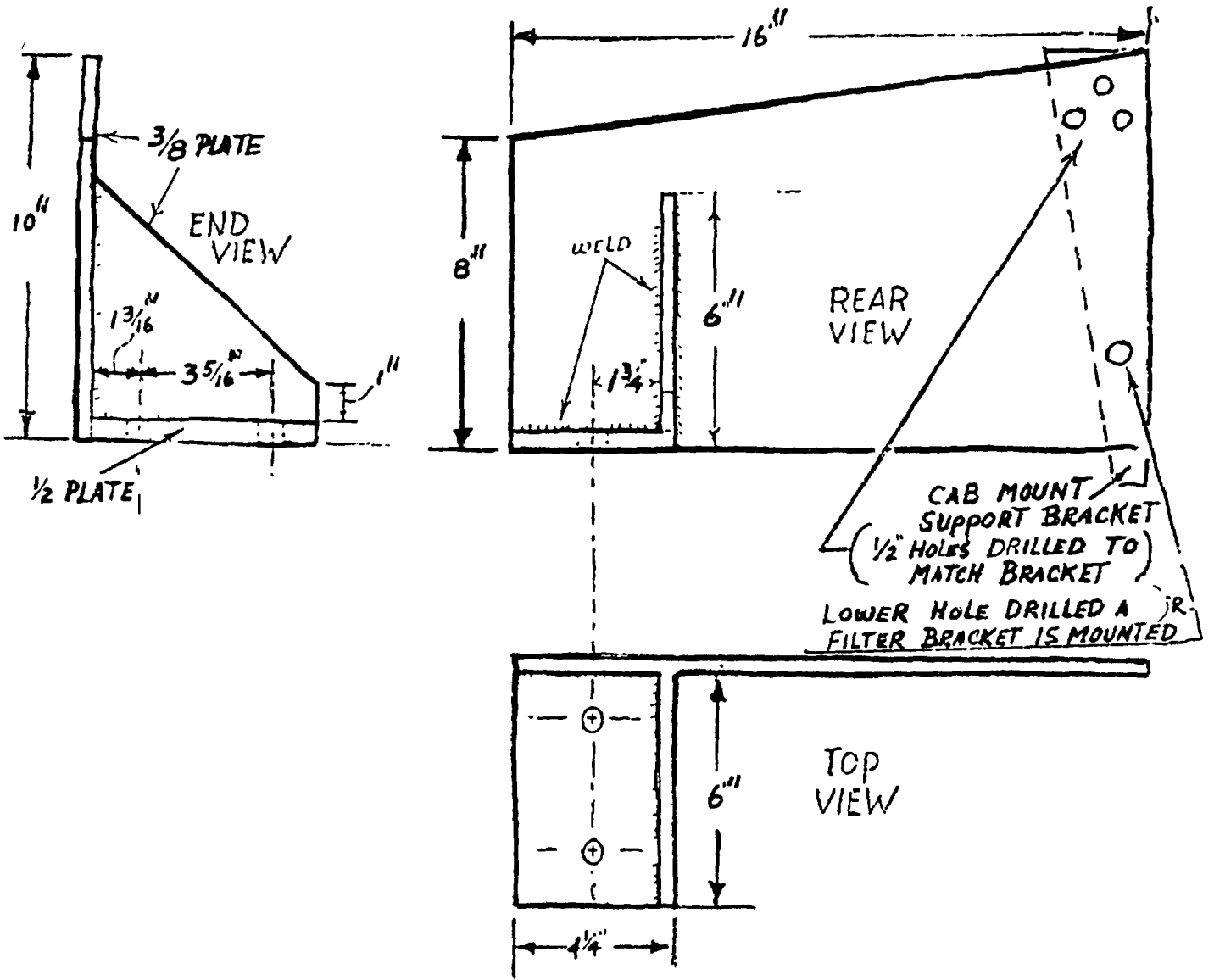
REPLACES EDITION OF 1 AUG 67, WHICH IS OBSOLETE.

COPY 1

Hoist Filter
Support Bracket
For 20 Ton Dump Truck
NSN 3805-00-192-7249.



SKETCH 1



Scale 1/4" = 1"
 Sug. # 222-C-77

SKETCH 2

HOIST FILTER MOUNT

SUGGESTION 222-C-77

a. The suggestion advocates relocating and securing the dump body hoist, hydraulic oil filter of the CCE-IHC 20 Ton Dump Truck. Presently the filter is mounted on a pipe nipple welded on the front head sheet of the hydraulic reservoir tank and is further braced to the tank by a cantilever bracket also welded to the front head sheet. Dump truck vibration fatigues the head sheet metal, where the nipple is welded to the tank, and the resultant cracks cause oil leakage. The suggestion recommends relocation of the filter from the hydraulic tank mount to a larger, sturdier bracket mount on the cab-frame bracket and provides a new, flexible, hydraulic hose line between the new filter location and the hydraulic tank inlet nipple.

b. The suggested relocation of Hoist Filter Assembly has been installed by an IHC truck dealer in the state of, while the dump trucks were under warranty. It is reported that 16 trucks have had their hoist hydraulic filters relocated, following the suggestion's procedure.

c. The suggestion, as presented, cannot be fully approved for the following reasons:

(1) The new hydraulic oil filter bracket creates a safety hazard by impeding the relatively cool air flow past the brake system air drier. The bracket would be installed in front of the air dryer and cause stagnant air or vortex type air flow. The air drier must have unrestricted air flow past the housing to permit the desiccant crystals to absorb airborne water vapor from the compressed air of the brake system. Overflow of water vapor into the airbrake system is a serious safety hazard for an airbrake truck of this 71,000 GVWR weight class. Compressed air from the air compressor is approximately 175 through 400°F in temperature and the relative coolness of the air drier in ambient air stream, allows the drier to absorb the water vapor from the compressed air. Commercial users report the major cause of inoperative air dryers and of resulting increases in brake maintenance are attributed to blocked air flow past the air drier. At slow speeds, the engine fan blast also contributes to keeping the air drier relatively cooler than the compressed air from the air compressor.

(2) The weight of the hydraulic filter, including oil, and the hydraulic oil dynamic force through the curved hose lines dictate that any hoist filter bracketing must be designed with the minimum possible, cantilevered distance from the bracket mounting points. The 12 inch, cantilevered mounting distance of the 16 inch long hoist filter support bracket is far too great for maintenance free bracket life. In addition, the cab rear mount cross member bolts must not be used to mount accessories of this nature, since these rear of cab cross member bolts are intended for the cab dynamic forces and not for user added accessories. Any added loading, especially heavy cantilevered loading imposed by the hoist filter, could result in damage to the mounts and the cab. The only acceptable user accessory attachment practice is mounting of components onto the frame members of the chassis and as close to the frame as configuration permits.

(3) The hoist filter housing orientation, the additional 90° fitting installed on the filter outlet part, and the additional 45° fitting installed on the tank nipple result in an unacceptable installation and flow restriction for the hoist system's flow and volume. Any added restriction of oil flow on the downstream side of the hydraulic filter that increases back pressure in the line to the hydraulic reservoir could result in a safety hazard (exceed the burst strength of the filter housing), collapse the filter element, or, at the least, seriously degrade the filter's operation. The hydraulic hose line bends are also critical. The bend radius must never be smaller (sharper) than the minimum bend radius allowed by SAE J517 for SAE 100R2 hose. For 1 1/4 inch size hose involved, the bend radius must be greater than 16 1/2 inches and should be as straight as the installation layout will permit.

d. The hydraulic hoist filter and reservoir tank problems have been previously evaluated and answered for EIR Case No. DE37-4301, Sep 76. The solutions were as follows:

"The pipe and support bracket can be reinforced to support the oil filter the oil filter can be relocated onto the truck frame to alleviate the problem.

To support the oil filter in its existing location, fillet weld vertical gussets k of the triangular type, between the pipe and the lower reservoir head sheet. Weld one gusset on the inner side pipe radius and one on the outer side pipe radius to stiffen the pipe primarily from up and down vibration and secondarily from transverse horizontal vibration. One, single gusset, under the pipe, won't provide sufficient side-to-side support for the heavy oil filter, so twin parallel gussets are needed. Next reinforce the old or make a new support bracket for anchoring the oil filter housing to the reservoir tank. Since the truck frame and the reservoir do not vibrate together, do not mount this bracket to the truck's frame or to the frame mount of the reservoir. Instead, weld the support bracket to the top of the reservoir tank head sheet and bolt the oil filter housing to the bracket. Near the oil filter end of the bracket, intentionally add vertical gussets so that mechanics cannot use the oil filter as a step surface to support their weight.

To relocate the oil filter to a new location, be sure to choose a place and method that will not interfere with the air flow around the frame mounted air drier for the air brake system. This air drier is just ahead of the hoist reservoir and needs all the air flow it can get to cool the hot, compressed air from the air brake compressor and take out the moisture before the flow into the first air reservoir. Obstructions and brackets near the air drier will cause it to run hot and increase truck air brake

maintenance. Also keep in mind, the fact that sharp hose bends and 90° fittings in a hydraulic restrict oil flow, so relocate the oil filter in a location where gentle hose bends and, at the maximum, 45° fittings can be used. -A location inside of the frame should be evaluated.

Construct a short, heavy L-bracket to match and hold the oil filter head with the least distance possible from the frame. The L-bracket should have at least two heavy triangular vertical gussets between the legs to provide strength. Remember the bracket has to support not only the filter filled with oil, but the weights of the connecting hose lines, the bend forces of the hose lines and the forces exerted by the oil pressure flowing through these bends which want to straighten them out. Now, add to this the vibration of a washboard roadway and the chuckholes encountered by the truck when empty."

e. The correct method for drivers and mechanics to gain access to the hydraulic hoist system components behind the cab is as follows:

(1) Hoist dump body and disengage the OSHA Maintenance Struts on each side. Place the free end of the struts into the truck frame boxes, while lowering the body. For added safety, now, place a minimum 4'x 4' timber wedged into the junction between the dump body rails and the subframe rails.

(2) The easiest method for personnel to gain access to behind the cab components is to begin with the right foot on the bottom box step and right hand on the cab grab rail. Next, place the left foot on the top of the battery box and add the left hand on the cab grab rail. Now, let go of the grab rail with the right hand and swing from the side of the cab to rear of the cab, landing with the right foot on the top of the dump body subframe top flange.

(3) The above system of mounting avoids the necessity for personnel to step on the hoist filter support bracket to gain access to the behind cab hydraulic components. Use of the support bracket as a step will contribute to cracking and leaking of the hoist filter return pipe nipple at the hydraulic reservoir tank.

Use of Regrooved, Recap and Retread Tires on the IHC 20 Ton (CCE) Dump Truck

US Army Mobility Equipment Research and Development Command, Fort Belvoir, Virginia 22060

1. The front tires on the CCE-IHC 20 Ton Dump Truck should be replaced either with a pair of new tires or a pair of recapped tires when they become so worn that they are no longer safe for steering the truck on a slippery surface. Regrooving of "Regroovable" marked front tires on this size truck-is not recommended, since the tread depth of the regrooving operation cannot compare favorably with the recap tire tread depth. In addition, the practice of sipping (tread cuts) on front tires of this size is not recommended.
2. The BMCS (Bureau of Motor Carrier Safety) does allow truck users to-install properly recapped tires on these front axles. The BMCS inspectors will attach an "Out of Service" sticker on these trucks having front axle "tire tread depths measuring 4/32 inches or less" (1/8 in. or 3/2 mm).
3. The CCE-IHC dump truck uses the deep traction lug feature of the front tires for directional control in steering the truck. For this reason, dump trucks that are operated with worn front tires have only two tires with marginal tractive ability trying to counter-act the forces of eight rear tires determined to go straight ahead. Per DOT, tires are considered to be worn out when 1/8-inch or less tread remains. Dump truck drivers find that long before reaching this legal level of wear, there is just not enough steering side-thrust to maneuver the trucks. Therefore, it is technically recommended that new or recapped front tires be installed when the front tire tread becomes less than 1/4-inch for predominately highway travel, or 1/2-inch for predominately unpaved road travel.

DUMPING ON LONGITUDINAL GRADES AND SIDE SLOPES

1. Field users are concerned regarding the stability of the CCE-IHC, Paystar F5070, 71,000 GVWR Dump Truck, while dumping the payload on side slopes.

2. Dump truck-drivers and dump site spotter personnel must use extreme caution in spotting any truck of the size of the CCE Dump, since tipping over of dump trucks is one of the inherent problems of dump trucking.

3. The following maximum, practical working grades and slopes may be relatively safe under ideal conditions on the job site:

a. Longitudinal Grade Dumping with Loaded body raised:

Working Angle Range0 to 4%.

Height Range of Front Axle above Rear Tandem0 to 8 inches.

b. Side Slope Dumping with loaded body raised:

Working Angle Range0 to 4%.

Height Range of One Set of Duals above the Other.....0 to 3 inches.

c. Note: The above values are for stationary dumping, only, with the emergency-parking brakes applied, yellow diamond knob. Reduce range in half for moving truck dumping.

4. Exceeding the following maximum grades and slopes will result in a tip-over accident with the CCE-IHC Dump Truck:

a. Longitudinal Grade Dumping with loaded body raised:

Max. Tipping Angle13%.

Max. Height of Front Axle above Rear Tandem19 inches.

b. Side Slope Dumping with loaded body raised:

Max. Tipping Angle14%.

Max. Height of One Set of Duals above the Other7 inches.

c. Note: The above values are the unstable, tip-over values, where the truck begins to go over.

5. From the actual practice point of view, there is much, much more to dump trucking and tip-overs, than the above figures show. Some of the factors that result in tip-over trouble are discussed in the following paragraphs.

6. The Dumping Site Factor.

a. Fill areas. On embankment type fills, you should stay away from the crest and sides of the fill embankment with any heavy, dump truck. A heavy crawler bulldozer should be kept on the fill (1) to push the payloads of the dump trucks over the embankment, (2) to clean up the area of rocks, rubble, and soft spots, and (3) compact the fill area and provide a continuing firm, level fill surface for the dump trucks to safely dump their payloads. During the dumping cycle, the payload in the dump body, although diminishing as it spills through the tailgate, puts a brief, abnormally high loading on the rear axles and tires. Although the fill area looks firm, if there is a soft spot under the surface and one side of the tandem sinks down more than 7 inches, your dump truck can tip-over on the low side. Backing-up too close to the-edge of the fill, in order to dump with the least handling of the payload, is also dangerous. If the rear tandem drops more than 19-inches below the front axle, your dump truck can tip-over backwards down the embankment. On lift-type fills, where dump trucks are dumping and spreading their payloads on the run, maintain each lift in a smooth, compacted condition with motor graders and compaction equipment. The dump body, hoisted to its maximum raised position, is unstable and needs a smooth, rut-free fill area to complete this last part of the payload spreading operation without the risk of a tip-over. Speed can also contribute to a tip-over condition. The spotters and drivers at the dump area must slow the trucks down, especially if they observe the dump body swaying in excess of 12-inches during the part of the run at maximum hoist angle. This is also a sign that more leveling with the grader and more compaction of the fill lift surface is needed. Faster lift compaction may be gained by routing loaded dump truck traffic over one half of a wide fill, while spreading on the return run, in lieu of running the trucks empty back over the fill after spreading and turn around. Each loaded dump truck should be directed by the dump site spotter to follow the previous truck's path, except off-set the distance of the rear dual tandems, to provide even compaction across the fill. Your loaded dump truck rear dual tandems, with the flat hard rock tread tires, do an excellent job of compacting fill when the traffic is spaced properly.

b. Aggregate Stockpile Areas. The remote stockpiling of sand, gravel, and rock is a common dump truck operation, but it should not be attempted with dump trucks alone. A scoop loader is necessary to keep the dumping area level and clean for heavy truck dumping. Ruts and humps of spilled aggregates can lead to tip-over problems. Keep the dump area clean and level.

c. Road and Runway Building Areas. Spreading operations, using heavy dump trucks, on trails, haul roads, and air strip runways, has factors similar to the lift type fill operations in "a" above. Initially, the first few trucks spreading over rough surfaces had best do their spreading in reverse gear (if practical) with assistance of the dump site spotter. By having your heavy dump truck run over and compact its own aggregate lift, a much firmer dumping surface for the following trucks will be provided. The dump truck's speed, rate of dump body spread, and guidance of the spotter must be coordinated to result in a smoother lift without leaving humps and piles of aggregate, where the truck's motion stopped for a moment. In spreading trails in hilly terrain, either begin dumping at the top of the hill and bulldoze the payload down hill or, if the hill isn't over 15%, the driver may be able to spread his payload with the truck facing down-hill. Spreading with the tailgate downhill could result in a tip-over backwards, especially if the brakes are applied rolling downhill or if the power is applied climbing uphill.

7. Dump Truck Working Angles. Very, very few trained people can tell the differences of dump sites having a level to 7% side slope or a level to 6% longitudinal grade. Also, you don't know what weight the soil will bear with the heavy dump truck's dual rear tandem on it. If one side sinks down, you're in possible trouble from a tip-over. Spotters should pick dump areas that look the best and that have been compacted firmly. During the dump cycle both the spotter and the dump truck driver must be observant and look for the first sign of a tip-over. To the spotter, this would be the tell-tail sideways movement of the top of the cab protector. To the driver, this would be a seat-of-the-pants feeling of the truck shifting toward the left or the right. The truck driver has control of the rate of dump body hoist. As the dump body leaves the truck, an engine speed of not more than 1500 RPM is okay, but as the bed gets higher, ease up on the accelerator treadle to 1000 RPM and 800 RPM while the payload slides out of the bed. The dump truck bed will hoist to make angle of 50° with the frame, however, most of payloads will begin sliding out at 35° angles and should be all out by 40° to 45° angles. The spotter should observe when the payload begins to slide and

tell the driver to hold the angle he's got. If and only if a portion of the payload hangs-up, should the driver be signaled to continue hoisting the bed and discharge the hung payload. By keeping the angles of dump body hoisting only to that necessary to dump the payload clean, a lot of instability of the CCE-IHC dump truck can be avoided. You've got a 50° angle capability, but, if you only need 35° for a clean dump, don't spend the time increase the tip-over hazard by going that extra 15° up to 50°. Stop at 35° and get back on your way to pick-up another load that much sooner.

8. Tip-Overs by Dumping on Tree-Lined Trails: Be very careful in any dumping operations performed near trees. While dumping, interference of the cab protector and dump body with tree limbs can cause a side-ways force that can result in tipping the truck over on its side or, if spreading, tipping backward onto the tailgate. With the dump body hoisted high, very little force is needed to unbalance the truck both loaded and empty.

9. Hung Payloads in the Body: Wet payloads will often stick to the front and upper sides of the dump body, especially if the heated body diverter valve is positioned to send the exhaust gases through the vertical muffler and stack pipe instead of through the dump body. Any sizable amount of payload sticking to the front of a hoisted dump body is a potential tip-over hazard. When the stuck payload is off to one side or the other, it is especially dangerous. Many tip-overs occur when drivers attempt to dislodge the hung-up payload by throwing the truck in gear, accelerating forward, and make a panic stop. This is intended to cause the tail gate to swing out and slam against the body and break loose the hung-up payload. With the body high in the air, the jerks and jolts get the body and hang payload swaying and over turning of the truck and the hung-up payload is likely. Even if, by luck, the truck doesn't tip-over, slamming of the tailgate into the rear body posts results in cracked welds, bent and jammed tailgate rods and catches, deformed body posts, and deformed tailgates. Don't slam tailgates. Tipping the truck over on its side is an improper and costly way of dumping stuck payloads. If the payload won't easily slide out at the 50° dump angle-, you must lower the bed to the frame, get into the bed, and loosen-up the payload with a hand-operated shovel. Then, try dumping again. When hauling materials that are wet and have a tendency to stick to the body, flip your engine exhaust diverter valve to the body heat position and leave it there (wire it in place, if your over-center spring is weak). The exhaust gas heat warms the metal surface of the body so that wet material next to the dump body metal has a chance to dry out and won't stick to the dump body while dumping. For the prevention of tip-overs, using the heated body is good insurance in all climates and weather-cold region, temperate, and tropical.

DUMP BODY TARGET ON DUMP TRUCKS

1. The CCE-IHC Paystar F5070, 71,000 GVWR Dump Truck is equipped with a dump body target extending down from the front cab protector into the driver's line of vision through the windshield. The dump truck driver is continuously assured that his truck is alright by keeping this dump body target in sight and motionless at all times, except when dumping the body. Any upward movement or absence of the dump body target tells the driver he must stop the truck and find out the reason. If the dump body accidentally begins to rise off of the chassis, the movement of the target is intended to attract the attention of the driver. The dump body can self-hoist during travel of the truck under situations where (1) the hoist PTO has been left engaged and (2) the hoist lever was not in its HOLD position with the neutral lock engaged.

2. A dump truck, traveling with the hoist slowly raising the dump body, is a serious safety hazard. The dump body is exposed to telephone lines, power lines, overpasses, and other overhead obstacles. If the truck is loaded, its payload will be spread onto the roadway. Since the CCE dump truck height is 126-inches, only a small amount of body rise exceeds the legal limit of 162-inches and the interstate highways overpass clearance of 192-inches (16 ft).

3. A suggestion has been received from the field that a rubber strap with a little weight on the end of it be substituted for the current CCE-IHC Dump Truck's steel-rod-and-washer, dump body target. The suggestor's experience in dumping the body in back areas, having interference with trees, has resulted in the body target becoming bent by tree limbs. Upon lowering the dump body to travel position, the deformed body target causes damage to the top of the cab and windshield. The rubber strap approach would save money in windshield replacement and cab repairs.

4. The suggestion cannot be approved. The suggestion would be satisfactory, if the body target were only intended for use while the dump truck was stationary. As explained in paragraph 1 above, however, the body target must be seen by the driver at all times, except when the dump body hoist is in operation and the body is actually dumping. This means that, while traveling on the road, seeing the dump body target is a necessary safety factor for the driver. Headwinds, while the truck is moving, cause most flexible dump body targets to either bend out of the driver's line of sight or else vibrate and move to the extent that the movement of dump body target has no meaning to the driver. To the driver, a fixed, stationary target would not catch his attention until it began moving upward. On the other hand, a wind whipped target could be ignored. and the dump body could hoist without catching the driver's notice until too late. .

5. The fact that the CCE Dump Truck body is being hoisted to, dump its payloads in forested areas, also requires words of caution. At maximum dump angle, the top of the cab protector is about 19 feet above the ground. With a rear tandem tire width of only about 4 1/2 feet from the truck's center, there is a good likelihood that the same tree limbs that damage the dump body target could deflect the dump body. This could result in bent hoist cylinders, cracked body welds, and elongated rear pivots. Dump bodies and mounts are not intended to withstand lateral forces in this size truck. Also, the trees could tip-over the truck on its side. Damaged dump body targets indicate that the dumping area needs careful evaluation by the driver and the dump site NCO to insure that the truck can be safely dumped without much more serious problems occurring. The dumping site for these heavy dump trucks must be free of overhead obstructions or the dumping height limited. The use of dozers, loaders, and graders is recommended to move the payload under those forested areas that restrict dumping heights of the CCE dump truck to a limit that is too low to discharge the payload.

6. Driver's should also be aware that flipping the engine exhaust deflector valve so that the exhaust gasses heat the dump body, under all weather conditions, will result in the need for a lesser dump body hoist angle and provide easy dumping of any material. The heated body dries the material next to the metal surface of the body. This dry material will normally slide out of the dump body at about a 35° dump angle, instead of the maximum 50° dump angle needed with wetter material.

PLACEMENT AND MOUNTING OF ON-VEHICLE-EQUIPMENT (OVE)

1. The users of Commercial Construction Equipment (CCE) and other commercial vehicles have been inquiring as to the location and mounting of on-vehicle equipment (OVE). The OVE included fire extinguishers, disabled vehicle warning kits (triangle, reflectors, and flares), first aid kits, decon kits, rifle brackets, pioneer tool kits, fuel and water cans, and similar equipment to be carried on each vehicle.

2. Commercial users have standardized on the in-cab placement of commercial type equipment through use of a Regular Common Carrier Conference (RCCC) Recommended Practice (RP) (see Enclosure 1). The enclosed RCCC RP-403, "Placement of Safety Equipment", provides both manufacturers and users with guidelines for the installation of the OVE items.

3. Information pertaining to the installation and use of fire extinguishers on Army equipment is contained in the following Army regulations. Consult the following:

-AR 420-90, paragraph 3-6

-AR 385-17

-AR 385-55, Chapter 5

There is also guidance in the Federal Motor Carrier Safety Regulations (FMCSR) which can be adapted for OVE items by users of commercial equipment. Your local legal office usually has or has access to the US Code of Federal Regulations. The FMCSR are covered under Title 49 CFR 393.95, see Emergency Equipment.

4. In-cab or in-compartment OVE item installation guidance:

a. Using the actual OVE item, or a cardboard mock-up of the item, make a trial installation and consider the following points:

(1) Check for interference and hazards caused by the item to people getting into and alighting from the cab or operation's compartment. There must be enough clearance so that both small, short people and big, tall people would not be exposed to a dangerous fall. Mountings of the OVE item are intended to be only of sufficient strength to hold the item. Therefore, do not position the item in such a manner that it can be used as a handhold to assist people getting in or out.

(2) Check for interference and hazards caused by the item to any of the equipment operating controls. Maintain a clearance of at least 2-inches from any control lever travel path and at least twice this clearance for control hand grip and foot pedal areas.

(3) Check seat adjustment and travel for any interference with the OVE item.

(4) Check the OVE item to make sure that it is accessible for removal and replacement from its mounting bracket. Also position the emergency items, such as fire extinguishers, so that they can be readily used by excited people under emergency conditions.

(5) Some decontamination Kits, which resemble a fire extinguisher, contain flammable decontaminates that must not be used on fire. Therefore, position these decon kits away from ready access and label them so, in an emergency, people won't use the decon kit on a fire.

b. Having determined the best position for the OVE item, the next step is to inspect the cab or operator's compartment for installation problems, structural rigidity of the mounting areas, and ease of securing the OVE item. Make sure to consider the following points:

(1) Go over the cab or compartment, both inside and outside, looking for potential installation problems. Get help on this procedure, since two heads are better than one at evaluating all of the possible problems. Look at the wiring, plumbing, structural members and panels, access to the mount fasteners (especially tool clearances), interference with vehicle components, and future maintenance problems.

(2) Reinforcement of cab or compartment mounting panels should be considered. A 3-to 15-pound item, laid down lengthwise, usually needs only flat washers to reinforce the panels. However, items standing on end and heavier items normally call for reinforce plates on the outside of the panels to spread the loading caused by shock and vibration. When in doubt about the panel strength, go ahead and add reinforcing plates of a size that will spread the loading of the OVE item over an area that won't damage the cab or compartment panel. Occasionally, the item will need to be mounted on a fiber glass or plastic panel. These panels are strong and flexible, but have a tendency to crack, so special care is needed. On both sides of the mount on a plastic panel, spread the loading with soft rubber donuts or pads; provide a flexible, clamping action. Use prevailing torque lock nuts, only, to hold everything together. Ordinary nuts will loosen up.

(3) Securely fasten the item in place. In the following order, stack the bolt, a flat washer, the OVE item, the cab, or compartment panel, a flat washer, and a nut. To this stack, add appropriate spacers-i.e. sections of pipe, etc through insulation, floor mats, and other soft material to give the necessary solid fastening to mount. Don't rely on sheet metal screws to mount items securely. Sheet metal screws don't withstand shock and vibration, except in light usage, such as passenger cars. The use of a prevailing torque lock nut on each mounting bolt is excellent means of insurance to install the OVE item only once, and not keep reinstalling the mount, on a continuous basis, as the mount fasteners loosen and are lost.

(4) For vehicles with Roll-Over-Protection (ROPS) and Falling-Object-Protection (FOPS), do not drill mounting holes in any structural members. Instead, use wrap around brackets and similar devices for installing the OVE items, without the need to weaken these protective members.

5. Exterior OVE item installation guidance:

As was recommended with in-cab and in-compartment OVE item mounting, make a trial installation using the actual item or a cardboard mock-up. Then think out the following points:

Check the position for ——

-protection from weathering, snow and ice damage, and road splash damage,

-possible front end, rear end, and side-swipe damage (must not extend beyond the vehicle),

-hazardous use by people as a handhold or step,

-structural rigidity of the proposed mounting members (position items as close to the center of the vehicle as practical; adding extra weight to cantilever members results in fatigue failures),

-access to people who are standing on the ground when practical (climbing is dangerous, especially with one hand holding the OVE item).



RECOMMENDED PRACTICE

RP-403

PLACEMENT OF SAFETY EQUIPMENT

Scope

The purpose of this recommended practice is to establish guidelines for the vehicle manufacturer to determine a satisfactory location for the placement of safety equipment in each one of their model truck cabs.

Safety Equipment

Safety equipment is defined as that equipment, (fire extinguisher and warning triangles) meeting BMCS standards.

1. The amount of space required shall be determined by the size of the largest three-triangle package commercially available, and a 10 lb fire extinguisher.

2. Fire extinguishers must be located within arm's reach of the driver when he is seated in a belted position. (If a common location can be established to satisfy the foregoing recommendation, it is also desirable to have the fire extinguisher within reach of a man standing on the ground.)

3. The subject safety equipment shall in no way interfere with other equipment or controls in the cab or with the operation of the vehicle.

4. The location of the fire extinguisher and warning triangles should be no higher than the driver's waist when seated or 15 inches above the H point.

5. The designated attachment point for each piece of safety equipment must have sufficient strength to prevent cab damage.

6. The designated area for each safety item must be indicated by the manufacturer in the operator's manual so that safety equipment can be mounted at a later date by the operator and its placement will comply with all the above guidelines.

7. Mounting brackets should be heavy duty to adequately support the safety equipment throughout the life of the vehicle.

April 1975

RP 403

GETTING CCE DUMP TRUCKS STUCK

1. A few users of the CCE-IHC, Paystar F5070, 71000 GVWR Dump Trucks have complained about getting stuck in soft ground, especially where other Military Design trucks can go through.
2. As far as soft ground is concerned, the CCE-IHC, Dump truck is a whole new ball game. The CCE-IHC 6 X 4 Dumper is almost twice the loaded weight of the M-Series 6 X 6 Dumpers it replaces. With its 71,000 lb fully loaded gross vehicle weight rating (GVWR), the CCE-IHC Dumper can get stuck and stuck badly in some areas, while in other areas it will go right on through. The difference is traction on the rear tires. The heavy weight of about 50,000 lb on the CCE Dumper's rear tandem results in breaking through soft ground until firm hardbottom soil condition can be found. The heavily loaded tandem squeezes the soft ground out of the way. The squeezing continues until it reaches the firm hardbottom, but if the hardbottom is deeper than 3 or 4 feet or, worse, there isn't any hardbottom, then, buddy, your stuck!
3. The much lighter, all-wheel drive, M-Series Trucks can chew their way out of some mighty bad situations. The lighter loading and tires provide some flotation on soft soils and the NDCC tire lugs, when not filled smooth with mud, shear the sticky soil to provide forward and reverse traction. This truck's main transmission, transfer case, and driving front and rear axles provide low gearing and all-wheels pulling. On the other hand, the loaded CCE Dump Truck, or any other heavy truck in this class, can't depend on these methods of getting out of sticky situations. The CCE Dumper can walk through those and worse situations having a hardbottom for traction. The big diesel provides abundant power and the engine-drive-train match provides the deep, "gramma" gearing through the shock-absorbing torque converter, power shift main and aux box transmissions, and the deep, double reduction rear end with 3-each, lock-up differentials. That's part of your CCE Dumpers Off Road features. The CCE Dumper is equipped with a dead axle at the front with oversized wide base front tires to result in front end flotation and to provide low drag and low mud build-up in soft ground. The dual rear tandem is where the loaded dump truck's weight is and that is where the engine power is directed, just like the commercial users. The rear tandem has the weight to squeeze soft, plastic soil out of its way and to compact what's left, down to harder, firm soil underneath those 8-tires that receive the power. The tires apply enough pressure so that the tire to soil interface adhesion is often stronger than the soil to soil bond. As a result, the tear tires provide traction and don't spin until the soil, itself, breaks away and shears, a few inches or so underneath all rear tandem tires, all at once. The 3, lock-up differentials won't let any tire spin until all tires spin-out.

4. This breakaway of the soil underneath the tires is why the CCE Dumper gets so badly stuck, if loss of traction occurs and the rear tires spin out. Don't try to blast out by spinning tires. You'll only dig in deeper and tear up a heavy truck that has exceeded its operating limit. With spinning of the tires, sheet of good compacted soil, that has had the moisture squeezed out of it, are sheared and moved rearward out from under the tires. It's like having a number of rugs pulled out from under you and down you go!

5. The CCE-IHC Dump Truck is a commercial ON-OFF ROAD type of heavy truck. The term "on-off road" indicates that the truck has comprise components that are good on-road and that are good off-road. The CCE Dumper's mission is to haul large payloads on earthmoving Jobs. For best use of these trucks, the haul roads selected should be in good condition and should be maintained with a smooth, solid, rubble-free surface which will allow 30 mph minimum speeds. Regardless of any truck's potential speed capability, a construction haul road having 2-to -3 mph soft spots causes traffic bottlenecks, interrupts ton-per day production, and drastically increase truck maintenance. To keep production high, decrease truck deadline ratios , and reduce driver fatigue, maintain your haul roads. Clean out soft soil and fill with crushed, rock and then use your motor grader to keep the road smooth and clean of debris. Also, use the water distributor to keep the dust down and improve driving safety. Truck accidents are non-productive.

6. Any truck sooner or later will become stuck (immobilized). The CCE Dumper, because of its heavy loaded weight, tends to either go through soft spots or get badly STUCK. There is nothing much in between these extremes The following operational points are offered:

a. Before traversing soft areas:

Stop the truck. While stopped, engage your rear tandem interaxle differential lock-up on top of the dash, shift your aux box into either Direct-Drive or Under-Drive range, and finally shift your main powershift transmission into 1-2 or 1-2-3 range. Use higher gearing for soupy stuff and lower gearing for thicker gummy stuff.

b. Traversing soft areas:

Now, start up the truck, build up your momentum and hit the soft area. Keep an imaginary, "soft shelled egg" between your foot and the accelerator treadle to apply sufficient engine power to maintain momentum, but ease off on power, by feathering the accelerator, if the rear tandem breaks loose and spins. The aux box's Direct-Drive will be best in all but the most severe cases. With a loaded dump truck, you can count on the combination of momentum and maximum traction (lust on the borderline of spinning out) to get you and your truck with payload through. On the return haul with an empty dump truck, your weight is reduced by more than half. All you're got going for you is momentum and very, very little traction. Your options are (1) avoid soft areas (2) chain up your rear tandem duals, (3) get stuck and get pulled through with other vehicles, or (4) work on the haul road and eliminate the soft area. Don't try blasting through because of the danger of tearing up yourself, the truck, and the surrounding area. Without traction you're got very little directional control and soft spot ruts can throw you and your truck.

c. Chaining up the Drive Wheels.

If there is any question of your not getting your dumper through a soft area, think about putting chains on your drivers (driving tires, that is). It is much easier and much less messy to install chains BEFORE getting stuck than after your tandem are buried deep in heavy, sticky mud. Experience will teach you whether you need to install dual tire chains, covering inner and outer duals, or install only single tire chains on the outer duals. Often, single tire chains around the outer duals of the forward tandem axle, only, will provide the right amount of traction needed on slippery, wet grass and greasy, clay slopes. Then, for logging trails through the woods, you may need to dual tire chain all drive wheels on both drive tandem axles. Chains have to be installed tightly to do any good, so install them on hard ground, drive a couple hundred feet, and retighten them to take out all slack.

d. Getting Un stuck.

(1) Inching Out:

Now, what do you do if you are stuck, Immobilized, and can't move? Go find that "soft shelled egg" again and put it on the accelerator. Select neutral in your main PS transmission and Under-Drive range in your aux box. Next, with the engine at idle, select 1-2 main transmission gears and very gradually push down on that imaginary egg on top of the accelerator to build up engine RPM. If the rear tandems spin-out, you've broken the egg, exceeded the shear strength of the soil under the tires, dropped the truck in deeper by an inch or two, and created higher hills of soil that the tires are going to have to climb over, or through, in order to get un-stuck.

(2) Rocking out.

These heavy trucks sometimes can be self extracted from soft area by rocking them out. Do not allow wheels to spin! Shift the main power shift transmission between 1-2 gear and reverse gear slowly, Just matching the fore and after movement of the truck. Starting with the engine idling, try it by very gradually increase accelerator pressure with each rocking cycle. Do not attempt to return to idle each time, but keep the accelerator setting steady through each cycle, as you shift from forward to reverse. The torque converter and PS transmission clutch packs smooth the torque reversals so the wheels should not spin. As soon as the truck gains enough momentum plus traction combination, if conditions are right, you'll be able to get out of the soft spot. Remember that, in using the torque convertor and the clutch packs during rocking, you are creating a lot of heat. Keep an eye on those engine and transmission temperature gages and if, after a number of tries, you see these temperatures going up (especially if the PS transmission temperature exceeds 250° F), then stop rocking immediately and shift the main PS into neutral, speed up the engine RPM to read about 1500 to 1900, and let things cool back down. If conditions for self extraction aren't right and the soft spot is way too deep, then further steps are necessary.

(3) Brute Force:

Again, what do you do if you're really, truly stuck, immobilized, can't move and you have proved it? There are many steps to be taken under these conditions. Put one foot in front of the other and go for outside help! Make sure the help you get has the capacity and the footing (drawbar pull on suitable soil conditions) to pull from 25 to 100% of the weight of your stuck truck. Only in exceptionally easy cases will the Army field expedient methods be able to extract heavy trucks of the CCE-IHC Dump Truck class. You can forget any ideas of connecting a team of trucks in tandem or tridem or calling out companies of men to push and play tug-of-war. You'll need some real heavy artillery to do this man size job. The CCE dump truck, like most commercial on-off-road heavy

trucks, has a front, forged eye tow hook, built to pull the truck with a straight-ahead, horizontal force equal to the GVWR on the truck's name plate. Use this front tow eye to pull the truck through forward. At the rear, the CCE IHC Dump has a pintle hook that is reinforced into the frame rails. Don't use anything else than these to pull the truck out front and rear. Unload the truck before trying recovery, if you have any idea that these two recovery devices could fail during towing out. Irresistible forces and immovable objects have been known to tear up even the stoutest dump trucks. In pulling the truck out observe the following:

- Make sure the chain (s) or cables (s) are securely attached to each vehicle.
- Get everybody out of the whip-range of the chain or cable, if it breaks.
- Have one buddy off to the side, directing, by hand signals, the retrieval operation of the tow vehicle and the dump truck.
- Without jerks, take up the slack in the line and have both vehicles smoothly apply power, simultaneously. If any one's wheels or crawler tracks spin, stop immediately.
- Lastly, try coordinated rocking while keeping the line as taut as possible, Coordinated rocking is tricky. Both operators must follow their buddy-off-to-the-side's direction and his signals must coincide with the natural rocking motion. Take it real easy on the accelerators of both vehicles. (If possible, dry run the coordinated rocking methods to get them down pat, before you have to use it to get out of a soft spot).
- When all else fails, finally resort to digging out by loader, dozer, or hand shovels; or jack the truck up and lay a corduroy roadway of heavy trees sections (brush won't do it) under the wheels; or rig and bodily lift your stuck dumper out, using a 20 - or 25 - ton truck mounted crane; or smile cheerfully while you sign the Statement of Charges for 1 CCE Dump Truck that both the Motor Pool Officer and Sargent hand you and vow never again, during your remaining 10 year truck reimbursement time left in the Army, to drive a heavy truck into a soft area you can't get out of.

DUMP HOIST CYLINDER AIR BLEEDER VALVE

1. A user from the field has submitted an EIR on the dump hoist cylinder air bleeder valve of the CCE-IHC Paystar F5070, 71,000 GVWR Dump Truck. The user complained that it was much too easy to strip the threads on the air bleeder valve cap at the top of the dump body telescopic hoist cylinder, enclosed within the dog house. Pliers had to be used to get the cap tight enough so the valve would not leak. The user also recommended substituting a 90 degree twist handle, radiator drain type, brass pet cock in the 1/8 inch NPT, cylinder boss, in lieu of the existing bleeder valve. The reasoning was that the pet cock would make it so much easier for personnel to bleed the air trapped in the hoist cylinder with only a quarter turn of the handle.
2. Air gets trapped in the top of the hydraulic hoist cylinder and causes spongy, jerky, uncontrolled dump body hoist operation. This air compresses like a spring. When the friction of the packing of the three stage telescopic hoist cylinder is overcome, the body pops up and then binds again, until pressure build-up repeats the "up and hold" cycling. Dump body decent to the truck frame occurs in a series of starts and stops, until it slams against the truck frame. Since air is compressible and hydraulic oil is not, dump truck users must get all of the entrapped air out of the hydraulic components for smooth dumping operations. To get the air out a bleeder valve is installed at the hydraulic system's highest point, the top of the body hoist cylinder.
3. Naturally, bleeding this entrapped air out of the hydraulic system is a must, but even more important is keeping the air out of the hydraulic system in the first place. This entrapped air gets into the hydraulic system from the suction side of the pump and from the hydraulic reservoir oil tank. Limit the source of air, first.
4. In covering the suction side of the hydraulic pump, inspect the reservoir tank-to-pump lines and components to make sure that they are air tight. Because of normal outside air pressure (14 psi) and the vacuum of the hoist pump, this suction line will allow air from outside the system to slip past the tiniest opening, one that would not leak oil out of the opening. To check this source of hydraulic system air, you should do the following:

a. Clean the dirt off of all component and lines between t hoist pump and the reservoir.

b. Start the engine, engage the engine-driven PTO, shift both the main and the auxiliary box transmissions into neutral, pull the diamond shaped yellow knob to set the truck's emergency/parking brakes, open the hoods to get rid of some of the engine fan air blast.

c. Equip your buddy with a creeper, a trouble light, a mirror, a pump type oil can with OE or SAE -10, -20, or -30 weight oil, and send him under the truck, As you hoist the dump body by speeding up the engine to about 1000 to 1500 RPM and move the hoist control lever to "HOIST" position, have your buddy squirt oil around each connection of the components and potential source of air leakage from the hydraulic reservoir to and including the hydraulic hoist pump. With the body going up, have your buddy look for telltale signs of the squirted oil, on the outside, being sucked into leaking joints, instead of normally dripping around the outside of tightly sealed joints. Use the mirror and trouble light to check the top and sides of all connections and components.

d. Tighten those leaks that can be corrected by tightening. Repair or replace those components where leaks cannot be stopped by tightening. Rather than tightening to the point of stripping threads, disassemble, clean, and repair parts that further tightening might damage. Be especially wary of tubing and nipples having deformed surfaces, bends, and scratches.

5. Next, air can get into the hydraulic system through oil being churned and foaming in the hydraulic reservoir, so watch your operation during your dump trucking jobs. Don't be in such a hurry to dump your load that you exceed 1500 RPM engine speed, exceed the lowest dump angle needed to clean the body, or let the body back down in an uncontrolled, almost freefall manner. All these actions foam the hydraulic oil and will cause someone having to get up on top of your nice clean cab with their muddy shoes and bleed oil all over your truck to get the air out. Commercial dump truckers say you won't have to bleed the hoist cylinder more than one or two times a year, if you keep a tight suction line and operate your dump cycle slow enough so you do not get air/oil foam into your dump hoist hydraulic system.

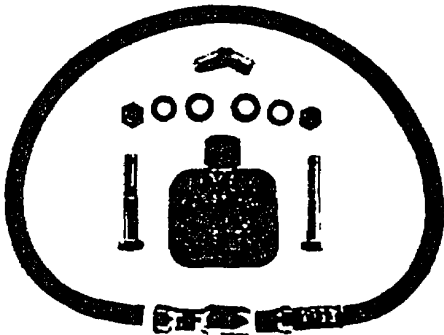
6. Hydraulic pet cocks are available for replacement of the hoist cylinder air bleeder valve, however, do not trust just any old pet cock. Radiator and air brake type, low pressure pet cocks can deadline your truck with a leak or could be dangerous with a blow out. A hydraulic pet cock, having a minimum rated capacity of 2000 psi and featuring o-ring seals and a 90 degree twist handle-with open and closed dentent positions, would be acceptable. The run-of-the-mill brass pet cock bodies usually withstand 3000 psi pressures, however, leather seals are questionable and quality control of the inexpensive pet cocks are uncertain. These pet cocks are not designed for high pressure hydraulic use.

7. The CCE-IHC Dump Truck is equipped with a hydraulic system having a 1200 psi relief valve setting. Spike hydraulic pressures may reach about 2000 psi. Ignoring friction in the system, hoisting the body should require about 90 psi, empty, and should require about 600 psi, loaded. Near the 50 degree maximum body hoist angle, the hoist control safety cable should pull back the in-cab hoist control from "HOIST" to "HOLD" control valve position. As a result, the hoist pressure should normally not exceed the pressure of 600 to 900 psi needed to hoist the load. Before the hoist reaches the limit of travel and causes the oil to spill over the relief valve, relieving pressure, the properly adjust hoist control cable should automatically stop further hoisting of the body. With everything normal and correctly adjusted there is a low risk that the dump truck hydraulic system would damage the radiator or air brake system pet cocks, however, with some slight misalignment or unusual loadings, a 2000 psi peak hydraulic pressure could occur and put your truck out of commission.

We've reduced the time it takes to bleed our cylinder. To nothing.

Now every standard Hycotel® single-acting telescopic cylinder comes equipped with an automatic air bleeder. So you can completely eliminate time-consuming and potentially hazardous manual air bleeding from your maintenance routine.

You don't need a wrench. You don't need a mechanic. You don't need a helper. The new bleeder valve automatically allows the escape of trapped air from the cylinder every time the system is operated. And it's yours at no extra charge on all standard Hycotel single-acting telescopic cylinders.

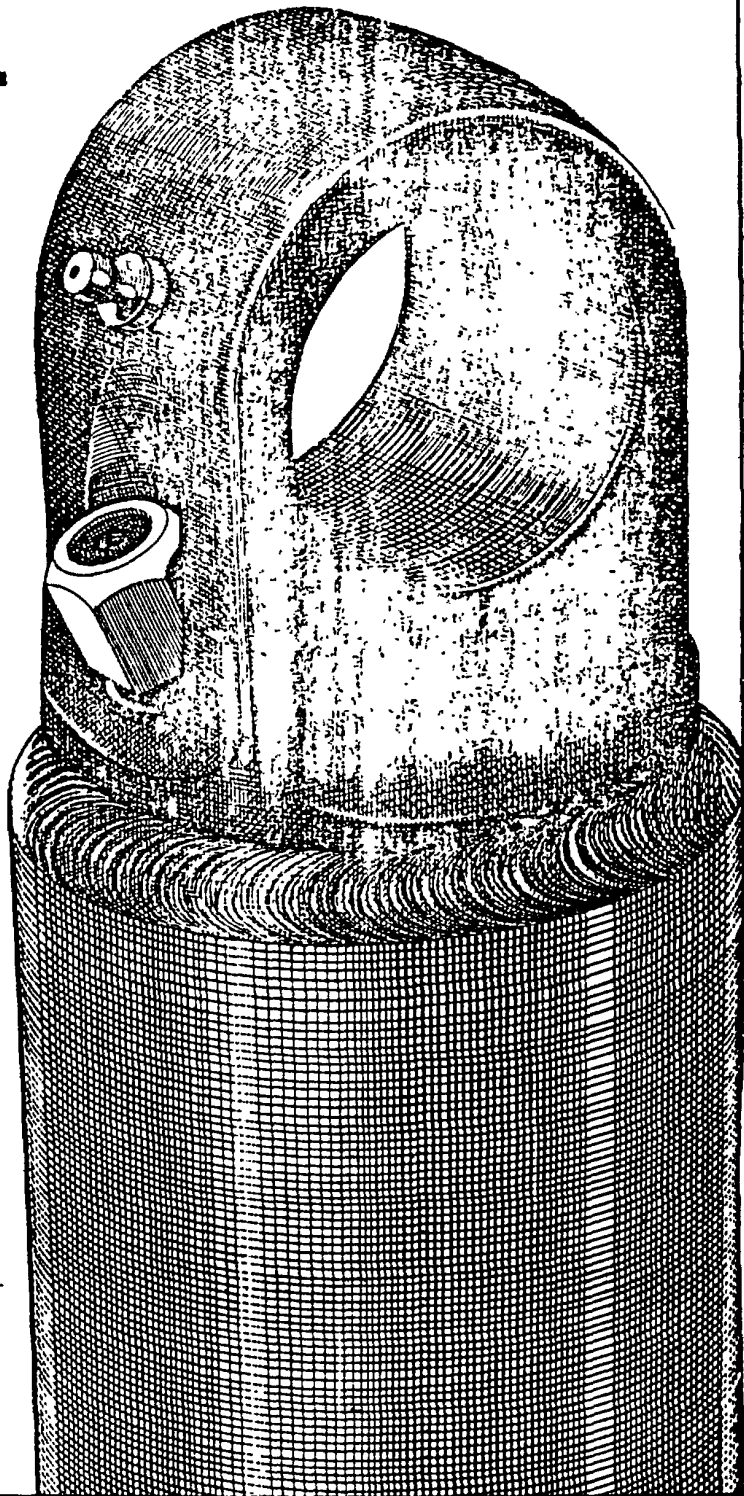


It's also available in a low cost retrofit kit, for older model Hyco cylinders. Easy to install, it's adaptable to other popular makes as well. For full details on the Hyco Automatic Air Bleeder*, write to Hyco, 1401 Jacobson Avenue, Ashland, Ohio 44805. Phone: (419) 323-1593, Telex: 987-440, Cable: HYCO ALND.

*Patent Pending

HYCO DIVISION
The Weatherhead Company

A Subsidiary of  **DANA CORPORATION**



TRUCK BODY MOUNTS

Truck users have been questioning the mounting of bodies on heavy trucks. The following body mounting guidance is offered:

Truck frames are built to be both stiff, in that they resist bending, twisting, parallelogramming, and flexible, in that they allow bending and twisting as the wheels and axles follow the road and terrain. Although this stiffness and flexibility may seem to be a contradiction, the metal suppliers and truck manufacturers work together on the users problem to get the most flexibility (within the limits the metal allows) to carry the truck and its loads without damage for the life of the truck. A truck frame that is too stiff, without flexibility, will crack. A truck frame that is too flexible will be overstressed, become bent out of shape, and finally crack.

Bodies, to be mounted on heavy trucks, are normally rigid or very stiff and mounted on sub-frames for support.

This leads us to the task of mating a relatively flexible member, the truck frame behind the cab, to a relatively rigid member, the truck body.

Since a truck frame that is too stiff will crack, means must be provided between the body and the frame to allow the frame to flex as it is supposed to do, while carrying and securing the rigid body on the truck.

Components used in mounting a body on a truck frame include the following:

- a. Breaker strips between the tops of the truck frame and the bottom of the body for flexing.
- b. Shear bolts with brackets provided on each side of the truck to prevent shifting.
- c. Twin studs or U-bolts provided along each side from rear to near the front of the body to provide clamping.
- d. The plates bridging the U-bolts or twin studs to spread the loadings.
- e. Internal braces installed in the truck frame channels to prevent crushing of the frame rails.

Breaker strips are needed between the upper frame rail flange and the lower body subframe to allow the frame to flex and the body to remain rigid. The breaker strips are the width of the frame flange and extend from the rear of the body to the front of the body subframe. Breaker strips are normally of elastomer (rubber type) material, although the older practice of using wood breaker strips is still continuing. To provide frame flex, the front end of the breaker strips clear the frame flanges by about 1-inch (25.4 mm) and, by tapering down, gradually comes in contact with the frame some 18 inches (470 mm) as they run rearward. This downward tapering of the breaker strips allows the truck frame to bend and twist during travel without the body subframe restricting and concentrating a frame cracking, high load at the front of the body.

Shear bolts and brackets are located on each side near the rear suspension and running gear. An upper L-bracket is bolted or welded to the body sub frame and a lower L-bracket is bolted to the heat treated frame. The two legs of these brackets are then secured with bolts. These bolts locate the body on the frame and prevent fore-and-aft slipping and side-to-side slipping of the body on the frame. It is true, there is no way these bolts will locate the body. They will only hold if the twin studs or U-bolts are tight and doing their major share of body clamping. Shear bolts which have sheared off and a shifted body indicate that the twin studs or U-bolts are loose.

Twin studs or U-bolts are spaced along the sides of the truck, clamping the body subframe onto the breaker strips and then onto the truck frame rails. The quantity used on each side and the diameter of the rod use depends on the body and payload being secured. The minimum diameter of each twin stud or U-bolt should not be less than 9/16-inch (14.3 mm) for heavy truck applications. The quantity should not be less than 3 or 4 assemblies per frame rail. Two tie plates are used on each twin stud, one on top and one on the bottom. The U-bolt uses one. To prevent deformity the tie plates should be not less than 1/2 - inch (12.7 mm) thick metal and sized to spread the bearing load over the bottom of the frame rail and the top of the subframe. There should be enough metal outboard of the two bolt holes edges so that at least twice the bolt hole diameter distance is provided to any edge of the tie plate. The twin studs or U-bolts should be secured with large, flat, hardened steel washers on the tie plates and prevailing torque type nuts on top of the washers, locking the assembly. These nuts must be correctly torqued to the twin stud or U-bolt manufacturers recommended torque readings, using either a known accurate torque wrench or the turn-of-the-nut method of tightening. Retorque these nuts at 100 miles, 1,000 miles, and 6 months of use after the truck has been put into service. After the first year, an annual check of body mounting is necessary.

The front twin stud or U-bolt must be positioned rearward of the front of the body approximately 18 to 24 inches (460 to 610 mm) to avoid clamping on the breaker strip taper and to allow the front end of the body subframe to spread its load over a large section of the truck frame without a stress concentration.

J-bolts must never be used to secure a heavy truck body. The 3-bolt clamping strength is dangerously inadequate to withstand truck operation. The J-bolt clamping force is cantilevered outboard from the frame. When the frame rails flex, each frame rail twists, the J-bolts loosen, and the body could shift or come off of the truck.

Unless frame rail reinforcing blocks are located between the upper and lower flanges of the frame rail, the tightening down of the twin studs or U-bolts will crush the frame initially and continue frame deformity with the truck in use. Frame reinforcing blocks of either wood or rigid elastomer (plastic) material must be furnished at each twin stud or U-bolt location. These blocks must be a close fit, within a 1/8 inch (3.2 mm) flange tolerance, inside of the truck frame channel, near the web between the flanges. Since the frame twists and flexes, these blocks must be secured in their position to prevent fore or aft shifting. The blocks should be either equipped with vertical grooves or with top and bottom keeper straps over the inner stud or U-bolt rod. These means keep the block from working out from under the twin stud or U-bolt.

On the Military Design Tactical Trucks, a special front body mount is employed. To accommodate tactical cross-country travel, the normal front twin stud or U-bolt has been replaced with a much more flexible method. Outboard, upper and lower, L-brackets, secured with spring loaded bolts and nuts, provide a proportion of the clamping force necessary to hold down the body on the frame. In addition, the springs expand and contract over rough ground much more than a solid rod could permit. This more flexible body mount greatly prolongs the life of the truck frame in this extra severe operation environment.

FLEXING AND VIBRATION OF TRUCK COMPONENTS

19 Oct 77

1. Field users are submitting a number of EIR's and Suggestions to install brackets and braces to prevent components from failing, leaking, rubbing, or some other malfunction. The function of a bracket or a brace is to hold, to support, and to prevent relative movement. These items do this by transmitting forces from one component to another. The key to installing correct brackets and braces is to know why you're wanting a bracket or a brace and to know how it relates to the rest of the components.

2. Remember how uncomfortable it was to rest your weary head up against the side window when traveling in a car. The car seat, supporting your body[and the side of the car, supporting your head, hid different manners of flexing and vibration (different in frequency, direction, and amount of movement). Therefore, you had to either lay your head down on the seat or add a wadded-up coat between your head and the side of the car to take a nap. Your body and your head had to either vibrate together in the same manner or your head had to be dampened and supported to be comfortable.

3. Now, let's apply this idea to heavy trucks and equipment having large, heavy components installed on the main frame, cab or operator's compartment, and body. The wheels and axles bob up and down, following the irregularities in the road or terrain. Tires and suspension dampen these vibrations and shocks transmitted to the main frame. Next, the main frame receives and further dampens vibrations through frame flexing and twisting and the mass of the frame. Finally, the mounts of large components further dampen and reduce the road shocks and vibrations by flexing slightly. So you see, almost everything mounted on a heavy truck or equipment has its own vibrating manner. These all differ from each other, too. You must either add brackets and braces to components having manners that vibrate alike or add means to allow movement and flexing without breaking-up during vibration differences. This is the same as either resting your head on the car seat or wadding-up a coat or other absorbing means between your head and the side of the car to take a nap. Your head, truck radiators, dump hoist oil filters, fire extinguishers, and many similar parts are in the same situation when it comes to mounting and bracing under conditions of vibration.

4. On the CCE-IHC 20 Ton Dump Truck, the hydraulic oil filter for the dump body hoist system has been rigidly fastened by the return pipe connection to the hydraulic oil reservoir. Further, the filter is bolted to a plate and strap-mount welded to the headsheet of the reservoir. Therefore, like your head and body, the hoist filter and reservoir must vibrate in a manner that is the same. The filter housing cannot be braced into the truck frame since the frame and reservoir do not vibrate in the identical manner.

5. Since the hoist system hydraulic oil filter is solidly mounted on the hoist oil reservoir by a rigid return pipe connection, the filter must move identical to the reservoir only. The truck frame flexes and vibrates in a different manner than the heavy hoist reservoir. The function of all braces are to "hold". Braces also transfer their holding forces. Now then, by adding filter braces into the truck frame, you would actually be trying to hold the reservoir from moving with respect to the truck frame. Since the large reservoir mounts can't stop this difference, small braces won't either. The movement restriction of the filter from the added braces would try to, first, steady the filter and then, second, pass the forces on into the rigid return pipe connection and then, third, steady the forward end of the reservoir. The leaking was caused by the movement between the filter and the reservoir in the first place, so any added braces that move differently than the reservoir would make the problem worse. The solution is to steady the filter on the reservoir so it vibrates as a unit and not differently.

CCE-IHC 20 Ton Dump Truck Combination Stop-Tail Lights
and License Plate.

1. Users of the CCE-IHC, Paystar F5070, 20 Ton Dump Truck have been experiencing failures of the combination stop-tail lights and license plate because of their present location. Users have stated that the current location of the lights and license plate is too low. When the truck is used to service a paving machine or to dump material on a stockpile, the license plate and both lights hit the paving machine or the stockpile causing the license plate to be bent or broken and the lights to be smashed. This leaves the truck without stop-tail lights and could cause a rear end collision.
2. To correct and prevent the situation above, it is recommended that the combination stop-tail lights and license plate be relocated. Attached are three (3) photographs depicting the combination lights and license plate relocated.
3. Remove all fasteners holding the lights and its mounting bracket at original location. Remove the license plate if attached to either light. Remove all electrical connections at the two lights. Invert the lights and position as shown on the attached photographs (No's 1 and 3). Using the light bracket(s) as a template, mark two holes (bottom two) to be drilled through the rear cross member to anchor the lights. Drill the four (4) mounting holes in the rear cross member using a 5/16 inch diameter drill bit. Re-rout the electrical connections as can be seen on the attached photographs. Connect the electrical leads to the two (2) lights. Use the original fasteners or use 4-each new 1/4" x 1-1/8" (min) capscrews with lockwashers to mount the lights.
4. Mount the license plate at the left rear mud flap location (see attached photograph number 2). Anchor the license plate to the angle iron supporting the mud flap by drilling two 1/4 inch holes (evenly spaced) through the plate and the angle iron. Using 3/16 inch capscrews with lockwashers anchor the license plate.



ARRGHH!
MY REAR
LIGHTS ARE
MELTING!

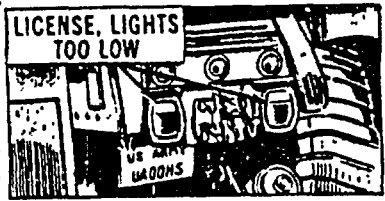
GET YOUR
MECH TO
MOVE 'EM
OL' BUDDY!

HERE'S
HOW...

Those rear lights on your 20-ton CCE dump can melt when you're dumping hot asphalt into a paving machine.

Also, the rear lights and license plate can get broken off when you dump on a stock pile

That's because they're set too low.



Your mech can move them higher on the rear crossmember, tho That's the word in TB 43-0001-41-4 (Jan 78)



- Take the lights and brackets off.
- Use the light bracket as a template. Set the bracket 2 inches from the outside edge of the crossmember. Drill four 3/16-in holes
- Remount the brackets and lights using the screws, nuts, and washers from the old set-up. Reconnect the wiring.
- Move the license plate to the metal strip for the left rear mud flap
- Use the license plate for a template. Drill two 1/4-in holes. Remount the plate using 2 screws, NSN 5305-00-993-1851, 2 nuts, NSN 5310-00-934-9751 and 2 lockwashers, NSN 5310-00-045-3296.

DRDME-HK

SUGGESTION TITLE: Reverse Polarity Circuit Breaker

4.

a. The suggestion proposes removal of the truck's hot lead to the electrical loads from the starter's battery terminal and reconnecting all truck electrical needs, through the reverse polarity circuit breaker, to the downstream side of this circuit breaker. Thus, in case the circuit breaker manually or automatically is tripped with the engine running, the sudden load disconnect would not cause the alternator to run-away and burn-up.

b. The suggestion cannot be approved for the following reasons:

(1) With the connections following the suggestion, the tripping of the circuit breaker would not insure that the alternator would not run-away. As reconnected, the alternator would feed its electrical energy to the truck loads. During after-dark operations, this might work to protect the alternator from trouble by having the alternator feed its energy to the lights. However, during daytime operations, the normal electrical load (consisting of electrical gages) is insufficient to prevent a run-away alternator. The same alternator burn-up troubles would occur with the suggestor's hook-up as is occurring with the original hook-up.

(2) The appearance and location of the reverse polarity circuit breaker contributes to the problem. The circuit breaker looks like an ordinary, household, toggle light switch, which has been laid on its side. This switch is mounted in plain view, under the center of the dash panel in the cab and is accessible to anyone who wants to try it and see what it does. It can also be tripped by personnel, swapping driver and co-driver seats, by brushing against the exposed toggle when they negotiate the obstructed paths. Many alternator diodes could be saved by relocating the circuit breaker to an inconspicuous position underneath the dash. The relocating should be out of the way of ready access and with the toggle out of sight.

Steering Geometry and Front Tire Wear Characteristics.

1. Users of the CCE-IHC 20 Ton Dump Truck, F50 70, -have been complaining about excessive front tire wear and the accompanying low tread mileage. The CCE-IHC Dumper is equipped with a heavy 18,000 pound, Model FL 901 Rockwell Standard front axle, riding on 16.5 by 22.5, wide base, traction lug tires. Twin, frame mounted, Sheppard power steering gear boxes are used for steering. Because of the construction truck design having the set-back front axle, the weight imposed on the front axle always remains relatively high. The front axle weight varies between 13,000 pounds at curb weight-to 18,000 pounds at maximum gross vehicle weight rating (GVWR). As a result, the front axle design is a series of compromises. The space taken up by hub bearings and brakes prevents the kingpins from being ideally located. The angles between the spindle, the steering arm, and the tie rod are all compromised from the ideal Ackermann steering set-up. The wide base tires, the high loadings, and the steering geometry cause the inside front tire to scuff during turns from side-slipping. Then, while turning, the weight of the truck transfers from the inner tire to the outer tire. As a result, the tread of the inside tire is worn off at a high rate. The sharper the turn or the greater the speed, the greater the tire wear. In addition, there are only 2-tires at the front giving directional guidance., to the 8-tires aimed straight ahead in the rear. The on-off-road features of the rear tandem also contribute to front tire wear. When the truck rounds a corner, the outer rear dual tandem tires free-wheel, while the inner rear dual tandem tires provide all the tractive effort to propel the truck. This is due to the ratcheting effect of the Detroit No-Spin, traction-type differentials in both the front and the rear tandem axles. As a result, the rear dual tandem provides a lot of resistance to steering around corners and both front tires see this in the form of wear. The wide base, traction lug tires provide both floatation and improved steering traction for off-road operations. These tires carry heavy loads at a lower air pressure inflation. They provide the driver a much safer, less fatiguing ride and impart less shock and vibration to the truck.

2. Good front tire mileage, as obtained with highway trucks, cannot be achieved with a good, on-off road dump truck. Considering the on-off road features, front tire mileage of 8,000 to 25,000 miles is a normal range-for this type of heavy truck. Individual truck tire tread life depends, of course, on actual use and will vary widely.

3. Tire tread design, whether traction lug or highway rib tread, makes little difference in tire mileage. The other wear factors far overshadow the minor difference between rubber pads and voids of traction lug and rib tread design. Traction lug tread design was selected for the CCE Dumper because it does provide more steer-ability over off-road terrain than does a rib tread. The rib tread may be better for those users traveling predominately on pavement who are willing to accept the poor steering response when off-road conditions are encountered.

4. The following operational points are offered to users to assist in getting the best possible front tire mileage:

_____ Accurately check the trucks front end alignment; check at six month intervals.

_____ Be very accurate in setting the front end alignment; follow manual; adjustments are critical and drastically affect tire wear.

_____ Maintain correct tire pressures for your loads and your operations; don't bleed air from the front tires to obtain a softer ride.

_____ Keep the payload in the dump body level front to rear; maneuver slowly at loading and dumping sites; maintain haul roads in good repair between these sites.

_____ Turn the front wheels only when the truck is moving; don't turn the steering wheel when stopped; in maneuvering, rock the truck back and forth when steering.

_____ Keep the interaxle differential of the rear tandem UNLOCKED; Before going into soft terrain, stop and lock this differential and, as soon as possible, unlock it again.

Blind Spot Auxiliary Truck Mirrors

1. An EIR has been submitted from a field user recommending that a "school-bus-type", front, cross-view mirror and bracket assembly be installed on the front roadside of the CCE-IHC Paystar F5070, 71,000 GVWR, Dump Truck. The mirror is to reduce the driver's blind spot caused by the high hoods of conventional trucks. It is a mixed blessing to add the suggested cross-view mirror on the front of conventional cab trucks. They are fine while working and useless when they don't. Those mirrors, when properly mounted, aimed correctly, not covered by dirt, dust, frost, or ice and undamaged, will allow the driver to spot trouble in his forward blind spot. This leaves only the right hand side and the rear blind spots for driver concern. The right hand west coast mirror covers some of the curbside rearward of the truck. With some trucks, a special right hand door traffic window provides the driver with added visibility of the right curb area. Truck manufacturer and commercial truck users are installing a right hand safety mirror, positioned horizontally above the passengers door. In this position, the mirror glass is aimed downward. This curbside door safety mirror covers the blind spots on the righthand side missed by the vertical curbside west coast mirror and the narrow right door traffic window.
2. The installation of these blind spot auxiliary truck mirrors on trucks, truck-tractors, and construction equipment should be decided by each local user fleet. Especially since different users of trucks and equipment operate in a variety of circumstances, the installation of these mirrors should not be on a fleetwide basis. If you are operating in congested areas with a lot of people causing high accident risks, get local authority to install the mirrors and prevent accidents before they occur. If you are operating out in the boondocks, where the risk of truck blind spots is not serious and where brush and trails could damage your auxiliary exterior mirrors, don't install them. They'll just get knocked off and be a constant source of maintenance.
3. In addition, don't limit the application of these mirrors only to the CCE-IHC 20 ton dump truck. These mirrors are a safety factor for consideration on the M911 Oshkosh C-HET truck tractor, the M915 Series of AMC-CCC Family of trucks and all other military and commercial trucks having driver visibility problems.

4. Installing Front, Cross-View Mirror.

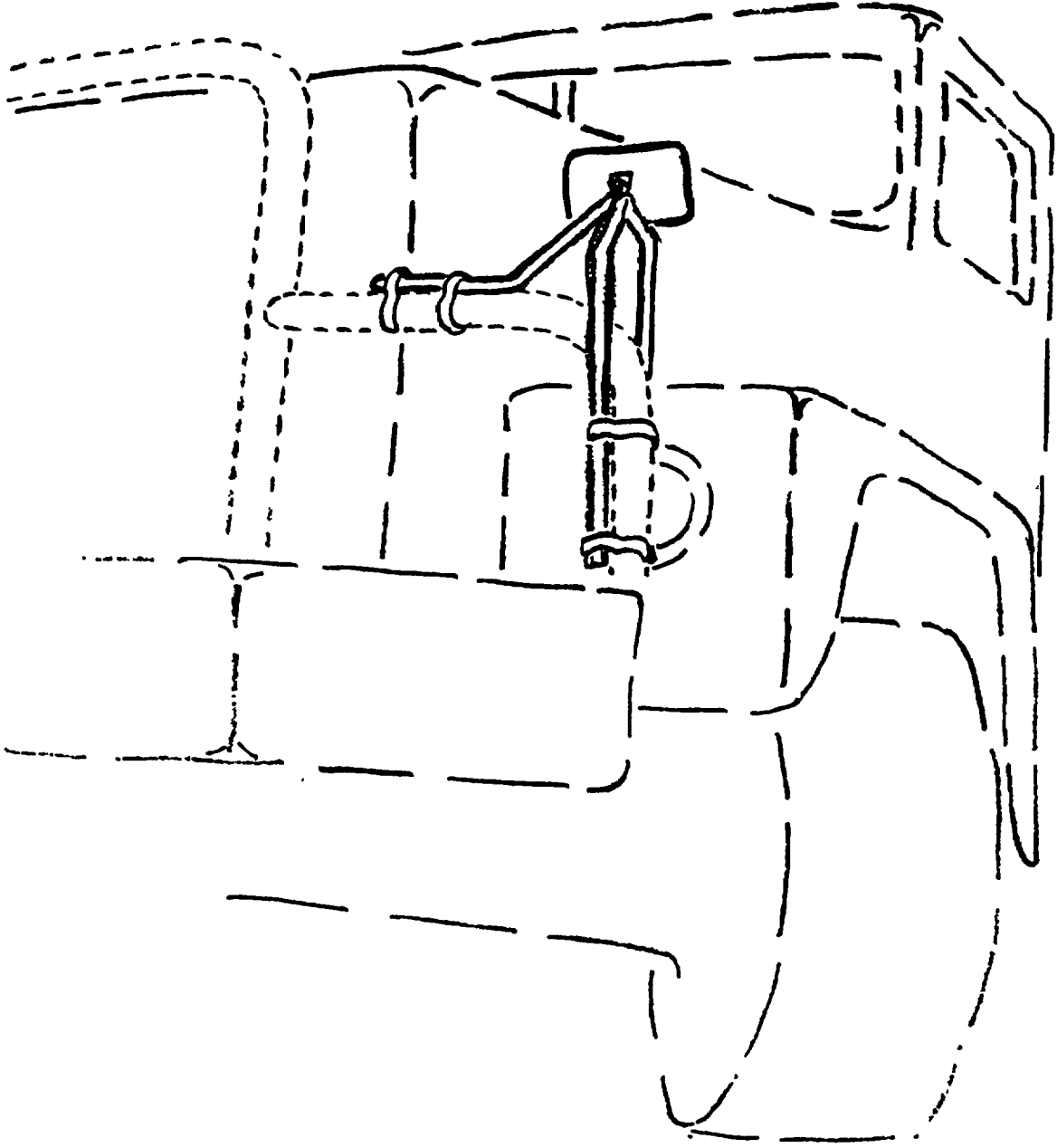
The front, cross-view mirror is located in the driver's view on the roadside of the truck and aimed to cover the immediate, front of the vehicle and the front curbside. The parts you'll need for a crossview mirror are a medium size mirror head, a three-legged bracket assembly and means of fastening to the truck. The standard rectangular 5 by 7 inch (125 by 180 mm) mirror head, including MS53015, Dash 1 for military users, is your best choice. The large west coast mirrors will cause a driver blind spot in the on-coming traffic lane while the smaller round mirrors are too small for use on long nose conventional trucks, although they may be alright on short nose conventional trucks. Remember, a cross-view mirror is no good, if the driver can't see and recognize the Image of the person or obstacle in his way. Have a mechanic hold the mirror head up into the driver's lower vision. Select the truck's best available and most protected mounting. The grill guard is normally best, fender next best, and front bumper the least satisfactory. Locate the head over on the left side and directly above a vertical surface of the mirror mounting member. Measure from the mirror head stud down to the mounting member. To provide the mirror with maximum stability, use a 3-legged bracket system. The legs may be in accordance with MS 51383, if they are long enough, or fabricate the legs from minimum 3/4-inch(19 mm) thinwall steel electrical conduit. Flatten the mirror end and drill to accept the mirror head stud for all 3-legs. Although each installation maybe slightly different, the mounting of the mirror to the grill guard should cover the fender and bumper mount methods, also. As a rule-of-thumb, try to get the legs to be secured for 1/3 distance to the truck for every 2/3 distance measured from the truck to the mirror head; have 1-inch (25 mm) on the truck for every 2 inch (50 mm) of leg holding the mirror. On the grill guard, position one leg on the front and one leg on the rear of a vertical grill guard up-right. Run the third leg at about a 45 to 60 degree angle over toward the center of the truck to a horizontal or vertical member of same grill-guard. Note mount all legs to only one item of the truck. For example, fasten all the legs to the grill guard only and do not install any legs over to a fender, radiator shell or any other truck part. When any bracket is mounted

on two parts of the truck, vibration differences will soon cause fatigue and result in failure of the bracket. The grill guard installation, on trucks such as the CCE-IHC 20 ton dump truck, is easily made by using worm type, hose clamps intended for the cooling system. These clamps provide both leg adjustment, positive securement, and facilitate mirror removal for extended off-road truck use. Combining a large radiator hose clamp with one or two smaller heater hose clamps should go around most types of grill guards and mirror legs. Spread at least 2 each sets of hose clamps as far apart as possible on the secured legs to provide maximum rigidity and support the mirror.

5. Installing Right side Safety Mirror

The right side safety mirror is located above the passengers door on the curbside of the truck and aimed to provide the driver with a view of the ground on the curb side. The parts you'll need for a right hand door safety mirror include a standard 16 by 6 inch west coast mirror head such as MS 53015, Dash 2, (without the spottier part) a loop -type mirror bracket with door mounts above the window and an adjustable 3rd leg bracket with door mount under the window. With the passenger window open, use several C-clamps and temporarily secure the west coast mirror assembly to the passenger door. Align the mirror so that the mirror head is horizontal with the mirror glass facing downward, parallel with the ground. Now, angle the mirror towards the driver so that the edge of the truck is just barely visible in the upper edge of the mirror and the upper edge of the mirror is just barely below the top of the window opening. This aiming should result in good front, center and rear curbside coverage of the blind spots of the truck and truck-tractor. With a slight cocking of the mirror toward the rear it will also provide the best visibility for construction equipment end items. Readjust the vertical curbside west coast, rear view mirror to make the right hand door safety mirror have the minimum, possible blind spot for driver's rearward vision. Close-in adjustment of the horizontal safety mirror will cause the least interference in the curbside rear view mirror visibility. To make a permanent installation of the right hand safety mirror, use the mirror brackets door mounts as templates and where they are C-clamped into final position mark and drill holes.

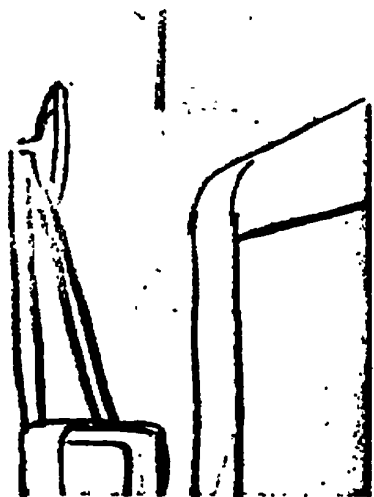
TYPICAL CROSS-VIEW MIRROR
INSTALLATION



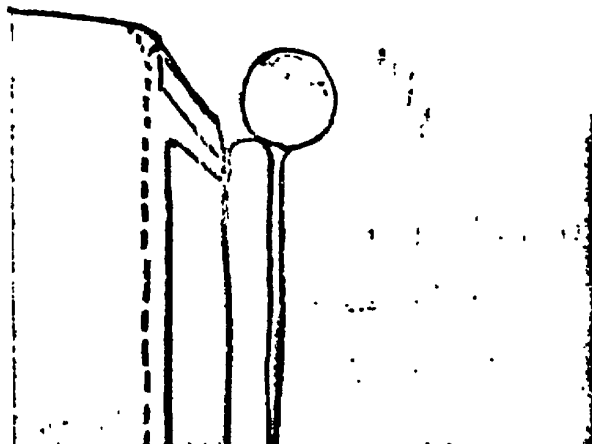
MERHDCOM
27 Mar '78

Door reinforcement plates are normally needed, so have these plates made-up beforehand, using the door mounts as patterns. The reinforcement plates are normally 1/8 to 3/16 (3.1 to 4.1 mm) steel straps having mating holes drilled and tapped for the cap screws used to fasten the mirror door mounts. On the front and rear of each reinforcing plate drill and tap 2-each smaller screw holes to fasten the reinforcing plate onto the door permanently thus allowing removal of the mirror door mount without loss of the reinforcing plate.

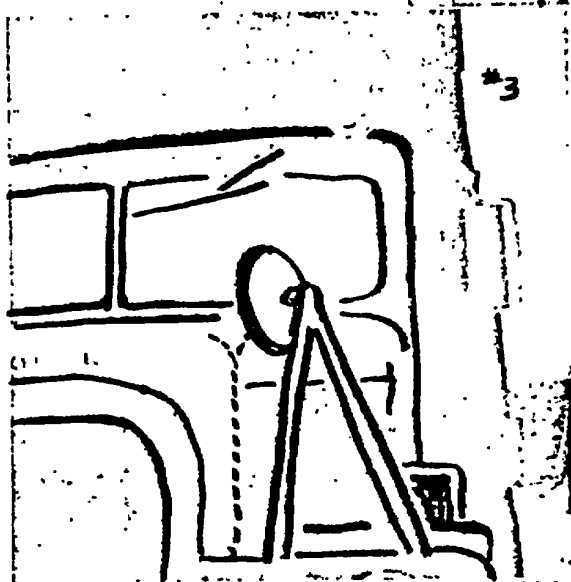
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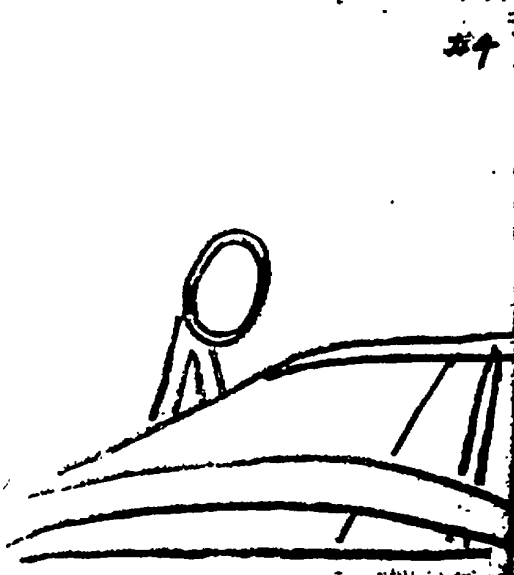
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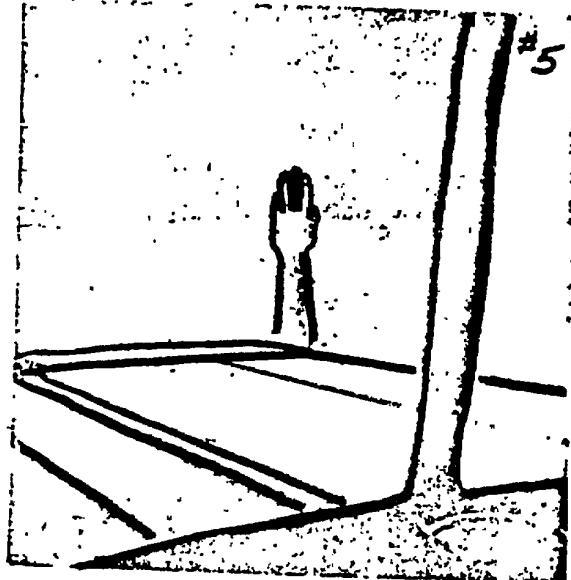
EIR DE37-2202-07
CCE-IHC Dump Truck
Suggested Cross-View
Mirror Installation.

Oct 1977

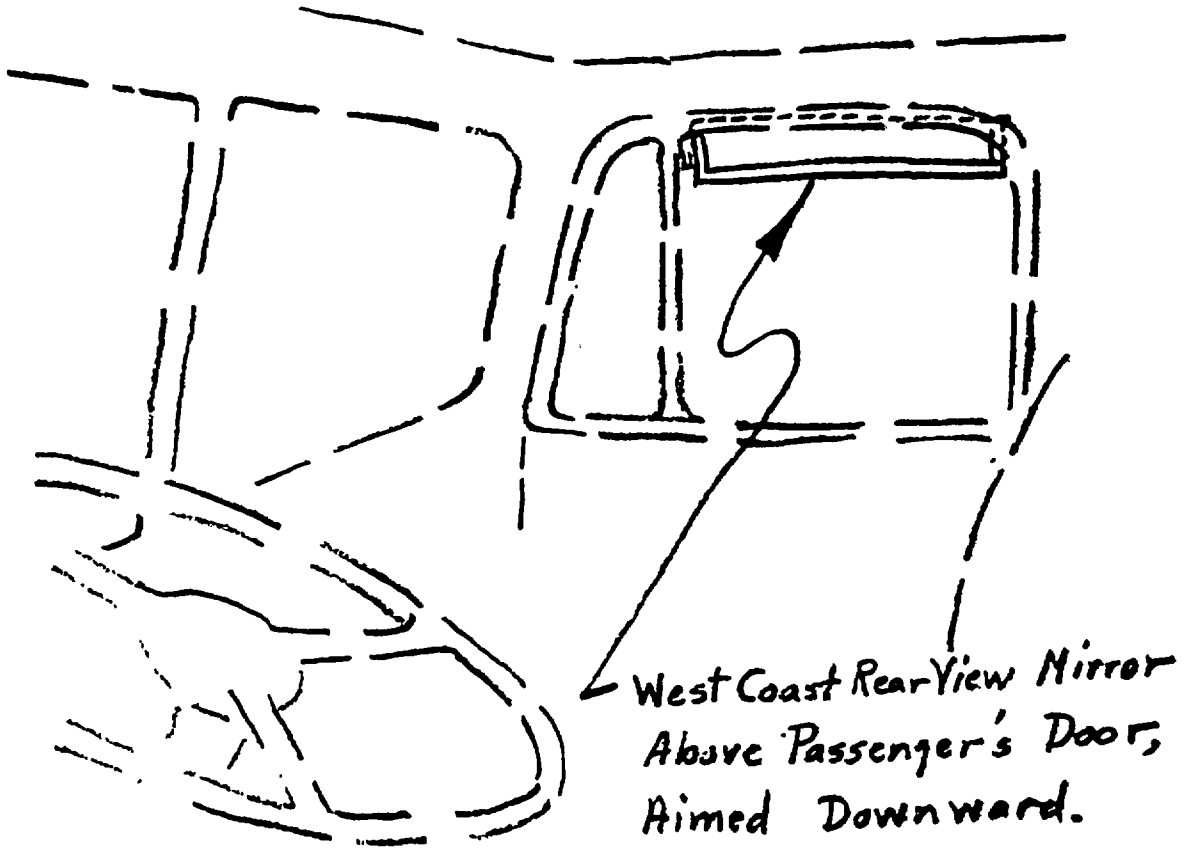
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TYPICAL RIGHT-HAND SAFETY MIRROR
INSTALLATION



MERADCOM
29 Mar '78

DRIVING VEHICLES OVER OBSTACLES

1. A number of Equipment Improvement Recommendations (LIR's) and Suggestions have been submitted from field users of the CGE-IHC, Faystar F5070, 6x4, Dump Truck to better the truck's ground clearance and reduce damage due to off-road operation. Changes are recommended to obtain more underbelly clearances and to substitute flexible components for the rigid components to reduce obstacle damage. Except in rare instances where vehicle manufacturers cause problems, changes to the CCE-IHC dump truck or to other vehicular equipment are usually of no benefit and may often cause other, more serious problems. Users must rely on the manufacturer's compromised design, component availability, design clearances and your driver professionalism to prevent serious damage to the vehicle's vital underbelly parts.

2. Professional drivers learn when and how to drive over obstacles. Get a stack of scrap wood 1x4's, 2x4's, and 4x4's, and may be some short logs. Now then, take your stack of scrap wood and your vehicle out to a nice, big, level field having plenty of space for you to turn around. Park the vehicle and stack up the wood, first under the lowest axle clearance and then, later, under the highest axle clearance between the banjo and the spring seats. Now, negotiate these stacks of wood with your truck without touching the wood. With the help of a buddy, test your judgment of various heights of the stacks, as to whether or not your vehicle can clear the wood stack. While you are turning around, have your buddy either do nothing or add a block of wood in the stack. Next, before you drive over it, you must guess and write down your truck's "Go" or "No Go" ability. Then, see how good you are by going over the wood stack to "prove" or "improve" your judgment. Repeat these exercises on uneven ground so you will be ready for judgment in the real world conditions.

3. When you have to negotiate an off-road course with obstacles, tackle only those obstacles your previous experience tells you your truck will clear without hang-up. With the weight of your CCE dumper, no underneath component made will take these kinds of loads without tearing up something. Obstacles that are too big to clear must be moved out of the truck's path or a new path selected. This same heavy weight of your CCE dumper can be an advantage in those cases where you need to move obstacles. You can move a lot of obstacles out of your path by wrapping a logging chain around the obstacle and around the front bumper tow eye. Get everyone in the clear and get a helper in your rear mirrors to aid in backing. Shift to direct-drive or to under-drive in your Aux Box and, using reverse in the main transmission, back up slowly, dragging each of your obstacles out of your path. Keep an eye on your torque converter temperature gage and warning light and never let the converter get too hot. Also, keep your tandem in lock-up and never let your rear tandem tires spin-out. If necessary, use tire chains to keep from spinning. -In selecting a new path around obstacles, do not cut your maneuvers too short so that damage is done on your tanks, mud flaps, or side walls and tread of the rear tandem tires. A punctured fuel tank is just as serious in the boondocks as a punctured oil pan or a bent tie-rod.

4. Don't expend your energy in redesigning your vehicles to fit the larger of the tree stumps, boulders, and other obstacles in your offroad path. Instead, test your vehicle -and know how big an obstacle you and your vehicle can go over,; how to correctly drive over it to avoid any damage and, finally, how to improve your professional driving skill to keep your truck rolling and producing. Mother Nature and man design the wide variety of obstacles in the path of you and your vehicle. The vehicle designer and manufacturer decided the best ground clearance and the best center-of-gravity height to prevent tip overs. Now,, it is only in the hands of you, the driver, to match the vehicle with the correct height range of obstacles. If your judgment is. good, you are a winner, but if your judgment is poor, there goes your vehicle and -there goes your driver professional rating (i.e., your E-5 stripes).

5. For example, a user of the CCE-IHC Dump Truck has modified one truck to increase the clearance height of the front axle tie-rod by, eight inches (203 mm). This was accomplished by (a) switching the rear spindle arms from right to left and vice versa, (b) adding one inch (25.4 mm) high front spring spacer blocks between the spring and the axle spring seat including longer U-bolts, and (c) reorienting the truck's tie-rod on top of the spindle arms to provide the additional eight-inch (203 mm) clearance. These changes cause the axle and wheels to remain the same as before, moved the tie-rod upward about eight inches and moved all other components of the truck upward one inch (25.4 mm), pivoting about the rear tandem suspension trunnion shaft. However, the tie-rod is already located above the lowest part of the front axle I-beam. The tie-rod is already in a well-protected position in that any obstacle that would bend the tie-rod, as a result of forward travel, would have to bend the heavy, 18,000 pound capacity front axle prior to any contact with the tie-rod. A second reason that such modification could be nonproductive deals with the disturbance of the truck's steering geometry. The steering geometry of the front axle is mutually tailored for the truck by the axle manufacturer's and truck manufacturer's design. The steering gear drag links from the frame mounted gear boxes to the upper spindle arms should be and are just about parallel with the truck frame. As a result, the truck's roll and pitch with flexible front suspension has little effect on truck's usual handling characteristics. The addition of even the one-inch (25.4 mm) more of drop on the right and the left drag links will result in increased or dangerous wander of the front steering wheels. Although the steering wheel is held straight ahead, the action of the front suspension and the dropped drag links will result in unpredictable self-steering of the truck.

6. Some vehicles, such as track-type crawler tractors, rubber tire 4x4 tractors, and the five- and the 20-ton 4x4 Rough Terrain Cranes, have belly pans that are designed to bottom-out and support the vehicles weight over a single small area. The weight penalty and the complex maintenance accessibility limit belly pans to the type of construction and earthmoving equipment where they can be considered to cost less in problems than do the repairs and the hours of downtime.

DUMP BODY HOIST CYLINDER SHIMS

1. A user of the CCE-IHC, 20-ton 6x4 Dump Truck has submitted an EIR suggesting the use of shims on the hoist cylinder packings, like the commercial users do, to prevent the heavy leakage of the packings. The use of shims with the packing cannot be recommended. The leakage of oil from around the packings of the hoist cylinder stages is normal and is necessary to self-clean the cylinder from contamination and to prevent rust. Any cost savings attributable to use of shims, in lieu of waiting for replacement with new packing, will be grossly overshadowed by the higher cost of new cylinders. Overtight packing caused by shim adjustment will cause cylinder rust, wear, and scoring. Overtight packing will also contribute to binding of the hoist in the raised-dump-body position.
2. Shims are being made available for those knowledgeable users who have the know-how and the need to retard hoist cylinder packings oil flow. Shims must never be employed by users to prevent "truck inspection gigs resulting from hoist cylinder leakage".
3. The shims should be made available for abnormal circumstances where wear or other hoist cylinder problems cause the normal packing to malfunction on one or more telescopic stages. Under these circumstances, the shims may prevent cylinder replacement and should be authorized for local procurement based on the advice of knowledgeable personnel, military or commercial.

LOCAL PURCHASE OF CCE-IHC DUMPER PARTS

Many users of the CCE-IHC Paystar F5070 Dump Truck are having a time locally going out and purchasing parts for the truck on local purchase authority. Usually your friendly-IHC truck dealer has a lot of parts for your IHC Paystar F5070 truck. Nevertheless, when he is out-of-stock or has other problems look to your friendly US Army Ordnance dealer and, then, any and all other truck and heavy equipment dealers to supply your parts. The only major components that are strictly International Harvester manufactured on your IHC truck are the cab sheet metal and front end grill guard and sheet metal. In all heavy truck lines (and in some construction equipment lines) most components are purchased. Very few heavy truck parts are made by the truck manufacturer. This means that the dealers stock and sell these component replacement parts which are offered by the heavy truck manufacturers. Excluding exceptions you cannot get Ford parts at your friendly Chevy dealer for passenger cars and light trucks. However, in heavy trucks, your Chevy dealer and all other dealers have heavy truck parts for each others heavy trucks!

So, regardless of the make and model of your heavy truck, when you cannot get the parts you need from your brand's dealers go on over to his competitor across the street and pick-up your heavy truck parts. First, do your homework before you go over, though. While the component manufacturer's part number remains the same for a component, the part numbers of each particular component will, of courses be totally different from one brand of truck to another, Track down the component manufacturer's part number so the competitor can find the right part bin under his brand of truck's part number. Don't assume or trust his cross-index of part numbers, if you need the exact, quality, replacement part.

This same concept also applies to heavy trailers and some items of CCE construction equipment. Scout around and find out for your vehicles what parts you have and where you can find and get replacements when your vehicle brand's dealer is temporarily in a bind.

THE ART OF DUMPING PAYLOAD WITHOUT DAMAGE

Dump truck drivers must become a very special breed of driver. In addition to know-how in transporting your payloads, you have to know a lot of tricks of the trade of loading and dumping.

The users of the CCE-IHC Dump Trucks have been complaining of damage to rear air brake lines and damage to the rear axles' aluminum brake chamber housings. Here is guidance on how to avoid a lot of these problems and how to operate your trucks to prevent rear axle brake damage.

Since the CCE-IHC Dump Trucks have a higher gross vehicle weight rating (GVWR) than most other vehicles, and about 60 percent higher than the replaced N-Series Dump Truck, the brakes on the CCE-IHC dumps must have high stopping power and high parking power. To achieve this power, these heavy trucks have large, type 30 brake chambers with heavy coiled springs at each wheel brake. Thus, when the loaded truck is parked, all four rear tandem wheels are locked tightly to hold the 71,000 GVWR. While lighter trucks can get by with only two, spring brake chambers on the forward tandem, heavy trucks need to be equipped with four spring chambers. Both rear tandem axle chambers stick out rearward beyond the tires and are subject to getting damaged during backing and dumping of payloads.

TARCOM EIR Case No. DE37-1208-01 notes that users are troubled with breaking the air line fittings (the service brake application air line and the emergency parking brake air line) off the rear air brake chambers when backing the dump truck. The air brake lines and fittings on both the front as well as the rear tandem axles should be attached in the upper half of the chamber cans and on the side next to the truck frame. This is the most protected, safe position to prevent damage. To position the air lines, locate the service brake chamber clamp, clean the area, and loosen (but don't remove) the clamp. Then, rotate the spring brake housing of the air chamber so that the fittings and lines do not protrude downward. Finally, test drive the truck through a ditch to see that the lines don't chafe on the suspension when the axles are fully articulated. If necessary to reaim the lines, use only straight to 45° fittings. The 90° fittings will restrict air flow too much in flowing in and out of the brake chambers.

The CCE-IHC dumper carries twice the volume of payload that the replaced M-Series GI Truck carried, so you will have to allow for more space to dump your payload. If you don't, your payload could damage your truck. Since you have a 16-foot long, Thiele Dump Body, the wisest thing to do is to commence dumping with the truck in neutral (N) main transmission range and your auk box in the underdrive.(UD), low gear.

Now, as you see through your rear view mirrors that your raised body has begun to pile up the payload behind you, move your truck forward. You must first slow the engine to about 800 RPM on the tach, and, then, you shift the main box into 1-2 low range, accelerate the engine again up to a maximum of 1500, and dump your payload on the run as you pull ahead. Adjust your dump body hoist and truck movement distance so that from the initial payload discharge pile to the end of the dump cycle, is about 16 feet, the length of your dump body. This will keep the payload from piling up and damaging components on the rear of your truck.

Don't use the CCE-IHE Dump Truck or any dump truck as a dozer or loader. They will not take the abuse. The acts of backing trucks into a stock pile at the dumping sites so the clean-up crew won't have so much material to move is false economy. Keep your trucks dumping out in the opens away from the pile. Have a clean-up dozer or loader to move and compact the material into the size stock pile that's needed. Let's face it, the open rear end of a dump truck doesn't even look similar to a dozer blade or a scoop loader bucket.

CONSTRUCTION EQUIPMENT AND THEIR STRESS CRACKS

Equipment users often are plagued with items at earthmoving, construction, industrial, and materials handling equipment that exhibits stress cracks in the structural members. Stress cracks are those cracks in metal members that are the result of: (1) abnormal overloads, (2) fatigue from normal loads over a long time, and (3) any combination of (1) and (2). The degree of stress cracking is governed by equipment use, time, and load variables. An important phase of PM servicing of any item of equipment is the cleaning, inspections and repair, if necessary, of all structural members. Catching problem areas in time prevents subsequent major repairs and equipment deadline. Due to the working nature of these lines of equipment, a certain degree of abuse overloading, over speeding, and rough handling is bound to occur. The only way to avoid abuse is not to operate the equipment.

Failures are the result of metal fatigue due to flexing, bending, twisting, vibration, shock, and distortion. The results show up in the equipment structural metal members as weld cracks, metal cracks, and joint and fastener loosening.

Repairs to minor components, and to members that are not part of the equipment's main structure; may be made without special instructions in most cases. Just follow good shop and welding practices during repair and replacement. On the other hand, repairs to major structural members must be made by an experienced expert mechanic one who can see the requirements on the part to be repaired and who knows that his method, his workmanship, and his attention to small details will do the job correctly. Care must be taken to see that the repairs do not contain stress risers areas of high stress that can lead to another repeat failure or that just shift the next failure over a little bit. Repairs to plain carbon steel are fairly easy. Repairs to high strength, low alloy (HSLA) steels, like SAE J410 and ASTM A242, especially need attention to the details. Repairs to special heat-treated, truck frame type steels are the hardest of all. Exact procedures cannot be covered here for making each type of repair. In order of preference, you should consult with the experts listed below for equipment repairs:

- The equipment manufacturer's printed manuals and his service letters.
- The equipment manufacturer's dealer service personnel advice.
- The welder or fastener manufacturer's advice on the use of his equipment or product.
- General information available shops, library, schools, trade associations, etc.

Repair procedures differ in accordance with the equipment and its manufacturers; however, many things don't change. Pay particular attention to the small details that make the critical difference on structural members. Know when to weld and -when to bolt .members together. Take your time .and do the repair procedure right the first time without any come backs. If you have any doubts on a repair and have no help, make a small model and try various methods of repair to find the best method.

For the majority of minor stress cracking, users learn to live with the equipment and keep it in good repair. Some serious stress cracks are cause for user alarm. Only a very few stress .cracks result in a disaster. For example, stress cracks in a dump truck body pivot area are just signs of occasional overloadings jarring while dumping, or hitting a chuck hole at too great a speed. It is the same as running over a nail with a tire and getting a flat. Stress cracks on the corners of a scraper bowl between the cutting edge and the end bits are more serious and need repair as soon as possible. Stress cracks on the second section of a crane boom on a telescoping hydraulic truck crane are as critical as you can get and warrant immediate deadlining for repair. This time, it's the same as having a tire blow out at full load and at full speed.

To prevent stress cracking problems, limit overload or over speed of equipment and reduce exposure of your equipment to abuse. If equipment, by its nature, must be overloaded, over speeded, and abused at times, then keep an expert eye out for normal, serious, and critical stress cracks, and know what action to take to get them repaired correctly the first time.

APPENDIX 2-J

REVISION NO. 1

TO

SPECIAL PARTS CATALOG 1086677R1/REVISED JAN. 1976

FOR

**TRUCK, DUMP, 20 TON, ON/OFF HIGHWAY
(184 INCH WHEELBASE, MODEL F-5070)
PRODUCED FOR U.S. ARMY
ON CONTRACT NO. DSA-700-72-C-9235**

This revision contains important corrections and additions to your catalog. Please record these in the catalog promptly.

4 JUNE 76

REVISION NO. 1 TO SPECIAL PARTS CATALOG NO. 1086677R1
FOR CONTRACT DSA700-72-C-9235

PAGE NO.	FIG. NO.	REF. NO.	PART NO. AND DESCRIPTION	
1A			Insert New Page in Front of Parts Manual (Attached)	
			<u>GROUP 02.- FRONT AXLE</u>	
22	02-01	20	441298C2	should read 780842C01
24	02-10	4	296447C1	should read 388249C1
			Add to Bottom of Page Parts Not Illustrated 360634C92 "n" Kit Brg. & Seal (For 1-Wheel) Also Add Symbol to Ref. #4,8,9,11,12,13	
25	02-023		Delete Page 25 and Add Page 25A NOTE: Keep Page 26	
			<u>GROUP 03 - SPRINGS</u>	
27	03-001	2	444736C1	should read 465922011
29	03-003	8	Add the Following Parts Not Illustrated	
			Leaf #1 (Main)	231538R11
			Leaf #2	231539R1
			Leaf #3	231540R1
			Bushing	233430R1
			<u>GROUP 04 - BRAKES</u>	
33	04-009	7	417491C91	should read 524390C91
			417490C91	should read 524389C91
			417499C91	should read 524388C91
			417498C91	should read 524387C91
		20	207184R1	should read 524392C1
			207185R1	should read 52439101
46	04-069	--	Add at Top of Page for Chassis # CGB-? Up (0 not available) & DGB-10001-Up	
46			Add Page 46A	
47/48			Remove Pages 47 and 48 and Replace with New Pages	
49/50			Remove Pages 49 and 50 and Replace with New Pages	
			<u>GROUP 05 - STEERING</u>	
68	05-002	42	286609C12 should read 420776011	
69	05-003	32	Add Part 447847C91 9-1/8" Eye To End	
69	05-003	34	Add Part 430654C01 Upper and 446329C01 Lower	

**REVISION NO. 1 TO SPECIAL PARTS CATALOG NO. 1086677R1
FOR CONTRACT DSA700-72-C-9235**

PAGE NO.	FIG. NO.	REF. NO.	PART NO. AND DESCRIPTION		
<u>GROUP 06 - PROPELLER SHAFT</u>					
76/77	--		Add New Page 76-A		
79	06-04		Add to Top of Page After Kit 1600 Series *		
80	06-05		Add to Top of Page After Kit 1700 Series *		
81	06-07		Add to Top of Page After Kit 1810 Series *		
* NOTE: Refer to Page 76-A and Your Line Setting Ticket to Assure Proper U-Joint Kits When Ordering					
<u>GROUP 08 - ELECTRICAL</u>					
108 08-032	08-031	--	Delete Page 108 and Add Page 108A NOTE: Retain Page 107		
<u>GROUP 10 - SPEEDOMETER & MISCELLANEOUS</u>					
120	10-001	2	76699R2	should read	459840C1.
<u>GROUP 12 - ENGINES</u>					
135	12-001	2	414510C1	should read	30773V
135	12-001	7	118625	should read	114494
135	12-001	12	123617R1	should read	142064H
135	12-001	16	123646R1	should read	141966H
136	12-001	25	317164C2	should read	426188R1
145	12-010	2	24175R1	should read.	21114R1
145	12-010	5	426872R91	should read	125928
145	12-010	9	875354R1	should read	140776
145	12-010	25	After 467362C2 Shroud Add for 3rd and 4th. Year Increment and Add 436526C2 Shroud for 1st and 2nd year increment.		
151	12-041		Add to Parts Not Illustrated 428975C91 Cap Radiator		
152	12-117		Add Note to Page "FOR 3RD AND 4TH YEAR INCREMENT VEHICLES"		
152/153			Add' new page 152-A		
192	12-227		Add Note to Bottom of Page "Parts Required to Install Aneroid AR-40304 in Place of Part AR-09454-OOEF Are 1 Each - 182963 Bracket 1 Each - 4623MP Mounting Kit		
<u>GROUP 13 - TRANSMISSIONS</u>					
210	13-01	27	Add Note:	For Below Transmission Serial #2103 Use Kit Oil Filter 457370C91 and above Serial 12103 and Up use Kit Oil Filter 461547C91	
210	13-01	-	}	At Bottom of Page Part 457436C1 Should Read 457436C91	
213	13-03,	-			
216	13-04	-			
218	13-05	-			
220	13-06	-			
222	13-07	-			
225	13-09	-			

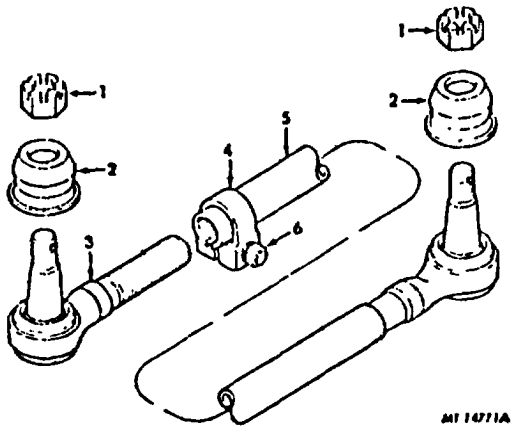
REVISION NO. 1 TO SPECIAL PARTS CATALOG NO. 1086677R1
FOR CONTRACT DSA700-72-C-9235

PAGE NO.	FIG. NO.	REF. NO.	PART NO. AND DESCRIPTION
<u>GROUP 13 - TRANSMISSIONS (continued)</u>			
230	13-12	2	457263C1 should read 45726302
230	13-12	3	Add Note: Use Part 45719801 Below Transmission Serial #3255 and Part 472746C1 For Transmission Serial 53255 & Up.
230	13-12	8	45743601 should read 457436091
231	13-12	--	End of Page Part 45743601 should read 457436091
236	13-15	5	Order Direct From International Harvester Company #555224
237	13-16	2	352311C91 should read 518960C91
239	13-17	1	9410981 should read 52244102
<u>GROUP 14 - REAR AXLE</u>			
254	14-037	87	521271C91 should read 427817091 and Note Added "Component Parts Not. Serviced Separately"
257	14-038	51	521271091 should read 427817091 and Note Added "Component Parts Not Serviced Separately"
<u>GROUP 15 - FUEL TANKS</u>			
260	15-002	16	33415002 should read 4714440C
261	15-003	14	33415002 should read 47144401
262	15-004	15	Add Note: Order Part #151940 direct from International Harvester Co
<u>GROUP 16 - CAB MID BODIES</u>			
265	16-005	--	Delete Fig. 16-005 - Does Not Apply to Vehicle
276	16-012	--	Delete Page 276 and Add New Page 276-A - NOTE:-Retain Page 275
282	16-29	--	Add Note at Bottom of Page "For Below Chassis #DGB-? Unknown"
282/283-	--	--	Add New Page 282-A
<u>GROUP 17 - WHEELS</u>			
ADD NEW PAGE 287			



MT134 GROUP 05- STEERING GEAR
PART DESCRIPTION
NUMBER

FIG. .02-023
DRAG LINK

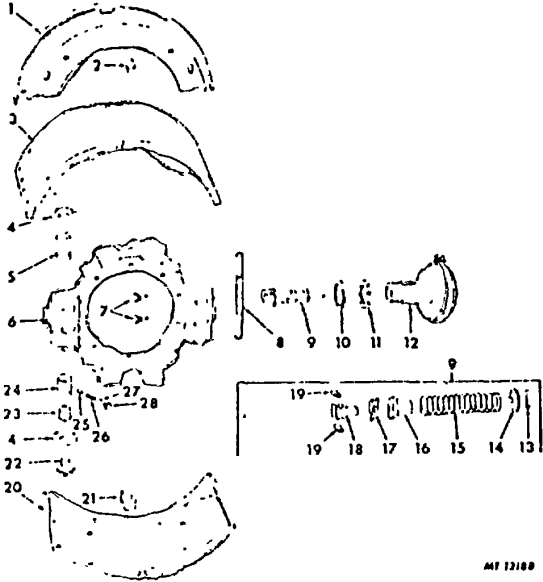


1	17	233	R1	NUT, SLT-HEX-HD 7/8 NF -2- PIN, COTTER 1/8 X 2-1/2 -2-
2	446	309	C1	SEAL, DUST COVER -2-
3	446	306	C91	END, W/NUT AND SEAL, LINK -2-
4	446	308	C91	CLAMP, END -2-
5	446	307	C1	SLEEVE, ADJUSTING, LINK
6				BOLT, HEX-HD 5/8 NF X 2-3/4 -2- NUT, HEX, 5/8 NF -2- WASHER, LOCK 5/8 MEDIUM -2-



MT134 GROUP 04 - BRAKES

REF NO	PART NUMBER	DESCRIPTION
	FIG. 04-001	FRONT WHEEL BRAKE FOR BELOW CHASSIS # CGB-? # NOT AVAILABLE



1	258 006 C1	SHIELD, BRAKE SPIDER DUST -4- BOLT, HEX-HD 5/16 NC X 5/8 - SHIELD TO SPIDER -8- WASHER, LOCK 5/16 MEDIUM -8-
2	346 131 C1	COVER, BRAKE ADJUSTING HOLE -8-
3	258 273 C93	SET, BRAKE LINING, W/RIVETS
	262 265 C1	RIVET, LINING -64-
4	327 185 C91	SEAL, SHOE PLUNGER, ASSY -8-
5	329 664 C1	PLUNGER, SHOE ANCHOR LEFT -2-
	329 665 C1	PLUNGER, SHOE ANCHOR RIGHT -2-
6	258 010 C11	SPIDER, W/CLIP, BRAKE -2-
	414 077 C1	BOLT, SPIDER TO STRG KNUCKLE -16-
	274 639	NUT, SPIDER TO STRG KNUCKLE BOLT-16-
	131 205	WASHER, LOCK 5/8 MEDIUM -16-
7	258 024 C1	BOLT, PLUNGER GUIDE -4-
8	295 610 C1	SPRING, SHOE RETURN -4-
9	340 210 C91	WEDGE, BRAKE, ASSY -4-
10	264 627 C1	WASHER, SPANNER NUT RETAINER -4-
11	258 009 C2	NUT, SPANNER -4-
12	303 855 C92	CHAMBER, BRAKE, ASSY -FOR COMPONENTS SEE FIG. 04-15- -4-
13		PIN, COTTER 3/32 X 5/8 -4-
14	340 212 C1	WASHER, RETAINER -4-
15	340 217 C1	SPRING, RETURN -4-
16	340 214 C1	SEAL, WEDGE -4-
17	340 215 C1	WASHER, WEDGE RETURN -4-
18	340 216 C1	CAGE, ROLLER RETAINER -4-
19	258 027 C1	ROLLER, WEDGE -8-
20	371 167 C91	SHOE, W/LINING, BREAKER -4-
21	258 013 C1	CLIP, SHOE HOLD-DOWN -4- BOLT, HEX-HD 1/4 NF X 3/4 -4- NUT, HEX, 1/4 NF -4- WASHER, LOCK 1/4 MEDIUM -4-
22	478 887 C91	KIT, BRAKE ADJUSTING -4-
23		SLEEVE -SEE REF NO. 22-
24	455 308 C1	PLUNGER, SHOE ADJUSTING -4-
25	258 023 C1	GUIDE, SHOE ADJUSTING GEAR -4-
26	338 333 R1	SPRING, SHOE ADJUSTING GEAR GUIDE -4-
27	258 268 C1	GASKET, ADJUSTING GEAR GUIDE -8-

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MT134 GROUP 04 - BRAKES

REF NO	PART NUMBER	DESCRIPTION
	FIG. 04-001 CONTINUED	FRONTWHEEL BRAKE
28	258 269 C1	BOLT, ADJUSTING GEAR GUIDE -4-

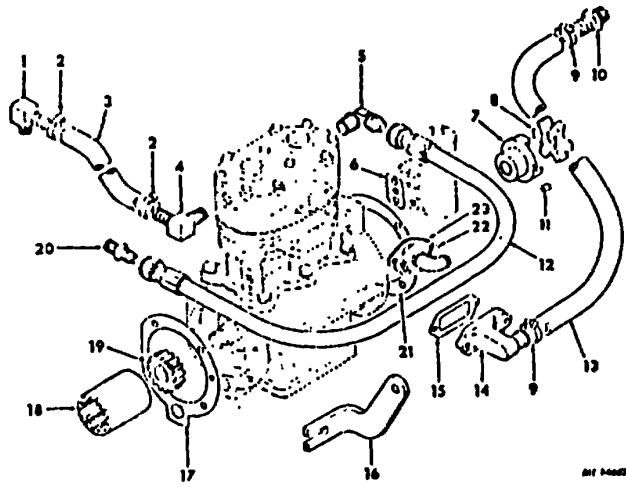
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MT134 GROUP 04- BRAKES

REF NO PART DESCRIPTION

FIG. 04-084
AIR COMPRESSOR MOUNTING AND HOISING



23

1	444	042	ELBOW, 90 DEGREE -EXC NTA370 ENGINE-
	864	437 R1	NIPPLE, HOSE 3/8
2			NOT USED
3	A 100	250 021	HOSE, WATER SUPPLY
4	864	457 R1	ELBOW, 90 DEGREE
5	300	892 R1	ELBOW, 90 DEGREE
6	166	562 R1	GASKET, GOVERNOR MOUNTING
7	867	500 R1	HUB, FUEL PUMP DRIVE
	25	770 R1	BOLT, HEX-HD 3/8NF X 3/4
	25	709 R1	WASHER, FLAT 3/8
	120	382	WASHER, LOCK 3/8 MEDIUM
8	867	499 R1	SPIDER, COUPLING
9			NOT USED
10	864	444 R1	NIPPLE, HOSE -EXC NTC270CT, NTC290, NTC335, NTC350 ENGINES-
11	867	498 R1	KEY, FUEL PUMP DRIVE
12			HOSE, WATER RETURN, ASSY
	A 100	250 000	EXCEPT NTA370 ENGINE
	230	766 R1	ELBOW, 45 DEGREE
	A 100	210 000	FOR NTA370 ENGINE
	265	611 C1	CONNECTOR
	A 100	390 035	FOR 13475, 13486 TRANS CODES
13			HOSE, AIR INLET
	A 100	150 000	EXCEPT NTA 370, NTC350 ENGINES
	A 100	260 000	FOR NTA370, NTC350 ENGINES
14	109	429	ELBOW, 90 DEGREE -2-
	869	907 R1	ELBOW, AIR INLET
	283	641 C1	PLATE, AIR INLET ADAPTER
	179	816	BOLT, HEX-HD 5/16NC X 3/4 -2-
	120	214	WASHER, LOCK 5/16 MEDIUM -2-
15	302	044 R1	GASKET, AIR INLET PLATE
16	433	769 C2	BRACKET, COMPRESSOR SUPPORT
	25	770 R1	BOLT, HEX-HD 3/8NF X 3/4 -AT ENGINE-
	24	840 R1	BOLT, HEX-HD 3/8NC X 1 -AT COMPR-
	25	709 R1	WASHER, FLAT 3/8
	120	382	WASHER, LOCK 3/8 MEDIUM -2-
17	410	205 C1	GASKET, COMPRESSOR MOUNTING
18	428	615 C1	COUPLING, COMPRESSOR
19	428	616 C1	COUPLING, COMPRESSOR DRIVE
20	118	752	CONNECTOR
21	416	350 C1	GASKET
22	152	651 R1	FITTING, DISCHARGE
	177	788 R1	STUD, FITTING -2-
	114	493	NUT, HEX, 5/16NF -2-
	120	214	WASHER, LOCK 5/16 MEDIUM -2-



MT134 GROUP 04- BRAKES

REF NO PART DESCRIPTION

FIG. 04-084 CONTINUED
AIR COMPRESSOR MOUNTING AND HOISING

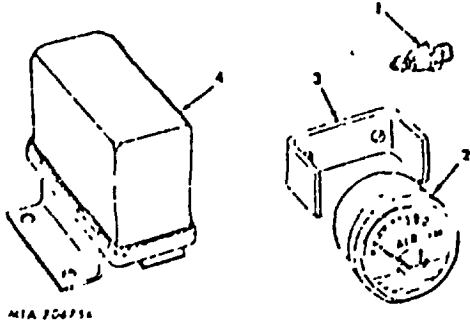
92 474 11 GASKET, DISCHARGE FITTING



MT134 GROUP 04- BRAKES

REF NO PART NUMBER DESCRIPTION

FIG. 04-087
AIR PRESSURE GAUGE AND SWITCH



777	700	C91	SWITCH, LOW PRESSURE, ASSY
386	863	C1	GAUGE, AIR PRESSURE NOT USED
115	866		BUZZER, LOW PRESSURE, ASSY
425	859	C1	*FITTING, MANIFOLD INNER
180	079		BOLT, HEX-HD 5/16NC X 1 -2-
120	376		NUT, HEX, 5/16NC -2-
416	590	R1	WASHER, FLAT 5/16 -2-
407	273	C1	*FITTING, MANIFOLD OUTER
100	079		BOLT, HEX-HD 5/16NC X 1 -2-
120	376		NUT, HEX, 5/16NC -2-
120	214		WASHER, LOCK 5/16 MEDIUM -2-
416	590	R1	WASHER, FLAT 5/16 -2-

* PARTS NOT ILLUSTRATED

387605C1	*LIGHT, low air pressure warning
127934	*LAMP, 2 CP #57
353181C1	*ESCUTCHEON, Low air pressure warning light

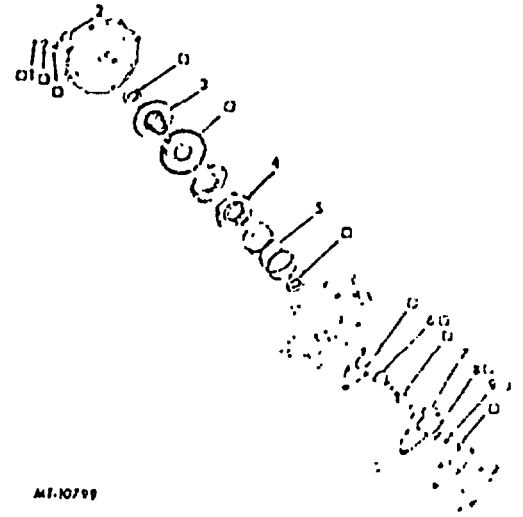
1



MT134 GROUP 04- BRAKES

REF NO PART NUMBER DESCRIPTION

FIG. 04-085
RELAY VALVE



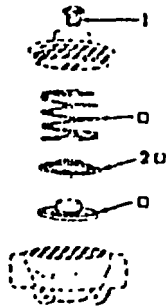
865	757	R91	VALVE, RELAY, ASSY
180	020		BOLT, HEX-HD 1/4NC X 3/4 -COVER TO BODY- -3-
180	021		BOLT, HEX-HD 1/4 NC X 7/8 -COVER TO BODY- -5-
180	022		BOLT, HEX-HD 1/4NC X 1 -CAP TO BODY- -5-
181	116		BOLT, HEX-HD 3/8 NC X 1-1/2 -VALVE MOUNTING- -3-
120	375		NUT, HEX, 1/4NC -COVER TO BODY- -5-
9	413	953	NUT, HEX, LOCK 3/8NC -1-
120	423		WASHER, LOCK 1/4 INTERNAL -13-
119	928		BUSHING, REDUCING 3/8 X 1/4 -2-
444	696		PLUG, PIPE SOCKET-HD 3/8
171	344		SCREW, RD-HD TAP, NO. 6-32 X 5/16
172	532		PLUG, EXPANSION 13/16
3	875	003 R1	SEAT, RELAY VALVE
4	875	001 R1	NUT, DIAPHRAGM RETAINER
5	875	002 R1	SPRING, DIAPHRAGM
6	234	938 R1	VALVE, DISCHARGE
7	877	133 R91	CAGE, W/VALVE, RELAY VALVE
8	234	939 R1	DISC, INLET VALVE
9	79	061 R1	NUT, INLET VALVE
866	242	R91	MKIT, RELAY VALVE REPAIR



MT134 GROUP 04- BRAKES

REF PART DESCRIPTION
NO NUMBER

FIG. 04-088
QUICK RELEASE VALVE



MT 10804

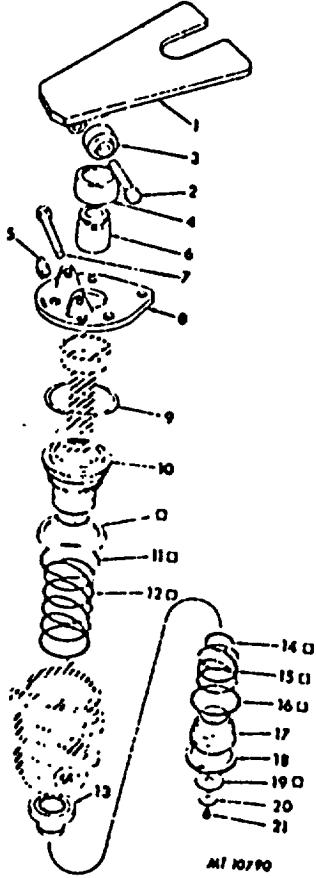
	237	291	R91	VALVE, QUICK RELEASE, ASSY
				BOLT, HEX-HD -VALVE TO BRKT -2-
	25	493	R1	5/16NC X 1
	179	819		5/16NC X 1-1/8
9	413	977		NUT, HEX, 5/16NC -2-
				BRACKET, VALVE MOUNTING
	262	727	C1	REAR WALL CODE 14057
				REAR AXLE CODES 14328, 14388
	323	955	C2	FORWARD-REAR AXLE
	268	758	C1	REAR-REAR AXLE
				REAR AXLE CODE 14333
	323	955	C2	FORWARD-REAR AXLE
	313	093	C1	REAR-REAR AXLE
				REAR AXLE CODES 14351, 14355, 14386, 14387
	318	668	C1	FORWARD-REAR AXLE
				REAR-REAR AXLE
	268	758	C1	ROUND HOUSING
	333	622	C1	SQUARE HOUSING
				REAR AXLE CODES 14364, 14373
	242	416	R2	FORWARD-REAR AXLE
	211	413	R2	REAR-REAR AXLE
	211	413	R2	REAR AXLE CODE 14368 -2-
				REAR AXLE CODES 14303, 14392
	323	957	C1	FORWARD-REAR AXLE
	268	758	C1	REAR-REAR AXLE
				REAR AXLE CODE 14399
	436	582	C1	FORWARD-REAR AXLE
	444	288	C1	REAR-REAR AXLE
				REAR AXLE CODES 14446, 14449
				FORWARD-REAR AXLE -MAKE LOCALLY-
				REAR-REAR AXLE
	433	619	C1	BRACKET, TEE MOUNTING
				ROUND HOUSING
	124	528	R1	ROUND HOUSING
	333	621	C1	SQUARE HOUSING
				BOLT, HEX-HD
	433	761	C1	3/8NF X 3/4
	180	122		3/8NC X 1
	435	098	C1	7/16NF X 3/4
	433	762	C1	7/16NC X 3/4
	120	382		WASHER, LOCK 3/8 MEDIUM
	120	383		WASHER, LOCK 7/16 MEDIUM
	308	512	C1	TEE, W/BRACKET, REAR AXLE
				BOLT, HEX-HD -2-
				5/16NC X 7/8
	100	008		5/16NC X 1-1/2
	120	376		NUT, HEX, 5/16NC -2-
	120	216		WASHER, LOCK 5/16 MEDIUM -2-
	23	323	H	SPACER
1	120	322		BUSHING, REDUCER
2	238	416	R1	SEAT, SPRING
	866	246	R91	*KIT, QUICK RELEASE VALVE REPAIR



MT134 GROUP 04- BRAKES

REF NO PART NUMBER DESCRIPTION

FIG. 04-090
BRAKE VALVE AND PEDAL



	866	628	R92	VALVE, BRAKE, ASSY -INCLUDES REF NOS. 9-21
1	407	269	C11	PEDAL, W/ROLLER, BRAKE
2	193	837	R1	PIN, ROLLER PIN, COTTER 3/32 X 5/8
3	348	598	C1	ROLLER, BRAKE PEDAL
4	179	911	R1	BOOT, BRAKE VALVE
5	446	324	C1	STOP, BRAKE PEDAL
6	124	920		NUT, HEX, JAM 5/16NC
6	145	970	H1	PLUNGER, BRAKE VALVE
7	303	135	R1	PIN, BRAKE PDEAL TO BRACKET PIN, COTTER 3/32 X 3/4
8	348	599	C1	PLATE, TREADLE MOUNTING
	181	006		BOLT, HEX-HD 5/16NC X 3/4 -3-
	181	008		BOLT, HEX-HD 5/16NC X 1 -3-
	120	214		WASHER, LOCK 5/16 MEDIUM -6-
9	968	286	R1	RING, PISTON SNAP
10	968	287	R91	PISTON, ASSY
11	98	384	R1	SEAL, PISTON O-RING
12	968	284	R1	SPRING, PISTON
13	468	283	R1	VALVE, EXHAUST
14	234	930	R1	SEAL, EXHAUST VALVE O-RING
15	968	282	R1	SPRING, EXHAUST VALVE
16	298	387	R1	SEAL, EXHAUST VALVE O-RING
17	968	279	R1	BODY, EXHAUST VALVE



MT134 GROUP 04- BRAKES

REF NO PART NUMBER DESCRIPTION

FIG. 04-027 CONTINUED
BRAKE VALVE AND PEDAL

18	968	280	R1	RING, EXHAUST BODY SNAP
19	968	238	R1	DIAPHRAGM, EXHAUST VALVE
20	968	277	R1	WASHER, EXHAUST VALVE DIAPHRAGM
21	171	346		SCREW, RD-HD NO. 6-32 X 3/8
	968	292	R91	*KIT, BRAKE VALVE REPAIR



EXPLANATION OF THE PROPELLER SHAFT CODE NUMBERS SHOWN ON CODE SHEETS

This code number actually describes the physical characteristic of the prop shaft assembly. The first identifies the design, the second, the second and the third digits indicates the size of the joint, the fourth digit indicates tube diameter, the fifth, sixth and seventh identifies the combination of ends and fittings. Of primary interest to parts men is the last three digits which indicate the pin-to-pin or pin-to-end of shaft (overall) length. For example, 361 would indicate a shaft approximately 36.1" long and 427 would indicate that a shaft was 42.7" long. A more complete explanation of this break down is show below.

1 2 3 4 5 6 7 8 9 10 (10 digit code no. of production propeller shaft)

x ----- The first digit indicates type as follows:

1. Mechanics or blood Brothers
2. Spicer
3. III

x x ----- The 2nd and 3rd digits are the code no. which indicates the size of the joint as follows:

Code No.	Series or sign of joint		
	Mechanics	Or	III
	Blood bros.	Spicer	
20	2		T-55
21		1210	
26		1260	
28		1280	
30	3		S-55
31		1310	
35		1350	
40	4		P-55
41		1110	
48		1480	
50	5	1500	R-55
55		1550	
60	6	1600	O,55
65		1650	
70	7	1700	D-56
80	8	1800	U-56
90	9	1900	C-56

X - - - - - The 4th digit Indicates the to be diameter as follows:

- TUBE DIAMETER
- 2=1-1/2" Dia
 - 4=2" Dia
 - 5=2-1/2" Dia
 - 7=3-1/2" Dia
 - 8=4" Dia
 - 9=4-1/2" Dia
 - 0=Solid

X X X - - .- - The 5th and 6th and 7th digits indicate the combination of ends and fittings used.

999 numbers for every design by size and tube diameter. (This listing is not included since it is quite lengthy and is the same information contained in the cross reference from the 10 digit production prop shaft code number to the service components.)

X X X - The last 3 digits show the approximate length of the shaft from "pin-to-pin" or "pin-to-end".

Last position represent closest 1/10 of inch:

	FILT. SHAFT	REAR SHAFT
36-1/b -	361	362
42-3/4 -	427	428

To take a specific example, the production code part 2707013495, used in building the BC-225-D would break down as follows:

- 2707013495
- 2-identifies a Spicer type shaft
- 70-identifies a size 1700 Spicer joint
- 7-indicates a 3-1/2" tube diameter
- 013-indicates a standard double jointed w/slip yoke
- 495-shows that the shaft is 49.5" long



MT134 GROUP 08- ELECTRICAL SYSTEM
PART NUMBER DESCRIPTION

FIG. 08-031
STOP AND TAIL LIGHT BRACKET



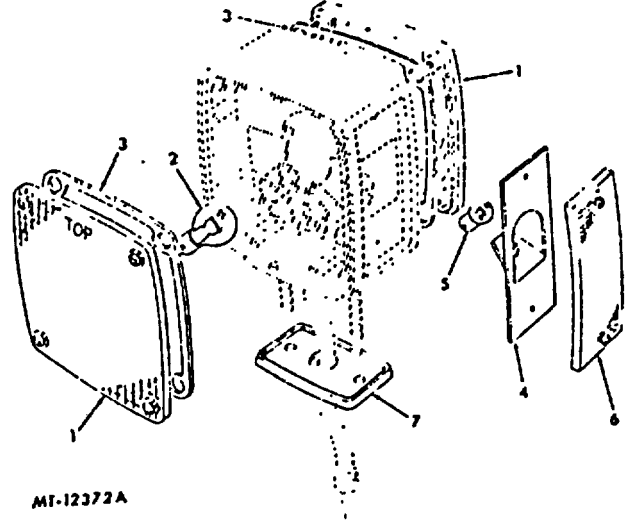
- | | | | | |
|---|-----|-----|----|----------------------------------|
| 1 | 427 | 625 | C1 | BRACKET, STOP AND TAIL LIGHT -2- |
| | | | | 4-5/8 INCHES WIDE |
| | 419 | 678 | C1 | 5 INCHES WIDE |
| | 436 | 296 | C1 | 6-1/2 INCHES WIDE |
| | 25 | 403 | R1 | BOLT, HEX-HD 1/4NC X 1 -4- |
| | 25 | 519 | R1 | NUT, HEX, 1/4NC -4- |
| | 24 | 802 | R1 | BOLT, HEX-HD 1/2NC X 1-1/2 -4- |
| | 109 | 084 | | NUT, HEX, 1/4NC -4- |
| | 29 | 526 | R1 | NUT, HEX, 1/2NC -4- |
| | 120 | 380 | | WASHER, LOCK 1/4 REGULAR -4- |
| | 120 | 384 | | WASHER, LOCK 1/2 REGULAR -4- |

- | | | | | |
|---|-----|-----|----|------------------------------|
| 2 | 424 | 536 | C1 | LIGHT -SEE GROUP 08 INDEX- |
| 3 | | | | BRACKET, LICENSE PLATE, ASSY |



MT134 GROUP 08- ELECTRICAL SYSTEM
PART NUMBER DESCRIPTION

FIG. 08-032
FRONT TURN SIGNAL



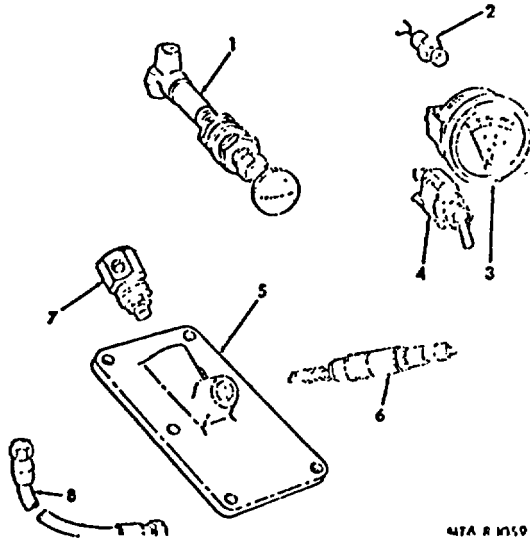
- | | | | | |
|---|-----|-----|-----|--|
| | 437 | 528 | C92 | LIGHT, W/LENS AND LAMP
EXC CODE 08000.5026
FOR CODE 08000.5026 |
| | 444 | 660 | C91 | LEFT |
| | 444 | 659 | C91 | RIGHT |
| | 179 | 816 | | BOLT, HEX-HD 5/16NC X 3/4 -AR- |
| | 179 | 818 | | BOLT, HEX-HD 5/16NC X 1 -AR- |
| | 22 | 427 | R1 | NUT, HEX, 5/16NC -AR- |
| | 120 | 214 | | WASHER, LOCK 5/16 REGULAR -AR- |
| | 416 | 590 | R1 | WASHER, FLAT 5/16 -AR- |
| | 416 | 008 | C2 | BRACKET, TURN SIGNAL LIGHT GUARD -2- |
| | 24 | 839 | R1 | BOLT, HEX-HD 3/8NC X 3/4 -4- |
| 9 | 413 | 979 | | NUT, HEX, 3/8NC -4- |
| | 25 | 709 | R1 | WASHER, LOCK 3/8 REGULAR -4- |
| 1 | | | | LENS, TURN SIGNAL
W/437528C92 LIGHT |
| | 372 | 364 | C2 | AMBER -2- |
| | 372 | 363 | C2 | RED -2- |
| | | | | W/444659C91, 444660C91 LIGHTS |
| | 455 | 530 | C1 | AMBER -2- |
| | 455 | 529 | C1 | RED -2- |
| | 26 | 502 | R1 | SCREW, CR-REC-HD NO. 8-18 X 3/4 -16- |
| | 372 | 359 | C1 | SCREW, CR-REC-HD NO. 8-32 X 3/4 -16- |
| 2 | 9 | 417 | 866 | LAMP, 32 CANDLE POWER -2- |
| 3 | | | | GASKET, LENS -4- |
| | 372 | 361 | C1 | W/437528C92 LIGHT |
| | 455 | 531 | C1 | W/444659C91, 444660C91 LIGHTS |
| 4 | | | | GASKET, SIDE MARKER LENS -2- |
| | 372 | 360 | C1 | W/437528C92 LIGHT |
| | 455 | 532 | C1 | W/444659C91, 444660C91 LIGHTS |
| 5 | 9 | 417 | 863 | LAMP, SIDE MARKER 2 CANDLE POWER -2- |
| 6 | | | | LENS, SIDE MARKER -2- |
| | 372 | 362 | C2 | W/437528C92 LIGHT |
| | 455 | 528 | C1 | W/444659C91, 444660C91 LIGHTS |
| | | | | SCREW, CR-REC-HD NO. -24 X 5/8 -8- |
| | 372 | 358 | C1 | SCREW, CR-REC-HD NO. 6-32 X 3/4 -8- |
| 7 | | | | PAD, LIGHT MOUNTING -2- |
| | 425 | 112 | C1 | 5050-4X4, 5070-4X4 MODELS |
| | 370 | 951 | C1 | F5010, F5050, F5070 MODELS |



MT134 GROUP 12- ENGINES
PART DESCRIPTION
NUMBER

FIG. 12-031

PREHEATER GLOW PLUG



- | | | | | |
|----|--------|-----|-----------|---------------------------------|
| 1. | 106 | 452 | R91 | PRIMER, HAND ASSY |
| | 396 | 746 | C1 | DECAL, PUMP PRIMER |
| 2. | 415 | 212 | C91 | LIGHT INDICATOR |
| | 127 | 934 | | LAMP INDICATOR, 2 Candle-power |
| 3. | 387 | 275 | C1 | GAUGE, PREHEATER, PRESSURE ASSY |
| 4. | 443 | 920 | C1 | SWITCH, PREHEATER |
| 5. | 267 | 627 | C2 | HOUSING, PREHEATER |
| 6. | | | <u>AC</u> | AG 9 PLUG, GLOW |
| 7. | 236985 | | R91 | NOZZLE, PREHEATER |

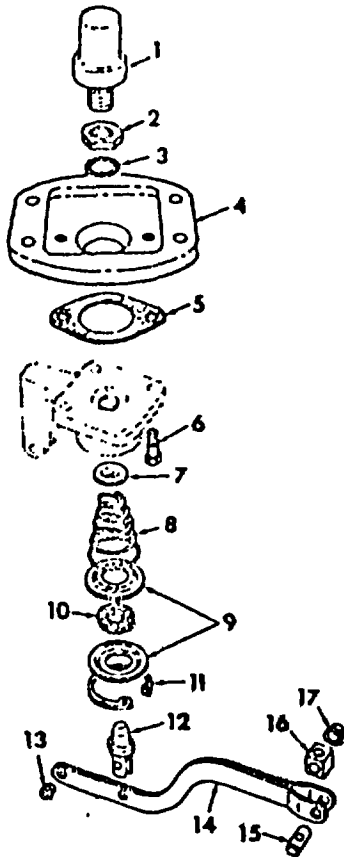


MT134 GROUP 12 ENGINES

REF NO	PART NUMBER	DESCRIPTION
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FIG. 12-037
SHUTTER CONTROL

NOTE: FOR 1ST & 2ND YEAR INCREMENT OF VEHICLES



MT-14543

	427	664	C92	CONTROL, SHUTTER
	429	229	C1	GASKET, CONTROL MOUNTING
1	442	832	C1	THERMOSTAT, 170 DEG.
2	77	628	R1	NUT, HEX, JAM 5/8NF
3	350	429	R1	SEAL, O-RING
4	442	031	C1	FLANGE, THERMOSTAT HOUSING
	140	483	H	BOLT, HEX-HD 3/8NC X 1-1/4 -4-
	25	709	R1	WASHER, FLAT 3/8 -4-
5	865	703	R1	GASKET, CONTROL MOUNTING
6				BOLT, HEX-HD 5/16NC X 1 -2-
7	308	477	C1	SEAT, SPRING, -SMALL-
8	336	713	C1	SPRING, SHUTTER CONTROL
9	336	712	C1	WASHER, SPRING SEAT -LARGE- -2-
10	865	693	R1	WASHER, FELT
11				RING, RETAINING
	104	977	R1	.243 E -EXTERNAL-
	383	878	R1	1.366 DIA. -INTERNAL-
12	425	582	C1	PLUNGER, SHUTTER CONTROL
13	865	715	R1	BUSHING, CONTROL LEVER
14	482	833	R91	LEVER, SHUTTER CONTROL
	114	784		PIN, ROD END
				PIN, COTTER 1/16 X 5/8 -2-
15	442	834	C1	PIN, SHUTTER LEVER
16	428	728	C1	BAR, SHUTTER ROD
17	442	835	C1	BUSHING, SHUTTER CONTROL LEVER -2-



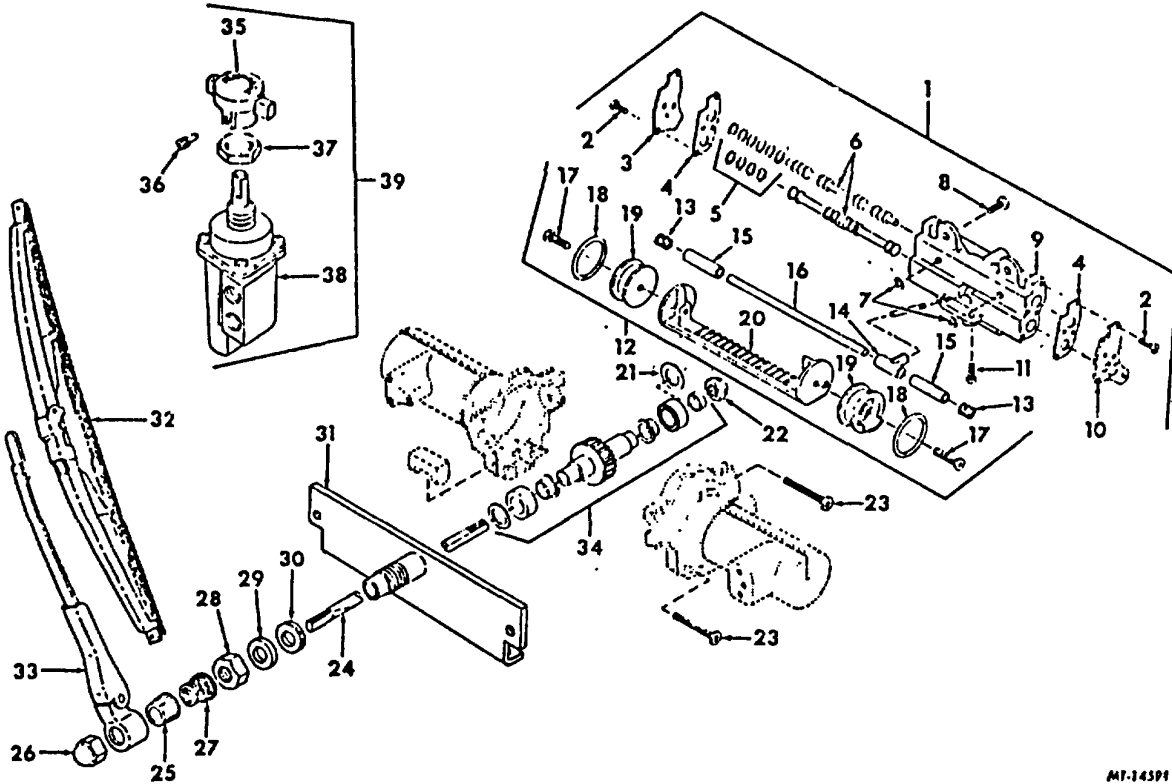
MT134 GROUP 16- CAB AND/OR BODIES
PART NUMBER DESCRIPTION



MT134 GROUP 16- CAB AND/OR BODIES
PART NUMBER DESCRIPTION

FIG. 16-012
WINDSHIELD WIPER

FIG. 16-192 CONTINUED
WINDSHIELD WIPER



MT-14591

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468	857	C91	MOTOR, W/MTG BRACKET, WIPER -WILL WORK FOR 437679C91, 443624C91-	23
159	909		SCREW, PAN-CR-REC-HD NO. 10-24 X 3/8 -4-	24
120	212		WASHER, LOCK 3/16 MDIUM -4-	
449	594	C92	VALVE, MOTOR, ASSY USED W/443624C92 -WILL WORK FOR 443370C91-	25
472	920	C91	USED W/468857C91	26
338	473	C1	BALL, VALVE STEEL	27
17	002	R1	9/64 DIA -4-	28
162	823		SCREW, END COVER NO. 6NC X 1/2 -8-	29
255	718	C1	COVER, MOTOR END	30
255	717	C1	*GASKET, END PLATE -2-	31
352	219	C1	*SEAL, O-RING, VALVE -10-	32
255	735	C1	*ROD -NOT SERVICED SEPARATELY-	33
132	909		*SEAL, VALVE HOUSING -2-	
			SCREW, VALVE HOUSING -2-	34
			BODY -NOT SERVICED SEPARATELY-	35
			COVER - NOT SERVICED SEPARATELY-	36
171	353		SCREW, SLT-RD-HD NO. 8NF X 1/2 -2-	37
443	368	C91	PISTON, W/REVERSER, SPRINGS, SEALS, ASSY	38
338	464	C1	SPRING, PISTON -2-	39
338	446	C1	VALVE, REVERSER TEE	
			STOP -NOT SERVICED SEPARATELY-	
			*ROD -NOT SERVICED SEPARATELY-	
443	369	C1	SCREW, PISTON STOP -2-	
356	005	R1	*SEAL, PISTON O-RING -2-	
			PISTON STOP -NOT SERVICED SEPARATELY-	
			*RACK -NOT SERVICED SEPARATELY-	
			WASHER -NOT SERVICED SEPARATELY-	
144	419	H	NUT, HEX. 3/8NF	

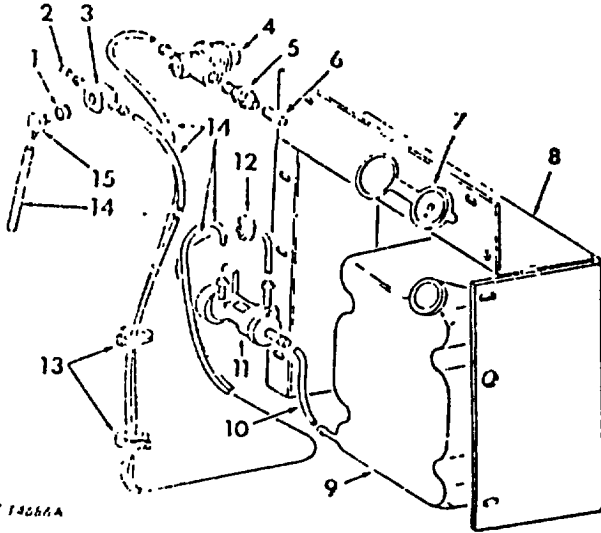
436	754		SCREW, WIPER BODY	
132	128		NO. 10NF X 1-1/8	
443	372	C91	NO. 10NF X 1	
			SHAFT, W/DRIVER, NUTS, WASHERS, ASSY	
			-INCLUDES REF NOS. 21, 22, 25, 26-	
			DRIVER - NOT SERVICED SEPARATELY-	
131	502		NUT, ACORN 3/8NF	
255	709	C1	SEA, WEATHER	
346	917	C1	NUT, HEX, LOCK 5/8NF	
213	266	R1	SPACER, OUTER	
213	265	R1	WASHER, LEATHER	
443	373	CR1	BRACKET, WIPER MOUNTING, ASSY	
271	407		BOLT, HEX-HD NO. 12NC X 11/16	
417	339	C1	BLADE WIPER	
			ARM, WIPER	
410	988	C1	USED W/437679C91 MOTOR	
435	359	C1	USED W/443624C92, 468857C91 MOTORS	
443	371	C91	GEAR, WINDSHIELD WIPER, ASSY	
159	408	R2	KNOB, CONTROL VALVE	
159	409	R1	SCREW, KNOW SET	
309	402	C1	NUT, HEX, 9/16NF	
349	187	C1	CAM, ROD, ASSY	
441	095	C92	VALVE, CONTROL ASSY	



REF
NO

MT134 GROUP 16- CAB AND/OR BODIES
PART
NUMBER DESCRIPTION

FIG. 16-029A
WINDSHIELD WASHER



MT 14267A

- | | | | |
|-----|-----|-----|--|
| 875 | 520 | C1 | SEAL, O-RING -4- |
| 417 | 693 | C1 | CAP, TOP |
| 417 | 621 | C1 | BLOCK, JUNCTION -2- |
| 453 | 010 | C91 | VALVE, CONTROL, ASSY |
| 142 | 094 | H | CONNECTOR, 1/4 X 1/8 |
| 414 | 504 | C1 | INSERT, BRASS -2- |
| 30 | 774 | V | SLEEVE, 1/4 -2- |
| 30 | 773 | V | NUT, 1/4 TUBE -2- |
| 417 | 196 | C1 | \$TUBE, AIR SUPPLY, NYLON |
| 450 | 538 | C2 | CAP, TANK |
| 23 | 445 | C1 | BRACKET, TANK MTG -AT COWL- -EXCEPT
CODES 12/04, 12814- -NOT AS ILLUSTRATED.- |
| 28 | 832 | R1 | BOLT, HEX-HD 3/8NC X 3/4 -2- |
| 24 | 840 | R1 | BOLT, HEX-HD 3/8NC X 1 -2- |
| 613 | 979 | | NUT, LOCK 3/8NC -2- |
| 25 | 709 | R1 | WASHER, FLAT 3/8 -2- |
| 120 | 382 | | WASHER, LOCK 3/8 -2- |
| 447 | 615 | C1 | TANK, WINDSHIELD WASHER |
| 25 | 222 | R1 | BOLT, HEX-HD 1/4NC X 3/4 -7- |
| 26 | 110 | R1 | NUT, LOCK 1/4NC -7- |
| 25 | 707 | R1 | WASHER, FLAT 1/4 -3- |
| 455 | 710 | C1 | BRACKET, TANK MOUNTING |
| 990 | 017 | C1 | \$HOSE, WASHER 1/4 ID |
| 453 | 011 | C91 | PUMP, WASHER |
| 26 | 657 | R1 | SCREW, PAN-CR-REC 10/24 X 3/4 -2- |
| 25 | 454 | R1 | NUT, HEX, LOCK NO. 10NC -2- |
| | | | NOT USED |
| 137 | 197 | | CLAMP, HOSE
EXTENSION CLIP |

**"EDITORS NOTE: NEXT SEVEN LINES ONLY PARTIALLY
LEGIBLE**

- | | | | |
|-----|-----|----|------------------------------|
| | | R1 | |
| | | R1 | |
| 25 | | R1 | BOLT, HED-HD 1/4NC X 3/4 |
| 26 | 110 | R1 | NUT, LOCK 1/4NC |
| | | | GROMMET, HOSE AND CABLE |
| | | C1 | \$HOSE, WASHER, 5/32 ID |
| 437 | 642 | C1 | BLOCK, JUNCTION -2- |
| | | | RIGHT HAND DRIVE |
| 117 | 119 | C1 | •TUBING, NYLON 3/8 OD -1- |
| 118 | 509 | | •NUT, FLARED TUBE -LONG- 3/8 |



REF
NO

MT134 GROUP 16- CAB AND/OR BODIES
PART
NUMBER DESCRIPTION

FIG. 16-029A
WINDSHIELD WASHER

- | | | | |
|-----|-----|-----|--|
| 30 | 644 | V | *SLEEVE, CONNECTOR 3/8 TUBE -4- |
| 414 | 505 | C1 | *INSERT, TUBE 3/8 |
| 71 | 669 | HX | *TEE, 2 WAY EXT. PIPE 1/8 X 3/8 |
| 417 | 199 | C1 | *TUBING, NYLON 3/8 OD |
| 9 | 409 | 931 | *ELBOW, 90 DEGREE STREET 1/8 |
| | | | *PARTS NOT ILLUSTRATED
\$PART NUMBER COVERS 1 FOOT BULK
WATER) |

NOTE: FOR ABOVE CHASSIS #DGB-? UNKNOWN

APPENDIX 2-K

WARRANTY

1. IHC warrants this truck and all parts and components thereof for a minimum period of one year. Extended warranties are provided for some major component s.
2. Cummins Engine Company Inc. warrants the truck engine for two years, or 100,000 miles, whichever occurs first.
3. The warranty is briefly described on a decal located on the left hand inside door post of the truck. This decal is dated to provide the date of equipment manufacturer. Warranty starting date is based on the date of acceptance as shown on Dk Form 240-9 in the log book.
4. Complete warranty statements are included in the rear of the Operator Manual.
5. When doubt of the time period, contact the local representative for IHC or, if not available, process the warranty claim action in accordance with TM 38-750.
6. In all events warranty claim actions may be initiated at any level, i.e., Organizational, Direct Support, General Support or Depot Maintenance.
7. Examine the component, part or assembly of an end item under warranty to determine if it meets the intended criteria i.e., design deficiency or poor workmanship.
8. If the component, part or assembly meets the criteria described above, and the claim can be settled locally, contact the local representative of IHC.
- 9 Warranty are to be processed under the warranty claims action published in TM 38-750.
10. In all events, warranty claim actions, whether settled locally or unsettled must be reported to the National Maintenance Point. DA Form 2407 will be used to submit warranty claim action for end items. Wean components, parts or assemblies are identified as being defective and are covered by manufacturer's warranty and to obtain reimbursement for maintenance manhours expended in replacing the defective items. End items under warranty are identified by a decal plate. All warranty actions settled or unsettled will be reported to the national level. For warranties settled locally the DA Form 2407 will contain a statement in Block 35 "For information ONLY."

APPENDIX 2-L
COLORING CODING
SUPPLEMENTAL OPERATING, MAINTENANCE AND REPAIR PARTS INSTRUCTIONS
SOMARPI-5-3805-254
Truck, Dump 20 Ton, 6X4, On-Off Highway
71,000 GVW, Commercial Construction Equipment

1. Fittings located on vehicle engine compartment fire wall are same size and diameter.
2. Four fittings require disconnection during power plant removal.
3. To insure proper connections are made during power plant replacement, color coding of these lines are recommended.
4. Upon receipt of the subject equipment, lines should be color coded in accordance with the attached color coding figure.

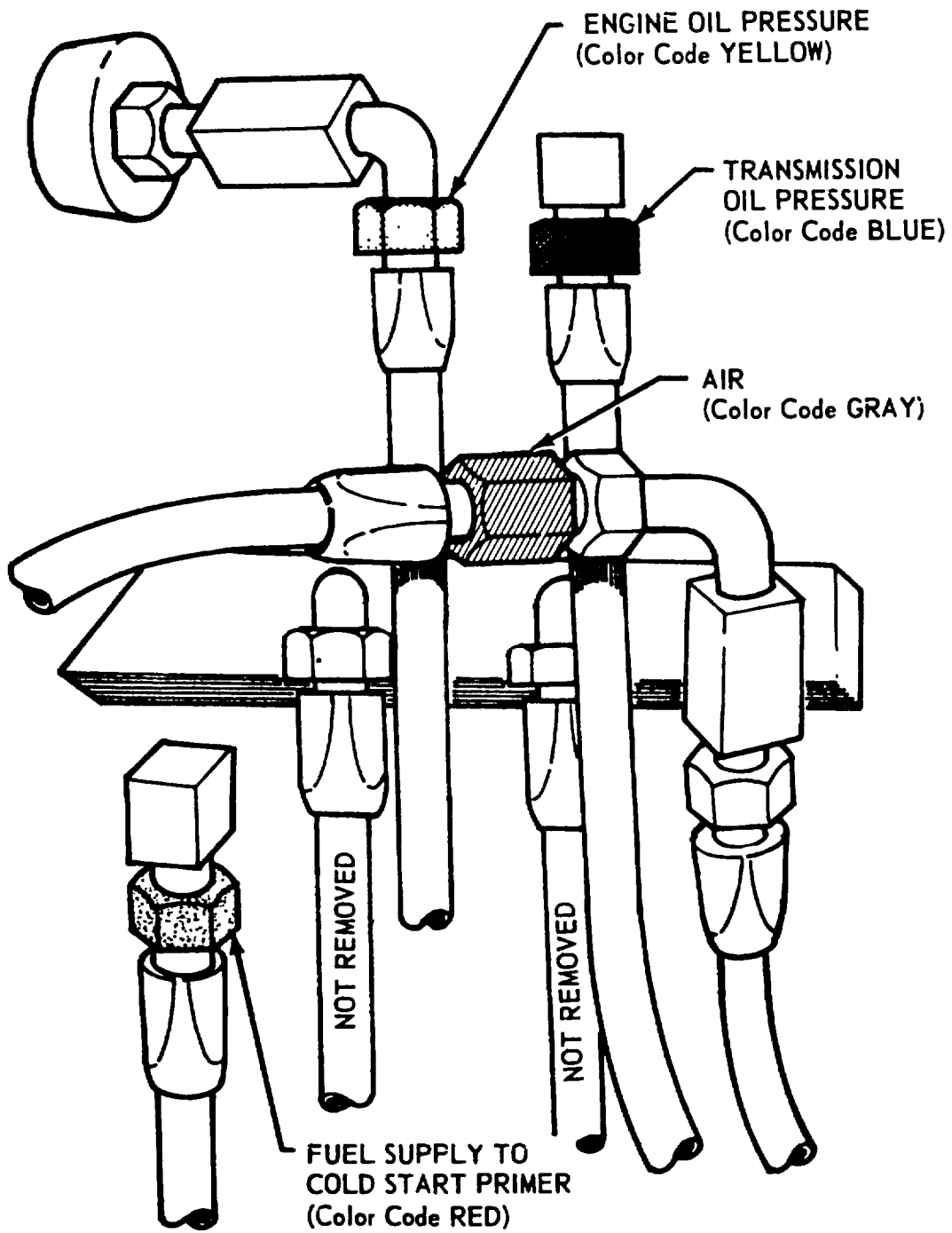


Figure Color Coding.

**APPENDIX 2-M
INITIAL RECOMMENDATION
PRESCRIBED LOAD LIST (PLL)
AUTHORIZED STOCKAGE LST (ASL)**

END ITEM:		MAKE:			MODEL:				
TRUCK, DUMP 20 TON (CCE)		IHC			F5070-Payster 5000 series				
MFR PART NO:		NSN:		SERIAL NUMBER RANGE			DATE		
		3805-00-192-7249		TO					
SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	PART DESCRIPTION	U/M	QTY OF PARTS REQ'D FOR NO. OF END ITEMS			
						PLL		ASL	
						1-5	1-5	6-20	21-50
PAOZZ	2930-01-039-1580	428975C1	31007	CAP, Radiator	EA				
PAOZZ	5330-01-019-8808	188319	15434	Seal, Thermostat	EA				
PAOZZ	2930-00-732-5206	145977	15434	Thermostat	EA				
PAOZZ	5330-01-040-2087	208128	15434	Gasket, Thermostat, Housing	EA				
PAFHH	2910-00-008-7285	AR40118	15434	Injector	EA				
PAOZZ	2990-01-021-2073	403391C1	31007	Insulator, Exhaust, Bracket	EA				
PAFZZ	5340-00-004-3339	209604	15434	Resistor, Corrosion	EA				
PAOZZ	2910-00-300-0891	CF108	33457	Cartridge, Fuel Filter	EA				
PAOZZ	4810-00-695-3284	BM69973	15434	Valve, Shutdown.	EA				
PAOZZ	5930-00-406-6271	977562R91	31007	Switch Water Temperature	EA				
PAFFF	2990-01-020-8980	AR40304	31007	Valve, Aneroid	EA				
PAFZZ	5330-00-908-8225	149651	15434	Gasket, Valve Cover	EA				
PAOZZ	2540-00-081-9602	417339C1	31007	Blade, Wiper Windshield	EA				
PAOZZ	5330-01-049-1213	887525R1	31007	Gasket, Cover, Oil Filter	EA				
PAOZZ	4820-01-038-8129	442832C1	31007	Thermostat, Shutter Control	EA				
PAFZZ	6680-01-019-4906	38720C91	31007	Tachometer	EA				
PAOHH	2920-00-875-8977	1114098	16764	Starter	EA				
PAOZZ	6620-01-027-9252	401509C1	31007	Gauge, Water Temperature	EA				
PAOZZ	2920-00-072-6784	1119897	16764	Switch, Solenoid	EA				
PAOZZ	6620-01-026-0346	386863C1	29510	Gauge, Air Pressure	EA				
PAOZZ	5945-01-024-3711	386197C1	74400	Flasher, Turn S	EA				
PAOZZ	6620-01-028-6374	387274C1	31007	Gauge, Oil pressure, engine	EA				
PAFHH	2950-00-348-8136	AR10076	15434	Turbocharger	EA				
PAOZZ	6210-01-023-5524	415213C91	31007	Light Warning	EA				
PAOZZ	6240-00-013-1282	MS15573-4	96006	Lamp, Turns	EA				
PAOZZ	6625-01-024-7822	386865C1	31007	Gauge, Battery Alternator	EA				

END ITEM:		MAKE:		MODEL:					
TRUCK, DUMP 20 TON (CCE)		IHC		F5070-Payster 5000 series					
MFR PART NO:		NSN:		SERIAL NUMBER RANGE		DATE			
		3805-00-192-7249		TO					
SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	PART DESCRIPTION	U/M	QTY OF PARTS REQ'D FOR NO. OF END ITEMS			
						PLL		ASL	
						1-5	1-5	6-20	21-50
PAOFF	2920-01-032-5050	1100073	16764	Alternator	EA				
PAOZZ	6680-00-188-1406	386864C01	31007	Gauge, Fuel	EA				
PAOZZ	6240-00-924-7526	9417866	31007	Bulb, T.S.	EA				
PAOZZ	6240-00-023-2290	294436C1	31007	Bulb, Dome	EA				
PAOZZ	5930-01-023-9208	393210C91	31007	Switch, Pressure	EA				
PAOZZ	6240-00-889-1799	9417867	31007	Bulb, back-up	EA				
PAOZZ	5925-01-023-9114	513068C1	31007	Switch, Circuit Breaker	EA				
PAOZZ	6240-00-681-1638	5956012	31007	Lamp Headlight	EA				
PAOZZ	3040-01-020-7110	341229C91	31007	Core, Tachometer	EA				
PAOZZ	6240-00-946-9654	9417863	31007	Lamp, Side Marker, Tail & Turn	EA				
PAOZZ	6240-00-155-8717	142450	24617	Bulb, Lamp Marker Light	EA				
PAOZZ	6680-00-415-6495	341230C91	31007	Cable, Tachometer	EA				
PAOZZ	6140-01-072-5608	1424X	19728	Battery 6 Volt 208 Ampere	EA				
PAOZZ	2940-00-401-9532	153514	31007	Seal, Filter, Oil Coller	EA				
PAFHH	2610-00-717-6409	ZZT381	81348	Tire, (22.516 ply) (Front)	EA				
PAOFF	2530-01-038-1506	365150C2	31007	Wheel, Front, 22, 5x12, 25	EA				
PAOFF		306059-C91	31007	Wheel, Rear 20 x 8.5 degree	EA				
PAOFF	2530-01-042-4346	306061-C1	31007	Lock Ring wheel 5 degree	EA				
PAOFF	2530-01-041-2692	306062-C1	31007	Side Ring, Rear Wheel 5 degree	EA				
PAFFF	2610-00-051-9454	ZZI00550	81348	Tube, Tire 1200.20	EA				
PAOZZ	5920-09-014-7684	147684	24617	Fuse, 9 Amp	EA				
PAOZZ	5920-00-113-2659	148369	24617	Fuse	EA				

**INITIAL RECOMMENDATION
PRESCRIBED LOAD PST (PLL)
AUTHORIZED STOCKAGE LIST (ASL)**

END ITEM: TRUCK, DUMP 20 TON (CCE)		MAKE: IHC			MODEL: F5070-Payster 5000 series				
MFR PART NO: DSA700-72-C-9235		NSN: 3805-00-192-7249		SERIAL NUMBER RANGE CGB13638_TO_DBB16067		DATE 28 Jan 74			
SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	PART DESCRIPTION	U/M	QTY OF PARTS REQ'D FOR NO. OF END ITEMS			
						PLL	ASL		
						1-5	1-5	6-20	21-50
PAOZZ	3030-00-878-6157	358328C91	31007	Belt Set Alternator	EA	1	3	6	6
PAOZZ	3030-00-893-8326	178708	15434	Belt, water pump	EA	1	3	6	6
PAOZZ	3030-01-020-7209	215356	15434	Belt, Fan	EA	1	2	3	4
PAOZZ	2940-00-316-1413	136750	15434	Element, Oil Filter Engine	EA	1	3	6	6
PAOZZ	2930-00-603-1625	142608	15434	Element- Oil Cooler	EA	1	2	4	4
PAOZZ	2940-00-073-3316	158139	15434	Element Cooler	EA	1	2	4	4
PAOZZ		186306H1	31007	Filter, Fuel	EA	1	2	4	4
PAOZZ	2940-00-256-2763	T-576366-5125	92863	Filter, Hydraulic, Oil	EA	1	2	3	4
PAOZZ	2940-00-580-6283	475606C2	31007	Filter Transmission (Element)	EA	1	2	3	4
PAOZZ	4330-01-046-6960	386120R91	31007	Filter Power Steering (Element)	EA	1	2	3	4
PAOZZ-	2940-01-048-6578	472098C1	31007	Air Cleaner, Filter	EA	1	3	6	6
PAOZZ	4330-01-046-4642	441365C1	31007	Water Filter	EA	1	2	3	4

**APPENDIX 2-N
MAINTENANCE ALLOCATION CHART FOR**

(MD SOP 700-5)

ION III-TOOL AND TEST EQUIPMENT REQUIREMENTS

TEST NT/ ICE E	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
	No Special Tools or Special Test Equipment Required.			

PART THREE
SPECIAL PARTS CATALOG

**SPECIAL
PARTS CATALOG**

NO. 1086677-R 1

**FOR
TRUCK, DUMP, 20 TON, ON/OFF HIGHWAY
(184 INCH WHEELBASE, MODEL F-5070)
PRODUCED FOR U.S. ARMY
ON CONTRACT NO. DSA-700-72-C-9235
REVISED-JANUARY 1976**

**INTERNATIONAL®
MOTOR TRUCKS**

® Registered Trade Mark.

NO. 1086677-R1

**FOR
TRUCK, DUMP, 20 TON, ON/OFF HIGHWAY
(184 INCH WHEELBASE, MODEL F-5070)**

**PRODUCED FOR U.S. ARMY
ON CONTRACT NO. DSA-700-72-C-9235
REVISED-JANUARY 1976**



GENERAL INFORMATION

International Motor Trucks are custom built to meet the specific needs of our individual customers.

REFER TO LINE SETTING TICKET (PAGES. 4 AND 5) FOR MAJOR COMPONENTS AND SPECIFICATIONS REQUIRED FOR SERVICING VEHICLE.

The code numbers appearing in the catalog are the same as the property code numbers used in the manufacturing of the truck to identify standard units and special equipment units.

The major groups are composed of illustrations or exploded views, each identified by a figure number and a title. The illustrations show reference numbers which refer to the key in the legends accompanying the illustrations. Parts in the illustrations without key numbers are the same as corresponding parts with key numbers. Illustrations show typical construction of the parts and may not in all cases have the exact appearance, however, they are for the purpose of identifying parts performing similar functions.

The few parts in the catalog that are not illustrated are described in the parts listings.

This Special Parts Catalog is intended for use only with the trucks covered by the specific order or orders shown on the front cover and title page of this catalog.

Motor Truck Division
INTERNATIONAL HARVESTER COMPANY
401 North Michigan Ave. - Chicago, Illinois - 60611



SERIAL NUMBERS

The capacity plate on an IH truck displays both the chassis and engine serial numbers. Starting with 1966 production, the 13-digit number identifies the model, type of engine and type of cab for body) as well as the serial number of the chassis. An example of a 13-digit serial number is D3117EGB20016.

The first four digits identify the model, the fifth digit the type of engine, and the sixth digit the type of cab or body. This information is shown only on the capacity plate.

The last seven digits with an alphabetical letter is the chassis serial number.

The seven digit serial number is the one that is stamped on the frame side rail and is shown on the code sheet (line setting ticket) and the master parts catalog.

The first six digits that are shown on the capacity plate will be ignored when servicing the truck and using the catalog. The last seven digits only, starting with the alphabetical letter identifying the source, will be utilized for servicing the truck and cataloging.

DATE SHIPPED

D

LINE SETTING TICKET

B 1370

031 OF 210

TRUCK DIVISION

0000 01-30

LINE SEQUENCE NO FTW PLANT

VIA SOBER	PRT. PD. YES	REGION CHICAGO SUNDR 04/16	ORD QTY 210	SLOT DATE F 511	DIST. 818	ORDER NO. 8266U	JOB NO. 437002
--------------	-----------------	-------------------------------	----------------	--------------------	--------------	--------------------	-------------------

SHIP TO THIELE BODY COMPANY 111 SPRUCE ST WINDBER PA CONTRACT DSA 700-72-C-9235	CHASSIS NUMBER	
	D3117	EGB20016
	ENGINE NUMBER	

F-5070 1842B 71000GVVH SMBR LT	D311700 01103	0000 5003	1 DHLR	A	AF 061 0460775C1
REINF FRM OUTER U-CHNL BUMPER STEPS FOR STD	01506 SE 801300	5001 5004		A	
ONE FRT TOW LOOP REAR PINTLE HOOK	01586 SE 01592	5001 5001	A		
REAR CROSSMEMBER FRAME PIERCING LABOR	01652 SE 01950	5001 5001		B	
SPRING ASM FL-901 RS 18000#	SN 02182	5003	BC		0422973C92 0441299C92
IH DUAL AIR BRAKE SYS T/L HAND LAYOUT	SE 04051	5030	CJNQ	CFG	
BRK GRP LT BRK GRP LT	SN 04154 SN 04273	5001 5017	A	D E	0407538C91 0423440C91
BRK GRP LT G TYPE HOSES LIEU OF STD	SE 804300	5005		C	
FRT WHL LIMITING VALVE T/L C/P 119671 A252	SN 04570	5005		C	
BRAKE GROUP LT TWO ADD 30IN PIGGYBACK B	SE 04641 SN 04683	5000 5012	AB	D E	0520986C91
ALCO EVAP CUM NTC NTA DV2 BW DRAIN VALVE	SE 04709 04721	5005 5002		CF	
BW SYS GUARD AIR DRYER M292 SHEP GR DR PWR	SE 04723 SN 05298	5002 5023	A D	G HI	0464025C91
10QT PWR STRG RESV 1750 PSI PWR STRG PUMP	SE 805298 SE 805298	5000 5003	A A	H I	
D/LINE LABOR FOR MTG 1 S PROP SHAFT 4	06100 260732	0001 1264			
PROP SHAFT 1 PROP SHAFT 3	270011 281902	3118 1200			
JACOBS EXH BRAKE ELECT SYSTEM W/CUMM ENGS	SE 07508 08000	5003 5026	BCGLRVX	BJKM	
REVERSE POLARITY PROTECT SPEC CIR DIAG PLATE MTD	SE 808000 SE 808000	5000 5018		J K	
12 VOLT 80 AMP ALT SPEC ALTERNATOR PULLEY	80134 SE 808134	5001 5000	A	L L	
AUTO DISENGAGEMENT 4-6V 208 AH HI CAP BAT	SE 08680 08698	5001 5001		M	
SHUTDOWN BUZZER FRT END SHEET MTL	08807 09000	5001 5000	A CDHK	R	
GRILLE GUARD FRT BUMPER SPEEDO&MISC	09575 10000	5000 5002	MS	T	
T/L 113188 TIM & WRENCH HANDLE	10506	5001	B	N	
CAB MTG FOR RIM WRENCH SPEC GVW RATING	SE 810506 SE 10971	5000 0001		N	
OMIT CLUTCH & CONTROLS NTC290 CUM DIESEL 290 HP	11001 SE 12435	5000 5009	ADKN	OPQ	522815C91 0445806C91
RADIATOR ASM T/L C/PT 116817 A223					
T/L C/PT 116818 A224 SPEC VERT EXH SYSTEM	SE 812435	5002		O	
RAINCAP FOR 5IN VERT EXH PERM TYPE ANTI FREEZE 40	SE 812435 12762	5003 5000		P	
FLEETGUARD 750 OIL FILTE RAD COOLANT LVL INDICATO	12814 SE 12891	5000 5001	B	C	
AIR CLEANER RESTR T/L 116702 A220	12898	5000		TAPE	JAN 31 1975
SILICONE RAD HOSES T475 ALLISON H5750 TRANS	SE 12912 SE 13475	5005 5001	AB	Q RS	515677C91
OIL TEMP & PRESS GAUGE R-0831-4 AT538 AUX TRAN	SE 813475 SE 13538	5000 5002	ABC	S T	0443151C91
STDD RCKW STD 50000# HOUSING ASM	SN 14368	5004	BQU		0421783C91
GR8.31 DIFF CARR FWD					0520899C91

DATE SHIPPED

LINE SETTING TICKET

LINE SEQUENCE NO

VIA	PRT. PD.	REGION	ORD QTY	SLOT DATE	DIST.	ORDER NO.	JOB NO.
					818	8266U	437002
SHIP TO				CHASSIS NUMBER			
				ENGINE NUMBER			
GR8.31 DIFF CARR RR FLG 60-81-60 70-81-60							0520903C91
RT-500 HEND 56 IN 5000# MODEL 350-10 NO SPIN DIF				14524 14879	5003 5000	BD	
50 GAL DUAL TANDEM RT 4 QT CUMM FUEL ENG				15833 15915	5002 5000	BD A	
TRAN COVER FLR MAT & SEA PTO ACCESS HOLE IN CAB				16000 816000	5014 5000	AP U U	
CAB ASM 16030 REG CAB-STL-LHD				5007		CH	NVWXY 0425409C95
T/L C/P-T-75Y01093-A253 T/L C/P-T-75Y01094-A254 T/L C/P-T-75Y01095-A255 T/L C/P-T-75Y01096-K30							
SWING AWAY MIRRORS BOSTROM AIR DR SEAT				816300 16600	5000 5000		V W
PASS FOAM SEAT & BACK AIR OPER W/SHIELD WASHER				16611 16799	5000 5003		X Y
HUB/DRUM ASM LT 16.5-22.5-16PR				88290 882935	5000 0002	B	0325100C91
GDY XDRL 16.5X22.5X16 WHEEL ASM				714235 20050	0189 5004	A	Z 0351143C91
1200X20 14PR GDY HRL 1200X20-14				200517 615017	0008 0132		
2 EXTRA VLV EXT PER WHL HEAVY DUTY DROP CTR RIM				829300 29465	5013 5002		Z
IH OIL LUB WHL BRG SGL SPEC COLOR PT				29580 10771	5000 0001	F	
PAINT CHART 100PS 5375GR				9994266	0000		
R831SPEC SPEC GVWR GAWR ON ORDER							
							JOB NUMBER 437002
TOTAL FRONT FWD-RR RR-RR 71000 18000 26500 26500							
VEHICLE BUILT MAR 31 1975-1							

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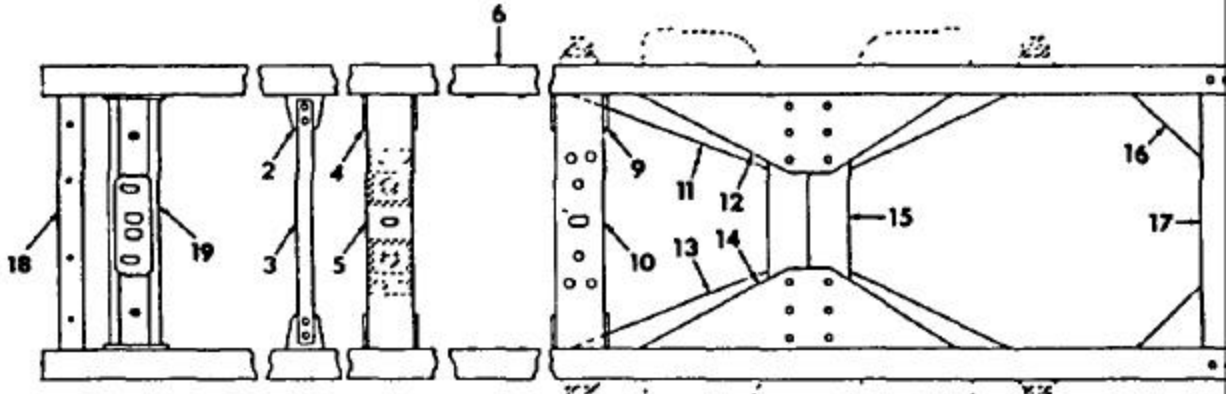
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GROUP 01-FRAME AND BUMPER

FRAME ASSEMBLY INCLUDES SPRING BRACKETS BUT DOES NOT INCLUDE BUMPER

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REF
NOMT134 GROUP 01- FRAME AND BUMPER
PART
NUMBER DESCRIPTIONFIG. 01-001
FRAME ASSEMBLYREF
NOMT134 GROUP 01- FRAME AND BUMPER
PART
NUMBER DESCRIPTIONFIG. 01-001 CONTINUED
FRAME ASSEMBLY

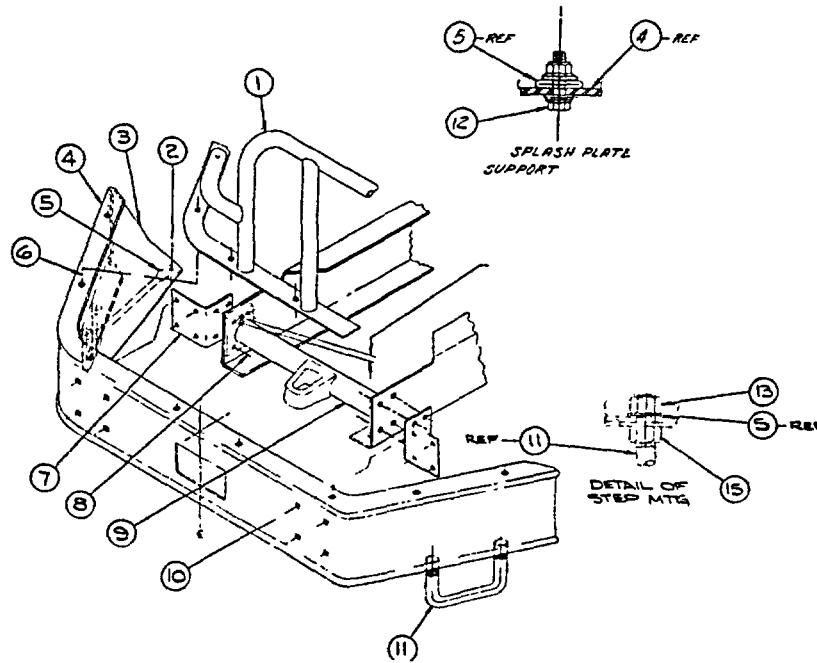
2	423	698	C1	BRACKET, TIE TUBE -SEE FIG. 01-003-
3	423	703	C1	TUBE, TIE -SEE FIG. 01-003-
4	460	538	C1	BRACKET, XMBR
5	424	600	C3	CROSSMEMBER, CAB
6	-	-	-	SIDEMEMBER -ORDER BY DESCRIPTION- FURNISHING MODEL AND CHASSIS, SERIAL NUMBER.
9	-	-	-	BRACKET, CROSSMEMBER STEEL
	423	509	C1	LEFT REAR, RIGHT FRONT -2-
	423	510	C1	LEFT FRONT, RIGHT REAR -2-
	414	051	C1	BOLT, HEX-FLG-HD 1/2NF X 1-1/4 -12-
	414	052	C1	BOLT, HEX-FLG-HD 1/2NF X 1-1/2 -12-
	414	087	C1	NUT, HEX-FLG LOCK 1/2NF -12-
10	-	-	-	CROSSMEMBER, BOGIE FRONT
	423	511	C2	STEEL
	414	051	C1	BOLT, HEX-FLG-HD 1/2NF X 1-1/4 -16-
	414	087	C1	NUT, HEX-FLG LOCK 1/2NF -16-
11	423	751	C3	GUSSET, TORQUE ROD XMBR LOWER RIGHT
	414	077	C1	BOLT, HEX-FLG-HD 5/8NF X 1-3/4 -AR-
	416	734	C1	BOLT, HEX-FLG-HD 3/4NF X 2 -AR-
	414	089	C1	NUT, HEX-FLG LOCK 5/8NF -AR-
	416	743	C1	NUT, HEX-FLG LOCK 3/4NF -AR-
12	423	750	C1	GUSSET, TORQUE ROD XMBR UPPER RIGHT
	414	077	C1	BOLT, HEX-FLG-HD 5/8NF X 1-3/4 -AR-
	416	734	C1	BOLT, HEX-FLG-HD 3/4NF X 2 -AR-
	414	089	C1	NUT, HEX-FLG LOCK 5/8NF -AR-
	416	743	C1	NUT, HEX-FLG LOCK 3/4NF -AR-
13	423	751	C3	GUSSET, TORQUE ROD XMBR LOWER LEFT
	414	077	C1	BOLT, HEX-FLG-HD 5/8NF X 1-3/4 -AR-
	416	734	C1	BOLT, HEX-FLG-HD 3/4NF X 2 -AR-
	414	089	C1	NUT, HEX-FLG LOCK 5/8NF -AR-
	416	743	C1	NUT, HEX-FLG LOCK 3/4NF -AR-
14	423	750	C2	GUSSET, TORQUE ROD XMBR UPPER LEFT
	414	077	C1	BOLT, HEX-FLG-HD 5/8NF X 1-3/4 -AR-
	416	734	C1	BOLT, HEX-FLG-HD 3/4NF X 2 -AR-
	414	089	C1	NUT, HEX-FLG LOCK 5/8NF -AR-
	416	741	C1	NUT, HEX-FLG LOCK 3/4NF -AR-
15	423	749	C3	CROSSMEMBER, TORQUE ROD -2-
	416	733	C1	BOLT, HEX-FLG-HD 3/4NF X 1-3/4 -22-
	416	743	C1	NUT, HEX-FLG LOCK 3/4NF -22-
16	-	-	-	GUSSET, REAR CROSSMEMBER -4-
	423	704	C1	UPPER LEFT, LOWER RIGHT
	423	705	C1	LOWER LEFT, UPPER RIGHT
	414	054	C1	BOLT, HEX-HD 1/2 X 2 (16)
	414	076	C1	BOLT, HEX-HD 1/8 X 1 1/2 (12)
	414	087	C1	NUT, HEX, LOCK 1/2NF (16)
	414	089	C1	NUT, HEX, LOCK 5/8NF

17	422	523	C2	CROSSMEMBER, REAR
18	430	600	XMBR	CHANNEL, RADIATOR
19	441	809	C2	CROSSMEMBER, ENGINE
	414	053	C1	BOLT, FLG-HD 1/2NF X 1-3/4 -14-
	414	087	C1	NUT, LOCK 1/2NF -14- BRACKET, CROSSMEMBER -2-
	424	138	C1	LEFT
	465	381	C1	RIGHT
	424	031	C1	BAR, SPACER

3/4NF X 2 -AR-

12)

FIG. 01-002
FRONT BUMPER, TOW LOOP, GRILLE GUARD AND MOUNTING



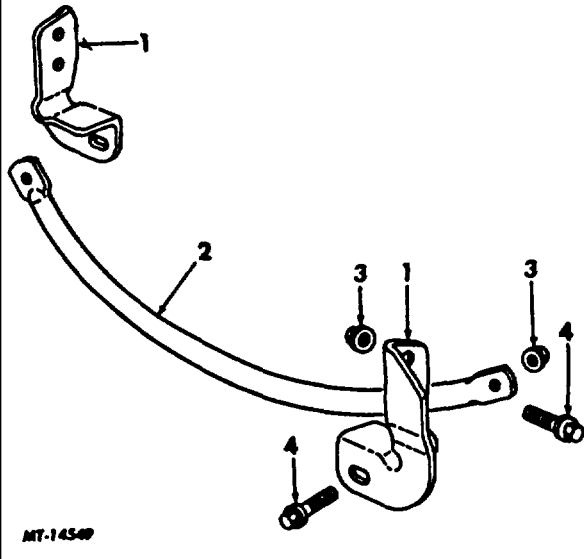
ITEM	PART NO	QTY	
1	422524C1	1	GUARD ASSY, GRILLE
2	24839R1	1	BOLT, HEX HD, 3/8-16UNC X 3/4
2	9413979	2	NUT, HEX LOCK 3/8-16UNC
3	422520C2	1	PLATE, SPLASH- LT
3	422521C2	1	PLATE, SPLASH- RT
4	422525C2	1	BUMPER, FT, STEEL
5	422517C2	2	SUPPORT, SPLASH PLATE
6	449653C1	4	BOLT SPECIAL CARRIAGE 1/2-20UNC X 1 1/2
6	25710R1	6	WASHER, FLAT 1/2 HARD
6	9412230	6	NUT, HEX LOCK, 1/2-13UNC
6	414052C1	8	BOLT, FLT, HEX HD, 1/2-20UNRF X 1 1/2
6	414087C1	8	NUT, FLG HEX LOCK, 1/2-20UNF
7	437577C2	2	BRACKET, BUMPER MTG
8	414089C1	8	NUT, FLG HEX LOCK 5/8-18UNF
8	414079C1	8	BOLT FLG HEX HED 5/8-15UNRF X 2 1/4
9	435363C1	1	XMBR ASSY, FRT TOW LOOP
10	449653C1	8	BOLT, SPECIAL CARRIAGE 1/2-20UNC X 1 1/2
10	25710R1	8	WASHER, FLAT 1/2
10	9412230	8	NUT, HEX LOCK 1/2-13UNC
11	422518C1	2	STEP, BUMPER
12	414075C1	2	BOLT, FLG HEX HD 5/8-18UNRF X 1 1/4
12	414089C1	2	NUT, FLG HEX LOCK 5/8-18UNF
13	9412231	4	NUT, HEX LOCK 5/8-11UNC
15	25528R1	4	NUT, HEX 5/8-11UNC



REF NO	PART NUMBER	DESCRIPTION
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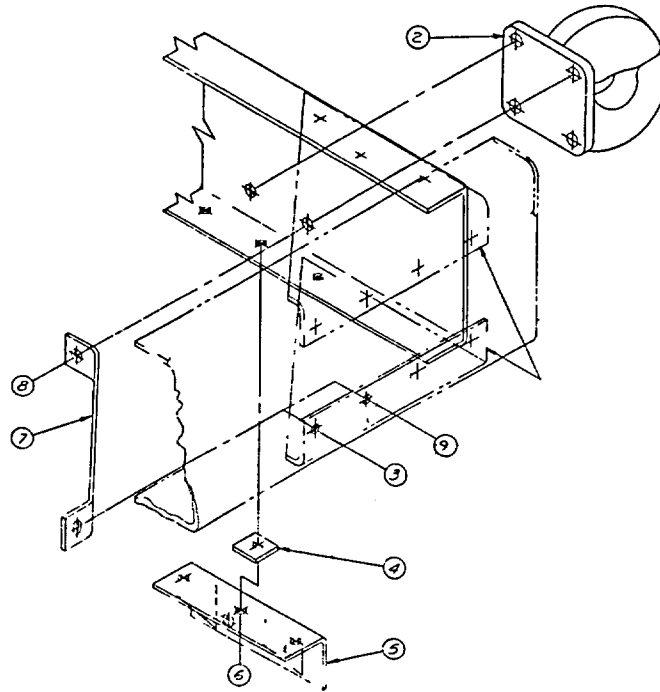
FIG. 01-003

FRAME TIE TUBE



- | | | |
|----|-----------|--------------------------------|
| 1. | 423698C1 | BRACKET, TIE ROD (2) |
| 2. | 423703C1 | TUBE, TIE |
| 3. | 414089C01 | NUT, HEX-FLG-HD 5/8NF (6) |
| 4. | 414078C01 | BOLT, HEX-FLG-HD 5/8NF X 2 (4) |

FIG. 01-004
REAR PINTLE HOOK



ITEM	PART NO.	QTY.	C	DESCRIPTION & RESTRICTIONS -70-
2	689176R91	1		HOOK ASSY, PINTLE
3	414053C1	2		BOLT, FLG HEX HD 1/2-20UNRF X 1 3/4
3	414087C1	2		NUT, FLG HEX LOCK 1/2--20UNF
4	291745C2	1		SPACER
5	518746C1	1	W	BRACKET ASSY, PINTLE HOOK MTG
6	414076C1	3		BOLT, FLG HEX HD 5/8-18UNRF X 1 1/2
6	414089C1	3		NUT, FLG HEX LOCK 5/8-18UNRF
7		2		BRACE, PINTLE HOOK (MAKE LOCALLY)
8	416734C1	4		BOLT, FLG HEX HD 3/4-16UNRF X 2
8	416743C1	4		NUT, FLG HEX LOCK 3/4-16UNRF
9	414055C1	2		BOLT, FLG HEX HD 1/2-20UNRF X 2 1/4



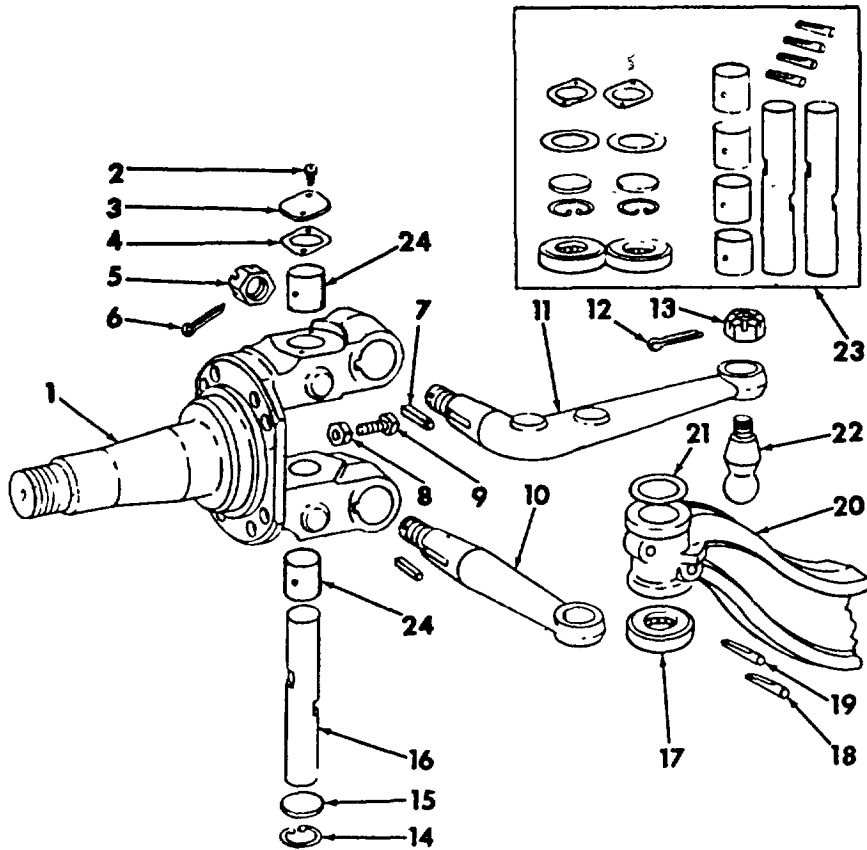
GROUP 02-FRONT AXLE

AXLE ASSEMBLY IS REQUIRED, ORDER COMPONENTS (I-BEAM). ETC.

	FIG. NO.
AXLE ASSEMBLY	02-001
TIE ROD	02-002
DRAG LINK	02-023
FRONT WHEEL.....	02-010

FIG. 02-001

FRONT AXLE ASSEMBLY



- | | |
|--|--|
| <p>1. 968619R12
255137C12
109460
109461</p> <p>2. 454869</p> <p>3. 966142R1</p> <p>4. 966143R1</p> <p>5. 968612R1</p> <p>6. 137269</p> <p>7. 181240R1</p> <p>8. 106640</p> <p>9. 220551R1</p> <p>10. 461759C1
461760C1</p> <p>11. 443233C1</p> <p>12.</p> <p>13.</p> | <p>1. KNUCKLE, W/BUSHING, LEFT
KNUCKLE, W/BUSHING, RIGHT</p> <p>2. LUBRICATOR, 1/8x65 DEGREE UPPER -2-
LUBRICATOR, 1/8 STRAIGHT LOWER -2-</p> <p>3. SCREW, W/LOCKWASHER -6-</p> <p>4. CAP, STEERING KNUCKLE -2-</p> <p>5. GASKET, STEERING KNUCKLE CAP -2-</p> <p>6. NUT, STEERING ARM -4-</p> <p>7. PIN, COTTER 3/16 X 2-1/4 -4-</p> <p>8. KEY, STEERING ARM -4-</p> <p>9. NUT, HEX. 5/8NF -2-</p> <p>10. BOLT, STEERING KNUCKLE STOP -2-
ARM, LOWER STEERING TIE ROD
LEFT
RIGHT</p> <p>11. ARM, UPPER STEERING</p> <p>12. NOT USED</p> <p>13. NOT USED</p> |
|--|--|

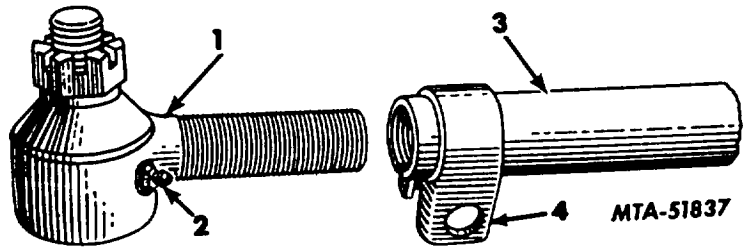
FIG. 02-001

FRONT AXLE ASSEMBLY-CONTINUED

- 14. 512969R1 \$RING, EXPANSION PLUG SNAP -2-
- 15. 172593 \$PLUG, EXPANSION 2-1/8 -2-
- 16. 966139R1 \$PIN, STEERING KNUCKLE KING -2-
- 17. 308534R91 \$BEARING, STEERING KNUCKLE THRUST -2-
- 18. 966140R1 \$KEY, STEERING KNUCKLE LOWER -2-
- 19. 966141R1 \$KEY, STEERING KNUCKLE UPPER -2-
- 20. 441298C2 I-BEAM, FRONT AXLE
- 21. 307197C1 \$SHIM, STRG KNUCKLE SPACING -.005 THICK-
- 258877C1 \$SHIM, STRG KNUCKLE SPACING -.010 THICK-
- 966145R1 \$SHIM, STRG KNUCKLE SPACING -.015 THICK-
- 22. NOT USED
- 23. 303140C92 SKIT, KING PIN OVERHAUL
- 24. 293329C1 \$BUSHING, STRG KNUCKLE -BRONZE- -4-

FIG. 02-002

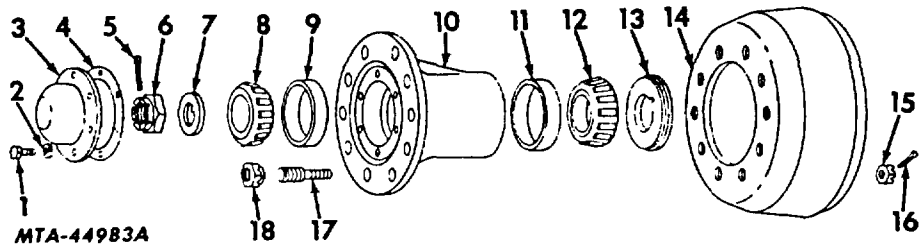
FRONT AXLE TIE ROD



- | | | |
|----|------------|---------------------------------|
| 1. | 969055R91 | END, TIE ROD LEFT, ASSY |
| | 969056R91 | END, TIE ROD RIGHT, ASSY |
| | 427646 | NUT, HEX. SLOTTED 7/8 NF -2- |
| | 137205 | PIN, COTTER 1/8 X 1-1/2 -2- |
| | 250586C1 | SEAL, TIE ROD END DUST -2- |
| 2. | 109461 | LUBRICATOR, 1/8 STRAIGHT -2- |
| 3. | 320209C-11 | ROD, W/CLAMPS, TIE |
| 4. | 255133C1 | CLAMP, TIE ROD END -2- |
| | 271751 | BOLT, HEX-HD 5/8 NF X 2-3/4 -2- |
| | 115733 | NUT, HEX. 5/8NF -2- |
| | 121574 | WASHER, LOCK 5/8 MEDIUM -2- |

FIG. 02-010

FRONT WHEEL -DISC-



- | | | |
|-----|----------------------|---|
| 1. | 25493R1 | BOLT, HEX-HD 5/16NC X 1 -6- |
| 2. | 120214
25708R1 | LOCKWASHER, 5/16 -6-
WASHER, FLAT 5/16 -6- |
| 3. | 511494C91 | CAP, GREASE -2- |
| 4. | 296447C1 | GASKET, GREASE CAP
-2- |
| 5. | | PIN, COTTER 1/4 x 3 -2- |
| 6. | 896943R1 | NUT, BEARING ADJUSTING -2- |
| 7. | 896942R1 | WASHER, BEARING ADJUSTING NUT -2- |
| 8. | 17303H | BEARING, CONE, OUTER -2- |
| 9. | ST 979 | BEARING, CUP, OUTER -2- |
| 10. | 257776C21 | HUB, W/CUPS -2- |
| 11. | 13333D | BEARING, CUP, INNER -2- |
| 12. | 250704C91 | BEARING, CONE, INNER -2- |
| 13. | 794408C91 | SEAL, GREASE OR OIL
-2- |
| 14. | 269728C1 | DRUM, BRAKE -2- |
| 15. | | NOT USED |
| 16. | | NOT USED |
| 17. | 753612C1
753613C1 | BOLT, LEFT DISC -10-
BOLT, RIGHT DISC -10- |
| 18. | | NUT, DISC BOLT -10- |
| | 83156H | LEFT |
| | 83155H | RIGHT |

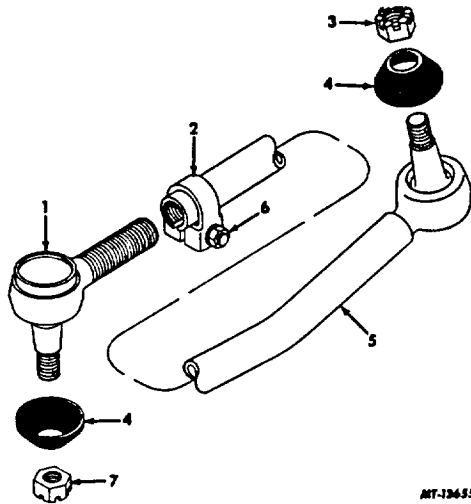


MT134 GROUP 05- STEERING GEAR

REF NO	PART NUMBER	DESCRIPTION
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FIG. 02-023

DRAG LINK



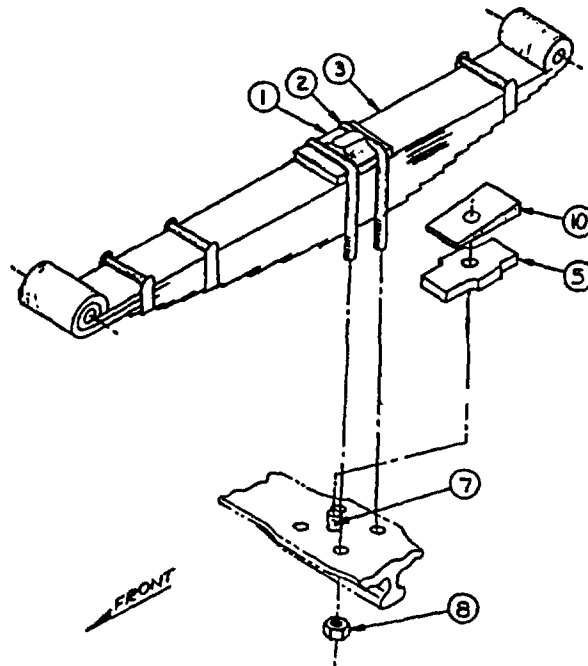
1	460 603 C91	END, W/NUT AND SEAL, LINK
2	446 308 C91	CLAMP, END -2-
3	427 645 17233R1	NUT, HEX. SLOTTED 7/8NF PIN, COTTER 1/8 X 2-1/2
4	446 309 C1	SEAL DUST -2-
5	460 605 C91	END, W/NUT AND SEAL, LINK
6	271750 103030 103325	BOLT, HEX-HD 5/8NF X 2-3/4 NUT, HEX, 5/8NF WASHER, LOCK 5/8 REGULAR
7	427 645 17233R1	NUT HEX, SLOTTED 7/8NF PIN, COTTER 1/8 X 2-1/2



GROUP 03-CHASSIS SPRINGS

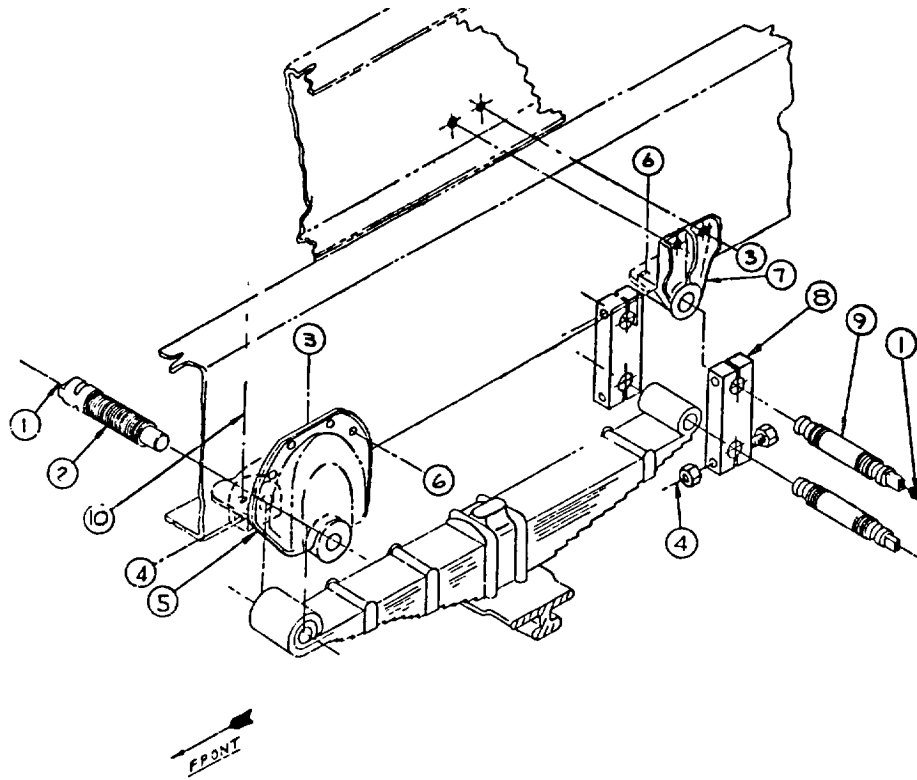
	FIG. NO.
FRONT SPRING ASSEMBLY.....	03-001
FRONT SPRING PINS AND SHACKLES	03-002
BOGIE SUSPENSION (REAR SPRINGS AND EQUALIZER BEAMS)	03-003
BOGIE MOUNTING (REAR SPRING BRACKETS AND AXLE STOPS)	03-004
TORQUE RODS AND MOUNTING.....	03-005

FIG. 03-001
FRONT SPRING ASSEMBLY



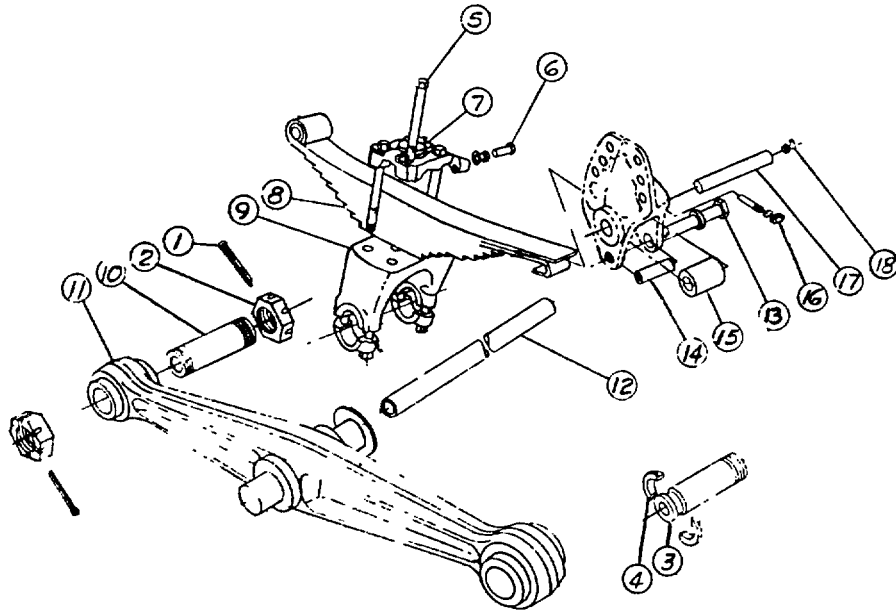
ITEM	PART NO.	QTY.	C	DESCRIPTION & RESTRICTIONS
1	422972C3	2		SEAT, U-BOLT
2	444736C1	4		BOLT, U
3	422973C92	2		SPRING ASSY, FRONT- (10 LEAF)
	422 974 C91			LEAF, W/BUSHING NO. 1 -2-
	422 975 C1			LEAF, NO. 2 -2-
	422 976 C1			LEAF, NO. 3 -2-
	899214R11			CLIP, SPRING (3)
				BOLT, CENTER -2-
				1/2NF X 5-1/2
				NUT, CENTER BOLT 1/2 NF X 7/16 THK -2-
				SPACER, CENTER BOLT -2-
	17 081 H			3/40D X .06
	585 389 R1			3/40D X .25
5	322019C3	1		SPACER, LH
5	422878C2	1		SPACER, RH
7	361566C2	1		PIN, DOWEL
8	144426H	8		NUT, HEX LOCK 1-14UNF
10	692455R1	2		PLATE, WEDGE- FRT AXLE- 2 DEG
10	692454R1	AR		PLATE, WEDGE- FRT AXLE- 1 DEG 30 MIN
10	692453R1	AR		PLATE, WEDGE- AXLE- 1 DEG

FIG. 03-002
FRONT SPRING PINS AND SHACKLES



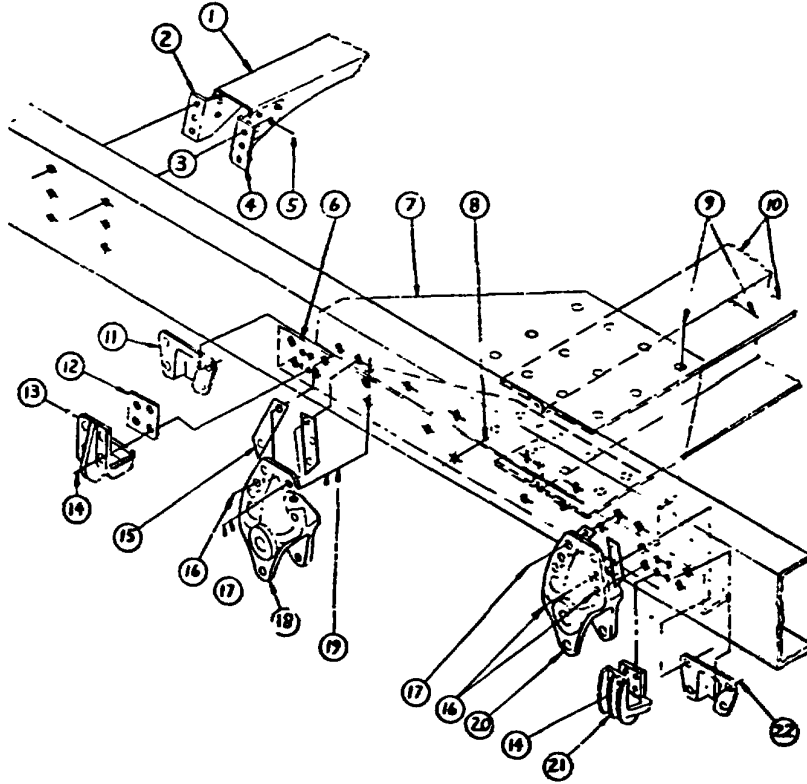
ITEM	PART NO.	QTY.	C	DESCRIPTION
1	126152	6		FITTING, LUBE 45 DEG
2	435762C1	2		PIN, SPG FRT
3	414053C1	2		BOLT, FLG HEX HD 1/2-20UNRF X 1-3/4
3	414054C1	4		BOLT, FLG HEX HD 1/2-20UNRF X 2
3	414087C1	6		NUT, FLG HEX LOCK, 1/2-20UNF
4	414058C1	10		BOLT, FLG HEX HD, 1/2-20UNRF X 3
4	414087C1	10		NUT, FLG HEX LOCK 1/2-20UNF
5	422792C1	2		BRACKET, FRT
6	414052C1	12		BOLT, FLG HEX HD 1/2-20UNRF X 1 1/2
6	414087C1	12		NUT, FLG HEX LOCK 1/2-20UNF
7	422791C1	2		BRACKET, RR
8	146234R1	4		SHACKLE, FRT SPG REAR
9	688952R1	4		PIN, SPG SHACKLE
10	414055C1	2		BOLT, FLG HEX HD, 1/2 20UNRF X 2 1/4
10	414087C1	2		NUT, FLG HEX LOCK, 1/2-20UNF

FIG. 03-003
BOGIE SUSPENSION (REAR SPRINGS AND EQUALIZER BEAMS)



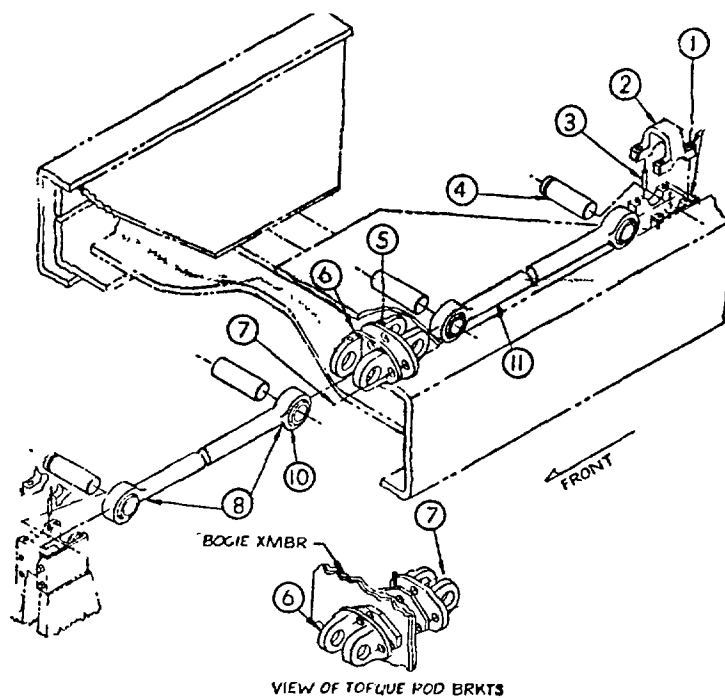
ITEM	PART NO.	QTY.	C	
1	23368R1	6		PIN, COTTER
2	276344C1	6		NUT, SLOTTED
3	431688C1	2		TUBE, BEAM HANGER
4	426453C1	4		RETAINER
5	246355R1	8		BOLT
5	359798C1	8		NUT, HEX LOCK 1-14 UNF
6	12436R1	4		SCREW, SET CUP PT 3/4UNC X 3 1/4
6	427362	4		NUT, HEX LOCK 3/4UNC
6	131046	4		WASHER, LOCK 3/4 REG
7	281624C1	2		PAD, SPRING TOP
8	218776R91	2		SPRING, REAR
9	423896C91	2		SADDLE ASSY
10	423915C1	2		TUBE, BEAM HANGER
11	218786R91	2		BEAM ASSY, EQUALIZER
12	218787R1	1		TUBE, CROSS
13	25698R1	2		BOLT, HEX HD 3/4-10UNC X 6
13	131046	2		WASHER, LOCK 3/4 REG
14	583277R1	2		SPACER, SPRING HANGER
15	66548H	2		ROLLER, SPRING
16	72187H	4		BOLT SPECIAL
16	120378	4		NUT, HEX 1/2UNC
16	120384	4		WASHER, LOCK 1/2 REG
17	66547HA	4		PIN, SPRING HANGER
18	109460	4		FITTING, LUBE

FIG. 03-004 BOGIE MOUNTING (REAR SPRING BRACKETS AND AXLE STOPS)



ITEM	PART NO.	QTY.	C	DESCRIPTION
1	423511C2	1		CROSSMEMBER
2	423510C1	2		BRACKET // LT FWD, RT RR
3	414093C1	12		BOLT, FLG HEX HD 1/2-20UNRF X 1-3/4
3	414007C1	12		NUT, FLG HEX LOCK 1/2-20UNF
4	4235509C1	2		BRACKET // LT RR, RT FWD
5	414051C1	16		BOLT, FLG HEX HD 1/2-20UNF X 1-1/4
5	414087C1	16		NUT, FLG HEX LOCK 1/2-20UNF
6	423751C3	2		GUSSET, LOWER
7	423750C2	2		GUSSET, UPPER
8	416734C1	16		BOLT, FLG HEX HD 3/4-16UNRF X 2
8	416743C1	16		NUT, FLG HEX LOCK 3/4-16UNF
9	416733C1	22		BOLT, FLG HEX HD 3/4-16UNRF X 1-3/4
9	416743C1	22		NUT, FLG HEX LOCK 3/4-16UNF
10	42374903	2		CROSSMEMBER
11	429030C2	4		PLATE, SKID
12	429009C1	4		BAR, SPACER
13	429035C1	2		STOP, FWD AXLE
14	414056C1	16		BOLT, FLG HEX HD 1/2-20UNRF X 2-1/2
14	414087C1	16		NUT, FLG HEX LOCK 1/2-20UNF
15	424816C3	8		BAR, SPACER
16	416739C1	8		BOLT, FLG HEX HD 3/4-16UNRF X 3-1/4
16	416743C1	8		NUT, FLG HEX LOCK 3/4-17UNF
17	416737C1	16		BOLT, FLG HEX HD 3/4-16UNRF X 2-3/4
17	416743C1	16		NUT, FLG HEX LOCK 3/4-16UNF
18	429031C1	2		BRACKET, SPG FWD RR
19	416736C1	4		BOLT, FLG HEX HD 3/4-16UNRF X 2-1/2
19	416743C1	4		NUT, FLG HEX LOCK 3/4-16UNF
20	423752C1	2		BRACKET, SPG REAR
21	429034C1	2		STOP, AXLE RR
22	416736C1	8		BOLT, FLG HEX HD 3/4-16UNRF X 2-1/2
22	416743C1	8		NUT, FLG HEX LOCK 3/4-16UNF

FIG. 03-005
TORQUE RODS AND MOUNTING



ITEM	PART NO.	QTY.	C	DESCRIPTION
1	414054C1	8		BOLT, FLG HEX HD 1/2-20 UNRF X 2
1	120384	8		WASHER, LOCK 1/2 REG
2	429040C1	REF		BRACKET, TORQUE ROD
3	20027R1	2		PIN, DOWEL
4	423802C1	4		PIN
5	24846R1	2		BOLT, HEX HD 3/8-14 UNC X 4 1/2
5	9413979	2		NUT, HEX LOCK 3/8-16 UNC
6	423804C2	2		BRACKET, RADIUS ROD
7	414082C1	4		BOLT, FLT HEX HD 5/8-18 UNRF X 3
7	414089C1	4		NUT, FLG HEX LOCK 5/8-18 UNF
8	109461	4		FITTING, LUBRICATION
10	461774C91	1		ROD ASSY, TORQUE // 24.75 IN
	423803C1	1		ROD, TORQUE // 24.75 IN
	423801C91	2		BEARING, SEALED SELF ALIGNING
	289357R1	4		RING, RETAINER
11	461774C91	1		ROD ASSY, TORQUE // 24.75 IN
	423803C1	1		ROD, TORQUE // 24.75 IN
	423801C91	2		BEARING, SEALED SELF ALIGNING
	289357R1	4		RING, RETAINER



GROUP 04-BRAKES

	FIG. NO.
FRONT WHEEL BRAKE	04-069
REAR WHEEL BRAKE	04-009
AIR DRYER (CODE 04723)	04-100
BRAKE PEDAL.....	04-090
BRAKE VALVE.....	04-090
CHAMBERS (SEE WHEEL BRAKES)	
CHECK VALVE	04-101
COMPRESSOR, GOVERNOR, MOUNTING AND HOSING	
ASSEMBLY.....	04-031
GOVERNOR	04-030
MOUNTING AND HOSING	04-084
DOUBLE CHECK VALVE	04-089
EVAPORATOR, ALCOHOL (CODE 04709)	04-102
FITTINGS.....	04-059
GAUGE(PRESSURE), BUZZER, LOW PRESSURE SWITCH AND MANIFOLD FITTINGS	04-087
HOSE, FLEXIBLE	
CAB HOSING.....	04-104
FRONT AXLE HOSING.....	04-103
CHASSIS FRONT HOSING	04-105
CHASSIS CENTER HOSING.....	04-106
CHASSIS REAR HOSING.....	04-107
FORWARD-REAR AXLE BRAKE HOSING.....	04-108
REAR-REAR AXLE BRAKE HOSING	04-109
LIMITING VALVE CONTROL HOSING	04-111
STOPLIGHT SWITCH/PARKING BRAKE CONTROL VALVE HOSING.....	04-112
LIMITING VALVE (FRONT WHEEL) (CODE 04570)	04-111
LIMITING VALVE CONTROL (FRONT WHEEL)(CODE 04570)	04-110
QUICK RELEASE VALVE	04-088
RELAY VALVE	04-085
SAFETY VALVE	04-043
SLACK ADJUSTERS (SEE WHEEL BRAKES)	
SLUDGE REMOVER AND AUTOMATIC DRAIN VALVE(CODE 04721).....	04-044
STOPLIGHT SWITCH	04-045
TANK AND MOUNTING (AIR)	04-101
PARKING BRAKE	
BRAKE CHAMBER.....	04-017
BRAKE CHAMBER CONTROL VALVE	04-025

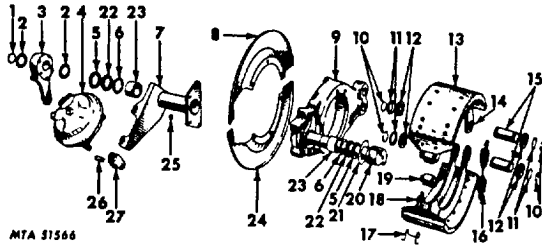


MT134 GROUP 04- BRAKES

REF NO PART NUMBER DESCRIPTION

FIG. 04-009

REAR WHEEL BRAKE



1	69	339	R1	RING, CAMSHAFT LOCK -2-
2	56	116	R1	WASHER, ADJUSTING SPACING -.065 THICK-
3	972	868	R92	ADJUSTER, SLAC K, ASSY -2-
4				CHAMBER, BRAKE, ASSY
	899	179	R94	EMERGENCY -FOR COMPONENTS SEE (FIG. 04-17- -2-)
				NUT, HEX. 5/8NF -4-
	121	574		WASHER, LOCK 5/8 MEDIUM -4-
	131	016		WASHER, FLAT 5/8 -4-
5	417	489	C1	RETAINER, CAMSHAFT FELT SEAL -4-
6	22	288	R1	O-RING -2-
7				BRACKET, W/BUSHING, CAMSHAFT
	417	491	C91	LEFT FRONT
	417	490	C91	RIGHT FRONT
	417	499	C91	LEFT REAR
	417	498	C91	RIGHT REAR
	181	165		BOLT, HEX-HD 1/2NC X 1-1/2 -8-
	120	384		WASHER, LOCK 1/2MEDIUM -8-
8	974	554	R1	SHIELD, DUST -UPPER LEFT, LOWER RIGHT-
	69	480	R91	BOLT, W/LW -SHIELD TO SPIDER -6-
9				SPIDER, W/BUSHING, BRAKE
	419	186	C91	LEFT FRONT, RIGHT REAR
	419	187	C91	RIGHT FRONT, LEFT REAR
	414	077	C1	BOLT, SPIDER TO HOUSING -32-
	274	639		NUT, SPIDER TO HOUSING -32-
	131	205		WASHER, LOCK 5/8 MEDIUM -32-
10	56	108	R2	RETAINER, ANCHOR PIN -8-
11	56	107	R1	RETAINER, ANCHOR PIN FFLT SEAL -8-
12	56	106	R1	SEAL, ANCHOR PIN FELT -8-
13	93	931	R95	SET, BRAKE LINING, L/RIVETS
	974	807	R1	RIVET, BRAKE LINING -96-
14	230	037	R92	SHOE, W/LINING, BRAKE -2-
15	126	403	R1	PIN, BRAKE SHOE ANCHOR
16	62	322	R1	SPRING, SHOE RETURN -2-
	983	622	R1	PIN, SHOE RETURN SPRING -4-
17	126	402	R1	RETAINER, ROLLER -4-
18	230	037	R92	SHOE, W/LINING, BRAKE -2-
19	126	404	R1	ROLLER, BRAKE SHOE -4-
20				CAMSHAFT, BRAKE
	207	184	R1	LEFT FRONT, RIGHT REAR
	207	185	R1	RIGHT FRONT, LEFT REAR
21	72	367	R2	WASHER, CAMSHAFT SPACING -2-

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MT134 GROUP 04- BRAKES

REF NO PART NUMBER DESCRIPTION

FIG. 04-009 CONTINUED

REAR WHEEL BRAKE

22	56	121	R2	SEAL, CAMSHAFT FELT -AT BRACKET -2-
	417	488	C1	SEAL, CAMSHAFT FELT -AT SPIDER -2-
23	122	407	R1	BUSHING, SPIDER AND BRACKET -4-
24	974	555	R1	SHIELD, DUST -UPPER RIGHT, LOWER LEFT-
	69	480	R91	BOLT, W/LW -SHIELD TO SPIDER -6-,
25	109	461		LUBRICATOR, CAMSHAFT 1/8 STRAIGHT -2-
26	259	117	R1	PIN, BRAKE CHAMBER YOKE -2-
	137	185		PIN, COTTER 1/8 X 1 -2-
27	379	388	C1	YOKE, BRAKE CHAMBER -2-

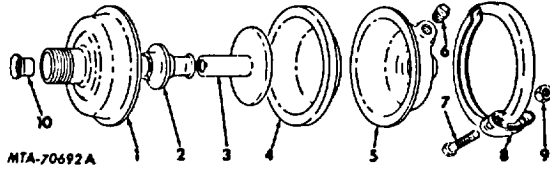
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MT134 GROUP 04- BRAKES

REF NO PART NUMBER DESCRIPTION

FIG. 04-015
AIR BRAKE CHAMBER (FRONT AXLE)



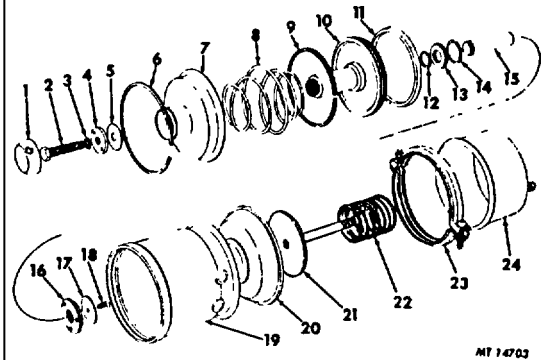
1	415	163	C91	CHAMBER, BRAKE, ASSY PLATE -NOT SERVICED SEPARATELY-
2	355	536	C1	BOOT, PUSH ROD
3	415	164	C1	ROD, PUSH
4	871	930	R1	DIAPHRAGM, CHAMBER
5				PLATE -NOT SERVICED SEPARATELY-
6	444	618		PLUG, PIPE HEX-HD 1/4
7	266	287	C1	BOLT, CHAMBER CLAMP
8	266	286	C1	CLAMP, W/BOLTS, CHAMBER
9	266	288	C1	NUT, CHAMBER CLAMP BOLT
10	268	439	C1	GUIDE, PUSH ROD



MT134 GROUP 04- BRAKES

REF NO PART NUMBER DESCRIPTION

FIG. 04-017
BRAKE CHAMBER (REAR AXLE)



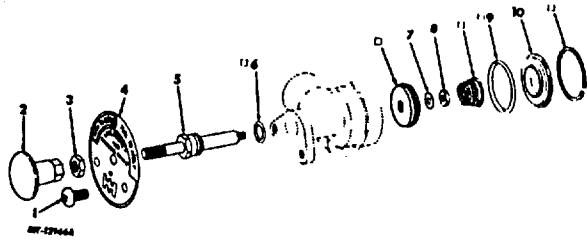
	899	179	R94	CHAMBER, BRAKE, ASSY
	309	237	C91	CHAMBER, SPRING BRAKE, ASSY -INCLUDES ITEMS 1 THRU 19-
1	445	416	C1	CAP, BREATHER, ASSY
2	273	534	C1	BOLT, HEX-HD 1/2 X 3-3/4
3	250	701	C1	WASHER, RELEASE BOLT
4				%WASHER
5				%WASHER
6	262	065	C1	RING, CYLINDER HEAD SNAP
7	683	047	R1	HEAD, CYLINDER
8	683	050	R1	SPRING, PISTON
	293	635	C1	WASHER, PISTON SPG THRUST
9	683	053	R1	WIPER, CYLINDER FELT
10	262	066	C1	PISTON, CYLINDER
11	262	064	C1	SEAL, PISTON
12	683	059	R1	RING, PISTON ROD SNAP -SMALL-
13	625	305	C91	RETAINER, PUSH ROD
14	160	094	R1	RING, PISTON ROD SNAP -LARGE-
15	683	056	R1	ROD, PISTON PUSH
16	293	593	C1	SEAL, PUSH ROD
17	263	082	C11	PLATE, W/SCREW, PISTON PRESSURE
18	156	253		SCREW, FL-CR-REC-HD 1/4NC X 3/4
19	293	634	C1	BODY, BRAKE CHAMBER CYLINDER
20	871	934	R1	DIAPHRAGM. BRAKE CHAMBER
21	452	666	C1	ROD, W/PLATE, PUSH
	124	944		NUT, HEX. JAM 5/8NF -2-
22	462	336	C1	SPRING, PUSH ROD -STRAIGHT-
	453	120	C1	SPRING, PUSH ROD -CONE SHAPED-
23	653	062	R91	CLAMP, BRAKE CHAMBER. ASSY
	62	466	R1	BOLT, HEX-HD 3/8NF X 2 -2-
	124	925		NUT, HEX. 3/8NF -2-
24	453	119	C1	PLATE, NON-PRESSURE
				NUT, HEX 5/8NC -2-
	131	140		WASHER, LOCK 5/8 HEAVY -2-
	446	239		WASHER, FLAT 5/8 -2-

%ORDER 625304C1 WASHER KIT



MT134 GROUP 04- BRAKES
 REF PART DESCRIPTION
 NO NUMBER

FIG. 04-025
 AIR BRAKE CYLINDER CONTROL VALVE



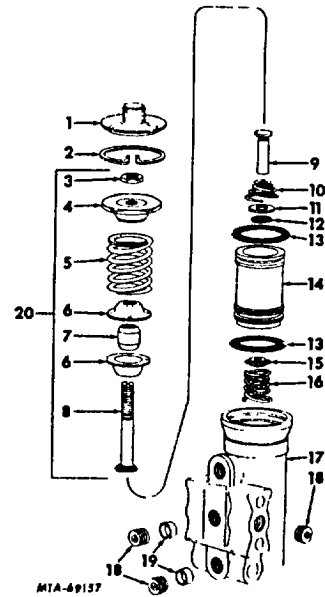
338 916 C91 VALVE, PARKING BRAKE CONTROL, ASSY

1	160	047	SCREW, PAN-CR-REC-HD NO. 10NF X 1/2 -2-
2	416	654	C1 KNOB BRAKE CONTROL VALVE
3	120	613	NUT, HEX, JAM 1/4NF
4			NOT USED
5	344	025	C1 PISTON, BRAKE VALVE
6	321	955	R1 O-RING, PISTON
7	344	029	C1 WASHER, FLAT
8	79	061	R1 NUT, LOCK NO. 10NC
9	370	943	R1 O-RING, END CAP
10	344	024	C1 CAP, END
	344	028	C91 *KIT, BRAKE VALVE REPAIR



MT134 GROUP 04- BRAKES
 REF PART DESCRIPTION
 NO NUMBER

FIG. 04-030
 AIR COMPRESSOR GOVERNOR



410 986 C92 GOVERNOR, AIR COMPRESSOR, ASSY
 181 100 BOLT, HEX-HD 5/16NC X 2-2/4 -GOVERNOR TO COMPRESSOR- -2-

9 413 986 C92 NUT, HEX, LOCK 5/16NC -GOVERNOR TO BRACKET- -2-
 120 214 WASHER, LOCK 5/16 MEDIUM -2-
 166 562 R1 GASKET. GOVERNOR TO COMPRESSOR
 444 650 PLUG, PIPE 1/8 -2-

1	321	739	R1 COVER, GOVERNOR
2	160	094	R1 RING, COVER SNAP
3	139	879	H NUT, ADJUSTING SCREW JAM
4	177	633	H1 SEAT, UPPER SPRING
5	321	747	R1 SPRING, GOVERNOR VALVE -UPPER-
6	321	748	R1 SEAT, LOWER SPRING -2-
7	321	749	R1 GUIDE, VALVE SPRING
8	321	746	R1 SCREW, ADJUSTING
9	321	741	R1 STEM, EXHAUST VALVE
10	321	742	R1 SPRING, EXHAUST VALVE STEM
11	177	622	H1 WASHER, EXHAUST VALVE STEM
12	3	046	R1 O-RING
13	382	137	R1 O-RING -2-
14	321	743	R91 PISTON, W/WASHER, GROMMET AND RING
15	321	744	R1 VALVE, AIR GOVERNOR
16	321	745	R1 SPRING, GOVERNOR VALVE -LOWER-BODY -NOT SERVICED SEPARATELY-
17			
18	444	650	PLUG, PIPE 1/8 -2-
19	321	738	R1 SCREEN, GOVERNOR STRAINER -2-
20	321	740	R91 SPRING, W/SCREW, NUT, SEATS AND GUIDE



MT134 GROUP 04- BRAKES

REF PART DESCRIPTION
NO NUMBER

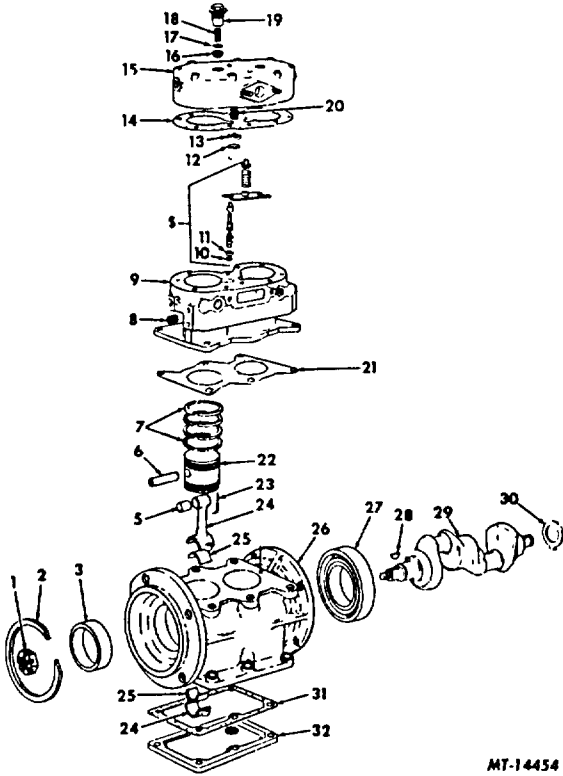


MT134 GROUP 04- BRAKES

REF PART DESCRIPTION
NO NUMBER

FIG. 04-031

AIR COMPRESSOR ASSEMBLY



400 678 C93 COMPRESSOR, ASSY

70 427 R1 BOLT, COMPRESSOR MOUNTING -AR-
25 524 R1 NUT, HEX, 7/16NC -AR-
120 383 WASHER, LOCK 7/16 MEDIUM -AR-
25 846 R1 WASHER, FLAT 7/16 -AR-
302 028 R1 NUT, CRANKSHAFT
316 222 R1 RING, RETAINING
BUSHING, CRANKSHAFT

454 010 C1 STANDARD
454 011 C1 .010 U/S
454 012 C1 .020 U/S
454 013 C1 .030 U/S

5 302 118 R1 BUSHING -NOT SERVICED SEPARATELY-
6 PIN WRIST -2-
7 302 036 R91 RING SET -STANDARD-
302 037 R91 RING SET -.010 O/S-
302 038 R91 RING SET -.020 O/S-
302 039 R91 RING SET -.030 O/S-
8 444 687 PLUG, PIPE 1/8
9 202 200 R11 BLOCK W/VALVE SEATS AND BUSHINGS, CYL
BOLT, HEX-HD 3/8NC X 1 -6-
WASHER LOCK 3/8 MEDIUM -6-
10 182 07T R1 GROMMET, UNLOADER PLUNGER -2-
11 182 07T R1 RING, PISTON BACK-UP -2-

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FIG. 04-031 CONTINUED

AIR COMPRESSOR ASSEMBLY

12 302 041 R1 VALVE, INLET -2-
13 202 205 R2 GUIDE, INLET VALVE -2-
14 202 203 R1 GASKET, CYLINDER HEAD
15 419 426 C91 HEAD, CYLINDER, ASSY
288 188 C1 BOLT, HEX-HD 5/16NC X 2-3/4 -10-
319 953 R1 SEAT, INLET VALVE -2-
319 954 R1 INSERT, INLET VALVE -2-
16 182 401 R1 SEAT, DISCHARGE VALVE -2-
17 302 106 R1 VALVE, DISCHARGE -2-
18 142 374 H SPRING, DISCHARGE VALVE -2-
19 302 107 R1 CAP, DISCHARGE VALVE -2-
20 302 042 R1 SPRING, INLET VALVE -2-
21 302 031 R1 GASKET, CYLINDER BLOCK
22 302 032 R11 PISTON, W/PIN -STANDARD- -2-
302 033 R11 PISTON, W/PIN -.010 O/S- -2-
302 034 R11 PISTON, W/PIN -.020 O/S- -2-
302 035 R11 PISTON, W/PIN -.030 O/S- -2-
23 302 120 R1 WIRE, WRIST PIN LOCK -2-
24 228 684 R91 ROD, W/BUSHING AND CAP, CONNECTING -2-
208 495 R1 BOLT, CONNECTING ROD TO CAP -4-
228 675 R1 WASHER, CONNECTING ROD BOLT -4-
25 228 668 R11 BEARING, CONNECTING ROD -STANDARD- -2-
228 669 R11 BEARING, CONNECTING ROD -.010 U/S- -2-
228 670 R11 BEARING, CONNECTING ROD -.020 U/S- -2-
228 671 R11 BEARING, CONNECTING ROD -.030 U/S- -2-
26 454 014 C91 CRANKCASE, COMPRESSOR, ASSY
27 205 368 R91 BEARING, REAR
28 106 751 KEY, WOODRUFF 3/16 X 3/4
29 445 763 C1 CRANKSHAFT, COMPRESSOR
30 870 030 R1 WASHER, CRANKSHAFT THRUST -2-
31 312 845 C1 GASKET, CRANKCASE COVER
32 438 145 C1 COVER, CRANKCASE
369 411 R1 BOLT, CRANKCASE COVER -6-
120 214 WASHER, LOCK 5/16 MEDIUM -6-
168 684 R91 \$KIT, PISTON UNLOADER

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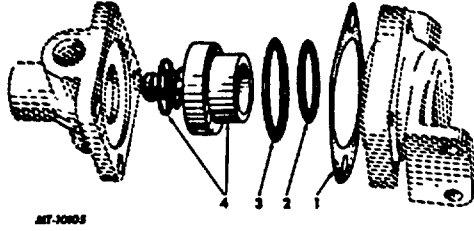


MT134 GROUP 04- BRAKES

REF NO	PART NUMBER	DESCRIPTION
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FIG. 04-039

BRAKE LIMITING AND QUICK RELEASE VALVE



471209C91 VALVE, LIMITING AND QUICK RELEASE, ASSY

1	895	444	R1	SEAL, COVER
2	382	137	R1	O-RING, PISTON -SMALL-
3	298	387	R1	O-RING, PISTON -LARGE-
4	233	787	R91	VALVE, ASSY

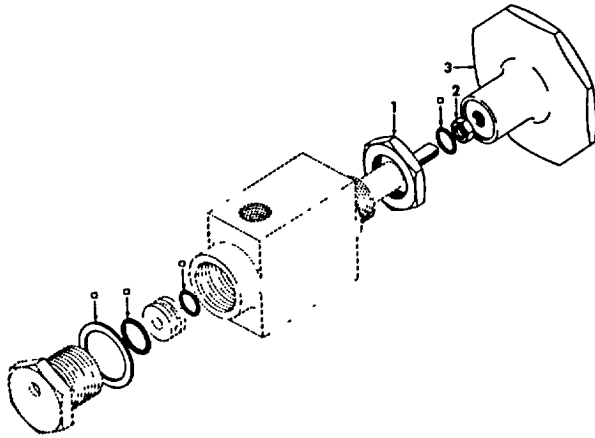


MT134 GROUP 04- BRAKES

REF NO	PART NUMBER	DESCRIPTION
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FIG. 04-040

CONTROL VALVE



- | | | | | |
|---|-----|-----|----|--|
| 1 | 124 | 706 | H | NUT, VALVE MOUNTING |
| 2 | 118 | 623 | | NUT, HEX, JAR 1/4NF |
| 3 | 426 | 385 | C1 | KNOB, CONTROL VALVE FRONT WHEEL LIMITING |

230 412 R921 *KIT, CONTROL VALVE REPAIR

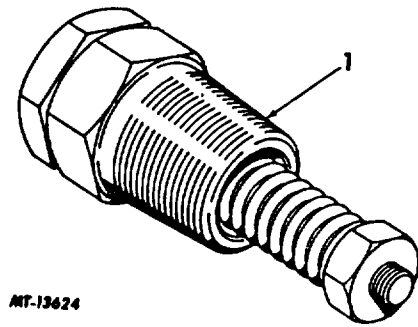


MT134 GROUP 04-BRAKES

REF NO	PART NUMBER	DESCRIPTION
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FIG. 04-043

SAFETY VALVE



MT-13624

- | | | | | |
|---|-----|-----|-----|--------------------|
| 1 | 366 | 398 | C91 | VALVE SAFETY, ASSY |
|---|-----|-----|-----|--------------------|

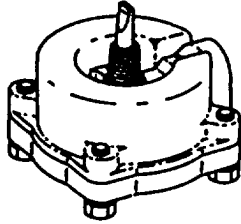


MT134 GROUP 04- BRAKES

REF NO	PART NUMBER	DESCRIPTION
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FIG. 04-044

SLUDGE REMOVER/AUTOMATIC DRAIN VALVE



MT-13736

777 915 C92

VALVE, SLUDGE REMOVER/AUTOMATIC DRAIN

409 088 C91

KIT, SLUDGE REMOVER VALVE REPAIR
(CONSIST OF 1-FILTER,
1-FILTER RETAINER,
1-SEA, 1-VALVE GUIDE,
1-INLET AND EXHAUST VALVE)

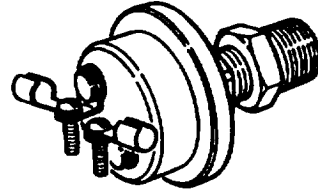


MT134 GROUP 04- BRAKES

REF NO	PART NUMBER	DESCRIPTION
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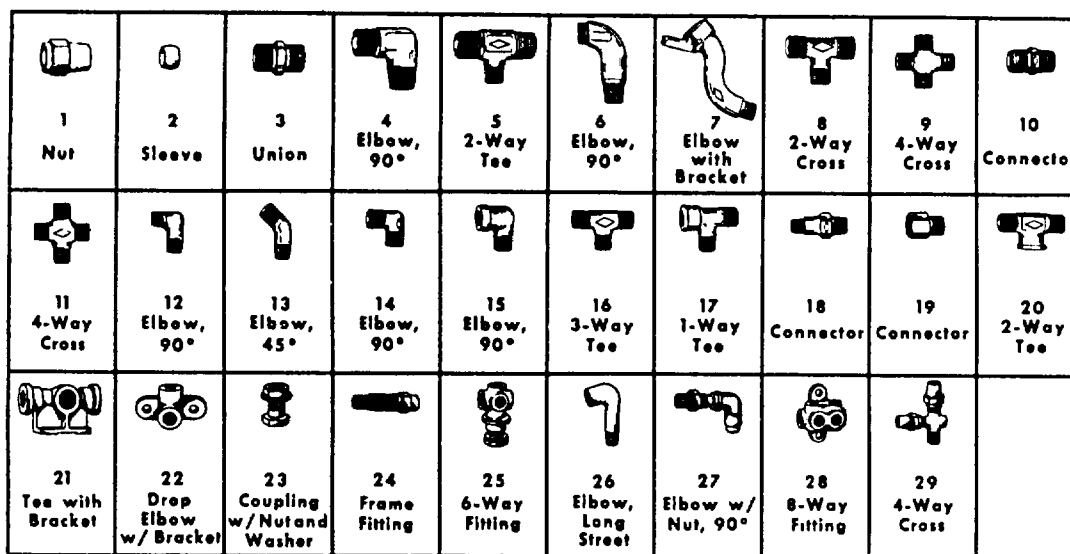
FIG. 04-045

STOP LIGHT SWITCH



MT-30082

873 706 R91 SWITCH, ASSY



MTA-57234A

FIG. 04-059 AIR BRAKE FITTINGS

REF. NO.	IH PART NO.	DESCRIPTION SIMPLE PART	SIZE	PIPE	ASSEMBLY	COMPONENT PARTS OF ASSEMBLY		
				THREAD	IH PART NO.	BODY	SLEEVE	NUT
1	30 773 V	NUT LONG	1/4"					
	30 643 V	NUT LONG	3/8"					
	47 128 H	NUT LONG	1/2"					
	55 897 R1	NUT LONG	5/8"					
	76 262 H	NUT LONG	3/4"					
2	30 774 V	SLEEVE	1/4"					
	30 644 V	SLEEVE	3/8"					
	47 126 H	SLEEVE	1/2"					
	55 896 R1	SLEEVE	5/8"					
	76 263 H	SLEEVE	3/4"					
3	136 286 R1	UNION	1/4"		136 286 R1	136 286 R1	2-30 774 V	2-30 773 V
	30 778 V	UNION	3/8"		30 777 V	30 778 V	2-30 644 V	2-30 643 V
	143 406 H	UNION	1/2"		143 406 HX	143 406 H	2-47 126 H	2-47 128 H
	972 906 R91	UNION	5/8"		972 906 R911	57 774 R1	2-55 896 R1	2-55 897 R1
	142 394 H		3/4"		142 394 HX	142 394 H	2-76 263 H	2-76 262 H
4	55 084 H	90° ST. ELBOW	1/2"	3/8"	55 084 HX	55 084 H	47 126 H	47 128 H
	73 459 H	90° ST. ELBOW	1/2"	3/8"	73 459 HX	73 459 H	47 126 H	47 128 H

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REF. NO.	IH PART NO.	DESCRIPTION SIMPLE PART	SIZE	PIPE	ASSEMBLY	COMPONENT PARTS OF ASSEMBLY		
				THREAD	IH PART NO.	BODY	SLEEVE	NUT
FIG. 04-59 AIR BRAKE FITTINGS								
	300702R1	2WAY TEE RT. ANGLE	1/4x1/4	1/8"	971586R91	300702R1	2-30774V	2-30773V
	131468R1	2WAY TEE RT. ANGLE	1/4x3/8	1/2"	971595R91	131468R1	1-30774V	1-30773V
							1-30644V	1-30643V
	252132C1	2WAY TEE RT. ANGLE	3/8x1/4	1/4"	252132C11	252132C1	1-30644V	1-30643V
							1-30774V	1-30773V
	30763V	2WAY TEE RT. ANGLE	3/8x3/8	1/4"	30763VX	30763V	2-30664V	2-30643V
	80553H	2WAY TEE RT. ANGLE	3/8x3/8	3/8"	80553HX	80553H	2-30644V	2-30643V
	971588R91	2WAY TEE RT. ANGLE	3/8x5/8	1/2"	971588R91	55918R1	1-30644V	1-30643V
							1-55896R1	1-55897R1
	55083H	2WAY TEE RT. ANGLE	1/2x3/8	3/8"	55083H	55083H	1-47126H	1-47128H
							1-30644V	1-30643V
5	70806H	2WAY TEE RT. ANGLE	1/2x1/2	3/8"	70806HX	70806H	2-47126H	2-47128H
	176030R1	2WAY TEE RT. ANGLE	1/2x1/2	1/2"	176030R1	176030R1	2-47126H	2-47128H
	967070R1	2WAY TEE RT. ANGLE	1/2x5/8	1/2"	967070R1	967070R1	1-47126H	1-47128H
							1-55896R1	1-55897R1
	55918R1	2WAY TEE RT. ANGLE	5/8x3/8	1/2"	55918R11	55918R1	1-55896R1	1-55897R1
							1-30644V	1-30643V
	188109R1	2WAY TEE RT. ANGLE	5/8x1/2	1/2"	188109R1	188109R1	1-55896R1	1-55897R1
							1-47126H	1-47128H
	59650R1	2WAY TEE RT. ANGLE	5/8x5/8	1/2"	59650R11	59650R1	2-55896R1	2-55897R1
6	70807H	90° ST. ELBOW LG.	3/8"	1/8"	70807HX	70807H	30644V	30643V
	971608R91	90° ST. ELBOW LG.	3/8"	1/4"	971608R91	971608R91	30644V	30643V
	76261H	90° ST. ELBOW LG.	3/4"	3/8"	76261HX	76261H	76263H	76262H
7	48254H	SPEC. ELBOW W/BRKT.	3/8"	1/4"	48254H	48254H	30-644V	30-643V
	30772V	2WAY TEE EXT. PIPE	1/4x1/4	1/8"	30771V	30772V	2-30774V	2-30773V
	13956H	2WAY TEE EXT. PIPE	1/4x1/4	1/4"	13956H	30769V	2-30644V	2-30643V
	680777R1	2WAY TEE EXT. PIPE	1/4x3/8	1/2"	680777R11	680777R1	1-30774V	1-30773V
							1-30644V	1-30643V
	71669H	2WAY TEE EXT. PIPE	3/8x3/8	1/8"	71669HX	71669H	2-30644V	2-30643V
	30769V	2WAY TEE EXT. PIPE	3/8x3/8	1/4"	13956H	30769V	2-30644V	2-30643V
	80552H	2WAY TEE EXT. PIPE	3/8x3/8	3/8"	80552HX	80552H	2-30644V	2-30643V
	684958R1	2WAY TEE EXT. PIPE	3/8x1/2	3/8"	971584R91	684958R1	1-30644V	1-30643V
8	153177R1	2WAY TEE EXT. PIPE	3/8x1/2	1/2"	153177R11	153177R1	1-30644V	1-30643V
							1-47126H	1-47128H
	132766R1	2WAY TEE EXT. PIPE	3/8x5/8	1/2"	971588R91	132766R1	1-30644V	1-30643V
							1-55896R1	1-55897R1
	73327H	2WAY TEE EXT. PIPE	1/2x1/2	3/8"	73327HX	73327H	2-27126H	2-47128H
	89171R1	2WAY TEE EXT. PIPE	1/2x5/8	1/2"	89171R11	89171R1	1-47126H	1-47128H
							1-55896R1	1-55897R1
	86879R1	2WAY TEE EXT. PIPE	5/8x5/8	1/2"	86879R11	86879R1	2-55896R1	2-55897R1
	139949R1	2WAY TEE EXT. PIPE	5/8x5/8	1/2"	971583R91	139949R1	2-55896R1	2-55897R1



MT-126

GROUP 04-BRAKES

REF. NO.	IH PART NO.	DESCRIPTION SIMPLE PART	SIZE	PIPE	ASSEMBLY	COMPONENT PARTS OF ASSEMBLY		
				THREAD	IH PART NO.	BODY	SLEEVE	NUT
FIG. 04-59 AIR BRAKE FITTINGS								
9	137936H	4WAYCROSS	1/2x1/2x1/2		971647R91	137936H	4-47126H	4-47128H
	123617R1	CONNECTOR	1/4"	1/8"	142064H	123617R1	30774V	30773V
	301836R11	CONNECTOR	1/4"	1/8"	301836R1	301836R1	30774V	30773V
	30775V	CONNECTOR	1/4"	1/4"	30775VX	30775V	30774V	30773V
	252351C1	CONNECTOR	1/4"	1/4"	252351C1	252351C1	30774V	30773V
	140486H	CONNECTOR	1/4"	1/4"	140486H	140486H		
	425364R1	CONNECTOR	1/4"	7/16"		425634R1	30774V	30773V
	75317H	CONNECTOR	3/8"	1/8"	75317HX	75317H	30644V	30643V
	30757V	CONNECTOR	3/8"	1/4"	30757VX	30757V	30644V	30643V
	77911H	CONNECTOR	3/8"	3/8"	77911HX	77911H	30644V	30643V
10	55931R1	CONNECTOR	3/8"	1/2"	55931R11	55931R1	30644V	30643V
	59595D	CONNECTOR	1/2"	1/4"	59595DX	59595D	47126H	47128H
	59588D	CONNECTOR	1/2"	3/8"	59588DX	59588D	47126H	47128H
	95552R1	CONNECTOR	1/2"	1/2"	95552R11	95552R1	47126H	47128H
	303068R1	CONNECTOR	1/2"	3/4"	303068R1	303068R1	47126H	47128H
	86599R1	CONNECTOR	5/8"	3/8"				
	698562R91	CONNECTOR	5/8"	1/2"	55917R11	55917R1	55896R1	55897R1
	55917R1	CONNECTOR	5/8"	1/2"	698562R1	55917R1	55896R1	55897R1
	873297R1	CONNECTOR	3/4"	1/4"	873297R1	873297R1	76263H	76262H
	58671R1	CONNECTOR	3/4"	1/2"	58671R11	58671R1	76263H	76262H
	76267H	CONNECTOR	3/4"	3/4"	76267HX	76267H	76263H	76262H
11	48251H	CROSS W/EXT. PIPE	3/8x3/8x3/8	1/4"	48251HX	48251H	3-30644V	3-30643V
	680776R1	CROSS W/EXT. PIPE	3/8x1/2x3/8	1/2"	680776R11	680776R1	2-30644V	2-30643V
							1-47126H	1-47128H
	123646R1	90° ST. ELBOW SHORT	1/4"	1/8"	141966H	123646R1	30774V	30773V
	96644R1	90° ST. ELBOW SHORT	1/4"	1/4"	96644R11	96644R1	30774V	30773V
	28420H	90° ST. ELBOW SHORT	1/4"	1/4"	28420H	28420H	30774V	30773V
	300957R1	90° ST. ELBOW SHORT	1/4"	1/4"	300957R1	300957R1	30744V	30773V
	425122R1	90° ST. ELBOW SHORT	1/4"	3/8"	425122R1	425122R1	30774V	30773V
	57059H	90° ST. ELBOW SHORT	3/8"	1/8"	57059HX	57059H	30644V	30643V
	101683R1	90° ST. ELBOW SHORT	3/8"	1/4"	101683R1	101683R1	30644V	30643V
	30761V	90° ST. ELBOW SHORT	3/8"	1/4"	30761VX	30761V	30644V	30643V
	71466H	90° ST. ELBOW SHORT	3/8"	3/8"	71466HX	71466H	30644V	30643V
	162135R1	90° ST. ELBOW SHORT	3/8"	3/8"	162135R1	162135R1	30644V	30643V
	189385R1	90° ST. ELBOW SHORT	3/8"	1/2"	189385R1	189385R1	30644V	30643V
12	56233R1	90° ST. ELBOW SHORT	3/8"	1/2"	56233R11	56233R1	30644V	30643V
	53305H	90° ST. ELBOW SHORT	1/2"	3/8"	53305HX	53305H	47126H	47128H
	86634R1	90° ST. ELBOW SHORT	1/2"	1/2"	698559R91	86634R1	47126H	47128H
	698559R91	90° ST. ELBOW SHORT	1/2"	1/2"	86634R11	86634R1	47126H	47128H
	130008R1	90° ST. ELBOW SHORT	1/2"	3/4"	130008R11	130008R1	47126H	47128H
	281902R1	90° ST. ELBOW SHORT	1/2"	3/4"	281902R1	281902R1	47126H	47128H
	84638R1	90° ST. ELBOW SHORT	5/8"	3/8"	84638R11	84638R1	55896R1	55897R1
	312064C1	90° ST. ELBOW SHORT	5/8"	3/8"	312064C1	312064C1	55896R1	55897R1
	55916R1	90° ST. ELBOW SHORT	5/8"	1/2"	55916R11	55916R1	55896R1	55897R1
	130715R1	90° ST. ELBOW SHORT	5/8"	3/4"	130715R11	130715R1	55896R1	55897R1
	300898R1	90° ST. ELBOW SHORT	3/4"	1/4"	300898R1	300898R1	76263H	76262H
	300892R1	90° ST. ELBOW SHORT	3/4"	1/2"	300892R1	300892R1	76263H	76262H
	60703R1	90° ST. ELBOW SHORT	3/4"	1/2"	60703R1	60703R1	76263H	76262H
	103355H	90° ST. ELBOW SHORT	3/4"	1/2"	103355HX	103355H	76263H	76262H
	142019H	90° ST. ELBOW SHORT	3/4"	3/4"	142019HX	142019H	76263H	76262H

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GROUP 04-BRAKES

REF. NO.	IH PART NO.	DESCRIPTION SIMPLE PART	SIZE	PIPE	ASSEMBLY	COMPONENT PARTS OF ASSEMBLY		
				THREAD	IH PART NO.	BODY	SLEEVE	NUT
FIG. 04-59 AIR BRAKE FITTINGS								
	68761R1	45° ST. ELBOW	3/8"	1/4"	68761R11	68761R1	30644V	30643V
	429033R1	45° ST. ELBOW	1/4"	1/4"	429033R1	429033R1	30774V	30773V
	90227R1	45° ST. ELBOW	3/8"	3/8"	90227R11	90227R1	30644V	30643V
13	132767R1	45° ST. ELBOW	3/8"	1/2"	132767R1	132767R1	30644V	30643V
	136830H	45° ST. ELBOW	1/2"	3/8"	136830HX	136830H	47126H	47128H
	152952R1	45° ST. ELBOW	1/2"	1/2"	152952R1	152952R1	47126H	47128H
	971645R91	45° ST. ELBOW	5/8"	1/2"	971645R91	59390R1	55896R1	55897R1
	59390R1	45° ST. BELOW	5/8"	1/2"	971645R91	59390R1	55896R1	55897R1
	127393H	90° ELBOW UNION	3/8"		127393HX	127393H	2-30644V	2-30643V
14	971621R91	90° ELBOW UNION	1/2"		89431R11	89431R1	2-47126H	2-47128H
	89431R1	90° ELBOW UNION	1/2"		971621R91	89431R1	2-47126H	2-47128H
	86895R1	90° ELBOW UNION	5/8"		86895R11	86895R1	2-55896R1	2-55897R1
	91913R1	90° ELBOW INT. PIPE	1/4"	1/8"	971613R91	91913R1	30774V	30773V
	73918H	90° ELBOW INT. PIPE	3/8"	1/8"	73918HX	73918H	30644V	30643V
	41921V	90° ELBOW INT. PIPE	3/8"	1/4"	41921VX	41921V	30644V	30643V
15	75316H	90° ELBOW INT. PIPE	3/8"	3/8"	75316HX	73316H	30644V	30643V
	111468R1	90° ELBOW INT. PIPE	3/8"	1/2"	111468R11	111468R1	55896R1	55897R1
	98804H	90° ELBOW INT. PIPE	1/2"	3/8"	98805H	98804H	47126H	47128H
	108860R1	90° ELBOW INT. PIPE	1/2"	1/2"	971614R91	108860R1	47126H	47128H
	134325R11	3WAY TEE	1/4x1/4x1/4		698574R91	134325R1	3-30774V	3-30773V
	135970R1	3WAY TEE	1/4x3/8x1/4		135970R11	135970R1	2-30774V	2-30773V
							1-30644V	1-30643V
	135969R1	3WAY TEE	3/8x1/4x3/8		135969R11	135969R11	2-30644V	2-30643V
							1-30774V	1-30773V
	126306R1	3WAY TEE	3/8x3/8x3/8		126306R11	126306R1	2-30644V	2-30643V
16							1-30774V	1-30773V
	30766V	3WAY TEE	3/8x3/8x3/8		13946H	30766V	3-30644V	3-30643V
	59581D	3WAY TEE	1/2x1/2x1/2		59581DX	59581D	3-47126H	3-47128H
	153323R1	3WAY TEE	1/2x1/2x1/2		153323R11	153323R1	2-47126H	2-47128H
							1-30644V	1-30643V
	177169R1	3WAY TEE	5/8x3/8x5/8		177169R11	177169R1	2-55896R1	2-55897R1
							1-30644V	1-30643V
	55919R1	3WAY TEE	5/8x5/8x5/8		55919R11	55919R1	2-55896R1	2-55897R1
							1-30644V	1-30643V
	86553R1	3WAY TEE	5/8x5/8x5/8		86553R11	86553R1	3-55896R1	3-55897R1



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GROUP 04-BRAKES

REF. NO.	IH PART NO.	DESCRIPTION SIMPLE PART	SIZE	PIPE	ASSEMBLY	COMPONENT PARTS OF ASSEMBLY		
				THREAD	IH PART NO.	BODY	SLEEVE	NUT
FIG. 04-59 AIR BRAKE FITTINGS								
	164250R1	TEE 1-WAY EXT. and INTERNAL PIPE	1-4"	1/4Mx1/4F	971599R91	164250R1	30774V	30773V
	172925R1	TEE 1-WAY EXT. and INTERNAL PIPE	3/8"	1/8Fx1/4M	971605R91	172925R1	30644V	30643V
	101917R1	TEE 1-WAY EXT. and INTERNAL PIPE	3/8"	1/4Fx1/4M	101917R11	101917R1	30644V	30643V
17	971600R91	TEE 1-WAY EXT. and INTERNAL PIPE	3/8"	1/4Fx1/4M	971600R91	101917R1	30644V	30643V
	55923H	TEE 1-WAY EXT. and INTERNAL PIPE	3/8"	1/4Mx1/4F	55923HX	55923H	30644V	30643V
	84262R1	TEE 1-WAY EXT. and INTERNAL PIPE	3/8"	3/8Mx1/2F	84262R11	84262R1	30644V	30643V
	125643R1	TEE 1-WAY EXT. and INTERNAL PIPE	5/8"	1/2Mx1/4F	125643R11	125643R1	55896R1	55897R
18	49890H	SPEC. CONNECTOR	3/8"	1/8"	49890HX	49890H	30644V	30643V
	13950H	CONNECTOR INT. PIPE	1/4"	1/8"	13950HX	13950H	30774V	30773V
	425365R1	CONNECTOR INT. PIPE	1/4"	7/16"	425365R1	425365R1	30774V	30773V
	971631R91	CONNECTOR INT. PIPE	3/8"	3/8"	971631R91	106972R1	30774V	30773V
19	48059H	CONNECTOR INT. PIPE	3/8"	1/8"	48059HX	48059H	30644V	30643V
	126606H	CONNECTOR INT. PIPE	3/8"	1/4"	126606HX	126606H	30644V	30643V
	138173H	CONNECTOR INT. PIPE	1/2"	3/8"	138173HX	138173H	47126H	47128H
	164900R1	CONNECTOR INT. PIPE	1/2"	1/2"	971632R91	164900R1	47126H	47128H
	60702R1	CONNECTOR INT. PIPE	5/8"	1/2"	60702R11	60702R1	55896R1	55897R1
	971648R91	2WAY TEE INT. PIPE	3/8x3/8	1/4"	971648R91	971648R91	2-30644V	2-30643V
	113242R11	2WAY TEE INT. PIPE	3/8x3/8	1/4"	113242R11	113242R1	2-30644V	2-30643V
20	130965R1	2WAY TEE INT. PIPE	3/8x3/8	1/4"	971648R91	130965R1	2-30644V	2-30643V
	194308R1	2WAY TEE INT. PIPE	5/8x5/8	1/4"	194308R11	194308R1	2-55896R1	2-55897R1
21	86561R1	REAR AXLE TEE W/BRKT		3/8x1/4x1/4	86561R1	86561R1		
	104478R1	REAR AXLE TEE W/BRKT		1/2x1/4x1/4	104478R1	104478R1		
	308512C1	REAR AXLE TEE W/BRKT		1/4x1/4x1/4	308512C1	308512C1		
	34536H	DROP ELBOW W/BRKT. 90°		1/4Fx1/4F	34536H	34536H		
	31701H	DROP ELBOW W/BRKT. 60°		1/4Fx1/4F	31701H	31701H		
22	54702R1	DROP ELBOW W/BRKT. 60°		3/8Fx3/8F	54702R1	54702R1		
	186687R1	DROP ELBOW W/BRKT. 90°		1/2Fx1/2F	186687R1	186687R1		
	282376C1	DROP ELBOW 90°		1/4Fx1/4F	282376C2	282376C2		



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GROUP 04-BRAKES

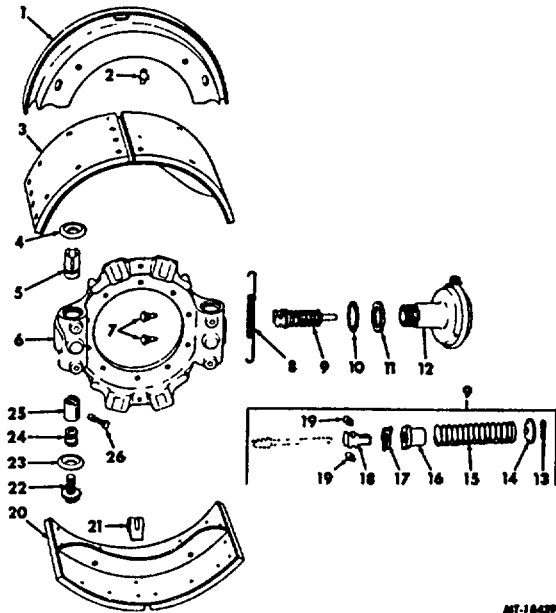
REF. NO.	IH PART NO.	DESCRIPTION SIMPLE PART	SIZE	PIPE	ASSEMBLY	COMPONENT PARTS OF ASSEMBLY		
				THREAD	IH PART NO.	BODY	SLEEVE	NUT
FIG. 04-59 AIR BRAKE FITTINGS								
	156269R11	COUPLING W/NUT and WASHER		1/8"	156269R11	156269R1		
	317286C1	COUPLING		1/4"	317286C1	317286C1		
	123259R11	COUPLING W/NUT and WASHER	15/16" long	1/4"	123259R11	123259R1		
	83867HX	COUPLING W/NUT and WASHER	1-1/2" long	1/4"	83867HX	83867H		
23	185832R91	COUPLING W/NUT and WASHER		1/2"	185832R91	258261 C1		
	258261 C1	COUPLING		1/2"	258261 C1	258261 C1	271011C1	181345R1
	698567R91	COUPLING W/NUT and WASHER	15/16" long	3/8"	698567R91	698567R91	30774V	30773V
	296764C1	COUPLING		3/8"	296764C1	296764C1		
	291687C1	COUPLING	4-51/64" long	3/8"	291687C1	291687C1		
24	134756R1	FRAME FITTING 5/8NF		1/4Mx1/4F	134756R1	134756R1		
25	100707R91	6WAY FITTING W/NUT and WASHER 3/4NF		1/4"	100707R91	100707R91	138561 WASHER	135863R1
26	49128H	ELBOW-LONGSTREET		1/4Mx1/4F	49128H	49128H		
	427642R91	ELBOW W/NUT 90°	1/4"rdx1/4		427642R91	427642R91	30774V	30773V
27	427643R91	ELBOW W/NUT 90°	3/8"rdx5/8		427643R91	427643R91	55896R1	55897R1
	427641R91	ELBOW W/NUT 90°	5/8"rdx5/8		427641R91	427641R91	55896R1	55897R1
28	140897H	8WAY FITTING		1/4(7)x1/8(1)	140897H	140897H		
	145969R11	CROSS W/EXT. and INTERNAL PIPE	3/8x1/2	1/8Fx3/8M	145969R11	145919R1	1-30644V 1-47126H	1-30643V 1-47128H
29	153317R11	CROSS W/EXT. and INTERNAL PIPE	3/8x5/8	1/8Fx1/2M	153317R11	153317R1	1-30644V 1-55896R1	1-30643V 1-55897R1



MT134 GROUP 04- BRAKES

REF NO	PART NUMBER	DESCRIPTION
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FIG. 04-069
FRONT WHEEL AIR BRAKE



MT-10429

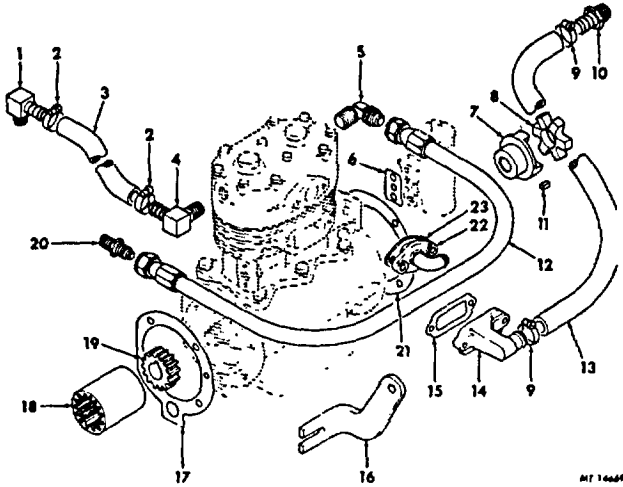
1	474 353 C1 179 814 120 214	SHIELD, BRAKE SPIDER DUST -4- BOLT, HEX-HD 5/16NC X 38 -8- WASHER, LOCK 5/16 MEDIUM -8-
2	346 131 C1	COVER, BRAKE ADJUSTING HOLE -8-
3	258 273 C93 262 365 C1	SET, BRAKE LINING, /RIVETS RIVET, BRAKE LINING -64-
4	327 185 C91	SEAL SHOE PLUNGER, ASSY -4-
5	330 856 C1 330 855 C1	PLUNGER, SHOE ANCHOR LEFT -2- PLUNGER, SHOE ANCHOR RIGHT -2-
6	258 010 C21 414 077 C1 391 663 C1 348 744 C1	SPIDER, W/CLIP, BRAKE -2- BOLT, SPIDER TO STRG KNUCKLE -16- NUT, SPIDER TO STRG KNUCKLE BOLT -16- WASHER, LOCK -16-
7	258 024 C1	BOLT, PLUNGER GUIDE -4-
8	295 610 C1	SPRING, SHOE RETURN -4-
9	350 224 C91	WEDGE, BRAKE, ASSY -4-
10		NOT USE
11	258 009 C2	NUT, SPANNER -4-
12	415163C91	CHAMBER, BRAKE, ASSY -FOR COMPONENTS SEE FIG. 04-015- -4-
13		PIN, COTTER 3/32 X 5/8 -4-
14	340 212 C1	RETAINER, BRAKE WEDGE SPRING -4-
15	340 217 C1	SPRING, BRAKE WEDGE -4-
16	340 214 C1	SEAL, BRAKE WEDGE -4-
17	340 215 C1	WASHER, WEDGE RETURN -4-
18	340 216 C1	CAGE, ROLLER RETAINER -4-
19	258 027 C1	ROLLER, WEDGE -8-
20	371 16T C91	SHOE, W/LINING, BRAKE
21	258 013 C1 23 385 R1 120 380	CLIP, SHOE HOLD-DOWN -4- BOLT, HEX-HO 1/4NF X 114 -4- NUT, HEX. 1/4NF -4- WASHER, LOCK 1/4 MEDIUM -4-
22	461 777 C91 455 304 C1	SCREW, W/SPRING, RING AND RET, ADJ -4- RING, SNAP -4-
23	455 303 C1	SEAL, SHOE PLUNGER -4-
24	455 309 C1	SLEEVE, SHOE ADJUSTING -4-
25	455 307 C1	PLUNGER, SHOE ADJUSTABLE -4-
26	455 305 C1 258 268 C1	PAWL BRAKE SHOE ADJUSTING. ASSY -4- GASKET, PLUNGER GUIDE -8-



MT134 GROUP 04- BRAKES

REF NO	PART NUMBER	DESCRIPTION
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FIG. 04-084
AIR COMPRESSOR MOUNTING AND PIPING



1	317 778 C1	ELBOW, 45 DEGREE
2		NOT USED
3	A 100 250 000	HOSE, WATER SUPPLY
4	299 261 C91	CLAMP
5	109 429	ELBOW, 90 DEGREE
6	109 429	ELBOW, 90 DEGREE
7	166 562 R1	GASKET GOVERNOR MOUNTING
8	867 500 R1	HUB FUEL PUMP DRIVE
9	25 770 R1	BOLT, HEX-HD 3/8NF X 3/4
10	25 709 R1	WASHER, FLAT 3/8
11	120 312	WASHER, LOCK 3/8 MEDIUM
12	66T 499 R1	SPIDER, COUPLING
13		NOT USED
14	75S 064 C1	ELBOW, 90 DEGREE
15	117 219	BUSHING, REDUCER
16	867 498 R1	KEY FUEL PUMP DRIVE
17	A 100 250 021	HOSE WATER RETURN ASSY
18	A 100 260 000	HOSE, AIR INLET
19	109 429	ELBOW, AIR INLET, 90 DEGREE
20	283 641 C1	PLATE, AIR INLET ADAPTER
21	161 066	BOLT, HEX-DO 5/16NC X 3/4 -2-
22	120 214	WASHER, LOCK 5/16 MEDIUM -2-
23	302 044 R1	GASKET, AIR INLET PLATE
	433 769 C2	BRACKET COMPRESSOR SUPPORT
	25 770 R1	BOLT, HEX-HD 3/8NF X 3/4 -AT ENGINE-
	24 640 R1	BOLT, HEX-ND 3/8NC X1 -AT CONPR-
	25 709 R1	WASHER FLAT 3/8
	120 362	WASHER, LOCK 3/8 MEDIUM -2-
	432 285 C1	GASKET, COMPRESSOR MOUNTING
	426 615 C1	COUPLING, COMPRESSOR
	426 616 C1	COUPLING, COMPRESSOR DRIVE
	285 611 C1	CONNECTOR
	416 350 C1	GASKET



MT134 GROUP 04- BRAKES

REF NO	PART NUMBER	DESCRIPTION
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FIG. 04-084 CONTINUED
AIR COMPRESSOR MOUNTING AND PIPING

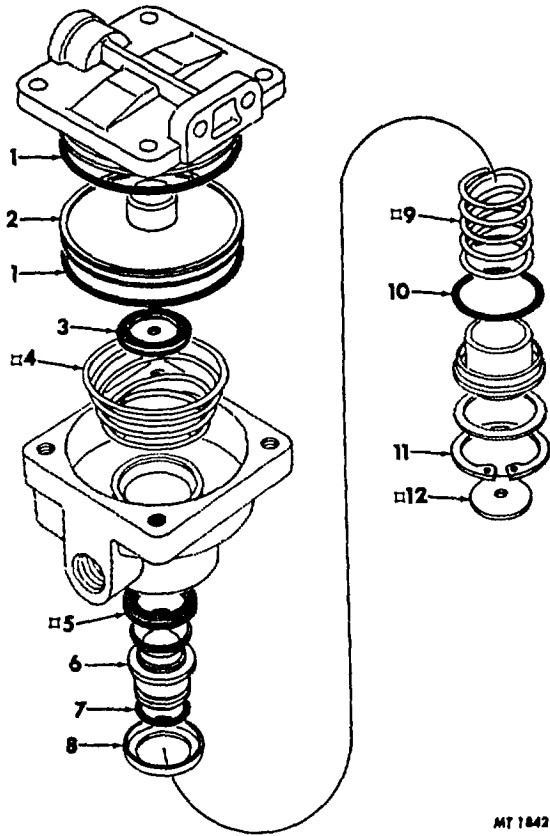
22	152 6351 R1	FITTING, DISCHARGE
	177 788 R1	STUD, FITTING -2-
	118 624	NUT, HEX. JAN 5/16NF -2-
	120 214	WASHER LOCK 5/16 MEDIUM -2-
23	92 474 H	GASKET, DISCHARGE FITTING



MT134 GROUP 04- BRAKES

REF NO	PART NUMBER	DESCRIPTION
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FIG. 04-085
RELAY VALVE



MT 18421

455 975 C91 VALVE, RELAY, ASSY
25 751 R1 BOLT, HEX-HD 5/16SC X 1-1/4 -2-
9413 977 NUT, HEX. LOCK 5/16C -2-

- 1 876 080 C1 O-RING -2-
- 2 462 122 C1 PISTON
- 3 462 122 C1 VALVE, EXHAUST
- 4 462 119 C1 □SPRING
- 5 462 118 C1 □SEAL
- 6 462 116 C1 TUBE, MOCLATOR
- 7 26 084 R1 O-RING
- 8 462 117 C1 SEAL, RETAINER
- 9 462 120 C1 □SPRING
- 10 22 278 R1 O-RING
- 11 272 842 R1 RING, SNAP
- 12 968 278 R1 □DIAPHRAGM

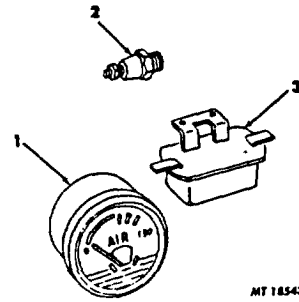
462 234 C91 □KIT, RELAY VALVE REPAIR



MT134 GROUP 04- BRAKES

REF NO	PART NUMBER	DESCRIPTION
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FIG. 04-087
AIR PRESSURE GAUGE AND SWITCH



MT 18543

- 1 470 462 C1 GAUGE, AIR PRESSURE, ASSY
- 2 471 873 C2 SWITCH, LOW PRESSURE, ASSY -2-
- 3 NOT USED

*FITTING, MANIFOLD INNER
*FITTING, MANIFOLD OUTER

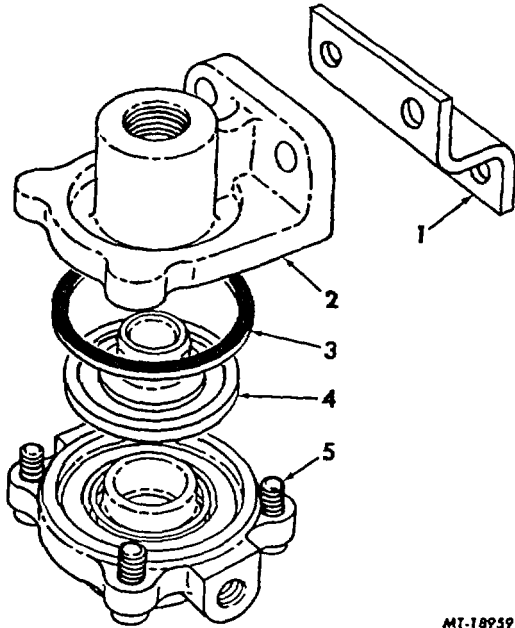
*PARTS NOT ILLUSTRATED



MT134 GROUP 04- BRAKES

REF NO	PART NUMBER	DESCRIPTION
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FIG. 04-088
QUICK RELEASE VALVE



- 1 458 772 C91 VALVE, QUICK RELEASE, ASSY
- 25 493 R1 BOLT, HEX-HD 5/16NC X 1 -2-
- 9 413 977 NUT HEX, LOCK 5/16NC -2-

BRACKET, VALVE MOUNTING

AT REAR AXLE

- 242 416 R2 FORWARD-REAR
- 211 413 R2 REAR-REAR

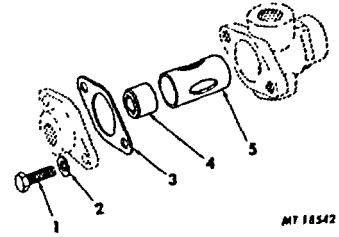
- 2 349 962 C1 COVER -NOT SERVICED SEPARATELY-
- 3 RING, GASKET
- 4 473 030 C1 DIAPHRAGM
- 5 BODY -NOT SERVICED SEPARATELY-



MT134 GROUP 04- BRAKES

REF NO	PART NUMBER	DESCRIPTION
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FIG. 04-089
DOUBLE CHECK VALVE



- 764 368 C92 VALVE, DOUBLE CHECK, ASSY

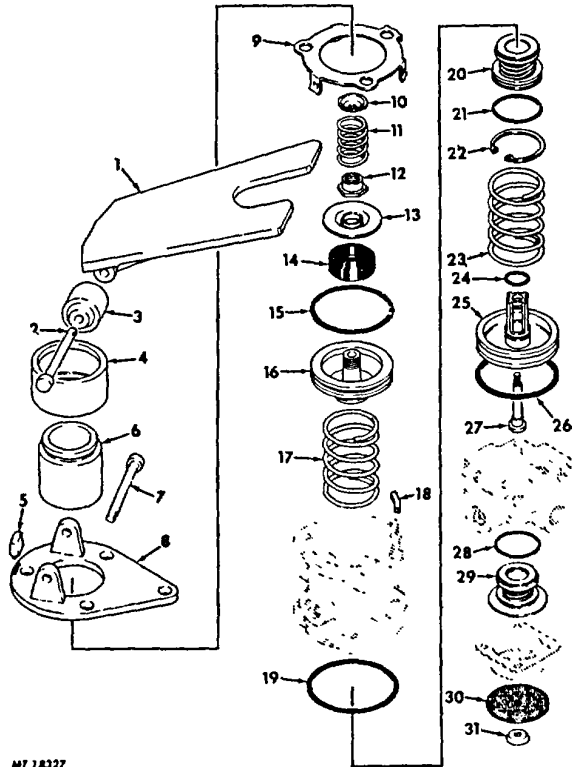
- 1 236 182 R1 BOLT, HEX-HD 1/4NC X 3/4 -2-
- 2 925 428 C1 WASHER, PECIAL
- 3 177 625 H1 O-RING, VALVE COVER
- 4 191 246 R1 VALVE, SHUTTLE
- 5 179 067 H1 GUIDE, VALVE



MT134 GROUP 04- BRAKES

REF NO	PART NUMBER	DESCRIPTION
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FIG. 04-090
BRAKE VALVE AND TREADLE



MY 1 8327

452 950 C91 VALVE, BRAKE, ASSY -INCLUDES REF. NOS. 9 THRU 31-

1	407 269 C21	PEDAL, BRAKE
2	193 837 R1	PIN, ROLLER PIN, COTTER 3/32 X 5/8
3	292 728 R1	ROLLER, BRAKE PEDAL
4	T179 911 R1	BOOT, BRAKE VALVE
5	446 324 C1	STOP, BRAKE PEDAL
	124 920	NUT, HEX. 5/16NC JAM
6	145 970 H1	PLUNGER, BRAKE VALVE
7	303 135 R1	PIN, BRAKE PEDAL TO BRACKET PIN, COTTER 3/32 X 3/4
8	303 131 R1	PLATE, TREADLE MOUNTING
9	236 184 R1	RETAINER, PISTON
10	460 812 C1	GUIDE, SPRING
11	460 813 C1	SPRING, STEM
12	460 814 C1	NUT, SPRING SEAT
13	460 815 C1	SEAT, SPRING
14	233 949 R1	SPRING, RUBBER
15	236 183 R1	GROMMET, PISTON
16	460 808 C1	PISTON, PRIMARY
17	460 809 C1	SPRING, PISTON RETURN
18	348 192 C1	PAD, VENT FILTER
19	27 287 R1	O-RING, UPPER BODY TO LOWER BODY
20	885 110 C91	VALVE, INLET AND EXHAUST, ASSY
21	391 923 R1	O-RING, VALVE
22	160 094 R1	RING, RETAINING
23	460 807 C1	SPRING, PISTON RELAY
24	887 656 C1	O-RING, PISTON



MT134 GROUP 04- BRAKES

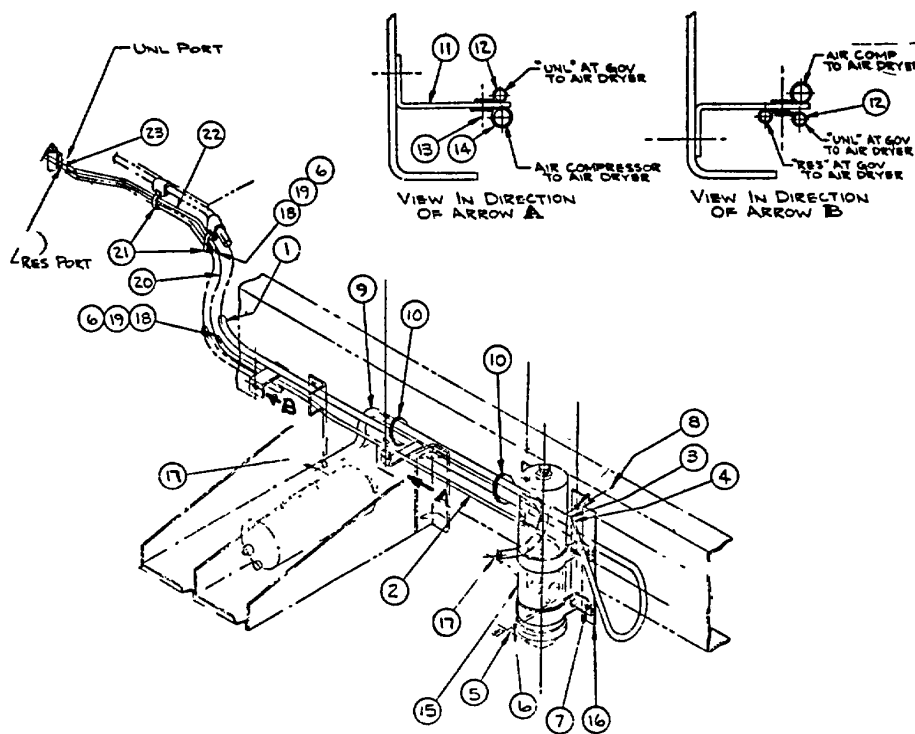
REF NO	PART NUMBER	DESCRIPTION
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FIG. 04-090 CONTINUED
BRAKE VALVE AND TREADLE

25	460 810 C1	PISTON, RELAY
26	876 078 C1	O-RING, PISTON
27	860 811 C1	STEM
	107 377 H	NUT, HEX. LOCK NO. 10-32
28	615 832 C1	O-RING, VALVE
29	460 806 C1	VALVE, INLET AND EXHAUST, ASSY
30	460 816 C1	DIAPHRAM
31	184 967 H1	WASHER, DIAPHRAM

FIG. 04-100

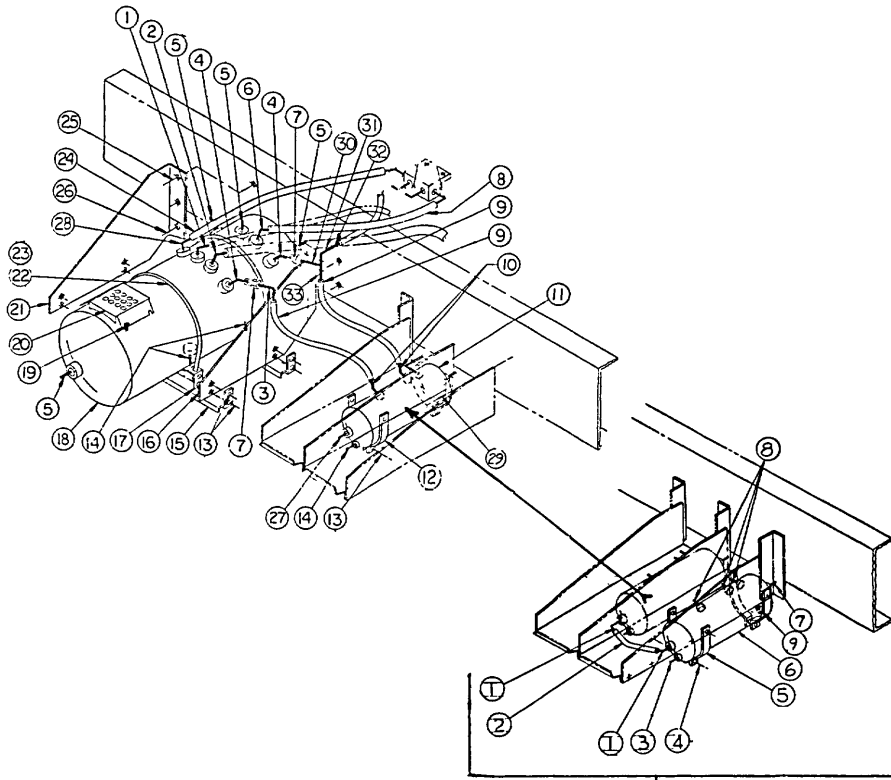
AIR DRYER AND MOUNTING



ITEM	PART NO.	QTY.		
1	522879C1	1		PIPE, AIR= COMP DISCHG HOSE TO AIR DRYER
2	522900C1	1		PIPE, AIR= DRYER TO GOVERNOR HOSE
3	55916R1	1		ELBOW, 90 DEG 1/2 MPT X 5/8 TUBE
4	55897R1	1		NUT, 5/8 TUBE
4	55896R1	1		SLEEVE, 5/8 TUBE
5	68761R1	1		ELBOW, 45 DEG 1/4 MPT X 3/8 TUBE
6	30643V	3		NUT, 3/8 TUBE
6	30644V	3		SLEEVE, 3/8 TUBE
7	24840R1	4		BOLT, HEX HD 3/8-16NC X 1
7	9413979	4		NUT, HEX LOCK 3/8-16 NC
8	414052C1	4		BOLT, FLG HEX HD 1/2-20 UNRF X 1 1/2
8	414087C1	4		NUT, PLG LOCK 1/2-20 UNF
9	G00630058	1		HOSE, AIR- DRYER TO RESERVOIR
10	289862C1	AR		STRAP, LOCK
11	868835R1	1		EXTENSION, CLIP
12	981985R91	2		CLAMP, 3/8
13	25483R1	1		BOLT, HEX HD 1/4-20 NC x 1
13	120380	1		WASHER, LOCK 1/4 REG
13	25519R1	1		NUT, HEX 1/4-20NC
14	434218C1	1		CLAMP, 5/8
15	788898C93	1		AIR DRYER- BW (CONSIST OF THE FOLLOWING COMPONENTS)
	474578C1			HEATER, W/THERMOSTAT
	473693C1			VALVE, CHECK
	430952C92			KIT, REPAIR (CONSIST OF 1-CARTRIDGE, 1-CHECK VALVE BALL, 3-O-RINGS)
16	517681C1	2		BRACKET, AIR DRYER
17	109429	2		ELBOW, 90 DEG 1/2 MPT X 7/8-14 FLARED
18	118748	AR		CONNECTOR, 1/8 MPT X 7/16-20 FLARED
19	48059H	2		CONNECTOR, 1/8 FPT X 3/8 TUBE
20	C040140000	1		HOSE, AIR- GOV UNL TO DRYER UNL PIPE
21	321886C91	2		CLAMP, 3/8 X 3/8
22	461641C1	1		PIPE, AIR- HOSE TO GOV RES PORT
23	75317H	1		CONNECTOR, 1/8 MPT X 3/8 TUBE

FIG. 04-101

AIR TANKS AND MOUNTING

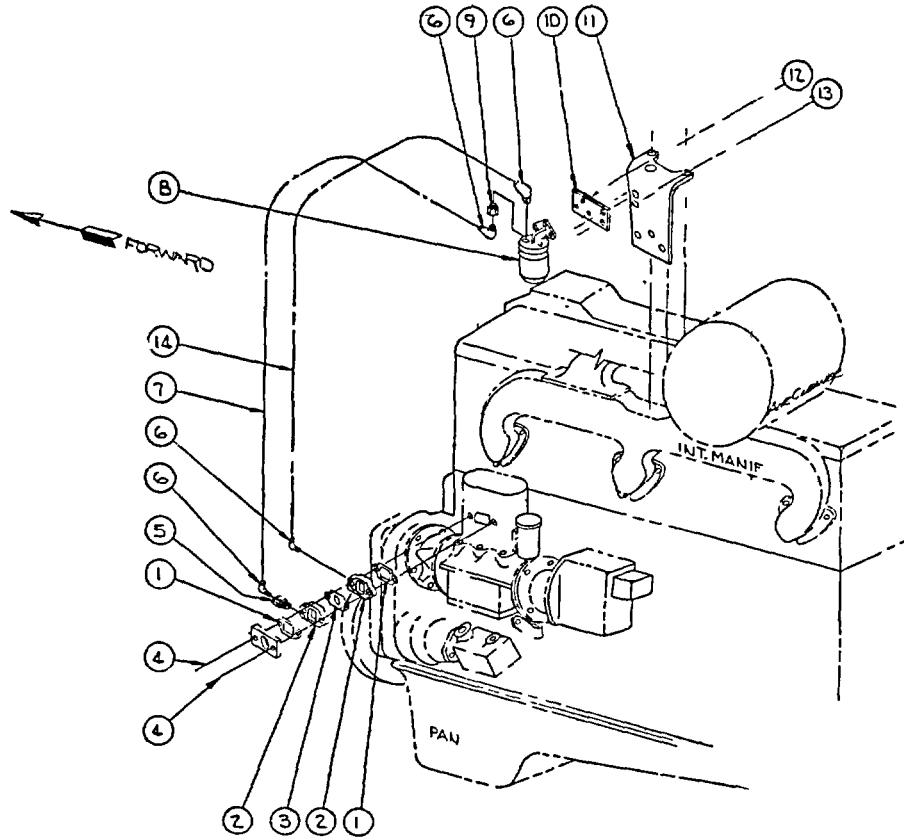


ITEM	PART NO	QTY.	
1	189385R1	1	ELBOW, 90 DEG, 1/2 X 5/8-18 FLARED
2	110289	1	ELBOW, 90 DEG 1/2 X 1-1/16-14 FLARED
3	300892R1	1	ELBOW, 90 DEG 1/2 MPT X 3/4-16 FLARED
4	444058	2	ELBOW, 45 DEG 1/2 STREET
5	20987R1	4	PLUG, 1/2 PT
6	2313791R1	1	ELBOW, 45 DEG 1/2 X 7/8-14 FLARED
7	343 522 C91	2	VALVE, CHECK
8	G100170000	1	HOSE, AIR TANK FTG TO TEE
9	G080130000	2	HOSE, AIR TANK -WET- TO CHECK VALVE
10	319377C1	2	ELBOW, 45 DEG 1/2 X 3/4-16 FLARED
11	461453C2	1	TANK, AIR WET
12	423690C1	4	CLAMP, AIR TANK
13	140483H	10	BOLT, HEX HD 3/8 UNC X 1-1/4
13	9413979	10	NUT, HEX LOCK 3/8 UNC
14	25450H	3	COCK, DRAIN
15	460537C1	2	BRACKET, AIR TANK
16	460540C1	1	BRACKET, AIR TANK
17	460530C1	2	BRACKET, AIR TANK
18	460528C2	1	TANK, AIR DRY
19	25709R1	4	WASHER, FLAT 3/8
19	9413979	4	NUT, HEX LOCK 3/8-16 UNC
20	460539C1	1	STEP, AIR TANK
21	460541C2	1	BRACKET, AIR TANK
22	460529C1	2	CABLE, ASSY
23	25522R1	2	NUT, HEX 3/8-16 UNC
23	25709R1	2	WASHER, FLAT 3/8
23	120382	2	WASHER, LOCK 3/8
24	G100220000	1	HOSE, AIR TANK FTG TO TEE
25	414053C1	5	BOLT, 1/2-UNRF X 1 3/4 FLG HEX HD
25	414087C1	5	NUT, HEX LOCK 1/2-UNF
26	414054C1	1	BOLT, HEX HD 1/2-UNRF X 2 IN FLG
26	414087C1	1	NUT, HEX LOCK 1/2-UNF
27	386398C91	1	VALVE, SAFETY (SEE FIG. 04-043)
27	444032	1	REDUCER, 1/2 TO 1/4 PIPE
28	109429	1	ELBOW, 90 DEG 1/2 MPT X 7/8-14 FLARED
29	20957R1	1	PLUG, 1/4-18 NPTF 8Q HD
30	444138	1	TEE, 1/2 FPT X 1/2 FPT X 1/2 MPT
31	444044	1	ELBOW, 90 DEG 1/2 MPT X 1/2 FPT
32	452741C1	1	CONNECTOR, 1/2 MPT x 7/16-20 FLARED
33	303068R1	1	CONNECTOR, 1/2 MPT X 3/4-16 FLARED

ITEM	PART NO.	QTY.	
1	189385R1	2	ELBOW, 90 DEG 1/2 PT X 5/8-18 FLARED
2	G06008/0000	1	HOSE, AIR- TANK TO TANK
3	25450H	1	COCK, DRAIN
4	140483H	2	BOLT, HEX HD 3/8 UNC
4	9413979	2	NUT, HEX LOCK 3/8 UNC
5	423690C1	4	CLAMP, AIR TANK
6	461453C2	1	TANK, AIR
7	386398C1	1	VALVE, SAFETY (SEE FIG. 04-043)
7	444032	1	REDUCER, 1/2 TO 1/4 PIPE
8	20987R1	3	PLUG, 1/2 PIPE
9	20957R1	*1	PLUG, 1/4-18 NPTF SQ HD

FIG. 04-102

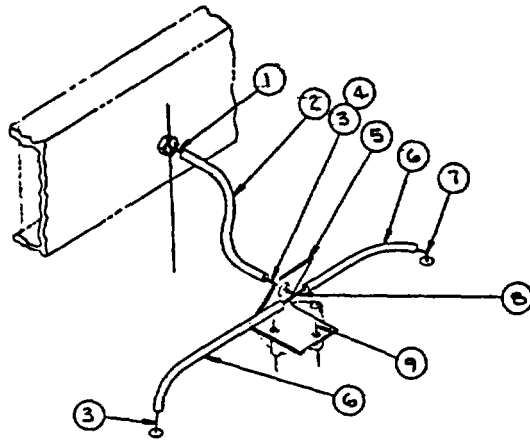
ALCOHOL EVAPORATOR



ITEM	PART NO	QTY	
1	302044R1	2	GASKET
2	913024R1	2	ADAPTYER, AIR STRAINER
3	452206C1	1	GASKET
4	181098	2	BOLT, 5/16NC X 2 1/2 HEX HD
4	120214	2	WASHER, LOCK 5/16
5	452205C1	1	FITTING, CHOKE
6	118753	4	ELBOW, 90 DEG- 1/8NPT X 7/16-20
7	G040140000	1	HOSE ASSY, AIR COMPR TO ALCOHOL EVAP= INPORT
8	452204C91	1	EVAPORATOR, ALCOHOL
9	444024	1	BUSHING, REDUCER 1/4 X 1/8
10	447641C1	1	SUPPORT, ALCOHOL EVAPORATOR
11	429175C1	REF	BRACKET, FUEL FILTER
12	181065	3	BOLT, HEX HD 1/4-20 X 1
12	9413950	3	NUT, LOCK 1/4-20
13	140483H	2	BOLT, HEX HD 3/8-16 X 1 1/4
13	9413979	2	NUT, LOCK 3/8-16
14	G040160000	1	HOSE ASSY, AIR COMPR TO ALCOHOL EVAP- OUTPORT

FIG. 04-103

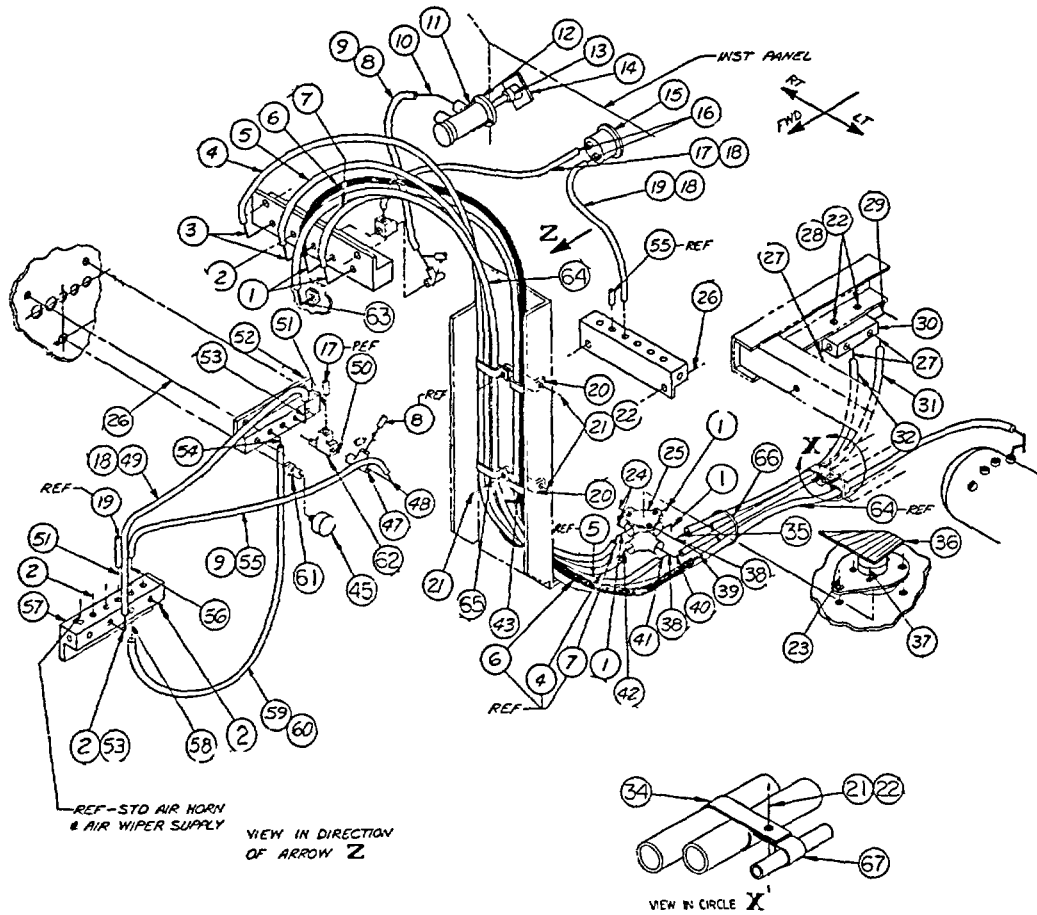
FRONT AXLE HOISING



TYPICAL BOTH SIDES

ITEM	PART NO.	QTY	
1	986296R1	2	CONNECTOR, 3/8 MPT X 5/8-18 FLARED
2	G060180000	2	HOSE, ANCHOR FTG TO HOSE MTG BRKT
3	118750	4	CONNECTOR, 1/4 MPT X 5/8-18 FLARED
4	123259R1	2	COUPLING, ANCHOR
4	135863R1	2	NUT, HEX 3/4 NF
4	138561	2	WASHER, LOCK 3/4 INT TOOTH
5	432098C1	2	BRACKET, HOSE MTG
6	A060090000	4	HOSE, HOSE MTG BRKT TO CHAMBER
7	229060R1	2	ELBOW, 45 DEG- 1/4 MPT X 5/8-18 FLARED
8	118760	2	TEE, 1/4 MPT X 5/8-18 FLARED
9	187527	4	SCREW ASSY, 5/16 NC X 5/8 HEX HD

FIG. 04-104
CAB HOISING



ITEM	PART NO	QTY.	
1	230766R1	5	ELBOW, 45 DEG 3/8 MPT X 3/4-16 FLARED
2	444578	9	PLUG, 1/4 PIPE
3	229060R1	2	ELBOW, 45 DEG 1/4 MPT X 5/8-18 FLARED
4	A06041002	1	HOSE, AIR- BRAKE VALVE TO MANIFOLD FTG- SECONDARY
5	A060420012	1	HOSE, AIR- BRAKE VALVE TO MANIFOLD FTG- SECONDARY
6	A060450012	1	HOSE, AIR- BRAKE VALVE TO MANIFOLD FTG- PRIMARY
7	A080400012	1	HOSE, AIR- BRAKE VALVE TO MANIFOLD FTG- PRIMARY
8	417199C2	1	TUBE, NYLON 3/8 X 22- DOUBLE CHK VALVE TO SPG BRAKE VALVE
9	414509C2	4	NUT, 3/8 TUBE
9	414505C1	4	INSERT, 3/8 TUBE
9	30644V	4	SLEEVE, 3/8 TUBE
10	68761R1	1	ELBOW, 45 DEG 1/4 MPT X 3/8 TUBE
11	160047	2	SCREW, 10-UNF X 1/2
12	330916C91	1	VALVE, SPRING BRAKE CONTROL (FOR COMPONENTS SEE (FIG. 04-025)
13	118623	1	NUT, JAM 1/4 UNF
14	416654C1	1	KNOB, SPRING BRAKE
15	470462C1	1	GAUGE, AIR
16	13950H	2	CONNECTOR, 1/8 FPT X 1/4 TUBE
17	417196C2	1	TUBE, NYLON 1/4 X 16- CROSS TO AIR GAUGE

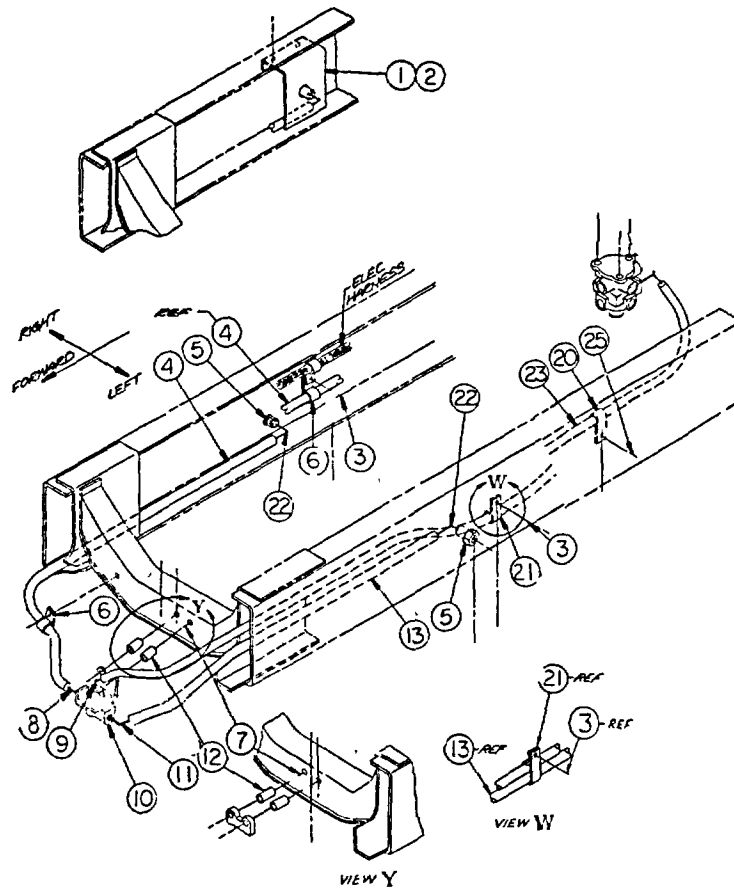
FIG. 04-104

CAB HOSEING-CONTINUED

ITEM	PART NO.	QTY		
18	414510C2	6		NUT, 1/4 TUBE
18	414504C1	6		INSERT, TUBE
18	30774V	6		SLEEVE, TUBE
19	417196C2	1		TUBE, NYLON 1/4 X 22= INNER MANIFOLD TO AIR GAUGE
20	320202C1	2		EXTENSION, CLIP
21	25222R1	5		BOLT, HEX HD 1/4 NC X 3/4
21	25519R1	5		NUT, HEX 1/4 NC
21	120380	5		WASHER, LOCK 1/4 REG
22	25707R1	5		WASHER, FLAT 1/4 // AL CAB
23	25493R1	3		BOLT, HEX HD 5/16NC X 1 IN
23	9413977	3		NUT, HEX LOCK 5/16 NC
23	25708R1	3		WASHER, FLAT 5/16
23	120214	3		WASHER, LOCK 5/16 REG
24	444584	2		PLUG, 3/8 PIPE
25	452950C91	1		VALVE, BRAKE (FOR COMPONENTS SEE (FIG. 04-090)
26	25493R1	4		BOLT, HEX HD 5/16 NC X 1 IN
26	25520R1	4		NUT, HEX 5/16 NC
26	120214	4		WASHER, LOCK 5/16 REG
27	231379R1	3		ELBOW, 45 DEG 1/2 MPT X 7/8-14 FLARED
28	25483R1	2		BOLT, HEX HD 1/4 NC X 1 IN
28	26110R1	2		NUT, HEX LOCK 1/4 NC
29	109429	1		ELBOW, 90 DEG 1/2 MPT X 7/8-14 FLARED
30	459707C1	1		TEE, MANIFOLD
31	A100360031	1		HOSE, AIR- MANIFOLD TO BRAKE V= SECONDARY SUPPLY
32	A100320027	1		HOSE, AIR- MANIFOLD TO BRAKE V= PRIMARY SUPPLY
34	898620R91	1		CLAMP, 15/16 X 15/16
35	285611C1	1		CONNECTOR, 3/8 MPT X 7/8-14 FLARED
36		1		PEDAL ASSY (ORDER COMPONENTS SEE FIG. 04-090)
37	25493R1	3		BOLT, HEX HD 5/16 NC X 1 IN
37	120214	3		WASHER, LOCK 5/16 REG
38	444150	2		TEE, 3/8
39	118757	1		ELBOW, 90 DEG 3/8 X 3/4-16 FLARED
40	312064C1	1		ELBOW, 90 DEG 3/8 X 7/8-18 FLARED
41	986296R1	1		CONNECTOR, 3/8 X 5/8-18 FLARED
42	411794C1	1		ELBOW, 45 DEG 3/8 MPT X 5/8-18 FLARED
43	464658C1	2		CLAMP, 3/4 X 3/4
45	471873C2	1		SWITCH, LOW PRESSURE
47	764368C92	1		VALVE, DOUBLE CHECK (FOR COMPONENTS SEE (FIG. 04-089)
48	71466H	1		ELBOW, 90 DEG 3/8 MPT X 3/8 TUBE
49	417196C2	1		TUBE, NYLON 1/4 X 23 LEFT MANIFOLD TO RT MANIFOLD
50	443990	1		NIPPLE, REDUCER 1/4 MPT X 3/8 MPT
51	30775V	2		CONNECTOR, 1/4 MPT X 1/4 TUBE
52	407273C1	1		FITTING, MANIFOLD= RIGHT
53	96644R1	2		ELBOW, 90 DEG 1/4 MPT X 1/4 TUBE
54	53305H	1		ELBOW, 90 DEG 3/8 MPT X 1/2 TUBE
55	417199C2	1		TUBE, NYLON 3/8 X 20- INNER MANIFOLD TO DOUBLE CHECK VALVE
56	30757V	1		CONNECTOR, 1/4 MPT X 3/8 TUBE
57	425859C1	1		FITTING, MANIFOLD- LEFT
58	59588D	1		CONNECTOR, 3/8 MPT X 1/2 TUBE
59	417200C2	1		TUBE, NYLON 1/2 X 17- RIGHT MANIFOLD TO LEFT MANIFOLD
60	414511C2	2		NUT, 1/2 TUBE
60	414506C1	2		INSERT, 1/2 TUBE
60	47126H	2		SLEEVE, 1/2 TUBE
61	123259R1	1		COUPLING, ANCHOR
61	427350	1		NUT, HEX JAM 3/4 NF
61	138561	1		WASHER, LOCK INT TOOTH 3/4
62	444140	1		TEE, 1/4 MPT X 1/4 FPT X 1/4 FPT
63	429033R1	1		ELBOW, 45 DEG 1/4 MPT X 7/16-20 FLARED
64	A040880036	1		HOSE, AIR- AIR TANK TO ANCHOR FITTING
65	460094C1	2		CLAMP, 7/8 X 7/8
66	289862C1	1		STRAP, CABLE LOCK
67	984984R91	1		CLAMP, 5/8

FIG. 04-105

CHASSIS FRONT HOISING

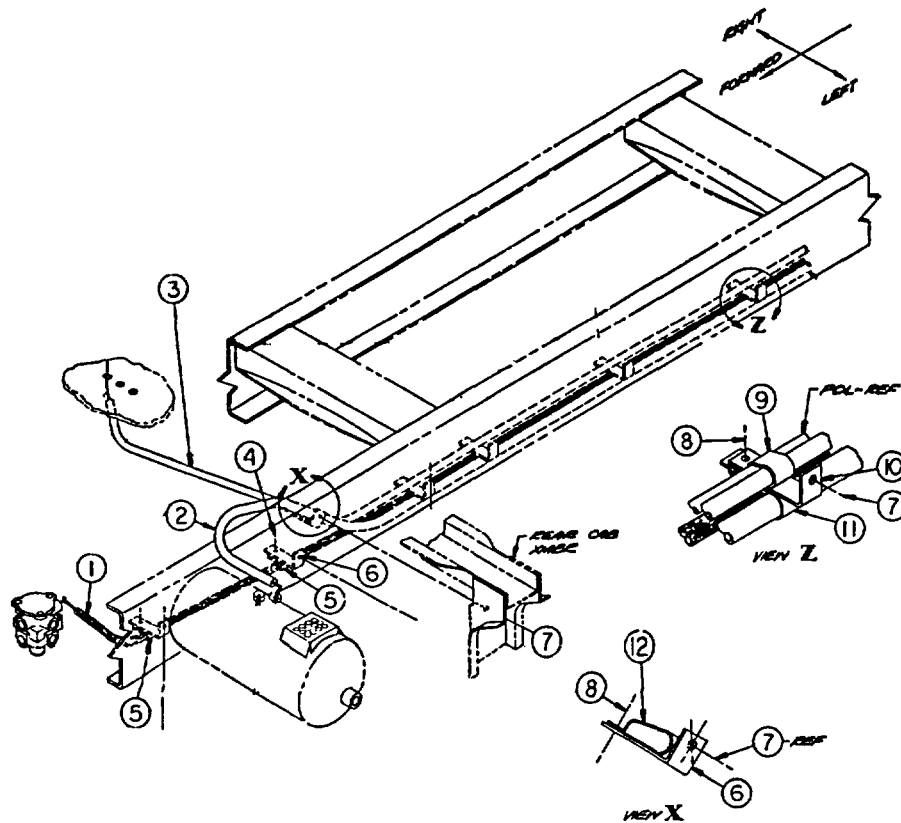


ITEM	PART NO.	QTY	
1	444801C2	1	SHIELD, HEAT
2	24840R1	2	BOLT, HEXHD 3/8-16UNCX1.0IN
2	9413979	2	NUT, HEX LOCK 3/8-16UNC
3	24840R1	2	BOLT, HEX HD 3/8-16UNC X 1.0 IN
3	140483H	2	BOLT, HEX HD 3/8-16UNC X 1 1/4
3	25522R1	2	NUT, HEX 3/8-16UNC
3	120382	2	WASHER, LOCK 3/8 MED
4	G100560051	1	HOSE, AIR- QRV TO RT ANCHOR FIG
5	309449C1	2	COUPLING, ANCHOR
5	181372R1	2	NUT, HEX 1.0 NF
5	138572	2	WASHER, LOCK 1.0 IN INT TOOTH
6	981991R91	2	CLAMP, 7/8
7	25654R1	2	BOLT, HEX HD 5/16NC X 1 1/2
7	9413977	2	NUT, HEX LOCK 5/16NC
8	285611C1	1	CONNECTOR, 3/8 PT X 7/8-14 FLARED
9	230766R1	1	ELBOW, 45 DEG 3/8 PT X 3/4-16 FLARED
10	458772C91	1	VALVE, QUICK RELEASE (FOR COMPONENTS SEE FIG. 04-088)
11	317778C1	1	ELBOW, 45 DEG 3/8 PT X 7/8-14 FLARED
12	25323H	2	SPACER, 1/4 PIPE X 1/2 LONG
13	G100540049	1	HOSE, AIR- QRV TO LT ANCH FTG
16	24839R1	2	BOLT, HEX HD 3/8-16UNC X 3/4 IN
16	25522R1	2	NUT, HEX 3/8-16 UNC
16	120382	2	WASHER, LOCK 3/8 MED
17	140483H	1	BOLT, HEX HD 3/8-16UNCX1 1/4
17	24841R1	1	BOLT, HEX HD 3/8-16UNC X 1 1/2
17	25522R1	1	NUT, HEX 3/8-16UNC
17	120382	1	WASHER, LOCK 3/8 MED

ITEM	PART NO.	QTY.	
20	299261C91	1	CLAMP, 13/16
21	458313C1	1	CLAMP, 7/8 X 7/8
22	312064C1	2	ELBOW, 90 DEG 3/8 PT X 7/8-14 FLARED
23	G080830078	1	HOSE, AIR- BRAKE V TO QRV- DEL
25	24840R1	1	BOLT, HEX HD 3/8-16UNC X 1.0 IN
25	140483H	1	BOLT, HEX HD 3/8-16UNC X 1 1/4 IN
25	25522R1	1	NUT, HEX 3/8-16UNC
25	120382	1	WASHER, LOCK 3/8 MED

FIG. 04-106

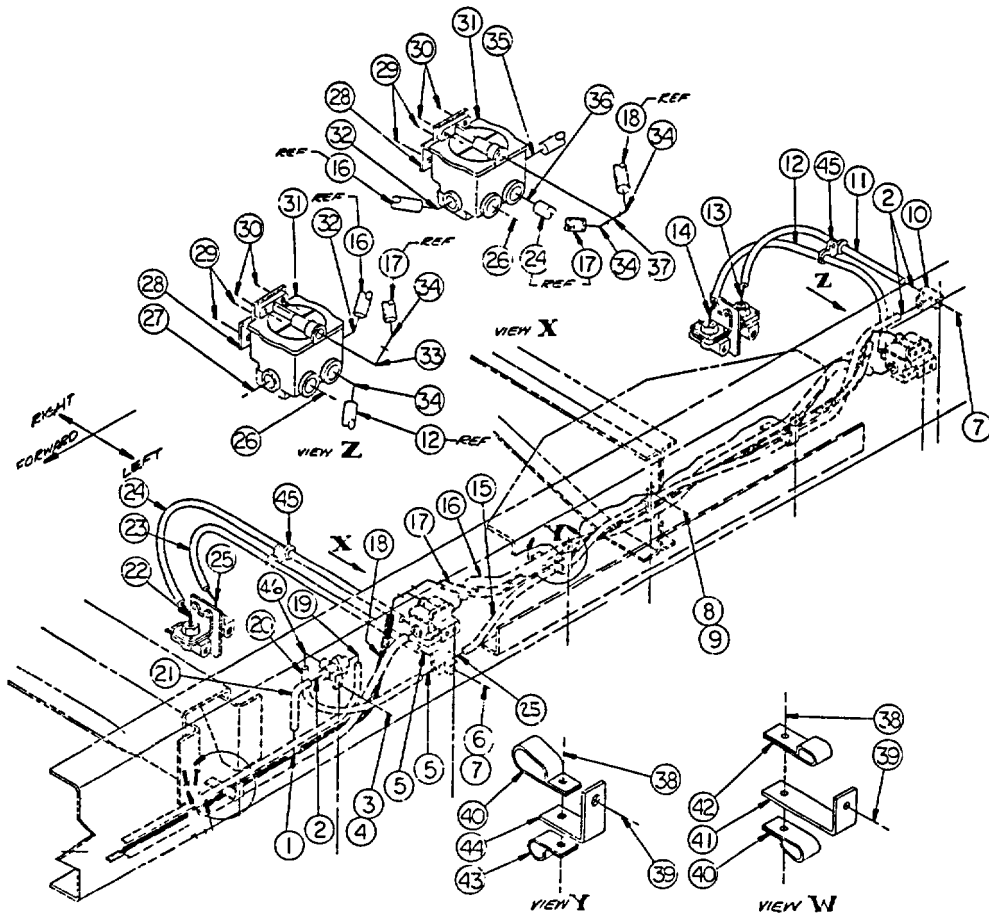
CHASSIS CENTER HOISING



1	G080830060	1		HOSE, AIR BRAKE VALVE TO TEE
2	G120740042	1		HOSE, AIR TANK TO RELAY VALVE- PRIMARY SUPPLY
3	G060750030	1		HOSE, AIR SPRING VALVE CONTROL
4	25222R1	1		BOLT, HEX HD 1/4 NC X 3/4
4	25519R1	1		NUT, HEX 1/4 NC
4	120380	1		WASHER, LOCK 1/4 REG
5	299260C91	2		CLAMP, 13/16
6	373037C1	2		EXTENSION, CLIP
7	25751R1	AR		BOLT, HEX HD 5/16 UNC X 1 1/4
7	25493R1	AR		BOLT, HEX HD 5/16 UNC X 1 IN
7	25654R1	AR		BOLT, HEX HD 5/16 UNC X 1 1/2
7	9413977	AR		NUT, HEX LOCK 5/16 UNC
8	25222R1	AR		BOLT, HEX HD 1/4 UNC X 3/4
8	25519R1	AR		NUT, HEX 1/4 UNC
8	120380	AR		WASHER, LOCK 1/4 REG
9	460230C1	AR		CLAMP, 5/8 X 1/2
10	427579C1	AR		EXTENSION, CLIP
11	460613C1	AR		CLAMP, 15/16 X 3/4
12	459647C1	1		CLAMP, 15/16 X 3/4 X 5/8

FIG. 04-107

CHASSIS REAR HOISING



ITEM	PART NO.	QTY	
1	319378C1	1	TEE, 3/4-16 X 5/8-18 X 3/4-16 FLARED
2	986296R1	3	CONNECTOR, 3/8 PT X 5/8-18 FLARED
3	764368C91	1	VALVE, DOUBLE CHECK (FOR COMPONENTS SEE (FIG. 04-089))
4	25493R1	1	BOLT, HEX HD 5/16-18UNC X 1.0
4	25751R1	1	BOLT, HEX HD 5/16-18UNC X 1 1/4
4	25654R1	1	BOLT, HEX HD 5/16-18UNC X 1 1/2
4	25750R1	1	BOLT, HEX HD 5/16-18UNC X 1 3/4
4	9413977	1	NUT, HEX LOCK 5/16-18 UNC
5	118750	2	CONNECTOR, 1/4 PT X 5/8-18 FLARED
6	519320C1	1	CROSS, SPECIAL DROP
7	25485R1	2	BOLT, HEX HD 1/4-20UNC X 1 1/4
7	25483R1	2	BOLT, HEX HD 1/4-20UNC X 1.0
7	25487R1	2	BOLT HEX HD 1/4-20UNC X 1 1/2
7	120380	2	WASHER, LOCK 1/4 MED
7	25707R1	2	WASHER, FLAT 1/4 TYPE B
8	459647C1	1	CLAMP, 15/16 X 3/4 X 5/8
9	25493R1	1	BOLT, HEX HD 5/16-18UNC X 1.0 IN
9	25751R1	1	BOLT, HEX HD 5/16-18UNC X 1 1/4 IN
9	25654R1	1	BOLT, HEX HD 5/16-18UNC X 1 1/2 IN
9	25750R1	1	BOLT, HEX HD 5/16-18 UNC X 1 3/4
9	25320R1	1	NUT, HEX 5/16-18UNC
9	120214	1	WASHER, LOCK 5/16 MED
10	459280C1	1	ELBOW, SPECIAL DROP
11	G060220000	1	HOSE, AIR- DROP ELBOW TO QUICK RELEASE VALVE
12	G080240000	1	HOSE, AIR- RELAY VALVE TO QUICK RELEASE VALVE
13	162135R1	1	ELBOW, 90 DEG 3/8 PT X 5/8-18 FLARED

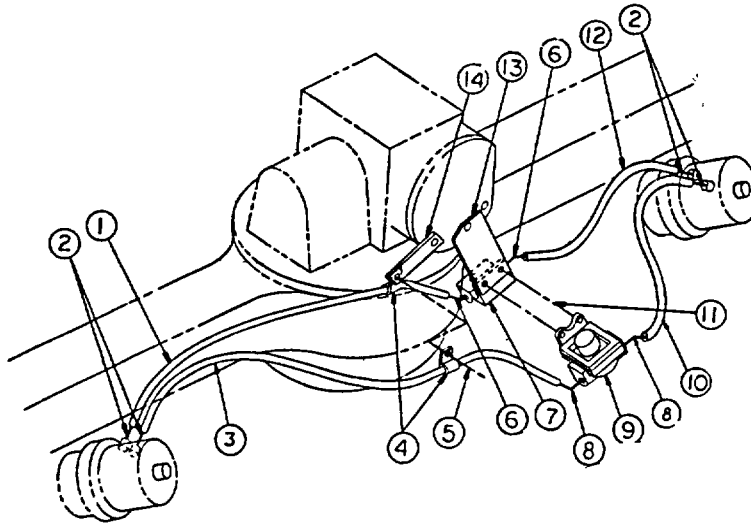
FIG. 04-107

CHASSIS REAR HOSING-CONTINUED

ITEM	PART NO.	QTY.	
14	118757	1	ELBOW, 90 DEG 3/8 PT X 3/4-16 FLARED
15	G060770000	1	HOSE, AIR- CROSS TO DROP ELBOW
16	G120730000	1	HOSE, AIR- SUPPLY- RELAY VALVE TO RELAY VALVE
17	G080780000	1	HOSE, AIR- CONTROL- RELAY VALVE TO RELAY VALVE
18	G080170000	1	HOSE, AIR- CONTROL- TEE TO RELAY VALVE
19	162133R1	1	ELBOW, 90 DEG 3/8 PT X 5/8-18 FLARED
20	G060140000	1	HOSE, AIR- DOUBLE CHECK TO CROSS
21	G060120000	1	HOSE, AIR- TEE TO DOUBLE CHECK
22	230766R1	1	ELBOW, 45 DEG 3/8 PT X 3/4-16 FLARED
23	G060220000	1	HOSE, AIR- CROSS TO TEE
24	G080260000	1	HOSE, AIR-RELAY VALVE TO QUICK RELEASE VALVE
25	229060R1	2	ELBOW, 45 DEG 1/4 PT X 5/8-18 FLARED
26	444584	2	PLUG, 3/8 PT
27	444590	1	PLUG, 1/2 PT
28	461565C1	2	BRACKET, VALVE MTG
29	25493R1	4	BOLT, HEX HD 5/16-18UNC X 1.0 IN
29	25751R1	4	BOLT, HEX HD 5/16-18UNC X 1 1/4 IN
29	25654R1	4	BOLT, HEX HD 5/16-18UNC X 1 1/2 IN
29	25750R1	4	BOLT, HEX HD 5/16-18UNC X 1 3/4
29	9413977	4	NUT, HEX 5/16-18UNC
30	25751R1	4	BOLT, HEX HD 5/16-18UNC X 1 1/4 IN
30	9413977	4	NUT, HEX 5/16-18UNC
31	455975C92	2	VALVE, RELAY (FOR COMPONENTS SEE (FIG. 04-085)
32	459646C1	2	ELBOW, 45 DEG 1/2 PT X 1 1/16-14 FLARED
33	444042	1	ELBOW, 90 DEG 3/4 MPT X 3/8 FPT
34	230766R1	4	ELBOW, 45 DEG 3/8 PT X 3/4-16 FLARED
35	110287	1	CONNECTOR, 1/2 PT X 1 1/16-14 FLARED
36	118752	1	CONNECTOR, 3/8 PT X 3/4-16 FLARED
37	444136	1	TEE, 3/8 FPT X 3/8 MPT X 3/8 FPT
38	25228R1	4	BOLT, HEX HD 5/16-18UNC X 3/4 IN
38	25220R1	4	NUT, HEX 5/16-18 NC
38	120214	4	WASHER, LOCK 5/16 REG
39	25751R1	4	BOLT, HEX HD 5/16-18NC X 1 1/4
39	25654R1	4	BOLT, HEX HD 5/16-18NC X 1 1/2 IN
39	25750R1	4	BOLT, HEX HD 5/16-18 UNC X 1 3/4
39	25520R1	4	NUT, HEX 5/16-18NC
39	120214	4	WASHER, LOCK 5/16 REG
40	460613C1	4	CLAMP, 15/16 X 3/4
41	427579C1	2	EXTENSION, CLIP
42	460230C1	2	CLAMP, 5/8 X 1/2
43	447266R91	2	CLAMP, 5/8
44	365265C1	2	EXTENSION, CLIP
45	316227C1	2	SEPARATOR, HOSE
46	411794C1	1	ELBOW, 45 DEG 3/8 PT X 5/8-18 FLARED

FIG. 04-108

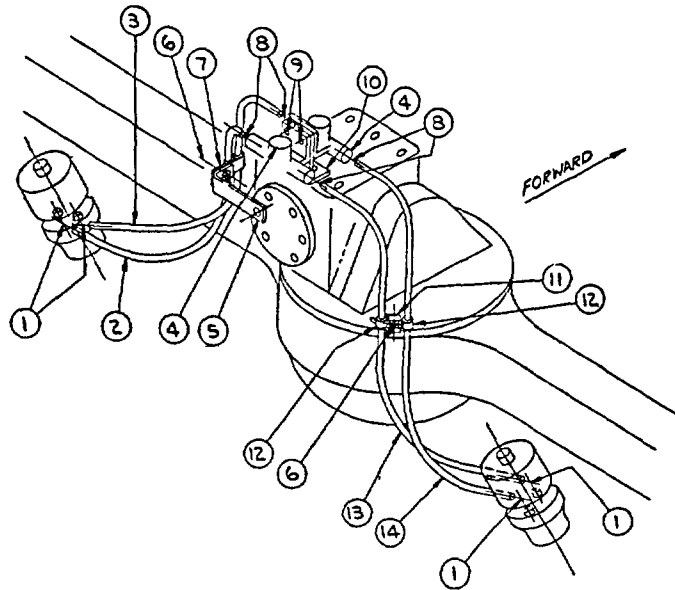
FORWARD-REAR AXLE BRAKE HOISING



ITEM	PART NO.	QTY.	
1	A060200000	1	HOSE, AIR- TEE TO RT CHAMBER- SERVICE
2	986296R1	4	CONNECTOR 3/8 MPT X 5/8-18 FLARED
3	A060200000	1	HOSE, AIR- QUICK RELEASE VALVE TO RT CHAMBER-SPRING
4	984984R91	2	CLAMP, 5/8
5	25222R1	1	BOLT, HEX HD 1/4 NC X 3/4
5	25519R1	1	NUT, HEX 1/4 NC
5	120380	1	WASHER, 1/4 LOCK
6	229060R1	2	ELBOW, 45 DEG 1/4 MPT X 5/8-18 FLARED
7	308512C1	1	TEE
8	411794C1	2	ELBOW, 45 DEG 3/8 MPT X 5/8-18 FLARED
9	458772C91	1	VALVE, QUICK RELEASE (FOR COMPONENTS SEE (FIG. 04-088)
10	A060060000	1	HOSE, AIR- QUICK RELEASE VALVE TO RT CHAMBER= SPRING
11	25493R1	2	BOLT, HEX HD 5/16 NC X 1
11	9413977	2	NUT, 5/16 NC HEX LOCK
12	A060090000	1	HOSE, AIR- TEE TO LT CHAMBER- SERVICE
13	242416R2	1	BRACKET, QUICK RELEASE VALVE MTG
14	767899C1	1	EXTENSION, CLIP

FIG. 04-109

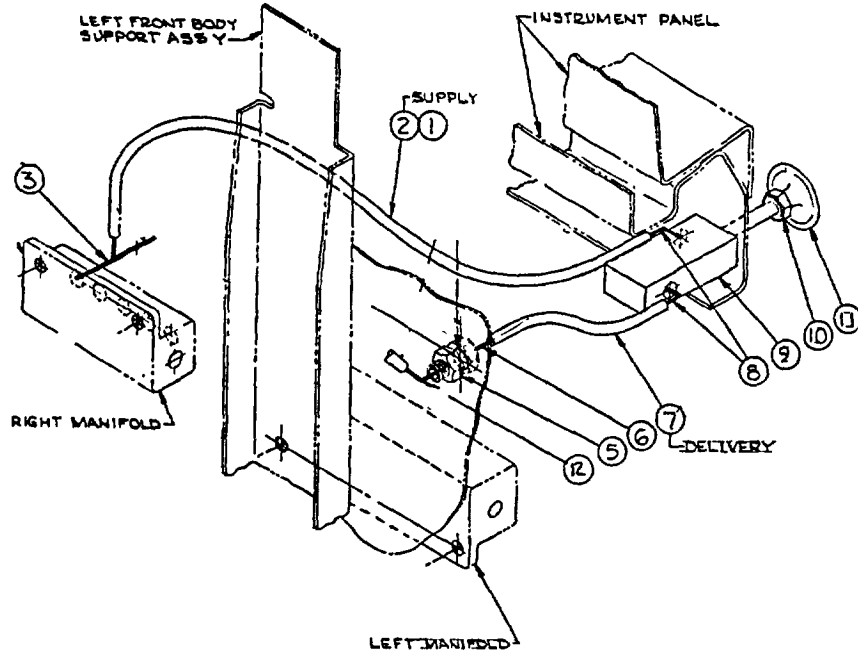
REAR-REAR AXLE BRAKE HOISING



ITEM	PART NO.	QTY	
1	118755	4	ELBOW, 90 DEG 1/4 X 5/8-18 FLARED
2	A060270000	1	HOSE, QUICK RELEASE VALVE TO SPG PORT
3	A060250000	1	HOSE, QUICK RELEASE VALVE TO SERVICE PORT
4	458772C91	2	VALVE, QUICK RELEASE (FOR COMPONENTS SEE (FIG. 04-088))
5	132408R1	1	EXTENSION, CLAMP
6	25222R1	2	BOLT, HEX HD 1/4UNC X 3/4
6	25519R1	2	NUT, HEX 1/4UNC
6	120380	2	WASHER, LOCK 1/4 REG
7	317708C91	1	CLALMP, 5/8 X 2
8	986296R1	4	CONNECTOR, 3/8 X 5/8-18 FLARED
9	25493R1	2	BOLT, HEX HD 5/16UNC X 1 IN
9	9413977	2	NUT, HEX LOCK 5/16 UNC
10	211413R2	1	BRACKET, QRV MTG
11	315784C1	1	EXTENSION, CLAMP
12	984984R91	2	CLAMP, 5/8
13	A060280000	1	HOSE, QUICK RELEASE VALVE TO SPG PORT
14	A060320000	1	HOSE, QUICK RELEASE VALVE TO SERVICE PORT

FIG. 04-110

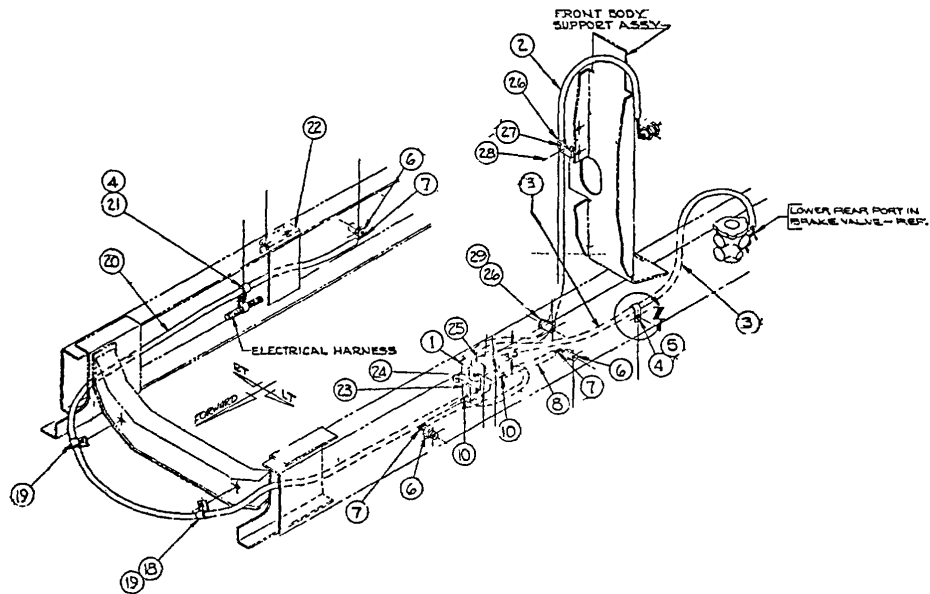
FRONT WHEEL LIMITING VALVE CONTROL



ITEM	PART NO	QTY	
1	41451002	4	NUT, 1/4 TUBE
1	30774V	4	SLEEVE, 1/4 TUBE
1	41450401	4	INSERT, 1/4 TUBE
2	41719602	1	TUBE, NYLON- 1/4 X 26 TEE TO LIMITING VALVE CONTROL
3	164250R1	1	TEE, 1/4 MPT X 1/4 TUBE X 1/4 PPT
5	156269R1	1	COUPLING, ANCHOR
5	427350	1	NUT, JAM- 3/4-16 NP HEX
5	138561	1	WASHER, LOCK- 3/4 INT TOOTH
5	25712R1	1	WASHER, FLAT 3/4
6	123617R1	1	CONNECTOR, 1/8 MPT X 1/4 TUBE
7	41719602	1	TUBE, NYLON- 1/4 X 14 LIMITING VALVE CONTROL TO ANCHOR COUPLING
8	123646R1	2	ELBOW, 90 DEG- 1/8 MPT X 1/4 TUBE
9	416646092	1	VALVE, LIMITING VALVE CONTROL (FOR COMPONENTS SEE (FIG. 04-040)
10	118623	1	NUT, JAM- 1/4 NF HEX
11	42638501	1	KNOB, LIMITING VALVE CONTROL
12	431606R1	1	ELBOW, 45 DEG 1/8 MPT X 7/16-20 FLARED

FIG. 04-111

FRONT WHEEL LIMITING VALVE HOISING



ITEM	PART NO	QTY	
1	28420H	1	ELBOW, 90 DEG- 1/4 MPT X 7/16-20 FLARED
2	G040670063	1	HOSE, AIR- DASH FTG TO LIMITING VALVE
3	G080420037	1	HOSE, AIR- BRAKE VALVE TO LIMITING VALVE
4	25751R1	AR	BOLT, HEX HD- 5/16 NC X 1 1/4
4	25654R1	AR	BOLT, HEX HD- 5/16 NC X 1 1/2
4	25520R1	AR	NUT, HEX-5-16 NC
4	120214	AR	WASHER, LOCK- 5/16 REG
5	299261C91	1	CLAMP, 13/16
6	309449C1	2	COUPLING, ANCHOR
6	138572	2	WASHER, LOCK- INT TOOTH 1 IN
7	312064C1	2	ELBOW, 90 DEG- 3/8 MPT X 7/8-14 FLARED
8	G100100000	1	HOSE, AIR- LIMITING VALVE TO FRAME FITTING
10	285611C1	2	CONNECTOR- 3/8 MPT X 7/8-14 FLARED
18	25222R1	1	BOLT, HEX HD- 1/4 NC X 3/4
18	25519R1	1	NUT, HEX- 1/4 REG
19	430277R91	2	CLAMP, 7/8
20	G100940089	1	HOSE, AIR-LIMITING VALVE TO RT FRAME FITTING
21	981991R91	1	CLAMP, 7/8
22	44480102	1	SHIELD, HEAT
22	24840R1	2	BOLT, HEX HD 3/8 NC X 1 IN
22	9413979	2	NUT, HEX LOCK 3/8 NC
23	471209C91	1	VALVE LIMITING (FOR COMPONENTS SEE (FIG. 04-039)
24	25751R1	2	BOLT, HEX HD 5/16 NC X 1-1/4
24	9413977	2	NUT, HEX 5/16 NC LOCK
25	118757	1	ELBOW, 90 DEG- 3/8 MPT X 3/4-16 FLARED
26	981990R91	2	CLAMP, 9/16
27	313098C1	1	EXTENSION, CLAMP
28	25228R1	1	BOLT, HEX HD 5/16 NC X 3/4
28	25520R1	1	NUT, HEX 5/16 NC
28	120214	1	WASHER, LOCK 5/16 REG
29	358285R1	1	SPACER, 3/8 PIPE X 1.375 LONG
29	24621R1	1	BOLT, HEX HD 3/8 NC X 2-1/4
29	9413979	1	NUT, HEX LOCK 3/8 NC

FIG. 04-112

STOPLIGHT SWITCH AND PARKING BRAKE CONTROL VALVE HOISING

ITEM	PART NO	QTY	
3	981985R91	1	CLAMP 3/8
4	366525C1	2	SCREW, SELF DRILLING #10-24 UNC X 3/4
5	444028	1	ADAPTER, REDUCER 3/8 MPT X 1/4 FPT
6	873706R91	2	SWITCH, STOPLIGHT
7	417199C2	1	TUBE, NYLON 3/8 X 134- SPG BRAKE V TO RT ANCHOR FTG
8	41450902	2	NUT, 3/8 TUBE
8	41450501	2	INSERT, 3/8 TUBE
8	30644V	2	SLEEVE, 3/8 TUBE
9	444054	1	ELBOW, 45 DEG 1/4 MPT X 1/4 FPT
10	229060R1	1	ELBOW, 45 DEG 1/4 MPT X 5/8-18 FLARED
11	30761V	1	ELBOW, 90 DEG 1/4 HPT X 3/8 TUBE
12	123259R1	1	COUPLING, ANCHOR
12	138561	4	WASHER, LOCK INT TOOTH 3/4
12	138561	2	WASHER, LOCK INT TOOTH 3/4
12	427350	1	NUT, HEX JAM 3/4 NF
15	984984R91	2	CLAMP, 5/8
16	77911H	1	CONNECTOR, 3/8 MPT X 3/8 TUBE



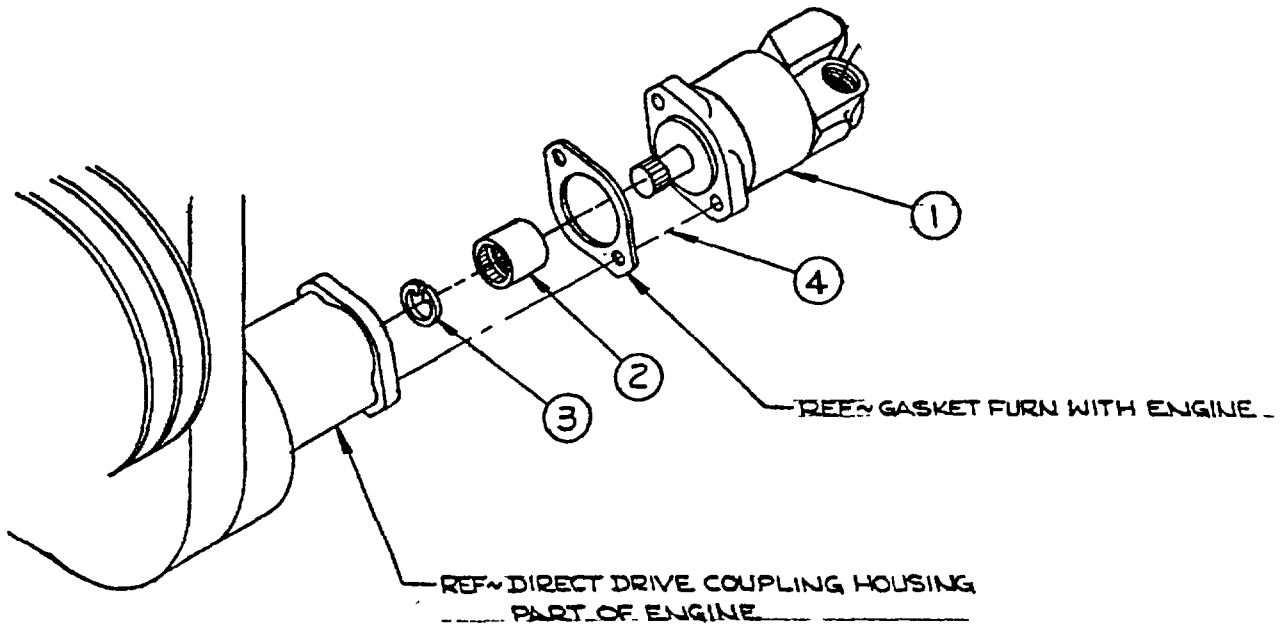
GROUP 05-STEERING GEAR

**NOTE: STEERING GEAR ASSEMBLY DOES NOT INCLUDE STEERING WHEEL
AND STEERING ARM..**

	FIG. NO.
DRAG LINK,(SEE FIG. 02-023)	
DUAL STEERING GEARS	
ASSEMBLY,.....	.05-008
MOUNTING05-003
POWER STEERING HOISING	
GEAR TO RESERVOIR AND PUMP.....	.05-004
GEAR TO GEAR.....	.05-005
POWER STEERING PUMP	
ASSEMBLY05-032
MOUNTING.....	.05-001
STEERING COLUMN(UPPER), STEERING WHEEL AND HORN BUTTON05-002
STEERING COLUMN(LOWER) AND PITMAN ARM05-003

FIG. 05-001

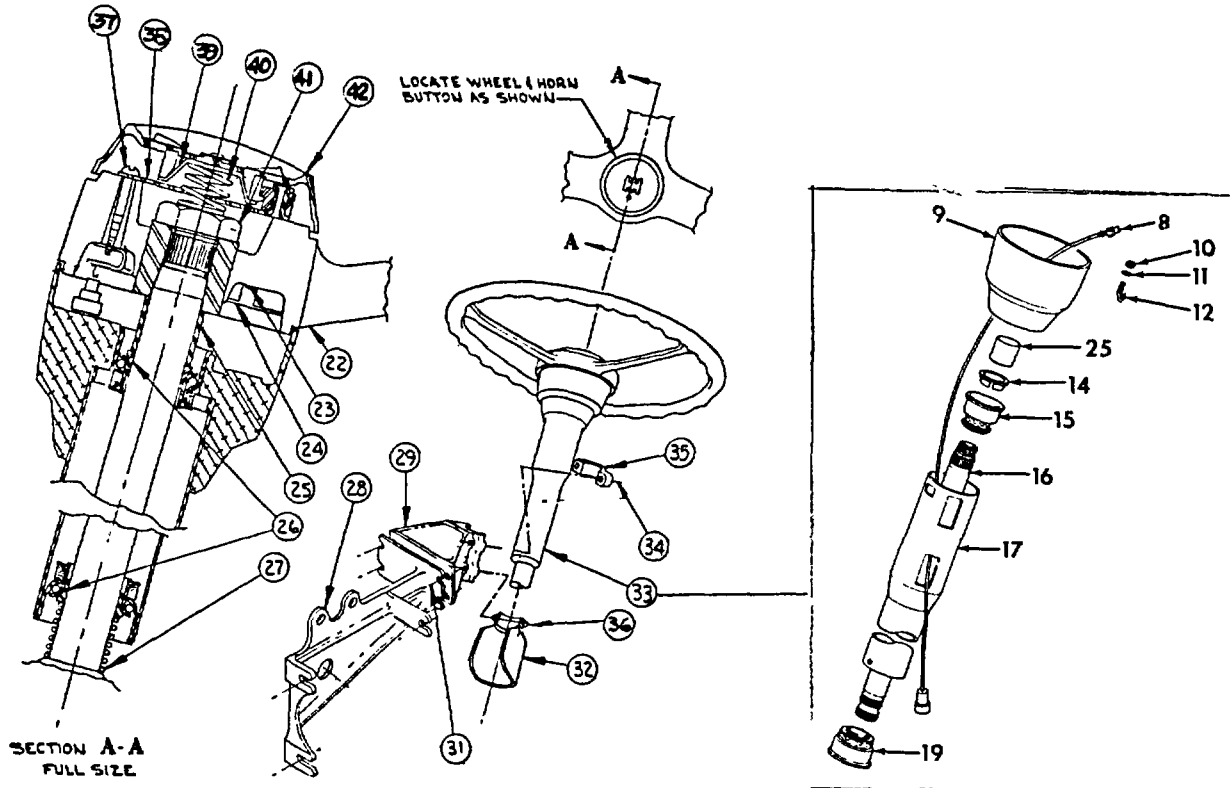
STEERING PUMP MOUNTING



ITEM	PART NO	QTY	
1	45513SC91	1	PUMP, POWER STEERING // 11750 PSI (FOR COMPONENTS
2	422844C1	1	COUPLING POWER STEERING DRIVE SEE (FIG. 05-032)
3	336919R1	1	SNAP RING
4	140483H	2	BOLT, HEX HD 3/8-16UNC X 1 1/4
4	120382	2	WASHER, LOCK 3/8 REG

FIG. 05-002

STEERING COLUMN(UPPER), STEERING WHEEL AND HORN BUTTON



ITEM	PART NO	QTY
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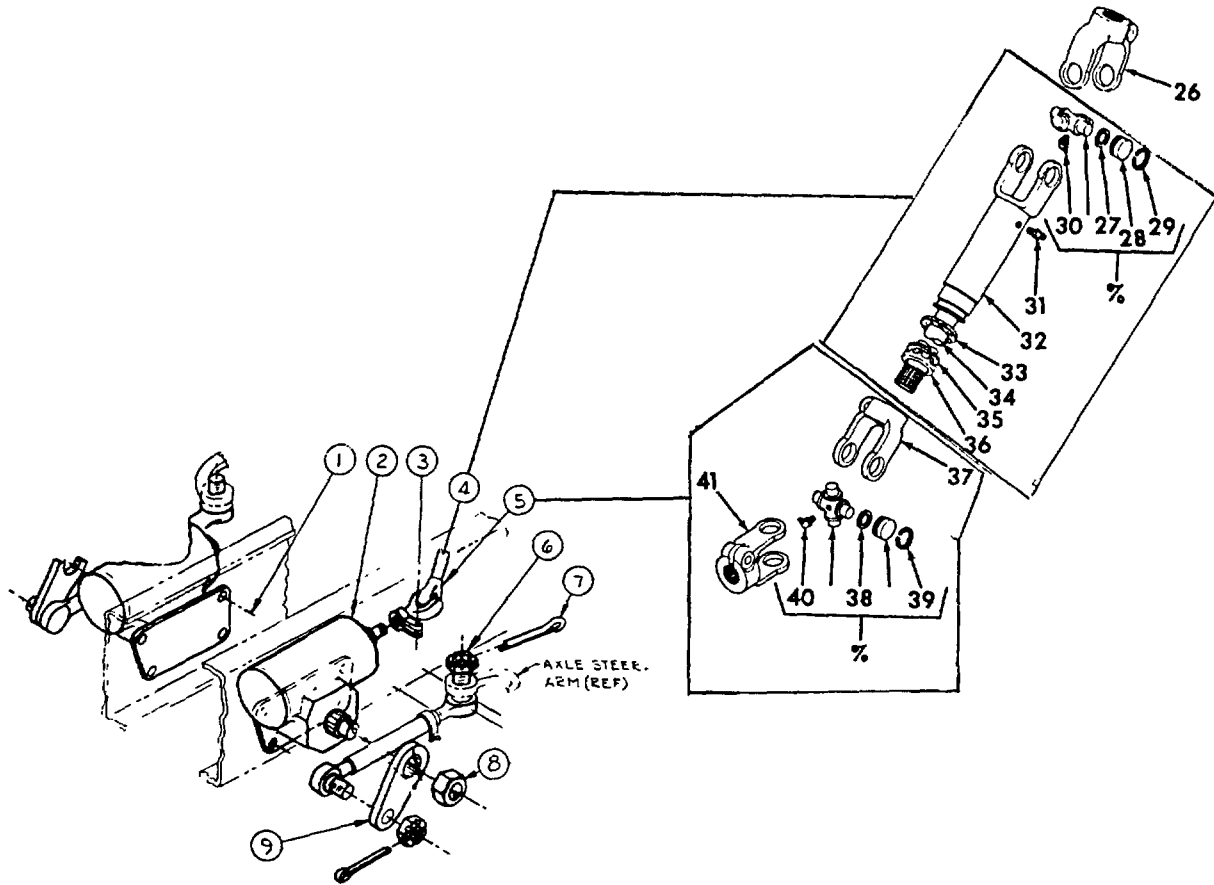
8	362 076 C91	CONTACT, HORN CABLE ROLLER, ASSY
9	308 381 C21	FLANGE, N/BEARING, STEERING COLUMN
10	130 109 RI	NUT, CLAMP LOCK -2-
11		WASHER, FLAT 5/16 -2-
12	176 976 R1	BOLT, CLAMP -2-
14	282 160 C1	SEAT, BEARING -2-
15	176 799 R91	BEARING, JACKET TUBE UPPER, ASSY
16	430 654 C1	TUBE W/YOKE, WHEEL
17	409 811 C21	TUBE, JACKET
19	864 144 R91	BEARING, JACKET TUBE LONER, ASSY
22	286232C2	1 WHEEL, STEERING 21 IN
23	107837	2 SCREW, RD HD DRIVE #6X3/8
24	187963R2	1 RING, CONTACT
25	300382C1	1 SPACER,
26	282160C1	2 SEAT, SPRING
27	88474H	1 SPRING
28	399535C2	1 BRACE, STEERING COLUMN LHD
29	452657C1	1 BRACKET, STEERING COLUMN MTG
	19756 R1	1 PIN
31	24841R1	6 BOLT, HEX HD 3/8-16UNC X 1-1/2
31	9413979	4 NUT, HEX HD 3/8-16UNC
31	25709R1	8 WASHER, FLAT 3/8 HARD
32	452719C1	1 COVER, STEERING COLUMN JOINT

33 TUBE ASSY, UPPER STEERING COLUMN (ORDER COMPONENTS)

34	25500R1	2 BOLT, HEX HD 3/8-UNC-2A X 3-1/4
34	9413979	2 NUT, HEX LOCK, 3/8UNC
34	25709R1	4 WASHER, FLAT 3/8
35	452668C1	1 CAP, STEERING COLUMN
36	25485R1	2 BOLT, HEX HD 1/4-20UNC X 1 1/4
36	26110R1	2 NUT, HEX LOCK 1/4-20UNC
36	25707R1	8 WASHER, FLAT 1/4
37	173654	1 SCREW, ROUND HD TAPPING #8X1-1/2
37	125591	3 SCREW, ROUND HD TAPPING #10X1/2
38	187970R91	1 PLATE ASSY, BASE
39	68025H	1 CUP, CONTACT
40	187958R2	1 SPRING, HORN BUTTON
41	384725C1	1 NUT, STEERING WHEEL
42	286609C12	1 BUTTON, HORN

FIG. 05-003

STEERING COLUMN(LOWER) AND PITMAN ARM



ITEM	PART NO	QTY
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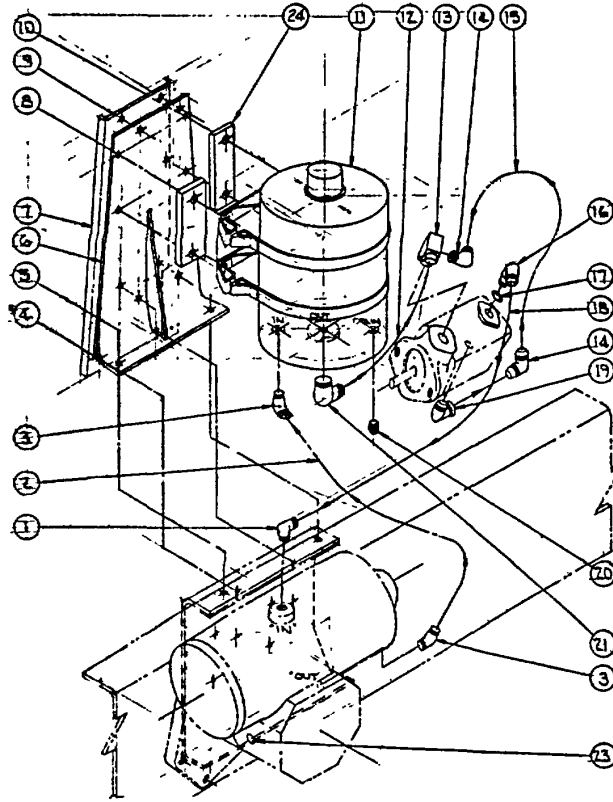
1	414080C1	8	BOLT, FLG HEX HD 5/8-18UNRF X 2 1/2
1	41408901	8	NUT, FLG HEX LOCK 5/8-18UNF
2	464025C91	1	GEAR ASSY, STEERING- LT (FOR COMPONENTS SEE (FIG. 05-008))
2	443675092	1	GEAR ASSY STEERING- RT (FOR COMPONENTS SEE FIG. 05-008)
3	25387R1	2	BOLT HEX HD 3/8-24UNF X 1 3/4
3	25484R1	2	NUT HEX SLOTTED 3/8-24UNF
3	137159	2	PIN, COTTER 3/32 X 5/8
4		1	SHAFT ASSY, STEERING GEAR (ORDER COMPONENTS)
5		1	JOINT ASSY, UNIVERSAL (ORDER COMPONENTS)
6		2	LINK, ASSY DRAG (FOR COMPONENTS SEE FIG. 05-032)
7	17233R1	2	PIN, COTTER-1/8 X 2 1/2
8	486296C1	REF	NUT, STEER GEAR OUTFIT SHAFT
8	21532R1	REF	CAPSCREW
8	120214	REF	WASHER, LOCK
9	445226C2	2	ARM, PITMAN- LT & RT

26		YOKE -NOT SERVICED SEPARATELY- -WELDED TO 430654C1 TUBE-REF. NO. 16- FIG. 05-001-
27	210 768 R1	SEAL, BEARING -4-
28	974 447 R91	BEARING, SPIDER, ASSY -4-
29	974 448 R1	RING, SNAP -4-
30	274 510	LUBRICATOR, 1/4 90 DEGREE
31	109 440	LUBRICATOR, 1/4 STRAIGHT
	110 146 R91	LUBRICATOR, 1/4 90 DEGREE
32		YOKE, SLIP
	297 311 C92	10-5/16 EYE TO END
33	238 195 R1	SEAL, SLIP YOKE
04		SHAFT, DRIVE
	460 510 C1	42-11/16 LONG
35	313 15 C1	WASHER, SLIP YOKE SEAL
36	235 079 R1	CAP, DUST
37	377 617 R1	YOKE, LOWER END
30	357 425 R1	SEAL, BEARING -4-
39	357 426 R1	RING, SNAP -4-
40	271 284	LUBRICATOR, 1/8 67-1/2 DEGREE
41	622 914 C1	YOKE, STEERING GEAR END

150 635 R92 %KIT, UNIVERSAL JOINT REPAIR

FIG. 05-004

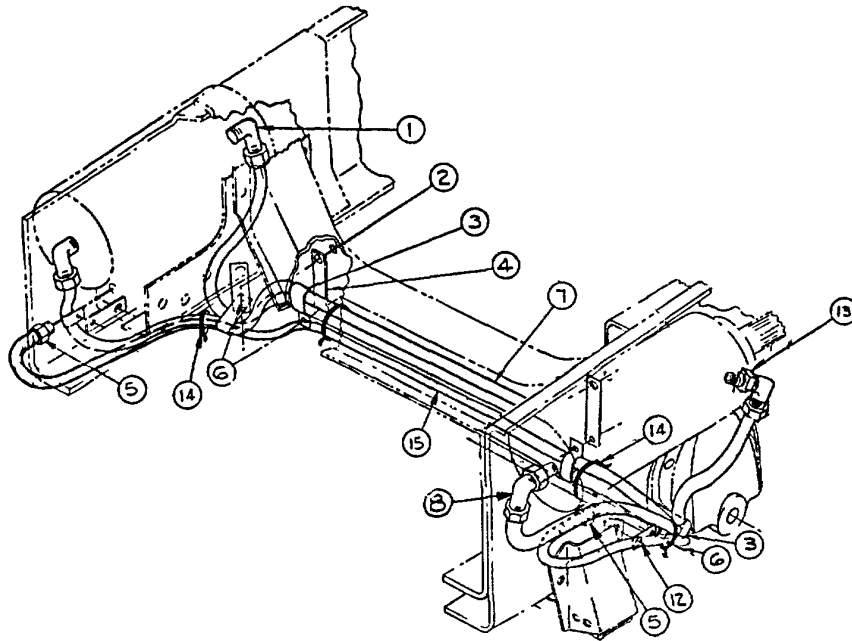
POWER STEERING HOISING(GEAR TO RESERVOIR AND PUMP)



ITEM	PART NO	QTY			
1	9402865	1	ELBOW, 90 DEG- 3/8NPT X 3/4-16		
2	A100170014	1	HOSE ASSY, RETURN LINE GEAR TO RSVR		
3	231379R1	2	ELBOW, 45 DEG- 1/2NPT X 7/8-14		
4	414851C1	2	FLANGED BOLT, HEX HD 1/2-20 X 1 1/4		
4	414087C1	2	FLANGED LOCK NUT, HEX 1/2-20		
5	414087C1	2	FLANGED BOLT, HEX HD 1/2-20 X 1 3/4		
5	414087C1		FLANGED LOCK NUT, HEX 1/2-20		
6	51619701	1	BRACKET ASSY, PWR STEER RSVR		
7	516198C1	1	REINFORCEMENT, BRACKET		
8	24841R1	2	BOLT HEX HD 3/8-16 X 1 1/2		
8	120382	2	LOCKWASHER, 3/8		
9	24861R1	4	BOLT, HEX HD 1/2-13 X 1 1/4		
9	9412230	4	LOCKNUT, 1/2-13		
14	24842R1	2	BOLT HEX HD 3/8-16 X 1 3/4		
10	120382	2	LOCKWASHER, 3/8		
11	516157091	1	RESERVOIR, 10 QT (CONSIST OF THE FOLLOWING PARTS)		
12	A160180000	1	HOSE ASSY, SUPPLY LINE RSVR TO PUMP	1 - 454570 C1	CAP, w/GUAGE, reservoir
13	43866801	1	ELBOW, 90 DEG 1/2NPT X 7/8-14	1 - 386120 R91	ELEMENT, filter
14	109429	*	ELBOW, 90 DEG 1/2NPT X 7/8-14	1 - 22760 R1	O-RING
15	A100120000	1	HOSE ASSY, PUMP BY-PASS	1 - 386121 R92	VALVE, assy
16	9410977	1	ELBOW, 90 DEG 3/4-16 X 3/4-16	2 - 24477 R1	BOLT, hex-hd 5/16NC x 1
17	570020R1	1	O-RING	2 - -25520 R1	NUT, hex, 5/16NC
18	405467C1	1	HOSE ASSY, PRESS LINE- 24 IN	8 - 19299 R1	NUT, wing 1/4NC
19	444044	1	ELBOW, 90 DEG 1/2NPT X 1/2NP		
20	445686	1	PLUG, PIPE 3/8NPT-		
21	9402843	*	ELBOW, 90 DEG 1-11 1/2NPT X 1 5/16-12-		
23	444631		PLUG, PIPE HEX HD- 1/2-14 NPT- FURN W/STEERING GEAR		
24	253168C1	2	SPACER, RESERVOIR MTG		

FIG. 05-005

POWER STEERING HOISING(GEAR TO GEAR)



ITEM	PART NO	QTY	
1	450759C1	4	ELBOW, 90 DEG, 1/4 X 3/4-16
2	125222R1	2	BOLT, HEX HD, 1/4-20UNC X 3/4
2	26110R1	2	NUT, HEX LOCK, 1/4-20UNC
3	898620R91	4	CLAMP, DOUBLE
4	321887C1	2	EXTENSION, CLIP
5	192120	*	CONNECTOR, 1/2 NPT X 7/8-14 FLARED
6	25222R1	4	BOLT, HEX HD, 1/4-20UNC X 3/4
6	26110R1	4	NUT, HEX LOCK, 1/4-20UNC
7	450349C1	2	HOSE 80 IN
8	444001	1	ADAPTER, 1/4NPTF
8	444029	3	BUSHING, REDUCER 3/8NPTF X 1/4NPTF
12	168323R1	2	EXTENSION, CLIP
13	444001	1	ADAPTER, 1/4 NPTF- USE W/10 QT POWER STEER RESV
14	29120701	4	STRAP, TIE
15	A100850000	1	HOSE ASSY, RETURN



MT134 GROUP 05- STEERING GEAR
 REF NO PART NUMBER DESCRIPTION

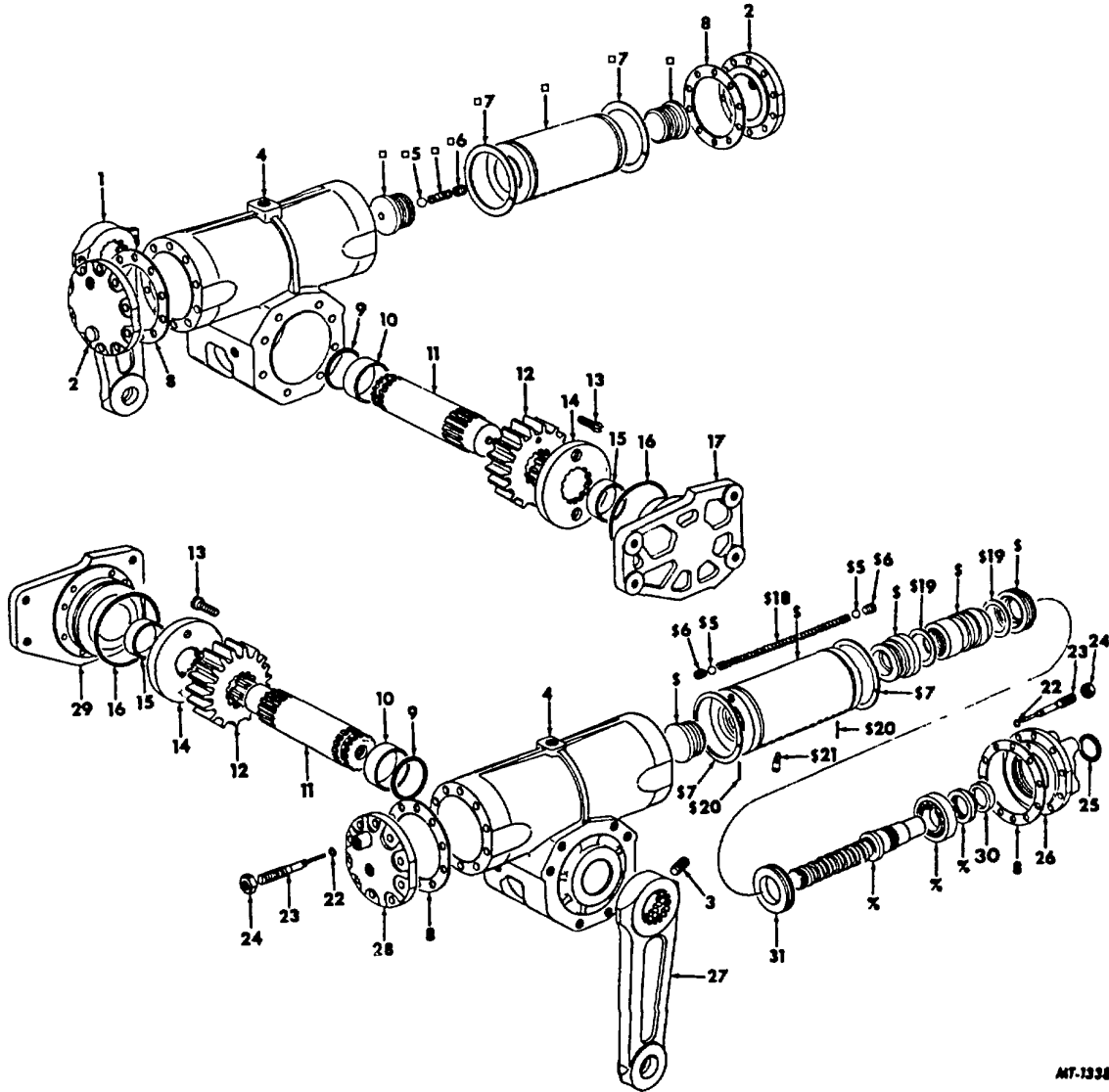


MT134 GROUP 05- STEERING GEAR
 REF NO PART NUMBER DESCRIPTION

FIG. 05-008

FIG. 05-008 CONTINUED

DI



MT-13387A

464 025 C91 GEAR, STRG LEFT -Q/O JACKET TUBE-
 443 675 C92 GEAR, STRG RIGHT
 414 080 C1 BOLT, HEX-HD 5/8NF X 2-1/2 -8-
 414 089 C1 NUT, HEX, LOCK 5/8NF -8-

1
 2

445 226 C2 ARM, STEERING RIGHT
 447 017 C1 NUT, STEERING RIGHT ARM
 438 752 C1 HEAD, RIGHT CYLINDER -2-
 181 341 BOLT, HEX-HD 5/16NF X 1/14 -20-
 103 320 WASHER, LOCK 5/16 MEDIUM -20-



MT134 GROUP 05- STEERING GEAR

REF NO	PART NUMBER	DESCRIPTION
	FIG. 05-008 CONTINUED	
	DUAL STEERING GEARS	
	FIG. 05-008 CONTINUED	
	DUAL STEERING GEARS	
4	441 462 C91	HOUSING H/BUSHING, GEAR
5	16 009 R1	BALL, VALVE RELIEF -3-
6	293 625 C1	SEAT, VALVE RELIEF BALL -3-
7		RING, PISTON -NOT SERVICED SEPARATELY-
8	438 753 C1	GASKET, CYLINDER HEAD -2-
9	372 487 C1	RING, QUAD -2-
10	438 758 C1	BUSHING, HOUSING INNER -2-
11	446 344 C2	SHAFT, OUTPUT GEAR
12	438 760 C1	GEAR, OUTPUT SHAFT -2-
	18 518 RI	PIN, ROLL
13	138 231	SCREW, SOC-HO 5116NF X 3/4
	103 320	WASHER, LOCK 5/16 REGULAR
14		NOT USED
15	438 758 C1	BUSHING, HOUSING OUTER -2-
16	355 740 R1	O-RING, GEAR SHAFT
17	446 359 C91	COVER, W/BUSHING, RIGHT GEAR HSG KTG
	181 429	BOLT, HEX-HD 1/2NF X 1-1/4 -S-
	103 323	WASHER, LOCK 1/2 MEDIUM -8-
18	438 762 C1	SPRING, VALVE RELIEF
	438 884 C1	WASHER, VALVE RELIEF -2-
19		WASHER, PISTON VALVE -NOT SERV SEP-
	18 607 R1	PIN, ROLL 1/8 X 3/4
20		PIN, VALVE LOCKING -2-
	103 687	LEFT GEAR
	142 956	RIGHT GEAR
21	293 620 C1	PIN, VALVE POSITIONING
22	363 226 R1	O-RING, VALVE PLUNGER -2-
23		PLUNGER, VALVE RELIEF -2-
	293 622 C1	3-5/32 LONG
	339 818 C1	3-11/32 LONG
24	120 369	NUT, HEX. 3/8NF -2-
25	450 964 C1	SEAL, HOUSING COVER OUTER
26	465 192 C91	COVER, W/BEARING, HOUSING
	181 341	BOLT, HEX-HD 5/16NF X 1-1/4 -10-
	103 320	WASHER, LOCK 5/16 MEDIUM -10-
	432 705 C91	SEAL, RETAINER
	455 026 C1	SEAL, OIL SALT
	16 982 R91	LUBRICATOR
27	450 962 C1	WASHER, BACK-UP SEAL
	445 226 C2	ARM, STEERING LEFT
	406 296 C1	NUT, STEERING LEFT ARM
28	438 751 C1	HEAD, LEFT CYLINDER
	181 341	BOLT, HEX-HO 5/16NF X 1-1/4 -10-
	103 320	WASHER, LOCK 5/16 MEDIUM -10-
29	446 343 C91	COVER, N/BUSHING. LEFT GEAR HSG RTG
	181 429	BOLT, HEX-HD 1/2NF X 1-1/4 -8-
	103 323	WASHER, LOCK 1/2 MEDIUM -8-
30	293 605 C1	SEAL, HOUSING COVER INNER
31	438 761 C1	NUT, BEARING RETAINING
	142 955	PIN, LOCKING 3/32 X 2
	465 202 C91	\$KIT, PISTON N/VALVE
	438 765 C91	KIT, PISTON
	438 764 C91	%KIT, ACTUATING SHAFT

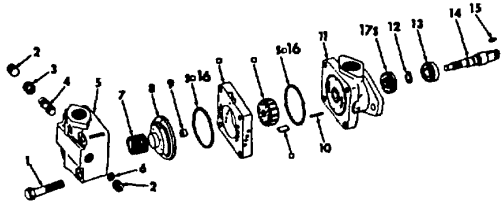
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MT134 GROUP 05- STEERING GEAR
 REF PART DESCRIPTION
 NO NUMBER

FIG. 05-032

POWER STEERING PUMP ASSEMBLY



MT-13453

453 138 C91 PUMP, ASSY

1	454 993	BOLT, HEX-HD 1/2NC X 3-L/2 -4-
2	116 566	PLUG, SOCKET-HO 1/2 PIPE -2-
3	187 325 H1	SPRING, PRESSURE VALVE
4	381 158 C1	VALVE, PRESSURE, ASSY
5	377 657 C1	COVER, PUMP
6	135 136 H1	RING, SNAP
7	875 726 C1	SPRING, PRESSURE PLATE
8	412 146 C91	PLATE, W/BUSHING, PRESSURE
9	370 497 C1	BUSHING, PRESSURE PLATE
10	109 641 H1	PIN, BOOT TO ROTOR HOUSING -2-
11	377 656 C1	BODY, PUMP
12	303 004 R1	RING, SNAP
13	581 185 R91	BEARING, SHAFT BALL
14	429 795 C1	SHAFT, ROTOR
	513 047 RI	RING, SNAP
15		NOT USED
16	974 421 R91	SEAL, HOUSING -2-
17	268 444 C1	SEAL, SHAFT
	435 699 C91	KIT, PUMP REPAIR
	323 857 C91	\$SET, D-RING SEAL

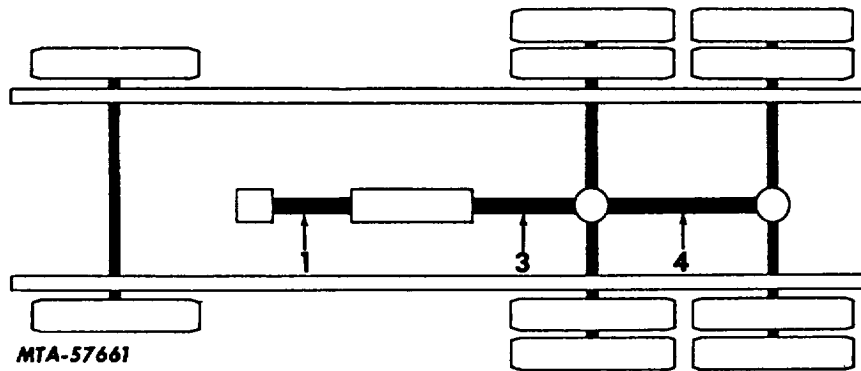


GROUP 06-PROPELLER SHAFTS

TIE PROPELLER TUBES LISTED ARE THE WELDED ASSEMBLY ONLY AND DO NOT INCLUDE THE UNIVERSAL JOINT, FLANGES OR YOKES. THESE PARTS MUST BE ORDERED SEPARATELY.

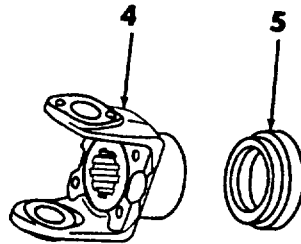
	FIG. NO.	LINE
PROPELLER SHAFTS	06-001	
FLANGES AND SLINGERS	06-002	
SLIP YOKES	06-003	
UNIVERSAL JOINTS		
1600 SERIES,	06-004	
1700 SERIES	06-005	
1810 SERIES	06-006	

FIG. 06-001 PROPELLER SHAFTS



- 1. 974508R1 TUBE, MAIN TRANSMISSION TO AUXILIARY TRANSMISSION, ASSY
- 3. 452098C91 TUBE, AUXILIARY TRANSMISSION TO FORWARD-REAR AXLE, ASSY
- 4. 476760C91 TUBE, FORWARD-REAR AXLE TO REAR-REAR AXLE, ASSY

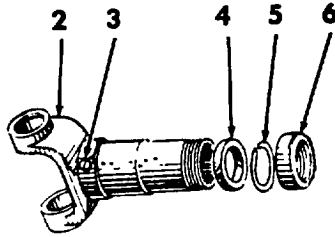
FIG. 06-002 FLANGES AND SLINGERS



- 4. 446316C1 FLANGE, COMPANION
AT TRANSMISSION
AT AUXILIARY TRANSMISSION
- 979591R2 INPUT (1700)
- 417306C1 OUTPUT (1810)
AT FORWARD-REAR AXLE
- 417309C1 INPUT
- 455119C1 OUTPUT
- 455119C1 AT REAR-REAR AXLE

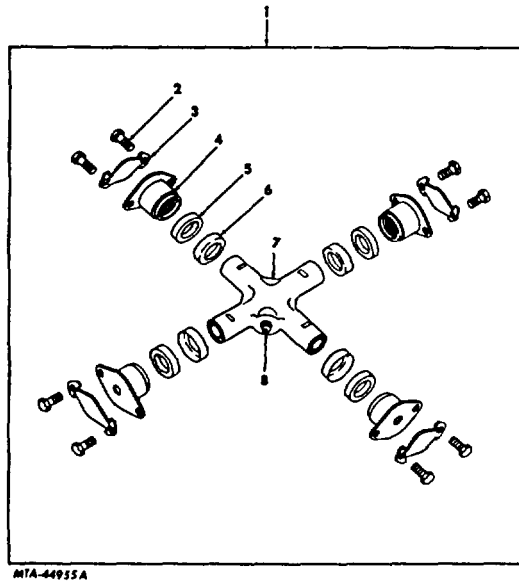
- 5. SLINGER, COMPANION FLANGE
- 973651R1 AT FORWARD-REAR AXLE (INPUT)
- 974123R1 AT REAR-REAR AXLE

FIG. 06-003 SLIP YOKES



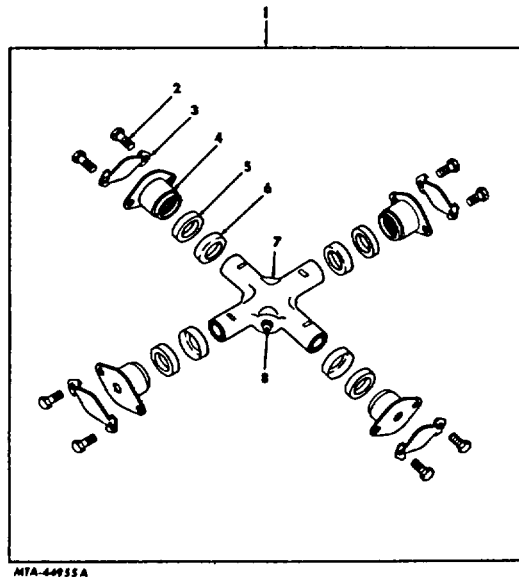
- | | | |
|----|---|--|
| 2. | 363080C91
974507R91
418324C91
109461 | YOKE, SLIP, ASSY
1600 SERIES
1700 SERIES
1810 SERIES
LUBRICATOR, |
| 3. | 109461 | LUBRICATOR |
| 4. | 121739R1
431106C1
293558C1 | SEAL, SLIP YOKE
1600 SERIES
1700 SERIES
1810 SERIES |
| 5. | 121740R1
431105C1
293557C1 | WASHER, SLIP YOKE SEAL
1600 SERIES
1700 SERIES
1810 SERIES |
| 6. | 53889V
158747HI
974487R1 | RETAINER, SLIP YOKE
1600 SERIES
1700 SERIES
1810 SERIES |

FIG. 06-004 UNIVERSAL JOINT KIT



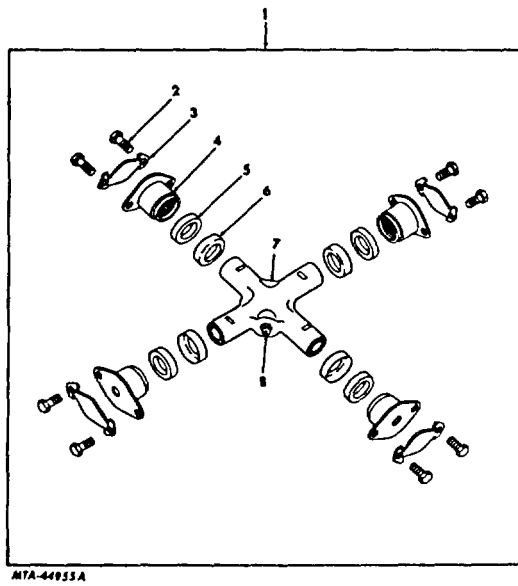
- MTA-44935A
1. 121684R92 KIT, U-JOINT REPAIR
 2. 118823R1 BOLT (NOT IN KIT) (ORDER SEPARATELY) (8)
 3. 865849R1 PLATE, LOCK (4)
 4. BEARING (ORDER KIT)
 5. 215314R1 SEAL, TRUNNION BEARING (4)
 6. 974511R1 RETAINER, SEAL (4)
 7. SPIDER (ORDER KIT)
 8. 109454 LUBRICATOR, TRUNNION BEARING

FIG. 06-005 UNIVERSAL JOINT KIT



- | | | |
|----|-----------|--|
| 1. | 121762R92 | KIT, U-JOINT REPAIR |
| 2. | 211287R1 | BOLT (NOT IN KIT) (ORDER SEPARATELY) (8) |
| 3. | 118825R1 | PLATE, LOCK (4) |
| 4. | | BEARING (ORDER KIT) |
| 5. | 121760R1 | SEAL, TRUNNION BEARING (4) |
| 6. | 697720R1 | RETAINER, SEAL (4) |
| 7. | | SPIDER (ORDER KIT) |
| 8. | 109454 | LUBRICATOR, TRUNNION BEARING |

FIG. 06-006 UNIVERSAL JOINT KIT



1. 422910C91 KIT, U-JOINT REPAIR
2. 21319R1 BOLT,(NOT IN KIT) (ORDER SEPARATELY) (8)
3. 118825R1 PLATE, LOCK (4)
4. BEARING (ORDER KIT)
5. SEAL (ORDER KIT)
6. RETAINER (ORDER KIT)
7. SPIDER (ORDER KIT)
8. 109454 LUBRICATOR, TRUNNION BEARING

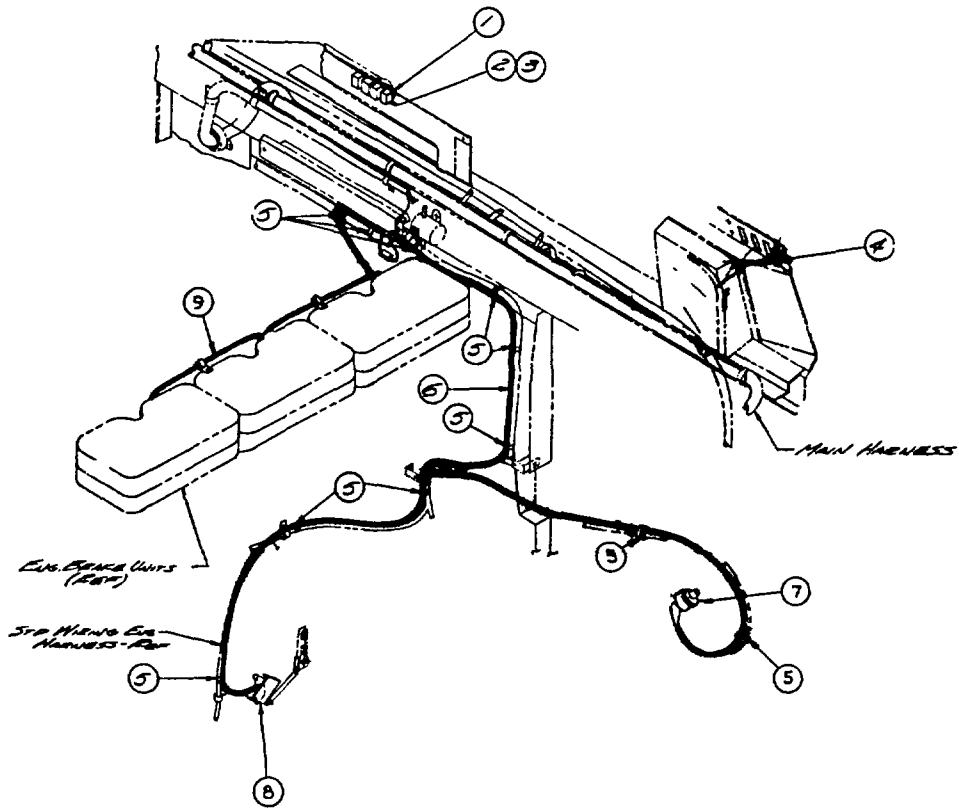


GROUP 07-EXHAUST SYSTEM

	FIG. NO.
JACOBS EXHAUST BRAKE.....	07-001
EXHAUST PIPE MOUNTING (FRONT)	07-002
EXHAUST DIVERTER	07-003
VERTICAL MUFFLER AND TAIL PIPE MOUNTING	07-004
RAIN CAP	07-005

FIG. 07-001

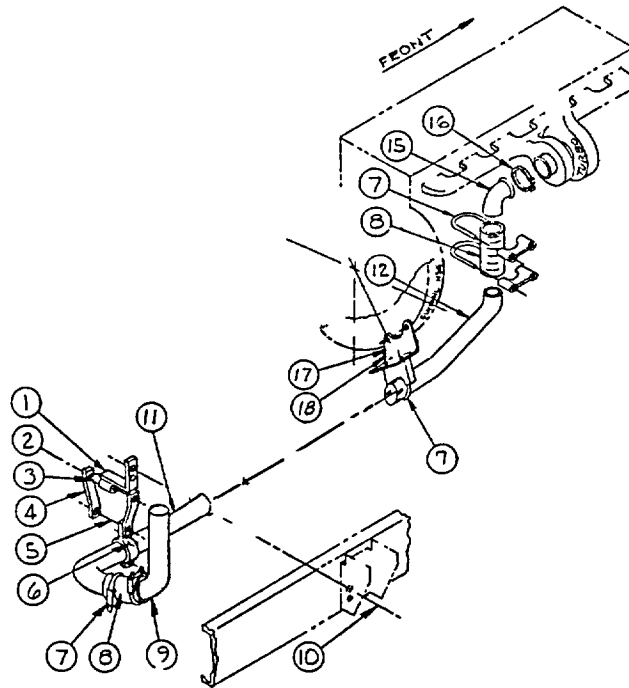
JACOBS EXHAUST BRAKE



ITEM	PART NO	QTY	
1	374381C91C	1	CABLE ASSY
2	317250C91	1	BREAKER, CIRCUIT- 15 AMP
3	107377H	2	NUT, LOCK
4	362390C91	1	SWITCH, TOGGLE
5	289862C1	12	STRAP, LOCK
6	517676C92	1	HARNESS, ENGINE BRAKE (MAKE LOCALLY)
7	517659C1	1	SWITCH, PRESSURE- XMSN
8		1	SWITCH, THROTTLE & CONTROL GROUP (ORDER DIRECT FROM JACOBS MFG. #D1248)
9		1	HARNESS ASSEMBLY (MAKE LOCALLY)

FIG. 07-002

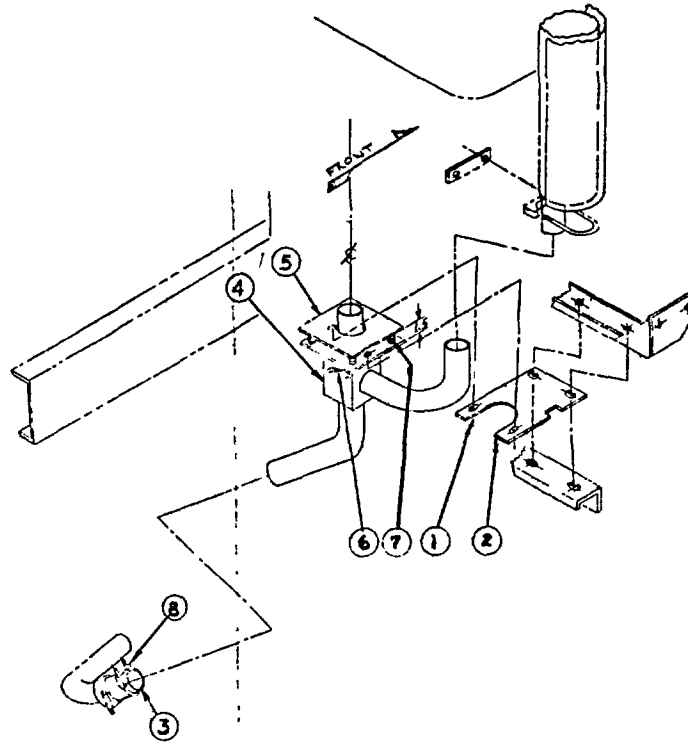
EXHAUST PIPE MOUNTING (FRONT)



ITEM	PART NO	QTY	
1	516173C1	1	SUPPORT, MFLR HANGER
2	24843R1	1	BOLT, HEX HD 3/8-16UNC X 2
2	9413979	1	NUT, HEX LOCK 3/8-16UNC
3	150554R1	1	SPACER MFLR HANGER
3	72696R1	2	INSULATOR, EXH PIPE
4	227640R1	2	HANGER, EXH PIPE
5	24843R1	1	BOLT, HEX HD 3/8-16UNC X 2
5	64899H	1	SPRING, HANGER
5	25709R1	1	WASHER, FLAT 3/8
5	9413979	1	NUT, HEX LOCK 3/8-16UNC
6	399455C1	2	CLAMP, PIPE
6	140483H	1	BOLT, HEX HD 3/8-16UNC X 1-1/4, CLAMP UPPER HOLE
6	24842R1	1	BOLT, HEX HD 3/8-16UNC X 1-3/4, CLAMP LOWER HOLE
6	9413979	2	NUT, HEX LOCK 3/8-16UNC
			USE W-ITEMS 17 & 18
7	450170C1	5	BOLT, U
7	451790C1	5	CLAMP, SADDLE
7	453114C1	10	NUT, HEX LOCK 7/16-14 UNC
7	25846R1	8	WASHER, FLAT 7/16
8	755330C1	2	TUBE FLEX
9	467764C1	1	PIPE, EXH
10	414055C1	2	BOLT, FLG HEX HD 1/2-20UNRF X 2-1/4
10	414055C1	1	BOLT, FLG HEX HD 1/2-20UNRF X 2-1/4
10	414087C1	2	NUT, FLG HEX LOCK 1/2-20UNF
11	516175C1	1	PIPE, EXH
12	423849C1	1	PIPE, EXH
15	423846C1	1	PIPE, EXH
16	390226C1	1	CLAMP
17	440050C3	1	BRACKET, EXH PIPE
18	25846R1	2	WASHER, FLAT 7/16

FIG. 07-003

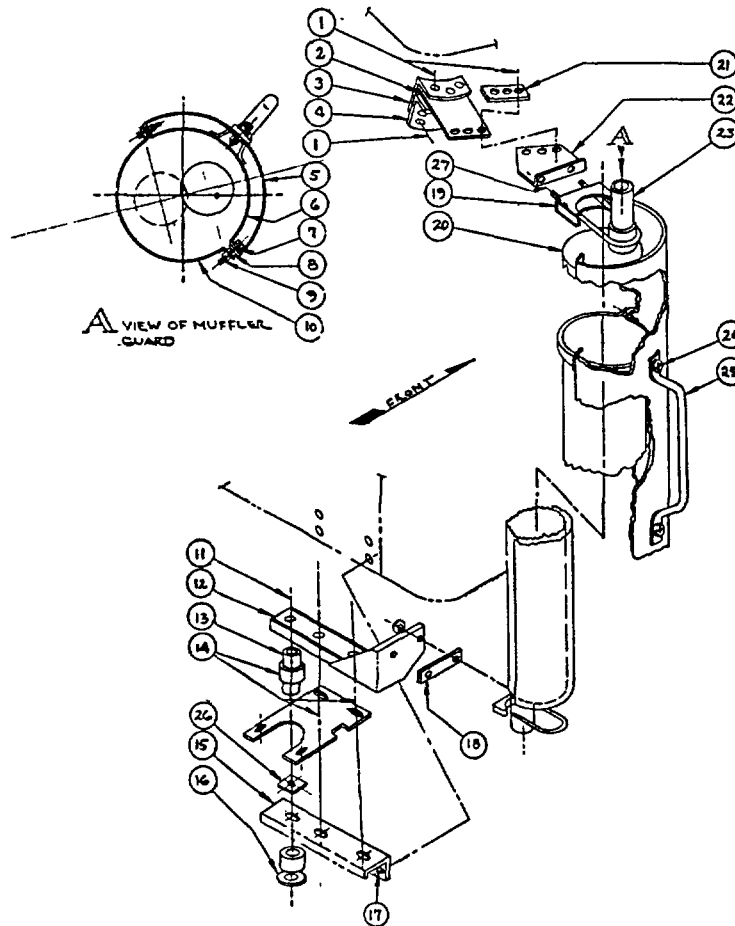
EXHAUST DIVERTER



ITEM	PART NO	QTY.	
1	24860R1	2	BOLT- HEX HD 1/2-13UNC X 1
1	9411830	2	NUT- HEX LOCK 1/2-13UNC
2	522375C1	1	BRKT, EXHAUST DIVERTER MTG
3	772046C1	1	TUBE, FLEX 5 IN ID X 11,0 LONG
4	520387C2	1	BOX, ASSY DIVERTER EXHAUST
5	520374C1	1	PLATE ASSY, EXHAUST SHIELD
6	435241C1	1	SPRING
7	350852C1	4	SPRING
7	9412230	4	NUT, HEX LOCK 1/2-13UNC
8	450170C1	1	U-BOLT
8	451790C1	1	CLAMP- SADDLE
8	453114C1	1	NUT, HEX LOCK 7/16-14UNC
8	25846C1	1	WASHER, FLAT 7/16

FIG. 07-004

VERTICAL MUFFLER AND TAIL PIPE MOUNTING

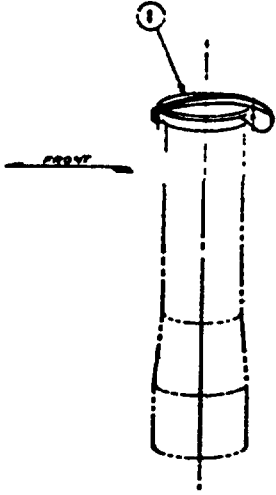


ITEM	PART NO.	QTY.	
1	25493R1	10	BOLT HEX HD 5/16 18 UNC X 1
1	9413977	10	NUT, HEX LOCK 5/16-18UNC
2	403391C1	1	INSULATOR
3	403390C1	1	BRACKET
4	403389C1	1	BRACKET
5	438734C1	1	GUARD- MUFFLER
6	43862902	2	CLAMP- ASSY MTG
7	25709R1	AR	WASHER- FLAT 3/8
8	25522R1	2	NUT, HEX 3/8-16UNC
9	140483H	4	BOLT, HEX HD 3/8-16 UNC X 1 1/4
10	438623C2	2	CLAMP MTG- MUFFLER
11	24855R1	3	BOLT, HEX HD 7/16-14UNC X 3
11	25846R1	3	WASHER, FLAT 7/16
11	9413981	3	NUT, HEX LOCK 7/16-14UNC
12	522391C1	1	SUPPORT, ASSY
13	403387C1	3	SPACER
14	403392C1	6	INSULATOR
15	522392C1	1	SUPPORT, MUFFLER ASSY
16	23843R1	3	WASHER- FLAT
17	24846R1	4	BOLT- HEX HD 3/8-16UNC X 4 1/2
17	120582	4	WASHER- LOCK 3/8 REG
18	521208C1	1	BAR- SPACER
19	457770C1	1	BOLT-U EXHAUST PIPE
19	451790C1	2	CLAMP- SADDLE

ITEM	PART NO.	QTY.	
20	433665C1	1	MUFFLER ASSY- ALUMINIZED
21	403388C1	1	PLATE- MUFFLER MTG
22	52016503	1	BRACKET, MUFFLER SPACER
23	360492C1	1	PIPE- EXHAUST 5 IN X 24 LG
24	20863R1	2	BOLT- PAN HD CR REG 5/16-18
			UNC X 3/4
24	426759	2	WASHER- LOCK- 5/16 SST
24	221455	2	WASHER- FLAT- 5/16 SST
25	406952C2	1	HANDLE-GRAB
26	522394C1	1	SPACER
27	45036101	2	NUT, HEX 3/8-16 UNC
27	25709R1	2	WASHER, FLAT 3/8 HARD

FIG. 07-005

RAIN CAP

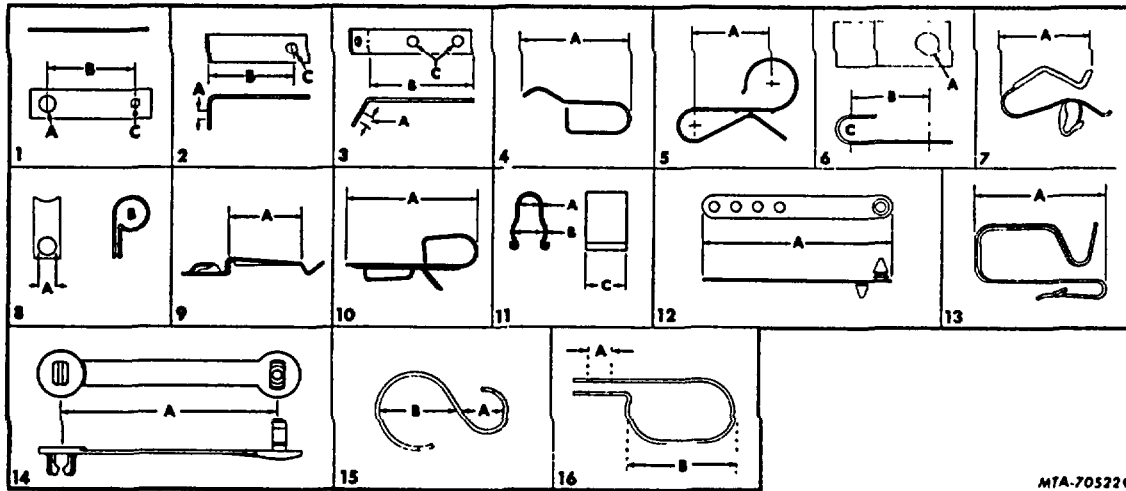


ITEM	PART NO	QTY	
1	321577R91	1	CAP, RAIN



GROUP 08-ELECTRICAL SYSTEM

	FIG. NO.
AUTOMATIC TRANS AND BACK-UP SWITCH WIRING	08-013
AIR HORN (CHROME)	08-009
BATTERY BOX	08-006
BATTERY CABLES	
PRODUCTION	08-051
STANDARDIZED	08-001
CIRCUIT BREAKERS	08-007
CLIPS, EXTENSIONS AND STRAP	08-002
CONNECTORS AND TERMINALS	
CONNECTOR BODIES AND TERMINALS	
TYPE 1 (SEE ILLUSTRATION FOR IDENTIFICATION)	08-003
TYPE 11 (SEE ILLUSTRATION FOR IDENTIFICATION)	08-004
SOLDERLESS TERMINALS	08-005
ENGINE SHUT-DOWN WARNING LIGHT AND BELL(CODE 08807).....	08-038
FUSE BLOCK	08-010
GENERATOR W/INTEGRAL REGULATOR	
ASSEMBLY,.....	08-011
MOUNTING,	08-015
HARNESS JUNCTION BLOCK	08-021
HORN, RELAY AND MOUNTING (ELECTRIC).....	08 -022
INSTRUMENTS AND GAUGES	08-023
LIGHTS	
BACK-UP	08-024
DOME	08-025
HEADLIGHT.....	08-027
MARKER.....	08-028
STOP AND TAIL	
ASSEMBLY	08-024
MOUNTING.....	08-031
TURN SIGNALS	
FRONT	08-032
REAR	08-024
OPTICAL RIBBON CABLE AND MOUNTING.....	08-008
STARTING MOTOR.....	08-033
SWITCHES	
EXCEPT TURN SIGNAL.....	08-040
FOR TURN SIGNAL.....	08-041
REVERSE POLARITY PROTECTION.....	08-042
WIRING HARNESS, e,.....	08-051



MTA-70522C

FIG. 08-002 CLIPS. EXTENSIONS AND STRAP

KEY	DESCRIPTION	COLUMN			IH PART NUMBER
		A	B	C	
1	EXTENSION, clip	13/32	3/4	13/32	88 191 H
		17/32	2	9/32	70 369 R1
		19/32	2	9/32	Z82 368 C1
2	EXTENSION, clip	9/32	5/8	9/32	108 355 R1
		9/32	3/4	9/32	25 696 H1
		9/32	13/16	9/32	108 179 R1
		9/32	2-1/4	11/32	213 892 R1
		9/32	1-1/4	13/32	141 598 R1
		9/32	1-5/8	13/32	56 787 R1
		9/32	2-1/8	15/32	108 300 R1
		11/32	1-5/16	9/32	256 035 C1
		11/32	2-1/4	9/32	261 703 C1
		11/32	2-3/4	9/32	194 665 R1
		11/32	3-1/16	9/32	138 954 R1
		11/32	11/16	11/32	99 217 H
		13/32	1-1/8	9/32	88 173 H
		13/32	2	9/32	88 179 H
		13/32	2-1/8	9/32	123 295 H
		13/32	7/8	13/32	137 230 H
		13/32	1	13/32	201 663 R
		13/32	3-1/2	13/32	8.188 H
		15/32	2-7/16	9/32	91 011 R1
17/32	13/16	9/32	140 526 H		
17/32	J-1/4	9/32	57 690 R1		
17/32	1-7/8	9/32	423 915 R1		
21/32	2-5/16	9/32	427 922 R1		
21/32	1-11/4	13/32	55 022 R1		
11/16	1-7/8	11/16	190 81 1 R1		

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KEY	DESCRIPTION	COLUMN			IH PART NUMBER
		A	B	C	
<i>FIG. 08-002 CLIPS, EXTENSIONS AND STRAP - Continued</i>					
3	EXTENSION, clip	21/32	3-1/2	9/32	878 043 R1
		21/32	5-1/2	9/32	279 176 C1
4	CLIP, cable	1-23/32			85 059 R1
5	CLIP, cable	5/8			119 702 R1
		1-1/2			109 549 H
6	CLIP, cable				
	twisted	9/32	1	3/4	114 219 R1
	straight	9/32	25/32	1/2	84 022 R1
		9/32	1-5/32	3/8	114 215 R1
		11/32	7/8	5/16	114 214 R1
		11/32	1-1/32	518	101 381 H
		13/32	29/32	5/16	100 770 H
		13/32	1-5/32	3/8	114 216 R1
7	CLIP, cable	1	128 250 RI		
		1-5/64	221 490 RI		
		1-1/8	878 734 RI		
8	CLIP, cable				
	plain	9/32 x 3/8	112	137 194	
		9/32 x 3/8	3/4	137 198	
		13132 x 1/2	3/4	140 766	
	rubber coatea	9/32 x 3/8	3/16	101 977 R1	
		9/32 x 3/8	3/4	96 739 R1	
		11/32	1	981.93 R91	
		11/32	1-1/2	448 900 RI	
		13/32	3/8	446 074 R1	
		13/32	5/8	99 098 H	
		13/32	1-3/16	985 650 R91	
		13/32 x 1/2	9/16	102 106 R1	
9	CLIP, cable	19/32			145 540
10	CLIP, cable	1-3/4			867 092 R1
11	CLIP, cable	3/8	1/2	518	80 230 R1
12	STRAP, cable	3-5/8			872 660 R1
		10			241 554 R91
13	CLIP, cable	13/16			862 576 R1
14	STRAP, cable	2-3/4			264 501 C1
15	NOT USED				
16	NOT USED				



CONNECTOR BODIES

<p>Single female 188393-R1 Use type 2 terminal</p> <p>Single male 188395-R1 Use type 1 terminal</p>	<p>2 way female 257856-C1 Use type 2 terminal</p> <p>2 way male 899166-R1 Use type 1 terminal</p>	<p>2 way female 872290-R1 Use type 2 terminal</p> <p>2 way male 872291-R1 Use type 1 terminal</p>	<p>322630-C1</p> <p>Use 8 type 1 terminal</p>	<p>322627-C1</p> <p>Use 6 type 1&2 type 2 terminals</p>			
<p>3 way female 968663-R1 Use type 2 terminal</p> <p>3 way male 877771-R1 Use type 1 terminal</p>	<p>3 way female 264515-C1 Use type 2 terminal</p> <p>3 way male 264516-C1 Use type 1 terminal</p>	<p>6 way female 891696-R1 Use type 2 terminal</p> <p>6 way male 891695-R1 Use type 1 terminal</p>	<p>322629-C1 Use 8 type 2 terminals</p>	<p>304311-C2</p> <p>Use 6 type 1 terminal</p>			
<p>4 way female 241108-R1 Use type 2 terminal</p> <p>4 way male 241107-R1 Use type 1 terminal</p>	<p>6 way female 258059-C2 Use type 2 terminal</p> <p>6 way male 258058-C1 Use type 1 terminal</p>	<p>6 way female 891122-R1 Use type 2 terminal</p> <p>6 way male 891124-R1 Use type 1 terminal</p>	<p>276846-C1 Use 22-type 1 terminals</p>				
<p>6 way female 241105-R1 Use type 2 terminal</p> <p>6 way male 891121-R1 Use type 1 terminal</p>	<p>AC Generator 969341-R1 Use type 1 terminal</p>	<p>Turn signal flasher 261701-C1 Use type 3 terminal</p>	<p>Turn signal flasher 261702-C1 Use type 1 terminal</p>	<p>276843-C1 Use 8 type 2 terminal</p> <p>276737-C2 Use 6 type 1 terminal</p>			
<p>8 way female 244071-R1 Use type 2 terminal</p> <p>8 way male 240752-R1 Use type 1 terminal</p>	<p>Use connector body 241105-R1 Use type 1 terminal</p> <p>Use connector body 258059-C2 Use type 4 terminal</p>	<p>15 way 896564-R1 Use type 1 terminal</p>	<p>Voltage regulator 969325-R1 Use type 1 terminal</p>	<p>Light switch 241111-R1 Use type 1 terminal</p>	<p>286786-C1</p> <p>Use 8 type 1 terminal</p>		
<p>Ignition switch 293347-C1 Use type 1 terminal</p>	<p>Headlight 899385-R1 Use type 1 terminal</p>	<p>Transistorized relay 266504-C1 Use type 2 terminal</p>	<p>250381-C91 Use type 1 terminal</p>	<p>Twin lock connector bodies 304587-C1 Use type 3 terminal</p> <p>304588-C1 Use type 3 terminal</p>	<p>325347-C1</p> <p>325348-C1 Use 12 type 3 terminals</p>		
<p>INSTRUMENT HARNESS 449797-C1</p>	<p>BACK-UP LIGHT SWITCH 419267-C1</p>	<p>TERMINALS</p>			<p>Blower Motor 488786-C1</p>	<p>9 WAY CONNECTOR BODY 378513-C1</p>	
<p>Type 1</p> <p>Wires 879552-R1 14-20 879558-R1 10-12</p>	<p>Type 2</p> <p>Wires 188392-R1 12 239807-R1 14-20 253645-C1 10</p>	<p>Type 3</p> <p>879634-R1</p>	<p>Type 4</p> <p>241123-R1</p>	<p>2-Speed axle cable</p> <p>258746-C1</p>	<p>Type 5</p> <p>304457-C1</p>	<p>Female</p> <p>276844-C1 Use with 378513-C1</p>	<p>Male</p> <p>276818-C1 Use with 378513-C1</p>
<p>MALE</p> <p>449796-C1 USE WITH 449797-C1</p>							

MT-13486C

FIG. 08-003 CONNECTOR BODIES AND TERMINALS



GROUP 08-ELECTRICAL SYSTEM

CONNECTOR BODIES

<p>12 way female 402297-C1 Use type 9 terminals</p> <p>12 way male 402296-C1 Use type 8 terminals</p>	<p>10 way female 402300-C1 Use 8 type 9 and 2 type 7 terminals</p> <p>10 way male 402299-C1 Use 8 type 8 and 2 type 6 terminals</p>	<p>6 way female 402302-C1 Use type 9 terminals</p> <p>6 way male 402301-C1 Use type 8 terminals</p>	<p>406319-C1 Mates with ignition switch 1990084</p> <p>Use type 1 terminals</p>
<p>402314-C1</p> <p>Use type 1 terminals</p>	<p>406321-C1</p> <p>Use type 11 terminals</p>	<p>358925-C1</p> <p>Use type 10 terminals</p>	<p>12 circuit boot</p> <p>402303-C1</p> <p>10 circuit boot</p> <p>402305-C1</p>
<p>Antilock module bottom left</p> <p>456244-C1</p>	<p>456245-C1</p> <p>Antilock module bottom right</p>	<p>Antilock module upper left</p> <p>456246-C1</p>	<p>Antilock module upper right</p> <p>456247-C1</p>
<p>Antilock module middle left</p> <p>459382-C1</p>	<p>Antilock module middle right</p> <p>459383-C1</p>		

TERMINALS

<p>Type 10</p> <p>407628-C1</p> <p>Wire 2-18 or 18-16</p>	<p>Type 6</p> <p>402307-C1</p> <p>Wire 10-12</p>	<p>Type 8</p> <p>402311-C1</p> <p>Wire 16-14, 2-20 or 2-18 22-18</p> <p>402309-C1</p> <p>404789-C1</p> <p>12</p>	<p>Type 11</p> <p>406341-C1</p> <p>Wire 18-20 14-16</p> <p>406342-C1</p>
<p>Type 9</p> <p>402308-C1</p> <p>Wire 22-18 16-14</p> <p>402310-C1</p>	<p>Type 7</p> <p>402306-C1</p> <p>Wire 10-12</p>	<p>Antilock Spring loaded</p> <p>456243-C1</p> <p>Wire 18-14</p>	









MT-14382 A

FIG. 08-004 CONNECTOR BODIES AND TERMINALS



GROUP 08-ELECTRICAL SYSTEM

SOLDERLESS TERMINALS

PRE INSULATED TERMINALS			
TERMINAL	WIRE SIZE	STUD SIZE	IN NUMBER
	22-16	10	244 064 R1
	16-14	6	54 771 R2
	16-14	10	54 772 R2
	16-14	1/4	54 773 R2
	16-14	5/16	54 774 R2
	16-14	3/8	54 775 R2
	12-10	6	54 776 R2
	12-10	10	54 777 R2
	12-10	1/4	54 778 R2
	12-10	5/16	54 779 R2
	12-10	3/8	54 780 R2
RING			
	16-14	8	56 955 R2
	16-14	10	54 781 R2
	12-10	10	54 782 R2
SPADE			
	16-14	10	244 059 R1
HOOK			
QUICK DISCONNECT TERMINALS			
TYPE	WIRE SIZE	IN NUMBER	
	16-12	165 565 R1	
	22-18	165 563 R1	
TERMINAL (NON-INSULATED)			
		165 566 R1	
TERMINAL FLAG (NON-INSULATED)			
		238 101 R1	
ADAPTER (NON-INSULATED)			
		165 567 R1	
BLADE (NON-INSULATED)			
	22-16	238 100 R1	
	16-14	915 073 R1	
TERMINAL (INSULATED)			

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BUTT SPLICES		
TYPE	WIRE SIZE	IN NUMBER
	22-16	915 046 R1
	16-14	56 698 R1
	12-10	56 699 R1
BUTT SPLICE		
		244 058 R1
CONNECTOR, BLADE		
		46 893 H
CONNECTOR, BULLET		
		915 081 R1
CONNECTOR, CLOSED END		
BULLET AND PIN TERMINALS		
		46 894 H
TERMINAL, BULLET (NON-INSULATED)		
		244 063 R1
TERMINAL, BULLET (INSULATED)		
		915 080 R1
TERMINAL PIN (INSULATED)		
IGNITION TERMINALS		
		103 238 H
TERMINAL, PLUG, STRAIGHT		
		84 319 H
TERMINAL, PLUG, ANGLE		
		17 070 D
TERMINAL, DISTRIBUTOR CAP		

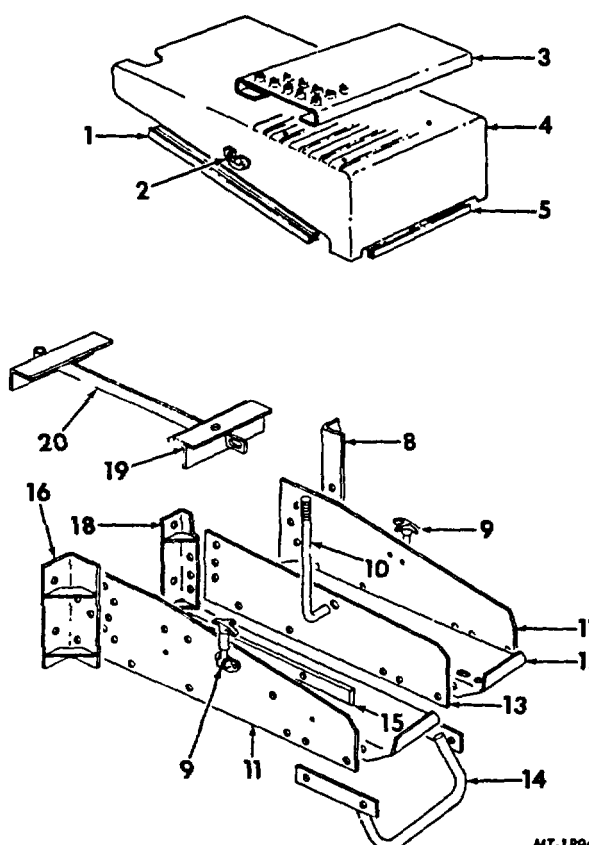
FIG. 08-005 SOLDERLESS TERMINALS



MT134 GROUP



MT134 GROUP

REF NO	PART NUMBER	DESCRIPTION	REF NO	PART NUMBER	DESCRIPTION
	FIG. 08-006 BATTERY BOX			FIG. 08-006 CONTINUED BATTERY BOX	
					
	442 079	C93 TRAY, BATTERY BOX, ASSY -INCLUDES KEY NOS. 2, 11 THRU 15-			
1	400 613	C1 RETAINER, BATTERY BOX COVER -2-	9	104 858	H FASTENER, BATTERY BOX COVER -2-
2	104 185	H HOOK, BATTERY COVER FASTENER -2-	990 315	R1 RIVET, 3/16 X 1/2 -4-	
	25 457	R1 NUT, HEX. NO. 10 -4-	10	454 021	C1 BOLT, BATTERY HOLD-DOWN
	160 221	SCREW, PAN-H NO. 10-24 X 1-1/2 -4-	9	413 979	NUT, HEX. LOCK 3/16NC-
	21 202	R1 WASHER, LOCK NO. 10 -4-	25 709	R1 WASHER, FLAT 3/8	
	400 609	C1 BAR, BATTERY BOX REINFORCEMENT -2-	132 469	R1 WASHER, RUBBER	
	31 424 703	C2 STEP, BATTERY BOX, UPPER	11	442 096	C1 PANEL, BATTERY BOX -REAR-
	25 22B	R1 BOLT, STEP MOUNTING -4-		25 493	R1 BOLT, PANEL MOUNTING -AR-
	9 413 977	NUT, HEX. LOCK 5/16NC -4-	913 977	NUT, HEX. 5/16NC -AR-	
	416 590	R1 WASHER, FLAT 5/16 -4-	12	AM2 0C3	TRAY, BATTERY
4	424 704	C1 COVER, BATTERY BOX	13	A42097	C2 PANEL, BATTERY BOX -CENTER-
5	398 505	C1 RETAINER, BATTERY BOX COVER		25 493	R1 BOLT, PANEL MOUNTING -AR-
			9 4139T7	NUT, HEX. 5/16NC -AR-	
			25 708	R1 WASHER, HARDEN 5/16 -AR-	
			424 382	C1 STEP, BATTERY BOX LOWER	
			14		
			15		
				133573	STOP, BATTERY -MAKE LOCALLY- -2-
				19 910	R1 SCREW FL-HD ND. 10NC X 7/8 -4-
				120391	NUT, HEX. LOCK NO. 10NC -4-
					WASHER, FLAT NO. 10 -4-
			16		
				460536	C1 BRACKET, BATTERY BOX MOUNTING -FRONT-
				414 051	C1 BOLT, HEX-FLG-HO 1/2NF X 1-1/4 -AR-
				414 053	C1 BOLT, HEX-FLG-1H 1/2NF X 1-3/4 -AR-
				414087	C1 NUT, HEX-FLG-LOCK 1/2NF -AR-
			18		
				460532	C1 BRACKET BATTERY BOX MOUNTING -CENTER-
				24 860	R1 BOLT, HEX-HD 1/7NC X 1
					-3-
			19		
				374 696	C2 ANGLE BATTERY HOLD DOWN
			20		
				374 707	C2 CLAMP, BATTERY HOLD DOWN
				20 174	R1 BOLT, CLAMP MOUNTING
				9 413 919	NUT HEX. LOCK 3/8NC
				25 709	R1 WASHER, FLAT 1/8
				132 469	R1 WASHER, RUBBER

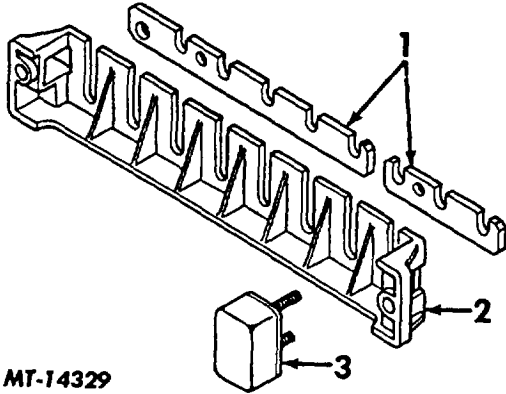
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MT134 GROUP

REF NO	PART NUMBER	DESCRIPTION
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FIG. 08-007
CIRCUIT BREAKERS



MT-14329

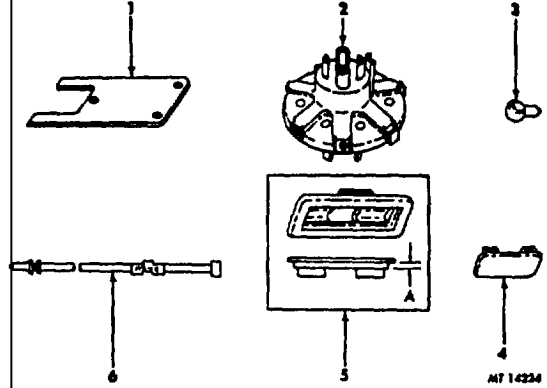
- | | | | |
|---|---------|-----|--|
| 1 | 438 161 | C1 | BAR, BUS |
| 2 | 438 159 | C1 | PANEL, W/O CIRCUIT BREAKERS |
| 3 | 406 939 | C91 | BRACKET, CIRCUIT BREAKER BREAKER, CIRCUIT -AR- |
| | 317 250 | C91 | 15 AMP |
| | 317 251 | C91 | 20 AMP |
| | 317 252 | C91 | 30 AMP |
| | 772 109 | C91 | 40 AMP |
| | 426 456 | C2 | *BRACKET, CIRCUIT BREAKER AND RELAY TGC |
| | 421128 | C1 | DECAL, CIRCUIT BREAKER |
- *PARTS NOT ILLUSTRATED



MT134 GROUP

REF NO	PART NUMBER	DESCRIPTION
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FIG. 08-008
OPTICAL RIBBON CABLE AND MOUNTING



- | | | | |
|---|---------|----|---|
| 1 | 440 422 | C2 | BRACKET, LIGHT SOURCE MOUNTING |
| | 126 270 | | SCREW, TAP. PN-CR-REC-HO NO. 3-18 X 3/8 -2- |
| 2 | 435 268 | CL | LIGHT, OPTICAL RIBBON SOURCE, ASSY |
| | 436 606 | | SCREW, PAN-HO NO. 4NC X 5/8 |
| | 134 524 | | NUT, HEX. NO. 5NC |
| | 218 322 | | WASHER, FLAT NO. 4 |
| | 106 494 | | WASHER, LOCK NO. 4 REGULAR |
| 3 | 26 069 | R1 | LAP. SOURCE LIGHT -2.6 CANDLE POWER- PLUG FILLER -BEZEL OPENING- -AR- |
| 4 | 437 196 | C1 | 1 INCH LONG |
| | 437 801 | C1 | 1-1/2 INCH LONG |
| 5 | | | BEZEL, OPTICAL RIBBON CABLE -AR- 1 INCH LONG |
| | 435 389 | C1 | .058 -A DIMENSION- |
| | 435 390 | C1 | .098 -A DIMENSION- |
| 6 | 437 802 | C1 | 1-1/2 INCH LONG -A DIMENSION .098- CABLE, OPTICAL RIBBON |
| | 437 193 | C1 | 40 INCHES LONG |
| | 437 191 | C1 | 48 INCHES LONG |
| | 437 192 | C1 | 50 INCHES LONG |
| | 437 194 | C1 | 60 INCHES LONG |
| | 437 190 | C2 | 70 INCHES LONG |

NOTE: FOR LOCATION AND MOUNTING FOR THE ABOVE ITEMS SEE FIG. 08-012.

FIG. 08-009

AIR HORN (CHROME) (NOT ILLUSTRATED)

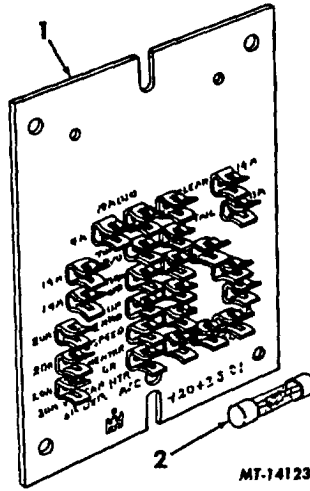
549073C91	HORN AIR
403405C1	BRACKET, HORN VALVE
384629C1	CABLE, HORN (PULL)
403403C1	COVER, AIR VALVE ACCESS
308607C1	LEVER, HORN VALVE
784233C1	PAD, FRONT MOUNTING
784232C1	PAD, REAR
411273C1	PEDESTAL, HORN FRONT
266603C1	REINFORCEMENT, AIR HORN MOUNTING
131434H	RING, SNAP
682506R91	VALVE, AIR HORN



MT134 GROUP

REF NO	PART NUMBER	DESCRIPTION
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FIG. 08-010
FUSE, BLOCK



- | | | |
|---|--------|--|
| 1 | 437188 | C1 BLOCK, FUSE (IN GLOVE BOX AND ON DOOR)(2) |
| | 163216 | SCREW, PAN-HO NO. 1/1 X 1/2 -2- |
| 2 | | FUSE |
| | 147682 | 4 AMPERE |
| | 117142 | 10 AMPERE |
| | 147665 | 14 AMPERE |
| | 432644 | 20 AMPERE |
| | 120114 | 30 AMPERE |



MT134 GROUP
REF PART
NO NUMBER

DESCRIPTION

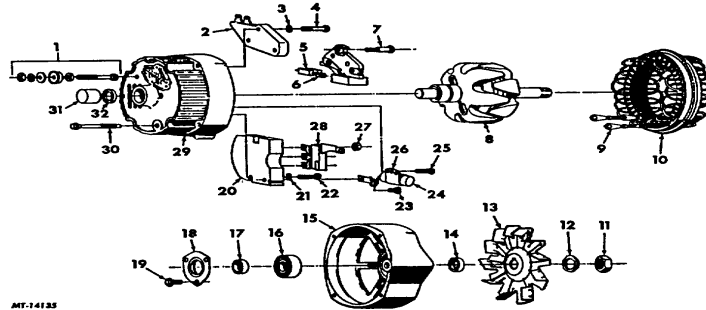


MT134 GROUP
REF PART
NO NUMBER

DESCRIPTION

FIG. 08-011
GENERATOR

FIG. 08-011 CONTINUED

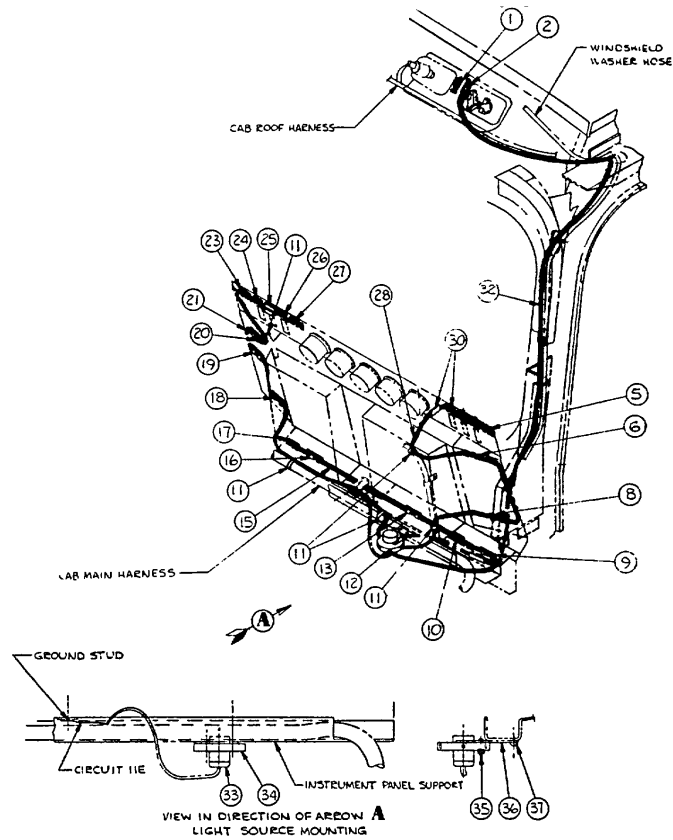


MT-14133

REF NO	PART NUMBER	DESCRIPTION	REF NO	PART NUMBER	DESCRIPTION
		GENERATOR, N/INTEGRAL REGULATOR, ASSY	19	132	839 SCREW, BEARING RETAINER PLATE -3-
		80 AMP GEN AC, CODE 08134		453	435 WASHER, LOCK RETAINER PLATE SCREW-3-
		PRODUCTION		411	396 SCREW, HEX-HO NO. 10NC X 3/8 -1100080
		REPLACEMENT			GEN ONLY -3-
1	100 013	TERMINAL -PACKAGE-	9	419	634 WASHER, LOCK RETAINER PLATE SCREW -3-
	100 080	BATTERY	20	801	616 RECTIFIER BRIDGE
	844 901	RELAY		801	615 CONNECTOR, BATTERY TERMINAL TO
	852 519				RECTIFIER BRIDGE
2		REGULATOR VOLTAGE	1	51	612 SCREW BATTERY TERMINAL CONNECTOR
	876 388	1100073 GEN	1	52	032 CONNECTOR, RELAY TERMINAL TO RECTIFIER
	116 389	1100080 GEN			BRIDGE
	852 043	BRACKET, REGULATOR CONNECTOR BODY	1	970	27T CAP, RUBBER RELAY TERMINAL COVER
	455 825	SCREW BODY BRACKET MOUNTING	1	847	933 WASHER, SPRING RECTIFIER BRIDGE SC -2-
	601 532	CAP, VOLTAGE REGULATOR ADJUSTMENT	21	970	145 SCREW, RECTIFIER BRIDGE -2-
	801 548	CONNECTOR, BODY REGULATOR	22	1	851 612 SCREW, CAPACITOR LEAD ATTACH
	453 434	NUT, REGULATOR STUD	23	801	824 CAPACITOR
3	847 933	WASHER SPRING -AR-	24	1	51 612 SCREWY CAPACITOR BRACKET
4	971 519	SCREW, BRUSH HOLDER -GROUND-	25	1	869 573 BRACKET, CAPACITOR
5	852 002	BRUSH, HOLDER, ASSY	26	1851808	NUT, V/LOCK WASHER RECTIFIER BRIDGE -3-
6	964 117	SPRING, BRUSH HOLDER, ASSY	27		
7	846 864	SCREW BRUSH HOLDER -INSULATED- -2-	28	801	817 RECTIFIER -DIODE TRIO-
8	852 040	ROTOR, ASSY	29	1	852 630 FRAME SLIP RING END
9	801 828	CLIP STATOR LEAD TERMINAL -3-		1	96 990 BUSHING, SLIP RING END BEARING WELL
10	801 081	STATOR ASSY			455 532 PIN, SLIP RING END DOWEL
11	9 418 881	NUT, DRIVE END SHAFT	30	1	969 056 PLUG SLIP RING END BEARING WELL
	1 905 406	WASHER, DRIVE END SHAFT NUT	31	801	810 BOLT, THRU -4-
12	941 978	WASHER, DRIVE END SHAFT	32	7	451 782 BEARING SLIP RING END ROLLER
13	969 481	FAN N/BAFFLE		1	961 323 SEAL, SLIP RING END BEARING
14	969 046	COLLAR, DIVE END SHAFT -OUTSIDE-			
15	852 038	FRAME, DRIVE END			
	969 070	DUST SHIELD DRIVE END FRAME			
16	955 660	WASHER, FELT DRIVE END FRAME			
17	907 940	BEARING DRIVE END BALL			
18	970 384	COLLAR, DRIVE END SHAFT -INSIDE-			
	961 867	PLATE, DRIVE END BALL BEARING RETAIN ER			
	955 663	GASKET BEARING RETAINER PLATE			

FIG. 08-012

OPTICAL RIBBON CABLE AND MOUNTING(REF. FROM FIG. 08-008)



ITEM NO.	PART NO	QTY.		ITEM NO.	PART NO.	QT.	
1	435389C1	1	BEZEL, OPTICAL RIBBON	21	437194C1	1	CABLE, RIBBON OPTICAL ASSEMBLY
2	435389C1	1	BEZEL, OPTICAL, RIBBON, WIPE	23	435389C1	1	BEZEL, OPTICAL RIBBON LIGHTS
5	437196C1	1	PLUG, OPTICAL, WASH	24	435389C1	1	BEZEL, OPTICAL RIBBON DONE/PNL
6	437802C1	1	BEZEL, FILLER	25	437196C1	1	PLUG, FILLER
8	437802C1	1	BEZEL, OPTICAL RIBBON POWER DIVIDER	27	437196C1	1	PLUG, FILLER
9	437196C1		PLUG, FILLER	28	43719C2	1	CABLE, RIBBON OPTICAL ASM
10	435390C1	1	BEZEL, OPTICAL RIBBON LIMIT V	30	435389C1	1	BEZEL, OPTICAL RIBBON PRIMER
10							OR GLOW PLUG
11	289862C1		STRAP, CABLE LOCK	32	437190C2	1	CABLE, RIBBON OPTICAL ASSEMBLY
12				33	26069R1	1	LAMP, WEDGE BASE 2.6 CP 192
13	437193C1		PLUG, FILLER	34	435268C1	1	LIGHT, SOURCE ASSEMBLY
15	437193C1	1	CABLE, RIBBON THROTTLE	35	131043	1	SCREW, PAN HD MACH 4-08 X 5/8
18	437002C1	1	BEZEL, OPTICAL RIBBON THROTTLE	35	131043	1	WASHER, FLAT #4
19	437539C1	1	PLUG, FILLER	35	210322	1	WASHER, LOCK #4
19	437002C1	1	BEZEL, OPTICAL RIBBON TRACTOR PROT	35	134524	1	WASHER, LIGHT SOURCE MOUNTING
19				36	44022C2	1	BRACKET, LIGHT SOURCE MOUNTING
20	437002C1	1	BEZEL, OPTICAL RIBBON SPRING BRAKE	37	24379R1	1	SCREW, PAN HD CR TAP #8.18 X 1/2
				37	437693C1	1	CAP, TUBE

FIG. 08-013

AUTOMATIC TRANS WIRING W/TEMPERATURE GAUGES AND
WARNING LIGHTS (CODE 813475)

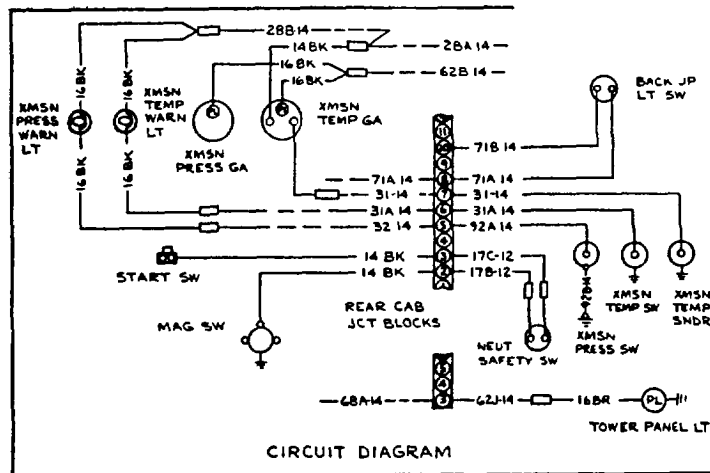
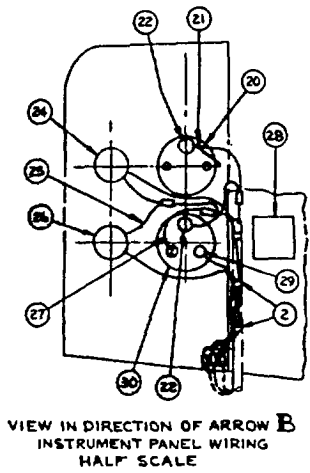
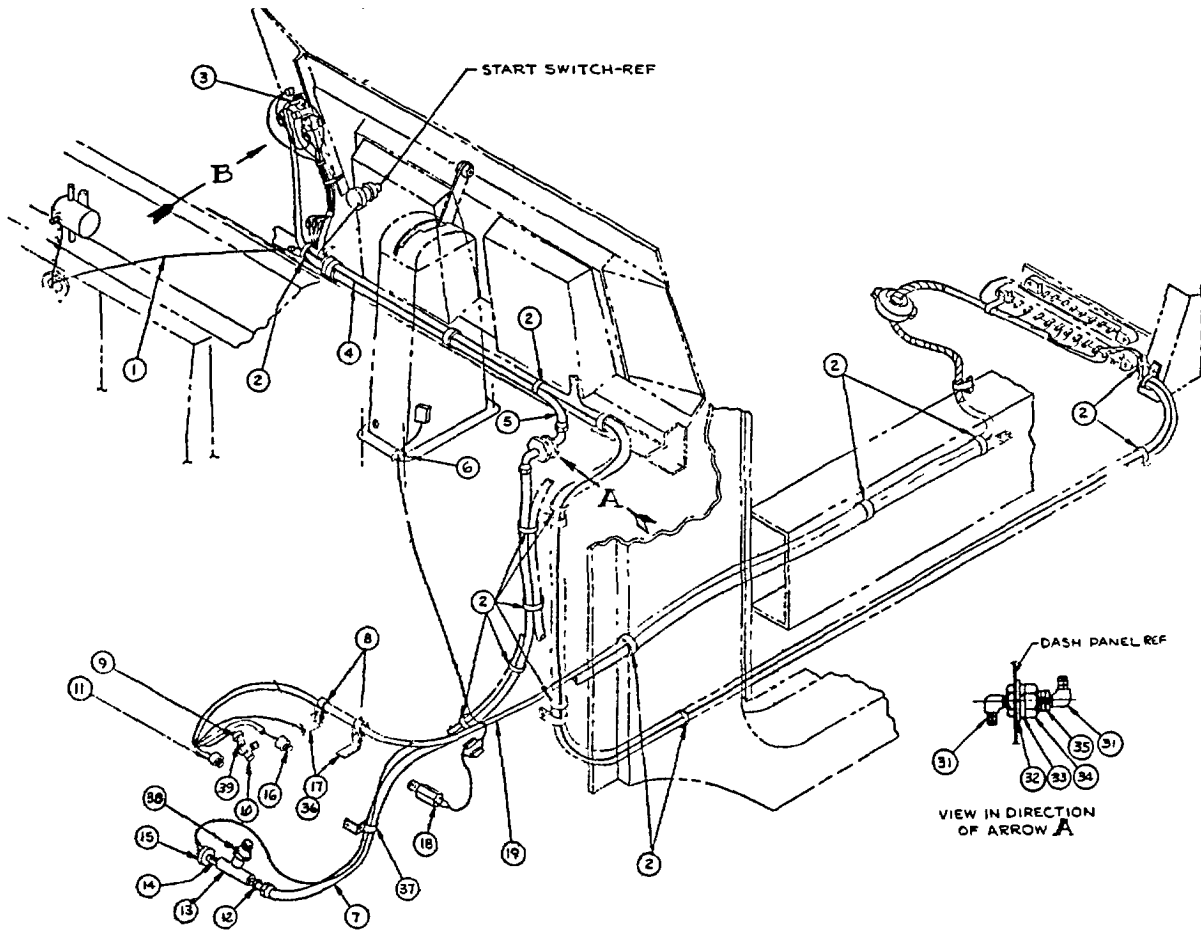


FIG. 08-013

AUTOMATIC TRANS WIRING W/TEMPERATURE GAUGES AND
WARNING LIGHTS (CODE 813475)

ITEM	PART NO.	QTY.	
		REP	
		REP	
1	517368091	1	CABLE, ASSEMBLY (MAKE LOCALLY)
2	289862C1	16	STRAP, LOCK CABLE
3	127887	1	ELBOW, 90 DEG 1/6=7/14=20
4	435658C91	1	CABLE ASSEMBLY (MAKE LOCALLY)
5	A04024000	1	HOSE, OIL PRESSURE - 20 IN LONG
6	299400C1	1	CLAMP
7	A040070000	1	HOSE, OIL PRESSURE - 70 IN LONG
8	299402C1	2	CLAMP
8	101002	2	BOLT, HEX HD 5/16-18
8	9413952	2	NUT, LOCK 5/16-12
9	2966387C91	1	SWITCH, WARNING LIGHT- XMSN OIL TEMP
10	522441C2	1	ELBOW 90 DEG 15/16-12
11	1187548	1	SENDER, XMSN OIL TEMP GAUGE
12	118748	1	CONNECTOR, 1/8 X 1/4
15	384608C91	1	SWITCH, WARNING LIGHT-XMSN OIL PRESS
16	416372C1	1	SWITCH, BACK-UP LIGHT
17	245609R1	2	EXTENSION, CLIP
18	439853C1	1	SWITCH, NEUTRAL SAFETY
19	516267C91	1	HARNESS, AUTOMATIC TRANSMISSION.
20	518737C1	1	GAUGE, OIL PRESSURE
21	510727C91	1	GAUGE, ASSEMBLY (MAKE LOCALLY)
22	131202	2	LAMP, 1CP #57
24	449878C1	1	LIGHT, WARNING
24	387605C1	1	LAMP, 2CP #57
25	516405C02	1	HARNESS, ASSEMBLY
26	436000C1	1	LIGHT, WARNING
26	127934	1	LAMP, 2CP 357
26	449878C1	1	ESCUTCHEON - XMSN PRESSURE
27	405755C91	1	CABLE, ASSEMBLY (MAKE LOCALLY)
28	436000C1	1	ESCUTCHEON, PRODUCT GRAPHIC
29	131044	2	WASHER, LOCK #6
29	134530	2	NUT, HEX #6-32
30	367273C1	1	GAUGE, OIL TEMPERATURE
30	2733430R1	1	ESCUTCHEON
31	118753	2	ELBOW 90 DEG 1/8 X 7/16=20
32	131017	1	WASHER, FLAT 3/4
33	131017	1	WASHER, FLAT 3/4
34	123834W	1	NUT, TMIN 3/4=16
35	156R69R1	1	ANCHOR, TUBING COUPLING
36	399406C1	1	WASHER, KEY 5/8
37	299410C1	1	CLAMP
37	55022R1	1	EXTENSION, CLIP
37	2572R1	1	BOLT, HEX MD 1/4=28X 1/2
37	26110R1	1	NUT, LOCK 1/4=20
38	443998	1	ADAPTER, PIPE 1/0=27
39	471216C1	1	ADAPTER, 1/2=14



REF
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MT134 GROUP
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DESCRIPTION



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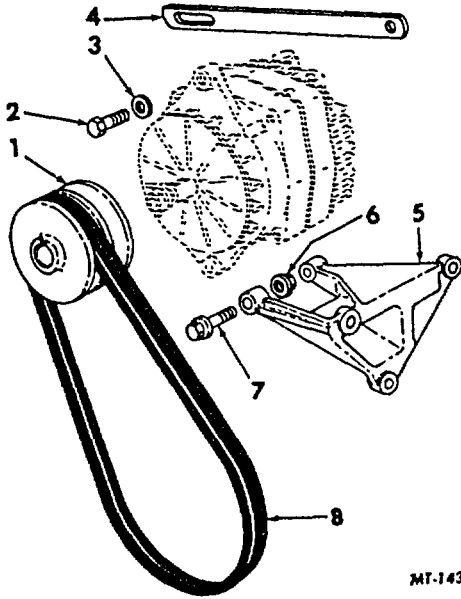
DESCRIPTION

FIG. 08-015
GENERATOR MOUNTING

FIG. 08-015 CONTINUED
GENERATOR MOUNTING

8

358328091 BELT, GENERATOR RIVE -MATCHED SET-



- 1 516048C1 PULLEY, GENERATOR -DOUBLE GROOVE-
- 2 24 861 R1 BOLT, HEX-HO 1/2NC X 1-1/4 -AR-
24 864 R1 BOLT, HEX-HO 1/2NC X 2 -AR-
- 3 25 846 R1 WASHER HARDENED 7/16 -USED AS SPACER-
- 4 440660C1 STRAP, GENERATOR ADJUSTING
80 293 R1 BOLT, HEX-HO 7/16NF X 2-1/4
201423 R1 BOLT, HEX-HD 7/16NF X 3-1/4
120383 WASHER, LOCK 7/16 REGULAR
- 5 51604701 BRACKET, GENERATOR MOUNTING
24 840 R1 BOLT HEX-HD 3/8NC X 1 -AR-
24 841 R1 BOLT, HEX-HD 3/8NC X 1-1/2 -2-
131822 R1 BOLT, HEX-HO 3/8NC X 1-3/8 -AR-
20 855 R1 BOLT, HEX-HO 3/8NC X 1-5/8 -AR-
120382 WASHER, LOCK 3/8 REGULAR -AR-
- 6 414087 C1 NUT, HEX-FLG-LOCK 1/2NF -AR-
25 526 R1 NUT, HEX 1/2NC
- 7 414056 C1 BOLT, HEX-FLG-HD 7/8NF X 2-1/2 -AR-
414057 C1 BOLT, HEX-FLG-HD 7/8NF X 2-3/4 -AR-
414058 C1 BOLT, HEX-FLG-HD 7/8NF X 3 -AR-
25 296 R1 BOLT, HEX-HD 1/2NC X 6-1/2 -AR-
24 864 R1 BOLT, HEX-HO 1/2NC X 2 -AR-
25 710 R1 WASHER FLAT 1/2 -AR-
120384 WASHER, LOCK 1/2 REGULAR -AR-



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MT134 GROUP
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DESCRIPTION



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MT134 GROUP
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DESCRIPTION

FIG. 08-021
HARNES JUNCTION BLOCK

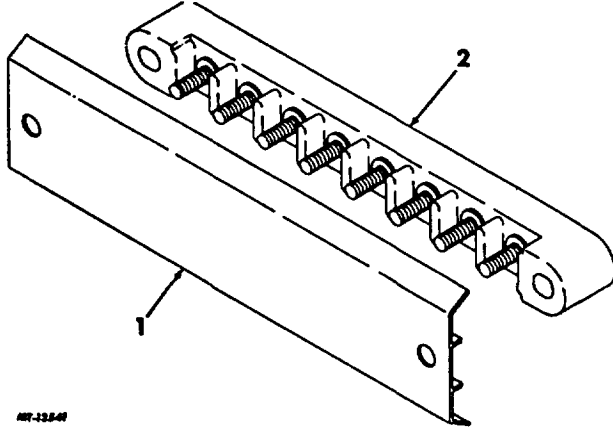
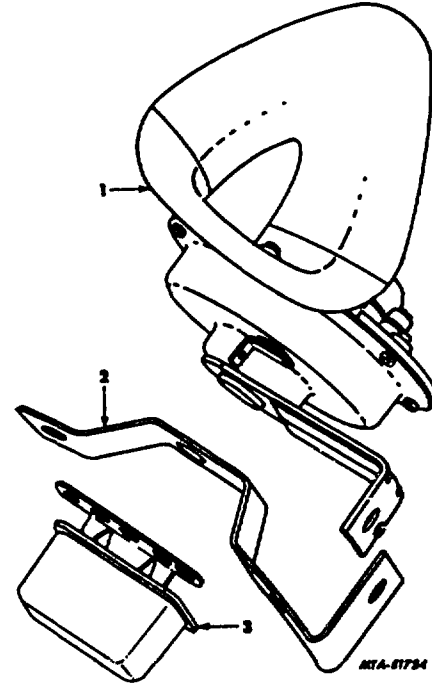


FIG. 08-022
HARNES JUNCTION BLOCK



- 1 364991 C91 COVER, JUNCTION BLOCK -2-
- 116044 NUT, WING 1/4NC-AR-
- 2 BLOCK, JUNCTION
- 369228 C2 STUD
- 364852 C2 8 STUD
- 364853 C2 12 STUD
- 344854 C1 16 STUD
- 22 432 R1 SCREW, HEX-HD 1/4NC X 1-3/4 -AR-
- 19 910 1R NUT, HEX. LOCK NO. LONG -AR-
- 435 17 C1 BRACKET BLOCK MOUNTING -AR-
- 160515 SCREW, PAN-CR-EC-NO 1X1/4 X 1/2 -AR-
- 120380 WASHER, LOCK 14 -AR-

- 399507 C1 BRACKET, REAR JUNCTION BLOCK MTG
- 143216 SCREW, PAN-CR-REC-HD NO 10-16 X 3/4-2-

*PARTS NOT ILLUSTRATED

- 1 411948 C91 HORN, ASSY
- 179816 BOLT, HEX-ND 5/16C X 3/4"
- 120214 WASHER, LOCK S/16 REGULAR

2 NOT USED

- 3 1 116 920 RELAY, HORN, ASSY
- 180 018 BOLT, HEX-NO 1/4NC K 5/8 -2-
- 120 375 NUT, HEX. 1/4NC -2-
- 138 167 WASHER, LOCK 1/4 INT-TOOTH -2-

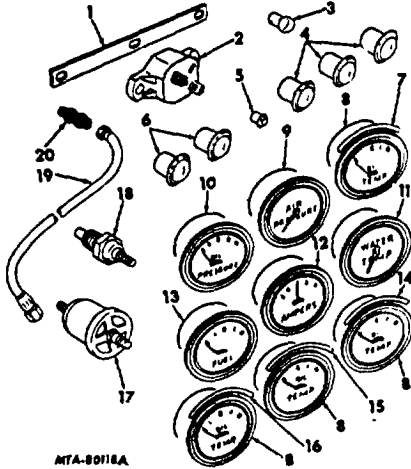


MT134 GROUP
PART
NUMBER

DESCRIPTION

REF
NO

FIG. 08-023
INSTRUMENTS AND GAUGES



- 1 438161 C1 BAR -SEE FIG. 08-008-
- 2 438159 C1 BREAKER -SEE FIG. 08-007-
- 3 LAMP -AR-
- 131282 1 CANDLE POWER
- 127934 2 CANDLE POWER
- 142450 3 CANDLE POWER
- 4 387605C1 LIGHT, TRANS OIL TEMPOIL PRESSURE WAR
- 5 412159 C91 LIGHT, HIGH DEAN INDICATOR, ASSY
- 450104 C1 LIGHT, PILOT AIR PRESSURE -RED-
- 6 387604 C1 LIGHT, TURN SIGNAL INDICATOR -2-
- 7 NOT USED
- 8 387273 C1 GAUGE, OIL TEMPERATURE RECEIVER, ASSY
- 9 47062C1 GAUGE, AIR PRESSURE (SEE FIG. 04-087)
- 10 387274 C1 GAUGE, ENGINE OIL PRESSURE RECEIVER, ASSY
- 11 518737C1 GAUGE, TRANS OIL PRESSURE
- 401 50 C1 GAUGE, WATER TEMPERATURE RECEIVER, ASSY
- 12 386865 C1 GAUGE, BATTERY AND GENERATOR, ASSY
- 13 386864 C1 GAUGE FUEL LEVEL RECEIVER, ASSY
- 14 NOT USED
- 15 NOT USED
- 15 NOT USED
- 17 517659C1 SWITCH, PRESSURE (TRANSMISSION)(CODE O'
- 144200H2 SWITCH, TRANS OIL TEMP GAUGE SENDER
- 356079 C1 SWITCH, ENGINE OIL PRESSURE WARNING LIGHT
- 18 977562 R91 SWITCH, WATER TEMP WARNING LIGHT
- 296387C91 SWITCH, TRANS OIL TEMP WARNING LIGHT
- 384608C91 SWITCH, TRANS OIL PRESSURE WARNING LIGHT



MT134 GROUP
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DESCRIPTION

REF
NO

FIG. 08-023
INSTRUMENTS AND GAUGES

- 19 A 040 HOSE, OIL PRESSURE FLEXIBLE
450 000 ENGINE TO FITTING
- 20 A 040 150 000 FITTING TO GAUGE
- 443998 ADAPTER
1/8
- 444004 1/2
- 156269 R1 COUPLING, HOSE
- 123834 H -NUT, HEX. 3/4
- 103346 WASHER, FLAT 3/4
- 131046 WASHER, LOCK 3/4 REGULAR
- 118748 CONNECTOR -AR-
- 125620 CONNECTOR
- 127887 ELBOW, FLARED TUBE 1/4 X 1/8NPT - FEMALE
- 26420 H ELBOW, FLARED TUBE 1/4 X 1/4NPT - MALE -2-
- 219753 NUT, HEX. JAN 3/4NF
- 138561 WASHER, LOCK INTERNAL TOOTH -2-
- 116753 ELBOW, FLARED TUBE 1/4 X 1/5NPT -MALE-
- 431406 R1 ELBOW, FLARED TUBE 1/4 X 1/8NPT -MALE 45 DEGREE-
- 144050 REDUCER, AT ENGINE
- 409943 TEE, 1/8NPT INT, EXT, INT
- 123259 R1 ANCHOR, TUBING COUPLING
- *PART NO COVERS ONE FOOT BULK MATERIAL
- 439853 C1 \$ SWITCH, NEUTRAL SAFETY
- 387275C1 \$ GAUGE, FUEL PRESSURE
- 765027C91 \$ GAUGE, RESTRICTION INDICATOR
- \$PARTS NOT ILLUSTRATED
- *SEE FIG. 08-013.



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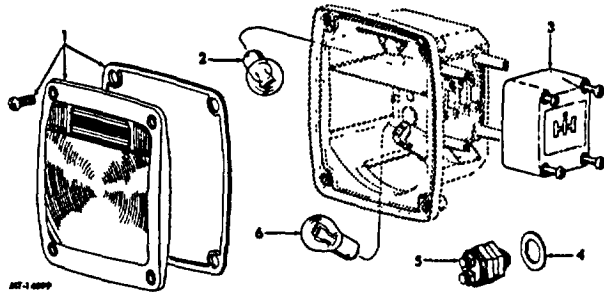
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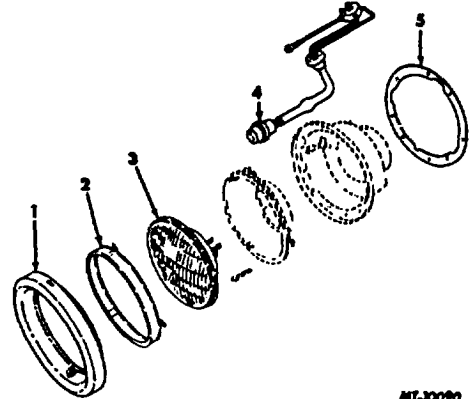
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FIG. 08-024
STOP, TAIL AND BACK UP LIGHTS



LIGHT. STOP, TAIL, BACK UP

FIG. 08-025
DOME LIGHT



MT-30090

- 467707 C91 LEFT
- 467708 C91 RIGHT
- 25 519 R1 NUT, HEX. 1/4NC -6-
- 120380 WASHER, LOCK 1/4 REGULAR -6-
- 1 437850 C1 LENS M/GASKET AND SCREWS
- 2 9 417 867 LAMP. SACK UP LIGHT -32 CANDLE POWER-
- 3 424541 C1 COVER, LIGHT TERMINAL -2-
- 4 NOT USED
- 5 416372 C1 SWITCH, BACK UP LIGHT
- 6 9 417 166 LAMP, TAIL LIGHT -32, 4 CANDLE POWER-

- 1 463179 C1 SASE, DONE LIGHT
- 2 163102 SCREW, TAP. PAN-CR-REC-HD NO. 6-20 X
1/2 -2-
1/2 -2-
- 3 296446 C1 LENS, DOME LIGHT
- 4 294436 C1 LAMP, 12 CANDLE POWER
- 5 300853 C1 TERMINAL, CLIP -2-
- 6 SEE SWITCH ILLUSTRATION



MT134 GROUP
PART
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DESCRIPTION



MT134 GROUP
PART
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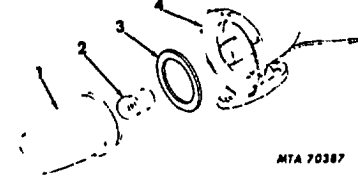
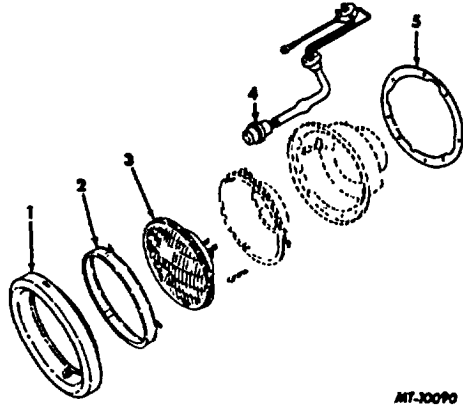
DESCRIPTION

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FIG. 08-027
HEADLIGHT

FIG. 08-028
MARKER LIGHT



- 379619 C91 LIGHT, MARKER, ASSY -5-
- 179355 SCREW, OV-CR-REC-HD NO. 10NC X 3/4
-10-
- 310515 C1 PAD, MARKER LIGHT -5-
- 1 868654 R1 LENS MARKER LIGHT -AMBER- -5-
- 2 142450 LAMP, 3 CANDLE POWER -5-
- 3 868655 R1 GASKET MARKER LIGHT -5-
- 4 BODY -NOT SERVICED SEPARATELY-

- 318858 C91 HEADLIGHT, ASSY -2-
- 161895 SCREW, TAP. RD-CR-REC-HO MO. 10-24 X
1/2 -12-
1/2 -12-
- 1 287785 C1 BEZEL. HEADLIGHT, ASSY -2-
- 362486 C1 SCREW, TAP. OV-CR-REC-HD NO. 8-15 X
3/8 2-
- 2 280066 C91 RETAINER, SEAL SEAM UNIT, ASSY -2-
- 3 5 956 012 LAMP HEADLIGHT, ASSY -2-
- 4 377058 C91 HARNESS, HEADLIGHT -2-
- 5 680705 RL GASKET, HEADLIGHT MOUNTING -2-



MT134 GROUP
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DESCRIPTION

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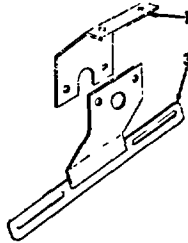


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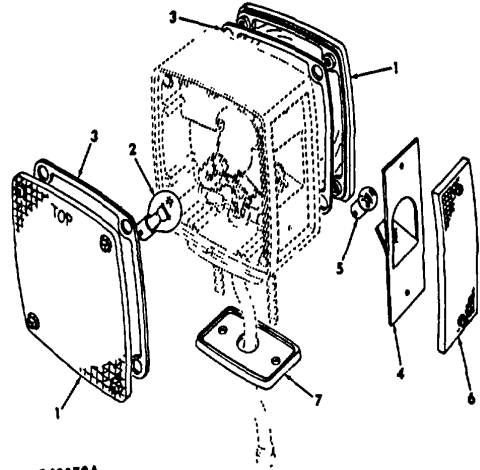
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FIG. 08-031
STOP AND TAIL LIGHT BRACKET



MTA-57710

FIG. 08-032
FRONT TURN SIGNAL



MT-12372A

LIGHT W/LENS AND LAMP

- 444660 C91 LEFT
- 444659 C91 RIGHT
- 179816 BOLT, HEX-HO 5/16NC X 3/4 -4R-
- 179818 BOLT, HEX-HO 5/16NC X 1 -AR-
- 22 427 R1 NUT, HEX. 5/16NC -AR-
- 120214 WASHER, LOCK 5116 REGULAR -AR-
- 416590 R1 WASHER, FLAT 5/16 -AR-
- 416008 C2 BRACKET, TURN SIGNAL LIGHT GUARD -2-
- 24 839 R1 BOLT, HEX-HD 3/8NC X 3/4 -4-
- 9 413 979 NUT, HEX. 3/8" -4-
- 25 709 R1 WASHER, LOCK 3/8 REGULAR -4-

- 1 436296 C1 BRACKET, STOP AND TAIL LIGHT -2-
- 25 483 R1 BOLT, HEX-DO 1/4NC X 1 -4-
- 25 519 R1 NUT, HEX. 1/4NC -4-
- 24 862 R1 BOLT, HEX-MD 1/2NC X 1-1/2 -4-
- 109084 NUT, HEX. 1/4NC -4-
- 25 526 R1 NUT, HEX. 1/2NC -4-
- 120380 WASHER, LOCK 1/4 REGULAR -4-
- 120384 WASHER, LOCK 1/2 REGULAR -4-
- 3 424536 C1 BRACKET, LICENSE PLATE ASSY

1 LENS TURN SIGNAL

- 455530 C1 AMBER -2-
- 455529 C1 RED -2-
- 26 502 R1 SCREW, CR-REC-HD NO. 8-1 X 3/8 -16-
- 372359 C1 SCREW, CR-REC-ND NO. 8-32 X 3/4 -16-

2 9 417 866 LAMP, 32 CANDLE POWER -2-

3 455531 C1 GASKET, LENS -4-

4 455532 C1 GASKET, SIDE MARKER LENS -2-

5 9 417 863 LAMP, SIDE MARKER 2 CANDLE POWER -2-

6 455528 C1 LENS, SIDE MARKER -2-

7 372358 C1 SCREW, CR-REC-HO NO. 4-24 X 5/8 -4-

370951 C1 SCREW, CR-REC-HO NO. 6-32 X 3/4 -8-



MT134 GROUP
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NO NUMBER

DESCRIPTION

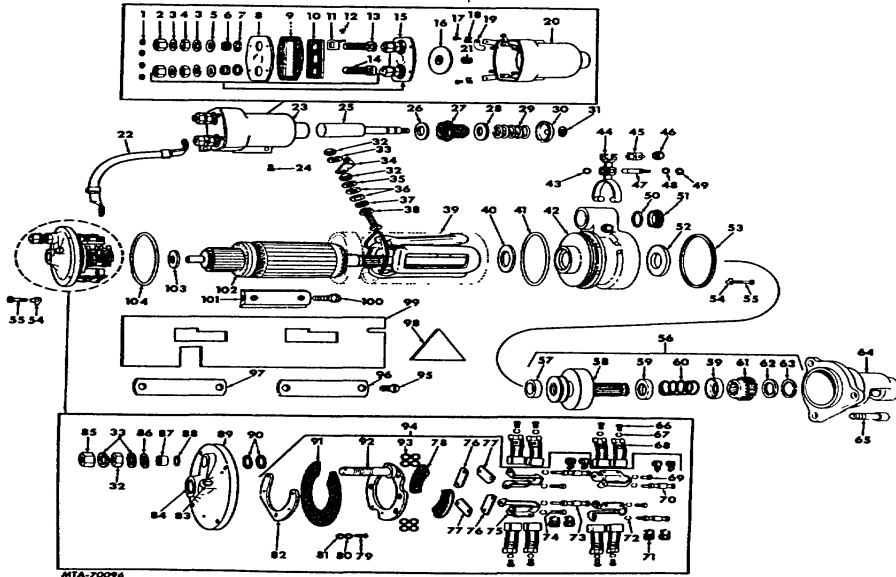


MT134 GROUP
REF PART
NO NUMBER

DESCRIPTION

FIG. 08-033
STARTING MOTOR AND SOLENOID SWITCH

FIG. 08-033 CONTINUED
STARTING MOTOR AND SOLENOID SWITCH



1	114	098	MOTOR, STARTING, ASSY PRODUCTION
1	114	098	REPLACEMENT BOLT MOUNTING -AK-
24	875	R1	HEX-HO 5/8NC X 2
24	877	R1	HEX-HD S/INC X 2-1/2
26	3797	C1	12 POINT HEAD S/INC X 2-1/16
27	6067	C1	12 POINT HEAD S/INC X 2-1/2
26	140	R1	12 POINT HEAD S/INC X 2-3/4
121	574		WASHER, LOCK 5/1 REGULAR -3-
200	580	R1	SPACER STARTING MOTOR MOUNTING

1	948	656	NUT, WASHER -4-
2	453	285	NUT, HEX. 1/2NC -2-
3	421	427	WASHER LOCK L/2 -4-
4	453	287	NU HEX. 1/2NC -2-
5	904	998	WASHER, TERMINAL, 7/1 00 -2-
6	944	836	BUSHING TERMINAL STUD INSULATING -2-
7	942	969	WASHER, TERMINAL BUSHING -RUBBER- -2-
7	945	409	PLATE TERMINAL
9	906	053	GASKET, TERMINAL PLATE
10	931	673	INSULATOR, TERMINAL PLATE
11	906	051	SUPPORT, LEAD
12	840	633	SCREW COIL LEAD ATTACHING
13	946	003	STUD, MOTOR TERMINAL
14	958	219	STUD, BATTERY TERMINAL
15	958	218	PLATE, TERMINAL, ASSY
16	954	861	DISC, CONTACT



MT134 GROUP

REF NO	PART NUMBER	DESCRIPTION
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		FIG. 08-033 CONTINUED
		STARTING MOTOR AND SOLENOID SWITCH
17	1 915 717	SCREW, TERMINAL -2-
18	1 S78 503	CLAMP, TERMINAL -2-
19	1 909 829	STRAP, GROUND
20	1 969 198	CASE, W/COIL
21	1 945 402	SPRING, CONTACT RETURN
22	1 953 236	CABLE, SWITCH TO MOTOR
23	1 119 879	SWITCH, SOLENOID
24	1 930 611	SCREW, SWITCH MOUNTING
25	1 945 480	PLUNGER, SWITCH
26	807 736	WASHER, PLUNGED SHAFT
27	1 942 257	BOOT, PLUNGER
28	1 942 256	RETAINER, PLUNGER SPRING -1-13/64-
29	1 948 521	SPRING, PLUNGER RETURN
30	1 942 282	RETAINER, PLUNGER SPRING -13/32-
31	9 415 235	RING, SNAP PLUNGER SHAFT SPRING RET
32	120 238	NUT, HEX. 1/2NC -3-
33		WASHER, LOCK 1/2-MEDIUM- -4-
34	1 945 468	CONNECTOR, SWITCH TO FIELD STUD
35	811 912	WASHER, FIELD TERMINAL STUD
36	1 922 457	WASHER, FIELD TERMINAL INSULATING
37		NOT USED
38	1 965 472	BUSHING, FIELD TERMINAL STUD INSULATING
39	1 949 109	COIL, FIELD -SET OF 4-
40	1 936 466	WASHER, SPACE
41	1 916 272	O-RING, LEVER HOUSING TO DRIVE END
42		HOUSING, W/BUSHING AND SEAL
	1 970 898	I1140* 8 MOTOR
	1 970 900	1114098 MOTOR
	1 923 84	BUSHING, LEVER HOUSING
	453 465	PLUG, LEVER HOUSING
	1 918 047	SEAL, OIL LEVER HOUSING
	1 916 439	WICK, OIL LEVER HOUSING
43	1 921 805	O-RING, SHIFT LEVER SHAFT -1/2-
44	1 945 484	LEVER, SHIFT
45		NOT USED
46	9 412 305	NUT, PLUNGER ROD
47	1 945 472	SHAFT, SHIFT LEVER
48	1 914 373	O-RING, SHIFT LEVER SHAFT -15/64-
49	9 415 235	KING, SNAP SHIFT LEVER SHAFT
50	1 964 851	GASKET, LEVER HOUSING PLUG
51	1 945 356	PLUG, LEVER HOUSING
52	1 911 644	WASHER, BRAKE
53	1 945 476	GASKET, LEVER AND DRIVE HOUSING
54		NOT USED
55		NOT USED
56	800 066	DRIVE, MOTOR, ASSY
57	812 410	BUSHING, DRIVE MOTOR
58		DRIVE -NOT SERVICED SEPARATELY-
59		CUP, DRIVE SPRING RETAINER
	1 968 229	INNER
	1 968 225	OUTER
60	800 065	SPRING, DRIVE MOTOR
61	800 146	PINION, DRIVE MOTOR
62	1 945 490	CUP, PINION STOP
63	812 410	PACKAGE, SPLIT WASHER
64	1 949 606	HOUSING, DRIVE MOTOR
	1 949 258	BUSHING, DRIVE HOUSING
	453 465	PLUG, PIPE 11/32
	1 961 573	PLUG, PIPE 1/4
	1 916 439	WICK, OIL DRIVE HOUSING
65		SCREW, DRIVE MOTOR HOUSING
	1 948 536	5/16N X 55/64
	1 948 537	5/16NC X 1-1/2 -5-
66	453 461	SCREW BRUSH LEAD ATTACHING -8-
67	453 844	WASHER, LOCK BRUSH LEAD ATTACHING -8-
68	1 906 988	BRUSH -8-
69		SCREW BRUSH HOLDER INSULATED-SHORT-2-
	1 968 656	1114088, 1114098 MOTORS
70	1 928 500	SCREW BRUSH HOLDER GROUND -LONG- -2-
71	1 945 521	SPRING, BRUSH -8-
72		WASHER LOCK NO. 10 MEDIUM -8-
73	1 904 982	SCREW BRUSH, HOLDER INSULATED
		LONG-
		-2-

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REF NO	PART NUMBER	DESCRIPTION
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		FIG. 08-033 CONTINUED
		STARTING MOTOR AND SOLENOID SWITCH
	1 968 656	SCREW, BRUSH HOLDER GROUND -SHORT-
	1 909 521	HOLDER, BRUSH -4-
	1874 848	PLATE, BRUSH HOLDER SPACING -INSULATED
		-2-
	1 874 851	PLATE, BRUSH HOLDER SPACING -GROUNDED-
		-2-
	1 965 093	INSULATOR BRUSH HOLDER -2-
	9 417 096	SCREW BRUSH PLATE ATTACHING
	453 844	WASHER LOCK NO. 8 MEDIUM -3-
	810 794	WASHER, FLAT -3-
	1 874 847	PLATE, SUPPORT
		NOT USED
	453 465	PLUG, EXPANSION
	120 378	NUT, HEX. 1/2NC 13 X 7/16
	1 914 647	INSULATOR, TERMINAL STUD
	1 851 632	BUSHING, INSULATOR COMMUTATOR END
	1 909 531	O-RING, STUD COMMUTATOR END
		FRAME, COMMUTATOR END
	1 951 073	1114088, 1114098 MOTORS
	826 462	BUSHING, FRAME END
	1 916 439	WICK, OIL COMMUTATOR END
	103 893	PLUG, EXPANSION
	453 465	PLUG, PIPE
	1 861 791	WASHER, COMMUTATOR END STUD -2-
	1 909 523	INSULATOR, BRUSH PLATE
	1 945 518	PLATE, N/STUD
	1 913 080	WASHER, BRUSH HOLDER SC INSULATOR --
		PLATE, ORDER COMPONENTS
	9 414 397	SCREW BRUSH COVER PLATE -4-
	1 945 478	PLATE, BRUSH COVER -2-
	1 945 477	GASKET, BRUSH COVER PLATE -2-
	1 868 835	INSULATOR, FIELD COIL -TRIANGLE- -2-
	1 945 479	INSULATOR, FIELD COIL
	1 968 396	SCREW, POLE SHOE -S-
	1 934 478	SHOE POLE -4-
	1 961 320	ARMATURE
	1 905 014	WASHER, COMMUTATOR END THRUST
	1 916 272	O-RING, FIELD FRAME SEAL

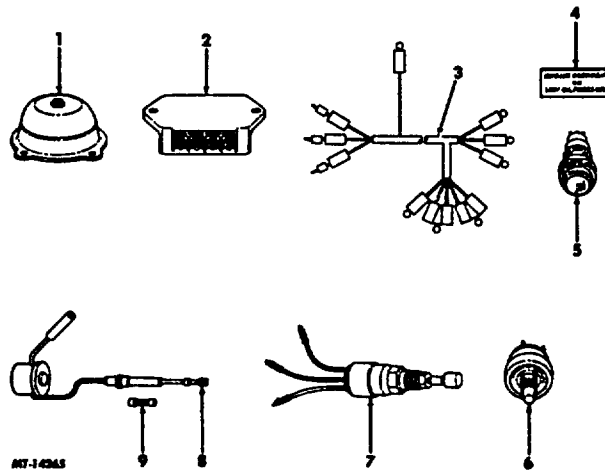
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NUMBER

DESCRIPTION

FIG. 08-038 CODE 08807
WARNING LIGHT AND BUZZER



1	1	115	36	BUZZER, WARNING
		161	059	BOLT, HEX-HOD 1/4t X 1/2
		180	018	BOLT, HEX-HI 1/4NC X 5/a
		109	014	NUT, HEX. 1/4NC
		120	380	WASHER, LOCK 14 REGULAR
		437	957	R91 BELL, ALARM
		24	409	R1 SCREW, TAP-CR-H 1/4-14 X 3/4 -3-
		159	456	SCREW, PAN-HD NO. 8-32 X 3/4 -3-
		120	622	NUT, HEX. NO. 8-32 -3-
		121	841	WASHER, LOCK NO. 8 -3-
		49	771	H SPACER, BELL ALARM -3-
2		429	439	C91 SWITCH, WARNING
		179	795	BOLT, HEX-HO 1/1C X 3/4
		109	064	NUT, HEX. 1/4NC
		120	380	WASHER, LOCK 1/4 REGULAR
3		429	000	C91 HARNESS, CAB ALARM
4		421	142	C1 PRODUCT GRAPHIC
5		415	213	C91 LIGHT, WARNING
		127	934	LAMP, 2 CANDLE POWER
4		393	210	C91 SWITCH, OIL PRESSURE CUMMINGS ENGINES
7		429440	C91	SWITCH ALAMRSTAT
8				NOT USED
9		147684		FUSE, 9 AMPERE

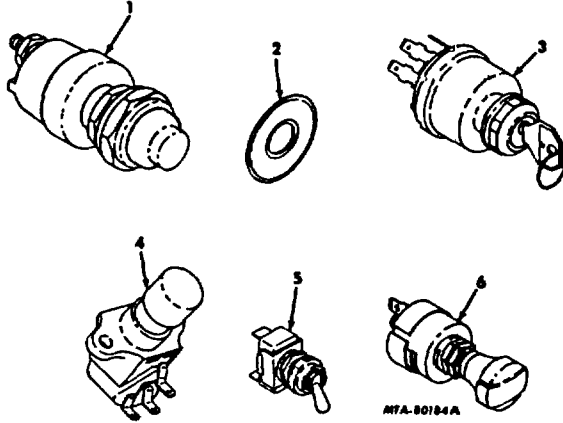


MT134 GROUP
PART
NUMBER

DESCRIPTION

REF
NO

FIG. 08-040
SWITCHES



- | | | | |
|---|-----------|-----|---|
| 1 | 453453 | C1 | SWITCH, PUSH SUTTON STARTER -WILL WORK FOR 1996098- |
| | 429722 | C1 | NUT, FACE |
| 2 | 394662 | C1 | ESCUTCHEON SWITCH KEY W/O ANTILOCK. BRAKE SYSTEM |
| 3 | 429047 | C1 | SWITCH, KEY W/ CYLINDER |
| | 429048 | C1 | CYLINDER, ASSY I/KEY |
| 4 | 452187 | C1 | SWITCH, DINER ASSY -MILL WORK FOR |
| | 370677 | C1 | SCREW PAN-CR-1/4NC-HD 1/4NC X 1/2 -2- |
| | 160515 | | WASHER, LOCK 1/4 REGULAR -2- |
| | 120380 | | |
| 5 | | | SWITCH, ASSY |
| | 370495 | C92 | HEAD AND TAIL LIGHT |
| | 166991 | | SCREW. PAN-CR-EC-HD NO. 6C X 3/8-AR- |
| | 362390C91 | | SWITCH, ENGINE BRAKE TOGGLE(CODE 075) |
| 6 | 437195 | C1 | SWITCH DOME/PANEL LIGHT, ASSY. STAMPED NO. 74005 |
| | 24 366 | R1 | SCREW SWITCH MOUNTING -2- W/437195C1 SWITCH |

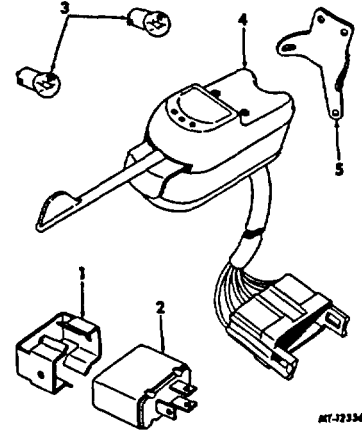


MT134 GROUP
PART
NUMBER

DESCRIPTION

REF
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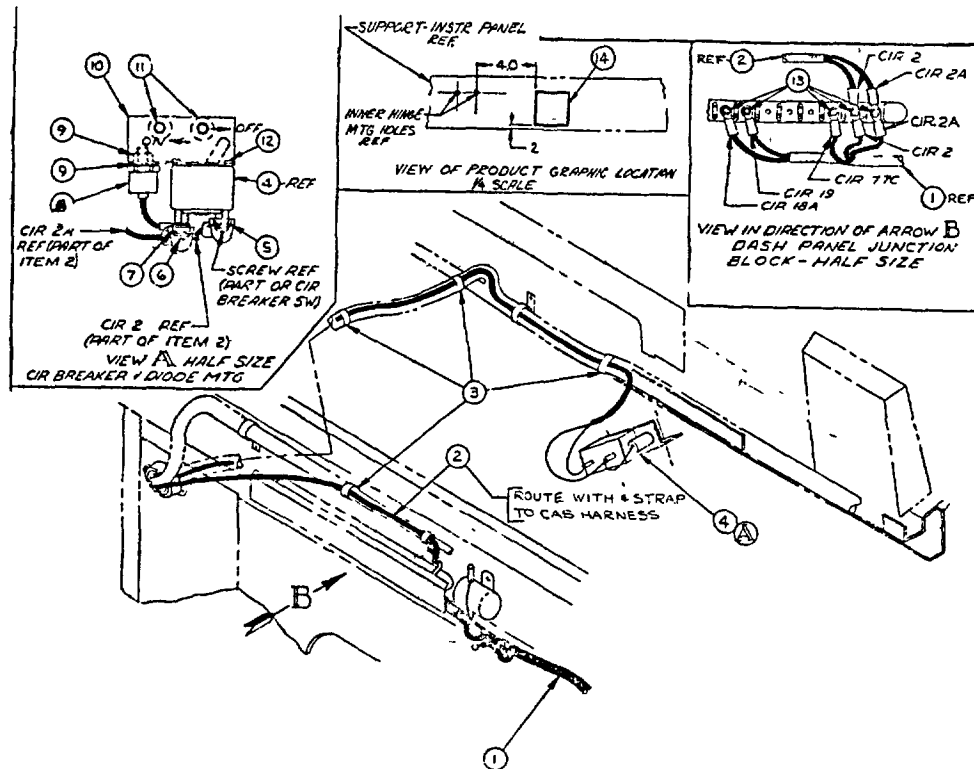
FIG. 08-041
TURN SIGNAL SWITCH



- | | | | |
|---|--------|-----|--|
| 1 | | | NOT USED |
| 2 | 386197 | C1 | FLASHER |
| | 163216 | | SCREW TAP. PAN-CR-REC-HD NO. 10-16 X 1/2 -2- |
| 3 | 127934 | | LAMP, TURN SIGNAL INDICATOR 2 CANDLE POWER -2- |
| 4 | 775863 | C92 | SWITCH, W/O FLASHER, TURN SIGNAL |
| | 159658 | | SCREW PAN-CR-REC-HD NO. 8NC X U34-2- |
| | 121841 | | WASHER, LOCK NO. 8 MEDIUM -2- |
| 5 | 420386 | C1 | BRACKET, TURN SIGNAL |
| | 167084 | | SCREW, TAP. PAN-CR-REC-HD NO. 10NC X 1/2 -3- |

FIG. 08-042

REVERSE POLARITY PROTECTION



ITEM	PART NO.	QTY	
1	516266C93	1	HARNESS, ENGINE-
2		1	HARNESS, CIRCUIT BREAKER (MAKE LOCALLY)
3	28962C1	4	STRAP, LOCK CABLE
4	513058C1	1	SWITCH- CIRCUIT BREAKER
5	120386	2	WASHER, PLAIN
6	143317	1	SCREW, RD HD SL 1/4=28 X 5/6
7	50595V	1	SPACER, TERMINAL STRIP
8	178551	1	RECTIFIER, SILICON DIODE- 50-V
9	178531	1	WASHER, LOCK 3/8 I.E.T.
9	170369	1	NUT, HEX HD 1/4-24
10	513189C1	1	ANGLE, SWITCH MTG
11	181063	2	BOLT, HEX HD 1/4-20 X 3/4
11	9413950	2	LOCK, NUT HEX 1/4 I.E.T.
11	174916	4	WASHER, LOCK 1/4 I.E.T.
12	159582	4	SCREW, PAN HD CR REC MACH #8-32 X 3/6
13	28454R1	5	NUT, LOCK #10-24
14	283894C1	1	PRODUCT GRAPHIC, LABEL



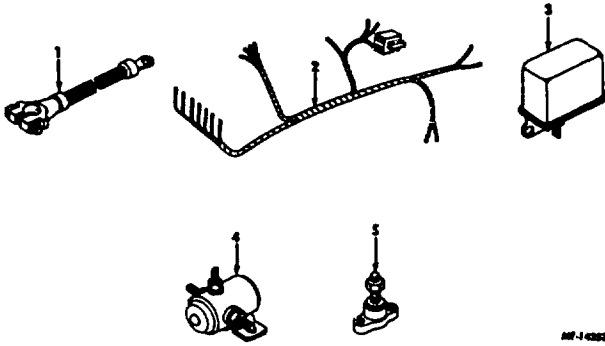
MT134 GROUP
REF PART DESCRIPTION
NO NUMBER



MT134 GROUP
REF PART DESCRIPTION
NO NUMBER

FIG. 08-051
WIRING HARNESS, BATTERY CABLES AND MISC

FIG. 08-051
WIRING HARNESS, BATTERY CABLES AND MISC



4

SWITCH, MAGNETIC
1 114 241 HEATER-BLENDAIR-
706124C1 STARTING MOTOR
180 018 BOLT, HEX-NO 1/4NC X 5/6 -2-
160 020 BOLT, HEX-HO 1/4NC X 3/4 -2-
120 375 NUT, HEX. 1/4NC -2-
138 167 WASHER, LOCK 1/4 INT-TOOTH -2-

5

BLOCK, JUNCTION -SEE FIGURE 08-2Z

1

CABLES
878031 R91 BATTERY TO BATTERY
BATTERY TO BATTERY TO GROUND
461409 C92 27 INCHES LONG
461182 C91 BATTERY TO STARTING SOLENOID
430714 C1 68 INCHES LONG
80 INCHES LOG
CAB ENGINE AND STARTING MOTOR GROUND

2

578013 R91 15 INCHES LONG
HARNESS
51626EC93 ENGINE
434859C91 FRONT END
441014 C91 HEATER
437321 C93 MAIN
990190 C1 STOP, TAIL AND TURN ASSY
TRANSMISSION AUTOMATIC

3

NOT USED



GROUP 09-FRONT SHEET METAL

	FIG. NO.
--	----------

HOOD, FENDERS AND GRILLE09-001

RADIATOR SHELL.....09-002



MT134 GROUP
PART
NUMBER

DESCRIPTION



MT134 GROUP
PART
NUMBER

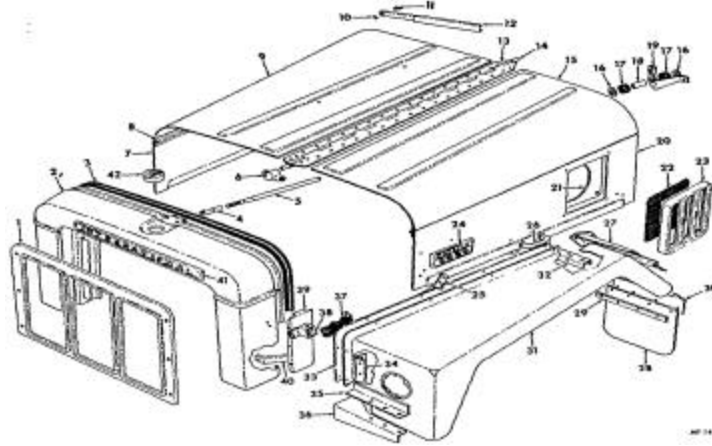
DESCRIPTION

REF
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REF
NO

FIG. 09-001
HOOD, FENDERS AND GRILLE

FIG. 09-001 CONTINUED
HOOD, FENDERS AND GRILLE



1	425308	C1	GRILLE, RADIATOR				
	26 485	R1	SCREW, OV-CR-REC-HO 1/4NC X 3/4 -6-	6	425296	C1	RETAINER, CENTER WOOD ROD -2-
	79 993	R1	NUT, SPEED 1/4NC -7-		156466		SCREW, FL-CR-REC-HDO ;1/b16 X 1 -4-
2	425236	C91	SHELL RADIATOR -SEE FIG. 09-002.-	7	425288	C2	PANEL, HOOD SIDE RIGHT
	179816		BOLT, HEX-HD 5/16NC X 3/4 -16-	8	425267	C1	PIN, HOOD SIDE -2-
	120214		WASHER, LOCK 5/16 MEDIUM -16-	9	425266	C1	PANEL, W/TOP AND SIDE HINGES, HOOD RT
3	446012	C1	SEAL, RADIATOR SHELL -2-	10	83 723	R1	WASHER, SPRING -4-
	413662	CL	FASTENER, SEAL -20-	11	338633	C1	BOLT, SHOULDER -4-
	163816		SCREW, PAN-CR-REC-ID TAP NO. 10-16 X 1/2 -2-	12	83 742	R91	PROP, HOOD, ASSY -2-
	446161		WASHER, FLAT 7/32 10 -Z-	13			HINGE -401 SERVICED SEPARATELY-
4	425310	C1	EYE, ROD END -2-	14	425276	C1	PIN, HOOD, CENTER HINGE
	433108		BOLT, HEX-HO 3/8NC X 3/4 -2-	15	425264		PANEL, W/TOP AND SIDE HINGES,
	116615		NUT, HEX. 3/16NC -2-	16	446485		WASHER, FLAT 1/2 -8-
	120382		WASHER, LOCK 3/8 -2-		120384		WASHER, LOCK 1/2 REGULAR -Z-
5			RDD, RADIATOR STAY	17	299341	C1	INSULATOR, STAY ROD BRACKET -4-
	425302C1		LEFT	18	299340	C1	SPACER, ROD -2-
	518133C1		RIGHT	19	425298	C1	BRACKET, STAY ROD LEFT
					425299	C1	BRACKET, STAY ROD RIGHT
					181086		BOLT, HEX-HD 5/16NC X 3/4 -6-
					120214		WASHER, LOCK 5/16 -6-



MT134 GROUP
PART
NUMBER

DESCRIPTION



MT134 GROUP
PART
NUMBER

DESCRIPTION

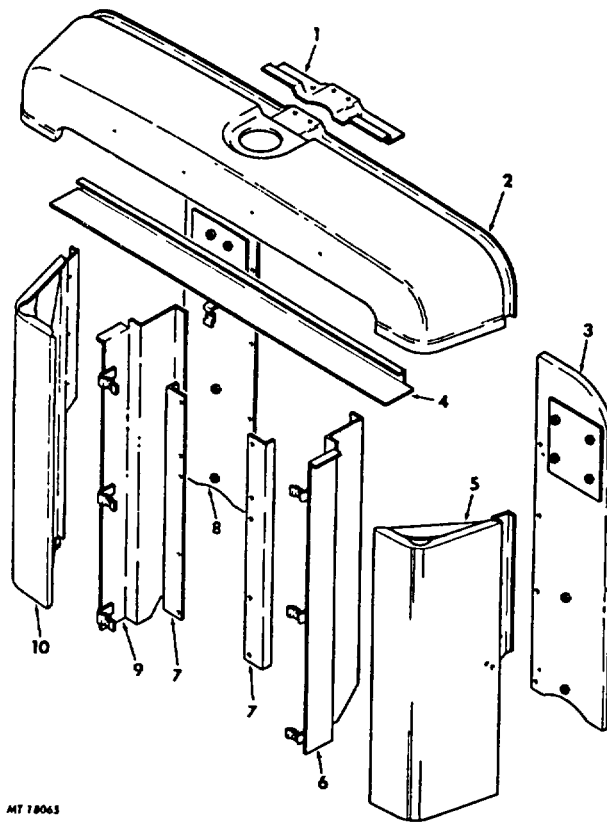
REF NO	PART NUMBER	DESCRIPTION	REF NO	PART NUMBER	DESCRIPTION
	FIG. 09-001 CONTINUED HOOD, FENDERS AND GRILLE			FIG. 09-001 CONTINUED HOOD, FENDERS AND GRILLE	
20	425286 C3	PANEL, HOOD SIDE LEFT	34	431378 C2	REINFORCEMENT, SPLASH PNL TO FENDER LT
21	432305 C2	PLATE, AIR CLEANER INTAKE COVER		513426 C1	REINFORCEMENT, SPLASH PNL TO FENDER RT
	160536	SCREW, PAN-HD 1/4NC X 5/8 -4-		181086	BOLT, HEX-HD 5/16NC X 3/4 -10-
	103319	WASHER, LOCK 1/4 -4-		118614	NUT, HEX. 5/16NC -10-
	20 600 R1	WASHER, FLAT 1/4 -4-		120214	WASHER, LOCK 5/16 -10-
22		SCREEN "MAKE LOCALLY- (GALVANIZED STEEL WIRE .036 DIA. 1/4	35	444418 C1	ANGLE, FENDER FRONT MOUNTING -Z- BAR ANGLE SUPPORT -2- -MAKE LOCALLY-
23	425300 C2	DEFLECTOR, AIR INTAKE		140483 H	BOLT, HEX-HD 3/8NC X 1-1/4 -6-
24	421179 C1	PLATE, MODEL PAYSTAR 5000 -2-		118615	NUT, HEX. 3/8NC -6-
	864480 R1	NUT, SPEED -6-		120382	WASHER, LOCK 3/8 -6-
25	779017 C1	BRACKET, HOOD -4-	36	444173 C1	SUPPORT, FENDER FRONT LEFT
	22 431 R1	SCREW, PAN-CR-REC-HO NO. 10 X 1/2 -8-		444174 C1	SUPPORT, FENDER FRONT RIGHT
	21 202 R1	WASHER, LOCK NO. 10 -8-		428907 C1	BOLT, HEX-FL(-HD 1/2NF X 1 -3-
26	1425297 C1	HANDLE, HOOD LIFT -AR-		428907 C1	BOLT, HEX-FLG-HD 1/2NF X 1 -3-
	160688	SCREW, PAN-HO 5/16NC X 3/4 -8-		414087 C1	NUT, HEX-FLG LOCK 1/2NF -6-
	120214	WASHER, LOCK 5/16 -8-	37	425294 C1	LATCH, HOOD HOOK -2-
27	427405 C2	SUPPORT, FENDER REAR MOUNTING -2-	38	425424 C2	BRACKET, LATCH -2-
	414052 C1	BOLT, HEX-FLG-HD 1/2NF X 1-1/2 -6-		764069 C1	PIN, ANCHOR -2-
	414053 C1	BOLT, HEX-FLG-HD 1/2NF X 1-3/4 -6-		25 386 R1	PIN, COTTER -2-
	414087 C1	NUT, HEX-FLG LOCK 1/2NF -6-		424231 C1	SCREW, PAN-CR-REC-HD 1/4NC X 1/2 -4-
28	425291 C1	GUARD, MUD FLAP -2-	39	425261 C1	PANEL, FILLER -2-
29		BAR, REINF -NOT SERVICED- -2-		160536	SCREW, PAN-HD 1/4NC X 5/8 -6-
	179818	BOLT, HEX-HD 5/16NC X 1 -8-		103319	WASHER, LOCK 1/q -6-
	118614	NUT, HEX. 5/16NC -8-	40	425423 C1	BRACE, HOOD FILLER PANEL -4-
	120214	WASHER, LOCK 5/16 -8-		179816	BOLT, HEX-HD 5/16NC X 3/4 -8-
30	441993 C1	BRACKET, FLAP MOUNTING -2-		120214	WASHER, LOCK 5/16 -8-
31		PANEL, FENDER LEFT	41	403289 C1	PLATE INTERNATIONAL -SEE GROUP 10-
	425213 C2	PANEL, FENDER RIGHT	42	442501 C91	CAP, RADIATOR
	425214 C3			377617 C1	REFLECTOR, SIDE -AMBER- -2-
	140483 H	BOLT HEX-HD 3/8NC X 1-1/4 -12-		443960	SCREW, PAN-CR-REC-1D NO. 10NC X3/4-2-
	118615	NUT, HEX. 3/8NC -12-		25 454 R1	NUT, HEX. LOCK NO. 10NC -2-
	120382	WASHER, LOCK 3/8 -12-		446152	WASHER, LOCK NO. 10 REGULAR -2-
	614452 R1	WASHER, FLAT 13/3210 X 1-1/400 -12-			*PARTS NOT ILLUSTRATED
	477589 R1	WASHER, FLAT 13/321D X 1-1/200 -12-			
32	425408 C2	CHANNEL, FENDER REAR -2-			
	181086	BOLT, HEX-HO 5/16NC X 3/4 -8-			
	118614	NUT, HEX. 5/16NC -8-			
	120214	WASHER, LOCK 5/16 -a-			
	416590 R1	WASHER, FLAT 5/16 -4-			
	106969 R1	WASHER, FLAT 5/16 X 1-1/4 -2-			
33	425401 C2	PANEL, SPLASH LEFT			
	511849 C2	PANEL, SPLASH RIGHT			
	179816	BOLT, HEX-HD 5/16NC X 3/4 -8-			
	181086	BOLT, HEX-ND 5/16NC X 3/4 -4-			
	179818	BOLT, HEX-HD 5/16NC X 1 -8-			
	118614	NUT, HEX. 5/16NC -12-			
	120214	WASHER, LOCK 5/16 -12-			
	106969 R1	WASHER, FLAT 5/16 X 1-1/4 -12-			
	416590 R1	WASHER, FLAT 5/16 -12-			
	444813 C1	PLUG, BUTTON			
	453750 C1	SEAL, FENDER -2-			
	453620 C1	PLATE, SEAL SUPPORT			
	871149 R1	EXTENSION, CLIP			
	159929	SCREW, PAN-CR-RFC-HD NO. 10 X 1/2 -20-			
	120361	NUT, HEX. NO. 10-24 -20-			
	120217	WASHER, LOCK NO. 10 -20-			
	120391	WASHER, FLAT NO. 10 20-			
	181086	BOLT, HEX-HD 5/16NC X 3/4 4.			
		BOLT, HEX-HD 5/16 X 1 8			



MT134 GROUP
PART
NUMBER

DESCRIPTION

FIG. 09-002
RADIATOR SHELL



MT 78063

	425236	C91	SHELL, RADIATOR. ASSY
1	425259	C1	REINFORCEMENT, PANEL RADIATOR FRT UPPER
2			PANEL, RADIATOR FRT UPPER -NOT SERVICED SEPARATELY-
3	425245	C1	PANEL, RADIATOR FILLER SIDE LEFT
4			REINF -NOT SERVICED SEPARATELY-
5	425239	C1	PANEL, RADIATOR FRONT LOWER LEFT
6	425253	C1	PANEL, SHROUD RADIATOR SIDE LEFT ASSY
7	425258	C1	SUPPORT, RADIATOR -2-
8	425247	C1	PANEL RADIATOR FILLER SIDE RIGHT
9	425255	C1	PANEL, SHROUD RADIATOR SIDE RIGHT. ASSY
10	425241	C1	PANEL, RADIATOR FRONT LOWER RIGHT



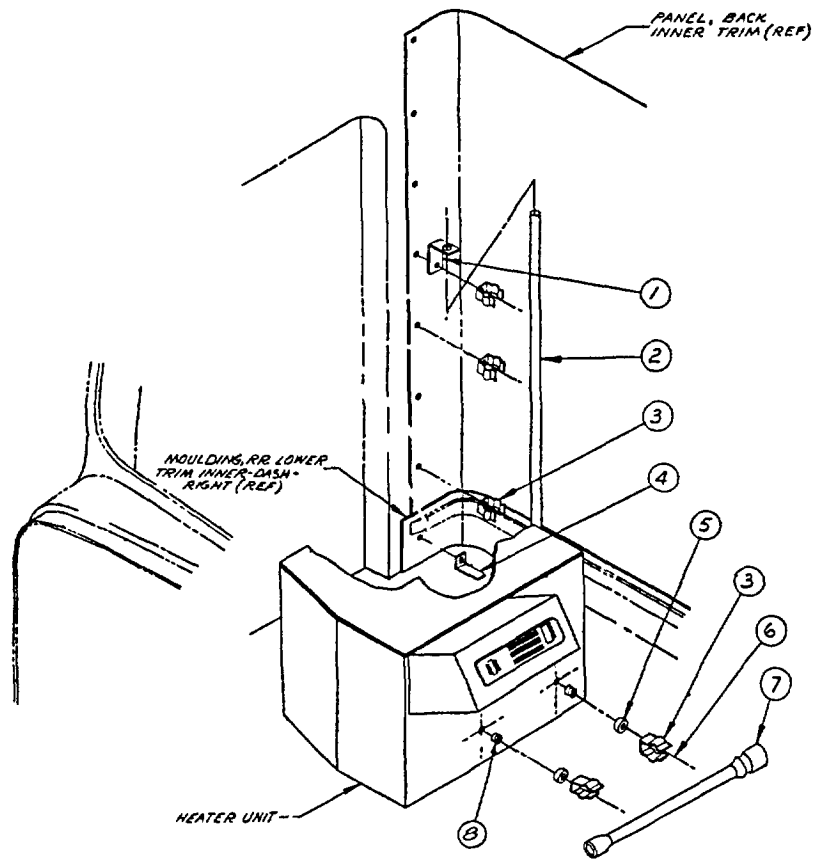
GROUP 10-SPEEDOMETER AND MISCELLANEOUS

	FIG. NO.
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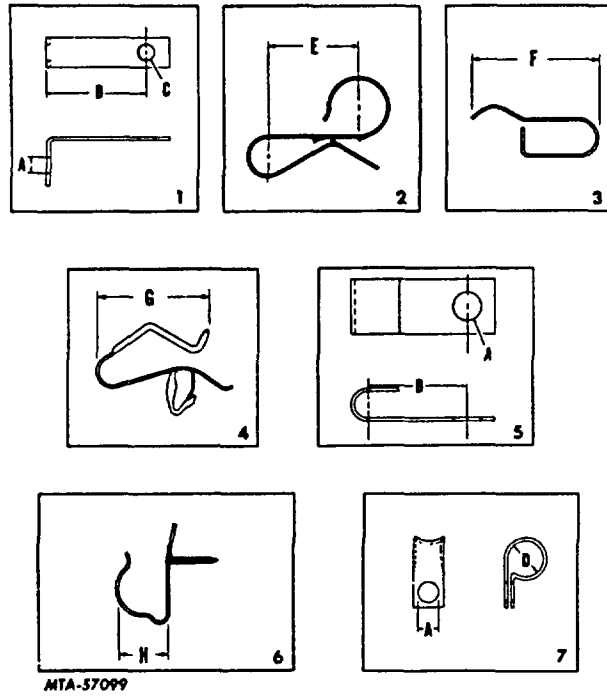
CLIPS AND CLIP EXTENSIONS	10-013
RIM WRENCH CAB MOUNTING	10-001
SPEEDOMETER AND DRIVE CABLE	10-016
TOOLS, CAPACITY PLATE, NAME PLATES AND MISCELLANEOUS	10-021
TACHOMETER.....	10-025

FIG. 10-001

RIM WRENCH CAB MOUNTING



ITEM	PART. NO.	QTY	
1	521177C1	1	ANGLE, HANDLE
2	76699R2	REP	HANDLE, WRENCH
3	274353C1	5	CLIP
4	521176C1	1	ANGLE, HANDLE
5	M44015	2	SPACER, 269 ID X 405 OD X 375 THK
6	167140	2	SCREW, OVAL HD CR REC 10-24 X 1 1/2
6	439743C1	2	WASHER, FINISH #10 HED
6	138597	2	WASHER, LOCK EXT TOOTH #10
7	74985R1	REF	WRENCH
8	368311C1	2	NUT, SERT, 10-24



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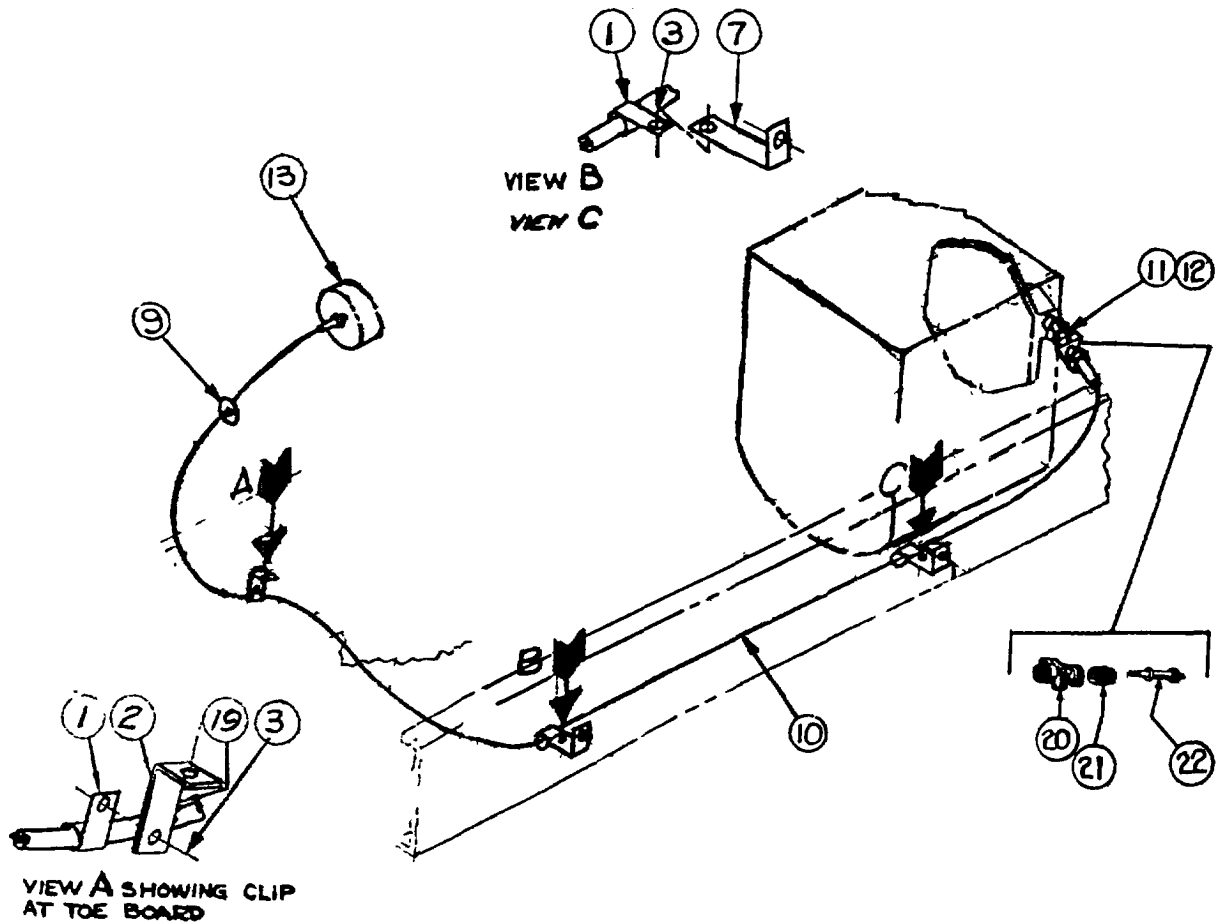
FIG. 10-013 CLIPS AND CLIP EXTENSIONS

KEY	DESCRIPTION	COLUMN								IN PART NUMBER
		A	B	C	D	E	F	G	H	
1	EXTENSION	9/32	1-15/16	13/32						172 655 R1
		13/32	1-5/8	9/32						88 179 H
		13/32	2-7/8	9/32						191 272 R1
2	CLIP					1-1/2				228 648 H1
3	CLIP						1-9/32			63 402 H
4	CLIP NOT USED						1-13/32			85 059 R1
5	CLIP NOT USED									
6	CLIP NOT USED									
7	CLIP plain									
		9/32			5/8					137 197
		11/32			7/16					192 108
		13/32			1/4					874 516 R1
		13/32			7/16					125 928
		rubber coated	7/32			5/16				93 035 R1
			9/32			3/8				446 074 R1
			9/32			7/16				102 106 R1
	13/32			1/2				446 075 R91		

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FIG. 10-016

SPEEDOMETER AND DRIVE CABLE



ITEM	PART NO		
1	120525	CLIP	
2	148404R1	EXTENSION	
3	25222R1	BOLT 1/4-20NC 3/4 HEX HD	
3	26110R1	NUT, 1/4-20NC HEX LOCK	
7	1255200R1	EXTENSION	
9	364657C1	GROMMET	
10	348884C91	CABLE, SPEED TYPE II 155 IN	
	348883C91		
11	343361C1	END, DRIVE TIP 100 SQ	
12	432444R1	END, DRIVE TIP, 150 SQ	
13	386 860 C1	SPEEDOMETER, ASSY	
	349 977 C1	BRACKET, SPEEDOMETER MOUNTING	
	120 614	NUT, HEX, NO. 10NF -2-	
	120 217	WASHER, LOCK NO. 10 -2-	
19	25520R1	NUT, 5/16-18 HEX	
19	120214	LOCKWASHER 5/16	
		20. 63353H ADAPTER	
		21. 68068H GEAR, DRIVEN	
		22. 78904H SLEEVE, DRIVEN GEAR	

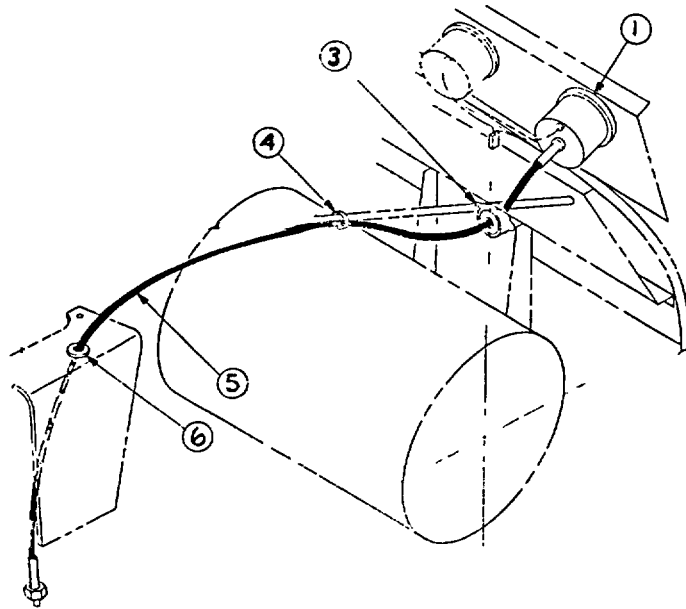


MT134 GROUP 10 - SPEEDOMETER & MISCELLANEOUS

REF NO	PART NUMBER		DESCRIPTION
			FIG. 10-021 TOOLS, CAPACITY PLATES AND NAME PLATES
			<u>CAPACITY PLATE</u>
370	854	C1	PLATE, CAPACITY (ENGLISH)
161	790		SCREW, TAP. PAN-CR-REC-HD NO. 6-18 X 3/8 -4-
			<u>DECAL</u>
2 754	371	R1	COMPANY IDENTIFICATION
2 753	190	R1	COUNTRY OF ORIGIN
1 001	776	R1	DIESEL START
396	686	C2	EMERGENCY STOP
396	688	C2	ENGINE FUEL SHUTOFF
275	344	R1	THROTTLE
436	037	05	WIRING CIRCUIT DIAGRAM (W/O ANTI-LOCKING SYSTEM)
			<u>MODEL DESIGNATION PLATE</u>
421	179	C1	PLATE, MODEL PAYSTAR 5000 -2-
864	480	R1	NUT, SPEED -6-
			<u>NAME PLATE</u>
			PLATE, NAME
403	289	C1	INTERNATIONAL (30.88 INCHES LONG)
864	480	R1	NUT, SPEED -AR-
			<u>SAFETY CERTIFICATION PLATES</u>
421	197	C1	PLATE, SAFETY CERTIFICATION
161	790		SCREW, TAP. PAN-CR-REC-HD NO. 6-18 X 3/8 -2-
			<u>TOOLS</u>
459	840	C1	HANDLE, RIM WRENCH
74	985	R1	WRENCH, RIM NUT
			<u>TRANSMISSION SHIFT DECALS AND PLATES</u>
001	119	R2	DECAL, TRANSMISSION SHIFT (AUXILIARY)

FIG. 10-025

TACHOMETER ASSEMBLY



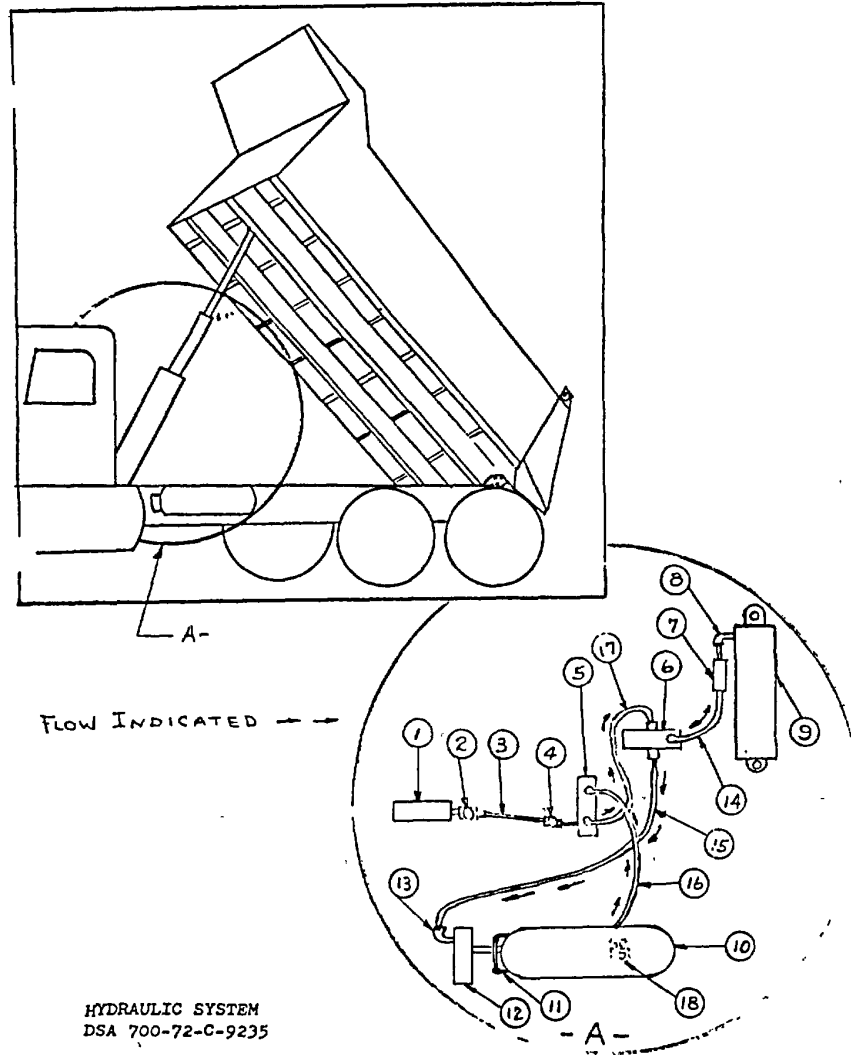
ITEM	PART NO	QTY	
1	387270C91	1	TACHOMETER- 2500 RPM
1	349977C1	1	BRACKET, MOUNTING
1	107377H	2	NUT, HEX LOCK #10-32
3	367541C1	1	GROMMET
3	105250R91	1	RETAINER, GROMMET
3	120380	2	WASHER, LOCK 1/4
3	26672R1	2	SCREW, PAN HD CR REC TAP 1/4-20 X 3/4
4	289862C1	1	STRAP, CABLE LOCK
4			STRAP TO LEFT RADIATOR STAYROD
5	341234C91	1	CABLE, TACHOMETER TYPE II 65 IN LONG
	341233C91		CORE, TACHOMETER, ASSY
5	343359C1	1	TIP, FLOATING
5			MOUNT ON TACH TAKE-OFF ON FUEL PUMP
6	115329R1	1	GROMMET



GROUP 11-BODY RELATED PARTS

	FIG. NO.
BODY, SUB-FRAME.....	11-001
HYDRAULIC SYSTEM (THIELE)	11-002
HYCO CYLINDER.....	11-003
CHELSEA PTO	
ASSEMBLY.....	11-004
LEVER CONTROL.....	11-005
GOVERNOR DRIVE	11-006
MODEL NUMBER CONSTRUCTION.....	11-007
MARVEL FILTER.....	11-002
GRESEN CONTROL VALVE.....	11-002
THIELE OIL RESERVOIR	11-002

FIG. 11-002
HYDRAULIC SYSTEM (THIELE)



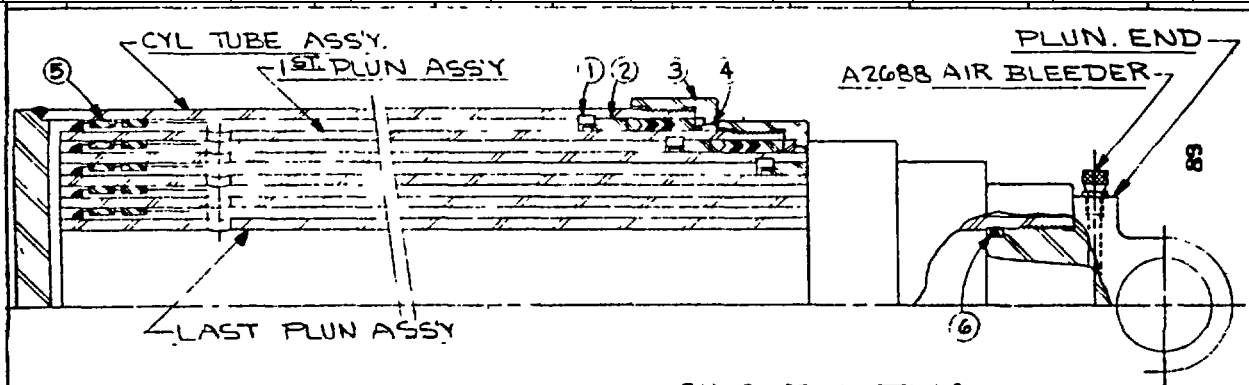
THIELE, INCORPORATED

- | | | |
|-----|---------------|---|
| 1. | A26DDP-C5G | CHELSEA POWER TAKE-OFF (FOR COMPONENTS SEE FIG. 11-004) |
| 2. | T-8144 | UNIVERSAL JOINT, 1-1/4 X 7/8 |
| 3. | T-8146 | SHAFT, 7/8 DIAMETER |
| 4. | T-8147 | SPLINED JOINT, 13/16 TO 1-1/8, 10 SPLINE |
| 5. | T-8145 | HYCO PUMP |
| 6. | T-8140 | GRESEN VALVE, MODEL WP-3 |
| 7. | T-X786 | RACINE OVERSPEED CHECK VALVE |
| 8. | T-8143 | 1" HI-PRESSURE STREET ELBOW |
| 9. | T-8141 | HYCO CYLINDER (FOR COMPONENTS SEE FIG. 11-003) |
| 10. | T-8142 | THIELE OIL RESERVOIR, 40 GAL. CAPACITY |
| 11. | T-8149 | THIELE OIL SIGHT GAGE |
| 12. | T-265201-0000 | HOUSING |
| | T-576366-5125 | ELEMENT |
| 13. | T-8148 | 1" HI-PRESSURE STREET ELBOW |
| 14. | T-8153 | 1" PRESSURE HOSE ASSEMBLY |
| 15. | T-4675 | 1" RETURN HOSE ASSEMBLY |
| 16. | T-4679 | 1-1/4 SUCTION HOSE ASSEMBLY |
| 17. | T-4674 | 1" PRESSURE HOSE ASSEMBLY |
| 18. | T-4677 | 1-1/4 BRASS GATE VALVE |

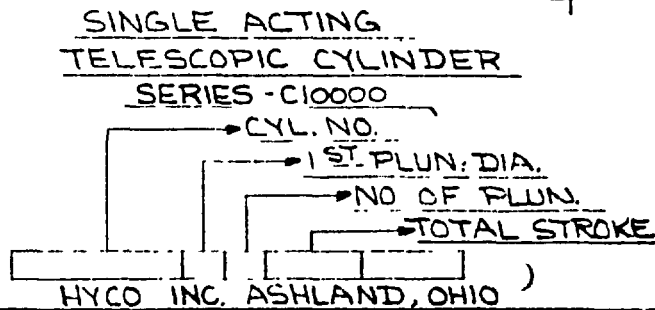
FIG. 11-003

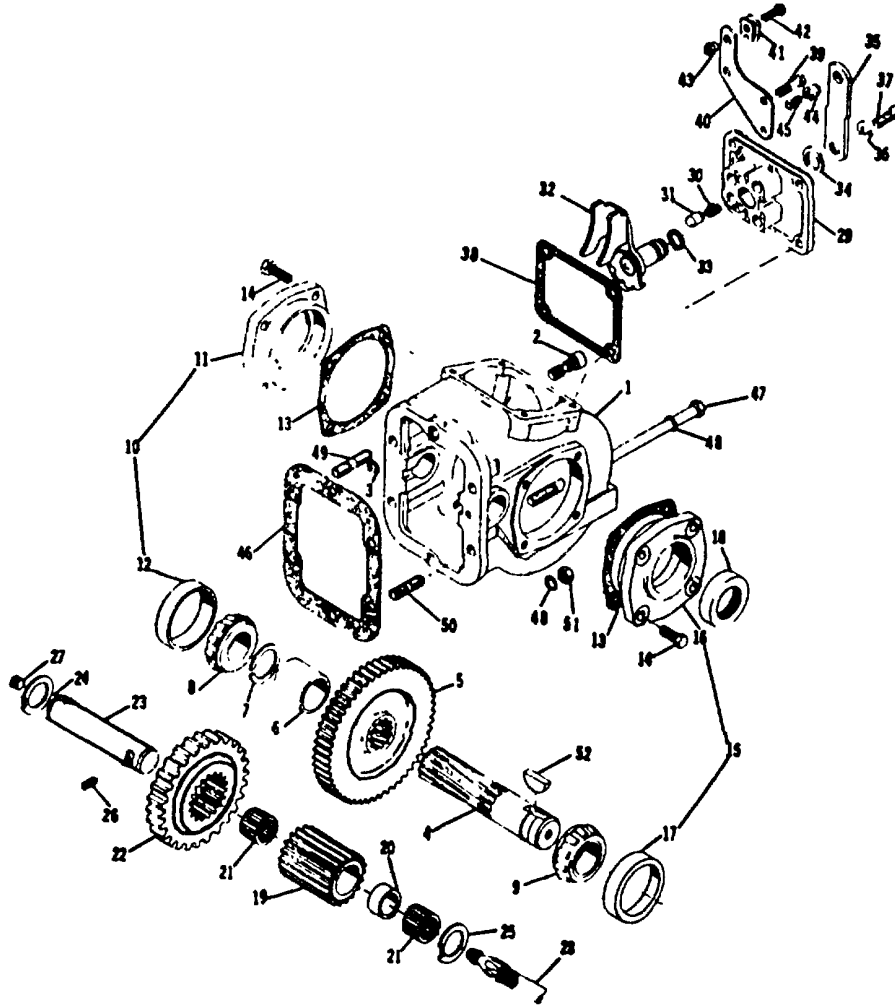
HYCO CYLINDER

-REPLACEMENT PARTS LIST-									
ITEM	PLUN DIAMETERS		8	7	6	5	4	3	2
1	RETAINING RING		B9971-8.5	B9971-7.5	B9971-6.5	B9971-5.5	B9971-4.5	B--71-3.5	B9971-2.5
2	PACKING SET		B10038-8	B10038-7	B10038-6	B10038-5	B10038-4	B10038-3	B10038-2
3	HEAD NUT		D401-8.94	D401-7.94	D401-6.94	D401-5.94	D401-4.94	D401-3.94	D401-2.94
4	WIPER		B10285-8	B10285-7	B10285-6	B10285-5	B10285-4	B10285-3	B10285-2
5	GUIDE RING (2)		B10089-8	B10089-7	B10089-6	B10089-5	B10089-4	B10089-3	B10089-2
6	O-RING			A10023	A5921	A9634	A7118	A11546	



CYL. TUBE & PLUN ASSY & PLUN END	
DESCRIPTION	PART NO. - STROKE
PLUN END	
DIA CYL TUBE ASSY	-
1ST PLUN ASSY	-
2ND " "	-
3RD " "	-
4TH " "	-
5TH " "	-





P.T.O. COMMON PARTS LIST FOR -----

Item	Part Number	Description	26DD Series Quantity
	A26DDP C5G	P.T.O. ASSEMBLY - Complete	1
1	1-P-281	CASE, p.t.o	1
2	378766	SCREW, socket head cap (special)	1
3	378767	RING, retaining	
4	A3-P-202	SHAFT, std. p.t.o. output 1-1/14" Rd. - 5/16" Key 500007-29	1
5			
5	2P461	GEAR, output	
6	4-P-45	SPACER, output gear	1
7	378391	RING, output shaft locking	1
8	550532	CONE, output shaft bearing - Closed End	1
9	550397	CONE, output shaft bearing - Open End	
10	328274X	BEARING CAP ASSEMBLY - Closed End	1
11	N.S.S.	CAP, bearing	1
12	550221	CUP, bearing	
13	22-P-241	GASKET, bearing cap	AR

PARTS LIST & SPECIFICATIONS

Item	Part Number	Description	Quantity
14	378430-10	SCREW, bearing cap (5/16" 18 x 1")	8
15	328273X	BEARING CAP ASSEMBLY - Open End	1
16	N.S.S.	CAP, bearing	1
17	550221	CUP, bearing	1
18	28-P-52	SEAL, output shaft oil	1
19	5-P-487	GEAR. driving	1
20	14 P 50	SPACE R, needle roller	1
21	550886	NEEDLE ROLLER - Caged	2
22	5 P-486	GEAR, input sliding	1
23	9 P-55	SHAFT, idler std	1
24	31 P-58	WASHER. thrust 2" O.D.)	1
25	31 P47	WASHER, thrust (1 1/2" O.D.)	1
26	378452-7	SCREW. input shaft sat (1/4"-20 x 1/2")	1
27	500132-3	PLUG, pipe..... (1/8" 27 N.P.T.)	1
28	328075X	HOSE, Shipped Loo Pressure Lube Only).....	1
	328149X	SHIFTER ASSY., Wire Control - (Any. Arngmnts C5). :.....}	1
29	34 P-17	COVER, shifter	1
30	37 P-20	SPRING, poppet	1
31	63 P-6	PIN, poppet	1
32	{3281S1X	SHIFTER PLATE SUB-ASSY.- (Assy. Arngmnts. C5) :..... :.....}	1
33	28 P-49	O-RING, shifter post.....	1
34	378004	WASHER, at (1" O.D.)	1
35	51-P-22	LEVER, shift..... (4")	1
36	378003	WASHER. lock..... (5/16")	1
37	500409 6	SCREW. hex head cap (5/16"-24 x 5/8")	1
38	35 P 8	GASKET, shift cover	1
39	378430-10	SCREW. eslock hex head cap (5/16"-18 x 1")	4
PARTS SHIPPED LOOSE			
	328346-10X	WIRE CONTROL ASSEMBLY - Wire & Knob	1
	328380X	WIRE CONTROL MOUNTING PARTS	1
40	50 P-17	BRACKET, wire control	1
41	50-P-19	BRACKET, swivel	1
42	500396 8	SCREW, hex head cap (1/4"-20 x 3/4")	1
43	378326	NUT, special hex (1/4"-20)	1
44	378019	PIN, pivot	1
45	5005684	SCREW, square head tot (1 1/4"-20 x 1/2")	1
46	{35-P-9-1	GASKET, mounting..... (.010" Thick)	AR
	328170-97X	KIT, p.t.o. mounting.....	1
47	378041-10	SCREW, hex head cap (3/8"-16 x 8-1/4")	1
48	378018	GASKET, copper bolt	5
49	378478.12	STUD (3/8"-16 & 3/8"-24 x 1-5/8")	2
50	378478-10	STUD (3/8"-16 & 3/8"-24 x 1-1/2")	2
51	500371-3	NUT, hex (3/8"-24)	4
52	{500007-29	KEY. woodruff (5/16") - For 3P-202 or 3-P-340 Shafts..... }	1

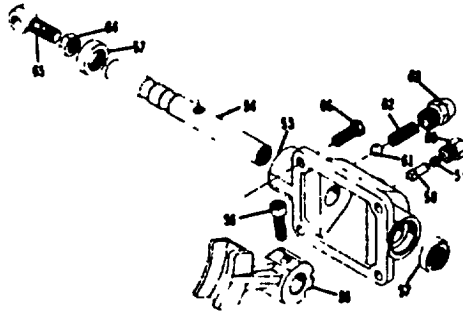
N.S.S. - Not Sold Separately.

AR - As Required.

Included with Pressure Lube Kit 328663X

FIG. 11-005

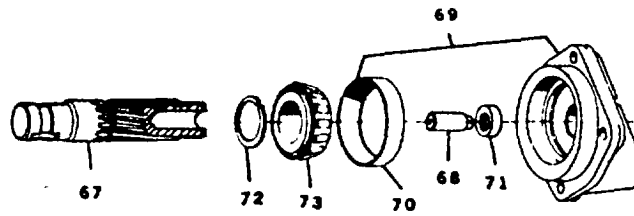
LEVER CONTROL



Item	Part Number	Description	Quantity
	328312X	SHIFTER COVER ASSEMBLY - Lever Control.....	1
53	34-P-26	COVER, shifter.....	1
54	11-P-76	SHAFT, shifter.....	1
55	32-P-85	FORK, shifter.....	1
56	378447-6	SCREW, hex socket cap.....	1
57	28 P-56	SEAL, oil.....	2
58	45-P-6	PIN, guide.....	1
59	378468	PLUG, felt.....	1
60	38-P4	HOLDER, hex guide screw.....	1
61	378002	BALL, shifter.....	1
62	37-P-14	SPRING, shifter.....	1
63	378554	CAP, poppet.....	1
64	5003814	NUT, hex jam.....	1
65	36-P-10	BOLT, eye.....	1
66	378430-8	SCREW, hex head eslock..... (5/16" 18 x 3/4")	4

FIG. 11-006

GOVERNOR DRIVE



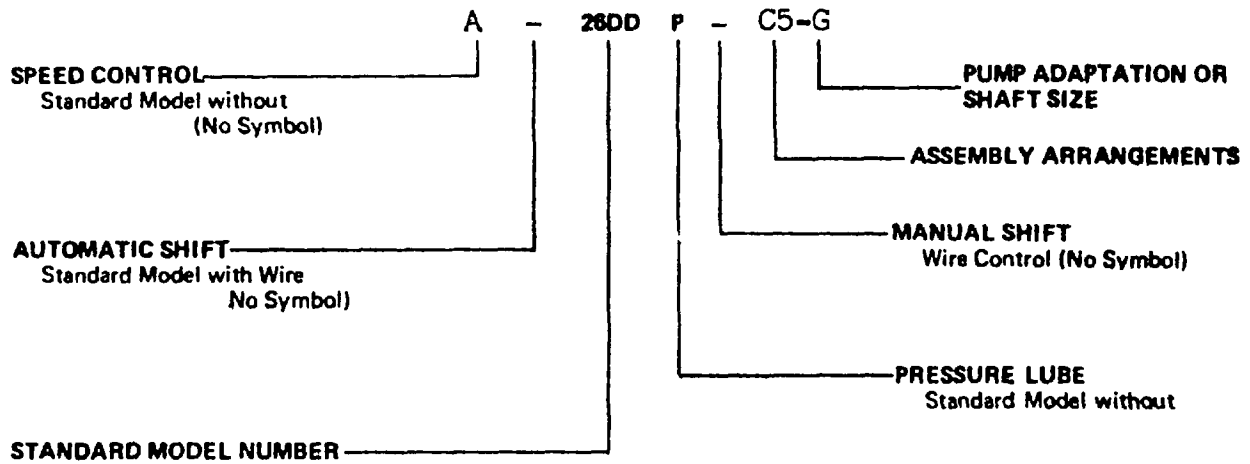
Item	Part Number	Description	Quantity
		KIT, governor drive.....	1
	328060X	DRIVE SHAFT & SPINNER ASSY - Governor Drive.....	1
67	3 P-270	SHAFT, drive	1
68	378178	SPINNER	1
69	328588X	BEARING CAP ASSEMBLY	1
70	550221	CUP. bearing.....	1
71	28 P-53	SEAL, oil	1
72	378391	RING. locking	1
73	550532	CONE, bearing	1

Governor Drive Kit consists of parts shown plus gaskets, 22 P-24 1 & 22-P 24-2.

FIG. 11-007

MODEL NUMBER CONSTRUCTION

26DD SERIES EXTRA HEAVY DUTY P.T.O.



"WORLDWIDE DESIGN, MANUFACTURE
AND MARKETING OF SYSTEMS
FOR THE TRANSMISSION
AND CONTROL OF POWER"

THIS PARTS LIST NOT TO BE DUPLICATED WITHOUT THE CONSENT OF DANA CORPORATION For further information write to. Dana Corporation, P O. Box 58, Chelsea, Michigan 48118





GROUP 12-ENGINES

	FIG. NO.
CUMMINS ENGINE PARTS BOOK (BULLETIN NO. 967202 FOR CONTRACT NO. DSA700-72-C-9235)	
COVER.....	PAGE 155
PARTS ORDERING INFORMATION.....	PAGE 154
INTRODUCTION	PAGE 156
INDEX OF COMPONENTS	PAGE 157
INDEX TO PART NUMBERS.....	PAGE 197
ACCELERATOR AND THROTTLE CONTROL	12-001
AIR CLEANER	
ASSEMBLY.....	12-007
MOUNTING AND PIPING.....	12-049
AIR RESTRICTION GAUGE (CODE 12898).....	12-002
ENGINE BREATHER HOSE.....	12-003
ENGINE MOUNTING	
FRONT	12-004
REAR.....	12-019
FAN	12-005
OIL FILTER	
ASSEMBLY.....	12-029
MOUNTING.....	12-006
HOSING.....	12-008
PREHEATER PRIMER PUMP	12-001
RADIATOR	
ASSEMBLY.....	12-041
MOUNTING.....	12-009
HOSING.....	12-010
SUPPORT AND FRAME REINFORCEMENT(BRUSH GUARD)	12-011
RADIATOR CAP (SEE FIG. 09-001)	
RADIATOR COOLANT LEVEL INDICATOR (CODE 12891)	12-041
RADIATOR SHUTTER	
ASSEMBLY.....	12-132
CONTROL.....	12-117
SHUTTERSTAT.....	12-012
WATER FILTER	
ASSEMBLY.....	12-038
HOSING.....	12-013

FIG. 12-001

ACCELERATOR AND THROTTLE CONTROL

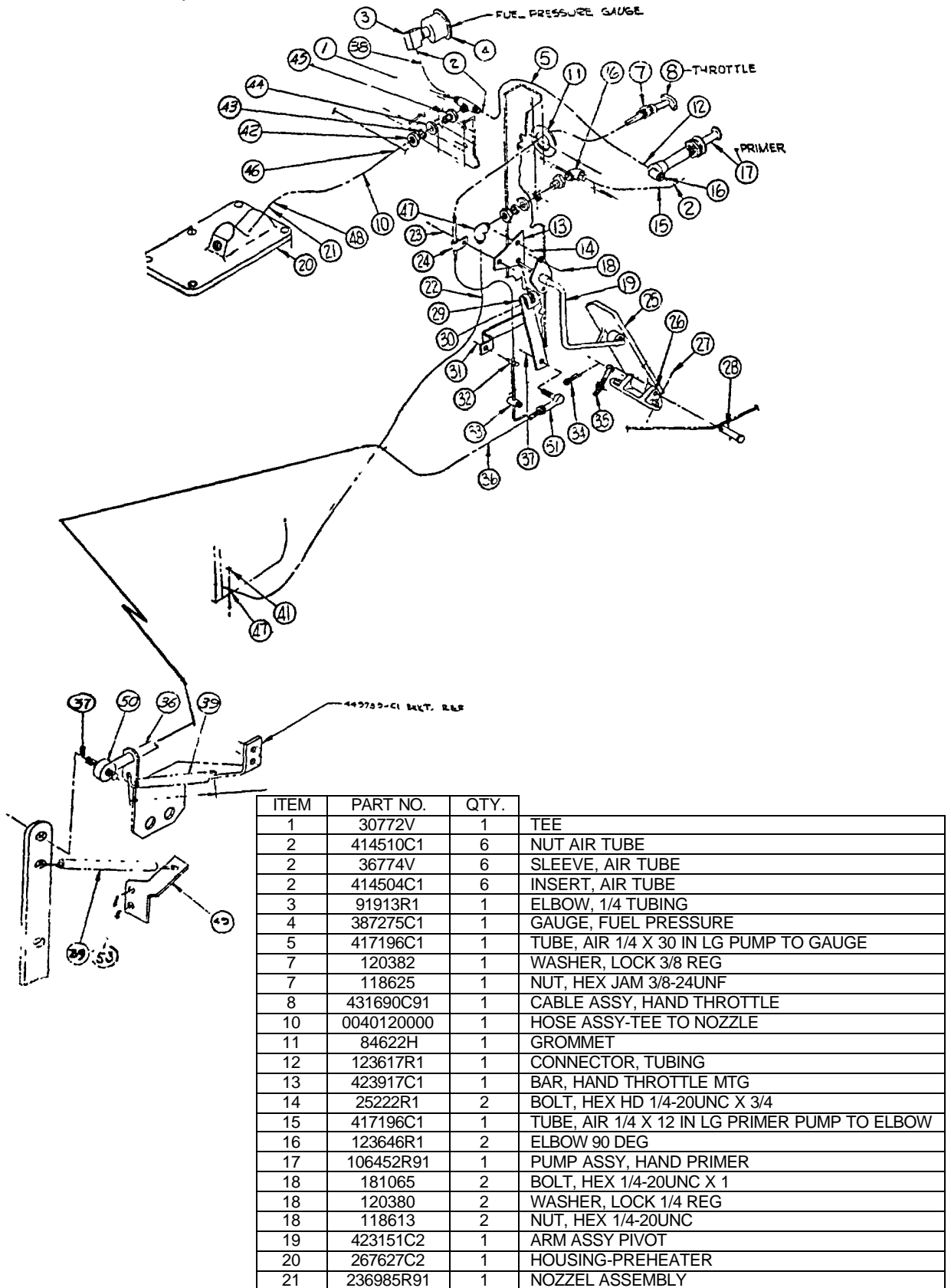


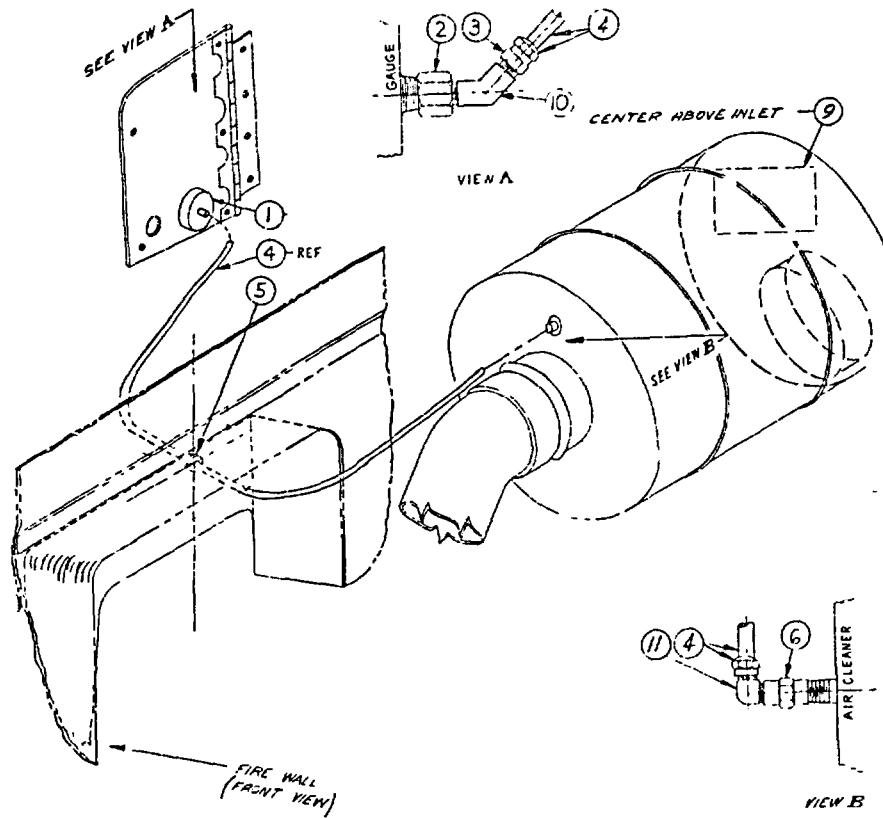
FIG. 12-001

ACCELERATOR AND THROTTLE CONTROL-CONTINUED

ITEM	PART NO	QTY	
22	G040420000	1	HOSE ASSY - FUEL TO ELBOW
23	25222R1	1	BOLT, HEX HD 1/4-20 UNC X 3/4
23	120380	1	WASHER LOCK 1/4 REG
23	118613	1	NUT, HEX 1/4-20 UNC
24	84611R1	1	CLAMP, 1/8
25	317164C2	1	PEDAL, ACCELERATOR
26	101358HA	1	BRACKET, PEDAL
27	156466	2	SCREW, FLAT HD CR REC MACH 5/16-18 UNC X 3/4
28	137081H	1	PIN- HEADED
29	4223518C1	1	LEVER ASSEMBLY
30	24841R1	1	BOLT, RX HD 3/8-16 UNC X 1 1/2
30	120382	1	WASHER, LOCK 3/8 REG
30	25522R1	1	NUT, HEX 3/8-16 UNC
30	25709R1	1	WASHER, FLAT 3/8
31	120392	1	WASHER, FLAT 1/4
31	137141	1	PIN, COTTER 1/16X5/8
32	398633C1	1	SWIVEL
33	288219C1	1	STOP, THROTTLE CONTROL WIRE
33	132892	1	SCREW, SLOTTED HD #10-32 X 1/4
34	137159	1	PIN, COTTER 3/32X5/8
35	423147C1	1	BOLT, CARRIAGE 5/16UNC
35	118614	1	NUT, HEX 5/16UNC
35	120393	1	WASHER, FLAT 5/16
36	453759C1	1	ROD, ACCEL CONT
37	120214	2	WASHER, LOCK 5/16 REG
37	118624	2	NUT, HEX JAM 5/14-24UNF
38	417196C1	1	TUBS, AIR 1/4 X 8 IN LG GAUGE TO TEE
39	10454VA	2	SPRING, RETURN
41	444001	1	ADAPTER 1/4NPT
42	123834H	2	NUT, HEX 3/4-16NF
43	131046	2	WASHER, LOCK 3/4 REG
44	25712R1	2	WASHER, FLAT 3/4 HARD
45	156869R1	2	COUPLING, ANCHOR
46	118748	1	CONNECTOR, FLARE TUBE 1/8NPTF X 7/16-20-
47	118753	2	ELBOW, 90 DEGREE 1/8NPTF X 7/16-20-
48	118753	1	ELBOW, 90 DEGREE 1/8 NPTF X 7/16-20
49	45366402	1	BRACKET, SPRING RETURN
50	425310C1	1	JOINT ASSY, BALL
50	449850C2	1	BOLT, SHOULDER
50	118625	1	NUT, HEX JAM 3/8-24UNF-24UNF
51	399320C1	1	JOINT ASSY, BALL
51	118625	1	NUT, HEX JAM 3/8-24UNF

FIG. 12-002

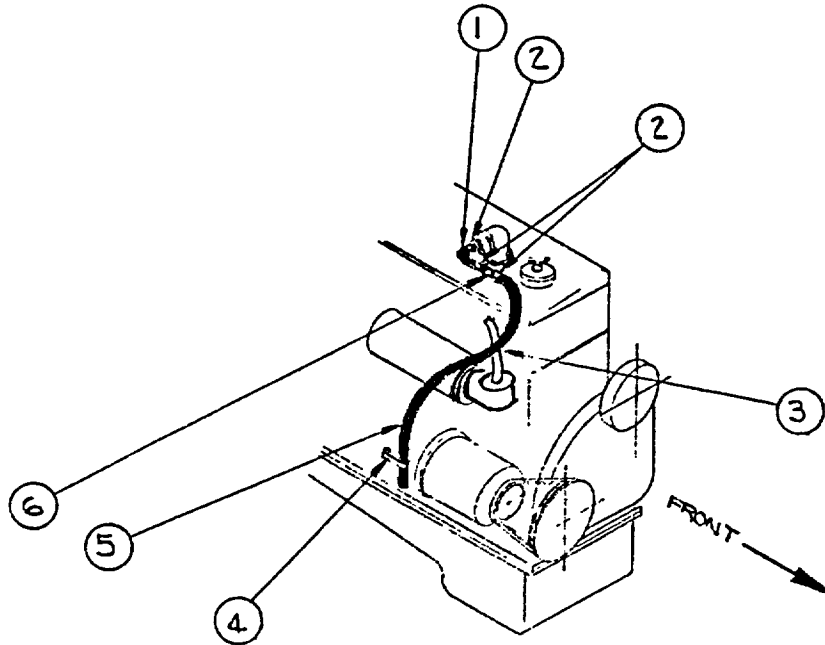
AIR RESTRICTION GAUGE (CODE 12898)



ITEM	PART NO	QTY	
1	765027C91	1	GAUGE, RESTRICTION INDICATOR
2	105420	1	REDUCER COUPLING, 1/4NPTF X 1/8NPTF
3	142064H	2	CONNECTOR, 1/8NPTF X 7/16-24USF
4	417196C1	1	TUBE, NYLON 1/40.0.X 34 IN LONG
4	30773V	2	NUT
4	30774V	2	SLEEVE
4	414504C1	2	INSERT
5	120879	1	GROMMET
6	444094	1	COUPLING, 1/8NPTF
9	436098C1	1	PRODUCT GRAPHIC
10	9409919	1	ELBOW, 45 DEG 1/8NPTF
11	123646R1	1	ELBOW, 90 DEG, 1/8 NPTF X 7/16-24 USF

FIG. 12-003

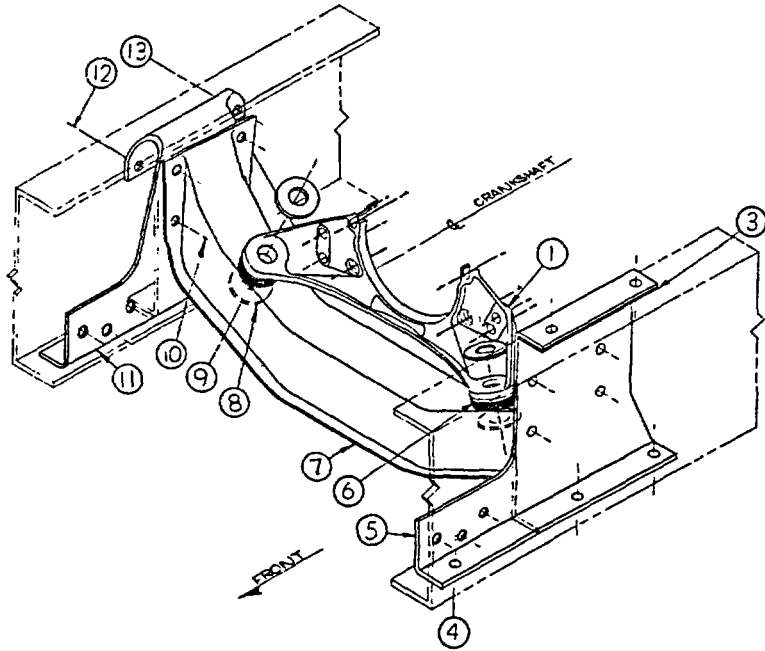
ENGINE BREATHER HOSE



ITEM	PART NO.	QTY.	
1	320782C1	1	HOSE, HEATER
2	274085R91	3	CLAMP, HOSE
3	289862C1	1	STRAP, CABLE LOCK
4	299263091	1	CLAMP, RUBBER CUSHIONED
5	364359C1	1	HOSE, 5/8 ID 15/16 OD X 44 IN LONG
6	364319C1	1	TUBE, HOSE

FIG. 12-004

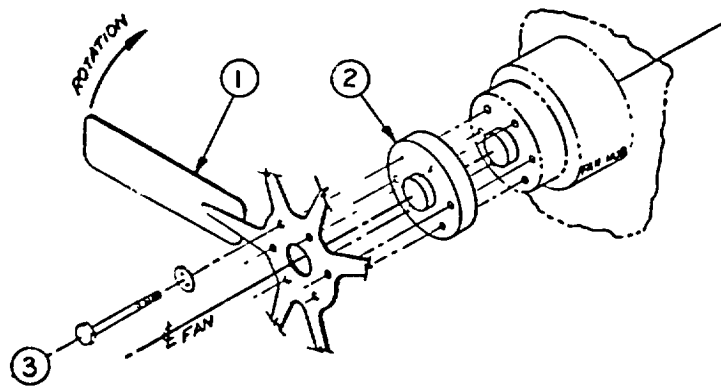
ENGINE FRONT MOUNTING



ITEM	PART NO.	QTY.	
1	465225C2	1	BRACKET, ENG FRT MTG
3	424031C1	1	BAR, SPACER
4	414052C1	2	BOLT, FLG HEX HD 1/2-20UNRF X 1-1/2
4	414087C1	2	NUT, FLG HEX LOCK 1/2-20UNF
5	465379C2	1	BRACKET, ENG FRT MTG
6	476809C1	2	INSULATOR
7	441809C2	1	CROSSMEMBER, ENG FRT MTG
8	446082R1	2	WASHER, SPECIAL
9	414085C1	2	BOLT, FLG HEX HD 5/6-16 UNRF X 3-3/4
9	414089C1	2	NUT, FLG, HEX LOCK 5/8-18UNF
9	107893R1	2	WASHER, FLAT SPECIAL
10	414052C1	8	BOLT, FLG HEX HD 1/2-20UNRF X 1-1/2
10	414087C1	8	NUT, FLG, HEX LOCK 1/2-20UNF
11	465381C1	1	BRACKET ASSY, RT FRT ENG
12	414089C1	1	BOLT, FLG HEX HD 5/8-16 UNRF X 2-3/4
12	414089C1	1	NUT, FLG HEX LOCK 5/8-18UNF
13	414081C1	1	BOLT, FLG HEX HD 5/8-18UNRF X 2-3/4
13	414089C1	1	BUT, FLG HEX LOCK 5/8-18UNF

FIG. 12-005

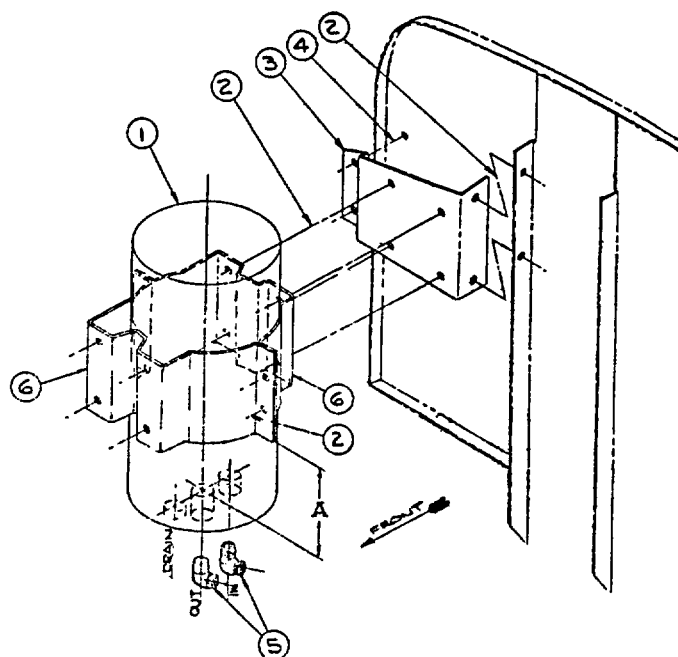
FAN



ITEM	PART NO.	QTY.	
1	466199C1	1	FAN ASSY
2	429568R2	1	SPACER, FAN= 1.25 IN THK
3	277232R1	6	BOLT, HEX HD 3/8-16UNC X 2-3/4
3	25789R1	6	WASHER, FLAT 3/8

FIG. 12-006

OIL FILTER MOUNTING



ITEM	PART NO.	QTY	
1	438027C91	1	OIL FILTER- FLEETGUARD= 14 QT (FOR COMPONENTS SEE FIG. 12-029)
2	24839R1	10	BOLT, HEX HD, 3/8-16UNC X 3/4
2	9413979	10	NUT, HEX LOCK, 3/8-16UNC
3	423445C1	1	BRACKET OIL FILTER MTG
4	24840R1	2	BOLT HEX HD 3/8-16UNC X 1
4	120382	2	WASHER LOCK 3/8
4	25079R1	2	WASHER FLAT 3/8
5	189385R1	2	ELBOW, 90 DEG 1/2 X S/8.-18 FLARED
6	437970C1	2	BRACKET, OIL FILTER MTG

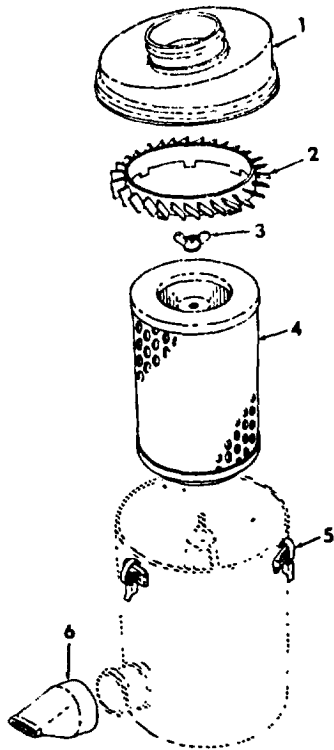


MT134 GROUP 12- ENGINES

REF NO	PART NUMBER	DESCRIPTION
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FIG. 12-007

AIR CLEANER



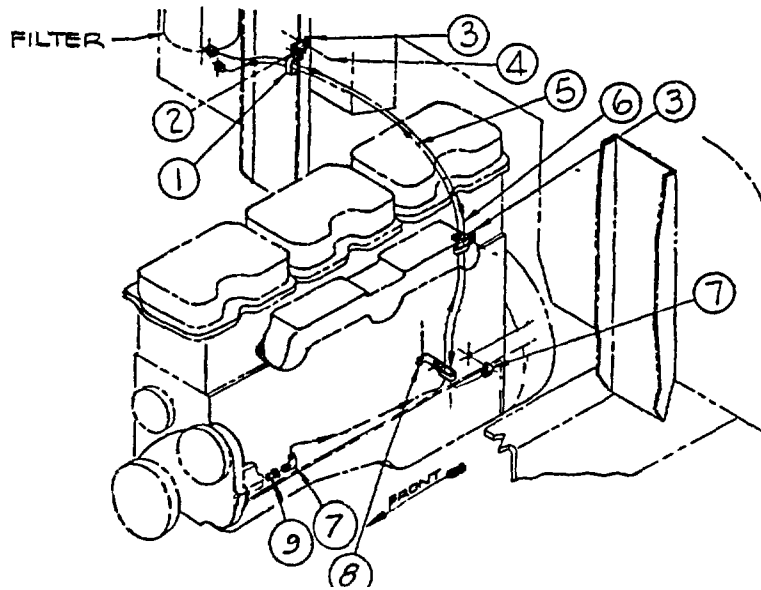
MT 14760

433997C93 CLEANER, AIR, ASSY

1	440 464	C1	COVER, AIR CLEANER
2	437 116	C1	RING, FIN
3	437 115	C1	NUT, W/GASKET, WING
4	472098C1		ELEMENT, AIR CLEANER
5	440 463	C1	CLAMP, COVER -3-
6	437 114	C1	VALVE, EJECTION

FIG. 12-008

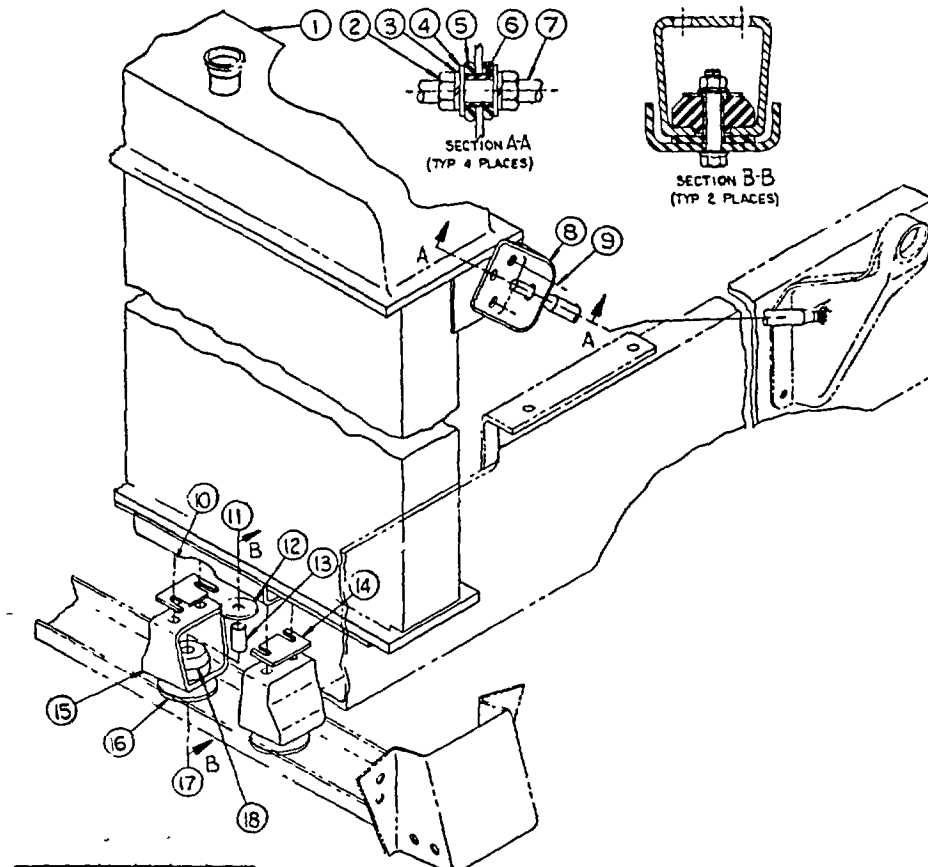
OIL FILTER HOISING



ITEM	PART NO.	QTY.	
1	317708C91	3	CLIP
2	181063	3	BOLT, HEX HD 1/4-20UNC X 3/4
2	9413950	3	NUT, LOCK 1/4-20UNC
3	869879R1	2	EXTENSION, CLIP
4	24839R1	1	BOLT, HEX HD 3/8-16UNC X 3/4
4	9413979	1	NUT, LOCK 3/8-16UNC
5	6060890000	1	HOSE ASSY, SUPPLY 89 IN LONG
6	6060740000	1	HOSE ASSY, RETURN 74 IN LONG
7	189385R1	2	ELBOW ,90 DEGREE 1/2X5/8-18
8	300940C1	1	EXTENSION, CLIP
9	24466R1	1	REDUCER BUSHING 3/4-14 X 1/2-14

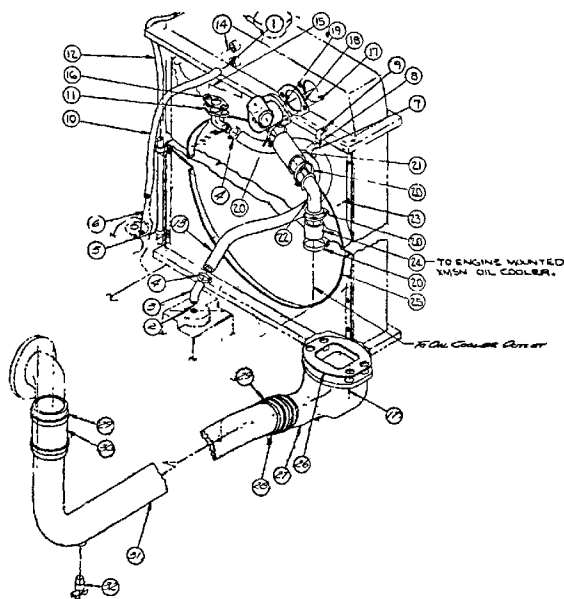
FIG. 12-009

RADIATOR MOUNTING



ITEM	PART NO	QTY	
1	445806C91	1	RADIATOR ASSY- (FOR COMPONENTS SEE FIG. 12-041)
2	25528R1	8	NUT, HEX 5/8-11 UNC
3	121574	8	WASHER, LOCK 5/8 REG
4	130999	8	WASHER, FLAT 11/16
5	459591C1	8	INSULATOR, STAY ROD
6	455001C1	4	SPACER, RAD MTG
7	423864C1	1	ROD, RAD STABILIZER- LT SIDE
7	518029C1	1	ROD, RAD STABILIZER- RT SIDE
8	423865C1	1	BRACKET, RAD STABILIZER- LT SIDE
8	518028C1	1	BRACKET, RAD STABILIZER- RT E-
9	24840R1	6	BOLT, HEX HD 3/8-16 UNC
9	9413979	6	NUT, HEX LOCK 3/8-16 UNC
10	391366C1	4	BOLT, SPECIAL
10	25710R1	4	WASHER, FLAT 1/2
11	414087C1	2	NUT, FLG HD LOCK 1/2-20UNF
12	22042R1	2	WASHER, SPECIAL
13	423861C1	2	SPACER, RAD MTG
14	433623C1	AR	SPACER, RAD // MAX 3 EACH SIDE
15	423863C2	2	BRACKET, RAD MTG
16	423860C1	2	PAD, RAD MTG
17	414057C1	2	BOLT, FLG HEX HD 1/2-20UNRF X 2-3/4
18	80445R1	2	INSULATOR

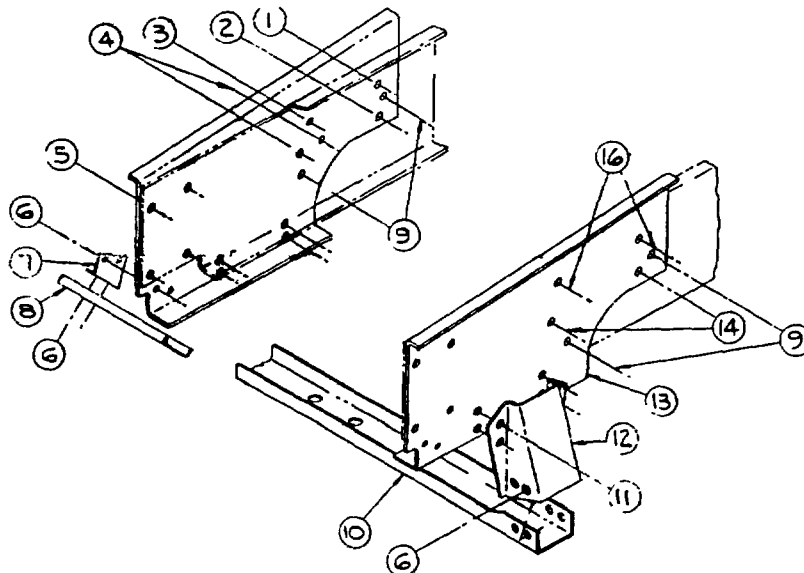
FIG. 12-010
RADIATOR HOISING



ITEM	PART NO.	QTY.	
1	425123R1	1	CONNECTOR, 3/8 NPT X 7/16-20
2	24175R1	1	REDUCER, 1 X 3/4 NPT
3	864454R1	1	NIPPLE, HOSE 45 DEG 3/4 NPT X 1.0 ID HOSE
4	311164C91	2	CLAMP, HOSE
5	426872R1	2	CLAMP
6	118753	1	ELBOW, 90 DEG-1/8 NPT X 7/16-20
7	299272C91	1	CLAMP
8	25222R1	1	BOLT, HEX HD 1/4-20UNC X 3/4
8	26110R1	1	NUT, HEX LOCK 1/4-20 UNC
9	875334R1	1	EXTENSION, CLIP
10	A040300000	1	HOSE ASSY, DEAERATION
11	413562C1	1	ELBOW, DEAERATION
12	427698C1	1	HOSE 5/16 ID X 49
13	364361C1	1	HOSE 1.0 ID X 35
14	20990R1	2	PLUG- 3/8 NPT
15	25493R1	2	BOLT, HEX HD 5/16-18 UNC X 1
15	25708R1	2	WASHER, FLAT 5/16
15	120214	2	WASHER, LOCK 5/16
16	332736C1	1	GASKET, DEAERATION
17	140483H	6	BOLT, HEX HD 3/8-16 UNC X 1 1/4
17	25709R1	6	WASHER, FLAT 3/8
17	120382	6	WASHER, LOCK 3/8 REG
18	284418C3	1	GASKET, RADIATOR INLET
19	516129C2	1	INLET, RADIATOR
20	279026R91	4	CLAMP, RADIATOR INLET HOSE
21	2643090R1	1	HOSE, RADIATOR SILICONE 11 IN LG 2 1/4 ID
22	516128C1	1	ELBOW, 90 DEG WATER
23	25222R1	10	BOLT, HEX HD 1/4-20 UNC X 3/4
23	25707R1	10	WASHER, FLAT 1/4
23	120380	10	WASHER, LOCK 1/4 REG
24	2643090R1	1	HOSE, RADIATOR SILICONE 2 IN LG 2 1/4 ID
25	46736868	1	SHROUD
26	429224C1	1	GASKET, RADIATOR OUTLET
27	430697C1	1	OUTLET, RADIATOR
28	2643094R1	1	HOSE, RADIATOR OUTLET SILICONE 7 IN LG 3 ID
29	279029R91	4	CLAMP, HOSE
30	2643091R1	1	HOSE, ENG INLET SILICONE 5.5 LG 2 1/2 ID
31	430694C1	1	PIPE, RAD OUTLET
32	103647	1	COCK, DRAIN 1/4 NPT

FIG. 12-011

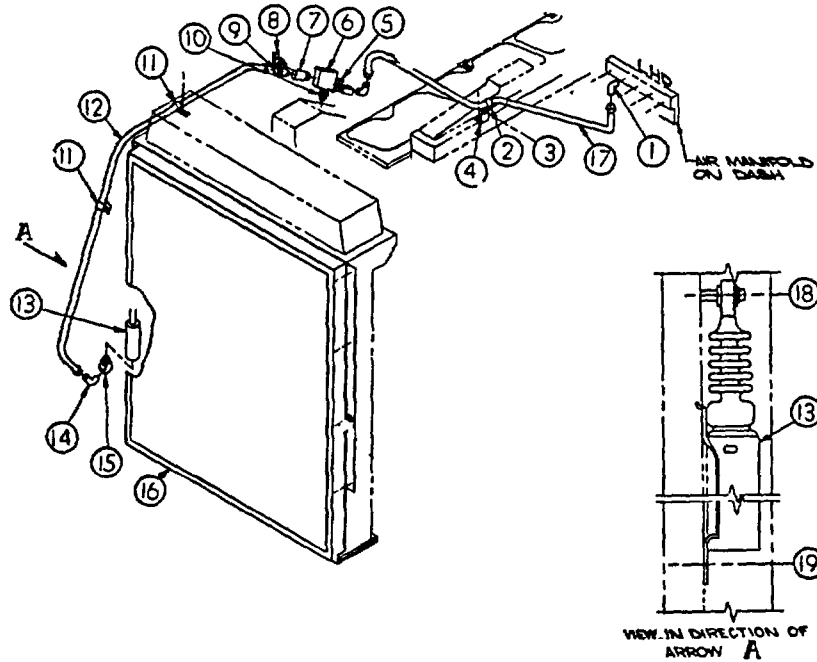
RADIATOR SUPPORT AND FRAME REINFORCEMENT (BRUSH GUARD)



ITEM	PART NO.	QTY.	
1	414082C1	1	BOLT, FLG HEX HD, 5/8-18UNRF X 3
1	414089C1	1	NUT, FLG HEX LOCK, 5/8-18UNF
2	414081C1	1	BOLT, FLG HEX HD, 5/8-18UNRF X 2 3/4
2	414089C1	1	NUT, FLG HEX LOCK, 5/8-18UNF
3	414082C1	1	BOLT, FLG HEX HD, 5/8-18UNRF X 3
3	414089C1	1	NUT, FLG HEX LOCK, 5/8-18UNF
4	414081C1	1	BOLT, FLG HEX HD, 5/8-UNRF X 2 3/4
4	414089C1	1	NUT, FLG HEX LOCK, 5/8-18UNF
5	414080C1	8	BOLT, FLG HEX HD, 5/8-18UNRF X 2-1/2
5	414089C1	8	NUT, FLG HEX LOCK, 5/8-18UNF
6	414032C1	16	BOLT, FLG HEX HD, 1/2-20UNRF X 1-1/2
6	414087C1	16	NUT, FLG HEX LOCK, 1/2-20UNF
7	430704C1	1	BRACKET, BRUSH GUARD- LT
7	430705C1	1	BRACKET, BRUSH GUARD- RT
8	430703C1	1	GUARD, BRUSH
9	414076C1	4	BOLT, FLG HEX HD, 5/8-18UNRF X 1 1/2
9	414089C1	4	NUT, FLG HEX LOCK, 5/8-18UNF
10	430500C1	1	CHANNEL
11	414053C1	8	BOLT, FLG HEX HD, 1/2-20UNRF X 1-3/4
11	414087C1	8	NUT, FLG HEX LOCK, 1/2-20UNF
12	430503C1	2	BRACKET, CHANNEL MTG
13	430521C1	1	REINFORCEMENT, SMBR- LT
13	430522C1	1	REINFORCEMENT, SMBR- RT
14	414081C1	2	BOLT, FLG HEX HD, 5/8-18UNRF X 2 3/4
14	414089C1	2	NUT, FLG HEX LOCK, 5/8-18UNF
16	414081C1	2	BOLT, FLG HEX HD, 5/8-18UNRF X 2 3/4
16	414089C1	2	NUT, FLG HEX LOCK, 5/8-18UNF

FIG. 12-012

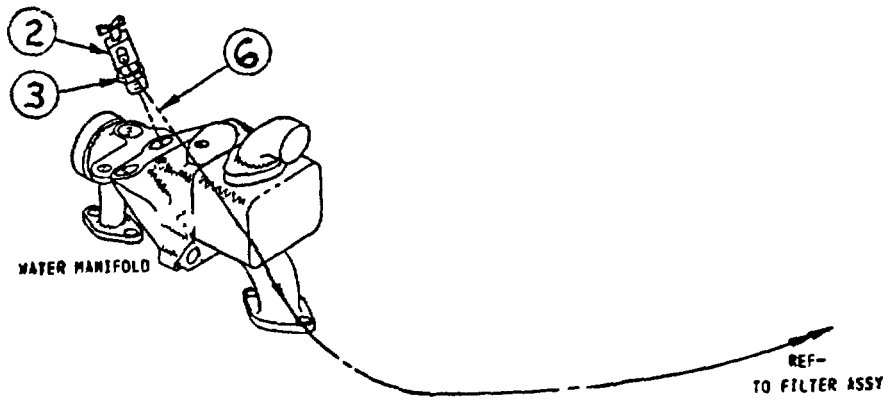
SHUTTERSTAT



ITEM	PART NO	QTY.	
1	429033R1	1	ELBOW, 45 DEG 1/4 NPT X 7/16-20 FLARED
2	981986R91	1	CLAMP
3	25222R1	1	BOLT, HEX HD 1/4-20UNC X 3/4
3	26110R1	1	NUT, HEX LOCK 1/4-20UNC
4	275182C1	1	EXTENSION
5	299477C91	1	VALVE, SHUTOFF
6	445467C91	1	SHUTTERSTAT, 165 DEG
7	9409943	1	TEE
8	114981	1	COCK, DRAIN, BLEED VALVE
9	191408	1	CONNECTOR, 1/8 NPT X 7/16 FLARED
10	23174R1	1	REDUCER, 3/4 NPT X 1/2 NPT
11	446075C91	2	CLAMP
12	0040600000	1	HOSE ASSY // SHUTTERSTAT TO AIR CAL
13	332574C91	REF	CYLINDER, AIR, ASSY (FOR COMPONENTS SEE FIG, 12-117)
14	192134	2	ELBOW, 90 DEG 1/8 NPT X 7/16 FLARED
15	9409927	1	ELBOW, 45 DEG STREET 1/8 NPT
16			SHUTTER, RADIATOR
	44734C91		ASSEMBLY (FOR COMPONENTS SEE FIG. 12-132)
	332574C91		CONTROL (FOR COMPONENTS SEE FIG. 12-117)
17	6040430000	1	HOSE ASSY - AIR SUPPLY TO SHUTTERSTAT
18	104977R1	REF	RING, RETAINING- E
19	25732R1	REF	BOLT, HEX HD 1/4-20UNC X 1/2
19	120380	REF	WASHER, LOCK 1/4 REG

FIG. 12-013

WATER FILTER HOSE

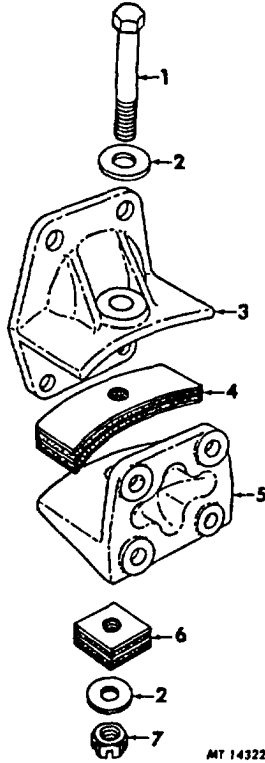


ITEM	PART NO.	QTY.	
2	125407H1	1	VALVE, WATER SHUTOFF
3	444033	1	REDUCER, 1/2 TO 1/4 OPT
6	A060260000	1	HOSE ASSY- MANF TO FILTER



MT134 GROUP 12- ENGINES

REF NO PART NUMBER DESCRIPTION
 FIG. 12-019
 ENGINE MOUNTING (REAR)

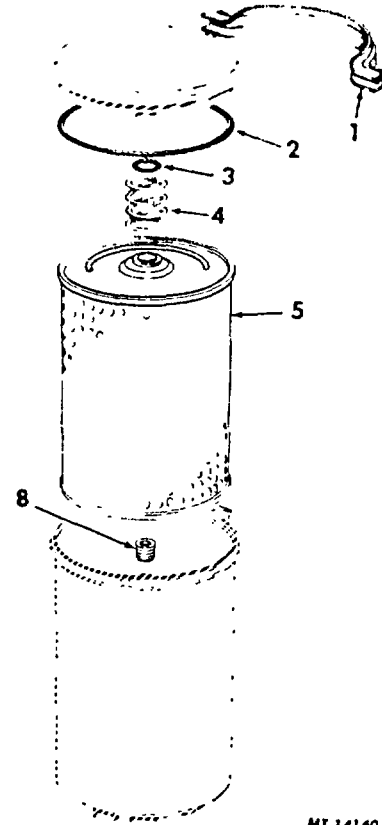


- 1 299 227 C3 BOLT, HEX-HD 5/8NC X 3-3/4 -2-
- 2 427820 C1 WASHER FLAT 5/8 -4-
- 3 BRACKET, ENGINE MOUNTING
 - 424 140 C2 LEFT
 - 424 141 C2 RIGHT
- 24 874 R1 BOLT, HEX-HD 5/8NC X 1-3/4 -AR-
- 25 711 R1 WASHER, FLAT 5/8 -8-
- 121 574 WASHER, LOCK 5/8 REGULAR -8-
- 4 969 763 R1 INSULATOR, ENGINE -UPPER -2-
- 5 BRACKET, ENGINE MOUNTING -AT FRAME-
 - 424 142 C1 LEFT
 - 424 143 C1 RIGHT
- 414 077 C1 BOLT, HEX-HD 5/8NF X 1-3/4 -AR-
- 414 089 C1 NUT, HEX-FLG 5/8NF -8-
- 6 299 228 C1 INSULATOR, ENGINE -LOWER -2-
- 7 19 581 R1 NUT, HEX. SLOTTED 5/8NF -2-
- 137 190 PIN, COTTER 1/8 X 1-1/8 -2-



MT134 GROUP 12- ENGINES

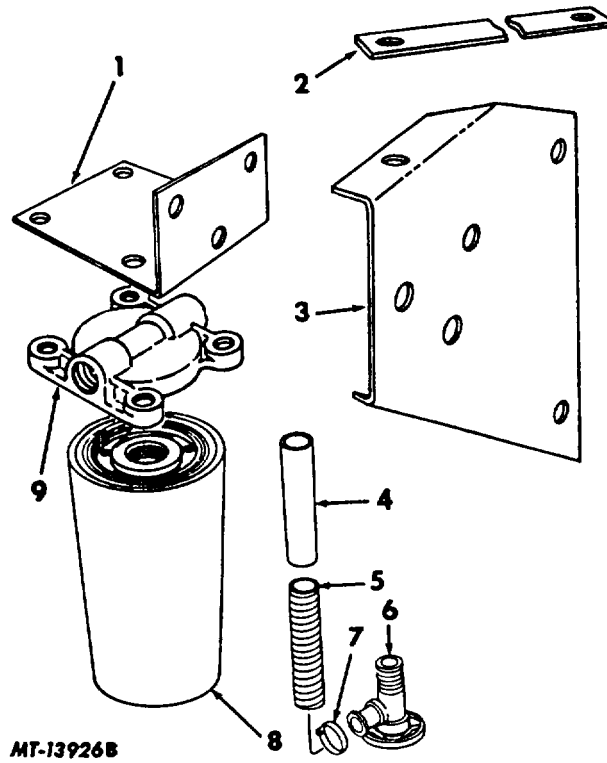
REF NO PART NUMBER DESCRIPTION
 FIG. 12-029
 OIL FILTER



- 438 027 C91 FILTER, OIL, ASSY
- 1 CLAMP, COVER
 - 887 524 R1 W/NUTS
 - 881 523 R1 W/O NUTS
- 2 887 525 R1 GASKET COVER
- 3 887 520 R1 O-RING, TUBE
- 4 887 519 R1 SPRING, ELEMENT
- 5 190 964 H1 ELEMENT, FILTER, ASSY
- 8 887 517 R1 PLUG, ORIFICE

FIG. 12-038

WATER FILTER (SPIN-ON)



1	421	363	C1	BRACKET, FILTER MOUNTING
	179	818		BOLT, HEX-HD 5/16 NC X 1 -3-
	120	214		WASHER, LOCK 5/16 REGULAR -3-
4 A	060	440	000	HOSE, FILTER TO RADIATOR
	984	984	R91	CLIP, HOSE
6	125	407	H1	VALVE, SHUT-OFF, ASSY
8	441	365	C1	ELEMENT, WATER FILTER
9	427	446	C1	BASE, FILTER
	24	840	R1	BOLT, HEX-HD 3/8 NC X 1 -4-
	120	382		WASHER, LOCK 3/8 REGULAR -4-
	162	135	R1	ELBOW, 90 DEGREE -2-

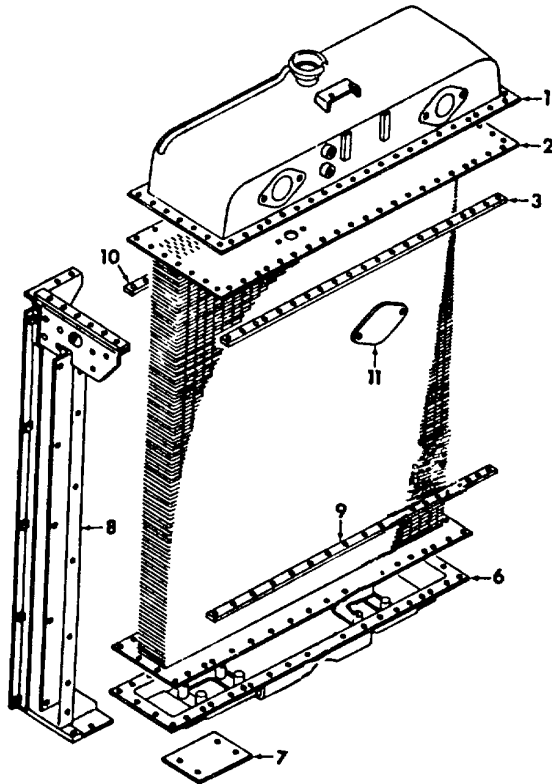


MT134 GROUP 12- ENGINES

REF NO	PART NUMBER	DESCRIPTION
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FIG. 12-041

RADIATOR



1.	445 806 C91	RADIATOR, ASSY
	461 751 C1	TANK, UPPER
		BOLT, HEX-HD 5/16NC X 1 -AR- 5/16NC X 1-1/4 -AR- 5/16NC X 1-1/2 -AR- NUT, HEX 5/16NC -AR- WASHER, LOCK 5/16 REGULAR -AR- PLUG, 3/8NPT -AR- NUT, HEX. 5/16PC -AR- WASHER, LOCK 5/16 REGULAR -AR-
	427 708 C1	GLASS, RADIATOR SIGHT (CODE 12891)
	518 700 C1	FITTING, RADIATOR SIGHT
2.	461 754 C1	CORE, RADIATOR
3.	438 187 C1	BAR, UPPER REAR BOLTING
	454 546 C1	*BAR, CENTER
6.	438 178 C1	TANK, BOTTOM
		BOLT, HEX-HO 5/16NC X 7/8 -AR- BOLT, HEX-HO 5/16NC X 1 -AR- BOLT HEX-HO 5/16NC X 1-1/4 -AR- BOLT, HEX-HD 5/16NC X 1-1/2 -AR- NUT, HEX. 5/16NC -AR- WASHER, LOCK 5/16 REGULAR -AR-
7.	438 188 C1	BAR, OUTLET COVER
		BOLT, HEX-HD 3/8NC X 1 -4- WASHER, LOCK 3/8 REGULAR -4-
8.	438 184 C1	MEMBER, RADIATOR LEFT SIDE
	438 183 C1	MEMBER, RADIATOR RIGHT SIDE
9.	415 099 C1	BAR, BOTTOM FRONT AND REAR BOLTING -2-
10.	438 186 C1	BAR, UPPER FRONT BOLTING
11.	436 208 C1	COVER, RADIATOR INLET

461 750 C91 *GASKET SET, RADIATOR

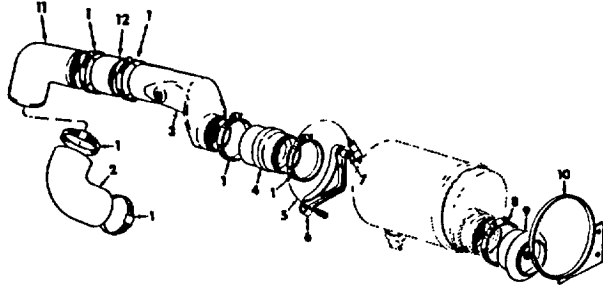
*PART NOT ILLUSTRATED



MT134 GROUP 12- ENGINES

REF PART DESCRIPTION
NO NUMBER

FIG. 12-049
AIR CLEANER, MOUNTING AND PIPING



MT-1342A

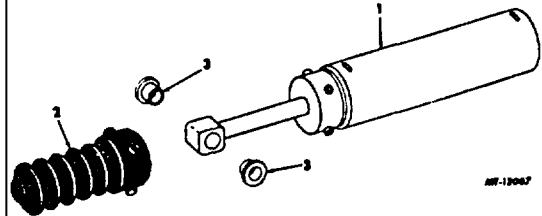
- | | | | |
|--------|-----------|-----|------------------------------|
| 1 | | | CLAMP, HOSE |
| | 371 677 | R91 | 5-3/8 X 6-1/4 -4- |
| | 427 313 | R91 | 6-7/8 X 7-3/4 -2- |
| 2 | 517932 | C1 | ELBOW, HOSE 90 DEGREE |
| 3 | 432 094 | C3 | PIPE, AIR |
| 4 | 430219 | C1 | HOSE, AIR |
| 5 | 424 734 | C1 | CABLE, ASSY, AIR CLEANER |
| | 25 522 | R | NUT, HEX. 3/8NC |
| | 25 709 | RI | WASHER, FLAT 3/8 |
| | 120 382 | | WASHER, LOCK 3/8 REGULAR |
| 6 | 400 546 | C1 | BRACKET, AIR CLEANER |
| | 140 483 | H | BOLT, HEX-HD 3/8NC X 1-1/4 |
| | 24 643 | R1 | BOLT, HEX-HO 3/8NC X 2 |
| | 25 522 | R1 | NUT, HEX. 3/8NC -2- |
| | 25 709 | R1 | WASHER, FLAT 3/8 -2- |
| | 120 382 | | WASHER, LOCK 3/8 REGULAR -2- |
| 7 | 26 241 | H | SPACER |
| 8 | 427 313 | R91 | CLAMP, HOSE |
| 9 | 431 288 | C1 | SEAL, AIR CLEANER |
| 10 | 441 653 | C1 | CLAMP, ASSY, AIR CLEANER |
| | 24 840 | R1 | BOLT, HEX-HD 3/8NC X 1 -2- |
| 24 841 | R1 | | BOLT, HEX-HD 3/8NC X 1-1/2 |
| | 25 522 | R1 | NUT, HEX. 3/8NC |
| | 9 413 979 | | NUT, HEX. LOCK 3/8NC -2- |
| | 25 709 | R1 | HASHER, FLAT 3/8 |
| | 120 382 | | WASHER, LOCK 3/8 REGULAR |
| 11 | 432 093 | C3 | PIPE, AIR |
| 12 | 288343 | C1 | HOSE, AIR |



MT134 GROUP 12- ENGINES

REF PART DESCRIPTION
NO NUMBER

FIG. 12-117
RADIATOR SHUTTER AIR CONTROL



MT-1308P

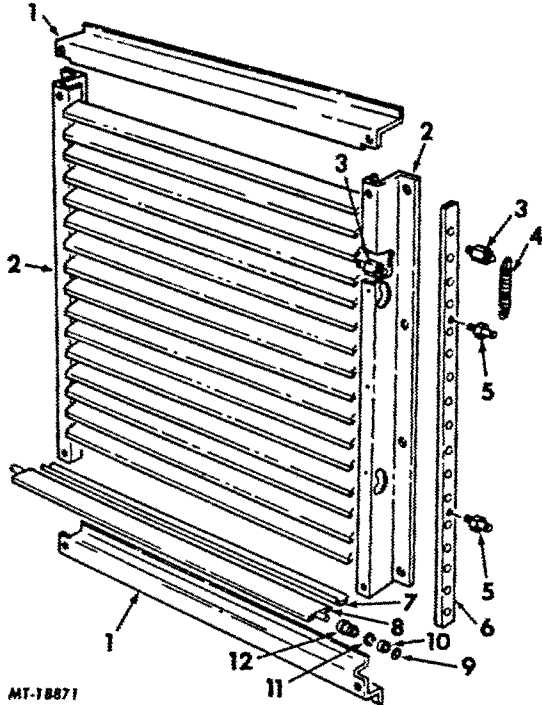
- | | | | |
|---|---------|-----|-------------------------------------|
| 1 | 332 574 | C91 | CYLINDER, AIR W/BOOT AND BUSHING |
| | 448 445 | | SCREW, TAP- HEX-HD 1/4NC X 1/2 |
| | 120 380 | | WASHER, LOCK 1/4 REGULAR |
| | 606 913 | C1 | RING, RETAINING |
| 2 | 341 419 | C1 | BOOT, AIR CYLINDER |
| 3 | 264 430 | C1 | BUSHING AIR CYLINDER PISTON ROD -2- |



MT134 GROUP 12- ENGINES
PART DESCRIPTION
NUMBER

FIG. 12-132

RADIATOR SHUTTER



MT-18871

	447734C91	SHUTTER, RADIATOR L/CONTROLS
	172 455	BOLT HEX-TAP-HD 5/16NC X 3/4 -8-
	623 083 RI	WASHER, LOCK 5/16 REGULAR -8-
1	447 T36 C1	MEMBER, RADIATOR SHUTTER TOP
	447 742 C	BOTTOM
2	273 924	SCREW, TR-HD 1/4NC -4-
	447 740 C1	NUT, HEX. LOCK 1/4NC -4-
	447 747 C1	MEMBER, RADIATOR SHUTTER -SIDE- LEFT RIGHT
3	462 275 C1	STUD, CONTROL BAR
4	116 941 R1	SPRING SHUTTER CONTROL -2-
5	439 836 C1	STUOD SPRING -2-
6	447 751 C91	BAR, CONTROL
7	259 188 C1	SEAL, SHUTTER BLADE -AR-
8	447 748 C91	BLADE, SHUTTER W/SEAL -AR-
9	258 888 C1	WASHER SHUTTER BLADE -AR-
10	117023R1	BEARING, SHUTTER BLADE -AR-



MT134 GROUP 12- ENGINES
PART DESCRIPTION
NUMBER

FIG. 12-132 CONTINUED

RADIATOR SHUTTER

11	207 366 RI	RETAINER, E RING -AR-
12	264 430 C1	BUSHING SHUTTER -AR-
	246 506 C1	BLADE PIN
	266387C1	BLADE ROD CONTROL

REPLACEMENT PARTS ORDERING

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Instructions for ordering:

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2. List part number, part nomenclature and quantity required. (Part numbers are stamped or cast on most parts.)
3. When available state (a) Engine Model (b) Engine Serial Number (c) Purchase Order and/or Contract Number on which engine was acquired.
4. Arrange order in part number numerical sequence when possible.
5. Specify complete shipping instructions (a) Carrier (b) Destination Point. In event the carrier is not specified, shipment will be made "best way".

Adherence to the above will assure the fastest possible service

PARTS BOOK

For

NTC-290 DIESEL ENGINE

CONTRACT NO. DSA700-72-C-9235

**S.O. 12718
CUMMINS ENGINE COMPANY, INC.**

COLUMBUS, INDIANA 47201

BULLETIN NO. 967202

Printed In U.S.A

PARTS BOOK

(INTRODUCTION)

This book contains a complete listing of repair parts and major assemblies. Arrangement is as follows:

INDEX OF COMPONENTS - Listing of engine components and page number on which they appear.

ASSEMBLY ILLUSTRATIONS AND COMPONENTS - Complete listing of components with illustrations of major assemblies having callouts of parts referenced numerically to parts within each assembly. Individual parts are arranged alphabetically within each major assembly group where possible. Parts indented are included in the part number under which they are indented. Components are identified with a brief description and the quantity required per unit.

INDEX TO PART NUMBERS - Complete listing of part numbers as shown in this book are arranged alpha-numerically.

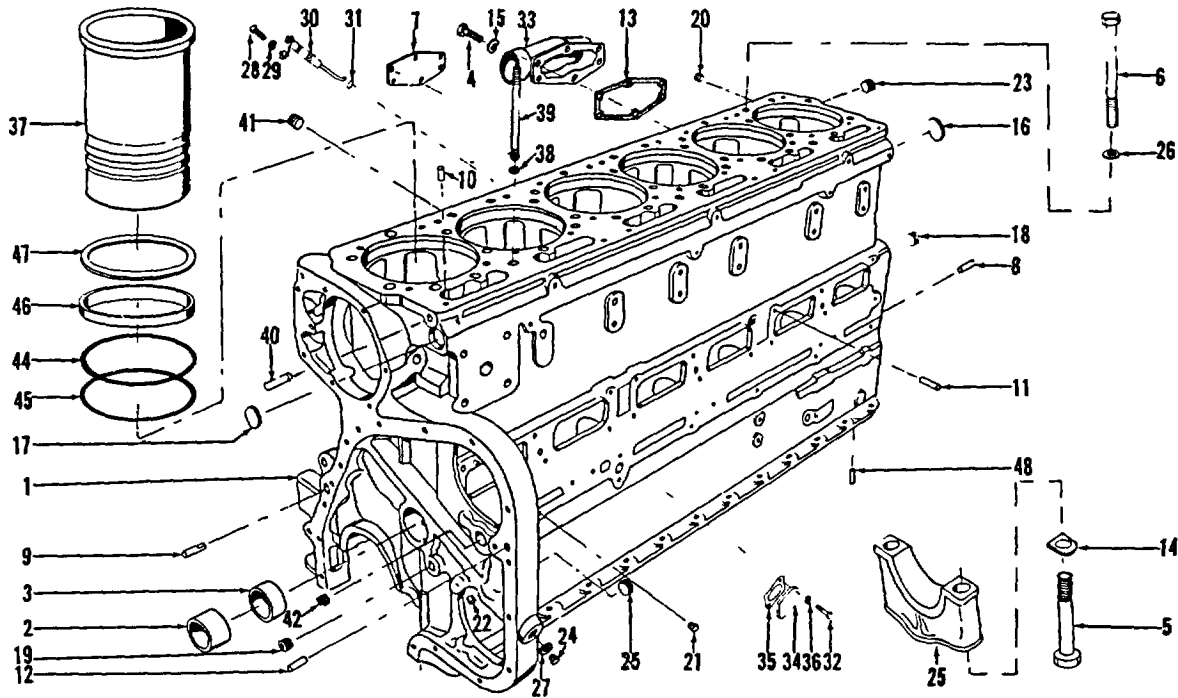
ENGINE ASSEMBLY MODEL NTC-290

PART NO. 99048-85 (ORDER DIRECT FROM CUMMINS ENGINE CO.)

INDEX OF COMPONENTS FOR CUMMINS
NTC-290 DIESEL ENGINE

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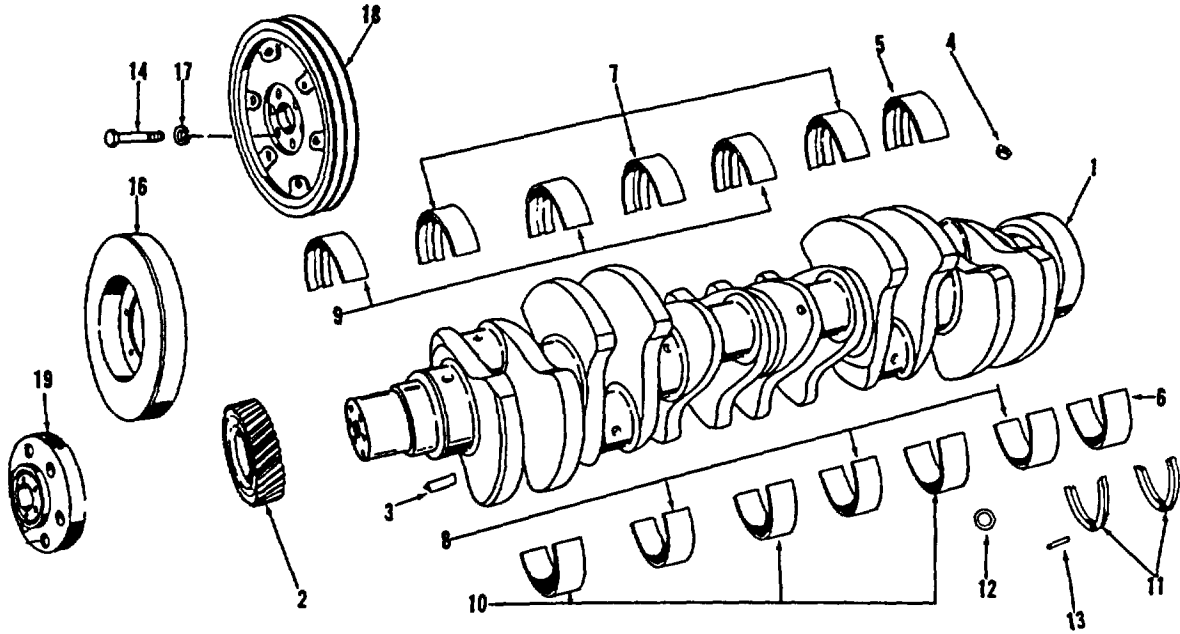
FIG. 12-200



Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req	Ref. No
	CYLINDER BLOCK			42646	Cap, main brg. (No. 2, 4, 6)	3	25
				42647	Cap, main brg. (No. 7)	1	25
AR-09911	Block, cylinder (210187)	1	1				
BM-27253	Bushing, assembly camshaft	1					
100670	Bushing	1	2				
157870	Bushing	6	3	S-129	Capscrew (3/8"-24 x 1")	2	32
S-168-C	Capscrew, water connection	6	4	132648	Flange, oil pan	1	34
S-118-A	Capscrew, water header cover	6	4	67963	Gasket, suction flange	1	35
105953	Capscrew, main bearing cap	14	5	S-604	Lockwasher (3/8")	2	36
209700	Capscrew, cylinder head	36	6	213740	Liner, cylinder	6	37
132019	Cover, water header	1	7	215406	Nameplate	1	
210895	Cover, water header	1	33	156545	"O-ring"	3	38
9226	Dowel, flywheel housing	2	8	133029	Pipe, lubricating oil	3	39
60408	Dowel, gear cover	1	9	202903	Pin, groove	2	40
67211	Dowel, main bearing to block	2	48	S-962	Plug, pipe (1")	1	41
68445	Dowel, head to block	6	10	S-995	Plug, pipe (3/4")	1	42
68585	Dowel, cam follower to block h housing	6	11	199067	Plug, pipe	1	25
				215091	Ring, packing	6	44
70653	Dowel, gear cover (Diamond)	1	12	183049	Ring, packing	6	45
70089-1	Gasket, water header cover	2	13	215090	Seal, crevice	6	46
9427	Lockplate	14	14	S-2286	Screw, nameplate	4	
S-600	Lockwasher, water cover header	12	15	143938	Shim, liner (.007")	A/R	47
S-716	Plug, expansion	1	16	143939	Shim, liner (.008")	A/R	47
S-719	Plug, expansion	1	17	143946	Shim, liner (.009")	A/R	47
69901	Plug, pipe (1/8")	7	18	143947	Shim, liner (.020")	A/R	47
S-908	Plug, pipe (3/8")	6	19	143948	Shim, liner (.031")	A/R	47
S-910-B	Plug, pipe (1/4")	3	20	143949	Shim, liner (.062")	AIR	47
S-911-B	Plug, pipe (1/8")	2	21				
S-915-A	Plug, pipe (1/2")	2	22				
S-966-E	Plug, pipe (1")	1	23				
210884	Plug, pipe (7/8")	1	24	S-102-A	Capscrew	6	28
69699	Washer, cylinder head	36	26	S-605	Lockwasher	6	29
66292	Washer	1	27	211475	Nozzle (3/32" opening)	6	30
42645	Cap, main brg. (No. 1,3, 5)	3	25	211891	"O" ring	6	31

PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED

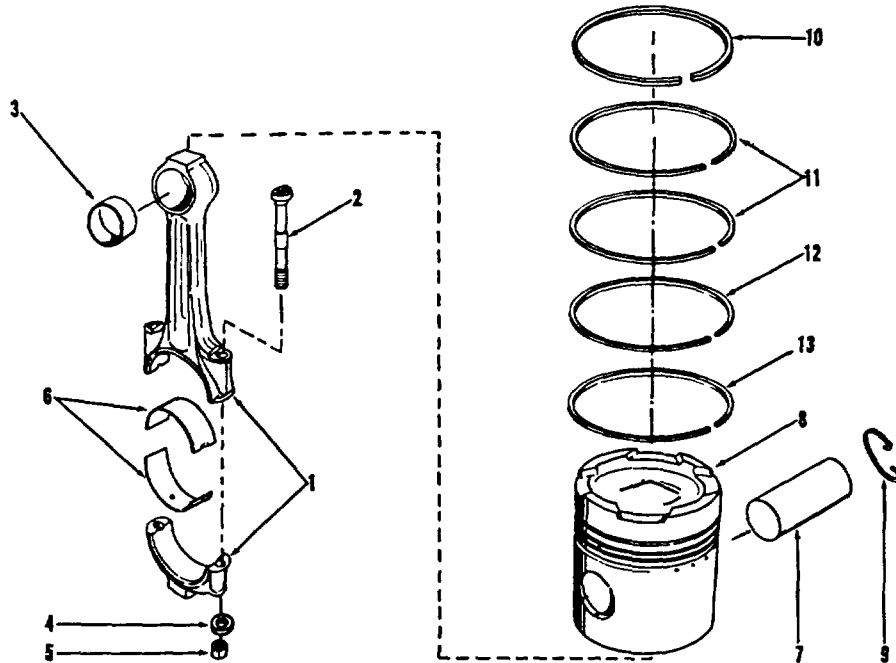
FIG. 12-201



Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req.	Ref. No.
	CRANKSHAFT				VIBRATION DAMPER		
AR-10332	Crankshaft assembly	1		212112	Adapter, crankshaft	1	19
211960	Crankshaft	1	1	211914	Damper, vibration	1	16
211884	Gear,crankshaft	1	2	212113	Capscrew	6	14
210179	Key, crankshaft	1	3	S-603	Washer	6	17
S-911-B	Plug, pipe (1/8")	6	4	211918	Pulley, crankshaft	1	18
AR-07110 *	Set, main bearing	1					
44387	Shell, main bearing (No. 7 upper)	1	5				
44388	Shell, main bearing (No. 7 lower)	1	6				
44385	Shell, main bearing (No. 2,4 and 6 upper)	3	7				
44386	Shell, main bearing (No.2, 4 and 6 lower)	3	8				
44383	Shell, main bearing (No. 1,3 and 5 lower)	3	9				
44384	Shell, main bearing (No. 1,3 and 5 lower)	3	10				
157280	Ring, thrust	4	11				
60575	Dowel, ring	7	12				
202903	Pin, thrust ring	2	13				
	* Main bearings may be purchased in .010", .020", .030" and .040" undersize.						

PARTS INDENTED ARE INCLUDED IN THE PART UNIER WHICH THEY ARE INDENTED

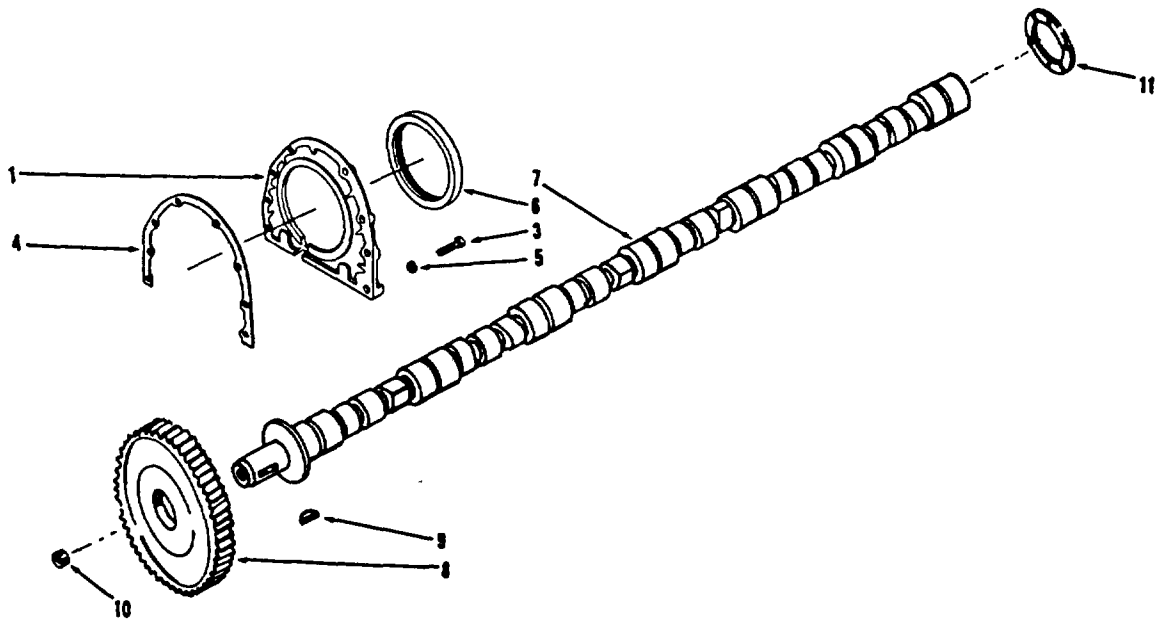
FIG. 12-202



Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req	Ref. No
	CONNECTING ROD						
BM-52474	Connecting rod assembly (121579)	6	1				
9195-3	Bolt, connecting rod	12	2				
187420	Bushing, piston pin	6	3				
200861	Washer	12	4				
69936	Nut	12	5				
203660	* Shell, connecting rod bearing	12	6				
	PISTON						
AR-08190	Piston assembly	6					
1919.70	Pin, piston	6	7				
203090	Piston	6	8				
61908	* Ring, snap	12	9				
	Connecting rod bearing shells may be purchased in .010", .020", .030", and .040" undersize.						
	RINGS						
AR-06680	Ring set, piston	6					
147670	Ring, compression	6	10				
132880	Ring, compression	12	11				
194610	Ring, oil	6	13				

PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED

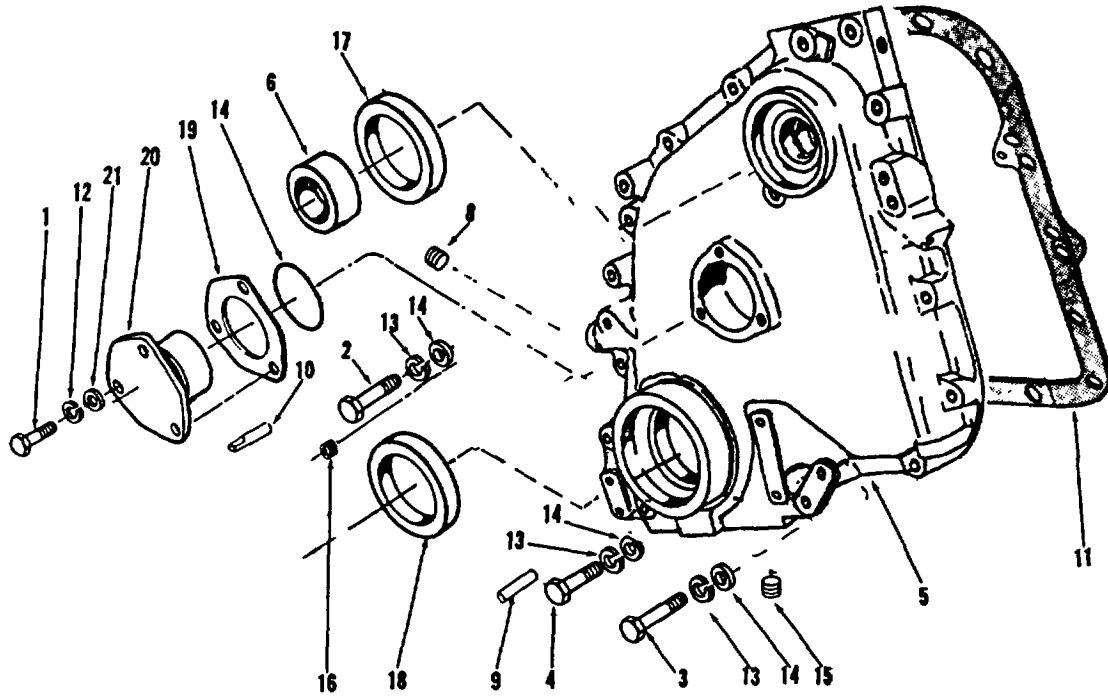
FIG. 12-203



Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req.	Ref. No.
	REAR COVER				CAMSHAFT		
209919	Cover, rear	1	1	143450	Camshaft	1	7
S-165	Capscrew (3/8"-24 x 1-1/2")	8	3	156226	Gear, camshaft	1	8
40662-A	Gasket (.005")	1	4	69550	Key, gear	1	9
S-604	Lockwasher (3/8")	8	5	68193	Plug, pipe (1/8")	1	10
204829	Seal, rear oil	1	6	9235-1	Washer, thrust	1	11

PARTS INDENTED ARE INCLUDED IN THE ART UNDER WHICH THEY ARE INDENTED

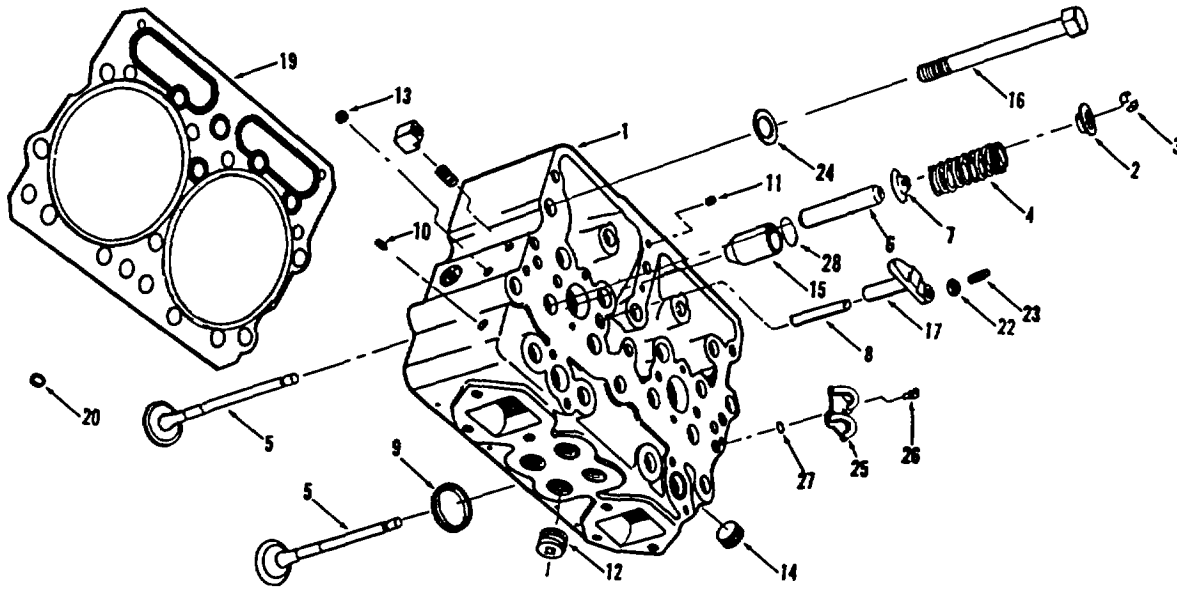
FIG. 12-204



Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req.	Ref. No.
	GEAR CASE COVER						
S-112	Capscrew (3/8"-16 x 1")	3	1				
S-1 19-C	Capscrew (7/16"-20 x 3-1/4")	1	2				
S-196-A	Capscrew (7/16"-20 x 2-3/4")	3	3				
100915	Capscrew (7/16"-20 x 2")	9	4				
AR-09473	Cover, gear case (210713)	1	5				
132770	Bushing	1	6				
S-908	Plug, (3/8")	1	8				
60408	Dowel	1	9				
70653	Dowel	1	10				
210412	Gasket, gear cover	1	11				
S-604	Lockwasher (3/8")	3	12				
S-610	Lockwasher (7/16")	14	13				
65260	Packing	1	14				
S-908	Plug, pipe (3/8")	3	15				
S-911-B	Plug, pipe (1/8")	2	16				
210834	Seal, oil	1	17				
208579	Seal, crankshaft	1	18				
AR-01176	Shim, assembly camshaft thrust	1					
185573	Shim, insert	1	19				
65259-A	Shim (.010")	A/R	19				
65259-B	Shim (.005")	A/R	19				
65259-C	Shim (.002")	A/R	19				
150002	Support	1	20				
S-602	Washer, plain (13/32")	3	21				
S-622	Washer, plain (15/32")	14	22				

PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED

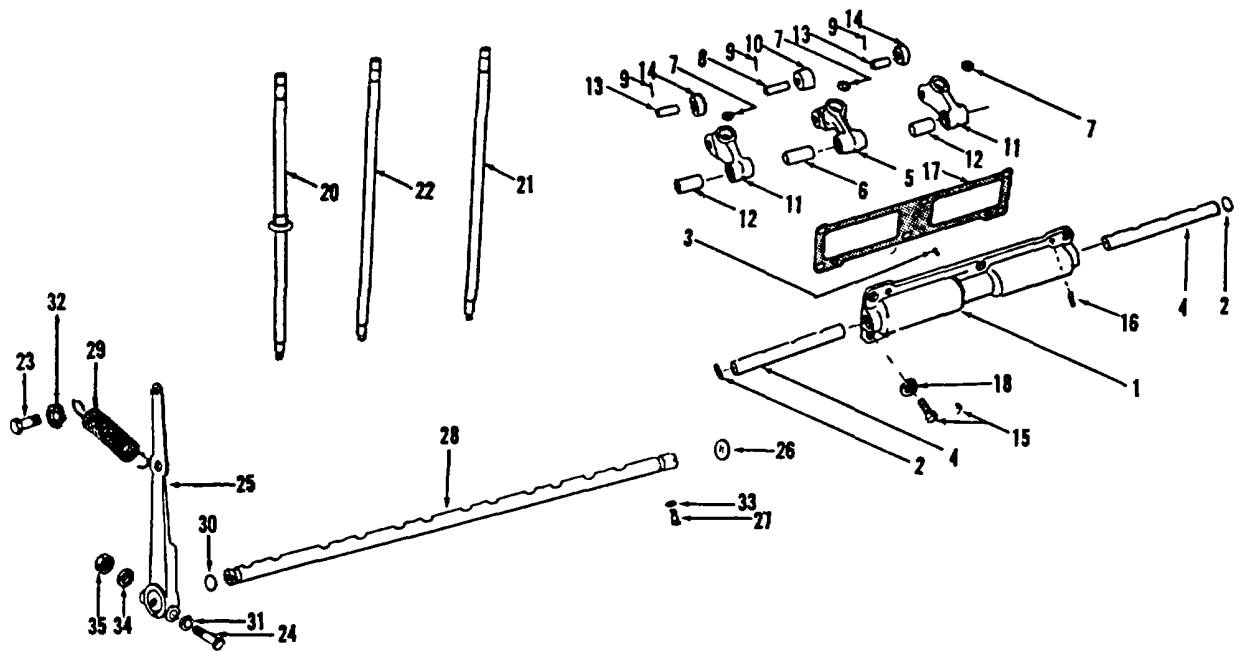
FIG. 12-205



Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req.	Ref. No.
	CYLINDER HEAD				MOUNTING PARTS		
BM-65356	Head, cylinder (135541)	3	1	209700	Capscrew, head to block (11/16"-16 x 6-3/8")	36	16
170296	Guide, valve spring	24	2	123416	Crosshead, valve	6	17
12755A	14alf-collet, valve	48	3	199223	Crosshead, exhaust valve	6	17
211999	Spring, valve	24	4	AR-02885	Gasket, cylinder head (129978)	3	19
145701	Valve, exhaust	12	5	193949	Grommet, water	24	20
135957	Valve, intake	12	5	203131	Nut (3/8")	12	22
BM-65994	Head, cylinder assembly (135541) (Less valves)	3		147389	Screw, crosshead adjusting	12	23
174213	Guide, valve stem	24	6	69699	Washer, cylinder head	36	24
172034	Guide, valve spring	24	7	147100	Crossover, fuel	2	25
123558	Guide, crosshead valve	12	8	70772	Capscrew, springtite	8	26
127930	Insert, valve seat, exhaust	12	9	131026	"O" ring	8	27
200354	Insert, valve seat, intake	12	9				
70459	Plug, fuse	3	10				
S-965-E	Plug, pipe (1/16")	9	11				
S-962	Plug, pipe (1")	6	12				
S-911-B	Plug, pipe (1/8")	12	13				
S-915-A	Plug, pipe (1/2")	3					
S-995	Plug, pipe (3/4")	18	14				
202606	Sleeve, injector	6	15				
196641	"O" ring, injector	6	28				

PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED

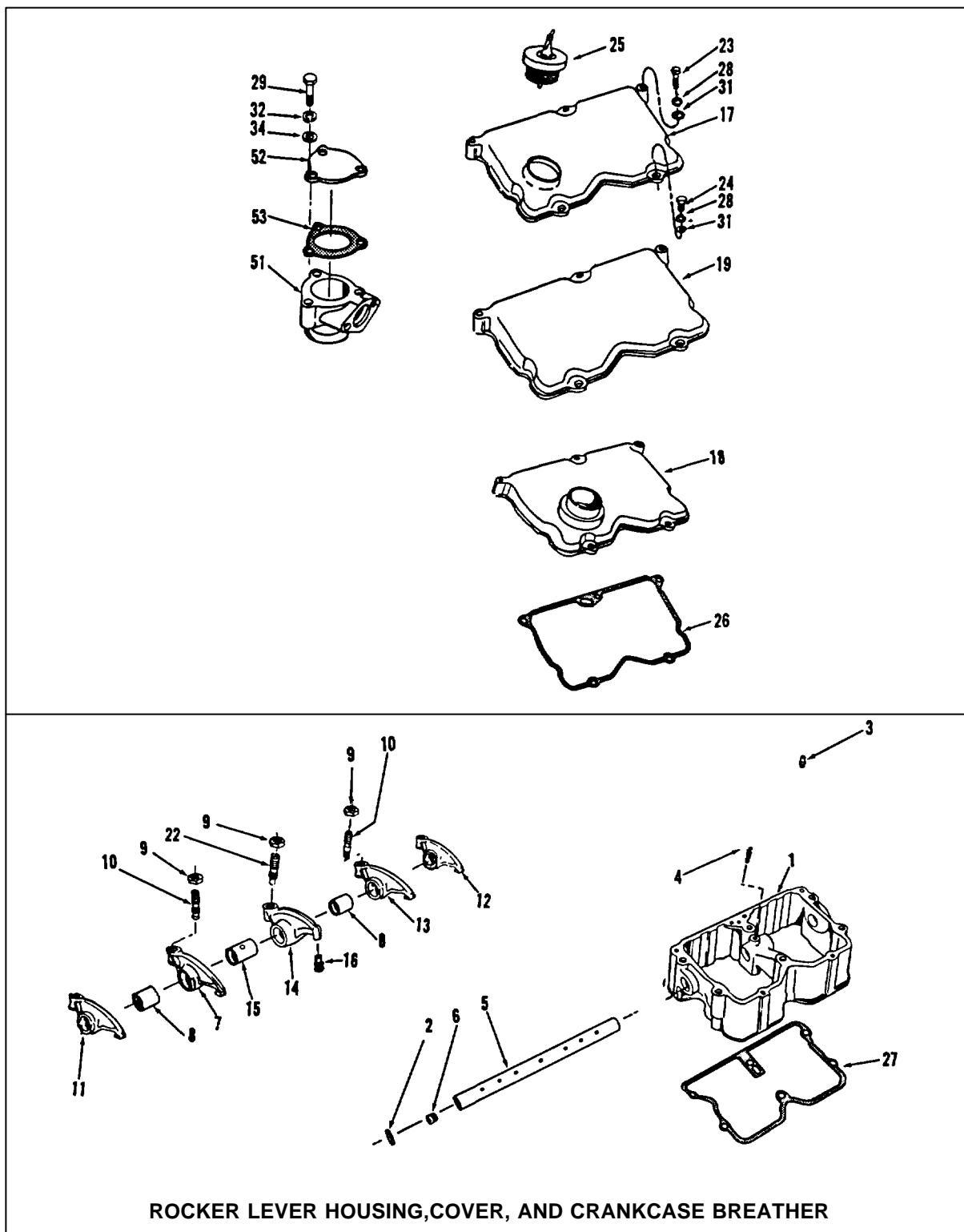
FIG. 12-206



Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req.	Ref. No.
	CAM FOLLOWERS				PUSH RODS		
BM-37625	Housing, cam follower, assembly	3		BM-47777	Push rod, intake	6	20
44035	Housing, cam follower	3	1	BM-47778	Push rod, exhaust	6	21
175831	Plug, expansion	6	2	BM-47779	Push rod, injector	6	22
69736	Screw, shaft	6	3		COMPRESSION RELEASE		
42443	Shaft, cam follower	6	4	S-108	Capscrew (5/16"-24 x 5/8")	1	23
BM-37621	Cam follower, injector	6		208411	Bolt, carriage	1	24
BM-37496	Cam follower, lever and bushing (108169)	6	5	208581	Lever	1	25
118377	Bushing	6	6	S-719	Plug, expansion	1	26
107738	Insert, cam follower	6	7	9237	Screw, shaft lock	1	27
68512	Pin, roller	6	8	210685	Shaft	1	28
118939	Pin, roll	6	9	139289	Spring	1	29
7348-2	Roller	6	10	43696	"O" ring	1	30
BM-37634	Cam follower lever, intake and exhaust	12		S-604	Lockwasher (3/8")	1	31
BM-37633	Cam follower lever and bushing (120543)	12	11	S-605	Lockwasher (5/16")	1	32
118378	Bushing	12	12	S-679	Washer, copper (25/64")	1	33
107738	Insert, cam follower	12	7	S-602	Washer, plain (13/32")	1	34
68513	Pin, roller	12	13	S-223	Nut (3/8")	1	35
118939	Pin, roll	12	9				
9260-1	Roller	12	14				
	MOUNTING PARTS						
S-129	Capscrew (3/8"-24 x 1")	18	15				
68586	Dowel, housing to block	6	16				
120819	Gasket (.026")	6	17				
9266	Gasket (.015")	6	17				
9266-A	Gasket (.007")	3	17				
S-604	Lockwasher (3/8")	18	18				

PARTS INDENTED ARE INCLUDED IN T4E PART UNDER WHICH THEY ARE INDENTED

FIG. 12-207



ROCKER LEVER HOUSING,COVER, AND CRANKCASE BREATHER

FIG. 12-207

Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req	Ref. No
	ROCKER LEVER HOUSING				MOUNTING PARTS		
AR-03307	Housing, rocker lever	3		210051	Baffle	1	
194525	Housing	3	1	189655	Bracket, lifting	1	
175830	Plug, expansion	6	2	170226	Bracket, lifting	1	
62229'	Plug, ventilator	3	3	101322	Cap, oil filler (less chain)	1	25
199225	Screw, rocker lever shaft	3	4	S-1 37	Capscrew, cover (3/8"-16 x 2")	9	23
BM-68740	Shaft, rocker lever (140297)	3	5	S-112	Capscrew, cover (3/8"-16 x 1")	6	24
161825	Plug, shaft	6	6	S176	Capscrew (1/2"-13 x 5")	4	
BM-95161	Lever, exhaust valve	3		149651	Gasket, cover	3	26
BM-95169	Lever and bushing (169704), rear	3	7	187589	Gasket, housing to head	3	27
140330	Bushing, lever	3	8	S-604	Lockwasher (3/8")	15	28
S-212	Nut, adjusting screw	3	9	S-608	Lockwasher (1/2")	8	
213109	Screw, adjusting	3	0	S-602	Washer, plain (13/32")	15	31
BM-95162	Lever, exhaust valve	3			BREATHER		
BM-95170	Lever and bushing (169705), front		12		Breather, crankcase assembly	1	
140330	Bushing, lever	3	8	257225	Body	1	51
S-212	Nut, adjusting screw	3	9	122133	Capscrew, cover to body	3	29
213109	Screw, adjusting	3	10	S-167-A	Cover	1	52
BM-95159	Lever, intake valve	3		122136	Gasket	1	53
BM-95158	Lever and bushing (168805)	3	13	122135	Lockwasher	3	32
140330	Bushing, lever	3	8	S-600	Washer, plain (9/32")	3	24
S-212	Nut, adjusting screw	3	9	S-631	Capscrew (5/16"-18 x 7/8")	2	
213109	Screw, adjusting	3	10	S-115	Capscrew (3/8"-24 x 3/4")	1	
BM-95160	Lever, intake valve	3		69793	Clamp	1	
BM-95157	Lever and bushing (168803)	3	11	69911-A	Flange	1	
140330	Bushing, lever	3	8	68562	Lockwasher (3/8")	1	
S-212	Nut, adjusting screw	3	9	S-604	Lockwasher (5/16")	2	
199239	Screw, adjusting	6	22	S-605	Nut	1	
	ROCKER HOUSING COVER			S-206	"O" ring vent tube	1	
149786	Cover, rocker housing	1	17	S-3101	Support, oil gauge tube	1	
150327	Cover, rocker housing	1	18	111670	Tube, breather	1	
149628	Cover, rocker housing	1	19	208716			

PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED.

FIG. 12-208

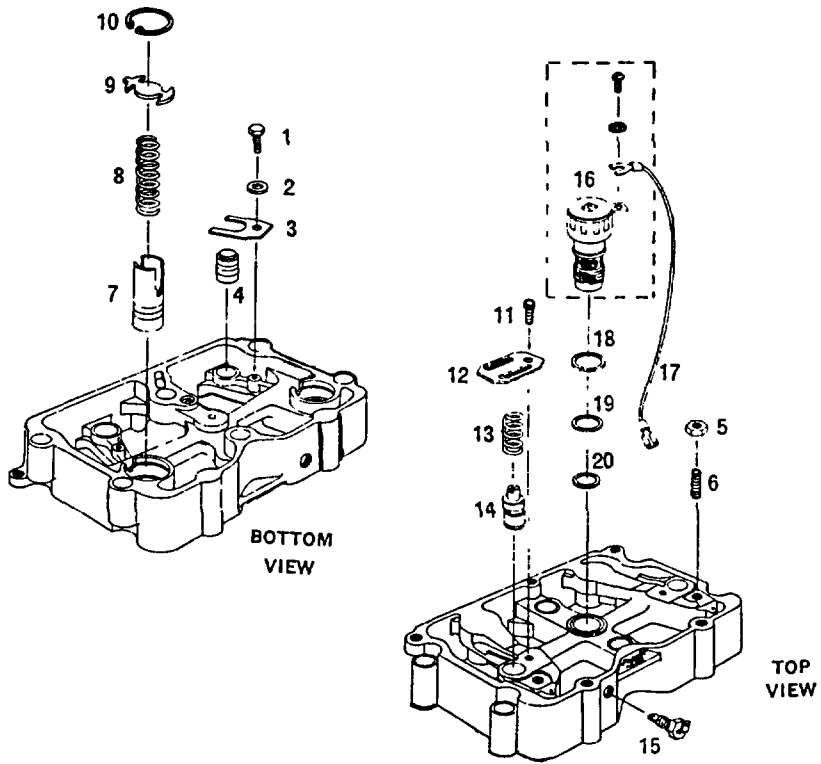


FIGURE NO. 1

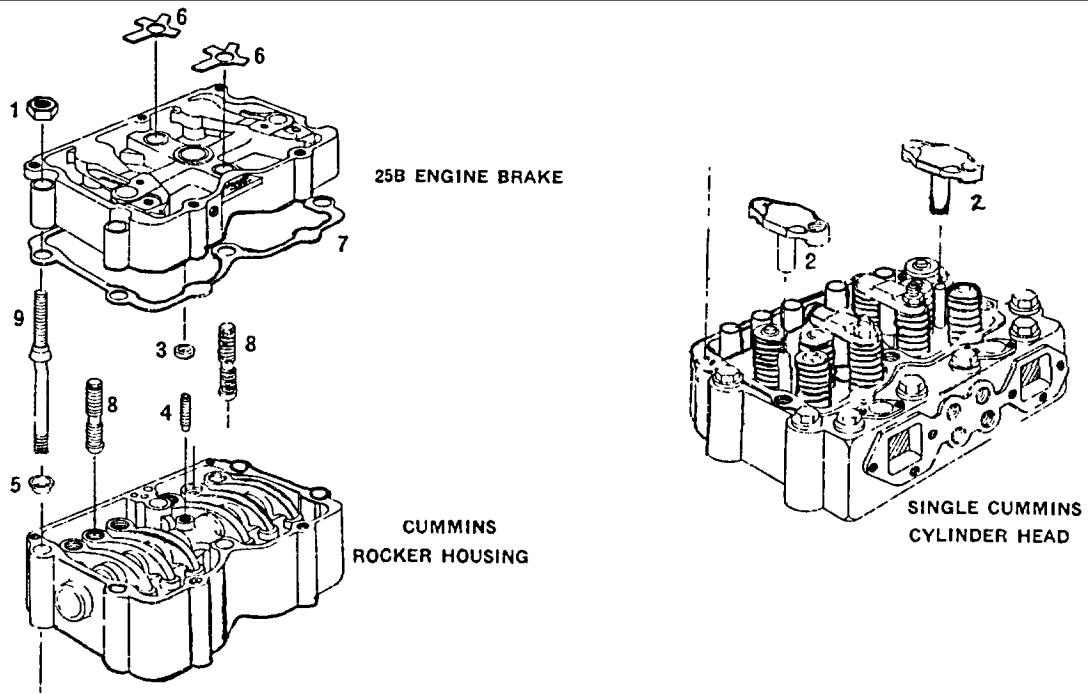


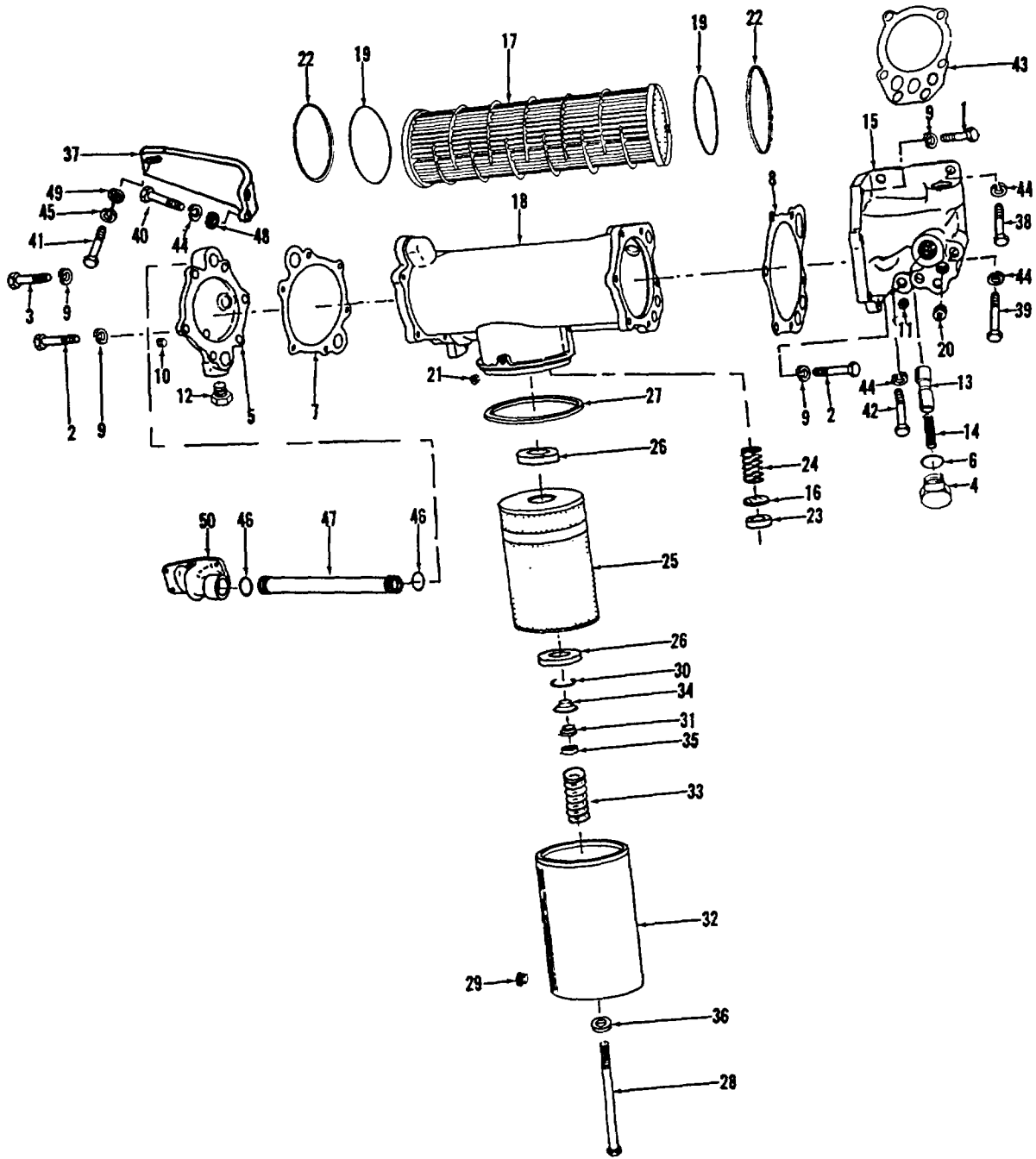
FIGURE NO. 2

FIG. 12-208

Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req	Ref. No
Jacobs Brake Part No.	JACOBS BRAKE			Jacobs Brake Part No.	FIGURE NO. 2		
	FIGURE NO. 1			1094	Nut, rocker hsg. to brake hsg. (Cummins No. 199224)	18	1
2544	Jacobs Brake, complete kit (Cummins Part No. 1992011 *	1		1188	Crosshead, cyl. head exhaust valve (Cummins No. 199223)	6	2
1492	Capscrew, spring retainer	6	1	1195	Seal ring, oil supply screw (Cummins No. 199220)	3	3
1030	Washer, plain	6	2		Screw, oil supply (Cummins No. 199225)	3	4
1011	Spring, master piston	6	3	2969	Washer, bearing	18	5
1017	Piston, master	6	4	2514	Lockplate	6	6
1026	Nut, adjusting screw	6	5	2680	Gasket, housing (Cummins No. 199216)	3	7
1031	Set screw	6	6	2610	Screw, injector lever adjusting (Cummins No. 199239)	6	8
1484	Piston, slave	6	7		Stud, 7 inch (Cummins No. 199221)	10	9
1022	Spring, slave piston	6	8	1764	Stud, 8-1/8 inch lifting bracket	8	9
1289	Retainer, slave piston spring	6	9	1199	Spacer	8	
1023	Ring, retaining	6	10	1232	Spacer, fan bracket	2	
1033	Capscrew, air bleed	6	11	1234			
2743	Cover, control valve	6	12	1236			
1012	Spring, control valve	6	13				
1200	Spool assembly, control valve	6	14				
2299	Terminal bushing leadout	3	15				
2689	Valve assembly, solenoid	3	16				
2390	Harness	3	17				
1081	Seal, ring (solenoid upper)	3	18				
1082	Seal, ring (center)	3	19				
1083	Seal, ring (lower)	3	20				
1282	Screen, solenoid	3					
1283	Retainer, solenoid screen	3					
					* Note: Complete kit furnished by Cummins Part No. 199201. Repair parts are furnished by the Jacobs Manufacturing Company, West Hartford, Connecticut 06110 or their distributors.		

PARTS INDENTED ARE INCLUDED IN THE PART UNDIR WHICH THEY ARE INDENTED

FIG. 12-209



FILTER COOLER

FIG. 12-209

Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req	Ref. No
	LUBRICATING OIL				MOUNTING PARTS		
	COOLER - FILTER			210966	Brace, cooler	1	37
AR-09479	Cooler, oil	1		S-103-D	Capscrew (3/8"-16 x 1-1/4")	2	38
S-102-D	Capscrew (3/8"-16 x 3")	1	1	S-106-C	Capscrew (3/8"-16 x 4-3/4")	2	39
S-103-D	Capscrew (3/8"-16 x 1-1/4")	10	2	S-112	Capscrew (3/8"-16 x 1")	2	40
S-104	Capscrew (3/8"-16 x 2-1/4")	1	3	S-145	Capscrew (1/2"-13 x 1-1/4")	1	41
183913	Cap, pressure regulator	1	4	S-199-B	Capscrew (3/8"-16 x 3-3/4")	2	42
210858	Cover	1	5	211054	Gasket, cooler support	1	43
67946	Gasket, by-pass valve	1	6	S-604	Lockwasher (3/8")	8	44
210865	Gasket, oil cooler cover	1	7	S-608	Lockwasher (1/2")	1	45
211053	Gasket, oil cooler	1	8	212161	"O" ring	2	46
S-604	Lockwasher (3/8")	12	9	210883	Tube, water transfer	1	47
S-908	Plug, pipe (3/8")	1	10	S-602	Washer, plain	2	48
S-910-B	Plug, pipe (1/4")	1	11	132756	Washer, plain (17/32")	1	49
110907	Plug,oil	1	1	210895	Connection, water header	1	50
127558	Plunger	1	13				
68274	Spring, by-pass valve	1	14				
210967	Support. cooler	1	15				
AR-09478	Cooler, oil	1					
201707	1 Disc, by-pass	1	16				
142608	Element, oil cooler	1	17				
210832	Housing, filter and cooler	1	18				
148295	"O" ring	2	19				
S-908	Plug, pipe	1	20				
S-911-B	Plug. pipe (1/8")	2	21				
142616	Retainer, cooler	2	22				
179063	Seat, filter by-pass	1	23				
202128	Spring, filter by-pass	1	24				
AR-09265	Filter, oil	1					
158139	Element, filter	1	25				
153514	Seal, element	2	26				
173368	Ring, sealing	1	27				
184387	Shell and bolt assembly	1					
184388	Bolt, shell	1	28				
69901	Plug, pipe	1	29				
250843	Ring, snap	1	30				
153518	Seal, bolt	1	31				
184386	Shell	1	32				
173176	Spring, cartridge	1	33				
183342	Support, cartridge	1	34				
153520	Washer, bolt	1	35				
8265	Washer, copper	1	36				

PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED

FIG. 12-210

LUBRICATING OIL PUMP

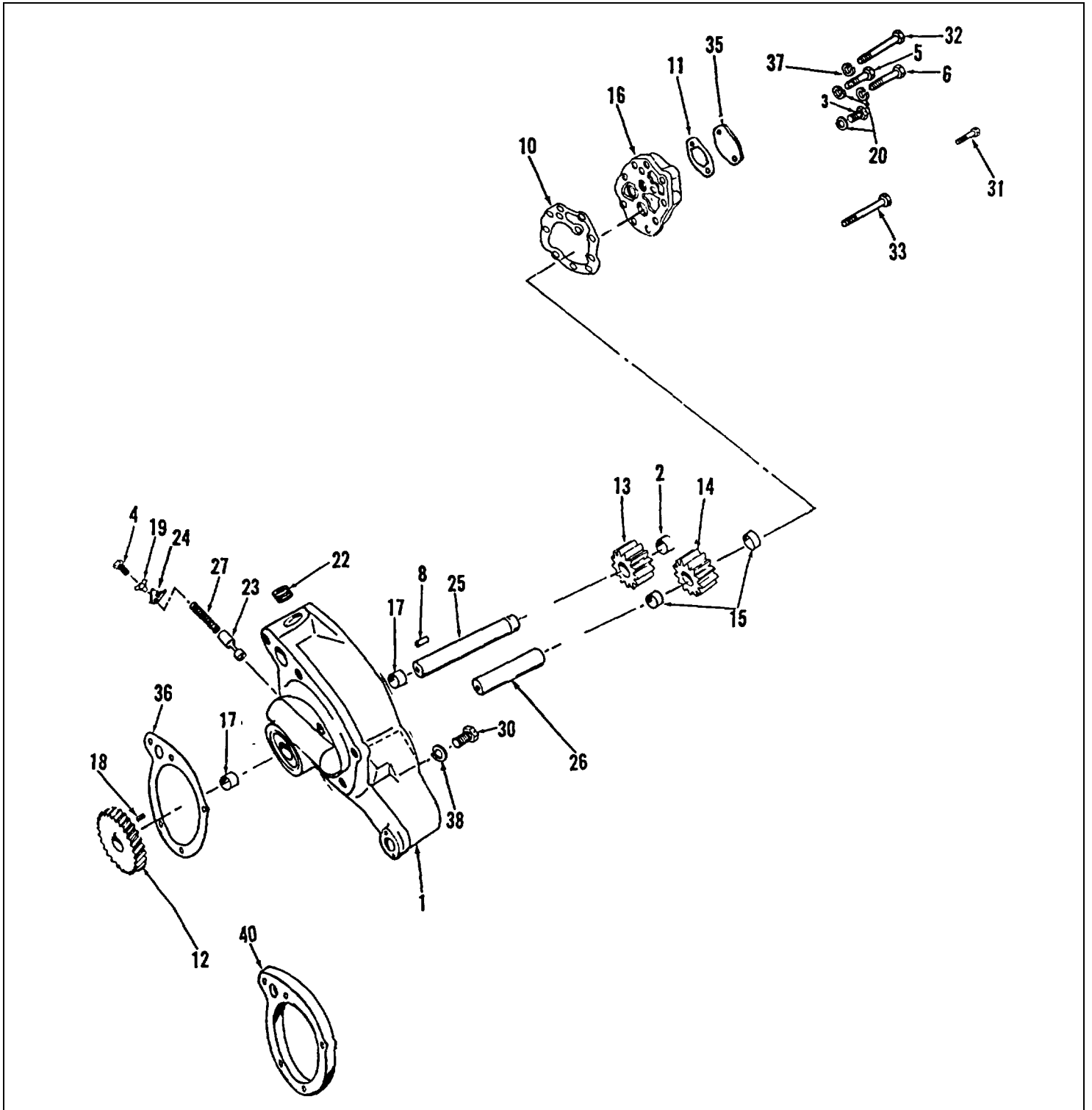
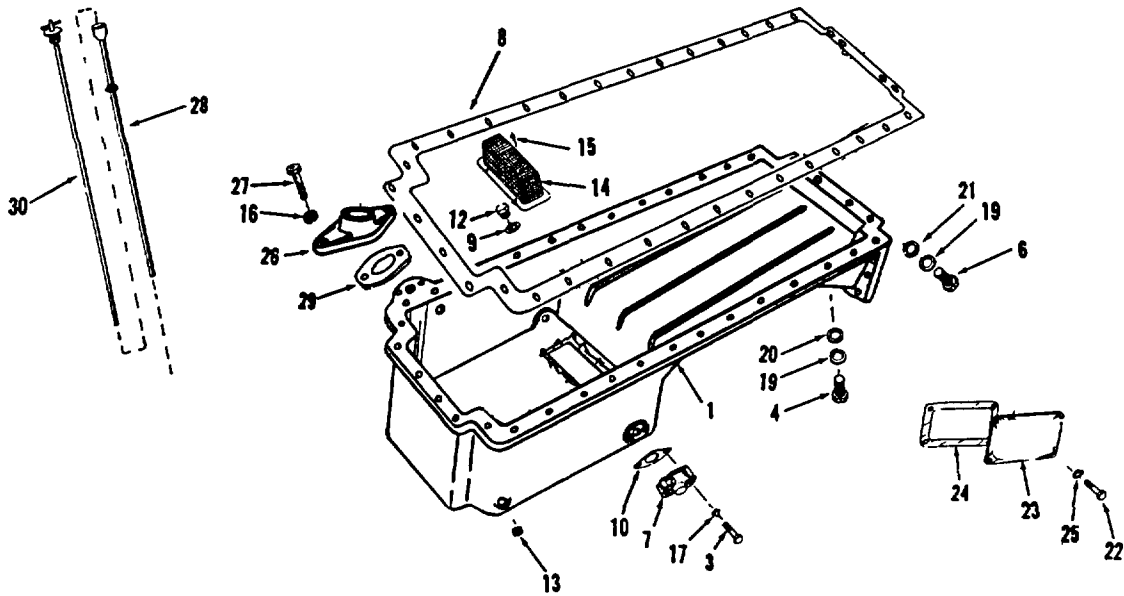


FIG. 12-210

Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req.	Ref. No.
	LUBRICATING OIL PUMP				MOUNTING PARTS		
AR-10172	Pump, lubricating oil	1		S-101-A	Capscrew (7/16"-20 x 1")	2	30
AR-09832	Body and bushing (211929)	1	1	S-119-C	Capscrew (7/16"-20 x 3")	1	31
69521	Bushing	2	2	S-169-B	Capscrew (7/16"-20 x 3/4")	1	32
S-102	Capscrew (5/16"-18 x 1")	6	3	117897	Capscrew	1	33
S-109	Capscrew (3/8"-16 x 7/8")	1	4	121907	Gasket	1	36
S-1 19	Capscrew (5/16"-18 x 1-1/4")	1	5	S-610	Lockwasher (7/16")	5	38
S-147-B	Capscrew (5/16"-18 x 2-1/2")	1	6				
69519	Dowel	11	8		COVER, PUMP		
203145	Gasket, cover	1	10				
199585	Gasket, hydraulic pump	1	11	S-109	Capscrew (3/8"-16 x 7/8")	2	4
204832	Gear, drive, main	1	12	204048	Cover	1	35
177420	Gear, drive	1	13	199585	Gasket	1	11
AR-03636	Gear and bushing (177436)	1	14	S-604	Lockwasher	2	37
68365	Bushing	2	15				
AR-08667	Housing, adapter (199592)	1	16				
69521	Bushing	1	17				
183695	Key	1	18				
109319	Lockplate	1	19				
S-605	Lockwasher	8	20				
S-995	Plug, pipe	2	22				
109333	Plunger, regulator	1	23				
134596	Plug, by-pass valve	1					
177419	Shaft, idler	1	25				
199587	Shaft, drive	1	26				
211939	Spring	1	27				
126304	Yoke	1	24				

PARTS INDENTED ARE INCLUDED IN TMP,ART UNDER WHICH THEY ARE INDENTED

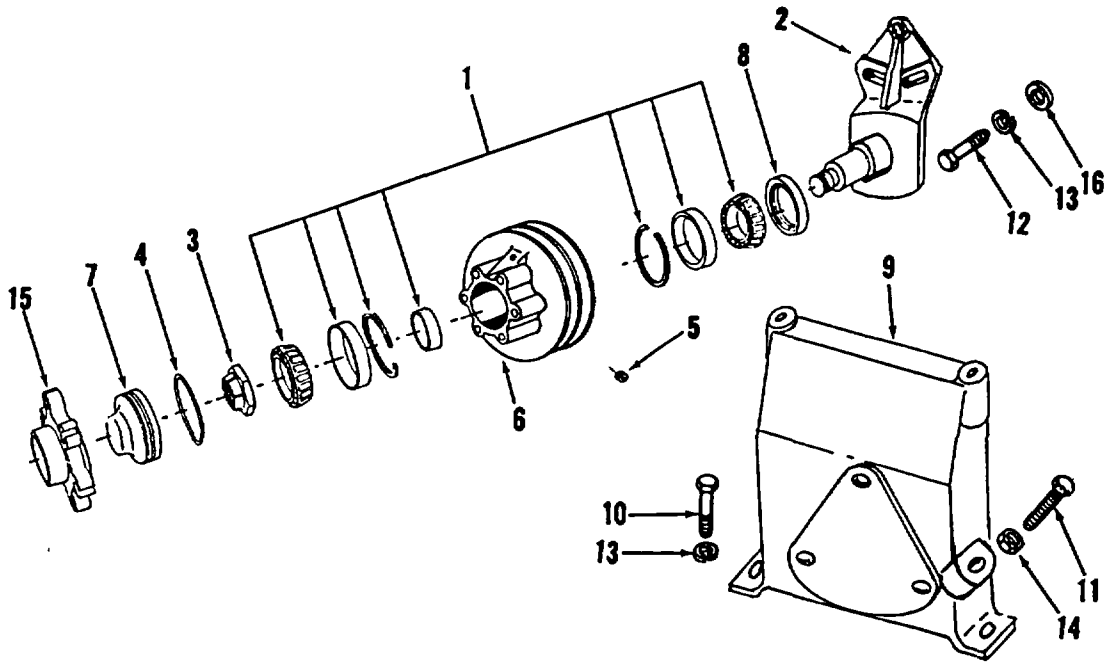
FIG. 12-211



Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req.	Ref. No.
	OIL PAN				OIL GAUGE BRACKET DIPSTICK AND TUBE		
208461	Pan, oil	1	1				
S-125	Capscrew (1/2"-13 x 2")	3		67347-1	Bracket, oil gauge	1	26
S-163	Capscrew (3/8"-16 x 3-1/4")	2	3	S-105-A	Capscrew (7/16"-20 x 1- 14")	2	27
70349	Capscrew (7/16"-10 x 1-3/8")	28	4	S-110	Capscrew (5/16"-18 x 5/8")	1	
	pan to block			S-117	Capscrew (3/8"-16 x 3/4")	1	
105574	Capscrew (5/16"-24 x 2-1/4")	4	5	200064	Clamp, tube	1	
	pan to rear cover			204657	Dipstick, oil	1	28
185804	Capscrew (7/16"-14 x 1-3/8")	4	6	67346	Gasket, bracket	1	29
190168	Flange, oil suction	1	7	S-223	Nut	1	
5083	Gasket, oil pan	1	8	S-234	Nut	1	
67946	Gasket, drain plug	1	9	70907	Support, tube	1	
157551	Gasket, suction flange	1	10	211358	Tube, dipstick	1	30
S-208-A	Nut	3		S-604	Washer, lock	2	
69962	Plug, drain	1	12	S-605	Washer, lock	1	
S-915-A	Plug, pipe (1/2")	3	13	S-610	Washer, lock	2	
20622	Screen, suction plate	1	14	S-602	Washer, plain	2	
S-1354	Screw	4	15	S-622	Washer, plain	2	
S-604	Washer, lock	2	16				
S-605	Washer, lock	4	17				
S-608	Washer, lock	3					
S-610	Washer, lock	34	19				
S-622	Washer, plain	34	20				
S-626	Washer, plain	4	21				
	HAND HOLE COVER						
S-112	Capscrew (3/8"-16 x 1")	4	22				
158145	Cover, hand hole	1	23				
65274	Gasket, cover to block	1	24				
S-604	Washer, lock	4	25				

PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED

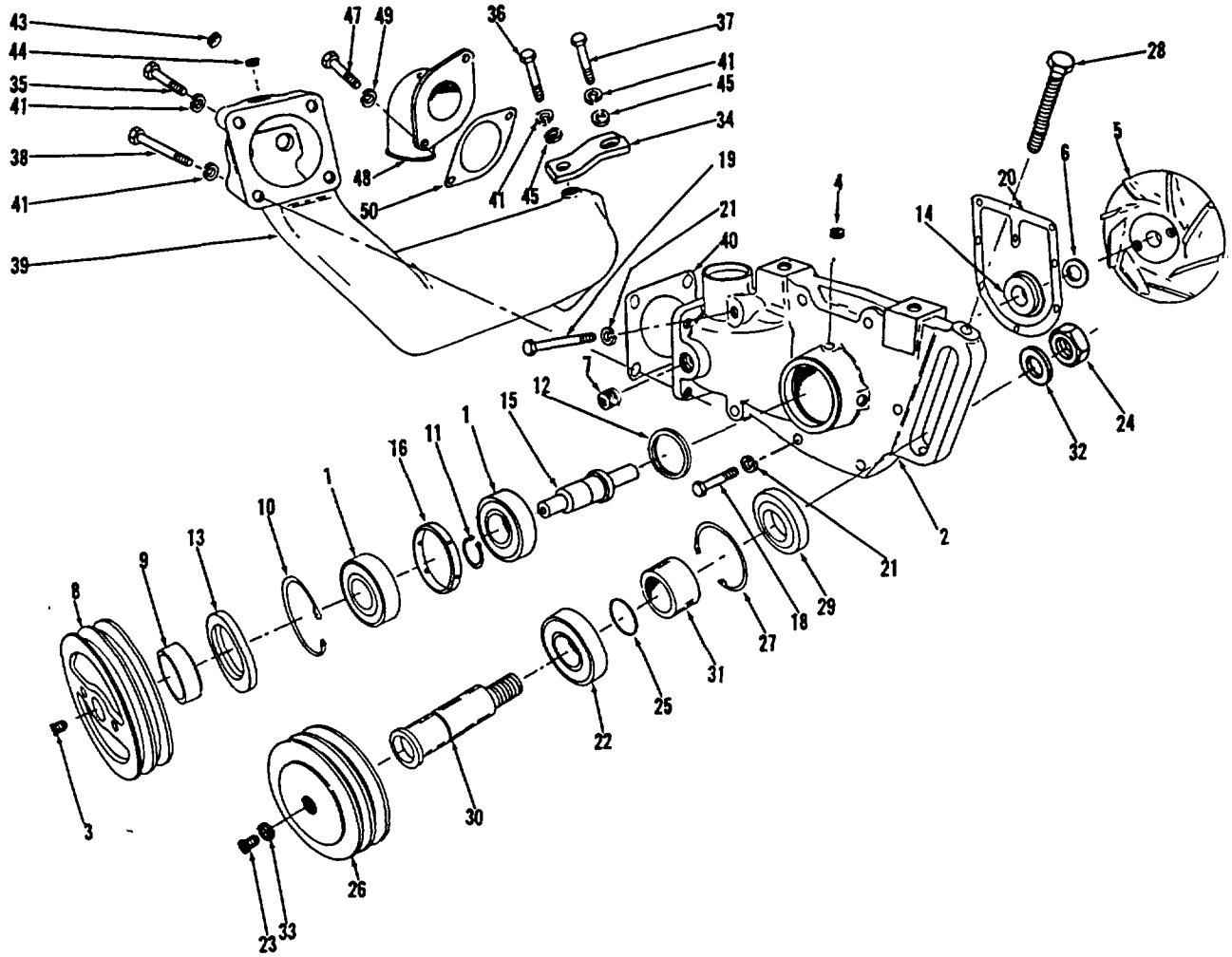
FIG. 12-212



Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req	Ref. No
	FAN HUB				MOUNTING PARTS		
AR-10142	Hub, fan (211844)	1		208829	Bracket, fan support	1	9
201123	Bearing	1	1	S-149-B	Capscrew (1/2"-20 x 1-1/2")	2	10
AR-10141	Bracket and shaft (147286,201146)	1	2	166777	Capscrew, adjusting	1	11
S-181-B	Capscrew (3/8"-16 x 1/2")	2		S-172-A	Capscrew (1/2"-20 x 1-3/4")	3	12
210886	Cover	1		S-608	Lockwasher (1/2")	5	13
210890	Decal	1		S-285	Nut, jam	1	14
142176	Nut	1	3	201124	Spacer	1	15
145551	"O" ring	1	4	S-696	Washer, plain (1/2")	2	16
S-911-B	Plug, pipe	2	5				
211869	Pulley	1	6				
210996	Retainer	1	7				
200307	Seal	1	8				
	BELTS						
178708	Belt "V" fan drive	2					
215356	Belt "V" water pump	2					

PARTS INDENTED ARE INCLUDED IN TULPART UNDER WHICH THEY ARE INDENTED

FIG. 12-213



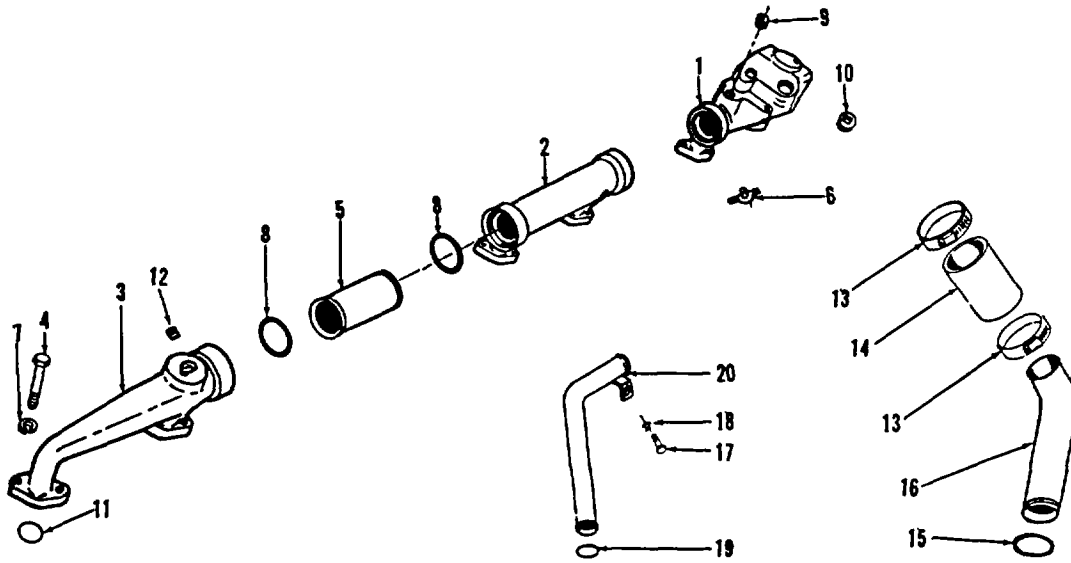
WATER PUMP, WATER PUMP IDLER, WATER TRANSFER CONNECTION, WATER INLET CONNECTION

FIG. 12-213

Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req	Ref. No
	WATER PUMP				WATER TRANSFER CONNECTION		
AR-08855	Pump, water	1					
S-16073	Bearing, ball	2	1	214476	Bracket, connection	1	34
210238	Body, water pump	1	2	S-102-D	Capscrew (3/8"-16 x 3")	2	35
S-911-B	Plug, pipe	1	4	S-103-D	Capscrew (3/8"-16 x 1-1/4")	1	36
AR-08853	Impeller	1		108707	Capscrew (3/8"-16 x 1-1/2")	1	37
208134	Impeller, water pump	1	5	S-149-A	Capscrew (3/8"-16 x 5")	2	38
200509	Seal	1	6	210804	Connection, water transfer	1	39
S-908	Plug, pipe (3/8")	1	7	208132	Gasket, water transfer	1	40
S-965-E	Plug, pipe	1	3	S-604	Lockwasher (3/8")	6	41
AR-08854	Pulley, water pump (208127)	1	8	S-915-A	Plug, pipe (1/2")	1	43
203097	Sleeve	1	9	S-962	Plug, pipe (1")	1	44
S-16255	Ring, snap	1	10	108330	Washer (13/32")	2	45
112302	Ring, snap	1	11				
203100	Seal, oil	1	12		WATER INLET CONNECTION		
203101	Seal, oil	1	13				
214173	Seal, water pump	1	14	S-103-D	Capscrew (3/8"-16x 1")	2	47
208138	Shaft, water pump	1	15	210806	Connection, water inlet	1	48
196844	Spacer, water pump	1	16	S-604	Lockwasher (3/8")	2	49
210805	Gasket	1	50				
	MOUNTING PARTS						
215356	Belt, water pump	2					
S-148-C	Capscrew (3/8"-24 x 2-1/4")	5	18				
137797	Capscrew (3/8"-24 x 3-1/4")	2	19				
130226	Gasket	1	20				
S-604	Lockwasher (3/8")	7	21				
	WATER PUMP IDLER						
AR-08851	Idler, water pump	1					
S-16073	Bearing, ball	1	22				
210860	Capscrew, button head	1	23				
S-201	Nut	1	24				
145506	"O" ring	1	25				
208118	Pulley, idler	1	26				
S-16255	Ring, snap	1	27				
203101	Seal, oil	1	29				
208119	Shaft, idler	1	30				
208120	Spacer	1	31				
61623	Washer (9/32")	1	33				
213082	Washer	1	32				
182706	Screw, adjusting	1	28				

PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED

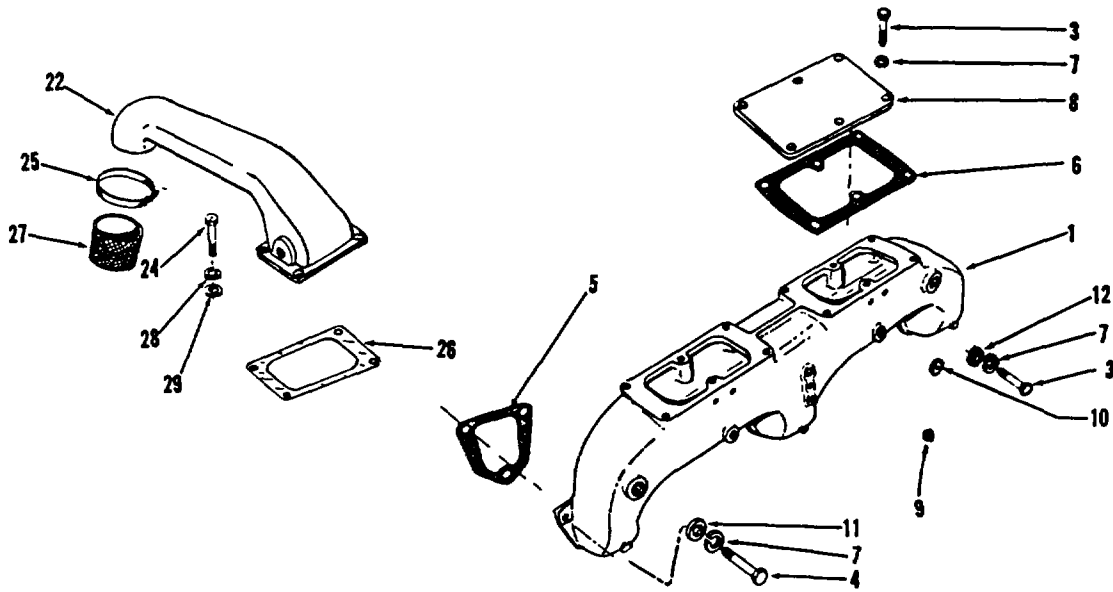
FIG. 12-214



Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req.	Ref. No.
	WATER MANIFOLD				FRONT WATER BY-PASS		
211016	Manifold, water (front)	1	1	43828-B	Clamp, hose	2	13
130118	Manifold, water (center)	1	2	63495-D	Hose	1	14
133342	Manifold, water (rear)	1	3	43463-A	"O" ring	1	15
S-103-D	Capscrew (3/8"-16 x 1-1/4")	12	4	209600	Pipe, water by-pass	1	16
130394	Coupling, manifold	2	55				
S-962-E	Cock, drain	1	6		WATER TRANSFER TUBE		
S-604	Lockwasher (3/8")	12	7				
70624	"O" ring, coupling	4	8	S-110	Capscrew	1	17
S-915-A	Plug, pipe (1/2")	3	9	S-605	Lockwasher	1	18
S-995	Plug, pipe (3/4")	1	10	212161	"O" ring	2	19
148203	Ring, sealing	6	11	211027	Tube, water transfer	1	20
S-908	Plug, pipe	1	12				

PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED

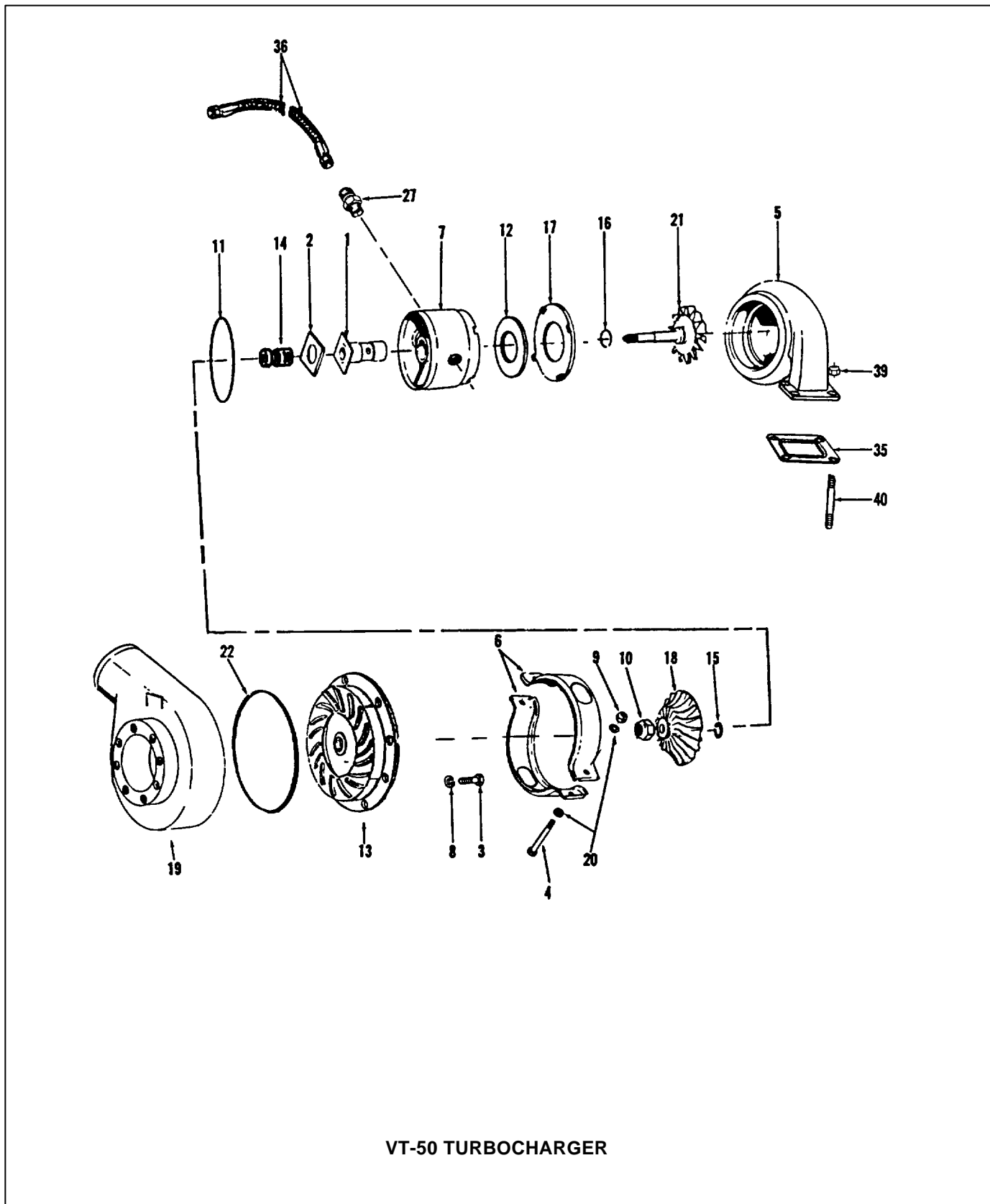
FIG. 12-215



Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req.	Ref. No.
	AIR INTAKE MANIFOLD						
141761	Manifold, air intake	1	1				
	MOUNTING PARTS						
S-103-D	Capscrew (3/8"-16 x 1-1/4")	6					
S-112	Capscrew (3/8"-16 x 1")	10	3				
108707	Capscrew (3/8"-16 x 1-1/2")	3	4				
202961	Gasket, manifold	3	5				
149819	Gasket, plate	1	6				
S-604	Lockwasher (3/8")	19	7				
144257	Plate, manifold cover	1	8				
S-910-B	Plug, pipe (1/4")	3	9				
S-911-B	Plug, pipe (1/8")	1					
5-962	Plug, pipe (1")	1					
S-602	Washer, plain (13/32")	10	11				
63842	Washer, plain (13/32")	3	12				
	AIR INTAKE CONNECTION						
202141	Connection, air crossover	1	22				
	MOUNTING PARTS						
108707	Capscrew (3/8"-16 x 1-1/2")	4	24				
208326	Clamp, hose (Auto, B Applicators)	2	25				
199568	Gasket, connection to manifold	1	26				
202994	Hose, connection to turbocharger	1	27				
S-604	Lockwasher (3/8")	4	28				
S-602	Washer, plain (13/32")	4	29				

PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED

FIG. 12-216



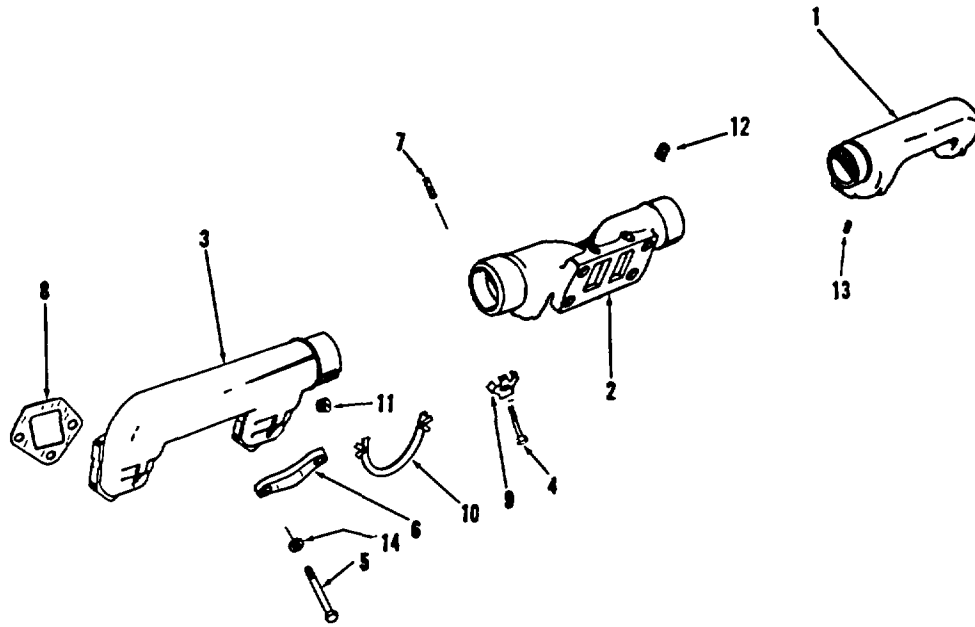
VT-50 TURBOCHARGER

FIG. 12-216

Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req.	Ref. No.
	VT-50 TURBOCHARGER				MOUNTING PARTS		
AR-10076	Turbocharger assembly (204245)	1		183669	Adapter	1	
156420	Bearing	1	1	193908	Adapter, tube	1	
170510	Bearing insert	1	2	208668	Adapter	1	27
S-1 18-A	Capscrew (1/4"-20 x 5/8")	8	3	114307	Bracket, tube clip	1	
194010	Capscrew (1/4"-20 x 1-3/4")	2	4	S-114	Capscrew (1/4"-20 x 3/4")	2	
202506	Casing, turbine	1	5	69793	Capscrew (3/8"-24 x 3/4")	1	
156416	Clamp, "V" band	2	6	108707	Capscrew (3/8"-16 x 1-1/2")	1	
202376	Housing, bearing	1	7	43828-A	Clamp, hose	2	
S-600	Lockwasher (1/4")	8	8	108722	Clamp, hose	2	
128936	Nameplate, turbo	1		121229	Elbow	1	
167299	Nut, clamp	2	9	190849	Gasket, exhaust collector	1	35
S-222-A	Nut	1	10	209959	Hose, teflon	1	36
202457	"O" ring	1	11	AC16003001	NF Hose	1	
202377	Packing, insulation	1	12	S-604	Lockwasher (3/8")	1	
203294	Plate, vane diffuser	1	13	197733	Nipple, adapter	1	
211375	Ring, sealing	1	22	S-205	Nut	1	
211117	Sleeve	1	14	107440	Nut, lock	4	39
S-2286	Screw, nameplate	4		107709	Stud, exhaust manifold	4	40
156444	Seal	1	15	213936	Tube, oil drain No. 1	1	
195840	Seal, ring	1	16	213937	Tube, oil drain No. 2	1	
171570	Shield, heat	1	17	S-631	Washer, plain (9/32")	2	
212563	Wheel, impeller	1	18	S-602	Washer, plain (13/32")	1	
195469	Housing, compressor	1	19				
S-631	Washer, plain (9/32")	4	20				
AR-10058	Wheel and shaft	1	21				

PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED

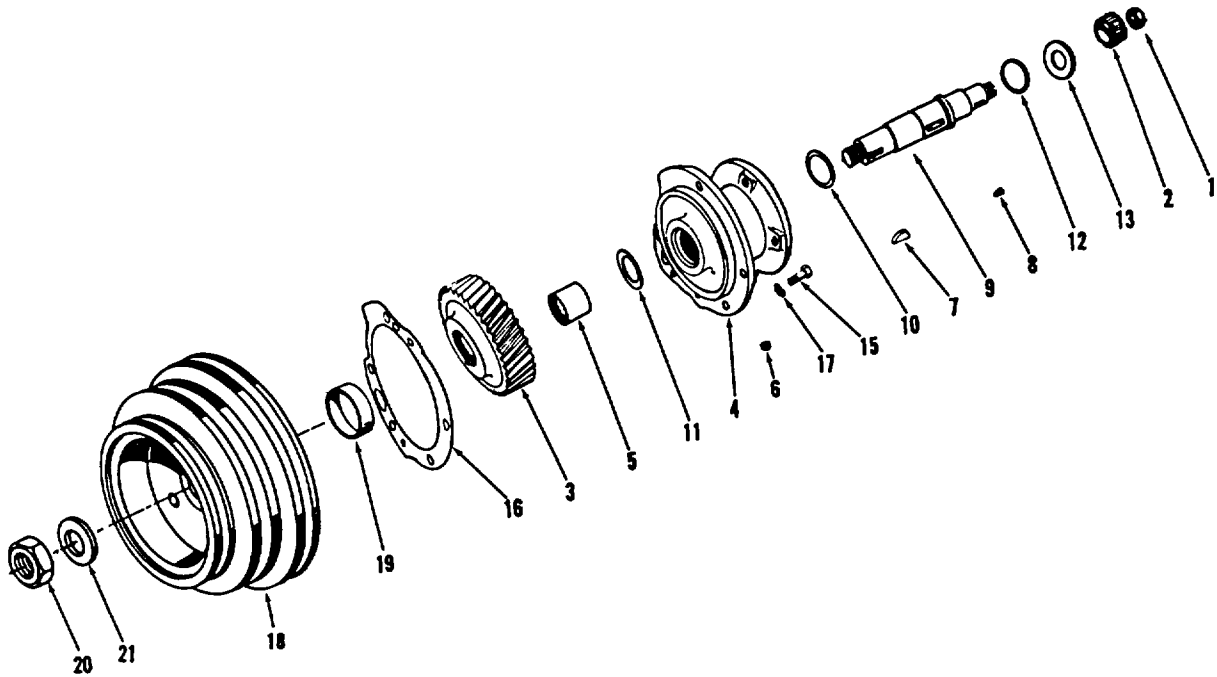
FIG. 12-217



Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req.	Ref. No.
EXHAUST MANIFOLD							
151478	Manifold, front	1	1				
200566	Manifold, center	1	2				
151489	Manifold, rear	1	3				
MOUNTING PARTS							
S-155	Capscrew (7/16"-14 x 1-1/2")	6	4				
200908	Capscrew, hexagon head	4	5				
200919	Clamp, manifold	2	6				
105199	Dowel	6	7				
142234	Gasket, exhaust manifold	6	8				
114638	Lockplate	4	9				
116982	Lockplate	4	10				
S-908	Plug, pipe (3/8")	2	11				
S-910-B	Plug, pipe (1/4")	2	12				
S-911-B	Plug, pipe (1/8")	2	13				
109594	Washer -	8	14				

PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED

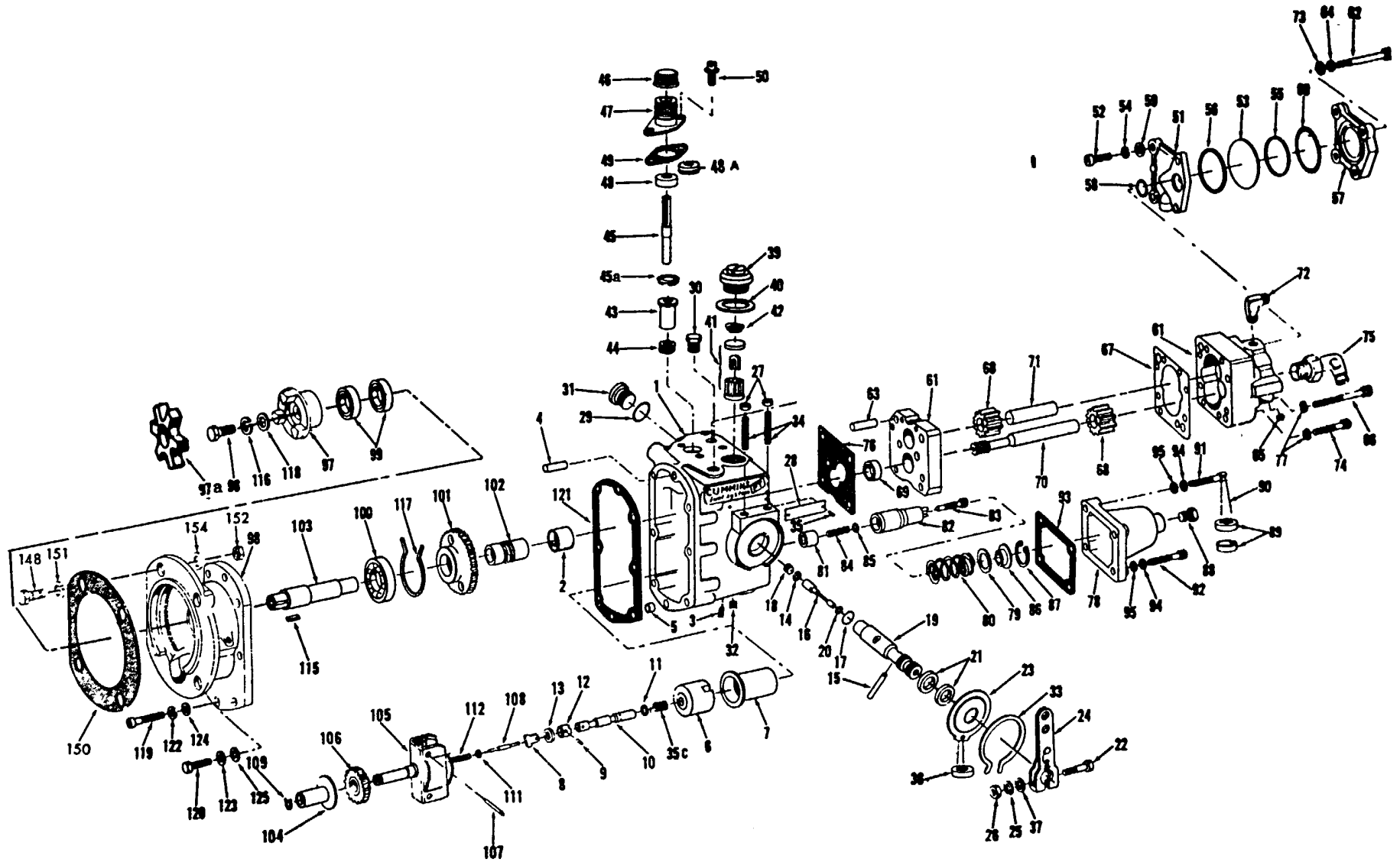
FIG. 12-218



Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req.	Ref. No.
	FUEL PUMP DRIVE				ACCESSORY DRIVE PULLEY		
AR-08366	Drive, fuel pump assembly	1		AR-09607	Pulley, fan and water pump drive (210926)	1	18
190769	Coupling	1	2				
142689	Gear, accessory drive	1	3	190397	Sleeve	1	19
AR-08256	Housing (199338)	1	4	191517	Locknut	1	20
116391	Bushing	1	5	194380	Washer, plain (15/16")	1	21
S-911-B	Plug, pipe (1/8")	2	6				
69550	Key, Woodruff	1	7				
S-316	Key	1	8				
191517	Nut	1	1				
199969	Shaft, accessory drive	1	9				
116388	Washer, thrust	1	11				
116389	Washer, thrust	1	12				
116390	Washer, clamping	1	13				
	MOUNTING PARTS						
215581	Capscrew (7/16"-20 x 1-1/4")	5	15				
200809	Gasket, housing to block	1	16				
S-610	Lockwasher (7/16")	5	17				
69550	Key, Woodruff	1	7				
181236	Seal, drive pulley	1	10				

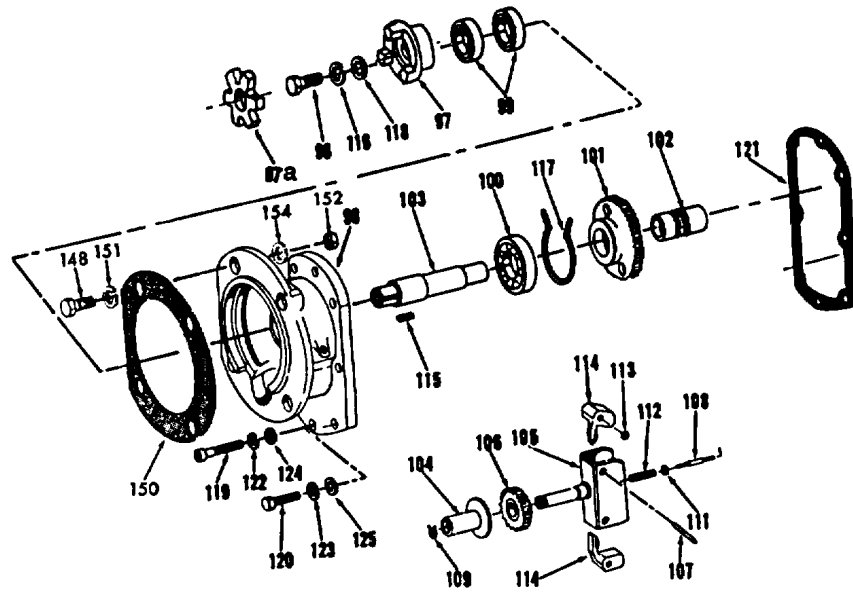
PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED

FIG. 12-219



FUEL PUMP ASSEMBLY

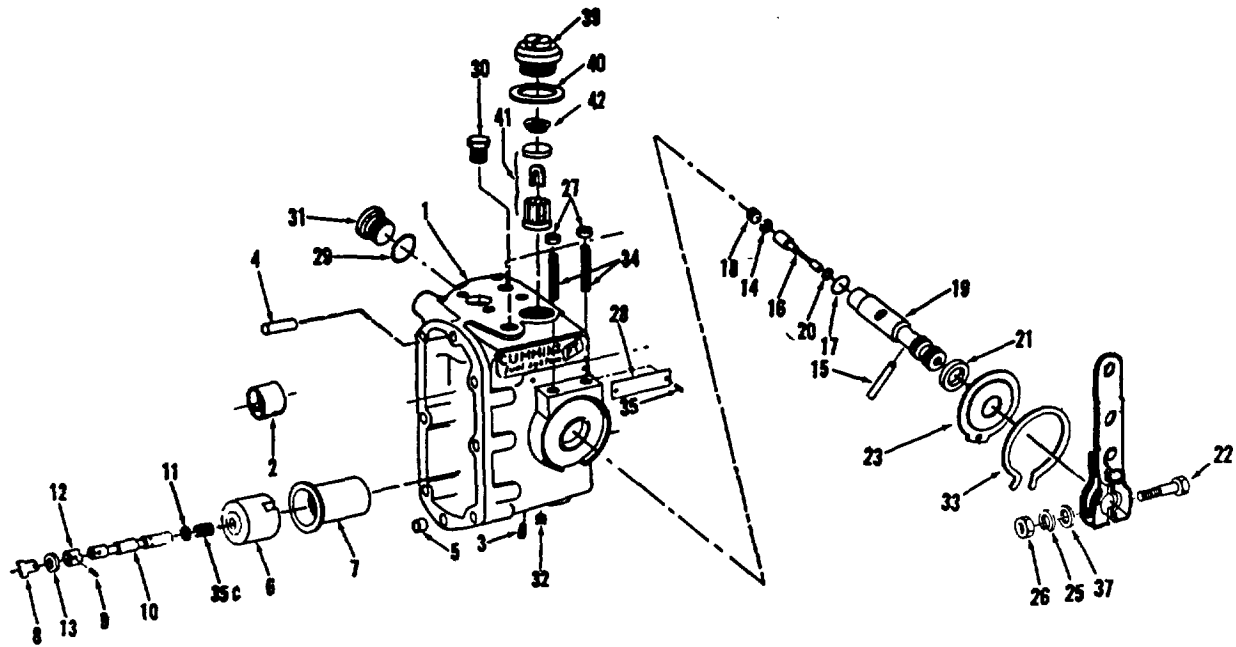
FIG. 12-220



Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req	Ref. No
	MAINSHAFT COVER AND GOVERNOR						
BM-70486-2764	Fuel pump assembly	1		S-600	Lockwasher	6	123
BM-69886	Cover and governor	1		103089	Washer, body to cover	1	124
BM-53139	Cover and seal (139668)	1	98	70704	Washer, cover to housing	6	125
104038	Seal, cover oil	2	99				
BM-33876	Drive shaft assembly	1			FUEL PUMP TO DRIVE MOUNTING PARTS		
S-1650	Bearing, ball -	1	100				
103036	Gear, drive shaft	1	101				
101983	Gear, tachometer drive	1	102	S-140	Capscrew, fuel pump to drive	4	148
100192	Shaft, fuel pump drive	1	103	162426	Coupling, spider	1	97A
69793	Capscrew, coupling	1	96	210374	Gasket, pump to compressor	1	150
101918	Coupling, half	1	97	S-610	Lockwasher	4	151
68174	Key, coupling	1	115	S-622	Washer	4	154
S-604	Lockwasher, coupling	1	116	S-274	Nut	4	
70699	Ring, snap	1	117				
108330	Washer, coupling	1	118				
AR400797	Weight and carrier, governor	1					
163944	Bushing, governor shaft	1	104				
AR-00796	Carrier assembly, governor	1	105				
113244	Gear, drive shaft	1	106				
(142204)	Pin, weight pivot	2	107				
144178	Plunger, weight assist	1	108				
163945	Ring, retainer	1	109				
144179	Shim, weight assist	1	111				
143847	Spring, weight assist	1	112				
157594	Washer, thrust	4	113				
(146437)	Weight, governor	2	114				
118226	Capscrew, cover to housing	1	119				
S-1 05-C	Capscrew	6	120				
100764	Gasket, cover to housing	1	121				
S-606	Lockwasher	1	122				

PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED

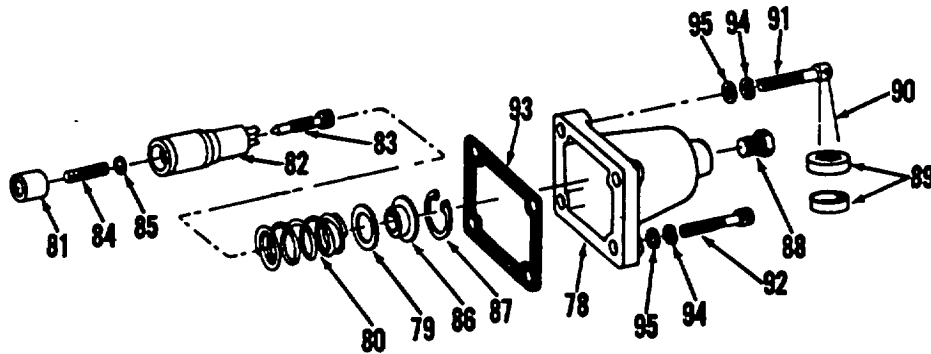
FIG. 12-221



Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req.	Ref. No.
	FUEL PUMP HOUSING AND FILTER						
BM-79290	Housing assembly, fuel pump	1		S-251	Nut, throttle adjusting	2	26
BM-73902	Housing assembly (177761)	1	1	S-251	Nut, lever	1	27
BM-76665	Barrel and plunger assembly	1	7	105375	Plate, name	1	28
100193	Bushing, tachometer drive	1	2	43696-A	Packing, "O" ring	1	29
163733	Clip, governor barrel	1	3	112076	Plug, pipe	1	30
68549	Dowel, body to cover	1	4	139473	Plug, fuel pump body	1	31
118227	Dowel, housing to cover	1	5	200635	Plug, pipe	4	32
140618	Housing, spring pack	1	6	S-16206	Ring, snap	1	33
BM-98430	Plunger assembly governor	1		109915	Screw, throttle shaft	2	34
70690	Driver, governor, plunger	1	8	S-2286	Screw, nameplate	2	35
137372	Pin, governor plunger	1	9	S-3148	Seal	1	36
182530	Plunger, governor	1	10	138782	Spring, torque control	1	35c
101841	Shim, plunger	1	11	70704	Washer	1	37
101842	Shim	1	11				
101843	Shim	1	11				
144302	Spacer, governor plunger	1	12		FUEL PUMP FILTER		
138905	Washer, thrust	1	13	157088	Cap, filter	1	39
BM-74080	Throttle shaft assembly			154088	Ring, seal, filter cap	1	40
S-692	Lockwasher	1	14	146483	Screen assembly, filter	1	41
148976	Pin, throttle stop	1	15	70700	Spring, filter	1	42
149040	Plunger	1	16				
100478	Seal, "O" ring	1	17				
142149	Set-screw	1	18				
149030	Shaft, throttle	1	19				
142179	Shim, plunger	1	20				
148916	Spacer	1	21				
S-1 59-B	Capscrew, throttle lever	1	22				
148977	Cover, throttle shaft	1	23				
AR-03034	Lever, throttle	1	24				
S-600	Lockwasher	1	25				

PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED

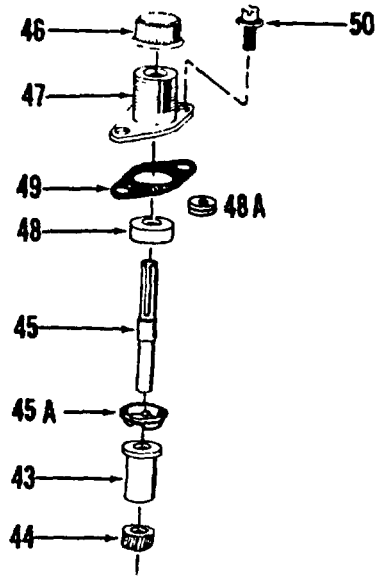
FIG. 12-222



Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req.	Ref. No.
	SPRING PACK				MOUNTING PARTS		
44678	Cover, spring pack	1	78	203619	Capscrew, spring pack cover to housing	1	91
BM-74747	Spring assembly, governor	1					
70717	Shim, governor spring	1	79	S-105-C	Capscrew, spring pack cover to housing	3	92
70717-A	Shim, governor spring	1	79				
70717-B	Shim, governor spring	1	79	70705	Gasket, spring pack cover	1	93
189800	Shim, governor spring	1	79	181466	Lockwasher, spring pack cover to housing	4	94
143251	Spring, governor	1	80				
140925	Plunger, idle spring	1	81	70704	Washer, plain, spring pack cover to housing	4	95
BM-69886	Pack assembly, idling spring	1					
BM-67416	Guide and clip assembly	1	82				
70716	Screw, idle adjusting	1	83				
144195	Spring, idling	1	84				
70715	Washer, adjusting screw	1	85				
70713	Retainer, spring	1	86				
S-16240	Ring, snap	1	87				
177999	Plug, pipe	1	88				
124019	Seal	1	89				
124020	Wire, seal	1	90				

PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED

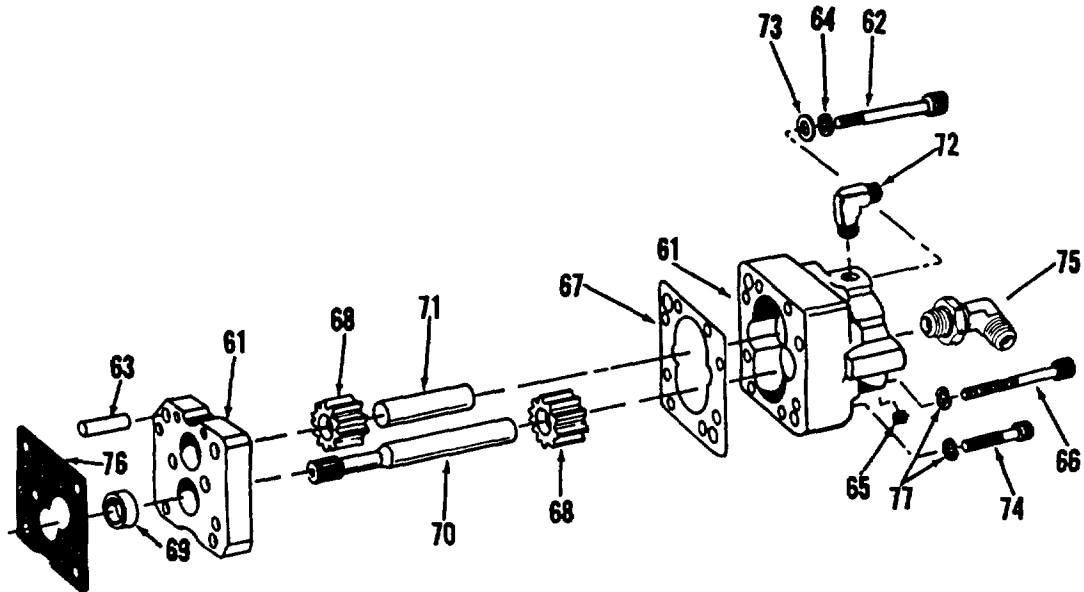
FIG. 12-223



Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req	Ref. No
	TACHOMETER DRIVE HOUSING						
BM-28848	Drive assembly, tachometer	1					
70723	Bushing	1	43				
101981	Gear	1	44				
104087	Shaft	1	45				
189638	Spacer	1	45a				
9052-1	Cap, tachometer housing	1	46				
70732	Gasket, housing	1	49				
155445	Housing, tachometer drive	1	47				
70772-A	Screw, housing	1	50				
70809	Seal, shaft	1	48				
210218	Washer, felt	1	48a				

PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED

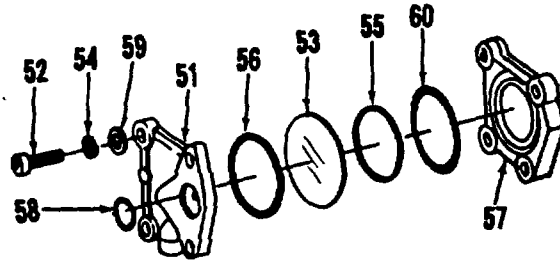
FIG. 12-224



Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req.	Ref. No.
	GEAR PUMP - FUEL						
BM-97502	Gear pump assembly	1					
BM-97497	Cover and housing assembly (175867, 175860)	1	61				
70790	Capscrew	2	62				
64816-A	Dowel, cover to housing	2	63				
181466	Lockwasher	2	64				
68606	Plug, pipe	1	65				
S-174-C	Capscrew, cover to housing	2	66				
110855	Gasket, cover to housing	1	67				
119363	Gear	2	68				
181466	Lockwasher	2	77				
101468	Ring, dowel	1	69				
100215	Shaft, pump drive	1	70				
175864	Shaft, driven	1	71				
175836	Valve	1	72				
70704	Washer	1	73				
70790	Capscrew	4	74				
203849	Connection, fuel inlet	1	75				
116936	Elbow, connection	1					
210647	Gasket, gear pump	1	76				
181466	Lockwasher	4	77				

PARTS INDENTED ARE INCLUDED IN T188PART UNDER WHICH THEY ARE INDENTED

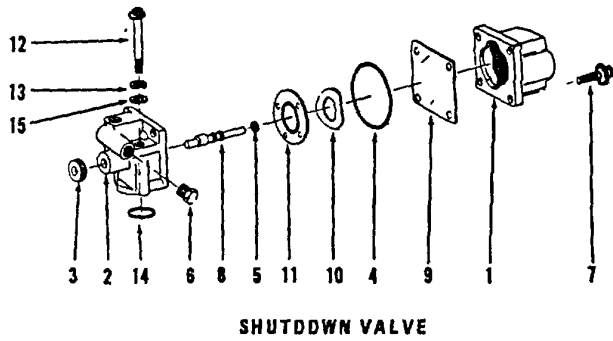
FIG. 12-225



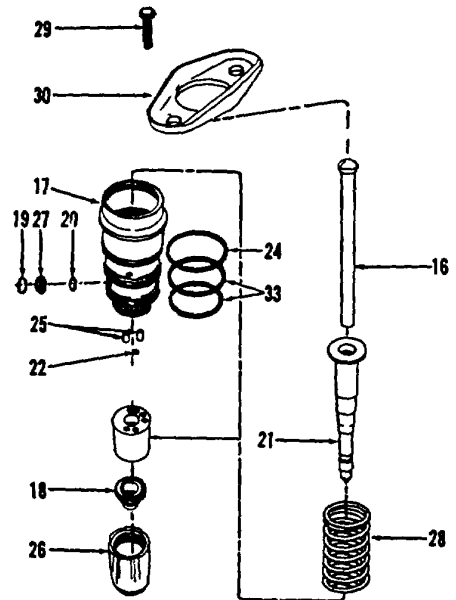
Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req	Ref. No
	DAMPER - FUEL PUMP						
BM-76340	Damper assembly	1					
153336	Body	1	51				
S-105-C	Capscrew	2	52				
202897	Diaphragm	1	53				
S-600	Lockwasher	2	54				
139988	Packing	1	55				
100099	Packing	1	56				
153338	Plate	1	57				
151900	Seal	1	58				
70704	Washer	2	59				
160514	Washer, nylon	1	60				

PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED

FIG. 12-226



SHUTDDWN VALVE



INJECTOR PT (TYPE D)

Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req	Ref. No
	SHUTDOWN VALVE				INJECTORS		
BM-69973	Valve assembly, shutdown	1		AR40118	Injector	6	
134072	Coil assembly	1	1	185139	Adapter, injector	6	17
129826	Housing, valve	1	2	208423	Cup, injector	6	18
129838	Knob, override	1	3	174299	Clip, filter screen	6	19
190876	"O" ring	1	5	173086	Gasket, orifice	6	20
129888	"O" ring	1	4	191916	Link, Injector	6	16
70295	Plug, pipe	1	6	AR-40065	Barrel and plunger	6	21
187556	Screw, fillister head	4	7	167157	Ball check	6	22
196037	Shaft, override	1	8	101754	"O" ring, adapter	6	24
129839	Shield, fuel	1	9	193736	"O" ring, adapter	12	33
129768	Spring	1	10	203426	Pin, spirol	12	35
129827	Valve	1	11	185138	Retainer, cup	6	26
174298	Screen, filter	6	27				
	MOUNTING PARTS			166009	Spring, Injector	6	28
S-189-C	Capscrew	2	12		MOUNTING PARTS		
116936	Elbow	1					
S-1027	Fitting, valve	1		165006	Capscrew, clamp	12	29
181466	Lockwasher	2	13	191218	Clamp, injector	6	30
154087	Ring, sealing	1	14				
67684	Washer, plain	2	15				

PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED

FIG. 12-227

Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req.	Ref. No.
	ANEROID CONTROL				MOUNTING PARTS		
AR-09454-00	F Control, aneroid	1		143950	Adapter	1	36
114739	Bellows	1	1	204851	Bracket	1	49
S-105-C	Capscrew, cover to housing (1/4"-20 x 1-1/4")	1	2	S-112	Capscrew (3/8"-16 x 1")	2	50
203619	Capscrew, cover (1/4"-20 x 1-1/4")			S-137	Capscrew (3/8"-16 x 2")	2	51
114773	Cover, control	1	3	2 S-1000-A	Elbow	2	40
114947	Cover, bellows	1	4	144372	Elbow	1	42
70815	Dyna-seal, adjusting screw	1	5	AS0500760	SS Hose, control	1	43
213713	Filter, air	1	11	AS0501900	S Hose, control	1	44
140357	Housing, control	1	12	S-604	Lockwasher (3/8")	4	52
S-600	Lockwasher, cover to housing	3	13	63385	Spacer	2	46
108074	Nut, bellows actuating shaft	2	14	208621	Tube, air supply	1	47
154087	"O" ring, spring retainer	1	15	S-602	Washer, plain (13/32")	2	53
114755	Piston, bellows	1	16				
105375	Plate, name	1	17				
114765	Plug, plunger	1	18				
S-911-B	Plug, pipe	2	19				
140414	Plunger, pressure	1	20				
114764	Retainer, spring	1	22				
S-3148	Seal	1	23				
S-2286	Screw, nameplate	2	24				
109918	Screw, adjusting	1	25				
115033	Shaft, bellows actuating	1	26				
114921	Shim, spring	A/R	27				
124033	Spring, bellows	1	28				
114745	Spring, pressure valve	1	29				
BM-69381	Valve, lever and pin	1	30				
115034	Lever	1	31				
114791	"O" ring	1	32				
114940	Pin	1	33				
140358	Valve	1	34				
114754	Washer, bellows retainer	1					
114795	Washer, pressurizing valve	1					
S-631	Washer, cover to housing (9/32")	3					

PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED

FIG. 12-228

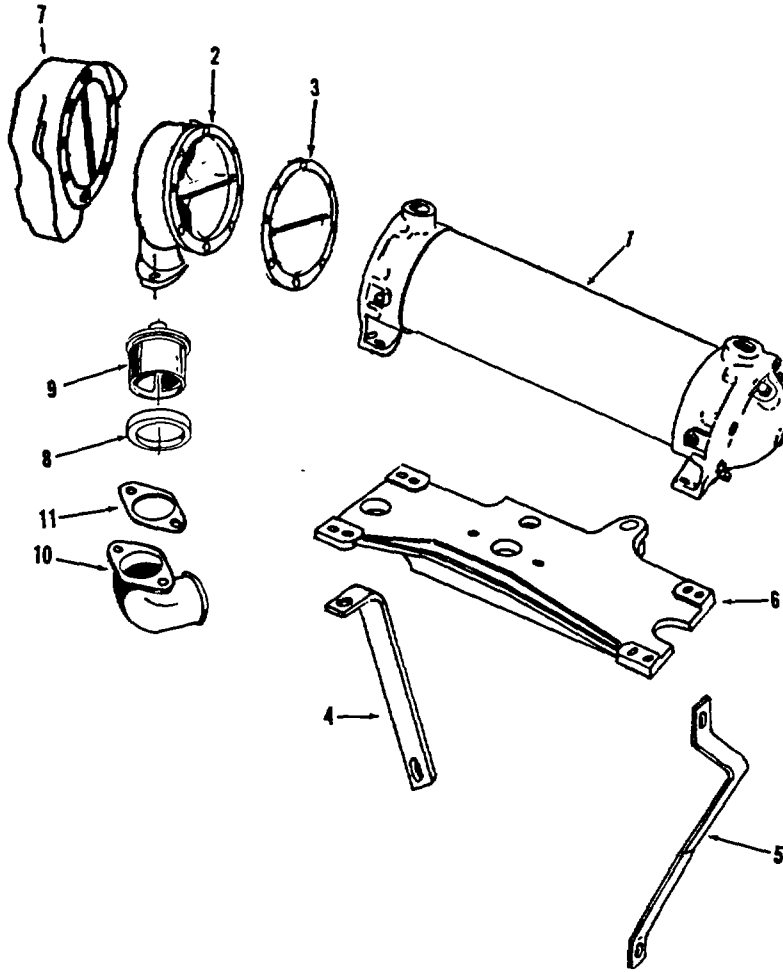
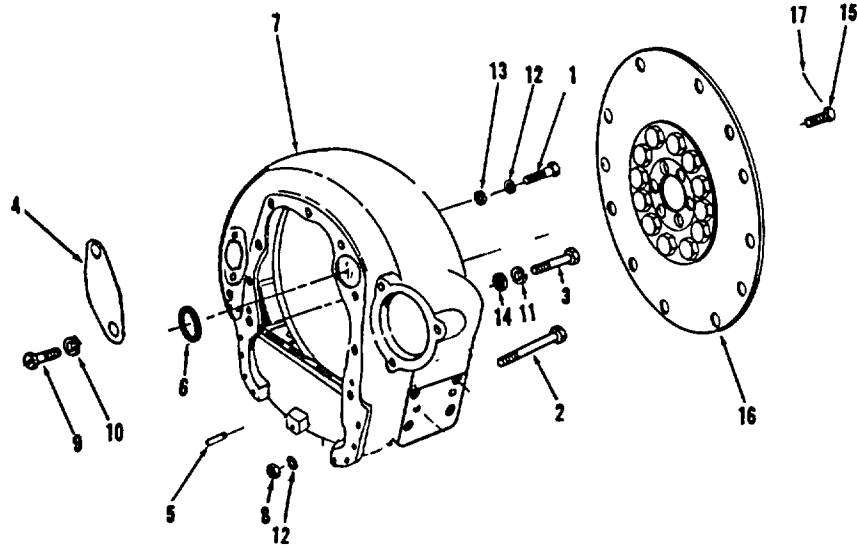


FIG. 12-228

Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req	Ref. No
	TORQUE CONVERTER COOLER				WATER OUTLET CONNECTION		
AR-11571	Cooler, torque converter	1		215172	Connection, water outlet	1	10
216386	Cooler, torque converter	1	1	S-103-D	Capscrew (3/8"-16 x 1-1/4")	2	
189397	Bonnet, cooler end	1	2	S-141	Capscrew (3/8"-16 x 2-3/4")	2	
S-112	Capscrew (3/8"-16 x 1")	8		S-604	Lockwasher	4	
107713	Gasket, cooler	2	3	208128	Gasket, thermostat housing	1	11
S-604	Lockwasher (3/8")	8			WATER BY-PASS CONNECTION		
	MOUNTING PARTS			209603	Connection, water by-pass	1	
S-103-D	Capscrew (3/8"-16 x 1-1/4")	2		S-604	Lockwasher	2	
163575	Bracket	1		9221	Gasket	1	
209602	Brace, cooler	1	4				
161536	Brace, cooler	1	5	102233	Connection, water outlet	1	
S-162-A	Capscrew (7/16"-14 x 2-3/4")	5		S-112-B	Capscrew	1	
103009	Capscrew (7/16"-14 x 1-1/4")	2		S-163	Capscrew (3/8"-16 x 3-1/4")	1	
70504	Capscrew (3/8"-24 x 4")	1		S-170-A	Capscrew (3/8"-16 x 6")	3	
S-169	Capscrew (1/2"-13 x 1")	1		S-604	Lockwasher	5	
S-145	Capscrew (1/2"-13 x 1-1/4")	1		102229	Gasket	1	
107993	Capscrew (1/2"-13 x 7/8")	1					
S-113	Capscrew (1/2"-13 x 1s1/2")	1					
S-116	Capscrew (5/8"-11 x 1-1/2")	1					
S-103-A	Capscrew (5/8"-11 x 2")	1					
43828-D	Clamp, hose	2					
S-962-E	Cock, drain	1					
67185	Hose	1					
S-608	Lockwasher (1/2")	2					
S-610	Lockwasher (7/16")	7					
S-603	Lockwasher (5/8")	2					
S-217	Nut	5					
S-210	Nut	1					
S-200	Nut	1					
69630	Spacer	1					
217005	Support, cooler	1	6				
S-658	Washer, plain (5/8")	1					
114200	Washer, plain	1					
	THERMOSTAT HOUSING						
102231	Housing, thermostat	1	7				
S-105	Capscrew (3/8"-16 x 3-1/2")	4					
107713	Gasket	1					
S-604	Lockwasher (3/8")	4					
188319	Seal, thermostat	1	8				
145977	Thermostat	1	9				

PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED

FIG. 12-229



Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req.	Ref. No.
FLYWHEEL HOUSING				FLEXPLATE			
S-106	Capscrew (1/2"-13 x 1-3/4")	4	1	120448	Capscrew	6	15
106289	Capscrew (1/2"-13 x 2-1/4")	3	2	123000	Flexplate	1	16
188936	Capscrew	9	3	64482	Wire, lock	3	17
70657	Cover, index hole	1	4				
9226	Dowel, housing	2	5				
199064	Gasket, housing	1	6				
193717	Housing, flywheel	1	7				
S-200	Nut	3	8				
70214	Screw, machine	2	9				
S-600	Washer, lock	2	10				
S-603	Washer, lock	9	11				
S-608	Washer, lock	7	12				
S-601	Washer, plain	7	13				
S-658	Washer, plain	9	14				

PARTS INDENTED ARE INCLUDED IN THE PART UNDER WHICH THEY ARE INDENTED

FIG. 12-229

Part Number	Part Name	No. Req.	Ref. No.	Part Number	Part Name	No. Req	Ref. No
	FUEL SUPPLY TUBE				GASKET SET		
202185	Tube, fuel supply	1		AR-10102	Engine gasket set	1	
137796	Capscrew (3/8"-24 x 1-1/2")	2		AR-10101	Valve grind gasket set	1	
180372	Clamp, tube	2		BM-68356	Fuel pump gasket set	1	
131213	Elbow	1					
S-604	Lockwasher (3/8")	2			CYLINDER KIT		
S-602	Washer	2					
AR-08591	Cylinder, kit	1					
	BY-PASS TUBE MOUNTING			213740	Liner, cylinder	1	
215090	Seal, crevice	1		215091	Packing, liner	1	
108722	Clamp	1		183049	Packing, liner	1	
180372	Clamp	1		AR-08190	Piston assembly	1	
S-902	Coupling, pipe	1		203090	Piston	1	
70817	Connector	1		191970	Pin, piston	1	
181213	Elbow	1		61908	Ring, snap	2	
S-1016-A	Tee	1					
AR-06680	Ring, set	1		147670	Ring, compression	1	
	DRAIN TUBE			132880	Ring, compression	2	
140043	Tube, fuel drain	1		194610	Ring, oil	1	

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GROUP 13-TRANSMISSIONS

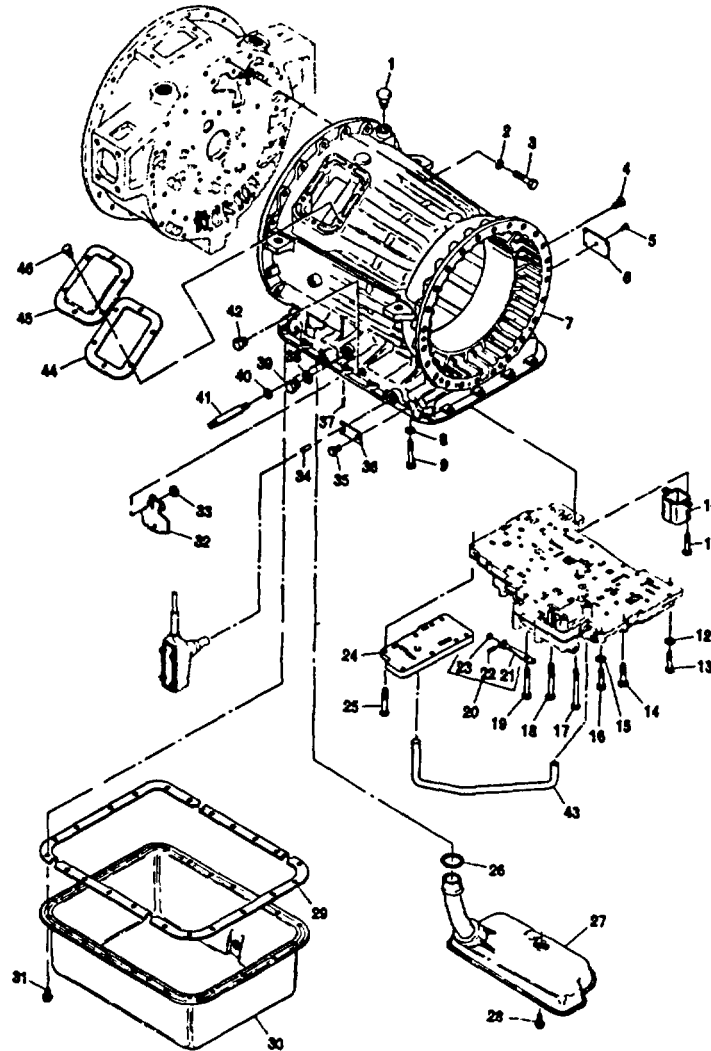
FIG. NO.

MAIN TRANSMISSION

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TRANSMISSION OIL FILTER AND MOUNTING	13-015
TRANSMISSION SHIFT CONTROL	13-016
TRANSMISSION OIL COOLER HOUSING	13-017
TRANSMISSION MODULATOR VALVE AND MOUNTING	13-018
TRANSMISSION REAR MOUNTING.....	13-019
TRANS WIRING, SWITCHES/GAUGES (CODE 813475) (SEE GROUP 08-FIG. 013) AUXILIARY TRANSMISSION	
AUXILIARY TRANSMISSION ASSEMBLY	13-096
AUXILIARY TRANSMISSION SHIFT FORKS AND BARS	13-095
AUXILIARY TRANSMISSION CONTROLS.....	13-070
AUXILIARY TRANSMISSION MOUNTING	13-074

FIG. 13-001

TRANS. HSG, CDP MODULATOR, OIL FILTER & PAN



- | | | |
|-----|-----------|---|
| | 515677C92 | TRANSMISSION (HT750CRD ALLISON 5-SPEED) |
| 1. | 153604H1 | BREATHER |
| 2. | 103323 | WASHER, LOCK 1/2 -11- |
| 3. | 179889 | BOLT, HH 1/2 x 2 -11- |
| 4. | 444612 | PLUG, 1/8 |
| 5. | NOT USED | |
| 6. | NOT USED | |
| 7. | 457382C1 | HOUSING, TRANS |
| 8. | 200609R1 | WASHER, PLAIN |
| 9. | 445411C1 | BOLT, THIRD AND SECOND CLUTCH SUPT. |
| 10. | 457369C1 | BAFFLE, OIL |
| 11. | 25487R1 | BOLT, HH 1/4 x 1-1/2 -2- |
| 12. | 103339 | WASHER, PLAIN |
| 13. | 25487R1 | BOLT, HH 1/4 x 1-1/2 |

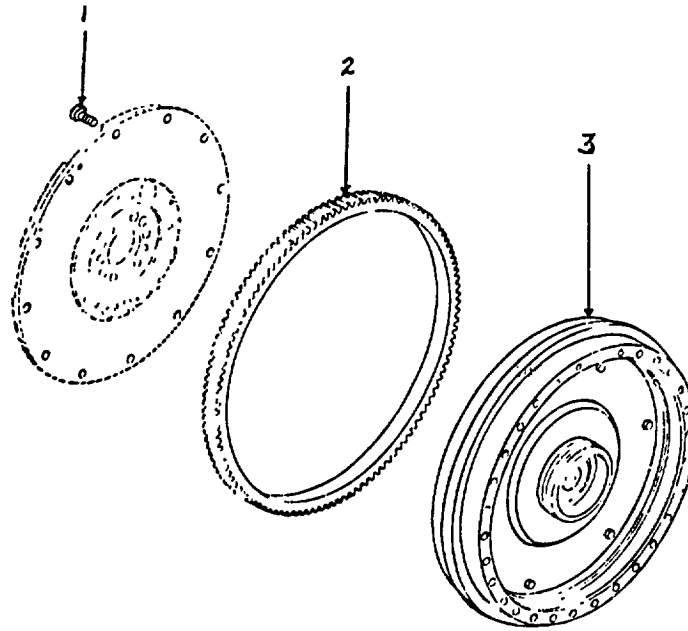
FIG. 13 - 01

TRANS. HSG, CDP MODULATOR, OIL FILTER & PAN - CONTINUED

14.	25487R1	BOLT, HH 1/4 x 1-1/2 -7-
15.	103339	WASHER, PLAIN
16.	25487R1	BOLT, HH 1/4 x 1-1/2
17.	25587R1	BOLT, HH 1/4 x 3-1/2 -3-
18.	178715H1	BOLT, HH 1/4 x 3 -15-
19.	25881R1	BOLT, HH 1/4 x 2-1/2
20.	423418C1	ROLLER & SPRING ASM, DETENT
21.		NOT SERVICED SEPARATELY
22.		NOT SERVICED SEPARATELY
23.		NOT SERVICED SEPARATELY
24.		NOT SERVICED SEPARATELY
25.	445568	BOLT, HH 1/4 x 2 -8-
26.	610976C1	\$ RINS, SEAL FILTER
27.	457370C91	KIT, OIL FILTER REPAIR
28.	423422C1	SCREW, SPECIAL OIL FILTER
29.	457371C1	\$ GASKET, OIL PAN
30.	469045C21	PAN, OIL
31.	423422C1	SCREW, SPECIAL OIL PAN -23-
32.	457373C1	LEVER, INSIDE DETENT
33.	126006	NUT, LOCK 3/8
34.	454163C1	ROD, MODULATOR VALVE
35.	179813	BOLT, HH 5/16 x 9/16
36.	423364C1	RETAINER, MODULATOR TO CASE
37.	423426C1	PIN, SELECT SHAFT RETAINER
38.	457383C1	\$ WASHER, PLUG
39.	445090	PLUG, CASE 3/8
40.	423428C1	\$ SEAL, SELECTOR SHAFT
41.	423427C1	SHAFT, MANUAL SELECTOR
42.	444612	PLUG, CASE 1/8
43.	469047C1	PIPE, SIGNAL
44.	190531H1	\$ GASKET, PTO COVER
45.	924547C1	COVER, PTO
46.	179837	BOLT, HH 3/8 x 3/4 -6-
	457436C1	\$ KIT, GASKET AND SEAL
	473074C1	KIT, DRAIN PLUG AND WASHER

FIG. 13-002

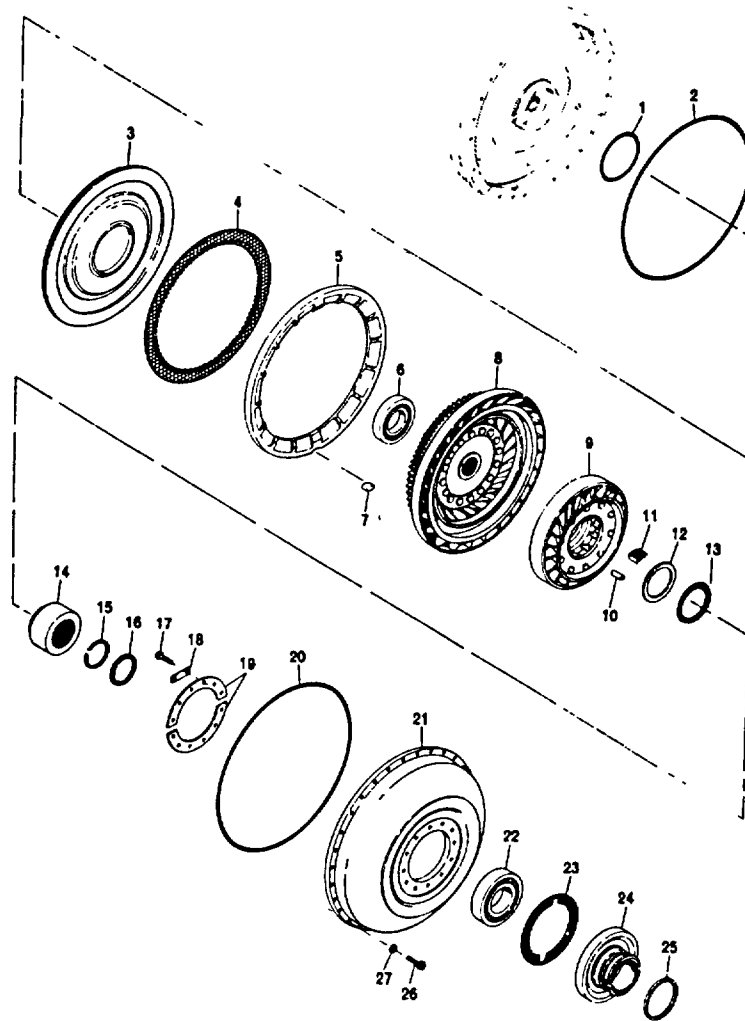
TRANSMISSION FLYWHEEL ASSEMBLY



- | | | |
|----|-----------|-----------------------|
| 1. | 9409058 | BOLT, HH LOCKING -12- |
| 2. | 303109R1 | GEAR, RING FLYWHEEL |
| 3. | 457166C91 | FLYWHEEL, W/RING GEAR |

FIG. 13-003

TRANSMISSION LOCKUP CLUTCH AND TORQUE CONVERTER



- | | | |
|----|----------|------------------------------|
| 1. | 195407H1 | \$ SEAL, CLUTCH PISTON INNER |
| 2. | 195406H1 | \$ SEAL, CLUTCH PISTON OUTER |
| 3. | 927775C1 | PISTON, LOCKUP CLUTCH |
| 4. | 894309C1 | PLATE, LOCKUP CLUTCH |
| 5. | 457167C1 | PLATE, BACKING |
| 6. | 265ST | BEARING |
| 7. | 321874R1 | KEY, BACKING PLATE LOCK |
| 8. | 166247H1 | TURBINE ASM, T/C |
| 9. | 457168C1 | STATOR ASM, T/C |

FIG. 13-003

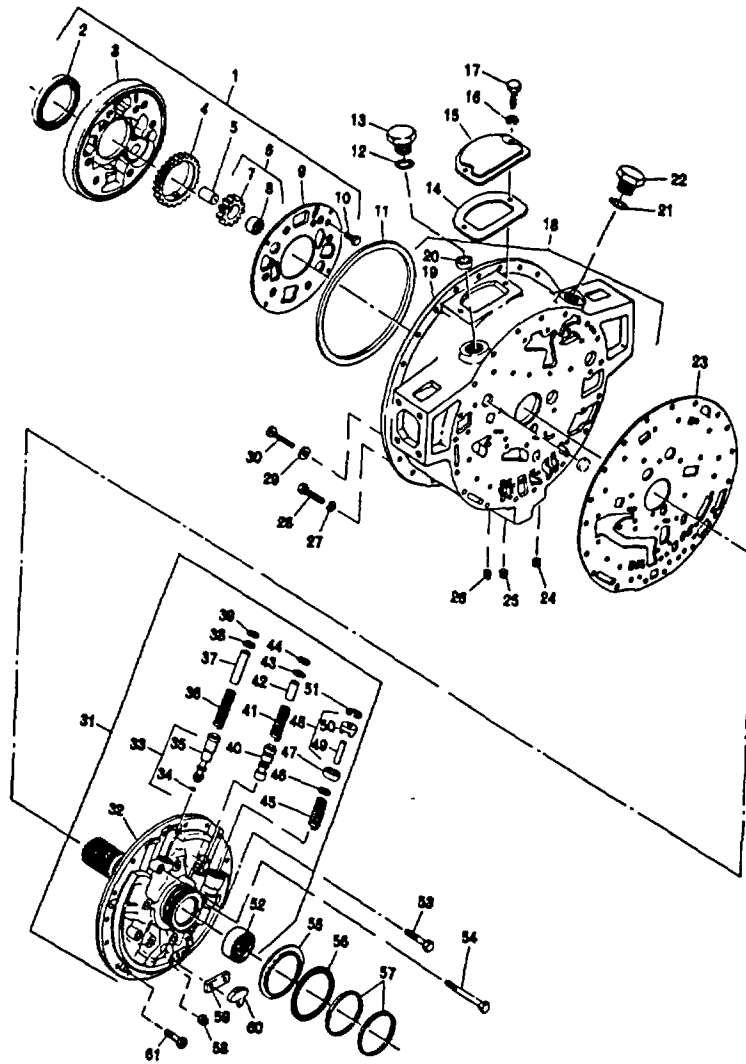
TRANSMISSION LOCKUP CLUTCH AND TORQUE CONVERTER CONT.

10.	195236H1	ROLLER, STATOR FREEWHEEL -10-
11.	259461C1	SPRING, STATOR FREEWHEEL ROLLER -10-
12.	259458C1	RACE BEARING
13.	233031R91	BEARINGS, ROLLER ASM.
14.	195233H1	RACE, STATOR FREEWHEEL ROLLER
15.	163199H1	RING, SNAP
16.	195226H1	SPACER, CONVERTER PUMP
17.	181371	BOLT, HH 3/8 x 1-1/4 -12-
18.	163195H1	\$ STRIP, LOCKING -6-
19.	195229H1	RETAINER, BEARING -2-
20.	924540C1	\$ RING, SEAL
21.	195228H2	PUMP, T/C ASM.
22.	457169C91	BEARING, PUMP T/C
23.	163193H1	\$ GASKET, CONVERTER PUMP HUB
24.	457170C1	HUB, CONVERTER PUMP
25.	195230H1	\$ SEAL, HUB
26.	9409037	BOLT, HH 3/8 x 1-1/4 -30-
27.	615389C1	WASHER, SPECIAL -30-

457436C1 \$ KIT, GASKETS AND SEALS

FIG. 13-004

TRANS. OIL PUMP, CONVERTER HSG, FORWARD SUPT. & MAIN REG. VALVE



- | | | |
|----|-----------|-------------------------|
| 1. | 457171C91 | PUMP, OIL ASM. |
| 2. | 343774C91 | SEAL, OIL |
| 3. | | NOT SERVICED SEPARATELY |
| 4. | | NOT SERVICED SEPARATELY |
| 5. | | NOT SERVICED SEPARATELY |
| 6. | | NOT SERVICED SEPARATELY |
| 7. | | NOT SERVICED SEPARATELY |
| 8. | 613935C91 | BEARING, ROLLER ASM. |
| 9. | | NOT SERVICED SEPARATELY |

TRANS. OIL PUMP, CONVERTER HSG, FORWARD SUPT. & MAIN REG. VALVE CONTINUED

10.	113989	BOLT, FLAT HD. 1/4 x 5/8
11.	195309H1	\$ RING, SEAL
12.		NOT USED
13.		NOT USED
14.	175148H1	\$ GASKET, CONVERTER ACCESS COVER
15.	258614C1	COVER, CONVERTER ACCESS
16.	103321	WASHER, LOCK 3/8 -2-
17.	179838	BOLT, HH 3/8 x 7/8 -2-
18.	473032C1	HOUSING, CONVERTER ASM.
19.		NOT SERVICED SEPARATELY
20.	615549C1	PLUS, ORIFICE
21.		NOT USED
22.		NOT USED
23.	457173C1	\$ GASKET, CONVERTER HSG.
24.	444612	PLUG, 1/8 PIPE
25.	444612	PLUG
26.	444612	PLUG
27.	103323	WASHER, LOCK 1/2 -7-
28.	179889	BOLT, HH 1/2 x 2 -7-
29.	457174C01	WASHER, FLAT -2-
30.	457445C01	BOLT, FIL. HD -2-
31.	457175C91	SUPPORT & VALVE ASM, FRONT
32.		NOT SERVICED SEPARATELY
33.	457176C91	VALVE, MAIN PRESSURE REG., ASM.
34.		NOT SERVICED SEPARATELY
35.		NOT SERVICED SEPARATELY
36.	457177C1	SPRING, VALVE
37.	457178C1	STOP, VALVE
38.	457179C1	WASHER, VALVE STOP
39.	279482R1	RING, SNAP
40.	45718001	VALVE, LOCKUP SHIFT
41.	457181C1	SPRING, VALVE
42.	457182C1	STOP, VALVE
43.	457183C1	WASHER, VALVE STOP
44.	457446C1	RING, SNAP INTERNAL
45.	303233R1	SPRING, VALVE
46.	457184C1	VALVE, CONVERTER BY PASS
47.	457185C1	SEAT, VALVE
48.	457186C1	SUPPORT, VALVE ASM.
49.		NOT SERVICED SEPARATELY
50.		NOT SERVICED SEPARATELY
51.	457447C1	RING, SNAP
52.	676871R91	BEARING, ROLLER ASM.
53.	21318R1	BOLT, HH 3/8 x 2-1/2 -3-
54.	186285	BOLT, HH 3/8 x 4 -6-
55.	457187C01	RACE, BEARING
56.	233053R91	BEARING, ROLLER ASM.

FIG. 13 - 04

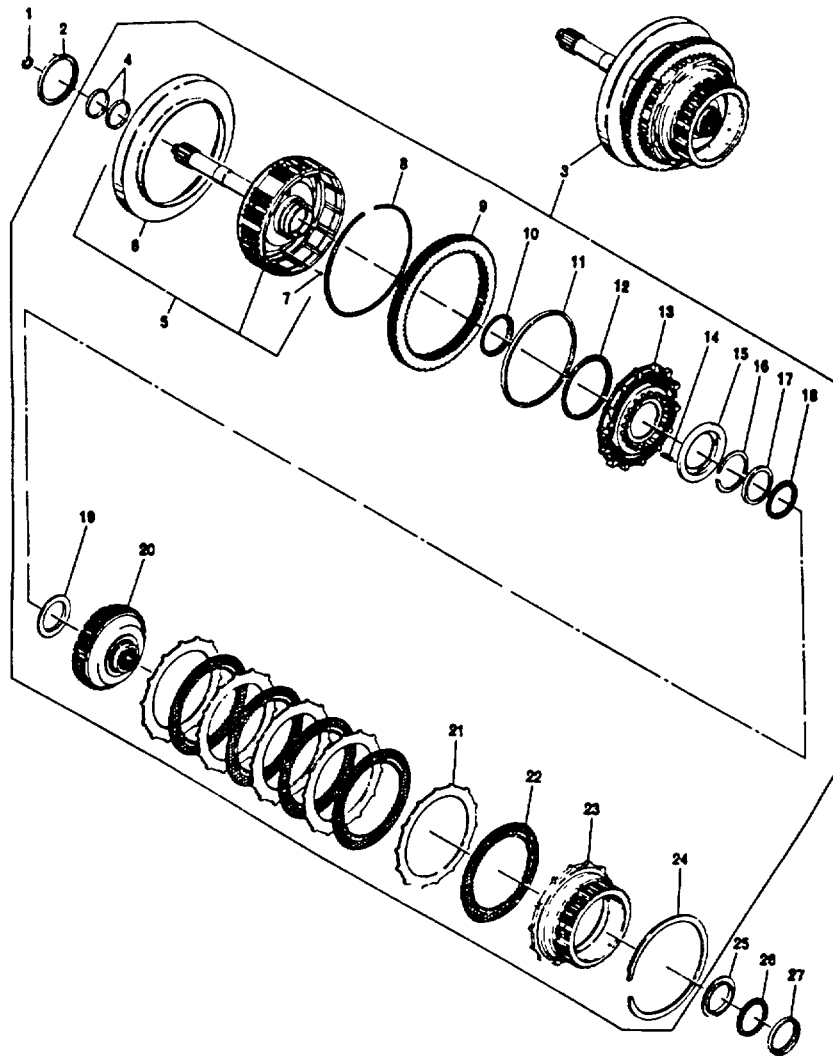
TRANS. OIL PUMP, CDNVERTER HSG. FORWARD SUPT. & REG. VALVE CONTINUED

57.	457188C1	RING, OIL A/T CLUTCH -2-
58.		NOT USED
59.		NOT USED
60.	457189C1	CAM, PITOT
61.	9409231	BOLT, HH LOCKING, 3/8 x 1-1/2 -16-

457436C1 \$ KIT, GASKET AND SEAL

FIG. 13-005

TRANSMISSION INPUT SHAFT AND FORWARD CLUTCH



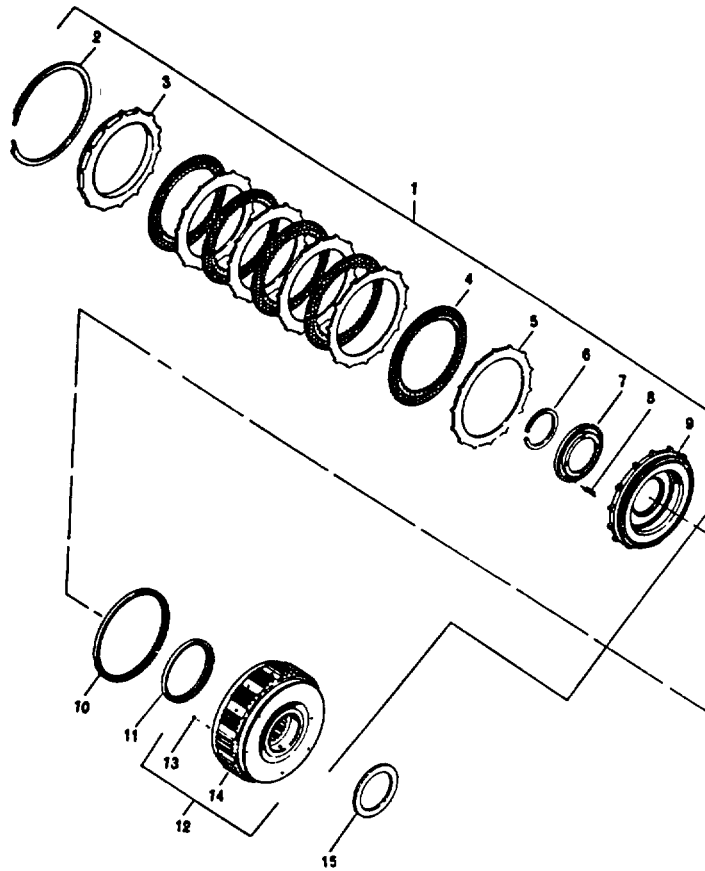
- | | | |
|----|-----------|-----------------------------------|
| 1. | 897253R2 | \$ RING, SEAL |
| 2. | 457190C1 | RACE, BEARING |
| 3. | | NOT SERVICED SEPARATELY |
| 4. | 457191C01 | \$ RING, SEAL A/T CLUTCH HSG. -2- |
| 5. | 457192C91 | HOUSING & INPUT SHAFT, FRONT |
| 6. | 457193C1 | RING, PITOT COLLECTOR |
| 7. | 16006R1 | BALL, 3/16 -4- |
| 8. | 457448C1 | RING, SNAP |
| 9. | 457194C1 | GEAR, PTO |

TRANS. INPUT SHAFT AND FORWARD CLUTCH CONTINUED

10.	423356C1	\$ RING, SEAL -INNER PISTON-
11.	423317C1	\$ RING, SEAL -OUTER PISTON-
12.	42322801	\$ RING, SEAL -CLUTCH HSG-
13.	457195C1	PISTON, FWD CLUTCH 1.110 - 1.120 THICK)
	457196C1	PISTON, FWD CLUTCH 1.137 - 1.147 THICK)
	457197C1	PISTON, FWD CLUTCH 1.164 - 1.174 THICK)
14.	457198C1	SPRING, FWD. CLUTCH RELEASE -20-
15.	423352C01	RETAINER, SPRING
16.	423351C1	RING, SNAP
17.	457199C1	RACE, BEARING
18.	457200C91	BEARING, ROLLER ASM.
19.	457201C1	RACE, BEARING
20.	457202C1	HUB, FORWARD CLUTCH
21.	457203C1	PLATE, FWD CLUTCH, EST. -5-
22.	423307C01	PLATE, FWD. CLUTCH INT. -5-
23.	457204C1	HUB, FOURTH CLUTCH DRIVING
24.	457449C1	RING, SNAP
25.	457201C1	RACE, BEARING
26.	457200C91	BEARING, ROLLER ASM.
27.	457199C1	RACE, BEARING
	45743601	\$ KIT, GASKET AND SEAL

FIG. 13-006

TRANSMISSION FOURTH CLUTCH



- | | | |
|----|-----------|---|
| 1. | | NOT SERVICED SEPARATELY |
| 2. | 457449C1 | RING, SNAP |
| 3. | 457205C1 | PLATE, FOURTH CLUTCH BACKING |
| 4. | 423307C01 | PLATE, FOURTH CLUTCH INT. -5- |
| 5. | 457203C1 | PLATE, FOURTH CLUTCH EXT. -5- |
| 6. | 423351C1 | RING, SNAP |
| 7. | 423352C1 | RETAINER, SPRING |
| 8. | 457198C01 | SPRING, FOURTH CLUTCH RELEASE -20- |
| 9. | 457195C1 | PISTON, FOURTH CLUTCH (1.110-1.120 THICK) |
| | 457196C1 | PISTON, FOURTH CLUTCH 1.137-1.147 THICK) |
| | 457197C1 | PISTON, FOURTH CLUTCH 1.164-1.174 THICK) |

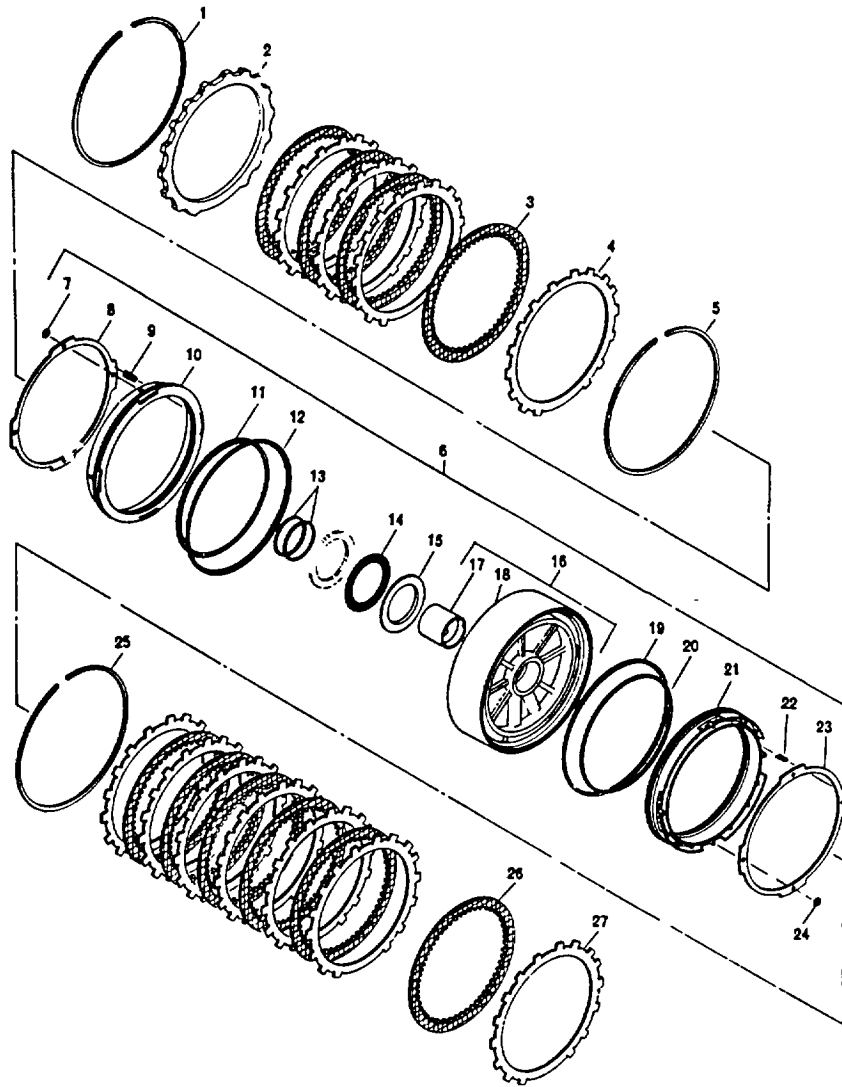
FIG. 13 - 06

TRANSMISSION FOLRTH CLUTCH (DNTINUED

10.	423317C1	\$ RING, SEAL EXTERNAL
11.	423288C1	\$ RING SEAL INTERNAL
12.	457206C1	HOUSING ASM, FOURTH CLUTCH
13.	16006R1	BALL, 3/16
14.		NOT SERVICED SERARATELY
15.	457190CI	RACE, THRUST BEARING
	457436C1	\$ KIT, GASKET AND SEAL

FIG. 13-007

TRANS. THIRD CLUTCH, CENTER SUPT. & SECOND CLUTCH



- | | | |
|----|----------|--|
| 1. | 457450C1 | RING, SNAP -INT- (.155-.157 THICK-GREEN) |
| 2. | 457255C1 | PLATE, BACKING THIRD CLUTCH |
| 3. | 473037C1 | PLATE, THIRD CLUTCH INT. -4- |
| 4. | 457257C1 | PLATE, THIRD CLUTCH (.0955-.1025) -AR- |
| | 457258C1 | PLATE, THIRD CLUTCH (.1161-.1231) -AR- |
| 5. | | RING, SNAP INTERNAL -AR- |
| | 457450C1 | .155-.157 THICK -GREEN- |
| | 457451C1 | .148-.150 THICK -BLUE- |
| | 457452C1 | .152-.154 THICK -YELLOW- |
| | 457453C1 | .158-.160 THICK -RED- |
| 6. | | NOT SERVICED SEPARATELY |
| 7. | 423312C2 | \$ RETAINER, T-TYPE -4- |

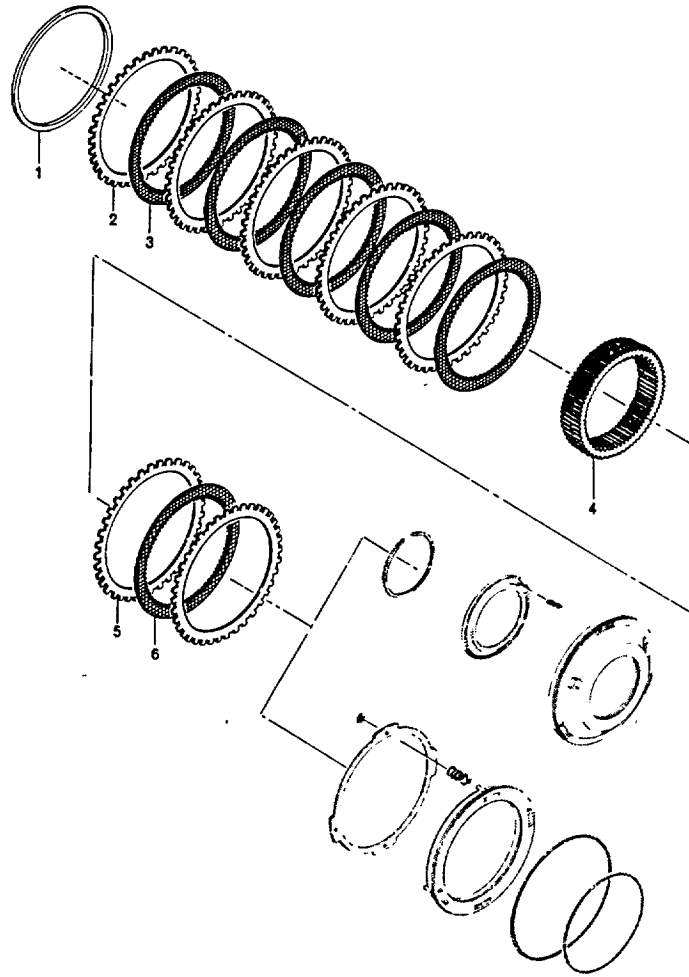
FIG. 13 - 07

TRANS. THIRD CLUTCH, CENTER SUPT. & SECOND CLUTCH CONTINUED

8.	457259C1	RING, SPRING RETAINER
9.	423314C1	SPRING, THIRD CLUTCH PISTON RELEASE -20-
10.	457260C1	PISTON, THIRI CLUTCH
11.	457261C1	\$ SEAL, INT. LIP-TYPE
12.	457262C1	\$ SEAL, EXT. LIP-TYPE
13.	457188C1	\$ RING, SEAL A/T CLUTCH -2-
14.	233053R91	BEARING, ROLLER ASM.
15.	457187C1	RACE, THRUST BEARING
16.	457328C1	SUPPORT, CENTER HSG ASM.
17.		NOT SERVICED SEPARATELY
13.		NOT SERVICED SEPARATELY
19.	457262C1	\$ SEAL, EXT. LIP-TYPE
20.	457261C1	\$ SEAL, INT. LIP-TYPE
21.	457260C1	PISTON, SECOND CLUTCH
22.	423314C1	SPRING, SECOND CLUTCH PISTON RETURN -20-
23.	457259C1	RETAINER, SPRING
24.	423312C1	\$ RING, RETAINING, EXT T-TYPE SELF LOCKING -4-
25.	457450C1	RING, SNAP INT. (.155-.157 THICK) -GREEN-
26.	473037C1	PLATE, SECOND CLUTCH, INTERNAL -6-
27.	457257C1	PLATE, SECOND CLUTCH, EXT. (.0955-.1025 THICK)-AR-
	457258C1	PLATE, SECOND CLUTCH, EXT. (.1161-.1231 THICK)-AR-
	457436C1	\$ KIT, GASKET AND SEALS

FIG. 13-008

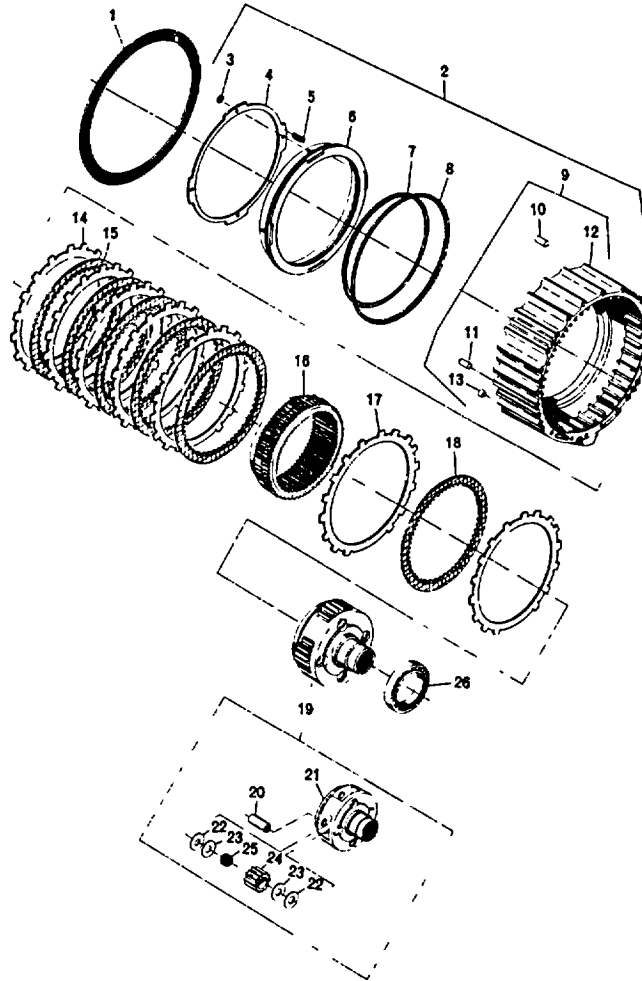
TRANSMISSION FIRST AND REVERSE CLUTCH



- | | |
|----|---|
| 1. | NOT USED |
| 2. | PLATE, FIRST CLUTCH OR FIRST AND REVERSE
CLUTCH EXTERNAL TANGED -AR- |
| | 457385C1 .0955 - .1025 THICK |
| | 457386C1 .1161 - .1231 THICK |
| 3. | PLATE, FIRST CLUTCH OR FIRST AND REVERSE
CLUTCH INTERNAL SPLINE |
| 4. | GEAR, RING, REAR PLANETARY |
| 5. | SEE REF NO. 2 |
| 6. | PLATE, FIRST CLUTCH OR FIRST AND REVERSE
CLUTCH |

FIG. 13-009

TRANS. ADAPTER HSG. LOW CLUTCH OR LOW & REVERSE CLUTCH



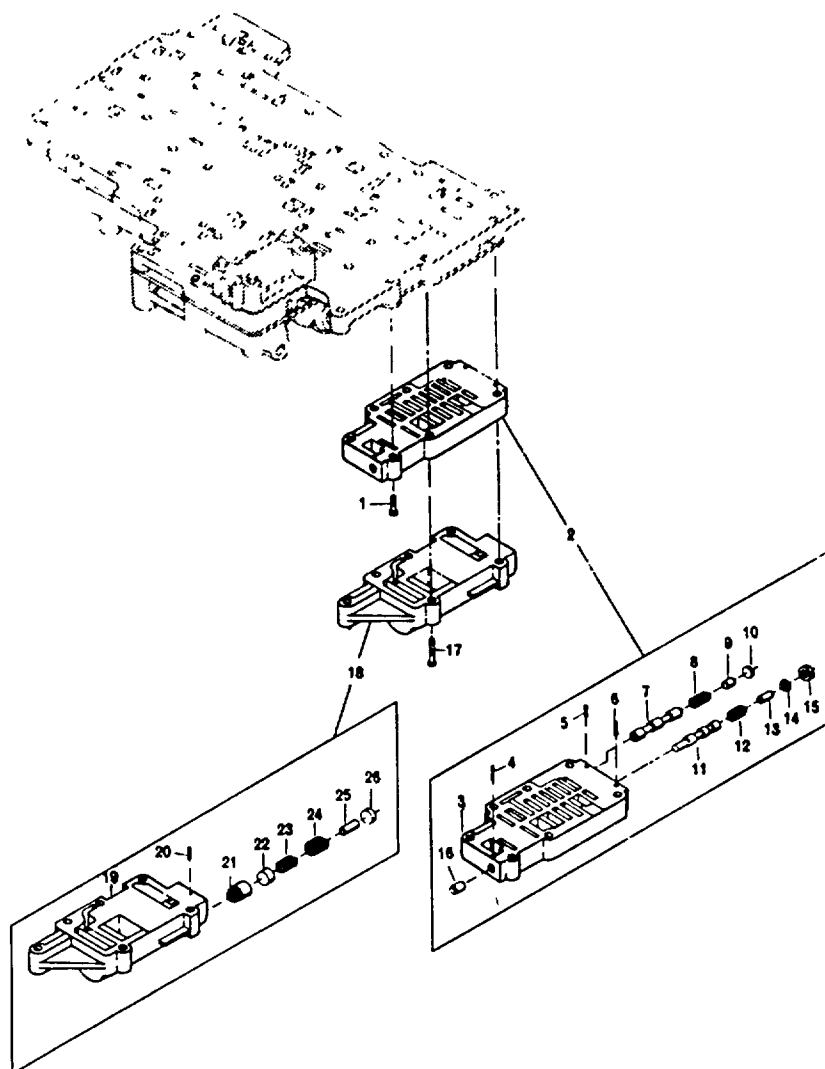
- | | | |
|-----|-----------|----------------------------------|
| 1. | 457374C1 | \$ GASKET, ADAPTOR HOUSING |
| 2. | | USE COMPONENTS |
| 3. | 423312C2 | RING, RETAINING SELF LOCKING -4- |
| 4. | 457375C1 | RETAINER, SPRING |
| 5. | 423314C1 | SPRING, PISTON RETURN -28- |
| 6. | 457376C1 | PISTCN, FIRST CLUTCH |
| 7. | 457377C1 | \$ SEAL, EXTERNAL |
| 8. | 457261C1 | SEAL, INTERNAL |
| 9. | 457379C91 | HOUSING, ADAPTER W/ PINS |
| 10. | 141240 | PIN, DOWEL |
| 11. | 141260 | PIN, DOWEL 7/16 x 3/4 |
| 12. | | NOT SERVICED SEPARATELY |

TRANS. ADAPTER HSG. LOW CLUTCH OR LOW & REVERSE CLUTCH CONTINUED

13.		NOT SERVICED SEPARATELY
14.		PLATE, LOW AND REVERSE CLUTCH EXTERNAL TANGED
	457385C1	.0955 - .1025 THICK -AR-
	457386C1	.1161 - .1231 THICK -AR-
15.	473037C1	PLATE, LOW AND REVERSE CLUTCH INTERNAL -5-
16.	457380C1	GEAR, LOW RING PLANETARY
17.		PLATE, LOW AND REVERSE CLUTCH EXTERNAL TANGED
	457385C1	.0955 - .1025 THICK -AR-
	457386C1	.1161 - .1231 THICK -AR-
18.	473037C1	PLATE, LOW AND REVERSE CLUTCH INTERNAL SPLINE
19.	458743C91	CARRIER, LOW PLANETARY, ASSY.
20.	457357C1	PIN, LOW PLANETARY PINION -4-
21.		NOT SERVICED SEPARATELY
22.	457343C1	WASHER, PINION THRUST
23.	457344C1	WASHER, PINION THRUST
24.	457358C1	PINION, LOW PLANETARY -SET OF 4-
25.	457359C91	BEARING, NEEDLE ROLLER -4-
26.	457437C91	BEARING, SINGLE ROW BALL
	457436C1	\$ KIT, GASKET AND SEALS

FIG. 13-010

TRANS. LOW SHIFT & LOW TRIMMER VALVE ASM.



- | | | |
|-----|-----------|-------------------------|
| 1. | 897411R1 | BOLT, HH 1/4NC x 2-3/4 |
| 2. | 457429C91 | VALVE ASM., LOW SHIFT |
| 3. | | NOT SERVICED SEPARATELY |
| 4. | | NOT USED |
| 5. | 321767R1 | PIN, LOW SHIFT VALVE |
| 6. | 615565C1 | PIN, LOW SHIFT VALVE |
| 7. | 446139C1 | VALVE, RELAY |
| 8. | 897375R1 | SPRING, RELAY |
| 9. | 443770 | STOP, RELAY VALVE |
| 10. | 447024C1 | PLUG, RELAY VALVE |

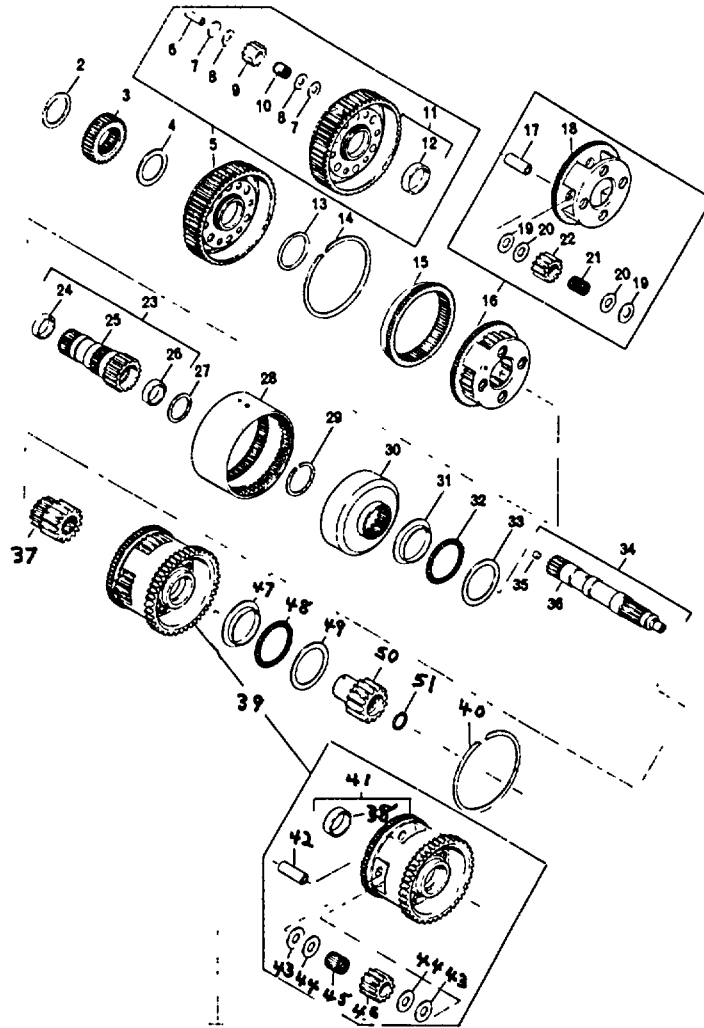
FIG. 13 - 10

TRANS. LOW SHIFT & LOW TRIMMER VALVE ASM. CONTINUED

11.	457430C1	VALVE, LOW SHIFT SIGNAL
12.	457431C1	SPRING, LOW SHIFT SIGNAL
13.	423370C2	STOP, LOW SHIFT SIGNAL
14.	423371C1	WASHER
15.	423369C1	RING, SPRING, ADJUSTING
16.	457432C1	PLUG, VALVE
17.	26289R1	BOLT, HH 1/4 NC x 4 -6-
18.	457433C91	VALVE ASM. LOW TRIM
19.		NOT SERVICED SEPARATELY
20.	457459C01	PIN, SPRING
21.	457412C1	VALVE, LOCI TRIMMER
22.	423375C1	PLUG, LOW TRIMMER
23.	457343C1	SPRING, LOW TRIM PRIMARY
24.	447102C1	SPRING, LOW TRIM SECONDARY
25.	447100C1	STOP, LOW TRIM VALVE
26.	457435C1	PLUG, LOW TRIM VALVE

FIG. 13-011

TRANSMISSION GEAR UNIT AND MAIN SHAFT



- | | | |
|-----|-----------|--------------------------------|
| 1. | | NOT SERVICED SEPARATELY |
| 2. | 457329C1 | WASHER, THRUST |
| 3. | 457330C1 | GEAR, FRONT SUN |
| 4. | 457331C1 | WASHER, THRUST |
| 5. | 457332C91 | CARRIER, FRT PLANET ASM. |
| 6. | 457333C1 | PIN, FRT. PLANETARY PINION -6- |
| 7. | 457334C1 | WASHER, THRUST PINION -12- |
| 8. | 457335C1 | WASHER, THRUST PINION -12- |
| 9. | 457336C1 | GEAR, SET PLANETARY FRONT |
| 10. | 457337C1 | BEARING, NEEDLE ROLLER -6- |

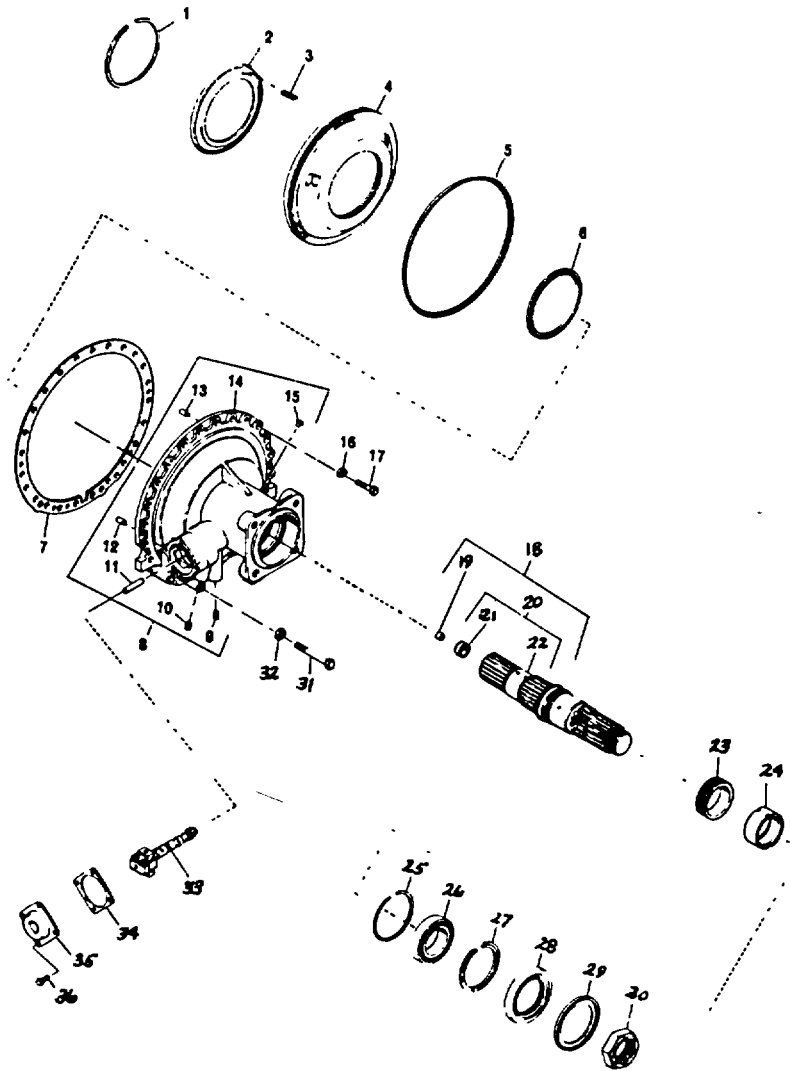
FIG. 13 - 11

TRANSMISSION GEAR UNIT AND MAIN SHAFT CONTINUED

11.		NOT SERVICED SEPARATELY
12.	457338C1	BUSHING, SLEEVE
13.	457339C1	WASHER, THRUST
14.	457454C1	RING, SNAP INT.
15.	457340C1	GEAR, RING, FRONT PLANETARY
16.	457341C91	CARRIER, CENTER PLANETARY ASM.
17.	457342C1	PIN, CTR. PLANET PINION -4-
18.		NOT SERVICED SEPARATELY
19.	457343C1	WASHER, THRUST PINION -8-
20.	457344C1	WASHER, THRUST PINION -8-
21.	457346C91	BEARING, NEEDLE ROLLER -8-
22.	457345C1	GEAR, SET CENTER PLANETARY
23.	457347C1	SHAFT, A/T SUN GEAR ASM.
24.		NOT SERVICED SEPARATELY
25.		NOT SERVICED SEPARATELY
26.		NOT SERVICED SEPARATELY
27.	457348C1	WASHER, THRUST
28.	457349C1	DRUM, PLANETARY CONNECTING
29.	457455C1	RING, SNAP EXT.
30.	457350C1	GEAR, RING CENTER PLANETARY
31.	457351C1	RACE, BRG. THRUST
32.	457352C91	BEARING, ROLLER ASM.
33.	457353C1	RACE, BEARING
34.	457354C91	SHAFT, MAIN ASM.
35.	147334H1	PLUG LUBE ORIFICE
36.		NOT SERVICED SEPARATELY
37.	457355C1	GEAR, SUN PLANETARY
38.	457338C1	BUSHING, CARRIER
39.	457356C91	CARRIER, REAR PLANETARY ASM.
40.	457454C1	RING, SNAP INTERNAL
41.		NOT SERVICED SEPARATELY
42.	457357C1	PIN, RR PLANETARY PINION -4-
43.	457343C1	WASHER, THRUST PINION -8-
44.	457344C1	WASHER, THRUST PINION -8-
45.	457359C91	BEARING, NEEDLE ROLLER -4-
46.	457358C1	PINION SET, RR PLANETARY -SET OF 4-
47.	457351C1	RACE, THRUST BEARING
48.	457352C1	BEARING, ROLLER, ASSY
49.	457353C1	RACE, THRUST BEARING
50.	457360C1	GEAR, SUN LOW PLANET
51.	457456C1	RING, SNAP EXTERNAL

FIG. 13-012

TRANS. OUTPUT SHAFT & REAR COVER ASM.



- | | | |
|-----|-----------|--------------------------------|
| 1. | 457457C1 | RING, SNAP INT. |
| 2. | 457263C1 | RETAINER, CLUTCH SPRING |
| 3. | 457198C1 | SPRING, PISTON RELEASE -30- |
| 4. | 457398C1 | PISTON, FIRST & REVERSE CLUTCH |
| 5. | 457262C1 | \$ SEAL, CLUTCH PISTON |
| 6. | 457399C1 | \$ SEAL, CLUTCH PISTON |
| 7. | 457374C1 | \$ GASKET, OUTPUT HSG. |
| 8. | 457401C91 | HOUSING, OUTPUT |
| 9. | 444687 | PLUG, 1/8 PIPE |
| 10. | 444687 | PLUG, 1/8 PIPE |

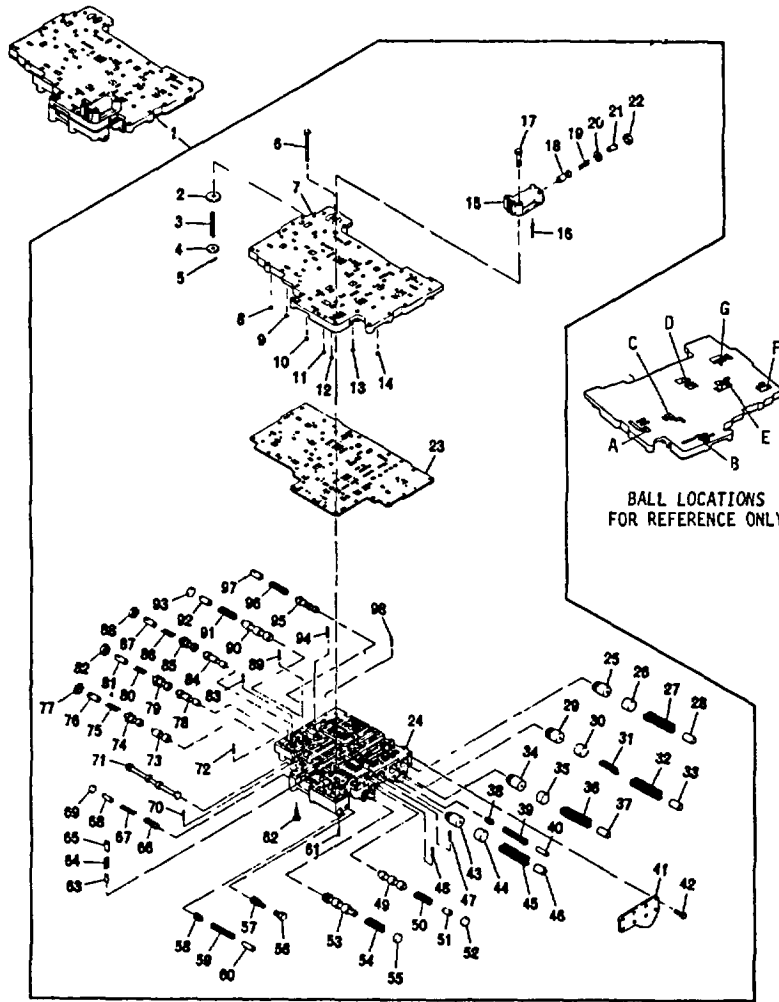
FIG. 13 - 12

TRANS. OUTPUT SHAFT & REAR COVER ASM. CONTINUED

11.	141231	PIN, GOVERNOR SUPT.
12.	141240	PIN, DOWEL
13.	141260	PIN, DOWEL 7/16 x 3/4
14.		NOT SERVICED SEPARATELY
15.	457402C1	BUSHING, SPEEDO, GEAR
16.	103323	WASHER, LOCK 1/2 -21-
17.	215722	BOLT, HH 1/2 x 2 -21-
18.	457403C91	SHAFT, ASM. OUTPUT
19.	446140C1	PLUG, ORIFICE
20.		NOT SERVICED SEPARATELY
21.	457404C1	BUSHING, OUTPUT SHAFT
22.		NOT SERVICED SEPARATELY
23.	457405C1	GEAR, SPEEDO DRIVE
24.	457406C1	SPACER, SPEEDO GEAR
25.	897435R1	RING, SNAP INT.
26.	974196R91	BEARING, BALL
27.	446143C1	RING, SNAP INT.
28.	338878R91	\$ SEAL, OIL
29.	302194R1	BAFFLE, DUST
30.	195362H1	NUT, HEX LOCKING
31.	187364	BOLT, HH 1/2 x 3-1/4 -3-
32.	103323	WASHER, LOCK 1i2 -3-
33.	457407C1	GOVERNOR, ASM.
34.	423361C1	\$ GASKET, GOVERNOR COVER
35.	423362C1	COVER, GOVERNOR
36.	179813	BOLT, HH 5/16 x 9/16 -4-
	457436C1	\$ KIT, GASKET AND SEAL

FIG. 13-013

TRANS. CONTROL VALVE ASSEMBLY



- | | | |
|-----|-----------|---------------------------|
| 1. | 457408C91 | VALVE, W/GOVERNOR CONTROL |
| 2. | 457409C1 | VALVE, LUBRICATION |
| 3. | 457410C1 | SPRING, LUBRICATION VALVE |
| 4. | 457411C1 | WASHER, SPRING CUP |
| 5. | 141114 | PIN, DOWEL |
| 6. | 457441C1 | PIN, CHECK VALVE |
| 7. | | NOT SERVICED SEPARATELY |
| 8. | 457458C1 | BALL, 1/4 -5- |
| 9, | | SEE REF #8 |
| 10. | | SEE REF. #8 |
| 11. | | SEE REF. #8 |

TRANS. CONTROL VALVE ASSEMBLY CONTINUED

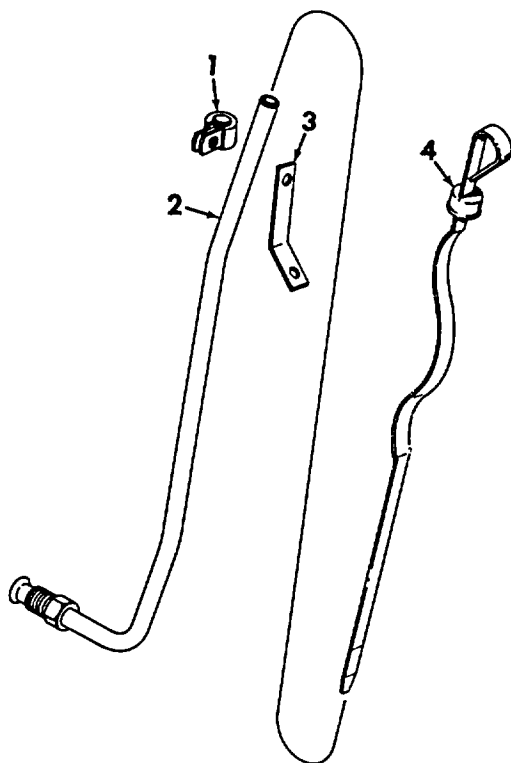
12.		SEE REF #8
13.		NOT USED
14.		NOT USED
15.		NOT SERVICED SEPARATELY
16.	423368C1	PIN, RETAINER
17.	25881R1	BOLT, HEX-HD 1/4 NC x 2-1/2 -3-
18.	423373C1	VALVE, MODULATOR
19.	423372C1	SPRING, MODULATOR VALVE
20.	423371C1	WASHER, RETAINING
21.	423370C1	STOP, VALVE
22.	423369C1	RING, SPRING ADJUSTING
23.		NOT SERVICED SEPARATELY
24.		NOT SERVICED SEPARATELY
25.	457412C1	VALVE, THIRD CLUTCH TRIMMER
26.	423375C1	PLUG, TRIMMER
27.	447101C1	SPRING, TRIMMER VALVE
28.	423377C1	STOP, THIRD CLUTCH TRIMMER VALVE
29.	457412C1	VALVE, FIRST AND REVERSE CLUTCH TRIMMER
30.	423375C1	PLUG, TRIMMER
31.	447102C1	SPRING, TRIMMER VALVE SECONDARY
32.	457413C1	SPRING, TRIMMER VALVE PRIMARY
33.	423377C1	STOP, FIRST CLUTCH TRIMMER VALVE
34.	457412C1	VALVE, SECOND CLUTCH TRIMMER VALVE
35.	423375C1	PLUG, TRIMMER
36.	447101C1	SPRING, TRIMMER VALVE
37.	423377C1	STOP, SECOND CLUTCH TRIMMER
38.	457414C1	VALVE, ACCUMULATOR TRIM BOOST
39.	457415C1	SPRING, ACCUMULATOR VALVE
40.	458932C1	STOP, TRIMMER BOOST ACCUMULATOR VALVE
41.		NOT USED
42.		NOT USED
43.	457412C1	VALVE, FOURTH CLUTCH TRIMMER
44.	423375C1	PLUG, TRIMMER
45.	423378C1	SPRING, FOURTH CLUTCH TRIMMER VALVE
46.	423377C1	STOP, FOURTH CLUTCH TRIMMER VALVE
47.	262207C1	PIN, RETAINING -2-
48.		SEE REF #47
49.	423381C1	VALVE, SECOND & THIRD RELAY
50.	423382C1	SPRING, RELAY VALVE
51.	423383C1	STOP, SECOND & THIRD RELAY VALVE
52.	423384C1	SPACER, RELAY VALVE SPRING
53.	423385C1	VALVE, FIRST AND SECOND RELAY
54.	423382C1	SPRING, RELAY VALVE
55.	423386C1	SPACER, FIRST AND SECOND RELAY VALVE
56.	444612	PLUG, 1/8
57.	423417C1	SCREEN, GOVERNOR ASSY.
58.	457414C1	VALVE, ACCUMULATOR
59.	457416C1	SPRING, ACCUMULATOR VALVE
60.	457417C1	STOP, ACCUMULATOR VALVE
61.	17084R1	PIN, 1/8 x 1/4 SLOTTED
62.	457428C1	BOLT, BODY

TRANS. CONTROL VALVE ASSEMBLY CONTINUED

63.	445018C1	STOP, PRIORITY VALVE
64.	423387C1	SPRING, PRIORITY VALVE
65.	423388C1	VALVE, PRIORITY
66.	423389C1	VALVE, HOLD REGULATOR
67.	457418C1	SPRING, HOLD REGULATOR
68.	423392C1	STOP, HOLD REGULATOR
69.	423393C1	PLUG, HOLD REGULATOR VALVE
70.	423394C1	PIN, RETAINER
71.	457419C1	VALVE, MANUAL SELECTOR
72.	423368C1	PIN, RETAINING
73.	457420C1	VALVE, FIRST AND SECOND SHIFT
74.	457421C1	VALVE, FIRST & SECOND MODULATOR
75.	457422C1	SPRING, FIRST AND SECOND SHIFT VALVE
76.	423400C1	STOP, FIRST AND SECOND SHIFT VALVE
77.	423369C1	RING, SPRING ADJUSTING
78.	457423C1	VALVE, SECOND AND THIRD SHIFT
79.	457424C1	VALVE, SECOND AND THIRD MODULATOR
80.	457425C1	SPRING, SECOND AND THIRD SHIFT VALVE
81.	423400C1	STOP, SECOND AND THIRD SHIFT VALVE
82.	423369C1	RING, SPRING ADJUSTING
83.	423368C1	PIN, RETAINING
84.	457426C1	VALVE, THIRD AND FOURTH SHIFT
85.	457427C1	VALVE, THIRD AND FOURTH MODULATOR
86.	445256C1	SPRING, THIR D AND FOURTH SHIFT VALVE
87.	423400C1	STOP, THIRD AND FOURTH SHIFT VALVE
88.	423369C1	RING, SPRING ADJUSTING
89.	423368C1	PIN, RETAINING
90.	423381C1	VALVE, THIRD AND FOURTH RELAY
91.	423382C1	SPRING, RELAY VALVE
92.	423383C1	STOP, THIRD AND FOURTH RELAY VALVE
93.	423384C1	SPACER, VALVE SPRING
94.	262207C1	PIN, RETAINING
95.	423406C1	VALVE, TRIMMER REGULATOR
96.	457378C1	SPRING, TRIMMER REGULATOR VALVE
97.	423320C1	STOP, TRIMMER REGULATOR VALVE
98.	423368C1	PIN, RETAINER

FIG. 13-014

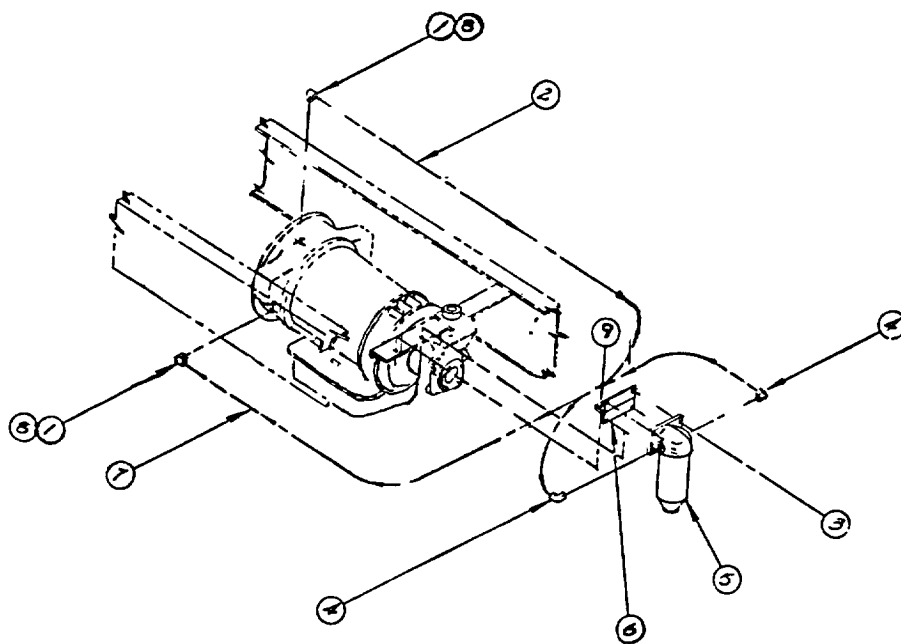
TRANS. OIL LEVEL GAUGE AND FILLER PIPE



- | | | |
|----|----------------------------|---|
| 1. | 179150
181063
118613 | CLAMP, OIL FILLER TUBE
BOLT, HEX-HD 1/4NC x 3/4
NUT, HEX. 1/4NC |
| 2. | 452888C2 | TUBE, OIL FILLER |
| 3. | | BRACKET, MAKE LOCALLY - |
| 4. | 452886C2 | GAUGE, OIL LEVEL, ASSY. |

FIG. 13-015

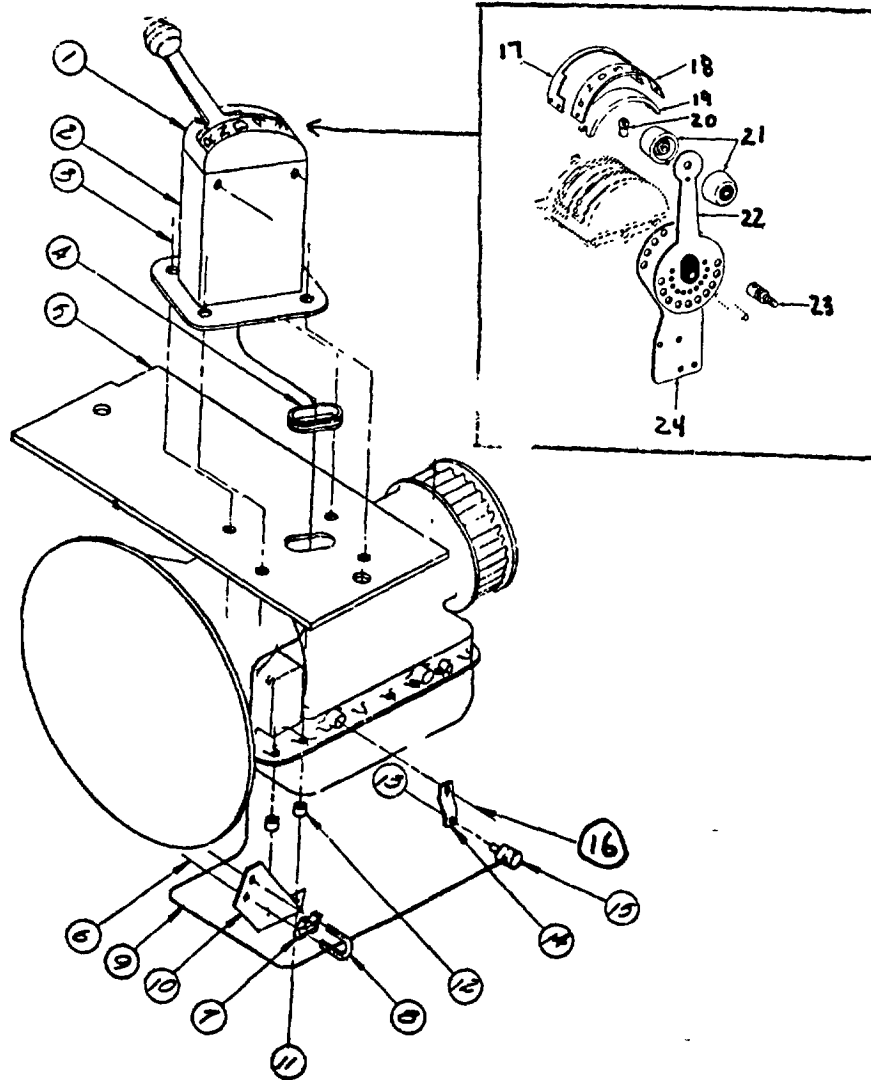
TRANS. OIL FILTER AND MOUNTING



- | | | |
|----|------------|-----------------------------------|
| 1. | 9410981 | ELBOW, 90 DEGREE -2- |
| 2. | A160620000 | HOSE, ASSY. |
| 3. | 140483H | BOLT, HEX HD 3/8-16NC x 1 1/4 -4- |
| | 25552R1 | NUT, HEX 3/8-16NC -4- |
| 4. | 472573R1 | ELBOW, 90 DEGREE -2- |
| 5. | 256510C91 | FILTER, OIL ASSY |
| 6. | 330153C1 | ANGLE, OIL FILTER ASSY MTG |
| 7. | A160370000 | HOSE, ASSY |
| 8. | 296247R1 | O-RING -2- |
| 9. | 181065 | BOLT, HEX-HD 1/4NC X 1 -4- |
| | 120380 | WASHER, LOCK 1/4 MED -4- |
| | 118613 | NUT, HEX 1/4 NC-4- |

FIG. 13-016

TRANSMISSION SHIFT CONTROL



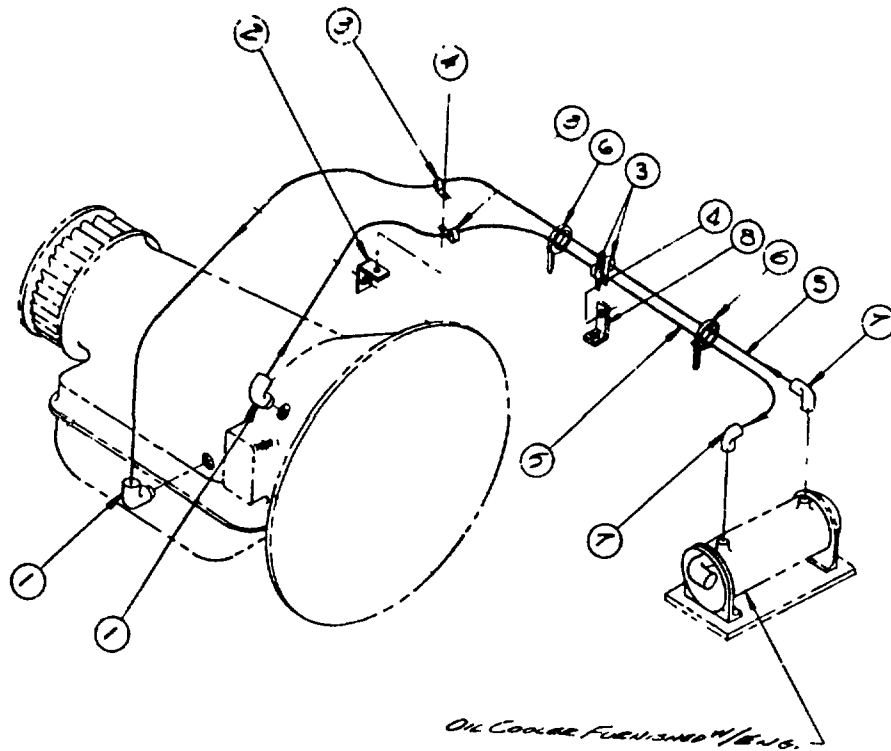
- | | | |
|----|-----------|--|
| 1. | 516234C91 | CONTROL, SHIFT ASSY -INCLUDES REF NO'S
17 THRU 24 |
| 2. | 352311C91 | STAND, CONTROL |
| 3. | 181063 | BOLT, HEX-HD 1/4NC X 3/4 -4- |
| 4. | 381565C1 | GROMMET, AT PLATE |
| 5. | 446210C2 | PLATE, CONTROL HOUSING |
| 6. | 120614 | NUT, HEX. NO. 10-32 -4- |
| | 120217 | WASHER, LOCK NO. 10 -4- |
| | 120391 | WASHER, FLAT 7/32 -4- |
| 7. | 416636C1 | SPACER, CABLE MOUNTING -2- |

TRANSMISSION SHIFT CONTROL CONTINUED

8.	437155C1	U-BOLT, NO. 10-32
9.	364535C91	CABLE, SHIFT CONTROL, ASSY
10.	516236C1	BRACKET, SHIFT CABLE
11.	181092	BOLT, HEX-HD 5/16NC X 1-1/2 -2-
	120214	WASHER, LOCK 5/16 MED -2-
12.		SPACER -M;AKE LOCALLY-
13.	25709R1	WASHER, FLAT 3/8 HARD -3-
	121224	PIN, COTTER 3/32 x 1
14.	516235C1	LEVER, SHIFT CONTROL SWIVEL
15.	413251C1	SWIVEL, CONTROL CABLE -LOWER-
16.	9413979	NUT, LOCK HEX. 3/8 NC
17.	457389C1	GATE, SPEED CHANGE
	23250R1	SCREW, TR-CR-REC-PH NO. 10NC X 5/16 -4-
18.	449914C1	STRIP, POSITION
	23251R1	SCREW, TR-CR-REC- NO. 6-32 x 7/16 -2-
19.	377878C1	LENS, SHIFT INDICATOR LIGHT
20.	131282	LAMP, I CP NO. 53
21.	377875C1	HANDLE, SHIFT CONTROL LEVER
22.	377876C1	LEVER, SHIFT CONTROL
23.	920730C1	PIVOT, SHIFT CONTROL
	54738R1	NUT, STOP 5/16NC
24.	377881C2	PLATE, ADAPTER

FIG. 13-017

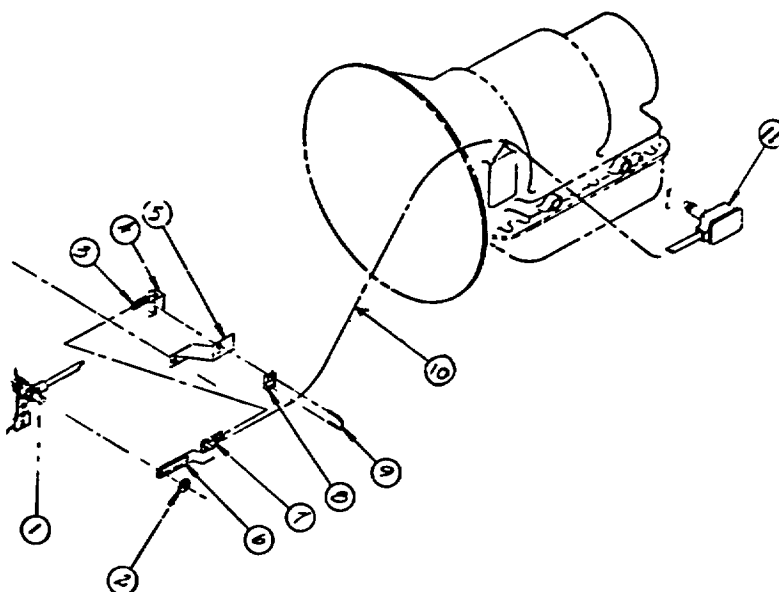
TRANSMISSION OIL COOLER HOISING



1	9410981	2		ELBOW 90 DEG FOR 1 IN TUBE W/1 5/16-12
1	296247R1	2		O RING
2	257177C1	1		EXTENSION,CLIP
3	299268C91	4		CLAMP,RUBBER CUSHIONED
4	181063	2		BOLT,HEX HD 1/4-20NC X 3/4
4	120380	2		LOCKWASHER,1/4 MED
4	118613	2		NUT,HEX REG 1/4-20NC
5	A160960000	2		HOSE ASSY W/REUSABLE FITTINGS
6	289862C1	2		STRAP,LOCK
7	23134R1	2		ELBOW,90 DEG 1NPT X 1 5/16-12
8	300791C1	1		EXTENSION,CLIP

FIG. 13-018

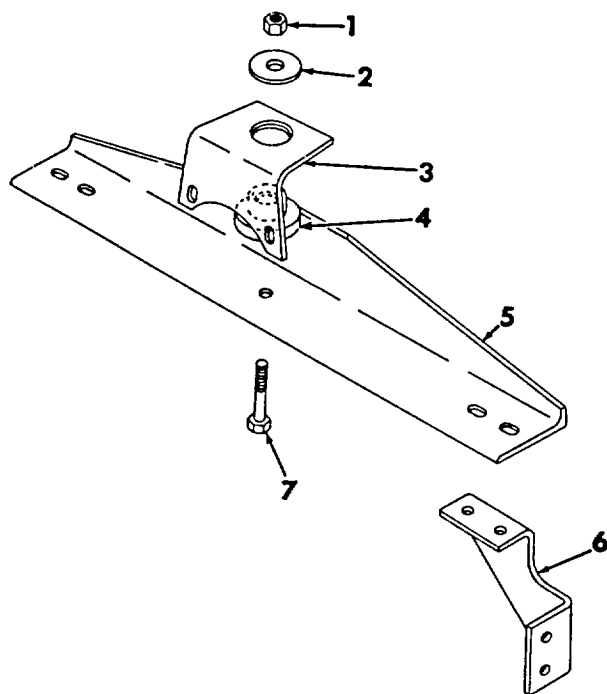
TRANSMISSION MODULATOR VALVE AND MOUNTING



- | | | |
|-----|-----------|---|
| 1. | 449787C1 | PIN, COTTER |
| 2. | 120393 | WASHER, FLAT 5/16 |
| 3. | 137345R1 | SPRING, RETURN |
| 4. | 449788C1 | ANGLE, EXT. |
| 5. | 449789C2 | BRACKET, MOUNTING |
| 6. | 449786C1 | EXTENSION CABLE |
| 7. | 120613 | NUT, HEX. 1/4-28 |
| 8. | 416636C1 | SPACER, U-BOLT |
| 9. | 437155C1 | U-BOLT, MOUNTING |
| 10. | 444773C91 | CABLE, MODULATOR VALVE CONTROL |
| 11. | 444768C91 | VALVE, MODULATOR |
| | 444770C1 | GASKET, MODULATOR VALVE |
| | 444769C91 | KIT, MODULATOR VALVE REPAIR (CONSISTS OF O-RING -2-, PLUNGER, SPRING, SPRING SEAT, WEDGE CAM) |

FIG. 13-019

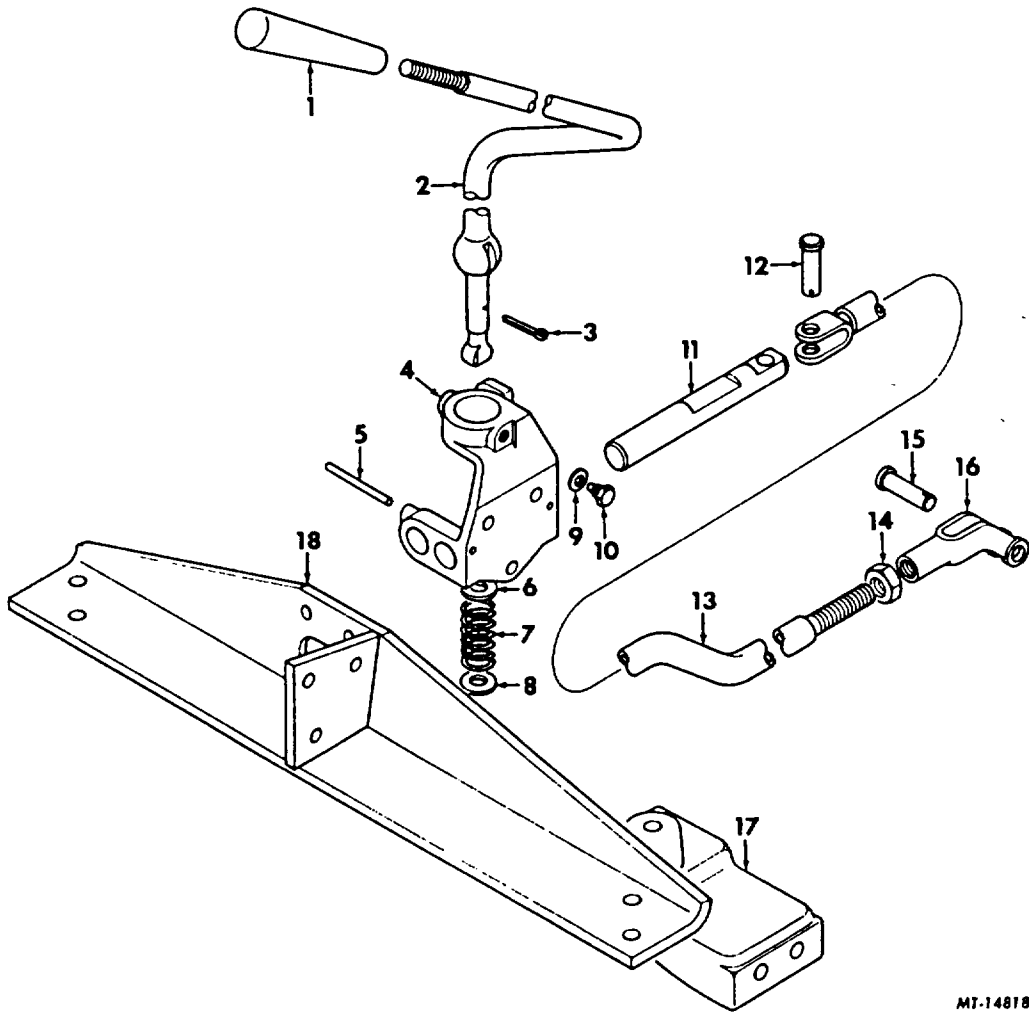
TRANSMISSION REAR MOUNTING



- | | | |
|----|----------|------------------------------------|
| 1. | 25528R1 | NUT, HEX. 5/8NC |
| 2. | 206141R1 | WASHER, FLAT 5/8 |
| 3. | 515959C1 | BRACKET, TRANS REAR MOUNTING |
| | 24873R1 | BOLT, HEX-HD 5/8NC X 1-1/2 -2- |
| | 121574 | WASHER, LOCK 5/8 MED -2- |
| 4. | 350562C1 | INSULATOR, TRANSMISSION MOUNTING |
| 5. | 515958C2 | CROSSMEMBER, TRANS REAR MOUNTING |
| | 24862R1 | BOLT, HEX-HD 1/2NC X 1-1/2 -2- |
| | 9412230 | NUT, HEX. LOCK 1/2NC -2- |
| | 25710R1 | WASHER, FLAT 1/2 -2- |
| 6. | 515957C1 | BRACKET, TRANS SUPPORT -2- |
| | 414053C1 | BOLT, HEX-HD 1/2NC x 1-3/4 -2- FLG |
| | 414087C1 | NUT, HEX. LOCK 1/2NC -2- FLG |
| | 25710R1 | WASHER, FLAT 1/2 -2- |
| 7. | 25340R1 | BOLT, HEX-HD 5/8NC X 3 |

FIG. 13 - 070

AUXILIARY TRANSMISSION CONTROLS



MT-14818A

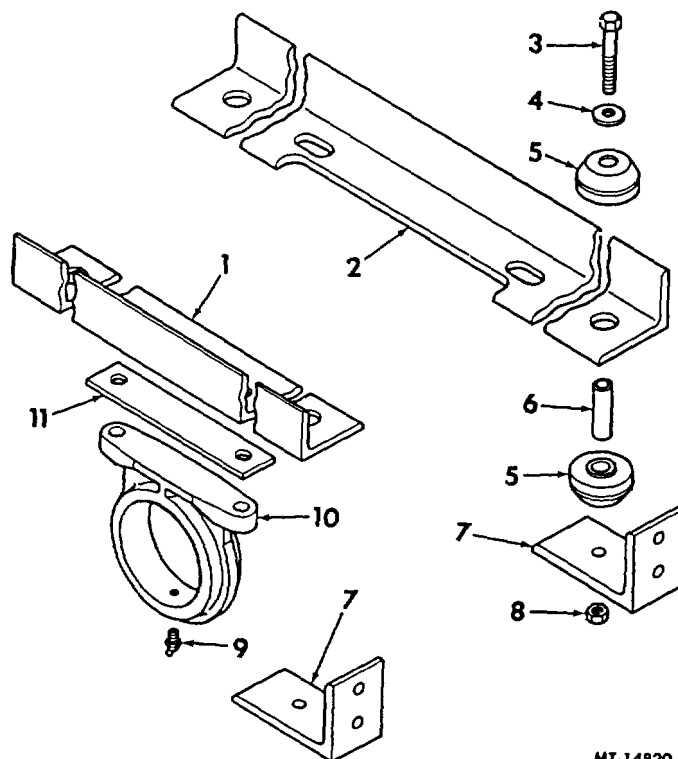
- | | | |
|-----|----------|------------------------------------|
| 1. | 405961C1 | HANDLE, GEAR SHIFT LEVER |
| 2. | 430085C2 | LEVER, SHIFT |
| 3. | 108630 | PIN, COTTER 1/8 X 7/8 |
| 4. | 356400C1 | HOUSING, CONTROL LEVER |
| | 140483H | BOLT -HSG TO SUPPORT- -5- |
| | 9413979 | NUT, HEX. 3/8NC -5- |
| 5. | 91052R1 | PIN, SHIFT SLIDE STOP |
| 6. | 79589H | WASHER, CONTROL LEVER SPRING UPPER |
| 7. | 91051R1 | SPRING, CONTROL LEVER |
| 8. | 2644E | WASHER, CONTROL LEVER SPRING LOWER |
| 9. | 103321 | WASHER, LOCK 3/8 MEDIUM |
| 10. | 91050R1 | SCREW, CONTROL LEVER PIVOT |

AUXILIARY TRANSMISSION CONTROLS CONTINUED

- 11. BAR, SHIFT
 - 91048R1 LEFT
 - 91047R1 RIGHT
- 12.103498PIN, ROD END -ROD TO SHIFT BAR- -2-
137190 PIN, COTTER 1/8 X 1-1/4 -2-
- 13.424320C11 ROD, W/YOKE, OVERDRIVE CONTROL
424322C11 ROD, W/YOKE, UNDERDRIVE CONTROL
- 14.114498NUT, HEX. 5/8NC -2-
- 15.138086PIN, ROD END -ROD TO AUX-
137190PIN, COTTER 1/8 X 1-1/4 -2-
- 16.424429C1 YOKE, ADJUSTABLE
- 17.432409C1 BRACKET, AUX SUPPORT MOUNTING -2-
BOLT, HEX-HD 1/2NF -BRKT TO SMBR- 4-
- 414052C1 W/O REINFORCEMENT
- 414053C1 W/ REINFORCEMENT
- 414087C1 NUT, HEX. LOCK 1/2NF -4-
- 18.432411C1 SUPPORT, AUXILIARY SHIFT, ASSY
- 414087C1 NUT, HEX. LOCK L/2NF -4-

FIG. 13 - 074

AUXILIARY TRANSMISSION MOUNTING



MT-14820

- 1.424423C1 ANGLE, TRANS SUPPORT FRONT
- 2.424303C1 ANGLE, TRANS SUPPORT REAR
- 25910R1 BOLT -ANGLE TO AUX TRANS- -2-
- 9414001 NUT, HEX. LOCK 7/8NC -2-
- 60192H WASHER, HARDENED, FLAT -2-
- 3.414062C01 BOLT, HEX-HD 1/2NF -4-
- 4.25710R1 WASHER, FLAT -4-
- 5.80445R1 INSULATOR, AUX TRANS MOUNTING -8-
- 6.326769C1 SPACER, AUX TRANS MOUNTING -4-
- 7.424307C2 ANGLE, AUX SUPPORT -4-
- BOLT, HEX-HD 1/2NF -ANGLE TO SMBR- -8-
- 414053C1 W/O REINFORCEMENT
- 414054C1 W/REINFORCEMENT
- 414087C1 NUT, HEX. LOCK 1/2NF -8-
- 8.414087C1 NUT, HEX. LOCK 1/2NF -4-
- 9.109461 LUBRICATOR, 1/8 STRAIGHT
- 10.81781R1 TRUNNION, ASSY
- 414081R1 BOLT, HEX-HD 5/8NF -2-
- 414089R1 NUT, HEX. LOCK 5/8NF -2-
- 390309C1 WASHER, FLAT -2-
- 11.424310C1 SPACER, AUX TRUNNION

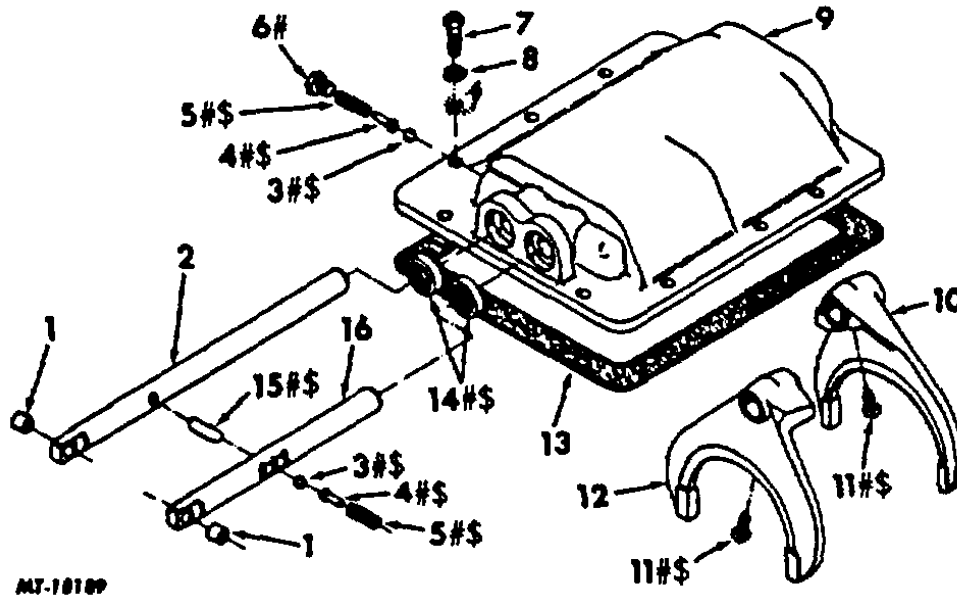


MT134 GROUP
PART
NUMBER

DESCRIPTION

FIG. 13-095

AUXILIARY TRANS SHIFT FORKS AND BARS



MT-10109

1	281767	C1	BUSHING, SHIFT BAR -2-
2	457393	C1	BAR, SHIFT
3	16 014	H	\$BALL, 7/16 SHIFT BAR POPPET -2-
4	46 797	H	\$PLUNGER, SHIFT BAR POPPET -2-
5	49 523	H	\$\$PRING, SHIFT BAR -2-
6	46 861	H	RETAINER, SHIFT BAR POPPET BALL SPRING
7	26 315	RI	BOLT, SHIFT HOUSING -10-
8	462799	RI	WASHER, SHIFT HOUSING BOLT -10-
9	457396	C1	HOUSING, AUXILIARY SHIFT
	457387	CL	SLEEVE, SHIFT BAR -CODE 13538-
10	457395	C1	FORK, SHIFT
11	444758	C1	\$\$SCREW, SHIFT FORK -2-
12	457394	C1	FORK, SHIFT
13	211565	R1	GASKET, SHIFT BAR HOUSING -PART OF GASKET SET 457438C91-
14	124633	R91	\$\$SEAL, OIL SHIFT SHAFT -PART OF BEARING AND SEAL KIT 457397C91- -2-
15	79 613	H	\$LOCK, SHIFT BAR
16	457392	C1	BAR, SHIFT
	457400C91	\$	KIT, SMALL PARTS



MT134 GROUP
PART
NUMBER

DESCRIPTION

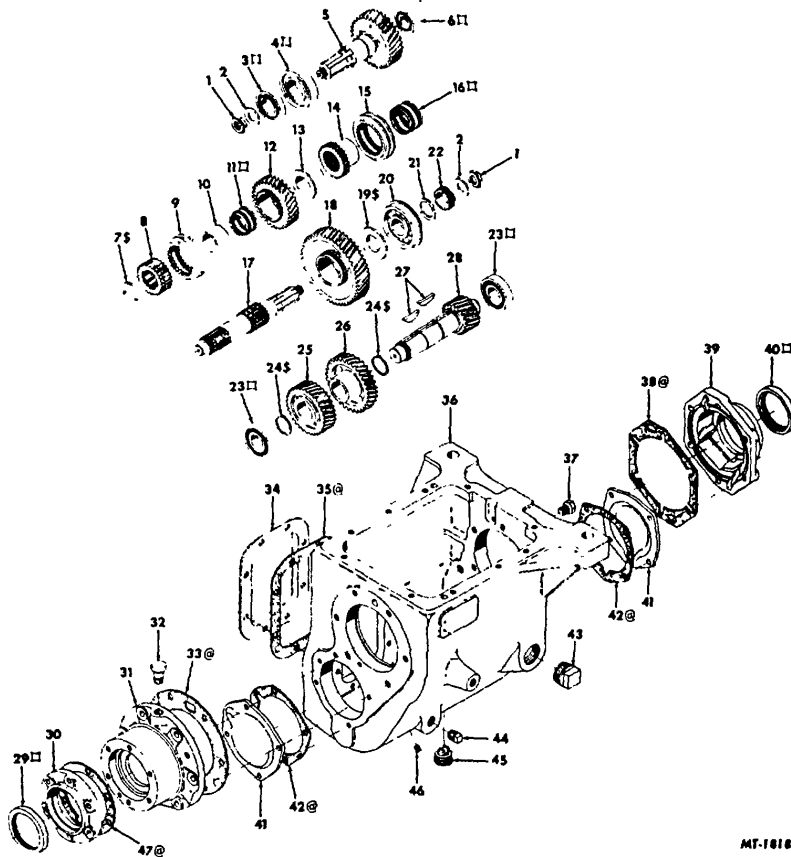


MT134 GROUP
PART
NUMBER

DESCRIPTION

FIG. 13-96
AUXILIARY TRANSMISSION ASSEMBLY

FIG. 13-96
AUXILIARY TRANSMISSION ASSEMBLY



MT-10107

	443151	C91	TRANSMISSION, ASSY (R8031R SPICER)
1	365464	C1	NUT, COMPANION FLANGE -2-
2	68 056	R1	WASHER, COMPANION FLANGE NUT -2-
3	457361	C91	BEARING, DRIVE GEAR FRONT
4	457362	C91	BEARING, DRIVE GEAR REAR
5	456471	C1	GEAR, DRIVE
6	457364	C91	BEARING, DRIVE GEAR POCKET
7	177443	R1	SPRING, RETAINER MAINSHAFT GEAR
8	177446	R1	GEAR, MASHFT CLUTCH DIRECT/OVERDRIVE
9	876595	R1	COLLAR, MASHFT CLUTCH DIRECT/OVERDRIVE
10	177434	R1	SLEEVE, MASHFT OVERDRIVE GEAR
11	457365	C91	BEARING, MASHFT OVERDRIVE
12	456470	CL	GEAR, MASHFT OVERDRIVE
13	177435	R1	SLEEVE, MAINSHAFT GEAR
14	177445	R1	GEAR, MASHFT CLUTCH FIRST SPEED
15	177444	R1	COLLAR, MASHFT CLUTCH FIRST SPEED
16	457367	C91	BEARING, MASHFT FIRST SPEED
17	254595	C11	MAINSHAFT, W/NUT
18	17T430	R1	GEAR, MASHFT FIRST SPEED
19	177447	R1	SWASHER, MASHFT THRUST

20	69 574	R91	BEARING, MASHFT REAR
21	68 066	R1	WASHER, MASHFT REAR BEARING
22	78 903	H	GEAR, SPEEDOMETER DRIVE
23	457003	C91	BEARING, COUNTERSHAFT FRONT/REAR -2-
24	513008	R1	SPRING, COUNTERSHAFT GEAR RETAINER -2-
25	456469	C1	GEAR, COUNTERSHAFT DRIVE
26	456472	C1	GEAR, COUNTERSHAFT OVERDRIVE
27	12 484	R1	KEY, COUNTERSHAFT GEAR -2-
28	456468	C1	COUNTERSHAFT
29	255281	C91	SEAL, OIL FRONT RETAINER
30	359026	C11	RETAINER, MAIN DRIVE GEAR BEARING
	27 413	R1	BOLT, BEARING RETAINER -6-
31	465928	C91	RETAINER, W/BREATHER, DRIVE GEAR BUG
	27 410	R1	BOLT, BEARING RETAINER -6-
32			BREATHER, ASSY
	194529	R1	3/8 -THREADED-
	461452	C1	1/2 -TAPERED-
33	457004	C1	gASKET, DRIVE GEAR RETAINER



MT134 GROUP

REF NO	PART NUMBER	DESCRIPTION
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FIG. 13-096 CONTINUED

AUXILIARY TRANSMISSION ASSEMBLY

34	332603 441366	C1 C1	COVER, PTO BOLT, PTO COVER -8-
35	343368	C1	aGASKET, PTO COVER
36	407666	C21	CASE, W/PLUGS. AUXILIARY TRANS
37	70 352	R1	PLUG, AUXILIARY CASE -2-
38	68 069	R1	aGASKET, BEARING RETAINER
39	388183 180181 180188 120364	C11	RETAINER, BEARING BOLT, HEX-HD 1/2NC X 2 -4- BOLT, HEX-HD 1/2NC X 2-3/4 -2- WASHER, LOCK 1/2 MEDIUM -6-
40	255281	C91	SEAL, OIL
41	68 096 458371	R1 C1	RETAINER, CTSHFT BRG FRONT/REAR -2- BOLT, BEARING RETAINER -4-
42	68 097	R1	aGASKET, CTSHFT BRG RET FRONT/REAR -2-
43	59 119	DA	PLUG, FILLER -MAGNETIC-
44	444589		PLUG, TEMPERATURE INDICATOR
45	58 960	D	PLUG, DRAIN -MAGNETIC-
46	444578		PLUG, CASE
47	68 058	R1	aGASKET, DRIVE GEAR RETAINER
	457397	C91	KIT, BEARING AND SEAL
	457400	C91	SKIT, SMALL PARTS
	457438	C91	aGASKET SET, AUXILIARY TRANS



GROUP 14-REAR AXLE

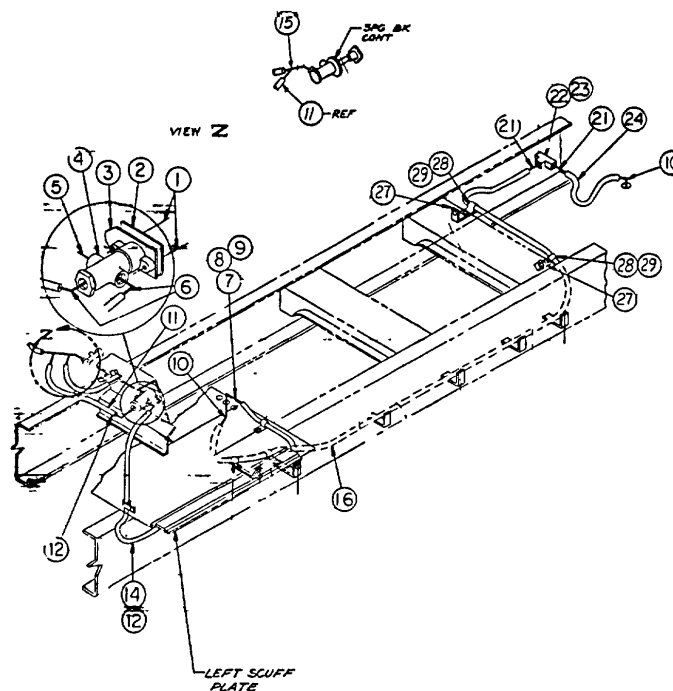
**IF AXLE ASSEMBLY IS REQUIRED, ORDER COMPONENTS -
DIFFERENTIAL ASSEMBLY, AXLE HOUSING. ETC.**

	FIG. NO.
REAR WHEEL ASSEMBLY	14-009
FORWARD-REAR AXLE ASSEMBLY	14-037
REAR-REAR AXLE ASSEMBLY	14-038
POWER DIVIDER DIFFERENTIAL LOCK	
CONTROL VALVE AND WARNING LIGHT	14-004
HOSING	14-001
SHIFTING MECHANISM	14-015
REAR AXLE SKID PLATE	14-016



MT134 GROUP 14- REAR AXLE
 REF PART DESCRIPTION
 NO NUMBER

FIG. 14-001
 POWER DIVIDER CONTRL HOISING

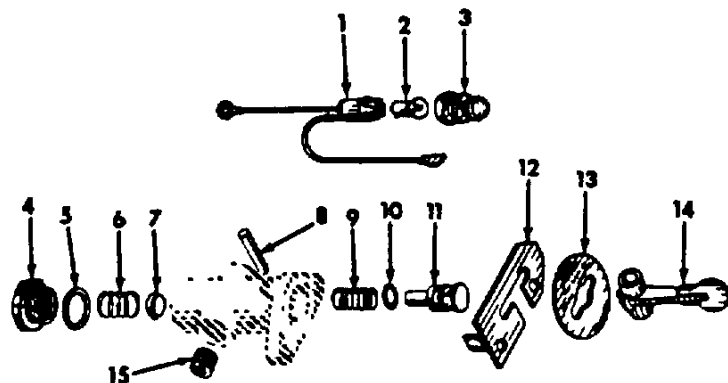


ITEM	PART NO	QTY	
1	157712	2	SCREW, TR HD #10-24 X 1/2 IN
2	436031C1	1	ESCUTCHEON
3	204931R91	1	SWITCH, GROUNDING
4	2336699R93	1	VALVE, CONTROL (FOR COMPONENT SEE FIG. 14-004)
5	444572	1	PLUG, 1/8 PIPE
6	123646R1	2	ELBOW, 90 DEG 1/8 MPT X 1/4 TUBE
7	96644R1	2	ELBOW, 90 DEG 1/8 MPT X 1/4 TUBE
8	123259R1	1	COUPLING, ANCHOR
8	138561	1	WASHER, LOCK INT TOOTH /34 ID
8	123834H	1	NUT, 3/4-16 HEX THIN
9	25712R1	1	WASHER, 3/4 FLAT
10	429033R1	2	ELBOW, 45 DEG 1/4 MPT X 1/4 TUBE
11	417196C2	1	TUBE, NYLON 1/4 X 32 IN- PDL SUPPLY
12	414510C1	4	NUT, 1/4 TUBE
12	30774V	4	SLEEVE, 1/4 TUBE
12	414504C1	4	INSERT, 1/4 TUBE
13	164250R1	1	TEE, 1/4 MPT X 1/4 TUBE X 1/4 FPT
14	417196C2	1	TUBE, NYLON 1/4 X 100 IN- CONTROL VALVE TO ANCHOR FITTING
15	252132C1	1	TEE, 1/4 MPT X 1/4 TUBE X 3/8 TUBE
16	0040890030	1	HOSE, ANCHOR FTG TO DROP EL
21	425364R1	2	CONNECTOR, 1/4 MPT X 7/16-20 FLARED
22	459279C1	1	ELBOW, DROP
23	25485R1	1	BOLT, 1/4 NC X 1 1/4
23	25707R1	1	WASHER, 1/4 FLAT
23	120380	1	WASHER, 1/4 REG LOCK
24	0040210000	1	HOSE, DROP EL TO DIFF LOCKOUT CHAMBER
27	336292C1	2	EXTENSION, CLIP
28	981986R91	2	CLAMP, 1/2
29	25222R1	2	BOLT, HEX HD 1/4 NCX 3/4
29	25519R1	2	NUT, HEX 1/4NC
29	120380	2	WASHER, LOCK 1/4 REG



MT134 GROUP 14- REAR AXLE
 PART DESCRIPTION
 REF NO PART NUMBER

FIG. 14-004
 POWER DIVIDER DIFFERENTIAL LOCK
 CONTROL VALVE AND WARNING LIGHT

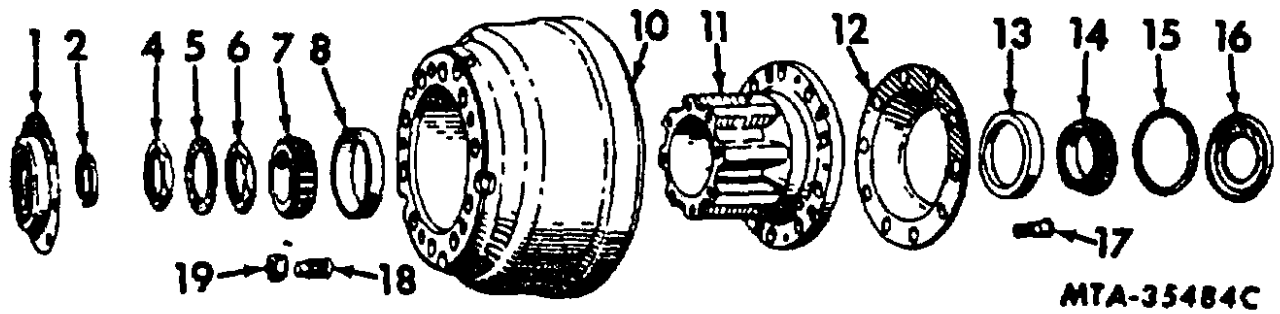


MT-13009

233699	R92	VALVE, CONTROL, ASSY -INCLUDES REF. NO. 4 THRU 11 AND 14-
1		NOT USED
2	131282	LAMP, WARNING LIGHT -1 CANDLE POWER-
3	415214	C91 LIGHT, WARNING, ASSY
4	183411	R1 NUT, CONTROL VALVE BODY CAP
5	183414	R1 SEAL, CAP NUT
6	183413	R1 SPRING, PLUNGER VALVE
7	183410	R2 VALVE, PLUNGER
8	306116	R1 PIN, CONTROL LEVER
9	183408	R1 SPRING, PLUNGER RETURN
10	359158	R1 SEAL, O-RING PLUNGER
11	231534	R1 PLUNGER, CONTROL VALVE
12	204931	R91 SWITCH, WARNING LIGHT GROUNDING
	157712	SCREW, CR-REC-HD NO. 10-24 X 1/2
		-2-
13	436031	C1 ESCUTCHEON, CONTROL VALVE
14	183412	R1 LEVER, CONTROL
15	444572	R1 PLUG, PIPE 1/8

FIG. 14-009

REAR WHEEL -DISC- DUAL

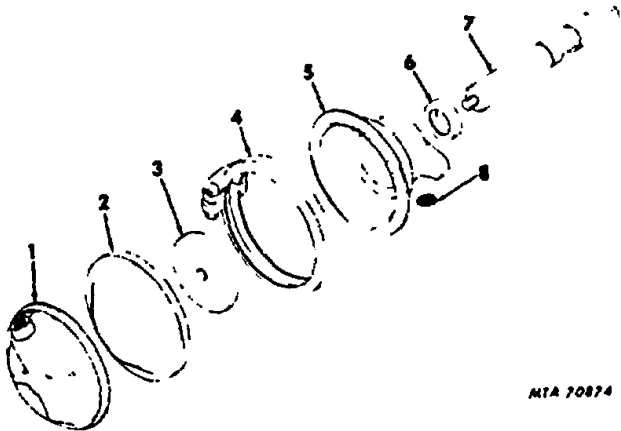


- | | | |
|-----|-----------|--|
| 1. | 306311C91 | SEAL, BEARING OUTER GREASE -4- |
| 2. | 68533R21 | WIPER, W/SEAL, OUTER GREASE -4- |
| 4. | 157501R1 | NUT, BEARING ADJUSTING OUTER -4- |
| 5. | 69305R1 | LOCK, BEARING ADJUSTING INNER -4- |
| 6. | 236841R1 | NUT, BEARING ADJUSTING INNER -4- |
| 7. | 68617H | BEARING, CONE, OUTER -4- |
| 8. | 18241H | BEARING, CUP, OUTER -4- |
| 10. | 298091C11 | DRUM, W/GUARD, BRAKE -4- |
| 11. | 298089C11 | HUB, W/CUPS, ASSY -4- |
| 12. | | GUARD (NOT SERVICED SEPARATELY) |
| 13. | 18247H | BEARING, CUP, INNER -4- |
| 14. | 31630H | BEARING, CONE, INNER -4- |
| 15. | 305387C1 | WIPER, W/SPACER, GREASE SEAL INNER -4- |
| 16. | 254032C91 | SEAL, INNER GREASE -4- |
| 17. | 351138C1 | STUD, LEFT DISC -20- |
| | 351139C1 | STUD, RIGHT DISC -20- |
| 18. | 41420V | NUT, LEFT DISC STUD INNER -20- |
| | 41419V | NUT, RIGHT DISC STUD INNER -20- |
| 19. | 83156H | NUT, LEFT DISC STUD OUTER -20- |
| | 83155H | NUT, RIGHT DISC STUD OUTER -20- |



MT134 GROUP 14- REAR AXLE
 REF PART DESCRIPTION
 NO NUMBER

FIG. 14-015
 POWER DIVIDER DIFFERENTIAL LOCK
 AIR SHIFT CHAMBER



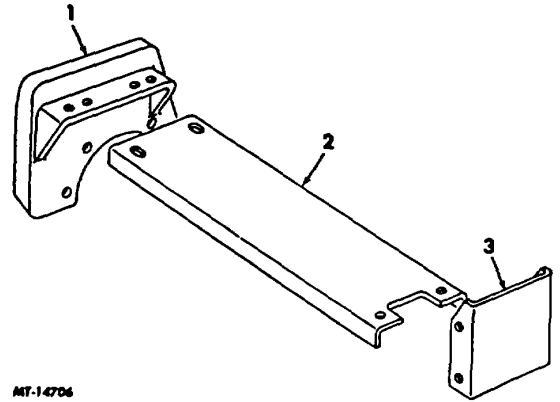
MTA 70874

- 810 929 R92 CHAMBER, AIR SHIFT, ASSY
- 1 PLATE -NOT SERVICED SEPARATELY-
- 2 811929 R1 DIAPHRAGM, CHAMBER
- 3 207771 R2 PLATE, PUSH ROD
- 4 187731 R2 CLAMP, W/BOLT AND NUT
- 180942 R2 BOLT, RING CLAMP -2-
- 100963 R2 NUT, RING CLAMP BOLT -2-
- 5 PLATE -NOT SERVICED SEPARATELY-
- 100115 R91 SEAL, OIL
- 6 868115 R1 ROD, PUSH
- 7 301963 R1 PLATE, STRAINER
- 8



MT134 GROUP 14- REAR AXLE
 REF PART DESCRIPTION
 NO NUMBER

FIG. 14-016
 REAR AXLE SKID PLATE



MT-14706

- 1 423783 C1 PLATE, SKID
- BOLT, HEX-HD -4-
- 19 993 R1 1/2NC X 2-3/4
- 2 434231 C11 CHANNEL, SKID PLATE
- BOLT, HEX-HD -2-
- 414052 C1 1/2NF X 1-1/2
- 414055 C1 1/2NF X 2-1/4
- 414087 C1 NUT, HEX. LOCK 1/2NF -2-
- 1203814 WASHER, LOCK 1/2 MED -2-
- 3 429267 C1 PLATE, SKID -TORQUE ROD BRKT-
- 414051 C1 BOLT, HEX-HO 1/2NC x 1-1/4 -4-
- 120384 WASHER, LOCK 1/2 MED -4-



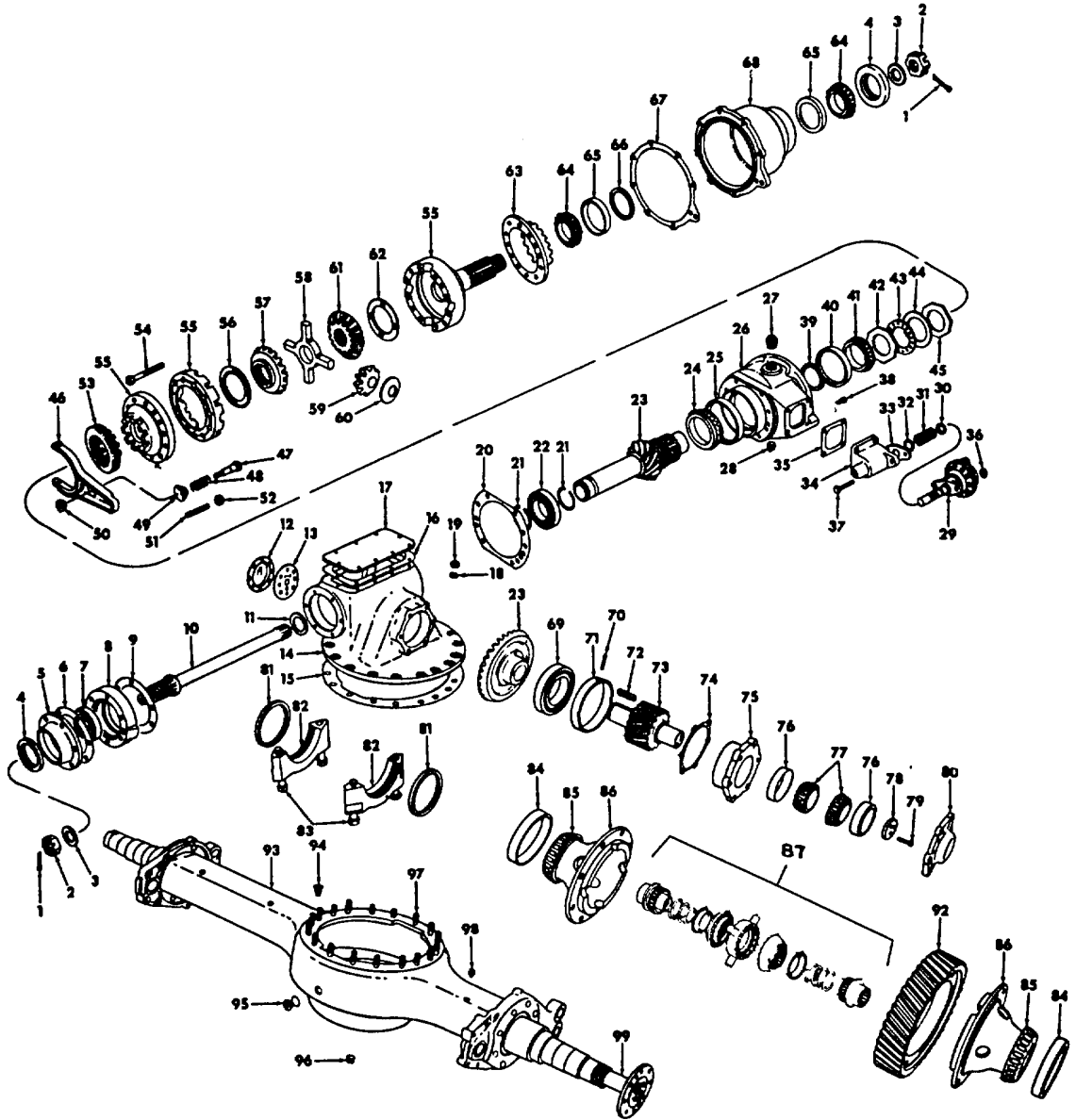
MT121 GROUP 14- REAR AXLE
 REF NO PART DESCRIPTION
 NO NUMBER



MT121 GROUP 14- REAR AXLE
 REF NO PART DESCRIPTION
 NO NUMBER

FIG. 14-037
 FORWARD REAR AXLE ASSEMBLY
 (STDD ROCKWELL STANDARD 50000 LB.)

FIG. 14-037 CONTINUED
 FORWARD REAR AXLE ASSEMBLY



- 1 13729B PIN, COTTER 7/32 X 3 -2-
- 2 440302 C1 NUT, COMPANION FLANGE -2-
- 3 264663 C1 WASHER, COMPANION FLANGE -2-
- 4 972424 R91 SEAL, OIL -2-
- 5 307956 C1 RETAINER, THRU SHAFT BEARING
- 6 305386 C1 GASKET, BEARING CAGE
- 7 ST 269 A BEARING, THRU SHAFT

- 8 307958 C1 CAGE, THRU SHAFT REAR BEARING
- 213318 R1 BOLT, THRU SHAFT BEARING RETAINER -8-
- 200609 R1 WASHER, RETAINER BOLT -8-
- 9 301515 C1 GASKET, RETAINER
- 10 455B56 C91 SHAFT, THRU WITH NUT
- 11 307957 C1 SPACER, THRU SHAFT

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MT134 GROUP 14- REAR AXLE
REF NO PART DESCRIPTION
NUMBER

FIG. 14 037 CONTINUED

FORWARD REAR AXLE ASSEMBLY

12	98 644	R2	COVER, DIFF CARRIER -LEFT SIDE- BOLT, HEX-HD 3/8NC X 3/4 -8-
	200609	R1	WASHER, COVER BOLT -P-
13	98 651	R11	GASKET, DIFF CARRIER LEFT SIDE COVER
14	305373	C91	CARRIER W/CAP, DIFF
	73 311	R1	PIN, BEARING CAP DOWEL -4-
15	305388	C1	GASKET, DIFF CARRIER TO HOUSING
16	141290	H	GASKET, DIFF CARRIER TOP COVER
17	98 666	R1	COVER, DIFF CARRIER TOP
	200609	R1	BOLT, HEX-HO 3/8NC X 3/4 -10- WASHER, TOP COVER BOLT -10-
18	121574		WASHER, LOCK 5/8 MEDIUM -18-
19	121358		NUT, HEX. 5/8NF -18-
20			SHIM, INTER DIFF CARRIER
	98 681	R2	.003 THICK
	98 682	R2	.005 THICK
	98 683	R3	.010 THICK
21	131625	R1	RING, PINION BEARING LOCK -2-
22	98 709	R91	BEARING, PINION OUILL
23	307955	C91	GEAR SET, RING AND PINION
24	98 678	R91	BEARING, BEVEL PINION PEAR CONE
25	ST 982		BEARING, BEVEL PINION REAR CUP
26	301549	C21	CASE, INTER AXLE DIFFERENTIAL
	301 16	C1	BOLT, INTER AXLE DIFF CASE TO CARRIER LONG -3-
	77 013	R1	SHORT -5-
	24 863	R1	BOLT, SQ-HD SHOULDER
27	56 070	R1	PLUG, INTER DIFF CARRIER FILLER
28	16 843	R1	PLUG, INTER DIFF CARRIER DRAIN
29	860929	R92	CHAMBER, AIR SHIFT -FOR COMPONENTS SEE FIG. 14-015-
30	122791	R1	RING, SNAP
31	231017	R1	SPRING
32	231018	R1	WASHER, SPRING
33	67 971	R1	GASKET, CHAMBER TO SHIFT FORK HSG
34	231016	R11	HOUSING, W/STUDS, SHIFT FORKS
35	179475	R1	GASKET, SHIFT FORK HSG TO INTER CARRIER
36	124934		NUT, HEX-JAH 1/2NF
37	187347	R1	STUD, CHAMBER TO SHIFT FORK HSG -2-
38	179413	R1	SCREW, SHIFT FORK ADJ STOP
39			SPACER, PINION BEARING OUTER
	133180	R1	.183 THICK
	133181	R1	.189 THICK
	133182	R1	.196 THICK
	133183	R1	.203 THICK
	133184	R1	.210 THICK
	133185	R1	.217 THICK
			SPACER, PINION BEARING INNER
	133186	R1	.183 THICK
	133187	R1	.184 THICK
	133188	R1	.185 THICK
	133189	R1	.186 THICK
	133190	R1	.187 THICK
	133191	R1	.188 THICK
	133192	R1	.189 THICK
40	ST 897		BEARING, BEVEL PINION FRONT CUP
41	ST 040		BEARING, BEVEL PINION FRONT CONE
42	236844	R1	NUT, BEVEL PINION ADJ
43	141310	H1	LOCK, BEVEL PINION BEARING ADJ NUT
44	106514	R1	LOCK, BEVEL PINION BEARING CONE JAM NUT
45	138798	R1	NUT, BEVEL PINION BEARING CONE ADJ JAM
46	301552	C91	FORK, SHIFT ASSY
47	447870	C1	BOLT, SHIFT FORK SEAT
	9 413	980	NUT, SHIFT FORK SEAT BOLT
48	242929	R1	SPRING, SEAT
49	242930	R1	WASHER, SPRING SEAT
50	179474	R1	BALL, SHIFT FORK BOLT
51	301559	C1	SCREW, FORK ADJ SET
52			NUT, HEX. 3/8NF
53	301558	C1	COLLAR, INTER DIFF SHIFT



MT134 GROUP 14- REAR AXLE
REF NO PART DESCRIPTION
NUMBER

FIG. 10-307 CONTINUED

FORWARD REAR AXLE ASSEMBLY

54	301543	C1	BOLT, INTER DIFF CASE -12-
	213524	R1	WASHER, INTER DIFF CASE -12-
	17 347	R1	NUT, INTER DIFF CASE BOLT -12-
55	301624	C91	CASE, INTER DIFF, ASSY -THREE PARTS-
56	301545	C1	WASHER, THRUST GEAR REAR
57	301542	C1	GEAR, INTER DIFF SIDE REAR
58	77 123	R1	SPIDER, INTER DIFF -WILL WORK FOR 301547C1-
59	77 124	R2	PINION, INTER DIFF
60	77 126	R1	WASHER, PINION THRUST
61	301541	C1	GEAR, INTER DIFF SIDE FRONT
62	301546	C1	WASHER, THRUST GEAR FRONT
63	301544	C1	SCOOP, INTER DIFF OIL
64	659458	R91	BEARING, CONE -2-
65	105497	H	BEARING, CUP -2-
66			SPACER, INTER DIFF BEARING
	301518	C1	.185 THICK
	301529	C1	.195 THICK
	301532	C1	.205 THICK
	301523	C1	.215 THICK
	301539	C1	.225 THICK
67	301510	C1	GASKET, INTER DIFF HOUSING
68	301553	C11	HOUSING, W/CUPS, INTER AXLE DIFF
	98 827	R1	BOLT, INTER HSG TO CASE -SHORT- -7-
	203762	R1	BOLT, INTER HSG TO CASE -LONG- -1-
	213319	R1	WASHER, INTER HSG TO CASE BOLT -8-
69	141262	H	BEARING, DRIVE GEAR
	98 694	R1	SPACER, BEARING
70	141036		SCREW, SET SLEEVE
71	98 664	R1	SLEEVE, BEVEL GEAR BEARING
72	98 676	R1	KEY, BEVEL GEAR
73			SHAFT, HELICAL DRIVE -8.31 TO 1 RATIO-
74			SHIM, HELICAL DRIVE SHAFT BEARING CAGE
	98 699	R1	.003 THICK
	98 700	R1	.005 THICK
	98 701	R2	.010 THICK
75	98 695	R11	CAGE, W/CUPS, HELICAL DRIVE SHAFT BRG
76	98 696	R1	BEARING, HELICAL DRIVE SHAFT CUP -2-
77	98 697	R91	BEARING, HELICAL DRIVE SHAFT CONE -2-
78	98 698	R1	WASHER, SHAFT ADJUSTING
79	560175	R1	BOLT, ADJUSTING WASHER
80	98 702	R1	COVER, HELICAL DRIVE SHAFT BEARING CAGE
	25 278	R1	BOLT, CAGE COVER
81			SPACER, BEARING CUP
	207653	R1	.250 THICK
	207654	R1	.255 THICK
	207655	R1	.260 THICK
	207656	R1	.265 THICK
	207657	R1	.270 THICK
	207658	R1	.275 THICK
	170448	R1	.280 THICK
82			CAP -NOT SERVICED SEPARATELY-
83	24 895	R1	BOLT, DIFF BEARING CAP -4-
84	160301	R1	BEARING, DIFF CUP -2-
85	160300	R91	BEARING, DIFF CONE -2-
86	305374	C91	CASE, DIFF, ASSY -2 HALVES-
	447869	C1	BOLT, DIFF CASE -12-
	447875	C1	NUT, DIFF CASE BOLT -12-
87	521271C91		DIFFERENTIAL, NO-SPIN, ASSY
92			GEAR, DIFF HELICAL DRIVEN
	305375	C1	8.31 TO 1 RATIO



MT134 GROUP 14- REAR AXLE

REF NO	PART NUMBER	DESCRIPTION
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*FIG. 10-037 CONTINUED
FORWARD REAR AXLE ASSEMBLY*

93	421783	C91	HOUSING, AXLE, ASSY
94	91 916	R91	BREATHER, AXLE HOUSING VENT, ASSY
95	33T52T	C1	PLUG, DRAIN
96	9 409	961	PLUG, FILLER
97	127380	H	STUD, DIFF CARRIER TO HOUSING -18-
98	444873		PLUG, HEX. SOCKET-HD 1/2NC -HEAT INDICATOR HOLE-
99	305381	C1	SHAFT, AXLE LEFT
	305382	C1	SHAFT, AXLE RIGHT
	684368	R1	STUD, WHEEL FLANGE -16-
	54 700	R1	BUSHING -16-
			NUT, HEX. 5/8NF -16-
			WASHER, LOCK 5/8 EXTERNAL -16-
56	152	R2	GASKET, AXLE SHAFT -2-
			DIFFERENTIAL ASSEMBLY
307954	C91		8.31 TO 1 RATIO



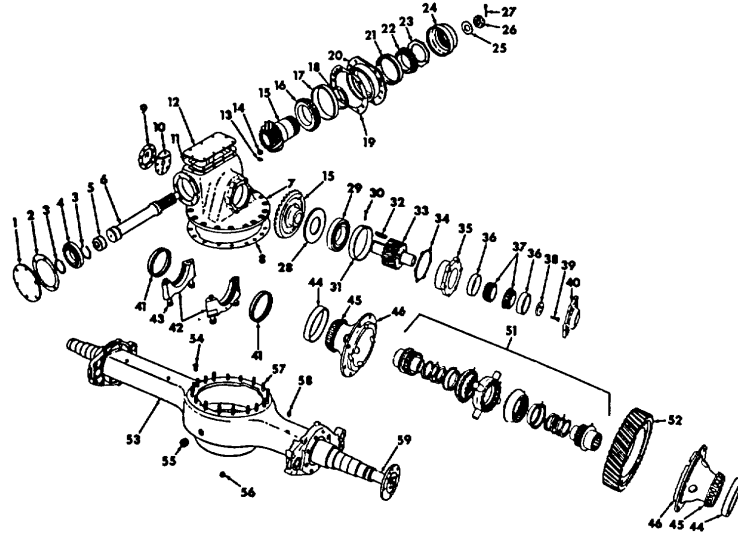
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MT121 GROUP 14- REAR AXLE
 REF NO PART DESCRIPTION
 NO NUMBER

FIG. 14-038
 REAR REAR AXLE ASSEMBLY

FIG. 14-038 CONTINUED
 REAR REAR AXLE ASSEMBLY



1	305380	C1	COVER, THRU SHAFT REAR BEARING	19			SHIM, PINION BEARING CAGE
2	305386	C1	GASKET, THRU SHAFT REAR BEARING COVER		98 681	R2	.003 THICK
3	131625	R1	RING, THRU SHAFT REAR BEARING SNAP -2-		98 682	R2	.005 THICK
4	98 709	R91	GEARING, THRU SHAFT REAR		98 683	R3	.010 THICK
5	982597	R1	SPACER, THRU SHAFT				
6	46 090	C91	SHAFT, THRU WITH NUT	20	224707	R11	CAGE, W/CUPS, PINION BEARING
	101896	R1	BOLT, THRU SHAFT REAR BRG COVER -6- WASHER, LOCK 3/8 MEDIUM -6-		98 680	R1	BOLT, PINION BEARING CAGE -LONG- -2-
					77 013	R1	BOLT, PINION BEARING CAGE -SHORT- -6-
					120384		WASHER, LOCK 1/2 MEDIUM -8-
7	305373	C91	CARRIER, W/CAPS AND STUDS, DIFF	21	ST 897		BEARING, BEVEL PINION FRONT CUP
8	305388	C1	GASKET, DIFF CARRIER TO HOUSING	22	ST 2 040		BEARING, BEVEL PINION FRONT CONE
9	98 644	R2	COVER, DIFF CARRIER LEFT SIDE	23	212077	R1	WASHER, PINION BEARING ADJUSTING
	200609	R1	BOLT, HEX-HD 3/8NC X 3/4 -B- WASHER, FLAT 3/8 -8-	24	212098	R91	RETAINER, W/SEAL, BEVEL PINION BEARING
				25			NOT USED
10	98 651	R1	GASKET, DIFF CARRIER LEFT SIDE COVER	26	440302	C1	NUT, COMPANION FLANGE
11	141290	H	GASKET, DIFF CARRIER TOP COVER	27			NOT USED
12	98 666	R1	COVER, DIFF CARRIER TOP	28	98 694	R1	SPACER, BEARING
	200609	R1	BOLT, HEX-HO 3/8NC X 3/4 -10- WASHER, LOCK 3/8 MEDIUM -10-	29	141262	H	BEARING, HYPOID GEAR
				30	141036		SCREW, SET SLEEVE
				31	98 664	R1	SLEEVE, BEVEL GEAR BEARING
				32	98 676	R1	KEY, HYPOID GEAR
13	121574		WASHER, LOCK 5/8 MEDIUM -18- NOT USED	33			SHAFT, HELICAL DRIVEN
14					305376	C1	8.31 TO 1 RATIO
15	211668	R91	GEAR SET, RING AND PINION	34			SHIM, HELICAL DRIVE SHAFT BEARING CAGE
16	ST 982		BEARING, BEVEL PINION REAR CUP		98 699	R1	.003 THICK
17	98 678	R91	BEARING, BEVEL PINION REAR CONE		98 700	R1	.005 THICK
18			SPACER, INNER PINION BEARING		98 701	R2	.010 THICK
	133186	R1	.183 THICK		98 695	R11	CAGE, W/CUPS, HELICAL DRIVE SHAFT BRG
	133187	R1	.184 THICK	35	98 696	R1	BEARING, HELICAL DRIVE SHAFT CUP -2-
	133188	R1	.185 THICK	36	98 697	R91	BEARING, HELICAL DRIVE SHAFT CONE -2-
	133189	R1	.186 THICK	37	98 698	R1	WASHER, SHAFT ADJUSTING
	133190	R1	.187 THICK	38	560175	R1	BOLT, ADJUSTING WASHER -3-
	133191	R1	.188 THICK	39			
	133192	R1	.189 THICK		98 70Z	R1	COVER, HELICAL DRIVE SHAFT BEARING CAGE
			SPACER, OUTER PINION BEARING	40	25 278	R1	BOLT, BEARING CAGE COVER -6-
	133180	R1	.183 THICK				
	133181	R1	.189 THICK				
	133182	R1	.196 THICK				
	133183	R1	.203 THICK				
	133184	R1	.210 THICK				
	133185	R1	.217 THICK				



MT134 GROUP 14- REAR AXLE

REF NO	PART NUMBER	DESCRIPTION
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FIG. 14- 038 CONTINUED
REAR REAR AXLE ASSEMBLY

41		SPACER, BEARING CAP
	207653 R1	.250 THICK
	207 54 R1	.255 THICK
	207655 R1	.260 THICK
	207656 R1	.265 THICK
	207657 R1	.210 THICK
	207658 R1	.275 THICK
	170448 R1	.280 THICK
42		CAP -NOT SERVICED SEPARATELY-
43	24 895 R1	BOLT, BEARING CAP -4-
44	160301 R1	BEARING, DIFFERENTIAL CUP -2-
45	160300 R91	BEARING, DIFFERENTIAL CONE -2-
46		CASE, DIFF. ASSY -2 HALVES-
	305374 C91	BOLT, DIFF CASE -12-
	447869 C1	NUT, DIFF CASE BOLT -12-
	447875 C1	
51	521271C91	DIFFERENTIAL, NO-SPIN, ASSY
52		GEAR, DIFF HELICAL DRIVEN
	305375 C1	8.31 TO 1 RATIO
53	421784 C91	HOUSING, AXLE, ASSY
54	91 916 R91	BREATHER, AXLE HOUSING VENT, ASSY
55	9 409 961	PLUG, FILLER
56	337527 C1	PLUG, DRAIN -MAGNETIC-
57	24 875 R1	BOLT, CARRIER TO HOUSING -14-
58	44 873	PLUG, TEMP SENDER
59		SHAFT, AXLE -LEFT-
	305381 C1	SHAFT, AXLE -RIGHT-
	305382 C1	
	684368 R1	STUD, WHEEL FLANGE -16-
	54 700 R1	BUSHING -16-
		NUT, HEX. 5/8NF -16-
		WASHER, LOCK 5/6 EXTERNAL -16-
	56 152 R2	GASKET, AXLE SHAFT -2-
		DIFFERENTIAL, ASSY
	305372 C91	8.31 TO 1 RATIO



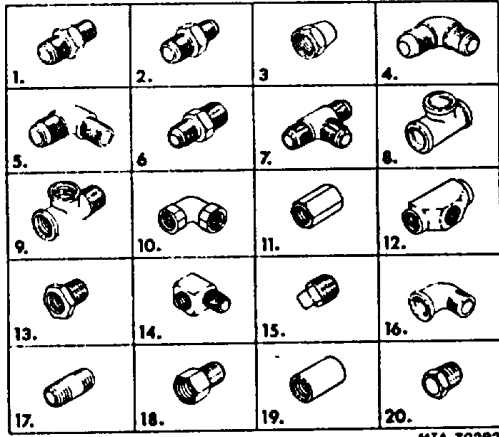
GROUP 15-FUEL TANKS

	FIG. NO.
FUEL TANK FITTINGS	15-001
FRONT FUEL TANK AND MOUNTING	15-002
REAR FUEL TANK AND MOUNTING	15-003
FUEL FILTER, MOUNTING AND HOSEING	15-004



MT134 GROUP 15- FUEL TANKS
 REF NO PART DESCRIPTION
 NO NUMBER

FIG. 15-001
 FITTINGS



1		CONNECTOR, FLARED TUBE -MALE-
	118749	5/16 X 1/8NPT
	110200	5/16 X 1/4NPT
	118750	3/8 X 1/4NPT
	118752	3/8 X 3/4NPT
	116487	5/8 X 1/2NPT
	319665	C1 5/8 X 1/2 INVERTED FLARE
2		UNION, FLARED TUBE
	118801	5/16
	118802	3/8
3		NUT, FLARED TUBE -SHORT-
	116452	1/4
	140381	5/16
	121758	3/8
4		ELBOW, 90 DEGREE FLARED TUBE
	118811	5/16
	118812	3/8
5		ELBOW, 90 DEGREE FLARED TUBE
	118753	1/4 X 1/8NPT -MALE-
	118754	5/16 X 1/8NPT -MALE-
	142664	5/16 X 1/4NPT -MALE-
	118755	3/8 X 1/4NPT -MALE-
	189385	R1 3/8 X 1/2 -MALE- -2-
	118756	7/16 X 1/4 -MALE-
	118757	1/2 X 3/8NPT -MALE-
	300892	R1 1/2 X 1/2NPT
	106946	R1 5/8 X 1/8NPT
	109429	5/8 X 1/2NPT -MALE-
	162135	R1 5/8 X 3/8NPT -MALE-
	312064	C1 7/8 X 3/8NPT
		ELBOW, 45 DEGREE FLARED TUBE
	230766	R1 3/8 X 3/4N PT
	26 169	R1 3/8 X 7/8NPT
6		CONNECTOR, FLARED TUBE
	121323	3/8 X 1/4NPT
	321359	R1 3/4 X 1/4NPT
7		TEE, FLARED TUBE, 3 WAY
	118806	5/16
	118807	3/8
8		NOT USED
9	444253	TEE, PIPE 1/8NPT -FEMALE-X 1/8NPT -MALE-X 1/8NPT -FEMALE-
10		NOT USED
11		NOT USED
12	173182	TEE, 5/16 INVERTED FLARED TUBE 3 WAY
13		BUSHING, REDUCING
	112877	1/4 X 1/8 -BRASS-
	444013	1/4 X 1/8 -STEEL-
	119928	3/8 X 1/4
	144051	1/2 X 1/4



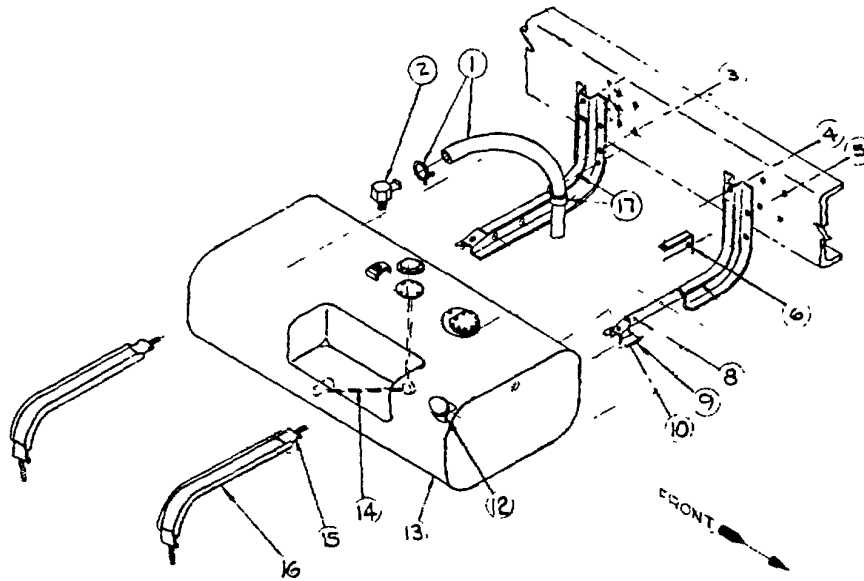
MT134 GROUP 15- FUEL TANKS
 REF NO PART DESCRIPTION
 NO NUMBER

FIG. 15-001 CONTINUED
 FITTINGS

14	250539	C1	ELBOW, INVERTED FLARED TUBE 90 DEGREE
	143343		1/4 X 1/8NPT -MALE-
	193004		5/16 X 1/4NPT -MALE-
			3/8 X 1/4NPT -MALE-
15	444571		PLUG, PIPE SQ-HD
	112578		1/8 -STEEL-
	103878		1/4 -BRASS-
	20 972	R1	1/4 -STEEL-
	113176		3/8 -STEEL-
	113177		1/2 -BRASS-
	16 845	R1	3/4 -BRASS-
			3/4 -STEEL-
16	121619		ELBOW, 45 DEGREE 1/4NPT X 1/4
17			NIPPLE, PIPE
	192041		1/8NPT X 1-3/8
	443978		1/4NPT X 1-3/8
	119247		1/4NPT X 4
18	442323		CONNECTOR, INVERTED FLARED TUBE
	191559		1/4 X 5/8NPT
			5/16 X 1/8NPT
19			NOT USED
20			NOT USED

FIG. 15-002

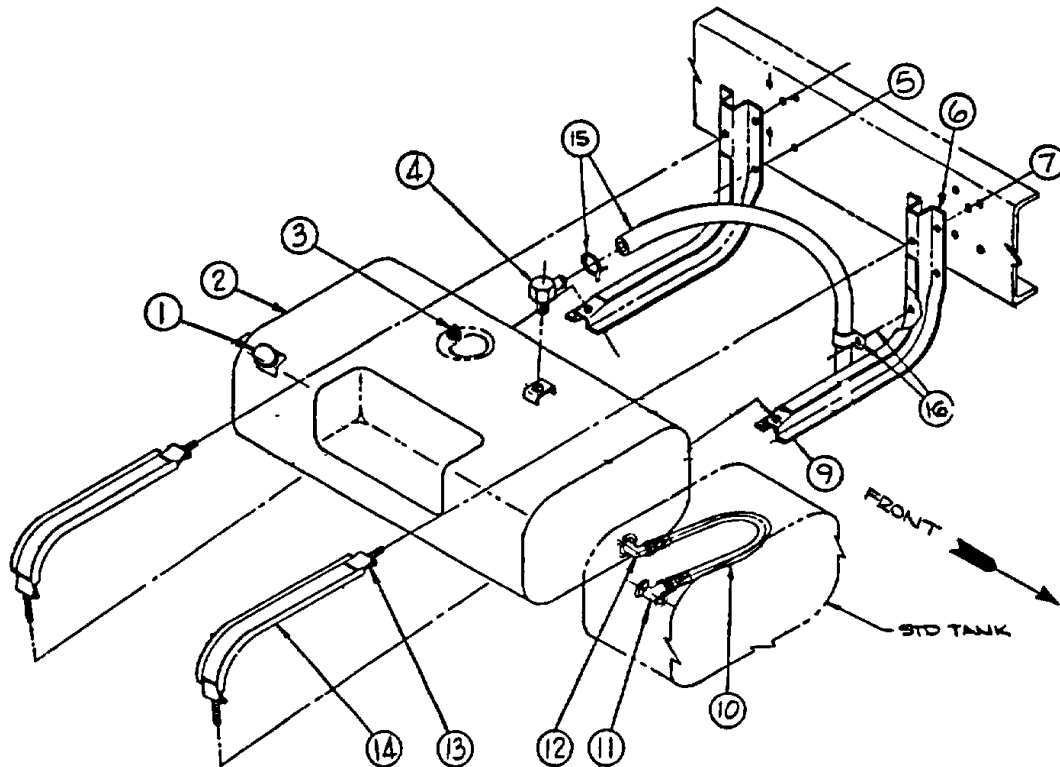
FRONT FUEL TANK AND MOUNTING



ITEM	PART NO	QTY		ITEM	PART NO	QTY	
1	427684C1	1	HOSE- 5/16 ID X 25 LG	14	387683C1	1	GAUGE, FUEL SENDER
1	406340C1	1	CLAMP, HOSE	14	115163H	1	GASKET, FUEL GAUGE SENDER
2	447151C1	REF	VENT, AIR- BALL CHECK- FURNISHED W/TANK	14	365737C1	1	COVER, FUEL GAUGE SENDER
3	414052C1	5	BOLT, FLG HEX HD 1/2- 20UNRF X 1 1/2	15	365957C2	2	STRAP ASSY, FUEL TANK
3	414087C1	5	NUT, HEX LOCK 1/2- 20UNF	16	334150C2	2	LINING, TANK STRAP
4	9412230	2	NUT, HEX LOCK 1/2- 13UNC				
4	25710R1	2	WASHER, FLAT 1/2	17	299257C91	1	CLAMP, HOSE
5	414053C1	1	BOLT, FLG HEX HD 1/2- 20UNFR X 1 3/4	17	181063	1	BOLT, HEX HD, 1/4- 20UNC X 3/4
5	414087C1	1	NUT, FLG HEX LOCK 1/2- 20UNF	17	9413950	1	NUT, HEX LOCK, 1/4- 20UNC
6	252409C1	1	EXTENSION, CLIP				
8	18086	4	BOLT, HEX HD 5/16- 18UNC X 3/4				
8	9413952	4	NUT, HEX LOCK 5/16- 18UNC				
9	365875C5	2	SUPPORT, FUEL TANK				
10	414089C1	2	NUT, FLG HEX LOCK 5/8- 18UNF				
12	254 022 C91	1	CAP, FILLER PIPE				
13	435639C92	1	TANK ASSY, FUEL- 50 GAL CTR STEP- STEEL				
	268648C1	1	COVER PLATE- SENDER UNIT				
	268650C1	1	GASKET, SENDER UNIT				
	448237	6	SCREW, RD HD SLOT TAP #10-32 X 5/8				
	25422C91	1	CAP FILLER PIPE				
	447151C1	1	VENT, AIR BALL CHECK				
	444589	3	PLUG, SQ HD PIPE 1/2NPT				
	224742R1	1	COVER ELECTRIC PUMP				
	217639R1	1	GASKET, ELECTRIC PUMP				
	171613	9	SCREW. RD HD SLT TAP- 1/4- 28UNF X 3/4				

FIG. 15-003

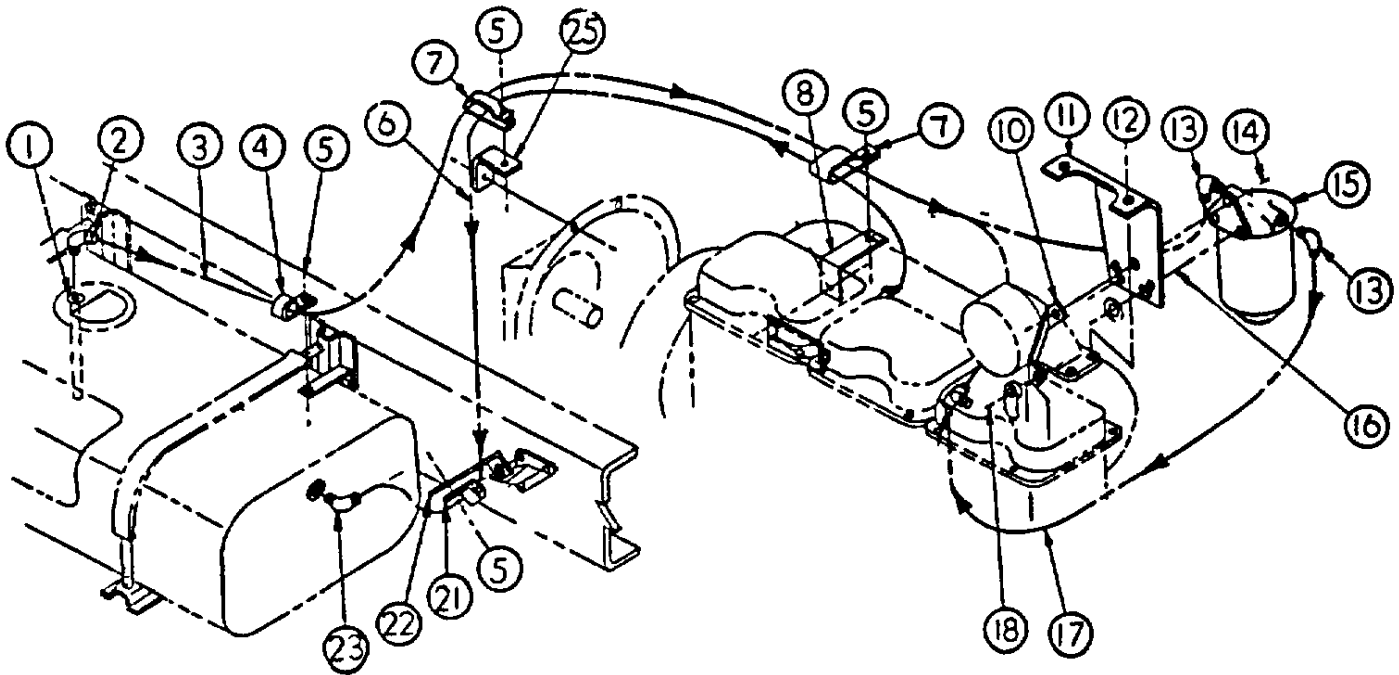
REAR FUEL TANK AND MOUNTING



ITEM	PART NO	QTY	
1	254 022 C91	1	CAP FILLER PIPE
2	365872C93	1	TANK ASSY, FUEL- 50 GAL CTR STEP- STEEL
	444590		PLUG, SQ HD PIPE- 1/2NPT-
	224742R1	1	COVER, ELECTRIC PUMP
	217639R1	1	A GASKET
	171613	9	SCREW, RD HD SLOT TAP- 1/4-28UNF X 3/4
	268648C1	1	COVER PLATE SENDER UNIT
	268650C1	1	GASKET SENDER UNIT
	448237	6	SCREW, RD HD SLOT TAP #10-32 X 5/8
	254022C91	1	CAP, FILLER PIPE
	447151C1	1	VENT, AIR- BALL CHECK
3	20974R1	*	PLUG-, PIPE- SQ HD- 3/4NPT- OPT
4	447151C1	REF	VENT, AIR- BALL CHECK- FURNISHED W/TANK
5	414052C1	8	BOLT, FLG HEX HD- 1/2-20UNRF X 1-1/2
5	414087C1	8	NUT, FLG HEX LOCK, 1/2-20UNF
6	365875C5	2	SUPPORT, FUEL TANK W/5 GAL
7	9412230	2	NUT, HEX LOCK 1/2- 13UNC
7	25710R1	2	WASHER, FLAT- 1/2
9	414089C1	2	NUT, FLG HEX LOCK- 5/8-18UNF
10	G100190000	1	HOSE ASSY, EQUALIZER- AUX TANK TO MAIN TANK
11	777857C91	1	VALVE ASSY, SHUT OFF 1/2NPT X 7/8- 14 FLARED
12	192140	1	ELBOW, 90 DEG 1/2NPT X 7/8- 14 FLARED OPT
13	365957C2	2	STRAP ASSY, FUEL TANK
14	334150C2	2	LINING, TANK STRAP W/50 GAL
15	427684C1	1	HOSE- 5/16 ID X 30 LG
15	406340C1	1	CLAMP, HOSE
16	299257C91	1	CLAMP, HOSE
16	181063	1	BOLT ,HEX HD, 1/4-20UNC x 3/4
16	9413950	1	NUT, HEX LOCK, 1/4-20UNC

FIG. 15-004

FUEL FILTER MOUNTING AND HOISING



ITEM	PART NO	QTY	
1	875430R11	1	LINE, SUCTION
2	109429	*	ELBOW, 90 DEG 1/2 X 7/8-14
3	G100050000	1	HOSE ASSY- TANK TO FILTER
4	299260C91	1	CLAMP, HOSE
5	25222R1	4	BOLT, HEX HD, 1/4-20 UNC X 3
6	G000600000	1	HOSE ASSY ENG TO TANK
7	408769C1	2	CLAMP, DOUBLE HOSE
8	435624R1	1	EXTENSION CLIP
10	457254C1	1	BRACE, FILTER BRKT
11	429175C3	1	BRACKET, FUEL FILTER
12	24841R1	2	BOLT, HEX HD, 3/8-16 UNC X 1-1/2
12	120382	2	WASHER, LOCK 3/8 REG
13	232640R91	2	ELBOW, 90 DEG- 7/8-14 X 7/8-14 FLARED
14	24841R1	1	BOLT, HEX HD 3/8-16 UNC X 1-1/2
14	25709R1	1	WASHER, FLAT 3/8
14	9413979	1	NUT, HEX LOCK 3/8-16 UNC
15	199947H1	1	FILTER ASSY, 4 QT
16	9413979	2	NUT, HEX HD 3/8-16 UNC X 1-1/2
16	25709R1	1	WASHER, FLAT 3/8
16	9413979	2	NUT, HEX LOCK 3/8-16 UNC
17	G100250000	1	HOSE ASSY- FILTER TO ENGINE
18	25033R1	1	BOLT, HEX HD 9/16-18UNF X 1-1/2
18	25079R1	1	WASHER, FLAT 9/16
18	120898	1	WASHER, LOCK 9/16 REG
20	414052C1	1	BOLT, FLG HEX HD 1/2-20 UNRF X 1-1/2
20	414087C1	1	NUT, FLG HEX LOCK 1/2-20 UNF
21	981987R91	1	CLAMP, HOSE
22	280248C1	1	EXTENSION, CLIP
23	300892R1	1	ELBOW, 90 DEG 1/2 X 3/4-16 FLARED

GROUP 16-CAB AND BODIES

	FIG. NO.
ASH RECEIVER	16-006
CAB ASSEMBLY	16-011
DEFROSTER AND DUCTS	16-004
DOOR ASSEMBLY	16-007
DRAIN VALVE (HEATER)	
AT BOTTOM OF AIR DUCTS	16-005
AT BOTTOM OF MOTOR SHIELD	16-024
ENGINE AND TRANSMISSION COVERS	16-023
FLOOR MATS	16-023
GRAB HANDLE	16-011
HEATER	16-008
INTERIOR VIEW	16-006
INSTRUMENT PANEL	16-006
MIRROR, REAR VIEW	16-041
MOUNTING, CAB	16-014
PTO ACCESS PANEL	16-015
REAR TRIM (INTERIOR)	16-040
SEAT ASSEMBLY	
DRIVERS	16-010
PASSENGER	16-032
SEAT BELTS	16-039
SUN VISORS	16-006
TRIM, INSIDE	16-006
WINDOWS	
CAB DOOR AND VENTS	16-007
REAR	16-011
WINDSHIELD WASHERS	16-029
WINDSHIELD WIPERS, MOTOR AND MOUNTING	16-012

REF
NO

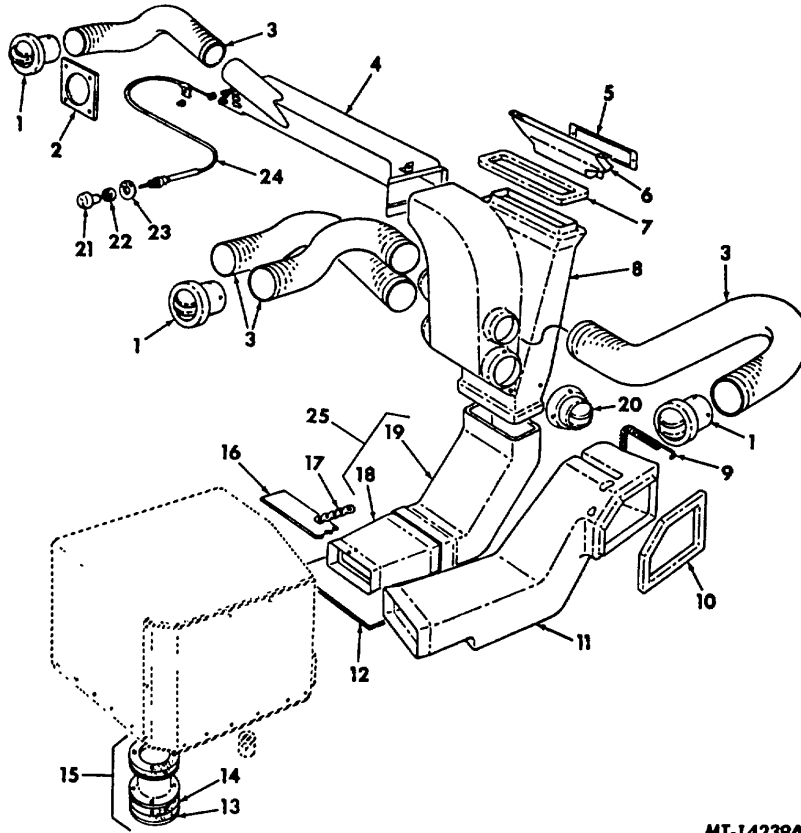
MT134 GROUP 16- CAB AND/OR BODIES
PART
NUMBER DESCRIPTION

REF
NO

MT134 GROUP 16- CAB AND/OR BODIES
PART
NUMBER DESCRIPTION

FIG. 16-004
HEATER AND AIR CONDITIONING DUCTS

FIG. 16-004 CONTINUED
HEATER AND AIR CONDITIONING DUCTS



MT-14239A

1		NOT USED
2		NOT USED
3		NOT USED
4	434502	C2 DUCT, ENGINE SHROUD
5	433143	C1 SEAL, DEFROSTER DUCT -4-
6	432080 188749	C1 DUCT, DEFROSTER -4- SCREW, PAN-CR-REC-HD NO. 10-24 X 3/8, W/LW -8-
7	433150	C1 SEAL, UPPER DUCT

8	433126	C1 DUCT, W/DOORS, UPPER -ORDER COMPONENTS- DUCT, UPPER
	434453	C1 BRACKET, DUCT
	434486	C1 SUPPORT, DUCT TO COWL
	433117	C3 DOOR, DUCT REAR
	167024	SCREW, TAP. PAN-CR-REC-HD NQ8-32X 1/4
	433120	C1 DOOR, DUCT FRONT
	144325	R1 CLIP, ROD END -2-
	424304	C2 ROD, DEFROSTER DOOR CONNECTING
	433115	C2 ROD, DEFROSTER DOOR CONTROL
9	433135	C1 SPRING, FRESH AIR DUCT FASTENER
10	433155	C1 SEAL, FRESH AIR DUCT
11	433129	C1 DUCT, FRESH AIR
12	270081	C91 INSULATOR, FLOOR
13	424156	C1 COVER, SHIELD
	25 462	R1 BOLT, HEX-HD 1/4NC X 5/8 -4-
	25 458	R1 NUT, HEX. 1/4NC -4-
	424153	C1 WASHER, FLAT 1/4 -4-
14	426141	C1 SEAL, COVER
15	426143	C1 SHIELD, MOTOR
	426148	C1 BOLT, SHIELD RETAINING -4-
	25 457	R1 NUT, HEX. NO. 10-24 -4-
	426152	C1 WASHER, FLAT NO. 10 -NYLON- -4-



REF
NO

MT134 GROUP 16- CAB AND/OR BODIES
PART DESCRIPTION
NUMBER

FIG. 16-004 CONTINUED
HEATER AND AIR CONDITIONING DUCTS

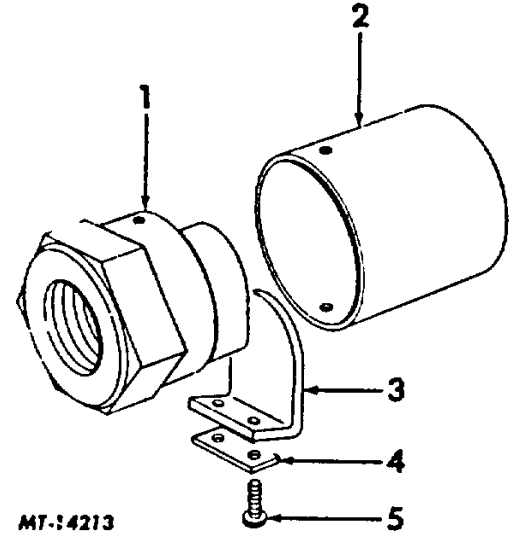
16	996998	R1	\$SEAL, DUCT
17	427085	C1	STRIP, SEAL CLAMP -4-
	24 390	R1	SCREW PAN-CR-REC-HD NO.10-16X1/2 -4-
18			DUCT -NOT SERVICED SEPARATELY-
19			DUCT -NOT SERVICED SEPARATELY-
20	428074	C91	DEFLECTOR, W/BEZEL, OUTLET
	427941	C1	FASTENER, DEFLECTOR -3-
21			NOT USED
22			NOT USED
23			NOT USED
24			NOT USED
25	440304	C91	DUCT, TREATED AIR ASSY
			\$PART NO. COVERS 1 FT. OF BULK MATERIAL



REF
NO

MT134 GROUP 16- CAB AND/OR BODIES
PART DESCRIPTION
NUMBER

FIG. 16-005
AIR CONDITIONER DRAIN VALVE

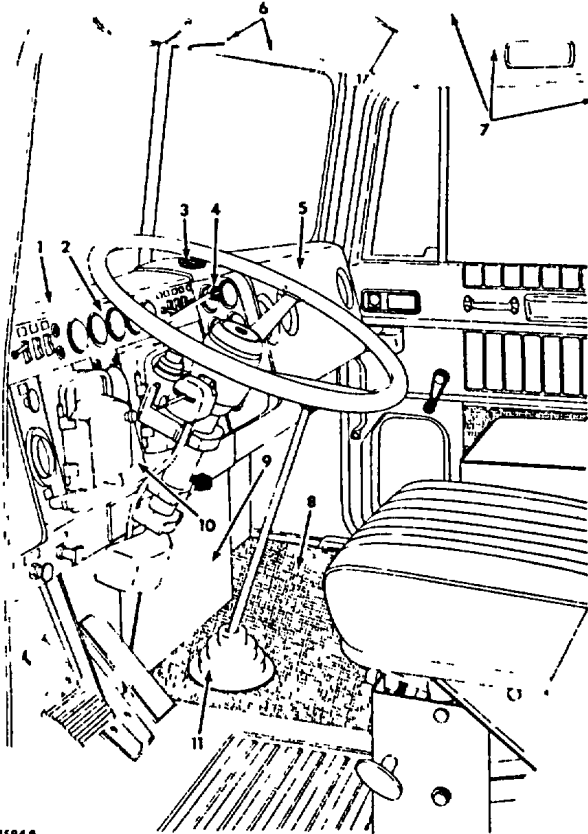


1	426177	C91	VALVE, DRAIN, ASSY
	426176	C1	VALVE, DRAIN VALVE
	426115	C1	SLEEVE, DRAIN VALVE
	426181	C1	SEAL, DRAIN VALVE
	426180	C1	REINFORCEMENT, DRAIN VALVE
	426174	C1	SCREW REINF TO SEAL -NYLON- -4-

REF
NO

MT134 GROUP 16- CAB AND/OR BODIES
PART DESCRIPTION
NUMBER

FIG. 16-006
CAB INTERIOR



MT 13594A

1	459619	C1	PANEL, INSTRUMENT LEFT
2	441771 272727 159947 138534	C1	PANEL, INSTRUMENT CENTER UPPER SCREW, OV-CR-REC-HD NO.10 X 7/16 -5- SCREW, PAN-CR-REC-HD NO.10 X 3/4 -23- WASHER, LOCK 10 IT -25-
3	368273 406T77	C1	TRAY, ASH WASHER, TRAY RETAINER
4	434333 434577 447697	C1	PANEL, INSTRUMENT RIGHT FASTENER, ADJUSTABLE NUT, EXPANSION -AR-
5	433734 425469 407822 154119 428465 428882 428883 407067	C1	PAD, INSTRUMENT PANEL HINGE, INSTRUMENT PANEL PAD -2- PLUG, SWITCH MOUNTING FILLER -AR- NUT, CAGE NO. 10-24 -3- FASTENER, INSTRUMENT PANEL PAD -3- PLUNGER, PAD FASTENER -10- GROMMET, PAD FASTENER -10- COVER, AIR CONDITIONER OPENING -3-

REF
NO

MT134 GROUP 16- CAB AND/OR BODIES
PART DESCRIPTION
NUMBER

FIG. 16-006 CONTINUED
CAB INTERIOR

6	403432	C92	VISOR, SUN -2-	
	403430 403431 157105 403436 410753 364313 322512 156963 364312	C91 C91 C1 C1 C1 C11 C1	BRACKET, LEFT VISOR MOUNTING BRACKET, RIGHT VISOR MOUNTING SCREW, OV-CR-REC-HD NO.10-32 X 1/2 BRACKET, VISOR SIDE -2- BRACKET, VISOR CENTER -WILL WORK FOR 410754C1- NUTSERT, NO. 10NC -4- CLIP, VISOR -2- SCREW, OV-CR-REC-HD NO. 10-24X1/2-16- NUTSERT, #8-32 -4-	
7	403416 403296 403417 403297 403412 403295 403354 328388 368691 403373 310407 310597 403071 403367 368691 144640 270081 403264	C2 C2 C2 C2 C3 C2 C1 C1 C1 C3 C1 C1 C1 C1 C1 C1 C1 C1	PANEL, HEADLINING, TRIM LEFT RETAINER, HEADLINING TRIM PANEL LEFT PANEL, HEADLINING TRIM RIGHT RETAINER, HEADLINING TRIM PANEL RIGHT PANEL, HEADLINING CENTER RETAINER, HEADLINING TRIM PANEL FRONT RETAINER, HEADLINING TRIM PANEL REAR SCREW, PAN-CR-REC-HD NO. 10-12 X 1/2 -18- RETAINER, CENTER HEADLINING PANEL -1-1/2 INCH OBLONG- RETAINER, W/BRACKETS, HEADLINING PANEL -2- CAP, END MouldING -4- MouldING, HEADLINING PANEL -2- SCREW, FL-CR-REC-HD NO. 10-24X1/2 -4- BOW, ROOF CENTER RETAINER, ROOF CENTER BOW SCREW, TAP, FLAT-HD NO. 10-12X1/2 -2- INSULATION, TRIM PANEL -8- SPACER, REAR CORNER UPPER -2-	
	8		NOT USED	
	9		NOT USED	
	10	406788 441775 406913	C2 C1 C2	PANEL, INSTRUMENT CENTER LOWER SUPPORT, CENTER PANEL BRACKET, CENTER PANEL SUPPORT
	11		NOT USED	
	403587 159909 131188	C1	*COVER, RADIO OPENING SCREW, PAN-CR-REC-HD NO. 10 X 3/8 -6- WASHER, LOCK NO. 10 -6-	
	403425 163105	C1	*COVER, DOME LIGHT SCREW, PAN-CR-REC-HD NO. 6 X 1/2 -2-	

*PARTS NOT ILLUSTRATED

REF
NO

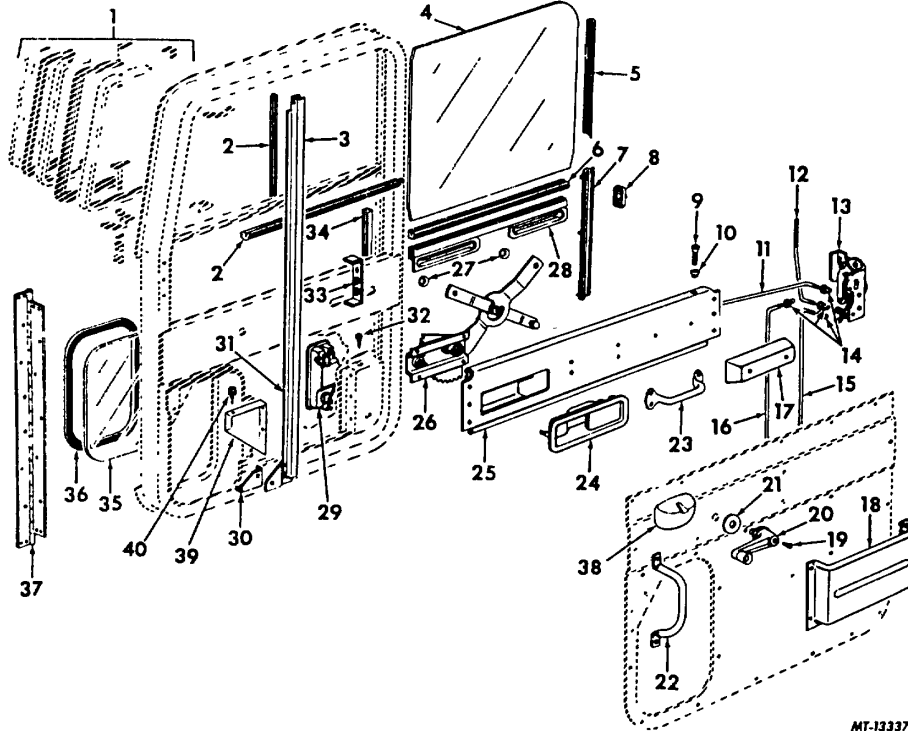
MT134 GROUP 16- CAB AND/OR BODIES
PART
NUMBER DESCRIPTION

REF
NO

MT134 GROUP 16- CAB AND/OR BODIES
PART
NUMBER DESCRIPTION

FIG. 16-007
DOOR, WINDOW AND VENT

FIG. 16-007 CONTINUED
DOOR, WINDOW AND VENT



MT-13337A

			DOOR, W/VENT, LOCK, INSIDE HANDLES GLASS AND CONTROLS, CAB -W/O HINGE-	8
420469	C91		LEFT	
470470	C91		RIGHT	
			WINDOW, W/HANDLE, SEAL AND BRACKET, DOOR VENT	
403505	C91		LEFT -WILL WORK FOR 403503C91-	
403 06	C91		RIGHT -WILL WORK FOR 403504C91-	
159613			SCREW, PAN-CR-REC-HD NO.8-32 X 5/8 -6-	
121841			WASHER, LOCK NO. 8 MEDIUM -6-	
432741	C1		PLATE, STRIKER -CHROME- -2-	
2	403508	C1	SEAL, WINDOW OPENING -4-	
3			RETAINER, GLASS RUN CHANNEL, ASSY	
	403563	C91	LEFT	
	403564	C91	RIGHT	
	160515		SCREW, PAN-CR-REC-HD 1/4NC X 1/2 -6-	
			WASHER, LOCK 1/4 MEDIUM -6-	
			WASHER, FLAT 1/4 -6-	
4			GLASS, DOOR -2-	
	403510	C1	TINTED	
5	403507	C1	CHANNEL, GLASS RUN -2-	
6	996998	R1	SEAL, GLASS -2-	
7	403555	C2	FILLER, SIDE DOOR LOCK -2-	
	24 374	R1	SCREW, TAP. PAN-CR-REC-HD NO.8-18X3/8 3/8 -4- WASHER, FLAT 3/16 -4-	

			DOVETAIL, DOOR MALE -2-	
	232906	R1	SCREW, FL-CR-REC-HD NO.12-24 X 1/2-4-	
	156094			
9	330411	C1	KNOB, LOCK CONTROL -2-	
10	403567	C1	BUSHING, CONTROL KNOB, HEAD DIA .69 -2-	
	358709	C2	ESCUTCHEON, LOCK KNOB, HEAD DIA .56 -2-	
11			ROD, LOCK CONTROL INNER	
	403535	C4	LEFT	
	403536	C4	RIGHT	
	428208	C1	RETAINER, LOCK CONTROL ROD -4-	
12			ROD, DOOR LOCK KNOB	
	403533	C2	LEFT	
	403534	C2	RIGHT	
	428208	C1	RETAINER, KNOB ROD	
	358709	C2	ESCUTCHEON, LOCK KNOB -2-	
13			LOCK, DOOR	
	403539	C93	LEFT	
	403540	C93	RIGHT	
	156094		SCREW, FL-CR-REC-HD NO.12-24 X 1/2 -6-	
	424472	C91	CYLINDER, LEFT DOOR LOCK	
	424473	C91	CYLINDER, RIGHT DOOR LOCK	
	434921	C1	KEY, DOOR LOCK BLANK -WILL WORK FOR 412377C1- -2-	
	423745	C1	RETAINER. CYLINDER HOUSING -2-	
14	428208	C1	RETAINER, LOCK ROD -8-	
15	403537	C3	ROD, LOCK CYLINDER CONTROL -2-	
16	403538	CZ	ROD, LOCK CONTROL OUTER -2-	

REF
NOMT134 GROUP 16- CAB AND/OR BODIES
PART
NUMBER DESCRIPTIONREF
NOMT134 GROUP 16- CAB AND/OR BODIES
PART
NUMBER DESCRIPTIONFIG. 16-007 CONTINUED
DOOR, WINDOW AND VENT

17	417185	C1	REST, ARM STANDARD
	160515		SCREW, PAN-CR-REC-HD 1/4NC X 1/2 -2-
18	417096	C1	POCKET, MANIFEST
	159906		SCREW, PAN-CR-REC-HO NO.10-24X3/8 -7-
	120217		WASHER, LOCK NO. 10 MEDIUM -7-
19	286565	C1	SCREW, SOCKET-HD NO. 10-24 X 5/8 -2-
20	395948	C1	HANDLE, WINDOW REGULATOR -2-
21	286579	C1	WASHER, REGULATOR HANDLE -2-
22	779364	C1	HANDLE, GRAB
	160536		SCREW, PAN-CR-REC-HD 1/4NC X 5/2 -2-
	178474		WASHER, FLAT 1/4 -2-
23	416964	C1	HANDLE, DOOR PULL -2-
	147762		SCREW, OV-CR-REC-HD NO.8-32 X 5/8 -8-
	120622		NUT, HEX. NO. 8-32 -8-
	121841		WASHER, LOCK NO. 8 MEDIUM -8-
	446152		WASHER, FLAT 13/64 X 15/32 -
24	403560	C92	HANDLE, LEFT DOOR REMOTE, ASSY
	403561	C92	HANDLE, RIGHT DOOR REMOTE, ASSY
25	403551	C1	PANEL, LEFT DOOR INNER
	403552	C1	PANEL, RIGHT DOOR INNER
	159908		SCREW, MACH NO. 10-24 X 3/8 -AR-
	120217		WASHER, LOCK 3/16 -AR-
	446178		BOLT, HEX-HO 1/4 X 5/8 -2-
	454166		WASHER, LOCK 1/4 -2-
			PLUG, BUTTON -2-
26	403526	C91	REGULATOR, LEFT WINDOW, ASSY
	403527	C91	REGULATOR, RIGHT WINDOW
	116 253		SCREW, FL-CR-REC-HO 1/4NC X 3/4 -8-
	114 611		WASHER, LOCK 1/4 MEDIUM -8-
27	162210	R1	CLIP, REGULATOR ARM RETAINING -6-
28	403511	C1	CHANNEL, DOOR GLASS -2-
29	401524	C91	HANDLE, LEFT DOOR OUTER, ASSY
	403525	C91	HANDLE, RIGHT DOOR OUTER, ASSY
	120361		NUT, HEX. NO. 10-24 -4-
	120217		WASHER, LOCK 3/16 MEDIUM -4-
30	403531	C2	BRACKET, LEFT CHANNEL RETAINER
	403532	C2	BRACKET, RIGHT CHANNEL RETAINER
	160515		SCREW, PAN-CR-REC-HD 1/4NC X 1/2 -2-
	120380		WASHER, LOCK 1/4 MEDIUM -16-
	446179		WASHER, FLAT 1/4 -6-
31			RETAINER - SEE REF. NO. 3-
32	76 652	R1	BUMPER, WINDOW STOP -2-
33	403251	C1	BRACKET, DOVE TAIL MOUNTING -2-
	24 407	R1	SCREW, TAP. PAN-CR-REC-HD NO.6-18X1/2
34	403528	C1	RETAINER, GLASS CHANNEL REAR -2-
35	437560	C1	GLASS, RIGHT DOOR VIEW
36	403565	C1	SEAL, VIEW GLASS
37T	403562	C91	HINGE, DOOR, ASSY -2-
	3238a8	C1	BOLT, HEX-HD 5/16NC X 3/4 -38-
	428290	C1	SPACER, DOOR HINGE -2-
	453049		SCREW, PAN-CR-REC-HD 1/4NC X 3/4 -8-
			WASHER, LOCK 1/4 MEDIUM -8-
	42B290	C1	BAR, SPACER
	431257	C1	SCREW, FL-CR-REC-HD NO.12-24X1/2 -15-
	403356	C2	STRAP, DOOR CHECK -2-
38	196983	R92	RECEPTACLE, ASH -CODE 16918- -2-
	163162		SCREW, PAN-CR-REC-HD NO. 8NC X 1/2-4-
39	424415	C1	BRACKET, WINDOW STOP
	403061	C1	RIVET, DOME HD 3/16 -3-
40	76 652	R1	BUMPER, STOP

FIG. 16-007 CONTINUED
DOOR, WINDOW AND VENT

			*PANEL, DOOR OUTER LOWER
403034	C2		LEFT
403035	C2		RIGHT -WVIEW GLASS-
403630	C1		*BRACKET, DOOR DIV BAR -2-
364315	C1		NUT, SERT 1/4NC -6-
403030	C1		*PANEL, DOOR CTR UPPER, LEFT
403031	C1		*PANEL, DOOR CTR UPPER, RIGHT

*PARTS NOT ILLUSTRATED

REF
NO

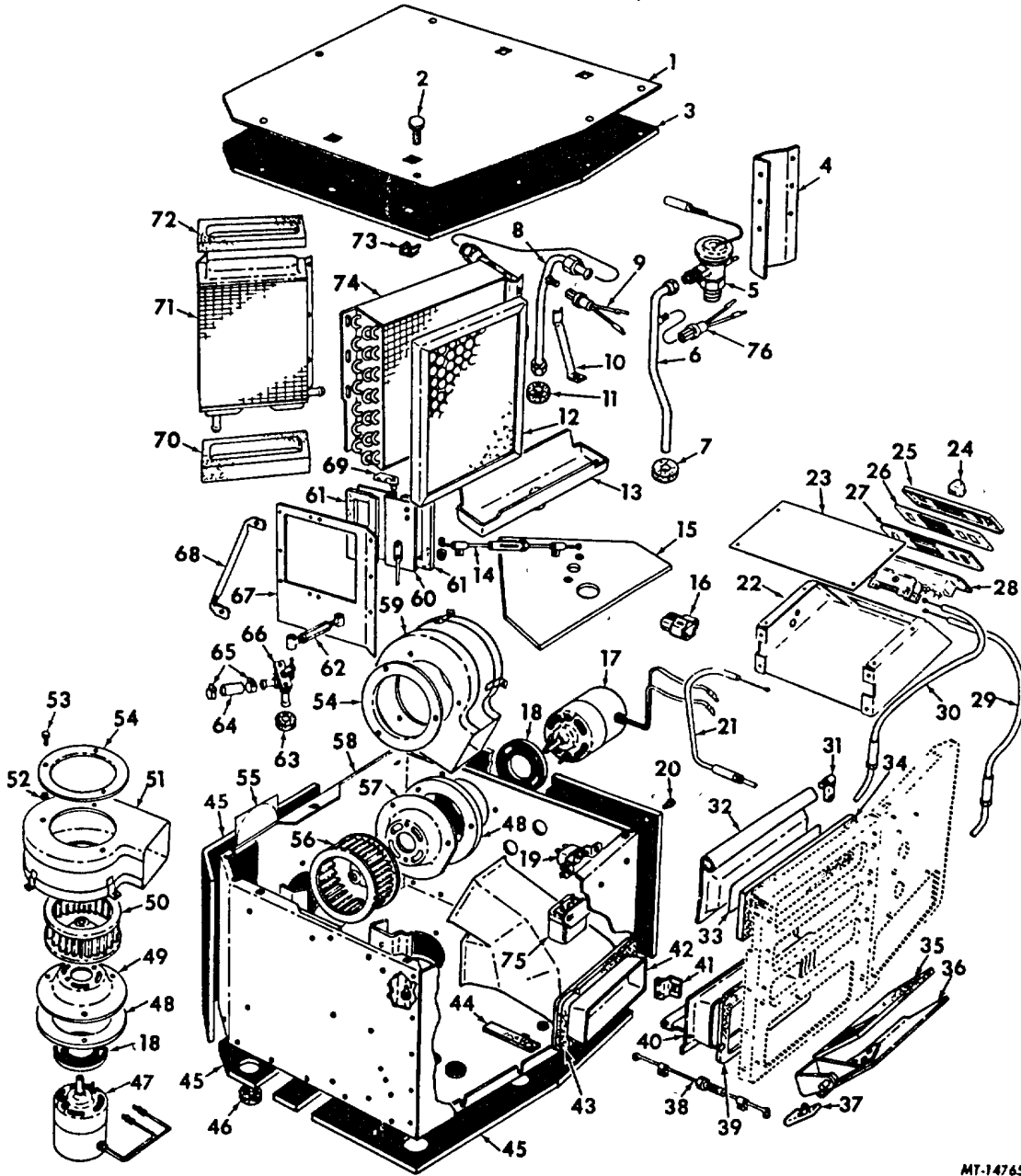
MT134 GROUP 16- CAB AND/OR BODIES
PART
NUMBER DESCRIPTION

REF
NO

MT134 GROUP 16- CAB AND/OR BODIES
PART
NUMBER DESCRIPTION

FIG. 16-008
HEATER AND AIR CONDITIONER ASSEMBLY

FIG. 16-008 CONTINUED
HEATER AND AIR CONDITIONER ASSEMBLY



MT-14765

- | | | | |
|---|--------|----|--|
| 1 | 426069 | C1 | COVER, W/SEAL, HEATER BOX |
| 2 | 434441 | C1 | BOLT, WING -6- |
| 3 | | | SEAL, HEATER BOX COVER -NOT SERVICED SEPARATELY- |
| 4 | 426138 | C1 | SUPPORT, HEATER |

NOT USED



MT134 GROUP 16- CAB AND/OR BODIES
REF PART DESCRIPTION
NO NUMBER

FIG. 16-008 CONTINUED

REF NO	PART NUMBER	DESCRIPTION
	HEATER ASSEMBLY	
6		NOT USED
7		NOT USED
8		NOT USED
9		NOT USED
10		NOT USED
11		NOT USED
12		NOT USED
13		NOT USED
14		NOT USED
15	427067 C1	SEAL, FLOOR
16	258059 CZ	CONNECTOR, BODY
17	421843 C1	MOTOR, SIDE BLOWER
	345475 C1	NUT, HEX. NO. 10-32 -2-
18	421845 C1	INSULATOR, MOTOR MOUNTING -2-
19		NOT USED
20	426 74 C1	RIVET. 5/32 X .380 -PLASTIC- -4-
21	433042 C1	CABLE. BLEND AIR DOOR CONTROL -WHITE-
22	447158 C1	PANEL, HEATER CONTROL MOUNTING -W/SIDE PANELS-
23	447160 C1	PANEL, HEATER CONTROL HOUSING
24	409897 C21	KNOB, CONTROL, ASSY
	409897 C11	SCREW, KNOB SET
25		BEZEL, CONTROL
	428072 C1	STANDARD -W/O AIR CONDITIONER-
	428073 C1	SCREW, FL-HD NO. 10-16 X 3/4 -4-
26	428014 C1	ESCUTCHEON, CONTROL
27	42A018 C1	PLATE, REFLECTOR
28		CONTROL, HEATER (ORDER COMPONENTS)
	428017 C1	LEVER, HEATER CONTROL
	433162 C1	LEVER, DEFROSTER
	428016 C1	LEVER, AIR CONDITIONER CONTROL
	434297 C1	SWITCH, HEATER -2-
	163162	SCREW, PAN-CR-REC-HD NO.8-18 X 18 -4-
	427125 C1	LEVER, FRESH AIR/RECIRCULATING AIR
	407605 C1	CLIP. SPEED
		BRACKET. CONTROL
	428022 C1	W/FLARE FITTINGS
29	433043 C1	CABLE. CAB AIR CONTROL -BLACK-
30		NOT USED
31	431203 C1	PIVOT, DOOR -6-
32	426167 C2	DOOR, RECIRCULATING -3-
33		STRIP, MYLAR -NOT SERVICED SEPARATELY-
34	426161 C1	SEAL. RECIRCULATING DOOR -3-
35	426238 C1	SEAL. FRESH AIR DOOR
36	426237 C1	DOOR FRESH AIR
	25 747 R1	SCREW, HEX-HD N. 8.32 X 3/4 -4
37	421841 C1	PIVOT, DOOR -2-
38	433040 C1	CABLE, FRESH AIR DOOR CONTROL -GREEN-
39	426245 C1	SEAL, AIR INTAKE DUCT



MT134 GROUP 16- CAB AND/OR BODIES
REF PART DESCRIPTION
NO NUMBER

FIG. 16-008 CONTINUED

REF NO	PART NUMBER	DESCRIPTION
	HEATER ASSEMBLY	
40	426190 C1	DUCT, AIR INTAKE
41	428063 C1	BRACKET, CONTROL CABLE
42	426168 C1	DUCT, AIR
43		SEAL -FURNISHED WITH 426168C1-
44	996998 R1	SEAL, FRONT FLOOR
45	426253 C1	INSULATOR, HEATER BOX
46	426257 C1	SPACER, HEATER BOX -4-
47	421844 C1	MOTOR, FLOOR BLOWER
	345475 C1	NUT, HEX. NO. 10-37 -2-
48	426044 C1	SEAL, FLOOR SCROLL -2-
49	421846 C11	PLATE, MOTOR MOUNTING
50	421 150 C1	WHEEL, FLOOR BLOWER
	443778	SCREW, HEX-SOCKET SET 1/4-28 X 3/8
51	426197 C1	HOUSING, FLOOR BLOWER
	427847 C1	RIVET, 1/4 X .600 -PLASTIC- -3-
52	428075 C1	NUT, HEX. NO. 10-24, W/LOCKWASHER -6-
53	426148 C1	BOLT, HEX-HO NO. 10-24 X 5/8 -6-
54	421848 C1	PLATE, AIR INLET -2-
55	428064 C1	TAPE, BUNK BLOWER MOUNTING HOLE -2-
56	421849 C1	WHEEL, SIDE BLOWER
	443778	SCREW, HEX-SOCKET SET 1/4-28 X 3/8
57	421847 C1	PLATE, MOTOR MOUNTING
58	426159 C2	BOX, HEATER
	12 686 R1	BOLT, CARRIAGE 1/2NF X 1-1/2 -4-
	426222 C1	WASHER, FLAT -RUBBER- -4-
59	426053 C1	HOUSING, SIDE BLOWER
	427847 C1	RIVET, 1/4 X .600 -PLASTIC- -3-
60	426057 C1	DOOR, HEATER
61	421830 C1	SEAL, HEATER
62	426160 C1	ROD, WATER VALVE ADJUSTMENT
63	426307 C1	SEAL, HEATER VALVE TUBE
64		HOSE, HEATER 3/4 ID \$
	364360 C1	RUBBER
		CONDUIT, PROTECTIVE \$
	436697 C1	1-1/4 ID
	299277 C91	CLAMP, RUBBER CUSHIONED 1-5/8 HOSE -2-
	25 222 R1	BOLT, 1/4NC X 3/4 -2-
	26 110 R1	NUT, LOCK 1/4 NC -2-
	299269 C91	CLAMP, RUBBER CUSHIONED 1-1/4 HOSE -3-
		EXTENSION, CLIP -3-
	405262 C11	STRAIGHT TYPE
		90 DEGREE TYPE
	86 750 R1	3-3/8 LONG
	190178 R1	5-13/16 LONG
	25 222 R1	BOLT, 1/4NC X 3/4 -3-
	26 110 R1	NUT, LOCK 1/4NC -3-
	25 707 R1	WASHER, FLAT 1/4
	306132 C1	STRAP, HOSE
65	995218 R1	CLAMP, HOSE -8-
66		VALVE, HEATER -2-
	421842 C1	W/O FLARE FITTINGS
67	426059 C1	FRAME, HEATER DOOR
68	428010 C1	SUPPORT, HEATER DOOR FRAME
69	421841 C1	PIVOT, HEATER DOOR -2
70	428067 C1	SEAL, HEATER CORE LOWER

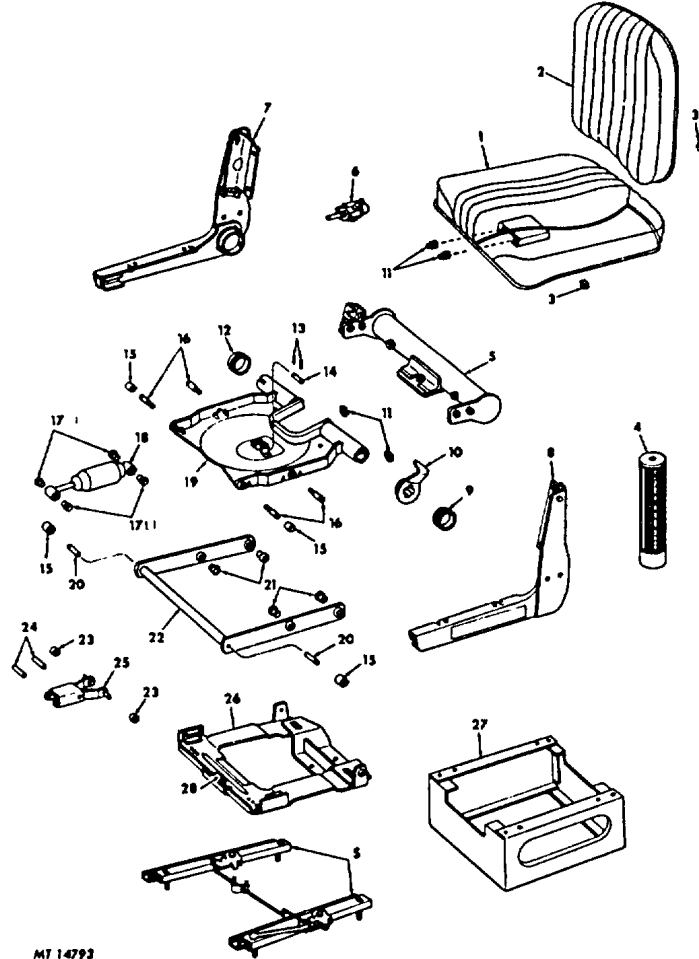


MT134 GROUP 16- CAB AND/OR BODIES
REF PART DESCRIPTION
NO NUMBER

FIG. 16-008 CONTINUED

EATER ASSEMBLY

71	426063	C1	CORE, HEATER
72	428066	C1	SEAL, HEATER CORE UPPER
73	426149	C1	NUT, LOCK 3/8-16 -4-
74			
	427937	C1	PANEL, FILLER -STANDARD- -W/O A/C-
75			NOT USED
76			NOT USED
			SPART NO. COVERS ONE FOOT OF BULK MATERIAL

REF
NOMT134 GROUP 16- CAB AND/OR BODIES
PART
NUMBER DESCRIPTIONREF
NOMT134 GROUP 16- CAB AND/OR BODIES
PART
NUMBER DESCRIPTIONFIG. 16-010
DRIVERS SEAT -AIR SUSPENSION-FIG. 16-010 CONTINUED
DRIVERS SEAT -AIR SUSPENSION-

MT 14792

	425440	C92	SEAT, DRIVERS, ASSY	5	400552	C1	RESERVOIR, AIR
				6	400556	C92	VALVE, W/HOSES, AIR
				7	400551	C1	PANEL, SEAT RIGHT, ASSY
				8	400550	C1	PANEL, SEAT LEFT, ASSY
				9	899400	R1	BUSHING, SEAT LEVER LEFT
1	439695	C91	CUSHION, SEAT, ASSY	10	400558	C1	INDICATOR, RIDE
	896262	C1	PAN, BACK CUSHION	11	899422	R1	BUMPER, RUBBER -4-
	439696	C1	COVER, SEAT CUSHION	12	899401	R1	BUSHING, SEAT LEVER RIGHT
				13	17 176	R1	PIN, ROLL 3/16 X 1-2-
				14	899406	R1	PINT SHOCK ABSORBER
				15	899402	R91	ROLLER, W/BUSHING -4-
2	439697	C91	CUSHION, BACK, ASSY	16	899403	R1	PIN, ROLLER -6-
					370290	R1	RING, SNAP -10-
	43969B	C1	COVER, BACK CUSHION	17	565518	R1	BUSHING, SHOCK ABSORBER -4-
	896263	C1	PAN, SEAT CUSHION	18	899845	R91	ABSORBER, W/PIN, SHOCK
				19			LEVER -NOT SERVICED SEPARATELY-
3	379385	R1	CLIP, COVERING -12-	20	899398	R1	PIN, SEAT LEVER DRIVE
4	400557	C91	SPRING, AIR	21	899397	R1	BUSHING, SEAT ADJUSTING LEVER
				22	899396	R91	LEVER, V/PINS, SEAT ADJUSTER
				23	899418	R91	ROLLER, W/BUSHING, SEAT -2-



MT134 GROUP 16- CAB AND/OR BODIES

REF NO	PART NUMBER	DESCRIPTION
FIG. 16-010 CONTINUED		
DRIVERS SEAT -AIR SUSPENSION-		
24	899405 R1	PIN, HINGE -2-
25	899404 R91	LEVER W/PINS, SHOCK ABSORBER
26	400549 C91	BASE, W/BUSHINGS, SEAT
27	430055 C1	RISER, SEAT
	25 709 R1	WASHER, 3/8 FLAT -4-
28	193653 R1	BUSHING, SEAT STABILIZER -2-
96 644	R11	*ELBOW, 90 DEGREE -AT MANIFOLD FITTING-
142064	H	*CONNECTOR, HOSE -AT SEAT ASSY-
417196	C1	*TUBING, NYLON -101 LONG-
30773 V		NUT, CONNECTOR -2-
30774 V		SLEEVE, CONNECTOR -2-
414504	C1	INSERT, CONNECTOR -2-
899846	R91	*PARTS NOT ILLUSTRATED ?KIT, SHOCK ABSORBER BUSHING
439700	C1	\$KIT, SEAT ADJUSTER



MT134 GROUP 16- CAB AND/OR BODIES



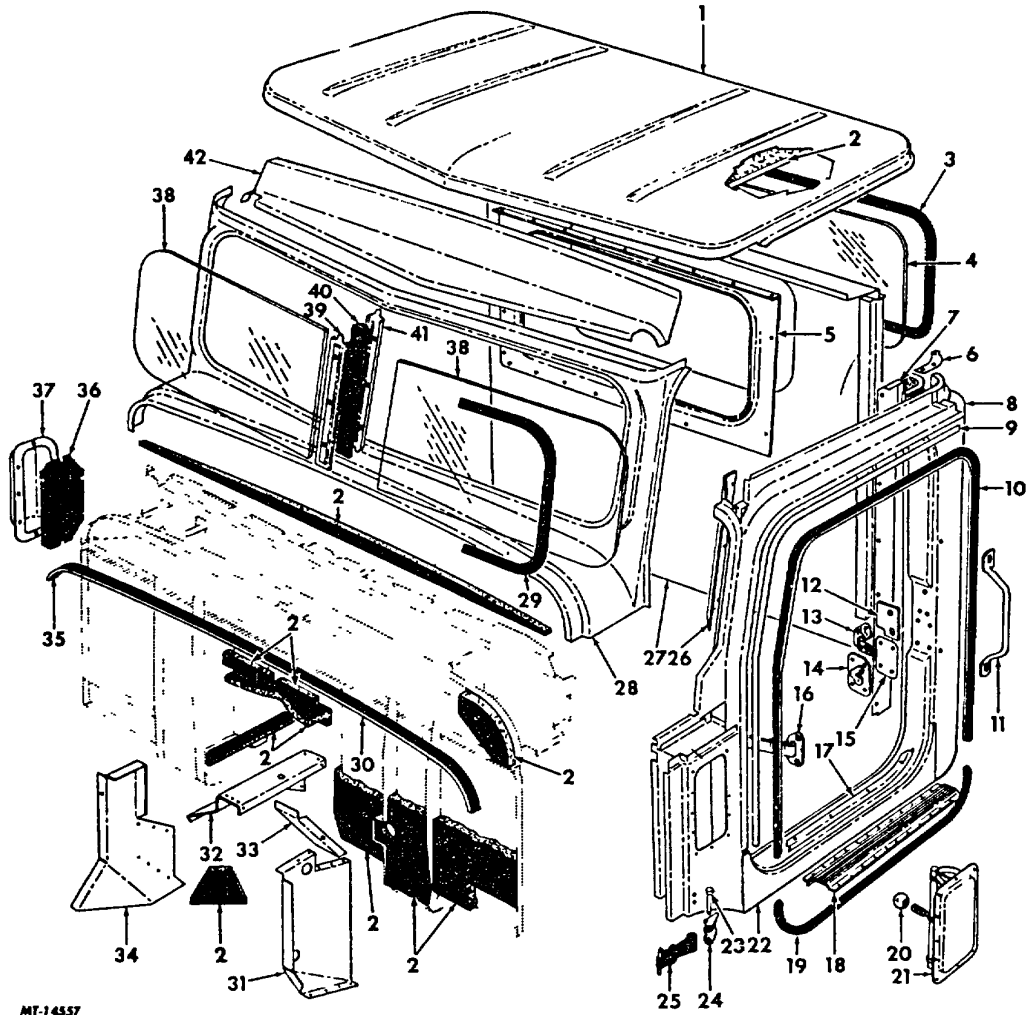
MT134 GROUP 16- CAB AND/OR BODIES

REF NO	PART NUMBER	DESCRIPTION
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REF NO	PART NUMBER	DESCRIPTION
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FIG. 16-011
CAB ASSEMBLY

FIG. 16-011 CONTINUED
CAB ASSEMBLY



MT-14557

	444747	C93	CAB, ASSY -SERVICE-STEEL-
1	403267	C3	PANEL, ROOF
	364312	C1	NUT, SERT NO. 8
	364313	C1	NUT, SERT NO. 10NC
2	270061	C91	INSULATOR, CAB
3	403336	C1	SEAL, REAR WINDOW GLASS
4	403334	C2	GLASS, REAR WINDOW -TINTED-
5	403336	C2	MOULDING, REAR WINDOW
	328385	C1	SCREW, OV-HD NO. 10-24 X 5/8 -24-
	138597		WASHER, COUNTERSUNK ET NO. 10 -24-
6	403264	C1	SPACER, REAR CORNER -2-
7	410714	C3	PANEL, PILLAR INNER LEFT
	410715	C3	PANEL, PILLAR INNER RIGHT

8	403191	C4	PANEL, CORNER OUTER LEFT
	403192	C1	PANEL, CORNER OUTER RIGHT
9	410756	C1	MOULDING, LEFT DRIP
	410757	C1	MOULDING, RIGHT DRIP
	410755	C1	MOULDING, REAR DRIP
	436379	C1	CLIP, DRIP MOULDING -2-
10	403374	C91	SEAL, UPPER WEATHER DOOR -2-
11			HANDLE, GRAB
	406952	C2	CODE 16030
	20 864	R1	BOLT, HEX-HD 5/16NC X 1 -2-
	120671		WASHER, LOCK 5/16 MEDIUM -2-
	121814		WASHER, FLAT 5/16 -2-
12	403355	C1	SPACER, DOOR STRIKER -AR-



MT134 GROUP 16- CAB AND/OR BODIES
 REF PART DESCRIPTION
 NO NUMBER



MT134 GROUP 16- CAB AND/OR BODIES
 REF PART DESCRIPTION
 NO NUMBER

FIG. 16-011 CONTINUED

CAB ASSEMBLY

13	307012	C93	PLATE, LEFT DOOR LOCK STRIKER, ASSY
	307013	C43	PLATE, RIGHT DOOR LOCK STRIKER, ASSY
	434713	C1	SCREW, PAN-CR-REC-HD 1/4NF X 3/4 -6-
14	232 907	R91	DOVETAIL, DOOR FEMALE, ASSY -2-
	156094		SCREW, FL-CR-REC-HD NO. 12NC X 1/2-8-
15	788330	C1	SPACER, FEMALE DOVETAIL -2-
16	403356	C2	STRAP, DOOR CHECK -2-
	4S3049		SCREW, FL-CR-REC-HD 1/4NC X 3/4 -8-
	120380		WASHER, LOCK 1/4 -8-
17	410787	C1	RETAINER, DOOR LOWER -2-
	128270		SCREW, PAN-CR-REC-HD NO. 6-18 X 1/8 -14-
18	425313	C1	PLATE, LEFT SCUFF
	434690	C1	PLATE, RIGHT SCUFF
	16T140		SCREW, PAN-CR-REC-HD NO. 10 X 1-1/2 -19-
	131188		WASHER, LOCK NO. 10 -33-
19	797431	C1	SEAL, LOWER WEATHER DOOR -2-
20	427447	C1	KNOB, COWL VENTILATOR
21	403312	C92	VENTILATOR, COWL, ASSY
	160536		SCREW, PAN-CR-REC-HD 1/4NC X 5/8 -T-
22	425215	C91	PANEL, LEFT SIDE, ASSY
	425216	C91	PANEL, RIGHT SIDE, ASSY
	425225	C1	PANEL, OUTER COWL LEFT, ASSY
	425227	C1	PANEL, OUTER COWL RIGHT, ASSY
	410682	C1	FRAME, DOOR OPENING LEFT, ASSY
	410683	C1	FRAME, DOOR OPENING RIGHT, ASSY
	425219	C1	PANEL, SILL SIDE OUTER LEFT
	425220	C1	PANEL, SILL SIDE OUTER RIGHT
23	764049	C1	PIN, HOOD LATCH -2-
	25 386	R1	PIN, COTTER -2-
24	425424	C1	BRACKET, HOOD LATCH -2-
	424231	C1	SCREW, PAN-CR-REC-HD 1/4NC X 1/2 -4-
	161857		SCREW, PAN-CR-REC-HD NO. 8 X 3/8 -2-
	22 317	R1	WASHER, FLAT 3/16 -2-
25	425294	C1	HOOK, HOOD LATCH -2-
26	403353	C1	PANEL, WIRING COVER -2-
	430227	C1	CLIP, SPEED -4-
	167047		SCREW, PAN-CR-REC-HD NO. 8NC X 1/2-8-
27	434307	C91	PANEL, BACK, ASSY
28	403309	C1	PANEL COWL TOP
29	403340	C1	SEAL, WINDSHIELD WEATHER
30			SEAL, COWL HOOD -SEE REFERENCE NO. 35-
31	439879	C1	PANEL, LEFT SHROUD
32	440244	C1	PANEL, SHROUD
33	440248	C1	PANEL, REAR SHROUD
34	440172	C1	PANEL, RIGHT SHROUD
35			SEAL, COWL HOOD
	445224	C1	LEFT -WILL WORK FOR 425316C1-
	445225	C1	RIGHT -WILL WORK FOR 425317C1-
	26 077	R1	SCREW, PAN-CR-REC-HD NO.8NC X 3/4 -29-
	435594	C1	NUT, HEX. NO. 8NC -29-
36	22 317	R1	WASHER, FLAT 3/16 -29-
			SCREEN, AIR INTAKE RIGHT -NOT SERVICED SEPARATELY-
37	407518	C1	DUCT, AIR INTAKE RIGHT
	22 431	R1	SCREW, PAN-CR-REC-HD NO. 10 X 1/2 -7-
38	403339	C1	GLASS, WINDSHIELD -TINTED-2-
39	403344	C1	BAR, WINDSHIELD OUTER DIVIDING
40	403341	C3	SEAL, WINDSHIELD DIVIDING WEATHER -WILL WORK FOR 427442C1-
41	403342	C1	BAR, WINDSHIELD INNER DIVIDING
	131403		NUT, HEX. HIGH CROWN NO. 12-24 -3-CHROME-

FIG. 16-011 CONTINUED

CAB ASSEMBLY

42	403270	C1	HEADER, WINDSHIELD OPENING
	201666	R1	*GASKET, TRAILER SOCKET OPENING -W/O TRAILER SOCKET-
	460700	C1	*BAR, FLOOR HOLD DOWN
	167270		SCREW, 1/4NC X 1 WASHER, LOCK 5/16 MEDIUM

*PARTS NOT ILLUSTRATED



MT134 GROUP 16- CAB AND/OR BODIES
PART NUMBER DESCRIPTION

REF NO

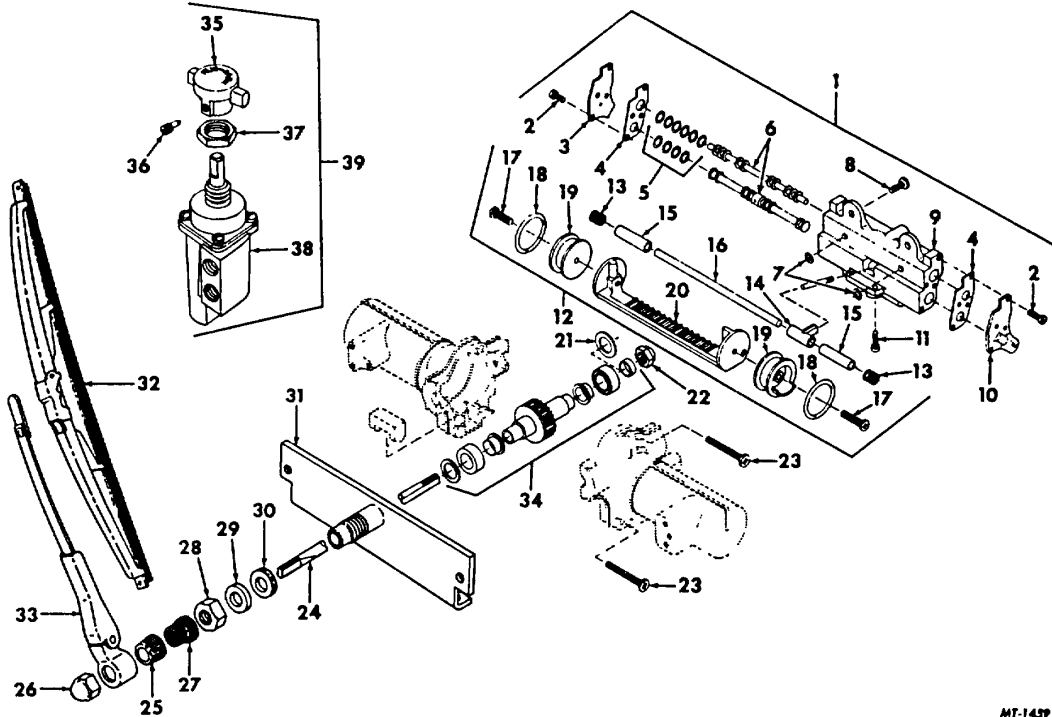


MT134 GROUP 16- CAB AND/OR BODIES
PART NUMBER DESCRIPTION

REF NO

FIG. 16-012
WINDSHIELD WIPER

FIG. 16-012 CONTINUED
WINDSHIELD WIPER



MT-14591

1	468 857	C91	MOTOR, W/MTG BRACKET, WIPER -WILL WORK FOR 437679C91, 443624C92-
	159 909		SCREW, PAN-CR-REC-HD NO. 10-24X3/8-4-
	120 212		WASHER, LOCK 3/16 MEDIUM -4-
			VALVE, MOTOR, ASSY
	472 920	C91	USED W/468857C91
	338 473	C1	BALL, VALVE STEEL
	17 002	R1	9/64 DIA -4- 1/16 DIA -6-
2	162 823		SCREW, ENDO COVER NO. 6NC X 1/2 -8-
3	255 718	C1	COVER, MOTOR END
4	255 717	C1	?GASKET, END PLATE -2-
5	352 219	C1	SEAL, O-RING, VALVE -10-
6			?ROD -NOT SERVICED SEPARATELY-
7	255 735	C1	?SEAL, VALVE HOUSING -2-
8	132 909		SCREW, SLT-RD-HD NO. 10NF X 1/2 -2-
9			BODY -NOT SERVICED SEPARATELY-
10			COVER -NOT SERVICED SEPARATELY-
11	171 353		SCREW, SLT-RD-HD NO. 8NF X 1/2 -2-
12	443 368	C91	PISTON, w/REVERSER, SPRINGS, SEALS, ASSY
13	338 464	C1	SPRING, PISTON -2-
14	339 446	C1	VALVE, REVERSER TEE
15			STOP -NOT SERVICED SEPARATELY-
16			?ROD -NOT SERVICED SEPARATELY-
17	443 369	C1	SCREW, PISTON STOP -2-
18	356 005	R1	?SEAL, PISTON O-RING -2-
19			PISTON STOP -NOT SERVICED SEPARATELY-
20			?RACK -NOT SERVICED SEPARATELY-
21			WASHER -NOT SERVICED SEPARATELY-
22	144 419	H	NUT, HEX. 3/8NF

23	436 754		SCREW, WIPER BODY
	132 128		NO. 10NF X 1-1/8 NO. 10NF X 1
24	443 372	C91	SHAFT, W/DRIVER, NUTS, WASHERS, ASSY
			-INCLUDES REF NOS. 21, 22, 25, 26-
			DRIVER -NOT SERVICED SEPARATELY-
	131 502		NUT, ACORN 3/8NF
	255 709	C1	SEAL, WEATHER
	346 91T	C1	NUT, HEX. LOCK 5/8NF
	213 266	R1	SPACER, OUTER
	213 265	R1	WASHER, LEATHER
31	443 373	C91	BRACKET, WIPER MOUNTING, ASSY
	271 407		BOLT, HEX-HD NO. 12NC X 11/16
32	417 339	C1	BLADE, WIPER
33			ARM, WIPER
	435 359	C1	USED W/ 468857C91 MOTORS
34	443 371	C91	GEAR, WINDSHIELD WIPER, ASSY
35	159 408	R2	KNOB, CONTROL VALVE
36	159 409	R1	SCREW, KNOB SET
37	309 402	C1	NUT, HEX. 9/16NF
38	349 187	C1	CAI, ROD, ASSY
39	441 095	C92	VALVE, CONTROL, ASSY



MT134 GROUP 16- CAB AND/OR BODIES
PART DESCRIPTION
NUMBER

FIG. 16-012 CONTINUED
WINDSHIELD WIPER

441 773	C1	*COVER, LEFT MOTOR ACCESS
401 590	C1	*COVER, RIGHT MOTOR ACCESS
159 909		SCREW, PAN-HD NO. 10-24 X 3/8 -12-
120 217		WASHER. LOCK NO. 10 MEDIUM -12-
417 196	C1	*TUBING, 1/4 -PLASTIC- \$
142 064	H	*CONNECTOR, 1/4 X 1/8-AT MTR VALVE-2-
30 771	V	*TEE, 1/4 X 1/8-AT CONTROL, LT MOTOR-2-
698 574	R91	*TEE, 1/4 X 1/4 -RT MOTOR-
141 966	H	*ELBOW, 90 DEGREE -AT MOTORS-4-
414 504	C1	*INSERT, CONNECTOR -AT MOTORS-2-
30 773	V	*NUT, COMPRESSION TUBE 1/4 -7-
10 774	V	*SLEEVE, COMPRESSION TUBE 1/4 -2-
96 644	R11	*ELBOW, 90 DEGREE -AT VACUUM CONTROL-

*PARTS NOT ILLUSTRATED

338 444 C91 ?KIT, WINDSHIELD WIPER REPAIR

\$PART NUMBER COVERS 1 FOOT BULK MATERIAL



MT134 GROUP 16- CAB AND/OR BODIES
 REF PART DESCRIPTION
 NO NUMBER



MT134 GROUP 16- CAB AND/OR BODIES
 REF PART DESCRIPTION
 NO NUMBER

FIG. 16-014
 CAB MOUNTING

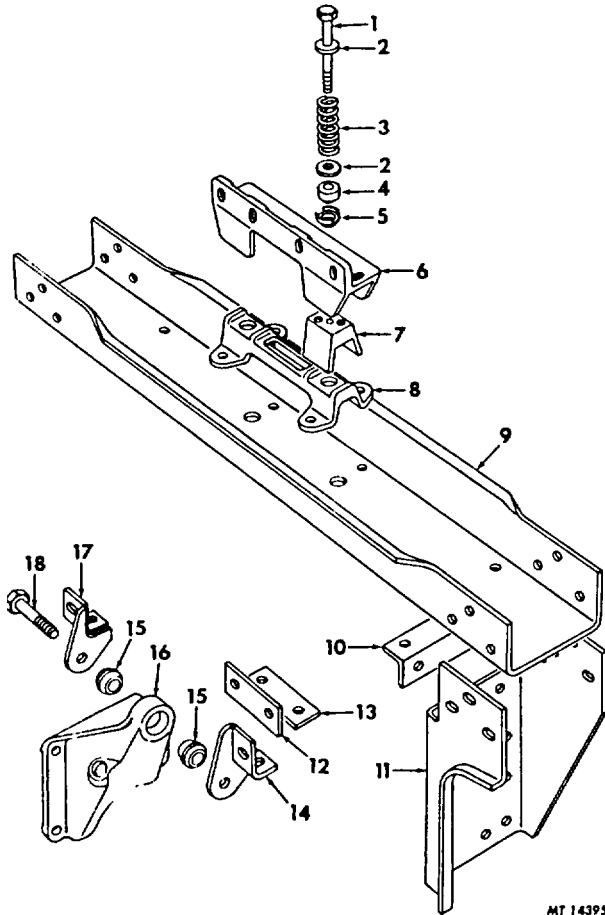
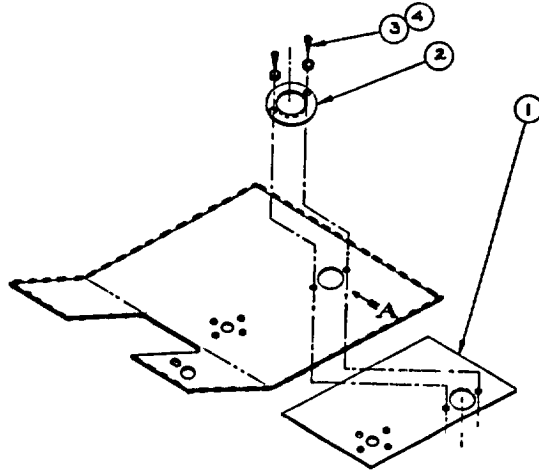


FIG. 16-014 CONTINUED
 CAB MOUNTING

- 11 BRACKET, CROSSMEMBER MOUNTING -2-
 460 538 C1 FOR CODE 16030.5007
 414 051 C1 BOLT, HEX-FLG-HD 1/2NF X 1-1/4 -16-
 414 053 C1 BOLT, HEX-FLG-HD 1/2NF X 1-3/4 -6-
 414 054 C1 BOLT, HEX-FLG-HD 1/2NF X 2 -6-
 414 055 C1 BOLT, HEX-FLG-HD 1/2NF X 2-1/4 -6-
 414 087 C1 NUT, HEX. LOCK 1/2NF -28-
- 12 410 763 C1 BAR, SPACER -VERTICAL-2-
- 13 425 448 C1 BAR, SPACER -HORIZONTAL-2-
- 14 425 435 C1 BRACKET, CAB MOUNTING FRONT LEFT -2-
 24 840 R1 BOLT, HEX-HD 3/8NF X 1
 24 841 R1 BOLT, HEX-HD 3/8NF X 1-1/2 -6-
 120 382 WASHER, LOCK 3/8 REGULAR -7-
 25 709 R1 WASHER, FLAT 3/8 -7-
- 15 358 500 C1 BUSHING, FRONT MOUNTING -4-
- 16 424 899 C1 BRACKET, CAB MOUNTING FRONT LEFT
 424 900 C1 BRACKET, CAB MOUNTING FRONT RIGHT
 414 053 C1 BOLT, HEX-HD 1/2NF X 1-3/4 -8-
 414 087 C1 NUT, HEX. LOCK 1/2NF -8-
- 17 425 436 C1 BRACKET, CAB MOUNTING FRONT RIGHT -2-
 24 840 R1 BOLT, HEX-HD 3/8NF X 1
 24 841 R1 BOLT, HEX-HD 3/8NF X 1-1/2 -7-
 120 382 WASHER, LOCK 3/8 REGULAR -7-
 25 709 R1 WASHER, FLAT 3/8 -7-
- 18 414 084 C1 BOLT, HEX-FLG-HD 5/8NF X 3-1/2 -2-
 414 089 C1 NUT, HEX-FLG 5/8NF -2-
 347 600 C1 SPACER, CAB FRONT MOUNTING

- 1 25 689 R1 BOLT, HEX-HD 1/2NC X 7-1/2 -2-
 9412 230 NUT, HEX. LOCK 1/2NC -2-
- 2 446 001 R1 WASHER, FLAT 1/2 -6-
- 3 133 201 H SPRING, MOUNTING -2-
- 4 270 203 C1 INSULATOR, REBOUND -4-
- 5 72 799 H RETAINER, REBOUND -ROUND-2-
 438 020 R1 RETAINER, REBOUND
- 6 778 946 C2 BRACKET, CAB REAR UPPER MOUNTING
 140 483 H BOLT, HEX-HD 3/8NC X 1-1/4 -8-
 25 709 R1 WASHER, FLAT 3/8 -8-
 120 382 WASHER, LOCK 3/8 -8-
- 7 436 149 R1 INSULATOR, MOUNTING -4-
- 8 424 691 C1 BRACKET, LOWER REAR MOUNTING
 414 052 C1 BOLT, HEX-FLG-HD 1/2NF X 1-1/2 -4-
 414 087 C1 NUT, HEX. LOCK 1/2NF -4-
- 9 424 600 C3 CROSSMEMBER, CAB REAR MOUNTING
 10 NOT USED

FIG. 16-015
PTO ACCESS PANEL



1	520159C1	1		FLOOR PANEL ASSY- CENTER
7	520157C1	1		PLATE, COVER
3	27156R1	2		SCREW, PAN HD M8 X 3/4 SELF TAPPING
4	27301R 1	2		WASHER, LOCK #8



REF
NO

MT134 GROUP 16- CAB AND/OR BODIES
PART
NUMBER DESCRIPTION

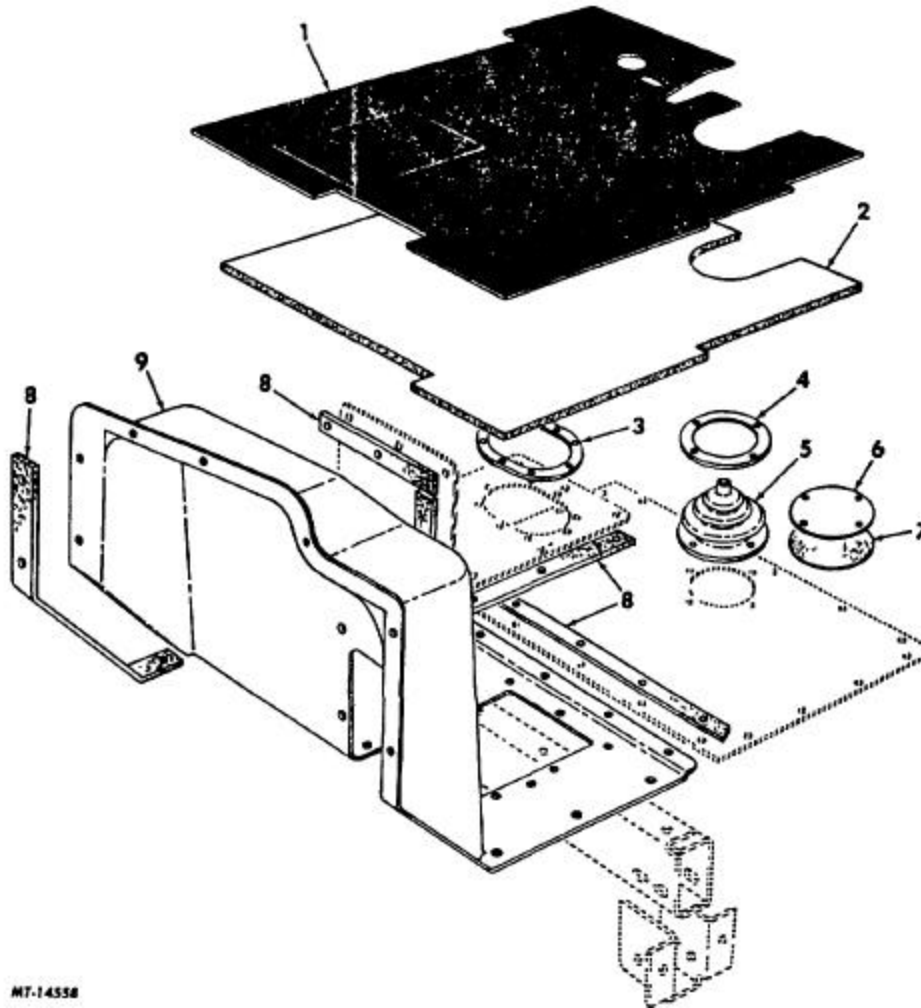


REF
NO

MT134 GROUP 16- CAB AND/OR BODIES
PART
NUMBER DESCRIPTION

FIG. 16-023
ENGINE/TRANS COVERS AND FLOOR MATS

FIG. 16-023 CONTINUED
ENGINE/TRANS COVERS AND FLOOR MATS



1 MAT, FLOOR

440 757 C1 LEFT
435 124 C1 RIGHT

2 270 081 C91 INSULATION FLOOR MAT -3FT X 6FT SHEET-

3 NOT USED

4 317 729 C1 RETAINER, AUX SHIFT LEVER SEAL

5 SEAL, SHIFT LEVER

406 539 C1 AUX TRANS

6 425351 C1 COVER, SHIFT LEVER OPENING
167 064 SCREW, PAN-CR-REC-HD NO. 10-24 X 1/2
120 217 WASHER, LOCK NO. 10 -4-

7 425 352 C1 SEAL, SHIFT LEVER COVER
8 335 196 C1 SEAL, DASH, FLOOR, ENGINE



REF
NO

MT134 GROUP 16- CAB AND/OR BODIES
PART DESCRIPTION
NUMBER



REF
NO

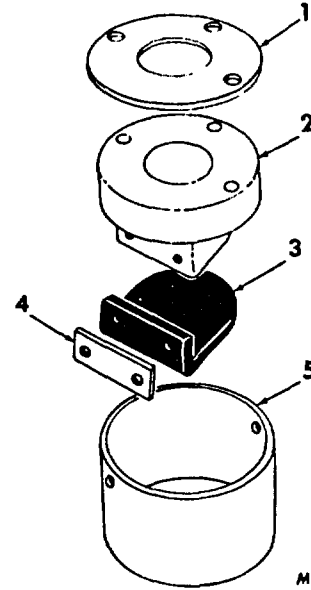
MT134 GROUP 16- CAB AND/OR BODIES
PART DESCRIPTION
NUMBER

9

FIG. 16-023 CONTINUED
ENGINE/TRANS COVERS AND FLOOR MATS

COVER, ENGINE
439 856 C1 COVER
439 862 C1 INSULATOR

FIG. 16-024
HEATER DRAIN VALVE



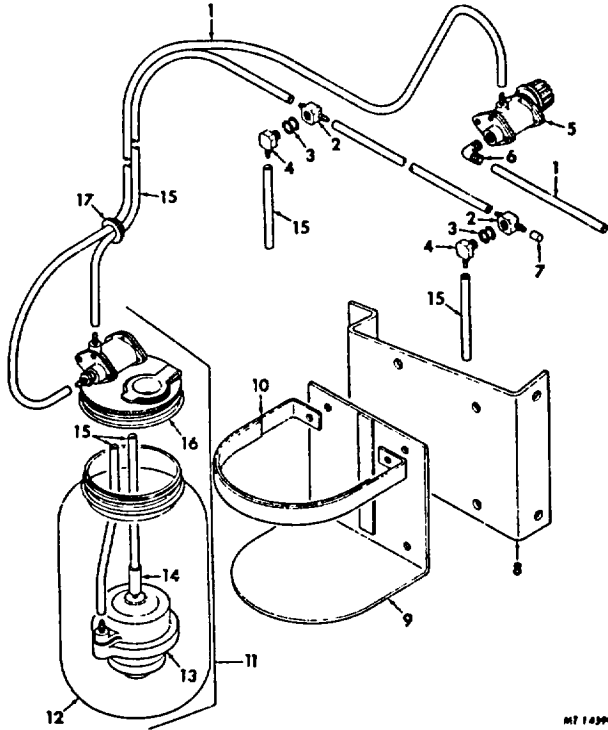
434 383 C91 VALVE, DRAIN, ASSY

- | | | |
|---|------------|---------------------------------|
| 1 | 434 381 C1 | SEAL, DRAIN |
| | 22 379 R1 | SCREW, HEX-HD NO. 10-24 X 1 -3- |
| | 428 075 C1 | NUT W/LOCKWASHER NO. 10 -3- |
| | 21 784 R1 | WASHER, FLAT NO. 12 -3- |
| 2 | 434 382 C1 | VALVE, WATER OUTLET |
| 3 | 426 181 C1 | SEAL, CLOSURE |
| 4 | 426 180 C1 | BAR, REINFORCEMENT CLOSURE |
| | 163 098 | SCREW, 6-20 X 3/8 -2- |
| 5 | 426 175 C1 | SLEEVE, PROTECTIVE |
| | 163 098 | SCREW, 6-20 X 3/8 -2- |



MT134 GROUP 16- CAB AND/OR BODIES
 REF NO PART DESCRIPTION
 NO NUMBER

FIG. 16-029
 WINDSHIELD WASHER -AIR-



MT 14390

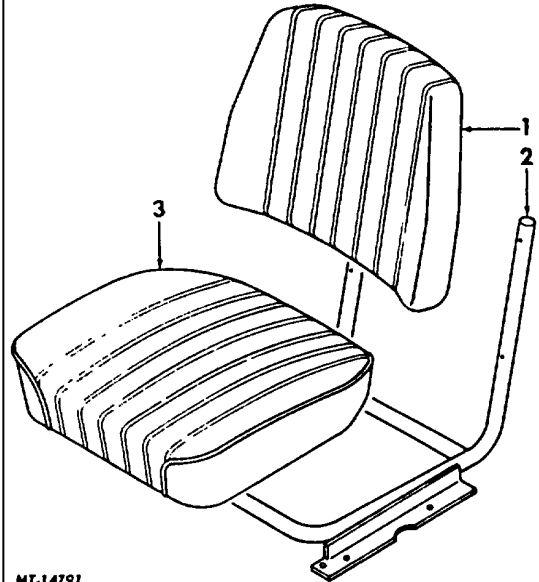
- 1 417 196 C1 \$TUBE, NYLON 1/400D
- 414504 C1 INSERT, TUBING -NYLON-2-
- 30 773 V NUT, 1/4 TUBING
- 30 774 V SLEEVE, 1/4 TUBING
- 30 771 V TEE, 1/4 X 1/4 X 1/8, ASSY
- 2 437 691 C1 BLOCK, JUNCTION -2-
- 3 875 520 C1 SEAL, O-RING -4-
- 4 437 692 C1 BLOCK, JUNCTION -2-
- 5 781 994 C91 VALVE, CONTROL, ASSY
- 6 123 646 R1 ELBOW, 90 DEGREE 1/4 X 1/8
- 7 437 693 C1 CAP, TUBE
- 8 455 710 C1 BRACKET, TANK MOUNTING
- 9 437 903 C1 BRACKET, RESERVOIR MOUNTING
- 10 437 902 C1 STRAP, RESERVOIR MOUNTING
- 181 063 BOLT, HEX-HD 1/4NC X 3/4 -4-
- 9 413 950 NUT, LOCK 1/4NC -4-
- 120 392 WASHER, FLAT 1/4 -4-
- 11 431 043 C91 RESERVOIR, W/PUMP, ASSY
- 12 782 004 C1 TANK, WINDSHIELD WASHER
- 13 781 998 C91 PUMP, WINDSHIELD WASHER
- 14 417 200 C1 \$TUBING, 1/2 OD
- 15 990 016 C1 \$HOSE, WASHER
- 16 434 21 C1 CAP, RESERVOIR
- 17 296 613 C1 GROMMET, HOSE -IN DASH PANEL-

\$PART NUMBER COVERS 1 FOOT BULK MATERIAL



MT134 GROUP 16- CAB AND/OR BODIES
 REF NO PART DESCRIPTION
 NO NUMBER

FIG. 16-032
 PASSENGER SEAT -NATIONAL-



MT-14791

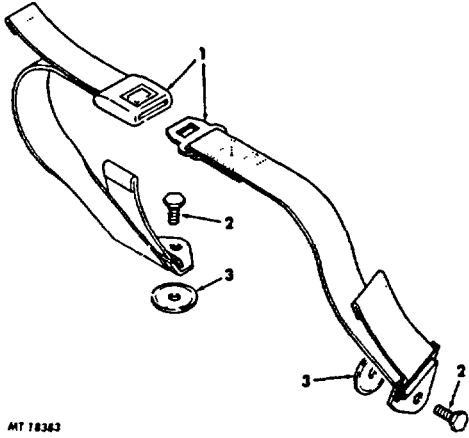
- 437 579 C92 SEAT, PASSENGER, ASSY
- 1 445 154 C91 CUSHION, BACK
- 424 785 C1 COVER, BACK CUSHION
- 2 445 151 C1 FRAME, SEAT
- 3 445 152 C91 CUSHION. SEAT
- 424 784 C1 COVER, SEAT CUSHION



REF
NO

MT134 GROUP 16- CAB AND/OR BODIES
PART
NUMBER DESCRIPTION

FIG. 16-039
SEAT BELTS



- 1 244 845 R2 BELT SEAT
- 2 344 096 C3 BOLT, SEAT BELT ANCHOR 7/16NF X 1 -AR-
409 480 C1 BOLT, SEAT BELT ANCHOR 1/2NC X 1 -AR-
271 506 NUT, HEX. 7/16NF -AR-
- 3 NOT USED
- 444 582 C1 *COVER, FRONT SEAT LAP BELT -2-

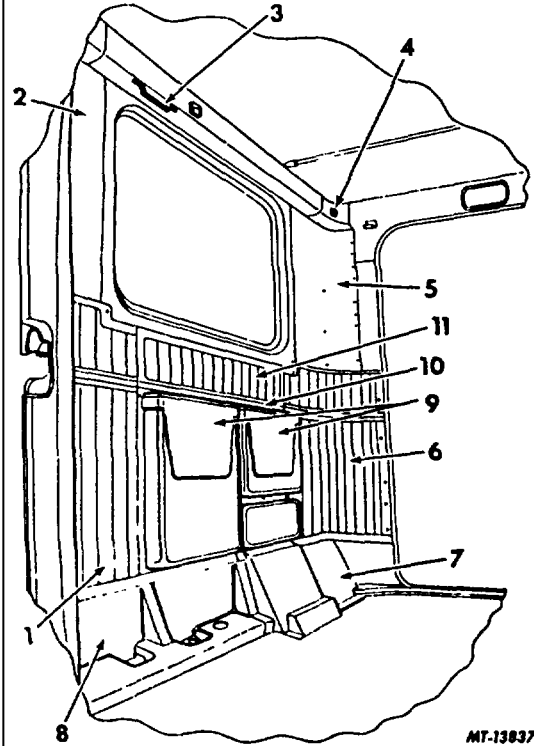
*PART NOT ILLUSTRATED



REF
NO

MT134 GROUP 16- CAB AND/OR BODIES
PART
NUMBER DESCRIPTION

FIG. 16-040
CAB INSIDE REAR TRIM

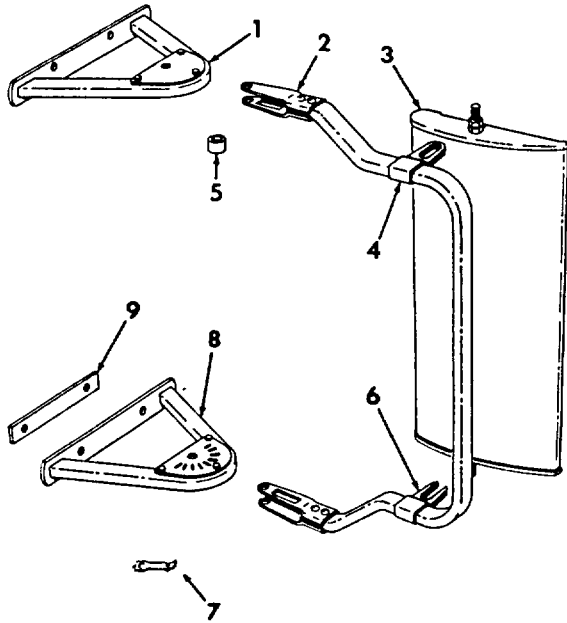


- 1 NOT USED
- 2 403 411 C1 PANEL, BACK INNER RIGHT -STANDARD-
NOT USED
- 3 NOT USED
- 4 412 567 C1 HOOK, COAT
328 389 C1 SCREW, TAP. OV-CR-REC-HD NO. 8-18X3X4
- 5 403 410 C1 PANEL, BACK INNER LEFT -STANDARD-
NOT USED
- 6 NOT USED
- 7 403 362 C2 MOULDING, REAR LOWER LEFT
STANDARD
- 8 435 076 C1 MOULDING, REAR LOWER RIGHT
STANDARD
403 072 C1 SCREW, PAN-CR-REC-HD NO. 10-12X5/8 -14-
328 385 C1 SCREW, TAP. OV-CR-REC-HD NO. 10-16 X
5/8 -61-
439 743 C1 WASHER, FINISH NO. 10 -61-
138 597 WASHER, COUNTERSUNK ET NO. 10 -61-
- 9 NOT USED
- 10 NOT USED
- 11 NOT USED



MT134 GROUP 16- CAB AND/OR BODIES
PART DESCRIPTION
NUMBER

FIG. 16-041
REAR VIEW MIRROR



MT-13518

	0516284C91		MIRROR ASM LT
	0516285C91		MIRROR ASM RT
1	414516	C1	BRACKET, UPPER MIRROR MTG SCREW, PAN-CR-REC-HD MACH 1/4NC X 5/8 -2- WASHER, LOCK SPRING 1/4 MEDIUM -2- BOLT, HEX-HD 1/4NF X 3/4 -2- NUT, HEX. 1/4NF -2-
2	373182	C1	ARM, REAR VIEW MIRROR
3	283822	C91	HEAD, MIRROR
	81 466	R1	NUT, ACORN 1/4NF -4- WASHER, LOCK IT 1/4 -4-
4	343406	C1	CLAMP, UPPER MIRROR -2-
5	414521	C1	SPACER, MIRROR BRACKET
6	343407	C1	CLAMP, LOWER MIRROR -2-
7	319558	C1	SPRING, MIRROR INDEX -2-
8	414517	C1	BRACKET, LOWER MIRROR MTG SCREW, PAN-CR-REC-HD MACH 1/4NC X 5/8 -2- WASHER, LOCK SPRING 1/4 MEDIUM -2- BOLT, HEX-HD 1/4NF X 1-1/4 -2- NUT, HEX. 1/4NF -2-
9	414522	C1	PLATE, TAPPING

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GROUP 17-WHEELS

	FIG. NO.
--	----------

REAR WHEELS(SEE FIG. 14-009)

FRONT WHEELS (SEE FIG. 02-010)

RIMS AND SIDE RINGS17-021

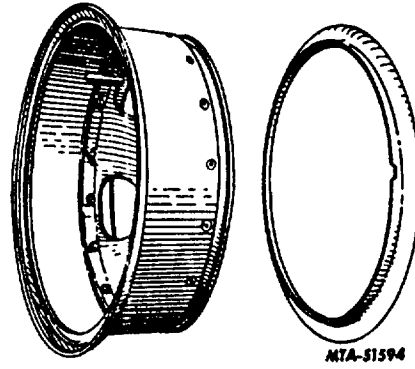


FIG. 17-021 DISC WHEELS AND SIDE RINGS

306059C91	WHEEL, ASSY
306061C1	RINGS, LOCK
306062C1	RING, SIDE
118377H1	EXTENSION, VALVE

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183

512

191

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