

TM 9-2330-329-14&P

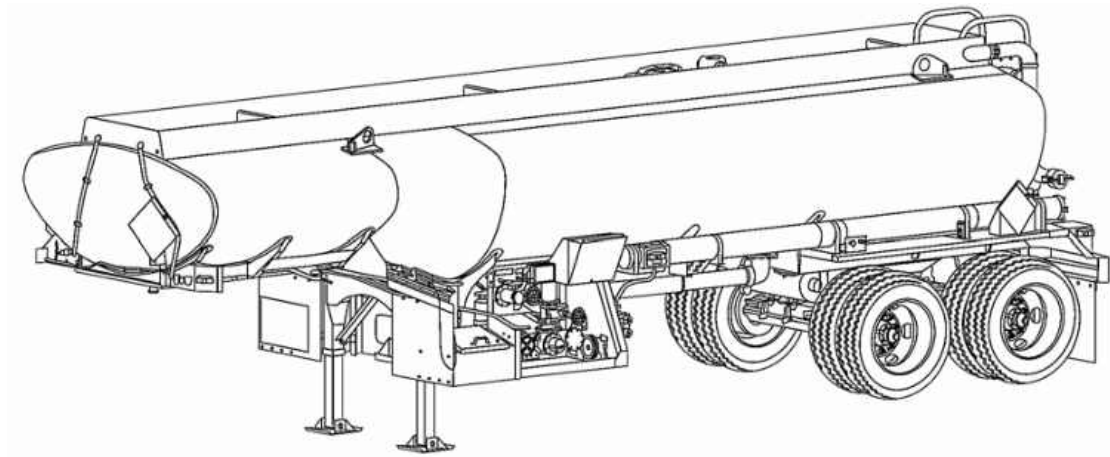
TECHNICAL MANUAL

**OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT, AND
GENERAL SUPPORT MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)**

FOR

**SEMITRAILER, FUEL TANKER: 5000-GALLON,
BULKHAUL, SELF-LOAD/UNLOAD,
M967A2**

(NSN 2330-01-495-0040)



This manual supersedes TM 9-2330-329-14&P, dated December 2003, and all changes.

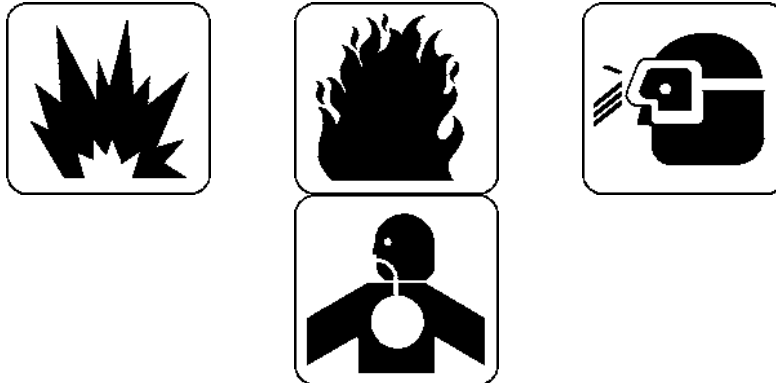
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HEADQUARTERS, DEPARTMENT OF THE ARMY

SEPTEMBER 2005

WARNING

CLEANING COMPOUND HAZARDS



Solvents can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If solvent gets on skin or clothing, wash immediately with soap and water.

Cleaning compound is toxic and flammable. Always wear protective goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and **DO NOT** breathe vapors. **DO NOT** use near open flames or excessive heat.

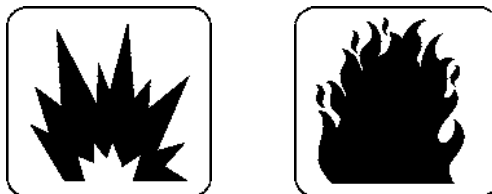
Improper cleaning methods and the use of unauthorized cleaning liquids or compounds can injure personnel and damage equipment. To prevent this, refer to TM 9-247 for further instruction.

DO NOT wash oil seals, electrical cables, and flexible hoses with cleaning compounds or mineral spirits. Serious damage or destruction of material would result.

Compressed air used for cleaning or drying purposes, or for clearing restrictions, should ever exceed 30 psi (207 kPa). Wear protective clothing (goggles/shield, gloves, etc.) and use caution to avoid injury to personnel.

WARNING

GROUNDING SEMITRAILER



Be sure that grounding connections are made properly and firmly before any fueling operations begin. This will ensure that grounding connections will not release, thus eliminating the possibility of sparks caused by static electricity that will ignite the fuel. This applies to top loading and bottom loading at a fixed loading facility. Bottom loading is the preferred method when facilities are available. Failure to follow this warning may cause a spark to ignite, resulting in serious injury or death to personnel.

WARNING

BONDING AND GROUNDING VEHICLE TO SEMITRAILER



Bond the fuel nozzle to the vehicle before opening the filler cap. Connect closed-circuit nozzles securely before beginning fuel flow. Electrical hazards may be introduced in several ways such as:

- **Electrostatic sparks.**
- **Operation of auxiliary power units and heaters.**
- **Operation of automotive equipment, other than that performing the fuel-servicing functions, within 50 ft (15.25 m) of the vehicle during fuel-servicing operations.**
- **Arcing of electrical circuits.**
- **Open flames.**
- **Energy from energized equipment.**
- **Lightning.**

Due to the dangers of static electricity, grounding the semitrailer to the vehicle while refueling is mandatory, regardless of the amount of fuel to be dispensed. Failure to follow this warning may cause spark to ignite, resulting in serious injury or death to personnel.

Before performing maintenance on the semitrailer, the semitrailer must be grounded to an approved (earth) ground and it must be safe to proceed. Failure to follow this warning may cause a spark to ignite, resulting in serious injury or death to personnel.

WARNING

FUEL HANDLING



To avoid serious injury or death to personnel, **DO NOT** fill tanker while pump engine is running, while smoking, or when near open flame. Never overfill the tanker or spill fuel. If fuel is spilled, clean it up immediately.

Post signs that read “NO SMOKING WITHIN 50 FEET” when performing any fueling operation. Failure to follow this warning can cause fuel to ignite, resulting in serious injury or death to personnel.

DO NOT smoke while performing any fueling operation, or when located within 50 ft (15.25 m) of fueling and fuel storage areas.

DO NOT let fuel or oil drain on hot engine. Fuel or oil can catch fire and cause injury or death to personnel.

Keep fuel away from open flames and keep fire extinguisher within easy reach when working with fuel. Fuel is very flammable and can explode easily, resulting in serious injury or death to personnel.

Spilled fuel is slippery and can cause you to slip and fall. To avoid injury, wipe up spilled fuel immediately with rags.

Follow all fuel-handling procedures precisely to prevent injury or death to personnel. A detailed study of FM 10-67-1 is essential for all fuel handling operations.

All fueling/defueling operations must be performed outside. Failure to follow this warning may cause spark to ignite fuel vapors, resulting in serious injury or death to personnel.

Before and after all fuel-servicing operations, all valves must be in the closed position. Failure to follow this warning could cause excessive spillage or fires, resulting in serious injury or death to personnel.

DO NOT permit automotive equipment, other than that performing the fuel-servicing functions, to be within 50 ft (15.25 m) of the vehicle during fuel-servicing operations.

Remove vent cap from either side of vapor recovery tube to vent tank during fueling operations.

WARNING



When the semitrailer is emptied of fuel, a mixture of vapor and air remains that may be, and often is, within the flammable range. Refilling the semitrailer with a different type of fuel other than it originally contained can cause a potential explosive atmosphere within the semitrailer. Know what fuel was previously carried so that preventive measures may be taken to ensure that injurious or explosive fumes are not released. Failure to follow this warning may result in serious injury or death to personnel.

When filling tank by means of bottom loading, or self-loading, a test of the precheck system is mandatory. If this system is not functioning, stop all operations. Determine the problem and have it corrected by a qualified technician. Failure of automatic shutoff to function may cause uncontrolled fuel spillage, fire, and/or explosion, resulting in serious injury or death to personnel.

When top loading through fill cover, there is no automatic shutdown. Man the loading hose to avoid fuel spillage. Use the capacity indicator gage and dipstick gage to determine amount of fuel loaded. Failure to follow this warning may cause uncontrolled fuel spillage, fire, and/or explosion, resulting in serious injury or death to personnel.

DO NOT mix incompatible fuels in the tank. Dangerous fumes and explosion may result. Know what fuel was previously carried so that preventive measures may be taken to ensure that injurious or explosive fumes are not released. Failure to follow this warning may result in serious injury or death to personnel.

DO NOT fill semitrailer with more than 3000 gallons (11,356 liters) of fuel when semitrailer is being towed by one of the following five-ton tractors: M931/M932 Series with ABS brakes. Overfilling semitrailer when using one of these tractors creates an overload condition, resulting in difficulty in braking and maintaining control of tractor/semitrailer in critical braking situations. Failure to heed this warning may result in injury or death to personnel or serious damage to equipment.

In an emergency, pull emergency valve A control handle to **CLOSED** or pull emergency valve A shutoff valve on opposite side (curb side) of semitrailer. Failure to do so may result in injury to personnel.

WARNING

The operator must be alert for leaking or malfunctioning equipment. Stop all servicing operations immediately at the first sign of leaks or malfunctions. Corrective action must be performed by qualified technicians before resuming any operations. Failure to follow this warning may cause fire or explosion, resulting in serious injury or death to personnel.

Parking areas for fuel-servicing vehicles should be arranged to:

- Facilitate the dispersal of vehicles in event of an emergency.
- Provide a distance of at least 25 ft (7.62 m) of clear space between vehicles for accessibility for fire control purposes.
- Prevent fuel from any vehicle from draining into an adjacent building.
- Provide a distance of at least 50 ft (15.25 m) from any structure that houses the public and may have windows or doors in exposed walls.

All vapor-freeing work by any method should be carried on outdoors, remote from vehicles and other known sources of ignition, and the fuel tank must be stationed where flammable vapors will not blow or drift indoors. Failure to follow this warning may result in serious injury or death to personnel.

DO NOT allow fuel-dispensing nozzle spray to contact skin. Diesel fuel under pressure can penetrate flesh and cause serious injury and infection.

The following must be observed if the semitrailer is to be moved indoors:

- The tank must be completely drained and purged.
- The interior of the tank must be checked with explosive meter prior to moving into the building.
- The combustible gas indicator set must be used to check the tank prior to starting work each day, and random checks must be performed during the day.
- No open flames, welding, or use of heat-producing devices is permitted near the tank during maintenance unless the tank tests safe with the combustible gas indicator set.
- No smoking is allowed within 50 ft (15.25 m) of semitrailer at any time.

DO NOT climb into tank unless interior of tank has been drained and purged and an explosive meter check indicates that it is safe to do so. Adequate forced-air ventilation or a self-contained breathing apparatus must be used. Any person entering tank must have an attached lifeline. An observer must be stationed at the manhole opening so assistance may be summoned in the event of an emergency. Failure to follow this warning may result in serious injury or death to personnel.

WARNING

BATTERY HAZARDS



Lead-acid batteries can explode. **DO NOT** smoke, have open flames, or make sparks around a battery, especially if the caps are off. If a battery is gassing, it can explode and cause injury to personnel.

Ventilate when charging or using a battery in an enclosed space.

Wear safety goggles and acid-proof gloves when battery cover must be removed or when adding electrolyte.

Avoid contact between battery electrolyte and skin, eyes, or clothing. If electrolyte spills, take immediate action to stop burning effects:

- **EXTERNAL.** Immediately flush with cold running water to remove all acid.
- **EYES.** Flush with cold water for at least 15 minutes. Seek immediate medical attention.
- **INTERNAL.** Drink large amounts of water or milk. Follow with milk of magnesia, beaten egg, or vegetable oil. Seek immediate medical attention.
- **CLOTHING OR VEHICLE.** Wash at once with cold water. Neutralize with baking soda or household ammonia solution.

Wear safety glasses or goggles when checking batteries. Always check electrolyte level with engine stopped. **DO NOT** smoke or use exposed flame when checking battery; explosive gases are present and severe injury to personnel can result.

Remove or disconnect batteries prior to performing maintenance in immediate battery area or working on electrical system. Such disconnections prevent electrical shock to personnel or equipment.

Battery acid (electrolyte) is extremely harmful. Always wear safety goggles and rubber gloves, and **DO NOT** smoke when performing maintenance on batteries. Injury will result if acid contacts skin or eyes. Wear rubber apron to prevent damage to clothing.

Remove all jewelry, such as rings, identification tags, bracelets, and so on. If jewelry contacts battery terminal, a direct short may result in instant heating of tools, damage to equipment, and injury or death to personnel.

WARNING

GENERAL OPERATION

DO NOT let go of static reel cable when rewinding until ball stop is firmly touching the reel. Failure to follow this warning may cause injury to personnel.

WARNING



Sudden changes in temperature may cause semitrailer to develop leaks at the fittings and connectors. Use caution and pay special attention to these areas. If something is broken or worn out, report it to Organizational maintenance. Corrective action must be performed before resuming any operations. Failure to follow this warning may result in injury to personnel.

The semitrailer must not be operated if there are any fuel leaks from semitrailer tank or from engine. Report any fuel leaks to your supervisor or Organizational Maintenance. Failure to do so will result in a fire hazard, which can cause severe injury or death to personnel.

WARNING

Wipe excess lubricant from area of brake shoe linings to avoid grease from contacting linings. If brake shoe linings become soaked with grease, replace them. Failure to follow this warning may cause brakes to malfunction, resulting in serious injury or death.

WARNING

Air reservoir is heavy. Get help when removing air reservoir from semitrailer. Failure to follow this warning could result in injury to personnel.

WARNING

Kingpin coupler is very heavy, **DO NOT** attempt to lift or maneuver coupler by yourself, get help.

WARNING

Kingpin spacer is very heavy. Attempting to lift or maneuver coupler by yourself could result in injury or death to personnel.

WARNING

To avoid personal injury, use a hoist or some lifting device when lifting 4-inch pump. DO NOT attempt to lift pump using just eyebolt, or damage to pump may occur.

The spring load on mechanical seal may cause impeller to fly off shaft while being removed, causing serious injury to personnel.

WARNING

Piping frame is heavy. Position a forklift or other suitable lifting device underneath framework. DO NOT attempt to lift it by yourself or damage to equipment or injury to personnel could result.

WARNING

Maneuver forklift under engine and pump cabinet frame for support when replacing.

WARNING

Spare tire and ladder are heavy. Make sure cable is not frayed or damaged. DO NOT raise spare tire and ladder past the vertical position or they will slam into carrier assembly. Failure to follow this warning may result in severe injury to personnel or damage to equipment.

WARNING

Ladder has narrow treads. To prevent injury, use care when climbing.

WARNING

The following should be done when servicing a semitrailer connected to the prime mover, regardless of the nature of the repair:

- The prime mover's engine should be shut down.
- The prime mover's parking brakes should be applied.
- The prime mover's ignition key should be removed and be in the hands of the operating technician or be locked in an area away from the vehicle.

WARNING

Replace wheel with semitrailer connected to prime mover if possible. If semitrailer is not connected to prime mover, ensure that landing gear is lowered and locked and wheels are chocked. Failure to follow this warning may cause semitrailer to roll resulting in injury to personnel or damage equipment.

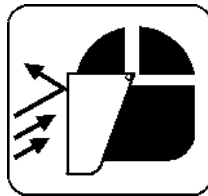
WARNING

Wheel assembly is heavy. Use two people to remove wheel assembly from studs. Failure to follow this warning could result in injury to personnel.

WARNING

Failure to torque outer wheel bearing nut properly could cause wheel to come off during vehicle operation, which could result in death to personnel or property damage.

WARNING



Handle charged fire extinguisher cylinders with care. To prevent serious injury to personnel, DO NOT jar or expose to temperature above 140°F (60°C).

WARNING



Voltage of 115–220 volts can cause personal injury or death. Take extreme care when working with this much voltage.

WARNING



Operators must wear ear protection while on the engine side of semitrailer when engine is running. Failure to follow this warning may result in injury to personnel.

WARNING

Hearing protection is required within 50 ft (15.25 m) of tanker during operation of the engine. Failure to follow this warning may result in injury to personnel.

WARNING

Manhole cover does not lock open. Injury may occur if manhole cover accidentally closes on personnel.

WARNING

Relieve pressure in tank shell prior to opening or removal of manhole cover.

WARNING

DO NOT crawl underneath, on top, or near the tires of the semitrailer unless the brakes are positively locked and all other personnel are aware of your presence.

WARNING

Read and observe all safety precautions listed in the Warning Summary before performing any maintenance on filter separator. Make sure semitrailer is grounded to an approved (earth) ground and is safe to proceed. Failure to follow this warning may cause a spark to ignite, resulting in serious injury or death to personnel.

WARNING

HOSE REEL

DO NOT attempt to lift hose reel cabinet by hand or personal injury or damage to equipment may occur.

WARNING

When the hose has been pulled from the hose reel, the hose reel is under spring tension. To avoid movement of the hose reel by accidental activation of the hose reel rewind switch, tighten the hose reel lock. Failure to follow this warning may result in personal injury.

WARNING

Use extreme caution when operating electric rewind on the hose reels. NEVER use the electric rewind on both hose reels at the same time. Electric rewind should be halted, then resumed carefully, as the fuel-dispensing nozzle approaches the vehicle. As the hose becomes fully wound on the hose reel, the nozzle may slam against the vehicle with force sufficient to cause injury to personnel and/or damage to equipment. Extreme care is to be used, ensuring that the hose is rewound slowly. Caution should be used at the hose reels to prevent accidental tripping of the rewind switches. If these are accidentally depressed by hand or falling objects, serious injury to personnel and/or damage to equipment may occur.

WARNING

DO NOT operate engine with engine access door open. Hot exhaust can cause injury to personnel or damage to equipment.

WARNING

- No disassembly of air brake chamber is authorized. Before any work is performed on the spring brake system, chock the wheel front and rear to prevent semitrailer movement. When inspecting or caging air brake chambers, do not position yourself in front of, or in line with, the chamber. Serious injury or death may occur if this warning is not followed.
- Discarded air brake chambers must be safely and properly disposed of. They should be disarmed prior to disposal to prevent present and future injury.

WARNING

VAPOR INTEGRITY TEST

Use extreme caution when walking or working on the top of semitrailer. Walkway can become slippery due to moisture or fuel spillage. Failure to follow this warning may result in serious injury.

Before performing the pressure or vacuum test, the semitrailer must be grounded to an approved (earth) ground and must be safe to proceed. Failure to follow this warning may cause a spark to ignite, resulting in serious injury or death to personnel.

Make sure tank and piping system are free of all liquid and that tank is purged of all fuel vapor (implement the cleaning procedures, as applicable, refer to TB 43-0212). Failure to follow this warning may cause a spark to ignite, resulting in serious injury or death to personnel.

LIST OF EFFECTIVE PAGES/WORK PACKAGES

Date of issue for the original manual is:

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TM 9-2330-329-14&P

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 2 SEPTEMBER 2005

TECHNICAL MANUAL

**OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT, AND
GENERAL SUPPORT MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)**

FOR

**SEMITRAILER, FUEL TANKER: 5000-GALLON
BULKHAUL, SELF-LOAD/UNLOAD,
M967A2**

(NSN 2330-01-495-0040)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this publication. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Submit DA Form 2028 (Recommended Changes to Publications and Blank Forms), through the Internet, on the Army Electronic Product Support (AEPS) website. The internet address is <http://aeeps.ria.army.mil>. If you need a password, scroll down and click on "ACCESS REQUEST FORM." The DA Form 2028 is located in the ON-LINE FORMS PROCESSING section of the AEPS. Fill out the form and click on SUBMIT. Using this form on the AEPS will enable us to respond quicker to your comments and better manage the DA Form 2028 program. You may also mail, fax, or email your letter, or DA Form 2028-2 direct to: Technical Publication Information Office, TACOM-RI, 1 Rock Island Arsenal, Rock Island, IL 61299-7630. The email address is TACOM-TECH-PUBS@ria.army.mil. The fax number is DSN 793-0726 or Commercial (309) 782-0726. A reply will be furnished to you.

This manual supersedes TM 9-2330-329-14&P, dated December 2003, and all changes.

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HEADQUARTERS, DEPARTMENT OF THE ARMY

30 SEPTEMBER 2005

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HOW TO USE THIS MANUAL

SCOPE

This manual provides you with the information you will need to operate and maintain the semitrailer.

MANUAL CONTENT

The front matter in this manual consists of general warnings, title block page, and table of contents.

The information contained in this manual is presented in nine chapters. Each chapter is divided into Work Packages (WPs) that cover operating procedures, maintenance procedures, troubleshooting procedures, and other information for specific systems or components. Each WP starts on a right-hand page. Page number consists of the WP number followed by a dash and another number. For example "0007 00-9" means WP 0007 00, page 9.

At the end of this manual are an alphabetical index, DA Form 2028-2, and metric conversion chart.

Front Matter

There are general warnings that start on the first right-hand page immediately after the cover that should be read before performing any maintenance on the semitrailer.

The title block page includes the reporting of errors and recommending improvements statement.

The table of contents lists the chapters and WPs in the manual.

Chapters

Chapter 1 provides general information, equipment descriptions, and theory of operation.

Chapter 2 provides the description and use of controls and indicators, and operating instructions.

Chapter 3 provides Operator troubleshooting procedures.

Chapter 4 provides Organizational troubleshooting procedures.

Chapter 5 provides Direct Support and General Support troubleshooting.

Chapter 6 provides Operator maintenance instructions.

Chapter 7 provides Organizational maintenance instructions.

Chapter 8 provides Direct Support and General Support maintenance instructions.

Chapter 9 provides supporting information, including the publications referenced in this manual, Maintenance Allocation Chart (MAC), Basic Issue Items (BII) list, expendable and durable items list, torque limits, and Repair Parts and Special Tools List (RPSTL).

Alphabetical Index

An index is located after the last WP in this manual that provides an alphabetical listing of information and components/assemblies contained in this manual.

HOW TO USE THIS MANUAL—Continued

DA Form 2028-2

DA Form 2028-2 is used to report errors and to recommend improvements for the tasks in this manual.

Metric Conversion Chart

This metric conversion chart converts English measurements to metric equivalents. Measurements in this manual are provided in both English and metric units.

WARNINGS, CAUTIONS, AND NOTES

You must read and understand this manual BEFORE operating the semitrailer.

Throughout this manual, you will see **WARNING**, **CAUTION**, and **NOTE** headings. There are good reasons for every one of these notices:

WARNING

A warning is used to alert the user to hazardous operating and maintenance procedures, practices, or conditions that could result in injury or death. Warnings must be strictly observed.

CAUTION

A caution is used to alert the user to hazardous operating and maintenance procedures, practices, or conditions that could result in damage to, or destruction of, equipment or mission effectiveness. Cautions must be strictly observed.

NOTE

A note highlights an essential operating or maintenance procedure, condition, or statement.

Warnings and cautions appear immediately preceding the step to which they pertain. It is important to read and thoroughly understand the warnings and/or cautions before beginning maintenance. Notes may precede or follow the steps to which they pertain, depending on what makes the most sense.

INITIAL SETUPS

Before starting a task, you must obtain all the tools, supplies, and personnel listed in the initial setup. Be sure to read the task before performing the maintenance. If any other tasks are referenced, you must go to the initial setup page for each of these tasks to find out what tools, supplies, and personnel will be needed.

INDEXING

Three indexing procedures are used in this manual to help you locate information quickly:

- Table of contents
- Controls and indicators index in WP 0006 00
- Alphabetical index at the back of this manual

SEMITRAILER GENERAL INFORMATION

0001 00

TYPE OF MANUAL

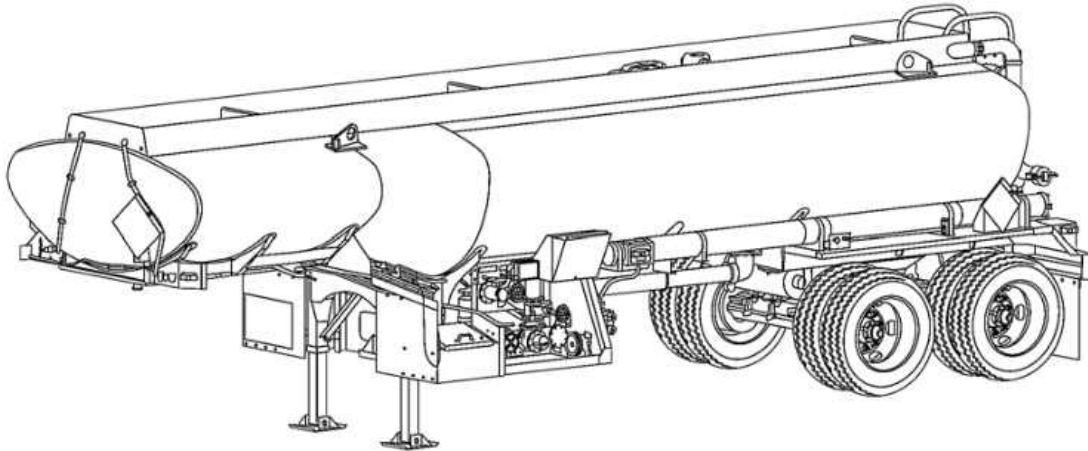
TM 9-2330-329-14&P is an Operator's, Organizational, Direct Support, and General Support Maintenance Manual including a RPSTL.

EQUIPMENT NAME AND MODEL NUMBER

This manual covers: Semitrailer, Fuel Tanker: 5000-Gallon, Fuel-Dispensing, Automotive, M967A2.

PURPOSE OF EQUIPMENT

The purpose of this semitrailer is to haul and dispense fuel.



M967A2 Semitrailer

MAINTENANCE FORMS, RECORDS, AND REPORTS

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

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIRs)

If your semitrailer needs improvement let us know. Send us an EIR. You, the user, are the only one who can tell us what you do not like about your equipment. Let us know why you do not like the design. Put it on an SF 368 (Product Quality Deficiency Report). Mail it to the address specified in DA PAM 738-750, Functional Users Manual for TAMMS, or as specified by the contracting activity. We will send you a reply.

CORROSION PREVENTION AND CONTROL (CPC)

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

SEMITRAILER GENERAL INFORMATION—Continued

0001 00

While corrosion is typically associated with rusting of metals, it can also include deterioration of other materials, such as rubber and plastic. Unusual cracking, softening, swelling, or breaking of these materials may be a corrosion problem.

If a corrosion problem is identified, it can be reported using SF 368, Product Maintenance Deficiency Report. Use of key words such as "corrosion," "rust," "deterioration," or "cracking" will ensure that the information is identified as a CPC problem.

The form should be submitted to the address specified in DA PAM 738-750, TAMMS.

DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

For destruction of Army materiel to prevent enemy use, refer to TM 750-244-6.

WARRANTY STATEMENT

Heil Trailer International warrants its Tank Trailer Equipment to be free from defects in material and workmanship under normal use, when proper service and maintenance as described in its Service Bulletins and Operation Manuals are performed, for a period of 12 months from the date when these products are delivered to the first purchaser.

This warranty is expressly limited to the repair or replacement of any component or part thereof, of any such unit manufactured by Heil Trailer International, that is proven to Heil's satisfaction to have been defective in material or workmanship. Such components or parts thereof shall be repaired or replaced without cost to the first purchaser for parts and labor provided such unit is returned for such repair or replacement to an authorized Heil Distributor, or such other place as may be designated by Heil, within 12 months from the date on which the unit was delivered to such first purchaser.

Heil Trailer International neither warrants, nor does it accept liability for products manufactured by others and installed by Heil. Purchaser and/or end user must pursue any claims of any nature whatsoever, including warranties with the manufacturer of said product.

Heil Trailer International makes no other warranty, expressed or implied, and makes no warranty of merchantability or of fitness for any particular purpose.

Heil Trailer International does not assume any other liability of any nature whatsoever, including but not limited to, any direct or indirect or consequential loss, transportation charges, loss of profits, damages, or delays. Any improper use, operation beyond rated capacity, substitution of parts not approved by us, or any alteration or repair by others in such manner as in our judgment affects the product materially and adversely, shall void this warranty.

Other than extension of the warranty period under Heil's Extended Warranty Program, no employee or representative is authorized to change this warranty in any way or grant any other warranty.

Heil Trailer International warrants that this trailer is manufactured in accordance with the specifications on the order. Heil Trailer International does not warranty this piece of equipment for use in hauling any specific product. Heil Trailer International accepts no responsibility for damage to the equipment, or for cargo losses, due to an adverse effect on the equipment caused by the incompatibility of the product being hauled in the trailer. Where tanks are prepared for lining, all agreements that concern the tank

SEMITRAILER GENERAL INFORMATION—Continued**0001 00**

barrel lining will be the responsibility of the customer and the lining company. In this connection, Heil Trailer International makes no warranty of products, including lining manufactured and/or installed by others, the same being subject to warranties, if any, of their respective manufacturers or installers. The customer shall bear the risk for damage or loss to the tank or injury to property or person, while the tank is either at or in transit to or from the lining company. In those instances where the lining application is performed by a Heil Trailer International facility, no warranty will be provided to the installation or application of those lining materials.

Heil Trailer International does not assume any liability for interior cleanliness and finish requirements of trailers due to different operations and circumstances. As such, Heil Trailer International does not certify that trailers are ready to be placed in service for product upon delivery. The trailer must be inspected, cleaned, washed, and otherwise prepared for its intended service by the user to the requirements of the customer prior to placing into service.

The above warranty supersedes and is in lieu of all other warranties expressed or implied.

LIST OF ABBREVIATIONS/ACRONYMS

AAL.....	Additional Authorization List
ABS	Antilock Brake System
BII	Basic Issue Items
CAGEC.....	Commercial and Government Entity Code
cm.....	centimeters
CPC.....	Corrosion Prevention and Control
dc.....	direct current
DS	Direct Support
EA.....	each
ECU.....	Electronic Control Unit
EIR	Equipment Improvement Recommendation
EPA	Environmental Protection Agency
FMTV.....	Family of Medium Tactical Vehicles
gal.....	gallons
GL.....	gallons
gpm	gallons per minute
GS	General Support
in.....	inches
kg.....	kilograms
km/h.....	kilometers per hour
kPa	kilopascals
L	liters
LB	pound
lb-ft	pound-feet
Lpm	liters per minute
MAC	Maintenance Allocation Chart
m	meters
mm	millimeters
mph	miles per hour
MWO	Modification Work Order
NATO	North Atlantic Treaty Organization
NSN.....	National Stock Number

SEMITRAILER GENERAL INFORMATION—Continued

0001 00

N•m..... Newton-meters
P/N Part Number
PMCS Preventive Maintenance Checks and Services
psi.....pounds per square inch
PTpint
QT quart
ROroll
RPSTL..... Repair Parts and Special Tools List
SC Supply Catalog
SMR Source, Maintenance, and Recoverability
SRA Specialized Repair Activity
TAMMS The Army Maintenance Managemenet System
TAMMS-A..... The Army Maintenance Management System—Aviation
TB Technical Bulletin
TM Technical Manual
TMDE Test, Measurement, and Diagnostic Equipment
V volts
WC Water Column
WP Work Package

END OF TASK

CHAPTER 1

INTRODUCTORY INFORMATION
WITH
THEORY OF OPERATION

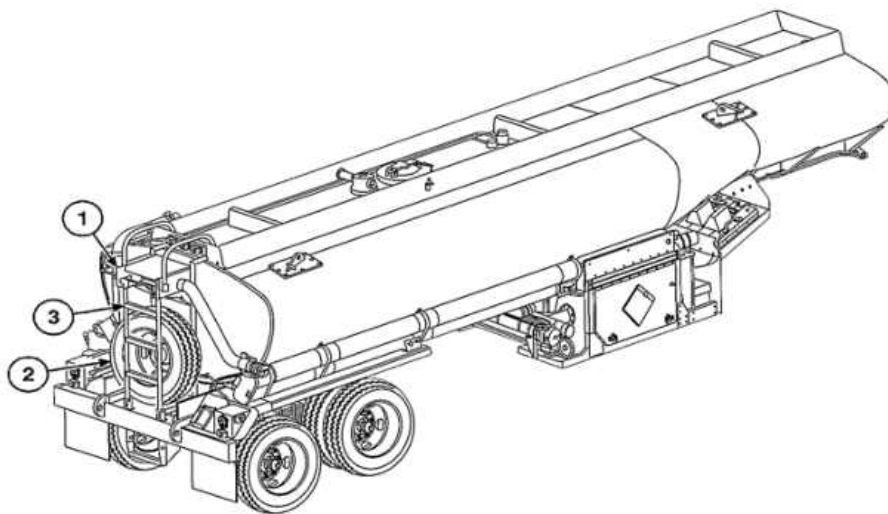
SEMITRAILER EQUIPMENT DESCRIPTION AND DATA**0002 00****EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES**

The semitrailer is constructed of welded stainless steel, with a single compartment tank of 5000 gallons (18,927 L) plus a 3% capacity of product expansion. The chassis is constructed of welded stainless steel and is equipped with full floating tandem axles and manually operated landing gear.

The semitrailer is designed to be towed by a prime mover equipped with a fifth wheel. The M967A2 5,000-Gallon Tanker may be used with the following tractors that have ABS braking systems: M915, M1088 (FMTV), and M931/M932 only. Use of the M967A2 and M969A3 with the M818 and M931/M932 without ABS brakes is not authorized. Tankers are not to be filled to exceed the load capacities of the tractors. Due to limited payload capacity, some of the tractors will not be able to haul fully loaded tankers. No over-load waiver is allowed for these tankers. When driving on hard-surface highways, only the 10-ton military-adapted commercial 6x4 prime movers, the M915, M915A1, and M915A2 are authorized. The semitrailer can be loaded through the bottom or top fill opening. The Lombardini three-cylinder diesel engine in combination with the Gorman Rupp 4-in. pump provides self-load/unload capability.

The semitrailer is equipped with pressure and vacuum vents, a sealed manhole, an improved vapor recovery system, three 4-in. hoses for loading/off loading and bulk delivery, a portable grounding rod, two static reels, and a spare tire. A ladder is provided at the rear of the semitrailer for easy access to the top of the semitrailer.

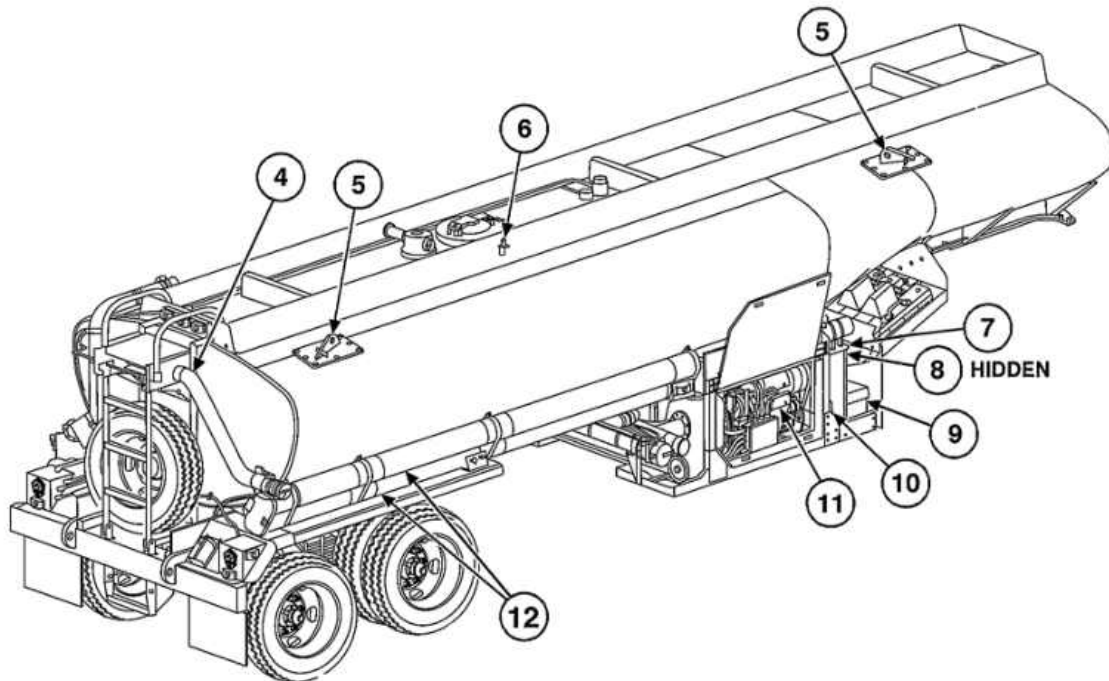
KEY	COMPONENTS	DESCRIPTION
1	Winch assembly	Winds and rewinds the spare tire.
2	Spare tire	Provides spare tire.
3	Ladder	Provides access to top of tanker.



SEMITRAILER EQUIPMENT DESCRIPTION AND DATA—Continued

0002 00

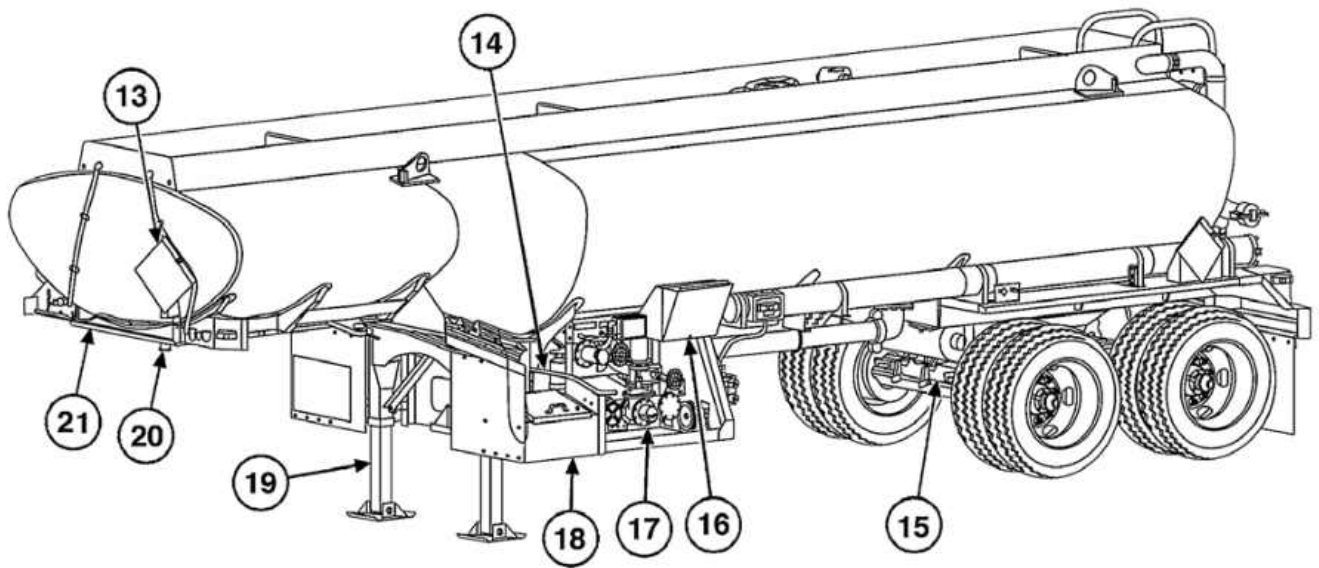
KEY	COMPONENTS	DESCRIPTION
4	Vapor recovery system	Allows fuel depot to collect/recover vapors.
5	Lifting lugs (4)	Provides lift capability for semitrailer.
6	Ground studs (3)	Allows semitrailer to discharge static electricity
7	NATO	
8	Optic socket box (2)	Provides fuel depot with automatic shutoff capability.
9	Batteries	Provides electricity for starting engine.
10	Engine fuel tank	Store fuel for engine.
11	Engine/pump	Provides semitrailer with pumping capability.
12	Hose tubes (3)	Stores semitrailers three 4-in. hoses.



SEMITRAILER EQUIPMENT DESCRIPTION AND DATA—Continued

0002 00

KEY	COMPONENTS	DESCRIPTION
13	Hazardous materials placards (4)	Displays HazMat symbols.
14	Landing gear handcrank	Raises/lowers landing gear.
15	Suspension	Cushions road shock.
16	Engine control panel	Houses engine controls and gages.
17	Piping control	Houses pumping valves and outlets.
18	Tool/storage box	Provides storage for BII/AAL and tools.
19	Landing gear	Allows semitrailer to stand on its own.
20	Kingpin	Guides, centers, and locks the prime mover's fifth wheel.
21	Spacer plate	Provides semitrailer with an adjustable kingpin height.



EQUIPMENT DATA

Bridge Classification:

Empty weight with prime mover	Class. 14
Empty weight without prime mover	Class. 6
Cross-country loaded with prime mover	Class. 25
Cross-country loaded without prime mover	Class. 18
Highway loaded with prime mover	Class. 30
Highway loaded without prime mover	Class. 22

Angle of Departure 60°

Capacities of Tank (Vehicle Capacity):

Hard-surface road and cross-country	5000 gal. (18,927 L)
20% maximum side slope without leakage	5000 gal. (18,927 L)
10% maximum longitudinal slope without leakage	5000 gal. (18,927 L)

Capacities of Tank (with 5-ton Prime Mover other than M1088):

Hard-surface road and cross-country	3000 gal. (11,356 L)
20% maximum side slope without leakage	3000 gal. (11,356 L)
10% maximum longitudinal slope without leakage	3000 gal. (11,356 L)

Center of Gravity:

Empty (vertical)	46.1 in. (117.1 cm)
Empty (horizontal from front)	210.0 in. (533.4 cm)
Loaded (vertical)	62.8 in. (159.5 cm)
Loaded (horizontal from front)	185.0 in. (469.9 cm)

Dimensions Overall:

Height	104.4 in. (265.2 cm)
Length	359.2 in. (912.4 cm)
Width	95.3 in. (242.1 cm)
To outside of tires	96.0 in. (243.8 cm)

Weights:

Empty	16,700 lb (7,574 kg)
Kingpin weight	5,300 lb (2,404 kg)
Rear axle	11,400 lb (5,170 kg)
Loaded (5000 GAL)	48,200 lb (21,859 kg)

Kingpin Location:

From nose of vehicle	17.0 in. (43.2 cm)
To landing gear	84.8 in. (215.4 cm)

Crankcase Capacity 5.29 qt (5.00 L)

Fording depth 30 in. (76.2 cm)

Tire Pressure 95 psi (655 kPa)

END OF TASK

ELECTRICAL SYSTEM THEORY OF OPERATION

0003 00

The M967A2 is equipped with two electrical systems. The first system is a 12/24 V dc electrical system that receives its power from the prime mover through the intervehicular cable assembly. The intervehicular cable assembly is connected to the M967A2 main wiring harness that distributes power to the composite lights, front, side, and rear marker lights, ECU valve, and overflow monitor panel. The second electrical system is the engine electrical system, which is a self-contained unit that provides power to keep the batteries charged and engine running.

END OF TASK

ENGINE AND PUMP THEORY OF OPERATION

0004 00

ENGINE

The diesel engine provides power through the flexible coupling to the centrifugal pump. The engine is a 3-cylinder, 4-cycle, valve-in-head, air-cooled engine with a maximum rating of 35.4 hp (26.4 kW), located on the curbside of the semitrailer. The engine is operated and monitored by the control panel located on the roadside of the semitrailer.

PUMP

The M967A2 is equipped with a 4-in., self-priming, low-pressure centrifugal pump that provides fuel delivery up to 320 gpm (124 Lpm) through one of the nine fuel hoses.

END OF TASK

ANTILOCK BRAKE SYSTEM (ABS) THEORY OF OPERATION

0005 00

The semitrailer brakes are equipped with 4-sensor 2-modular ABS, axle by axle, to prevent wheel lockup during braking on unstable surfaces. The ABS is automatic, applied through the air brake system and needs no operator assistance.

END OF TASK

CHAPTER 2

OPERATOR INSTRUCTIONS

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

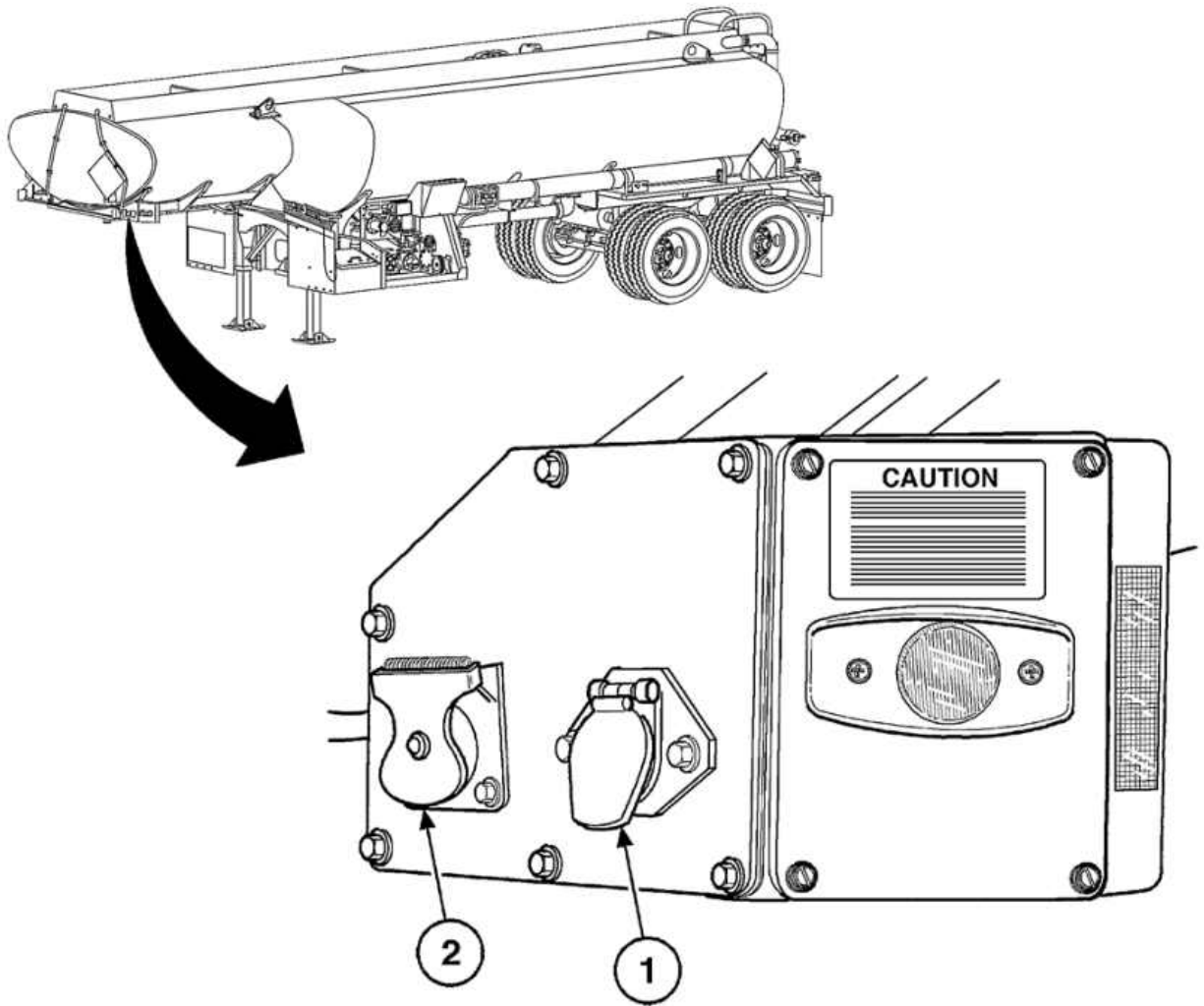
0006 00**GENERAL**

The following pages show the location and function of the controls and indicators of the M967A2. Below is an alphabetical listing of them and the page number on which they can be found. Review this section thoroughly before operating the semitrailer.

Page Number

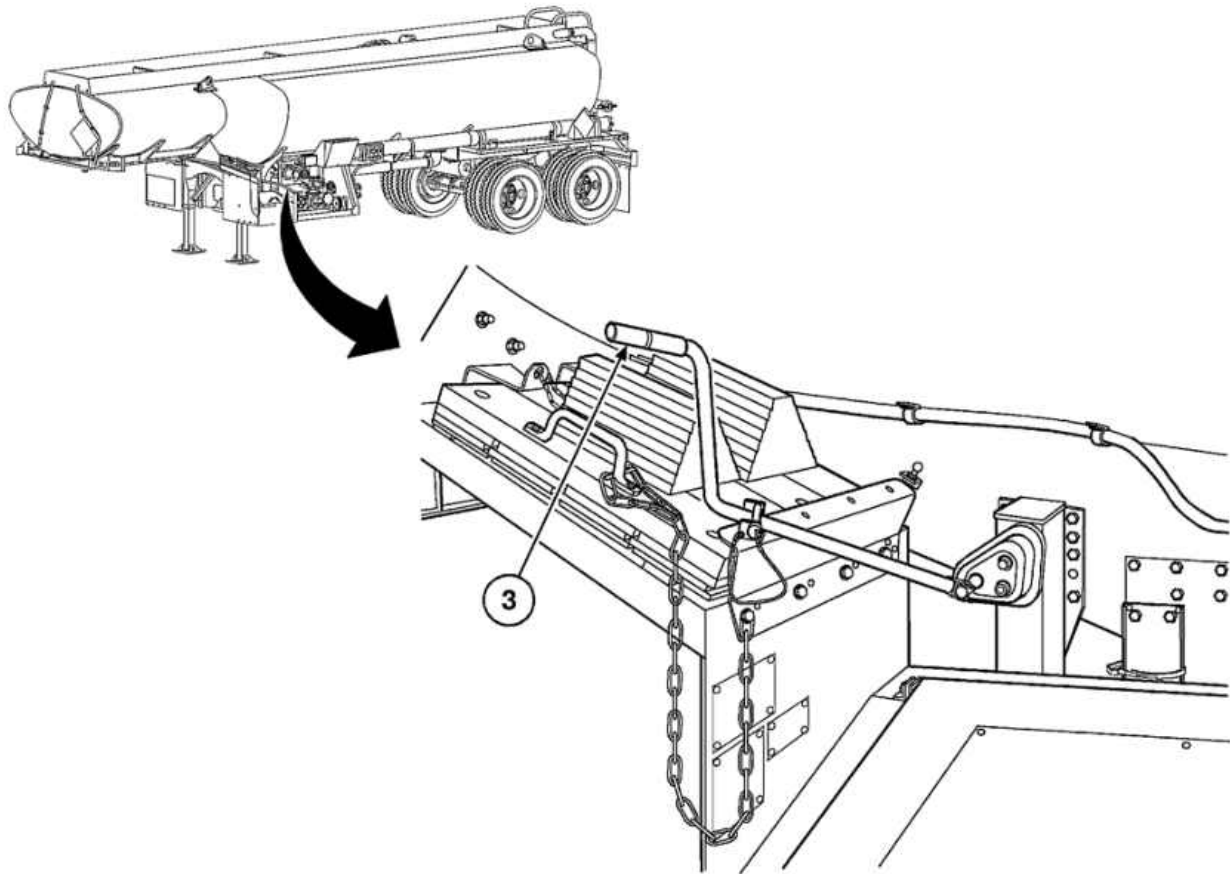
Air cleaner restriction indicator.....	0006 00-11
Battery voltage gage	0006 00-7
Bottom loading adapter	0006 00-4
Control panel light	0006 00-6
Engine hours	0006 00-6
Engine switch	0006 00-6
Engine throttle	0006 00-4
Indicator light	0006 00-6
Intervehicular cable (12 volt) connector	0006 00-2
Intervehicular cable (24 volt) connector	0006 00-2
Landing gear handcrank	0006 00-3
Oil pressure gage	0006 00-7
Optic socket box	0006 00-8
Optic socket box (curbside)	0006 00-8
Optic socket box (roadside)	0006 00-8
Outlet valve	0006 00-5
Overfill monitor panel	0006 00-4
Parking brake/Schrader valve	0006 00-9
Preheater switch	0006 00-6
Pump pressure gage	0006 00-7
Schrader valve	0006 00-9
Spare tire lifting device handcrank	0006 00-10
Starter switch	0006 00-6
Tachometer	0006 00-6
Tanker fuel level indicator gage	0006 00-7
Tanker fuel level indicator switch	0006 00-7
Valve A control handle	0006 00-5
Valve B	0006 00-5
Valve D	0006 00-4
Valve E	0006 00-4
Valve F	0006 00-5
Valve G	0006 00-5
Valve H	0006 00-5
Valve J	0006 00-5

INTERVEHICULAR CABLE CONNECTORS



KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Intervehicular cable (12 volt) connector	Connects towing vehicle and semitrailer 12-volt electrical systems.
2	Intervehicular cable (24 volt) connector	Connects towing vehicle and semitrailer 24-volt electrical systems.

LANDING GEAR HANDCRANK

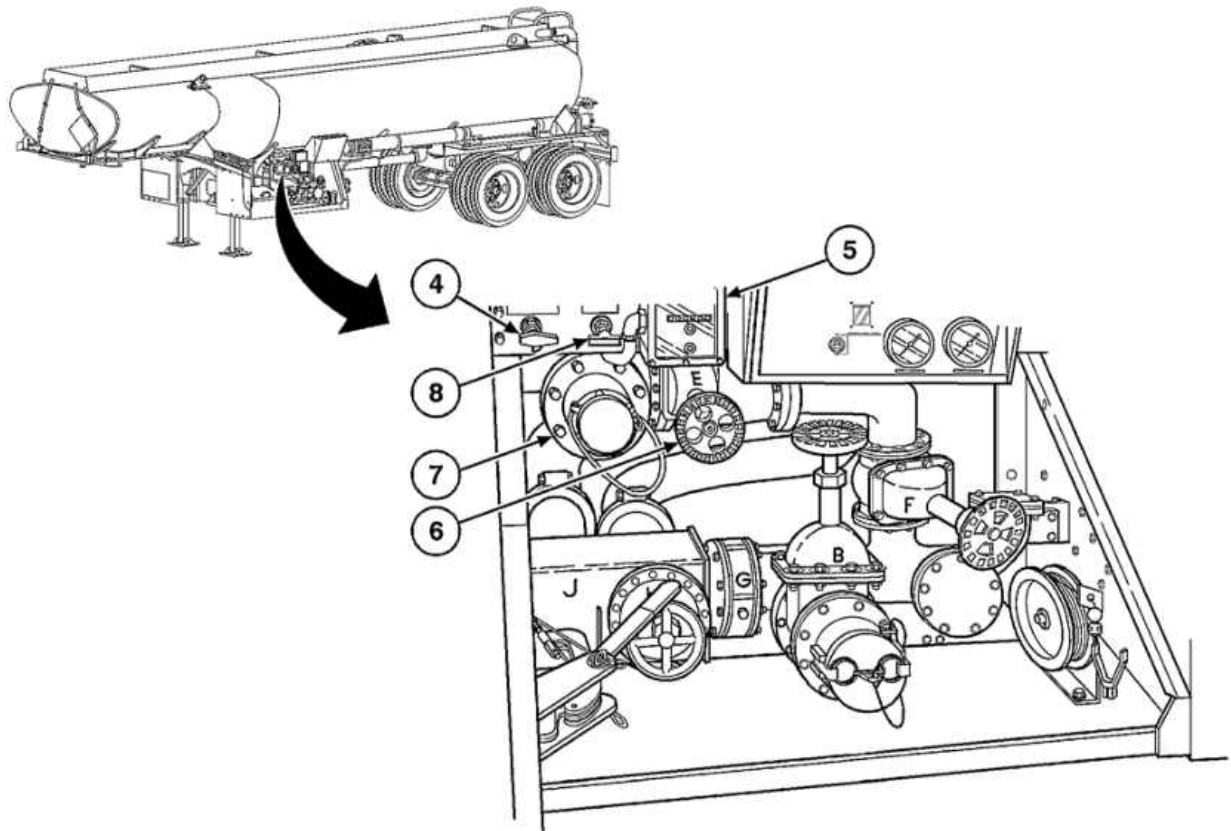


KEY	CONTROL OR INDICATOR	FUNCTION OR USE
3	Landing gear handcrank	Raises and lowers landing gear legs.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS—Continued

0006 00

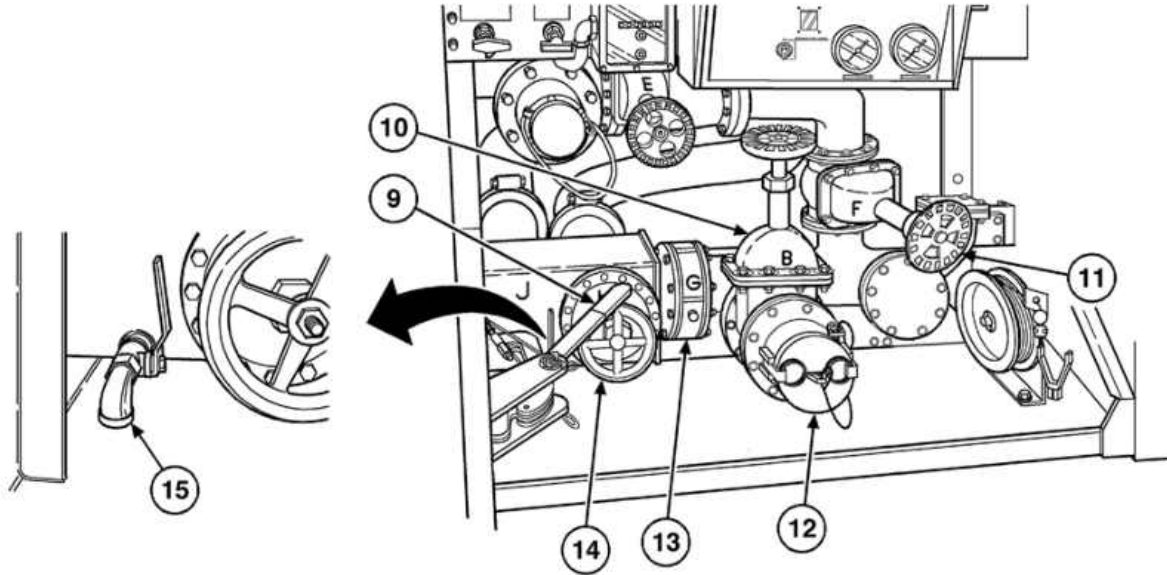
PIPING CONTROL ASSEMBLY



KEY	CONTROL OR INDICATOR	FUNCTION OR USE
4	Valve D	Loading precheck control valve.
5	Overfill monitor panel	Monitor fuel level during loading.
6	Valve E	Self-loading control valve.
7	Bottom loading adapter	Provides self-loading capability.
8	Engine throttle	Advances and retards engine speeds.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS—Continued

0006 00

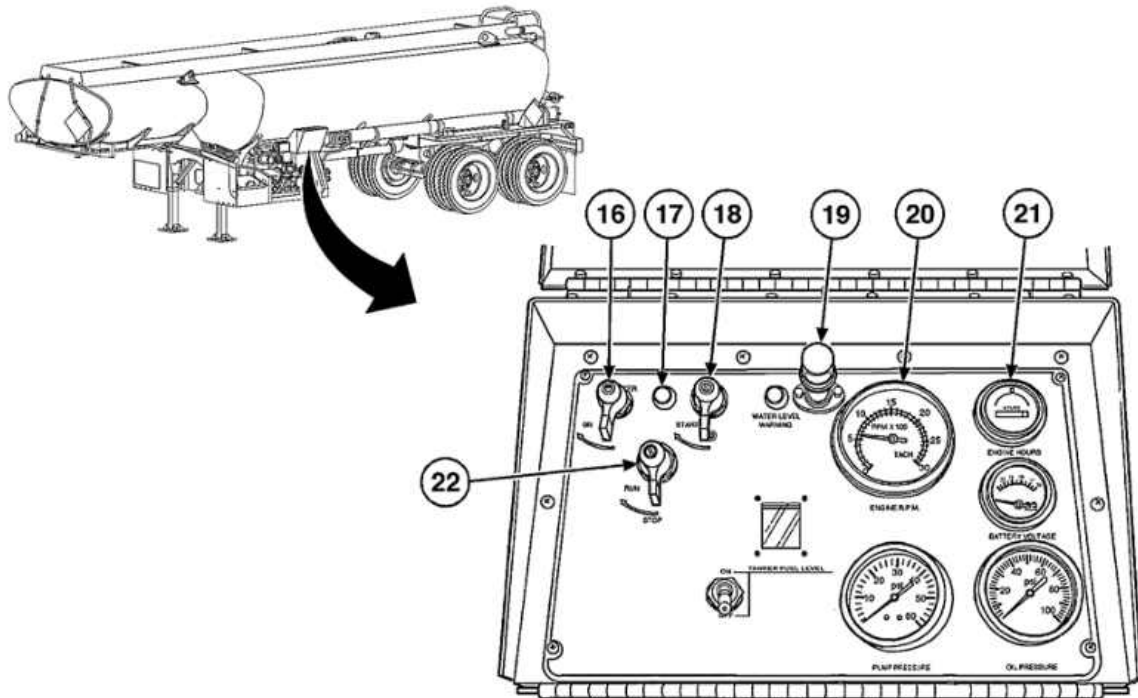


KEY	CONTROL OR INDICATOR	FUNCTION OR USE
9	Valve A control handle	Allows emergency shut down of fueling operations.
10	Valve B	Bulk delivery control valve.
11	Valve F	Allows fuel flow to bulk fuel delivery.
12	Outlet valve	Main outlet for bulk fuel delivery.
13	Valve G	Allows gravity unloading and self-loading.
14	Valve H	Allows fuel flow through manifold to pump.
15	Valve J	Allows water to drain from manifold.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS—Continued

0006 00

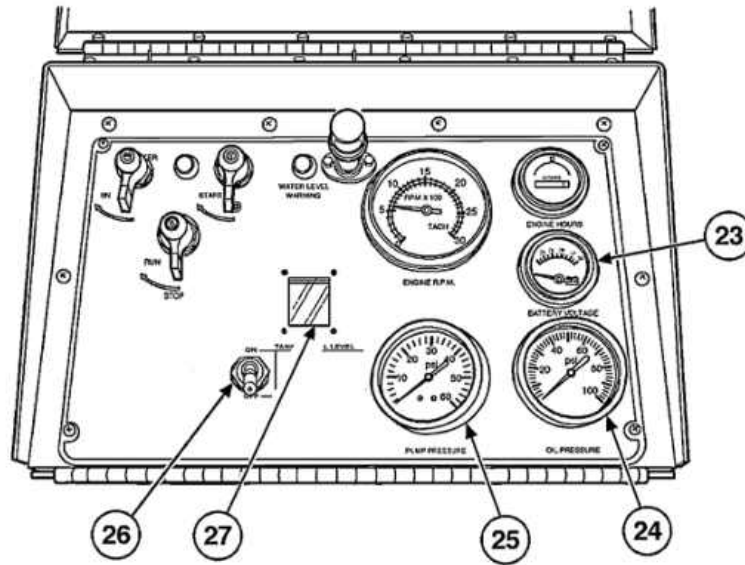
ENGINE CONTROL PANEL



KEY	CONTROL OR INDICATOR	FUNCTION OR USE
16	Preheater switch	Controls engine preheat operations.
17	Indicator light	Indicates preheat operations.
18	Starter switch	Starts engine.
19	Control panel light	Provides light for night viewing.
20	Tachometer	Monitors engine speed.
21	Engine hours	Monitors engine usage time.
22	Engine switch	Controls engine run/stop operations.

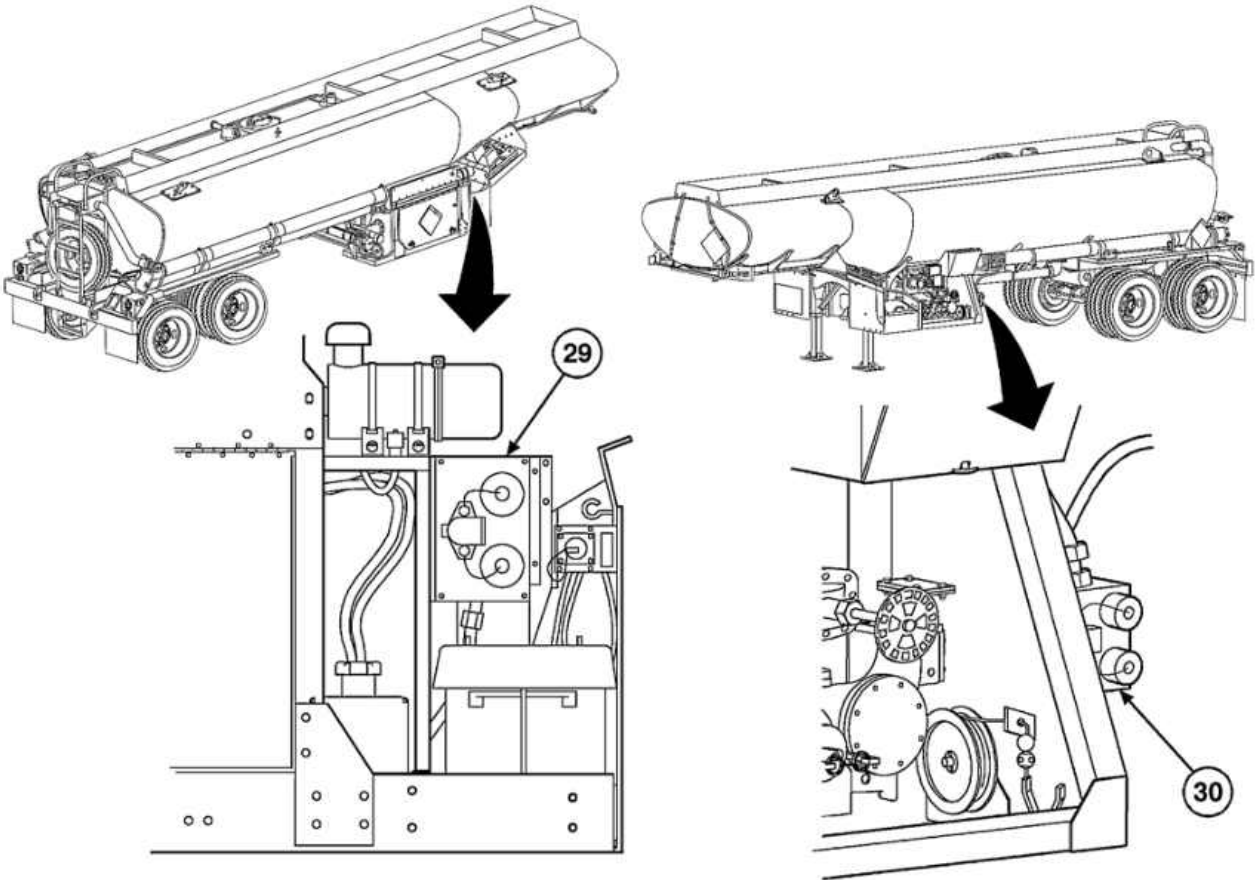
DESCRIPTION AND USE OF CONTROLS AND INDICATORS—Continued

0006 00



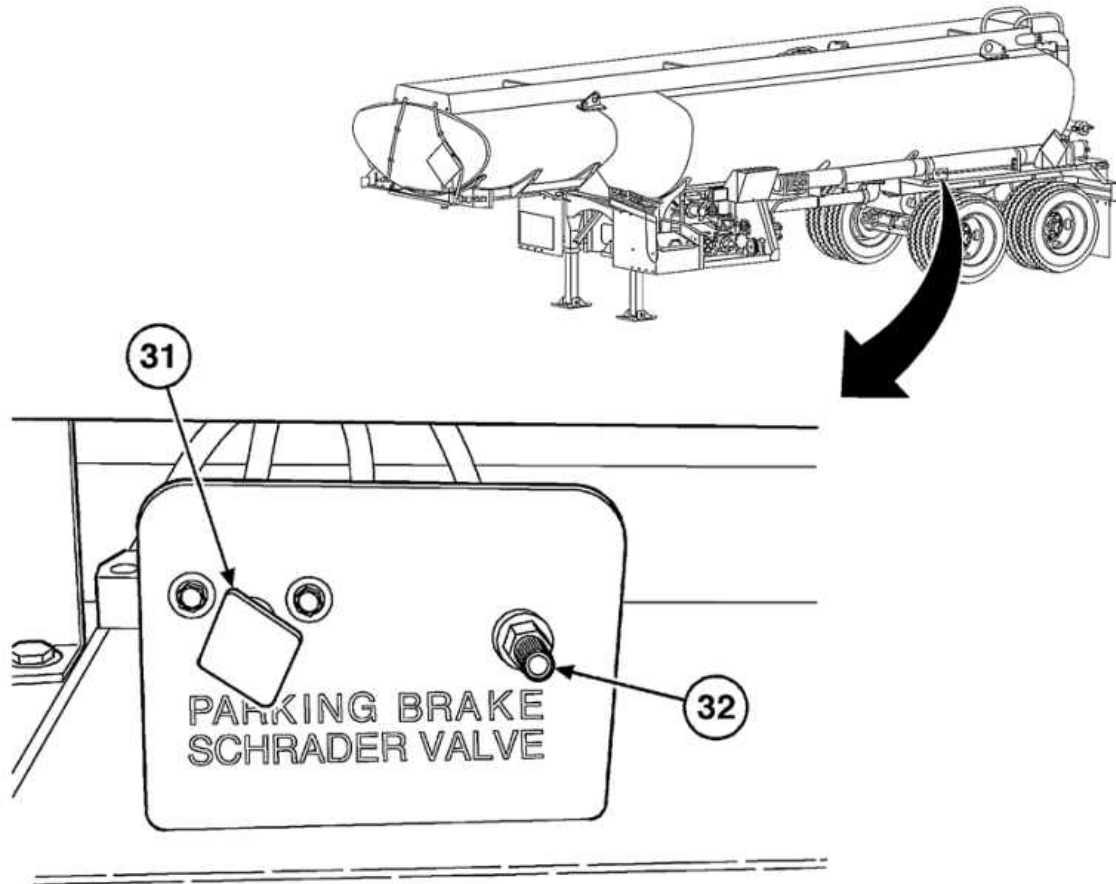
KEY	CONTROL OR INDICATOR	FUNCTION OR USE
23	Battery voltage gage	Monitors battery voltage.
24	Oil pressure gage	Monitors engine oil pressure.
25	Pump pressure gage	Monitors pump pressure.
26	Tanker fuel level indicator switch	Switch to allow operator to monitor in tank fuel level.
27	Tanker fuel level indicator gage	Allows operator to monitor in tank fuel level.

OPTIC SOCKET BOXES

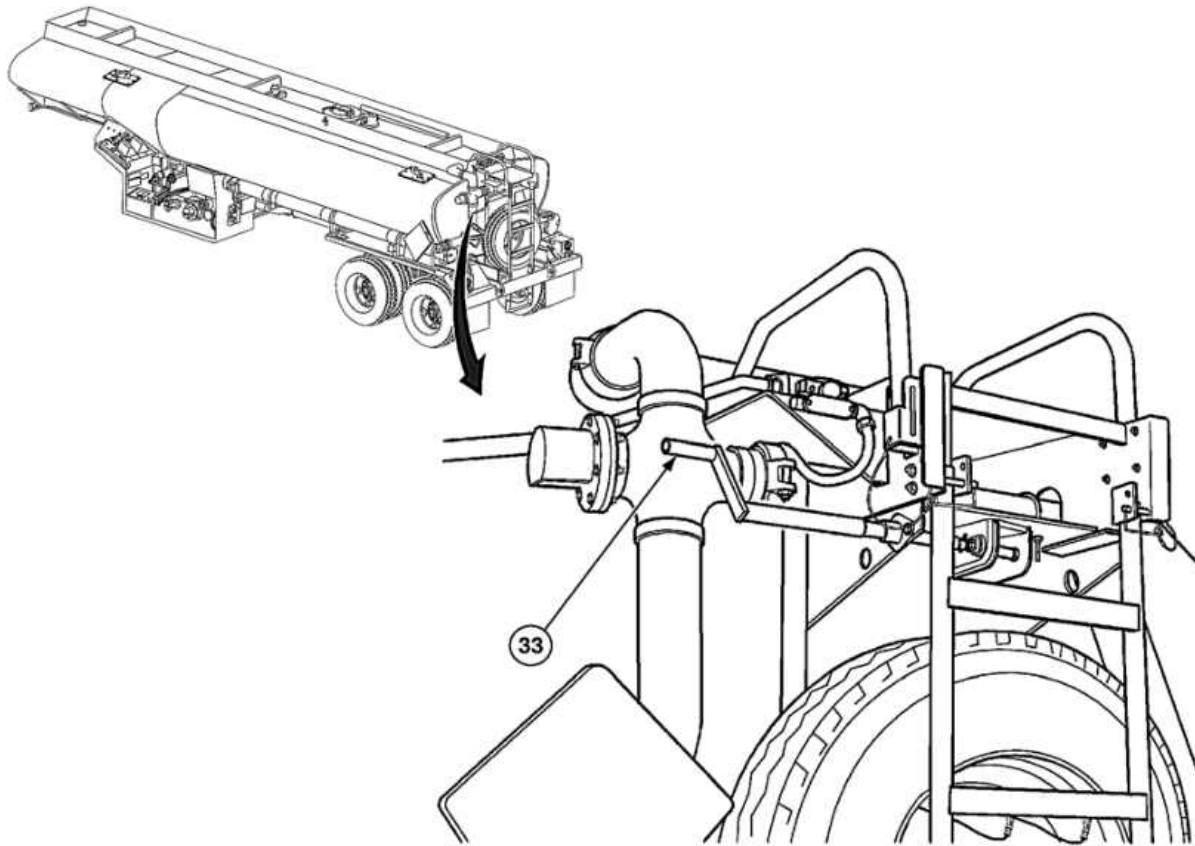


KEY	CONTROL OR INDICATOR	FUNCTION OR USE
28	Optic socket box (curbside)	Controls fuel depot loading operations.
29	Optic socket box (roadside)	Controls fuel depot loading operations.

PARKING BRAKE/SCHRADER VALVE

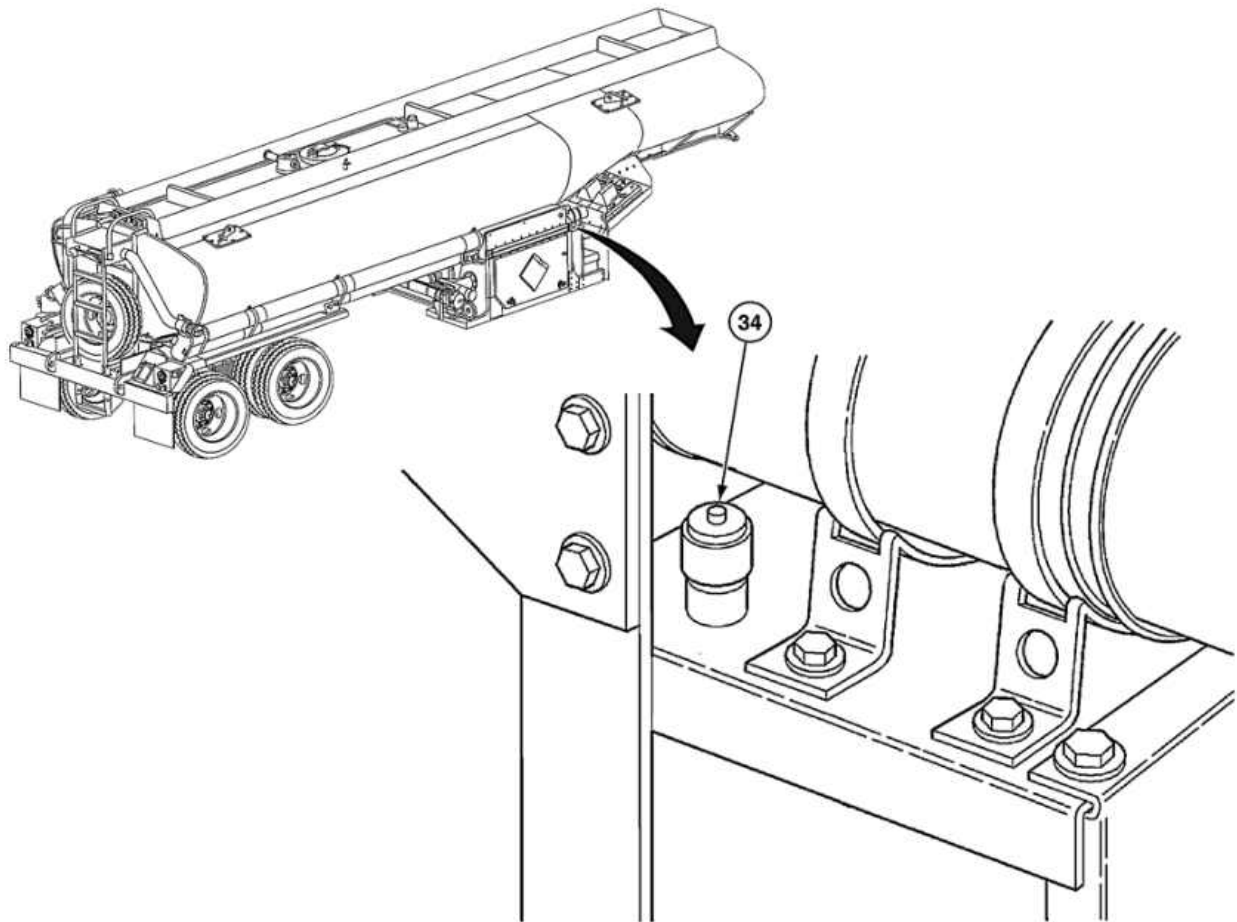


KEY	CONTROL OR INDICATOR	FUNCTION OR USE
30	Parking brake valve	Allows release of air from parking brakes.
31	Schrader valve	Allows an air source other than the prime mover to refill air reservoir.

SPARE TIRE LIFTING DEVICE (WINCH) HANDCRANK

KEY	CONTROL OR INDICATOR	FUNCTION OR USE
32	Spare tire lifting device handcrank	Allows spare tire lifting/raising operations.

AIR CLEANER RESTRICTION INDICATOR



KEY	CONTROL OR INDICATOR	FUNCTION OR USE
33	Air cleaner restriction indicator	Indicates air cleaner is clogged or needs cleaning.

END OF TASK

OPERATION UNDER USUAL CONDITIONS**0007 00**

GENERAL

This WP contains instructions for safely operating the M967A2 Semitrailer under usual conditions. Operation under unusual conditions is covered in WP 0008 00.

Perform all "Before" Operator/Crew Preventive Maintenance Checks and Services (PMCS) prior to operating the semitrailer.

Review all prime mover operating instructions prior to connecting/disconnecting operations. Use of BII from prime mover may be required.

A. CONNECTING PRIME MOVER TO M967A2**WARNING**

The M967A3 is only authorized to be towed by the following prime movers WITH ABS: M915A2, M915A3, M915A4, M1088 (FMTV), and M931/M932 Series. Failure to follow this warning may result in severe injury or death to personnel.

WARNING

All personnel must stand clear of prime mover and M967A2 prior to connecting. Failure to follow this warning may result in severe injury or death to personnel.

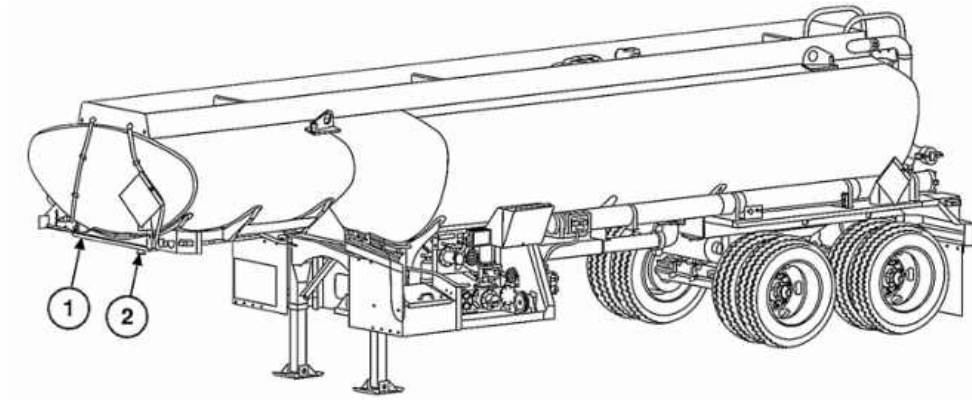
1. Prepare prime mover for coupling and operation.

NOTE

- The M915 Series prime movers are the only prime movers that require the use of the upper coupler plate spacer. All other prime movers require the spacer to be removed for safe and level towing. Removal/installation of spacer (WP 0082 00) to M969A3 may be necessary prior to connecting prime mover.
- Installation/removal of spacer (refer to WP 0079 00) to M967A2 may be necessary prior to connecting prime mover.

OPERATION UNDER USUAL CONDITIONS - Continued**0007 00**

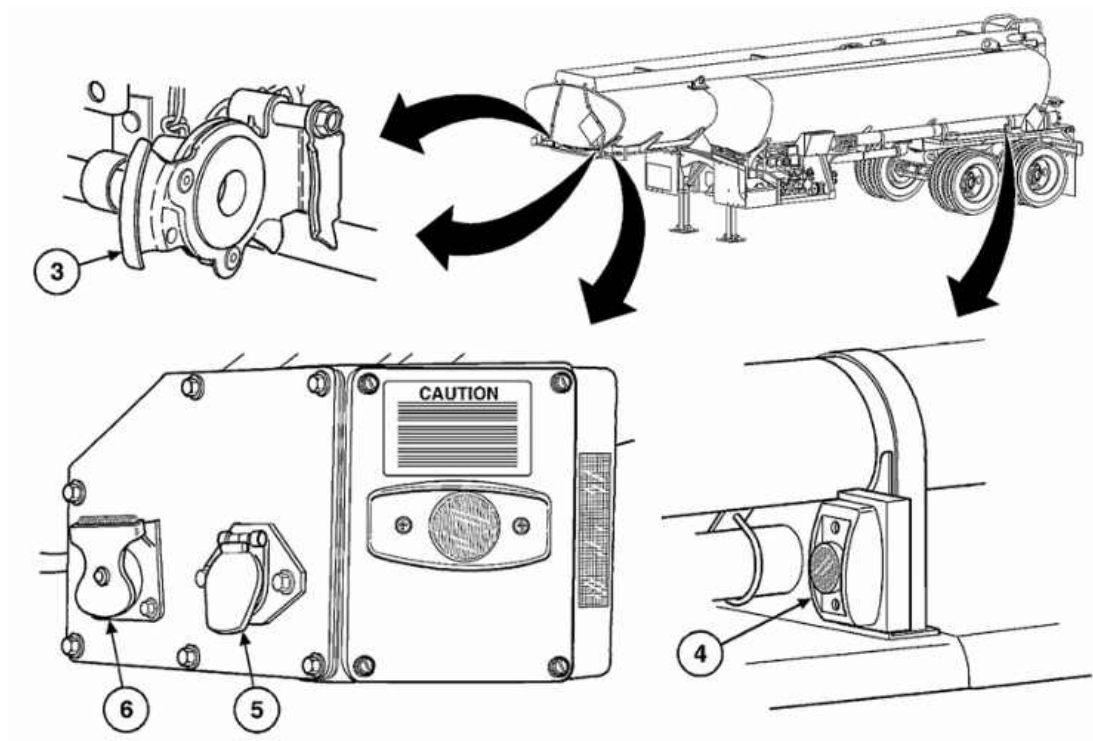
2. Back prime mover slowly to front of M967A2. Maneuver prime mover so that kingpin (2) on M967A2 is in line with fifth wheel jaws on prime mover. Stop prime mover before upper coupler plate (1) of semitrailer starts to ride on fifth wheel of prime mover.
3. Verify M967A2 upper coupler plate (1) height exceeds height of prime mover fifth wheel. Landing gear legs may need to be raised or lowered accordingly.
4. Back prime mover under upper coupler plate (1) until kingpin (2) and fifth wheel hook automatically. Verify kingpin (2) and fifth wheel are engaged and locked. Engage prime mover parking brake.



OPERATION UNDER USUAL CONDITIONS—Continued

0007 00

5. Remove dummy couplings (3) from M967A2 service and emergency air couplings. Connect prime mover service and emergency air lines to M967A2 service and emergency air lines at couplings.
6. Open shut off valves on air lines of prime mover.
7. Plug 12 volt and 24 volt cables from prime mover into the intervehicular 12 volt (5) and 24 volt (6) cable connectors of M967A2.
8. Operate lights of prime mover to verify all stoplights, marker, and clearance lights of M967A2 are working. Verify ABS warning indicator (4) is not lit.



OPERATION UNDER USUAL CONDITIONS—Continued

0007 00

9. Engage landing gear operating crank (12) and raise landing gear legs (10) by rotating crank clockwise. Replace crank in clip (11) when gear are raised sufficiently.
10. If landing gear ground boards (7) were used, stow them in brackets (8) on each side of M967A2.

NOTE

If semitrailer is to be moved, chock blocks have to be stowed.

B. DISCONNECTING PRIME MOVER FROM M967A2

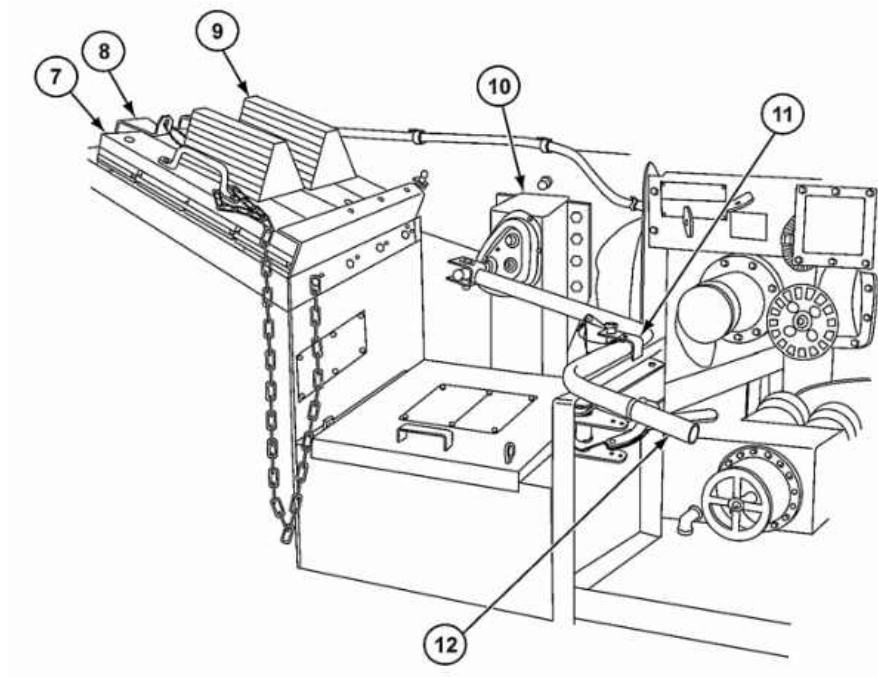
WARNING

All personnel must stand clear of M967A2 and prime mover prior to disconnecting. Failure to follow this warning may result in severe injury or death to personnel.

NOTE

M967A2 is to be uncoupled in mud, sand, or snow, start at step 1. If not start at step 2.

1. Center two ground boards (7) beneath landing gear legs (10).

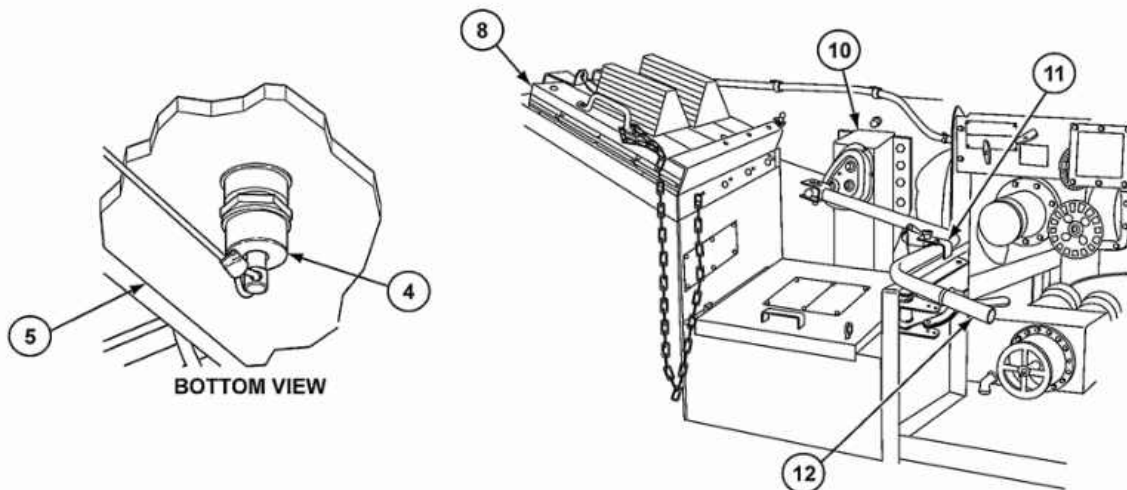


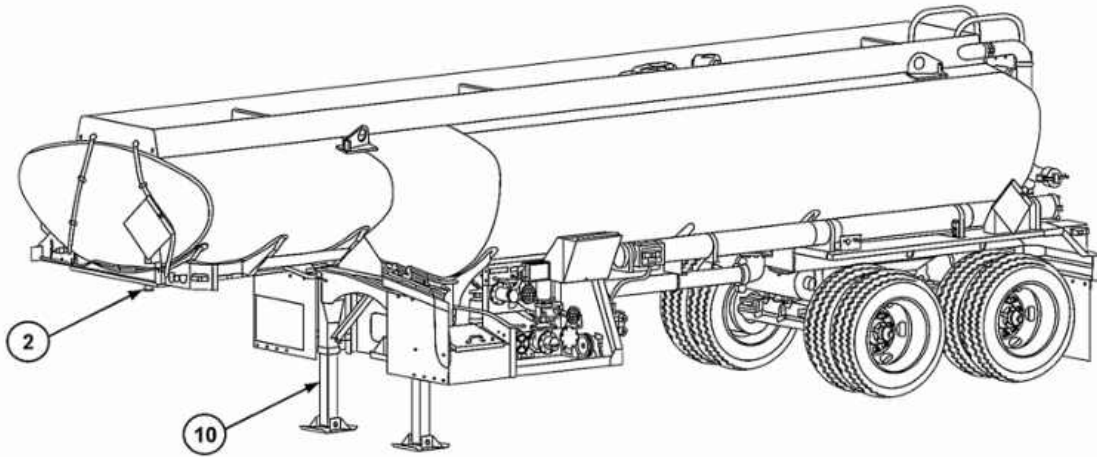
2. Close shut off valves on service and emergency air lines at rear of prime mover.

NOTE

M967A2 air brakes will set automatically when service air brake hose is disconnected.

3. Disconnect emergency and service air lines from emergency and service air couplings on M967A2.
4. Install dummy couplings (3) in M967A2 service and emergency air couplings.
5. Disconnect 12 and 24 volt prime mover cables from M967A2 cable connectors.
6. Open drain valve (4) on reservoir (5).
7. Release landing gear operating crank (12) from clip (11).
8. Rotate crank (12) counterclockwise to lower landing gear legs (10) until they are firmly on the ground or on the ground boards (8).
9. Replace crank (12) in clip (11) and secure.





- 10 Chock wheels of M967A2.
11. Release M967A2 kingpin (2) from prime mover.
12. Drive prime mover forward until M967A2 is resting entirely on its landing gear legs (10).

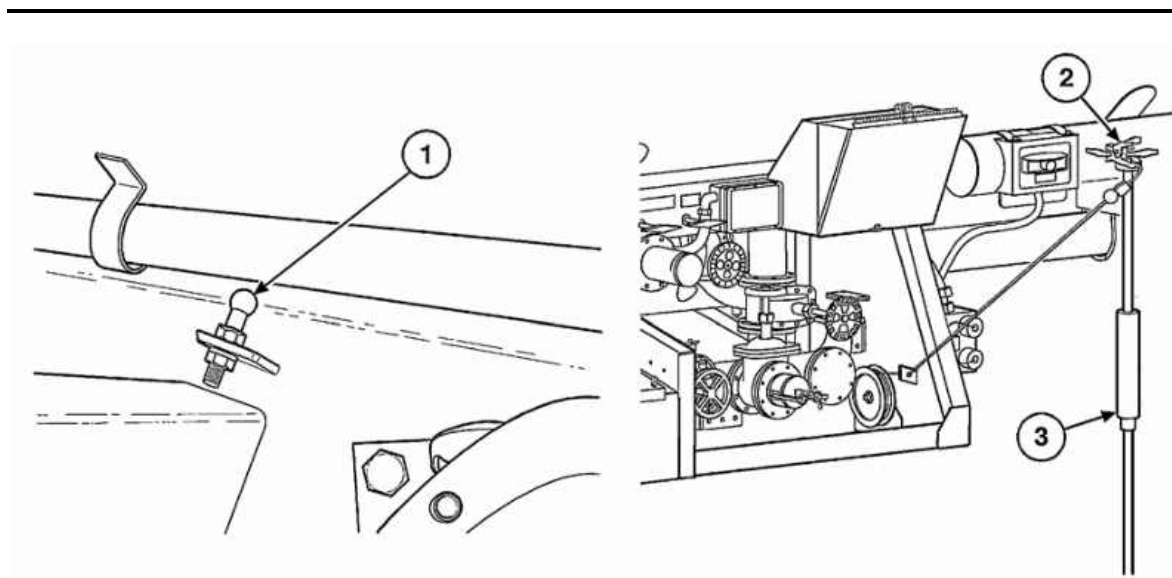
C. CONNECTING GROUNDING CABLES

When performing maintenance on any of the M967A2 systems, the semitrailer should be secured to a facility earth ground, or to the portable grounding rod supplied with the semitrailer.

NOTE

Specific grounding procedures can be found in FM 10-67-1.

1. Connect grounding cable from loading rack or stand to any of three grounding studs (1) on M967A2.
2. Connect any of two M967A2 static reel cables (2) to a facility earth ground (metal rod or metal fence pole).
3. If no suitable ground exists at facility:
 - a. Remove portable grounding rod (3) from M967A2.
 - b. Insert portable grounding rod (3) in accordance with FM 10-67-1 into the ground a short distance from M967A2.
 - c. Connect closest static reel cable (2) to portable grounding rod (3).

**D. REMOVING GROUNDING CABLES**

1. Disconnect static reel cable (2) from M967A2 portable grounding rod (3) or facility ground and secure on semitrailer.
2. Reinstall semitrailer portable grounding rod (3) to semitrailer if used.
3. Disconnect static reel cable (2) and return from loading rack or stand.

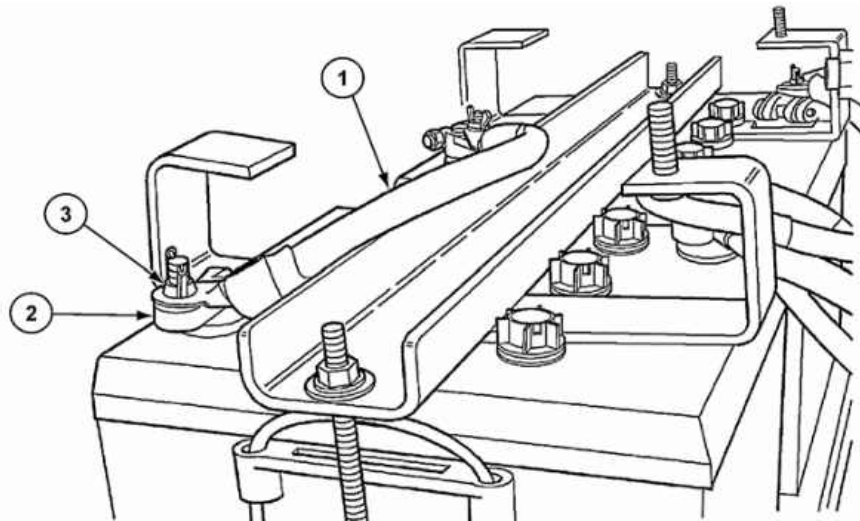
E. DISCONNECTING NEGATIVE BATTERY TERMINAL**WARNING**

When performing maintenance on any of the M967A2 systems, the negative battery terminal should always be disconnected to prevent against possible electrical shocks or damage to equipment.

1. Remove battery cover.
2. Remove wingnut (3) from negative battery terminal (2).
3. Remove cables (1) from terminal (2).

CAUTION

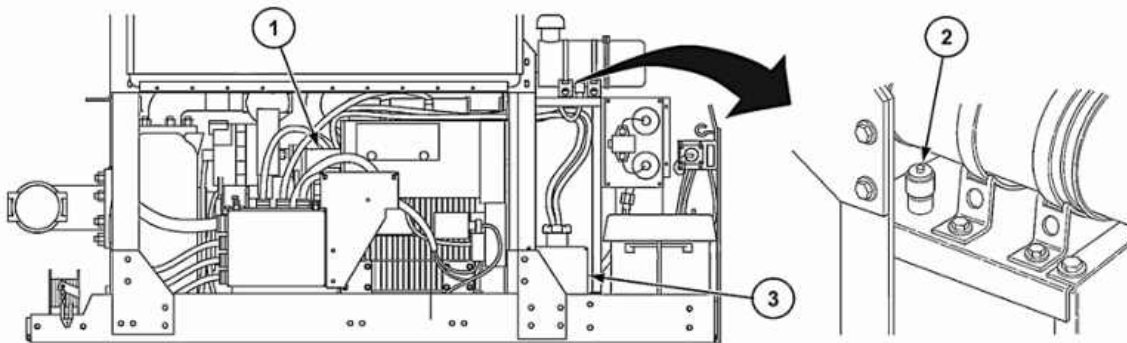
Secure cables (1) so that they do not contact battery terminal during maintenance operations.

**F. RECONNECTING NEGATIVE BATTERY TERMINAL**

1. Install cables (1) on negative battery terminal (2).
2. Secure cables (1) with wingnut (3).
3. Install battery cover.

G. ENGINE OPERATING PROCEDURES

1. Before starting engine, check fuel level in fuel tank (3). Add fuel as necessary.
2. Check oil level. If dipstick (1) reads L (low), refer to WP 0034 00.
3. Check air cleaner restriction indicator (2). If restriction indicator is red, clean or replace engine air filter per WP 0038 00.

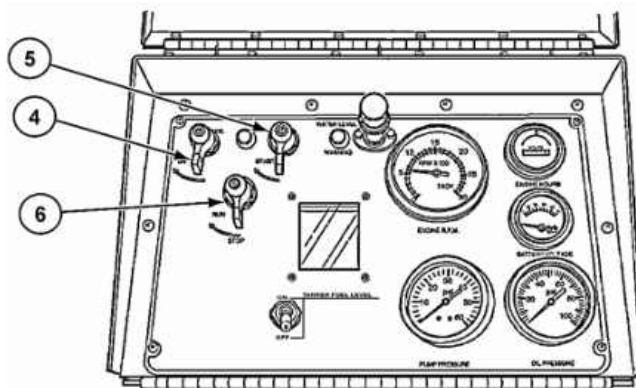
**Cold Engine Start**

4. Turn engine run switch (6) to RUN position.
5. Turn preheater switch (4) to ON position and hold for 1 minute.
6. Turn starter switch (5) to START position while holding preheater switch (4) in ON position.

NOTE

Do not hold starter switch in START position for more than 10 seconds.

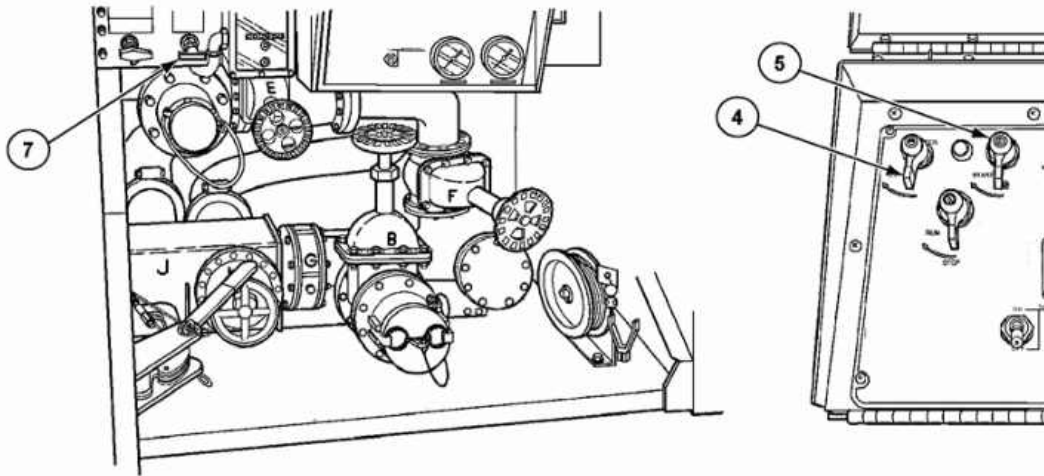
7. If engine starts, release starter switch (5) and turn preheater switch (4) to OFF position.



OPERATION UNDER USUAL CONDITIONS—Continued

0007 00

8. Adjust throttle (7) to idle setting (1000–1200 rpm).
9. Release starter switch (5) after 10 seconds if engine has not started.
10. Preheat engine for 1 more minute prior to attempting to restart engine.
11. Crank engine intermittently until engine starts.
12. Turn off preheater switch (4).



Hot Engine Start

NOTE

When engine is hot, preheat is not required.

1. Turn starter switch (5) to START position.

CAUTION

Do not hold starter switch in START position for more than 10 seconds.

2. When engine starts, release start switch (5).

H. FUELING OPERATIONS

WARNING

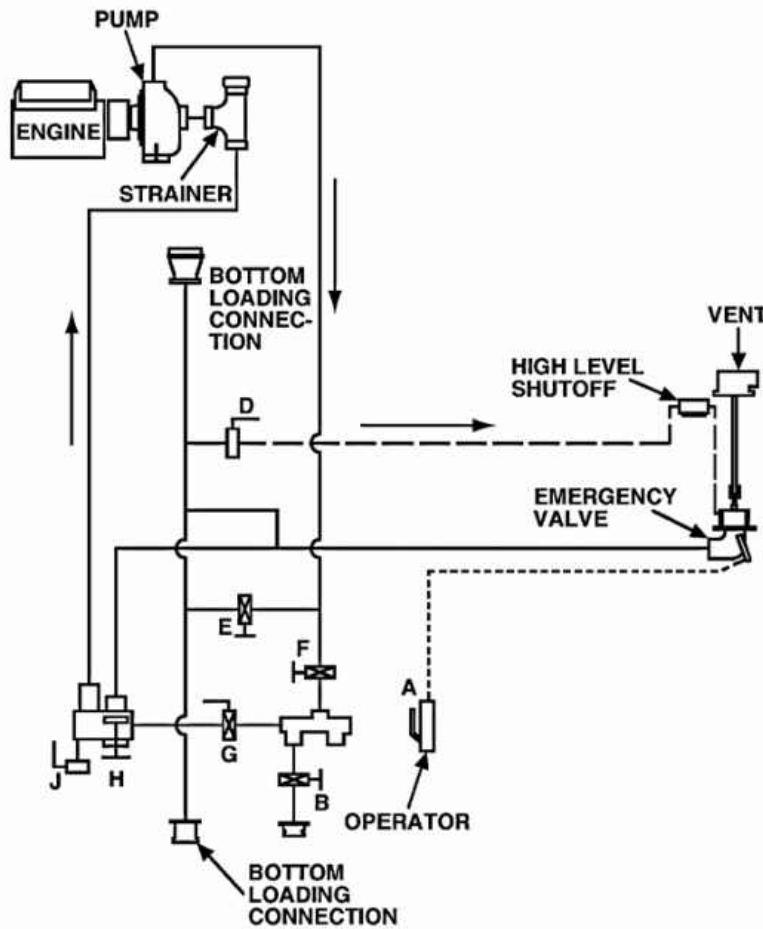
- Remove vent cap from either side of vapor recovery tube to vent tank during fueling operations.
- **DO NOT** fill semitrailer with more than 3000 gallons (11,356 liters) of fuel when semitrailer is being towed by one of the following five-ton tractors: M931/M932 Series with ABS brakes. Overfilling semitrailer when using one of these tractors creates an overload condition, resulting in difficulty in braking and maintaining control of tractor/semitrailer in critical braking situations. Failure to heed this warning may result in injury or death to personnel or serious damage to equipment.

WARNING

Follow all fuel-handling procedures precisely, to prevent injury or death to personnel (refer to FM 10-67-1).

Table 1. Fuel Dispensing Flow Rates.

	Self-Load		Bulk Delivery	
Engine rpm	2200	2400	2200	2400
Pump gpm	290	320	480	530



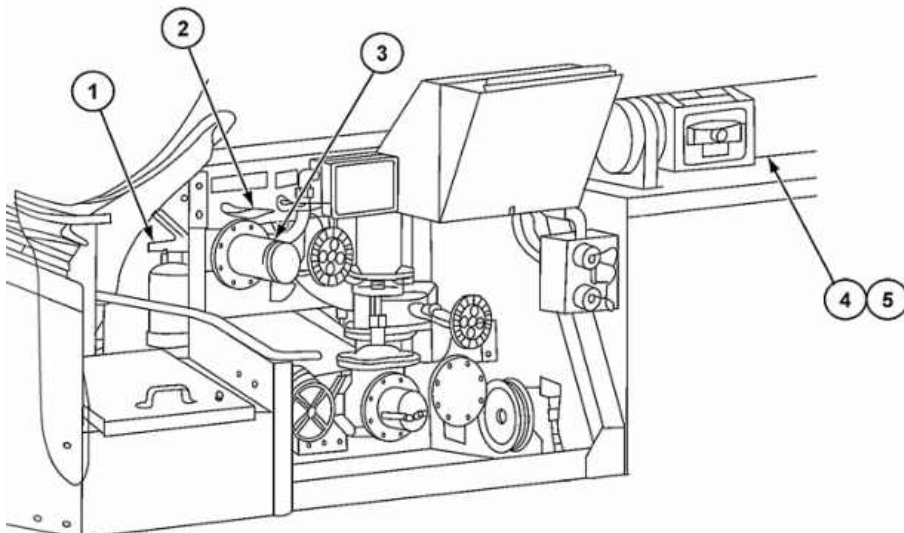
1. **BOTTOM LOADING—ROADSIDE**

NOTE

- Operations begin and end with all valves closed.
 - Bottom Loading flow chart WP 0007 00-13.
- a. Remove fire extinguishers (1) and bring them to point of operation.
 - b. Ground semitrailer per WP 0007 00-5 above.
 - c. Remove vapor recovery system caps.
 - d. Open valve A.
 - e. Remove 4-in. hose (4) from hose tube (5) and connect to bottom loading connection (3) and fuel facility.
 - f. Place valve D (2) in open position.
 - g. Commence bottom loading.
 - h. After flow has begun, set valve D (2) to closed position to precheck automatic shut off. If shut off is functional, flow should stop after 20–25 seconds.
 - i. Set valve D (2) to open position. Flow will resume in about 20 seconds.

WARNING

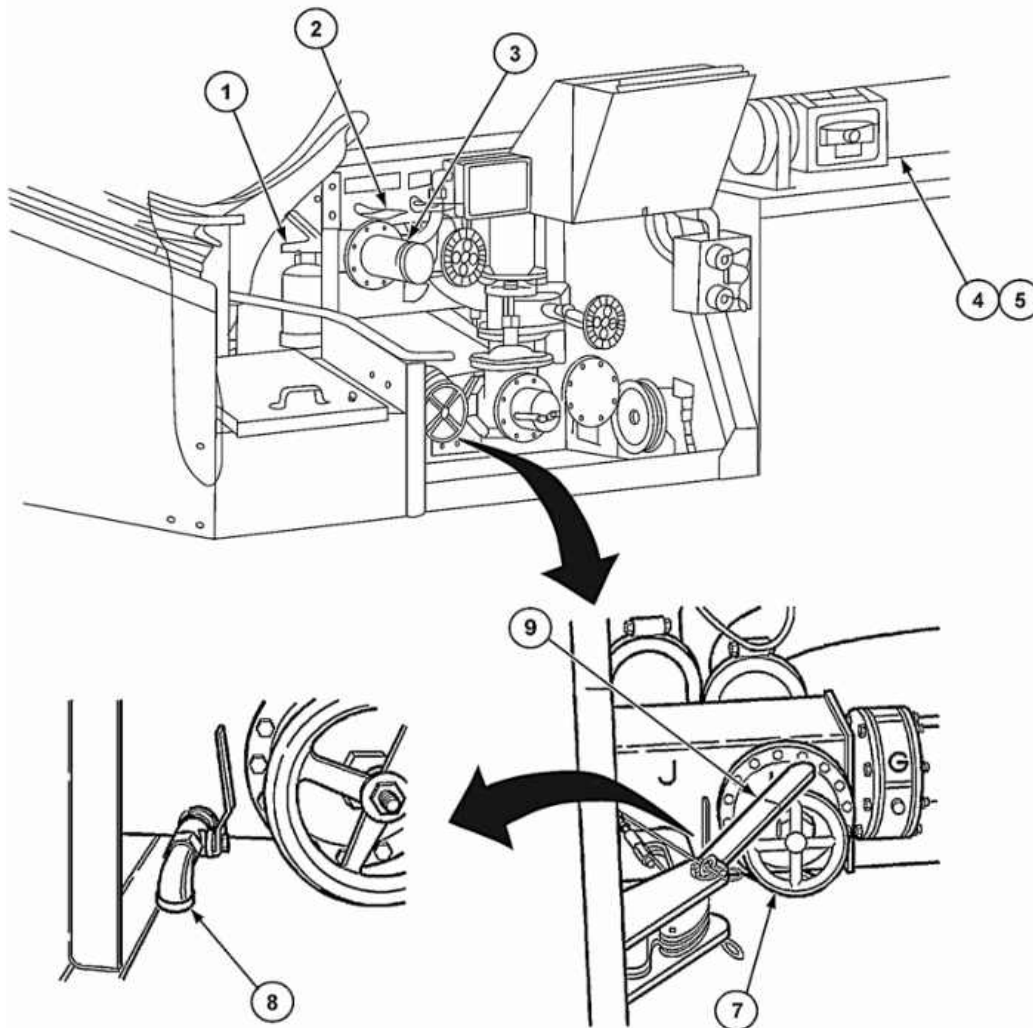
If fuel flow into semitrailer stops because of a shut off malfunction, or the presence of leaks, or if any other unusual conditions are observed, stop fuel supply loading facility and notify your supervisor.



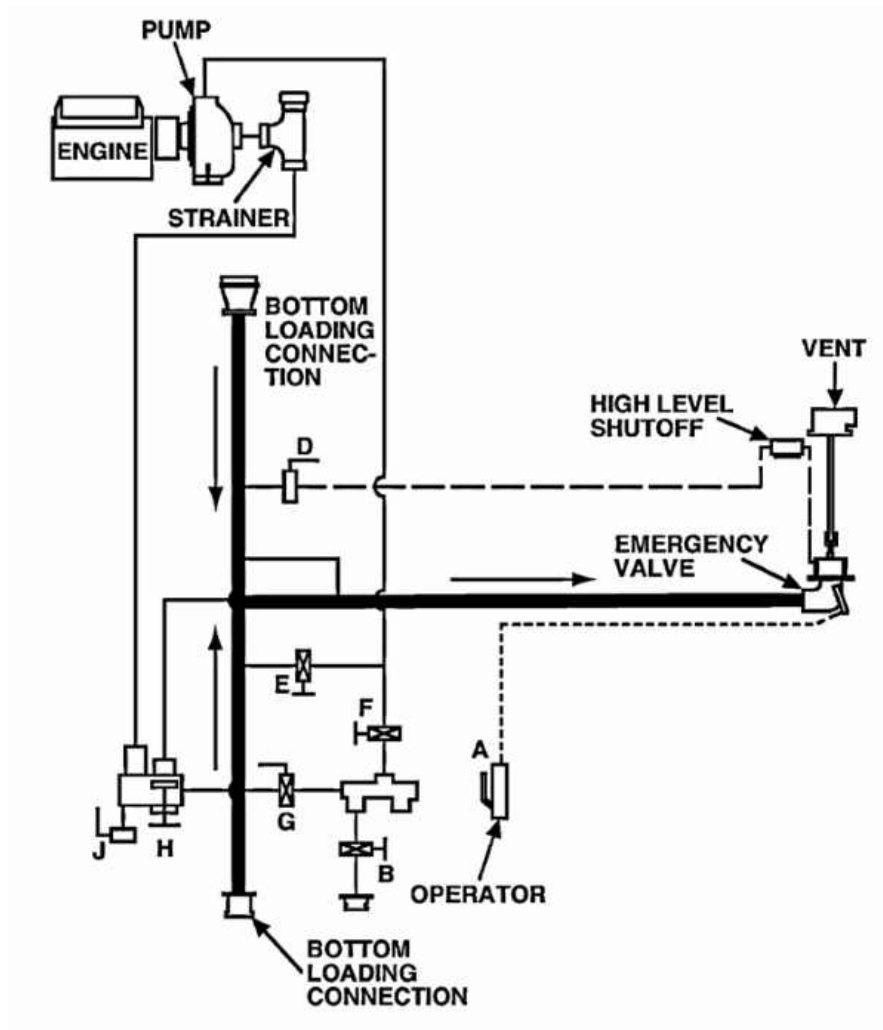
OPERATION UNDER USUAL CONDITIONS—Continued

0007 00

- j. When tank is full, fuel flow will stop automatically. When fueling is complete, return all valves to closed position.
- k. Close valve D (2). Disconnect hose (4) from bottom loading connection (3) and install cover. Drain hose into suitable container and store hose (4) in hose tube (5).
- l. Open valves A, D, H, J (9, 2, 7, 8) and drain accumulated water into a suitable container.
- m. Close all valves and vapor recovery system vent cap.
- n. Remove all grounding cables.
- o. Store and cover fire extinguishers (1).

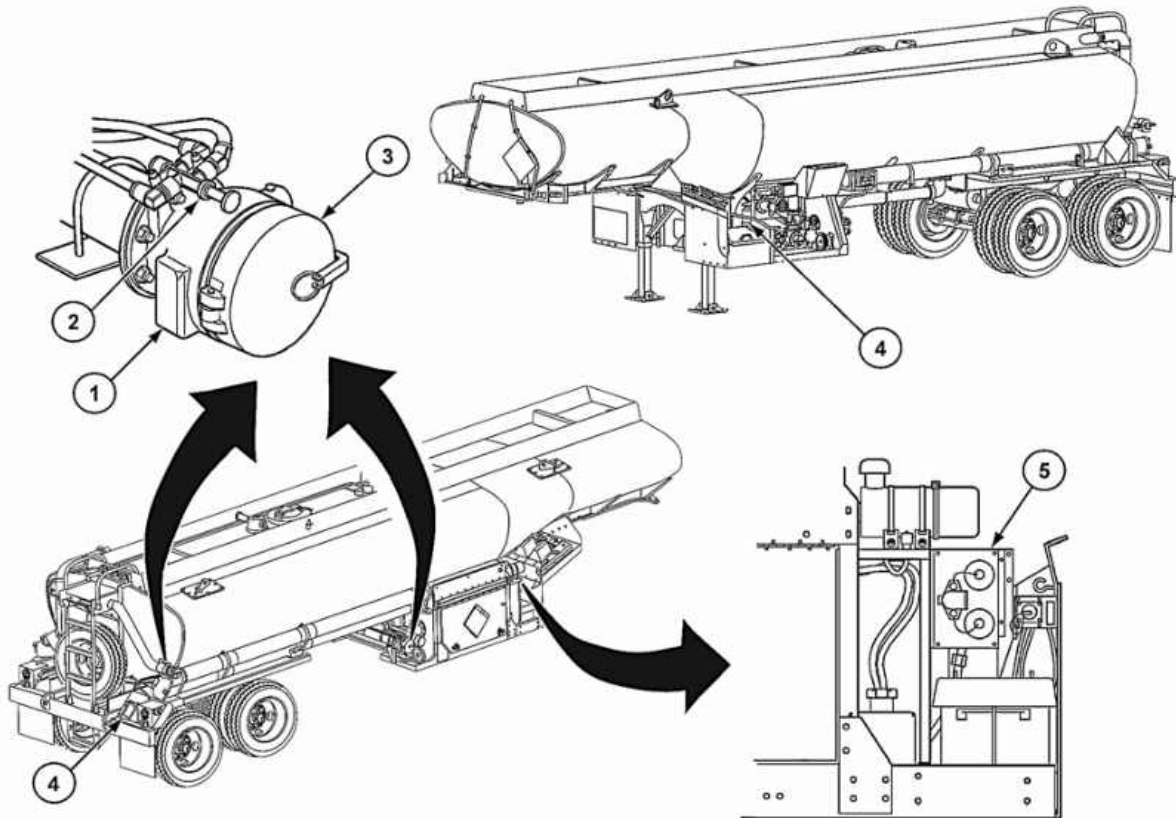


Roadside and Curbside (CIVACON) Flow for Bottom Loading.



2. BOTTOM LOADING—CURBSIDE AT COMMERCIAL FACILITY

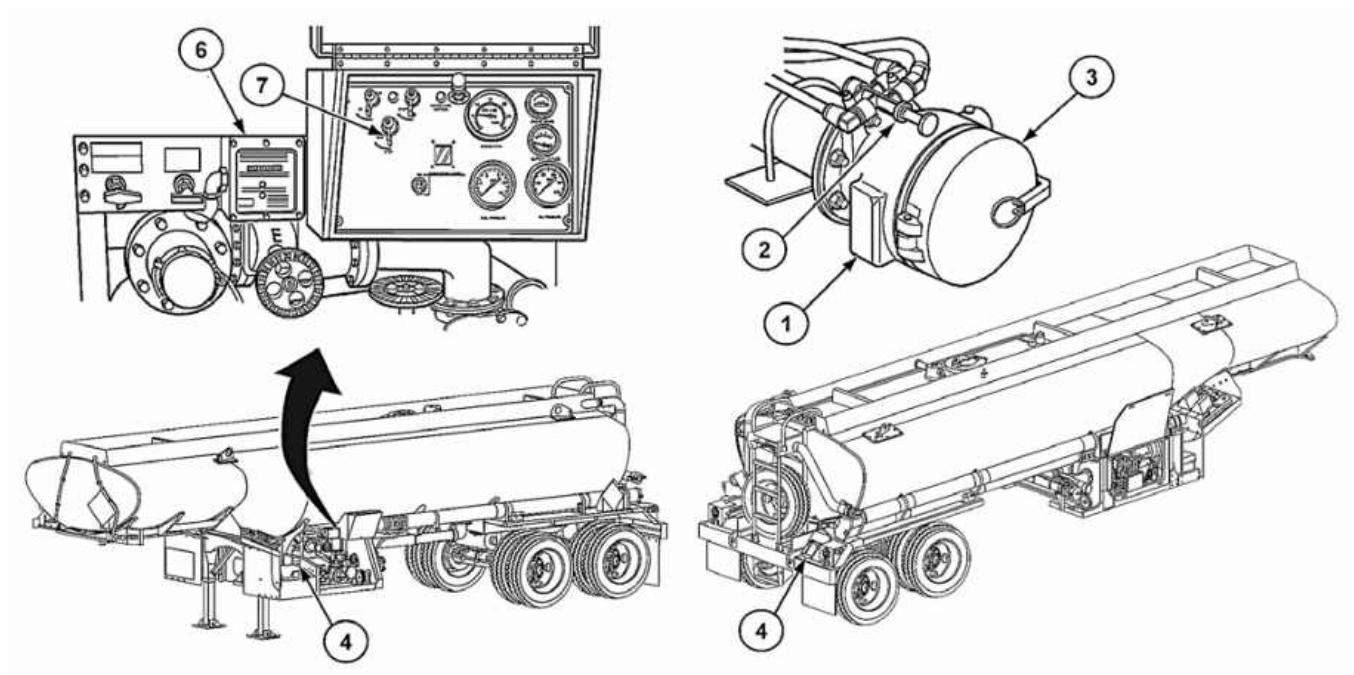
- a. Set semitrailer park brakes by functioning brake control valve (2) located on top of curbside bottom load coupling or the one located at curbside vapor recovery outlet.
- b. Dismount fire extinguishers (4) and bring them to the point of fueling operation.
- c. Ground (Bond) semitrailer to facility ground.
- d. Remove curbside vapor recovery system vent cap (3) and attach facility vapor recovery hose.
- e. Attach facility fuel transfer hose to bottom load adapter (1) and assure connection is secure.
- f. Connect facility monitor and control cables to curbside socket box (5).



OPERATION UNDER USUAL CONDITIONS—Continued

0007 00

- g. Turn power switch (7) on to ROM II onboard monitor (6). The yellow POWER LED should be on. If there is a red LED showing, this means there is a malfunction in the monitor system and fueling will not be permitted until repairs are made and green LED is on.
- h. The green PERMIT LED being on, indicates sensor is operating and NOT detecting an overfill situation.
- i. Commence bottom loading. Watch for fuel leaks during bottom loading operation and shut down fuel flow if any occur. When fuel level in semitrailer reaches sensor (5,000 gal), fuel flow into semitrailer will automatically stop.
- j. Turn off power switch (7) to ROM II monitor (6) and disconnect facility monitor and control cables.
- k. Place suitable container under curbside adaptor hose connection (1) to capture any residual fuel from dry-brake coupling. Dispose of residual fuel in accordance with local SOP.
- l. Disconnect curbside facility vapor recovery hose and cap (3) vehicle vapor recovery outlet.
- m. Close all valves.
- n. Return fire extinguishers (4) to their covers and brackets.
- o. Disconnect bonding/grounding cables.
- p. Deactivate whichever brake control valve (2) that was functioning in step a.



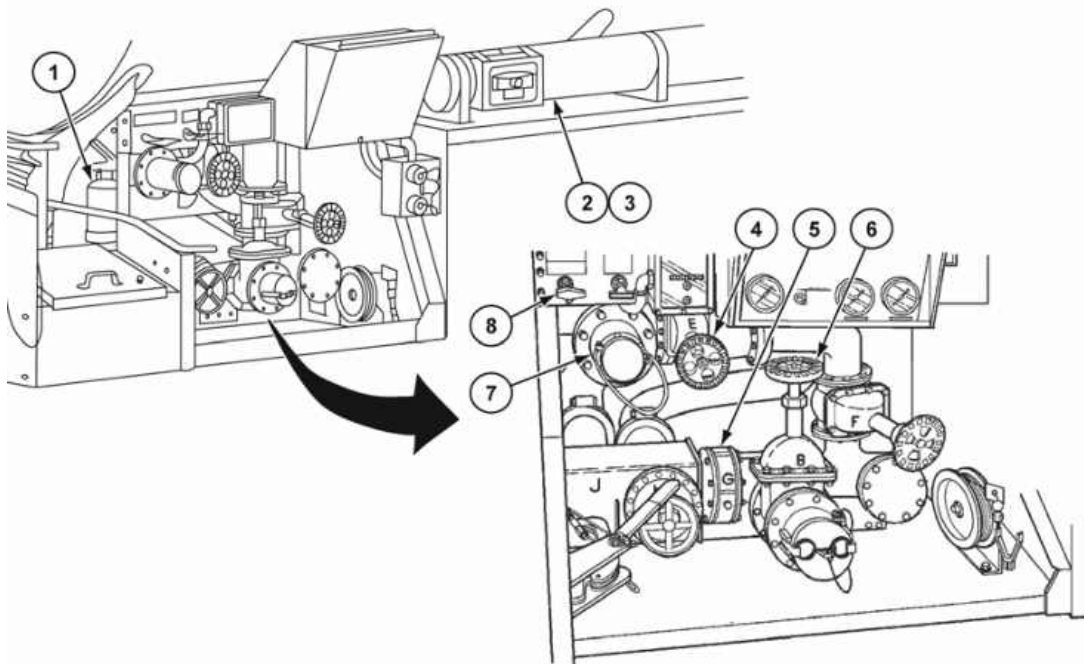
3. GRAVITY UNLOAD**WARNING**

Remove vent cap from either side of vapor recovery tube to vent tank during pumping operations.

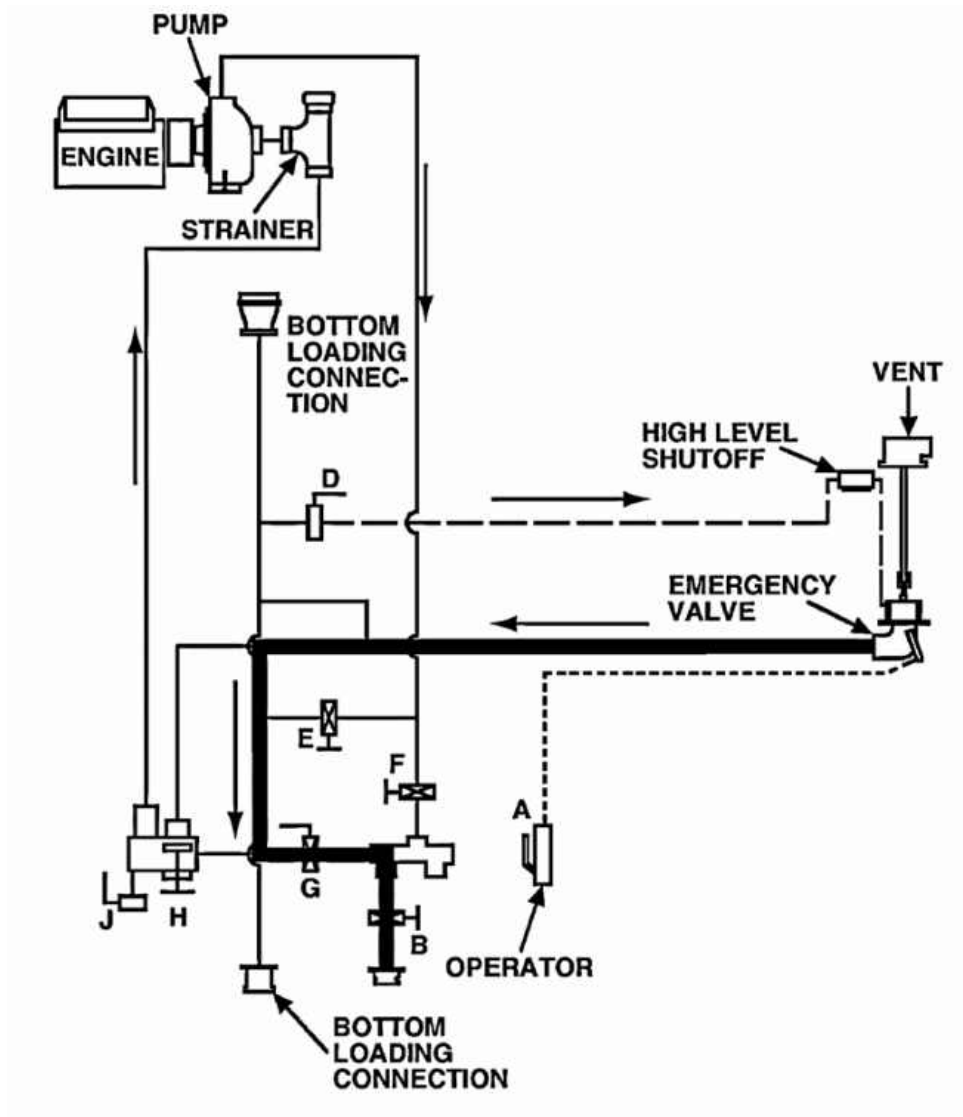
NOTE

Operations begin and end with all valves closed.

- a. Remove all fire extinguishers (1) and bring them to the point of operation.
- b. Ground semitrailer per para. C above.
- c. Remove 4-in. hose (2) from hose tube (3) and connect hose between outlet B (9) and fuel facility.
- d. Remove one or both vapor recovery system caps.
- e. Open valves A, B, D, G, and H (8, 6, 10, 5, and 7).
- f. At end of operation close all valves and drain 4-in. hose (2) into suitable container.
- g. Remove and store hose (2) in hose tube (3).
- h. Close vapor recovery system caps.
- i. Remove grounding cables.
- j. Store and cover fire extinguishers (1).



Gravity Unload Flow Chart



4. SELF-LOADING OPERATIONS

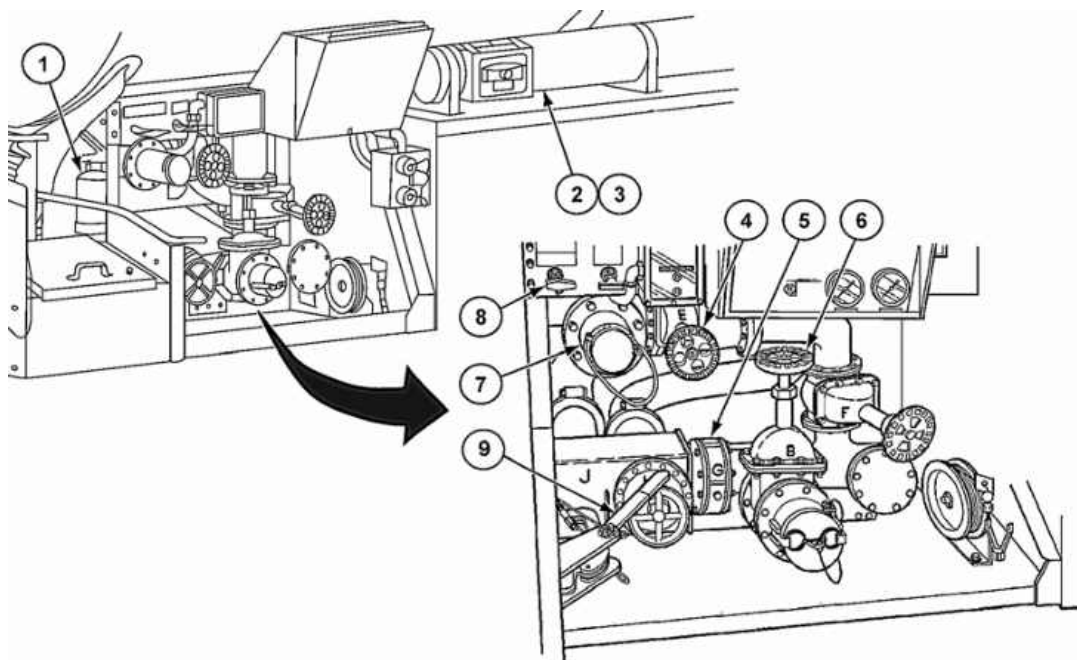
CAUTION

Remove vent cap from either side of vapor recovery tube to vent tank during pumping operations.

NOTE

Operations begin and end with all valves closed.

- a. Remove fire extinguishers (1) and bring them to the point of operation.
- b. Ground semitrailer per WP 0007 00-5 above.
- c. Remove one or both vapor recovery system caps.
- d. Start engine (WP 0007 00-7). When engine is warm, adjust to idle speed (1000–1200 rpm).
- e. Remove 4-in. hose (2) from hose tube (3) and connect hose (2) between outlet B (7) and fuel storage facility.
- f. Open valves A, B, D, E, and G (9, 6, 8, 4, and 5).
- g. Adjust engine to desired flow rate (290–320 gpm [1098–1211 Lpm] @ 2200–2400 rpm).



OPERATION UNDER USUAL CONDITIONS—Continued

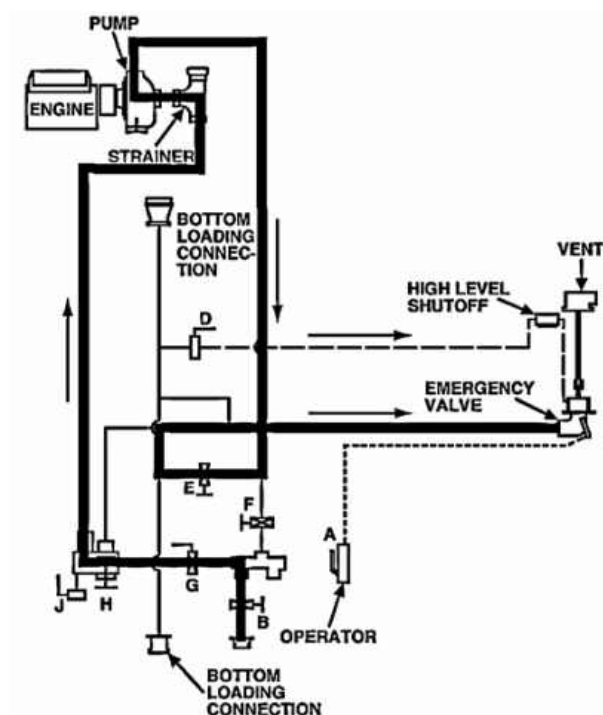
0007 00

- h. After flow has begun, set valve D (8) to the closed position to precheck automatic shut off. If shut off is functional, flow should stop after 20–25 seconds. Open valve D (8); flow should resume in 20 seconds.

WARNING

If fuel flow into semitrailer stops because of a shut off malfunction, or the presence of leaks, or if any other unusual conditions are observed, stop fuel supply at loading facility and notify your supervisor.

- i. When tank is full, flow will stop automatically.
- j. Shut off engine.
- k. Drain hose (2) into suitable container.
- l. Close all valves and vapor system vent caps.
- m. Remove and store hose (2) in hose tubes (3).
- n. Remove grounding cables.
- o. Store and cover fire extinguishers (1).

Self-Loading Flow Chart

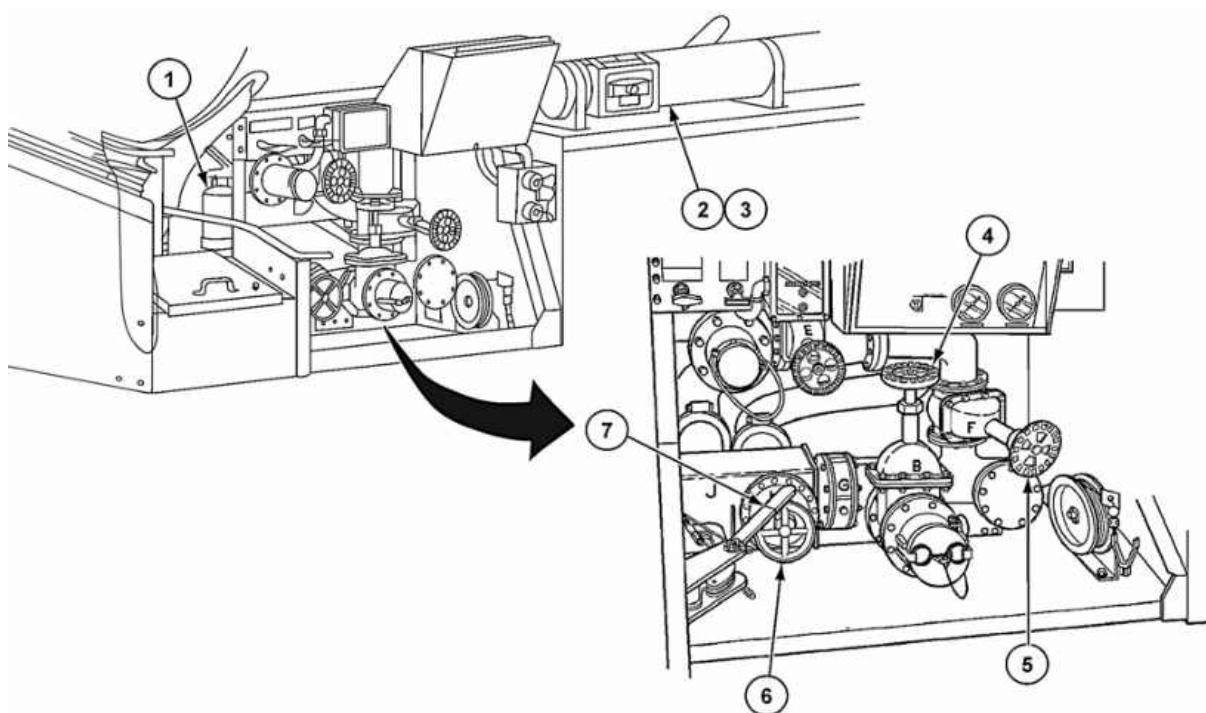
5. BULK DELIVERY

CAUTION

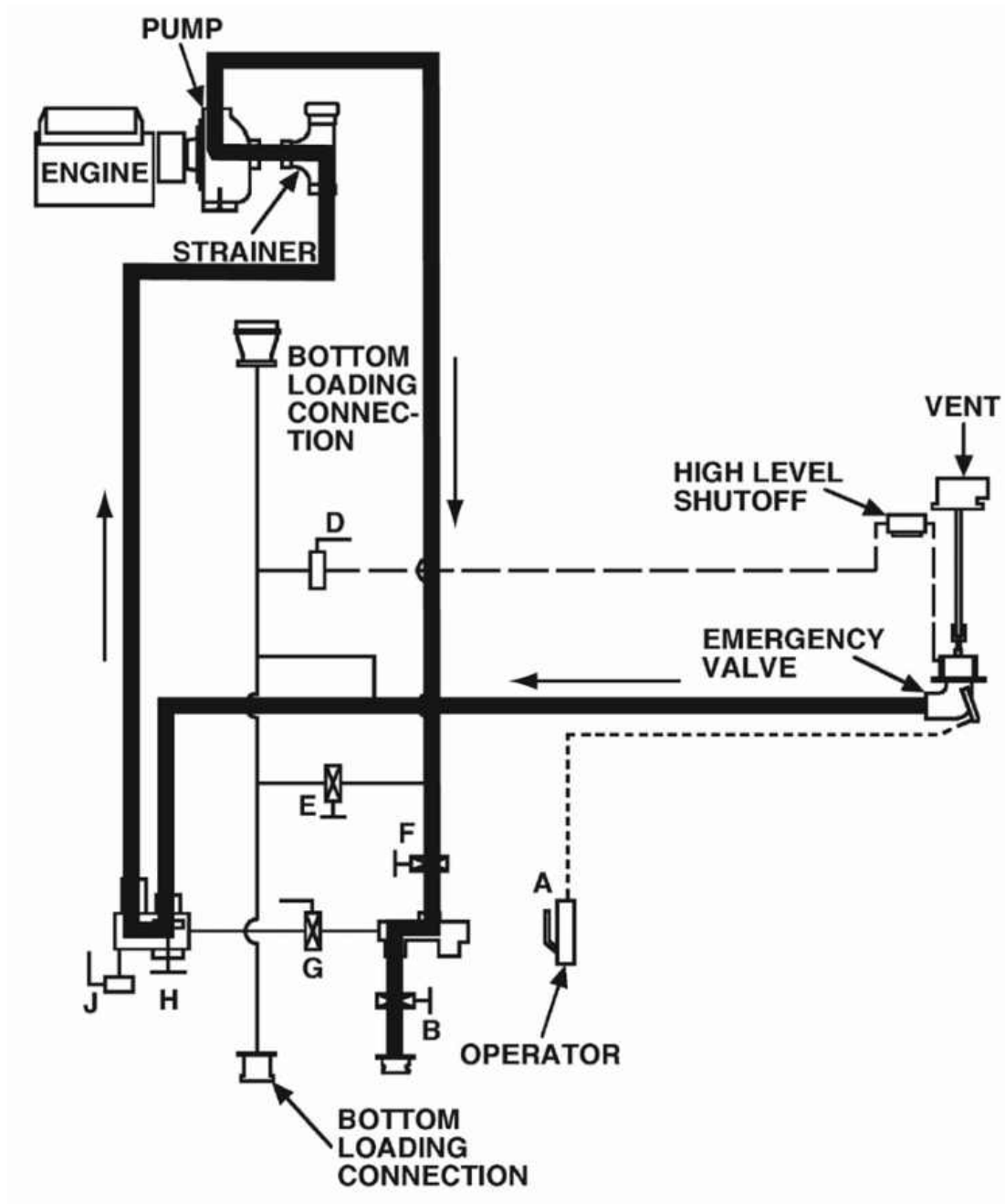
Remove vent cap from either side of vapor recovery tube to vent tank during pumping operations.

NOTE

- **Use this procedure to pump fuel from semitrailer to storage facility.**
 - **Operation begins and ends with all valves closed.**
- a. Remove fire extinguishers (1) and bring them to the point of operation.
 - b. Ground semitrailer per para. C.
 - c. Remove one or both vapor recovery system caps.
 - d. Start engine (para. G). When engine is warm, adjust to idle speed (1000–1200 rpm).
 - e. Remove 4-in. hose (3) from hose tube (2) and connect hose (3) between outlet B (4) and fuel storage facility.
 - f. Pull emergency valve A control handle (7) to open position. Open valves B, F, and H (4, 5, and 6).
 - g. Adjust engine speed to desired flow rate (290–320 gpm [1098–1211 Lpm] @ 2200–2400 rpm).
 - h. Shut off engine after delivery is complete.
 - i. Close all valves and vapor recovery system vent caps.
 - j. Drain hose (3) into suitable container.
 - k. Remove and store hose (3) in hose tube (2).
 - l. Remove grounding cables.
 - m. Store and cover fire extinguisher (1).



Bulk Delivery Flow Chart



I. SPARE TIRE DISMOUNTING

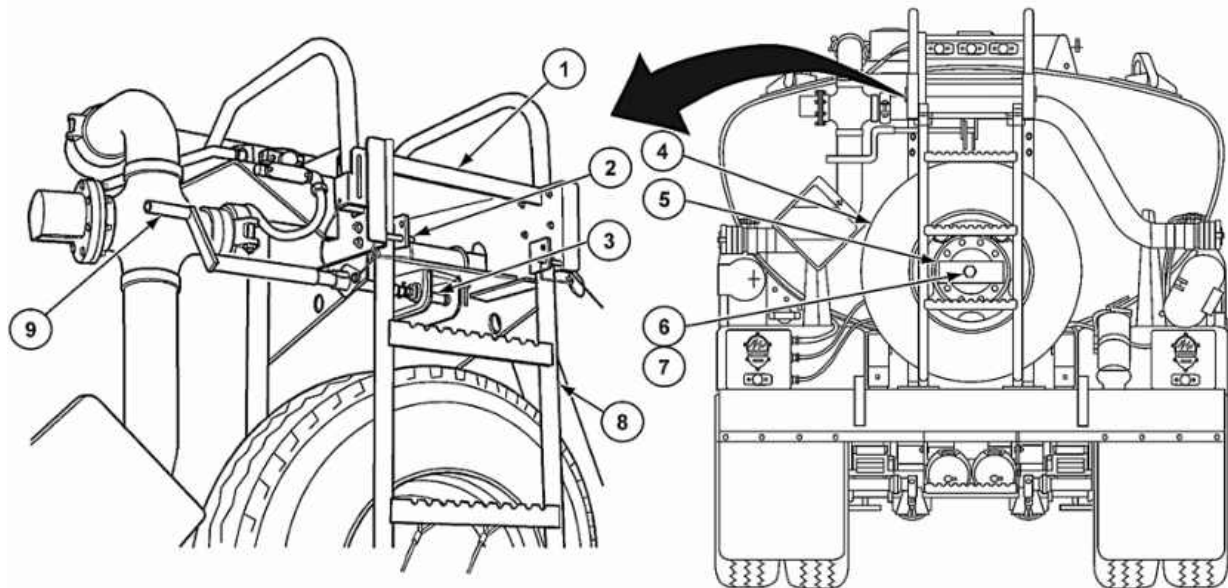
Dismounting

1. Remove two nuts (6) and reinforcement channel (5) from studs (7).
2. Remove two quick release pins (2) from ladder (8) and carrier assembly (1).

WARNING

Spare tire and ladder are heavy. Make sure cable is not frayed or damaged. Do not raise spare tire and ladder past the vertical position or they will slam into carrier assembly. Failure to heed this warning may result in severe injury to personnel or damage to equipment.

3. Rotate winch handle (9) until cable (3) is tight, then rotate winch handle (9) 1-1/2 turns in opposite direction.
4. Push spare tire (4) and ladder (8) away from carrier assembly (1) until supported by cable (3).
5. Rotate winch handle (9) until spare tire (4) and ladder (8) are fully lowered to ground and cable (3) is slack.
6. Unhook cable (3) from ladder (8) and remove cable (3) from spare tire (4). Roll spare tire (4) off ladder (8).



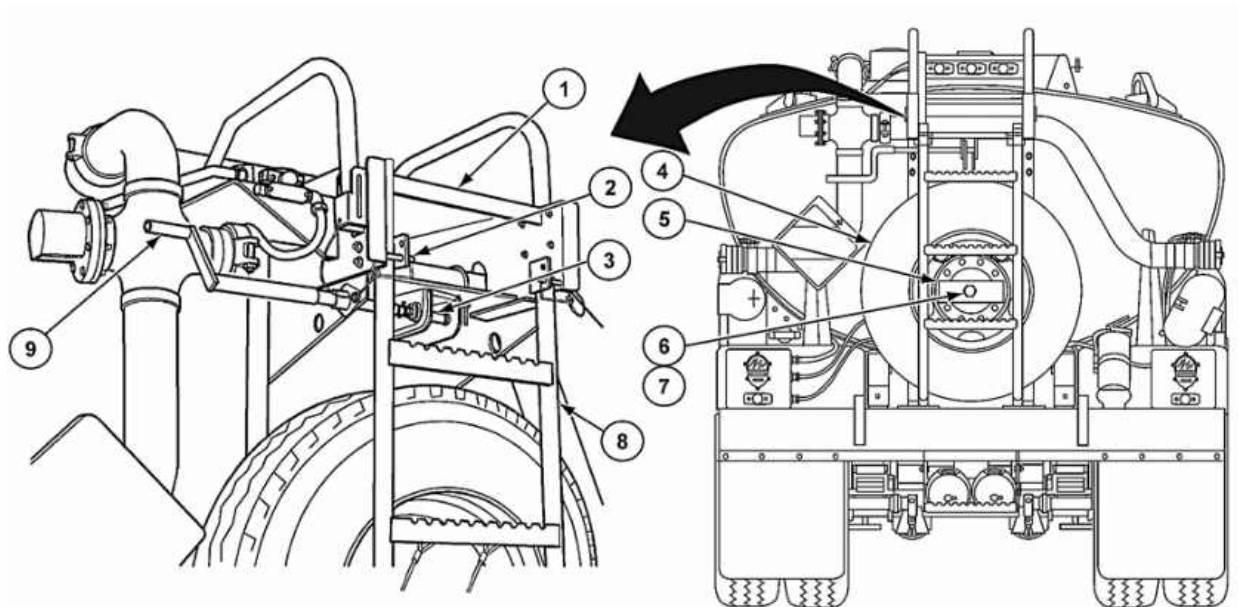
Mounting

1. Roll spare tire (4) onto ladder (8). Route cable (3) through ventilation holes in spare tire (4) and hook to ladder (8) between 1st and 2nd rungs from bottom.

WARNING

Spare tire and ladder are heavy. Make sure cable is not frayed or damaged. Do not raise spare tire and ladder past the vertical position or they will slam into carrier assembly. Failure to heed this warning may result in severe injury to personnel or damage to equipment.

2. Rotate winch handle (9) until spare tire (4) and ladder (8) are nearly vertical, with weight still supported by cable (3).
3. Carefully push spare tire (4) and ladder (8) in until resting against carrier assembly (1).
4. Install two quick release pins (2) in ladder (8) and carrier assembly (1).
5. Install reinforcement channel (5) to studs (7) with two nuts (6).
6. Rotate winch handle (9) until cable (3) is tight and winch handle (9) is pointing down.



J. WHEEL ASSEMBLIES REPLACEMENT**Removal****WARNING**

Replace wheel with semitrailer connected to prime mover if possible. If semitrailer is not connected to prime mover ensure that landing gear is lowered and locked and wheels are chocked. Failure to follow this warning may cause semitrailer to roll resulting in injury to personnel or damage equipment.

NOTE

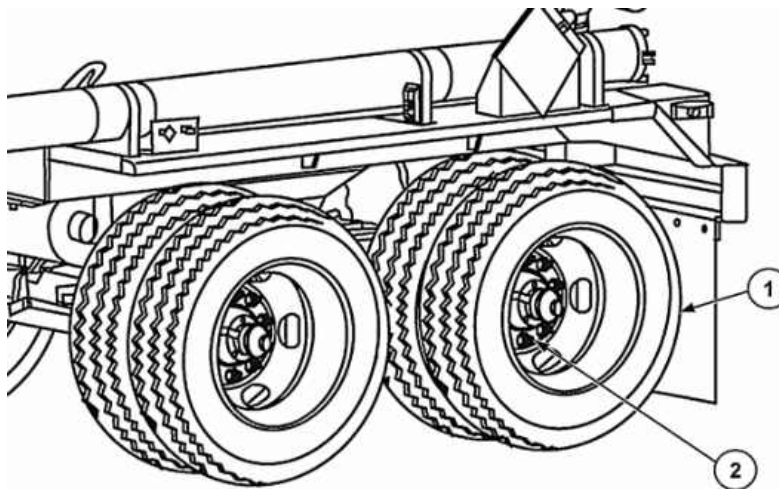
There are four wheel assemblies and they are replaced the same way. This procedure covers one wheel assembly.

1. Loosen but do not remove 10 nuts (2) while wheel assembly (1) is in contact with ground.

WARNING

Wheel assembly is heavy. Use two people to remove wheel assembly from studs. Failure to follow this warning could result in injury to personnel.

2. Raise axle so wheel assembly (1) is off ground.
3. Remove 10 nuts (2).
4. Remove wheel assembly (1).



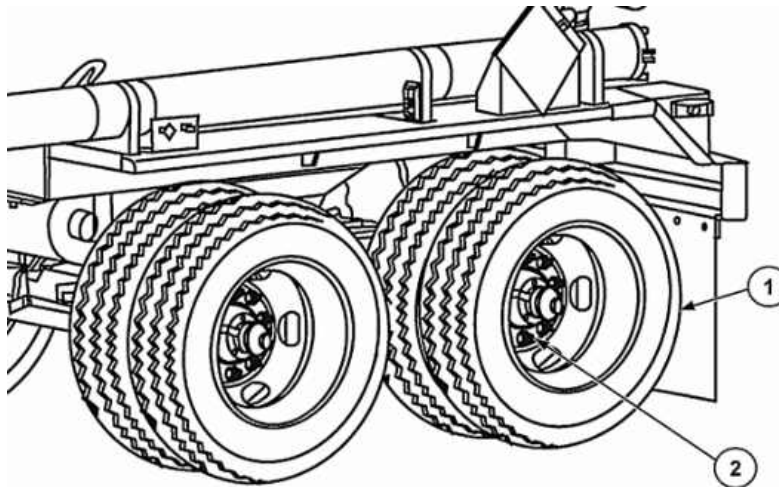
Installation**WARNING**

**Wheel is heavy. Use two people to install wheel to studs.
Failure to follow this warning could result in injury to personnel.**

NOTE

Before installing spare wheel, be sure that mounting surfaces of hub and flat mounting surfaces of wheel are clean and free of foreign matter or excess paint. Check to see that threads of studs are clean and not damaged.

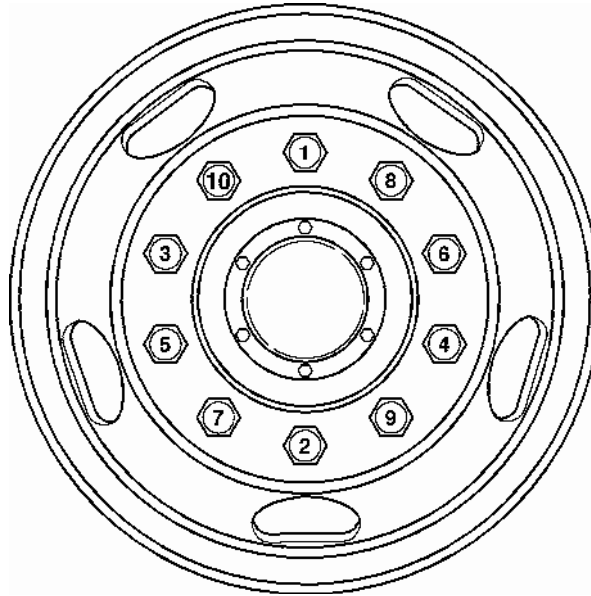
1. Raise axle high enough so that wheel assembly (1) can be mounted.
2. Install wheel assembly (1).
3. Install 10 nuts (2) fingertight.
4. Lower wheel assembly (1) to ground.



OPERATION UNDER USUAL CONDITIONS—Continued

0007 00

5. Finish tightening nuts in sequence shown to 450 to 500 lb-ft (610 to 678 N•m).



END OF TASK

OPERATION UNDER UNUSUAL CONDITIONS

0008 00

GENERAL

This WP contains instructions for safety operating the M967A2 semitrailer under unusual conditions. In addition to performing normal preventive maintenance service, you must take special care to keep the semitrailer operational in conditions of extreme temperatures and humidity.

For information on driver selection, training, and supervision, refer to FM 55-30.

For more information on special driving instructions for operating wheeled vehicles under unusual conditions, refer to FM 21-305.

OPERATION IN EXTREME COLD**WARNING**

Sudden changes in temperature may cause semitrailer to develop leaks at fittings and connectors. Use caution and pay special attention to these areas. If something is broken or worn out, report it to Organizational maintenance. Corrective action must be performed before resuming any operations. Failure to follow this warning may result in injury to personnel.

1. Take special care when operating semitrailer in extremely cold weather. Refer to FM 9-207 for information on operation in cold weather.
2. In addition to performing all normal PMCS, take special care in regard to cleaning and lubrication when extreme in temperature, humidity, and terrain conditions are present or anticipated. Proper cleaning, lubrication, storage, and handling ensures proper operation and function and guards against excessive wear. Refer to WP 0034 00 for proper lubrication during extremely cold weather.
3. Generally, extreme cold causes lubricants to thicken or freeze and various semitrailer construction materials to become hard and brittle and easily damaged or broken.
4. Take care when handling cables. Extremely cold weather can cause insulation material on electrical wire to crack, resulting in short circuits.
5. When parking for any period of time in temperatures below 0°F (-18°C), park in a sheltered area out of the wind and clean off any buildup of ice or snow. Place a footing of planks or brush under tires to prevent them from freezing to the ground. Make sure the tires are properly inflated 95 psi (655 kPa). Under inflated tires will freeze, resulting in flat spots.
6. Use caution when placing semitrailer in motion after a shutdown. Thickened lubricants may cause component failure. Free frozen brake shoes or tire frozen to the ground with care.

OPERATION IN EXTREME HEAT

1. Refer to WP 0034 00 for proper lubrication during high heat conditions.
2. Do not park semitrailer in sunlight for long periods of time. Heat and sunlight shorten tire life.

OPERATION UNDER UNUSUAL CONDITIONS—Continued

0008 00

CAUTION

Do not use gasoline or cleaning compound to remove oil or grease spots from tarpaulin. Use only water and a scrubbing brush. Failure to follow this caution will damage tarpaulin.

3. Cover inactive semitrailer with tarpaulins if no other shelter is available. Tarpaulins are subject to deterioration from mildew and attacks by insects or vermin, so shake out tarpaulins and air them weekly for several hours. Clean mildewed tarpaulins with a dry scrubbing brush. Do not clean with water until mildew is removed. If mildew is found, examine tarpaulin to determine if it is rotted or weakened. Replace it if damaged. If it is not damaged, treat as outlined in FM 10-16.
4. Semitrailer inactive for long periods in hot, humid weather are subject to rusting and accumulation of fungi growth. Frequently inspect, clean, and lubricate to prevent deterioration.

OPERATION IN HIGH HUMIDITY AND SALTWATER AREAS

1. Since dampness increases chances of corrosion, inspect all surfaces and electrical connections for signs of corrosion and remove them. Apply silicone compound (item 6, WP 0159 00) to all electrical connections.
2. Protect semitrailer from direct rainfall whenever possible.
3. Prevent moisture from entering fuel supply.
4. Clean, inspect, and lubricate semitrailer frequently when operating in saltwater areas (refer to WP 0034 00).

OPERATION IN MUD OR SNOW

1. After each operation, remove ice and snow from underneath semitrailer and from hoses, lines, tubes, and electrical connections.
2. Refer to FM 21-305 for special instructions on driving hazards in snow.
3. Immediately after operation in mud or snow, thoroughly clean, inspect, and lubricate if tactical situation permits (refer to WP 0034 00).

OPERATION IN DUSTY OR SANDY AREAS

1. Clean, inspect, and lubricate semitrailer frequently when operating in dusty or sandy areas (refer to WP 0034 00).

OPERATION UNDER UNUSUAL CONDITIONS—Continued

0008 00

2. Maintain proper tire pressure by doing the following:
 - Reduce tire pressure to 32 psi (221 kPa) for operation in soft sand.
 - Reduce tire pressure to 45 psi (310 kPa) for operation on cross-country terrain. Tire pressure must be returned to 95 psi (655 kPa) when operation resumes on hard-surface roads if tactical situation permits.
3. When uncoupling semitrailer in sandy areas, use ground boards to prevent landing gear from sinking.

FORDING

CAUTION

Maximum fording depth is 30 in. (76 cm).

1. M967A2 semitrailer is designed for fording hard bottom water crossings deep enough to submerge the running gear.
2. Refer to the towing vehicle operating instructions for information on fording. Instructions for the towing vehicle also apply to the semitrailer.
3. Before entering water, spray the engine assembly electrical connections with silicone compound (item 6, WP 0159 00). Notify Organizational maintenance to pack wheel bearings after each submersion (refer to WP 0065 00).
4. Reduce tire pressure to aid in amphibious landings.

END OF TASK

CHAPTER 3
OPERATOR TROUBLESHOOTING

INTRODUCTION

0009 00

GENERAL

This WP provides information on the malfunction/symptom index and procedures of Operator troubleshooting.

MALFUNCTION/SYMPTOM INDEX (WP 0010 00)

The malfunction/symptom index is a quick reference index for finding troubleshooting procedures. Associated with each symptom name is a WP sequence number representing the starting point in a troubleshooting sequence.

TROUBLESHOOTING PROCEDURES (WP 0011 00 thru WP 0016 00)

The troubleshooting WPs contain tables listing the malfunctions, tests or inspections, and corrective actions required to return the M967A2 to normal operation. Perform the steps in the order in which they appear in the tables.

The columns are defined as follows:

1. **MALFUNCTION**—A visual or operational indication that something is wrong with the M967A2.
2. **TEST OR INSPECTION**—A procedure to isolate the problem in a component or system.
3. **CORRECTIVE ACTION**—A procedure to correct the problem.

If you are unsure of the location of an item mentioned in troubleshooting, refer to WP 0002 00 or to the maintenance task where the item is replaced.

Before performing troubleshooting, read and follow all safety instructions found in the warning summary at the front of this manual.

This manual cannot list all of the malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed, or is not corrected by the listed corrective actions, notify your supervisor.

END OF TASK

MALFUNCTION/SYMPTOM INDEX**0010 00**

GENERAL

This index is provided as a quick way to get you to the part of troubleshooting that will help you solve the problem you are having. It lists all of the malfunctions covered in Operator/Crew troubleshooting.

ENGINE

1. Engine will not turn over WP 0011 00-1
2. Engine is hard to start or turns over slowly WP 0011 00-1
3. Engine turns over but fails to start..... WP 0011 00-2
4. Engine misfires at heavy load or engine power is low WP 0011 00-2
5. Low oil pressure is indicated on gage WP 0011 00-2

ELECTRICAL SYSTEM

1. Lights on trailer will not operate..... WP 0012 00-1
2. One or more lights (but not all) will not operate or lights are dim or flickering WP 0012 00-1
3. Control panel secure lighting does not operate..... WP 0012 00-1

BRAKE SYSTEM

1. Brakes will not release WP 0013 00-1
2. No brakes or brakes are weak WP 0013 00-2
3. Brake application or release is slow..... WP 0013 00-2
4. Brakes grab WP 0013 00-2

FUEL SYSTEM

- Fuel does not flow during any fuel servicing operation WP 0014 00-1

TIRES

- Tires are excessively worn, scuffed, or cupped WP 0015 00-1

LANDING GEAR

- Crank is difficult to operate WP 0016 00-1

END OF TASK

ENGINE TROUBLESHOOTING

0011 00

THIS WP COVERS:

Engine Troubleshooting

INITIAL SETUP:

Maintenance Level

Operator/Crew

References

WP 0034 00

WP 0038 00

To troubleshoot the M967A2 engine, perform the test/inspections and corrective actions provided in Table 1.

Table 1. Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. ENGINE WILL NOT TURN OVER	1. Set engine switch on control panel to RUN and check battery voltage gage.	If battery voltage gage indicates less than 24–28 V dc, notify Organizational maintenance. If battery gage voltage is okay, go to step 2.
	2. Remove battery cover and check for loose, frayed, or corroded battery cable connections.	If cables are corroded, frayed, or broken, notify Organizational maintenance. If cables are okay, go to step 3.
	3. Remove vent fill caps from batteries and check for low electrolyte.	If electrolyte is low, notify Organizational maintenance.
2. ENGINE IS HARD TO START OR TURNS OVER SLOWLY	1. Set engine switch on control panel to RUN and check battery voltage gage.	If battery voltage gage indicates less than 24–28 V dc, notify Organizational maintenance. If battery voltage gage is okay, go to step 2.
	2. Remove battery cover and check for loose, frayed, or corroded battery cable connections.	If cables are corroded, frayed, or loose, notify Organizational maintenance. If cables are okay, go to step 3.

Table 1. Troubleshooting Procedures—Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
2. ENGINE IS HARD TO START OR TURNS OVER SLOWLY—Continued	3. Remove vent fill caps from batteries and check for low electrolyte.	If electrolyte is low, notify Organizational maintenance. If electrolyte is okay, go to step 4.
	4. Check air cleaner restriction indicator for red band.	If red band is showing, service air cleaner (refer to WP 0038 00). If red band is okay, go to step 5.
	5. Check for fuel leaks.	If fuel lines or connections are loose or damaged, notify Organizational maintenance.
3. ENGINE TURNS OVER BUT FAILS TO START	1. Check fuel level in engine fuel tank.	If fuel level is low, add fuel as required. If fuel tank is empty, notify Organizational maintenance. If fuel level is okay, go to step 2.
	2. Check engine for overheated condition.	If engine is overheated, wait 3–5 minutes before attempting engine restart. If engine still will not start, notify Organizational maintenance.
4. ENGINE MISFIRES AT HEAVY LOAD OR ENGINE POWER IS LOW	1. Check air cleaner restriction indicator for red band.	If red band is showing, service air cleaner (refer to WP 0038 00). If red band is okay, go to step 2.
	2. Check for fuel line leaks.	If fuel line connections are loose or damaged, notify Organizational maintenance.

Table 1. Troubleshooting Procedures—Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
	<p>NOTE</p> <p>Engine must be OFF before checking oil.</p>	
5. LOW OIL PRESSURE IS INDICATED ON GAGE	1. Remove engine oil dipstick and check oil level.	If engine oil level is low, add oil as necessary (refer to WP 0034 00). If engine oil level is okay, go to step 2.
	2. Check engine oil pressure gage on engine control panel for damage.	If engine oil pressure gage is damaged, notify Organizational maintenance. If engine oil pressure gage is okay, go to step 3.
	3. Start engine and monitor engine oil pressure gage.	If low oil pressure (less than 30 psi [207 kPa]) continues or returns, notify Organizational maintenance.

END OF TASK

ELECTRICAL SYSTEM TROUBLESHOOTING**0012 00****THIS WP COVERS:**

Electrical System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Operator/Crew

To troubleshoot the M967A2 electrical system, perform the test/inspections and corrective actions provided in Table 1.

Table 1. Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. LIGHTS ON TRAILER WILL NOT OPERATE	1. Check switch on prime mover (refer to applicable prime mover TM) is in the ON position. 2. Check fuse in prime mover (refer to applicable prime mover TM). 3. Disconnect intervehicular cable connections of M967A2 and prime mover and check for dirty or corroded contacts in both plugs.	If taillights do not operate properly, go to step 2. If fuse is blown, notify Organizational maintenance. If fuse is okay, go to step 3. Clean plugs or receptacles and reconnect to M967A2. If semitrailer lights still do not operate properly, notify Organizational maintenance.
2. ONE OR MORE LIGHTS (BUT NOT ALL) WILL NOT OPERATE, OR LIGHTS ARE DIM OR FLICKERING	Disconnect intervehicular cable connections of M967A2 and prime mover and check for dirty or corroded contacts in both plugs.	Clean plugs or receptacles and reconnect to M967A2. If semitrailer lights still do not operate properly, notify Organizational maintenance.
3. CONTROL PANEL SECURE LIGHTING DOES NOT OPERATE		

END OF TASK

BRAKE SYSTEM TROUBLESHOOTING**0013 00****THIS WP COVERS:**

Brake System Troubleshooting

INITIAL SETUP:Maintenance Level
Operator/CrewReferences
WP 0007 00

To troubleshoot the M967A2 brake system, perform the test/inspections and corrective actions provided in Table 1.

Table 1. Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. BRAKES WILL NOT RELEASE	1. Check shut-off valves on prime mover.	Open shut-off valves. If valves are already open, go to step 2.
	<p>NOTE</p> <p>Some prime movers may not be equipped with shut-off valves (refer to applicable prime mover TM).</p>	
	2. Check that service and emergency couplings are connected properly to M967A2 (refer to WP 0007 00).	If couplings are not connected properly, connect couplings (refer to WP 0007 00). Verify problem is solved. If couplings were connected properly, go to step 3.
	3. Check air pressure gages in prime mover (refer to applicable prime mover TM).	If prime mover air pressure gages do not indicate 90 psi (621 kPa), notify Organizational maintenance. If air pressure gages indicate 90 psi (621 kPa) or higher but brakes still will not release, notify Organizational maintenance.

BRAKE SYSTEM TROUBLESHOOTING—Continued

0013 00

Table 1. Troubleshooting Procedures—Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
2. NO BRAKES OR BRAKES ARE WEAK	<p>1. Apply prime mover service brakes. Check position of shut-off valves on prime mover.</p> <p>NOTE</p> <p>Some prime movers may not be equipped with shut-off valves (refer to applicable prime mover TM).</p> <p>2. Check airbrake system for leaks or damage.</p>	<p>Open shut-off valves. If valves are already open, go to step 2.</p> <p>If no damage or leaks are detected, notify Organizational maintenance that further troubleshooting is required. If damage is detected, notify Organizational maintenance.</p>
3. BRAKE APPLICATION OR RELEASE IS SLOW	Set parking brake of prime mover (refer to applicable prime mover TM). Check to see if airbrake system is leaking or damaged.	If no damage or leaks are detected, notify Organizational maintenance that further troubleshooting is required. If damage is detected, notify Organizational maintenance.
4. BRAKES GRAB	Set parking brake of prime mover (refer to applicable prime mover TM). Check semitrailer air reservoir for moisture.	Open air reservoir, drain valve, and drain any accumulated moisture from valve. If no moisture is present, notify Organizational maintenance that further troubleshooting is required.

END OF TASK

FUEL SYSTEM TROUBLESHOOTING

0014 00

THIS WP COVERS:

Fuel System Troubleshooting

INITIAL SETUP:

Maintenance Level

Operator/Crew

References

WP 0007 00

WP 0039 00

To troubleshoot the M967A2 fuel system, perform the test/inspections and corrective actions provided in Table 1.

Table 1. Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
FUEL DOES NOT FLOW DURING ANY FUEL SERVICING OPERATION	1. Verify fuel is in tank.	If tank has fuel, go to step 2. If tank has no fuel, fill tanker. Verify problem is solved.
	2. Verify all valves are set per fuel operations schematic on tool box lid (refer to WP 0007 00).	Set valves per schematic on tool box lid (refer to WP 0007 00). If valves are already set per fuel operations schematic, go to step 3.
	3. Check pump strainer for debris or dirt clogging inlet.	Clean strainer (refer to WP 0039 00). Verify problem is solved. If screen was not clogged, go to step 4.
	4. Verify emergency valve A control handle is in open position.	If valve is not in open position, open valve. Verify problem is solved. If valve is already open, notify Organizational maintenance that further troubleshooting is required.

END OF TASK

TIRES TROUBLESHOOTING

0015 00

THIS WP COVERS:
Tires Troubleshooting

INITIAL SETUP:
Maintenance Level
Operator/Crew

References
WP 0002 00

To troubleshoot the M967A2 tires, perform the test/inspections and corrective actions provided in Table 1.

Table 1. Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
TIRES ARE EXCESSIVELY WORN, SCUFFED, OR CUPPED	1. Check tire pressure for correct operating pressure (refer to WP 0002 00).	Inflate/deflate tires to correct operating pressure (refer to WP 0002 00). If tire pressure is correct, go to step 2.
	2. Check for loose wheels and wheel stud nuts.	If wheels are loose, tighten wheel stud nuts. Verify problem is solved. If wheels are not loose, go to step 3.
	3. Check for bent wheels.	If wheels are bent, notify Organizational maintenance. If wheels are not bent, notify Organizational maintenance that further troubleshooting is required.

END OF TASK

LANDING GEAR TROUBLESHOOTING

0016 00

THIS WP COVERS:

Landing Gear Troubleshooting

INITIAL SETUP:

Maintenance Level

Operator/Crew

To troubleshoot the M967A2 landing gear, perform the test/inspections and corrective actions provided in Table 1.

Table 1. Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
HANDCRANK IS DIFFICULT TO OPERATE	1. Check to see if lower legs are bent.	If lower legs are bent, notify Organizational maintenance. If legs are not bent, go to step 2.
	2. Turn handcrank and raise lower legs.	If lower legs return to the fully retracted position, notify Organizational maintenance that further troubleshooting is required. If legs do not retract, notify Organizational maintenance.

END OF TASK

CHAPTER 4

ORGANIZATIONAL TROUBLESHOOTING

INTRODUCTION

0017 00

GENERAL

This WP provides information on the malfunction/symptom index and procedures of Organizational troubleshooting.

MALFUNCTION/SYMPTOM INDEX (WP 0018 00)

The malfunction/symptom index is a quick reference index for finding troubleshooting procedures. Associated with each symptom name is a WP sequence number representing the starting point in a troubleshooting sequence.

TROUBLESHOOTING PROCEDURES (WP 0019 00 thru WP 0028 00)

The troubleshooting WPs contain tables listing the malfunctions, tests or inspections, and corrective actions required to return the M967A2 to normal operation. Perform the steps in the order in which they appear in the tables.

The columns are defined as follows:

1. **MALFUNCTION**—A visual or operational indication that something is wrong with the M967A2.
2. **TEST OR INSPECTION**—A procedure to isolate the problem in a component or system.
3. **CORRECTIVE ACTION**—A procedure to correct the problem.

If you are unsure of the location of an item mentioned in troubleshooting, refer to WP 0002 00 or to the maintenance task where the item is replaced.

Before performing troubleshooting, read and follow all safety instructions found in the warning summary at the front of this manual.

This manual cannot list all of the malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed, or is not corrected by the listed corrective actions, notify your supervisor.

END OF TASK

MALFUNCTION/SYMPTOM INDEX

0018 00

GENERAL

This index is provided as a quick way to get you to the part of troubleshooting that will help you solve the problem you are having. It lists all of the malfunctions covered in Organizational troubleshooting.

LIGHT SYSTEMS

1. All semitrailer lights are inoperable/dim or flickeringWP 0019 00-1
2. One or more lights will not operateWP 0019 00-1

BRAKE SYSTEM

1. Brakes will not release/brakes drag (one or more brake drums are running hot)WP 0020 00-1
2. No brakes/brakes are weak/application or release is slowWP 0020 00-2
3. ABS warning light comes on and stays on at operating speeds (above 4 mph)WP 0020 00-2

LANDING GEAR

- Handcrank is difficult to turn.....WP 0021 00-1

MANHOLE COVER

- Excessive leakage exists around manholeWP 0022 00-1

ENGINE

1. Engine starter will not runWP 0023 00-1
2. Engine turns over but fails to startWP 0023 0-20
3. Engine is hard to start or has low engine powerWP 0023 00-3
4. Low oil pressure is indicated on gage.....WP 0023 00-4
5. High oil pressure is indicated on gage.....WP 0023 00-4
6. Engine misfires under heavy load.....WP 0023 00-6
7. Engine speed is erratic or will not maintain steady rpmWP 0023 00-7
8. Engine speed is too high or too lowWP 0023 00-7
9. Engine exhaust is black or fuel consumption is excessiveWP 0023 00-7
10. Preheat indicator lamp will not lightWP 0023 00-8

MALFUNCTION/SYMPTOM INDEX—Continued

0018 00

CENTRIFUGAL PUMP

Pump fails to deliver fuelWP 0024 00-1

BATTERY

Battery is low or dischargedWP 0025 00-1

ALTERNATOR AND CHARGING CIRCUIT

1. Undercharged batteriesWP 0026 00-1

2. Overcharged batteries indicated by high water usageWP 0026 00-2

3. Low alternator outputWP 0026 00-2

4. Short voltage regulator lifeWP 0026 00-2

5. Noisy alternatorWP 0026 00-3

PIPING CONTROL COMPONENTS

With emergency valve A handle in closed position, fuel continues to flow out of tank.....WP 0027 00-1

FUEL SYSTEM

Fuel does not flow during any fueling operationWP 0028 00-1

END OF TASK

LIGHT SYSTEMS TROUBLESHOOTING

0019 00

THIS WP COVERS:

Light Systems Troubleshooting

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Multimeter (item 2, WP 0156 00)

References

Applicable prime mover TM

WP 0044 00

WP 0052 00

WP 0055 00

WP 0056 00

WP 0058 00

WP 0062 00

To troubleshoot the M967A2 light systems, perform the test/inspections and corrective actions provided in Table 1.

Table 1. Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. ALL SEMITRAILER LIGHTS ARE INOPERABLE/DIM OR FLICKERING	At front access hatch cover, check for loose/dirty or corroded receptacle ground leads and terminal strip leads (refer to WP 0056 00). NOTE Refer to WP 0044 00 for routing of electrical wires and electrical schematic.	Clean/tighten receptacle ground or terminal strip leads. Verify problem is solved.
2. ONE OR MORE LIGHTS WILL NOT OPERATE	1. At front access hatch cover, check for loose/dirty or corroded receptacle ground leads and terminal strip leads (refer to WP 0056 00).	Clean/tighten receptacle ground or terminal strip leads. Verify problem is solved. If loose/dirty or corroded leads are not present, go to step 2.

Table 1. Troubleshooting Procedures—Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>2. ONE OR MORE LIGHTS WILL NOT OPERATE—Continued</p>	<p>2. At composite stoplight box, check for loose plug connections or broken wires (refer to WP 0052 00).</p>	<p>If loose plugs or broken wires are found, repair wires (refer to WP 0062 00) or tighten connections. Verify problem is solved. If no loose connections or broken wires are found, go to step 3.</p>
	<p>3. At composite stoplight box, insert multimeter leads to ground wire 90 connector and socket of suspected bad wire(s) and check for voltage.</p>	<p>If voltage is present at wires, replace defective composite stoplight assembly (refer to WP 0052 00). If voltage is not present at wires, go to step 4.</p>
	<p>4. Disconnect connectors of main trailer wiring harness from socket box harness inside composite stoplight box. Insert multimeter leads to ground wire 90 connector and suspected bad wire(s) and check for voltage.</p>	<p>If voltage is present at wires, repair (refer to WP 0062 00)/replace (refer to WP 0058 00) defective socket box harness. If voltage is not present, go to step 5.</p>
	<p>5. At front access hatch cover, check suspected bad wires for voltage at terminal strip (refer to WP 0056 00).</p>	<p>If voltage is present at terminal, repair (refer to WP 0062 00)/replace (refer to WP 0055 00) main trailer wiring harness. If voltage is not present at terminal strip, troubleshoot prime mover.</p>

END OF TASK

BRAKE SYSTEM TROUBLESHOOTING**0020 00****THIS WP COVERS:**

Brake System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

References

Applicable prime mover TM	WP 0066 00
WP 0045 00	WP 0067 00
WP 0063 00	WP 0073 00
WP 0064 00	WP 0075 00
WP 0065 00	

To troubleshoot the M967A2 brake system, perform the test/inspections and corrective actions provided in Table 1.

Table 1. Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. BRAKES WILL NOT RELEASE/BRAKES DRAG (ONE OR MORE BRAKE DRUMS ARE RUNNING HOT)	1. Check for leaking air brake components.	Push in parking brake release knob. If air leak is detected, replace damaged brake system component (refer to WP 0073 00). If no air leak is detected, go to step 2.
	NOTE	
	Wheels must be raised prior to performing step 2.	
	2. Spin wheels to see if brakes are released.	If brakes have released, apply and release service brakes to verify brakes are working. If brakes have not released, go to step 3.
	3. Cage each air brake chamber to see which brake(s) have not released (refer to WP 0075 00).	Repair/replace faulty brake components per WP 0063 00/0064 00.

BRAKE SYSTEM TROUBLESHOOTING—Continued

0020 00

Table 1. Troubleshooting Procedures—Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
2. NO BRAKES/BRAKES ARE WEAK/ APPLICATION OR RELEASE IS SLOW	1. Observe brakedrums/dust shields for signs of oil or grease contamination. 2. Apply prime mover service brakes and listen for air leaks in lines and hoses. 3. Apply prime mover service brakes and observe slack adjustors for correct movement.	If any oil or grease is present on brake components, remove brakedrums (refer to WP 0065 00) and replace contaminated/out of limits brake components per WP 0063 00/0064 00. If no oil or grease is present, go to step 2. If air leaks are present, repair/replace components per applicable WP. If no air leaks are present, go to step 3. If slack adjustors show excess movements or damage, adjust per WP 0066 00. Verify problem is solved.
3. ABS WARNING LIGHT COMES ON AND STAYS ON AT OPERATING SPEEDS (ABOVE 4 MPH [6 KM/H])	Turn prime mover (refer to applicable prime mover TM) ignition switch ON. Turn off ignition switch after less than 5 seconds, and turn switch on again. The ABS warning indicator light will come on and then off. The ABS blink code will then be displayed three times.	Record ABS blink code and refer to ABS diagnostics (refer to WP 0067 00).
4. ABS WARNING LIGHT DOES NOT COME ON	Turn prime mover (refer to applicable prime mover TM) ignition switch ON. Turn off ignition switch after less than 5 seconds, and turn switch on again. ABS indicator light still does not come on.	Check intervehicular connections for corrosion or damage. Verify problem is solved. If light still does not come on, replace 24–12 V converter box (refer to WP 0045 00). Verify problem is solved.

END OF TASK

LANDING GEAR TROUBLESHOOTING

0021 00

THIS WP COVERS:

Landing Gear Troubleshooting

INITIAL SETUP:

Maintenance Level

Organizational

References

WP 0042 00

WP 0081 00

WP 0082 00

To troubleshoot the M967A2 landing gear, perform the test/inspections and corrective actions provided in Table 1.

Table 1. Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
HANDCRANK IS DIFFICULT TO TURN	1. Check handcrank for lubricants.	If lubricants are present, go to step 2. If no lubricants are present, lubricate per WP 0042 00. Verify problem is solved.
	2. Check lower landing gear leg for bends especially where it retracts into housing.	If landing gear leg is bent, replace leg per WP 0081 00. If leg is not bent, replace drive unit per WP 0082 00.

END OF TASK

MANHOLE COVER TROUBLESHOOTING

0022 00

THIS WP COVERS:

Manhole Cover Troubleshooting

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

References

WP 0092 00

To troubleshoot the M967A2 manhole cover, perform the test/inspections and corrective actions provided in Table 1.

Table 1. Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
EXCESSIVE LEAKAGE EXISTS AROUND MANHOLE	1. Verify manhole cover is properly secured and latched.	If cover is properly secured and latched, go to step 2. If cover is not secure, secure cover and verify problem is solved.
	2. Check locking ring, cover gasket, and latch for any damage.	If damaged components are found, replace per WP 0092 00. If damage to welds is found, notify Direct Support maintenance.

END OF TASK

ENGINE TROUBLESHOOTING

0023 00

THIS WP COVERS:

Engine Troubleshooting

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Personnel Required

Two

References

WP 0042 00	WP 0102 00	WP 0112 00
WP 0053 00	WP 0103 00	WP 0113 00
WP 0054 00	WP 0105 00	WP 0114 00
WP 0062 00	WP 0106 00	WP 0138 00
WP 0097 00	WP 0107 00	WP 0139 00
WP 0101 00	WP 0108 00	

To troubleshoot the engine, perform the test/inspections and corrective actions provided in Table 1.

Table 1. Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. ENGINE STARTER WILL NOT RUN	1. Check each battery for output (12–14 V dc).	If battery voltage is less than 12–14 V dc, replace battery (refer to WP 0053 00). Verify problem is solved. If voltage is correct, go to step 2.
	2. Inspect battery cables for broken or frayed cables and loose or corroded terminals.	If cables are broken or frayed, repair/replace cables (refer to WP 0054 00) and clean terminals. Verify problem is solved. If cables are okay, go to step 3.
	3. Turn engine run switch ON and check engine start switch at both terminals for 24–28 V dc when engine start switch is placed in START position.	If 24–28 V dc are present at both terminals, go to step 4. If 24–28 V dc is not present, replace engine start switch (refer to WP 0114 00). Verify problem is solved.

Table 1. Troubleshooting Procedures—Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. ENGINE STARTER WILL NOT RUN—Continued	4. Check engine solenoid start terminal for 24–28 V dc with engine start switch in START position.	If 24–28 V dc are present at engine starter terminal, go to step 5. If 24–28 V dc are not present at terminal, repair wiring between engine start switch and solenoid (refer to WP 0062 00).
	5. Check solenoid to starter terminal for 24–28 V dc.	If 24–28 V dc are not present at solenoid to starter terminal, replace starter (refer to WP 0113 00). If 24–28 V dc are present at solenoid to starter terminal, replace engine starter. Verify problem is solved.
2. ENGINE TURNS OVER BUT FAILS TO START	1. Check fuel lines for leaks or damage.	If fuel lines are leaking/damaged, tighten all connections and repair/replace any damaged fuel lines (refer to WP 0103 00). Verify problem is solved. If fuel lines are not leaking, go to step 2. If fuel lines still leak, notify Direct Support maintenance.
	2. Bleed fuel system.	If no fuel flows while fuel system is being bled, replace fuel pump (refer to WP 0101 00). Verify problem is solved. If fuel flows, go to step 3.
	3. Check for dirty fuel.	If fuel is dirty, drain and remove fuel tank (refer to WP 0102 00) and fuel lines and replace and refill tank with clean fuel. Replace fuel filter (refer to WP 0103 00). Verify problem is solved and go to step 5. If fuel was okay, go to step 4.

Table 1. Troubleshooting Procedures—Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
2. ENGINE TURNS OVER BUT FAILS TO START— Continued	4. Check condition of fuel filter. 5. Check engine for high operating temperature. 6. Check for restricted air passages or red band in air restriction indicator (refer to WP 0106 00). 7. Check for defective glow plugs.	<p>If fuel filter is clogged, replace fuel filter (refer to WP 0103 00). Verify problem is solved. If condition of fuel filter was okay, go to step 5.</p> <p>If engine is hot, allow 3–5 minutes to cool before attempting restart. Verify problem is solved. If engine will not start after cooling, go to step 6.</p> <p>If air passages are restricted, clear restricted passages and/or replace air element (refer to WP 0105 00 and WP 0107 00). Verify problem is solved. If air passages are okay, go to step 7.</p> <p>If glow plugs are defective, replace glow plugs (refer to WP 0097 00). Verify problem is solved. If glow plugs were okay, notify Direct Support maintenance that further troubleshooting is required.</p>
3. ENGINE IS HARD TO START OR HAS LOW POWER	1. Check to see if engine oil is proper grade for ambient temperature. 2. Check for dirty, contaminated, or wrong grade of fuel.	<p>Drain oil and refill with proper grade oil (refer to WP 0042 00). Verify problem is solved. If oil was okay, go to step 2.</p> <p>If fuel is dirty, drain and remove fuel tank (refer to WP 0102 00) and fuel lines and replace and refill tank with clean fuel. Replace fuel filter (refer to WP 0103 00). Verify problem is solved. If fuel was okay, go to step 3.</p>

Table 1. Troubleshooting Procedures—Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
3. ENGINE IS HARD TO START OR HAS LOW POWER—Continued	<p>3. Check fuel lines for leaks or damage.</p> <p>4. Check for restricted air passages or red band in air restriction indicator.</p>	<p>If fuel lines are leaking/damaged, tighten all connections and repair/replace any damaged fuel lines (refer to WP 0103 00). Verify problem is solved. If fuel lines are not leaking, go to step 4. If fuel lines still leak, notify Direct Support maintenance.</p> <p>If air passages are restricted, clear restricted passages and/or replace air element. Verify problem is solved. If engine is still hard starting or has low power, notify Direct Support maintenance.</p>
4. LOW OIL PRESSURE (LESS THAN 30 PSI [276 KPA]) IS INDICATED ON GAGE	<p>1. Check oil level.</p> <p>2. Check for external oil leaks.</p> <p>3. Inspect for defective oil pressure gage.</p>	<p>If oil level is low, add oil (refer to WP 0042 00). Verify problem is solved. If oil level was okay, go to step 2.</p> <p>If leaks are detected, notify Direct Support maintenance. If no leaks are detected, go to step 3.</p> <p>If gage is defective, replace gage (refer to WP 0114 00). Verify problem is solved. If gage is not defective, notify Direct Support maintenance.</p>
5. HIGH OIL PRESSURE (ABOVE 95 PSI [655 KPA]) IS INDICATED ON GAGE	<p>1. Check for overfilling of engine oil.</p>	<p>If engine oil level is too high, drain oil until oil is at proper level. Verify problem is solved. If engine oil level was normal, go to step 2.</p>

Table 1. Troubleshooting Procedures—Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
5. HIGH OIL PRESSURE IS INDICATED ON GAGE— Continued	2. Check to see that engine oil is the proper grade. 3. Check for defective oil pressure gage. 4. Check for plugged or restricted oil cooler or hoses.	If grade of engine oil is not proper, drain and replace oil with correct grade (refer to WP 0042 00). Verify problem is solved. If oil grade was correct, go to step 3. If gage is defective, replace gage per WP 0114 00. Verify problem is solved. If gage is not defective, go to step 4. If hoses/oil cooler are plugged or restricted, notify Direct Support maintenance.
6. ENGINE MISFIRES UNDER HEAVY LOAD	1. Check for restricted air passages or red band in air restriction indicator. 2. Check for dirty, contaminated, or wrong grade of fuel. 3. Check fuel lines for leaks.	If air passages are restricted, clear restricted passages and/or replace air filter element (refer to WP 0105 00 and WP 0107 00). Verify problem is solved. If engine still misfires, go to step 2. If fuel is dirty, drain and remove fuel tank (refer to WP 0102 00) and fuel lines and replace and refill tank with clean fuel. Replace fuel filter (refer to WP 0103 00). Verify problem is solved. If fuel was okay, go to step 3. If fuel lines are leaking/damaged, tighten all connections and repair/replace any damaged fuel lines (refer to WP 0103 00). Verify problem is solved. If fuel lines still leak, notify Direct Support maintenance.

Table 1. Troubleshooting Procedures—Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
7. ENGINE SPEED IS ERRATIC OR WILL NOT MAINTAIN STEADY RPM	1. Check for proper operation of throttle cable.	If cable is loose, tighten throttle cable (refer to WP 0108 00). Verify problem is solved. If throttle cable is not loose, go to step 2.
	2. Check fuel lines for leaks.	If fuel lines are leaking/damaged, tighten all connections and repair/replace any damaged fuel lines (refer to WP 0103 00). Verify problem is solved. If fuel lines are not leaking, go to step 3. If fuel lines still leak, notify Direct Support maintenance.
	3. Check for restricted air passages or red band in air restriction indicator.	If air passages are restricted, clear restricted passages and/or replace air element (refer to WP 0105 00 and WP 0107 00). Verify problem is solved. If air passages are okay, and engine still will not maintain steady rpm, notify Direct Support maintenance that further troubleshooting is required.
8. ENGINE SPEED IS TOO HIGH OR TOO LOW	Check for proper operation of throttle cable.	If cable is loose or damaged, repair/replace cable (refer to WP 0108 00). Verify problem is solved. If cable is not loose or damaged, notify Direct Support maintenance that further troubleshooting is required.
9. ENGINE EXHAUST IS BLACK OR FUEL CONSUMPTION IS EXCESSIVE	<p>NOTE</p> <p>Brown or black color in exhaust indicates incomplete combustion. Exhaust gases are never invisible but darker exhaust may indicate trouble especially if there has been no change in engine condition.</p>	

Table 1. Troubleshooting Procedures—Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
9. ENGINE EXHAUST IS BLACK OR FUEL CONSUMPTION IS EXCESSIVE—Continued	<ol style="list-style-type: none"> <li>1. Check for restricted air passages or red band in air restriction indicator. <li>2. Check for dirty, contaminated, or wrong grade of fuel. <li>3. Check tachometer to see if engine is operating at proper rpm. 	<p>If air passages are restricted, clear restricted passages (refer to WP 0107 00) and/or replace air filter element (refer to WP 0105 00). Verify problem is solved. If air passages were clear, go to step 2.</p> <p>If fuel is dirty, drain and remove fuel tank (refer to WP 0102 00) and fuel lines and replace and refill tank with clean fuel. Replace fuel filter (refer to WP 0103 00). Verify problem is solved. If fuel was okay, go to step 3.</p> <p>If engine is not operating at proper rpm, adjust throttle cable (refer to WP 0108 00). Verify problem is solved. If engine is operating at proper rpm, notify Direct Support maintenance that further troubleshooting is required.</p>
10. PREHEAT INDICATOR LAMP WILL NOT LIGHT	<ol style="list-style-type: none"> <li>1. Listen for clicking noise at engine control box when preheat indicator lamp switch is moved to ON position. <li>2. Check for continuity at preheat switch. 	<p>If clicking noise is heard, replace indicator lamp (refer to WP 0114 00). Verify problem is solved. If noise is not heard, go to step 2.</p> <p>If continuity is not present in switch, replace switch (refer to WP 0114 00). Verify problem is solved. If continuity is present, go to step 3.</p>

Table 1. Troubleshooting Procedures—Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
10. PREHEAT INDICATOR LAMP WILL NOT LIGHT— Continued	3. Check for continuity in wires between preheat indicator lamp on engine control panel and glow plug solenoid in engine control box.	If continuity exists in wires, replace glow plug solenoid (refer to WP 0112 00). Verify problem is solved. If continuity does not exist in wires, repair/replace wires (refer to WP 0062 00).

END OF TASK

CENTRIFUGAL PUMP TROUBLESHOOTING

0024 00

THIS WP COVERS:

Centrifugal Pump Troubleshooting

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

References

WP 0007 00

WP 0039 00

To troubleshoot the M967A2 centrifugal pump, perform the test/inspections and corrective actions provided in Table 1.

Table 1. Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
PUMP FAILS TO DELIVER FUEL	1. Check pump strainer for debris or dirt clogging inlet.	Clean strainer (refer to WP 0039 00). Verify problem is solved. If screen is not clogged, go to step 2.
	2. Check to see if pump is primed.	If pump is not primed, manually prime pump per WP 0039 00. If pump is already primed, go to step 3.
	3. Verify all required valves are open per fueling operations schematic on tool box lid (refer to WP 0007 00).	Set valves per schematic on tool box lid (refer to WP 0007 00). If valves are already set per schematic, go to step 4.
	4. Check pump tubing and connections for air leakage.	If air is leaking into pump tubing and connections, tighten all connections. Verify problem is solved. If gaskets need replacement, notify Direct Support maintenance.

END OF TASK

BATTERY TROUBLESHOOTING

0025 00

THIS WP COVERS:

Battery Troubleshooting

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Multimeter (item 2, WP 0156 00)

References

TM 9-6140-200-14

WP 0053 00

To troubleshoot the batteries, perform the test/inspections and corrective actions provided in Table 1.

Table 1. Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
BATTERY IS LOW OR DISCHARGED	NOTE	
	Batteries should be removed from M967A2 prior to servicing, checking, and charging. All battery servicing, testing, and charging shall be in accordance with TM 9-6140-200-14.	
	<ol style="list-style-type: none"> CHECK FOR EXCESS MOISTURE OR DIRT ON TOP OF BATTERIES. PERFORM SPECIFIC GRAVITY TEST ON BATTERY (REFER TO TM 9-6140-200-14). 	<p>Clean battery top. If electrolyte is low, replenish electrolyte. Go to step 2.</p> <p>If battery passes specific gravity test, go to step 3.</p>
	NOTE	
	Verify battery is fully charged prior to performing load test.	

BATTERY TROUBLESHOOTING

0025 00**Table 1. Troubleshooting Procedures.**

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
	3. Perform load test on battery (refer to TM 9-6140-200-14).	If battery passed load test, battery is serviceable and may be reinstalled in M967A2. If battery fails, replace battery (refer to WP 0053 00).

END OF TASK

ALTERNATOR AND CHARGING CIRCUIT TROUBLESHOOTING**0026 00****THIS WP COVERS:**

Alternator and Charging Circuit Troubleshooting

INITIAL SETUP:**Maintenance Level**

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Multimeter (item 2, WP 0156 00)

References

TM 9-6140-200-14

WP 0053 00

WP 0054 00

WP 0110 00

WP 0111 00

WP 0145 00

To troubleshoot M967A2 alternator and charging circuit, perform the test/inspections and corrective actions provided in Table 1.

Table 1. Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. UNDERCHARGED BATTERIES	1. Check for loose or corroded battery terminals, cables, and connections, and moisture and dirt on top of batteries.	Clean battery and clean and tighten battery connections (refer to WP 0053 00). Replace any damaged cables (refer to WP 0054 00). Charge and test batteries (refer to TM 9-6140-200-14). Verify problem is solved. If battery still does not hold a charge, go to step 2.
	2. Look for worn or glazed pulley or loose belt on alternator.	Adjust alternator drive belt (refer to WP 0110 00) if loose. Replace alternator belt (refer to WP 0111 00) if glazed, cracked or worn. If pulley is worn or glazed, notify Direct Support maintenance.

Table 1. Troubleshooting Procedures—Continued

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. UNDERCHARGED BATTERIES—Continued	3. Check for excessive voltage drop between alternator and batteries (refer to TM 9-6140-200-14).	If test reveals excessive voltage drop, clean and tighten connections at positive and negative output terminals on alternator (refer to WP 0111 00). Check ground cable connections between negative battery terminal and engine frame. Verify problem is solved. If connections were okay, notify Direct Support maintenance.
2. OVERCHARGED BATTERIES (INDICATED BY HIGH WATER USAGE)	1. Check battery case for cracks or damage. 2. Check specific gravity and individual voltage of each battery cell (refer to TM 9-6140-200-14).	Replace damaged batteries (refer to WP 0053 00). Verify problem is solved. If batteries were okay, go to step 2. Replace defective battery (refer to WP 0053 00). Verify problem is solved. If battery is okay, notify Direct Support maintenance.
3. HIGH OR LOW ALTERNATOR OUTPUT	Obtain and record battery voltage for both batteries in series with engine not running. Start engine and adjust to 1000 rpm. Take another battery voltage reading.	If voltage does not increase notably between engine not running and engine running (0.6 V dc or more), notify Direct Support maintenance.
4. SHORT VOLTAGE REGULATOR LIFE	Check that alternator and battery connections are correct. (Note that reversed polarity, even momentarily, will damage voltage regulator).	Correct battery connection errors (refer to WP 0054 00). If problem is not corrected, notify Direct Support maintenance.

ALTERNATOR AND CHARGING CIRCUIT TROUBLESHOOTING—Continued

0026 00

Table 1. Troubleshooting Procedures—Continued

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
5. NOISY ALTERNATOR	<ol style="list-style-type: none"> 1. Check for loose pulley or mounting bolts (refer to WP 0110 00). 2. Check for worn or sticking bearings by removing alternator belt and spinning alternator by hand (refer to WP 0110 00). 	<p>Tighten mounting bolts and if pulley is loose, replace alternator (refer to WP 0110 00). Verify problem is solved. If mounting bolts or drive pulley were okay, go to step 2.</p> <p>If bearings are worn or sticking, replace alternator (refer to WP 0110 00). Verify problem is solved.</p>

END OF TASK

PIPING CONTROL COMPONENTS TROUBLESHOOTING

0027 00

THIS WP COVERS:

Piping Control Components Troubleshooting

INITIAL SETUP:

Maintenance Level
Organizational

References

WP 0007 00
WP 0119 00

To troubleshoot the M967A2 piping control components, perform the test/inspections and corrective actions provided in Table 1.

Table 1. Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
WITH EMERGENCY VALVE A HANDLE IN CLOSED POSITION, FUEL CONTINUES TO FLOW OUT OF TANK	<ol style="list-style-type: none"> 1. Verify all valves are set per fuel operations schematic on tool box lid (refer to WP 0007 00). 2. Move handle and observe valve A lever movement at valve A under tank (refer to WP 0119 00). 	<p>Set valves per schematic on tool box lid (refer to WP 0007 00). If valves are set properly, go to step 2.</p> <p>If lever movement is observed and fuel flow stops, verify problem is solved. If fuel continues to flow, notify Direct Support maintenance.</p>

END OF TASK

FUEL SYSTEM TROUBLESHOOTING

0028 00

THIS WP COVERS:

Fuel System Troubleshooting

INITIAL SETUP:

Maintenance Level
Organizational

References

WP 0007 00
WP 0119 00

To troubleshoot the M967A2 fuel system, perform the test/inspections and corrective actions provided in Table 1.

Table 1. Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
FUEL DOES NOT FLOW DURING ANY FUELING OPERATIONS	1. Verify all valves are set per fuel operations schematic (refer to WP 0007 00).	Set valves per schematic (refer to WP 0007 00). Verify problem is solved. If valves are set per fuel operations schematic, go to step 2.
	2. Move handle and observe valve A lever movement at valve A under tank (refer to WP 0119 00).	If lever movement is observed and fuel flow starts, problem is solved. If fuel does not flow, notify Direct Support maintenance that further troubleshooting is required.

END OF TASK

CHAPTER 5

DIRECT SUPPORT/GENERAL SUPPORT TROUBLESHOOTING

INTRODUCTION

0029 00

GENERAL

This WP provides information on the malfunction/symptom index and procedures of Direct Support/General Support troubleshooting.

MALFUNCTION/SYMPTOM INDEX (WP 0030 00)

The malfunction/symptom index is a quick reference index for finding troubleshooting procedures. Associated with each symptom name is a WP sequence number representing the starting point in a troubleshooting sequence.

TROUBLESHOOTING PROCEDURES (WP 0031 00 and WP 0032 00)

The troubleshooting WPs contain tables listing the malfunctions, tests or inspections, and corrective actions required to return the M967A2 to normal operation. Perform the steps in the order in which they appear in the tables.

The columns are defined as follows:

1. **MALFUNCTION**—A visual or operational indication that something is wrong with the M967A2.
2. **TEST OR INSPECTION**—A procedure to isolate the problem in a component or system.
3. **CORRECTIVE ACTION**—A procedure to correct the problem.

If you are unsure of the location of an item mentioned in troubleshooting, refer to WP 0002 00 or to the maintenance task where the item is replaced.

Before performing troubleshooting, read and follow all safety instructions found in the warning summary at the front of this manual.

This manual cannot list all of the malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed, or is not corrected by the listed corrective actions, notify your supervisor.

END OF TASK

MALFUNCTION/SYMPTOM INDEX

0030 00

GENERAL

This malfunction/symptom index is provided as a quick way to get you to the part of troubleshooting that will help you solve the problem you are having. It lists all of the malfunctions covered in Direct Support troubleshooting.

ENGINE

1. Engine turns over but fails to start WP 0031 00-1
2. Engine is hard to start or has low engine power..... WP 0031 00-1
3. Low oil pressure is indicated on gage..... WP 0031 00-1
4. High oil pressure is indicated on gage..... WP 0031 00-1
5. Engine misfires under heavy load..... WP 0031 00-1

ALTERNATOR OR CHARGING CIRCUIT

1. Undercharged batteries WP 0032 00-1
2. Overcharged batteries (indicated by high water usage rates) WP 0032 00-1
3. Low alternator output WP 0032 00-1
4. Short voltage regulator life WP 0032 00-1
5. Noisy alternator WP 0032 00-1

END OF TASK

ENGINE TROUBLESHOOTING

0031 00

THIS WP COVERS:

Engine Troubleshooting

INITIAL SETUP:

Maintenance Level

Direct and General Support

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

References

WP 0011 00 WP 0131 00

WP 0023 00 WP 0142 00

To troubleshoot the engine, perform the test/inspections and corrective actions provided in Table 1.

Table 1. Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. ENGINE TURNS OVER BUT FAILS TO START	Verify all Operator/Crew and Organizational troubleshooting has been performed in accordance with WP 0011 00 and WP 0023 00.	Replace engine (refer to WP 0142 00).
2. ENGINE IS HARD TO START OR HAS LOW ENGINE POWER.	Verify all Operator/Crew and Organizational troubleshooting has been performed in accordance with WP 0011 00 and WP 0023 00.	Replace engine (refer to WP 0142 00).
3. LOW OIL PRESSURE IS INDICATED ON GAGE	Verify all Operator/Crew and Organizational troubleshooting has been performed in accordance with WP 0011 00 and WP 0023 00.	Replace engine (refer to WP 0142 00).
4. HIGH OIL PRESSURE IS INDICATED ON GAGE	Verify all Operator/Crew and Organizational troubleshooting has been performed in accordance with WP 0011 00 and WP 0023 00.	Check that oil bypass valve is not stuck in closed position (refer to WP 0131 00). If valve is stuck, clean, inspect, and repair (refer to WP 0131 00). If valve is not stuck, replace engine (refer to WP 0142 00).
5. ENGINE MISFIRES UNDER HEAVY LOAD	Verify all Operator/Crew and Organizational troubleshooting has been performed in accordance with WP 0011 00 and WP 0023 00.	Replace engine (refer to WP 0142 00).

END OF TASK

ALTERNATOR AND CHARGING CIRCUIT TROUBLESHOOTING

0032 00

THIS WP COVERS:

Alternator and Charging Circuit Troubleshooting

INITIAL SETUP:

Maintenance Level

Direct and General Support

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

References

WP 0026 00

WP 0145 00

To troubleshoot the M967A2 alternator and charging circuit, perform the test/inspections and corrective actions provided in Table 1.

Table 1. Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. UNDERCHARGED BATTERIES	Verify all Organizational troubleshooting has been performed in accordance with WP 0026 00.	Repair/replace alternator (refer to WP 0145 00).
2. OVERCHARGED BATTERIES (INDICATED BY HIGH WATER USAGE)	Verify all Organizational troubleshooting has been performed in accordance with WP 0026 00.	Repair/replace alternator (refer to WP 0145 00).
3. LOW ALTERNATOR OUTPUT	Verify all Organizational troubleshooting has been performed in accordance with WP 0026 00.	Repair/replace alternator (refer to WP 0145 00).
4. SHORT VOLTAGE REGULATOR LIFE	Verify all Organizational troubleshooting has been performed in accordance with WP 0026 00.	Repair/replace alternator (refer to WP 0145 00).
5. NOISY ALTERNATOR	Verify all Organizational troubleshooting has been performed in accordance with WP 0026 00.	Repair/replace alternator (refer to WP 0145 00).

END OF TASK

CHAPTER 6

OPERATOR MAINTENANCE INSTRUCTIONS

**OPERATOR/CREW PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)**

0033 00

THIS WP COVERS:
PMCS Procedures

INITIAL SETUP:
Maintenance Level
Operator/Crew

Tools and Special Tools
Tool kit, general mechanic's (item 4, WP 0156 00)

References
DA Form 2404 WP 0034 00
DA Form 5988-E WP 0038 00
DA PAM 738-750 WP 0066 00
DD Form 314
WP 0007 00

GENERAL

To ensure that the M967A2 Semitrailer is ready for operation at all times, it must be inspected on a regular basis so that defects may be found before they result in serious damage, equipment failure, or injury to personnel. This WP contains systematic instructions on inspections, adjustments, and corrections to be performed by Operator maintenance.

SERVICE INTERVALS

Perform the PMCS procedures listed in Table 1 at the following intervals:

Perform "Before" PMCS just before operating the semitrailer.

Perform "During" PMCS while operating the semitrailer.

Perform "After" PMCS immediately after operating the semitrailer.

Perform "Weekly" PMCS once a week.

Perform "Monthly" PMCS once a month.

Perform "Annual" PMCS once a year.

PMCS items and intervals are to be scheduled on DD Form 314 in accordance with DA Pam 738-750.

After operation in water, mud, or loose sand, clean the semitrailer as soon as possible. Lubricate without waiting for the next scheduled service.

Lubrication instructions are included in WP 0034 00 (Operator/Crew).

REPORTING REPAIRS

Report all defects and corrective actions on DA Form 2404 or DA Form 5988-E. If a serious problem is found, report it to your supervisor.

**OPERATOR/CREW PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)—Continued**

0033 00

GENERAL PMCS PROCEDURES**WARNING**

Solvents can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If solvent gets on skin or clothing, wash immediately with soap and water.

Keep equipment clean. Dirt, oil, and debris may cover up a serious problem. Clean as you work and as needed. Use cleaning compound on all metal surfaces. Use solution of soap and water on rubber, plastic, and painted surfaces.

While performing PMCS, inspect the following components:

Bolts, Nuts, and Screws. Make sure they are not loose, missing, bent, or broken. Tighten any that are loose.

Welds. Inspect for gaps where parts are welded together. Report bad welds to your supervisor.

Electrical Wires or Connectors. Inspect for cracked or broken insulation, bare wires, and loose or broken connectors. Report defects to your supervisor.

Hoses, Lines, and Fittings. Inspect for wear, damage, and leaks. Make sure clamps and fittings are tight. If leak originates from a loose fitting or connector, tighten it. If not authorized, report it to your supervisor.

SPECIFIC PMCS PROCEDURES

Operator PMCS procedures are listed in Table 1. Always perform PMCS procedures in the order listed. Once this becomes a habit, you will spot anything that is not right in a minute. If anything wrong is discovered through PMCS, perform the appropriate troubleshooting task. If any component or system is not serviceable, or if the service given does not correct the problem, notify your supervisor.

Before performing PMCS, read all the checks required for the applicable interval and prepare the tools needed to make all the checks.

The column headings in Table 1 are defined as follows:

Item No. The item number column of your PMCS table is to be used for reference. When completing DA Form 2404 or DA Form 5988-E, include the item number for the checks and services indicating a fault. Item numbers also appear in the order that you must do the checks and services for the intervals listed.

Interval. This column tells you when to do a certain check or service. Special intervals will also be specified (e.g., every 100 hours) when the component requires service more frequently than semiannually or annually.

Item To Be Inspected. This column tells you what item is to be inspected and how to do the required checks and services. Carefully follow these instructions. If you do not have the tools, or if the procedure tells you to, have Organizational maintenance do the work.

**OPERATOR/CREW PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)—Continued**

0033 00

Procedure. This column tells you how to do the required checks and services and which crewmember is responsible for each check or service. Carefully follow these instructions. If you do not have the tools, or if the procedure tells you to, have Organizational maintenance do the work.

Not Fully Mission Capable If. Information in this column tells you what faults will keep the equipment from being capable of performing its mission. If PMCS reveals any of the faults listed in this column, do not operate the equipment. Follow standard procedure for maintaining the equipment or reporting equipment failure.

LEAKAGE DEFINITIONS

It is important to know how fluid leakage affects the status of the semitrailer. The following are types/classes of leakage an operator must know to determine whether the semitrailer is mission-capable. Learn these leakage definitions. When in doubt, notify your supervisor.

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

Class II Leakage great enough to form drops, but not great enough to cause drops to drip from item being inspected.

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

WARNING

The semitrailer must not be operated if there are any fuel leaks from semitrailer tank or from engine. Report any fuel leaks to your supervisor or Organizational maintenance. Failure to do so will result in fire hazard, which can cause severe injury or death to personnel.

CAUTION

When operating engine with Class I or II oil leaks, continue to check fluid levels in addition to that required in PMCS. Parts without fluid will stop working or may be damaged.

Equipment operation is allowed with minor (Class I or II) leakage. Fluid levels in an item/system affected with such leakage must be checked more frequently than required in PMCS. When in doubt, notify your supervisor.

Report Class III oil leaks immediately to your supervisor or Organizational maintenance.

**OPERATOR/CREW PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)—Continued**

0033 00

Table 1. Operator/Crew PMCS.

ITEM NO.	INTERVAL	ITEM TO BE INSPECTED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
1	Before	Exterior of Semitrailer	<p>NOTE</p> <p>Perform "Weekly" as well as "Before" PMCS if you are the assigned operator but have not operated the semitrailer since the last weekly PMCS, or if you are operating the semitrailer for the first time.</p> <p>a. Walk around semitrailer. Check for evidence of product leakage on or under semitrailer.</p> <p>b. Check each fire extinguisher. Make sure red button is down. Check security of mounting bracket or security pin.</p> <p>c. Check for operation of hazardous materials placards.</p> <p>d. Check optic socket boxes for obvious damage.</p> <p>e. Check monitor panel for obvious damage.</p>	<p>Any product leakage is evident.</p> <p>Fire extinguisher is missing. Red button is up. Security pin is missing (if so equipped).</p> <p>Any placard is missing or inoperative.</p> <p>Optic socket boxes are required for mission, but are damaged.</p>
2	Before	Tank	<p>a. Inspect tank shell for dents, leaks, and broken welds.</p> <p>b. Check for leaks around fusible vent caps. Tighten if loose.</p>	<p>Tank shell has fuel leaks.</p> <p>Any fuel leaks are present.</p>

**OPERATOR/CREW PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)—Continued**

0033 00

Table 1. Operator/Crew PMCS—Continued.

ITEM NO.	INTERVAL	ITEM TO BE INSPECTED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
2-Continued	Before	Tank	<p>c. Check for leaks around manhole cover. If leaks are evident, check for damaged cover gasket or loose mounting ring. Also, check to see that cover can be opened, closed, and securely latched.</p> <p>d. Inspect front and rear catwalk drains for clogs or restrictions. Remove any debris or foreign matter.</p> <p>e. Inspect vapor recovery hood for any loose, damaged, or missing hardware.</p> <p>f. Check tank for rust at intersections where brackets are welded to tank. Check condition of paint. If any damage is found, notify your supervisor.</p>	Manhole cover gasket is damaged, manhole cover cannot be securely closed, or any fuel leaks are present.
3	Before	Kingpin, Upper Coupler, and Spacer Plate	<p>a. Inspect kingpin, upper coupler and spacer plate for damage or loose mounting bolts.</p> <p>b. Visually inspect for obvious cracked or broken welds around kingpin.</p>	Kingpin, upper coupler, and spacer plate is damaged or mounting bolts are loose.
4	Before	Engine	Perform engine operating procedures listed in WP 0007 00, paragraph G.	Engine does not operate and is required for mission.

**OPERATOR/CREW PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)—Continued**

0033 00

Table 1. Operator/Crew PMCS—Continued.

ITEM NO.	INTERVAL	ITEM TO BE INSPECTED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
5	Before	Centrifugal Pump	Inspect pump for signs of leaks.	Any fuel leaks are present.
6	Before	Batteries	Check batteries for secure mounting.	Battery is required for mission but is damaged.
7	Before	Hose Tubes	Inspect hose tube lock bars for obvious damage or missing parts. Check all mounting hardware for loose or missing components. Check drain holes for clogs or debris. Remove debris.	
8	Before	Hoses	Inspect for completeness and serviceability.	Hoses are damaged or missing.
9	Before	Vapor Recovery Kit	Check discharge outlet for debris or any other foreign matter. Clean debris and foreign matter from discharge outlet. Check all mounting hardware for loose or missing components.	Vapor recovery kit is required for mission, but is damaged.
10	Before	Tires and Wheels	Inspect tires and wheels for unusual wear or damage.	Tires or wheels have damage that could result in tire failure.
11	Before	Hubodometer	Inspect for proper mounting and damage.	
12	Before	Spare Tire Winch	a. Inspect spare tire winch for loose, damaged, or missing components.	Spare tire winch is required for mission, but is damaged.
			b. Inspect for frayed or worn cable.	Cable is frayed or worn.

**OPERATOR/CREW PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)—Continued**

0033 00

Table 1. Operator/Crew PMCS—Continued.

ITEM NO.	INTERVAL	ITEM TO BE INSPECTED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
13	Before	Grounding Devices	a. Check static reel operation. Inspect for missing ground clips and loose or missing mounting hardware. b. Check portable grounding rod to ensure that it is not damaged or missing.	Both static reels are missing or damaged. Portable grounding rod is missing from vehicle or is damaged.
14	Before	Monitor Panel	Inspect for proper mounting and damage.	
15	Before	Towing Connections	a. Connect air lines of prime mover to couplings on semitrailer. With prime mover engine running, check air lines and coupling for leaks. b. Connect intervehicular cable of prime mover to couplings on semitrailer. Check all lights for damage. Check to see that all lights are operating, and check tightness of connection at receptacle. If tight, and lights still do not operate, notify Organizational maintenance. Check cable for damage.	Air leaks are present. Turn signal and stop lights are not operating. Prime mover intervehicular cable is damaged (cuts, cracks, and broken wires).
16	Before	Brake System	a. Check ABS warning light for flash.	ABS warning light does not flash or stays lit.

**OPERATOR/CREW PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)—Continued**

0033 00

Table 1. Operator/Crew PMCS—Continued.

ITEM NO.	INTERVAL	ITEM TO BE INSPECTED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
16—Continued	Before	Brake System	<p>b. With prime mover coupled to semitrailer, apply prime mover brakes and inspect semitrailer service and emergency air brake couplings and all air lines and fittings for leaks. If leaks are found, notify Organizational maintenance.</p> <p>c. Push in brake interlock valve and observe slack adjusters for proper operation (refer to WP 0066 00).</p>	<p>Any leaks are present.</p> <p>No slack adjuster movement.</p>
17	During	Brake System	Apply semitrailer brakes and observe operation.	Brakes do not stop semitrailer, or semitrailer pulls to one side.
18	During	Piping System	<p>a. Check all valves and couplings for leaks.</p> <p>b. Check valves P and R for proper operation.</p>	<p>Any fuel leaks are present.</p> <p>Any air leaks present.</p>
19	During	ABS Warning Light	If warning light stays on above 4 mph (6 km/h), notify Organizational maintenance after completing mission.	
20	During	Landing Gear	a. With prime mover coupled to semitrailer, engage landing gear handle and raise and lower landing gear legs.	Landing gear legs cannot be raised or lowered.

**OPERATOR/CREW PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)—Continued**

0033 00

Table 1. Operator/Crew PMCS—Continued.

ITEM NO.	INTERVAL	ITEM TO BE INSPECTED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
20—Continued	During	Landing Gear	b. Inspect landing gear ground boards for serviceability. c. Wheel chocks for serviceability.	Ground boards are required for mission, but are dry-rotted.
21	During	Emergency Handles	Make sure all valves are closed. Move emergency valve A control handle to open position. On front of semitrailer, pull one emergency handle. Make sure emergency valve A control handle has moved to the closed position. Repeat procedure for second emergency handle.	Emergency valve A does not move to closed position.
22	During	Engine	a. Check air cleaner restriction indicator for red area. If red area is visible, remove and clean engine air cleaner filter element (refer to WP 0038 00). Notify Organizational maintenance to replace air cleaner filter element after six cleanings or annually. b. Check engine assembly for fuel and oil leaks.	Restriction indicator has red area visible. Any fuel leaks or Class III oil leaks are present.
23	During	Rear Axles	During movement of semitrailer, be aware of wander or side pull. Listen for unusual noises. These are indication of improper rear axle alignment.	Semitrailer wanders, has side pull, or rear axles makes unusual noises.

**OPERATOR/CREW PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)—Continued**

0033 00

Table 1. Operator/Crew PMCS—Continued.

ITEM NO.	INTERVAL	ITEM TO BE INSPECTED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
			<p style="text-align: center;"><u>WARNING</u></p> <p>When filling tank by means of bottom loading, or self-loading, a test of the precheck system is mandatory. If this system is not functioning, stop all operations. Determine the problem and have it corrected by a qualified technician. Failure of automatic shutoff to function may cause uncontrolled fuel spillage, fire, and/or explosion, resulting in serious injury or death to personnel.</p>	
24	During	Loading Precheck (D Valve)	Check operation of upper level sensor.	Loading precheck does not operate.
25	During	Control Panel	<p>a. Check switches for proper operation.</p> <p>b. Check to see that preheat indicator light is lit when engine is preheating.</p> <p>c. Check gages for proper operation as follows.</p> <p>1. Check tachometer operation.</p>	<p>Any switch does not work.</p> <p>Preheat indicator light is not lit.</p> <p>Tachometer is inoperative or operates erratically.</p>

**OPERATOR/CREW PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)—Continued**

0033 00

Table 1. Operator/Crew PMCS—Continued.

ITEM NO.	INTERVAL	ITEM TO BE INSPECTED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
25—Continued	During	Control Panel	c. Check gages for proper operation as follows. <ol style="list-style-type: none"> 2. Battery voltage gage should read 24 to 28 V dc with engine running. 3. Oil pressure gage should read 30 to 95 psi (207 to 655 kPa) at normal operating temperature. 4. Pump pressure gage should read no less than 30 psi (207 kPa) for pump. 	Voltage gage reads below 24 V dc or above 28 V dc consistently. Oil pressure gage reads below 30 psi (276 kPa) or above 95 psi (655 kPa). Pump pressure gage is not functioning properly during pumping operations.
26	During	Emergency Valve and Vent	d. Check control panel light for proper operations. Make sure all valves are closed. Operate emergency valve A control handle, and make sure cable is actuating emergency valve shutoff lever fully and opens vent on top of semitrailer.	Emergency valve A control handle will not actuate emergency valve shutoff lever.

**OPERATOR/CREW PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)—Continued**

0033 00

Table 1. Operator/Crew PMCS—Continued.

ITEM NO.	INTERVAL	ITEM TO BE INSPECTED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
27	After	Exterior of Semitrailer	a. Walk around semitrailer. Check for loose, missing or damaged hardware.	Hardware is loose, missing, or damaged.
			b. Check for evidence of any leak.	Any leak is evident
28	After	Piping System	a. Inspect all pipes for dents or cracks.	Any pipe is damaged to the extent that fuel flow will be restricted.
			b. Drain water from J valve.	
29	After	Brake System	Drain water from air reservoir by opening air reservoir drain cock.	
30	After	Engine	a. Inspect for debris in grille of air cooling intake area.	
			b. Inspect alternator belt for tightness and cracks.	Alternator belt is loose, cracked, or frayed.
			c. Inspect hoses and connections for damage, tightness, and leaks.	Any hose or connection is damaged, loose, or leaking.
			d. Inspect electrical harnesses for tightness and cracks.	Any electrical harness is damaged or loose.
			e. Check engine oil level. Add oil if needed. For oil specifications, refer to WP 0034 00.	
			f. Check fuel tank for fuel. Add if needed; 1/4 of a tank is required.	

**OPERATOR/CREW PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)—Continued**

0033 00

Table 1. Operator/Crew PMCS—Continued.

ITEM NO.	INTERVAL	ITEM TO BE INSPECTED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
31	After	Hose Tubes	Inspect hose tubes for debris. Remove any debris found and check to see that water drain holes are open.	
32	Weekly	Landing Gear	Inspect for loose landing gear shoes, bent or damaged landing gear legs, and loose or missing mounting bolts.	Mounting bolts are loose or missing.
33	Weekly	Engine	Inspect engine assembly area for loose, damaged, or missing panels and covers.	Any panel or cover is loose, damaged, or missing.
34	Weekly	Centrifugal Pump	Remove pipe plug and check oil level. Add oil if below bottom of pipe plug hole. For oil specification, refer to WP 0034 00.	
35	Weekly	Batteries	a. Remove battery cover. Inspect batteries for damage. b. Check water level in each cell. Fill if low. c. Check for corrosion at terminals. Check cable tightness on terminals. Check for cable damage.	Any battery is damaged. If terminals are loose or damaged, notify Organizational maintenance.
36	Weekly	NATO Slave Connector	Check for corrosion and if cap/protective cover is present.	
37	Weekly	Tires and Wheels	Check for proper air pressure: Hard road surface: 95 psi (655 kPa). Cross country: 45 psi (310 kPa).	
38	Weekly	Static Reels	Check for proper operation by fully extending and retracting cable. Lubricate per WP 0034 00.	Both static reels are missing or damaged.

**OPERATOR/CREW PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)—Continued**

0033 00

Table 1. Operator/Crew PMCS—Continued.

ITEM NO.	INTERVAL	ITEM TO BE INSPECTED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
39	Monthly	Tires and Wheels	a. Inspect wheels for cracks or other damage. Check tightness of wheel nuts.	Wheel is damaged or three or more wheel nuts are missing (from one wheel).
			b. Inspect spare tire for secure mounting. Tighten and secure as necessary.	
40	Monthly	Suspension	Inspect suspension for loose, missing, or damaged hardware.	Suspension hardware is loose, missing, or damaged.
			WARNING	
			Handle charged fire extinguisher cylinders with care. Do not jar or expose to temperatures above 140°F (60°C).	
41	Monthly	Fire Extinguishers	a. Remove cover from each fire extinguisher. Check that lockup handle moves freely and is not damaged.	Lockup handle is missing, damaged, or inoperative.
			b. Check that plastic indicator on top of fire extinguisher is intact.	Plastic indicator is missing, damaged, or inoperative.
			NOTE	
			Some extinguishers have a safety wire lead or plastic seal attached to pull pin.	
			c. Check that safety wire lead or plastic seal is not broken or missing.	Safety wire lead or plastic seal is missing, damaged, or inoperative.

**OPERATOR/CREW PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)—Continued**

0033 00

Table 1. Operator/Crew PMCS—Continued.

ITEM NO.	INTERVAL	ITEM TO BE INSPECTED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
41 - Continued	Monthly	Fire Extinguishers	d. Check that tube is not kinked and nozzle is free of obstruction.	Tube or nozzle is missing, damaged, or inoperative.
42	Annual	Exterior of Tank	a. Walk around semitrailer. Check for evidence of product leakage on or under semitrailer.	Any product leakage is evident.
			b. Inspect shell and heads for corrosion, dents, abraded areas, distortions, defects in welds, and leakage.	Any product leakage is evident.
			c. Inspect piping, valves, and gaskets for corrosion, dents, abraded areas, distortions, defects in welds, and leakage.	Any product leakage is evident.

END OF TASK

OPERATOR/CREW LUBRICATION INSTRUCTIONS

0034 00

THIS WP COVERS:

Lubrication Instructions

INITIAL SETUP:

Maintenance Level

Operator

References

DA PAM 738-750

FM 9-207

TM 9-238

Materials/Parts

Compound, cleaning (item 4, WP 0159 00)

Grease (item 8, WP 0159 00)

Oil, lubrication (item 9, WP 0159 00)

Oil, lubrication (item 10, WP 0159 00)

REMOVAL

NOTE

These instructions are mandatory.

The trailer must receive lubrication with the approved lubricants at the recommended interval in order to be mission-ready at all times.

The KEY lists the lubricants to be used in all temperature ranges and shows the interval.

The lubrication chart shows the lubrication points, names the item to be lubricated, the required lubricants, and recommended interval for lubrication. Special lubricating instructions are contained in the NOTE section of the chart.

The recommended interval is based on normal conditions of operation, temperature, and humidity. When operating under extreme conditions, the lubricants should always be changed more frequently. When in doubt, notify your supervisor.

SPECIFIC LUBRICATION INSTRUCTIONS

Keep lubricants in closed containers and store in a clean, dry place away from extreme heat. Keep container cover clean and do not allow dust, dirt, or other foreign material to mix with lubricant. Keep lubrication equipment clean and ready for use.

Maintain a record of lubrication performed and report any problems noted during lubrication. Refer to DA PAM 738-750 for maintenance forms and procedures to record and report any findings.

Keep all external parts of equipment not requiring lubrication free of lubricants. All lubrication, wipe off excess oil to prevent accumulation of foreign matter.

Refer to FM 9-207 for lubrication instructions in cold weather.

Refer to TM 9-238 for lubrication instructions before and after fording operations.

After operation in mud, sandy, or dusty conditions, clean and inspect the points of lubrication for fouled lubricants. Change lubricants as required.

LUBRICATION CHART

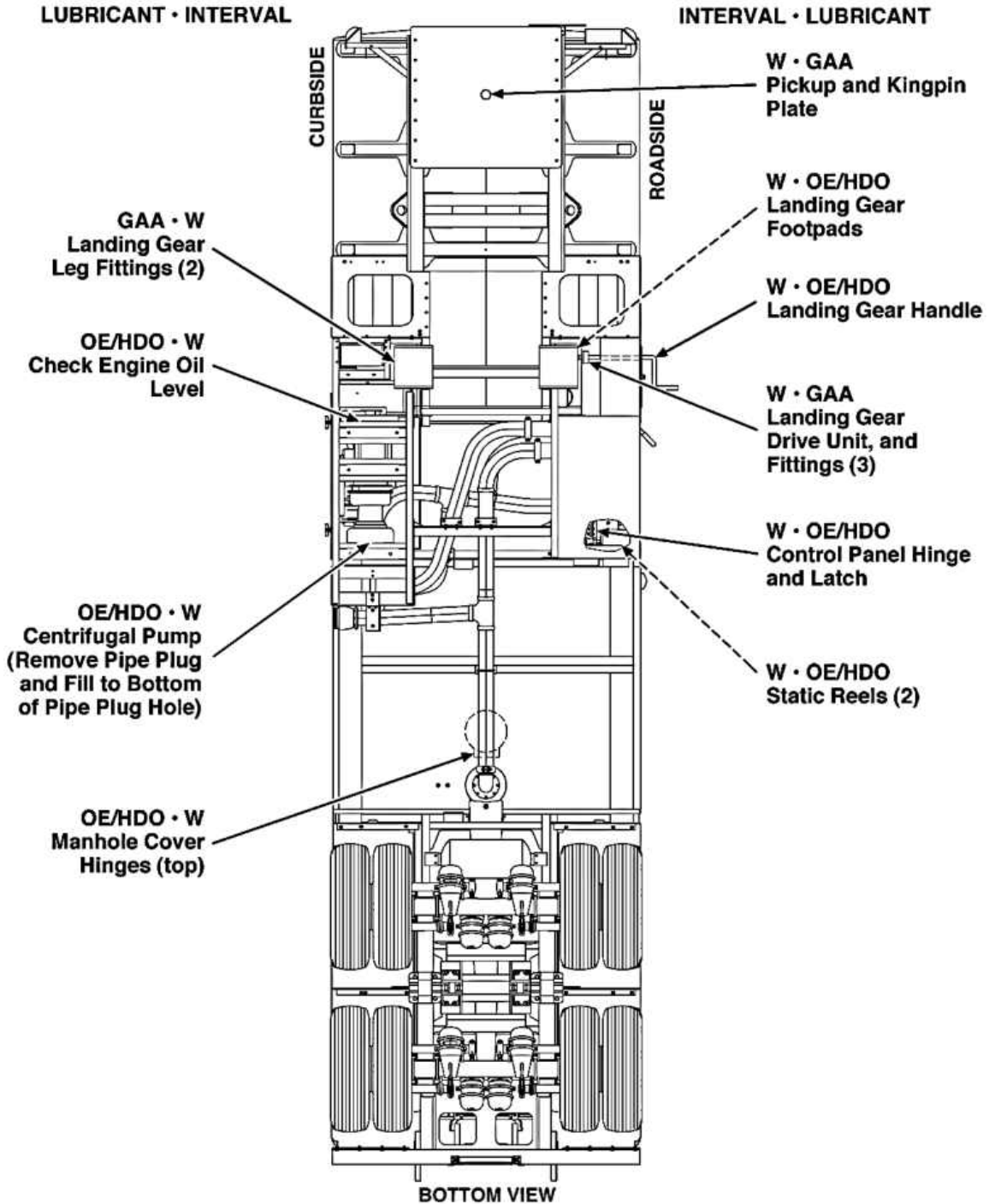
The interval (on-condition and hard time) and related man-hour time specified is the time you need to do the service prescribed for a particular interval. Decrease the interval if your lubricants are contaminated, or if you are operating equipment under adverse conditions, including longer than usual operating hours. The interval may be extended during periods of low activity. If extended, adequate preservation precautions must be taken.

Dotted leader line indicates lubrication is required on both sides of the trailer.

WARNING

Solvents can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If solvent gets on skin or clothing, wash immediately with soap and water.

Clean the area around the lubrication points with cleaning compound or equivalent before lubricating equipment. After lubrication, wipe off excess oil to prevent accumulation of foreign matter.



OPERATOR/CREW LUBRICATION INSTRUCTIONS—Continued

0034 00

TOTAL MAN-HOUR*	
INTERVAL	MAN-HOUR
W	0.75

*The man-hour time specified is the time you need to do all services prescribed for the particular interval.

—KEY—

LUBRICANTS	EXPECTED TEMPERATURES			INTERVAL
	ABOVE +15°F (ABOVE -9°C)	+40°F to -15°F (+4°C to -26°C)	+40°F to -65°F (+4°C to -54°C)	
OE/HDO (MIL-L-2104) Lubricating Oil, Internal Combustion, Engine, Tactical Service	OE/HDO-30	OE/HDO-30	—	W—Weekly
OEA (MIL-L-46167) Lubricating Oil, Internal Combustion, Engine, Arctic	—	—	OEA	

*For Arctic operation, refer to FM 9-207.

NOTE:

Oil Can Points. Every 6 months, lubricate linkage pins, clevises, and all exposed adjusting threads with OE/HDO.

END OF TASK

BATTERIES, TERMINALS, AND CABLES SERVICE

0035 00

THIS WP COVERS:Inspection and Service

INITIAL SETUP:**Maintenance Level**

Operator

References

TM 9-6140-200-14

Materials/Parts

Soda, baking (item 13, WP 0159 00)

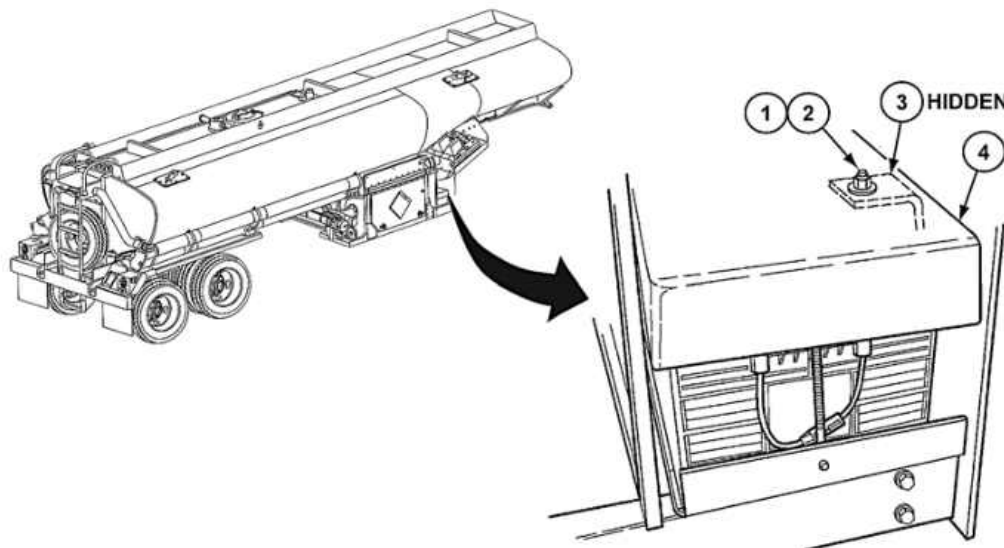
Self-locking nuts (2) (item 77, WP 0160 00)

Equipment ConditionsSemitrailer disconnected from prime mover (refer to WP 0007 00)

INSPECTION AND SERVICE**WARNING**

Batteries produce explosive gases; keep sparks, flames, and smoking material away. Ventilate when charging or using in an enclosed space. The batteries contain sulfuric acid that causes severe burns. If acid contacts eyes, skin, or clothing, flush immediately with water. For contact with eyes, get immediate medical attention.

1. Remove two self-locking nuts (1), washers (2), and battery cover (4) from battery holddown bracket (3). Discard self-locking nuts.



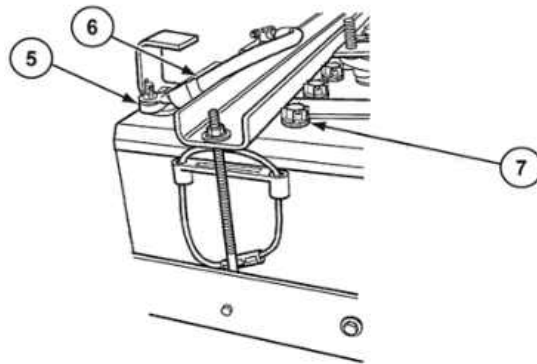
BATTERIES, TERMINALS, AND CABLES SERVICE—Continued**0035 00**

2. Inspect battery area for excessive dirt and corrosion. Clean battery area with mixture of baking soda and water, then flush battery area with clean water (refer to TM 9-6140-200-14).
3. Check cables (6) for frayed insulation. If insulation is frayed or worn, notify Organizational maintenance.
4. Check terminals (5) for looseness. If loose, notify Organizational maintenance.

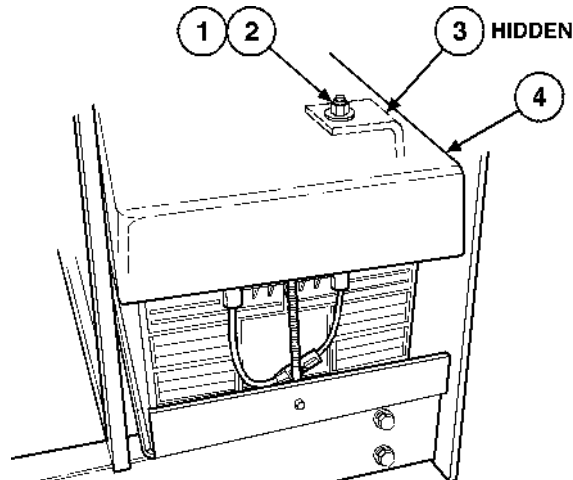
NOTE

Proceed to step 6 if vehicle is equipped with maintenance-free batteries.

5. Remove 12 vent fill caps (7) and check water level. Water level must be just below ring at bottom of each cell opening. If water level is low, notify Organizational maintenance. Install 12 vent fill caps (7).



6. Install battery cover (4), two new self-locking nuts (1), and washers (2) to holddown bracket (3).

**END OF TASK**

AIR RESERVOIR MAINTENANCE

0036 00

THIS WP COVERS:

Draining water from air reservoir

INITIAL SETUP:

Maintenance Level

Operator

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

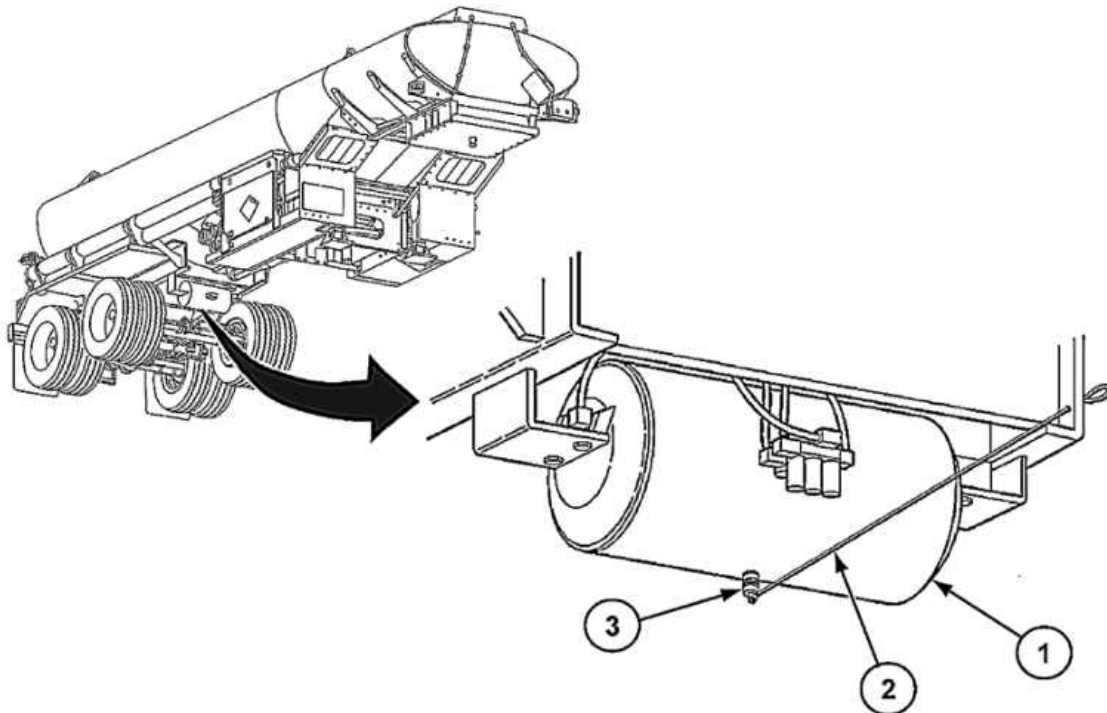
DRAINING WATER

1. Pull cable (2) and open drain valve (3) on air reservoir (1) and allow water to flow out.

NOTE

Drain valve closes automatically when cable is released.

2. Release cable (2).



END OF TASK

STORAGE BOX MAINTENANCE

0037 00

THIS WP COVERS:

Cleaning, Inspection

INITIAL SETUP:

Maintenance Level

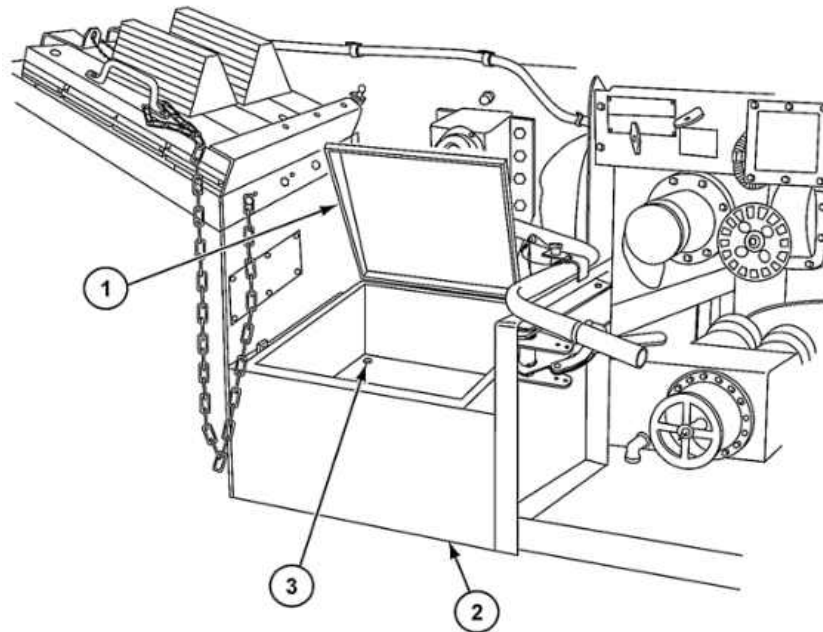
Operator

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

CLEANING

Periodically clean dirt and debris from storage box (2) and cover (1). Make sure all drain holes (3) are clear of debris or restrictions.



INSPECTION

Inspect storage box (2) and cover (1) for damage. Report any damage to Organizational maintenance.

END OF TASK

ENGINE AIR FILTER CLEANER MAINTENANCE

0038 00

THIS WP COVERS:

Disassembly, Cleaning and Inspection, Assembly, Follow-On Task

INITIAL SETUP:

Maintenance Level

Operator

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Material/Parts

Rag (item 11, WP 0159 00)

DISASSEMBLY

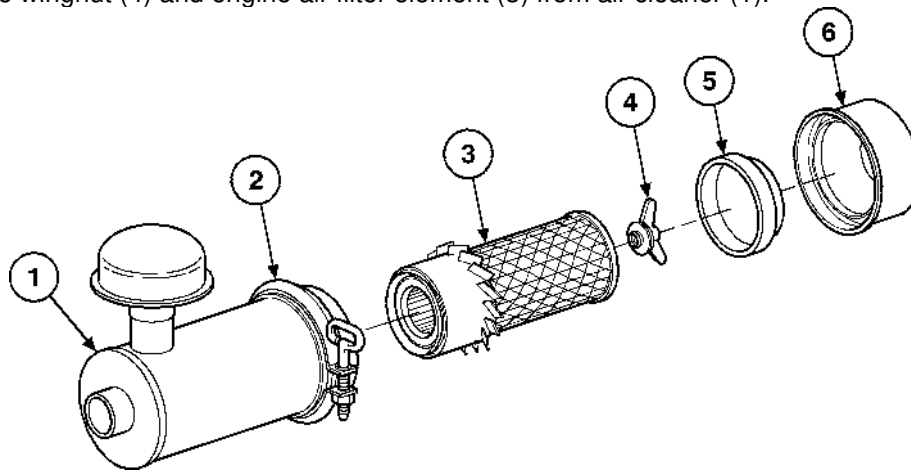
CAUTION

Do not run engine if red band is showing in restriction indicator or damage to engine could result.

NOTE

Service air cleaner whenever restriction indicator shows a red band.

1. Loosen air cleaner housing clamp (2) and remove dust cap (6) from air cleaner (1).
2. Remove baffle (5) from dust cap (6).
3. Empty dust and debris collected in dust cap (6) and baffle (5).
4. Remove wingnut (4) and engine air filter element (3) from air cleaner (1).



CLEANING AND INSPECTION

1. Check filter element for rips, tears, or holes. Replace element if damaged.

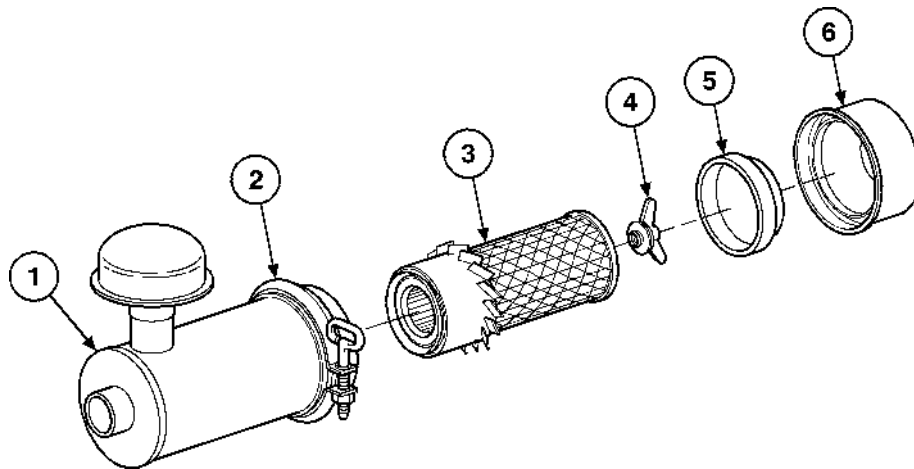
WARNING

Compressed air should be used for cleaning purposes and should not exceed 30 psi (207Pa). Use only with effective chip-guarding and personal protective equipment (e.g., goggles/shield and gloves). Failure to follow this warning may result in injury to personnel.

2. Clean filter element with low-pressure compressed air directed inside filter element.
3. Wipe inside of air cleaner with clean, damp rag.

ASSEMBLY

1. Install engine air filter element (3) and wingnut (4) to air cleaner (1).
2. Install baffle (5) to dust cap (6).
3. Install dust cap (6) and tighten air cleaner housing clamp (2) to air cleaner (1).

**FOLLOW-ON TASK**

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

PUMP STRAINER MAINTENANCE AND MANUAL PUMP PRIMING

0039 00

THIS WP COVERS:

Removal, Cleaning and Inspection, Installation, Manual Pump Priming, Follow-On Task

INITIAL SETUP:

Maintenance Level

Operator

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Material/Parts

Compound, cleaning (item 4, WP 0159 00)

Oil (item 9, WP 0159 00)

Rags (item 11, WP 0159 00)

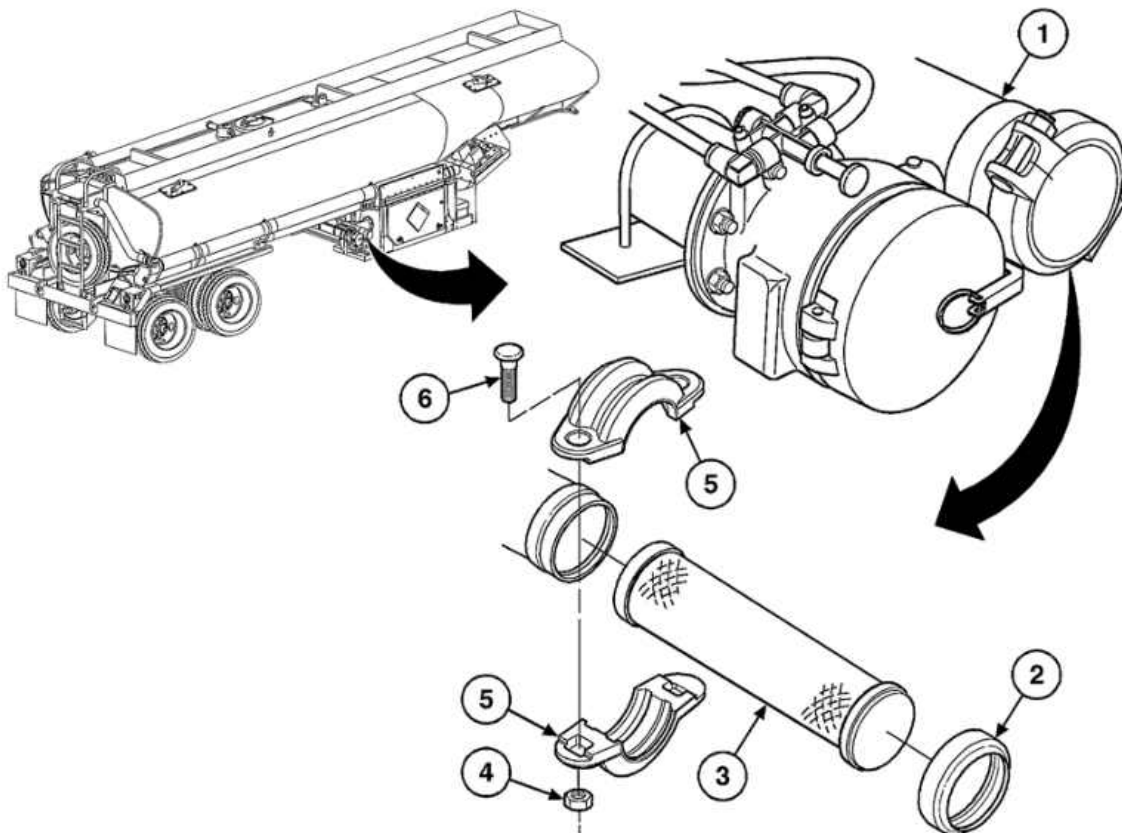
Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

REMOVAL

1. Place suitable container under pump inlet pipe (1).
2. Remove two nuts (4), bolts (6), split coupling (5), seal (2), and pump strainer (3) from pipe (1).

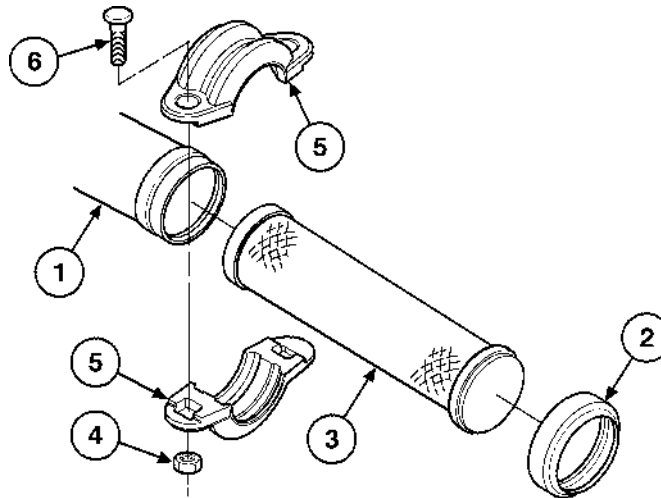


CLEANING AND INSPECTION

Clean strainer if necessary and replace seal or strainer if damaged.

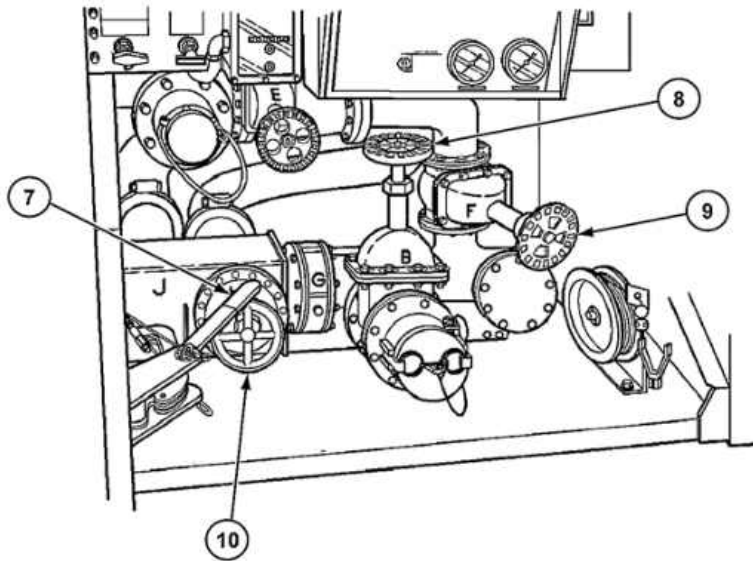
INSTALLATION

1. Lubricate seal (2) with oil.
2. Install clean pump strainer (3), seal (2), split coupling (5), two bolts (6), and nuts (4) to pump inlet pipe (1).



MANUAL PUMP PRIMING

1. Remove fire extinguishers and bring them to point of operation.
2. Place suitable container under valve B (8).
3. Open valves A, F, H (7, 9, and 10) and slowly open valve B (8) until fuel begins to flow.
4. Close all valves.
5. Cap valve B (8).
6. Store and cover fire extinguishers.



FOLLOW-ON TASK

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

CHAPTER 7

ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

SERVICE UPON RECEIPT

0040 00

THIS WP COVERS:

General, Inspection, Servicing

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Compound, cleaning (item 4, WP 0159 00)

Rags (item 11, WP 0159 00)

References

DA Form 2404

DA Form 5988-E

DA PAM 738-750

DD Form 314

DD Form 1397

GENERAL

When a new, used, or reconditioned semitrailer is first received, determine whether it has been properly prepared for service and is in condition to perform its mission. Follow the inspection and servicing instructions specified below.

INSPECTION INSTRUCTIONS

1. Read and follow all instructions on DD Form 1397 attached to conspicuous part of semitrailer.
2. Remove all straps, plywood, tape, seals, and wrappings.

WARNING

Solvents can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well ventilated area. If solvent gets on skin and clothing, wash immediately with soap and water.

3. Remove corrosion preventive compound from coated exterior parts of semitrailer using cleaning compound and rags.
4. Inspect semitrailer for damage incurred during shipment. Also check to see if equipment has been modified.
5. Check equipment against packing list to ensure that shipment is complete. Report any discrepancies in accordance with instructions in DA PAM 738-750.

SERVICE UPON RECEIPT—Continued

0040 00

SERVICING INSTRUCTIONS

1. Perform all Operator/Crew and Organizational Preventive Maintenance Checks and Services (PMCS) (refer to WP 0033 00 and WP 0041 00). Schedule next PMCS on DD Form 314.
2. Lubricate all lubrication points as described in Operator/Crew and Organizational lubrication charts (refer to WP 0034 00 and WP 0042 00).
3. Perform a break-in road test of 25 miles (40 km) at maximum speed of 30 mph (48 km/h).
4. Report any problems on DA Form 2404 or DA Form 5988-E.

CAUTION

Do not use abrasive powder, steel wool, or other material that will scratch the inside surfaces of the tank.

5. Place a suitable container under all drain valves to remove all preservatives.
6. Perform depreservation in accordance with DD Form 1397.

WARNING

Remove vent cap from either side of vapor recovery tube and open valve A to vent tank.

7. Open manhole cover.

WARNING

Do not climb into tank unless interior of tank has been drained and purged and an explosive meter check indicates that it is safe to do so. Adequate forced air ventilation self-contained breathing apparatus must be used. Any person entering tank must have an attached lifeline. An observer must be stationed at the manhole opening so assistance may be summoned in the event of an emergency. Failure to follow this warning may result in serious injury or death to personnel.

8. Climb into tank through manhole and inspect for cleanliness. Remove all sediment and debris using a lint-free cloth.
9. Remove all bands and anti-theft bolts and nuts from hose tubes and fire extinguishers.
10. Remove all tape from exhaust and intake ports of engine.
11. Check engine oil level. If necessary, add oil per WP 0042 00.
12. Notify Direct Support maintenance to perform vapor integrity test specified in WP 0152 00.

END OF TASK

**ORGANIZATIONAL PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)**

0041 00

THIS WP COVERS:
PMCS Procedures

INITIAL SETUP:

Maintenance Level
Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)
Suitable container (item 1, WP 0156 00)

Material/Parts

Cleaning compound (item 4, WP 0159 00)

References

DA Form 2404	WP 0065 00
DA Form 5988-E	WP 0066 00
DA PAM 738-750	WP 0079 00
DD Form 314	WP 0081 00
WP 0039 00	WP 0098 00
WP 0042 00	WP 0103 00
WP 0062 00	WP 0158 00
WP 0064 00	

GENERAL

To ensure that the semitrailer is ready for operation at all times, it must be inspected on a regular basis so that defects may be found before they result in serious damage, equipment failure, or injury to personnel. This WP contains instructions on inspections, adjustments, and corrections to be performed by organizational maintenance.

SERVICE INTERVALS

Perform the PMCS procedures listed in Table 1 at the following intervals:

Perform "Monthly" procedures once each month.

Perform "Semiannual" PMCS procedures twice each year.

Perform "Annual" procedures once each year.

Perform "Biannual" procedure every other year.

Perform "Every 100 Hours" procedures every 100 hours.

Perform "Every 200 Hours" procedures every 200 hours.

Perform "Every 600 Hours" procedures every 600 hours.

PMCS items and intervals are to be scheduled on DD Form 314 in accordance with DA PAM 738-750.

After operation in water, mud, or loose sand, clean the semitrailer as soon as possible. Lubricate without waiting for the next scheduled service.

Lubrication instructions are provided in WP 0042 00.

**ORGANIZATIONAL PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)—Continued**

0041 00

REPORTING REPAIRS

Report all defects and corrective actions on DA Form 2404 or DA Form 5988-E. If a serious problem is found, report it to your supervisor.

GENERAL PMCS PROCEDURES

WARNING

Solvents can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If solvent gets on skin or clothing, wash immediately with soap and water.

Keep equipment clean. Dirt, oil, and debris may cover up a serious problem. Clean as you work and as needed. Use cleaning compound on all metal surfaces. Use solution of soap and water on rubber, plastic, and painted surfaces.

While performing PMCS, inspect the following components:

Bolts, Nuts, and Screws. Make sure they are not loose, missing, bent, or broken. Tighten any that are loose.

Welds. Inspect for gaps where parts are welded together. Report bad welds to your supervisor.

Electrical Wires or Connectors. Inspect for cracked or broken insulation, bare wires, and loose or broken connectors. Make repairs or replace as required.

Hoses, Lines, and Fittings. Inspect for wear, damage, and leaks. Make sure clamps and fittings are tight. If leak originates from a loose fitting or connector, tighten it. If not authorized, report it to your supervisor.

SPECIFIC PMCS PROCEDURES

Organizational PMCS procedures are listed in Table 1. Always perform PMCS procedures in the order listed. Once this becomes a habit, you will spot anything that is not right in a minute. If anything wrong is discovered through PMCS, perform the appropriate troubleshooting task. If any component or system is not serviceable, or if the service given does not correct the problem, notify your supervisor.

Before performing PMCS, read all the checks required for the applicable interval and prepare the tools needed to make all the checks.

The column headings in Table 1 are defined as follows:

Item No. The item number column of your PMCS table is to be used for reference. When completing DA Form 2404 or DA Form 5988-E, include the item number for the checks and service indicating a fault. Item numbers also appear in the order that you must do the checks and services for the intervals listed.

**ORGANIZATIONAL PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)—Continued**

0041 00

Interval. This column tells you when to do a certain check or service. Special intervals will also be specified (e.g., every 100 hours) when the component requires service more frequently than semiannually or annually.

Item To Be Inspected. This column tells you what item is to be inspected and how to do the required checks and services. Carefully follow these instructions.

Procedure. Provides the procedure that must be performed to check or service the item.

Not Fully Mission Capable If. Information in this column tells you what faults will keep the equipment from being capable of performing its mission. If PMCS reveals any of the faults listed in this column, do not operate the equipment. Follow standard procedure for maintaining the equipment or reporting equipment failure.

**ORGANIZATIONAL PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)—Continued**

0041 00

Table 1. Organizational PMCS.

ITEM NO.	INTERVAL	ITEM TO BE INSPECTED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
1	Monthly	Brakes	a. Lubricate slack adjusters (refer to WP 0042 00). b. Inspect slack adjusters for function and adjustment (refer to WP 0066 00). c. Lubricate camshaft bearings (refer to WP 0042 00). d. Inspect components for wear or looseness.	
2	Monthly	Centrifugal Pump	Check oil in centrifugal pump and fill if necessary (refer to WP 0042 00).	
3	Semiannual	Electrical System	Inspect intervehicular cable receptacles for damage or corrosion. Repair/replace damaged intervehicular cable receptacles (refer to WP 0062 00).	
4	Semiannual	Pump Strainer	Inspect pump strainer and clean with cleaning compound if necessary (refer to WP 0039 00).	

WARNING

Solvents can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If solvent gets on skin or clothing, wash immediately with soap and water.

**ORGANIZATIONAL PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)—Continued**

0041 00

Table 1. Organizational PMCS—Continued.

ITEM NO.	INTERVAL	ITEM TO BE INSPECTED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
5	Semiannual	Landing Gear	Check condition and operation of landing gear. Inspect for damage or wear. Replace damaged parts (refer to WP 0081 00).	
6	Semiannual	Bogie Assembly	<p>a. Position semitrailer on hard level surface with front resting on landing gear. Jack and block frame. Remove wheel assemblies (refer to WP 0007 00).</p> <p>NOTE</p> <p>Clean axle and suspension system with water and fiber brush to allow for careful inspection.</p> <p>b. Inspect general condition of trunnion tube, axles, and leaf springs. Look for cracks or damage. If cracked or damaged, notify Direct Support maintenance.</p> <p>c. Check tightness of U-bolts and clips on leaf springs. Tighten loose U-bolts and clips. If damage or wear is evident, notify Direct Support maintenance.</p>	<p>Any cracks or damage are evident.</p> <p>Any damage or wear is evident.</p>

**ORGANIZATIONAL PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)—Continued**

0041 00

Table 1. Organizational PMCS—Continued.

ITEM NO.	INTERVAL	ITEM TO BE INSPECTED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
6—Continued	Semiannual	Bogie Assembly	<p>d. Check tightness of U-bolts and screws on leaf spring cap and seat. Tighten loose U-bolts and screws. If damage or wear is evident, notify Direct Support maintenance.</p> <p>e. Check tightness of bolts fastening bogie assembly to trailer frame. Tighten loose bolts. If damage or wear is evident, notify Direct Support maintenance.</p>	<p>Any damage or wear is evident.</p> <p>Any damage or wear is evident.</p>
7	Semiannual	Brakes	<p>a. Remove brakedrums and check springs, clips, and rollers for function. Look for heat cracks, loose rivets, and broken welds on shoes. Replace as necessary (refer to WP 0066 00/0064 00).</p> <p>b. Check brake shoe lining thickness. Replace if lining is within 0.063 in. (1.60 mm) of rivet heads (refer to WP 0064 00).</p> <p>c. Check brakedrums for overheating.</p> <p>d. Check for cracked brakedrum. If cracked or damaged, replace (refer to WP 0065 00).</p>	

**ORGANIZATIONAL PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)—Continued**

0041 00

Table 1. Organizational PMCS—Continued.

ITEM NO.	INTERVAL	ITEM TO BE INSPECTED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
7—Continued	Semiannual	Brakes	<ul style="list-style-type: none"> e. Check for damaged brake camshaft. If damaged, replace (refer to WP 0066 00). f. Check for worn brake hoses or damaged brake chamber. If worn or damaged, replace (refer to WP 0064 00). g. Lubricate brake shoe roller and brake anchor pin (refer to WP 0064 00). 	Any cracks are evident.
8	Semiannual	Batteries	Check electrolyte specific gravity. Replace batteries if necessary.	
9	Annual	Towing Connections	<p>Inspect condition of upper coupler plate and spacer. Plate/spacer should be replaced (refer to WP 0079 00) when any of the following conditions exist:</p> <ul style="list-style-type: none"> a. Wear of 0.063 in. (1.60 mm) or more over 1/4 of the circumference of kingpin. This would be a condition of uneven wear on one or more sides of the kingpin wear surface. b. Even wear over kingpin surface causing the diameter to be reduced by 0.063 in. (1.60 mm) or more. c. A crack of any size noted anywhere on or in associated welds. 	

**ORGANIZATIONAL PREVENTIVE MAINTENANCE
CHECKS AND SERVICES (PMCS)—Continued**

0041 00

Table 1. Organizational PMCS—Continued.

ITEM NO.	INTERVAL	ITEM TO BE INSPECTED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
9—Continued	Annual	Towing Connections	d. A nick, chip, or gouge deeper than 0.125 in. (3.18 mm) noted anywhere on wear surface of kingpin.	
10	Annual	Vapor Integrity Test	Notify Direct Support to perform test.	Semitrailer does not pass test.
11	Annual	Optic Socket Box	Use instructions with test equipment (refer to WP 0158 00).	Semitrailer fails any portion of test.
12	Biannual	Wheels and Hubs	a. Check for cracked wheels or hubs and missing or loose wheel stud nuts. Repair or replace as required. b. Disassemble hub and drum assembly (refer to WP 0065 00). Clean and repack wheel bearings (refer to WP 0065 00).	Three or more wheel stud nuts missing.
13	Every 100 Hours	Engine	a. Check for loose or missing hardware.	
	Every 100 Hours		b. Change crankcase oil (refer to WP 0042 00).	
	Every 200 Hours		c. Replace oil filter (refer to WP 0098 00).	
	Every 600 Hours		d. Replace fuel filter (refer to WP 0103 00).	

END OF TASK

ORGANIZATIONAL LUBRICATION INSTRUCTIONS

0042 00

THIS WP COVERS:Lubrication Instructions

INITIAL SETUP:**Maintenance Level**

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Compound, cleaning (item 4, WP 0159 00)

Grease (item 8, WP 0159 00)

Oil, lubrication (item 9, WP 0159 00)

Rags (item 11 WP 0174 00)

References

DA PAM 738-750

FM 9-207

TM 9-214

TM 9-238

GENERAL

This WP contains lubrication instructions showing location, intervals, and proper materials for lubricating the trailer. These instructions are mandatory.

The KEY lists lubricants to be used in all temperature ranges and shows the intervals.

DETAILED LUBRICATION INFORMATION

Clean lubrication points, grease fittings, and surrounding areas before applying lubricant.

Clean all lubrication points after lubricating to prevent accumulation of foreign matter.

Clean and lubricate bearings as specified in TM 9-214.

Maintain a record of vehicle lubrication and report any discrepancies noted during lubrication. Refer to DA PAM 738-750 for maintenance forms and procedures to record and report any findings.

SPECIFIC LUBRICATION INSTRUCTIONS

Keep all lubricants in closed containers and store in a clean, dry place away from extreme heat. Keep container covers clean and do not allow dirt, dust, or other foreign material to mix with lubricants.

WARNING

Wipe excess lubricant from area of brake shoe linings to avoid grease from contacting linings. If brake shoe linings become soaked with grease, replace them. Failure to follow this warning may cause brakes to malfunction, resulting in serious injury or death.

ORGANIZATIONAL LUBRICATION INSTRUCTIONS—Continued

0042 00

LUBRICANT CHART

Intervals are based on normal operation. Adjust to compensate for abnormal and severe condition or contaminated lubricants. During inactive periods, intervals may be extended with adequate preservation.

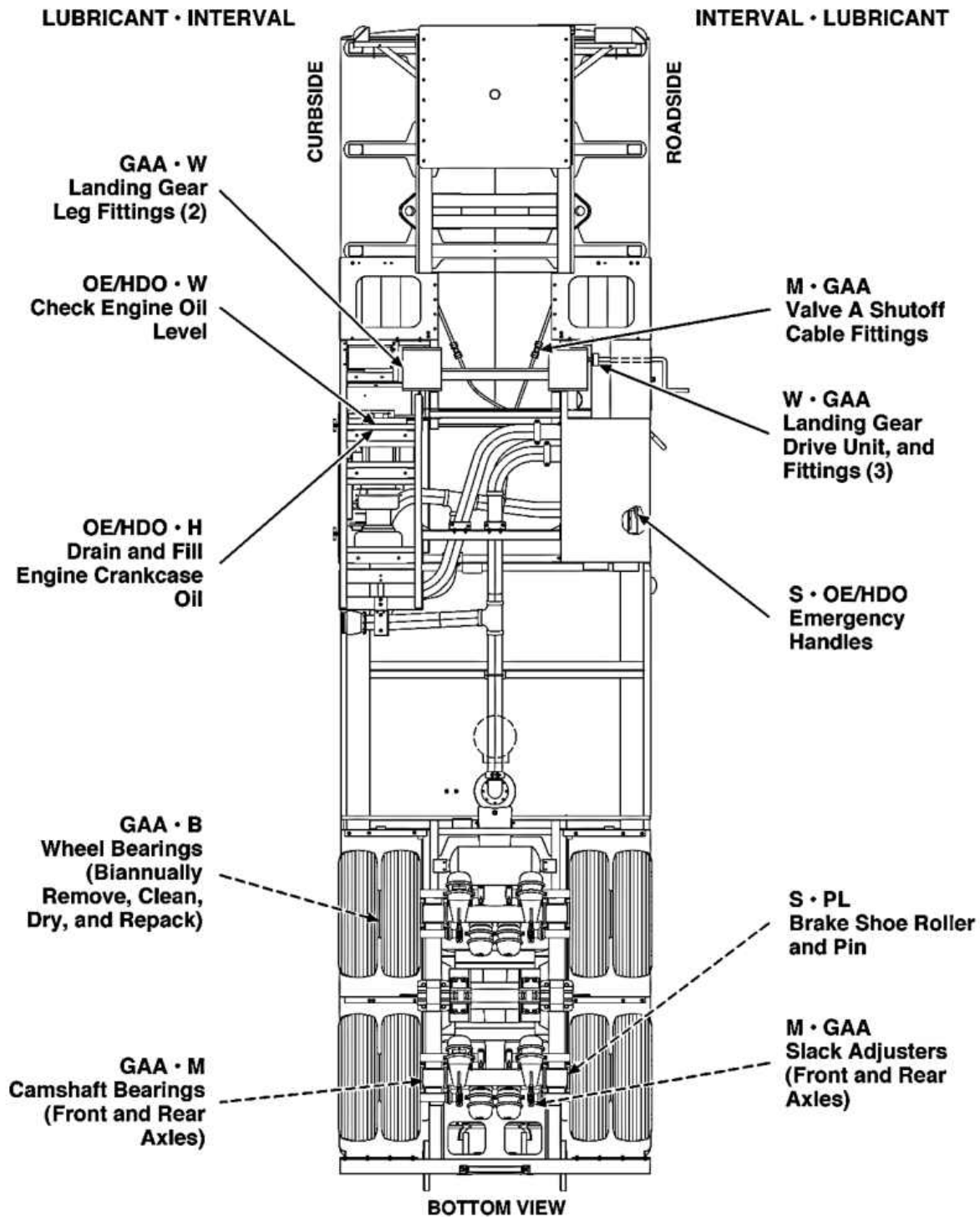
WARNING

Solvents can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If solvent gets on skin or clothing, wash immediately with soap and water.

Clean fittings before lubrication using cleaning compound. Dry before lubricating.

Dotted leader lines indicate lubrication is required on both sides of the equipment.

Re-lubricate after washing or fording as necessary.



ORGANIZATIONAL LUBRICATION INSTRUCTIONS—Continued

0042 00

TOTAL MAN-HOURS*	
INTERVAL	MAN-HOUR
B	2.50
A	0.50
S	0.50
M	0.50
W	0.10
H	0.25

*The man-hours time specified is the time you need to do all services prescribed for the particular interval.

—KEY—

LUBRICANTS	EXPECTED TEMPERATURES*			INTERVAL
	ABOVE +15°F (ABOVE -9°C)	+40°F to -15°F (+4°C to -26°C)	+40°F to -65°F (+4°C to -54°C)	
OE/HDO (MIL-L-2104) Lubricating Oil, Internal Combustion, Engine, Tactical Service	OE/HDO-30	OE/HDO-30	—	B—Biannual A—Annual S—Semiannual M—Month W—Weekly H—Hours
OEA (MIL-L-46167) Lubricating Oil, Internal Combustion, Engine, Arctic	—	—	OEA	

*For Arctic operation, refer to FM 9-207.

END OF TASK

GENERAL MAINTENANCE INSTRUCTIONS

0043 00

THIS WP COVERS:

General, Work Safety, Cleaning Instructions, Inspection Instructions, Repair Instructions, Tagging Hoses and Tubes, Painting and Stenciling, Piping Replacement, Lubrication Instructions, Torque Values, Decal Replacement

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

File (item 4, WP 0156 00)

Thread tap (item 1, WP 0156 00)

Materials/Parts

Brush, scrub (item 1, WP 0159 00)

Cloth (item 2, WP 0159 00)

Compound, antiseize (item 3, WP 0159 00)

Compound, cleaning (item 4, WP 0159 00)

Oil (item 9, WP 0159 00)

Rags (item 11, WP 0159 00)

Soap (item 12, WP 0159 00)

Tags, marker (item 15, WP 0159 00)

References

TB 43-0209

TM 9-214

TM 9-237

TM 9-247

TM 43-0139

WP 0042 00

WP 0161 00

GENERAL

These general maintenance instructions contain general shop practices and specific methods you must be familiar with to properly maintain your semitrailer. You should read and understand these practices and methods before performing any organizational tasks.

Before beginning a task, find out how much repair, modification, or replacement is needed to fix the equipment. Sometimes the reason for equipment failure can be identified right away, and complete teardown is not necessary. Disassemble equipment only as far as necessary to repair or replace damaged or broken parts.

The following initial setup information applies to all procedures: Resources are not listed unless they apply to the procedure. Personnel are listed only if more than one technician is required to complete the task. If Personnel Required is not listed, one technician can complete the task. You must check all tags and forms attached to equipment to learn the reason for removal from service. Be sure to also check modification work orders and technical bulletins for equipment changes and updates.

In some cases, a part may be damaged by removal. If the part appears to be good and other parts behind it are not defective, leave it on and continue with the procedure. Make sure you adhere to the following rules:

- Do not remove dowel pins or studs unless loose, bent, broken or otherwise damaged.
- Do not remove bearings or bushings unless damaged. If you need to remove them to access parts, pull bearings and bushings out carefully (refer to TM 9-214).

GENERAL MAINTENANCE INSTRUCTIONS—Continued

0043 00

- Replace all gaskets, seals, lockwashers, cotter pins, performed packings, and other locking hardware.
- Apply antiseize compound to wherever stainless steel nuts are used on stainless steel bolts.

WORK SAFETY

Observe all warnings and cautions. Always use power tools carefully. Protect yourself against injury. Wear protective gear, such as safety goggles or lenses, safety shoes, rubber apron, or gloves.

When lifting heavy parts, have someone help you. Make sure that lifting/jacking equipment is working properly, suitable for the assigned task, and is secure against slipping.

All maintenance should be performed with:

- Semitrailer parking brake engaged.
- Tow vehicle in neutral with parking brake engaged, if attached.
- Tow vehicle engine stopped, if attached.

CLEANING INSTRUCTIONS**WARNING**

Improper cleaning methods and the use of unauthorized cleaning liquids or compounds can injure personnel and damage equipment. To prevent this, refer to TM 9-247 for further instructions.

General

Cleaning instructions will be the same for a majority of parts and components that make up the semitrailer. The following should apply to all cleaning, inspection, repair, and assembly operations:

- Clean all parts before inspection, after repair, and before assembly.
- Keep hands free of grease which can collect dust, dirt, and grit.
- After cleaning, cover or wrap all parts to protect them from dust and dirt. Parts that are subject to rust should be lightly oiled.

Steam Cleaning

1. Before steam cleaning exterior of semitrailer, protect all electrical equipment that could be damaged by steam or moisture.
2. Place disassembled parts in a suitable container to steam clean. Parts that are subject to rust should be dried and lightly oiled after cleaning.

WARNING

Compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If compound gets on skin or clothing, wash immediately with soap and water.

Castings, Forgings, and Machined Metal Parts:

- Clean inner and outer surfaces with cleaning compound.
- Remove grease and accumulated deposits with a scrub brush.

WARNING

Compressed air used for cleaning or drying purposes, or for clearing restrictions, should never exceed 30 psi (207 kPa). Wear protective clothing (goggles/shield and gloves) and use caution to avoid injury to personnel.

3. Clear out all threaded holes with compressed air to remove dirt and cleaning fluids.

WARNING

Do not wash oil seals, electrical cables, and flexible hoses with cleaning compounds or mineral spirits. Serious damage or destruction of material may result.

Oil Seals, Electrical Cables, and Flexible Hoses

Wash electrical cables and flexible hoses with solution of water and soap and wipe dry.

Bearings

Clean bearings in accordance with TM 9-214.

INSPECTION INSTRUCTIONS**NOTE**

All damaged areas should be marked for repair or replacement.

All components and parts must be carefully checked to determine if they are serviceable for reuse, can be repaired, or must be scrapped.

Inspect drilled and tapped (threaded) holes for the following:

1. Wear, distortion, cracks, and any other damage in or around holes.
2. Threaded areas for wear, distortion (stretching), and any evidence of cross-threading.

GENERAL MAINTENANCE INSTRUCTIONS—Continued

0043 00

3. Inspect metal lines, flexible lines (hoses), and metal fittings for the following:
 - Metal lines for sharp kinks, cracks, bad bends, and dents.
 - Flexible lines for fraying, evidence of leakage, and loose metal fittings or connectors.
 - Metal fittings and connectors, thread damage, and worn or rounded hex heads.
4. Inspect castings, forgings, and machined metal parts for the following:
 - Machined surfaces for nicks, burrs, raised metal, wear, and other damage.
 - Inner and outer surfaces for breaks and cracks.
 - Inspect air lines, fittings, and connectors for leaks by coating fittings and connectors with solution of soap and water. No leakage is permissible.
5. Inspect bearings in accordance with TM 9-214.

REPAIR INSTRUCTIONS

Any repair procedure peculiar to a specific part or component is covered in the section or paragraph relating to that item. After repair, clean all parts thoroughly to prevent dirt, metal chips, or other foreign material from entering any working parts.

Repair castings, forging, and machined parts using the following instructions:

WARNING

Compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If compound gets on skin or clothing, wash immediately with soap and water.

NOTE

See TM 9-237 for instructions on repairing minor cracked castings or forgings.

1. Repair minor damage to machined surfaces with a fine mill file or abrasive cloth dipped in cleaning compound.
2. Replace any deeply nicked machined surfaces that could affect the assembled operation.
3. Repair minor damage to threaded screw holes with thread tap of same size, to prevent cutting oversize.

GENERAL MAINTENANCE INSTRUCTIONS—Continued

0043 00

TAGGING HOSES AND TUBES

As soon as the first hose or tube is disconnected, write number "1" on two tags. Secure one tag to the hose or tube and the other tag to the nipple or fitting. After disconnecting the second hose or tube, write number "2" on two tags. Secure one tag to the hose or tube and the other tag to the nipple or fitting. Do the same for all hoses and tubes. Note which numbers you used in pencil on the art in this manual. This will help you retag properly when you remove tags from some parts to perform cleaning and maintenance work.

Remove all tags when finished.

PAINTING AND STENCILING

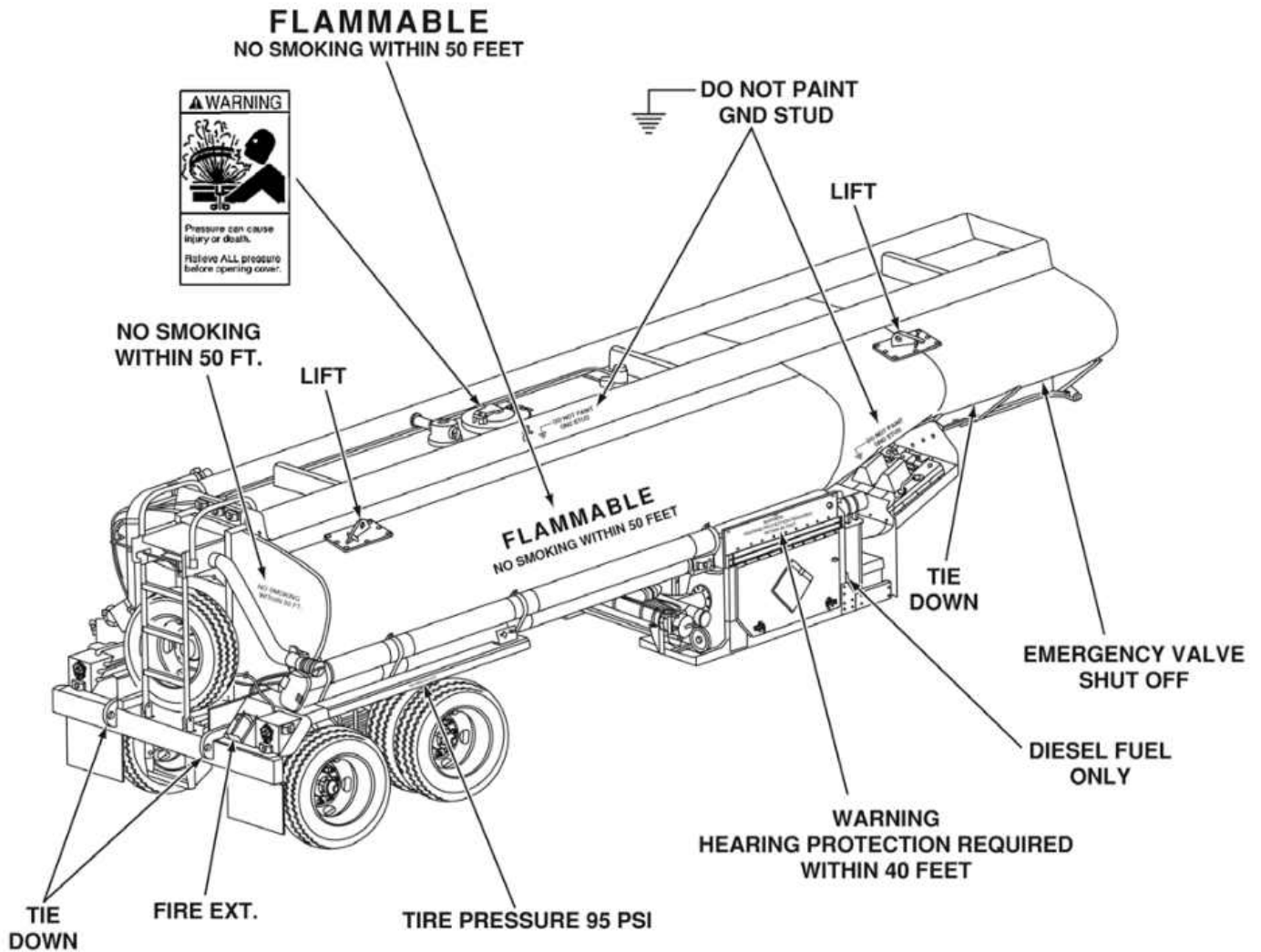
General instructions for painting and stenciling are located in TB 43-0209 and TM 43-0139.

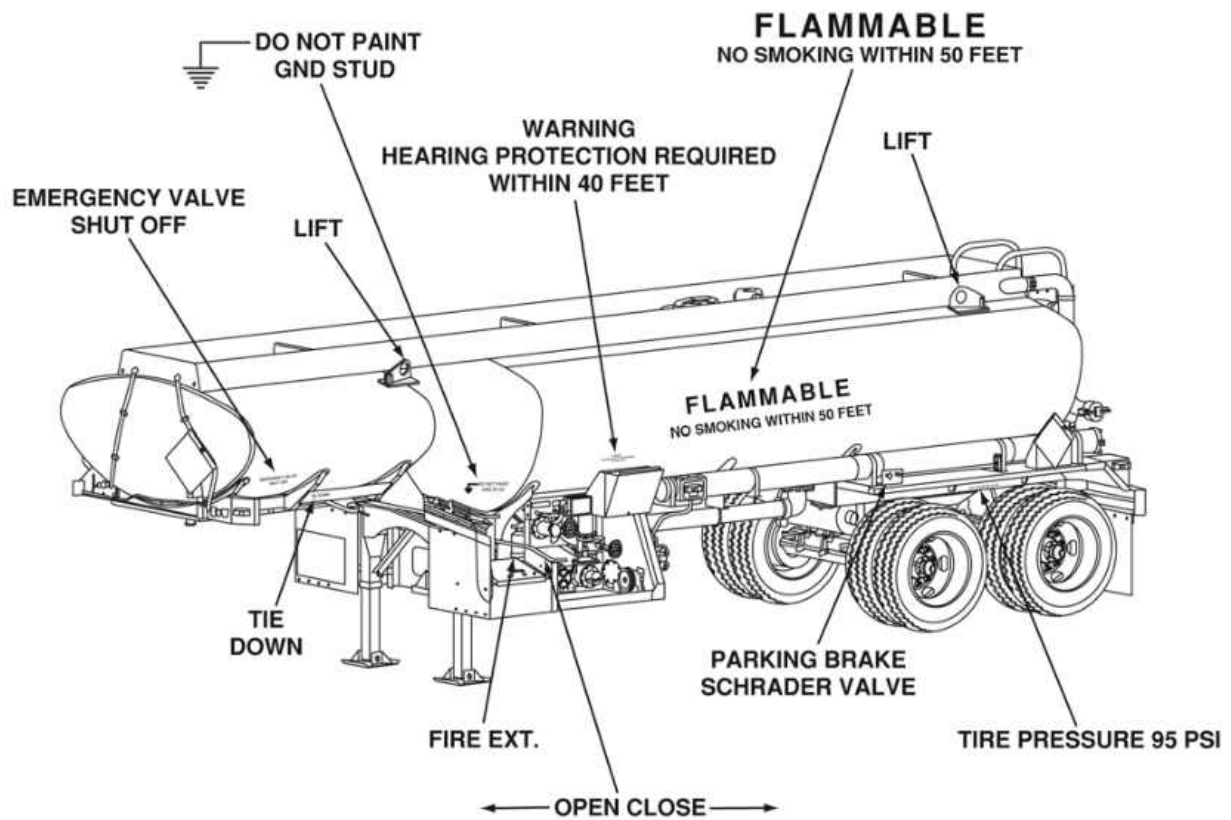
Spot painting and stenciling will be performed under the control of the Organizational maintenance personnel.

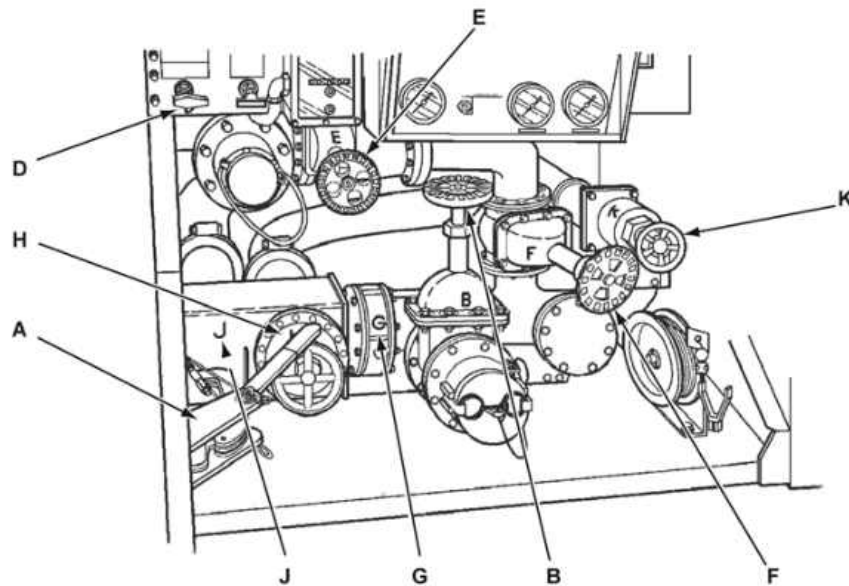
Painting of a complete semitrailer can be authorized and performed only by the direct support maintenance personnel or higher support levels.

PIPING REPLACEMENT

All piping not identified in specific WPs is replaced by removing split couplings at all ends, and U-bolts and hangers where necessary. Replace all seals, lockwashers, and self-locking nuts. Install in reverse order.







LUBRICATION INSTRUCTIONS

To prevent corrosion, apply a light coat of lubricating oil to metal parts after they are cleaned but before they are assembled. Lubricate components and systems in accordance with the instructions in PMCS and WP 0042 00.

TORQUE VALUES

Torque values given in maintenance procedures apply to un-lubricated threads. Follow the torque values given in the maintenance procedures. If no torque value is given, refer to WP 0161 00.

DECAL REPLACEMENT

WARNING

Compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If compound gets on skin or clothing, wash immediately with soap and water.

NOTE

For proper installation of a decal, note its location before removing.

Use cleaning compound to loosen damaged decal, and remove the decal from the surface. Discard the decal. Clean any decal residue from the surface with a cleaning compound. Wipe the surface with a clean rag.

GENERAL MAINTENANCE INSTRUCTIONS—Continued

0043 00

Remove protective backing from the new decal and position it on the surface.

Wipe the surface with a clean rag.

Using a dry rag, press the decal into position. Start in the center of the decal and press outward to remove any air bubbles.

END OF TASK

ELECTRICAL SCHEMATICS

0044 00

THIS WP COVERS:

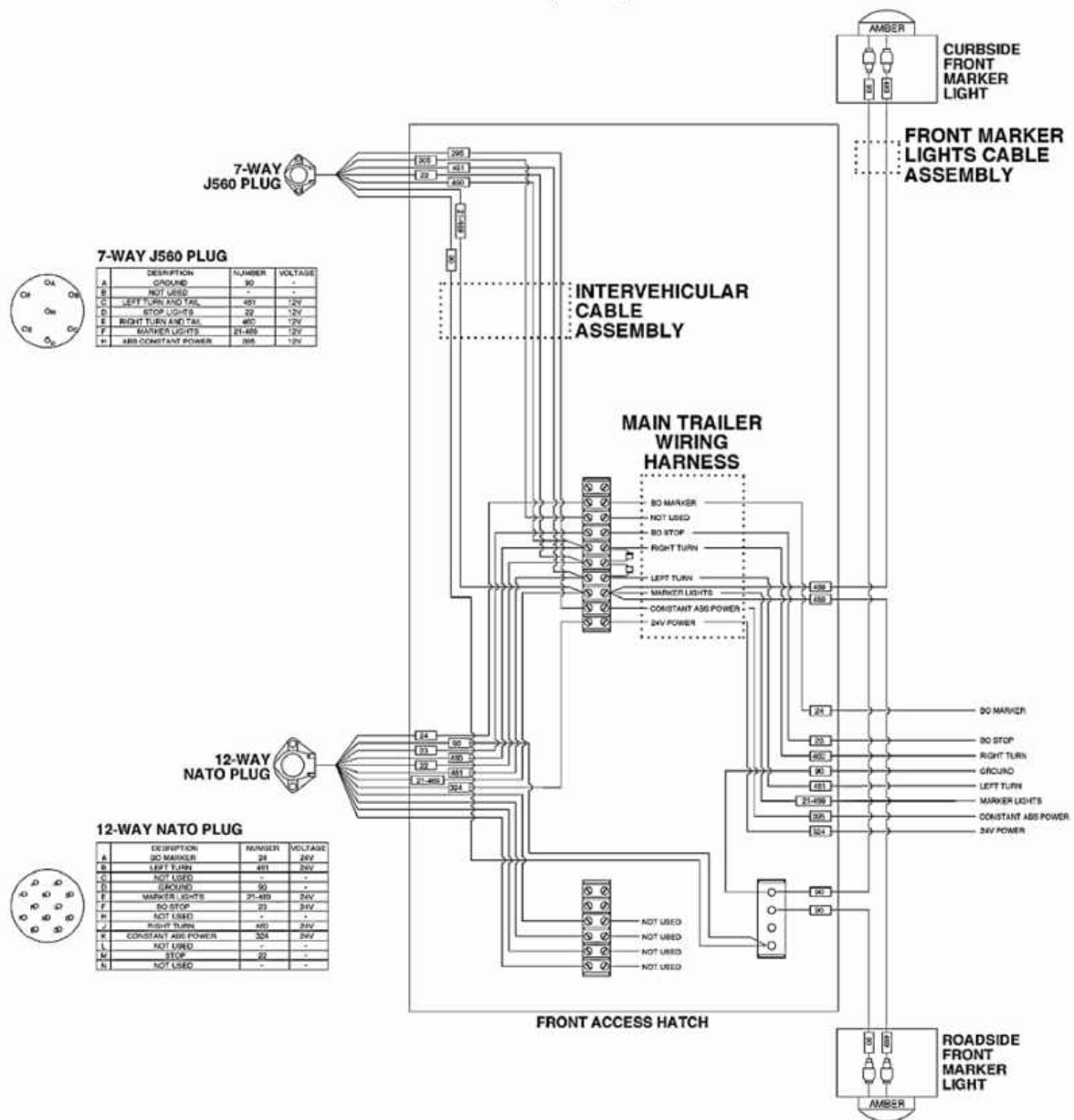
M967A2 Semitrailer Electrical Schematic, M967A2 Engine Electrical Control Box Schematic, M967A2 Engine Electrical Schematic, M967A2 Engine Control Panel Schematic, Fuel Tank Capacity Gage Wiring Diagram, and Overflow Protection Wiring Diagram

INITIAL SETUP:

Maintenance Level

Organizational

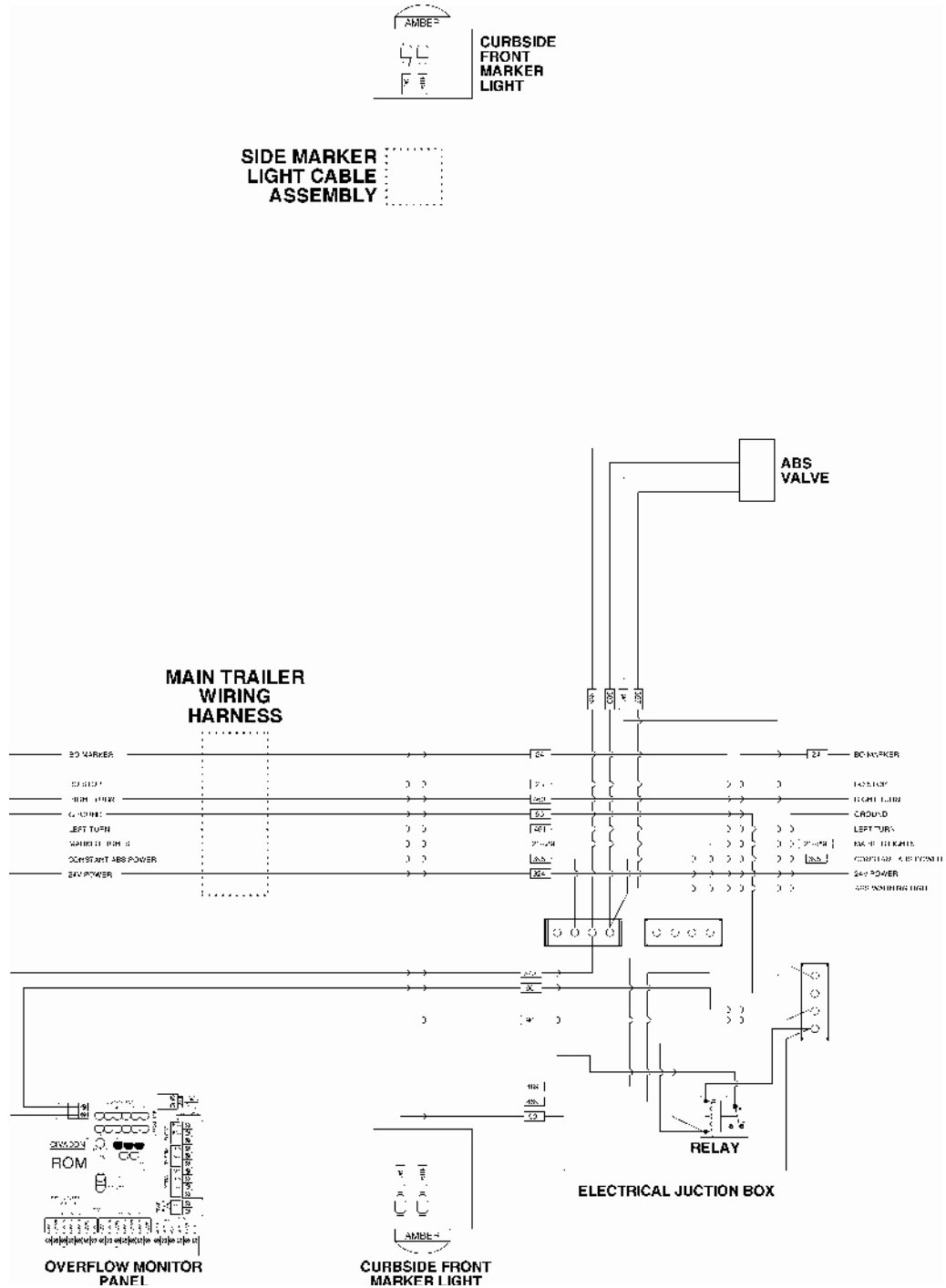
M967A2 SEMITRAILER ELECTRICAL SCHEMATIC (1 of 3)



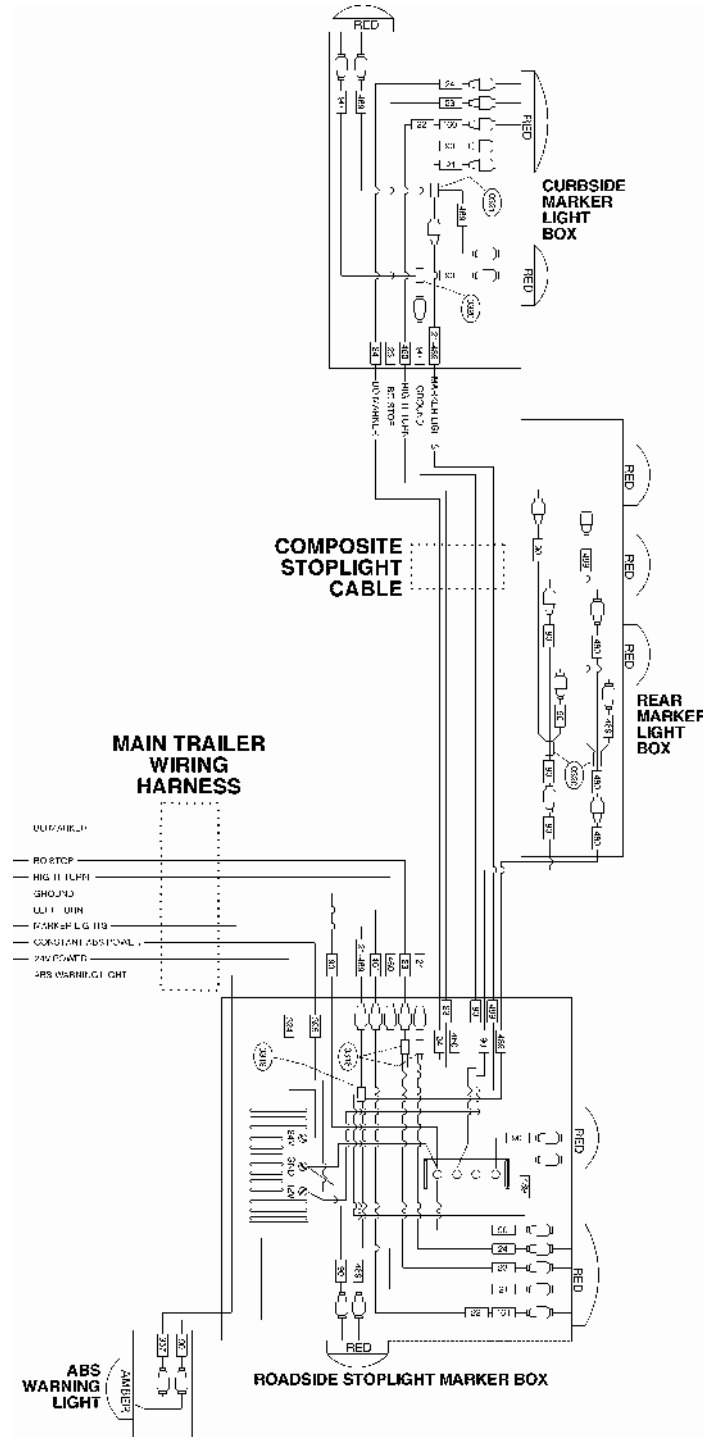
ELECTRICAL SCHEMATICS—Continued

0044 00

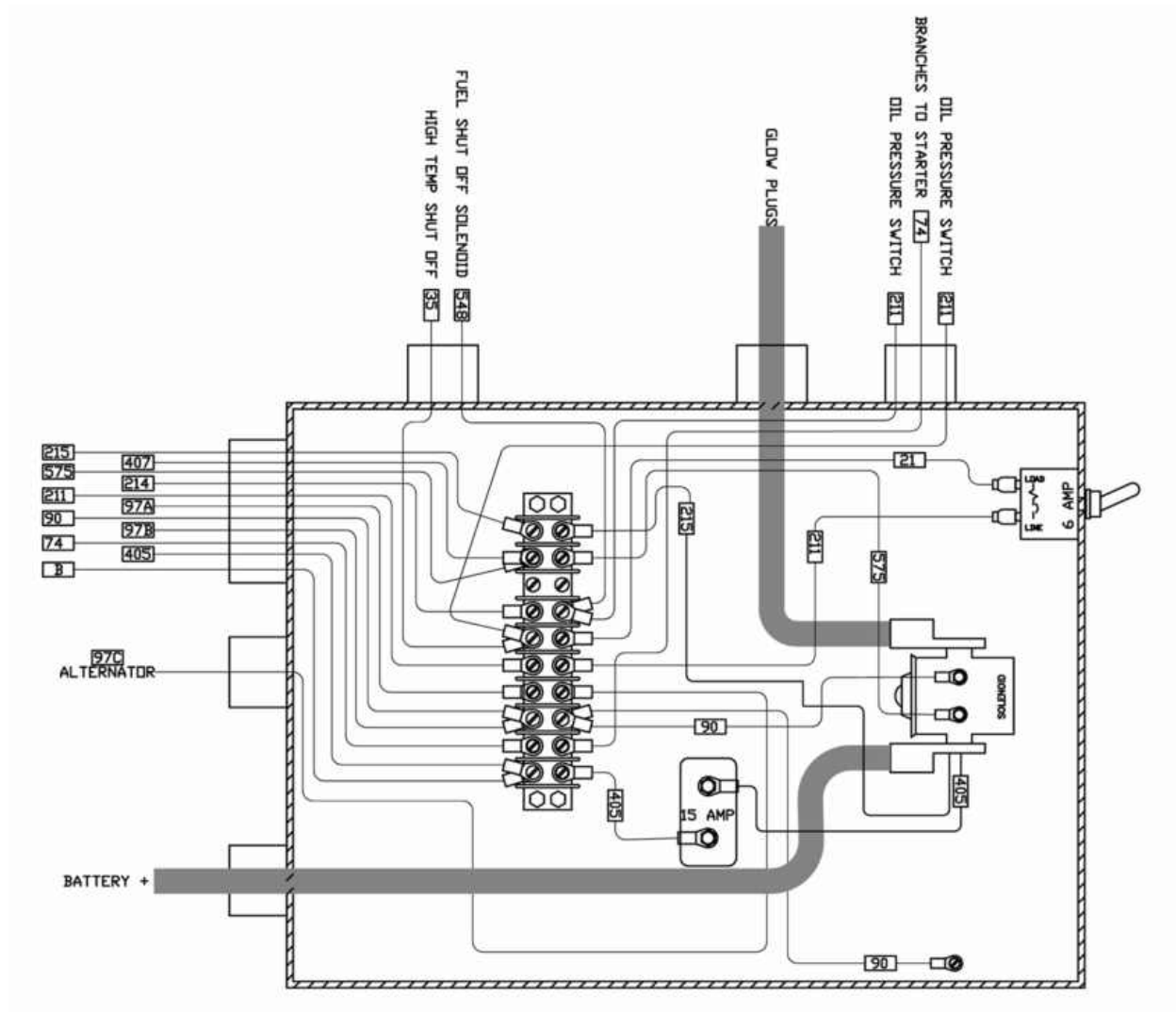
M967A2 SEMITRAILER ELECTRICAL SCHEMATIC (2 of 3)



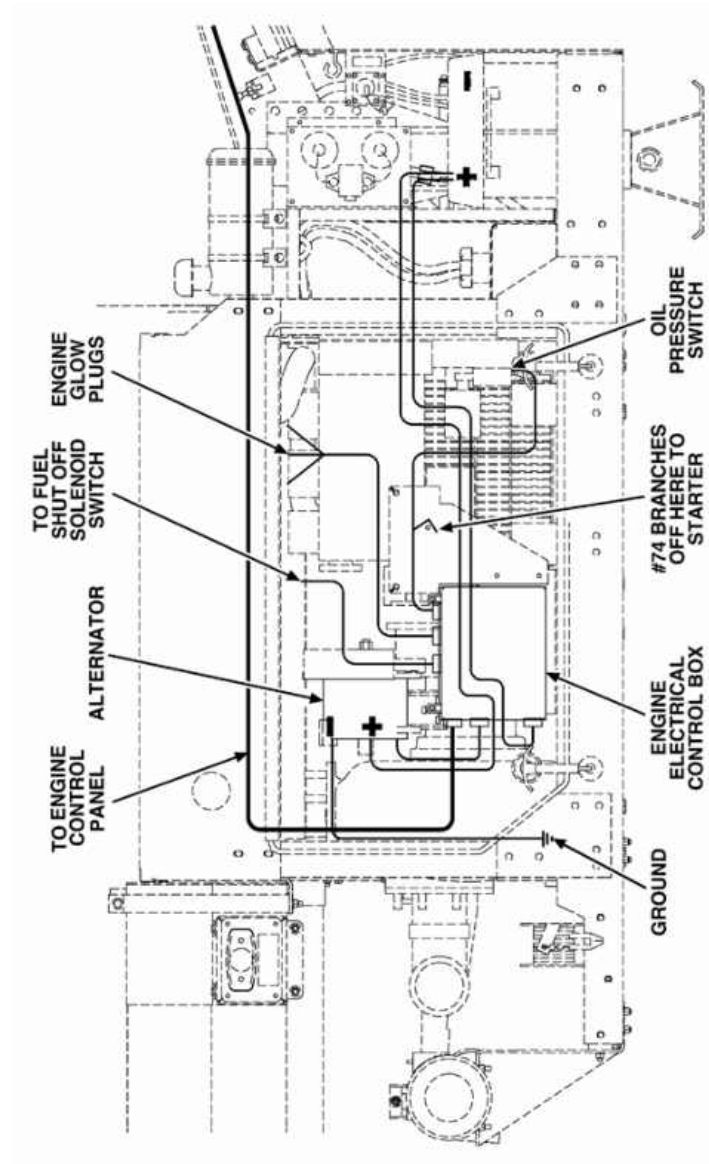
M967A2 SEMITRAILER ELECTRICAL SCHEMATIC (3 of 3)



M967A2 ENGINE ELECTRICAL CONTROL BOX SCHEMATIC



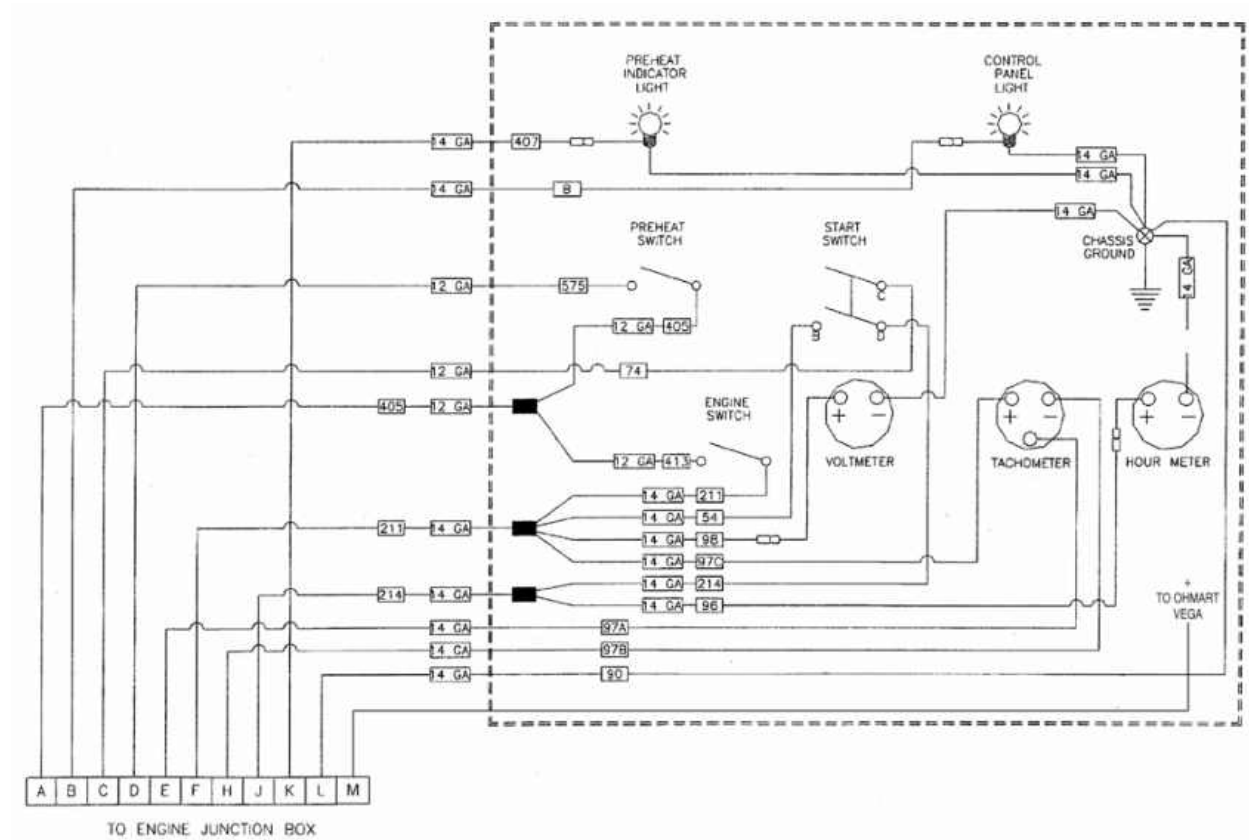
M967A2 ENGINE ELECTRICAL SCHEMATIC



ELECTRICAL SCHEMATICS—Continued

0044 00

M967A2 ENGINE CONTROL PANEL SCHEMATIC



INPUT POWER/
4..20mA HART
SEE NOTE #1

VEGA CONNECT

MINICOM UNIT

PANEL SWITCH

TRUCK
24V

CHASSIS

The diagram illustrates the electrical connections for the VEGA unit. On the left, the VEGA CONNECT terminal block is shown with terminals 1, 2, 3, 4, 5, 6, 7, and 8. Terminals 1 and 2 are connected to the positive and negative input power lines (4..20mA HART). Terminals 3, 4, 5, 6, 7, and 8 are connected to the corresponding terminals on the MINICOM UNIT. The MINICOM UNIT is a rectangular device with a display screen and several control buttons. It has a HEATER element and a PANEL SWITCH. The HEATER is connected to the positive and negative input power lines. The PANEL SWITCH is connected to the positive input power line. The MINICOM UNIT is connected to the CHASSIS ground. The TRUCK 24V power source is connected to the positive input power line.

24-12 V CONVERTER REPLACEMENT

0045 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Gasket (item 82, WP 0160 00)

Self-locking nuts (4) (item 114, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

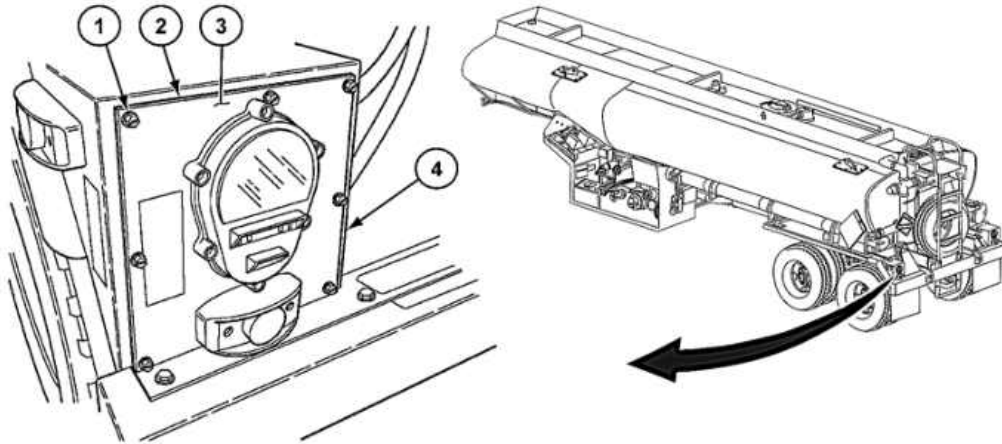
Negative terminal disconnected from battery (refer to WP 0007 00).

REMOVAL

NOTE

Tag all wire connectors prior to disconnecting if they are not already identified or if metal ID band is missing or illegible.

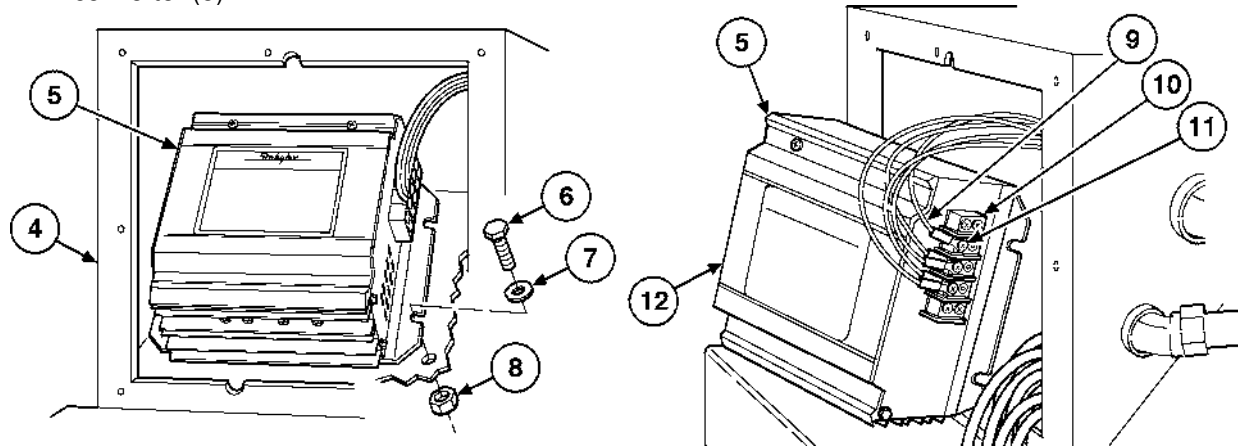
1. Remove seven screws (1), gasket (2), and cover plate (3) from composite stoplight box (4). Discard gasket.



24-12 V CONVERTER REPLACEMENT—Continued

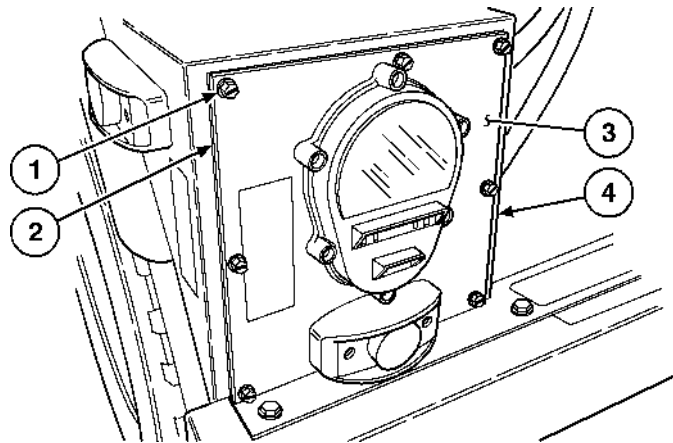
0045 00

2. Push in fuse (12), turn counterclockwise, and remove from converter (5). Replace fuse if unserviceable.
3. Remove four self-locking nuts (8), washers (7), and bolts (6) and pull converter (5) out from stoplight box (4). Discard self-locking nuts.
4. Remove three screws (11), disconnect five wires (9) from terminal strip (10), and remove converter (5).



INSTALLATION

1. Connect five wires (9) and install three screws (11) to terminal strip (10).
2. Install converter (5), four bolts (6), washers (7), and new self-locking nuts (8) into stoplight box (4).
3. Install new gasket (2), cover plate (3), and seven screws (1) to stoplight box (4).



FOLLOW-ON TASKS

1. Disconnect semitrailer grounding cables (WP 0007 00).
2. Reconnect negative battery terminal (WP 0007 00).

END OF TASK

OVERFLOW PROTECTION MONITOR PANEL REPLACEMENT

0046 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Gasket (item 109, WP 0160 00)

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Equipment Conditions

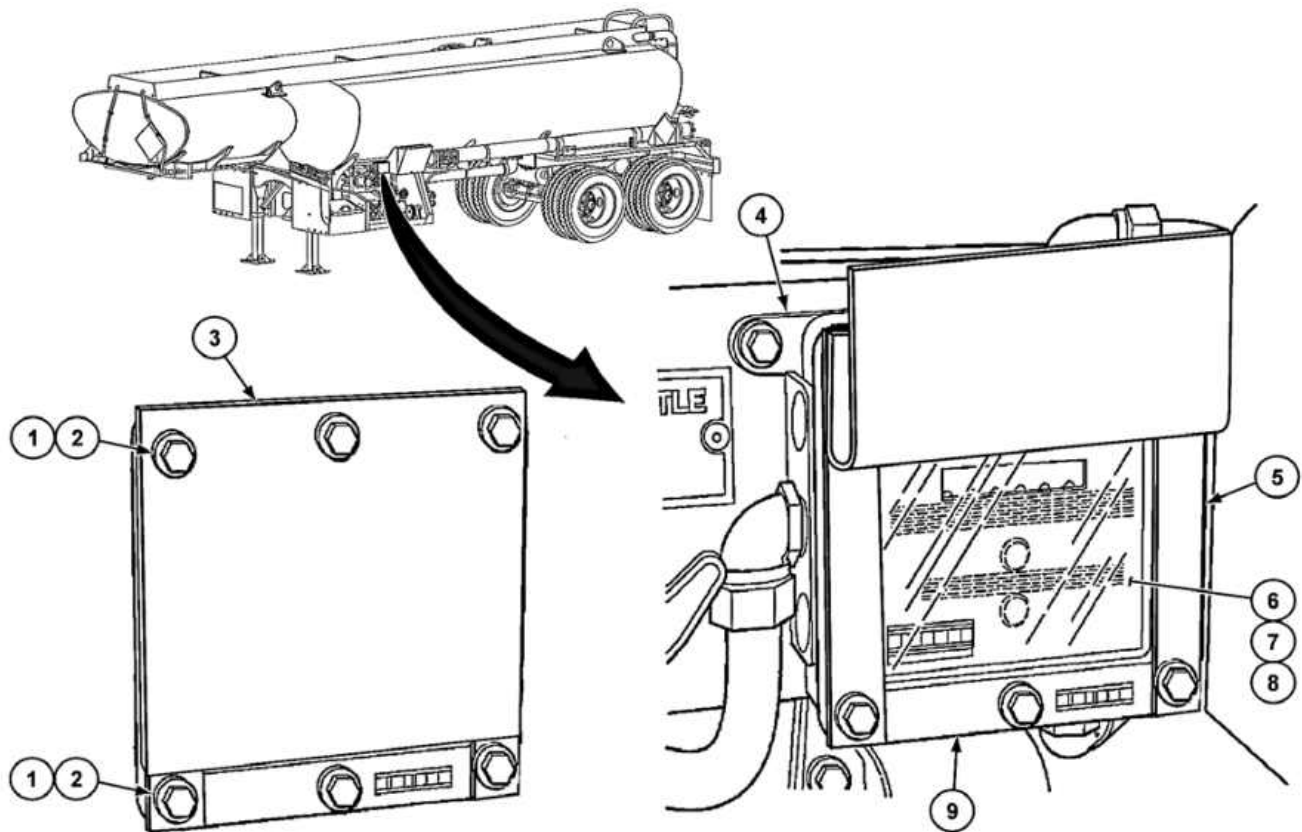
Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Negative terminal disconnected from battery (refer to WP 0007 00)

REMOVAL

1. Remove six screws (1), washer (2), cover (3), cover straps (4), frame (5), window (6), identification plate (7), and gasket (8) from base (9). Discard gasket.



OVERFLOW PROTECTION MONITOR PANEL REPLACEMENT—Continued

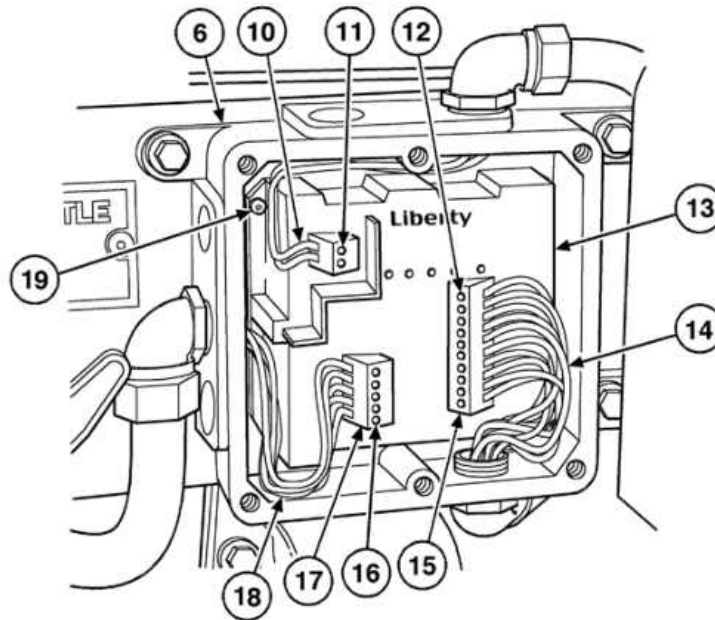
0046 00

2. Loosen two screws (11) and disconnect two power wires (10) from sensor pack (13).

NOTE

Wires are color coded at strips for easy identification.

3. Loosen 10 screws (12) and disconnect 10 wires (14) from terminal strip (15).
4. Loosen five screws (16) and disconnect five wires (18) from terminal strip (17).
5. Remove four screws (19) and sensor pack (13) from base (6).

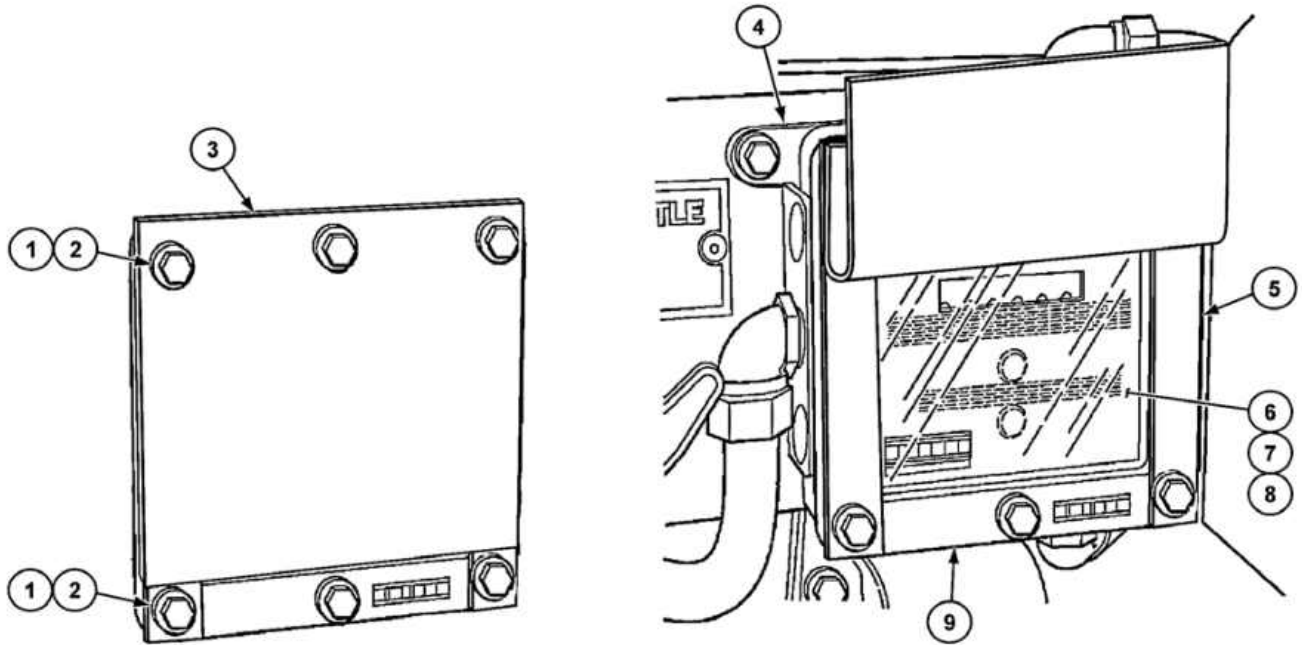
**INSTALLATION**

1. Install sensor pack (13) and four screws (19) to base (6).
2. Connect five color coded wires (18) to terminal strip (17) and tighten five screws (16).
3. Connect 10 color coded wires (14) to terminal strip (15) and tighten 10 screws (12).
4. Connect two power wires (10) to sensor pack (13) and tighten two screws (11).

OVERFLOW PROTECTION MONITOR PANEL REPLACEMENT—Continued

0046 00

5. Install new gasket (4), plate (8), window (7), frame (5), cover straps (4), cover (3), washer (2), and six screws (1) to base (9).



FOLLOW-ON TASKS

1. Reconnect negative battery terminal (WP 0007 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

OVERFLOW PROTECTION SENSOR REPLACEMENT

0047 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Lockwashers (2) (item 110, WP 0160 00)

References

WP 0062 00

Equipment Conditions

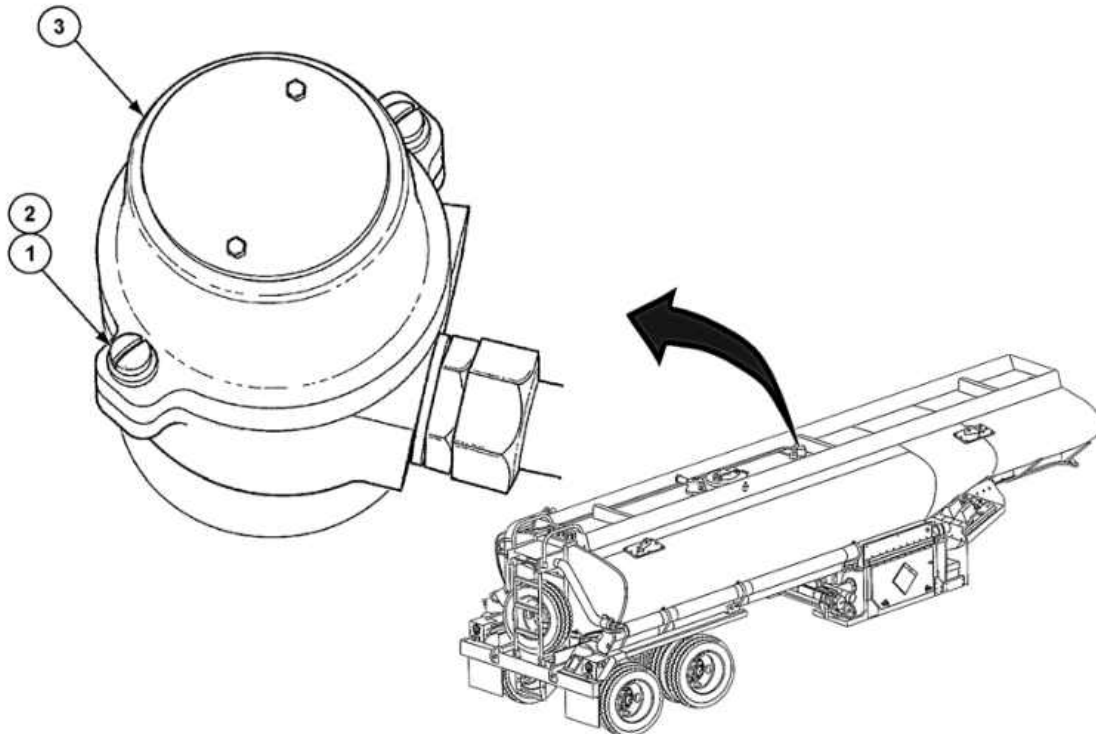
Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Negative terminal disconnected from battery (refer to WP 0007 00)

REMOVAL

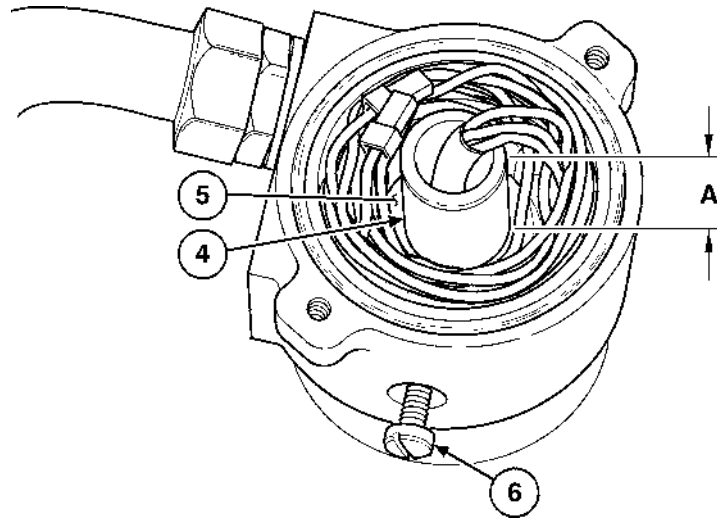
1. Remove two screws (1), lockwashers (2), and cap (3). Discard lockwashers.



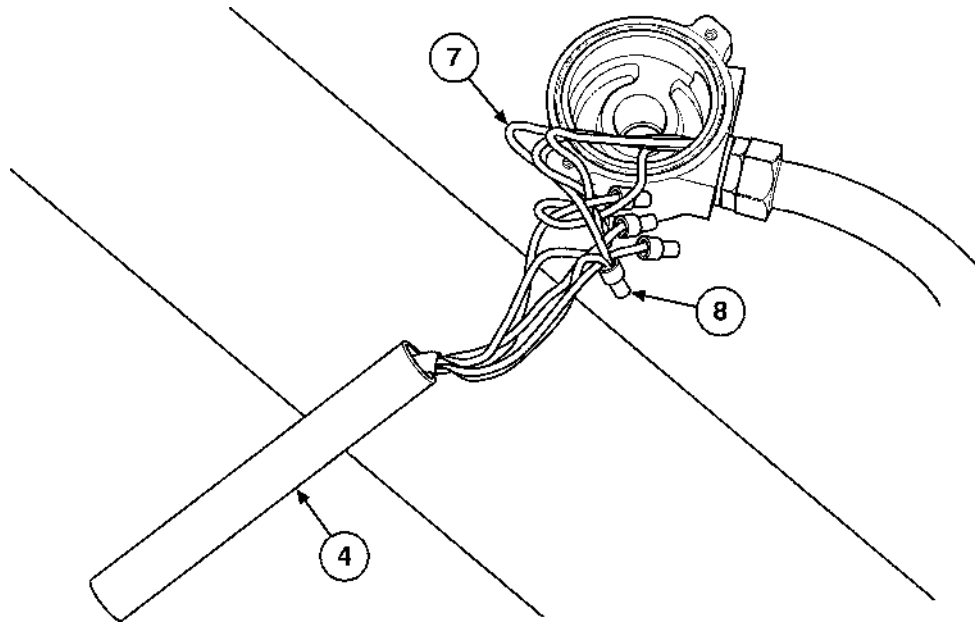
OVERFLOW PROTECTION SENSOR REPLACEMENT—Continued

0047 00

2. Measure and record height "A" sensor (4) protrudes from well (5).
3. Loosen set screw (6) and lift sensor (4) from well (5).



4. Disconnect sensor wires (7) from connectors (8) and remove sensor (4).



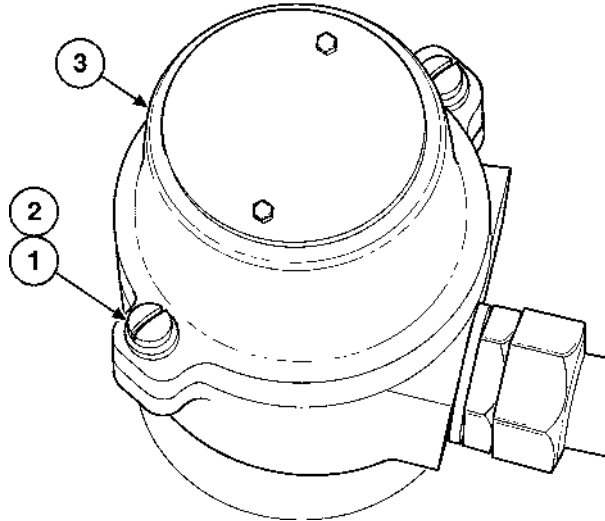
INSTALLATION

1. Connect sensor wires (7) to connectors (8) per WP 0062 00.

OVERFLOW PROTECTION SENSOR REPLACEMENT—Continued

0047 00

2. Install sensor (4) into well (5) to height "A" recorded at removal.
3. Tighten set screw (6).
4. Install cap (3), two new lockwashers (2), and screws (1).



FOLLOW-ON TASKS

1. Reconnect negative battery terminal (WP 0007 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

OVERFLOW PROTECTION OPTIC SOCKET BOXES REPLACEMENT

0048 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Self-locking nuts (11) (item 87, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Negative terminal disconnected from battery (refer to WP 0007 00)

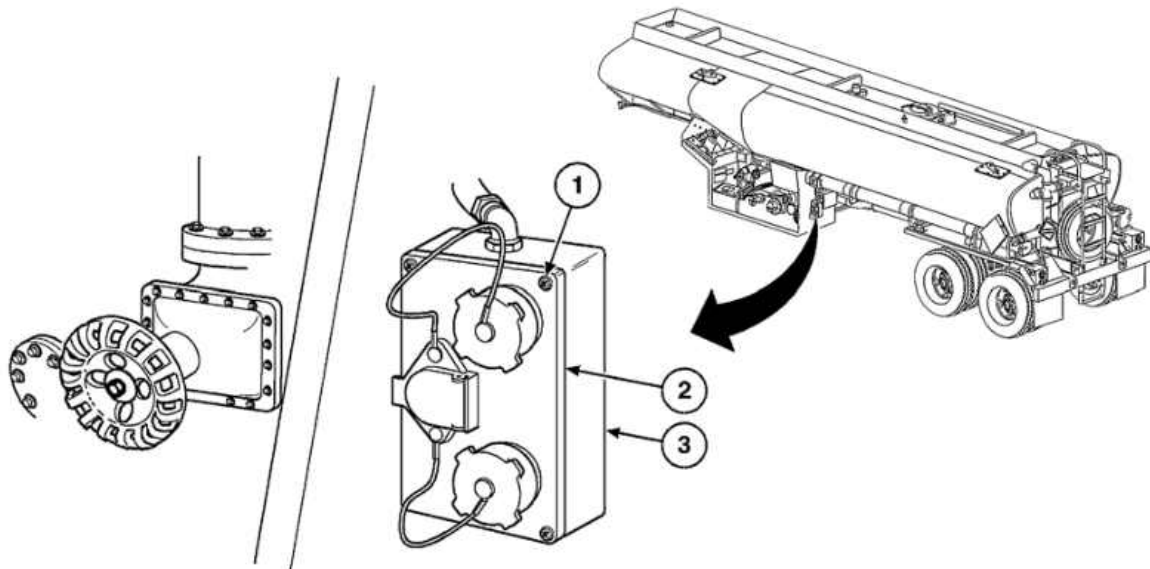
REMOVAL

NOTE

Tag all wiring lead connectors prior to disconnecting if they are not already identified or if metal ID band is missing or illegible.

Roadside Optic Socket Box

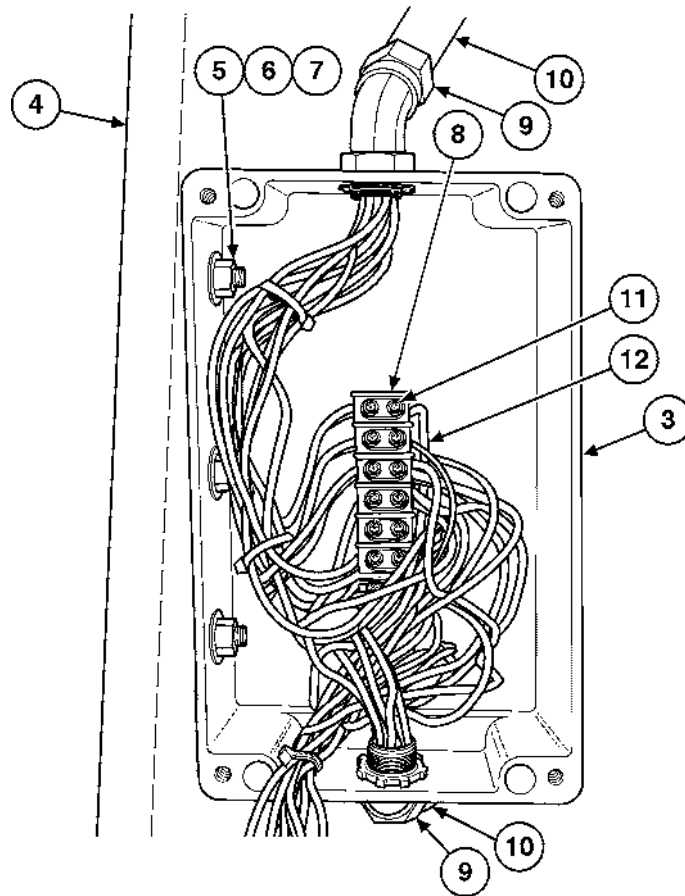
1. Loosen four screws (1) and pull cover (2) from optic socket box (3).



NOTE

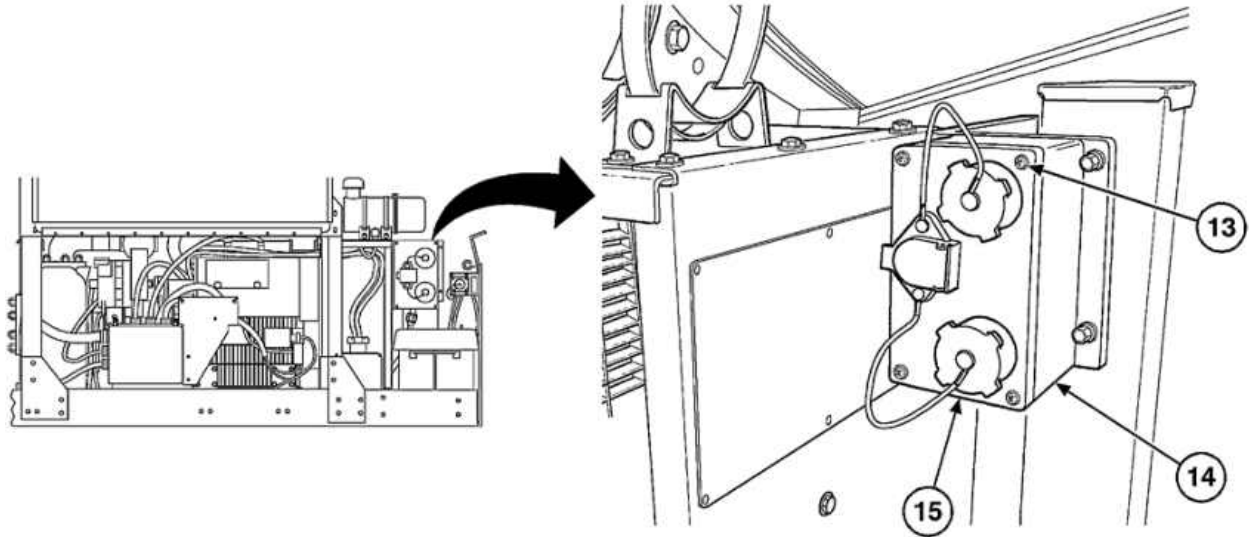
Tag all wires prior to removal for easy installation.

2. Loosen screws (11) and remove wires (12) from terminal strip (8).
3. Loosen two conduit nuts (9) from flexible conduits (10).
4. Remove three self-locking nuts (5), six washers (6), three bolts (7), and box (3) from side of piping frame (4). Discard self-locking nuts.

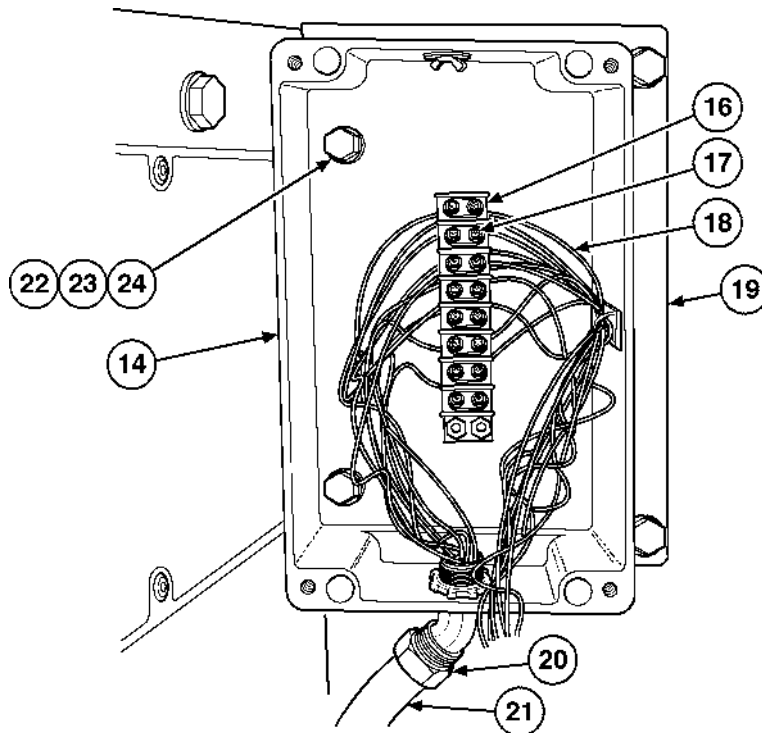


Curbside Optic Socket Box

5. Loosen four screws (13) and remove cover (15) from socket box (14).

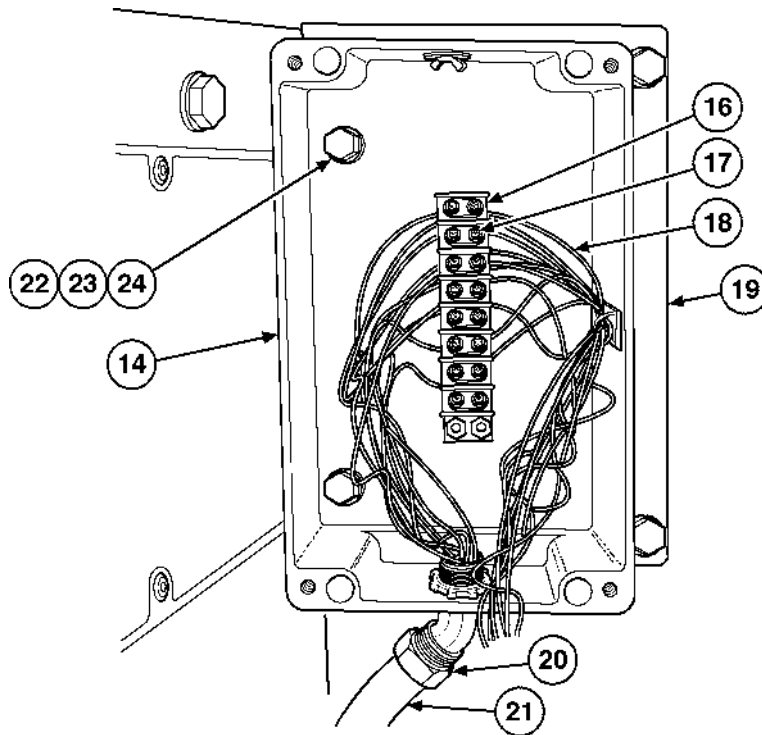


6. Remove screws (17) and wires (18) from terminal strip (16).
7. Remove conduit nut (20) and flexible conduit (21) from box (14).
8. Remove two self-locking nuts (22), four washers (23), two bolts (24), and box (14) from bracket (19). Discard self-locking nuts.

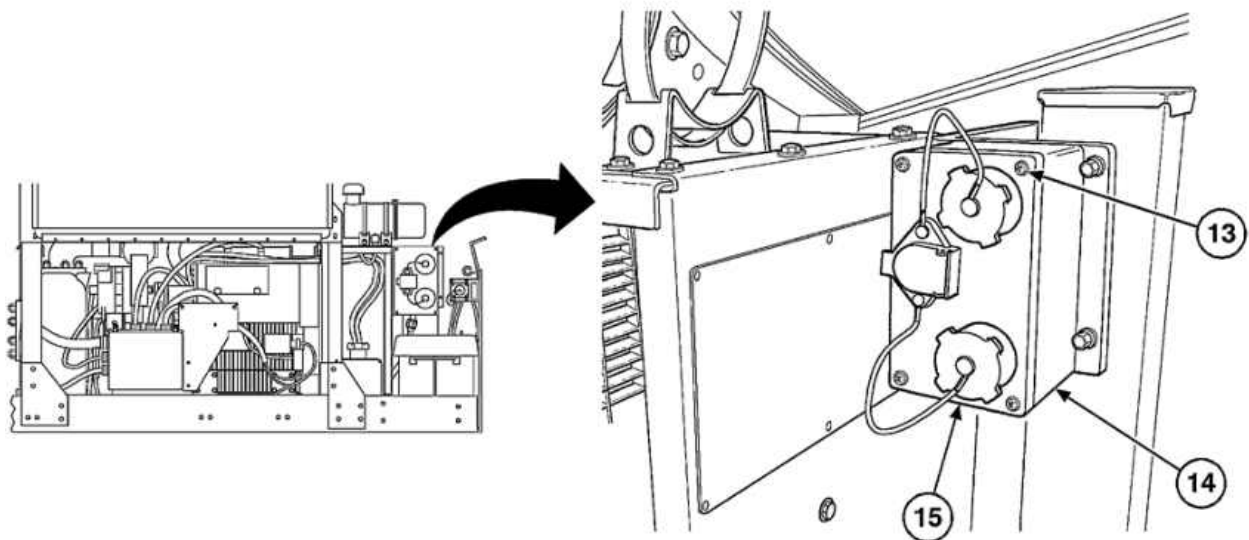


INSTALLATION**Curbside Optic Socket Box**

1. Install two bolts (24), four washers (23), box (14), and two new self-locking nuts (22) to bracket (19).
2. Install flexible conduit (21) and conduit nut (20) to box (14).
3. Install wires (18) and screws (17) to terminal strip (16).

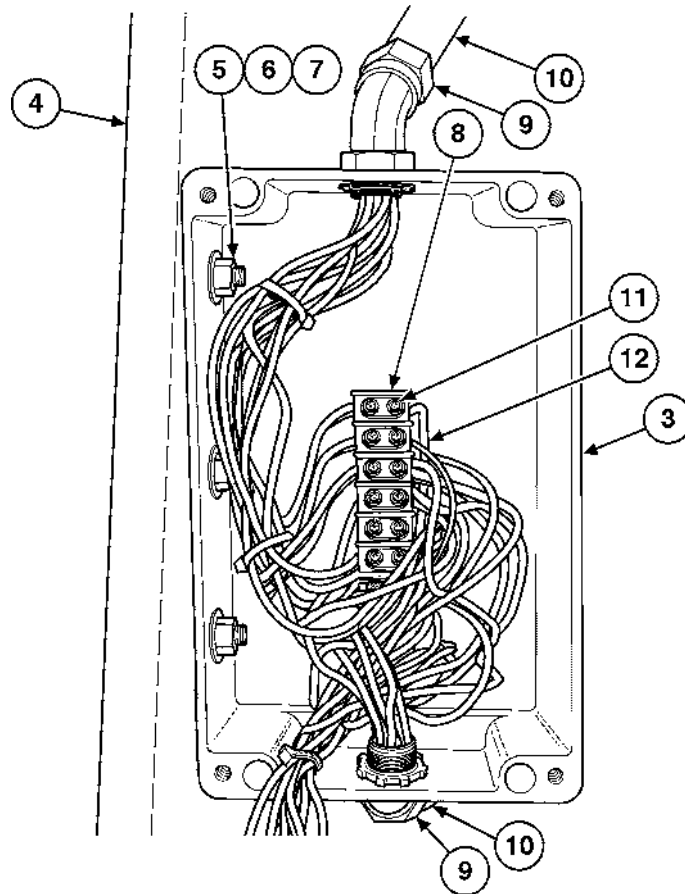


4. Install cover (15) and four screws (13) to box (14).



Roadside Optic Socket Box

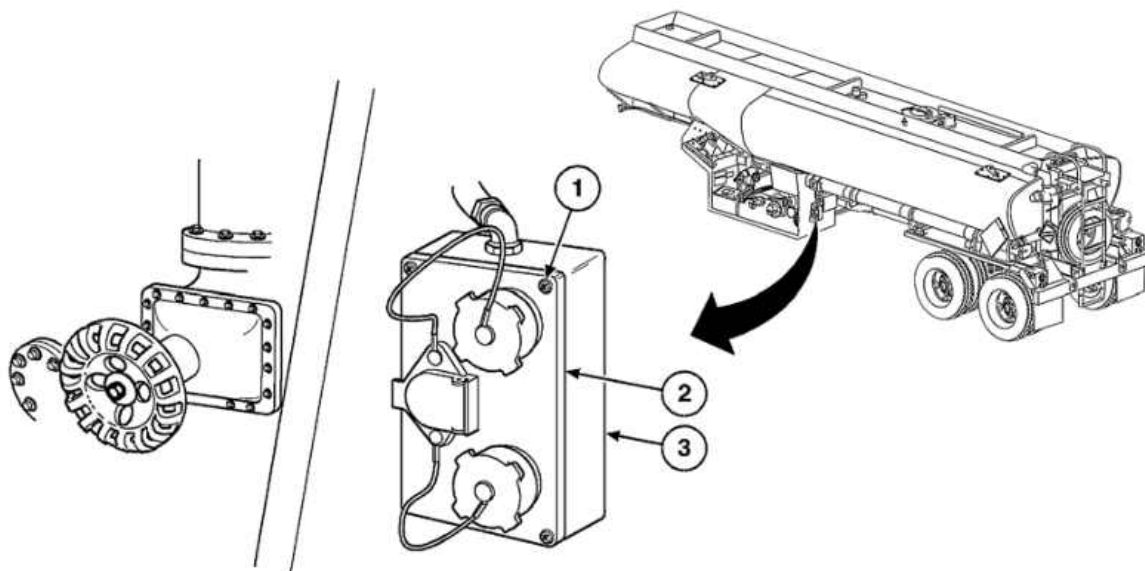
5. Install box (3), three bolts (7), six washers (6), and three new self-locking nuts (5) to side of piping frame (4).
6. Tighten two conduit nuts (9) to flexible conduits (10).
7. Install wires (12) and tighten screws (11) to terminal strip (8).



OVERFLOW PROTECTION OPTIC SOCKET BOXES REPLACEMENT—Continued

0048 00

8. Install cover (2) and four screws (1) to box (3).

**FOLLOW-ON TASKS**

1. Reconnect negative battery terminal (WP 0007 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

CONTROL PANEL LIGHT REPLACEMENT

0049 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Self-locking nuts (2) (item 69, WP 0160 00)

Equipment Conditions

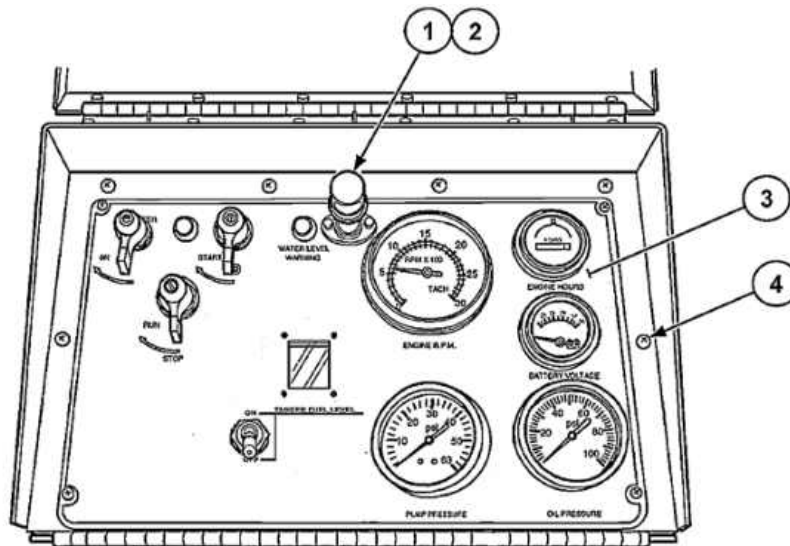
Semitrailer disconnected from prime mover (refer to WP 0007 00)

Negative terminal disconnected from battery (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

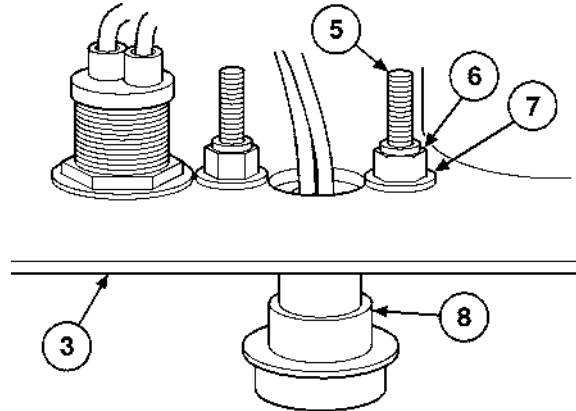
REMOVAL

1. Remove light bulb protector (1) and light bulb (2) from control panel (3).
2. Remove six screws (4) from front of control panel (3) and pull down.

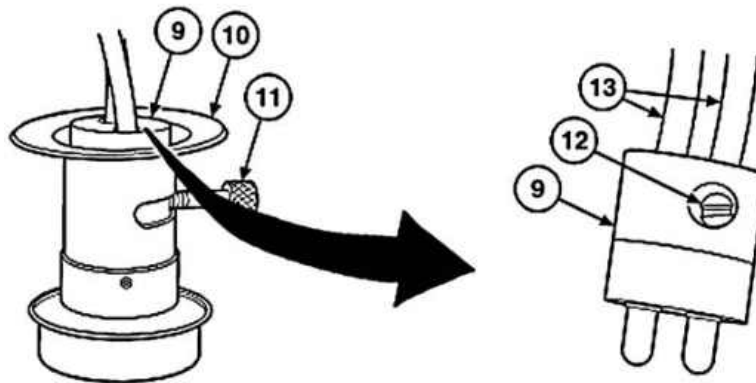


CONTROL PANEL LIGHT REPLACEMENT—Continued**0049 00**

3. Remove two self-locking nuts (6), washers (7), and bolts (5) and disconnect light (8) from control panel (3). Discard self-locking nuts.



4. Remove knurled screw (11) and bracket (10) from socket (9).
5. Loosen two screws (12) and remove socket (9) from two wires (13).

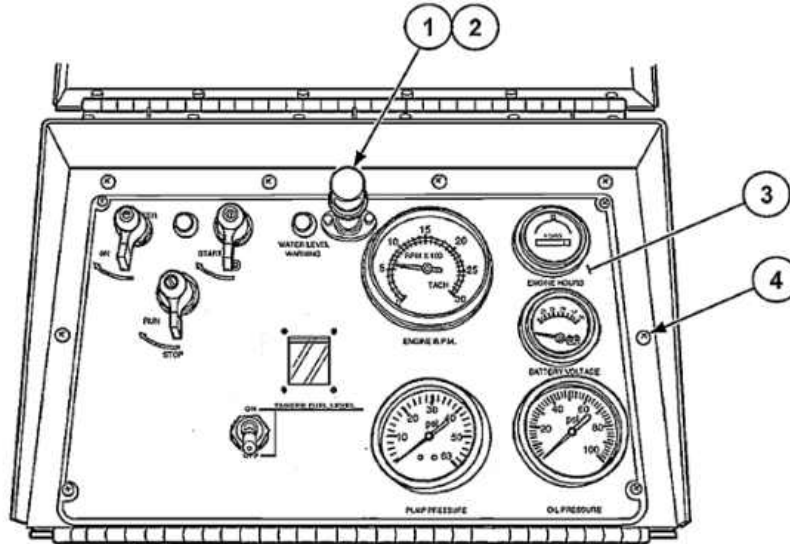
**INSTALLATION**

1. Install socket (9) to two wires (13) and tighten two screws (12).
2. Install bracket (10) and knurled screw (11) to socket (9).

CONTROL PANEL LIGHT REPLACEMENT—Continued

0049 00

3. Connect light (8) to control panel (3) and install two bolts (5), washers (7), and new self-locking nuts (6).
4. Lift control panel (3) up into position and install six screws (4).
5. Install light bulb (2) and light bulb protector (1) to control panel (3).



FOLLOW-ON TASKS

1. Reconnect negative battery terminal (WP 0007 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

MARKER LIGHT LEDs REPLACEMENT

0050 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

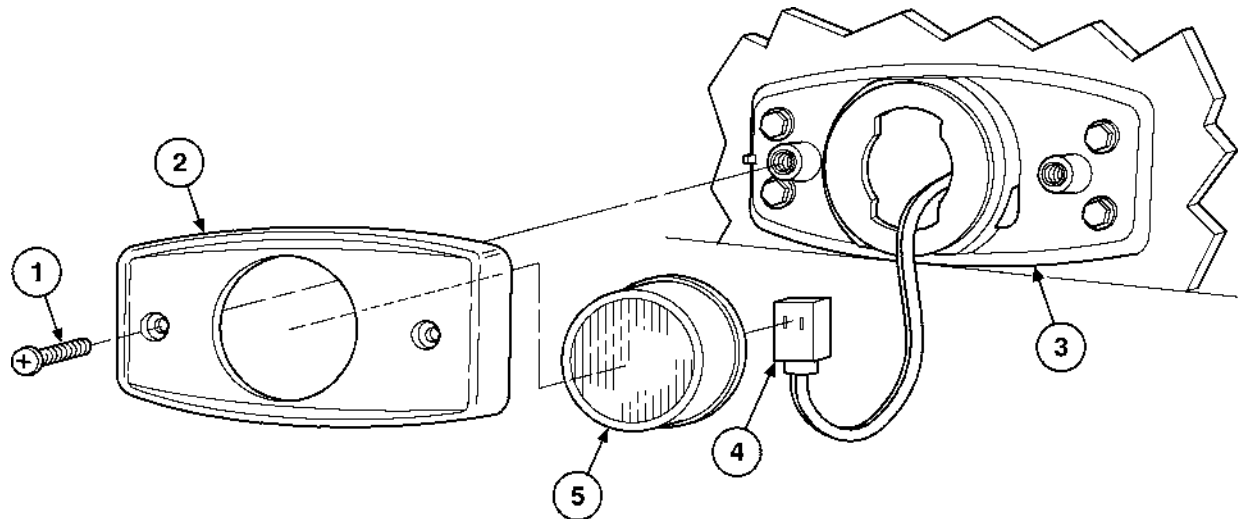
Negative terminal disconnected from battery (refer to WP 0007 00)

REMOVAL

NOTE

There are 11 marker light LEDs (7 red and 4 amber) and they are replaced the same way. This procedure replaces one marker light LED.

1. Remove two screws (1) and marker light LED bracket (2).
2. Remove marker light LED (5) from receptacle (3) by twisting LED 90° counterclockwise.
3. Disconnect LED wire connector (4) from back of LED (5).

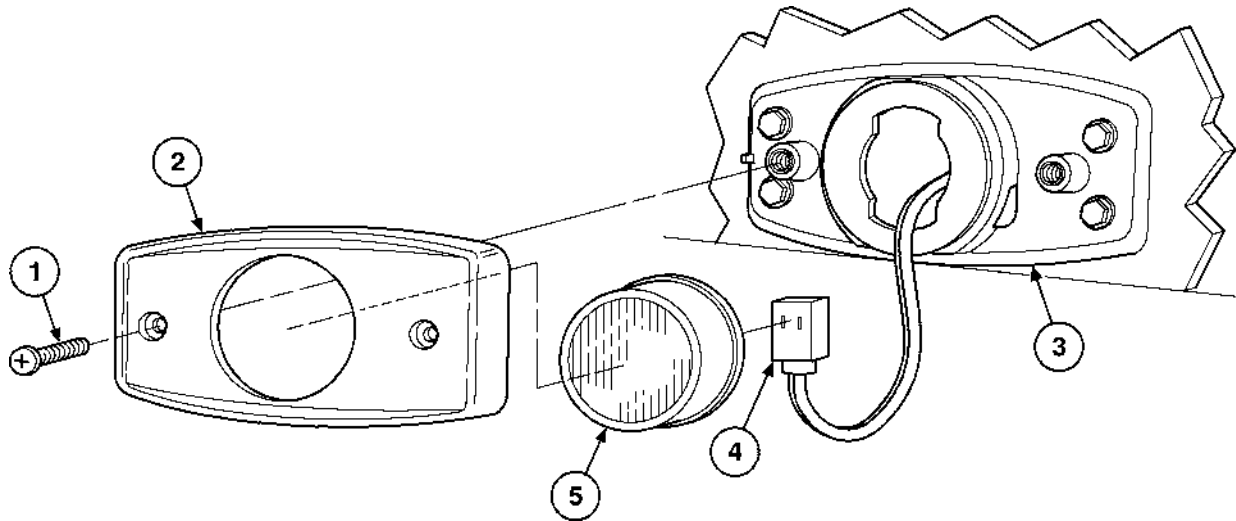


MARKER LIGHT LEDs REPLACEMENT—Continued

0050 00

INSTALLATION

1. Connect LED wire connector (4) to back of LED (5).
2. Install LED (5) to receptacle (3) by twisting 90° clockwise until LED locks into place.
3. Install marker light LED bracket (2) and two screws (1).



FOLLOW-ON TASKS

1. Reconnect negative battery terminal (WP 0007 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

MARKER LIGHT RECEPTACLES REPLACEMENT

0051 00

THIS WP COVERS:Removal, Installation, Follow-On Tasks

INITIAL SETUP:**Maintenance Level**

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Self-locking nuts (44) (item 3, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Marker light LED removed (refer to WP 0050 00)

Composite stoplight cover plate removed (refer to WP 0052 00)

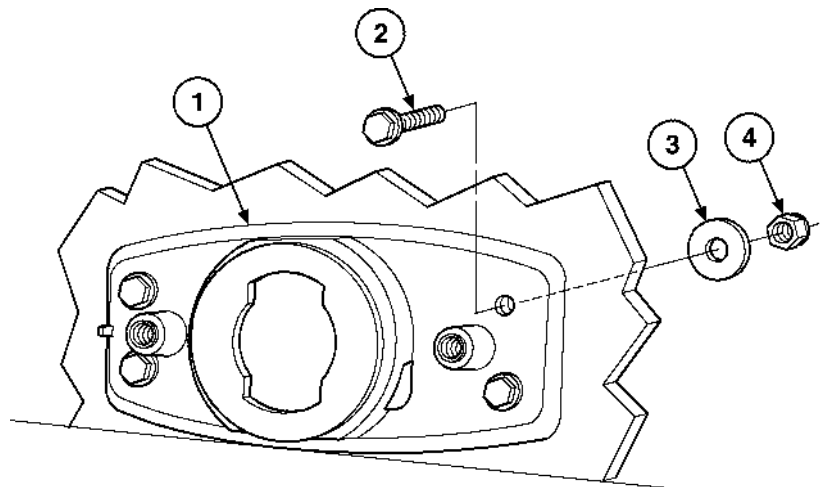
Negative terminal disconnected from battery (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

REMOVAL**NOTE**

- There are 11 marker light LEDs (7 red and 4 amber) and they are replaced the same way. This procedure will cover the four rear marker light receptacles.
- The remaining seven marker light receptacles can be removed by unscrewing the access plate or rear marker light box the marker lights are mounted on.

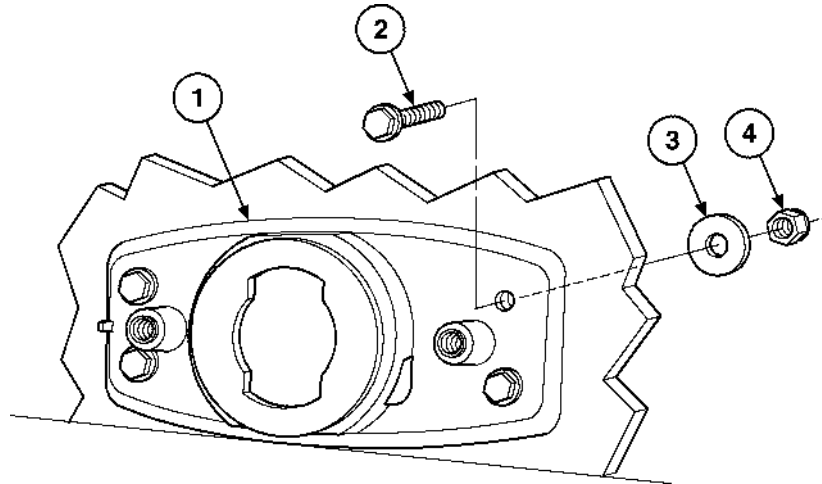
Remove four self-locking nuts (4), washers (3), screws (2), and marker light receptacle (1). Discard self-locking nuts.



MARKER LIGHT RECEPTACLES REPLACEMENT—Continued

0051 00**INSTALLATION**

Install marker light receptacle (1), four screws (2), washers (3), and new self-locking nuts (4).

**FOLLOW-ON TASKS**

1. Install marker light LED (WP 0050 00).
2. Install composite stoplights (WP 0052 00).
3. Reconnect negative battery terminal (WP 0007 00).
4. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

COMPOSITE STOPLIGHTS REPLACEMENT

0052 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Gaskets (2) (item 82, WP 0160 00)

Self-locking nuts (12) (item 114, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

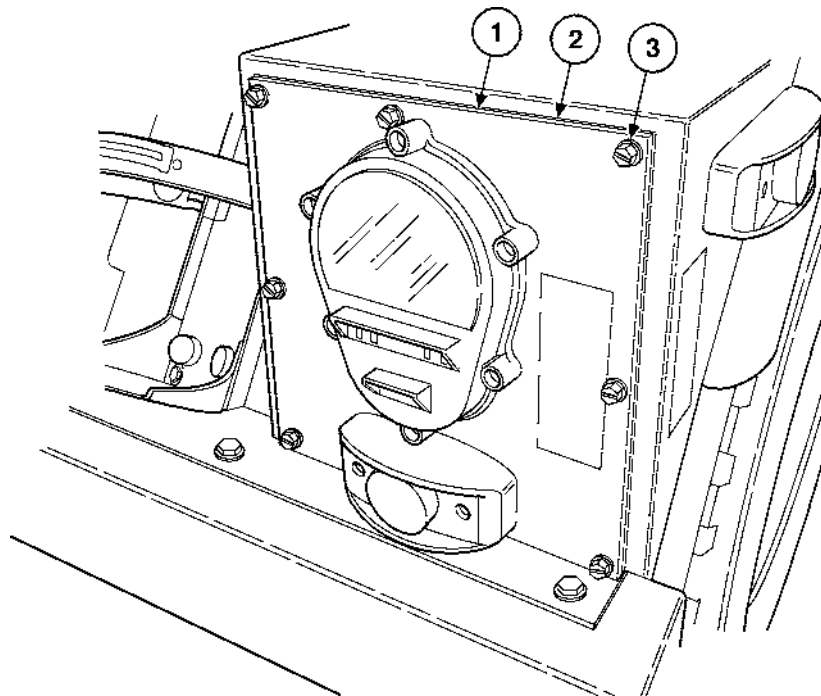
Negative terminal disconnected from battery (refer to WP 0007 00)

REMOVAL

NOTE

- There are two composite stoplights and they are replaced the same way. This procedure covers one stoplight.
- Tag wires for identification.

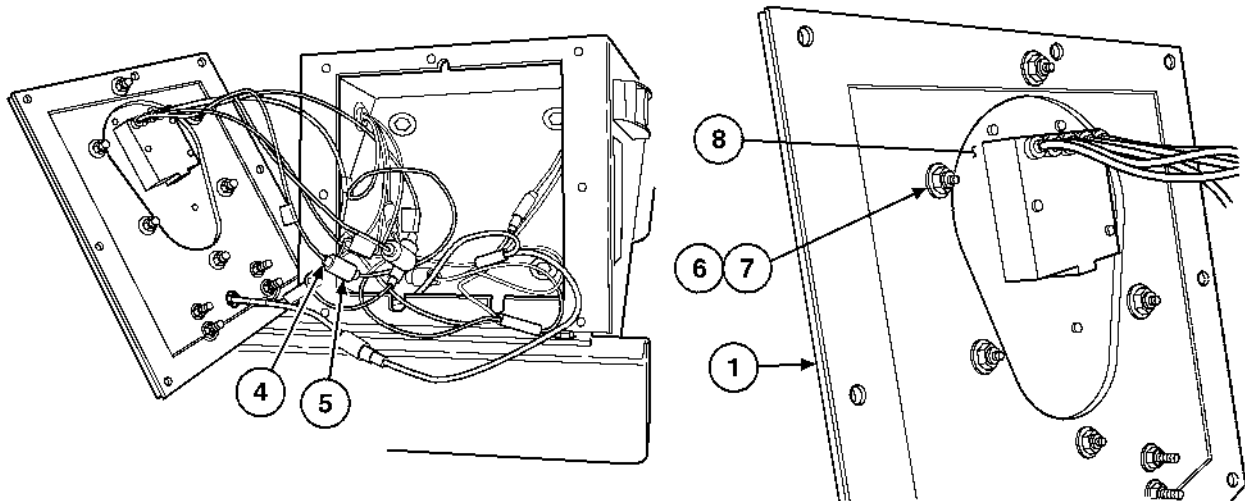
1. Remove seven screws (3), cover plate (1), and gasket (2) from semitrailer. Discard gasket.



COMPOSITE STOPLIGHTS REPLACEMENT—Continued

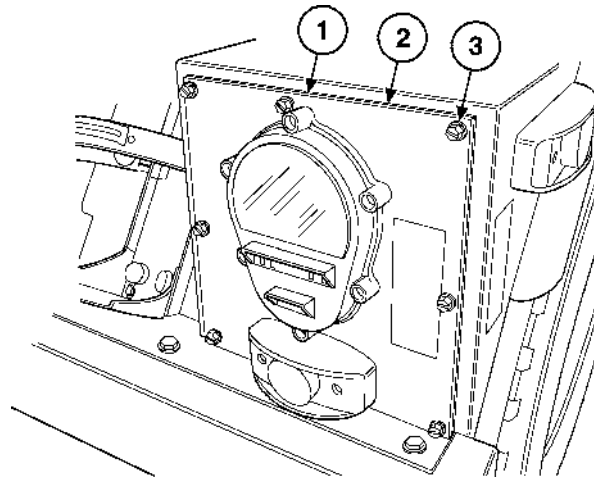
0052 00

2. Disconnect semitrailer wiring harness connectors (5) from composite stoplight wire lead connectors (4).
3. Remove six self-locking nuts (6), washers (7), and composite stoplight (8) from cover plate (1). Discard self-locking nuts.



INSTALLATION

1. Install composite stoplight (8), six new self-locking nuts (6), and washers (7) to cover plate (1).
2. Connect composite stoplight wire lead connectors (4) to semitrailer wiring harness connectors (5).
3. Install new gasket (2), cover plate (1), and seven screws (3).



FOLLOW-ON TASKS

1. Reconnect negative battery terminal (WP 0007 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

BATTERY ACCESS PANEL REPLACEMENT

0053 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0171 00)

Materials/Parts

Self-locking nuts (6) (item 77, WP 0175 00)

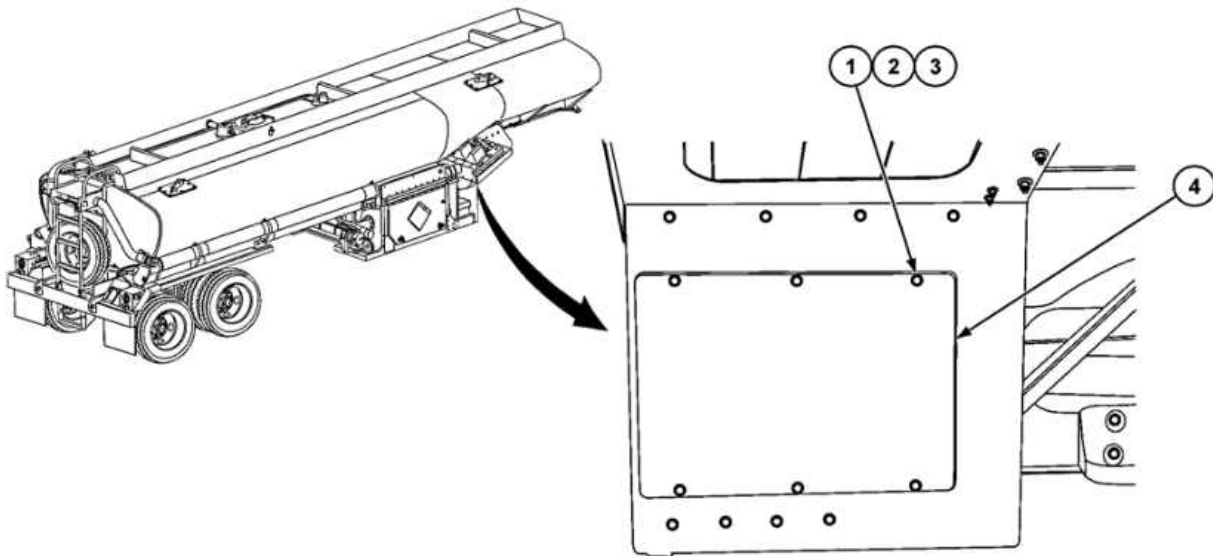
Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

REPLACEMENT

Remove six bolts (1), locknuts (2), washers (3), and access panel (4). Discard locknuts (2).

Install access panel (4) using six bolts (1), washers (3), and new locknuts (2).



END OF TASK

BATTERY AND BATTERY CABLES REPLACEMENT

0054 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level
Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0171 00)

Materials/Parts

Self-locking nuts (2) (item 77, WP 0175 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

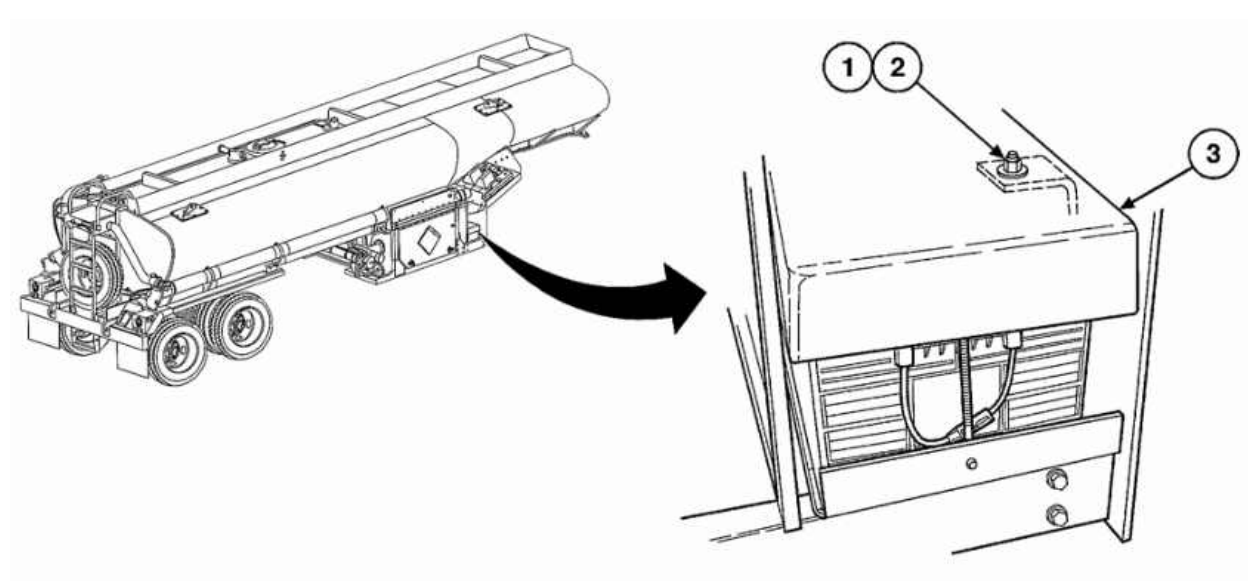
NATO slave receptacle removed (refer to WP 0064 00)

Semitrailer grounded (refer to WP 0007 00)

Remove battery access panel (refer to WP 0055 00)

REMOVAL

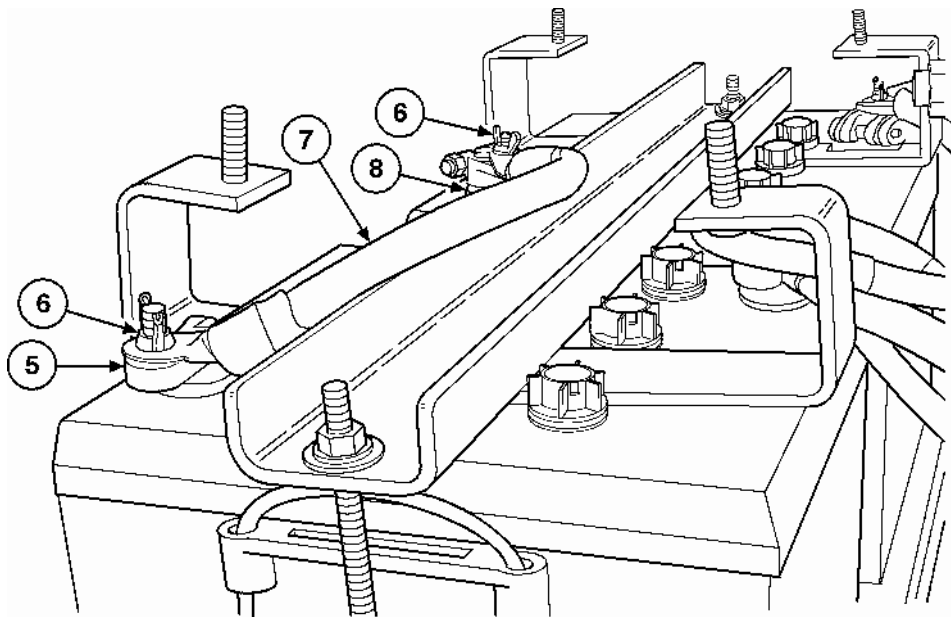
1. Remove two self-locking nuts (1), washers (2), and battery cover (3). Discard self-locking nuts.



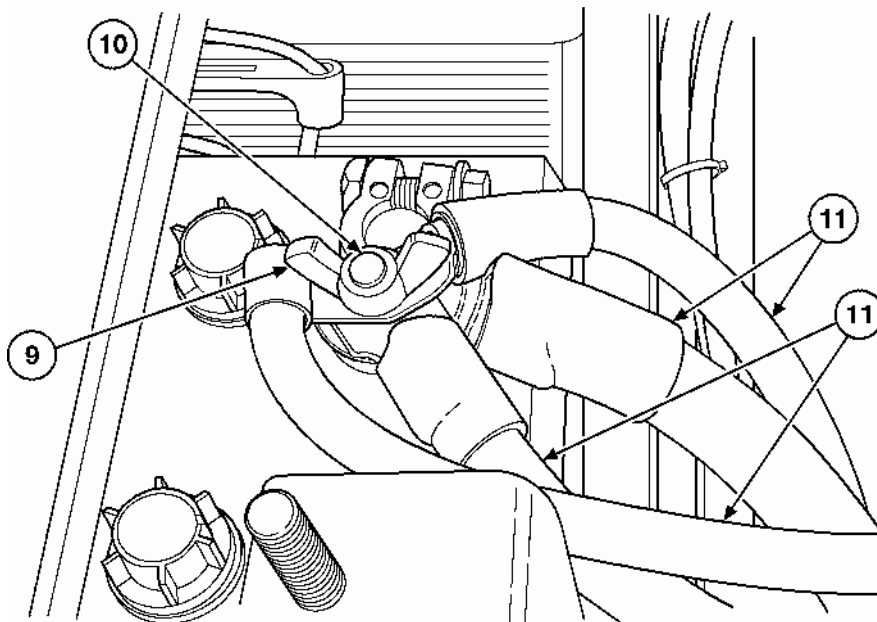
BATTERY AND BATTERY CABLES REPLACEMENT—Continued

0054 00

2. Remove wing nuts (6) from positive terminal (8) and negative terminal (5).
3. Remove jumper cable (7) from both terminals.



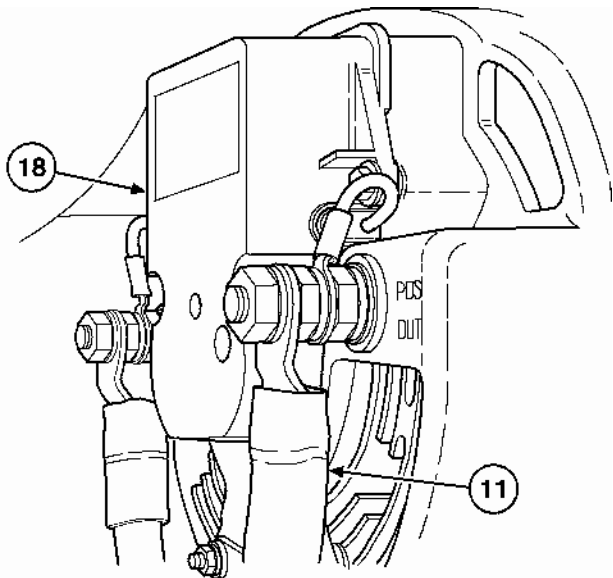
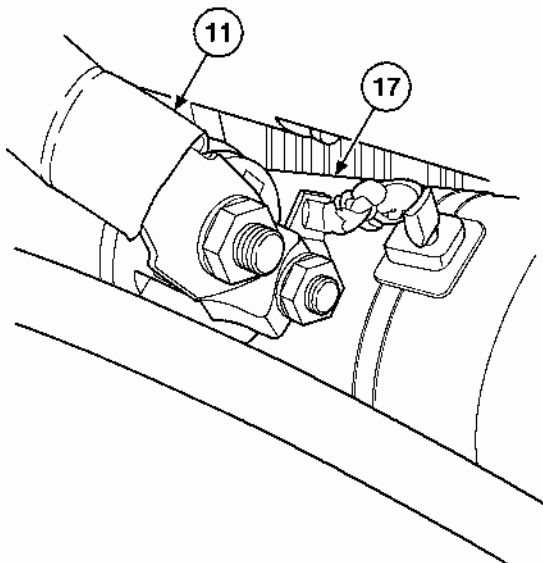
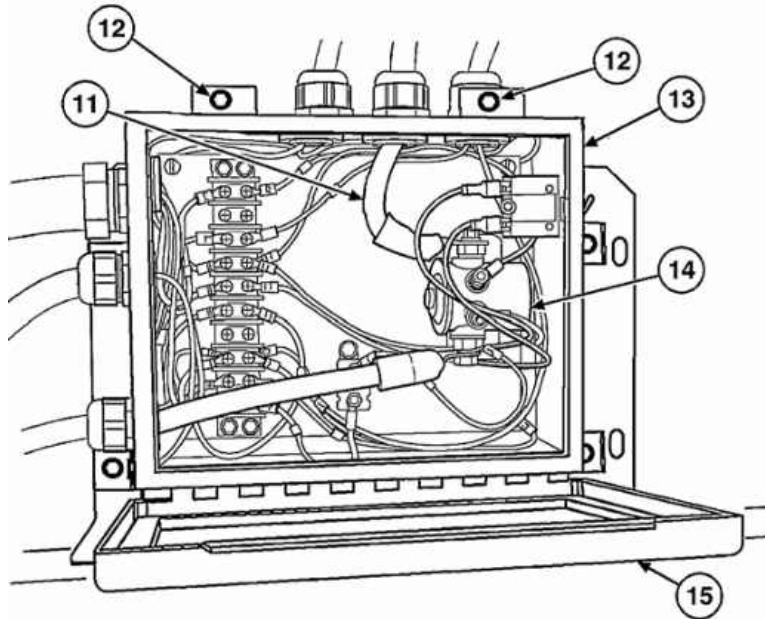
4. Remove wing nut (9) and disconnect cables (11) from positive terminal (10).



BATTERY AND BATTERY CABLES REPLACEMENT—Continued

0054 00

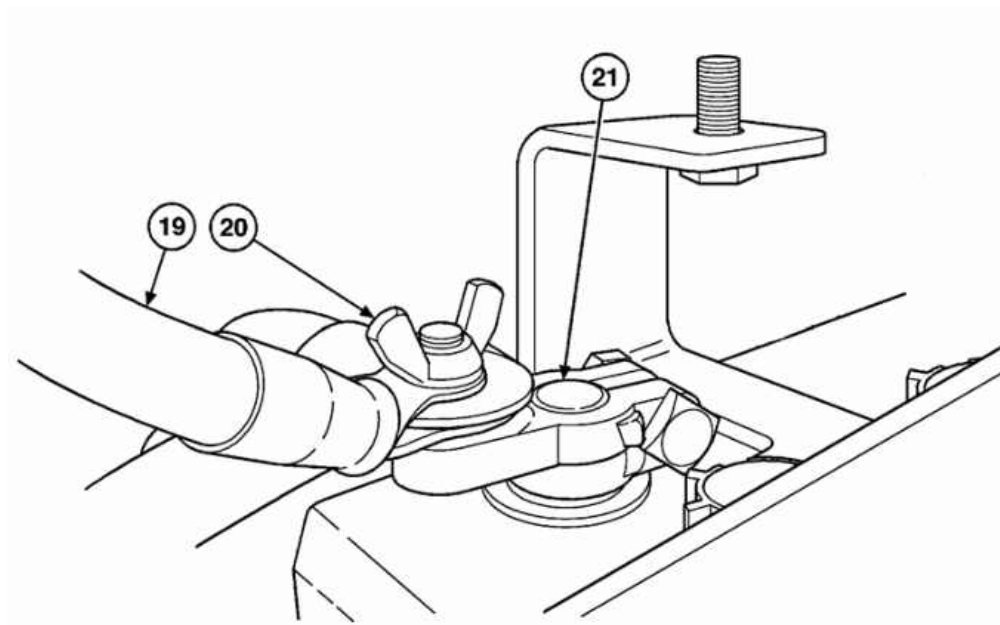
5. Loosen two screws (12) at top of engine control box (13) and lower front cover (16) from control box (13).
6. Remove opposite ends of cables (11) from engine control box 30 amp circuit breaker (14), engine control box glow plug solenoid (15), engine starter (17), and alternator (18).



BATTERY AND BATTERY CABLES REPLACEMENT—Continued

0054 00

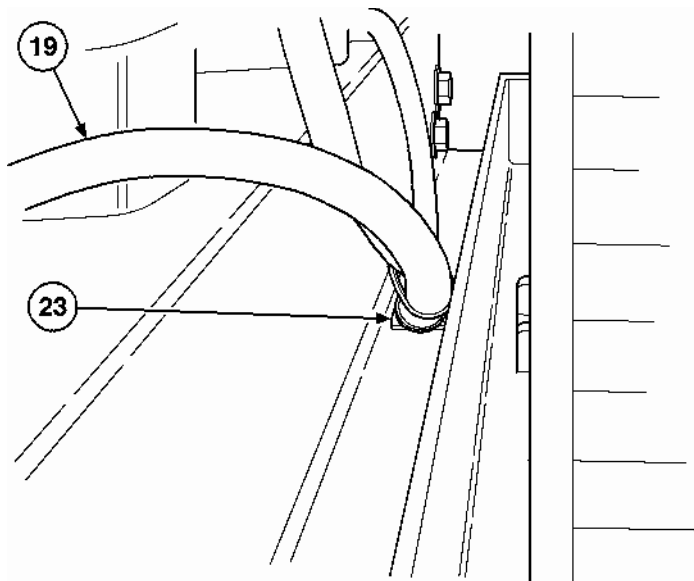
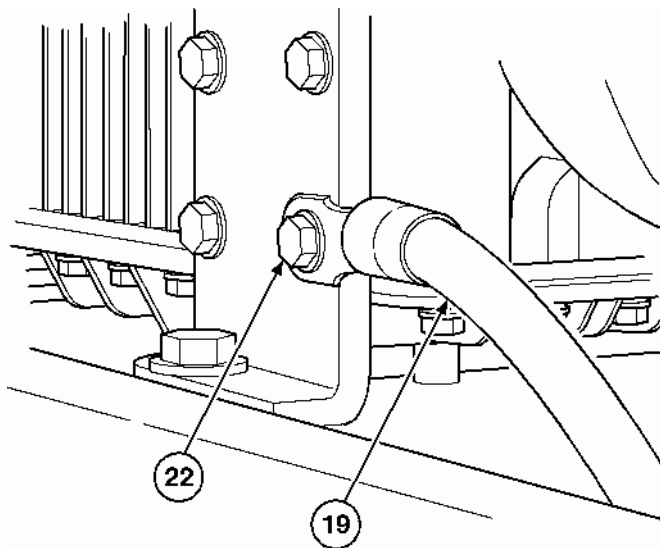
7. Remove wing nut (20) and cables (19) from negative terminal (21).



BATTERY AND BATTERY CABLES REPLACEMENT—Continued

0054 00

8. Remove opposite ends of cables (19) from engine ground (22) and chassis ground (23).

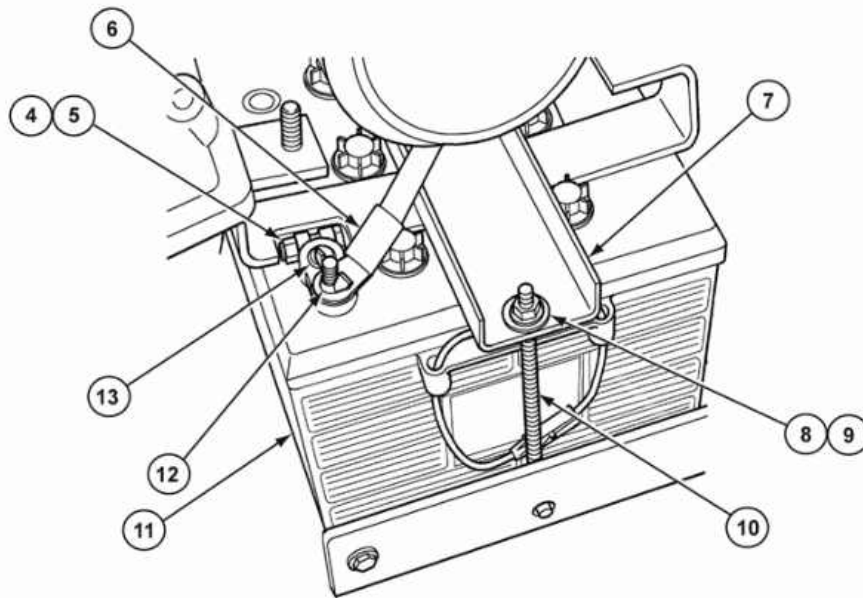


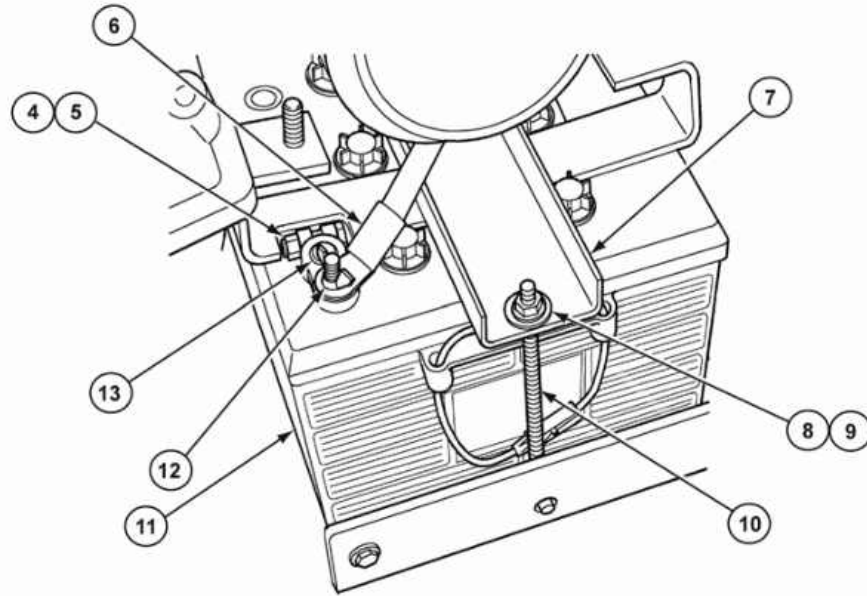
BATTERY REMOVAL

WARNING

Batteries produce explosive gases; keep sparks, flames, and smoking material away. Ventilate when charging or using in an enclosed space. The batteries contain sulfuric acid that causes severe burns. If acid contacts eyes, skin, or clothing, flush immediately with water. For contact with eyes, get immediate medical attention.

1. Remove four wing nuts (12) and cables (6) from four battery terminals (13).
2. Loosen four screws (4) and nuts (5) and remove four battery terminals (13) from two batteries (11).
3. Remove two nuts (8), four washers (9), two hook bolts (10), and retainer (7) from battery (11).
4. Remove two batteries (11) from semitrailer.





BATTERY INSTALLATION

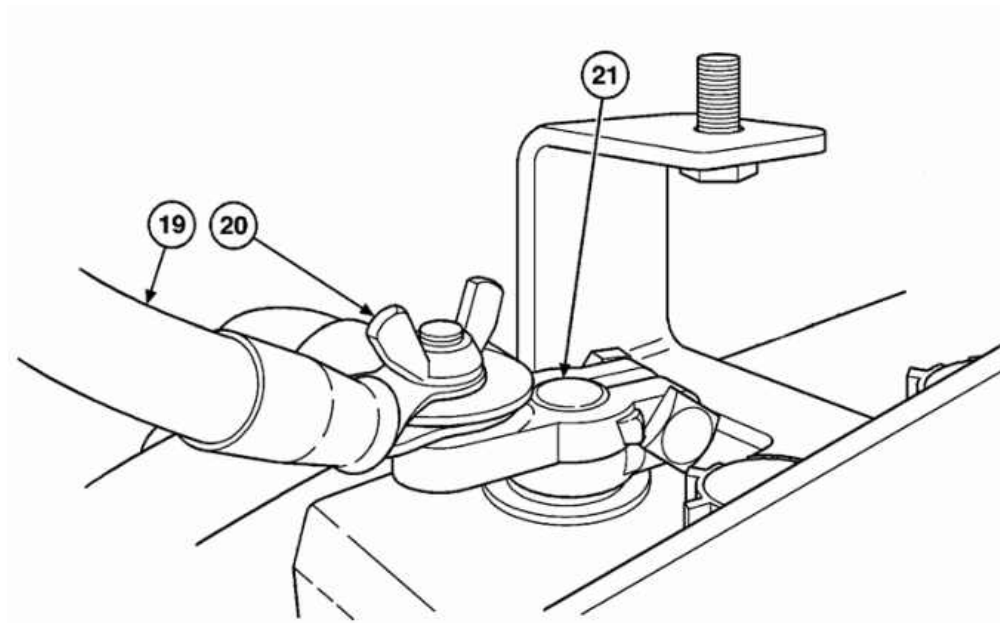
1. Install two batteries (11) to semitrailer.
2. Install battery retainer (7), two hook bolts (10), four washers (9), and two nuts (8) to battery (11).
3. Install four battery terminals (13), nuts (5), and screws (4) to two batteries (11).
4. Install four cables (6) and wing nuts (12) to four battery terminals (13).

BATTERY AND BATTERY CABLES REPLACEMENT—Continued

0054 00

BATTERY CABLE INSTALLATION

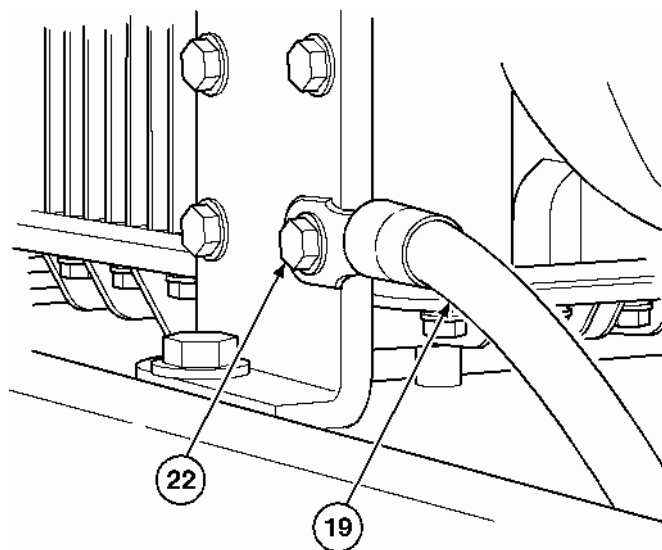
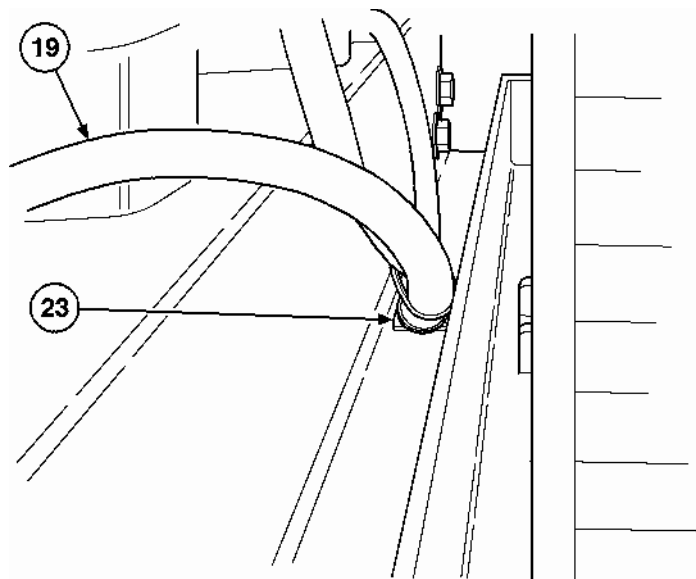
1. Install cables (19) to negative terminal (21) and secure with wing nut (20).



BATTERY AND BATTERY CABLES REPLACEMENT—Continued

0054 00

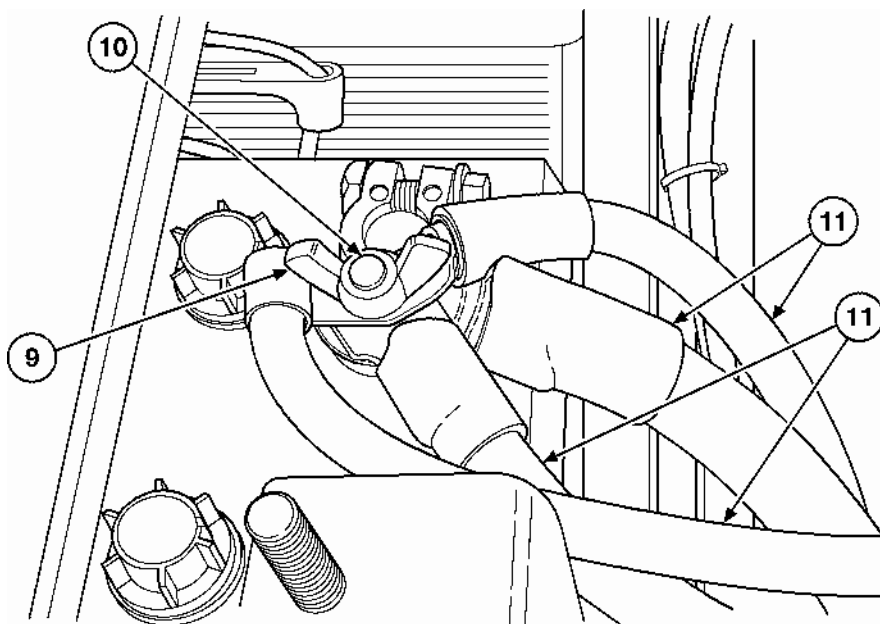
2. Install opposite ends of cables (19) to chassis ground (23), and engine ground (22).



BATTERY AND BATTERY CABLES REPLACEMENT—Continued

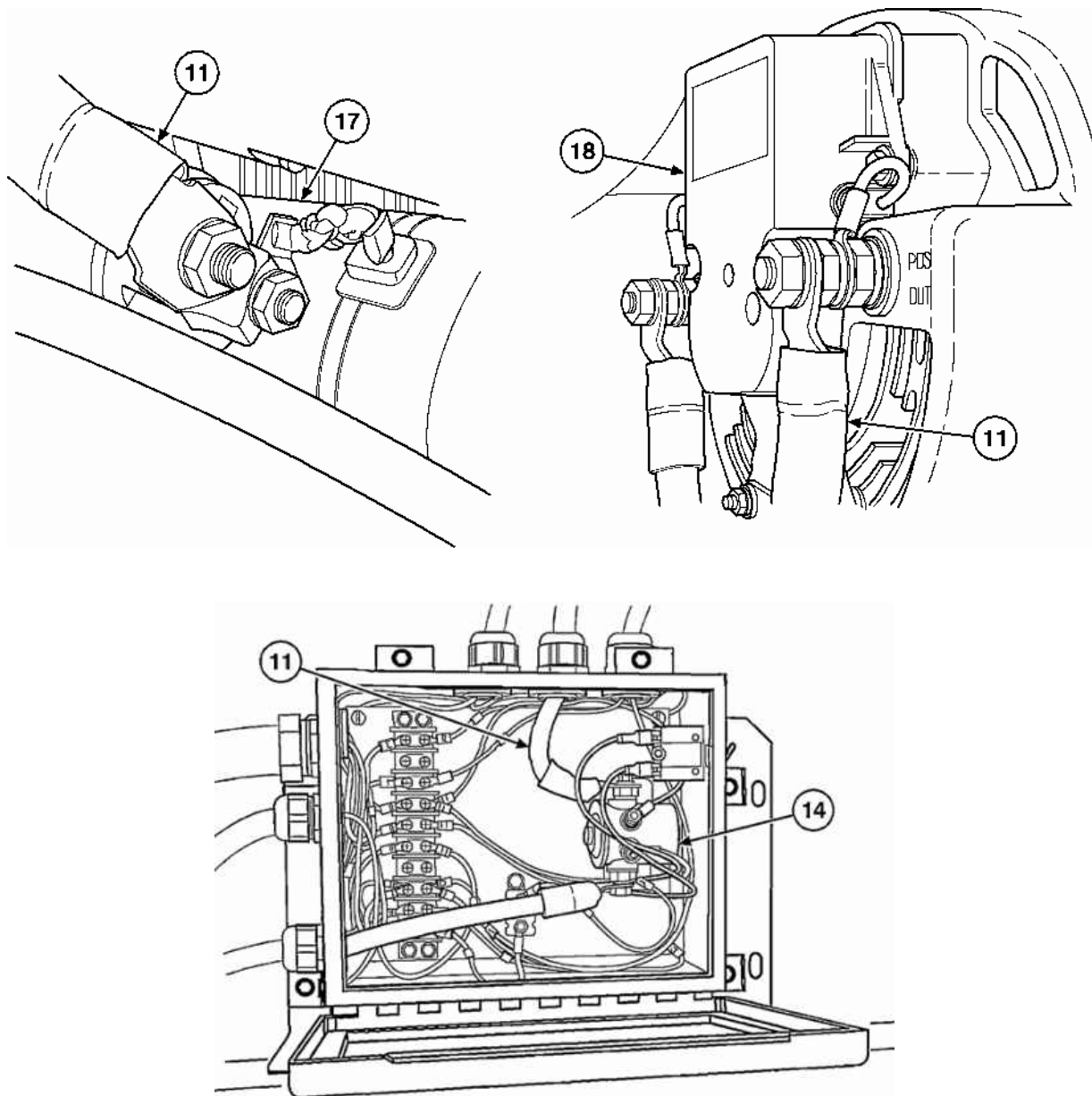
0054 00

3. Install cables (11) to positive terminal (10) and secure with wing nut (9).



BATTERY AND BATTERY CABLES REPLACEMENT—Continued**0054 00**

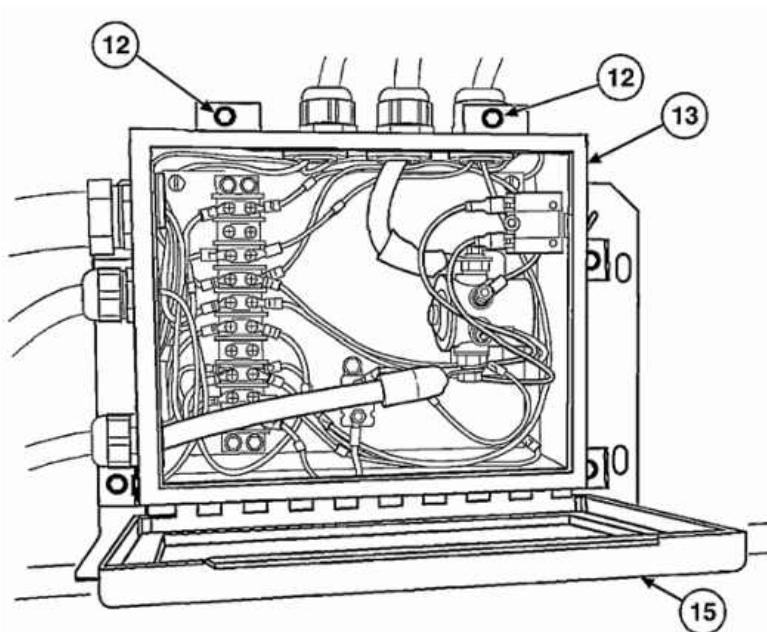
4. Install opposite ends of cables (11) to alternator (18), engine starter (17), engine control box glow plug solenoid (15), and engine control box 30 amp circuit breaker (14).



BATTERY AND BATTERY CABLES REPLACEMENT—Continued

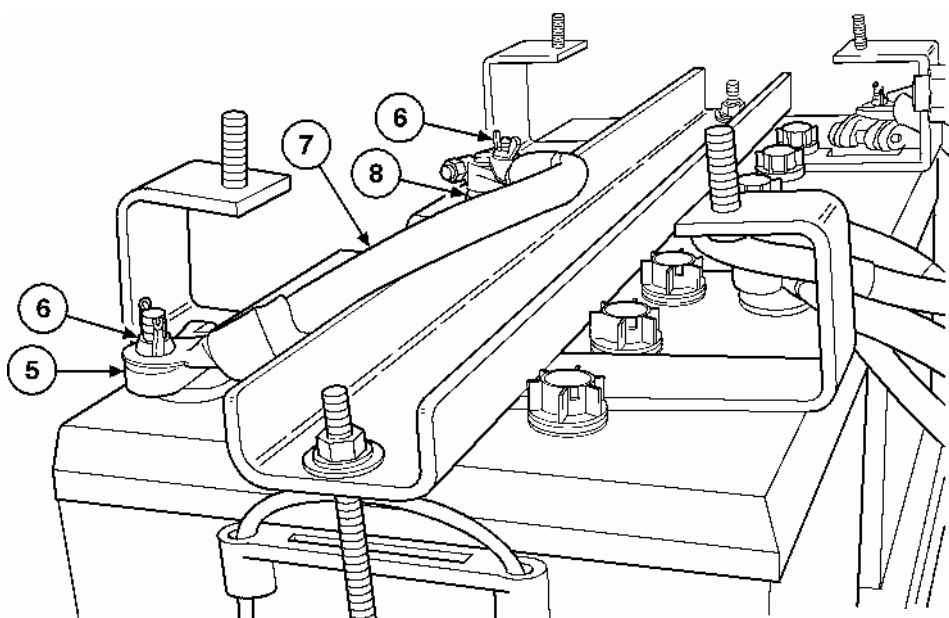
0054 00

5. Install front cover (16) and two screws (12) to engine control box (13).



6. Install jumper cable (7) to negative terminal (5) and positive terminal (8).

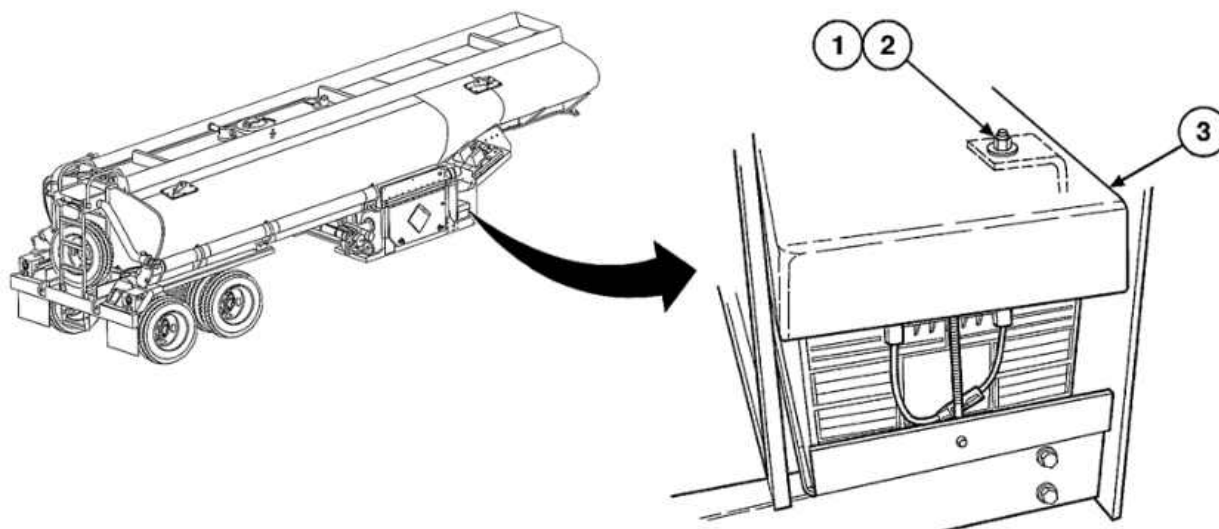
7. Install jumper cable (7) and two wing nuts (6).



BATTERY AND BATTERY CABLES REPLACEMENT—Continued

0054 00

8. Install battery cover (3), washers (2), and new self-locking nuts (1).

**FOLLOW-ON TASKS**

1. Install battery access panel (WP 0055 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).
3. Install NATO slave receptacle (WP 0064 00).

END OF TASK

MAIN WIRING HARNESS MAINTENANCE

0055 00

THIS WP COVERS:

Removal, Inspection, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Gasket (item 82, WP 0160 00)

Gasket (item 83, WP 0160 00)

Gasket (item 84, WP 0160 00)

Self-locking nuts (6) (item 88, WP 0160 00)

References

WP 0062 00

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

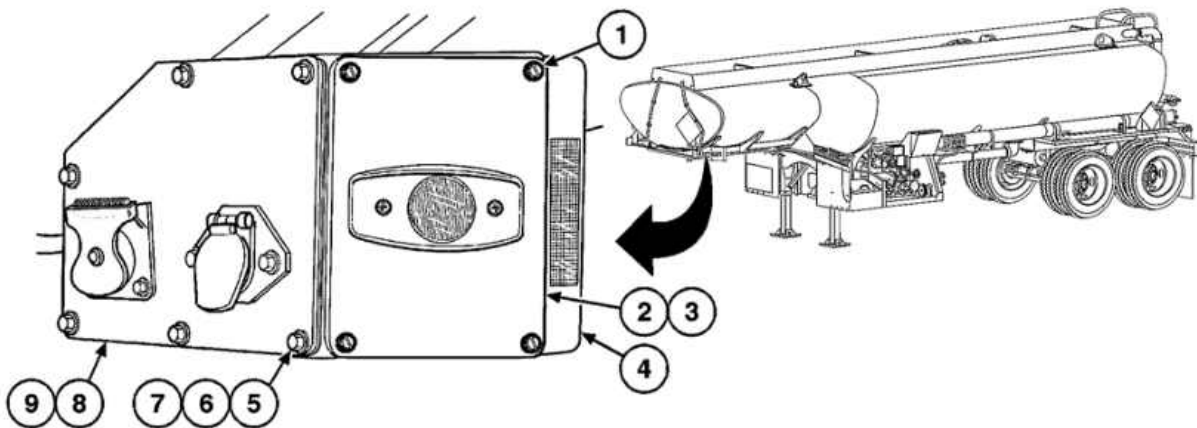
Negative terminal disconnected from battery (refer to WP 0007 00)

REMOVAL

NOTE

Tag all wiring harness connectors prior to disconnecting if they are not already identified or if metal ID band is missing or illegible.

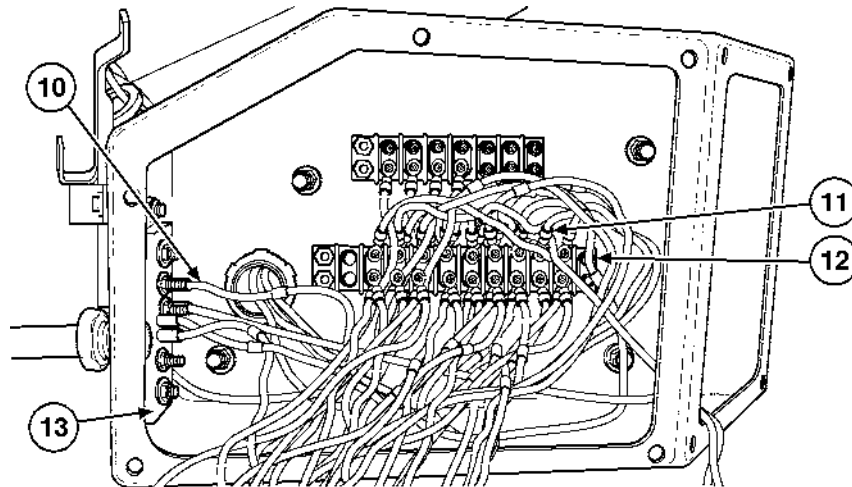
1. Remove four screws (1), gasket (2), and marker light cover (3) from front bulkhead (4). Discard gasket.
2. Remove six self-locking nuts (5), washers (6), bolts (7), and gasket (8) from front access hatch cover (9). Discard self-locking nuts and gasket.



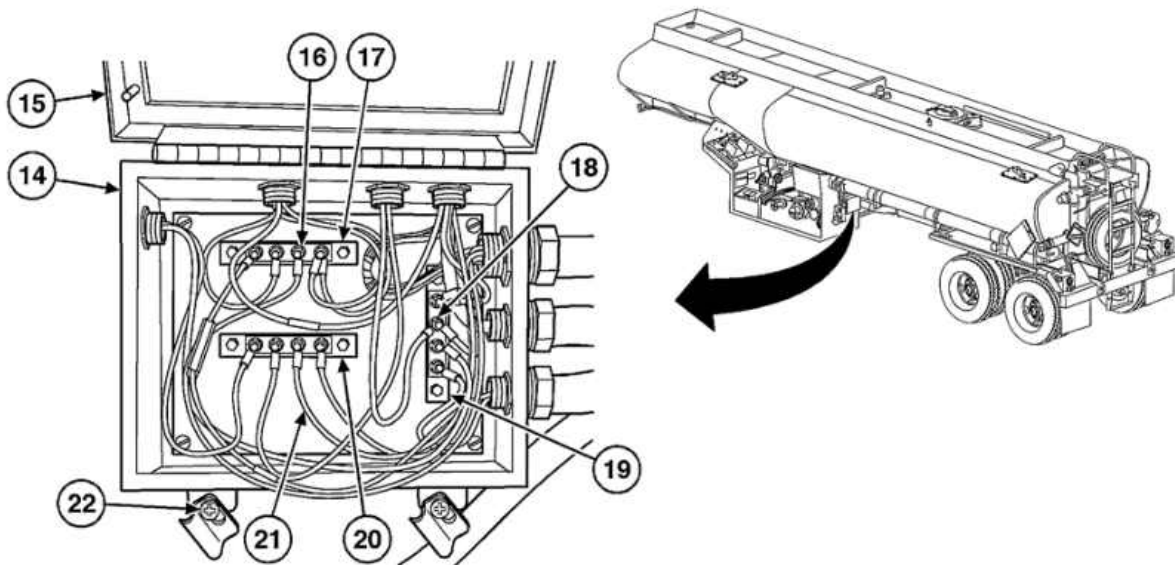
MAIN WIRING HARNESS MAINTENANCE—Continued

0055 00

3. Disconnect wire numbers 24, 23, 460, 461, 21-489, 395, and 324 (11) from terminal strip (12).
4. Disconnect wire number 90 (10) from grounding strip (13).



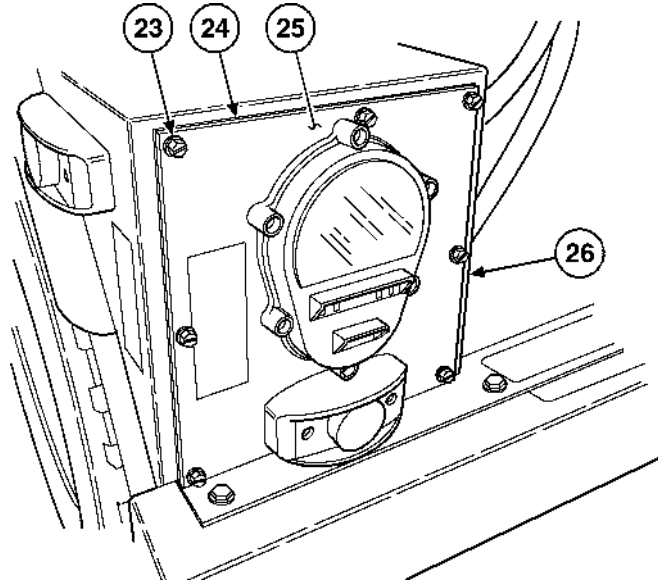
5. Loosen two screws (22) at bottom of electrical junction box (14) and raise front cover (15).
6. Disconnect wire number 395 (16) from upper terminal strip (17).
7. Disconnect wire number 489 (21) from lower terminal strip (20) and wire number 90 (18) from grounding strip (19).



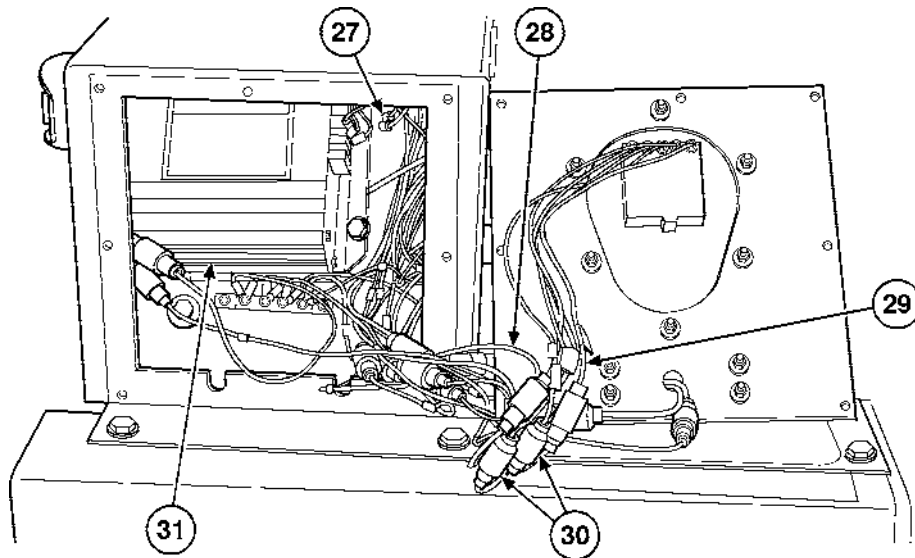
MAIN WIRING HARNESS MAINTENANCE—Continued

0055 00

8. Remove seven screws (23), gasket (24), and roadside composite stoplight assembly cover plate (25) from composite stoplight box (26). Discard gasket.



9. Disconnect wire number 324 (27) from 24–12 V converter (31).
10. Disconnect wire numbers 23, 461, and 460 (28) from connectors (30) at composite stoplight wiring harness (29).



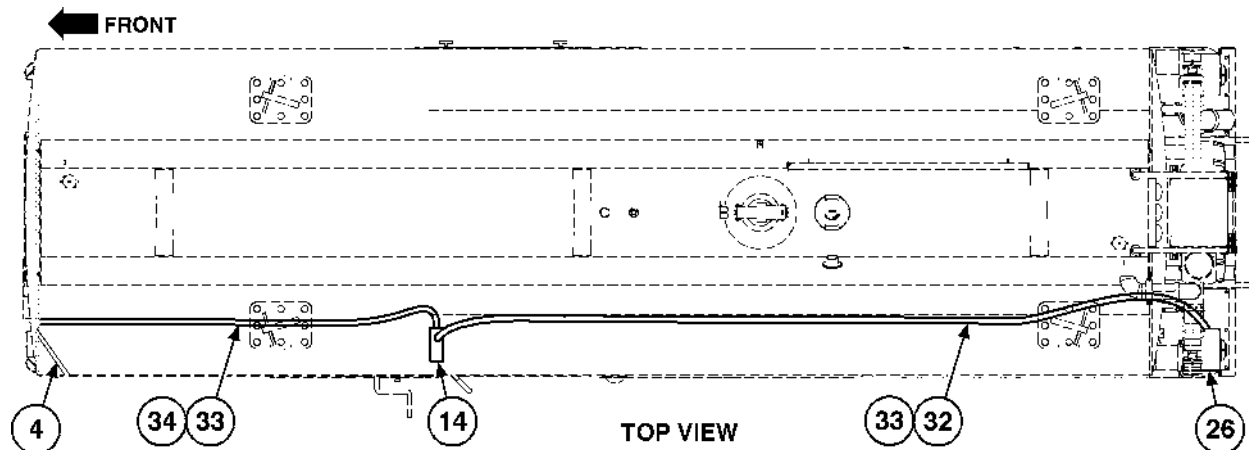
MAIN WIRING HARNESS MAINTENANCE—Continued

0055 00

NOTE

Connectors must be cut from harness leads in order to fit through conduit.

11. Pull main wiring harness (33) through conduit (32) from composite stoplight assembly box (26) to electrical junction box (14).
12. Pull harness (33) through conduit (34) from electrical junction box (14) to front bulkhead (4).



INSPECTION

Inspect wiring harness for cracked or missing insulation, frayed or exposed wires, and loose or damaged connectors. If any of these conditions exist, repair per WP 0062 00.

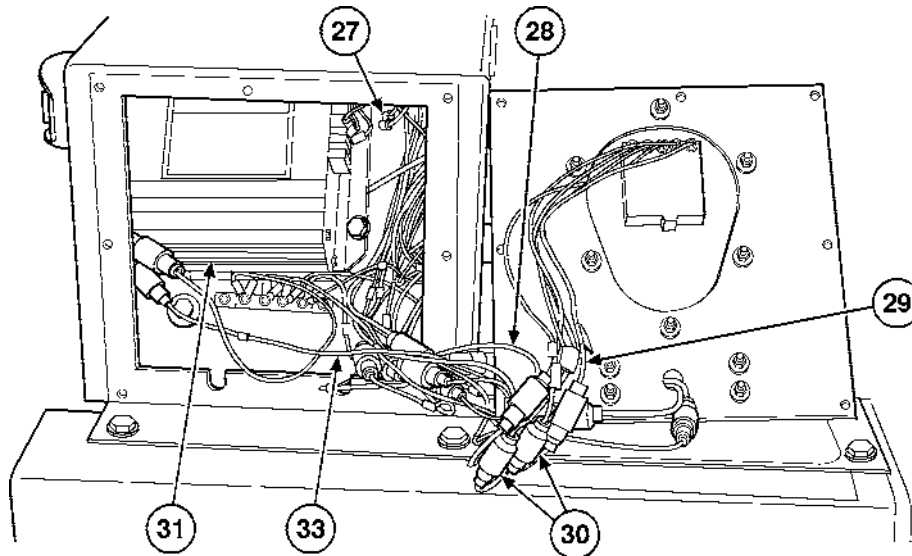
INSTALLATION

1. Install leads of harness (33) to front of bulkhead (4) through conduit (34) to electrical junction box (14).
2. From electrical junction box (14), install leads of harness (33) through conduit (32) to the roadside composite stoplight assembly (26).

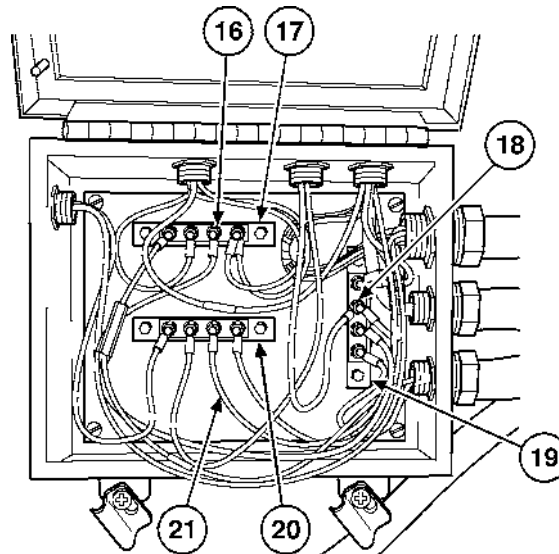
MAIN WIRING HARNESS MAINTENANCE—Continued

0055 00

3. Install new connectors (30) on all wiring harness leads per WP 0062 00.
4. Install connectors of wire numbers 23, 461, and 460 (28), main wiring harness (33) to corresponding connectors (30) of composite stoplight wiring harness (29).
5. Connect wire number 324 (27) to 24–12 V converter (31).



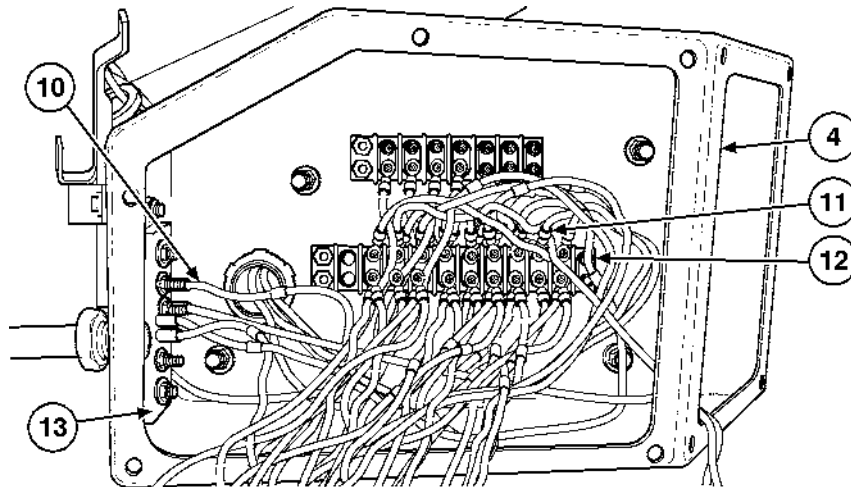
6. Connect wire number 489 (21) to lower terminal strip (20) and wire number 90 (18) to grounding strip (19).
7. Connect wire number 395 (16) to upper terminal strip (17).



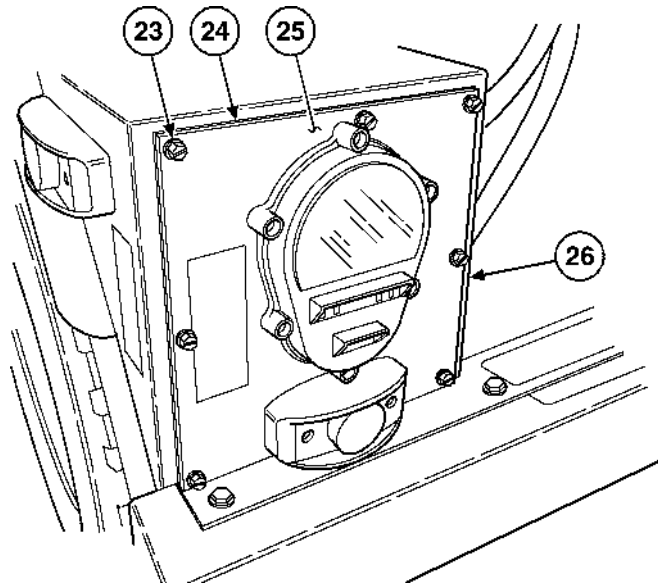
MAIN WIRING HARNESS MAINTENANCE—Continued

0055 00

8. Connect wire number 90 (10) to grounding strip (13) at front of bulkhead (4).
9. Connect wire numbers 324, 395, 21-489, 461, 460, 23, and 24 (11) to terminal strip (12).



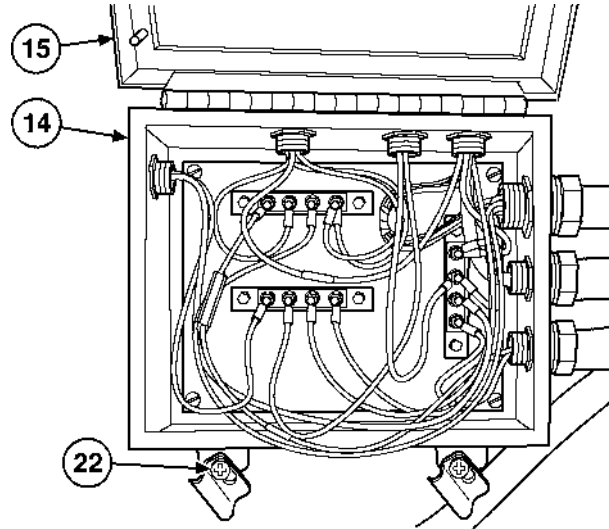
10. Install new gasket (24), roadside composite stoplight assembly cover plate (25), and seven screws (23) to composite stoplight box (26).



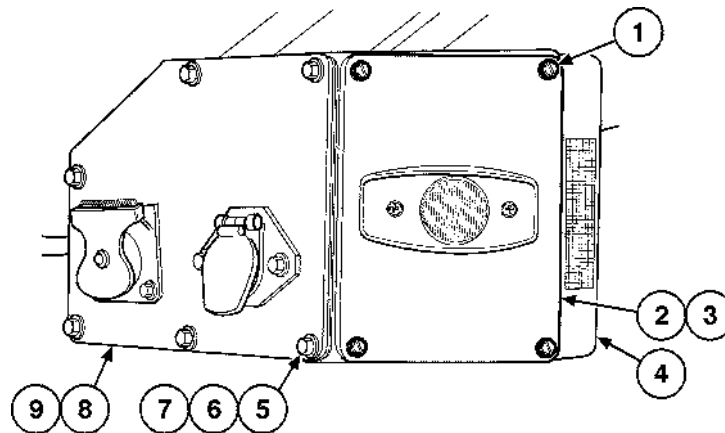
MAIN WIRING HARNESS MAINTENANCE—Continued

0055 00

11. Install electrical junction box cover (15) to junction box (14) and secure with two screws (22).



12. Install new gasket (8), six bolts (7), washers (6), front access hatch cover (9), and six new self-locking nuts (5) to front of bulkhead (4).
13. Install marker light cover (3), new gasket (2), and four screws (1) to front of bulkhead (4).



FOLLOW-ON TASKS

1. Reconnect negative battery terminal (WP 0007 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

FRONT MARKER LIGHTS WIRING HARNESS MAINTENANCE

0056 00

THIS WP COVERS:Removal, Inspection, Installation, Follow-On Tasks

INITIAL SETUP:**Maintenance Level**

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Connectors (AR) (item 119, WP 0160 00)

Gasket (item 83, WP 0160 00)

Gaskets (2) (item 84, WP 0160 00)

Self-locking nuts (6) (item 88, WP 0160 00)

References

WP 0062 00

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

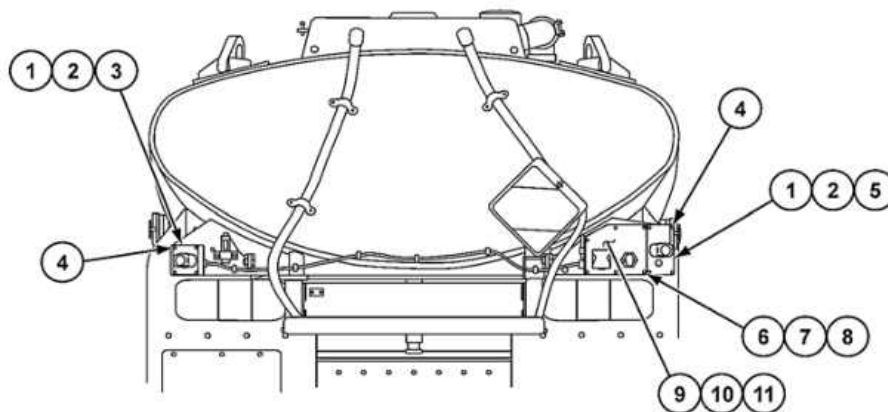
Semitrailer grounded (refer to WP 0007 00)

Negative terminal disconnected from battery (refer to WP 0007 00)

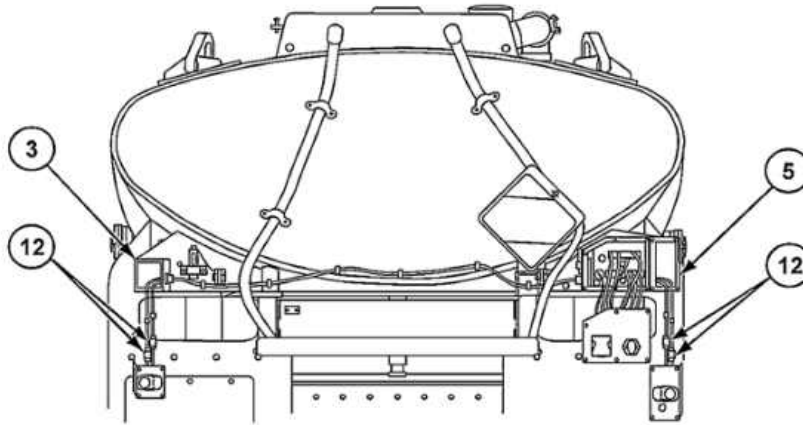
REMOVAL**NOTE**

Tag all wiring harness connectors prior to disconnecting if they are not already identified or if metal ID band is missing or illegible.

1. Remove eight screws (4), two gaskets (1), and covers (2) from roadside (5) and curbside (3) front marker light boxes. Discard gaskets.
2. Remove six self-locking nuts (6), washers (7), screws (8), gasket (9), and front access hatch cover (10) from front access hatch (11). Discard self-locking nuts and gasket.



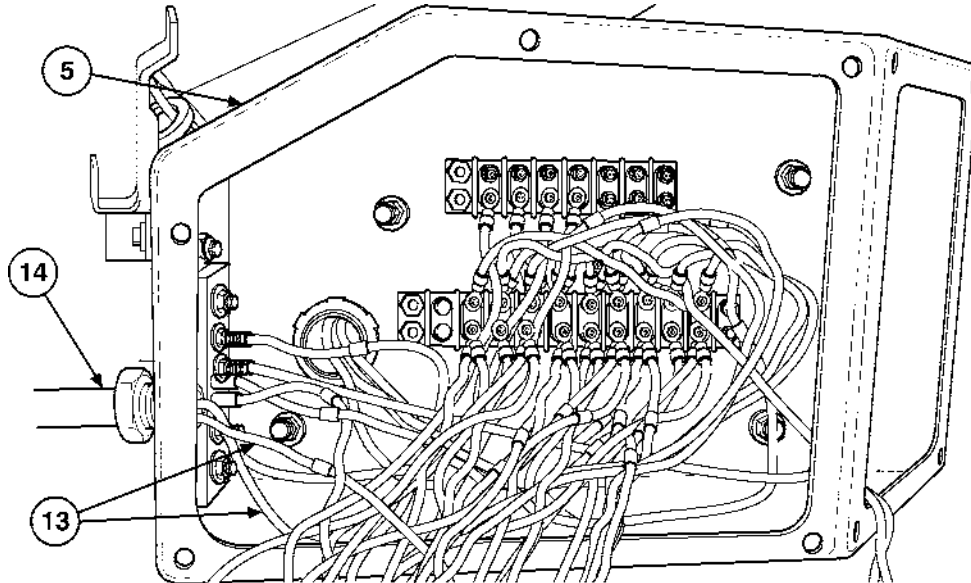
3. Disconnect two connectors (12) at curbside (3) and roadside (5) boxes.



NOTE

Connectors must be cut from harness leads in order to fit through conduit.

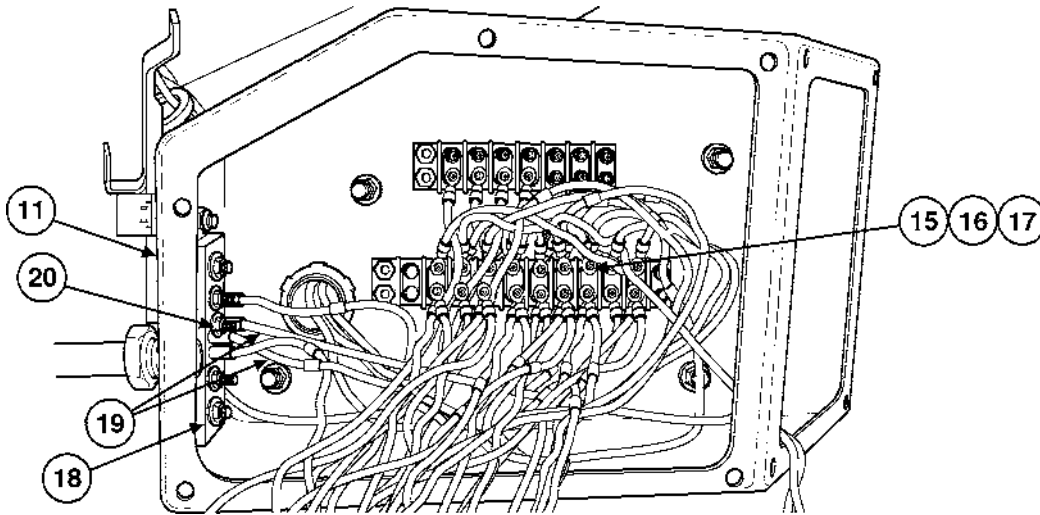
4. At roadside box (5), pull two wires (13) from curbside box (3) through conduit (14). Discard connectors.



FRONT MARKER LIGHTS WIRING HARNESS MAINTENANCE—Continued

0056 00

5. Remove screw (15) from terminal strip (16) in hatch (11) and remove two wires (17).
6. Remove two screws (20) and wires (19) from grounding strip (18) in hatch (11).

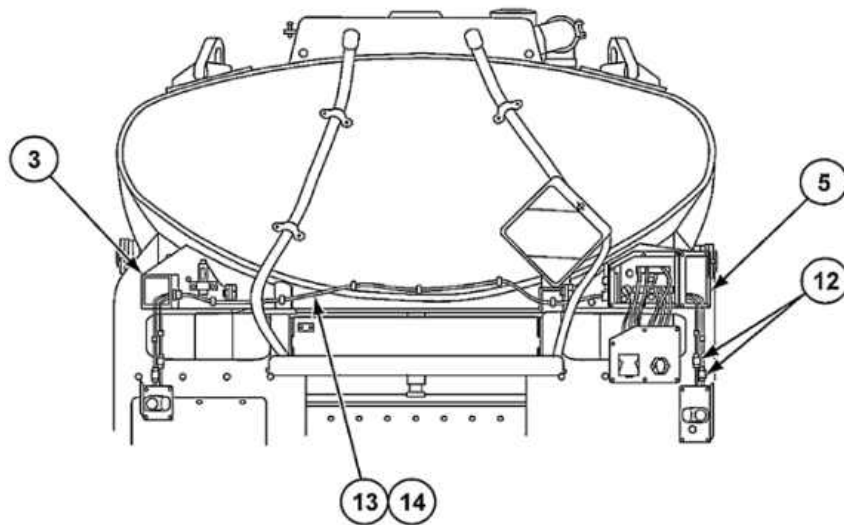


INSPECTION

Inspect wiring harness for cracked or missing insulation, frayed or exposed wires, and loose or damaged connectors. If any of these conditions exist, repair per WP 0062 00.

INSTALLATION

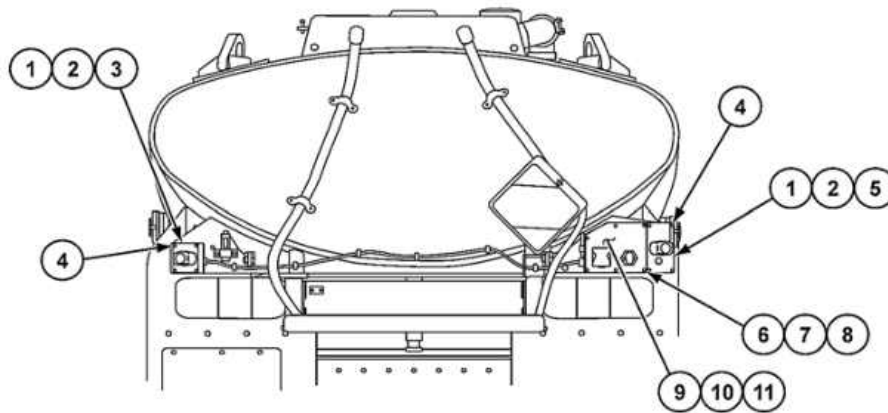
1. Install two wires (19) and screws (20) to grounding strip (18) in hatch (11).
2. Install two wires (17) and screw (15) to terminal strip (16) in hatch (11).



FRONT MARKER LIGHTS WIRING HARNESS MAINTENANCE—Continued

0056 00

3. At roadside box (5), install two wires (13) through conduit (14) to curbside box (3).
4. Install new connectors (12) on wiring harness leads per WP 0062 00.
5. Install new connectors (12) at roadside (5) and curbside (3) boxes.
6. Install new gasket (9), front access hatch cover (10), six screws (8), washer (7), and new self-locking nuts (6) to hatch (11).
7. Install two new gaskets (1), eight screws (4), and two covers (2) to roadside (5) and curbside (3) boxes.



FOLLOW-ON TASKS

1. Disconnect semitrailer grounding cables (WP 0007 00).
2. Reconnect negative battery terminal (WP 0007 00).

END OF TASK

SIDE MARKER LIGHTS HARNESS MAINTENANCE

0057 00

THIS WP COVERS:Removal, Inspection, Installation, Follow-On Tasks

INITIAL SETUP:**Maintenance Level**

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Connectors (AR) (item 119, WP 0160 00)

Gasket (item 84, WP 0160 00)

ReferencesWP 0062 00

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

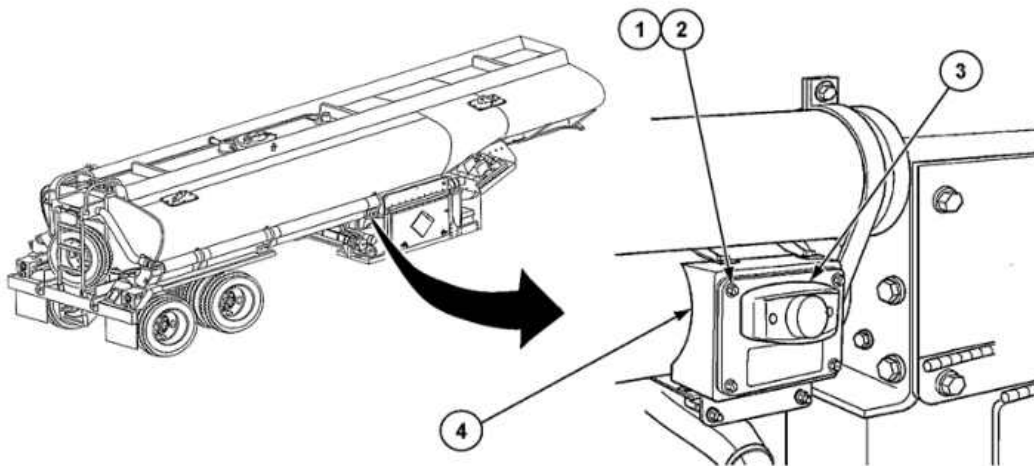
Semitrailer grounded (refer to WP 0007 00)

Negative terminal disconnected from battery (refer to WP 0007 00)

REMOVAL**NOTE**

- Tag all wiring harness connectors prior to disconnecting if they are not already identified or if metal ID band is missing or illegible.
- There are two side marker light boxes, curbside and roadside, on the M967A2. This procedure covers the curbside marker light box.

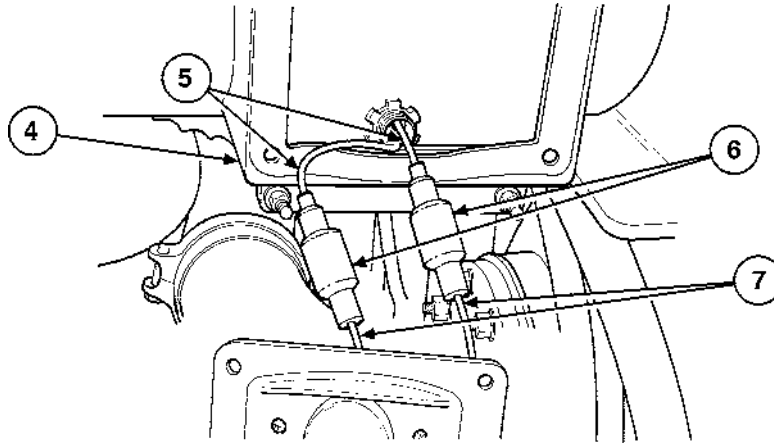
1. Remove four screws (1), gasket (2), and marker light cover (3) from curbside marker light box (4). Discard gasket.



SIDE MARKER LIGHTS HARNESS MAINTENANCE—Continued

0057 00

2. Disconnect two wires (5) and connectors (6) from marker light leads (7) in curbside marker box (4).

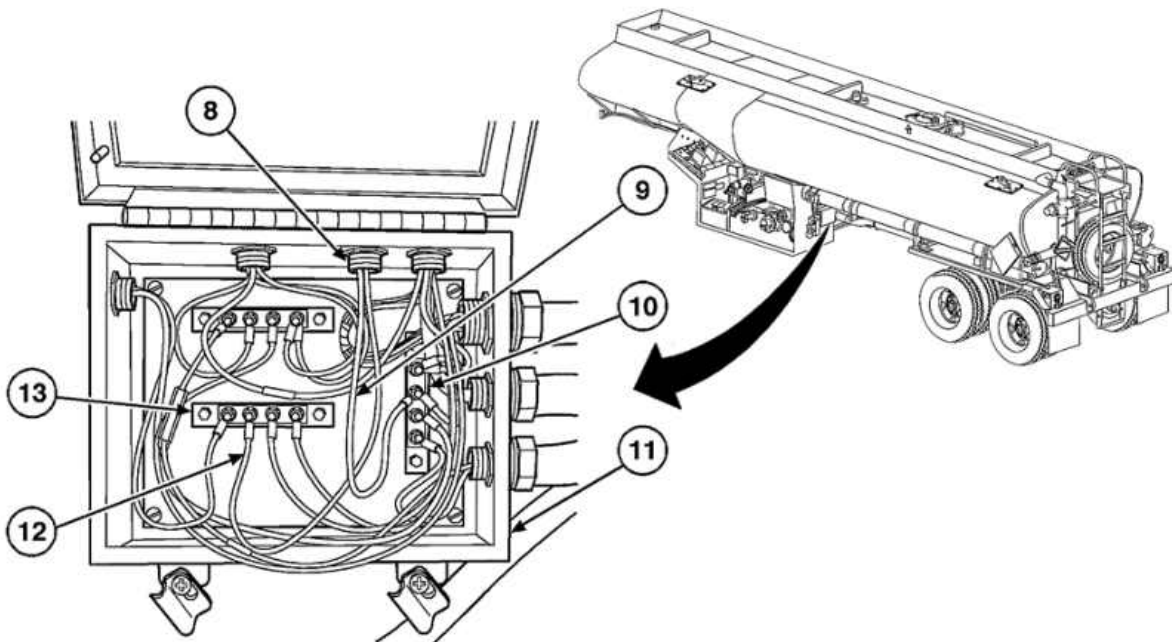


3. Disconnect wire (9) from grounding strip (10) in electrical junction box (11).
4. Disconnect wire (12) from terminal strip (13) in junction box (11).

NOTE

Connectors must be cut from harness leads in order to fit through conduit.

5. Pull two harness wires (9 and 12) through conduit (8) and out through curbside marker light box (4). Discard connectors.



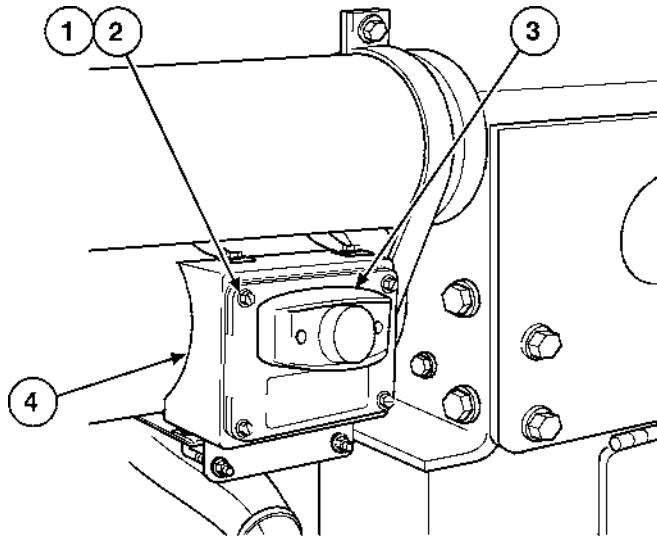
SIDE MARKER LIGHTS HARNESS MAINTENANCE—Continued

0057 00**INSPECTION**

Inspect wiring harness for cracked or missing insulation, frayed or exposed wires, and loose or damaged connectors. If any of these conditions exist, repair per WP 0062 00.

INSTALLATION

1. Install side marker light harness wires (9 and 12) through conduit (8) to junction box (11) from curbside marker light box (4).
2. Install new connectors (6) on all wires (5) per WP 0062 00.
3. Connect wire (12) to terminal strip (13) in junction box (11).
4. Connect wire (9) to grounding strip (10) in junction box (11).
5. Connect two wires (5) and connectors (6) to marker light leads (7) in curbside box (4).
6. Install marker light cover (3), new gasket (2), and four screws (1) to curbside marker light box (4).

**FOLLOW-ON TASKS**

1. Disconnect semitrailer grounding cables (WP 0007 00).
2. Reconnect negative battery terminal (WP 0007 00).

END OF TASK

COMPOSITE STOPLIGHT HARNESS MAINTENANCE

0058 00

THIS WP COVERS:

Removal, Inspection, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Compound, silicone (item 6, WP 0159 00)
Connectors (AR) (item 119, WP 0160 00)
Gaskets (2) (item 82, WP 0160 00)
Self-locking nuts (4) (item 114, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)
Semitrailer grounded (refer to WP 0007 00)
Negative terminal disconnected from battery (refer to WP 0007 00)

References

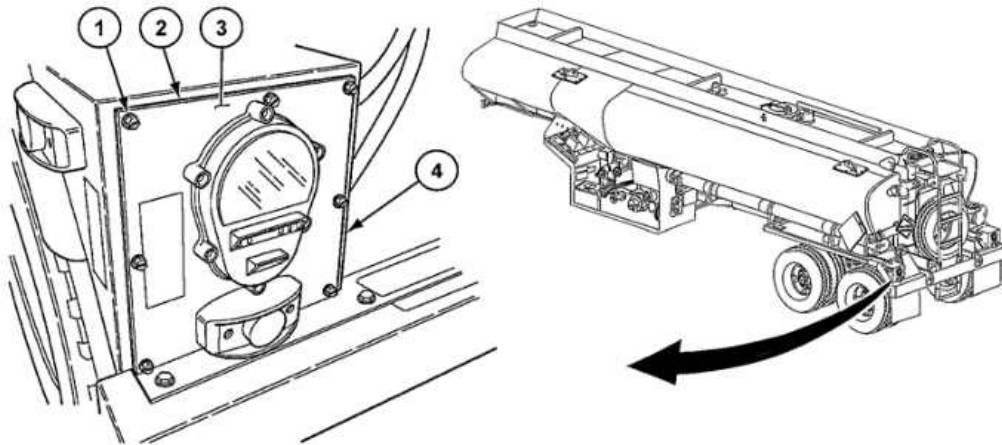
WP 0062 00

REMOVAL

NOTE

Tag all wiring harness connectors prior to disconnecting if they are not already identified or if metal ID band is missing or illegible.

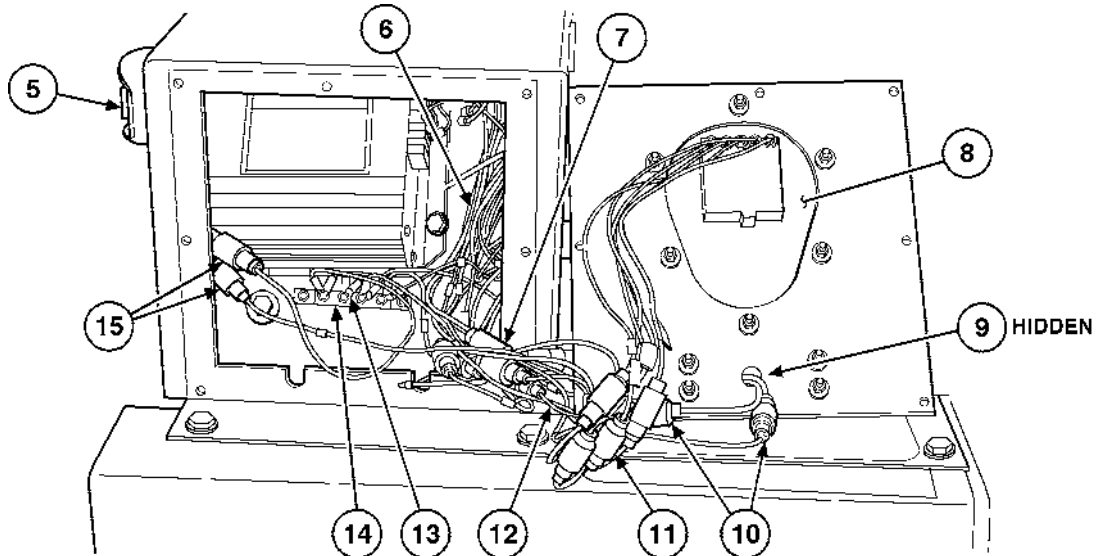
1. Remove seven screws (1), gasket (2), and composite stoplight cover plate (3) from roadside marker stoplight box (4). Discard gasket.



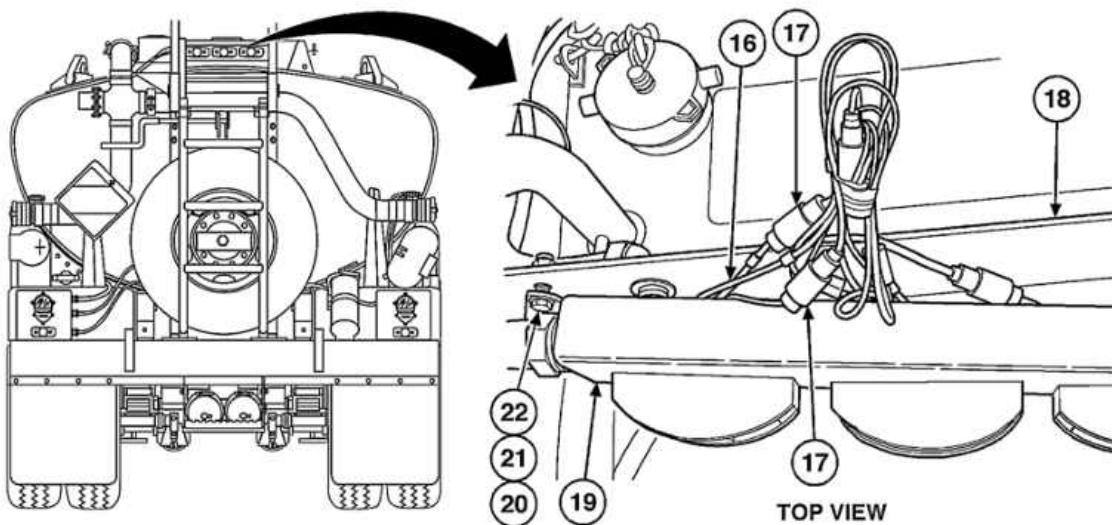
COMPOSITE STOPLIGHT HARNESS MAINTENANCE—Continued

0058 00

2. Disconnect five connectors (7) of main trailer harness (6) from composite stoplight harness (12).
3. Disconnect two connectors (10) from rear marker light (9) and two connectors (15) from side marker light (5).
4. Disconnect five connectors (11) from roadside composite stoplight assembly (8).
5. Disconnect eight wires (13) from grounding strip (14).



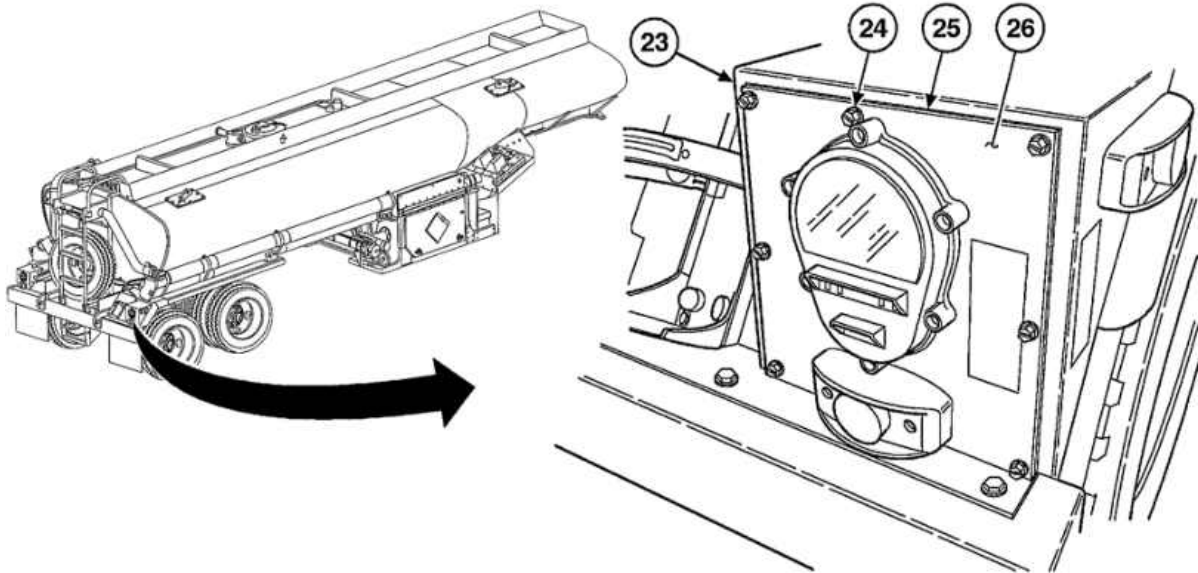
6. Remove four self-locking nuts (20), eight washers (21), four bolts (22), and top marker light box (19) from bulkhead (18). Discard self-locking nuts.
7. Disconnect two connectors (17) from top marker light harness (16) inside box (19).



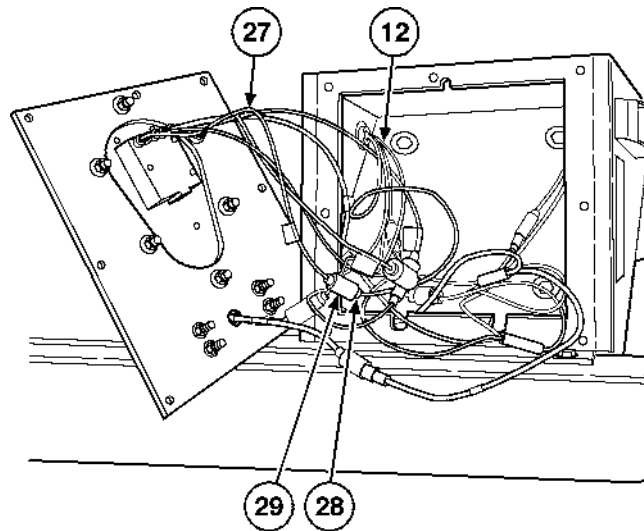
COMPOSITE STOPLIGHT HARNESS MAINTENANCE—Continued

0058 00

8. Remove seven screws (24), gasket (25), and composite stoplight cover plate (26) from curbside box (23). Discard gasket.



9. Disconnect five connectors (28) of composite stoplight harness (12) from connectors (29) of curbside stoplight harness (27).



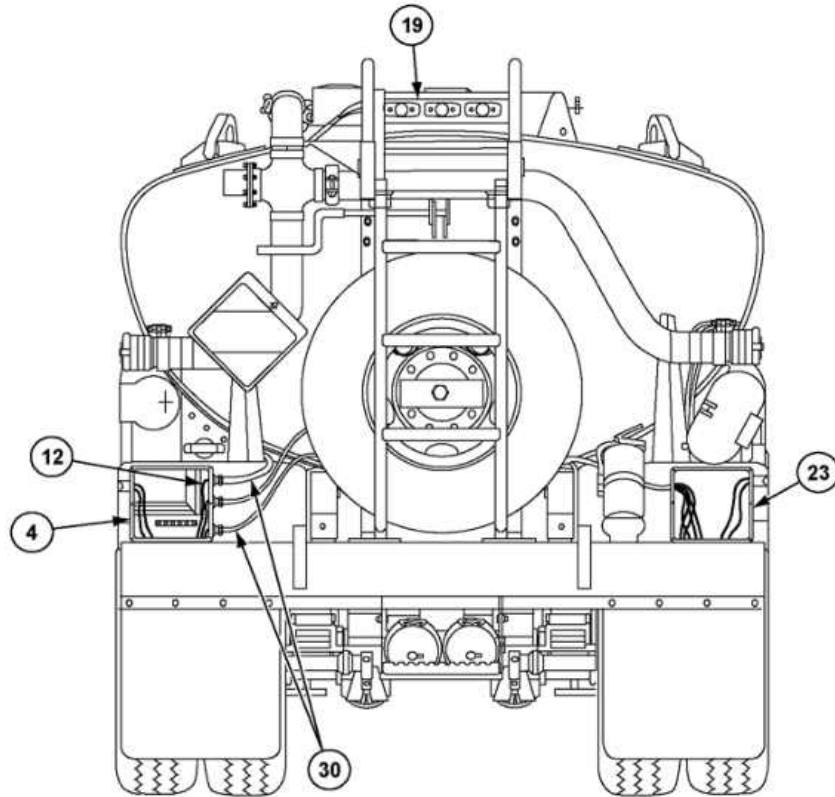
NOTE

Connectors must be cut from harness in order to fit through conduits.

COMPOSITE STOPLIGHT HARNESS MAINTENANCE—Continued

0058 00

10. Pull composite stoplight harness (12) at roadside marker stoplight box (4) through two conduits (30) from curbside marker stoplight box (23) and top marker light box (19). Discard connectors.

**INSPECTION**

Inspect wiring harness for cracked or missing insulation, frayed or exposed wires, and loose or damaged connectors. If any of these conditions exist, repair per WP 0062 00.

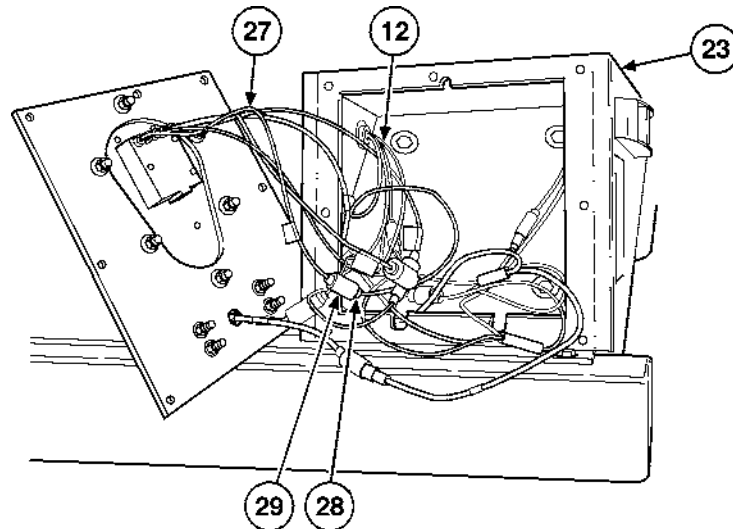
INSTALLATION

1. Install leads of harness (12) through two conduits (30) from roadside marker stoplight box (4) to top marker light box (19) and curbside marker stoplight box (23).

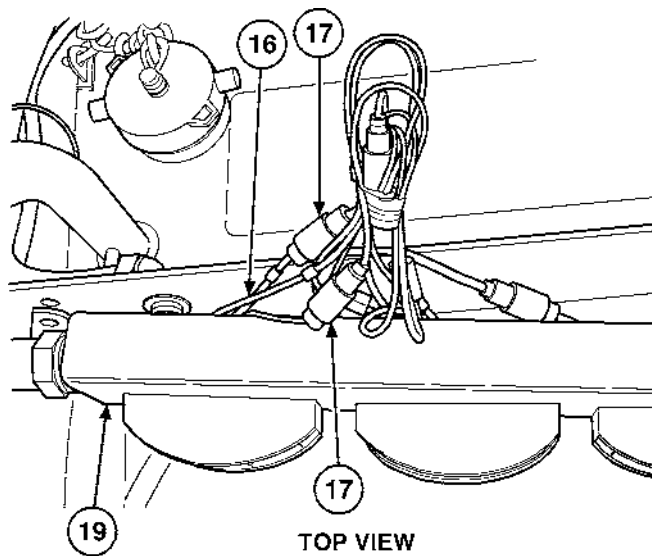
COMPOSITE STOPLIGHT HARNESS MAINTENANCE—Continued

0058 00

2. Install new connectors on all leads per WP 0062 00.
3. Connect five connectors (28) of composite stoplight harness (12) to connectors (29) of curbside stoplight harness leads (27) in curbside marker stoplight box (23).



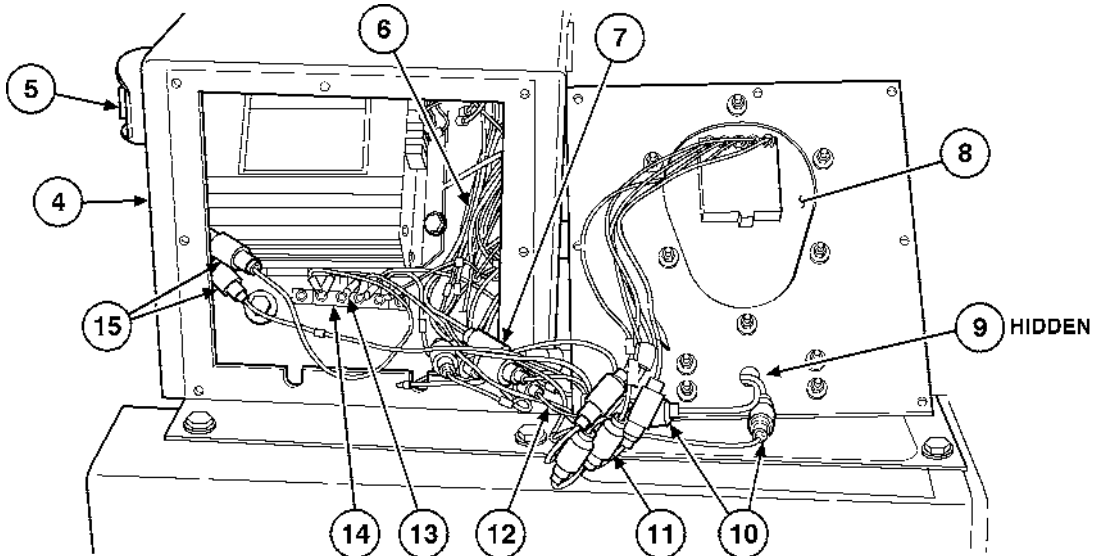
4. Connect two connectors (17) to top marker light harness (16) in top marker light box (19).



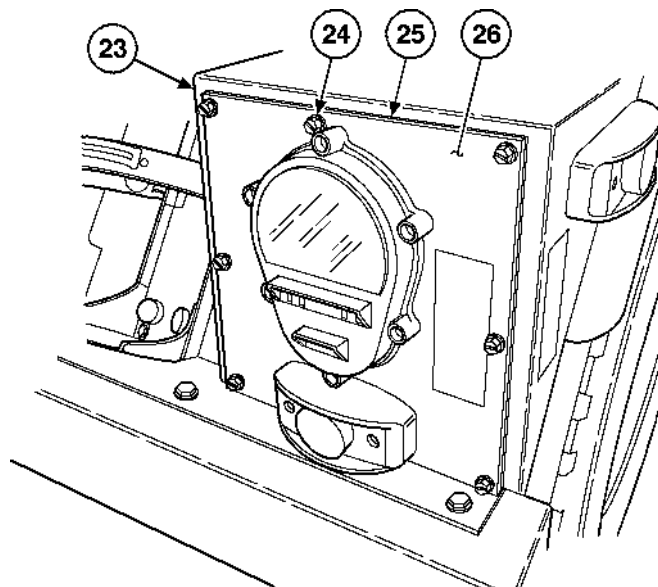
COMPOSITE STOPLIGHT HARNESS MAINTENANCE—Continued

0058 00

5. Connect eight wires (13) to grounding strip (14) in roadside composite marker stoplight box (4).
6. Connect five connectors (11) to roadside composite stoplight assembly (8).
7. Connect two connectors (10) to rear marker light (9) and two connectors (15) to side marker light (5).
8. Connect five connectors (7) of main trailer harness (6) to composite stoplight harness (12).



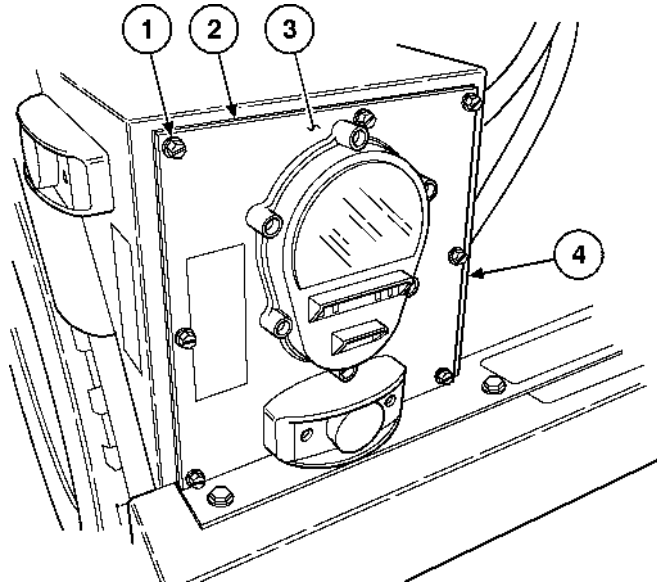
9. Install new gasket (25), composite stoplight cover plate (26), and seven screws (24) to curbside marker stoplight box (23).



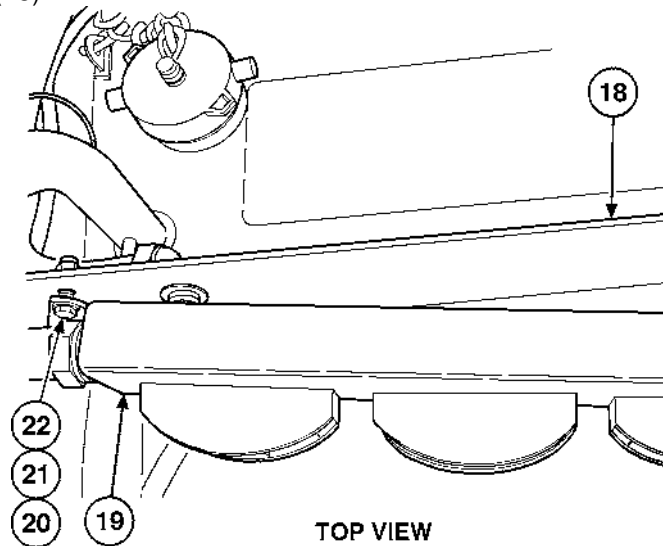
COMPOSITE STOPLIGHT HARNESS MAINTENANCE—Continued

0058 00

10. Install new gasket (2), composite stoplight cover plate (3), and seven screws (1) to roadside marker stoplight box (4).



11. Install top marker light box (19), four bolts (22), eight washers (21), and four new self-locking nuts (20) to bulkhead (18).



12. Apply silicone sealant around edges of top marker light box (19).

FOLLOW-ON TASKS

1. Reconnect negative battery terminal (WP 0007 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

INTERVEHICULAR WIRING HARNESSES MAINTENANCE

0059 00

THIS WP COVERS:

Removal, Inspection, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Connectors (AR) (item 74, WP 0160 00)

Gasket (item 83, WP 0160 00)

Gasket (item 84, WP 0160 00)

Self-locking nuts (12) (item 88, WP 0160 00)

References

WP 0062 00

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

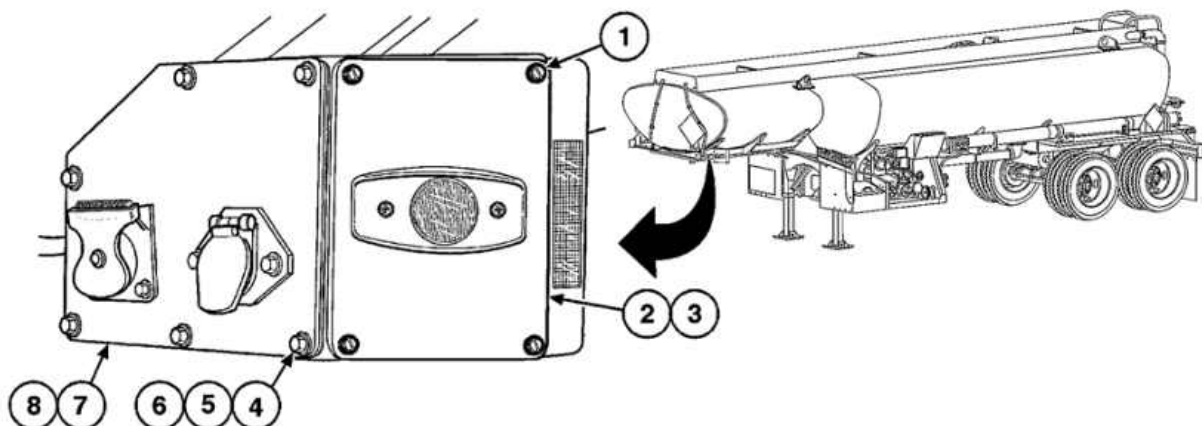
Negative terminal disconnected from battery (refer to WP 0007 00)

REMOVAL

NOTE

Tag all wiring harness connectors prior to disconnecting if they are not already identified or if metal ID band is missing or illegible.

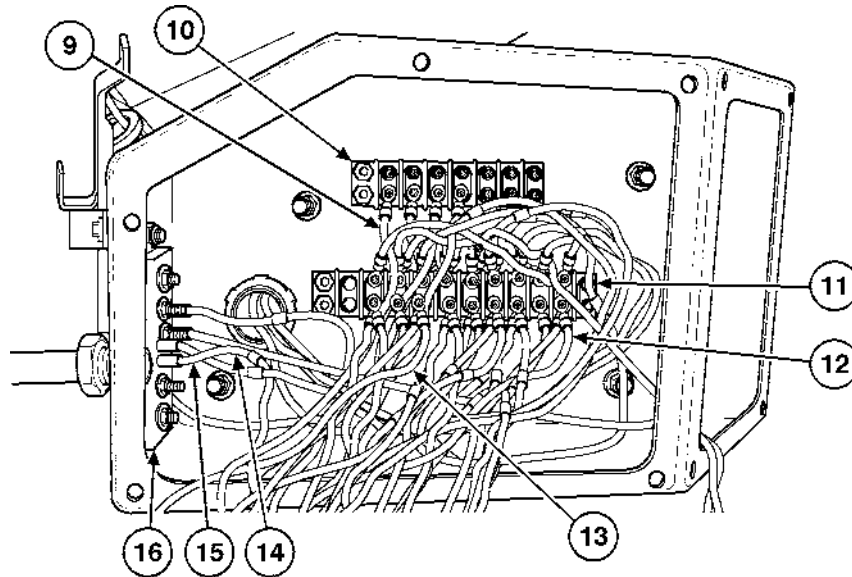
1. Remove four screws (1), gasket (2), and marker light cover (3). Discard gasket.
2. Remove six self-locking nuts (4), washers (5), bolts (6), and gasket (7) from front access cover (8). Discard self-locking nuts and gasket.



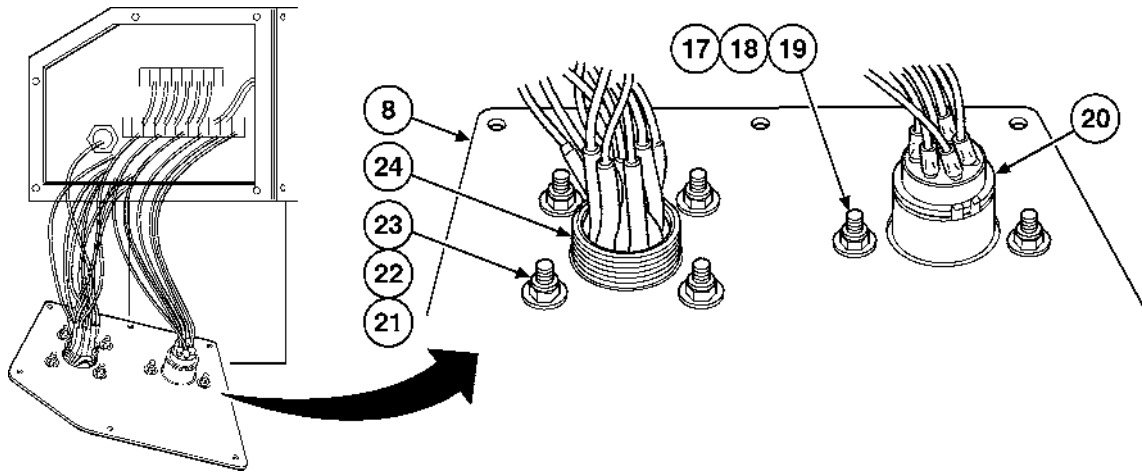
INTERVEHICULAR WIRING HARNESSES MAINTENANCE—Continued

0059 00

3. Disconnect four wires (9) from upper terminal strip (10).
4. Disconnect six wires (12) from lower terminal strip (11).
5. Disconnect seven wires (13) from lower terminal strip (11).
6. Disconnect wire (14) from grounding strip (16).
7. Disconnect wire (15) from grounding strip (16).



8. Remove two self-locking nuts (17), four washers (18), two bolts (19), and 7-way intervehicular wiring harness (20) from hatch cover (8). Discard self-locking nuts.
9. Remove four self-locking nuts (21), washers (22), bolts (23), and 12-way intervehicular wiring harness (24) from hatch cover (8). Discard self-locking nuts.

**INSPECTION**

Inspect wiring harness for cracked or missing insulation, frayed or exposed wires, and loose or damaged connectors. If any of these conditions exist, repair per WP 0062 00.

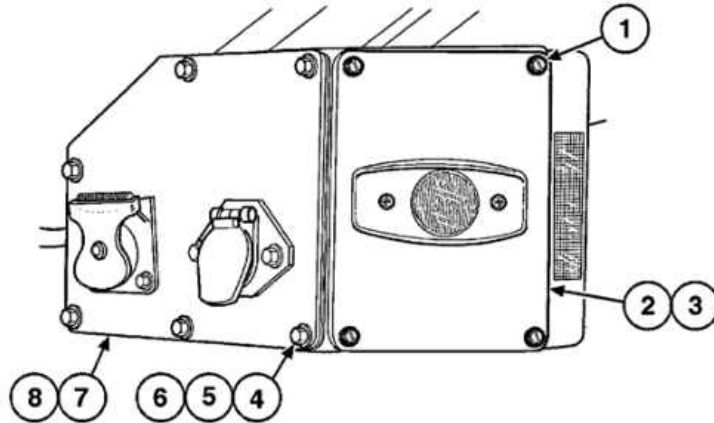
INSTALLATION

1. Install 12-way intervehicular wiring harness (24), four bolts (23), washers (22), and new self-locking nuts (21) to cover (8).
2. Install 7-way intervehicular wiring harness (20), two bolts (19), four washers (18), and two new self-locking nuts (17) to hatch cover (8).
3. Connect wire (15) to grounding strip (16).
4. Connect wire (14) to grounding strip (16).
5. Connect seven wires (13) to lower terminal strip (11).
6. Connect six wires (12) to lower terminal strip (11).
7. Connect four wires (9) to upper terminal strip (10).

INTERVEHICULAR WIRING HARNESSES MAINTENANCE—Continued

0059 00

8. Install new gasket (7), six bolts (6), washers (5), and new self-locking nuts (4) to cover (8).
9. Install marker light cover (3), new gasket (2), and four screws (1).



FOLLOW-ON TASKS

1. Reconnect negative battery terminal (WP 0007 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

CONDUITS REPLACEMENT

0060 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Conduits (AR) (item 73, WP 0160 00)

Inserts (2) (item 38, WP 0160 00)

Sleeves (2) (item 38, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Negative terminal disconnected from battery (refer to WP 0007 00)

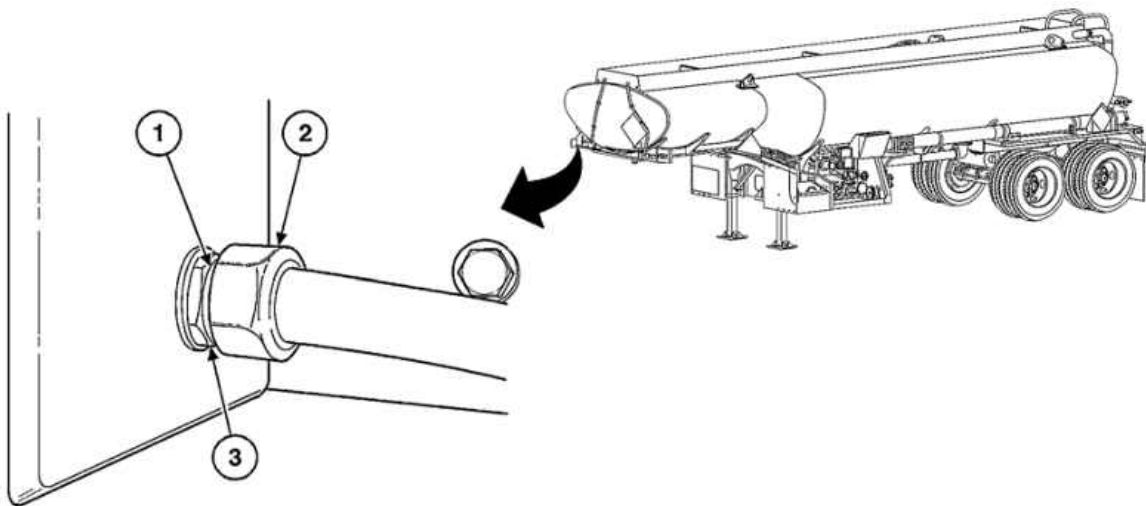
Front marker lights wiring harness removed (refer to WP 0056)

REMOVAL

NOTE

All conduits are replaced the same way, only the number of clips and brackets vary. This procedure replaces the front conduit.

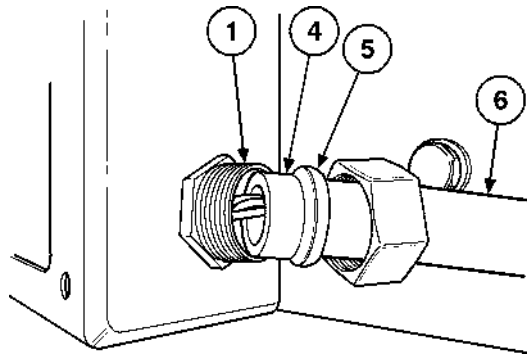
1. Remove conduit nut (2) from threads of conduit fitting (1).
2. Loosen nut (3) at fitting (1).



CONDUITS REPLACEMENT—Continued

0060 00

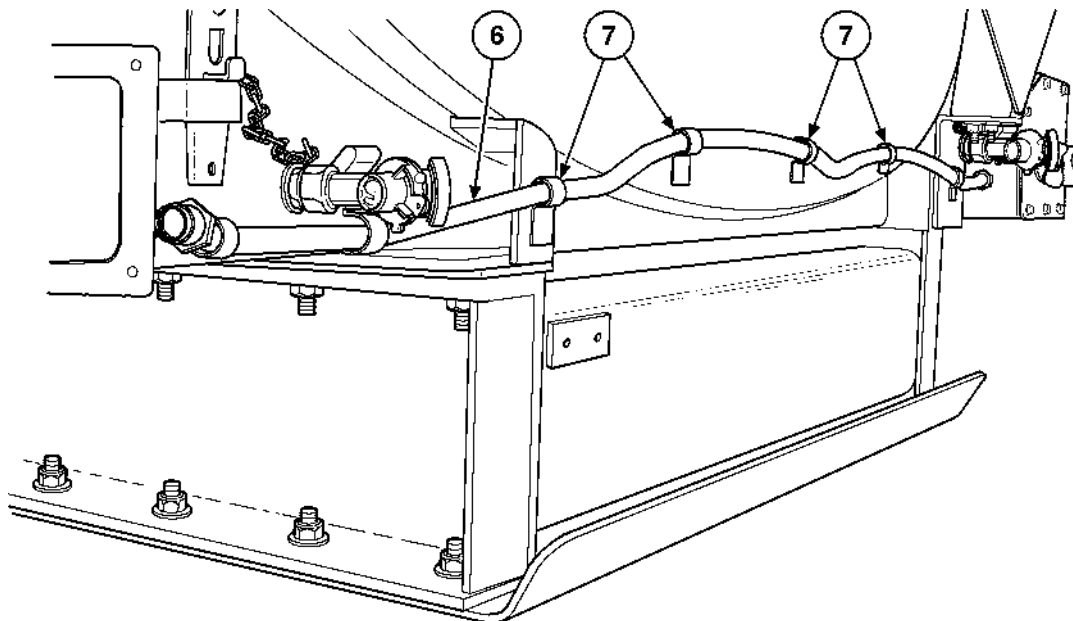
3. Remove conduit (6), insert (4), and compression sleeve (5) from fitting (1).
4. Remove insert (4) and sleeve (5) from conduit (6). Discard insert and sleeve.



CAUTION

Do not bend clips too much or they may break.

5. Bend clips (7) and remove conduit (6).



CONDUITS REPLACEMENT—Continued

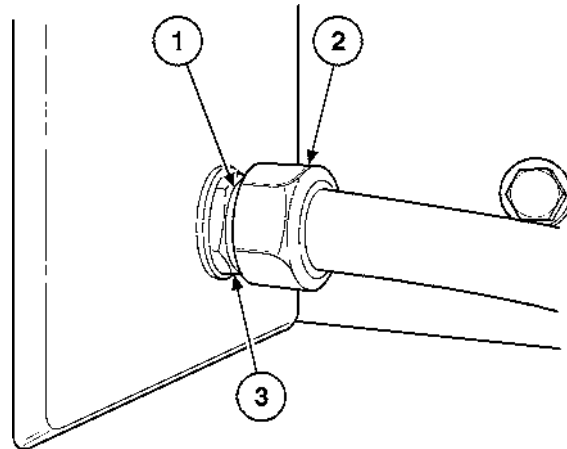
0060 00

INSTALLATION

NOTE

Conduits are stocked in bulk lengths. Measure original conduit and cut new conduit to same length. Trim ends of conduit to get a smooth, square cut.

1. Install conduit nut (2), new insert (4), and new sleeve (5) onto end of new conduit (6).
2. Install new conduit (6), new insert (4), and new sleeve (5) into end of fitting (1).
3. Tighten nut (3) at fitting (1).
4. Install conduit nut (2) onto fitting (1) and tighten.



5. Install new conduit (6) to clips (7) and bend to secure.

FOLLOW-ON TASKS

1. Install front marker light cable (WP 0056 00).
2. Reconnect negative battery terminal (WP 0007 00).
3. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

NATO SLAVE RECEPTACLE REPLACEMENT

0061 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Self-locking nuts (2) (item 58, WP 0160 00)

Self-locking nuts (4) (item 76, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

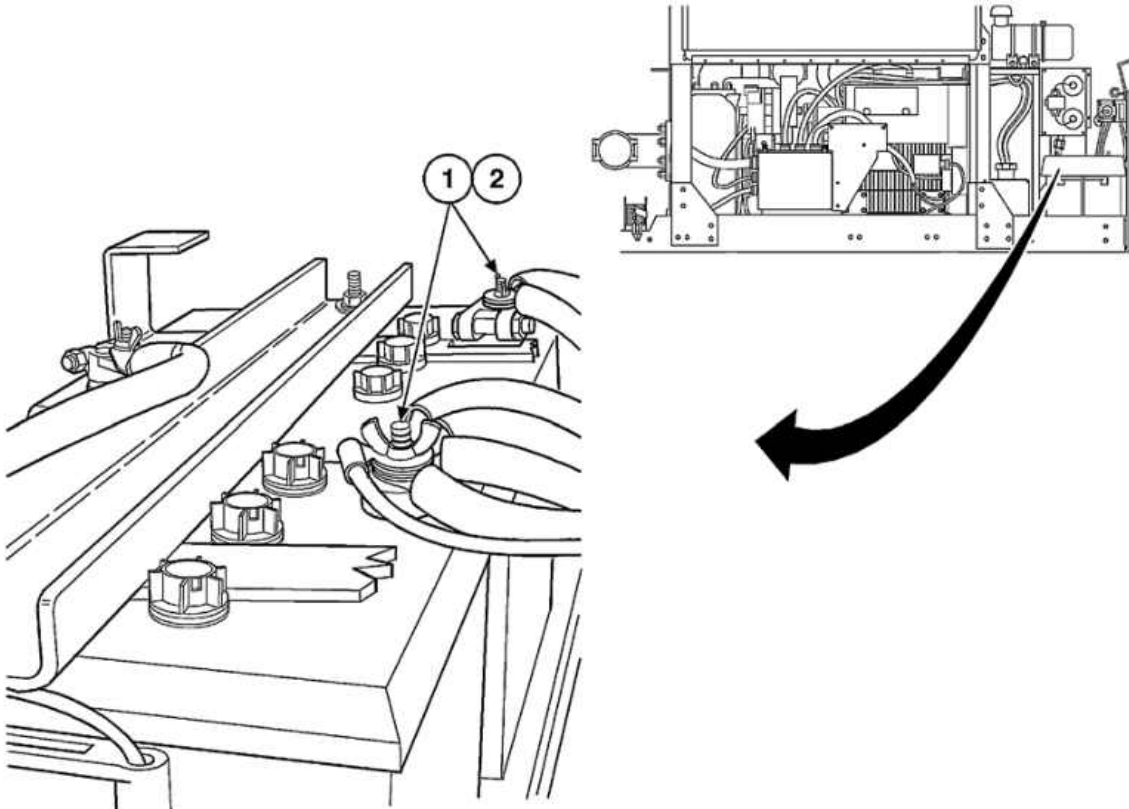
Semitrailer grounded (refer to WP 0007 00)

REMOVAL

NOTE

Tag cables for easy installation.

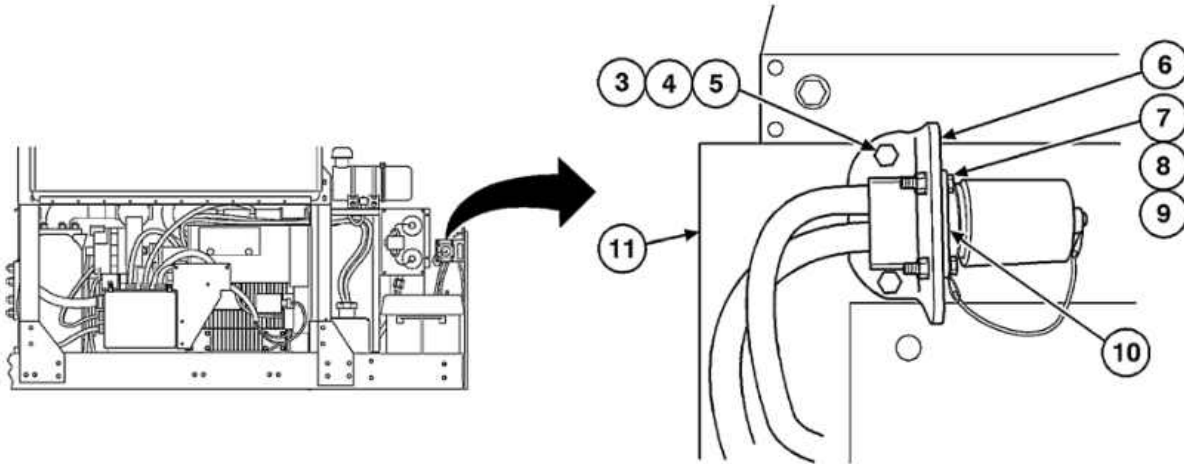
1. Remove two cables (1) from two battery terminals (2).



NATO SLAVE RECEPTACLE REPLACEMENT—Continued

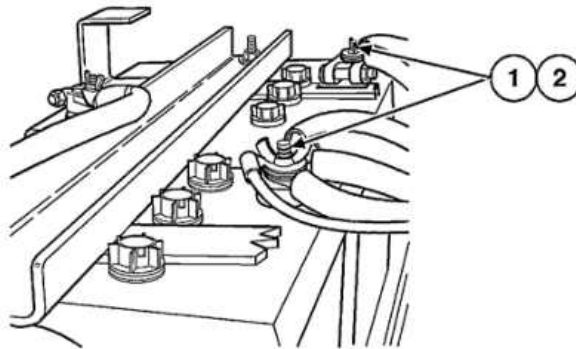
0061 00

2. Remove four self-locking nuts (7), washers (8), bolts (9), and NATO slave receptacle (10) from bracket (6). Discard self-locking nuts.
3. Remove two self-locking nuts (3), four washers (4), bolts (5), and bracket (6) from engine splash shield (11). Discard self-locking nuts.



INSTALLATION

1. Install bracket (6), two bolts (5), four washers (4), and two new self-locking nuts (3) to engine splash shield (11).
2. Install NATO slave receptacle (10), four bolts (9), washers (8), and new self-locking nuts (7) to bracket (6).
3. Install two cables (1) to two battery terminals (2).



FOLLOW-ON TASK

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

ELECTRICAL WIRING REPAIR

0062 00

THIS WP COVERS:

Repair

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

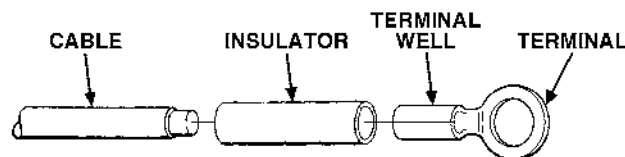
Solder (AR) (item 14, WP 0159 00)

Tape, electrical (AR) (item 16, WP 0159 00)

ID bands (AR) (item 55, WP 0160 00)

REPAIR

1. Check cable assemblies and leads for damaged insulation. Repair using electrical tape. If insulation is too badly damaged to repair with tape, go to step 3.
2. Check ends of wires for bent, broken, or damaged electrical connectors. Replace missing or damaged connectors per step 5.
3. Remove damaged wires from components. Cut off and discard electrical connectors.
4. Measure length of removed wire and install new length of identical wire. After installing new wire, replace electrical connectors per step 5 and tag wires with ID bands as necessary.
5. Install new connector parts as follows.
 - a. Terminal type cable connector:
 - 1) Strip cable insulation equal to depth of terminal well.
 - 2) Slide insulator over cable.
 - 3) Insert cable into terminal well and crimp terminal.
 - 4) Slide insulator over crimped end of terminal.

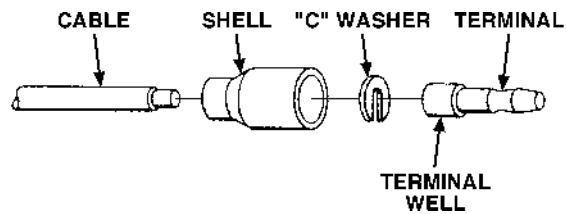


ELECTRICAL WIRING REPAIR—Continued

0062 00

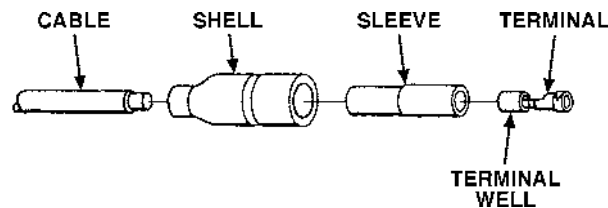
b. Male cable connector:

- 1) Strip cable insulation equal to depth of terminal well.
- 2) Slide shell over cable.
- 3) Insert cable into terminal well.
- 4) Place "C" washer over cable at crimped junction and slide shell over "C" washer and terminal.



c. Female cable connector (with sleeve):

- 1) Strip cable insulation equal to depth of terminal well.
- 2) Slide shell and sleeve over cable.
- 3) Insert cable into terminal well and crimp.
- 4) Slide shell and sleeve over terminal.

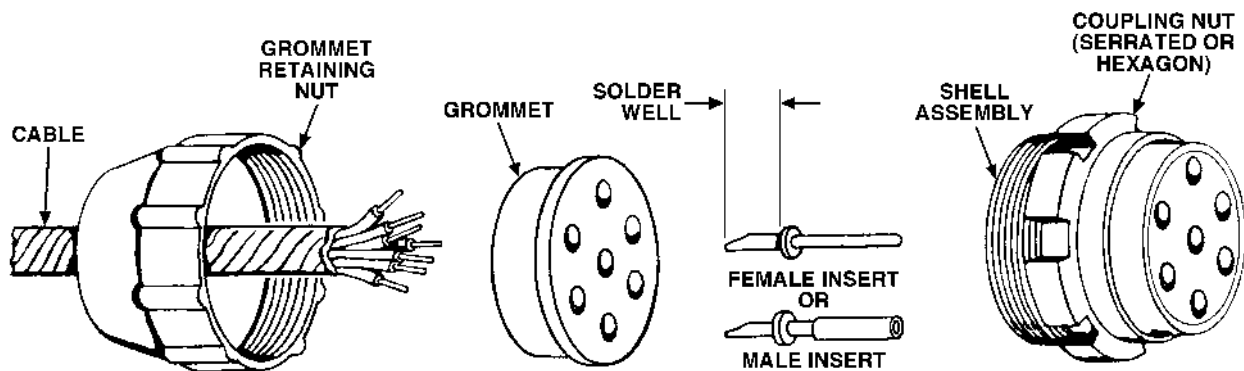


ELECTRICAL WIRING REPAIR—Continued

0062 00

d. Plug and receptacle assemblies:

- 1) Strip cable insulation equal to depth of solder wells of inserts.
- 2) Pass cable ends through grommet retaining nut, grommet, and coupling nut and into solder wells of inserts and solder.
- 3) Slide grommet over inserts and press into shell assembly until seated.
- 4) Thread grommet retaining nut to shell assembly until seated.



END OF TASK

BRAKE ACTUATING CAMSHAFT REPLACEMENT

0063 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Lockwashers (16) (item 130, WP 0160 00)

O-rings (8) (item 22, WP 0160 00)

Retaining rings (4) (item 17, WP 0160 00)

References

WP 0042 00

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Jack stands (item 3, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Axles supported by jack stands (refer to WP 0007 00)

Wheel assemblies removed (refer to WP 0007 00)

Brakedrum assemblies removed (refer to WP 0065 00)

Brakeshoes removed (refer to WP 0064)

Slack adjusters removed (refer to WP 0066 00)

REMOVAL

WARNING

The axle must be firmly supported to prevent shifting of the semitrailer. Shifting may cause serious injury to personnel and damage to equipment.

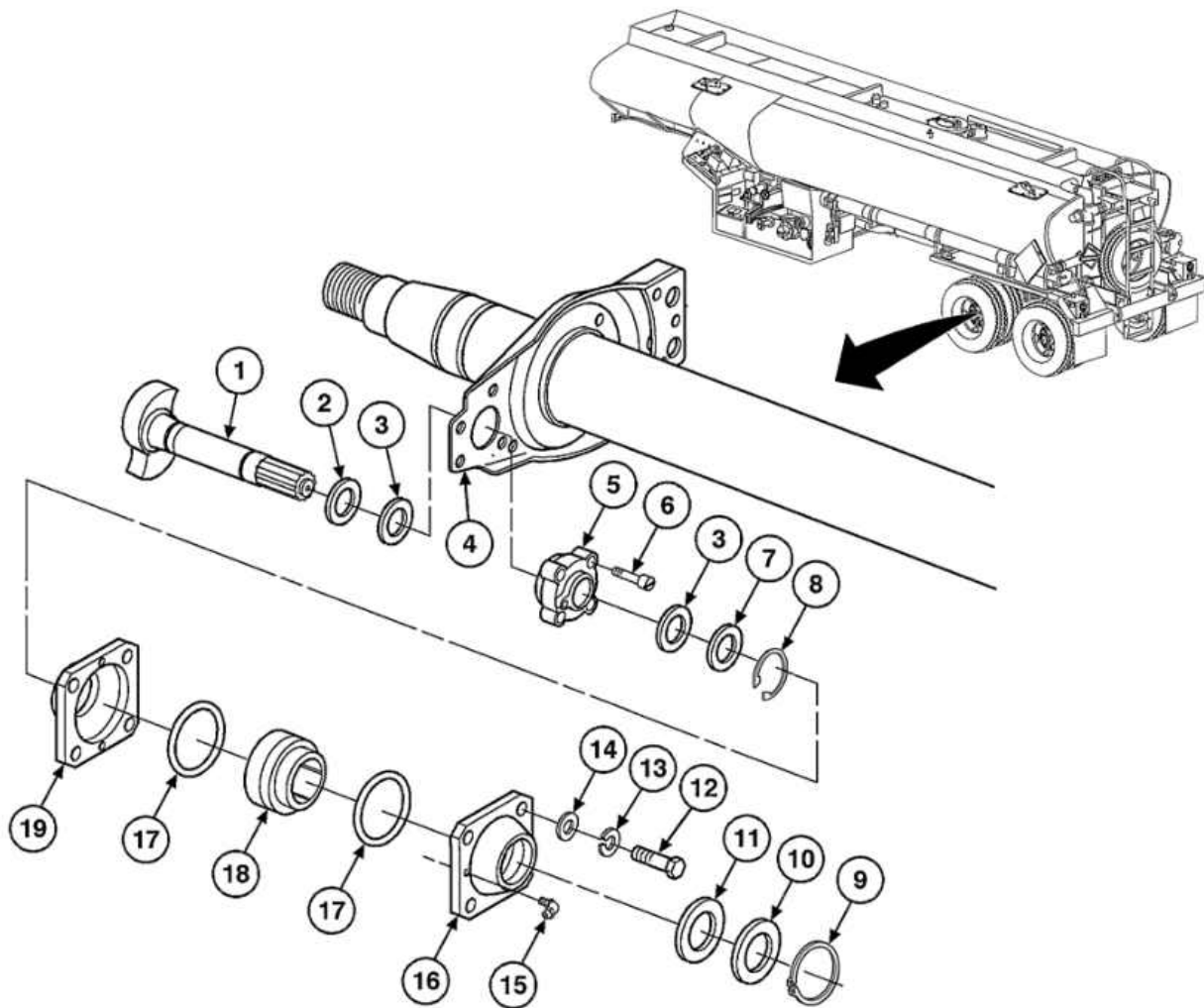
NOTE

There are four brake camshafts and they are replaced the same way. This procedure replaces one brake camshaft.

BRAKE ACTUATING CAMSHAFT REPLACEMENT—Continued

0063 00

1. Remove snap ring (9), washer (10), spacer (11), and retainer bushing (19) from camshaft (1).
2. Remove retaining ring (8), spacer (7), washer (3), four cap screws (6), bushing retainer (5), washer (3), washer (2), and camshaft (1) from bracket (4). Discard retaining ring.
3. Remove four screws (12), lockwashers (13), washers (14), retainer (16), bushing bracket (18), two O-rings (17), and retainer bushing (19). Discard lockwashers and O-rings.
4. Remove lubrication fitting (15) from retainer (16).



BRAKE ACTUATING CAMSHAFT REPLACEMENT—Continued

0063 00

INSTALLATION

1. Install lubrication fitting (15) to retainer bushing (16).
2. Install two new O-rings (17), bushing bracket (18), retainer (16), four washers (14), new lockwashers (13), and screws (12) to retainer bushing (19).
3. Install washer (2), washer (3), and camshaft (1) through bracket (4) to bushing retainer (5) and secure with four cap screws (6), washer (3), spacer (7), and new retaining ring (8).
4. Install retainer bushing (19), spacer (11), washer (10), and snap ring (9) to camshaft (1).
5. Lubricate per WP 0042 00.

FOLLOW-ON TASKS

1. Install slack adjusters (WP 0066 00).
2. Install brakeshoes (WP 0065 00).
3. Install brakedrum (WP 0067 00).
4. Install wheel assemblies (WP 0007 00).
5. Remove jack stands from axles (WP 0007 00).
6. Adjust brakes (WP 0066 00).
7. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

BRAKESHOES REPLACEMENT

0064 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Rags (item 11, WP 0159 00)

References

WP 0042 00

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Jack stands (item 3, WP 0156 00)

Personnel Required

Two

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Axle supported by jack stands (refer to WP 0007 00)

Wheel assemblies removed (refer to WP 0007 00)

Brakedrums removed (refer to WP 0065 00)

REMOVAL

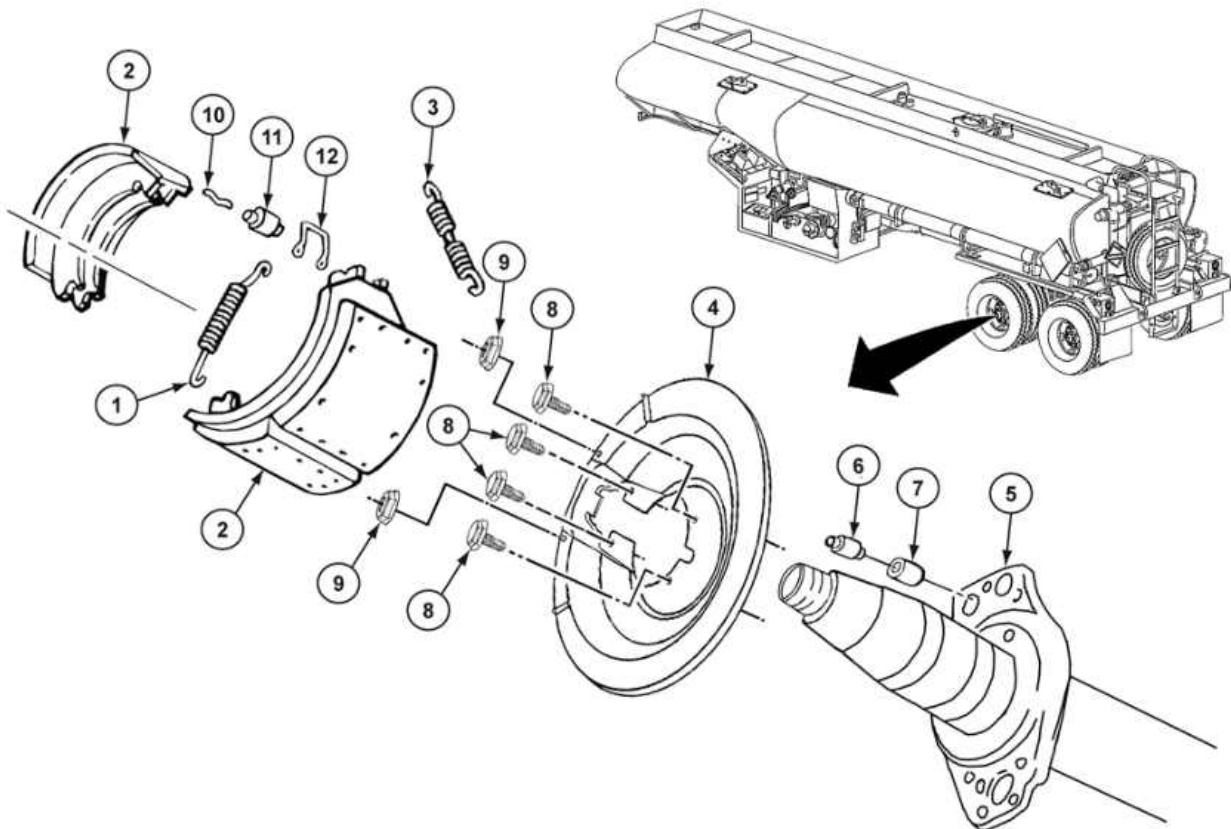
NOTE

There are four brakeshoes and they are replaced the same way. This procedure replaces one brakeshoe.

BRAKESHOES REPLACEMENT—Continued

0064 00

1. Remove spring (1) and spring (3) from right and left sides of brakeshoe (2).
2. Remove shoulder pin (7), bushing (6), roller (11), clip (12), and spring pin (10).
3. Remove brakeshoe (2) from axle shaft (5).
4. Remove capscrew (8), washer (9), and dustshield (4) from axle shaft (5).



INSTALLATION

1. Install dustshield (4), washer (9), and capscrew (8) to axle shaft (5).
2. Install brakeshoes (2) around axle shaft (5).
3. Install spring (1) and spring (3) to brakeshoes (2).
4. Lubricate per WP 0042 00.
5. Install shoulder pin (7), bushing (6), roller (11), clip (12), and spring pin (10) to brakeshoes (2).

BRAKESHOES REPLACEMENT—Continued

0064 00

FOLLOW-ON TASKS

1. Install brakedrums (WP 0065 00).
2. Install wheel assemblies (WP 0007 00).
3. Adjust brakes (WP 0066 00).
4. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

HUBS, BRAKEDRUMS, AND ABS SENSOR MAINTENANCE

0065 00

THIS WP COVERS:

Removal, Cleaning and Inspection, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Equipment

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Compound, cleaning (item 4, WP 0159 00)
 Grease (item 8, WP 0159 00)
 Rags (item 11, WP 0159 00)
 ABS sensor clips (4) (item 126, WP 0160 00)
 Cable ties (AR) (item 98, WP 0160 00)
 Gaskets (4) (item 37, WP 0160 00)
 Grommets (4) (item 35, WP 0160 00)
 Lockwashers (24) (item 100, WP 0160 00)
 Seals (4) (item 102, WP 0160 00)

Personnel Required

Two

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)
 Semitrailer grounded (refer to WP 0007 00)
 Wheel assembly removed (refer to WP 0007 00)
 Fail-safe brake chambers caged (refer to WP 0075 00)

References

TM 9-214
 WP 0067 00

WARNING

Brakedrum is heavy and requires two people to lift.

NOTE

There are four hub and brakedrums and they are replaced the same way. This procedure replaces one hub and brakedrum.

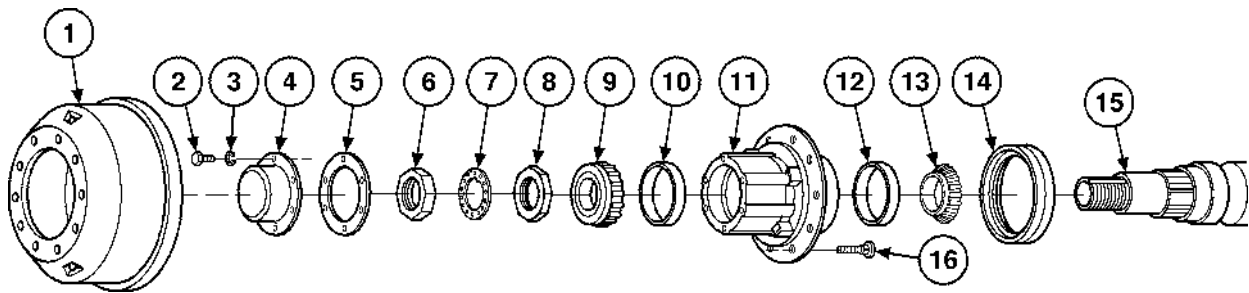
REMOVAL

1. Slide brakedrum (1) off hub (11).

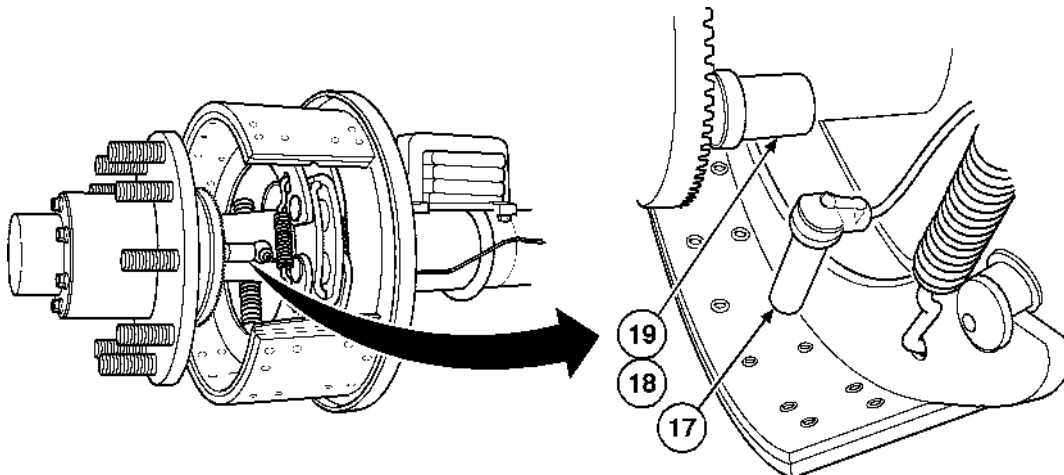
NOTE

If performing brake system maintenance only, stop here.

2. Remove six bolts (2), lockwashers (3), hubcap (4), and gasket (5) from hub (11). Discard lockwashers and gasket.
3. Remove outer bearing nut (6), lockring (7), and inner wheel nut (8) from spindle (15).
4. Remove outer wheel bearing (9) from outer wheel bearing cup (10), and slide hub (11) off spindle (15).
5. Remove seal (14), inner wheel bearing (13), and cup (12) from hub (11). Discard seal.
6. Remove wheel studs (16) if necessary.



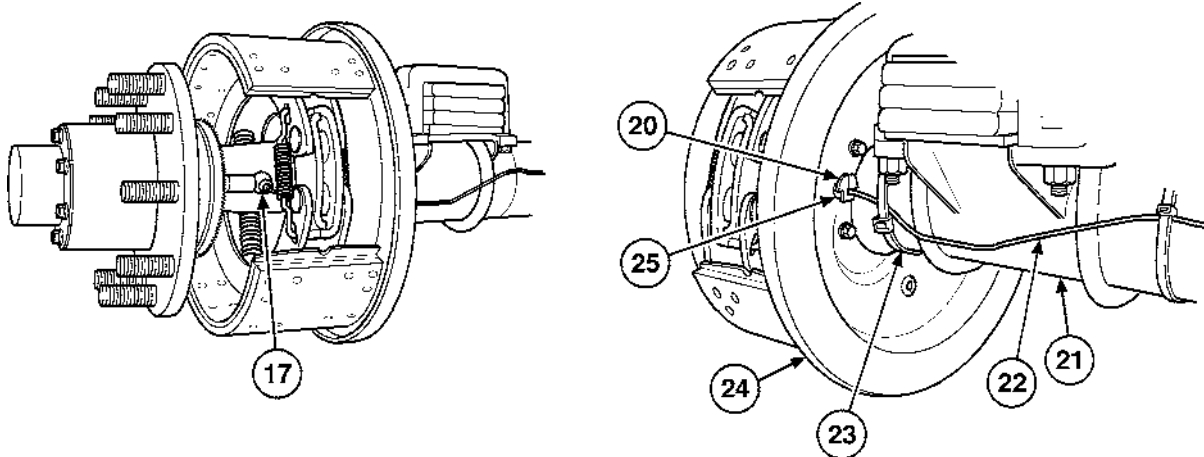
7. Remove sensor (17) and sensor clip (18) from mounting block (19). Discard sensor clip.



HUBS, BRAKEDRUMS, AND ABS SENSOR MAINTENANCE—Continued

0065 00

8. Remove all cable ties (23) from sensor cable (22) along axle (21). Discard ties.
9. Remove grommet (20), sensor (17), and sensor cable (22) from axle flange (24) and dust shield (25). Discard grommet.
10. Remove sensor cable from ECU (refer to WP 0067 00).



CLEANING AND INSPECTION

WARNING

Solvents can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If solvent gets on skin or clothing, wash immediately with soap and water.

CAUTION

- Do not clean parts with gasoline, in a hot solution tank, or with water and alkaline solutions.
 - Do not use compressed air to spin bearings.
1. Thoroughly clean all parts with cleaning compound and stiff fiber brush. Make sure parts are completely dry. Use low-pressure compressed air to dry parts (refer to TM 9-214).
 2. Inspect hubcap for damage to flange that would allow water to leak into wheel bearings. Replace if damaged.
 3. Check for damage to threads of studs and screws. Replace if damaged.

HUBS, BRAKEDRUMS, AND ABS SENSOR MAINTENANCE—Continued

0065 00

4. Inspect brakedrum for pitting or scoring. If brakedrum is damaged, replace it.
5. Inspect hub for rust, pitting, or cracks.

NOTE

Wheel bearings and bearing cups are matched sets. If wheel bearings need replacing, bearing cups must also be replaced.

6. Inspect inner and outer wheel bearings for cracks or breaks in bearing cage, etching or pitting on roller surfaces, and any evidence of wear. Replace if worn or damaged.
7. Pack inner and outer wheel bearings from large end of cone with grease, making sure all cavities between rollers and cage are filled. Cover bearings with clean, lint-free rag until time to install.
8. Inspect inner and outer bearing cup in hub for pits, grooves, or flaking. If damaged, replace with new bearing cup.

INSTALLATION

1. Install wheel studs (16) if removed.
2. Install inner and outer bearing cups (10 and 12) into hub (11).
3. Install inner wheel bearing (13) and new seal (14) into hub (11).
4. Install hub (11) fully to spindle (15).
5. Install outer wheel bearing (9) to spindle (15).
6. Install inner bearing nut (8) to spindle (15) and tighten to 75 lb-ft (101.7 N•m) to ensure proper seating of wheel bearings.
7. Loosen inner bearing nut (8) so wheel will turn freely.
8. Tighten inner bearing nut (8) to 50 lb-ft (67.8 N•m) while rotating hub (11) in order to position bearings for proper adjustment.

WARNING

Failure to torque outer bearing nut properly could cause wheel to come off during vehicle operation, which could result in severe injury or death to personnel or severe damage to property.

9. Loosen inner bearing nut (8) 1/3 turn.
10. Install lockring (7) so dowel on inner bearing nut (8) aligns with hole in lockring (7) and tang fits in keyway of spindle (15).

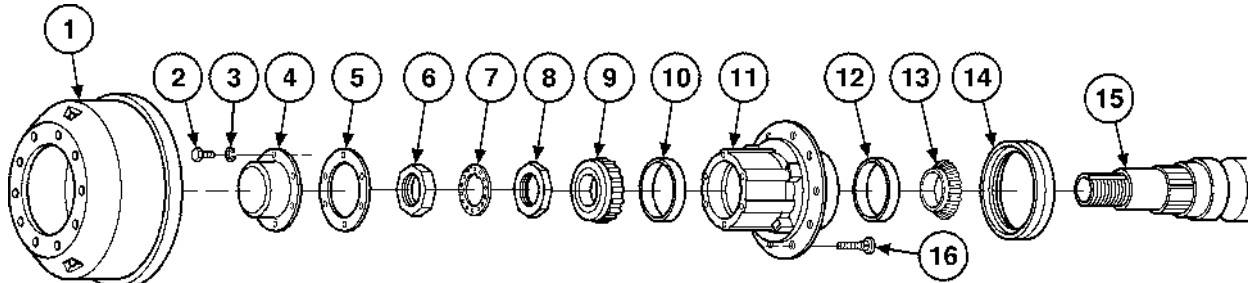
HUBS, BRAKEDRUMS, AND ABS SENSOR MAINTENANCE—Continued

0065 00

11. Install outer bearing nut (6) and tighten to 250 to 400 lb-ft (339 to 542 N•m).
12. Apply light coat of grease on new gasket (5) and position gasket on hub (11).
13. Install hubcap (4), six new lockwashers (3), and bolts (2) to hub (11).

NOTE

Coat sensor with grease prior to installation.

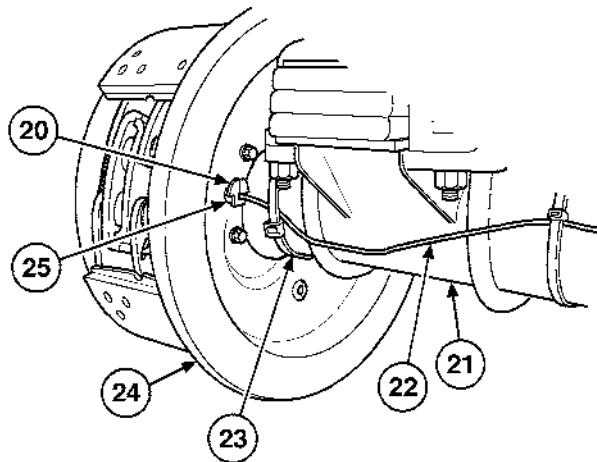
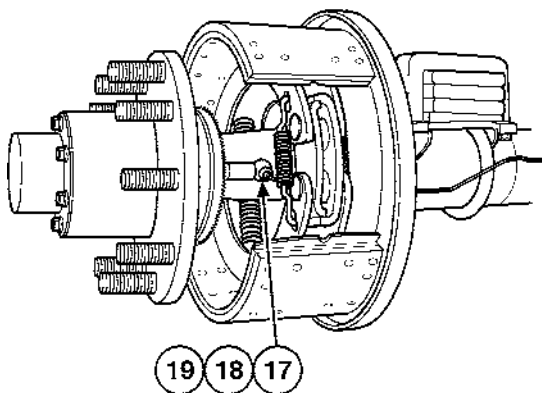


14. Install sensor (17), sensor cable (22), and new grommet (20) through dust shield (25) and axle flange (24).
15. Install new sensor clip (18) and sensor (17) to mounting block (19).

NOTE

Push sensor through mounting block as far as possible or until sensor contacts toothed wheel hub.

16. Install brakedrum (1) to hub (11).
17. Secure sensor cable (22) to axle (21) with cable ties (23) as required.
18. Connect sensor cable to ECU (refer to WP 0067 00).



HUBS, BRAKEDRUMS, AND ABS SENSOR MAINTENANCE—Continued

0065 00

FOLLOW-ON TASKS

1. Uncage fail-safe brake chambers (WP 0075 00).
2. Install wheel assembly (WP 0007 00).
3. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

SLACK ADJUSTERS MAINTENANCE

0066 00

THIS WP COVERS:

Removal, Cleaning and Inspection, Installation, Adjustment, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Rags (item 11, WP 0159 00)
 Cotter pins (4) (item 111, WP 0160 00)
 Cotter pins (4) (item 131, WP 0160 00)
 Retaining rings (4) (item 17, WP 0160 00)

Tools and Specific Tools

Tool kit, general mechanic's (item 4, WP 0156 00)
 Tool set, common no. 1 (item 1, WP 0156 00)

References

WP 0042 00

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)
 Semitrailer grounded (refer to WP 0007 00)
 Air reservoir drained (refer to WP 0007 00)
 Fail-safe brake chambers caged (refer to WP 0075 00)

NOTE

There are four slack adjusters and they are replaced the same way. This procedure replaces one slack adjuster.

SLACK ADJUSTERS MAINTENANCE—Continued

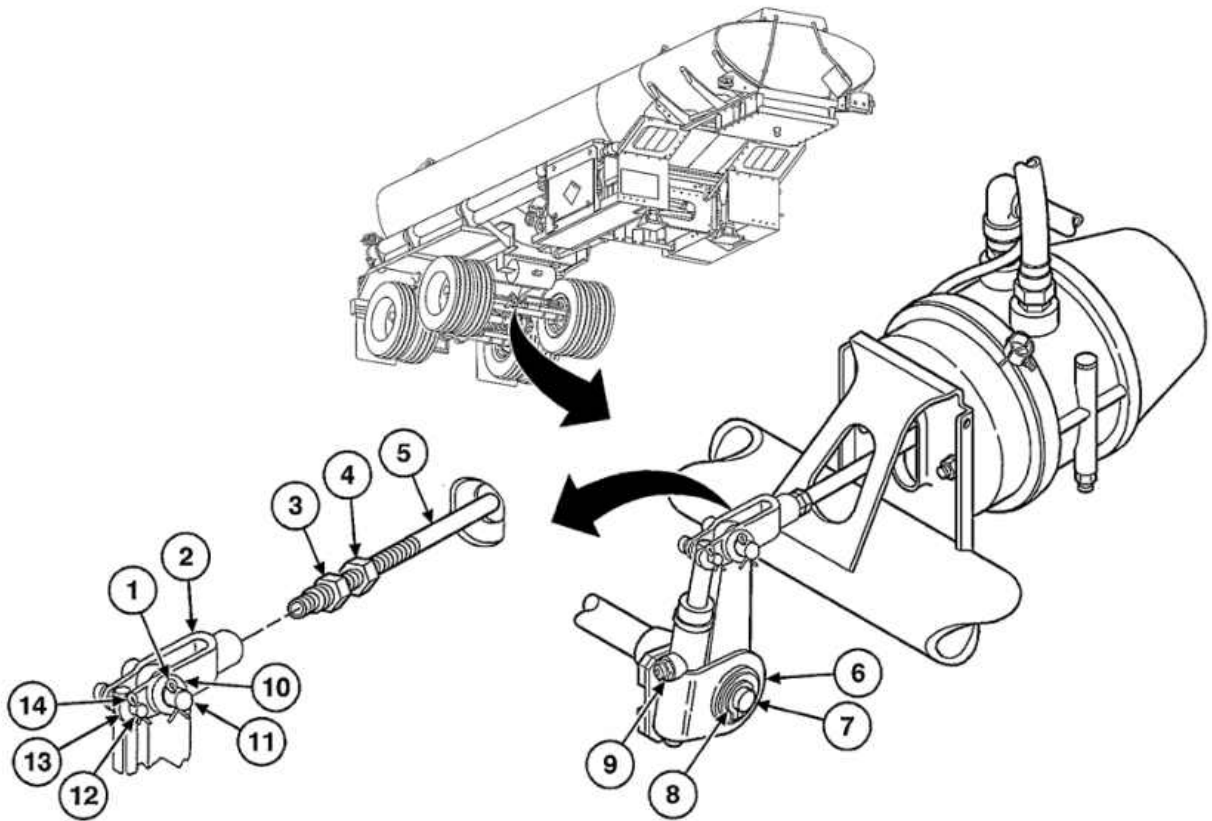
0066 00

REMOVAL

1. Loosen brake actuator push-rod jamnut (4). Loosen yoke adapter (3) until it is free of yoke (2).

NOTE

More torque is required to rotate slack adjuster manual adjustment hex counterclockwise than is necessary to rotate it clockwise. Torque may be as high as 70 lb-ft (94.9 N•m).



2. Rotate slack adjuster manual adjustment hex (9) counterclockwise until slack adjuster (6) is clear of brake actuator push rod (5).
3. Remove retaining ring (8) from recess on end of camshaft (7). Discard retaining ring.
4. Using soft-faced hammer, tap on slack adjuster (6) lightly until it can be removed from camshaft (7).
5. Remove two cotter pins (1 and 14), yoke pin (11), link pin (12), two washers (10 and 13), and yoke (2) from slack adjuster (6). Discard cotter pins.

SLACK ADJUSTERS MAINTENANCE—Continued

0066 00

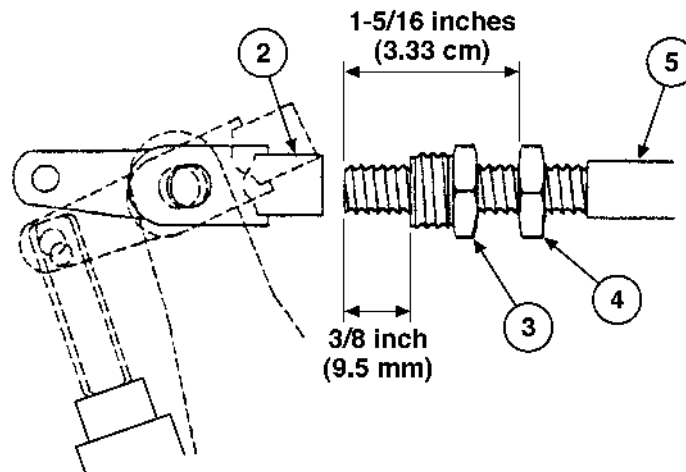
CLEANING AND INSPECTION**NOTE**

Do not use solvents or soap and water for cleaning.

1. Clean slack adjuster, splines of camshaft, and other metal parts using stiff fiber brush, and wipe clean.
2. Inspect slack adjuster for bent, broken, loose, or misaligned brake actuator push rods and cracked or damaged brake actuator brackets. Replace slack adjuster if damaged.

INSTALLATION

1. Install yoke (2), yoke pin (11), link pin (12), two washers (10 and 13), and new cotter pins (1 and 14) on slack adjuster (6).
2. Install slack adjuster (6) and new retaining ring (8) on end of camshaft (7).
3. Install jamnut (4) approximately 1-5/16 in. (3.33 cm) from end of push rod (5).
4. Install yoke adapter (3) on push rod (5) approximately 3/8 in. (9.5 mm) from end of push rod (5).



5. Turn manual adjustment hex (9) clockwise until yoke adapter (3) extends into bore of yoke (2) approximately 1/8 inch (3.2 mm). Thread adapter into yoke and tighten to 10 lb-ft (13.6 N•m).
6. Tighten jamnut (4) to 34 to 50 lb-ft (46.0 to 67.8 N•m).
7. Lubricate slack adjusters per WP 0042 00.

SLACK ADJUSTERS MAINTENANCE—Continued

0066 00

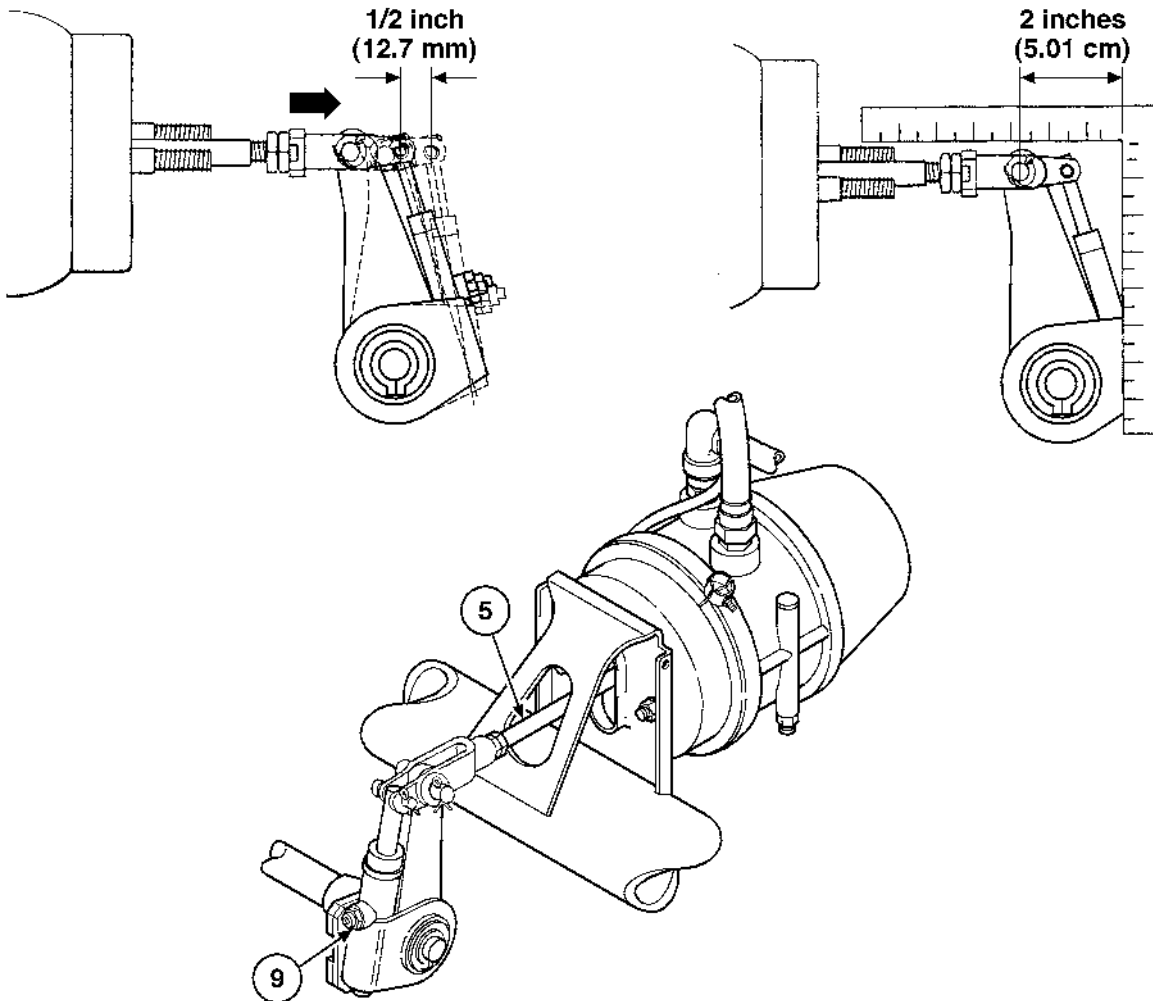
ADJUSTMENT

1. Raise rear axle until wheels clear ground. Rotate manual adjustment hex (9) clockwise until brake linings are snug against brakedrum.

NOTE

More torque is required to rotate manual adjustment hex counterclockwise than is necessary to rotate it clockwise. Torque may be as high as 70 lb-ft (94.9 N•m).

2. Turn manual adjustment hex (9) counterclockwise 1/4 turn. Pull push rod (5) to confirm that push rod (5) has approximately 0.50 in. (12.7 mm) of free travel.
3. Apply 90 to 95 psi (621 to 655 kPa) air pressure from towing vehicle air gage. Make and hold a full brake application. Measure push-rod stroke. Two in. (5.1 cm) is maximum stroke. If stroke exceeds 2-in. (5.1-cm) limit, inspect all brake system components for serviceability.



SLACK ADJUSTERS MAINTENANCE—Continued

0066 00

FOLLOW-ON TASKS

1. Uncage fail-safe brake chambers (WP 0075 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

ABS DIAGNOSTICS/ECU VALVE REPLACEMENT**0067 00****THIS WP COVERS:**

ABS Diagnostics, ECU Valve Removal, ECI Valve Installation, Follow-On Tasks

INITIAL SETUP:**Maintenance Level**

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Air reservoir drained (refer to WP 0007 00)

Negative terminal disconnected from battery (refer to WP 0007 00)

ABS DIAGNOSTICS**NOTE**

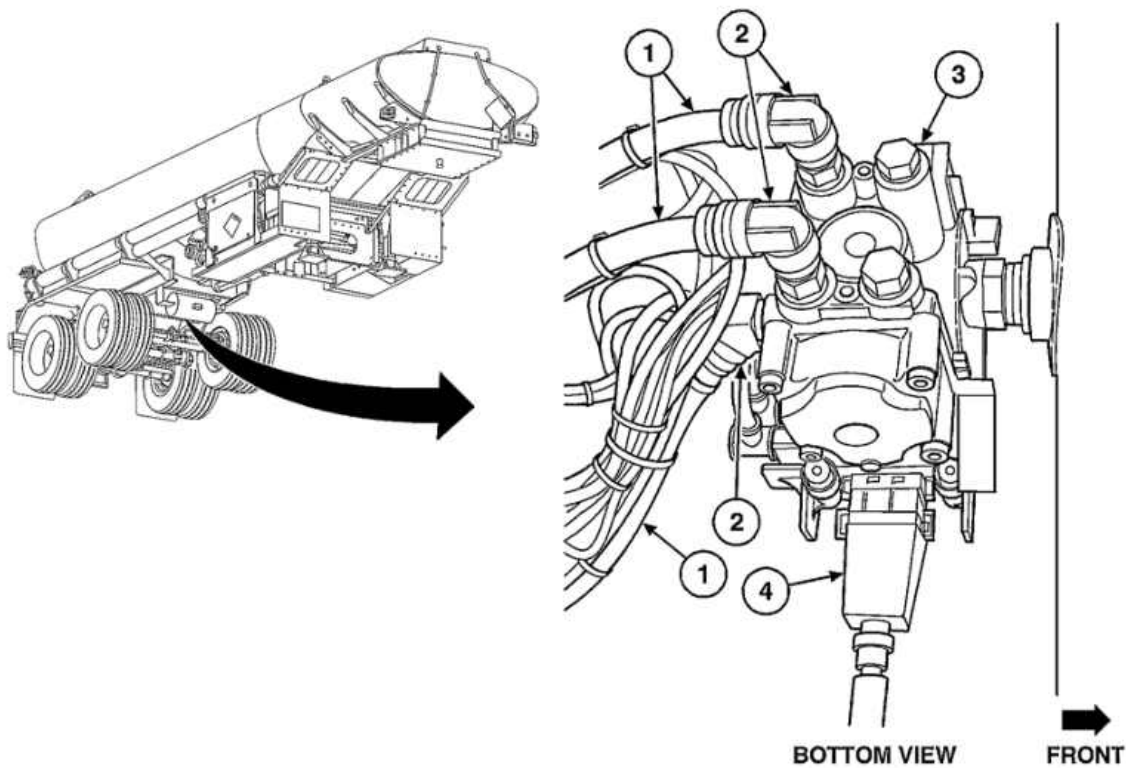
The ABS warning light must operate. If nonoperational, correct that fault before proceeding.

Table 1. ABS Diagnostic Blink Codes.

Blink Code	Problem Area	Action
3	Sensor BU1 Roadside front	Check sensor installation. Make necessary repairs.
4	Sensor YE1 Curbside front	Check sensor installation. Make necessary repairs.
5	Sensor BU2 Roadside rear	Check sensor installation. Make necessary repairs.
6	Sensor YE2 Curbside rear	Check sensor installation. Make necessary repairs.
7	External ABS modulator valve	Verify proper electrical installation. Check power supply. Make necessary corrections.
9	Internal modulator failure, inlet valve #2	Verify proper installation. If code continues, replace inlet valve #2.
10	Internal modulator failure, inlet valve #1	Verify proper installation. If code continues, replace inlet valve #1.
11	Internal modulator failure, outlet valve	Verify proper installation. If code continues, replace outlet valve.
14	Power supply	Verify proper electrical installation. Check power supply. Make necessary corrections.
15	ECU failure	Verify proper installation. If code continues, replace ECU.
16	SAE J1708 failure	Replace ECU.
17	SAE J2497 (PLC) failure	Replace ECU.
18	Generic I/O failure	Verify proper electrical installation. Check power supply. Make necessary corrections.

ECU VALVE REMOVAL

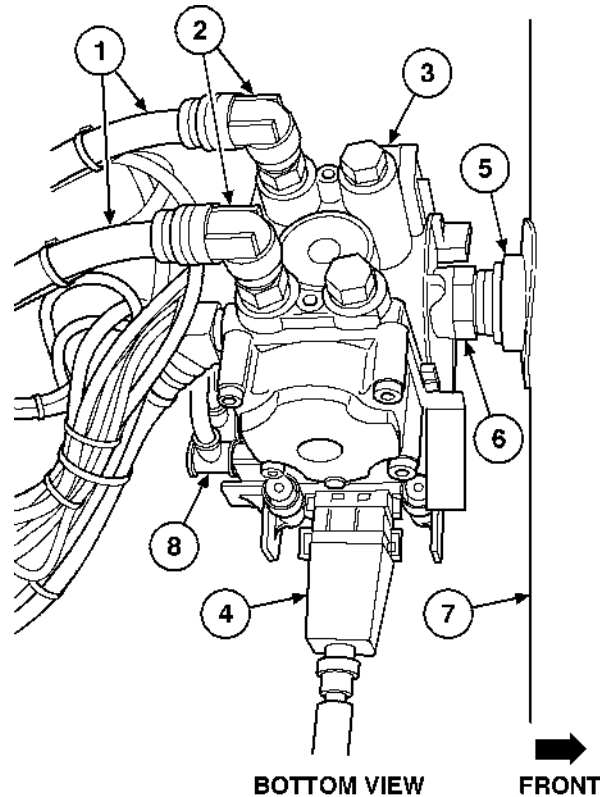
1. Disconnect electrical connector (4) from ECU valve (3).
2. Tag and disconnect four air hoses (1) from elbow fittings (2).



ABS DIAGNOSTICS/ECU VALVE REPLACEMENT—Continued

0067 00

3. Tag and disconnect four ABS sensors (8) from ECU valve (3).
4. Remove ECU valve (3) from air reservoir (7) by loosening nut (6) from threaded fitting (5).



ECU VALVE INSTALLATION

1. Install ECU valve (3) to air reservoir (7) by tightening nut (6) to threaded fitting (5).
2. Install four ABS sensors (8) to ECU valve (3). Remove tags.
3. Install four air hoses (1) to elbow fittings (2). Remove tags.
4. Install electrical connector (4) to ECU valve (3).

FOLLOW-ON TASKS

1. Reconnect negative battery terminal (WP 0007 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

AIR BRAKE CHAMBERS MAINTENANCE

0068 00

THIS WP COVERS:

Removal, Installation, Test, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Compound, thread sealing (item 7, WP 0159 00)
Lockwashers (8) (item 13, WP 0160 00)

References

WP 0066 00
WP 0073 00

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)
Semitrailer grounded (refer to WP 0007 00)
Air reservoir drained (refer to WP 0007 00)
Fail-safe brake chambers caged (refer to WP 0075 00)

WARNING

- **No disassembly of air brake chamber is authorized. Before any work is performed on the spring brake system, chock the wheel front and rear to prevent semitrailer movement. When inspecting or caging air brake chambers, do not position yourself in front of, or in line with, the chamber. Serious injury or death may occur if this warning is not followed.**
- **Discarded air brake chambers must be safely and properly disposed of. They should be disarmed prior to disposal to prevent present and future injury.**

NOTE

There are four air brake chambers and they are replaced the same way. This procedure replaces one air brake chamber.

AIR BRAKE CHAMBERS MAINTENANCE—Continued

0068 00

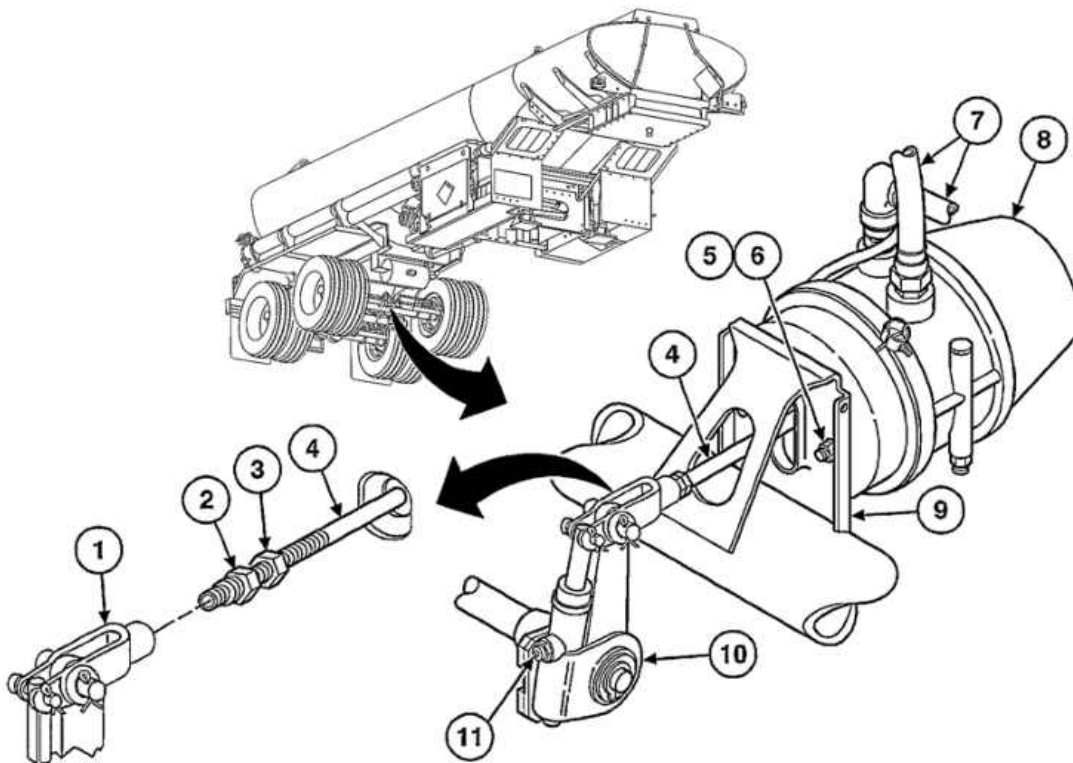
REMOVAL

1. Disconnect two brake hoses (7) from air brake chamber (8) (refer to WP 0073 00).
2. Loosen brake actuator push-rod jamnut (3). Loosen yoke adapter (2) until it is free of yoke (1).

NOTE

More torque is required to rotate slack adjuster manual adjustment hex counterclockwise than is necessary to rotate it clockwise. Torque may be as high as 70 lb-ft (94.9 N•m).

3. Rotate slack adjuster manual adjustment hex (11) counterclockwise until slack adjuster (10) is clear of brake actuator push rod (4).



4. Remove two nuts (5), lockwashers (6), and air brake chamber (8) from bracket (9). Discard lockwashers.
5. Remove fittings, yoke adapter (2), and jamnut (3) from air brake chamber (8).

AIR BRAKE CHAMBERS MAINTENANCE—Continued

0068 00

INSTALLATION

1. Install fittings on air brake chamber (8).
2. Install air brake chamber (8) on bracket (9) with two nuts (5) and new lockwashers (6).

NOTE

Refer to WP 0066 00 for slack adjuster adjustment.

3. Install jamnut (3) approximately 1-5/16 in. (3.33 cm) from end of push rod (4).
4. Install yoke adapter (2) on push rod (4) approximately 3/8 in. (9.5 mm) from end of push rod (4).
5. Turn manual adjustment hex (11) clockwise until yoke adapter (2) extends into the bore of yoke (1) approximately 1/8 in. (3.2 mm). Thread adapter into yoke and tighten to 10 lb-ft (13.6 N•m).
6. Tighten jamnut (3) to 34 to 50 lb-ft (46.0 to 67.8 N•m).
7. Connect two brake hoses (7) to air brake chamber (8).

TEST

1. Apply and hold a full-pressure brake application.

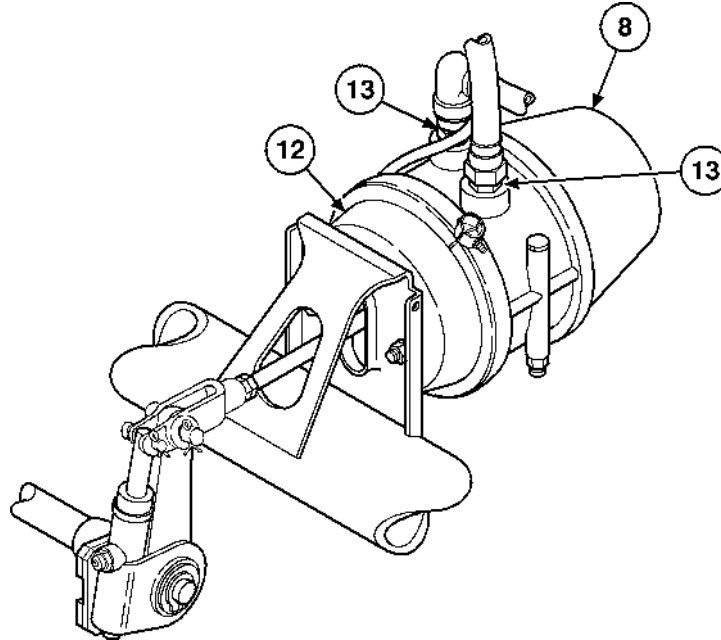
NOTE

Initial brake application will force out a small amount of air. No air should be expelled from air chamber after initial application. If air continues to be expelled from air chamber, replace air chamber.

AIR BRAKE CHAMBERS MAINTENANCE—Continued

0068 00

2. With prime mover connected (refer to WP 0007 00) and semitrailer brakes applied, coat flanges (12) and connections (13) on air brake chamber (8) with soapy water.
3. Inspect flanges (12) and connections (13) for leakage, indicated by bubbles.
4. If leakage is found at flange (12), replace chamber (8).
5. If leakage is found at connections (13), tighten fittings.



FOLLOW-ON TASKS

1. Uncage fail-safe brake chambers (WP 0075 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

BRAKE INTERLOCK VALVES MAINTENANCE

0069 00

THIS WP COVERS:

Removal, Installation, Test, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Compound, thread sealing (item 7, WP 0159 00)
Lockwashers (4) (item 78, WP 0160 00)

References

WP 0073 00

Equipment Conditions

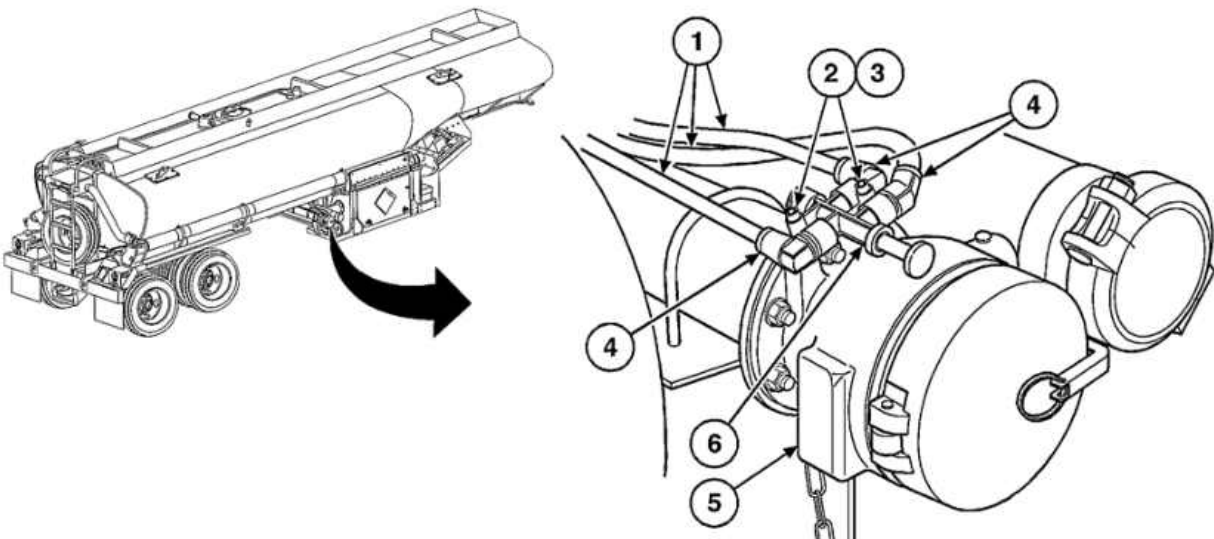
Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

REMOVAL

NOTE

- There are two brake interlock valves and they are both replaced the same way. This procedure replaces one brake interlock valve.
 - Identify lines prior to disconnecting from brake interlock valve.
1. Disconnect three lines (1) and remove fittings (4) from brake interlock valve (6) (refer to WP 0073 00).
 2. Remove two screws (2), lockwashers (3), and brake interlock valve (6) from bottom loading valve (5). Discard lockwashers.



BRAKE INTERLOCK VALVES MAINTENANCE—Continued

0069 00

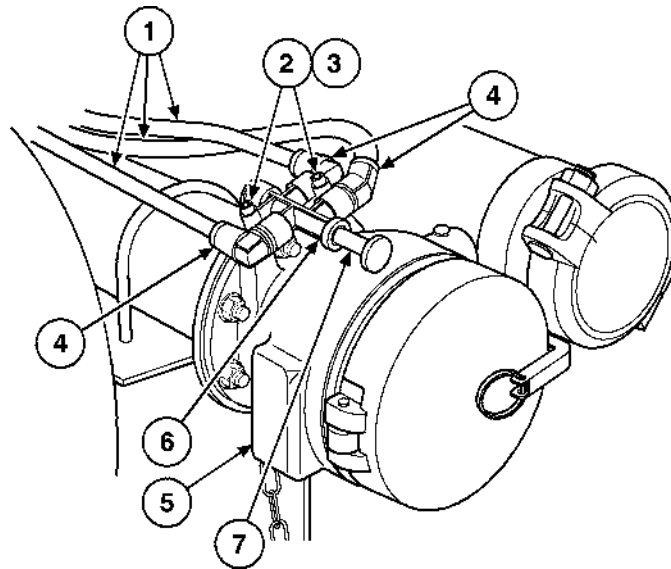
INSTALLATION

1. Install brake interlock valve (6), two new lockwashers (3), and screws (2) to bottom loading valve (5).

NOTE

Apply thread sealing compound to threads of fittings.

2. Install three fittings (4) to brake interlock valve (6) and connect three lines (1).



TEST

1. With prime mover connected (refer to WP 0007 00) and brake interlock valve (6) applied, coat fittings (4) and connections on brake interlock valve (6) with soapy water.
2. Inspect fittings (4) and brake interlock valve (6) for leakage, indicated by bubbles.
3. If leakage is found at fittings (4), tighten fittings.
4. If leakage is found at plunger (7), replace brake interlock valve (6).

FOLLOW-ON TASK

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

AIR RESERVOIR REPLACEMENT

0070 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Compound, thread sealing (item 7, WP 0159 00)
Self-locking nuts (4) (item 93, WP 0160 00)

References

WP 0073 00

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Personnel Required

Two

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Air reservoir drained (refer to WP 0007 00)

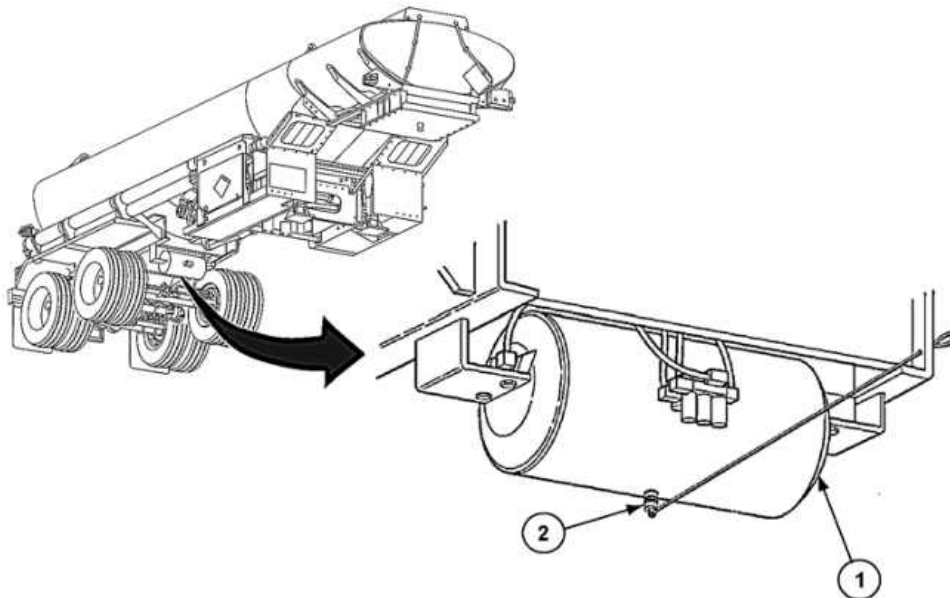
Negative terminal disconnected from battery (refer to WP 0007 00)

Spring brake control valve removed (refer to WP 0071 00)

ECU valve removed (refer to WP 0067 00)

REMOVAL

1. Remove air drain valve (2) from bottom of air reservoir (1).



AIR RESERVOIR REPLACEMENT—Continued

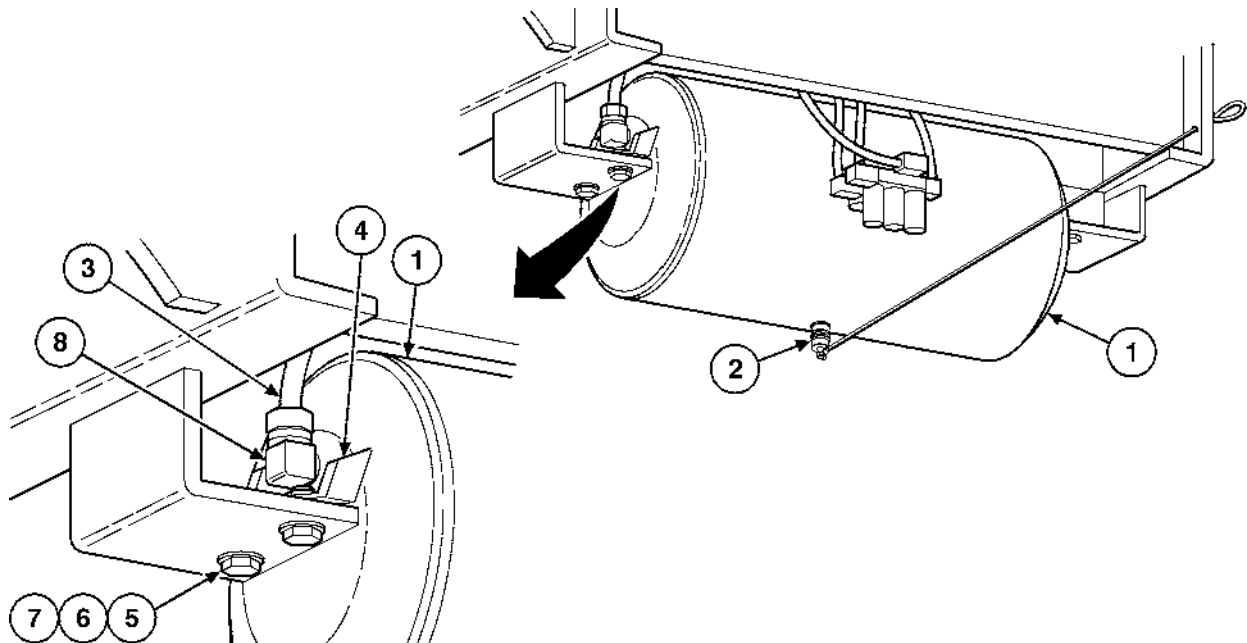
0070 00

2. Remove air lines (3) from curbside and roadside ends of air reservoir (1) (refer to WP 0073 00).

WARNING

Air reservoir is heavy. Get help when removing air reservoir from semitrailer. Failure to follow this warning could result in injury to personnel.

3. Remove four self-locking nuts (7), eight washers (6), four screws (5), and air reservoir (1) from two air reservoir brackets (4). Discard self-locking nuts.
4. Remove fittings (8) from air reservoir (1).

**INSTALLATION****WARNING**

Air reservoir is heavy. Get help when installing air reservoir to semitrailer. Failure to follow this warning could result in injury to personnel.

NOTE

Apply thread sealing compound to threads of fittings and air drain valve.

1. Install fittings (8) to air reservoir (1).

AIR RESERVOIR REPLACEMENT—Continued

0070 00

2. Install air reservoir (1), four bolts (5), eight washers (6), and four new self-locking nuts (7) to two air reservoir brackets (4).
3. Install air lines (3) on curbside and roadside ends of air reservoir (1).
4. Install air drain valve (2) to underside of air reservoir (1).

FOLLOW-ON TASKS

1. Install ECU valve (WP 0067 00).
2. Install spring brake control valve (WP 0071 00).
3. Reconnect negative battery terminal (WP 0007 00).
4. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

SPRING BRAKE CONTROL VALVE MAINTENANCE

0071 00

THIS WP COVERS:

Removal, Installation, Test, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Compound, thread sealing (item 7, WP 0159 00)

References

WP 0073 00

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Equipment Conditions

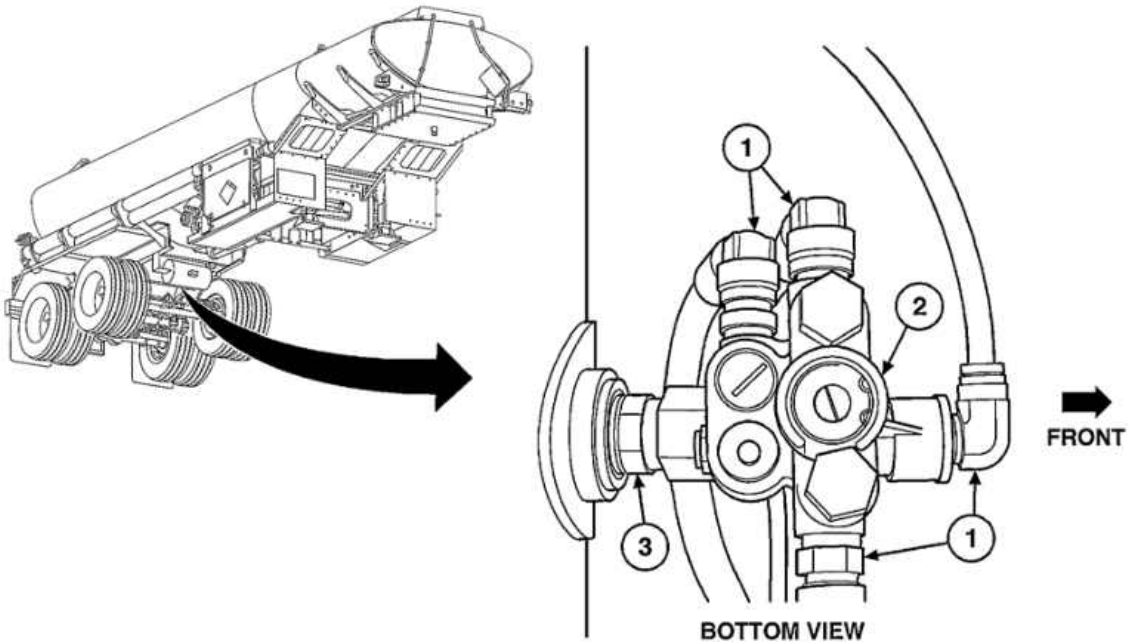
Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Air reservoir drained (refer to WP 0007 00)

REMOVAL

1. Tag and disconnect four air lines (1) at spring brake control valve (2) (refer to WP0073 00).
2. Remove valve (2) from air reservoir fitting (3).
3. Remove four fittings from valve (2).

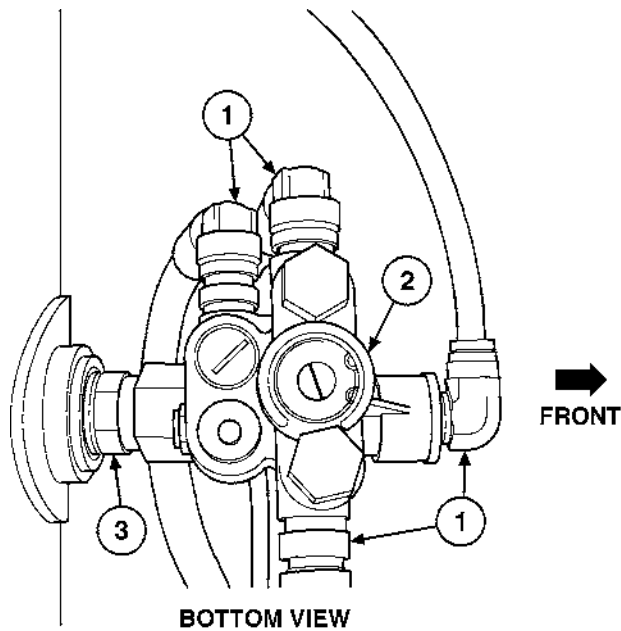


INSTALLATION

NOTE

Apply thread sealing compound to threads of fittings.

1. Install four fittings (1) to valve (2).
2. Install valve (2) to air reservoir fitting (3).
3. Connect four fittings (1) to valve (2).



TEST

Test all components for leakage (WP 0073 00).

FOLLOW-ON TASK

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

PARKING BRAKE CONTROL VALVE MAINTENANCE

0072 00

THIS WP COVERS:

Removal, Installation, Test, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Compound, thread sealing (item 7, WP 0159 00)

References

WP 0073 00

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

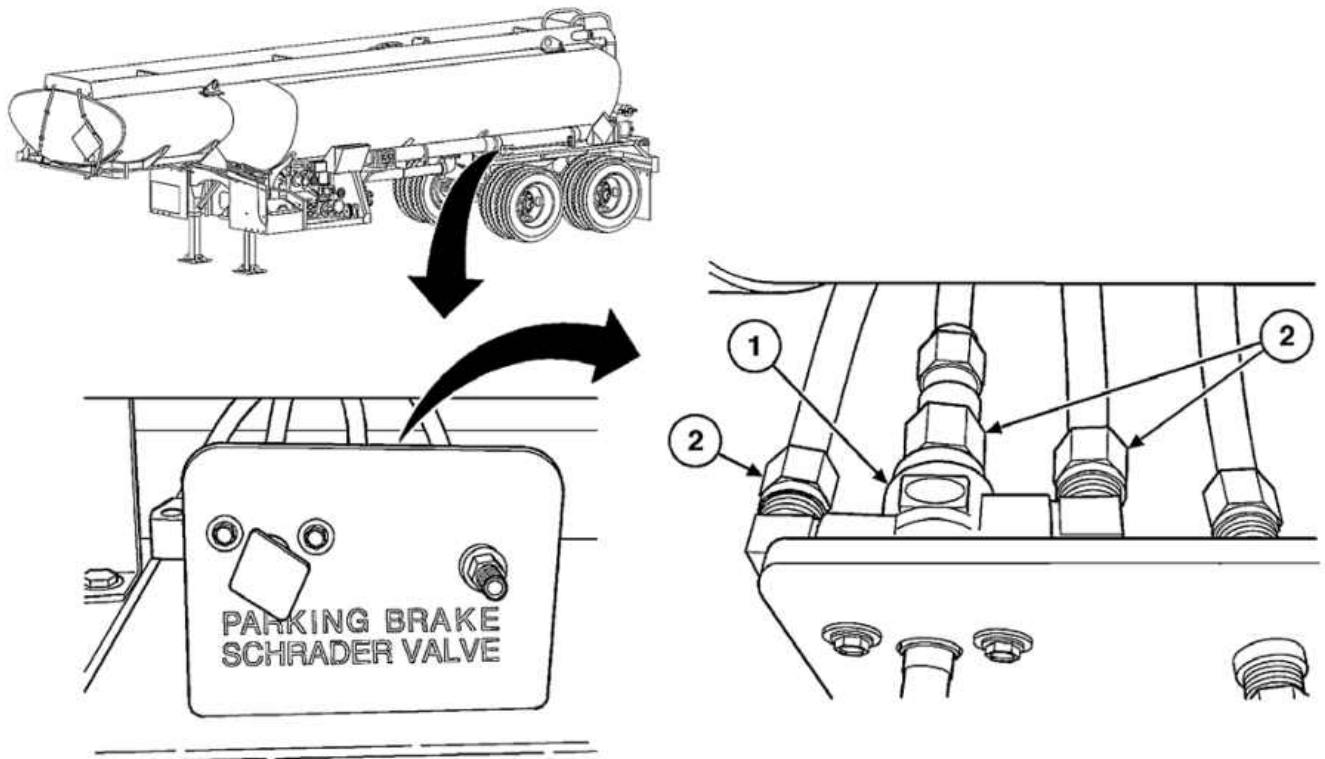
Air reservoir drained (refer to WP 0007 00)

REMOVAL

NOTE

Tag all lines and hoses prior to disconnecting.

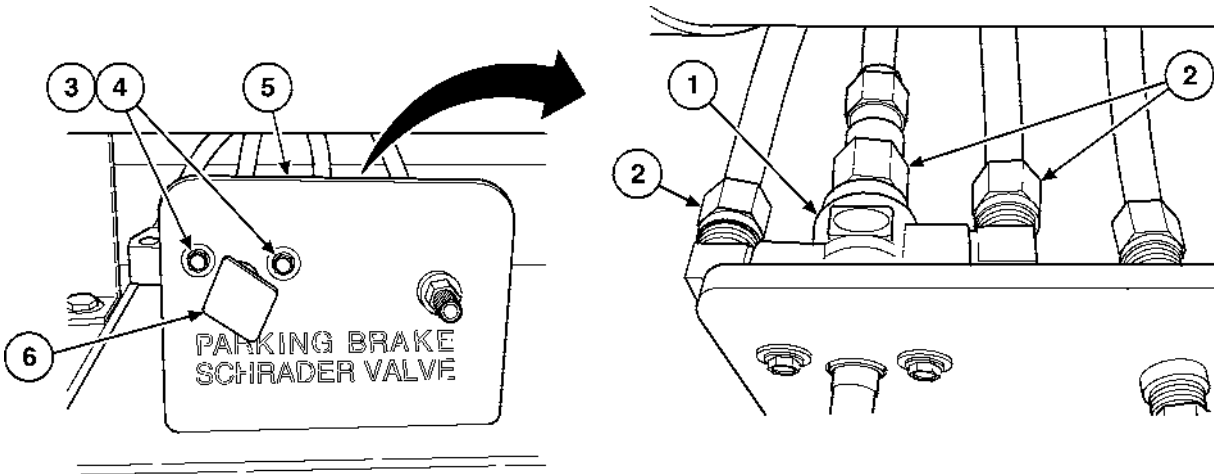
1. Remove three air lines (2) from valve fittings (1).



PARKING BRAKE CONTROL VALVE MAINTENANCE—Continued

0072 00

2. Remove two screws (3) and washers (4) from bracket (5).
3. Remove knob (6) and valve fittings (1) from bracket (5).



INSTALLATION

1. Install three air lines (2) to valve fittings (1).
2. Install two screws (3), washers (4), and valve fittings (1) to bracket (5).
3. Install knob (6) to valve fittings (1).

TEST

Test all components for leakage (WP 0073 00).

FOLLOW-ON TASK

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

AIR TUBING AND FITTINGS MAINTENANCE

0073 00

THIS WP COVERS:

Compression Sleeve Fittings Removal, Cleaning and Inspection, Compression Sleeve Fittings Installation, Push-In Fittings Removal, Push-In Fittings Installation, Test, Follow-On Task

INITIAL SETUP:

Maintenance Level
Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Compound, thread sealing (item 7, WP 0159 00)
Soap (item 12, WP 0159 00)
Cable ties (AR) (item 98, WP 0160 00)
Compression sleeves (AR) (item 38, WP 0160 00)

Equipment Conditions

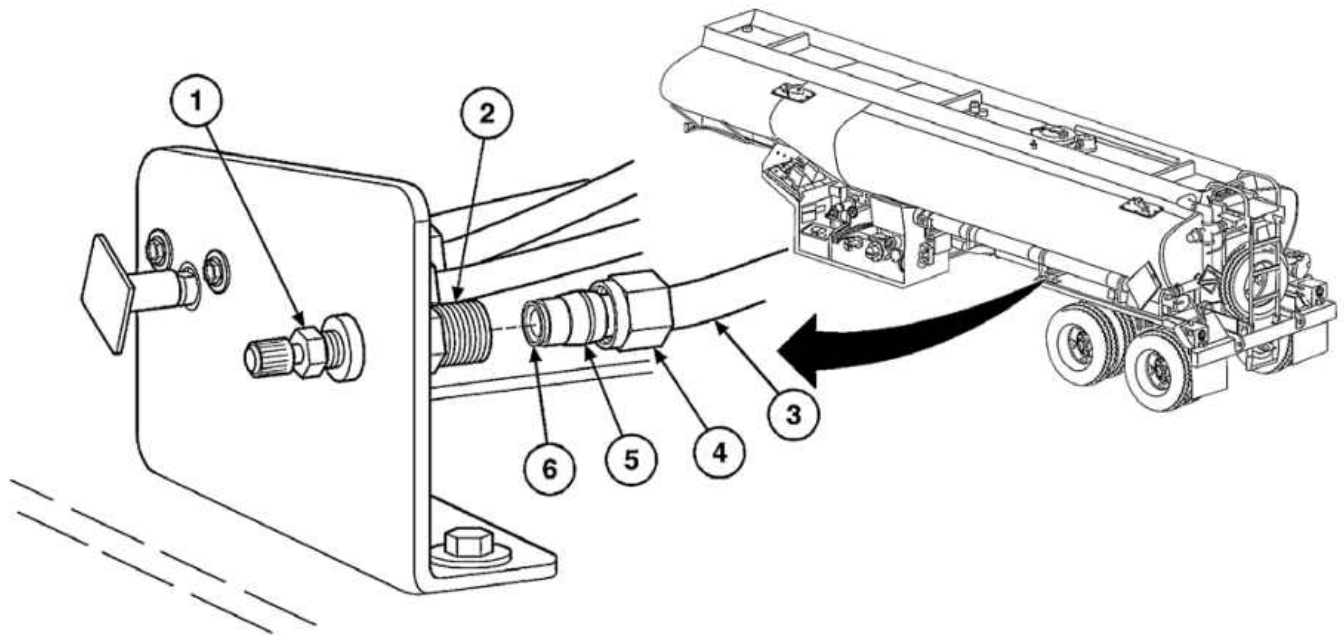
Semitrailer disconnected from prime mover (refer to WP 0007 00)
Semitrailer grounded (refer to WP 0007 00)
Air reservoir drained (refer to WP 0007 00)

COMPRESSION SLEEVE FITTINGS REMOVAL

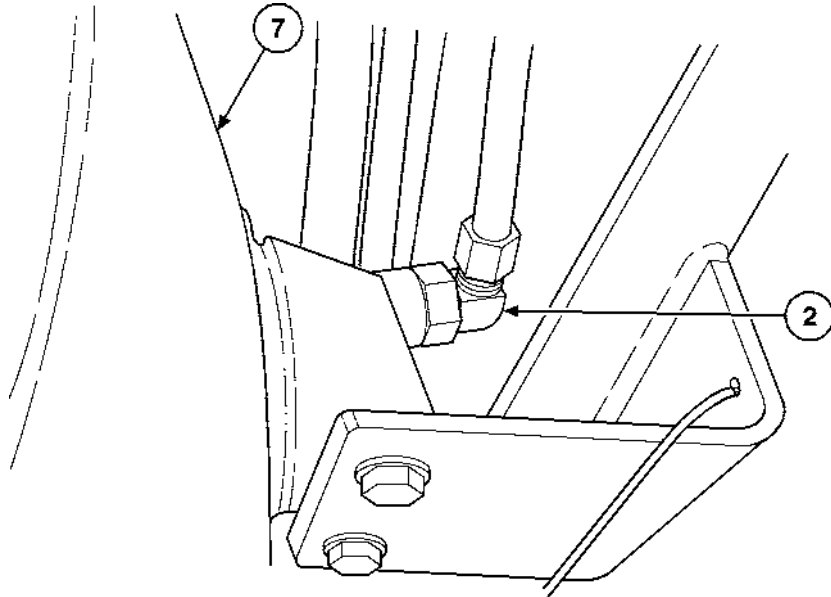
NOTE

All compression sleeve fittings are replaced the same way, only the number of clips varies. This procedure replaces the fittings and tubing between the Schrader valve and air reservoir.

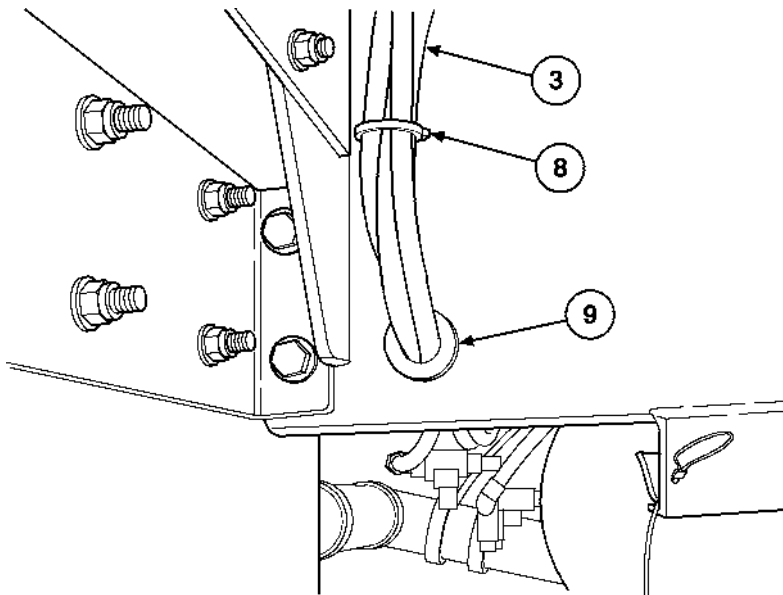
1. Disconnect tube nut (4) and tube (3) from fitting (2) at Schrader valve (1).
2. Remove compression sleeve (5), insert (6), and tube nut (4) from tubing (3). Discard sleeve.



3. Repeat steps 1–2 for fitting (2) and tubing at air reservoir (7) and remove fitting.



4. Remove clips (8) from tubing (3) and pull tubing through grommets (9). Discard cable ties.



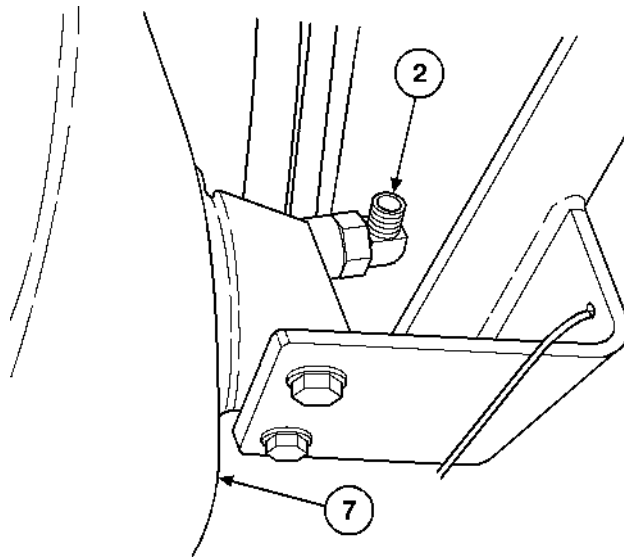
CLEANING AND INSPECTION

1. Clean dirt and sealing compound from fittings.
2. Inspect fittings for cracks and damage that could cause leaks.

COMPRESSION SLEEVE FITTINGS INSTALLATION**NOTE**

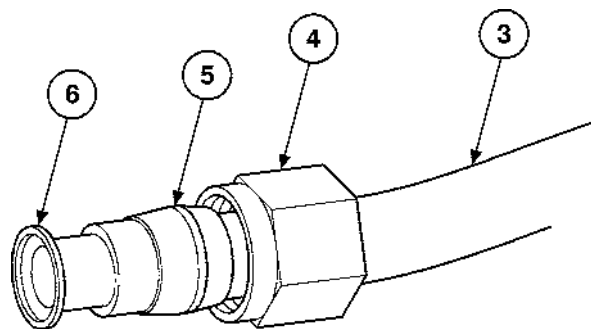
Apply thread sealing compound to threads of fitting.

1. Install fitting (2) to air reservoir (7).

**NOTE**

Air tubing is stocked in bulk lengths. Measure original air tubing and cut new tubing to same length. Trim ends of tubing to get a smooth, square cut.

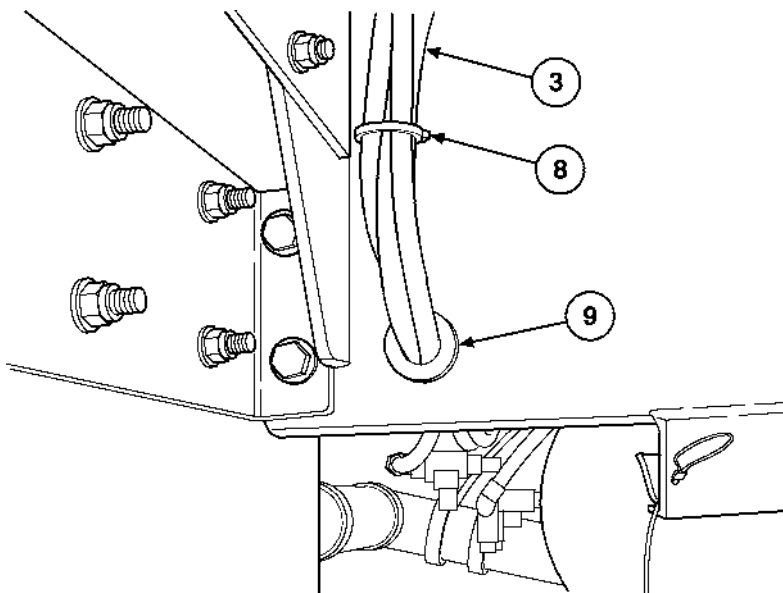
2. Install tube nut (4), new compression sleeve (5), and insert (6) on both ends of air line tubing (3).



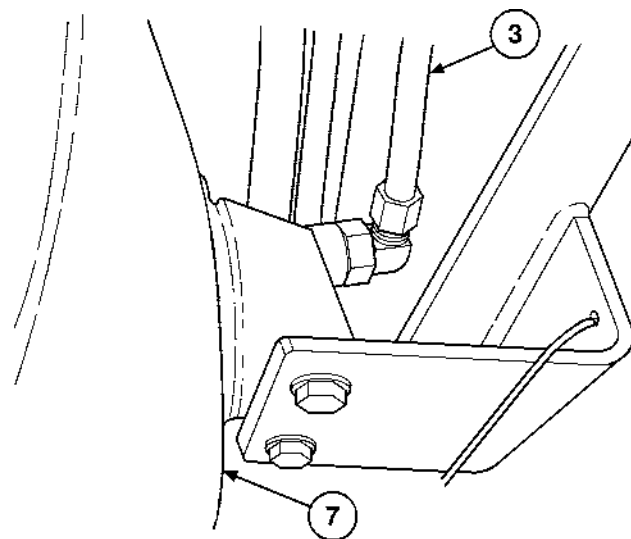
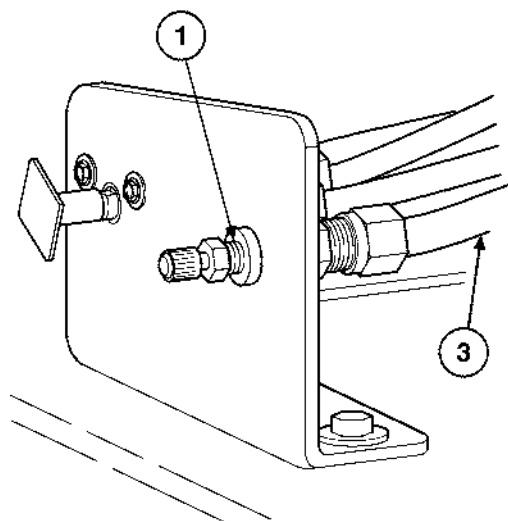
AIR TUBING AND FITTINGS MAINTENANCE—Continued

0073 00

3. Slide new tubing (3) through grommet (9).

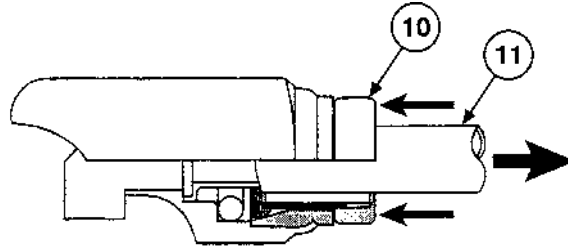


4. Install both ends of new tubing (3) to fittings at Schrader valve (1) and air reservoir (7).
5. Secure new tubing (3) with new clips (8) as necessary.



PUSH-IN FITTINGS REMOVAL

Depress collar (10) and disconnect tubing (11).

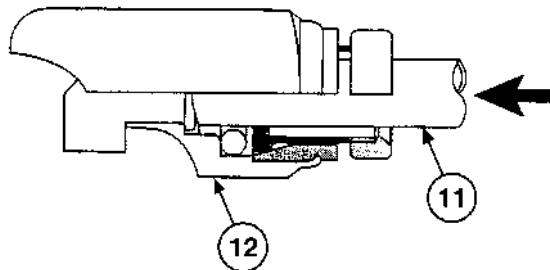


PUSH-IN FITTINGS INSTALLATION

NOTE

Air tubing is stocked in bulk lengths. Measure original air tubing and cut new tubing to same length. Trim ends of tubing to get a smooth, square cut.

1. Install tubing (11) into fitting (12) until tubing bottoms out.



2. Pull on tubing (11) to verify it is fully installed.

TEST

NOTE

Semitrailer must be coupled to a prime mover or to an air source at the Schrader valve to perform test.

Apply soapy water to air tubings and fittings and check for leaks. If a compression sleeve fitting leaks during test, tighten nut. If a push-in fitting leaks during test, verify tubing is bottomed out. If tubing leaks, replace tubing.

FOLLOW-ON TASK

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

AIR BRAKE HOSES MAINTENANCE

0074 00

THIS WP COVERS:

Removal, Installation, Test, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Compound, thread sealing (item 7, WP 0159 00)
Cable ties (AR) (item 98, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Air reservoir drained (refer to WP 0007 00)

References

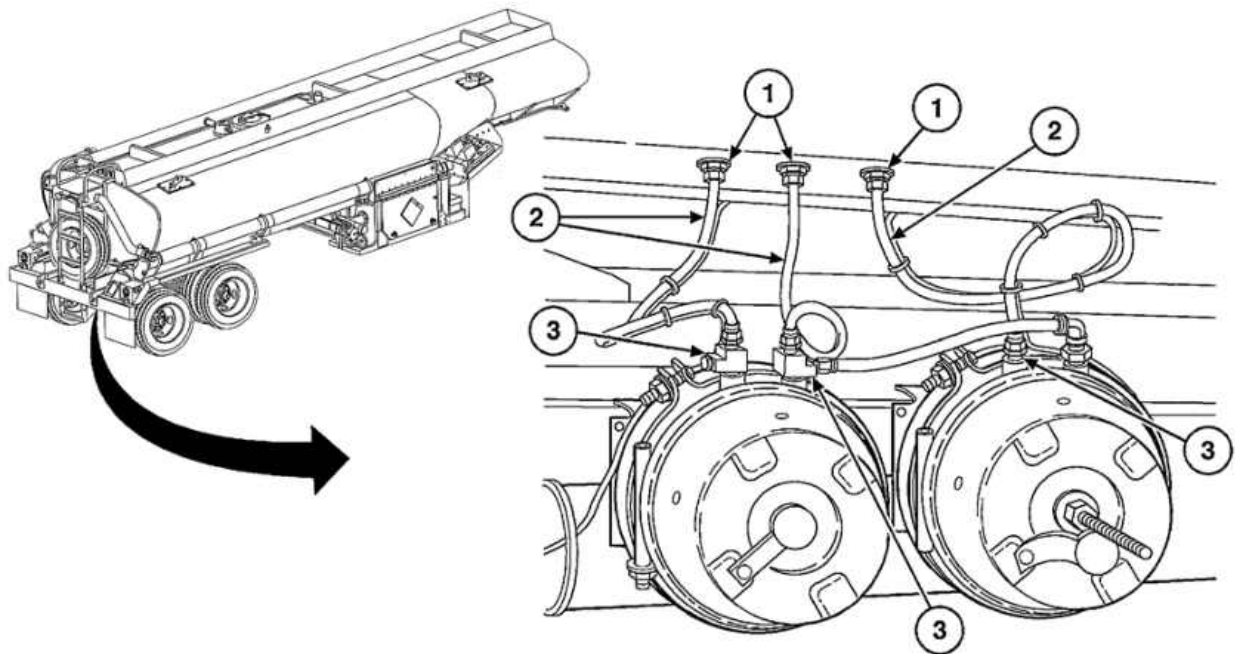
WP 0073 00

REMOVAL

NOTE

- There are two sets of air brake hoses and they are replaced the same way. This procedure replaces the set from the semitrailer trailing axle.
- Remove and discard cable ties as necessary.

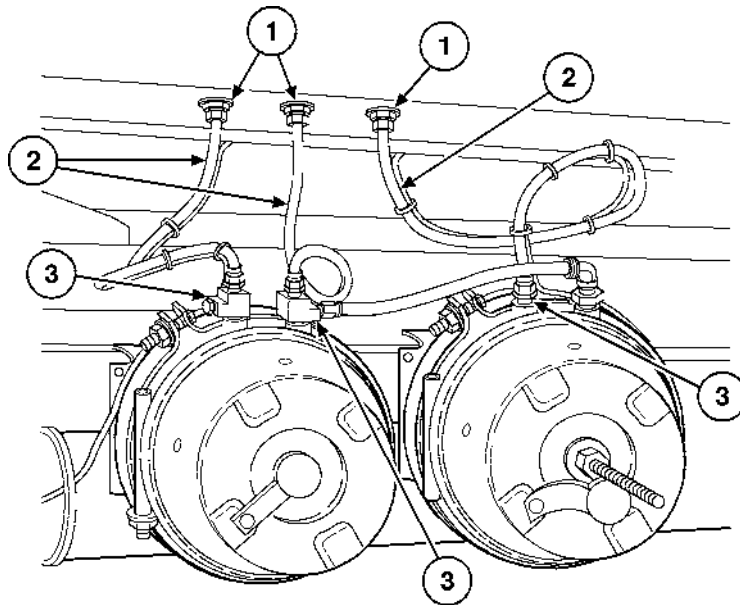
1. Disconnect three brake hoses (2) from air brake chamber fittings (3).
2. Remove three brake hoses (2) from airline mounting plate fittings (1).



INSTALLATION

NOTE

- Apply thread sealing compound to threads of fittings.
 - Install new cable ties as required.
1. Install three air brake hoses (2) to three air brake chamber fittings (3).
 2. Connect three air brake hoses (2) to three airline mounting plate fittings (1).



TEST

Test per WP 0073 00.

FOLLOW-ON TASK

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

FAIL-SAFE CHAMBER BRAKES RELEASE

0075 00

THIS WP COVERS:

Reserve Release, Manual Release, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

NOTE

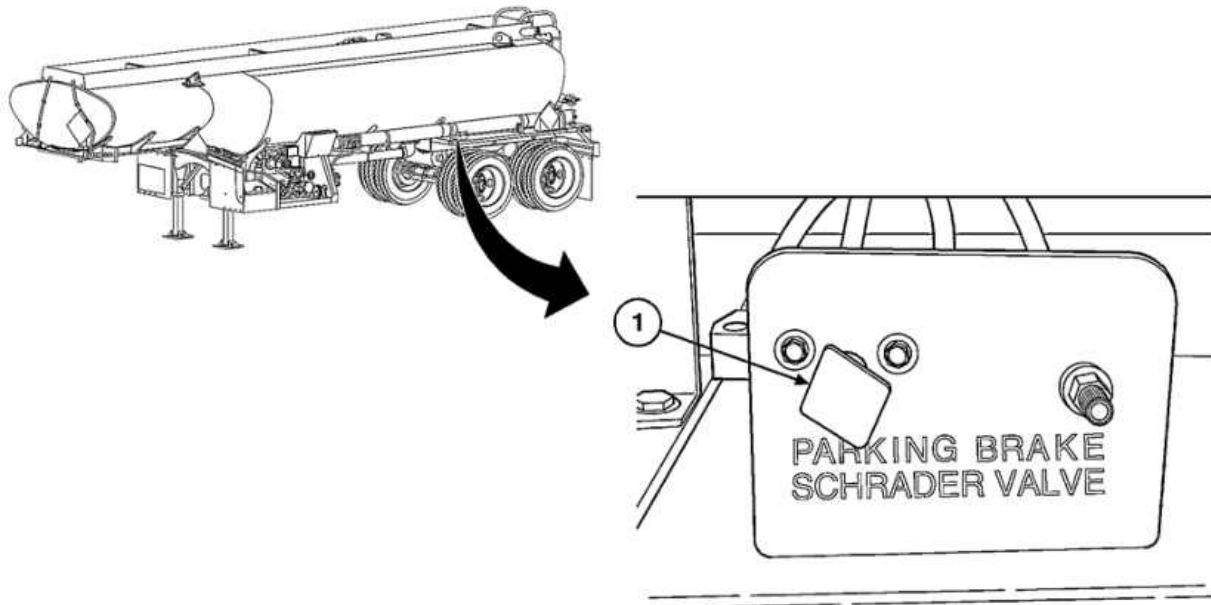
There are four air brake chambers and they are released the same way. This procedure covers one air brake chamber.

RESERVE RELEASE

WARNING

Chock semitrailer wheels to prevent movement of semitrailer.

1. Push brake release plunger (1) on roadside of semitrailer to release fail-safe brakes.



NOTE

Use manual release (caging) when air is unavailable.

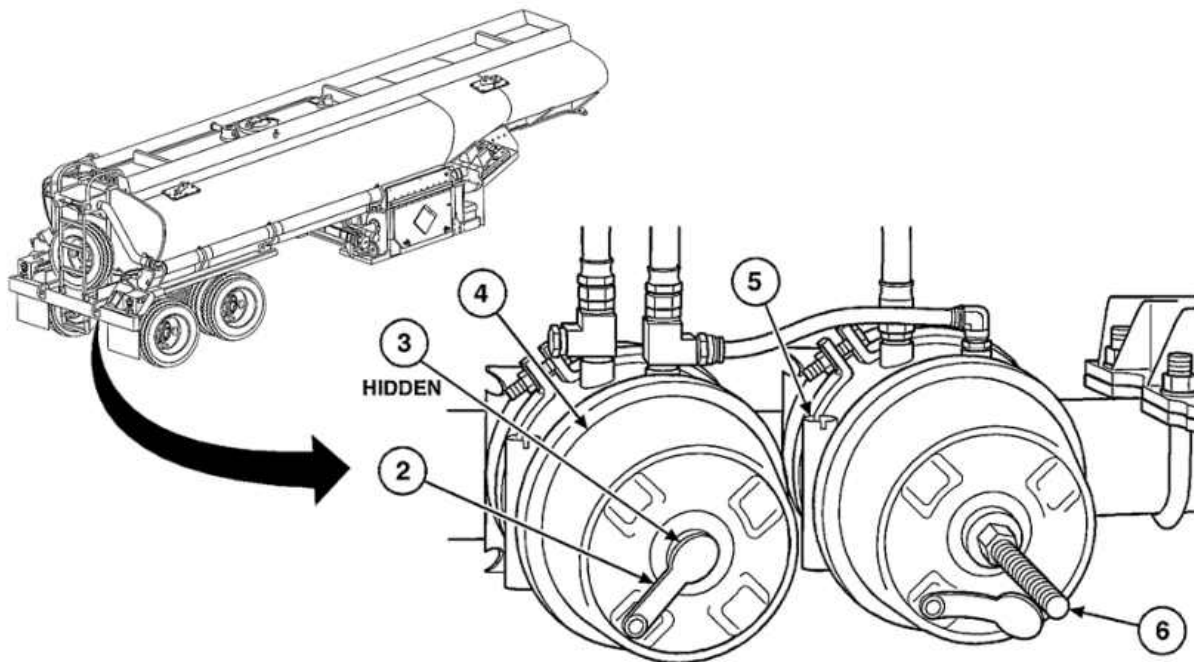
MANUAL RELEASE

1. Remove manual caging tool (6) from storage tube (5).
2. Unsnap breather cap (2) from air brake chamber (4) and insert manual caging tool (6) into access hole (3).
3. Turn nut clockwise on manual caging tool (6) until brakeshoes are released on brakedrum.

NOTE

Snap breather caps back into place on air brake chamber as quickly as possible to prevent contaminants from fouling interiors of air chambers.

4. To release brakes, turn nut counterclockwise on manual caging tool (6) until fail-safe unit is released.



FOLLOW-ON TASK

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

SERVICE AND EMERGENCY COUPLINGS (GLADHANDS) MAINTENANCE

0076 00

THIS WP COVERS:

Removal, Repair, Installation, Test, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Compound, thread sealing (item 7, WP 0159 00)

Packing rings (2) (item 133, WP 0160 00)

S-hooks (2) (item 124, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Air reservoir drained (refer to WP 0007 00)

References

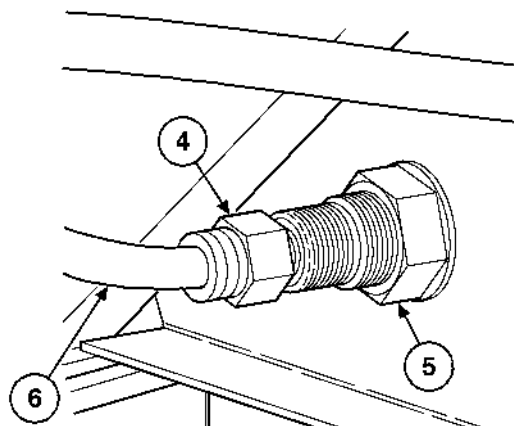
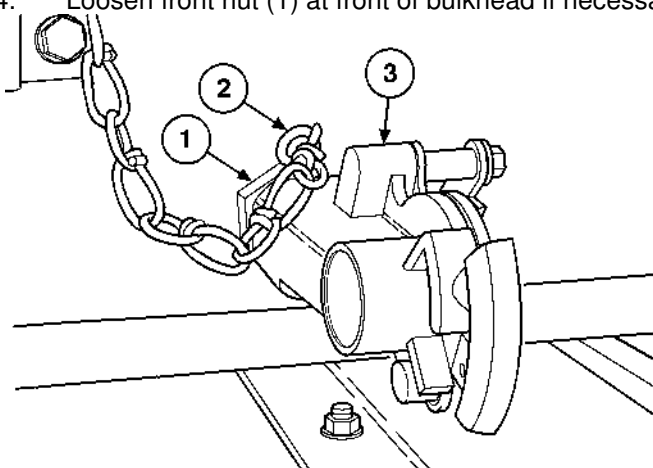
WP 0073 00

REMOVAL

NOTE

- There are two gladhands and both are replaced the same way. This procedure replaces the service (blue coded) gladhand.
- It is not necessary to remove gladhand if only replacing packing ring.

1. Remove S-hook (2) from gladhand (3). Discard S-hook.
2. Disconnect tube (6) from push-lock fitting (4) (refer to WP 0073 00) and remove push-lock fitting from gladhand (3) at rear of bulkhead.
3. Remove rear nut (5) from gladhand (3) at rear of bulkhead.
4. Loosen front nut (1) at front of bulkhead if necessary and remove gladhand (3).



SERVICE AND EMERGENCY COUPLINGS (GLADHANDS) MAINTENANCE—Continued 0076 00

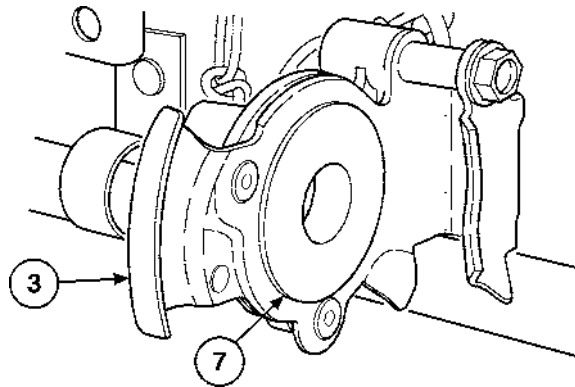
REPAIR

1. Remove packing ring (7) from gladhand (3). Discard packing ring.
2. Clean groove in gladhand (3).

NOTE

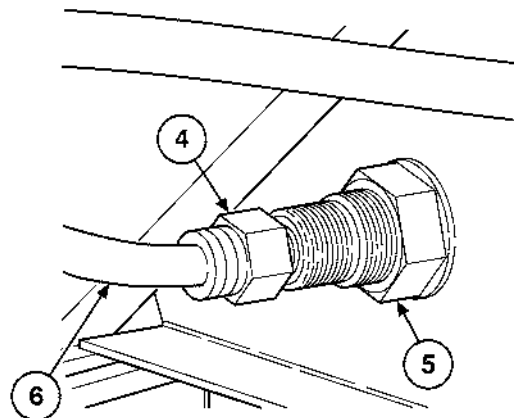
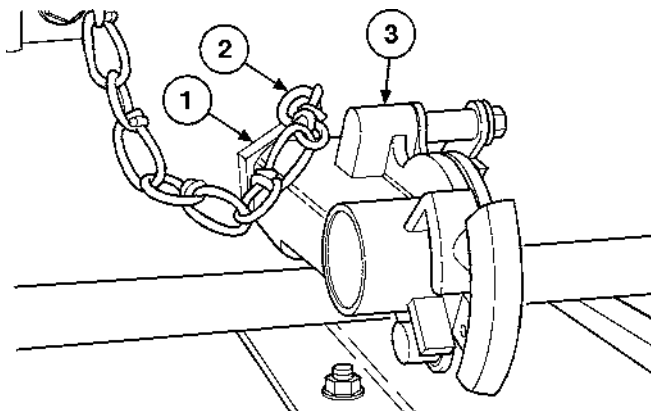
Apply thread sealing compound to threads of fitting.

3. Install new packing ring (7) into groove of gladhand (3) using a blunt tool or other instrument.



INSTALLATION

1. Install gladhand (3) to bulkhead.
2. Install rear nut (5) on threads of gladhand (3) at rear of bulkhead and secure gladhand (3) with front nut (1) at bulkhead.
3. Install push-lock fitting (4) to gladhand (3) at rear of bulkhead and connect tube (6) to push-lock fitting (refer to WP 0073 00).
4. Install new S-hook (2) on gladhand (3) at front of bulkhead.



SERVICE AND EMERGENCY COUPLINGS (GLADHANDS) MAINTENANCE—Continued **0076 00**

TEST

Test per WP 0073 00.

FOLLOW-ON TASK

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

TIRE MAINTENANCE

0077 00

Refer to TM 9-2610-200-24 for instructions on tire maintenance.

KINGPIN COUPLER REPLACEMENT

0078 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Self-locking nuts (14) (item 97, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Semitrailer parked on hard level surface (refer to WP 0007 00)

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Lifting device (item 1, WP 0156 00)

Personnel Required

Two

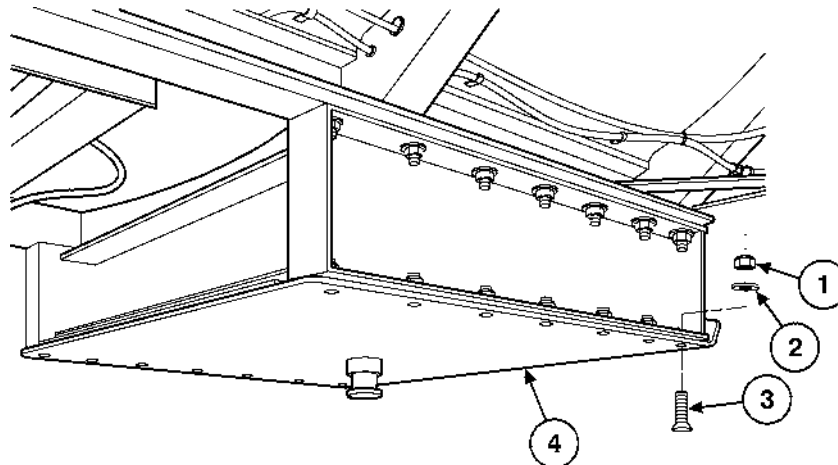
REMOVAL

1. Position lifting device under kingpin coupler (4).

WARNING

Kingpin coupler is very heavy. Attempting to lift or maneuver coupler by yourself could result in injury or death to personnel.

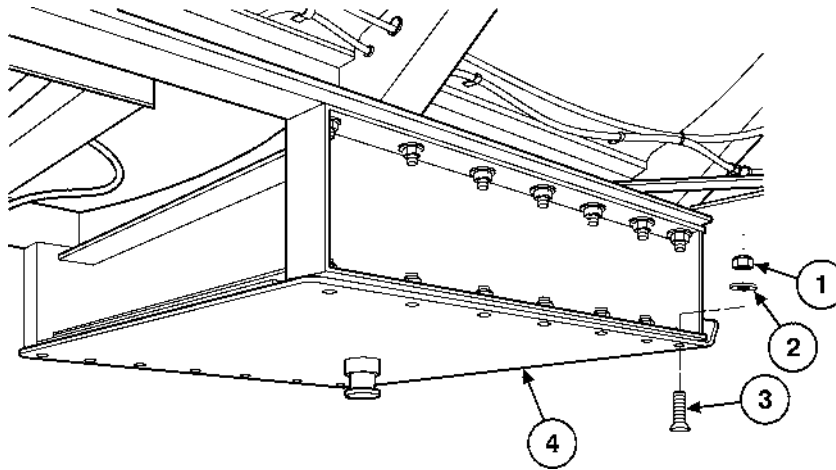
2. Remove 14 self-locking nuts (1), washers (2), bolts (3), and kingpin coupler (4) from semitrailer. Discard self-locking nuts.



INSTALLATION**WARNING**

Kingpin coupler is very heavy. Attempting to lift or maneuver coupler by yourself could result in injury or death to personnel.

1. Using a lifting device, position kingpin coupler (4) under semitrailer.
2. Install kingpin coupler (4), 14 bolts (3), washers (2), and new self-locking nuts (1) to semitrailer. Torque nuts to 140 lb-ft (190 N•m).

**FOLLOW-ON TASK**

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

KINGPIN SPACER REPLACEMENT

0079 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Lifting device (item 1, WP 0156 00)

Materials/Parts

Self-locking nuts (14) (item 112, WP 0160 00)

Personnel Required

Two

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Semitrailer parked on hard level surface (refer to WP 0007 00)

Semitrailer kingpin coupler removed (refer to WP 0078 00)

NOTE

This is an AAL item procedure.

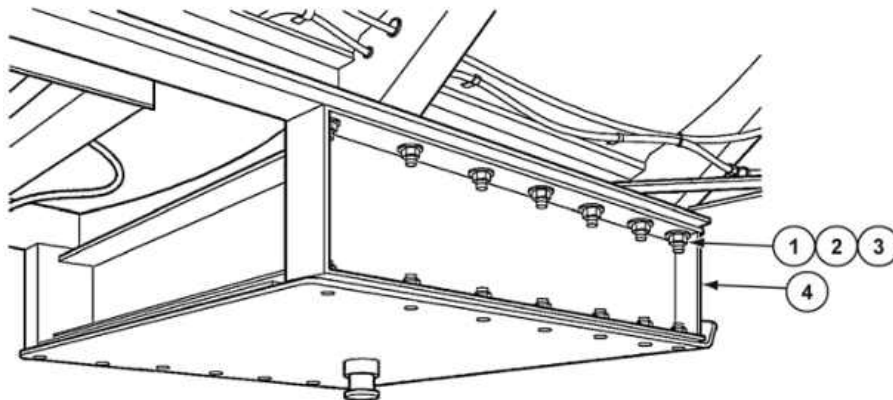
REMOVAL

1. Position lifting device under kingpin spacer (4).

WARNING

Kingpin spacer is very heavy. Attempting to lift or maneuver coupler by yourself could result in injury or death to personnel.

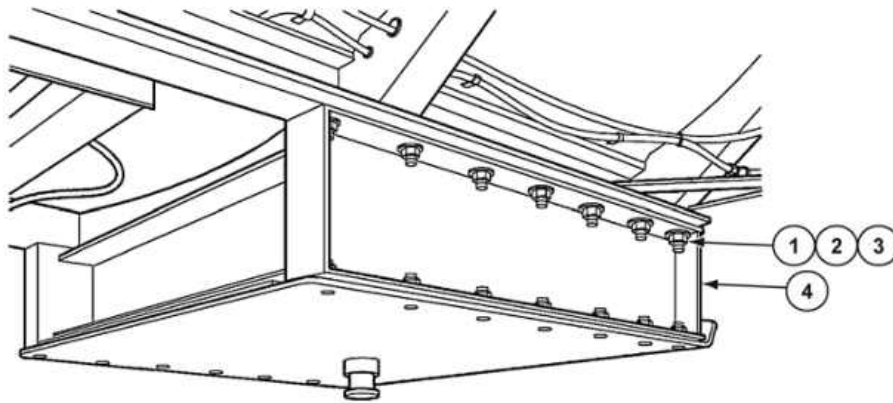
2. Remove 14 self-locking nuts (1), 28 washers (2), 14 bolts (3), and kingpin spacer (4) from semitrailer. Discard self-locking nuts.



INSTALLATION**WARNING**

Kingpin spacer is very heavy. Attempting to lift or maneuver spacer by yourself could result in injury or death to personnel.

1. Using a lifting device, position kingpin spacer (4) under semitrailer.
2. Install kingpin spacer (4), 14 bolts (3), 28 washers (2), and 14 new self-locking nuts (1) to semitrailer. Torque nuts to 140 lb-ft (190 N•m).

**FOLLOW-ON TASK**

1. Install kingpin coupler (WP 0078 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

LANDING GEAR GROUND BOARDS REPLACEMENT

0080 00

THIS WP COVERS:

Removal, Installation

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Self-locking nuts (6) (item 87, WP 0160 00)

Equipment Conditions

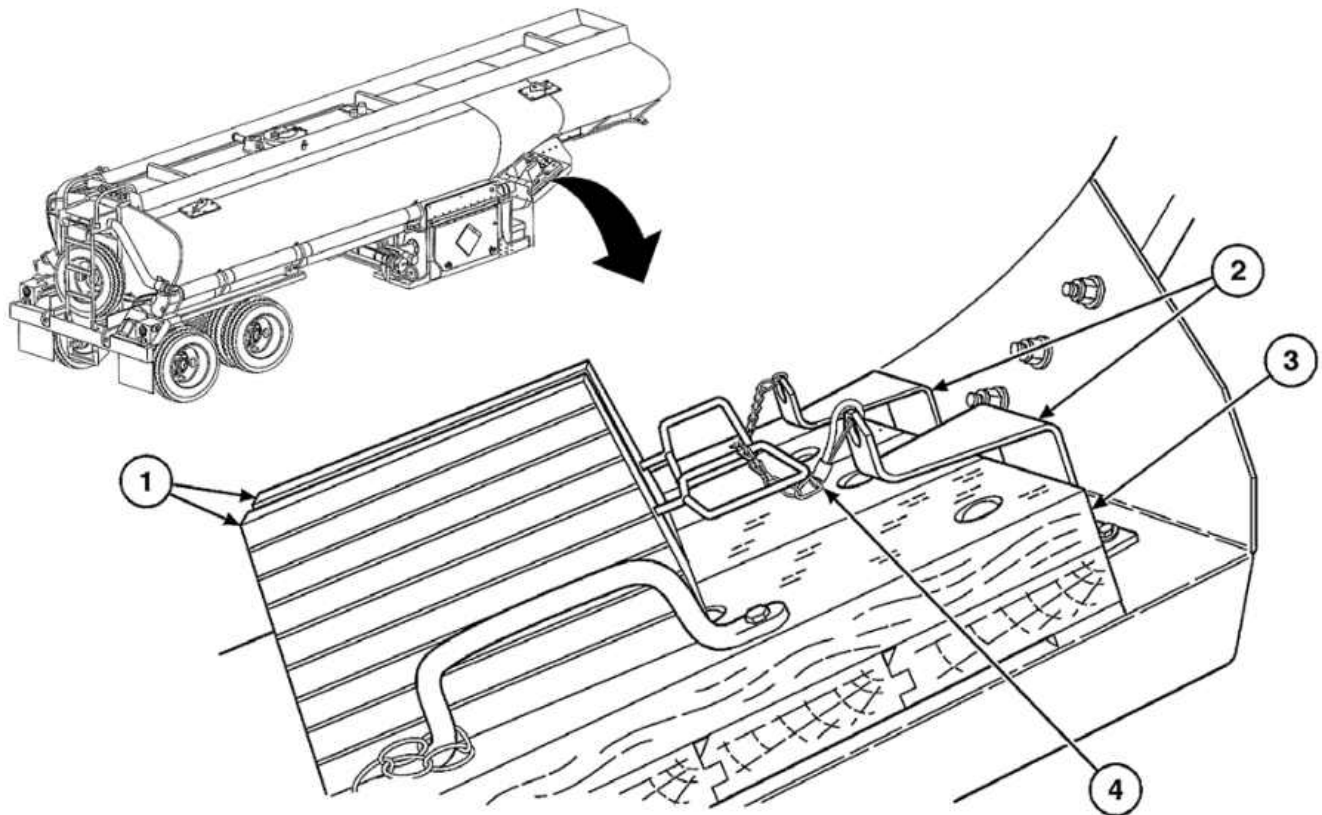
Semitrailer disconnected from prime mover (refer to WP 0007 00)

REMOVAL

NOTE

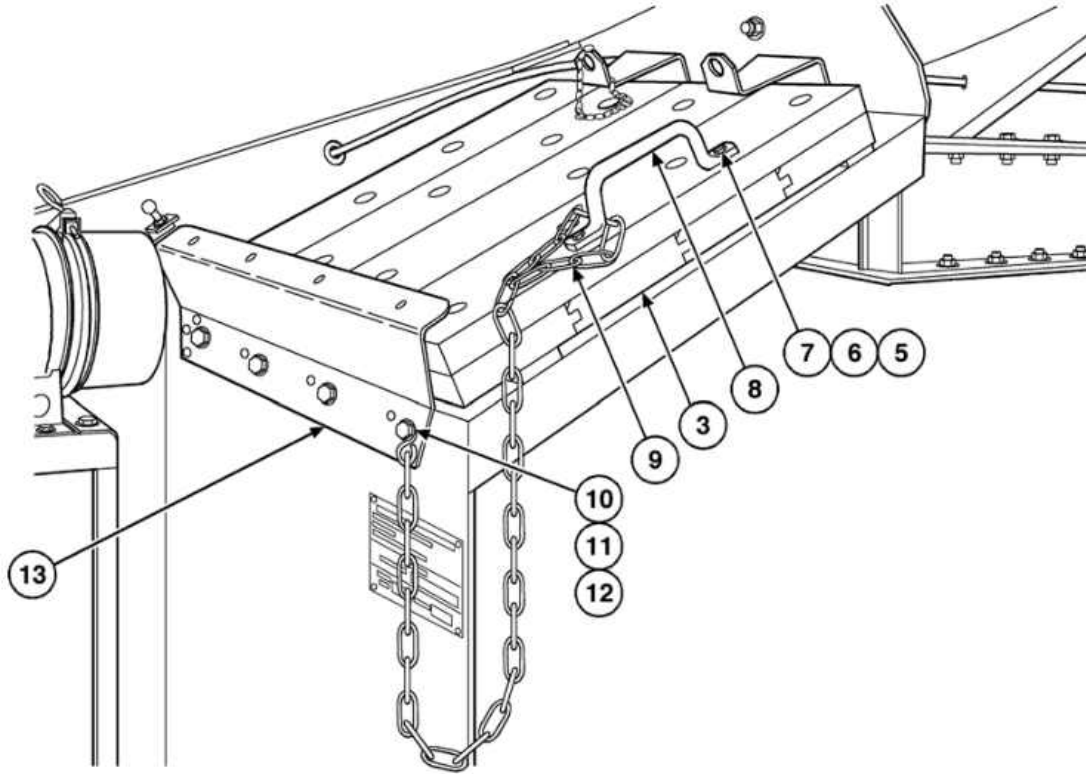
There are two landing gear ground boards and they are both replaced the same way. This procedure replaces the curbside ground board.

1. Remove chain (4) and two chocks (1) from bracket (2) securing landing gear ground board (3).



LANDING GEAR GROUND BOARDS REPLACEMENT—Continued**0080 00**

2. Remove two self-locking nuts (7), washers (6), screws (5), handle (8), and chain (9) from landing gear ground board (3). Discard self-locking nuts.
3. Remove self-locking nut (12), two washers (11), bolt (10), and chain (9) from bracket (13). Discard self-locking nut.

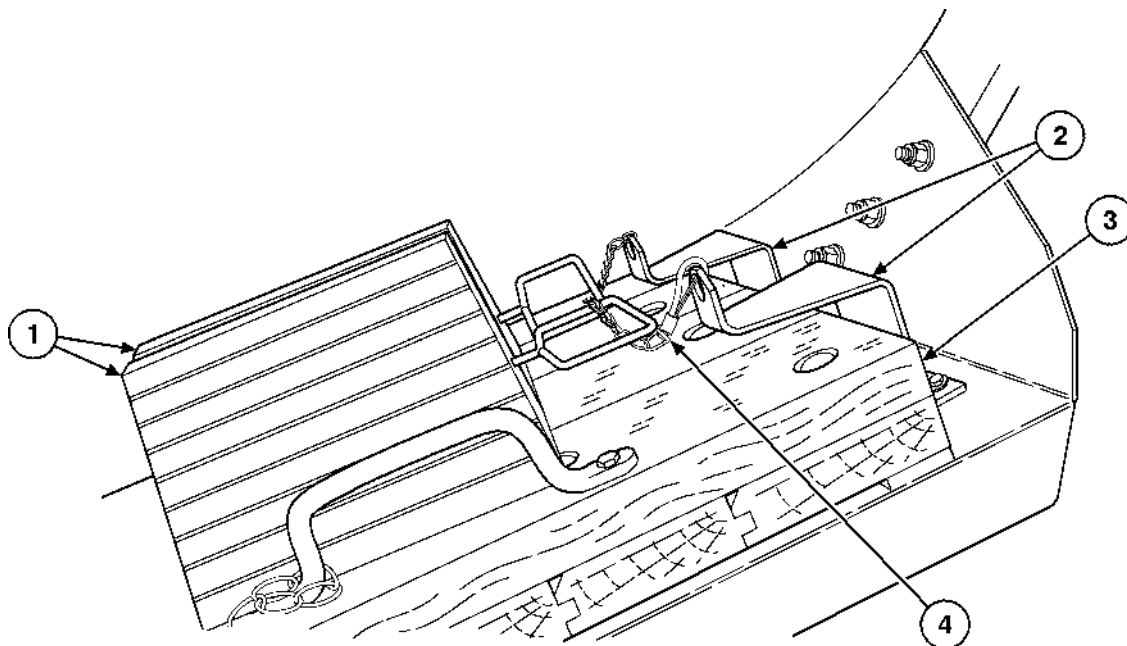
**INSTALLATION**

1. Install chain (9), bolt (10), two washers (11), and new self-locking nut (12) to bracket (13).
2. Install chain (9), handle (8), two screws (5), washers (6), and new self-locking nuts (7) to landing gear ground board (3).

LANDING GEAR GROUND BOARDS REPLACEMENT—Continued

0080 00

3. Install chain (4) and two chocks (1) to bracket (2) securing landing gear ground board (3).



END OF TASK

CURBSIDE LANDING LEG REPLACEMENT

0081 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Self-locking nuts (10) (item 97, WP 0160 00)

Self-locking nuts (2) (item 132, WP 0160 00)

Personnel Required

Two

References

WP 0034 00

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Jack stands (item 3, WP 0156 00)

Lifting device (item 1, WP 0156 00)

Equipment Conditions

Semitrailer grounded (refer to WP 0007 00)

Semitrailer fuel tank drained (refer to WP 0007 00)

Batteries removed (refer to WP 0053 00)

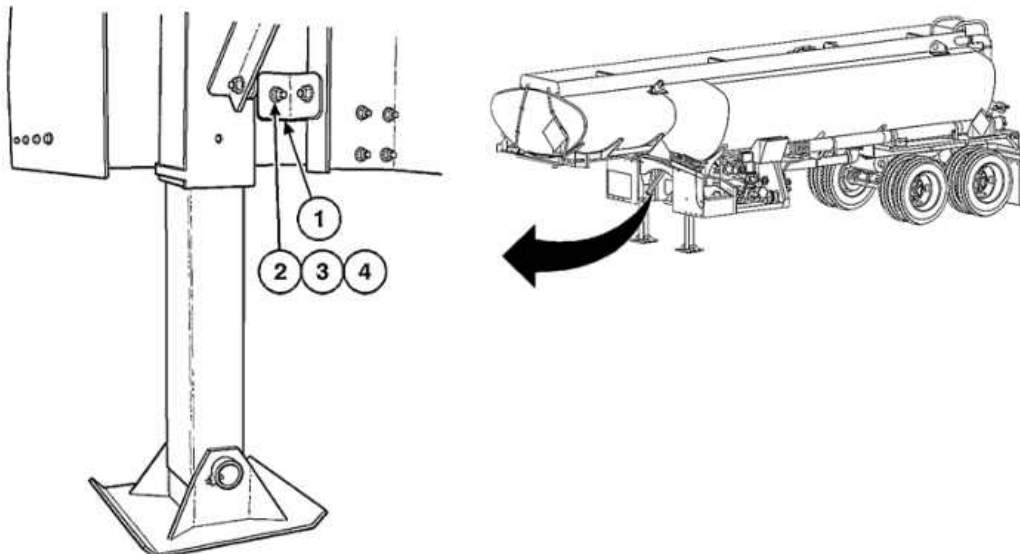
Optic socket box mounting bracket disconnected (refer to WP 0048 00)

REMOVAL

NOTE

- Landing gear legs should be raised 6 inches (15.2 cm) off the ground prior to performing this procedure.
- Semitrailer must be on jack stands or connected to a prime mover prior to performing this procedure.

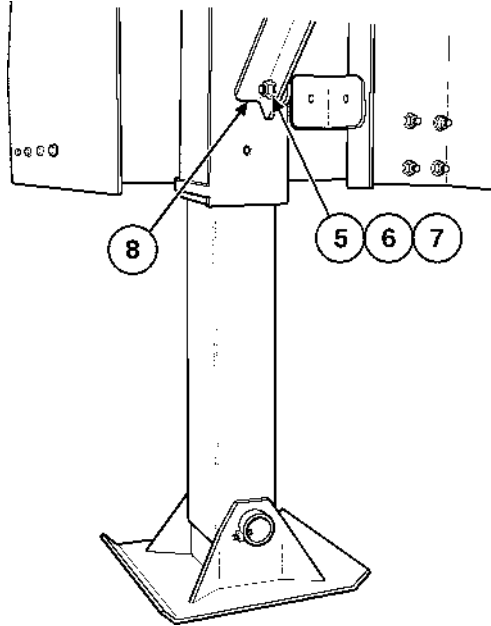
1. Remove self-locking nut (2), two washers (3), and bolt (4) from leg support bracket (1). Discard self-locking nut.



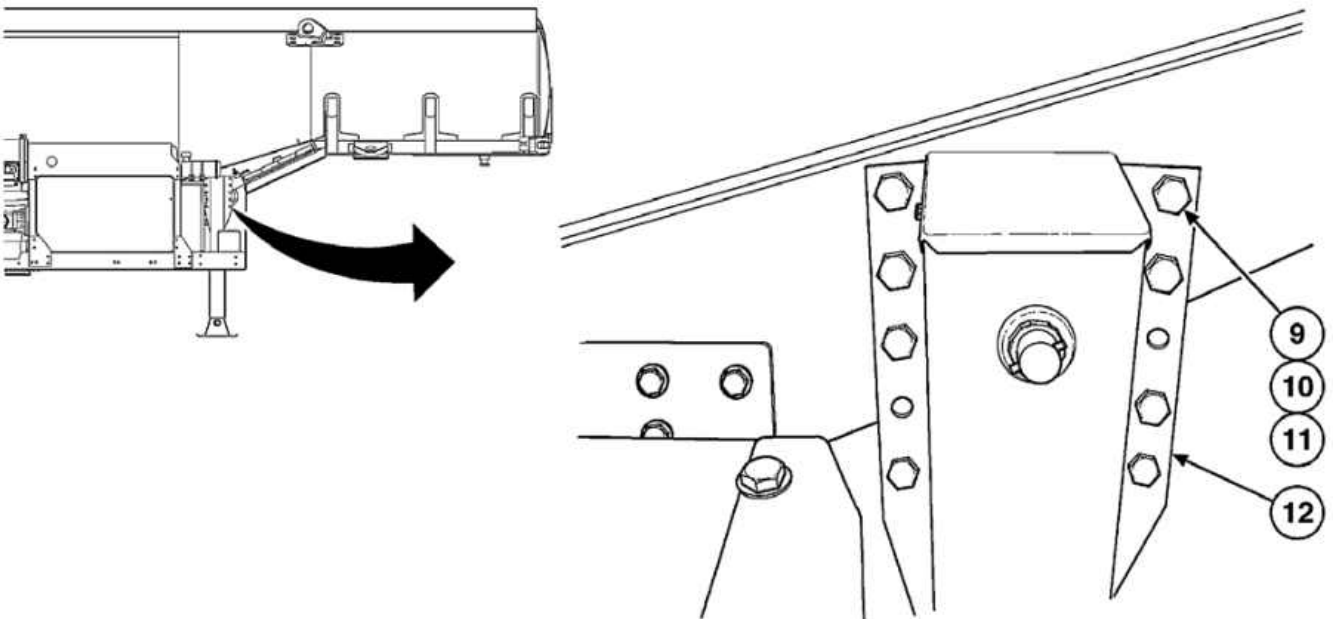
CURBSIDE LANDING LEG REPLACEMENT—Continued

0081 00

2. Remove self-locking nut (5), two washers (6), and bolt (7) from landing gear leg support (8). Discard self locking nut.



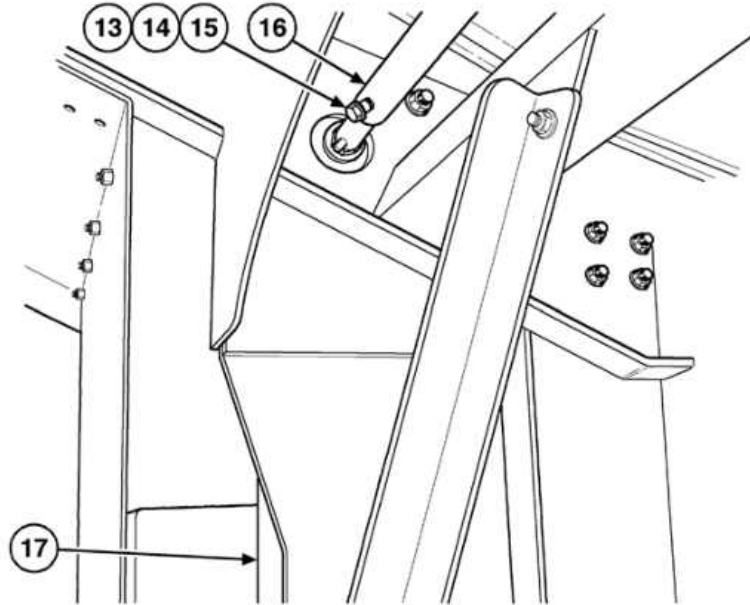
3. Remove eight self-locking nuts (9), washers (10), and bolts (11) from landing gear leg bracket (12). Discard self-locking nuts.



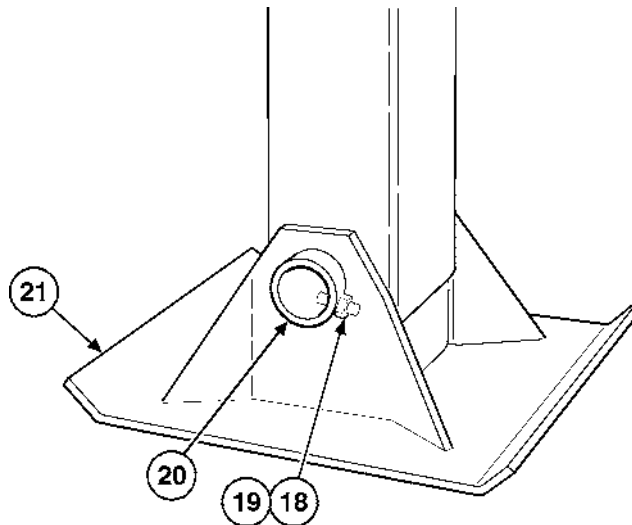
CURBSIDE LANDING LEG REPLACEMENT—Continued

0081 00

4. Remove self-locking nut (13), two washers (14), bolt (15), cross-drive shaft (16), and landing gear leg (17) from semitrailer. Discard self-locking nut.



5. Remove self-locking nut (18), bolt (19), shaft (20), and landing gear shoe (21) from landing gear leg (17). Discard self-locking nut.



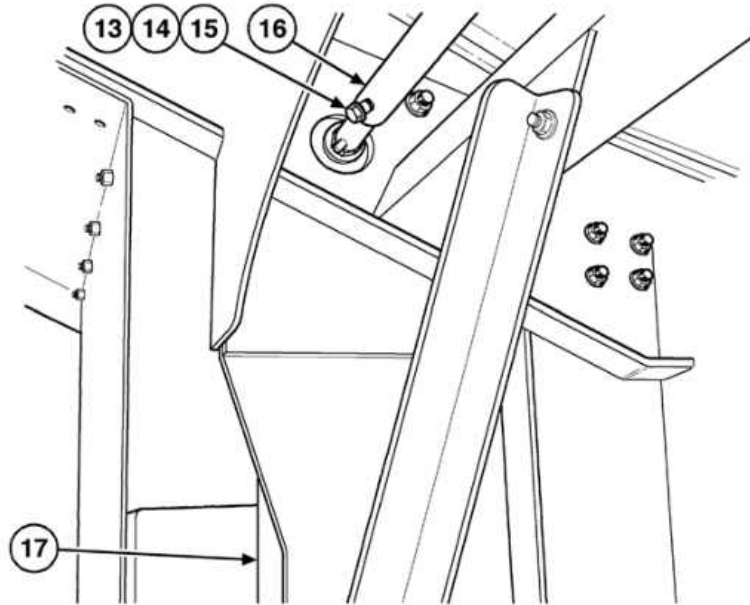
INSTALLATION

1. Install landing gear shoe (21), shaft (20), bolt (19), and nut (18) to landing gear leg (17).

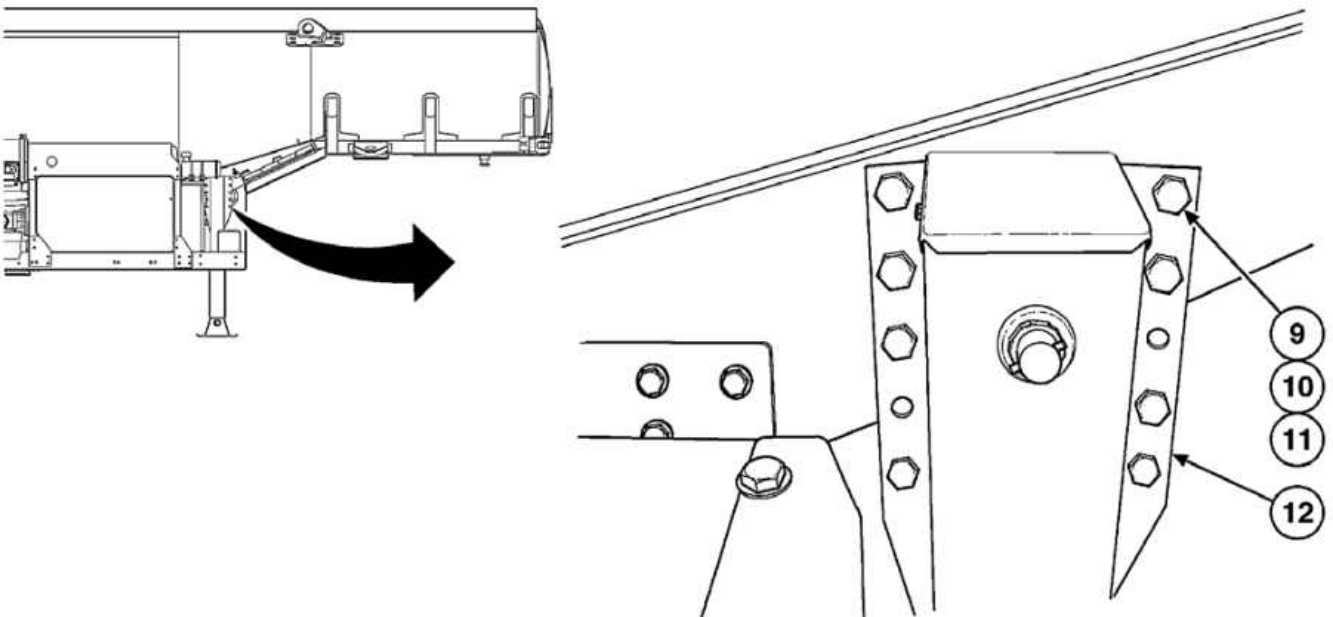
CURBSIDE LANDING LEG REPLACEMENT—Continued

0081 00

2. Install landing gear leg (17), cross-drive shaft (16), two bolts (15), four washers (14), and two new self-locking nuts (13) to semitrailer.



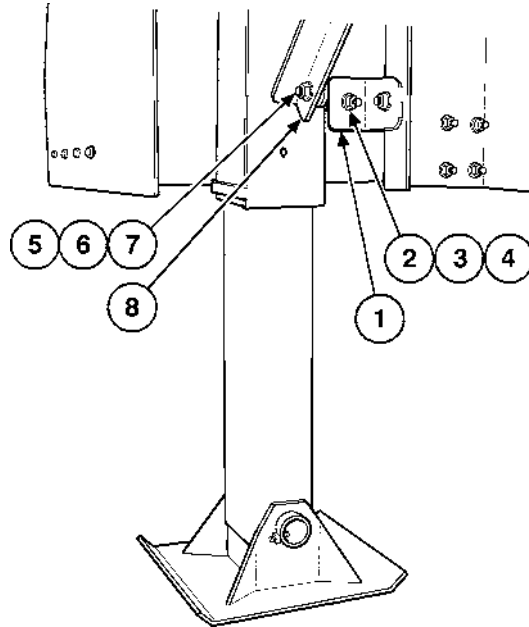
3. Install eight bolts (11), washers (10), and new self-locking nuts (9) to landing leg bracket (12).



CURBSIDE LANDING LEG REPLACEMENT—Continued

0081 00

4. Install bolt (7), two washers (6), and new self-locking nut (5) to landing gear leg support (8).
5. Install bolt (4), two washers (3), and new self-locking nut (2) to leg supports bracket (1).



FOLLOW-ON TASKS

1. Disconnect semitrailer grounding cables (WP 0007 00).
2. Connect optic socket box mounting bracket (WP 0048 00).
3. Install batteries (WP 0053 00).
4. Lubricate IAW (WP 0034 00).

END OF TASK

ROADSIDE LANDING LEG AND HANDCRANK REPLACEMENT

0082 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Self-locking nuts (4) (item 97, WP 0160 00)

Self-locking nut (8) (item 132, WP 0160 00)

References

WP 0034 00

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Jack stands (item 3, WP 0156 00)

Lifting device (item 1, WP 0156 00)

Personnel Required

Two

Equipment Conditions

Semitrailer grounded (refer to WP 0007 00)

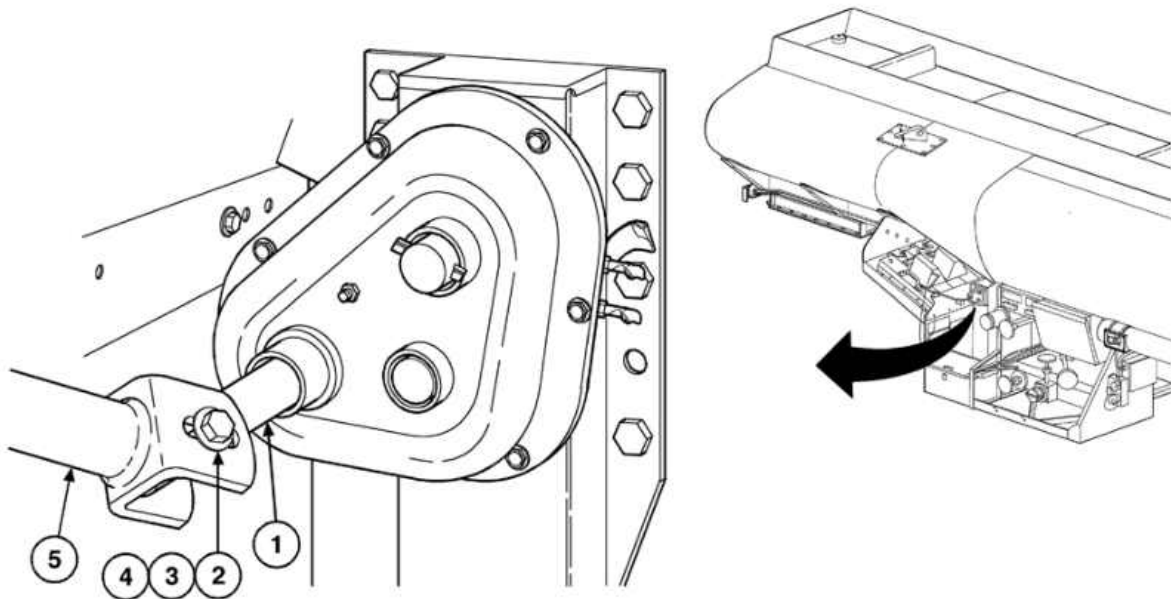
Semitrailer fuel tank drained (refer to WP 0007 00)

REMOVAL

NOTE

- Landing gear legs should be raised 6 inches (15.2 cm) off the ground prior to performing this procedure.
- Semitrailer must be on jack stands or connected to a prime mover prior to performing this procedure.

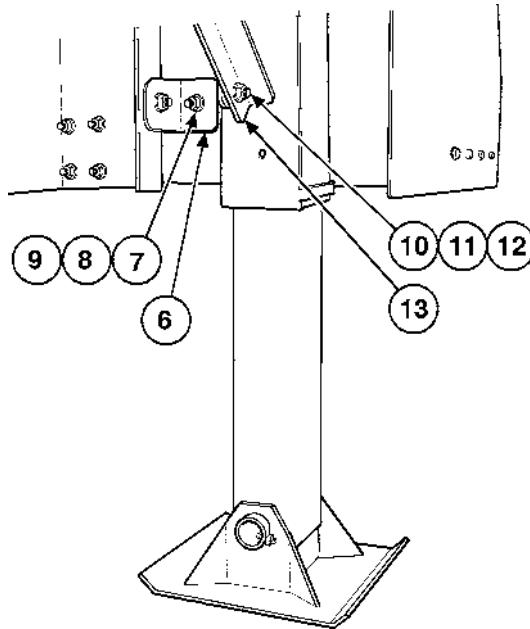
1. Remove nut (2), two washers (3), bolt (4), and handcrank (5) from shaft (1).



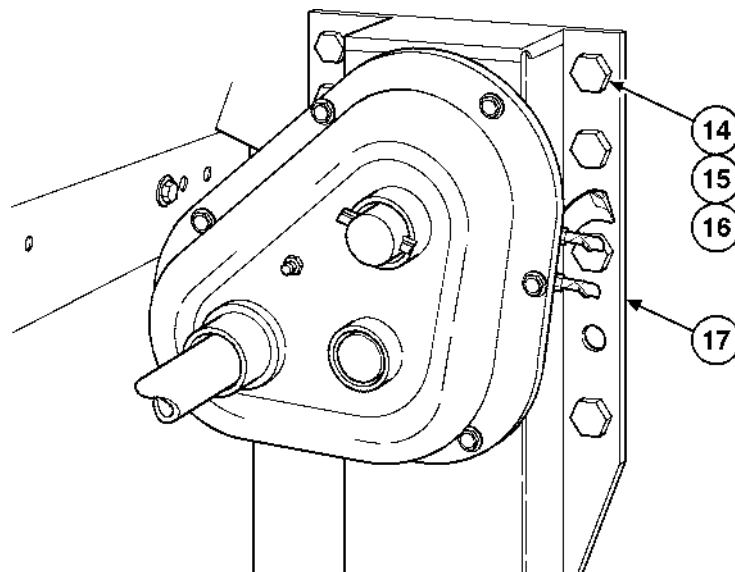
ROADSIDE LANDING LEG AND HANDCRANK REPLACEMENT—Continued

0082 00

2. Remove self-locking nut (7), two washers (8), and bolt (9) from leg support bracket (6). Discard self-locking nut.
3. Remove self-locking nut (10), two washers (11), and bolt (12) from landing gear leg support (13). Discard self locking nut.



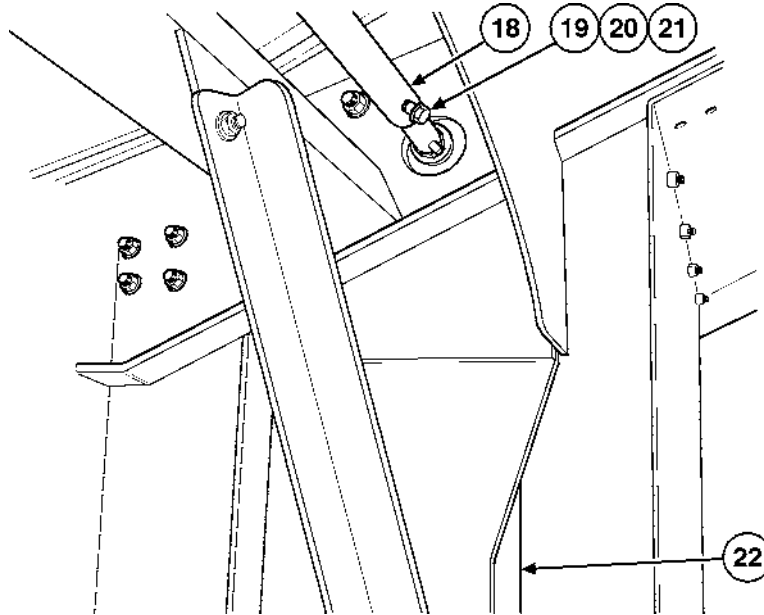
4. Remove eight self-locking nuts (14), washers (15), and bolts (16) from landing gear leg bracket (17). Discard self-locking nuts.



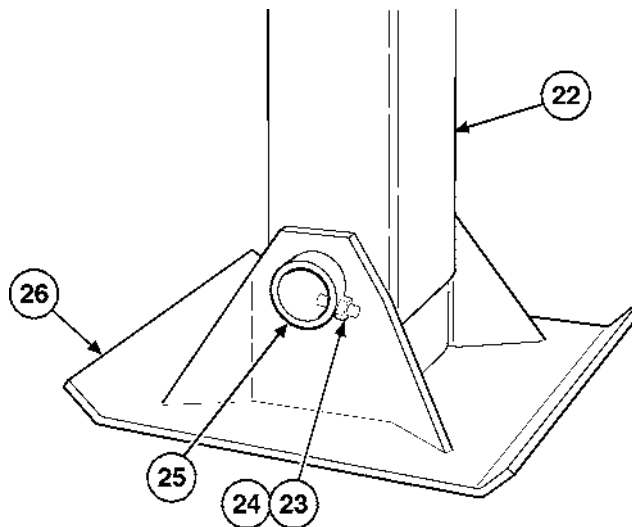
ROADSIDE LANDING LEG AND HANDCRANK REPLACEMENT—Continued

0082 00

5. Remove two self-locking nuts (21), four washers (20), two bolts (19), cross-drive shaft (18), and landing gear leg (22) from semitrailer. Discard self-locking nuts.



6. Remove nut (23), bolt (24), shaft (25), and landing gear shoe (26) from landing gear leg (22).

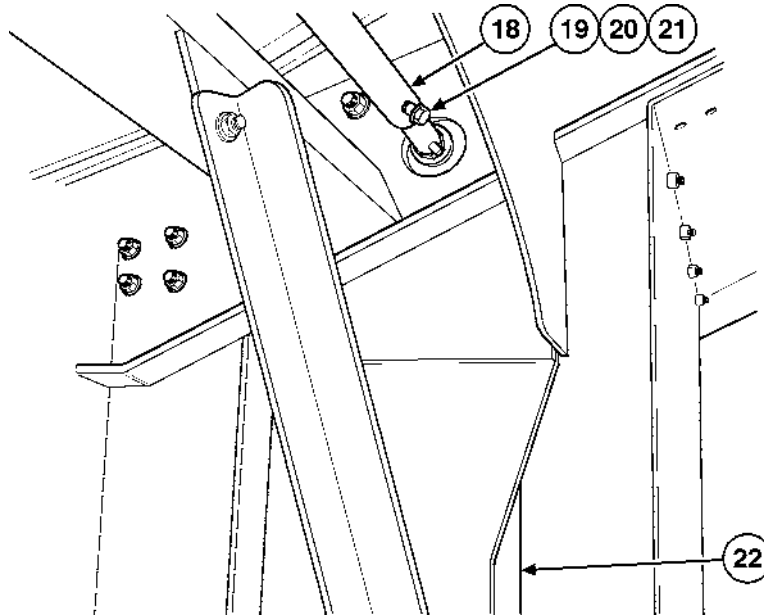
**INSTALLATION**

1. Install landing gear shoe (26), shaft (25), bolt (24), and nut (23) to landing gear leg (22).

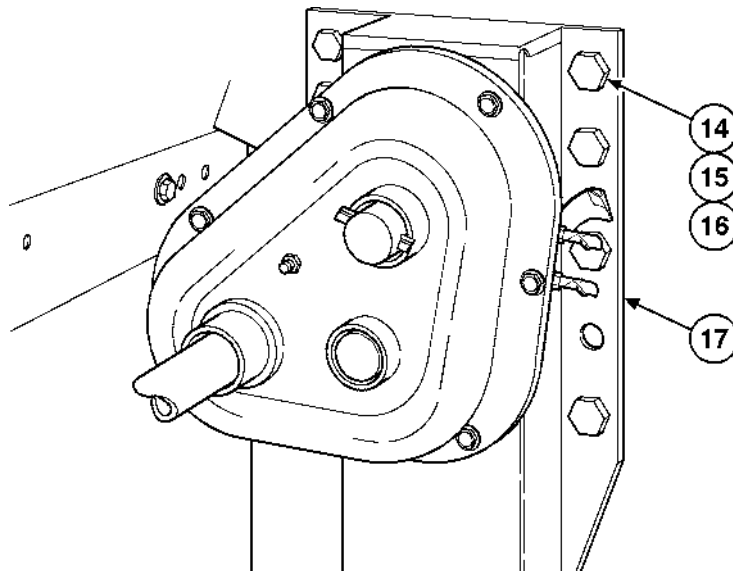
ROADSIDE LANDING LEG AND HANDCRANK REPLACEMENT—Continued

0082 00

2. Install landing gear leg (22), cross-drive shaft (18), two bolts (19), four washers (20), and two new self-locking nuts (21) to semitrailer.



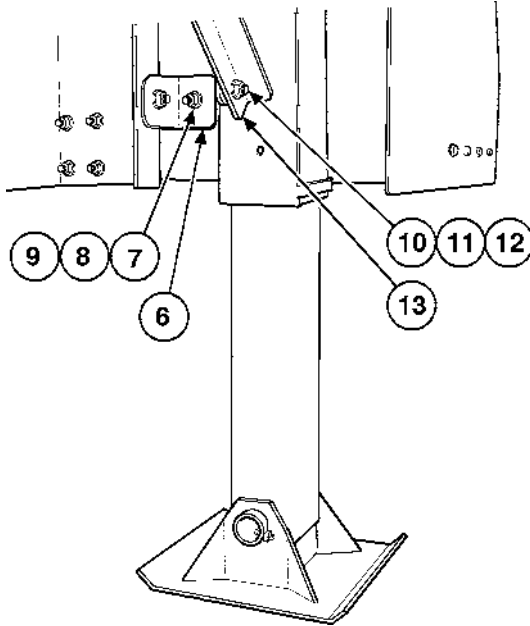
3. Install eight bolts (16), washers (15), and new self-locking nuts (14) to landing leg bracket (17).



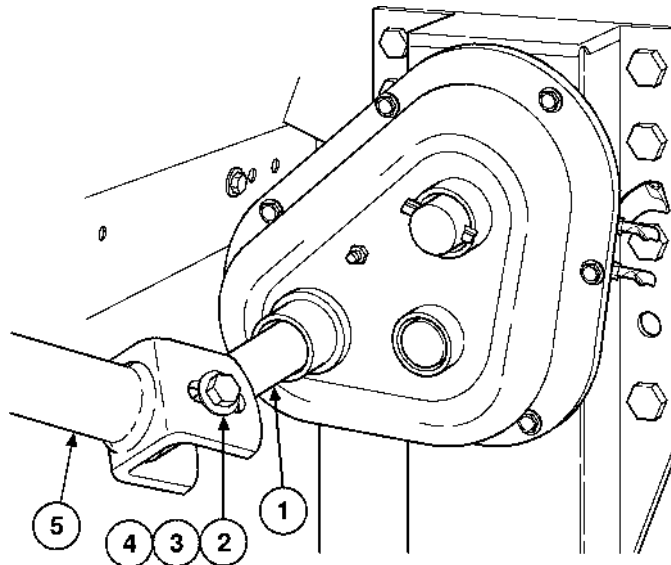
ROADSIDE LANDING LEG AND HANDCRANK REPLACEMENT—Continued

0082 00

4. Install bolt (12), two washers (11), and new self-locking nut (10) to landing gear leg support (13).
5. Install bolt (9), two washers (8), and new self-locking nut (7) to leg support bracket (6).



6. Install handcrank (5), two washers (3), bolt (4), and nut (2) to shaft (1).



FOLLOW-ON TASKS

1. Disconnect semitrailer grounding cables (WP 0007 00).
2. Lubricate IAW (WP 0034 00).

END OF TASK

MUDFLAPS REPLACEMENT

0083 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Self-locking nuts (8) (item 87, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

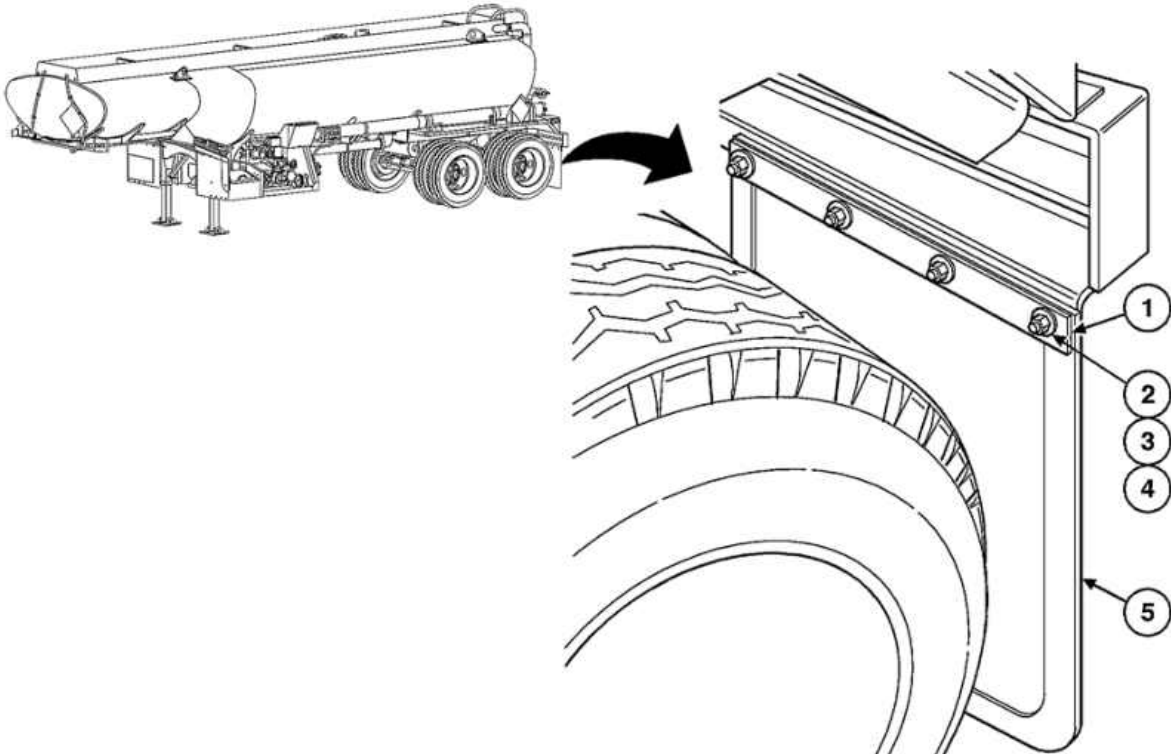
Semitrailer grounded (refer to WP 0007 00)

REMOVAL

NOTE

There are two mudflaps and they are replaced the same way. This procedure replaces one mudflap assembly.

Remove four self-locking nuts (2), eight washers (3), four bolts (4), bracket (1), and mudflap (5) from semitrailer. Discard self-locking nuts.

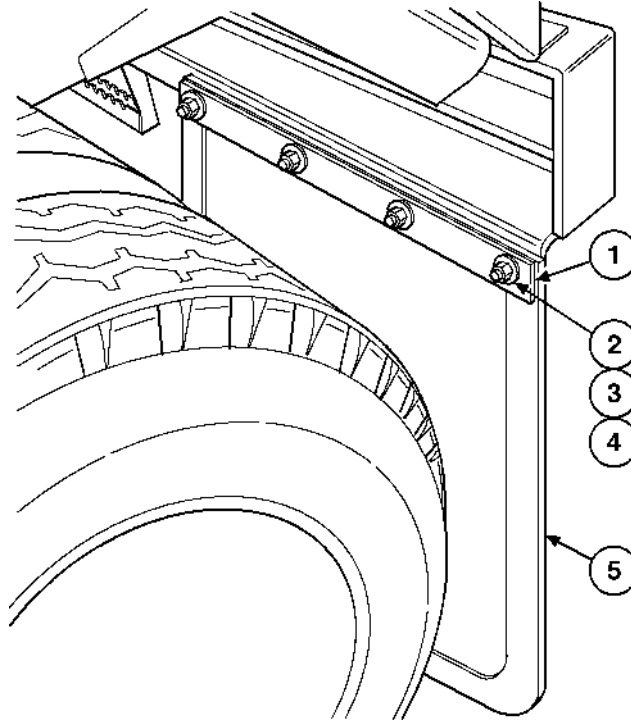


MUDFLAPS REPLACEMENT—Continued

0083 00

INSTALLATION

Install mudflap (5), bracket (1), four bolts (4), eight washers (3), and four new self-locking nuts (2) to semitrailer.

**FOLLOW-ON TASK**

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

STATIC REELS AND ELECTRICAL CLIPS REPLACEMENT

0084 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Self-locking nuts (4) (item 113, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

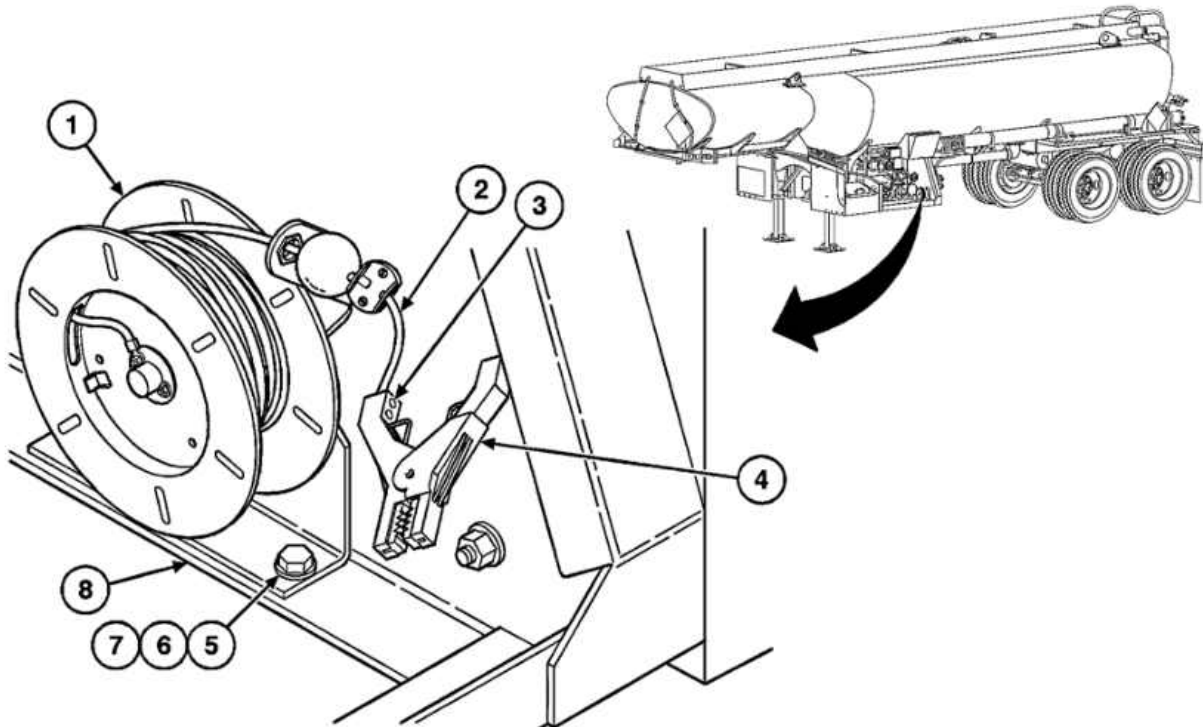
Semitrailer grounded (refer to WP 0007 00)

REMOVAL

NOTE

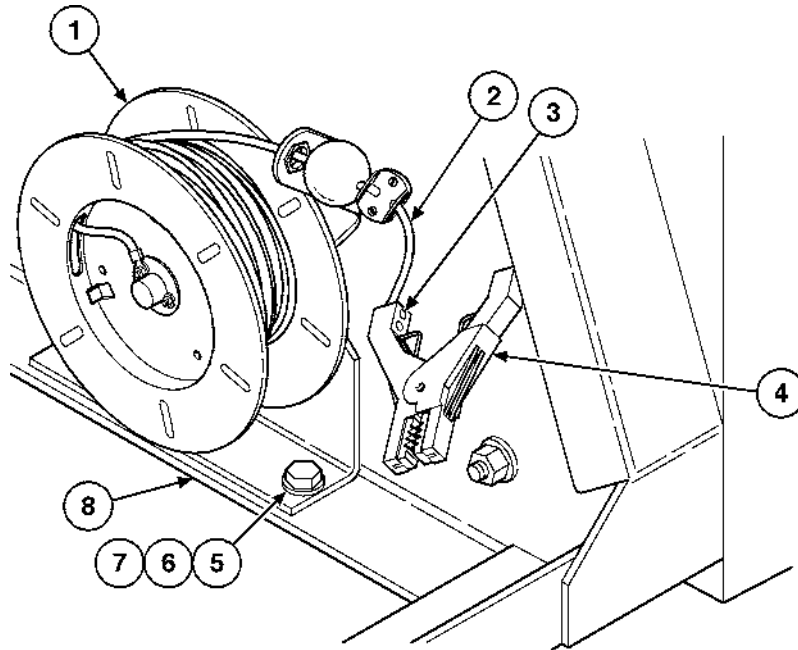
There are two static reels and they are replaced the same way. This procedure replaces the static reel from the piping control area.

1. Remove two self-locking nuts (5), four washers (6), two bolts (7), and static reel (1) from frame (8). Discard self-locking nuts.
2. Remove two Allen head screws (3) and electrical clip (4) from cable (2).



INSTALLATION

1. Install electrical clip (4) and two Allen head screws (3) to cable (2).
2. Install static reel (1), two bolts (7), four washers (6), and two new self-locking nuts (5) to frame (8).



FOLLOW-ON TASK

Disconnect semitrailer grounding cable (WP 0007 00).

END OF TASK

TOOL BOX REPLACEMENT

0085 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Pop rivets (6) (item 96, WP 0160 00)

Self-locking nut (item 19, WP 0160 00)

Self-locking nuts (11) (item 86, WP 0160 00)

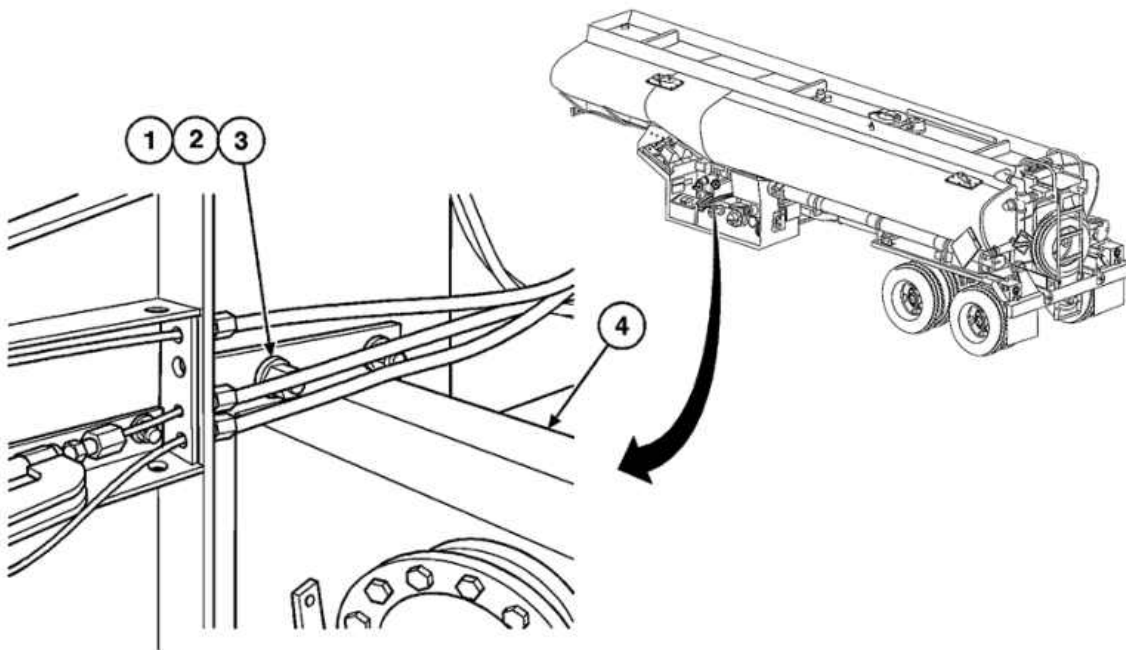
Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

REMOVAL

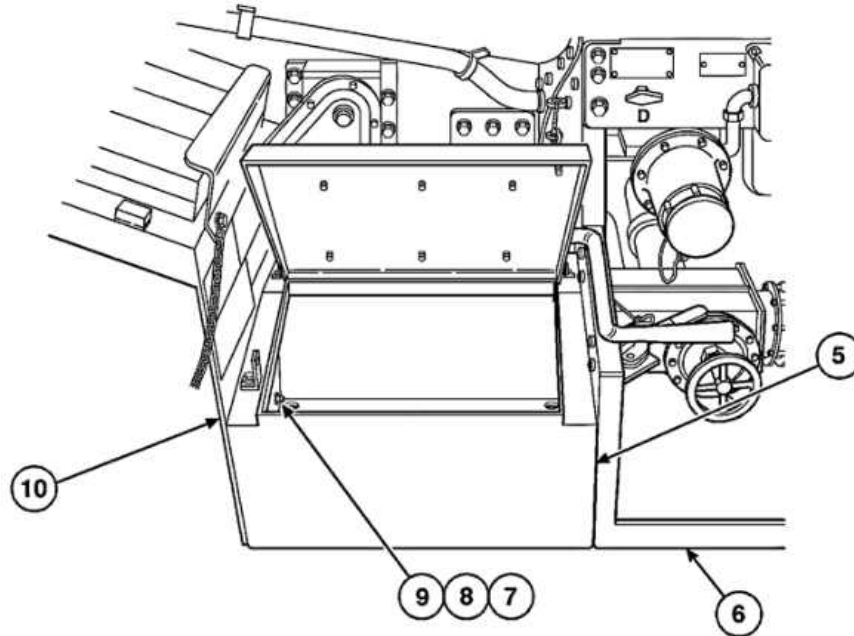
1. Remove self-locking nut (1), two washers (2), and bolt (3) from manifold (4). Discard self-locking nut.



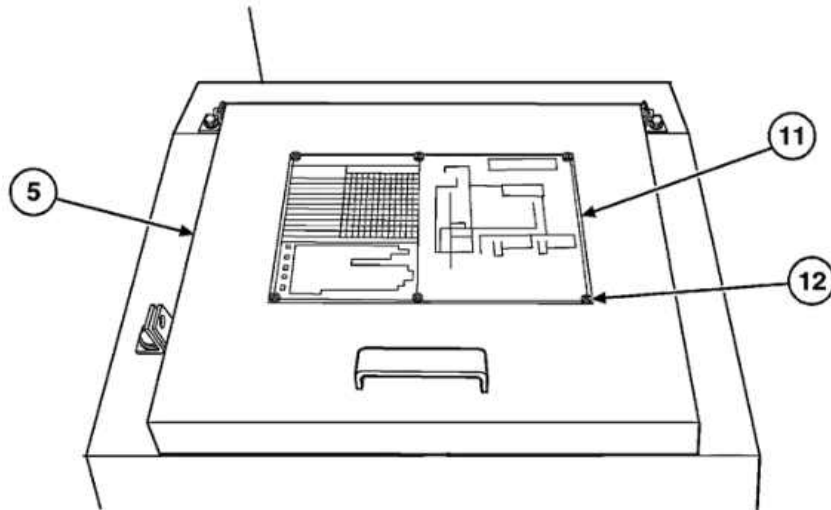
TOOL BOX REPLACEMENT—Continued

0085 00

2. Remove 11 self-locking nuts (7), 22 washers (8), 11 bolts (9), and tool box (5) from between front skid plate (10) and piping frame (6). Discard self-locking nuts.



3. Remove six pop rivets (12) and operating instruction plate (11) from tool box (5). Discard pop rivets.



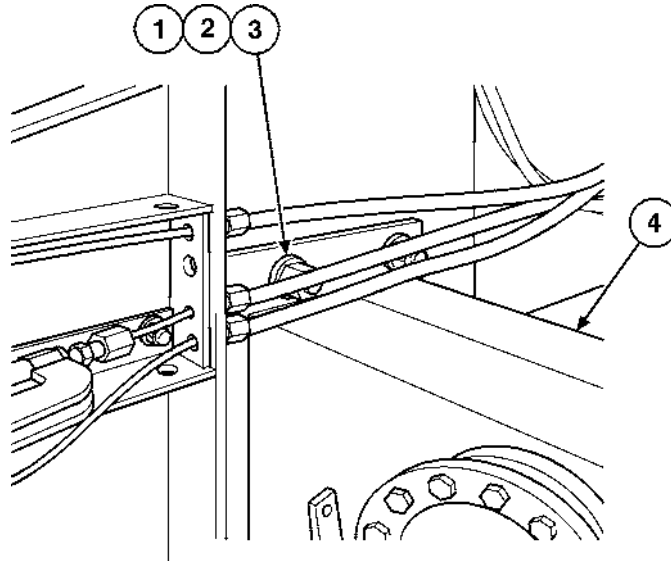
INSTALLATION

1. Install operating instruction plate (11) and six new pop rivets (12) to tool box (5).

TOOL BOX REPLACEMENT—Continued

0085 00

2. Install tool box (5), 11 bolts (9), 22 washers (8), and 11 new self-locking nuts (7) to front skid plate (10) and piping frame (6).
3. Install bolt (3), two washers (2), and new self-locking nut (1) to manifold (4).



FOLLOW-ON TASK

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

GROUNDING ROD STORAGE TUBE RETAINING PIN REPLACEMENT

0086 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Retaining pin (item 99, WP 0160 00)

Retaining wire (item 67, WP 0160 00)

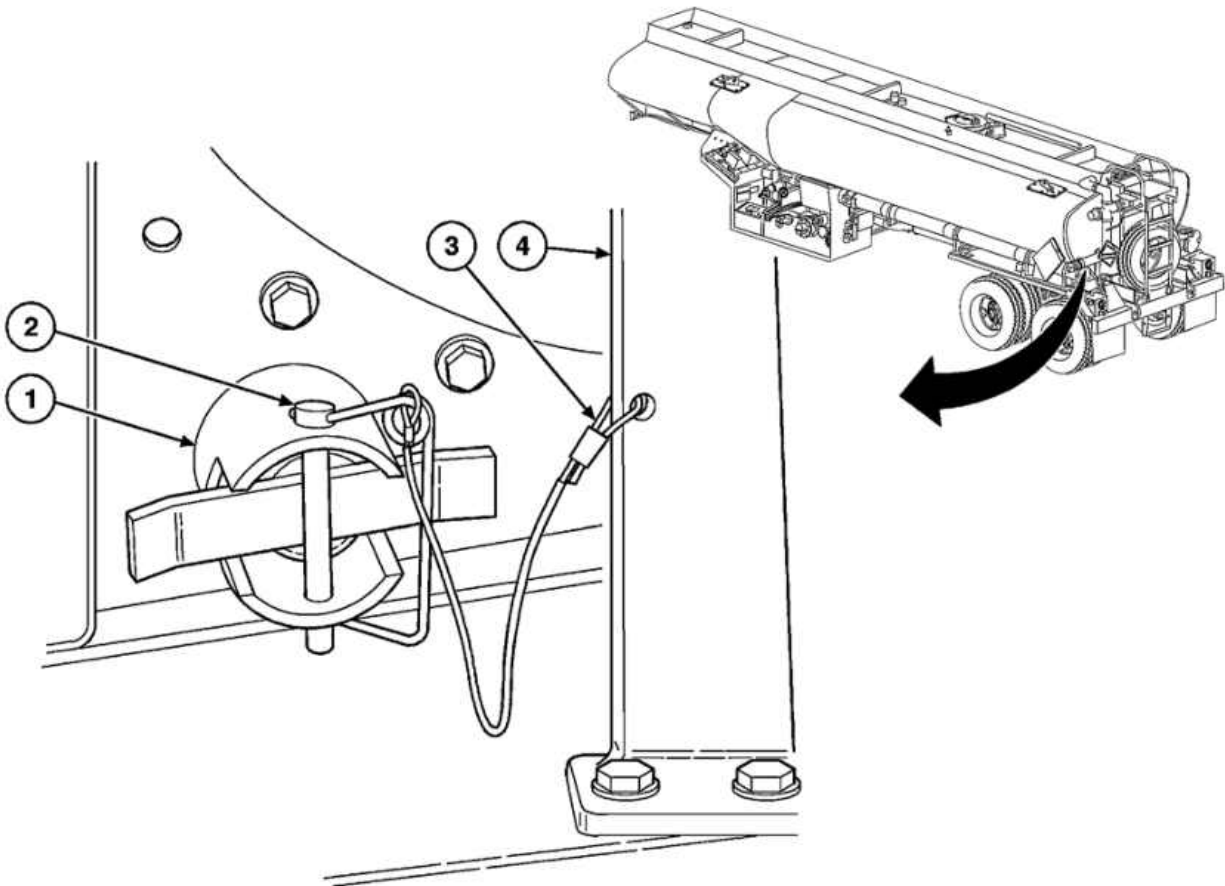
Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

REMOVAL

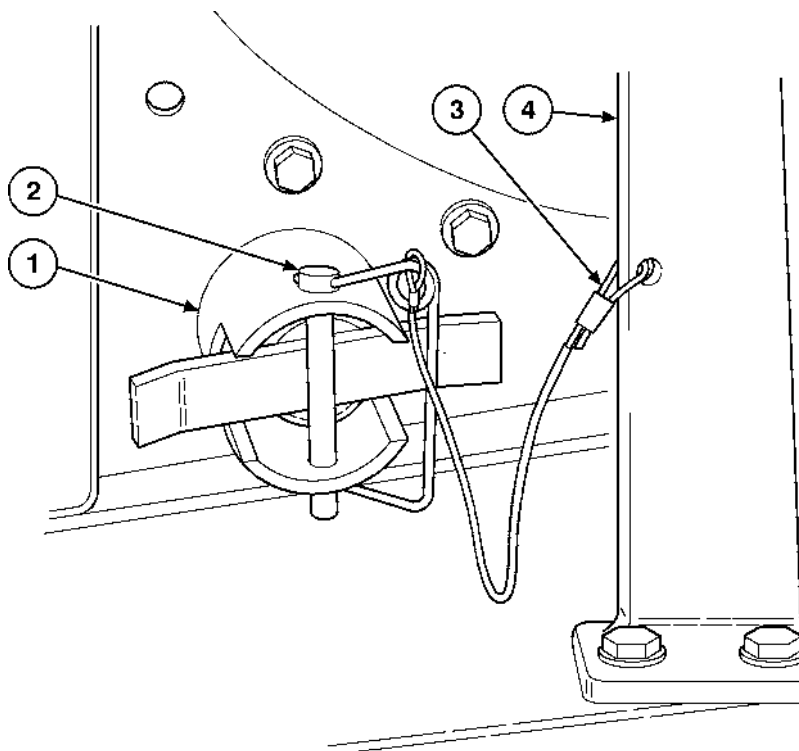
1. Remove retaining pin (2) from grounding rod storage tube (1).
2. Remove retaining wire (3) from support post (4). Discard pin and retaining wire.



GROUNDING ROD STORAGE TUBE RETAINING PIN REPLACEMENT—Continued

0086 00**INSTALLATION**

1. Install new retaining wire (3) to support post (4) and pin (2).
2. Install new retaining pin (2) to grounding rod storage tube (1).

**FOLLOW-ON TASK**

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

GROUNDING STUDS REPLACEMENT

0087 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Self-locking nuts (3) (item 54, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

WARNING

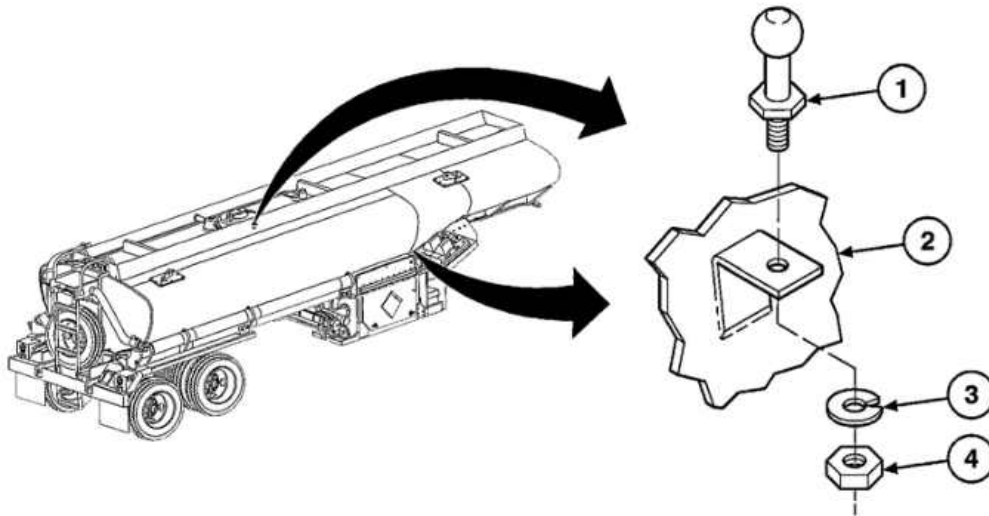
Ladder has narrow tread. Use care when climbing to prevent injury.

NOTE

There are three grounding studs and they are replaced the same way. This procedure replaces the upper grounding stud.

REMOVAL

Remove self-locking nut (4), washer (3), and grounding stud (1) from frame (2). Discard self-locking nut.



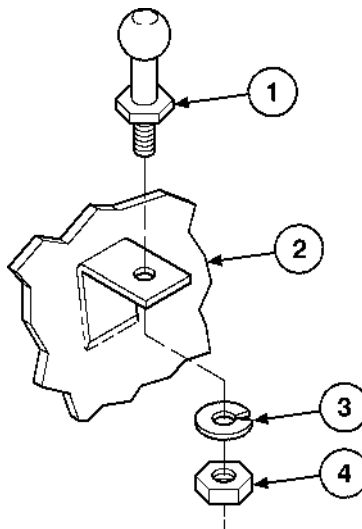
GROUNDING STUDS REPLACEMENT—Continued

0087 00

INSTALLATION**NOTE**

Make sure grounding studs are installed on clean, unpainted metal surface. If mounting surface is painted, scrape off paint to bare metal.

1. Install grounding stud (1), washer (3), and new self-locking nut (4) to frame (2).
2. Make sure International Grounding Symbol and DO NOT PAINT GND STUD stencils are present and legible.

**FOLLOW-ON TASK**

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

HOSE TUBES REPLACEMENT

0088 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Gaskets (2) (item 84, WP 0160 00)

Self-locking nuts (20) (item 87, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Hose tube access covers and hoses removed (refer to WP 0089 00)

Roadside Haz/Mat placard bracket removed (refer to WP 0096 00)

REMOVAL

NOTE

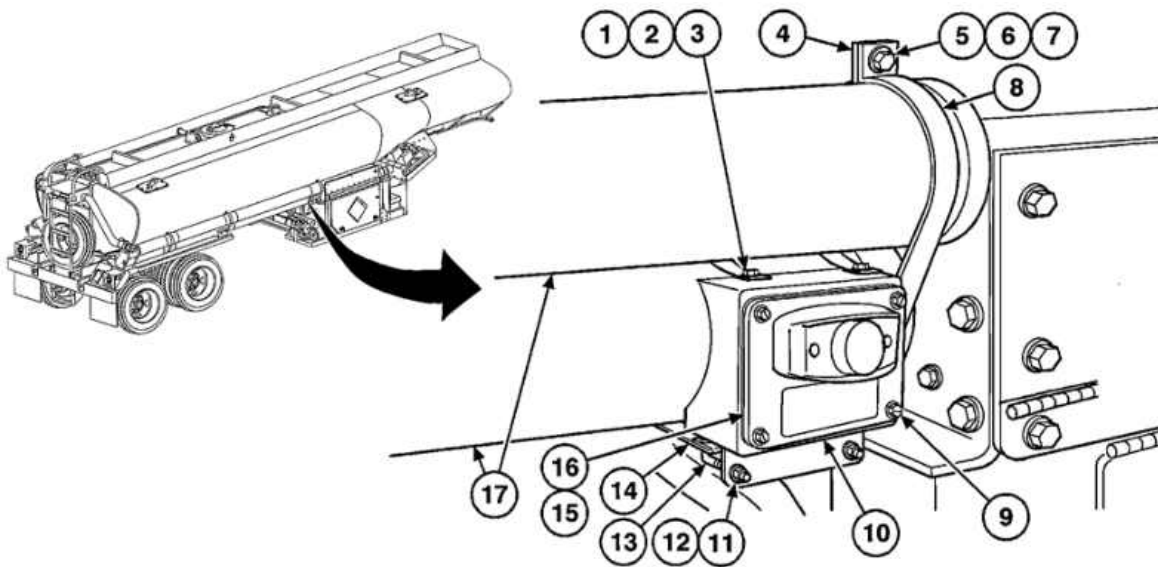
Roadside and curbside hose tubes are different. The curbside hose tube consists of two hose tubes and the roadside hose tube consists of only one hose tube. This procedure removes the hose tubes from both sides.

HOSE TUBES REPLACEMENT—Continued

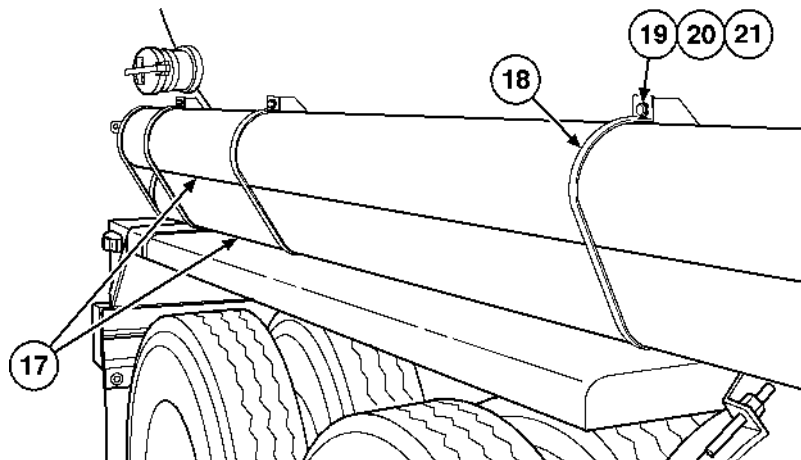
0088 00

Curbside Hose Tube

1. Remove four screws (9), marker light cover (16), and gasket (15) from marker light box (10). Discard gasket.
2. Remove two self-locking nuts (12), washers (11), and J-bolts (13) from two bands (14). Discard self-locking nuts.
3. Remove self-locking nut (5), two washers (6), bolt (7), and band (8) from bracket (4). Discard self-locking nut.
4. Remove two self-locking nuts (1), four washers (2), two bolts (3), bands (14), and marker light box (10) from hose tubes (17). Discard self-locking nuts.



5. Remove three self-locking nuts (19), six washers (20), three bolts (21), bands (18), and two curbside hose tubes (17) from semitrailer. Discard self-locking nuts.

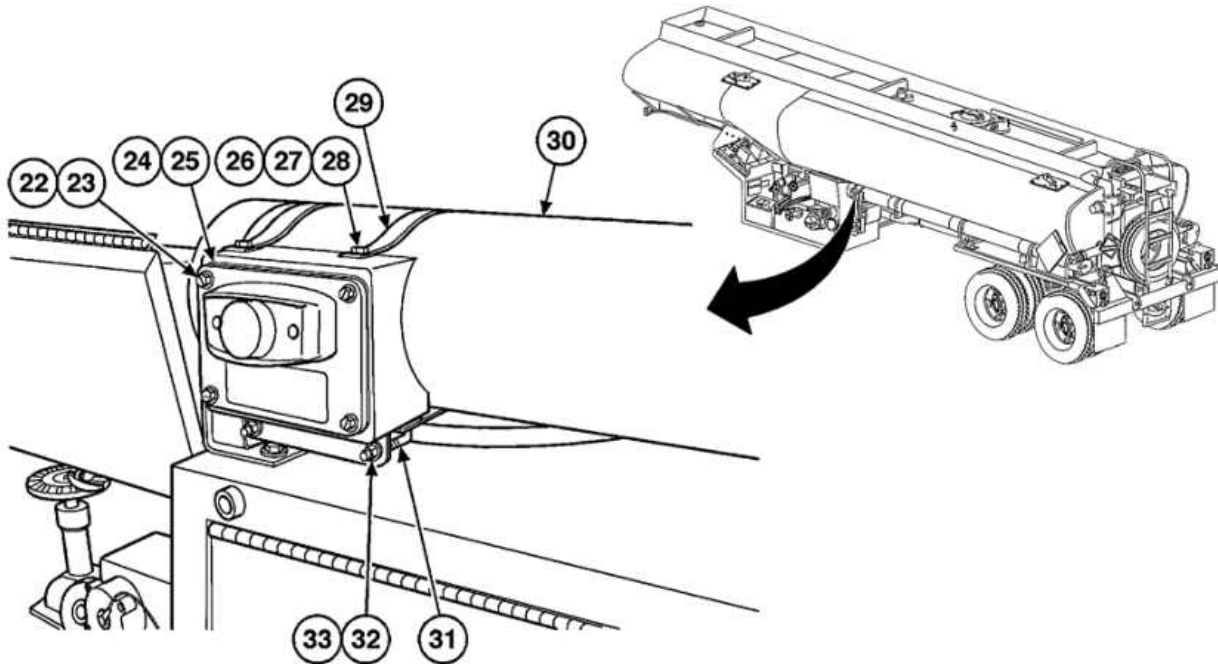


HOSE TUBES REPLACEMENT—Continued

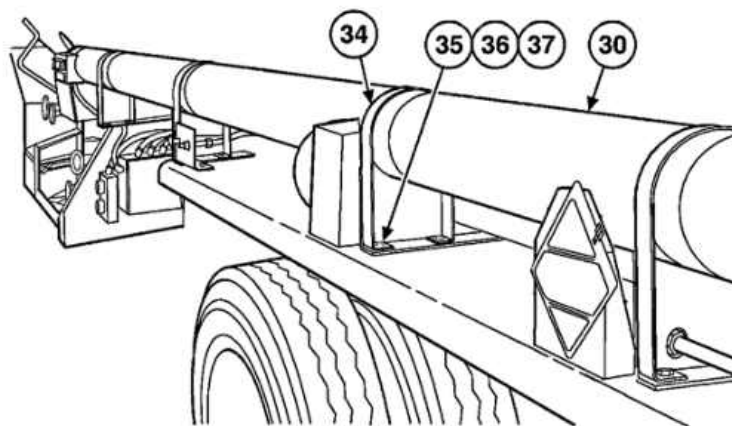
0088 00

Roadside Hose Tube

6. Remove four screws (22), marker light cover (23), and gasket (24) from marker light box (25).
7. Remove two self-locking nuts (26), four washers (27), two bolts (28), and bands (29) from marker light box (25). Discard self-locking nuts.
8. Remove two self-locking nuts (32), washers (33), J-bolts (31), bands (29), and marker light box (25) from hose tubes (30). Discard self-locking nuts.



9. Remove 8 self-locking nuts (35), 16 washers (36), 8 bolts (37), 4 bands (34), and hose tube (30) from semitrailer. Discard self-locking nuts.



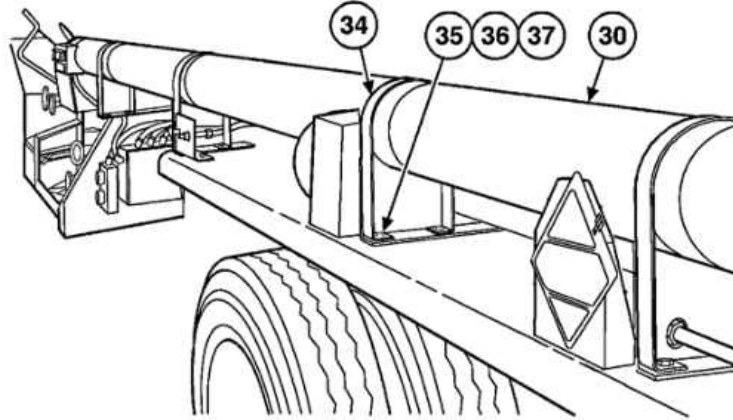
HOSE TUBES REPLACEMENT—Continued

0088 00

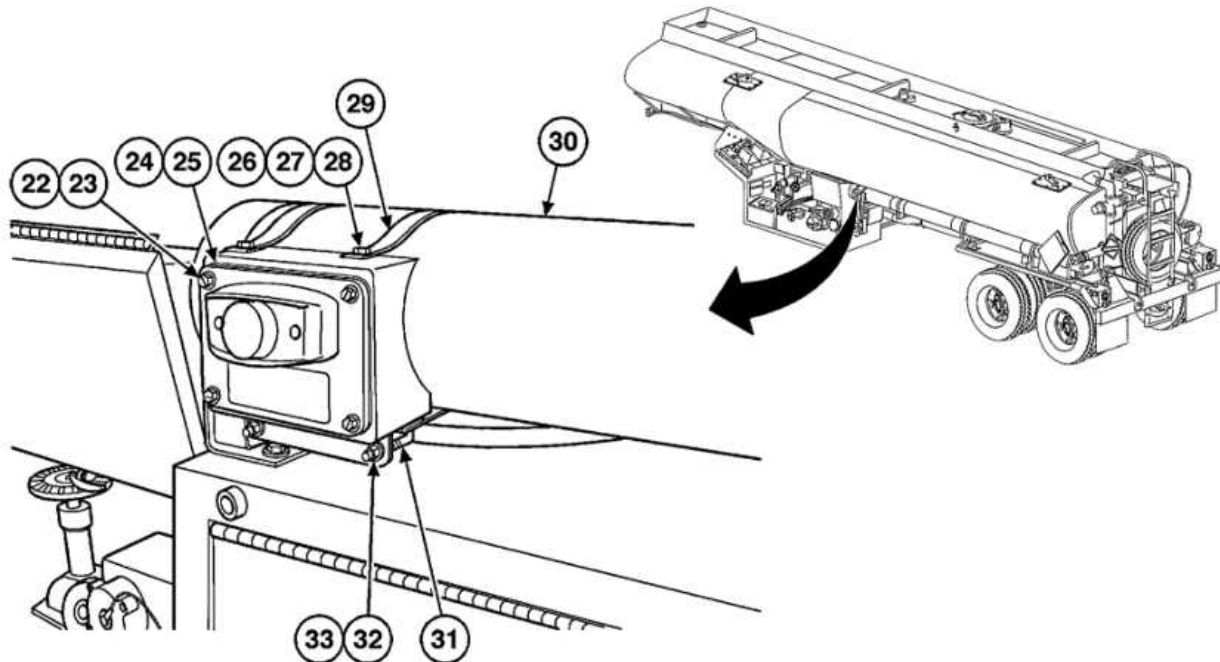
INSTALLATION

Roadside Hose Tube

1. Install hose tube (30), 4 bands (34), 8 bolts (37), 16 washers (36), and 8 new self-locking nuts (35).



2. Install marker light box (25), two bands (29), J-bolts (31), washers (33), and new self-locking nuts (32) to hose tubes (30).
3. Install two bands (29), bolts (28), four washers (27), and two new self-locking nuts (26) to marker light box (25).
4. Install new gasket (24), marker light cover (23), and four screws (22) to marker light box (25).

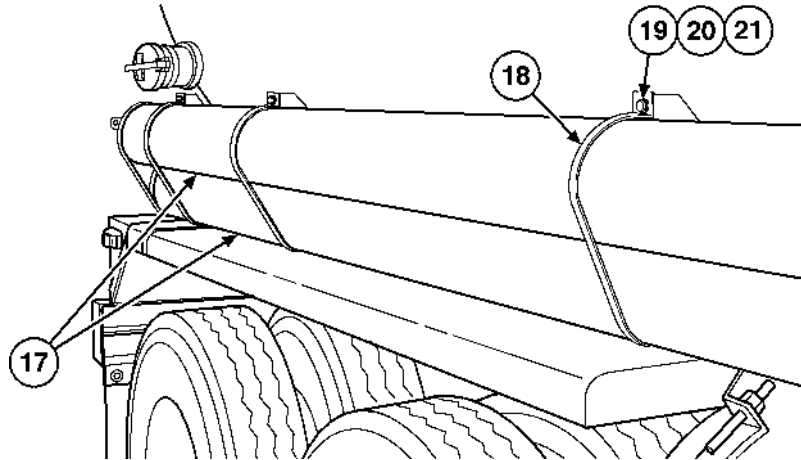


HOSE TUBES REPLACEMENT—Continued

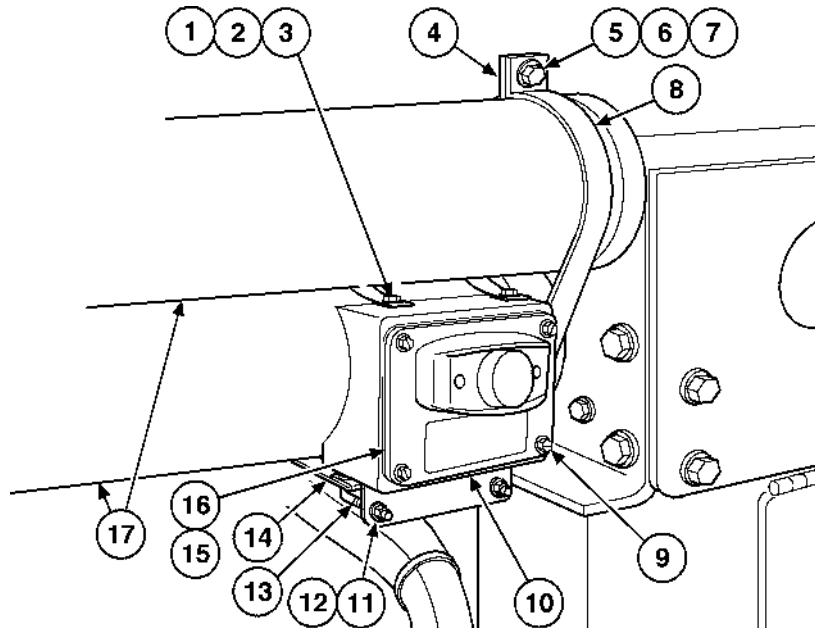
0088 00

Curbside Hose Tubes

5. Install two curbside hose tubes (17), three bands (18), bolts (21), six washers (20), and three new self-locking nuts (19) to semitrailer.



6. Install marker light box (10), two bands (14), bolts (3), four washers (2), and two new self-locking nuts (1) to hose tubes (17).
7. Install band (8), bolt (7), two washers (6), and new self-locking nut (5) to bracket (4).
8. Install two J-bolts (13), washers (11), and new self-locking nuts (12) to bands (14).
9. Install new gasket (15), marker light cover (16), and four screws (9) to marker light box (10).



HOSE TUBES REPLACEMENT—Continued

0088 00

FOLLOW-ON TASKS

1. Install roadside Haz/Mat placard bracket (WP 0096 00).
2. Install hose tube access covers and hoses (WP 0089 00).
3. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

HOSE TUBES ACCESS COVERS REPLACEMENT

0089 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Self-locking nuts (9) (item 87, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

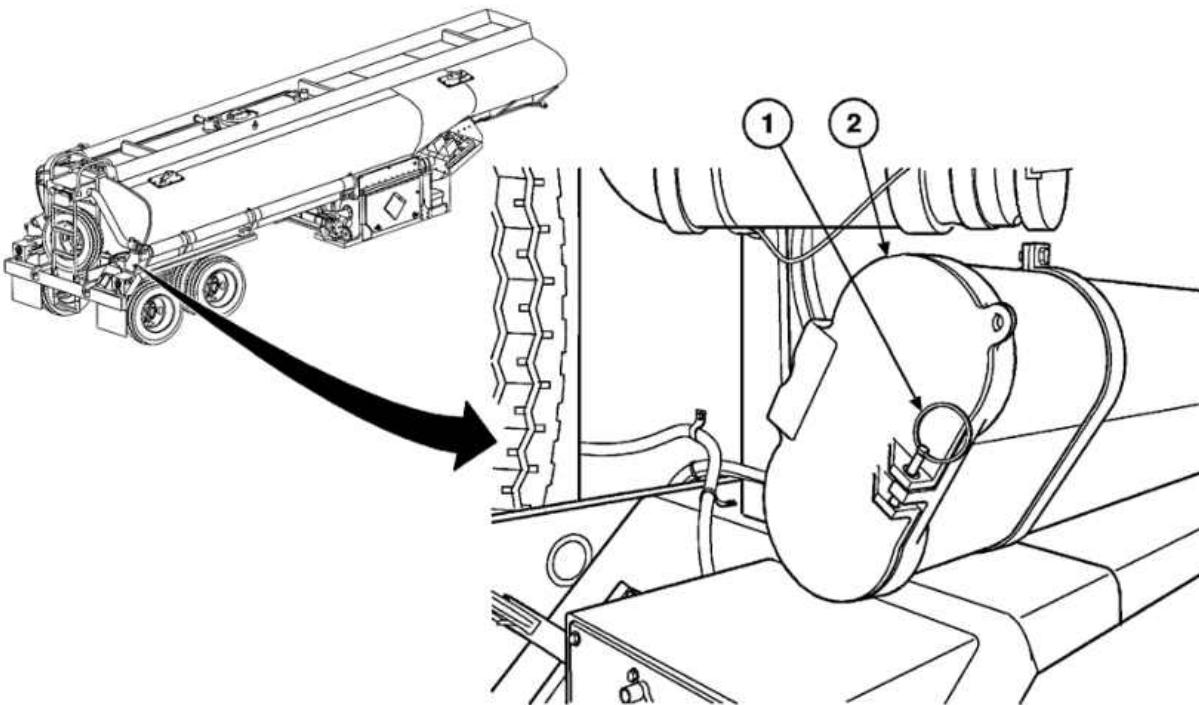
REMOVAL

NOTE

Roadside and curbside hose tube access covers are different. The curbside hose tube assembly consists of two hose tubes and the roadside hose tube assembly consists of only one hose tube.

Curbside Hose Tube Access Cover

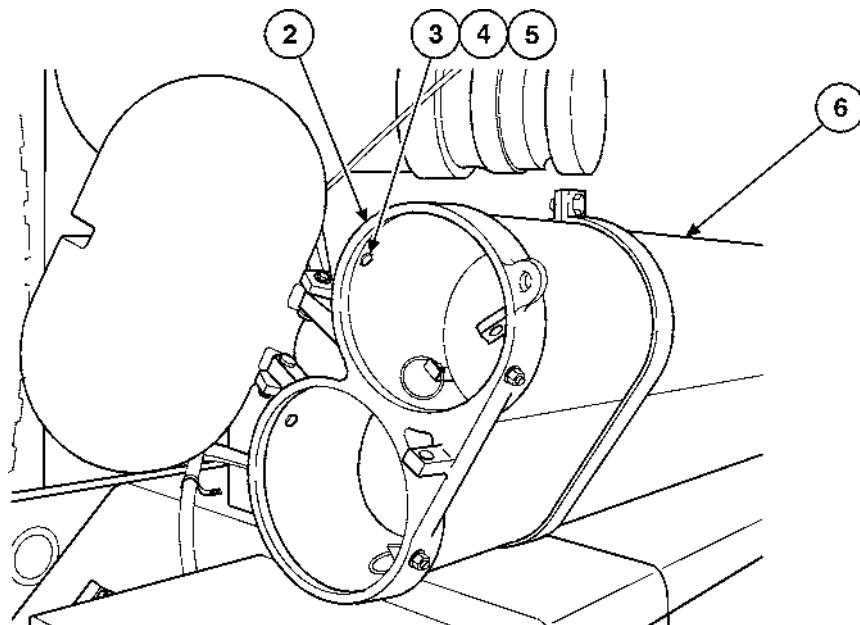
1. Release pin (1) and open access cover (2).



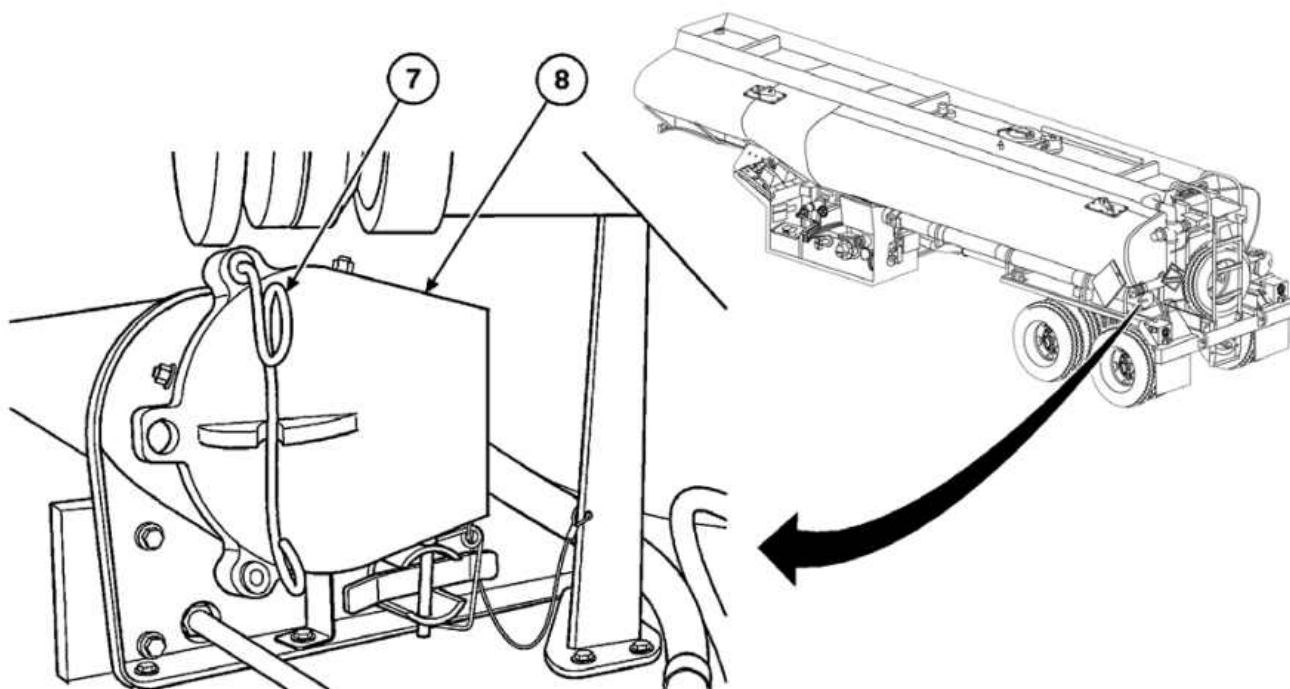
HOSE TUBES ACCESS COVERS REPLACEMENT—Continued

0089 00

2. Remove six self-locking nuts (3), washers (4), bolts (5), and access cover (2) from hose tube (6). Discard self-locking nuts.

**Roadside Hose Tube Access Cover**

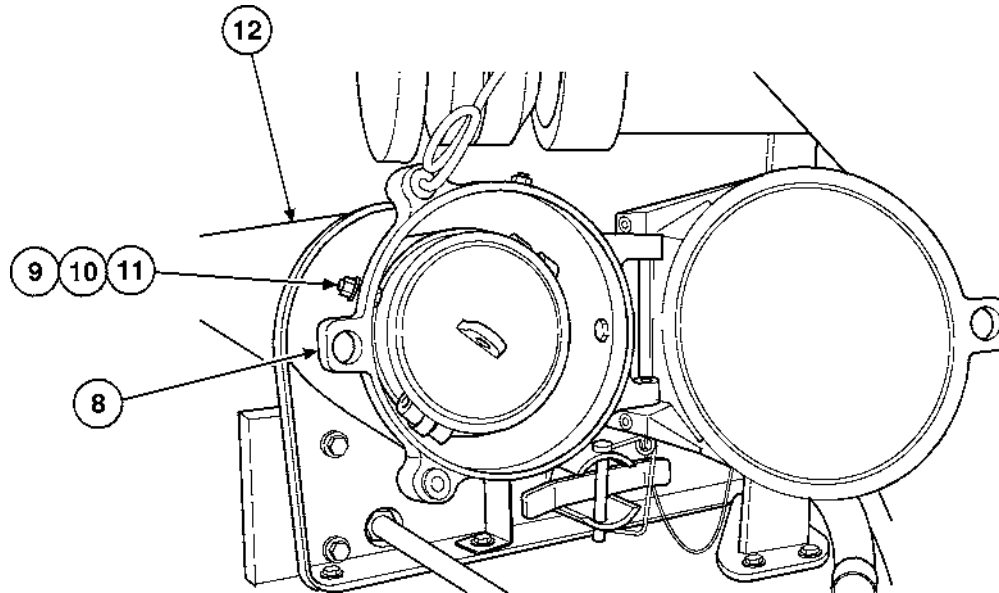
3. Release pin (7) and open access cover (8).



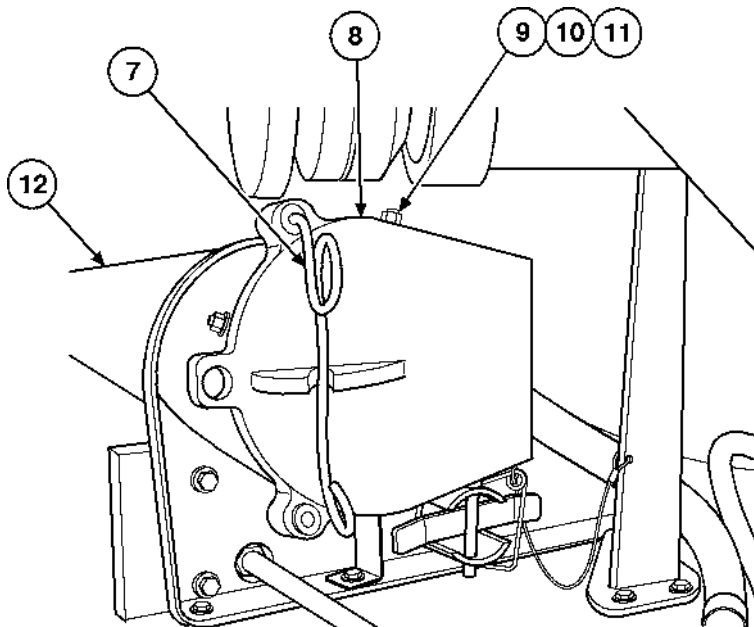
HOSE TUBES ACCESS COVERS REPLACEMENT—Continued

0089 00

4. Remove four self-locking nuts (9), washers (10), bolts (11), and access cover (8) from hose tube (12). Discard self-locking nuts.

**INSTALLATION****Roadside Hose Tube Access Cover**

1. Install access cover (8), four bolts (11), washers (10), and new self-locking nuts (9) to hose tube (12).
2. Lock access cover (8) into place with pin (7).

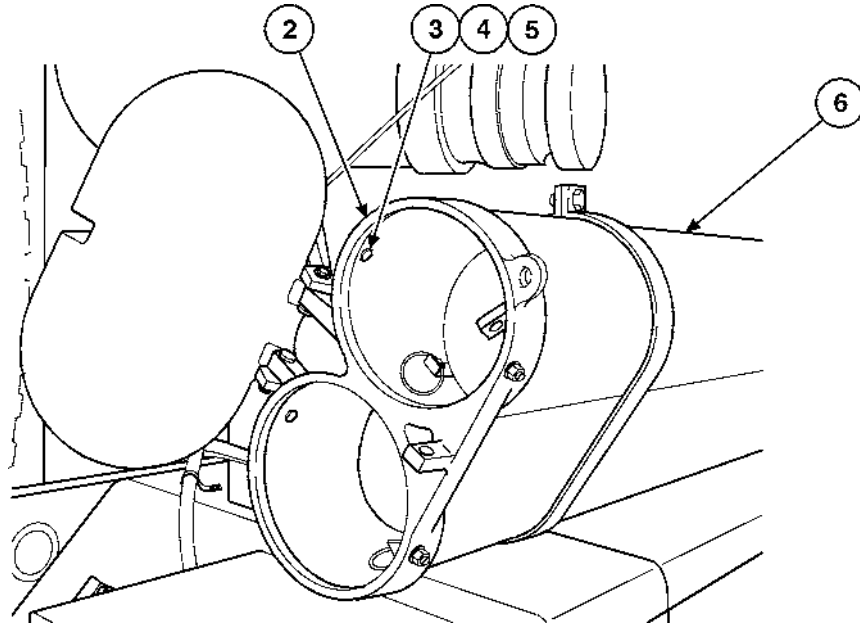


HOSE TUBES ACCESS COVERS REPLACEMENT—Continued

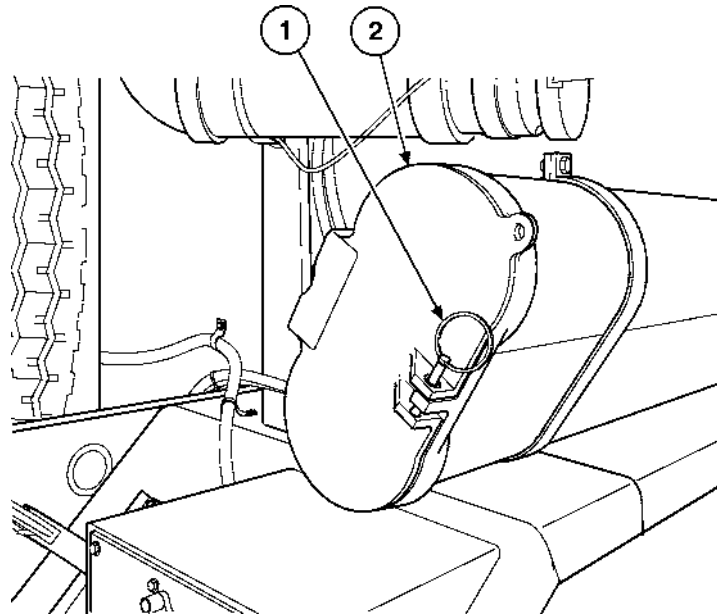
0089 00

Curbside Hose Tube Access Cover

3. Install access cover (2), six bolts (5), washers (4), and new self-locking nuts (3) to hose tube (6).



4. Lock access cover (2) into place with pin (1).



FOLLOW-ON TASK

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

SPARE TIRE LIFTING DEVICE (WINCH) REPLACEMENT

0090 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Self-locking nuts (6) (item 87, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

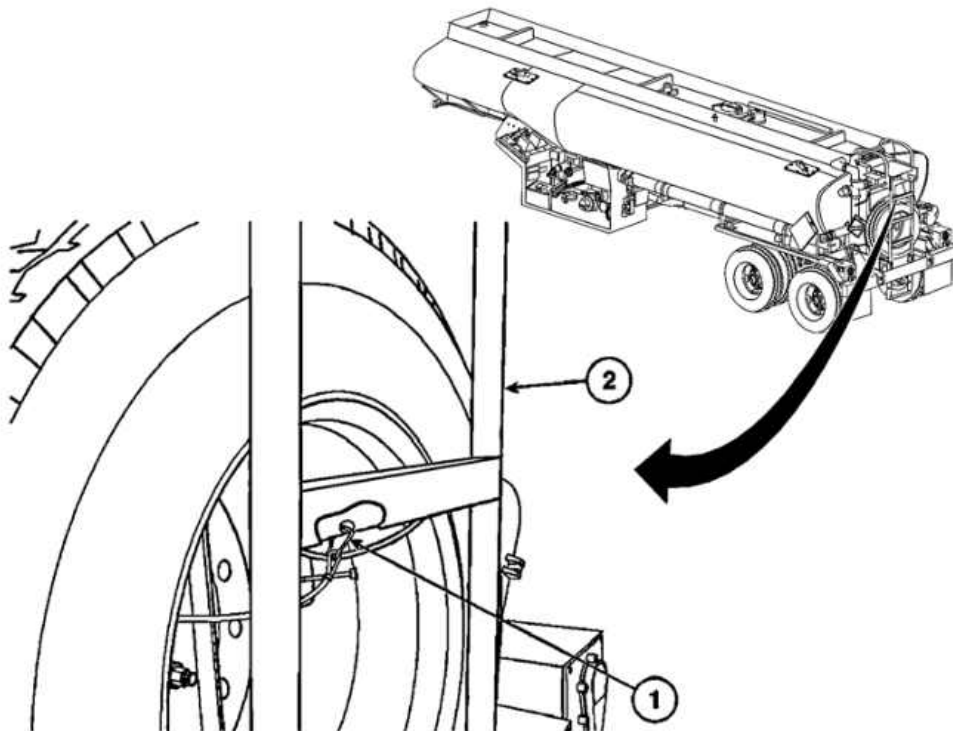
Semitrailer grounded (refer to WP 0007 00)

REMOVAL

NOTE

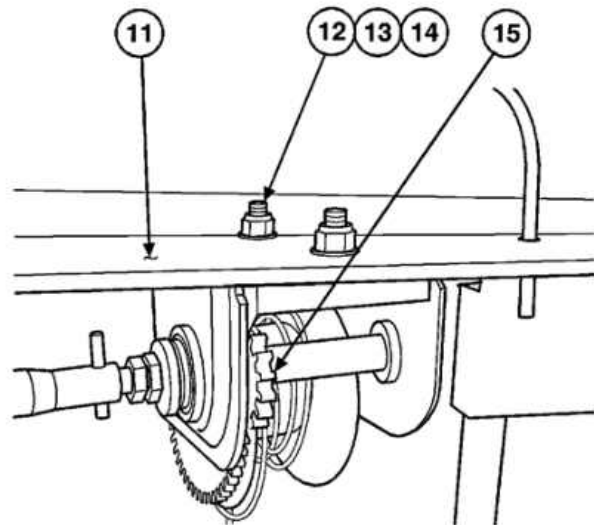
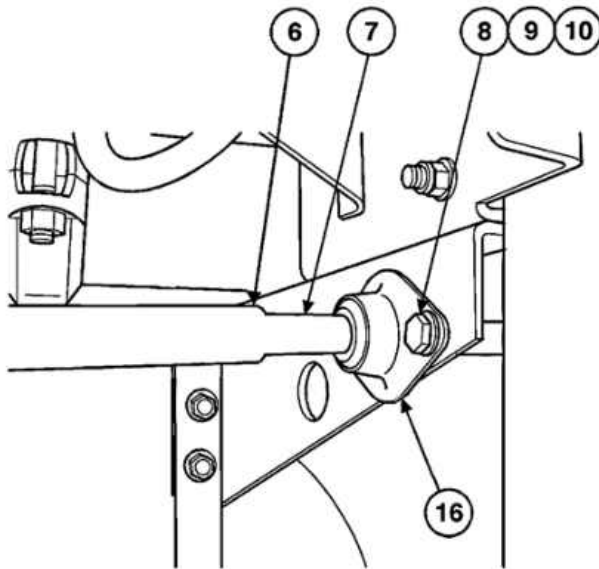
Loosen winch cable as necessary.

1. Remove two hooks (1) from ladder (2).



SPARE TIRE LIFTING DEVICE (WINCH) REPLACEMENT—Continued**0090 00**

2. Remove two self-locking nuts (8), four washers (9), two bolts (10), bracket (16), hand crank (6), and shaft (7) from platform (11). Discard self-locking nuts.
3. Remove two self-locking nuts (12), four washers (13), two bolts (14), and winch (15) from platform (11). Discard self-locking nuts.

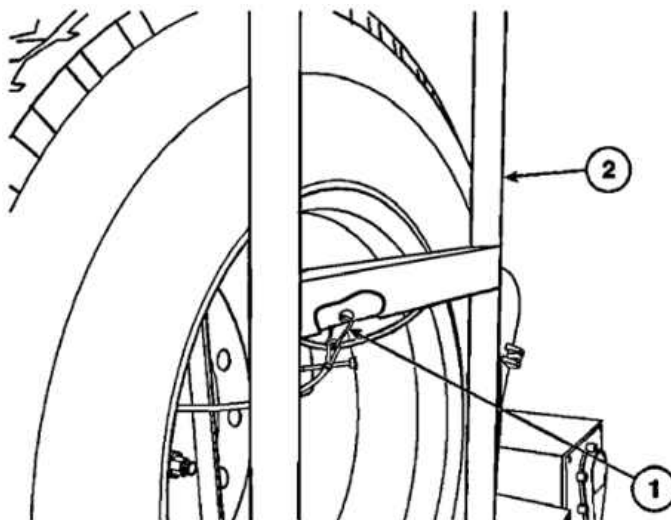
**INSTALLATION**

1. Install winch (15), two bolts (14), four washers (13), and two new self-locking nuts (12) to platform (11).
2. Install shaft (7), hand crank (6), bracket (16), two bolts (10), four washers (9), and two new self-locking nuts (8) to platform (11).

SPARE TIRE LIFTING DEVICE (WINCH) REPLACEMENT—Continued

0090 00

3. Install two hooks (1) to ladder (2).



FOLLOW-ON TASK

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

DRAIN PIPES REPLACEMENT

0091 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Self-locking nuts (4) (item 88, WP 0160 00)

Self-locking nuts (12) (item 92, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

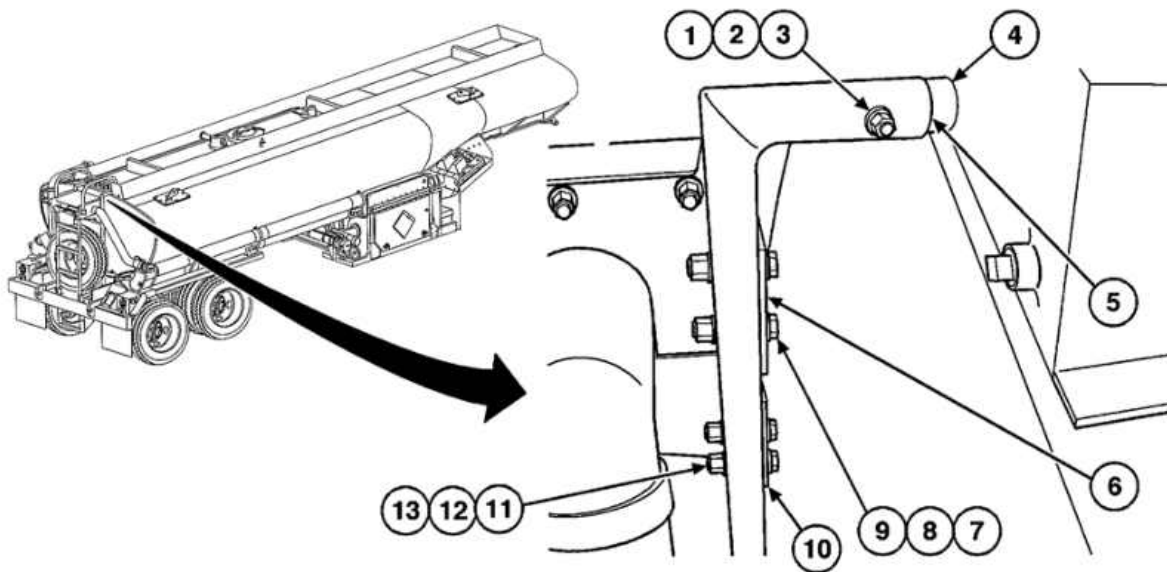
Spare tire dismounted (refer to WP 0007 00)

REMOVAL

NOTE

There are two drain pipes and they are both replaced the same way. This procedure replaces the curbside drain pipe.

1. Remove self-locking nut (1), two washers (2), and one bolt (3) from channel (4) at top of drain pipe (5). Discard self-locking nut.
2. Remove two self-locking nuts (7), four washers (8), and two bolts (9) from platform support (10). Discard self-locking nuts.
3. Remove two self-locking nuts (11), four washers (12), and two bolts (13) from angle bracket (6). Discard self-locking nuts.



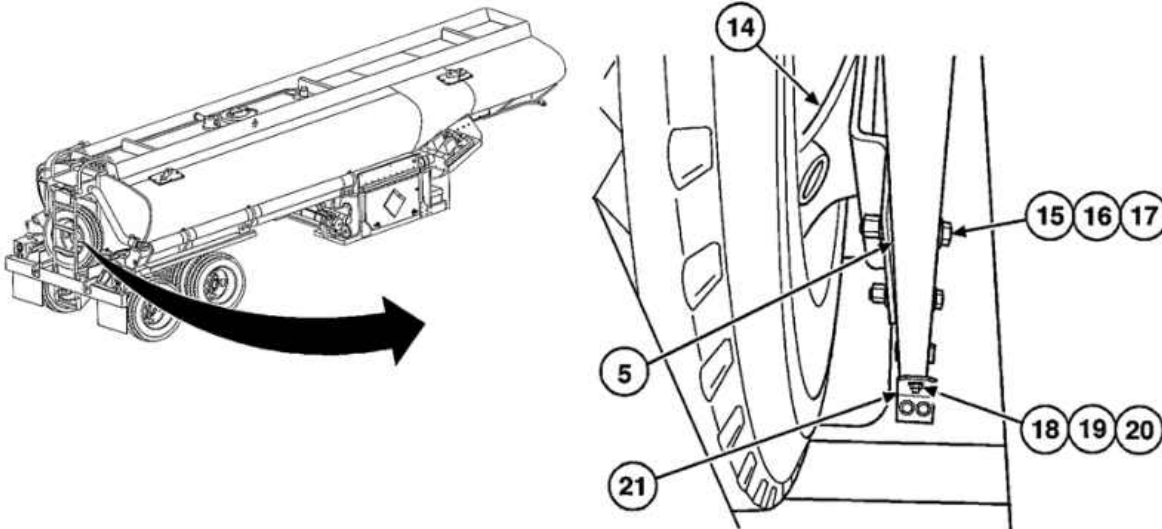
DRAIN PIPES REPLACEMENT—Continued

0091 00

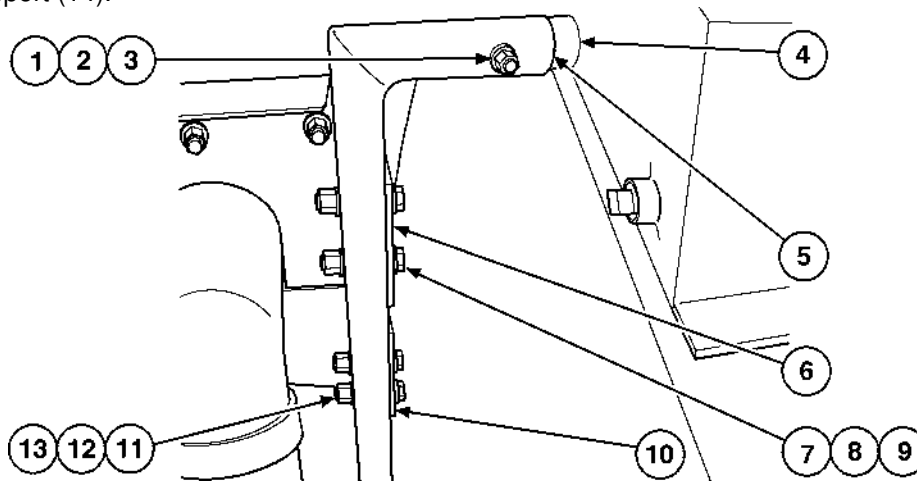
4. Remove two self-locking nuts (15), four washers (16), and two bolts (17) from spare tire support (14). Discard self-locking nuts.
5. Remove self-locking nut (18), two washers (19), bolt (20), and drain pipe (5) from bottom support bracket (21). Discard self-locking nut.

INSTALLATION

1. Install drain pipe (5), bolt (20), two washers (19), and new self-locking nut (18) to bottom support bracket (21).



2. Install drain pipe (5), bolt (3), two washers (2), and new self-locking nut (1) at channel (4).
3. Install drain pipe (5), two bolts (9), four washers (8), and two new self-locking nuts (7) to platform support (10).
4. Install drain pipe (5), two bolts (13), four washers (12), and two new self-locking nuts (11) to angle bracket (6).
5. Install drain pipe (5), two bolts (17), four washers (16), and two new self-locking nuts (15) to spare tire support (14).



DRAIN PIPES REPLACEMENT—Continued

0091 00

FOLLOW-ON TASKS

1. Remount spare tire (WP 0007 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

MANHOLE COVER MAINTENANCE

0092 00

THIS WP COVERS:

Removal, Disassembly, Assembly, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Gasket (item 39, WP 0160 00)

Starwasher (item 101, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

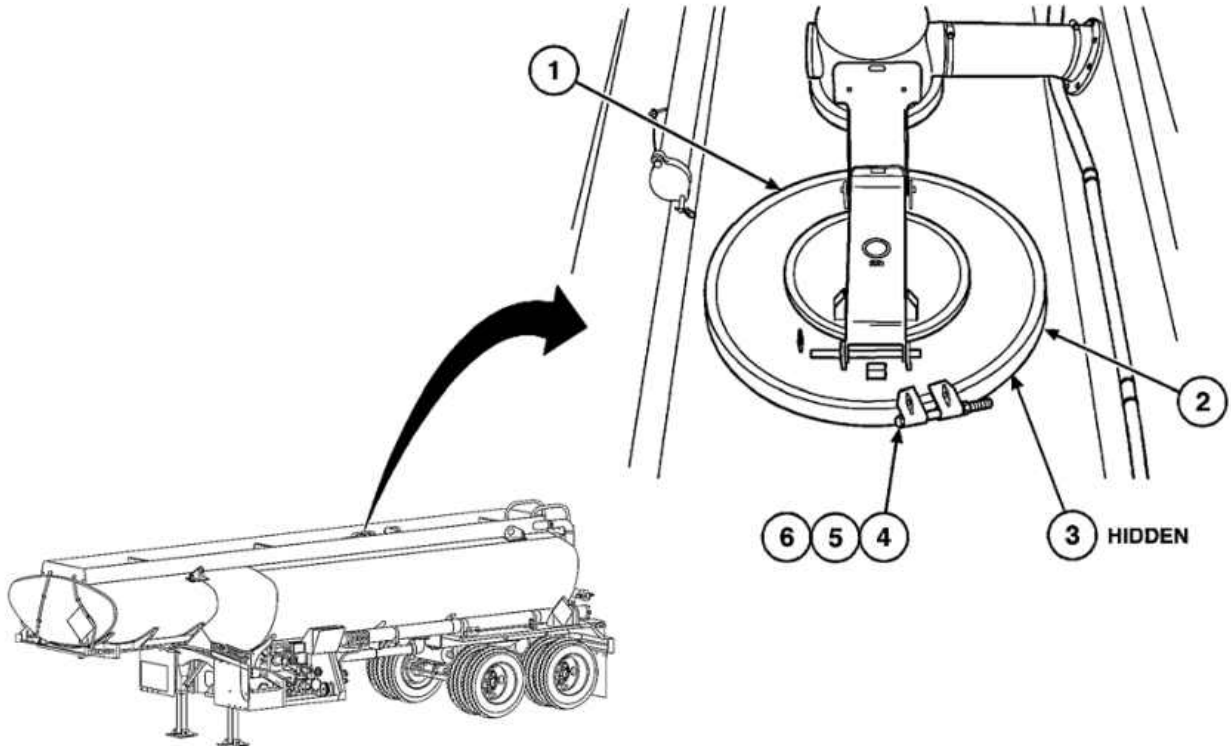
Semitrailer fuel tank drained (refer to WP 0007 00)

REMOVAL

WARNING

Remove vent cap from either side of vapor recovery tube and open emergency valve A to vent tank.

1. Remove nut (6), washer (5), and bolt (4) from locking ring (1).
2. Remove locking ring (1), manhole cover (2), and manhole cover gasket (3). Discard gasket.

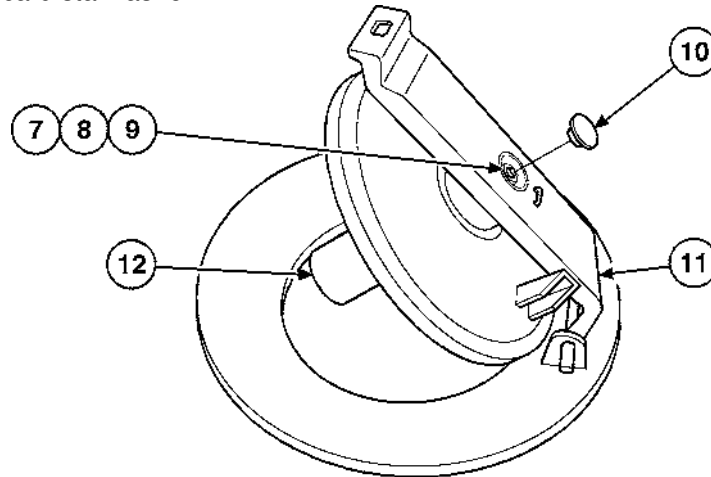


MANHOLE COVER MAINTENANCE—Continued

0092 00

DISASSEMBLY

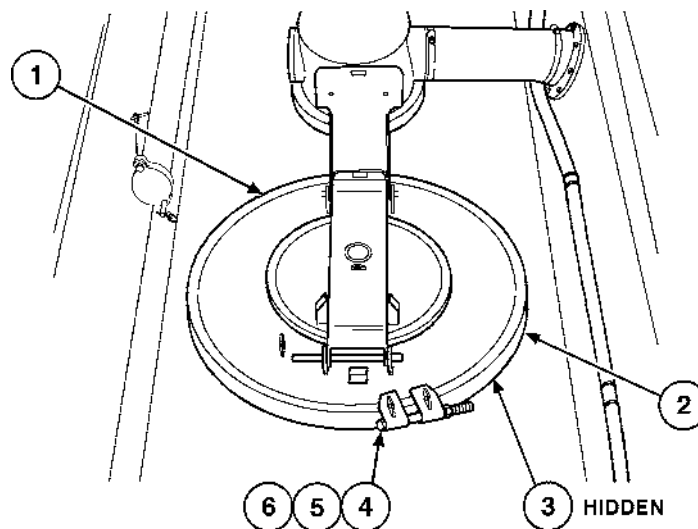
1. Remove plug (10) from latch handle (11).
2. Remove nut (7), starwasher (8), Allen head screw (9), and cylinder (12) from underneath latch handle (11). Discard starwasher.

**ASSEMBLY**

1. Install cylinder (12), Allen head screw (9), new starwasher (8), and nut (7) to latch handle (11).
2. Install plug (10) in latch handle (11).

INSTALLATION

1. Install new manhole cover gasket (3), manhole cover (2), and locking ring (1) to manhole.
2. Install bolt (4), washer (5), nut (6), and locking ring (1) to manhole cover (2).



MANHOLE COVER MAINTENANCE—Continued

0092 00

FOLLOW-ON TASK

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

VENT CAP REPLACEMENT

0093 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Compound, antiseize (item 3, WP 0159 00)

Gasket (item 42, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

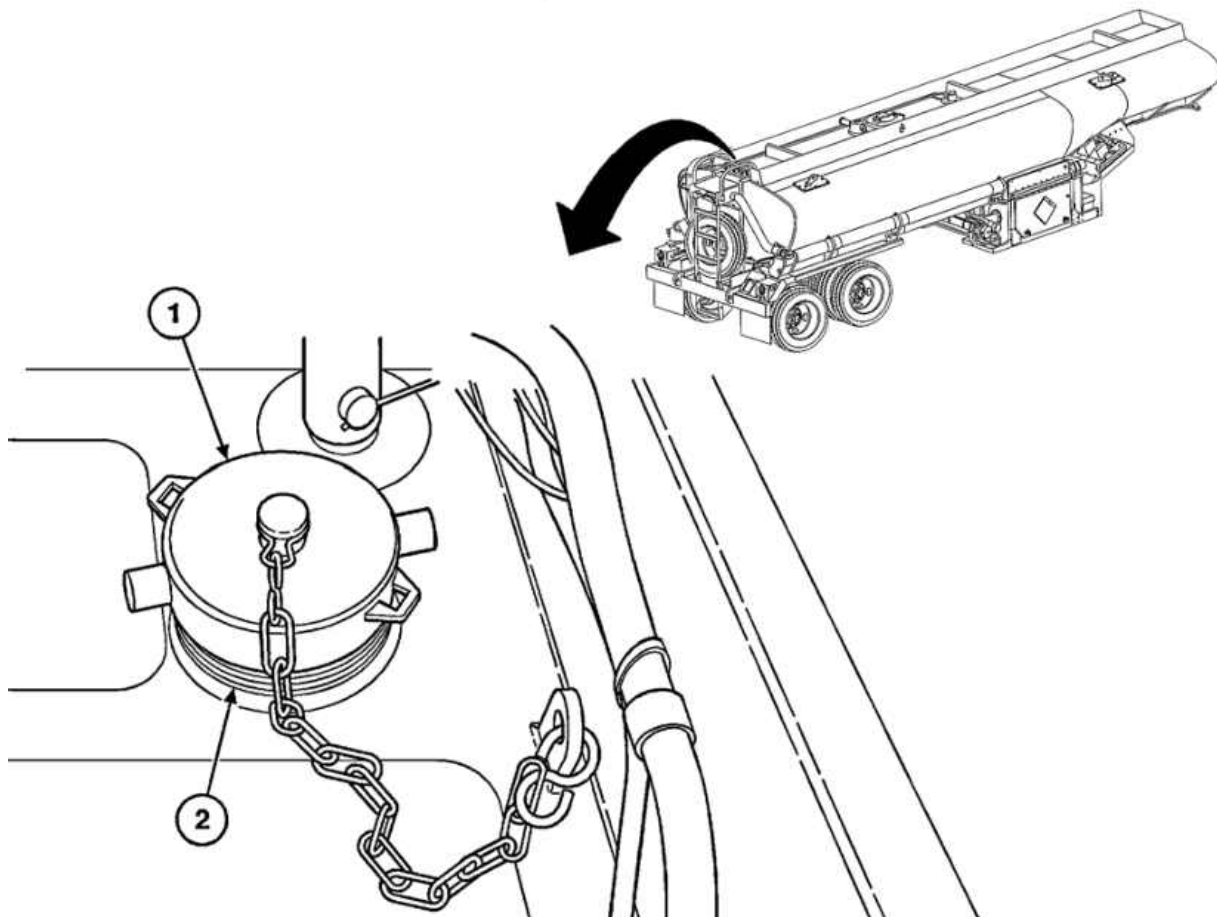
Semitrailer fuel tank drained (refer to WP 0007 00)

REMOVAL

WARNING

Remove vent cap from either side of vapor recovery tube and open emergency valve A to vent tank.

1. Remove vent cap (1) from pipe nipple (2).



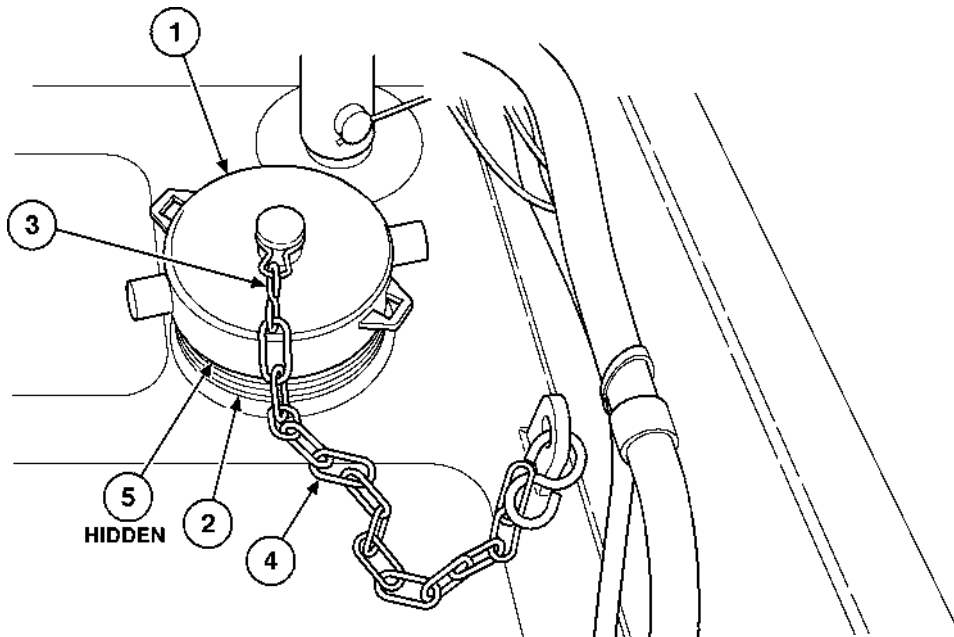
VENT CAP REPLACEMENT—Continued

0093 00

2. Disconnect hook (3) and chain (4) from vent cap (1).
3. Remove gasket (5) from vent cap (1). Discard gasket.

INSTALLATION

1. Install new gasket (5) to vent cap (1).
2. Connect chain (4) and hook (3) to vent cap (1).
3. Install antiseize compound to threads of pipe nipple (2) and install vent cap (1).

**FOLLOW-ON TASK**

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

REFLECTORS REPLACEMENT

0094 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Compound, cleaning (item 4, WP 0159 00)

Rags (item 11, WP 0159 00)

Reflectors (AR) (items 106 and 107, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

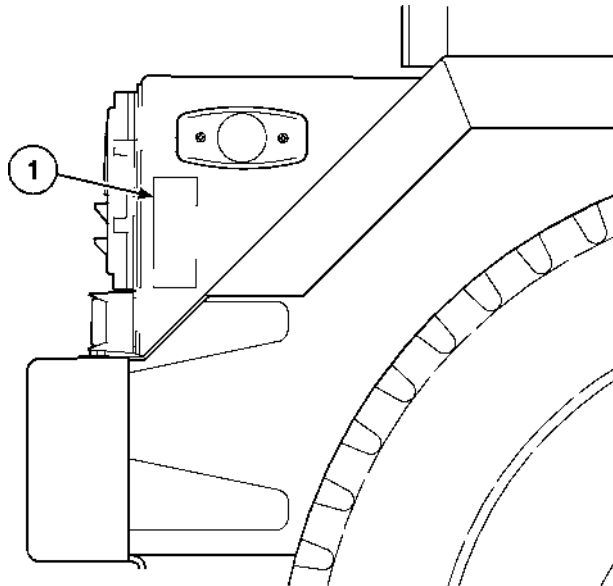
Semitrailer grounded (refer to WP 0007 00)

REMOVAL

NOTE

There are eight reflectors (four red and four amber) and they are replaced the same way. This procedure replaces the rear curbside reflector.

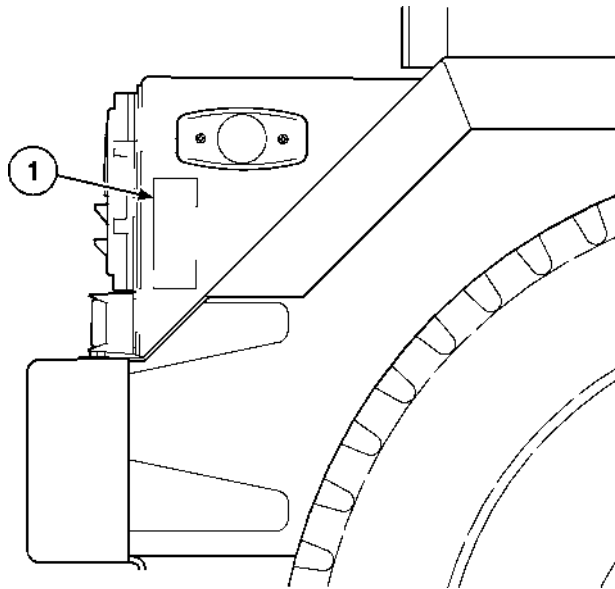
1. Peel away damaged reflector (1) from semitrailer. Discard reflector.



INSTALLATION**WARNING**

Solvents can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If solvent gets on skin and clothing, wash immediately with soap and water.

1. Remove any residual dirt or grit from area where reflector is to be installed using cleaning compound. Surface must be clean and dry before installing reflector.
2. Remove protective backing from new reflector (1) and position on semitrailer.
3. Use a clean dry rag, press down reflector (1), and smooth away any air bubbles.

**FOLLOW-ON TASK**

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

ID/INSTRUCTION PLATES REPLACEMENT

0095 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Rivets (AR) (item 96, WP 0160 00)

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Rivet gun (item 1, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

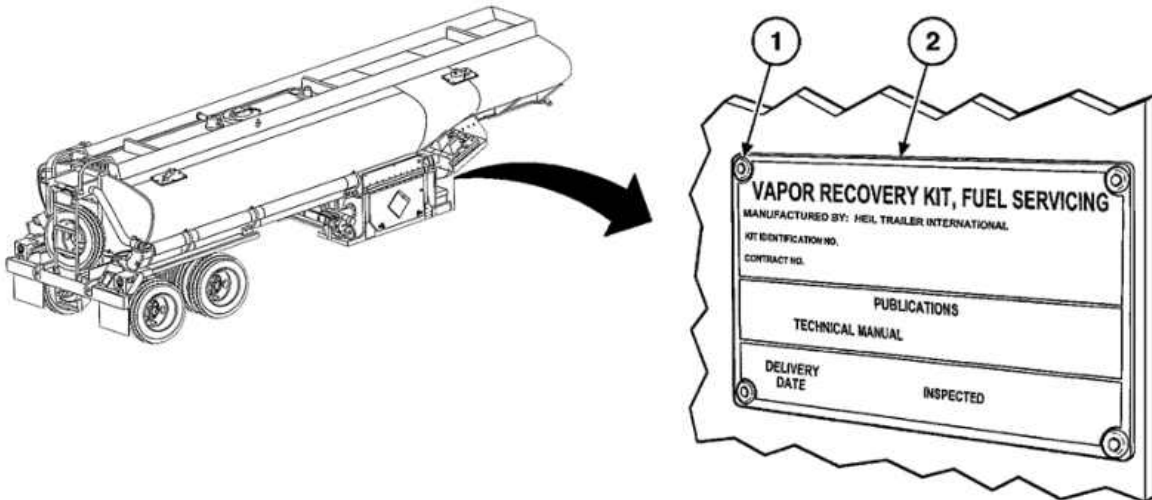
Semitrailer grounded (refer to WP 0007 00)

REMOVAL

NOTE

The ID/instruction plates are all replaced the same way. This procedure covers the vapor recovery kit instruction plate.

Drill out four rivets (1) and remove vapor recovery kit instruction plate (2). Discard rivets.

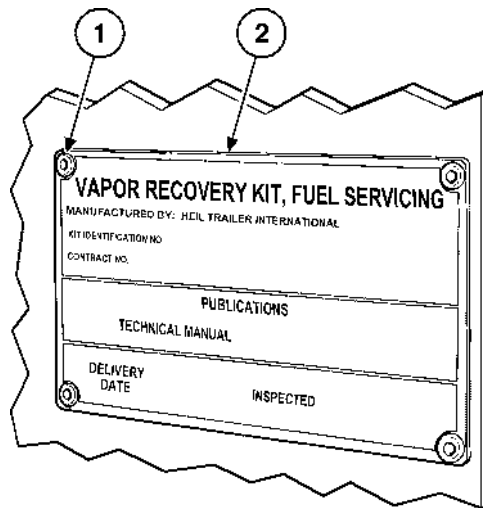


INSTALLATION

NOTE

Update information on new ID/instruction plates as necessary.

Install vapor recovery kit instruction plate (2) and four new rivets (1).



FOLLOW-ON TASK

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

HAZARDOUS MATERIALS PLACARD HOLDERS/BRACKETS REPLACEMENT

0096 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Self-locking nuts (7) (item 88, WP 0160 00)

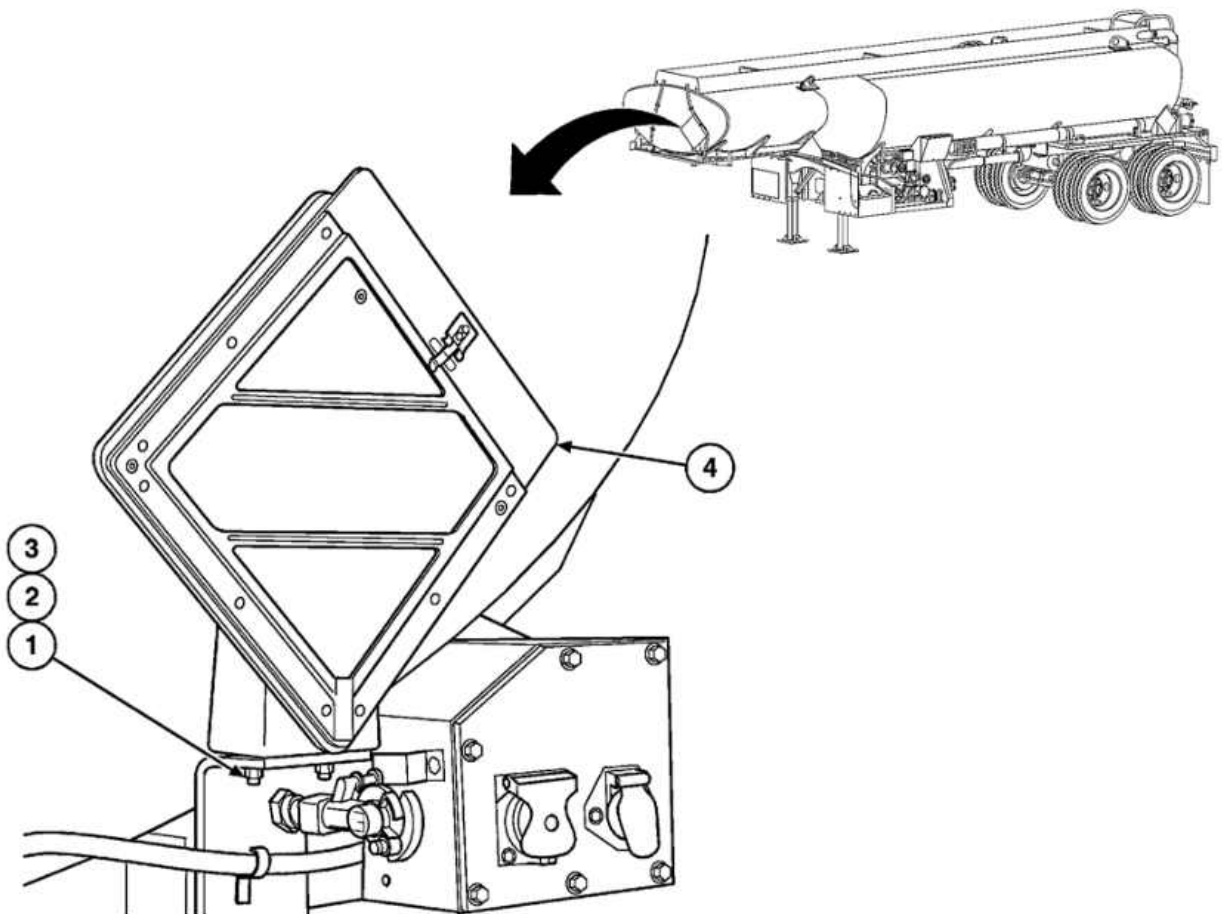
Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

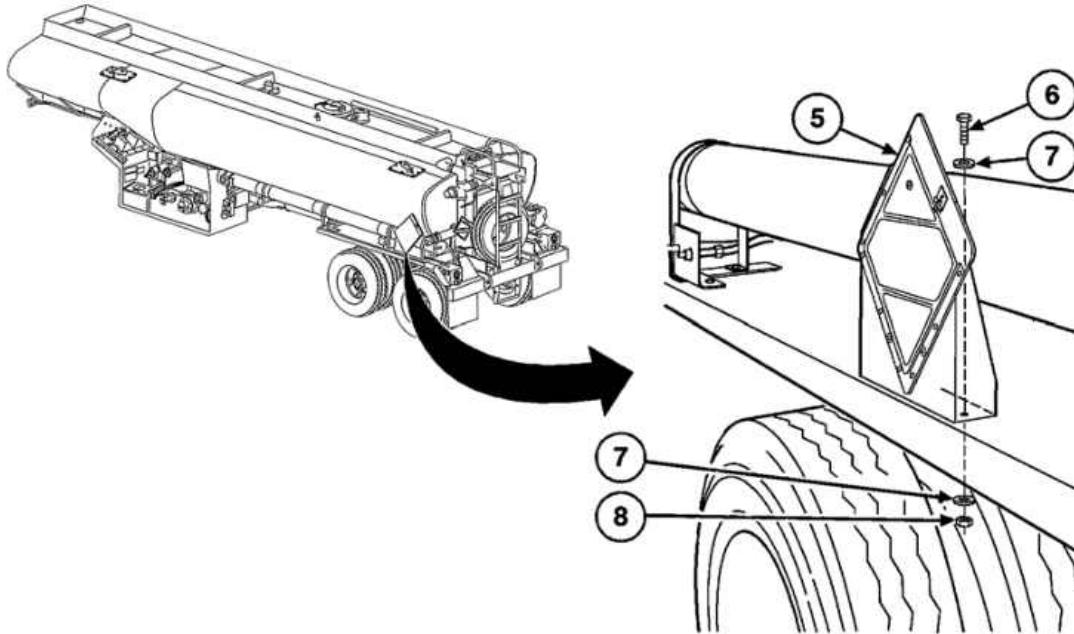
REMOVAL

1. Remove two self-locking nuts (1), four washers (2), two bolts (3), and hazardous materials placard bracket (4) as a unit from front of semitrailer. Discard self-locking nuts.

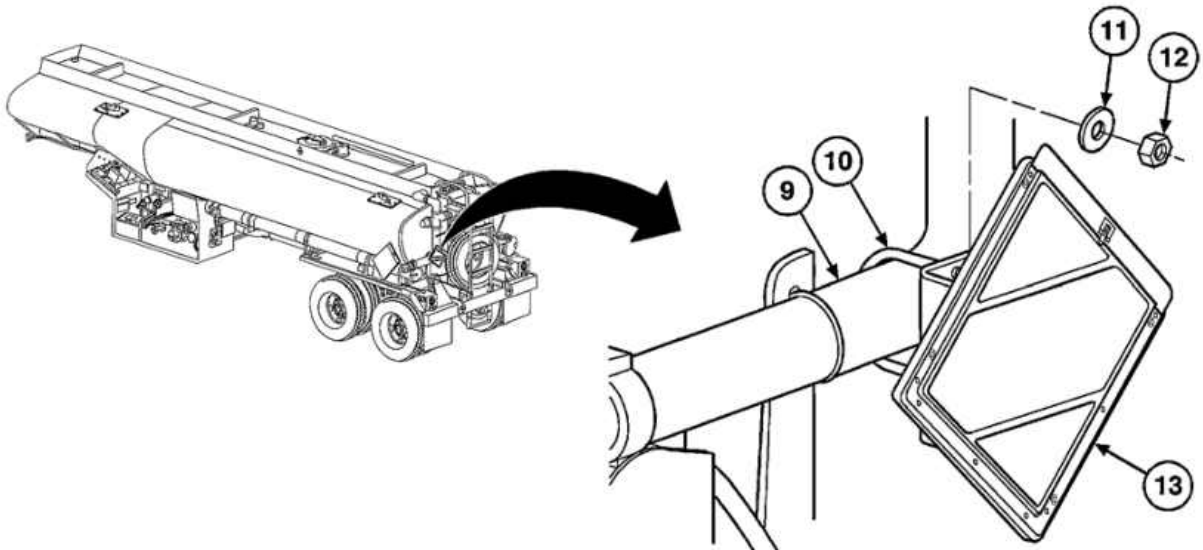


HAZARDOUS MATERIALS PLACARD HOLDERS/BRACKETS REPLACEMENT—Continued 0096 00

2. Remove three self-locking nuts (8), six washers (7), three bolts (6), and hazardous materials placard bracket (5) from roadside of trailer. Discard self-locking nuts.



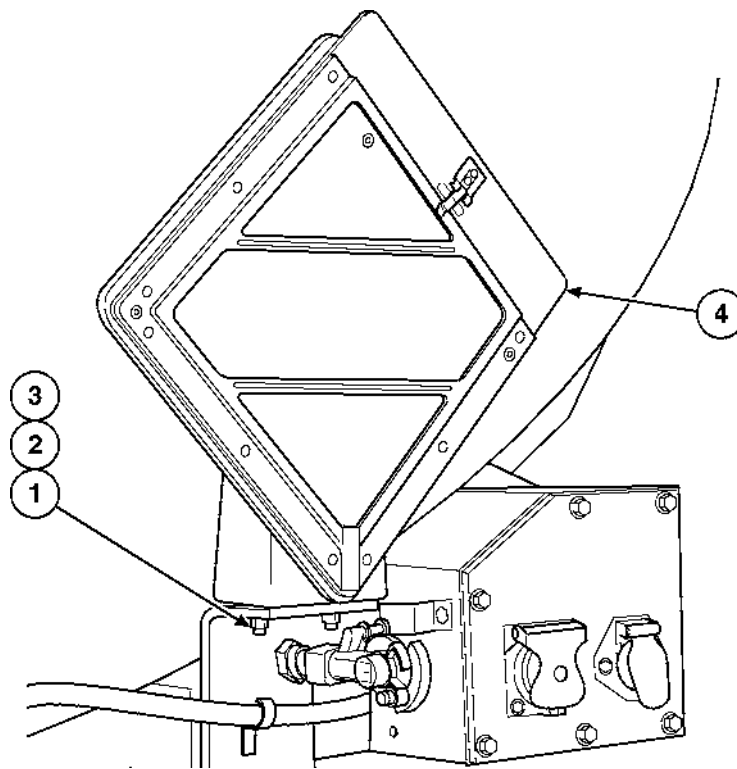
3. Remove two self-locking nuts (12), two washers (11), U-bolt (10), and hazardous materials placard bracket (13) from vapor recovery pipe (9) at rear of semitrailer. Discard self-locking nuts.



HAZARDOUS MATERIALS PLACARD HOLDERS/BRACKETS REPLACEMENT—Continued 0096 00

INSTALLATION

1. Install hazardous materials placard bracket (13), U-bolt (10), two washers (11), and new self-locking nuts (12) to vapor recovery pipe (9) at rear of semitrailer.
2. Install hazardous materials placard bracket (5), three bolts (6), six washers (7), and three new self-locking nuts (8) at roadside of semitrailer.
3. Install hazardous materials placard bracket (4) as a unit, two bolts (3), four washers (2), and two new self-locking nuts (1) at front of semitrailer.



FOLLOW-ON TASK

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

GLOW PLUGS REPLACEMENT

0097 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Compound, antiseize (item 3, WP 0159 00)
Lockwashers (3) (item 28, WP 0160 00)

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

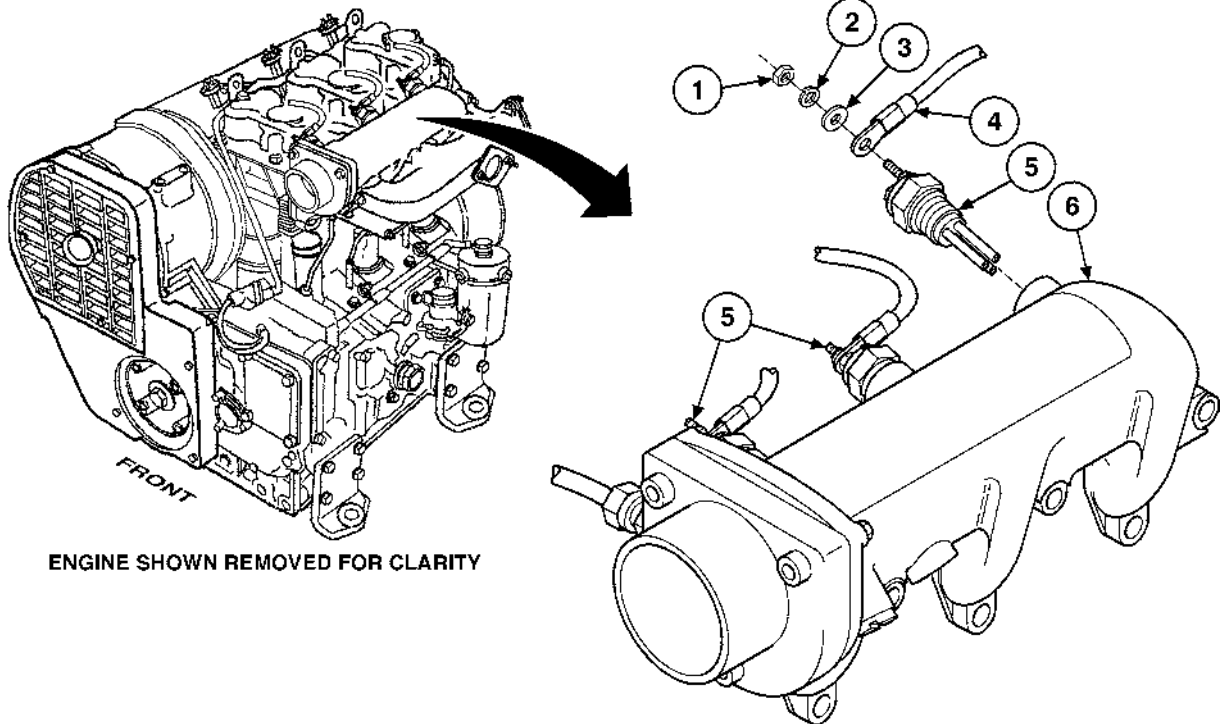
Negative terminal disconnected from battery (refer to WP 0007 00)

Exhaust manifold removed (refer to WP 0099 00)

Intake manifold removed (refer to WP 0100 00)

REMOVAL

1. Remove three nuts (1), lockwashers (2), washers (3), and cables (4) from glow plugs (5). Discard lockwashers.
2. Remove three glow plugs (5) from intake manifold (6).



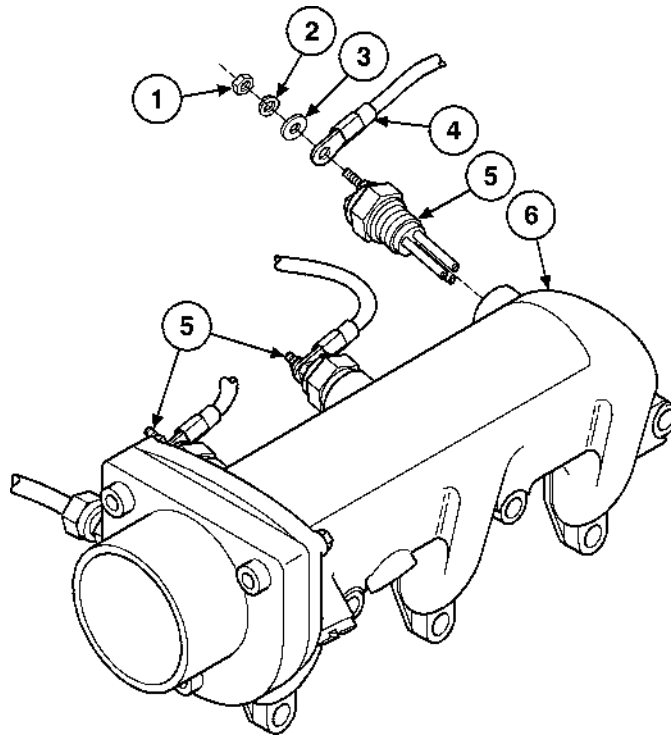
GLOW PLUGS REPLACEMENT—Continued

0097 00

INSTALLATION**NOTE**

Apply antiseize compound to threads.

1. Install three glow plugs (5) to intake manifold (6). Tighten glow plugs to 50 lb-ft (67.8 N•m).
2. Install three cables (4), washers (3), new lockwashers (2), and nuts (1) to glow plugs (5).

**FOLLOW-ON TASKS**

1. Install intake manifold (WP 0100 00).
2. Install exhaust manifold (WP 0099 00).
3. Reconnect negative battery terminal (WP 0007 00).
4. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

ENGINE OIL FILTER AND OIL PRESSURE SWITCH REPLACEMENT

0098 00

THIS WP COVERS:

Engine Oil Filter Removal, Engine Oil Filter Installation, Oil Pressure Switch Removal, Oil Pressure Switch Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Compound, thread sealing (item 7, WP 0159 00)
Rags (item 11, WP 0159 00)
Oil filter (item 134, WP 0160 00)
Seals (2) (item 50, WP 0160 00)

Tools and Special Tools

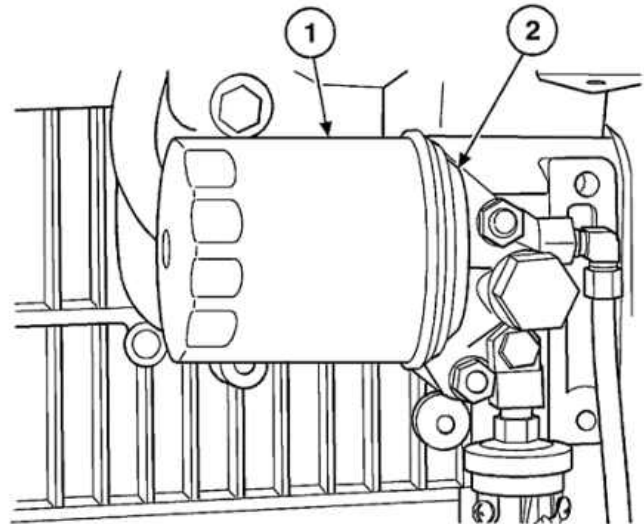
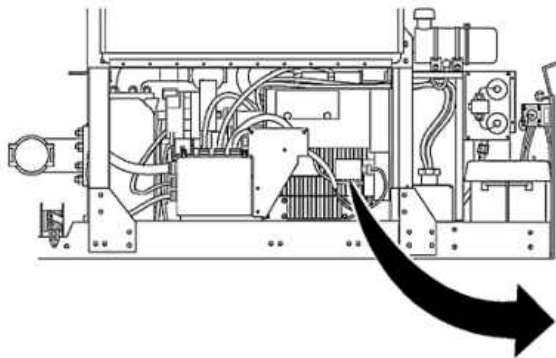
Tool kit, general mechanic's (item 4, WP 0156 00)
Drain pan (item 1, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)
Semitrailer grounded (refer to WP 0007 00)
Engine oil crankcase drained (refer to WP 0042 00)
Negative terminal disconnected from battery (WP 0007 00)

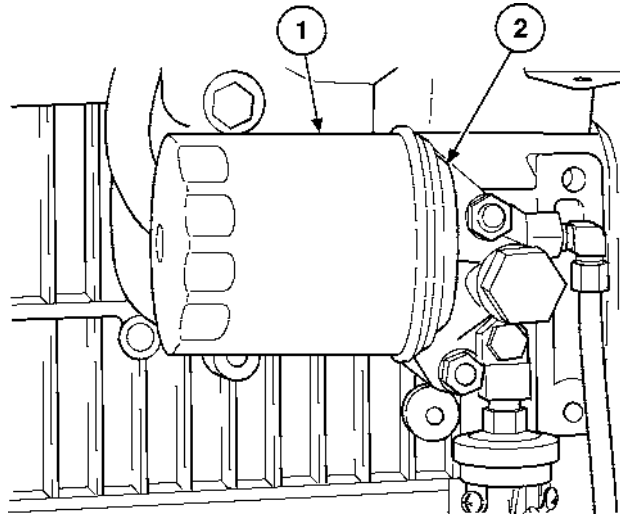
ENGINE OIL FILTER REMOVAL

1. Place drain pan under oil filter (1).
2. Remove oil filter (1) from oil filter head (2). Discard filter.
3. Wipe oil filter head (2) area clean with rags.

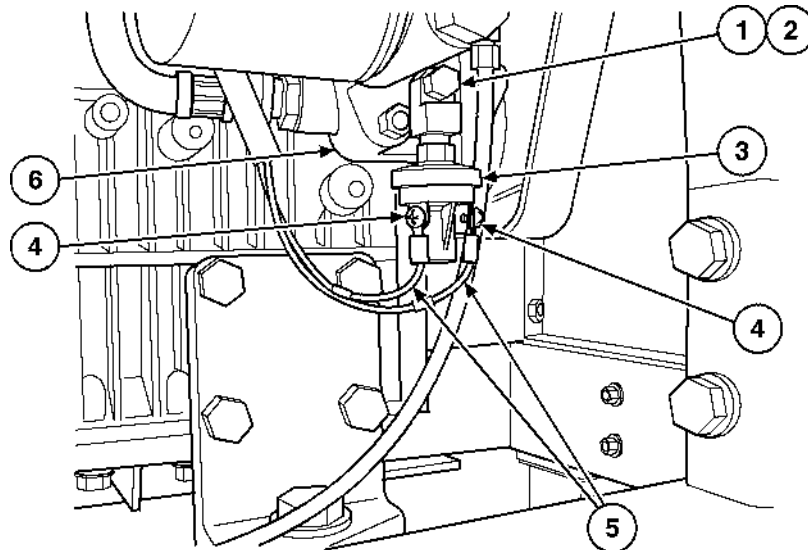


ENGINE OIL FILTER INSTALLATION

1. Coat gasket of new oil filter (1) with clean engine oil.
2. Install new oil filter (1) to oil filter head (2) until contact is made and tighten an additional 1/4 turn.

**OIL PRESSURE SWITCH REMOVAL**

1. Remove two screws (4) and disconnect wires (5) from oil pressure switch (3).
2. Remove bolt (1), two seals (2), and oil pressure switch (3) from oil filter head (6). Discard seals.



ENGINE OIL FILTER AND OIL PRESSURE SWITCH REPLACEMENT—Continued

0098 00

OIL PRESSURE SWITCH INSTALLATION

NOTE

Apply thread sealing compound to threads.

1. Install oil pressure switch (3), two new seals (2), and bolt (1) to oil filter head (6).
2. Connect two wires (5) and install screws (4) to oil pressure switch (3).

FOLLOW-ON TASKS

1. Refill engine oil crankcase (WP 0042 00).
2. Reconnect negative battery terminal (WP 0007 00).
3. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

ENGINE EXHAUST MANIFOLD REPLACEMENT

0099 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Gaskets (3) (item 48, WP 0160 00)

Gaskets (2) (item 49, WP 0160 00)

Lockwashers (6) (item 65, WP 0160 00)

Self-locking nuts (4) (item 61, WP 0160 00)

Equipment Conditions

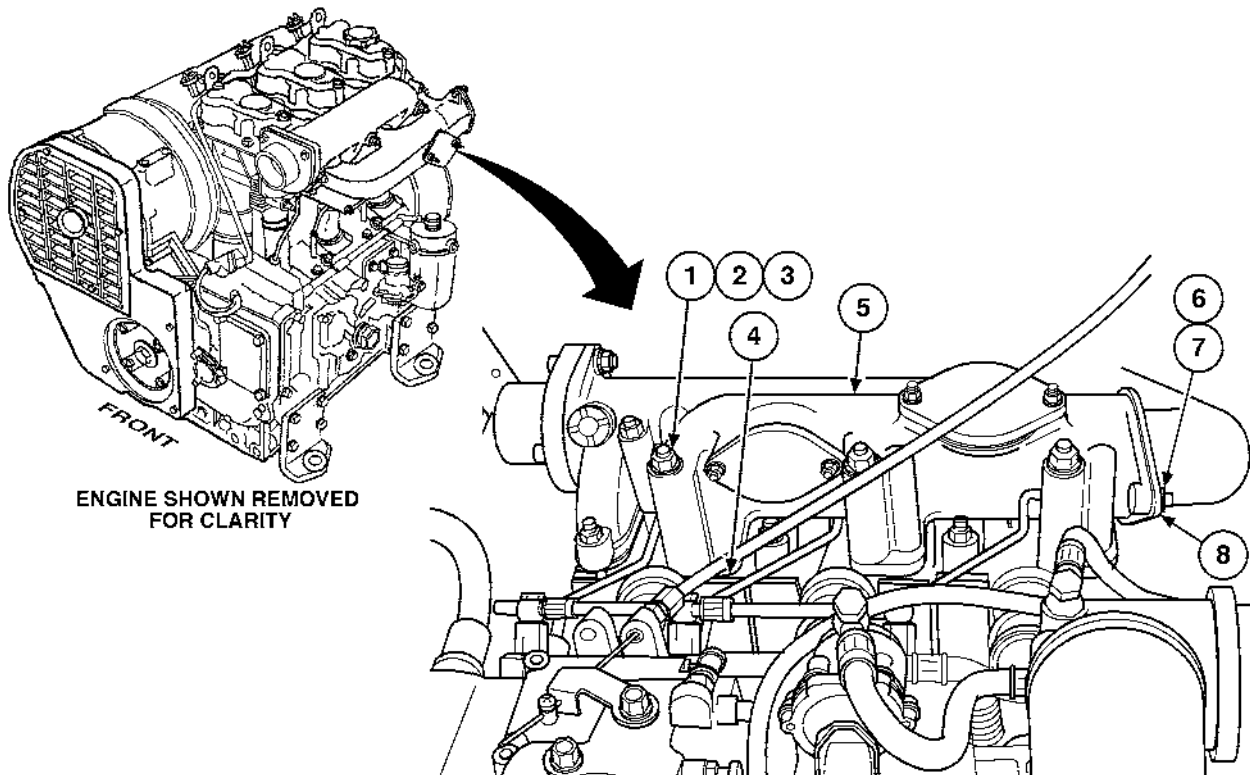
Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Negative terminal disconnected from battery (refer to WP 0007 00)

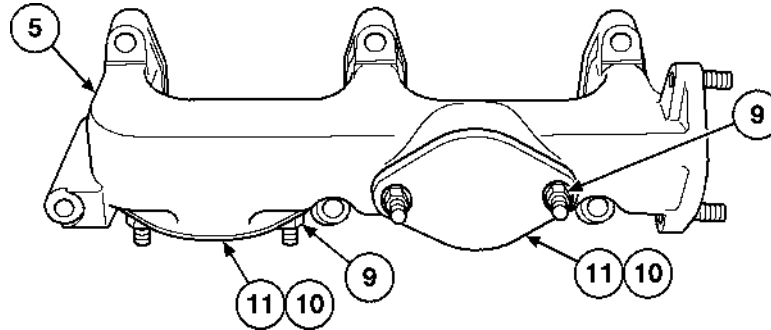
REMOVAL

1. Remove two nuts (6), exhaust pipe flange (8), and gasket (7) from exhaust manifold (5). Discard gasket.
2. Remove six nuts (2), lockwashers (3), exhaust manifold (5), and three gaskets (4) from studs (1). Discard lockwashers and gaskets.

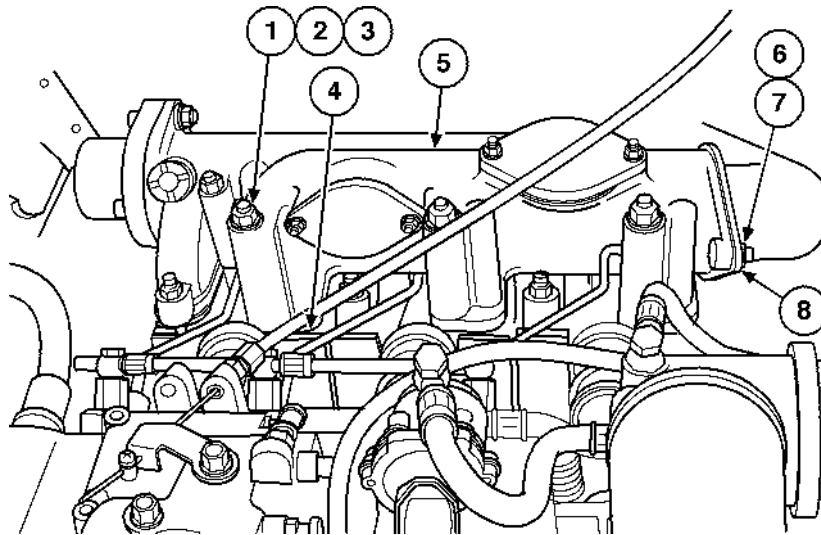


ENGINE EXHAUST MANIFOLD REPLACEMENT—Continued**0099 00**

3. Remove four self-locking nuts (9), two metal plates (10), and gaskets (11) from exhaust manifold (5). Discard self-locking nuts and gaskets.

**INSTALLATION**

1. Install two new gaskets (11), metal plates (10), and four new self-locking nuts (9) to exhaust manifold (5).
2. Install three gaskets (4), exhaust manifold (5), six new lockwashers (3), and nuts (2) to studs (1).
3. Install new gasket (7), exhaust pipe flange (8), and two nuts (6) to exhaust manifold (5).

**FOLLOW-ON TASKS**

1. Reconnect negative battery terminal (WP 0007 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

INTAKE MANIFOLD REPLACEMENT

0100 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Compound, antiseize (item 3, WP 0159 00)

Gaskets (3) (item 135, WP 0160 00)

Lockwashers (3) (item 28, WP 0160 00)

Lockwashers (6) (item 65, WP 0160 00)

References

WP 0097 00

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

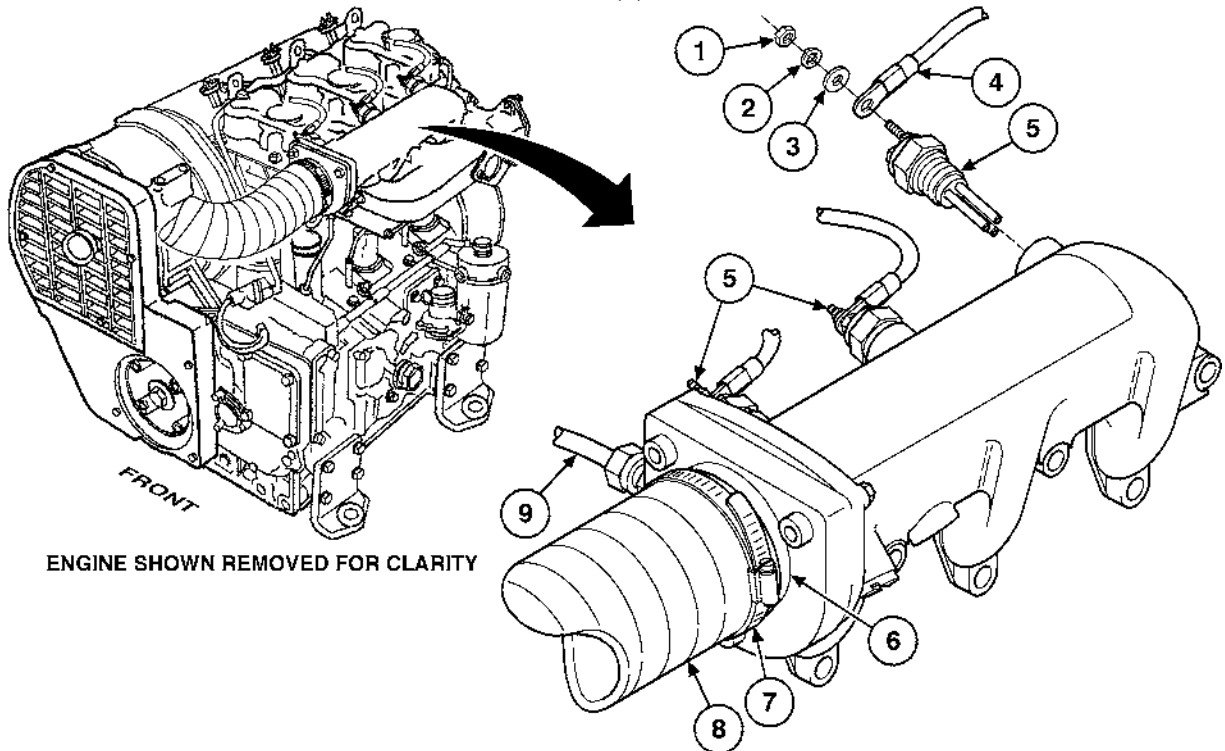
Semitrailer grounded (refer to WP 0007 00)

Negative terminal disconnected from battery (refer to WP 0007 00)

Exhaust manifold removed (refer to WP 0099 00)

REMOVAL

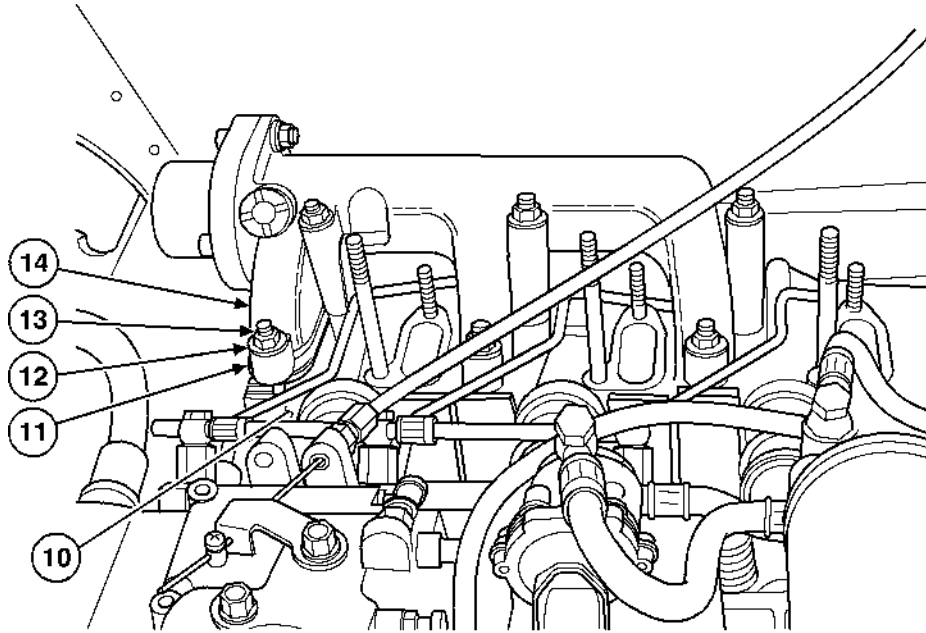
1. Remove hose clamp (7) and hose (8) from flange (6).
2. Remove three nuts (1), lockwashers (2), washers (3), and cables (4) from glow plugs (5). Discard lockwashers.
3. Disconnect air cleaner restriction indicator line (9).



INTAKE MANIFOLD REPLACEMENT—Continued

0100 00

4. Remove six nuts (13), lockwashers (12), three gaskets (11), and intake manifold (14) from engine (10). Discard lockwashers and gaskets.
5. Remove glow plugs from intake manifold (14) (refer to WP 0097 00).

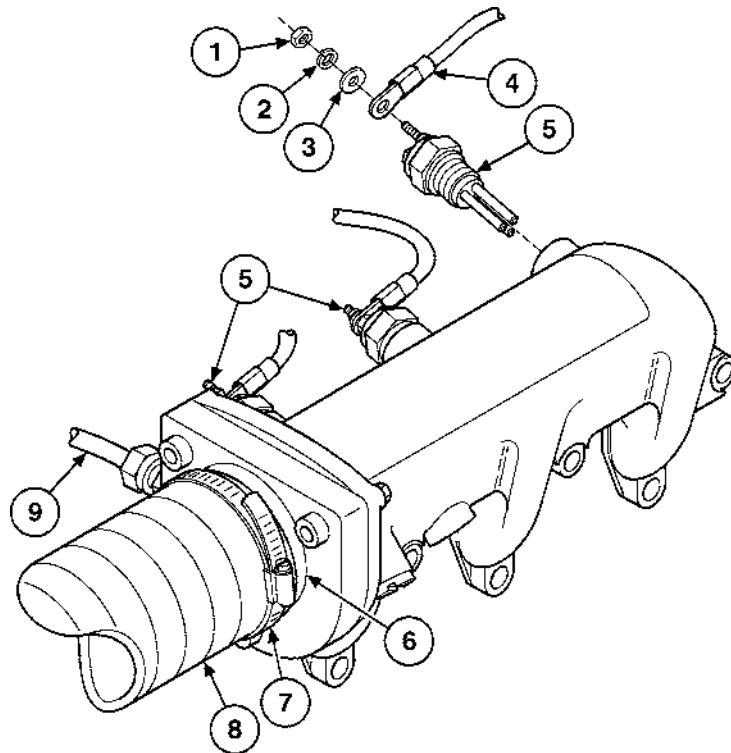
**BOTTOM VIEW****INSTALLATION****NOTE**

Apply antiseize compound to threads.

1. Install glow plugs to intake manifold (14) (refer to WP 0097 00).
2. Install intake manifold (14), three new gaskets (11), six new lockwashers (12), and nuts (13) to engine (10).
3. Connect air cleaner restriction indicator line (9).
4. Install three cables (4), washers (3), new lockwashers (2), and nuts (1) to glow plugs (5).
5. Install hose (8) and hose clamp (7) to flange (6).

INTAKE MANIFOLD REPLACEMENT—Continued

0100 00



FOLLOW-ON TASKS

1. Install exhaust manifold (WP 0099 00).
2. Reconnect negative battery terminal (WP 0007 00).
3. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

FUEL PUMP REPLACEMENT

0101 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Copper washers (4) (item 63, WP 0160 00)

Lockwashers (2) (item 65, WP 0160 00)

Gasket (item 136, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

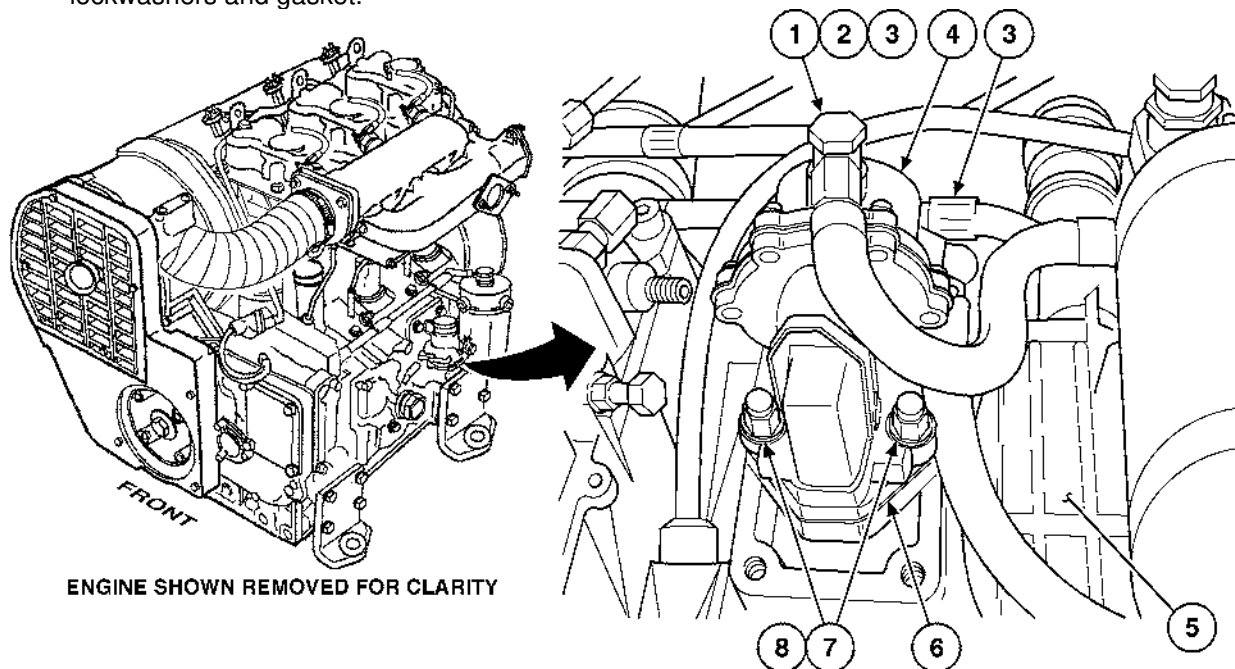
Semitrailer grounded (refer to WP 0007 00)

REMOVAL

NOTE

Tag fuel lines prior to disconnecting.

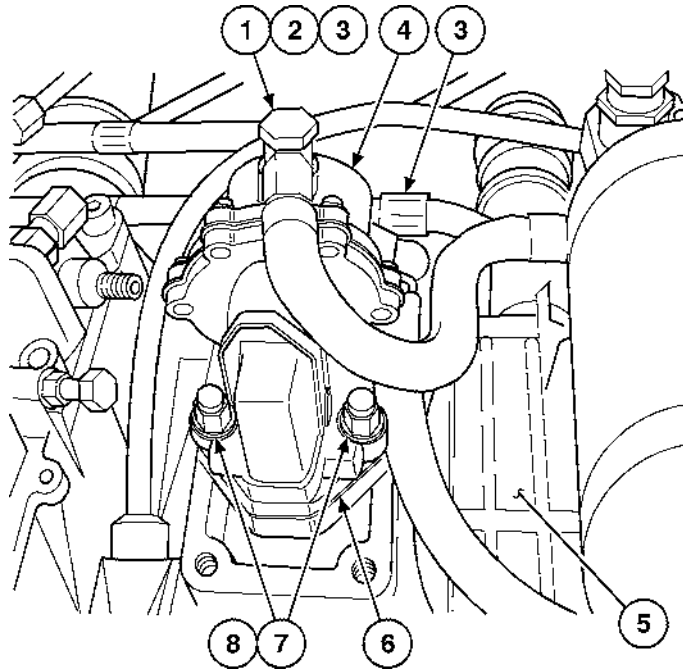
1. Remove two screws (1), copper washers (2), fuel lines (3), and copper washers (2) from fuel pump (4). Discard copper washers.
2. Remove two nuts (8), lockwashers (7), fuel pump (4), and gasket (6) from crankcase (5). Discard lockwashers and gasket.



FUEL PUMP REPLACEMENT—Continued

0101 00**INSTALLATION**

1. Install new gasket (6), fuel pump (4), two new lockwashers (7), and nuts (8) to crankcase (5).
2. Install two new copper washers (2), fuel lines (3), new copper washers (2), and screws (1) to fuel pump (4).

**FOLLOW-ON TASK**

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

ENGINE FUEL TANK REPLACEMENT

0102 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Fuel line crimp clamps (2) (items 71 and 72, WP 0160 00)

Self-locking nuts (4) (item 87, WP 0160 00)

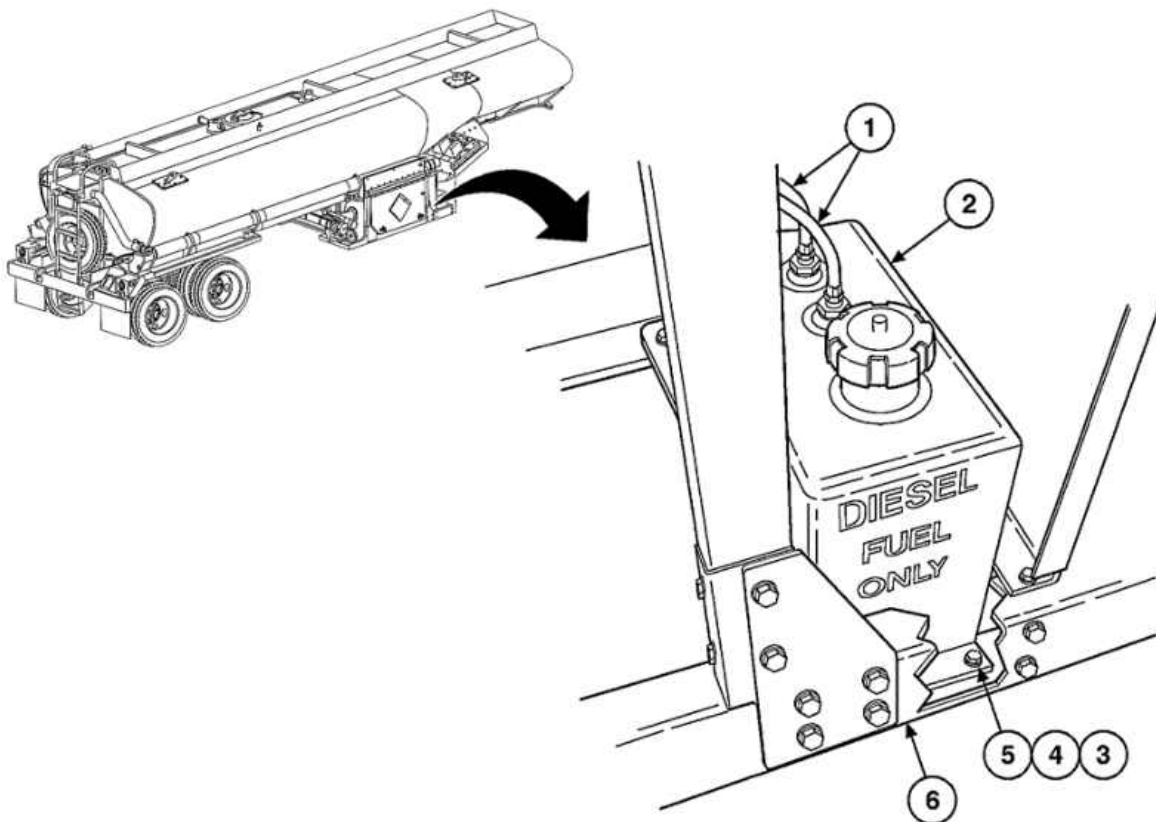
Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

REMOVAL

1. Disconnect two fuel lines (1) from top of engine fuel tank (2).
2. Remove four self-locking nuts (3), eight washers (4), four bolts (5), and engine fuel tank (2) from engine support frame (6). Discard self-locking nuts.

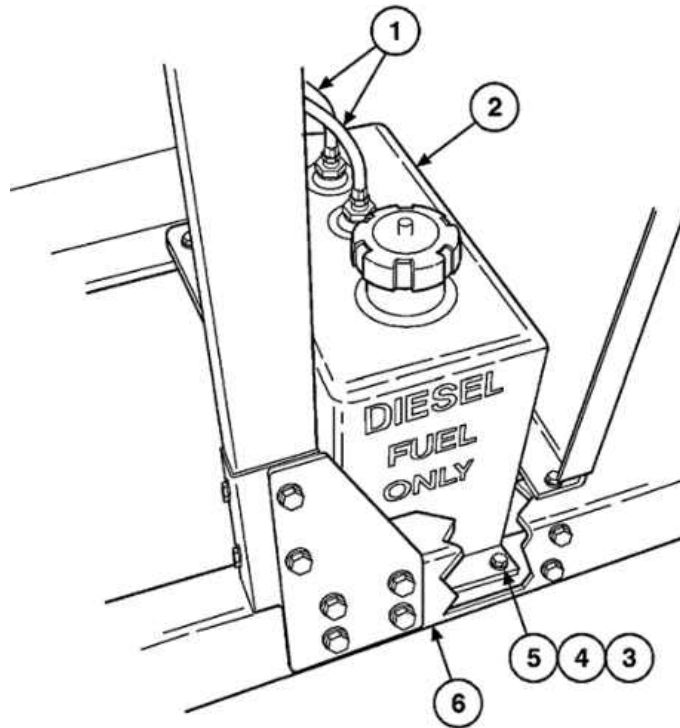


ENGINE FUEL TANK REPLACEMENT—Continued

0102 00

INSTALLATION

1. Install engine fuel tank (2), four bolts (5), eight washers (4), and four new self-locking nuts (3) to engine support frame (6).
2. Connect two fuel lines (1) to top of engine fuel tank (2).

**FOLLOW-ON TASK**

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

ENGINE FUEL LINES REPLACEMENT

0103 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

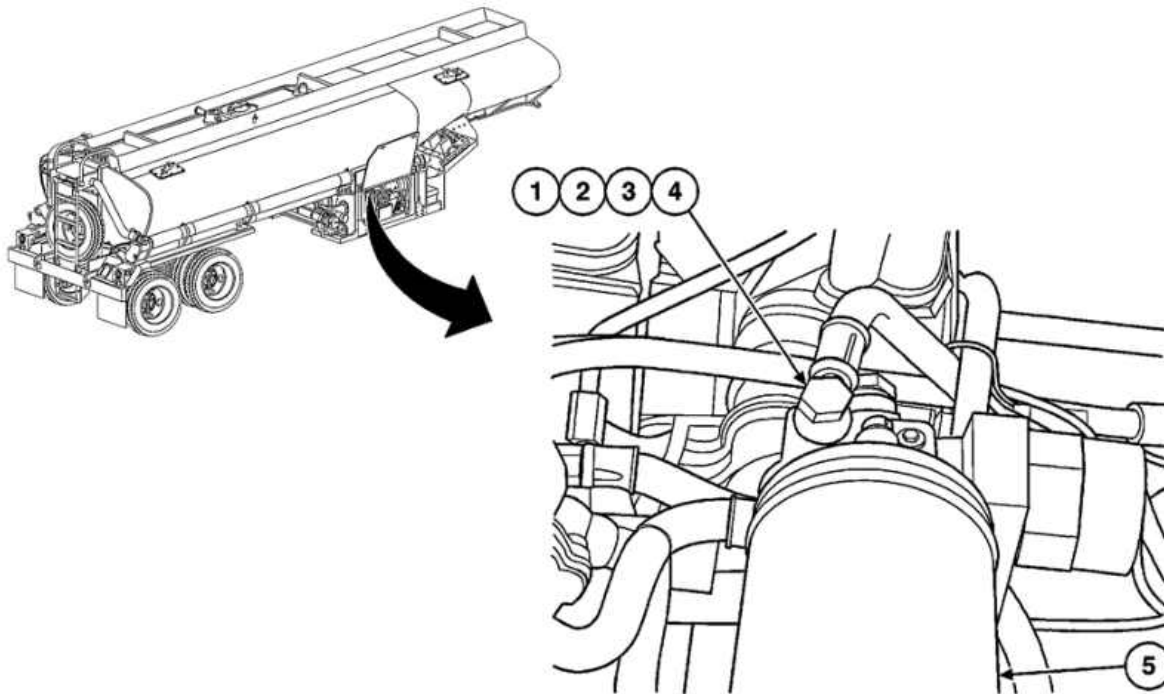
Cable ties (AR) (item 98, WP 0160 00)
Copper washer (2) (item 63, WP 0160 00)
Crimp clamps (3) (item 4, WP 0160 00)
Crimp clamp (item 15, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)
Semitrailer grounded (refer to WP 0007 00)

REMOVAL

1. Remove bolt (1), copper washer (2), fuel supply line (3), and copper washer (4) from fuel filter (5). Discard copper washers.



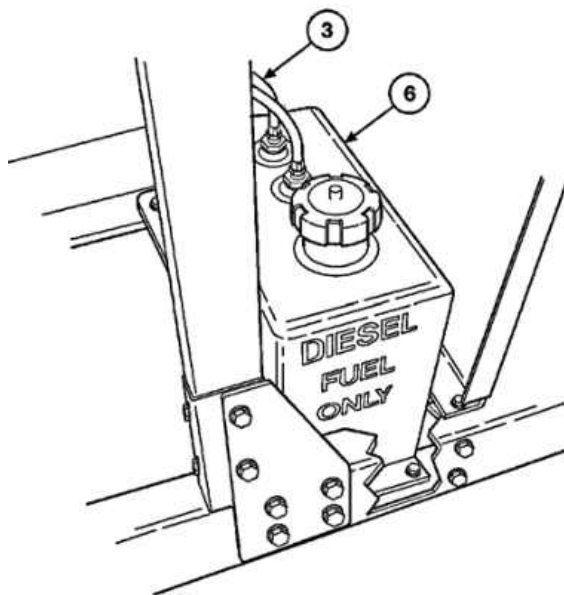
NOTE

Remove and discard cable ties.

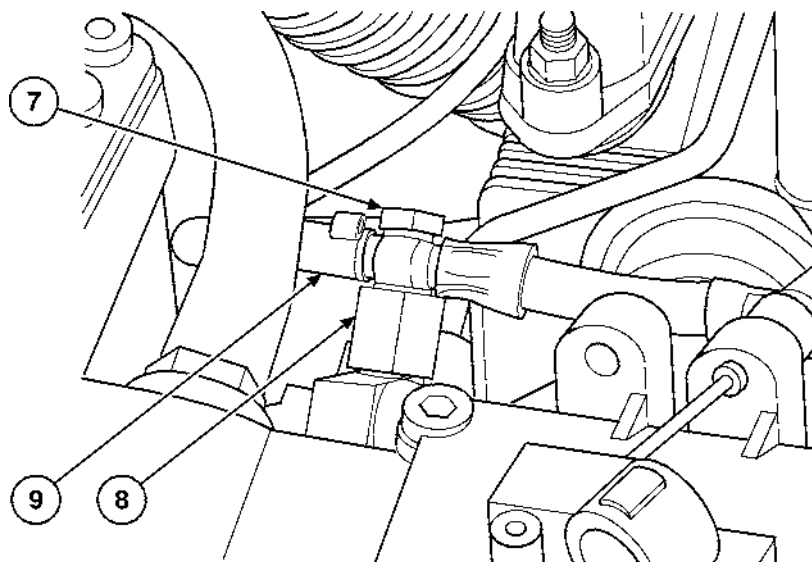
ENGINE FUEL LINES REPLACEMENT—Continued

0103 00

2. Remove fuel supply line (3) from fuel tank (6).



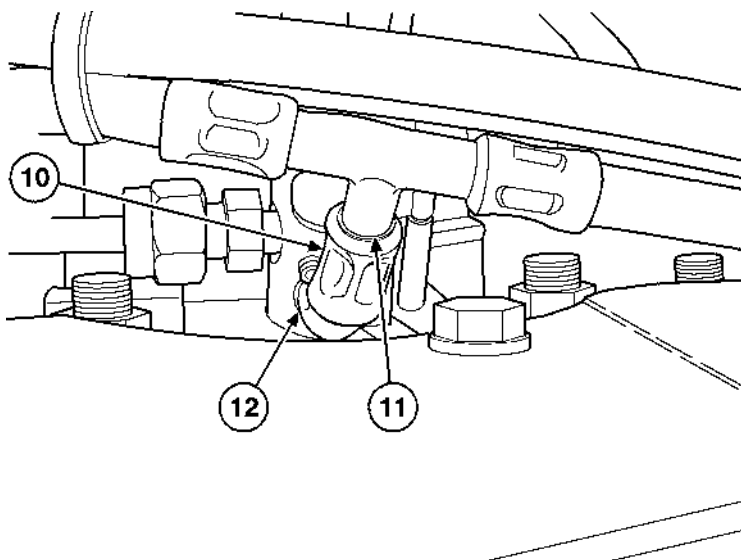
3. Remove crimp clamp (7) and fuel return line (9) from forward injector pump (8). Discard clamp.



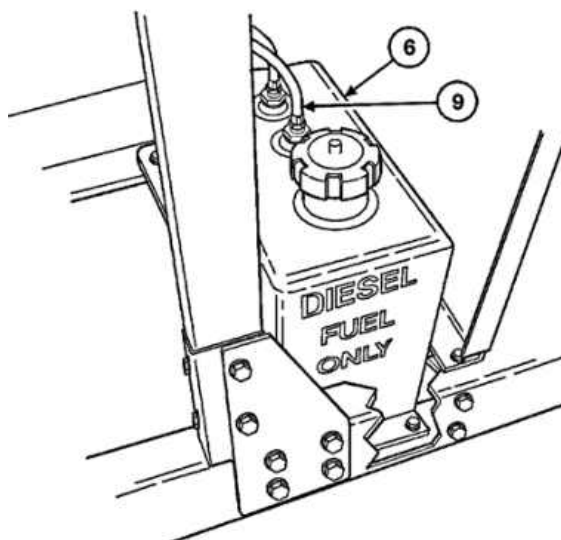
ENGINE FUEL LINES REPLACEMENT—Continued

0103 00

4. Remove three crimp clamps (10) and fuel lines (11) from three fuel nozzles (12). Discard clamps.



5. Remove fuel return line (9) from fuel tank (6).

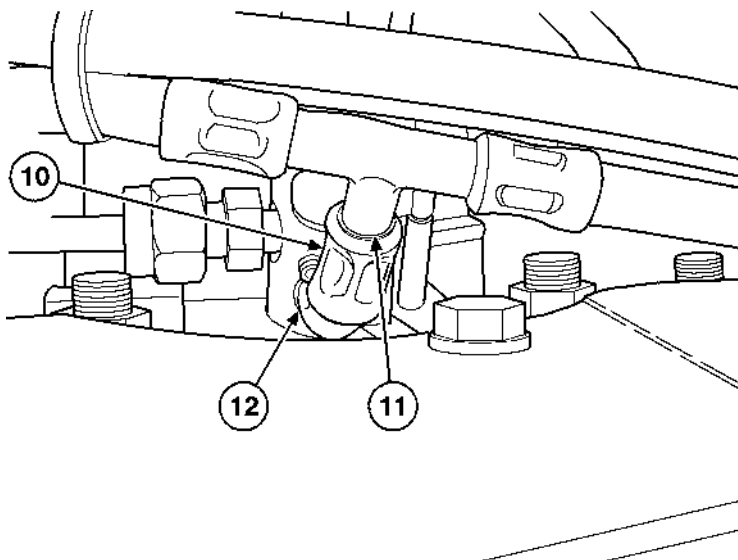
**INSTALLATION**

1. Install fuel return line (9) to fuel tank (6).

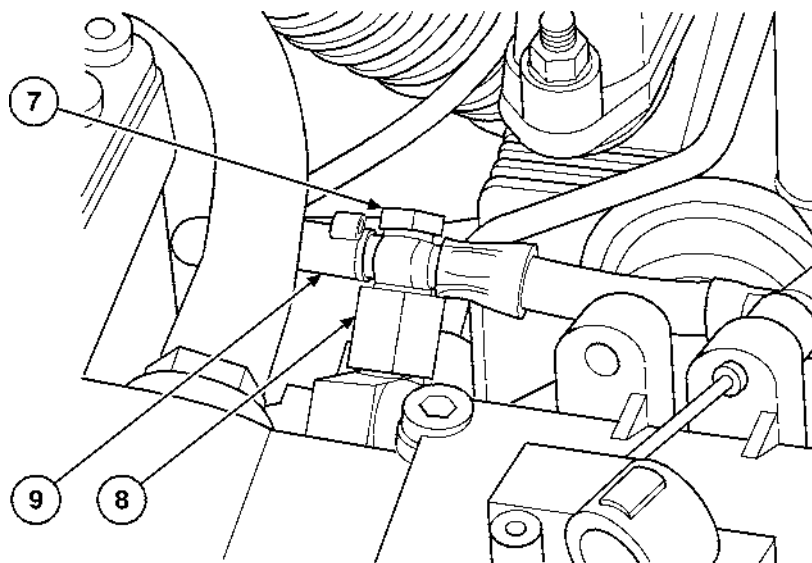
ENGINE FUEL LINES REPLACEMENT—Continued

0103 00

2. Install three fuel lines (11) and new crimp clamps (10) to three fuel nozzles (12).



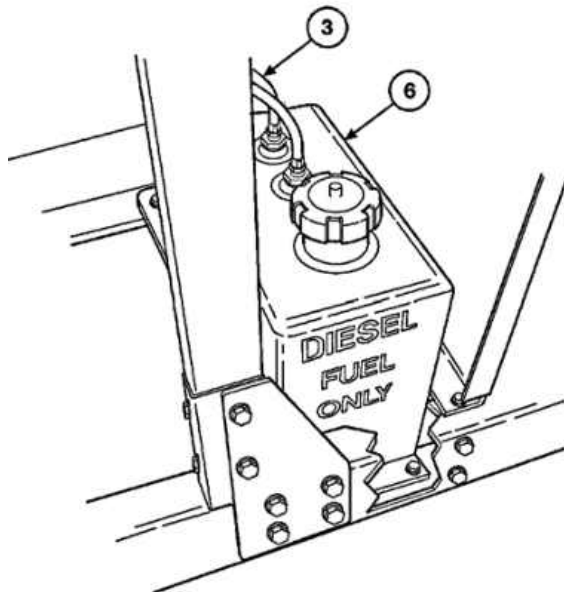
3. Install fuel return line (9) and new crimp clamp (7) to forward injector pump (8).



ENGINE FUEL LINES REPLACEMENT—Continued

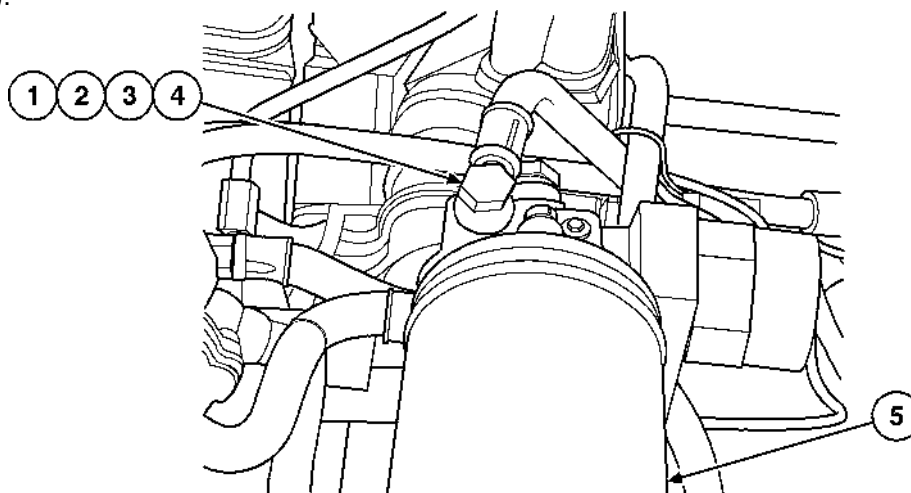
0103 00

4. Install fuel supply line (3) to fuel tank (6).

**NOTE**

Install new cable ties as necessary.

5. Install new copper washer (4), fuel supply line (3), new copper washer (2), and bolt (1) to fuel filter (5).



FUEL SYSTEM BLEEDING**NOTE**

Refer to WP 107, 108, and 109 for placement and components needed to bleed the system.

1. Position suitable container in place under fuel injection pump.
2. Disconnect fuel return line from fuel injection pump.
3. Turn engine switch to run position to energize system and both fuel injection pumps.
4. Run both fuel injection pumps until there are no air bubbles in the fuel flowing from fuel injection pumps.
5. Turn engine switch to Off.
6. Connect fuel return line to fuel injection pump.

FOLLOW-ON TASKS

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

ENGINE FAN BELT REPLACEMENT

0104 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Engine fan belt (item 30, WP 0160 00)
Lockwashers (3) (item 53, WP 0160 00)

Equipment Conditions

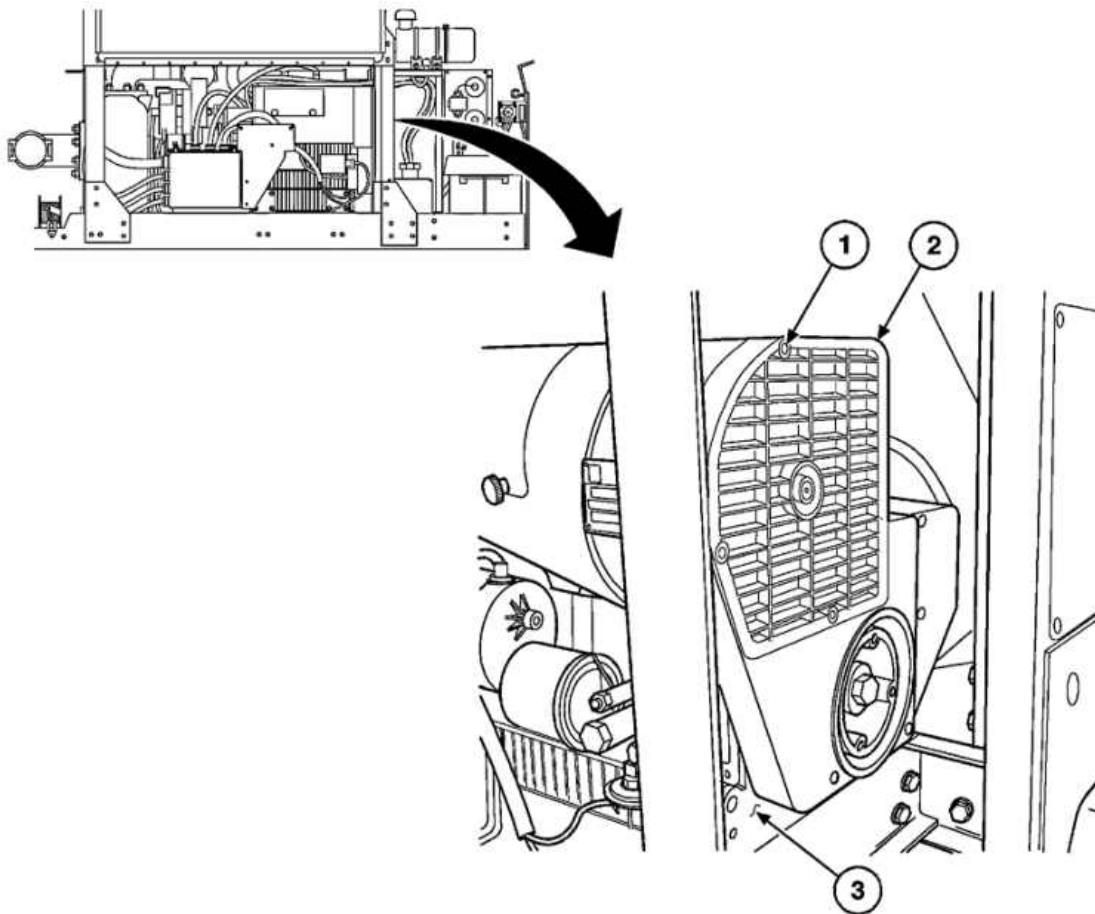
Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Fuel tank removed (refer to WP 0102 00)

REMOVAL

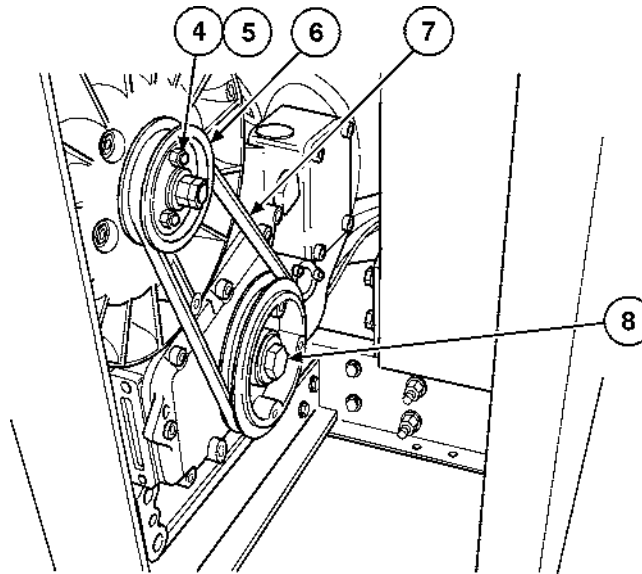
1. Remove seven Allen head screws (1) and grille (2) from engine (3).



ENGINE FAN BELT REPLACEMENT—Continued

0104 00

2. Remove three nuts (4) and lockwashers (5) from outer pulley half (6). Discard lockwashers.
3. Remove outer pulley half (6) and fan belt (7). Discard fan belt.

**INSTALLATION**

1. Install new belt (7), outer pulley half (6), three new lockwashers (5), and nuts (4).
2. Alternately tighten nuts (4) on outer pulley half (6), while slowly rotating crank shaft pulley bolt (8).

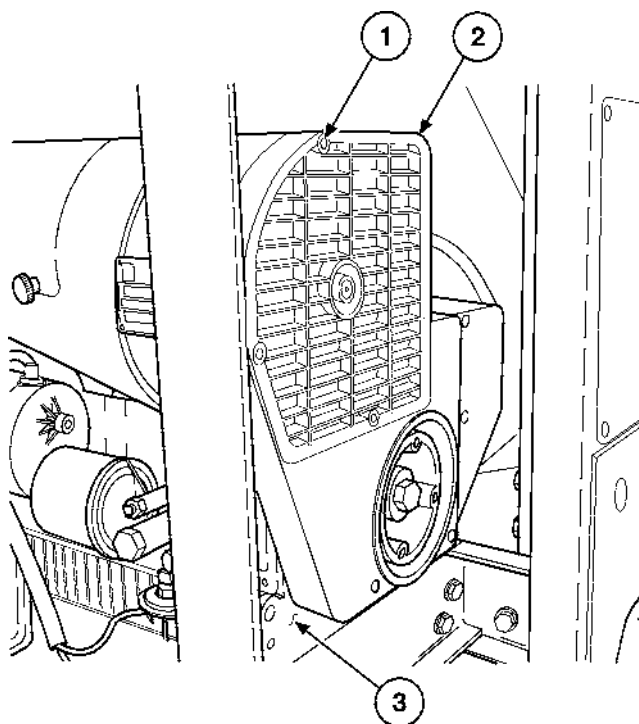
NOTE

- After tightening belt per step 2, belt deflection should be $\frac{3}{16}$ (4.8 mm) to $\frac{1}{4}$ in. (6.4 mm). If deflection exceeds $\frac{1}{4}$ in. (6.4 mm), remove outer pulley half and one shim. Repeat steps 1 and 2 until proper deflection is achieved.
- When installing grille, note that the two short screws fit in the two lower holes in grille.

ENGINE FAN BELT REPLACEMENT—Continued

0104 00

3. Install grille (2) and seven Allen head screws (1) to engine (3).

**FOLLOW-ON TASKS**

1. Install fuel tank (WP 0102 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

ENGINE FAN SHROUD AND AIR CLEANER REPLACEMENT

0105 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

References

WP 0038 00

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Curbside optic socket box bracket removed from fan shroud (refer to WP 0048 00)

Air cleaner and hose removed (refer to WP 0105 00)

Air restriction indicator removed (refer to WP 0106 00)

Fuel tank removed (refer to WP 0102 00)

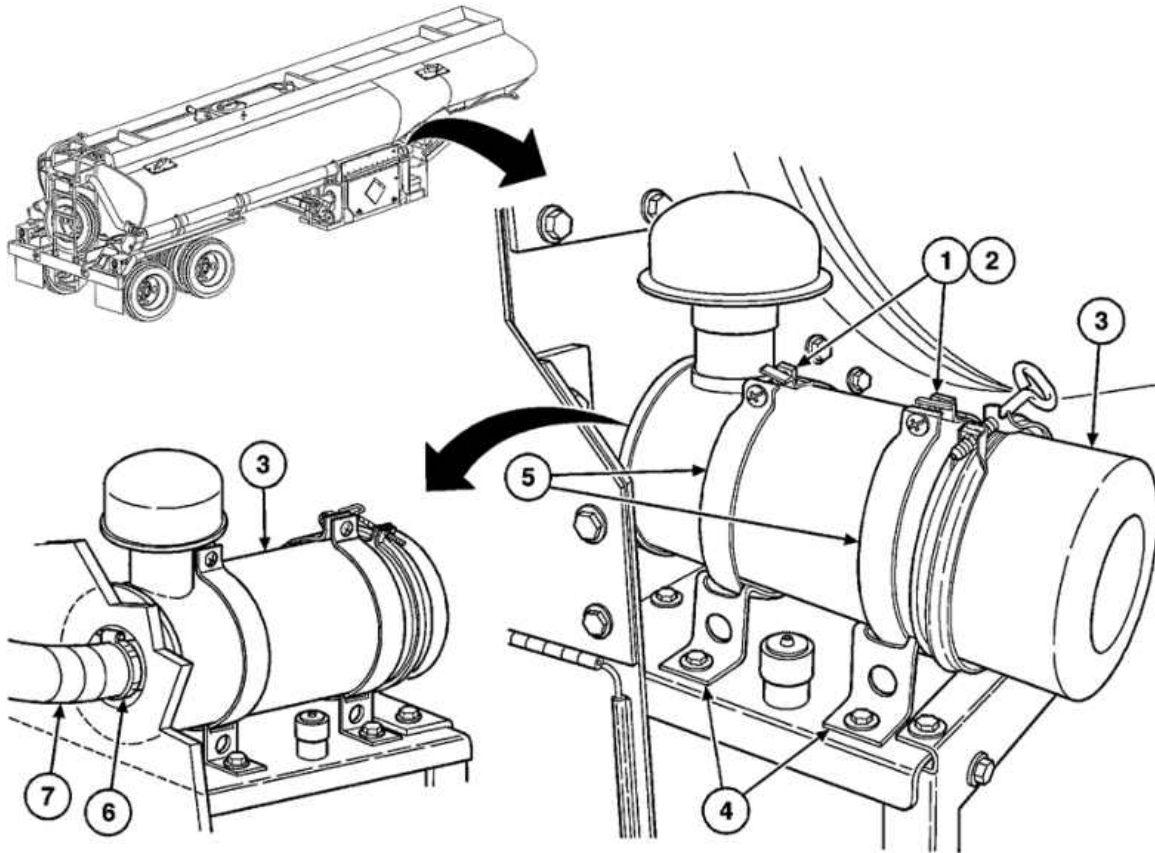
Materials/Parts

Self-locking nuts (9) (item 88, WP 0160 00)

Self-locking nuts (4) (item 92, WP 0160 00)

INTAKE AIR CLEANER REMOVAL

1. Remove hose clamp (6) and air intake hose (7) from air cleaner (3).
2. Remove two screws (1), nuts (2), clamping rings (5), and air cleaner (3) from two engine fan shroud brackets (4).

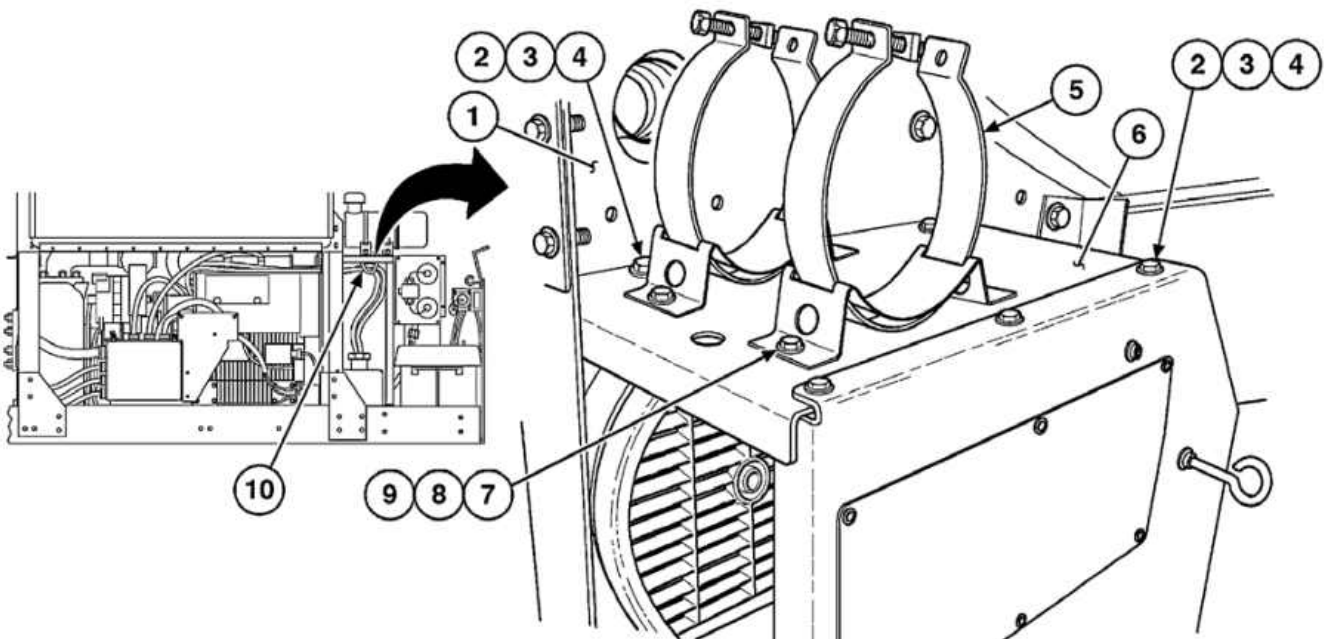


ENGINE FAN SHROUD AND AIR CLEANER REPLACEMENT—Continued

0105 00

ENGINE FAN SHROUD REMOVAL

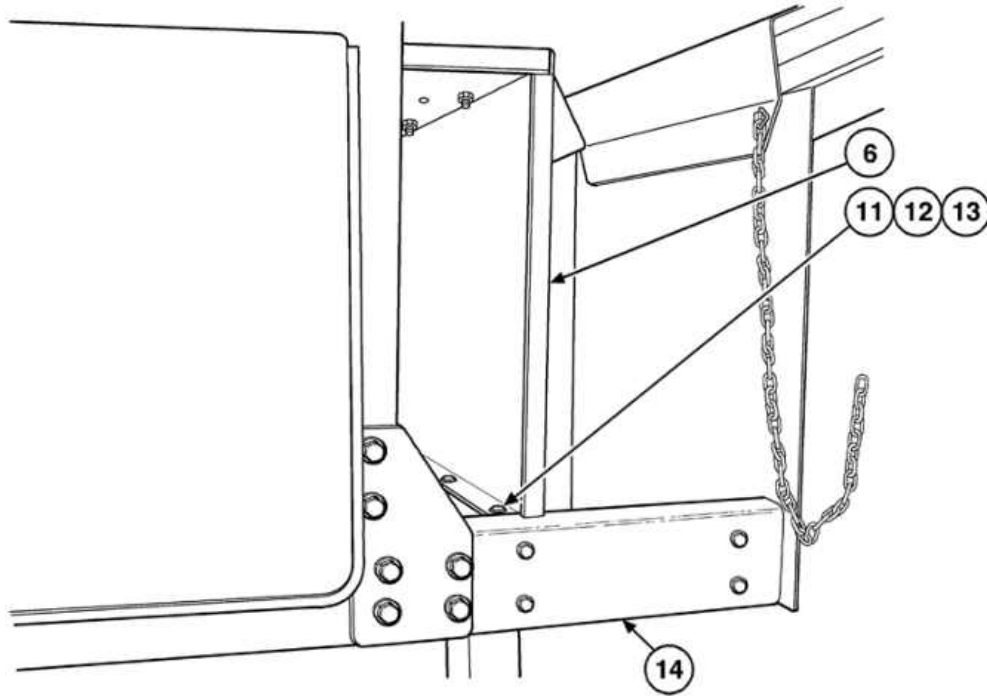
1. Remove four self-locking nuts (7), eight washers (8), four bolts (9), and two air cleaner brackets (5), and three lines (10) from engine fan shroud (6). Discard self-locking nuts.
2. Remove three self-locking nuts (2), six washers (3), three bolts (4), and shroud (6) from muffler shield (1). Discard self-locking nuts.



ENGINE FAN SHROUD AND AIR CLEANER REPLACEMENT—Continued

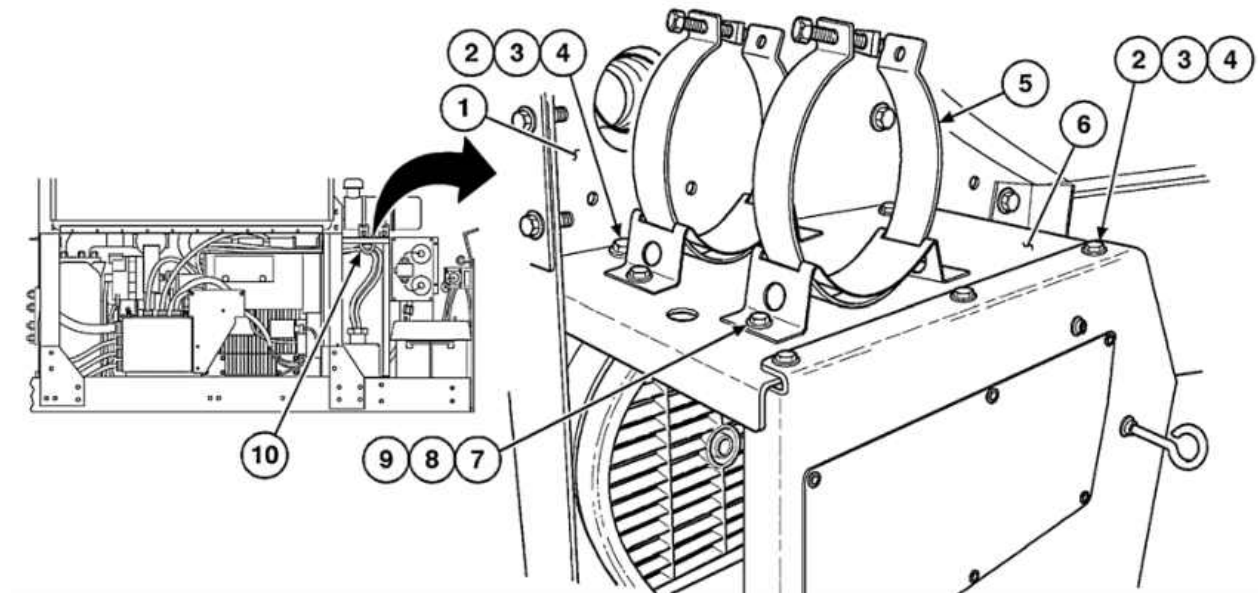
0105 00

3. Remove 6 self locking nuts (11), 12 washers (12), 6 bolts (13), and shroud (6) from engine frame (14). Discard self-locking nuts.



ENGINE FAN SHROUD INSTALLATION

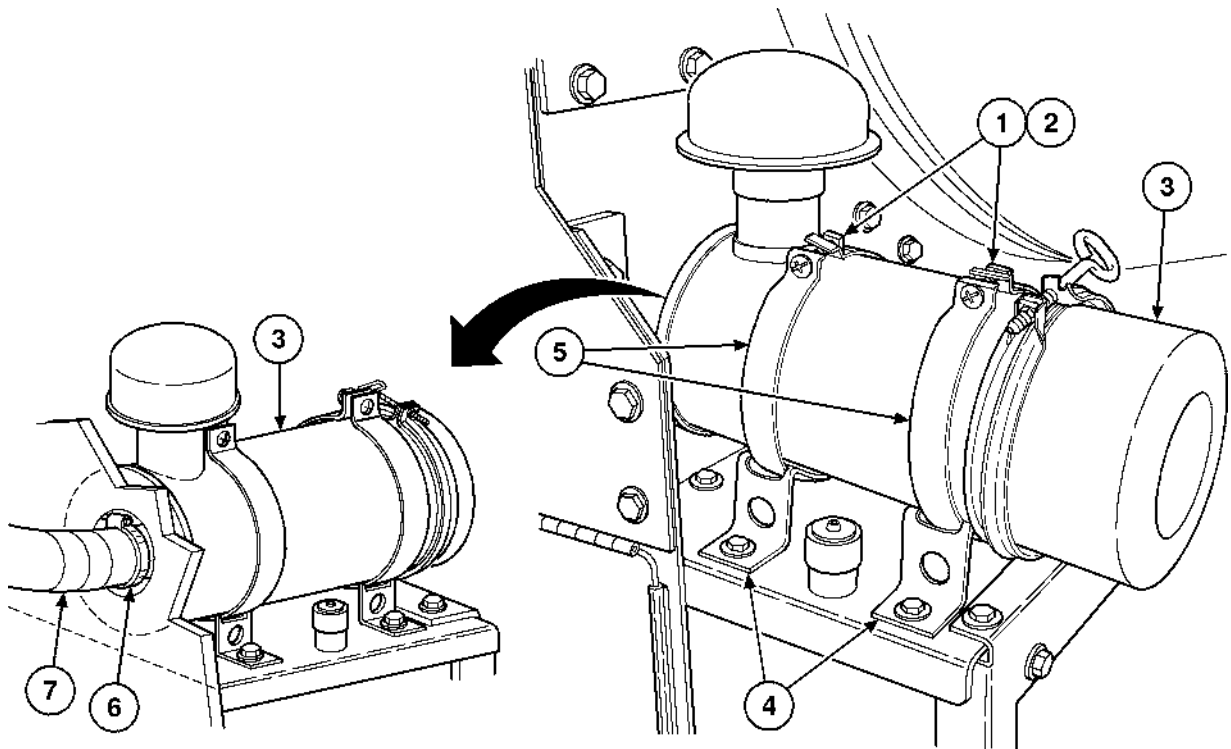
1. Install shroud (6), 6 bolts (13), 12 washers (12), and 6 new self-locking nuts (11) to frame (14).
2. Install shroud (6), three bolts (4), six washers (3), and three new self-locking nuts (2) to shield (1).
3. Install two air cleaner brackets (5), four bolts (9), eight washers (8), four new self-locking nuts (7), and three lines (10) to shroud (6).



INTAKE AIR CLEANER INSTALLATION**NOTE**

Install air filter if necessary (refer to WP 0038 00).

1. Install air cleaner (3), two clamping rings (5), nuts (2), and screws (1) to brackets (4).
2. Install air intake hose (7) and hose clamp (6) to air cleaner (3).

**FOLLOW-ON TASKS**

1. Install fuel tank (WP 0102 00).
2. Install air restriction indicator (WP 0106 00).
3. Install curbside optic socket box bracket to fan shroud (WP 0048 00).
4. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

AIR CLEANER RESTRICTION INDICATOR REPLACEMENT

0106 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

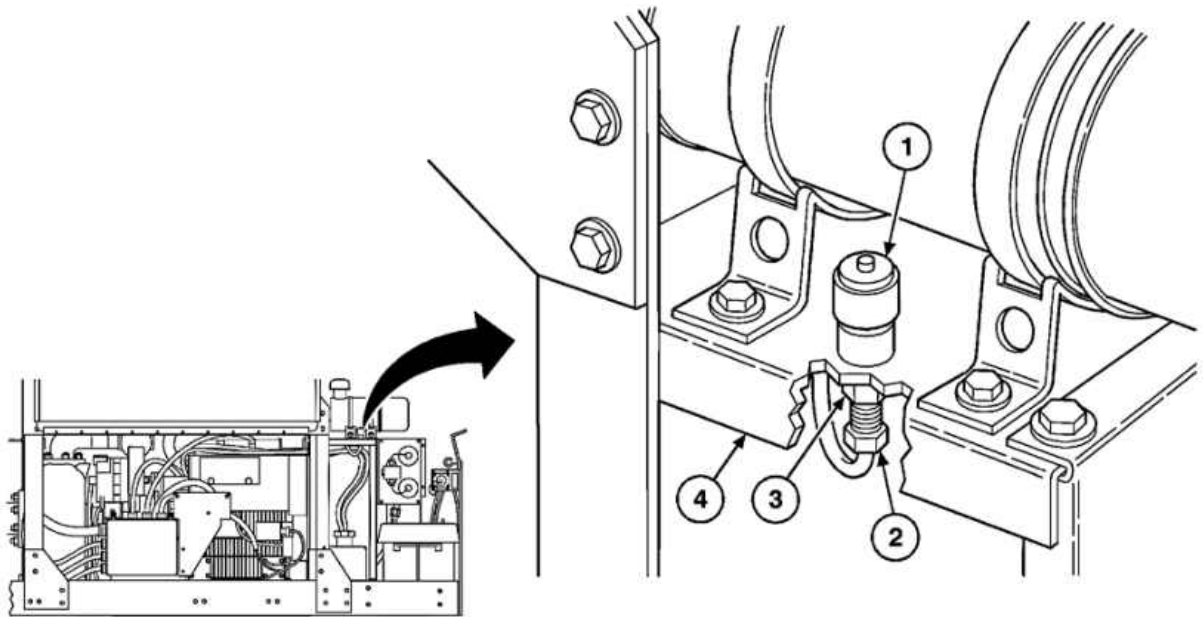
Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

REMOVAL

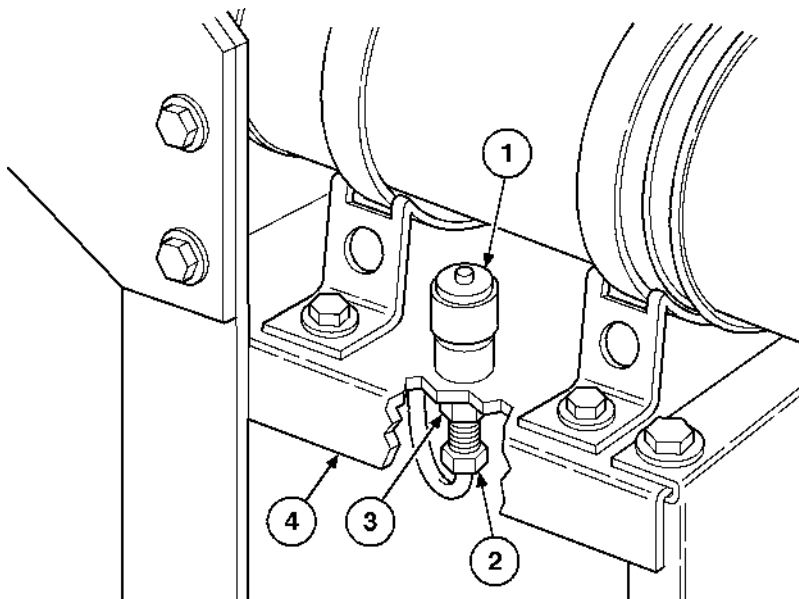
1. Loosen tube nut (2) from underside of engine shroud (4).
2. Loosen coupling nut (3) from underside of engine shroud (4) and remove air restriction indicator (1).



AIR CLEANER RESTRICTION INDICATOR REPLACEMENT—Continued

0106 00**INSTALLATION**

1. Install indicator (1) to top of engine shroud (4) and tighten coupling nut (3).
2. Tighten tube nut (2) to underside of engine shroud (4).

**FOLLOW-ON TASK**

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

AIR DUCT HOSE REPLACEMENT

0107 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

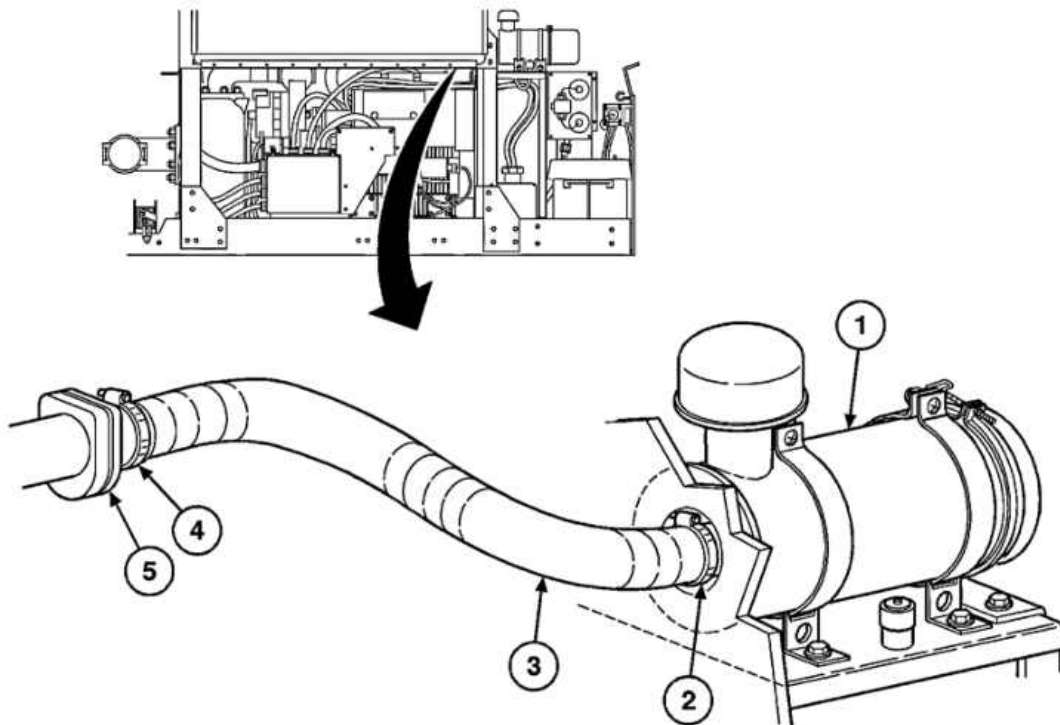
Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

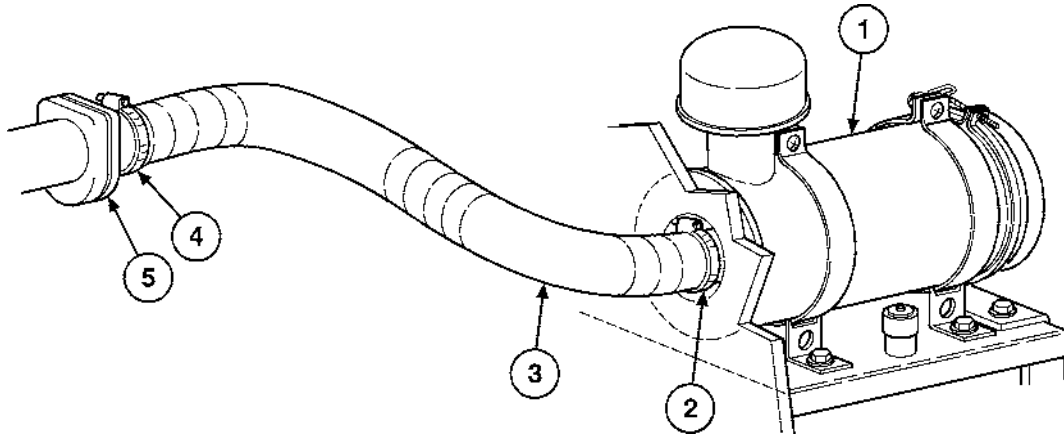
REMOVAL

1. Loosen hose clamp (2) at air cleaner (1) and disconnect air duct hose (3).
2. Loosen hose clamp (4) at air intake manifold (5) and remove air duct hose (3).



INSTALLATION

1. Connect air duct hose (3) on air intake manifold (5) and tighten hose clamp (4).
2. Install opposite end of air duct hose (3) at air cleaner (1) and tighten hose clamp (2).



FOLLOW-ON TASK

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

ENGINE THROTTLE CABLE REPLACEMENT

0108 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Cable ties (AR) (item 98, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

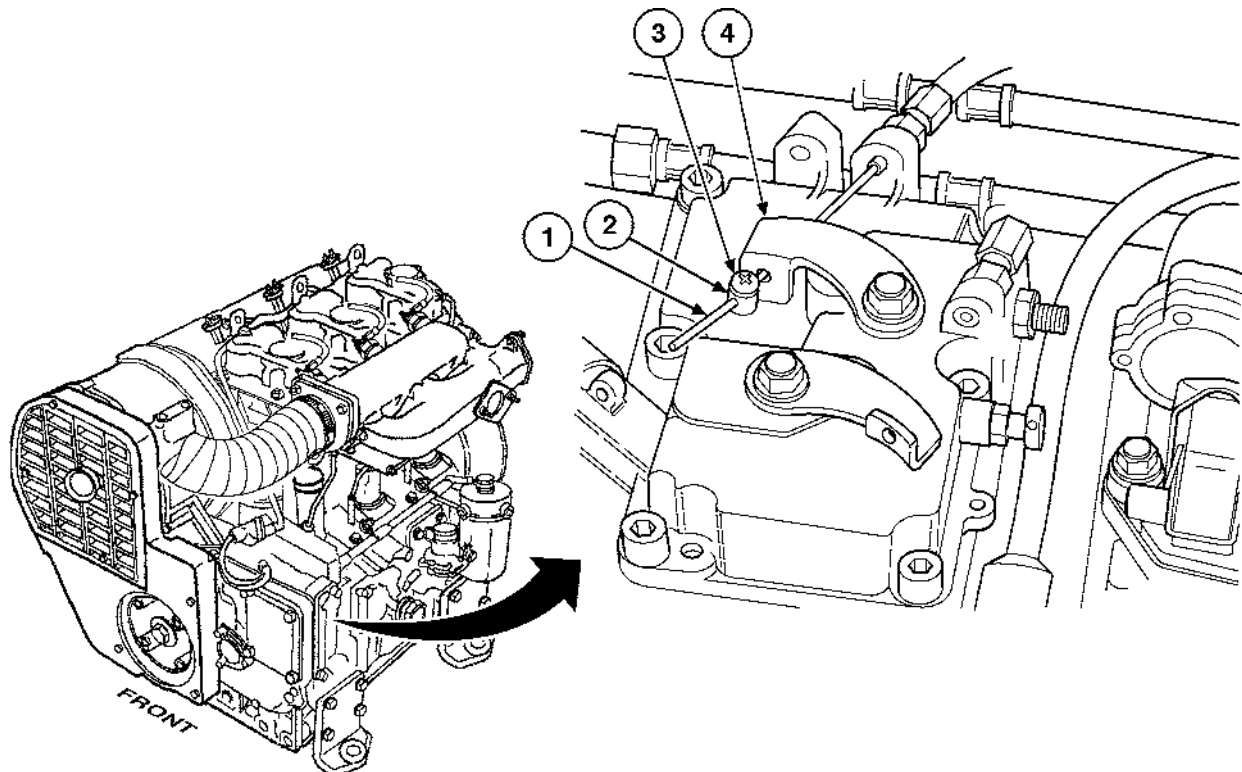
Semitrailer grounded (refer to WP 0007 00)

REMOVAL

NOTE

Remove and discard cable ties as necessary.

1. Loosen screw (3) on cable stop (2) at governor throttle lever (4) and disconnect throttle cable (1).

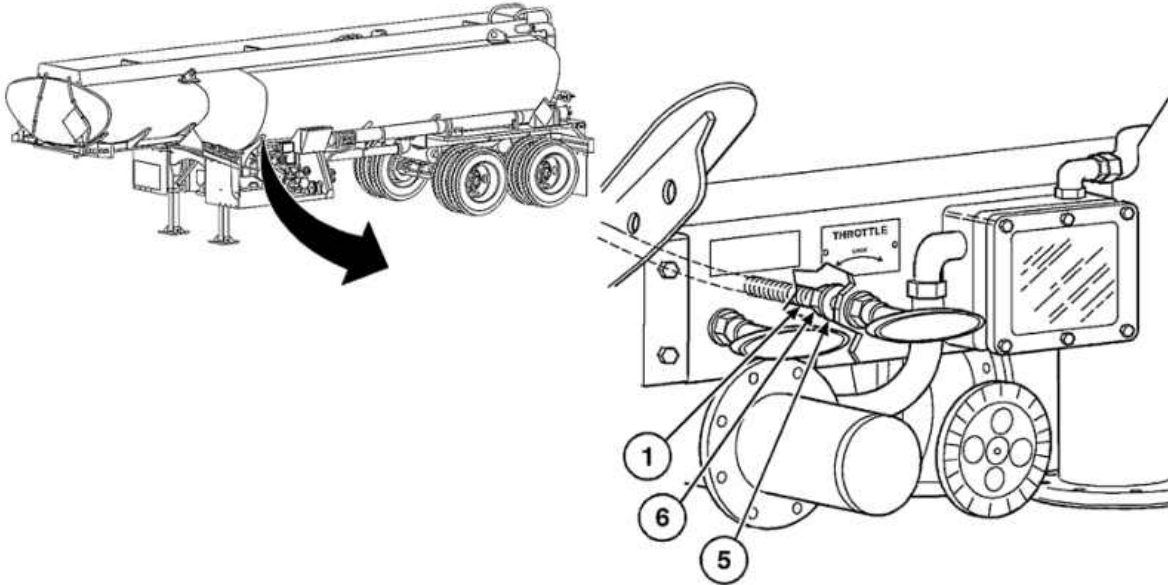


ENGINE SHOWN REMOVED FOR CLARITY

ENGINE THROTTLE CABLE REPLACEMENT—Continued

0108 00

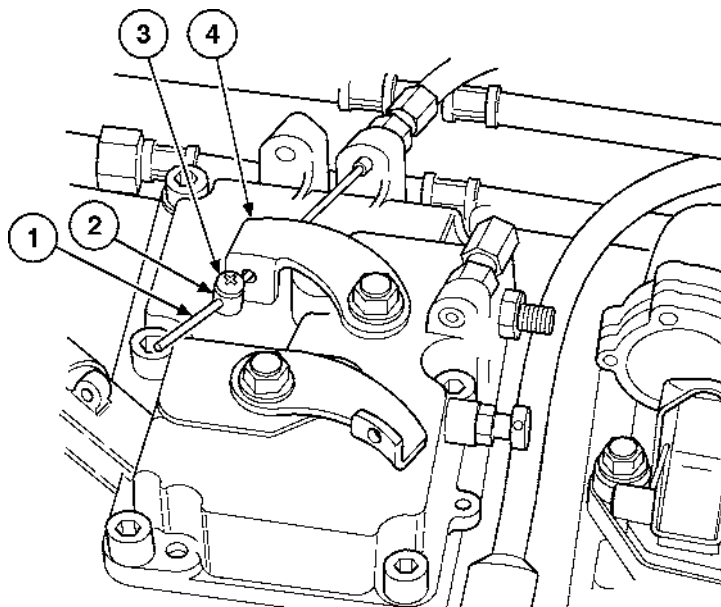
2. Remove nut (6), washer (5), and throttle cable (1).

**INSTALLATION**

1. Connect throttle cable (1) and install washer (5) and nut (6).
2. Install cable (1) through cable stop (2) at governor throttle lever (4) and tighten screw (3).

NOTE

Install new cable ties as necessary.



FOLLOW-ON TASK

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

MUFFLER AND EXHAUST PIPE REPLACEMENT

0109 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Gasket (item 49, WP 0160 00)

Self-locking nuts (2) (item 61, WP 0160 00)

Self-locking nuts (8) (item 95, WP 0160 00)

Self-locking nuts (2) (item 115, WP 0160 00)

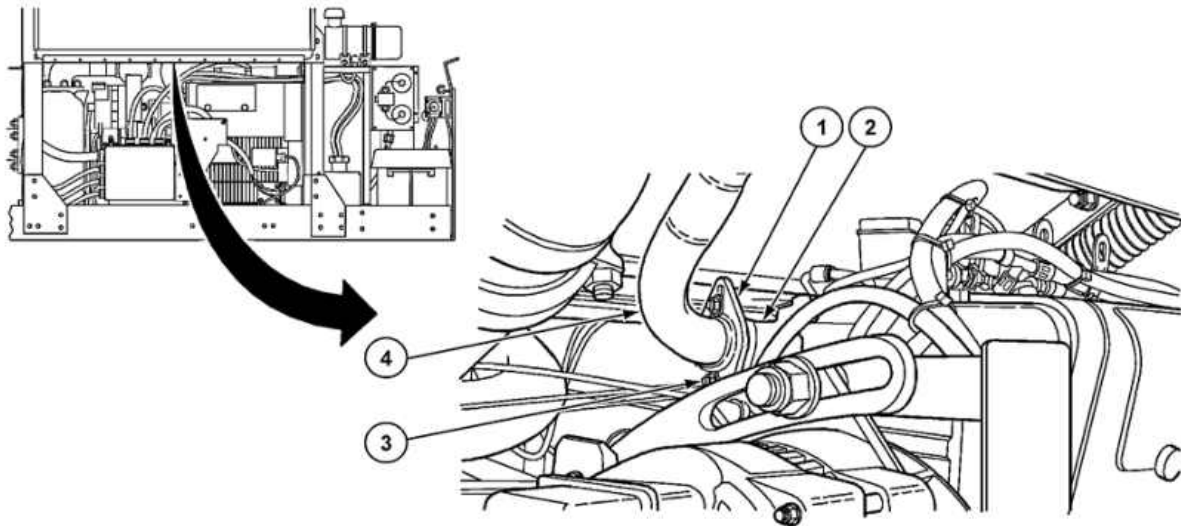
Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

REMOVAL

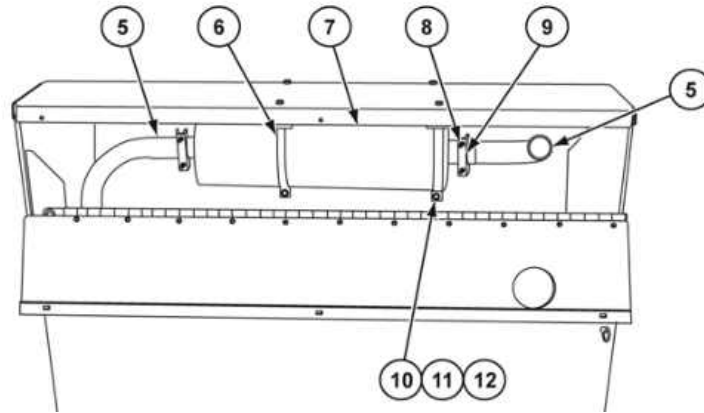
1. Remove two self-locking nuts (3) and gasket (1) from exhaust pipe (4) at exhaust manifold (2). Discard self-locking nuts and gasket.



MUFFLER AND EXHAUST PIPE REPLACEMENT—Continued

0109 00

2. Remove two self-locking nuts (10), four washers (11), two bolts (12), and muffler (7) from muffler support (5). Discard self-locking nuts.



3. Remove four nuts (8), two U-bolts (9), and exhaust pipe (5) from muffler (7).

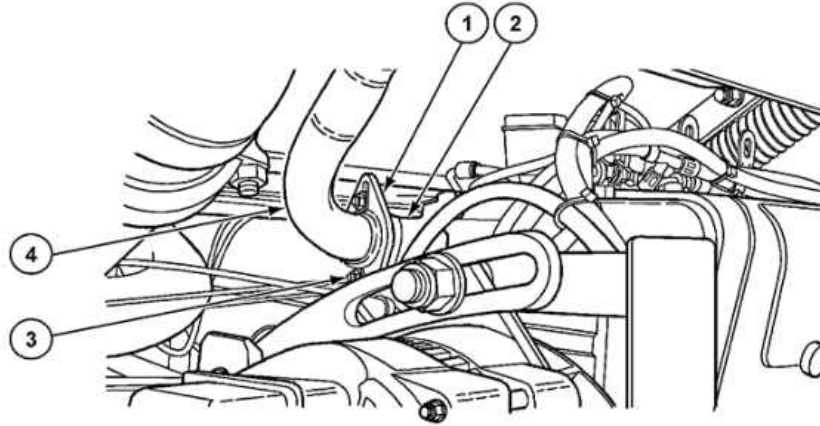
INSTALLATION

2. Install exhaust pipe (5), two U-bolts (9), and four nuts (8) to muffler (7).

MUFFLER AND EXHAUST PIPE REPLACEMENT—Continued

0109 00

2. Install muffler (6), two bolts (12), four washers (11), and two new self-locking nuts (10) to muffler support (6).



3. Install new gasket (1) and two new self-locking nuts (3) to exhaust pipe (4) at exhaust manifold (2).

FOLLOW-ON TASKS

1. Tighten curbside hose tubes (WP 0094 00)
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

ALTERNATOR AND MOUNTING BRACKET MAINTENANCE

0110 00

THIS WP COVERS:

Removal, Installation, Adjustment, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Lockwashers (3) (item 120, WP 0160 00)

Self-locking nuts (3) (item 92, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

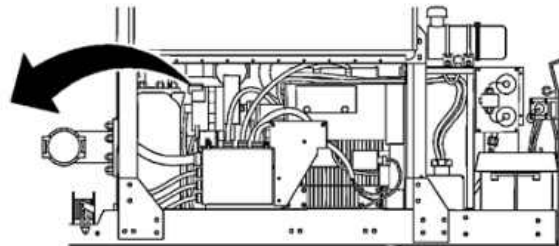
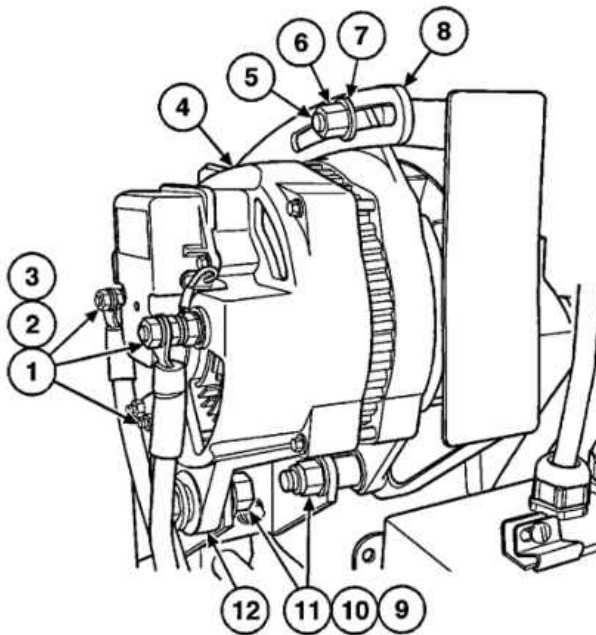
Negative terminal disconnected from battery (refer to WP 0007 00)

REMOVAL

NOTE

Tag all wires prior to disconnecting.

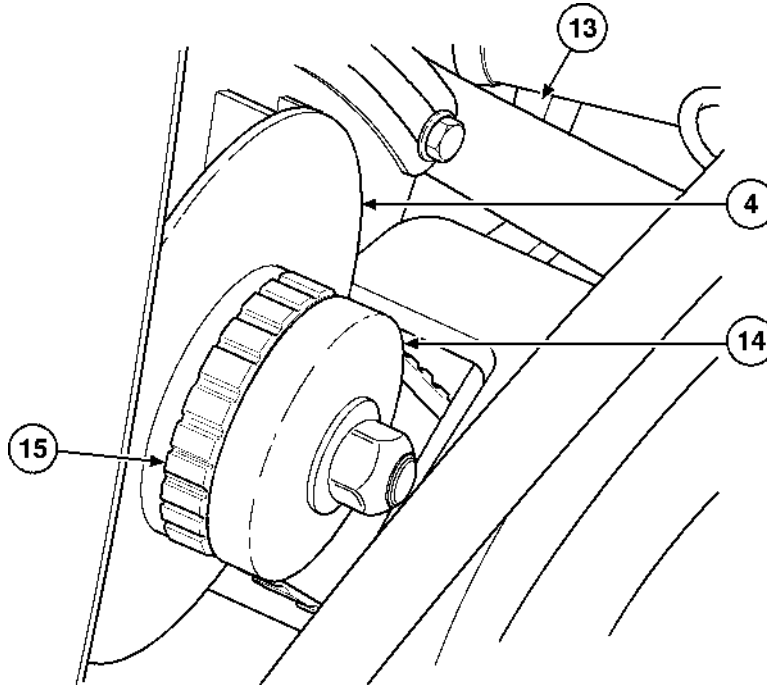
1. Remove three nuts (1), washers (2), and cables (3) from alternator (4).
2. Loosen self-locking nut (6), two washers (7), and bolt (5) at adjuster arm (8).
3. Loosen two self-locking nuts (9), six washers (10), and two bolts (11) at mounting bracket (12).



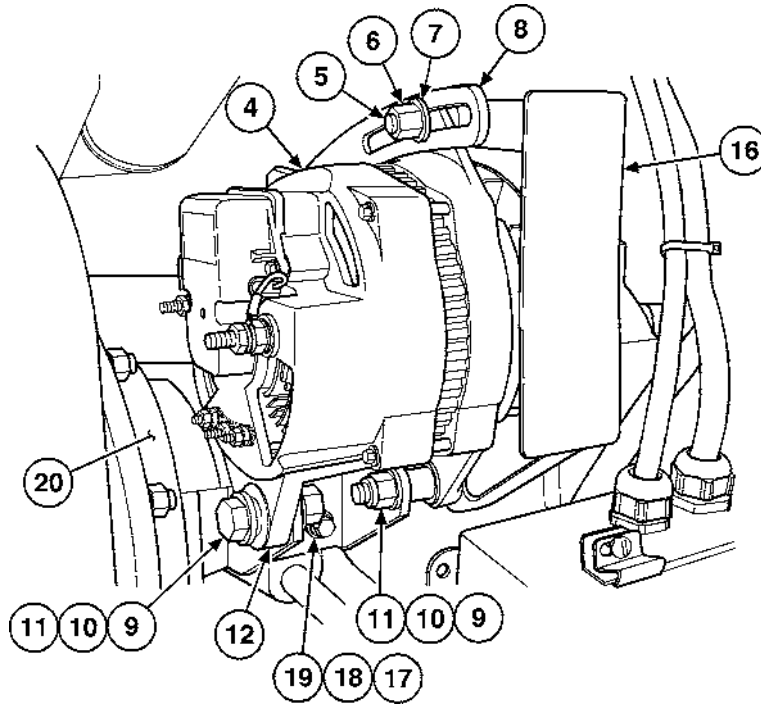
ALTERNATOR AND MOUNTING BRACKET MAINTENANCE—Continued

0110 00

4. Push alternator (4) toward engine (13) and release belt (15) from pulley (14).

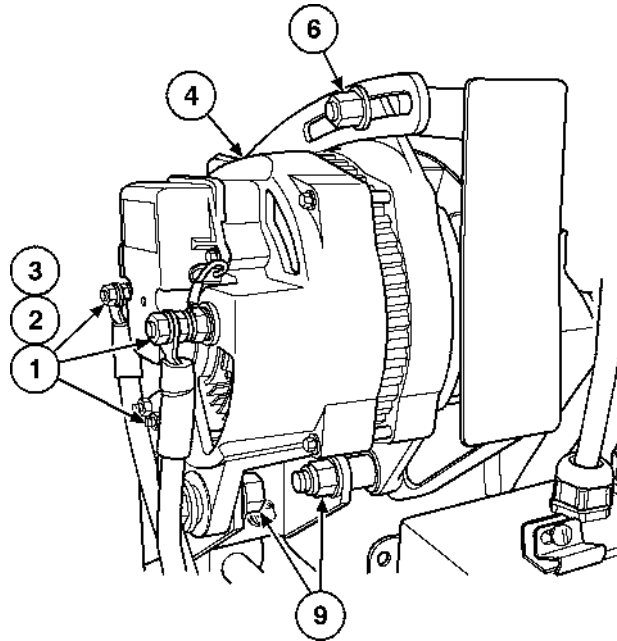


5. Remove three bolts (17), lockwashers (18), washers (19), mounting bracket (12), and alternator (4) from intermediate housing (20). Discard lockwashers.
6. Remove three self-locking nuts (9 and 6), eight washers (10 and 7), three bolts (5 and 11), alternator guard (16), mounting bracket (12), and adjuster arm (8) from alternator (4). Discard self-locking nuts.

**INSTALLATION**

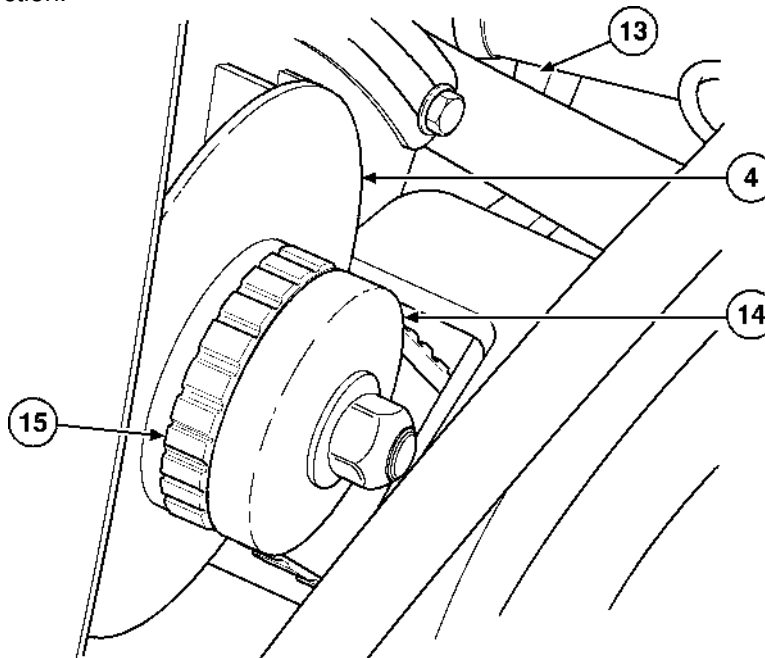
1. Install mounting bracket (12), bottom bracket of alternator guard (16), two bolts (11), six washers (10), and two new self-locking nuts (9) to alternator (4). Do not tighten.
2. Install alternator (4), mounting bracket (12), three new lockwashers (18), washers (19), and bolts (17) to intermediate housing (20).
3. Install top bracket of alternator guard (16), alternator (4), new self-locking nut (6), two washers (7), and bolt (5) to adjuster arm (8). Do not tighten.
4. Push alternator (4) toward engine (13) far enough to allow belt (15) to be installed on pulley (14).
5. Pull alternator (4) from engine (13) to apply tension to belt (15), and hand tighten nut (6) to adjuster arm (8) so alternator remains in place.

6. Install three cables (3), washers (2), and nuts (1) to alternator (4).



ADJUSTMENT

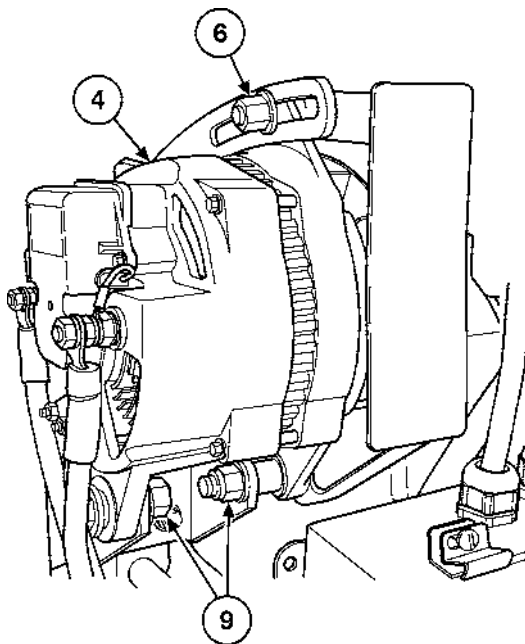
1. Loosen three nuts (6 and 9) holding alternator (4) in place.
2. Pull alternator (4) away from engine (13) until tension on belt (15) only allows 1/8 to 1/4 in. (3.2 to 6.4 mm) deflection.



ALTERNATOR AND MOUNTING BRACKET MAINTENANCE—Continued

0110 00

3. Tighten three nuts (6 and 9) to secure alternator (4) in place.

**FOLLOW-ON TASKS**

1. Reconnect negative battery terminal (WP 0007 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

ALTERNATOR DRIVE BELT REPLACEMENT

0111 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Fan belt (item 30, WP 0160 00)

Lockwashers (8) (item 44, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Negative terminal disconnected from battery (refer to WP 0007 00)

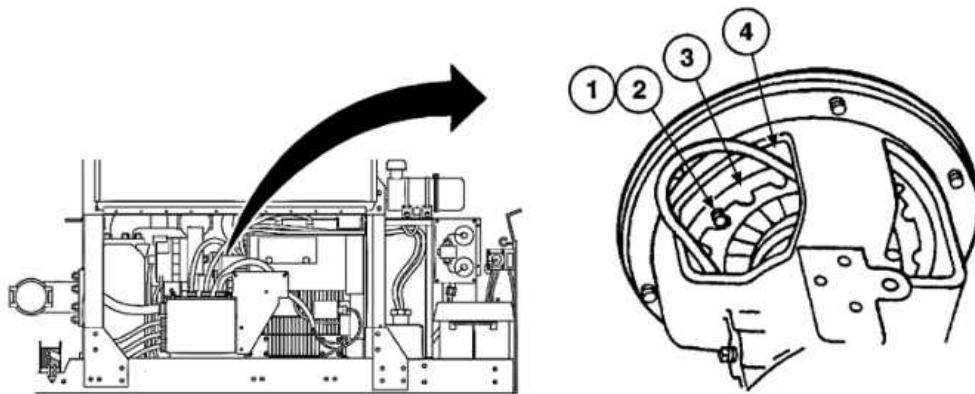
Alternator removed (refer to WP 0110 00)

REMOVAL

NOTE

It will be necessary to rotate crankshaft to access mounting screws securing flex plate to alternator drive belt pulley. Engine is turned using crankshaft pulley bolt.

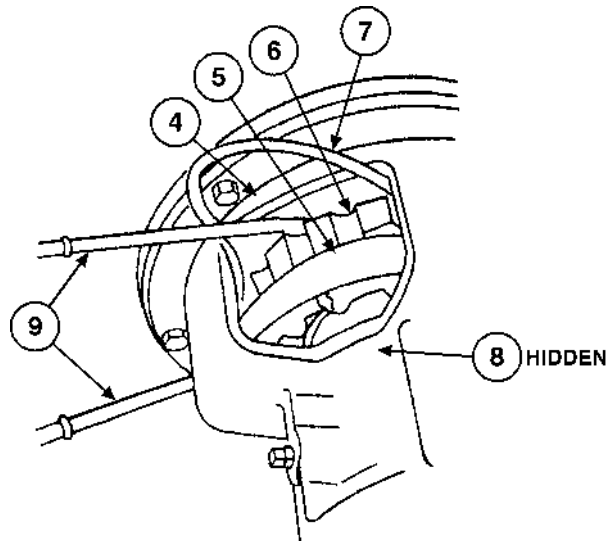
1. Remove eight screws (1) and lockwashers (2) from ring (3) and flywheel (4). Discard lockwashers.



ALTERNATOR DRIVE BELT REPLACEMENT—Continued

0111 00

2. Separate driving (5) from rubber element (6) and push driving toward rear.
3. Maneuver drivebelt (7) through driving (5) and over rubber element (6).
4. Using two pry bars (9), pry rubber element (6) from flywheel (4) and maneuver drivebelt (7) from between rubber element and flywheel.



INSTALLATION

1. Using two pry bars (9), pry rubber element (6) from flywheel (4) and maneuver drivebelt (7) down and around rubber element.
2. Maneuver drivebelt (7) over rubber element (6) and through driving (5).
3. Position drivebelt (7) on pulley (8).

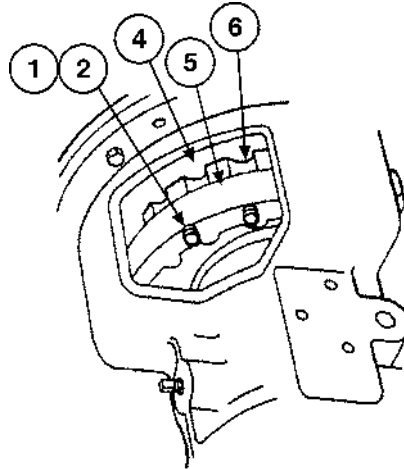
ALTERNATOR DRIVE BELT REPLACEMENT—Continued

0111 00

CAUTION

Do not fully tighten screws at this time. Screws act as guides for installing drive ring. Failure to follow this caution could result in damage to equipment.

4. Slide drivering (5) on rubber element (6).
5. Align holes of drivering (5) with mounting holes of flywheel (4) and install eight new lockwashers (2) and screws (1).
6. Alternately tighten screws (1) to 10.5 lb-ft (14.2 N•m).



FOLLOW-ON TASKS

1. Install alternator (WP 0110 00).
2. Reconnect negative battery terminal (WP 0007 00).
3. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

ENGINE ELECTRICAL BOX REPLACEMENT

0112 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Lockwashers (4) (item 138, WP 0160 00)
Self-locking nuts (6) (item 23, WP 0160 00)
Starwashers (2) (item 101, WP 0160 00)

Equipment Conditions

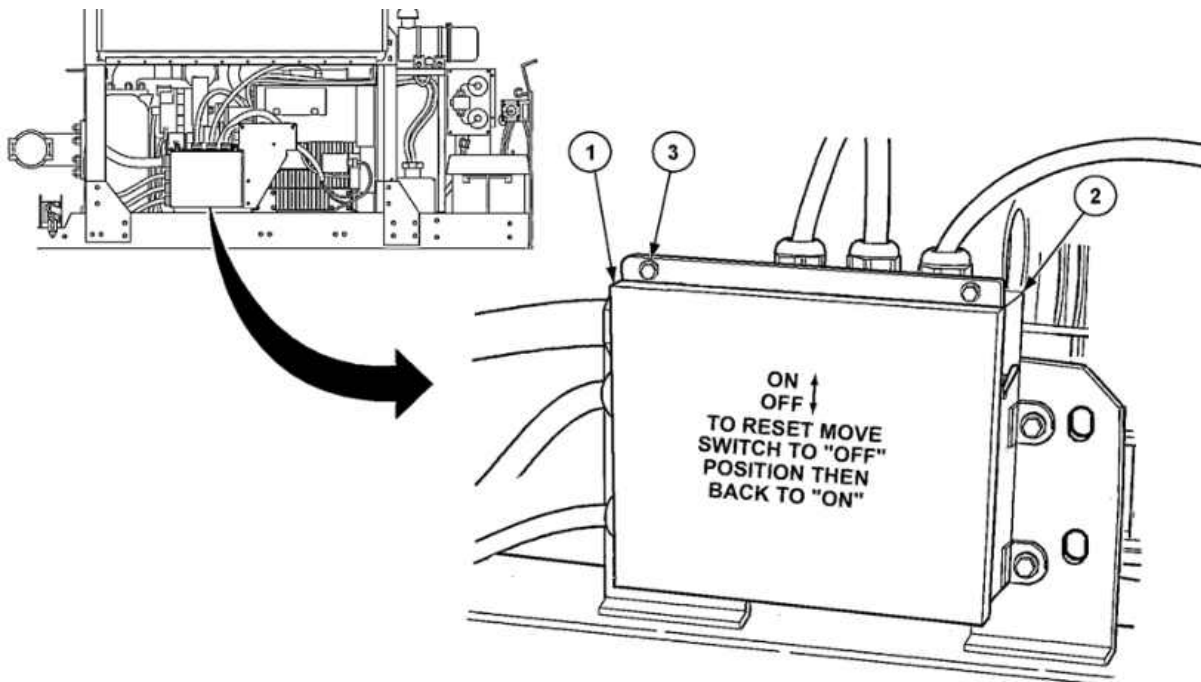
Semitrailer disconnected from prime mover (refer to WP 0007 00)
Semitrailer grounded (refer to WP 0007 00)
Negative terminal disconnected from battery (refer to WP 0007 00)

REMOVAL

NOTE

Tag all wires and conduits prior to disconnecting.

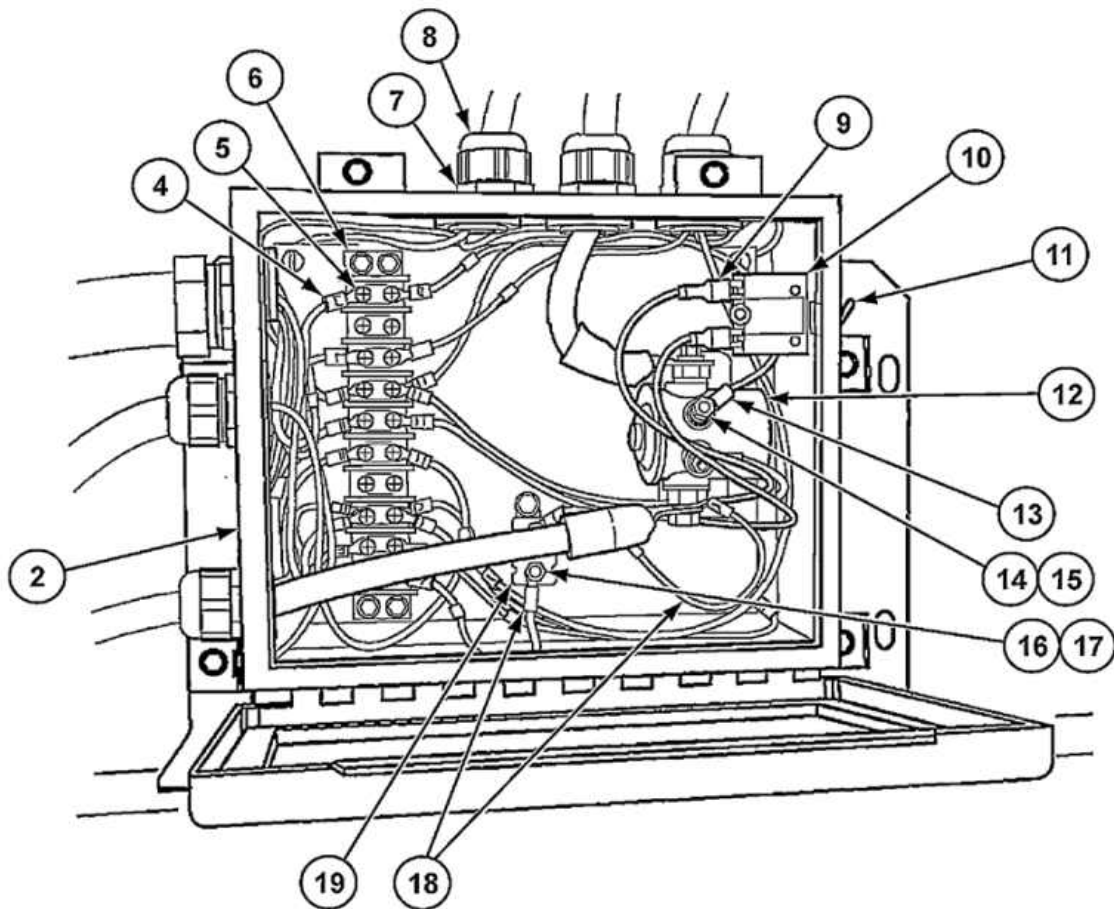
1. Loosen two screws (3) at top of engine electrical control box (2) and lower front cover (1).



ENGINE ELECTRICAL BOX REPLACEMENT—Continued

0112 00

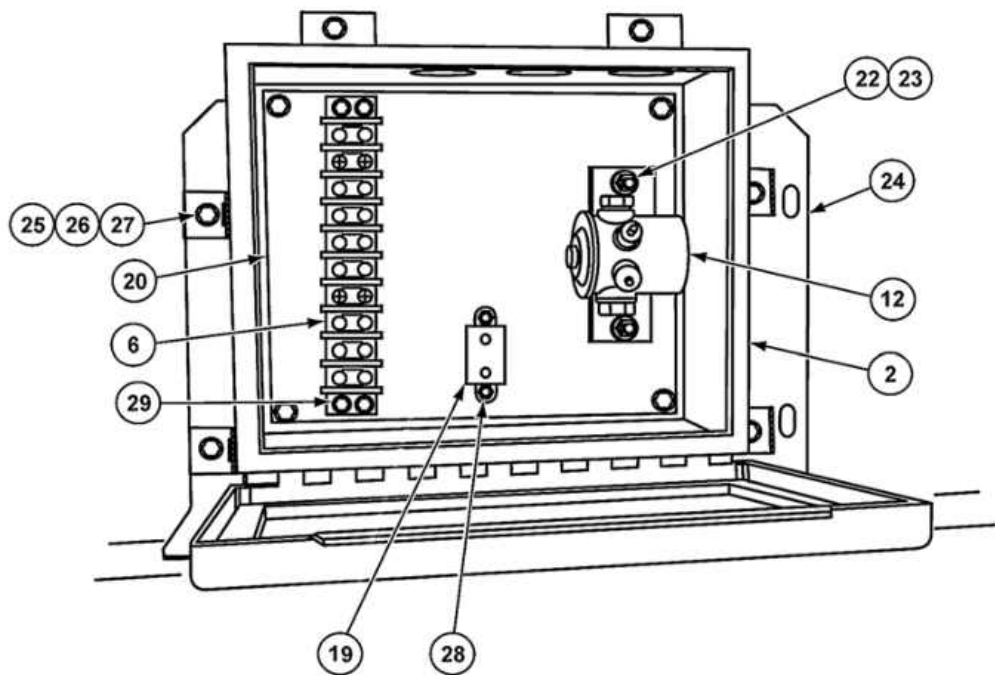
2. Remove two nuts (16), starwashers (17), and wires (18) from circuit breaker (19). Discard starwashers.
3. Remove four nuts (14), lockwashers (15), and five wires (13) from solenoid (12). Discard lockwashers.
4. Remove two connectors (9), circuit breaker (10), and nut (11).
5. Remove 16 screws (5) and 22 wires (4) from busbar (6).
6. Remove six nuts (7) and conduits (8) from control box (2).



ENGINE ELECTRICAL BOX REPLACEMENT—Continued

0112 00

7. Remove four screws (29) and busbar (6) from control box (2).
8. Remove two nuts (28) and circuit breaker (19) from control box (2).
9. Remove two self-locking nuts (22), washers (23), and solenoid (12) from control box (2). Discard self-locking nuts.
10. Remove two self-locking nuts (25), four washers (26), and two screws (27) from bracket (24).
11. Remove control box (2) from bracket (24).

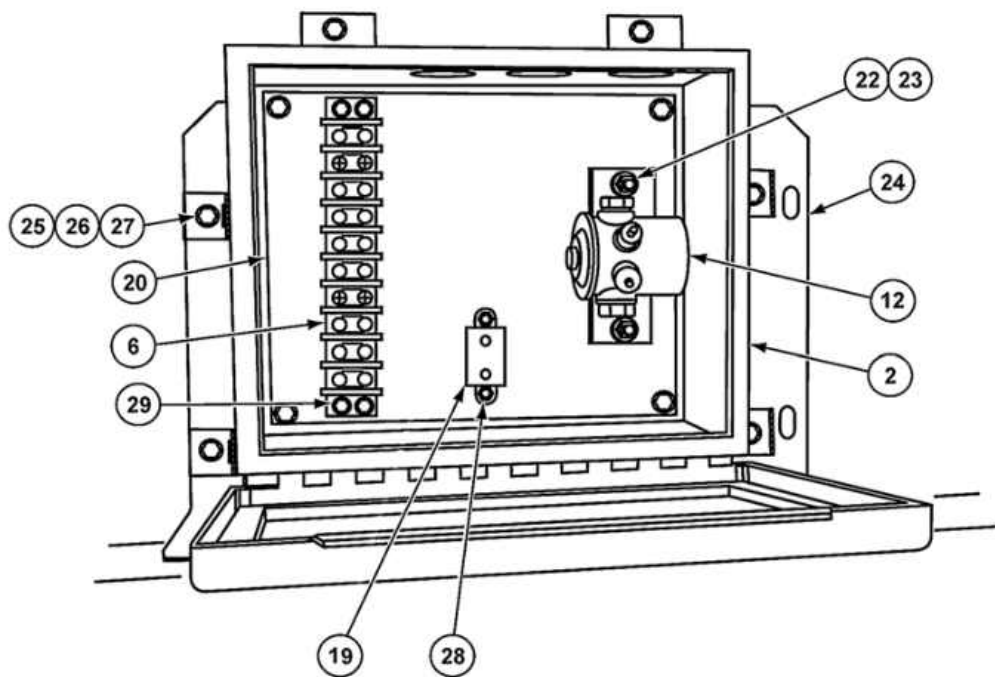


ENGINE ELECTRICAL BOX REPLACEMENT—Continued

0112 00

INSTALLATION

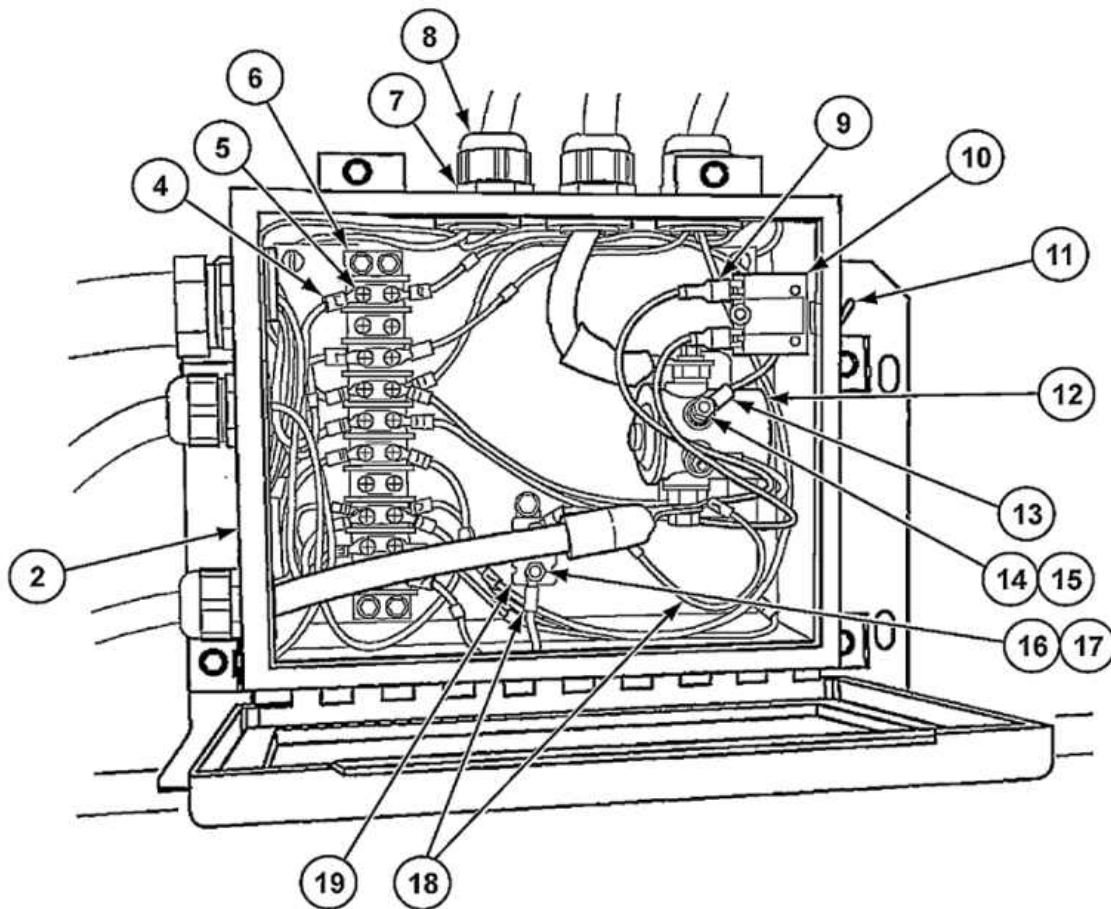
1. Place control box (2), on bracket (24).
2. Install two screws (27), four washers (26), and two new self-locking nuts (25) to bracket (24).
3. Install solenoid (12), two washers (23), and new self-locking nuts (22) to control box (2).
4. Install circuit breaker (19) and two nuts (28) to control box (2).
5. Install busbar (6) and four screws (29) to control box (2).



ENGINE ELECTRICAL BOX REPLACEMENT—Continued

0112 00

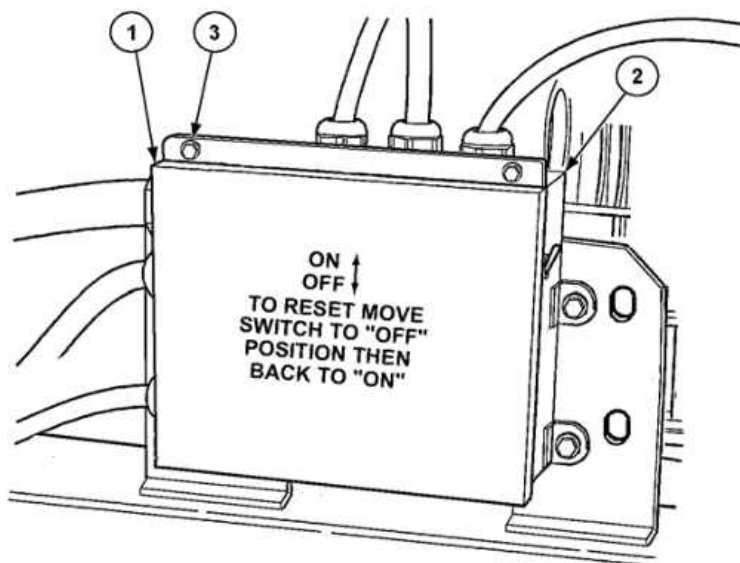
6. Install six conduits (8) and nuts (7) to control box (2).
7. Install 22 wires (4) and 16 screws (5) to busbar (6).
8. Install nut (11), circuit breaker (10), and two connectors (9).
9. Install five wires (13), four new lockwashers (15), and nuts (14) to solenoid (12).
10. Install two wires (18), new starwashers (17), and nuts (16) to circuit breaker (19).



ENGINE ELECTRICAL BOX REPLACEMENT—Continued

0112 00

11. Close control box (2) front cover (1) and tighten two screws (3).

**FOLLOW-ON TASKS**

1. Reconnect negative battery terminal (WP 0007 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

STARTER REPLACEMENT

0113 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Lockwasher (item 123, WP 0160 00)

Lockwashers (2) (item 139, WP 0160 00)

Self-locking nuts (2) (item 88, WP 0160 00)

Equipment Conditions

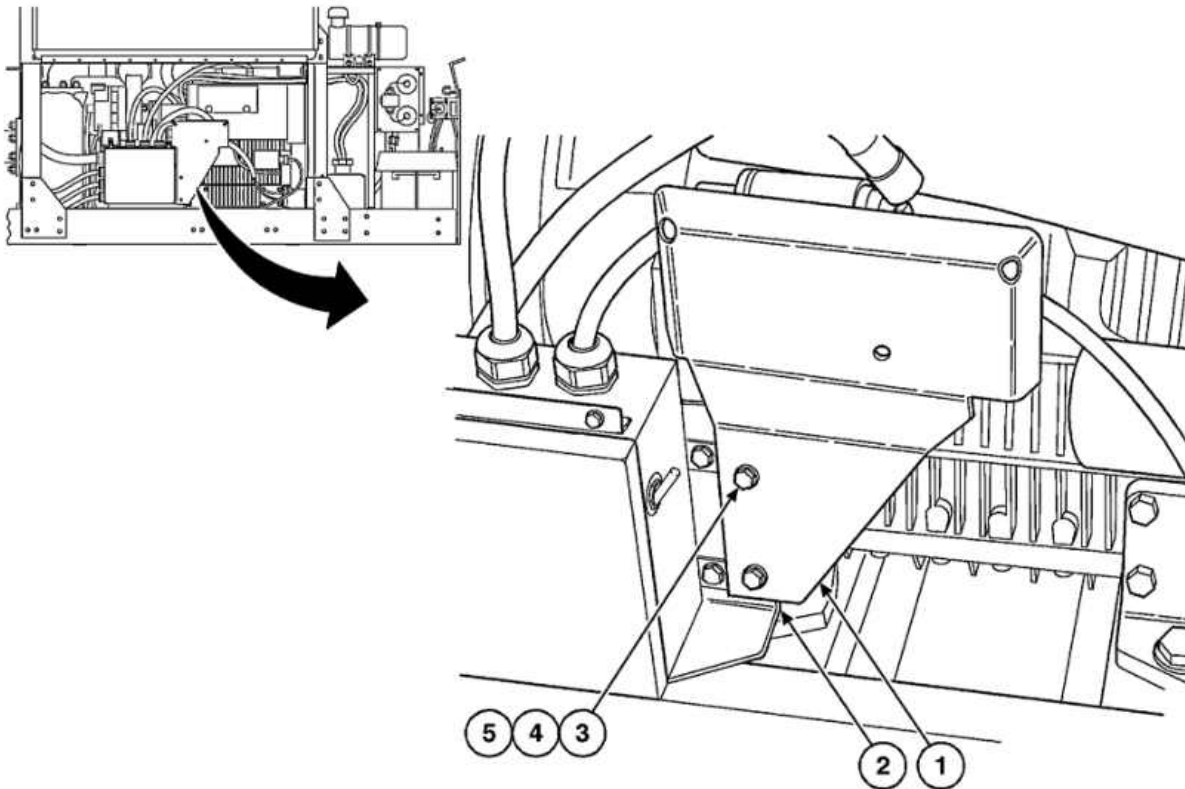
Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Negative terminal disconnected from battery (refer to WP 0007 00)

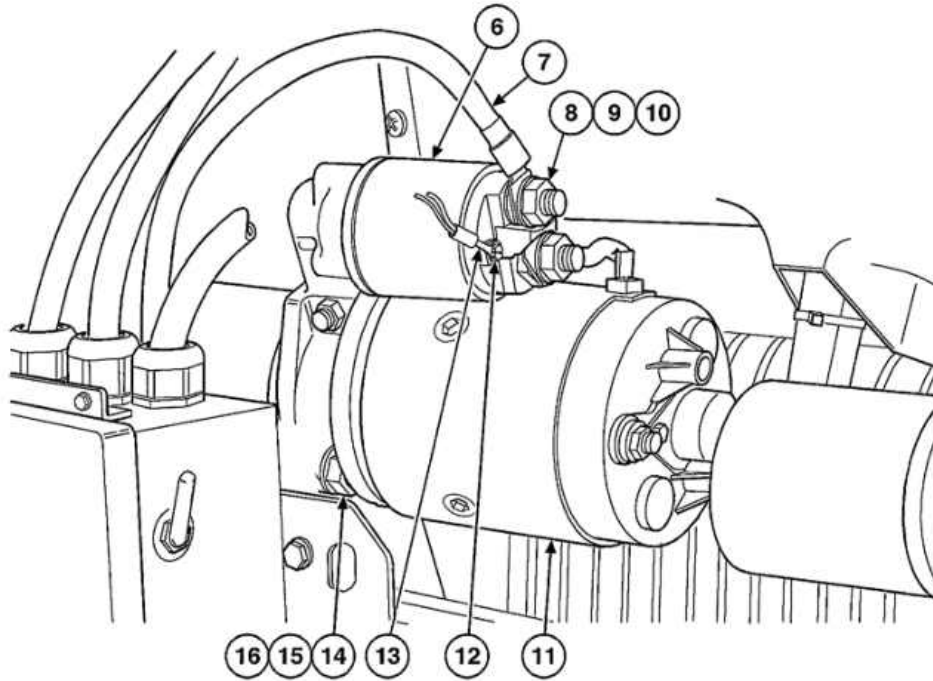
REMOVAL

1. Remove two self-locking nuts (3), four washers (4), two bolts (5), and shroud (1) from bracket (2). Discard self-locking nuts.



STARTER REPLACEMENT—Continued**0113 00**

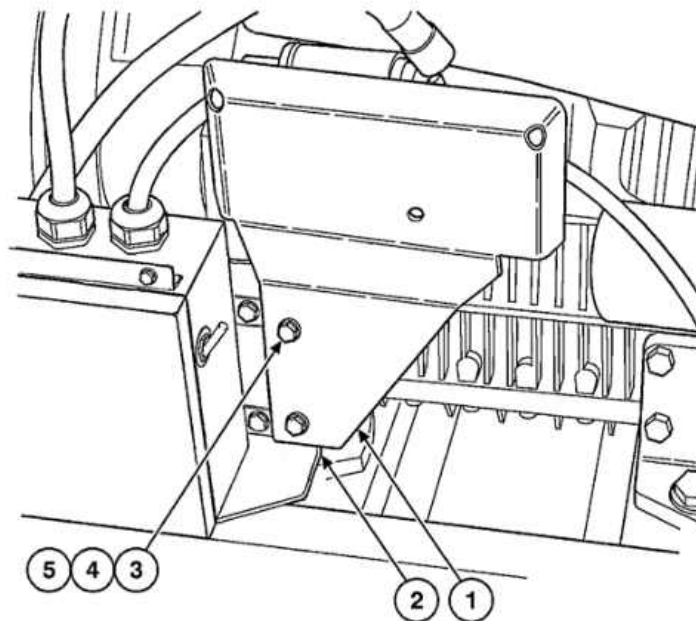
2. Remove nut (8), washer (9), lockwasher (10), and wire (7) from solenoid (6). Discard lockwasher.
3. Remove screw (12) and electrical connector (13) from solenoid (6).
4. Remove two nuts (14), lockwashers (15), and starter (11) from studs (16). Discard lockwashers.

**INSTALLATION**

1. Install starter (11), two new lockwashers (15), and nuts (14) to studs (16).
2. Install electrical connector (13) and screw (12) to solenoid (6).
3. Install wire (7), new lockwasher (10), washer (9), and nut (8) to solenoid (6).
4. Install shroud (1), two bolts (5), four washers (4), and two new self-locking nuts (3) to bracket (2).

STARTER REPLACEMENT—Continued

0113 00



FOLLOW-ON TASKS

1. Reconnect negative battery terminal (WP 0007 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

ENGINE CONTROL PANEL MAINTENANCE

0114 00

THIS WP COVERS:

Removal, Inspection, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Compound, silicone (item 6, WP 0159 00)
 Lockwashers (2) (item 6, WP 0160 00)
 Lockwashers (3) (item 25, WP 0160 00)
 Self-locking nut (item 6, WP 0160 00)
 Self-locking nuts (2) (item 11, WP 0160 00)
 Self-locking nuts (2) (item 12, WP 0160 00)
 Self-locking nuts (2) (item 46, WP 0160 00)
 Self-locking nuts (4) (item 116, WP 0160 00)
 Self-locking nuts (4) (item 117, WP 0160 00)
 Starwashers (5) (item 7, WP 0160 00)
 Rivets (4) (item 96, WP 0160 00)
 Teflon nuts (6) (item 47, WP 0160 00)

Equipment Conditions

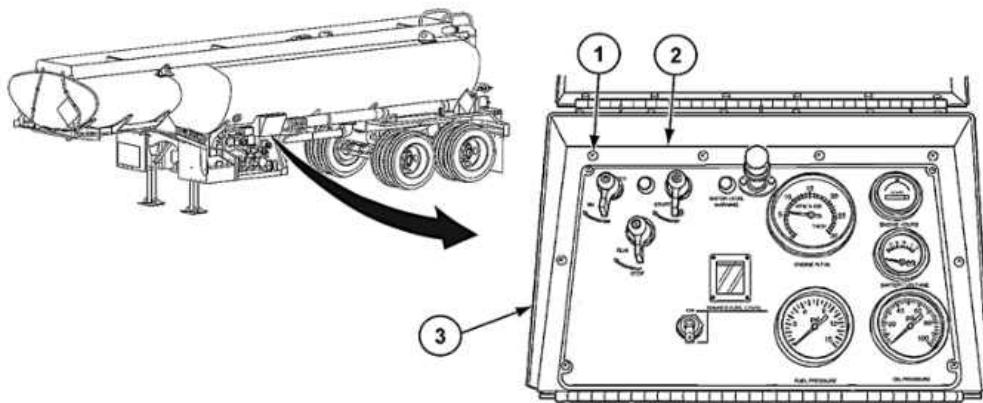
Semitrailer disconnected from prime mover (refer to WP 0007 00)
 Semitrailer grounded (refer to WP 0007 00)
 Negative terminal disconnected from battery (refer to WP 0007 00)

REMOVAL

NOTE

Tag all wires and hoses prior to disconnecting.

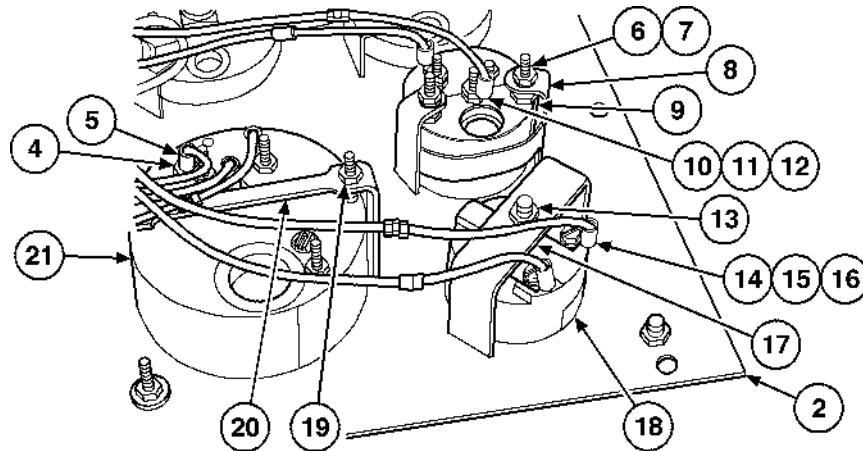
1. Remove six screws (1) from control panel frame (3) and pull control panel (2) down.



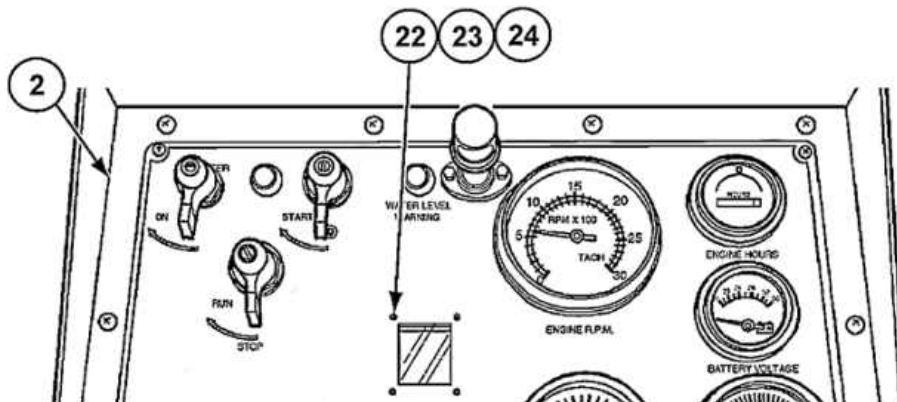
ENGINE CONTROL PANEL MAINTENANCE—Continued

0114 00

2. Remove two screws (14), lockwashers (15), and disconnect two wires (16) from engine hourmeter (18). Discard lockwasher.
3. Remove self-locking nut (13), bracket (17), and hourmeter (18) from control panel (2). Discard self-locking nut.
4. Remove two screws (10), starwashers (11), and disconnect wires (12) from voltmeter (9). Discard starwashers.
5. Remove two nuts (6), starwashers (7), bracket (8), and voltmeter (9) from control panel (2). Discard starwashers.
6. Remove three nuts (4) and disconnect wires (5) from tachometer (21).
7. Remove two self-locking nuts (19), bracket (20), and tachometer (21) from control panel (2). Discard self-locking nuts.



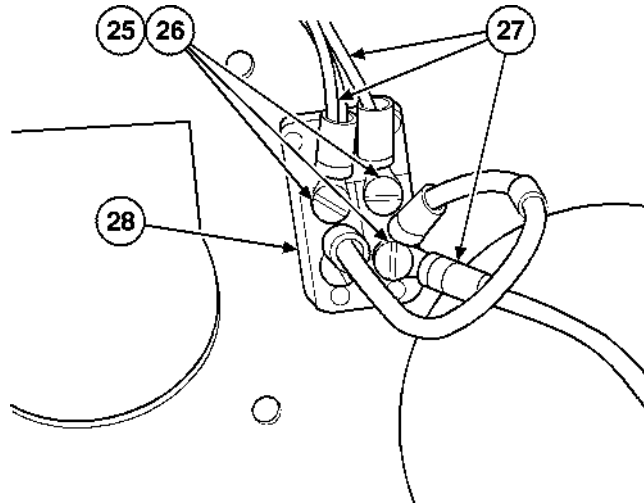
8. Remove four Allen head screws (22), washers (23), and bezel (24) from front of control panel (2).



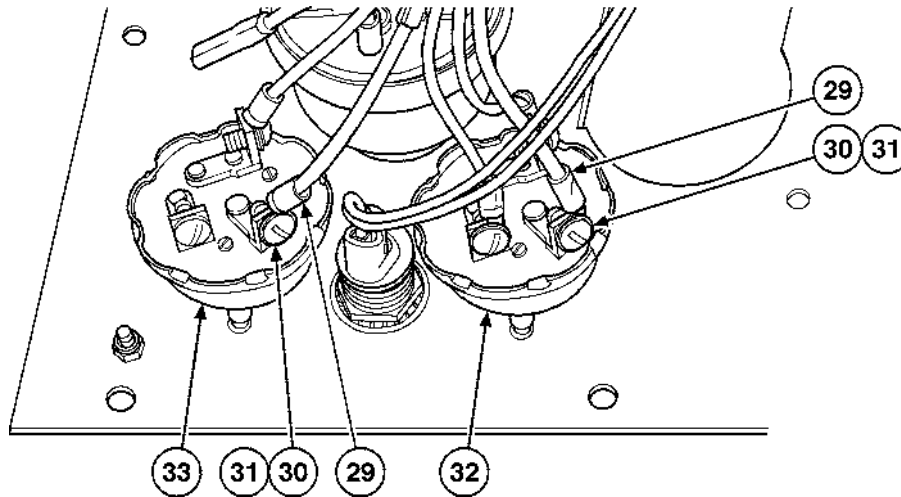
ENGINE CONTROL PANEL MAINTENANCE—Continued

0114 00

9. Remove three screws (25), washers (26), and wires (27) from fuel level switch (28).



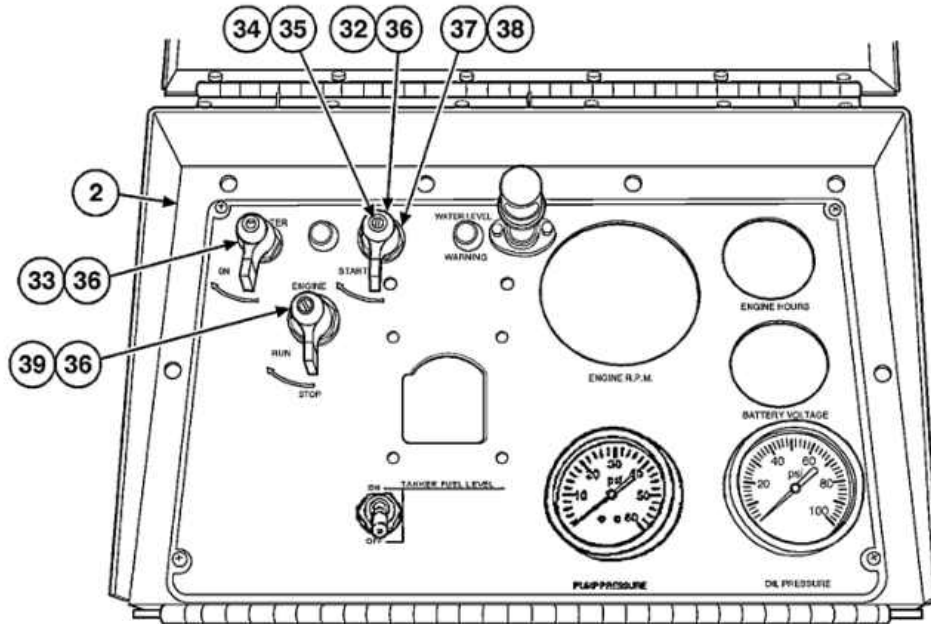
10. Remove five screws (30), washers (31), and disconnect electrical connectors (29) from engine starter (32) and engine preheat switch (33).



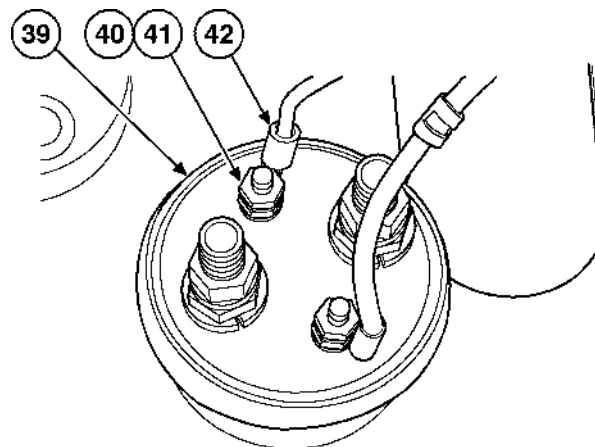
ENGINE CONTROL PANEL MAINTENANCE—Continued

0114 00

11. Remove three screws (34), lockwashers (35), and toggles (36) from control panel (2). Discard lockwashers.
12. Remove three nuts (37) and nine washers (38) from engine starter (32), engine preheat switch (33), and engine run/stop switch (39).



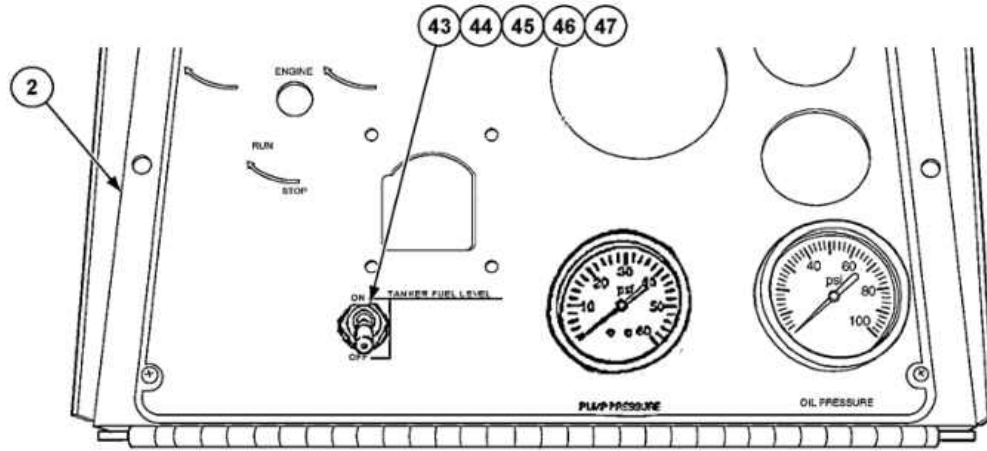
13. Remove two nuts (40), four washers (41), and electrical connectors (42) from engine run/stop switch (39).



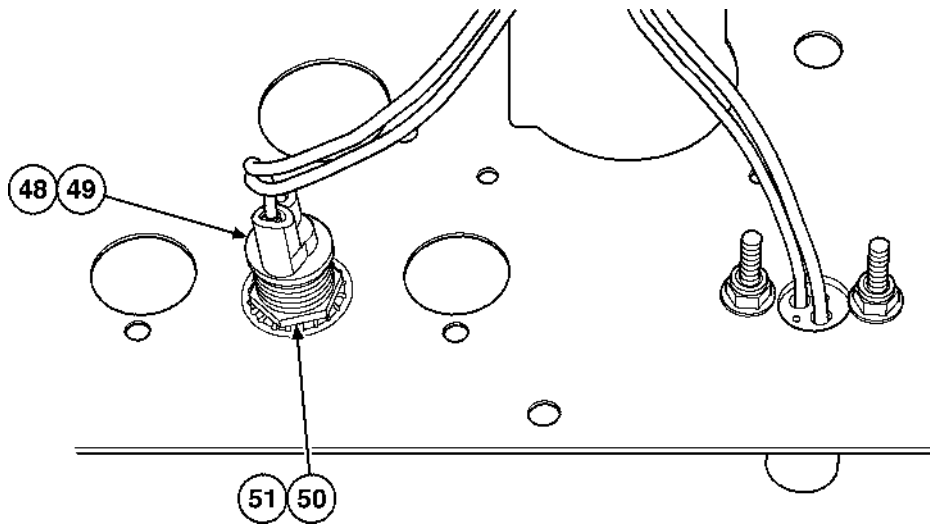
ENGINE CONTROL PANEL MAINTENANCE—Continued

0114 00

14. Remove nut (43), washer (44), nut (45), washer (46), and switch (47) from control panel (2).



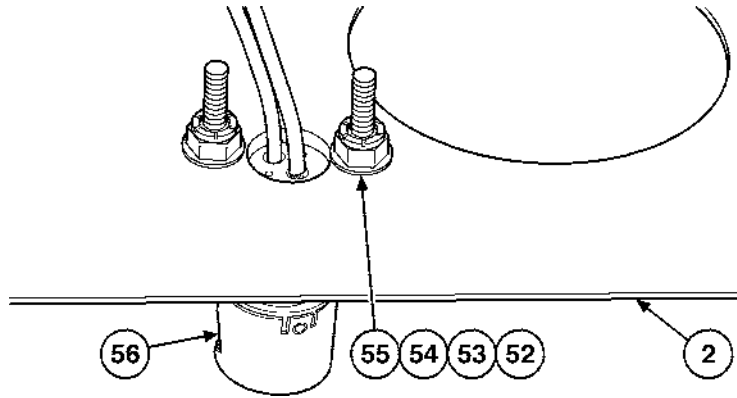
15. Remove indicator light (48), nut (50), starwasher (51), and indicator light assembly (49). Discard starwasher.



ENGINE CONTROL PANEL MAINTENANCE—Continued

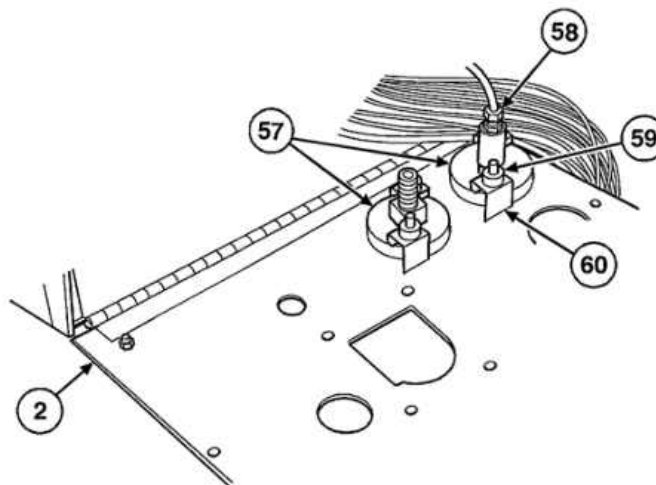
0114 00

16. Remove two self-locking nuts (52), washers (53), screws (54), bracket (55), and socket (56) from control panel (2). Discard self-locking nuts.

**NOTE**

Place drain pan or suitable container under control panel to catch fuel and oil spilled from disassembly of hoses.

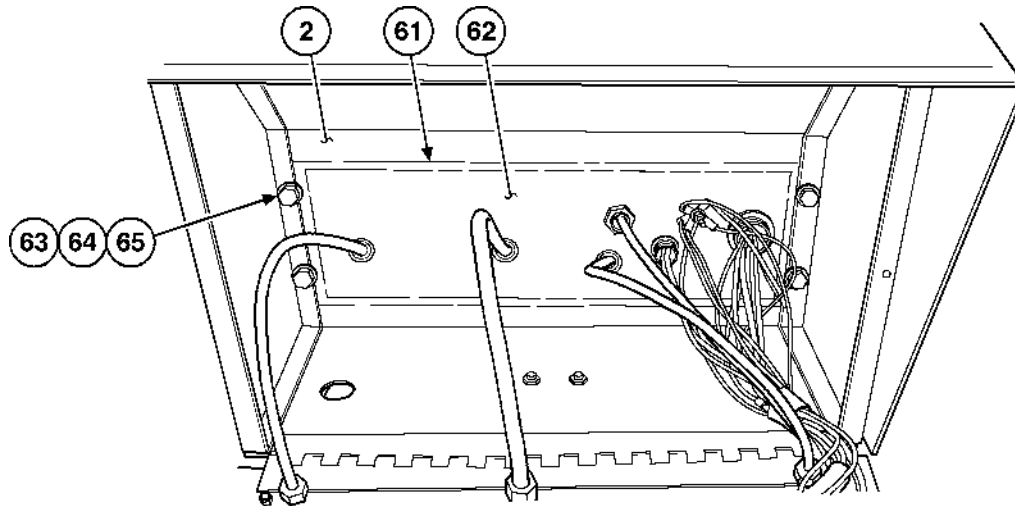
17. Remove two hose fittings (58) from three gages (57).
18. Remove four teflon nuts (59), brackets (60), and two gages (57) from control panel (2). Discard teflon nuts.



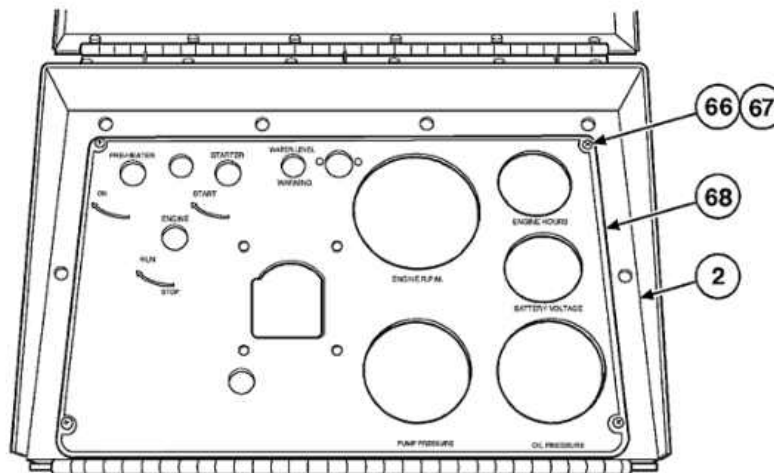
ENGINE CONTROL PANEL MAINTENANCE—Continued

0114 00

19. Remove silicone bead (61) from edges of cutout (62) at control panel rear (2). Discard silicone.
20. Remove four self-locking nuts (63), eight washers (64), four bolts (65), and control panel (2) from semitrailer. Discard self-locking nuts.



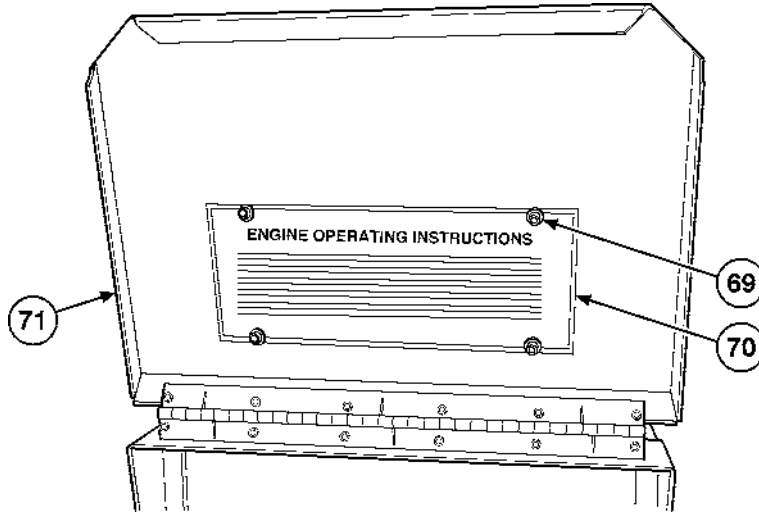
21. Remove four self-locking nuts (66), screws (67), and control panel plate (68) from control panel (2). Discard self-locking nuts.



ENGINE CONTROL PANEL MAINTENANCE—Continued

0114 00

22. Remove four rivets (69) and engine operating instruction plate (70) from control panel lid (71). Discard rivets.

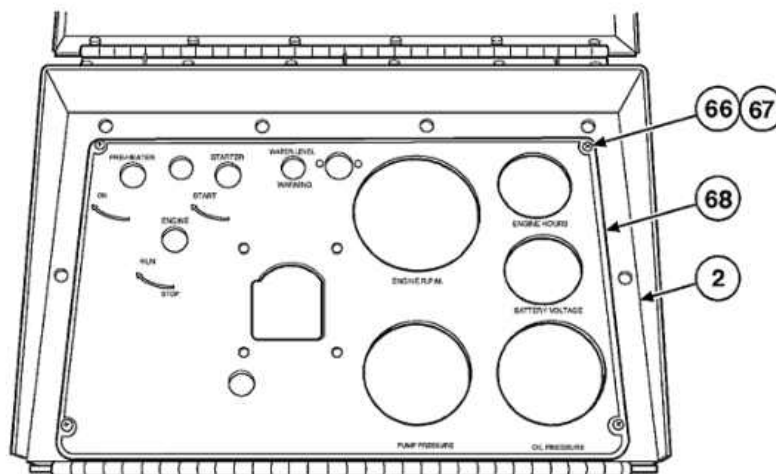


INSPECTION

Check all instruments for broken glass, damaged or broken terminals, corrosion, and damage to cases and tubes. Replace damaged instrumentation. Check wiring for fraying, breaks or damaged insulation. Check hoses for leaks, tears or other damage. Replace damaged wiring or hoses.

INSTALLATION

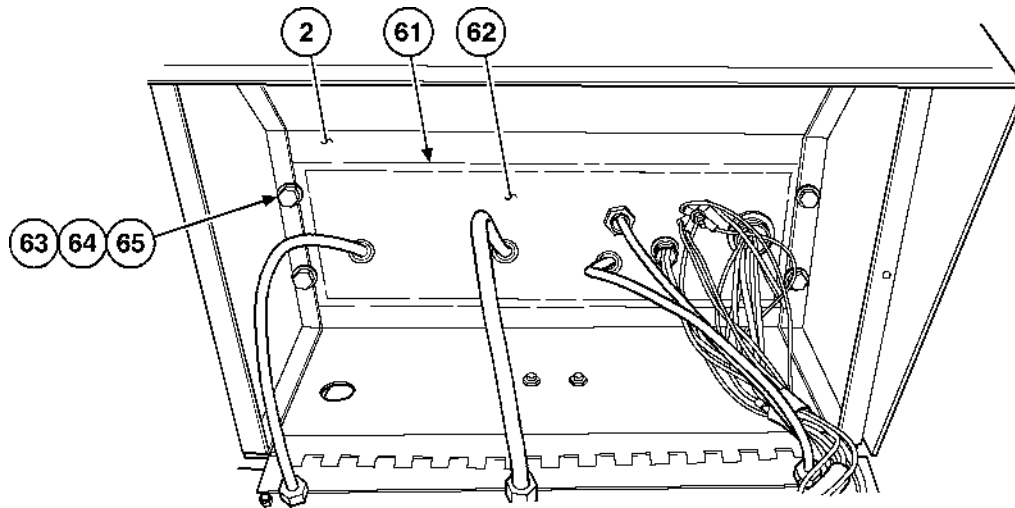
1. Install engine operating instruction plate (70) and four new rivets (69) to control panel lid (71).
2. Install control panel plate (68), four screws (67), and new self-locking nuts (66) to control panel (2).



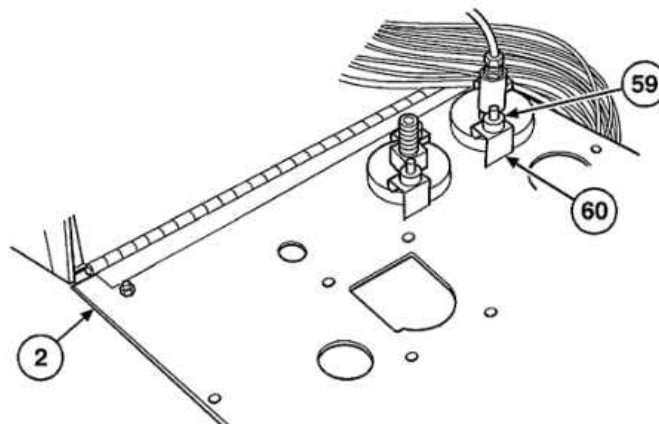
ENGINE CONTROL PANEL MAINTENANCE—Continued

0114 00

3. Install control panel (2), four bolts (65), eight washers (64), and four new self-locking nuts (63) to semitrailer.
4. Apply new silicone bead (61) to back surface of cutout (62) at the control panel rear (2).



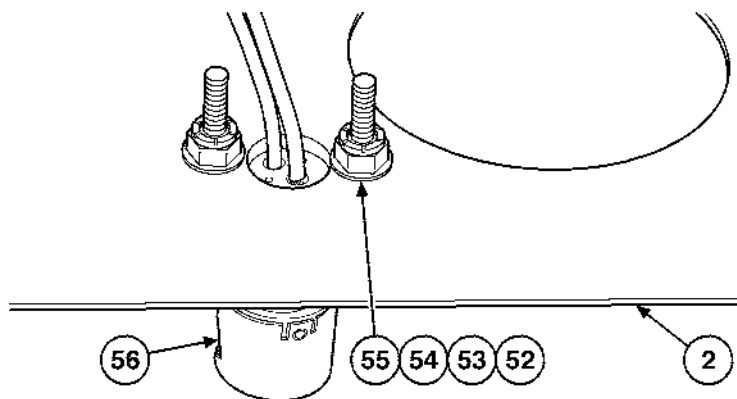
5. Install two gages (57), four brackets (60), and new teflon nuts (59) to control panel (2).
6. Install hose fittings (58) to three gages (57).



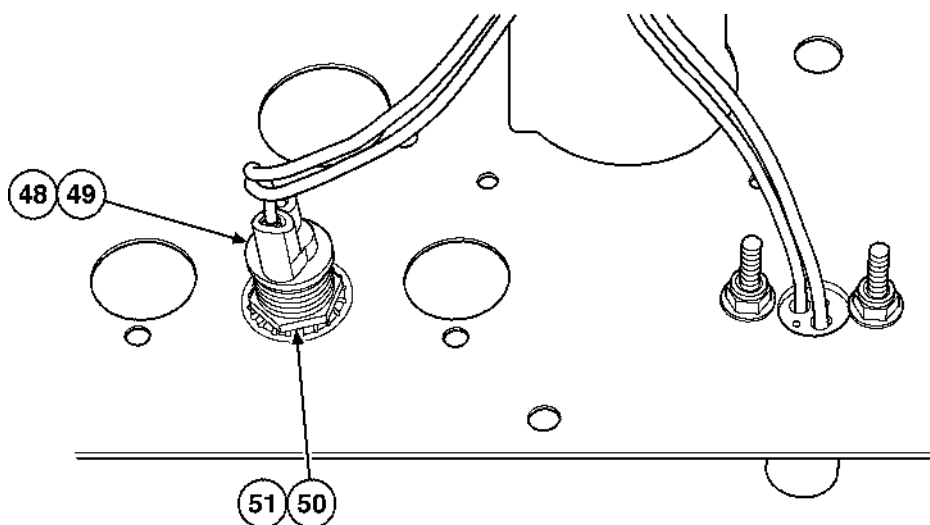
ENGINE CONTROL PANEL MAINTENANCE—Continued

0114 00

7. Install socket (56), bracket (55), two screws (54), washers (53), and new self-locking nuts (52) to control panel (2).



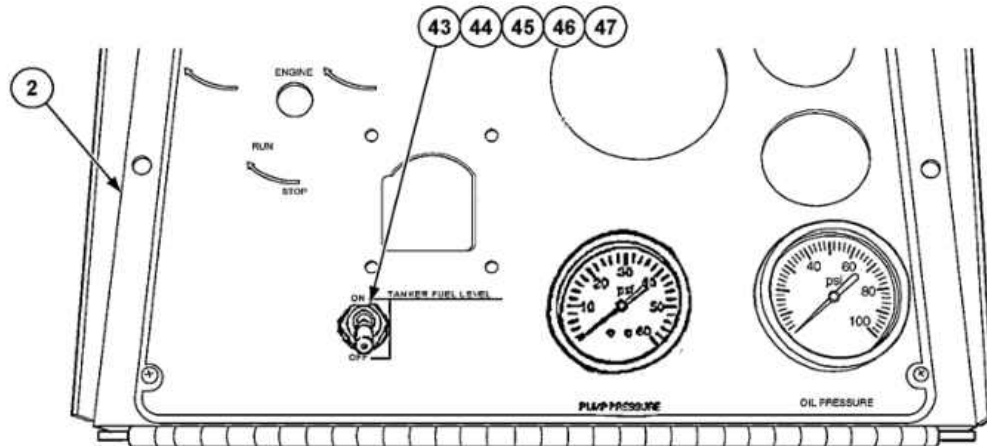
8. Install indicator light assembly (49), new starwasher (51), nut (50), and indicator light (48) to control panel (2).



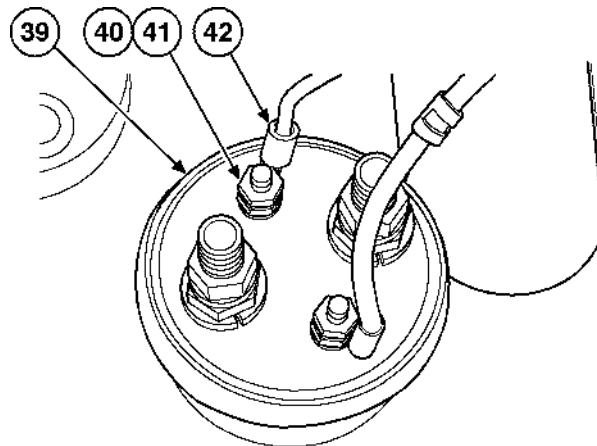
ENGINE CONTROL PANEL MAINTENANCE—Continued

0114 00

9. Install switch (47), washer (46), nut (45), washer (44), and nut (43) on control panel (2).



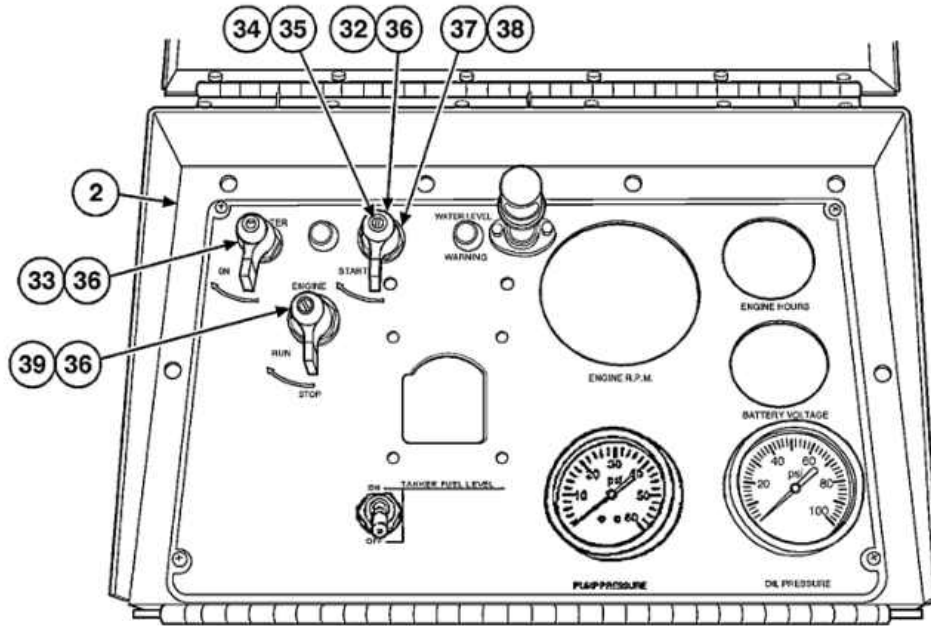
10. Install two electrical connectors (42), four washers (41), and two nuts (40) to engine run/stop switch (39).



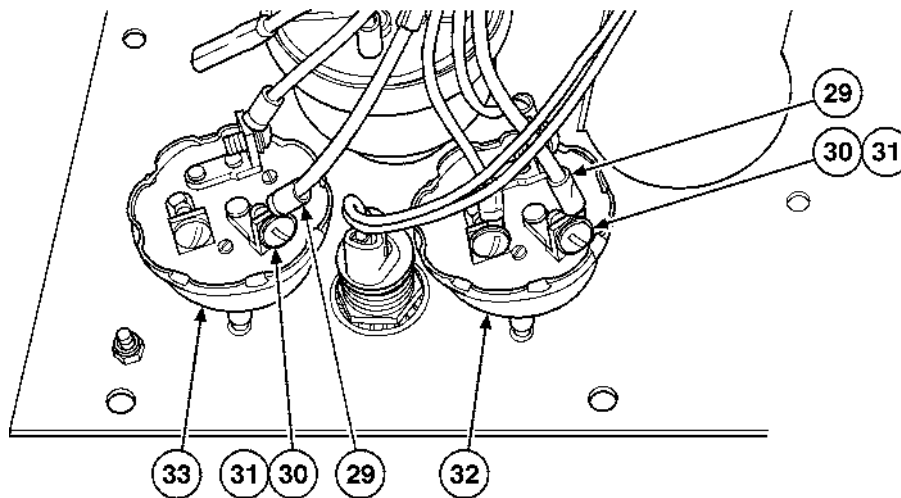
ENGINE CONTROL PANEL MAINTENANCE—Continued

0114 00

11. Install nine washers (38) and three nuts (37) to engine run/stop switch (39), engine preheat switch (33), and engine starter (32).
12. Install three toggles (36), new lockwashers (35), and screws (34) to control panel front (2).



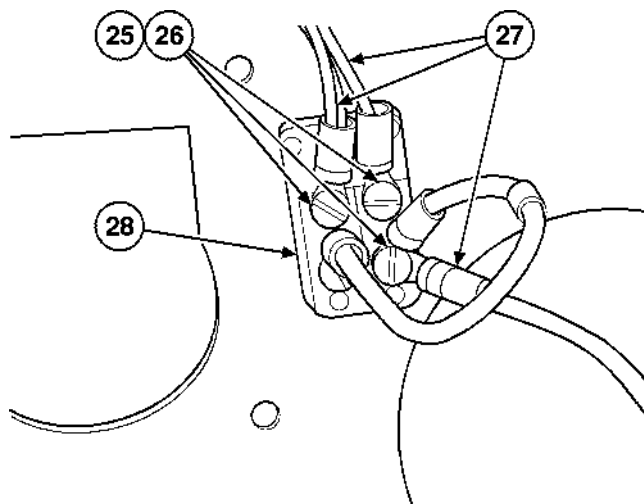
13. Connect five electrical connectors (29), washers (31), and screws (30) to engine preheat (33) and engine starter (32) switches.



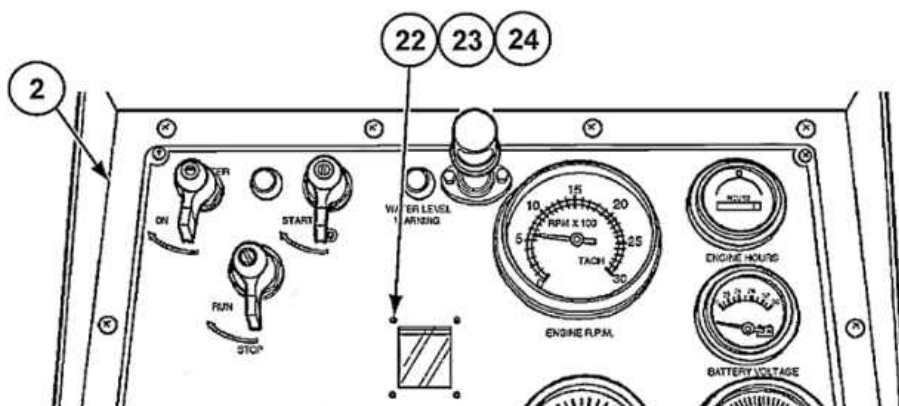
ENGINE CONTROL PANEL MAINTENANCE—Continued

0114 00

14. Install three wires (27), washers (26), and screws (25) on fuel level switch (28).



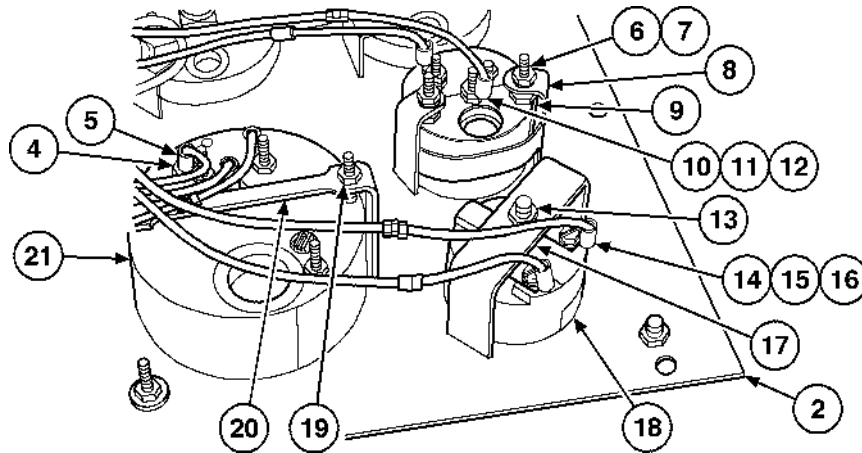
15. Install bezel (24), four washers (23), and Allen head screws (22) on control panel (2).



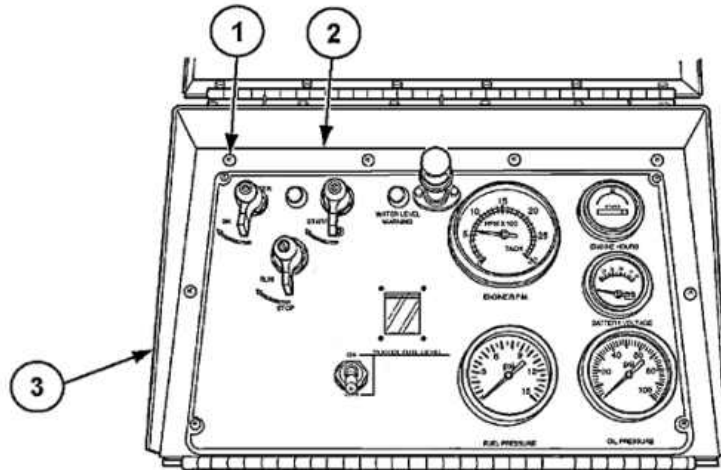
ENGINE CONTROL PANEL MAINTENANCE—Continued

0114 00

16. Install tachometer (21), bracket (20), and two new self-locking nuts (19) to control panel (2).
17. Connect three wires (5) and nuts (4) to tachometer (21).
18. Install voltmeter (9), bracket (8), two new star washers (7), and nuts (6) to control panel (2).
19. Connect two wires (12), new starwashers (11), and screws (10) to voltmeter (9).
20. Install hourmeter (18), bracket (17), and new self-locking nut (13) to control panel (2).
21. Connect two wires (16), new lockwashers (15), and screws (14) to hourmeter (18).



22. Install six screws (1) and control panel front cover (2) to control panel frame (3).



FOLLOW-ON TASKS

1. Reconnect negative battery terminal (WP 0007 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

FUEL LEVEL SENSOR AND SENSOR TUBE MAINTENANCE

0115 00

THIS WP COVERS:

Removal, Disassembly, Assembly, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Gaskets (2) (item 127, WP 0160 00)

Lockwashers (2) (item 140, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

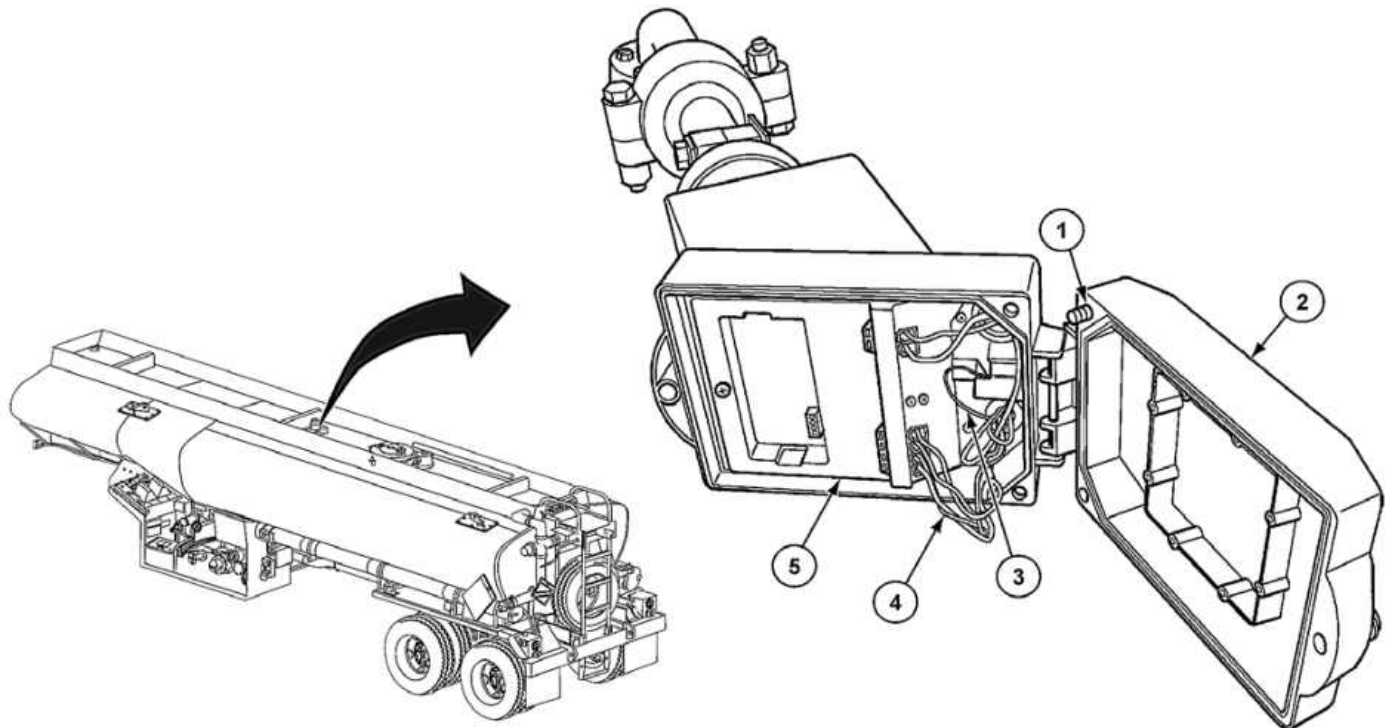
Negative terminal disconnected from battery (refer to WP 0007 00)

REMOVAL

NOTE

Tag all wires prior to disconnecting.

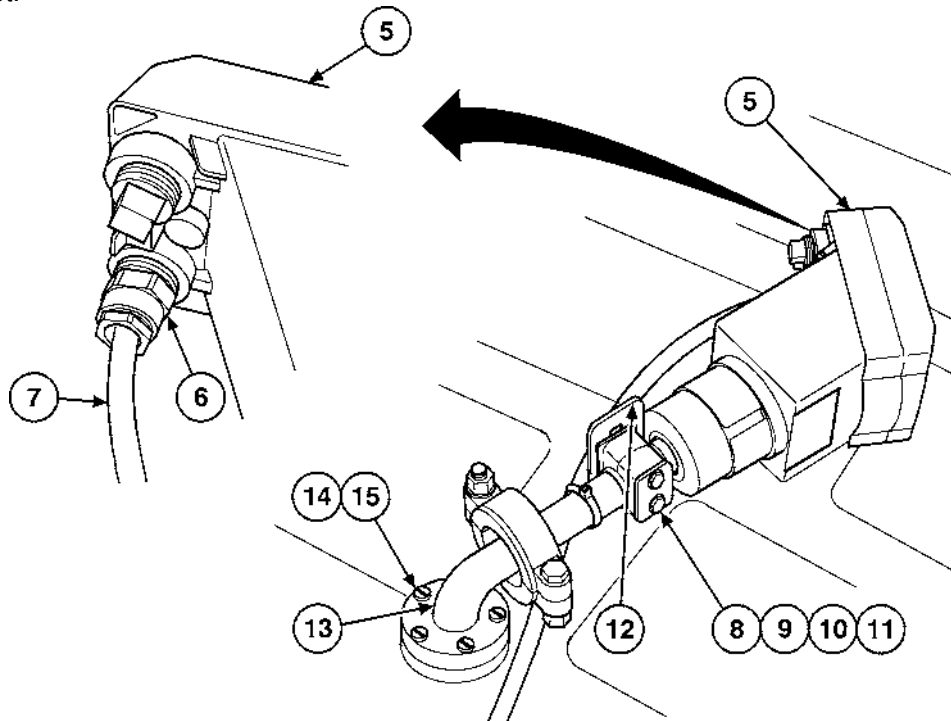
1. Loosen three screws (1) and open cover (2).
2. Disconnect six sensor wires (4) and one ground wire (3) from sensor (5).



FUEL LEVEL SENSOR AND SENSOR TUBE MAINTENANCE—Continued

0115 00

3. Unscrew conduit nut (6) and remove conduit (7) from sensor (5).
4. Remove two bolts (8), lockwashers (9), coupling halves (10), and plate (11) from support bracket (12). Discard lockwashers.
5. Remove five screws (14), gasket (15), sensor tube (13), and sensor (5) from semitrailer. Discard gasket.

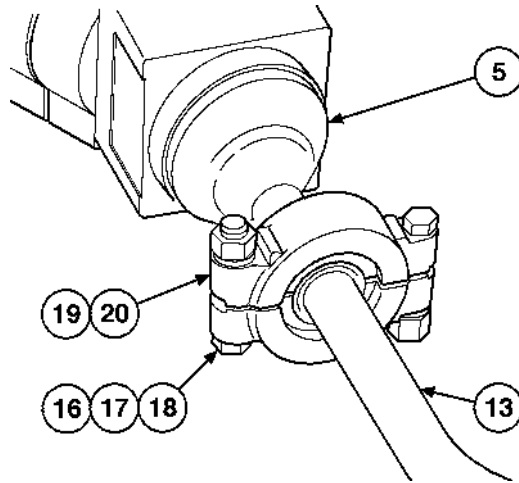


DISASSEMBLY

Remove two nuts (16), washers (17), bolts (18), clamp halves (19), gasket (20), and separate sensor tube (13) from sensor (5). Discard seal.

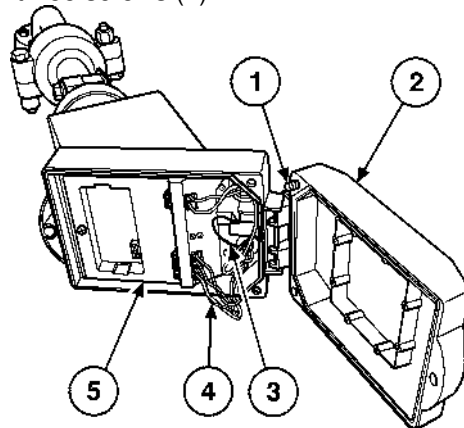
ASSEMBLY

Install new gasket (20), sensor tube (13), sensor (5), clamp halves (19), two bolts (18), washers (17), and nuts (16).



INSTALLATION

1. Install new gasket (15), sensor tube (13), sensor (5), and five screws (14).
2. Install plate (11), coupling halves (10), two new lockwashers (9), and bolts (8) to support bracket (12).
3. Install conduit (7) and conduit nut (6) to sensor (5).
4. Connect six sensor wires (4) and one ground wire (3) to sensor (5).
5. Close cover (2) and tighten three screws (1).



FOLLOW-ON TASKS

1. Reconnect negative battery terminal (WP 0007 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

VAPOR RECOVERY SYSTEM REPLACEMENT

0116 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Compound, antiseize (item 3, WP 0159 00)

Gasket (item 79, WP 0160 00)

Gasket (item 80, WP 0160 00)

Self-locking nuts (16) (item 60, WP 0160 00)

Seals (2) (item 129, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

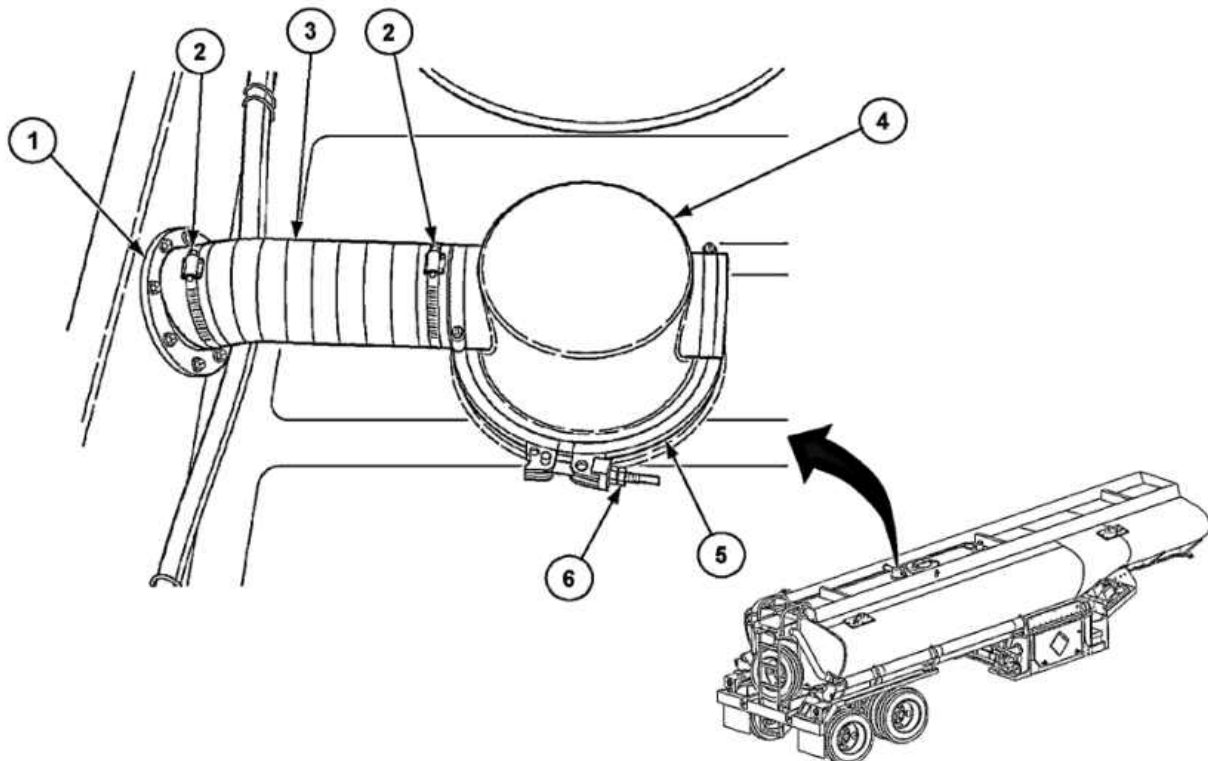
Brake interlock valve removed (refer to WP 0069 00)

REMOVAL

WARNING

Remove vent cap from either side of vapor recovery tube and open emergency valve A to vent tank.

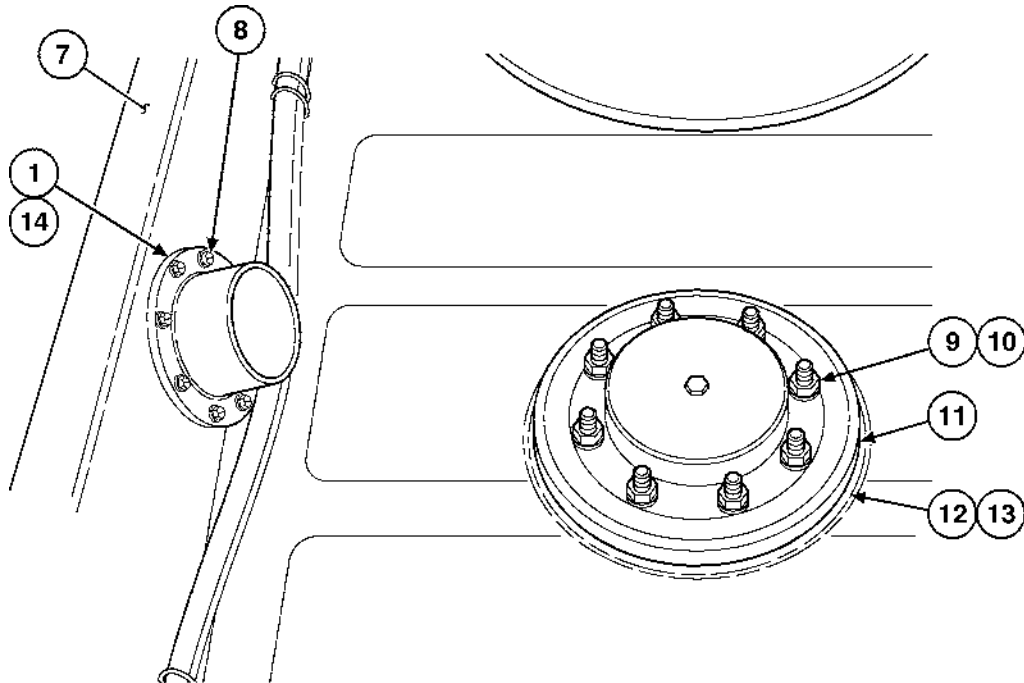
1. Remove two nuts (6) and band clamp (5) from cap (4).
2. Remove two hose clamps (2) and hose (3) from hose flange (1) and cap (4).



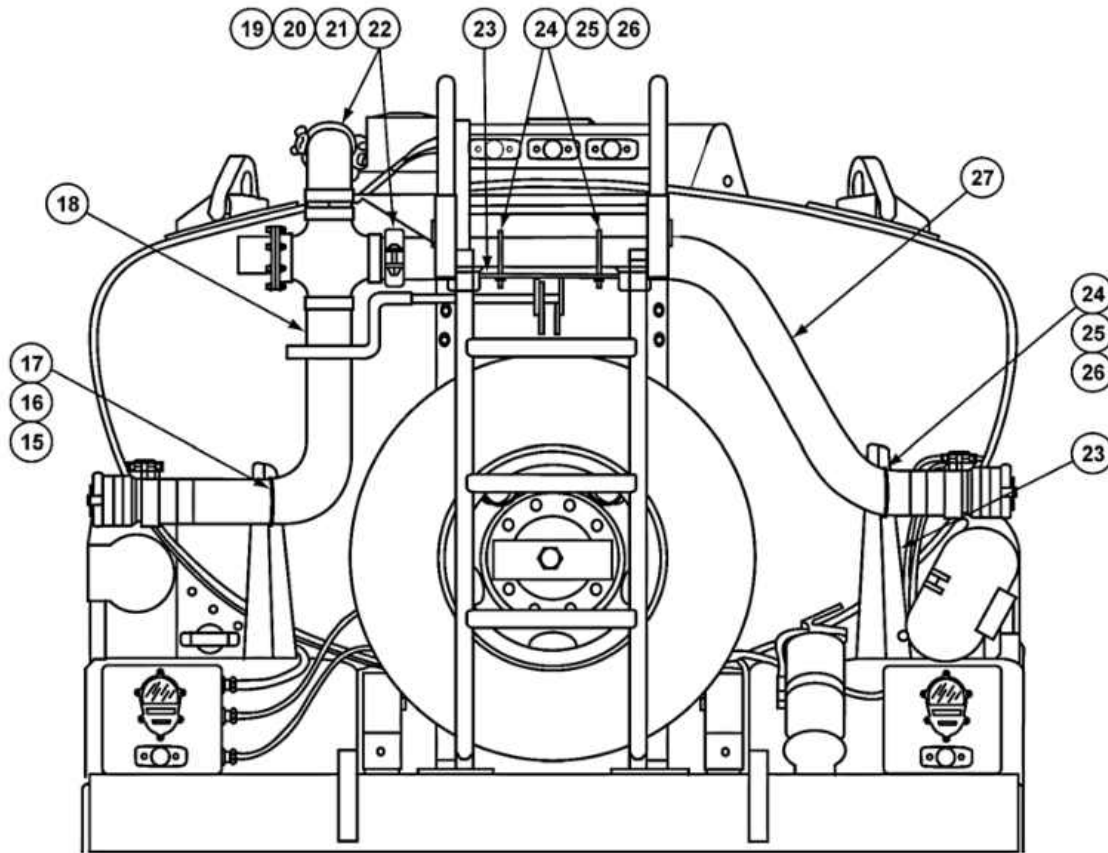
VAPOR RECOVERY SYSTEM REPLACEMENT—Continued

0116 00

3. Remove eight self-locking nuts (10), washers (9), vent valve (11), and gasket (13) from vent flange (12). Discard lockwashers and gasket.
4. Remove eight screws (8), hose flange (1), and gasket (14) from rollover rails (7). Discard gasket.



5. Remove six self-locking nuts (24), washers (25), three U-bolts (26), and pipe (27) from three brackets (23). Discard self-locking nuts.
6. Remove four nuts (19), bolts (20), two seals (21), and split pipe couplings (22) from pipe (18). Discard seals.
7. Remove two self-locking nuts (15), washers (16), U-bolt (17), and pipe (18) from semitrailer. Discard self-locking nuts.

**INSTALLATION**

1. Install pipe (18), U-bolt (17), two washers (16), and new self-locking nuts (15) to semitrailer.
2. Install two split pipe couplings (22), new seals (21), four bolts (20), and nuts (19) to pipe (18).
3. Install pipe (27), three U-bolts (26), six washers (25), and new self-locking nuts (24) to three brackets (23).

VAPOR RECOVERY SYSTEM REPLACEMENT—Continued

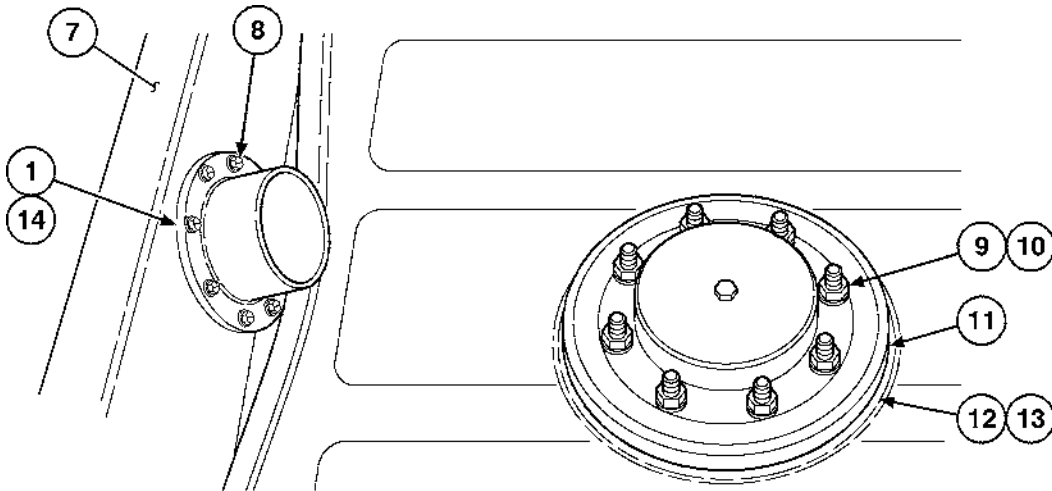
0116 00

4. Install hose flange (1), new gasket (14), and eight screws (8) to rollover rails (7).

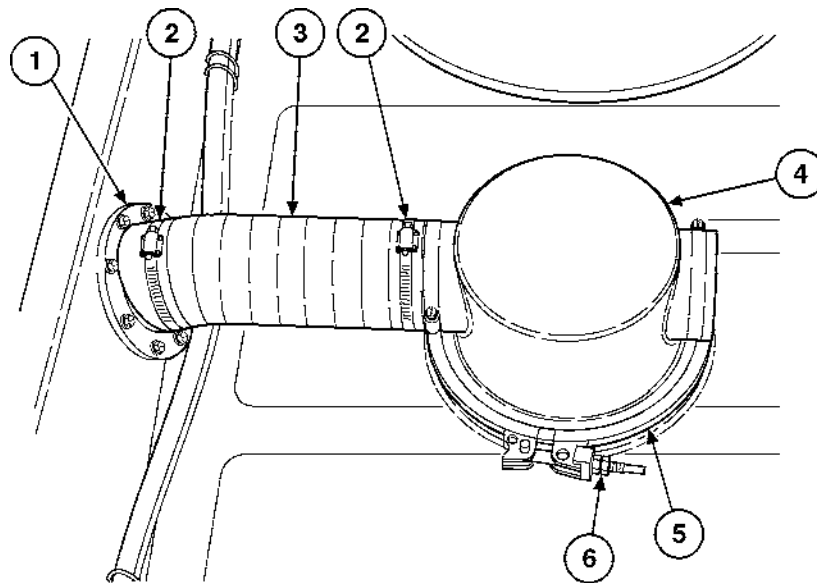
NOTE

Apply antiseize compound to threads of vent valve mounting studs.

5. Install new gasket (13), vent valve (11), eight washers (9), and new self-locking nuts (10) to vent flange (12).



6. Install hose (3) and hose clamps (2) to flange (1) and cap (4).
7. Install band clamp (5) and two nuts (6) to cap (4).



VAPOR RECOVERY SYSTEM REPLACEMENT—Continued

0116 00

FOLLOW-ON TASKS

1. Install brake interlock valve (WP 0069 00).
2. Adjust vent valve push rod (WP 0119 00).
3. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

HUBODOMETER REPLACEMENT

0117 00

THIS WP COVERS:

Removal, Installation

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Lockwashers (2) (item 121, WP 0160 00)

Equipment Conditions

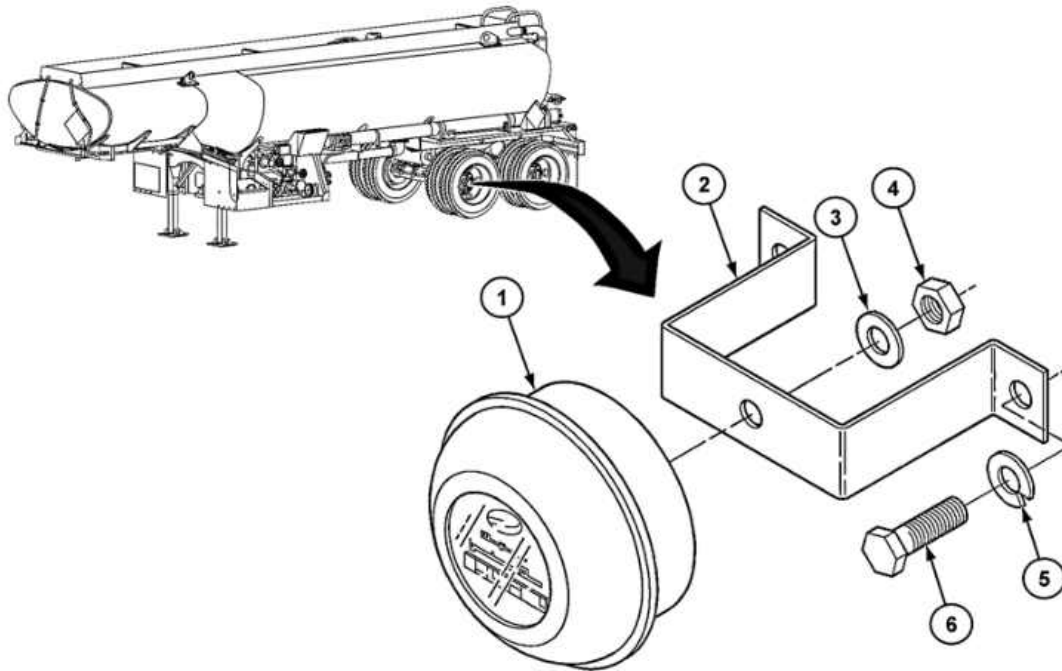
Semitrailer disconnected from prime mover (refer to WP 0007 00)

REMOVAL

NOTE

Record mileage and date prior to removing hubodometer.

1. Remove two bolts (6) and lockwashers (5) from bracket (2). Discard lockwashers.
2. Remove nut (4), washer (3), and hubodometer (1) from bracket (2).

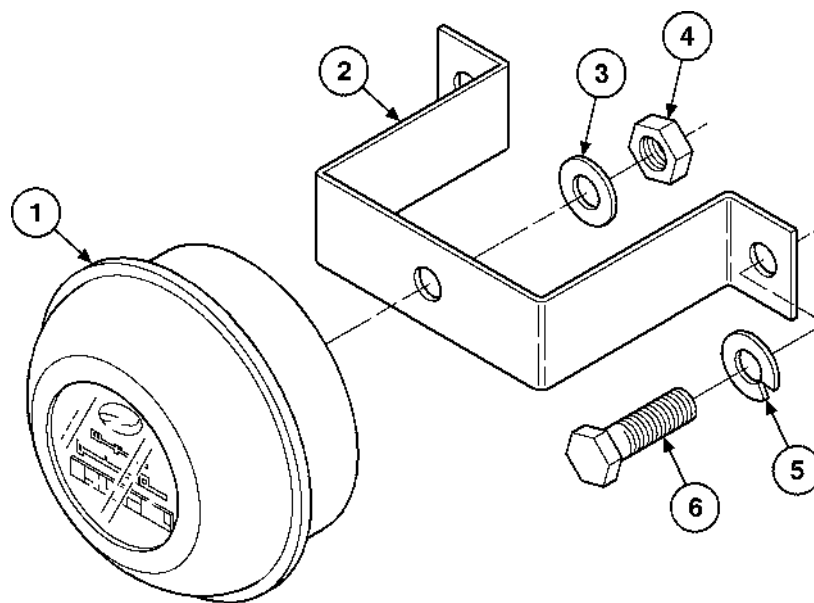


HUBODOMETER REPLACEMENT—Continued

0117 00

INSTALLATION

1. Install hubodometer (1), washer (3), and nut (4) to bracket (2).
2. Install bracket (2), two new lockwashers (5), and bolts (6).

**END OF TASK**

G VALVE REPLACEMENT

0118 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Seals (4) (item 80, WP 0160 00)

Self-locking nuts (16) (item 87, WP 0160 00)

References

WP 0122 00

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Suitable container (item 1, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Semitrailer fuel tank drained (refer to WP 0007 00)

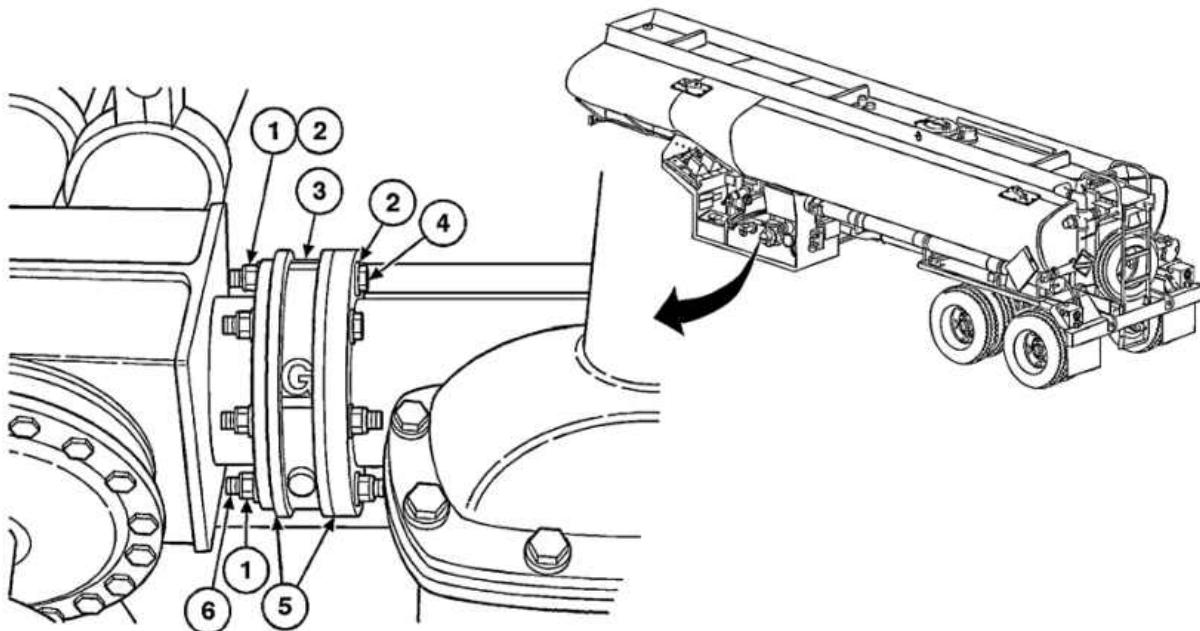
Negative terminal disconnected from battery (refer to WP 0007 00)

REMOVAL

NOTE

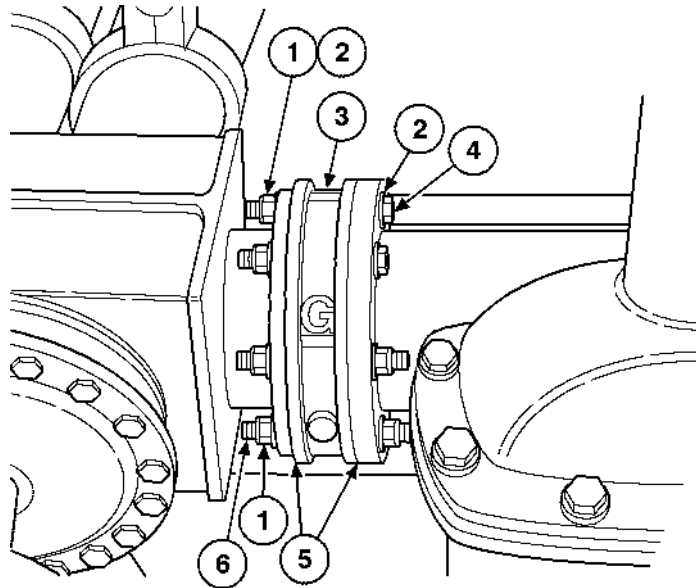
- Place suitable container under G valve prior to removal.
- It may be necessary to loosen piping control components (refer to WP 0122 00) prior to removal of G valve.

Remove 8 self-locking nuts (1), 16 washers (2), 6 bolts (4) and 2 studs (6), 2 seals (5), and valve (3). Discard self-locking nuts and seals.



G VALVE REPLACEMENT—Continued**0118 00****INSTALLATION**

Install valve (3), 2 new seals (5), 6 bolts (4) and 2 studs (6), 16 washers (2), and 8 new self-locking nuts (1).

**FOLLOW-ON TASKS**

1. Reconnect negative battery terminal (WP 0007 00).
2. Tighten any loosened components (WP 0122 00).
3. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

EMERGENCY VALVE MAINTENANCE

0119 00

THIS WP COVERS:

Removal, Installation, Adjustment, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Compound, antiseize (item 3, WP 0159 00)
 Gaskets (2) (items 29 and 104, WP 0160 00)
 Seal (item 105, WP 0160 00)
 Self-locking nuts (8) (item 24, WP 0160 00)
 O-ring (items 3 and 14 WP 0271 00)
 Preformed packing (item 9 WP 0271 00)
 Wipe ring (item 10 WP 0271 00)
 Seal (item 41 WP 0271 00)
 Gasket (item 42 WP 0271 00)
 Cotter pins (2) (item 118, WP 0160 00)

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)
 Suitable container (item 1, WP 0156 00)

Personnel Required

Two

Equipment Conditions

Semitrailer disconnected from prime mover (refer to
 WP 0007 00)
 Semitrailer grounded (refer to WP 0007 00)
 Negative terminal disconnected from battery (refer to WP 0007 00)
 Fuel tank drained (refer to WP 0007 00)

EMERGENCY VALVE MAINTENANCE—Continued

0119 00

REMOVAL

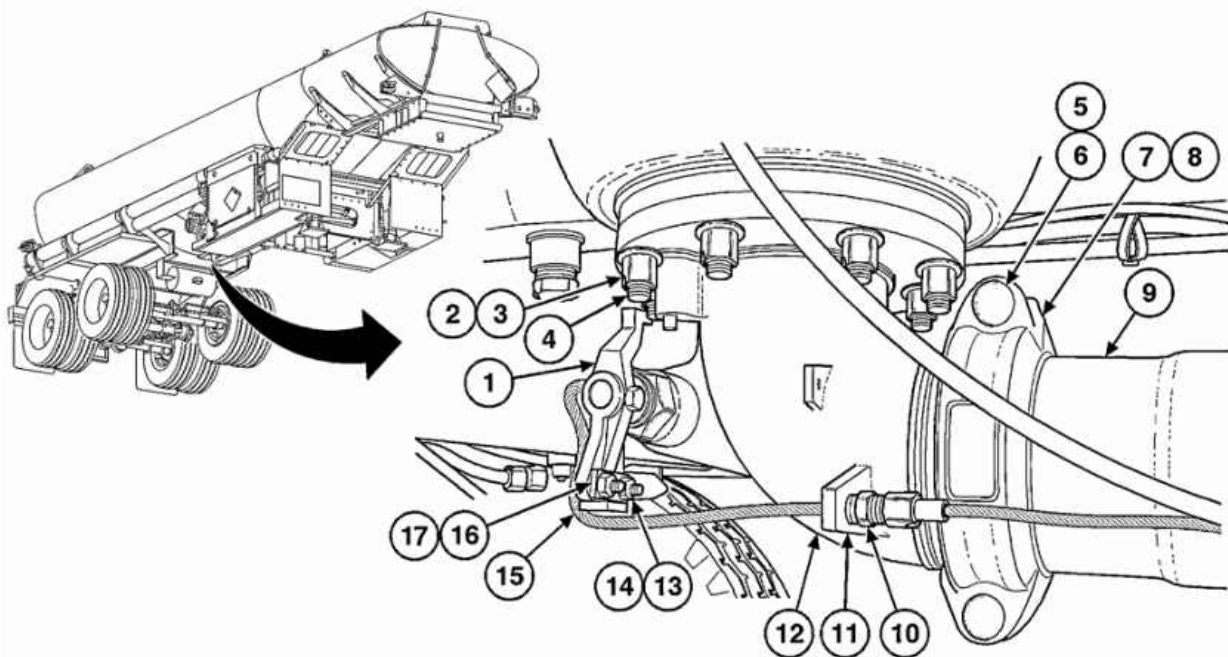
NOTE

Place suitable container under emergency valve prior to removal.

1. Remove two nuts (13), fuse plate (16), reinforcing plate (17) U-bolt (14), and cable (15) from lever (1).
2. Remove fitting (10), and cable (15) from cable support (11).
3. Remove split coupling (7), two bolts (5), nuts (6), and seal (8) from pipe (9). Discard seal.

CAUTION

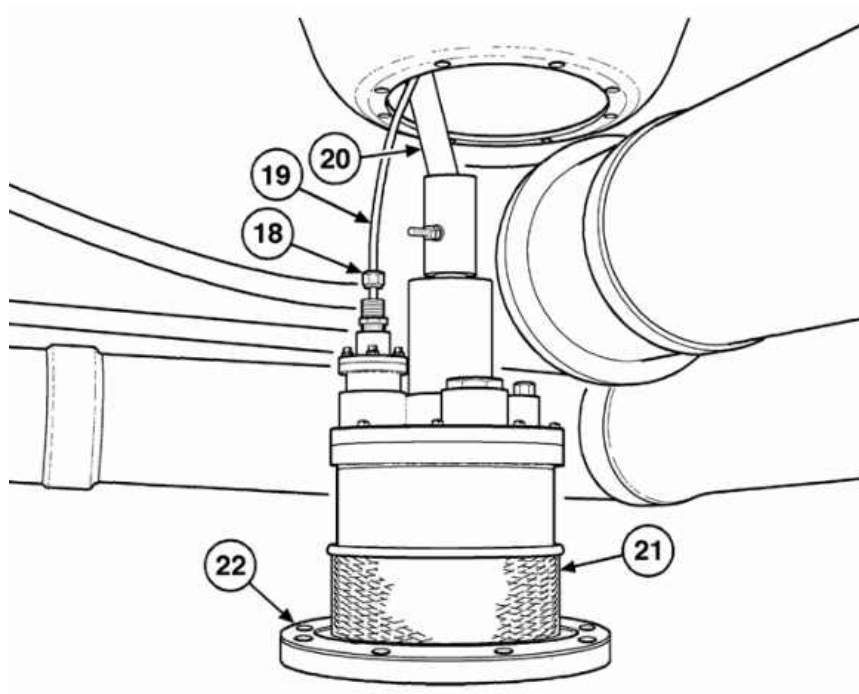
- Assistance may be necessary when removing elbow and emergency valve.
 - Elbow and emergency valve may not come down together. If they do not pressure **MUST** be applied to keep the emergency valve in place until it is removed.
4. Remove eight self-locking nuts (2), washers (3), and elbow (12) from studs (4). Discard self-locking nuts.



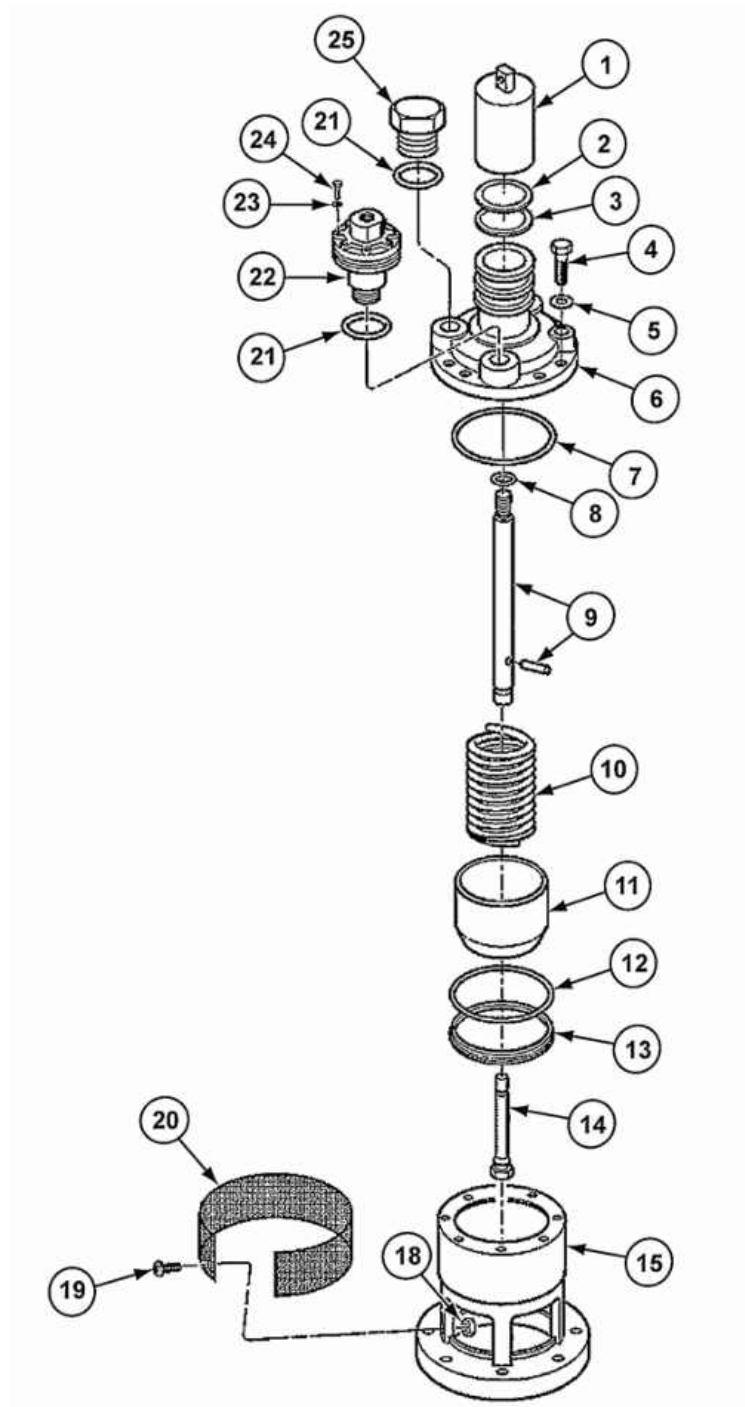
EMERGENCY VALVE MAINTENANCE—Continued

0119 00

5. Lower internal valve (21) to access line (19) and fitting (18).
6. Remove line (19) and fitting (18) from internal valve (21).
7. Remove internal valve (21), push rod (20), and two gaskets (22). Discard gaskets.



DISASSEMBLY



EMERGENCY VALVE MAINTENANCE—Continued

0119 00

1. Remove the six screws (4) and washers (5) from the bonnet (6).
2. Rotate the bonnet slightly in either direction and pull it from the body (15).
3. Hold spring pin (9) and remove rod (14) by unscrewing it.

CAUTION

Do NOT drop piston while removing it.

4. Remove piston (11) and spring (10).
5. Remove o-ring (7) from bonnet (6). Discard o-ring.
6. Hold spring pin (9) while unscrewing housing (1). Remove housing (1) from bonnet (6).
7. Remove wipe ring (2) and quad-ring (3) from bonnet (6). Discard wipe ring and quad-ring.
8. Remove o-ring (12) and seal (13) from body (15). Discard o-ring and seal.

NOTE

Step 9 is not required unless screen is damaged.

9. Remove screws (14), nuts (18), and screen (20).

NOTE

Step 10 is only required if plug is leaking.

10. Remove plug (25) and gasket (21) from bonnet (6). Discard gasket.
11. Unscrew pilot valve (22) and gasket (21) from bonnet (6). Discard gasket.

EMERGENCY VALVE MAINTENANCE—Continued

0119 00

12. Remove o-ring (26). Discard o-ring.
13. Remove screw (33), nut (28), and pull lever (32) from valve assembly.
14. Remove bushing (30), o-ring (29), and quad-ring (31) from valve. Discard o-ring and quad-ring.
15. Rotate shaft assembly (36) counter-clockwise to line up pins on shaft assembly to allow it to be removed from the body.

NOTE

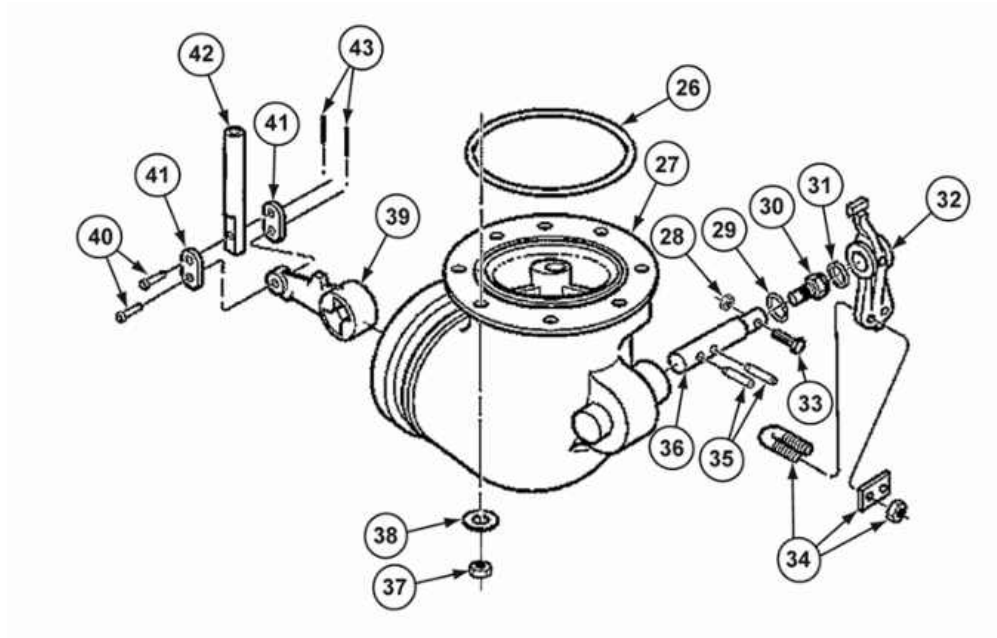
Steps 16-17 are only required if parts are damaged or leaking.

16. Remove pins (35) from shaft assembly (36).
17. Remove cotter pins (43), links (40 and 41), and cam (39). Discard cotter pins.

Inspection

1. Inspect all components for scratches and damage that may cause leaks.
2. Replace any damaged components.

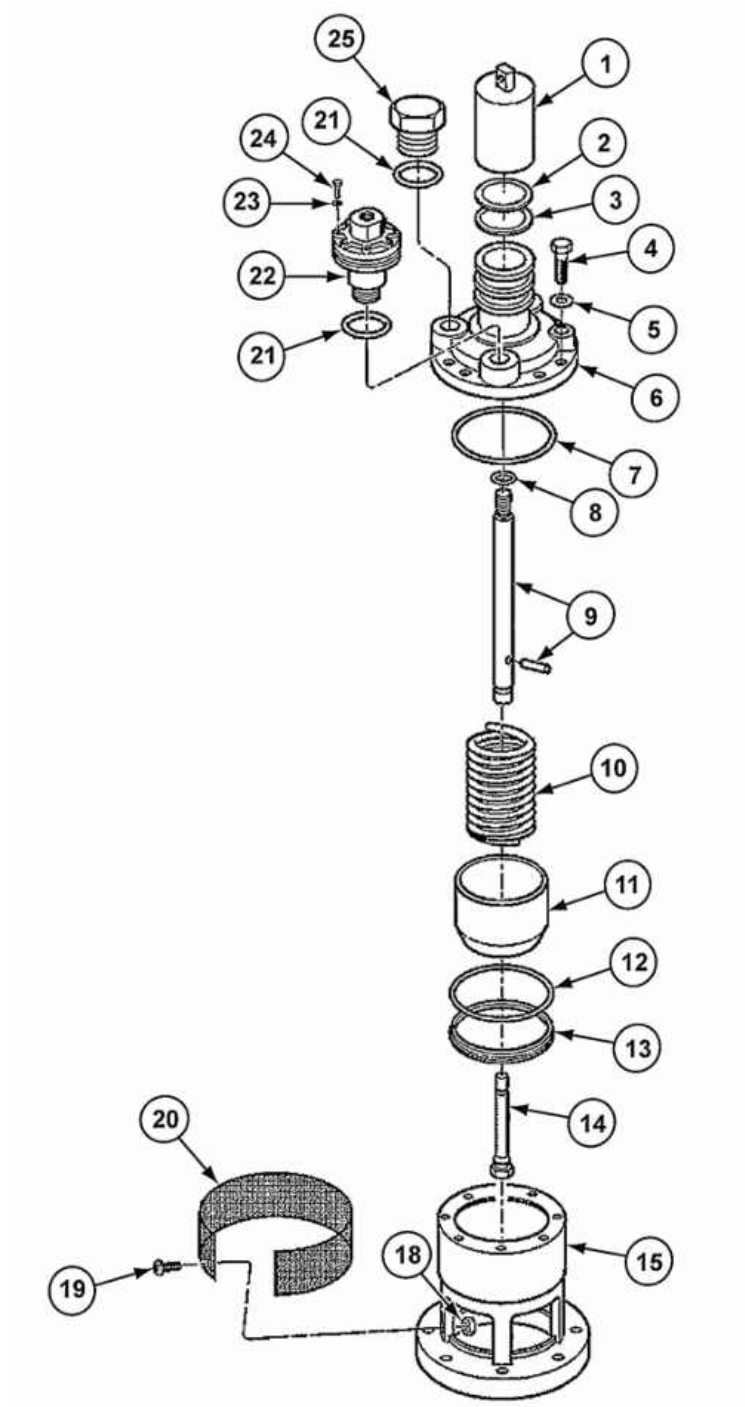
ASSEMBLY



NOTE

Steps 1-2 are only required if parts were removed.

1. Install cam (39), links (40 and 41), and new cotter pins (43).
2. Install pins (35) in shaft assembly (36).
3. Rotate shaft assembly (36) clockwise to line up pins on shaft assembly to allow it to be installed in the body.
4. Install new o-ring (29), new quad-ring (31), and bushing (30), in valve.
5. Install pull lever (32), screw (33), and nut (28) in valve assembly.
6. Install new o-ring (26).



EMERGENCY VALVE MAINTENANCE—Continued

0119 00

7. Install new gasket (21) and pilot valve (22) in bonnet (6).

NOTE

Step 9 is only required if plug was removed.

8. Install new gasket (21) and plug (25).

NOTE

Step 10 is not required unless screen was removed.

9. Install screen (20), nuts (18), and screws (19).

CAUTION

Seal must be installed with the seal flange toward the valve body to avoid leakage.

10. Install new seal (13) and o-ring (12) in body (15).
11. Install new quad-ring (3) and new wipe ring (2) on bonnet (6).
12. Hold spring pin while screwing housing (1) onto bonnet (6).
13. Install new o-ring (7) in bonnet (6).

CAUTION

Do NOT drop piston while installing it.

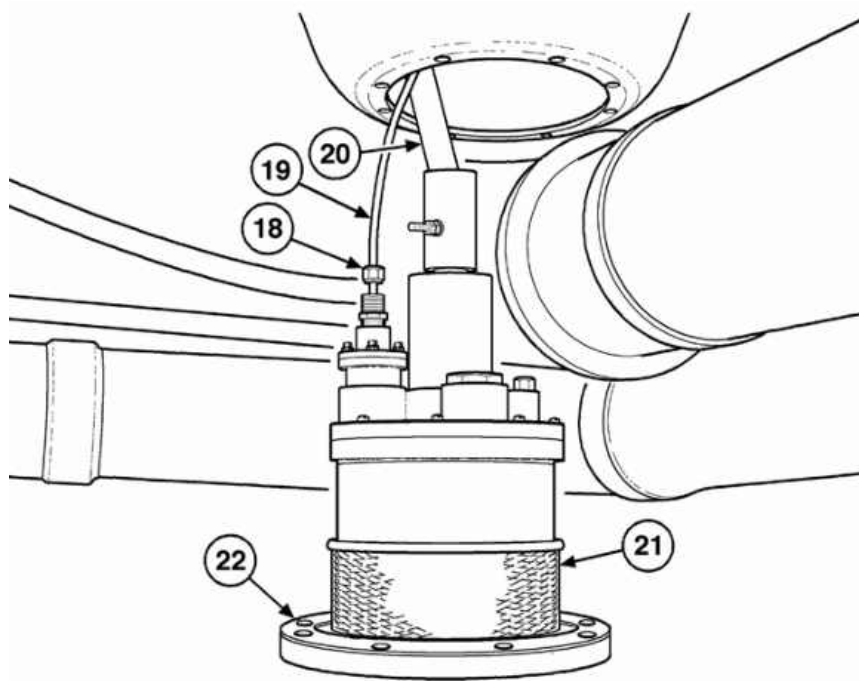
14. Install spring (10) and piston (11).
15. Hold spring pin (9) and attach rod (14).
16. Rotate the bonnet (6) slightly in either direction and push it on the body (15).
17. Install six screws (4) and washers (5) on the bonnet (6).

INSTALLATION

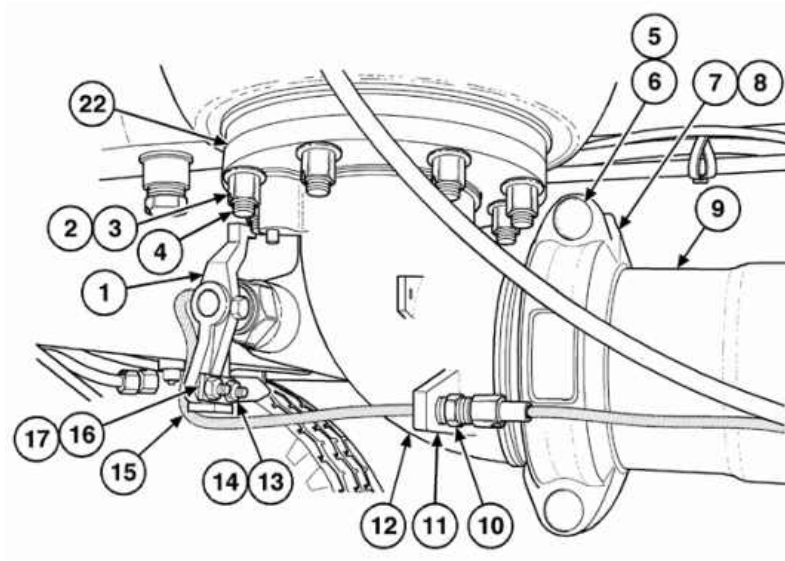
1. Place push rod (20) and new gasket (22) to internal valve (21).

NOTE

- Have an assistant guide top of push rod into vent valve at top of tank.
 - Apply antiseize compound to threads.
2. Install line (19) and fitting (18) to internal valve (21).



3. Install new gasket (22), elbow (12), eight washers (3), and new self-locking nuts (2) to studs (4).
4. Install new seal (8), two nuts (6), bolts (5), and split coupling (7) to pipe (9).
5. Install fitting (10) and cable (15) to cable support (11).
6. Install cable (15), U-bolt (14), reinforcing plate (16), fuse plate (17), and two nuts (13) to lever (1).



ADJUSTMENT

Reach down through manhole and grasp push rod to verify push rod has slight up and down movement.

FOLLOW-ON TASKS

1. Adjust emergency valve cable (WP 0139 00).
2. Reconnect negative battery terminal (WP 0007 00).
3. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

HIGH LEVEL SHUTOFF SENSOR AND FILTER REPLACEMENT

0120 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Equipment Conditions

Semitrailer grounded (refer to WP 0007 00)

Semitrailer fuel tank drained (refer to WP 0007 00)

Manhole cover removed (refer to WP 0092 00)

Materials/Parts

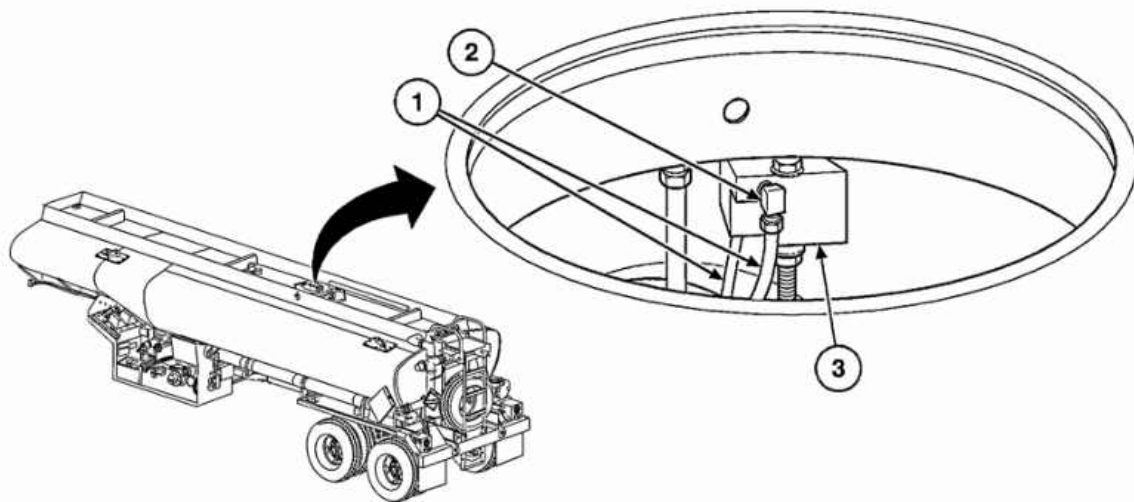
Hose clips (Item 6, WP 0249 00)

SENSOR REMOVAL

NOTE

- Manhole cover removal is only required for sensor replacement.
- Tie up lines for ease of maintenance.

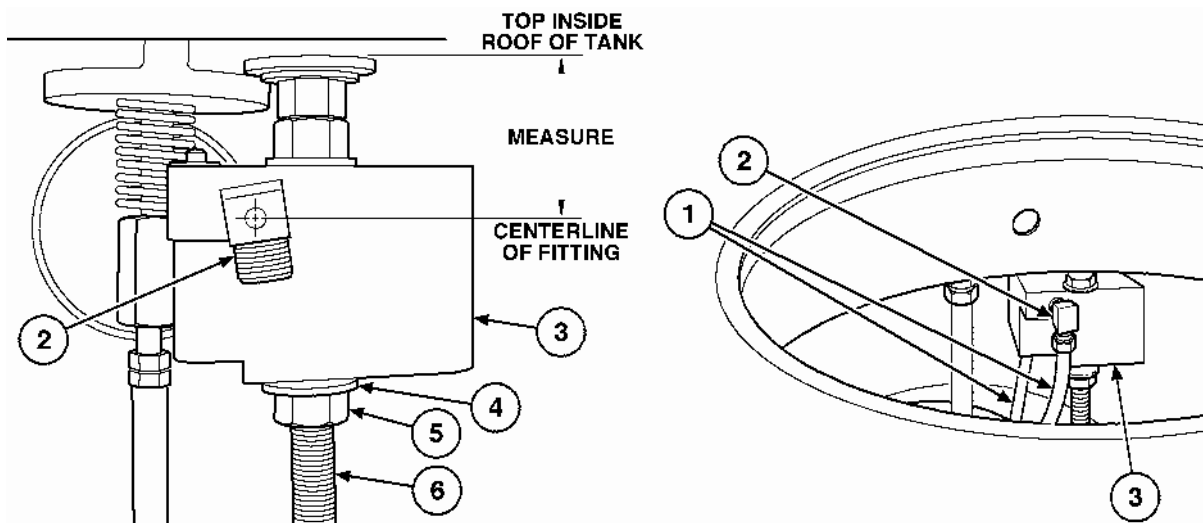
1. Remove two lines (1) from fittings (2) on sensor (3).



HIGH LEVEL SHUTOFF SENSOR AND FILTER REPLACEMENT—Continued

0120 00

2. Measure and record distance from top inside roof of tank to centerline of fitting.
3. Remove lower nut (5), washer (4), and sensor (3) from rod (6).
4. Remove two fittings (2) from sensor (3).

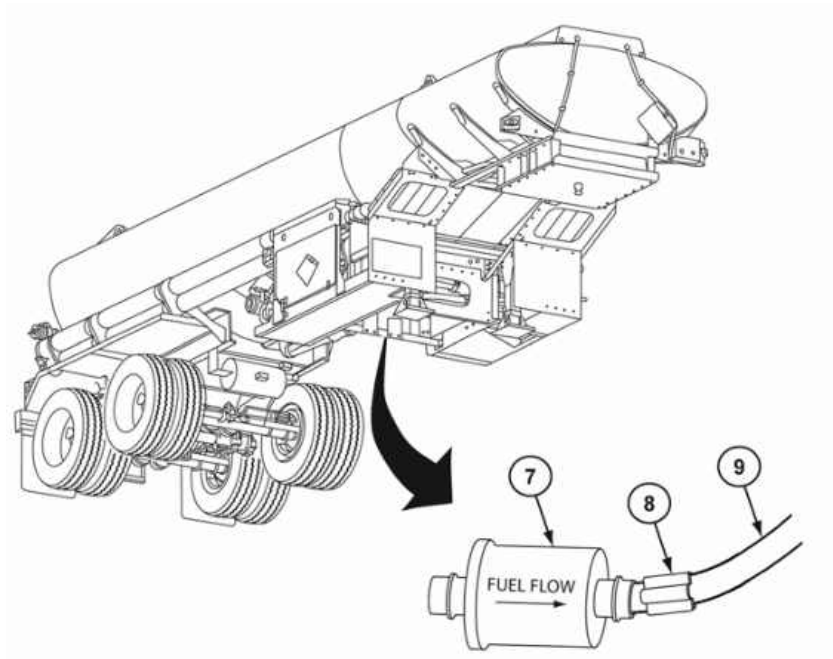


SENSOR INSTALLATION

1. Install two fittings (2) to sensor (3).
2. Install sensor (3), washer (4), and nut (5) to rod (6). Verify measurement.
3. Install two lines (1) to fittings (2) on sensor (3).

FILTER REMOVAL

1. Cut clips (8) from hose (9) on both ends of filter (7). Discard clips.
2. Remove filter (7) from hose (9).



FILTER INSTALLATION

1. Insert new clips (8) on each hose (9) end.
2. Install filter (7) on hose (9) and secure by crimping clips (8).

FOLLOW-ON TASKS

1. Install manhole cover (WP 0092 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

FLANGE AND PIPING MANIFOLDS, HANDWHEELS, AND F, E, AND B VALVES REPLACEMENT

0121 00

THIS WP COVERS:

Valve Removal, Valve Installation, Handwheel Removal, Handwheel Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Gaskets (6) (item 80, WP 0160 00)

Self-locking nuts (48) (item 87, WP 0160 00)

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Suitable container (item 1, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Fuel tank drained (refer to WP 0007 00)

NOTE

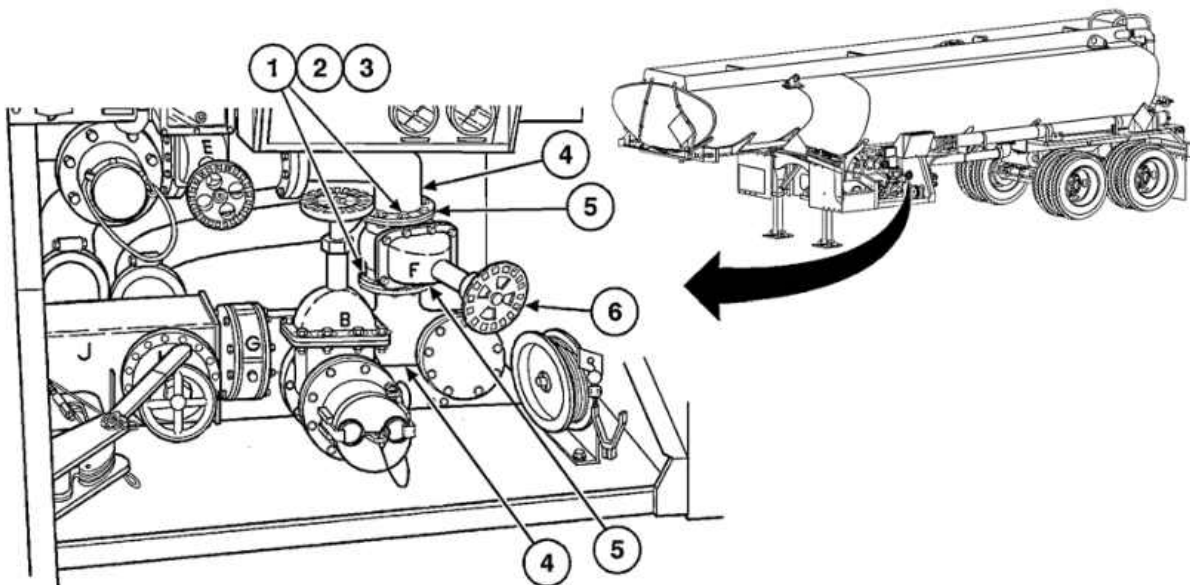
Use this task to replace F, E, and B valves and handwheel.
F valve and handwheel is shown.

VALVE REMOVAL

Remove 16 screws (3), self-locking nuts (1), washers (2), 2 gaskets (5), and F valve (6) from piping (4). Discard self-locking nuts and gaskets.

VALVE INSTALLATION

Install F valve (6) and 2 new gaskets (5) on piping (4) with 16 screws (3), new self-locking nuts (1), and washers (2).



**FLANGE AND PIPING MANIFOLDS, HANDWHEELS, AND
F, E, AND B VALVES REPLACEMENT**

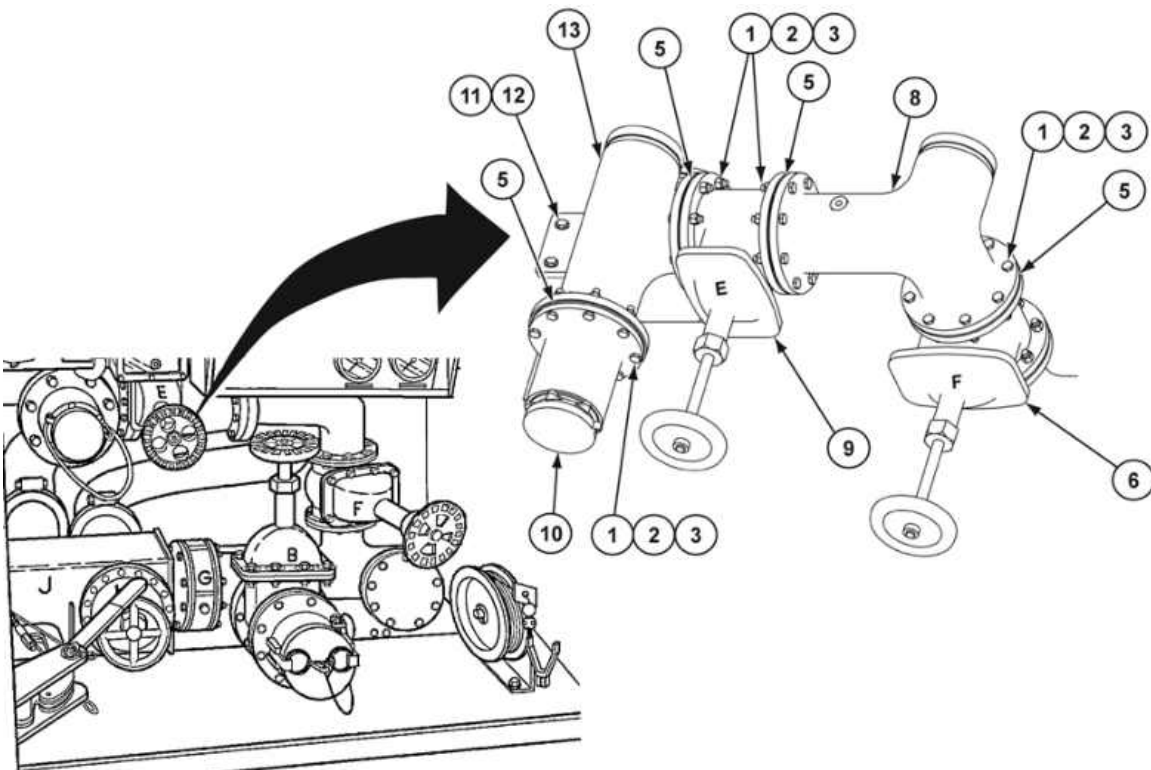
0121 00

FLANGE MANIFOLD REMOVAL

1. Remove 8 screws (3), self-locking nuts (1), washers (2), gasket (5), and roadside bottom load adapter (10) from flange manifold (13). Discard self-locking nuts and gaskets.
2. Remove 8 screws (3), self-locking nuts (1), washers (2), and gasket (5) from E valve (6). Discard self-locking nuts and gaskets.
3. Remove 2 screws (11) and self-locking nuts (12) from cabinet frame. Discard self-locking nuts.
4. Remove piping clamp and flange manifold (13).

FLANGE MANIFOLD INSTALLATION

1. Install flange manifold (13) and piping clamp.
2. Install 2 screws (11) and new self-locking nuts (12) to cabinet frame.
3. Install new gasket (5), 8 screws (3), washers (2), and new self-locking nuts (1) to E valve (6).
4. Install new gasket (5), roadside bottom load adapter (10), 8 screws (3), washers (2), and new self-locking nuts (1), to flange manifold (13).



PIPING MANIFOLD REMOVAL

1. Remove 16 screws (3), self-locking nuts (1), washers (2), and two gaskets (5), from piping manifold (8). Discard self-locking nuts and gaskets.
2. Remove piping clamp and piping manifold (8).

PIPING MANIFOLD INSTALLATION

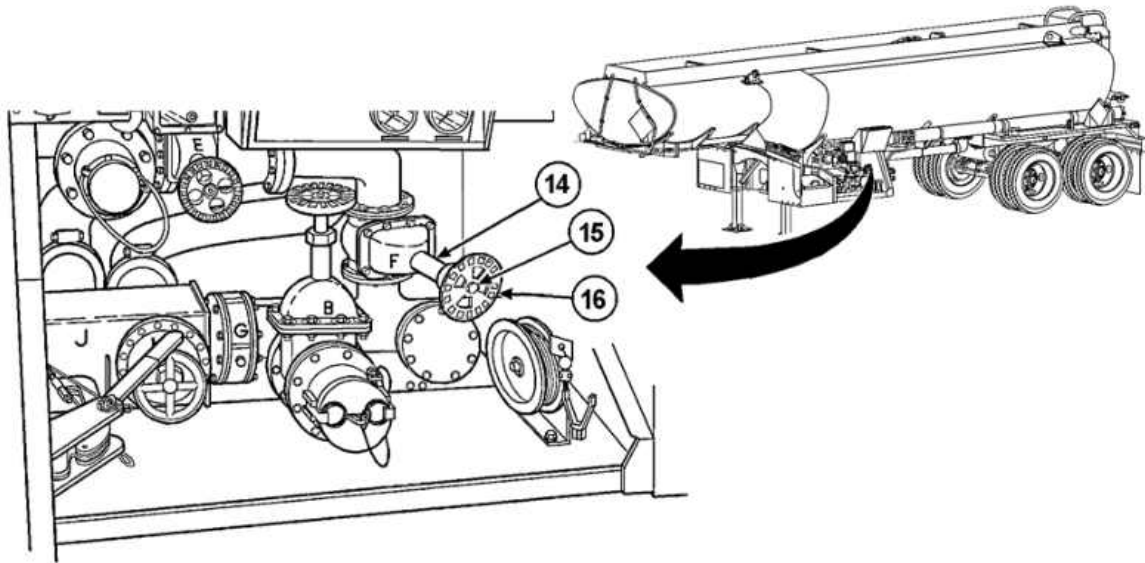
1. Install piping manifold (8) and piping clamp.
2. Install two new gaskets (5), 16 screws (3), washers (2), and new self-locking nuts (1), to piping manifold (8).

HANDWHEEL REMOVAL

1. Loosen nut (15) and turn handwheel (16) counterclockwise.
2. Remove nut (15) and handwheel (16) from F valve (14).

HANDWHEEL INSTALLATION

Install handwheel (16) and nut (15) on F valve (14). Turn handwheel (16) clockwise and tighten nut (15).



FOLLOW-ON TASK

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

DISCHARGE MANIFOLD REPLACEMENT**0122 00****THIS WP COVERS:**

Removal, Installation, Follow-On Tasks

INITIAL SETUP:**Maintenance Level**

Organizational

Materials/Parts

Gasket (item 80, WP 0175 00)

Self-locking nuts (10) (item 87, WP 0175 00)

Self-locking nuts (3) (item 92, WP 0175 00)

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Semitrailer fuel tank drained (refer to WP 0007 00)

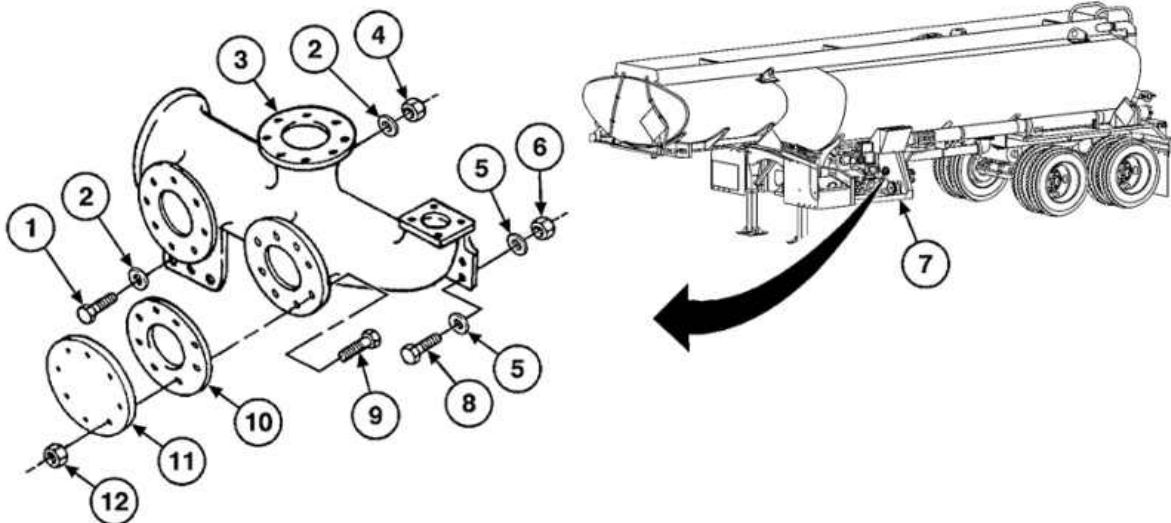
F valve assembly removed (refer to WP 0132 00)

B valve assembly removed (refer to WP 0132 00)

G valve assembly removed (refer to WP 0128 00)

REMOVAL

1. Remove eight screws (9), self-locking nuts (12), access cover (11), and gasket (10) from discharge manifold (3). Discard self-locking nuts and gasket.
2. Remove three screws (1), six washers (2), and three self-locking nuts (4) from discharge manifold (3). Discard self-locking nuts.
3. Remove two screws (8), four washers (5), two self-locking nuts (6), and discharge manifold (3) from piping control cabinet (7). Discard self-locking nuts.

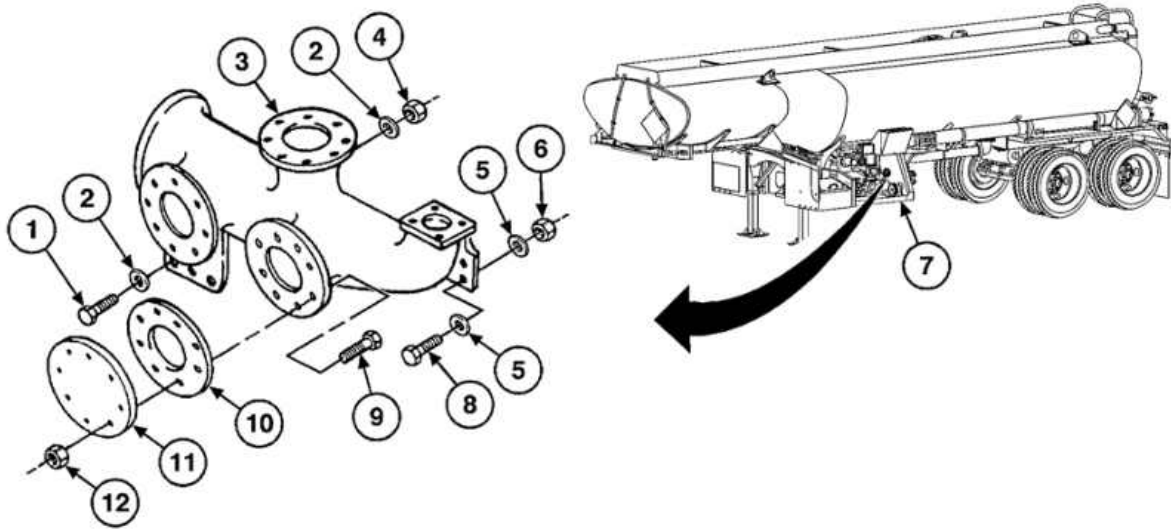


DISCHARGE MANIFOLD REPLACEMENT—Continued

0122 00

INSTALLATION

1. Install discharge manifold (3) in piping control cabinet (7) with two screws (8), four washers (5), and two new self-locking nuts (6).
2. Install three screws (1), six washers (2), and three new self-locking nuts (11) on discharge manifold (3).
3. Install access cover (11) and new gasket (10) on discharge manifold (3) with eight screws (9) and new self-locking nuts (12).



FOLLOW-ON TASKS

1. Install G valve assembly (WP 0128 00).
2. Install B valve assembly (WP 0132 00).
3. Install F valve assembly (WP 0132 00).
4. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

BOTTOM LOADING VALVE REPLACEMENT

0123 00

THIS WP COVERS:

Removal, Installation, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Gasket (item 80, WP 0160 00)

Self-locking nuts (8) (item 92, WP 0160 00)

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

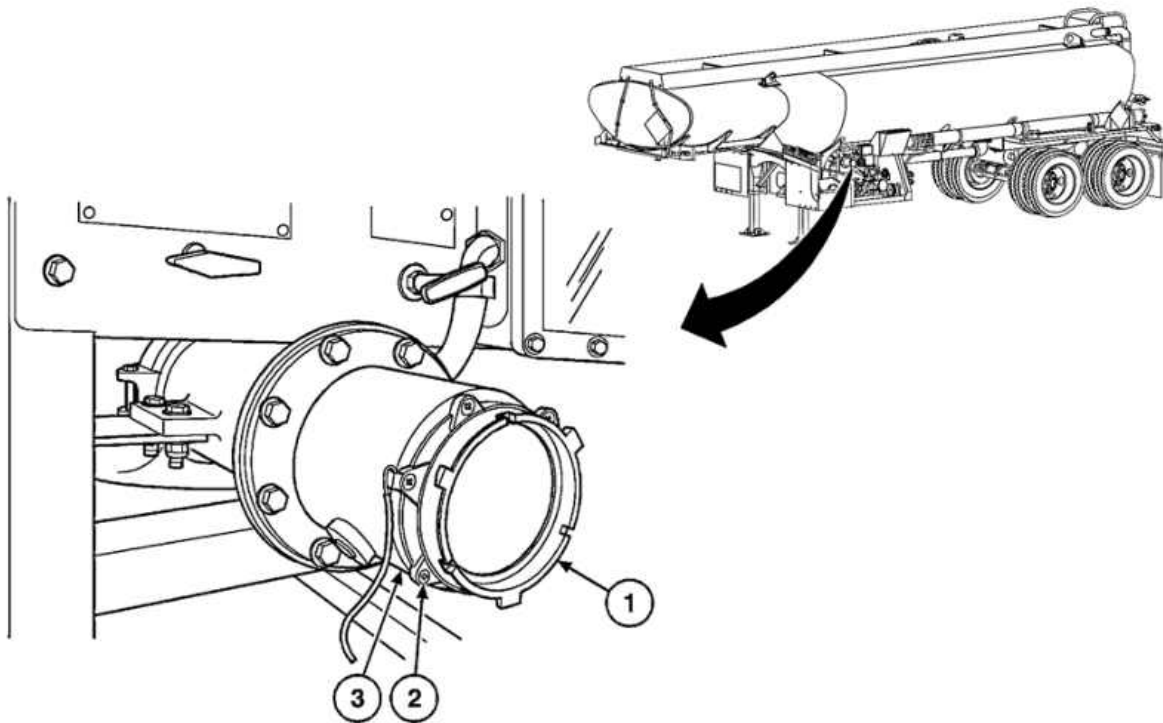
Semitrailer grounded (refer to WP 0007 00)

Semitrailer fuel tank drained (refer to WP 0007 00)

REMOVAL

Roadside Bottom Loading Valve

Remove six screws (2) and bottom loading valve (1) from pipe (3).

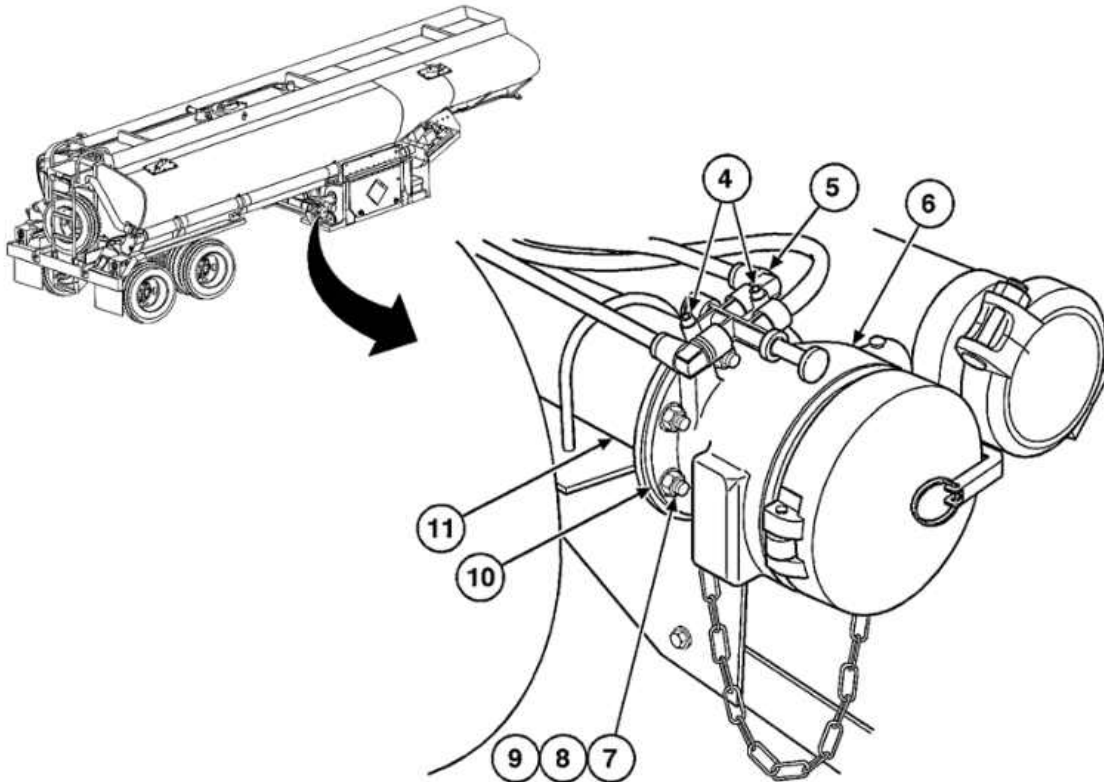


BOTTOM LOADING VALVE REPLACEMENT—Continued

0123 00

Curbside Bottom Loading Valve

1. Remove two screws (4) and brake interlock valve (5) from top of curbside bottom loading valve (6).
2. Remove 8 self-locking nuts (7), 16 washers (8), 8 bolts (9), and bottom loading valve (6), and gasket (10) from pipe (11). Discard self-locking nuts and gasket.

**INSTALLATION****Curbside Bottom Loading Valve**

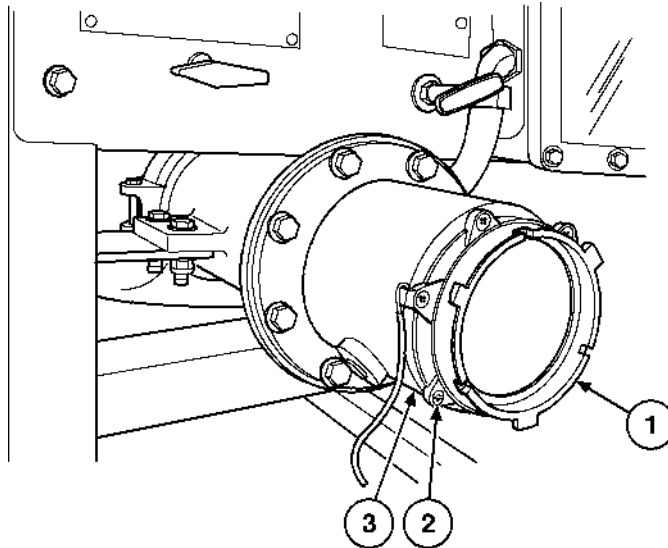
1. Install new gasket (10), bottom loading valve (6), 8 bolts (9), 16 washers (8), and 8 new self-locking nuts (7) to pipe (11).
2. Install brake interlock valve (5) and two screws (4) to top of curbside bottom loading valve (6).

BOTTOM LOADING VALVE REPLACEMENT—Continued

0123 00

Roadside Bottom Loading Valve

Install bottom loading valve (1) and six screws (2) to pipe (3).

**FOLLOW-ON TASK**

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

MANIFOLD VALVE REPLACEMENT

0124 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Seals (2) (item 129, WP 0160 00)

Self-locking nuts (2) (item 90, WP 0160 00)

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Semitrailer fuel tank drained (refer to WP 0007 00)

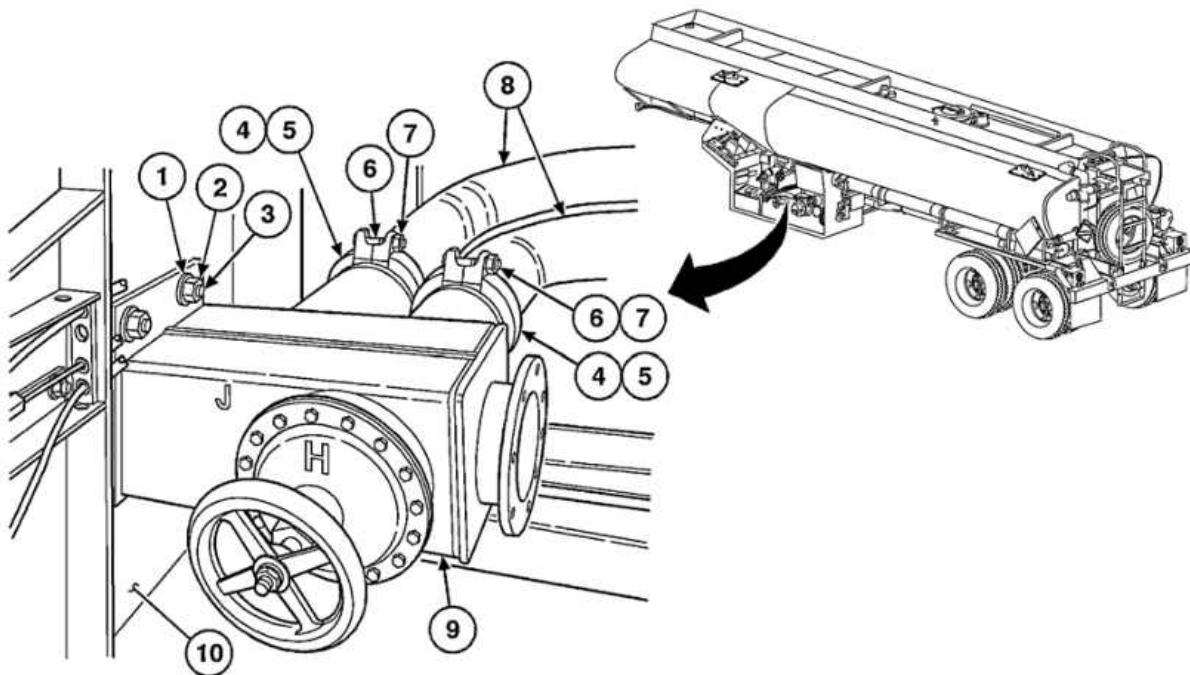
Negative terminal disconnected from battery (refer to WP 0007 00)

G valve removed (refer to WP 0118 00)

J valve removed (refer to WP 0125 00)

REMOVAL

1. Remove four nuts (7), bolts (6), two split couplings (4), and seals (5) from two pipes (8). Discard seals.
2. Remove two self-locking nuts (2), washers (1), bolts (3), and manifold valve (9) from frame (10). Discard self-locking nuts.

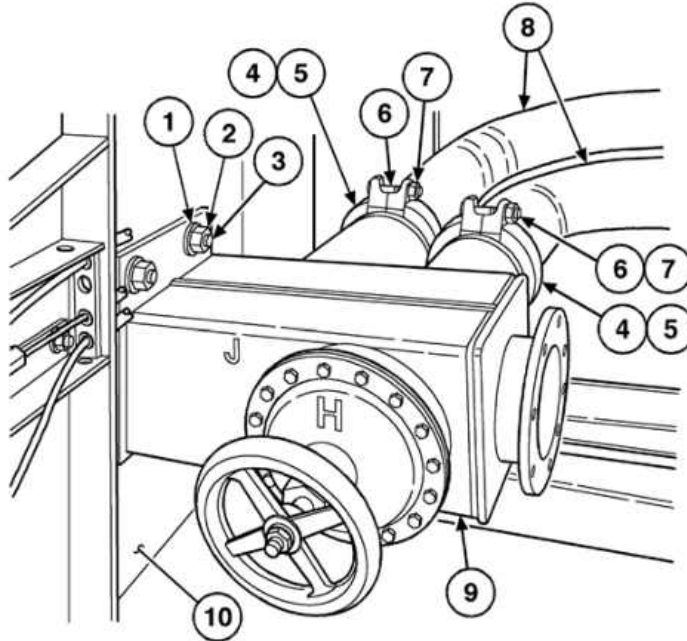


MANIFOLD VALVE REPLACEMENT—Continued

0124 00

INSTALLATION

1. Install manifold valve (9), two bolts (3), washers (1), and new self-locking nuts (2) to frame (10).
2. Install two new seals (5), split couplings (4), four bolts (6), and nuts (7) to two pipes (8).

**FOLLOW-ON TASKS**

1. Install J valve (WP 0125 00).
2. Install G valve (WP 0118 00).
3. Reconnect negative battery terminal (WP 0007 00).
4. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

J VALVE REPLACEMENT

0125 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Compound, thread sealing (item 7, WP 0159 00)

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)
Suitable container (item 1, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Semitrailer fuel tank drained (refer to WP 0007 00)

Negative terminal disconnected from battery (refer to WP 0007 00)

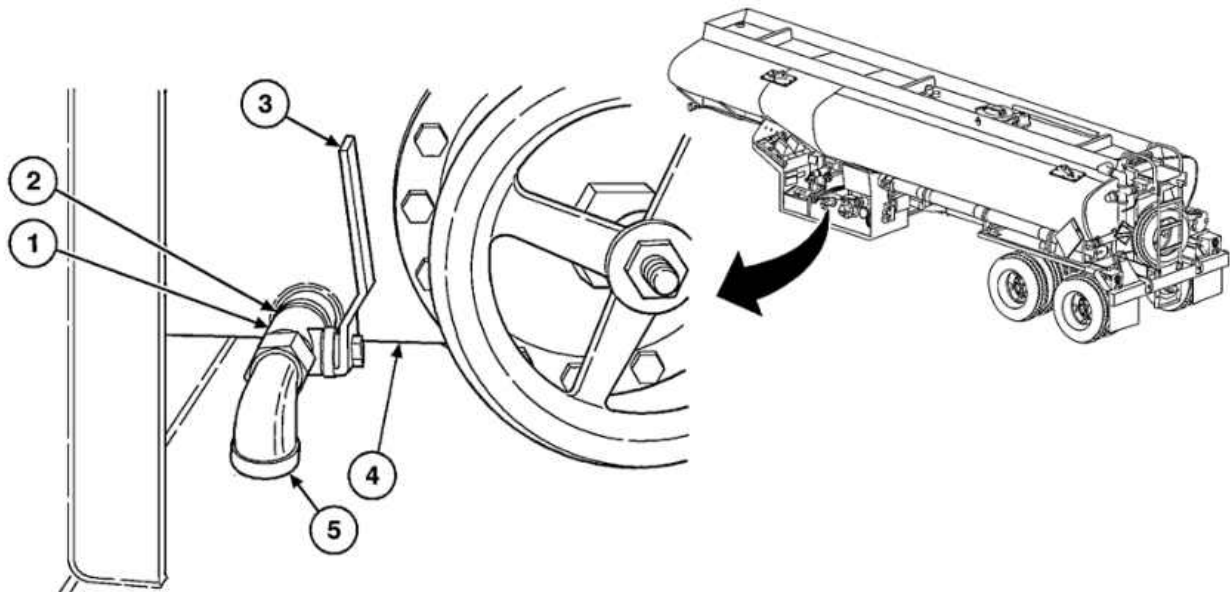
H, G, and A valves closed (WP 0007 00)

REMOVAL

NOTE

Place a suitable container underneath manifold.

Move handle (3) 90° counterclockwise and remove elbow (5), J valve (1), and fitting (2) from manifold (4).

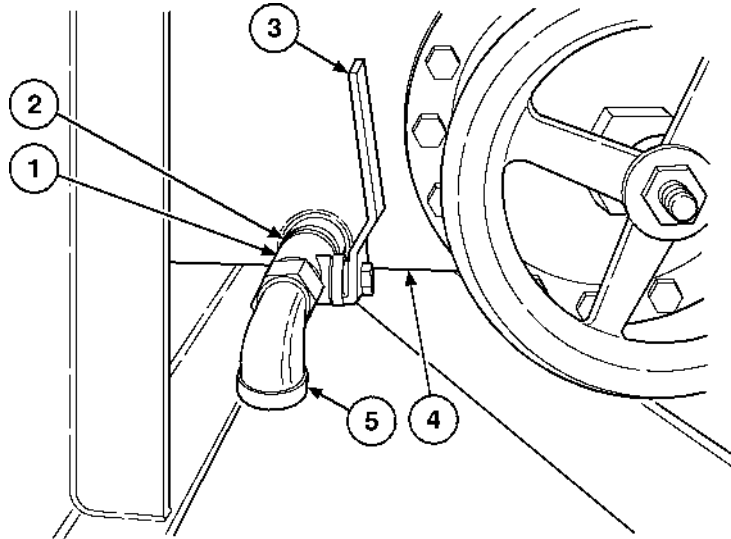


INSTALLATION

NOTE

Apply thread sealing compound to threads.

Install fitting (2), J valve (1), and elbow (5) to manifold (4).



FOLLOW-ON TASKS

1. Open H, G, and A valves (WP 0007 00).
2. Reconnect negative battery terminal (WP 0007 00).
3. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

EMERGENCY VALVE A CONTROL HANDLE MAINTENANCE

0126 00

THIS WP COVERS:

Removal, Installation, Adjustment, Follow-On Task

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Self-locking nuts (4) (item 76, WP 0160 00)

Self-locking nuts (4) (item 87, WP 0160 00)

Personnel Required

Two

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

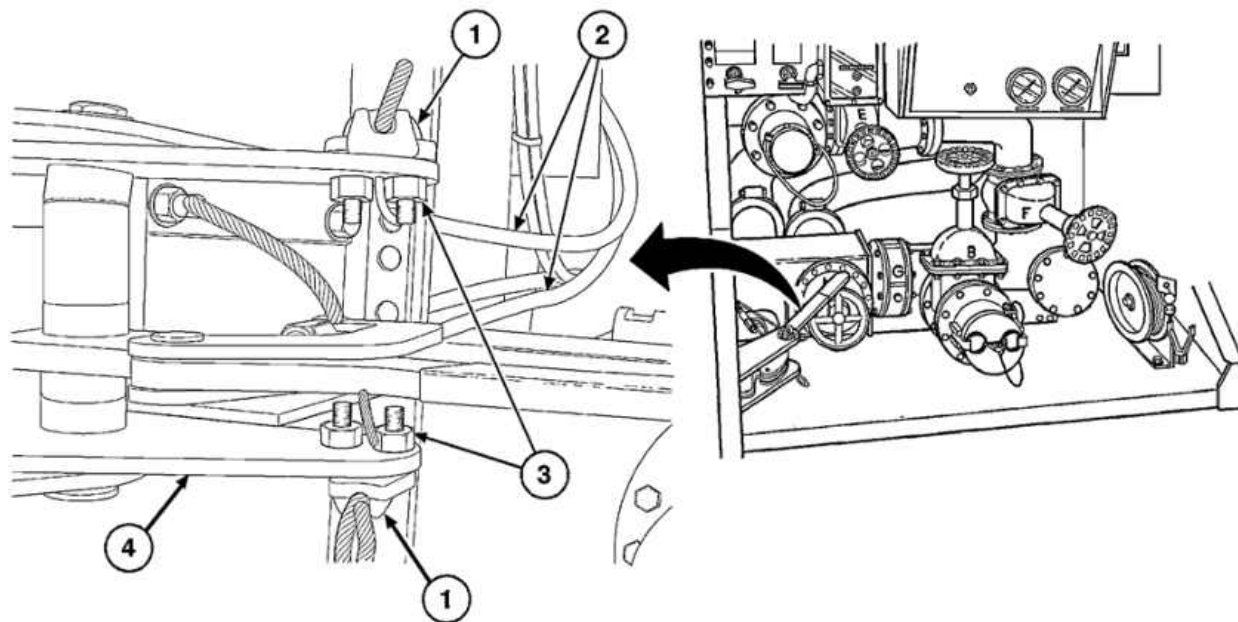
Semitrailer grounded (refer to WP 0007 00)

REMOVAL

NOTE

- Put handle in closed position prior to removing cables.
- Tag cables before removing from handle.

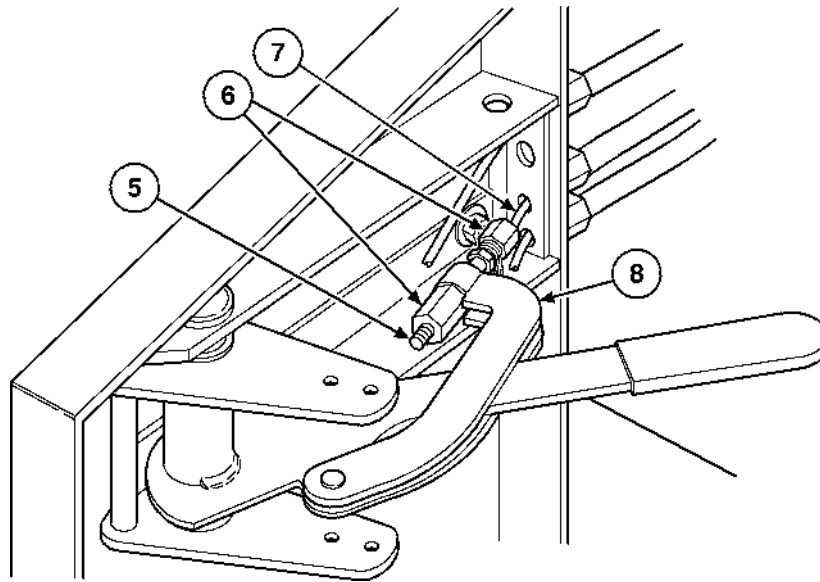
1. Remove four self-locking nuts (3), two U-bolts (1), and cables (2) from bracket (4). Discard self-locking nuts.



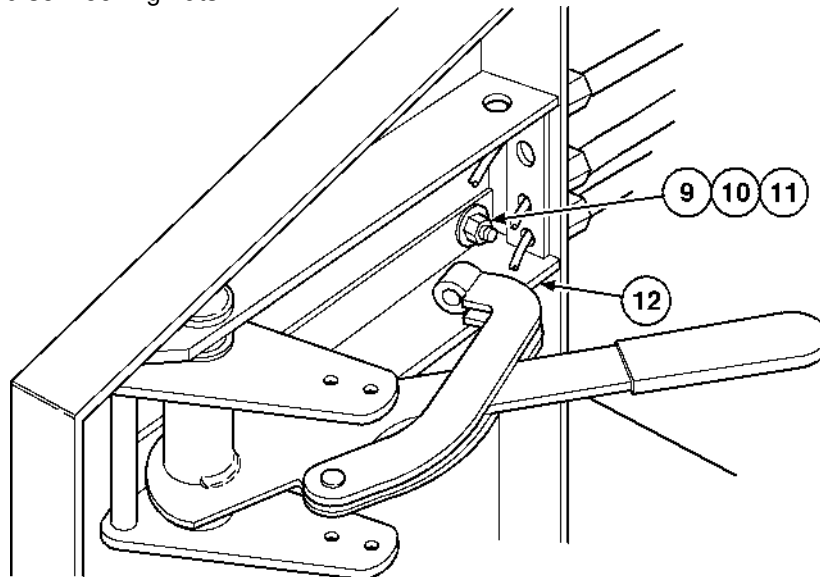
EMERGENCY VALVE A CONTROL HANDLE MAINTENANCE—Continued

0126 00

2. Remove two shaft nuts (6) and cable (7) from threaded shaft (5).
3. Remove threaded shaft (5) from lever (8).



4. Remove four self-locking nuts (9), eight washers (10), four bolts (11), and handle mounting bracket (12). Discard self-locking nuts.



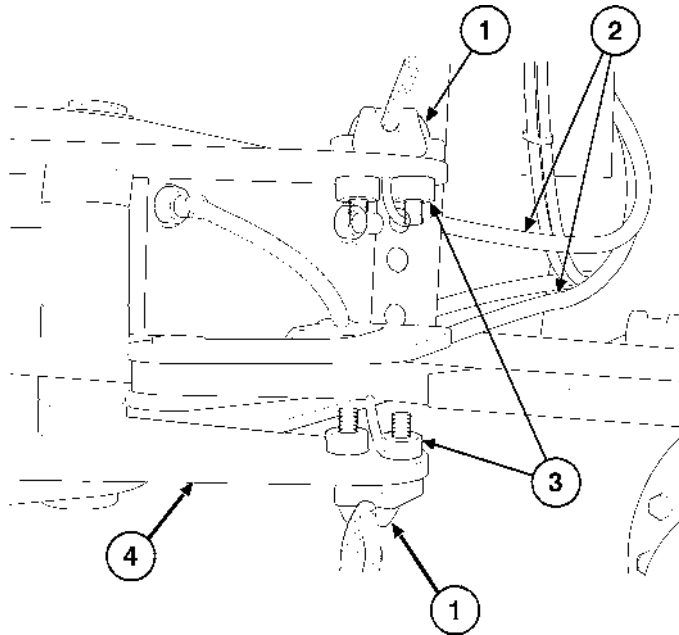
INSTALLATION

1. Install handle mounting bracket (12), four bolts (11), eight washers (10), and four new self-locking nuts (9).

EMERGENCY VALVE A CONTROL HANDLE MAINTENANCE—Continued

0126 00

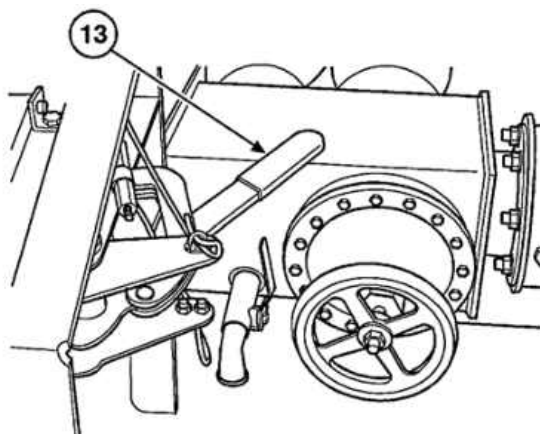
2. Install threaded shaft (5) to lever (8).
3. Install cable (7) and two shaft nuts (6) to threaded shaft (5).
4. Install two cables (2), U-bolts (1), and four new self-locking nuts (3) to bracket (4).



ADJUSTMENT

Emergency Valve A Cable

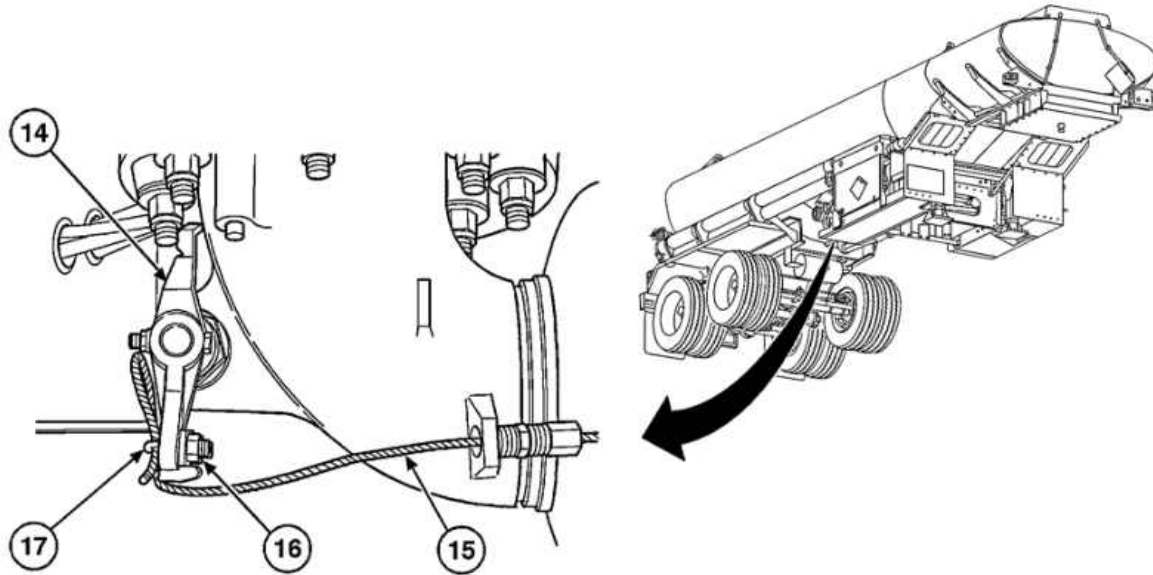
1. Make sure emergency valve A handle (13) is closed.



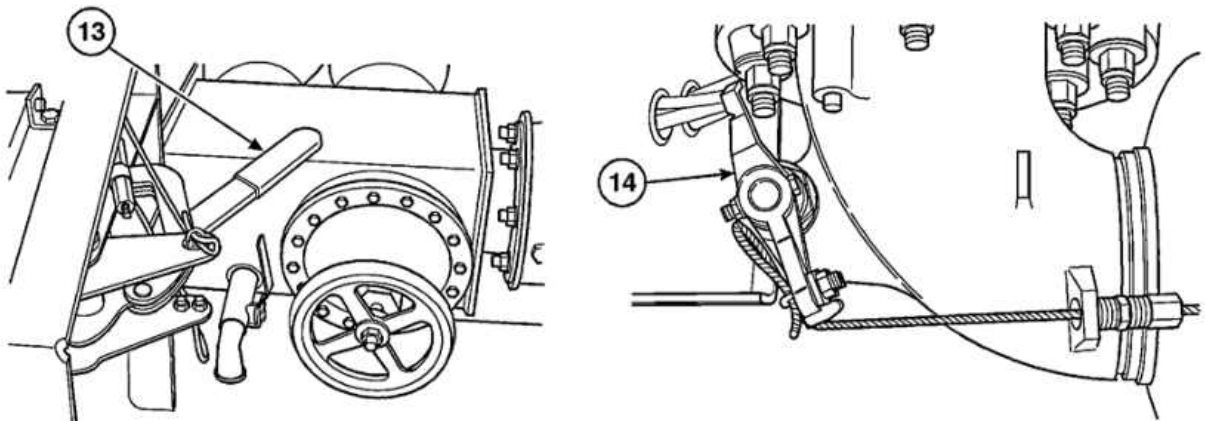
EMERGENCY VALVE A CONTROL HANDLE MAINTENANCE—Continued

0126 00

2. Loosen two nuts (16) and U-bolt (17) on emergency valve A lever (14).
3. Remove slack from control cable (15) at lever (14) while tightening two nuts (16) and U-bolt (17).

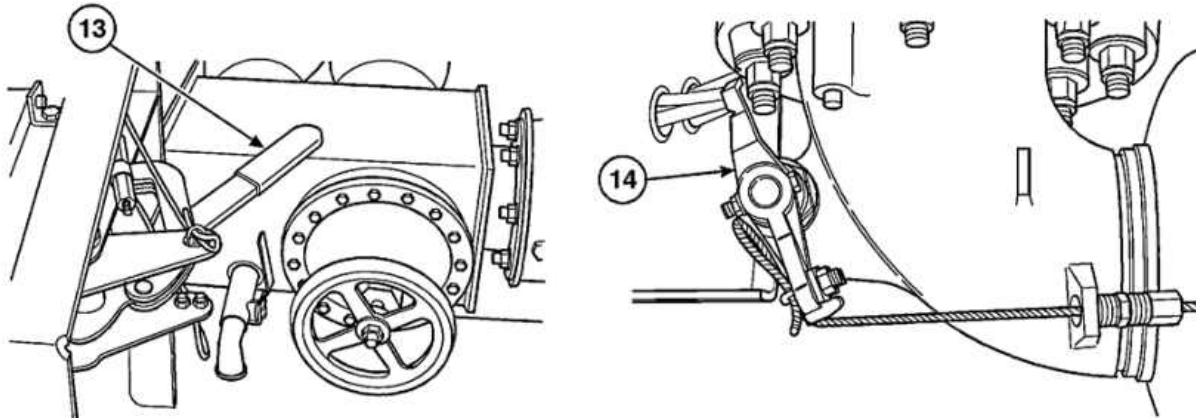


4. Pull control handle (13) to open position and verify that lever (14) opens fully.

**NOTE**

Have an assistant observe and verify correct emergency valve A lever operation.

5. Push control handle (13) to closed position and verify that lever (14) closes.

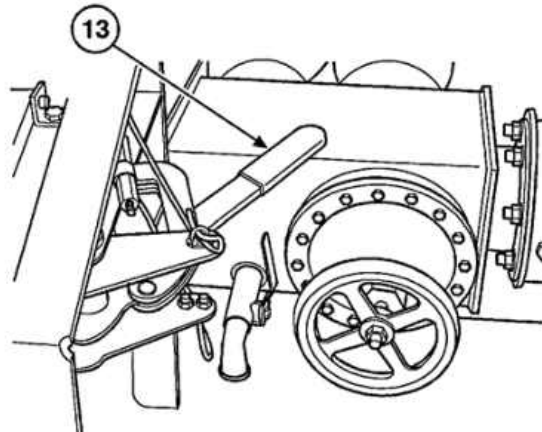


NOTE

It may be necessary to repeat steps 1 thru 5 until control handle fully opens emergency valve A.

Shut-Off Handles Cables

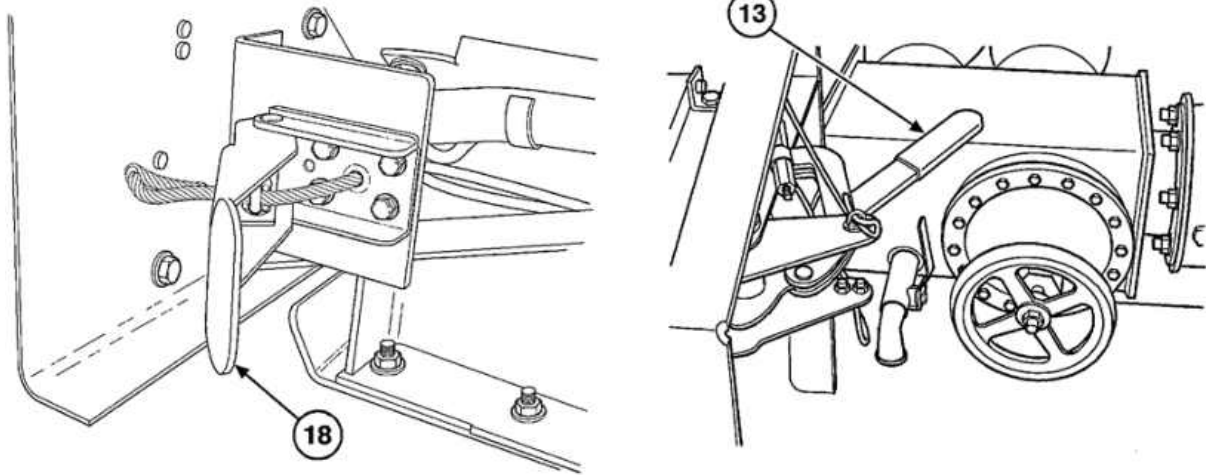
1. Pull control handle (13) to open position.



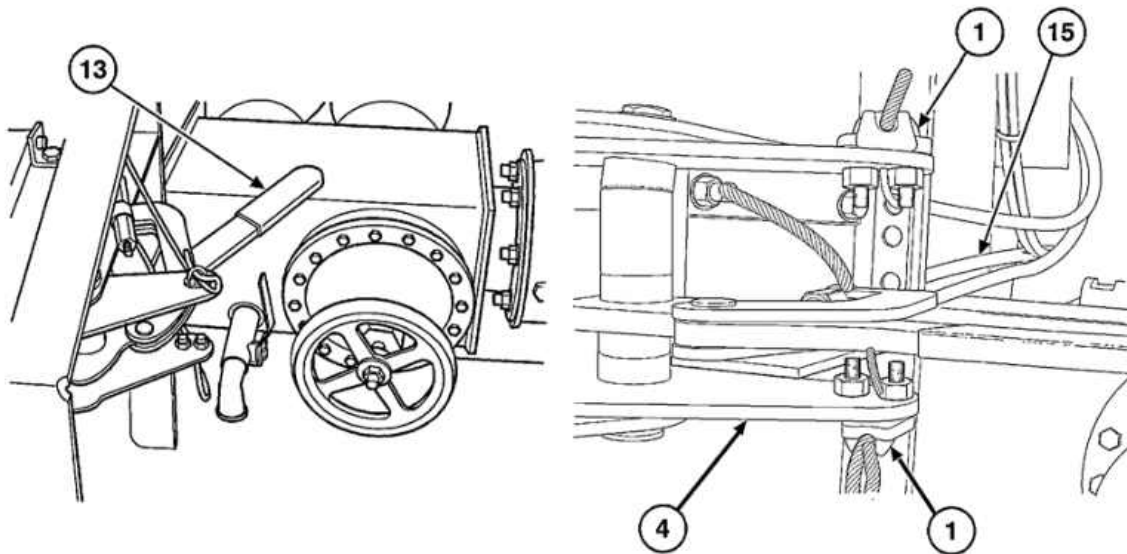
EMERGENCY VALVE A CONTROL HANDLE MAINTENANCE—Continued

0126 00

2. Pull roadside emergency valve handle (18) into closed position and verify control handle (13) closes.



3. If control handle (13) does not close, loosen U-bolt (1) at control handle bracket (4) and remove slack in shut-off cable (15) so that it closes control handle (13).
4. Repeat steps 1 thru 3 for curbside emergency valve handle.



FOLLOW-ON TASK

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

CONTROL CABLE REPLACEMENT

0127 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Equipment Conditions

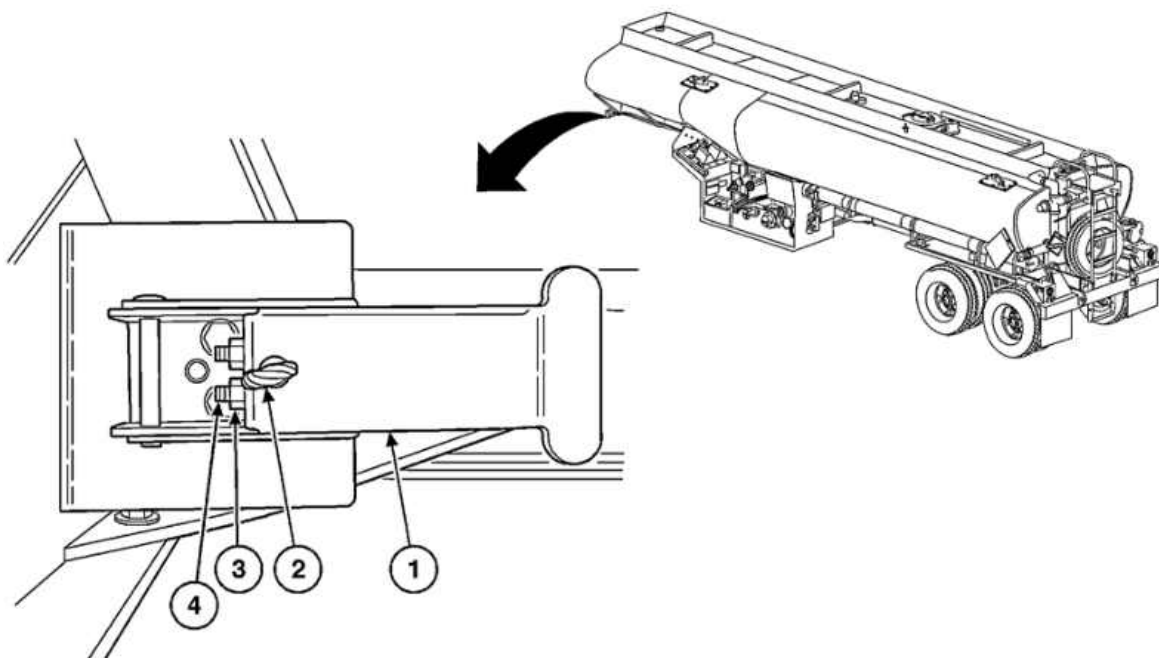
Semitrailer disconnected from prime mover (refer to WP 0007 00)

Cables disconnected from valve A control handle (refer to WP 0126 00)

Semitrailer grounded (refer to WP 0007 00)

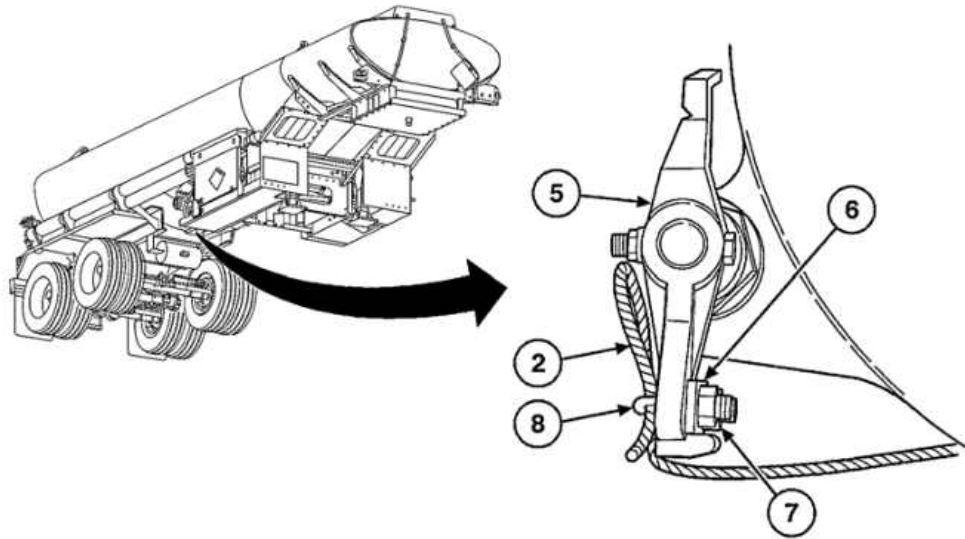
REMOVAL

1. Remove four nuts (3), two U-bolts (4), and cables (2) from handles (1).

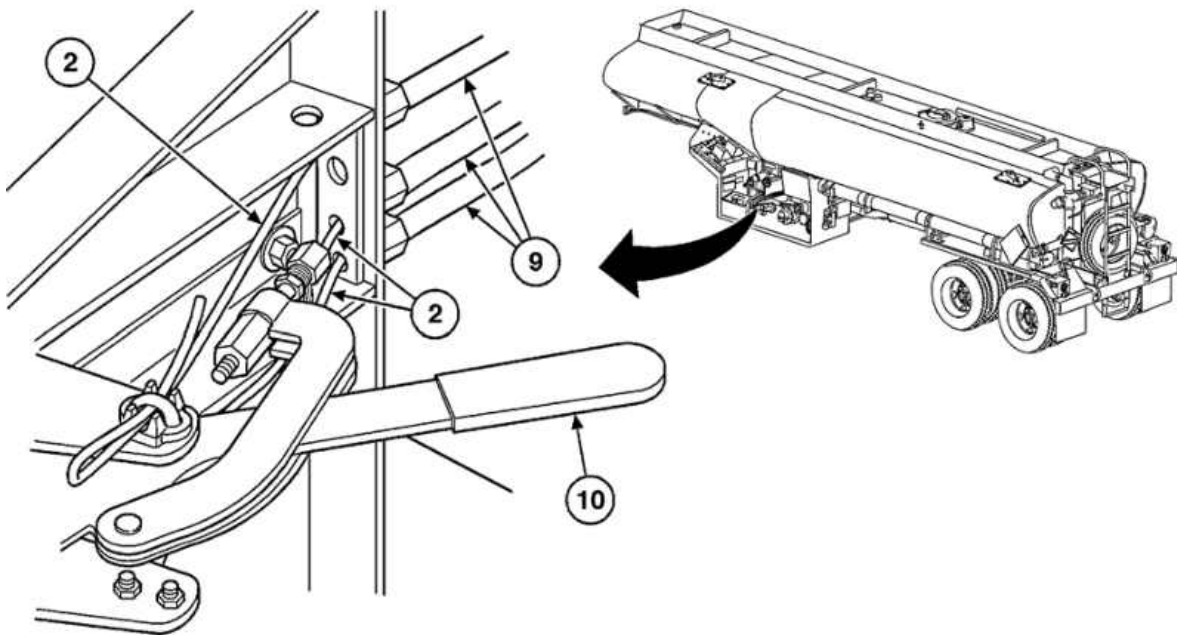


CONTROL CABLE REPLACEMENT—Continued**0127 00**

2. Remove two nuts (7), U-bolt (8), fuse plate and reinforcing plate (6), and cable (2) from lever (5).



3. Remove three cables (2) from conduit (9) at valve A control handle (10).

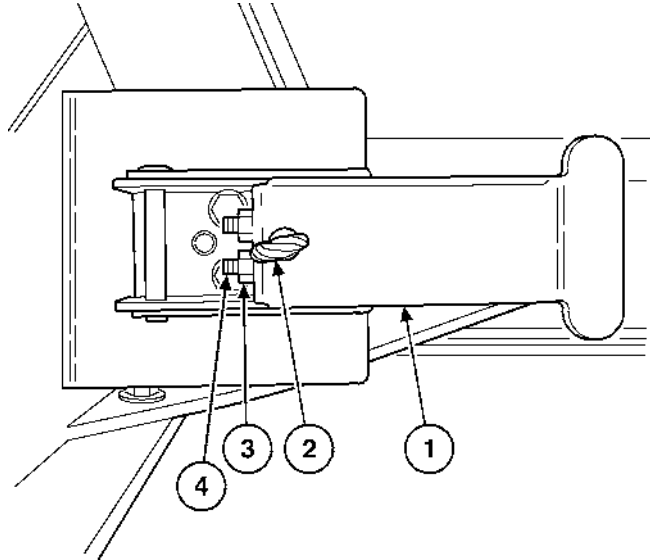
**INSTALLATION**

1. Install three cables (2) through conduit (9) to handle (10).

CONTROL CABLE REPLACEMENT—Continued

0127 00

2. Install two cables (2), U-bolts (4), and four nuts (3) to handles (1).



3. Install cable (2) to U-bolt (8), fuse plate and reinforcing plate (6) and two nuts (7) to lever (5).

FOLLOW-ON TASKS

1. Install cables to valve A control handle (WP 0126 00).
2. Disconnect semitrailer grounding cables (WP 0007 00)

END OF TASK

FIRE EXTINGUISHER BRACKETS REPLACEMENT

0128 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Self-locking nuts (8) (item 87, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

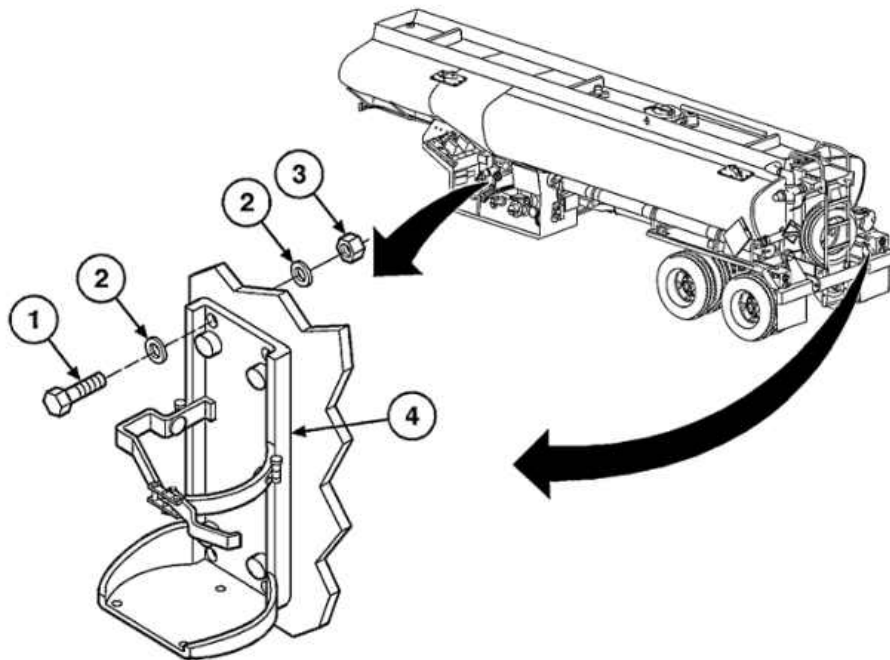
Fire extinguisher removed

REMOVAL

NOTE

There are two fire extinguisher brackets and they are replaced the same way. This procedure replaces one fire extinguisher bracket.

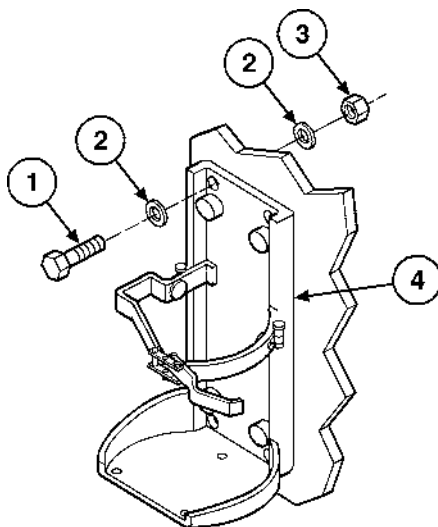
Remove four self-locking nuts (3), eight washers (2), four bolts (1), and fire extinguisher bracket (4) from semitrailer. Discard self-locking nuts.



FIRE EXTINGUISHER BRACKETS REPLACEMENT—Continued

0128 00**INSTALLATION**

Install fire extinguisher bracket (4), four bolts (1), eight washers (2), and four new self-locking nuts (3) to semitrailer.

**FOLLOW-ON TASKS**

1. Install fire extinguisher.
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

DECONTAMINATION APPARATUS BRACKET REPLACEMENT

0129 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Self-locking nuts (4) (item 87, WP 0160 00)

Equipment Conditions

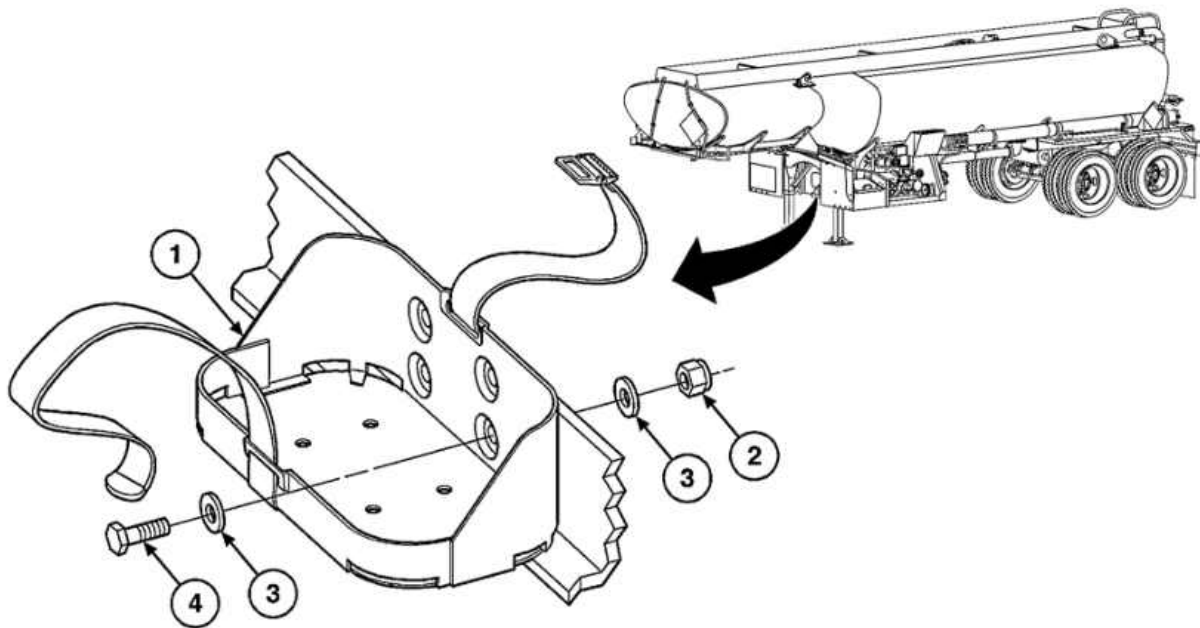
Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Decontamination apparatus removed

REMOVAL

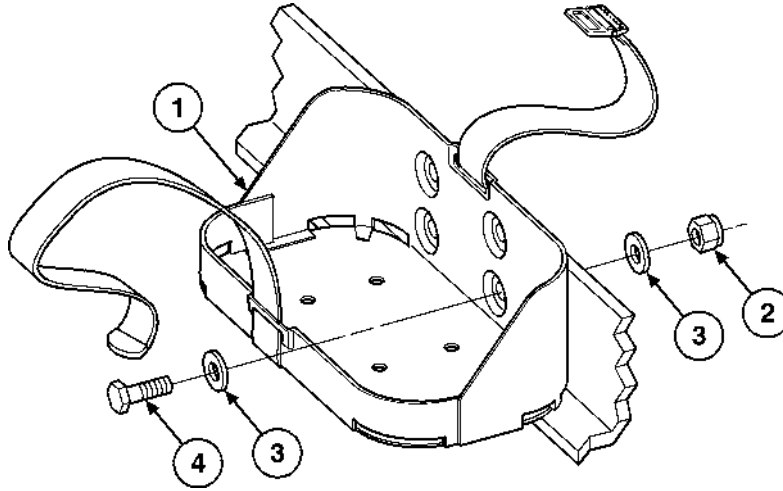
Remove four self-locking nuts (2), eight washers (3), four bolts (4), and decontamination apparatus bracket (1) from semitrailer. Discard self-locking nuts.



DECONTAMINATION APPARATUS BRACKET REPLACEMENT—Continued

0129 00**INSTALLATION**

Install decontamination apparatus bracket (1), four bolts (4), eight washers (3), and four new self-locking nuts (2) to semitrailer.

**FOLLOW-ON TASKS**

1. Install decontamination apparatus.
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

FILL GAGE STORAGE TUBE CAP REPLACEMENT

0130 00**THIS WP COVERS:**Removal, Installation, Follow-On Task

INITIAL SETUP:**Maintenance Level**

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Self-locking nut (item 66, WP 0160 00)

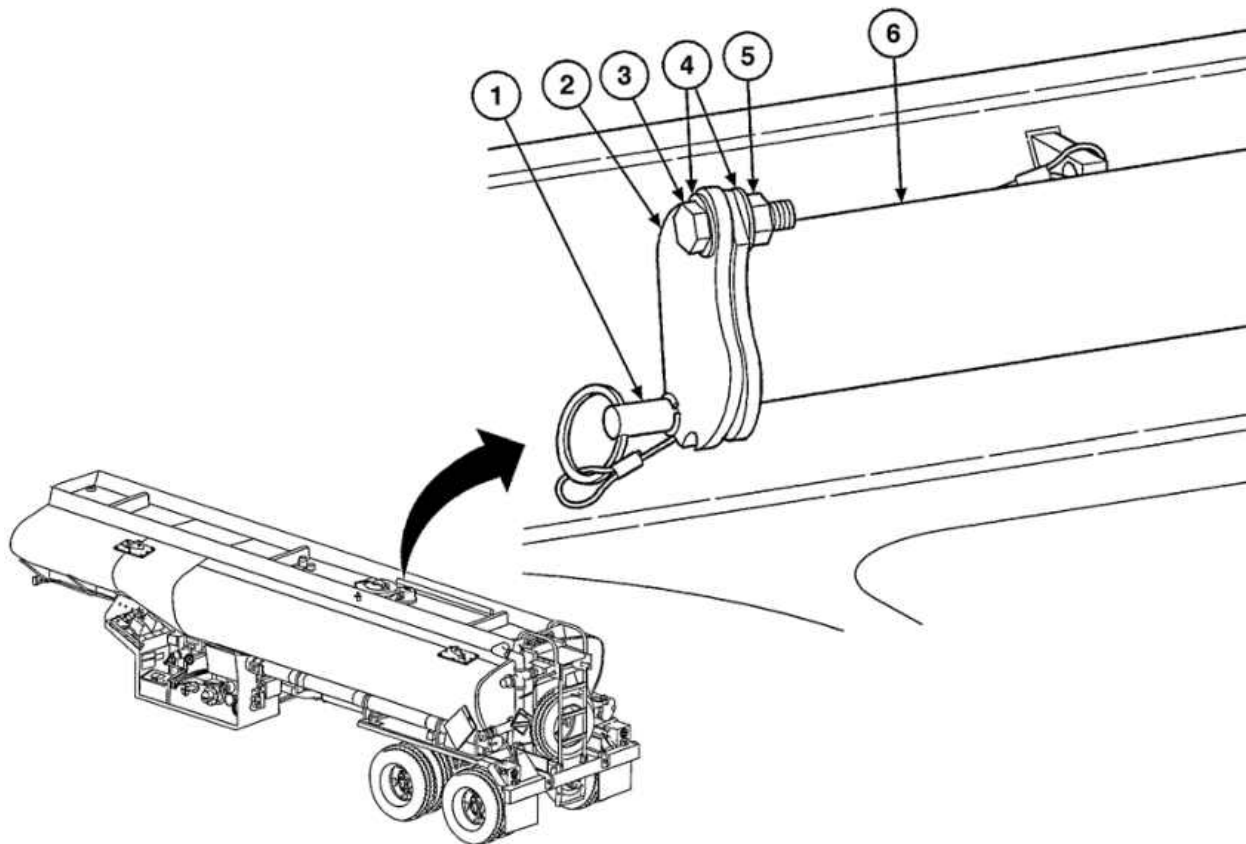
Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

REMOVAL

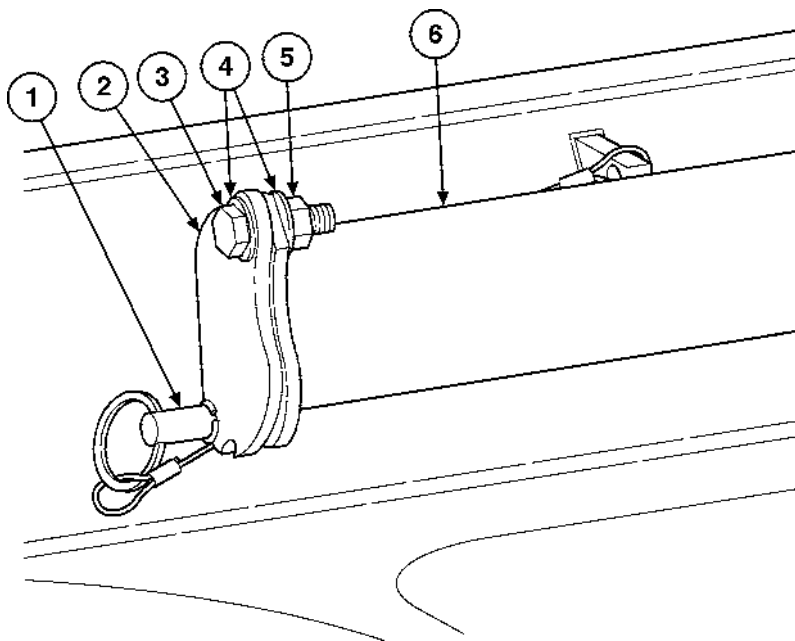
1. Remove pin (1) from end cap (2) and storage tube (6).
2. Remove self-locking nut (5), two washers (4), bolt (3), and endcap (2) from storage tube (6). Discard self-locking nut.



FILL GAGE STORAGE TUBE CAP REPLACEMENT—Continued

0130 00**INSTALLATION**

1. Install endcap (2), bolt (3), two washers (4), and new self-locking nut (5) to storage tube (6).
2. Install pin (1) to endcap (2) and storage tube (6).

**FOLLOW-ON TASK**

Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

ENGINE OIL FILTER HEAD REPLACEMENT

0131 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Compound, thread sealing (item 7, WP 0159 00)
Gaskets (2) (item 68, WP 0160 00)
Gaskets (2) (item 137, WP 0160 00)
Seal (item 36, WP 0160 00)

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Equipment Conditions

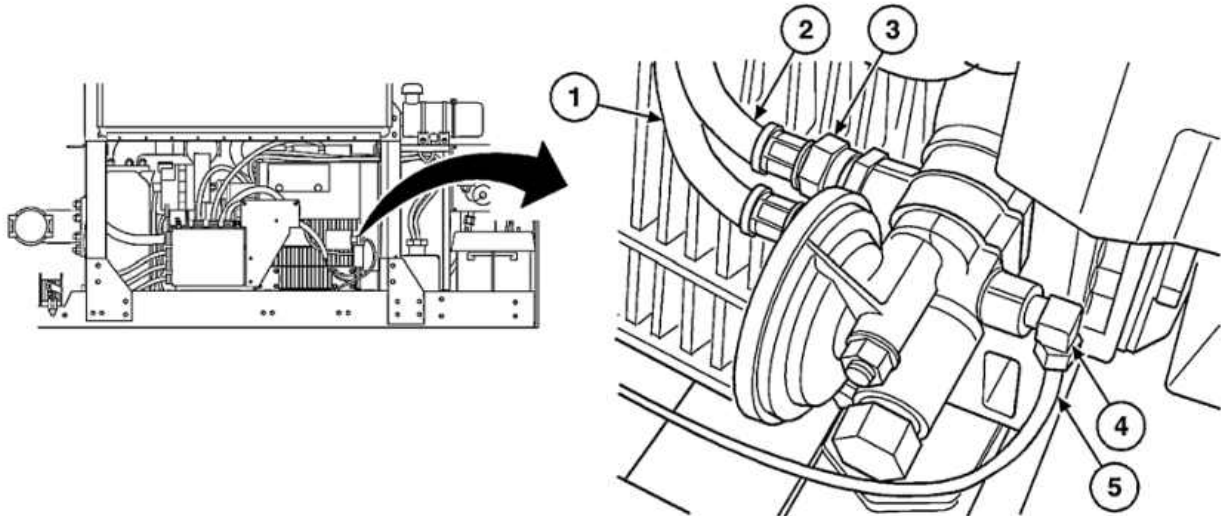
Semitrailer disconnected from prime mover (refer to WP 0007 00)
Semitrailer grounded (refer to WP 0007 00)
Negative terminal disconnected from battery (refer to WP 0007 00)
Oil pressure switch removed (refer to WP 0098 00)
Oil filter removed (refer to WP 0098 00)

REMOVAL

NOTE

Tag oil lines prior to disconnecting.

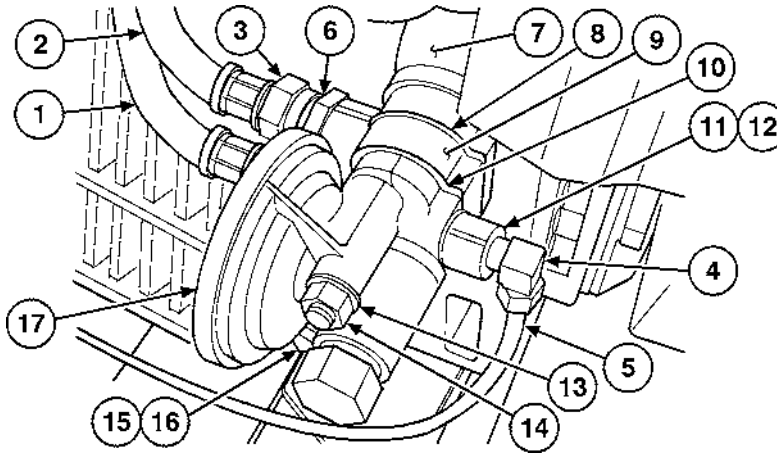
1. Disconnect oil cooler supply line (1) and return line (2) from fittings (3).
2. Disconnect oil pressure line (5) from fitting (4).



ENGINE OIL FILTER HEAD REPLACEMENT—Continued

0131 00

3. Remove two nuts (15 and 14), washers (16 and 13), oil filter head (17), gasket (10), plate (9), and gasket (8) from engine (7). Discard gaskets.
4. Remove two fittings (3) and gaskets (6) from plate (9). Discard gaskets.
5. Remove two fittings (4 and 11) and seal (12) from oil filter head (17). Discard seal.

**INSTALLATION****NOTE**

Apply thread sealing compound to threads of fittings.

1. Install new seal (12) and two fittings (4 and 11) to oil filter head (17).
2. Install two new gaskets (6) and fittings (3) to plate (9).
3. Install new gasket (8), plate (9), new gasket (10), oil filter head (17), washers (16 and 13), and nuts (15 and 14) to engine (7).
4. Connect oil pressure line (5) to fitting (4).
5. Connect return line (2) and oil cooler supply line (1) to fittings (3).

FOLLOW-ON TASKS

1. Install oil pressure switch (WP 0098 00).
2. Install oil filter (WP 0098 00).
3. Reconnect negative battery terminal (WP 0007 00).
4. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

ENGINE OIL COOLER REPLACEMENT

0132 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Materials/Parts

Cable tie (item 98, WP 0160 00)

Lockwashers (2) (item 43, WP 0160 00)

References

WP 0042 00

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Suitable container (item 1, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

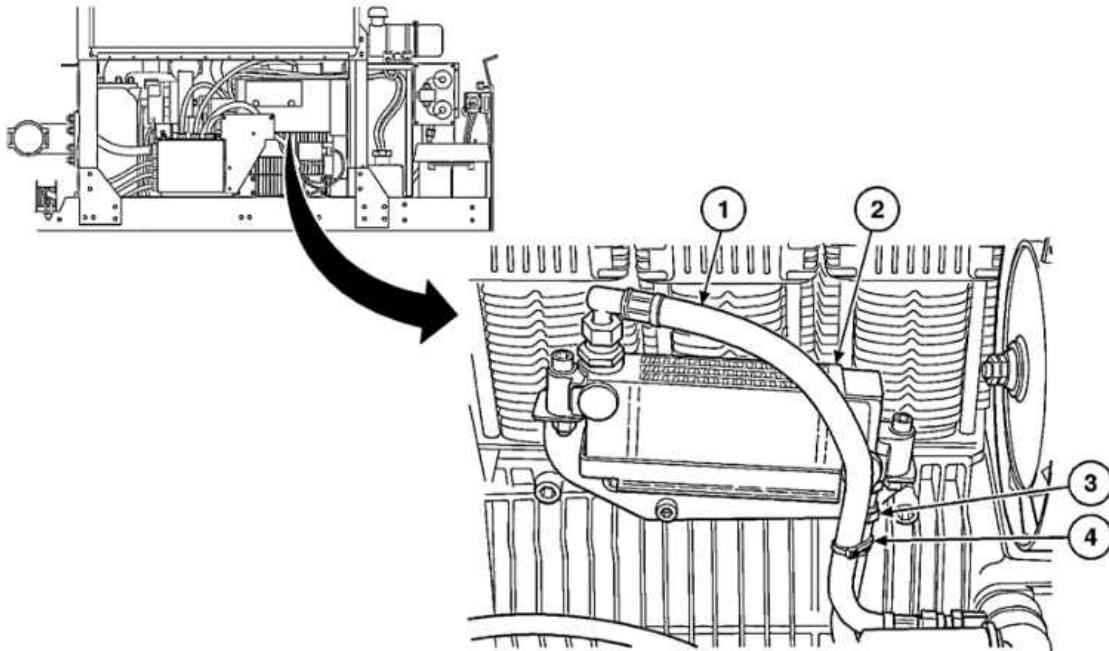
Engine shroud removed (refer to WP 0134 00)

REMOVAL

NOTE

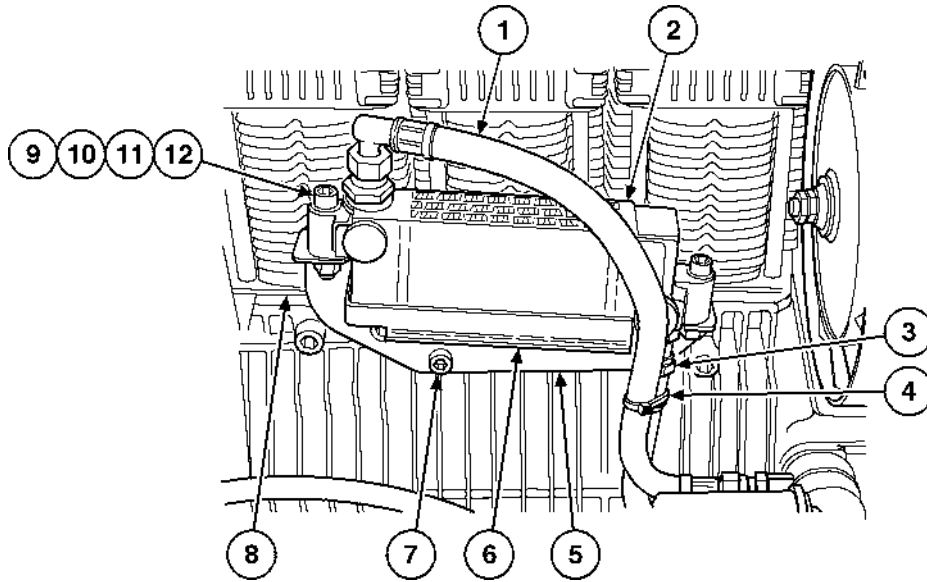
Position suitable container under oil cooler.

1. Remove oil return line (3) and supply line (1) from oil cooler (2).
2. Remove cable tie (4) from oil return line (3) and supply line (1). Discard cable tie.



ENGINE OIL COOLER REPLACEMENT—Continued**0132 00**

3. Remove two nuts (9), lockwashers (10), washers (11), screws (12), and oil cooler (2) from bracket (5). Discard lockwashers.
4. Remove guard (6) from oil cooler (2).
5. Remove three screws (7) and bracket (5) from engine (8).

**INSTALLATION**

1. Install bracket (5) and three screws (7) to engine (8).
2. Install guard (6) to oil cooler (2).
3. Install oil cooler (2), two screws (12), washers (11), new lockwashers (10), and nuts (9) to bracket (5).
4. Install oil supply line (1) and return line (3) to oil cooler (2).
5. Install new cable tie (4) to oil supply line (1) and return line (3).

FOLLOW-ON TASKS

1. Install engine shroud (WP 0134 00).
2. Add engine oil as necessary (WP 0042 00).
3. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

FUEL INJECTION LINES AND FITTINGS REPLACEMENT

0133 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Copper washers (6) (item 62, WP 0160 00)

Copper washers (3) (item 64, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

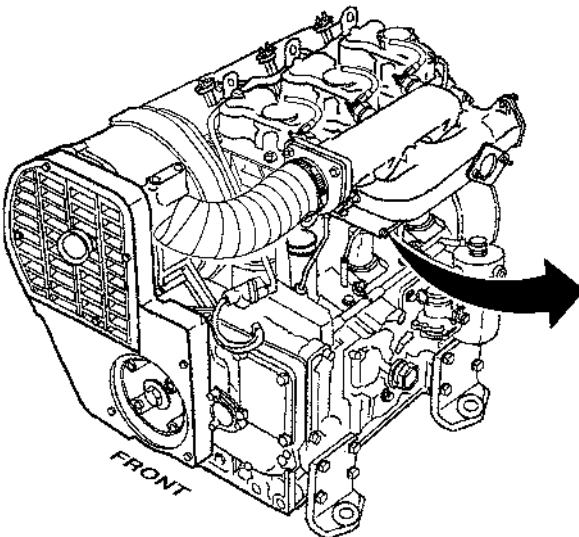
Negative terminal disconnected from battery (refer to WP 0007 00)

REMOVAL

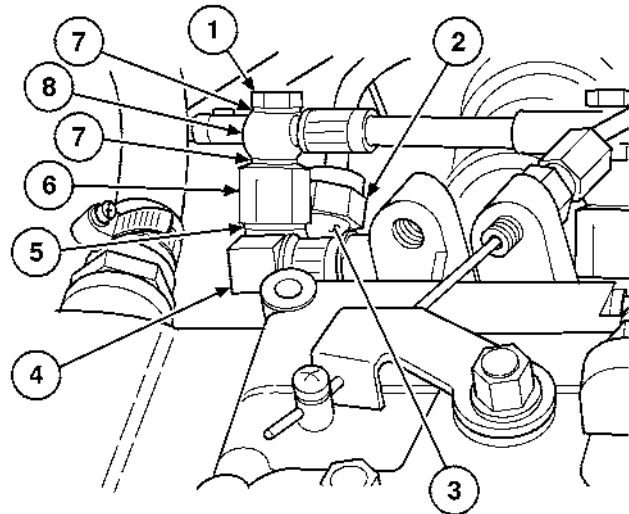
NOTE

There are three sets of fuel injection lines and they are replaced the same way. This procedure covers one fuel injection line.

1. Remove screw (1), copper washer (7), fuel injection return line (8), and copper washer (7) from ported screw (6). Discard copper washers.
2. Remove ported screw (6), copper washer (5), fuel supply line (4), and copper washer (5) from fuel metering pump (3). Discard copper washers.
3. Loosen coupling nut (2) at fuel metering pump (3).



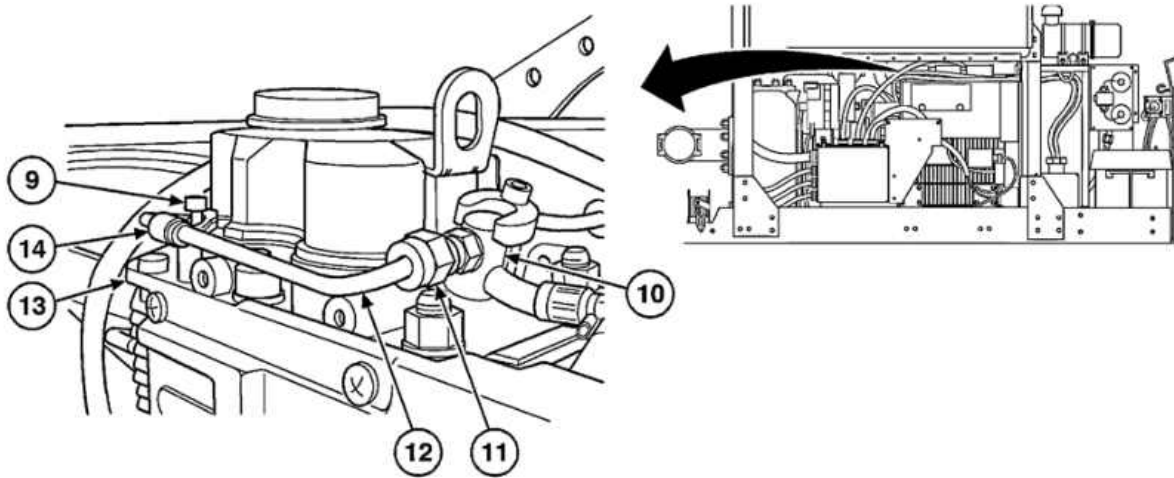
ENGINE SHOWN REMOVED FOR CLARITY



FUEL INJECTION LINES AND FITTINGS REPLACEMENT—Continued

0133 00

4. Remove screw (9) and clamp (14) from engine (13).
5. Loosen coupling nut (11) and remove fuel injection line (12) from fuel injector nozzle (10).

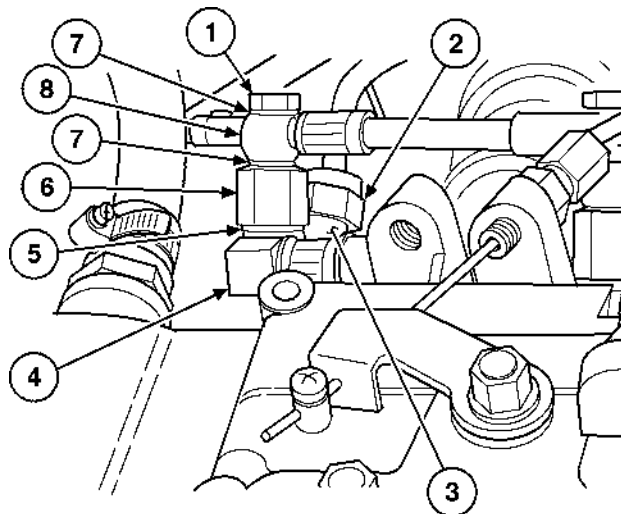


INSTALLATION

1. Install fuel injection line (12) to fuel injector nozzle (10) and tighten coupling nut (11).
2. Install fuel injection line (12) at fuel metering pump (3) and tighten coupling nut (2).
3. Install clamp (14) and screw (9) to engine (13).
4. Install new copper washer (5), fuel supply line (4), new copper washer (5), and ported screw (6) to fuel metering pump (3).
5. Install new copper washer (7), fuel injection return line (8), new copper washer (7), and screw (1) to fuel metering pump (3).

FUEL INJECTION LINES AND FITTINGS REPLACEMENT—Continued

0133 00



FOLLOW-ON TASKS

1. Reconnect negative battery terminal (WP 0007 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

ENGINE SHROUD REPLACEMENT

0134 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Equipment Conditions

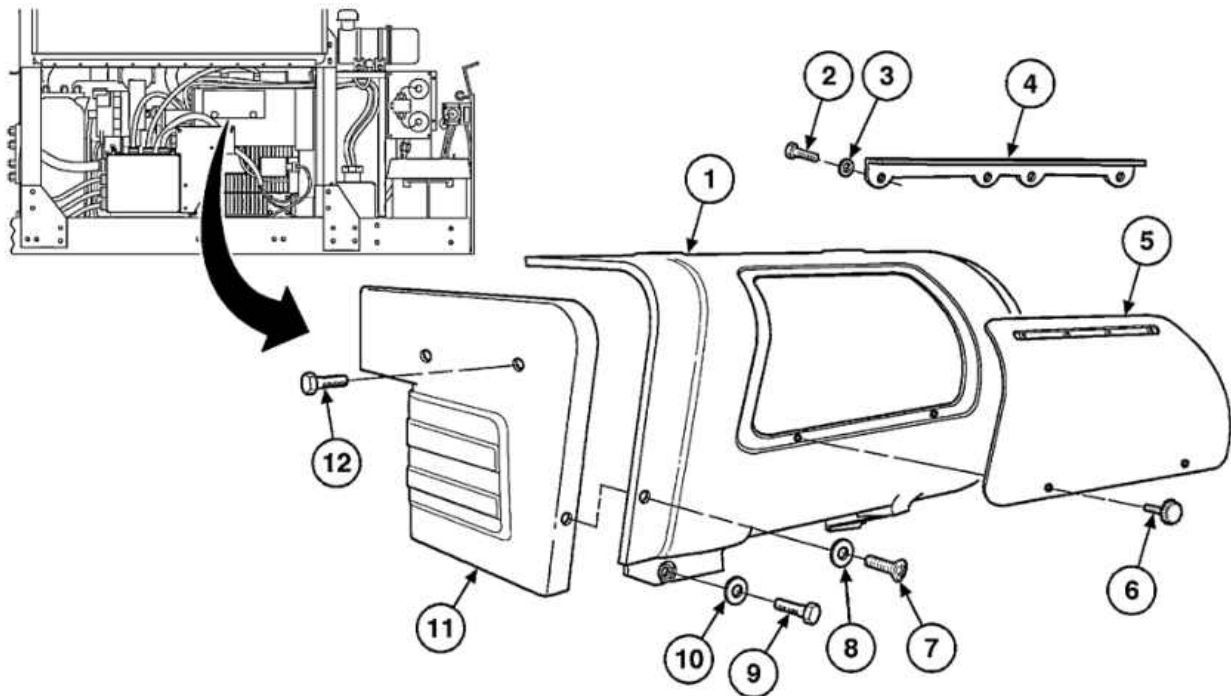
Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Negative terminal disconnected from battery (refer to WP 0007 00)

REMOVAL

1. Remove two thumb screws (6) and pan (5) from shroud (1).
2. Remove two screws (7), washers (8), five bolts (9), washers (10), and shroud (1).
3. Remove two screws (12) and rear shroud (11).
4. Remove four bolts (2), washers (3), and shroud mount (4).

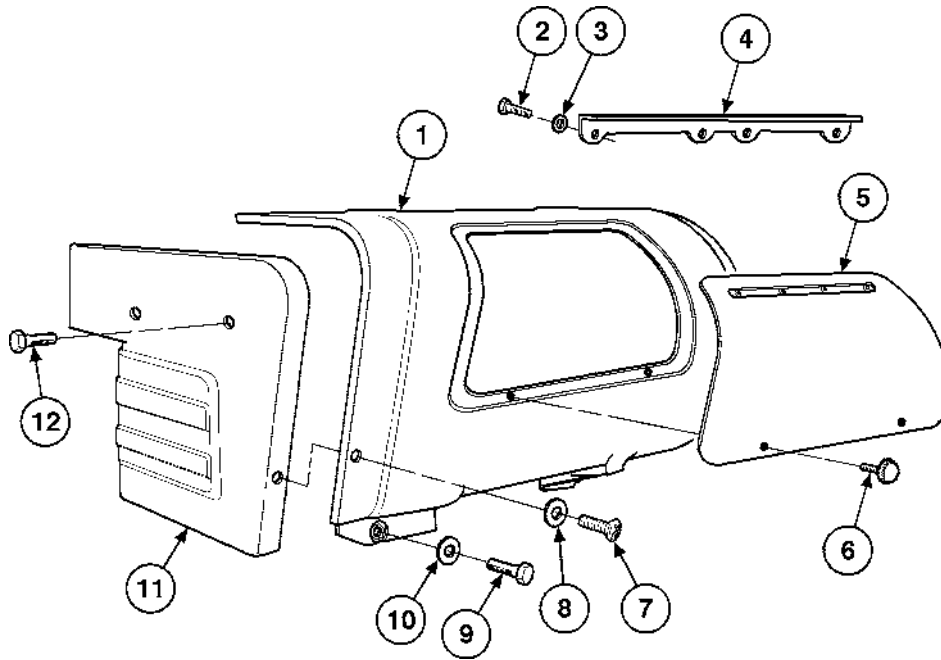


ENGINE SHROUD REPLACEMENT—Continued

0134 00

INSTALLATION

1. Install shroud mount (4), four washers (3), and bolts (2).
2. Install rear shroud (11) and two screws (12).
3. Install shroud (1), five washers (10), bolts (9), two washers (8), and screws (7).
4. Install pan (5) and two thumb screws (6) to shroud (1).



FOLLOW-ON TASKS

1. Reconnect negative battery terminal (WP 0007 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

PUMP TUBING REPLACEMENT

0135 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Gaskets (2) (item 142, WP 0160 00)

Seals (4) (item 129, WP 0160 00)

Lockwashers (16) (item 13, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

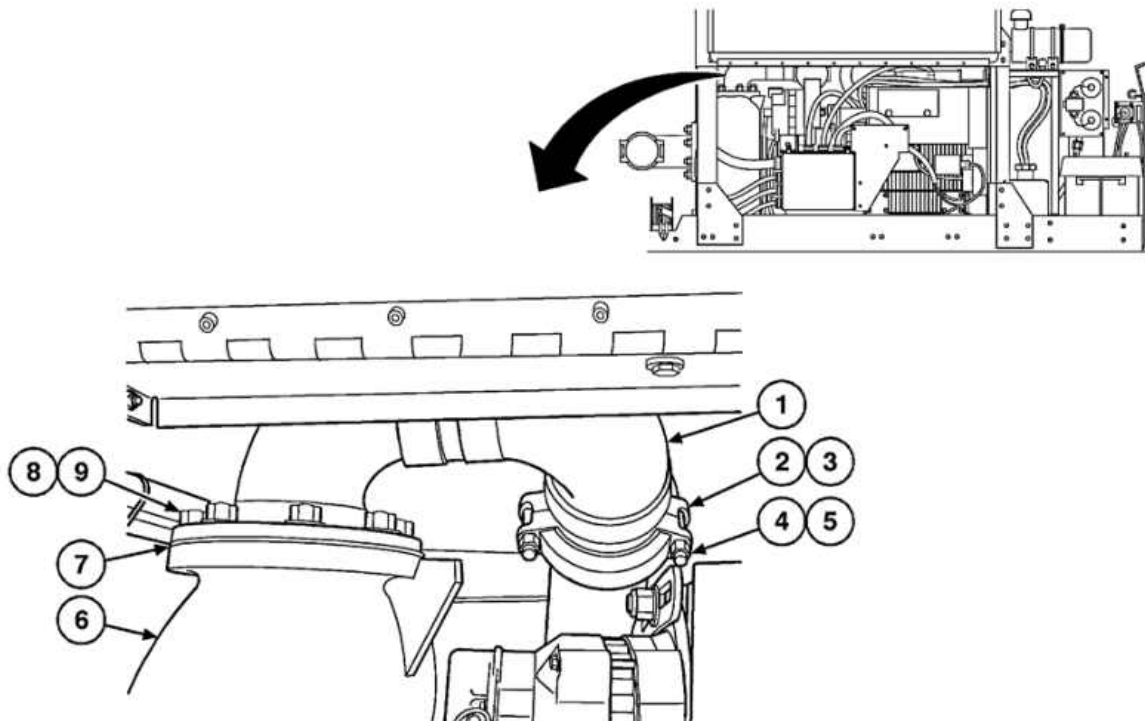
Semitrailer grounded (refer to WP 0007 00)

Semitrailer fuel tank drained (refer to WP 0007 00)

Negative terminal disconnected from battery (refer to WP 0007 00)

REMOVAL

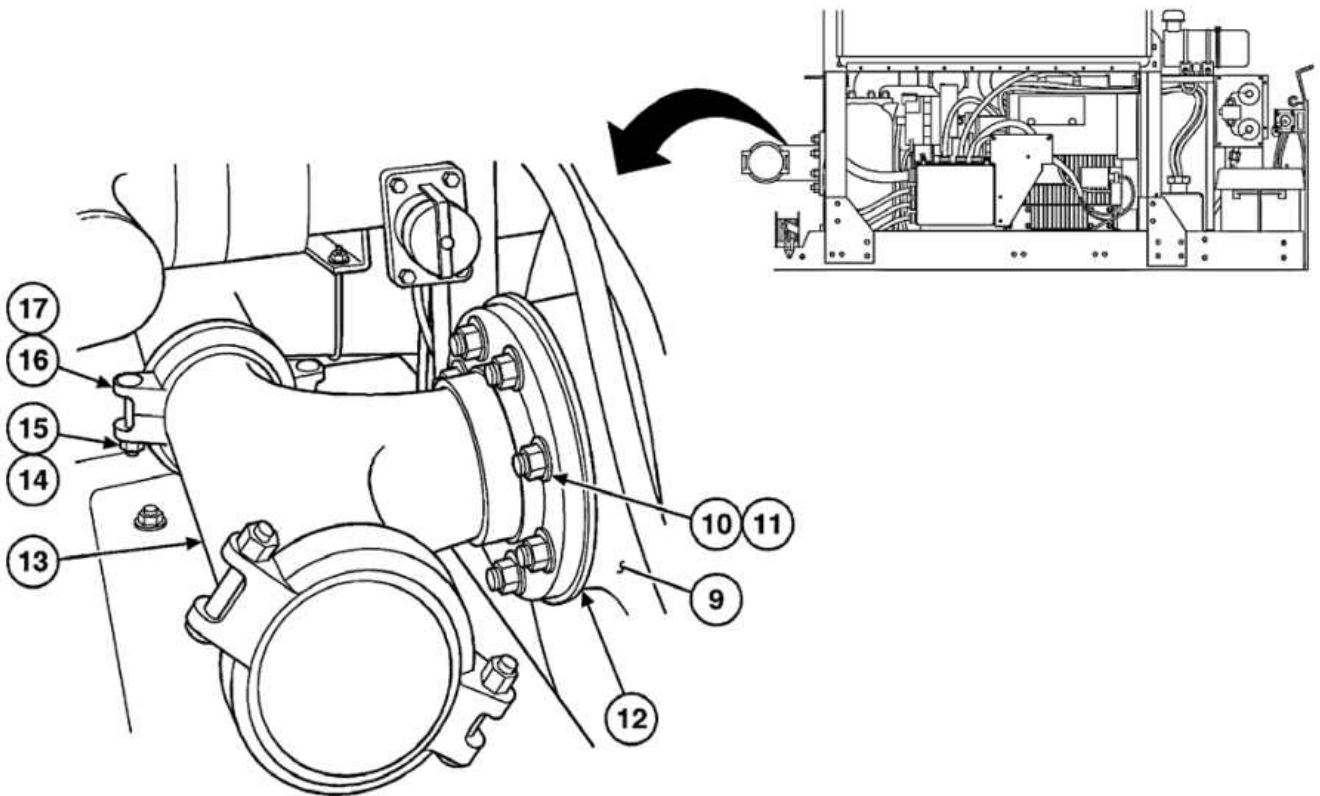
1. Remove four nuts (4), bolts (5), two split couplings (2), and seals (3) from pipe (1). Discard seals.
2. Remove eight bolts (8), lockwashers (9), gasket (7), and pipe (1) from pump (6). Discard lockwashers and gasket.



PUMP TUBING REPLACEMENT—Continued

0135 00

3. Remove four bolts (15), nuts (16), two split couplings (17), and seals (18) from pipe (14). Discard seals.
4. Remove eight nuts (11), lockwashers (12), gasket (13), and pipe (14) from pump (6). Discard self-locking nuts and gasket.

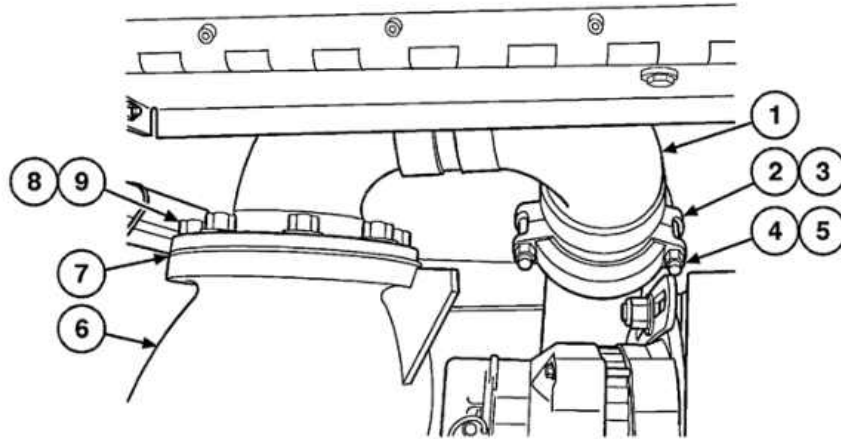
**INSTALLATION**

1. Install pipe (14), new gasket (13), eight new lockwashers (12), and nuts (11) to pump (6).
2. Install two new seals (18), split couplings (17), four nuts (16), and bolts (15) to pipe (14).

PUMP TUBING REPLACEMENT—Continued

0135 00

3. Install pipe (1), new gasket (7), eight new lockwashers (9), and bolts (8) to pump (6).
4. Install two new seals (3), split couplings (2), bolts (5), and nuts (4).



FOLLOW-ON TASKS

1. Reconnect negative battery terminal (WP 0007 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

PREPARATION FOR STORAGE OR SHIPMENT

0136 00

THIS WP COVERS:

General, Definition of Administrative Storage, Preparation for Administrative Storage, Exercise Schedule, Removal from Administrative Storage, Preparation of Equipment for Shipment

INITIAL SETUP:

Maintenance Level

Organizational

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

References

AR 20-1 MTMCTEA PAM 55-19
 AR 55-355 TM 55-2350-293-14
 AR 190-13 WP 0034 00
 AR 190-51 WP 0042 00
 AR 700-138 WP 0043 00
 AR 750-1
 DA Form 2404
 DA Form 5988-E
 DA PAM 738-750
 DD Form 314
 DD Form 1397
 TM 38-470

GENERAL

This section contains requirements and procedures for the administrative storage of equipment that is issued to and in use by Army activities worldwide.

The requirements specified herein are necessary to maintain equipment in administrative storage in such a way as to achieve maximum readiness condition.

Equipment that is placed in administrative storage should be capable of being readied to perform its mission within a 24-hour period, or as otherwise prescribed by the approving authority. Before equipment is placed in administrative storage, current Preventive Maintenance Checks and Services (PMCS) procedures should be completed and deficiencies corrected.

Report equipment in administrative storage in material readiness and unit readiness reports as prescribed for all reportable equipment.

Perform inspection, maintenance services, and lubrication as specified herein.

Records and reports to be maintained for equipment in administrative storage are those prescribed by DA PAM 738-750 for equipment use.

A 10% variance is acceptable on time, running hours, or mileage used to determine maintenance actions.

DEFINITION OF ADMINISTRATIVE STORAGE

Equipment placement in administrative storage can be for short periods when:

PREPARATION FOR STORAGE OR SHIPMENT—Continued

0136 00

- a. Units lack operating funds, personnel, other resources, or normal usage of its organic material.
- b. Material exceeding the owning unit's capability for operation and maintenance must be retained by that unit for contingency or other reasons.

Installation or unit commanders may authorize the administrative storage of their material through guidance furnished by AR 750-1.

PREPARATION FOR ADMINISTRATIVE STORAGE

- 1. Except as indicated elsewhere in this WP, equipment placed in administrative storage should be capable of mission readiness with a 24-hour period or as otherwise prescribed by the approving authority. Before equipment is placed in administrative storage, perform current maintenance services, and correct any shortcomings or deficiencies. Apply all Modification Work Orders (MWOs).
- 2. Report equipment in administrative storage in material readiness and unit readiness reports as prescribed for all reportable equipment. Refer to AR 700-138 and AR 20-1.
- 3. Perform inspections, maintenance services, and lubrication in accordance with this manual.
- 4. Maintain records and reports for equipment in administrative storage as prescribed by DA PAM 738-750 for equipment in use.
- 5. A 10% variance is acceptable on running time hours or mileage used to determine maintenance actions involved.

Security

Instructions in this WP do not modify security procedures and requirements for classified or pilferable items. Refer to AR 190-13 and AR 190-51.

Storage Site

- 1. Select the best available site for administrative storage. Separate stored equipment from equipment in use. Conspicuously mark the area Administrative Storage.
- 2. Covered storage space is preferred. When insufficient covered space is available for all semitrailers to be stored, select an open site.
- 3. Open sites should be improved hardstand, if available. Unimproved sites should be firm, well drained, and kept free of excessive vegetation.

Storage Plan

- 1. Store equipment to provide maximum protection from the elements and to provide access for inspection, maintenance, and exercising. Anticipate removal or deployment problems and take suitable precautions.

PREPARATION FOR STORAGE OR SHIPMENT—Continued

0136 00

2. Take into account environmental conditions, such as extreme heat or cold, high humidity, blowing sand, dust or loose debris, soft ground, mud, heavy snows, earthquakes, or combinations thereof and take adequate precautions.
3. Establish a fire plan and provide for adequate fire fighting equipment and personnel.

Maintenance Services and Inspections

Prior to storage, perform the next scheduled major preventive maintenance service (semi-annually or annually).

Basic Issue Items (BII)

1. Process BII simultaneously with the semitrailer to which they are assigned. If possible, store BII with the semitrailer.
2. If stored apart from the semitrailer, label BII with tags designating the vehicle, its registration, or serial number and location and store in protection-type closures.
3. In addition, place a tag or list indicating the location of the removed items in a conspicuous place in the semitrailer.

Corrections of Shortcomings and Deficiencies

Correct all shortcomings and deficiencies prior to storage, or get a deferment from the approving authority.

Lubrication

Lubricate equipment in accordance with applicable lubrication instructions (WP 0034 00, 0042 00) of this manual.

General Cleaning, Painting, and Preservation

1. Clean dirt, grease, and other contaminants from the equipment in accordance with this manual (WP 0043 00).

CAUTION

Do not direct high-pressure water or steam against air cleaner, air duct outlets, exhaust outlets, unsealed electrical systems, Automatic Fire Extinguishing System (AFES) equipment, or any exterior components. Moisture will cause electrical malfunctions. Condensation in ducts can cause corrosion.

2. After cleaning and drying, immediately coat all unpainted metal surfaces with oil or grease as appropriate.

NOTE

- **Air circulation under draped covers reduces deterioration from moisture and heat.**
 - **Place a piece of cloth or other material between desiccant bags and metal surfaces.**
3. Sunlight, heat, humidity, and dirt tend to accelerate deterioration. Install all covers (including vehicle protection closures) authorized for the equipment. Close and secure all openings except those required for venting and draining. Seal openings to prevent the entry of rain, snow, or dust. Insert desiccant when complete seal is required.
 4. Place equipment and provide blocking or framing to allow for ventilation and water drainage. Support cover away from semitrailer surfaces that may rust, rot, or mildew.

Maintenance Services

After equipment has been placed in administrative storage, suspend all regularly scheduled preventive maintenance checks, services, inspections, and exercise as specified in this WP.

Inspection

1. A vehicle to be prepared for administrative storage must be given a limited technical inspection and be processed as prescribed on DD Form 1397. Enter the result of the inspection and classification on DA Form 2404 or DA Form 5988-E.
2. If a vehicle is not shipped or issued upon expiration of the administrative storage period, process as applicable in accordance with the appropriate vehicle specification.
3. If a vehicle to be shipped will reach its destination within the administrative storage period, it need not be reprocessed when removed from storage, unless necessary because of anticipated in-transit weather conditions.
4. Inspection will be visual and must consist of a walk-around examination of all equipment to observe any deficiencies that may have occurred. Inspect equipment in open storage weekly and equipment in covered storage monthly. Immediately after any severe storm or environmental change, inspect all equipment. The following are examples of things to look for during visual inspection:
 - a. Leaks (coolant, fuel, or oil).
 - b. Condition of preservation, seals, and wraps. Seals may develop leaks during storage during exercise, or shortly thereafter. If leaking continues, refer to the repair procedure in this manual.
 - c. Corrosion or other deterioration.
 - d. Damaged or missing parts.

PREPARATION FOR STORAGE OR SHIPMENT—Continued

0136 00

- e. Water in compartments.
- f. Any other readily recognizable shortcomings or deficiencies.

EXERCISE SCHEDULE

To ensure use of all assigned material, rotate items in accordance with any rotational plan that will keep equipment in operational condition and reduce maintenance effort.

REMOVAL FROM ADMINISTRATIVE STORAGE

1. Remove preservative materials. Perform the next scheduled maintenance service and prepare equipment for service in accordance with instructions on DD Form 1397 and in this manual.
2. Resume the maintenance service schedule in effect after the commencement or storage as in accordance with DD Form 314. Refer to DA PAM 738-750.

PREPARATION OF EQUIPMENT FOR SHIPMENT

When shipping the semitrailer, the officer in charge of preparing the shipment will be responsible for furnishing the material in serviceable condition, properly cleaned, processed, packaged, and packed. Transport the semitrailer in accordance with TM 55-2350-293-14.

Removal of Preservatives Prior to Shipment

Personnel removing vehicle from storage for shipment must not remove preservatives other than to make sure the material is complete and serviceable. If preservatives have been removed, they must be restored to the prescribed level of preservation prior to shipment.

Army Shipping Documents

Prepare all Army shipping documents in accordance with AR 55-355.

Loading**CAUTION**

When prepared for rail transportation, the vehicle's height and width must not exceed limitations prescribed for particular railway lines. Whenever possible, consult local transportation officers about limitations of particular railroad lines to be used for movement in order to avoid delays, dangerous conditions, or damage to equipment.

1. When the vehicle is shipped by rail, take every precaution to see that it is properly loaded, blocked, and securely fastened to the flatcar floor.
2. Inspect flatcar prior to loading. Make sure flatcar is in suitable condition to carry loads safely.
3. Prepare the flatcar for loading by removing debris, previous blocking, nails, and other obstructions. Inspect the flatcar for loose or broken floor planks. If found unsatisfactory, reject the flatcar for use.

PREPARATION FOR STORAGE OR SHIPMENT—Continued

0136 00

4. If suitable hoisting equipment, permanent loading ramps, and handling equipment are not available for loading or unloading material, construct improvised runways, ramps, and spanning platforms.
5. Loading must be governed by the capacity and length of flatcars available at the time of shipment, as well as requirements of bills of loading and shipping instructions.
6. Position the vehicle as far from the brake wheel end of the flatcar as space permits. Provide minimum clearance of 4 in. (10.2 cm) below and 6 in. (15.2 cm) above, behind, and to each side of the flatcar brake wheel.

Blocking

All blocking instructions specified herein are minimum and are in accordance with the Association of American Railroads Pamphlet, Section No. 6 (Rules for Governing the Loading of Department of Defense Material on Open-Top Cars). Additional blocking may be added at the discretion of the officer in charge.

Blocks

Construct four chock blocks: two to fit the angle between the front wheels and car deck and two to fit the angle between the rear wheels and car deck at the rear of the vehicle.

1. Using lumber 1-5/8 in. (4.13 cm) thick, make chock blocks 12 in. (30.5 cm) wide and a minimum of 18 in. (45.7 cm) high. Nail the pieces together with 20-penny nails.
2. Place one chock block against the front of each wheel and against the rear of each wheel. Toenail chock blocks to the car floor with 40-penny nails.

End Cleats

1. Place one end cleat (2 x 4 x 12 in. [5.1 x 10.2 x 30.5 cm]) against the end of each chock block and secure it to the car deck with 30-penny nails. Eight are required.
2. Place upper cleat on top of lower cleat and secure to lower cleat with 30-penny nails.

Side Cleats

1. Locate one cleat (2 x 3 x 10 in. [5.1 x 7.6 x 25.4 cm]) against inside and outside of each chock block. Eight are required.
2. Secure each to the car deck with 20-penny nails.

Holddown Rods

1. Thread both ends of the holddown rod (1-1/4 in. [3.2 cm] in diameter) as long as required.
2. Insert one end of the holddown rod through the lifting eye on the front of the vehicle.
3. Bend the rod and insert the other end through the stake picket on opposite side of the flatcar.

PREPARATION FOR STORAGE OR SHIPMENT—Continued

0136 00

4. Repeat the operation with the second rod and lifting eye on the front of the vehicle and with two rods on the rear of the vehicle.

Transportation

When transporting the semitrailers by any means other than railroad flatcar, transport in accordance with MTMCTEA PAM 55-19.

END OF TASK

CHAPTER 8

DIRECT SUPPORT/GENERAL SUPPORT MAINTENANCE INSTRUCTIONS

GENERAL MAINTENANCE INSTRUCTIONS

0137 00**THIS WP COVERS:**General Maintenance Procedures

INITIAL SETUP:**Maintenance Level**

Direct and General Support

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Compound, cleaning (item 4, WP 0159 00)

ReferencesTM 9-214

This WP contains general maintenance instructions that are the responsibility of Direct and General Support maintenance personnel. These instructions pertain to the cleaning and servicing of components and assemblies.

Make sure that all safety precautions listed in the Warning Summary are followed while performing maintenance. Pay close attention to all Warnings and Cautions.

WORK AREA

1. Make sure the work area is clean before you begin repair procedures.
2. Make sure that materials needed for the maintenance task are at hand. These may include cleaning compound, lubricants, buckets, or other containers for cleaning or for keeping components separated, clean wiping cloths, and proper tools.

CLEANING OF COMPONENTS, ASSEMBLIES, AND PARTS**CAUTION**

To prevent damage to machine-surfaced parts, be sure to clean the exterior of the component or assembly before disassembly.

1. Clean exterior of component or assembly before disassembly to keep foreign matter from bearings, gears, and other machine-surfaced parts that are subject to scoring and other such damage.

WARNING

Compressed air used for drying or cleaning purposes must not exceed 30 psi (207 kPa). Wear protective clothing (goggles and gloves) and use caution to avoid injury to personnel.

2. If compressed air is used to clean parts, make sure it is free of dirt and other contaminants.
3. Protect disassembled parts from dust, blowing sand, and moisture, which can cause rapid wear and deterioration of bearings, gears, and other machine parts.

GENERAL MAINTENANCE INSTRUCTIONS—Continued

0137 00

GENERAL INSTRUCTIONS

1. During disassembly, remove only as many parts or components as required for indicated repair. Complete disassembly of a component is not always necessary. Use good judgment to keep disassembly operations to a minimum.
2. During disassembly, tag critical parts to ensure proper reassembly. Mark mating parts by scribe marks or indelible ink to be certain of correct positioning at assembly.
3. Check any tags or forms attached to equipment to learn the reason for the equipment having been removed from service. Check Modification Work Orders (MWOs) and Technical Bulletins (TB) for equipment changes and updates.
4. Unserviceable or unrepairable assemblies will be broken down into items of issue and serviceable parts will be returned to stock. Parts or assemblies that cannot be repaired, selective fitted, or reclaimed to standards contained in this manual will be salvaged and replaced with new parts.
5. If required new part is not available, reconditioning of the old part is necessary. Carefully inspect such parts to determine their suitability and probable service life. Immediately requisition replacement parts.
6. In some cases, a part may be damaged by removal. If the part appears to be good and the other parts behind it are not defective, leave it on and continue with the procedure.
7. Do not remove dowel pins or studs unless loose, bent, broken, or otherwise damaged.
8. Do not remove bearings or brushings unless damaged. If you need to remove them to access parts behind them, pull bearings and bushings out carefully.
9. Replace seals and gaskets of all disassembled components.
10. Replace springs if broken, distorted, cracked, or if they do not conform to specific tensile standards.
11. Replace screws or nuts having damaged threads or rounded corners. Replace cotter pins, lockwashers, self-locking nuts, and self-locking screws.
12. Replace keys if damaged.
13. During assembly, assemble the subassemblies first. Then combine the subassemblies into major components and install to make a complete major assembly.

WARNING

Cleaning compounds can burn easily, give off harmful vapors and are harmful to skin and clothing. When using them, keep away from open fire and use in a well-ventilated area to avoid possible injury or death. If cleaning compound gets on skin or clothing, wash immediately with soap and water.

WARNING

Compressed air used for drying or cleaning purposes must not exceed 30 psi (207 kPa). Wear protective clothing (goggles and gloves) and use caution to avoid injury to personnel.

NOTE

Refer to TM 9-214 for more information on the inspection, care, and maintenance of bearings.

1. Clean ball and roller bearings by placing in a wire basket and immersing in a container of fresh cleaning compound. Agitate bearings in compound to remove all traces of old lubricant.
2. After cleaning bearings, dry them with clean compressed air. Take care to prevent spinning the bearings when using compressed air jet.
3. Dip cleaned bearings in clean engine oil and immediately wrap them in a lint-free cloth to protect them from dust and other foreign matter.

END OF TASK

SPECIFIC MAINTENANCE INSTRUCTIONS

0138 00

THIS WP COVERS:

Welding; Surface Protection; Repair of Damaged Threads; Removal of Burrs; Scratches; and Raised Metal; Tagging Wires and Hoses; Cleaning Materials and Methods; Cleaning of Materiel Received from Storage; Cleaning After Shop Inspection; Lubrication; Pneumatic Leakage Test

INITIAL SETUP:

Maintenance Level

Direct and General Support

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

File (item 4, WP 0156 00)

Materials/Parts

Brush, scrub (item 1, WP 0159 00)

Cloth, abrasive (item 2, WP 0159 00)

Compound, cleaning (item 4, WP 0159 00)

Compound, corrosion preventive (item 5, WP 0159 00)

Tags, marker (item 15, WP 0159 00)

References

TB 43-0209

TM 9-237

TM 9-247

TM 43-0139

WP 0034 00

WP 0042 00

WP 0152 00

This WP contains maintenance instructions that are the responsibility of Direct Support maintenance personnel; these instructions pertain to several components or assemblies. Specific information on welding, surface protection, repair of damaged threads, removal of burrs and other imperfections, tagging of wires and hoses, cleaning materials and methods, and a reference for performing a pneumatic leakage test are provided.

Make sure that all safety precautions listed in the Warning Summary are followed while performing maintenance. Pay close attention to all Warnings and Cautions.

WELDING

1. Refer to TM 9-237 for welding instructions and materials. All welds must reflect good workmanship and approved welding procedures. Welds must be secure and free from cracks, excessive spatter, and obvious defects.
2. Read and observe all safety precautions in the Warning Summary before performing any welding operation.

PAINTING AND STENCILING

1. General instructions are included in TB 43-0209 and TM 43-0139.
2. Spot painting and marking (stenciling) of tactical vehicles will be performed under the control of Organizational maintenance personnel.
3. Painting of a complete tactical vehicle can be authorized and performed on by Direct Support maintenance or by higher support elements.
4. Do not paint grounding studs, electrical harnesses, or leads.

SPECIFIC MAINTENANCE INSTRUCTIONS—Continued

0138 00

REPAIR OF DAMAGED THREADS

1. When determined feasible by inspection, damaged threads should be repaired by re-tapping, using a thread die or a thread restorer file.
2. Tapped holes for screw thread inserts that have mutilated threads may be repaired by either of the following methods:
 - a. Drilling and tapping to make the hole oversize, then installing larger screw
 - b. Filling tapped hole by welding, then re-drilling and tapping hole to original size.

REMOVAL OF BURRS, SCRATCHES, AND RAISED METAL**WARNING**

Cleaning compounds can burn easily, give off harmful vapors, and are harmful to skin and clothing. When using them, keep away from open fire and use in a well-ventilated area to avoid possible injury or death. If cleaning compound gets on skin or clothing, wash immediately with soap and water.

1. Use a file or abrasive cloth dipped in cleaning compound to remove burrs, scratches, or raised metal.
2. When filing aluminum, clean file often with a scrub brush to avoid loading file with aluminum particles, which will gouge work surfaces.

TAGGING WIRES AND HOSES

1. As soon as the first wire, hose, or tube is disconnected, write number "1" on two tags. Secure one tag to the wire, hose, or tube and the other tag to the terminal, nipple, or fitting.
2. After disconnecting the second wire, hose, or tube, write number "2" on two tags. Secure one tag to the wire, hose, or tube, and second tag to the terminal, nipple, or fitting.
3. Do the same for all wires, hoses, and tubes.
4. Note which numbers you used in pencil, on art in this manual. This will help you to accurately re-tag, if tags are removed to perform cleaning and maintenance work.
5. Remove all tags when finished.

CLEANING MATERIALS AND METHODS

1. Refer to TM 9-247 for cleaning materials to be used.

SPECIFIC MAINTENANCE INSTRUCTIONS—Continued

0138 00

WARNING

Cleaning compound is toxic and flammable. Always wear protective goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flames or excessive heat.

2. Cleaning is normally done by the dip-tank and/or vapor-degreaser methods, or by cleaning with cloths soaked in cleaning compound.

CLEANING OF MATERIEL RECEIVED FROM STORAGE

1. Clean materiel received from storage by Direct Support maintenance units by the dip-tank, vapor-degreaser, or steam method, whichever is applicable or available.

WARNING

Cleaning compounds can burn easily, give off harmful vapors, and are harmful to skin and clothing. When using them, keep away from open fire and use in a well-ventilated area to avoid possible injury or death. If cleaning compound gets on skin or clothing, wash immediately with soap and water.

- a. Dip-tank method. Disassemble as required and place parts in a perforated metal basket. Submerge and agitate basket in a tank containing cleaning compound. Repeat using a second tank with cleaning compound. Extent of treatment in each tank will depend on ease with which parts are cleaned.
 - b. Vapor-degreaser method. Tanks containing a heated solution of perchloroethylene (Type II) or other degreaser is used for degreasing items that are very greasy or oily and are not readily cleaned by the dip-tank method. Place parts in a perforated metal basket and submerge below the vapor tank. Keep basket in this position until all grease, oil, or dirt melts and runs off the parts. If necessary, materiel may be washed with a degreasing spray unit.
 - c. Steam method. Place parts in a perforated metal basket and steam-treat until clean. This method is less efficient than vapor-degreaser method, and parts may require additional cleaning to remove final traces of grease, oil, or dirt, particularly from recesses.
2. If some time is to elapse before the start of repair or overhaul operation, apply a coat of corrosion preventive oil to all finished metal surfaces to prevent rusting.

CLEANING AFTER SHOP INSPECTION

WARNING

Compressed air used for drying or cleaning purposes must not exceed 30 psi (207 kPa). Wear protective clothing (goggles and gloves) and use caution to avoid injury to personnel.

SPECIFIC MAINTENANCE INSTRUCTIONS—Continued

0138 00

After in-process shop inspection, dip parts in tank containing corrosion preventive. Remove parts using rubber gloves and dry thoroughly with compressed air or by wiping with clean lint-free cloths. Apply preservatives as soon as possible after cleaning.

LUBRICATION

Refer to WP 0034 00 and WP 0042 00 for lubrication instructions.

VAPOR INTEGRITY TEST

Refer to WP 0152 00.

END OF TASK

TRUNNION TUBE AND HANGERS REPLACEMENT

0139 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Direct and General Support

Materials/Parts

Self-locking nuts (4) (item 59, WP 0160 00)

Self-locking nuts (8) (item 112, WP 0160 00)

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Tool set, common no. 1 (item 1, WP 0156 00)

References

TB 9-2510-242-40

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

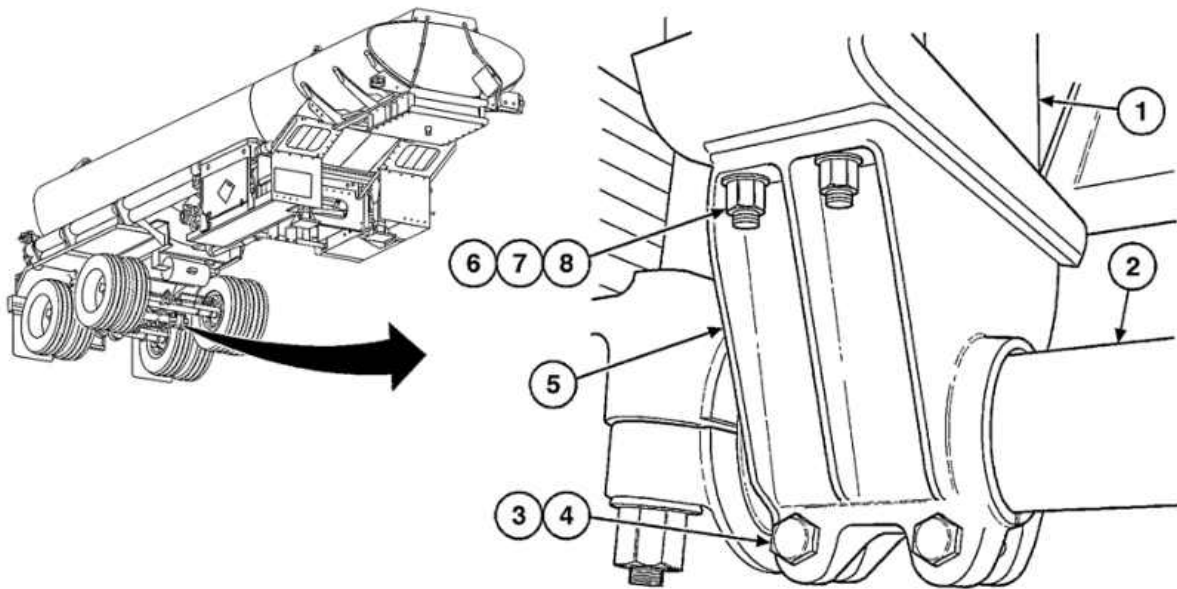
Semitrailer fuel tank drained (refer to WP 0007 00)

Leaf springs removed (refer to WP 0141 00)

Axles removed (refer to WP 0140 00)

REMOVAL

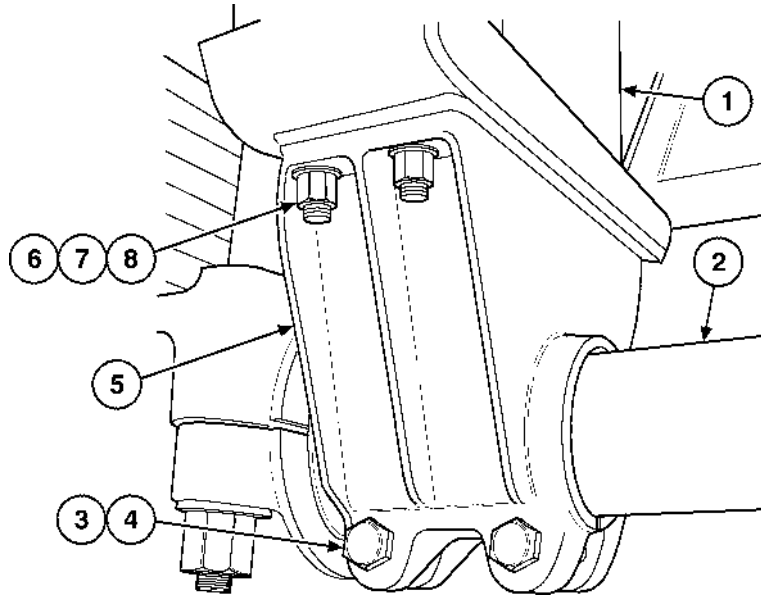
1. Remove four self-locking nuts (3), bolts (4), and trunnion tube (2) from two trunnion hangers (5). Discard self-locking nuts.
2. Remove 8 self-locking nuts (6), 16 washers (7), and 8 bolts (8) from two trunnion hangers (5). Discard self-locking nuts.
3. Remove two trunnion hangers (5) from frame (1) (refer to TB 9-2510-242-40).



TRUNNION TUBE AND HANGERS REPLACEMENT—Continued

0139 00**INSTALLATION**

1. Install two trunnion hangers (5) to frame (1) (refer to TB 9-2510-242-40).
2. Install 8 bolts (8), 16 washers (7), and 8 new self-locking nuts (6) to two trunnion hangers (5).
3. Install trunnion tube (2), four bolts (4), and new self-locking nuts (3) to two trunnion hangers (5).

**FOLLOW-ON TASKS**

1. Install axles (WP 0140 00).
2. Install leaf springs (WP 0141 00).
3. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

AXLES REPLACEMENT

0140 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Direct and General Support

Personnel Required

Two

References

WP 0067 00

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Tool set, common no. 1 (item 1, WP 0156 00)

Jacks (2) (item 3, WP 0156 00)

Lifting device (item 1, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Semitrailer parked on hard level surface (refer to WP 0007 00)

Air reservoir drained (refer to WP 0007 00)

Wheel assemblies removed (refer to WP 0007 00)

Hub and brakedrum assemblies removed (refer to WP 0065 00)

Air brake chambers removed (refer to WP 0068 00)

Slack adjuster removed (refer to WP 0066 00)

NOTE

- **There are two axles and they are replaced the same way. This procedure replaces one axle.**
- **Unplug ABS sensors if necessary (refer to WP 0065).**

AXLES REPLACEMENT—Continued

0140 00

INSTALLATION

1. Using jacks, position axle (5) in place under semitrailer. Raise jacks and rotate axle into position on ends of both suspension springs (4).
2. At each end of axle (5), loosely install spring seats (9), two cushioning pads (10), and spring end cap (11) with two U-bolts (6), eight washers (3), and four nuts (2).
3. At each end of axle (5), loosely install spring end cap (11) on spring seat (9) on axle (5) with four screws (1), washers (8), and nuts (7).
4. Torque eight nuts (2 and 7) evenly to 200 to 320 lb-ft (271 to 434 N•m).
5. Position supports or cribbing under axle (5). Lower and remove jacks.
6. Using lifting device, raise rear of semitrailer and remove supports or cribbing. Lower semitrailer to ground.

NOTE

Plug in ABS sensors if necessary (refer to WP 0065 00).

FOLLOW-ON TASKS

1. Install air brake chambers (WP 0068 00).
2. Install slack adjuster (WP 0066 00).
3. Install hub and brakedrum assemblies (WP 0065 00).
4. Install wheel assemblies (WP 0007 00).
5. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

LEAF SPRINGS REPLACEMENT

0141 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Direct and General Support

Materials/Parts

Grease (item 8, WP 0159 00)

Self-locking nut (item 8, WP 0193 00)

Bolt (4) (item 4, WP 0193 00)

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Tool set, common no.1 (item 1, WP 0156 00)

Lifting device (item 1, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Air reservoir drained (refer to WP 0070 00)

Semitrailer fuel tank drained (refer to WP 0007 00)

Axles removed (refer to WP 0140 00)

REMOVAL

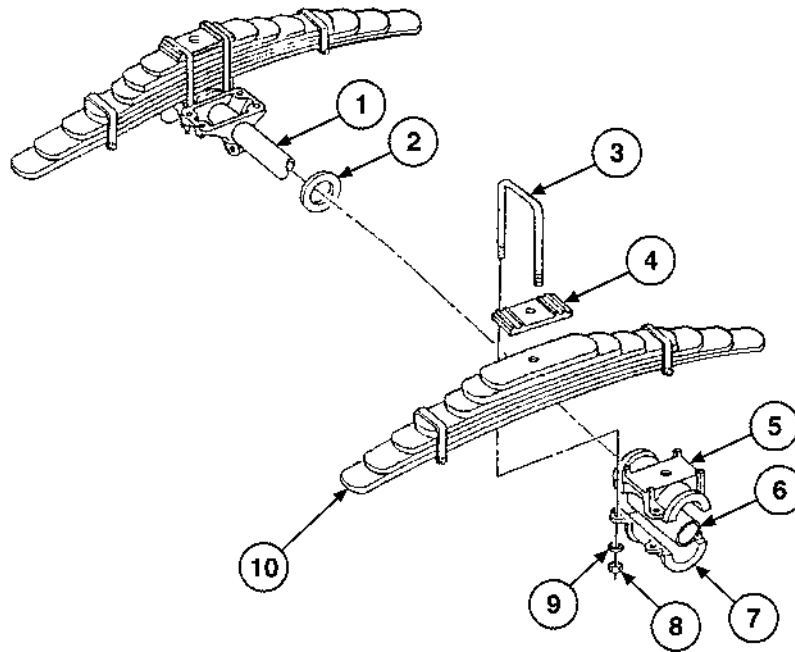
NOTE

Semitrailer has two leaf springs. This procedure covers only one leaf spring.

LEAF SPRINGS REPLACEMENT—Continued

0141 00

1. Remove four self-locking nuts (8) and washers (9) from two U-bolts (3). Discard nuts.
2. Remove two U-bolts (3), and wear plate (4) from leaf spring (10) and trunnion tube (1). Discard U-bolts.
3. Using lifting device, remove leaf spring (10) from upper trunnion hub (5).
4. Remove upper trunnion hub (5), lower trunnion hub (7), rubber bushing (6), and trunnion washer (2) from trunnion tube (1).



LEAF SPRINGS REPLACEMENT—Continued

0141 00

INSTALLATION

NOTE

If rubber bushings (6) are worn or damaged, replace with new bushings.

1. Install trunnion washer (2), rubber bushing (6), upper trunnion hub (5), and lower trunnion hub (7) on trunnion tube (1).
2. Using lifting device, position leaf spring (10) on upper trunnion hub (5) so that center bolt of leaf spring is in recess of upper trunnion hub.
3. Position wear plate (4) in place on leaf spring (10). Nut on center bolt of leaf spring fits into hole in wear plate.
4. Install two new U-bolts (3) over wear plate (4) and through holes in upper and lower trunnion hubs (5 and 7).
5. Install four washers (9) and new self-locking nuts (8) on two U-bolts (3), and tighten evenly to 200 to 320 lb-ft (271 to 434 N•m).
6. Repeat steps 1 thru 5 for opposite side.

FOLLOW-ON TASKS

1. Install axles (WP 0140 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

ENGINE AND PUMP CABINET FRAME REPLACEMENT

0142 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Direct and General Support

Materials/Parts

Self-locking nuts (2) (item 23, WP 0160 00)
 Self-locking nuts (4) (item 70, WP 0160 00)
 Self-locking nuts (2) (item 87, WP 0160 00)
 Self-locking nuts (2) (item 88, WP 0160 00)
 Self-locking nuts (8) (item 89, WP 0160 00)
 Self-locking nuts (43) (item 92, WP 0160 00)
 Seals (2) (item 129, WP 0160 00)

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)
 Jack stands (item 3, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)
 Semitrailer grounded (refer to WP 0007 00)
 Semitrailer fuel tank drained (refer to WP 0007 00)
 Batteries removed (refer to WP 0053 00)
 Fuel lines disconnected (refer to WP 0103 00)

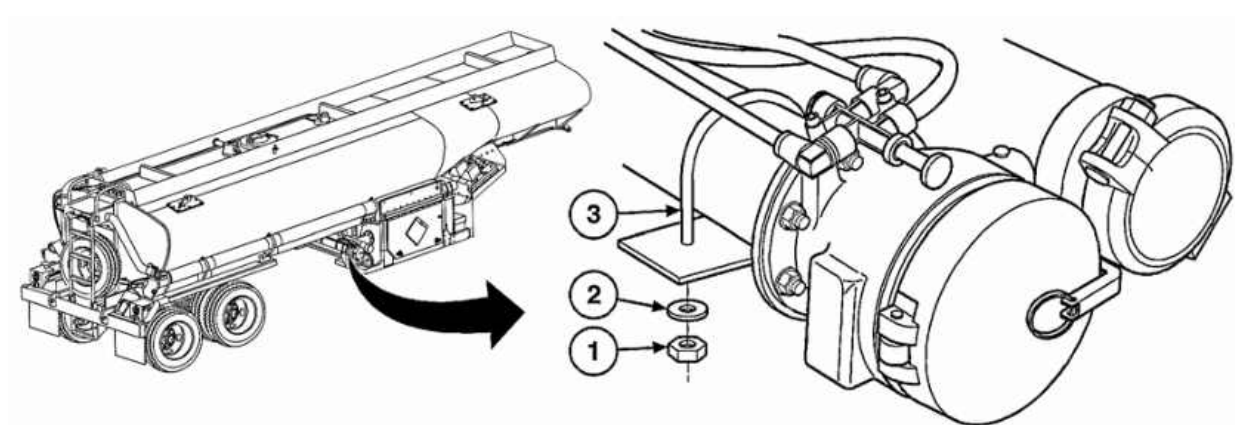
Fuel tank removed (refer to WP 0102 00)
 Two hose tubes loosened at engine cabinet (refer to WP 0088 00)
 Air cleaner and hose removed (refer to WP 0105 00)
 Alternator removed (refer to WP 0110 00)
 Muffler plate and muffler removed (refer to WP 0109 00)
 Optic socket box removed (refer to WP 0048 00)
 Static reel removed (refer to WP 0084 00)
 Brake interlock valve removed (refer to WP 0069 00)

REMOVAL

1. Remove two self-locking nuts (1) and washers (2) from U-bolt (3). Discard self-locking nuts.

NOTE

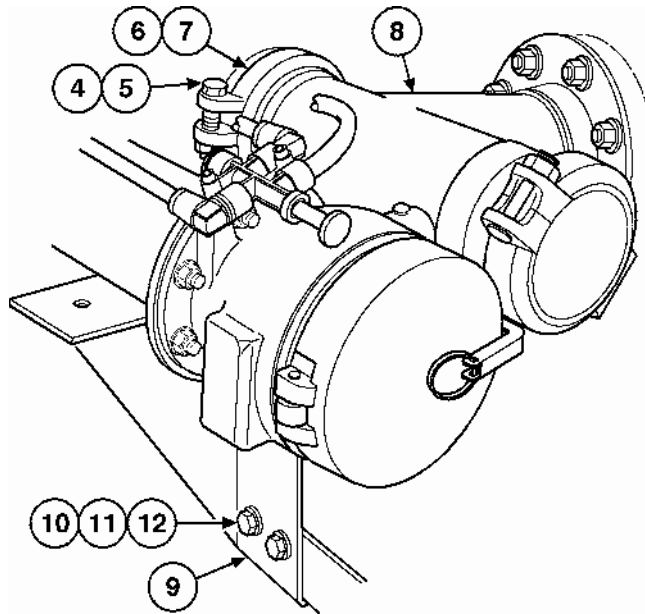
Secure inlet valve to filter separator.



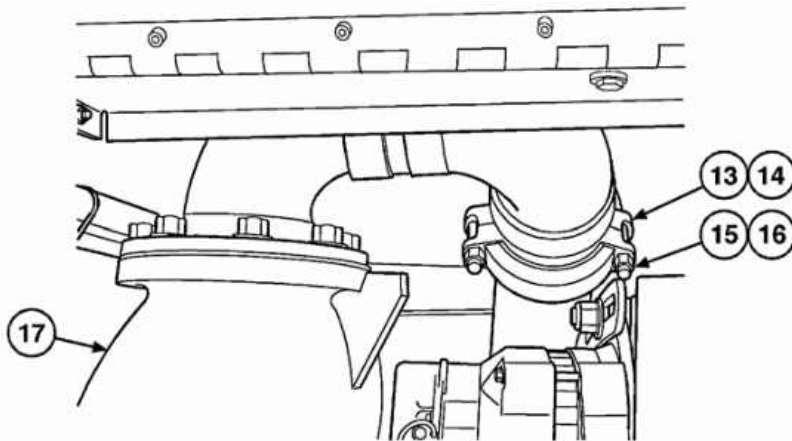
ENGINE AND PUMP CABINET FRAME REPLACEMENT—Continued

0142 00

2. Remove four self-locking nuts (12), eight washers (11), and four bolts (10) from side and bottom of bottom loading support bracket (9). Discard self-locking nuts.
3. Remove two bolts (5), nuts (4), seal (7), and split coupling (6) at inlet T (8). Discard seal.



4. Remove two bolts (15), nuts (16), seal (13), and split coupling (14) at top of centrifugal pump (17). Discard seal.



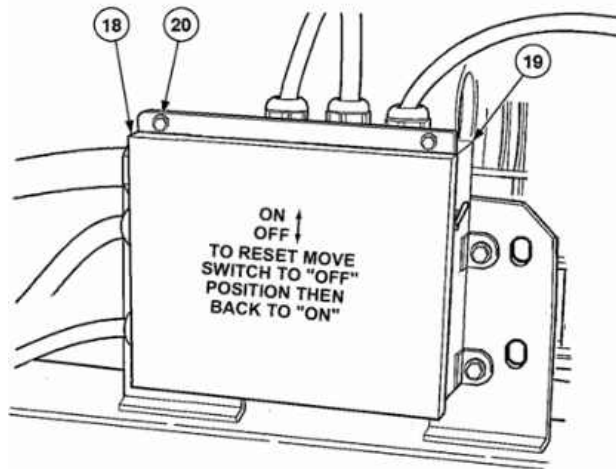
NOTE

Close all valves and drain fuel from centrifugal pump using plug at bottom of pump.

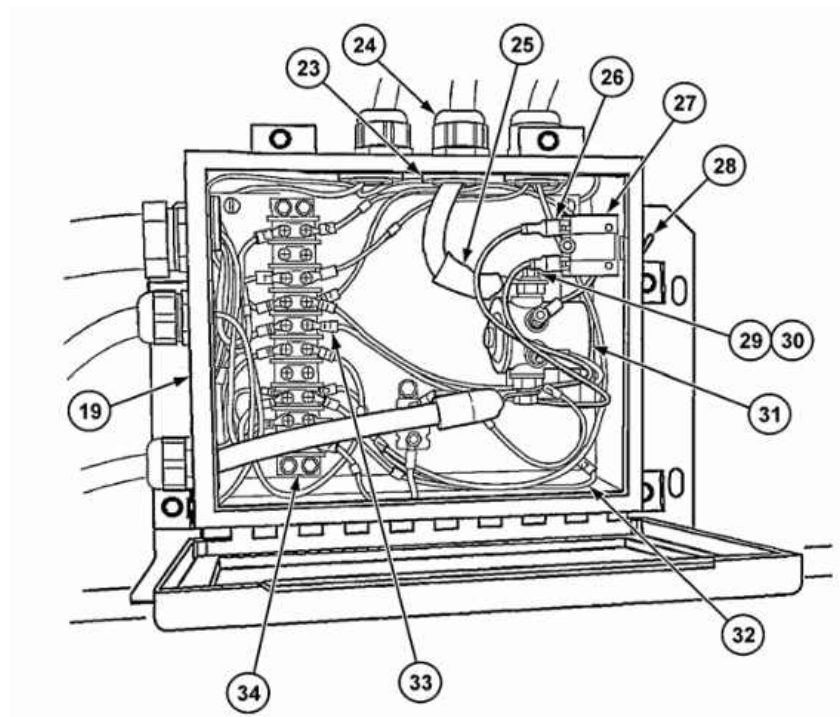
ENGINE AND PUMP CABINET FRAME REPLACEMENT—Continued

0142 00

5. Loosen two screws (20) on engine electrical control box (19) and open front cover (18).



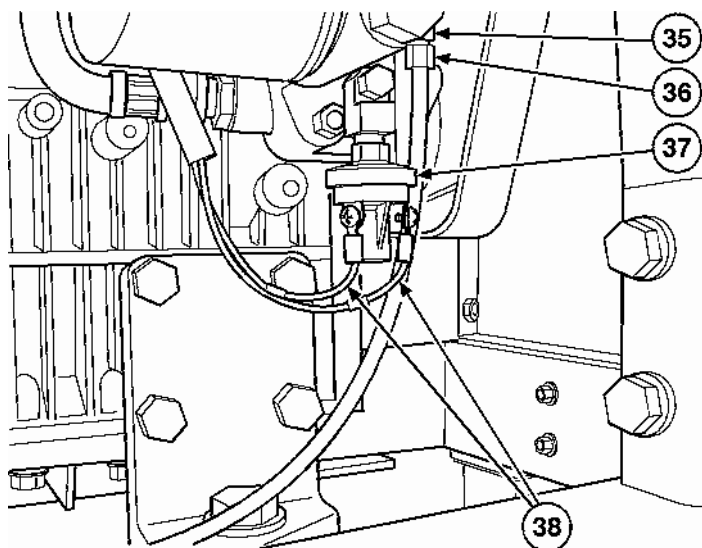
6. Disconnect two wires (26) and remove nut (28) and circuit breaker (27) from control box (19).
7. Remove nut (29), washer (30), and glow plug cable (25) from solenoid (31).
8. Remove nut (23), conduit nut (24), and cable (25) from control box (19).
9. Disconnect wire (33) from terminal strip (34).



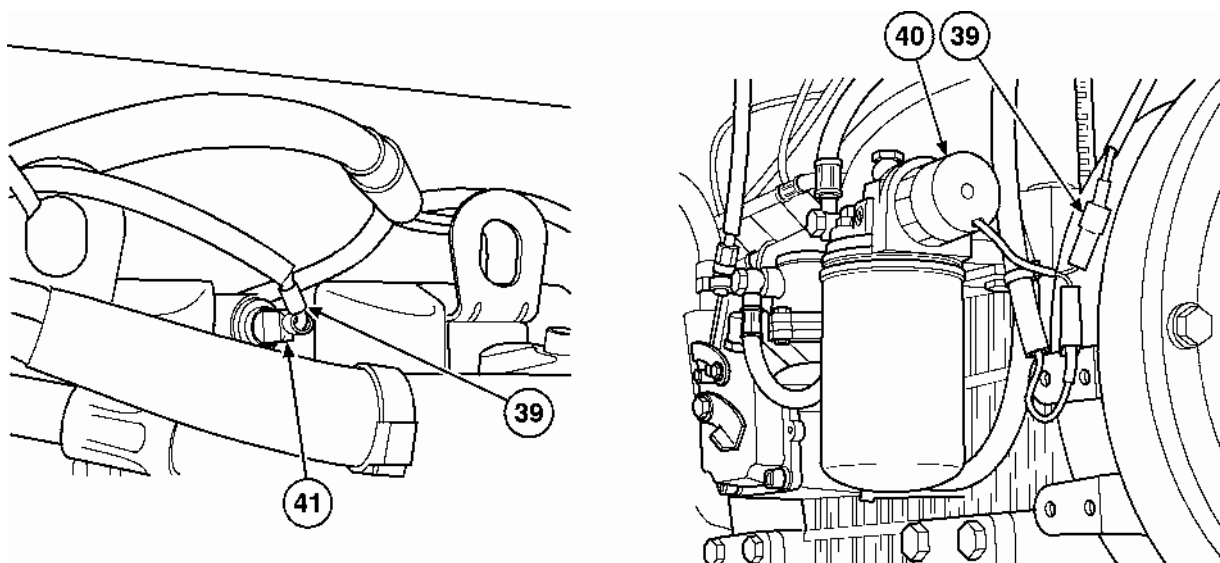
ENGINE AND PUMP CABINET FRAME REPLACEMENT—Continued

0142 00

10. Remove oil pressure gage line (36) from fitting (35).
11. Disconnect two wires (38) from oil pressure switch (37).



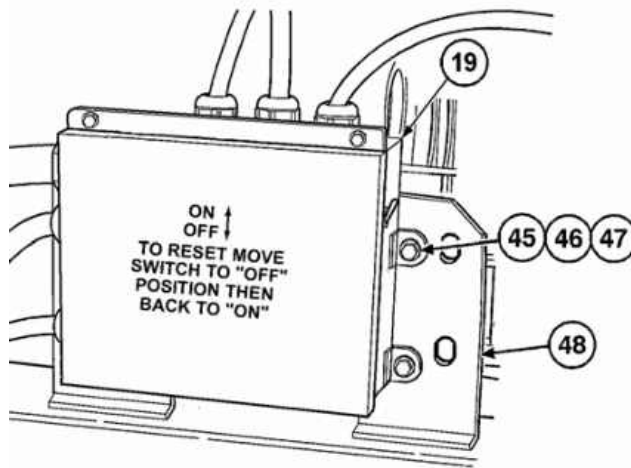
12. Disconnect two connectors (39) from overheated shutdown switch (41) and fuel stop solenoid (40).



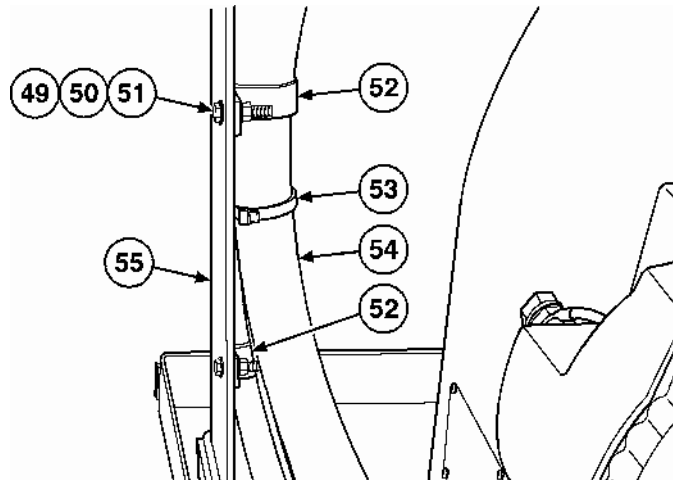
ENGINE AND PUMP CABINET FRAME REPLACEMENT—Continued

0142 00

13. Remove four self-locking nuts (45), four washers (46), two bolts (47), and control box (19) from bracket (48). Discard self-locking nuts.



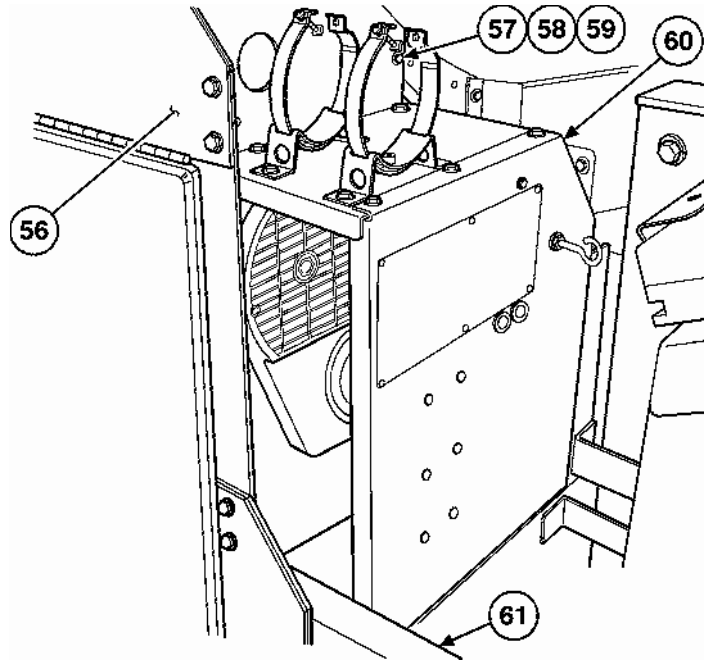
14. Clip and remove cable ties (53) from wires (54).
15. Remove two self-locking nuts (49), four washers (50), two bolts (51), and clamps (52) from vertical support (55). Discard self-locking nuts.



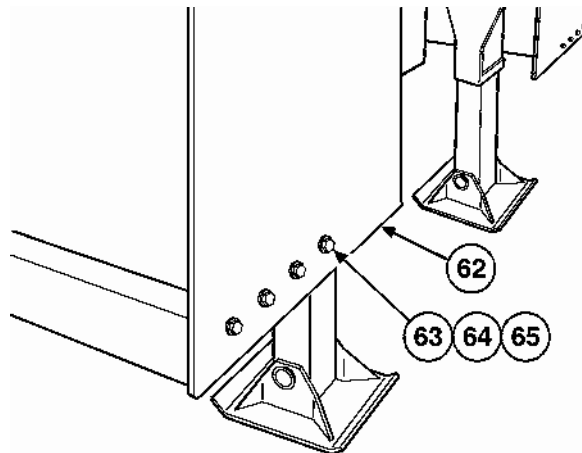
ENGINE AND PUMP CABINET FRAME REPLACEMENT—Continued

0142 00

16. Remove 8 self-locking nuts (57), 16 washers (58), 8 bolts (59), and engine fan shroud (60) from frame (61) and engine shroud (56). Discard self-locking nuts.



17. Remove four self-locking nuts (63), eight washers (64), and four bolts (65) from bottom of splash shield (62). Discard self-locking nuts.



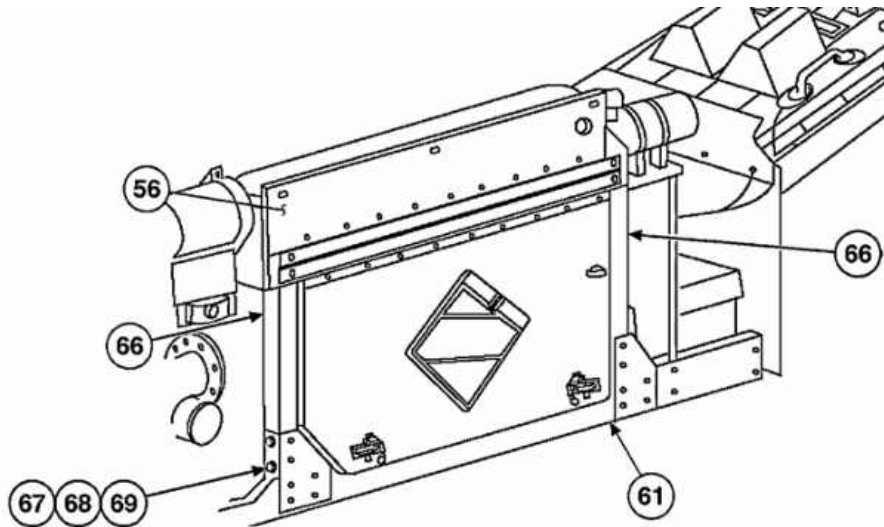
WARNING

At this point, maneuver forklift under engine and pump cabinet frame.

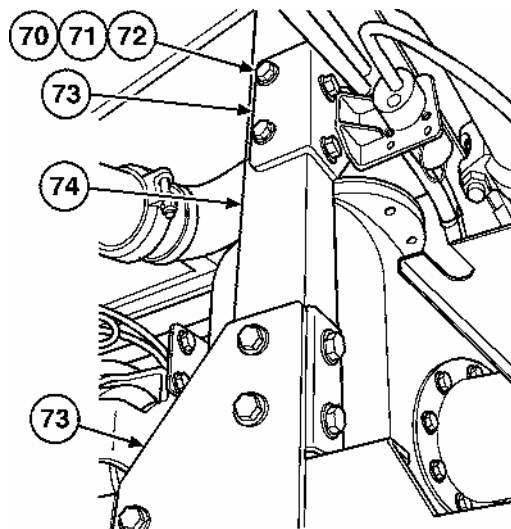
CAUTION

Position jack stands under engine and pump cabinet before removing vertical supports. Failure to do so could result in damage to components.

18. Remove 16 self-locking nuts (67), 32 washers (68), 16 bolts (69), and two outside vertical supports (66) from frame (61) and engine shroud (56). Discard self-locking nuts.



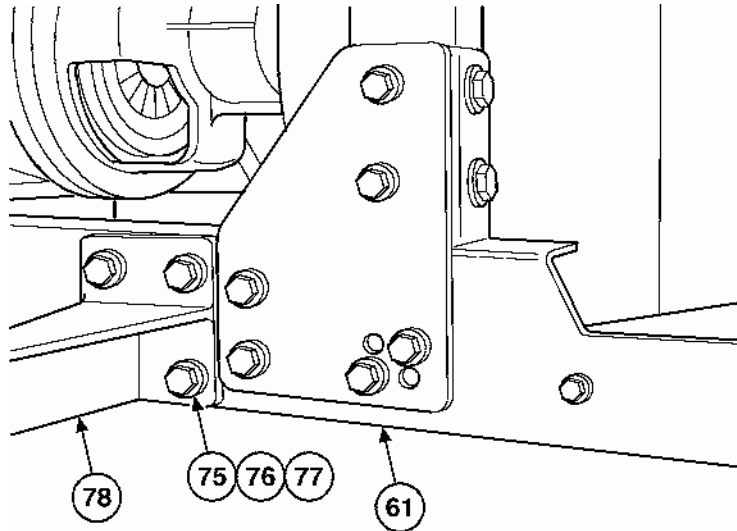
19. Remove 8 self-locking nuts (70), 16 washers (71), and 8 bolts (72) from two brackets (73) on rear inside vertical support (74). Discard self-locking nuts.



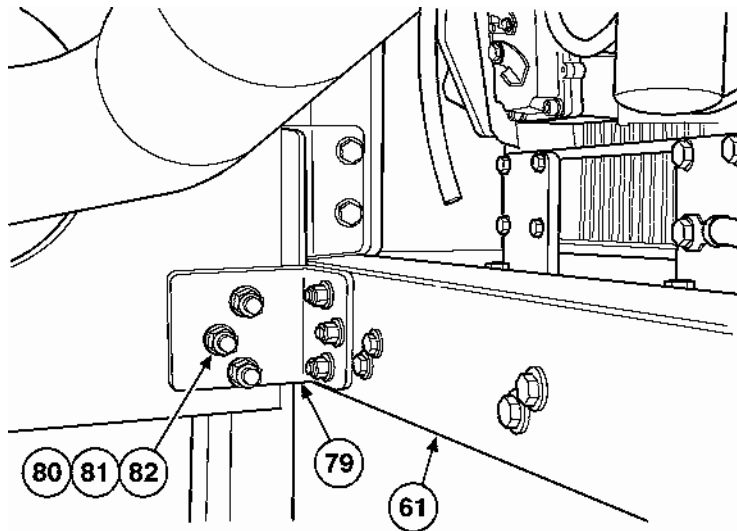
ENGINE AND PUMP CABINET FRAME REPLACEMENT—Continued

0142 00

20. Remove four self-locking nuts (75), eight washers (76), four bolts (77), and rear cross member (78) from engine frame (61). Discard self-locking nuts.



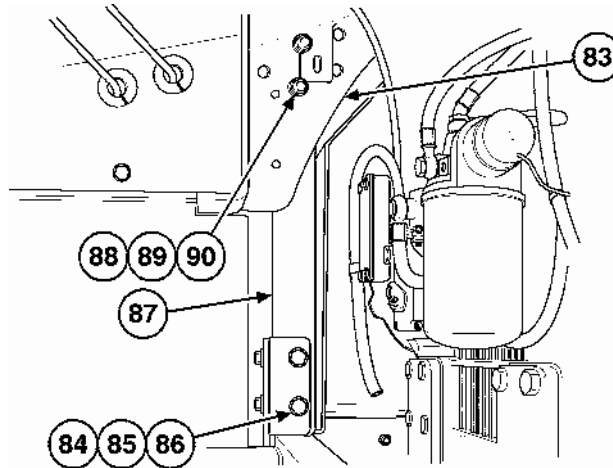
21. Remove three self-locking nuts (82), six washers (81), and three bolts (80) from angle bracket (79) and engine frame (61). Discard self-locking nuts.



ENGINE AND PUMP CABINET FRAME REPLACEMENT—Continued

0142 00

22. Remove four self-locking nuts (84), eight washers (85), and four bolts (86) from inside vertical support (87). Discard self-locking nuts.
23. Remove two self-locking nuts (88), four washers (89), two bolts (90), and front inside vertical support (87) from semitrailer tank rib (83). Discard self-locking nuts.



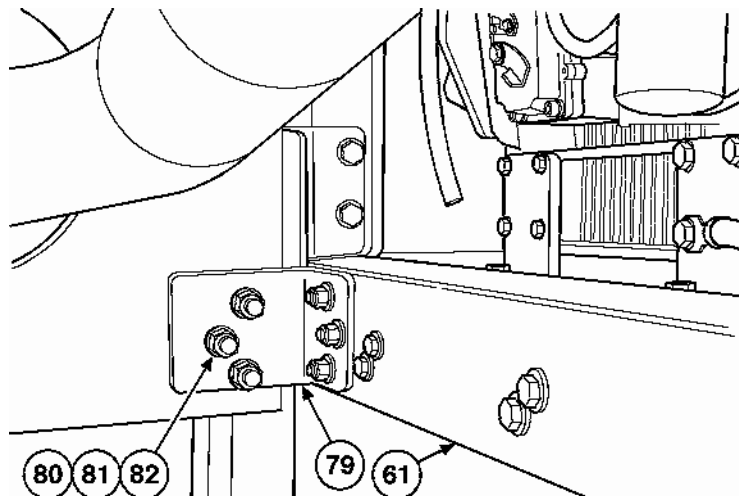
24. Using forklift, lower engine frame.
25. Separate engine and pump from frame.
26. Remove damaged components from engine frame and discard self-locking nuts.

ENGINE AND PUMP CABINET FRAME REPLACEMENT—Continued

0142 00**INSTALLATION****NOTE**

Engine frame is bolted together. Loosely assemble frame components on a flat surface. Tighten fasteners on cross members last.

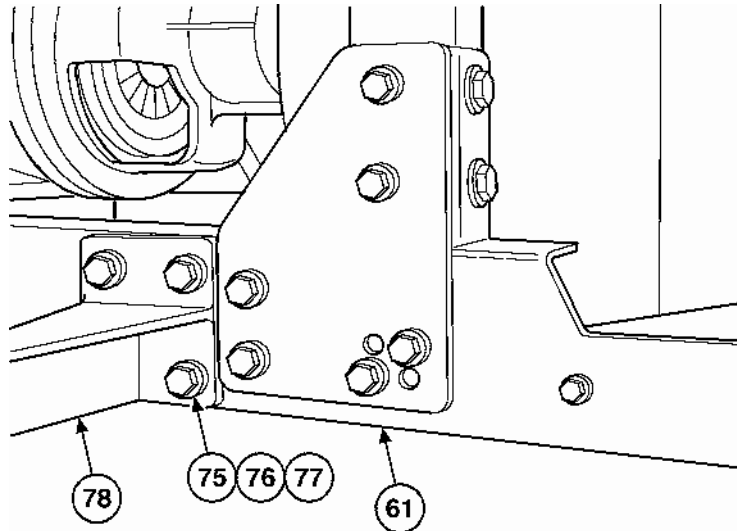
1. Install engine and pump to frame.
2. Using a forklift, maneuver engine cabinet in place at semitrailer.
3. Install front inside vertical support (87), two bolts (90), four washers (89), and two new self-locking nuts (88) to semitrailer tank rib (83).
4. Install front inside vertical support (87) with four bolts (86), eight washers (85), and four new self-locking nuts (84).
5. Install angle bracket (79), three bolts (80), six washers (81), and three new self-locking nuts (82) to engine frame (61).



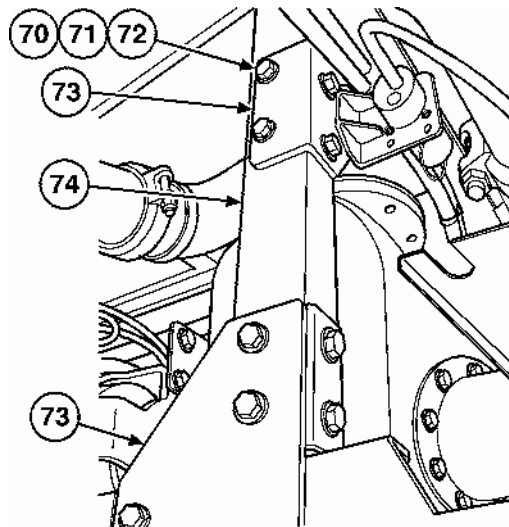
ENGINE AND PUMP CABINET FRAME REPLACEMENT—Continued

0142 00

6. Install rear cross member (78) to engine frame (61) with four bolts (77), eight washers (76), and four new self-locking nuts (75).



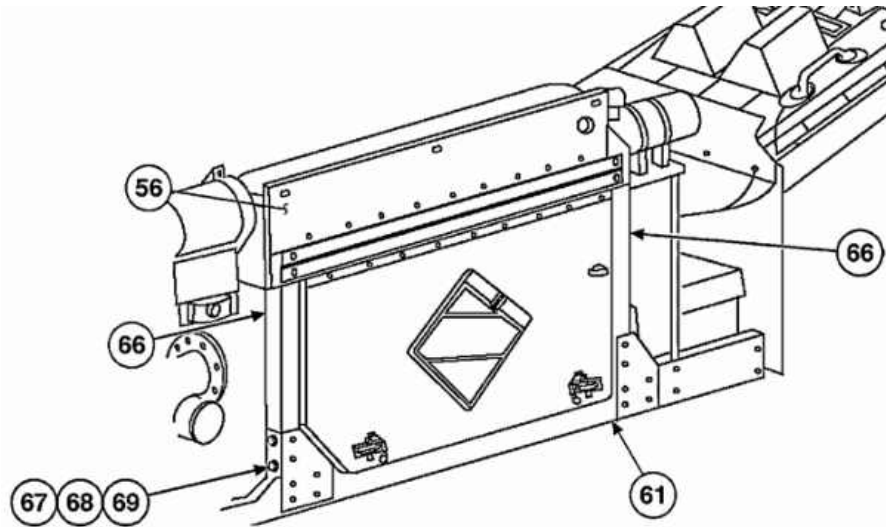
7. Install 8 bolts (72), 16 washers (71), and 8 new self-locking nuts (70) to two brackets (73) on rear inside vertical support (74).



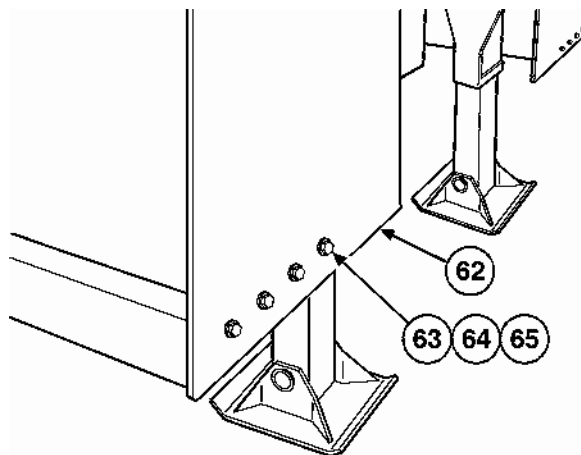
ENGINE AND PUMP CABINET FRAME REPLACEMENT—Continued

0142 00

8. Install two outside vertical supports (66), 16 bolts (69), 32 washers (68), and 16 new self-locking nuts (67) to frame (61) and engine shroud (56).



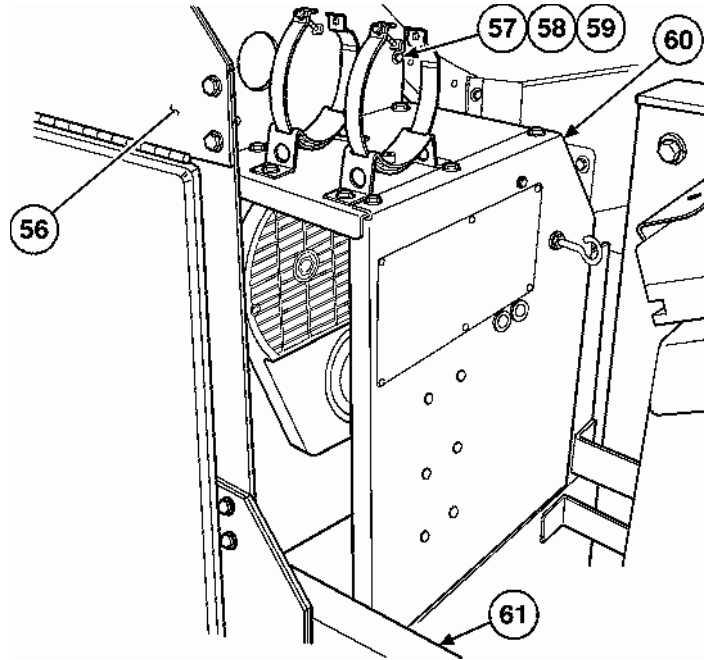
9. Install four bolts (65), eight washers (64), and four new self-locking nuts (63) to bottom of splash shield (62).



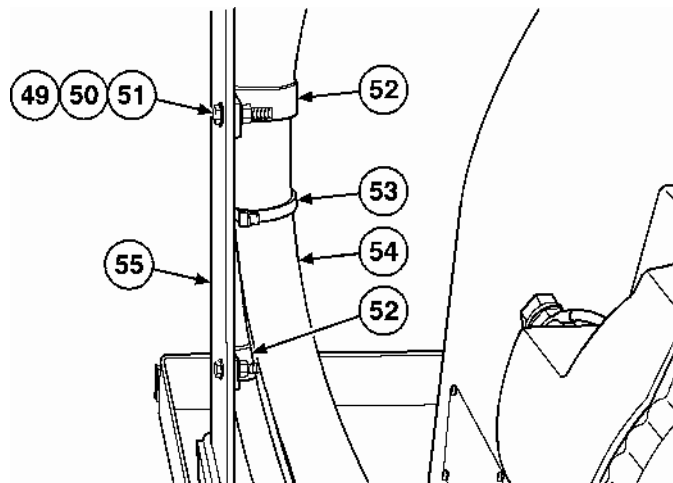
ENGINE AND PUMP CABINET FRAME REPLACEMENT—Continued

0142 00

10. Install engine fan shroud (60), 8 bolts (59), 16 washers (58), and 8 new self-locking nuts (57) to frame (61) and engine shroud (56).



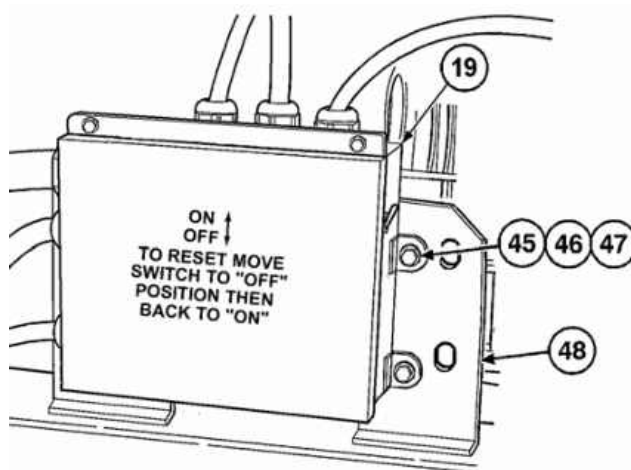
11. Install two clamps (52), bolts (51), four washers (50), and two new self-locking nuts (49) to vertical support (55).
12. Install cable ties (53) to wires (54) as necessary.



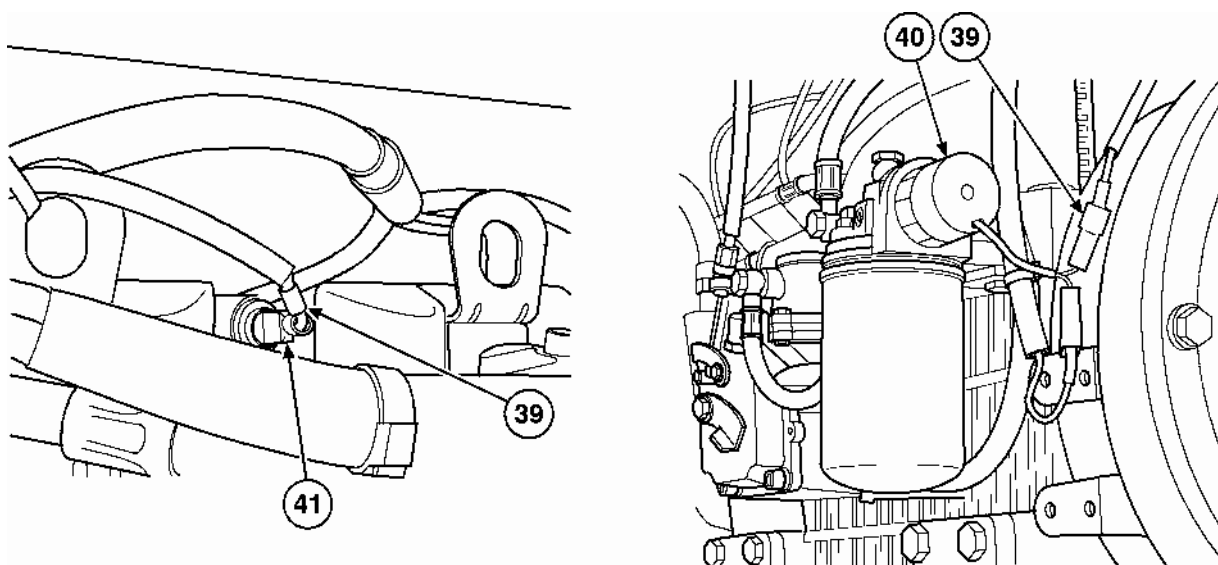
ENGINE AND PUMP CABINET FRAME REPLACEMENT—Continued

0142 00

13. Install control box (19), four bolts (47), four washers (46), and four new self-locking nuts (45) to bracket (48).



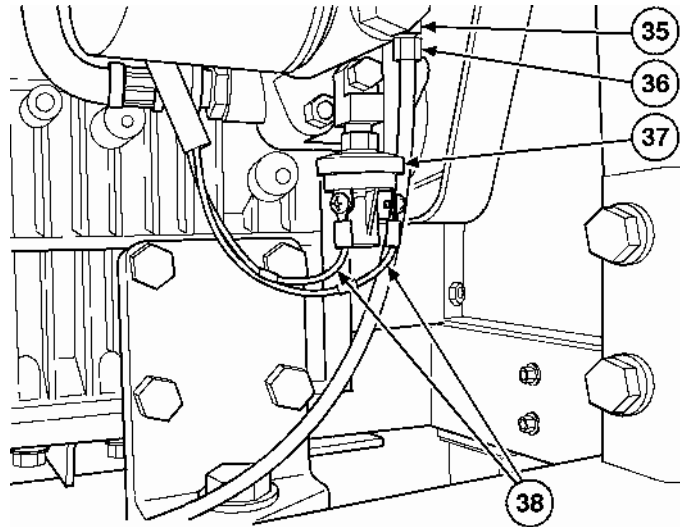
14. Connect two connectors (39) to overheated shutdown switch (41) and fuel stop solenoid (40).



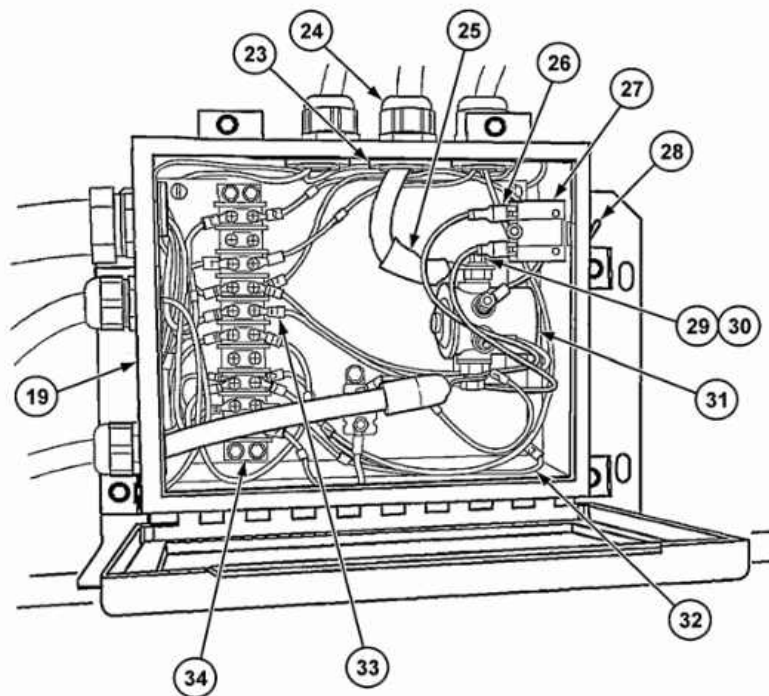
ENGINE AND PUMP CABINET FRAME REPLACEMENT—Continued

0142 00

15. Connect two wires (38) to oil pressure switch (37).
16. Install oil pressure gage line (36) to fitting (35).



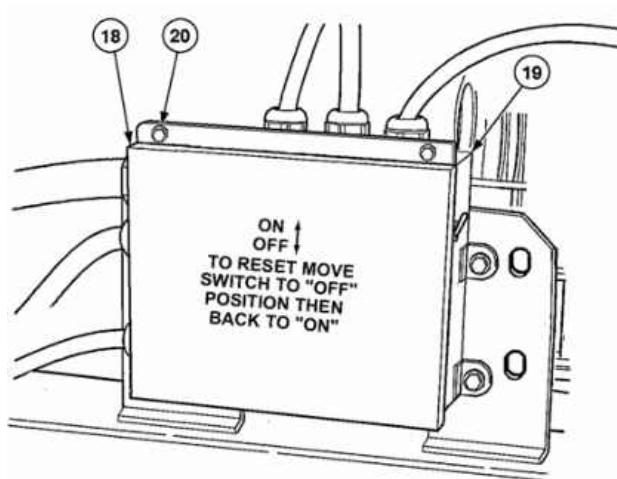
17. Connect wire (33) to terminal strip (34).
18. Install glow plug cable (25), conduit nut (24), and nut (23) to control box (19).
19. Install cable (25), washer (30), and nut (29) to solenoid (31).
20. Install circuit breaker (27), nut (28), and connect two wires (26) to control box (19).



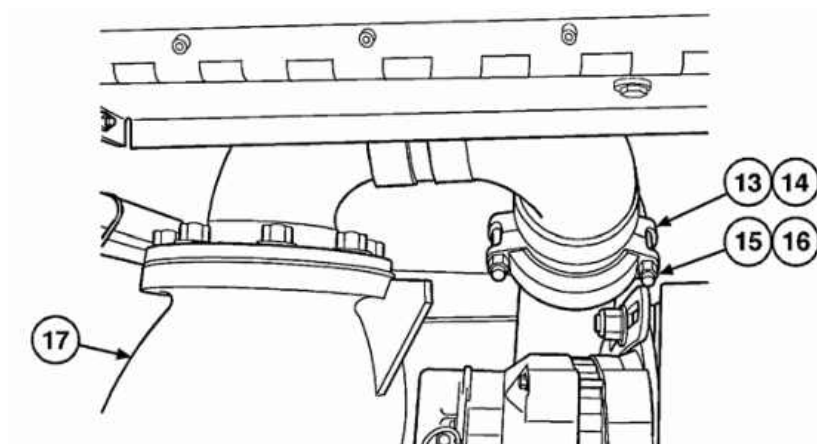
ENGINE AND PUMP CABINET FRAME REPLACEMENT—Continued

0142 00

21. Tighten two screws (20) on control box (19) and close front cover (18).



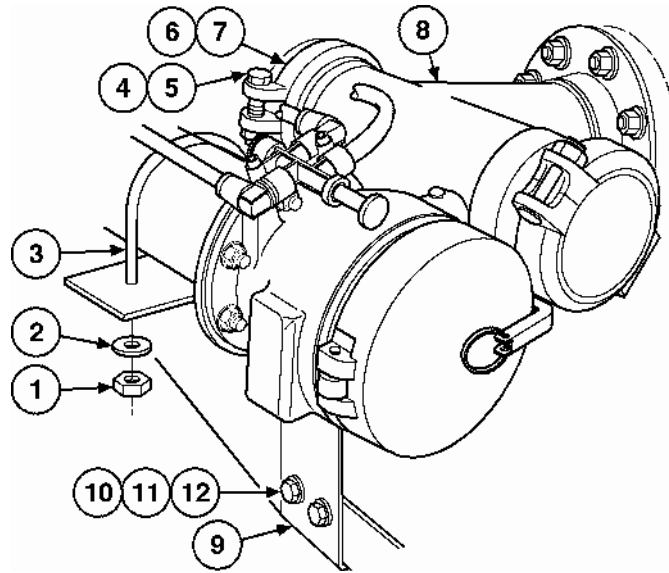
22. Install split coupling (14), new seal (13), two nuts (16), and bolts (15) at top of centrifugal pump (17).



ENGINE AND PUMP CABINET FRAME REPLACEMENT—Continued

0142 00

23. Install split coupling (6), new seal (7), two nuts (4), and bolts (5) at inlet T (8).
24. Install four bolts (10), eight washers (11), and four new self-locking nuts (12) to side and bottom of bottom loading support bracket (9).
25. Install two washers (2) and new self-locking nuts (1) to U-bolt (3).



FOLLOW-ON TASKS

1. Install muffler plate and muffler (WP 0109 00).
2. Install alternator (WP 0110 00).
3. Install air cleaner and hose (WP 0105 00).
4. Install two hose tubes at engine cabinet (WP 0088 00).
5. Install brake interlock valve (WP 0069 00).
6. Install static reel (WP 0084 00).
7. Install fuel tank (WP 0102 00).
8. Install fuel lines (WP 0103 00).
9. Install optic socket box (WP 0048 00).
10. Install batteries (WP 0053 00).
11. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

ENGINE HEAT SHIELD REPLACEMENT

0143 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Direct and General Support

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Self-locking nuts (8) (item 88, WP 0160 00)

Self-locking nuts (2) (item 89, WP 0160 00)

Personnel Required

Two

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Semitrailer fuel tank drained (refer to WP 0007 00)

Two hose tubes loosened at engine cabinet (refer to WP 0088 00)

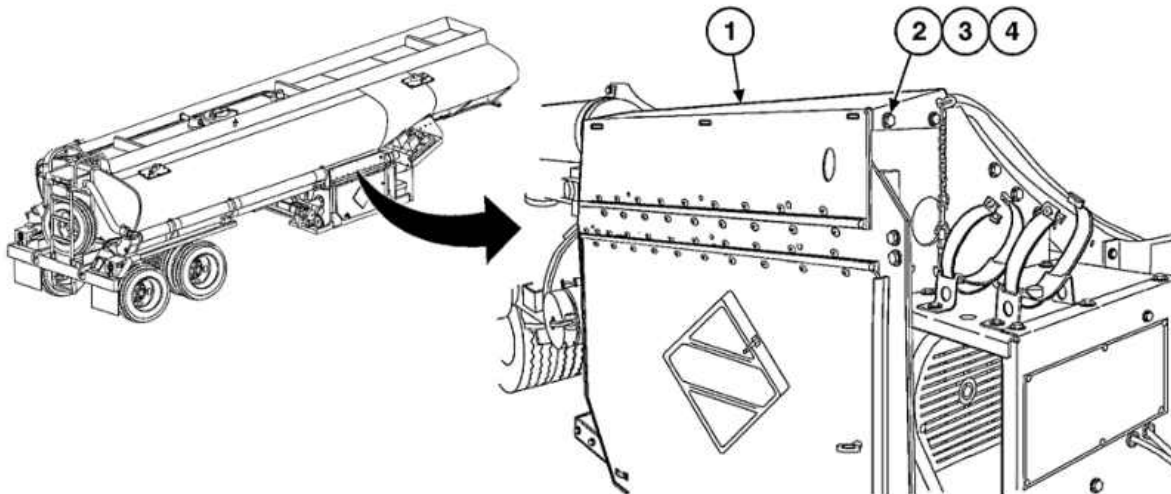
Air cleaner and hose removed (refer to WP 0105 00)

Pump tubing removed from top of pump (refer to WP 0135 00)

Muffler plate and muffler removed (refer to WP 0109 00)

REMOVAL

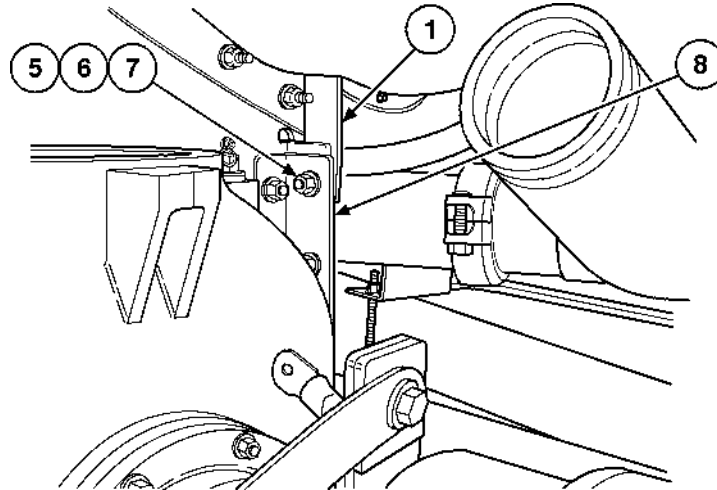
1. Remove 8 self-locking nuts (2), 16 washers (3), and 8 bolts (4) from top right and left edges of heat shield (1). Discard self-locking nuts.



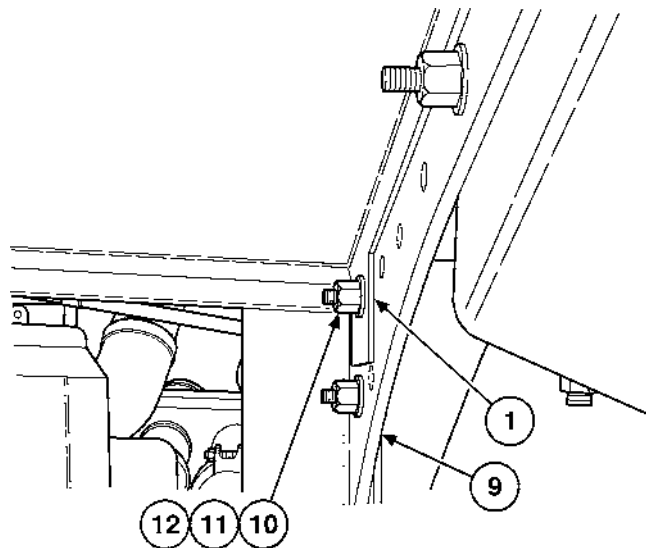
ENGINE HEAT SHIELD REPLACEMENT—Continued

0143 00

2. Remove self-locking nut (5), two washers (6), bolt (7), and heat shield (1) from rear inside vertical support post (8). Discard self-locking nut.



3. Remove self-locking nut (10), two washers (11), bolt (12), and heat shield (1) from front inside vertical support post (9). Discard self-locking nut.
4. With an assistant, lift heat shield (1) from semitrailer.



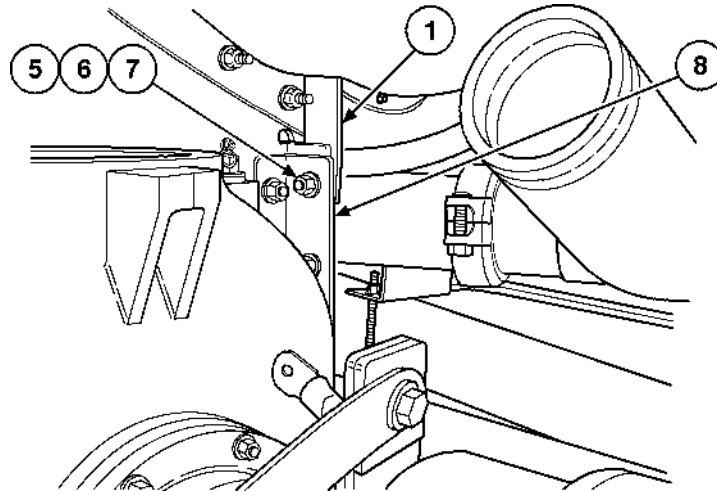
INSTALLATION

1. With an assistant, lift heat shield (1) into position on semitrailer.
2. Install bolt (12), two washers (11), new self-locking nut (10), and heat shield (1) to front inside vertical support post (9).

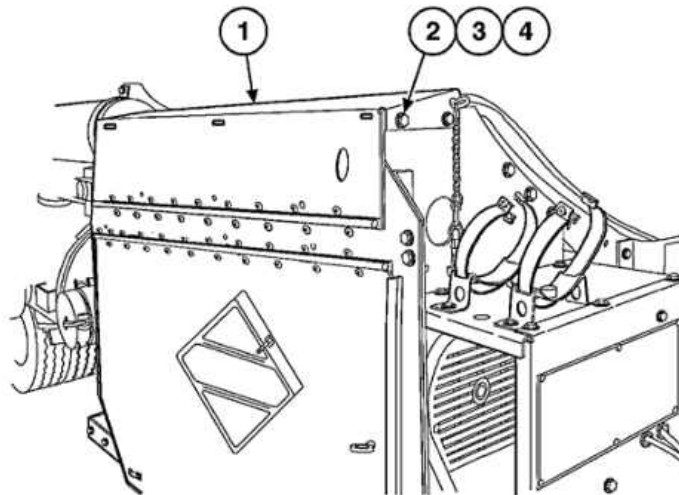
ENGINE HEAT SHIELD REPLACEMENT—Continued

0143 00

3. Install bolt (7), two washers (6), new self-locking nut (5), and heat shield (1) to rear inside vertical support post (8).



4. Install 8 bolts (4), 16 washers (3), and 8 new self-locking nuts (2) to top right and left edges of heat shield (1).



FOLLOW-ON TASKS

1. Install muffler plate and muffler (WP 0109 00).
2. Install air cleaner and hose (WP 0105 00).
3. Install two hose tubes at engine cabinet (WP 0088 00).
4. Install pump tubing (WP 0135 00).
5. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

This WP intentionally blank.

ALTERNATOR MAINTENANCE

0145 00

THIS WP COVERS:

Disassembly; Inspection, Testing, and Repair; Assembly; Adjustment; Follow-On Task

INITIAL SETUP:

Maintenance Level

Direct and General Support

Tools and Special Tools

Common no. 1 tool set (item 1, WP 0156 00)

Materials/Parts

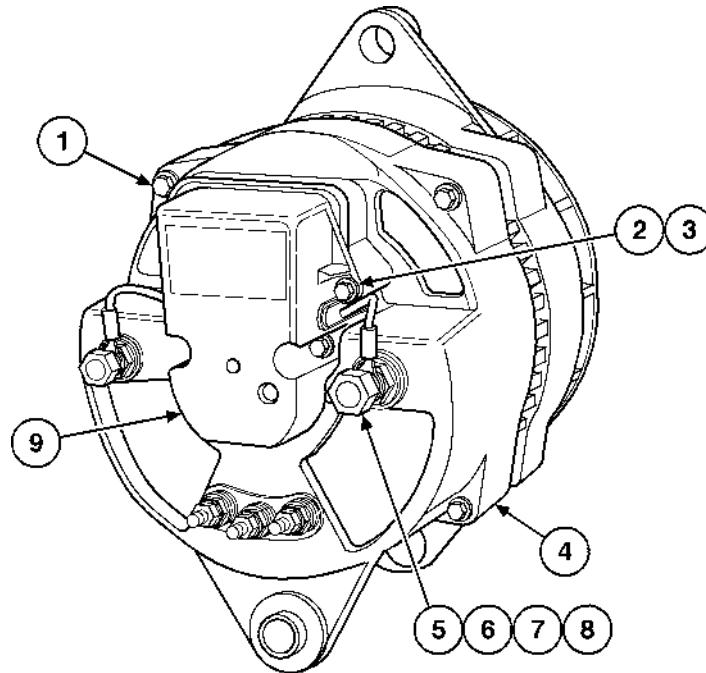
Compound, cleaning (item 4, WP 0159 00)
 Bearing (item 14, WP 0160 00)
 Bearing (item 16, WP 0160 00)
 Brush assembly (item 141, WP 0160 00)
 Gasket (item 10, WP 0160 00)
 Lockwashers (3) (item 20, WP 0160 00)
 Self-locking nut (item 21, WP 0160 00)

Equipment Conditions

Alternator removed (refer to WP 0110 00)

DISASSEMBLY

1. Loosen four thru-bolts (1).
2. Remove two nuts (5), washers (6), regulator leads (7), and washers (8) from alternator rear housing (4).
3. Remove four screws (2), washers (3), and regulator (9).



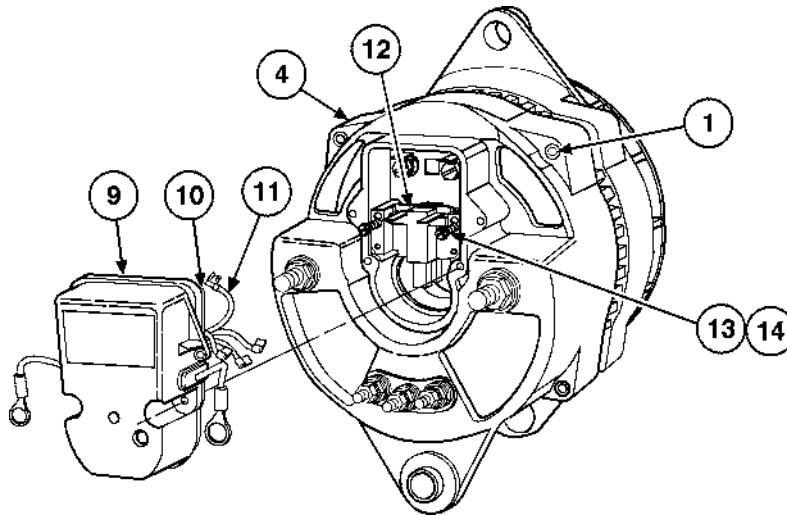
ALTERNATOR MAINTENANCE—Continued

0145 00

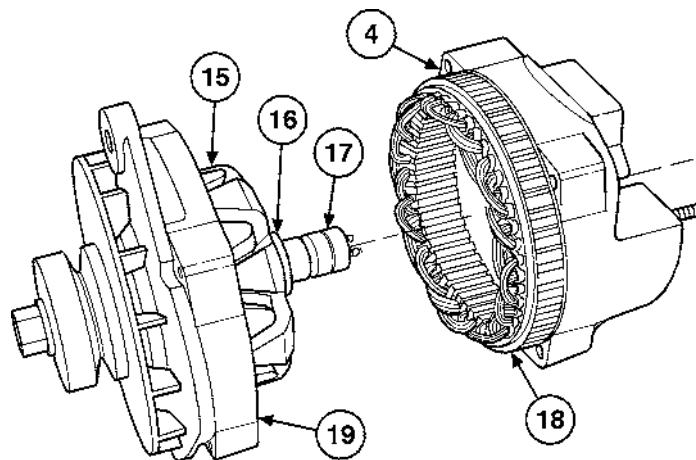
4. Remove gasket (10) from regulator (9). Discard gasket.

NOTE**Tag wires prior to disconnecting.**

5. Disconnect two sets of yellow and green wires (11) at regulator (9) from brush assembly (12) and rear housing (4).
6. Remove two screws (13), washers (14), and brush assembly (12). Discard brush assembly.



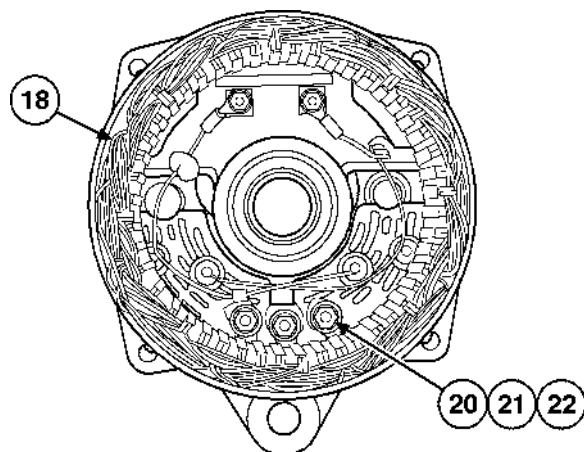
7. Remove four thru-bolts (1).
8. Separate rear housing (4) and stator (18) from front housing (19) and rotor (15). Remove spacer (16) from rotor shaft (17).



ALTERNATOR MAINTENANCE—Continued

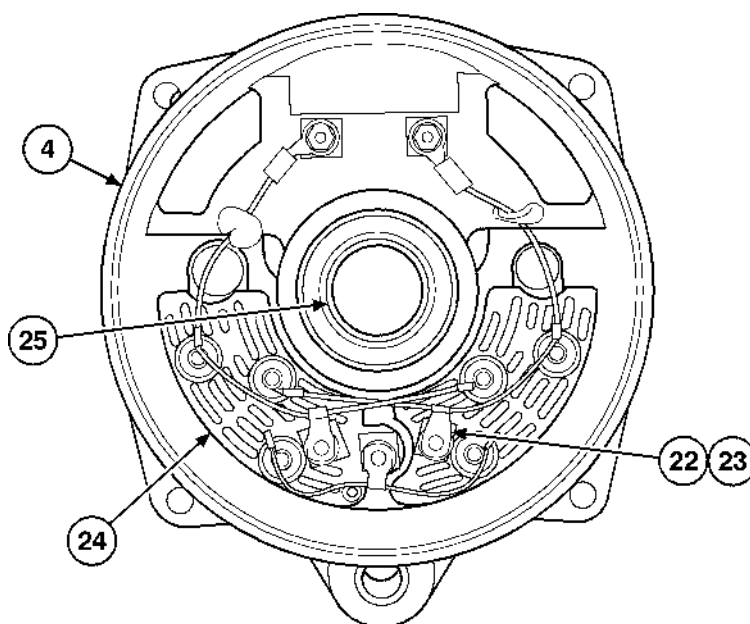
0145 00

9. Remove three nuts (20) and stator leads (21) from studs (22) and stator (18).



10. Remove three connectors (23) from studs (22) in heat sink bridge (24).

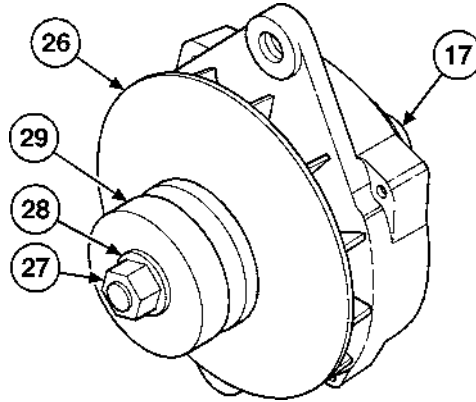
11. Remove rear bearing (25) from rear housing (4). Discard bearing.



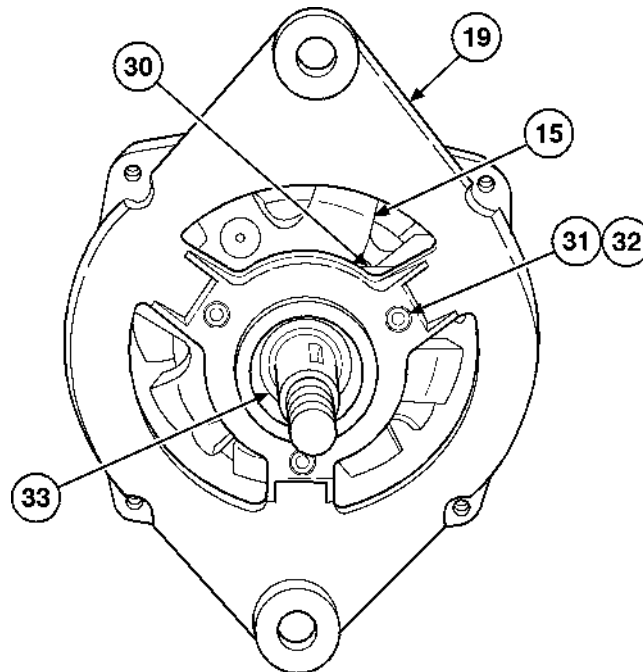
ALTERNATOR MAINTENANCE—Continued

0145 00

12. Remove self-locking nut (27), washer (28), pulley (29), and fan (26) from rotor shaft (17). Discard self-locking nut.



13. Remove three front bearing retainer screws (31) and lockwashers (32). Discard lockwashers.
14. Remove rotor (15) from front housing (19).
15. Remove bearing (33) and bearing retainer (30) from rotor (15). Discard bearing.



INSPECTION, TESTING, AND REPAIR

WARNING

Solvents can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If solvent gets on skin or clothing, wash immediately with soap and water.

CAUTION

Do not use excessive air pressure or parts could be damaged.

NOTE

All parts to be reused should be cleaned in cleaning compound and air-dried.

1. **Regulator.** Check regulator for any signs of corrosion or burns in circuit board. If either is present, replace regulator.
2. **Brush Assembly.** Replace brushes and brush holder.
3. **Stator.** Check for signs of physical damage, such as evidence of rotor striking stator laminations, broken insulation, or presence of foreign material that would restrict cooling of stator. If damage is present, replace alternator.

Check stator windings with a multimeter. Place one test lead on stator lamination and other on each of stator connectors. Multimeter should show no continuity. If continuity is present, replace alternator.

Place test leads alternately between three connectors. Continuity should be present between connectors. If continuity is not present, replace alternator.

4. **Rectifier Heat Sink Diodes.** If excess physical damage is evident, replace alternator.

Connect positive lead of multimeter to positive heat sink and touch negative test lead to each of three diode terminals. High resistance should be indicated. If any or all diodes indicate low or no resistance, replace alternator.

Reverse multimeter leads so that negative test lead is connected to positive heat sink. Touch positive test lead to each of three diode terminals. Low resistance should be indicated. If any or all diodes show high resistance, replace alternator.

Connect negative test lead of multimeter to negative heat sink and touch positive test lead to each of three diode terminals. High resistance should be indicated. If any or all diodes show high resistance, replace alternator.

Reverse multimeter leads so that positive test lead is connected to negative heat sink. Touch negative lead to each of three diode terminals. A low or absent resistance reading should be obtained.

If a shorted open diode is detected in any test, replace alternator.

ALTERNATOR MAINTENANCE—Continued

0145 00

5. **Fan and Pulley.** Check fan for bent fins and excessive wear around center bore. Check pulley for worn drive surfaces in belt area, or wear around bore. If damage is present, replace alternator.

6. **Rotor Assembly.** Check rotor assembly for signs of wear or damaged threads on shaft. If rotor is damaged, replace alternator. If rotor is not damaged, test rotor as follows:

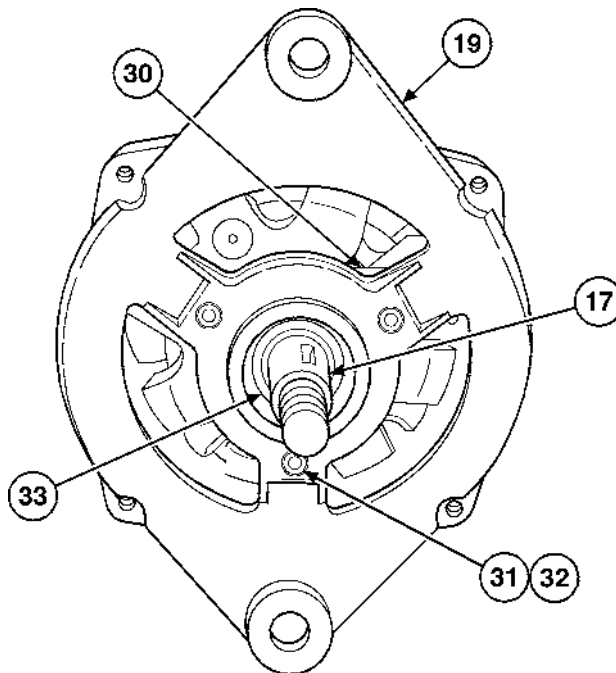
Place multimeter leads on rotor shaft and either slip ring. There should be no continuity. If continuity is present, replace alternator.

Place multimeter leads on two slip rings. The resistance should measure 2.4 to 3.5 ohms. If not, replace alternator.

7. **Front and Rear Housing.** Inspect front and rear housing for wear and damage. If excess damage is present, discard alternator.
8. **Bearings.** Bearings should be replaced whenever the alternator is disassembled.

ASSEMBLY

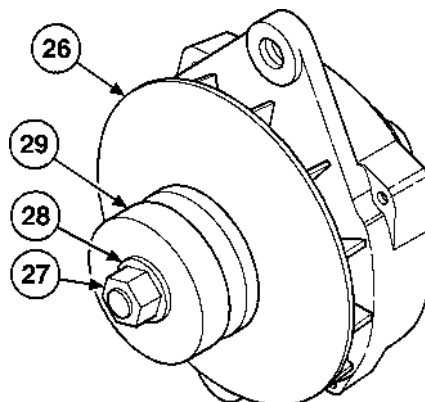
1. Install new front bearing (33) in front housing (19).
2. Install front bearing retainer (30), three new lockwashers (32), and screws (31).
3. Install front housing (19) to rotor shaft (17).



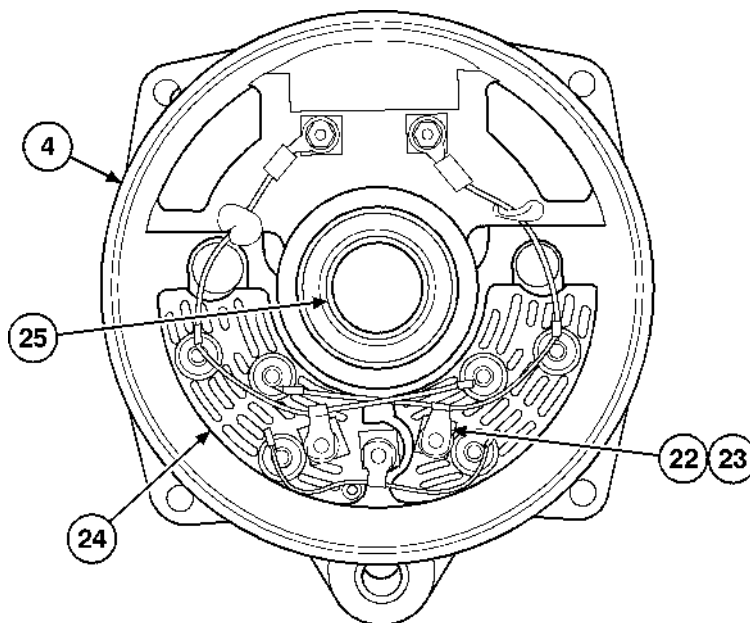
ALTERNATOR MAINTENANCE—Continued

0145 00

4. Install fan (26), pulley (29), washer (28), and new self-locking nut (27). Tighten nut 70 to 80 lb-ft (95 to 108 N•m).



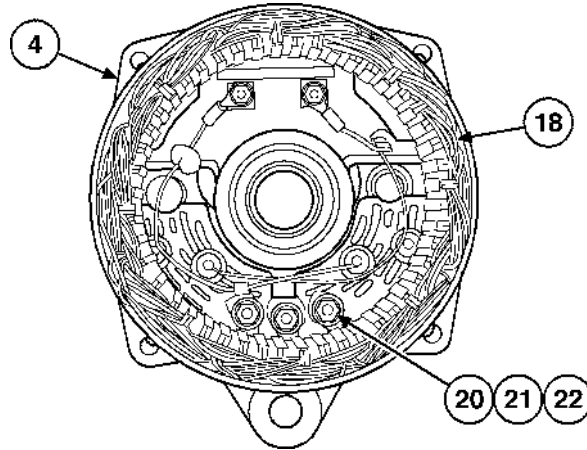
5. Install new bearing (25) into rear housing (4).
6. Install three connectors (23) to studs (22) on heat sink bridge (24).



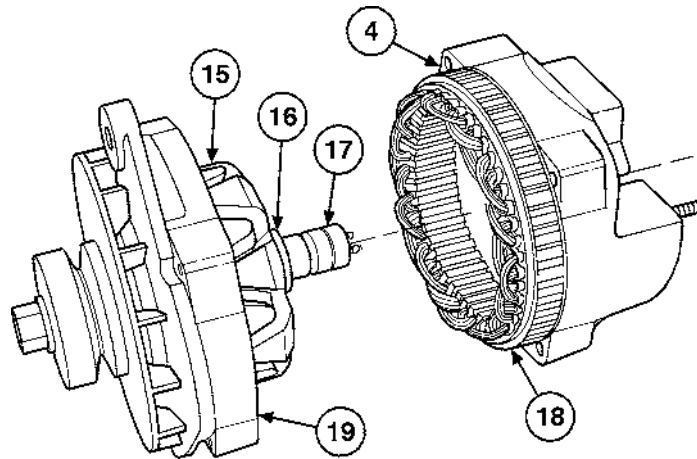
ALTERNATOR REPAIR—Continued

0145 00

7. Install stator (18) into rear housing (4) with stator leads (21) onto three studs (22) and nuts (20) with integral washers to studs.



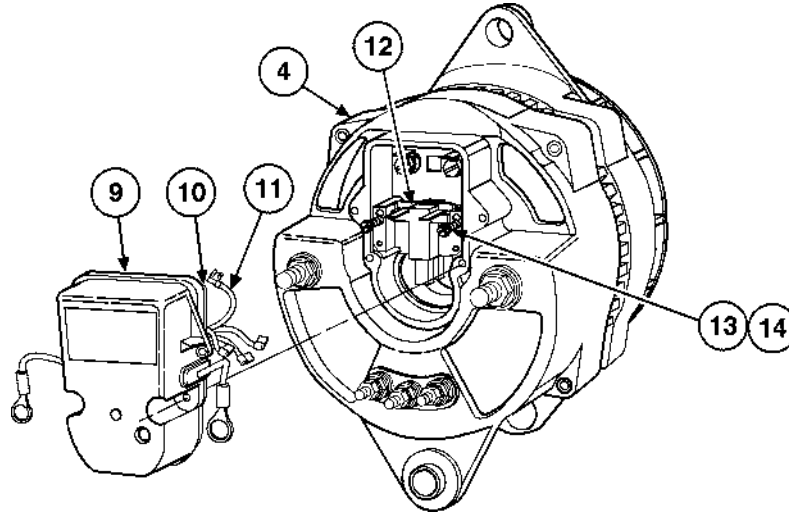
8. Install spacer (16) onto rotor shaft (17).
9. Install rear housing (4), stator (18), rotor (15), and front housing (19). Hand press halves together.



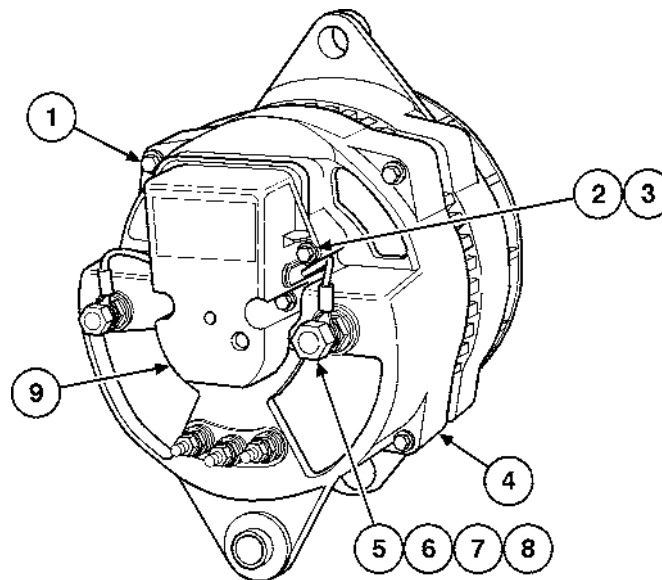
ALTERNATOR MAINTENANCE—Continued

0145 00

10. Install four thru-bolts (1) and tighten evenly to 50 to 60 lb-in (5.6 to 6.8 N•m).
11. Install new brush assembly (12) with two washers (14) and screws (13).
12. Install new gasket (10) to regulator (9).
13. Connect yellow and green wires (11) from regulator (9) to brush assembly (12) and rear housing (4).



14. Install regulator (9) to rear housing (4) with four washers (3) and screws (2).
15. Install two washers (6), leads (7), washers (8), and nuts (5) to rear housing (4).



ADJUSTMENT

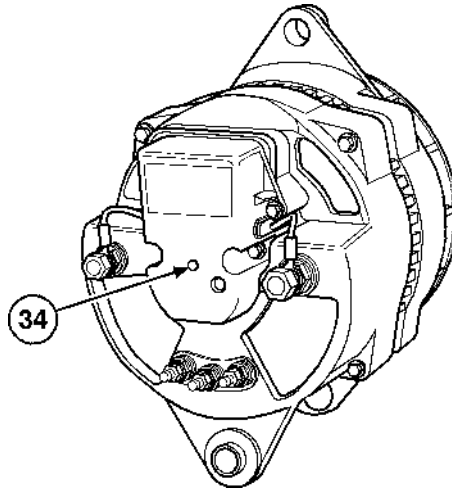
CAUTION

Do not force screwdriver past the set stops at either end of adjustment range to avoid regulator damage.

NOTE

Adjustments may be required during prolonged operation in extremely low or high temperatures to make sure batteries are properly charged.

Insert small screwdriver in hole (34) and turn clockwise to raise voltage. Turn screwdriver counterclockwise to lower voltage. Set voltage to 28.0 to 28.4 volts.



FOLLOW-ON TASK

Install alternator and adjust belt (WP 0110 00).

END OF TASK

4-INCH PUMP MAINTENANCE

0146 00

THIS WP COVERS:

Removal; Disassembly; Cleaning; Inspection and Repair; Assembly; Installation; Testing; Follow-On Task

INITIAL SETUP:

Maintenance Level

Direct and General Support

Materials/Parts

Compound, cleaning (item 4, WP 0159 00)
 Gaskets (AR) (item 31, WP 0160 00)
 Gasket (item 41, WP 0160 00)
 Lockwashers (20) (item 122, WP 0160 00)
 Mechanical seal (item 34, WP 0160 00)
 Seal (item 32, WP 0160 00)
 Seal (item 33, WP 0160 00)
 Self-locking nuts (4) (item 144, WP 0160 00)

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)
 Forklift truck (item 1, WP 0156 00)
 Lifting device (item 1, WP 0156 00)

References

WP 0034 00

Equipment Conditions

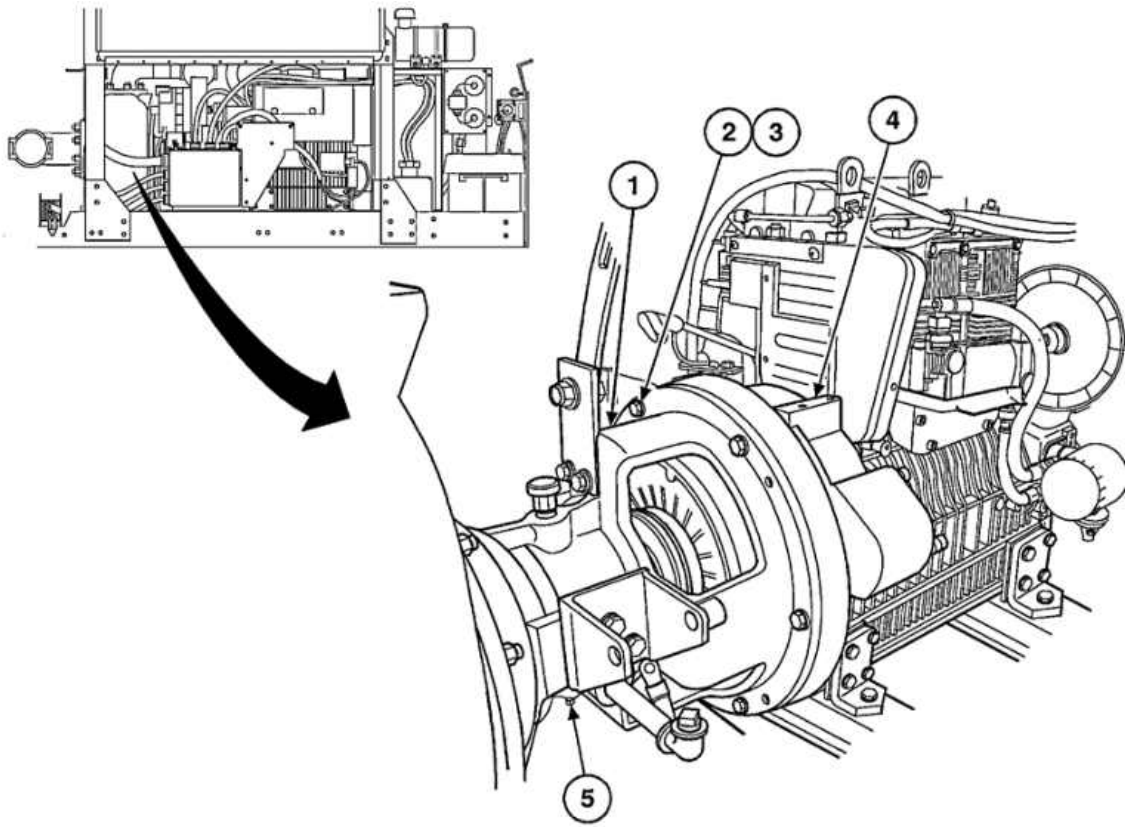
Engine and pump cabinet removed (refer to
 WP 0142 00)

4-INCH PUMP MAINTENANCE—Continued

0146 00

REMOVAL

1. Remove pipe plug (5) and drain lubricant.
2. Remove six screws (2) and lockwashers (3) connecting intermediate housing (1) to engine (4). Discard lockwashers.

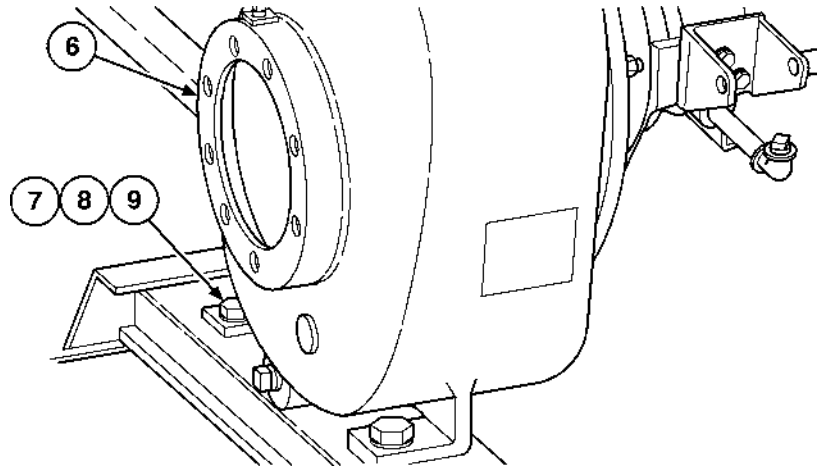
**NOTE**

A shim pack is located under one of the pump mounts. If the same pump is going to be reinstalled, mark the location of the shim pack and the number of shims. Set the shim pack aside for installation.

4-INCH PUMP MAINTENANCE—Continued

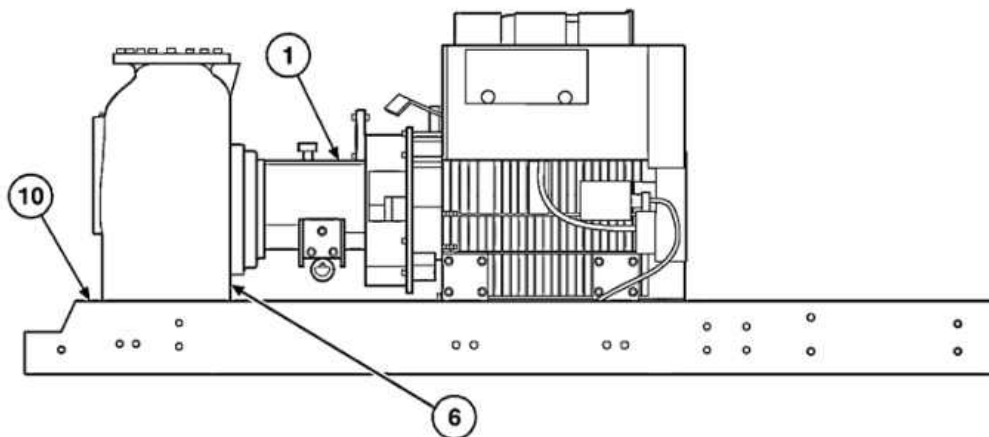
0146 00

3. Remove two self-locking nuts (7), washers (8), and bolts (9) at bottom of pump (6). Discard self-locking nuts.

**WARNING**

To avoid personal injury, use a hoist or other lifting device when lifting pump.

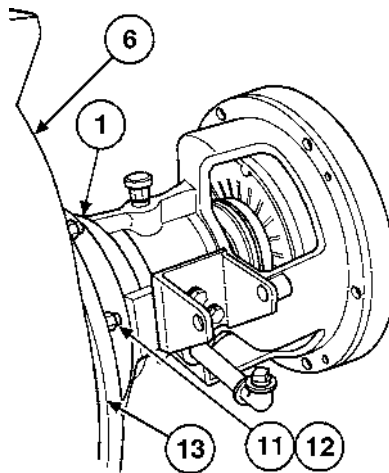
4. Remove pump (6) and intermediate housing (1) from cabinet frame (10).



DISASSEMBLY**NOTE**

Measure and record thickness of gasket(s) for ease of assembly.

1. Remove eight nuts (11), lockwashers (12), intermediate housing (1), and gasket(s) (13) from pump (6) as an assembly. Discard lockwashers and gasket(s).

**WARNING**

The spring load on mechanical seal may cause impeller to fly off shaft while being removed, causing serious injury to personnel.

2. Remove impeller (21) from impeller shaft (33) by unscrewing it in the same direction as pump turns.
3. Remove seal plate (25), mechanical seal (24), spring seat (23), and shims (22) from impeller shaft (33). Discard mechanical seal.

NOTE

If there are shims between bearing cap and bearing, set aside for use at assembly.

4. Remove four screws (38), lockwashers (37), bearing cap (28), gasket (29), and shims (30). Discard lockwashers and gasket.
5. Remove pump coupling (36) and key (34) from impeller shaft (33).
6. Remove impeller shaft (33) and bearings (32) from intermediate housing (1) as an assembly by using a soft hammer to hit the keyed end of the impeller shaft.
7. Remove seal (35) from intermediate housing (1). Discard seal.

4-INCH PUMP MAINTENANCE—Continued

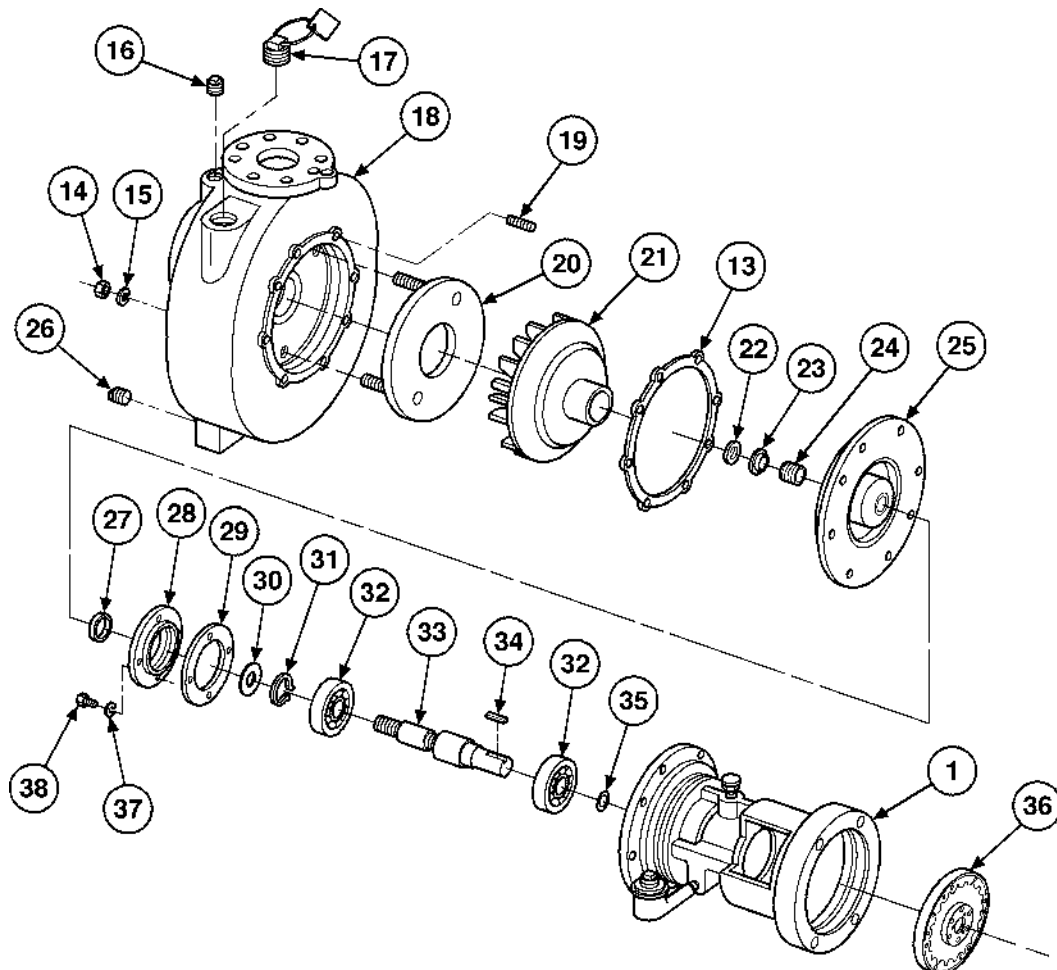
0146 00

8. Remove seal (27) from bearing cap (28). Discard seal.
9. Remove snap ring (31) and two bearings (32) from impeller shaft (33).

NOTE

Remove wear plate only if excessive wear is evident and replacement is necessary.

10. Remove two nuts (14), lockwashers (15), and wear plate (20) from volute (18). Discard lockwashers.
11. Remove eight studs (19) from volute (18).
12. Remove three plugs (16, 17, and 26).



CLEANING**WARNING**

Solvents can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If solvent gets on skin or clothing, wash immediately with soap and water.

Clean shaft and all component parts (except bearings) with a soft cloth soaked in cleaning solvent. Inspect parts for wear or damage and replace as necessary.

INSPECTION AND REPAIR

1. Remove minor nicks on edges of impeller vanes with a fine finishing stone.
2. Replace all seals, gaskets, and bearings.
3. Inspect impeller shaft for nicks, scratches, scoring, or other damage. Replace shaft if damaged.
4. If shaft is worn so bearings slip on and off easily, shaft must be replaced. Replace housing if bearings do not fit snugly into bearing bore.

ASSEMBLY

1. Install three plugs (16, 17, and 26) in volute (18) and plug (5) in intermediate housing (1).
2. Install eight studs (19) in volute (18).
3. Install wear plate (20) to volute (18) with two new lockwashers (15) and nuts (14).
4. Install two bearings (32), and snap ring (31) to impeller shaft (33).
5. Install new seal (27) in bearing cap (28). Lip of seal must be towards inside of cap.
6. Install new seal (35) in intermediate housing (1).
7. Install bearings (32) and impeller shaft (33) in intermediate housing (1) as an assembly.

NOTE

If shims were present at disassembly, put back in at assembly.

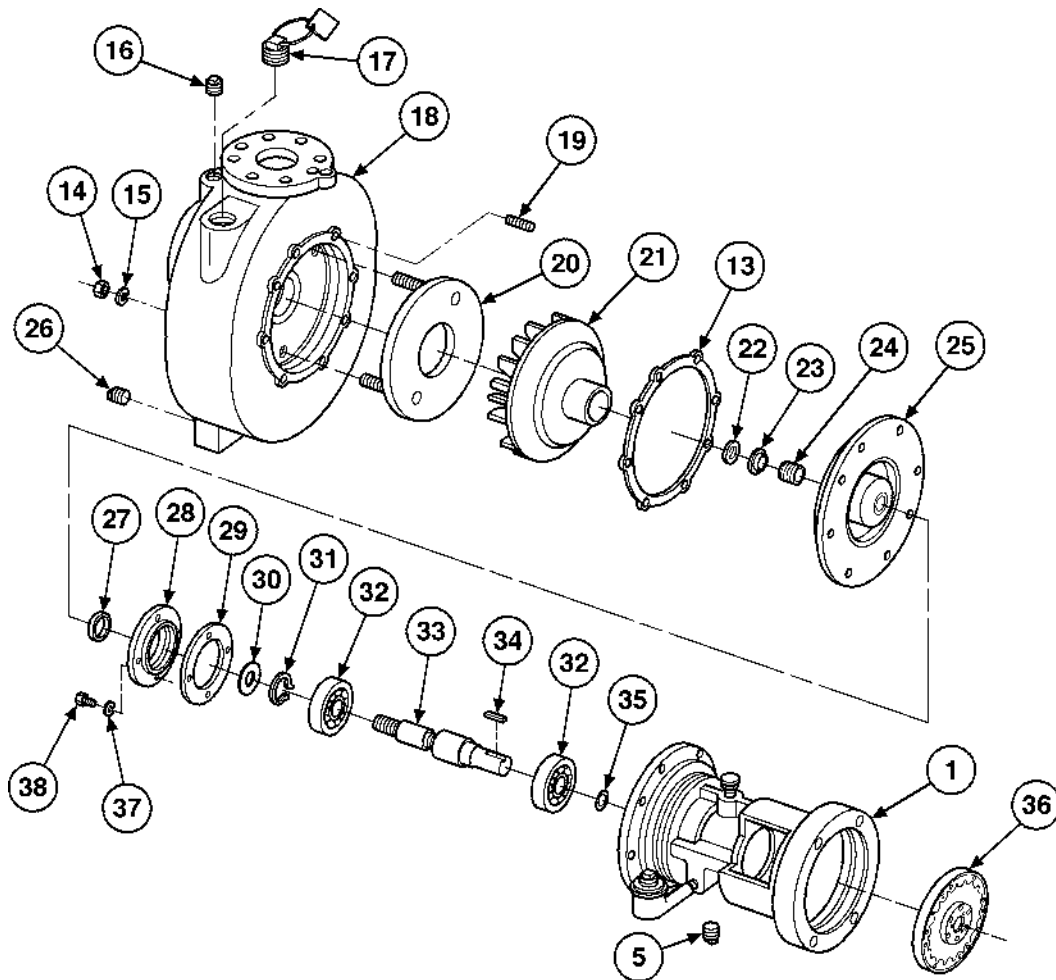
8. Install shims (30), new gasket (29), bearing cap (28), four new lockwashers (37), and screws (38) to intermediate housing (1).

9. Install pump coupling (36) and key (34) to impeller shaft (33).
10. Install shims (22), spring seat (23), new mechanical seal (24), and seal plate (25) to impeller shaft (33).

NOTE

A clearance of 0.020 to 0.040 in. (0.51 to 1.02 mm) between the impeller and seal plate is necessary for maximum pump efficiency. Measure this clearance and add or remove shims until the clearance is reached.

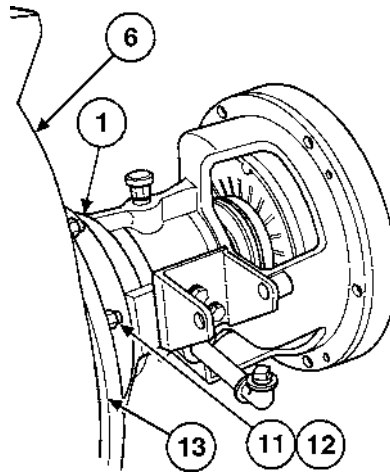
11. Install impeller (21) to impeller shaft (33).



NOTE

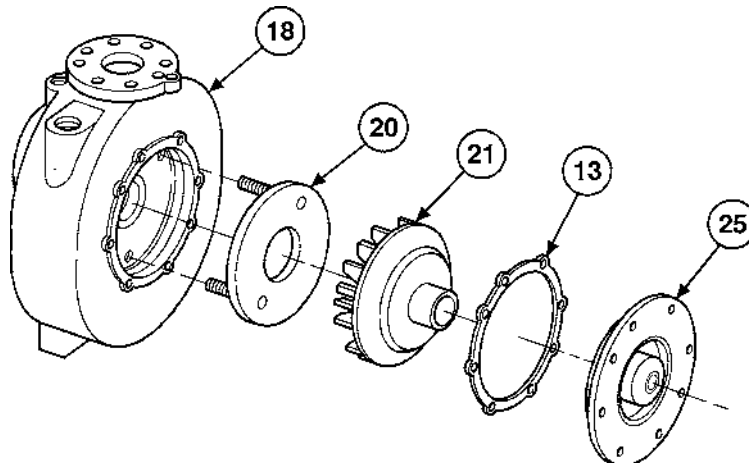
Install same thickness of gasket(s) as previously removed.

12. Install new gasket(s) (13), intermediate housing (1), eight new lockwashers (12), and nuts (11) to pump (6) as an assembly.

**NOTE**

A clearance of 0.010 to 0.020 in. (0.25 to 0.51 mm) between impeller and wear plate. Set this clearance by adding or removing gasket(s).

13. Check for clearance between front of impeller (21) and wear plate (20). If impeller scrapes, add another gasket (13) of sufficient thickness between seal plate (25) and volute (18).

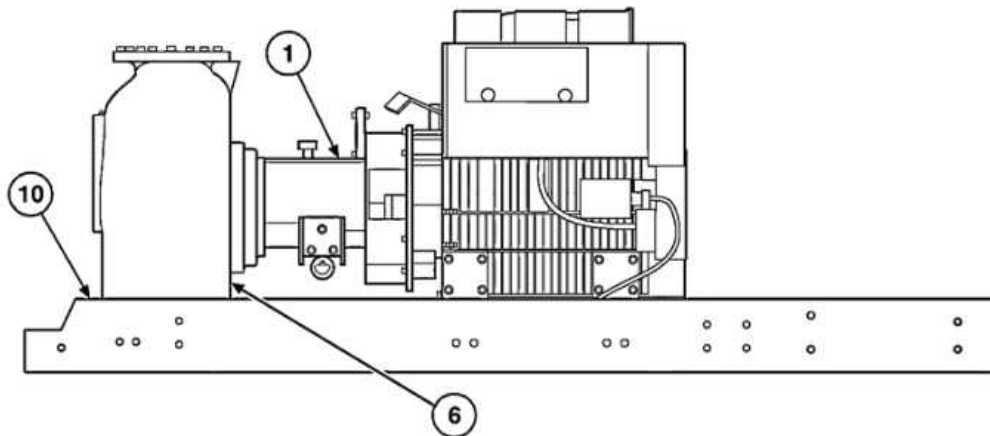


INSTALLATION

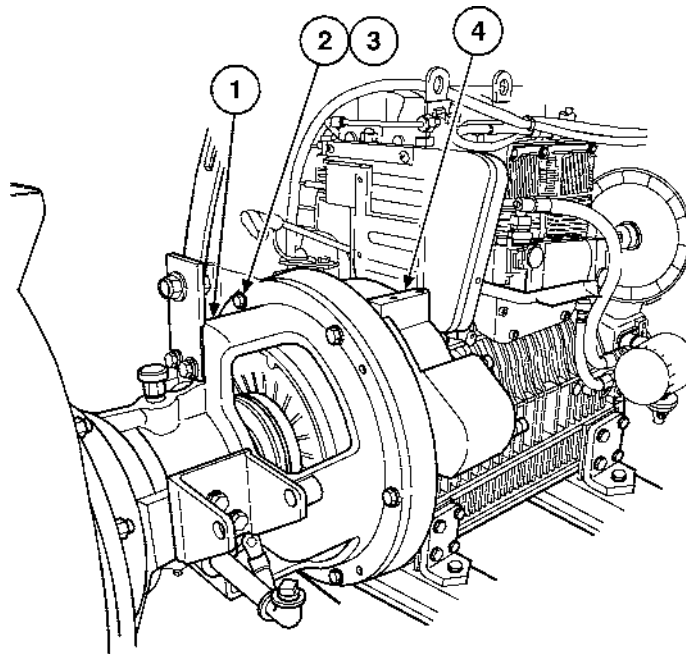
WARNING

To avoid personal injury, use a hoist or some lifting device when lifting pump.

1. Install pump (6) and intermediate housing (1) to cabinet frame (10).



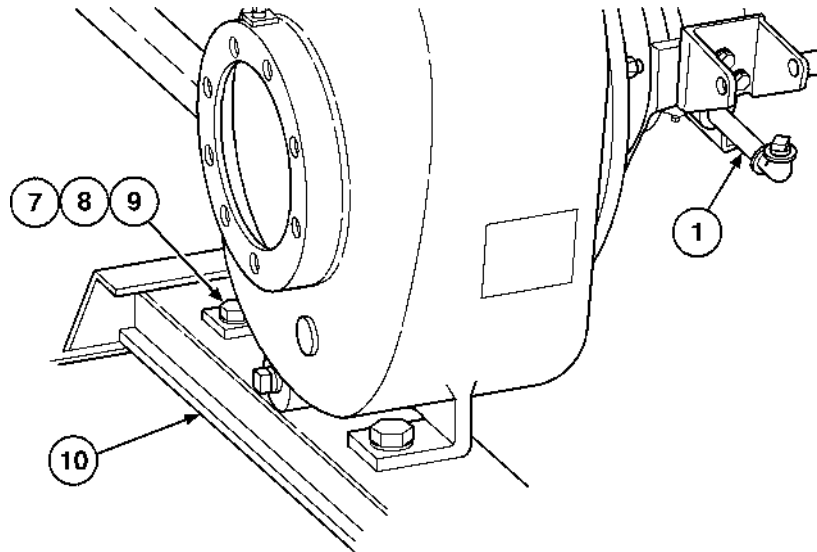
2. Install six screws (2) and new lockwashers (3) connecting intermediate housing (1) to engine (4).



NOTE

Install shim packs removed in removal step 3.

3. Install shim pack in location from where it was removed.
4. Install two bolts (9), washers (8), and new self-locking nuts (7) through pump mounts to cabinet frame (10).
5. Fill intermediate housing (1) with oil. Refer to lube instructions (WP 0034 00).

**FOLLOW-ON TASK**

Install engine and pump cabinet (WP 0142 00).

END OF TASK

PIPING FRAME ASSEMBLY REPLACEMENT

0147 00

THIS WP COVERS:Removal, Installation, Follow-On Tasks

INITIAL SETUP:**Maintenance Level**

Direct and General Support

Materials/Parts

Self-locking nuts (26) (item 86, WP 0160 00)

Self-locking nuts (11) (item 87, WP 0160 00)

Personnel Required

Two

Tools and Special Tools

Tool kit, general mechanic's (item 4, wp 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Manifold valve removed (refer to WP 0124 00)

Discharge manifold valve removed (refer to WP 0122 00)

G valve removed (refer to WP 0118 00)

Bottom loading valve removed (refer to WP 0123 00)

Emergency valve A control handle removed (refer to WP 0126 00)

Main wiring harness removed (refer to WP 0055 00)

Static reel removed (refer to WP 0084 00)

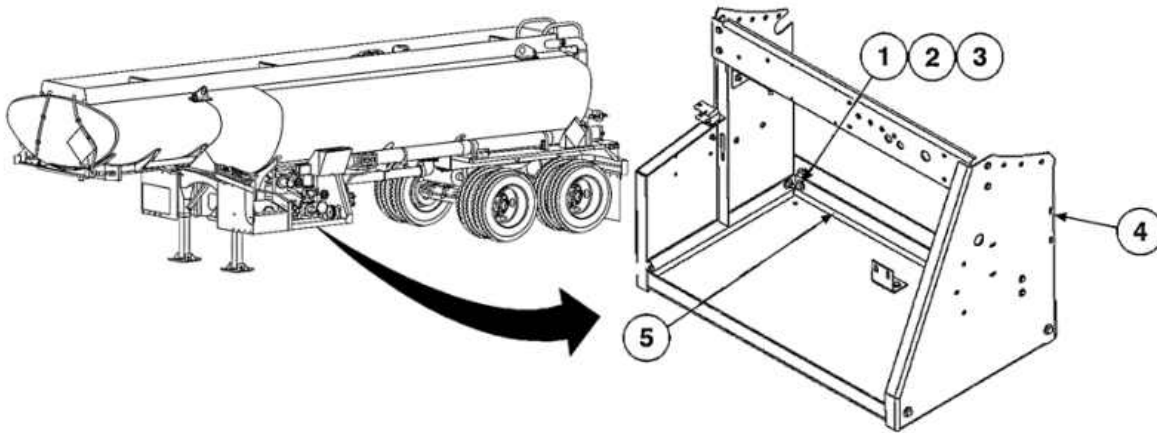
F, E, and B valves and handwheels removed (refer to WP 0121 00)

REMOVAL

1. Remove 8 self-locking nuts (1), 16 washers (2), 8 bolts (3), and rear of piping frame (4) from bulkhead (5). Discard self-locking nuts.

WARNING

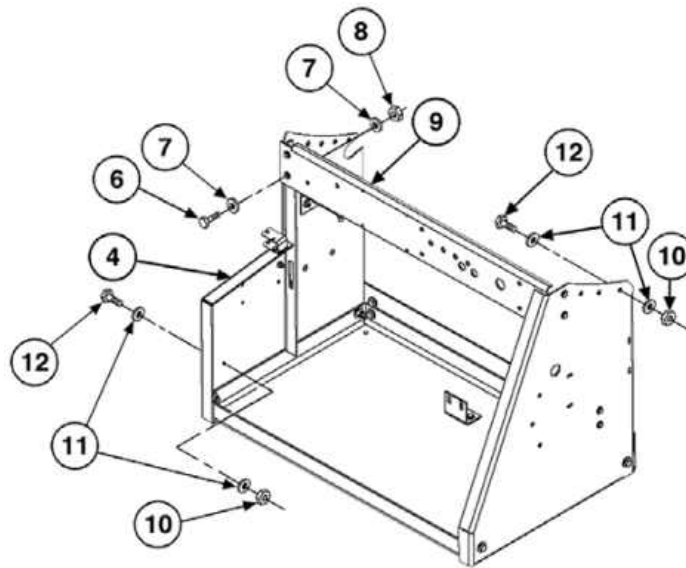
Piping frame is heavy. Position a forklift or other lifting device underneath framework. Do not attempt to lift it by yourself or damage to equipment or injury to personnel could result.



PIPING FRAME ASSEMBLY REPLACEMENT—Continued

0147 00

2. Remove 26 self-locking nuts (10), 52 washers (11), and 26 bolts (12) from both sides of piping frame (4). Discard self-locking nuts.
3. Remove three self-locking nuts (8), six washers (7), and three bolts (6) from panel (9). Discard self-locking nuts.

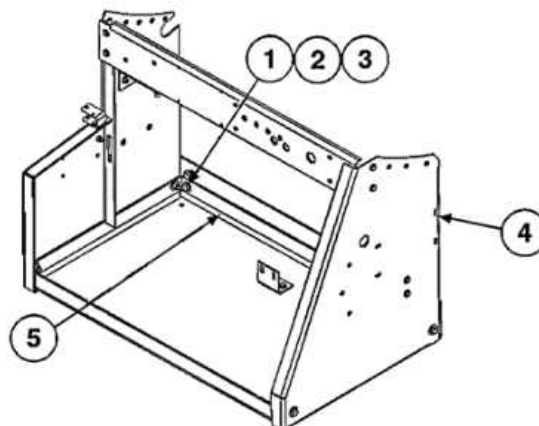


INSTALLATION

WARNING

Piping frame is heavy. Position a forklift or other lifting device underneath framework. Do not attempt to lift it by yourself or damage to equipment or injury to personnel could result.

1. Install 8 bolts (3), 16 washers (2), 8 new self-locking nuts (1), and rear of piping frame (4) to bulkhead (5).



PIPING FRAME ASSEMBLY REPLACEMENT—Continued

0147 00

2. Install 26 bolts (12), 52 washers (11), 26 new self-locking nuts (10), and both sides of piping frame (4) to semitrailer.
3. Install three bolts (6), six washers (7), and three new self-locking nuts (8) to panel (9).

FOLLOW-ON TASKS

1. Install main wiring harness (WP 0055 00).
2. Install emergency valve A control handle (WP 0126 00).
3. Install bottom loading valve (WP 0123 00).
4. Install valve G (WP 0118 00).
5. Install discharge manifold valve (WP 0122 00).
6. Install manifold valve (WP 0124 00).
7. Install static reel (WP 0084 00).
8. Install F, E, and B valves and handwheels (WP 0121 00).
9. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

G VALVE MAINTENANCE

0148 00

THIS WP COVERS:

Disassembly, Cleaning and Inspection, Assembly, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Direct and General Support

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Material/Parts

Compound, cleaning (item 4, WP 0159 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

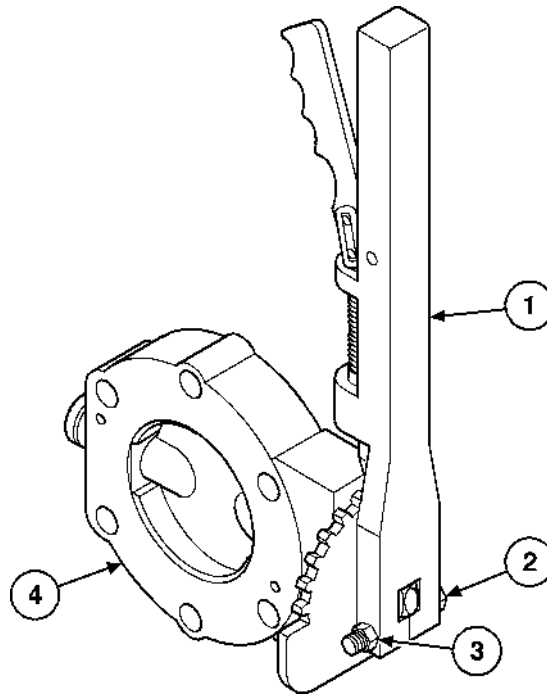
Semitrailer grounded (refer to WP 0007 00)

Semitrailer fuel tank drained (refer to WP 0007 00)

G valve removed (refer to WP 0118 00)

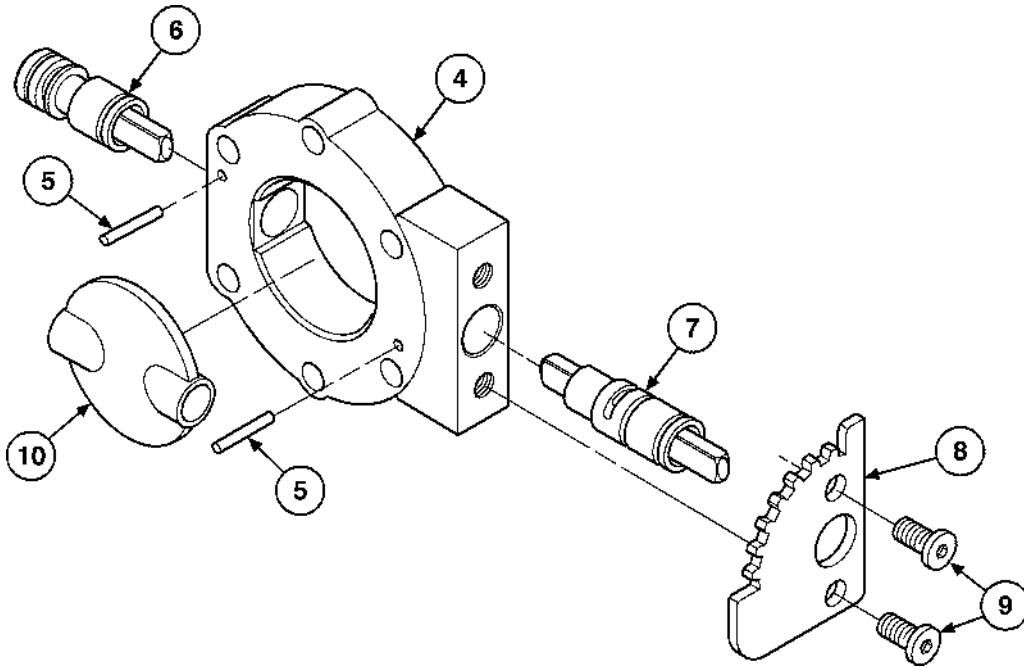
DISASSEMBLY

1. Remove nut (3), bolt (2), and handle (1) from valve (4).



G VALVE MAINTENANCE—Continued**0148 00**

2. Remove two screws (9) and ratchet plate (8).
3. Remove two retaining pins (5) from top side of valve (4).
4. Remove stems (7 and 6) and disc (10) from valve (4).

**CLEANING AND INSPECTION****WARNING**

Solvents can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well ventilated area. If solvent gets on skin or clothing, wash immediately with soap and water.

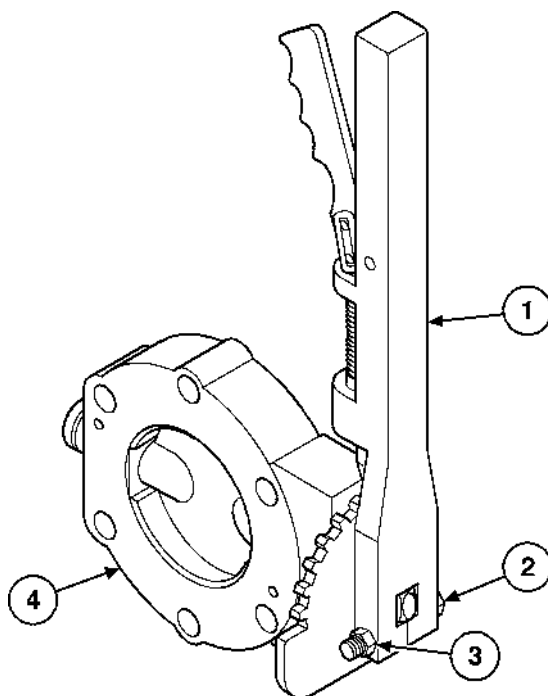
Clean all metal parts with cleaning compound. Check for any obvious damage such as cracks in parts. Replace any damaged parts.

ASSEMBLY

1. Assemble disc (10) to valve (4) with stems (7 and 6).
2. Insert smooth ends of two retaining pins (5) into valve (4).
3. Assemble ratchet plate (8) to valve (4) with two screws (9).

G VALVE MAINTENANCE—Continued**0148 00**

4. Assemble handle (1) to valve (4) with bolt (2) and nut (3).

**FOLLOW-ON TASKS**

1. Install G valve (WP 0118 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

This WP intentionally blank

F, E, AND B VALVES REPAIR

0150 00

THIS WP COVERS:

Disassembly, Cleaning and Inspection, Assembly, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Direct and General Support

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Materials/Parts

Compound, cleaning (item 4, WP 0159 00)

Rags (item 11, WP 0159 00)

Gaskets (3) (item 52, WP 0160 00)

Lockwashers (48) (item 40, WP 0160 00)

Packings (3) (item 51, WP 0160 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

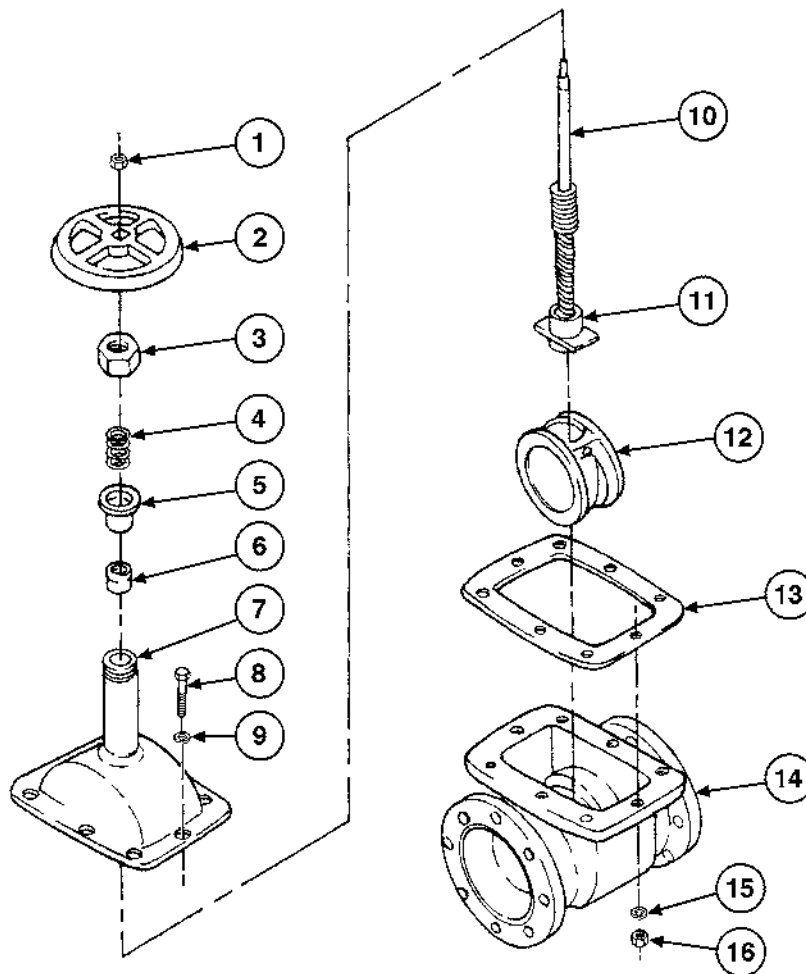
F, E, and B valves removed (refer to WP 0121 00)

NOTE

Use this task to repair the F, E, and B valves. The F valve is shown.

F, E, AND B VALVES REPAIR—Continued**0150 00****DISASSEMBLY**

1. Remove eight screws (8), lockwashers (9), lockwashers (15), nuts (16), gasket (13), and bonnet (7) from valve body (14). Discard lockwashers and gasket.
2. Loosen packing nut (3) and turn handwheel (2) counterclockwise. Remove nut (1), handwheel, packing nut, spring (4), packing retainer (5), and packing (6) from bonnet (7). Discard packing.
3. Remove stem (10), pull nut (11), and disc assembly (12) from valve body (14).



F, E, AND B VALVES REPAIR—Continued

0150 00**CLEANING AND INSPECTION****WARNING**

Solvents can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If solvent gets on skin or clothing, wash immediately with soap and water.

1. Clean all metal parts with cleaning compound and rags.
2. Inspect metal parts for cracks, scoring, and pitting. Replace any damaged parts.
3. If disc assembly or disc assembly mating surfaces are pitted or scored, replace entire valve assembly.

ASSEMBLY

1. Install stem (10), pull nut (11), and disc assembly (12) in valve body (14).
2. Install new packing (6), packing retainer (5), spring (4), packing nut (3), handwheel (2), and nut (1) on bonnet (7).
3. Install eight screws (8), new lockwashers (15), new lockwashers (9), nuts (16), new gasket (13), and bonnet (7) on valve body (14).

FOLLOW-ON TASKS

1. Install F, E, and B valves (WP 0121 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

D VALVE AND LINES REPLACEMENT

0151 00

THIS WP COVERS:

Removal, Installation, Follow-On Tasks

INITIAL SETUP:

Maintenance Level

Direct and General Support

Material/Parts

Cable ties (AR) (item 98, WP 0160 00)

References

TB 43-0212

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

Negative terminal disconnected from battery (refer to WP 0007 00)

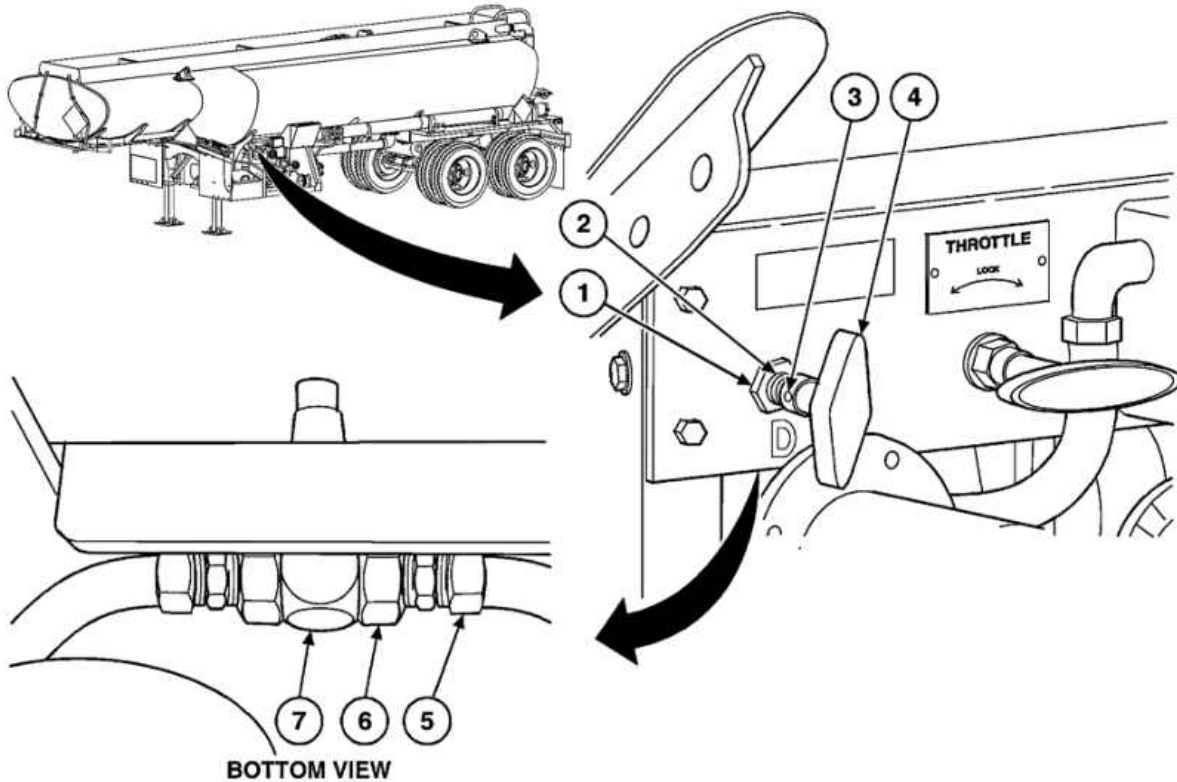
Semitrailer emptied and purged per TB 43-0212

NOTE

Replace in line fuel filter when replacing hoses. (WP 0120 00)

REMOVAL

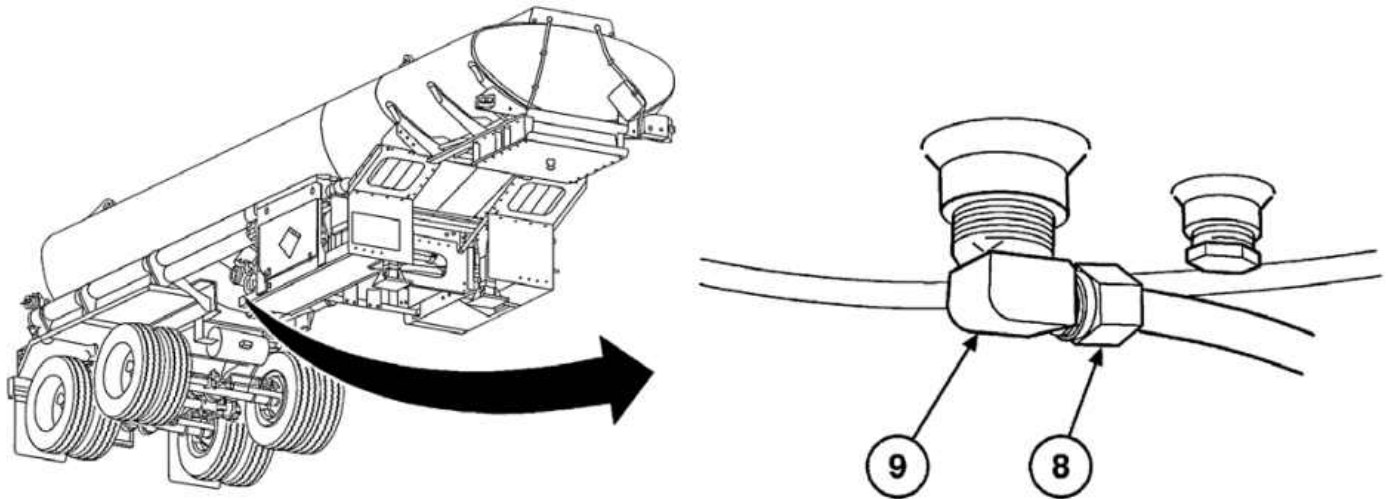
1. Loosen set screw (3) and remove knob (4) and nut (1) from D valve stem (2).
2. Remove two fitting nuts (5), fittings (6), and D valve body (7).



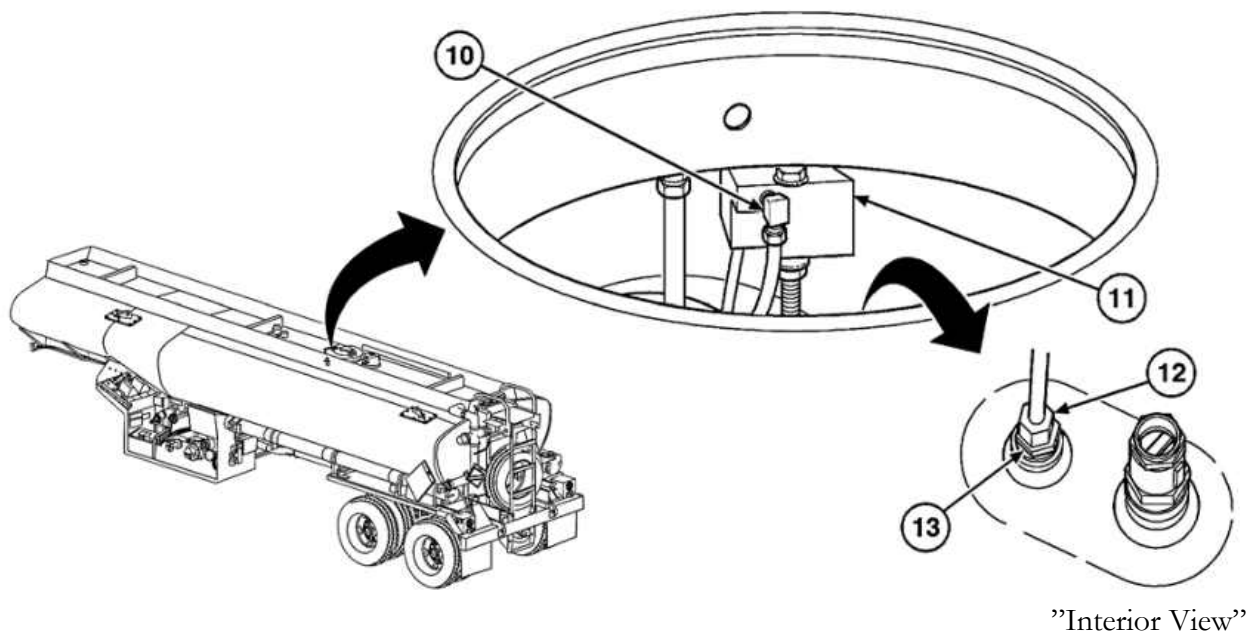
NOTE

Remove cable ties as necessary.

3. Remove pipe fitting (8) and fitting (9).



4. Disconnect two hose nuts (12) at high level shutoff (11) and at D valve fitting (13).
5. Remove elbow fitting (10) from high level shutoff (11).
6. Remove fitting (13).



D VALVE AND LINES REPLACEMENT—Continued

0151 00

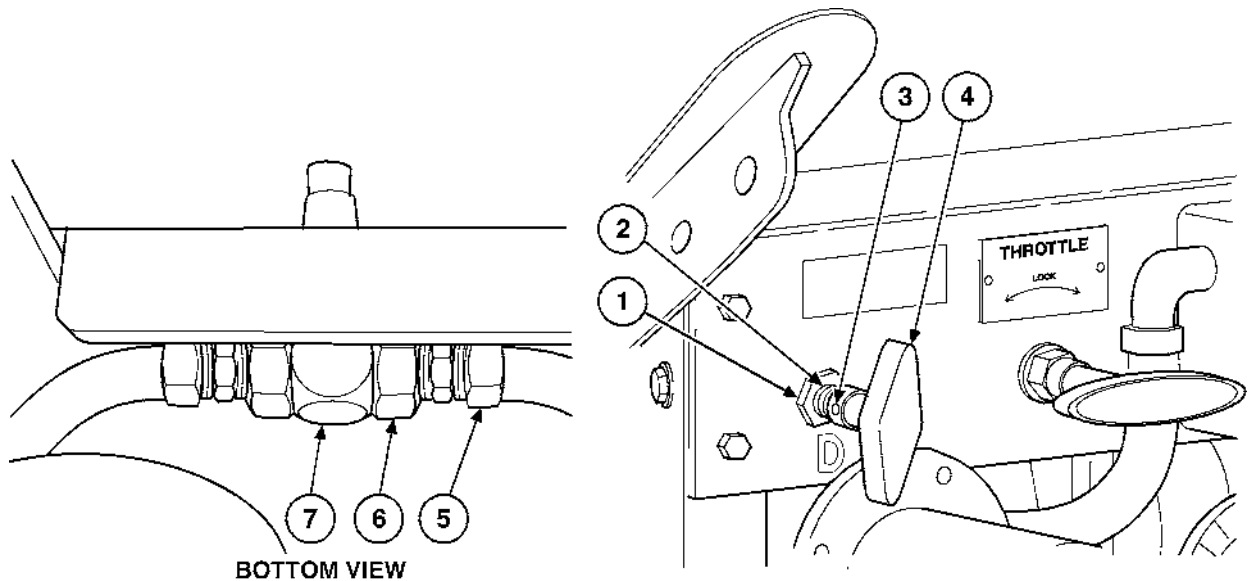
INSTALLATION

1. Install fitting (13).
2. Install elbow fitting (10) to high level shutoff (11).
3. Install two hose nuts (12) to high level shutoff (11) and to D valve fitting (13).
4. Install fitting (9) and pipe fitting (8).

NOTE

Install new cable ties as necessary.

5. Install two fittings (6), fitting nuts (5), and D valve body (7).
6. Install nut (1) and knob (4) to D valve stem (2) and tighten set screw (3).



FOLLOW-ON TASKS

1. Reconnect negative battery terminal (WP 0007 00).
2. Disconnect semitrailer grounding cables (WP 0007 00).

END OF TASK

VAPOR INTEGRITY TEST

0152 00

THIS WP COVERS:

Pressure Test Preparation; Pressure Test Procedure; Vacuum Test Preparation; Vacuum Test Procedure

INITIAL SETUP:

Maintenance Level

Direct and General Support

Tools and Special Tools

Tool kit, general mechanic's (item 4, WP 0156 00)

Equipment Conditions

Semitrailer disconnected from prime mover (refer to WP 0007 00)

Semitrailer grounded (refer to WP 0007 00)

References

DOT 49CFR180.407 TB 43-0212

DOT 49CFR180.409 WP 0116 00

DOT 49CFR180.415 WP 0149 00

NOTE

Testing personnel must be registered with DOT in accordance with DOT regulation 49CFR180.409.

PRESSURE TEST PREPARATION

WARNING

- Use extreme caution when walking or working on the top of semitrailer. Walkway can become slippery due to moisture or fuel spillage. Failure to follow this warning may result in serious injury.
- Before performing the pressure or vacuum test, the semitrailer must be grounded to an approved (earth) ground and must be safe to proceed. Failure to follow this warning may cause a spark to ignite, resulting in serious injury or death to personnel.
- Make sure tank and piping system are free of all liquid and that tank is purged of all fuel vapor (implement the cleaning procedures, as applicable, refer to TB 43-0212). Failure to follow this warning may cause a spark to ignite, resulting in serious injury or death to personnel.

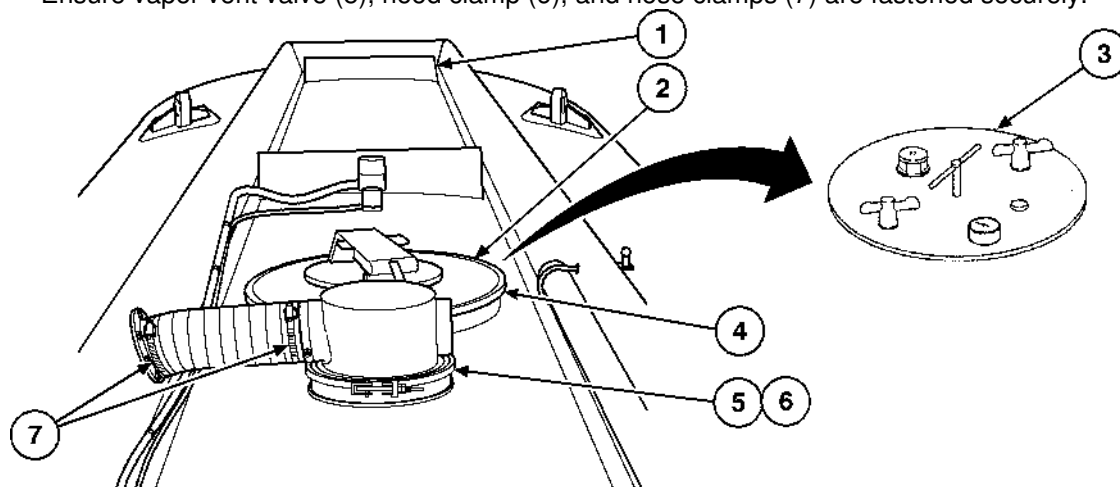
NOTE

- Select an area with minimum temperature changes, which directly affect pressure readings. Do not perform the pressure test in direct sunlight.
- Visually inspect outside of tank and all associated piping. Look for stained areas that indicate obvious leakage. Repair obvious leaks prior to performing pressure test. Inspect discharge valve to ensure leak-free operation.
- Make sure test equipment gages are set to zero by turning adjusting screw on each gage.

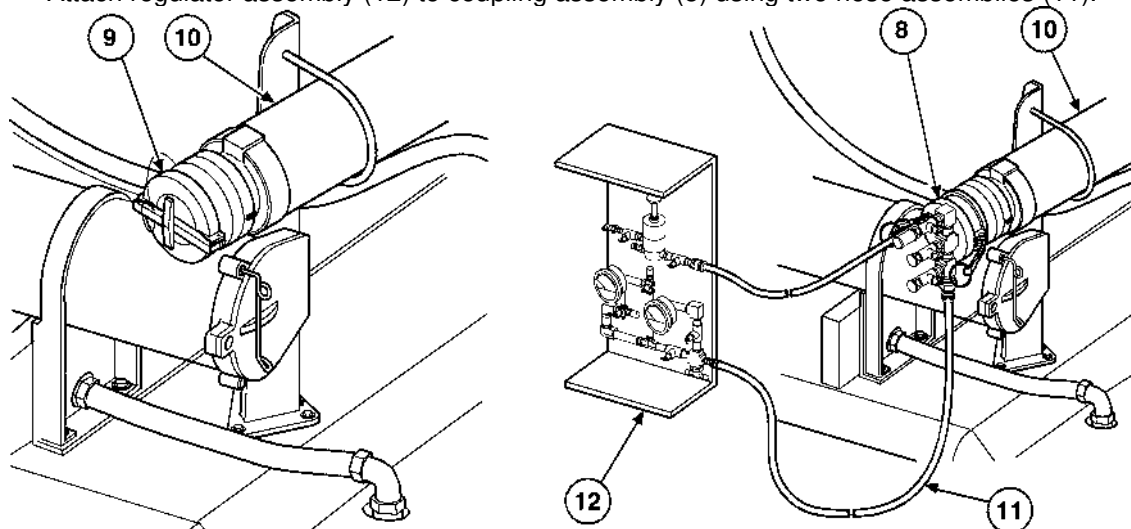
WARNING

Perform EPA (Environmental Protection Agency) Method 27 for the leak test; this procedure tests tankers to MC306 or DOT406 standards.

1. Open manhole cover (2), install test plate (3), and fasten securely.
2. Ensure clamp ring (4) for manhole cover (2) is fastened securely.
3. Ensure both 3-in. (diameter) cleanout caps (1) are fastened securely.
4. Ensure vapor vent valve (5), hood clamp (6), and hose clamps (7) are fastened securely.



5. Remove dust cap (9) from vapor vent line (10).
6. Attach coupling assembly (8) to vapor vent line (10).
7. Attach regulator assembly (12) to coupling assembly (8) using two hose assemblies (11).



VAPOR INTEGRITY TEST—Continued

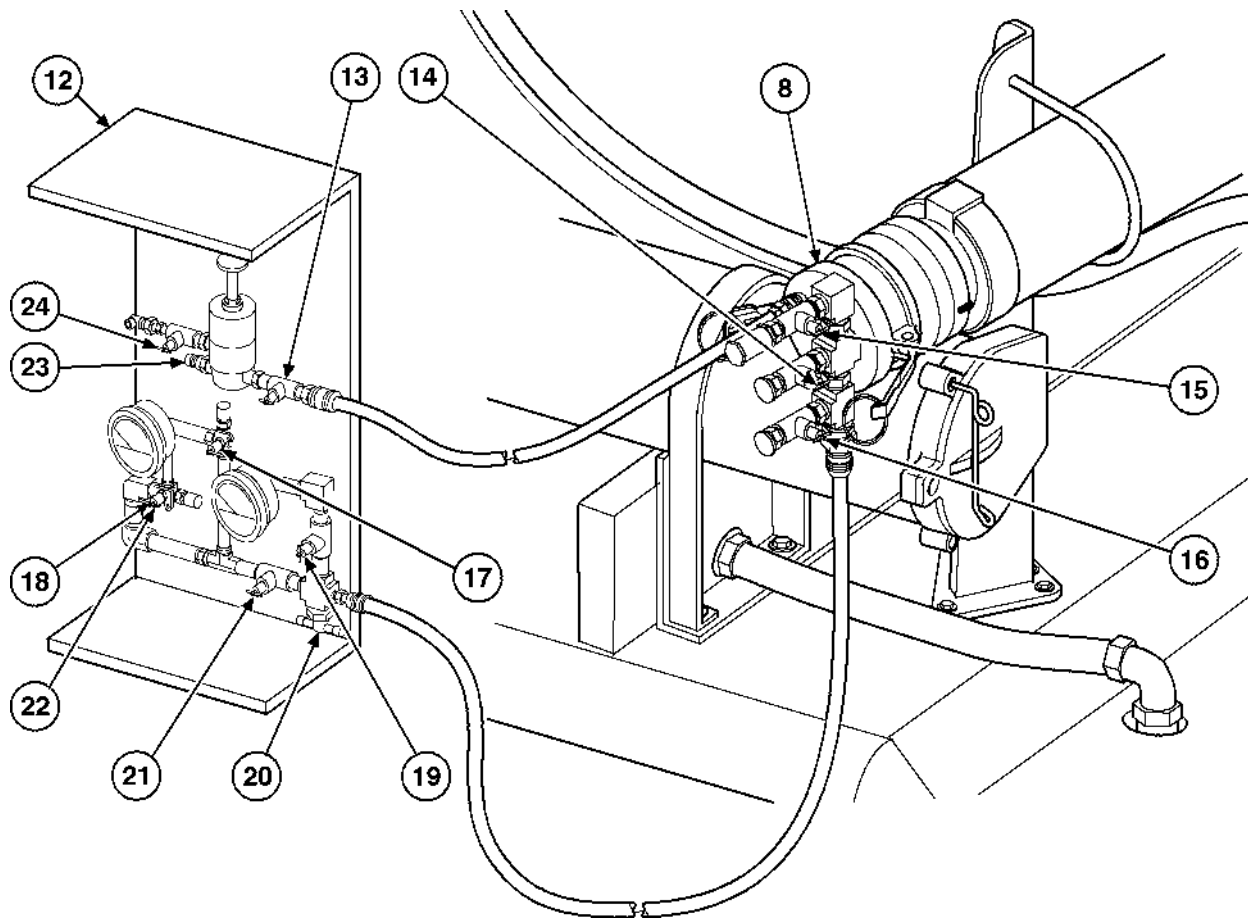
0152 00

8. On regulator assembly (12), close control shutoff valve (13), valve (19), draincock valve (20), and valve (24), and open valve (21). On coupling assembly (8), close valves (14 and 15) and open valve (16).
9. Turn valves (17 and 18/22) on regulator assembly (12) to the horizontal position for positive pressure reading.

WARNING

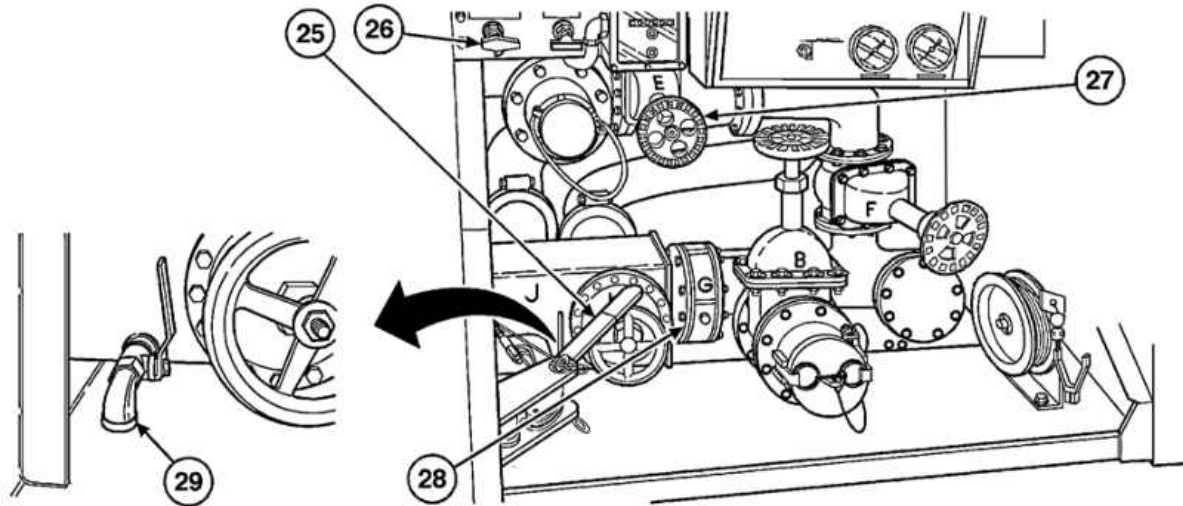
Make sure regulator is set to its lowest setting (turned fully counterclockwise) to avoid overpressure in tank. The pneumatic test pressure in tank must be reached gradually. Failure to follow this warning may result in serious injury to personnel or damage to equipment.

10. Connect air pressure supply to regulator assembly port (23).



PRESSURE TEST PROCEDURE

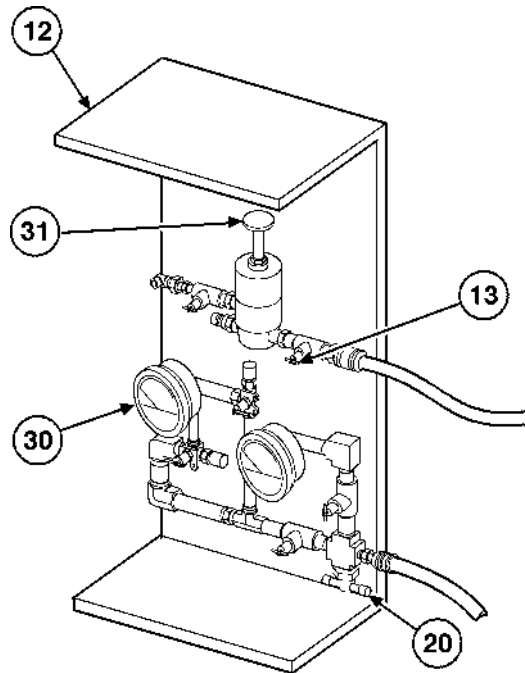
1. Open emergency valve A (25) and valves D and E (26 and 27). Close valves G and J (28 and 29).



2. Open control shutoff valve (13) on regulator assembly (12).

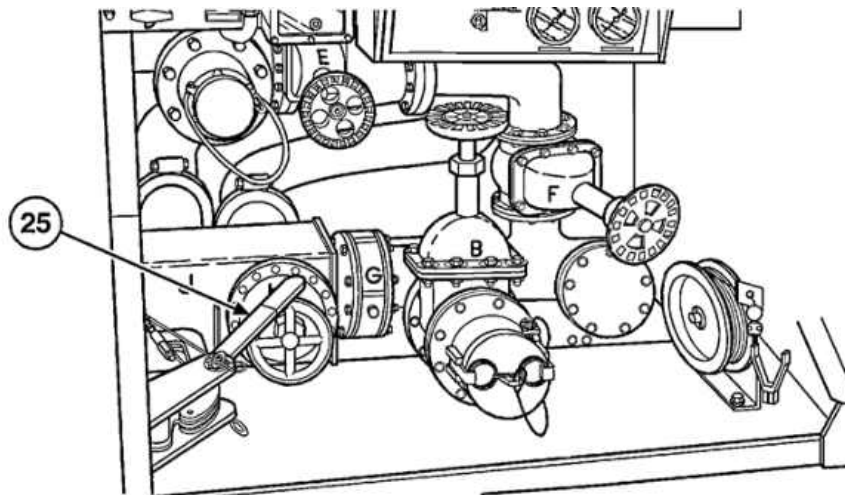
WARNING

- **Never remove any accessory items (e.g., manhole cover, cleanout caps) during pressure test; severe injury or death may result.**
 - **Do not overpressure tank. If tank is overpressurized, close control shutoff valve and open draincock valve to reduce overpressure. Failure to follow this warning may result in serious injury to personnel or damage to equipment.**
3. Slowly adjust regulator assembly (12) by turning regulator knob (31) clockwise to increase flow of air into vapor return line and tank until a pressure reading of 17.5 to 18.5 in. water column (wc) is obtained on gage (30).
 4. Close control shutoff valve (13) on regulator assembly (12).
 5. Wait 5 minutes to verify that pressure reading remains stable at 17.5 to 18.5 in. wc.
 6. Close draincock valve (20) after tank pressure has dropped to 17.5 to 18.5 in. \pm 0.5 in. wc on gage (30).
 7. At the end of an additional 5 minutes, record the time and final pressure from gage (30). If pressure drops more than 0.5 in. wc, repressurize tank per step 3 before connecting.

**CAUTION**

Although an emergency valve leak does not constitute a K stamp (indicating compliance with DOT 49CF180.407 (h)) failure if the leak is internal, proper emergency valve operator function is required for safe operation.

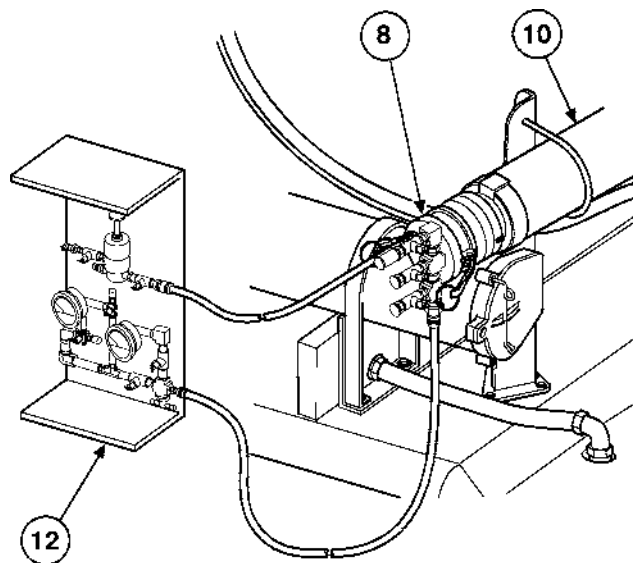
8. Close emergency valve A (25) and monitor gage (30) on regulator assembly (12).
9. Wait 5 minutes to verify that pressure reading remains stable. If pressure drops more than 0.5 in. wc on gage (30), go to step 10. If pressure remains at 17.5 to 18.5 in. wc, go to step 13.

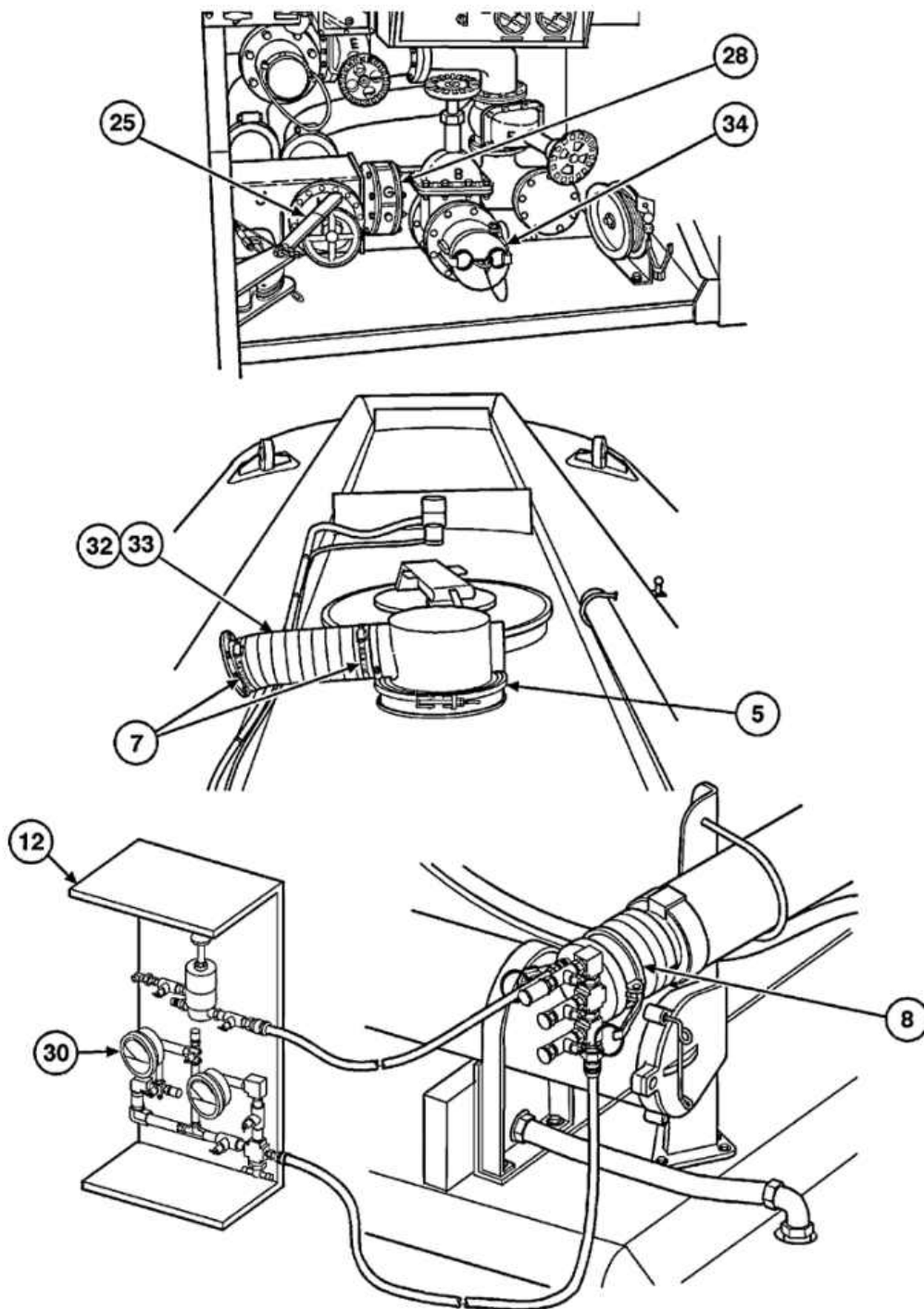


VAPOR INTEGRITY TEST—Continued

0152 00

10. Look for leaks in vapor vent line (10); check vapor vent hood (7), vapor vent hose (32), and pipe joints (33).
11. Return tank and piping system to normal atmospheric pressure by opening G valve (28) and emergency valve A (25).
12. Repair any leaks found in vapor vent line (10) (refer to WP 0116 00). Restart test at step 1.
13. Return vapor vent line (10) to atmospheric pressure by opening draincock valve (20) of regulator assembly (12).
14. On regulator assembly (12), close draincock valve (20) and monitor gage (30) for 5 minutes.
15. If no increase in pressure is indicated on gage (30), vapor vent valve (5) is functional. Go to step 18. If there is an increase in pressure more than 0.5 in. wc, vapor vent valve (5) is leaking. Go to step 16.
16. Return vapor vent line (10) to atmospheric pressure by opening draincock valve (20) of regulator assembly (12).
17. Repair any leaks found in vapor vent valve (5). Restart test at step 1.
18. Return tank and piping system to normal atmospheric pressure by opening G valve (28) and emergency valve A (25).
19. Remove coupling assembly (8) from vapor vent line (10). Install coupling assembly (8) on discharge port of valve B (34). Install a closed cap on the open vapor vent line (10).
20. Open emergency valve A (25). Pressurize tank and piping system according to steps 3 thru 5 and then continue with step 21.

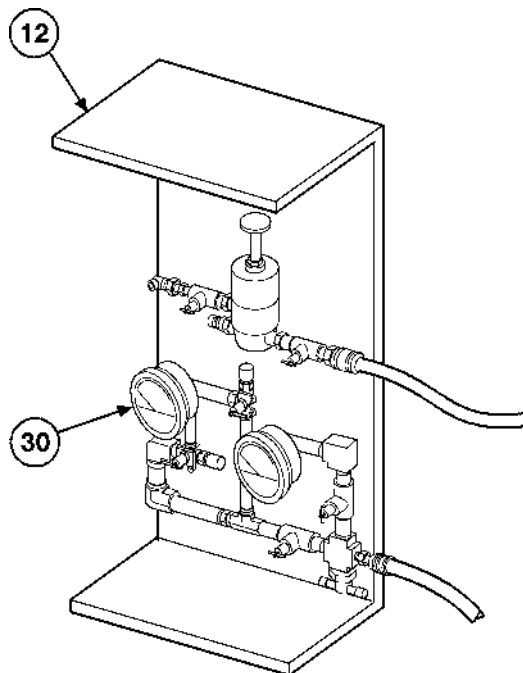


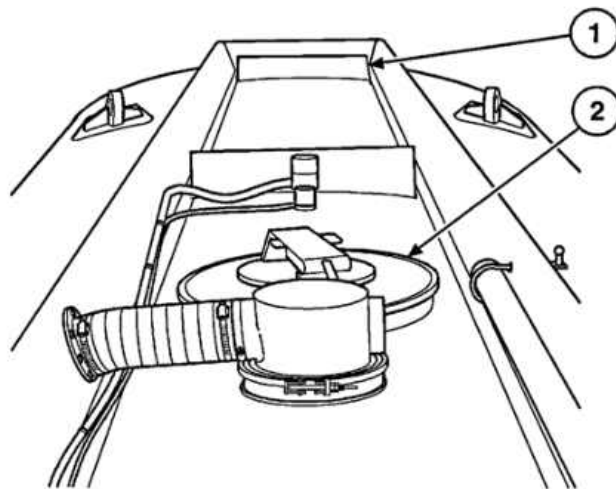
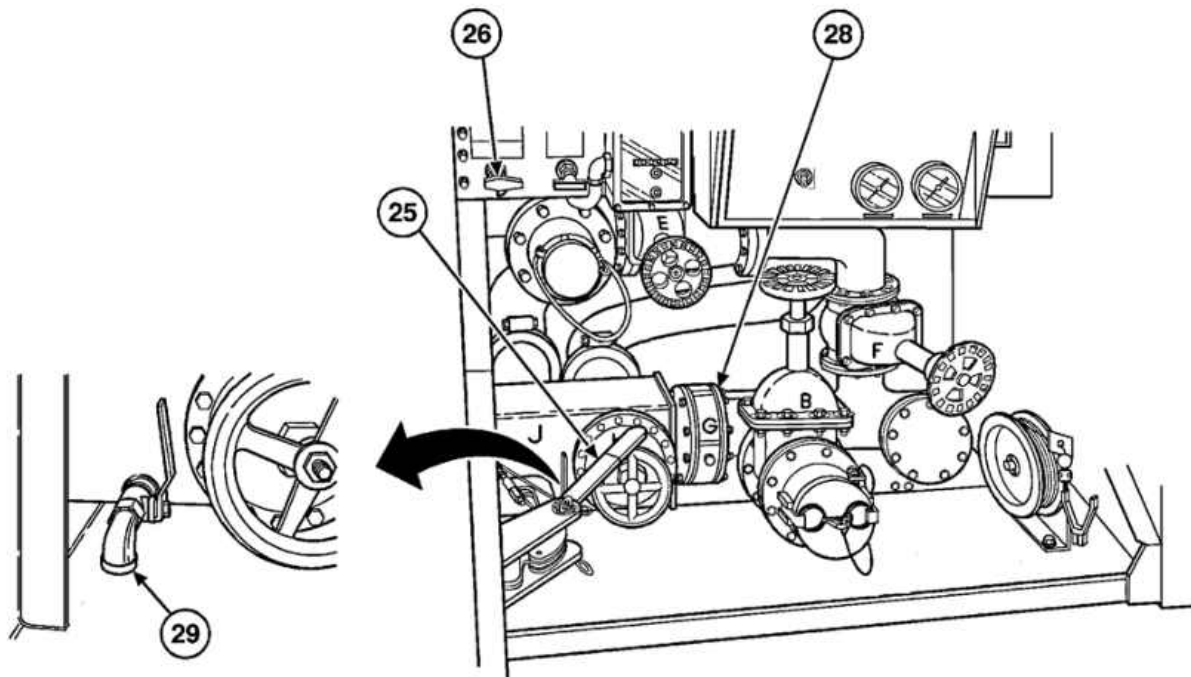


VAPOR INTEGRITY TEST—Continued

0152 00

21. On regulator assembly (12), monitor gage (30) for 5 minutes to verify that pressure reading remains stable at 17.5 to 18.5 in. wc. If pressure does not drop more than 0.5 in. wc, go to step 22.
22. Repressurize tank and piping system according to steps 3 thru 5. Close emergency valve A (25). Monitor gage (30) for 5 minutes. If pressure does not drop and tank is leaking, go to step 23. If pressure drops more than 0.5 in. wc piping system is leaking. Go to step 26.
23. Locate tank leak, check cleanout caps (1), manhole cover (2) and precheck circuit, and weld seams.
24. Return tank and piping system to atmospheric pressure by opening manifold drain valve (29) and emergency valve A (25).
25. Repair tank leak as required. Restart test from step 1.
26. Locate leak in piping system, check G valve (28), D valve (26), precheck circuit, and pipe joints.
27. Return tank and piping system to atmospheric pressure by opening manifold drain valve (29) and emergency valve A (25).
28. Repair piping system leak as required. Restart test from step 1.





VAPOR INTEGRITY TEST—Continued

0152 00

29. Return tank and piping system to atmospheric pressure by closing emergency valve A (25).
30. Open manifold drain valve (29) and monitor gage (30) on regulator assembly (12).
31. Wait 5 minutes. If pressure on gage (30) does not increase, go to step 34. If pressure increases more than 0.5 in. wc and emergency valve is leaking, go to step 32.

CAUTION

Although an emergency valve leak does not constitute a K stamp (indicating compliance with DOT 49CFR180.407 (h)) failure if the leak is internal, proper emergency valve operator function is required for safe trailer operation.

32. Return tank and piping system to atmospheric pressure by opening manifold drain valve (29) and emergency valve A (25).
33. Repair emergency valve in accordance with WP 0149 00. Restart test from step 1.

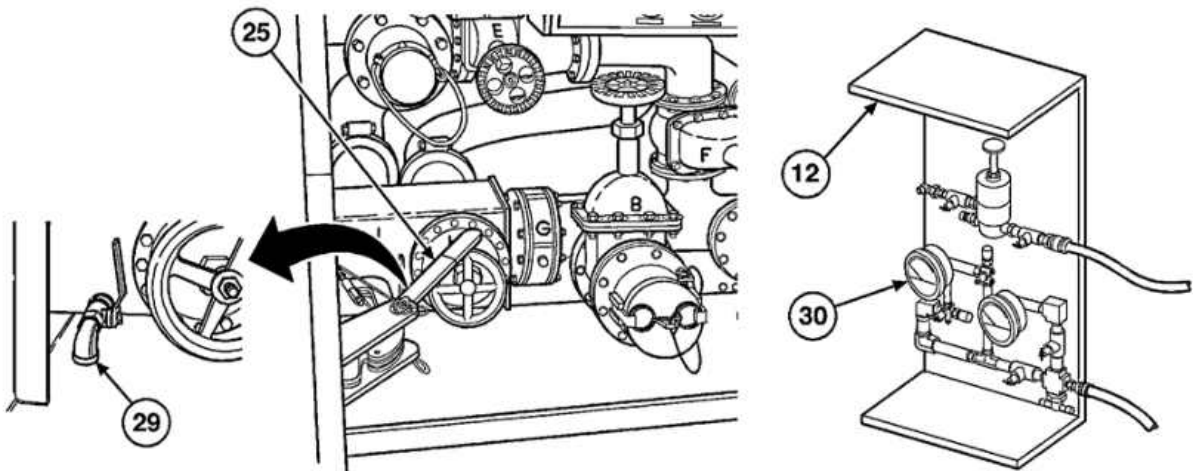
NOTE

Do steps 34 and 35 after test has been completed.

34. Return tank and piping system to atmospheric pressure by opening manifold drain valve (29) and emergency valve A (25).
35. Close all valves initially opened for pneumatic leak test, to allow fuel storage.

NOTE

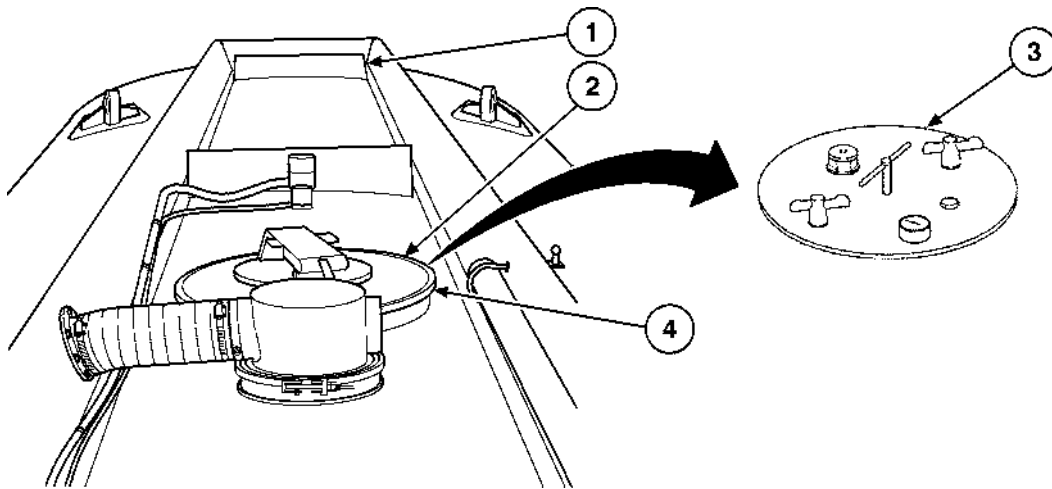
After successful completion of various tests, DOT regulation 49CFR180.415 requires that a tanker be stamped with the appropriate letter ("K" stamp for leak test), as well as the test date (month and year).



VACUUM TEST PREPARATION

WARNING

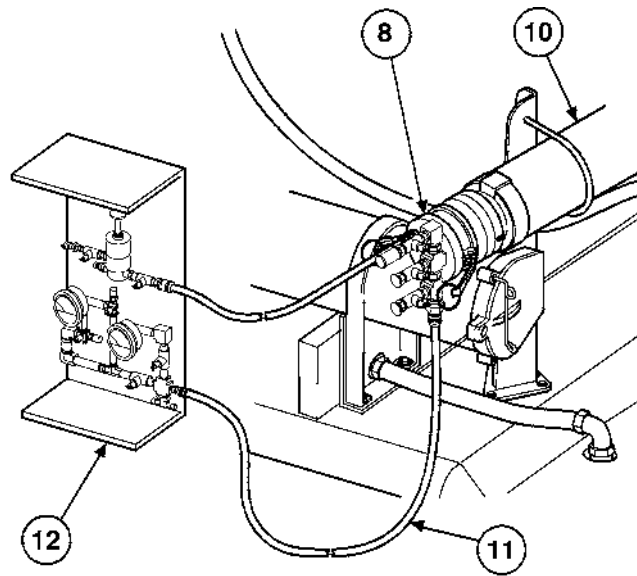
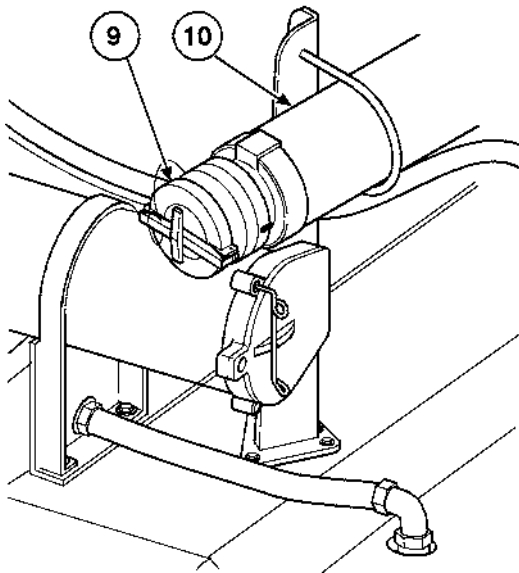
- Use extreme caution when walking or working on the top of semitrailer. Walkway can become slippery due to moisture or fuel spillage. Failure to follow this warning may result in serious injury.
 - Before performing the pressure or vacuum test, the semitrailer must be grounded to an approved (earth) ground and must be safe to proceed. Failure to follow this warning may cause a spark to ignite, resulting in serious injury or death to personnel.
 - Make sure tank and piping system are free of all liquid and that tank is purged of all fuel vapor (implement the cleaning procedures, as applicable, refer to TB 43-0212). Failure to follow this warning may cause a spark to ignite, resulting in serious injury or death to personnel.
1. Open manhole cover (2), install test plate (3), and fasten securely.
 2. Ensure clamp ring (4) for manhole cover (2) is fastened securely.
 3. Ensure both 3-in. (diameter) cleanout caps (1) are fastened securely.

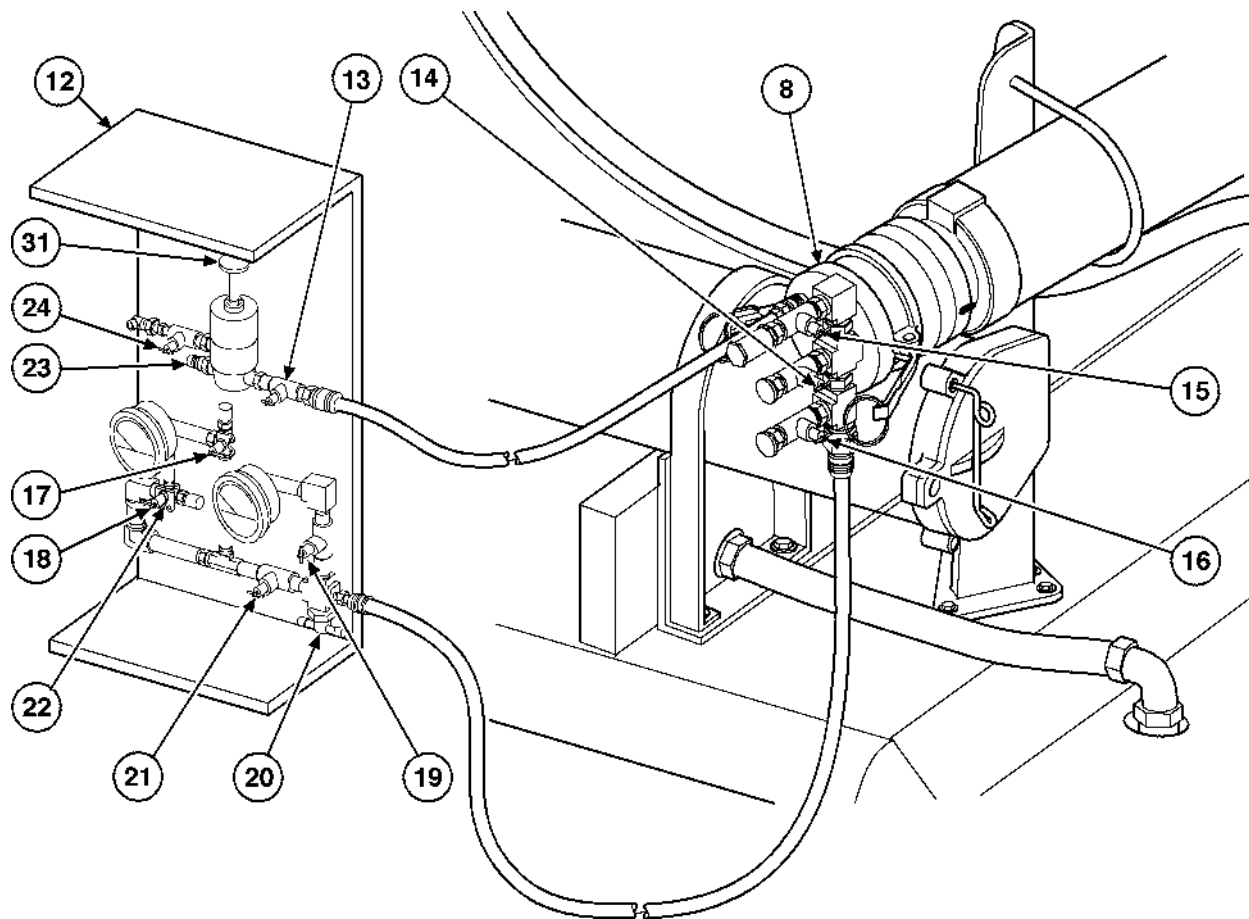


VAPOR INTEGRITY TEST—Continued

0152 00

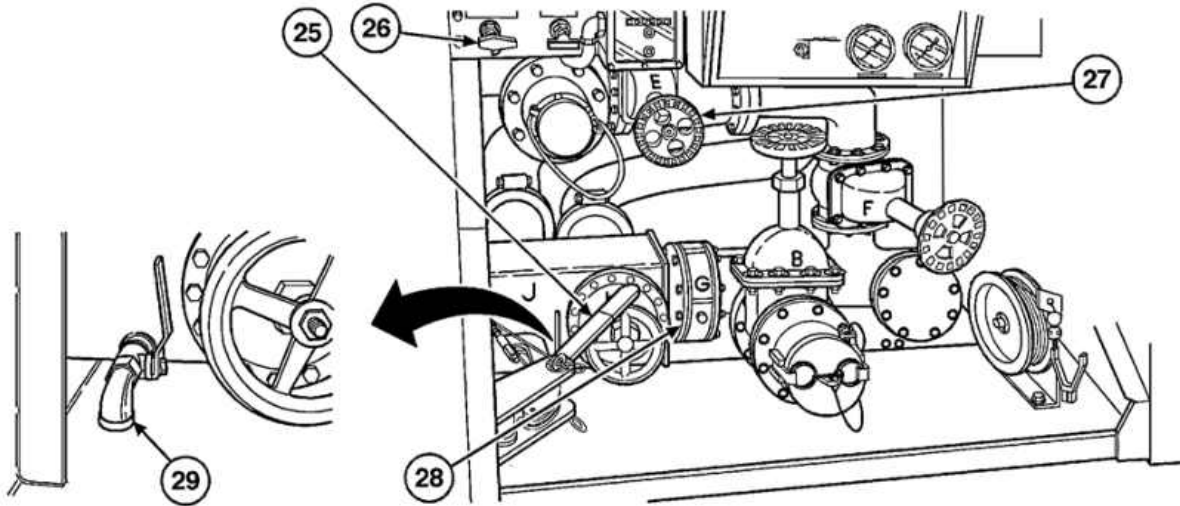
4. Remove dust cap (9) from vapor vent line (10).
5. Attach coupling assembly (8) to vapor vent line (10).
6. Attach regulator assembly (12) to hose assemblies (11), and attach hose assemblies (11) to coupling assemblies (8).
7. On regulator assembly (12), close control shutoff valve (13) and draincock valve (20), and open valves (21 and 24).
8. On coupling assembly (8), close valves (14 and 15) and open valve (16).
9. On regulator assembly (12), turn valves (17 and 18/22) to vertical position for negative pressure reading.
10. Slowly adjust regulatory assembly (12) to its lowest setting by turning regulator knob (31) fully clockwise.
11. Connect vacuum supply to regulator assembly port (23).





VACUUM TEST PROCEDURE

1. Open valves (26 and 27) and emergency valve A (25). Close G valve (28) and manifold drain valve (29).



2. Open control shutoff valve (13) on regulator assembly (12).

WARNING

Never remove any accessory items (e.g., manhole cover, cleanout caps) during pressure or vacuum test; severe injury or death may result.

3. Slowly adjust regulator assembly (12) by turning regulator knob (31) counterclockwise to increase flow of air and evacuate tank and piping system, until a vacuum reading of 6.0 in. \pm 0.5 in. wc is obtained on gage (35).
4. Close control shutoff valve (13) on regulator assembly (12).
5. Wait 5 minutes to verify that pressure reading remains stable at 6.0 in. \pm 0.5 in. wc on gage (35).
6. If vacuum reading increases or decreases more than 0.5 in. wc on gage (35), reevacuate tank per steps 3 thru 5 and continue with step 7. Initial test vacuum must be at 6.0 in. \pm 0.5 in. wc.

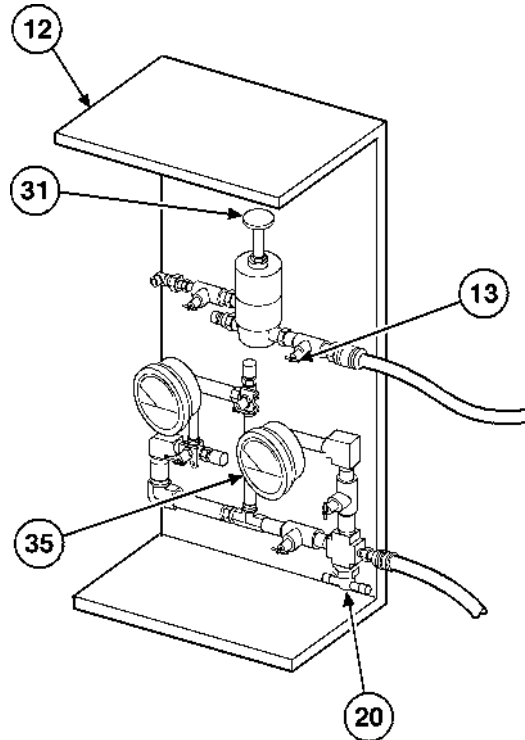
WARNING

Do not overpressurize tank; serious injury or equipment damage may result.

VAPOR INTEGRITY TEST—Continued

0152 00

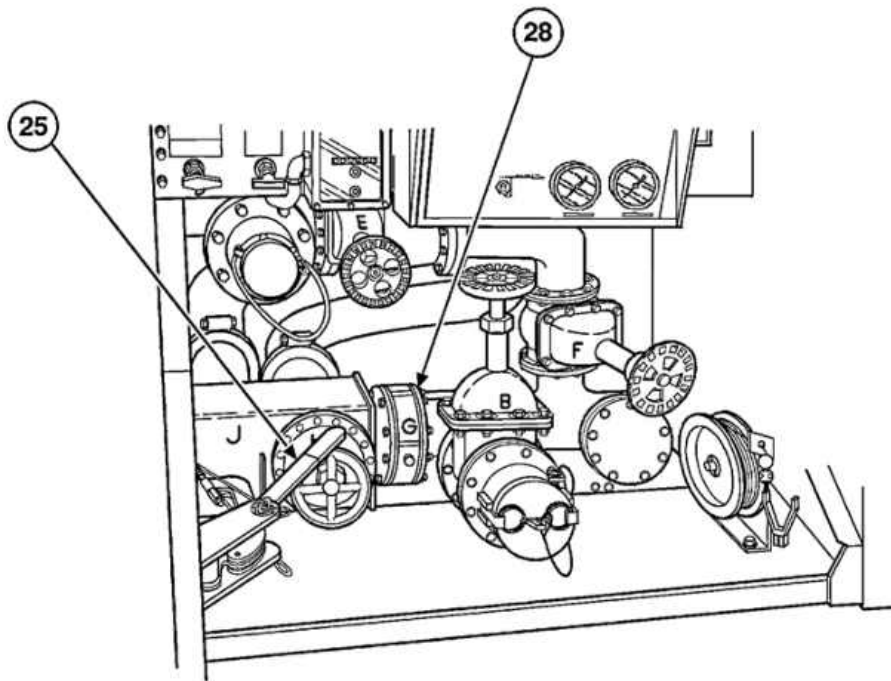
7. If tank is overpressurized, close control shutoff valve (13) and open draincock valve (20) to reduce tank pressure. When tank pressure has dropped to 6.0 in. \pm 0.5 in. wc, close draincock valve (23).
8. Wait an additional 5 minutes, then record the time and final vacuum from gage (35).
9. If vacuum does not drop on gage (35), tank is leak free. If pressure drops more than 0.5 in. wc, reevacuate tank and piping system according to steps 3 thru 5 then continue with step 8.

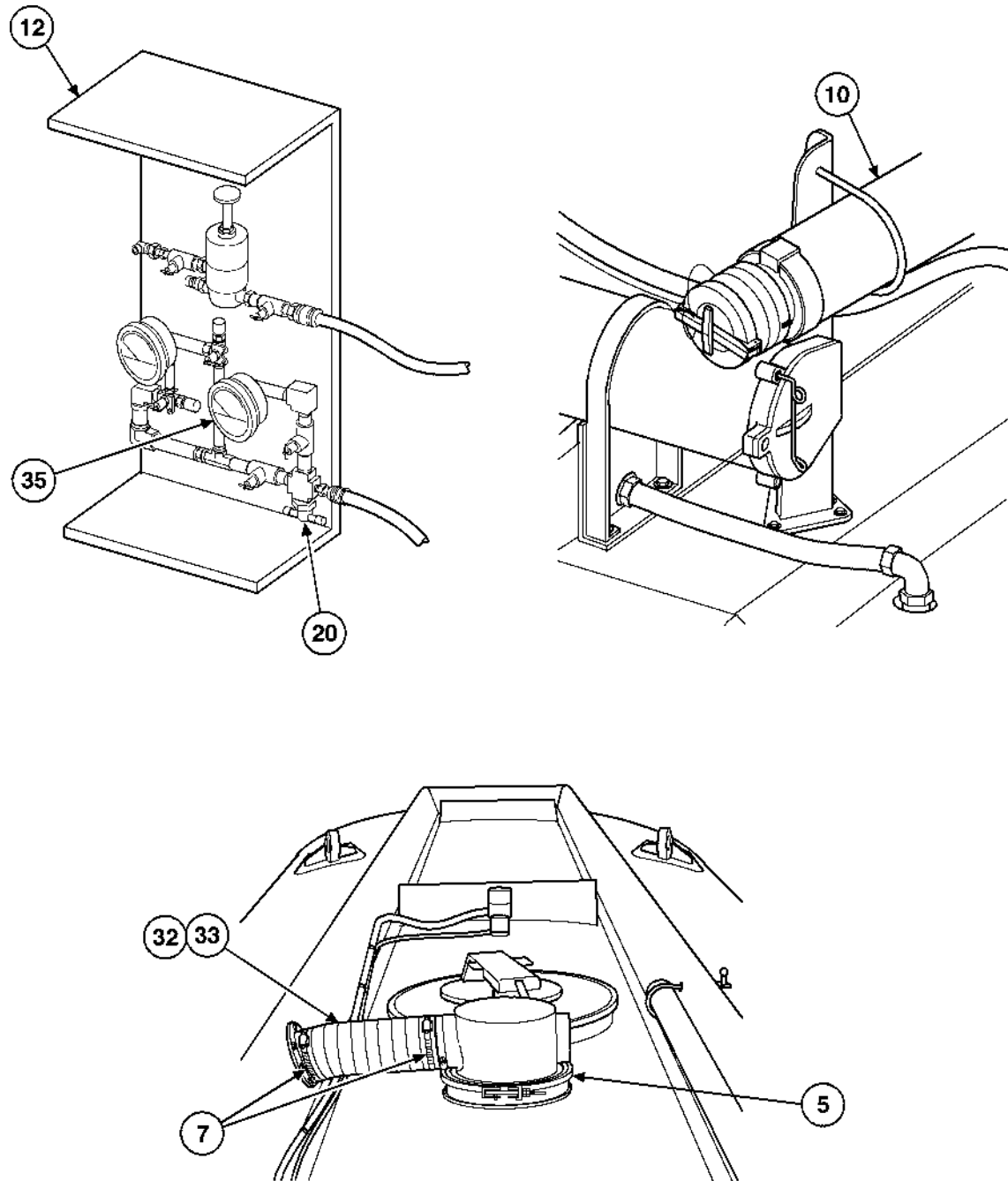


VAPOR INTEGRITY TEST—Continued

0152 00

10. Close emergency valve A (25) and monitor gage (35) on regulator assembly (12).
11. Wait 5 minutes. If pressure does not drop more than 0.5 in. wc on gage (35), go to step 13. If pressure drops more than 0.5 in. wc, go to step 12.
12. Locate the leak in vapor vent line (10), check vapor vent hood (7), vapor vent hose (32), and pipe joints (33).
13. Return tank and piping system to atmospheric pressure.
14. Repair any leaks found in vapor vent valve (5). Restart test at step 1.
15. Return vapor vent line to atmospheric pressure by opening draincock valve (20) of regulatory assembly (12).
16. On regulatory assembly (12), close draincock valve (20) and monitor gage (35) for 5 minutes.
17. If pressure on gage (35) does not increase, vapor vent is functional; go to step 20. If vacuum increases more than 0.5 in. wc, vapor vent valve is leaking. Go to step 18.
18. Return tank and piping system to atmospheric pressure by opening G valve (28) and emergency valve A (25).
19. Repair any leaks found in vapor vent valve (5) as required. Restart test from step 1.
20. Return tank and piping system to atmospheric pressure by opening G valve (28) and emergency valve A (25).

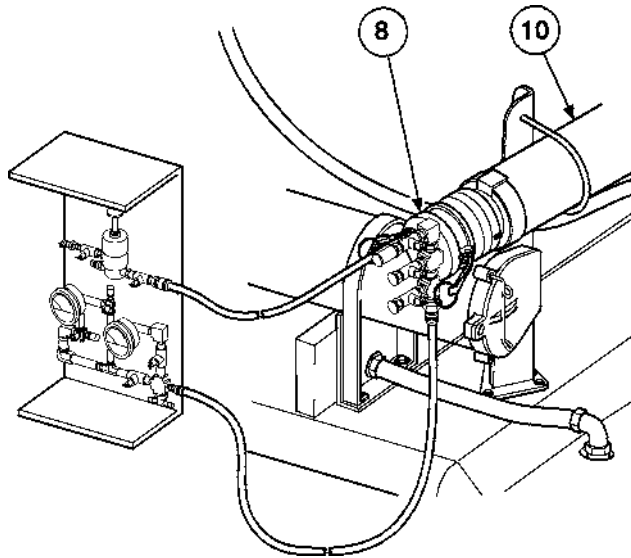


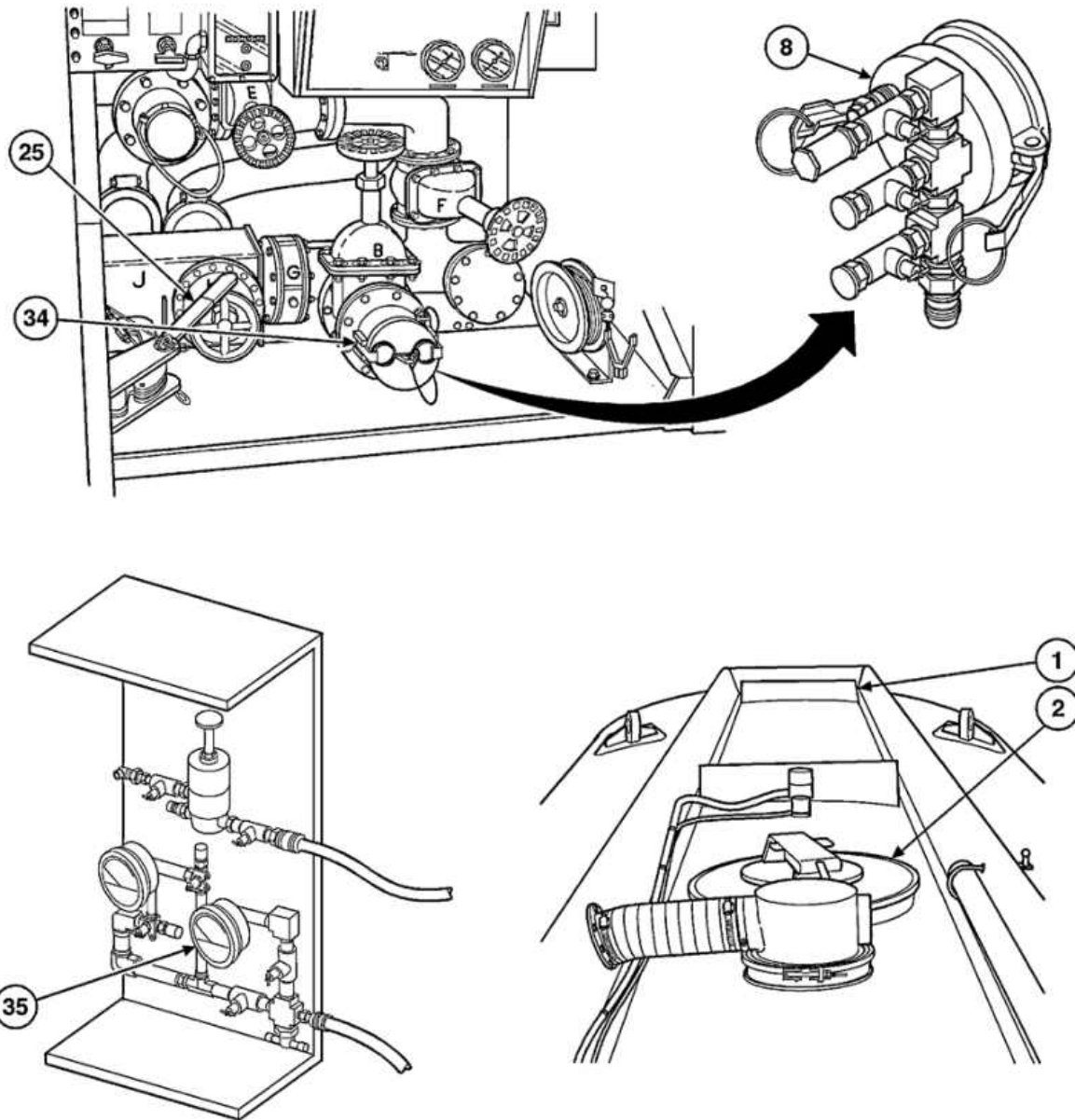


VAPOR INTEGRITY TEST—Continued

0152 00

21. Remove coupling assembly (8) from vapor vent line (10).
22. Install coupling assembly (8) on discharge port of valve B (34).
23. Install a closed cap on the now open vapor vent line (10).
24. Open emergency valve A (25). Evacuate tank and piping system according to steps 3 and 5, then continue with step 25.
25. Wait 5 minutes to verify that vacuum reading on gage (35) remains stable. If vacuum does not drop, go to step 34. If vacuum drops more than 0.5 in. wc, go to step 26.
26. Reevacuate tank and piping system according to steps 3 thru 5; then continue with step 27.
27. Close emergency valve A (25). Wait 5 minutes to verify that vacuum reading on gage (35) remains stable. If vacuum does not drop, tank is leaking; go to 28. If vacuum drops more than 0.5 in. wc, piping system is leaking. Go to step 31.
28. Locate leak in tank, check cleanout caps (1), manhole cover (2), precheck circuit and weld seams.

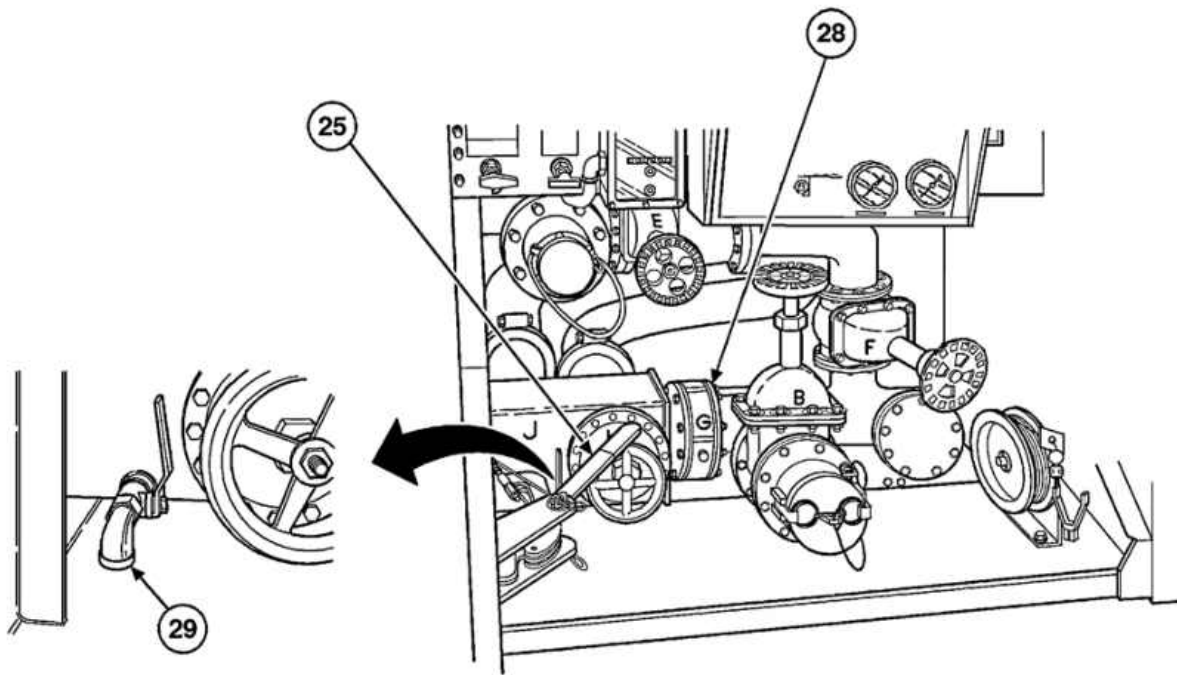




VAPOR INTEGRITY TEST—Continued

0152 00

29. Return tank and piping system to atmospheric pressure by opening manifold drain valve (29) and emergency valve A (25).
30. Repair tank leak as required. Restart test at step 1.
31. Locate leak in piping system, check G valve (28), precheck circuit, and pipe joints.
32. Return tank and piping system to atmospheric pressure by opening manifold valve (29) and emergency valve A (25).
33. Repair piping system leaks. Restart test at step 1.
34. Return tank and piping system to atmospheric pressure by opening emergency valve A (25).
35. Open manifold drain valve (29) to relieve vacuum.



VAPOR INTEGRITY TEST—Continued

0152 00

36. Close manifold drain valve (29) and monitor gage (35) on regulator assembly (12).
37. Wait 5 minutes to verify that the vacuum reading on gage (35) remains stable. If the vacuum does not increase, go to step 40. If the vacuum reading increases more than 0.5 in. wc, emergency valve is leaking, go to step 38.

CAUTION

Although an emergency valve leak does not constitute a K stamp (indicating compliance with DOT 49CFR180.407 (h)) failure if the leak is internal, proper emergency valve operator function is required for safe tanker operation.

38. Return tank and piping system to atmospheric pressure by opening manifold drain valve (29) and emergency valve A (25).
39. Repair emergency valve in accordance with WP 0149 00. Restart test at step 1.

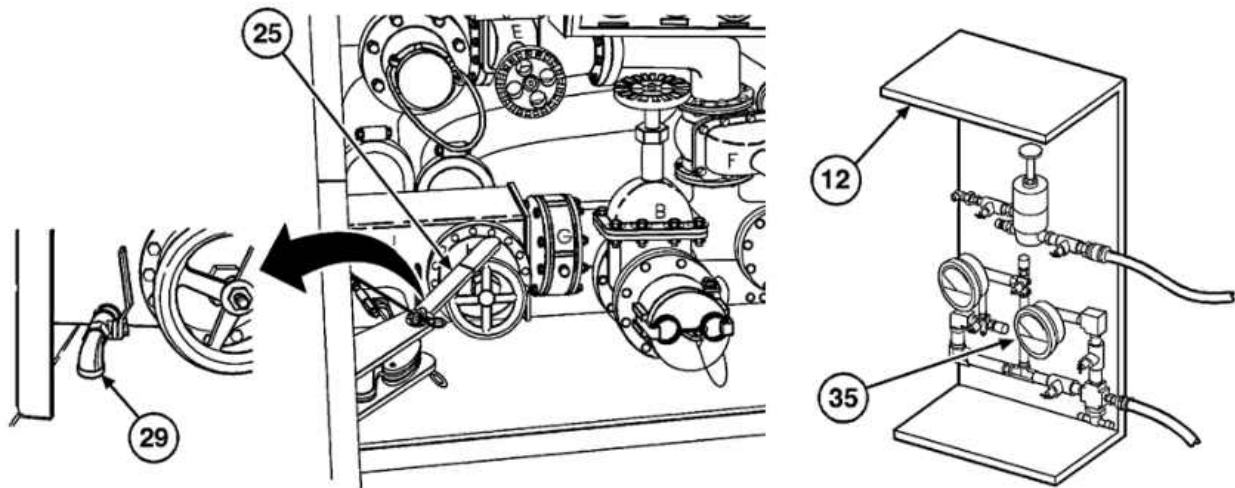
NOTE

Do steps 40 and 41 after test has been completed.

40. Return tank and piping system to atmospheric pressure by opening manifold drain valve (29) and emergency valve A (25).
41. Close all valves.

NOTE

After successful completion of various tests, DOT regulation 49CFR180.415 requires that a tanker be stamped with the appropriate letter ("K" stamp for leak test), as well as the test date (month and year).



END OF TASK

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CHAPTER 9
SUPPORTING INFORMATION

REFERENCES**0155 00**

SCOPE

This WP lists the publications referenced in this manual. These should be consulted frequently for the latest changes or revisions to references listed in this WP and for new publications relating to material covered in this manual.

MILITARY PUBLICATION INDEX

Consolidated Index of Publications and Blank Forms DA PAM 25-30

ARMY REGULATION

Army Material Maintenance Policy and Retail Maintenance Operations.....AR 750-1
 Army Logistics Readiness and SustainabilityAR 700-138
 Security of Army Property at Unit and Installation Level..... 190-51
 The Army Physical Security ProgramAR 190-13

FIELD MANUALS

Army Motor Transport Units and Operations.....FM 55-30
 General Fabric Repair.....FM 10-16
 Concepts and Equipment of Petroleum Operations FM 10-67-1
 Manual for the Wheeled Vehicle DriverFM 21-305
 Operation and Maintenance of Ordnance Material in Cold Weather (0° to -65°F).....FM 9-207

FORMS

Equipment Inspection and Maintenance WorksheetDA Form 2404
 Equipment Inspection and Maintenance Worksheet (Electronic)..... DA Form 5988-E
 Preventive Maintenance Schedule and Record..... DD Form 314
 Processing and Deprocessing Record for Shipment, Storage, and Issue of
 Vehicles and Spare Engines..... DD Form 1397
 Product Quality Deficiency Report SF Form 368
 Recommended Changes to Publications and Blank Forms DA Form 2028-2

PAMPHLETS

Functional Users Manual for The Army Maintenance Management System
 (TAMMS)..... DA PAM 738-750
 Tiedown Handbook for Rail Movement..... MTMCTEA PAM 55-19

REFERENCES—Continued**0155 00**

TECHNICAL BULLETINS

Color, Marking, and Camouflage Painting of Military Vehicles, Construction
Equipment, and Materials Handling Equipment TB 43-0209
Towed Wheeled Vehicles, FSC Class 2330, Lunette Trailers and Semitrailers:
Repair of Frames TB 9-2510-242-40
Purging, Cleaning and Coating Interior Ferrous and Terne Sheet Fuel Tanks TB 43-0212

TECHNICAL MANUALS

Deepwater Fording of Ordnance Material.....TM 9-238
Destruction of Army Material to Prevent Enemy Use TM 750-244-6
Inspection, Care and Maintenance of Antifriction Bearings..... TM 9-214
Materials Used for Cleaning, Preserving, Abrading, and Cementing Ordnance
Material and Related Items Including Chemicals TM 9-247
Operator's Manual for Welding Theory and Application TM 9-237
Organizational, Direct Support, and General Support Care, Maintenance, and
Repair of Pneumatic Tires and Inner Tubes..... TM 9-2610-200-24
Painting Instructions for Field Use TM 43-0139
Storage and Maintenance of Army Propositioned Stock Material TM 38-470

MAINTENANCE ALLOCATION CHART (MAC)

0156 00**B-1. INTRODUCTION The Army Maintenance System MAC**

This introduction provides a general explanation of all maintenance and repair functions authorized at the two maintenance levels under the Two-Level Maintenance System concept.

The Maintenance Allocation Chart (MAC) (immediately following the introduction) designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component shall be consistent with the capacities and capabilities of the designated maintenance levels, which are shown on the MAC in column (4) as:

Field — includes two subcolumns, Unit (C (operator/crew) and O (unit) maintenance) and Direct Support (F) maintenance

Sustainment — includes two subcolumns, general support (H) and depot (D)

The Tools and Test Equipment requirements (immediately following the MAC) list the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from the MAC.

The Remarks (immediately following the Tools and Test Equipment Requirements) contain supplemental instructions and explanatory notes for a particular maintenance function.

B-2. Maintenance Functions

Maintenance functions are limited to and defined as follows:

1. Inspect. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g.: by sight, sound, or feel).
2. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards on a scheduled basis, e.g., load testing of lift devices and hydrostatic testing of pressure hoses.
3. Service. Operations required periodically to keep an item in proper operating condition; e.g., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases.
4. Adjust. To maintain or regulate, within prescribed limits, by bringing into proper position, or by setting the operating characteristics to specified parameters.
5. Align. To adjust specified variable elements of an item to bring about optimum or desired performance.
6. Calibrate. To determine and cause corrections to be made or be adjusted on instruments of test, measuring, and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

MAINTENANCE ALLOCATION CHART (MAC)

0156 00**Maintenance Functions—Continued**

7. Remove/Install. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.
8. Replace. To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and assigned maintenance level is shown as the third position code of the Source, Maintenance, and Recoverability (SMR) code.
9. Repair. The application of maintenance services, including fault location/troubleshooting, removal/installation, disassembly/assembly procedures, and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

NOTE

The following definitions are applicable to the "repair" maintenance function:

- **Services—Inspect, test, service, adjust, align, calibrate, and/or replace.**
 - **Fault location/troubleshooting—The process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system of Unit Under Test (UUT).**
 - **Disassembly/assembly—The step-by-step breakdown (taking apart) of a spare/functional group coded item to the level of its least component, that is assigned a Source, Maintenance, and Recoverability (SMR) code of the level of maintenance under consideration (i.e., identified as maintenance significant).**
 - **Actions—Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing.**
10. Overhaul. That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to "like new" condition.
 11. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a "like new" condition in accordance with original manufacturing standards. Rebuild is the highest degree of material maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (e.g., hours/miles) considered in classifying Army equipment/components.

Explanation of Columns in the MAC

Column (1)—Group Number. Column (1) lists Functional Group Code (FGC) numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the Next Higher Assembly (NHA).

MAINTENANCE ALLOCATION CHART (MAC)**0156 00****Explanation of Columns in the MAC—Continued**

Column (2)—Component/Assembly. Column (2) contains the item names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

Column (3)—Maintenance Function. Column (3) lists the functions to be performed on the item listed in Column (2). (For a detailed explanation of these functions, refer to “Maintenance Functions” outlined above).

Column (4)—Maintenance Level. Column (4) specifies each level of maintenance authorized to perform each function listed in Column (3) by indicating work time required (expressed as man-hours in whole hours or decimals) in the appropriate subcolumn. This work time figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function varies at different maintenance levels, appropriate work time figures are to be shown for each level. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the MAC. The symbol designations for the various maintenance functions are as follows:

Field:

C—Operator or crew maintenance

O—Unit maintenance

F— Direction support maintenance

Sustainment:

H—General support maintenance

D—Depot maintenance

NOTE

The “L” maintenance level is not included in Column (4) of the MAC. Functions to this level of maintenance are identified by a work time figure in the “H” column of Column (4), and an associated reference code is used in the REMARKS Column (6). This code is keyed to the remarks and the SRA complete repair application is explained there.

Column (5)—Tools and Equipment Reference Code. Column (5) specifies, by code, those common tool sets (not individual tools), common Test, Measurement and Diagnostic Equipment (TMDE), and special tools, special TMDE and special support equipment required to perform the designated function. Codes are keyed to the entries in the Tools and Test Equipment.

Column (6)—Remarks Code. When applicable, this column contains a letter code, in alphabetical order, which is keyed to the remarks table entries.

Explanation of Columns in the Tools and Test Equipment Requirements

Column (1), Tool or Test Equipment Reference Code. The tool or test equipment reference code correlates with a code used in Column (5) of the MAC.

Column (2), Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.

MAINTENANCE ALLOCATION CHART (MAC)

0156 00

Explanation of Columns in the Tools and Test Equipment Requirements—Continued

Column (3), Nomenclature. Name or identification of the tool or test equipment.

Column (4), National/NATO Stock Number (NSN). The NSN of the tool or test equipment.

Column (5), Tool Number. The manufacturer's part number, model number, or type number.

Explanation of Columns in the Remarks

Column (1), Remarks Code. The code recorded in Column (6) of the MAC.

Column (2), Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC.

Table 1. MAC for CHASSIS, TRAILER: GENERATOR, 2 1/2-TON, 2-WHEEL, M200A1

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQPT	(6) REMARKS
			FIELD		SUSTAINMENT				
			UNIT	DS	GS	DEPOT			
			C	O	F	H	D		

Table 2. Tools and Test Equipment for CHASSIS, TRAILER: GENERATOR, 2 1/2-TON, 2-WHEEL, M200A1

(1) TOOLS OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(5) NATIONAL STOCK NUMBER	(6) TOOL NUMBER

Table 3. Remarks for CHASSIS, TRAILER: GENERATOR, 2 1/2-TON, 2-WHEEL, M200A1

REMARK CODES	REMARKS

MAINTENANCE ALLOCATION CHART (MAC)—Continued

0156 00

Table 1. MAC for SEMITRAILER, TANKER: 5000-GALLON, M967A2.

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) RE- MARKS	
			FIELD				SUSTAINMENT			
			UNIT		DS	GS	DEPOT			
			C	O	F	H	D			
06	ELECTRICAL SYSTEM									
0608	24-12 V Converter	Remove/ Replace		0.50				1, 4		
	Overfill Monitor Panel	Remove/ Replace		0.50				1, 4		
	Optic Socket Box	Remove/ Replace Fault Locate		1.00 0.50				1, 4		
	Overflow Sensor	Remove/ Replace		0.50				1, 4		
0609	Light Assembly Control Panel	Remove/ Replace Repair		0.27 0.25				4 4		
	Light, Marker, Clearance	Remove/ Replace Repair Fault Locate		0.35 0.52 1.50				4 4		
	Taillight, Vehicular	Remove/ Replace Fault Locate		0.43 1.00				4		
0612	Wiring Harness, Main Trailer	Inspect Remove/ Replace Repair	0.10	0.10 0.60 1.00				4 1		
	Battery, Storage	Inspect Remove/ Replace Fault Locate	0.10	0.10 0.33 0.70				4		

MAINTENANCE ALLOCATION CHART (MAC)—Continued

0156 00

Table 1. MAC for SEMITRAILER, TANKER: 5000-GALLON, M967A2—Continued.

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE LEVEL					TOOLS AND EQUIPMENT	RE- MARKS
			FIELD		SUSTAINMENT				
			UNIT		DS	GS	DEPOT		
			C	O	F	H	D		
0612	Terminal, Lug	Remove/ Replace		0.33				4	
	Cover, Access	Remove/ Replace		0.10				4	
	Wiring Harness, Front Marker Lights	Inspect Remove/ Replace Repair	0.10	0.10				4 1, 4	
				0.85 1.00					
	Wiring Harness, Side Marker Lights	Inspect Remove/ Replace Repair	0.10	0.10				4 1	
				0.50 1.00					
	Wiring Harness, Taillight/Stoplight/ Composite Light	Inspect Remove/ Replace Repair	0.10					4 1, 4	
				0.27 0.50					
Wiring Harness, Intervehicle Cable	Inspect Remove/ Replace Repair	0.10	0.10				4 1, 4		
			1.35 1.00						
	Lead, Electrical	Inspect Remove/ Replace Repair	0.10					4 1, 4	
				0.27 0.50					

MAINTENANCE ALLOCATION CHART (MAC)—Continued

0156 00

Table 1. MAC for SEMITRAILER, TANKER: 5000-GALLON, M967A2—Continued.

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE LEVEL					TOOLS AND EQUIPMENT	RE- MARKS
			FIELD		SUSTAINMENT				
			UNIT		DS	GS	DEPOT		
			C	O	F	H	D		
0613	Bend, Electrical	Remove/ Replace		4.52				1, 4	
	Bend, Electrical	Remove/ Replace		4.52				1, 4	
	Bend, Electrical	Remove/ Replace		2.85				1, 4	
	Tube	Remove/ Replace		5.18				1, 4	
	NATO Slave	Remove/ Replace		0.50				1, 4	
11	REAR AXLE								
1100	Rear Axle Assembly	Inspect	0.10	0.10					
	Trunnion Hangers	Remove/ Replace			3.18			1, 4	
	Axle Assembly	Remove/ Replace			3.18			1, 4	
	Camshaft, Actuating	Remove/ Replace		3.58				1, 4	
	Bracket, Brake Cam	Lubricate		0.10					
	Tube Assembly, Trunnion	Remove/ Replace Repair			4.44 5.98			1, 4 1, 4	
	Seat, Spring, Axle	Inspect Remove/ Replace Lubricate	0.10	0.10	3.18			1, 4	
				0.10					

MAINTENANCE ALLOCATION CHART (MAC)—Continued

0156 00

Table 1. MAC for SEMITRAILER, TANKER: 5000-GALLON, M967A2—Continued.

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE LEVEL					TOOLS AND EQUIPMENT	RE- MARKS
			FIELD		SUSTAINMENT				
			UNIT		DS	GS	DEPOT		
			C	O	F	H	D		
12	BRAKES								
1202	Brake Shoe	Inspect Adjust Remove/ Replace Repair		0.50 0.50 1.50 1.00				1, 4 1, 4 1, 4	
	Brake Drum	Remove/ Replace		2.75				1, 4	
	Pin, Grooved, Headless	Lubricate		0.10					
	Adjuster, Slack	Remove/ Replace Lubricate		2.00 0.10				4	
	Pin, Shoulder	Lubricate		0.10					
	ABS ECU	Fault Locate Remove/ Replace		1.00 1.00				1, 4	
1208	Chamber, Air Brake	Inspect Adjust Remove/ Replace Fault Locate	0.13 0.38	0.17 0.16 2.60 1.00				1, 4 1, 4	
	Brake Hose	Remove/ Replace		1.00				1, 4	
	Valve, Brake Interlock	Remove/ Replace		0.50				1, 4	

MAINTENANCE ALLOCATION CHART (MAC)—Continued

0156 00

Table 1. MAC for SEMITRAILER, TANKER: 5000-GALLON, M967A2—Continued.

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE LEVEL					TOOLS AND EQUIPMENT	RE- MARKS
			FIELD		SUSTAINMENT				
			UNIT		DS	GS	DEPOT		
			C	O	F	H	D		
1208	Air Reservoir	Remove/ Replace		1.33				1, 4	
	Valve, Safety Relief	Remove/ Replace		1.33				1, 4	
	Valve, Brake Control	Adjust Remove/ Replace		0.50 1.33				4 1, 4	
	Gladhands/ Dummy Coupling	Remove/ Replace		0.50				4	
	Packing, Preformed	Remove/ Replace		0.42				4	
	Lines, Hoses, and Fittings, Spring Brake Control Valve	Adjust Remove/ Replace		0.17 1.33				4 1, 4	
13	WHEELS								
1311	Wheel, Pneumatic Tire	Inspect Remove/ Replace Repair Fault Locate	0.03 0.25	0.50 1.00				4 1, 4	
	ABS Sensor	Remove/ Replace		1.00				1, 4	
	Hub, Wheel, Vehicular	Inspect		1.00					
	Wheel Stud	Remove/ Replace		1.00				1, 4	
	Cone and Rollers	Lubricate		2.50					

MAINTENANCE ALLOCATION CHART (MAC)—Continued

0156 00

Table 1. MAC for SEMITRAILER, TANKER: 5000-GALLON, M967A2—Continued.

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE LEVEL					TOOLS AND EQUIPMENT	RE- MARKS
			FIELD		SUSTAINMENT				
			UNIT		DS	GS	DEPOT		
			C	O	F	H	D		
15	FRAME, TOWING ATTACHMENTS, DRAWBARS, AND ARTICULATION SYSTEM								
1503	Coupler Assembly and Spacer	Inspect Remove/ Replace Lubricate	0.30	0.80 1.50				1, 4	
1507	Ground Board	Inspect Remove/ Replace	0.10	0.25				1, 4	
	Leg/Gear Box	Inspect Remove/ Replace Repair Fault Locate	0.70	0.10 3.18 3.43				1, 4 1, 4	
	Shaft, Straight	Remove/ Replace		0.50				1, 4	
	Crank, Hand	Remove/ Replace Lubricate	0.10	0.50				1, 4	
	Shoe	Lubricate Remove/ Replace	0.10	0.33				4	
16	SPRING AND SHOCK ABSORBERS								
1601	Spring Assembly, Leaf	Inspect Remove/ Replace	0.10	0.10	10.40			1, 4	

MAINTENANCE ALLOCATION CHART (MAC)—Continued

0156 00

Table 1. MAC for SEMITRAILER, TANKER: 5000-GALLON, M967A2—Continued.

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE LEVEL					TOOLS AND EQUIPMENT	RE- MARKS
			FIELD		SUSTAINMENT				
			UNIT		DS	GS	DEPOT		
			C	O	F	H	D		
18	BODY, CAB, HOOD, AND HULL								
1801	Mudflap Assembly	Inspect Remove/ Replace	0.30	0.67				4	
1808	Static Reel Assembly	Inspect Remove/ Replace	0.10	0.33				1, 4	
	Tool Box Assembly	Inspect Remove/ Replace	0.10	1.00				1, 4	
	Rod, Ground	Inspect	0.10						
	Storage Tube Retaining Pin	Remove/ Replace	0.10					1, 4	
1811	Terminal, Quick Disconnect (Grounding Stud)	Remove/ Replace		0.50				1, 4	
	Cap	Remove/ Replace		0.42				4	
	Hose Tubes	Remove/ Replace		1.50				4	
	Hose Tube Covers	Remove/ Replace		0.50				1	
	Lifting Device and Drain Ladder	Inspect Remove/ Replace	0.10	2.38				1, 4	

MAINTENANCE ALLOCATION CHART (MAC)—Continued

0156 00

Table 1. MAC for SEMITRAILER, TANKER: 5000-GALLON, M967A2—Continued.

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE LEVEL					TOOLS AND EQUIPMENT	RE- MARKS
			FIELD		SUSTAINMENT				
			UNIT		DS	GS	DEPOT		
			C	O	F	H	D		
1811	Winch Assembly	Inspect Remove/ Replace Lubricate	0.20	1.09				1, 4	
	Cover, Manhole	Inspect Lubricate Remove/ Replace Repair	0.10 0.10	1.00 0.50				1, 4 1, 4	
22	BODY, CHASSIS, AND HULL ACCESSORY ITEMS								
2210	Reflective tape	Remove/ Replace		1.50				4	
2210	Plate, Instruction	Remove/ Replace		0.42				4	
	Plate, Instruction	Remove/ Replace		0.42				4	
	Plate, Identification	Remove/ Replace		0.42				4	
	Hazmat Placards	Remove/ Replace		0.50				4	
	Hazmat Supports	Remove/ Replace		0.50				4	

MAINTENANCE ALLOCATION CHART (MAC)—Continued

0156 00

Table 1. MAC for SEMITRAILER, TANKER: 5000-GALLON, M967A2—Continued.

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE LEVEL					TOOLS AND EQUIPMENT	RE- MARKS
			FIELD		SUSTAINMENT				
			UNIT		DS	GS	DEPOT		
			C	O	F	H	D		
29	AUXILIARY GENERATOR AND ENGINE AND CONTROLS								
2910	Engine, Assembly	Inspect Remove/ Replace Fault Locate Lubricate	0.10	0.30	10.00			3, 4, 5	
	Switch, Pressure	Remove/ Replace Fault Locate		0.55 0.55				3, 4	
2915	Parts Kit, Glow Plug	Remove/ Replace Fault Locate		1.55 0.55				1, 4	
2916	Filter Head, Engine Oil	Remove/ Replace		1.00				1, 4	
	Cooler, Fluid, Oil	Remove/ Replace		2.00				1, 4	
	Lines, Oil	Remove/ Replace		2.00				1, 4	
	Filter, Fluid (Engine Oil), Element	Inspect Remove/ Replace	0.10	0.17 0.67				1, 4	
2918	Intake Manifold	Remove/ Replace		1.00				1, 4	

MAINTENANCE ALLOCATION CHART (MAC)—Continued

0156 00

Table 1. MAC for SEMITRAILER, TANKER: 5000-GALLON, M967A2—Continued.

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE LEVEL					TOOLS AND EQUIPMENT	RE- MARKS
			FIELD		SUSTAINMENT				
			UNIT		DS	GS	DEPOT		
			C	O	F	H	D		
2932	Fuel Injector Lines and Fittings	Remove/ Replace	0.10	2.35				1, 4	
	Pump, Fuel	Remove/ Replace		0.50				1, 4	
	Filter, Fuel, Base	Remove/ Replace		1.50				1, 4	
	Filter, Fluid (Fuel), Element	Inspect Remove/ Replace		0.17				1, 4	
	Engine Fuel Tank and Lines	Repair		0.67				1, 4	
2933	Air Cleaner, Intake	Inspect Service	0.10	0.50				1	
	Air Restriction Indicator	Remove/ Replace		0.30				1	
	Air Duct Hose	Remove/ Replace		0.30				1	
2939	Throttle Cable	Remove/ Replace		0.50				1, 4	
2941	Manifold, Exhaust	Remove/ Replace		2.85				1, 4	
	Muffler and Exhaust Pipe	Remove/ Replace		1.00				1	
2952	Engine Shrouding/ Engine Heat Shield	Remove/ Replace			6.13			1, 4	

MAINTENANCE ALLOCATION CHART (MAC)—Continued

0156 00

Table 1. MAC for SEMITRAILER, TANKER: 5000-GALLON, M967A2—Continued.

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE LEVEL					TOOLS AND EQUIPMENT	RE- MARKS
			FIELD		SUSTAINMENT				
			UNIT		DS	GS	DEPOT		
			C	O	F	H	D		
2952	Guard, Engine Fan	Remove/ Replace		0.50				1, 4	
	Belt, Fan	Remove/ Replace		0.50				1, 4	
2961	Alternator	Test Adjust Remove/ Replace Repair		0.33 0.17 0.68	1.02			1, 4 1, 3, 4 3, 4	
	Alternator Belt	Remove/ Replace		1.00				1, 4	
2963	Box, Electrical	Remove/ Replace		1.17				1, 4	
	Starter, Engine	Test Remove/ Replace			0.50 2.02			4	
	Switch, Thermostatic, Engine Overheat	Remove/ Replace Fault Locate		1.00 0.55				4	
	Solenoid, Electrical, Glow Plug	Remove/ Replace		0.50				4	
2967	Control Panel Assembly	Inspect Remove/ Replace Lubricate	0.10 0.10		1.10			1, 4	
	Meter, Time, Totalizer	Remove/ Replace		0.33				4	

MAINTENANCE ALLOCATION CHART (MAC)—Continued

0156 00

Table 1. MAC for SEMITRAILER, TANKER: 5000-GALLON, M967A2—Continued.

(1)	(2)	(3)	(4)					(5)	(6)	
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE LEVEL					TOOLS AND EQUIPMENT	RE- MARKS	
			FIELD		SUSTAINMENT					
			UNIT		DS	GS	DEPOT			
			C	O	F	H	D			
2967	Tachometer, Electronic	Remove/ Replace		0.33					4	
	Voltmeter	Remove/ Replace		0.33					4	
	Switch, Rotary	Remove/ Replace		0.25					4	
	Switch, Rotary	Remove/ Replace		0.25					4	
	Ohmart-Vega Screen Unit	Remove/ Replace Fault Locate		0.50 1.00					1, 4	
	Sensor	Remove/ Replace Fault Locate		0.50 1.00					1, 4	
	Tube	Remove/ Replace		0.50					1, 4	
33	SPECIAL PURPOSE KITS									
3307	Vapor Recovery Kit	Inspect Remove/ Replace Repair Test	0.10	0.67 0.50	1.00				1, 4 1, 4	

MAINTENANCE ALLOCATION CHART (MAC)—Continued

0156 00

Table 1. MAC for SEMITRAILER, TANKER: 5000-GALLON, M967A2—Continued.

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE LEVEL					TOOLS AND EQUIPMENT	RE- MARKS
			FIELD		SUSTAINMENT				
			UNIT		DS	GS	DEPOT		
			C	O	F	H	D		
47	GAGES (NONELECTRICAL), WEIGHING AND MEASURING DEVICES								
4702	Hubodometer	Remove/ Replace		0.50				1, 4	
	Gage, Pressure, Dial	Remove/ Replace		0.33				1, 4	
	Gage, Pressure, Dial	Remove/ Replace		0.33				1, 4	
72	DISPENSING AND SERVICING EQUIPMENT								
7202	Pump, Centrifugal	Inspect Remove/ Replace Repair Fault Locate Lubricate	0.17		1.52 11.03			3, 4, 5 3, 4	
	Coupling, Pump	Test Remove/ Replace		0.33 0.50	0.17 0.50			1, 4	
7203	Valve, Butterfly (G-Valve)	Remove/ Replace Repair		1.00	1.50			1, 4 4	

MAINTENANCE ALLOCATION CHART (MAC)—Continued

0156 00

Table 1. MAC for SEMITRAILER, TANKER: 5000-GALLON, M967A2—Continued.

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE LEVEL					TOOLS AND EQUIPMENT	RE- MARKS
			FIELD		SUSTAINMENT				
			UNIT		DS	GS	DEPOT		
			C	O	F	H	D		
7203	Tube Assembly, Metal	Inspect Remove/ Replace	0.10						
				4.00				1, 4	
	Tube	Remove/ Replace		4.00				1, 4	
	Tube, Bent, Metallic	Remove/ Replace		4.00				1, 4	
	Frame, Piping	Remove/ Replace Repair			3.62 4.20			1, 4 1, 4	
	Tube, Bent, Metallic	Remove/ Replace		4.00				1, 4	
	Tube, Bent, Metallic	Remove/ Replace		4.00				1, 4	
	Coupling, Pipe Clamp	Remove/ Replace		0.70				1, 4	
	Pipe, Bent, Metallic	Remove/ Replace	4.00				1, 4		
	Valve and Elbow, Internal (A-Valve)	Inspect Remove/ Replace Repair	0.10						
				0.50	2.50			4 4	
	Vent Assembly	Adjust Remove/ Replace Repair		0.10 0.67 1.00				4 1, 4 1, 4	
Sensor, High Level Shutoff	Remove/ Replace Repair	0.50 1.00					4 1, 4		

MAINTENANCE ALLOCATION CHART (MAC)—Continued

0156 00

Table 1. MAC for SEMITRAILER, TANKER: 5000-GALLON, M967A2—Continued.

(1)	(2)	(3)	(4)					(5)	(6)	
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE LEVEL					TOOLS AND EQUIPMENT	RE- MARKS	
			FIELD		SUSTAINMENT					
			UNIT		DS	GS	DEPOT			
			C	O	F	H	D			
7203	Valve, Gate (F-Valve, B-Valve, and E-Valve)	Remove/ Replace Repair		0.50 1.50					1, 4 4	
	Valve, Brake Interlock	Remove/ Replace		0.50					1	
	Coupling Half, Quick Disconnect (Bottom Loading—Road Side, Curbside, Recirculation)	Remove/ Replace		0.17					1, 4	
	Valve Assembly, Manifold	Remove/ Replace		0.50					1, 4	
	Manifold, Discharge	Remove/ Replace		3.00					1, 4	
	Valve, Ball (J-Valve)	Remove/ Replace		0.50					1	
7204	Lever Assembly, Valve	Remove/ Replace		0.28					1, 4	
	Cable, A-Valve	Remove/ Replace Adjust		1.50 0.50					1, 4 1	
	Cable, Shutoff Handle	Remove/ Replace		0.50					1, 4	
76	FIRE FIGHTING EQUIPMENT COMPONENTS									
7638	Bracket Assembly, Fire Extinguisher	Remove/ Replace		0.32					1, 4	
	Extinguisher, Fire	Inspect	0.10	0.10						

MAINTENANCE ALLOCATION CHART (MAC)—Continued

0156 00

Table 1. MAC for SEMITRAILER, TANKER: 5000-GALLON, M967A2—Continued.

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE LEVEL					TOOLS AND EQUIPMENT	RE- MARKS
			FIELD		SUSTAINMENT				
			UNIT		DS	GS	DEPOT		
			C	O	F	H	D		
91	CHEMICAL, BIO- LOGICAL, AND RADIOLOGICAL (CBR) EQUIPMENT								
9120	Bracket Assembly	Remove/ Replace		0.20				1, 4	

MAINTENANCE ALLOCATION CHART (MAC)—Continued

0156 00

Table 2. Tools and Test Equipment Requirements.

(1) TOOL OR TEST EQUIPMENT REF. CODE	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
1	O	Shop Equipment, Automotive Maintenance and Repair: Organizational Maintenance, Common No. 1	4910-00-754-0654	SC 4910-95-CL-A74
2	O	Shop Equipment, Automotive Maintenance and Repair: Organizational Maintenance, Common No. 2	4910-00-754-0653	SC 4910-95-CL-A72
3	F, H	Shop Equipment, Automotive Maintenance and Repair: Field Maintenance, Basic, Less Power	4910-00-348-7696	SC 4910-95-CL-A31
4	O, F	Tool Kit, General Mechanic's Automotive	5180-00-177-7033	SC 5180-90-CL-N26

MAINTENANCE ALLOCATION CHART (MAC)—Continued

0156 00

Table 3. Remarks.

(1) REMARKS CODE	(2) REMARKS
A	Composite light repair is limited to door, preformed packing, and lamp/LED replacement.
B	Chassis wiring harness and intervehicular cable assembly repair is limited to terminal, lug, insulator, shell, and hardware replacement.
C	Brake drum repair is limited to refacing braking surface using a brake drum lathe.
D	Refer to TM 9-2610-200-24 for tire repair.
E	Refer for TB 9-2300-247-40 and TC 9-237 for frame assembly repair.
F	Frame assembly, fender, and cargo body repair consists of welding, straightening, and reconditioning of damaged part or parts.
G	Refer to TC 9-237 and TM 43-0139 for fender and cargo body repair.

BASIC ISSUE ITEMS (BII) LIST

0157 00**INTRODUCTION****Scope**

This WP lists Basic Issue Items (BII) for the semitrailer to help you inventory items for safe and efficient operation.

General

BII are required to place the semitrailer in operation, operate it, and do emergency repairs. Although shipped separately packaged, BII must be with the semitrailer during operation and when it is transferred between property accounts. Listing these items is your authority to request/requisition them for replacement based on authorization of the end item by the Table of Organization and Equipment (TOE)/Modified Table of Organization and Equipment (MTOE). Illustrations are furnished to help you find and identify the items.

Explanation of Columns in the BII List

Column (1)—Illus. Number. Gives you the number of the item illustrated.

Column (2)—National Stock Number (NSN). Identifies the stock number of the item to be used for requisitioning purposes.

Column (3)—Description, CAGEC, and Part Number. Identifies the Federal item name (in all capital letters) followed by a minimum description when needed. The stowage location for BII is also included in this column. The last line below the description is the Commercial and Government Entity Code (CAGEC) (in parentheses) and the part number.

Column (4)—Unit of Measure (U/M). Indicates the measure used in performing the actual operation/maintenance function. This measure is expressed by a two-character alphabetical abbreviation.

Column (5)—Qty. Req. Indicates the quantity of the item authorized to be used with/on the equipment.

BASIC ISSUE ITEMS (BII) LIST—Continued

0157 00

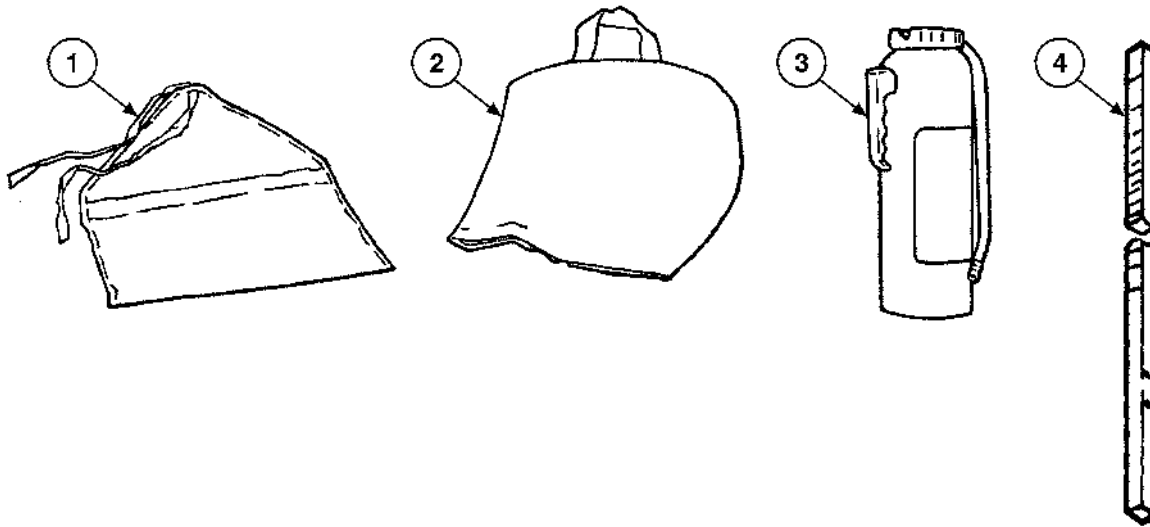


Table 1. BII List.

(1) ILLUS. NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION, CAGEC, AND PART NUMBER	(4) U/M	(5) QTY. REQ.
1	5140-00-772-4142	BAG, TOOL (stowed in tool box) (19207) 7724142	EA	2
2	5340-01-290-2727	COVER, ACCESS (on fire extinguishers) (19207) 11668081	EA	2
3	4210-00-808-4544	EXTINGUISHER, FIRE (stowed on rear and side bracket) (03670) IK10E	EA	2
4	5210-01-054-9934	GAGE, STICK (stowed on stowage tube) (19207) 11685988	EA	1

BASIC ISSUE ITEMS (BII) LIST—Continued

0157 00

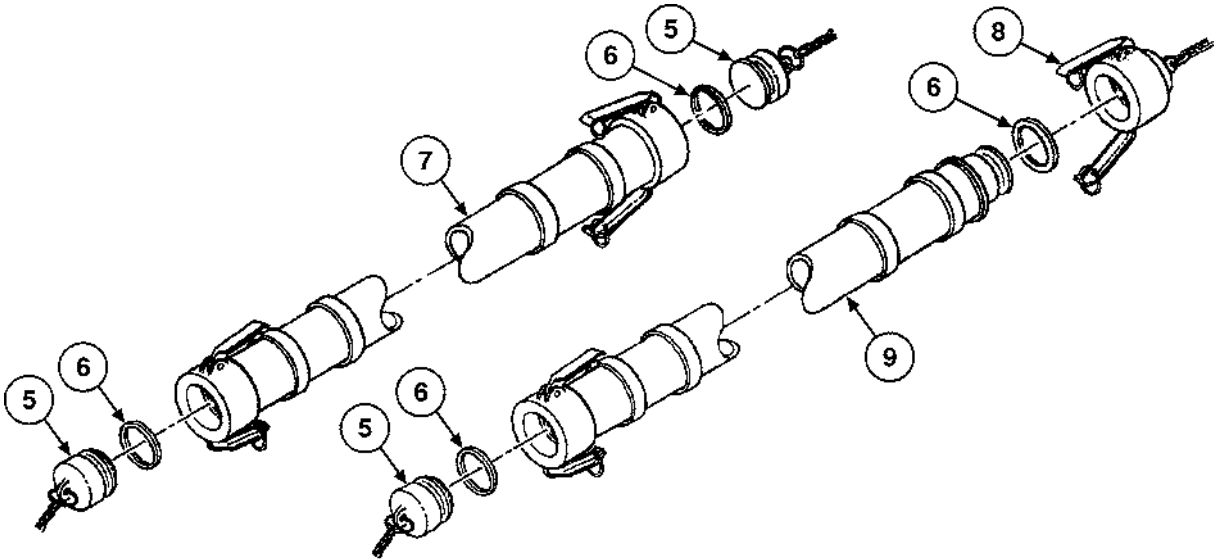


Table 1. BII List—Continued.

(1) ILLUS. NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION, CAGEC, AND PART NUMBER	(4) U/M	(5) QTY. REQ.
5	4730-00-640-6188	PLUG, QUICK-DISCONNECT (96906) MS27029-17	EA	4
6	5330-00-899-4509	GASKET (96906) MS27030-9	EA	6
7	4720-01-096-4390	HOSE, TRANSFER (stowed in hose tubes) (19207) 11685834	EA	1
8	4730-00-640-6156	CAP, QUICK-DISCONNECT (96906) MS27028-17	EA	2
9	4720-01-087-5876	HOSE, TRANSFER (stowed in hose tubes) (19207) 11685835	EA	2

BASIC ISSUE ITEMS (BII) LIST—Continued

0157 00

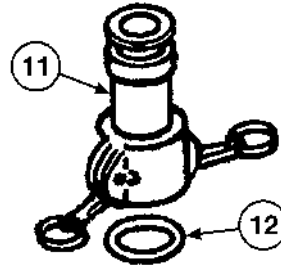
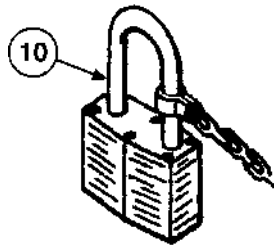


Table 1. BII List—Continued.

(1) ILLUS. NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION, CAGEC, AND PART NUMBER	(4) U/M	(5) QTY. REQ.
10	5340-00-912-4086	PADLOCK SET, W/CLEVIS AND CHAIN COMPOSED OF 2 PADLOCKS AND 2 KEYS (96906) MS21313-160	EA	1
11	4730-00-951-3293	REDUCER, QUICK-DISCONNECT (stowed in tool box) (96906) MS49000-1	EA	1
12	5310-00-612-2414	GASKET, REDUCER (stowed in tool box) (96906) MS27030-6	EA	1

BASIC ISSUE ITEMS (BII) LIST—Continued

0157 00

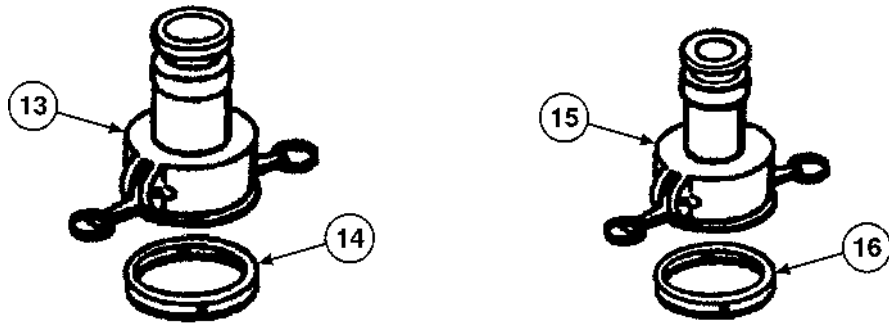


Table 1. BII List—Continued.

(1) ILLUS. NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION, CAGEC, AND PART NUMBER	(4) U/M	(5) QTY. REQ.
13	4730-00-951-3295	REDUCER, QUICK-DISCONNECT (stowed in tool box) (96906) MS49000-5	EA	1
14	5330-00-899-4509	GASKET, REDUCER (stowed in toolbox) (96906) MS27030-9	EA	1
15	4730-01-064-0560	REDUCER, QUICK-DISCONNECT (stowed in toolbox) (96906) MS49000-17	EA	1
16	5330-00-899-4509	GASKET, REDUCER (stowed in tool box) (96906) MS27030-9	EA	1

BASIC ISSUE ITEMS (BII) LIST—Continued

0157 00

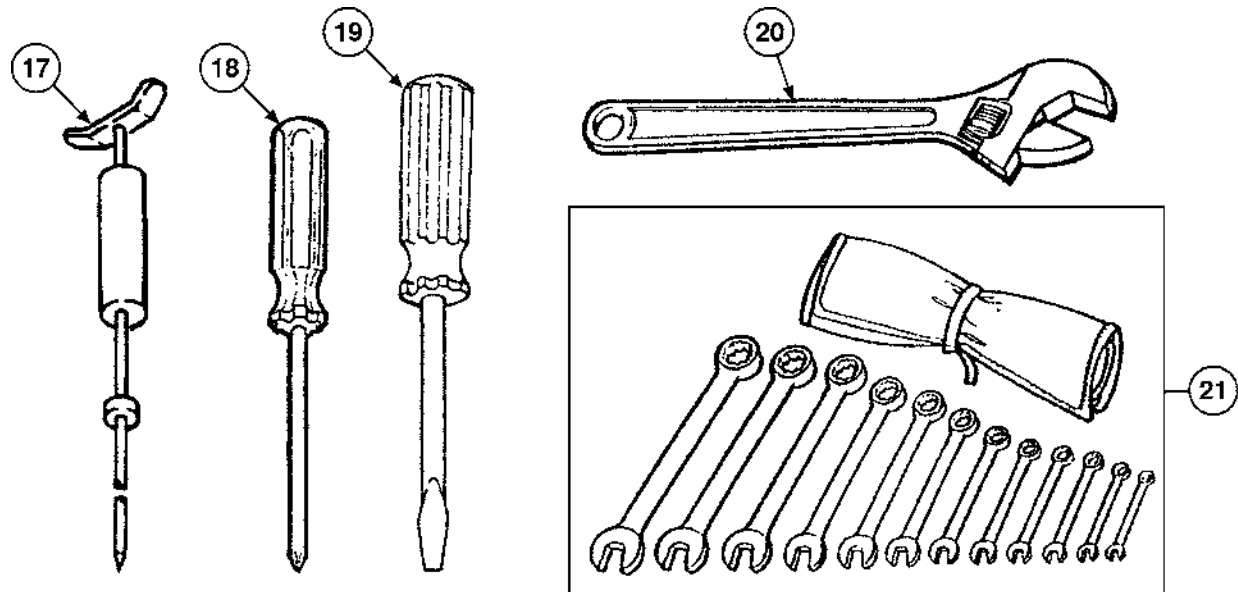


Table 1. BII List—Continued.

(1) ILLUS. NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION, CAGEC, AND PART NUMBER	(4) U/M	(5) QTY. REQ.
17	5975-01-050-5707	ROD, GROUND (stowed in stowage tube) (97403) 13219E0462	EA	1
18	5120-00-234-8913	SCREWDRIVER, CROSS-TIP (19207) 111655777-12	EA	1
19	5120-00-222-8852	SCREWDRIVER, FLAT-TIP (96906) MS15219-1	EA	1
20	5120-00-240-5328	WRENCH, ADJUSTABLE (96906) MS15461-3	EA	1
21	5120-00-148-7917	WRENCH SET, COMBINATION (05047) B107.6	EA	1

BASIC ISSUE ITEMS (BII) LIST—Continued

0157 00

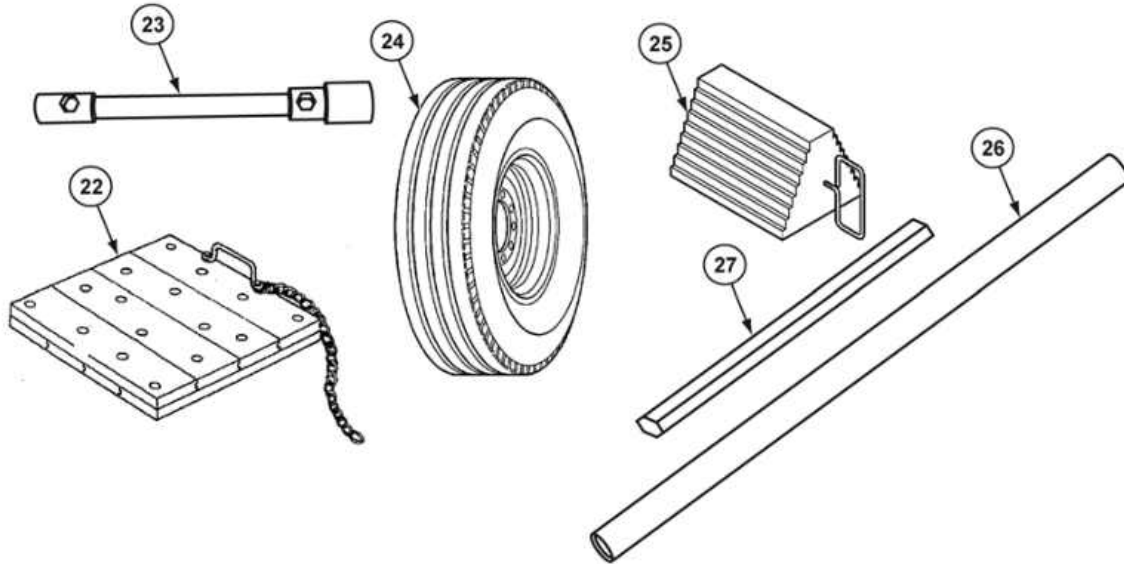


Table 1. BII List—Continued.

(1) ILLUS. NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION, CAGEC, AND PART NUMBER	(4) U/M	(5) QTY. REQ.
22	2510-00-741-7585	BOARD, GROUND (stowed on splash guards) (19207) 7417585	EA	2
23	5120-00-514-3465	WRENCH, SOCKET (0FBD6) 50939001	EA	1
24	2610-01-045-3688	TIRE, SPARE, RADIAL (stowed on rear bracket) (04NP3) 138-802-554	EA	1
25	2540-01-510-2830	CHOCK, WHEEL (25795) 2A092	EA	4
26	—	HANDLE, TIRE, WRENCH, LEVERAGE (1R5C8) 9970-0006	EA	1
27	5120-01-170-4980	BAR, SOCKET WRENCH HANDLE (0FBD6) 50939002	EA	1

END OF TASK

ADDITIONAL AUTHORIZATION LIST (AAL)**0158 00****INTRODUCTION****General**

This WP lists additional items you are authorized for the support of the semitrailer.

Explanation of Columns in the AAL

Column (1)—National Stock Number (NSN). This is the NSN assigned to the item that you can use to requisition it.

Column (2)—Description, CAGEC, and Part Number (P/N). Helps you identify and request the item you require to support this equipment.

Column (3)—Unit of Measure (U/M). Indicates the measure used in performing the actual operation/maintenance function. This measure is expressed by a two-character alphabetical abbreviation.

Column (4)—Quantity Recommended (QTY RECM). Indicates the quantity of the item recommended to be used with/on the equipment.

Table 1. AAL.

(1) NSN	(2) DESCRIPTION, CAGEC, AND P/N	(3) U/M	(4) QTY RECM
2590-00-473-6331	BRACKET, VEHICULAR (19207) 6566675	EA	1
7240-00-377-5269	CAN, GASOLINE (81349) MIL-C-53109	EA	1
—	TESTER, CIVACON OPTIC SYSTEM MODEL 1391 (1U5K1) H52400PA	EA	1
4720-01-064-8820	TUBING ASSEMBLY, NONMETALLIC (19207) 11668857	EA	1

EXPENDABLE AND DURABLE ITEMS LIST

0159 00

INTRODUCTION

Scope

This WP lists expendable and durable items that you will need to operate and maintain the semirailer. This list is for informational purposes only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items), or CTA 8-100, Army Medical Department Expendable/Durable Items.

Explanation of Columns in Table 1. Expendable and Durable Items List

Column (1)—Item Number. This number is assigned to the entry in the list and is referenced in the initial setup to identify the item, e.g., Compound, thread sealing (item 7, WP 0159 00).

Column (2)—Level. This column identifies the lowest level of maintenance that requires the listed item:
 C = Operator/Crew
 O = Organizational

Column (3)—National Stock Number (NSN). This is the NSN assigned to the item that you can use to requisition it.

Column (4)—Item Name, Description, Commercial and Government Entity Code (CAGEC), and Part Number (P/N). This column provides the other information you need to identify the item.

Column (5)—Unit of Measure (U/M). This code shows the physical measurement or count of an item.

EXPENDABLE AND DURABLE ITEMS LIST—Continued

0159 00

Table 1. Expendable and Durable Items List.

ITEM	LEVEL	NSN	ITEM NAME, DESCRIPTION, CAGEC, P/N	U/M
1	O	7920-00-061-0038	Brush, scrub (83421) 7920-00-061-0038	EA
2	O	5350-00-221-0872	Cloth, abrasive (80204) ANSI B74-18	EA
3	O	8030-00-087-8630 9150-00-961-8995	Compound, antiseize (81349) MIL-T-83483 1-lb can 8-oz tube	LB TU
4	C	7930-01-328-2030	Compound, cleaning, solvent detergent, 5-gal. can (66724) PF degreaser	GL
5	O	8030-00-244-1296	Compound, corrosion preventive Grade 3, MIL-PRF-16173E	GL
6	C	6850-01-290-9943 6850-00-177-5094 6850-00-295-7685	Compound, silicone NATO code no. S-736 (81349) MIL-S-8660 2-oz tube 5.3-oz tube 10-lb-can	TU TU CN
7	O	8030-00-543-4384	Compound, thread sealing, 1-pt can (81349) MIL-S-7916	PT
8	O	9150-01-197-7688 9150-01-197-7693 9150-01-197-7690 9150-01-197-7689 9150-01-197-7692 9150-01-197-7691	Grease, automotive and artillery (GAA) (81349) MIL-PRF-1092 2 1/4-oz tube 14-oz cartridge 1 3/4-lb can 6 1/2-lb can 35-lb pail 120-lb drum	TU CA CN CN CN DR
9	C	9150-01-178-4725 9150-01-152-4117 9150-01-152-4118 9150-01-152-4119	Oil, lubricating, internal combustion engine, tactical service (81349) MIL-PRF-2104 1-qt can 1-qt can (metal) 5-gal. can 55-gal. drum	QT QT GL GL

EXPENDABLE AND DURABLE ITEMS LIST—Continued

0159 00

Table 1. Expendable and Durable Items List—Continued.

ITEM	LEVEL	NSN	ITEM NAME, DESCRIPTION, CAGEC, P/N	U/M
10	C	9150-00-402-4478 9150-00-401-2372 9150-00-491-7197	Oil, lubricating, internal combustion engine, arctic (81349) MIL-L-46167 1-qt can 5-gal. can 55-gal. drum	QT GL GL
11	C	7920-00-205-1711	Rags, wiping (64067) 7920-00-205-1711	LB
12	O	7930-00-899-9534	Soap (83421) 7930-00-899-9534	GL
13	O	8950-00-292-9611	Soda, baking (UR162)	LB
14	O	3439-01-150-1051	Solder, alloy S060 rosin, multicore, 18 SWG5 core, 1-lb roll (17794) 1243-0001	RO
15	O	9905-00-537-8954	Tag, marker (81349) MIL-T-12755	EA
16	O	5970-00-816-6056	Tape, electrical, insulating, pressure-sensitive, black overall (81349) HH-I-595	RO

END OF TASK

MANDATORY REPLACEMENT PARTS LIST

0160 00

GENERAL

This WP lists all mandatory replacement parts referenced in the initial setups and procedures. These are items that must be replaced during maintenance whether they have failed or not.

Explanation of Columns in Table 1. Mandatory Replacement Parts List

Column (1)—Item Number. This number is assigned to the entry in the list and is referenced in the narrative instructions to identify the item.

Column (2)—Part Number. This column identifies the part number of the item.

Column (3)— Commercial And Government Entity Code (CAGEC). This column provides the CAGEC of the item.

Column (4)—National Stock Number (NSN). This is the NSN assigned to the item that you can use to requisition it.

Column (5)—Nomenclature This column provides the item name.

MANDATORY REPLACEMENT PARTS LIST—Continued

0160 00

Table 1. Mandatory Replacement Parts List.

(1) ITEM NUMBER	(2) PART NUMBER	(3) CAGEC	(4) NSN	(5) NOMENCLATURE
1	003958-001	83590	—	GASKET
2	055285	87405	5330-00-778-7229	GASKET
3	07406	13548	6220-01-482-6113	CLEARANCE LIGHT
4	0911	25281	4730-00-541-5538	CLAMP
5	FF-S-2738	81348	5340-02-469-7199	SEAL, ANTI-PILFRIDGE
6	100222	16476	6645-01-263-9434	METER, TIME TOTALIZING
7	100264	16476	6620-01-470-6835	VOLTMETER
8	100397	OBUN9	5330-01-423-9479	GASKET
9	100398	OBUN9	—	GASKET
10	103-49	68505	5330-01-362-4994	GASKET
11	10525	82423	5310-00-902-6676	NUT, SELF-LOCKING
12	107646	16476	6680-01-508-5909	TACHOMETER
13	11028	08302	5310-00-481-6481	LOCKWASHER
14	111-34	35510	—	BEARING, FRONT
15	1113SS	25281	4730-01-003-7359	CLAMP
16	111-40	35510	—	BEARING, REAR
17	11662296-9	19207	5325-00-204-5061	RING, RETAINING
18	11670915	1R5C8	5330-01-060-6890	GASKET
19	1177860	49181	—	NUT, SELF-LOCKING
20	120-111	35510	—	LOCKWASHER
21	120-128	35510	5310-01-430-7169	NUT, SELF-LOCKING

MANDATORY REPLACEMENT PARTS LIST—Continued

0160 00

Table 1. Mandatory Replacement Parts List—Continued.

(1) ITEM NUMBER	(2) PART NUMBER	(3) CAGEC	(4) NSN	(5) NOMENCLATURE
22	1205X726	78500	5331-00-205-3583	O-RING
23	1459-246	72452	5310-00-088-1251	NUT, SELF-LOCKING
24	8712289	19207	5210-00-044-3340	NUT, SELF-LOCKING
25	162284	64104	5930-00-084-7570	SWITCH, ROTARY
26	200084	OBUN9	5310-01-423-3728	LOCKWASHER
27	200273	OBUN9	5310-01-423-3724	LOCKWASHER
28	2100-056	2X179	—	GLOW PLUG
29	220456	81343	—	SEAL
30	2440.034	2X179	3030-01-457-8833	BELTING, V
31	2474-GA	25567	5330-01-060-7266	GASKET SET
32	25227-363	25567	5331-01-504-6856	SEAL, OIL
33	25227-689	25567	5330-01-060-9610	SEAL
34	25271-207	25567	5330-01-078-2005	SEAL
35	2564	70485	5325-00-641-2800	GROMMET
36	276.4670.014	2X179	5310-01-324-8325	WASHER
37	330-3009	26151	5330-01-071-8179	GASKET
38	3401	28488	5975-00-655-3136	CONNECTOR, BOX
39	3560NB	13226	5330-01-134-1986	GASKET
40	38084-C	76364	5310-01-077-9647	LOCKWASHER
41	38683-207	25567	5330-01-060-9614	GASKET
42	3TR	8K828	—	GASKET

MANDATORY REPLACEMENT PARTS LIST—Continued

0160 00

Table 1. Mandatory Replacement Parts List—Continued.

(1) ITEM NUMBER	(2) PART NUMBER	(3) CAGEC	(4) NSN	(5) NOMENCLATURE
43	40383	0Y3H3	—	LOCKWASHER
44	40384	0Y3H3	—	LOCKWASHER
45	4201028	OKMP4	6685-01-506-1133	GAGE, FUEL PRESSURE
46	4204089	OKMP4	6685-01-506-1151	GAGE, PUMP PRESSURE
47	4306148	OKMP4	6685-01-506-1061	GAGE, OIL PRESSURE
48	4420.019	2X179	5330-01-395-0878	GASKET
49	4500.079	2X179	5330-01-394-7944	GASKET
50	4670-058	2X179	—	WASHER
51	65146-K-A993	76364	5330-00-400-3515	PACKING
52	6686N	76364	5330-00-346-2732	GASKET
53	6975.134	2X179	3020-01-453-9083	PULLEY ASSEMBLY
54	7523	91840	5307-01-389-3445	STUD, BALL
55	7524649	19207	9905-00-752-4649	BAND, MARKER
56	75904-01	13445	5930-01-420-9746	SWITCH, ROTARY
57	761-847	90031	5310-00-763-8905	WASHER
58	81839A029	39428	5310-01-374-1809	NUT, SELF-LOCKING
59	841-00	92967	5310-01-098-7827	NUT, SELF-LOCKING
60	8712289-9	19207	5310-00-930-9759	NUT, SELF-LOCKING
61	9.3240.163	2X179	5310-01-458-4307	NUT
62	9.4670.060	2X179	5310-01-327-3419	WASHER
63	9.4670-061	2X179	5310-01-458-4309	WASHER

MANDATORY REPLACEMENT PARTS LIST—Continued

0160 00

Table 1. Mandatory Replacement Parts List—Continued.

(1) ITEM NUMBER	(2) PART NUMBER	(3) CAGEC	(4) NSN	(5) NOMENCLATURE
64	9.4776.196	2X179	5310-01-327-3418	WASHER
65	9.7565.007	2X179	5310-01-340-8352	LOCKWASHER
66	9010A237	39428	5310-01-446-0272	NUT, LOCKING
67	90312A64	39428	4010-01-508-6020	LANYARD
68	904.4730.533	2X179	5330-01-458-5601	GASKET
69	90715A011	39428	5310-01-482-0431	NUT, SELF-LOCKING
70	90715A145	39428	5310-01-508-5774	NUT, LOCKING
71	9125-0146	1R5C8	4730-01-506-1946	CLAMP
72	9125-0147	1R5C8	4730-01-506-1798	CLAMP
73	9131-0005	1R5C8	—	CONDUIT
74	9133-0083	19207	5940-01-508-5912	CONNECTOR
75	9142-0273	1R5C8	4730-01-511-6206	COUPLING
76	91831A011	39428	5310-01-463-4929	NUT, SELF-LOCKING
77	91831A030	2V507	5310-01-499-3569	NUT, SELF-LOCKING
78	92147A029	39428	5310-01-482-5442	NUT, SELF-LOCKING
79	9326-0191	1R5C8	—	GASKET
80	9326-0254	1R5C8	5330-01-511-1565	GASKET
81	9326-0256	1R5C8	—	GASKET
82	9326-0262	1R5C8	5330-01-510-7082	GASKET
83	9326-0265	1R5C8	—	GASKET
84	9326-0266	1R5C8	—	GASKET

MANDATORY REPLACEMENT PARTS LIST—Continued

0160 00

Table 1. Mandatory Replacement Parts List—Continued.

(1) ITEM NUMBER	(2) PART NUMBER	(3) CAGEC	(4) NSN	(5) NOMENCLATURE
85	9326-0268	1R5C8	—	GASKET
86	9419476	24617	5310-00-984-3807	NUT, SELF-LOCKING
87	9562-0044	1R5C8	5310-01-502-8329	NUT, SELF-LOCKING
88	9562-0046	1R5C8	5310-01-502-8330	NUT, SELF-LOCKING
89	9562-0049	1R5C8	—	NUT, FINISHING
90	9562-0055	1R5C8	5310-01-508-6889	NUT, SELF-LOCKING
91	9562-0091	1R5C8	—	NUT, SELF-LOCKING
92	9562-0133	1R5C8	5310-01-502-8323	NUT, LOCKING
93	9562-0165	1R5C8	5310-01-506-1215	NUT, SELF-LOCKING
94	9595-0019	1R5C8	5310-01-504-8330	PIN, HAIR
96	9682-0047	1R5C8	5320-01-504-6880	RIVET, POP
97	97135A275	39428	5310-01-508-5907	NUT, SELF-LOCKING
98	9752-0022		—	CABLE TIE
99	98700A366	39428	5315-01-508-5988	PIN, QUICK RELEASE
100	9965-0039	1RC58	5310-01-502-8467	LOCKWASHER
101	9Q5961	13226	5310-01-486-4256	WASHER, EXTERNAL TOOTH
102	A-1205-X-1662	78500	5330-01-047-9367	SEAL
103	ALH 2102L SS	3J615	5340-01-504-6861	LOCK, D-RING
104	AS29513-248	81343	5331-00-291-3268	GASKET
105	AS29513-353	81343	5331-01-217-1787	O-RING

MANDATORY REPLACEMENT PARTS LIST—Continued

0160 00

Table 1. Mandatory Replacement Parts List—Continued.

(1) ITEM NUMBER	(2) PART NUMBER	(3) CAGEC	(4) NSN	(5) NOMENCLATURE
106	B491A	12662	6220-01-506-2956	REFLECTOR
107	B491R	12662	6220-01-506-2958	REFLECTOR
108	C01100011	38205	5310-20-000-5251	LOCKWASHER
109	C40015M	1UYK1	5330-01-502-8335	GASKET
110	H50086M	1UYK1	—	LOCKWASHER
111	K235	78500	5315-01-092-1953	PIN, COTTER
112	M45913/1-10CG5C	81349	5310-00-269-4040	NUT, SELF-LOCKING
113	M45913/2-6FG5C	81349	5310-00-959-1488	NUT, SELF-LOCKING
114	MS17829-3C	96906	5310-00-689-3877	NUT, SELF-LOCKING
115	MS17829-6C	96906	5310-00-483-8790	NUT, SELF-LOCKING
116	MS21044N4	80205	5310-00-877-5796	NUT, SELF-LOCKING
117	MS21083N3	96906	5310-00-902-6676	NUT, SELF-LOCKING
118	MS24665-103	80205	5315-00-243-7992	PIN, COTTER
119	MS27144-1	96906	5935-00-167-7775	CONNECTOR
120	MS27183-57	80205	5310-00-614-3506	WASHER, FLAT
121	MS35338-44	96906	5310-00-582-5965	LOCKWASHER
122	MS35338-46	96906	5310-00-637-9541	LOCKWASHER
123	MS35338-50	80205	5310-00-820-6653	LOCKWASHER
124	N13048	06721	2530-00-270-3878	DUMMY COUPLING
125	Q4114-366Y	07322	5330-01-019-6879	PACKING, PREFORMED
126	S899 759 815 4	78500	5340-01-499-3481	CLIP

MANDATORY REPLACEMENT PARTS LIST—Continued

0160 00

Table 1. Mandatory Replacement Parts List—Continued.

(1) ITEM NUMBER	(2) PART NUMBER	(3) CAGEC	(4) NSN	(5) NOMENCLATURE
127	VE205340	1K2S2	5330-01-506-1859	GASKET
128	VIC75TG03	79154	4730-01-514-5018	COUPLING
129	VIC75TG04	79154	4730-01-503-0247	COUPLING, PIPE
130	WA16	78500	5310-00-261-7340	LOCKWASHER
131	X1975	78500	5315-00-010-3389	PIN, COTTER
132	XB-SLN-012-04	99411	—	NUT, SELF-LOCKING
133	10028	98343	5330-00-172-1919	PACKING, PREFORMED
134	904.2175.040	2X179	2940-01-324-5153	FILTER ELEMENT
135	9.6780.085	2X179	5307-01-327-3439	GASKET
136	9.1200.087	2X179	5331-01-458-2589	O-RING
137	625.4501.025	2X179	5330-01-452-7383	GASKET
138	0910164	2X179	5310-00-045-3296	LOCKWASHER
139	9.7565.011	2X179	5310-01-324-8343	LOCKWASHER
140	229182	1K2S2	5310-01-514-2751	LOCKWASHER
141	103-48	24975	5977-01-506-1001	BRUSH ASSEMBLY
142	9326-0255	1R5C8	—	GASKET
143	9142-0099	1R5C8	—	SEAL
144	9562-0039	1R5C8	5310-01-510-9767	SELF-LOCKING NUT

TORQUE VALUES FOR THREADED FASTENERS

0161 00**SCOPE**

This WP lists standard torque values (Table 1) and provides general information for applying torque. Special torque values and tightening sequences are included in the maintenance procedures for applicable components.

GENERAL

Always use the torque values listed in Table 1 when the maintenance procedure does not give a specific torque value.

Unless otherwise specified, standard torque tolerance shall be $\pm 10\%$.

Torque values are based on clean, dry threads. Reduce torque by 10% when engine oil is used as a lubricant. Reduce torque by 20% if new plated capscrews are used.

Capscrews threaded into aluminum may require reductions in torque of 30% or more of Grade 5 capscrew torque. Capscrews threaded into aluminum must also attain two capscrew diameters of thread engagement.

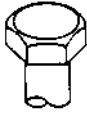



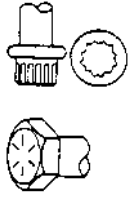
CAUTION

If replacement capscrews are of a higher grade than originally supplied, use torque specifications for the original. This will prevent equipment damage due to overtightening.

TORQUE VALUES FOR THREADED FASTENERS—Continued

0161 00

Table 1. Torque Limits.

CURRENT USAGE	MUCH USED	MUCH USED	USED AT TIMES	USED AT TIMES
QUALITY OF MATERIAL	INDETERMINATE	MINIMUM COMMERCIAL	MEDIUM COMMERCIAL	BEST COMMERCIAL
SAE GRADE NUMBER CAPSCREW HEAD MARKINGS MANUFACTURER'S MARKS MAY VARY THESE ARE ALL SAE GRADE 5 (3 LINE)	1 OR 2  	5 	6 OR 7 	8 
CAPSCREW BODY SIZE inches – thread	TORQUE lb-ft (N•m)	TORQUE lb-ft (N•m)	TORQUE lb-ft (N•m)	TORQUE lb-ft (N•m)
1/4 20	5 (7)	8 (11)	10 (14)	12 (16)
28	6 (8)	10 (14)		14 (19)
5/16 18	11 (15)	17 (23)	19 (26)	24 (33)
24	13 (18)	19 (26)		27 (37)
3/8 16	18 (24)	31 (42)	34 (46)	44 (60)
24	20 (27)	35 (47)		49 (66)
7/16 14	28 (38)	49 (66)	55 (75)	70 (95)
20	30 (41)	55 (75)		78 (106)
1/2 13	39 (53)	75 (102)	85 (115)	105 (142)
20	41 (56)	85 (115)		120 (163)
9/16 12	51 (69)	110 (149)	120 (163)	155 (210)
18	55 (75)	120 (163)		170 (231)
5/8 11	83 (113)	150 (203)	167 (226)	210 (285)
18	95 (129)	170 (231)		240 (325)
3/4 10	105 (142)	270 (366)	280 (380)	375 (508)
16	115 (156)	295 (400)		420 (569)
7/8 9	160 (217)	395 (536)	440 (597)	605 (820)
14	175 (237)	435 (590)		675 (915)
1 8	235 (319)	590 (800)	660 (895)	910 (1234)
14	250 (339)	660 (895)		990 (1342)

END OF TASK

TORQUE VALUES FOR THREADED FASTENERS—Continued

0161 00

Table 2. Metric Torque Limits.

DESCRIPTION	 8.8	 10.9 = R10	 12.9 = R12
Diagram per Pitch (mm)	High-carbon steel	Alloy steel	Special alloy steel
	Kgm	Kgm	Kgm
4x0.70	0.37	0.52	0.62
5x0.80	0.72	1.01	1.2
6x1.00	1.23	1.73	2.08
7x1.00	2.02	2.84	3.40
8x1.25	3.02	4.25	5.10
9x1.25	3.88	5.45	6.55
10x1.50	5.36	7.54	9.05
12x1.75	9.09	12.80	15.30
14x2.00	13.80	19.40	23.30
16x2.00	21.00	29.50	35.40
18x2.50	26.30	37.00	44.40
20x2.50	36.60	51.50	61.80
22x2.50	44.40	62.40	74.90
24x3.00	56.90	80.00	96.00

END OF TASK

RPSTL INTRODUCTION**0162 00**

SCOPE

The RPSTL lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of organizational, direct support and general support maintenance of the M967A2 Automotive Fuel Dispensing 5,000-Gallon Tank Semitrailer. It authorizes the requisitioning, issue, and disposition of spares, repair parts, and special tools as indicated by the source, maintenance, and recoverability (SMR) codes.

GENERAL

In addition to the Introduction work package, this RPSTL is divided into the following work packages.

1. **Repair Parts List Work Packages.** Work packages containing lists of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. These work packages also include parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with parts in each group listed in ascending figure and item number sequence. Sending units, brackets, filters, and bolts are listed with the component they mount on. Bulk materials are listed by item name in FIG. BULK at the end of the work packages. Repair parts kits are listed separately in their own functional group and work package. Repair parts for reparable special tools are also listed in a separate work package. Items listed are shown on the associated illustrations.
2. **Special Tools List Work Packages.** Work packages containing lists of special tools, special TMDE, and special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in the DESCRIPTION AND USABLE ON CODE (UOC) column). Tools that are components of common tool sets and/or Class VII are not listed.
3. **Cross-Reference Indexes Work Packages.** There are two cross-reference indexes work packages in this RPSTL; the National Stock Number (NSN) Index work package and the Part Number (P/N) work package. The National Stock Number Index work package refers you to the figure and item number. The Part Number Index work package refers you to the figure and item number.

EXPLANATION OF COLUMNS IN THE REPAIR PARTS LISTS AND SPECIAL TOOLS LIST WORK PACKAGES.

ITEM NO. (Column (1)). Indicates the number used to identify items called out in the illustration.

SMR CODE (Column (2)). The SMR code containing supply/requisitioning information, maintenance level authorization criteria, and disposition instruction, as shown in the following breakout:

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<u>Source Code</u>	<u>Maintenance Code</u>	<u>Recoverability Code</u>
xx	xx	x
1 st two positions: How to get an item.	3 rd position: Who can Install, replace, or use item.	4 th position: Who can complete repair* on the item.
		5 th position: Who determines disposition action on unserviceable items.

*Complete repair: Maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

Source Code. The source code tells you how you get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follow:

<u>Source Code</u>	<u>Application/Explanation</u>
PA PB PC PD PE PF PG	Stock items; use the applicable NSN to requisition/request items with these source codes. They are authorized to the level indicated by the code entered in the 3 rd position of the SMR code.
	NOTE Items coded PC are subject to deterioration.
KD KF KB	Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance level indicated in the 3 rd position of the SMR code. The complete kit must be requisitioned and applied.
MO-Made at unit/ AVUM level MF-Made at DS/ AVIM level MH-Made at GS level ML-Made at SRA MD-Made at depot	Items with these codes are not to be requisitioned/requested individually. They must be made from bulk material which is identified by the P/N in the DESCRIPTION AND USABLE ON CODE (UOC) column and listed in the bulk material group work package of the RPSTL. If the item is authorized to you by the 3 rd position code of the SMR code, but the source code indicates it is made at higher level, order the item from higher level of maintenance.

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AO-Assembled by unit/AVUM level	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned of fabricated and assembled at the level of maintenance indicated by the source code. If the 3 rd position of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher level, order the item from the higher level of maintenance.
AF-Assembled by DS/AVIM level	
AH-Assembled by GS level	
AL-Assembled by SRA	
AD-Assembled by depot	
XA	Do not requisition an "XA" coded item. Order the next higher assembly. (Refer to NOTE below.)
XB	If an item is not available from salvage, order it using the CAGEC and P/N.
XC	Installation drawings, diagrams, instruction sheets, field service drawings; identified by manufacturer's P/N.
XD	Item is not stocked. Order an XD-coded item through normal supply channels using the CAGEC and P/N given, if no NSN is available.

NOTE

Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes except for those items source coded "XA" or those aircraft support items restricted by requirements of AR 750-1.

Maintenance Code. Maintenance codes tell you the level(s) of maintenance authorized to use and repair support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:

Third Position. The maintenance code entered in the third position tells you the lowest maintenance level authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to the following levels of maintenance:

Maintenance

Code

Application/Explanation

- C - Crew or operator maintenance done within unit/AVUM maintenance.
- O - Unit level/AVUM maintenance can remove, replace, and use the item.
- F - Direct support/AVIM maintenance can remove, replace, and use the item.
- H - General support maintenance can remove, replace, and use the item.

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- L - Specialized repair activity can remove, replace, and use the item.
- D - Depot can remove, replace, and use the item.

Fourth Position. The maintenance code entered in the fourth position tells you whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (perform all authorized repair functions).

NOTE

Some limited repair may be done on the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.

**Maintenance
Code**

Application/Explanation

- O - Unit/AVUM is the lowest level that can do complete repair of the item.
- F - Direct support/AVIM is the lowest level that can do complete repair of the item.
- H - General support is the lowest level that can do complete repair of the item.
- L - Specialized repair activity is the lowest level that can do complete repair of the item.
- D - Depot is the lowest level that can do complete repair of the item.
- Z - Nonrepairable. No repair is authorized.
- B - No repair is Authorized. No parts or special tools are authorized for maintenance of "B" coded item. However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

Recoverability Code. Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is shown in the fifth position of the SMR code as follows:

**Recoverability
Code**

Application/Explanation

- Z - Nonrepairable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in the third position of the SMR code.
- O - Repairable item. When uneconomically repairable, condemn and dispose of the item at the unit level.
- F - Repairable item. When uneconomically repairable, condemn and dispose of the item at the direct support level.
- H - Repairable item. When uneconomically repairable, condemn and dispose of the item at the general support level.

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- D - Repairable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item are not authorized below depot level.
- L - Repairable item. Condemnation and disposal of item are not authorized below Specialized Repair Activity (SRA).
- A - Item requires special handling or condemnation procedures because of specific reasons (such as precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

NSN (Column (3)). The NSN for an item is listed in this column.

CAGEC (Column (4)). The commercial and Government Entity Code (CAGEC) is a five-digit code which is used to identify the manufacturer, distributor, or Government agency/activity that supplies the item.

PART NUMBER (Column (5)). Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of it's engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

NOTE

When you use an NSN to requisition an item, the item you receive may have a different P/N from the one listed.

DESCRIPTION AND USEABLE ON CODE (UOC) (Column (6)). This column includes the following information.

1. The federal item name, and when required, a minimum description to identify the item.
2. P/Ns of bulk materials are referenced in this column in the line entry to be manufactured or fabricated.
3. Hardness Critical Item (HCI). A support item that provides the equipment with special protection from electromagnetic pulse (EMP) damage during a nuclear attack.
4. The statement END OF FIGURE appears just below the last item description column (6) for a given figure in both the repair parts list and the special tools list work packages.

QTY (Column (7)). The QTY (quantity per figure) column indicates the quantity of the item used in the breakout shown on the illustration/figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column instead of a quantity indicates that the quantity is variable and quantity may change from application to application.

EXPLANATION OF CROSS-REFERENCE INDEXES WORK PACKAGES FORMAT AND COLUMNS

1. National Stock Number (NSN) Index Work Package.

STOCK NUMBER Column. This column lists the NSN in National item identification number (NIIN) sequence. The NIIN consists of the last nine digits of the NSN.

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NSN
(e.g., 5385-01-574-1476)
NIIN

When using this column to locate an item, ignore the first four digits of the NSN. However the complete NSN should be used when ordering items by stock number.

FIG. Column. This column lists the number of the figure where the item is identified/located. The figures are in numerical order in the repair parts list and special tools list work packages.

ITEM Column. The item number identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same line.

2. Part Number (P/N) Index Work Package. P/Ns in this index are listed in ascending alphanumeric sequence (vertical arrangement of letter and number combinations which places the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9 and each following letter or digit in like order).

PART NUMBER Column. Indicates the P/N assigned to the item.

FIG. Column. This column lists the number of the figure where the item is identified/located in the repair parts list and special tools list work packages.

ITEM Column. The item number is the number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

SPECIAL INFORMATION

UOC. The UOC appears in the lower left corner of the Description Column heading. Useable on codes are shown as "UOC: ..." in the Description Column (justified left) on the first line under the applicable item/nomenclature. Uncoded items are applicable to all models. Identification of the UOCs used in the RPSTL are:

<u>Code</u>	<u>Used On</u>
C93	M967A2

Fabrication Instructions. Bulk materials required to manufacture items are listed in the bulk material functional group of this RPSTL. Part numbers for bulk materials are also referenced in the Description Column of the line item entry for the item to be manufactured/fabricated. Detailed fabrication instructions for items source coded to be manufactured or fabricated are found in Appendix (x) of this manual.

Index Numbers. Items which have the word BULK in the figure column will have an index number shown in the item number column. This index number is a cross-reference between the NSN / P/N index work packages and the bulk material list in the repair parts list work package.

HOW TO LOCATE REPAIR PARTS

1. When NSNs or P/Ns Are Not Known.

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First. Using the table of contents, determine the assembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and lists are divided into the same groups.

Second. Find the figure covering the functional group or the subfunctional group to which the item belongs.

Third. Identify the item on the figure and note the number(s).

Fourth. Look in the repair parts list work packages for the figure and item numbers. The NSNs and part numbers are on the same line as the associated item numbers.

2. When NSN Is Known.

First. If you have the NSN, look in the STOCK NUMBER column NSN index work package. The NSN is arranged in NIIN sequence. Note the figure and item number next to the NSN.

Second. Turn to the figure and locate the item number. Verify that the item is the one you are looking for.

3. When P/N Is Known.

First. If you have the P/N and not the NSN look in the PART NUMBER column of the part number index work package. Identify the figure and item number.

Second. Look up the item on the figure in the applicable repair parts list work package.

ABBREVIATIONS

No uncommon abbreviations are used in this RPSTL.

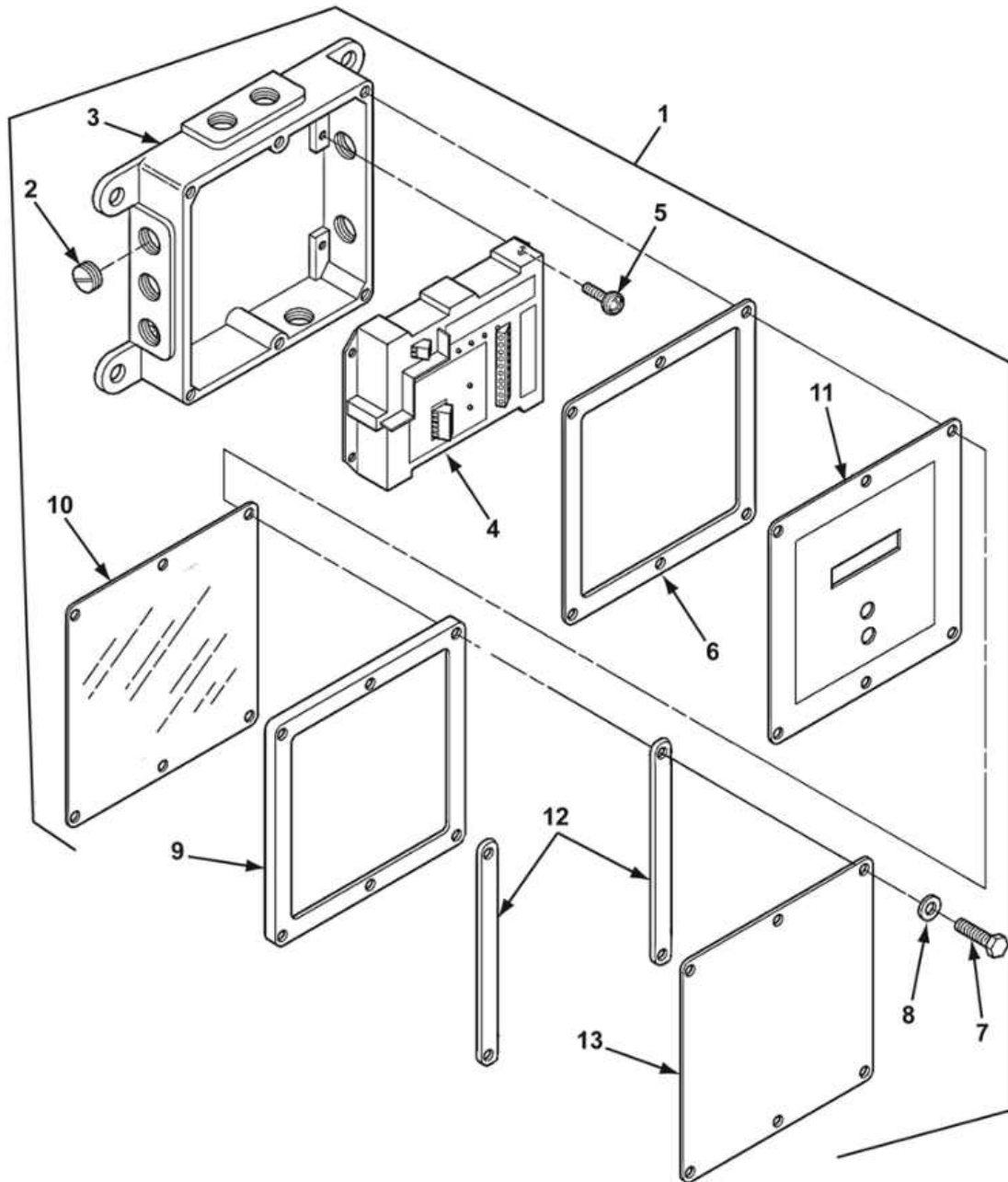


FIGURE 1. LIBERTY ONBOARD MONITOR

GROUP 0608 LIBERTY ONBOARD MONITOR - Continued

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(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 06 ELECTRICAL SYSTEM	
						GROUP 0608 MISCELLANEOUS ITEMS	
						FIG. 1 LIBERTY ONBOARD MONITOR	
ABAB	1	PFOOO	5940-01-502-9386	1UYK1	3100	TERMINAL BOX.....	1
ABBZ	2	PFOZZ	5365-01-502-9393	1UYK1	H50070M	.PLUG, MACHINE THREAD.....	1
ABBJ	3	PFOZZ	5975-01-502-9391	1UYK1	D40006A	.JUNCTION BOX.....	1
ABAY	4	PFOZZ	6680-01-502-9390	1UYK1	3150	.RECORDER SUBASSEMBLY	1
ABBY	5	PFOZZ	5305-01-502-8415	1UYK1	H50623M-2	.SCREW, MACHINE.....	4
ABAJ	6	PFOZZ	5330-01-502-8335	1UYK1	C40015M	.GASKET	1
ABBS	7	PFOZZ	5305-01-502-8411	1UYK1	H50114M	.SCREW, MACHINE.....	6
ABBM	8	PFOZZ	5310-01-229-6260	39428	92146A029	.WASHER, LOCK	6
ABAS	9	PFOZZ	5940-01-502-9388	1UYK1	C40104A	.COVER, TERMINAL BOX	1
ABAM	10	PFOZZ	9330-01-502-8339	1UYK1	C40097A	.WINDOW, OBSERVATION.....	1
ABBA	11	XDOZZ		1UYK1	C40180M	.NAME PLATE.....	1
ABAE	12	PFOZZ		1R5C8	M234-1638	.PLATE, RETAINER, STEEL.....	2
ABAG	13	PFOZZ		1R5C8	M112-9801	.COVER, MAGNETIC FLAP	1
TM-CODE 2VD						END OF FIGURE	

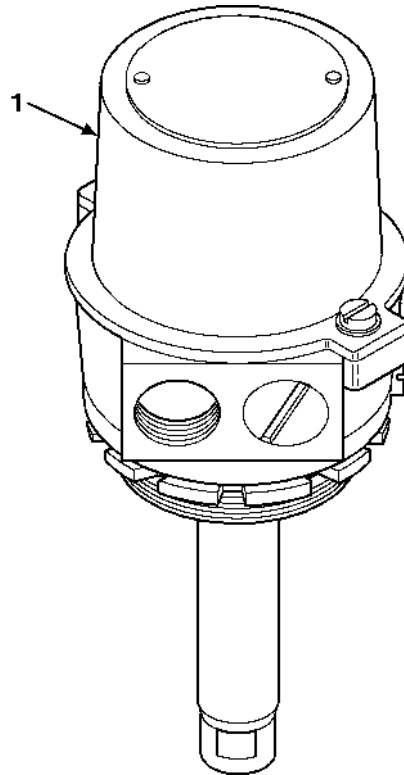


FIGURE 2. LIBERTY OPTIC SENSOR

GROUP 0608 LIBERTY OPTIC SENSOR - Continued

0164 00

(1) PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 0608 MISCELLANEOUS ITEMS	
						FIG. 2 LIBERTY OPTIC SENSOR	
ABCA1	1	PFOZZ	6625-01-503-1773	1UYK1	1300	PROBE SUBASSEMBLY	1
						TM-CODE 2VD	
						END OF FIGURE	

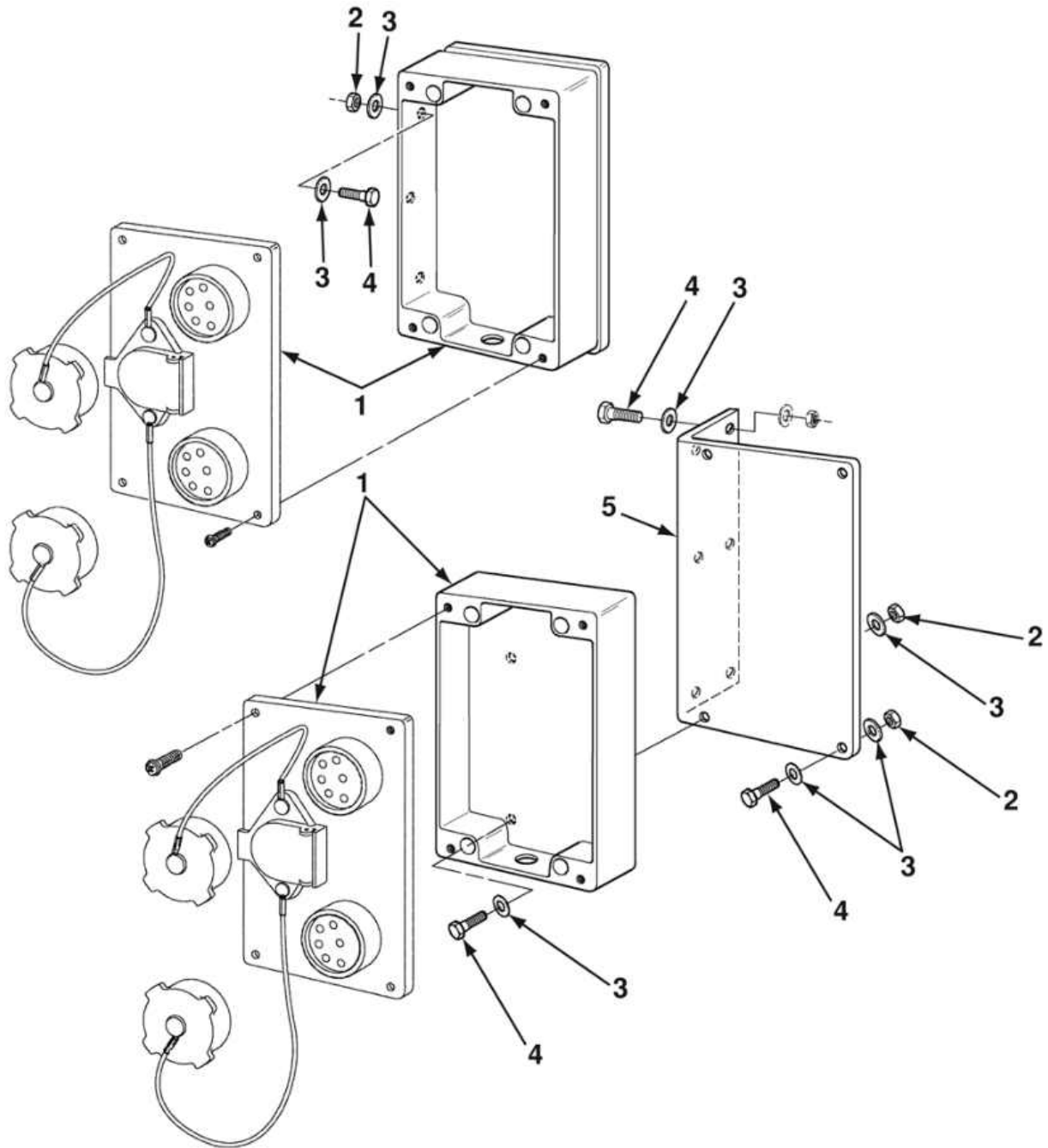


FIGURE 3. SOCKET BOX

GROUP 0608 SOCKET BOX - Continued

0165 00

(1) PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 0608 MISCELLANEOUS ITEMS	
						FIG. 3 SOCKET BOX	
ABFE	1	PFOZZ	6110-01-504-7539	1UYK1	D52068M	BOX ASSEMBLY, SOCKET	2
ABFM	2	PAOZZ	5310-01-502-8329	1R5C8	9562-0044	NUT, SELF-LOCKING, FLANGE 3/8-16	13
ABFA1	3	PAOZZ		1R5C8	9965-0044	WASHER, FLAT 3/8	26
ABFJ	4	PAOZZ	5305-01-406-5528	17454	0107-0281ITEM06-15	SCREW, CAP, HEXAGON HEAD 3/8-16 X 1-1/4	13
ABFS	5	PAOZZ	5340-01-506-1076	1R5C8	M311-3778	BRACKET, ANGLE.....	1
			TM-CODE 2VD			END OF FIGURE	

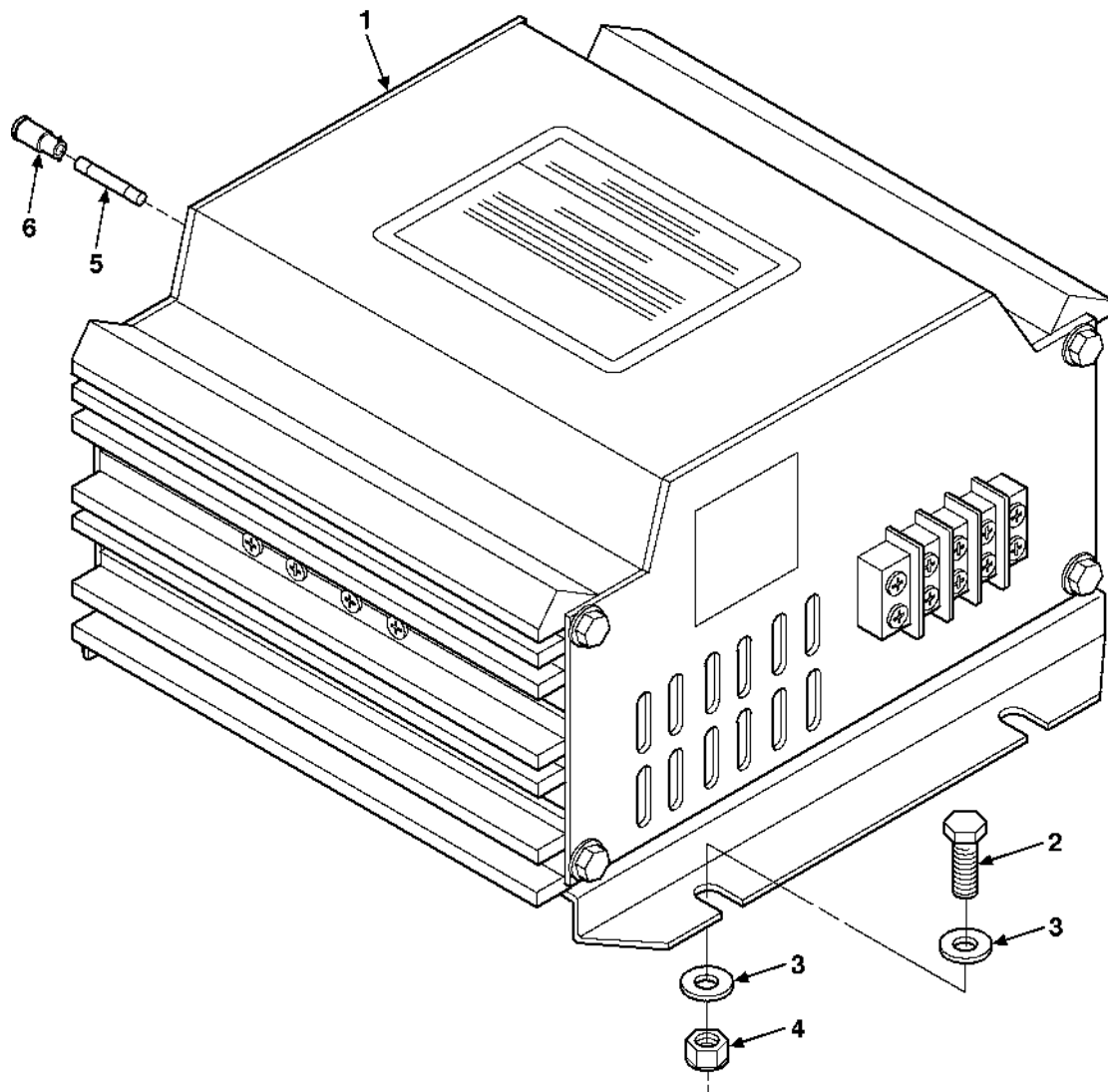


FIGURE 4. ELECTRICAL CONVERTER

GROUP 0608 ELECTRICAL CONVERTER - Continued

0166 00

(1) PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 0608 MISCELLANEOUS ITEMS	
						FIG. 4 ELECTRICAL CONVERTER	
ABLA1	1	PFOZZ	6130-01-506-3502	07KU1	MODEL 362	CONVERTER, ELECTRICAL	1
ABLE	2	PAOZZ	5305-01-508-6246	39428	93075A245	SCREW,CAP, HEXAGON HEAD #10-24 X 3/4	4
ABLJ	3	PAOZZ	5310-01-312-4959	96906	MS27183-47	WASHER,FLAT #10	8
ABLM	4	PAOZZ	5310-00-689-3877	80205	MS17829-3C	NUT,SELF-LOCKING, HEXAGON #10-24	4
ABLS	5	PAOZZ	5920-00-131-9915	81349	F02A32V20A	FUSE,CARTRIDGE	1
ABLY	6	PAOZZ	5920-01-508-4243	71400	HTB-36I	HOLDER,FUSE	1
			TM-CODE 2VD			END OF FIGURE	

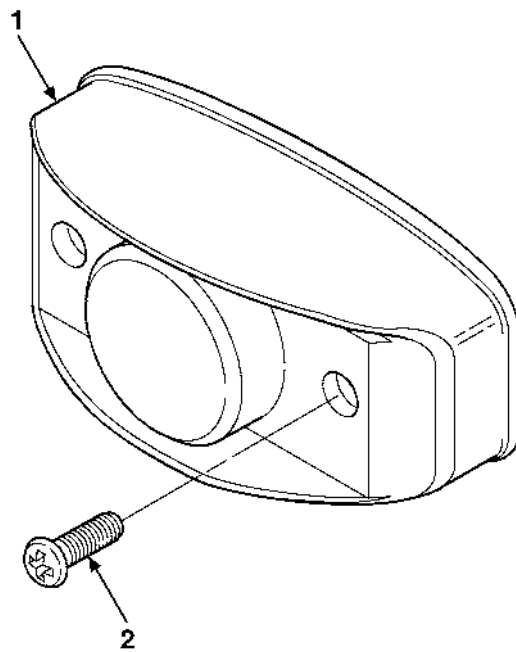


FIGURE 5. CLEARANCE LIGHTS

GROUP 0609 CLEARANCE LIGHTS - Continued

0167 00

(1) PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 0609 LIGHTS	
						FIG. 5 CLEARANCE LIGHTS	
ABAA	1	PAOZZ	6220-01-482-6113	13548	07406	CLEARANCE LIGHT,RED.....	7
ABAK	1	PAOZZ	6220-01-482-5574	13548	07407	CLEARANCE LIGHT,AMBER	5
ABAN	2	PAOZZ	5305-00-050-9233	96906	MS51957-67	SCREW, MACHINE.....	24
TM-CODE 2VD						END OF FIGURE	

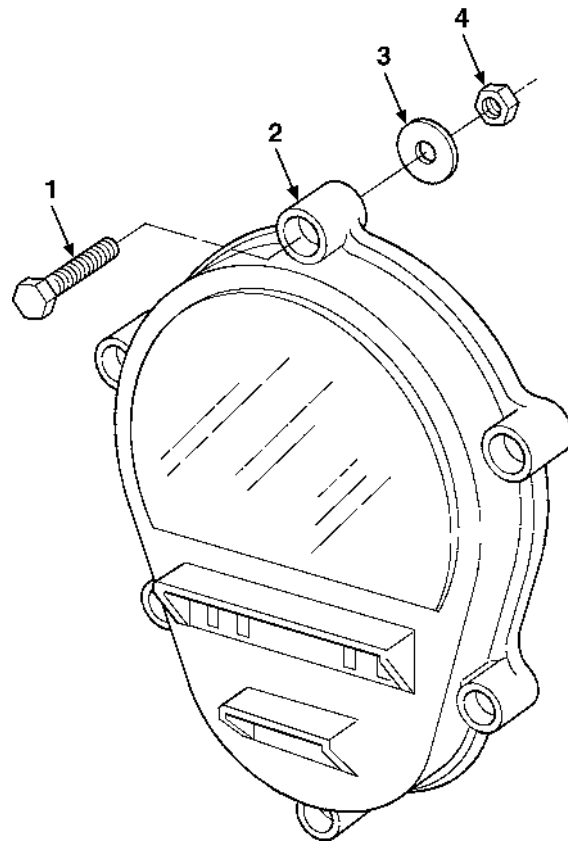


FIGURE 6. STOP, TAIL AND BLACKOUT LIGHTS

GROUP 0609 STOP, TAIL AND BLACKOUT LIGHTS - Continued

0168 00

(1) PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 0609 LIGHTS	
						FIG. 6 STOP, TAIL AND BLACKOUT LIGHTS	
ABAQ	1	PAOZZ	5305-01-506-1119	39428	90316A247	SCREW,MACHINE #10-24 X 1	12
ABAT	2	PAOZZ	6220-01-482-9850	13548	07240	STOP LIGHT, VEHICULAR.....	2
ABAR	3	PAOZZ	5310-01-312-4959	96906	MS27183-47	WASHER,FLAT #10	12
ABAV	4	PAOZZ	5310-00-689-3877	80205	MS17829-3C	NUT,SELF-LOCKING, HEXAGON #10-24.....	12
TM-CODE 2VD						END OF FIGURE	

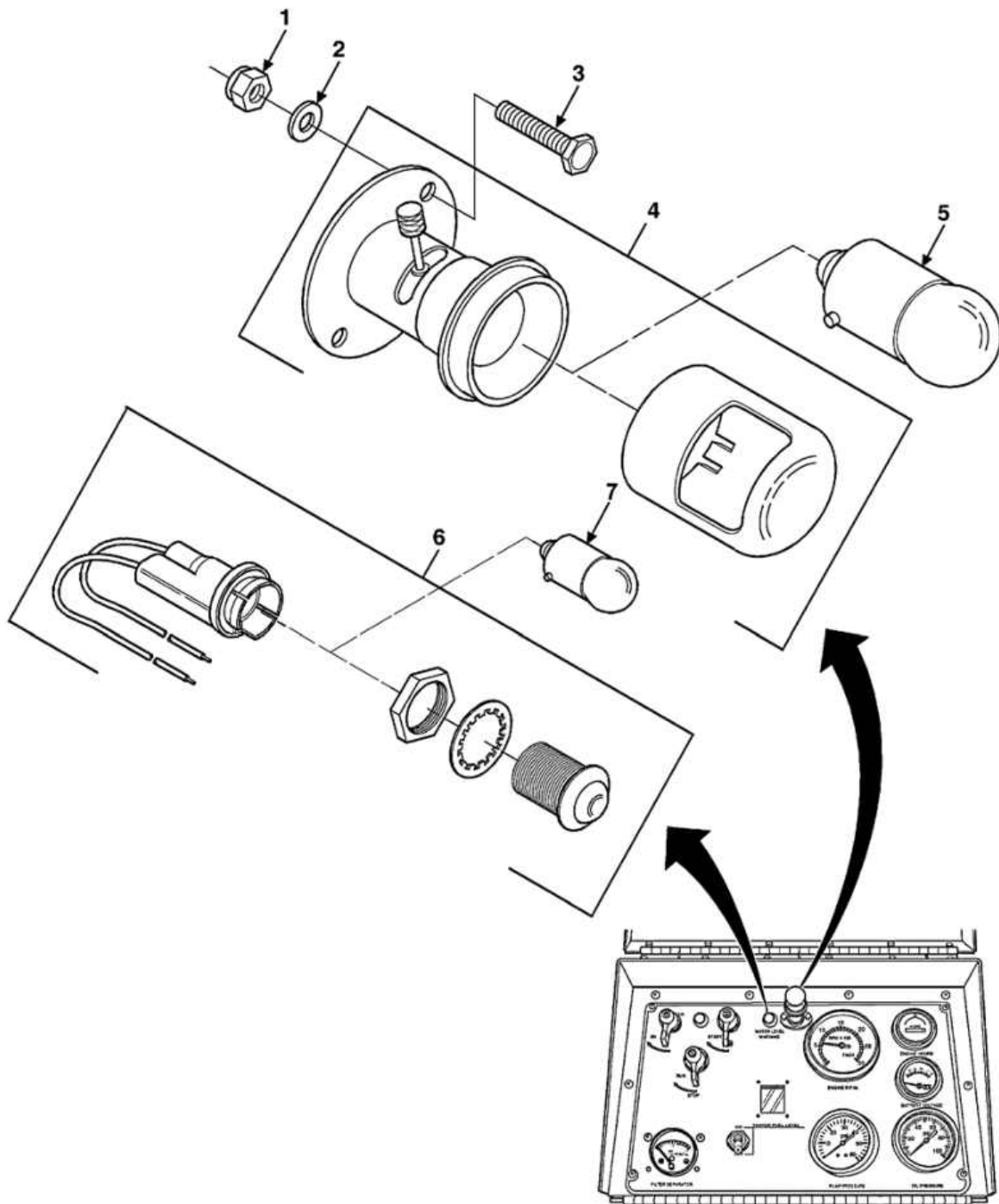


FIGURE 7. CONTROL PANEL LIGHT ASSEMBLIES

GROUP 0609 CONTROL PANEL LIGHT ASSEMBLIES - Continued

0169 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 0609 LIGHTS	
						FIG. 7 CONTROL PANEL LIGHT ASSEMBLIES	
AEA9	1	PAOZZ	5310-01-482-0431	39428	90715A011	NUT, SELF-LOCKING, HEXGAON #10-24.....	2
AEA6	2	PAOZZ	5310-00-517-4192	19205	5174192	WASHER, FLAT #10	2
AEA2	3	PAOZZ	5305-00-245-6035	11083	3S4488	SCREW, MACHINE #10-24 X 1	2
AEA1	4	PAOZZ	6210-00-887-8432	13445	M451	LIGHT, PANEL	1
AEA3	5	PAOZZ	6240-00-019-0878	08108	1252	LAMP, INCANDESCENT.....	1
AEA5	6	PAOOO	6210-01-069-0434	13445	PL-20-RC	LIGHT, INDICATOR	2
AEA7	7	PAOZZ	6240-00-013-1282	08108	53	LAMP, INCANDESCENT.....	1
TM-CODE 2VD						END OF FIGURE	

GROUP 0612 BATTERY, COVER AND CABLES

0170 00

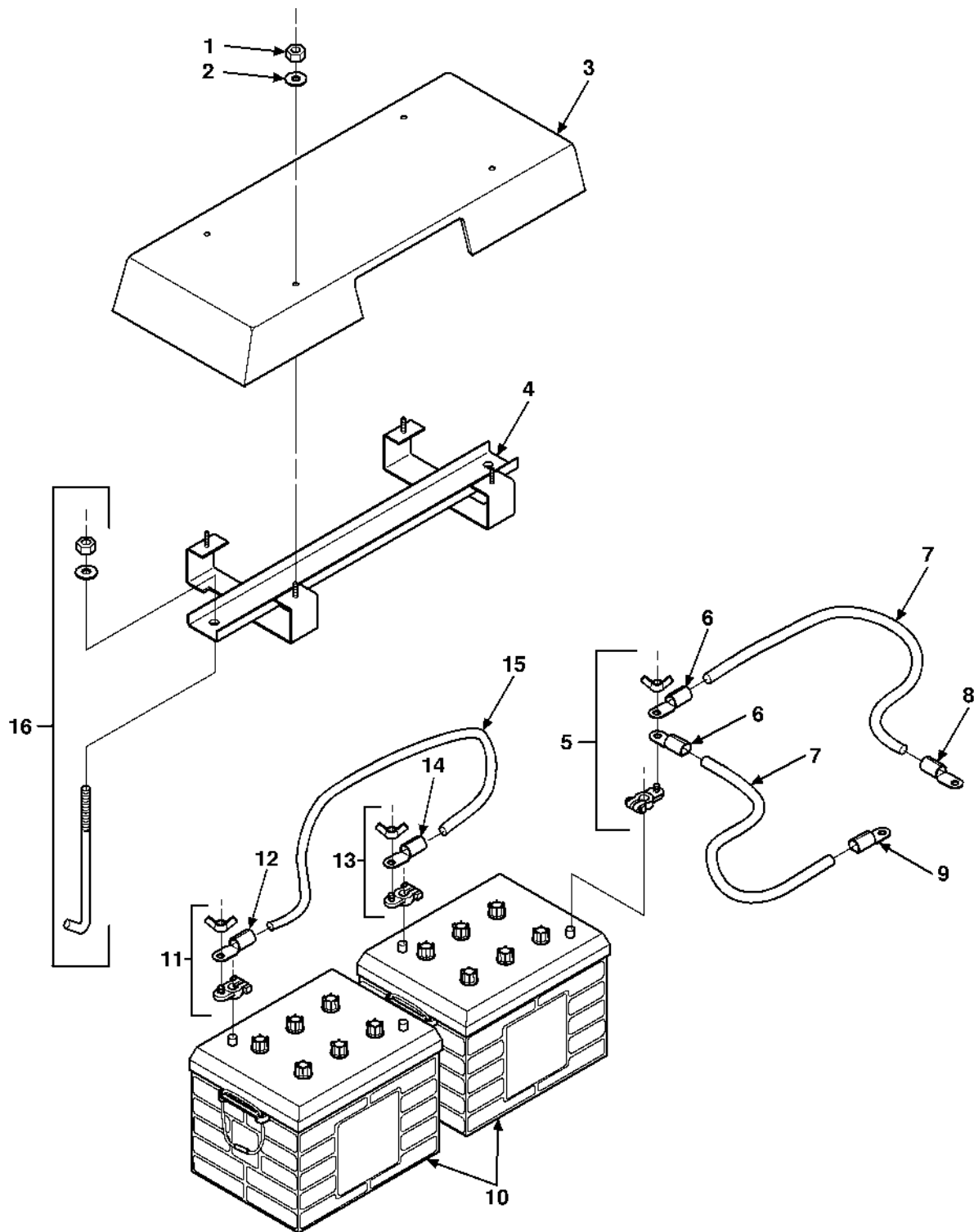


FIGURE 8. BATTERY, COVER AND CABLES

GROUP 0612 BATTERY, COVER AND CABLES - Continued

0170 00

PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 0609 GROUP 0612 BATTERIES, STORAGE (WET OR DRY)	
						FIG. 8 BATTERY, COVER AND CABLES	
AASA1	1	PAOZZ	5310-01-499-3569	2V507	91831A030	NUT,SELF-LOCKING,HEX 5/16-18	4
AASE	2	PAOZZ	5310-00-880-5977	80205	MS15795-811	WASHER, FLAT 5/16	4
AASJ	3	PFOZZ	6160-01-504-7515	1R5C8	9137-0045	COVER, BATTERY	1
AASM	4	PFOZZ	6160-01-504-7523	1R5C8	M311-3321	RETAINER, BATTERY	1
AASC	5	PFOZZ	5940-01-504-7527	1R5C8	9133-0089	CONNECTOR, BATTERY	1
AASG	6	PFOZZ	5940-01-506-2504	1R5C8	9133-0093	TERMINAL, LUG	2
AASK	7	MOOZZ		1R5C8	9968-0056-AR	WIRE, ELECTRICAL MAKE FROM WIRE P/N 9968-0056 (1R5C8), AS REQUIRED	2
AASL	8	PFOZZ	5940-01-506-2504	1R5C8	9133-0093	TERMINAL, LUG	1
AASQ	9	PFOZZ	5940-01-506-2589	1R5C8	9133-0091	TERMINAL, LUG	1
ABPB	10	PFOZZ	6140-01-446-9506	19207	6TMF/TYPEII	BATTERY, STORAGE, WET.....	2
AAPF	10	PFOZZ	6140-01-469-9184	19207	6TMF/TYPEIII	BATTERY, STORAGE, DRY	1
AAS1	11	PFOZZ	5940-01-506-1319	1R5C8	9133-0088	TERMINAL, LUG, POSITIVE.....	1
AAS3	12	PFOZZ	5940-01-506-2490	1R5C8	9133-0086	TERMINAL, LUG	1
AASY	13	PFOZZ	5940-01-504-7527	1R5C8	9133-0089	TERMINAL, LUG, NEGATIVE	1
ABNE	14	PFOZZ	5940-01-506-2497	1R5C8	9133-0098	TERMINAL, LUG	1
ABNA	15	MOOZZ		1R5C8	9968-0057-AR	WIRE, ELECTRICAL MAKE FROM WIRE P/N 9968-0057 (1R5C8), AS REQUIRED	1
AASS	16	PFOZZ	5306-01-504-6498	39428	98760A112	BOLT, HOOK.....	2
TM-CODE 2VD						END OF FIGURE	

GROUP 0613 SLAVE START RECEPTACLE

0171 00

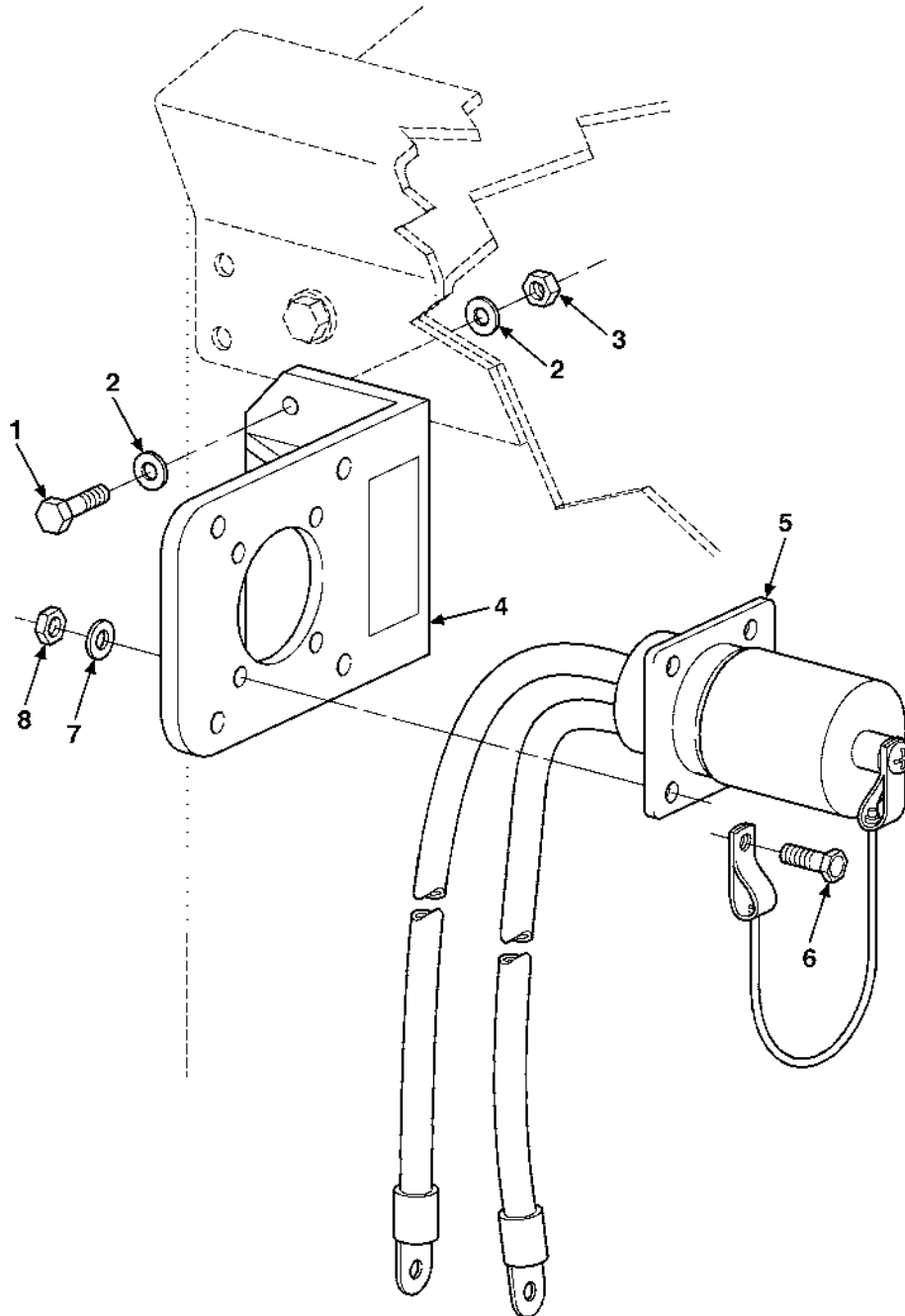


FIGURE 9. SLAVE START RECEPTACLE

GROUP 0613 SLAVE START RECEPTACLE - Continued

0171 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 0613 HULL OR CHASSIS WIRING HARNESS	
						FIG. 9 SLAVE START RECEPTACLE	
ABGC	1	PAOZZ	5305-00-702-4523	80205	MS35307-306	SCREW, CAP, HEXAGON HEAD 1/4-20 X 3/4	2
ABGS	2	PAOZZ	5310-01-303-3917	80205	MS15795-851	WASHER, FLAT 1/4	4
ABGY	3	PAOZZ	5310-01-374-1809	39428	81839A029	NUT, SELF-LOCKING, HEXAGON 1/4-20	2
ABGZ	4	PFOZZ	5340-01-508-6208	1R5C8	M311-3649	BRACKET, MOUNTING	1
ABGA	5	PAOZZ	6150-01-367-0599	96139	MB14106-2	CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL	1
ABGE	6	PAOZZ	5305-01-506-1119	39428	90316A247	SCREW, MACHINE #10-24 X 1	4
ABGJ	7	PAOZZ	5310-00-167-0818	80205	NAS1149F0363P	WASHER, FLAT #10	4
ABGM1	8	PAOZZ	5310-01-463-4929	39428	91831A011	NUT, SELF-LOCKING, HEXAGON #10-24	4
TM-CODE 2VD						END OF FIGURE	

GROUP 0613 CHASSIS WIRING HARNESSSES

0172 00

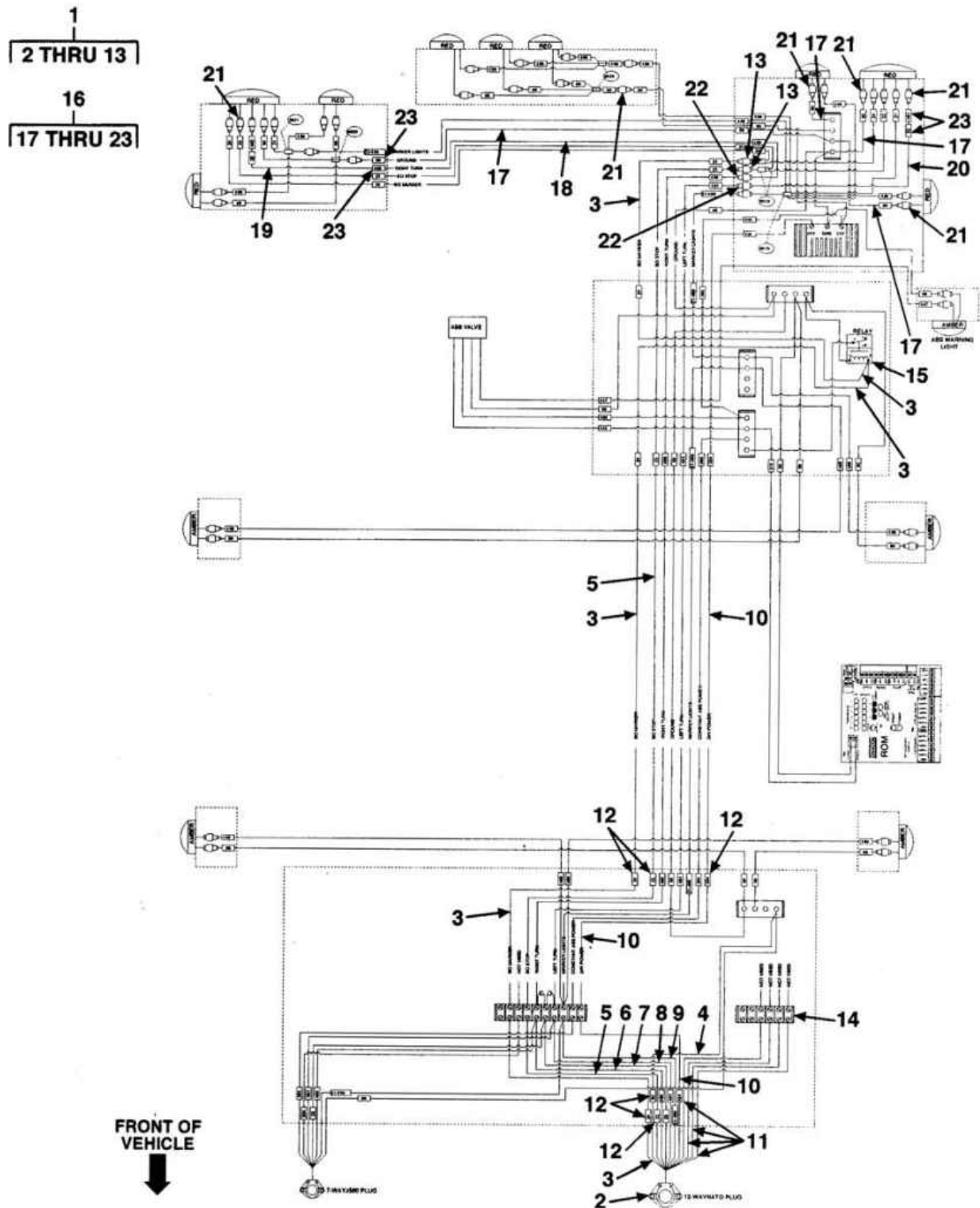


FIGURE 10. CHASSIS WIRING HARNESSSES

GROUP 0613 CHASSIS WIRING HARNESSSES - Continued

0172 00

(1) PLISN	(2) ITEM NO.	(3) SMR CODE	(4) NSN	(5) CAGEC	(6) PART NUMBER	(7) DESCRIPTION AND USABLE ON CODE (UOC)	(8) QTY
						GROUP 0609 HULL OR CHASSIS WIRING WIRING HARNESS	
						FIG. 10 CHASSIS WIRING HARNESSES	
ABTA	1	AOOOO		1R5C8	108-6110-2	WIRING HARNESS, VEHICLE, MAIN.....	1
ABTC	2	PFOZZ	5935-00-754-9083	19207	8724257	.CONNECTOR, PLUG, ELECTRICAL 12-WAY.....	1
ABTE	3	MOOZZ		1R5C8	9968-0055-2-1	.WIRE, BO MARKER(24) MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED	AR
ABTG	4	MOOZZ		1R5C8	9968-0055-2-2	.WIRE, (90) TO SIDE MARKER CABLE ASSEMBLY MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED	AR
ABTJ	5	MOOZZ		1R5C8	9968-0055-2-3	.WIRE, BO STOP(23) MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED	AR
ABTL	6	MOOZZ		1R5C8	9968-0055-2-4	.WIRE, (460) MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED	AR
ABTN	7	MOOZZ		1R5C8	9968-0055-2-5	.WIRE, (22) MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED	AR
ABTQ	8	MOOZZ		1R5C8	9968-0055-2-6	.WIRE, (461) MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED	AR
ABTS	9	MOOZZ		1R5C8	9968-0055-2-7	.WIRE, (21-489) TO SIDE MARKER CABLE ASSEMBLY MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED	AR
ABTU	10	MOOZZ		1R5C8	9968-0055-2-8	.WIRE, (324) 24 V POWER MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED	AR
ABTW	11	MOOZZ		1R5C8	9968-0055-2-9	.WIRE MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED	AR
ABTY	12	PAOZZ	9905-00-752-4649	19207	7524649	.BAND, MARKER.....	AR
ABT1	13	PAOZZ	5935-00-167-7775	96906	MS27144-1	.CONNECTOR,PLUG,ELECTRICAL	2
ABUA1	14	PAOZZ	5940-01-508-5925	13445	M-427	TERMINAL BLOCK, 6-PIN	1
ABUC	15	PAOZZ	5945-01-441-9279	1E255	339PO161-083009 SH D IT31	RELAY, ELECTROMAGNETIC	1
ABUE	16	AOOOO		1R5C8	108-6110-5	COMPOSITE STOP LAMP CABLE.....	1
ABUJ	17	MOOZZ		1R5C8	108-6110-5-1	.WIRE (90) MAKE FROM WIRE P/N WL14-0 (58961),AS REQUIRED	AR
ABUM	18	MOOZZ		1R5C8	108-6110-5-2	.WIRE (460) RIGHT TURN MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED	AR
ABUS	19	MOOZZ		1R5C8	108-6110-5-3	.WIRE (22-460) LEFT TURN MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED	AR
ABUY	20	MOOZZ		1R5C8	108-6110-5-4	.WIRE (22-461) LEFT TURN MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED	AR
ABU3	21	PAOZZ	5935-00-167-7775	96906	MS27144-1	.CONNECTOR,PLUG,ELECTRICAL.....	6

GROUP 0613 CHASSIS WIRING HARNESSSES - Continued

0172 00

(1) PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
ABU5	22	PAOZZ	5935-00-115-2306	96906	MS27142-3	.CONNECTOR,PLUG,ELECTRICAL.....	2
ABU7	23	PAOZZ	9905-00-752-4649	19207	7524649	.BAND, MARKER.....	AR
TM-CODE 2VD						END OF FIGURE	

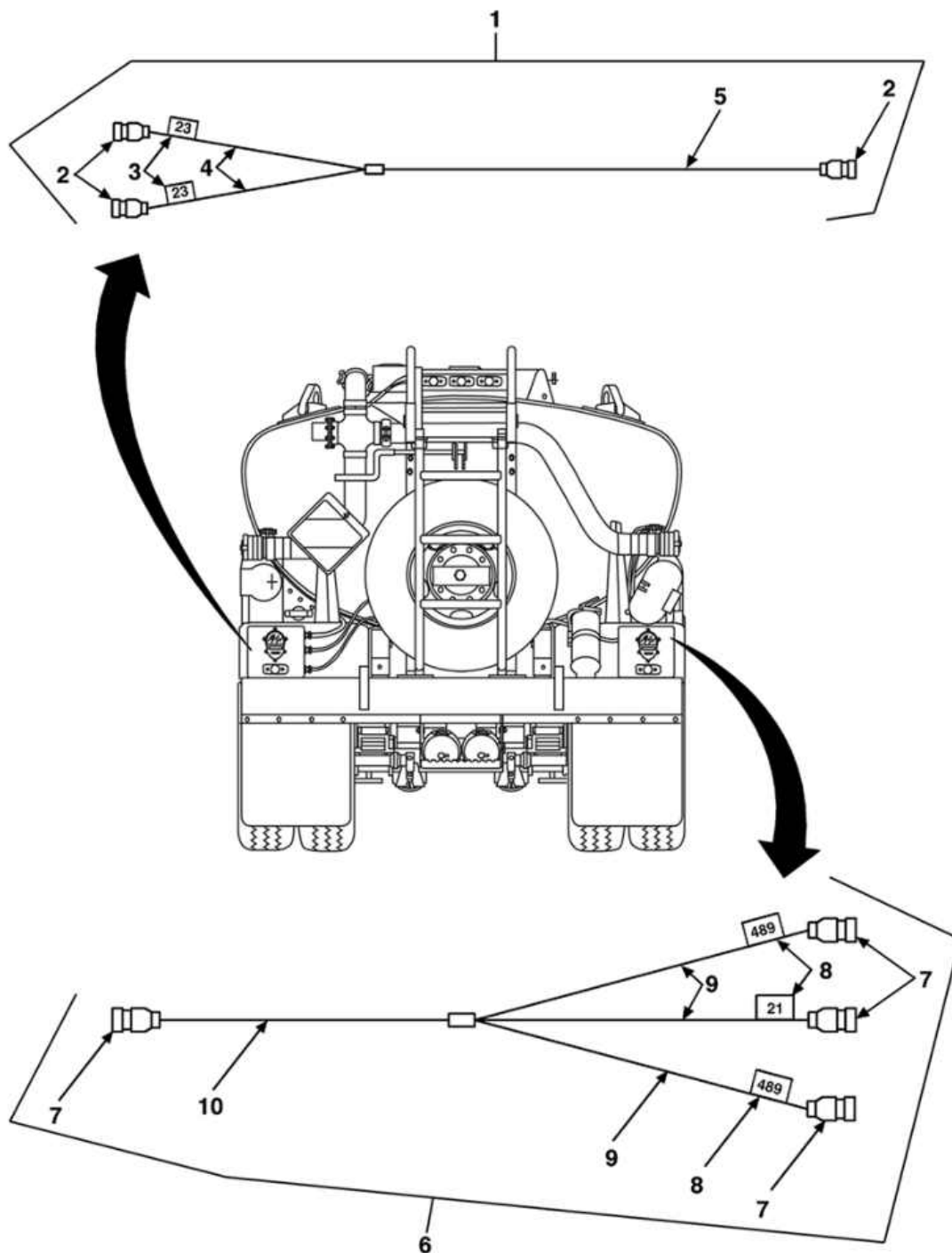


FIGURE 11. BRAKE LIGHT AND MARKER LIGHT HARNESSSES

GROUP 0613 BRAKE LIGHT AND MARKER LIGHT HARNESSSES - Continued

0173 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 0613 HULL OR CHASSIS WIRING HARNESS	
						FIG. 11 BRAKE LIGHT AND MARKER WIRING HARNESSES	
ABJA	1	PAOOO	6150-01-506-1279	1R5C8	9380-0318	HARNESS, LIGHT.....	2
ABJE	2	PAOZZ	5935-00-167-7775	96906	MS27144-1	.CONNECTOR, PLUG, ELECTRICAL.....	3
ABJJ	3	PAOZZ	9905-00-752-4649	19207	7524649	.BAND, MARKER.....	2
ABJM	4	MOOZZ		1R5C8	9380-0318-2	.WIRE, MAKE FROM WIRE P/N M13486/1-5 (81349), 18 INCHES.....	2
ABJS	5	MOOZZ		1R5C8	9380-0318-1	.WIRE, MAKE FROM WIRE P/N M13486/1-5 (81349), 144 INCHES.....	1
ABJY	6	PAOOO	6150-01-506-1286	1R5C8	9380-0321	HARNESS, LIGHT.....	2
ABJ1	7	PAOZZ	5935-00-167-7775	96906	MS27144-1	.CONNECTOR, PLUG, ELECTRICAL.....	4
ABJ7	8	PAOZZ	9905-00-752-4649	19207	7524649	.BAND, MARKER.....	3
ABJ5	9	MOOZZ		1R5C8	9380-0321-2	.WIRE, MAKE FROM WIRE P/N M13486/1-5 (81349), 12 INCHES.....	3
ABJ3	10	MOOZZ		1R5C8	9380-0321-1	.WIRE, MAKE FROM WIRE P/N M13486/1-5 (81349), 6 INCHES.....	1
TM-CODE 2VD						END OF FIGURE	

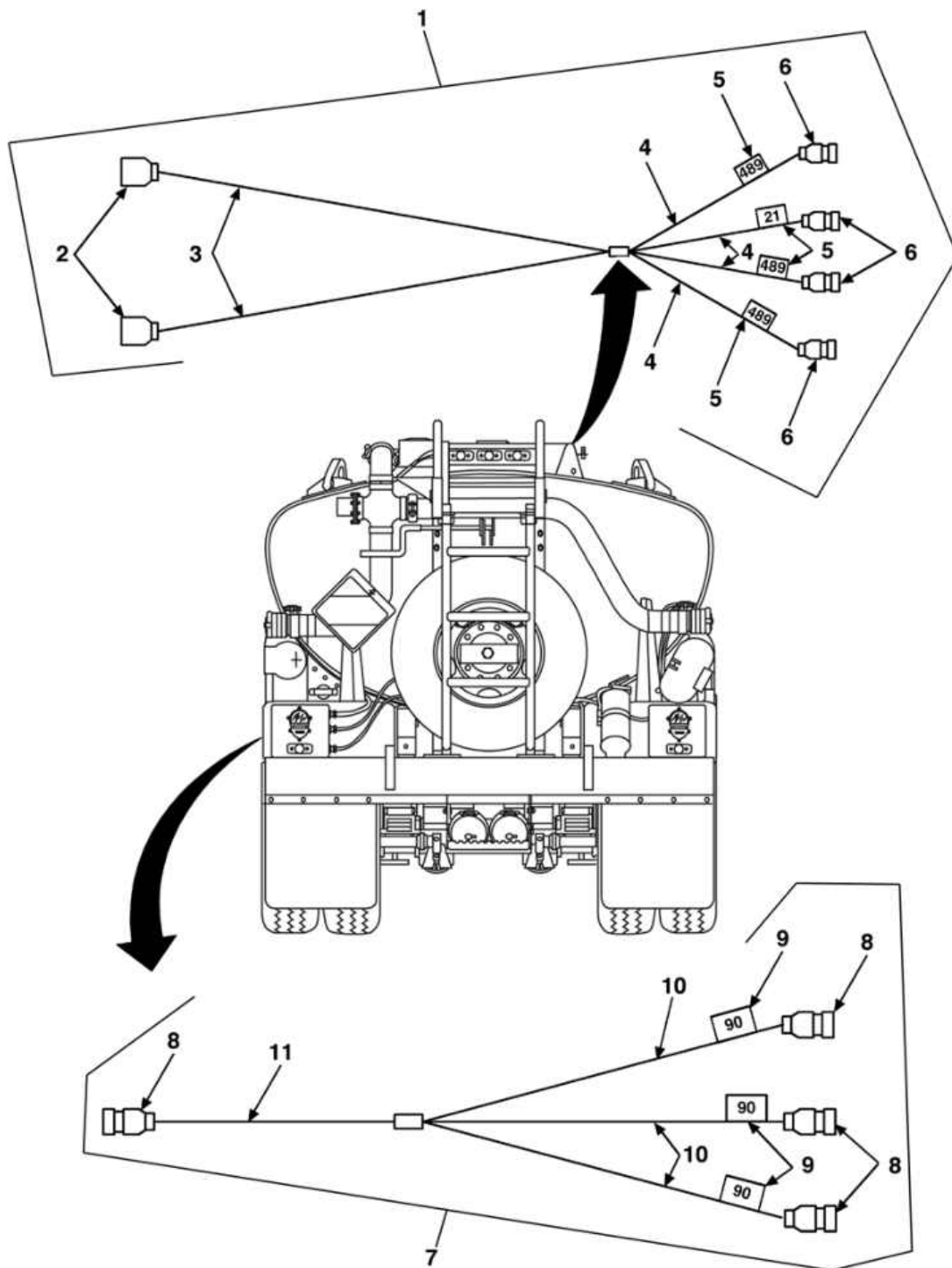


FIGURE 12. BRAKE LIGHT, MARKER LIGHT AND 3-IN-LINE WIRING HARNESSSES

GROUP 0613 BRAKE LIGHT, MARKER LIGHT AND 3-IN-LINE WIRING HARNESSSES
- Continued

0174 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 0613 HULL OR CHASSIS WIRING HARNESS	
						FIG. 12 BRAKE LIGHT, MARKER LIGHT AND 3-IN-LINE WIRING HARNESSSES	
ABHA	1	PAOOO	6150-01-506-1260	1R5C8	9380-0319	WIRING HARNESS, BRANCHED.....	1
ABHE	2	PAOZZ	5935-00-115-2306	96906	MS27142-3	.CONNECTOR, PLUG	2
ABHJ	3	MOOZZ		1R5C8	9380-0319-1	.WIRE MAKE FROM WIRE P/N M13486/1-5 (81349), 144 INCHES.....	2
ABHM	4	MOOZZ		1R5C8	9380-0319-2	.WIRE MAKE FROM WIRE P/N M13486/1-5 (81349), 18 INCHES.....	4
ABHS	5	PAOZZ	9905-00-752-4649	19207	7524649	.BAND, MARKER.....	4
ABHY	6	PAOZZ	5935-00-167-7775	96906	MS27144-1	.CONNECTOR, PLUG	4
ABH1	7	PAOOO	6150-01-506-1271	1R5C8	9380-0320	HARNESS, LIGHT	2
ABH3	8	PAOZZ	5935-00-167-7775	96906	MS27144-1	.CONNECTOR, PLUG	4
ABH9	9	PAOZZ	9905-00-752-4649	19207	7524649	.BAND, MARKER.....	3
ABH7	10	MOOZZ		1R5C8	9380-0320-2	.WIRE MAKE FROM WIRE P/N M13486/1-5 (81349), 18 INCHES.....	3
ABH5	11	MOOZZ		1R5C8	9380-0320-1	.WIRE MAKE FROM WIRE P/N M13486/1-5 (81349), 6 INCHES.....	1
TM-CODE 2VD						END OF FIGURE	

GROUP 0613 INTERVEHICULAR AND SIDE MARKER LIGHT WIRING HARNESSES

0175 00

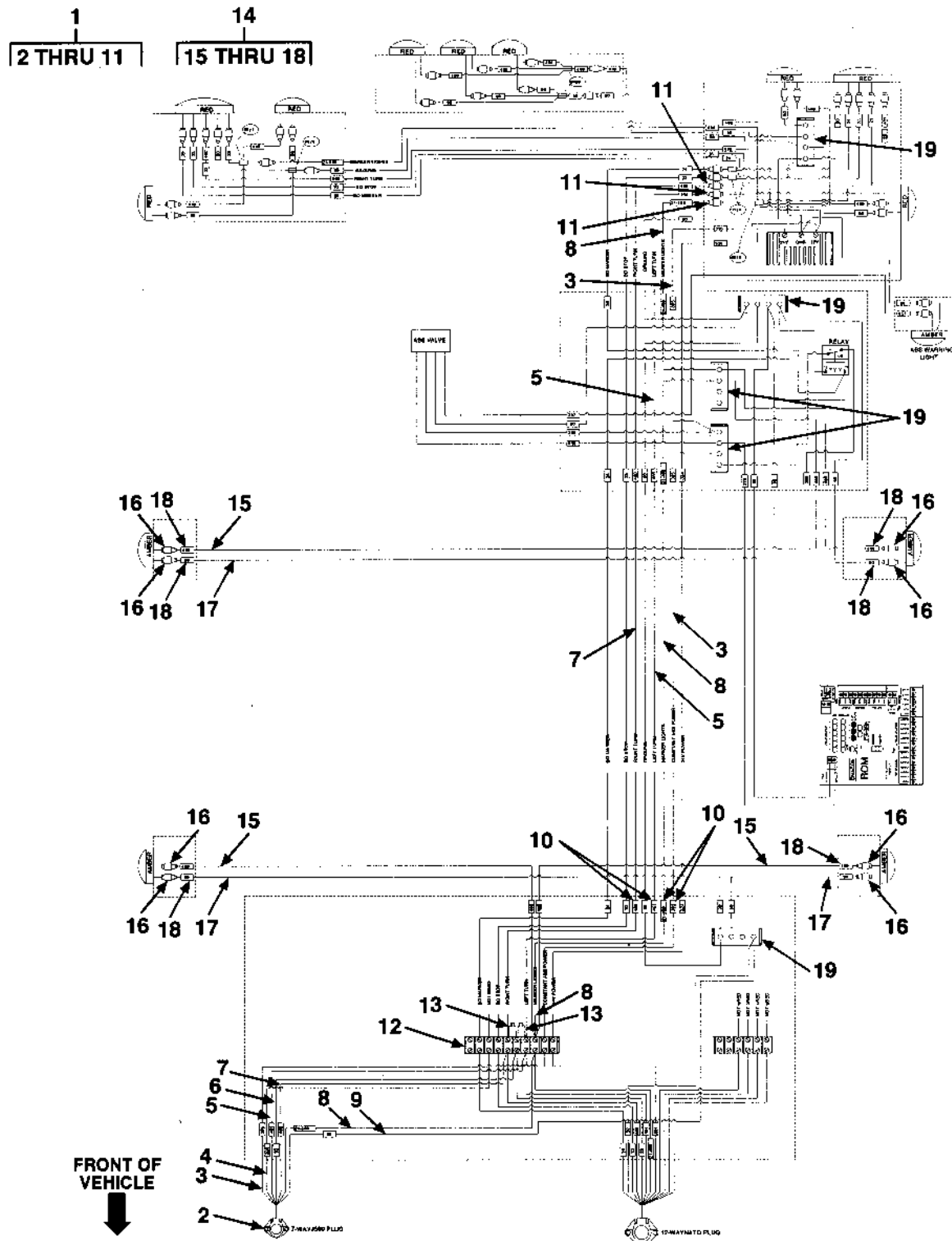


FIGURE 13. INTERVEHICULAR AND SIDE MARKER LIGHT WIRING HARNESSES

GROUP 0613 INTERVEHICULAR AND SIDE MARKER LIGHT WIRING HARNESSSES
- Continued

0175 00

(1) PLISN	(2) ITEM NO.	(3) SMR CODE	(4) NSN	(5) CAGEC	(6) PART NUMBER	(7) DESCRIPTION AND USABLE ON CODE (UOC)	(8) QTY
						GROUP 0613 HULL OR CHASSIS WIRING HARNESS	
						FIG. 13 INTERVEHICULAR AND SIDE MARKER LIGHT WIRING HARNESSSES	
ABRA1	1	AOOOO		1R5C8	108-6110-1	WIRING HARNESS, INTERVEHICULAR	1
ABRC	2	PFOZZ	5935-00-987-4536	13445	1251	.CONNECTOR, RECEPTACLE, ELECTRIC, 7-WAY	1
ABRE	3	MOOZZ		1R5C8	9968-0055-1-1	.WIRE, CONSTANT ABS POWER (395)MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED	AR
ABRG	4	MOOZZ		1R5C8	9968-0055-1-2	.WIRE, GROUND (305) MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED	AR
ABRJ	5	MOOZZ		1R5C8	9968-0055-1-3	.WIRE, LEFT TURN (461) MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED	AR
ABRL	6	MOOZZ		1R5C8	9968-0055-1-4	.WIRE, (22) MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED	AR
ABRN	7	MOOZZ		1R5C8	9968-0055-1-5	.WIRE, RIGHT TURN (460) MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED	AR
ABRR	8	MOOZZ		1R5C8	9968-0055-1-6	.WIRE, MARKER LIGHTS (21-489) MAKE WIRE FROM P/N WL14-0 (58961), AS REQUIRED	AR
ABRT	9	MOOZZ		1R5C8	9968-0055-1-7	.WIRE, (90) TO SIDE MARKER CABLE ASSEMBLY MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED	AR
ABRV	10	PAOZZ	9905-00-752-4649	19207	7524649	.BAND, MARKER.....	AR
ARBX	11	PAOZZ	5935-00-167-7775	96906	MS27144-1	.CONNECTOR, PLUG, ELECTRICAL	3
ABRY	12	PAOZZ	5940-00-983-6105	58536	39TB10	TERMINAL BOARD	1
ABRZ	13	PAOZZ	5961-01-350-7227	04713	MR754	SEMICONDUCTOR DEVICE, DIODE	2
ABR1	14	AOOOO		1R5C8	108-6110-3	CABLE ASSEMBLY, FRONT AND SIDE MARKER LIGHTS	2
ABR3	15	MOOZZ		1R5C8	9968-0055-3-1	.WIRE (489) MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED	AR
ABR5	16	PAOZZ	5935-00-167-7775	96906	MS27144-1	.CONNECTOR, PLUG, ELECTRICAL	4
ABR6	17	MOOZZ		1R5C8	9968-0055-3-2	.WIRE (90) MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED	AR
ABR7	18	PAOZZ	9905-00-752-4649	19207	7524649	.BAND, MARKER.....	AR
ABR9	19	PAOZZ	5940-01-508-5919	13445	46206-14	CONNECTOR, BUS BAR.....	5
TM-CODE 2VD						END OF FIGURE	

GROUP 0613 WIRING HARNESS CONDUIT COMPONENTS

0176 00

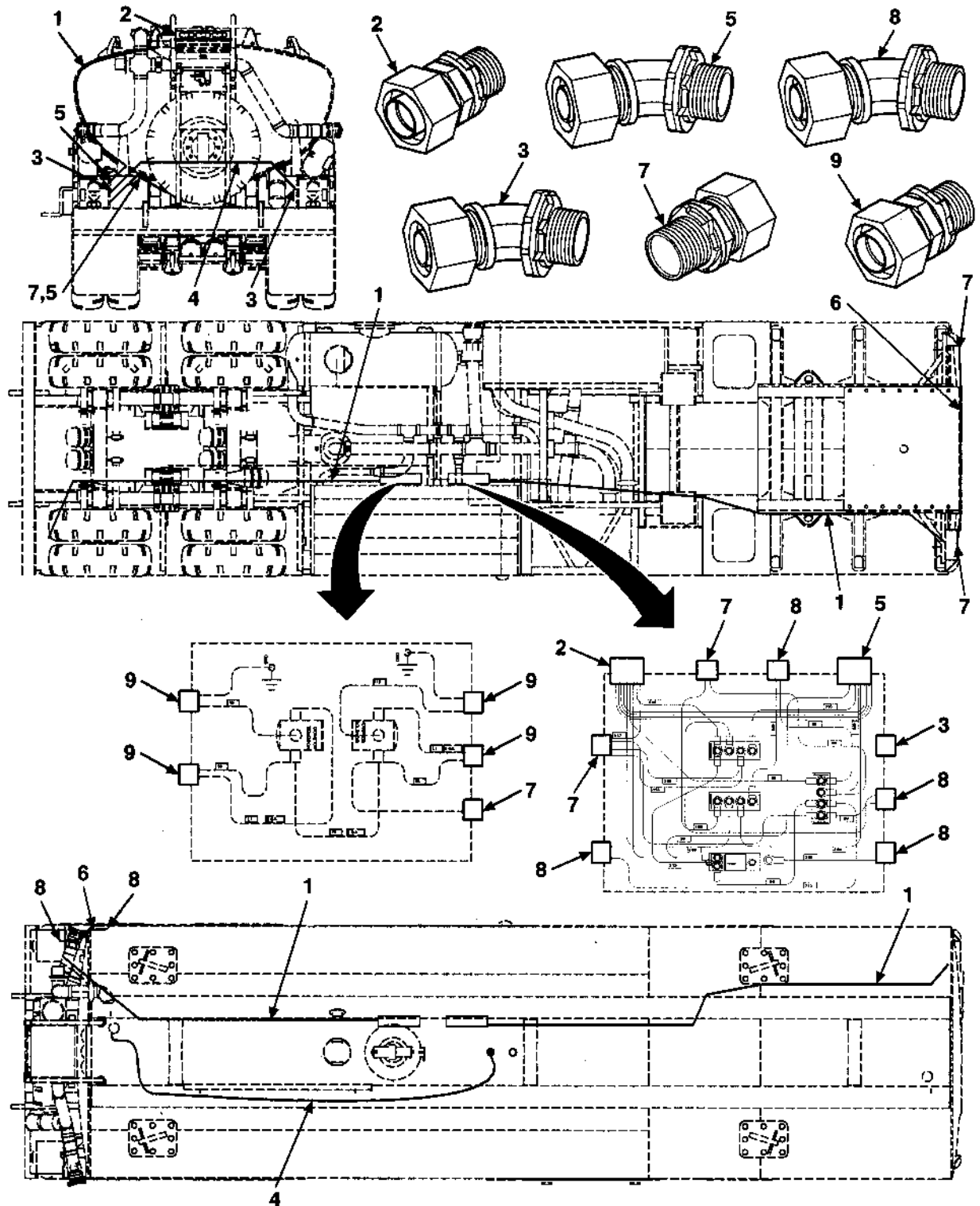


FIGURE 14. WIRING HARNESS CONDUIT COMPONENTS

GROUP 0613 WIRING HARNESS CONDUIT COMPONENTS - Continued

0176 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 0613 HULL OR CHASSIS WIRING	
						FIG. 14 WIRING HARNESS CONDUIT COMPONENTS	
ABMA1	1	MOOZZ		1R5C8	9131-0005	CONDUIT MAKE FROM CONDUIT P/N LT-11 (09641), AS REQUIRED	1
ABME1	2	PAOZZ	5975-01-432-4122	28488	3442	ELBOW, ELEC CONDUIT 45 DEGREE....	3
ABMJ1	3	PAOZZ	5975-00-578-9364	28488	3404	BOX CONNECTOR, ELECTRICAL.....	2
ABMM1	4	MOOZZ		1R5C8	9131-0006	CONDUIT MAKE FROM CONDUIT P/N LA11 (09641), AS REQUIRED	2
ABMS1	5	PAOZZ	5975-00-995-8168	03743	ST45100	BOX CONNECTOR, ELECTRICAL.....	8
ABM51	6	MOOZZ		1R5C8	9131-0004	CONDUIT MAKE FROM CONDUIT P/N EF3-8 (70510), AS REQUIRED.....	2
ABM11	7	PAOZZ	5975-00-655-3136	28488	3401	BOX CONNECTOR, ELECTRICAL.....	5
ABM31	8	PAOZZ	5975-01-506-2618	28488	3441	BOX CONNECTOR, ELECTRICAL.....	6
ABMY1	9	PAOZZ	5975-00-833-1776	28488	3402	BOX CONNECTOR, ELECTRICAL.....	4
TM-CODE 2VD						END OF FIGURE	

GROUP 1101 REAR AXLE ASSEMBLY

0177 00

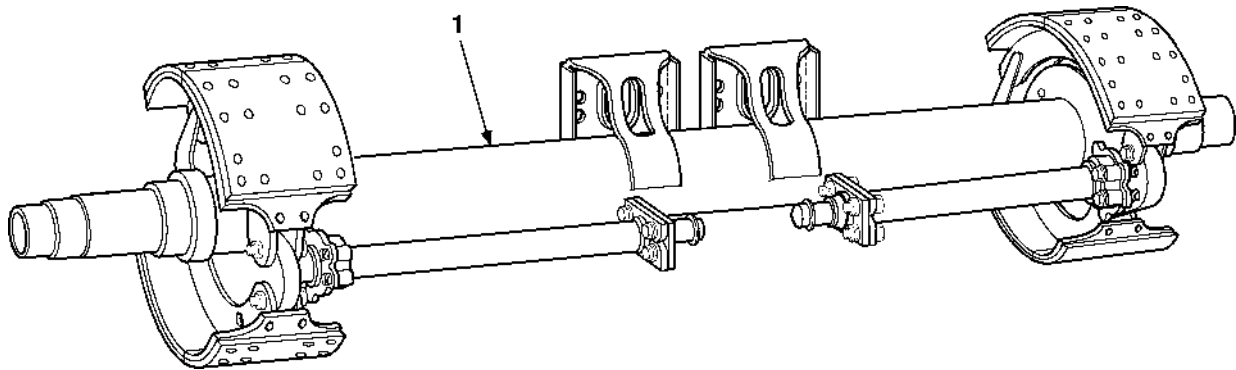


FIGURE 15. REAR AXLE ASSEMBLY

GROUP 1101 REAR AXLE ASSEMBLY - Continued

0177 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 11 REAR AXLE	
						GROUP 1101 REAR AXLE ASSEMBLY	
						FIG. 15 REAR AXLE ASSEMBLY	
ACAA1	1	PFFFF	2530-01-503-0331	3D6E9	TQ4671Q5023	AXLE ASSEMBLY.....	2
						TM-CODE 2VD	
						END OF FIGURE	

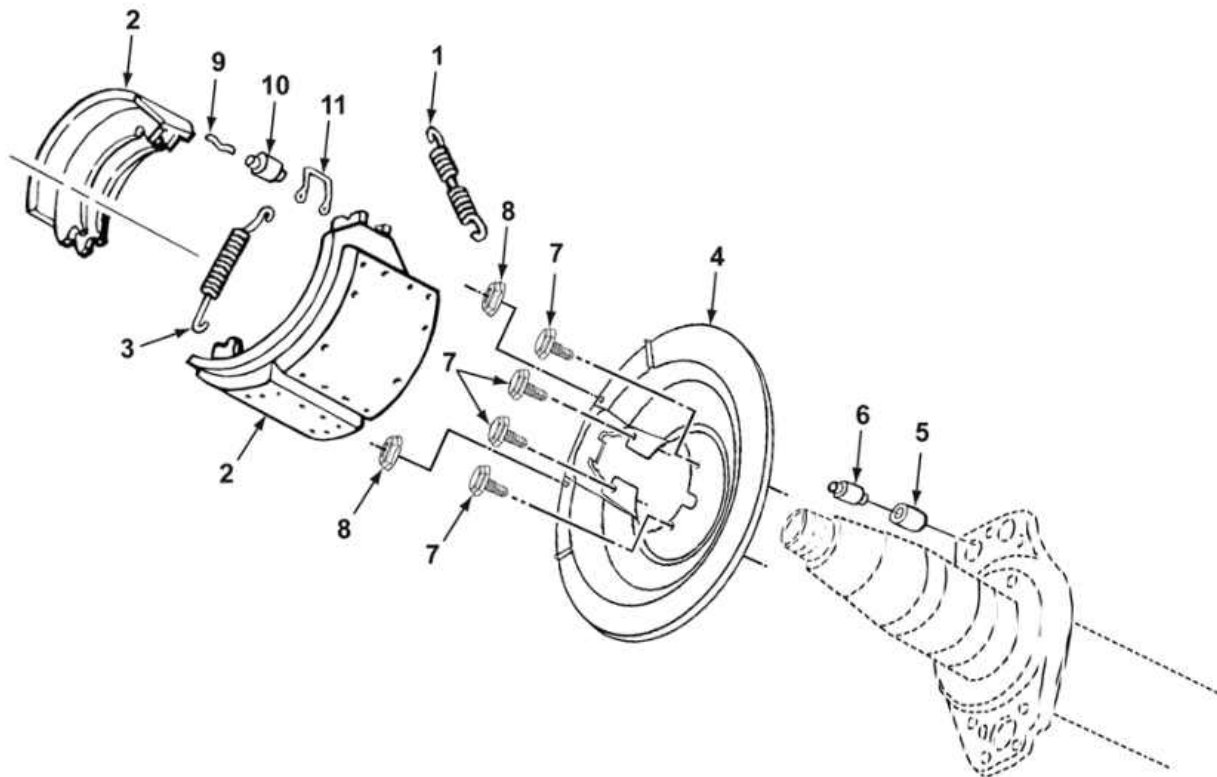


FIGURE 16. SHOE AND LINING ASSEMBLY

GROUP 1202 SHOE AND LINING ASSEMBLY - Continued

0178 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 12 BRAKES	
						GROUP 1202 SERVICE BRAKES	
						FIG. 16 SHOE AND LINING ASSEMBLY	
ADBN	1	PFOZZ	5360-01-499-3396	3D6E9	2258-W-803	SPRING, RETURN PART OF KIT P/N KIT 8000HD	4
ADBP	2	PFOZZ	2530-01-526-8495	78500	SMA2124515Q	SHOE AND LINING ASSEMBLY, NON-ASBESTOS	4
ADBQ	3	PFOZZ	5360-01-158-1974	3D6E9	2258-Q-615	SPRING, HELICAL, EXTENSION RETAINER PART OF KIT P/N KIT 8000HD	8
ADBR	4	PFOZZ	5340-01-499-3618	3D6E9	3264-A-1457	SHIELD, DUST	4
ADBS	5	PFOZZ	3120-00-255-6042	3D6E9	1225B496	BUSHING, ANCHOR PIN PART OF KIT P/N KIT 8000HD	8
ADBT	6	PFOZZ	5315-01-129-6898	78500	1259-N-274	PIN, SHOULDER, HEADLESS PART OF KIT P/N KIT 8000HD	8
ADBU	7	PFOZZ		0FBD6	52106005	SCREW, CAP	16
ADBV	8	PFOZZ	5310-01-504-6132	0FBD6	55752004	WASHER, FLAT	16
ADBW	9	PFOZZ	5315-00-784-0637	78500	1218G85	PIN, RETURN SPRING PART OF KIT P/N KIT 8000HD	8
ADBX	10	PFOZZ	3120-00-322-6430	05643	T1779R18	ROLLER, LINEAR-ROTARY MOTION PART OF KIT P/N KIT 8000HD	8
ADBY	11	PFOZZ	5340-01-328-4418	3D6E9	3105-B-210	CLIP, TENSION PART OF KIT P/N KIT 8000HD	8
TM-CODE 2VD						END OF FIGURE	

GROUP 1202 BRAKE CAMSHAFTS

0179 00

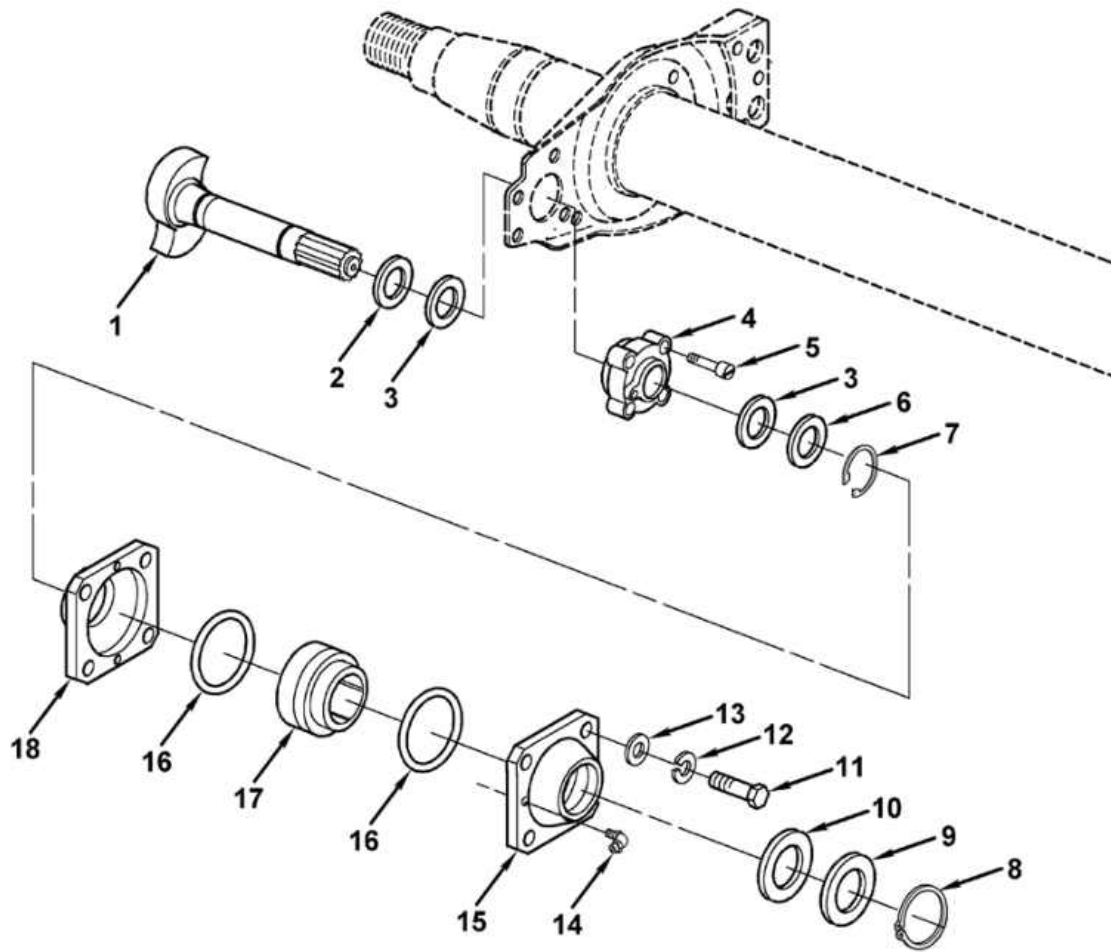


FIGURE 17. BRAKE CAMSHAFTS

GROUP 1202 BRAKE CAMSHAFTS - Continued

0179 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 1202 SERVICE BRAKES	
						FIG. 17 BRAKE CAMSHAFTS	
ADFA1	1	PAOZZ	2530-01-499-3135	78500	2210-D-6868	CAMSHAFT, ACTUATING, BRAKE RIGHT HAND	2
ADFJ	1	PAOZZ	2530-01-499-3159	3D6E9	2210-D-6869	CAMSHAFT, ACTUATING, BRAKE LEFT HAND	2
ADFM	2	PAOZZ	5310-01-499-3382	3D6E9	1229-R-4100	WASHER PART OF KIT P/N 8289	2
ADFS	3	PAOZZ	5330-01-328-6090	78500	1205-Q-2123	GASKET PART OF KIT P/N 8289	4
ADFY	4	PAOZZ	2530-01-359-8091	45152	2GL765	RETAINER, ARM BUSHING PART OF KIT P/N 8289	2
ADGA1	5	PAOZZ	5305-01-359-1367	78500	10-X-1421	SCREW, TAPPING PART OF KIT P/N 8289	8
ADGJ	6	PAOZZ	5310-01-499-3372	3D6E9	1229-S-4101	WASHER, FLAT PART OF KIT P/N 8289	2
ADGM	7	PAOZZ	5325-01-499-3380	3D6E9	1229-T-4102	RING, RETAINING PART OF KIT P/N 8289	2
ADGS	8	PAOZZ	5325-00-204-5061	19207	7750101	RING, RETAINING	2
ADGY	9	PAOZZ	5310-01-133-5373	3D6E9	1229-B-1848	WASHER, FLAT	2
ADHA	10	PAOZZ	5365-00-753-4865	19207	7534865	SPACER, RING	2
ADHJ	11	PAOZZ	5305-00-207-7669	3D6E9	S266	SCREW, CAP, HEXAGON HEAD	8
ADHM1	12	PAOZZ	5310-00-261-7340	78500	WA16	WASHER, LOCK	8
ADHS	13	PAOZZ	5310-01-499-3459	3D6E9	WA-36	WASHER, FLAT	8
ADHY	14	PAOZZ	4730-01-499-3385	3D6E9	2297-B-5046	FITTING, LUBRICATION PART OF KIT P/N A-3105-V-282	1
ADJA1	15	PAOZZ	3130-01-502-9395	3D6E9	3105-V-282	HOUSING, BEARING UNIT PART OF KIT P/N A-3105-V-282	1
ADJJ	16	PAOZZ	5331-00-205-3583	78500	1205X726	O-RING BUSHING PART OF P/N KIT A-3105-V-282	2
ADJM	17	PAOZZ	3120-01-499-3388	78500	1225-R-1058	BUSHING, SLEEVE PART OF KIT P/N A-3105-V-282	1
ADJS	18	PAOZZ	3130-01-502-9445	3D6E9	3105-U-281	RETAINER, BUSHING PART OF KIT P/N A-3105-V-282	1
TM-CODE 2VD						END OF FIGURE	

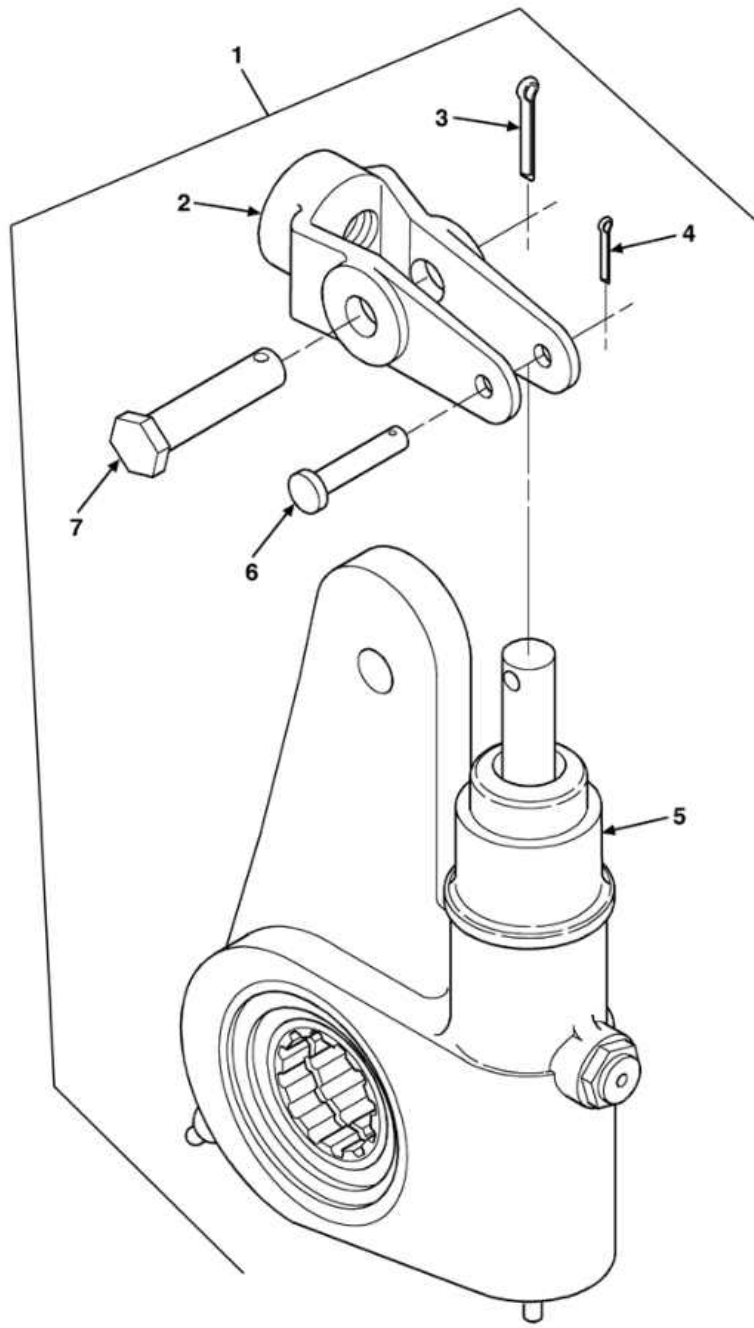


FIGURE 18. SLACK ADJUSTER

GROUP 1206 SLACK ADJUSTER - Continued

0180 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 1206 MECHANICAL BRAKES	
						FIG. 18 SLACK ADJUSTER	
ADPB	1	PAOOO	2530-01-316-9165	78500	R801074	AUTOMATIC SLACK ADJUSTER.....	4
ADPD	2	PFOZZ	5340-01-314-2961	78500	R810019	.CLEVIS, STRAIGHT	1
ADPF	3	PAOZZ	5315-00-010-3389	78500	K2416	.PIN, COTTER	1
ADPR	4	PAOZZ	5315-01-092-1953	3D6E9	K235	.PIN	1
ADPJ	5	XAOZZ		78500	R803112	.SLACK ADJUSTER	1
ADPT	6	PAOZZ	5315-01-315-3614	3D6E9	19X127	.PIN, STRAIGHT HEADED.....	1
ADPL	7	PAOZZ	5315-01-357-0826	78500	19X1084	.PIN, STRAIGHT	1
TM-CODE 2VD						END OF FIGURE	

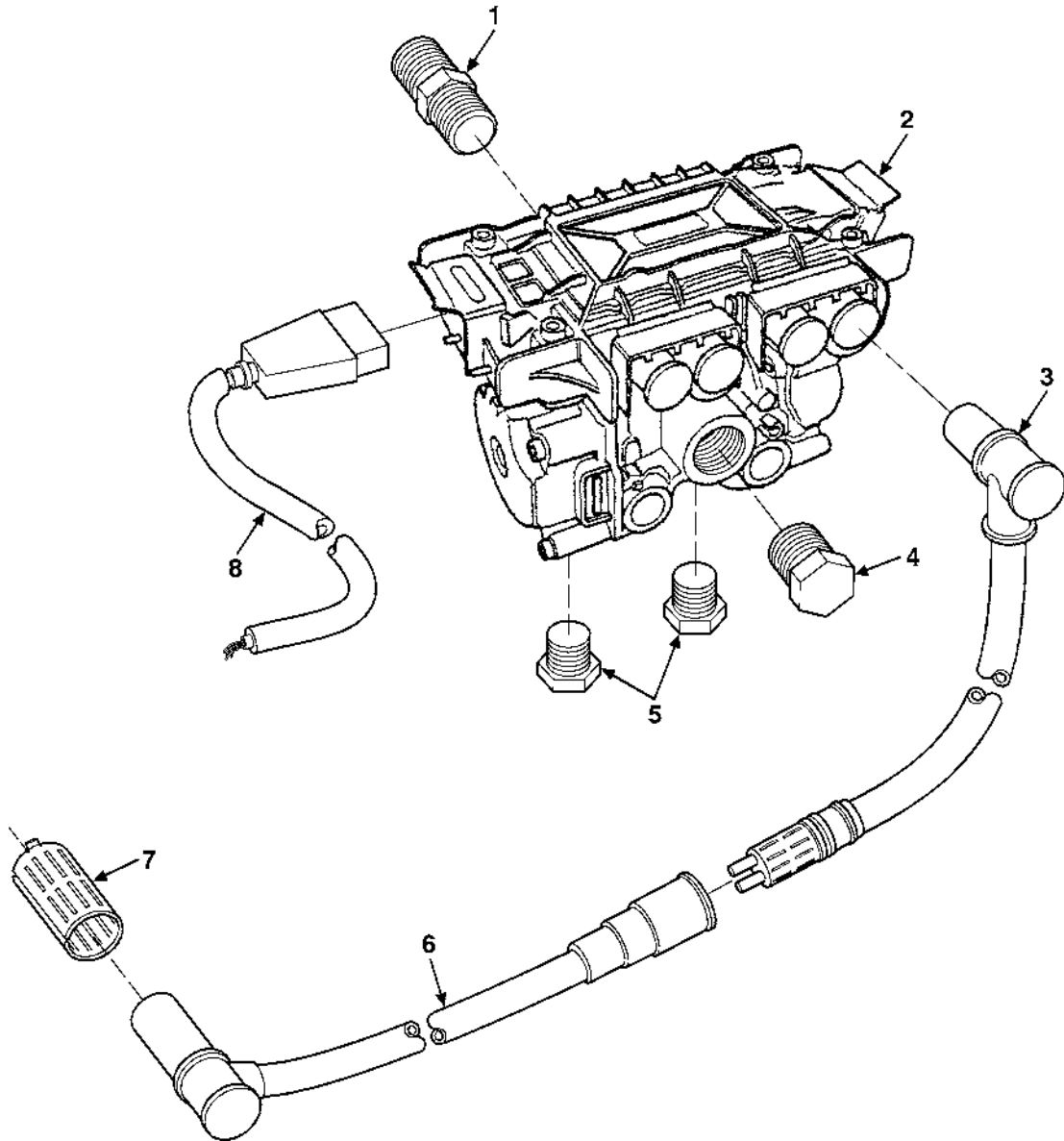


FIGURE 19. ANTI-LOCK BRAKING SYSTEM

GROUP 1207 ANTI-LOCK BRAKING SYSTEM - Continued

0181 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 1207 ELECTRICAL BRAKE SYSTEM	
						FIG. 19 ANTI-LOCK BRAKING SYSTEM	
ADNZ	1	PAOZZ	4730-01-502-9555	10125	6006	NIPPLE, PIPE.....	1
ADNY1	2	PAOZZ	4810-01-499-3407	78500	S4005001030	CONTROLLER, ECU/VALVE/ABS.....	1
ADMM	3	PAOZZ	6150-01-502-9447	3D6E9	441 032 809 0	CABLE ASSEMBLY, SPECIAL	4
ADNS	4	PAOZZ	5365-01-502-9551	93061	218P-12	PLUG, MACHINE THREAD 3/4.....	1
ADNM	5	PAOZZ	4730-00-427-5121	79470	3152X6	PLUG, PIPE 3/8.....	2
ADMJ	6	PAOZZ	2530-01-499-3170	78500	S4497130300	CABLE, SENSOR EXTENSION.....	4
ADMS	7	PAOZZ	5340-01-499-3481	78500	S8997598154	CLIP, SENSOR SPRING.....	4
ADNJ	8	PAOZZ	6150-01-502-9449	3D6E9	449 328 110 0	CABLE ASSEMBLY, SPECIAL	1
TM-CODE 2VD						END OF FIGURE	

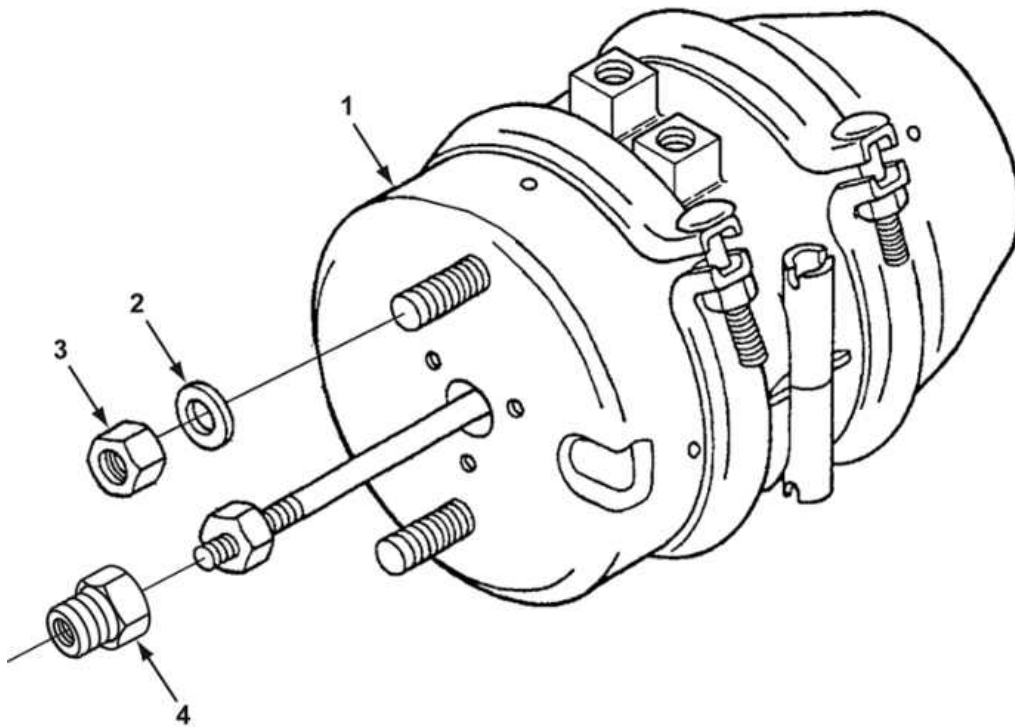


FIGURE 20. AIR BRAKE CHAMBERS

GROUP 1208 AIR BRAKE CHAMBERS - Continued

0182 00

(1) PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 1208 AIR BRAKE SYSTEM	
						FIG. 20 AIR BRAKE CHAMBERS	
AYAA	1	PAOZZ	2530-01-506-3298	64565	3030TA3-1260	CHAMBER, BRAKE	4
AYAE	2	PAOZZ		1R5C8	9965-0046	WASHER, FLAT	8
AYAJ	3	PAOZZ	5310-01-508-5908	39428	90101A038	NUT, SELF-LOCKING	8
AYAM	4	PAOZZ	4730-01-400-3146	06853	291452	ADAPTER, SLACK ADJUSTER.....	4
						END OF FIGURE	

GROUP 1208 AIR BRAKE CONTROL VALVE

0183 00

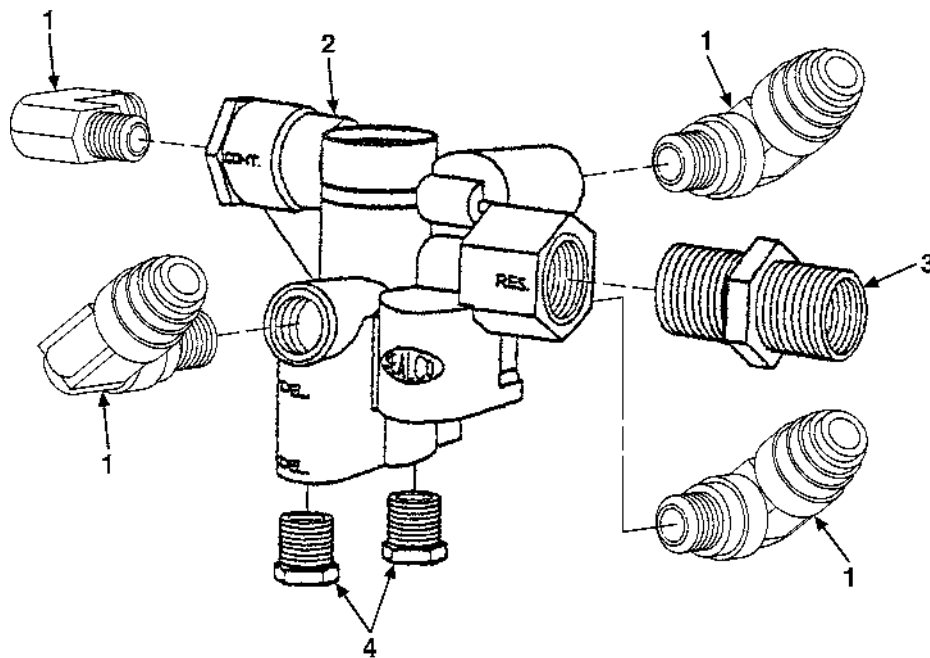


FIGURE 21. AIR BRAKE CONTROL VALVE

GROUP 1208 AIR BRAKE CONTROL VALVE - Continued

0183 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 1208 AIR BRAKE SYSTEM	
						FIG. 21 AIR BRAKE CONTROL VALVE	
ADPA	1	PAOZZ		96358	AQ69-DOT-6X6	FITTING, TUBE 90 DEGREE	4
ADPC	2	PFOZZ	4820-01-517-3465	63576	110700	VALVE, FLOW CONTROL	8
ADPE	3	PAOZZ	4730-01-506-2006	93061	VS209P-8-6	NIPPLE, MOUNTING	1
ADPG	4	PAOZZ	4730-00-427-5121	79470	3152X6	PLUG, PIPE.....	2
TM-CODE 2VD						END OF FIGURE	

GROUP 1208 AIR COUPLINGS

0184 00

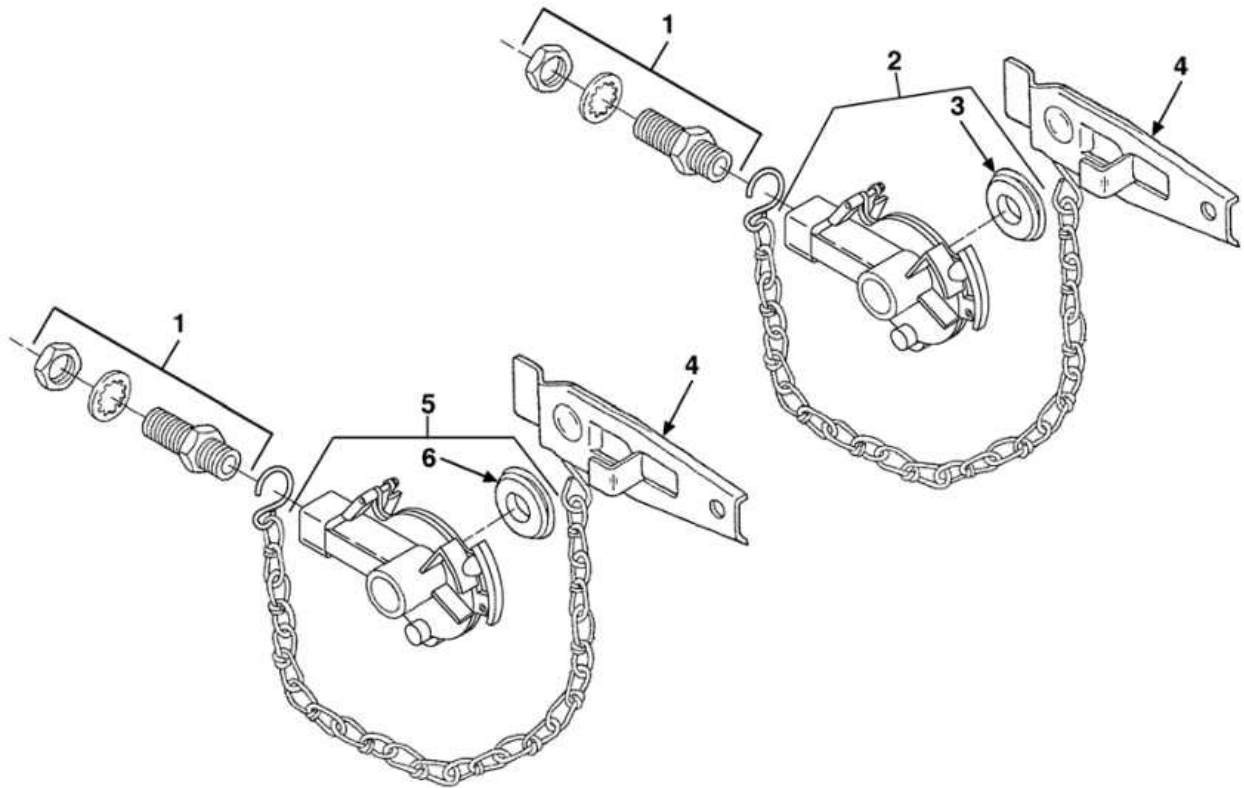


FIGURE 22. AIR COUPLINGS

GROUP 1208 AIR COUPLINGS - Continued

0184 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 1208 AIR BRAKE SYSTEM	
						FIG. 22 AIR COUPLINGS	
ADPH	1	PAOZZ	4730-00-244-9848	28548	5228623	NIPPLE, TANK	2
ADPK	2	PAOOO	3040-01-382-8736	06721	N-20415-NB	GLADHAND, EMERGENCY.....	1
ADPM	3	PAOZZ	5330-00-172-1919	98343	10028	.PACKING, PREFORMED.....	1
ADPQ	4	PAOZZ	2530-00-270-3878	06721	N13048	DUMMY COUPLING, AUTOMOTIVE AIR BRAKE HOSE	2
ADPS	5	PAOOO	4730-01-384-1441	06721	N20415PB	GLADHAND, SERVICE ASSEMBLY.....	1
ADPU	6	PAOZZ	5330-00-172-1919	98343	10028	.PACKING, PREFORMED.....	1
TM-CODE 2VD						END OF FIGURE	

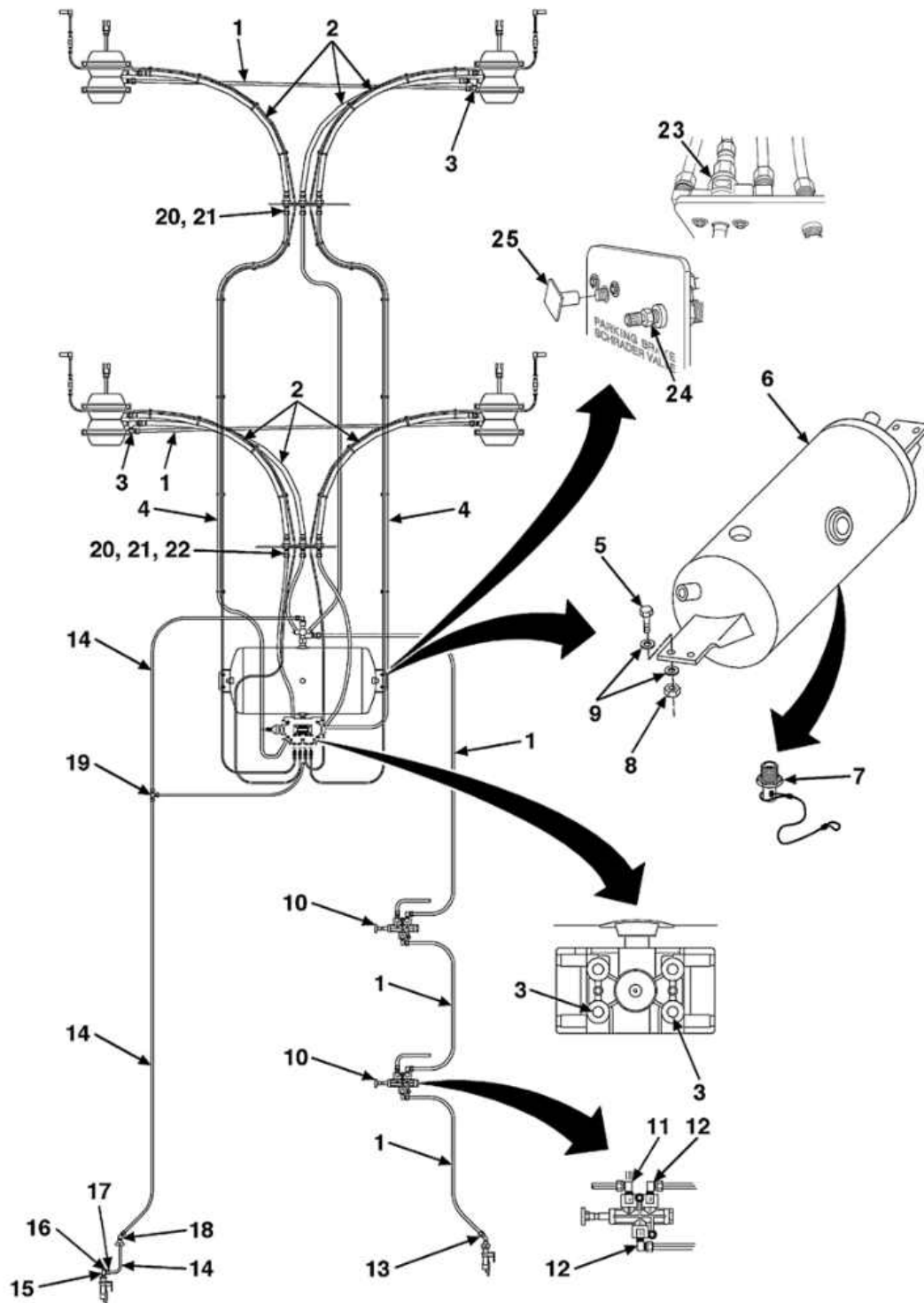


FIGURE 23. BRAKE LINES/AIR RESERVOIRS

GROUP 1208 BRAKE LINES/AIR RESERVOIRS - Continued

0185 00

PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
GROUP 1208 AIR BRAKE SYSTEM							
FIG. 23 BRAKE LINES/AIR RESERVOIRS							
ADQ1	1	MOOZZ		1R5C8	9881-0027	TUBING, AIR BRAKE 1/2 INCH, RED MAKE FROM TUBING P/N PFT-8B-RED-500 (98441) AS REQUIRED.....	AR
ADRA	2	PFOZZ	4720-01-506-2578	06721	16626	HOSE ASSEMBLY	6
ADQ3	3	PFOZZ	4730-01-506-2048	93061	VS169PMT-8-6	FITTING, TUBE 90 DEGREE	4
ADQZ	4	MOOZZ		1R5C8	9881-0022	TUBING, AIR BRAKE 1/2 INCH BLUE MAKE FROM TUBING P/N PFT-8B-BLU (98441) AS REQUIRED.....	AR
ADRY1	5	PAOZZ	5305-00-576-5417	80205	MS35207-360	SCREW, CAP, HEXAGON HEAD 3/8-16 X 1	4
ADRJ	6	PFOZZ	4310-01-506-2601	1R5C8	9674-0013	TANK,PRESSURE	1
ADRE	7	PFOZZ	4820-01-506-2586	06721	N3613AF	DRAIN VALVE.....	1
ADRM1	8	PFOZZ	5310-01-506-1215	1R5C8	9562-0165	NUT, SELF-LOCKING HEXAGON	4
ADRS1	9	PFOZZ		1FH10	WFSS375	WASHER, FLAT 3/8	8
ADRZ	10	PFOZZ	4820-01-106-2210	1UYK1	100-0001	VALVE, 3 WAY AIR INTERLOCK	2
ADR3	11	PFOZZ	4730-01-506-2680	93061	179PMTNS-8-4	FITTING, TUBE 45 DEGREE	2
ADR1	12	PFOZZ	4730-01-506-2676	93061	169PMTNS-8-4	FITTING, TUBE 90 DEGREE	4
ADR5	13	PFOZZ	4730-01-506-2684	96358	AQ54-DOT-8X6	FITTING, TUBE 45 DEGREE	2
ADQM	14	MOOZZ		1R5C8	9881-0020	TUBING, AIR BRAKE 3/8 MAKE FROM TUBING P/N PFT-6B-BLU (98441) AS REQUIRED.....	AR
ADQA	15	PFOZZ	4730-01-470-0091	93061	169PMT-6-6	FITTING, TUBE 45 DEGREE	1
ADQE	16	PFOZZ	4730-01-506-2006	93061	VS209P-8-6	BUSHING, REDUCER.....	1
ADQJ	17	PAOZZ	4730-01-441-3483	93061	VS215PN-6	NIPPLE, CLOSE 3/8 NPT	1
ADQS	18	PFOZZ	4730-01-514-5670	1TNF3	AQ54-DOT-6X4	FITTING, TUBE 45 DEGREE	1
ADQY	19	PFOZZ	4730-01-456-5915	93061	164PMT-6	FITTING, TUBE,	1
ADQ5	20	PFOZZ	4730-01-506-2074	93061	VS68PMT-8-6	FITTING, TUBE	8
ADQ7	21	PFOZZ	4730-01-506-2095	0DGK3	HB-607	ADAPTER, COUPLING.....	6
ADQ9	22	PAOZZ	5325-00-641-2800	70485	2564	GROMMET, NONMETALLIC	3
ADRC	23	PFOZZ		1R5C8	9941-0778	VALVE, DOLLY & TRLR PARK BRAKE RELEASE, W/O HANDLE	1
ADRG	24	PAOZZ	4820-01-443-1916	94894	684-4	VALVE, PNEUMATIC TANK	1
ADRK	25	PFOZZ		1R5C8	9378-0039	HANDLE, PLASTIC	1
TM-CODE 2VD						END OF FIGURE	



GROUP 1311 HUB AND DRUM - Continued

0186 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 13 WHEELS, HUBS AND DRUMS	
						GROUP 1311 WHEEL ASSEMBLY	
						FIG. 24 HUB AND DRUM	
AFDA	1	PAOZZ	3110-00-293-8998	60038	HM212049	CONE AND ROLLERS, TAPERED ROLLER BEARING	4
AFDB	2	PFOOO	2530-01-506-2721	1S0R6	4819001	HUB, WHEEL, VEHICULAR.....	4
AFDJ	3	PAOZZ	3110-00-293-8997	60038	HM212011	.CUP, TAPERED ROLLER.....	1
AFDD	4	XAOZZ		1S0R6	2229101	.HUB FINISHED.....	1
AFDS	5	PAOZZ	3110-00-618-0249	60038	HM218210	.CUP, TAPERED ROLLER.....	1
AFD1	6	PAOZZ	5306-01-508-5764	1S0R6	3018503	.BOLT, MACHINE	10
AFEA	7	PAOZZ	3110-00-618-0248	60038	HM218248	CONE AND ROLLERS, TAPERED ROLLER BEARING	4
AFEJ	8	PAOZZ	5330-01-047-9367	78500	A-1205-X-1662	SEAL, PLAIN	4
AFEM	9	PAOZZ	2530-00-886-1103	78500	R000540	NUT, INNER WHEEL BEARING	4
AFEY	10	PAOZZ	5310-01-116-4765	78500	R000573	WASHER, LOCK	4
AFES	11	PAOZZ	5310-01-117-2404	78500	R000572	NUT, PLAIN, HEXAGON.....	4
AFFA	12	PAOZZ	5330-01-071-8179	26151	330-3009	GASKET	4
AFFJ	13	PAOZZ	2530-01-507-8611	1R5C8	9395-0043	HUBCAP	4
AFFM1	14	PAOZZ	5310-01-502-8467	1RC58	9965-0039	WASHER, FLAT	24
AFFS	15	PAOZZ	5306-00-637-9675	10001	2Z24PC421	BOLT, MACHINE.....	24
AFET	16	PAOZZ	2530-01-506-2738	1S0R6	2308709	BRAKE DRUM.....	4
AFEU	17	PAOZZ	5310-01-349-0759	41885	88881	NUT, PLAIN	40
TM-CODE 2VD						END OF FIGURE	

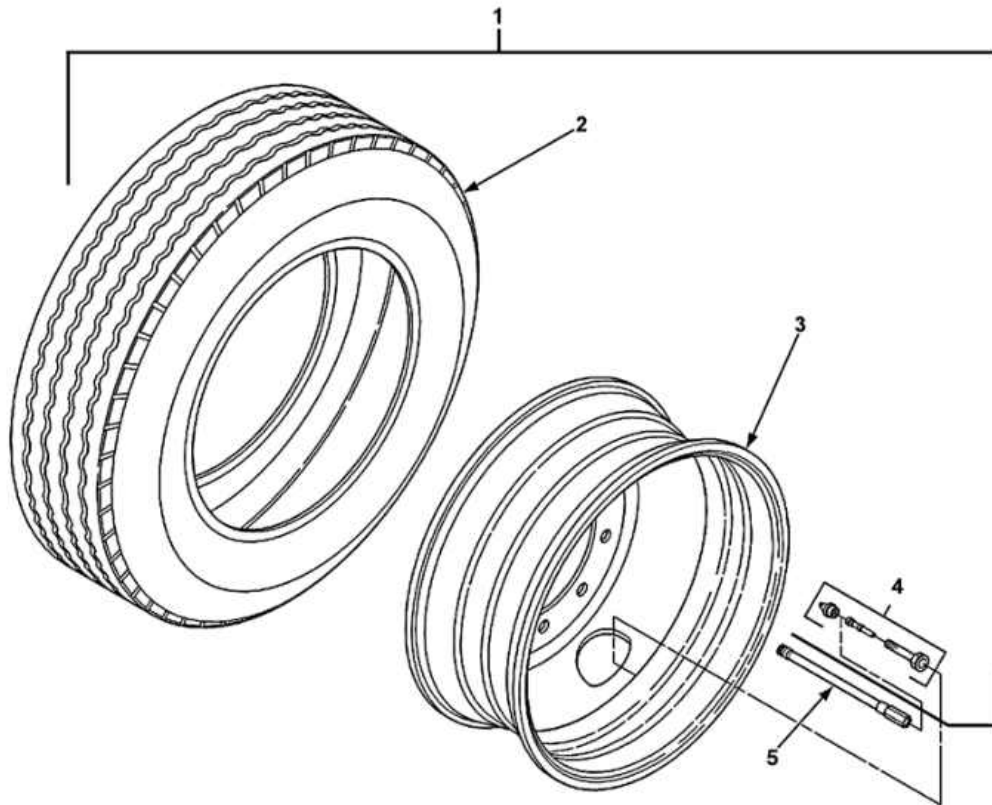


FIGURE 25. WHEEL ASSEMBLY

GROUP 1311 WHEEL ASSEMBLY - Continued

0187 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 1311 WHEEL ASSEMBLY	
						FIG. 25 WHEEL ASSEMBLY	
AHFC	1	PCOFH	2530-01-527-4609	19207	M969A2-M969A3	WHEEL ASSEMBLY.....	9
AFHJ	2	PCOFH	2610-01-045-3688	81348	X/GP3/TYRA/CLR/T /11.00R22.5/G	.TIRE, PNEUMATIC, VEHICULAR.....	1
AFHE	3	PFOZZ	2530-01-510-6121	1R5C8	9966-0115	.WHEEL, PNEUMATIC TIRE.....	1
AFHA1	4	PAOZZ	2640-00-555-2824	27783	TR573	.VALVE, PNEUMATIC TIRE.....	1
AFHG	5	PAOZZ		63900	HE-392	EXTENSION, TIRE VALVE INSIDE DUAL WHEELS ONLY	4
						TM-CODE 2VD	
						END OF FIGURE	

GROUP 1501 LADDER ASSEMBLY

0188 00

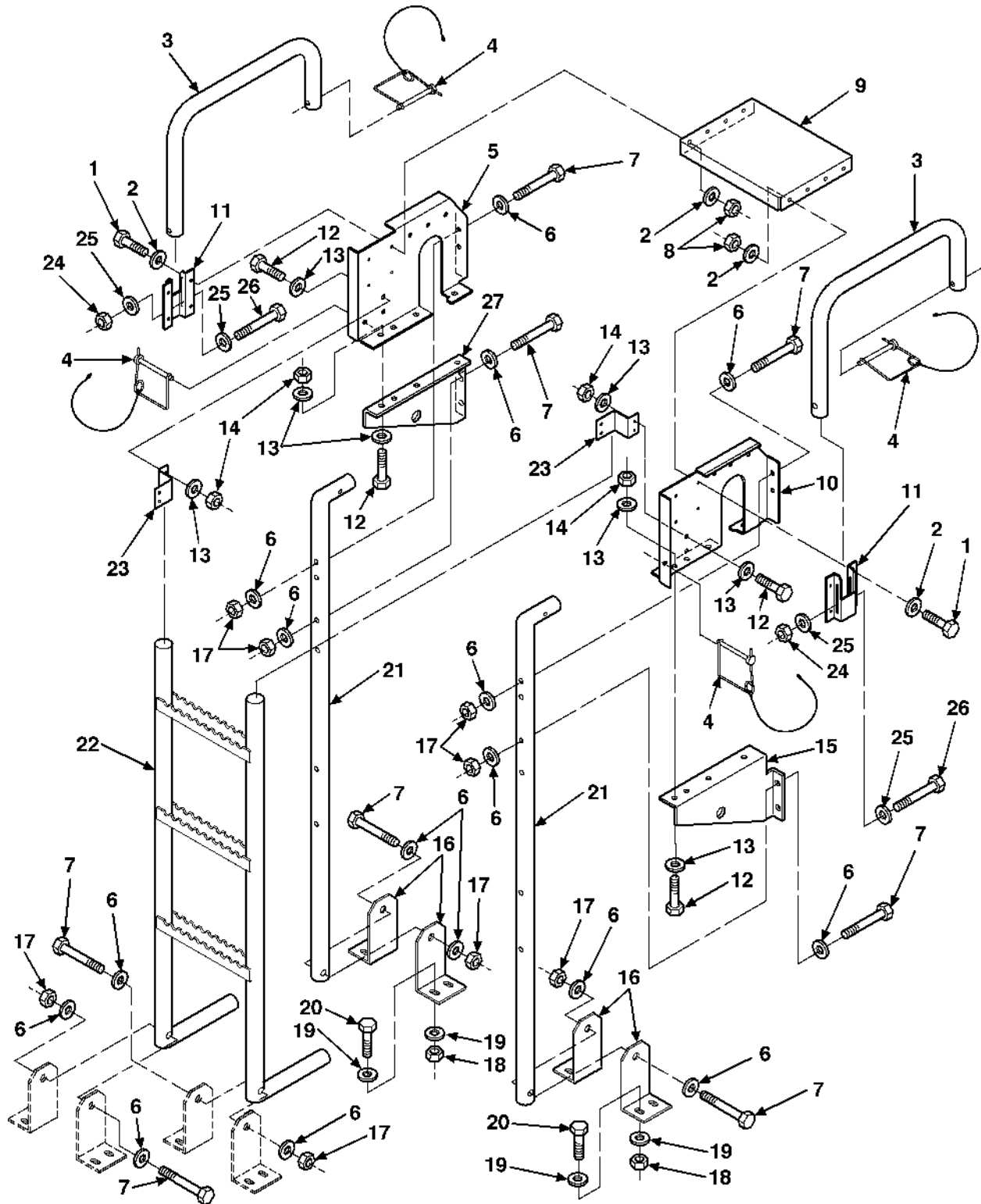


FIGURE 26. LADDER ASSEMBLY

GROUP 1501 LADDER ASSEMBLY - Continued

0188 00

PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 15 FRAME, TOWING ATTACHMENTS AND DRAWBARS	
						GROUP 1501 FRAME ASSEMBLY	
						FIG 26 LADDER ASSEMBLY	
AHEM1	1	PAOZZ	5305-00-225-3839	80205	MS90725-8	SCREW, CAP, HEXAGON HEAD 1/4-20 X 1.....	12
AHAV	2	PAOZZ	5310-01-308-8205	96906	MS27183-48	WASHER, FLAT 1/4.....	24
AHBM1	3	PFOZZ	2590-01-502-9569	1R5C8	M121-2624	HANDRAIL, VEHICULAR.....	2
AHCY	4	PAOZZ	5315-01-502-8308	2V507	97143A635	PIN, RETAINING.....	4
AHAY	5	PFOZZ	5340-01-502-8661	1R5C8	M121-2636	BRACKET, MOUNTING.....	1
AHDA	6	PAOZZ	5310-00-614-3506	80205	MS15795-817	WASHER, FLAT 1/2.....	28
AHDJ	7	PAOZZ	5305-00-165-8074	96906	MS51095-420	SCREW, CAP, HEXAGON HEAD 1/2-13 X 3.....	16
AHAX	8	PAOZZ	5310-01-502-8330	1R5C8	9562-0046	NUT, SELF-LOCKING HEXAGON 1/4-20	12
AHAS	9	PFOZZ	2510-01-502-9566	1R5C8	M121-2628	TREAD, METALLIC, NONSKID	1
AHBJ	10	PFOZZ	5340-01-502-8663	1R5C8	M121-2637	BRACKET, MOUNTING.....	1
AHBA1	11	PFOZZ	5340-01-502-8662	1R5C8	M121-2625	BRACKET, MOUNTING.....	2
AHDY	12	PAOZZ	5305-00-576-5417	80205	MS90725-360	SCREW, CAP, HEXAGON HEAD 3/8-16 X 1.....	14
AHEJ	13	PAOZZ	5310-00-802-4701	80205	MS15795-813	WASHER, FLAT 3/8.....	28
AHEA1	14	PAOZZ	5310-01-502-8329	1R5C8	9562-0044	NUT, SELF-LOCKING HEXAGON 3/8-16	14
AHCS	15	PFOZZ	5340-01-502-8285	1R5C8	M121-2646	BRACKET, MOUNTING.....	1
AHAJ	16	PFOZZ	5340-01-502-8659	1R5C8	M121-2635	BRACKET, MOUNTING.....	4
AHA3	17	PAOZZ	5310-01-502-8323	1R5C8	9562-0133	NUT, SELF-LOCKING HEXAGON 1/2-13	16
AHDK	18	PAOZZ	5310-01-386-3517	39428	9009A031	NUT, SELF LOCKING HEXAGON.....	8
AHDL	19	PAOZZ	5310-01-421-7439	08427	8730000-21	WASHER, FLAT.....	16
AHDR	20	PAOZZ	5305-01-107-3549	11083	5P7128	SCREW, CAP, HEXAGON HEAD.....	8
AHBY	21	PFOZZ	5340-01-502-8279	1R5C8	M121-2638	BRACKET, MOUNTING.....	2
AHAM1	22	PFOZZ	2541-01-502-9576	1R5C8	M121-2621	LADDER VEHICLE BOARDING	1
AHCA	23	PFOZZ	5340-01-502-8282	1R5C8	M121-2639	BRACKET, MOUNTING.....	2
AHES1	24	PAOZZ	5310-01-461-1300	81349	M45913/2-7CG5C	NUT, SELF-LOCKING HEXAGON.....	2
AHA5	25	PAOZZ	5310-00-167-0822	88044	AN960-716	WASHER, FLAT.....	4
AHA7	26	PAOZZ	5305-00-069-5583	80205	MS90725-99	SCREW, CAP, HEXAGON HEAD.....	2
AHCM1	27	PFOZZ	5310-01-502-8283	1R5C8	M121-2645	BRACKET, MOUNTING.....	1
TM-CODE 2VD						END OF FIGURE	

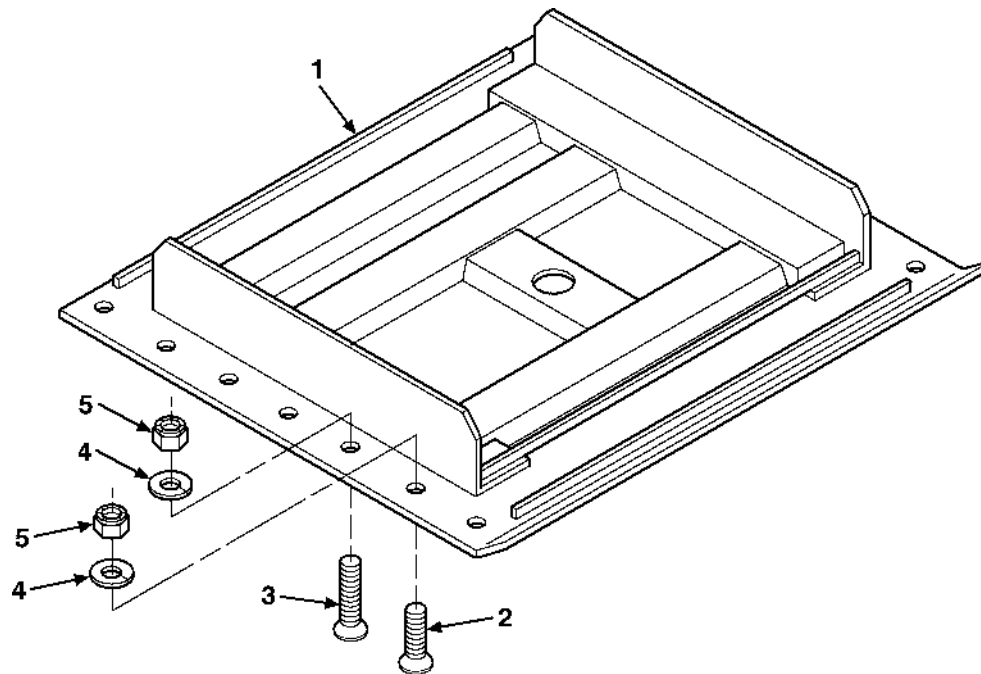


FIGURE 27. COUPLER ASSEMBLY

GROUP 1503 COUPLER ASSEMBLY - Continued

0189 00

(1) PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 1503 PINTLES AND TOWING ATTACHMENTS	
						FIG. 27 COUPLER ASSEMBLY	
AHAH	1	PFOZZ	2510-01-502-9161	1R5C8	M234-1388	COUPLER,UPPER,FIFTH WHEEL PLATE	1
AHAB1	2	PAOZZ	5305-01-508-5775	1R5C8	9738-0379	.SCREW,CAP, SOCKET HD 5/8-18 X 1-1/4.....	12
AHAP	3	PAOZZ	5305-01-508-5889	1R5C8	9738-0380	.SCREW,CAP,SOCKET HD 5/8-18 X 2-1/4 FOR SCREWS MOUNTED TO FRAME BRACE ONLY	2
AHAQ	4	PAOZZ	5310-00-481-6481	08302	11028	.WASHER,LOCK 5/8.....	14
AHAR	5	PAOZZ	5310-01-508-5907	39428	97135A275	.NUT,SELF-LOCKING, HEXAGON 5/8-18	14
TM-CODE 2VD						END OF FIGURE	

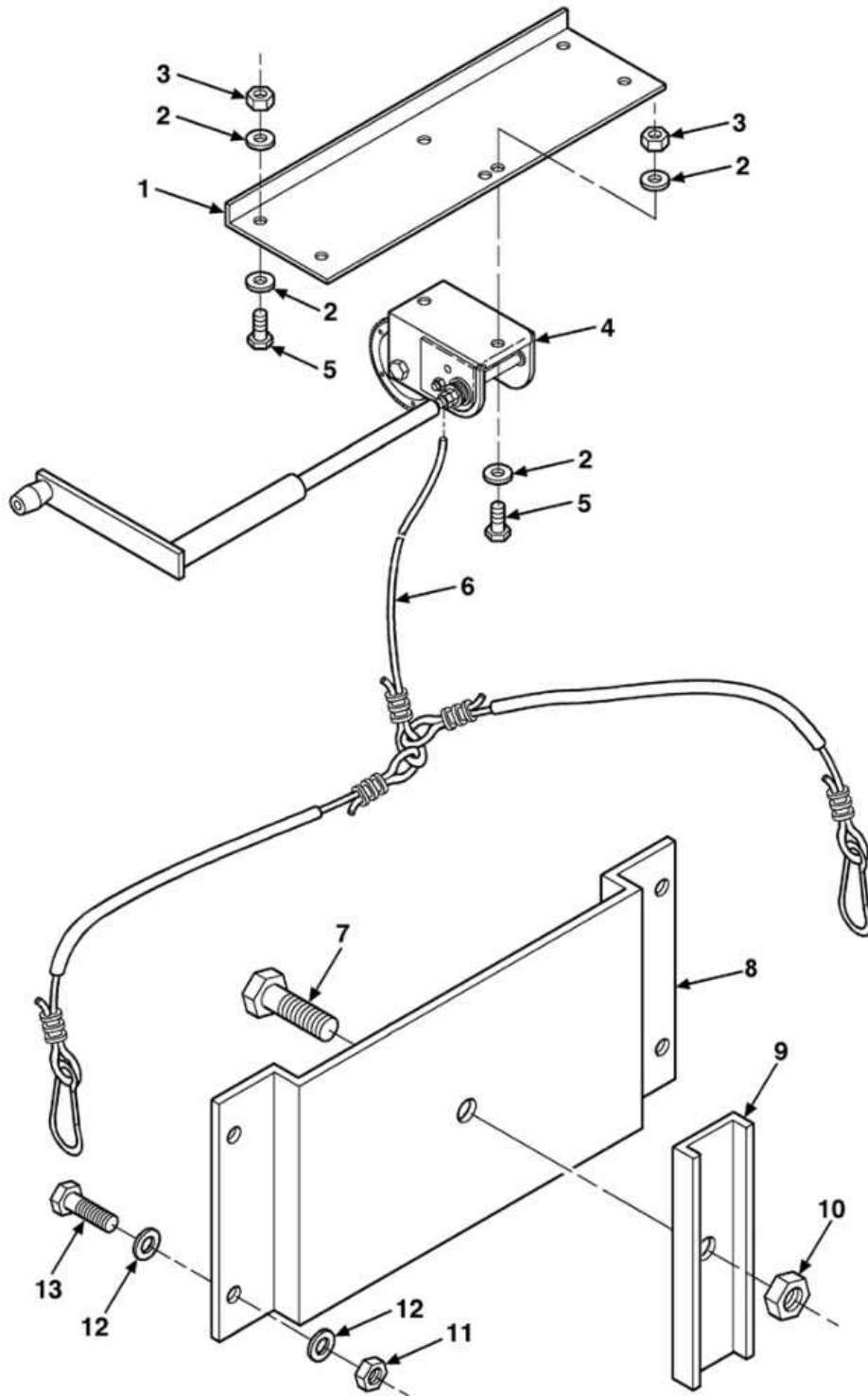


FIGURE 28. SPARE WHEEL CARRIER AND HOIST

GROUP 1504 SPARE WHEEL CARRIER AND HOIST - Continued

0190 00

(1) PLISN	(2) ITEM NO.	(3) SMR CODE	(4) NSN	(5) CAGEC	(6) PART NUMBER	(7) DESCRIPTION AND USABLE ON CODE (UOC)	(8) QTY
						GROUP 1504 SPARE WHEEL CARRIER AND TIRE LOCK	
						FIG 28 SPARE WHEEL CARRIER AND HOIST	
AHBS	1	PFOZZ	5340-01-502-8286	1R5C8	M121-2631	BRACKET, WINCH	1
AHEJ	2	PAOZZ	5310-00-802-4701	80205	MS15795-813	WASHER, FLAT	6
AHEA1	3	PAOZZ	5310-01-502-8329	1R5C8	9562-0044	NUT, SELF-LOCKING	6
AHCJ	4	PAOZZ	4910-01-100-4984	39428	3196T26	HOIST, TIRE	1
AHGY	5	PAOZZ	5305-00-269-3211	80205	MS90725-60	SCREW, CAP, HEXAGON HEAD	6
AHGC	6	PAOZZ	4010-01-514-2386	1R5C8	M097-0425	CABLE ASSEMBLY	1
AHFK	7	PAOZZ		1R5C8	9738-0384	SCREW, CAP, HEXAGON METRIC, M22-1.5X70M	1
AHFM	8	PFOZZ	5340-01-502-8332	1R5C8	M311-2828	BRACKET, TIRE MOUNTING	1
AHFA1	9	PFOZZ	5340-01-502-8331	1R5C8	M311-2829	LOCKING BRACKET, TIRE	1
AHBT	10	PAOZZ	5310-01-349-0759	41885	88881	NUT, PLAIN	1
AHDM	11	PAOZZ	5310-01-502-8323	1R5C8	9562-0133	NUT, SELF-LOCKING	4
AHDA	12	PAOZZ	5310-00-614-3506	80205	MS15795-817	WASHER, FLAT	4
AHDJ	13	PAOZZ	5305-00-165-8074	96906	MS51095-420	SCREW, CAP, HEXAGON HEAD	4
TM-CODE 2VD						END OF FIGURE	

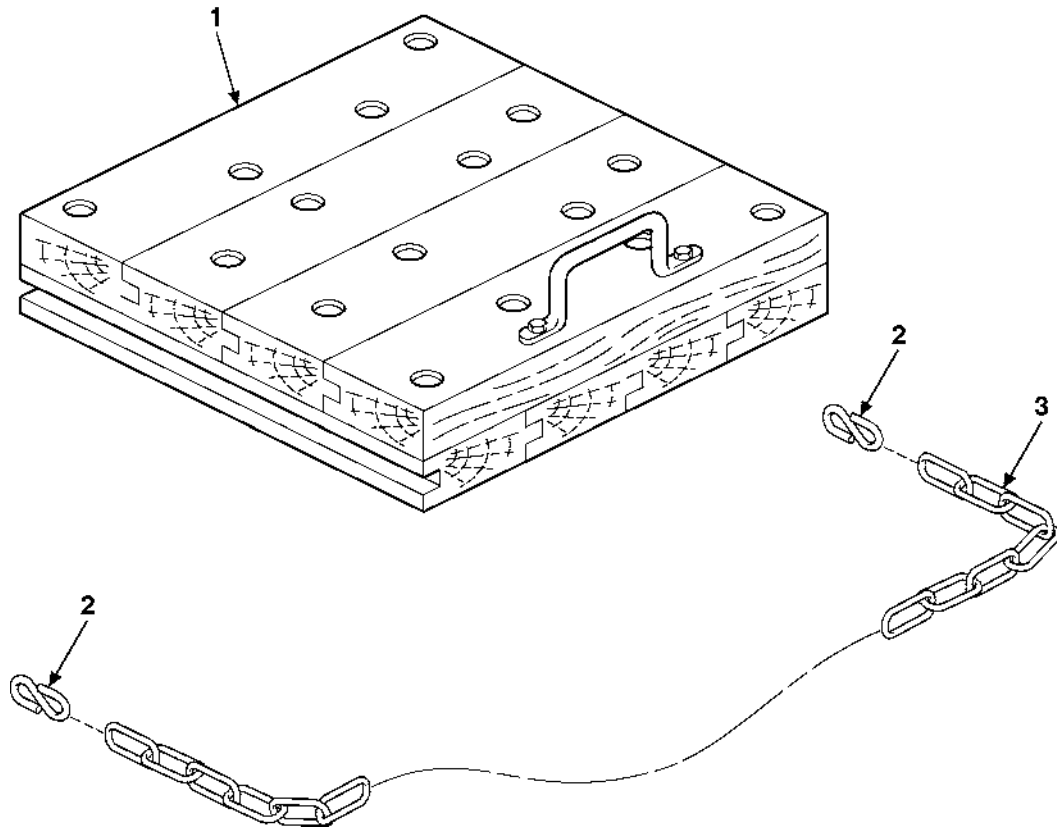


FIGURE 29. GROUND BOARD ASSEMBLY

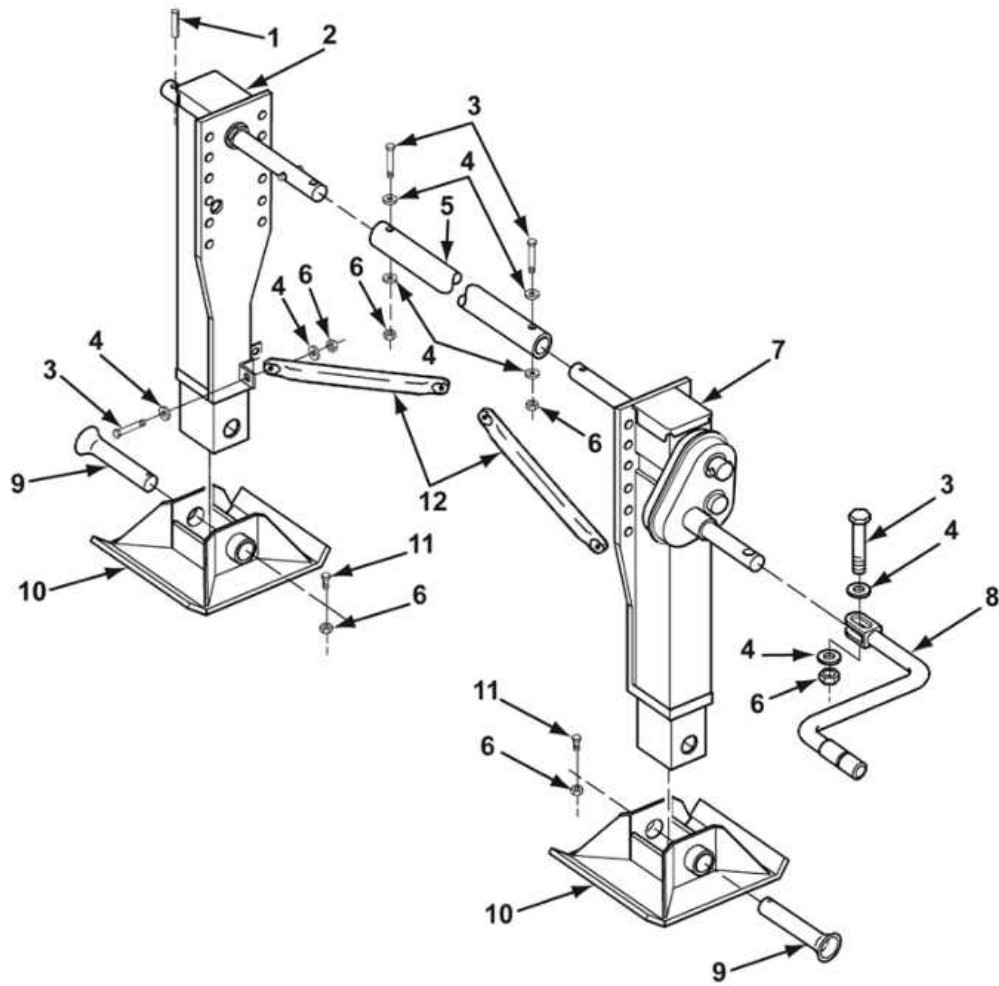


FIGURE 30. LANDING GEAR ASSEMBLY

GROUP 1507 LANDING GEAR ASSEMBLY - Continued

0192 00

(1) PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 1507 LANDING GEAR, LEVELING JACKS: (MECHANICAL OR HYDRAULIC)	
						FIG. 30 LANDING GEAR ASSEMBLY	
AHMG	1	PFOZZ	5315-01-502-8342	99411	XB-SP-014-27	.PIN, SPRING.....	4
AHMA	2	PFOOO		99411	LG5199-90002J477	LANDING GEAR ASSY.....	1
AHMJ	3	PFOZZ	5306-01-502-8344	99411	XB-HHC-050-42	.BOLT, MACHINE.....	3
AHNS	4	PFOZZ	5310-01-502-8369	99411	XB-PW-016-03	.WASHER, FLAT.....	6
AHML	5	PFOZZ	3040-01-502-9794	99411	LG0094-3275	.SHAFT, CROSS DRIVE.....	1
AHNU	6	PFOZZ	5310-01-502-8371	99411	XB-SLN-012-04	.NUT, SELF-LOCKING.....	5
AHMT	7	PFOZZ	2590-01-508-6058	99411	LG5191-920B23000	.LANDING LEG, W/ GEAR BOX.....	1
AHNW	8	PAOZZ	5340-01-175-0564	99411	LG0083-05	.CRANK, HAND.....	1
AHN1	9	PAOZZ	5315-01-316-7547	99411	LG0070-02	.PIN, STRAIGHT, HEADLESS.....	2
AHN2	10	PFOZZ	2590-01-502-9582	99411	LG0065-03	.SHOE.....	2
AHN3	11	PFOZZ	5306-01-510-4972	99411	XB-HHC-050-69	.BOLT.....	2
AHN6	12	PFOZZ		1R5C8	M311-3179	BRACKET, LANDING LEG.....	2
TM-CODE 2VD						END OF FIGURE	

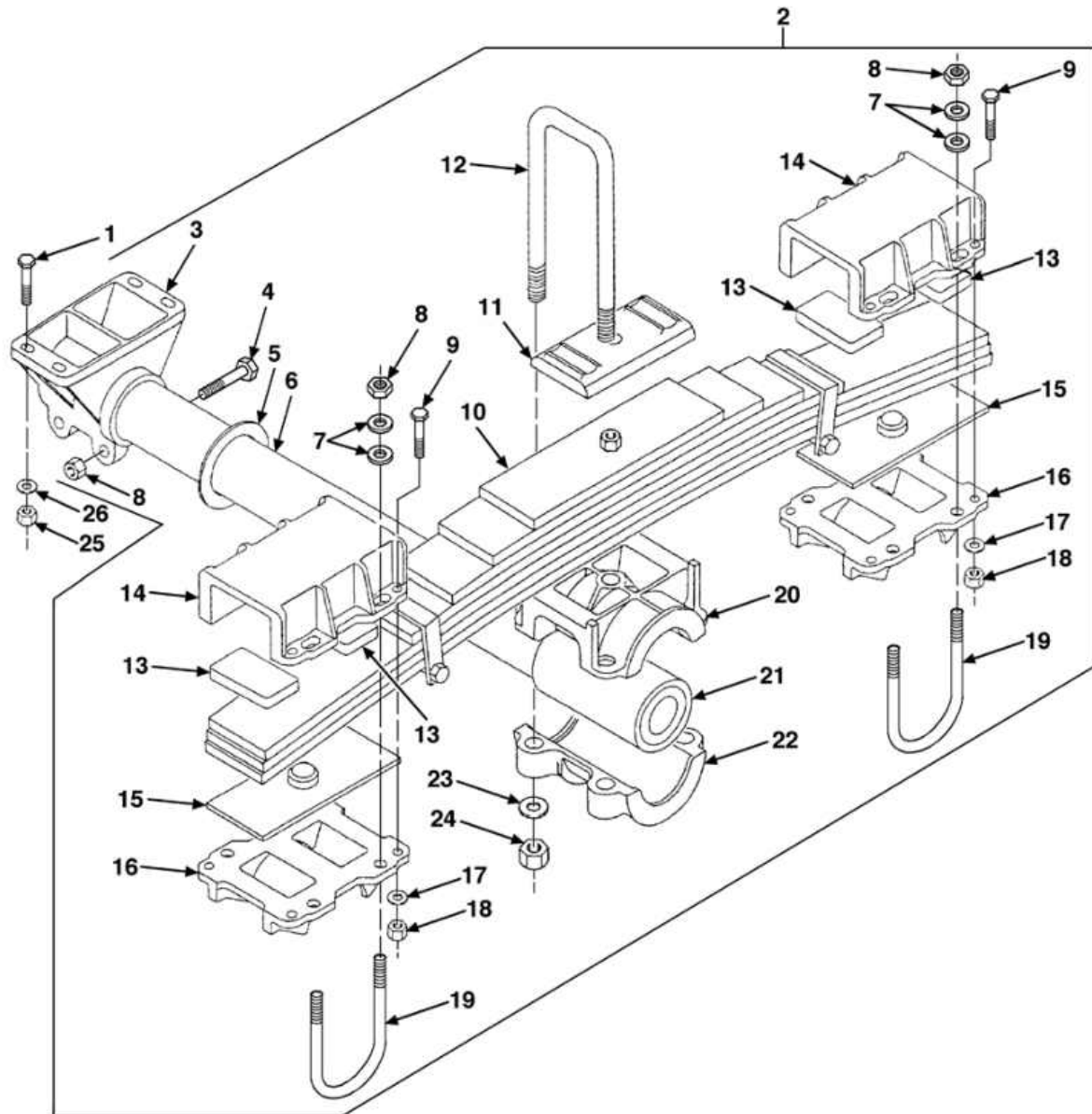


FIGURE 31. SUSPENSION

GROUP 1601 SUSPENSION - Continued

0193 00

(1) PLISN	(2) ITEM NO.	(3) SMR CODE	(4) NSN	(5) CAGEC	(6) PART NUMBER	(7) DESCRIPTION AND USABLE ON CODE (UOC)	(8) QTY
						GROUP 16 SPRING AND SHOCK ABSORBERS	
						GROUP 1601 SPRINGS	
						FIG. 31 SUSPENSION	
AJAG	1	PAFZZ	5305-00-726-2557	80204	B1821BH063F350N	SCREW, CAP, HEXAGON HEAD.....	8
AFAE1	2	PFFFF	2510-01-503-0716	92967	900-50	SUSPENSION, SINGLE POINT.....	1
AJAC	3	PFFZZ	2520-01-101-1802	92967	849-01	.HANGER, TRUNNION	2
AJAD	4	PAFZZ	5306-01-347-5921	92967	10376-00	.BOLT, HEX HEAD.....	4
AJAM	5	PAFZZ	5310-01-098-7247	92967	895-00	.WASHER,FLAT	2
AJAS	6	PAFZZ	4710-01-240-9431	92967	B893-02	.TUBE,METALLIC	1
AJAY	7	PAFZZ	5310-01-098-7245	92967	817-00	.WASHER,FLAT	32
AJBA	8	PAFZZ	5310-01-098-7827	92967	841-00	.NUT,SELF-LOCKING,HEXAGON.....	20
AJBJ	9	PAFZZ	5305-00-726-2551	80204	B1821BH063F200N	.SCREW, CAP, HEXAGON HEAD.....	16
AJBM1	10	PAFZZ	2510-01-114-3209	92967	9999-00	.SPRING ASSEMBLY, LEAF	2
AJBS	11	PAFZZ	2510-01-101-2559	92967	9640-00	.PLATE,WEAR, LEAF SPRING	2
AJBY	12	PAFZZ	5306-01-098-7198	92967	9639-03	.BOLT, U.....	4
AJCA	13	PAFZZ	2590-01-100-9001	92967	814-00	.PAD, CUSHIONING	8
AJCJ	14	PAFZZ	2510-01-100-7167	92967	9937-00	.END CAP, SPRING.....	4
AJCM	15	PAFZZ	2510-01-101-2890	92967	10608-00	.PLATE, ALIGNMENT, LEAF SPRING	4
AJCS	16	PAFZZ	2510-01-100-9270	92967	9934-02	.SEAT, LEAF SPRING	4
AJCY	17	PAFZZ	5310-01-098-7244	92967	10273-00	.WASHER, FLAT	16
AJCZ	18	PAFZZ	5310-01-499-4209	92967	11513-03	.NUT,SELF-LOCKING,HEXAGON.....	16
AJDJ	19	PAFZZ	5306-01-098-7197	92967	10060-01	.BOLT, U.....	8
AJDM1	20	PAFZZ	2520-01-101-0935	92967	891-00	.HUB, TRUNNION, UPPER.....	2
AJDS	21	PAFZZ	5365-01-316-3300	92967	11357-00	.BUSHING, NONMETALLIC.....	2
AJDY	22	PAFZZ	2520-01-101-2551	92967	898-00	.TRUNNION HUB, LOWER.....	2
AJEA	23	PAFZZ	5310-01-098-7246	92967	837-00	.WASHER, FLAT	8
AJEJ	24	PAFZZ	5310-01-098-7236	92967	836-00	.NUT, HEXAGON	8
AJES	25	PAFZZ	5310-00-269-4040	81349	M45913/1-10CG5C	NUT, SELF-LOCKING HEXAGON.....	8
AJEY	26	PAFZZ	5310-01-014-4280	26919	004-003081-042	WASHER, FLAT	8
TM-CODE 2VD						END OF FIGURE	

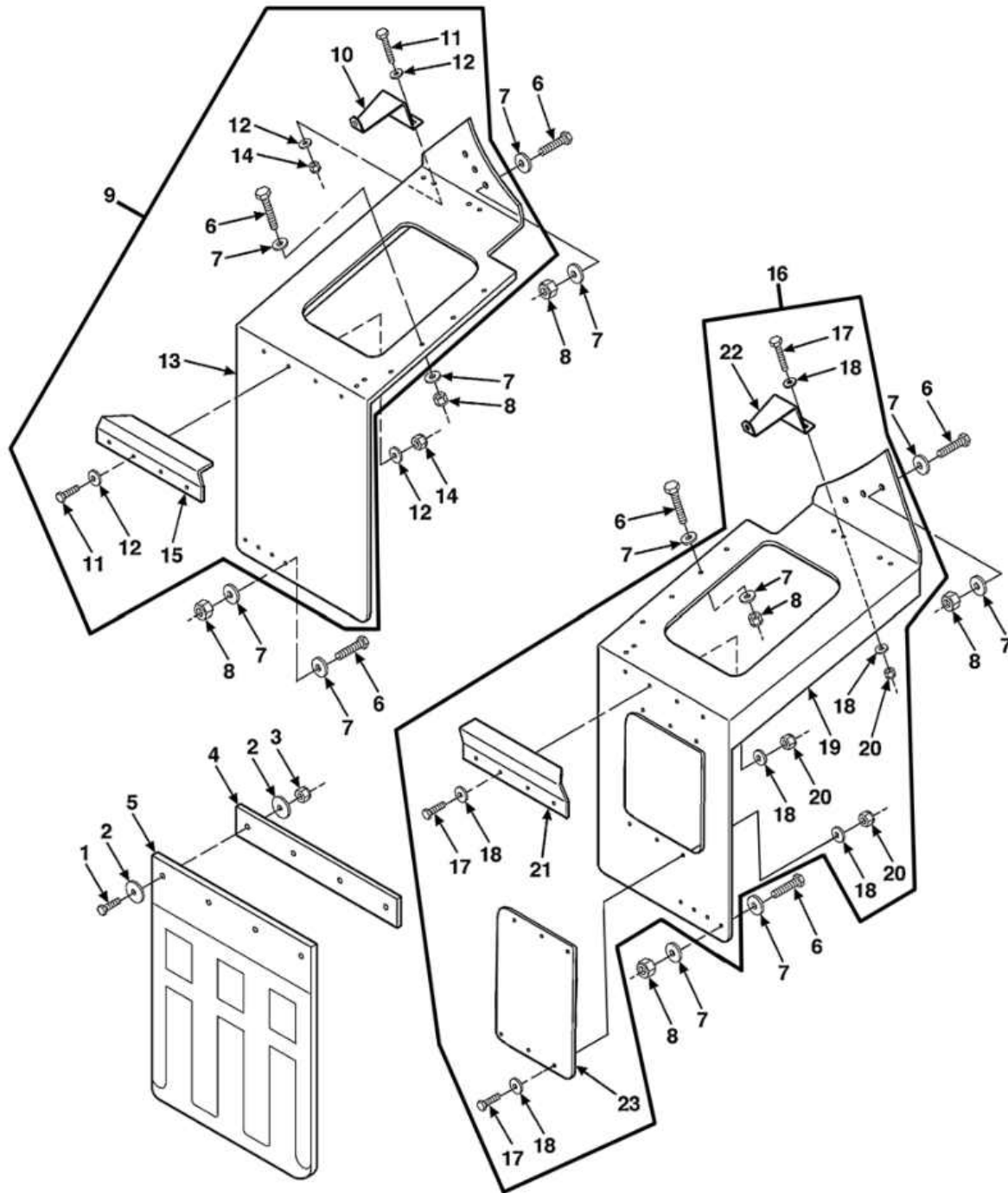


FIGURE 32. MUD FLAPS AND SPLASH GUARDS

GROUP 1801 MUD FLAPS AND SPLASH GUARDS - Continued

0194 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 18 BODY, CAB, HOOD, AND HULL	
						GROUP 1801 BODY,CAB,HOOD,A ND HULL ASSEMBLIES.	
						FIG. 32 MUDFLAPS AND SPLASH GUARDS	
AKAA	1	PFOZZ	5305-01-406-5528	1R5C8	9738-0014	SCREW,CAP,HEXAGON HEAD PART OF KIT P/N M035-3134	8
AKAJ	2	PFOZZ	5310-01-280-5796	96906	MS27183-57	WASHER,FLAT PART OF KIT P/N M035-3134	16
AKAM	3	PFOZZ	5310-01-502-8329	1R5C8	9562-0044	NUT,LOCK PART OF KIT P/N M035-3134	8
AKAS	4	PFOZZ	5340-01-504-8556	1R5C8	021-2732	BAR,MUDFLAP PART OF KIT P/N M035-3134	2
AKAY	5	PFOZZ	2540-01-502-9571	1R5C8	9543-0036	MUDFLAP,RUBBER PART OF KIT P/N M035-3134	2
AKAZ	6	PAOZZ	5305-01-482-4487	39428	93190A593	SCREW, CAP, HEXAGON HEAD	7
AKCS	7	PAOZZ		1R5C8	9965-0044	WASHER, FLAT	14
AKCU	8	PAOZZ	5310-01-508-5774	39428	90715A145	NUT, LOCKING	7
AKCW	9	PAOOO	2540-01-503-0413	1R5C8	M311-2847	SPLASH GUARD ASSEMBLY, LEFT	1
AKCY	10	PAOZZ	5340-01-502-8696	1R5C8	M311-2843	.BRACKET, SUPPORT, GROUNDBOARD	2
AKCZ	11	PAOZZ	5306-00-637-9675	96906	MS35307-332	.SCREW, CAP, HEXAGON HEAD	12
AKC1	12	PAOZZ	5310-01-280-5796	96906	MS27183-57	.WASHER, FLAT	24
AKC3	13	PAOZZ	2540-01-502-9942	1R5C8	M311-2844	.SPLASH GUARD, LEFT	1
AKC5	14	PAOZZ	5310-01-502-8329	1R5C8	9562-0044	.NUT, LOCKING	12
AKC7	15	PAOZZ	5340-01-502-8463	1R5C8	M311-2845	.BRACKET, SUPPORT, GROUNDBOARD	1
AKCA	16	PAOOO	2540-01-503-0396	1R5C8	M311-2846	SPLASH GUARD ASSEMBLY, RIGHT	1
AKCC	17	PAOZZ	5306-00-637-9675	96906	MS35307-332	.SCREW, CAP, HEXAGON HEAD	18
AKCE	18	PAOZZ	5310-01-280-5796	96906	MS27183-57	.WASHER, FLAT	36
AKCJ	19	PAOZZ	2540-01-502-9947	1R5C8	M311-2839	.SPLASH GUARD, RIGHT	1
AKCN	20	PAOZZ	5310-01-502-8329	1R5C8	9562-0044	.NUT, LOCKING	18
AKCG	21	PAOZZ	5340-01-502-8528	1R5C8	M311-2840	.BRACKET, SUPPORT, GROUNDBOARD	1
AKCL	22	PAOZZ	5340-01-502-8696	1R5C8	M311-2843	.BRACKET, SUPPORT, GROUNDBOARD	2
AKCD	23	PAOZZ		1R5C8	M112-9704	.PANEL, ACCESS, BATTERY	1
			TM-CODE 2VD			END OF FIGURE	

GROUP 1801 FENDERS

0195 00

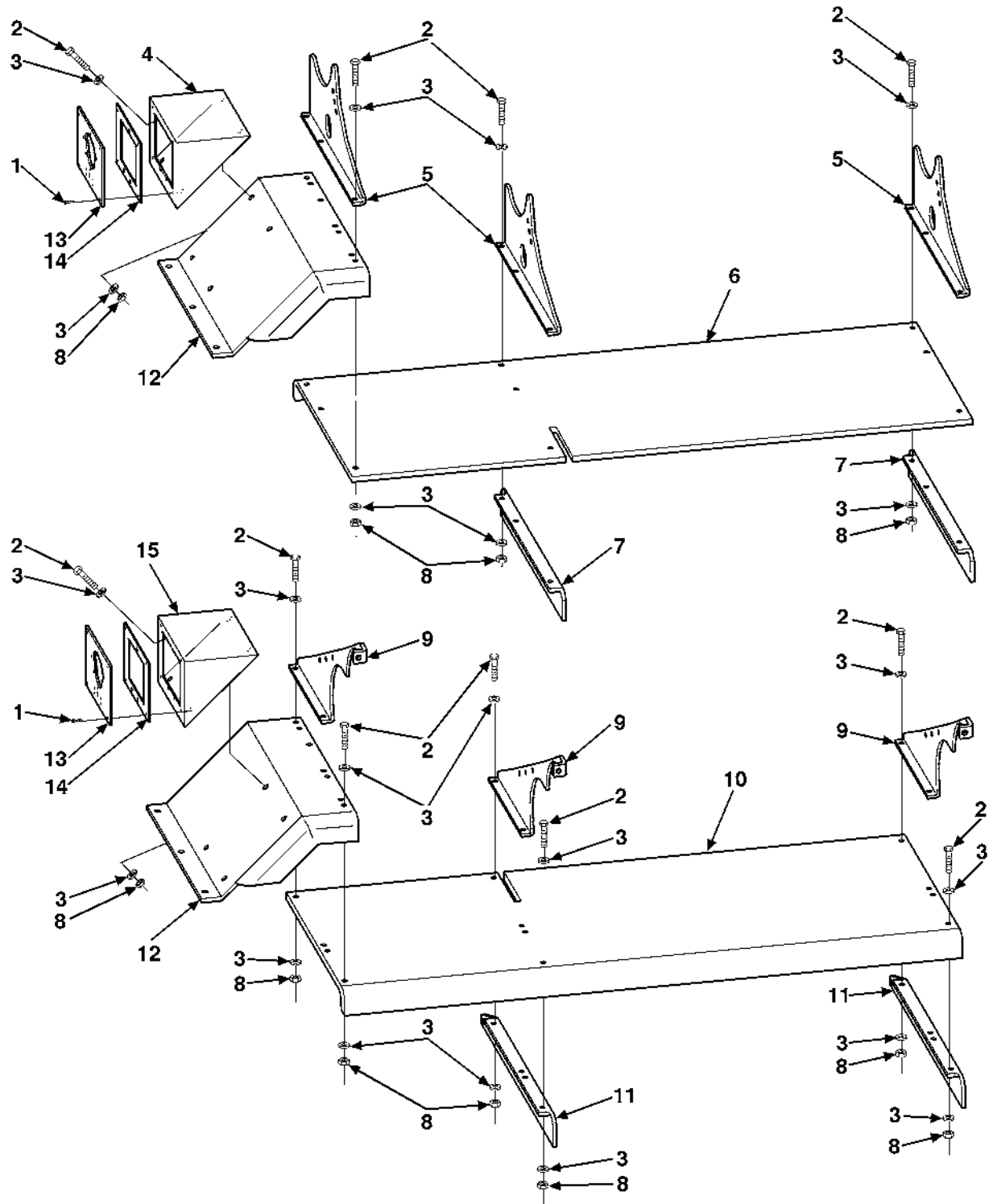


FIGURE 33. FENDERS

GROUP 1801 FENDERS - Continued

0195 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 1801 FENDERS	
						FIG. 33 FENDERS	
AKSY	1	PAOZZ	5305-01-187-8757	7X677	274707	SCREW,MACHINE #10-24 X 1/2.....	12
AKPM1	2	PAOZZ	5305-00-068-0511	80204	B1821BH038C125N	SCREW, CAP, HEXAGON HEAD.....	18
AKPS	3	PAOZZ	5310-00-167-0820	80205	NAS1149F0563P	WASHER, FLAT.....	36
AKPY	4	PFOZZ	6210-01-502-8676	1R5C8	M151-4877-002	HOUSING, LIGHT	1
AKP3	5	PFOZZ	5340-01-502-8666	1R5C8	M311-2815	BRACKET, MOUNTING.....	3
AKP5	6	PFOZZ	2510-01-503-0304	1R5C8	M217-1814	FENDER, VEHICULAR.....	1
AKP7	7	PFOZZ	2510-01-503-0307	1R5C8	M311-2813	BRACE, FENDER	2
AKQM1	8	PAOZZ	5310-01-502-8329	1R5C8	9562-0044	NUT, SELF-LOCKING.....	18
AKP9	9	PFOZZ	5340-01-502-8667	1R5C8	M311-2812	BRACKET, MOUNTING.....	3
AKQA	10	PFOZZ	2510-01-503-0313	1R5C8	M217-1815	FENDER, VEHICULAR.....	1
AKQJ	11	PFOZZ	2510-01-503-0241	1R5C8	M311-2814	BRACE, FENDER	2
AKP1	12	PFOZZ	2510-01-503-0309	1R5C8	M217-1812	FENDER, VEHICULAR.....	2
AKPJ	13	PFOZZ	5340-01-502-8673	1R5C8	M151-4878	PLATE, MOUNTING	2
AKPE	14	PAOZZ	5330-01-510-7082	1R5C8	9326-0262	GASKET.....	2
AKQS	15	PFOZZ	6210-01-502-8677	1R5C8	M151-4877-001	HOUSING, LIGHT	1
TM-CODE 2VD						END OF FIGURE	

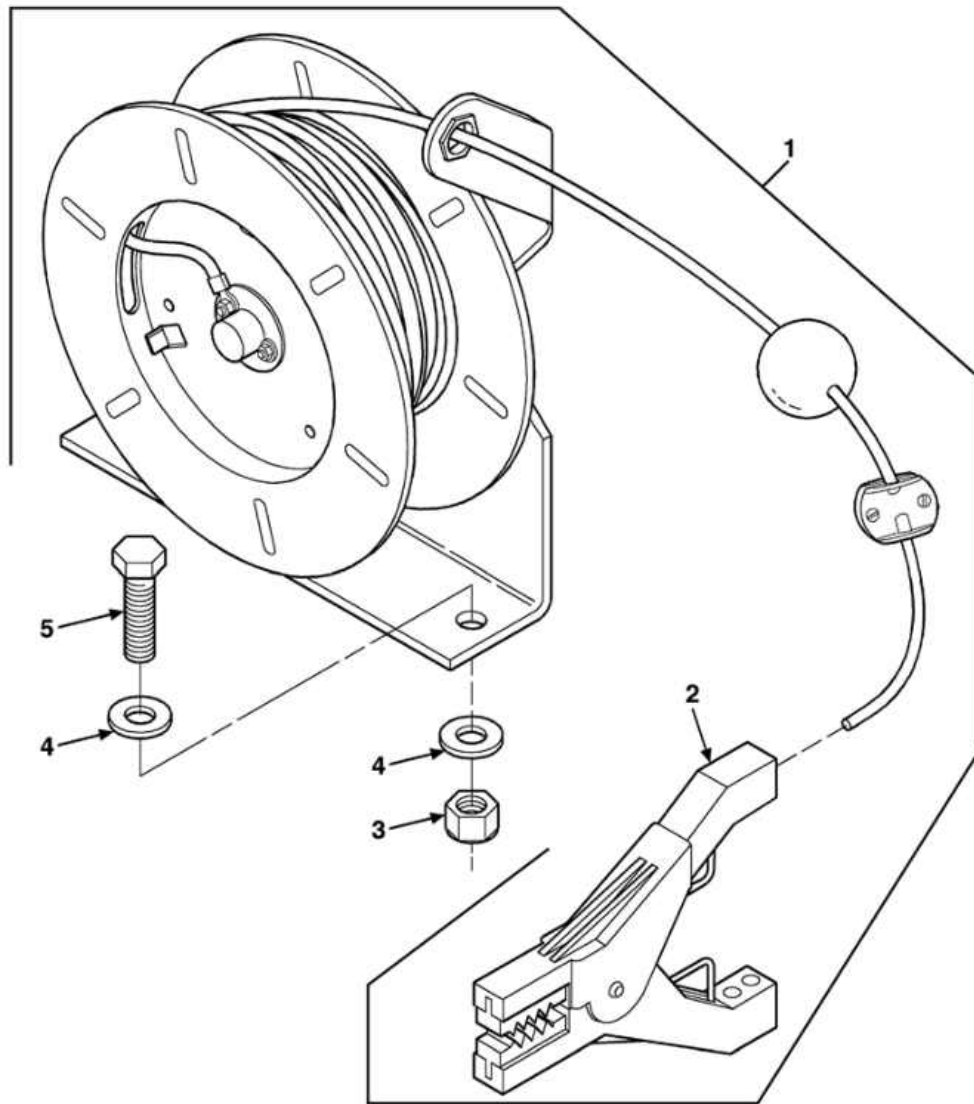


FIGURE 34. STATIC REEL ASSEMBLY

GROUP 1808 STATIC REEL ASSEMBLY - Continued

0196 00

(1) PLISN	(2) ITEM NO.	(3) SMR CODE	(4) NSN	(5) CAGEC	(6) PART NUMBER	(7) DESCRIPTION AND USABLE ON CODE (UOC)	(8) QTY
						GROUP 1808 STOWAGE RACKS, BOXES, STRAPS, CARRYING CASES, CABLE REELS, HOSE REELS, ETC.	
						FIG. 34 STATIC REEL ASSEMBLY	
AKWA1	1	PFOZZ	4930-01-502-8434	32218	ML-2930-58	REEL ASSEMBLY, STATIC DISCHARGE	1
AKWB	2	PAOZZ	5999-00-134-5844	81349	M83413/7-1	.CLIP, ELECTRICAL	1
AKWE	3	PAOZZ	5310-00-959-1488	81349	M45913/2-6FG5C	NUT, SELF-LOCKING, HEXAGON.....	2
AKWD	4	PAOZZ	5310-01-280-5795	96906	MS27183-56	WASHER, FLAT.....	4
AKWC	5	PAOZZ	5305-00-269-3211	80205	MS90725-60	SCREW, CAP, HEXAGON HEAD.....	2
TM-CODE 2VD						END OF FIGURE	

GROUP 1808 HOSE TUBES

0197 00

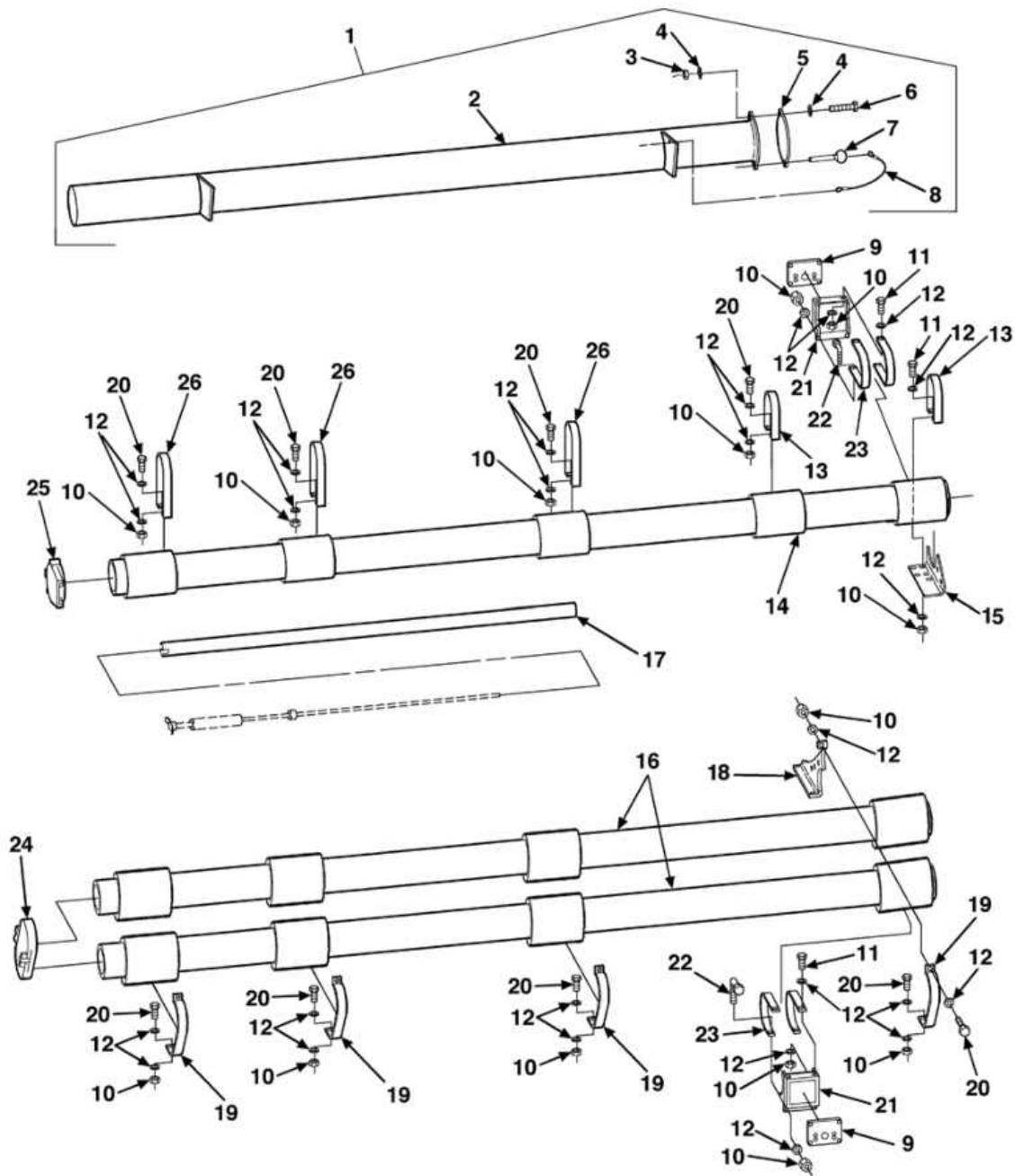


FIGURE 35. HOSE TUBES

GROUP 1808 HOSE TUBES - Continued

0197 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 1808 STOWAGE RACKS, BOXES, STRAPS, CARRYING CASES, CABLE REELS, HOSE REELS, ETC.	
						FIG. 35 HOSE TUBES	
AKUC	1	PAFFF	5340-01-508-5897	1R5C8	M054-9850	DIPSTICK TUBE ASSY	1
AKUF	2	PFFZZ	5340-01-508-5902	1R5C8	M054-9851	.DIPSTICK TUBE	1
AKUX	3	PAFZZ	5310-01-446-0272	39428	90101A237	.NUT, LOCKING	1
AKUW	4	PAFZZ	5310-00-625-5756	80205	MS15795-812	.WASHER, FLAT, 5/16	2
AKUK	5	PFFZZ	5340-01-508-5979	1R5C8	M054-9854	.END PLATE COVER	1
AKUT	6	PAFZZ	5305-01-508-6037	39428	93190A583	.SCREW, CAP, HEXAGON HEAD, 5/16-18 X 1	1
AKUL	7	PAFZZ	5315-01-508-5988	39428	98700A366	.PIN, QUICK RELEASE	1
AKUP	8	PAFZZ	4010-01-508-6020	39428	90312A64	.LANYARD	1
AKUS	9	PFOZZ	6220-01-502-8734	1R5C8	M311-3236	BRACKET, LIGHT RETENTION	2
AKT9	10	PFOZZ	5310-01-502-8329	1R5C8	9562-0044	NUT, SELF-LOCKING	10
AKU1	11	PFOZZ	5305-00-269-3211	80205	MS90725-60	SCREW, CAP, HEXAGON HEAD	4
AKT7	12	PAOZZ	5310-00-167-0820	80205	NAS1149F0563P	WASHER, FLAT	20
AKTS	13	PFOZZ	5340-01-502-8698	1R5C8	M177-4011-001	STRAP, RETAINING	2
AKTJ1	14	PFOZZ		1R5C8	M054-9866-001	TUBE, METALLIC	1
AKT5	15	PFOZZ	5340-01-502-8681	1R5C8	M151-4871	BRACKET, MOUNTING	1
AKT1	16	PFOZZ		1R5C8	M054-9866-002	TUBE, METALLIC	2
AKU9	17	PFOZZ	4710-01-503-0243	1R5C8	M054-9848	TUBE, METALLIC	1
AKUA	18	PFOZZ	5340-01-502-8667	1R5C8	M311-2812	BRACKET, MOUNTING	1
AKUJ	19	PFOZZ	5340-01-502-8731	1R5C8	M177-4010	STRAP, RETAINING	4
AKUM	20	PAOZZ	5305-00-269-3213	80205	MS90725-62	SCREW, CAP, HEXAGON HEAD	10
AKUY	21	PFOZZ	6220-01-502-8737	1R5C8	M311-3233	HOUSING, LIGHT	2
AKU3	22	PFOZZ	5306-01-502-8710	1R5C8	9043-0012	BOLT, HOOK	4
AKU5	23	PFOZZ	5340-01-502-8719	1R5C8	M311-3232	STRAP, RETAINING	4
AKU7	24	PFOZZ	5340-01-502-8724	1R5C8	9227-0012	DOOR, ACCESS, GENERAL	1
AKTA1	25	PFOZZ	5340-01-502-8689	1R5C8	9227-0010	DOOR, ACCESS, GENERAL	1
AKTM1	26	PFOZZ	5340-01-502-8697	1R5C8	M177-4011	STRAP, RETAINING	3
TM-CODE 2VD						END OF FIGURE	

GROUP 1808 STORAGE BOX

0198 00

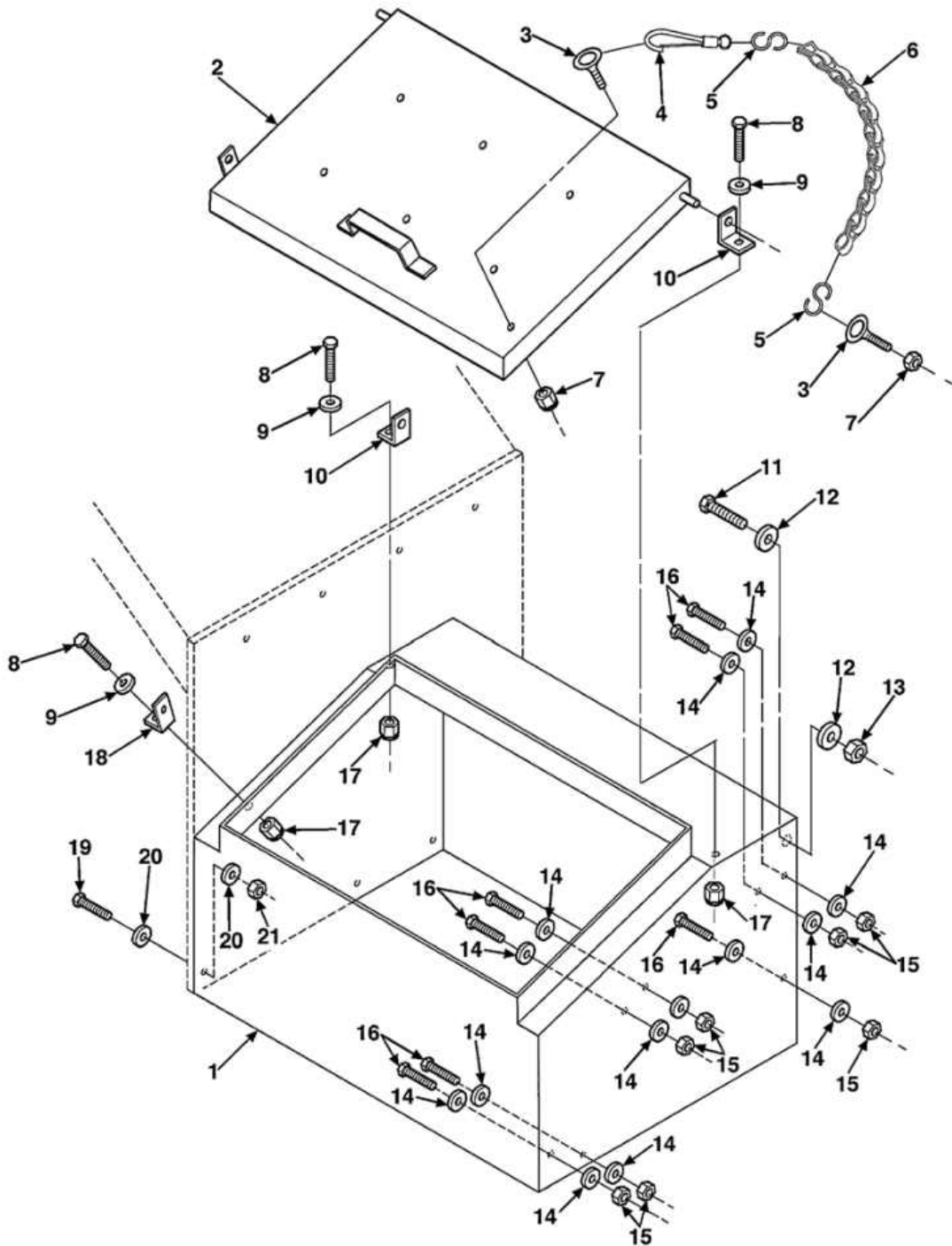


FIGURE 36. STORAGE BOX

GROUP 1808 STORAGE BOX - Continued

0198 00

(1) PLISN	(2) ITEM NO.	(3) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 1808 STOWAGE RACKS, BOXES, STRAPS, CARRYING CASES, CABLE REELS, HOSE REELS, ETC.	
						FIG. 36 STORAGE BOX	
AKVC1	1	PFOZZ		1R5C8	M151-4846	BOX, STORAGE	1
AKVF	2	PFOZZ	2540-01-502-9185	1R5C8	M151-4851	COVER, BOX, ACCESSORIES	1
AKVJ	3	PFOZZ	5306-01-502-8739	49181	42310	BOLT, EYE	2
AKVM	4	PFOZZ	4030-01-503-0537	1R5C8	9389-0015	HOOK, HOIST	1
AKVP	5	PFOZZ	4030-01-503-0447	1R5C8	2AHOOKSS	HOOK, CHAIN, S	2
AKVQ	6	MOOZZ		1R5C8	9121-0019	CHAIN,STEEL MAKE FROM CHAIN P/N 45116 (0Y3H3)	1
AKVR	7	PAOZZ		49181	1177860	NUT, SELF-LOCKING, HEXAGON 1/4-20	2
AKVS	8	PAOZZ	5305-00-269-3211	80205	MS90725-60	SCREW, CAP, HEXAGON HEAD	3
AKVV	9	PAOZZ	5310-00-595-6057	80205	MS15795-815	WASHER, FLAT	3
AKVY	10	PFOZZ	5340-01-502-8741	1R5C8	M151-4843	BRACKET, ANGLE	2
AKVZ	11	PAOZZ	5305-01-106-9541	80205	MS90725-263	SCREW, CAP, HEXAGON HEAD 1-1/8-12 X 5-1/2	1
AKV1	12	PAOZZ	5310-00-823-8803	96906	MS27183-21	WASHER, FLAT	2
AKV2	13	PAOZZ	5310-00-225-6408	19207	8712289-6	NUT, SELF-LOCKING, HEXAGON 5/8-18	1
AKV3	14	PAOZZ	5310-01-467-9965	01365	92007A1255	WASHER, FLAT	12
AKV4	15	PAOZZ	5310-00-984-3807	24617	9419476	NUT, SELF-LOCKING, HEXAGON	6
AKVN	16	PAOZZ	5306-00-225-9089	80205	MS90726-34	BOLT, MACHINE 5/16-24 X 1	6
AKV5	17	PAOZZ	5310-01-502-8329	1R5C8	9562-0044	NUT, SELF-LOCKING	3
AKV6	18	PFOZZ	5340-01-502-8738	1R5C8	M151-4845	BRACKET, ANGLE	1
AKV7	19	PAOZZ	5305-00-269-2803	80205	MS90726-60	SCREW, CAP, HEXAGON HEAD 3/8-24 X 1	4
AKV8	20	PAOZZ	5310-00-080-6004	96906	MS27183-14	WASHER, FLAT 3/8	8
AKV9	21	PAOZZ	5310-00-959-1488	81349	M45913/2-6FG5C	NUT, SELF-LOCKING, HEXAGON 3/8-24	4
TM-CODE 2VD						END OF FIGURE	

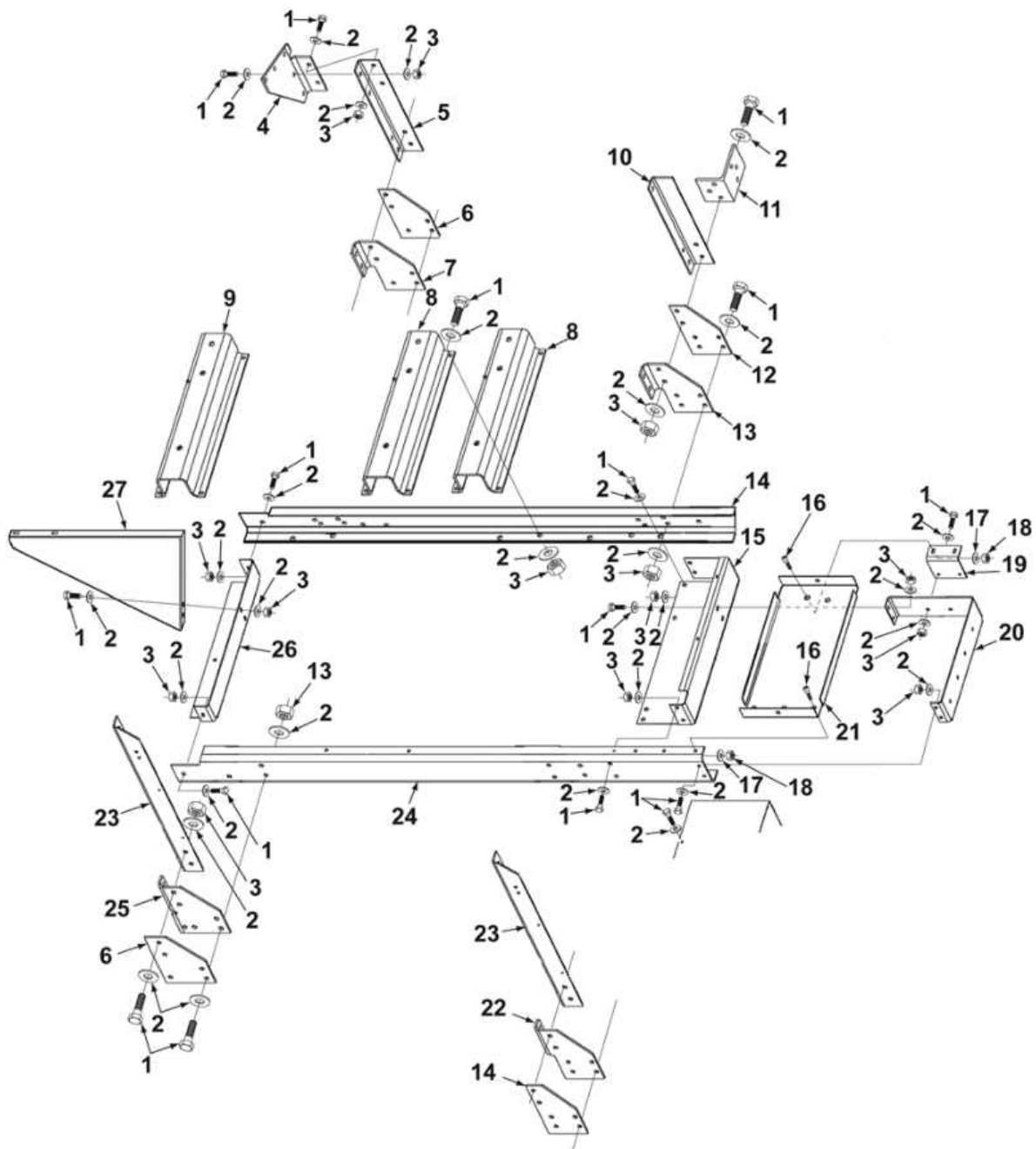
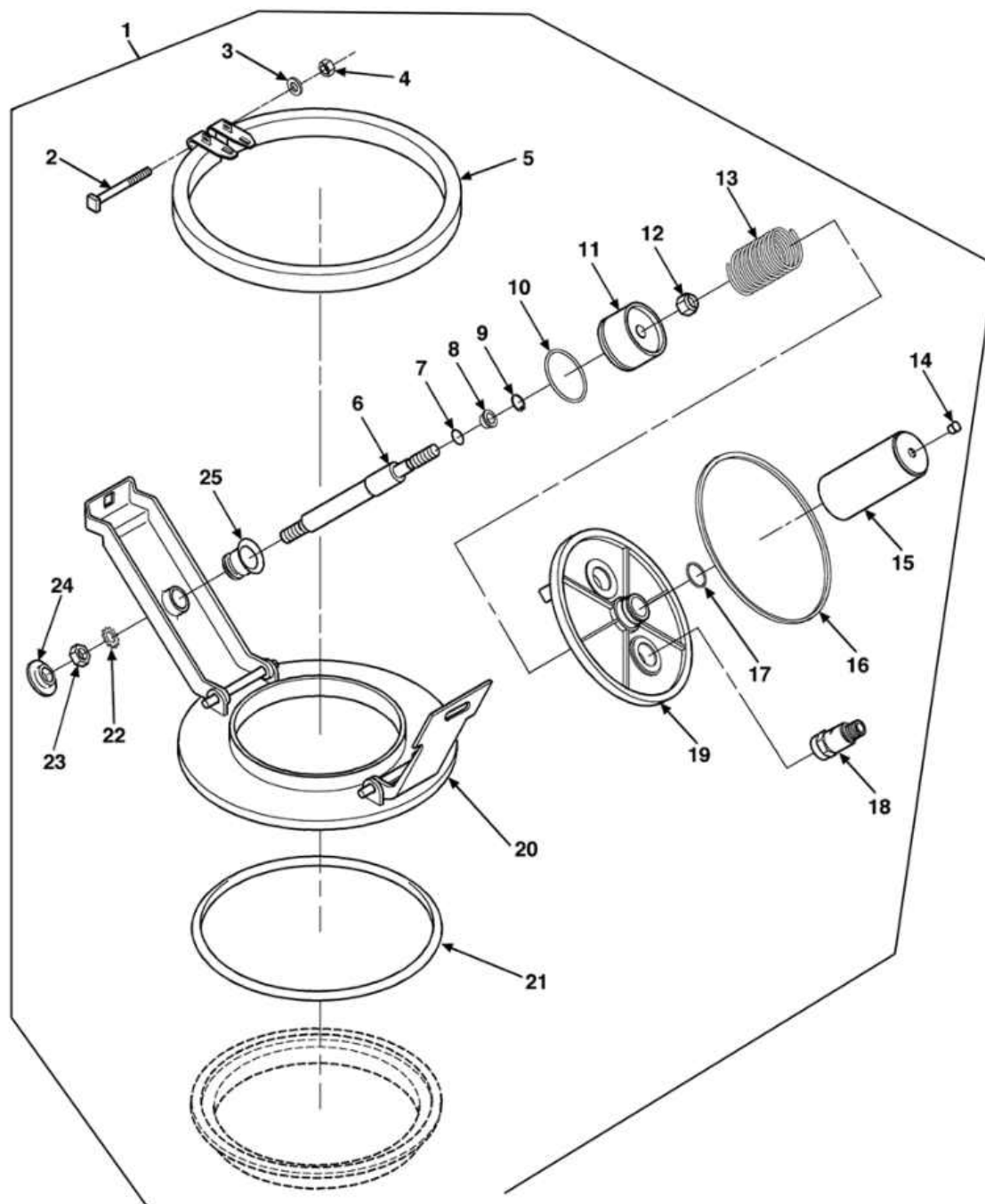


FIGURE 37. ENGINE HOUSING AND FRAME ASSEMBLY

GROUP 1808 ENGINE HOUSING AND FRAME ASSEMBLY - Continued

0199 00

(1) PLISN	(2) ITEM NO.	(3) SMR CODE	(4) NSN	(5) CAGEC	(6) PART NUMBER	(7) DESCRIPTION AND USABLE ON CODE (UOC)	(8) QTY
						GROUP 1808 STOWAGE RACKS, BOXES, STRAPS, CARRYING CASES, CABLE REELS, HOSE REELS, ETC.	
						FIG. 37 ENGINE HOUSING AND FRAME ASSEMBLY	
AAUJ	1	PFOZZ	5306-00-174-9462	1R5C8	9738-0015	SCREW, CAP, HEXAGON HEAD.....	24
AAUG	2	PFOZZ	5310-00-614-3506	80205	MS15795-817	WASHER, FLAT.....	48
AAUE	3	PFOZZ	5310-01-502-8323	1R5C8	9562-0133	NUT, LOCKING.....	24
AAUC	4	PFOZZ	5340-01-504-6540	1R5C8	M311-2894	BRACKET, SUPPORT.....	1
AAUU	5	PFOZZ	5340-01-504-6553	1R5C8	M311-2881	ANGLE.....	1
AAUY	6	PFOZZ	2510-01-504-6558	1R5C8	M311-3180	BRACKET, MOTOR SUPPORT, OUTER.....	2
AAUW	7	PFOZZ	2510-01-511-5621	1R5C8	M311-2890	BRACKET, MOTOR SUPPORT, INNER ..	1
AAVW	8	PFOZZ	5340-01-504-7810	1R5C8	M311-2882	HAT CHANNEL, ENGINE MOUNT.....	2
AAVY	9	PFOZZ	5340-01-504-7814	1R5C8	M311-2883	HAT CHANNEL, PUMP MOUNT.....	1
AAU5	10	PFOZZ	5340-01-504-6525	1R5C8	M311-2880	ANGLE.....	1
AAU2	11	PFOZZ		1R5C8	M311-2894	BRACKET, MOTOR SUPPORT.....	1
AAU1	12	PFOZZ	2510-01-504-6535	1R5C8	M311-3181	BRACKET, MOTOR SUPPORT, OUTER.....	2
AAU3	13	PFOZZ	2510-01-504-6539	1R5C8	M311-2885	BRACKET, MOTOR SUPPORT, INNER ..	1
AAU7	14	PFOZZ	2510-01-504-6545	1R5C8	M237-9470	RAIL, MOTOR FRAME, INNER.....	1
AAVG	15	PFOZZ	5340-01-504-7798	1R5C8	M311-2888	CROSSMEMBER, FUEL TANK.....	1
AAV3	16	PFOZZ	5305-01-508-6135	39428	92186A673	SCREW, CAP HEXAGON HEAD.....	8
AAV5	17	PFOZZ	5310-01-476-4801	39428	90107A032	WASHER, FLAT.....	16
AAV7	18	PFOZZ	5310-01-508-6136	39428	90715A032	NUT, SELF-LOCKING HEXAGON.....	8
AAU4	19	PFOZZ		1R5C8	M311-3677	BRACKET, BATTERY SUPPORT	1
AAVL	20	PFOZZ	5340-01-504-7802	1R5C8	M311-2887	SUPPORT, FUEL TANK, FRONT.....	1
AAU6	21	PFOZZ		1R5C8	M311-3674	TRAY, BRACKET	1
AAVQ	22	PFOZZ	2510-01-504-6588	1R5C8	M311-2886	BRACKET, ENGINE SUPPORT.....	1
AAVU	23	PFOZZ	5340-01-504-2879	1R5C8	M311-2879	ANGLE.....	2
AAVN	24	PFOZZ	2510-01-504-6565	1R5C8	M237-9469	RAIL, MOTOR FRAME, OUTER.....	1
AAVS	25	PFOZZ	2510-01-504-6592	1R5C8	M311-2889	BRACKET, ENGINE SUPPORT.....	1
AAUA	26	PFOZZ	6160-01-504-7532	1R5C8	M311-2899	BRACKET, MOUNTING.....	2
AAU8	27	PFOZZ		1R5C8	M311-3211	BRACKET, MOUNTING.....	1
TM-CODE 2VD						END OF FIGURE	



GROUP 1811 MANHOLE COVER ASSEMBLY - Continued

0200 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 1811 TANK BODIES	
						FIG. 38 MANHOLE COVER ASSEMBLY	
AKYA1	1	PAOOO	4930-01-420-7874	13226	PPVL763CXB262	COVER, MANHOLE.....	1
AKZE	2	PAOZZ	5306-01-077-5119	13226	3029SL	.BOLT, MACHINE.....	1
AKZJ	3	PAOZZ	5310-01-077-6773	13226	3031-SL	.WASHER.....	1
AKZG	4	PAOZZ	5310-01-061-8727	13226	3030-BR	.NUT	1
AKZC	5	PFOZZ		13226	3036SL262	.RING,CLAMPING.....	1
AKYQ	6	PFOZZ		13226	6688SL	.STEM.....	1
AKYG	7	PFOZZ		13226	4118BN	.O-RING, STEM.....	1
AKYE	8	PFOZZ		13226	4117ALEY	.RETAINER, O-RING	1
AKYU	9	PFOZZ		13226	9Q4961	.RING, RETAINING	1
AKYC	10	PAOZZ	5331-01-424-3860	13226	4015TS	.O-RING.....	1
AKYL	11	PFOZZ		13226	6654AL	.PISTON	1
AKYW	12	PFOZZ		13226	9Q5896	.NUT, HEXAGON, WITH INSERT	1
AKYJ	13	PFOZZ		13226	4122MS	.SPRING.....	1
AKYY	14	PFOZZ		13226	9V4907	.PLUG, PIPE.....	1
AKYN1	15	PFOZZ		13226	6657AL117	.CYLINDER ASSEMBLY	1
AKYB	16	PAOZZ	5330-01-024-2311	13226	3119BN	.PACKING, PREFORMED	1
AKZQ	17	PAOZZ		13226	4015BN	.O-RING, CYLINDER.....	1
AKY9	18	PFOZZ		13226	6496ALB117	.VENT ASSEMBLY.....	1
AKYS	19	PFOZZ		13226	8297ALEY	.COVER, MACHINED.....	1
AKZA1	20	PFOZZ		13226	6778SL	.CLOSURE ASSEMBLY	1
AKZL	21	PAOZZ	5330-01-134-1986	13226	3560BN	.GASKET	1
AKY3	22	PFOZZ	5310-01-486-4256	13226	9Q5961	.WASHER, EXTERNAL TOOTH	1
AKY5	23	PFOZZ		13226	9Q5960	.NUT, HEXAGON	1
AKY7	24	PFOZZ	5340-01-486-0635	13226	9Z6163	.PLUG, PLASTIC.....	1
AKY1	25	PFOZZ	3010-01-485-3100	13226	4020EPDM	.BELLOWS	1
TM-CODE 2VD						END OF FIGURE	

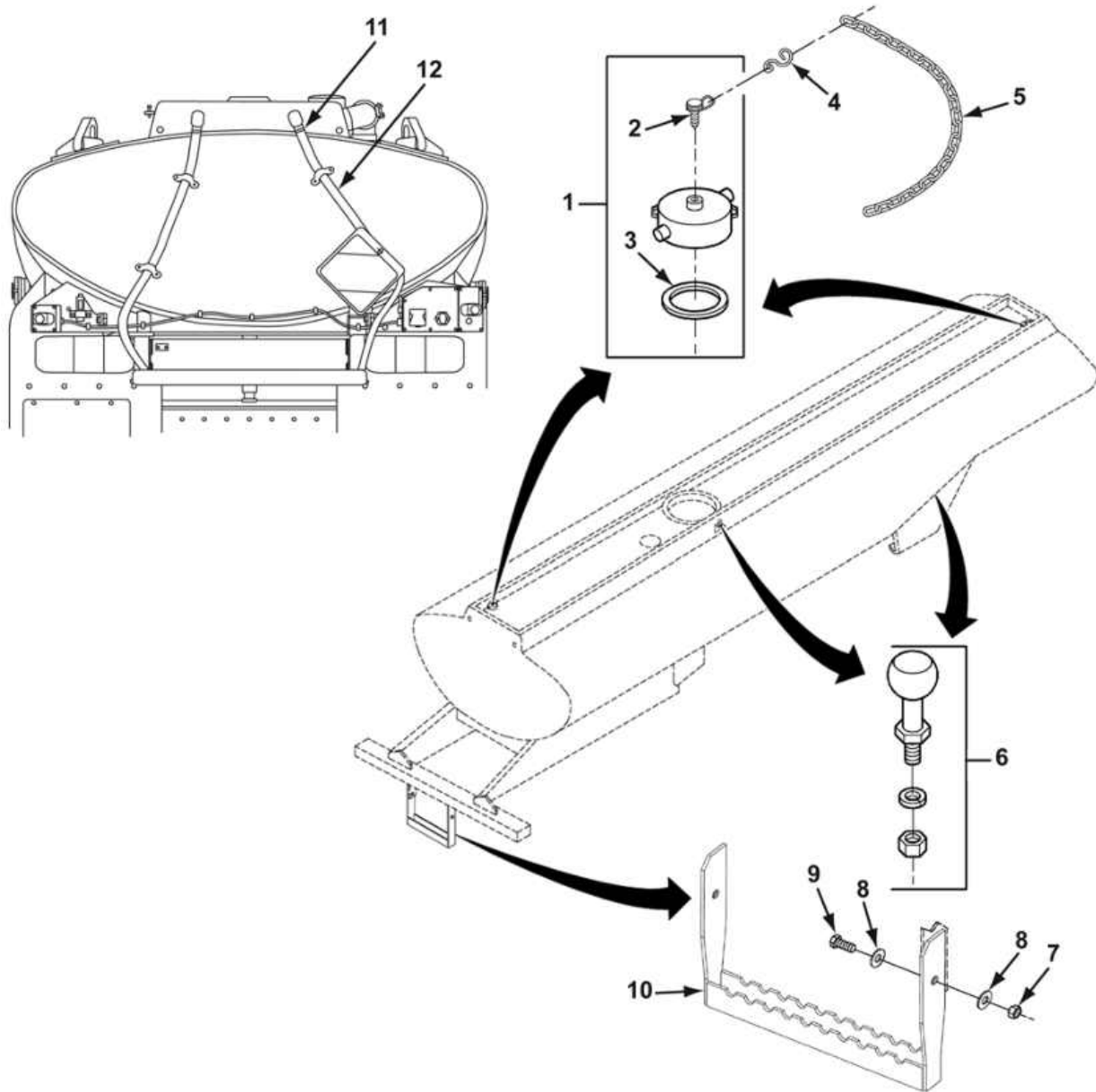


FIGURE 39. MISCELLANEOUS BODY PARTS

GROUP 1811 MISCELLANEOUS BODY PARTS

0201 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 1811 TANK BODIES	
						FIG. 39 MISCELLANEOUS BODY PARTS	
ARAA1	1	PFOOO	5340-01-508-6874	8K828	3SC	CAP.....	2
ARAE	2	PFOZZ	5340-01-508-6906	8K828	CLIP	.CLIP, CAP.....	1
ARAC	3	PFOZZ	5330-01-508-6904	8K828	3TR	.GASKET, RING.....	1
ARAL	4	PAOZZ	4030-01-503-0447	1R5C8	2AHOOKSS	HOOK, CHAIN, S.....	2
ARAJ	5	MOOZZ		1R5C8	9121-0005-24	CHAIN,STEEL MAKE FROM CHAIN P/N 9121-0005 (1R5C8), 24 INCHES.....	2
ARAS	6	PAOZZ	5307-01-389-3445	91840	7523	STUD, BALL.....	3
ARRAY	7	PFOZZ	5310-01-502-8323	1R5C8	9562-0133	NUT, SELF LOCKING HEXAGON 1/2-13.....	2
ARA1	8	PAOZZ	5310-00-614-3506	80205	MS15795-817	WASHER, FLAT 1/2.....	4
ARA5	9	PFOZZ	5308-00-174-9462	1R5C8	9738-0015	BOLT, MACHINE 1/2-13 X 1-1/2.....	2
ARA3	10	PFOZZ	2510-01-508-6055	1R5C8	M121-2651	STEP.....	1
ARA7	11	PAOZZ		1R5C8	9125-0116	CLAMP, HOSE.....	2
ARA9	12	PFOZZ		1R5C8	M054-9860	HOSE, FRONT, DRAIN.....	1
						TM-CODE 2VD	
						END OF FIGURE	

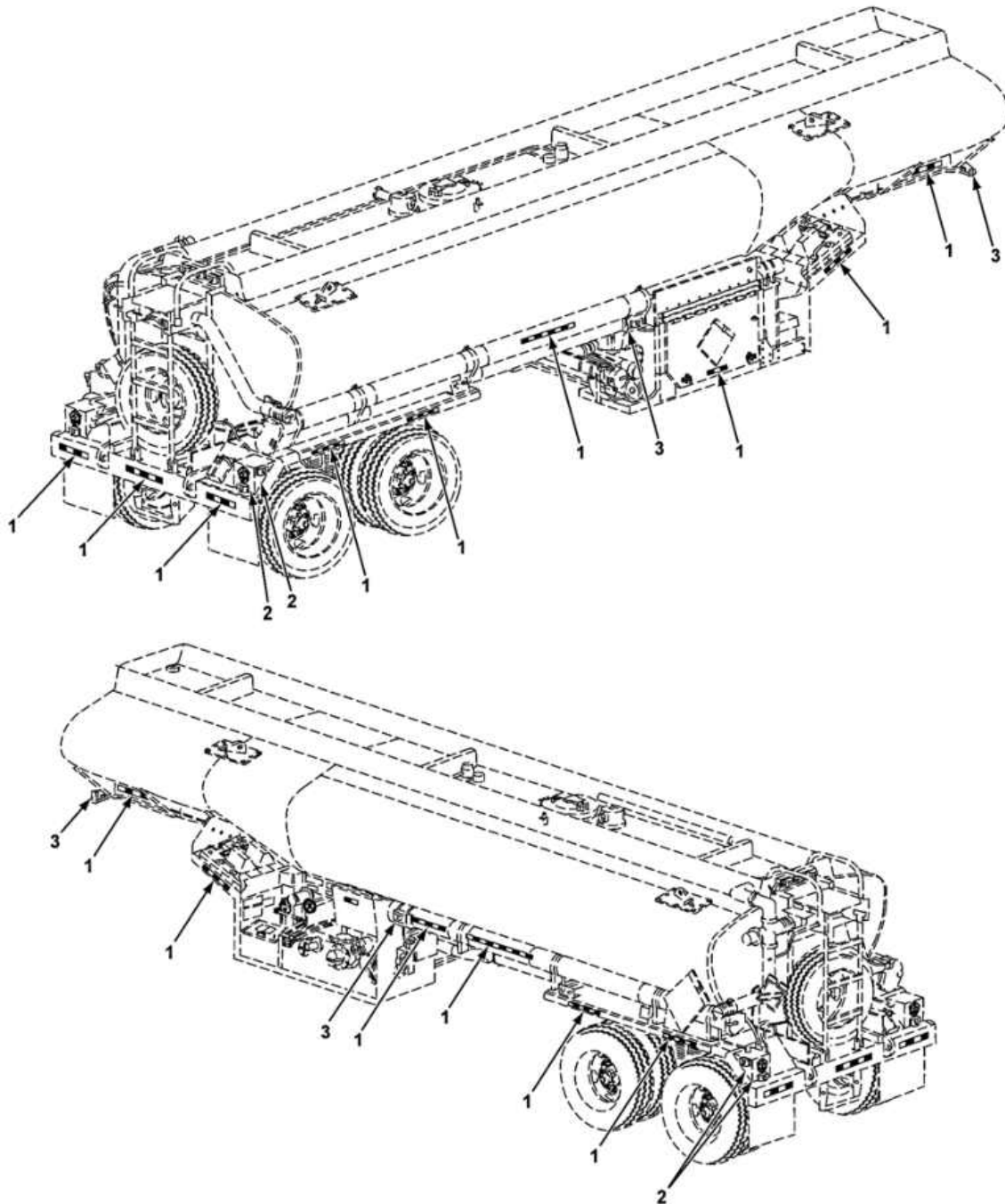


FIGURE 40. REFLECTORS

GROUP 2202 REFLECTORS - Continued

0202 00

(1) PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 22 BODY, CHASSIS AND HULL ACCESSORY ITEMS	
						GROUP 2202 ACCESSORY ITEMS	
						FIG. 40 REFLECTORS	
AKRJ	1	PFOZZ	9390-01-504-6187	13548	98107	TAPE, CONSPICUITY, RED/WHITE, 2 INCH	AR
AKRE	2	PFOZZ	6220-01-506-2958	12662	B491R	REFLECTOR, RED	4
AKRA	3	PFOZZ	6220-01-506-2956	12662	B491A	REFLECTOR, AMBER	4
						TM-CODE 2VD	
						END OF FIGURE	



GROUP 2210 VEHICLE I.D., INSTRUCTION PLATES, AND MOUNTING HARDWARE – Continued 0203 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2210 DATA PLATES AND INSTRUCTION HOLDERS	
						FIG. 41 VEHICLE I.D., INSTRUCTION PLATES AND MOUNTING HARDWARE	
ALAE	1	PAOZZ	5320-01-504-6880	1R5C8	9682-0047	RIVET, POP.....	32
ALAJ	2	PFOZZ	9905-01-518-1229	1R5C8	9222-0321	PLATE, LOADING, PRECHECK	1
ALAS	3	PFOZZ	9905-01-518-1231	1R5C8	9222-0320	PLATE, THROTTLE LOCK.....	1
ALAY	4	PFOZZ	9905-01-518-1228	1R5C8	9222-0317	PLATE, VAPOR RECOVERY KIT	1
ALA1	5	PFOZZ	9905-01-518-1227	1R5C8	9222-0324	PLATE, VEHICLE TIE-DOWN DATA	1
ALA3	6	PFOZZ	9905-01-518-1236	1R5C8	9222-0311	PLATE, VEHICLE OPERATING INSTRUCTIONS.....	1
ALA7	7	PFOZZ	9905-01-518-1234	1R5C8	9222-0323	PLATE, LIFTING PROVISIONS	1
TM-CODE 2VD						END OF FIGURE	

GROUP 2210 VEHICLE I.D., INSTRUCTION PLATES, AND MOUNTING HARDWARE

0204 00

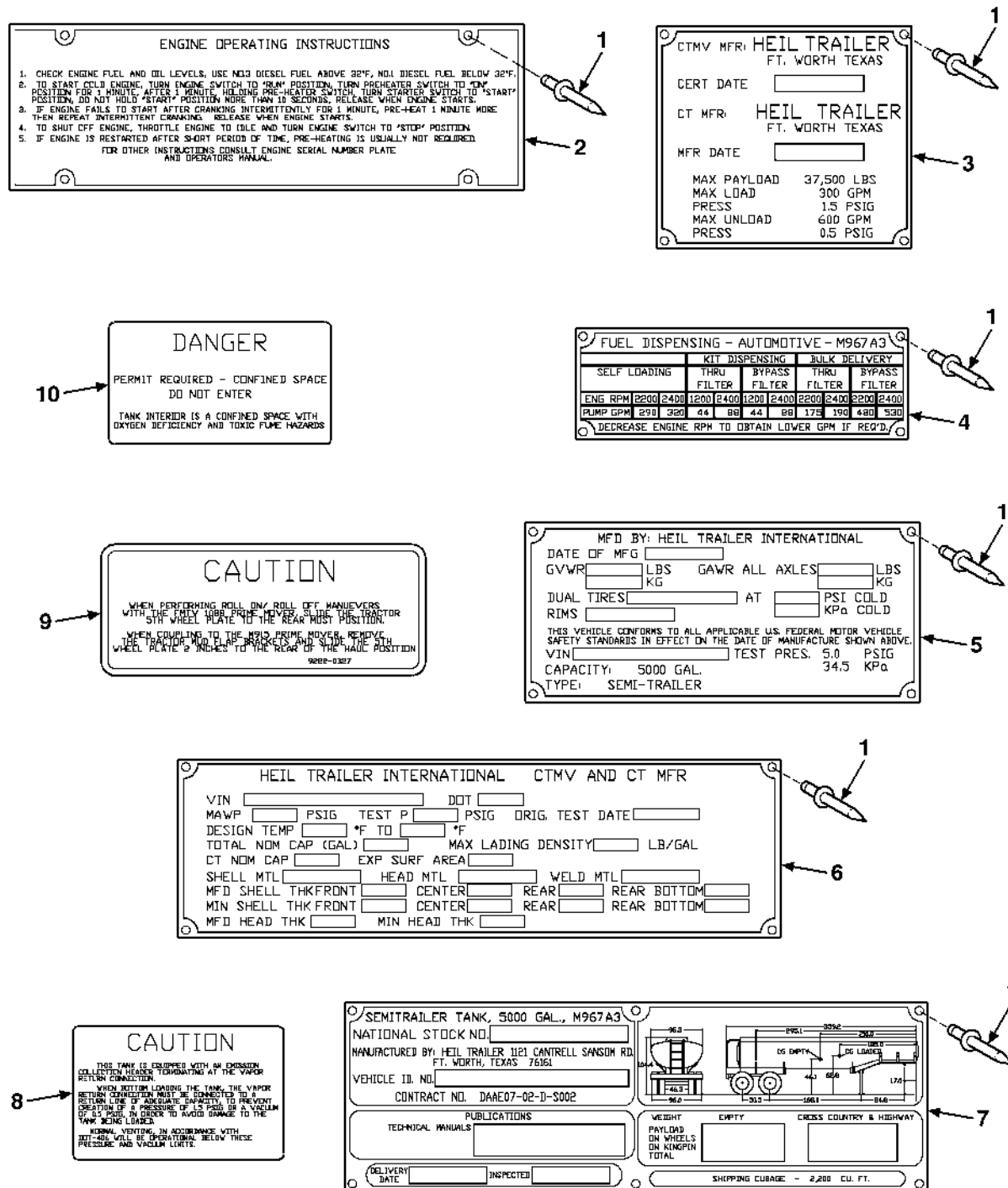


FIGURE 42. VEHICLE I.D., INSTRUCTION PLATES, AND MOUNTING HARDWARE

GROUP 2210 VEHICLE I.D., INSTRUCTION PLATES, AND MOUNTING HARDWARE – Continued 0204 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2210 DATA PLATES AND INSTRUCTION HOLDERS	
						FIG. 42 VEHICLE I.D., INSTRUCTION PLATES AND MOUNTING HARDWARE	
ALAE	1	PAOZZ	5320-01-504-6880	1R5C8	9682-0047	RIVET, POP.....	26
ALBE	2	PFOZZ	9905-01-518-0035	1R5C8	9222-0312	PLATE, ENGINE INSTRUCTIONS.....	1
ALB5	3	PFOZZ	9905-01-518-0034	1R5C8	9653-0044	NAMEPLATE, SPECIFICATION, CTMV & CT MFG	1
ALBM	4	PFOZZ	9950-01-518-1235	1R5C8	9222-0315	PLATE, 967A2 FLOW RATES.....	1
ALB3	5	PFOZZ	9905-01-518-3264	1R5C8	9653-0045	NAMEPLATE, FMVSS SAFETY, TIRE	1
ALB7	6	PFOZZ	9905-01-518-0036	1R5C8	9653-0043	NAMEPLATE, DOT, CTMV & CT MFG.....	1
ALB1	7	PFOZZ	9950-01-519-7678	1R5C8	9222-0319	PLATE, WEIGHT DISTRIBUTION.....	1
ALBS	8	PBOZZ	7690-01-504-6952	1R5C8	9222-0316	DECAL, CAUTION VAPOR CONNECTION.....	1
ALB8	9	PBOZZ	7690-01-504-6901	1R5C8	9222-0327	DECAL, CAUTION ROLL ON/OFF MANEUVERS	1
ALB9	10	PBOZZ	7690-01-504-6947	1R5C8	9222-0328	DECAL, CAUTION CONFINED SPACE....	1
TM-CODE 2VD						END OF FIGURE	

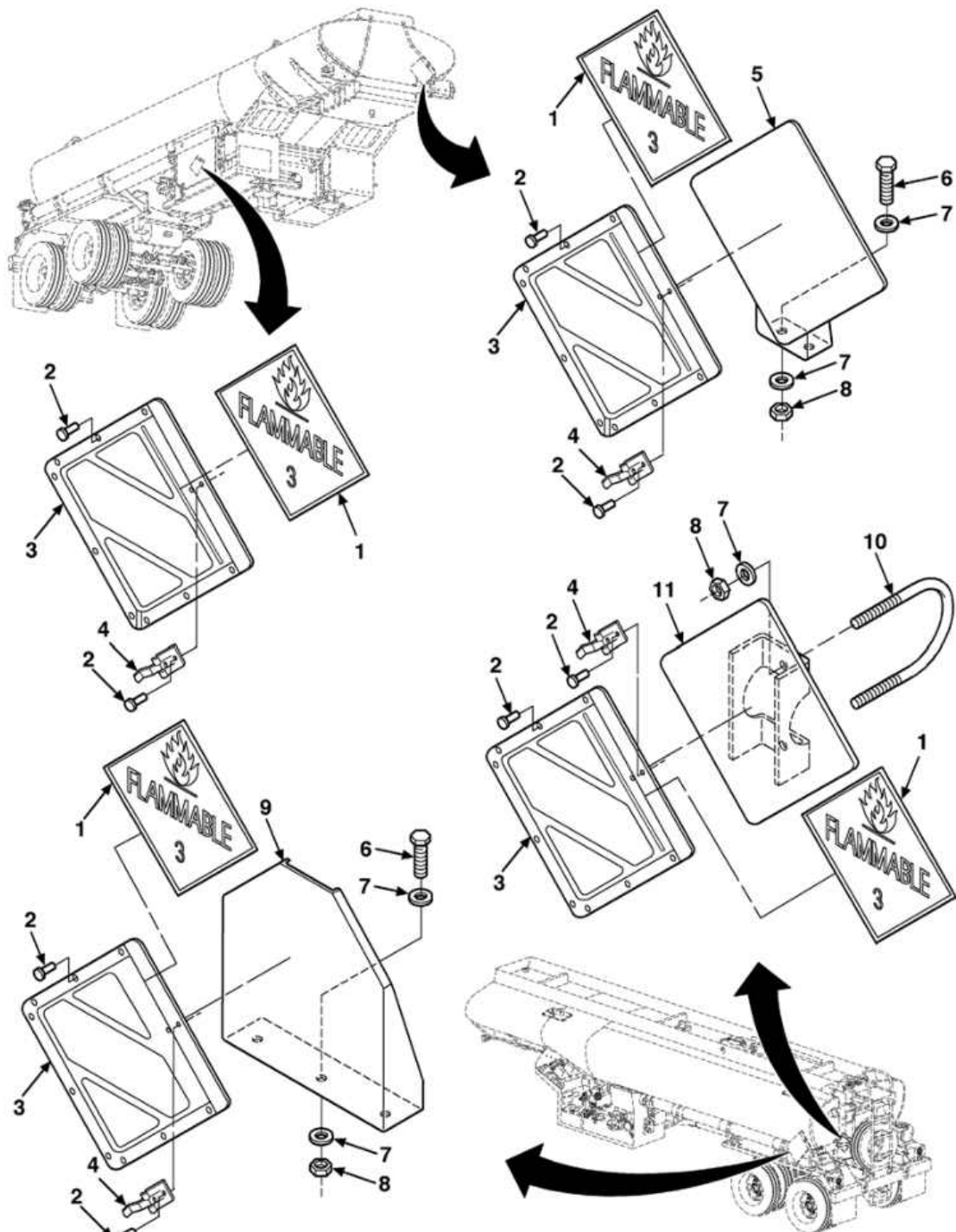


FIGURE 43. HAZARDOUS MATERIAL PLACARDS

GROUP 2210 HAZARDOUS MATERIAL PLACARDS - Continued

0205 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2210 DATA PLATES AND INSTRUCTION HOLDERS	
						FIG. 43 HAZARDOUS MATERIAL PLACARDS	
AVAA	1	PFOZZ	7690-01-506-2946	67634	ZT2-1203	PLACARD,TAGBOARD.....	4
AVAJ	2	PFOZZ	5320-01-504-6880	1R5C8	9682-0047	POP RIVET.....	44
AVAC	3	PFOZZ	9905-01-517-8477	67634	80SM97	HOLDER,PLACARD,SLIDEMASTER	4
AVAE	4	PFOZZ	5340-01-506-2928	67634	80-CLIP	CLIP,SLIDEMASTER	3
AVA3	5	PFOZZ	5340-01-506-2895	1R5C8	M311-3199	MOUNT.....	1
AVAS	6	PFOZZ	5305-00-021-3668	80205	MS35307-310	SCREW,CAP,HEXAGON HEAD	5
AVAY	7	PFOZZ	5310-00-802-4701	96906	MS15795-813	WASHER,FLAT	12
AVA1	8	PFOZZ	5310-01-502-8330	1R5C8	9562-0046	NUT,LOCK.....	7
AVAM	9	PFOZZ	5340-01-506-2859	1R5C8	M311-2180	MOUNT.....	1
AVA7	10	PFOZZ	5306-01-510-2708	1R5C8	9043-0084	U BOLT	1
AVA5	11	PFOZZ	5340-01-506-2901	1R5C8	M311-3202	MOUNT.....	1
TM-CODE 2VD						END OF FIGURE	

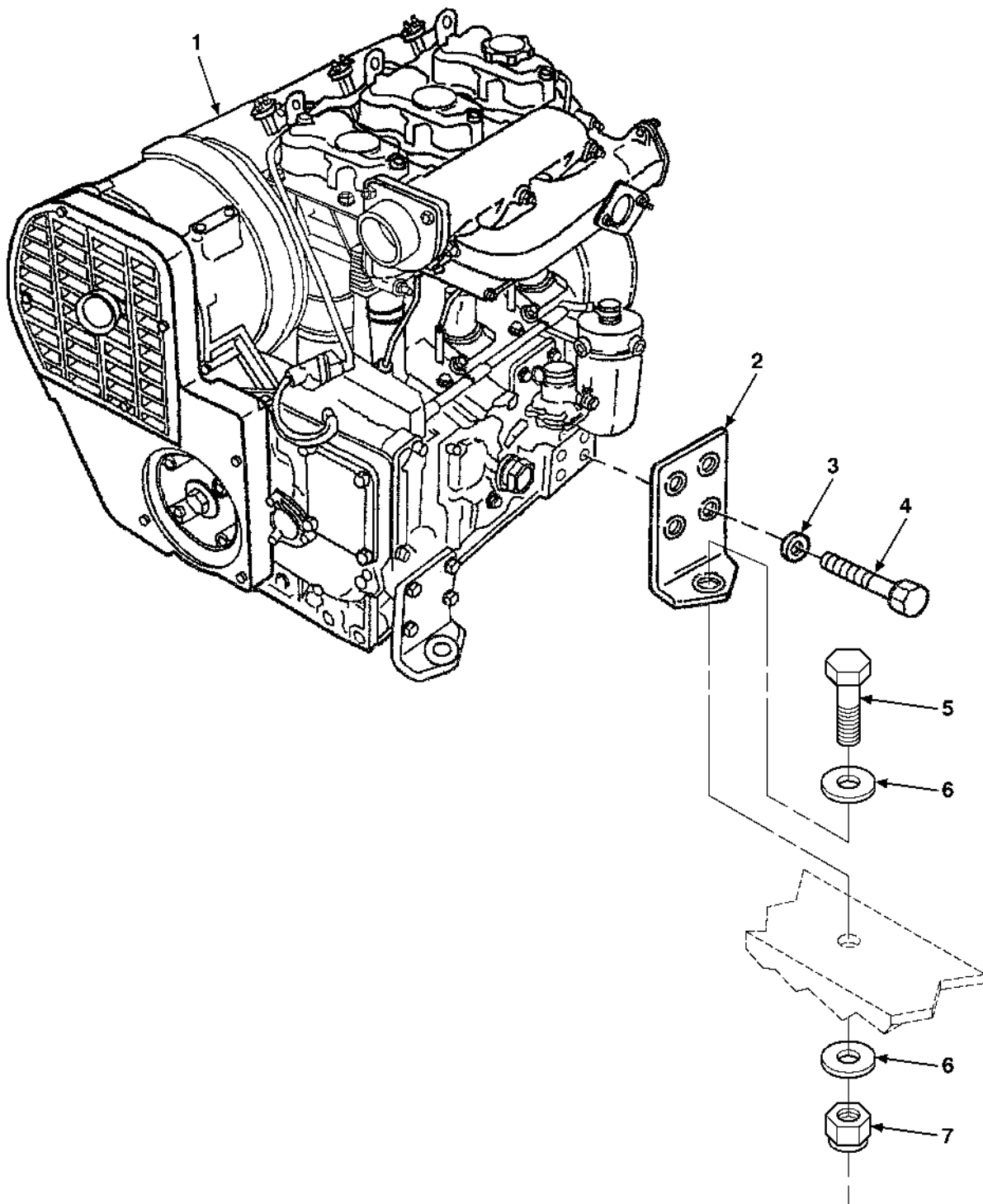


FIGURE 44. ENGINE ASSEMBLY

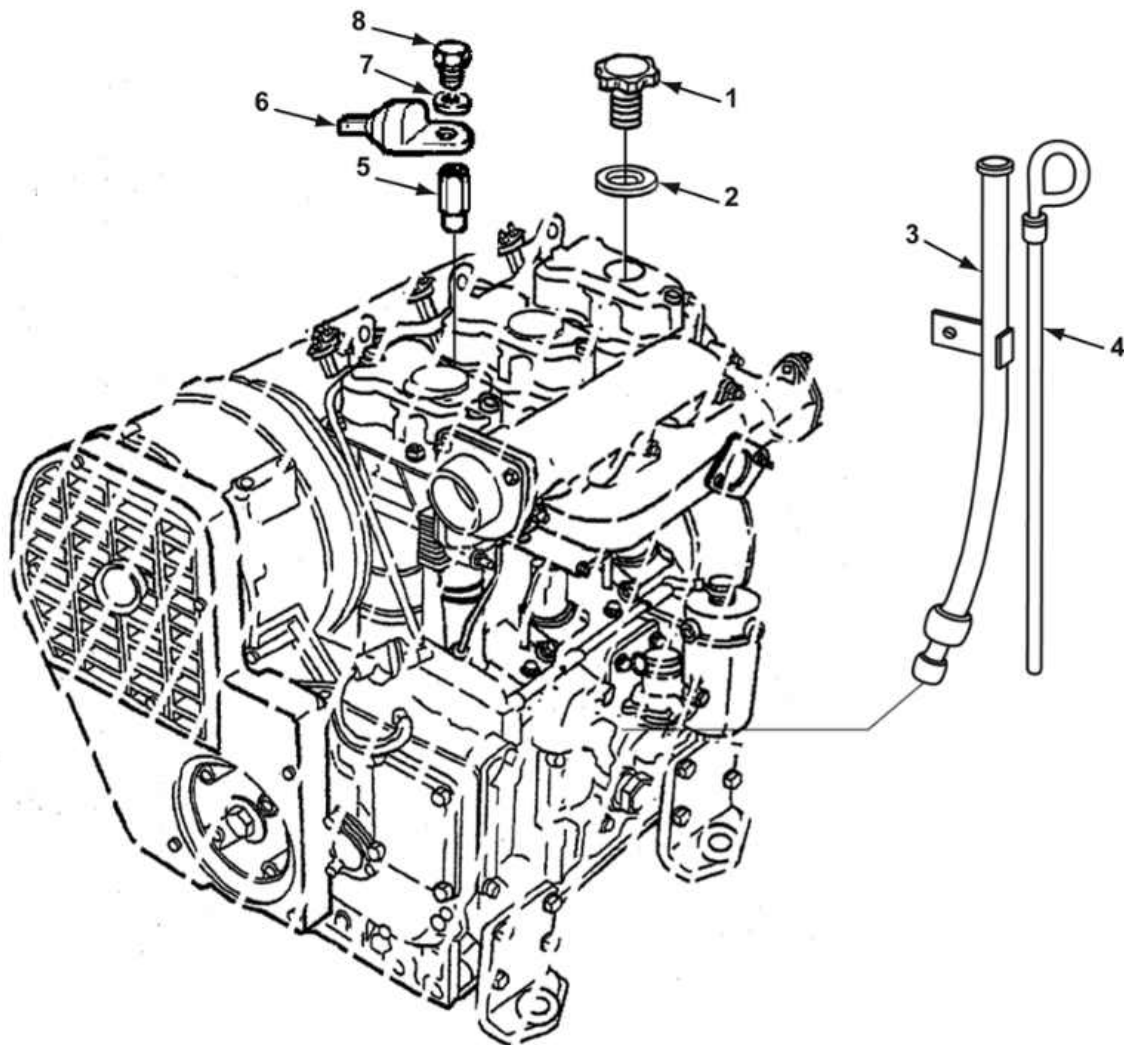


FIGURE 45. ENGINE BLOCK ASSEMBLY

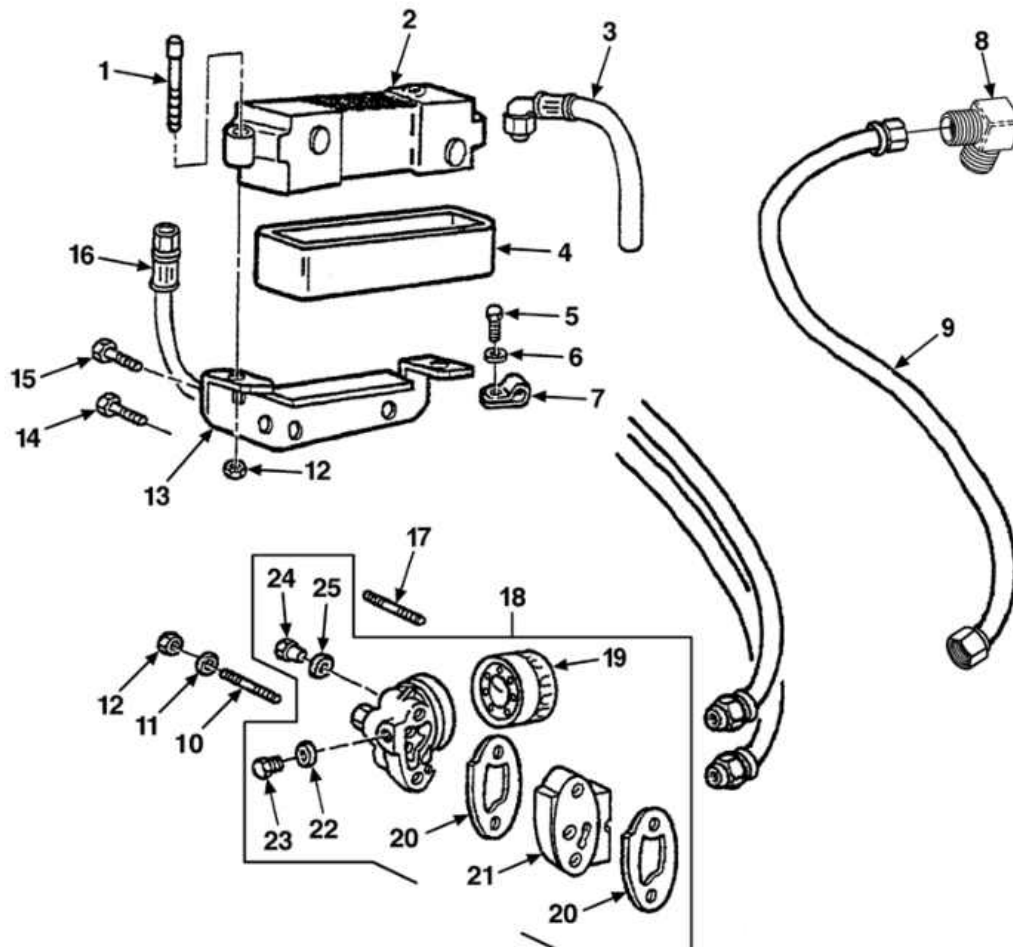


FIGURE 46. ENGINE OIL SYSTEMS GROUP

GROUP 2916 ENGINE OIL SYSTEMS GROUP - Continued

0208 00

PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2916 ENGINE LUBRICATION SYSTEM	
						FIG. 46 ENGINE OIL SYSTEMS GROUP	
AMJA1	1	PAOZZ	5205-01-324-8388	2X179	9.9730.032	SCREW, CAP, HEXAGON HEAD	2
AMJE	2	PFOZZ	2930-01-436-2109	2X179	832.7350.007	RADIATOR, ENGINE COOLING	1
AMJL	3	PAOZZ	4720-01-453-2929	2X179	9485.176	OIL PIPE	1
AML3	4	PAOZZ	2930-15-148-1969	2X179	625.4775.422	GUARD, DIESEL ENGINE	1
AMJQ	5	PAOZZ	5305-01-453-7239	2X179	9.1770.001	SCREW, CAP, HEXAGON HEAD	1
AMJU	6	PAOZZ	5310-01-324-8334	2X179	9.7625.010	WASHER, FLAT	1
AMJZ	7	PAOZZ	5340-01-325-2650	2X179	5000.3617.021	CLAMP, LOOP	1
AMMZ1	8	PAOZZ		1R5C7	9292-0129	FITTING, BRASS, 90 DEGREE	1
AMM11	9	PAOZZ		2X179	9485.083	HOSE,OIL	1
AMK9	10	PAOZZ	5307-01-454-3501	2X179	9.6780.028	STUD, PLAIN	1
AMLA	11	PAOZZ	5310-01-324-8334	2X179	9.7625.010	WASHER, FLAT	2
AMLE	12	PAOZZ	5310-01-324-8246	2X179	3240.018	NUT, PLAIN, HEXAGON	4
AMLQ	13	PFOZZ	2930-01-455-7597	2X179	625.8545.271	BRACE, OIL COOLER	1
AMLU	14	PAFZZ	5305-01-458-1623	2X179	1770-056	SCREW, CAP, HEXAGON HEAD	1
AMLZ	15	PAFZZ	5305-01-324-8355	2X179	9.9732.074	SCREW, CAP, SOCKET HEAD	3
AML1	16	PAOZZ	4920-01-455-3224	2X179	9485.177	OIL PIPE	1
AML7	17	PAOZZ	5307-01-454-3504	2X179	9.6780.034	STUD, PLAIN	1
AML9	18	PFOZZ	2940-01-452-9419	2X179	3740.043	HEAD, FLUID FILTER	1
AMMA	19	PAOZZ	2940-01-324-5153	2X179	904.2175.040	.FILTER ELEMENT, FLUID	1
AMMQ	20	PAOZZ	5330-01-458-5601	2X179	904.4730.533	.GASKET	2
AMMU	21	PAOZZ	9515-01-510-5881	2X179	625.6370.137	.PLATE	1
AMK5	22	PAOZZ	5310-01-324-8325	2X179	276.4670.014	.WASHER, FLAT	1
AMK7	23	PAOZZ	4730-01-461-1297	2X179	9.8965.021	.PLUG,PIPE	1
AMLL	24	PAOZZ	5365-01-333-5129	2X179	9.8965.003	.PLUG,MACHINE THREAD	1
AML5	25	PAOZZ	5310-01-332-8236	2X179	9.4670.058	.WASHER, FLAT	1
TM-CODE 2VD						END OF FIGURE	

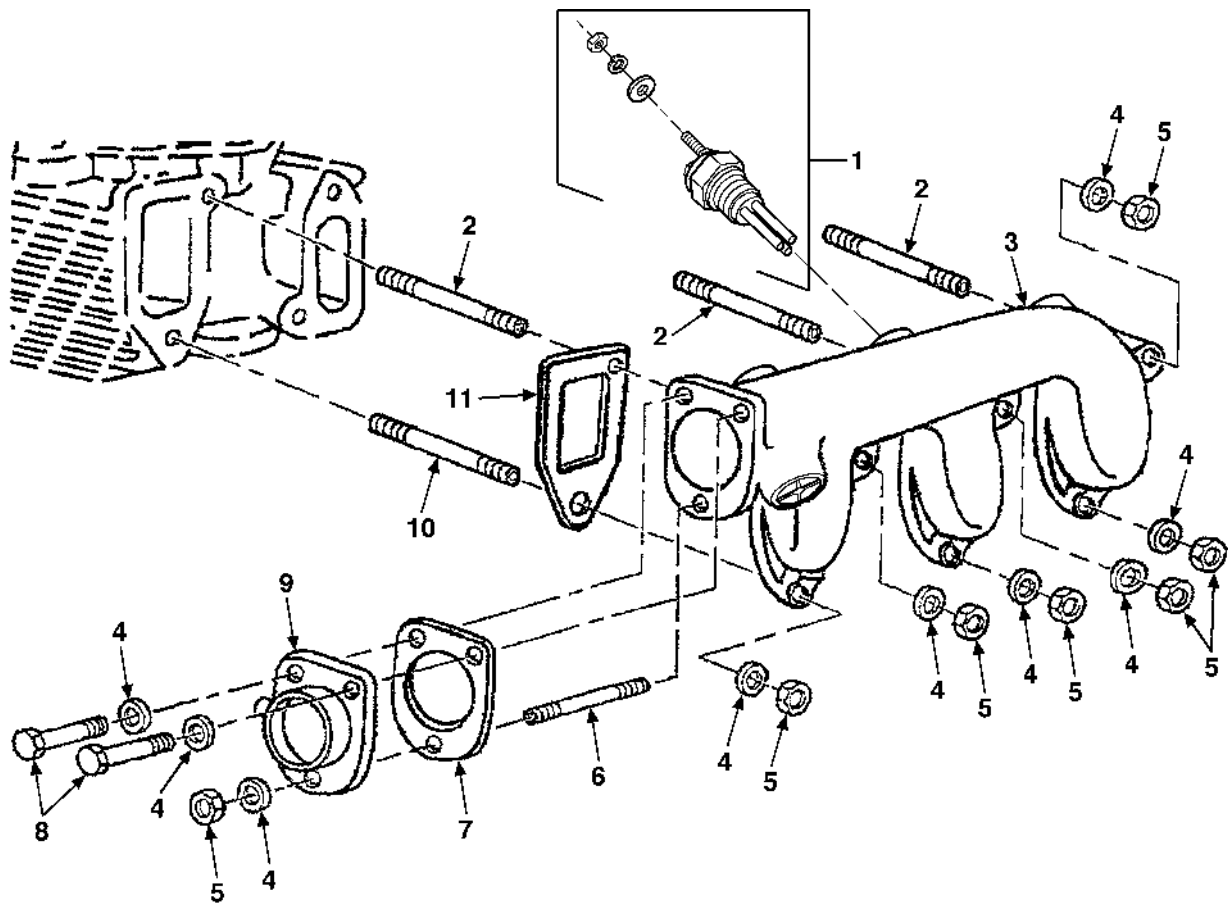


FIGURE 47. ENGINE INTAKE MANIFOLD

GROUP 2918 ENGINE INTAKE MANIFOLD - Continued

0209 00

(1) PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2918 MANIFOLDS	
						FIG. 47 ENGINE INTAKE MANIFOLD	
AMPW	1	PAOZZ	2920-15-155-5288	A1212	2100.056	GLOW PLUG	3
AMPA	2	PAOZZ	5307-01-454-3503	2X179	9.6780.031	STUD, PLAIN	3
AMPE	3	PBOZZ	2990-01-452-7605	2X179	625.2486.043	MANIFOLD, INTAKE	1
AMPG	4	PAOZZ	5310-01-340-8352	2X179	9.7565.007	WASHER, LOCK	9
AMPJ	5	PAOZZ	5310-01-324-8246	2X179	3240.018	NUT, PLAIN, HEXAGON.....	17
AMPL	6	PAOZZ	5307-01-341-2950	2X179	9.6780.008	STUD, PLAIN	1
AMPN	7	PAOZZ	5330-00-459-2294	2X179	625.4490.086	GASKET	1
AMPQ	8	PAOZZ	5305-01-458-1622	2X179	1770-006	SCREW, CAP, HEXAGON HEAD.....	2
AMPU	9	PAOZZ	2805-01-502-9885	2X179	0000-N6E	ADAPTER, INTAKE MANIFOLD	1
AMPS	10	PAOZZ	5307-01-327-3439	2X179	9.6780.084	STUD, PLAIN	3
AMPC	11	PAOZZ	5330-01-351-7676	2X179	560.4420.020	GASKET	3
						END OF FIGURE	

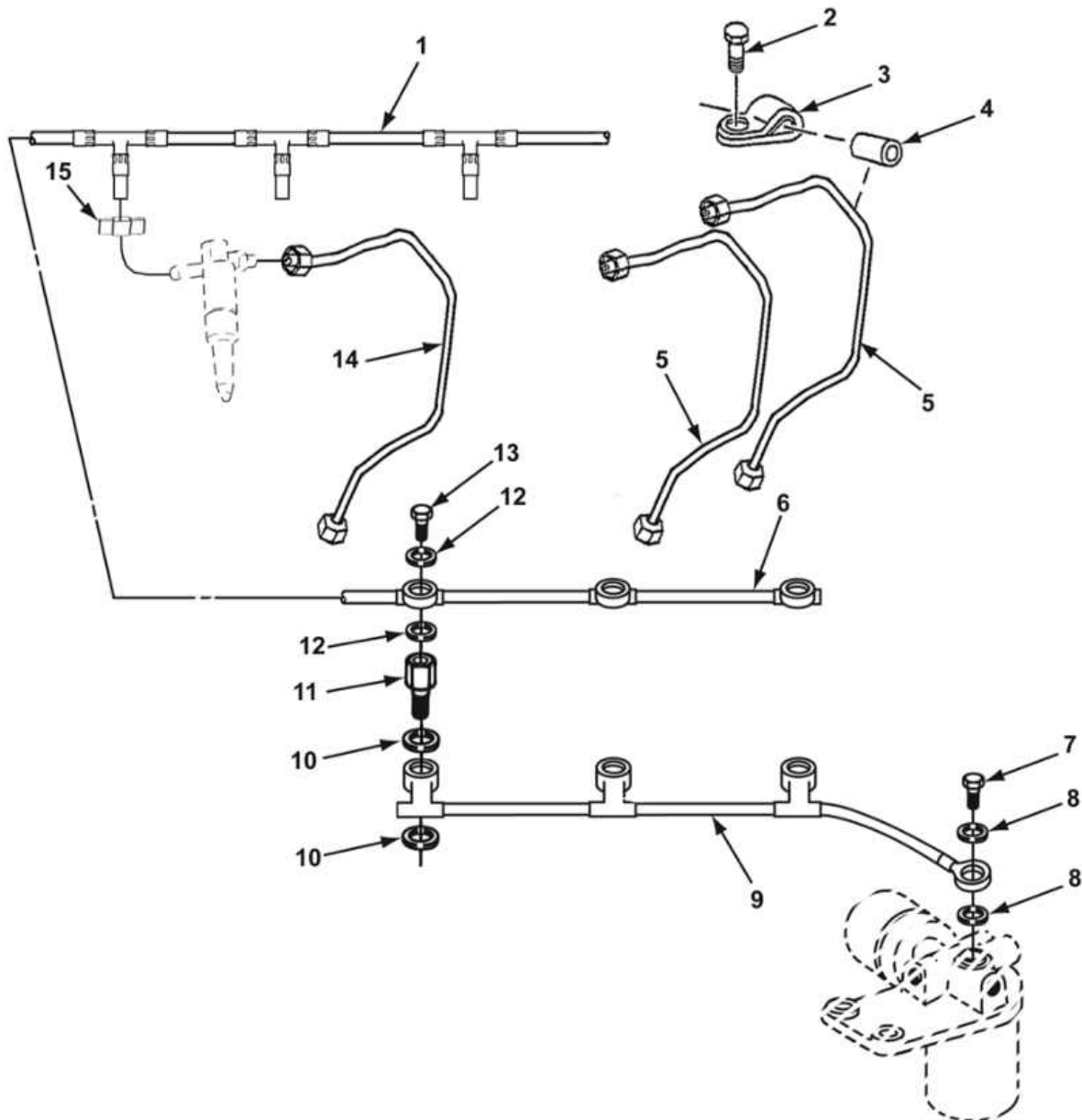


FIGURE 48. ENGINE FUEL INJECTOR SYSTEM

GROUP 2932 ENGINE FUEL INJECTOR SYSTEM

0210 00

PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2932 ENGINE FUEL PUMP	
						FIG. 48 ENGINE FUEL INJECTOR SYSTEM	
AMB11	1	PAOZZ		2X179	9571.229	PIPE, METALLIC	1
AMBE	2	PAOZZ	5305-01-454-3506	2X179	9.1755.002	SCREW, CAP, SOCKET HEAD	3
AMBG	3	PAOZZ	5340-01-327-3444	2X179	276.3616.018	CLAMP, LOOP	3
AMBH	4	PAOZZ	5365-01-324-3425	2X179	276.5400.046	BUSHING, NONMETALLIC	3
AMBK	5	PFOZZ	4710-01-453-3278	2X179	9375.165	TUBE ASSEMBLY, METAL	2
AMBR1	6	PAOZZ		2X179	9375.281	PIPE, METALLIC	1
AMBM1	7	PAOZZ	5306-01-458-1625	2X179	1901-032	BOLT, MACHINE	1
AMBP	8	PAOZZ	5310-01-458-4309	2X179	9.4670.061	WASHER, FLAT	2
AMBT1	9	PAOZZ		2X179	9375.660	PIPE, METALLIC	1
AMBV2	10	PAOZZ		2X179	4620.060	WASHER, FLAT	6
AMBX1	11	PAOZZ		2X179	1901.031	BOLT, UNION	3
AMBC	12	PAOZZ	5310-01-332-8236	2X179	9.4670.058	WASHER, FLAT	6
AMBA	13	PAOZZ	5306-01-323-8814	2X179	9.1901.029	BOLT, METRIC	3
AMBZ	14	PFOZZ	4710-01-453-3273	2X179	9375.167	PIPE, FUEL INJECTOR	1
AMBF	15	PAOZZ		2X179	3630.050	CLAMP, HOSE	3
TM-CODE 2VD						END OF FIGURE	

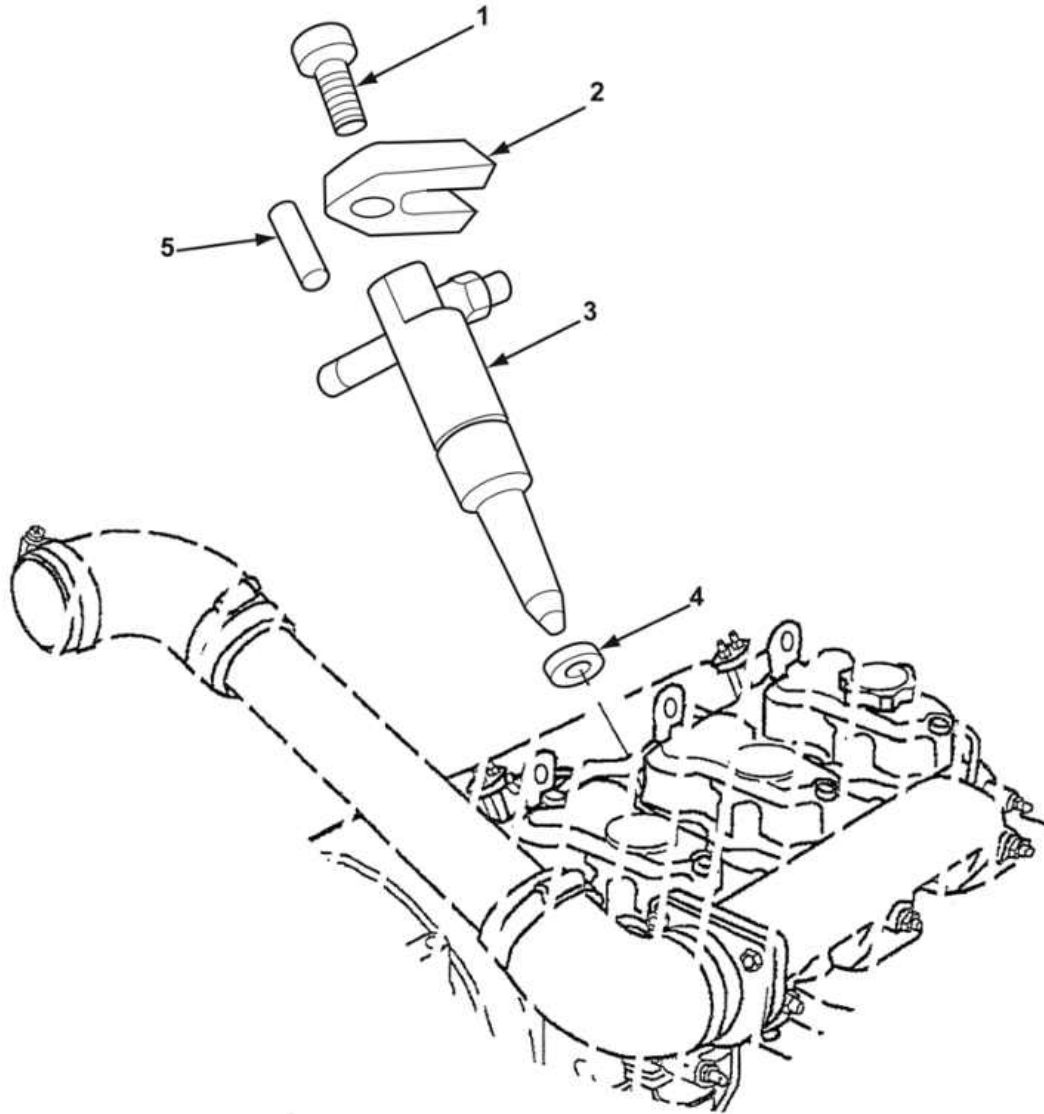


FIGURE 49. NOZZLE AND HOLDER ASSEMBLY

GROUP 2932 NOZZLE AND HOLDER ASSEMBLY

0211 00

(1) PLISN	(2) ITEM NO.	(3) SMR CODE	(4) NSN	(5) CAGEC	(6) PART NUMBER	(7) DESCRIPTION AND USABLE ON CODE (UOC)	(8) QTY
GROUP 2932 ENGINE, FUEL PUMP							
FIG. 49 NOZZLE AND HOLDER SSEMBLY							
AMCA2	1	PAOZZ		2X179	9738-018	SCREW, METRIC 6X45.....	3
AMCD1	2	PAOZZ		2X179	8545.610	BRACKET	3
AMCG1	3	PAOOO		2X179	6615.104	NOZZLE, FUEL INJECTION.....	3
AMCP1	4	PAOZZ		2X179	4670.107	GASKET	3
AMCZ1	5	PAOZZ		2X179	8400.139	PIN, LOCK.....	3
TM-CODE 2VD							
END OF FIGURE							

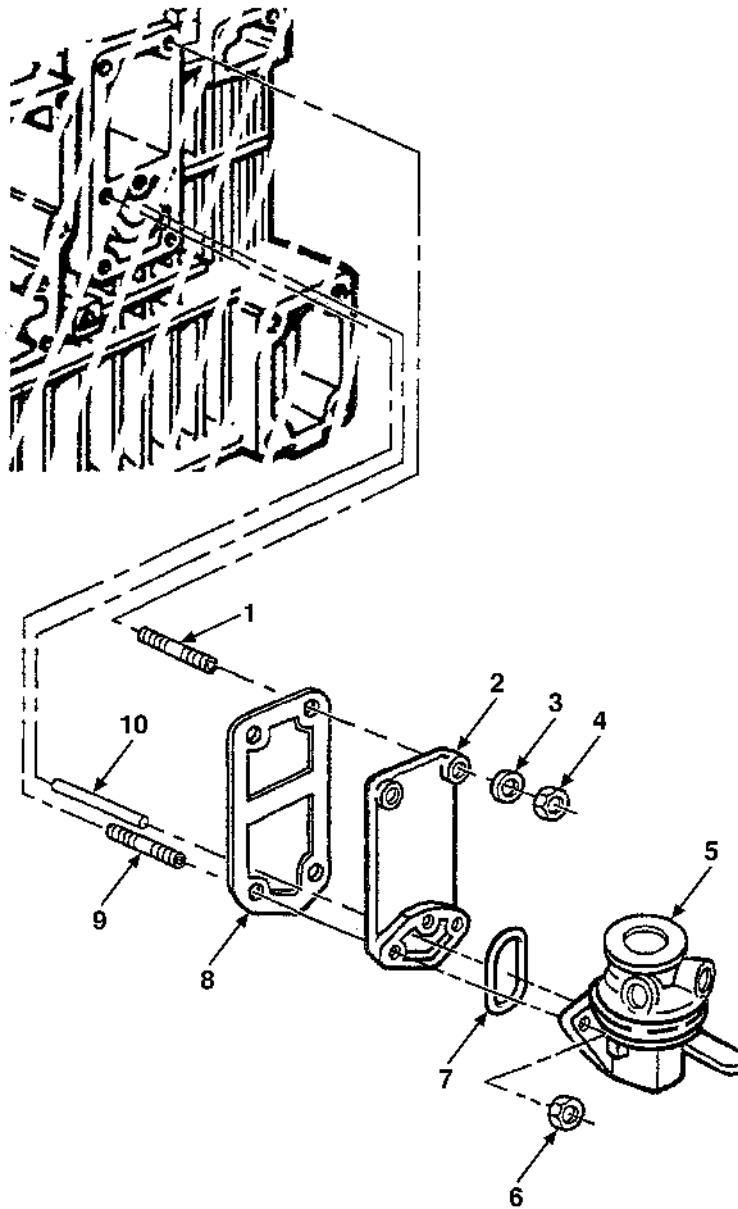


FIGURE 50. ENGINE FUEL PUMP ASSEMBLY

GROUP 2932 ENGINE FUEL PUMP ASSEMBLY - Continued

0212 00

(1) PLISN	(2) ITEM NO.	(3) SMR CODE	(4) NSN	(5) CAGEC	(6) PART NUMBER	(7) DESCRIPTION AND USABLE ON CODE (UOC)	(8) QTY
						GROUP 2932 ENGINE FUEL PUMP	
						FIG. 50 ENGINE FUEL PUMP ASSEMBLY	
AMDA1	1	PAOZZ	5307-01-341-2950	2X179	9.6780.008	STUD, PLAIN	2
AMDC	2	PFOZZ	5340-01-458-8586	2X179	625.2655.032	COVER, ACCESS.....	1
AMDF	3	PAOZZ	5310-01-340-8352	2X179	9.7565.007	WASHER, LOCK.....	2
AMDH	4	PAOZZ	5310-01-324-8246	2X179	3240.018	NUT, PLAIN, HEXAGON	2
AMDK	5	PFOZZ	2910-01-511-8382	2X179	625.6585.079	PUMP, FUEL, CAM ACTUATED	1
AMDM1	6	PAOZZ	5310-01-458-4305	2X179	9.3203.093	NUT, PLAIN, HEXAGON	2
AMDP	7	PAOZZ	5331-01-458-2589	2X179	9.1200.087	O-RING	1
AMDR	8	PAOZZ	5330-01-453-5497	2X179	625.4431.069	GASKET.....	1
AMDT	9	PAOZZ	5307-01-458-1627	2X179	6780-070	STUD, PLAIN.....	2
AMDV	10	PFOZZ	5340-01-459-1516	2X179	625.7200.167	ROD, STRAIGHT, HEADLESS.....	1
TM-CODE 2VD						END OF FIGURE	

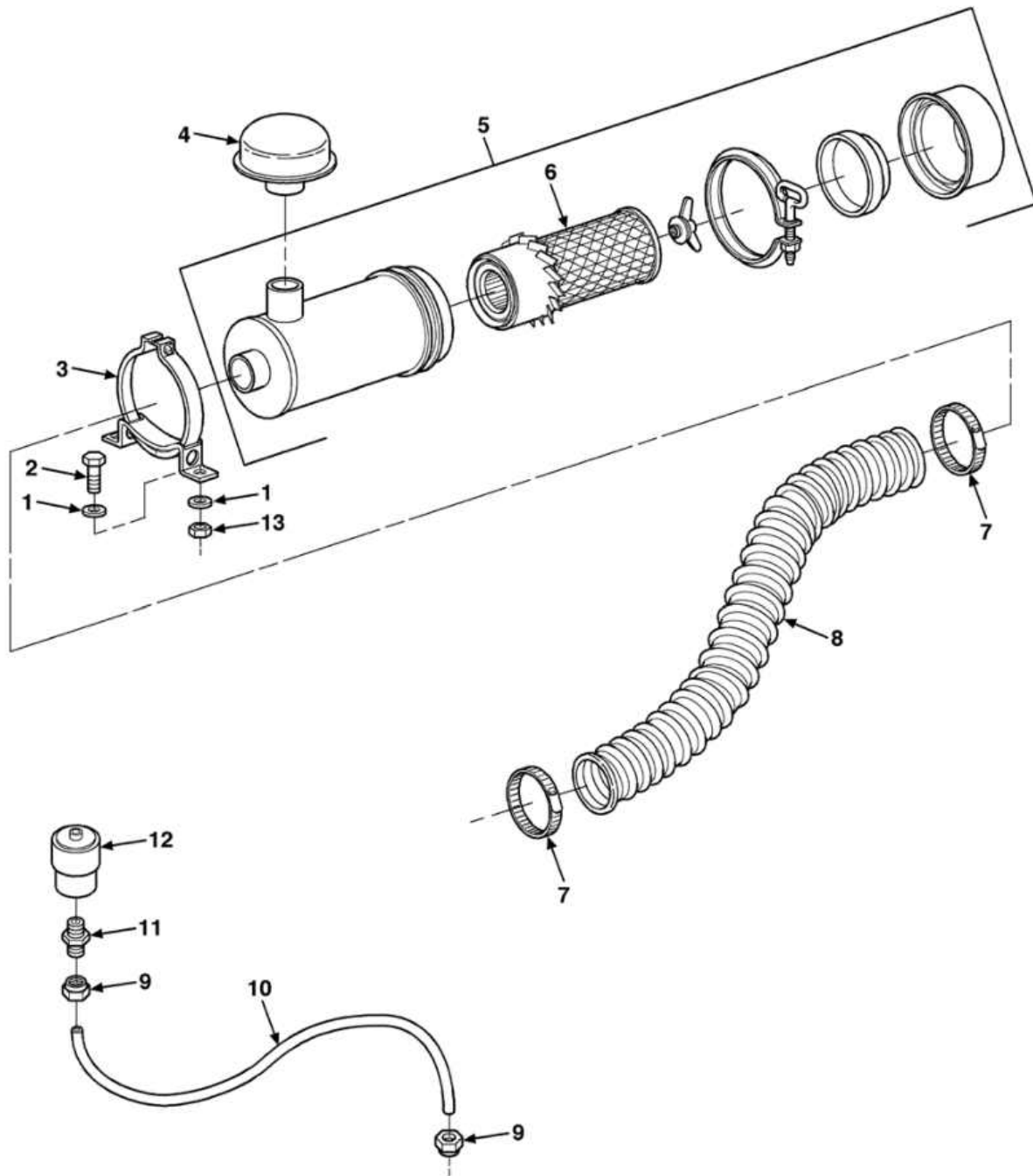


FIGURE 51. AIR CLEANER ASSEMBLY

GROUP 2933 AIR CLEANER ASSEMBLY - Continued

0213 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2933 ENGINE AIR CLEANER	
						FIG. 51 AIR CLEANER ASSEMBLY	
AMEA	1	PAOZZ	5310-00-614-3506	80205	MS15795-817	WASHER.....	8
AMEC	2	PAOZZ	5305-01-512-0581	1R5C8	9738-0015	SCREW,CAP,HEXAGON HEAD	4
AMEE	3	PAOZZ	5340-01-074-8126	19207	11668089	CLAMP, LOOP	2
AMEG	4	PAOZZ	2940-00-325-4438	18265	DNX002018	HOOD, INLET	1
AMEH	5	PAOOO	2940-00-494-9491	18265	FWG05-2510	AIR CLEANER, INTAKE.....	1
AMEK	6	PAOZZ	2940-00-934-7989	18265	SMP18-1050	.FILTER ELEMENT, INTAKE AIR CLEANER	1
AMEM	7	PAOZZ	4730-00-278-9211	91340	D9484-57-41	CLAMP, HOSE	2
AMEP	8	PAOZZ		1R5C8	9229-0001	HOSE, AIR DUCT.....	1
AMER	9	PAOZZ	4730-01-055-4017	93061	VS68NTA-4-2	ADAPTER, STRAIGHT PIPE TO TUBE	2
AMET	10	MOOZZ		1R5C8	9392-0219	HOSE, NONMETALLIC MAKE FROM HOSE P/N 4LOLA (24161), 3 FEET.....	1
AMEV	11	PAOZZ	4730-00-706-7761	75755	AR44361	ADAPTER, INDICATOR.....	1
AMEX	12	PAOZZ	2910-00-400-6861	6N299	4021600	RESTRICTION INDICATOR.....	1
AMEZ	13	PAOZZ	5310-01-502-8323	1R5C8	9562-0133	NUT,SELF-LOCKING, HEXAGON	4
TM-CODE 2VD						END OF FIGURE	

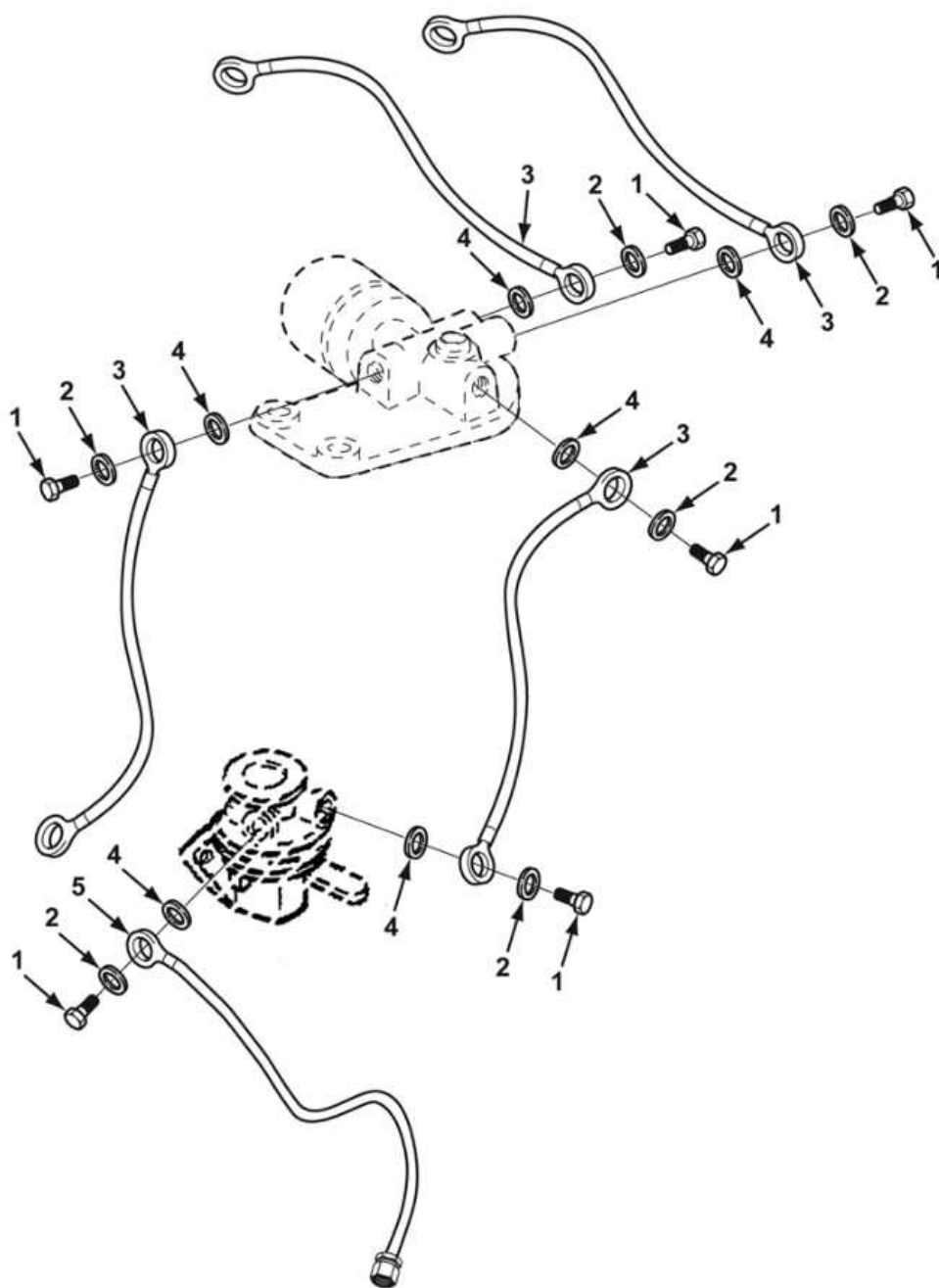


FIGURE 52. ENGINE FUEL LINES

GROUP 2935 ENGINE FUEL LINES - Continued

0214 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2935 ENGINE FUEL TANK	
						FIG. 52 ENGINE FUEL LINES	
AMQC	1	PAOZZ	5306-01-458-1625	2X179	1901-032	BOLT, MACHINE.....	6
AMQA	2	PAOZZ	5310-01-458-4309	2X179	9.4670.061	WASHER, FLAT.....	6
AMQN1	3	PAOZZ		2X179	9373.002	HOSE, FUEL.....	4
AMQG	4	PAOZZ	5310-01-351-7802	2X179	9.4670.059	WASHER, FLAT.....	6
AMQJ	5	PAOZZ	4710-01-459-0003	2X179	9375-855	PIPE, FUEL.....	1
TM-CODE 2VD						END OF FIGURE	

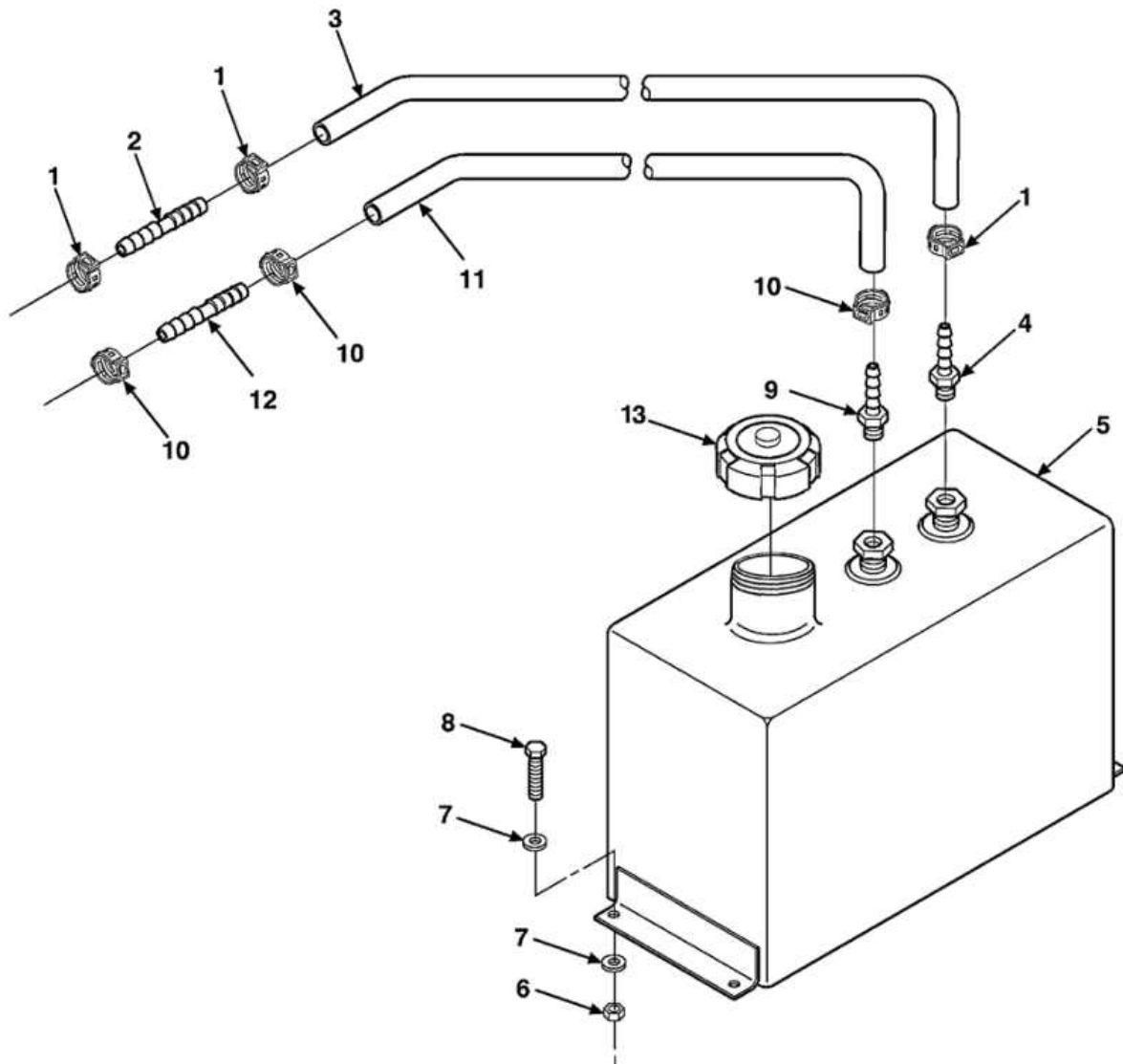


FIGURE 53. FUEL TANK ASSEMBLY

GROUP 2935 FUEL TANK ASSEMBLY - Continued

0215 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2935 ENGINE FUEL TANK	
						FIG. 53 FUEL TANK ASSEMBLY	
AAPC	1	PAOZZ	4730-01-506-1798	1R5C8	9125-0147	CLAMP, HOSE, CRIMP 3/8	3
AAPE	2	PAOZZ	4730-01-506-1815	73402	178-0404	MENDER, HOSE 1/4	1
AAPJ	3	MOOZZ		1R5C8	9392-0219	HOSE, NONMETALLIC 1/4 INCH, MAKE FROM HOSE P/N 4LOLA (24161), AS REQUIRED	1
AAPM	4	PAOZZ	4730-01-506-1838	73402	104-0304	ADAPTER,STRAIGHT 3/16 X 3/8	1
AAPA	5	PFOZZ	2910-01-504-6509	2R206	TM5005	TANK, FUEL, 5 GALLON	1
AAPB	6	PAOZZ	5310-01-502-8329	1R5C8	9562-0044	NUT, SELF-LOCKING, FLANGE 3/8-16 ...	4
AAPD	7	PAOZZ	5310-01-280-5796	96906	MS27183-57	WASHER, FLAT 3/8	8
AAPG	8	PAOZZ	5305-00-269-3211	80205	MS90725-60	SCREW, CAP, HEXAGON HEAD 3/8-16 X 1	4
AAPS	9	PAOZZ	4730-01-466-4498	73402	102-0404	FITTING, BRASS 1/4 X 3/8	1
AAPY	10	PAOZZ	4730-01-506-1946	1R5C8	9125-0146	CLAMP, HOSE, CRIMP 1/4	3
AAP1	11	MOOZZ		1R5C8	9392-0220	HOSE, NONMETALLIC 3/16 INCH, MAKE FROM HOSE P/N 70650 (61125), AS REQUIRED	1
AAP3	12	PAOZZ	4730-01-055-6082	73402	178-0303	MENDER, HOSE 3/16	1
AAP5	13	PAOZZ		1R5C8	9118-0159	CAP, FUEL	1
TM-CODE 2VD						END OF FIGURE	

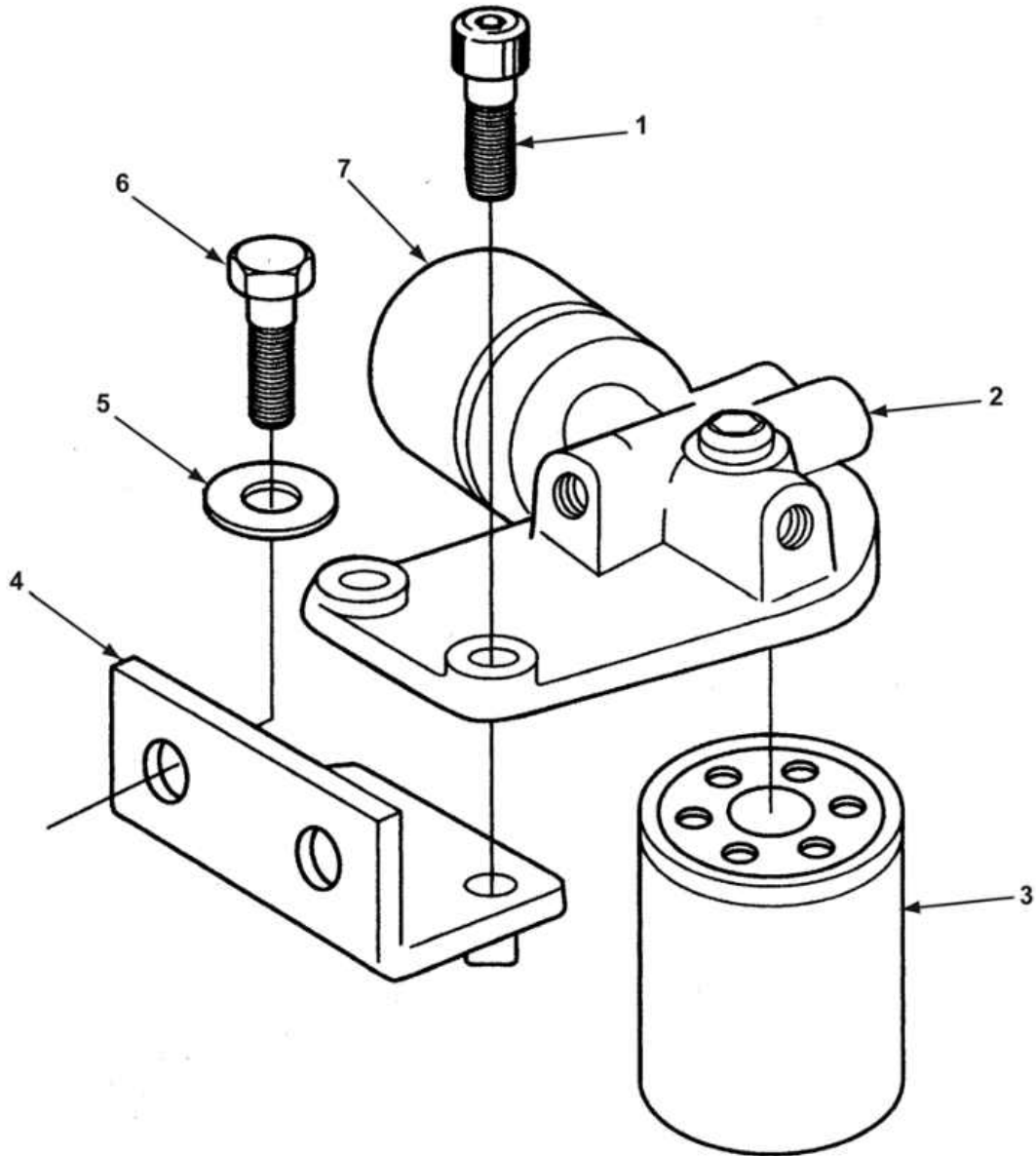


FIGURE 54. ENGINE FUEL FILTER ASSEMBLY

GROUP 2937 ENGINE FUEL FILTER ASSEMBLY - Continued

0216 00

(1) PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2937 ENGINE FUEL FILTER	
						FIG. 54. ENGINE FUEL FILTER ASSEMBLY	
AMRB	1	PAOZZ		2X179	9730.100	SCREW, METRIC, 8X25-2	2
AMRA	2	PFOZZ	2910-01-459-0148	2X179	3440.049	HOUSING, FUEL FILTER	1
AMRM	3	PAOZZ	2910-00-238-0033	2X179	2175.046	FILTER ELEMENT, FLUID	1
AMRG	4	PAOZZ		2X179	8760.090	BRACKET	1
AMRD	5	PAOZZ	5310-01-324-8343	2X179	9.7565.011	WASHER, FLAT	2
AMRC	6	PAOZZ	5306-01-458-1618	2X179	1780.004	BOLT, MACHINE	2
AMRL	7	PAOZZ		2X179	3586.060	VALVE, ELECTRIC	2
			TM-CODE 2VD			END OF FIGURE	

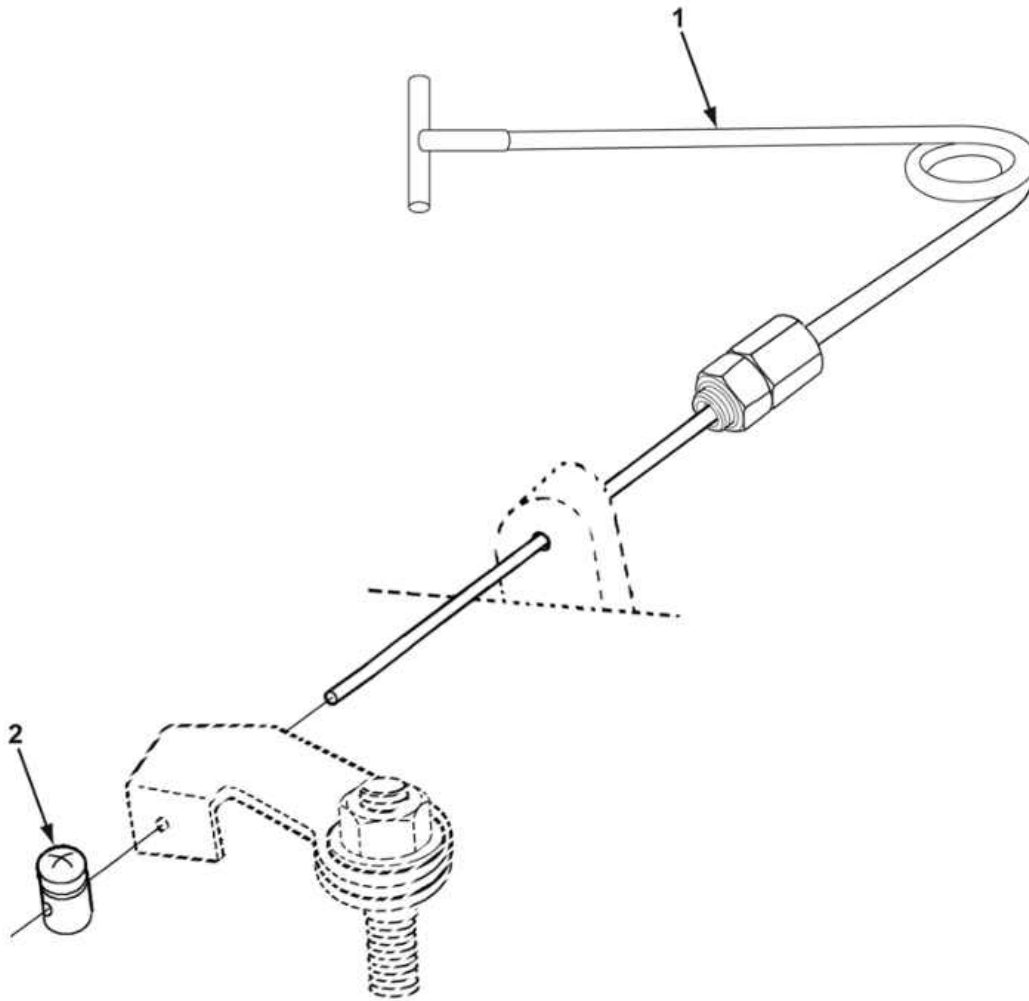


FIGURE 55. ENGINE THROTTLE ASSEMBLY

GROUP 2937 ENGINE THROTTLE ASSEMBLY - Continued

0217 00

(1) PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2939 ENGINE THROTTLE AND CHOKE CONTROLS	
						FIG. 55 ENGINE THROTTLE ASSEMBLY	
AMSJ1	1	PAOZZ		1R5C8	9117-0140	CABLE.....	1
AMSG	2	PAOZZ		2X179	9.5830.119	RETAINER, CABLE	1
						END OF FIGURE	

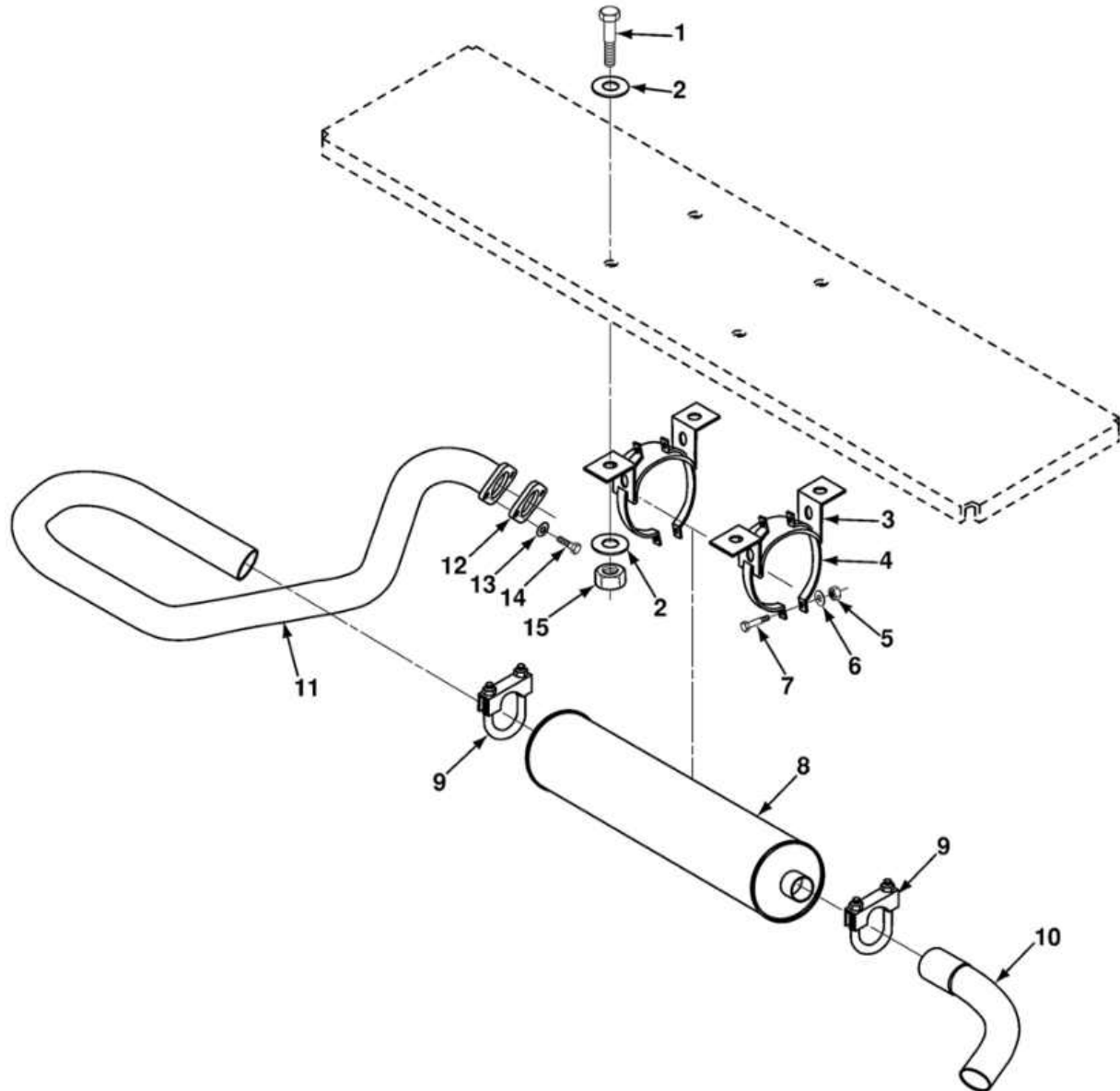


FIGURE 56. MUFFLER ASSEMBLY

GROUP 2941 MUFFLER ASSEMBLY - Continued

0218 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2941 ENGINE MUFFLER, EXHAUST AND TAIL PIPES	
						FIG. 56 MUFFLER ASSEMBLY	
AATB	1	PAOZZ		1R5C8	9738-0081	BOLT, MACHINE.....	4
AATQ	2	PAOZZ		1R5C8	9965-0013	WASHER, FLAT.....	10
AATR	3	PFOZZ		1R5C8	M311-2895	BRACKET, MUFFLER STRAP.....	2
AATS	4	PAOZZ	5340-01-504-6510	1R5C8	M311-2896	STRAP, MUFFLER.....	2
AATU	5	PAOZZ	5310-01-502-8330	1R5C8	9562-0046	NUT, SELF-LOCKING.....	6
AATV	6	PAOZZ		1R5C8	9738-0010	SCREW,CAP,HEXAGON HEAD.....	2
AATE	7	PAOZZ	2990-00-759-3639	19207	10936691	MUFFLER, EXHAUST.....	1
AATC	8	KFOZZ		1R5C8	9596-0468-2	CLAMP, MUFFLER PART OF KIT P/N 9596-0468.....	1
ATA	9	PAOZZ	2990-01-504-6529	1R5C8	9596-0468-1	PIPE,MUFFLER PART OF KIT P/N 9596-0468.....	1
AATP	10	KFOZZ		1R5C8	9596-0468-4	PIPE,MUFFLER PART OF KIT P/N 9596-0468.....	1
AMUE	11	PAOZZ	5330-01-394-7944	2X179	4500.079	GASKET.....	1
AATJ	12	PAOZZ	5310-00-614-3506	80205	MS15795-817	WASHER, FLAT.....	2
AATM	13	PAOZZ	5305-01-512-0581	1R5C8	9738-0015	BOLT.....	2
TM-CODE 2VD						END OF FIGURE	

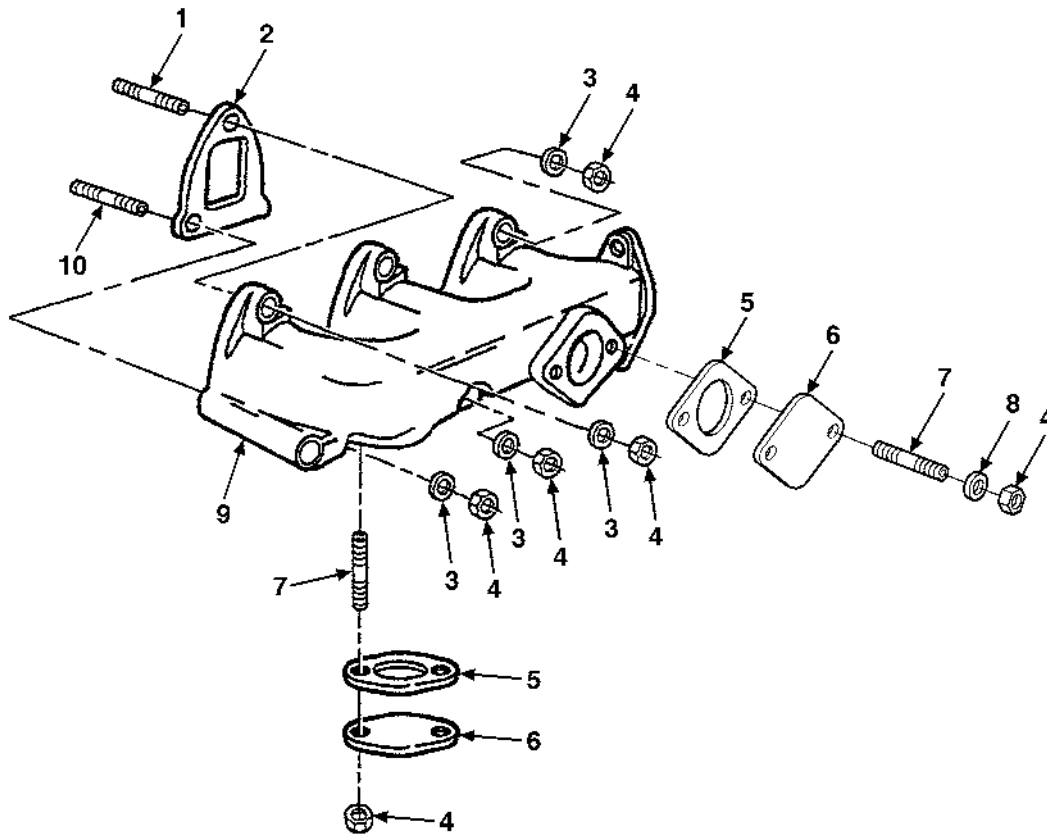


FIGURE 57. EXHAUST MANIFOLD

GROUP 2941 EXHAUST MANIFOLD - Continued

0219 00

(1) PLISN	(2) ITEM NO.	(3) SMR CODE	(4) NSN	(5) CAGEC	(6) PART NUMBER	(7) DESCRIPTION AND USABLE ON CODE (UOC)	(8) QTY
						GROUP 2941 ENGINE, MUFFLER, EXHAUST AND TAIL PIPES	
						FIG. 57 EXHAUST MANIFOLD	
AMAB	1	PAOZZ	5307-01-327-3439	2X179	9.6780.084	STUD, PLAIN	3
AMAD	2	PAOZZ	5330-01-395-0878	2X179	4420.019	GASKET	3
AMAF	3	PAOZZ	5310-01-340-8352	2X179	9.7565.007	WASHER, LOCK.....	6
AMAH	4	PAOZZ	5310-01-458-4307	2X179	9.3240.163	NUT, PLAIN, HEXAGON.....	13
AMAK	5	PAOZZ	5330-01-394-7944	2X179	4500.079	GASKET	2
AMAM1	6	PAFZZ	5365-01-458-6645	2X179	277.6300.018	SPACER, PLATE	2
AMAR	7	PAOZZ	5307-01-341-2950	2X179	9.6780.008	STUD, PLAIN	4
AMAP	8	PAOZZ	5310-01-453-7080	2X179	9.7625.061	WASHER, FLAT.....	2
AMAT	9	PFOZZ	2805-15-148-1970	A1212	2486.046	MANIFOLD, EXHAUST.....	1
AMAV	10	PAOZZ	5307-01-454-3504	2X179	9.6780.034	STUD, PLAIN	3
TM-CODE 2VD						END OF FIGURE	

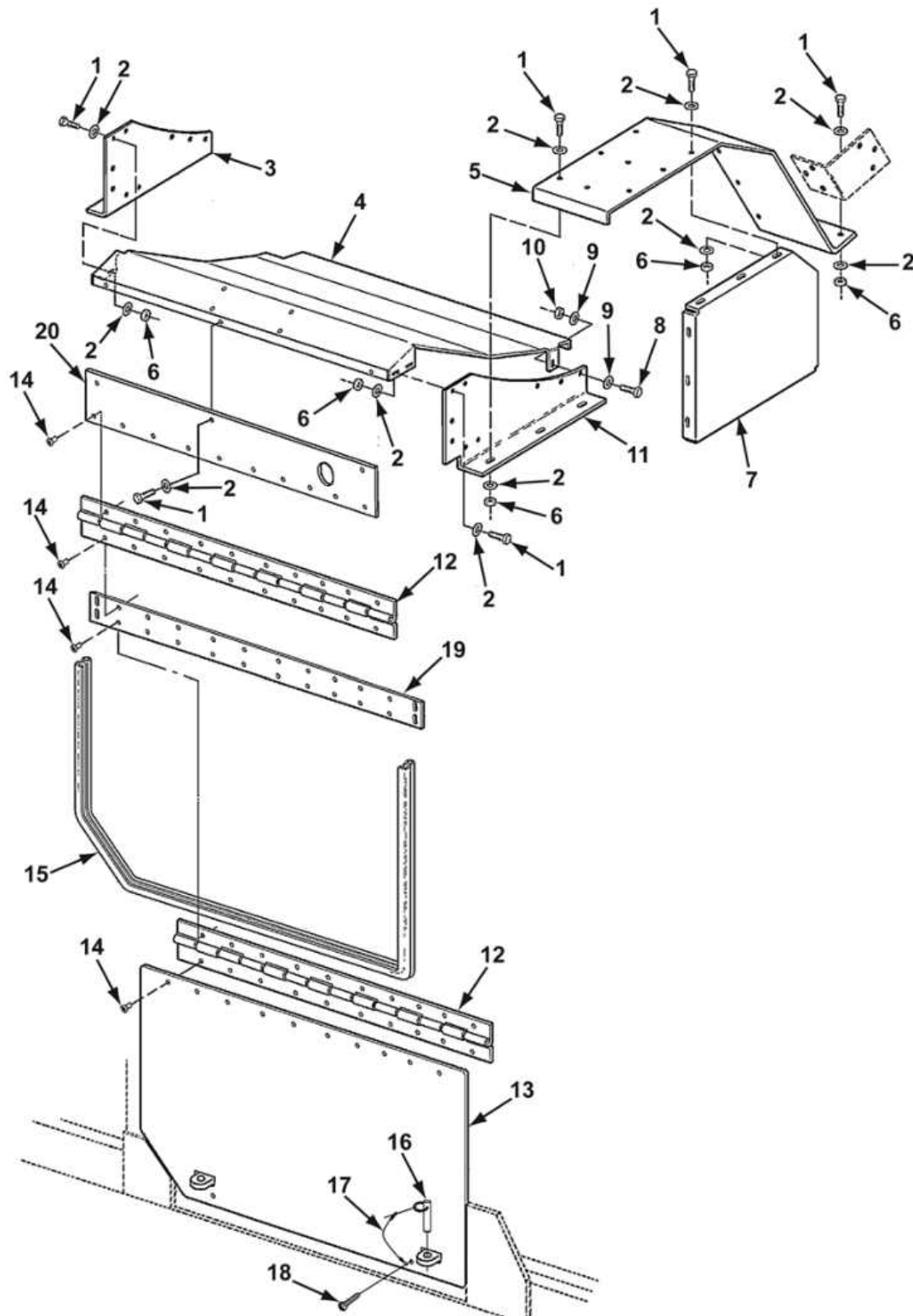


FIGURE 58. ENGINE SHROUDS

GROUP 2952 ENGINE SHROUDS - Continued

0220 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2952 ENGINE COWLING DEFLECTORS, AIR DUCTS, AND SHROUDS	
						FIG. 58 ENGINE SHROUDS	
AADA	1	PFOZZ	5305-00-225-3839	80205	MS90725-8	SCREW, CAP, HEXAGON HEAD 1/4-20 X 1	2
AADE	2	PFOZZ	5310-00-802-4701	80205	MS15795-813	WASHER, FLAT 1/4	4
AADJ	3	PFOZZ	5340-01-504-6273	1R5C8	M311-2891	ENCLOSURE, REAR PLATE	1
AADM	4	PFOZZ	2990-01-504-6476	1R5C8	M112-9659	COVER, MUFFLER	1
AADS	5	PFOZZ	5340-01-504-6277	1R5C8	M112-9660	COVER, ENGINE SHROUD	1
AADY	6	PFOZZ	5310-01-502-8330	1R5C8	9562-0046	NUT, SELF-LOCKING, HEXAGON, 1/4-20	2
AAD1	7	PFOZZ	5340-01-504-6258	1R5C8	M112-9661	COVER, ENGINE SHROUD, FRONT	1
AAD3	8	PFOZZ	5306-00-174-9462	1R5C8	9738-0015	SCREW, CAP, HEXAGON HEAD 1/2-13 X 1-1/2	10
AAD5	9	PFOZZ	5310-00-614-3506	80205	MS15795-817	WASHER, FLAT 1/2	20
AAD7	10	PFOZZ		1R5C8	9562-0049	NUT, FINISHING 1/2-13	10
AAD9	11	PFOZZ	5340-01-504-6269	1R5C8	M311-2892	ENCLOSURE, FRONT PLATE	1
AAEA1	12	PFOZZ	5340-01-504-6388	1R5C8	005-4062-042	HINGE	1
AAEE	13	PFOZZ	5340-01-504-6391	1R5C8	M112-9683	DOOR, ENGINE COMPARTMENT	1
AAEY	14	PFOZZ	5320-99-807-2969	9K475	MGLP-U8-6	RIVET	AR
AAEZ	15	MOOZZ		1R5C8	9326-0252	GASKET, SEAL, MAKE FROM GASKET P/N 1120A23 (39428)	1
AADC	16	PAOZZ		1R5C8	9595-0051	PIN, QUICK RELEASE	1
AADG	17	PAOZZ		1R5C8	9117-0003	CABLE	1
AADP	18	PAOZZ		1R5C8	9738-0035	SCREW	1
AADU	19	PFOZZ		1R5C8	M311-3727	BRACKET, HINGE	1
AADW	20	PFOZZ		1R5C8	M311-3726	DOOR, MUFFLER	1
TM-CODE 2VD						END OF FIGURE	

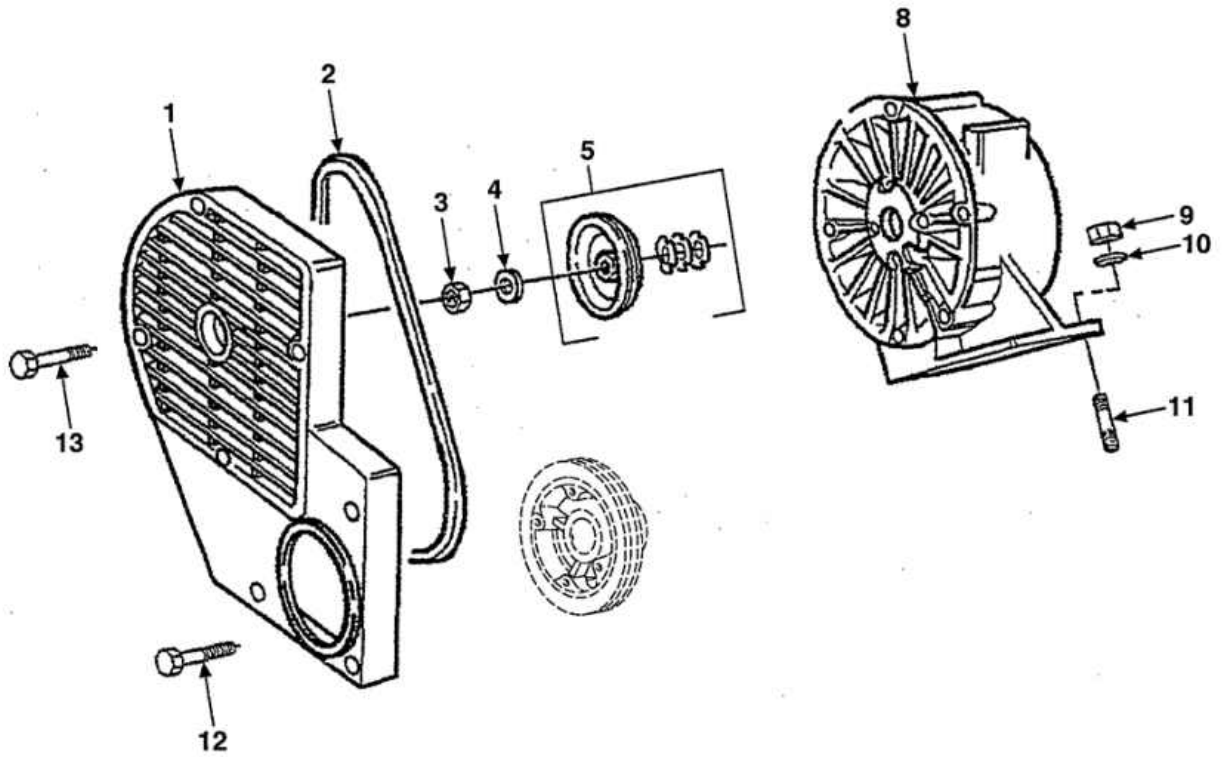


FIGURE 59. ENGINE COOLING SYSTEM

GROUP 2952 ENGINE COOLING SYSTEM - Continued

0221 00

(1) PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2952 ENGINE COWLING DEFLECTORS, AIR DUCTS AND SHROUDS	
						FIG. 59 ENGINE COOLING SYSTEM	
AMGA1	1	PAOZZ	3020-01-452-9472	2X179	625.6927.073	GUARD, MECHANICAL DRIVE.....	1
AMGC	2	PAOZZ	3030-01-367-7487	2X179	2440-034	BELTING, V.....	1
AMGE	3	PAOZZ	5310-01-453-8664	2X179	9.3203.015	NUT, PLAIN, HEXAGON.....	1
AMGG	4	PAOZZ	5310-01-453-8661	2X179	9.7625.055	WASHER, FLAT.....	1
AMGJ	5	PAOZZ	3020-01-453-9083	2X179	6975.134	PULLEY ASSEMBLY	1
AMGQ	6	PAOZZ		2X179	625.9718.113	FAN, CENTRIFUGAL.....	1
AMGS	7	PAOZZ	5310-01-324-8246	2X179	3240.018	NUT, PLAIN, HEXAGON.....	4
AMGU	8	PAOZZ	5310-01-340-8352	2X179	9.7565.007	WASHER, LOCK.....	4
AMGW	9	PAOZZ	5307-01-341-2950	2X179	9.6780.008	STUD, PLAIN	4
AMG1	10	PAOZZ	5305-01-341-2906	2X179	9.9732.063	SCREW, MACHINE	2
AMG3	11	PAOZZ	5305-01-324-8388	2X179	9.9730.032	SCREW, CAP, HEXAGON HEAD.....	5
			TM-CODE 2VD			END OF FIGURE	

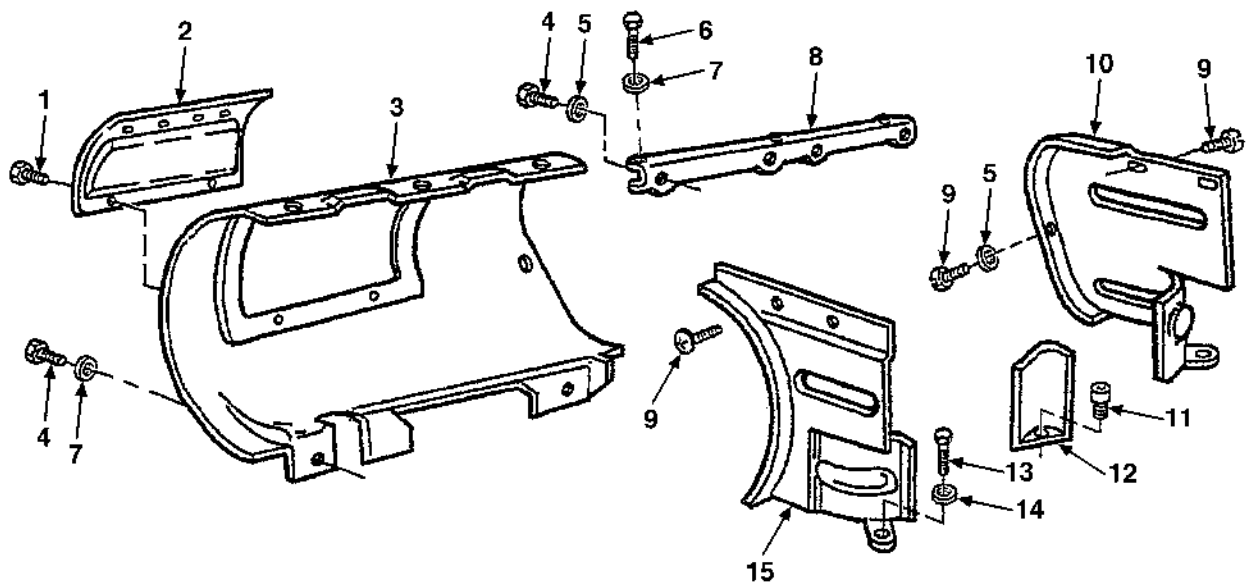


FIGURE 60. ENGINE SHROUDING

GROUP 2952 ENGINE SHROUDING - Continued

0222 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2952 ENGINE COWLING DEFLECTORS, AIR DUCTS AND SHROUDS	
						FIG. 60 ENGINE SHROUDING	
AMFA	1	PAOZZ	5315-01-459-1812	2X179	625.9895.055	PIN, SHOULDER, HEADED.....	2
AMFC	2	PFOZZ	5340-01-455-3825	2X179	625.6660.028	COVER, ACCESS	1
AMFE	3	PFOZZ	5340-01-455-3824	2X179	625.2569.372	COVER, ACCESS	1
AMFG	4	PAOZZ	5306-01-453-7232	2X179	1760-032	BOLT	6
AMFJ	5	PAOZZ	5310-01-453-7096	2X179	9.7625.062	WASHER, FLAT	6
AMFL	6	PAOZZ	5305-01-458-1623	2X179	1770-056	SCREW, CAP, HEXAGON HEAD	4
AMFN	7	PAOZZ	5310-01-453-7095	2X179	9.7625.012	WASHER, FLAT	5
AMFQ	8	PFOZZ	4140-01-454-4074	2X179	625.5066.061	HOUSING, CENTRIFUGAL FAN	1
AMFS	9	PAOZZ	5305-01-323-8928	2X179	9.9790.039	SCREW, CAP, SOCKET HEAD	6
AMFU	10	PFOZZ	5340-01-458-8630	2X179	625.5066.055	COVER, ACCESS	2
AMFW	11	PAOZZ	5305-01-323-8927	2X179	9.9731.092	SCREW, CAP, SOCKET HEAD	2
AMFY	12	PFOZZ	2815-01-453-4065	2X179	3350.077	DEFLECTOR, AIR FLOW.....	2
AMFZ	13	PAOZZ	5305-01-324-0950	2X179	9.1770.002	SCREW, CAP, HEXAGON HEAD	2
AMF1	14	PAOZZ	5310-01-340-8352	2X179	9.7565.007	WASHER, LOCK	2
AMF3	15	PFOZZ	4140-01-454-3508	2X179	625.5066.056	HOUSING, CENTRIFUGAL FAN	2
						END OF FIGURE	

GROUP 2961 ALTERNATOR MOUNTING PARTS

0223 00

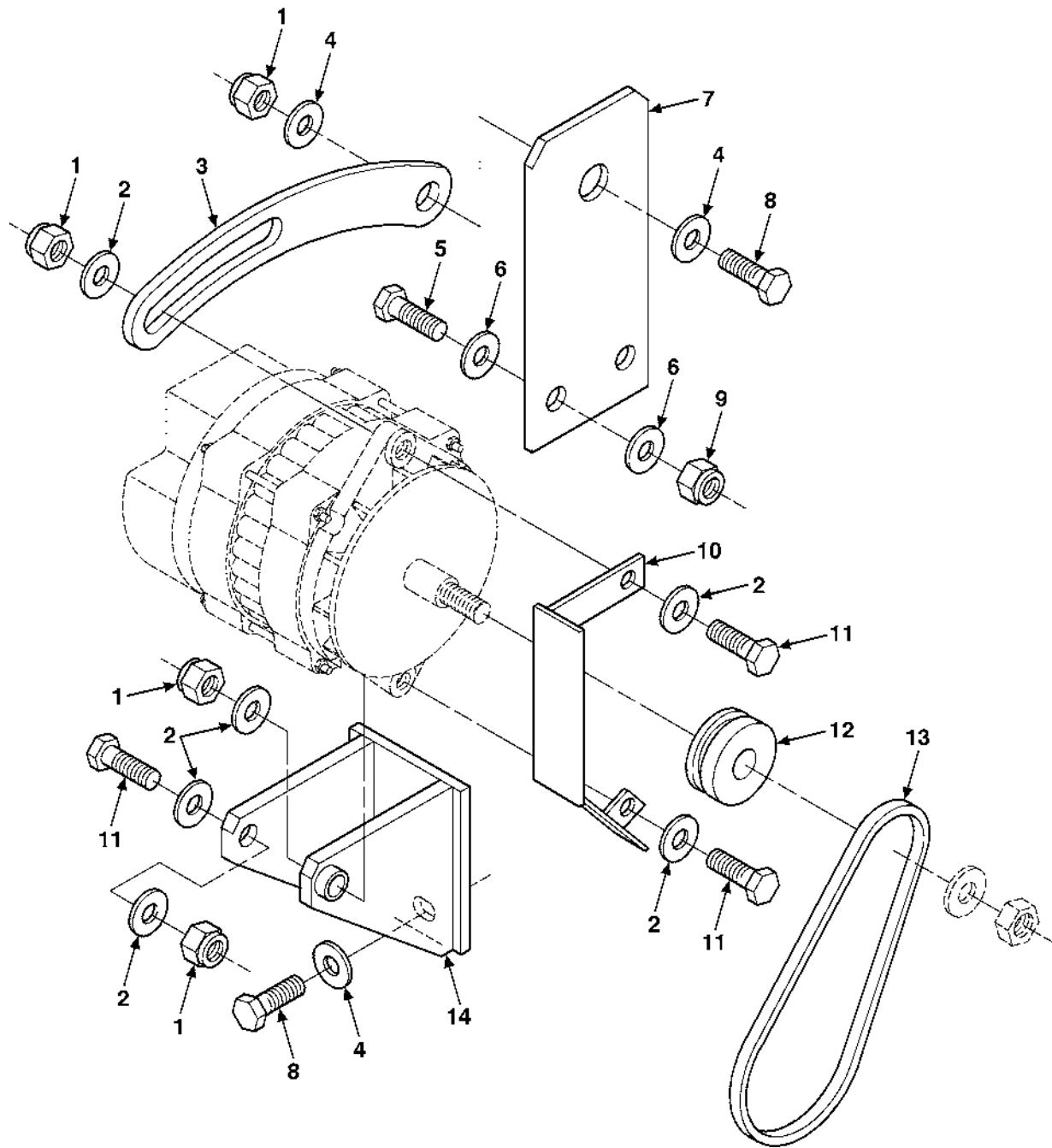


FIGURE 61. ALTERNATOR MOUNTING PARTS

GROUP 2961 ALTERNATOR MOUNTING PARTS - Continued

0224 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2961 GENERATOR	
						FIG. 61 ALTERNATOR MOUNTING PARTS	
AALY	1	PAOZZ	5310-01-502-8323	1R5C8	9562-0133	NUT, LOCKING, 1/2-13	1
AAL1	2	PAOZZ	5310-00-614-3506	80205	MS15795-817	WASHER, FLAT 1/2	2
AALM	3	PFOZZ	5340-01-506-0554	1R5C8	M311-3272	BRACKET, ALTERNATOR MOUNTING ...	1
AALC	4	PAOZZ	5310-00-893-9914	1ML14	ERNJ228	WASHER, FLAT 5/8	2
AALC	5	PAOZZ	5305-01-406-5528	17454	01070-0281ITEM06-15	SCREW, CAP, HEXAGON HEAD 3/8-16 X 1-1/4	2
AALG	6	PAOZZ	5310-01-280-5796	96906	MS27183-57	WASHER, FLAT 3/8	4
AALJ	7	PFOZZ	5340-01-506-0543	1R5C8	M311-3271	BRACKET, ALTERNATOR MOUNTING ...	1
AALA	8	PAOZZ	5305-00-726-2553	80205	B1821BH063F250N	SCREW, CAP, HEXAGON HEAD 5/8-18 X 2-1/2	1
AALK	9	PAOZZ	5310-01-502-8329	1R5C8	9562-0044	NUT, SELF-LOCKING, HEXAGON 3/8-16.....	2
AAL5	10	PFOZZ	5340-01-506-0985	1R5C8	M311-3269	BRACKET, ALTERNATOR MOUNTING ...	1
AALS	11	PAOZZ	5305-00-701-7628	96906	MS35207-415	SCREW, CAP, HEXAGON HEAD 1/2-13 X 2	1
AAL7	12	PFOZZ	3020-01-506-1289	1R5C8	9606-0005	PULLEY, GROOVE	1
AAL9	13	PAOZZ	3030-01-457-8833	2X179	2440.034	BELTING, V	1
AAL3	14	PFOZZ	5340-01-506-0567	1R5C8	M311-3265	BRACKET, ALTERNATOR MOUNTING ...	1
TM-CODE 2VD						END OF FIGURE	

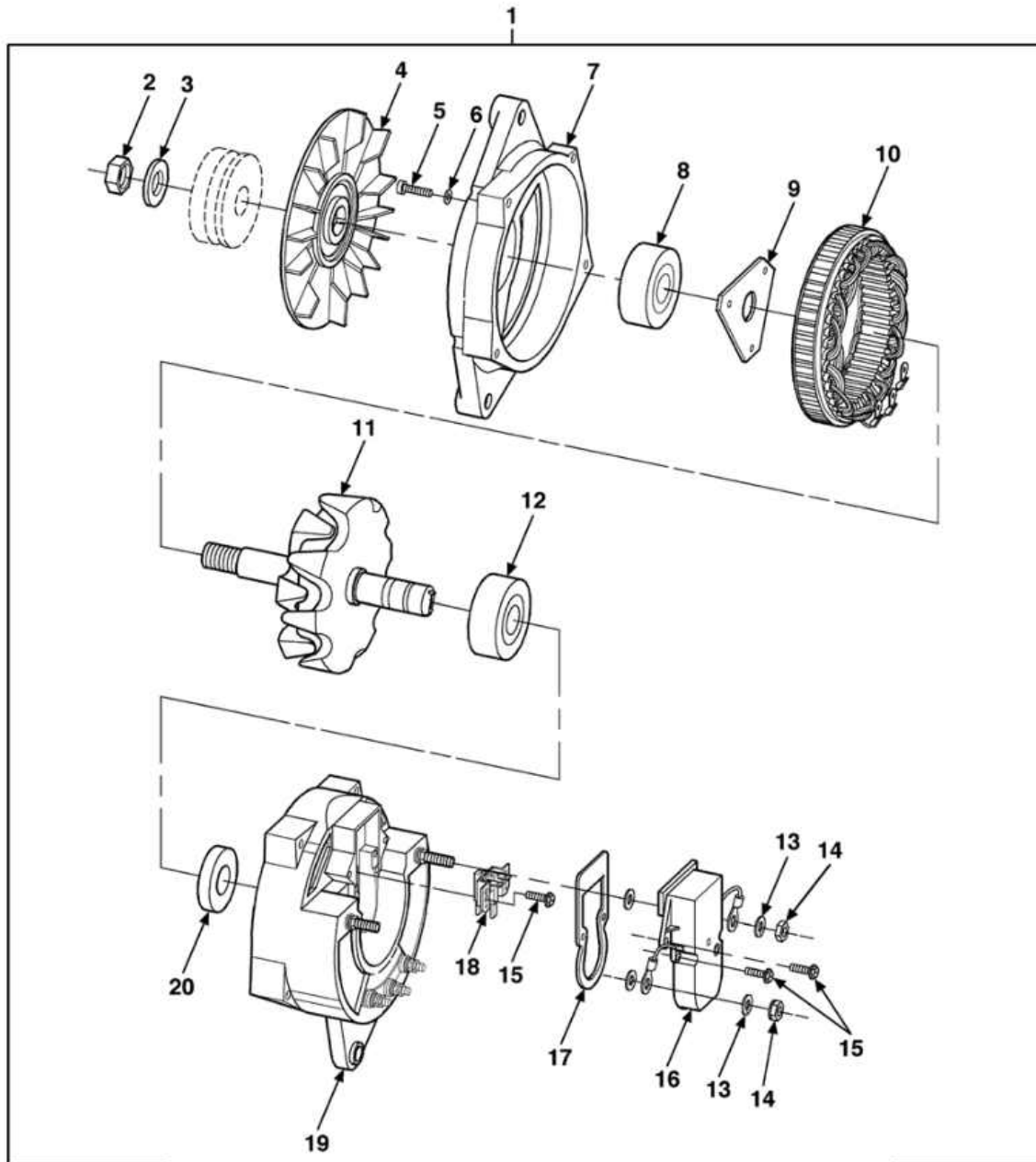


FIGURE 62. ALTERNATOR COMPONENT PARTS

GROUP 2961 ALTERNATOR COMPONENT PARTS - Continued

0224 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2961 GENERATOR	
						FIG. 62 ALTERNATOR COMPONENT PARTS	
AANA	1	PAOFF	2920-01-279-3948	24975	8LHA-3071P	GENERATOR, ENGINE ACCESSORY	1
AANC	2	PAFZZ	5310-01-430-7169	35510	120-128	.NUT, SELF-LOCKING, HEXAGON 5/8-16.....	1
AANE	3	PAFZZ	5310-01-430-7191	35510	120-129	.WASHER, FLAT	1
AANJ	4	PAFZZ	4140-01-430-7170	24975	107-103	.IMPELLER, FAN, AXIAL.....	1
AANM	5	PFFZZ	5305-01-506-1081	24975	120-153	.SCREW, MACHINE #10-32 X 3/4	3
AANS	6	PFFZZ	5310-01-506-1087	24975	120-111	.WASHER, LOCK #10	3
AANQ	7	XAFZZ		24975	114-164	.HOUSING, FRONT.....	1
AANY	8	PFFZZ	3130-01-506-0783	24975	111-34	.BEARING, FRONT	1
AANR	9	XAFZZ		24975	111-35	.RETAINER, BEARING	1
AANT	10	PAFZZ	2920-01-310-0990	68505	113-46	.STATOR ASSEMBLY.....	1
AANU	11	XAFZZ		24975	112-74	.ROTOR ASSEMBLY.....	1
AANZ	12	PFFZZ	3130-01-506-0787	24975	111-40	.BEARING, REAR.....	1
AAND	13	PAFZZ		35510	120-26	.WASHER	4
AANF	14	PAFZZ		35510	120-289	.NUT	2
AAN5	15	PAFZZ	5305-01-360-5282	24975	0344209B15	.SCREW, ASSEMBLED WASHER.....	6
AAN1	16	PAFZZ	6110-01-431-2271	24975	8RG3030	.REGULATOR, VOLTAGE.....	1
AAN3	17	PAFZZ	5330-01-362-4994	24975	3244392S01	.GASKET	1
AAN7	18	PFFZZ	5977-01-506-1001	24975	103-48	.BRUSH ASSEMBLY	1
AANG	19	XAFZZ		24975	114-255	.HOUSING, REAR	1
AAN9	20	PAFZZ	3110-01-431-4526	24975	A049102338 (111-86)	.SHIELD, BEARING, REPLACEMENT.....	1
TM-CODE 2VD						END OF FIGURE	

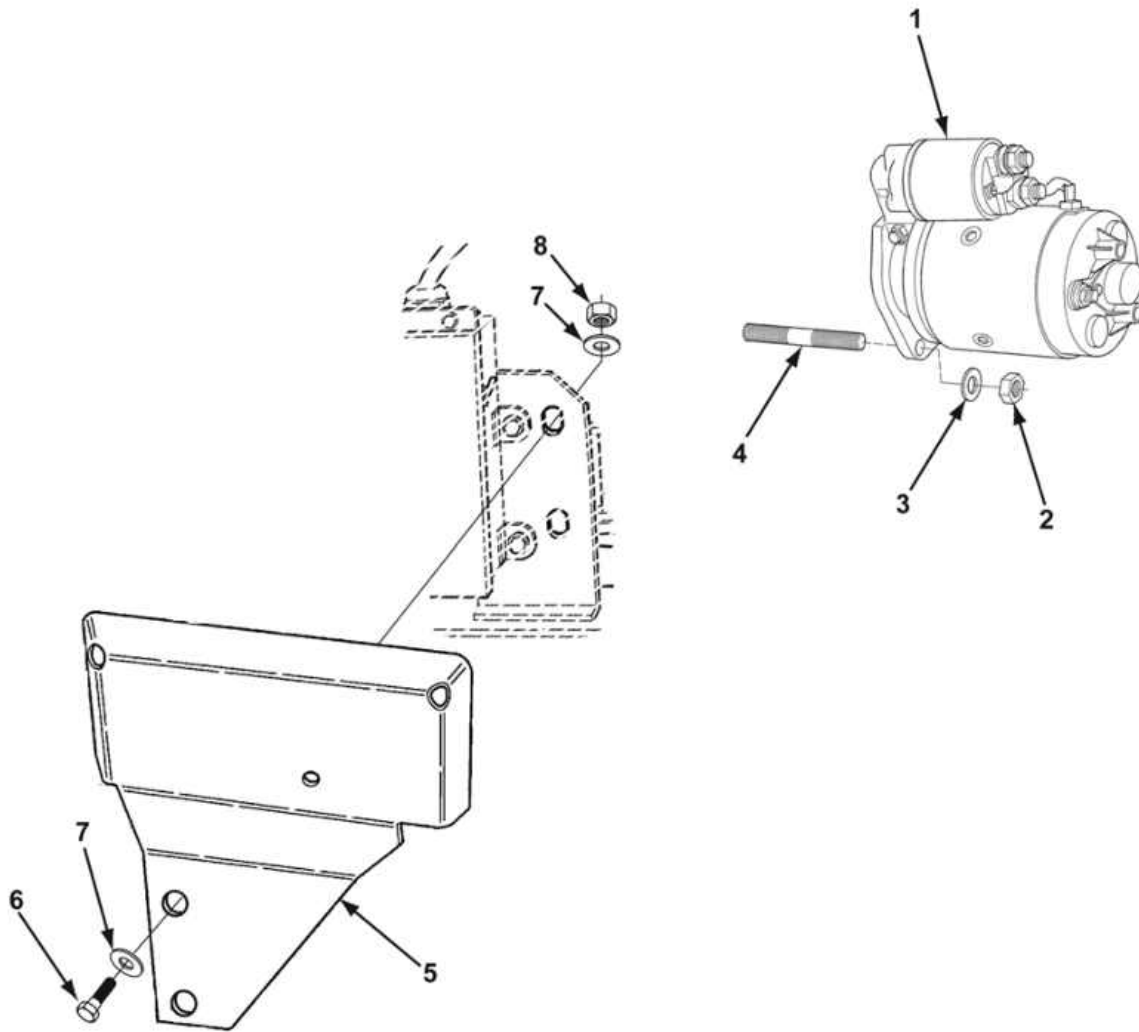


FIGURE 63. STARTING MOTOR AND MOUNTING HARDWARE

GROUP 2963 STARTING MOTOR AND MOUNTING HARDWARE - Continued

0225 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2963 STARTER, SOLENOIDS, CIRCUIT BREAKERS, WIRING, AND SWITCHES	
						FIG. 63 STARTING MOTOR AND MOUNTING HARDWARE	
AAQA	1	PAOZZ	2920-01-463-5526	53867	0.001.363.113	STARTER, ENGINE, ELECTRICAL	1
AAQE	2	PAOZZ	5310-01-325-7141	2X179	9.3240-032	NUT, PLAIN, HEXAGON	2
AAQJ	3	PAOZZ	5310-01-324-8343	2X179	9.7565.011	WASHER, LOCK	2
AAQM	4	PAOZZ	5307-01-454-3517	2X179	9.6820.014	STUD, PLAIN	2
AAQS	5	PAOZZ		1R5C8	M311.2907	COVER, STARTER, ENGINE	1
AAQY	6	PAOZZ	5305-00-068-0502	00756	NASM90725	SCREW, CAP, HEXAGON HEAD 1/4-20 X 3/4	2
AAQ1	7	PAOZZ	5310-00-809-4058	96906	MS27183-10	WASHER, FLAT 1/4	2
AAQ3	8	PAOZZ	5310-00-088-1251	72452	1459-246	NUT, SELF-LOCKING, HEXAGON 1/4-20	2
TM-CODE 2VD						END OF FIGURE	

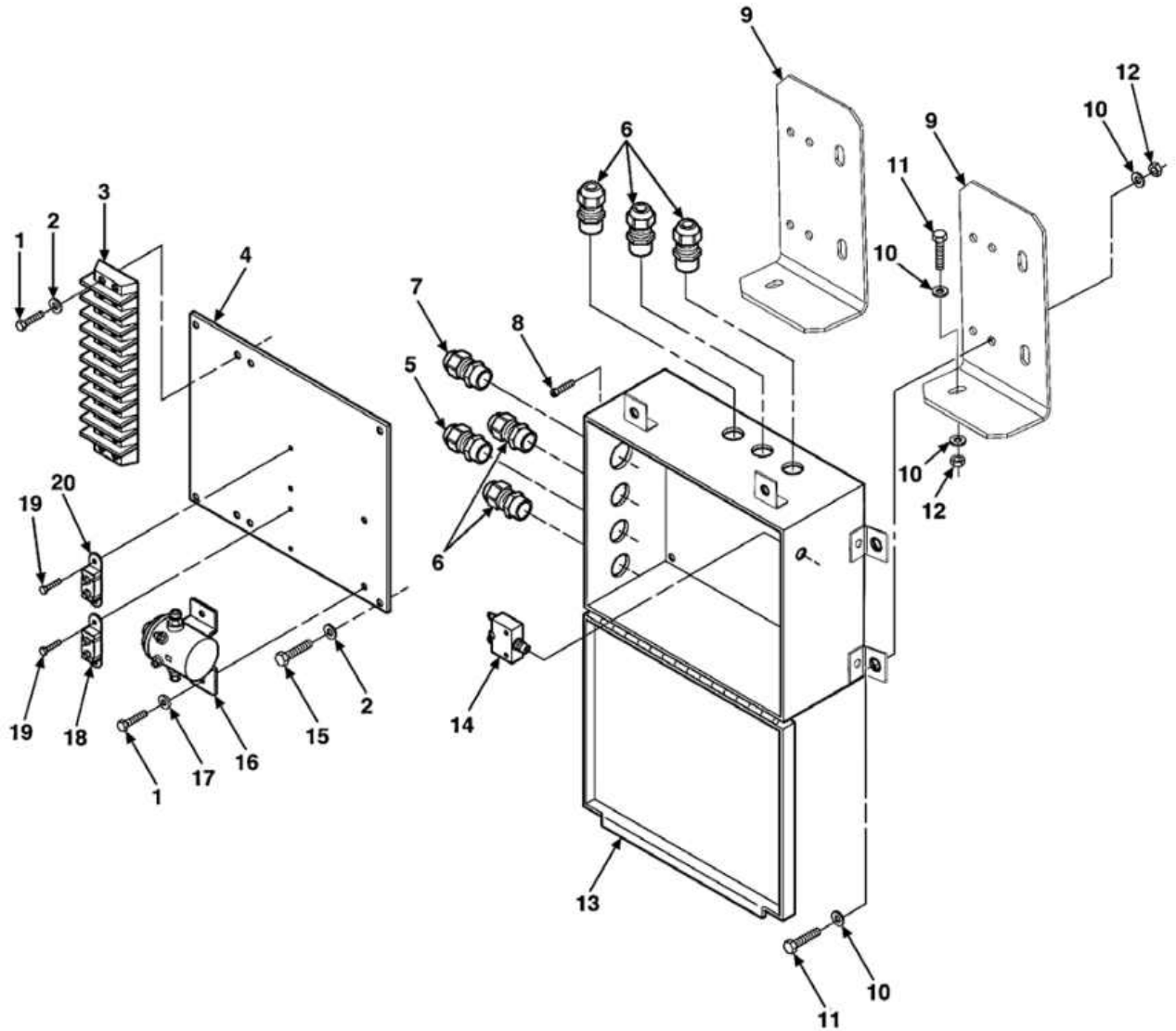


FIGURE 64. ENGINE ELECTRICAL BOX

GROUP 2963 ENGINE ELECTRICAL BOX - Continued

0226 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2963 STARTER, SOLENOIDS, CIRCUIT BREAKERS, WIRING AND SWITCHES	
						FIG. 64 ENGINE ELECTRICAL BOX	
AAFA1	1	PAOZZ	5305-00-990-6444	89346	453283	SCREW, MACHINE #10-32 X 3/8	6
AAFC	2	PAOZZ	5310-00-045-3296	6N299	0910164	WASHER, LOCK #10	8
AAFE	3	PAOZZ	5940-00-983-6105	26405	22010	BOARD, TERMINAL	1
AAFG	4	PFOZZ	5340-01-504-6407	81435	AW108P	PANEL, INNER	1
AAFL	5	PAOZZ	5975-01-343-2254	13548	50840	FITTING, COMPRESSION .375	1
AAFJ	6	PAOZZ	5975-01-343-2256	13548	50842	FITTING, COMPRESSION .750	5
AAF2	7	PAOZZ		1R5C8	5243	FITING, COMPRESSION	1
AAF1	8	PAOZZ	5305-00-993-2738	19207	8330729	SCREW, MACHINE 1/4-28 X 5/8	4
AAFN	9	PFOZZ	5340-01-504-6422	1R5C8	M311-2905	MOUNT, JUNCTION BOX	1
AAFW	10	PAOZZ	5310-00-809-4058	96906	MS27183-10	WASHER, FLAT 1/4	8
AAFU	11	PAOZZ	5305-00-068-0502	00756	NASM90725	SCREW, CAP, HEXAGON HEAD 1/4-20 X 3/4	4
AAFS	12	PAOZZ	5310-00-088-1251	72452	1459-246	NUT, SELF-LOCKING, HEXAGON 1/4-20	4
AAFY	13	PFOZZ	5975-01-504-7503	81435	1084-12CHC	BOX, ELECTRICAL	1
AAF3	14	PAOZZ	5925-01-504-6095	2A592	5-2106-00BU	BREAKER, CIRCUIT, RESETABLE	1
AAF5	15	PAOZZ	5305-00-984-6210	45152	5903AX	SCREW, MACHINE #10-24 X 1/2	4
AAF7	16	PAOZZ	5945-00-081-9491	13445	24063	RELAY, ELECTROMAGNETIC	1
AAF6	17	PAOZZ	5310-00-576-5752	80205	MS35333-39	WASHER, LOCK #10	2
AAF9	18	PAOZZ	5925-01-469-0075	13445	30172-15	BREAKER, CIRCUIT	1
AAF8	19	PAOZZ	5305-00-984-4988	80205	MS35206-228	SCREW, MACHINE #6-32 X 3/8	4
AAFB	20	PFOZZ	5925-01-506-0593	13445	30172-30	BREAKER, CIRCUIT	1
TM-CODE 2VD						END OF FIGURE	

GROUP 2963 GLOW PLUG WIRING

0227 00

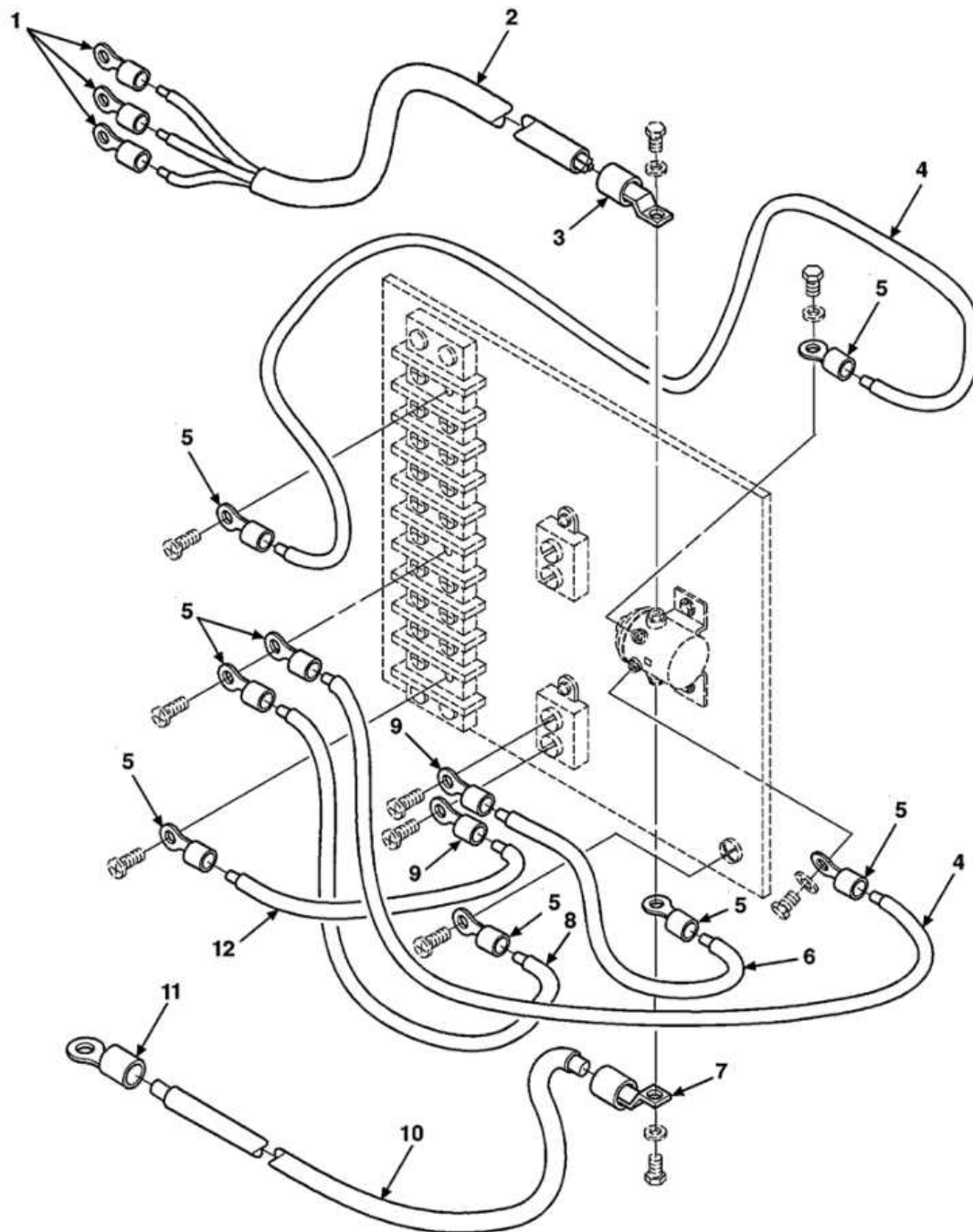


FIGURE 65. GLOW PLUG WIRING

GROUP 2963 GLOW PLUG WIRING - Continued

0227 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2963 STARTER, SOLENOIDS, CIRCUIT BREAKERS, WIRING AND SWITCHES	
						FIG. 65 GLOW PLUG WIRING	
ABKG	1	PFOZZ	5940-01-506-1319	1R5C8	9133-0088	CONNECTOR	3
ABKF	2	PFOZZ	6150-01-506-1300	1R5C8	9380-0314	WIRE ASSEMBLY	1
ABKH	3	PFOZZ	5940-01-506-2589	1R5C8	9133-0091	CONNECTOR	1
ABKK	4	MOOZZ		1R5C8	9968-0054-1	GLOW PLUG SOLENOID-TO-ENGINE ELECTRICAL BOX TERMINAL LEAD MAKE FROM WIRE P/N WL12-0 (58961), AS REQUIRED	2
ABKL	5	PFOZZ		1R5C8	9968-0083	CONNECTOR	8
ABKM	6	MOOZZ		1R5C8	9968-0054-2	GLOW PLUG SOLENOID-TO-CIRCUIT BREAKER LEAD MAKE FROM WIRE P/N WL12-0 (58961), AS REQUIRED	1
ABKJ	7	PFOZZ	5940-01-506-2589	1R5C8	9133-0091	CONNECTOR	1
ABKY	8	MOOZZ		1R5C8	9968-0054-3	CIRCUIT BREAKER-TO-GROUND LEAD MAKE FROM WIRE P/N WL12-0 (58961), AS REQUIRED	1
ABKS	9	PFOZZ	5940-01-506-2488	1R5C8	9133-0085	CONNECTOR ST 15 AMP CIRCUIT BREAKER	2
ABK1	10	MOOZZ		1R5C8	9968-0058-1	GLOW PLUG SOLENOID-TO-BATTERY WIRING LEAD MAKE FROM WIRE, 2/0 GA., P/N 9968-0058 (1R5C8), AS REQUIRED	1
ABK3	11	PFOZZ	5940-01-506-2490	1R5C8	9133-0086	CONNECTOR (AT BATTERY)	1
ABK5	12	MOOZZ		1R5C8	9968-0054-4	CIRCUIT BREAKER-TO-15 AMP CIRCUIT BREAKER MAKE FROM WIRE P/N WL12-0 (58961), AS REQUIRED	1
TM-CODE 2VD						END OF FIGURE	

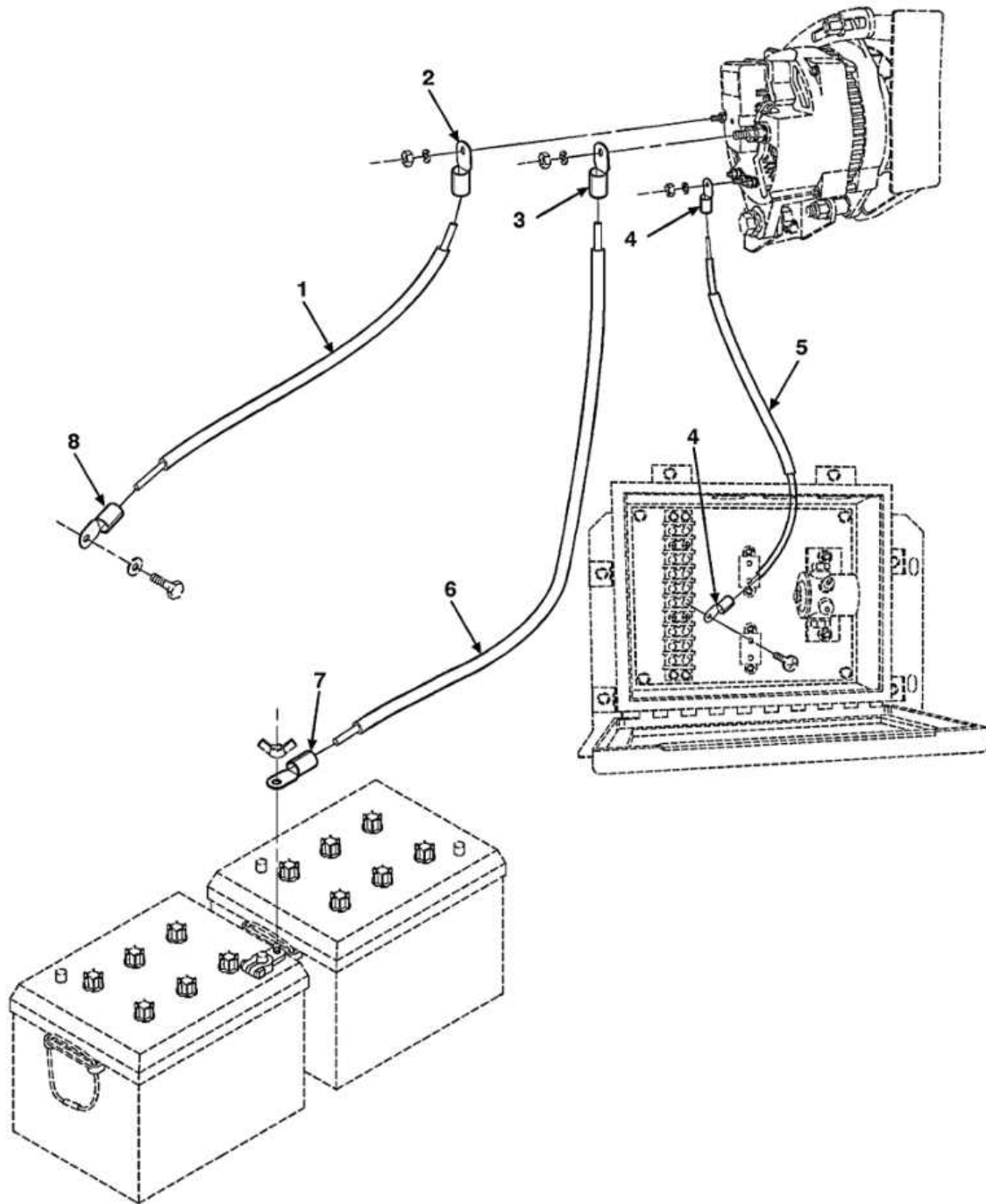


FIGURE 66. ALTERNATOR WIRING

GROUP 2963 ALTERNATOR WIRING - Continued

0228 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2963 STARTER, SOLENOIDS, CIRCUIT BREAKERS, WIRING AND SWITCHES	
						FIG. 66 ALTERNATOR WIRING	
ABWA	1	MOOZZ		1R5C8	9968-0058-1AR	ALTERNATOR GROUND LEAD MAKE FROM WIRE P/N 9968-0058 (1R5C8), AS REQUIRED.....	1
ABWB	2	PAOZZ	5940-01-506-1319	1R5C8	9133-0088	CONNECTOR.....	1
ABWC	3	PAOZZ	5940-01-508-5931	1R5C8	9133-0096	CONNECTOR.....	1
ABWD	4	PAOZZ	5940-01-508-5912	1R5C8	9133-0083	CONNECTOR.....	2
ABWM	5	MOOZZ		1R5C8	9968-0055-AR	ALTERNATOR-TO-ENGINE ELECTRICAL BOX TERMINAL LEAD MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED.....	1
ABWJ	6	MOOZZ		1R5C8	9968-0058-2AR	ALTERNATOR-TO-BATTERY LEAD MAKE FROM WIRE P/N 9968-0058 (1R5C8), AS REQUIRED	1
ABWF	7	PAOZZ	5940-01-506-2490	1R5C8	9133-0086	CONNECTOR.....	1
ABWE	8	PAOZZ	5940-01-506-2500	1R5C8	9133-0097	CONNECTOR.....	1
						TM-CODE 2VD	
						END OF FIGURE	

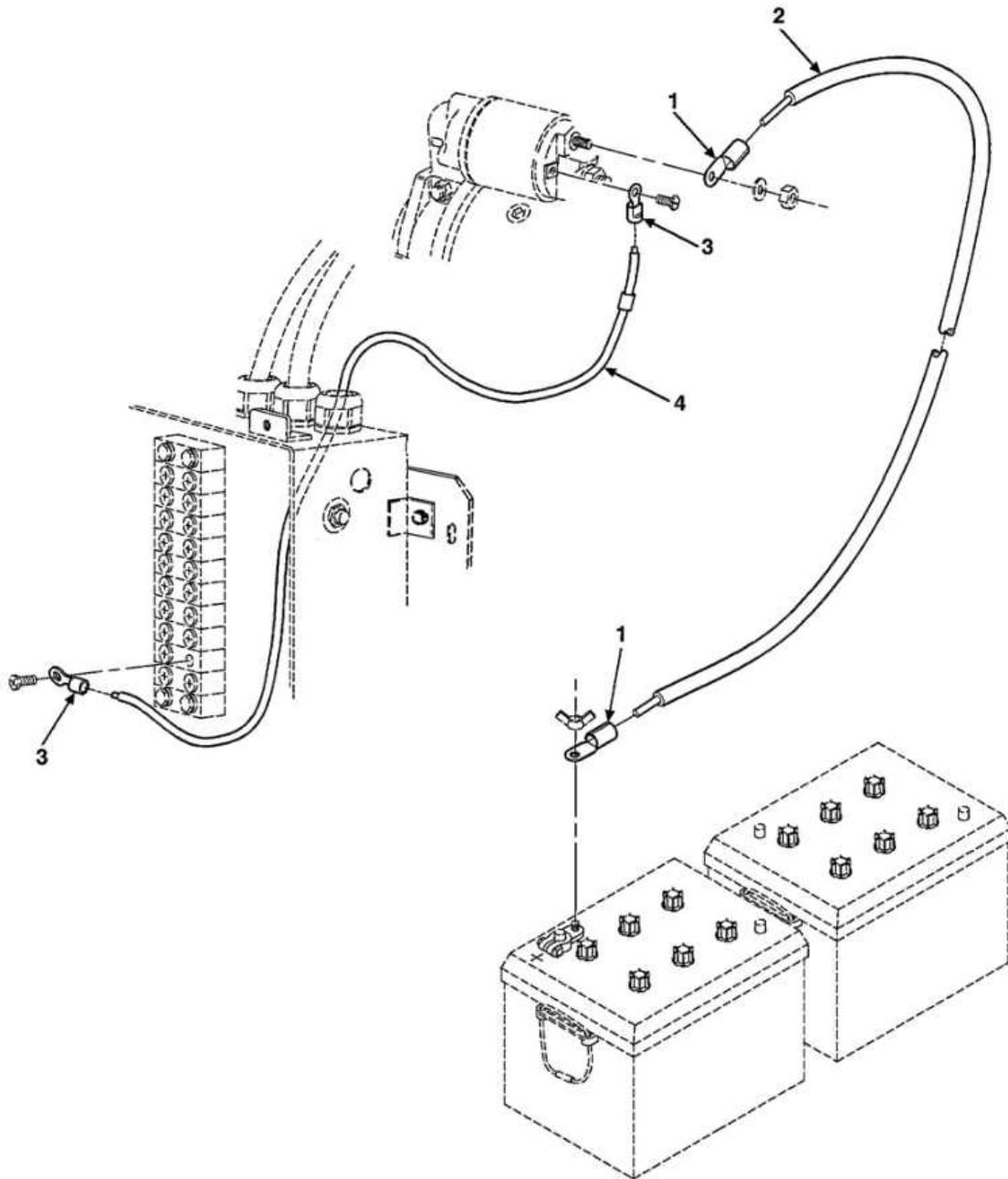


FIGURE 67. STARTER WIRING

GROUP 2963 STARTER WIRING - Continued

0229 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2963 STARTER, SOLENOIDS, CIRCUIT BREAKERS, WIRING AND SWITCHES	
						FIG. 67 STARTER WIRING	
ABWS	1	PAOZZ	5940-01-506-2504	1R5C8	9133-0093	CONNECTOR,LUG,TERMINAL	2
ABWY	2	MOOZZ		1R5C8	9968-0056-AR	STARTER-TO-BATTERY LEAD MAKE FROM WIRE P/N 9968-0056(1R5C8), AS REQUIRED.....	1
ABW1	3	PAOZZ	5940-01-506-2596	1R5C8	9133-0084	CONNECTOR,BUTT,NYLON.....	2
ABW3	4	MOOZZ		1R5C8	9968-0054-AR	STARTER-TO-ENGINE ELECTRICAL BOX TERMINAL LEAD MAKE FROM WIRE P/N WL12-0 (58961), AS REQUIRED.....	1
						TM-CODE 2VD	
						END OF FIGURE	

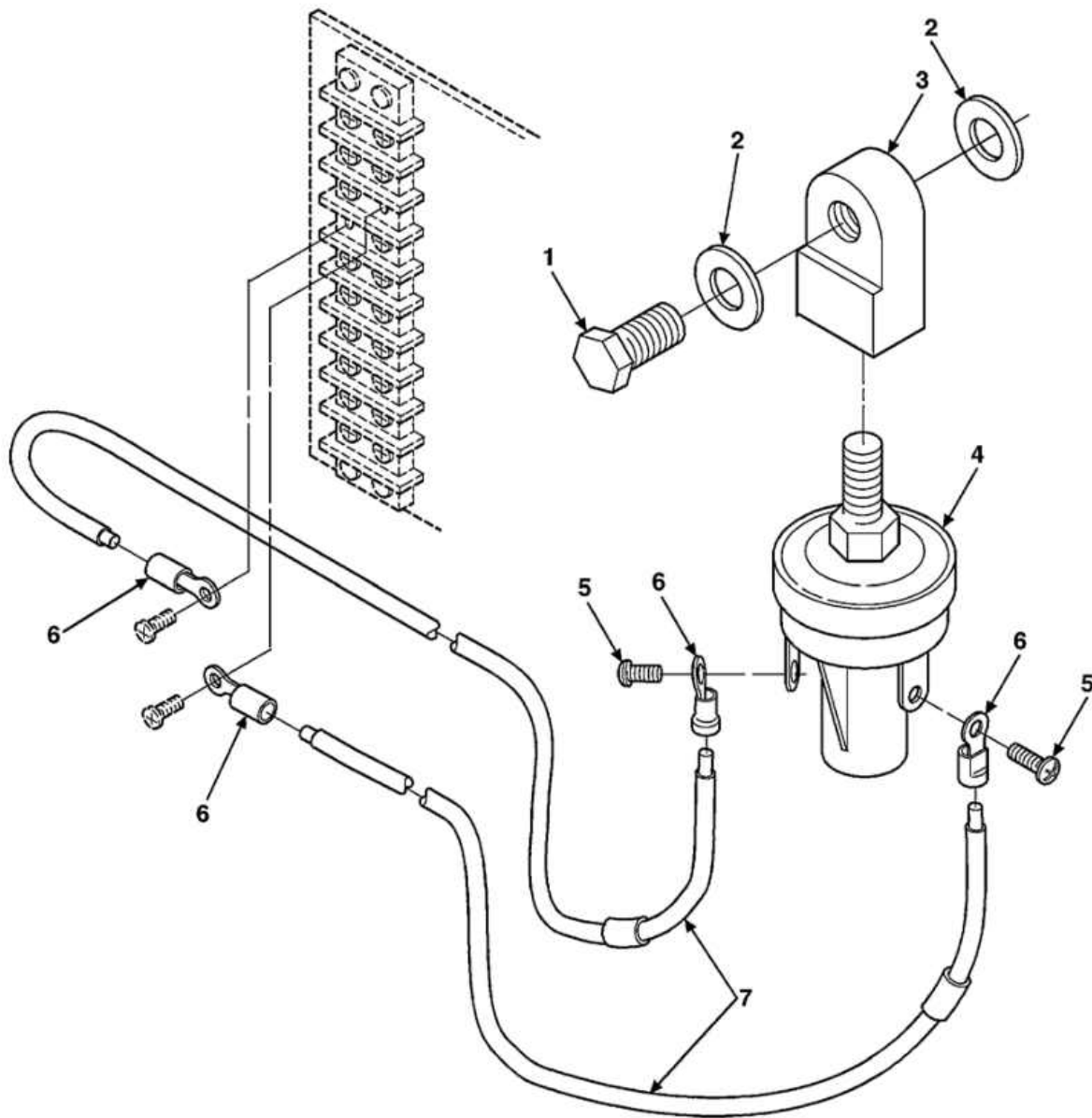


FIGURE 68. OIL PRESSURE SWITCH AND WIRING

GROUP 2963 OIL PRESSURE SWITCH AND WIRING - Continued

0230 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2963 STARTER, SOLENOIDS, CIRCUIT BREAKERS, WIRING AND SWITCHES	
						FIG. 68 OIL PRESSURE SWITCH AND WIRING	
ARBA	1	PAOZZ	4730-01-508-6074	2X179	1901-048	BOLT,BANJO	1
ARBB	2	PAOZZ		2X179	4670-058	WASHER.....	2
ARBC	3	PAOZZ	5930-01-508-4255	2X179	0000-P1E	BLOCK, LOW OIL PRESSURE SWITCH.....	1
ARBJ	4	PAOZZ	5930-01-508-4257	2X179	0000-Z1Q	SWITCH, LOW OIL PRESSURE.....	1
ARBM	5	PAOZZ	5305-00-984-6206	96906	MS35206-259	SCREW,MACHINE #10-24 X 1/4	2
ARBS	6	PAOZZ	5940-01-508-5912	1R5C8	9133-0083	CONNECTOR,RING TERMINAL	4
ARTS	7	MOOZZ		1R5C8	9968-0055-AR	LEAD, LOW OIL PRESSURE SWITCH TO ENGINE ELECTRICAL TERMINAL BOX MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED.....	2
TM-CODE 2VD						END OF FIGURE	

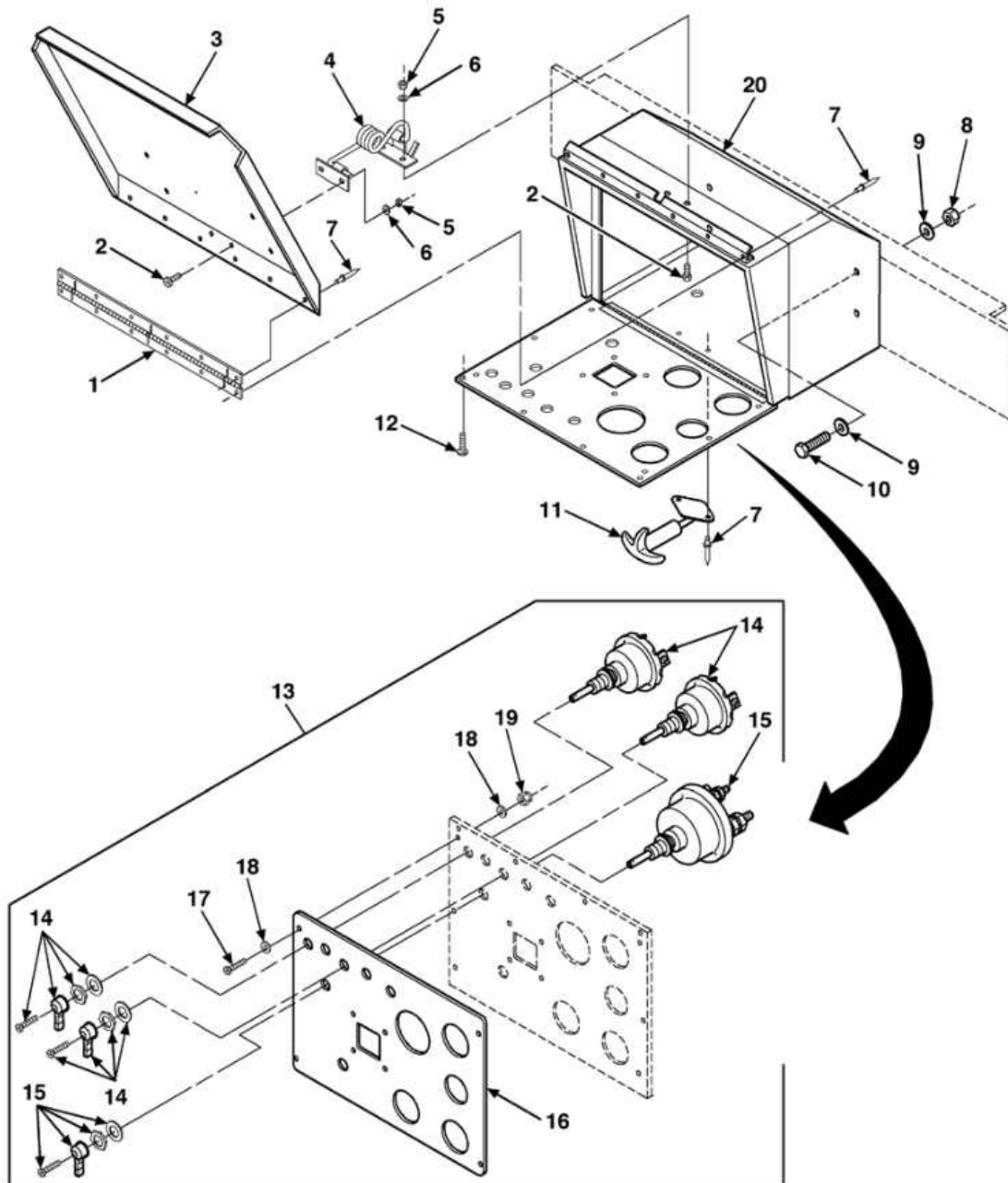


FIGURE 69. CONTROL PANEL ASSEMBLY

GROUP 2967 CONTROL PANEL ASSEMBLY - Continued

0231 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2967 INSTRUMENT PANEL	
						FIG. 69 CONTROL PANEL ASSEMBLY	
AMTK	1	PAOZZ	5340-01-183-1423	19207	12275456	HINGE, BUTT	1
AMTB	2	PAOZZ	5305-00-989-7434	96906	MS35207-263	SCREW, MACHINE #10-32 X 1/2	4
AMTL	3	PFOZZ		51457	TIP-101	COVER, ACCESS	1
AMTC	4	PAOZZ	5360-00-958-1143	94222	23-10-11-12	SPRING, DOOR, ADJUSTABLE	1
AMTD	5	PAOZZ	5310-00-902-6676	96906	MS21083N3	NUT, SELF-LOCKING, HEXAGON #10-32.....	4
AMT1	6	PAOZZ	5310-00-809-8546	96906	MS27183-8	WASHER, FLAT #10	4
AMTN	7	PAOZZ		39428	97447A050	RIVET,BLIND.....	12
AMTP	8	PAOZZ	5310-01-502-8329	1R5C8	9562-0044	NUT,SELF-LOCKING, HEXAGON 3/8-16.....	4
AMTQ	9	PAOZZ	5310-01-280-5796	96906	MS27183-57	WASHER,FLAT 3/8	8
AMTR	10	PAOZZ	5305-00-576-5417	80205	MS35307-360	SCREW,CAP, HEXAGON HEAD 3/8-16 X 1	4
AMT2	11	PAOZZ	5340-00-753-9214	19207	7539214	FASTENER, CYLINDER	1
AMTS	12	PAOZZ		39428	91773A829	SCREW,MACHINE #10-32 X 1/2	4
AMTE	13	PFOOO		1R5C8	9593-0233	PANEL, CONTROL, ENGINE AND PUMP	1
AMTJ	14	PAOZZ	5930-00-084-7570	64104	162284	.SWITCH, ROTARY	2
AMTM	15	PAOZZ	5930-01-420-9746	13445	75904-01	.SWITCH, ROTARY	1
AMTZ	16	PFOZZ	5340-01-508-6682	19207	12275418	.NAMEPLATE	1
AMTF	17	PAOZZ	5305-00-432-4252	96906	MS51861-66	.SCREW, TAPPING.....	4
AMTG	18	PAOZZ	5310-01-121-8521	80205	MS21299-4	.WASHER, FLAT	8
AMTH	19	PAOZZ	5310-00-877-5796	80205	MS21044N4	.NUT,SELF-LOCKING,HEXAGON	4
AMTY	20	PFOZZ		51457	TIP-100	.BOX,CONTROL	1
TM-CODE 2VD						END OF FIGURE	

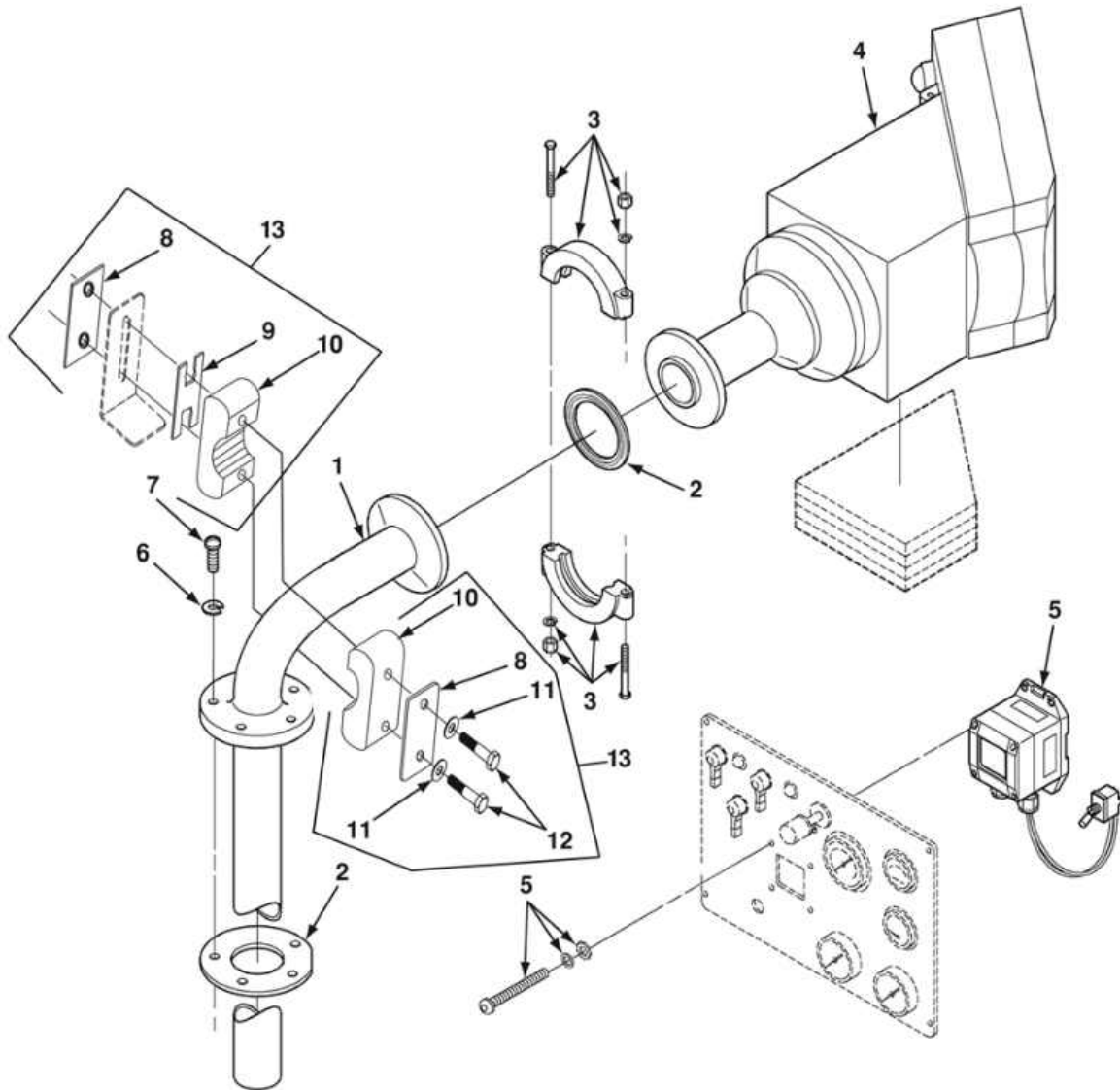


FIGURE 70. RADAR FUEL LEVEL SENSOR

GROUP 2967 RADAR FUEL LEVEL SENSOR - Continued

0232 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2967 INSTRUMENT PANEL	
						FIG. 70 RADAR FUEL LEVEL SENSOR	
AEBA1	1	PFOOO	4710-01-506-2702	1K2S2	VE205339	WELL ASSEMBLY	1
AEBC	2	PAOZZ	5330-01-506-1859	1K2S2	VE205340	GASKET SET	1
AEBE	3	PAOZZ	4730-01-506-2707	1K2S2	VE204559	CLAMP, HI-PRESSURE.....	1
AEBJ	4	PFOZZ	5930-01-514-2442	1K2S2	VE205338	HEAD ASSEMBLY, RADAR SENSOR.....	1
AEBM	5	PFOZZ		1K2S2	VE205247	DISPLAY AND SWITCH ASSEMBLY	1
AEBS	6	PAOZZ	5310-01-514-2751	1K2S2	229182	LOCKWASHER, HELICAL	1
AEBY	7	PAOZZ	5305-01-506-2643	1K2S2	224464	SCREW, SOCKET HEAD	1
AEBQ	8	PAOZZ		1K2S2	VE204599	CLAMP, VIBRATION	2
AEBV	9	PAOZZ		1K2S2	VE204600	PLATE, BACKING	1
AEB1	10	PAOZZ		1K2S2	VE204550	PAD, POLYURETHANE	2
AEB3	11	PAOZZ		1K2S2	229215	WASHER, SPRING	2
AEB5	12	PAOZZ		1K2S2	28116034	SCREW, CAP, HEXAGON HEAD	2
AEB7	13	PAOZZ		1K2S2	VE204495	BRACKET	1
						END OF FIGURE	

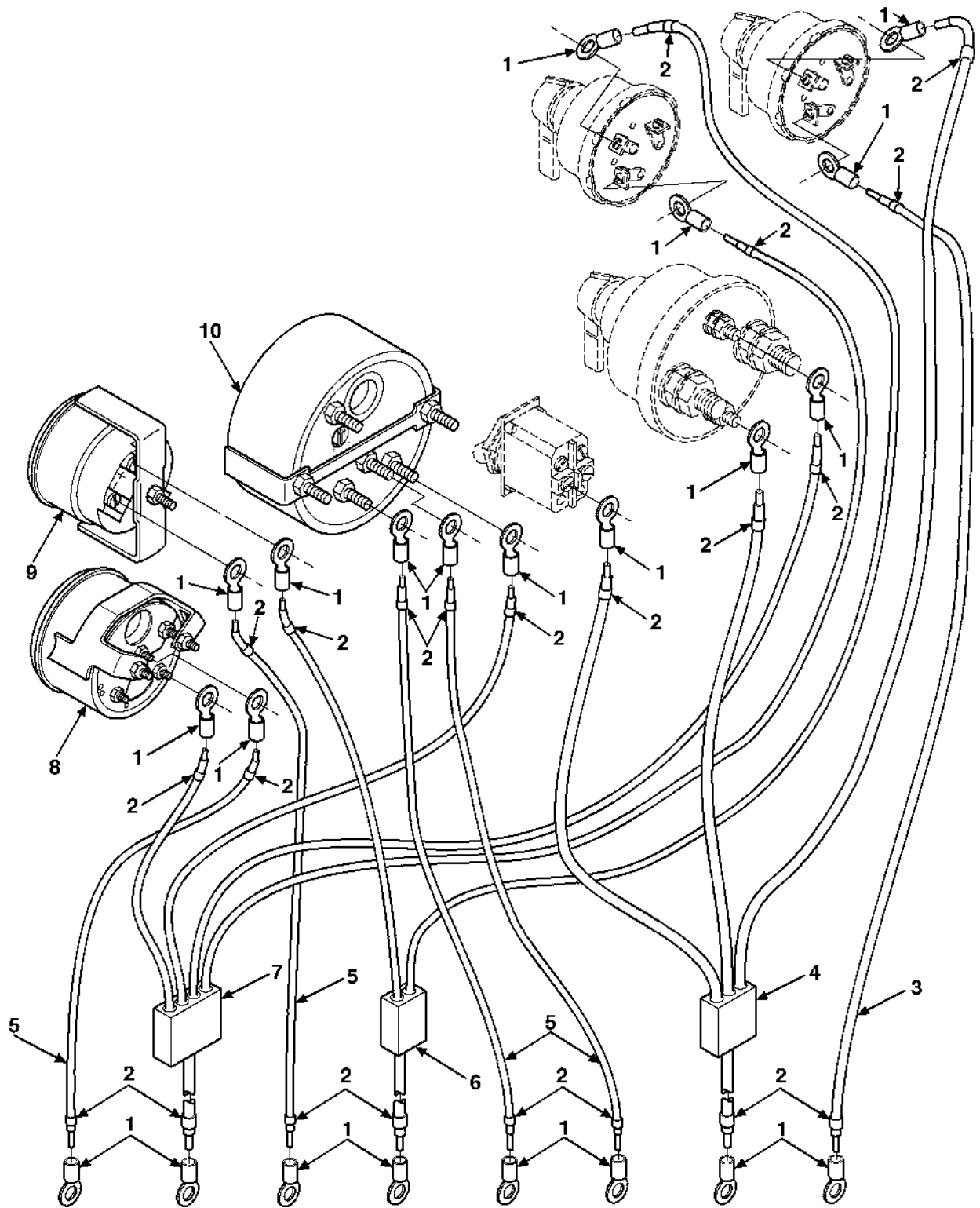


FIGURE 71. ENGINE CONTROL PANEL WIRING

GROUP 2967 ENGINE CONTROL PANEL WIRING - Continued

0233 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 2967 INSTRUMENT PANEL	
						FIG. 71 ENGINE CONTROL PANEL WIRING	
ABQY	1	PAOZZ	5940-01-508-5912	1R5C8	9133-0083	CONNECTOR, RING, TERMINAL	10
ABQ1	2	PAOZZ	9905-00-752-4649	19207	7524649	BAND, MARKER	22
ABQA1	3	MOOZZ		1R5C8	9968-0054	GROUND LEAD 12 GA. MAKE FROM WIRE P/N WL12-0 (58961), AS REQUIRED.....	1
ABQJ	4	PAOZZ	6150-01-506-2626	1R5C8	9380-0315	HARNESS, ENGINE.....	1
ABQE	5	MOOZZ		1R5C8	9968-0055	GROUND LEAD 14 GA. MAKE FROM WIRE P/N WL14-0 (58961), AS REQUIRED.....	4
ABQK	6	PAOZZ	6150-01-506-2638	1R5C8	9380-0317	HARNESS, ENGINE.....	1
ABQM	7	PAOZZ	6150-01-506-2635	1R5C8	9380-0316	HARNESS, ENGINE.....	1
ABQH	8	PAOZZ	6645-01-263-9434	16476	100222	METER, TIME TOTALIZING	1
ABQF	9	PAOZZ	6620-01-470-6835	16476	100264	VOLTMETER.....	1
ABQN	10	PAOZZ	6680-01-508-5909	16476	107646	TACHOMETER.....	1
TM-CODE 2VD						END OF FIGURE	

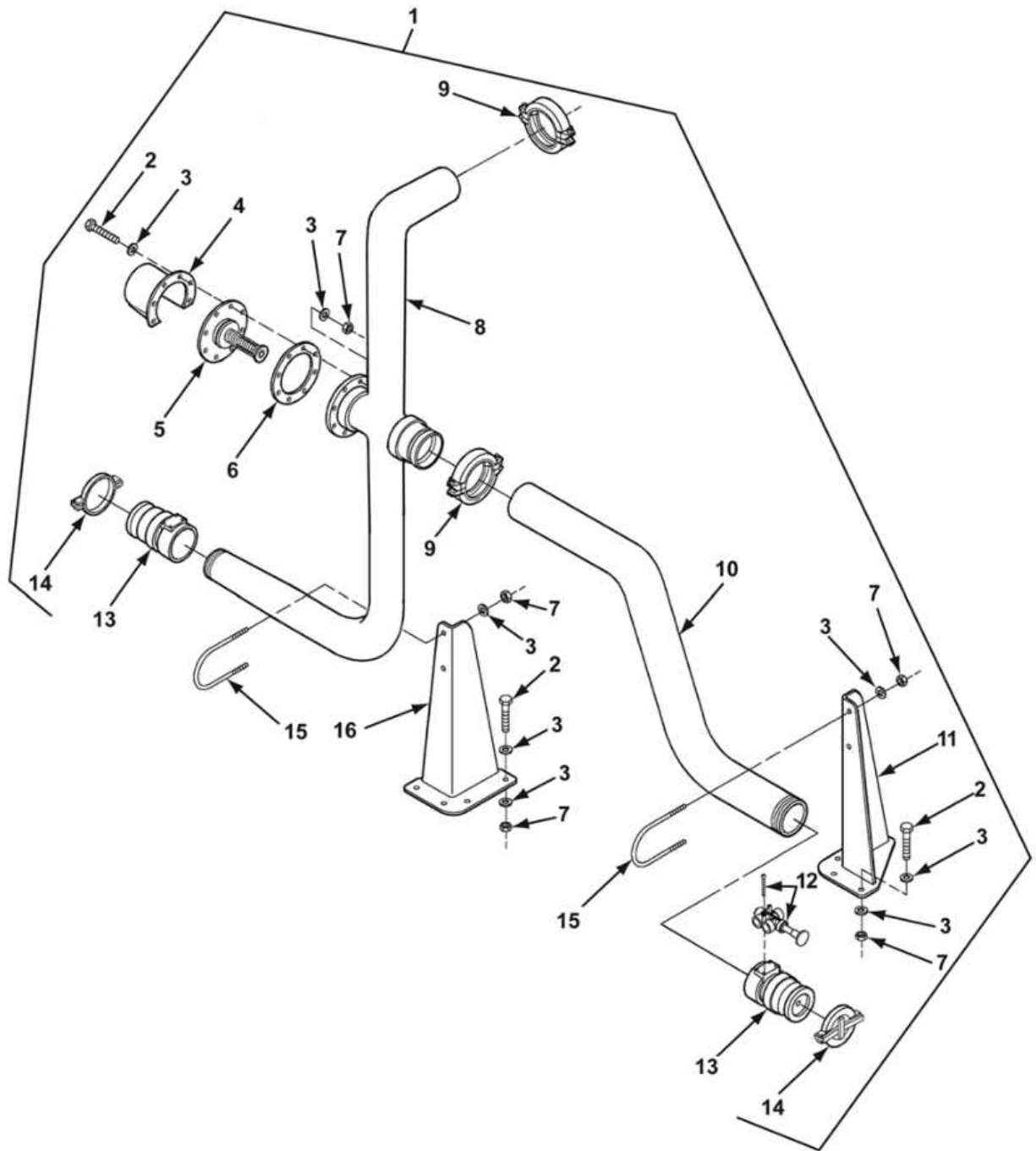


FIGURE 72. VAPOR RECOVERY ASSEMBLY

GROUP 3307 VAPOR RECOVERY ASSEMBLY - Continued

0234 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 33 SPECIAL PURPOSE KITS	
						GROUP 3307 SPECIAL PURPOSE KITS	
						FIG. 72 VAPOR RECOVERY ASSEMBLY	
AAMA	1	PFFFF	4710-01-506-1776	1R5C8	M158-4250	VAPOR RECOVERY ASSEMBLY.....	4
AQDY	2	PAOZZ	5305-01-325-8387	80205	MS90725-64	.SCREW,CAP, HEXAGON HEAD	8
AAMC1	3	PAOZZ	5310-01-280-5796	96906	MS27183-57	.WASHER, FLAT	24
AQBA	4	PFOZZ		96952	035-2994	.SHIELD, RAIN	1
AQAY	5	PFOZZ		13226	PV26364ALB	.VENT ASSEMBLY.....	1
AQAS	6	PFOZZ		1R5C8	9326-0254	.GASKET, FLANGE.....	1
AQDS	7	PAOZZ	5310-00-930-9759	19207	8712289-9	.NUT, SELF-LOCKING, HEXAGON	8
AQAM	8	PFFZZ		1R5C8	M158-4400	.PIPE, VAPOR RECOVERY, LEFT	1
AQCM	9	PFOZZ	4730-01-503-0247	79154	VIC75TG04	.COUPLING, PIPE	2
AQBY	10	PFFZZ		1R5C8	M158-4401	.PIPE, VAPOR RECOVERY, RIGHT	1
AAME	11	PFOZZ	5340-01-506-1011	1R5C8	M311-3398-002	.BRACKET ASSEMBLY	1
AAMJ	12	PFOZZ	4810-01-506-2637	1UYK1	100	.VALVE, 3-WAY AIR INTERLOCK	1
AQCG	13	PFOZZ		65824	303-444-04	.ADAPTER.....	2
AQCS	14	PFOZZ		65824	304-200-01	.CAP, DUST.....	2
AQDG	15	PFOZZ	5306-01-510-2708	1R5C8	9043-0084	.U-BOLT.....	4
AAMM	16	PFOZZ	5340-01-506-1023	1R5C8	M311-3398-001	.BRACKET ASSEMBLY	1
			TM-CODE 2VD			END OF FIGURE	

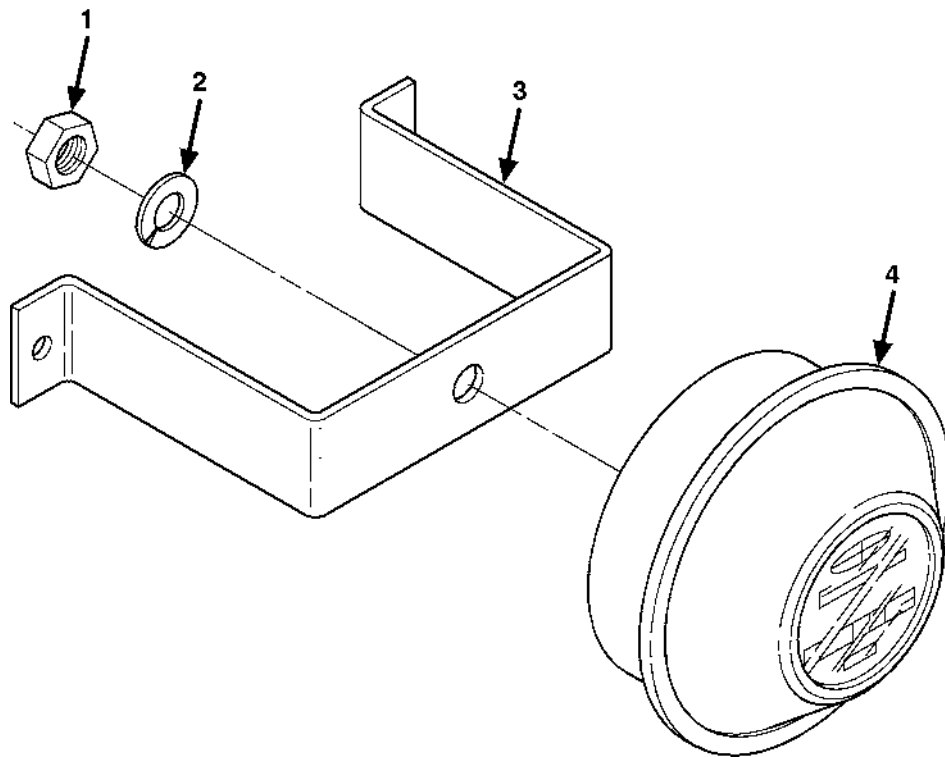


FIGURE 73. HUBODOMETER

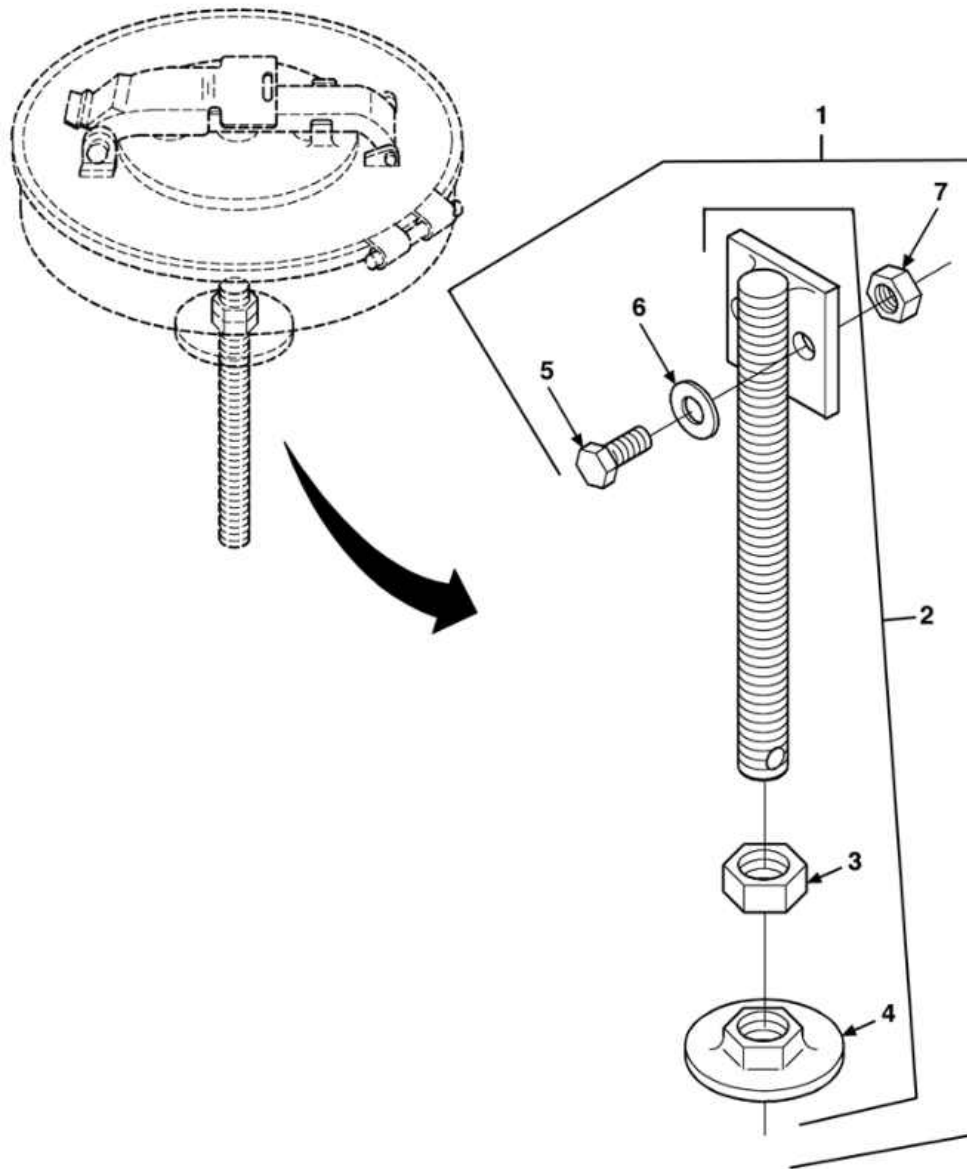


FIGURE 74. GAGE ASSEMBLY, IN-TANK

GROUP 4702 GAGE ASSEMBLY, IN-TANK - Continued

0236 00

(1) PLISN	(2) ITEM NO.	(3) SMR CODE	(4) NSN	(5) CAGEC	(6) PART NUMBER	(7) DESCRIPTION AND USABLE ON CODE (UOC)	(8) QTY
						GROUP 4702 GAGES, MOUNTING LINES AND FITTINGS	
						FIG. 74 GAGE ASSEMBLY, IN- TANK	
ARCB	1	PBOOO	6680-01-509-3963	1R5C8	067-0581-001	GAGE ASSEMBLY, IN-TANK.....	1
ARCC	2	XAOZZ		1R5C8	067-418-014	.ROD ASSEMBLY.....	1
ARCE	3	PFOZZ	5310-01-508-6918	1R5C8	9562-0009	..NUT, HEXAGON, 5/8-11	1
ARCG	4	PFOZZ	5310-01-508-6921	1R5C8	9224-0001	..DISK, CAPACITY INDICATOR.....	1
ARCJ	5	PFOZZ	5305-01-424-8152	41181	13005	.SCREW,CAP,HEXAGON HEAD 1/4-20 X 1	2
ARCN	6	PFOZZ	5310-00-802-4701	80205	MS15795-813	.WASHER,FLAT 1/4	2
ARCS	7	PFOZZ	5310-01-502-8330	1R5C8	9562-0046	.NUT,SELF-LOCKING,HEXAGON 1/4-20 .	2
						END OF FIGURE	

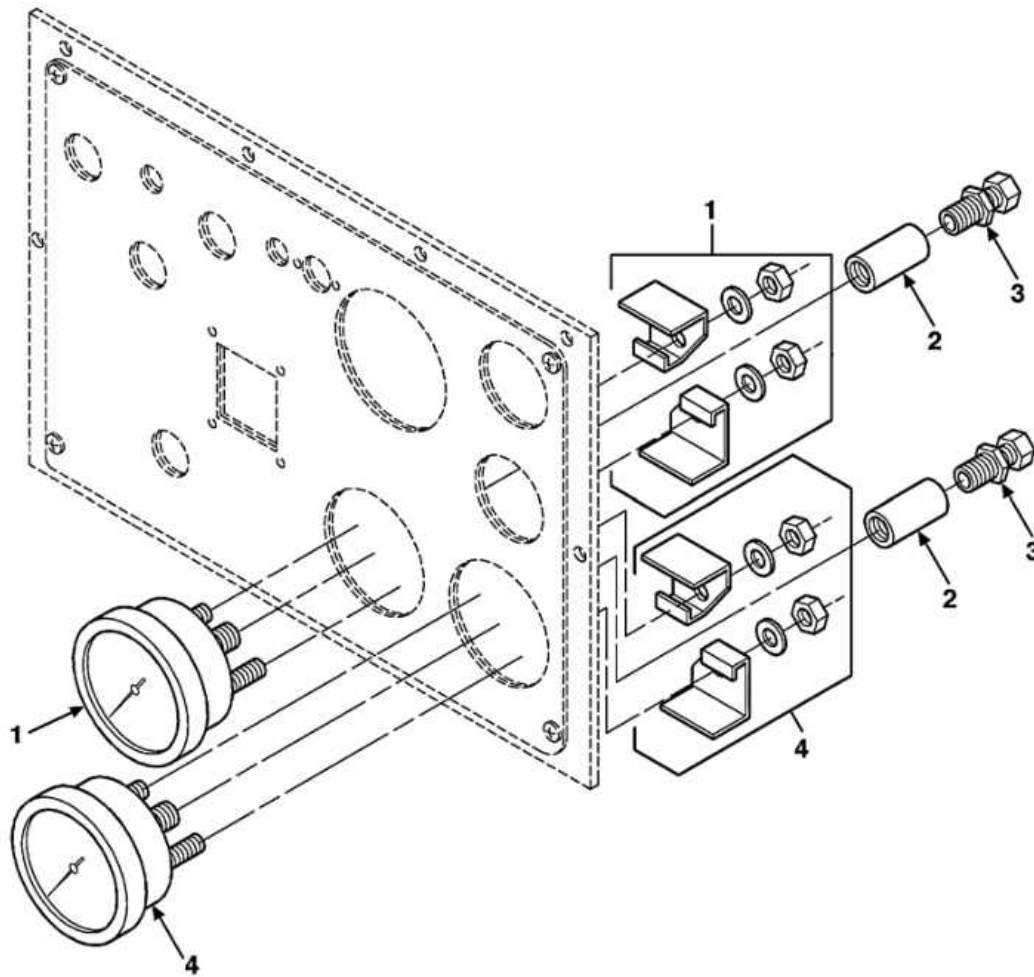


FIGURE 75. CONTROL PANEL GAGES

GROUP 4702 CONTROL PANEL GAGES - Continued

0237 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 4702 GAGES, MOUNTING LINES AND FITTINGS	
						FIG. 75 CONTROL PANEL GAGES	
AAX7	1	PFOZZ	6685-01-506-1151	0KMP4	4204089	GAGE, PUMP PRESSURE.....	1
AAXE	2	PAOZZ	4730-01-274-1830	93061	VS68NTA-6-4	ADAPTER, STRAIGHT, PIPE.....	2
AAXS	3	PFOZZ	4730-01-508-5999	1R5C8	9142-0206	COUPLING, PIPE, FULL	3
AAX1	4	PFOZZ	6685-01-506-1061	0KMP4	4306148	GAGE, OIL PRESSURE	1
TM-CODE 2VD						END OF FIGURE	

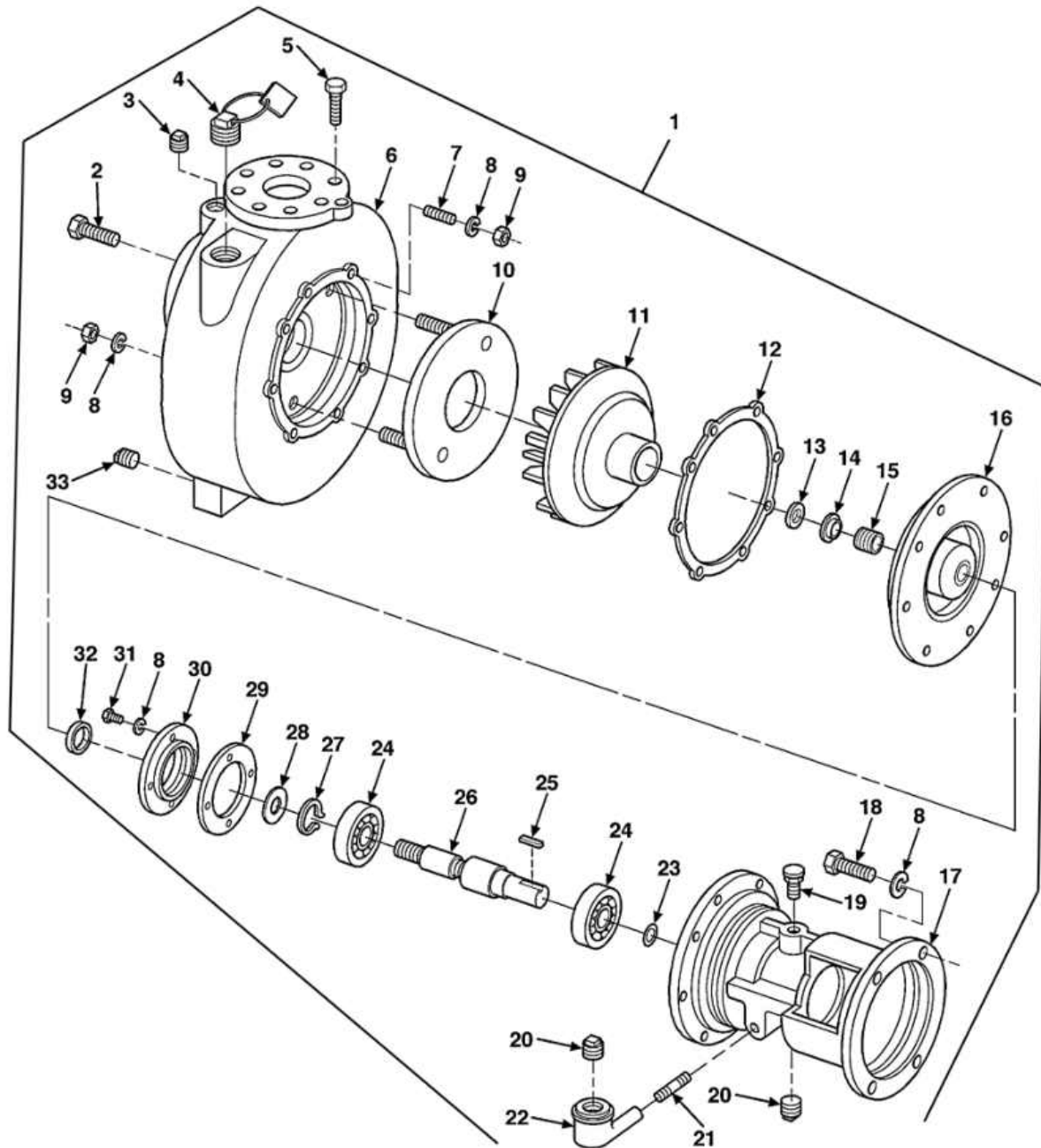


FIGURE 76. PUMP ASSEMBLY

GROUP 7202 PUMP ASSEMBLY - Continued

0238 00

(1) PLISN	(2) ITEM NO.	(3) SMR CODE	(4) NSN	(5) CAGEC	(6) PART NUMBER	(7) DESCRIPTION AND USABLE ON CODE (UOC)	(8) QTY
						GROUP 72 DISPENSING AND SERVICING EQUIPMENT COMPONENTS	
						GROUP 7202 PUMPS AND METERS	
						FIG. 76 PUMP ASSEMBLY	
AUAA1	1	PBFFF		25567	84B1- (11LD626-3)/S1	PUMP ASSEMBLY, CENTRIFUGAL	1
AUAY	2	PAFZZ	5307-01-088-7388	25567	31343-039 15991	.STUD.....	8
AUBA	3	PAFZZ	4730-00-223-9268	25567	P04	.PLUG, PIPE.....	1
AUBM	4	PAFZZ	5340-01-406-4189	25567	48271-094	.PLUG ASSEMBLY, SEALING.....	1
AUBG	5	PAFZZ	5307-01-088-7388	25567	31343-039 15991	.STUD, PLAIN	8
AUAG	6	XAFZZ		25567	8881	.VOLUTE	1
AUCA1	7	PAFZZ	5307-00-080-2016	25567	C0608	.STUD, PLAIN	8
AUCG	8	PAFZZ	5310-00-637-9541	96906	MS35338-46	.WASHER, LOCK.....	20
AUCM1	9	PAFZZ	5310-00-725-9479	25567	D06	.NUT, PLAIN, HEXAGON.....	10
AUBY	10	PAFZZ	4320-01-060-7896	25567	2605-X-14010	.RING, WEARING	1
AUAM	11	PAFZZ	2930-00-407-9270	25567	882A 14000	.IMPELLER, PUMP, CENTRIFUGAL	1
AUHY	12	PAFZZ	5330-01-060-7266	25567	2474-GA	.GASKET SET	1
AUJG	13	PFFZZ	5310-00-496-3676	25567	37J	.WASHER, FLAT	1
AUJA1	14	PFFZZ	5310-01-502-8763	25567	31512-024	.SEAT, SPRING	1
AUAS	15	PFFZZ	5330-01-078-2005	25567	25271-207	.SEAL	1
AUHS	16	PFFZZ		25567	38272-319	.PLATE, SEAL.....	1
AUEM	17	PFFZZ	2520-01-168-6845	25567	38263-507 10010	.HOUSING, INTERMEDIATE	1
AUEY	18	PFFZZ	5305-01-504-6855	25567	21672-597	.CAPSCREW, HEX HEAD	6
AUDG	19	PFFZZ	5340-01-502-8758	25567	S1703	.VENT, PIPE PLUG	1
AUGG	20	PAOZZ	4730-00-010-3867	19422	BM11352-13-05	.PLUG, PIPE.....	2
AUKA	21	PAFZZ	4730-01-503-0244	25567	T0616	.NIPPLE, PIPE.....	1
AUGA	22	PAFZZ		25567	R06	.ELBOW, PIPE	1
AUFS	23	PAFZZ	5331-01-504-6856	25567	25227-363	.SEAL, OIL.....	1
AUFY	24	PAFZZ	3110-01-188-0733	25567	S01080	.BALL, BEARING.....	2
AUFG	25	PFFZZ	5315-01-502-8761	25567	N0507	.KEY, SHAFT.....	1
AUDS	26	PFFZZ	3040-01-167-8118	25567	38513-406 17030	.SHAFT, SHOULDERED.....	1
AUGY	27	PFFZZ	5325-01-502-8762	25567	S244	.RING, RETAINING	1
AUDA	28	PFFZZ	5365-01-137-7682	25567	8543 15990	.SHIM.....	1
AUCY	29	PFFZZ	5330-01-060-9614	25567	38683-207	.GASKET	1
AUCS	30	PFFZZ	3130-01-317-2625	25567	38322-214 10010	.CAP, PILLOW BLOCK	1
AUHG	31	PAFZZ	5305-00-269-3211	80205	MS90725-60	.SCREW, CAP, HEXAGON HEAD	4
AUHA	32	PFFZZ	5330-01-060-9610	25567	25227-689	.SEAL, PLAIN ENCASED.....	1
AUJY	33	PAOZZ	5365-01-502-9523	25567	P20	.PLUG, PIPE.....	1
TM-CODE 2VD						END OF FIGURE	

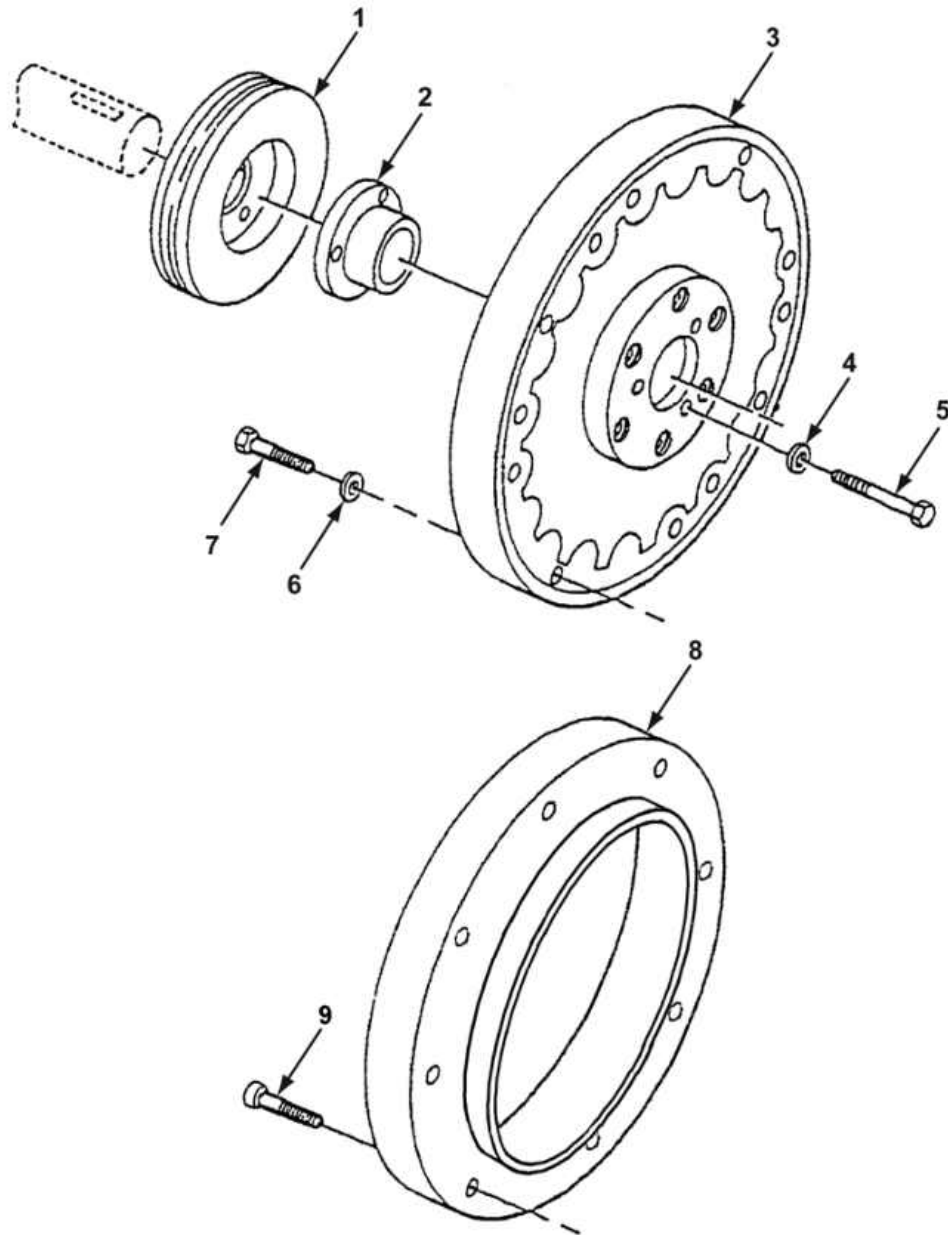


FIGURE 77. PUMP COUPLING PARTS

GROUP 7202 PUMP COUPLING PARTS - Continued

0239 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 7202 PUMPS AND METERS	
						FIG. 77 PUMP COUPLING PARTS	
AUDY	1	PFFZZ	3020-01-502-9926	25567	38546-003	DRIVE SHEAVE.....	1
AUFM1	2	PFFZZ	5365-01-175-0320	25567	31551-001 15990	BUSHING	1
AUKG	3	PFFZZ	4730-01-167-8069	25567	44165-003	COUPLING, PUMP ASSEMBLY.....	1
AUDM	4	PFFZZ	5310-01-502-8759	25567	J04	WASHER, LOCK.....	3
AUES	5	PFFZZ	5305-01-502-8760	25567	21672-529	SCREW	3
AUEG	6	PAOZZ	5310-00-407-9566	96906	MS35338-45	WASHER, LOCK.....	8
AUEB	7	PAOZZ	5306-00-226-4833	80204	B1821BH031C200N	BOLT, MACHINE	8
AUEC	8	PFFZZ		19207	12476065	RING, ADAPTER	1
AUEJ	9	PFFZZ	5305-01-523-0373	05573	42768	SCREW, SOCKET HEAD	8
TM-CODE 2VD						END OF FIGURE	

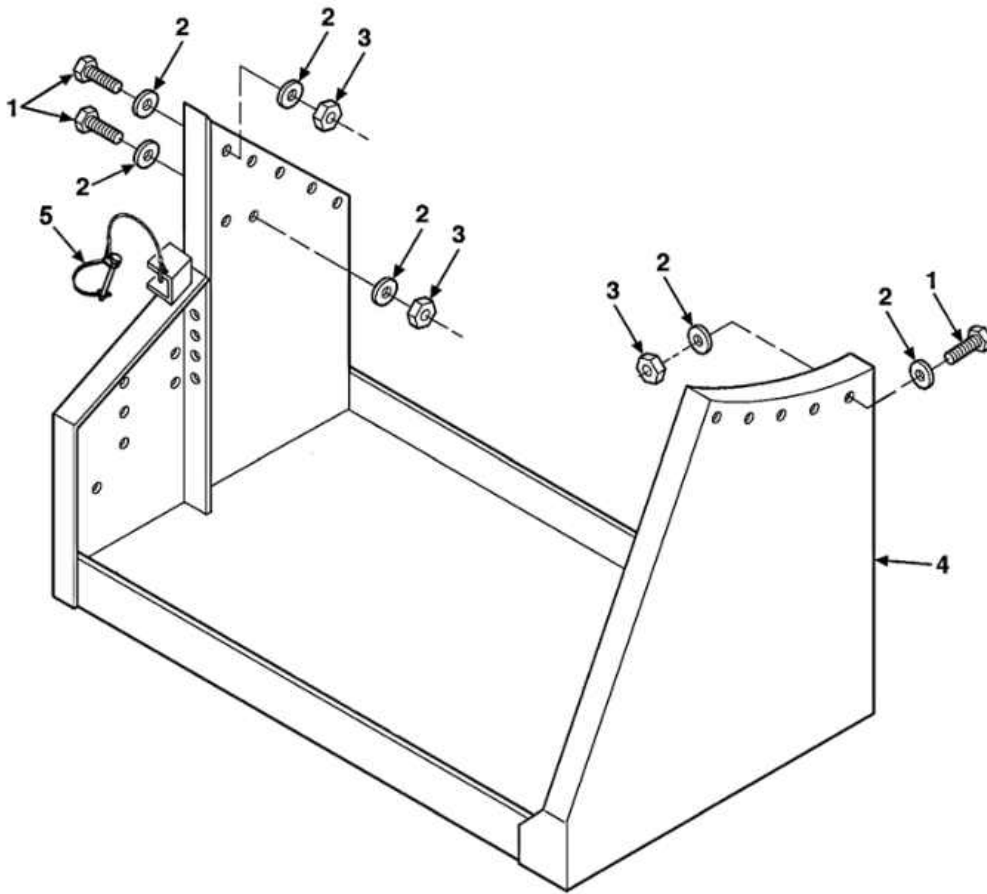


FIGURE 78. PIPING FRAME ASSEMBLY

GROUP 7203 PIPING FRAME ASSEMBLY - Continued

0240 00

(1) PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 7203 VALVES, FITTINGS, LINES	
						FIG. 78 PIPING FRAME ASSEMBLY	
AURA	1	PAOZZ	5305-01-425-2425	83338	3/8-16X1	SCREW, CAP, HEXAGON HEAD 3/8-16 X 1	12
AURB	2	PAOZZ	5310-01-280-5796	96906	MS27183-57	WASHER, FLAT 3/8	24
AURC	3	PAOZZ	5310-01-502-8329	1R5C8	9562-0044	NUT SELF-LOCKING, HEXAGON HEAD 3/8-16 X 1	12
AURD	4	PFOZZ		1R5C8	M311-2869	PIPING FRAME ASSEMBLY.....	1
AKC9	5	PAOZZ	5315-01-502-8717	0CR59	HP30-08MD	PIN, COTTERLESS	1
						TM-CODE 2VD	
						END OF FIGURE	

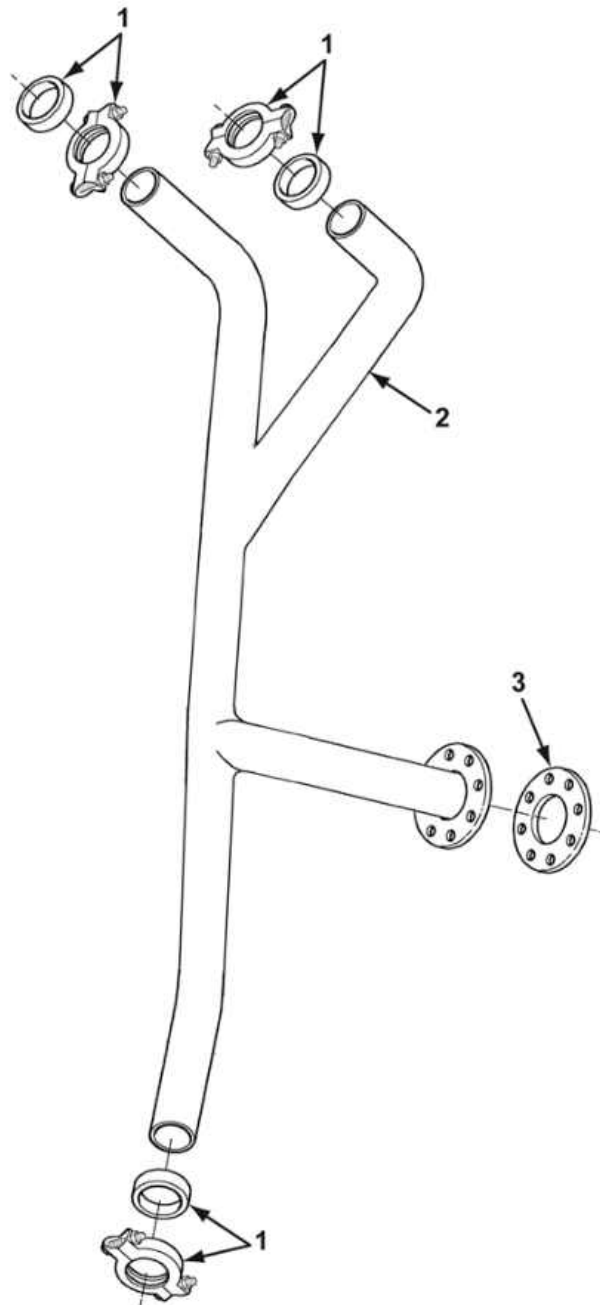


FIGURE 79. EMERGENCY VALVE PIPING

(1) PLISN	(2) ITEM NO.	(3) SMR CODE	(4) NSN	(5) CAGEC	(6) PART NUMBER	(7) DESCRIPTION AND USABLE ON CODE (UOC)	(8) QTY
						GROUP 7203 VALVES, FITTINGS, AND LINES	
						FIG. 79 EMERGENCY VALVE PIPING	
AURE	1	PAOZZ	4730-01-503-0247	79154	VIC75TG04	COUPLING, CLAMP, PIPE	3
AUR1	2	PFOZZ		1R5C8	M158-4396	PIPE, MAIN	1
AUR3	3	PAOZZ	5330-01-081-5070	19207	11670914	GASKET	1
			TM-CODE 2VD			END OF FIGURE	

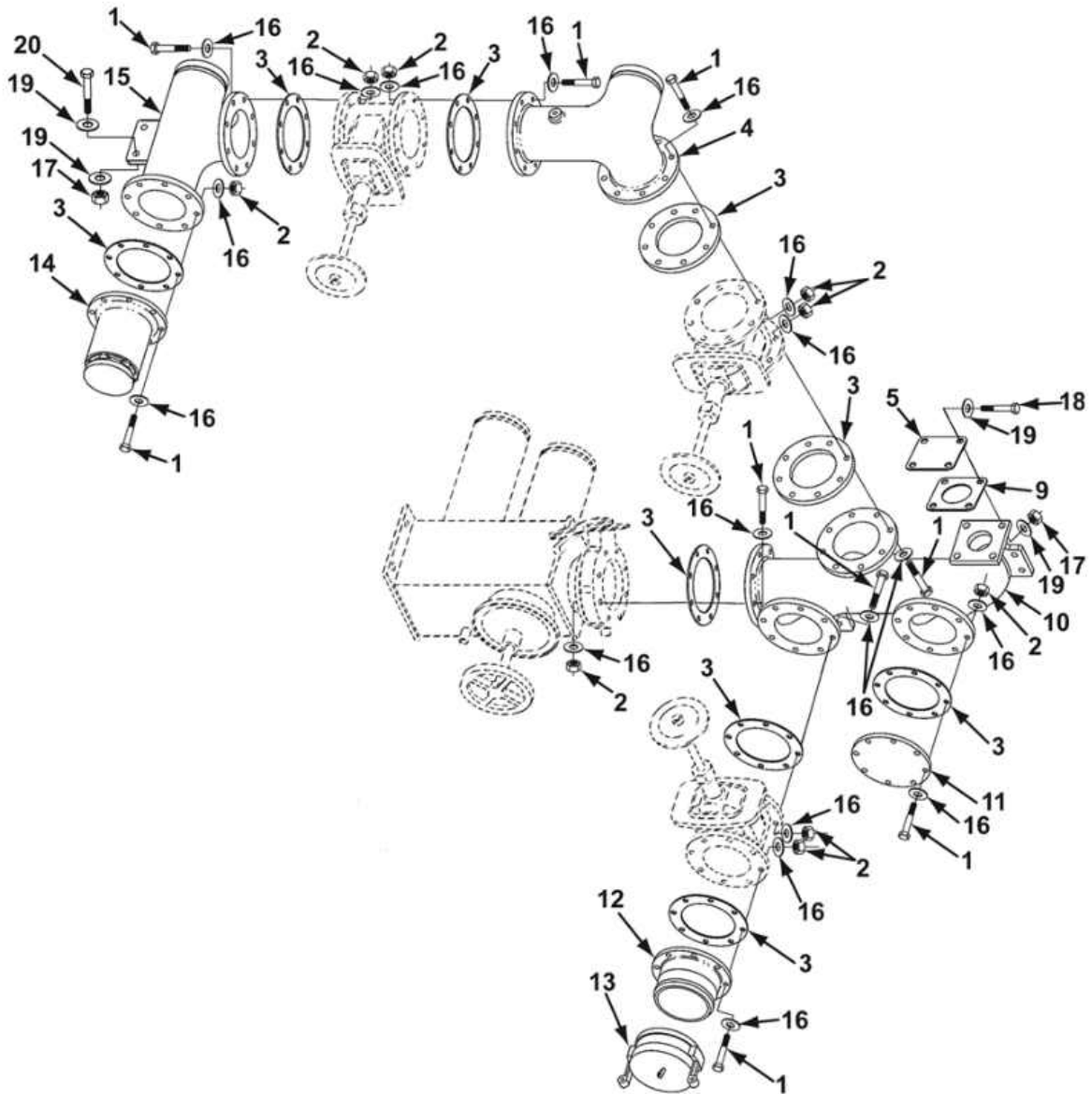


FIGURE 80. MANIFOLD AND FLANGE ASSEMBLY

GROUP 7203 MANIFOLD AND FLANGE ASSEMBLY - Continued

0242 00

(1) PLISN	(2) ITEM NO.	(3) SMR CODE	(4) NSN	(5) CAGEC	(6) PART NUMBER	(7) DESCRIPTION AND USABLE ON CODE (UOC)	(8) QTY
						GROUP 7203 VALVES, FITTINGS AND LINES	
						FIG. 80 MANIFOLD AND FLANGE ASSEMBLY	
AUSV	1	PAOZZ	5305-00-821-3869	80204	B1821BH038C175N	SCREW, CAP, HEXAGON HEAD 3/8-16 X 1-3/4	72
AUSB	2	PAOZZ	5310-01-502-8329	1R5C8	9562-0044	NUT, SELF-LOCKING 3/8-16	72
AUSR1	3	PAOZZ	5330-01-081-5070	19207	11670914	GASKET	9
AUSE	4	PFOZZ	4730-01-066-0118	19207	11670911	ELBOW, FLANGE	1
AUSH	5	PAOOO	4730-01-504-8926	1R5C8	M074-4825	FLANGE, BLANK	1
AUSK	6	PAOZZ	5330-01-060-6890	19207	11670915	GASKET	2
AUSZ	7	PFOZZ	4730-01-065-7604	19207	11670913	MANIFOLD, DISCHARGE	1
AUST	8	PFOZZ	4730-01-504-8927	05443	20661D	FLANGE, BLIND	1
AUSY	9	PFOZZ	4730-01-503-0245	1R5C8	9001-0036	ADAPTER W/FLANGE	1
AUSX	10	PFOZZ	5340-01-502-8766	1R5C8	9118-0024	CAP, DUST	1
AUS1	11	PAOZZ	4730-01-184-4883	92003	F418BCS	COUPLING HALF, QUICK DISC	1
AUS3	12	PFOZZ	4730-01-065-9358	14109	11670912	TEE	1
AUSC	13	PAOZZ	5310-00-080-6004	96906	MS27183-14	WASHER, FLAT 3/8	144
AUSM	14	PAOZZ	5310-01-502-8323	1R5C8	9562-0133	NUT, SELF-LOCKING 1/2-13	15
AUSD	15	PAOZZ	5306-00-174-9462	1R5C8	9738-0015	SCREW, CAP, HEXAGON HEAD 1/2-13 X 1-1/2	8
AUSF	16	PAOZZ	5310-01-421-7439	08427	8730000-21	WASHER, FLAT 1/2	30
AUSP	17	PAOZZ	5305-00-071-2071	80204	B1821BH050C200N	SCREW, CAP, HEXAGON HEAD 1/2-13 X 2	7
END OF FIGURE							

GROUP 7203 PUMP PIPING ASSEMBLY

0243 00

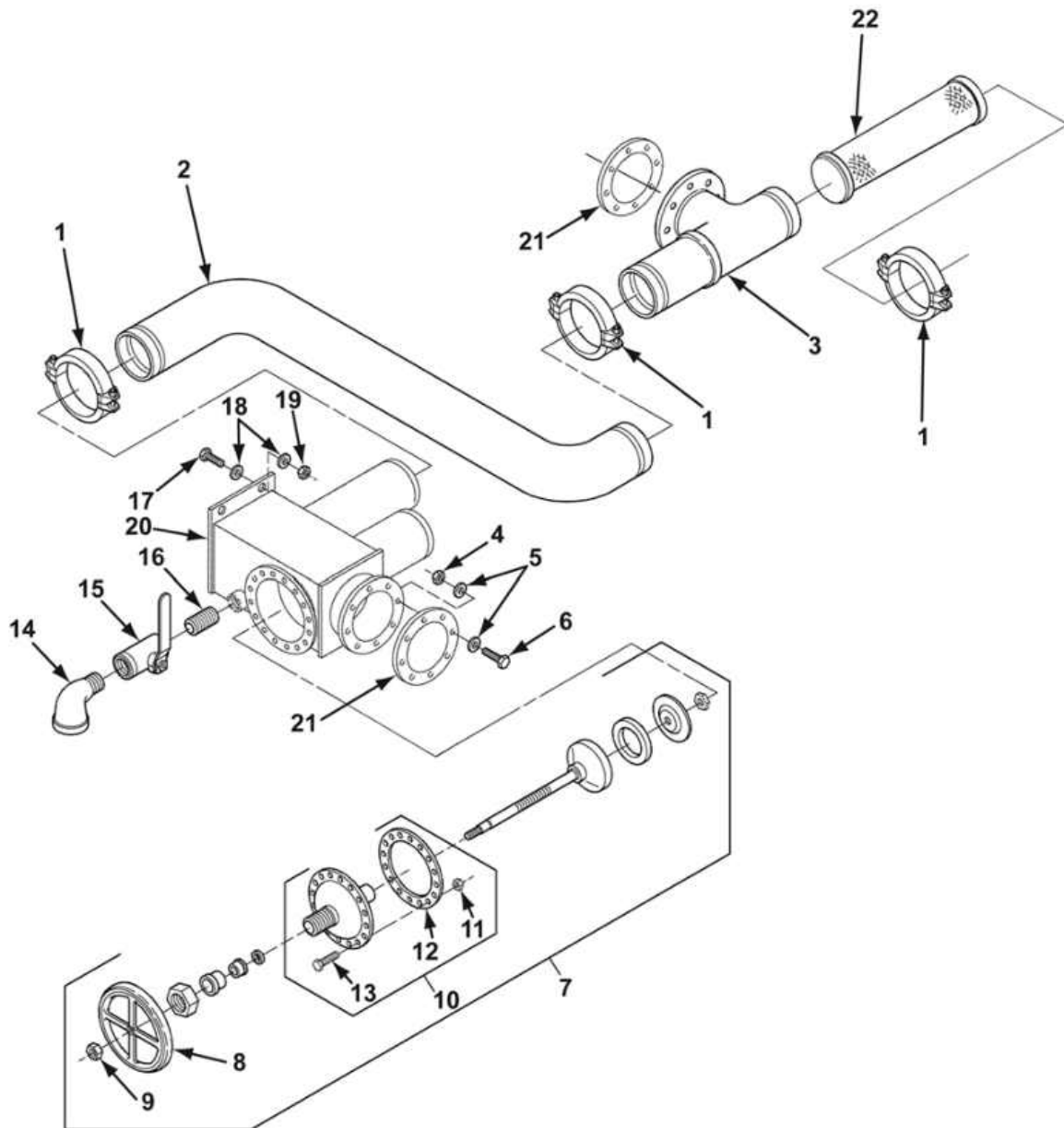


FIGURE 81. PUMP PIPING ASSEMBLY

GROUP 7203 PUMP PIPING ASSEMBLY - Continued

0243 00

(1) PLISN	(2) ITEM NO.	(3) SMR CODE	(4) NSN	(5) CAGEC	(6) PART NUMBER	(7) DESCRIPTION AND USABLE ON CODE (UOC)	(8) QTY
						GROUP 7203 VALVES, FITTINGS AND LINES	
						FIG 81 PUMP PIPING ASSEMBLY	
ATDA	1	PAOZZ	4730-01-503-0247	79154	VIC75TG04	COUPLING, PIPE.....	1
ATDE	2	PFOZZ	4710-01-506-2883	1R5C8	9596-0474	PIPE, SWEEP	1
ATDC	3	PFOZZ	4730-01-508-6130	05443	40342CM	TEE ASSEMBLY	1
ATDG	4	PAOZZ	5310-01-502-8329	1R5C8	9562-0044	NUT, SELF-LOCKING HEXAGON 3/8-16.....	8
ATDF	5	PAOZZ	5310-00-186-7448	80205	MS15795-14	WASHER, FLAT 3/8	16
ATDJ	6	PAOZZ	5305-00-269-3219	80205	MS90725-69	SCREW, CAP, HEXAGON HEAD 3/8-16 X 2-3/4	8
ATDK	7	PAOOO	4930-01-085-2652	19207	11668541	VALVE, MANIFOLD.....	1
ATDM	8	PAOZZ		13226	25245AL	.HANDWHEEL	1
ATDP	9	PAOZZ		13226	9Q5811	.NUT, JAM	1
ATDQ	10	PAOZZ	4820-01-124-8894	13226	WV17594ALB	.VALVE ASSEMBLY, MANIFOLD	1
ATDS	11	PAOOO	5310-01-417-1045	13226	9Q5807	..NUT, SELF-LOCKING, HEXAGON	16
ATDU	12	PAOZZ		13226	15265CB	..GASKET	1
ATDW	13	PAOZZ		13226	9Q5823	..SCREW, CAP, HEXAGON HEAD	16
ATDX	14	PAOZZ	4730-01-508-6961	1R5C8	9261-0085	ELBOW, STREET.....	1
ATDZ	15	PAOZZ	4820-00-417-1120	72219	32-103-01	VALVE, BALL	1
ATD1	16	PAOZZ	4730-01-508-7237	93061	VS215PN-8	NIPPLE, PIPE.....	1
ATD3	17	PAOZZ	5305-01-508-6879	39428	92620A798	SCREW, CAP, HEXAGON HEAD 5/8-11 X 1-1/2	2
ATD5	18	PAOZZ	5310-00-823-8803	96906	MS27183-21	WASHER, FLAT 5/8	4
ATD7	19	PAOZZ	5310-01-508-6889	1R5C8	9562-0055	NUT, SELF-LOCKING HEXAGON 5/8-11.....	2
ATDB	20	POOZZ	4930-01-085-2652	27966	11668541	MANIFOLD, FUELING.....	1
ATDD	21	PAOZZ	5330-01-081-5070	19207	11670914	GASKET	1
ATD6	22	PAOZZ	2940-01-061-5734	19207	11685880	FILTER, ELEMENT, FLUID	1
TM-CODE 2VD						END OF FIGURE	

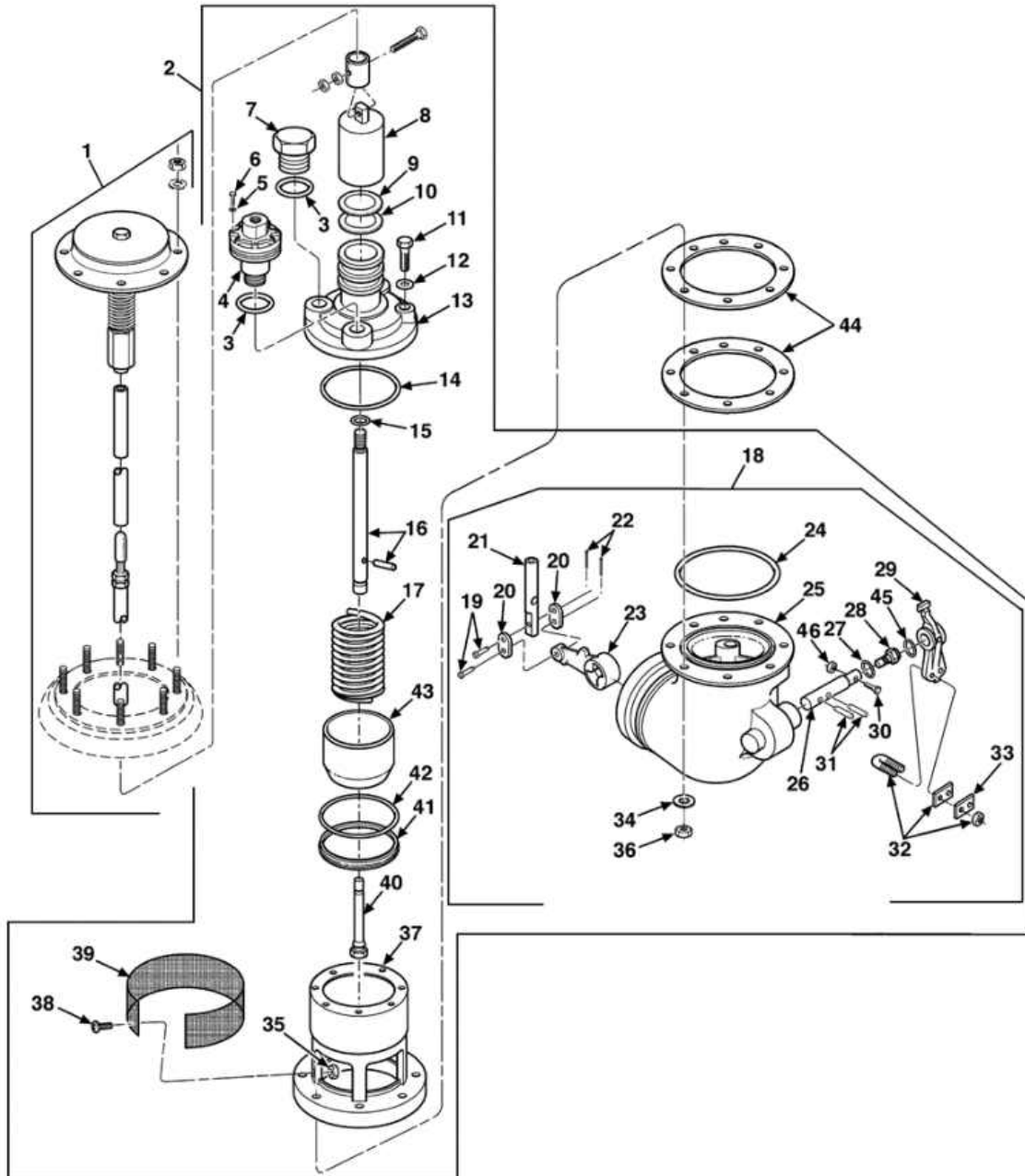


FIGURE 82. VALVE ASSEMBLY, EMERGENCY

GROUP 7203 VALVE ASSEMBLY, EMERGENCY - Continued

0244 00

(1) PLISN	(2) ITEM NO.	(3) SMR CODE	(4) NSN	(5) CAGEC	(6) PART NUMBER	(7) DESCRIPTION AND USABLE ON CODE (UOC)	(8) QTY
GROUP 7203 VALVES, LINES AND FITTINGS							
FIG. 82 VALVE ASSEMBLY, EMERGENCY							
AGAA	1	PFOZZ		13226	46186-2	VENT ASSEMBLY	1
ATEA	2	PFOFF	4820-01-504-6971	0DT23	64174AC	VALVE ASSEMBLY, EMERGENCY	1
ATEC	3	PAFZZ	5331-00-263-8032	81343	MS29512-10	.O-RING	2
ATEG	4	PFFZZ	4820-01-508-7369	0DT23	47097	.VALVE,PILOT	1
ATEP	5	PAFZZ	5310-00-773-7624	80205	NAS620C6	.WASHER, FLAT	6
ATEQ	6	PAFZZ	5305-00-940-9491	96906	MS35275-230	.SCREW, MACHINE	6
ATEE	7	PAFZZ	5365-00-278-8803	88044	AN814-10D	.PLUG, MACHINE THREAD	1
ATEJ	8	PFFZZ	4820-01-504-6981	07322	4325-366Y	.HOUSING	1
ATEM	9	PAFZZ	5330-01-239-9430	91069	Q4325	.PACKING, PREFORMED	1
ATE4	10	PAFZZ		0DT23	220453	.WIPE RING	1
ATES	11	PAFZZ	5305-00-939-9190	96906	MS35275-265	.SCREW, MACHINE	8
ATEY	12	PAFZZ	5310-00-933-8120	80204	B27-1	.WASHER	8
ATGM1	13	XAFZZ		0DT23	47099	.BONNET	1
ATGJ	14	PAFZZ	5331-00-182-3170	81343	AS29513-157	.O-RING	1
ATGE	15	PAFZZ	5331-00-733-2208	08179	MS29513112	.O-RING	1
ATF9	16	PFFZZ	3040-01-504-7052	0DT23	47095	.SHAFT ASSEMBLY	1
ATEZ	17	PFFZZ	5360-01-504-6975	0DT23	220436	.SPRING	8
ATFA	18	PFOFF	4710-01-504-7417	0DT23	47371	.ELBOW ASSEMBLY	1
ATEX	19	PAFZZ	5315-01-493-4685	4X630	863-000625	..PIN, STRAIGHT, HEADED	2
ATEK	20	PFFZZ	3040-01-508-7390	0DT23	221302	..LINK	2
ATEH	21	PFFZZ	3040-01-508-7384	0DT23	221301	..SHAFT	1
ATEL	22	PAFZZ	5315-00-243-7992	80205	MS24665-103	..PIN, COTTER	2
ATFS	23	PFFZZ	3040-01-504-7419	0DT23	220675	..CAM	1
ATEZ	24	PAFZZ	5331-01-217-1787	81343	AS29513-353	..O-RING	1
ATEW	25	XAFZZ		0DT23	221303	..BODY	1
ATFM	26	PFFZZ	3040-01-504-7418	0DT23	220686	..SHAFT	1
ATE6	27	PFFZZ	5330-01-019-6879	07322	Q4114-366Y	..PACKING, PREFORMED	1
ATER	28	PFFZZ	3120-01-508-5969	0DT23	220688	..BUSHING	1
ATFE	29	PFFZZ	5340-01-504-6980	0DT23	220676	..LEVER	1
ATEU1	30	PFFZZ		13226	GF18153-9	..PIN, SPRING	1
ATEV	31	PAFZZ	5315-00-297-0879	72962	79-048-250-0812	..PIN, SPRING	2
ATET	32	PFFZZ	4030-01-508-7449	39428	30325T27	CLIP, WIRE ROPE	1
ATE8	33	PAFZZ		1R5C8	9600-0001M	PLATE, FUSE	1
ATF3	34	PAFZZ	5310-00-857-5548	80205	MS21044D04	.WASHER, FLAT	8
ATFZ	35	PAFZZ	5310-00-044-3340	19207	8712289	.NUT, SELF LOCKING HEXAGON	2
ATF5	36	PAFZZ	5310-00-113-3757	21013	16-161	.NUT,SELF-LOCKING HEXAGON	8
ATE9	37	PFFZZ	4820-01-504-6925	0DT23	220458	.BODY	1
ATF1	38	PAFZZ	5305-00-054-5648	96906	MS51957-14	.SCREW, MACHINE	2

GROUP 7203 VALVE ASSEMBLY, EMERGENCY - Continued

0244 00

(1) PLISN	(2) ITEM NO.	(3) SMR CODE	(4) NSN	(5) CAGEC	(6) PART NUMBER	(7) DESCRIPTION AND USABLE ON CODE (UOC)	(8) QTY
ATF7	39	PFFZZ	4730-01-504-7020	0DT23	220431	.SCREEN	1
ATE7	40	PFFZZ	4820-01-504-6863	0DT23	220447	.ROD	1
ATE51	41	PFFZZ	5330-01-504-6964	0DT23	220456	.SEAL	1
ATE3	42	PAFZZ	5331-00-291-3268	81343	AS29513-248	.GASKET	2
ATE1	43	PFFZZ	2540-01-504-6825	0DT23	47096	.PISTON	1
ATE2	44	PAFZZ		1R5C8	9326-0191	.GASKET	2
ATFE	45	PFFZZ		13226	Q4114-366Y	.RING,QUAD	1
ATFK	46	PFFZZ		13226	GF21042-4	.NUT	12
TM-CODE 2VD						END OF FIGURE	

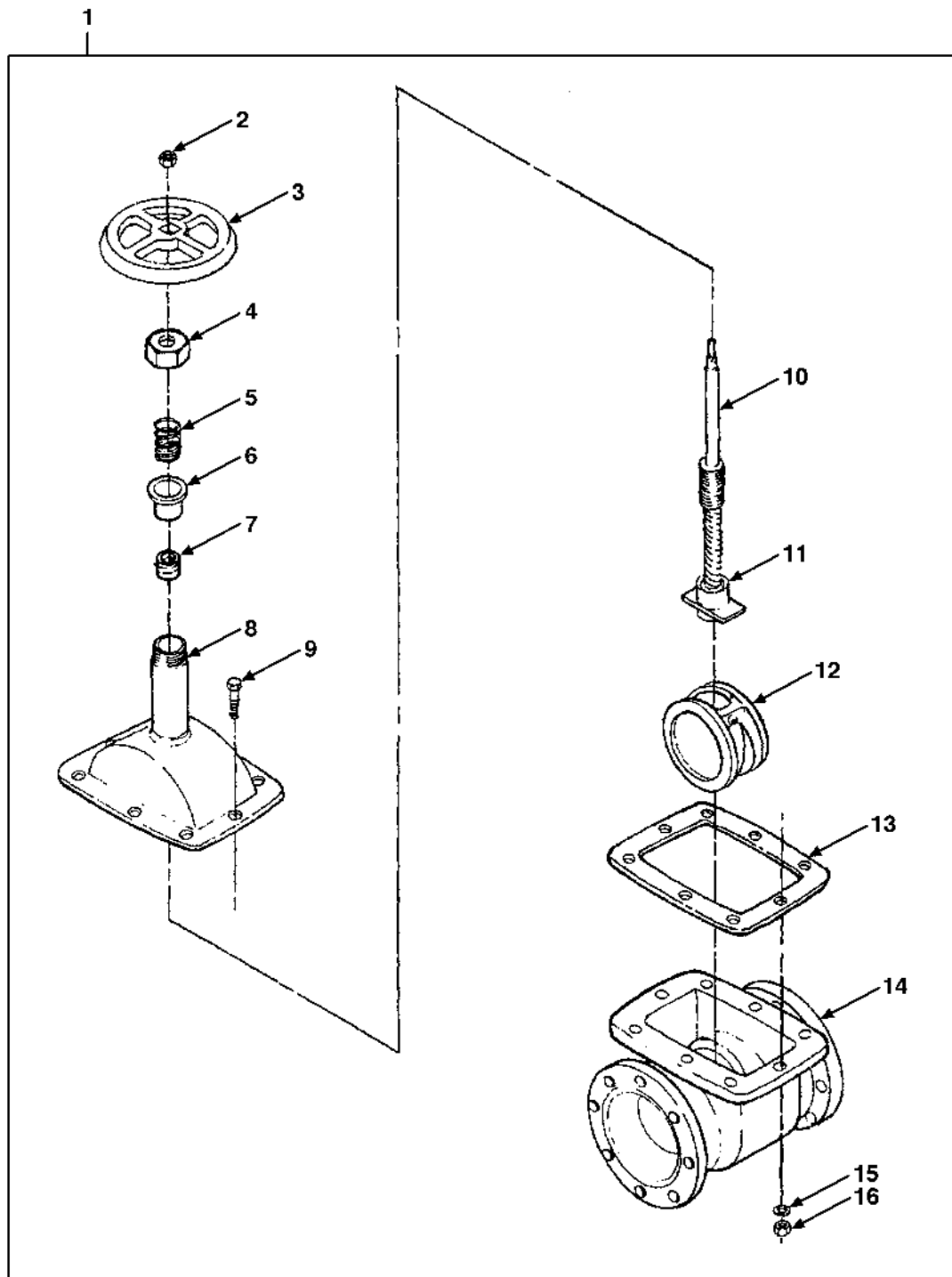


FIGURE 83. VALVE ASSEMBLY, "B, E, AND F"

GROUP 7203 VALVE ASSEMBLY, "B, E, AND F" - Continued

0245 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 7203 VALVES, FITTINGS, LINES	
						FIG. 83 VALVE ASSEMBLY, "B, E AND F"	
ATHA	1	PFOFF	4820-00-766-8191	76364	35551-6-400	VALVE, GATE	3
ATHC	2	PAOZZ	5310-00-654-4537	76364	3116M	.NUT, PLAIN, HEXAGON	1
ATHE	3	PAOZZ	5340-01-077-4942	76364	7699-K-C56	.HANDWHEEL	1
ATHJ	4	PAFZZ	4730-01-284-6397	76364	2855-N-150	.PACKING NUT	1
ATHM	5	PAFZZ	5360-00-653-0395	76364	701-H-491	.SPRING,HELICAL,COMPRESSION	1
ATHS	6	PAFZZ	5330-00-367-5005	76364	363H	.RETAINER, PACKING.....	1
ATHY	7	PAFZZ	5330-00-400-3513	76364	65146-K-A993 SPLIT RING	.PACKING.....	3
ATH1	8	XAFZZ	4820-01-095-0938	76364	23194-N-560	.BONNET, VALVE	1
ATH3	9	PAFZZ	5305-01-079-6771	76364	4256-L-630	.SCREW, CAP, HEXAGON HEAD	8
ATH5	10	XAFZZ		76364	26344-N	.STEM	1
ATH7	11	XAFZZ		76364	3057-N	.PULL NUT.....	1
ATH9	12	XAFZZ	4820-01-080-3435	76364	84299-N-940	.DISK ASSEMBLY	1
ATJA	13	PAFZZ	5330-00-346-2732	76364	6686N	.GASKET	1
ATJE	14	XAFZZ		76364	20115-N	.BODY	1
ATJJ	15	PAFZZ	5310-01-077-9647	76364	38084-C	.WASHER,LOCK	8
ATJM	16	PAFZZ	5310-01-077-9426	76364	3198-C	.NUT.....	8
TM-CODE 2VD						END OF FIGURE	

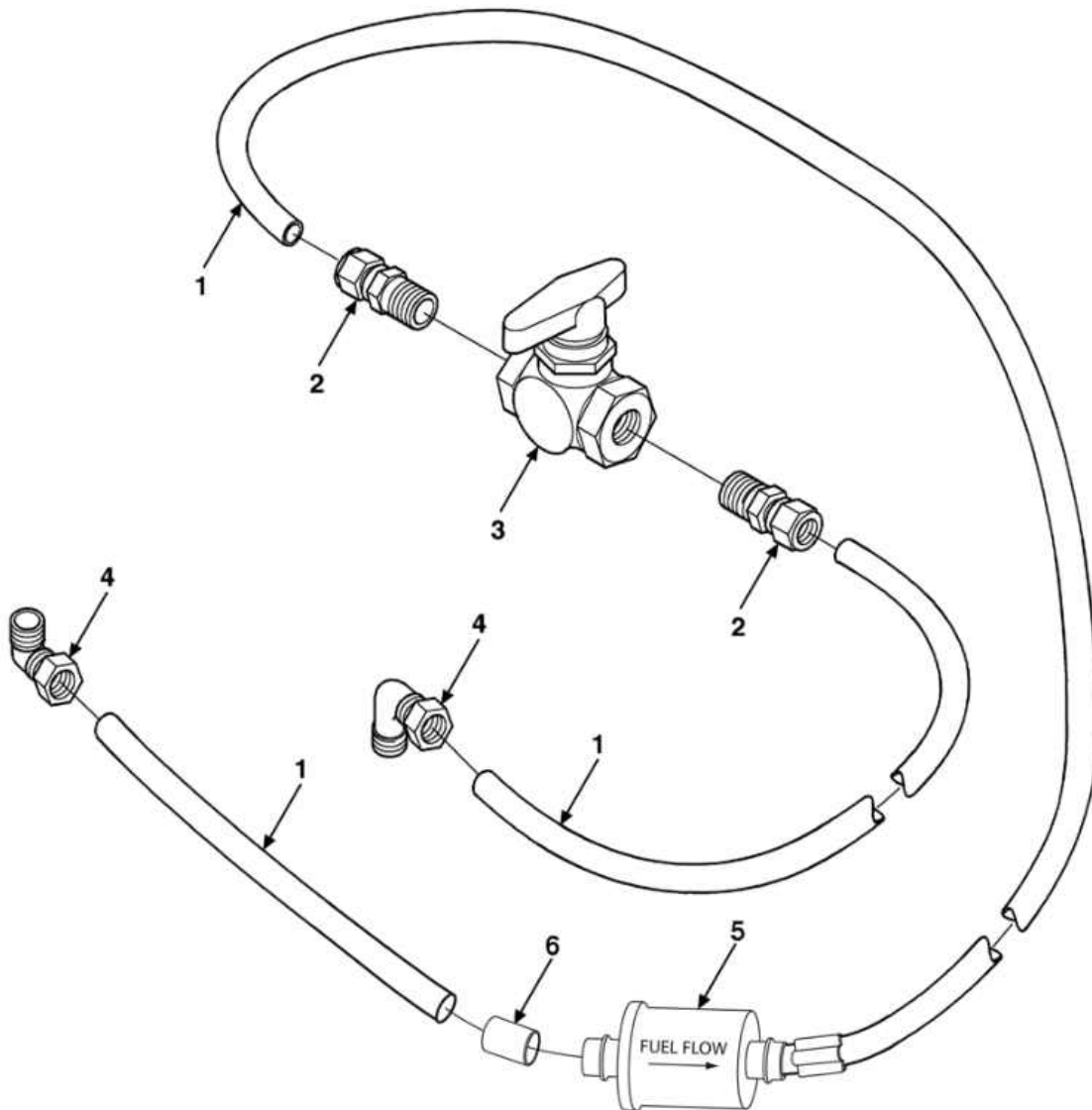


FIGURE 84. "D" VALVE AND TUBING ASSEMBLY

GROUP 7203 "D" VALVE AND TUBING ASSEMBLY - Continued

0246 00

PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 7203 VALVES, LINES AND FITTINGS	
						FIG. 84 "D" VALVE AND TUBING ASSEMBLY	
ATSA1	1	MOOZZ		1R5C8	9881-0006-AR	TUBING, NONMETALLIC, 3/8 INCH MAKE FROM TUBING P/N PFT-6B (61424), AS REQUIRED.....	2
ATSE	2	PAOZZ	4730-01-062-2570	93061	68NTA-6-4	ADAPTER, STRAIGHT, PIPE	2
ATSJ	3	PFOZZ		1R5C8	9941-0788	VALVE, BALL	1
ATSN	4	PAOZZ	4730-01-244-3552	93061	VS269NTA-6-4	ELBOW, PIPE TO TUBE	2
ATSK	5	PFOZZ		1R5C8	9291-0054	FILTER, FUEL	1
ATSF	6	PAOZZ		1R5C8	9125-0147	CLAMP, CRIMP	2
			TM-CODE 2VD			END OF FIGURE	

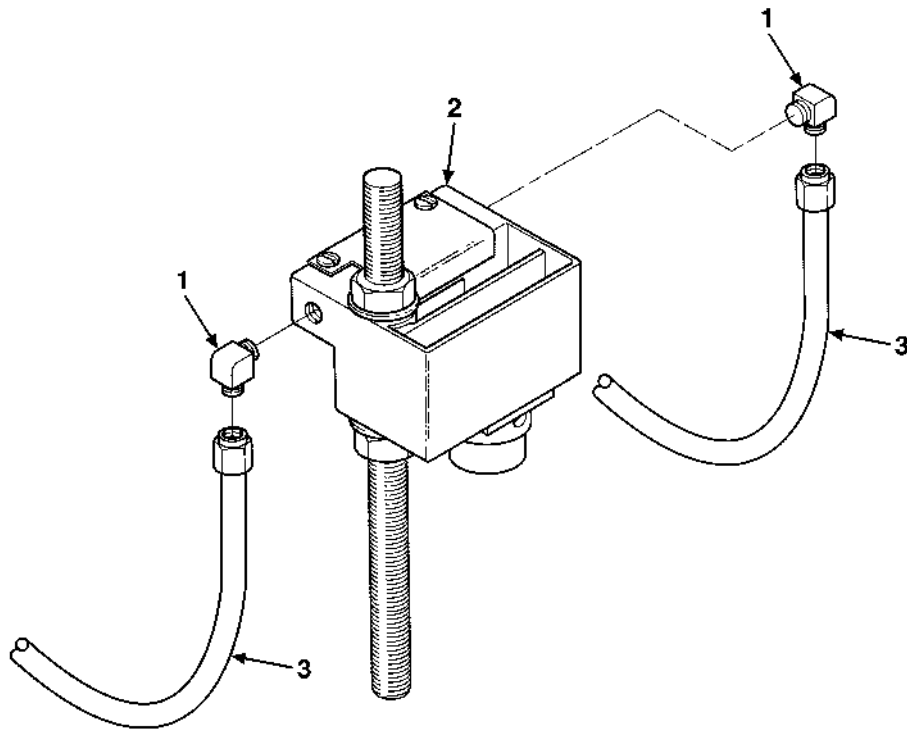


FIGURE 85. HIGH LEVEL SHUTOFF VALVE

GROUP 7203 HIGH LEVEL SHUTOFF VALVE- Continued

0247 00

(1) PLISN	(2) ITEM NO.	(3) SMR CODE	(4) NSN	(5) CAGEC	(6) PART NUMBER	(7) DESCRIPTION AND USABLE ON CODE (UOC)	(8) QTY
						GROUP 7203 VALVES, LINES AND FITTINGS	
						FIG. 85 HIGH LEVEL SHUTOFF VALVE	
AAXF	1	PAOZZ	4730-01-244-3552	93061	VS269NTA-6-4	ELBOW, PIPE TO TUBE.....	2
AAXC	2	PFOZZ	5930-01-514-2450	0DT23	64079	VALVE, HIGH LEVEL SHUTOFF.....	2
AAXD	3	MOOZZ		1R5C8	9881-0006-AR	TUBING, NONMETALLIC MAKE FROM TUBING P/N PFT-6B (61424), AS REQUIRED.....	2
						END OF FIGURE	

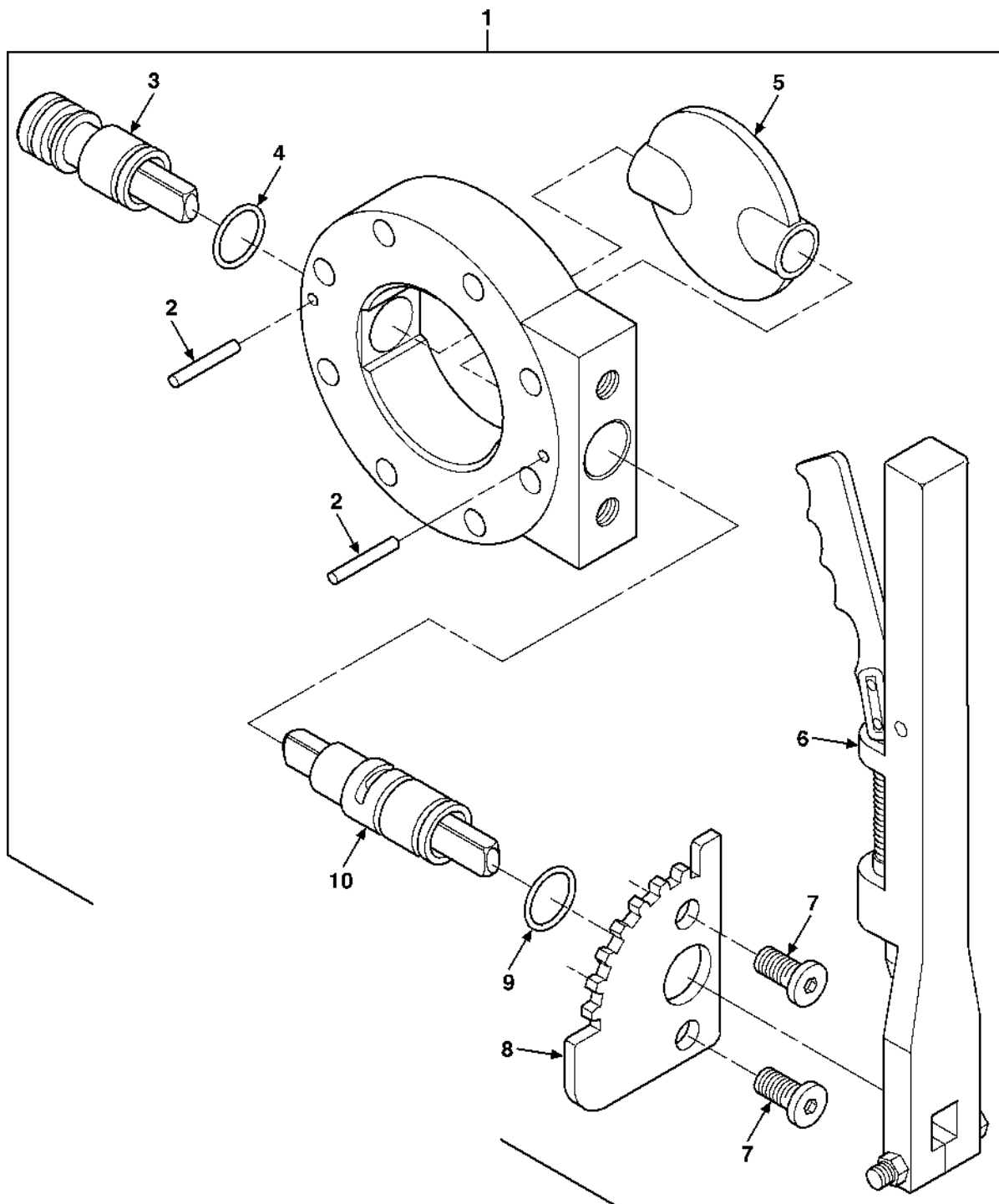


FIGURE 86. VALVE ASSEMBLY, "G"

GROUP 7203 VALVE ASSEMBLY, "G" - Continued

0248 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 7203 VALVES, FITTINGS, LINES	
						FIG. 86 VALVE ASSEMBLY, "G"	
ATKA	1	PFOFF	4810-01-355-4678	13226	WD404ALB089	VALVE, BUTTERFLY 4 INCH	1
ATKY	2	PAFZZ	5315-01-124-9075	13226	9Q4893	.PIN, SPRING PART OF KIT P/N WD18404VT	2
ATK3	3	XAFZZ	4820-01-133-4121	13226	15913MS	.STEM,FLUID VALVE.....	1
ATK5	4	PFFZZ	5331-01-354-4162	13226	18141BN	.O-RING PART OF KIT P/N WD18404VT .	1
ATK1	5	PAFZZ	4820-01-294-1857	13226	WD1014BN	.DISC PART OF KIT P/N WD18404VT	1
ATKE	6	PFFZZ	5340-01-504-7309	13226	26284AL	.HANDLE ASSEMBLY.....	1
ATKC	7	PFFZZ	5305-01-504-7427	13226	9Q5884	.SCREW, CAP.....	2
ATKJ	8	PFFZZ	5340-01-504-7439	13226	17012EY	.PLATE, INDEXING.....	1
ATKM	9	PAFZZ	5331-01-134-1980	13226	17889BN	.O-RING PART OF KIT P/N WD18404VT .	1
ATKS	10	XAFZZ	3040-01-504-7425	13226	27050MS	.DRIVE SHAFT	1
TM-CODE 2VD						END OF FIGURE	

GROUP 7204 CONTROL CABLE ASSEMBLIES

0249 00

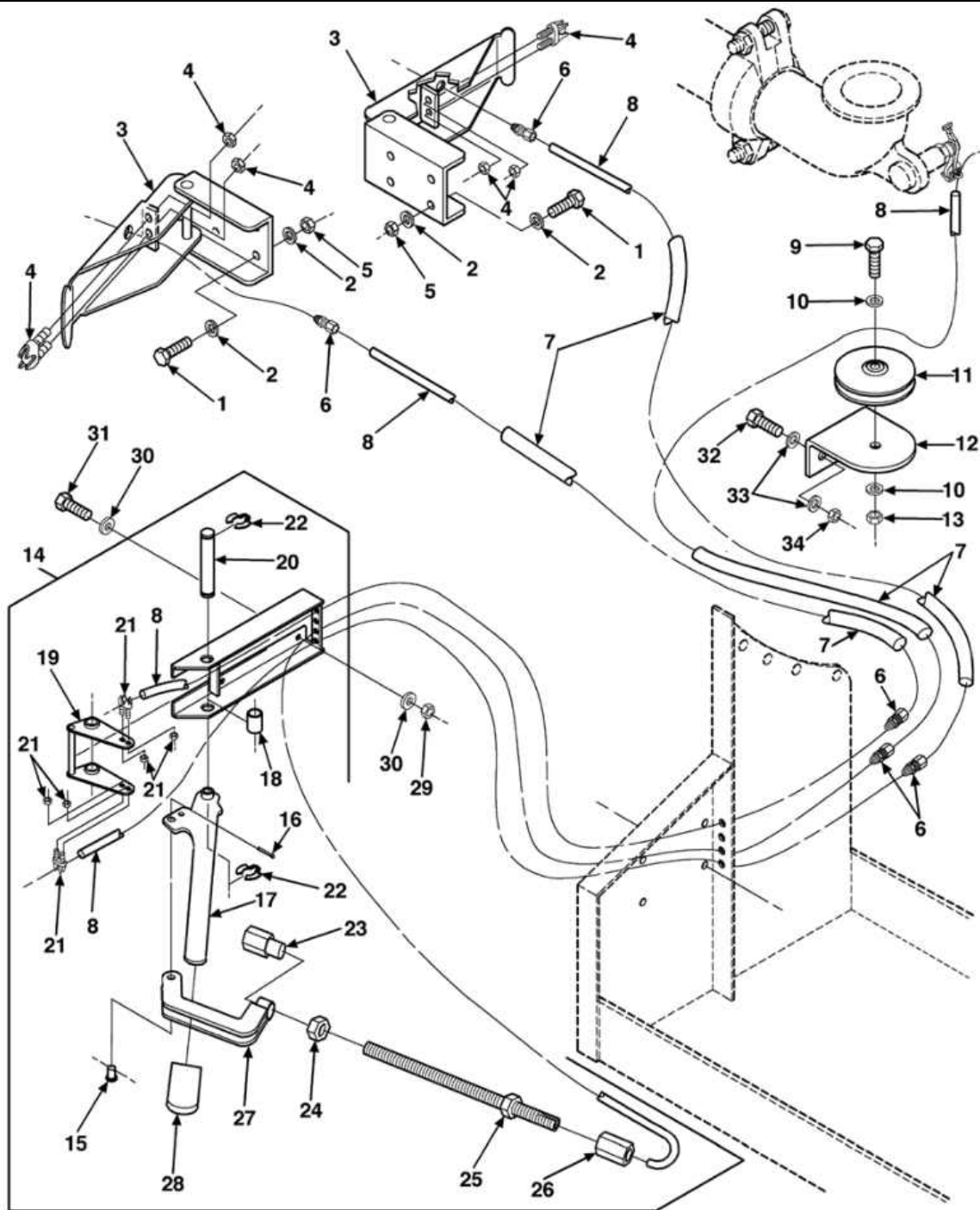


FIGURE 87. CONTROL CABLE ASSEMBLIES

GROUP 7204 CONTROL CABLE ASSEMBLIES - Continued

0249 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 7204 MISCELLANEOUS PARTS AND ACCESSORIES	
						FIG. 87 CONTROL CABLE ASSEMBLIES	
ATMA	1	PAOZZ	5305-01-506-1119	39428	90316A247	SCREW, CAP, HEXAGON HEAD #10-24 X 1	8
ATMJ	2	PAOZZ		1R5C8	9965-0034	WASHER, FLAT	16
ATMM1	3	PAOZZ	2590-01-054-0253	13226	3560SL	LATCH ASSEMBLY, DUMP	2
ATMN	4	PAOZZ	5306-01-082-0019	13226	9Q1659	.BOLT, U	1
ATMB	5	PAOZZ	5310-01-463-4929	39428	91831A011	NUT, SELF-LOCKING, HEXAGON	8
ATMP	6	PAOZZ	4730-00-278-4574	79470	168X6	ADAPTER, STRAIGHT PIPE TO TUBE	5
ATMQ	7	MOOZZ		1R5C8	9881-0096	TUBING, STAINLESS STEEL MAKE FROM TUBE P/N TSS375035	3
ATMR	8	MOOZZ		1R5C8	9117-0121	CABLE, AIRCRAFT MAKE FROM CABLE P/N WR1562	3
ATMF	9	PAOZZ		39428	92240A551	SCREW, CAP, HEXAGON HEAD	1
ATMG	10	PAOZZ	5310-00-802-4701	80205	MS15795-813	WASHER, FLAT	2
ATMC	11	PAOZZ	3020-00-277-1124	29965	20220-3	PULLEY, GROOVE	1
ATMD	12	PFOZZ	5340-01-508-6911	1R5C8	999-00037	BRACKET, PULLEY	1
ATML	13	PAOZZ	5310-01-502-8330	1R5C8	9562-0046	NUT, SELF-LOCKING, HEXAGON	1
ATMS	14	PFOOO	5340-01-504-6831	13226	OP9011EY	OPERATOR, EMERGENCY CABLE	1
ATNA	15	PFOZZ	5315-01-084-4427	05443	15757ZC	.PIN, CLEVIS	1
ATNE	16	PFOZZ	5315-01-504-6841	13226	9Q5865	.PIN, COTTER	1
ATN5	17	PFOZZ	5340-01-504-6837	13226	44631EY	.LEVER ARM ASSEMBLY	1
ATN3	18	PFOZZ	3120-01-504-7543	13226	19624EY	.BUSHING, REPLACEMENT	1
ATM1	19	PFOZZ	3010-01-504-7825	13226	35659EY-2	.EMERGENCY TRIP LEVER ASSEMBLY	1
ATM5	20	PFOZZ	3040-01-504-7438	13226	27818SL-2	.SHAFT	1
ATM3	21	PFOZZ	5306-01-504-7441	13226	9Q1660	.CLAMP, CABLE	2
ATM7	22	PFOZZ	5340-01-504-6827	13226	9Q4974	.RING, RETAINING	2
ATNJ	23	PFOZZ	5310-01-077-3663	13226	19724BR	.NUT	1
ATNM1	24	PFOZZ	5310-01-504-6843	13226	9Q5808A	.NUT, HEXAGON HEAD	1
ATNS	25	PFOZZ	5307-01-504-6845	13226	20040ZC	.BOLT, ADJUSTING	1
ATNY	26	PFOZZ	5310-01-504-6851	13226	10268ZC	.NUT, CLAMPING	1
ATM9	27	PFOZZ	3040-01-504-7440	13226	27733EY	.LINK ARM ASSEMBLY	1
ATN1	28	PFOZZ	5340-01-504-6833	13226	9Z4830	.GRIP, HANDLE	1
ATMK	29	PAOZZ	5310-01-446-0272	39428	90101A237	NUT, PLAIN, HEXAGON 5/16-18	4
ATMU	30	PAOZZ	5310-00-625-5756	80205	MS15795-812	WASHER, FLAT 5/16	8
ATMY	31	PAOZZ	5305-01-508-6037	39428	93190A583	SCREW, CAP, HEXAGON HEAD 5/16-18 X 1	4
ATMX	32	PAOZZ	5305-00-576-5417	80205	MS35307-360	SCREW, CAP, HEXAGON HEAD 3/8-16 X 1	2
ATMV	33	PAOZZ		1R5C8	9965-0044	WASHER, FLAT 3/8	4
ATMW	34	PAOZZ	5310-01-506-1215	1R5C8	9562-0165	NUT, PLAIN, HEXAGON 3/8	2
TM-CODE 2VD						END OF FIGURE	

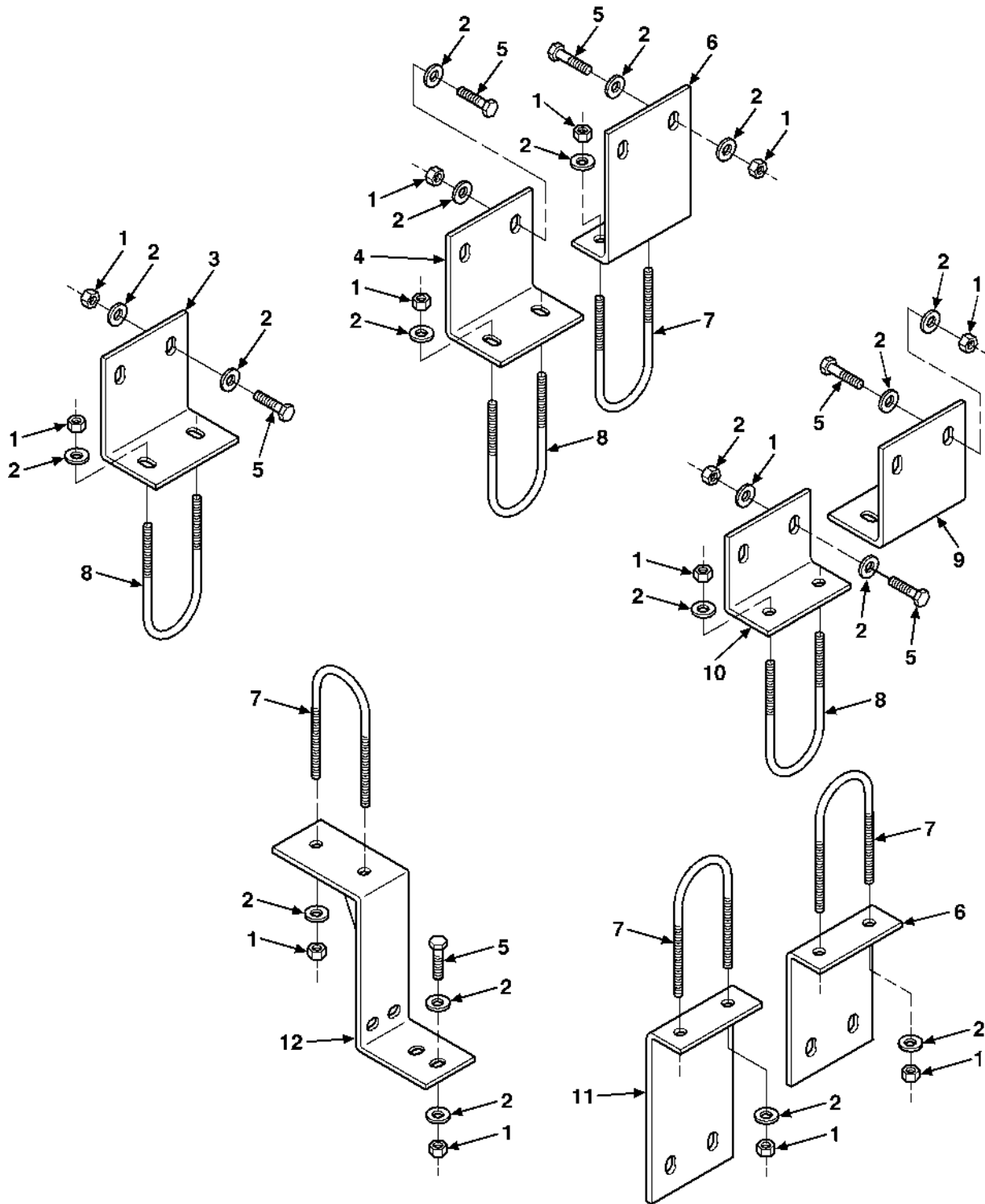


FIGURE 88. MISCELLANEOUS PARTS

GROUP 7204 MISCELLANEOUS PARTS - Continued

0250 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 7204 MISCELLANEOUS PARTS AND ACCESSORIES	
						FIG. 88 MISCELLANEOUS PARTS	
AUTB	1	PAOZZ	5310-01-502-8329	1R5C8	9562-0044	NUT, LOCKING	34
AUTD	2	PAOZZ	5310-01-312-4960	96906	MS27183-55	WASHER, FLAT	52
AUTF	3	PFOZZ	5340-01-502-8776	1R5C8	M311-3211-004	BRACKET, MOUNTING 3 INCH PIPE	1
AUTH	4	PFOZZ	5340-01-502-8777	1R5C8	M311-3221-001	BRACKET, MOUNTING 3 INCH PIPE	1
AUTK	5	PAOZZ	5305-01-406-5528	1R5C8	9738-0014	SCREW, CAP, HEXAGON HEAD	18
AUTM	6	PFOZZ	5340-01-502-8780	1R5C8	M311-3213-001	BRACKET, MOUNTING 4 INCH PIPE	2
AUTP	7	PAOZZ	5306-01-510-2708	1R5C8	9043-0084	BOLT, U.....	4
AUTR	8	PAOZZ	5306-01-009-6675	1R5C8	9043-0127	BOLT, U.....	4
AUTS	9	PFOZZ	5340-01-502-8785	1R5C8	M311-3211-003	BRACKET, MOUNTING 3 INCH PIPE	1
AUTU	10	PFOZZ	5340-01-502-8788	1R5C8	M311-3221-002	BRACKET, MOUNTING 3 INCH PIPE	1
AUTV1	11	PFOZZ		1R5C8	M311-3214	BRACKET, MOUNTING 4 INCH PIPE	1
AUTX	12	PFOZZ	5340-01-502-8790	1R5C8	M311-3212	BRACKET, MOUNTING, BOTTOM LOAD	1
TM-CODE 2VD						END OF FIGURE	

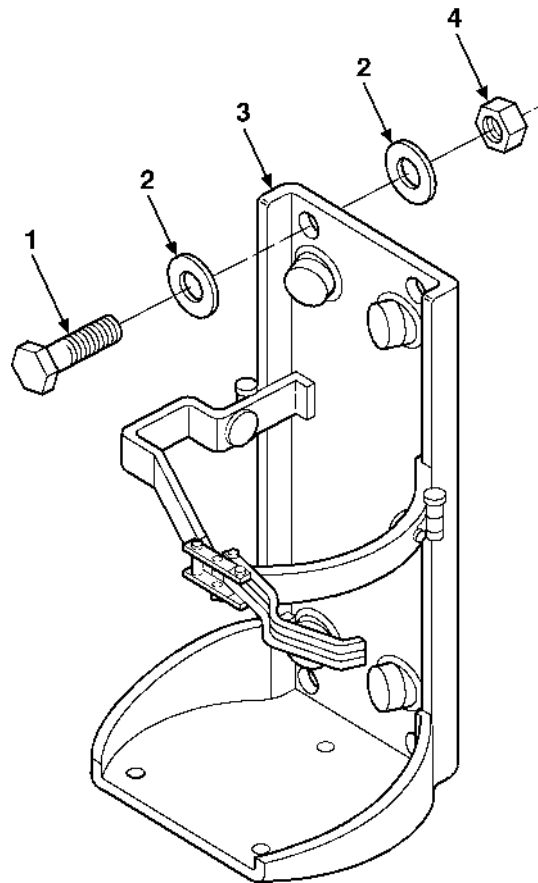


FIGURE 89. FIRE EXTINGUISHER BRACKETS

GROUP 7638 FIRE EXTINGUISHER BRACKETS - Continued

0251 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 76 FIRE FIGHTING EQUIPMENT COMPONENTS	
						GROUP 7638 PORTABLE FIRE FIGHTING EQUIPMENT	
						FIG. 89 FIRE EXTINGUISHER BRACKETS	
AAXN	1	PAOZZ	5305-01-406-5528	1R5C8	9738-0014	SCREW, CAP, HEXAGON HEAD 3/8-16 X 1-1/4	8
AAXT	2	PAOZZ	5310-01-280-5796	96906	MS27183-57	WASHER, FLAT, 3/8	16
AAXW	3	PFOZZ	4210-01-362-5567	03670	30865	BRACKET, FIRE EXTINGUISHER.....	2
AAXZ	4	PAOZZ	5310-01-502-8329	1R5C8	9562-0044	NUT, SELF-LOCKING, HEXAGON 3/8-16.....	8
						END OF FIGURE	

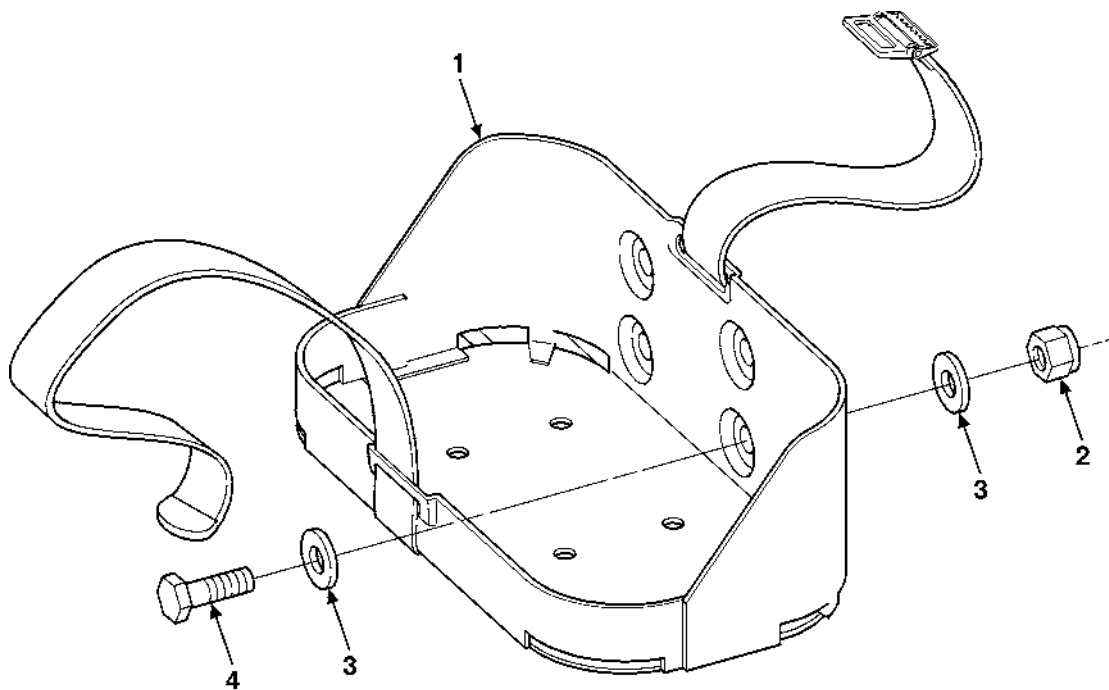


FIGURE 90. DECONTAMINATION APPARATUS BRACKET

GROUP 9120 DECONTAMINATION APPARATUS BRACKET - Continued

0252 00

PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 91	CHEMICAL, BIOLOGICAL AND RADIOLOGICAL (CBR) EQUIPMENT
						GROUP 9120	DECONTAMINATION EQUIPMENT
						FIG. 90	DECONTAMINATION APPARATUS BRACKET
AWAA	1	PAOZZ	2590-00-473-6331	25022	51-2298	BRACKET, VEHICULAR COMPONENTS	1
AWAE	2	PAOZZ	5310-01-502-8329	1R5C8	9562-0044	NUT, SELF-LOCKING, HEXAGON 3/8-16	4
AWAJ	3	PAOZZ	5310-01-280-5796	96906	MS27183-57	WASHER, FLAT, 3/8	8
AWAN	4	PAOZZ	5305-01-406-5528	1R5C8	9738-0014	SCREW, CAP, HEXAGON HEAD	4
						TM-CODE 2VD	END OF FIGURE

GROUP 9401 REPAIR PARTS KITS

0253 00

(1) PLISN	(2) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 9401 REPAIR PARTS KITS	
						FIG KITS REPAIR PARTS KITS	
A1AJ	1	PAOZZ	2530-01-311-8410	78500	A-3105-V-282	PARTS KIT,BRAKE ADJUSTER.....	V
						.FITTING, LUBRICATION (1)	17-14
						.RETAINER, BUSHING (1)	17-15
						.O-RING (2)	17-16
						.BUSHING,BRACKET (1)	17-17
						.RETAINER,BUSHING (1)	17-18
A1DN	2	PAOZZ	2540-01-502-9571	1R5C8	M035-3134	GUARD,SPLASH,VEHICULAR.....	V
						.SCREW,HEX (8)	33-1
						.WASHER,FLAT (16)	33-2
						.NUT,LOCK (8)	33-3
						.BAR,MUDFLAP (2)	33-4
						.MUDFLAP,RUBBER (2)	33-5
A1DW	3	PAFZZ		13226	WD18404VT	REPAIR KIT,VALVE	V
						.PIN,SPRING (2)	89-2
						.O-RING (1)	89-4
						.DISC (1)	89-5
						.O-RING (1)	89-9
A1BA	4	PAOZZ	2530-01-314-4392	78500	KIT 8000HD	PARTS KIT,BRAKE SHOE.....	V
						.SPRING,RETURN (4)	16-1
						.SPRING,HELICAL (8)	16-3
						.BUSHING,ANCHOR PIN (8)	16-5
						.PIN,SHOULDER,HEADLESS (8)	16-6
						.PIN,RETURN SPRING (8)	16-9
						.ROLLER,LINEAR-ROTARY (8)	16-10
						.CLIP,TENSION (8)	16-11
A1AA	5	PAOZZ	2530-01-502-9081	78500	8289	PARTS KIT,BRAKE CAMSHAFT	V
						.WASHER (2)	17-2
						.GASKET (4)	17-3
						.RETAINER (2)	17-4
						.SCREW,TAPPING (8)	17-5
						.WASHER (2)	17-6
						.LOCKRING (2)	17-7
						.RING,RETAINING (2)	17-8
A1EE	6	PAOZZ	2990-01-504-6529	1R5C8	9596-0468	MUFFLER PIPE ASSEMBLY	V
						.PIPE,MUFFLER (1)	57-1
						.CLAMP,MUFFLER (3)	57-2
						.SPACER (1)	57-10
						.PIPE,MUFFLER (1)	57-11
						TM-CODE 2VD	
						END OF FIGURE	

GROUP 9501 BULK MATERIAL

0254 00

PLISN	(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 9501 GENERAL USE STANDARDIZED PARTS	
						FIG. BULK BULK MATERIAL	
A2DX	1	PAOZZ		1R5C8	TSS375050	CABLE,AIRCRAFT	V
A2DM1	2	PAOZZ		0Y3H3	45116	CHAIN,STEEL	V
A2EE	3	PAOZZ		1R5C8	9121-0005	CHAIN,STEEL	V
A2BS	4	PAOZZ	5975-00-941-5035	70510	EF3-8	CONDUIT,ELECTRICAL	V
A2BE1	5	PAOZZ	5975-00-421-1317	09641	LA11	CONDUIT,ELECTRICAL	V
AWBN	6	PAOZZ	5975-01-374-5273	09641	LT-11	CONDUIT,ELECTRICAL	V
A2DC	7	PAOZZ		39428	1120A23	GASKET,SEAL	V
A2DD1	8	PAOZZ	4720-01-293-4415	79470	H05703	HOSE,NONMETALLIC	V
A2DU	9	PAFZZ		79470	H16910	HOSE,NONMETALLIC	V
A2DV	10	PAFZZ		81343	J844	HOSE,NONMETALLIC	V
A2DD	11	PAOZZ	4720-00-484-5765	24161	4LOLA	HOSE,NONMETALLIC	V
A2CW	12	PAOZZ		61125	70650	HOSE,NONMETALLIC	V
A2CM1	13	PAOZZ	5340-01-098-2069	19207	27-W-924	STRAP,WEBBING.....	V
A2CJ	14	PAOZZ	4720-01-316-4673	61424	PFT-4A	TUBING,NONMETALLIC.....	V
A2EJ	15	PAOZZ	4720-01-169-9891	61424	PFT-6B	TUBING,NONMETALLIC.....	V
A2EA	16	PAOZZ	4720-01-287-9322	98441	PFT-6B-BLU	TUBING,NONMETALLIC.....	V
A2DW1	17	PAOZZ	4720-01-364-3393	98441	PFT-8B-BLU	TUBING,NONMETALLIC.....	V
A2CA1	18	PAOZZ	4720-01-448-6041	98441	PFT-8B-RED-500	TUBING,NONMETALLIC.....	V
A2DY	19	PAOZZ		1R5C8	WR1562	TUBING,STEEL.....	V
A2BJ	20	PAOZZ	6145-00-152-6499	81349	M13486/1-5	WIRE,ELECTRICAL	V
A2DG	21	PAOZZ		58961	WL14-0	WIRE,ELECTRICAL	V
A2DF	22	PAOZZ		58961	WL12-0	WIRE,ELECTRICAL	V
A2AW	23	PAOZZ		1R5C8	9968-0056	WIRE,ELECTRICAL	V
A2AA	24	PAOZZ		1R5C8	9968-0057	WIRE,ELECTRICAL	V
A2DH	25	PAOZZ		1R5C8	9968-0058	WIRE,ELECTRICAL	V
TM-CODE 2VD						END OF FIGURE	

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STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5315-00-010-3389	18	3	5325-00-204-5061	17	8
4730-00-010-3867	76	20	5331-00-205-3583	17	16
6240-00-013-1282	7	7	5305-00-207-7669	17	11
6240-00-019-0878	7	5	4730-00-223-9268	76	3
5305-00-021-3668	43	6	5305-00-225-3839	26	1
5310-00-044-3340	82	35	5305-00-225-3839	58	1
5310-00-045-3296	64	2	5310-00-225-6408	36	13
5305-00-050-9233	5	2	5306-00-225-9089	36	16
5305-00-054-5648	82	38	5306-00-226-4833	77	7
5305-00-068-0502	63	6	2910-00-238-0033	54	3
5305-00-068-0502	64	11	5315-00-243-7992	82	22
5305-00-068-0511	33	2	4730-00-244-9848	22	1
5305-00-069-5583	26	26	5305-00-245-6035	7	3
5305-00-071-2071	80	17	3120-00-255-6042	16	5
5307-00-080-2016	76	7	5310-00-261-7340	17	12
5310-00-080-6004	36	20	5331-00-263-8032	82	3
5310-00-080-6004	80	13	5305-00-269-2803	36	19
5945-00-081-9491	64	16	5305-00-269-3211	28	5
5930-00-084-7570	69	14	5305-00-269-3211	34	5
5310-00-088-1251	63	8	5305-00-269-3211	35	11
5310-00-088-1251	64	12	5305-00-269-3211	36	8
5310-00-113-3757	82	36	5305-00-269-3211	53	8
5935-00-115-2306	10	22	5305-00-269-3211	76	31
5935-00-115-2306	12	2	5305-00-269-3213	35	22
5920-00-131-9915	4	5	5305-00-269-3219	81	6
5999-00-134-5844	34	2	5310-00-269-4040	31	25
6145-00-152-6499	BULK	20	2530-00-270-3878	22	4
5305-00-165-8074	26	7	3020-00-277-1124	87	11
5305-00-165-8074	28	13	4730-00-278-4574	87	6
5310-00-167-0818	09	7	5365-00-278-8803	82	7
5310-00-167-0820	33	3	4730-00-278-9211	51	7
5310-00-167-0820	35	12	5331-00-291-3268	82	42
5310-00-167-0822	26	25	3110-00-293-8997	24	3
5935-00-167-7775	10	13	3110-00-293-8998	24	1
5935-00-167-7775	10	21	5315-00-297-0879	82	31
5935-00-167-7775	11	2	3120-00-322-6430	16	10
5935-00-167-7775	11	7	2940-00-325-4438	51	4
5935-00-167-7775	12	6	5330-00-346-2732	83	13
5935-00-167-7775	12	8	5330-00-367-5005	83	6
5935-00-167-7775	13	11	5330-00-400-3513	83	7
5935-00-167-7775	13	16	2910-00-400-6861	51	12
5330-00-172-1919	22	3	2930-00-407-9270	76	11
5330-00-172-1919	22	6	5310-00-407-9566	77	6
5306-00-174-9462	37	1	4820-00-417-1120	81	15
5308-00-174-9462	39	9	5975-00-421-1317	BULK	5
5306-00-174-9462	58	8	4730-00-427-5121	19	5
5306-00-174-9462	80	15	4730-00-427-5121	21	4
5331-00-182-3170	82	14	5305-00-432-4252	69	17
5310-00-186-7448	81	5	5330-00-459-2294	47	7

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STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
2590-00-473-6331	90	1	9905-00-752-4649	10	12
5310-00-481-6481	27	4	9905-00-752-4649	10	23
4720-00-484-5765	BULK	11	9905-00-752-4649	11	3
2940-00-494-9491	51	5	9905-00-752-4649	11	8
5310-00-496-3676	76	13	9905-00-752-4649	12	5
5310-00-517-4192	7	2	9905-00-752-4649	12	9
2640-00-555-2824	25	4	9905-00-752-4649	13	10
5305-00-576-5417	23	5	9905-00-752-4649	13	18
5305-00-576-5417	69	10	9905-00-752-4649	71	2
5305-00-576-5417	87	32	5365-00-753-4865	17	10
5305-00-576-5417	26	12	5340-00-753-9214	69	11
5310-00-576-5752	64	17	5935-00-754-9083	10	2
5975-00-578-9364	14	3	2990-00-759-3639	56	7
5310-00-582-5965	73	2	5310-00-761-6882	73	1
5310-00-595-6057	36	9	4820-00-766-8191	83	1
5310-00-614-3505	44	6	5310-00-773-7624	82	5
5310-00-614-3506	26	6	5315-00-784-0637	16	9
5310-00-614-3506	28	12	5310-00-802-4701	26	13
5310-00-614-3506	37	2	5310-00-802-4701	28	2
5310-00-614-3506	39	8	5310-00-802-4701	43	7
5310-00-614-3506	51	1	5310-00-802-4701	58	2
5310-00-614-3506	56	12	5310-00-802-4701	74	6
5310-00-614-3506	58	9	5310-00-802-4701	87	10
5310-00-614-3506	61	2	5310-00-809-4058	63	7
3110-00-618-0248	24	7	5310-00-809-4058	64	10
3110-00-618-0249	24	5	5310-00-809-8546	69	6
5310-00-625-5756	35	4	5305-00-821-3869	80	1
5310-00-625-5756	87	30	5310-00-823-8803	36	12
5310-00-637-9541	76	8	5310-00-823-8803	81	18
5306-00-637-9675	32	11	5975-00-833-1776	14	9
5306-00-637-9675	32	17	5310-00-857-5548	82	34
5306-00-637-9675	24	15	5310-00-877-5796	69	19
5325-00-641-2800	23	22	5310-00-880-5977	8	2
5360-00-653-0395	83	5	2530-00-886-1103	24	9
5310-00-654-4537	83	2	6210-00-887-8432	7	4
5975-00-655-3136	14	7	5310-00-893-9914	61	4
5310-00-689-3877	4	4	5310-00-902-6676	69	5
5310-00-689-3877	6	4	5310-00-930-9759	72	7
5305-00-701-7628	61	11	5310-00-933-8120	82	12
5305-00-702-4523	9	1	2940-00-934-7989	51	6
4730-00-706-7761	51	11	5305-00-939-9190	82	11
5310-00-725-9479	76	9	5305-00-940-9491	82	6
5305-00-726-2551	31	9	5975-00-941-5035	BULK	4
5305-00-726-2553	61	8	5360-00-958-1143	69	4
5305-00-726-2557	31	1	5310-00-959-1488	34	3
5331-00-733-2208	82	15	5310-00-959-1488	36	21
2510-00-741-7585	29	1	5940-00-983-6105	64	3

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STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5940-00-983-6105	13	12	4930-01-085-2652	81	7
5310-00-984-3807	36	15	4930-01-085-2652	81	20
5305-00-984-4988	64	19	5307-01-088-7388	76	2
5305-00-984-6206	68	5	5307-01-088-7388	76	5
5305-00-984-6210	64	15	5315-01-092-1953	18	4
5935-00-987-4536	13	2	4820-01-095-0938	83	8
5305-00-989-7434	69	2	5340-01-098-2069	BULK	13
5305-00-990-6444	64	1	5306-01-098-7197	31	19
5305-00-993-2738	64	8	5306-01-098-7198	31	12
5975-00-995-8168	14	5	5310-01-098-7236	31	24
5306-01-009-6675	88	8	5310-01-098-7244	31	17
5310-01-014-4280	31	26	5310-01-098-7245	31	7
5330-01-019-6879	82	27	5310-01-098-7246	31	23
5330-01-024-2311	38	16	5310-01-098-7247	31	5
2610-01-045-3688	25	2	5310-01-098-7827	31	8
5330-01-047-9367	24	8	4910-01-100-4984	28	4
2590-01-054-0253	87	3	2510-01-100-7167	31	14
4730-01-055-4017	51	9	2590-01-100-9001	31	13
4730-01-055-6082	53	12	2510-01-100-9270	31	16
5330-01-060-6890	80	6	2520-01-101-0935	31	20
5330-01-060-7266	76	12	2520-01-101-1802	31	3
4320-01-060-7896	76	10	2520-01-101-2551	31	22
5330-01-060-9610	76	32	2510-01-101-2559	31	11
5330-01-060-9614	76	29	2510-01-101-2890	31	15
2940-01-061-5734	81	22	5305-01-106-9541	36	11
5310-01-061-8727	38	4	5305-01-107-3549	26	20
4730-01-062-2570	84	2	2510-01-114-3209	31	10
4730-01-065-7604	80	7	5310-01-116-4765	24	10
4730-01-065-9358	80	12	5310-01-117-2404	24	11
4730-01-066-0118	80	4	5310-01-121-8521	69	18
6210-01-069-0434	7	6	4820-01-124-8894	81	10
5330-01-071-8179	24	12	5315-01-124-9075	86	2
5340-01-074-8126	51	3	5315-01-129-6898	16	6
5310-01-077-3663	87	23	4820-01-133-4121	86	3
5340-01-077-4942	83	3	5310-01-133-5373	17	9
5306-01-077-5119	38	2	5331-01-134-1980	86	9
5310-01-077-6773	38	3	5330-01-134-1986	38	21
5310-01-077-9426	83	16	5365-01-137-7682	76	28
5310-01-077-9647	83	15	5360-01-158-1974	16	3
5330-01-078-2005	76	15	4730-01-167-8069	77	3
5305-01-079-6771	83	9	5310-01-502-8329	78	3
4820-01-080-3435	83	12	3040-01-167-8118	76	26
5330-01-081-5070	80	3	2520-01-168-6845	76	17
5330-01-081-5070	81	21	4720-01-169-9891	BULK	15
5330-01-081-5070	79	3	5365-01-175-0320	77	2
5306-01-082-0019	87	4	5310-01-280-5796	78	2
5315-01-084-4427	87	15	5340-01-175-0564	30	8

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STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5340-01-183-1423	69	1	5365-01-324-3425	48	4
4730-01-184-4883	80	11	2940-01-324-5153	46	19
5305-01-187-8757	33	1	5310-01-324-8246	46	12
3110-01-188-0733	76	24	5310-01-324-8246	47	5
5331-01-217-1787	82	24	5310-01-324-8246	50	4
5310-01-229-6260	1	8	5310-01-324-8246	59	7
5330-01-239-9430	82	9	5310-01-324-8325	46	22
4710-01-240-9431	31	6	5310-01-324-8334	46	6
4730-01-244-3552	84	4	5310-01-324-8334	46	11
4730-01-244-3552	85	1	5310-01-324-8343	44	3
6645-01-263-9434	71	8	5310-01-324-8343	54	5
4730-01-274-1830	75	2	5310-01-324-8343	63	3
2920-01-279-3948	62	1	5305-01-324-8355	46	15
5310-01-280-5795	34	4	5205-01-324-8388	46	1
5310-01-280-5796	32	2	5305-01-324-8388	59	11
5310-01-280-5796	32	12	5340-01-325-2650	46	7
5310-01-280-5796	32	18	5310-01-325-7141	63	2
5310-01-280-5796	53	7	5305-01-325-8387	72	2
5310-01-280-5796	61	6	5307-01-327-3439	47	10
5310-01-280-5796	69	9	5307-01-327-3439	57	1
5310-01-280-5796	72	3	5340-01-327-3444	48	3
5310-01-280-5796	89	2	5340-01-328-4418	16	11
5310-01-280-5796	90	3	5330-01-328-6090	17	3
4730-01-284-6397	83	4	5310-01-332-8236	46	25
4720-01-287-9322	BULK	16	5310-01-332-8236	48	12
4720-01-293-4415	BULK	8	5365-01-333-5129	46	24
4820-01-294-1857	86	5	5305-01-333-5381	44	4
5310-01-303-3917	9	2	5310-01-340-8352	47	4
5310-01-308-8205	26	2	5310-01-340-8352	50	3
2920-01-310-0990	62	10	5310-01-340-8352	57	3
2530-01-311-8410	KITS	1	5310-01-340-8352	59	8
5310-01-312-4959	4	3	5310-01-340-8352	60	14
5310-01-312-4959	6	3	5305-01-341-2906	59	10
5310-01-312-4960	88	2	5307-01-341-2950	47	6
5340-01-314-2961	18	2	5307-01-341-2950	50	1
2530-01-314-4392	KITS	4	5307-01-341-2950	57	7
5315-01-315-3614	18	6	5307-01-341-2950	59	9
5365-01-316-3300	31	21	5975-01-343-2254	64	5
4720-01-316-4673	BULK	14	5975-01-343-2256	64	6
5315-01-316-7547	30	9	5306-01-347-5921	31	4
2530-01-316-9165	18	1	5310-01-349-0759	24	17
3130-01-317-2625	76	30	5310-01-349-0759	28	10
5330-01-323-5455	45	2	5961-01-350-7227	13	13
5306-01-323-8814	48	13	5330-01-351-7676	47	11
5305-01-323-8927	60	11	5310-01-351-7802	52	4
5305-01-323-8928	60	9	5331-01-354-4162	86	4
5305-01-324-0950	60	13	4810-01-355-4678	86	1

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STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5315-01-357-0826	18	7	6140-01-446-9506	8	10
5305-01-359-1367	17	5	4720-01-448-6041	BULK	18
2530-01-359-8091	17	4	2590-01-450-0304	73	3
5305-01-360-5282	62	15	2990-01-452-7605	47	3
5330-01-362-4994	62	17	2940-01-452-9419	46	18
4210-01-362-5567	89	3	3020-01-452-9472	59	1
4720-01-364-3393	BULK	17	4720-01-453-2929	46	3
6150-01-367-0599	9	5	4710-01-453-3273	48	14
3030-01-367-7487	59	2	4710-01-453-3278	48	5
5310-01-374-1809	9	3	2815-01-453-4065	60	12
5975-01-374-5273	BULK	6	5330-01-453-549	50	8
3040-01-382-8736	22	2	5310-01-453-7080	57	8
4730-01-384-1441	22	5	5310-01-453-7095	60	7
5310-01-386-3517	26	18	5310-01-453-7096	60	5
5307-01-389-3445	39	6	5306-01-453-7232	60	4
5330-01-394-7944	56	11	5305-01-453-7239	46	5
5330-01-394-7944	57	5	5310-01-453-8661	59	4
2590-01-395-0523	45	1	5310-01-453-8664	59	3
5330-01-395-0878	57	2	3020-01-453-9083	59	5
4730-01-400-3146	20	4	5307-01-454-3501	46	10
5340-01-406-4189	76	4	5307-01-454-3503	47	2
5305-01-406-5528	61	5	5307-01-454-3504	57	10
5305-01-406-5528	3	4	5307-01-454-3504	46	17
5305-01-406-5528	32	1	5305-01-454-3506	48	2
5305-01-406-5528	88	5	4140-01-454-3508	60	15
5305-01-406-5528	89	1	5307-01-454-3517	63	4
5305-01-406-5528	90	4	4140-01-454-4074	60	8
5310-01-417-1045	81	11	4920-01-455-3224	46	16
4930-01-420-7874	38	1	5340-01-455-3824	60	3
5930-01-420-9746	69	15	5340-01-455-3825	60	2
5310-01-421-7439	26	19	2930-01-455-7597	46	13
5310-01-421-7439	80	16	4730-01-456-5915	23	19
5331-01-424-3860	38	10	3030-01-457-8833	61	13
5305-01-424-8152	74	5	5306-01-458-1618	54	6
5310-01-430-7169	62	2	5305-01-458-1622	47	8
4140-01-430-7170	62	4	5305-01-458-1623	46	14
5310-01-430-7191	62	3	5305-01-458-1623	60	6
6110-01-431-2271	62	16	5306-01-458-1625	48	7
3110-01-431-4526	62	20	5306-01-458-1625	52	1
5975-01-432-4122	14	2	5307-01-458-1627	50	9
2930-01-436-2109	46	2	5331-01-458-2589	50	7
4730-01-441-3483	23	17	5310-01-458-4305	50	6
5945-01-441-9279	10	15	5310-01-458-4307	57	4
4820-01-443-1916	23	24	5310-01-458-4309	48	8
5310-01-446-0272	35	3	5310-01-458-4309	52	2
5310-01-446-0272	87	29	5330-01-458-5601	46	20
2815-01-446-2035	44	1	5365-01-458-6645	57	6

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STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5340-01-458-7226	44	2	5340-01-502-8286	28	1
5340-01-458-8586	50	2	5315-01-502-8308	26	4
5340-01-458-8630	60	10	5310-01-502-8323	26	17
4710-01-459-0003	52	5	5310-01-502-8323	28	11
2910-01-459-0148	54	2	5310-01-502-8323	37	3
5340-01-459-1516	50	10	5310-01-502-8323	39	7
5315-01-459-1812	60	1	5310-01-502-8323	51	13
4730-01-461-1297	46	23	5310-01-502-8323	61	1
5310-01-461-1300	26	24	5310-01-502-8323	80	14
5310-01-463-4929	9	8	5310-01-502-8329	3	2
5310-01-463-4929	87	5	5310-01-502-8329	26	14
2920-01-463-5526	63	1	5310-01-502-8329	28	3
4730-01-466-4498	53	9	5310-01-502-8329	32	3
5310-01-467-9965	36	14	5310-01-502-8329	32	14
5925-01-469-0075	64	18	5310-01-502-8329	32	20
6140-01-469-9184	8	10	5310-01-502-8329	33	8
4730-01-470-0091	23	15	5310-01-502-8329	35	10
6620-01-470-6835	71	9	5310-01-502-8329	36	17
5310-01-476-4801	37	17	5310-01-502-8329	53	6
5310-01-482-0431	7	1	5310-01-502-8329	61	9
5305-01-482-4487	32	6	5310-01-502-8329	69	8
6220-01-482-5574	5	1	5310-01-502-8329	80	2
6220-01-482-6113	5	1	5310-01-502-8329	81	4
6220-01-482-9850	6	2	5310-01-502-8329	88	1
3010-01-485-3100	38	25	5310-01-502-8329	89	4
5340-01-486-0635	38	24	5310-01-502-8329	90	2
5310-01-486-4256	38	22	5310-01-502-8330	26	8
5315-01-493-4685	82	19	5310-01-502-8330	43	8
2530-01-499-3135	17	1	5310-01-502-8330	56	5
2530-01-499-3159	17	1	5310-01-502-8330	58	6
2530-01-499-3170	19	6	5310-01-502-8330	74	7
5310-01-499-3372	17	6	5310-01-502-8330	87	13
5325-01-499-3380	17	7	5340-01-502-8331	28	9
5310-01-499-3382	17	2	5340-01-502-8332	28	8
4730-01-499-3385	17	14	5330-01-502-8335	1	6
3120-01-499-3388	17	17	9330-01-502-8339	1	10
5360-01-499-3396	16	1	5315-01-502-8342	30	1
4810-01-499-3407	19	2	5306-01-502-8344	30	3
5310-01-499-3459	17	13	5310-01-502-8369	30	4
5340-01-499-3481	19	7	5310-01-502-8371	30	6
5310-01-499-3569	8	1	5305-01-502-8411	1	7
5340-01-499-3618	16	4	5305-01-502-8415	1	5
5310-01-499-4209	31	18	4930-01-502-8434	34	1
5340-01-502-8279	26	21	5340-01-502-8463	32	15
5340-01-502-8282	26	23	5310-01-502-8467	24	14
5310-01-502-8283	26	27	5340-01-502-8528	32	21
5340-01-502-8285	26	15	5340-01-502-8659	26	16

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STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5340-01-502-8661	26	5	3130-01-502-9445	17	18
5340-01-502-8662	26	11	6150-01-502-9447	19	3
5340-01-502-8663	26	10	6150-01-502-9449	19	8
5340-01-502-8666	33	5	6680-01-502-9521	73	4
5340-01-502-8667	33	9	5365-01-502-9523	76	33
5340-01-502-8667	35	20	5365-01-502-9551	19	4
5340-01-502-8673	33	13	4730-01-502-9555	19	1
6210-01-502-8676	33	4	2510-01-502-9566	26	9
6210-01-502-8677	33	15	2590-01-502-9569	26	3
5340-01-502-8681	35	16	2540-01-502-9571	32	5
5340-01-502-8689	35	27	2540-01-502-9571	KITS	2
5340-01-502-8696	32	10	2541-01-502-9576	26	22
5340-01-502-8696	32	22	2590-01-502-9582	30	10
5340-01-502-8697	35	28	3040-01-502-9794	30	5
5340-01-502-8698	35	13	2805-01-502-9885	47	9
5306-01-502-8710	35	24	5305-01-425-2425	78	1
5315-01-502-8717	78	5	3020-01-502-9926	77	1
5340-01-502-8719	35	25	2540-01-502-9942	32	13
5340-01-502-8724	35	26	2540-01-502-9947	32	19
5340-01-502-8731	35	21	2510-01-503-0241	33	11
6220-01-502-8734	35	9	4710-01-503-0243	35	19
6220-01-502-8737	35	23	4730-01-503-0244	76	21
5340-01-502-8738	36	18	4730-01-503-0245	80	9
5306-01-502-8739	36	3	4730-01-503-0247	72	9
5340-01-502-8741	36	10	4730-01-503-0247	79	1
5340-01-502-8758	76	19	4730-01-503-0247	81	1
5310-01-502-8759	77	4	2510-01-503-0304	33	6
5305-01-502-8760	77	5	2510-01-503-0307	33	7
5315-01-502-8761	76	25	2510-01-503-0309	33	12
5325-01-502-8762	76	27	2510-01-503-0313	33	10
5310-01-502-8763	76	14	2530-01-503-0331	15	1
5340-01-502-8766	80	10	2540-01-503-0396	32	16
5340-01-502-8776	88	3	2540-01-503-0413	32	9
5340-01-502-8777	88	4	4030-01-503-0447	29	2
5340-01-502-8780	88	6	4030-01-503-0447	36	5
5340-01-502-8785	88	9	4030-01-503-0447	39	4
5340-01-502-8788	88	10	4030-01-503-0537	36	4
5340-01-502-8790	88	12	2510-01-503-0716	31	2
2530-01-502-9081	KITS	5	6625-01-503-1773	2	1
2510-01-502-9161	27	1	5340-01-504-2879	37	23
2540-01-502-9185	36	2	5925-01-504-6095	64	14
5940-01-502-9386	1	1	5310-01-504-6132	16	8
5940-01-502-9388	1	9	9390-01-504-6187	40	1
6680-01-502-9390	1	4	5340-01-504-6258	58	7
5975-01-502-9391	1	3	5340-01-504-6269	58	11
5365-01-502-9393	1	2	5340-01-504-6273	58	3
3130-01-502-9395	17	15	5340-01-504-6277	58	5

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STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5340-01-504-6388	58	12	4710-01-504-7417	82	18
5340-01-504-6391	58	13	3040-01-504-7418	82	26
5340-01-504-6407	64	4	3040-01-504-7419	82	23
5340-01-504-6422	64	9	3040-01-504-7425	86	10
2990-01-504-6476	58	4	5305-01-504-7427	86	7
5306-01-504-6498	8	16	3040-01-504-7438	87	20
2910-01-504-6509	53	5	5340-01-504-7439	86	8
5340-01-504-6510	56	4	3040-01-504-7440	87	27
5340-01-504-6525	37	10	5306-01-504-7441	87	21
2990-01-504-6529	KITS	6	5975-01-504-7503	64	13
2990-01-504-6529	56	9	6160-01-504-7515	8	3
2510-01-504-6535	37	12	6160-01-504-7523	8	4
2510-01-504-6539	37	13	5940-01-504-7527	8	5
5340-01-504-6540	37	4	5940-01-504-7527	8	13
2510-01-504-6545	37	14	6160-01-504-7532	37	26
5340-01-504-6553	37	5	6110-01-504-7539	3	1
2510-01-504-6558	37	6	3120-01-504-7543	87	18
2510-01-504-6565	37	24	5340-01-504-7798	37	15
2510-01-504-6588	37	22	5340-01-504-7802	37	20
2510-01-504-6592	37	25	5340-01-504-7810	37	8
2540-01-504-6825	82	43	5340-01-504-7814	37	9
5340-01-504-6827	87	22	3010-01-504-7825	87	19
5340-01-504-6831	87	14	5340-01-504-8556	32	4
5340-01-504-6833	87	28	4730-01-504-8926	80	5
5340-01-504-6837	87	17	4730-01-504-8927	80	8
5315-01-504-6841	87	16	5340-01-506-0543	61	7
5310-01-504-6843	87	24	5340-01-506-0554	61	3
5307-01-504-6845	87	25	5340-01-506-0567	61	14
5310-01-504-6851	87	26	5925-01-506-0593	64	20
5305-01-504-6855	76	18	3130-01-506-0783	62	8
5331-01-504-6856	76	23	3130-01-506-0787	62	12
4820-01-504-6863	82	40	5340-01-506-0985	61	10
5320-01-504-6880	41	1	5977-01-506-1001	62	18
5320-01-504-6880	42	1	5340-01-506-1011	72	11
5320-01-504-6880	43	2	5340-01-506-1023	72	16
7690-01-504-6901	42	9	6685-01-506-1061	75	4
4820-01-504-6925	82	37	5340-01-506-1076	3	5
7690-01-504-6947	42	10	5305-01-506-1081	62	5
7690-01-504-6952	42	8	5310-01-506-1087	62	6
5330-01-504-6964	82	41	5305-01-506-1119	6	1
4820-01-504-6971	82	2	5305-01-506-1119	9	6
5360-01-504-6975	82	17	5305-01-506-1119	87	1
5340-01-504-6980	82	29	6685-01-506-1151	75	1
4820-01-504-6981	82	8	5310-01-506-1215	23	8
4730-01-504-7020	82	39	5310-01-506-1215	87	34
3040-01-504-7052	82	16	6150-01-506-1260	12	1
5340-01-504-7309	86	6	6150-01-506-1271	12	7

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STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
6150-01-506-1279	11	1	2530-01-506-2738	24	16
6150-01-506-1286	11	6	5340-01-506-2859	43	9
3020-01-506-1289	61	12	4710-01-506-2883	81	2
6150-01-506-1300	65	2	5340-01-506-2895	43	5
5940-01-506-1319	8	11	5340-01-506-2901	43	11
5940-01-506-1319	65	1	5340-01-506-2928	43	4
5940-01-506-1319	66	2	7690-01-506-2946	43	1
4710-01-506-1776	72	1	6220-01-506-2956	40	3
4730-01-506-1798	53	1	6220-01-506-2958	40	2
4730-01-506-1815	53	2	2530-01-506-3298	20	1
4730-01-506-1838	53	4	6130-01-506-3502	4	1
5330-01-506-1859	70	2	2530-01-507-8611	24	13
4730-01-506-1946	53	10	5920-01-508-4243	4	6
4730-01-506-2006	21	3	5930-01-508-4255	68	3
4730-01-506-2006	23	16	5930-01-508-4257	68	4
4730-01-506-2048	23	3	5306-01-508-5764	24	6
4730-01-506-2074	23	20	5310-01-508-5774	32	8
4730-01-506-2095	23	21	5305-01-508-5775	27	2
5940-01-506-2488	65	9	5305-01-508-5889	27	3
5940-01-506-2490	8	12	5340-01-508-5897	35	1
5940-01-506-2490	65	11	5340-01-508-5902	35	2
5940-01-506-2490	66	7	5310-01-508-5907	27	5
5940-01-506-2497	8	14	5310-01-508-5907	44	7
5940-01-506-2500	66	8	5310-01-508-5908	20	3
5940-01-506-2504	8	6	6680-01-508-5909	71	10
5940-01-506-2504	8	8	5940-01-508-5912	66	4
5940-01-506-2504	67	1	5940-01-508-5912	68	6
4720-01-506-2578	23	2	5940-01-508-5912	71	1
4820-01-506-2586	23	7	5940-01-508-5919	13	19
5940-01-506-2589	8	9	5940-01-508-5925	10	14
5940-01-506-2589	65	3	5940-01-508-5931	66	3
5940-01-506-2589	65	7	3120-01-508-5969	82	28
5940-01-506-2596	67	3	5340-01-508-5979	35	5
4310-01-506-2601	23	6	5315-01-508-5988	35	7
5975-01-506-2618	14	8	4730-01-508-5999	75	3
6150-01-506-2626	71	4	5305-01-508-6013	44	5
6150-01-506-2635	71	7	4010-01-508-6020	35	8
4810-01-506-2637	72	12	5305-01-508-6037	35	6
4810-01-506-2637	23	10	5305-01-508-6037	87	31
6150-01-506-2638	71	6	2510-01-508-6055	39	10
5305-01-506-2643	70	7	2590-01-508-6058	30	7
4730-01-506-2676	23	12	4730-01-508-6074	68	1
4730-01-506-2680	23	11	4730-01-508-6130	81	3
4730-01-506-2684	23	13	5305-01-508-6135	37	16
4710-01-506-2702	70	1	5310-01-508-6136	37	18
4730-01-506-2707	70	3	5340-01-508-6208	9	4
2530-01-506-2721	24	2	5305-01-508-6246	4	2

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STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5340-01-508-6682	69	16	2530-01-526-8495	16	2
5340-01-508-6874	39	1	2530-01-527-4609	25	1
5305-01-508-6879	81	17	2930-15-148-1969	46	4
5310-01-508-6889	81	19	2805-15-148-1970	57	9
5330-01-508-6904	39	3	2920-15-155-5288	47	1
5340-01-508-6906	39	2	5320-99-807-2969	58	14
5340-01-508-6911	87	12			
5310-01-508-6918	74	3			
5310-01-508-6921	74	4			
4730-01-508-6961	81	14			
4730-01-508-7237	81	16			
4820-01-508-7369	82	4			
3040-01-508-7384	82	21			
3040-01-508-7390	82	20			
4030-01-508-7449	82	32			
6680-01-509-3963	74	1			
5306-01-510-2708	43	10			
5306-01-510-2708	72	15			
5306-01-510-2708	88	7			
5306-01-510-4972	30	11			
9515-01-510-5881	46	21			
2530-01-510-6121	25	3			
5330-01-510-7082	33	14			
2510-01-511-5621	37	7			
2910-01-511-8382	50	5			
5305-01-512-0581	51	2			
5305-01-512-0581	56	13			
4010-01-514-2386	28	6			
5930-01-514-2442	70	4			
5930-01-514-2450	85	2			
5310-01-514-2751	70	6			
4730-01-514-5670	23	18			
4820-01-517-3465	21	2			
9905-01-517-8477	43	3			
9905-01-518-0034	42	3			
9905-01-518-0035	42	2			
9905-01-518-0036	42	6			
9905-01-518-1227	41	5			
9905-01-518-1228	41	4			
9905-01-518-1229	41	2			
9905-01-518-1231	41	3			
9905-01-518-1234	41	7			
9950-01-518-1235	42	4			
9905-01-518-1236	41	6			
9905-01-518-3264	42	5			
9950-01-519-7678	42	7			
5305-01-523-0373	77	9			

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CAGEC	PART NUMBER	NSN	FIG	ITEM
2X179	0000-N6E	2805-01-502-9885	047	9
2X179	0000-P1E	5930-01-508-4255	068	3
2X179	0000-Z1Q	5930-01-508-4257	068	4
53867	0.001.363.113	2920-01-463-5526	063	1
26919	004-003081-042	5310-01-014-4280	031	26
1R5C8	005-4062-042	5340-01-504-6388	058	12
17454	01070-0281ITEM06-15	5305-01-406-5528	061	5
17454	0107-0281ITEM06-15	5305-01-406-5528	003	4
1R5C8	021-2732	5340-01-504-8556	032	4
24975	0344209B15	5305-01-360-5282	062	15
96952	035-2994		072	4
1R5C8	067-0581-001	6680-01-509-3963	074	1
1R5C8	067-418-014		074	2
13548	07240	6220-01-482-9850	006	2
13548	07406	6220-01-482-6113	005	1
13548	07407	6220-01-482-5574	005	1
6N299	0910164	5310-00-045-3296	064	2
1UYK1	100	4810-01-506-2637	072	12
1UYK1	100-0001	4810-01-506-2637	023	10
16476	100222	6645-01-263-9434	071	8
16476	100264	6620-01-470-6835	071	9
98343	10028	5330-00-172-1919	022	3
98343	10028	5330-00-172-1919	022	6
92967	10060-01	5306-01-098-7197	031	19
73402	102-0404	4730-01-466-4498	053	9
13226	10268ZC	5310-01-504-6851	087	26
92967	10273-00	5310-01-098-7244	031	17
24975	103-48	5977-01-506-1001	062	18
92967	10376-00	5306-01-347-5921	031	4
73402	104-0304	4730-01-506-1838	053	4
92967	10608-00	2510-01-101-2890	031	15
24975	107-103	4140-01-430-7170	062	4
16476	107646	6680-01-508-5909	071	10
81435	1084-12CHC	5975-01-504-7503	064	13
1R5C8	108-6110-1		013	1
1R5C8	108-6110-2		010	1
1R5C8	108-6110-3		013	14
1R5C8	108-6110-5		010	16
1R5C8	108-6110-5-1		010	17
1R5C8	108-6110-5-2		010	18
1R5C8	108-6110-5-3		010	19
1R5C8	108-6110-5-4		010	20
78500	10-X-1421	5305-01-359-1367	017	5
08302	11028	5310-00-481-6481	027	4
19207	10936691	2990-00-759-3639	056	7
63576	110700	4820-01-517-3465	021	2
24975	111-34	3130-01-506-0783	062	8
24975	111-35		062	9
24975	111-40	3130-01-506-0787	062	12

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CAGEC	PART NUMBER	NSN	FIG	ITEM
39428	1120A23		BULK	7
24975	112-74		62	11
68505	113-46	2920-01-310-0990	62	10
92967	11357-00	5365-01-316-3300	31	21
24975	114-164		62	7
24975	114-255		62	19
92967	11513-03	5310-01-499-4209	31	18
19207	11668089	5340-01-074-8126	51	3
19207	11668541	4930-01-085-2652	81	7
27966	11668541	4930-01-085-2652	81	20
19207	11670911	4730-01-066-0118	80	4
14109	11670912	4730-01-065-9358	80	12
19207	11670913	4730-01-065-7604	80	7
19207	11670914	5330-01-081-5070	80	3
19207	11670914	5330-01-081-5070	81	21
19207	11670914	5330-01-081-5070	79	3
19207	11670915	5330-01-060-6890	80	6
19207	11685880	2940-01-061-5734	81	22
49181	1177860		36	7
2X179	11LD626-3	2815-01-446-2035	44	1
24975	120-111	5310-01-506-1087	62	6
35510	120-128	5310-01-430-7169	62	2
35510	120-129	5310-01-430-7191	62	3
24975	120-153	5305-01-506-1081	62	5
35510	120-26		62	13
35510	120-289		62	14
78500	1205-Q-2123	5330-01-328-6090	17	3
78500	1205X726	5331-00-205-3583	17	16
78500	1218G85	5315-00-784-0637	16	9
3D6E9	1225B496	3120-00-255-6042	16	5
78500	1225-R-1058	3120-01-499-3388	17	17
19207	12275418	5340-01-508-6682	69	16
19207	12275456	5340-01-183-1423	69	1
3D6E9	1229-B-1848	5310-01-133-5373	17	9
3D6E9	1229-R-4100	5310-01-499-3382	17	2
3D6E9	1229-S-4101	5310-01-499-3372	17	6
3D6E9	1229-T-4102	5325-01-499-3380	17	7
19207	12476065		77	8
13445	1251	5935-00-987-4536	13	2
08108	1252	6240-00-019-0878	7	5
78500	1259-N-274	5315-01-129-6898	16	6
1UYK1	1300	6625-01-503-1773	2	1
41181	13005	5305-01-424-8152	74	5
2X179	1400.135		45	4
72452	1459-246	5310-00-088-1251	63	8
72452	1459-246	5310-00-088-1251	64	12
13226	15265CB		81	12
05443	15757ZC	5315-01-084-4427	87	15
13226	15913MS	4820-01-133-4121	86	3

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CAGEC	PART NUMBER	NSN	FIG	ITEM
21013	16-161	5310-00-113-3757	82	36
93061	164PMT-6	4730-01-456-5915	23	19
06721	16626	4720-01-506-2578	23	2
64104	162284	5930-00-084-7570	69	14
79470	168X6	4730-00-278-4574	87	6
93061	169PMT-6-6	4730-01-470-0091	23	15
93061	169PMTNS-8-4	4730-01-506-2676	23	12
13226	17012EY	5340-01-504-7439	86	8
2X179	1760-032	5306-01-453-7232	60	4
2X179	1770-006	5305-01-458-1622	47	8
2X179	1770-056	5305-01-458-1623	46	14
2X179	1770-056	5305-01-458-1623	60	6
2X179	1780.003		45	8
2X179	1780.004	5306-01-458-1618	54	6
73402	178-0303	4730-01-055-6082	53	12
73402	178-0404	4730-01-506-1815	53	2
13226	17889BN	5331-01-134-1980	86	9
93061	179PMTNS-8-4	4730-01-506-2680	23	11
13226	18141BN	5331-01-354-4162	86	4
2X179	1901.031		48	11
2X179	1901-032	5306-01-458-1625	48	7
2X179	1901-032	5306-01-458-1625	52	1
2X179	1901-048	4730-01-508-6074	68	1
13226	19624EY	3120-01-504-7543	87	18
13226	19724BR	5310-01-077-3663	87	23
78500	19X1084	5315-01-357-0826	18	7
3D6E9	19X127	5315-01-315-3614	18	6
13226	20040ZC	5307-01-504-6845	87	25
76364	20115-N		83	14
29965	20220-3	3020-00-277-1124	87	11
05443	20661D	4730-01-504-8927	80	8
A1212	2100.056	2920-15-155-5288	47	1
25567	21672-529	5305-01-502-8760	77	5
25567	21672-597	5305-01-504-6855	76	18
2X179	2175.046	2910-00-238-0033	54	3
93061	218P-12	5365-01-502-9551	19	4
26405	22010	5940-00-983-6105	64	3
0DT23	220431	4730-01-504-7020	82	39
0DT23	220436	5360-01-504-6975	82	17
0DT23	220447	4820-01-504-6863	82	40
0DT23	220453		82	10
0DT23	220456	5330-01-504-6964	82	41
0DT23	220458	4820-01-504-6925	82	37
0DT23	220675	3040-01-504-7419	82	23
0DT23	220676	5340-01-504-6980	82	29
0DT23	220686	3040-01-504-7418	82	26
0DT23	220688	3120-01-508-5969	82	28
78500	2210-D-6868	2530-01-499-3135	17	1
3D6E9	2210-D-6869	2530-01-499-3159	17	1

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CAGEC	PART NUMBER	NSN	FIG	ITEM
0DT23	221301	3040-01-508-7384	82	21
0DT23	221302	3040-01-508-7390	82	20
0DT23	221303		82	25
1S0R6	2229101		24	4
1K2S2	224464	5305-01-506-2643	70	7
3D6E9	2258-Q-615	5360-01-158-1974	16	3
3D6E9	2258-W-803	5360-01-499-3396	16	1
1K2S2	229182	5310-01-514-2751	70	6
1K2S2	229215		70	11
3D6E9	2297-B-5046	4730-01-499-3385	17	14
1S0R6	2308709	2530-01-506-2738	24	16
94222	23-10-11-12	5360-00-958-1143	69	4
76364	23194-N-560	4820-01-095-0938	83	8
13445	24063	5945-00-081-9491	64	16
2X179	2440.034	3030-01-457-8833	61	13
2X179	2440-034	3030-01-367-7487	59	2
25567	2474-GA	5330-01-060-7266	76	12
A1212	2486.046	2805-15-148-1970	57	9
25567	25227-363	5331-01-504-6856	76	23
25567	25227-689	5330-01-060-9610	76	32
13226	25245AL		81	8
25567	25271-207	5330-01-078-2005	76	15
70485	2564	5325-00-641-2800	23	22
25567	2605-X-14010	4320-01-060-7896	76	10
13226	26284AL	5340-01-504-7309	86	6
76364	26344-N		83	10
13226	27050MS	3040-01-504-7425	86	10
7X677	274707	5305-01-187-8757	33	1
2X179	276.3616.018	5340-01-327-3444	48	3
2X179	276.4670.014	5310-01-324-8325	46	22
2X179	276.5400.046	5365-01-324-3425	48	4
2X179	277.6300.018	5365-01-458-6645	57	6
13226	27733EY	3040-01-504-7440	87	27
13226	27818SL-2	3040-01-504-7438	87	20
19207	27-W-924	5340-01-098-2069	BULK	13
1K2S2	28116034		70	12
76364	2855-N-150	4730-01-284-6397	83	4
06853	291452	4730-01-400-3146	20	4
1R5C8	2AHOOKSS	4030-01-503-0447	29	2
1R5C8	2AHOOKSS	4030-01-503-0447	36	5
1R5C8	2AHOOKSS	4030-01-503-0447	39	4
45152	2GL765	2530-01-359-8091	17	4
03670	30865	4210-01-362-5567	89	3
13445	30172-15	5925-01-469-0075	64	18
13445	30172-30	5925-01-506-0593	64	20
13226	3029SL	5306-01-077-5119	38	2
13226	3030-BR	5310-01-061-8727	38	4
64565	3030TA3-1260	2530-01-506-3298	20	1
13226	3031-SL	5310-01-077-6773	38	3

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CAGEC	PART NUMBER	NSN	FIG	ITEM
39428	30325T27	4030-01-508-7449	82	32
65824	303-444-04		72	13
13226	3036SL262		38	5
65824	304-200-01		72	14
76364	3057-N		83	11
1UYK1	3100	5940-01-502-9386	1	1
3D6E9	3105-B-210	5340-01-328-4418	16	11
3D6E9	3105-U-281	3130-01-502-9445	17	18
3D6E9	3105-V-282	3130-01-502-9395	17	15
1S0R6	3018503	5306-01-508-5764	24	6
76364	3116M	5310-00-654-4537	83	2
13226	3119BN	5330-01-024-2311	38	16
25567	31343-039 15991	5307-01-088-7388	76	2
25567	31343-039 15991	5307-01-088-7388	76	5
1UYK1	3150	6680-01-502-9390	1	4
25567	31512-024	5310-01-502-8763	76	14
79470	3152X6	4730-00-427-5121	19	5
79470	3152X6	4730-00-427-5121	21	4
25567	31551-001 15990	5365-01-175-0320	77	2
39428	3196T26	4910-01-100-4984	28	4
76364	3198-C	5310-01-077-9426	83	16
72219	32-103-01	4820-00-417-1120	81	15
2X179	3240.018	5310-01-324-8246	46	12
2X179	3240.018	5310-01-324-8246	47	5
2X179	3240.018	5310-01-324-8246	50	4
2X179	3240.018	5310-01-324-8246	59	7
24975	3244392S01	5330-01-362-4994	62	17
3D6E9	3264-A-1457	5340-01-499-3618	16	4
2X179	3300.227		45	5
26151	330-3009	5330-01-071-8179	24	12
2X179	3350.077	2815-01-453-4065	60	12
1E255	339PO161-083009 SH D IT31	5945-01-441-9279	10	15
28488	3401	5975-00-655-3136	14	7
28488	3402	5975-00-833-1776	14	9
28488	3404	5975-00-578-9364	14	3
2X179	3440.049	2910-01-459-0148	54	2
28488	3441	5975-01-506-2618	14	8
28488	3442	5975-01-432-4122	14	2
76364	35551-6-400	4820-00-766-8191	83	1
13226	3560BN	5330-01-134-1986	38	21
13226	3560SL	2590-01-054-0253	87	3
13226	35659EY-2	3010-01-504-7825	87	19
2X179	3586.060		54	7
2X179	3630.050		48	15
76364	363H	5330-00-367-5005	83	6
25567	37J	5310-00-496-3676	76	13
2X179	3740.043	2940-01-452-9419	46	18
76364	38084-C	5310-01-077-9647	83	15
83338	3/8-16X1	5305-01-425-2425	78	1

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CAGEC	PART NUMBER	NSN	FIG	ITEM
25567	38263-507 10010	2520-01-168-6845	76	17
25567	38272-319		76	16
25567	38322-214 10010	3130-01-317-2625	76	30
25567	38513-406 17030	3040-01-167-8118	76	26
25567	38546-003	3020-01-502-9926	77	1
25567	38683-207	5330-01-060-9614	76	29
58536	39TB10	5940-00-983-6105	13	12
11083	3S4488	5305-00-245-6035	7	3
8K828	3SC	5340-01-508-6874	39	1
8K828	3TR	5330-01-508-6904	39	3
13226	4015BN		38	17
13226	4015TS	5331-01-424-3860	38	10
13226	4020EPDM	3010-01-485-3100	38	25
6N299	4021600	2910-00-400-6861	51	12
05443	40342CM	4730-01-508-6130	81	3
13226	4117ALEY		38	8
13226	4118BN		38	7
13226	4122MS		38	13
OKMP4	4204089	6685-01-506-1151	75	1
49181	42310	5306-01-502-8739	36	3
76364	4256-L-630	5305-01-079-6771	83	9
05573	42768	5305-01-523-0373	77	9
OKMP4	4306148	6685-01-506-1061	75	4
07322	4325-366Y	4820-01-504-6981	82	8
3D6E9	441 032 809 0	6150-01-502-9447	19	3
25567	44165-003	4730-01-167-8069	77	3
2X179	4420.019	5330-01-395-0878	57	2
13226	44631EY	5340-01-504-6837	87	17
3D6E9	449 328 110 0	6150-01-502-9449	19	8
2X179	4500.079	5330-01-394-7944	56	11
2X179	4500.079	5330-01-394-7944	57	5
OY3H3	45116		BULK	2
89346	453283	5305-00-990-6444	64	1
13226	46186-2		82	1
2X179	4620.060		48	10
13445	46206-14	5940-01-508-5919	13	19
2X179	4670-058		68	2
2X179	4670.107		49	4
0DT23	47095	3040-01-504-7052	82	16
0DT23	47096	2540-01-504-6825	82	43
0DT23	47097	4820-01-508-7369	82	4
0DT23	47099		82	13
0DT23	47371	4710-01-504-7417	82	18
1S0R6	4819001	2530-01-506-2721	24	2
25567	48271-094	5340-01-406-4189	76	4
24161	4LOLA	4720-00-484-5765	BULK	11
2X179	5000.3617.021	5340-01-325-2650	46	7
13548	50840	5975-01-343-2254	64	5
13548	50842	5975-01-343-2256	64	6

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CAGEC	PART NUMBER	NSN	FIG	ITEM
25022	51-2298	2590-00-473-6331	90	1
19205	5174192	5310-00-517-4192	7	2
0FBD6	52106005		16	7
2A592	5-2106-00BU	5925-01-504-6095	64	14
28548	5228623	4730-00-244-9848	22	1
1R5C8	5243		64	7
08108	53	6240-00-013-1282	7	7
0FBD6	55752004	5310-01-504-6132	16	8
2X179	560.4420.020	5330-01-351-7676	47	11
45152	5903AX	5305-00-984-6210	64	15
11083	5P7128	5305-01-107-3549	26	20
10125	6006	4730-01-502-9555	19	1
26151	610-0065	2590-01-450-0304	73	3
2X179	625.2486.043	2990-01-452-7605	47	3
2X179	625.2569.372	5340-01-455-3824	60	3
2X179	625.2655.032	5340-01-458-8586	50	2
2X179	625.4431.069	5330-01-453-5497	50	8
2X179	625.4490.086	5330-00-459-2294	47	7
2X179	625.4775.422	2930-15-148-1969	46	4
2X179	625.5066.055	5340-01-458-8630	60	10
2X179	625.5066.056	4140-01-454-3508	60	15
2X179	625.5066.061	4140-01-454-4074	60	8
2X179	625.6370.137	9515-01-510-5881	46	21
2X179	625.6429.047	5340-01-458-7226	44	2
2X179	625.6585.079	2910-01-511-8382	50	5
2X179	625.6660.028	5340-01-455-3825	60	2
2X179	625.6927.073	3020-01-452-9472	59	1
2X179	625.7200.167	5340-01-459-1516	50	10
2X179	625.8545.271	2930-01-455-7597	46	13
2X179	625.9718.113		59	6
2X179	625.9895.055	5315-01-459-1812	60	1
0DT23	64079	5930-01-514-2450	85	2
0DT23	64174AC	4820-01-504-6971	82	2
13226	6496ALB117		38	18
26151	650-0598	6680-01-502-9521	73	4
76364	65146-K-A993 SPLIT RING	5330-00-400-3513	83	7
2X179	6615.104		49	3
13226	6654AL		38	11
13226	6657AL117		38	15
76364	6686N	5330-00-346-2732	83	13
13226	6688SL		38	6
13226	6778SL		38	20
2X179	6780-070	5307-01-458-1627	50	9
94894	684-4	4820-01-443-1916	23	24
93061	68NTA-6-4	4730-01-062-2570	84	2
2X179	6975.134	3020-01-453-9083	59	5
19207	6TMF/TYPEII	6140-01-446-9506	8	10
19207	6TMF/TYPEIII	6140-01-469-9184	8	10
76364	701-H-491	5360-00-653-0395	83	5

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CAGEC	PART NUMBER	NSN	FIG	ITEM
61125	70650		BULK	12
19207	7417585	2510-00-741-7585	29	1
91840	7523	5307-01-389-3445	39	6
19207	7524649	9905-00-752-4649	10	12
19207	7524649	9905-00-752-4649	10	23
19207	7524649	9905-00-752-4649	11	3
19207	7524649	9905-00-752-4649	11	8
19207	7524649	9905-00-752-4649	12	5
19207	7524649	9905-00-752-4649	12	9
19207	7524649	9905-00-752-4649	13	10
19207	7524649	9905-00-752-4649	13	18
19207	7524649	9905-00-752-4649	71	2
19207	7534865	5365-00-753-4865	17	10
19207	7539214	5340-00-753-9214	69	11
2X179	7565.011		45	7
13445	75904-01	5930-01-420-9746	69	15
76364	7699-K-C56	5340-01-077-4942	83	3
19207	7750101	5325-00-204-5061	17	8
72962	79-048-250-0812	5315-00-297-0879	82	31
67634	80-CLIP	5340-01-506-2928	43	4
67634	80SM97	9905-01-517-8477	43	3
92967	814-00	2590-01-100-9001	31	13
92967	817-00	5310-01-098-7245	31	7
39428	81839A029	5310-01-374-1809	9	3
78500	8289	2530-01-502-9081	KITS	5
13226	8297ALEY		38	19
2X179	832.7350.007	2930-01-436-2109	46	2
19207	8330729	5305-00-993-2738	64	8
92967	836-00	5310-01-098-7236	31	24
92967	837-00	5310-01-098-7246	31	23
2X179	8400.139		49	5
92967	841-00	5310-01-098-7827	31	8
76364	84299-N-940	4820-01-080-3435	83	12
92967	849-01	2520-01-101-1802	31	3
25567	84B1-(11LD626-3)/S1		76	1
25567	8543 15990	5365-01-137-7682	76	28
2X179	8545.610		49	2
4X630	863-000625	5315-01-493-4685	82	19
19207	8712289	5310-00-044-3340	82	35
19207	8712289-6	5310-00-225-6408	36	13
19207	8712289-9	5310-00-930-9759	72	7
19207	8724257	5935-00-754-9083	10	2
08427	8730000-21	5310-01-421-7439	26	19
08427	8730000-21	5310-01-421-7439	80	16
2X179	8760.090		54	4
25567	882A 14000	2930-00-407-9270	76	11
25567	8881		76	6
41885	88881	5310-01-349-0759	24	17
41885	88881	5310-01-349-0759	28	10

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CAGEC	PART NUMBER	NSN	FIG	ITEM
92967	891-00	2520-01-101-0935	31	20
92967	895-00	5310-01-098-7247	31	5
92967	898-00	2520-01-101-2551	31	22
24975	8LHA-3071P	2920-01-279-3948	62	1
24975	8RG3030	6110-01-431-2271	62	16
1R5C8	9001-0036	4730-01-503-0245	80	9
92967	900-50	2510-01-503-0716	31	2
39428	9009A031	5310-01-386-3517	26	18
39428	90101A038	5310-01-508-5908	20	3
39428	90101A237	5310-01-446-0272	35	3
39428	90101A237	5310-01-446-0272	87	29
39428	90107A032	5310-01-476-4801	37	17
39428	90312A64	4010-01-508-6020	35	8
39428	90316A247	5305-01-506-1119	6	1
39428	90316A247	5305-01-506-1119	9	6
39428	90316A247	5305-01-506-1119	87	1
2X179	9032.064	2590-01-395-0523	45	1
2X179	904.2175.040	2940-01-324-5153	46	19
2X179	904.4730.533	5330-01-458-5601	46	20
1R5C8	9043-0012	5306-01-502-8710	35	24
1R5C8	9043-0084	5306-01-510-2708	43	10
1R5C8	9043-0084	5306-01-510-2708	72	15
1R5C8	9043-0084	5306-01-510-2708	88	7
1R5C8	9043-0127	5306-01-009-6675	88	8
39428	90715A011	5310-01-482-0431	7	1
39428	90715A032	5310-01-508-6136	37	18
39428	90715A145	5310-01-508-5774	32	8
1R5C8	9117-0003		58	17
1R5C8	9117-0121		87	8
1R5C8	9117-0140		55	1
1R5C8	9118-0024	5340-01-502-8766	80	10
1R5C8	9118-0159		53	13
2X179	9.1200.015	5330-01-323-5455	45	2
2X179	9.1200.087	5331-01-458-2589	50	7
1R5C8	9121-0005		BULK	3
1R5C8	9121-0005-24		39	5
1R5C8	9121-0005-AR		29	3
1R5C8	9121-0019		36	6
1R5C8	9125-0116		39	11
1R5C8	9125-0146	4730-01-506-1946	53	10
1R5C8	9125-0147	4730-01-506-1798	53	1
1R5C8	9125-0147		84	6
39428	91257A826	5305-01-508-6013	44	5
1R5C8	9131-0004		14	6
1R5C8	9131-0005		14	1
1R5C8	9131-0006		14	4
1R5C8	9133-0083	5940-01-508-5912	66	4
1R5C8	9133-0083	5940-01-508-5912	68	6
1R5C8	9133-0083	5940-01-508-5912	71	1

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CAGEC	PART NUMBER	NSN	FIG	ITEM
1R5C8	9133-0084	5940-01-506-2596	67	3
1R5C8	9133-0085	5940-01-506-2488	65	9
1R5C8	9133-0086	5940-01-506-2490	8	12
1R5C8	9133-0086	5940-01-506-2490	65	11
1R5C8	9133-0086	5940-01-506-2490	66	7
1R5C8	9133-0088	5940-01-506-1319	8	11
1R5C8	9133-0088	5940-01-506-1319	65	1
1R5C8	9133-0088	5940-01-506-1319	66	2
1R5C8	9133-0089	5940-01-504-7527	8	5
1R5C8	9133-0089	5940-01-504-7527	8	13
1R5C8	9133-0091	5940-01-506-2589	8	9
1R5C8	9133-0091	5940-01-506-2589	65	3
1R5C8	9133-0091	5940-01-506-2589	65	7
1R5C8	9133-0093	5940-01-506-2504	8	6
1R5C8	9133-0093	5940-01-506-2504	8	8
1R5C8	9133-0093	5940-01-506-2504	67	1
1R5C8	9133-0096	5940-01-508-5931	66	3
1R5C8	9133-0097	5940-01-506-2500	66	8
1R5C8	9133-0098	5940-01-506-2497	8	14
1R5C8	9137-0045	6160-01-504-7515	8	3
1R5C8	9142-0206	4730-01-508-5999	75	3
2X179	9.1755.002	5305-01-454-3506	48	2
2X179	9.1770.001	5305-01-453-7239	46	5
2X179	9.1770.002	5305-01-324-0950	60	13
39428	91773A829		69	12
2X179	9.1780.007	5305-01-333-5381	44	4
39428	91831A011	5310-01-463-4929	9	8
39428	91831A011	5310-01-463-4929	87	5
2V507	91831A030	5310-01-499-3569	8	1
2X179	9.1901.029	5306-01-323-8814	48	13
2X179	9195.104		45	6
01365	92007A1255	5310-01-467-9965	36	14
39428	92146A029	5310-01-229-6260	1	8
39428	92186A673	5305-01-508-6135	37	16
1R5C8	9222-0311	9905-01-518-1236	41	6
1R5C8	9222-0312	9905-01-518-0035	42	2
1R5C8	9222-0315	9950-01-518-1235	42	4
1R5C8	9222-0316	7690-01-504-6952	42	8
1R5C8	9222-0317	9905-01-518-1228	41	4
1R5C8	9222-0319	9950-01-519-7678	42	7
1R5C8	9222-0320	9905-01-518-1231	41	3
1R5C8	9222-0321	9905-01-518-1229	41	2
1R5C8	9222-0323	9905-01-518-1234	41	7
1R5C8	9222-0324	9905-01-518-1227	41	5
1R5C8	9222-0327	7690-01-504-6901	42	9
1R5C8	9222-0328	7690-01-504-6947	42	10
1R5C8	9224-0001	5310-01-508-6921	74	4
39428	92240A551		87	9
1R5C8	9227-0010	5340-01-502-8689	35	27

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CAGEC	PART NUMBER	NSN	FIG	ITEM
1R5C8	9227-0012	5340-01-502-8724	35	26
1R5C8	9229-0001		51	8
1R5C8	9261-0085	4730-01-508-6961	81	14
39428	92620A798	5305-01-508-6879	81	17
1R5C8	9291-0054		84	5
1R5C7	9292-0129		46	8
39428	93075A245	5305-01-508-6246	4	2
39428	93190A583	5305-01-508-6037	35	6
39428	93190A583	5305-01-508-6037	87	31
39428	93190A593	5305-01-482-4487	32	6
2X179	9.3203.015	5310-01-453-8664	59	3
2X179	9.3203.093	5310-01-458-4305	50	6
2X179	9.3240.163	5310-01-458-4307	57	4
2X179	9.3240-032	5310-01-325-7141	63	2
1R5C8	9326-0191		82	44
1R5C8	9326-0252		58	15
1R5C8	9326-0254		72	6
1R5C8	9326-0262	5330-01-510-7082	33	14
2X179	9330.024		45	3
2X179	9373.002		52	3
2X179	9375.165	4710-01-453-3278	48	5
2X179	9375.167	4710-01-453-3273	48	14
2X179	9375.281		48	6
2X179	9375.660		48	9
2X179	9375-855	4710-01-459-0003	52	5
1R5C8	9378-0039		23	25
1R5C8	9380-0314	6150-01-506-1300	65	2
1R5C8	9380-0315	6150-01-506-2626	71	4
1R5C8	9380-0316	6150-01-506-2635	71	7
1R5C8	9380-0317	6150-01-506-2638	71	6
1R5C8	9380-0318	6150-01-506-1279	11	1
1R5C8	9380-0318-1		11	5
1R5C8	9380-0318-2		11	4
1R5C8	9380-0319	6150-01-506-1260	12	1
1R5C8	9380-0319-1		12	3
1R5C8	9380-0319-2		12	4
1R5C8	9380-0320	6150-01-506-1271	12	7
1R5C8	9380-0320-1		12	11
1R5C8	9380-0320-2		12	10
1R5C8	9380-0321	6150-01-506-1286	11	6
1R5C8	9380-0321-1		11	10
1R5C8	9380-0321-2		11	9
1R5C8	9389-0015	4030-01-503-0537	36	4
1R5C8	9392-0219		51	10
1R5C8	9392-0219		53	3
1R5C8	9392-0220		53	11
1R5C8	9395-0043	2530-01-507-8611	24	13
24617	9419476	5310-00-984-3807	36	15
2X179	9.4670.058	5310-01-332-8236	46	25

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CAGEC	PART NUMBER	NSN	FIG	ITEM
2X179	9.4670.058	5310-01-332-8236	48	12
2X179	9.4670.059	5310-01-351-7802	52	4
2X179	9.4670.061	5310-01-458-4309	48	8
2X179	9.4670.061	5310-01-458-4309	52	2
2X179	9485.083		46	9
2X179	9485.176	4720-01-453-2929	46	3
2X179	9485.177	4920-01-455-3224	46	16
2X179	9571.229		48	1
1R5C8	9543-0036	2540-01-502-9571	32	5
1R5C8	9562-0009	5310-01-508-6918	74	3
1R5C8	9562-0044	5310-01-502-8329	3	2
1R5C8	9562-0044	5310-01-502-8329	26	14
1R5C8	9562-0044	5310-01-502-8329	28	3
1R5C8	9562-0044	5310-01-502-8329	32	3
1R5C8	9562-0044	5310-01-502-8329	32	14
1R5C8	9562-0044	5310-01-502-8329	32	20
1R5C8	9562-0044	5310-01-502-8329	33	8
1R5C8	9562-0044	5310-01-502-8329	35	10
1R5C8	9562-0044	5310-01-502-8329	36	17
1R5C8	9562-0044	5310-01-502-8329	53	6
1R5C8	9562-0044	5310-01-502-8329	61	9
1R5C8	9562-0044	5310-01-502-8329	69	8
1R5C8	9562-0044	5310-01-502-8329	78	3
1R5C8	9562-0044	5310-01-502-8329	80	2
1R5C8	9562-0044	5310-01-502-8329	81	4
1R5C8	9562-0044	5310-01-502-8329	88	1
1R5C8	9562-0044	5310-01-502-8329	89	4
1R5C8	9562-0044	5310-01-502-8329	90	2
1R5C8	9562-0046	5310-01-502-8330	26	8
1R5C8	9562-0046	5310-01-502-8330	43	8
1R5C8	9562-0046	5310-01-502-8330	56	5
1R5C8	9562-0046	5310-01-502-8330	58	6
1R5C8	9562-0046	5310-01-502-8330	74	7
1R5C8	9562-0046	5310-01-502-8330	87	13
1R5C8	9562-0049		58	10
1R5C8	9562-0055	5310-01-508-6889	81	19
1R5C8	9562-0133	5310-01-502-8323	26	17
1R5C8	9562-0133	5310-01-502-8323	28	11
1R5C8	9562-0133	5310-01-502-8323	37	3
1R5C8	9562-0133	5310-01-502-8323	39	7
1R5C8	9562-0133	5310-01-502-8323	51	13
1R5C8	9562-0133	5310-01-502-8323	61	1
1R5C8	9562-0133	5310-01-502-8323	80	14
1R5C8	9562-0165	5310-01-506-1215	23	8
1R5C8	9562-0165	5310-01-506-1215	87	34
2X179	9.5830.119		55	2
1R5C8	9593-0233		69	13
1R5C8	9595-0051		58	16
1R5C8	9596-0468	2990-01-504-6529	KITS	6

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CAGEC	PART NUMBER	NSN	FIG	ITEM
1R5C8	9596-0468-1	2990-01-504-6529	56	9
1R5C8	9596-0468-2		56	8
1R5C8	9596-0468-4		56	10
1R5C8	9596-0474	4710-01-506-2883	81	2
1R5C8	9600-0001M		82	33
1R5C8	9606-0005	3020-01-506-1289	61	12
92967	9639-03	5306-01-098-7198	31	12
92967	9640-00	2510-01-101-2559	31	11
1R5C8	9653-0043	9905-01-518-0036	42	6
1R5C8	9653-0044	9905-01-518-0034	42	3
1R5C8	9653-0045	9905-01-518-3264	42	5
1R5C8	9674-0013	4310-01-506-2601	23	6
2X179	9.6780.008	5307-01-341-2950	47	6
2X179	9.6780.008	5307-01-341-2950	50	1
2X179	9.6780.008	5307-01-341-2950	57	7
2X179	9.6780.008	5307-01-341-2950	59	9
2X179	9.6780.028	5307-01-454-3501	46	10
2X179	9.6780.031	5307-01-454-3503	47	2
2X179	9.6780.034	5307-01-454-3504	57	10
2X179	9.6780.034	5307-01-454-3504	46	17
2X179	9.6780.084	5307-01-327-3439	47	10
2X179	9.6780.084	5307-01-327-3439	57	1
2X179	9.6820.014	5307-01-454-3517	63	4
1R5C8	9682-0047	5320-01-504-6880	41	1
1R5C8	9682-0047	5320-01-504-6880	42	1
1R5C8	9682-0047	5320-01-504-6880	43	2
39428	97135A275	5310-01-508-5907	27	5
39428	97135A275	5310-01-508-5907	44	7
2V507	97143A635	5315-01-502-8308	26	4
2X179	9730.100		54	1
1R5C8	9738-0010		56	6
1R5C8	9738-0014	5305-01-406-5528	32	1
1R5C8	9738-0014	5305-01-406-5528	88	5
1R5C8	9738-0014	5305-01-406-5528	89	1
1R5C8	9738-0014	5305-01-406-5528	90	4
1R5C8	9738-0015	5306-00-174-9462	37	1
1R5C8	9738-0015	5308-00-174-9462	39	9
1R5C8	9738-0015	5305-01-512-0581	51	2
1R5C8	9738-0015	5305-01-512-0581	56	13
1R5C8	9738-0015	5306-00-174-9462	58	8
1R5C8	9738-0015	5306-00-174-9462	80	15
1R5C8	9738-0035		58	18
1R5C8	9738-0081		56	1
2X179	9738-018		49	1
1R5C8	9738-0379	5305-01-508-5775	27	2
1R5C8	9738-0380	5305-01-508-5889	27	3
1R5C8	9738-0384		28	7
39428	97447A050		69	7
2X179	9.7565.007	5310-01-340-8352	47	4

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CAGEC	PART NUMBER	NSN	FIG	ITEM
2X179	9.7565.007	5310-01-340-8352	50	3
2X179	9.7565.007	5310-01-340-8352	57	3
2X179	9.7565.007	5310-01-340-8352	59	8
2X179	9.7565.007	5310-01-340-8352	60	14
2X179	9.7565.011	5310-01-324-8343	44	3
2X179	9.7565.011	5310-01-324-8343	54	5
2X179	9.7565.011	5310-01-324-8343	63	3
2X179	9.7625.010	5310-01-324-8334	46	6
2X179	9.7625.010	5310-01-324-8334	46	11
2X179	9.7625.012	5310-01-453-7095	60	7
2X179	9.7625.055	5310-01-453-8661	59	4
2X179	9.7625.061	5310-01-453-7080	57	8
2X179	9.7625.062	5310-01-453-7096	60	5
13548	98107	9390-01-504-6187	40	1
39428	98700A366	5315-01-508-5988	35	7
39428	98760A112	5306-01-504-6498	8	16
1R5C8	9881-0006-AR		84	1
1R5C8	9881-0006-AR		85	3
1R5C8	9881-0020		23	14
1R5C8	9881-0022		23	4
1R5C8	9881-0027		23	1
1R5C8	9881-0096		87	7
2X179	9.8965.003	5365-01-333-5129	46	24
2X179	9.8965.021	4730-01-461-1297	46	23
92967	9934-02	2510-01-100-9270	31	16
92967	9937-00	2510-01-100-7167	31	14
1R5C8	9941-0778		23	23
1R5C8	9941-0788		84	3
1R5C8	9965-0013		56	2
1R5C8	9965-0034		87	2
1RC58	9965-0039	5310-01-502-8467	24	14
1R5C8	9965-0044		3	3
1R5C8	9965-0044		32	7
1R5C8	9965-0044		87	33
1R5C8	9965-0046		20	2
1R5C8	9966-0115	2530-01-510-6121	25	3
1R5C8	9968-0054		71	3
1R5C8	9968-0054-1		65	4
1R5C8	9968-0054-2		65	6
1R5C8	9968-0054-3		65	8
1R5C8	9968-0054-4		65	12
1R5C8	9968-0054-AR		67	4
1R5C8	9968-0055		71	5
1R5C8	9968-0055-1-1		13	3
1R5C8	9968-0055-1-2		13	4
1R5C8	9968-0055-1-3		13	5
1R5C8	9968-0055-1-4		13	6
1R5C8	9968-0055-1-5		13	7
1R5C8	9968-0055-1-6		13	8

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CAGEC	PART NUMBER	NSN	FIG	ITEM
1R5C8	9968-0055-1-7		13	9
1R5C8	9968-0055-2-1		10	3
1R5C8	9968-0055-2-2		10	4
1R5C8	9968-0055-2-3		10	5
1R5C8	9968-0055-2-4		10	6
1R5C8	9968-0055-2-5		10	7
1R5C8	9968-0055-2-6		10	8
1R5C8	9968-0055-2-7		10	9
1R5C8	9968-0055-2-8		10	10
1R5C8	9968-0055-2-9		10	11
1R5C8	9968-0055-3-1		13	15
1R5C8	9968-0055-3-2		13	17
1R5C8	9968-0055-AR		66	5
1R5C8	9968-0055-AR		68	7
1R5C8	9968-0056		BULK	23
1R5C8	9968-0056-AR		8	7
1R5C8	9968-0056-AR		67	2
1R5C8	9968-0057		BULK	24
1R5C8	9968-0057-AR		8	15
1R5C8	9968-0058		BULK	25
1R5C8	9968-0058-1		65	10
1R5C8	9968-0058-1AR		66	1
1R5C8	9968-0058-2AR		66	6
1R5C8	9968-0083		65	5
2X179	9.9730.032	5205-01-324-8388	46	1
2X179	9.9730.032	5305-01-324-8388	59	11
2X179	9.9731.092	5305-01-323-8927	60	11
2X179	9.9732.063	5305-01-341-2906	59	10
2X179	9.9732.074	5305-01-324-8355	46	15
2X179	9.9790.039	5305-01-323-8928	60	9
1R5C8	999-00037	5340-01-508-6911	87	12
92967	9999-00	2510-01-114-3209	31	10
13226	9Q1659	5306-01-082-0019	87	4
13226	9Q1660	5306-01-504-7441	87	21
13226	9Q4893	5315-01-124-9075	86	2
13226	9Q4961		38	9
13226	9Q4974	5340-01-504-6827	87	22
13226	9Q5807	5310-01-417-1045	81	11
13226	9Q5808A	5310-01-504-6843	87	24
13226	9Q5811		81	9
13226	9Q5823		81	13
13226	9Q5865	5315-01-504-6841	87	16
13226	9Q5884	5305-01-504-7427	86	7
13226	9Q5896		38	12
13226	9Q5960		38	23
13226	9Q5961	5310-01-486-4256	38	22
13226	9V4907		38	14
13226	9Z4830	5340-01-504-6833	87	28
13226	9Z6163	5340-01-486-0635	38	24

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CAGEC	PART NUMBER	NSN	FIG	ITEM
24975	A049102338 (111-86)	3110-01-431-4526	62	20
78500	A-1205-X-1662	5330-01-047-9367	24	8
78500	A-3105-V-282	2530-01-311-8410	KITS	1
88044	AN814-10D	5365-00-278-8803	82	7
88044	AN960-716	5310-00-167-0822	26	25
1TNF3	AQ54-DOT-6X4	4730-01-514-5670	23	18
96358	AQ54-DOT-8X6	4730-01-506-2684	23	13
96358	AQ69-DOT-6X6		21	1
75755	AR44361	4730-00-706-7761	51	11
81343	AS29513-157	5331-00-182-3170	82	14
81343	AS29513-248	5331-00-291-3268	82	42
81343	AS29513-353	5331-01-217-1787	82	24
81435	AW108P	5340-01-504-6407	64	4
80204	B1821BH031C200N	5306-00-226-4833	77	7
80204	B1821BH038C125N	5305-00-068-0511	33	2
80204	B1821BH038C175N	5305-00-821-3869	80	1
80204	B1821BH050C200N	5305-00-071-2071	80	17
80204	B1821BH063F200N	5305-00-726-2551	31	9
80205	B1821BH063F250N	5305-00-726-2553	61	8
80204	B1821BH063F350N	5305-00-726-2557	31	1
80204	B27-1	5310-00-933-8120	82	12
12662	B491A	6220-01-506-2956	40	3
12662	B491R	6220-01-506-2958	40	2
92967	B893-02	4710-01-240-9431	31	6
19422	BM11352-13-05	4730-00-010-3867	76	20
25567	C0608	5307-00-080-2016	76	7
1UYK1	C40015M	5330-01-502-8335	1	6
1UYK1	C40097A	9330-01-502-8339	1	10
1UYK1	C40104A	5940-01-502-9388	1	9
1UYK1	C40180M		1	11
8K828	CLIP	5340-01-508-6906	39	2
25567	D06	5310-00-725-9479	76	9
1UYK1	D40006A	5975-01-502-9391	1	3
1UYK1	D52068M	6110-01-504-7539	3	1
91340	D9484-57-41	4730-00-278-9211	51	7
18265	DNX002018	2940-00-325-4438	51	4
70510	EF3-8	5975-00-941-5035	BULK	4
1ML14	ERNJ228	5310-00-893-9914	61	4
81349	F02A32V20A	5920-00-131-9915	4	5
92003	F418BCS	4730-01-184-4883	80	11
18265	FWG05-2510	2940-00-494-9491	51	5
13226	GF18153-9		82	30
13226	GF21042-4		82	46
79470	H05703	4720-01-293-4415	BULK	8
79470	H16910		BULK	9
1UYK1	H50070M	5365-01-502-9393	1	2
1UYK1	H50114M	5305-01-502-8411	1	7
1UYK1	H50623M-2	5305-01-502-8415	1	5
0DGK3	HB-607	4730-01-506-2095	23	21

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CAGEC	PART NUMBER	NSN	FIG	ITEM
63900	HE-392		25	5
60038	HM212011	3110-00-293-8997	24	3
60038	HM212049	3110-00-293-8998	24	1
60038	HM218210	3110-00-618-0249	24	5
60038	HM218248	3110-00-618-0248	24	7
0CR59	HP30-08MD	5315-01-502-8717	78	5
71400	HTB-36I	5920-01-508-4243	4	6
25567	J04	5310-01-502-8759	77	4
81343	J844		BULK	10
3D6E9	K235	5315-01-092-1953	18	4
78500	K2416	5315-00-010-3389	18	3
78500	KIT 8000HD	2530-01-314-4392	KITS	4
09641	LA11	5975-00-421-1317	BULK	5
99411	LG0065-03	2590-01-502-9582	30	10
99411	LG0070-02	5315-01-316-7547	30	9
99411	LG0083-05	5340-01-175-0564	30	8
99411	LG0094-3275	3040-01-502-9794	30	5
99411	LG5191-920B23000	2590-01-508-6058	30	7
99411	LG5199-90002J477		30	2
09641	LT-11	5975-01-374-5273	BULK	6
1R5C8	M035-3134	2540-01-502-9571	KITS	2
1R5C8	M054-9848	4710-01-503-0243	35	19
1R5C8	M054-9850	5340-01-508-5897	35	1
1R5C8	M054-9851	5340-01-508-5902	35	2
1R5C8	M054-9854	5340-01-508-5979	35	5
1R5C8	M054-9860		39	12
1R5C8	M054-9866-001		35	14
1R5C8	M054-9866-002		35	17
1R5C8	M074-4825	4730-01-504-8926	80	5
1R5C8	M097-0425	4010-01-514-2386	28	6
1R5C8	M112-9659	2990-01-504-6476	58	4
1R5C8	M112-9660	5340-01-504-6277	58	5
1R5C8	M112-9661	5340-01-504-6258	58	7
1R5C8	M112-9683	5340-01-504-6391	58	13
1R5C8	M112-9704		32	23
1R5C8	M112-9801		1	13
1R5C8	M121-2621	2541-01-502-9576	26	22
1R5C8	M121-2624	2590-01-502-9569	26	3
1R5C8	M121-2625	5340-01-502-8662	26	11
1R5C8	M121-2628	2510-01-502-9566	26	9
1R5C8	M121-2631	5340-01-502-8286	28	1
1R5C8	M121-2635	5340-01-502-8659	26	16
1R5C8	M121-2636	5340-01-502-8661	26	5
1R5C8	M121-2637	5340-01-502-8663	26	10
1R5C8	M121-2638	5340-01-502-8279	26	21
1R5C8	M121-2639	5340-01-502-8282	26	23
1R5C8	M121-2645	5310-01-502-8283	26	27
1R5C8	M121-2646	5340-01-502-8285	26	15
1R5C8	M121-2651	2510-01-508-6055	39	10

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CAGEC	PART NUMBER	NSN	FIG	ITEM
81349	M13486/1-5	6145-00-152-6499	BULK	20
1R5C8	M151-4843	5340-01-502-8741	36	10
1R5C8	M151-4845	5340-01-502-8738	36	18
1R5C8	M151-4846		36	1
1R5C8	M151-4851	2540-01-502-9185	36	2
1R5C8	M151-4871	5340-01-502-8681	35	16
1R5C8	M151-4877-001	6210-01-502-8677	33	15
1R5C8	M151-4877-002	6210-01-502-8676	33	4
1R5C8	M151-4878	5340-01-502-8673	33	13
1R5C8	M158-4250	4710-01-506-1776	72	1
1R5C8	M158-4396		79	2
1R5C8	M158-4400		72	8
1R5C8	M158-4401		72	10
1R5C8	M177-4010	5340-01-502-8731	35	21
1R5C8	M177-4011	5340-01-502-8697	35	28
1R5C8	M177-4011-001	5340-01-502-8698	35	13
1R5C8	M217-1812	2510-01-503-0309	33	12
1R5C8	M217-1814	2510-01-503-0304	33	6
1R5C8	M217-1815	2510-01-503-0313	33	10
1R5C8	M234-1388	2510-01-502-9161	27	1
1R5C8	M234-1638		1	12
1R5C8	M237-9469	2510-01-504-6565	37	24
1R5C8	M237-9470	2510-01-504-6545	37	14
1R5C8	M311.2907		63	5
1R5C8	M311-2180	5340-01-506-2859	43	9
1R5C8	M311-2812	5340-01-502-8667	33	9
1R5C8	M311-2812	5340-01-502-8667	35	20
1R5C8	M311-2813	2510-01-503-0307	33	7
1R5C8	M311-2814	2510-01-503-0241	33	11
1R5C8	M311-2815	5340-01-502-8666	33	5
1R5C8	M311-2828	5340-01-502-8332	28	8
1R5C8	M311-2829	5340-01-502-8331	28	9
1R5C8	M311-2839	2540-01-502-9947	32	19
1R5C8	M311-2840	5340-01-502-8528	32	21
1R5C8	M311-2843	5340-01-502-8696	32	10
1R5C8	M311-2843	5340-01-502-8696	32	22
1R5C8	M311-2844	2540-01-502-9942	32	13
1R5C8	M311-2845	5340-01-502-8463	32	15
1R5C8	M311-2846	2540-01-503-0396	32	16
1R5C8	M311-2847	2540-01-503-0413	32	9
1R5C8	M311-2869		78	4
1R5C8	M311-2879	5340-01-504-2879	37	23
1R5C8	M311-2880	5340-01-504-6525	37	10
1R5C8	M311-2881	5340-01-504-6553	37	5
1R5C8	M311-2882	5340-01-504-7810	37	8
1R5C8	M311-2883	5340-01-504-7814	37	9
1R5C8	M311-2885	2510-01-504-6539	37	13
1R5C8	M311-2886	2510-01-504-6588	37	22
1R5C8	M311-2887	5340-01-504-7802	37	20

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CAGEC	PART NUMBER	NSN	FIG	ITEM
1R5C8	M311-2888	5340-01-504-7798	37	15
1R5C8	M311-2889	2510-01-504-6592	37	25
1R5C8	M311-2890	2510-01-511-5621	37	7
1R5C8	M311-2891	5340-01-504-6273	58	3
1R5C8	M311-2892	5340-01-504-6269	58	11
1R5C8	M311-2894	5340-01-504-6540	37	4
1R5C8	M311-2894		37	11
1R5C8	M311-2895		56	3
1R5C8	M311-2896	5340-01-504-6510	56	4
1R5C8	M311-2899	6160-01-504-7532	37	26
1R5C8	M311-2905	5340-01-504-6422	64	9
1R5C8	M311-3179		30	12
1R5C8	M311-3180	2510-01-504-6558	37	6
1R5C8	M311-3181	2510-01-504-6535	37	12
1R5C8	M311-3199	5340-01-506-2895	43	5
1R5C8	M311-3202	5340-01-506-2901	43	11
1R5C8	M311-3211		37	27
1R5C8	M311-3211-003	5340-01-502-8785	88	9
1R5C8	M311-3211-004	5340-01-502-8776	88	3
1R5C8	M311-3212	5340-01-502-8790	88	12
1R5C8	M311-3213-001	5340-01-502-8780	88	6
1R5C8	M311-3214		88	11
1R5C8	M311-3221-001	5340-01-502-8777	88	4
1R5C8	M311-3221-002	5340-01-502-8788	88	10
1R5C8	M311-3232	5340-01-502-8719	35	25
1R5C8	M311-3233	6220-01-502-8737	35	23
1R5C8	M311-3236	6220-01-502-8734	35	9
1R5C8	M311-3265	5340-01-506-0567	61	14
1R5C8	M311-3269	5340-01-506-0985	61	10
1R5C8	M311-3271	5340-01-506-0543	61	7
1R5C8	M311-3272	5340-01-506-0554	61	3
1R5C8	M311-3321	6160-01-504-7523	8	4
1R5C8	M311-3398-001	5340-01-506-1023	72	16
1R5C8	M311-3398-002	5340-01-506-1011	72	11
1R5C8	M311-3649	5340-01-508-6208	9	4
1R5C8	M311-3674		37	21
1R5C8	M311-3677		37	19
1R5C8	M311-3726		58	20
1R5C8	M311-3727		58	19
1R5C8	M311-3778	5340-01-506-1076	3	5
13445	M-427	5940-01-508-5925	10	14
13445	M451	6210-00-887-8432	7	4
81349	M45913/1-10CG5C	5310-00-269-4040	31	25
81349	M45913/2-6FG5C	5310-00-959-1488	34	3
81349	M45913/2-6FG5C	5310-00-959-1488	36	21
81349	M45913/2-7CG5C	5310-01-461-1300	26	24
81349	M83413/7-1	5999-00-134-5844	34	2
19207	M969A2-M969A3	2530-01-527-4609	25	1
96139	MB14106-2	6150-01-367-0599	9	5

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CAGEC	PART NUMBER	NSN	FIG	ITEM
9K475	MGLP-U8-6	5320-99-807-2969	58	14
32218	ML-2930-58	4930-01-502-8434	34	1
07KU1	MODEL 362	6130-01-506-3502	4	1
04713	MR754	5961-01-350-7227	13	13
80205	MS15795-14	5310-00-186-7448	81	5
80205	MS15795-811	5310-00-880-5977	08	2
80205	MS15795-812	5310-00-625-5756	35	4
80205	MS15795-812	5310-00-625-5756	87	30
80205	MS15795-813	5310-00-802-4701	26	13
80205	MS15795-813	5310-00-802-4701	28	2
96906	MS15795-813	5310-00-802-4701	43	7
80205	MS15795-813	5310-00-802-4701	58	2
80205	MS15795-813	5310-00-802-4701	74	6
80205	MS15795-813	5310-00-802-4701	87	10
80205	MS15795-815	5310-00-595-6057	36	9
80205	MS15795-817	5310-00-614-3506	26	6
80205	MS15795-817	5310-00-614-3506	28	12
80205	MS15795-817	5310-00-614-3506	37	2
80205	MS15795-817	5310-00-614-3506	39	8
80205	MS15795-817	5310-00-614-3506	51	1
80205	MS15795-817	5310-00-614-3506	56	12
80205	MS15795-817	5310-00-614-3506	58	9
80205	MS15795-817	5310-00-614-3506	61	2
80205	MS15795-820	5310-00-614-3505	44	6
80205	MS15795-851	5310-01-303-3917	9	2
80205	MS17829-3C	5310-00-689-3877	4	4
80205	MS17829-3C	5310-00-689-3877	6	4
80205	MS21044D04	5310-00-857-5548	82	34
80205	MS21044N4	5310-00-877-5796	69	19
96906	MS21083N3	5310-00-902-6676	69	5
80205	MS21299-4	5310-01-121-8521	69	18
80205	MS24665-103	5315-00-243-7992	82	22
96906	MS27142-3	5935-00-115-2306	10	22
96906	MS27142-3	5935-00-115-2306	12	2
96906	MS27144-1	5935-00-167-7775	10	13
96906	MS27144-1	5935-00-167-7775	10	21
96906	MS27144-1	5935-00-167-7775	11	2
96906	MS27144-1	5935-00-167-7775	11	7
96906	MS27144-1	5935-00-167-7775	12	6
96906	MS27144-1	5935-00-167-7775	12	8
96906	MS27144-1	5935-00-167-7775	13	11
96906	MS27144-1	5935-00-167-7775	13	16
96906	MS27183-10	5310-00-809-4058	63	7
96906	MS27183-10	5310-00-809-4058	64	10
96906	MS27183-14	5310-00-080-6004	36	20
96906	MS27183-14	5310-00-080-6004	80	13
96906	MS27183-21	5310-00-823-8803	36	12
96906	MS27183-21	5310-00-823-8803	81	18
96906	MS27183-47	5310-01-312-4959	4	3

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CAGEC	PART NUMBER	NSN	FIG	ITEM
96906	MS27183-47	5310-01-312-4959	6	3
96906	MS27183-48	5310-01-308-8205	26	2
96906	MS27183-55	5310-01-312-4960	88	2
96906	MS27183-56	5310-01-280-5795	34	4
96906	MS27183-57	5310-01-280-5796	32	2
96906	MS27183-57	5310-01-280-5796	32	12
96906	MS27183-57	5310-01-280-5796	32	18
96906	MS27183-57	5310-01-280-5796	53	7
96906	MS27183-57	5310-01-280-5796	61	6
96906	MS27183-57	5310-01-280-5796	69	9
96906	MS27183-57	5310-01-280-5796	72	3
96906	MS27183-57	5310-01-280-5796	78	2
96906	MS27183-57	5310-01-280-5796	89	2
96906	MS27183-57	5310-01-280-5796	90	3
96906	MS27183-8	5310-00-809-8546	69	6
81343	MS29512-10	5331-00-263-8032	82	3
08179	MS29513112	5331-00-733-2208	82	15
80205	MS35206-228	5305-00-984-4988	64	19
96906	MS35206-259	5305-00-984-6206	68	5
96906	MS35207-263	5305-00-989-7434	69	2
80205	MS35207-360	5305-00-576-5417	23	5
96906	MS35207-415	5305-00-701-7628	61	11
96906	MS35275-230	5305-00-940-9491	82	6
96906	MS35275-265	5305-00-939-9190	82	11
80205	MS35307-306	5305-00-702-4523	9	1
80205	MS35307-310	5305-00-021-3668	43	6
96906	MS35307-332	5306-00-637-9675	32	11
96906	MS35307-332	5306-00-637-9675	32	17
80205	MS35307-360	5305-00-576-5417	69	10
80205	MS35307-360	5305-00-576-5417	87	32
80205	MS35333-39	5310-00-576-5752	64	17
96906	MS35338-44	5310-00-582-5965	73	2
96906	MS35338-45	5310-00-407-9566	77	6
96906	MS35338-46	5310-00-637-9541	76	8
96906	MS51095-420	5305-00-165-8074	26	7
96906	MS51095-420	5305-00-165-8074	28	13
96906	MS51861-66	5305-00-432-4252	69	17
96906	MS51957-14	5305-00-054-5648	82	38
96906	MS51957-67	5305-00-050-9233	5	2
96906	MS51967-2	5310-00-761-6882	73	1
80205	MS90725-263	5305-01-106-9541	36	11
80205	MS90725-360	5305-00-576-5417	26	12
80205	MS90725-60	5305-00-269-3211	28	5
80205	MS90725-60	5305-00-269-3211	34	5
80205	MS90725-60	5305-00-269-3211	35	11
80205	MS90725-60	5305-00-269-3211	36	8
80205	MS90725-60	5305-00-269-3211	53	8
80205	MS90725-60	5305-00-269-3211	76	31
80205	MS90725-62	5305-00-269-3213	35	22

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CAGEC	PART NUMBER	NSN	FIG	ITEM
80205	MS90725-64	5305-01-325-8387	72	2
80205	MS90725-69	5305-00-269-3219	81	6
80205	MS90725-8	5305-00-225-3839	26	1
80205	MS90725-8	5305-00-225-3839	58	1
80205	MS90725-99	5305-00-069-5583	26	26
80205	MS90726-34	5306-00-225-9089	36	16
80205	MS90726-60	5305-00-269-2803	36	19
25567	N0507	5315-01-502-8761	76	25
06721	N13048	2530-00-270-3878	22	4
06721	N-20415-NB	3040-01-382-8736	22	2
06721	N20415PB	4730-01-384-1441	22	5
06721	N3613AF	4820-01-506-2586	23	7
80205	NAS1149F0363P	5310-00-167-0818	9	7
80205	NAS1149F0563P	5310-00-167-0820	33	3
80205	NAS1149F0563P	5310-00-167-0820	35	12
80205	NAS620C6	5310-00-773-7624	82	5
00756	NASM90725	5305-00-068-0502	63	6
00756	NASM90725	5305-00-068-0502	64	11
13226	OP9011EY	5340-01-504-6831	87	14
25567	P04	4730-00-223-9268	76	3
25567	P20	5365-01-502-9523	76	33
61424	PFT-4A	4720-01-316-4673	BULK	14
61424	PFT-6B	4720-01-169-9891	BULK	15
98441	PFT-6B-BLU	4720-01-287-9322	BULK	16
98441	PFT-8B-BLU	4720-01-364-3393	BULK	17
98441	PFT-8B-RED-500	4720-01-448-6041	BULK	18
13445	PL-20-RC	6210-01-069-0434	7	6
13226	PPVL763CXB262	4930-01-420-7874	38	1
13226	PV26364ALB		72	5
07322	Q4114-366Y	5330-01-019-6879	82	27
13226	Q4114-366Y		82	45
91069	Q4325	5330-01-239-9430	82	9
78500	R000540	2530-00-886-1103	24	9
78500	R000572	5310-01-117-2404	24	11
78500	R000573	5310-01-116-4765	24	10
25567	R06		76	22
78500	R801074	2530-01-316-9165	18	1
78500	R803112		18	5
78500	R810019	5340-01-314-2961	18	2
25567	S01080	3110-01-188-0733	76	24
25567	S1703	5340-01-502-8758	76	19
25567	S244	5325-01-502-8762	76	27
3D6E9	S266	5305-00-207-7669	17	11
78500	S4005001030	4810-01-499-3407	19	2
78500	S4497130300	2530-01-499-3170	19	6
78500	S8997598154	5340-01-499-3481	19	7
78500	SMA2124515Q	2530-01-526-8495	16	2
18265	SMP18-1050	2940-00-934-7989	51	6
03743	ST45100	5975-00-995-8168	14	5

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CAGEC	PART NUMBER	NSN	FIG	ITEM
25567	T0616	4730-01-503-0244	76	21
05643	T1779R18	3120-00-322-6430	16	10
51457	TIP-100		69	20
51457	TIP-101		69	3
2R206	TM5005	2910-01-504-6509	53	5
3D6E9	TQ4671Q5023	2530-01-503-0331	15	1
27783	TR573	2640-00-555-2824	25	4
1R5C8	TSS375050		BULK	1
1K2S2	VE204495		70	13
1K2S2	VE204550		70	10
1K2S2	VE204559	4730-01-506-2707	70	3
1K2S2	VE204599		70	8
1K2S2	VE204600		70	9
1K2S2	VE205247		70	5
1K2S2	VE205338	5930-01-514-2442	70	4
1K2S2	VE205339	4710-01-506-2702	70	1
1K2S2	VE205340	5330-01-506-1859	70	2
79154	VIC75TG04	4730-01-503-0247	72	9
79154	VIC75TG04	4730-01-503-0247	79	1
79154	VIC75TG04	4730-01-503-0247	81	1
93061	VS169PMT-8-6	4730-01-506-2048	23	3
93061	VS209P-8-6	4730-01-506-2006	21	3
93061	VS209P-8-6	4730-01-506-2006	23	16
93061	VS215PN-6	4730-01-441-3483	23	17
93061	VS215PN-8	4730-01-508-7237	81	16
93061	VS269NTA-6-4	4730-01-244-3552	84	4
93061	VS269NTA-6-4	4730-01-244-3552	85	1
93061	VS68NTA-4-2	4730-01-055-4017	51	9
93061	VS68NTA-6-4	4730-01-274-1830	75	2
93061	VS68PMT-8-6	4730-01-506-2074	23	20
78500	WA16	5310-00-261-7340	17	12
3D6E9	WA-36	5310-01-499-3459	17	13
13226	WD1014BN	4820-01-294-1857	86	5
13226	WD18404VT		KITS	3
13226	WD404ALB089	4810-01-355-4678	86	1
1FH10	WFSS375		23	9
58961	WL12-0		BULK	22
58961	WL14-0		BULK	21
1R5C8	WR1562		BULK	19
13226	WV17594ALB	4820-01-124-8894	81	10
10001	2Z24PC421	5306-00-637-9675	24	15
81348	X/GP3/TYRA/CLR/T/11.00 R22.5/G	2610-01-045-3688	25	2
99411	XB-HHC-050-42	5306-01-502-8344	30	3
99411	XB-HHC-050-69	5306-01-510-4972	30	11
99411	XB-PW-016-03	5310-01-502-8369	30	4
99411	XB-SLN-012-04	5310-01-502-8371	30	6
99411	XB-SP-014-27	5315-01-502-8342	30	1
67634	ZT2-1203	7690-01-506-2946	43	1

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By Order of the Secretary of the Army:

Official:

A handwritten signature in black ink that reads "Sandra R. Riley". The signature is fluid and cursive, with the first name "Sandra" being more prominent than the last name "Riley".

SANDRA R. RILEY

*Administrative Assistant to the
Secretary of the Army*

0520303

PETER J. SCHOOMAKER
*General, United States Army
Chief of Staff*

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ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO.*	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON (Provide exact wording of recommended changes, if possible).			
	0004 00-2	4-7				Wrong POC is listed. <div style="border: 1px solid black; padding: 20px; text-align: center; font-size: 48px; transform: rotate(-10deg); opacity: 0.5;"> SAMPLE </div>			
<i>*Reference to line numbers within the paragraph or subparagraph.</i>									
TYPED NAME, GRADE OR TITLE Your Name				TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION			SIGNATURE Your Signature		

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TYPED NAME, GRADE OR TITLE				TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION			SIGNATURE		

THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
 1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
 1 Kilometer = 1000 Meters = 0.621 Miles

SQUARE MEASURE

1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inches
 1 Sq Meter = 10,000 Sq Centimeters = 10.76 Sq Feet
 1 Sq Kilometer = 1,000,000 Sq Meters = 0.386 Sq Miles

WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
 1 Kilogram = 1000 Grams = 2.2 Lb
 1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

CUBIC MEASURE

1 Cu Centimeter = 1000 Cu Millimeters = 0.06 Cu Inches
 1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
 1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

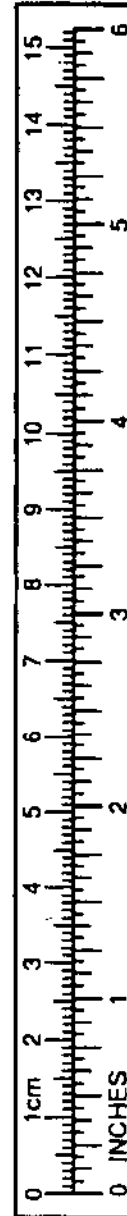
TEMPERATURE

$5/9 (°F - 32) = °C$
 212° Fahrenheit is equivalent to 100° Celsius
 90° Fahrenheit is equivalent to 32.2° Celsius
 32° Fahrenheit is equivalent to 0° Celsius
 $9/5 C° + 32 = F°$

APPROXIMATE CONVERSION FACTORS

<u>TO CHANGE</u>	<u>TO</u>	<u>MULTIPLY BY</u>
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

<u>TO CHANGE</u>	<u>TO</u>	<u>MULTIPLY BY</u>
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
Kilometers per Liter	Miles per Gallon	2.354
Kilometers per Hour	Miles per Hour	0.621



PIN: 081076-000