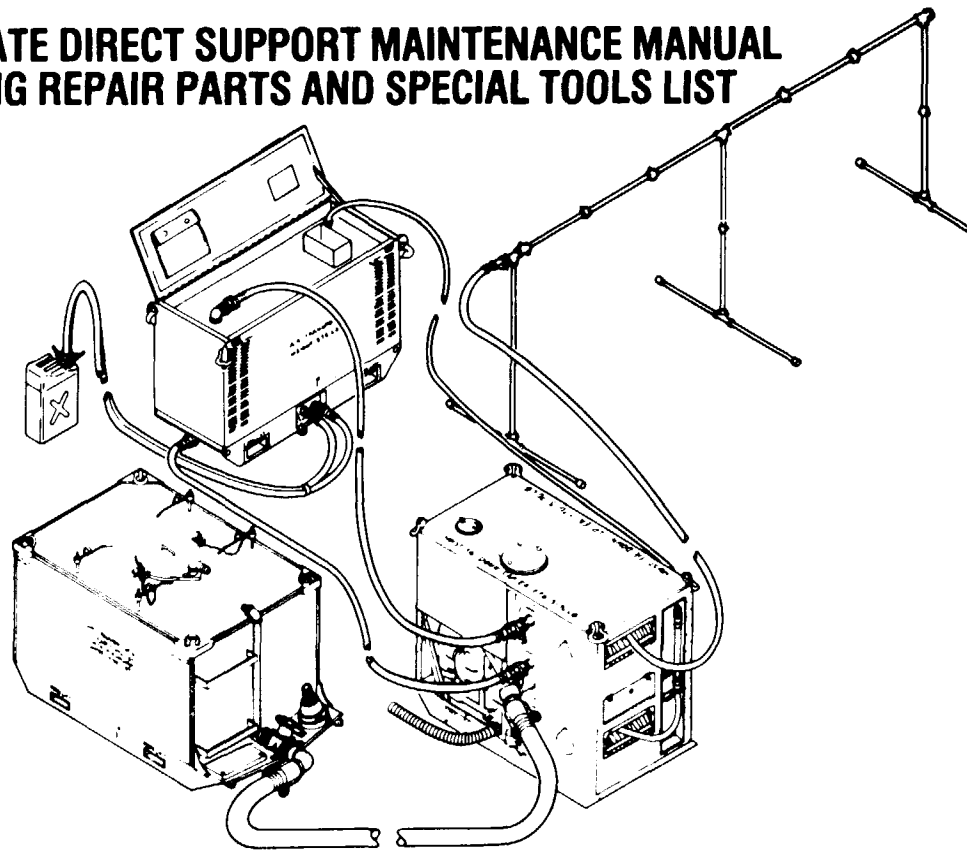


TECHNICAL MANUAL

INTERMEDIATE DIRECT SUPPORT MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST



DECONTAMINATING APPARATUS: POWER-DRIVEN, SKID-MOUNTED, 500-GALLON, M12A1 (NSN 4230-00-926-9488)

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SPECIAL TOOLS LIST B-0

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WARNING

DANGEROUS CHEMICALS, GASOLINE, HIGH VOLTAGE, AND SCALDING WATER are used in the operation of this equipment.

CARBON MONOXIDE gas is present in the exhaust of the gasoline engine and the liquid fuel water heater.

Death or severe injury may result if personnel fail to observe warnings.

Wear protective clothing and mask during decontaminating operations.

GASOLINE VAPOR in the fuel tank and STB DECONTAMINATING AGENT VAPORS in the tank unit are hazardous. Purge the fuel tank and the tank unit before performing maintenance. Inspect the fuel tank using outdoor daylight.

An operator must be in attendance at all times during operation of the water heater.

Water must be circulating through the water heater before the fuel is ignited and when the water heater is operating.

Disconnect the negative (ground) and positive cables from the battery terminals before proceeding with control panel removal. Be sure that the electrical power cable is disconnected from the power source before inspecting and servicing electrical motors, control box, and any rotating parts of the water heater.

Do not attempt maintenance other than visual inspection during operation of the water heater. Water and fuel lines are pressurized and water temperatures as high as 212° F (100°C) may be present. Failure to comply may result in serious injury to personnel.

If possible, do not operate the water heater in an enclosed area. The heater must be placed outside the enclosed area or the exhaust gases must be vented outside to prevent carbon monoxide poisoning. Wearing the field protective mask does not protect the wearer against carbon monoxide gas.

When removing any of the fuel system components disconnect the main power cable from the power source. Do not smoke, use open flame, or spill fuel in the area. Wipe up any spilled fuel immediately.

If possible, do not attempt to disconnect the inlet water hose when temperature is in excess of 1000 F (38° C). If it is necessary to disconnect the water hose while the water temperature in the low-pressure heating boiler is above 100° F (38°C), exercise extreme care to prevent scalding. When the inlet water hose is disconnected, the low-pressure heating boiler drains completely.

Before operating the water heater, make sure the fuel supply and fuel return lines are properly connected.

Keep clear of the exhaust stack during operation of the water heater.

b

TM 3-4230-209-30&P

Disconnect positive and negative battery cables from the battery terminals in order to prevent grounding. The battery and battery compartment area maybe coated with acid caused by spillage and/or fumes. Wear protective clothing when working in this area. Before eating, smoking, or touching your face or clothing, wash your hands with a solution of baking soda and water, then flush them with clear water. If battery acid splashes into your eyes, flush them with clean water and obtain medical treatment immediately. Failure to do so may cause blindness.

Never reach under the pump unit skid base subassembly while it is raised from the floor, unless it is securely blocked. Failure to comply may result in a crushed arm.

Make sure thermal delay relays (TD) are not installed in wrong socket. Personnel injury and damage to equipment will result.

When handling asbestos material, always wear an air filtering respirator, gloves, and goggles. Wash face and hands with soap and water before eating or smoking. Asbestos can cause cancer if handled without protection.

For additional first aid data, see FM 21-11.

Intermediate Direct Support Maintenance Manual
 Including Repair Parts and Special Tools List

DECONTAMINATING APPARATUS:
 POWER-DRIVEN, SKID-MOUNTED,
 500-GALLON, M12A1
 (NSN 4230-00-926-9488)

Current as of 14 July 1986 for appendix B

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Armament, Munitions and Chemical Command, ATTN: AMSMC-MAR-T(A), Aberdeen Proving Ground, MD 21010-5423. A reply will be furnished to you.

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HOW TO USE THIS MANUAL

GENERAL. This manual tells you how to do intermediate direct support maintenance on the decontaminating apparatus. A chapter overview shows what functions or data are included to help you in your job. Use this manual with M12A1 units that have had Modification Work Order (MWO) 3-4230-209-50-1 applied or were manufactured after January 1985 (serial numbers 587-2683 and larger). Modified units are identified by a plate mounted near the M 12A1 nameplate on the pump unit control panel. This manual consists of the following chapters and appendixes.

Chapter 1. A chapter introducing maintenance of your decontaminating apparatus.

a. *Section I. General Information.* Briefly states type of manual, equipment name, purpose of equipment, maintenance forms, records, and reports, and reporting equipment improvement recommendations.

b. *Section II. Equipment Description and Data.* Briefly states equipment characteristics, capabilities and features, location and description of major components, and equipment data.

Chapter 2. A separate chapter contains maintenance instructions for the decontaminating apparatus. The maintenance chapter contains:

a. *Section III. Troubleshooting.* Lists some of the troubles and possible corrective actions that you may take to keep the decontaminating apparatus in good repair.

b. *Section IV. Maintenance Procedures.*

(1) An Initial Setup section at the beginning of each maintenance module covers:

- Test Equipment. Lists any test equipment needed to perform maintenance.
- Special Tools. Lists special tools required to do specific maintenance tasks.
- Materials/Parts. Lists repair parts which require 100% replacement during repair.
- Personnel Required. No maintenance function requires more than two repairmen.

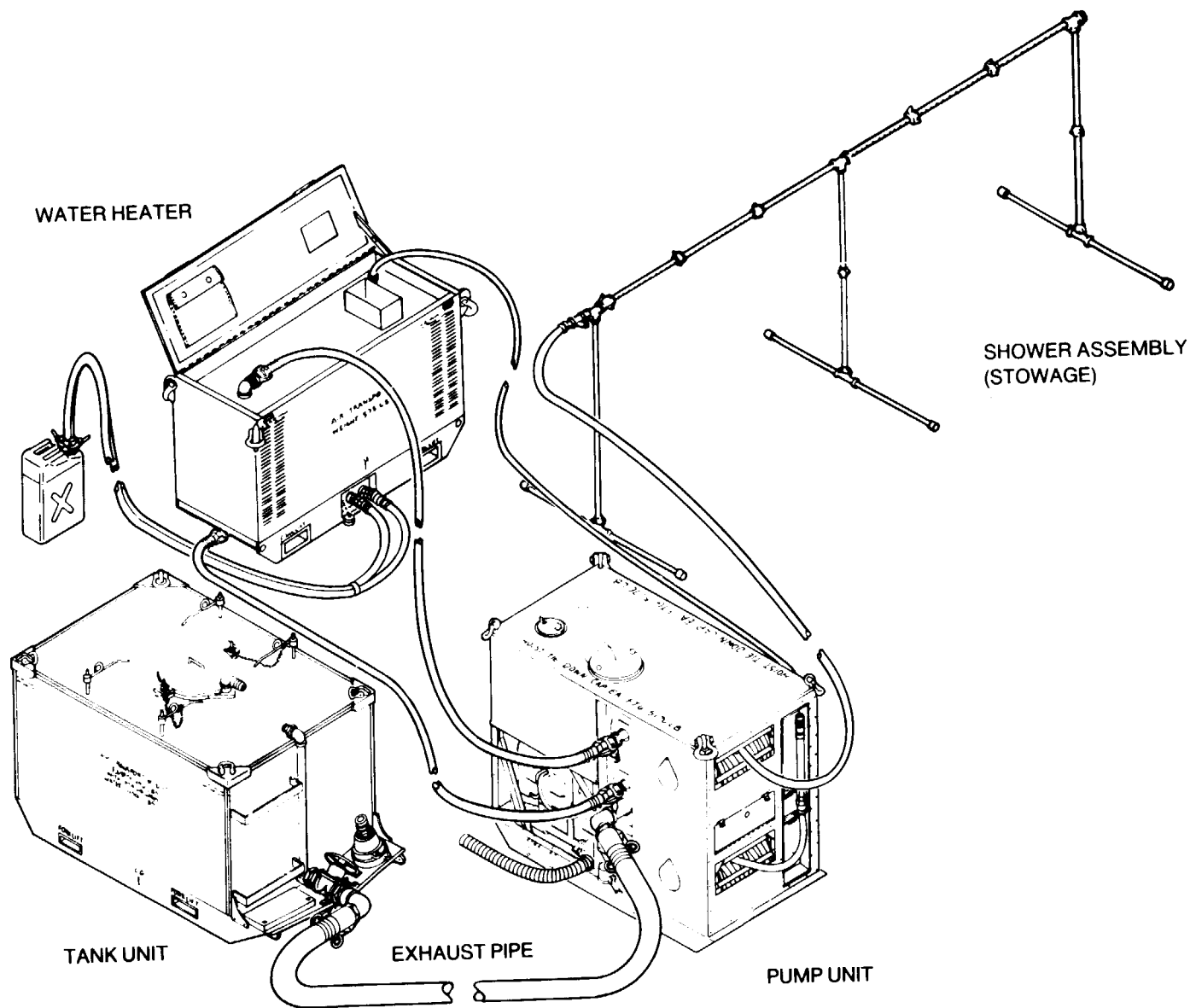
- References. Lists other technical publications which should be available while performing the maintenance task.
- Troubleshooting References. Shows references which should be available when troubleshooting a problem with the decontaminating apparatus. In all cases the operator's manual, TM 3-4230-209-10, and the unit maintenance manual, TM 3-4230-209-20&P, should be available. The specific paragraphs of this manual for troubleshooting are referenced.
- Equipment Condition. States whether or not the apparatus has been disassembled and what parts have been removed.
- Special Environmental Conditions. Indicates the special conditions necessary to do maintenance.
- General Safety Instructions. Gives safety instructions for specific maintenance functions and for the assembly.

(2) Use the following procedures as they apply to each major component and as they agree with the Maintenance Allocation Chart (MAC). The procedures are removal, disassembly, cleaning, inspection, repair, reassembly, test procedures, installation, final inspection, and adjustments.

c. *Section V. Preembarkation Inspection of Materiel in Units Alerted for Overseas Movement.* Preembarkation instructions and illustrations are based on information furnished by the developer.

Appendixes. The separate appendixes are:

- a. *Appendix A.* Lists all references used in the manual.
- b. *Appendix B.* Lists repair parts and special tools required to maintain the decontaminating apparatus.
- c. *Appendix C.* Lists all expendable/durable supplies and materials required for intermediate direct support maintenance of the decontaminating apparatus.
- d. *Appendix D.* Lists all fabricated tools required to perform intermediate direct support maintenance on the decontaminating apparatus.
- e. *Appendix E.* Lists general torque limits for standard-sized bolts and screws.
- f. *Alphabetical Index.*



MAJOR COMPONENTS OF M12A1 DECONTAMINATING APPARATUS

CHAPTER 1 INTRODUCTION

CHAPTER OVERVIEW

This chapter contains general information, a nomenclature cross-reference list, and equipment description and data.

Section I. GENERAL INFORMATION

1-1. SCOPE.

- a. Type of *Manual*. Intermediate direct support maintenance manual.
- b. *Model Number and Equipment Name*. Decontaminating Apparatus: Power-Driven, Skid-Mounted, 500-Gallon, M12A1.
- c. *Purpose of Equipment*. Sprays decontaminating materials, fights fires with water or foam, deices, cleans vehicles, pumps various fluids, and showers personnel.

1-2. MAINTENANCE FORMS, RECORDS, AND REPORTS. Department of the Army forms and procedures used for equipment maintenance will be those Described by DA PAM 738-750, The Army Maintenance Management System (TAMMS).

1-3. OFFICIAL NOMENCLATURE, NAMES, AND DESIGNATIONS. This listing includes nomenclature cross-references used in this manual.

NOMENCLATURE CROSS-REFERENCE LIST

<i>Common Name</i>	<i>Official Nomenclature</i>
Pump Unit	Pumping Unit
FUEL SHUT-OFF Valve	Globe valve

Fuel Tank Cap
Tank Unit

Personnel Shower Assembly
Water Heater
HEATER RECEPTACLE AND
SWITCH

Prime Detergent Tank
Stem
Tank drain valve
Hopper assembly
Fuel pump and ignition
drive motor

Filler opening cap
Decontaminating Apparatus:
Skid-Mounted Tank Unit
Shower Assembly
Liquid Fuel Water Heater
Toggle switch

Prime Tank Assembly
Quick disconnect clamp
Regulating valve
Tank, liquid storage
Direct current motor

1-4. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS

(EIR). If your decontaminating apparatus needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design. Put it on an SF 368 (Quality Deficiency Report). Mail it to us at: Commander, US Army Armament, Munitions and Chemical Command, ATTN: AMSMC- MAR-A (A), Aberdeen Proving Ground, MD2101 0-5423. We'll send you a reply.

Section II. EQUIPMENT DESCRIPTION AND DATA

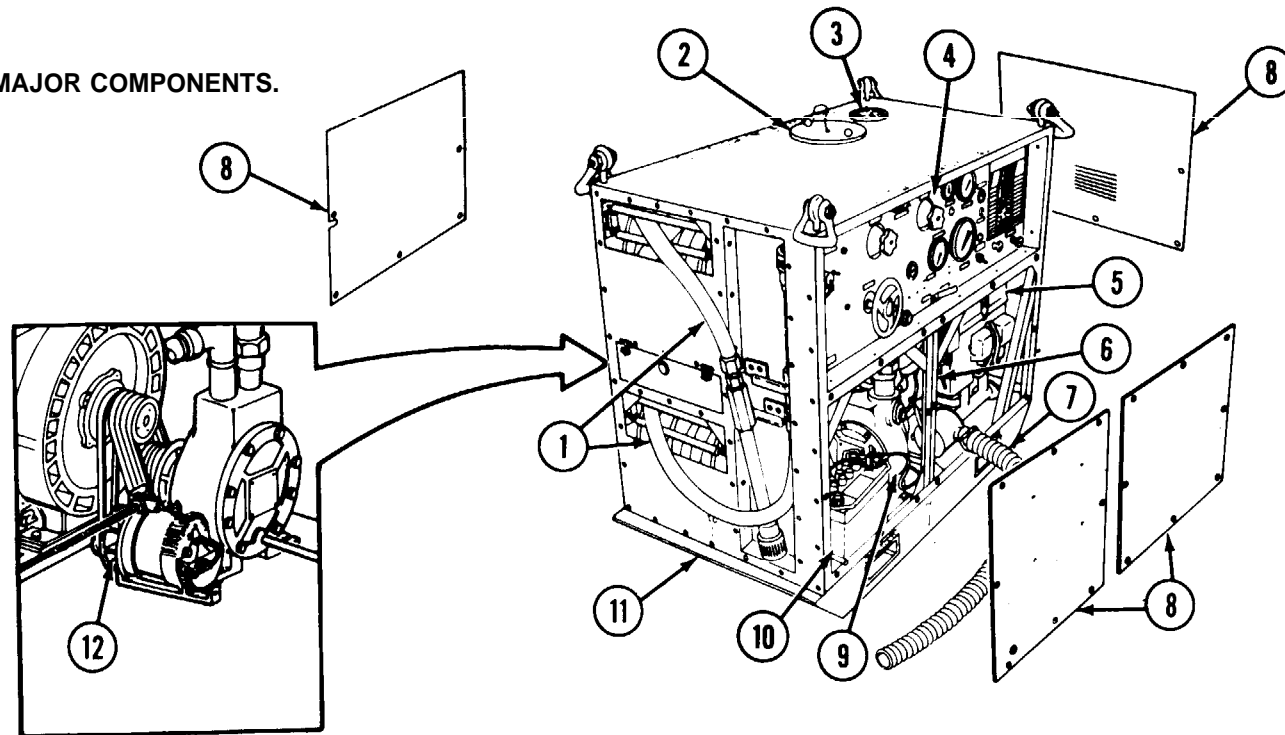
1-5. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES. Major components are packaged separately to make them easily replaceable

during maintenance. The shower assembly is normally stored on the decontaminating apparatus tank unit.

1-2

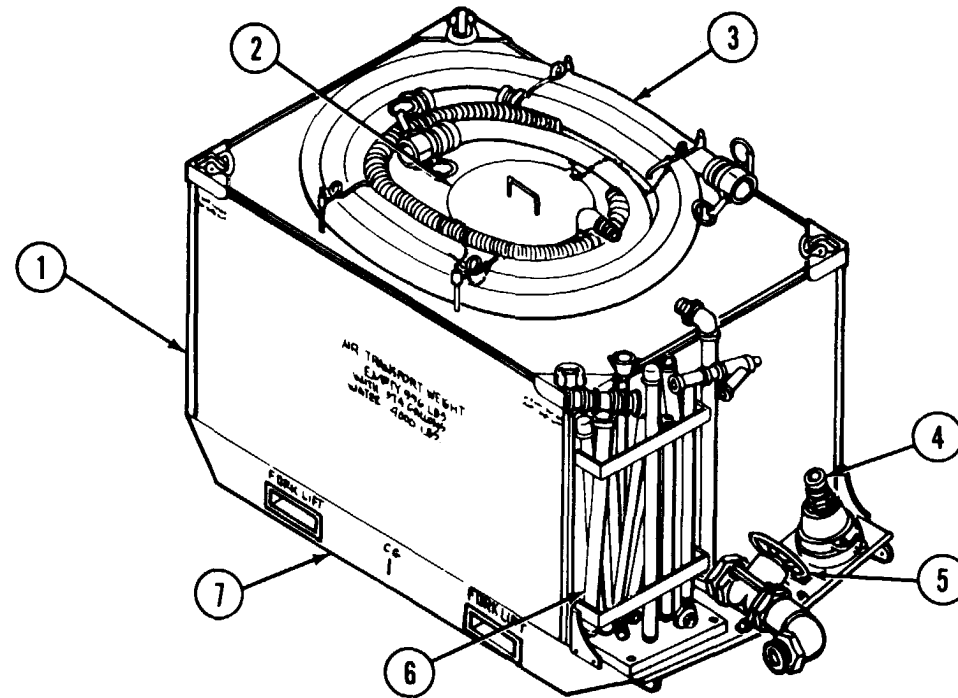
1-6. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.

a. Pump Unit.



- ① HOSE ASSEMBLIES. Discharge fluid. Mounted on fixed reel assemblies.
- ② PRIME DETERGENT TANK. A 10 gallon tank. Stores foam or detergents for mixing in the tank unit and stores water for priming the pump.
- ③ ENGINE FUEL TANK. Holds 20 gallons of fuel for gasoline engine.
- ④ CONTROL PANEL ASSEMBLY. Contains controls and instruments for pump unit.
- ⑤ GASOLINE ENGINE. A 20 hp engine. Drives the pump unit and alternator.
- ⑥ FRAME ASSEMBLY. Supports components of the pump unit.
- ⑦ EXHAUST PIPES. Pipe exhaust fumes away from the engine assembly. Stored on top of the tank unit assembly.
- ⑧ COVER PANEL ASSEMBLIES. Provide protection from elements, access to components, and, when removed, ventilation for the gasoline engine.
- ⑨ CENTRIFUGAL PUMP. Provides the means of pressurizing and transferring fluids from sources to tank unit, heater, or discharge hoses.
- ⑩ STORAGE BATTERY. Supplies current to start the gasoline engine.
- ⑪ SKID BASE SUBASSEMBLY. Provides base for pump unit subassembly, alternator, and gasoline engine.
- ⑫ ALTERNATOR/GENERATOR. Powered by a V-belt and a pulley from gasoline engine. Provides current to the water heater through the engine alternator junction box behind the HEATER RECEPTACLE AND SWITCH.

b. Tank Unit and Shower Assembly.



1 TANK ASSEMBLY. 500 gallon stainless steel tank with an operating capacity of 447 gallons of water or 317 gallons of slurry mix.

2 HOPPER ASSEMBLY. Blends bulk powder or chemicals with water,

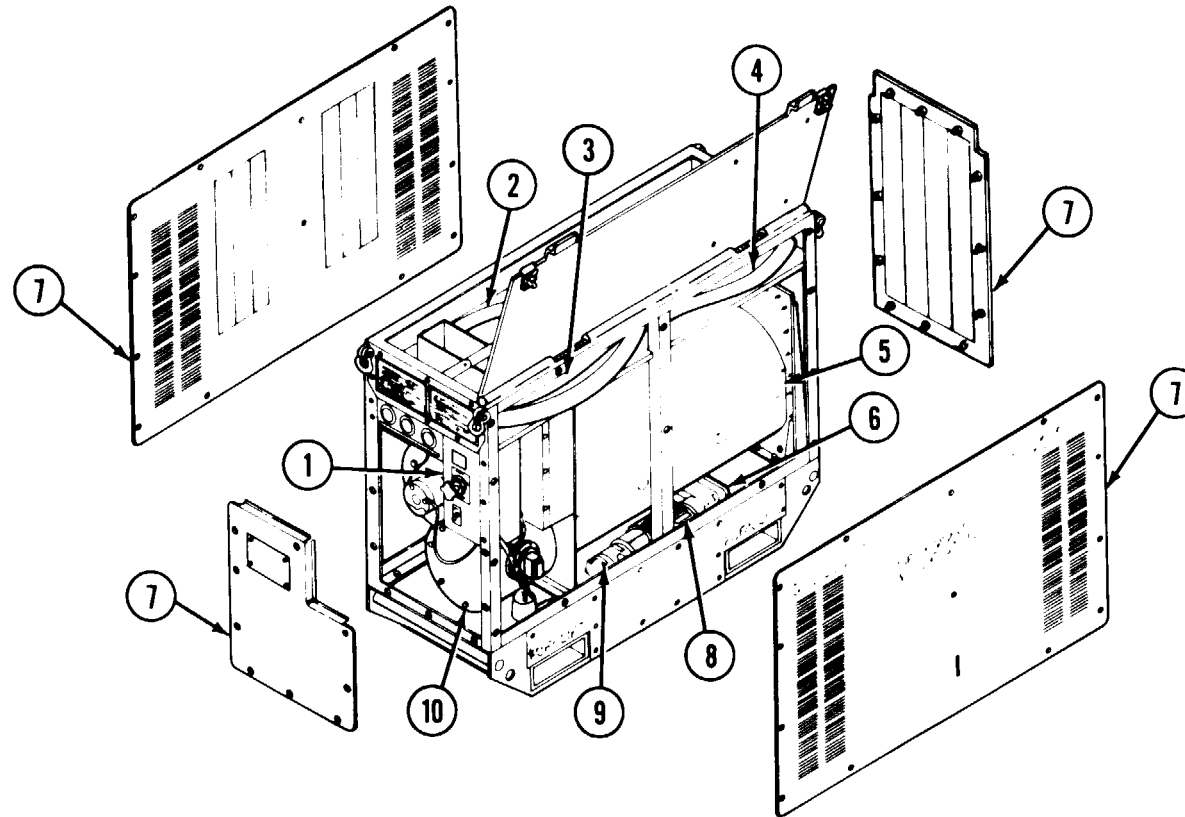
3 SUCTION HOSE ASSEMBLY. Transfers water from tank unit to pump unit or from a natural water source to pump unit. Used to fill or drain the tank unit.

4 FOOT VALVE ASSEMBLY. Prevents solids from entering the tank when water is pumped from a natural source.

5 TANK DRAIN VALVE. Drains the tank.

6 SHOWER ASSEMBLY. Consists of pipes, couplings, and coupling halves that form a personnel showering system for a maximum of 24 soldiers.

7 TANK SKID BASE. Supports and provides a base for tank unit.

c. *Water Heater.*

- ① CONTROL BOX ASSEMBLY. Contains temperature and pressure gages and direction label.
- ② POWER CABLE ASSEMBLY. Supplies electrical power to the heater.
- ③ WATER HOSE ASSEMBLY. Carries heated water from the heater to the pump unit.
- ④ FUEL HOSE ASSEMBLY. Supplies fuel to the heater.
- ⑤ LOW PRESSURE HEATING BOILER ASSEMBLY. Heats the water.
- ⑥ COMBUSTOR MAGNETO. Supplies voltage to igniter plug.
- ⑦ REMOVABLE PANELS. Allow access to heater subassemblies.
- ⑧ FUEL PUMP AND IGNITION DRIVE MOTOR. Operates fuel pump and magneto assembly.
- ⑨ FUEL PUMP ASSEMBLY. Supplies fuel under pressure to combustor assembly.
- ⑩ COMBUSTOR ASSEMBLY. Provides spark for ignition of fuel and injection of (fuel mixed with air) flame into boiler tubes.

1-7. EQUIPMENT DATA.

- a. Operating and Performance Data.* See TM 3-4230-209-10.
- b. Dimensions and Weights.* See TM 3-4230-209-20&P.

- c. Capabilities and Dry Weight.* See TM 3-4230-209-20&P.
- d. Performance.* See TM 3-4230-209-10.
- e. Fuel Used for Water Heater.* See TM 3-4230-209-10.

CHAPTER 2 MAINTENANCE INSTRUCTIONS

CHAPTER OVERVIEW

This chapter contains general information, troubleshooting, repair of the decontaminating apparatus, and preembarkation inspection of materiel in units alerted for overseas movement.

Section I. REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

2-1. COMMON TOOLS AND EQUIPMENT. For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

2-2. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT. Special tools and support equipment are listed in section III of appendix B of TM 3-4230-209-10. Special tools required for intermediate direct support are

loaded in the decontaminating apparatus pump unit in the tool drawer between the upper and lower hose reels and in the water heater top cover inside the tool carrier.

2-3. REPAIR PARTS. Repair parts are listed and illustrated in appendix B of this manual.

Section II. SERVICE UPON RECEIPT

2-4. CHECKING UNPACKED EQUIPMENT.

a. Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on SF 364, Report of Discrepancy (ROD).

b. Check the equipment against the packing slip to see if the shipment is complete. Report any discrepancies in accordance with the instructions of DA PAM 738-750.

c. Check to see whether the equipment has been modified (see DA PAM 310-1).

Section III. TROUBLESHOOTING

2-5. TROUBLESHOOTING PROCEDURES.

a. This section contains troubleshooting information for locating and correcting most of the troubles which may develop in the decontaminating apparatus. Each malfunction for an individual component, unit, or system is followed by a list of tests or inspections which will help you to determine corrective actions to take. You should perform the tests/inspections and corrective actions in the order listed.

b. This manual cannot list all possible malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed (except when malfunction and cause are obvious) or is not corrected by listed corrective actions, notify your supervisor.

2-6. SYMPTOM INDEX. Use the following symptom index for a quick reference to symptoms covered in the troubleshooting table.

SYMPTOM INDEX

	Troubleshooting Procedure Page
PUMP UNIT	
Centrifugal pump fails to operate	2-3
Centrifugal pump pressure low or falling	2-3
Gasoline engine fails to start or runs poorly	2-1
Plumbing valves leak	2-3
24 vdc is not available at the alternator junction box when HEATER RECEPTACLE AND SWITCH is ON	2-4
 WATER HEATER	
Combustion motor mounting assembly direct current motor does not operate	2-7
Fuel pump and ignition drive motor does not operate in BURGEON	2-8
Fuel pump and ignition drive motor will not start with heater control switch to HEATER ON	2-11
Fuel fails to ignite	2-20
Water heater does not heat water	2-5
Water heater shuts down during operation	2-20

TROUBLESHOOTING

MALFUNCTION

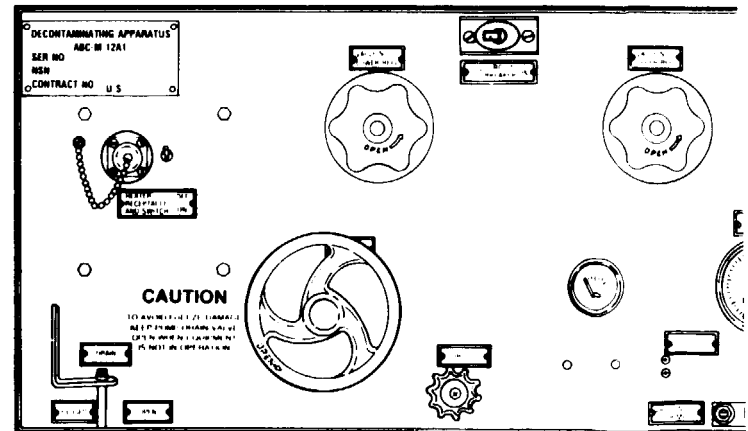
TEST OR INSPECTION

CORRECTIVE ACTION

PUMP UNIT

1. GASOLINE ENGINE FAILS TO START OR RUNS POORLY.
 - Step 1. Refer to troubleshooting in TM 5-2805-259-14.
Refer to maintenance in TM 5-2805-259-14.

 - Step 2. Check for tripped CIRCUIT BREAKER CB1.
Reset CIRCUIT BREAKER CB1 to ON.



TROUBLESHOOTING (CONT)

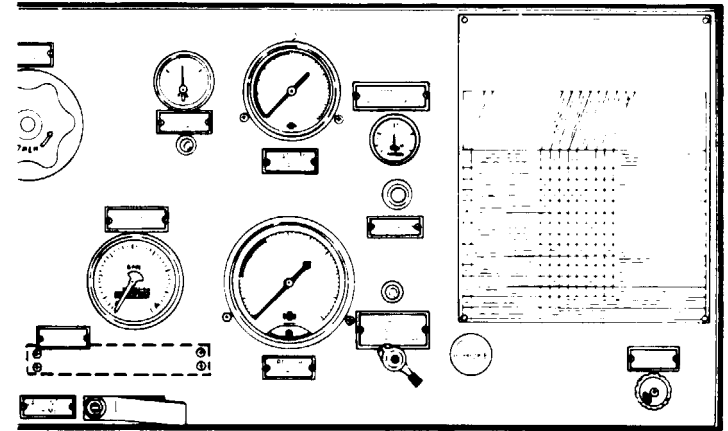
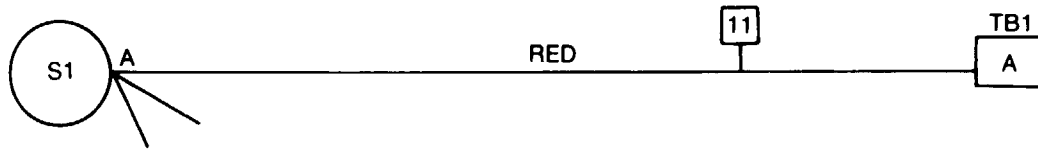
MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
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PUMP UNIT (CONT)

1. GASOLINE ENGINE FAILS TO START OR RUNS POORLY (CONT).

Step 3. Check with multimeter for 24 vdc between switch S1-A and ground.

If voltage is not indicated, replace red wire No. 11 between TB1-A and S1-A.

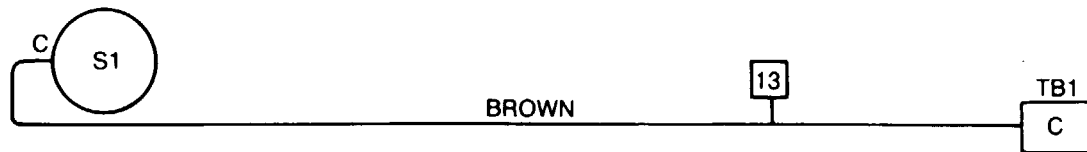


Step 4. Check with multimeter for 24 vdc between switch S1-C and ground when S1 (STOP, RUN, START SWITCH) is placed to START.

If voltage is not indicated, replace S1 switch. Refer to TM 3-4230-209-20&P.

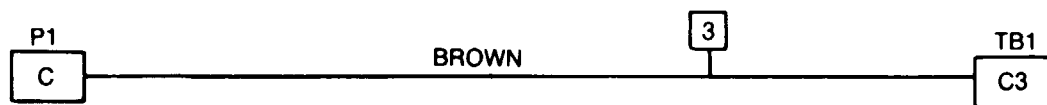
Step 5. Check with multimeter for 24 vdc between TB1-C and ground with S1 (STOP, RUN, START SWITCH) in START.

If voltage is not indicated, replace brown wire No. 13.



Step 6. Check with multimeter for continuity between TB1-C3 and engine disconnect connector plug P1, pin C.

If continuity is not indicated, replace electrical cable from TB1 to engine disconnect.



2. CENTRIFUGAL PUMP PRESSURE LOW OR FALLING.

Step 1. Check for damaged or missing key between pump groove pulley and pump shaft.

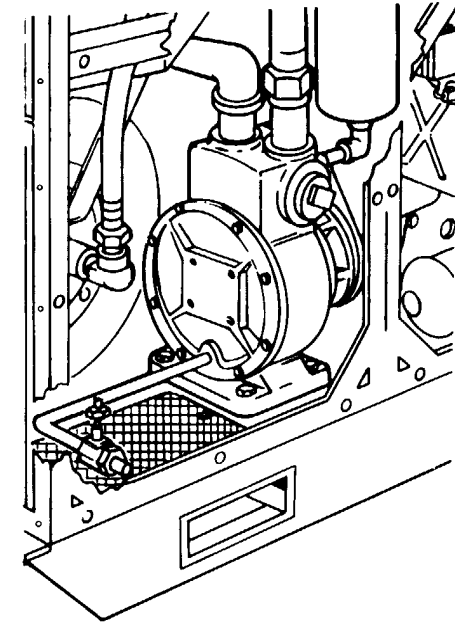
Replace key (para 2-21).

Step 2. Check centrifugal pump for binding or noisy operation.

Replace centrifugal pump.

Step 3. Check centrifugal pump for vibrations.

Replace centrifugal pump.



3. CENTRIFUGAL PUMP FAILS TO OPERATE.

Check centrifugal pump for broken pump impeller, diffuser, or annular ball bearings.

Replace pump impeller, diffuser, or annular ball bearings (para 2-22).

4. PLUMBING VALVES LEAK.

Step 1. Check for loose pipe connections.

Tighten pipe connections.

Step 2. Check for loose valve body assembly (1).

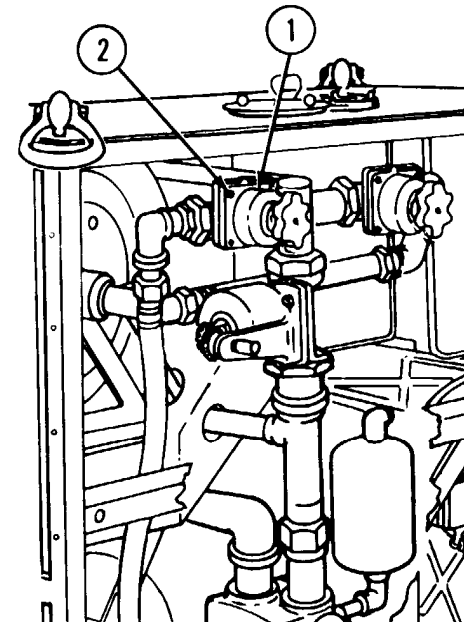
Tighten valve bonnet nuts and bolts (2).

Step 3. Check for damaged or split valve diaphragm.

Replace valve diaphragm. For VALVE NO. 1 see paragraph 2-23. For VALVE NOS. 2 and 3 see paragraph 2-24.

Step 4. Check for cracked or broken valve body (1).

Replace valve. For VALVE NOS. 1,2, and 3 see paragraph 2-21.



TROUBLESHOOTING (CONT)

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

5. 24 VDC IS NOT AVAILABLE AT THE ALTERNATOR JUNCTION BOX WHEN HEATER RECEPTACLE AND SWITCH IS ON.

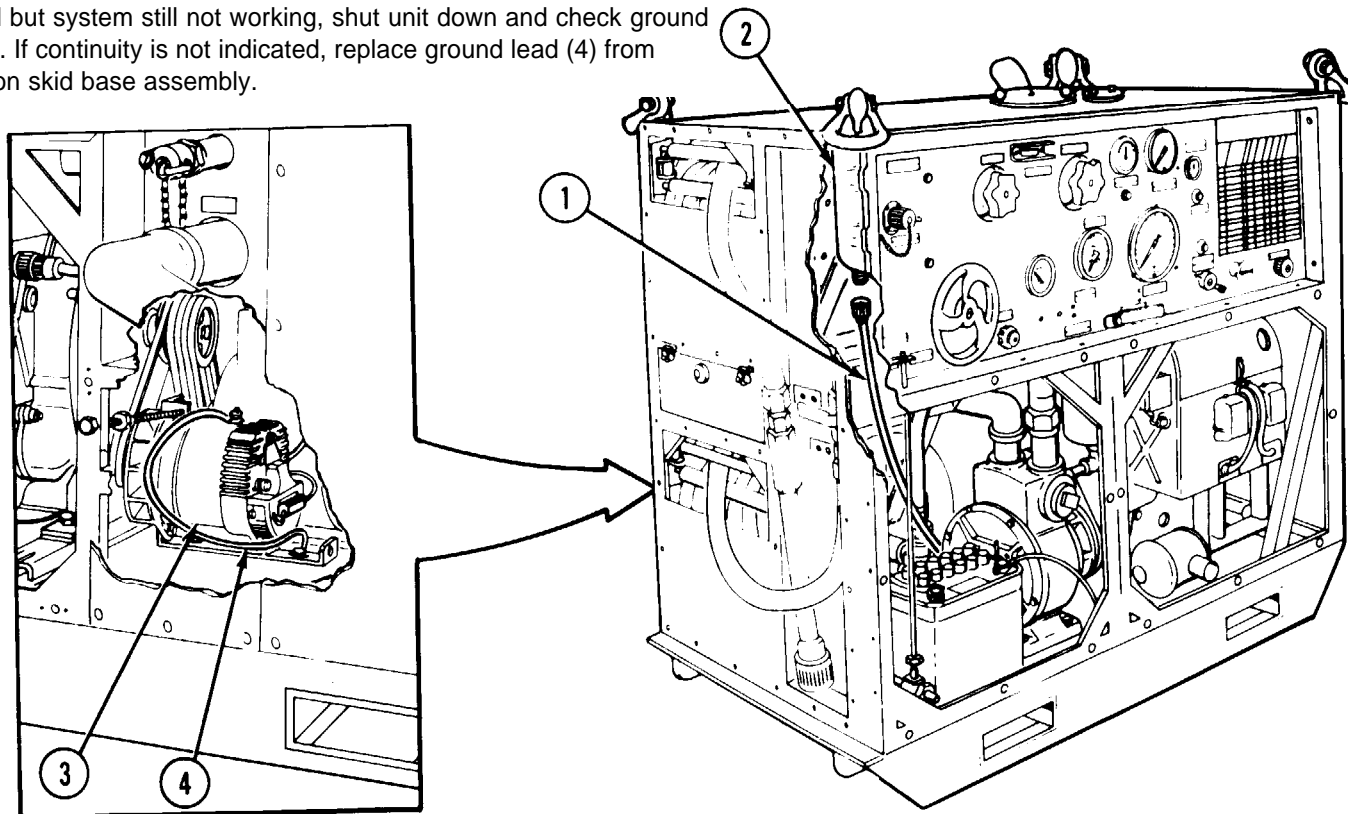
Step 1. Remove alternator input cable (1) from alternator junction box (2) and check for voltage between connector and ground.

If voltage is indicated, replace alternator junction box.

If voltage is not indicated, check alternator input cable (1) with multimeter for continuity. If continuity is not indicated, replace alternator input cable (1).

Step 2. Check for voltage between top of alternator (3) and ground.

If voltage is indicated but system still not working, shut unit down and check ground lead (4) for continuity. If continuity is not indicated, replace ground lead (4) from alternator to around on skid base assembly.



WATER HEATER

1. WATER HEATER DOES NOT HEAT WATER

Step 1. 24 vdc is not available from pump unit.

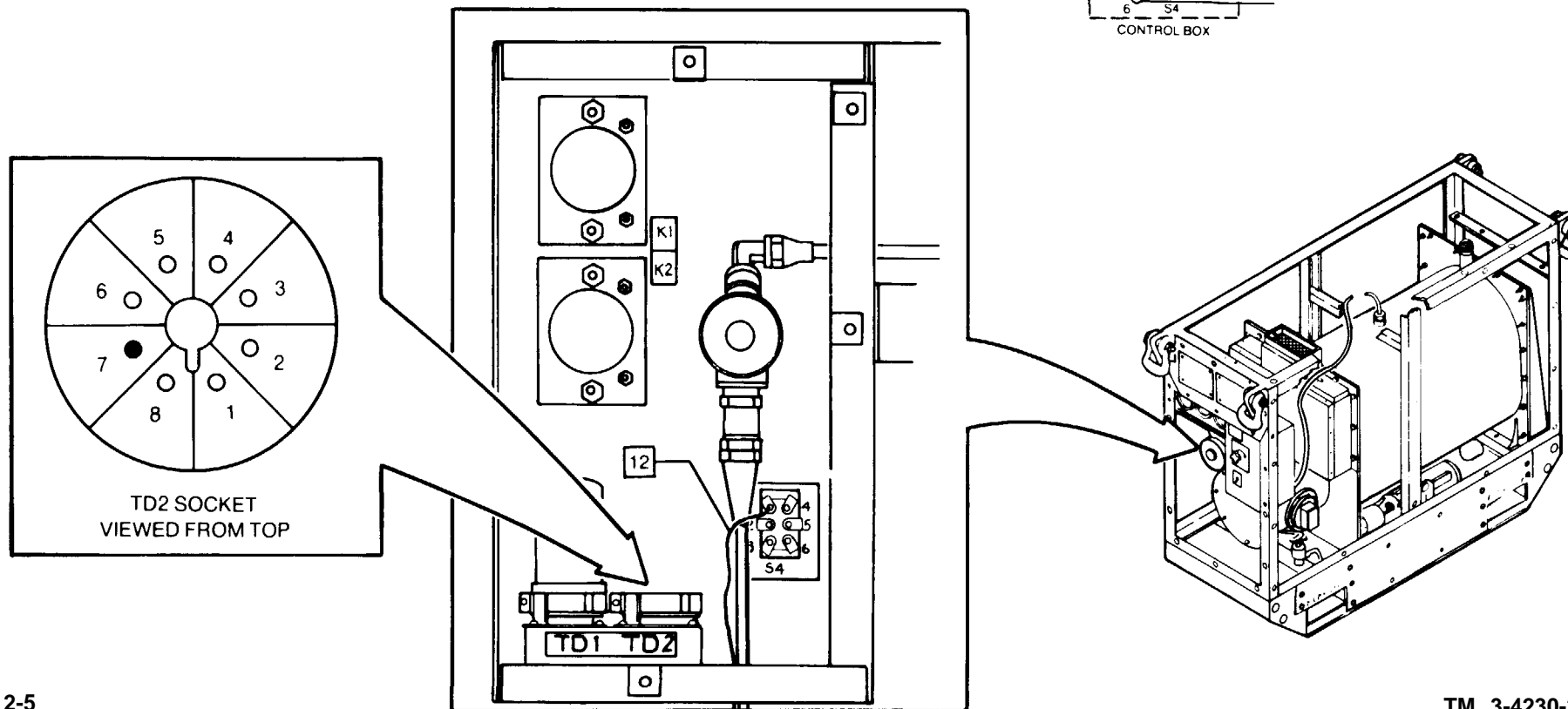
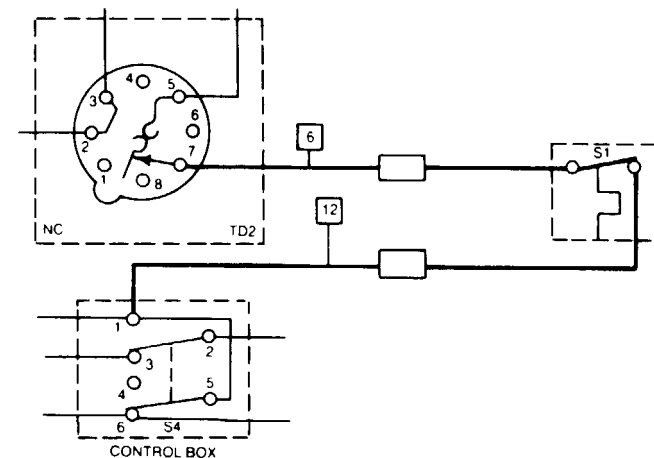
Troubleshoot pump unit. See malfunction 5, page 2-4.

Step 2. Check for defective thermostatic switch S1 using the following procedures:

- a. Remove TD2 tube from its socket.
- b. Use multimeter to measure continuity.

Check from TD2 socket, hole 7, to switch S4-1. If continuity is not indicated, thermostatic switch S1 in top of the boiler is bad. Reinstall TD2 tube (para 2-33).

Replace thermostatic switch S1 (para 2-33).



TROUBLESHOOTING (CONT)

MALFUNCTION

TEST OR INSPECTION

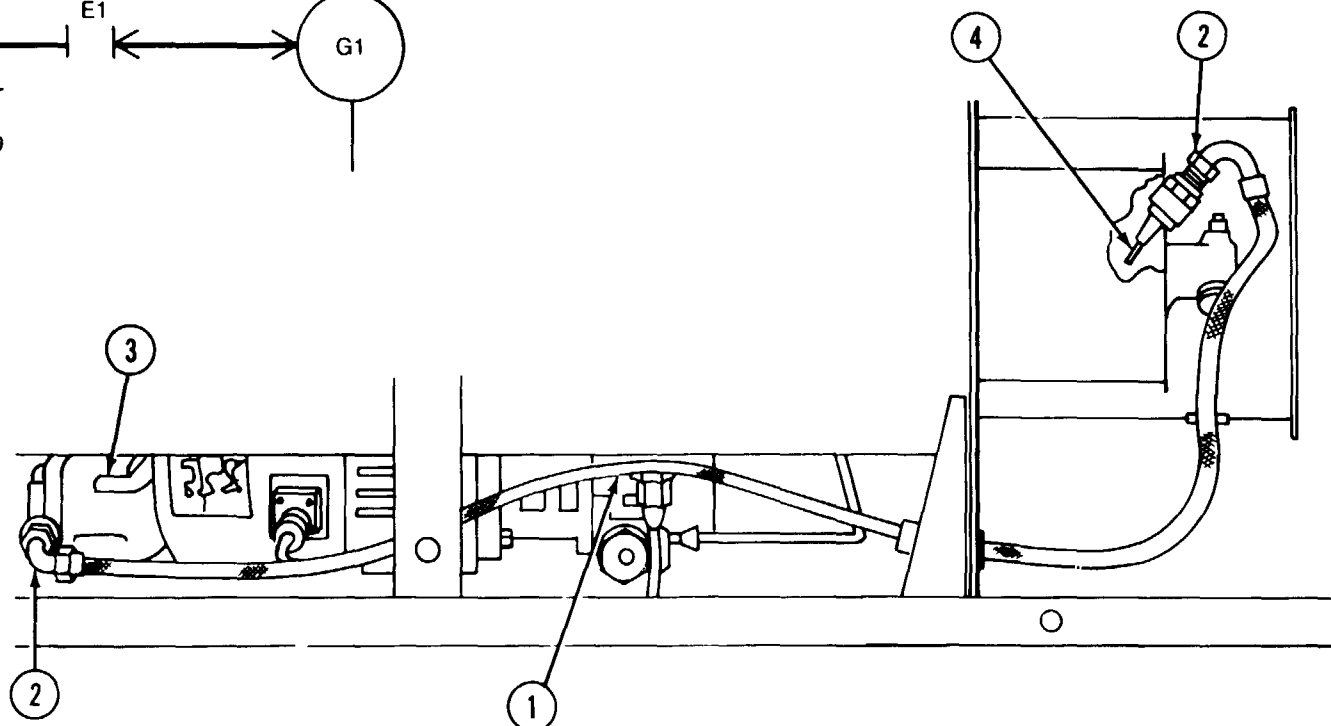
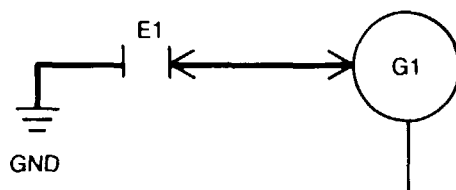
CORRECTIVE ACTION

WATER HEATER (CONT)

1. WATER HEATER DOES NOT HEAT WATER (CONT).

Step 3. Check for defective ignition cable (1) using the following procedures:

- a. Remove electrical connector (2) from magneto (3) and igniter plug (4) inside the combustor assembly area.
- b. Use multimeter to check for continuity between ends of the ignition cable (1) while it is flexed back and forth along its full length.
Replace ignition cable (1) if any breakdown appears.

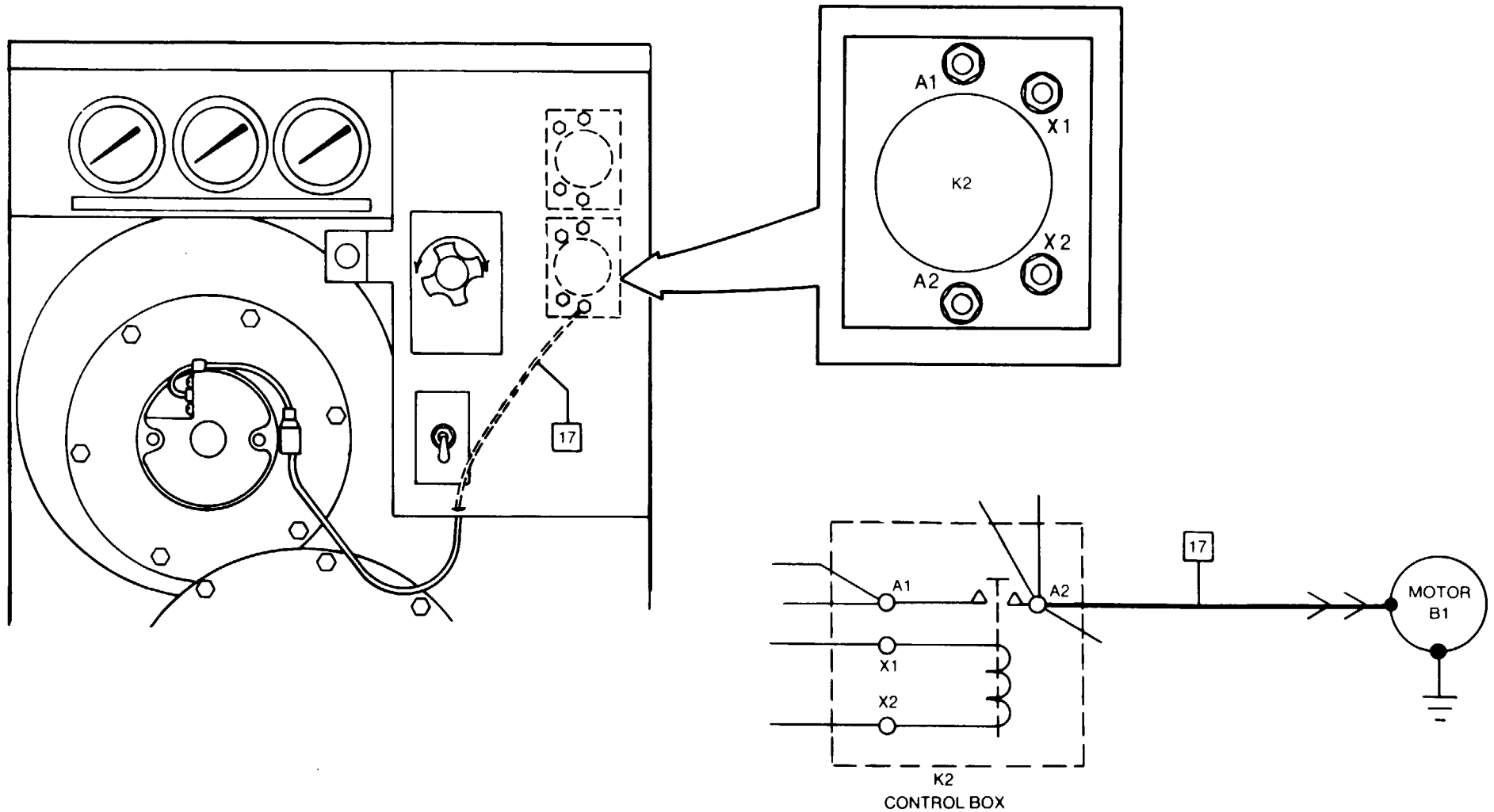


2. COMBUSTION MOTOR MOUNTING ASSEMBLY DIRECT CURRENT MOTOR DOES NOT OPERATE.

Step 1. Disconnect wire No. 17 from relay K2-A2 and from the motor B1.

Step 2. Use multimeter to check for continuity between ends of wire No. 17 while it is flexed back and forth along its full length. Reinstall if continuity is indicated.

Replace wire No. 17 if any reading other than continuity is indicated.



TROUBLESHOOTING (CONT)

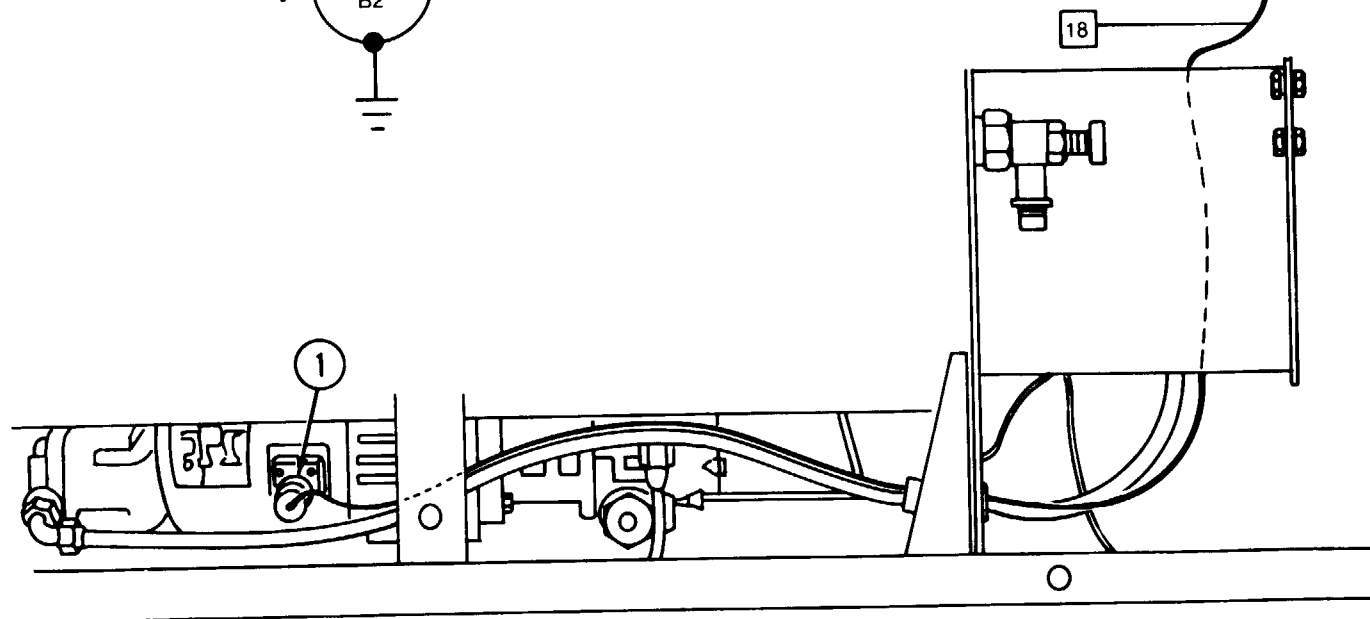
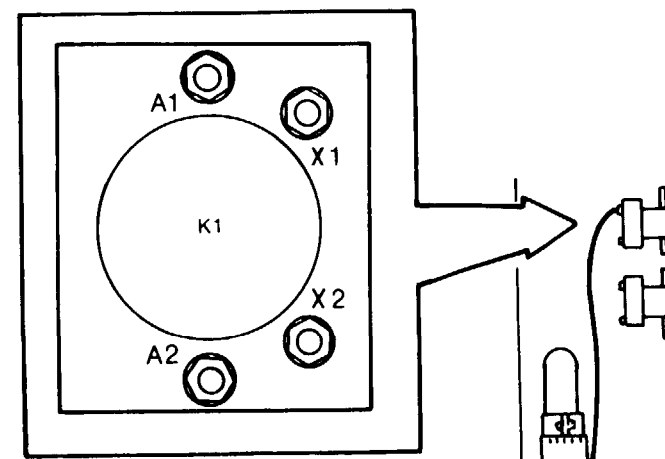
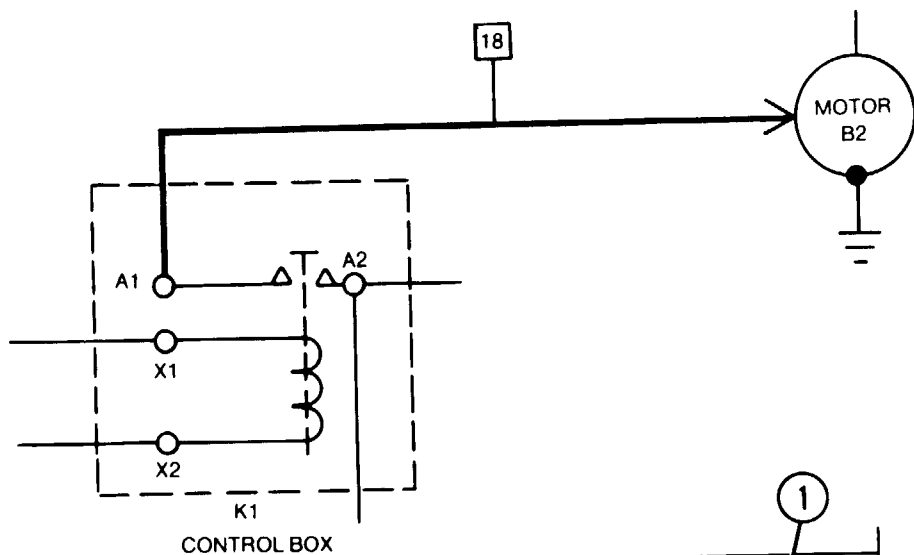
MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
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WATER HEATER (CONT)

3. FUEL PUMP AND IGNITION DRIVE MOTOR DOES NOT OPERATE IN PURGE ON POSITION.

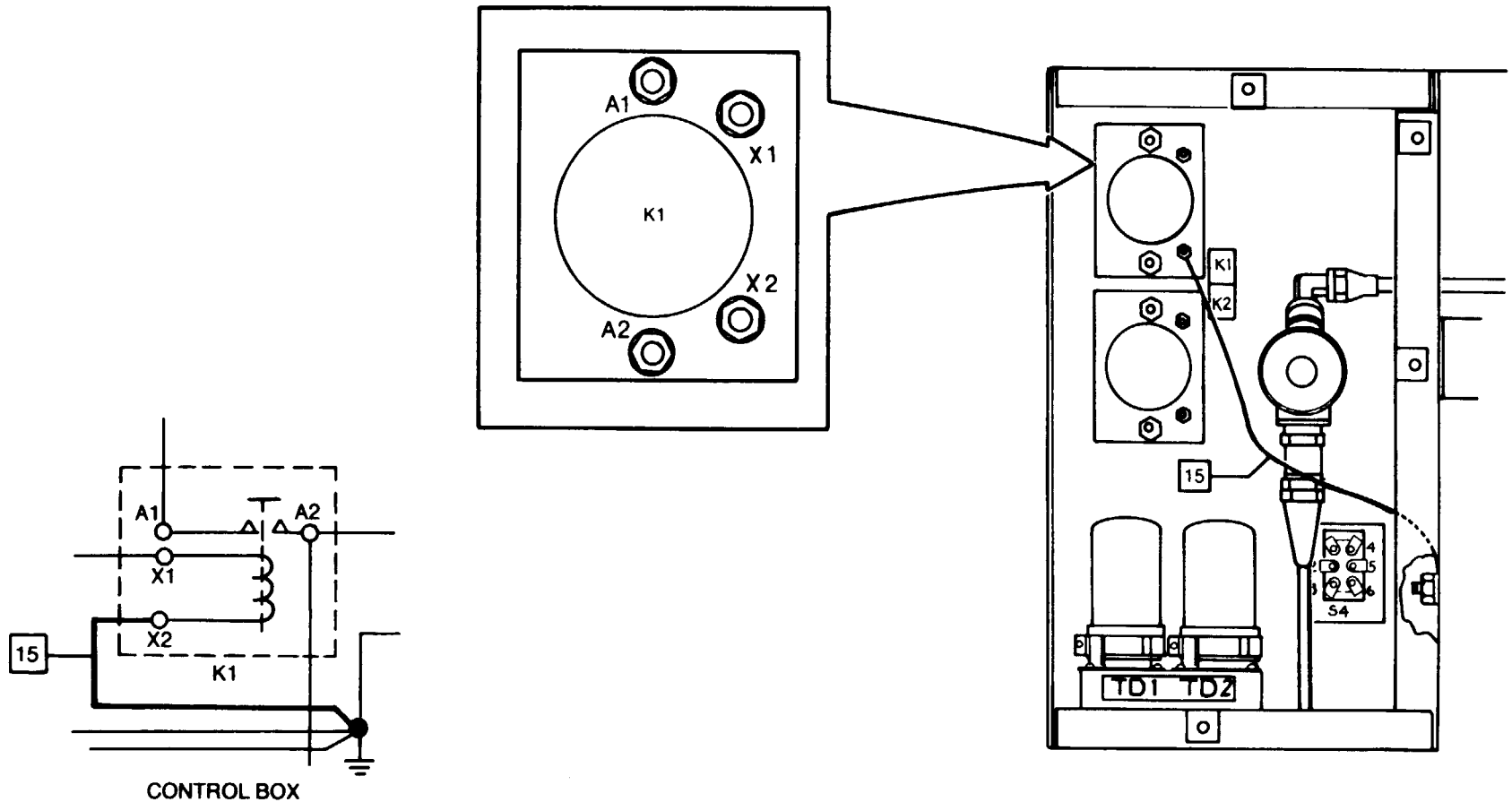
Step 1. Check wire No. 18 for continuity using the following procedures:

- a. Disconnect wire No. 18 from relay K1-A1, and disconnect other end from the fuel pump and ignition drive motor (1).
- b. Use multimeter to check continuity between ends of wire No. 18 while flexing the entire length of the wire.
 - Reinstall wire No. 18 if continuity is indicated.
 - Replace wire No. 18 if defective.



Step 2. Check wire No. 15 for continuity using the following procedures:

- a. Disconnect wire No. 15 from relay K1-X2.
- b. Use multimeter to check continuity between ends of wire No. 15 while flexing the entire length of the wire.
Reinstall wire No. 15 if continuity is indicated.
Replace wire No. 15 if defective.



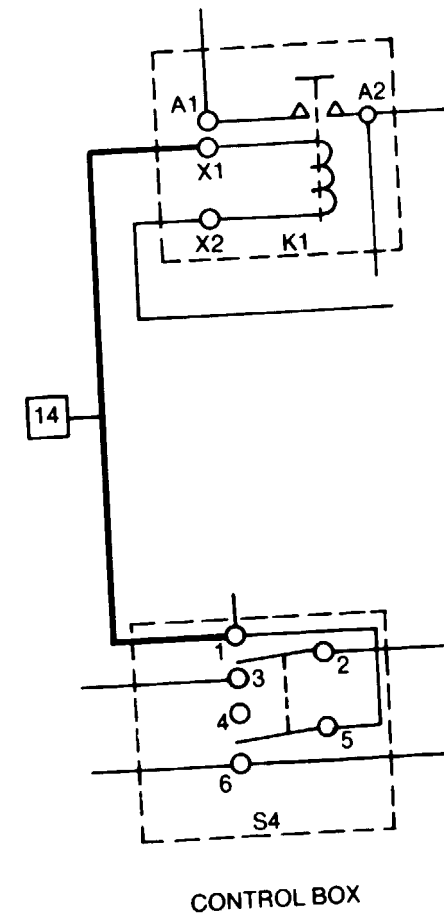
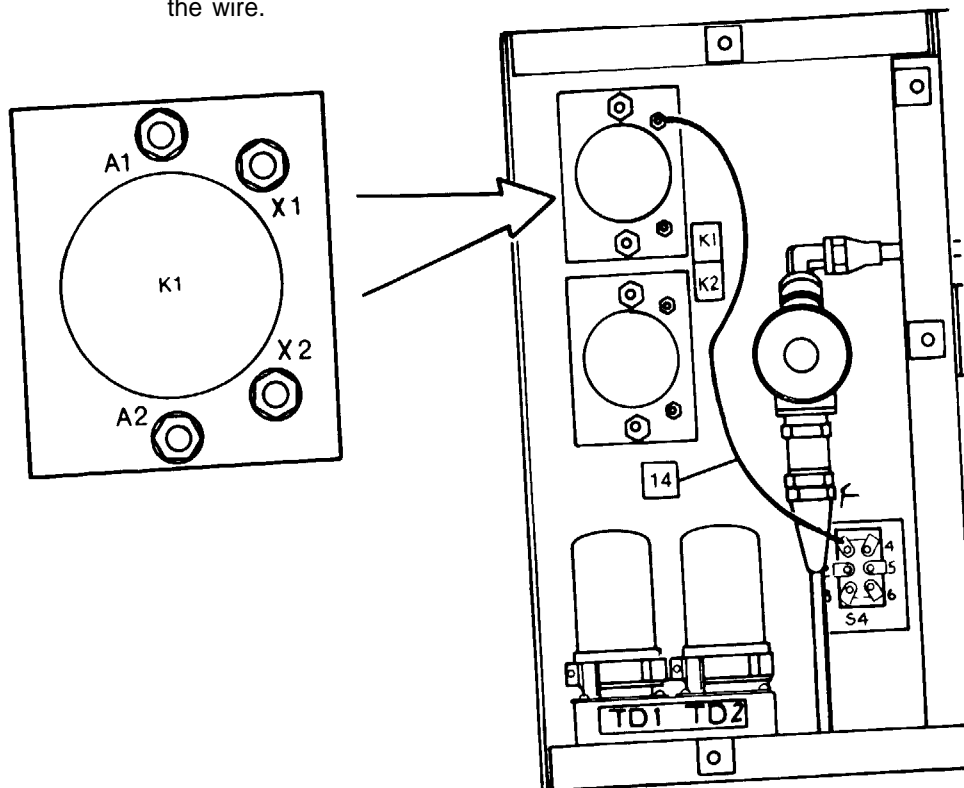
MALFUNCTION TEST OR INSPECTION
CORRECTIVE ACTION

WATER HEATER (CONT)

3. FUEL PUMP AND IGNITION DRIVE MOTOR DOES NOT OPERATE IN PURGE ON POSITION (CONT).

Step 3. Check wire No. 14 for continuity using the following procedures:

- a. Disconnect wire No. 14 from relay K1-X1.
- b. Use multimeter to check continuity between ends of wire No. 14 and switch S4-1 while flexing the entire length of the wire.



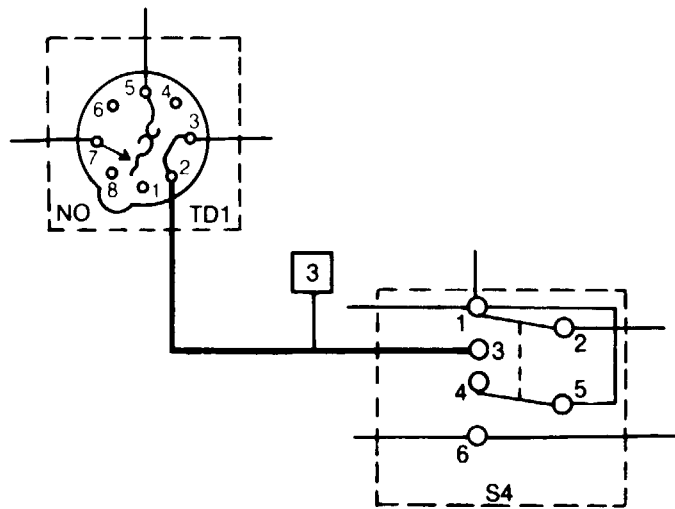
4. FUEL PUMP AND IGNITION DRIVE MOTOR WILL NOT START WITH HEATER CONTROL SWITCH IN HEATER ON POSITION.

Step 1. Check wire No. 3 for continuity using the following procedures:

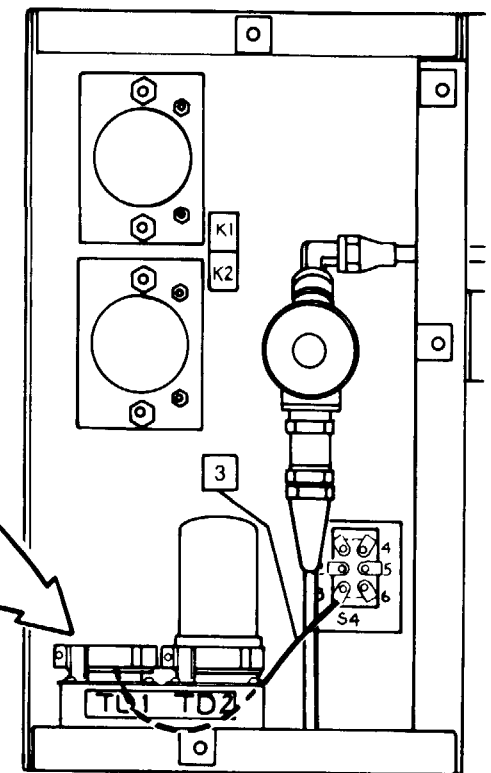
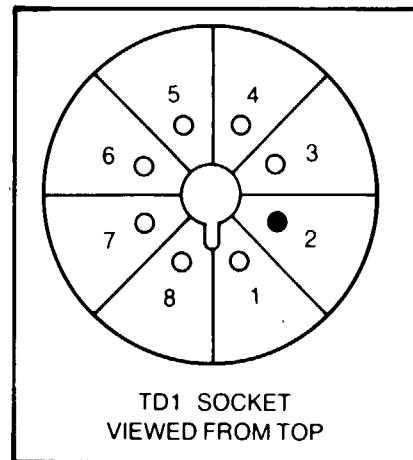
- a. Remove thermal delay relay tube TD1 from its socket.
- b. Use a multimeter to check continuity between TD1 socket, hole 2, and switch S4-3.

Replace wire No. 3 from S4, terminal 3, to terminal delay relay tube TD1 socket, hole 2, if anything other than continuity is measured.

Reinstall thermal delay relay tube TD1.



CONTROL BOX



MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

WATER HEATER (CONT)

4. FUEL PUMP AND IGNITION DRIVE MOTOR WILL NOT START WITH HEATER CONTROL SWITCH IN HEATER ON POSITION (CONT).

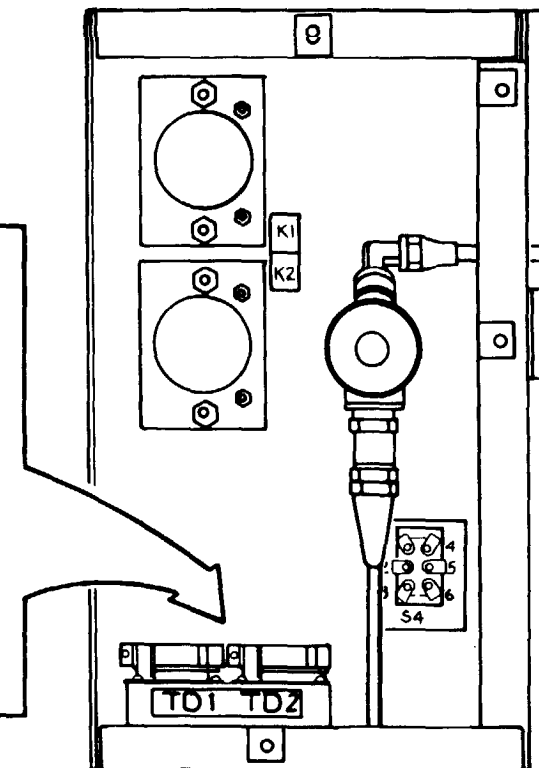
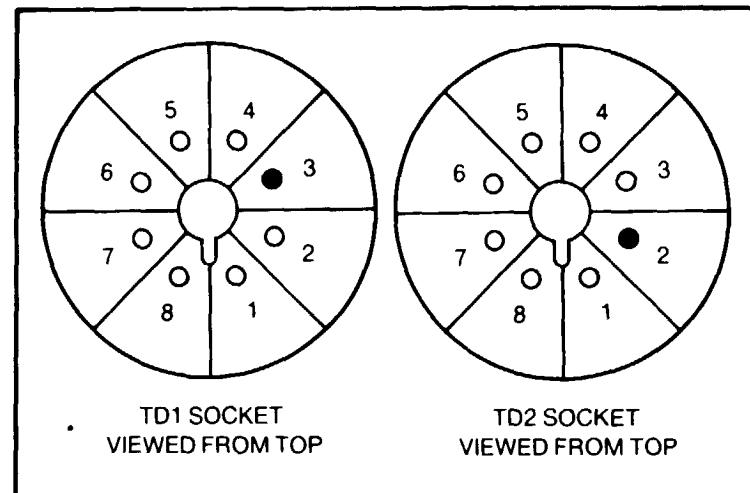
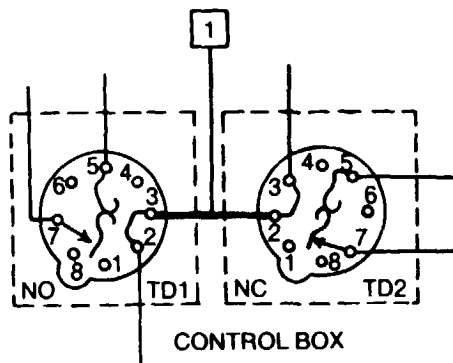
Step 2. Check wire No. 1 for continuity using the following procedures:

a. Remove thermal delay relay tubes TD1 and TD2 from their sockets.

b. Use a multimeter to check continuity between ends of wire No. 1. Stick one multimeter probe into TD1 socket, hole 3, and the other multimeter probe into TD2 socket, hole 2.

Replace wire No. 1 if anything other than continuity is indicated.

Reinstall thermal delay relay tubes TD1 and TD2 back into their sockets.



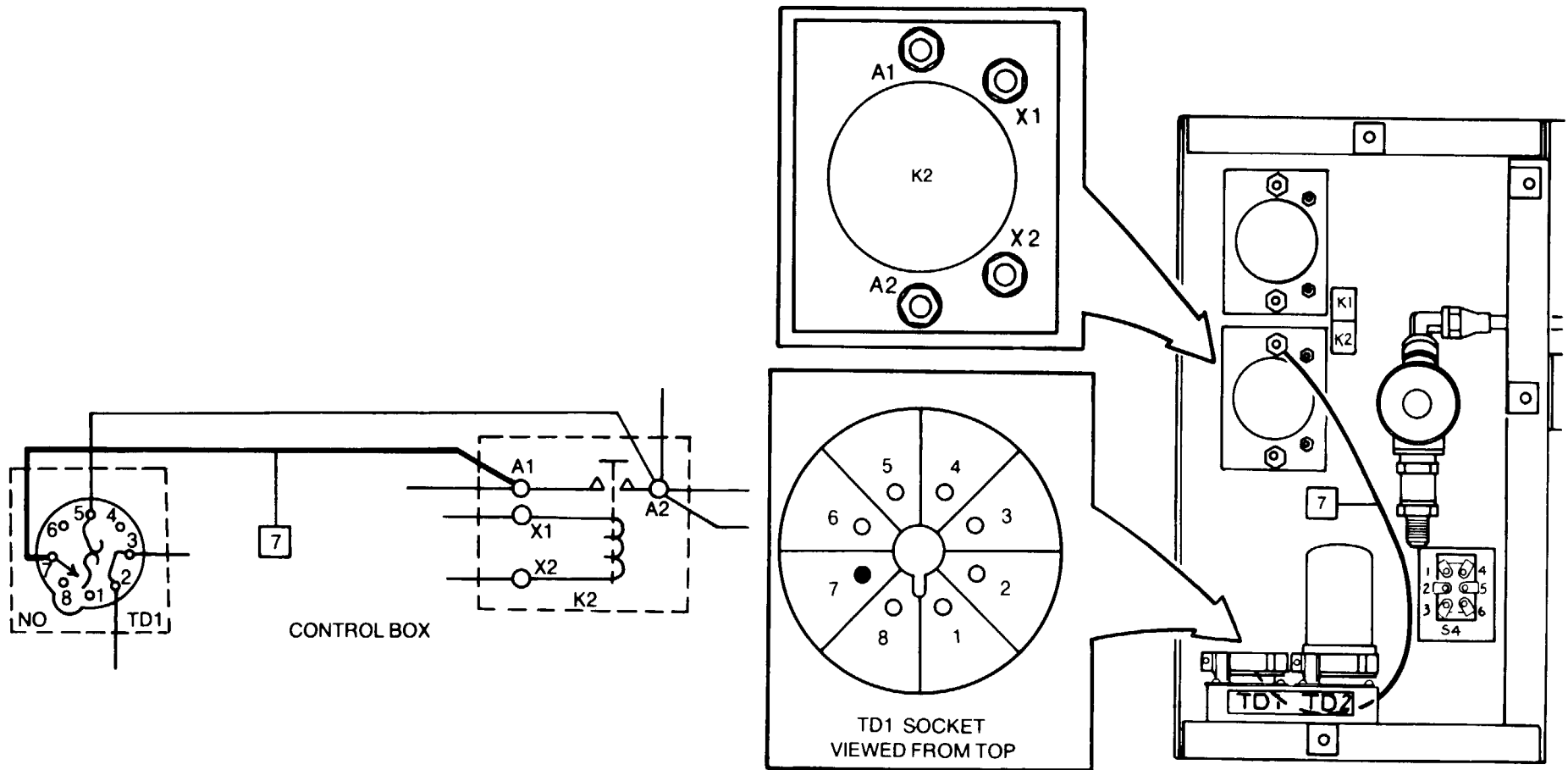
Step 3. Check wire No. 7 for continuity using the following procedures:

- a. Remove thermal delay relay tube TD1 from its socket. Remove wire No. 7 from relay K2-A1.
- b. Use a multimeter to check continuity between ends of wire while it is being flexed. Stick one multimeter probe into thermal delay relay tube TD1 socket, hole 7, and other multimeter probe to end of wire No. 7.

Reinstall wire No. 7 back onto relay K2-A1 if continuity is indicated and reinstall thermal delay relay TD1 back into its socket.

Replace wire No. 7 between relay K2-A2 and thermal delay relay tube socket, hole 7, if anything other than continuity is measured.

Reinstall thermal delay relay tube TD1 into its socket.



MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
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WATER HEATER (CONT)

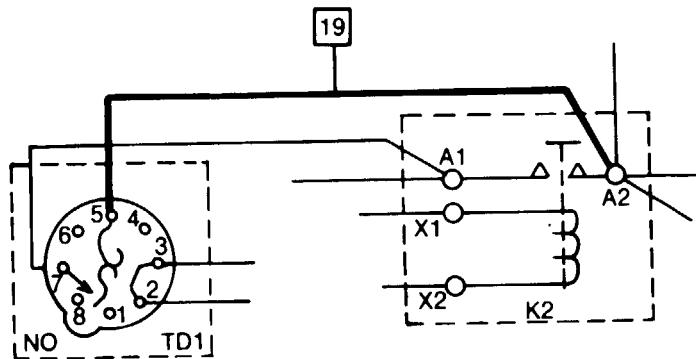
4. FUEL PUMP AND IGNITION DRIVE MOTOR WILL NOT START WITH HEATER CONTROL SWITCH IN HEATER ON POSITION (CONT).

Step 4. Check wire No. 19 for continuity using the following procedures:

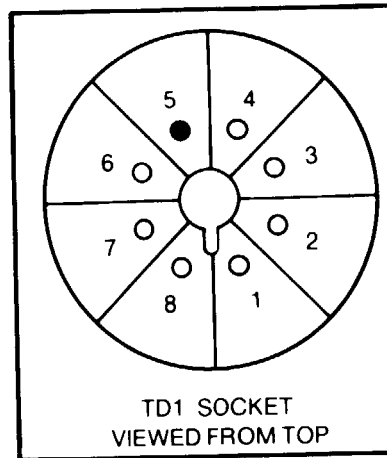
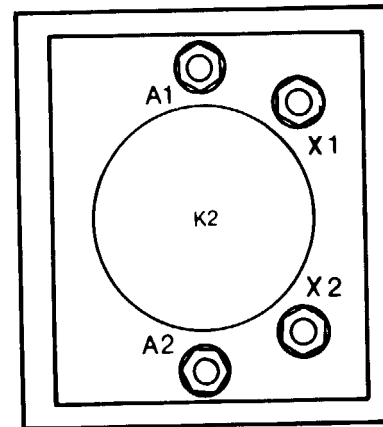
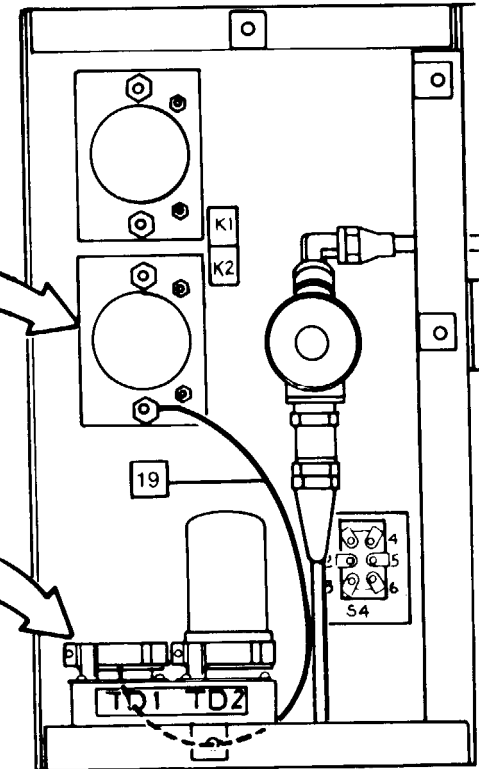
- Remove thermal delay relay tube TD1 from its socket. Disconnect wire No. 19 from relay K2-A2.
- Use a multimeter to check for continuity between ends of wire while it is being flexed. Stick one multimeter probe into thermal delay relay tube TD1 socket, hole 5, and the other multimeter probe to end of wire No. 19.

Reinstall wire No. 19 back onto relay K2-A1 if continuity is indicated, and reinstall thermal delay relay tube TD1.

Replace wire No. 19 in socket base of TD1 at hole 5 and attach to relay K2-A2, if anything other than continuity is indicated. Reinstall thermal delay relay tube TD1 into its socket.



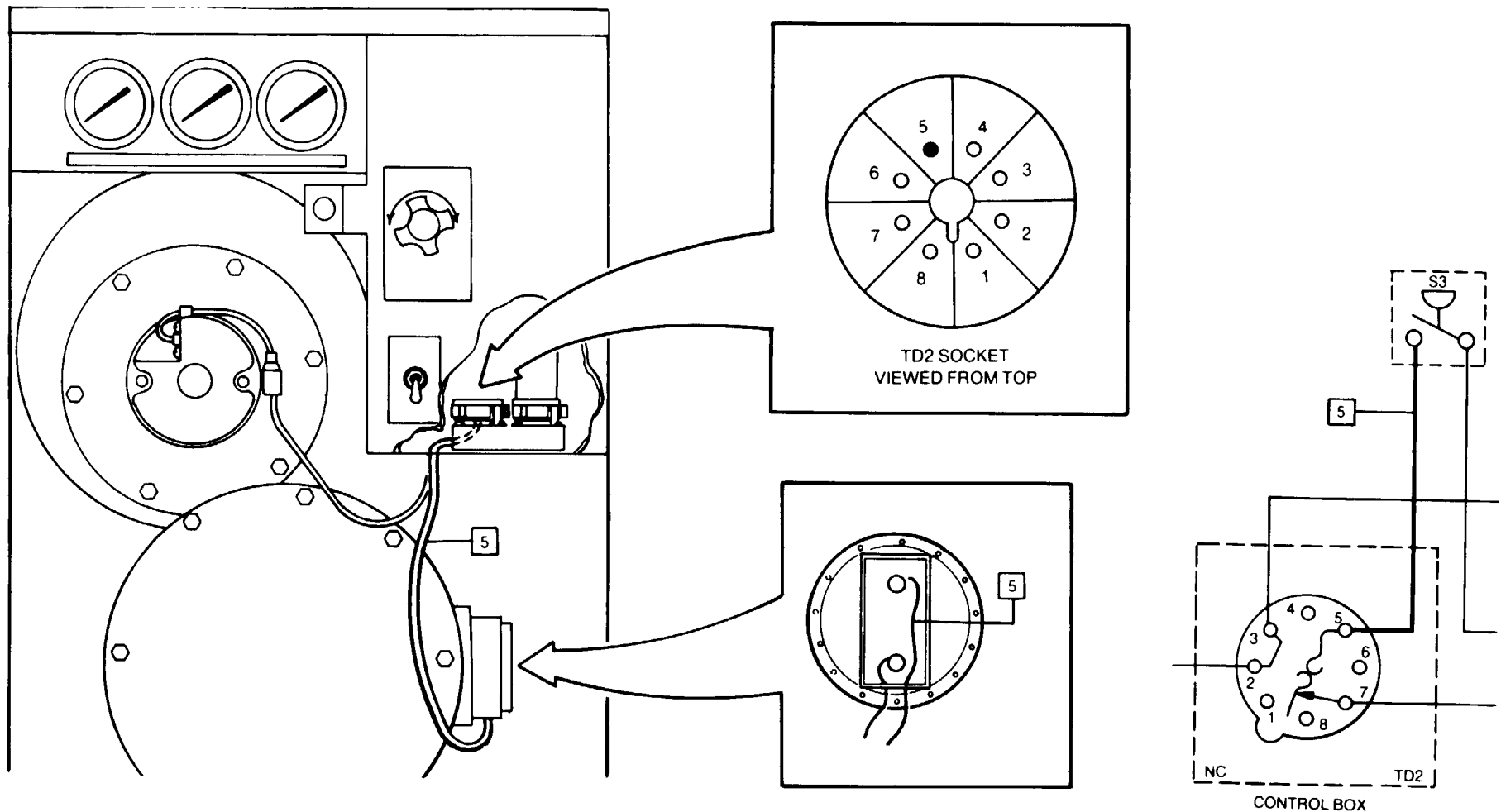
CONTROL BOX

TD1 SOCKET
VIEWED FROM TOP

Step 5. Check wire No. 5 for continuity using the following procedures:

- a. Remove thermal delay relay tube TD2 from its socket. Disconnect wire No. 5 from combustor air pressure switch S3.
- b. Use multimeter to check for continuity between ends of wire No. 5 while it is being flexed. Stick one multimeter probe into thermal delay relay TD2 socket, hole 5, and the other multimeter probe to end of wire No. 5.

Reinstall wire No. 5 back onto combustor air pressure switch S3 if continuity is indicated, and reinstall thermal delay relay tube TD2. Replace wire No. 5 in socket base of TD2, hole 5, and attach the combustor air pressure switch S3 if anything other than continuity is indicated. Reinstall thermal delay relay TD2 into its socket.



TROUBLESHOOTING (CONT)

MALFUNCTION

TEST OR INSPECTION

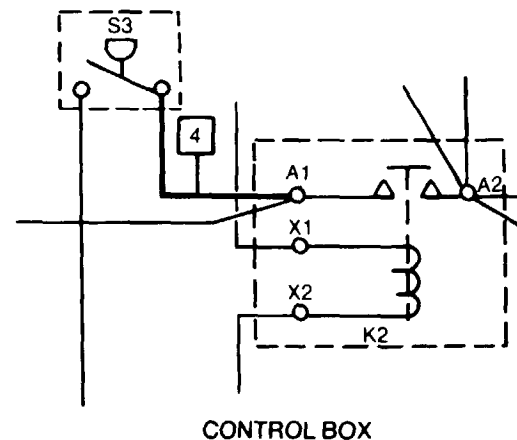
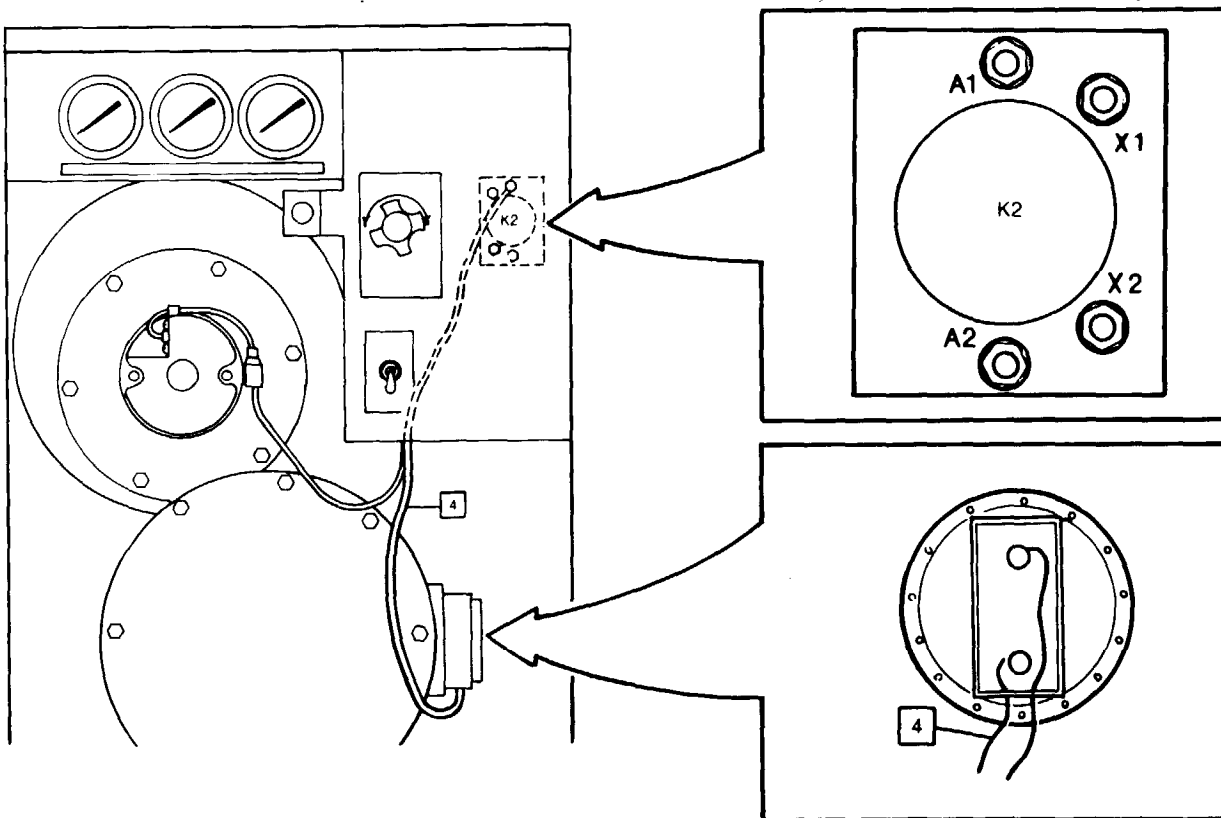
CORRECTIVE ACTION

WATER HEATER (CONT)

4. FUEL PUMP AND IGNITION DRIVE MOTOR WILL NOT START WITH HEATER CONTROL SWITCH IN HEATER ON POSITION (CONT).

Step 6. Check wire No. 4 for continuity using the following procedures:

- a. Disconnect wire No. 4 from relay K2-A1, and disconnect other end of wire at combustor air pressure switch S3.
 - b. Use multimeter to check for continuity between ends of wire No. 4 while it is being flexed along its entire length.
- Reinstall wire No. 4 back onto combustor air pressure switch S3 and onto relay K2-A1, if continuity is indicated.
 Replace wire No. 4 between combustor air pressure switch S3 and relay K2-A1 if anything other than continuity is indicated.



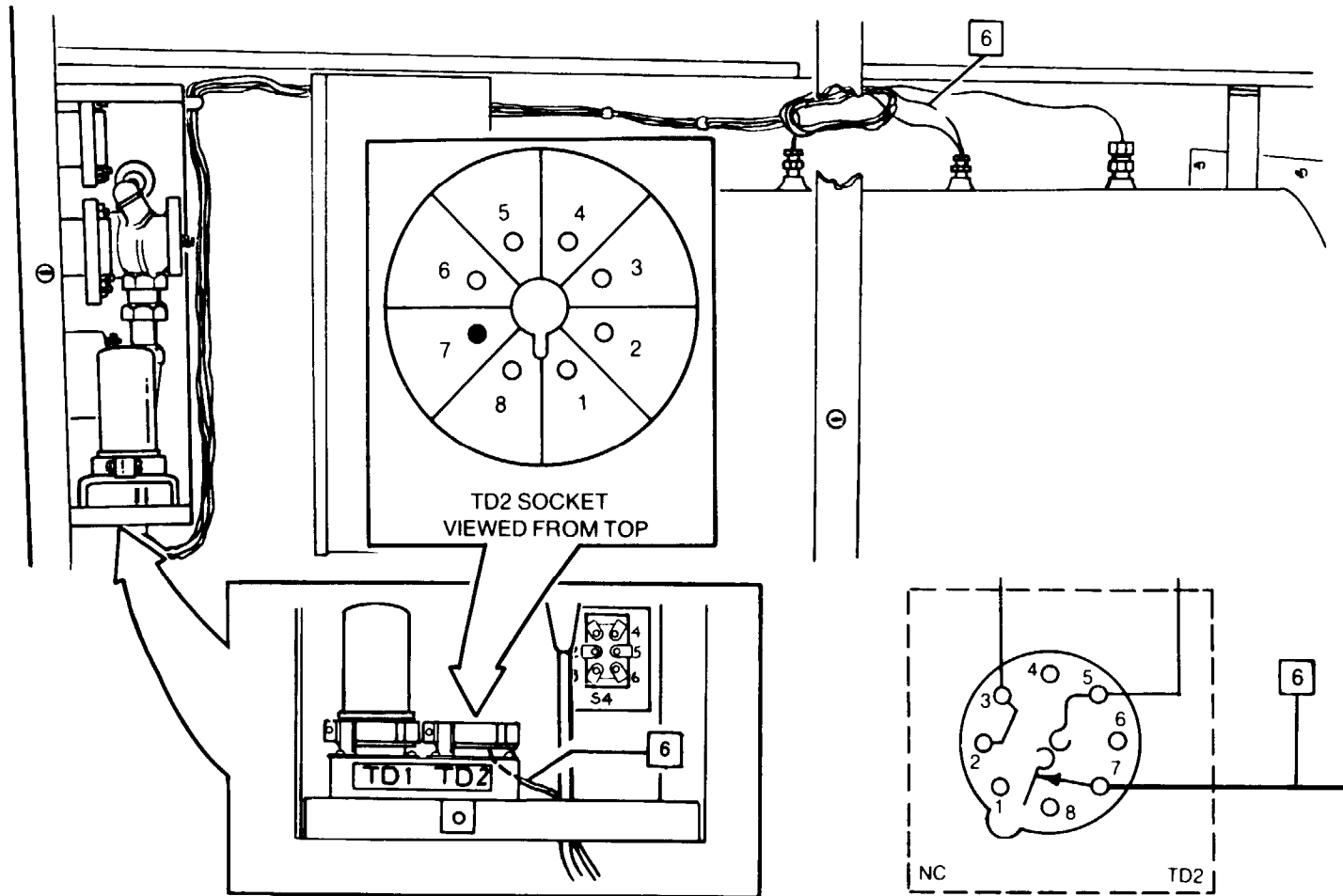
Step 7. Check wire No. 6 for continuity using the following procedures:

- a. Remove thermal delay relay tube TD2 and cut splice from wire No. 6 near the S1 switch located in top of the boiler assembly.
- b. Use multimeter to check for continuity between ends of wire No. 6 while it is being flexed along its entire length. Stick one multimeter probe into thermal delay relay TD2 socket, hole 7, and the other multimeter probe onto end of wire No. 6.

Reattach wire No. 6 to thermostatic switch S1 by replacing with new splice if continuity is indicated.

Replace wire No. 6 to the thermal delay relay tube TD2 socket, hole 7. Splice wire near the thermostatic switch S1 on top of boiler, Replace splice to connect the two wires after stripping wires.

Reinstall thermal delay relay TD2.



TROUBLESHOOTING (CONT)

MALFUNCTION

TEST OR INSPECTION

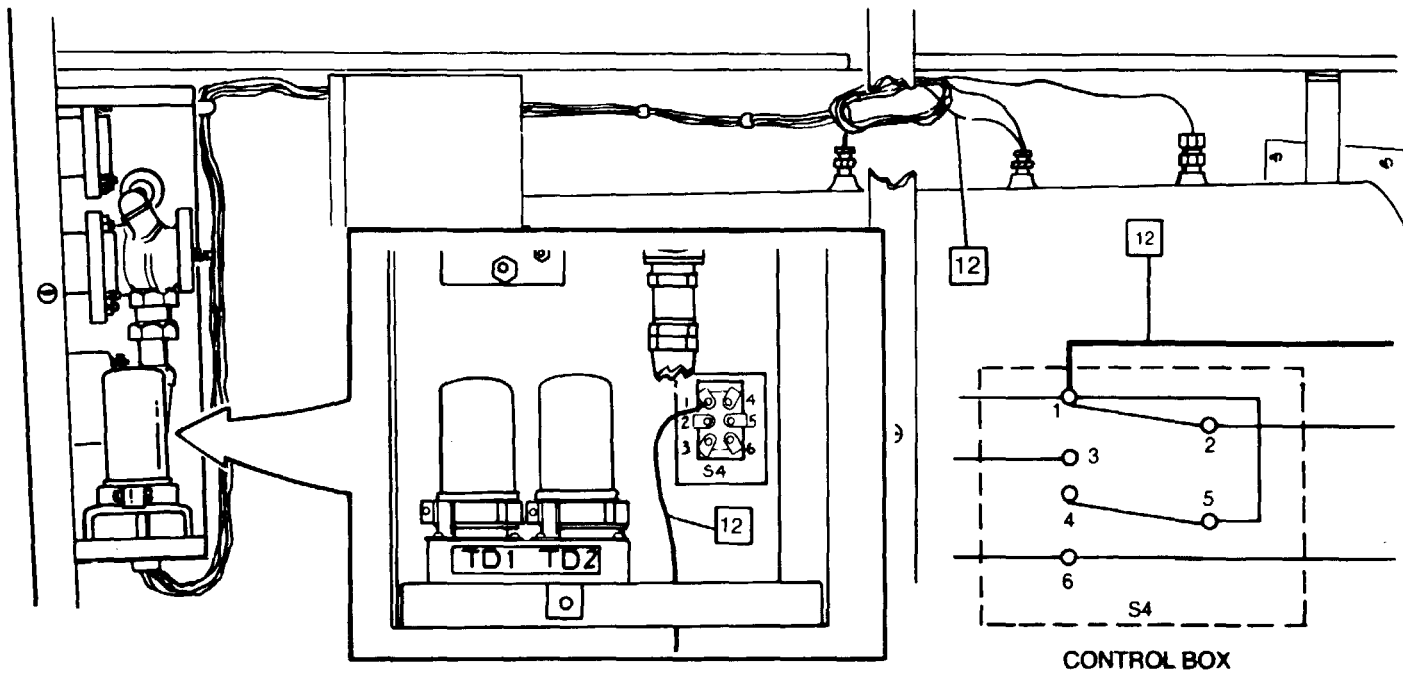
CORRECTIVE ACTION

WATER HEATER (CONT)

4. FUEL PUMP AND IGNITION DRIVE MOTOR WILL NOT START WITH HEATER CONTROL SWITCH IN HEATER ON POSITION (CONT).

Step 8. Check wire No. 12 for continuity using the following procedures:

- a. Cut splice from wire No. 12 near the thermostatic switch S1.
- b. Use multimeter to check continuity between ends of wire No. 12 and switch S4-1 while wire is being flexed along its entire length
Strip end of wire and replace new splice if continuity is indicated.
Replace wire No. 12 from switch S4-1, and splice area near the thermostatic switch S1 if anything other than continuity is measured.
Restrip wires and replace splice.



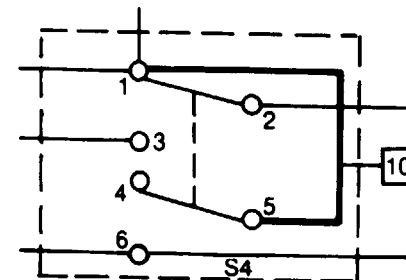
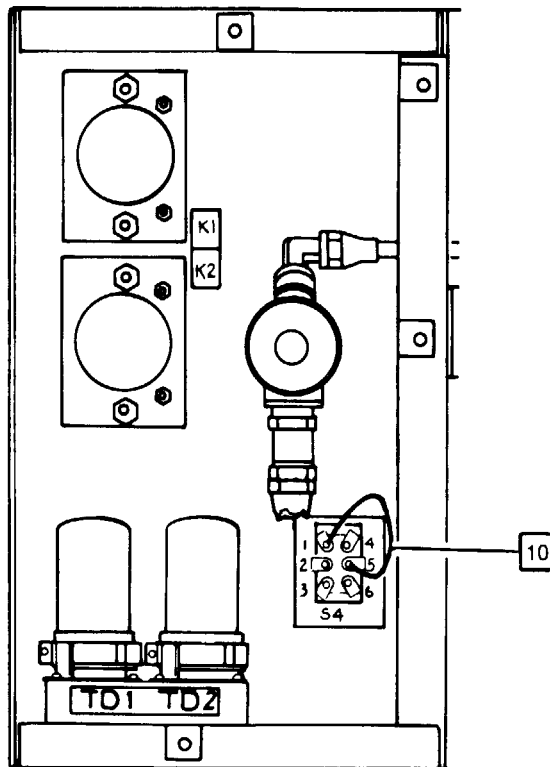
Step 9. Check wire No. 10 for continuity using the following procedures:

a. Disconnect wire No. 10 from switch S4, terminals 1 and 5.

b. Use multimeter to check continuity between ends of wire No. 10 while flexing along its entire length.

Reinstall wire No. 10 to switch S4, terminals 1 and 5, if continuity is indicated.

Replace wire No. 10 on switch S4 between terminals 1 and 5 with new wire if anything other than continuity is indicated.



CONTROL BOX

TROUBLESHOOTING (CONT)

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

WATER HEATER (CONT)

5. FUEL FAILS TO IGNITE.

Step 1. Check for excessively worn or defective breaker points in the combustor magneto(1).

Replace breaker points (para 2-46).

Step 2. Check for defective ignition cable. See WATER HEATER DOES NOT HEAT WATER, step 3.

Replace defective ignition cable (para 2-53).

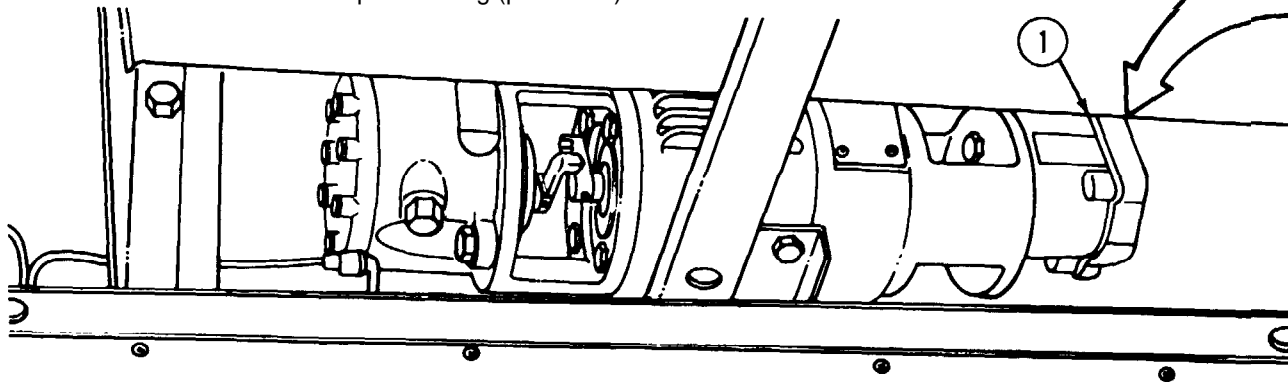
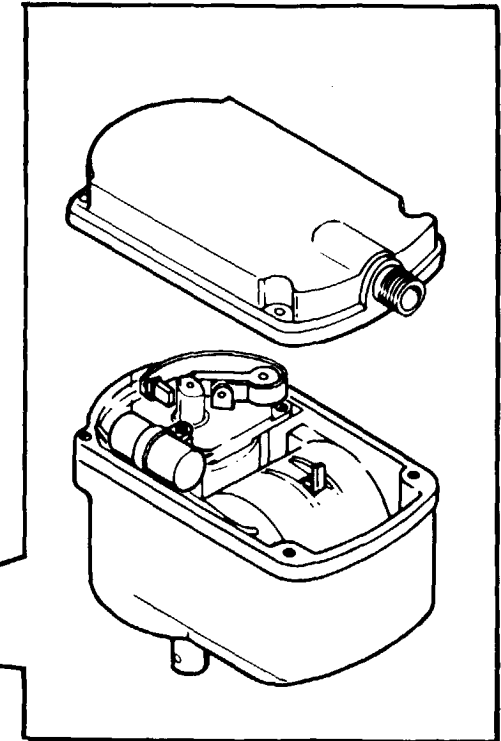
6. WATER HEATER SHUTS DOWN DURING OPERATION.

Step 1. Check for defective thermostatic switch S1. See WATER HEATER DOES NOT HEAT WATER, step 2.

Replace thermostatic switch S1. See paragraph 2-33.

Step 2. Check for defective wiring. Follow procedures of FUEL PUMP AND IGNITION DRIVE MOTOR WILL NOT START WITH HEATER CONTROL SWITCH IN HEATER ON POSITION.

Replace wiring (para 2-44).



Section IV. MAINTENANCE PROCEDURES

2-7. COVER ASSEMBLY.

This task covers repair.

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition
Removed from pump unit.

References

FM 10-16

LOCATION/ITEM

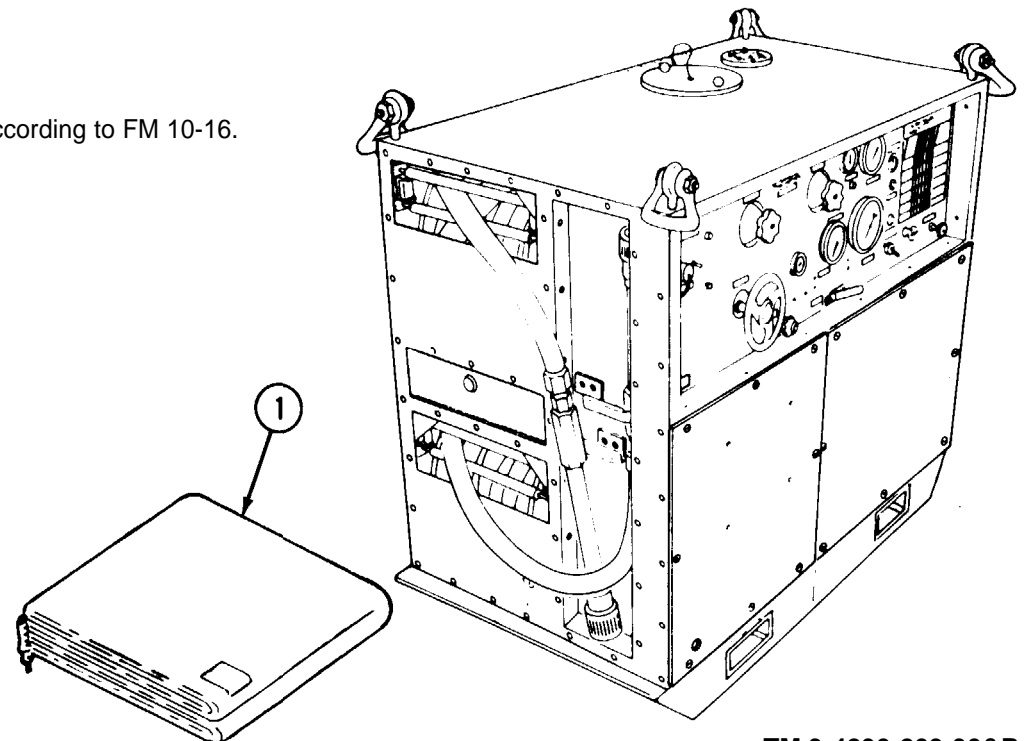
ACTION

REMARKS

REPAIR

Cover Assembly/
All areas

Sew rips and tears in cover assembly (1) according to FM 10-16.



2-8. TOP ACCESS COVER ASSEMBLY.

This task covers repair.

INITIAL SETUP

Tools and Special Tools
 Automotive Maintenance and Repair Field Maintenance
 Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition
 Removed from pump unit.

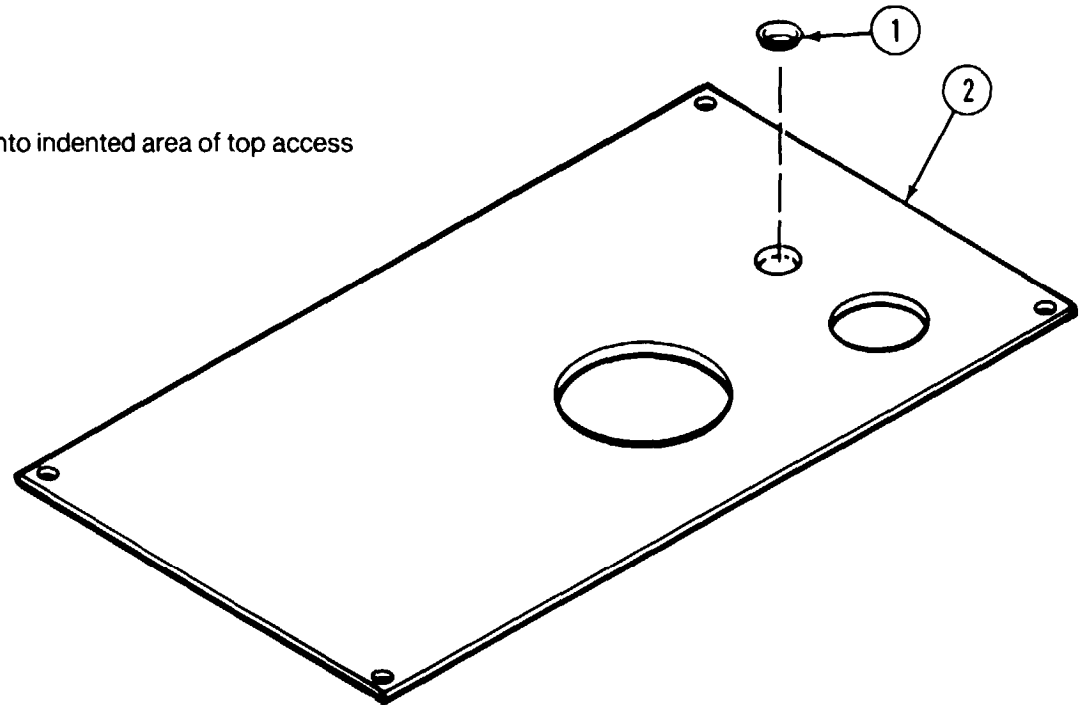
Materials/Parts
 Adhesive (item 1, app C)
 Gasket (fig D-6)

LOCATION/ITEM	ACTION	REMARKS
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REPAIR

Top Access Cover Assembly/
 Gasket (1)
 Top access cover (2)

Use adhesive to bond gasket (1) into indented area of top access cover (2).



2-9. COVER PANEL ASSEMBLY.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

- Automotive Maintenance and Repair Field Maintenance Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)
- Camloc fastener pliers (4P3)
- Camloc fastener tool (T26)

- Polyurethane coating (black) (item 28, app C)
- Polyurethane coating (green) (item 29, app C)

References

- TM 3-4230-209-20&P
- TM 43-0139

Materials/Parts

- Adhesive (item 1, app C)
- Gaskets (fig D-7 and fig D-8)
- Paint brush (item 6, app C)

Equipment Condition

Removed from pump unit.

LOCATION/ITEM	ACTION	REMARKS
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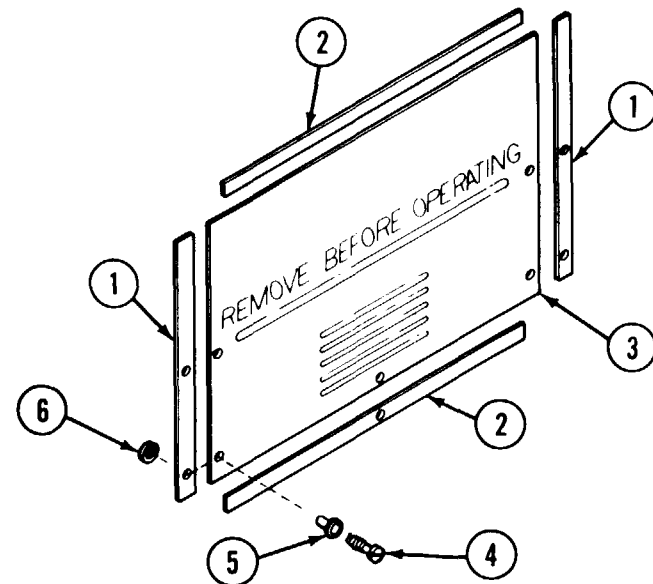
DISASSEMBLY

Cover Panel Assembly/
Gaskets (1 and 2)
Access cover (3)

Scrape brittle or damaged gaskets (1 and 2) from access cover (3). Discard gaskets.

Turnlock stud
assemblies (4)
Turnlock fastener
eyelets (5)
Retaining rings (6)

Remove damaged turnlock stud assemblies (4), turnlock fastener eyelets (5) and retaining rings (6).

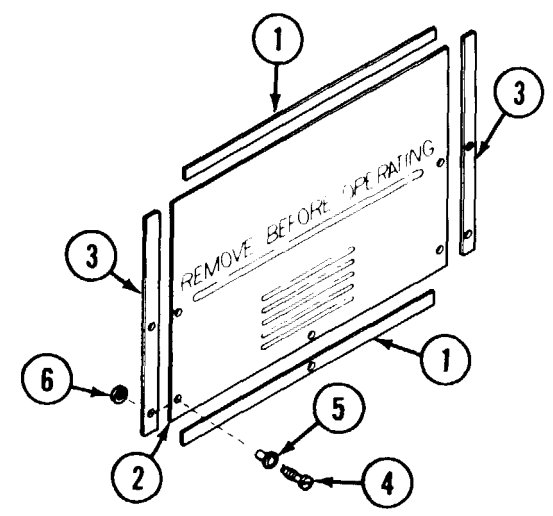


2-9. COVER PANEL ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REPAIR		
Cover Panel Assembly/ Gaskets	Replace authorized unserviceable parts. When gaskets are loose but not brittle or damaged, rebond to access cover with adhesive. Fabricate gaskets (fig D-8) as required. Fabricate gaskets (fig D-7) as required.	
Access cover	Repair access cover by straightening dents, removing rust, and repainting lettering with black polyurethane coating and small paint brush. Use green polyurethane coating to paint the access cover. Refer to TM 43-0139. Repaint REMOVE BEFORE OPERATING using 1-1/2 inch high lettering.	

REASSEMBLY

Cover Panel Assembly/ Gaskets (1) Access cover (2)	Bond gaskets (1) to back side of access cover (2) with adhesive.
Gaskets (3)	Bond gaskets (3) to back side of access cover (2) with adhesive.
Turnlock stud assemblies (4) Turnlock fastener eyelets (5) Retaining rings (6)	Use camloc fastener tool and camloc fastener pliers to replace turnlock stud assemblies (4), turnlock fastener eyelets (5), and retaining rings (6).



2-10. COVER PANEL ASSEMBLY.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

- Automotive Maintenance and Repair Field Maintenance Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)
- Camloc fastener pliers (4P3)
- Camloc fastener tool (T26)

Paint brush (item 6, app C)

Polyurethane coating (black) (item 28, app C)

Polyurethane coating (green) (item 29, app C)

Materials/Parts

- Adhesive (item 1, app C)
- Gaskets (fig D-8)
- Gaskets (fig D-9)

References

TM 3-4230-209-20&P

TM 43-0139

Equipment Condition

Removed from pump unit,

LOCATION/ITEM

ACTION

REMARKS

DISASSEMBLY

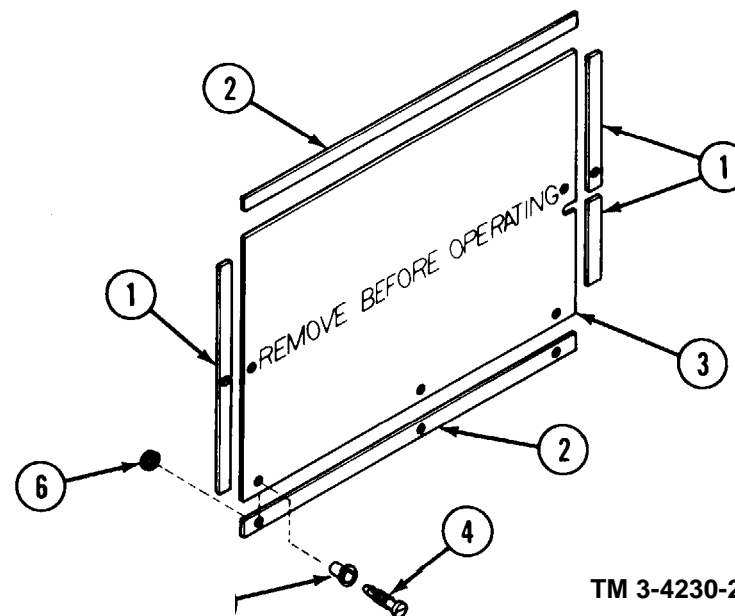
Cover Panel Assembly/

- Gaskets (1 and 2)
- Access cover (3)

Scrape brittle or damaged gaskets (1 and 2) from access cover (3). Discard gaskets.

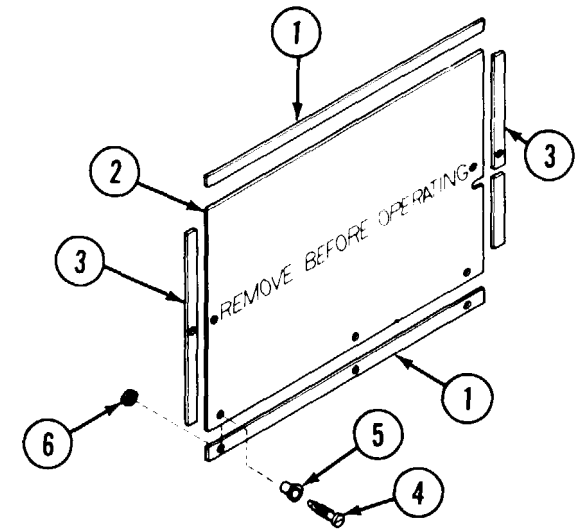
- Turnlock stud assemblies (4)
- Turnlock fastener eyelets (5)
- Retaining rings (6)

Remove damaged turnlock stud assemblies (4), turnlock fastener eyelets (5), and retaining rings (6).



2-10. COVER PANEL ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REPAIR		
Cover Panel Assembly/ Gaskets	Replace authorized unserviceable parts. When gaskets are loose but not brittle or damaged, rebond to access cover with adhesive. Fabricate gaskets (fig D-8) as required. Fabricate gaskets (fig D-9) as required.	
Access cover	Repair access cover by straightening dents, removing rust, and repainting lettering with black polyurethane coating and small paint brush. Use green polyurethane coating to paint the panel. Refer to TM 43-0139.	
	Repaint REMOVE BEFORE OPERATING in 1 1/2 inch high letters with black polyurethane coating.	
REASSEMBLY		
Cover Panel Assembly/ Gaskets (1) Access cover (2)	Bond gaskets (1) to back side of access cover (2) with adhesive. Cut holes in gasket (1) at assembly to fit.	
Gaskets (3)	Bond gaskets (3) to back side of access cover (2) with adhesive. Cut holes in gaskets (3) at assembly to fit. After fitted properly trim gasket in the notch area to clear notch.	
Turnlock stud assemblies (4) Turnlock fastener eyelets (5) Retaining rings (6)	Use camloc fastener tool and camloc fastener pliers to replace turnlock stud assemblies (4), turnlock fastener eyelets (5), and retaining rings (6).	



2-11. ACCESS COVER.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

- Automotive Maintenance and Repair Field Maintenance Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)
- Camloc fastener pliers (4P3)
- Camloc fastener tool (T26)

- Paint brush (item 6, app C)
- Polyurethane coating (black) (item 28, app C)
- Polyurethane coating (green) (item 29, app C)

Materials/Parts

- Adhesive (item 1, app C)
- Gaskets (fig D-10)
- Gaskets (fig D-12)

References

- TM 3-4230-209-20&P
- TM 43-0139

Equipment Condition

Removed from pump unit.

LOCATION/ITEM

ACTION

REMARKS

DISASSEMBLY

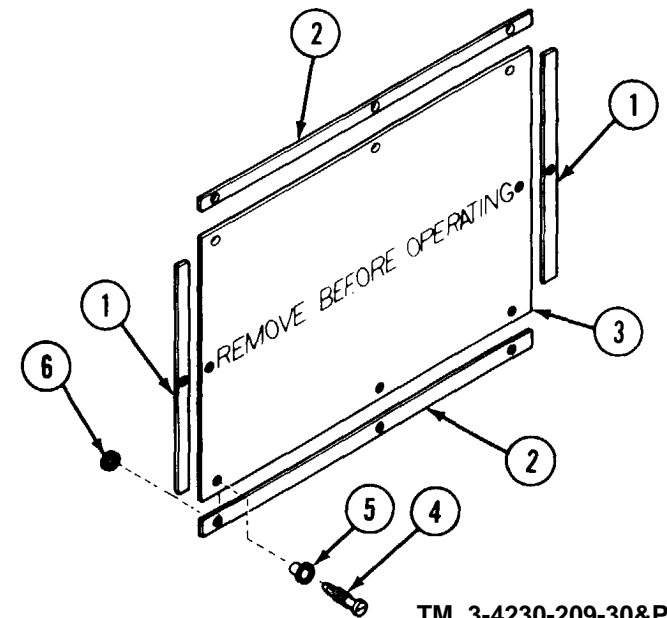
Access Cover/

- Gaskets (1 and 2)
- Cover panel (3)

Scrape brittle or damaged gaskets (1 and 2) from cover panel (3). Discard gaskets.

- Turnlock stud assemblies (4)
- Turnlock fastener eyelets (5)
- Retaining rings (6)

Remove damaged turnlock stud assemblies (4), turnlock fastener eyelets (5), and retaining rings (6).



2-11. ACCESS COVER (CONT).

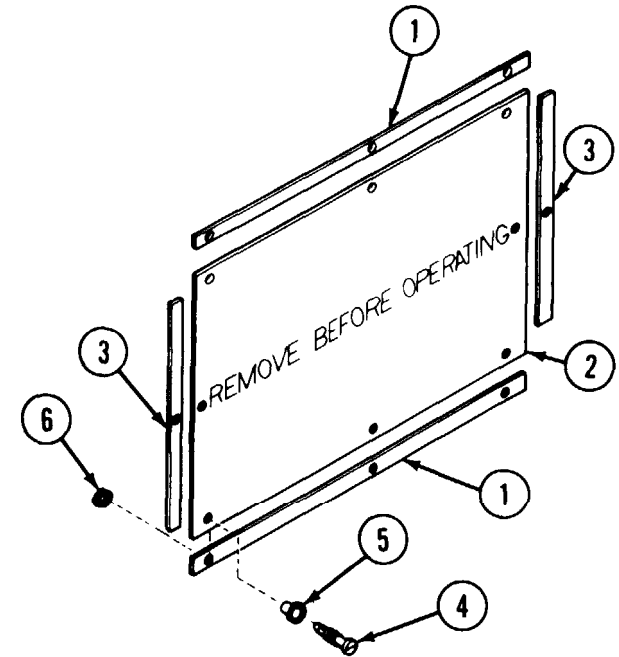
LOCATION/ITEM	ACTION	REMARKS
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REPAIR

Access Cover/ Gaskets	Replace authorized unserviceable parts. When gaskets are loose but not brittle or damaged, rebond to cover panel with adhesive. Fabricate gaskets (fig D-1 2) as required. Fabricate gaskets (fig D-10) as required.	
Cover panel	Repair cover panel by straightening dents, removing rust, and repainting lettering with black polyurethane coating and small paint brush. Use green polyurethane coating to paint the panel. Refer to TM 43-0139.	
	Repaint REMOVE BEFORE OPERATING in 1 1/2 inch high lettering with black polyurethane coating.	

REASSEMBLY

Access Cover/ Gaskets (1) Cover panel (2)	Bond gaskets (1) to back side of cover panel (2) with adhesive. Cut holes in gaskets (1) at assembly to fit.	
Gaskets (3)	Bond gaskets (3) to back side of cover panel (2) with adhesive. Cut holes in gaskets (3) at assembly to fit.	
Turnlock stud assemblies (4) Turnlock fastener eyelets (5) Retaining rings (6)	Use camloc fastener tool and camloc fastener pliers to replace turnlock stud assemblies (4), turnlock fastener eyelets (5), and retaining rings (6).	



2-12. ACCESS COVER.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

- Automotive Maintenance and Repair Field Maintenance Shop Equipment, Basic, Less Power (SC 491 0-95-CL-A31)
- Camloc fastener pliers (4P3)
- Camloc fastener tool (T26)

- Polyurethane coating (black) (item 28, app C)
- Polyurethane coating (green) (item 29, app C)

References

- TM 3-4230-209-20&P
- TM 43-0139

Materials/Parts

- Adhesive (item 1, app C)
- Gaskets (fig D-10)
- Gaskets (fig D-11)
- Paint brush (item 6, app C)

Equipment Condition

- Removed from pump unit.
- Unit maintenance authorized components are removed in TM 3-4230-209-20&P and are not covered in this manual.

LOCATION/ITEM

ACTION

REMARKS

DISASSEMBLY

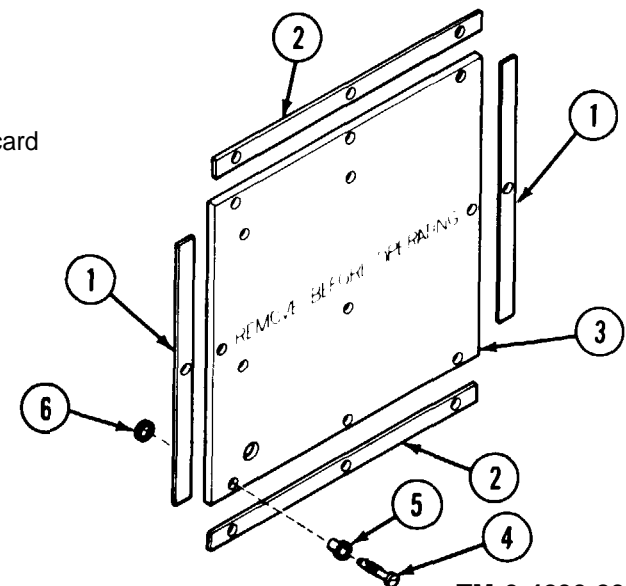
Access Cover/

- Gaskets (1 and 2)
- Cover panel (3)

Scrape brittle or damaged gaskets (1 and 2) from cover panel (3). Discard gaskets.

- Turnlock stud assemblies (4)
- Turnlock fastener eyelets (5)
- Retaining rings (6)

Remove damaged turnlock stud assemblies (4), turnlock fastener eyelets (5), and retaining rings (6).



2-12. ACCESS COVER (CONT).

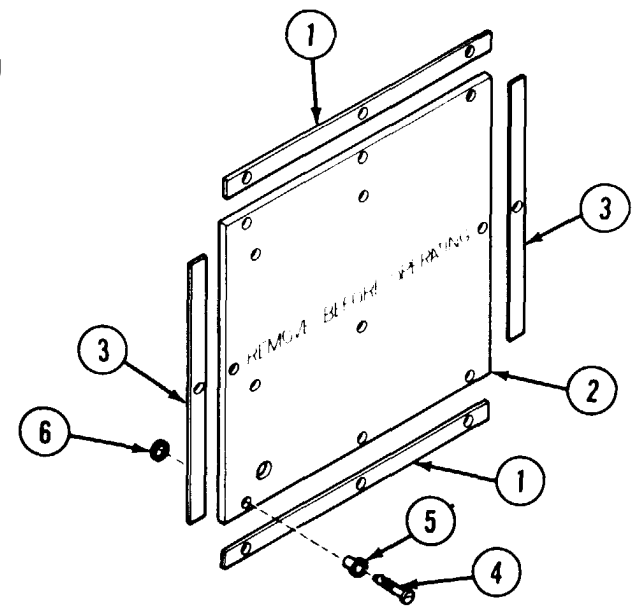
LOCATION/ITEM	ACTION	REMARKS
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REPAIR

Access Cover/ Gaskets	Replace authorized unserviceable parts. When gaskets are loose but not brittle or damaged, rebond to cover panel with adhesive. Fabricate gaskets (fig D-11) as required. Fabricate gaskets (fig D-10) as required.	
Cover panel	Repair cover panel by straightening dents, removing rust, and repainting lettering with black polyurethane coating and small paint brush. Use green polyurethane coating to paint the panel. Refer to TM 43-0139. Repaint REMOVE BEFORE OPERATING in 1 1/2 inch high letters with black polyurethane coating.	

REASSEMBLY

Access Cover/ Gaskets (1) Cover panel (2)	Bond gaskets (1) to back side of cover panel (2) with adhesive. Cut holes in gaskets (1) at assembly to fit.	
Gaskets (3)	Bond gaskets (3) to back side of cover panel (2) with adhesive. Cut holes in gaskets (3) at assembly to fit.	
Turnlock stud assemblies (4) Turnlock fastener eyelets (5) Retaining rings (6)	Use camloc fastener tool and camloc fastener pliers to replace turnlock stud assemblies (4), turnlock fastener eyelets (5), and retaining rings (6).	



2-13. CLEVIS AND EYE BOLT ASSEMBLY.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

References

TM 3-4230-209-20&P

Materials/Parts

Polyurethane coating (green) (item 29, app C)
Spacer (fig D-13)

Equipment Condition

Removed from pump unit. See TM 3-4230-209-20&P

LOCATION/ITEM

ACTION

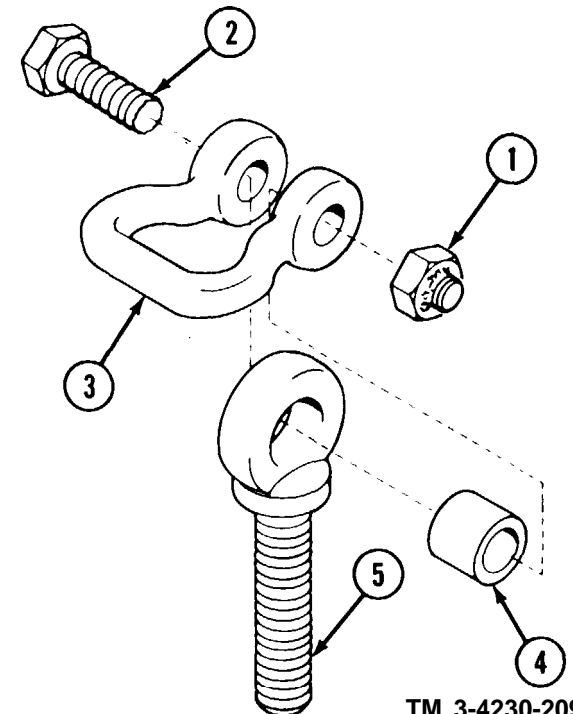
REMARKS

DISASSEMBLY

Clevis and Eye Bolt Assembly/

- Nut (1)
- Bolt (2)
- Shackle (3)
- Spacer (4)
- Eye bolt (5)

Cut nut (1) from bolt (2). Remove bolt (2) from shackle (3), spacer (4), and eye bolt (5). Discard nut (1) and bolt (2).



REPAIR

Clevis and Eye Bolt Assembly/
Spacer (4)

Replace authorized unserviceable parts.

Replace spacer (4) (fig D-13).

2-13. CLEVIS AND EYE BOLT ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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REASSEMBLY

Clevis and Eye Bolt Assembly/

Spacer (1)

Eye bolt (2)

Shackle (3)

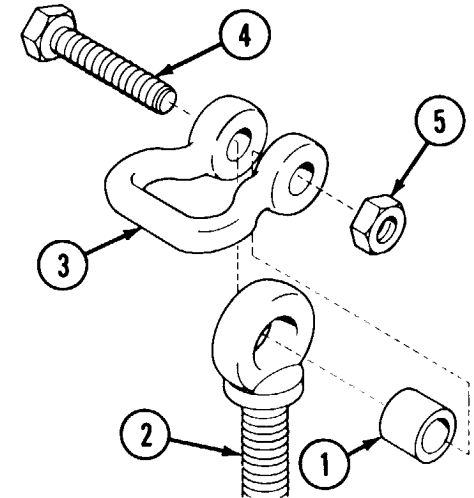
Insert spacer (1) into large hole in eye bolt (2). Saddle shackle (3) over eye bolt (2), and align hole in shackle (3) with hole in spacer (1).

Bolt (4)

Nut (5)

Insert new bolt (4) through holes and screw on new nut (5). Tighten nut (5) on bolt (4) snug but not tight. Tack-weld nut (5) to bolt (4) after reassembly is complete.

Paint clevis and eye bolt assembly with polyurethane coating after welding.

**2-14. PUMP UNIT ASSEMBLY.**

This task covers:

- Disassembly
- Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

- Automotive Maintenance and Repair Field Maintenance
- Shop Equipment, Basic, Less Power (SC 491 0-95-CL-A31)

Materials/Parts

- Ground wire (fig D-16)
- Transmitter wire (fig D-17)

Equipment Condition

Engine and pump unit protective cover and pump unit panels are removed and fuel is drained from fuel tank. Unit maintenance authorized components are removed in TM 3-4230-209-20&P and are not covered in this manual.

Special Safety Instructions

WARNING

Negative battery cable must be disconnected from the battery any time that the control panel assembly is being removed or is removed from the pump unit. See TM 3-4230-209-20&P.

Battery and battery compartment area may be coated with acid due to spillage and/or fumes. Wear protective clothing when working in this area. Before eating, smoking, or touching your face or clothing, wash your hands with a solution of baking soda and water, then flush them with clear water. If battery acid gets into your eyes, flush them with clean water. Obtain medical treatment immediately. Failure to do so may cause blindness.

Pump Unit Assembly/

Hexagon head self-locking nuts (1)

Machine screws (2)

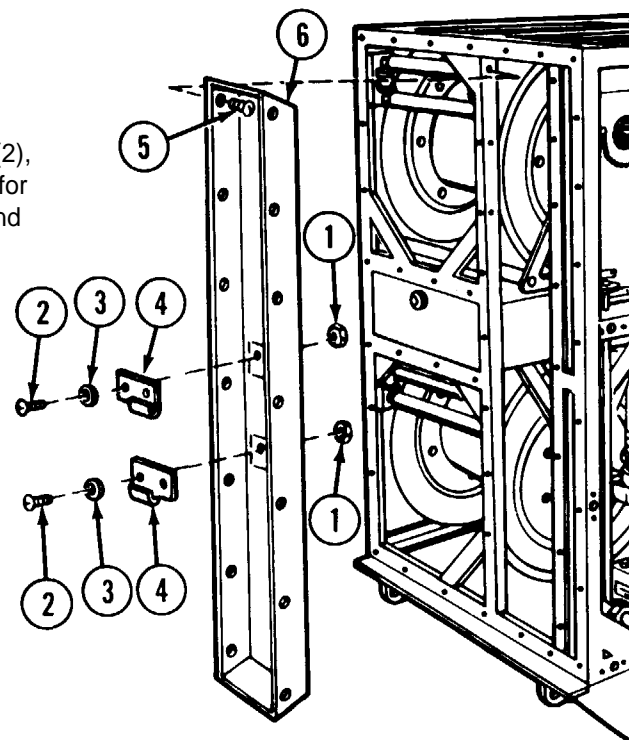
Flat washers (3)

Gun bracket (4)

Thread tapping screws (5)

Shell (6)

Remove two hexagon head self-locking nuts (1), two machine screws (2), and two flat washers (3) securing gun bracket (4). Repeat procedures for removal of other gun bracket. Remove 14 thread tapping screws (5) and remove shell (6).



Nut (7)

Nut (8)

Wire (9)

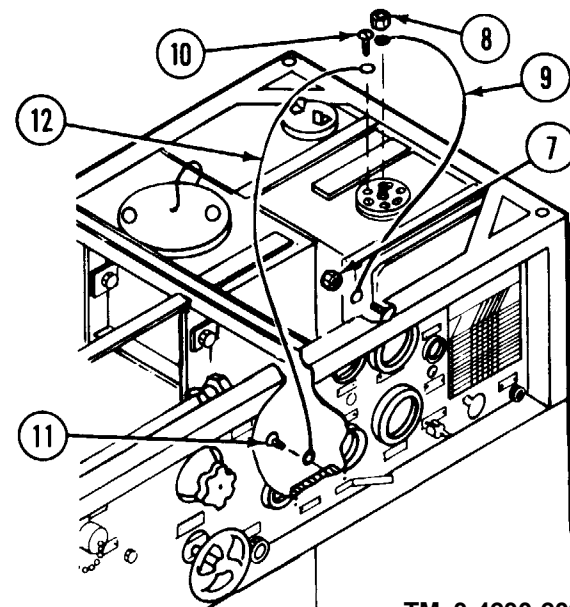
Machine screw (10)

Screw (11)

Wire (12)

Remove nut (7) from top screw of the vacuum gage and nut (8) from the center stud of the fuel quantity transmitter. Remove wire (9). Reinstall nuts (7 and 8) to their proper locations and tighten.

Remove machine screw (10) with lock washer from fuel quantity transmitter flange. Disconnect screw (11) in TB1 -G and remove wire (12). Reattach machine screw (10) with lock washer and screw (11) and tighten.

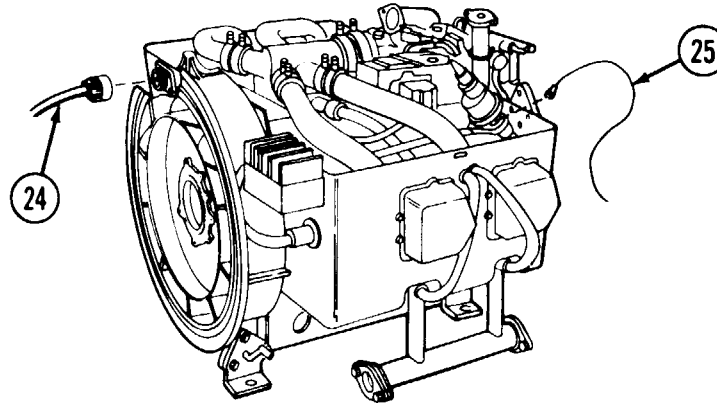


2-14. PUMP UNIT ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY (CONT)		
Setscrew (13) Handwheel (14)	Loosen setscrew (13) and remove handwheel (14) from VALVE NO. 1 MANIFOLD stem.	
<p>NOTE</p> <p>Handwheel maybe held on with a drive pin.</p>		
Hexagon head self-locking nut (15) Machine screw (16) Electrical connector cover (17)	Remove one hexagon head self-locking nut (15), machine screw (16), and electrical connector cover (17).	
Hexagon head cap screw (18) Flat washer (19) Loop clamp (20) Cable (21) Hexagon head cap screw (22) Alternator assembly (23)	Remove hexagon head cap screw (18) and flat washer (19). Slide loop clamp (20) from cable (21). Unscrew cable (21) electrical connector from the bottom of the alternator junction box. Remove hexagon head cap screw (22) from the alternator assembly (23) and remove cable (21). Reinstall hexagon head cap screw (22) with resistor lead into alternator assembly (23).	

Pump Unit Assembly/
Engine disconnect
cable (24)
Wire (25)

Unscrew engine disconnect cable (24) from rear of engine. Also disconnect wire (25) connected between STOP-RUN-START SWITCH and the oil pressure switch.



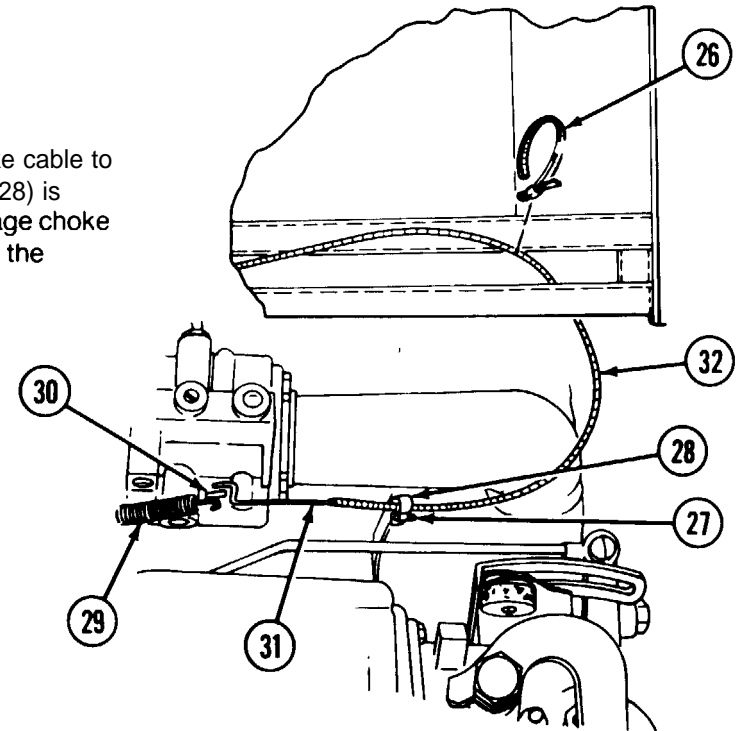
To remove control panel assembly, electrical wires and control cables must be disconnected from the engine. These wires and cables are subcomponents of the control panel assembly.

Oil pressure switches on engines manufactured before January 1969 are at the front end of the engine.

Oil pressure switches on engines manufactured after January 1969 are mounted at the rear of the engine.

Tiedown straps (26)
Setscrew (27)
Clamp (28)
Spring (29)
Choke lever (30)
Choke rod (31)
Choke cable (32)

Cut and discard electrical tiedown straps (26) securing the choke cable to the frame. Loosen but don't remove setscrew (27), until clamp (28) is loose. Disconnect spring (29) from choke lever (30) and disengage choke rod (31) from the choke lever (30). Slide choke cable (32) free of the engine carburetor.



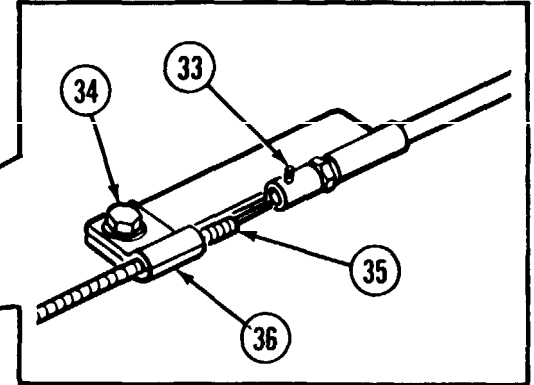
2-14. PUMP UNIT ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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DISASSEMBLY (CONT)

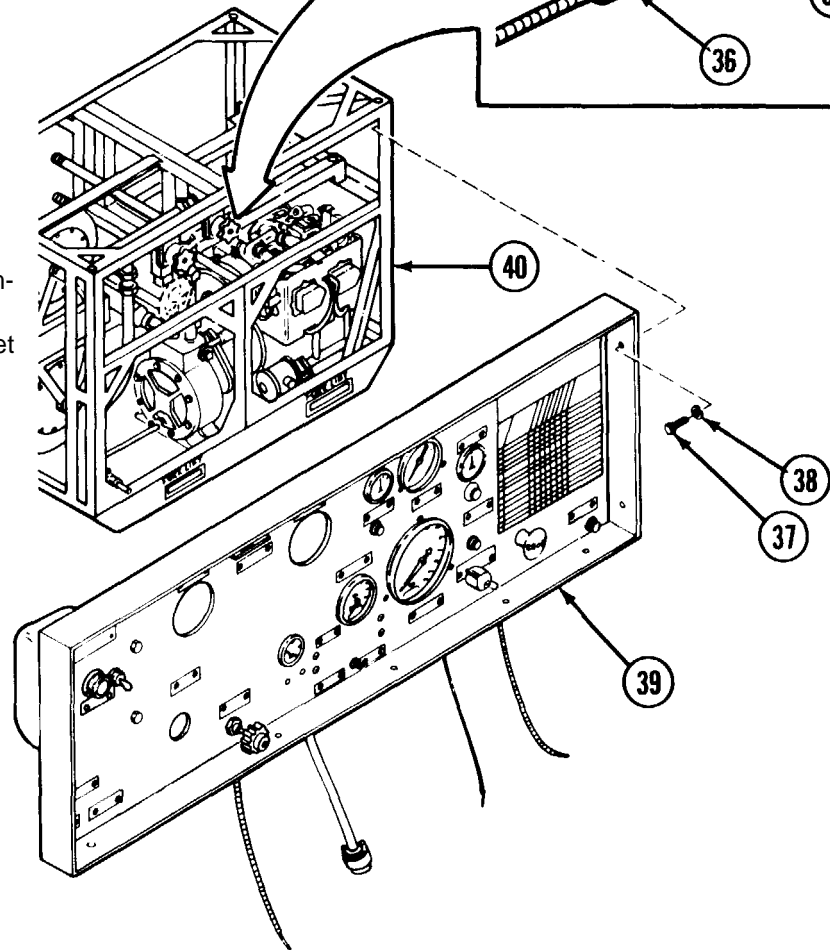
- Setscrew (33)
- Bolt (34)
- Throttle cable (35)
- Throttle clamp (36)

Loosen but do not remove setscrew(33) and bolt (34). Slide throttle cable (35) out of throttle clamp (36).



- Hexagon head cap screws (37)
- Lock washers (38)
- Control panel assembly (39)
- Pump unit subassembly (40)

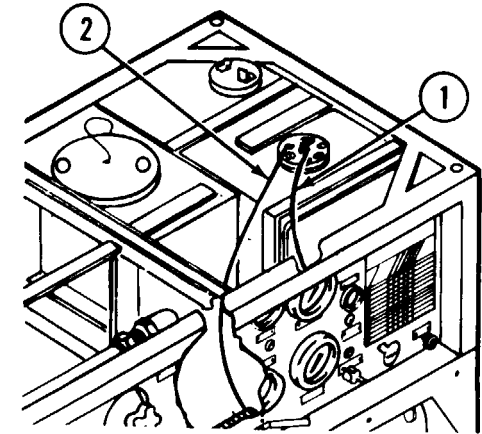
Remove 14 hexagon head cap screws (37) and lock washers (38) securing the control panel assembly (39). Lift control panel assembly (39) out of the pump unit subassembly (40). Make sure dangling cables do not get tangled with other equipment.



REPAIR

Pump Unit Assembly/
Wire (1)
Wire (2)

Replace authorized unserviceable parts. Fabricate new wire (1) according to figure D-16. Fabricate new wire (2) according to figure D-17.

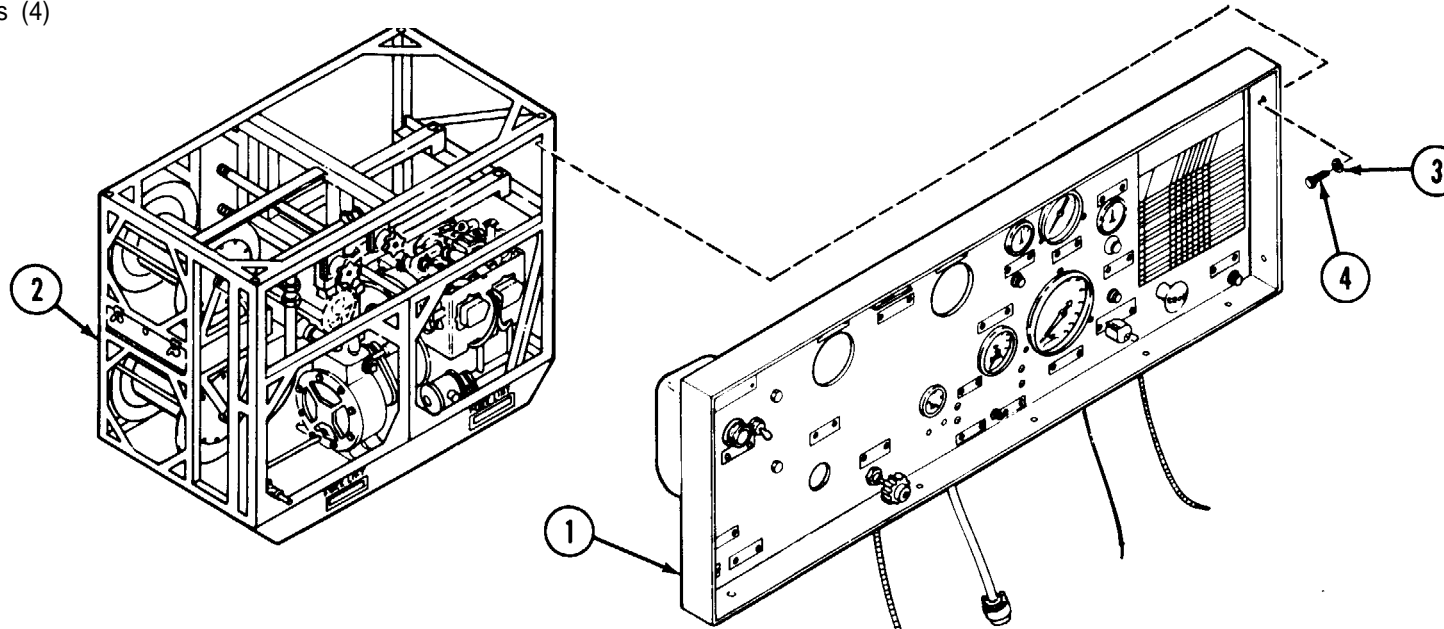


REASSEMBLY

Pump Unit Assembly/
Control panel assembly (1)
Pump unit subassembly (2)
Lock washers (3)
Hexagon head cap screws (4)

Position control panel assembly (1) into place. Guide loose ends of wires and cables through the pump unit subassembly (2) frame. Secure control panel assembly (1) with 14 lock washers (3) and hexagon head cap screws (4).

Connect the electrical wiring and cables to the engine as required to make operational. Some minor adjustments may be required to get proper movement of the throttle and choke after final assembly.



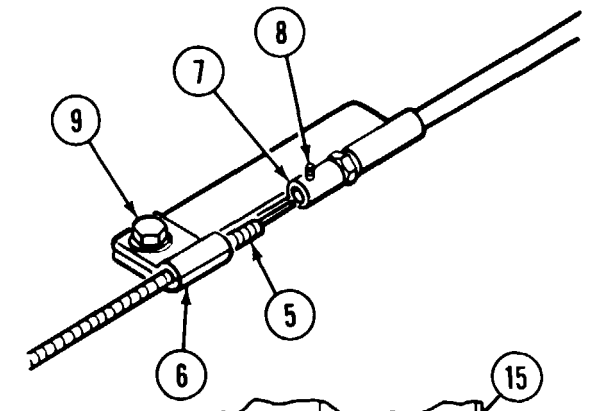
2-14. PUMP UNIT ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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REASSEMBLY (CONT)

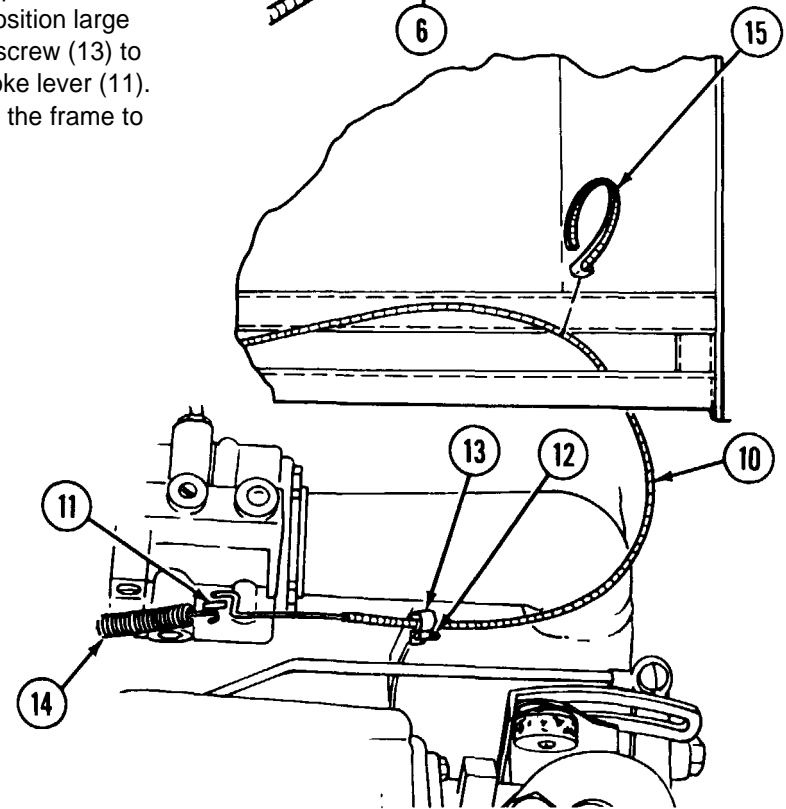
- Throttle cable (5)
- Throttle clamp (6)
- Throttle adapter (7)
- Setscrew (8)
- Bolt (9)

Slide throttle cable (5) into throttle clamp (6). Guide end of throttle into the throttle adapter (7) and tighten setscrew (8). Tighten bolt (9) to tighten throttle clamp (6).



- Choke cable (10)
- Choke lever (11)
- Clamp (12)
- Setscrew (13)
- Spring (14)
- Tiedown straps (15)

Route choke cable (10) underneath the frame of the pump unit sub-assembly and over to the carburetor as shown. Guide the preformed end of the choke cable (10) through hole in choke lever (11). Position large section of choke cable (10) into clamp (12) and tighten setscrew (13) to secure choke cable (10) in clamp. Attach spring (14) to choke lever (11). Use new tiedown straps (15) to secure choke cable (10) to the frame to keep it from flopping.



Pump Unit Assembly/

Wire (16)

Oil pressure switch (17)

Engine disconnect
cable (18)

Hexagon head cap
screw (19)

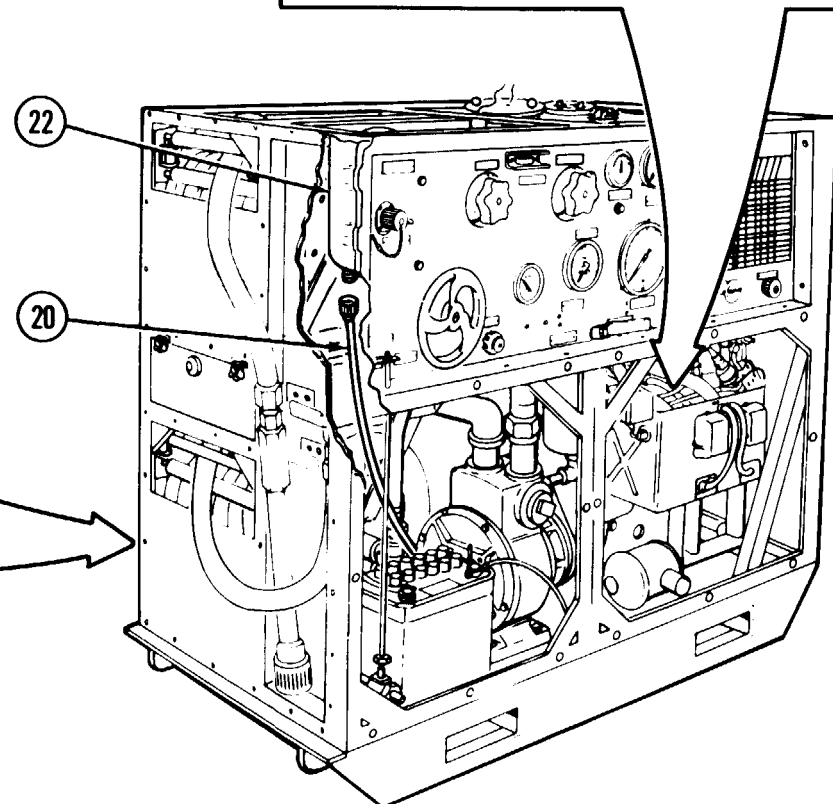
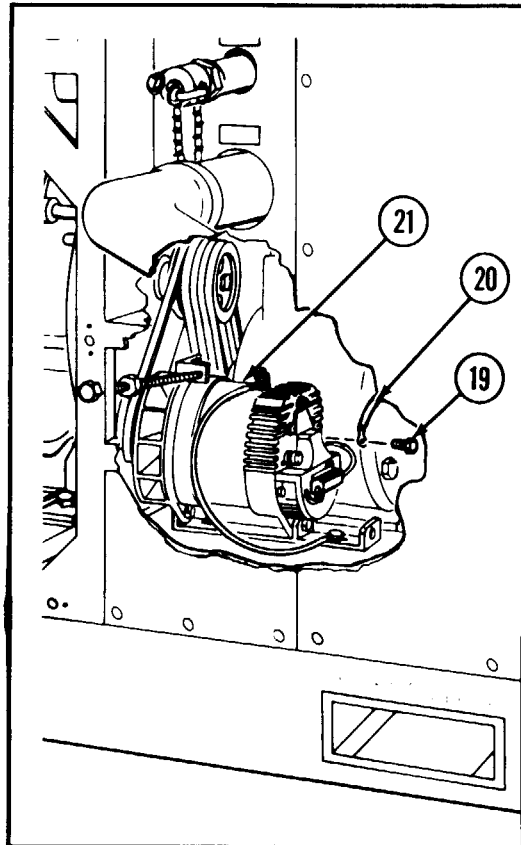
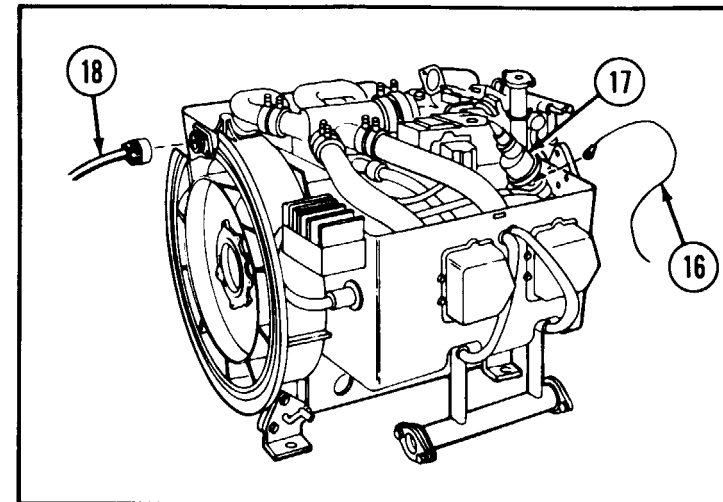
Cable (20)

Alternator assembly (21)

Alternator junction box (22)

Connect wire (16) from START-RUN-STOP SWITCH to the oil pressure switch (17) on the engine. Reconnect engine disconnect cable (18) (connected to TB1 at one end) to the rear of the engine.

Remove hexagon head cap screw with resistor lead (19) from alternator assembly (21). Position cable (20) on hexagon head cap screw (19) and reinstall hexagon head cap screw in alternator assembly (21). Route the cable (20) over and up to the bottom of alternator junction box (22) and connect.



2-14. PUMP UNIT ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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REASSEMBLY (CONT)

Loop clamp (23)
 Flat washer (24)
 Hexagon head cap screw (25)

Slide loop clamp (23) around cable (20) and secure with flat washer (24) and hexagon head cap screw (25).

Electrical connector cover (26)
 Machine screw (27)
 Hexagon head self-locking nut (28)

Screw electrical connector cover (26) onto HEATER RECEPTACLE AND SWITCH socket on the alternator junction box (22). Secure the end of chain with machine screw (27) and hexagon head self-locking nut (28).

NOTE
 Handwheel may be held on with a drive pin.

Handwheel(29)
 Setscrew (30)

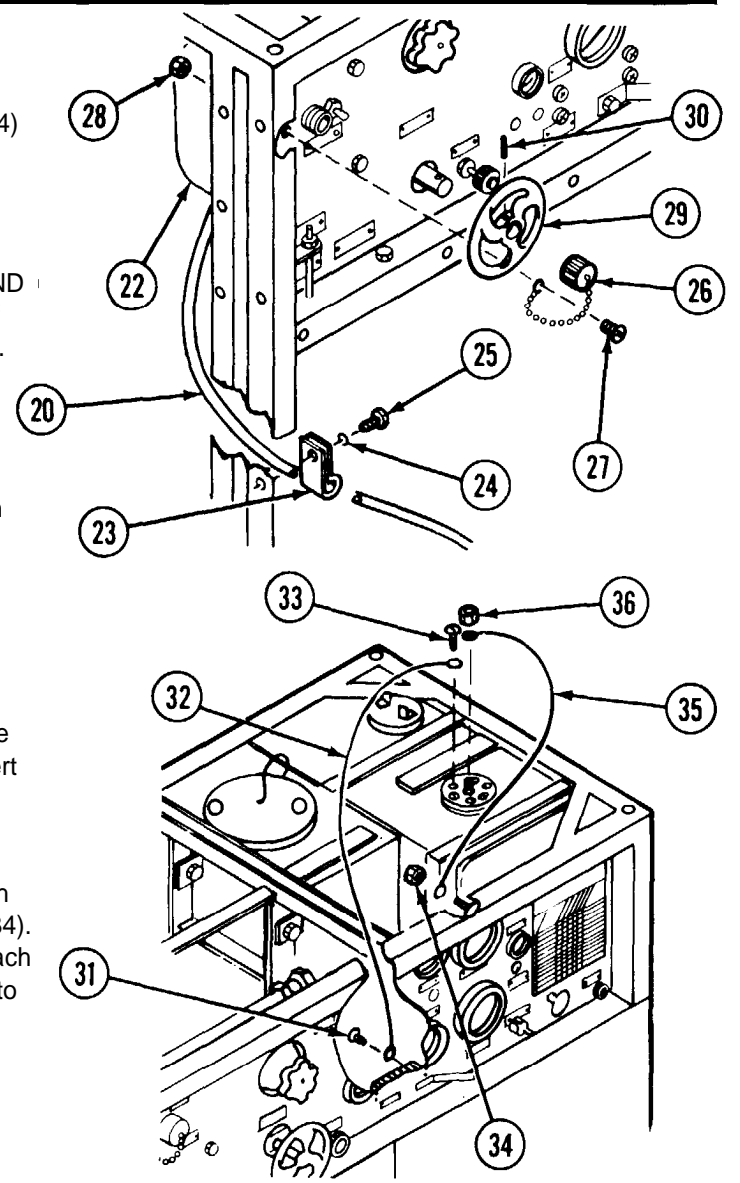
Slide handwheel (29) onto VALVE NO. 1 MANIFOLD stem and tighten setscrew (30).

Screw (31)
 Wire (32)
 Machine screw (33)

Remove screw (31) from TB1-G and install wire (32). Remove machine screw (33) with lock washer from fuel quantity transmitter flange. Insert machine screw (33) through terminal on end of wire (32) and reinstall machine screw (33) with lock washer and tighten.

Nut (34)
 Wire (35)
 Nut (36)

Remove nut (34) from top screw securing the VACUUM GAGE. Attach terminal lug on end of wire (35) to end of top screw and reattach nut (34). Remove nut (36) from center stud on fuel quantity transmitter and attach terminal lug on end of wire (35) to stud. Reattach nut (36) and tighten to secure wire (35).

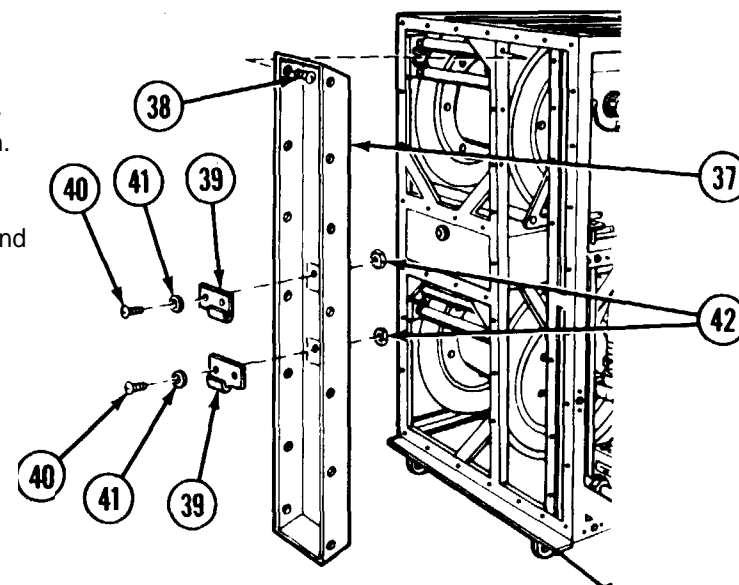


Pump Unit Assembly/
Shell (37)
Thread tapping screws (38)

Insert shell (37) into position and adjust so edge is recessed about 1/4 inch inside the frame. Install 14 thread tapping screws (38) and tighten.

Gun bracket (39)
Machine screws (40)
Flat washers (41)
Hexagon head self-locking nuts (42)

Position gun bracket (39) onto shell (37) and align holes. Install two machine screws (40) and flat washers (41) through gun bracket (39) and shell. Secure with hexagon head self-locking nuts (42). Repeat procedures for mounting other gun bracket.



2-15. ENGINE FUEL TANK.

This task covers:

- Disassembly
- Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Materials/Parts

Antiseizing tape (item 38, app C)
General purpose lubricating oil (item 24, app C)
Polyurethane coating (green) (item 29, app C)
Wire brush (item 7, app C)

References

TM 38-230-1
TM 43-0139

Equipment Condition

Unit maintenance authorized components are removed in
TM 3-4230-209-20&P and are not covered in this manual.

Special Safety Instructions

WARNING

Gasoline vapor in the fuel tank is hazardous. Purge the fuel tank before performing maintenance. Smoking or open flame around the fuel tank is prohibited.

2-15. ENGINE FUEL TANK (CONT).

LOCATION/ITEM

ACTION

REMARKS

DISASSEMBLY

Engine Fuel Tank/

Machine screws (1)

Internal tooth lock
washers (2)

Fuel quantity transmitter (3)

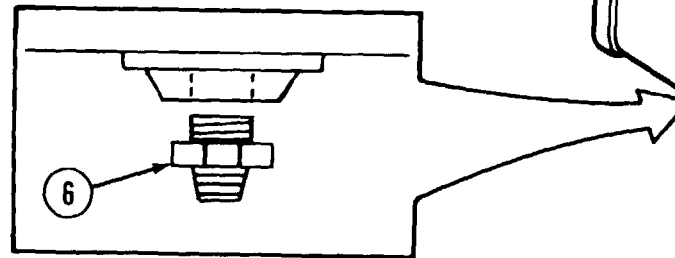
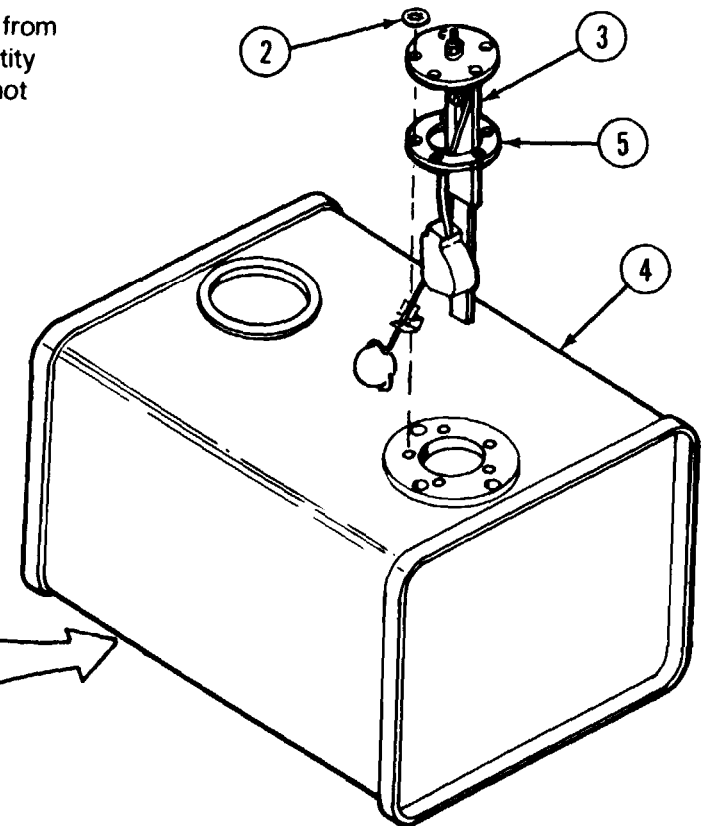
Fuel tank (4)

Gasket (5)

Pipe reducer (6)

Remove five machine screws (1) and internal tooth lock washers (2) from around the fuel quantity transmitter (3). Carefully work the fuel quantity transmitter (3) out of the fuel tank (4). Make certain movable arm is not damaged during disassembly. Remove the gasket (5).

Remove pipe reducer (6) from the bottom of the fuel tank (4).



REPAIR

Engine Fuel Tank/

Replace authorized unserviceable parts. Paint exposed external metal surfaces with polyurethane coating and small paint brush.

Fuel tanks not being returned to the user will be fogged with general purpose lubricating oil in accordance with TM 38-230-1.

REASSEMBLY

Engine Fuel Tank/

Pipe reducer (1)

Boss (2)

Fuel tank (3)

Gasket (4)

Fuel quantity transmitter (5)

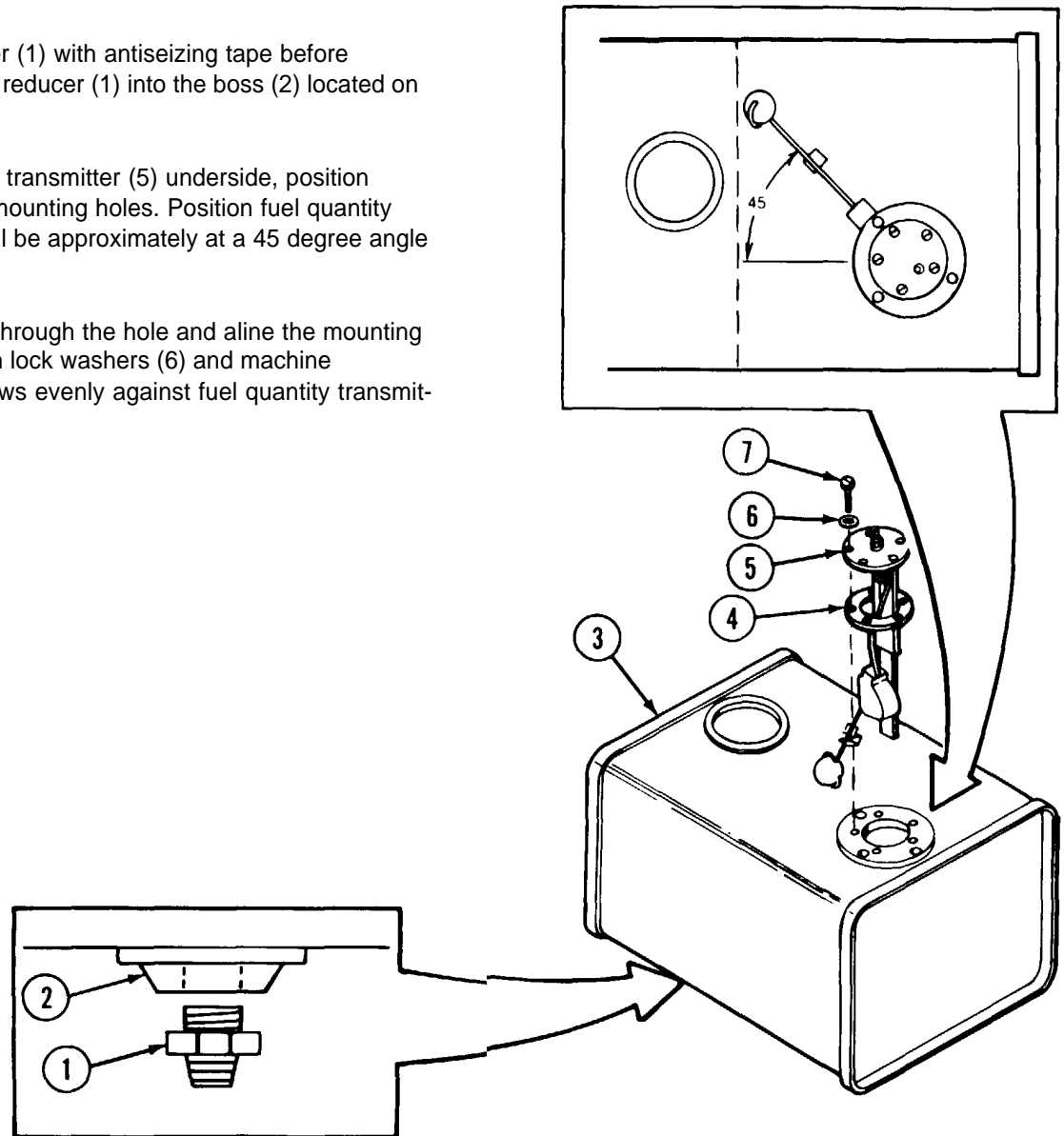
Internal tooth lock
washer (6)

Machine screws (7)

Wrap male threads of pipe reducer (1) with antiseizing tape before installing it in boss (2). Install pipe reducer (1) into the boss (2) located on the bottom of the fuel tank (3).

Slide gasket (4) onto fuel quantity transmitter (5) underside, position against the flange, and align the mounting holes. Position fuel quantity transmitter (5) so movable arm will be approximately at a 45 degree angle inside the tank when secured.

Carefully guide the movable arm through the hole and align the mounting holes. Install the five internal tooth lock washers (6) and machine screws (7). Tighten machine screws evenly against fuel quantity transmitter (5) flange.



2-16. PUMP UNIT SUBASSEMBLY.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

References

TM 3-4230-209-20&P
TM 43-0139

Materials/Parts

- Adhesive (item 1, app C)
- Antiseizing tape (item 38, app C)
- Paint brush (item 6, app C)
- Polyurethane coating (green) (item 29, app C)
- Gasket (fig D-21)
- Gasket (fig D-22)
- Gasket (fig D-23)
- Gasket (fig D-24)
- Gasket (fig D-25)

Personnel Required

4

Equipment Condition

Unit maintenance authorized components are removed in TM 3-4230-209-20&P and are not covered in this manual.

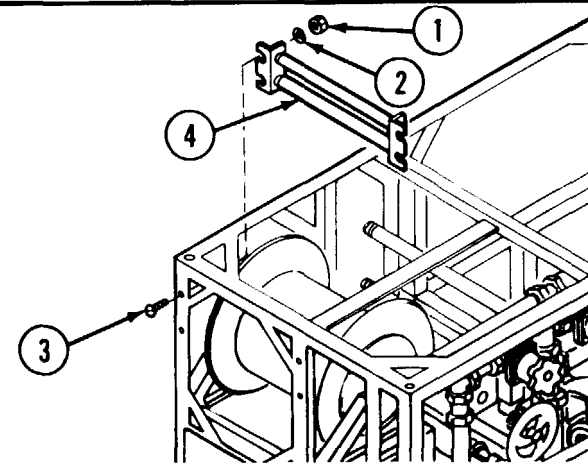
LOCATION/ITEM	ACTION	REMARKS
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DISASSEMBLY

Pump Unit Subassembly/

- Hexagon self-locking nuts (1)
- Flat washers (2)
- Machine screws (3)
- Fairlead assembly (4)

Remove four self-locking nuts (1), flat washers (2) and machine screws (3), while supporting fairlead assembly (4). Lift fairlead assembly (4). Repeat for the remaining fairlead assembly (4).

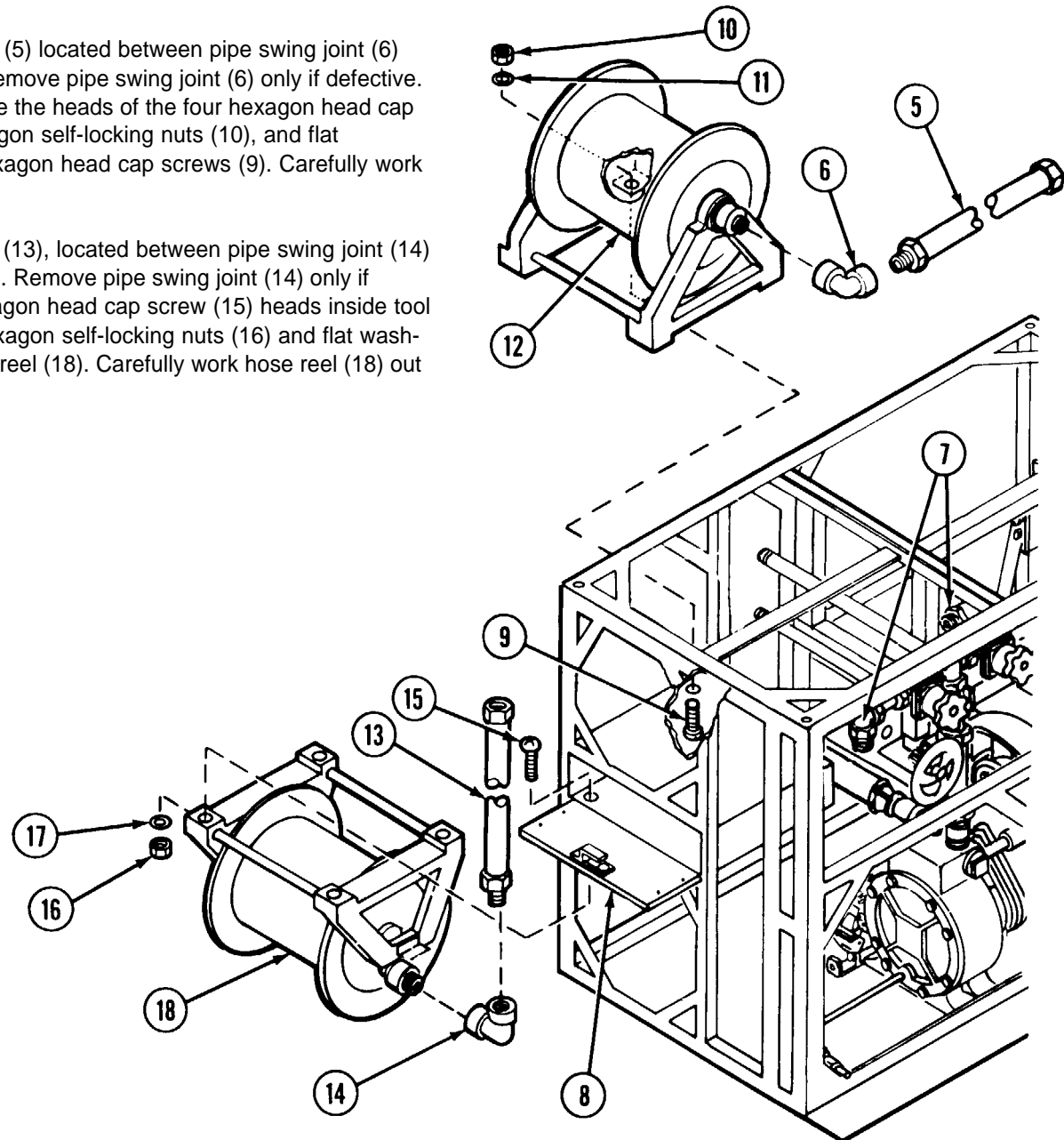


Pump Unit Subassembly/

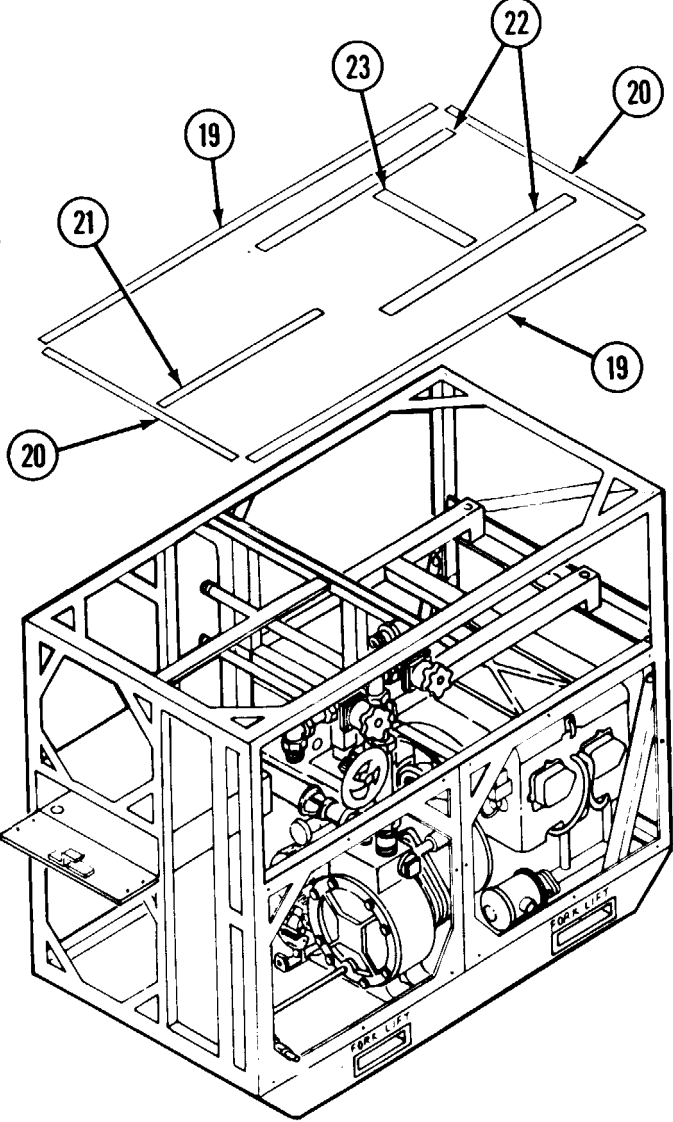
- Outlet hose assembly (5)
- Pipe swing joint (6)
- Plumbing assembly (7)
- Tool box lid (8)
- Hexagon head cap screws (9)
- Hexagon self-locking nuts (10)
- Flat washers (11)
- Hose reel (12)
- Outlet hose assembly (13)
- Pipe swing joint (14)
- Hexagon head cap screws (15)
- Hexagon self-locking nuts (16)
- Flat washers (17)
- Hose reel (18)

Remove outlet hose assembly (5) located between pipe swing joint (6) and plumbing assembly (7). Remove pipe swing joint (6) only if defective. Open tool box lid (8) and locate the heads of the four hexagon head cap screws (9). Remove four hexagon self-locking nuts (10), and flat washers (11) from the four hexagon head cap screws (9). Carefully work hose reel (12) out of the unit.

Remove outlet hose assembly (13), located between pipe swing joint (14) and the plumbing assembly (7). Remove pipe swing joint (14) only if defective. Locate the four hexagon head cap screw (15) heads inside tool box area. Remove the four hexagon self-locking nuts (16) and flat washers (17) while supporting hose reel (18). Carefully work hose reel (18) out of the unit.



2-16. PUMP UNIT SUBASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY (CONT)		
Gaskets (19) Gaskets (20) Gasket (21)	Scrape two gaskets (19), gaskets (20), and one gasket (21) from top of the metal frame only if they are brittle or damaged.	
Gaskets (22) Gasket (23)	Scrape two gaskets (22) and one gasket (23) from the frame inside unit.	

Pump Unit Subassembly/

- Machine bolts (24)
- Flat washers (25)
- Hexagon self-locking nuts (26)
- Hexagon head cap screws (27)
- Flat washers (28)
- Fuel tank support frame assembly (29)
- Channel clamping nuts (30)

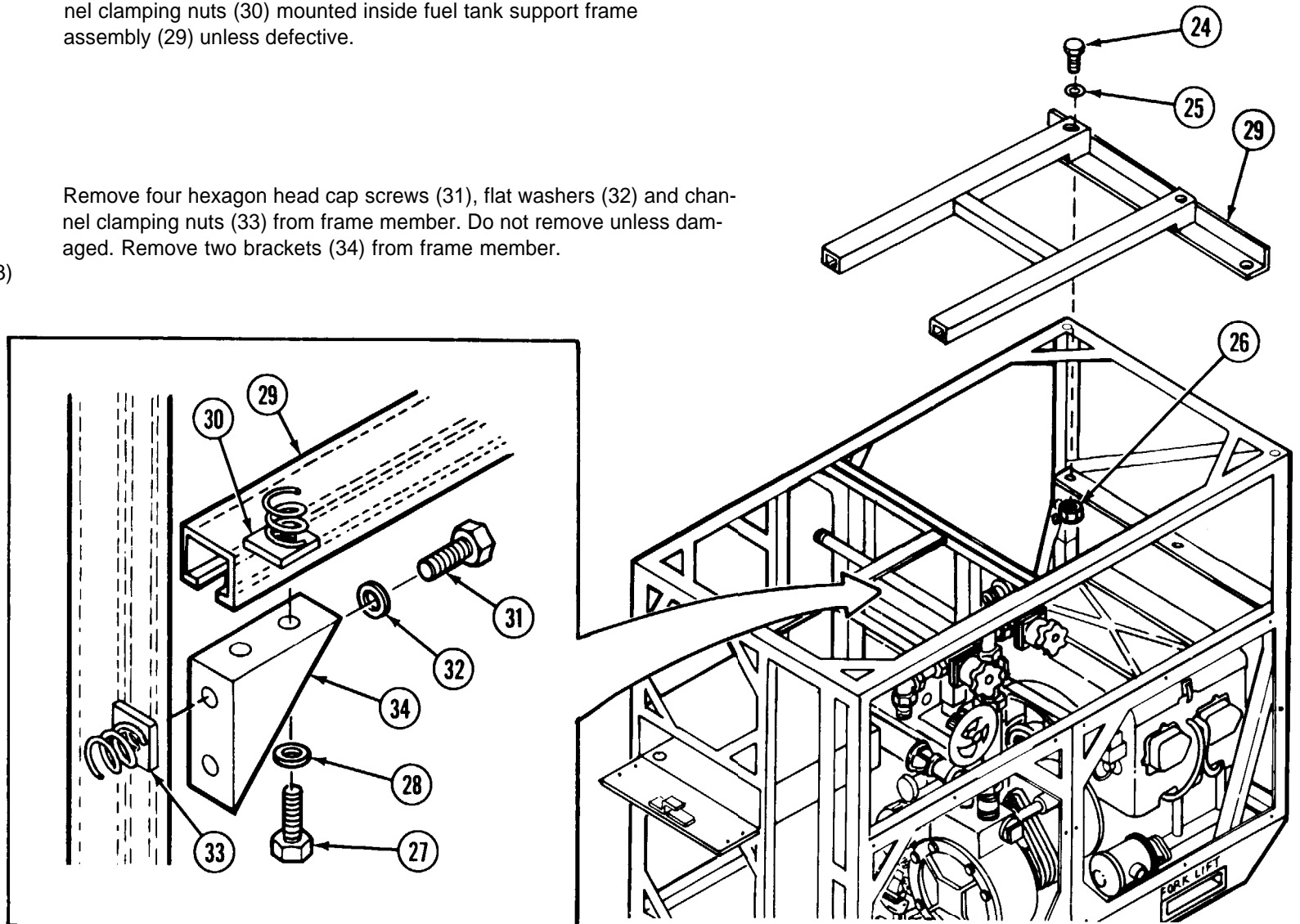
- Hexagon head cap screws (31)
- Flat washers (32)
- Channel clamping nuts (33)
- Brackets (34)

Remove two machine bolts (24), flat washers (25), and hexagon self-locking nuts (26).

Remove four hexagon head cap screws (27) and flat washers (28). Lift out fuel tank support frame assembly (29). Do not remove the four channel clamping nuts (30) mounted inside fuel tank support frame assembly (29) unless defective.

Remove four hexagon head cap screws (31), flat washers (32) and channel clamping nuts (33) from frame member. Do not remove unless damaged. Remove two brackets (34) from frame member.

Do not remove fuel tank support frame assembly (29) unless damaged.



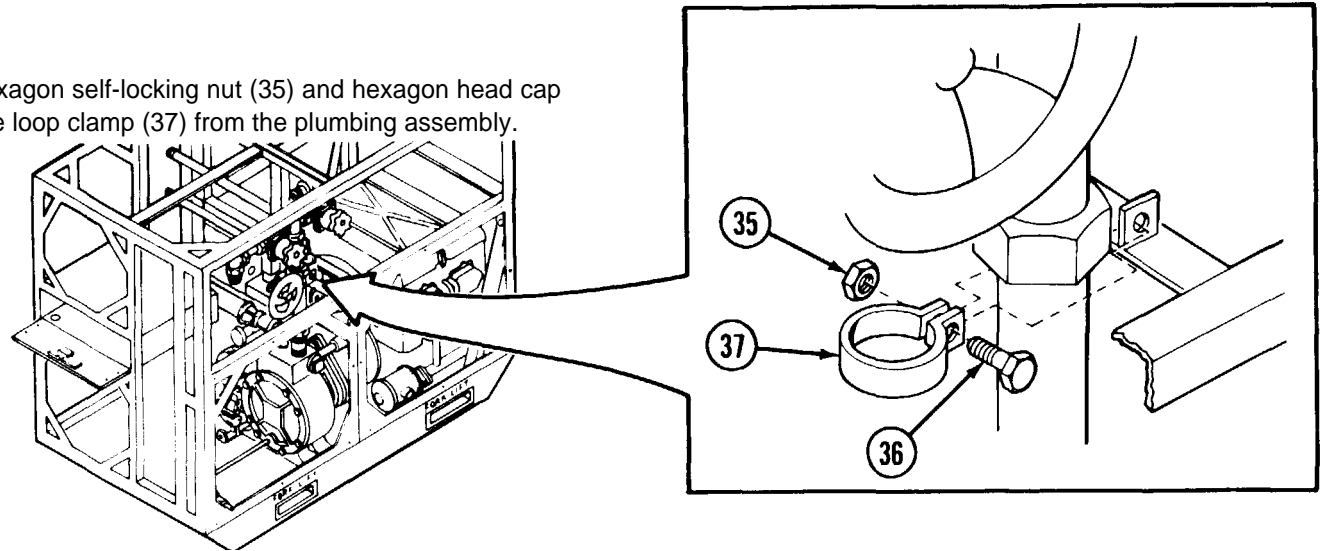
2-16. PUMP UNIT SUBASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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DISASSEMBLY (CONT)

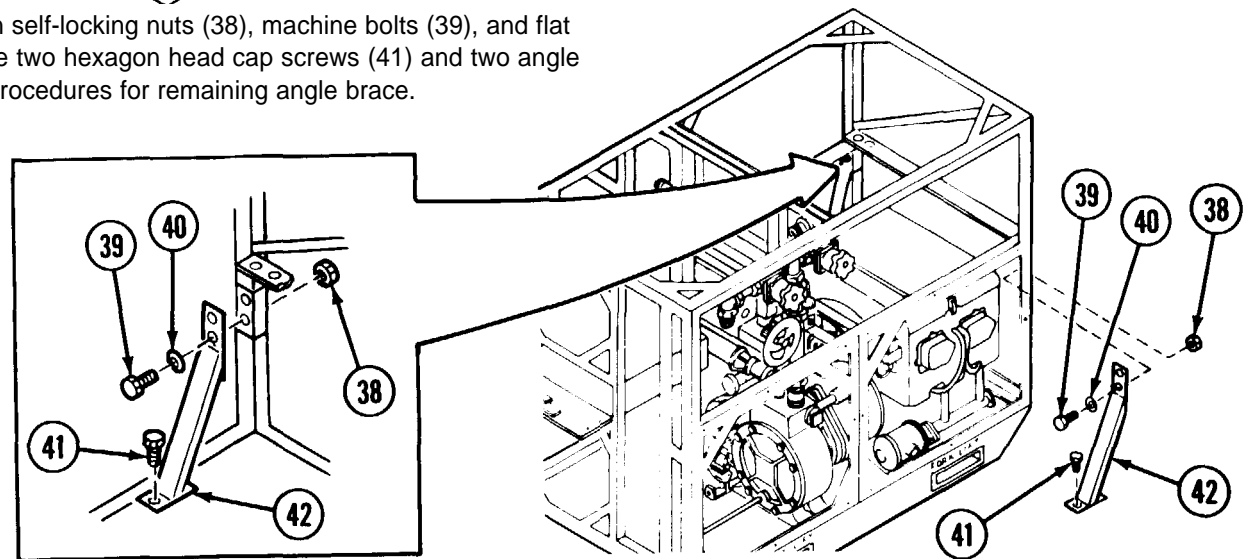
- Hexagon self-locking nut (35)
- Hexagon head cap screw (36)
- Loop clamp (37)

Remove one hexagon self-locking nut (35) and hexagon head cap screw (36). Slide loop clamp (37) from the plumbing assembly.



- Hexagon self-locking nuts (38)
- Machine bolts (39)
- Flat washers (40)
- Hexagon head cap screws (41)
- Angle braces (42)

Remove four hexagon self-locking nuts (38), machine bolts (39), and flat washers (40). Remove two hexagon head cap screws (41) and two angle braces (42). Repeat procedures for remaining angle brace.



Pump Unit Subassembly/

Hexagon head cap
screws (43)

Spring lock washers (44)

Hexagon head cap
screws (45)

Frame assembly (46)

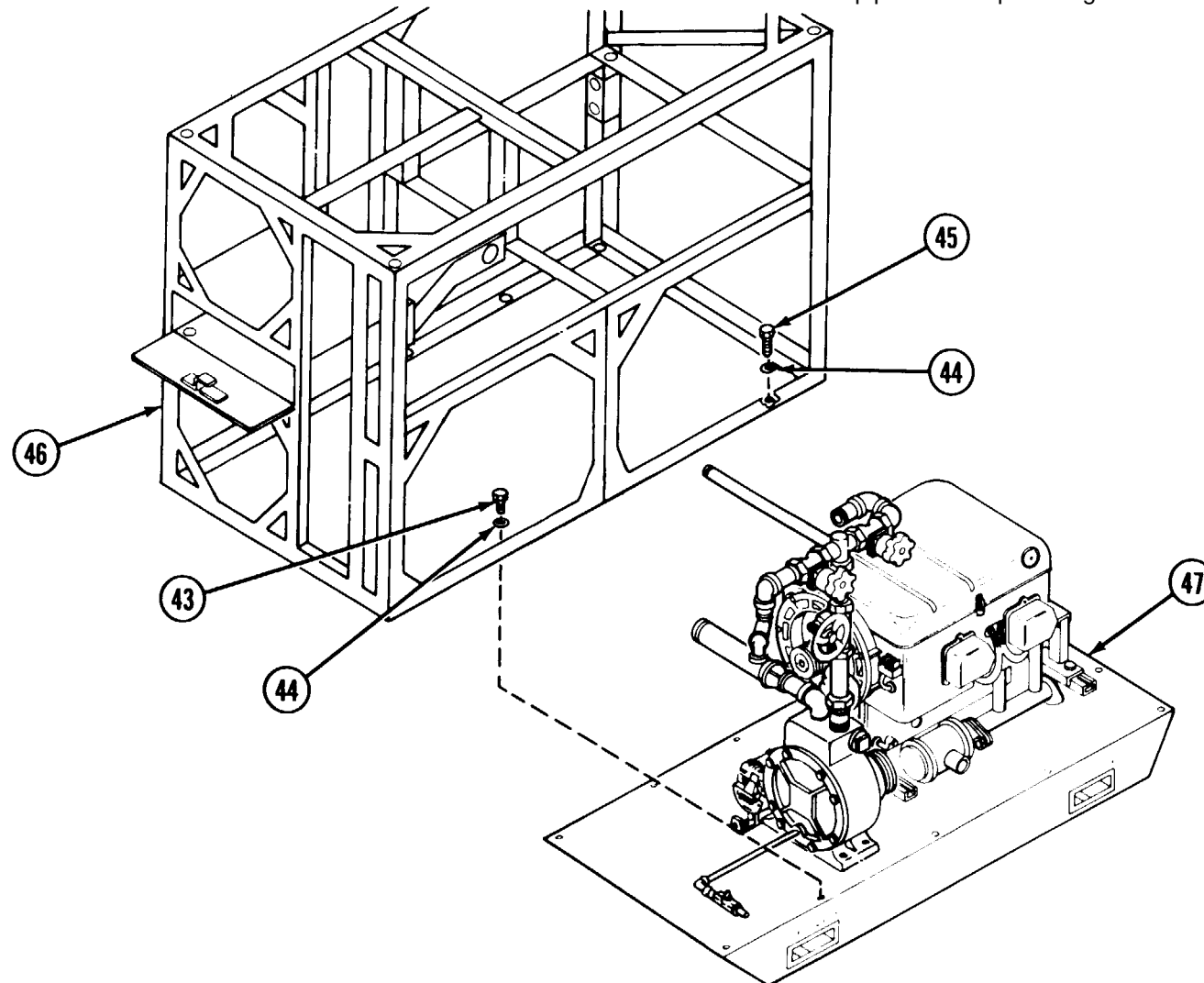
Skid base subassembly (47)

Remove ten hexagon head cap screws (43) and spring lock washers (44).

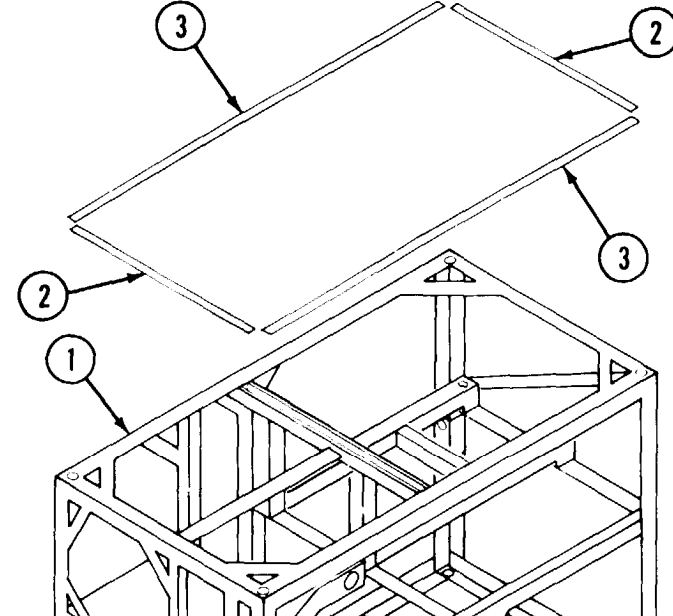
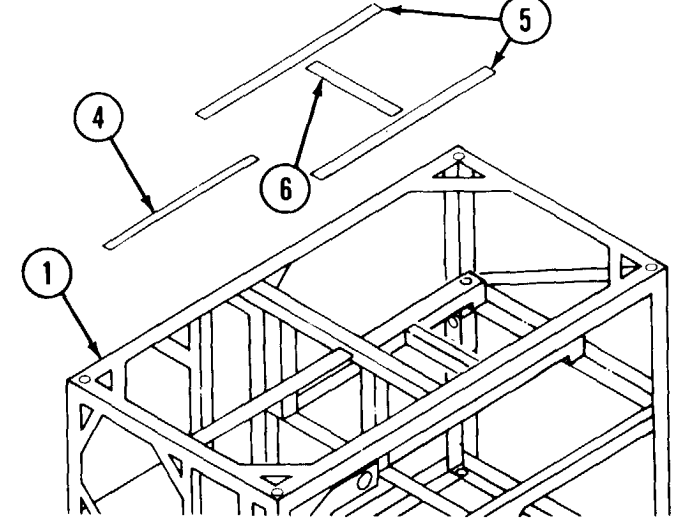
Remove two hexagon head cap screws (45) and spring lock washers (44).

With one soldier at each corner, lift frame (46) straight up from skid base subassembly (47).

To remove frame assembly (46), remove discharge pipes. See plumbing assembly (para 2-21).



2-16. PUMP UNIT SUBASSEMBLY (CONT).

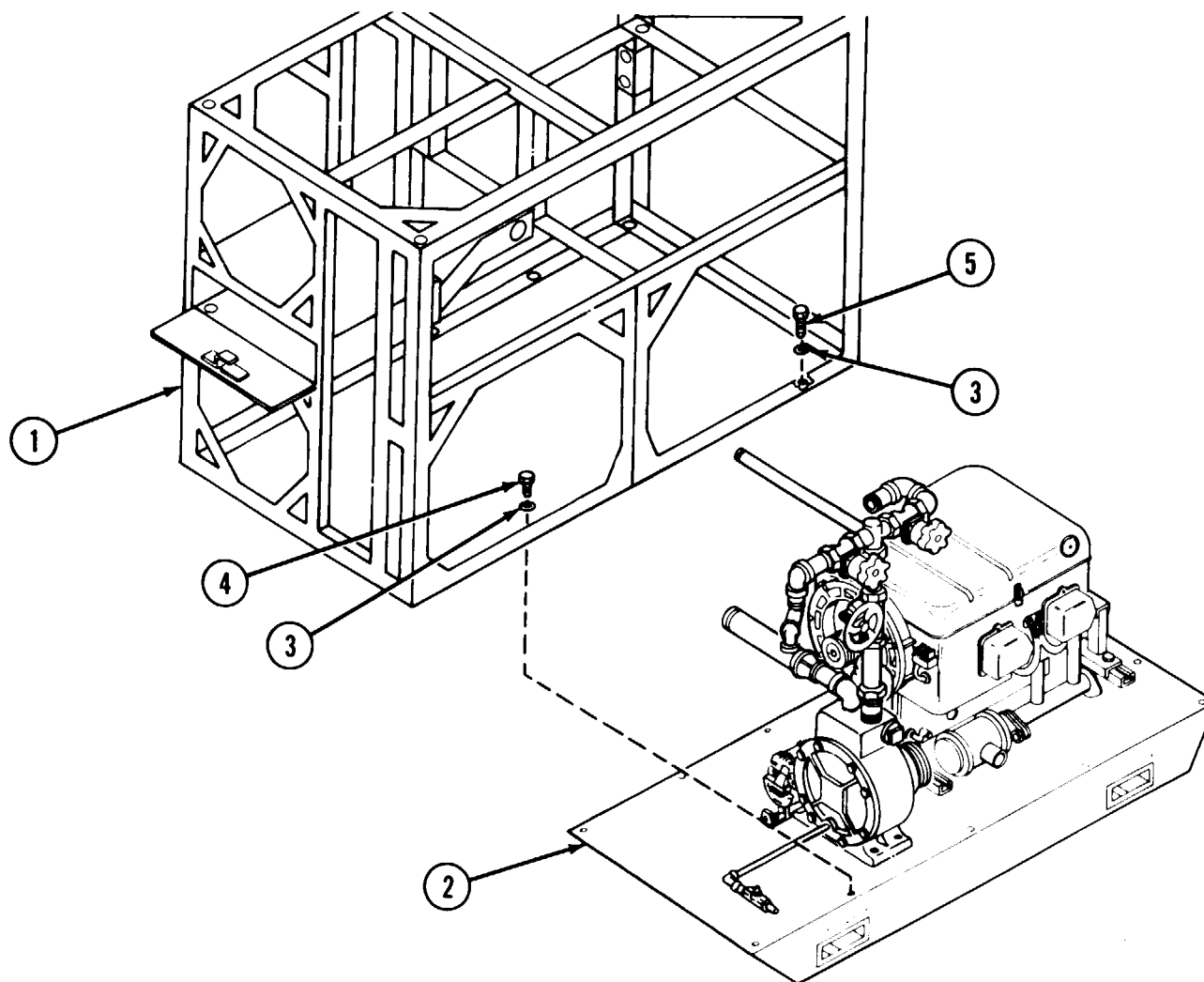
LOCATION/ITEM	ACTION	REMARKS
<div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">REPAIR</div> <p>Pump Unit Subassembly/ Pump unit frame assembly (1) Gaskets (2 and 3)</p>	<p>Replace authorized unserviceable parts.</p> <p>Clean pump unit frame assembly (1) and paint with polyurethane coating. See TM 43-0139.</p> <p>Fabricate gasket (2) according to figure D-21. Using adhesive, bond gasket (2) to the frame on the two top ends.</p> <p>Fabricate gasket (3) according to figure D-22. Using adhesive, bond gasket (3) to the frame on the two top sides.</p>	 <p>The diagram shows a perspective view of a rectangular metal frame assembly labeled (1). Two long, thin gaskets labeled (2) are being attached to the top horizontal members of the frame. Two more long, thin gaskets labeled (3) are being attached to the top vertical members of the frame.</p>
<p>Gaskets (4 thru 6)</p>	<p>Fabricate gasket (4) according to figure D-23. Using adhesive, bond gasket (4) to the frame on the top center.</p> <p>Fabricate gasket (5) according to figure D-24. Using adhesive, bond gasket (5) to the top of the tank frame assembly.</p> <p>Fabricate gasket (6) according to figure D-25. Using adhesive, bond gasket (6) to the top of the tank frame assembly cross member.</p>	 <p>The diagram shows a perspective view of the same rectangular metal frame assembly labeled (1). A gasket labeled (4) is being attached to the top center horizontal member. A gasket labeled (5) is being attached to the top vertical member. A gasket labeled (6) is being attached to a horizontal cross member near the top of the frame.</p>

REASSEMBLY

- Pump Unit Subassembly/
Frame assembly (1)
- Skid base subassembly (2)
- Spring lock washers (3)
- Hexagon head cap screws (4)
- Hexagon head cap screws (5)

With one soldier at each corner, lift frame assembly (1) up over the skid base subassembly (2) and lower into place. Position to align as many mounting holes as possible. Install ten spring lock washers (3) and hexagon head cap screws (4) fingertight. Install two spring lock washers (3) and hexagon head cap screws (5).

After frame assembly (1) is positioned on skid base subassembly (2), refer to plumbing assembly (para 2-21) to install lower discharge pipe.



2-16. PUMP UNIT SUBASSEMBLY (CONT).

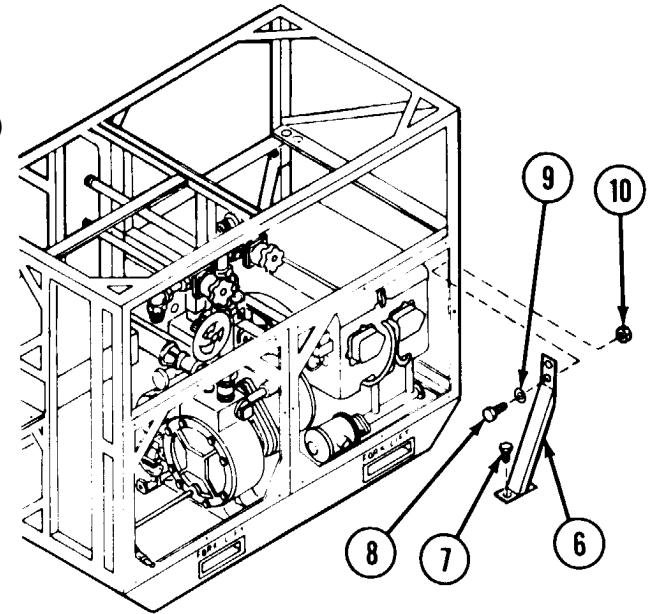
LOCATION/ITEM	ACTION	REMARKS
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REASSEMBLY (CONT)

Pump Unit Subassembly/

- Angle brace (6)
- Hexagon head cap screws (7)
- Machine bolts (8)
- Flat washers (9)
- Hexagon self-locking nuts (10)

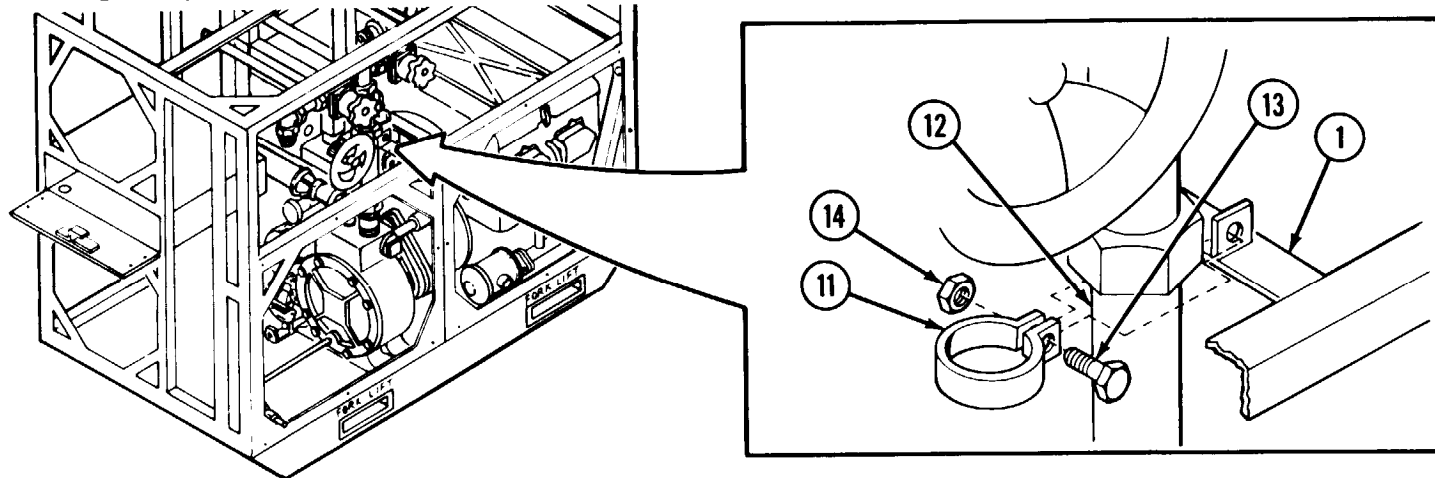
Place angle brace (6) in place and install two hexagon head cap screws (7) in the bottom holes. Install four machine bolts (8), flat washer (9) and hexagon self-locking nuts (10). Tighten only slightly. Repeat procedure for remaining bracket.



- Loop clamp (11)
- Plumbing assembly pipe (12)
- Hexagon head cap screw (13)
- Hexagon self-locking nut (14)

Slide loop clamp (11) around the plumbing assembly pipe (12) just below connection. Position frame assembly (1) so loop clamp (11) will mate with tab on frame. Install hexagon head cap screw (13) and secure with hexagon self-locking nut (14).

Begin to tighten all screws, bolts, and nuts (from 14 back to 4) until tight.



Channel clamping nuts (15)
Brackets (16)
Flat washers (17)
Hexagon head cap screws (18)

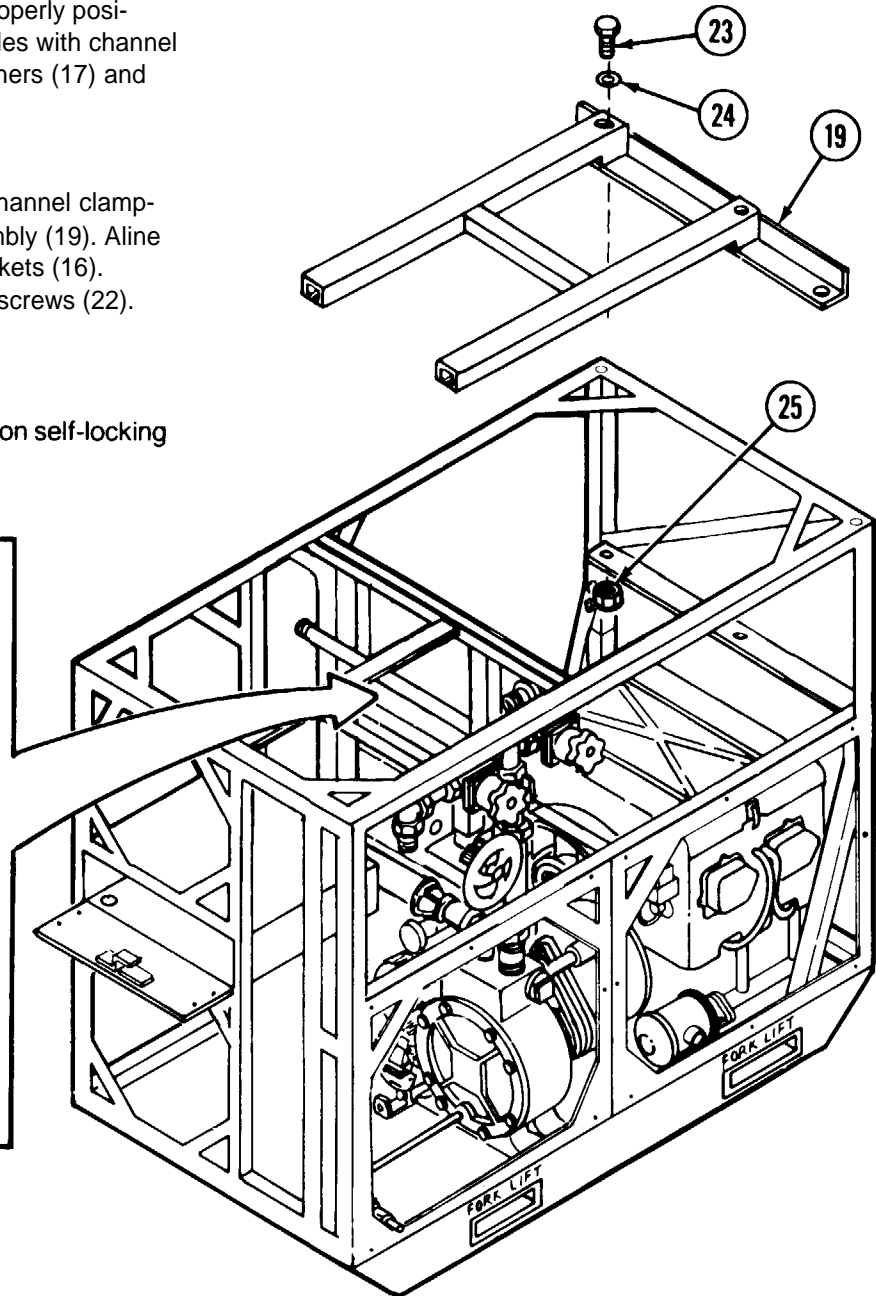
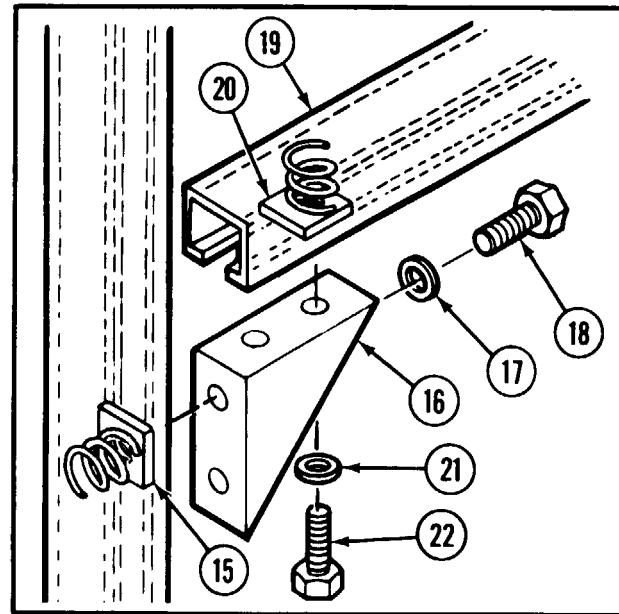
Make sure channel clamping nuts (15) are installed and properly positioned in frame member. Position brackets (16) to align holes with channel clamping nuts (15). Secure each bracket with two flat washers (17) and hexagon head cap screws (18) and tighten.

Fuel tank support frame assembly (19)
Channel clamping nuts (20)
Flat washers (21)
Hexagon head cap screws (22)

Position fuel tank support frame assembly (19) with four channel clamping nuts (20) installed inside fuel tank support frame assembly (19). Align channel clamping nuts (20) so they align with holes in brackets (16). Secure with four flat washers (21) and hexagon head cap screws (22).

Machine bolts (23)
Flat washers (24)
Hexagon self-locking nuts (25)

Install two machine bolts (23), flat washers (24) and hexagon self-locking nuts (25).



2-16. PUMP UNIT SUBASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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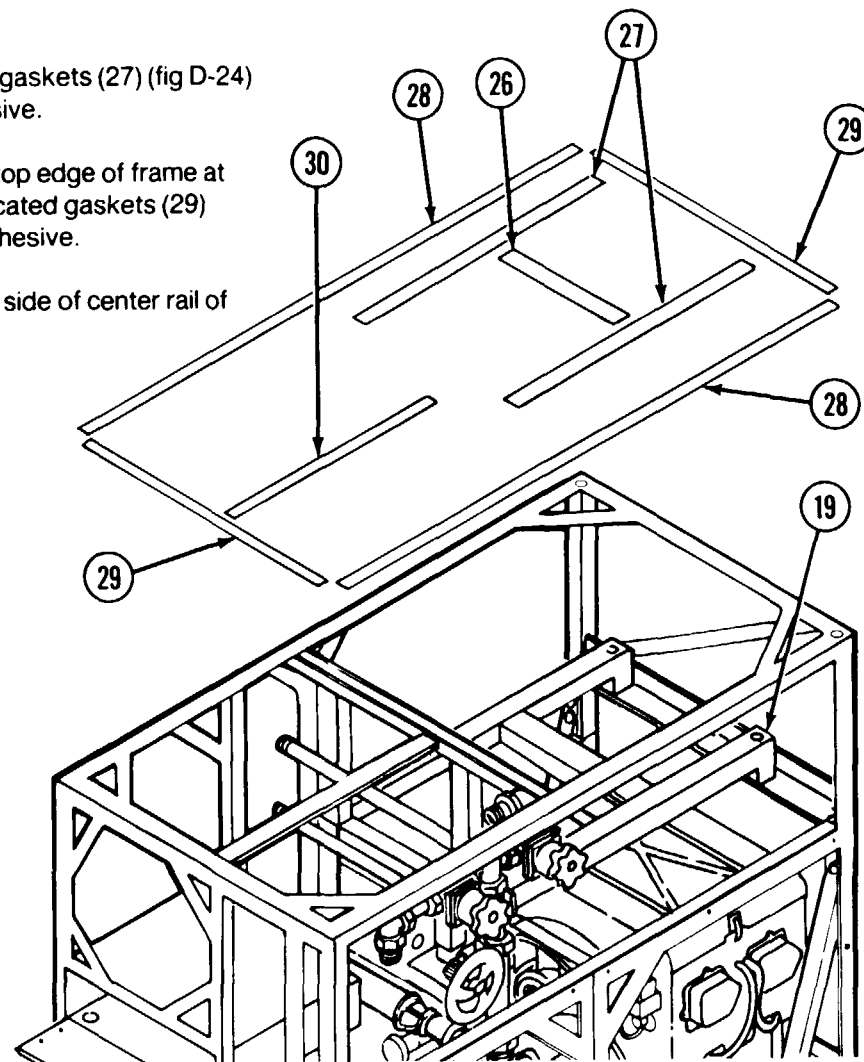
REASSEMBLY (CONT)

Pump Unit Subassembly/
Gaskets (26 thru 30)

Bond new fabricated gasket (26) (fig D-25) and two gaskets (27) (fig D-24) to fuel tank support frame assembly (19) with adhesive.

Bond two new fabricated gaskets (28) (fig D-21) to top edge of frame at each end of unit with adhesive. Bond two new fabricated gaskets (29) (fig D-22) to upper side of side rails of frame with adhesive.

Bond new fabricated gasket (30) (fig D-23) to upper side of center rail of frame.



Pipe swing joint (31)
Hose reel (32)

Install pipe swing joint (31) onto hose reel (32). Carefully slide hose reel (32) into the lower opening of the pump unit subassembly.

Tool box lid (33)
Hexagon head cap screws (34)
Flat washers (35)
Hexagon self-locking nuts (36)

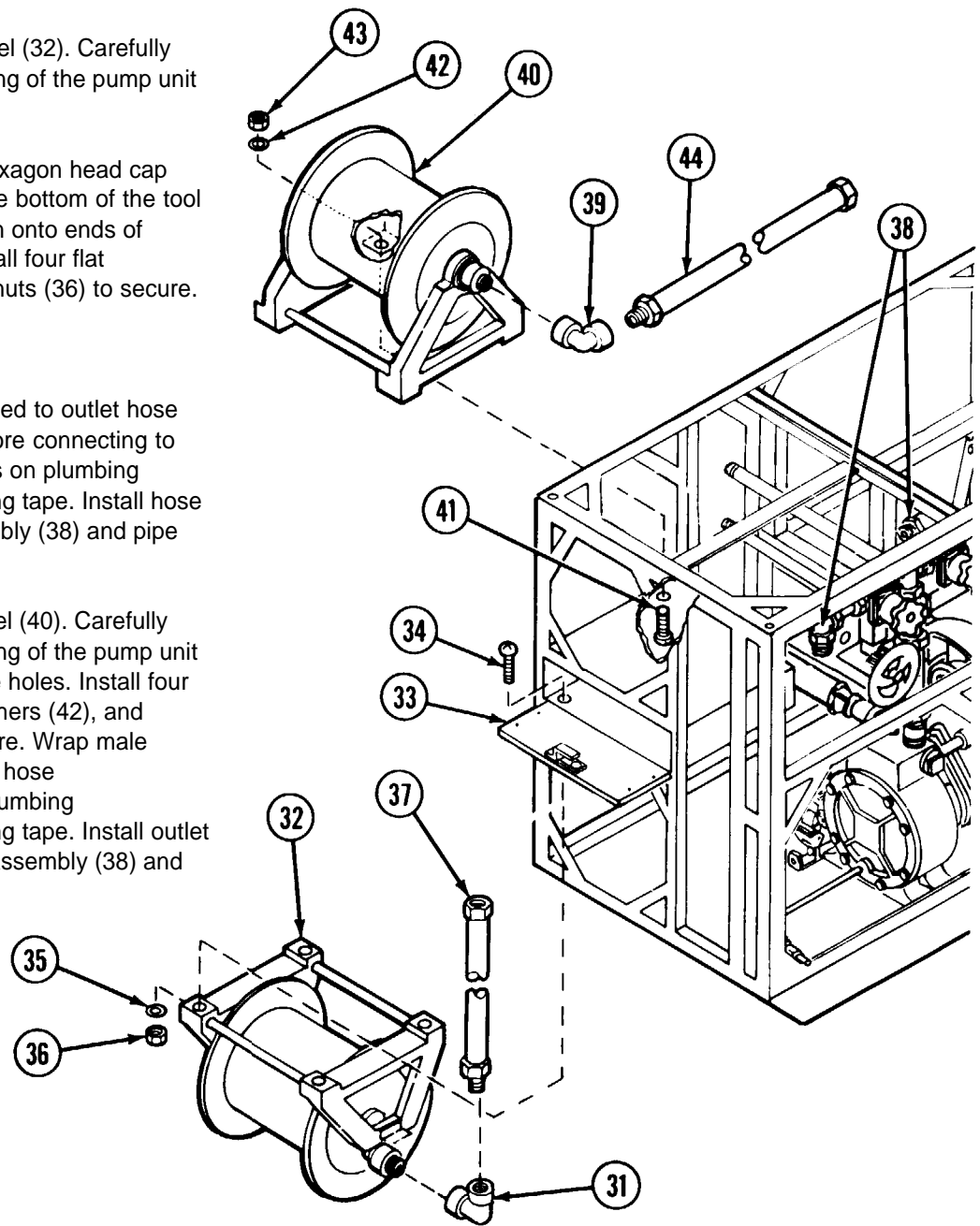
Open tool box lid (33) and insert four hexagon head cap screws (34) through the four holes in the bottom of the tool box area. Lift hose reel (32) and position onto ends of hexagon head cap screws (34) and install four flat washers (35) and hexagon self-locking nuts (36) to secure.

Outlet hose assembly (37)
Plumbing assembly (38)

Wrap male threads of pipe nipple attached to outlet hose assembly (37) with antiseizing tape before connecting to pipe swing joint (31). Wrap male threads on plumbing assembly (38) pipe nipple with antiseizing tape. Install hose assembly (37) between plumbing assembly (38) and pipe swing joint (31).

Pipe swing joint (39)
Hose reel (40)
Hexagon head cap screws (41)
Flat washers (42)
Hexagon self-locking nuts (43)
Outlet hose assembly (44)

Install pipe swing joint (39) onto hose reel (40). Carefully slide hose reel (40) into the upper opening of the pump unit subassembly. Position hose reel to align holes. Install four hexagon head cap screws (41), flat washers (42), and hexagon self-locking nuts (43) and secure. Wrap male threads of pipe nipple attached to outlet hose assembly (44). Wrap male threads on plumbing assembly (38) pipe nipple with antiseizing tape. Install outlet hose assembly (44) between plumbing assembly (38) and pipe swing joint (39).



2-16. PUMP UNIT SUBASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)	<p>Pump Unit Subassembly/ Fairlead assembly (45) Machine screws (46) Flat washers (47) Hexagon self-locking nuts (48)</p> <p>Position fairlead assembly (45) inside frame and align slots to mate with the holes in frame. Insert four machine screws (46) through holes and slot on fairlead assembly (45) and secure with flat washers (47) and hexagon self-locking nuts (48). Repeat for remaining fairlead assembly.</p>	

2-17. OUTLET HOSE ASSEMBLY.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP**Tools and Special Tools**

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)
Strap band clamping tools (P38)

Materials/Parts

Adhesive (item 1, app C)
Hose (fig D-26)
Hose (fig D-27)

Equipment Condition

Outlet hose assembly is removed from pump unit subassembly. See paragraph 2-16 for procedures to disassemble/reassemble.

DISASSEMBLY

Outlet Hose Assembly/

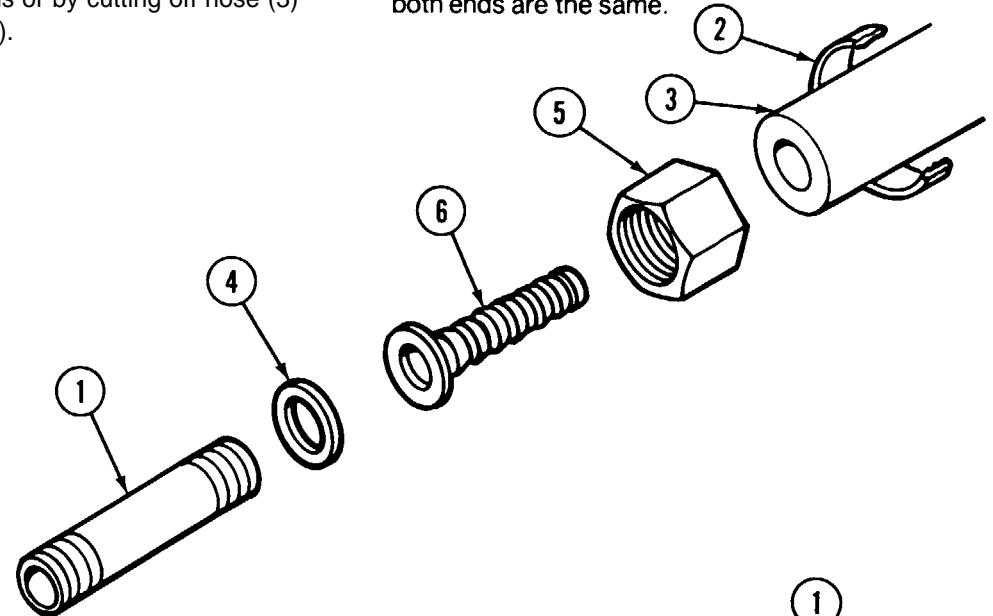
Pipe nipple (1)
Hose clamps (2)
Hose (3)

Gasket (4)
Nut (5)
Stem (6)

Remove pipe nipple (1) and retain. Remove two hose clamps (2) by driving a flat bladed tool between buckles and bands or by cutting off hose (3) directly behind the end of last hose clamp (2).

Remove gasket (4). Grasp hose (3) and pull out nut (5). Separate stem (6) from nut (5). Keep serviceable items.

Only one end of the hose assembly is shown because both ends are the same.



REPAIR

Outlet Hose Assembly/

Hose clamps (1)

Nut (2)

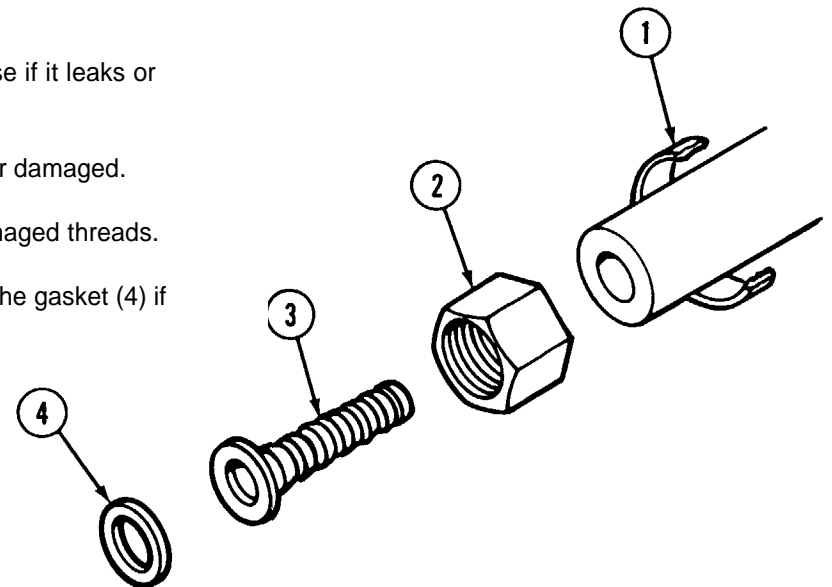
Stem (3)
Gasket (4)

Replace authorized unserviceable parts. Replace outlet hose if it leaks or is brittle.

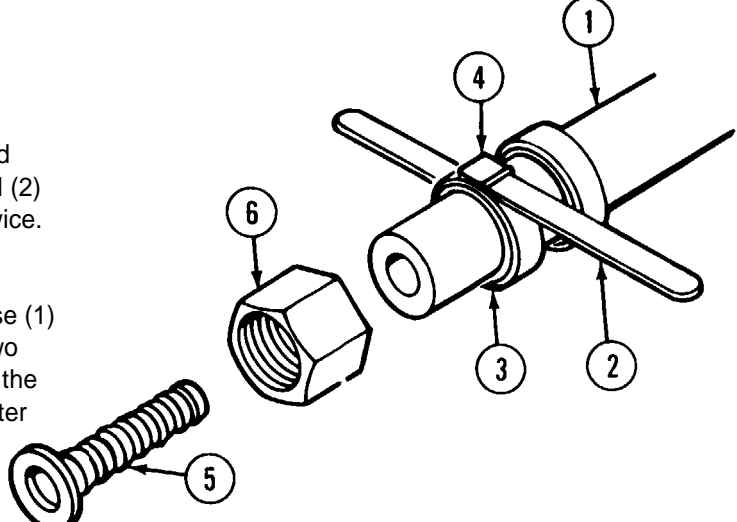
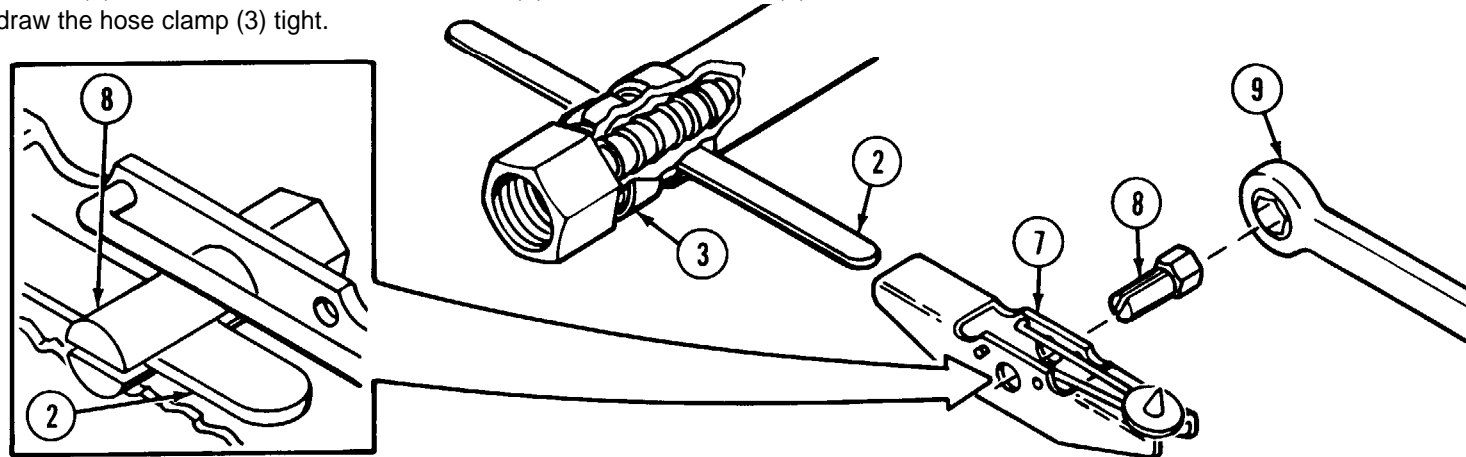
Remove and replace the hose clamps (1) if they are loose or damaged.

Replace the nut (2) if it is out-of-round, cracked, or has damaged threads.

Replace the stem (3) if it is cracked or broken, and replace the gasket (4) if it is damaged.



2-17. OUTLET HOSE ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY		
Outlet Hose Assembly/ Hose (1) Strap end (2) Hose clamps (3) Buckle (4)	Fabricate hose (1) according to figure D-26 for the lower hose reel and according to figure D-27 for the upper hose reel. Thread the strap end (2) of each hose clamp (3) through the buckle (4) of the hose clamp (3) twice. Slide two hose clamps (3) onto hose (1).	
Stem (5) Nut (6)	Insert stem (5) through the hole in nut (6) and then insert both into hose (1) as a unit until the rear of nut (6) is against the end of hose (1). Slide two hose clamps (3) over stem (5). Rotate the second hose clamp so that the buckle (4) is 180° from the first hose clamp (3) buckle to assure a better seal. Repeat reassembly procedures for other hose clamps (3).	
Frame (7)	Insert the strap end (2) into the frame (7) of strap band clamping tool.	
Winder (8) Ratchet tension wrench (9)	Insert the winder (8) into the frame (7) and insert the strap end (2) through the winder (8). Use the ratchet tension wrench (9) to turn the winder (8) and draw the hose clamp (3) tight.	

Outlet Hose Assembly/
Punch and holder (10)

Keeping the hose clamp (3) drawn tight, flip the punch and holder (10) on the frame (7) and strike with hammer to mechanically lock the buckle (4) to the strap of the hose clamp (3). While still holding the ratchet tension wrench (9) tight, rock the strap band clamping tool back and forth. The band will break flush with edge of the bend lock buckle (4).

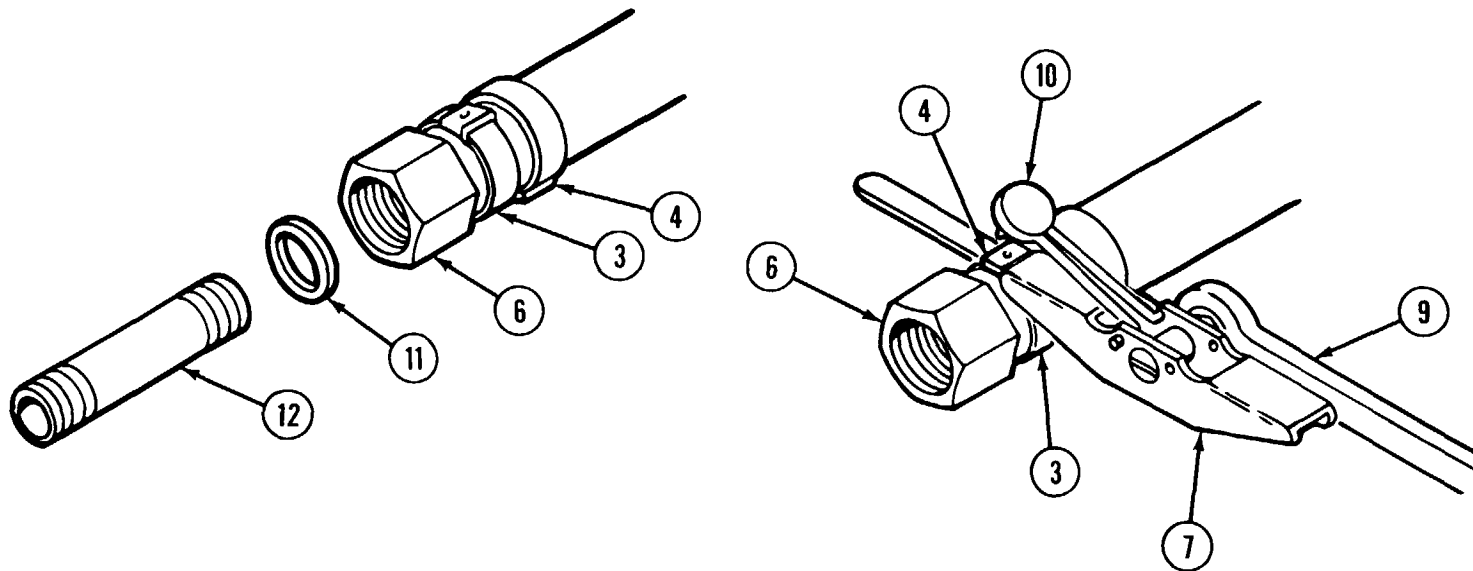
Tap the broken end of the hose clamp (3) strap with a hammer to eliminate any sharp edges. Do not hit the nut (6).

Gasket (11)

Install gasket (11).

Pipe nipple (12)

Wrap male threads of pipe nipple (12) with antiseizing tape and install into one end of the hose assembly.



2-18. FAIRLEAD ASSEMBLY.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
 Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition

Fairlead is removed from pump unit subassembly. See paragraph 2-16 for procedures to disassemble/reassemble.

LOCATION/ITEM	ACTION	REMARKS
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DISASSEMBLY

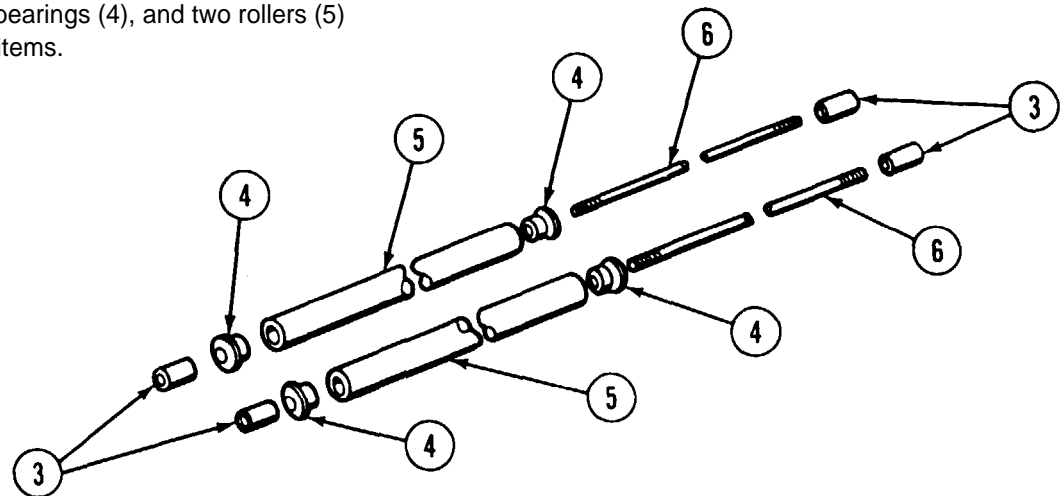
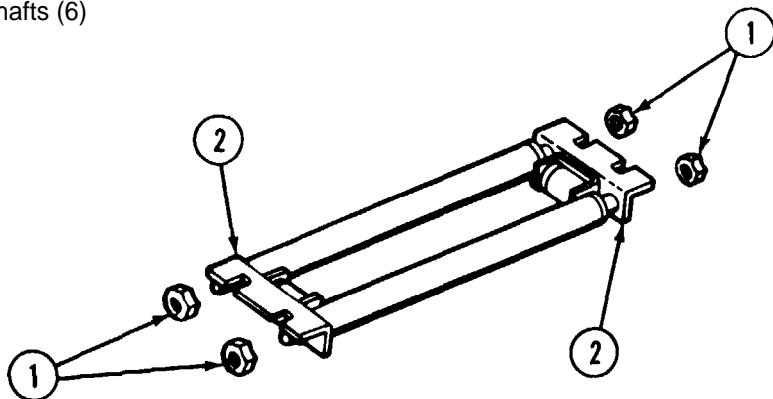
Fairlead Assembly/

- Hexagon self-locking nuts (1)
- Brackets (2)

Unscrew and remove four hexagon self-locking nuts (1) and remove the brackets (2) to take fairlead apart.

- Spacers (3)
- Annular ball bearings (4)
- Rollers (5)
- Shafts (6)

Slide four spacers (3), four annular ball bearings (4), and two rollers (5) from two shafts (6). Retain serviceable items.



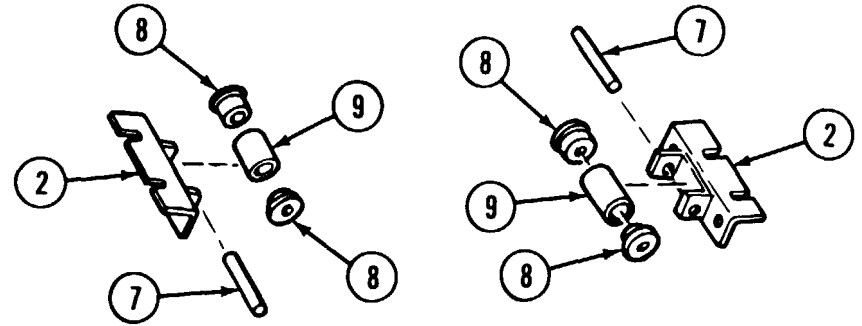
Fairlead Assembly/

Pins (7)

Annular ball bearings (8)

Rollers (9)

Push two pins (7) out of the holes of two brackets (2). Slide four annular ball bearings (8) and two rollers (9) out of two brackets (2).



REPAIR

Fairlead Assembly/

Component parts

Replace authorized unserviceable parts.

REASSEMBLY

Fairlead Assembly/

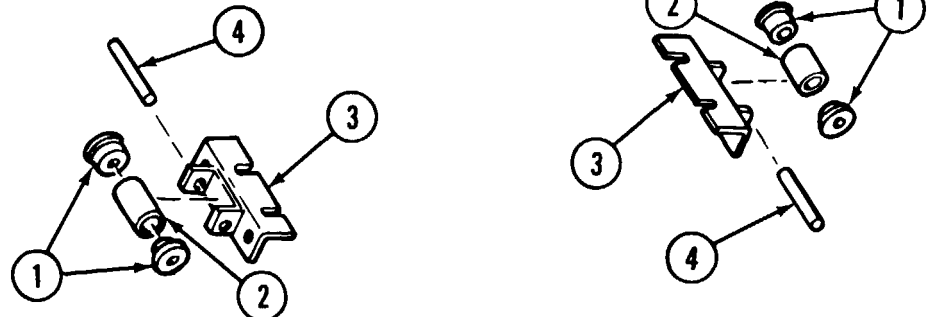
Annular ball bearings (1)

Rollers (2)

Brackets (3)

Pins (4)

Assemble four annular ball bearings (1) on both ends of two rollers (2) and set the assembled parts into two brackets (3). Push two pins (4) through the holes of two brackets (3) and into the assembled annular ball bearings (1) and rollers (2).



2-18. FAIRLEAD ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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REASSEMBLY (CONT)

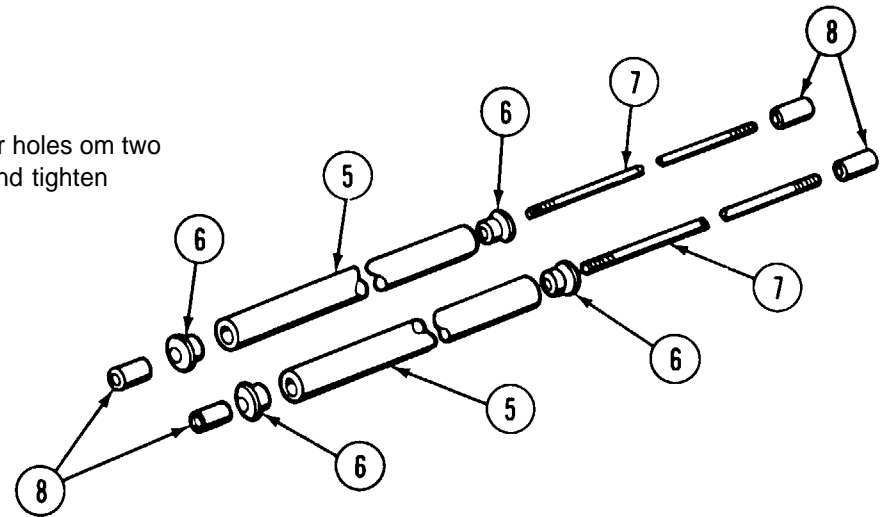
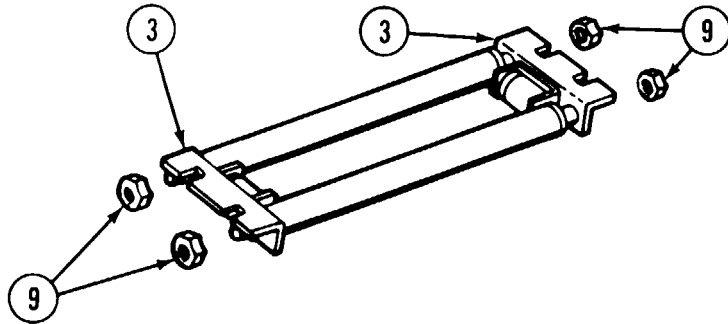
Fairlead Assembly/

- Rollers (5)
- Annular ball bearings (6)
- Shafts (7)
- Spacers (8)

Assemble two rollers (5), four annular ball bearings (6), two shafts (7), and four spacers (8).

Hexagon self-locking nuts (9)

Slide the threaded ends of two shafts (7) through the four holes on two brackets (3) Attach four hexagon self-locking nuts (9) and tighten



2-19. FRAME ASSEMBLY.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

- Automotive Maintenance and Repair Field Maintenance
- Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

References

- TM 3-4230-209-20&P
- TM 43-0139

Materials/Parts

- Paint brush (item 6, app C)
- Polyurethane coating (green) (item 29, app C)

Equipment Condition

Unit maintenance authorized components are removed in TM 3-4230-209-20&P and are not covered in this manual.

DISASSEMBLY

Hexagon self-locking nuts (1)
 Flat washers (2)
 Hexagon head cap screws (3)
 Pump frame support (4)

Remove two self-locking nuts (1), flat washers (2), and hexagon head cap screws (3). Remove pump frame support (4).

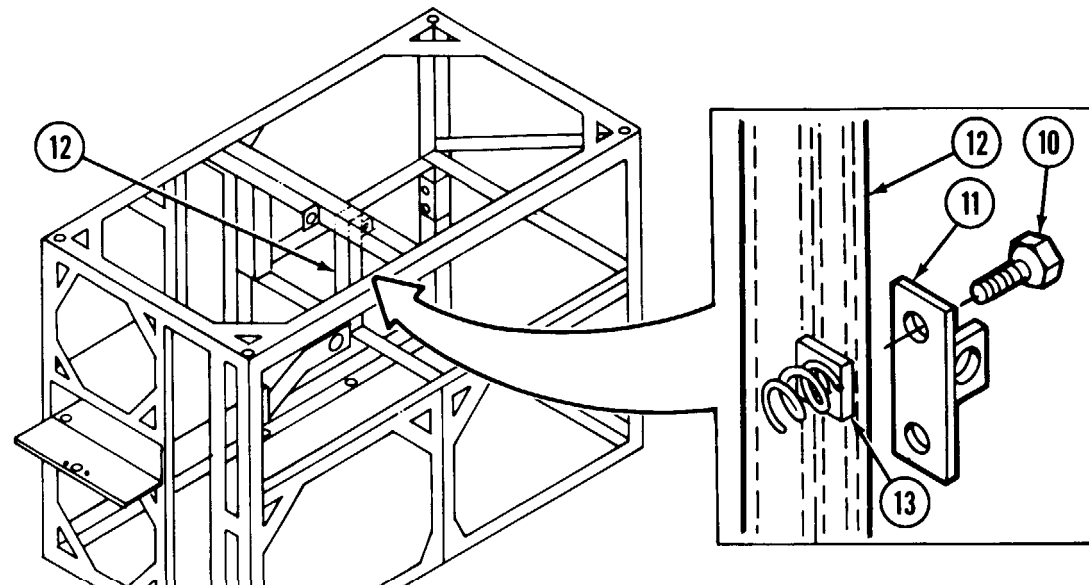
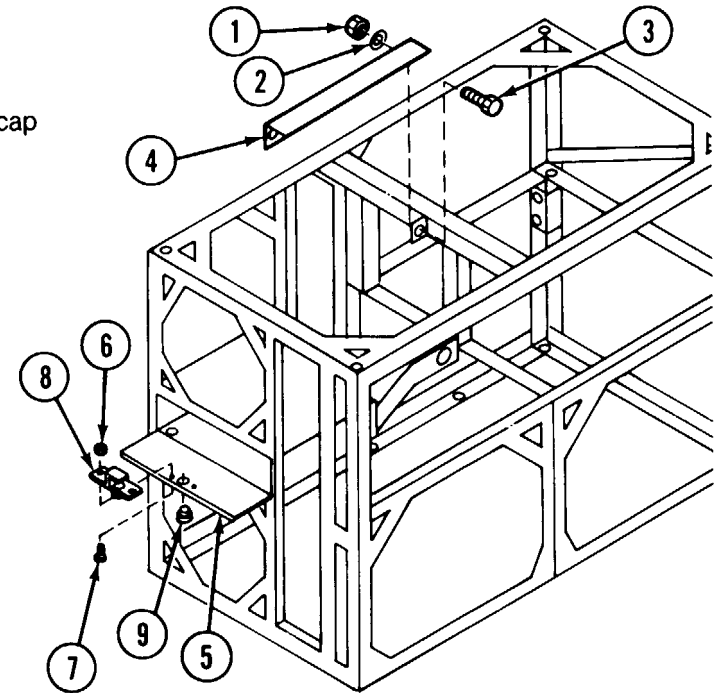
Tool box lid (5)
 Hexagon self-locking nuts (6)
 Machine screws (7)
 Pawl fastener (8)
 Knob (9)

Open tool box lid (5). Remove two hexagon self-locking nuts (6) and machine screws (7). Remove pawl fastener (8) and attaching knob (9).

Hexagon head cap screws (10)
 Attach brackets (11)
 Center frame support (12)
 Channel clamping nuts (13)

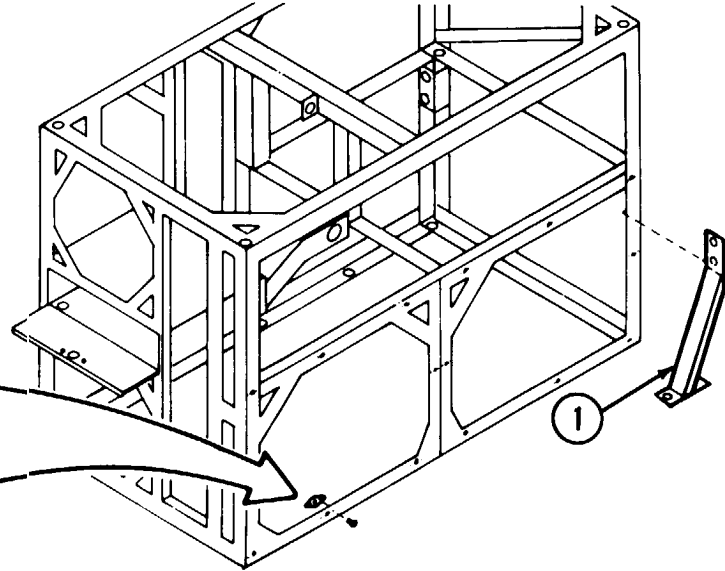
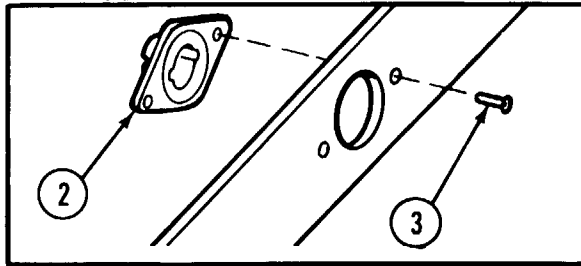
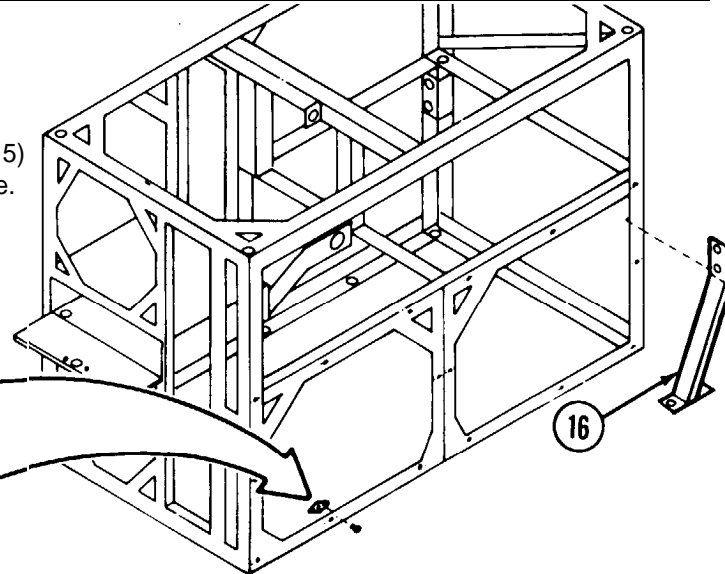
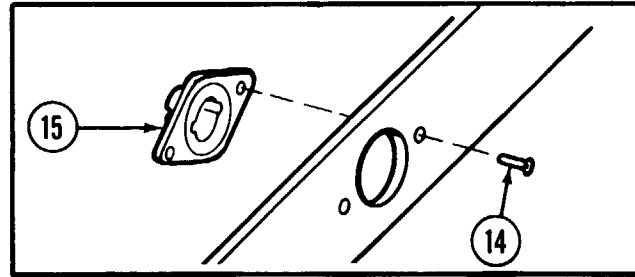
Remove four hexagon head cap screws (10), and two attach brackets (11) from center frame support (12).

Do not remove the four channel clamping nuts (13) from the inside of center frame support (12) vertical members unless they need to be replaced.



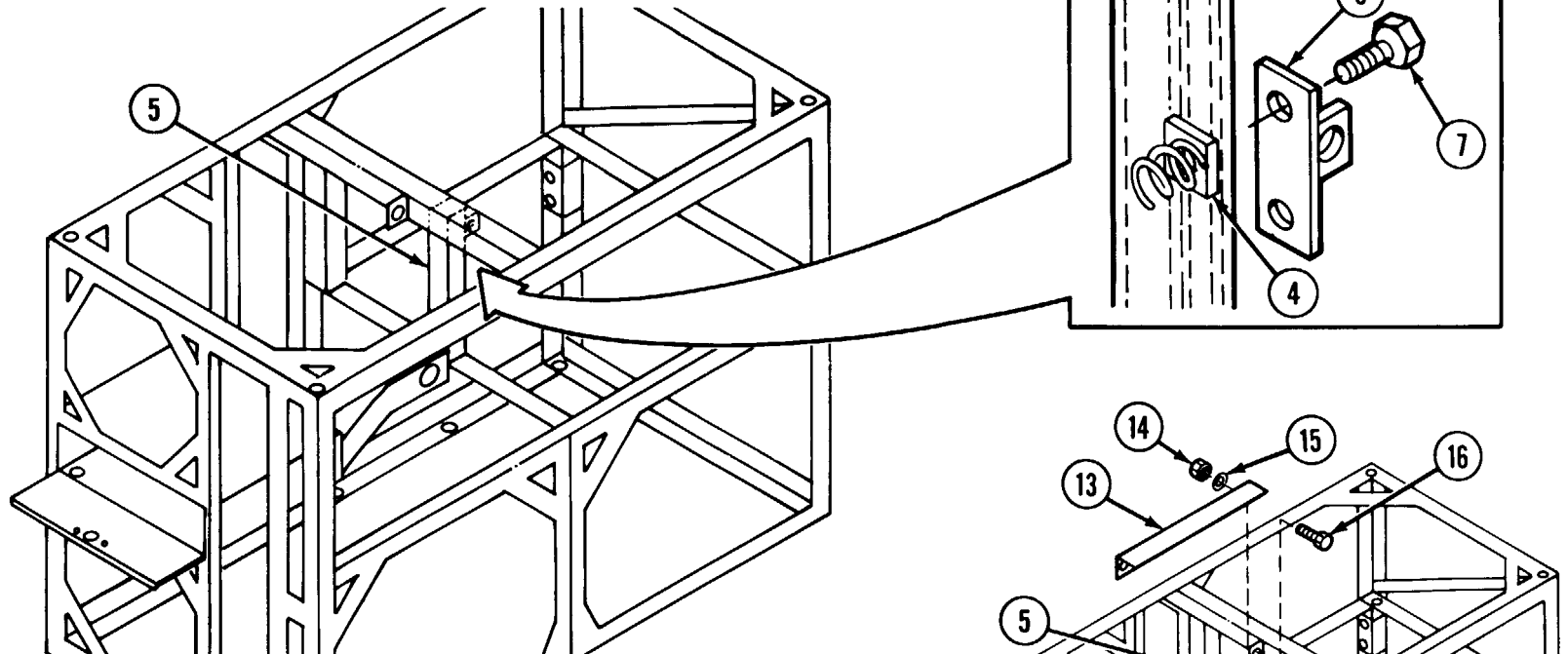
2-19. FRAME ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
<p>DISASSEMBLY (CONT)</p>	<p>Frame Assembly/ Blind rivets (14) Turnlock receptacles (15)</p> <p>Support angles (16)</p>	<p>Chisel two blind rivets (14) out of each of the 26 turnlock receptacles (15) as necessary. Do not remove turnlock receptacles (15) unless defective.</p> <p>Remove the two support angles (16) if installed</p>
<p>REPAIR</p>	<p>Frame Assembly/</p>	<p>Replace all authorized components. Repaint frame assembly with polyurethane coating and a paint brush as necessary.</p>
<p>REASSEMBLY</p>	<p>Frame Assembly/ Support angles (1) Turnlock receptacles (2) Blind rivets (3)</p>	<p>Position support angles (1) onto frame and aline holes. Position 26 turnlock receptacles (2) into frame and aline holes. Secure each turnlock receptacle (2) with two blind rivets (3).</p>



- Channel clamping nuts (4)
- Center frame support (5)
- Attach brackets (6)
- Hexagon head cap screws (7)

Install two channel clamping nuts (4) into each of the vertical frame members of the center frame support (5), only if removed. Position the two attach brackets (6) on vertical frame member. Aline holes to mate with channel clamping nuts (4). Secure with four hexagon head cap screws (7).

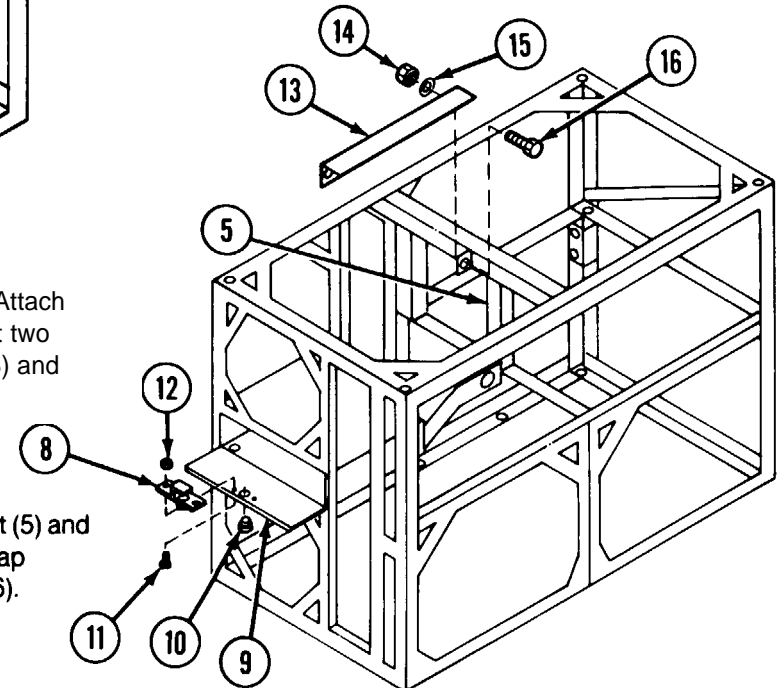


- Pawl fastener (8)
- Tool box lid (9)
- Knob (10)
- Machine screws (11)
- Hexagon self-locking nuts (12)

Position pawl fastener (8) onto inside surface of tool box lid (9). Attach knob (10) onto pawl fastener (8) and aline mounting holes. Insert two machine screws (11) through tool box lid (9) and pawl fastener (8) and secure with two hexagon self-locking nuts (12).

- Pump frame support (13)
- Hexagon head cap screws (14)
- Flat washers (15)
- Hexagon self-locking nuts (16)

Position pump frame support (13) between center frame support (5) and the end of unit and aline holes. Secure with two hexagon head cap screws (14), flat washers (15), and hexagon self-locking nuts (16).



2-20. SKID BASE SUBASSEMBLY.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition

Unit maintenance authorized components are removed in TM 3-4230-209-20&P and are not covered in this manual.

Materials/Parts

Antiseizing tape (item 38, app D)
Sealing compound (item 32, app D)
Wooden blocks

Special Safety Instructions

WARNING

Unless the skid base subassembly is securely blocked, never reach under it while it is raised off the floor. Failure to comply may result in a crushed arm.

References

TM 9-237
TM 43-0139
TM 5-2805-259 series

LOCATION/ITEM

ACTION

REMARKS

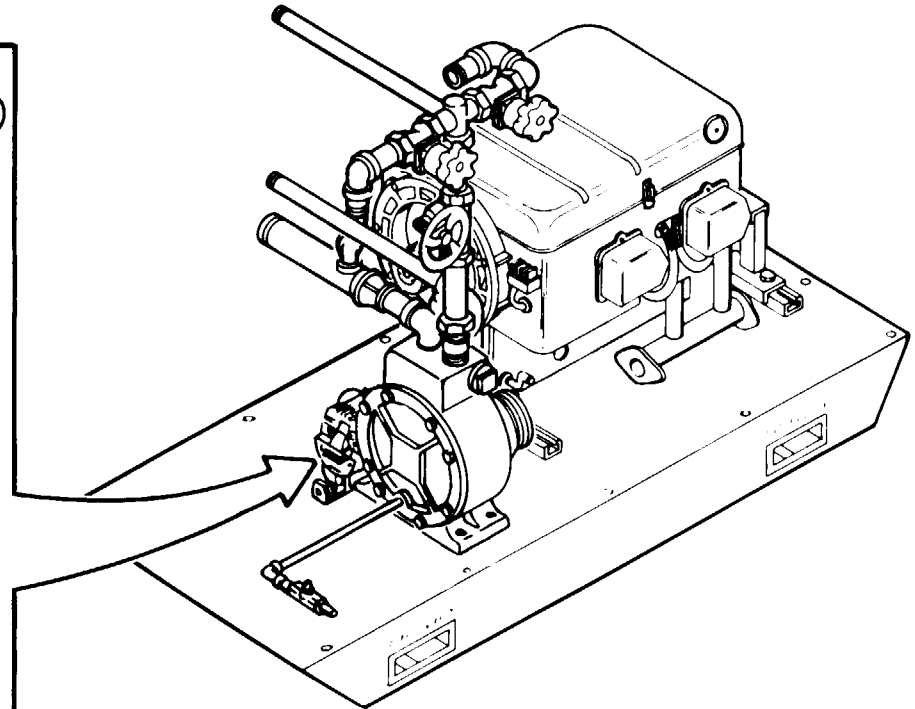
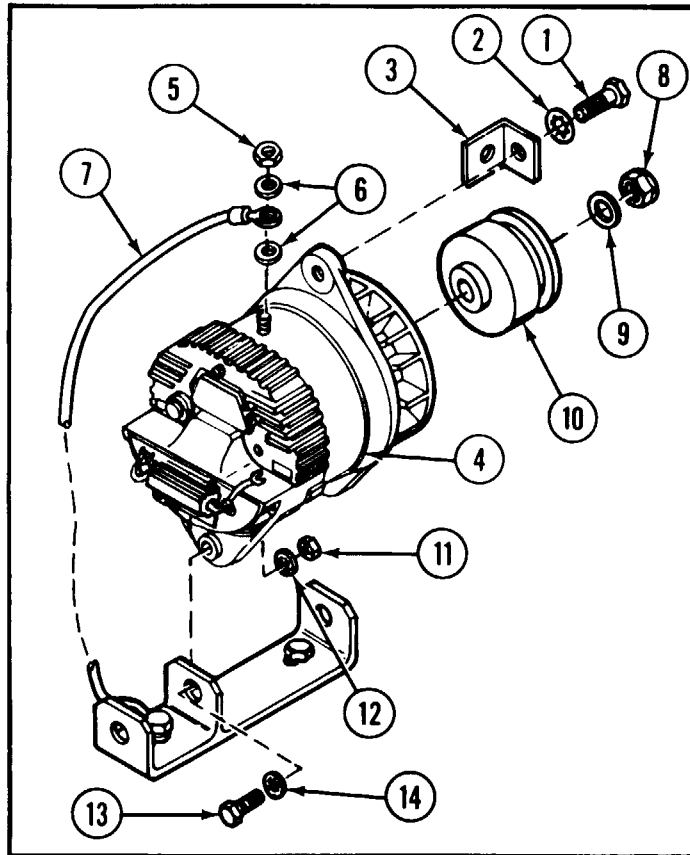
DISASSEMBLY

Skid Base Subassembly/

- Hexagon head cap screw (1)
- Internal tooth lock washer (2)
- Bracket (3)
- Alternator generator (4)
- Nut (5)
- Washer (6)
- Ground lead (7)
- Nut (8)

Remove hexagon head cap screw (1), internal tooth lock washer (2), and bracket (3) from alternator generator (4). Remove nut (5), washer (6), and disconnect ground lead (7). Replace nut (5) and washer (6). Remove nut (8), washer (9) and groove pulley (10). Remove two hexagon plain nuts (11), internal tooth lock washers (12), hexagon head cap screws (13), and internal troth lock washers (14). Remove alternator generator (4).

- Washer (9)
- Groove pulley (10)
- Hexagon plain nut (11)
- Internal tooth lock washer (12)
- Hexagon head cap screw (13)
- Internal tooth lock washer (14)



2-20. SKID BASE SUBASSEMBLY (CONT).

LOCATION/ITEM

ACTION

REMARKS

DISASSEMBLY (CONT)

Skid Base Subassembly/

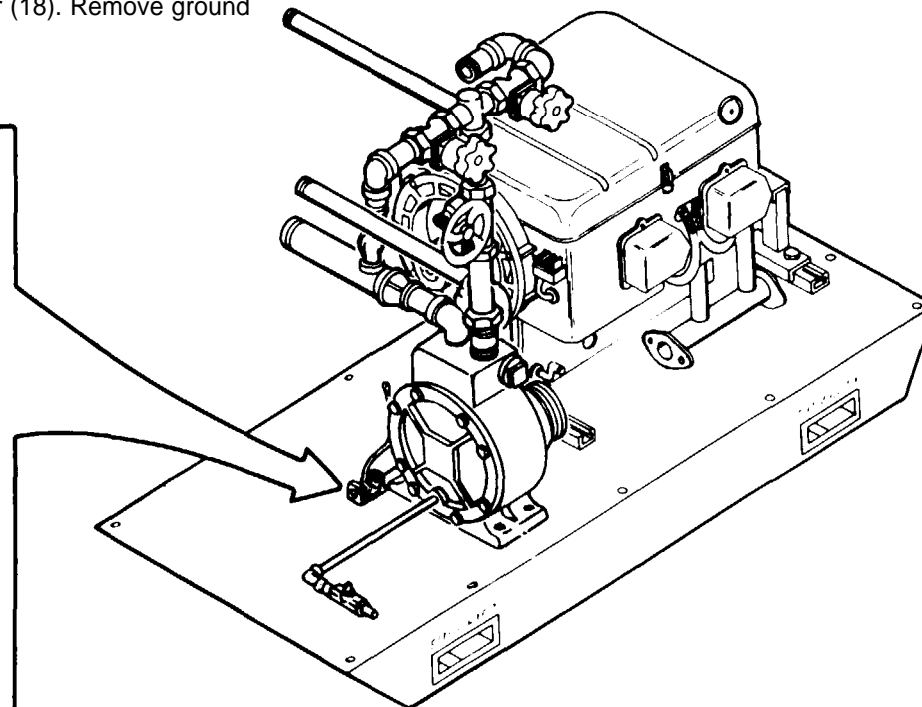
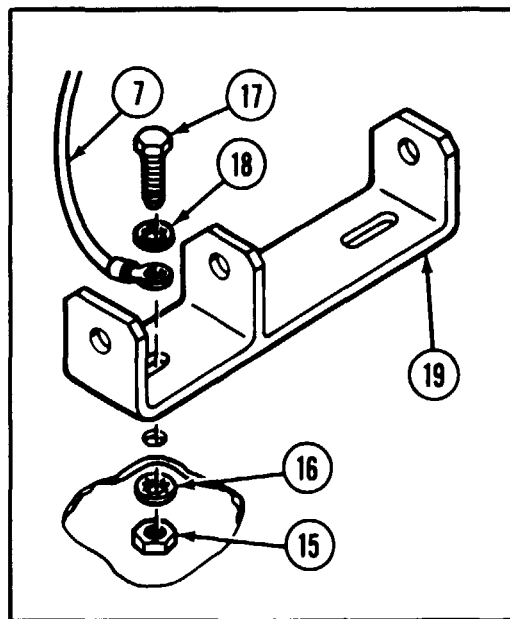
WARNING

Unless it is securely blocked, never reach under the skid base subassembly while it is raised off the floor. Failure to comply may result in a crushed arm.

Raise and block skid base subassembly in accordance with local policy.

Hexagon plain nut (15)
Internal tooth lock washer (16)
Hexagon head cap screw (17)
Flat washer (18)
Generator support (19)

Remove two hexagon plain nuts (15), internal tooth lock washer (16), hexagon head cap screw (17) and flat washer (18). Remove ground lead (7) and generator support (19).



- Pipe nipple (20)
- Pipe elbow (21)
- Plumbing assembly (22)
- Hexagon head cap screw (23)
- Mounting stiffener (24)
- Machine mounting pad (25)

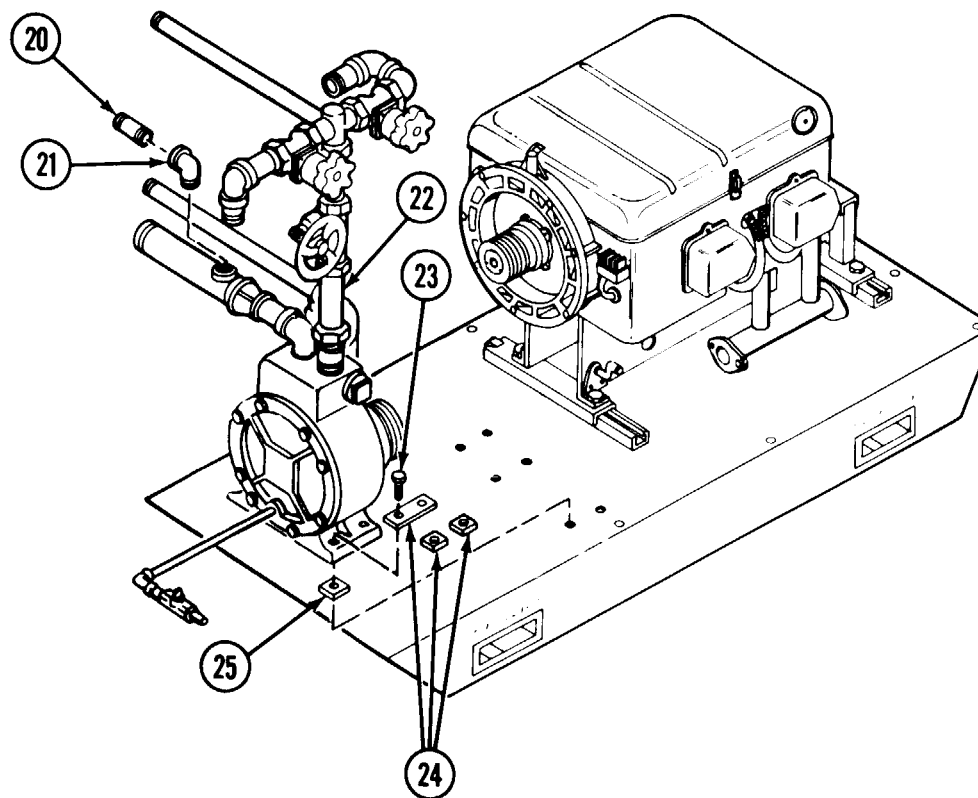
Remove pipe nipple (20) and pipe elbow (21) from plumbing assembly (22). Remove four hexagon head cap screws (23). Remove mounting stiffeners (24) and remove the plumbing assembly (22). Remove the four machine mounting pads (25).

NOTE

Two long mounting stiffeners will be used with Marlow* pumps. Four short mounting stiffeners will be used with Ohler** pumps.

*Marlow is a registered trademark of Marlow, a unit of ITT Fluid Handling Division.

**Ohler is a registered trademark of Ohler Machinery Co.



2-20. SKID BASE SUBASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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DISASSEMBLY (CONT)

Skid Base Subassembly/

Ermine cover (26)

Remove engine cover (26) to allow access to top of engine.

Pipe elbow (27)

Remove pipe elbow (27), nipple (28), and pipe elbow (29).

Nipple (28)

Pipe elbow (29)

Drain engine oil and dispose of in accordance with local policy.

Pipe nipple (30)

Remove pipe nipple (30), stop-check valve (31), pipe coupling (32), pipe straight adapter (33), and gasket (34) from the engine (35).

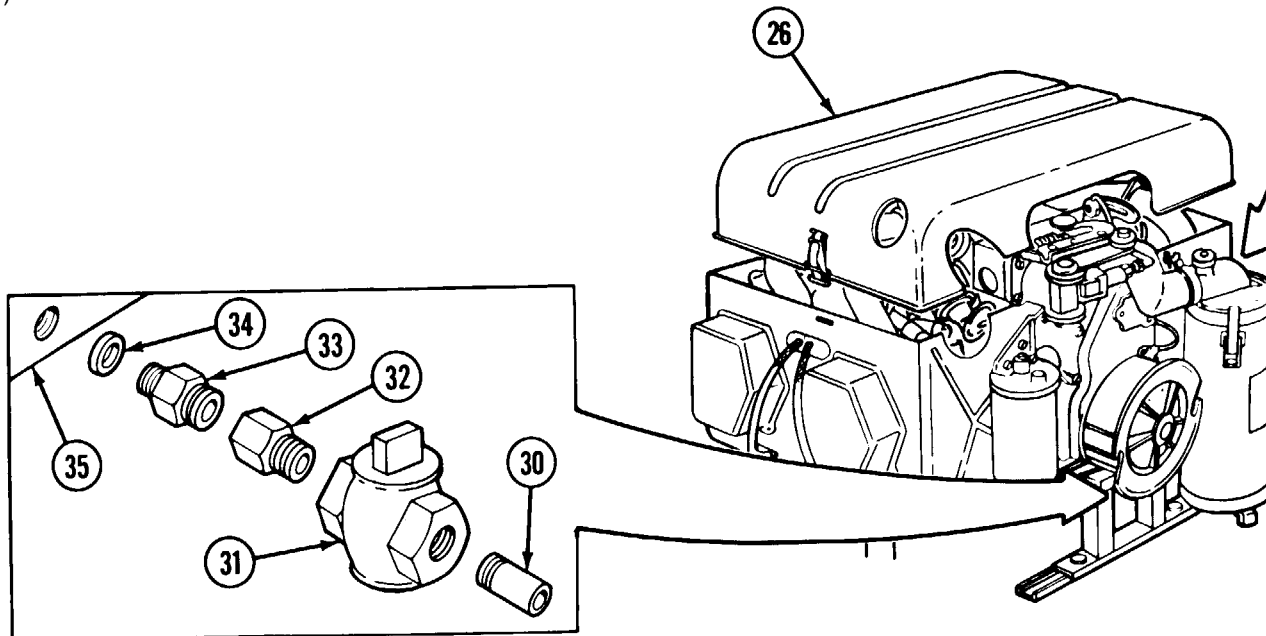
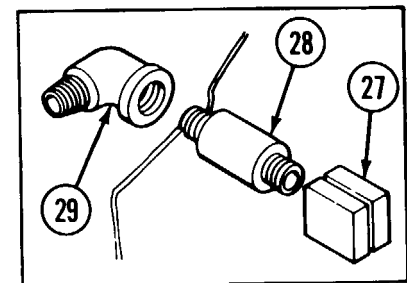
Stop-check valve (31)

Pipe coupling (32)

Pipe straight adapter (33)

Gasket (34)

Engine (35)



NOTE

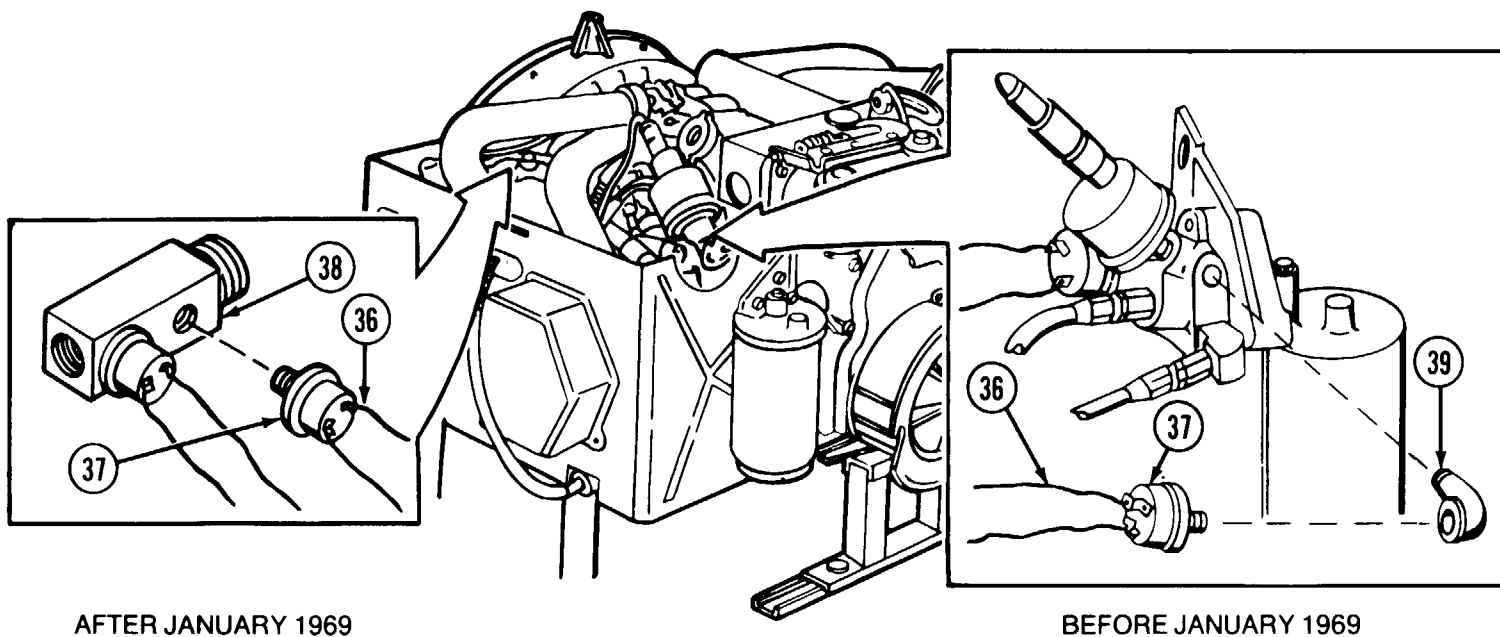
The oil pressure switch is mounted at the rear of the engine if manufactured after January 1969. The oil pressure switch is mounted at the front of the engine on engines manufactured prior to January 1969.

Engine components removal will be in accordance with TM 5-2805-259 series.

Electrical lead (36)
Oil pressure switch (37)
Tee connector (38)
Pipe elbow (39)

Disconnect electrical lead (36), oil pressure switch (37), and tee connector (38) on engines manufactured after January 1969.

Disconnect electrical lead (36), oil pressure switch (37), and pipe elbow (39) on engine manufactured prior to January 1969.



2-20. SKID BASE SUBASSEMBLY (CONT).

LOCATION/ITEM

ACTION

REMARKS

DISASSEMBLY (CONT)

Skid Base Subassembly/

Hexagon plain nut (40)

Hexagon head cap
screw (41)

Electrical lead (42)

Spacer (43)

Remove hexagon plain nut (40), two hexagon head cap screws (41), and electrical lead (42). Remove two spacers (43) from behind the plate if possible.

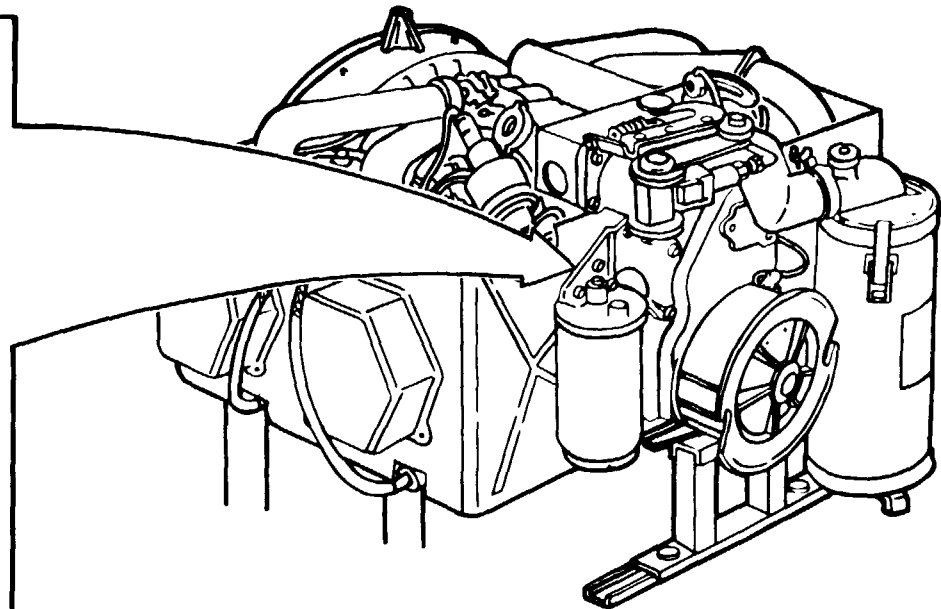
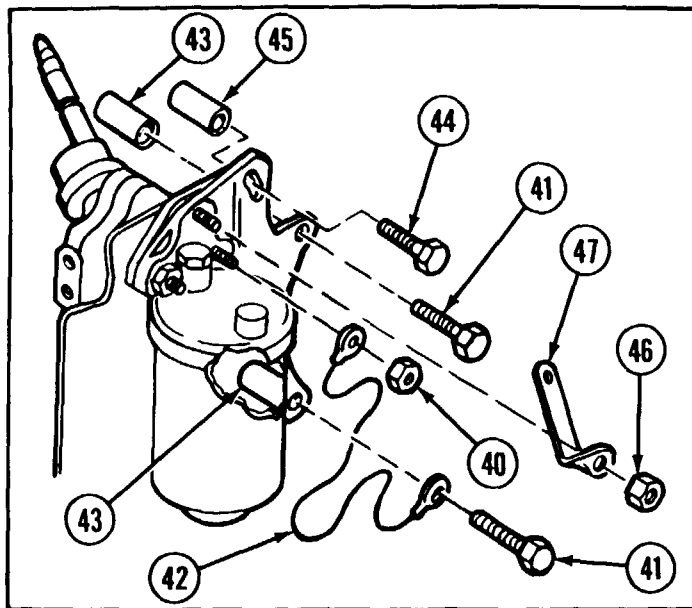
Hexagon head cap
screw (44)

Sleeve spacer (45)

Hexagon plain nut (46)

Bracket (47)

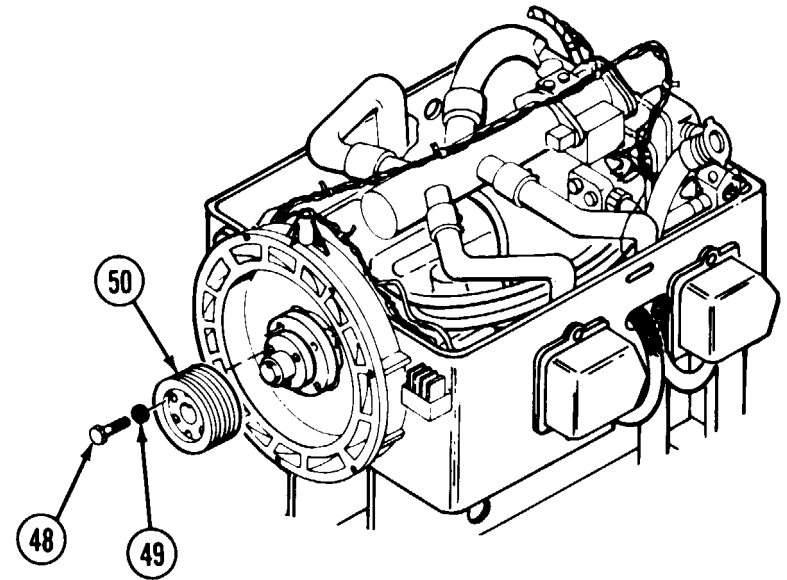
Remove hexagon head cap screw (44) and sleeve spacer (45). Remove hexagon plain nut (46) and bracket (47).



Screw (48)
Lock washer (49)
Driver pulley (50)
Setscrew (51)
Hub (52)

Unscrew and remove three screws (48) and three lock washers (49) from driver pulley (50). Separate lock washers (49) from screws (48).

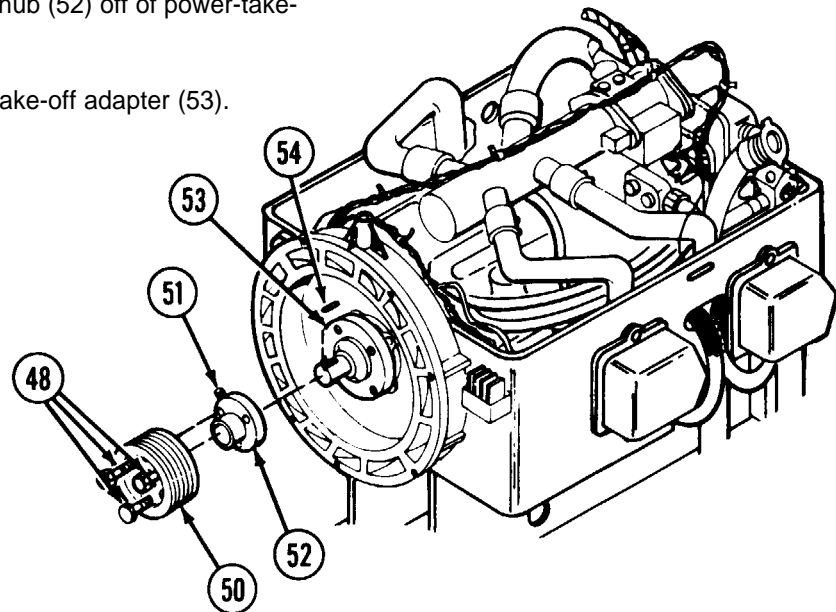
Screw three screws (48) into the alternate threaded holes of driver pulley (50) and tighten equally. This drives driver pulley (50) away from the engine and exposes the setscrew (51) in hub (52). Remove driver pulley (50).



Power-take-off adapter (53)
Machine key (54)

Loosen the setscrew (51) in hub (52) and pull hub (52) off of power-take-off adapter (53).

Lift machine key (54) out of the slot in power-take-off adapter (53).



2-20. SKID BASE SUBASSEMBLY (CONT).

LOCATION/ITEM

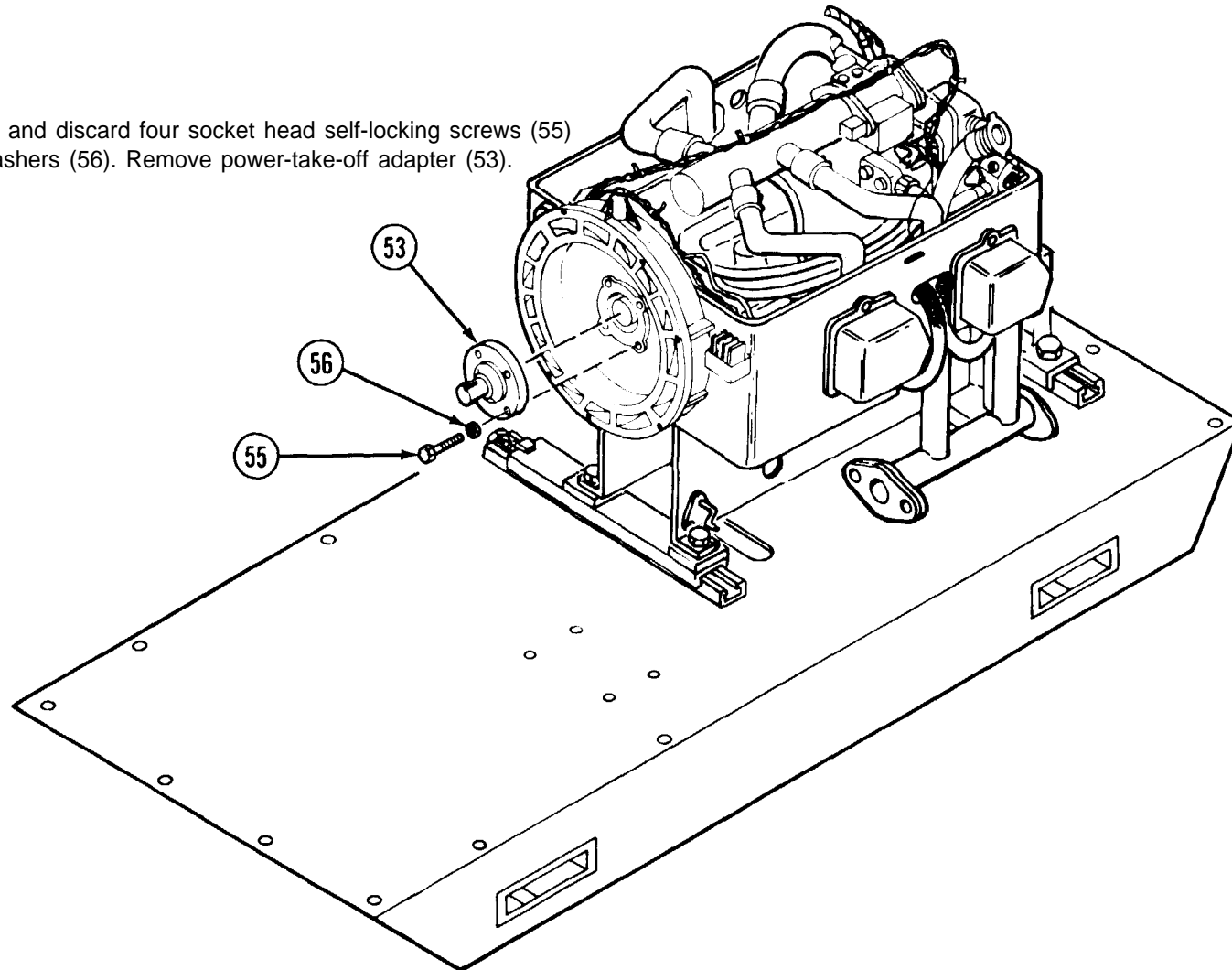
ACTION

REMARKS

DISASSEMBLY (CONT)

Skid Base Subassembly/
 Socket head self-locking
 screw (55)
 Lock washer (56)

Loosen, remove and discard four socket head self-locking screws (55)
 and four lock washers (56). Remove power-take-off adapter (53).



Screw (57)
 Throttle clip (58)

Remove screw (57) and throttle clip (58) if engine has a carburetor built by
 the Bendix Corporation.

NOTE

Throttle clip is only used on engines that
 have Bendix* carburetors.

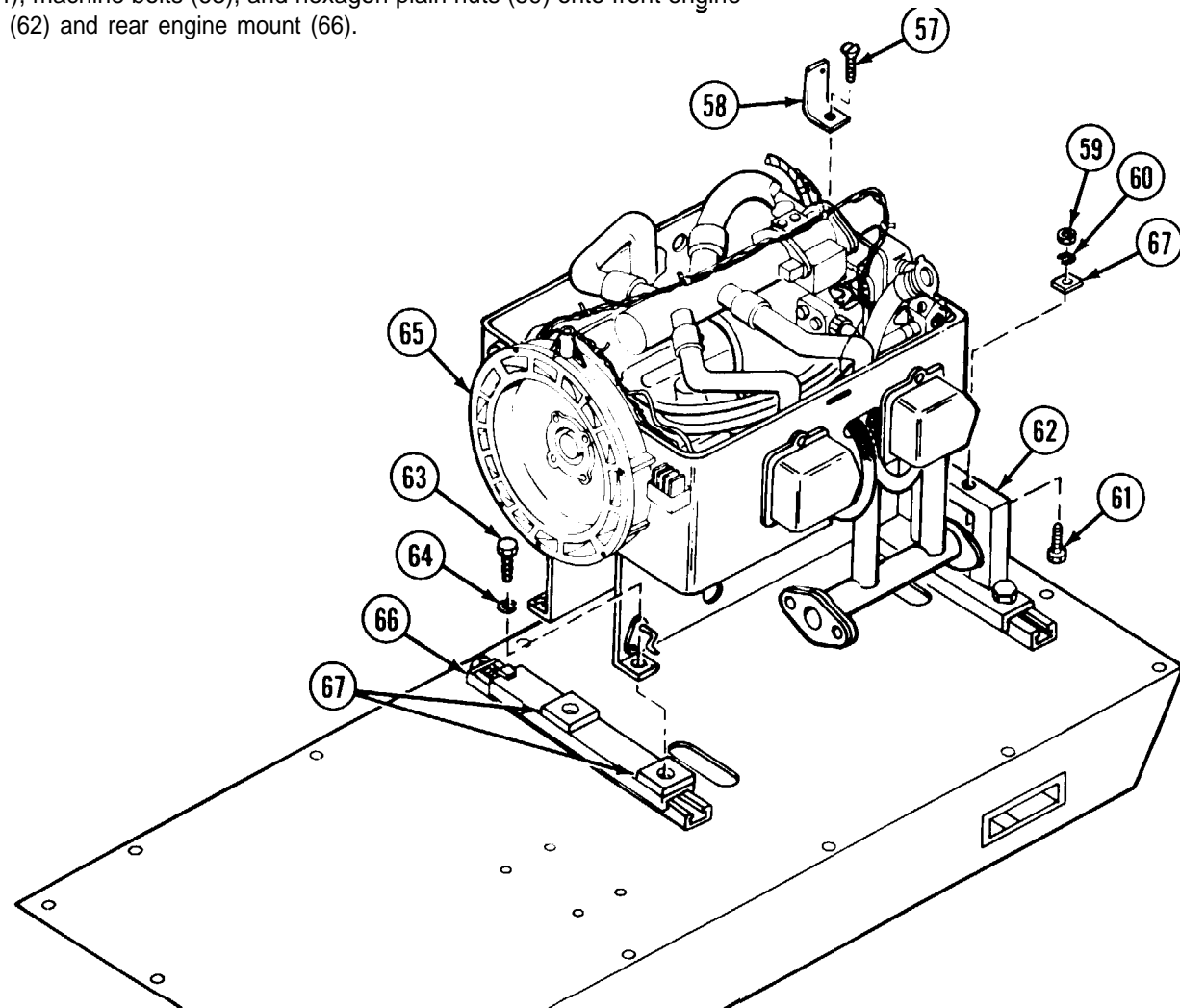
Hexagon plain nut (59)
Lock washer (60)
Machine bolt (61)
Front engine mount (62)

Remove hexagon plain nut (59), lock washer (60) and machine bolt (61) from front engine mount (62).

Machine bolt (63)
Lock washer (64)
Engine (65)
Rear engine mount (66)
Shock mount pad (67)

Remove two machine bolts (63) and lock washers (64) securing rear of engine (65) to rear engine mount (66). Remove engine (65) from shock mount pads (67). Reinstall three shock mount pads (67), lock washers (60 and 64), machine bolts (63), and hexagon plain nuts (59) onto front engine mount (62) and rear engine mount (66).

* Bendix is a trade name of Bendix Corporation.



2-20. SKID BASE SUBASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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REPAIR

Skid Base Subassembly/
All

Replace authorized unserviceable parts.

Gasoline engine

When anew or rebuilt gasoline engine is being installed, deprocess it. Instructions are normally attached to the engine. Typical instructions are shown here. Deprocess the gasoline engine according to the typical instructions **ONLY** if the new gasoline engine instructions are missing.

NOTE

Do not put engine oil in engine at this time. Engine oil is added after new drain valve has been installed.

WARNING

THIS ENGINE CONTAINS NO OIL
BEFORE OPERATING FILL TO FULL MARK
ACCORDING TO TEMPERATURE SPECIFICATIONS
LISTED BELOW

<u>TEMPERATURE</u>	<u>SPECIFICATIONS</u>	<u>GRADE</u>
ABOVE 32° F	MIL-L-2104	30
	MIL-L-6082	2065
0° TO 32° F	MIL-L-2104	10
BELOW 0° F	MIL-L-46167	

DEPROCESSING INSTRUCTIONS

Before operating this engine accomplish the following:

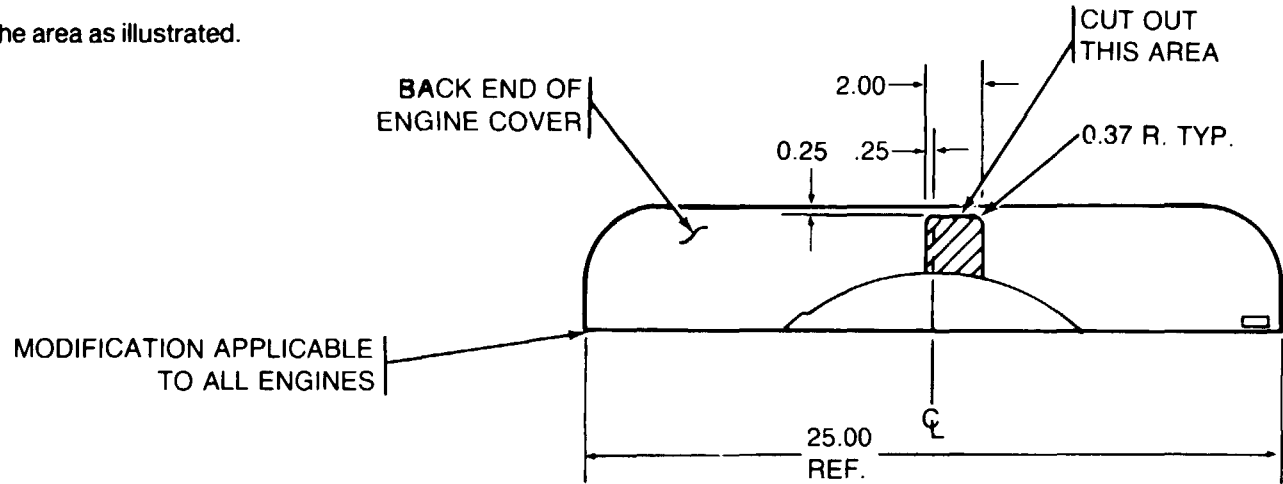
1. Remove oil pan drain plug and drain all preservative oil.
2. Remove spark plugs.
3. Rotate the engine 3 complete revolutions by hand.
4. Wipe any oil from spark plug electrodes and replace spark plug with 25 - 27 ft-lbs. torque.
5. Replace oil pan drain plug and fill engine to full mark according to temperature requirements (see reverse side of this card).
6. Remove seals from exhaust system, intake system, fuel pump and accessory housing breather holes. **NOTE:** These seals must be retained if the engine is to be reprocessed for shipment.

Gasoline engine

After a new gasoline engine has been deprocessed perform the following modifications as applicable.

Engine cover

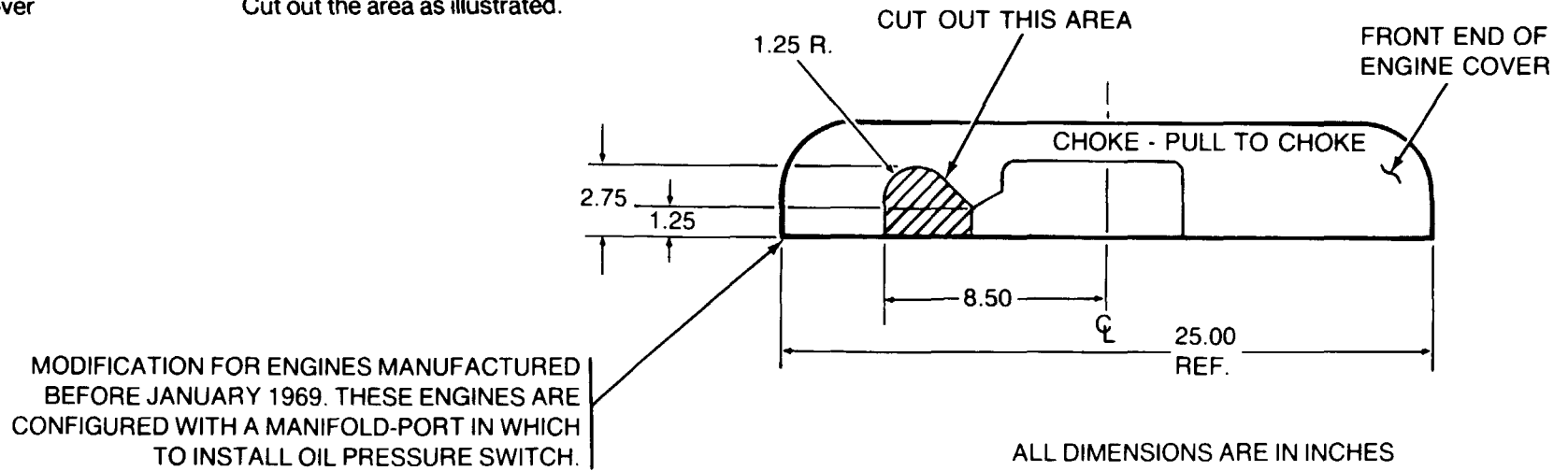
Cut out the area as illustrated.



ALL DIMENSIONS ARE IN INCHES

Engine cover

Cut out the area as illustrated.



ALL DIMENSIONS ARE IN INCHES

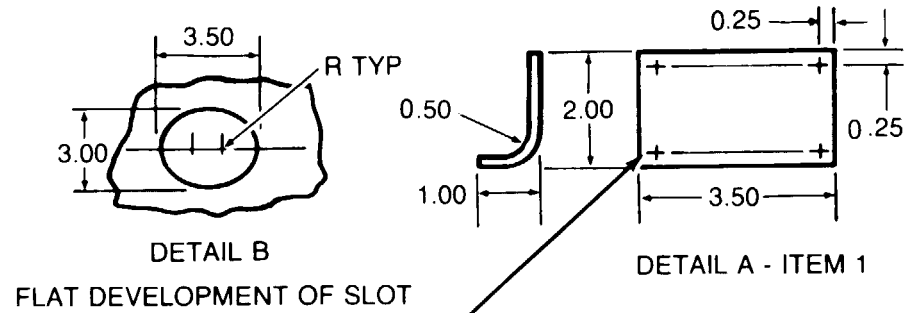
2-20. SKID BASE SUBASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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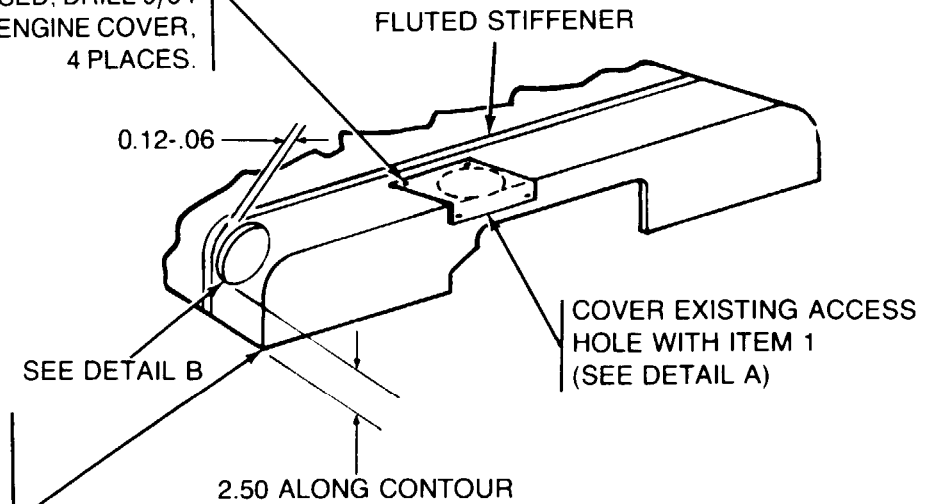
REPAIR (CONT)

Skid Base Subassembly/
Engine cover

Cut out the area as illustrated.



ASSEMBLE ITEM 1 TO ENGINE COVER BY SPOT-WELDING 4 PLACES OR WITH 4 STEEL TINNER RIVETS, 1/8 DIA. IF RIVETS ARE USED, DRILL 9/64 DIA HOLES THROUGH ITEM 1 AND ENGINE COVER, 4 PLACES.



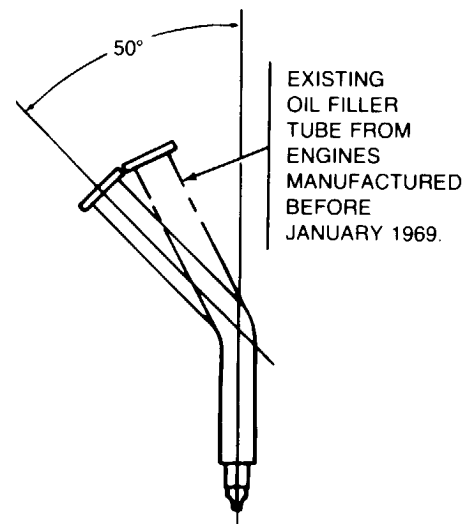
MODIFICATION TO ENGINE COVER FURNISHED WITH ENGINE MANUFACTURED AFTER JANUARY 1969. THESE ARE CONFIGURED WITH A MANIFOLD WHICH DOES NOT INCLUDE PROVISIONS FOR OIL PRESSURE SWITCH AND THEREFORE REQUIRE MODIFICATION TO FILLER TUBE LOCATION AS SHOWN.

ALL DIMENSIONS ARE IN INCHES

Oil filler tube

Remove existing oil filler tube and bend as shown in illustration. Reinstall in engine rotated approximately 45° clockwise from original position. Oil filler tube must extend through cutout in engine cover.

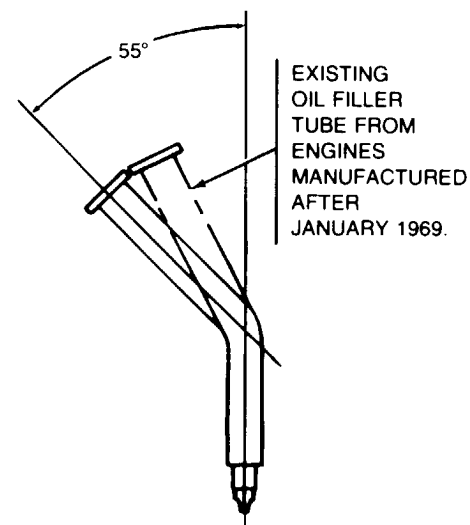
Oil filler tube must be bent to a new angle on engines manufactured before January 1969.



Oil filler tube

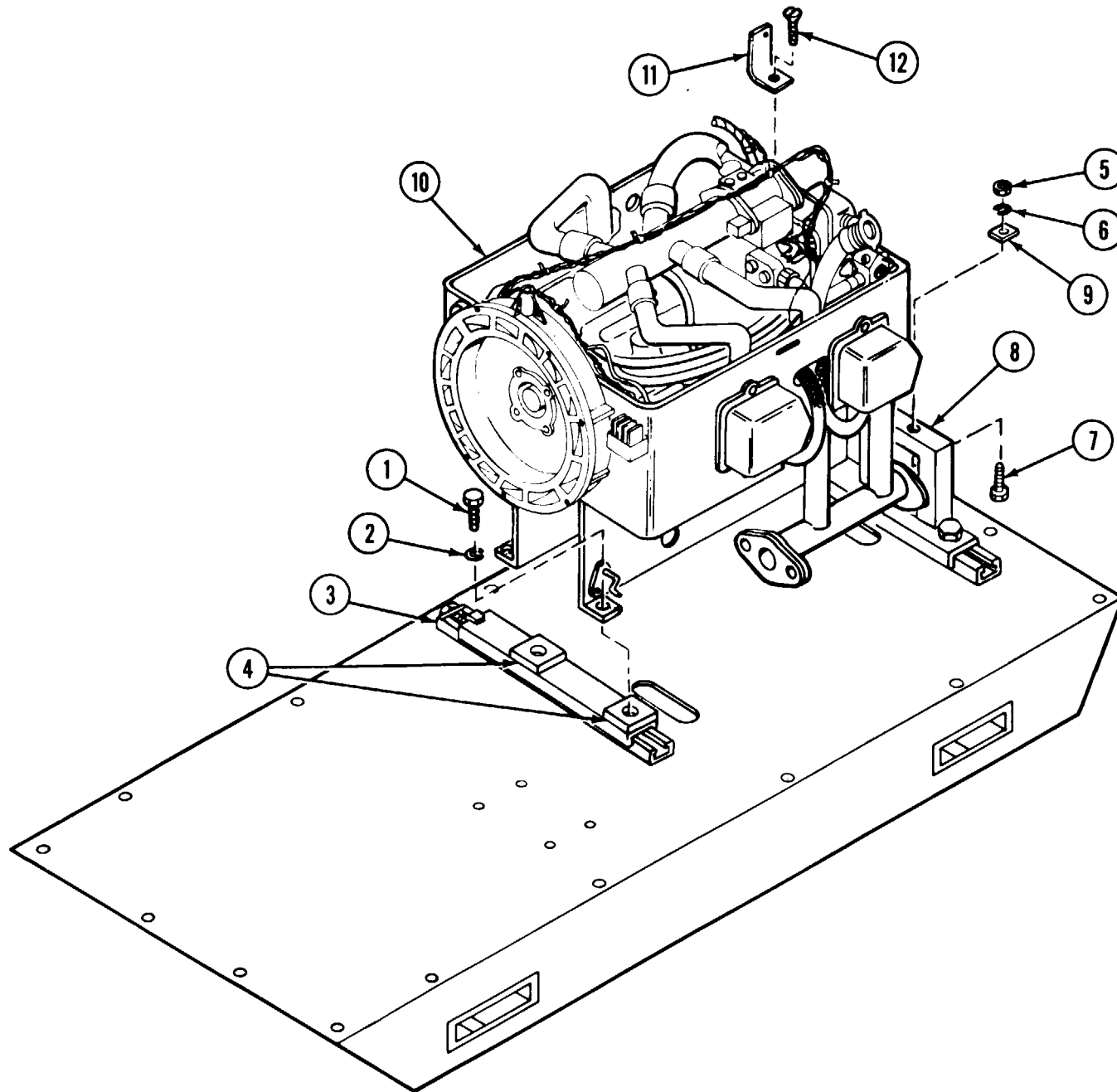
Remove existing oil filler tube and bend as shown in illustration. Reinstall in engine rotated approximately 110° clockwise from original position. Oil filler tube must extend through cutout in engine cover.

Oil filler tube must be bent to a new angle on engines manufactured after January 1969.



2-20. SKID BASE SUBASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY		
Skid Base Subassembly/ Machine bolt (1) Lock washer (2) Rear engine mount (3) Shock mount pad (4)	Remove two machine bolts (1) and lock washers (2) from rear engine mount (3). Position two shock mount pads (4) onto rear engine mount over the holes.	
Hexagon plain nut (5) Lock washer (6) Machine bolt (7) Front engine mount (8) Shock mount pad (9) Engine (10)	Remove hexagon plain nut (5), lock washer (6), and machine bolt (7) from front engine mount (8). Position shock mount pad (9) to align with hole. Position engine (10) to rest on shock mount pads (4 and 9) and align the three sets of holes. Reinstall the two machine bolts (1) and lock washers (2) through the engine (10) shock mount pads (4) and into rear engine mount (3). Reinstall machine bolt (7), lock washer (6), and hexagon plain nut (5) in front engine mount area.	
Throttle clip (11) Screw (12)	Install throttle clip (11) if engine (10) has a carburetor built by Bendix Corporation and secure with screw (12) supplied with the engine (10).	

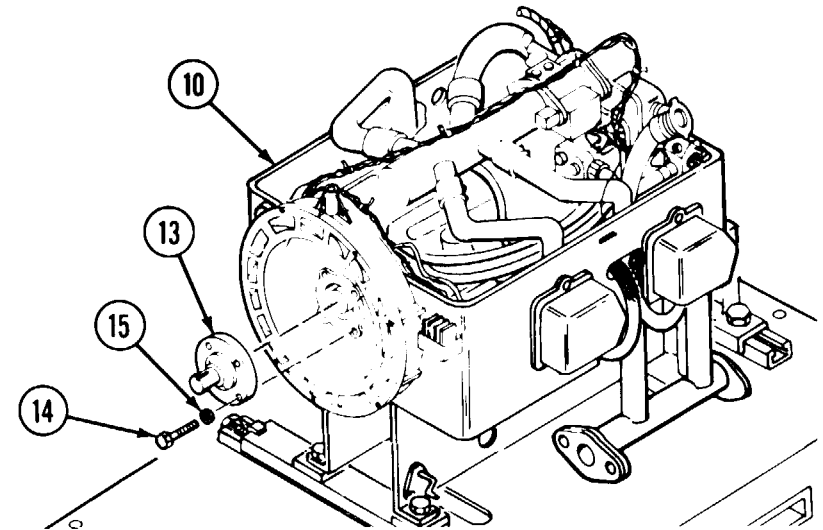


2-20. SKID BASE SUBASSEMBLY (CONT).

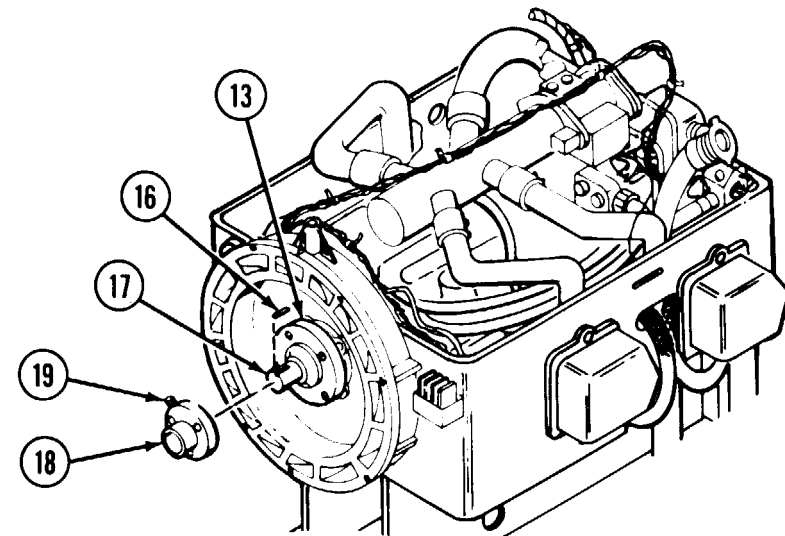
LOCATION/ITEM	ACTION	REMARKS
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REASSEMBLY (CONT)

Skid Base Subassembly/ Power-take-off adapter (13) Socket head self-locking screw (14) Lock washer (15)	Position power-take-off adapter (13) onto rear of engine (10) and align the holes. Install socket head self-locking screws (14) and lock washers (15) to secure.	
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Machine key (16) Milled slot (17) Hub (18) Setscrew (19)	Insert machine key (16) into the milled slot (17). Position hub (18) so that the machine key (16) slides into the grooved area. Slide hub (18) onto power take-off adapter (13) and tighten setscrew (19).	
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Drive pulley (20)
Screws (2)
Lock washer (22)

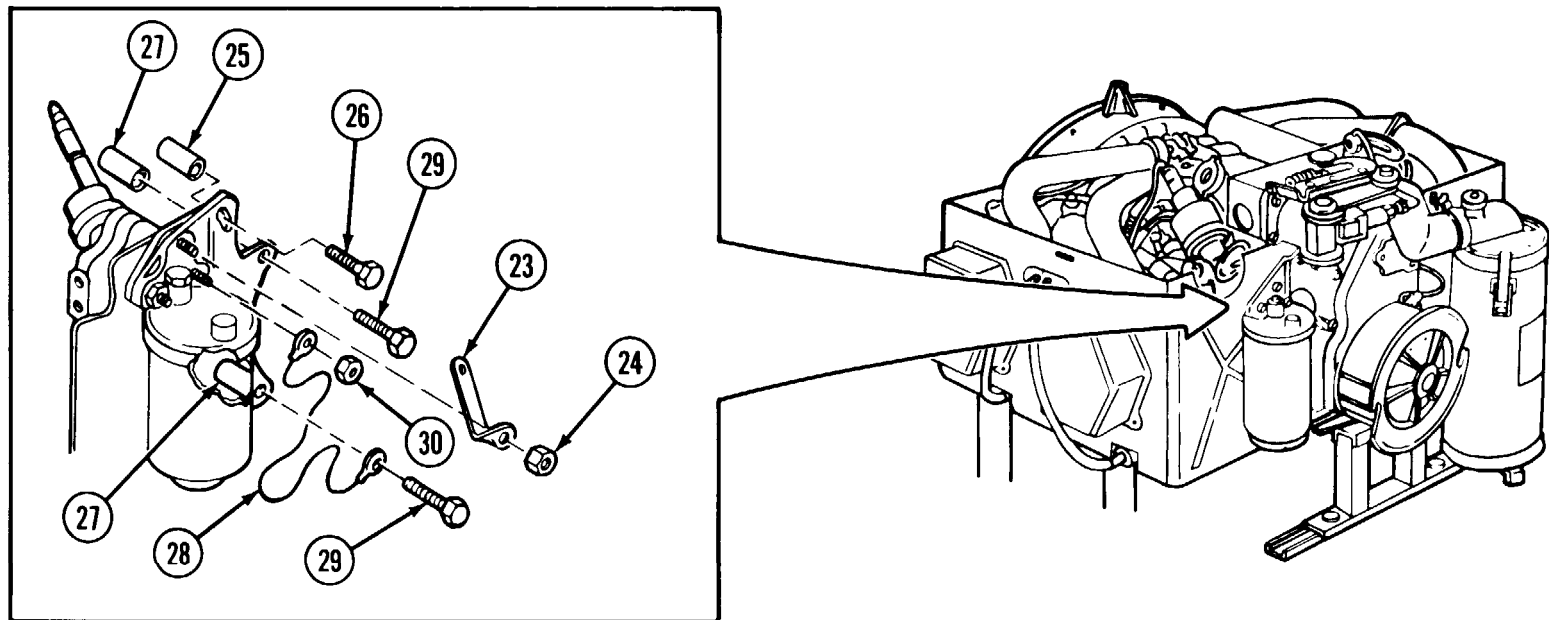
Position drive pulley (20) so that holes without threads align with the holes in the hub (18). Remove the screws from the threaded holes and add lock washers (22). Install three screws (21) and lock washers (22) to secure.

Bracket (23)
Hexagon plain nut (24)
Sleeve spacer (25)
Hexagon head cap screw (26)
Spacer (27)
Electrical lead (28)
Hexagon head cap screw (29)
Hexagon plain nut (30)

Install bracket (23) and secure with hexagon plain nut (24).

Insert sleeve spacer (25) and install hexagon head cap screws (26).

Install spacer (27), electrical lead (28), hexagon head cap screw (29), and hexagon plain nut (30). Install second spacer (27) and hexagon cap screw (29).



2-20. SKID BASE SUBASSEMBLY (CONT).

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

REASSEMBLY (CONT)

Skid Base Subassembly/

NOTE

The oil pressure switch is mounted at the rear of the engine if manufactured after January 1969. The oil pressure switch is mounted at the front of the engine on engines manufactured prior to January 1969.

Engine components installation and routing will be in accordance with TM 5-2805-259 series.

Pipe elbow (31)
 Oil pressure switch (32)
 Electrical lead (33)

Wrap male threads of pipe elbow (31) and oil pressure switch (32) with antiseizing tape or coat with sealing compound before installing.

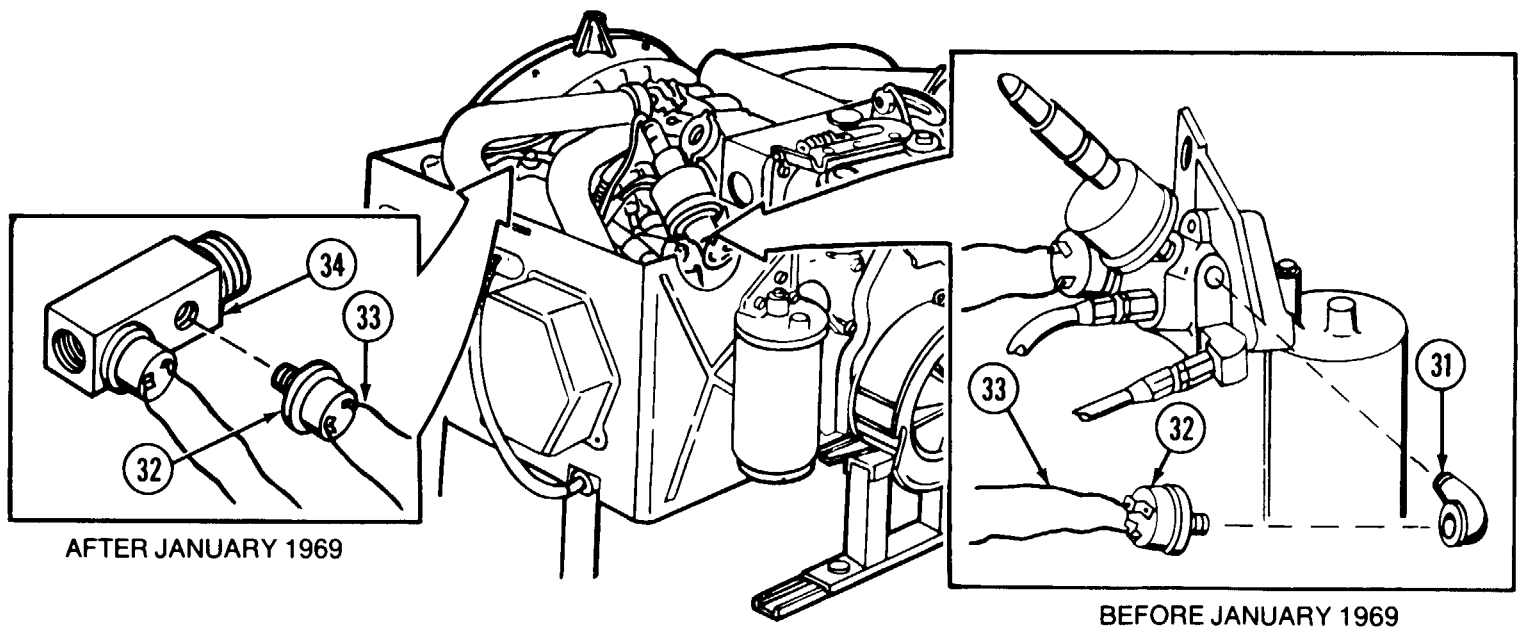
Install pipe elbow (31) and oil pressure switch (32). Connect electrical lead (33).

OR

Tee connector (34)

Wrap male threads of tee connector (34) and oil pressure switch (32) with antiseizing tape or apply sealing compound before installing.

Install tee connector (34), oil pressure switch (32), and connect electrical lead (33).



2-20. SKID BASE SUBASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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REASSEMBLY (CONT)

Skid Base Subassembly

Gasket (35)
 Pipe straight adapter (36)
 Pipe coupling (37)
 Stop-check valve (38)
 Pipe nipple (39)

Install gasket (35), pipe straight adapter (36), pipe coupling (37), stop-check valve (38), and pipe nipple (39). Make certain stop-check valve (37) is in closed position before servicing with oil. (Refer to TM 5-2805-259-14).

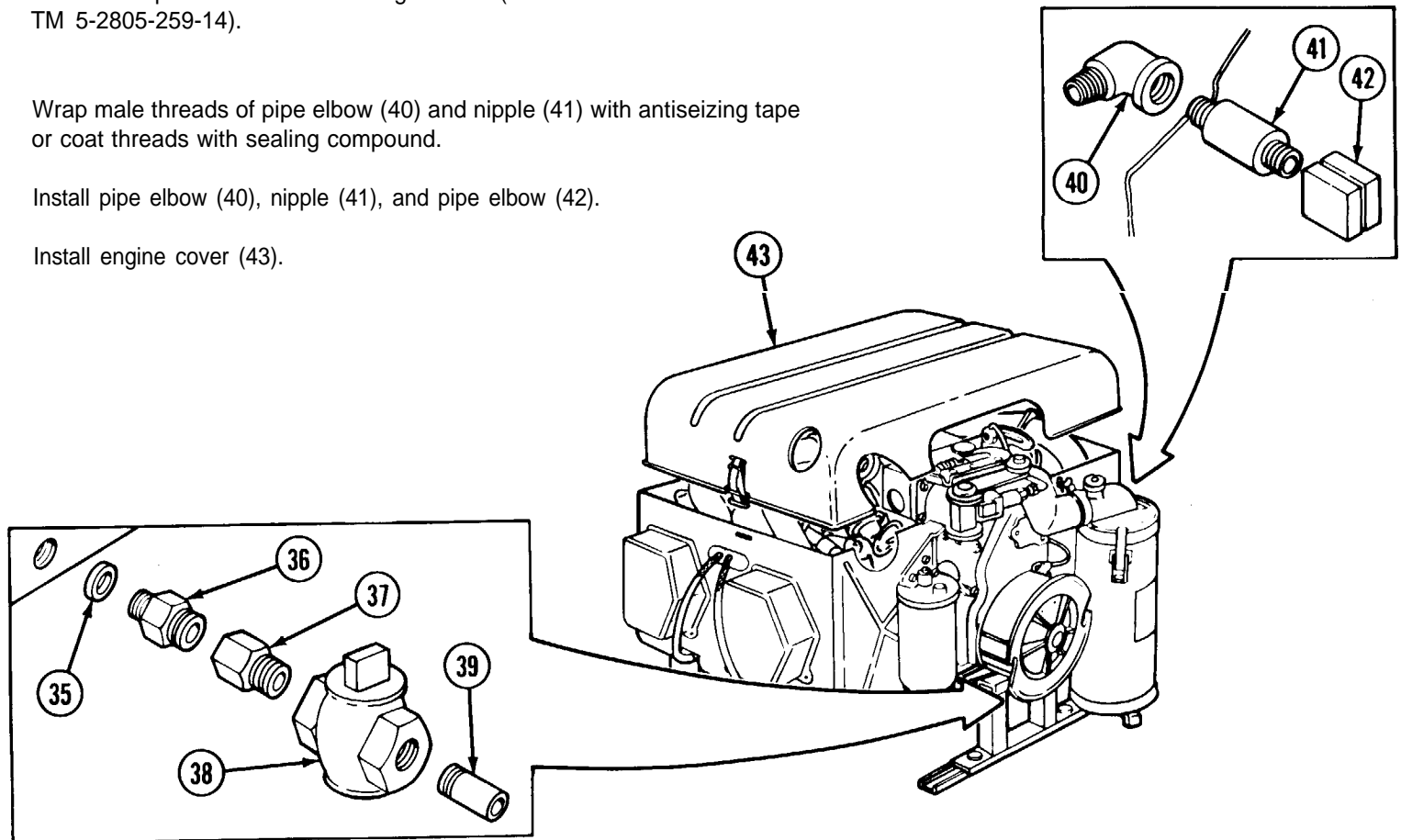
Pipe elbow (40)
 Nipple (41)
 Pipe elbow (42)

Wrap male threads of pipe elbow (40) and nipple (41) with antiseizing tape or coat threads with sealing compound.

Install pipe elbow (40), nipple (41), and pipe elbow (42).

Engine cover (43)

Install engine cover (43).



NOTE

Two long mounting stiffeners will be used with Marlow pumps. Four short mounting stiffeners will be used with Ohler pumps.

Machine mounting pad (44)
Plumbing assembly (45)

Place four machine mounting pads (44) around the four holes on the skid. Position plumbing assembly (45) onto machine mounting pads (44).

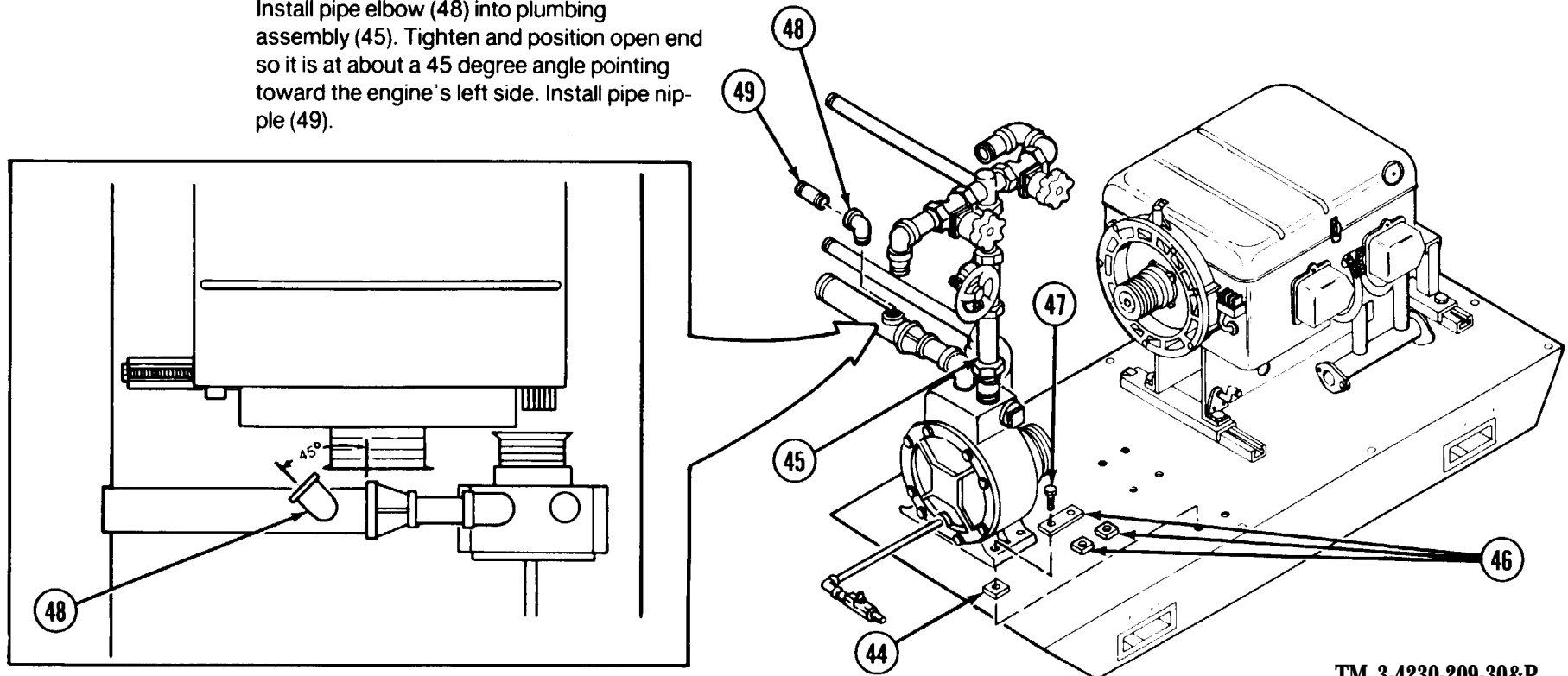
Mounting stiffener (46)
Hexagon head cap screw (47)

Select proper style of mounting stiffeners (46) for type of pump used. Install mounting stiffeners (46). Two long stiffeners for Marlow pumps or four short stiffeners for Ohler. Install four hexagon head cap screws (47) to secure plumbing assembly (45).

Pipe elbow (48)
Pipe nipple (49)

Wrap male threads of pipe elbow (48) and pipe nipple (49) with antiseizing tape or coat the threads with sealing compound.

Install pipe elbow (48) into plumbing assembly (45). Tighten and position open end so it is at about a 45 degree angle pointing toward the engine's left side. Install pipe nipple (49).



2-20. SKID BASE SUBASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Skid Base Subassembly/		
	<u>WARNING</u>	
	Unless it is securely blocked, never reach under the skid base subassembly while it is raised off the floor. Failure to comply may result in a crushed arm.	
	Raise and block skid base subassembly in accordance with local policy.	
Generator support (50) Hexagon head cap screws (51) Flat washer (52) Ground wire (53)	Position generator support (50) onto skid over the two holes near center and insert two hexagon head cap screws (51) through flat washers (52), terminal on ground wire (53) generator support (50), and the skid.	
Internal tooth lock washer (54) Hexagon plain nut (55)	Reach under skid and install two internal tooth lock washers (54) and hexagon plain nuts (55) to secure.	
	NOTE	
	Final adjustment of generator support (50) will be required after the alternator-generator V belts have been installed. The mount will have to be adjusted so V belt will track correctly in the pulley groove. A misaligned mount will cause belt to be thrown off of pulley or cause excessive wear on belts.	

Alternator generator (56)
 Generator bracket (57)
 Hexagon head cap screw (58)
 Internal tooth lock washer (59)
 Internal tooth lock washer (60)
 Hexagon plain nut (61)

Position alternator generator (56) into generator bracket (57). Insert two hexagon head cap screws (58) and internal tooth lock washers (59) through alternator generator (56) and generator bracket (57). Install two internal tooth lock washers (60) and hexagon plain nut (61).

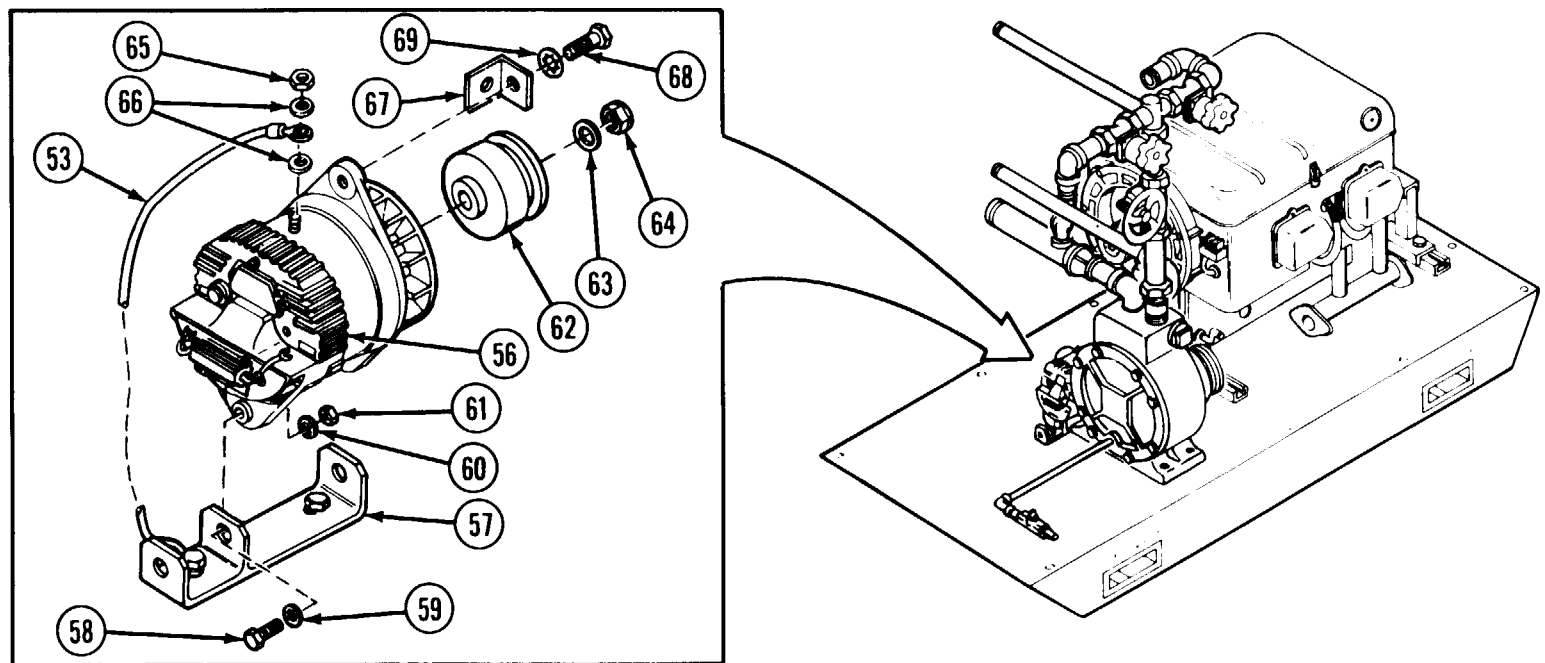
Grooved pulley (62)
 Washer (63)
 Nut (64)
 Nut (65)
 Washer (66)
 Bracket (67)

Install grooved pulley (62), washer (63), and nut (64). Remove the nut (65) and one washer (66). Attach ground wire (53) to the top stud on alternator generator (56). Reinstall two washers (66) and secure with nut (65).

Position bracket (67) onto alternator generator (56).

Hexagon head cap screw (68)
 Internal tooth lock washer (69)

Secure with hexagon head cap screw (68), and internal tooth lock washer (69).



2-21. PLUMBING ASSEMBLY.

This task covers:

- a. Disassembly
- b. Repair
- c. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition

Removed from the skid base subassembly. See paragraph 2-20 for disassembly/reassembly procedures.

Materials/Parts

Antiseizing tape (item 38, app C)
Sealing compound (item 32, app C)

LOCATION/ITEM

ACTION

REMARKS

DISASSEMBLY

Plumbing Assembly/

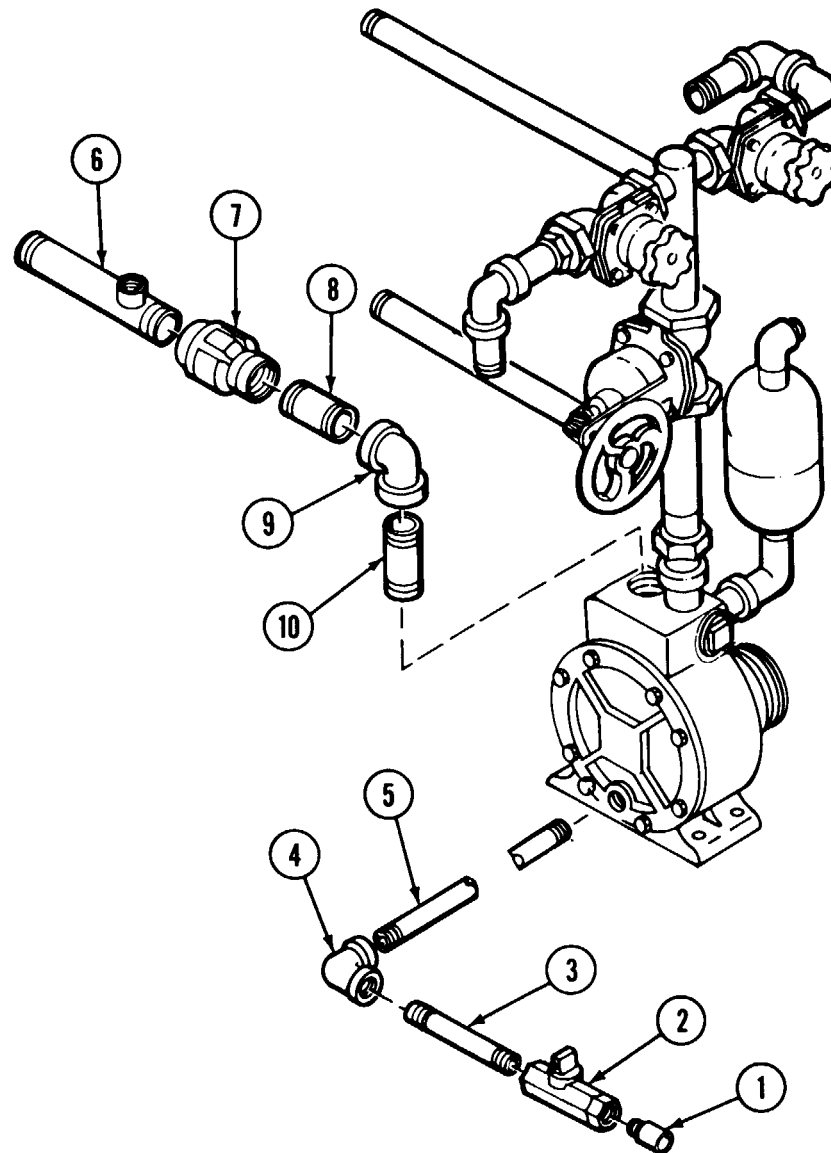
Pipe to hose straight adapter (1)
Ball valve (2)
Pipe nipple (3)
Pipe elbow (4)
Metallic pipe (5)

Unscrew and remove pipe to hose straight adapter (1), ball valve (2), pipe nipple (3), pipe elbow (4), and metallic pipe (5).

Plumbing assembly may be bolted in place on skid base while being disassembled.

Eductor (6)
Pipe reducer (7)
Pipe nipple (8)
Pipe elbow (9)
Pipe nipple (10)

Place the plumbing assembly unit flat. Unscrew and remove eductor (6), pipe reducer (7), pipe nipple (8), pipe elbow (9), and pipe nipple (10).



2-21. PLUMBING ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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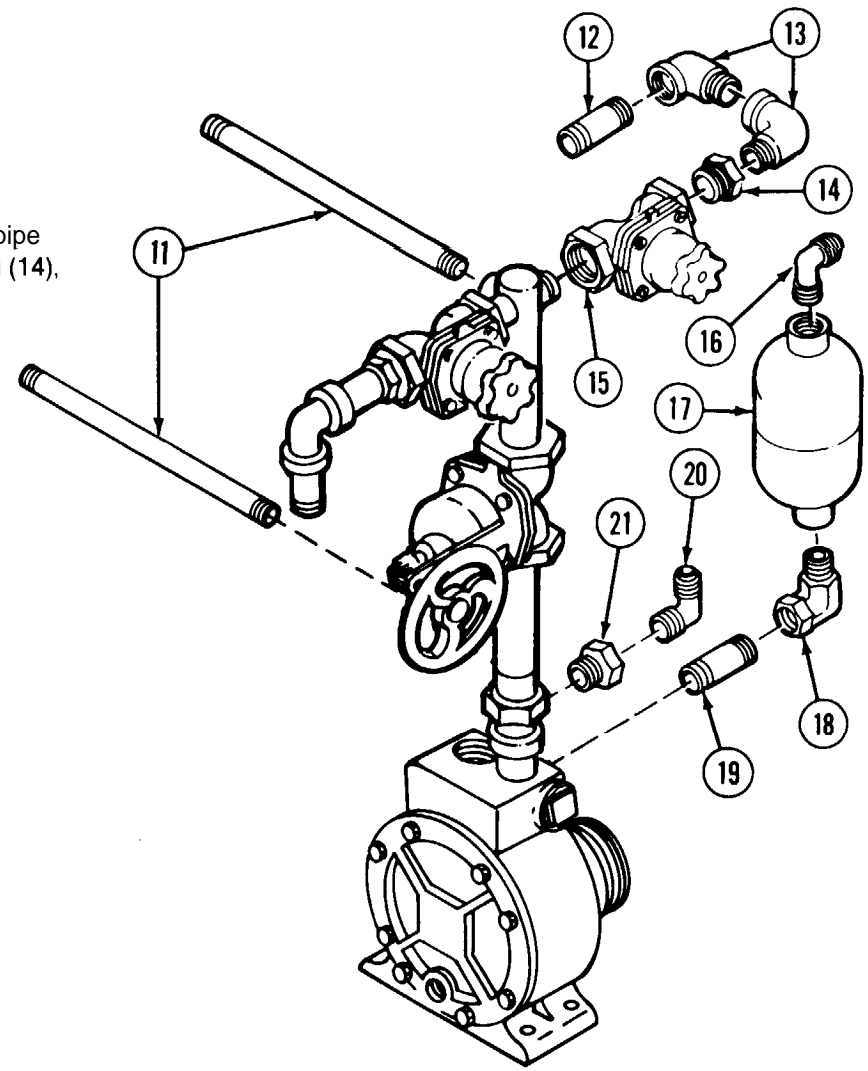
DISASSEMBLY (CONT)

- Plumbing Assembly/
- Metallic pipe (11)
- Pipe nipple (12)
- Pipe elbow (13)
- Pipe bushing (14)
- Diaphragm valve (15)
- PIPE to tube eLbow(16)
- Surge tank (17)
- Pipe elbow (18)
- Pipe nipple (19)
- Pipe to tube elbow (20)
- Pipe bushing (21)

NOTE

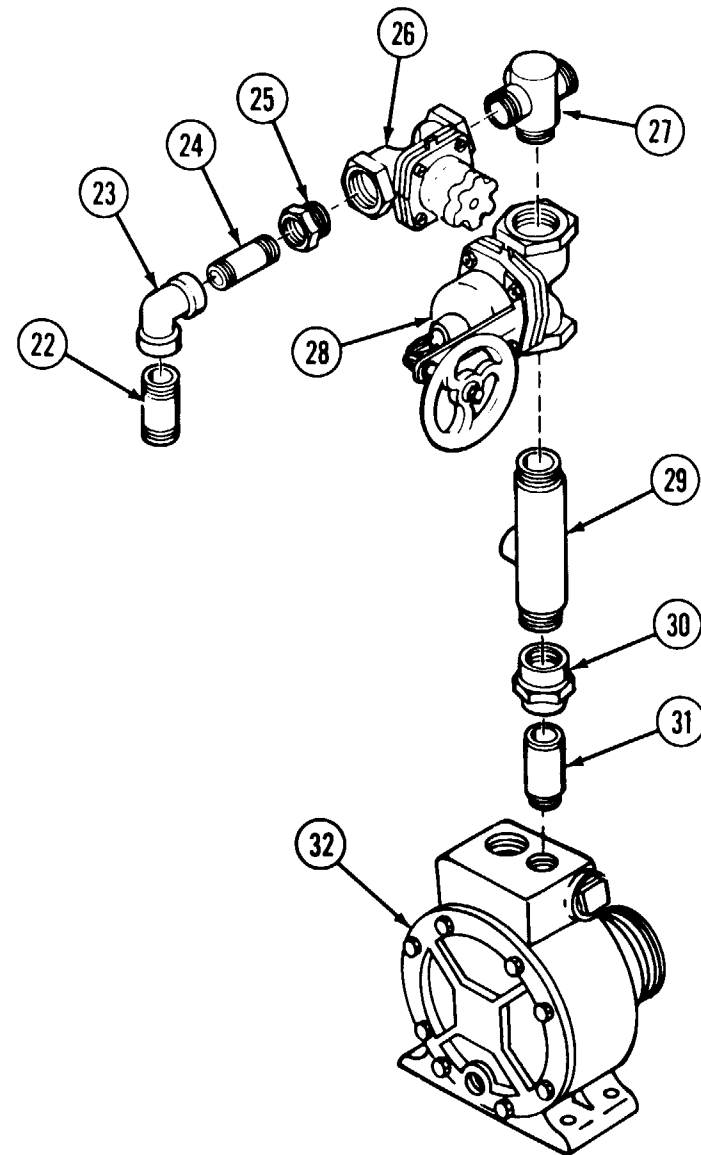
Upper portion of the plumbing assembly may be separated from the centrifugal pump by loosening the pipe union.

Unscrew and remove two metallic pipes (11), one pipe nipple (12), two pipe elbows (13), one pipe bushing (14), and diaphragm valve (15). Remove pipe to tube elbow (16), surge tank (17), pipe elbow (18), pipe nipple (19), pipe to tube elbow (20), and pipe bushing (21).



- Pipe nipple (22)
- Pipe elbow (23)
- Pipe nipple (24)
- Pipe bushing (25)
- Regulating valve (26)
- Upper manifold (27)
- Offset valve (28)
- Lower manifold (29)
- Pipe union (30)
- Pipe nipple (31)
- Centrifugal pump (32)

Unscrew and remove pipe nipple (22), pipe elbow (23), pipe nipple (24), pipe bushing (25), regulating valve (26), and upper manifold (27). Remove offset valve (28), lower manifold (29), pipe union (30), and pipe nipple (31) from centrifugal pump (32).



2-21. PLUMBING ASSEMBLY (CONT).

LOCATION/ITEM

ACTION

REMARKS

DISASSEMBLY (CONT)

Plumbing Assembly/

Screw (33)

Lock washer (34)

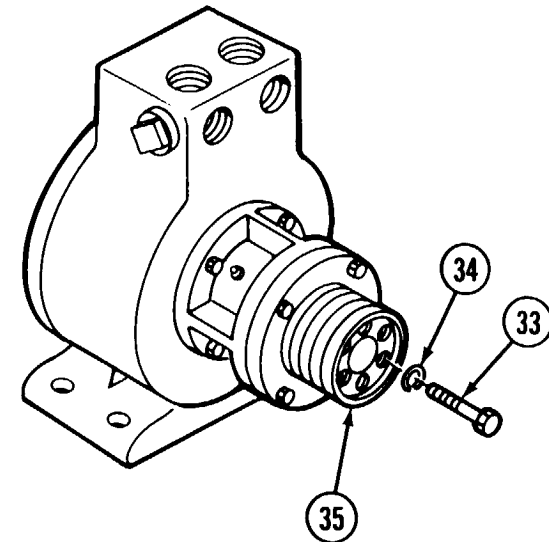
Grooved pulley (35)

Setscrew (36)

Hub (37)

Woodruff key (38)

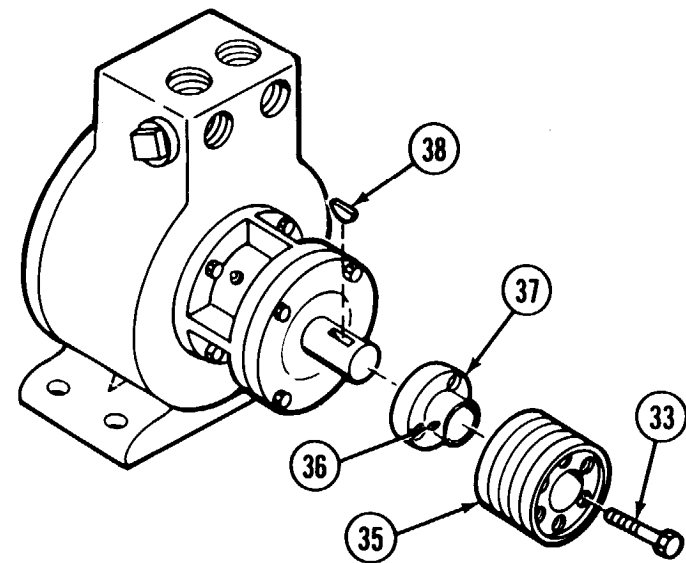
Unscrew and remove three screws (33) and three lock washers (34) from grooved pulley (35). Separate lock washers (34) from screws (33).



Using three screws (33), screw into the alternate holes of grooved pulley (35). Tighten three screws (33) equally, thus driving grooved pulley (35) away from the pump and exposing the setscrew (36) in hub (37).

Loosen the setscrew (36) and pull hub (37) off of the pump shaft.

Lift woodruff key (38) out of the slot in the pump shaft.



REPAIR

Plumbing Assembly/

Replace authorized unserviceable parts.

REASSEMBLY

Plumbing Assembly/

Woodruff key (1)

Hub (2)

Setscrew (3)

Screw (4)

Grooved pulley (5)

Lock washer (6)

Grooved pulley
assembly (7)

Install woodruff key (1) in key slot in pump shaft.

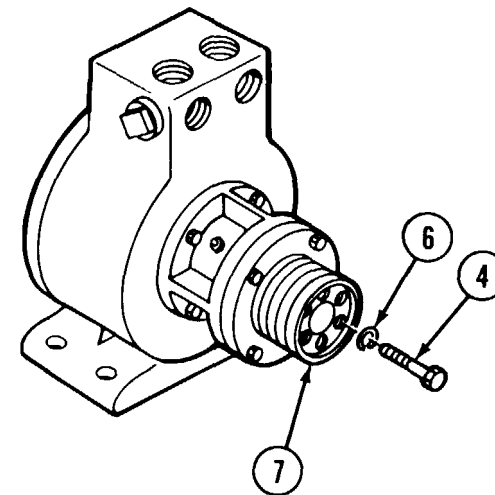
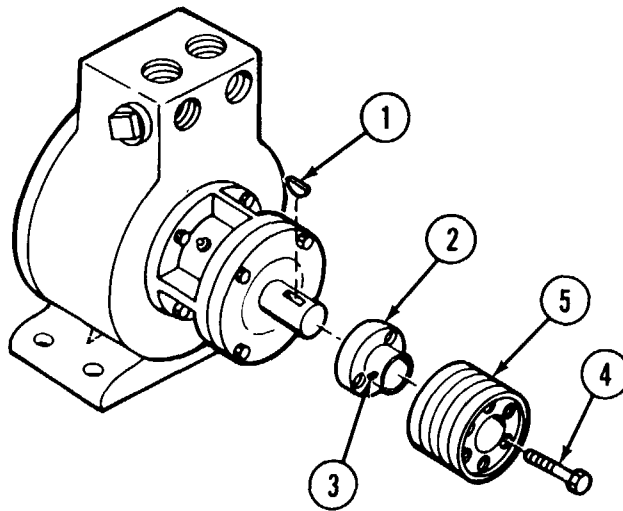
Align the slot in hub (2) with woodruff key (1). Slide hub (2) on until it is flush with the end of the pump shaft.

Tighten setscrew (3). Remove three screws (4) from grooved pulley (5).

Insert three screws (4) through three lock washers (6) in the alternate holes in grooved pulley (5). Position the grooved pulley (5) onto the hub, align the holes, and install three screws (4) and lock washers (6). Install three screws (4) into the holes of hub (2). Torque three screws (4) 95 to 100 inch-pounds.

Make sure that the woodruff key supplied with the centrifugal pump is installed in the keyway before attaching grooved pulley assembly (7).

Hub (2), setscrew (3), screw (4), grooved pulley (5), and lock washer (6) are component parts of grooved pulley assembly (7).



2-21. PLUMBING ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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REASSEMBLY (CONT)

Plumbing Assembly/

- Centrifugal pump (8)
- Pipe nipple (9)
- Pipe union (10)
- Lower manifold (11)
- Offset valve (12)
- Upper manifold (13)

Using antiseizing tape or sealing compound, wrap or coat the external threads of pipe nipple (9), lower manifold (11), upper manifold (13), pipe bushing (15), pipe nipple (16), and pipe nipple (18).

Position centrifugal pump (8) upright on a flat surface. Screw together pipe nipple (9), pipe union (10), lower manifold (11), offset valve (12), and upper manifold (13). Then screw into centrifugal pump (8) and hold in place while each part is tightened, starting from its lowest point, with a wrench. Do not tighten two parts of pipe union (10). The outlet in lower manifold (11) must be aligned with centrifugal pump (8). Firmly holding lower manifold (11), tighten offset valve (12) until the handle stem is opposite the port on lower manifold (11). While holding offset valve (12), tighten upper manifold (13) until it is tight and aligns with the shaft in centrifugal pump (8).

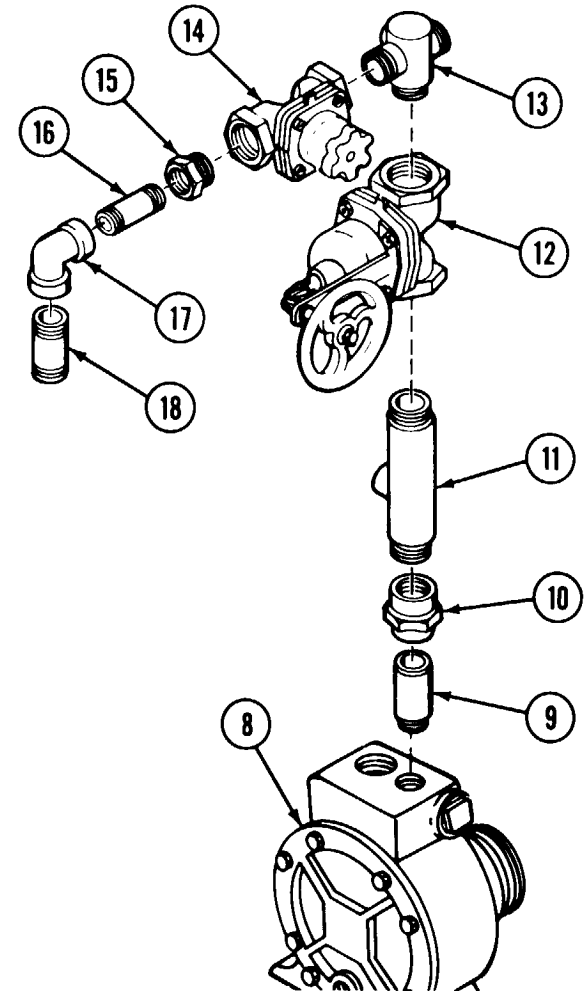
- Regulating valve (14)
- Pipe bushing (15)

Screw regulating valve (14) onto upper manifold (13) and screw pipe bushing (15) into regulating valve (14). Tighten pipe bushing (15) and regulating valve (14) until the stem is pointing in the same direction as offset valve (12).

- Pipe nipple (16)
- Pipe elbow (17)
- Pipe nipple (18)

Screw pipe nipple (16), pipe elbow (17), and pipe nipple (18) together. Then, as a unit, screw into pipe bushing (15). Tighten pipe nipple (18) and pipe elbow (17) until the outlet is vertical and is pointing downward. Tighten pipe nipple (18).

Pump may be bolted to skid base during reassembly.



Diaphragm valve (19)
 Pipe bushing (20)
 Pipe elbow (21)
 Pipe nipple (22)
 Metallic pipe (23)

Using antiseizing tape or sealing compound, wrap or coat the external threads of pipe bushing (20), two pipe elbows (21), pipe nipple (22), and two metallic pipes (23).

Screw diaphragm valve (19), pipe bushing (20), and one pipe elbow (21) together. Tighten diaphragm valve (19) until the handle is horizontal and is pointing in the same direction as the other two handles.

While holding diaphragm valve (19), tighten pipe bushing (20) and pipe elbow (21). Position pipe elbow (21) so it is horizontal and pointing away from the handles. Screw the second pipe elbow (21) into the first pipe elbow (21).

Screw pipe nipple (22) into the second pipe elbow (21). Tighten pipe nipple (22) until it is directly behind and in line with the front piping. Screw two metallic pipes (23) in the upright pipe and tighten. Once all parts are alined, tighten pipe union (10).

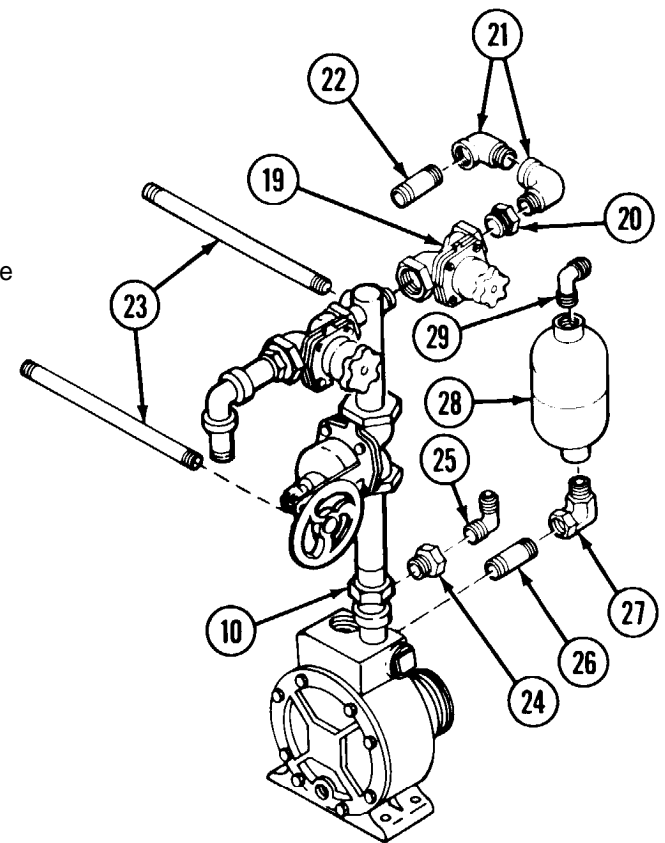
Pipe bushing (24)
 Pipe to tube elbow (25)
 Pipe nipple (26)
 Pipe elbow (27)
 Surge tank (28)
 Pipe to tube elbow (29)

Using antiseizing tape or sealing compound, wrap or coat the external threads of pipe bushing (24), pipe to tube elbow (25), pipe nipple (26), pipe elbow (27), and pipe to tube elbow (29).

Screw pipe bushing (24) and pipe to tube elbow (25) into the centrifugal pump. Tighten until the free end of pipe to tube elbow (25) is pointing straight up.

Screw pipe nipple (26) and pipe elbow (27) into the centrifugal pump. Tighten until the free end of pipe elbow (27) is pointing straight up.

Screw surge tank (28) and pipe to tube elbow (29) to pipe elbow (27). Tighten surge tank (28) and pipe to tube elbow (29) until they are alined with the shaft of the centrifugal pump.



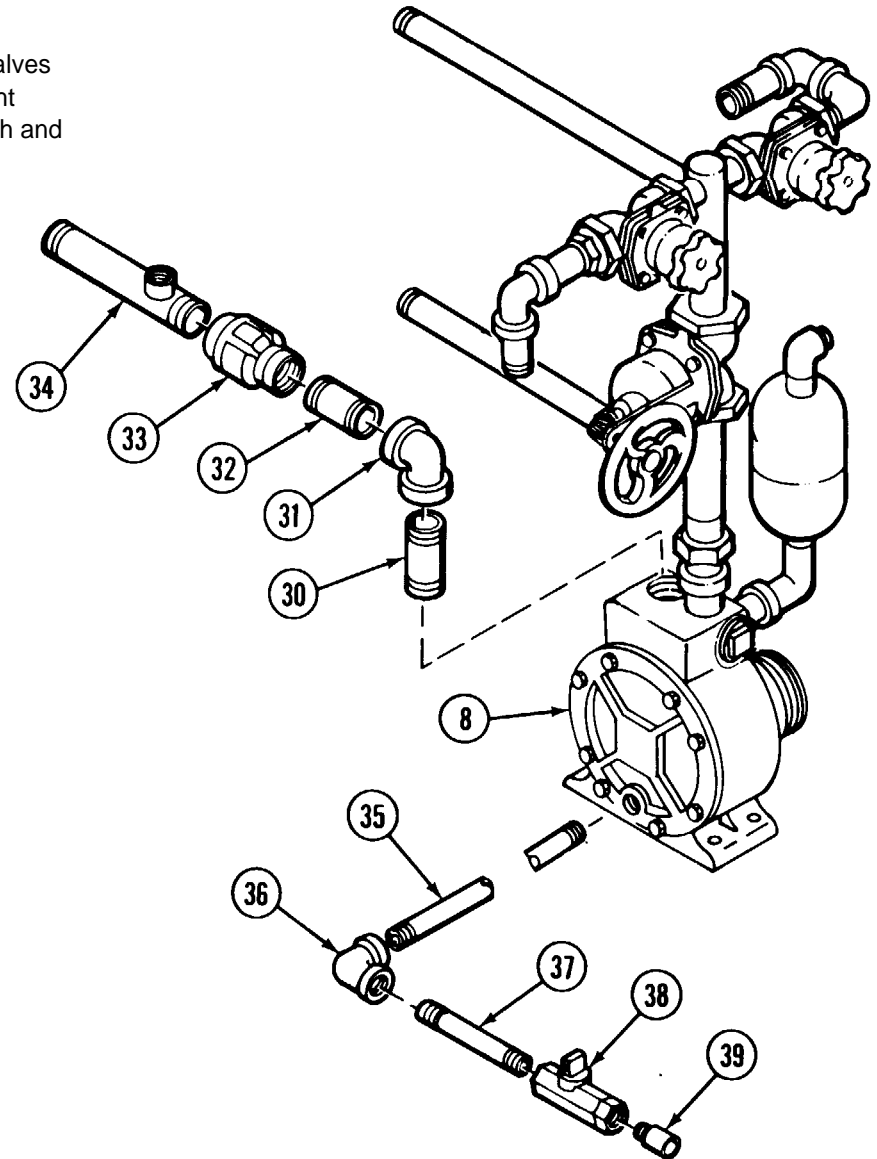
2-21. PLUMBING ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Pipe nipple (30) Pipe elbow (31)	Using antiseizing tape or sealing compound, wrap or coat the external threads of pipe nipple (30) and eductor (34). Screw pipe nipple (30) and pipe elbow (31) together; then, as a unit, screw into the centrifugal pump (8). Tighten until the open end of pipe elbow (31) is pointing straight back.	
Pipe nipple (32) Pipe reducer (33) Eductor (34)	Screw pipe nipple (32), pipe reducer (33), and eductor (34) together; then, as a unit, screw into pipe elbow (31). Tighten pipe nipple (32), pipe reducer (33), and eductor (34). Position the side outlet so it is pointing upward.	Eductor (34) must extend at least two inches through the connector panel. If it does not, use pipe nipple (32).
Metallic pipe (35) Pipe elbow (36) Pipe nipple (37) Ball valve (38) Pipe straight adapter (39)	Using antiseizing tape or sealing compound, wrap or coat the external threads of metallic pipe (35), pipe nipple (37), and pipe to hose straight adapter (39). Screw metallic pipe (35) and pipe elbow (36) together; then, as a unit, screw into the centrifugal pump (8) drain hole. Tighten and position the open end of pipe elbow (36) so that it is pointing forward and horizontal. Screw pipe nipple (37), ball valve (38), and pipe straight adapter (39) together; then, as a unit, screw into pipe elbow (36).	

Tighten and position ball valve (38) so that the stem is pointing straight up.

NOTE

There are three suppliers of ball valve (38). Two valves are the same length and need a longer pipe straight adapter (39). The other ball valve is longer in length and needs a shorter pipe straight adapter (39).



2-22. CENTRIFUGAL PUMP.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP*Tools and Special Tools*

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)
Wheel puller (fig D-3)

Materials/Parts

Antiseizing tape (item 38, app C)
Automotive and artillery grease (item 22, app C)
Sealing compound (item 32, app C)
Wheel puller (fig D-3)

References

TM 43-0139

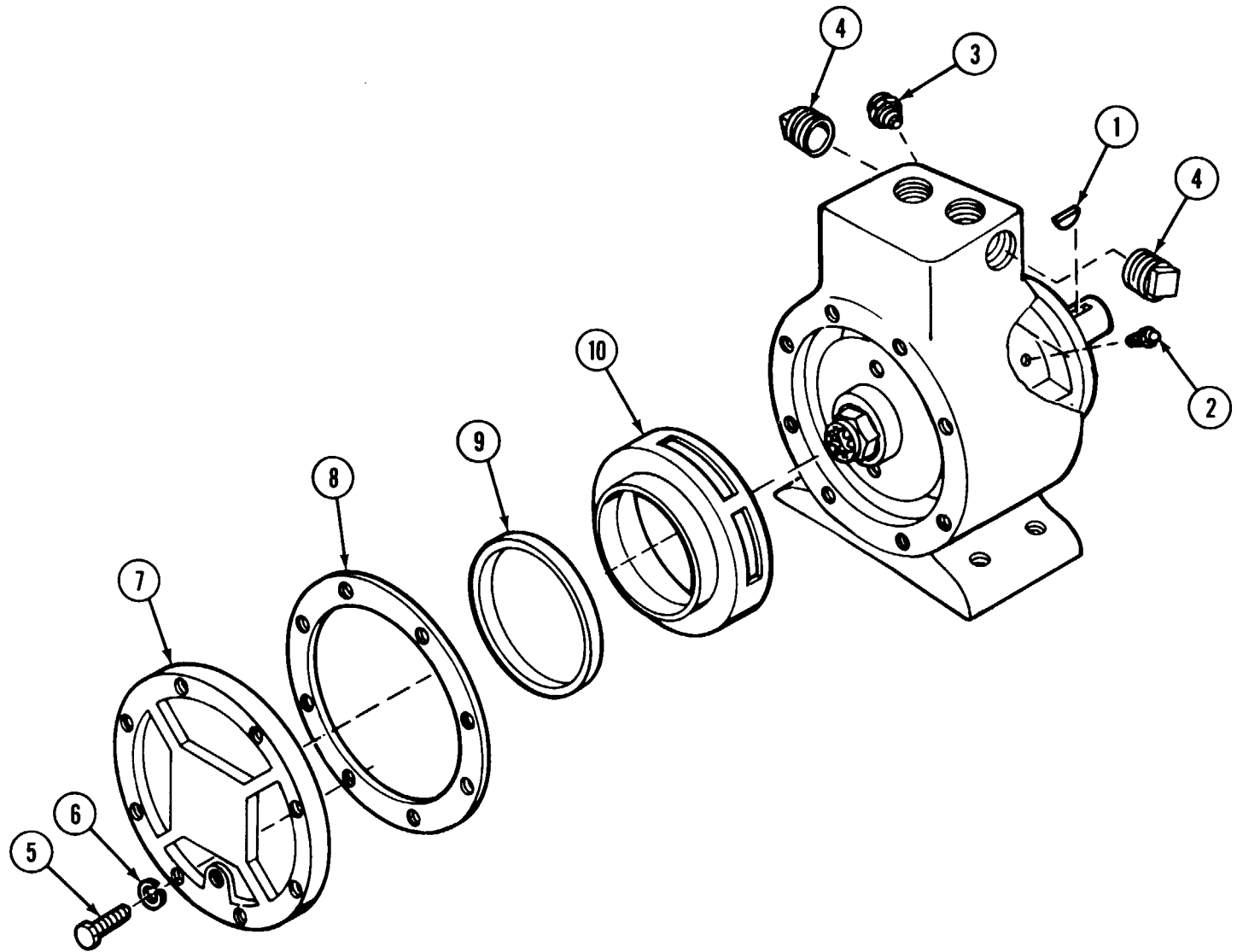
Equipment Condition

Pump assembly is removed from the plumbing assembly. Refer to paragraph 2-21 for disassembly/reassembly procedures.

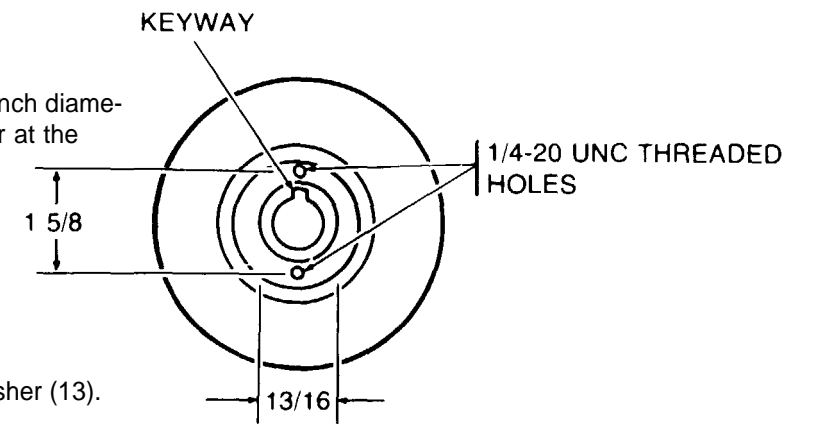
*Special Safety Instructions***WARNING**

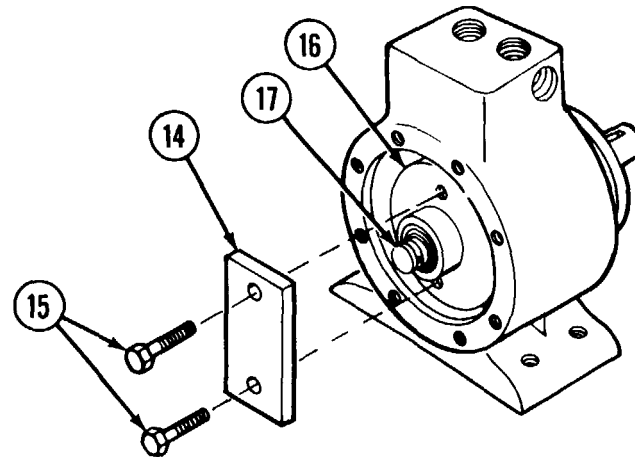
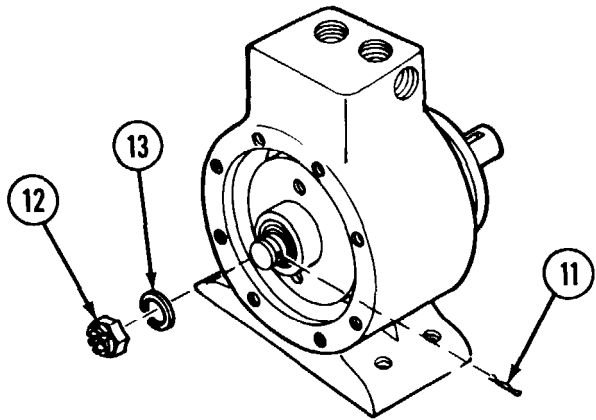
When handling asbestos material, always wear an air filtering respirator, gloves, and goggles. Wash face and hands with soap and water before eating or smoking. Asbestos can cause cancer if handled without protection.

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Centrifugal Pump/ Woodruff key (1) Lubrication fitting (2) Pump breather (3) Pipe plugs (4) Hexagon head cap screws (5) Lock washers (6) Pump tank cover (7) Gasket (8) Gasket (9) Centrifugal pump diffuser (10)	Lift woodruff key (1) out of the shaft keyway. Unscrew and remove lubrication fitting (2), pump breather (3), two pipe plugs (4), and eight hexagon head cap screws (5), and eight lock washers (6). <u>WARNING</u> When handling asbestos material, always wear an air filtering respirator, gloves, and goggles. Wash face and hands with soap and water before eating or smoking. Asbestos can cause cancer if handled without protection. Remove pump tank cover (7), gasket (8), gasket (9), and centrifugal pump diffuser (10).	Pump breather to be located on right hand side when facing centrifugal pump from the shaft end. The lubricating fitting will be on the left hand side. If the pump impeller does not have two threaded holes at the locations shown in the illustration, DO NOT disassemble any further. Enlarge and tap existing unthreaded holes in the pump impeller.



2-22. CENTRIFUGAL PUMP (CONT).

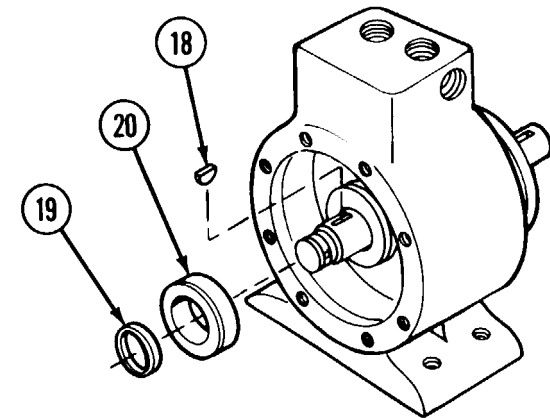
LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY (CONT)		
Centrifugal Pump/	Use a drill to enlarge the existing unthreaded holes to 13/64 inch diameter. Tap the two holes 1/4-20 UNC through the pump impeller at the location shown.	 <p>KEYWAY</p> <p>1 5/8</p> <p>1/4-20 UNC THREADED HOLES</p> <p>13/16</p>
Cotter pin (11) Castellated plain nut (12) Flat washer (13) Wheel puller (14) Screws (15) Pump impeller (16) Shaft (17)	<p>Remove cotter pin (11), castellated plain nut (12), and flat washer (13).</p> <p>Using a fabricated wheel puller (fig D-3) (14), screw two 1-1/4 inch long screws (fig D-3) (15) into the two tapped holes in pump impeller (16). Alternately tighten the screws in the holes until pump impeller (16) is released. Slide pump impeller (16) off the shaft (17). Unscrew and remove the two screws (15) and wheel puller (14).</p>	<p>Always use a wheel puller (see figure D-3) to remove the impeller from the pump shaft. Removal of the pump impeller by the procedure described below will prevent damage to the pump shaft seal assembly.</p>



Woodruff key (18)
Shim set (19)
Pump shaft seal assembly
(holder portion) (20)

Carefully slide woodruff key (18), shim set (19), and pump shaft seal assembly (holder portion) (20) off the shaft.

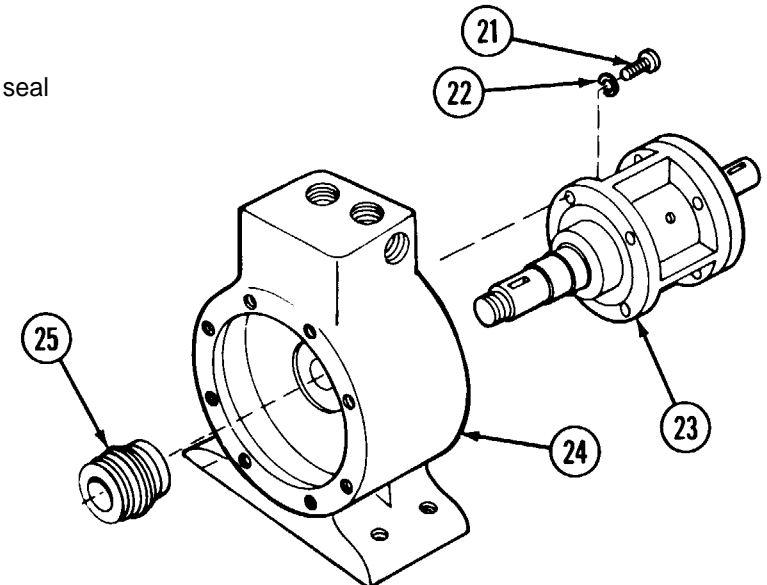
The pump shaft seal assembly (holder portion and stationary portion) (20) is issued as an assembly. The holder portion of the seal assembly may be in the rear of the pump impeller (16).



Hexagon head cap screws (21)
Lock washers (22)
Bearing housing (23)
Pump tank (24)
Pump shaft seal assembly
(stationary portion) (25)

Unscrew and remove four hexagon head cap screws (21) and four lock washers (22). Slide bearing housing (23) from pump tank (24).

Using a soft brass bar, tap lightly around outer edge of pump shaft seal assembly (stationary portion) (25) to loosen it from its seat in pump tank (24). Remove pump shaft seal assembly (25).



2-22. CENTRIFUGAL PUMP (CONT).

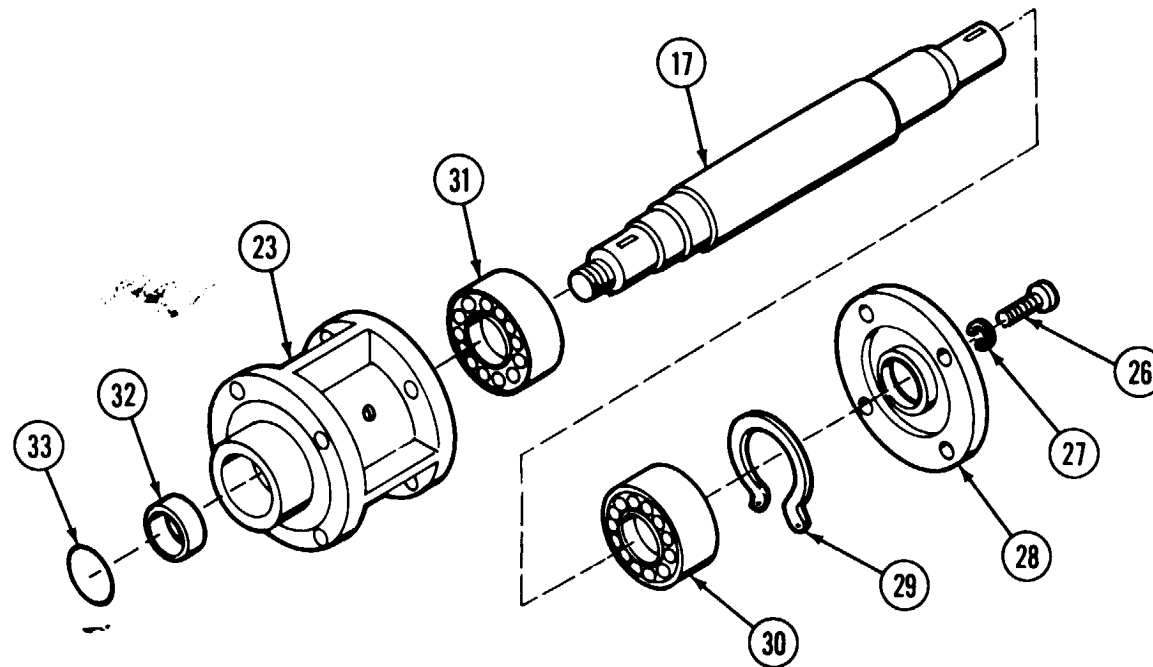
LOCATION/ITEM	ACTION	REMARKS
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DISASSEMBLY (CONT)

Centrifugal Pump/
 Hexagon head cap screws (26)
 Lock washers (27)
 Bearing end cap (28)
 Retaining ring (29)
 Annular ball bearing (30 and 31)
 Plain encased seal (32)
 Preformed packing (33)

Unscrew and remove four hexagon head cap screws (26) and lock washers (27). Remove bearing end cap (28), retaining ring (29), annular ball bearing (30), shaft (17) and annular ball bearing (31) from bearing housing (23). Slide plain encased seal (32) out of bearing housing (23). Remove preformed packing (33).

Preformed packing (33) may remain inside the pump shaft hole upon removal of the pump shaft.



REPAIR

Centrifugal Pump/

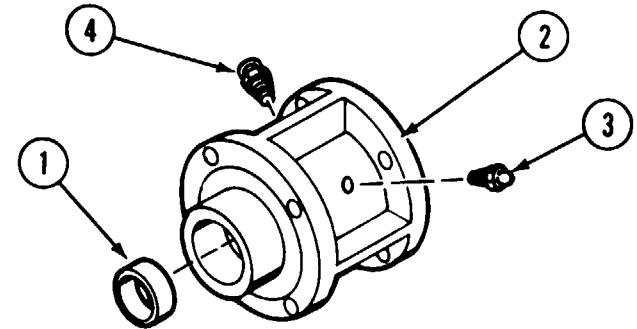
Replace authorized unserviceable parts. Repaint with polyurethane coating as necessary. See TM 43-0139.

REASSEMBLY

Centrifugal Pump/

- Plain encased seal (1)
- Bearing housing (2)
- Lubrication fitting (3)
- Pump breather (4)

Install plain encased seal (1) in bearing housing (2). Screw lubrication fitting (3) and pump breather (4) into bearing housing (2). Tighten lubrication fitting (3) and pump breather (4).

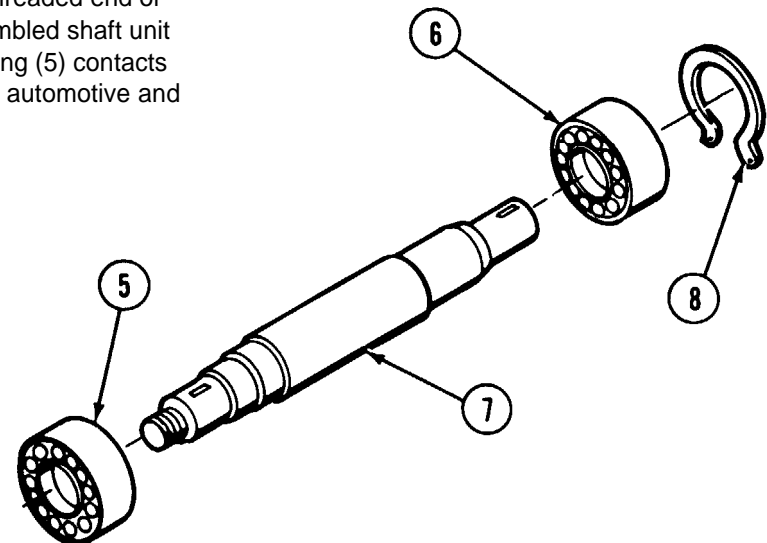


- Annular ball bearings (5 and 6)

- Shaft (7)
- Retaining ring (8)

Pack annular ball bearings (5 and 6) with automotive and artillery grease.

Slide the smaller annular ball bearing (5) onto the threaded end of shaft (7). Slide the larger annular ball bearing (6) onto unthreaded end of shaft (7) and secure with retaining ring (8). Slide the assembled shaft unit into bearing housing (2) until the smaller annular ball bearing (5) contacts the inner surface of bearing housing (2). Wipe any excess automotive and artillery grease from the outside of bearing housing (2).

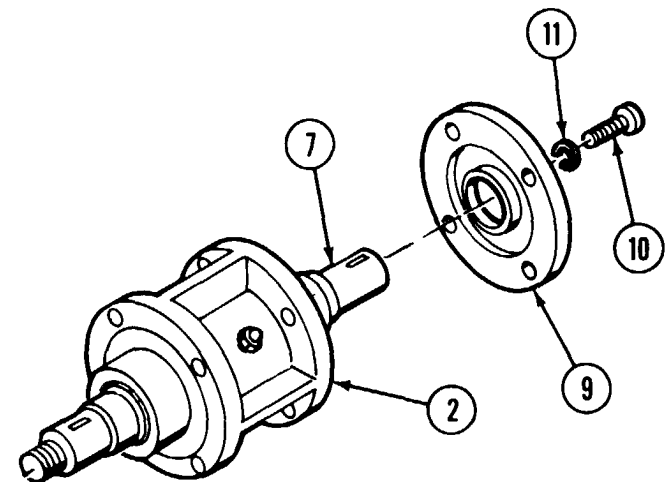


2-22. CENTRIFUGAL PUMP (CONT).

LOCATION/ITEM	ACTION	REMARKS
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REASSEMBLY (CONT)

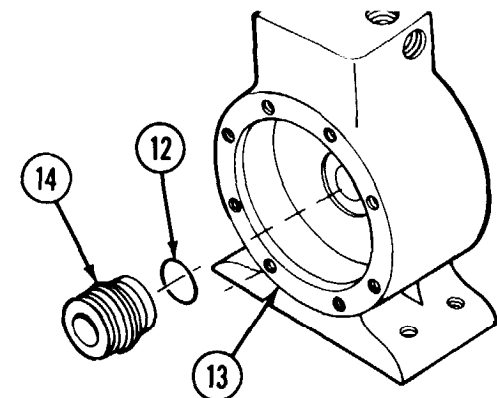
Centrifugal Pump/ Bearing end cap (9)	Slide bearing end cap (9) onto shaft (7), press in until it is flush with bearing housing (2), and aline the four holes.	
Hexagon head cap screws (10) Lock washers (11)	Insert four hexagon head cap screws (10) through four lock washers (11) and bearing end cap (9). Install four hexagon head cap screws (10) and tighten.	



Preformed packing (12) Pump tank (13)	Insert preformed packing (12) into pump tank (13). Check inside the shaft hole of pump tank (13) to be sure that preformed packing (12) is in the proper location and is seated properly.	
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Pump shaft seal assembly (stationary portion) (14)	Using a small amount of automotive and artillery grease, lubricate the internal surface of the shaft hole in pump tank (13) and the internal and external surface of pump shaft seal assembly (stationary portion) (14). Push the pump shaft seal assembly (stationary portion) (14) into the shaft hole of pump tank (13). Slide bearing housing (2) onto pump tank (13) and aline bearing housing (2) so the drain hole is nearly straight down from the shaft hole.	
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Preformed packing (12) and pump shaft seal assembly (14) are issued as an assembly.

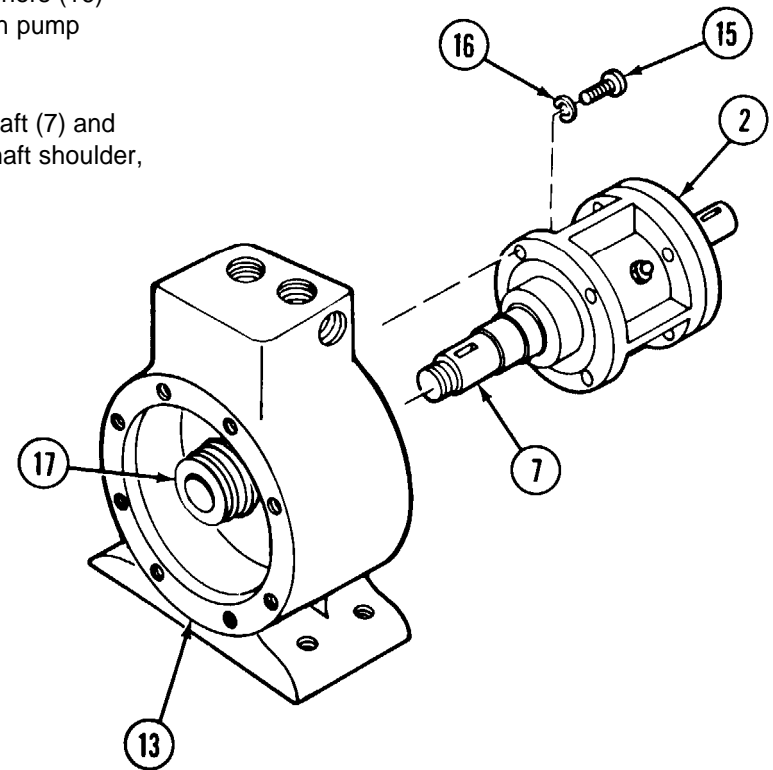


Hexagon head cap screws (15)
Lock washers (16)

Pump shaft seal assembly (holder portion) (17)

Insert four hexagon head cap screws (15) and four lock washers (16) through bearing housing (2) and into the four tapped holes in pump tank (13). Tighten four hexagon head cap screws (15).

Slide pump shaft seal assembly (holder portion) (17) onto shaft (7) and press into pump tank (13) hole until it is against the pump shaft shoulder,



2-22. CENTRIFUGAL PUMP (CONT).

LOCATION/ITEM

ACTION

REMARKS

REASSEMBLY (CONT)

Centrifugal Pump/

Turn the assembled unit so that the end cup is pointing downward for easy measurement. It is recommended that the unit be blocked to steady it while measurements are taken.

Determine the number of shims that will be required for the following procedures.

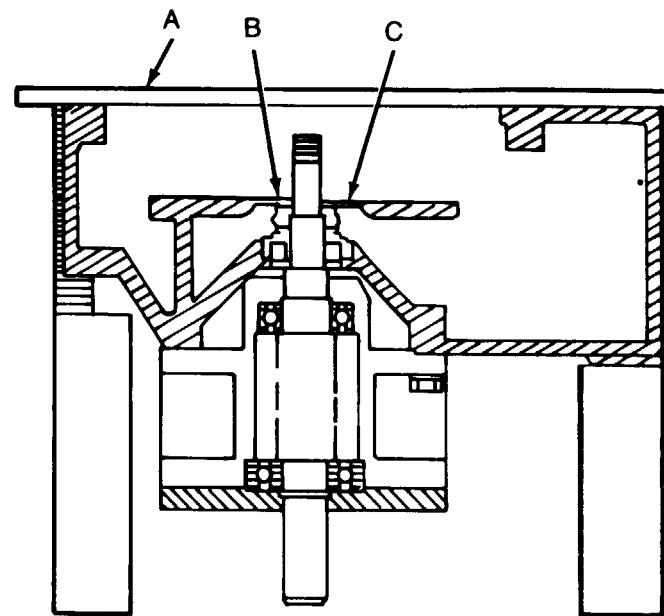
- Step 1. Place a very stiff, smooth length of metal such as a machinist's parallel over the opening in the pump tank. The metal serves as a measuring reference point.
- Step 2. Using a depth micrometer or depth rule, measure from the top of bar "A" to "B" and record the measurement. Measure from bar "A" to "C" and record the measurement.
- Step 3. Subtract the recorded measurement "A" to "B" from the recorded measurement "A" to "C." This measurement must be between 0.018 to 0.063 inch less than the "A" to "B" measurement.
- Step 4. Using shims of 0.005 or 0.015 inch thickness in any combination, bring the unit into the established limits of 0.018 to 0.063 inch clearance.

EXAMPLE

"A" to "C" 2.813 in.
 "A" to "B" $\frac{2.710}{0.103}$ in.

0.018 min clearance
0.103 differential measurement
 0.121 inch of shims required to
 obtain minimum clearance

0.063 max clearance
0.103 differential measurement
 0.166 inch of shims required to
 obtain maximum clearance



Shim set (18)

Slide the correct number of shims from shim set (18) onto shaft (7) and against the face surface of pump shaft seal assembly (14).

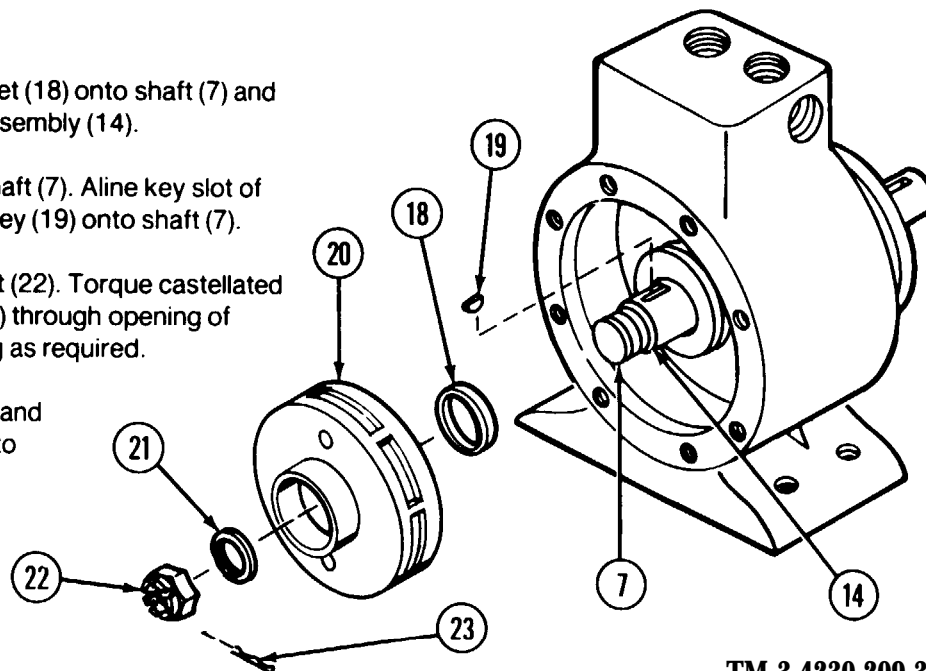
Woodruff key (19)
 Pump impeller (20)

Insert woodruff key (19) into the key slot on shaft (7). Align key slot of pump impeller (20) and slide it over woodruff key (19) onto shaft (7).

Flat washer (21)
 Castellated plain nut (22)
 Cotter pin (23)

Install flat washer (21) and castellated plain nut (22). Torque castellated plain nut to 56 to 68 ft-lbs. Insert cotter pin (23) through opening of castellated plain nut (22) and shaft (7), bending as required.

Turn pump impeller (20) to make sure it is free and not binding. Correct any binding before going to next step.



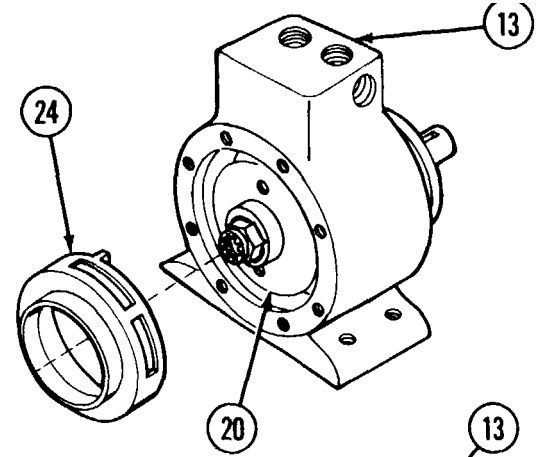
2-22. CENTRIFUGAL PUMP (CONT).

LOCATION/ITEM	ACTION	REMARKS
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REASSEMBLY (CONT)

Centrifugal Pump/
Centrifugal pump
diffuser (24)

Insert centrifugal pump diffuser (24) over pump impeller (20) with its boss fitting in the recess in the top part of pump tank (13). This locks centrifugal pump diffuser (24) in place while pump impeller (20) is free to spin. Turn pump impeller (20) again to make sure it is free to spin.



Gasket (25)

Install gasket (25) onto centrifugal pump diffuser (24).

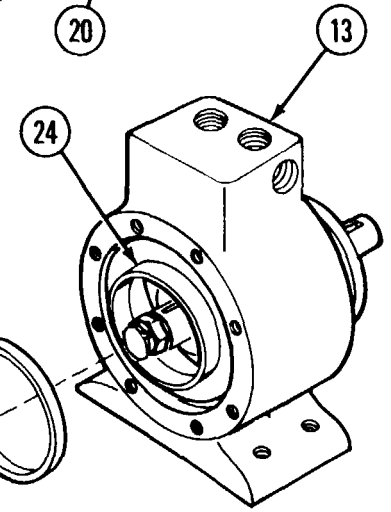
WARNING

When handling asbestos material, always wear an air filtering respirator, gloves, and goggles. Wash face and hands with soap and water before eating or smoking. Asbestos can cause cancer if handled without protection.

Gasket (26)

Coat face of pump tank (13) where gasket seats with sealing compound before installing gasket (26).

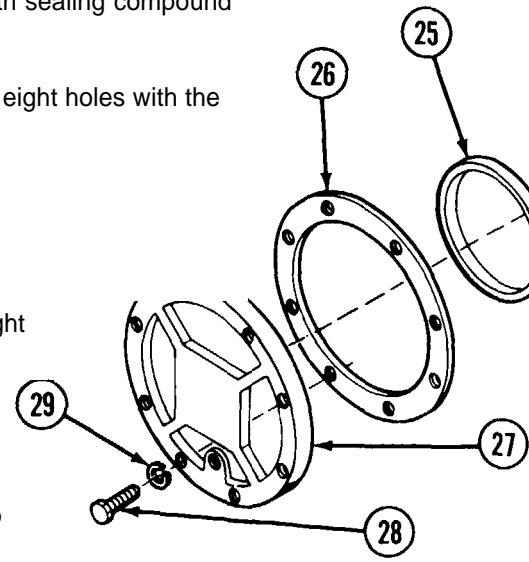
Position gasket (26) on pump tank (13) and align its eight holes with the holes in pump tank (13).



Pump tank cover (27)

Coat face of pump tank cover (27) where gasket seats with sealing compound before installing.

Position pump tank cover (27) onto pump tank (13) with the drain hole located at the bottom and the eight holes aligned with those in gasket (26) and pump tank (13).



Hexagon head cap
screw (28)

Lock washer (29)

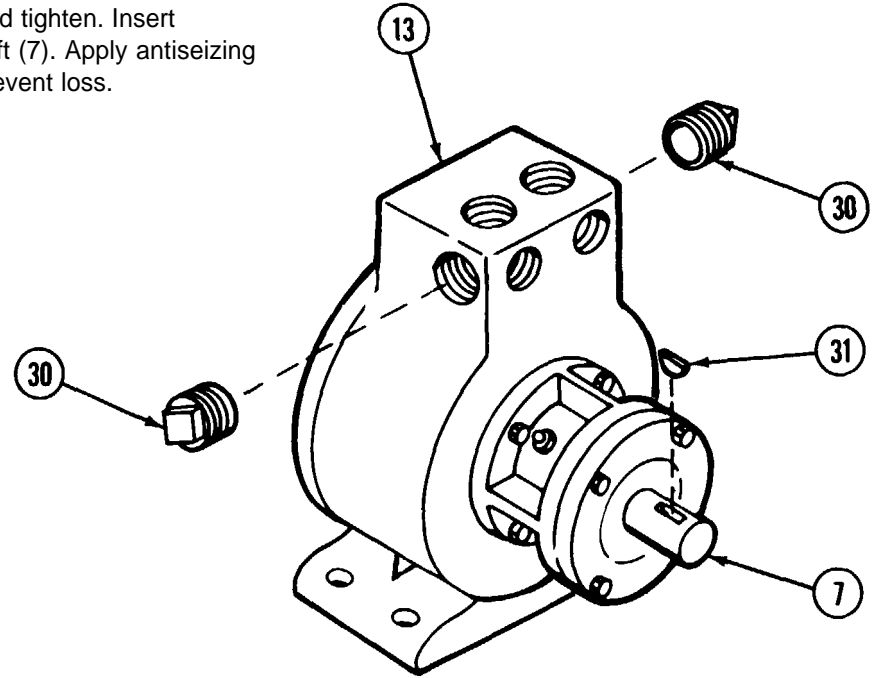
Insert eight hexagon head cap screws (28) through eight lock washers (29), pump tank cover (27), gasket (26), and into the eight tapped holes in pump tank (13). Tighten eight hexagon head cap screws (28).

Pipe plug (30)

Wrap the external threads of two pipe plugs (30) with antiseizing tape or coat with sealing compound.

Woodruff key (31)

Screw two pipe plugs (30) into pump tank (13) and tighten. Insert woodruff key (31) into the unthreaded end of shaft (7). Apply antiseizing tape around woodruff key (31) and shaft (7) to prevent loss.



2-23. OFFSET VALVE AND REGULATING VALVE.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

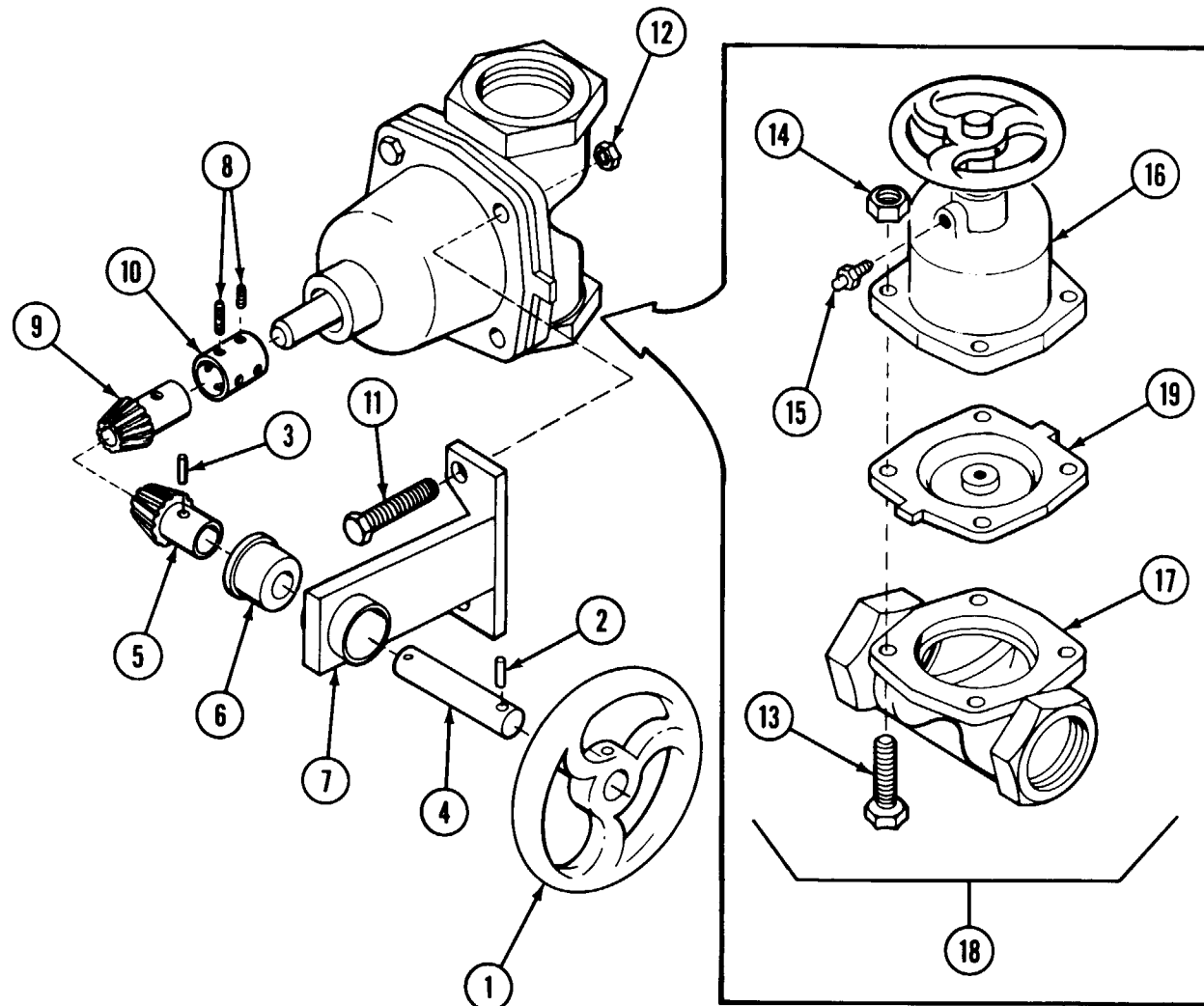
Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition

Valve removed from the plumbing assembly.
See paragraph 2-21 for disassembly/reassembly procedures.

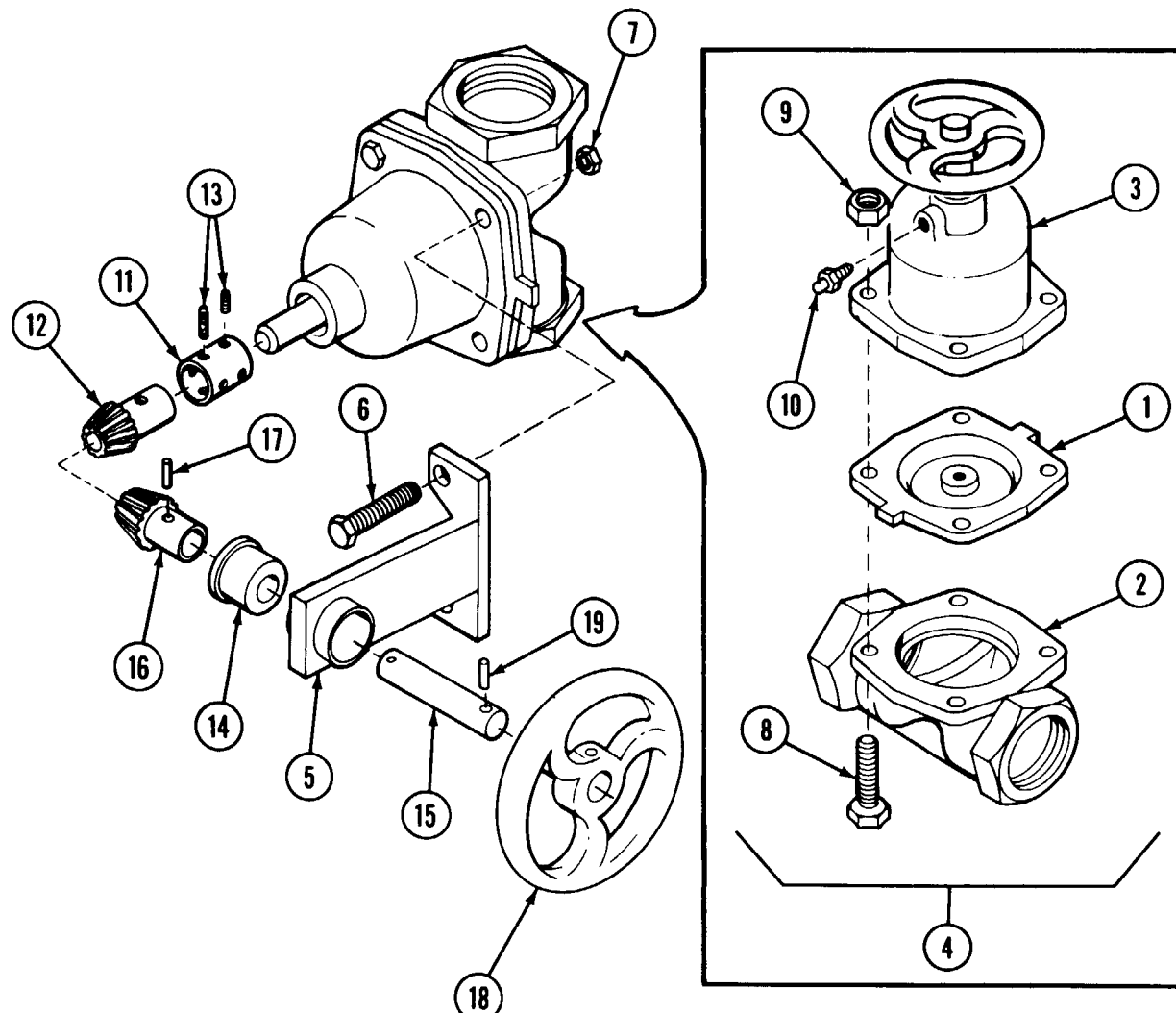
2-23. OFFSET VALVE AND REGULATING VALVE (CONT).

LOCATION/ITEM	ACTION	REMARKS
Offset Valve No. 1/ Handle (1) Pin (2) Spring pin (3) Shaft extension (4) Bevel gear (5) Sleeve bearing (6) Mounting bracket (7)	Remove handle (1) by driving out pin (2) and spring pin (3). Slide off shaft extension (4) and bevel gear (5). Remove sleeve bearing (6) from mounting bracket (7).	The offset valve may be disassembled and reassembled without disassembling the plumbing assembly.
Setscrew (8) Bevel gear (9) Collar (10) Hexagon head cap screws (11) Hexagon plain nuts (12) Hexagon head cap screws (13) Hexagon plain nuts (14) Lubrication fitting (15)	Unscrew and remove eight setscrews (8), bevel gear (9), collar (10), two hexagon head cap screws (11), two hexagon plain nuts (12), two hexagon head cap screws (13), two hexagon plain nuts (14), and lubrication fitting (15).	<p style="text-align: center;">NOTE</p> Hexagon head cap screws (13) are subcomponents of the regulating valve. Two are removed and replaced by hexagon head cap screws (11) because of the extra length requirements. If a new regulating valve is received, use the two screws in the valve being replaced.
Valve halves (16 and 17) Regulating valve (18) Valve diaphragm (19)	Separate mounting bracket (7) and the two halves (16 and 17) of regulating valve (18) to gain access to valve diaphragm (19).	Handle (1) is a component part of the regulating valve (18). The handle is repositioned for the applicable offset valve.



2-23. OFFSET VALVE AND REGULATING VALVE (CONT).

LOCATION/ITEM	ACTION	REMARKS
REPAIR		
Offset Valve/	Replace authorized unserviceable parts	New handle should be reinstalled on the old regulating valve to turn in.
REASSEMBLY		
Offset Valve/ Valve diaphragm (1) Valve halves (2 and 3) Regulating valve (4) Mounting bracket (5)	To reassemble, place valve diaphragm (1) between halves (2 and 3) of regulating valve (4). Position mounting bracket (5) on top of upper half (2) of regulating valve (4) with the upright in line with the inlet/outlet ports.	Be sure lubrication fitting is positioned away from mounting bracket (5).
Hexagon head cap screw (6) Hexagon plain nut (7) Hexagon head cap screw (8)	Align two screw holes and insert two hexagon head cap screws (6) through mounting bracket (5) and the offset valve. Attach two hexagon plain nuts (7). Insert two hexagon head cap screws (8) through the offset valve and attach two hexagon plain nuts (9).	
Hexagon plain nut (9)	Tighten four hexagon head cap screws (6 and 8) (2 ea) and four hexagon plain nuts (7 and 9) (2 es).	
Lubrication fitting (10)	Screw lubrication fitting (10) into the offset valve and tighten.	
Collar (11) Bevel gear (12) Setscrews (13) Sleeve bearing (14) Shaft extension (15) Bevel gear (16)	Slide collar (11) and bevel gear (12) onto the sleeve around the shaft, then install and tighten eight setscrews (13). Slide sleeve bearing (14) into mounting bracket (5). Slide shaft extension (15) through sleeve bearing (14) and into bevel gear (16). Twist shaft extension (15) until the holes align with the holes in bevel gear (16) and insert spring pin (17).	
Spring pin (17) Handle (18) Pin (19)	Insert handle (18) onto the shaft, turn handle (18) to align holes with the holes in shaft extension (15), and insert pin (19).	



2-24. REGULATING VALVE.

This task covers:

- a. Disassembly
- b. Repair
- c. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
 Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition

Removed from plumbing assembly.
 See paragraph 2-21 for disassembly/reassembly procedures.

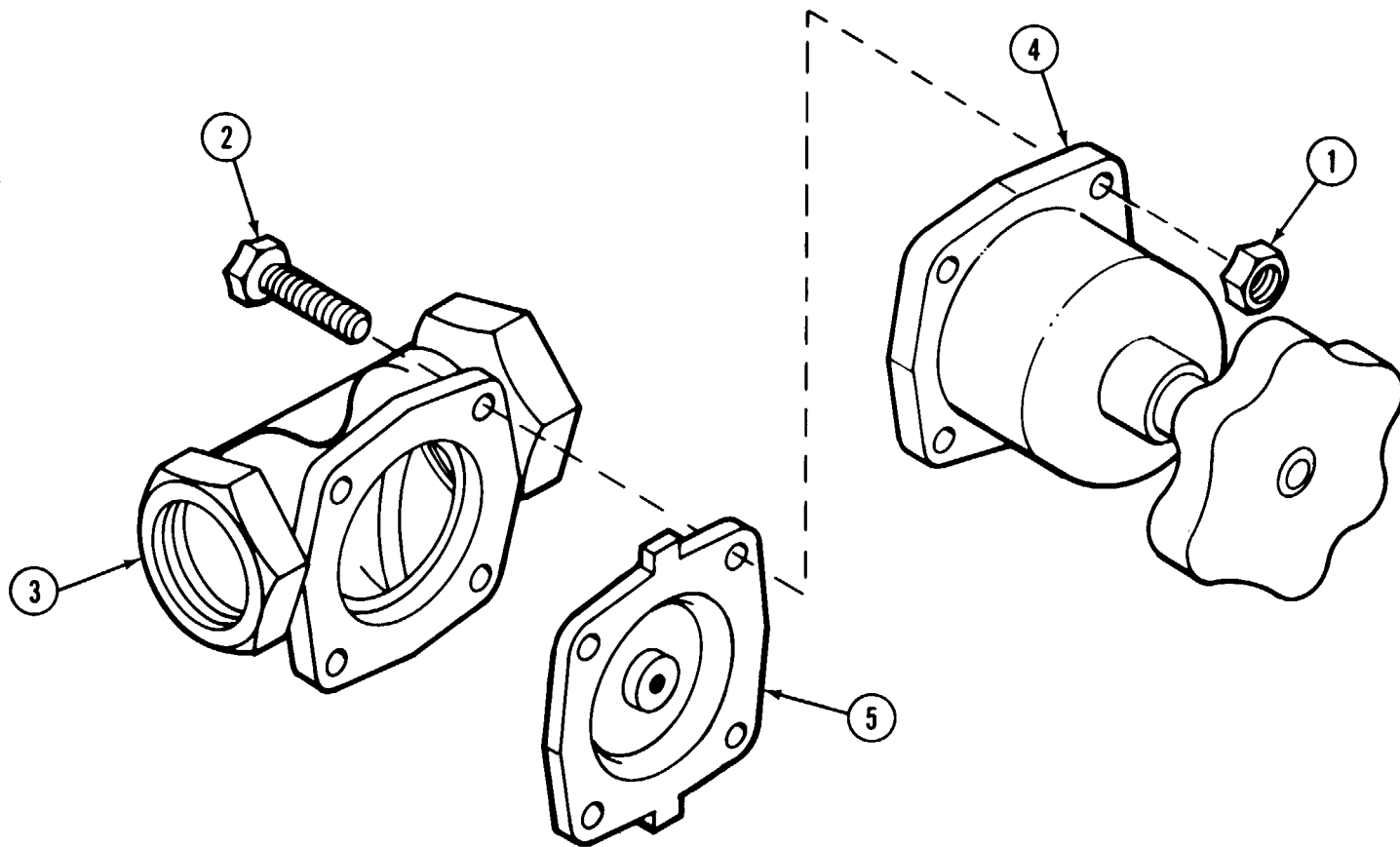
LOCATION/ITEM	ACTION	REMARKS
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DISASSEMBLY

Regulating Valve/ Hexagon plain nuts (1) Hexagon head cap screws (2) Lower regulating valve half (3) Upper regulating valve half (4) Valve diaphragm (5)	Unscrew and remove four hexagon plain nuts (1) and hexagon head cap screws (2). Separate lower regulating valve half (3) from upper regulating valve half (4) and remove valve diaphragm (5).	The regulating valve may be disassembled and reassembled without disassembling the plumbing assembly.
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REPAIR

Regulating Valve/	Replace authorized parts.
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2-24. REGULATING VALVE (CONT).

LOCATION/ITEM

ACTION

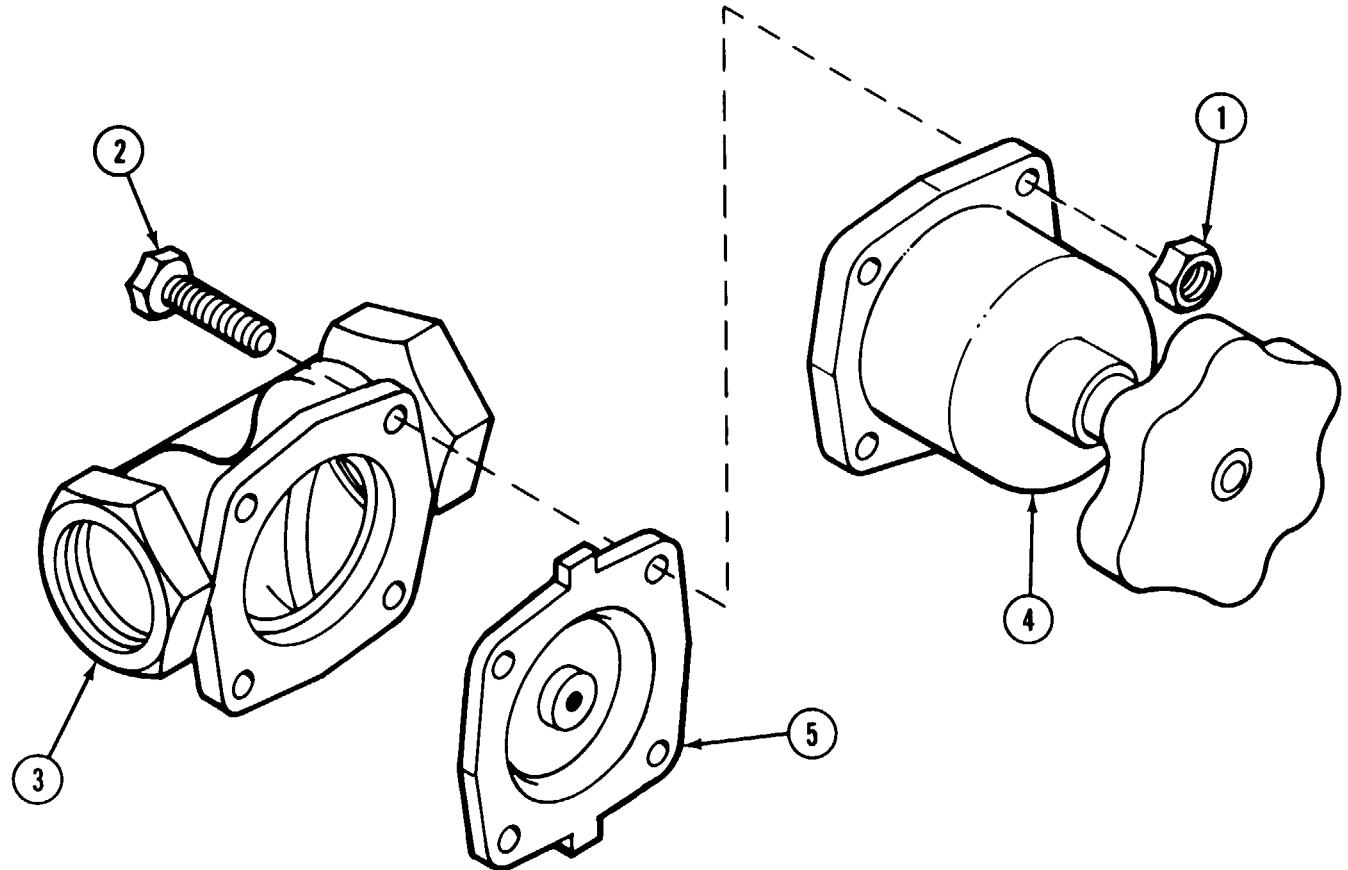
REMARKS

REASSEMBLY

Regulating Valve/
 Hexagon plain nuts (1)
 Hexagon head cap screws (2)
 Lower regulating valve half (3)
 Upper regulating valve half (4)
 Valve diaphragm (5)

Position valve diaphragm (5) in lower regulating valve half (3). Install upper regulating valve half (4). Align all screw holes. Install and tighten four hexagon head cap screws (2) and nuts (1).

Turn valve handle fully counterclockwise before reassembly.



2-25.20 HP GASOLINE ENGINE ASSEMBLY.

This task covers:

- a. Disassembly
 - b. Replacement
 - c. Repair
 - d. Reassembly
-

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition

Gasoline engine is removed from skid base subassembly. See paragraph 2-20 for disassembly/reassembly procedures.

References

TM 5-2805-259-14

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Gasoline Engine/	See TM 5-2805-259-14.	The governor on the gasoline engine is adjusted and set to 3,708 rpm in accordance with instructions in the gasoline engine manual TM 5-2805-259-14. However, when the gasoline engine is used in the pump unit assembly, the governor must be adjusted and set to 3,850 rpm. The procedure for performing the adjustment is described in TM 5-2805-259-14, except that the setting of 3,850 rpm is to be used. The tachometer on the control panel assembly is to be used to verify that the required revolutions are obtained. A handheld centrifugal tachometer may be used to confirm the accuracy of the governor adjustment.
REPLACEMENT		
Gasoline Engine/	See skid base subassembly (para 2-20).	
REPAIR		
Gasoline Engine/	See TM 5-2805-259-14.	
REASSEMBLY		
Gasoline Engine/	See TM 5-2805-259-14.	

2-26. PUMP BASE SKID, ENGINE MOUNT 1, ENGINE MOUNT 2.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Wiping rag (item 31, app C)
Chassis and running gear brush (item 5, app C)
Paint brush (item 6, app C)
Scratch wire brush (item 7, app C)
Abrasive cloth (item 9, app C)

Materials/Parts

Polyurethane coating (item 29, app C)
Dry cleaning solvent (item 14, app C)

LOCATION/ITEM	ACTION	REMARKS
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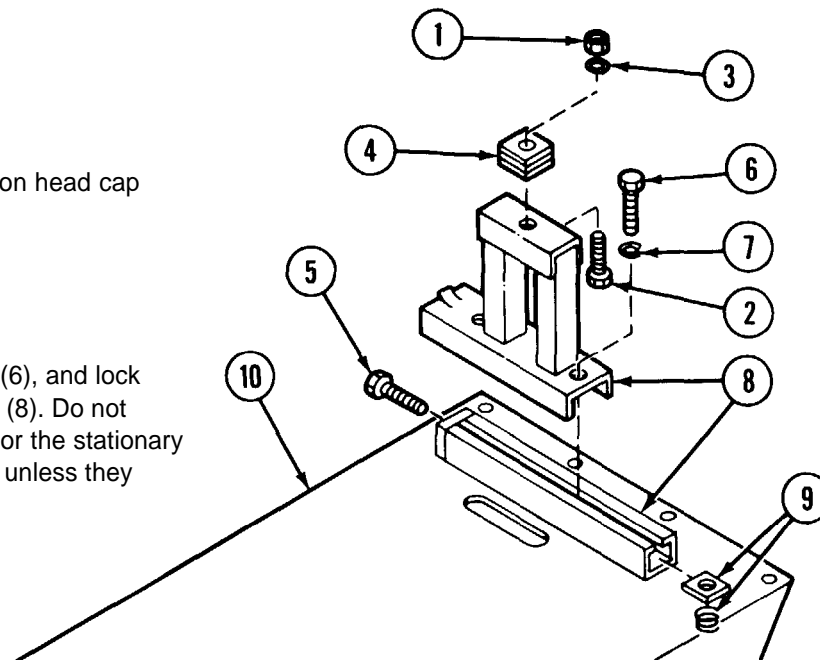
DISASSEMBLY

Pump Base Skid, Engine Mount 1 Engine Mount 2/
Hexagon self-locking nut (1)
Hexagon head cap screw (2)
Flat washer (3)
Shock mount pad (4)

Unscrew and remove hexagon self-locking nut (1), hexagon head cap screw (2), flat washer (3), and shock mount pad (4).

Machine bolt (5)
Hexagon head cap screw (6)
Lock washers (7)
Channel assembly (8)
Nut (9)
Skid base (10)

Remove machine bolt (5), two hexagon head cap screws (6), and lock washers (7). Remove moveable part of channel assembly (8). Do not remove the two sets of nuts (channel clamping style) (9), or the stationary part of channel assembly (8) welded to the skid base (10) unless they need to be replaced.

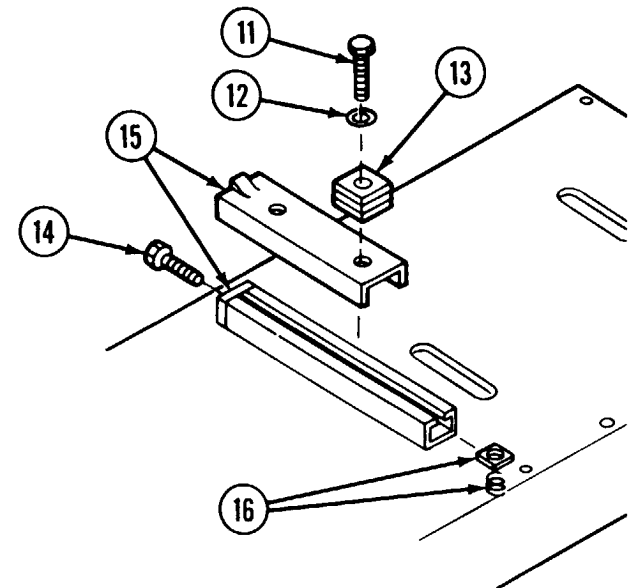


Hexagon head cap screws (11)
 Flat washer (12)
 Shock mount pad (13)
 Machine bolt (14)
 Channel assembly (15)
 Nut (16)

Unscrew and remove two hexagon head cap screws (11), flat washers (12), shock mount pads (13), and one machine bolt (14).

Remove moveable part of channel assembly (15).

Do not remove the two sets of nuts (channel clamping style) (16) or the stationary part of channel assembly (15) unless replacement is required.



REPAIR

Pump Base Skid, Engine Mount 1, Engine Mount 2/

Replace authorized unserviceable parts.

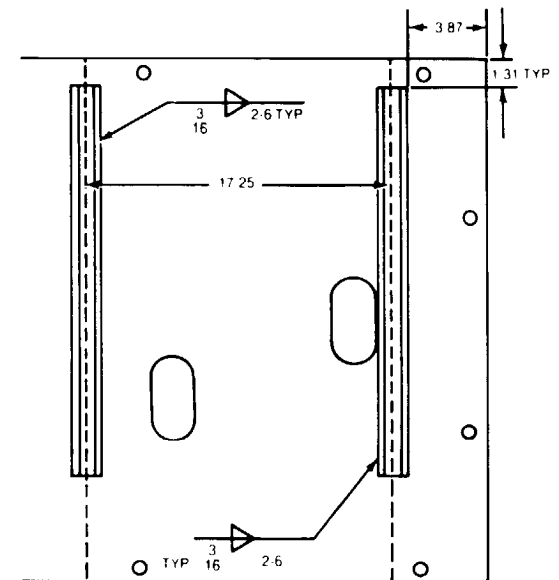
Use chassis and running gear brush, wiping rags, scratch wire brushes, abrasive cloth, and dry cleaning solvent to remove paint, grease, and grime from the pump base skid and around each of the stationary parts of the channel assemblies. Any cracked or broken welds will be rewelded (see TM 9-237).

When welding or rewelding the stationary channel assemblies, they will be located as illustrated.

CAUTION

Altering the mounting will cause misalignment between engine, pump, and alternator drive pulleys.

Use polyurethane paint and paint brush to touch up unpainted surfaces.



2-26. PUMP BASE SKID, ENGINE MOUNT 1, ENGINE MOUNT 2 (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY		
Pump Base Skid, Engine Mount 1, Engine Mount 2/ Nut (1) Channel assembly (2)	If nuts (1) have been moved or replaced, install nuts (1) into the stationary part of channel assembly (2) and lay the moveable part of channel assembly (2) alongside. Adjust nuts so they will aline with the drilled holes.	
Hexagon head cap screw (3) Flat washer (4) Shock mount pad (5)	Position moveable part of channel assembly (2) onto stationary part of channel assembly (2) and aline holes to nuts (1). Install two hexagon head cap screws (3) through fiat washers (4), shock mount pads (5), moveable part of channel assembly (2) and into nuts (1).	
Machine bolt (6)	Install machine bolt (6) through end of stationary part of channel assembly (2) and into the end of the moveable part of channel assembly (2).	
Nut (7) Channel assembly (8)	If nuts (7) have been moved or replaced, install nuts (7) into stationary part of channel assembly (8) and lay the moveable part of channel assembly (8) alongside. Adjust nuts so they will aline with the drilled holes.	
Hexagon head cap screws (9) Lock washers (10)	Position moveable part of channel assembly (8) onto stationary part of channel assembly (8) and aline holes to nuts (7). Install two hexagon head cap screws (9) through lock washers (10), moveable part of channel assembly (8), and into nuts (7).	
Machine bolt (11)	Install machine bolt (11) through stationary part of channel assembly (8) and into end of the moveable part of channel assembly (8).	
Hexagon head cap screw (12) Shock mount pad (13) Flat washer (14) Hexagon self-locking nut (15)	Insert one hexagon head cap screw (12) up from the bottom through channel assembly (8), shock mount pad (13), flat washer (14), and hexagon self-locking nuts (15).	

2-27. ALTERNATOR-GENERATOR ASSEMBLY.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)
Multimeter MI L-M-1235 AN/URM105.

Equipment Condition

Alternator-generator assembly removed from skid base subassembly. See paragraph 2-20 for disassembly/reassembly procedures.

LOCATION/ITEM

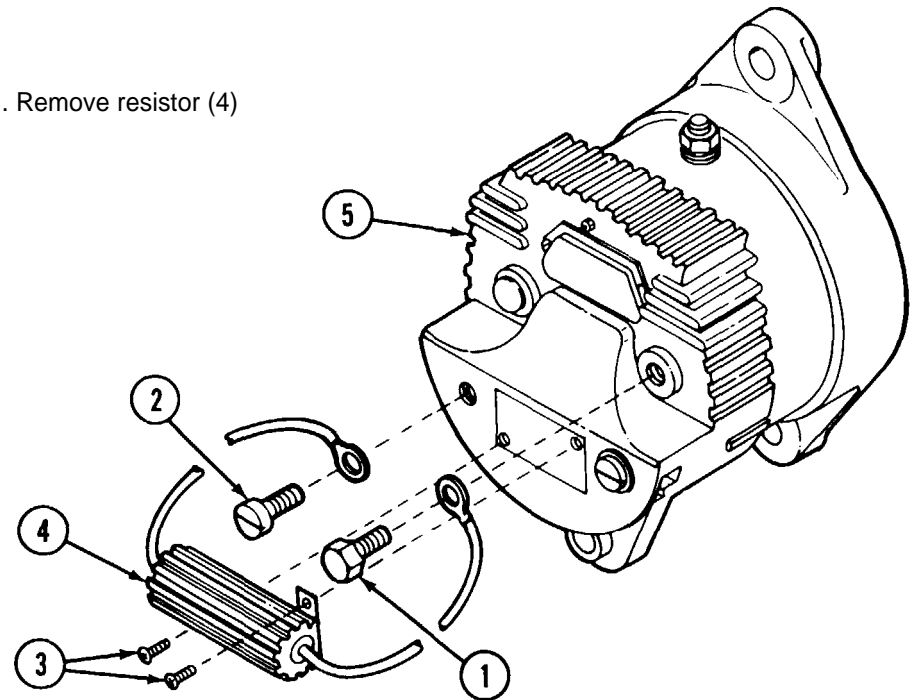
ACTION

REMARKS

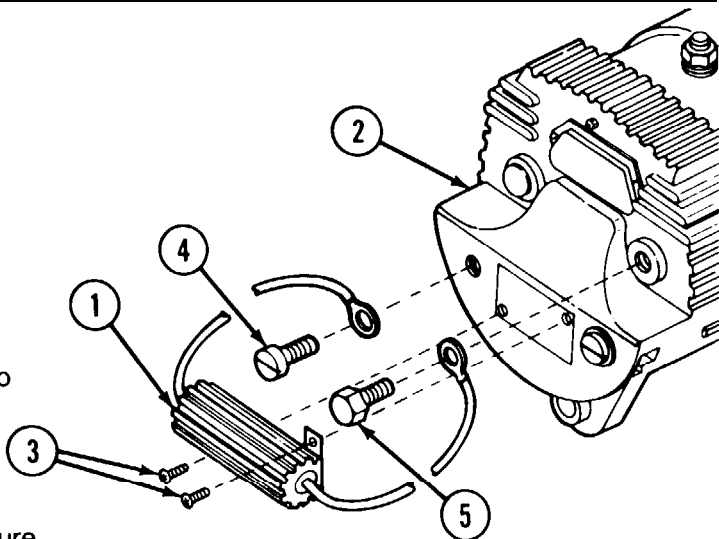
Alternator-Generator
Assembly/

- Hex-head screw (1)
- Screws (2 and 3)
- Resistor (4)
- Alternator-generator (5)

Remove hex-head screw (1) and screws (2 and 3). Remove resistor (4) from rear of alternator generator (5).



2-27. ALTERNATOR-GENERATOR ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REPAIR		
Alternator-Generator Assembly/	Repair by replacing authorized unserviceable items.	
REASSEMBLY		
Alternator-Generator Assembly/ Resistor (1) Alternator generator (2) Screws (3)	Position resistor (1) on rear of alternator generator (2). Secure with two screws (3).	
Screw (4) Hex-head screw (5)	Insert screw (4) through resistor terminal lead and secure to ground. Insert hex-head screw (5) through other resistor terminal lead and secure.	

2-28. CONTROL PANEL ASSEMBLY.

This task covers:

- a. Disassembly
- b. Cleaning/Inspection

- c. Repair
- d. Reassembly

INITIAL SETUP

Tools and Special Tools

- Automotive Maintenance and Repair Field Maintenance Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)
- Multimeter AN/URM/105C.

References

- TM 3-4230-209-20&P
- TM 43-0139

Materials/A4Parts

- Dry cleaning solvent (item 14, app C)
- Polyurethane coating (item 29, app C)
- Wiping rag (item 31, app C)

Equipment Condition

Control panel is removed from the pump unit assembly. Refer to paragraph 2-14 for disassembly/reassembly procedures.

DISASSEMBLY

Control Panel Assembly/

Drive screw (1)

DECONTAMINATING APPARATUS

Identification plate (2)

VALVE NO. 2/LOWER
REEL Identification
plate (3)

CIRCUIT BREAKER/
OFF-ON Identification
plate (4)

VALVE NO. 3/UPPER
REEL Identification
plate (5)

TACHOMETER
Identification plate (6)

FUEL INDICATOR
Identification plate (7)

VACUUM GAGE
Identification plate (8)

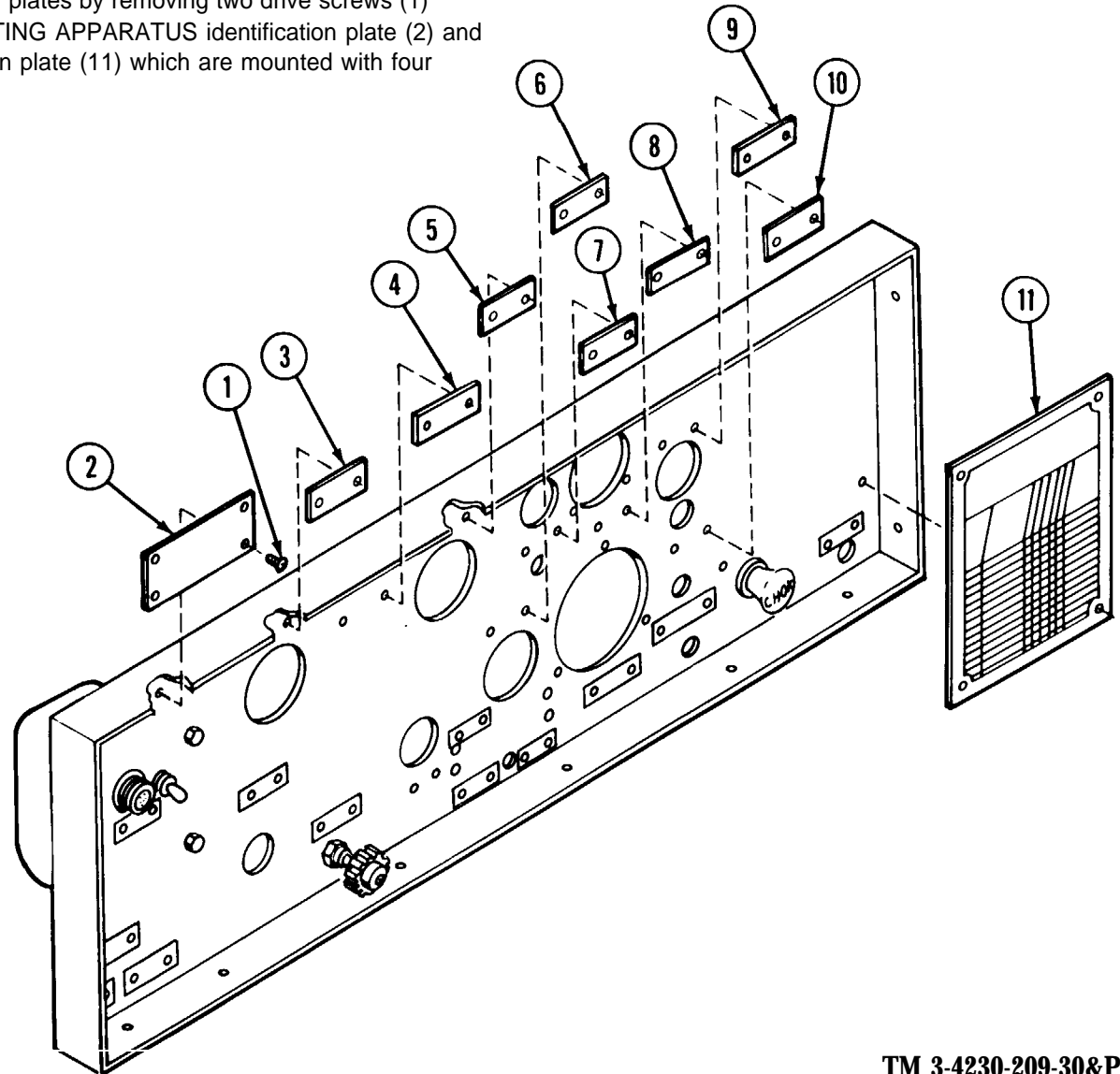
AMMETER Identification
plate (9)

GENERATOR Identification
plate (10)

Starting procedure
instruction plate (11)

Disassemble only as far as required for repairs

Remove all the identification plates by removing two drive screws (1) except for DECONTAMINATING APPARATUS identification plate (2) and starting procedure instruction plate (11) which are mounted with four drive screws (1).



2-28. CONTROL PANEL ASSEMBLY (CONT).

LOCATION/ITEM

ACTION

REMARKS

DISASSEMBLY (CONT)

FUEL SHUT-OFF

Identification plate (12)

OIL PRESSURE SWITCH/
STOP-RUN-START

Identification plate (13)

PRESSURE GAGE

Identification plate (14)

OPEN Identification
plate (15)CLOSED Identification
plate (16)

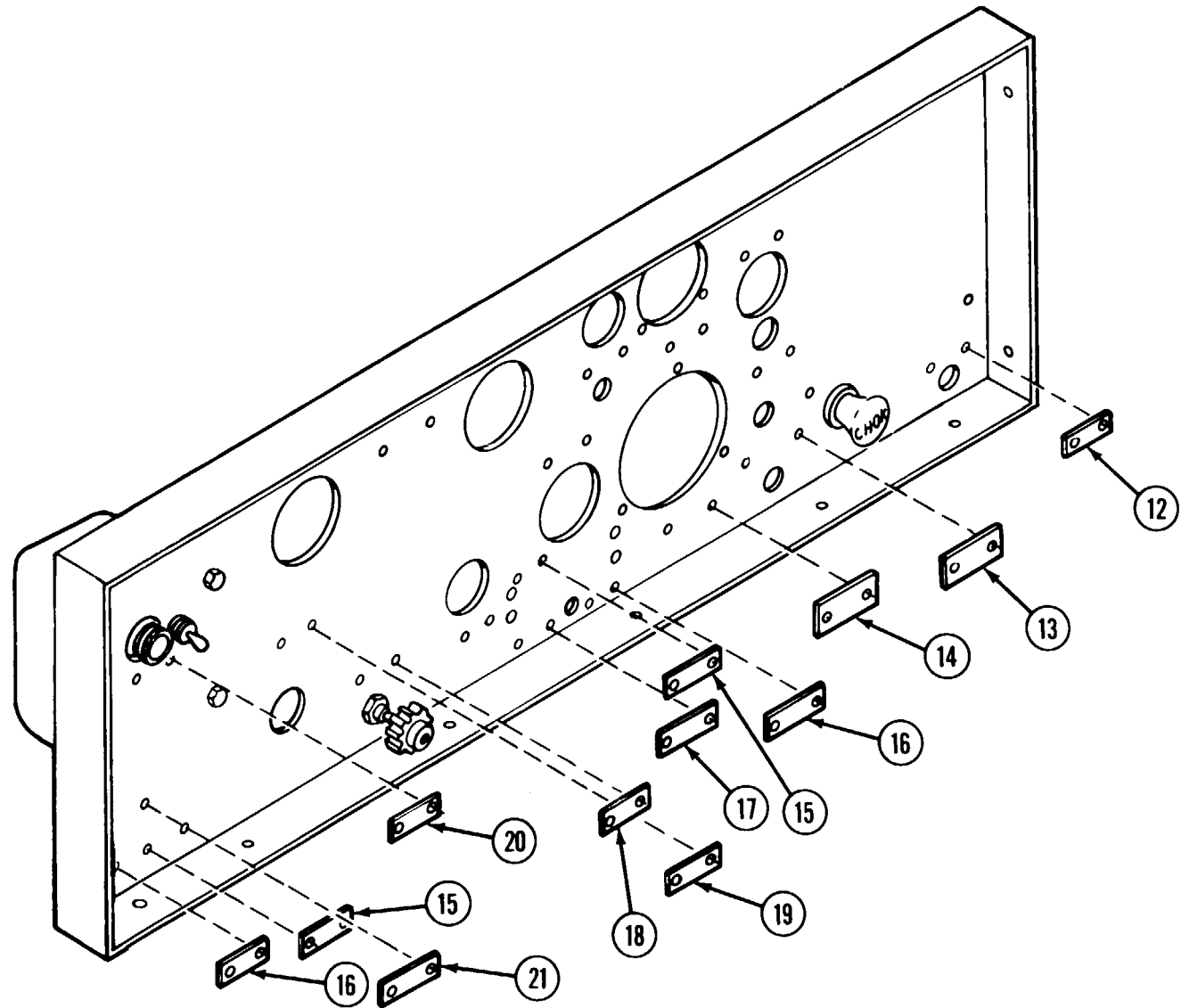
VALVE NO. 4/PRIME

Identification plate (17)

THROTTLE Identification
plate (18)

VALVE NO. 1 /MANIFOLD

Identification plate (19)

HEATER RECEPTACLE
AND SWITCHON-OFF Identification
plate (20)DRAIN Identification
plate (21)

Control Panel Assembly/

Refer to TM 3-4230-209-20&P for removal of individual switches, gages, and other parts except those listed below.

- Hexagon plain nuts (22)
- Internal tooth lock washers (23)
- Alternator junction box (24)
- Internal tooth lock washers (25)
- Machine bolts (26)
- Hexagon nut (27)
- Internal tooth lock washer (28)
- Push-pull control assembly (29)

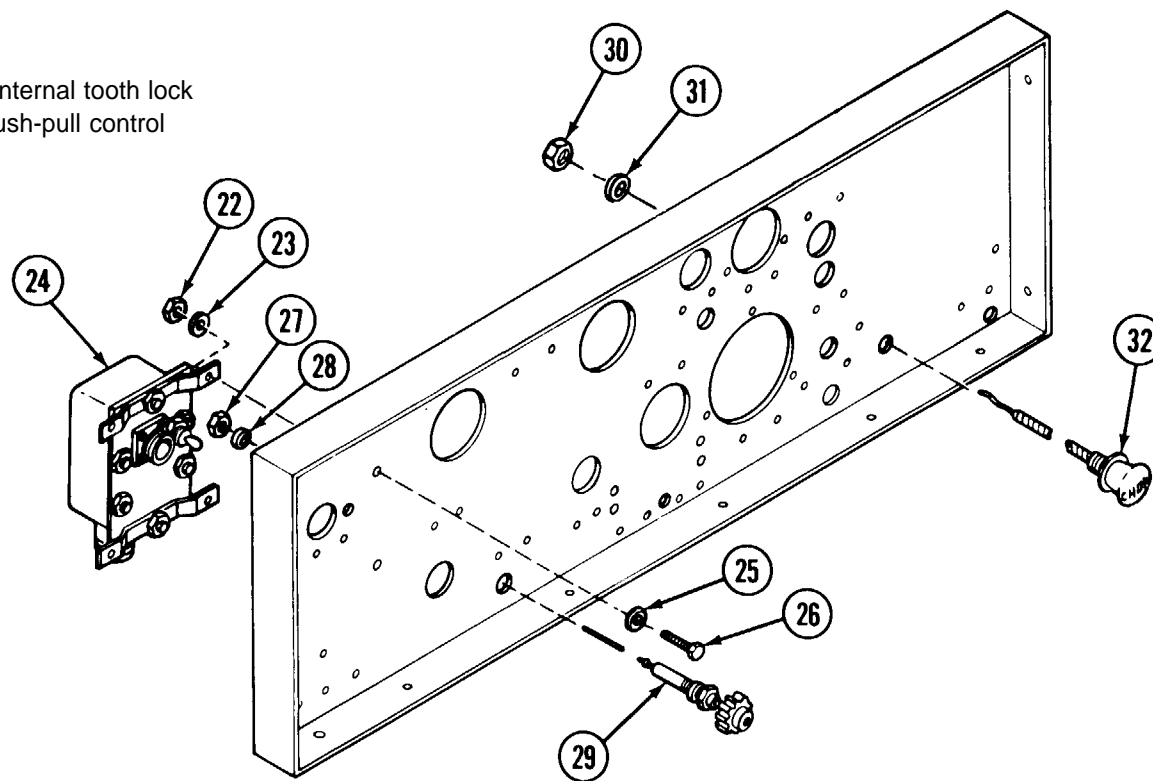
Remove and retain four hexagon plain nuts (22), four internal tooth lock washers (23), alternator junction box (24), four internal tooth lock washers (25), and four machine bolts (26).

Unscrew and remove hexagon nut (27) and internal tooth lock washer (28), which are component parts of push-pull control assembly (29).

Remove THROTTLE push-pull control assembly (29) from the control panel.

- Hexagon nut (30)
- Internal tooth lock washer (31)
- Push-pull control assembly (32)

Remove hexagon nut (30), internal tooth lock washer (31), and CHOKE push-pull control assembly (32).



2-28. CONTROL PANEL ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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DISASSEMBLY (CONT)

Control Panel Assembly/

- Screws (33)
- TB1 (34)
- Nut (35)
- Power cable assembly (36)

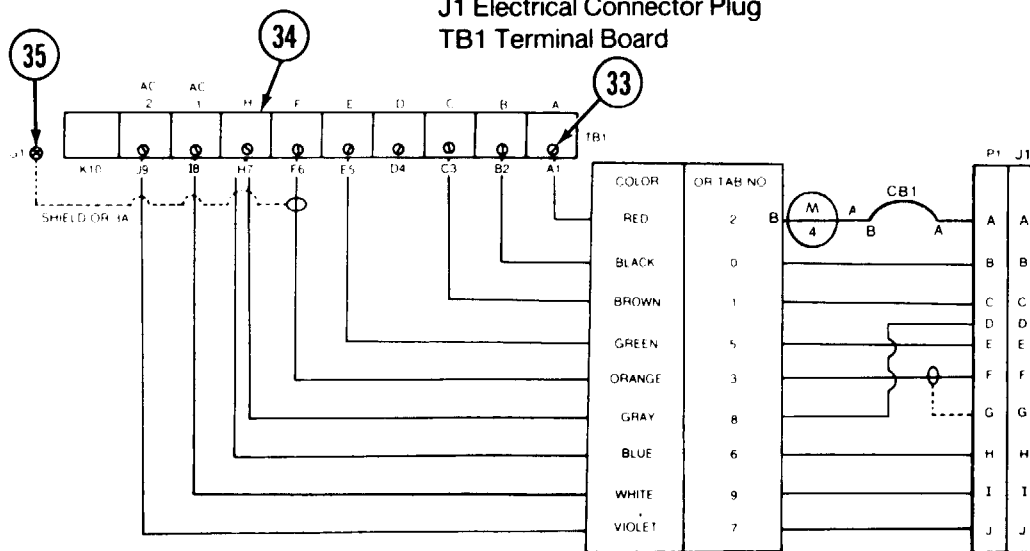
Unscrew and remove eight screws (33) from TB1 (34) terminal A1-B2-C3-E5-F6-H7-18-J9. Unscrew and remove nut (35) from G1. Retain screws (33) and nut (35).

Cable can be repaired in place in most cases. Do not disassemble more than needed for repairs.

If not already disconnected, remove power cable assembly (36) from:

- CB1 Circuit Breaker
- G1 Ground
- J1 Electrical Connector Plug
- TB1 Terminal Board

Wires on equipment may not be color coded. They may need to be tagged.



LEGEND

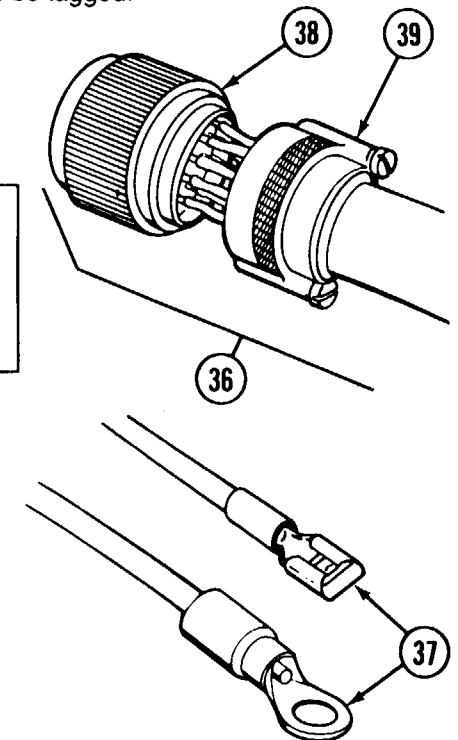
CB1	CIRCUIT BREAKER
G1	GROUND
P1	ELECTRICAL CONNECTOR PLUG
TB1	TERMINAL BOARD
J1	ELECTRICAL CONNECTOR PLUG

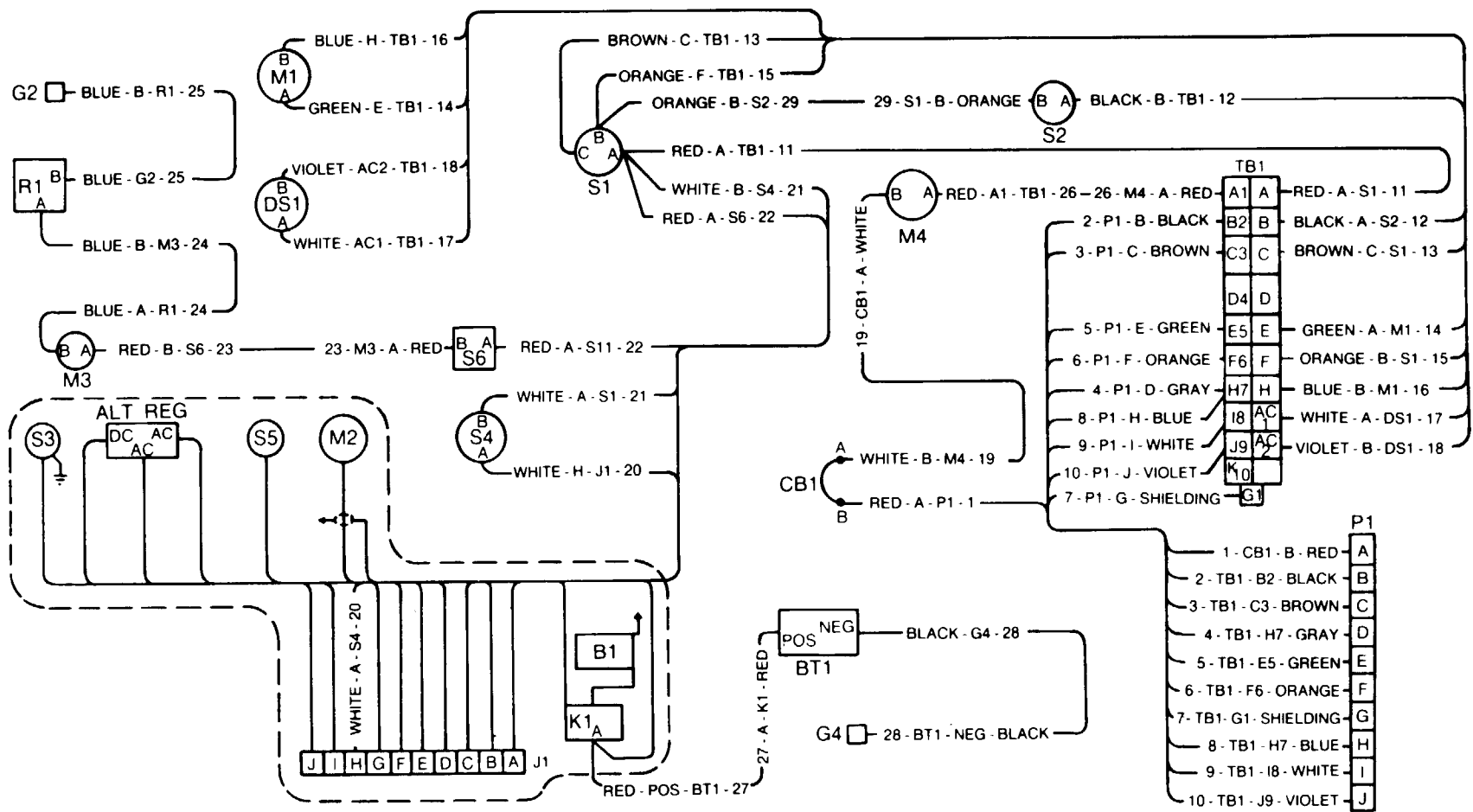
- Crimp type terminal lug (37)
- Electrical plug connector (38)
- Shell (39)

Disassemble crimp type terminal lugs (37), electrical plug connector (38), and shell (39) only if repair is necessary (see repair illustration on page 2-132).

Wiring

Refer to paragraph 2-29 to fabricate wiring.





- NOTES
- 1 IDENTIFICATION LETTERS AND NUMBERS ARE IN ACCORDANCE with MIL-STD-681
 - 2 COMPONENTS AND WIRES CONTAINED WITHIN DOTTED AREA ARE SUPPLIED WITH ENGINE EXCEPT CONNECTION NO 20.
 - 3 S 3 INTERNALLY GROUNDED

TABLE OF CONNECTIONS

CON NO	FROM		TO		MIL-STD-681		LENGTH ± .50
	TER	COMP	TER	COMP	*COLOR CODE & NO		
1	A	P1	B	CB1	RED	2	74.00
2	B	P1	B2	TB1	BLACK	0	54.50
3	C	P1	C3	TB1	BROWN	1	54.00
4	D	P1	H7	TB1	GRAY	8	53.50
5	E	P1	E5	TB1	GREEN	5	53.00
6	F	P1	F6	TB1	ORANGE	3	52.50
7	G	P1	G1	TB1	SHIELDING		52.50
8	H	P1	H7	TB1	BLUE	6	52.00
9	I	P1	I8	TB1	WHITE	9	51.50
10	J	P1	J9	TB1	VIOLET	7	51.00
11	A	TB1	A	S1	RED	2	14.00
12	B	TB1	A	S2	BLACK	0	17.00
13	C	TB1	C	S1	BROWN	1	14.50
14	E	TB1	A	M1	GREEN	5	12.00
15	F	TB1	B	S1	ORANGE	3	13.50
16	H	TB1	B	M1	BLUE	6	12.50
17	AC1	TB1	A	DS1	WHITE	9	13.00
18	AC2	TB1	B	DS1	VIOLET	7	12.50
19	A	CB1	B	M4	WHITE	9	23.50
20	H	J1	A	S4	WHITE	9	19.00
21	B	S4	A	S1	WHITE	9	22.50
22	A	S1	A	S6	RED	2	14.00
23	B	S6	A	M3	RED	2	5.00
24	B	M3	A	R1	BLUE	6	29.50
25	B	R1	G2		BLUE	6	13.00
26	A1	TB1	A	CB1	RED	2	14.00
27	A	K1	POSITIVE	BT1	RED	2	52.00
28	NEG	BT1	G4		WHITE	9	48.00
29	B	S2	B	S1	ORANGE	3	11.50
30	A	G5	A	VR1	BLACK	0	36.00

LEGEND

M1	OIL PRESSURE GAGE
▲ M2	MAGNETO
M3	FUEL LEVEL GAGE
S1	MAGNETO SWITCH
S2	OIL CUTOUT SWITCH
▲ S3	LOW OIL PRESSURE SWITCH (NORMALLY CLOSED)
S4	LOW OIL PRESSURE SWITCH (NORMALLY OPEN)
▲ S5	OIL PRESSURE SENDER
S6	FUEL SWITCH
DS1	GENERATOR LIGHT
▲ B1	STARTER
BT1	24V DC BATTERY NEG GRD
	G1, G2, G3, & G4 GROUND
F1	FUSE
J1	SOCKET
▲ K1	STARTER SOLENOID OR RELAY
P1	PLUG
R1	FUEL LEVEL SENDER
TB1	TERMINAL BOARD
JB1	JUNCTION BOX
J2	SOCKET
P2	PLUG
G5	ALT
M9	AMMETER
S7	SWITCH
CB1	CIRCUIT BREAKER

NOTES:

1. *COLOR CODED WIRE AND NUMBER ARE LISTED HERE FOR REFERENCE PURPOSES.
2. ▲ -- THESE PARTS ARE SUPPLIED WITH ENGINE.
3. ALL DIMENSIONS ARE IN INCHES.

CLEANING/INSPECTION

Control Panel Assembly/

Wipe all switches and gages with a cloth to remove accumulated dirt.

Wipe the control panel surface with a cloth soaked in water or dry cleaning solvent. Dry thoroughly.

Inspect switches and gages for loose parts or damaged leads.

Inspect gages for cracked glasses.

Inspect identification plates and starting procedure instruction identification plate for legibility.

Inspect the control panel for dents, and for signs of rust, chipped paint, or other damage.

REPAIR

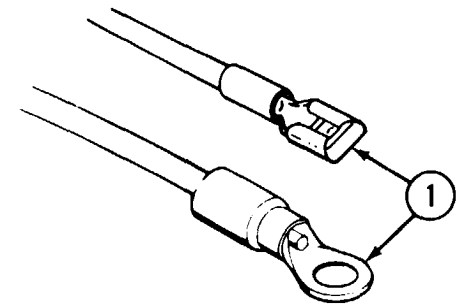
Control Panel Assembly/

Power Cable Assembly/

Crimp type terminal lug (1)

Replace authorized unserviceable parts. Repair by replacing crimp type terminal lugs (1).

Remove approximately 3/8 inch of insulation from wire end, insert wire through terminal lug barrel, and crimp terminal to wire end.



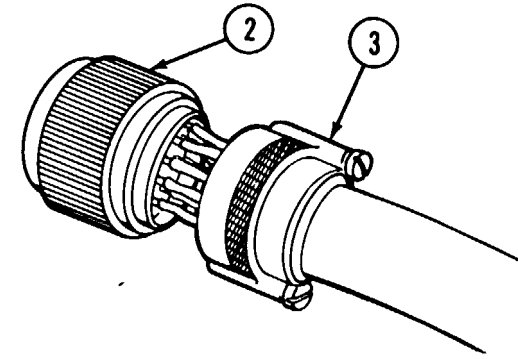
2-28. CONTROL PANEL ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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REPAIR (CONT)

Control Panel Assembly/
Electrical plug
connector (2)
Power Cable Assembly/
Shell (3)

Unscrew shell (3) of electrical plug connector (2) and slide back on wires to gain access to unsoldered wires. Solder broken wire(s) or replace electrical plug connector (2) as applicable. Solder connections will be soldered in accordance with MI L-S-6872.



Using an ohmmeter, check cable for continuity and shorts.

REASSEMBLY

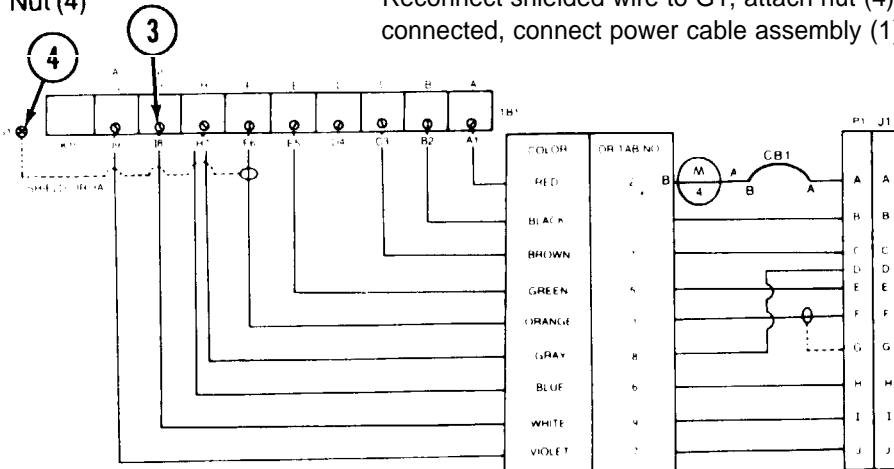
Control Panel Assembly/
Power cable assembly (1)
TB1 (2)
Screw (3)

Using the wiring diagram, place the terminals of the color coded or tabbed wires of power cable assembly (1) onto the correct terminals (B2, C3, E5, F6, H7, 16 and J9) of TB1 (2). Attach with seven screws (3) and tighten.

NOTE
Refer to paragraph 2-28 for wiring of pump unit including control panel assembly.

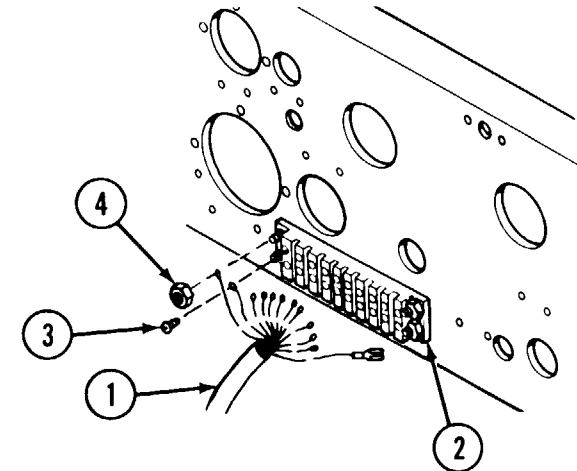
Nut (4)

Reconnect shielded wire to G1, attach nut (4), and tighten. If not already connected, connect power cable assembly (1) (see following diagram).



LEGEND

CB1	CIRCUIT BREAKER
G1	GROUND
P1	ELECTRICAL CONNECTOR PLUG
TB1	TERMINAL BOARD
J1	ELECTRICAL CONNECTOR PLUG



Push-pull control
assembly (5)
Control panel (6)
Internal tooth lock
washer (7)
Hexagon nut (8)

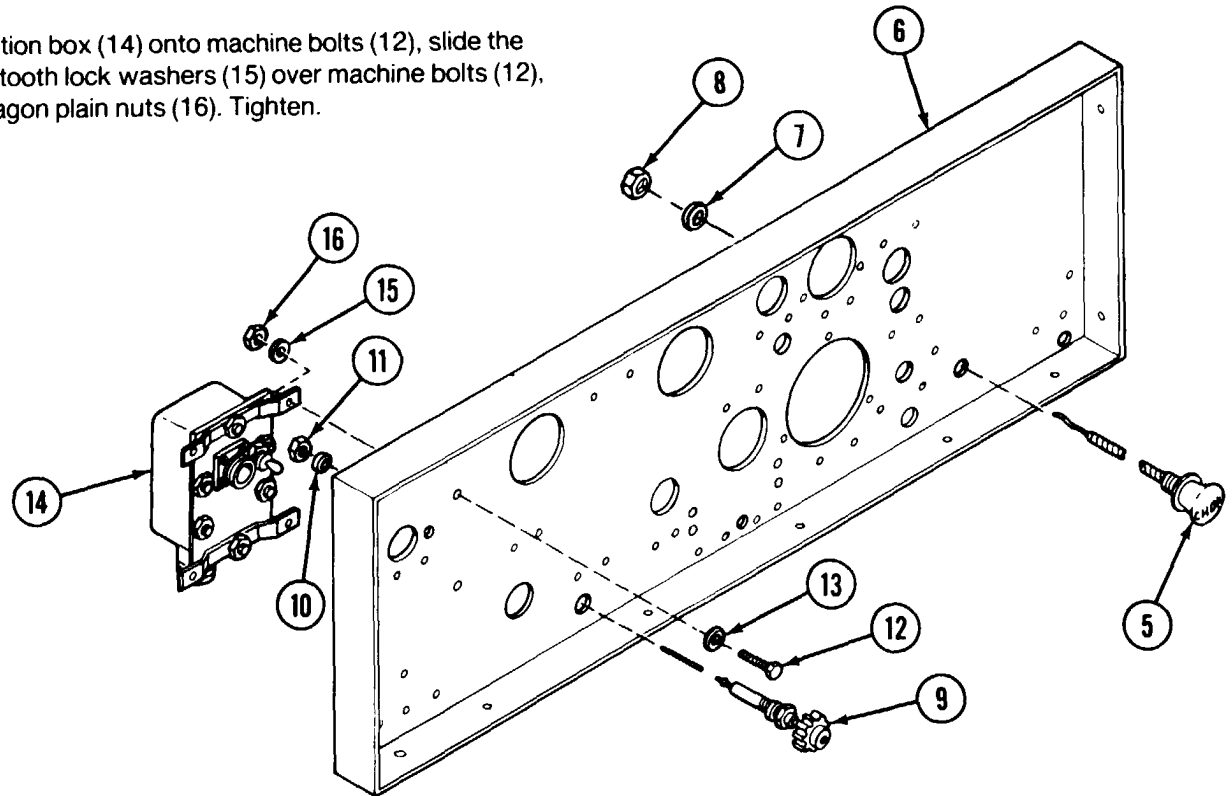
Install CHOKE push-pull control assembly (5) into control panel (6) and secure with internal tooth lock washer (7) and hexagon nut (8).

Push-pull control
assembly (9)
Internal tooth lock
washer (10)
Hexagon nut (11)
Machine bolts (12)
internal tooth lock
washers (13)

Insert THROTTLE push-pull control assembly (9) through the control panel (6) and secure with internal tooth lock washer (10) and hexagon nut (11). Insert four machine bolts (12) through internal tooth lock washers (13) into the control panel (6).

Alternator junction box (14)
Internal tooth lock
washers (15)
Hexagon plain nuts (16)

Position alternator junction box (14) onto machine bolts (12), slide the remaining four internal tooth lock washers (15) over machine bolts (12), and screw on four hexagon plain nuts (16). Tighten.



2-28 CONTROL PANEL ASSEMBLY (CONT)

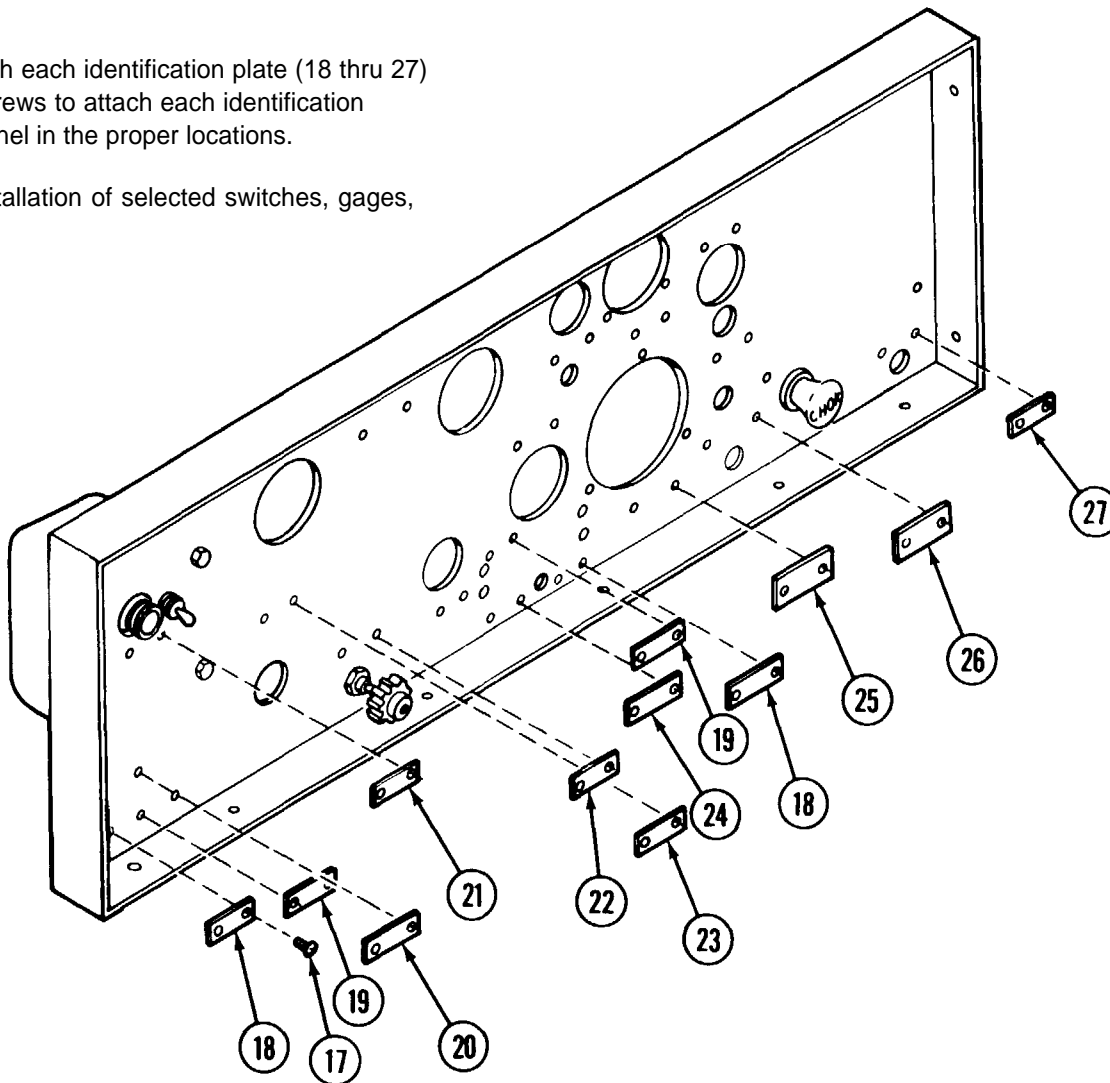
LOCATION/ITEM	ACTION	REMARKS
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REASSEMBLY (CONT)

- Control Panel Assembly/ Drive screws (17)
- CLOSED Identification plate (18)
- OPEN Identification plate (19)
- DRAIN Identification plate (20)
- HEATER RECEPTACLE AND SWITCH ON-OFF Identification plate (21)
- THROTTLE Identification plate (22)
- VALVE NO. 1 /MANIFOLD Identification plate (23)
- VALVE NO. 4/PRIME Identification plate (24)
- PRESSURE GAGE Identification plate (25)
- OIL PRESSURE SWITCH/ STOP-RUN-START Identification plate (26)
- FUEL SHUT-OFF Identification plate (27)

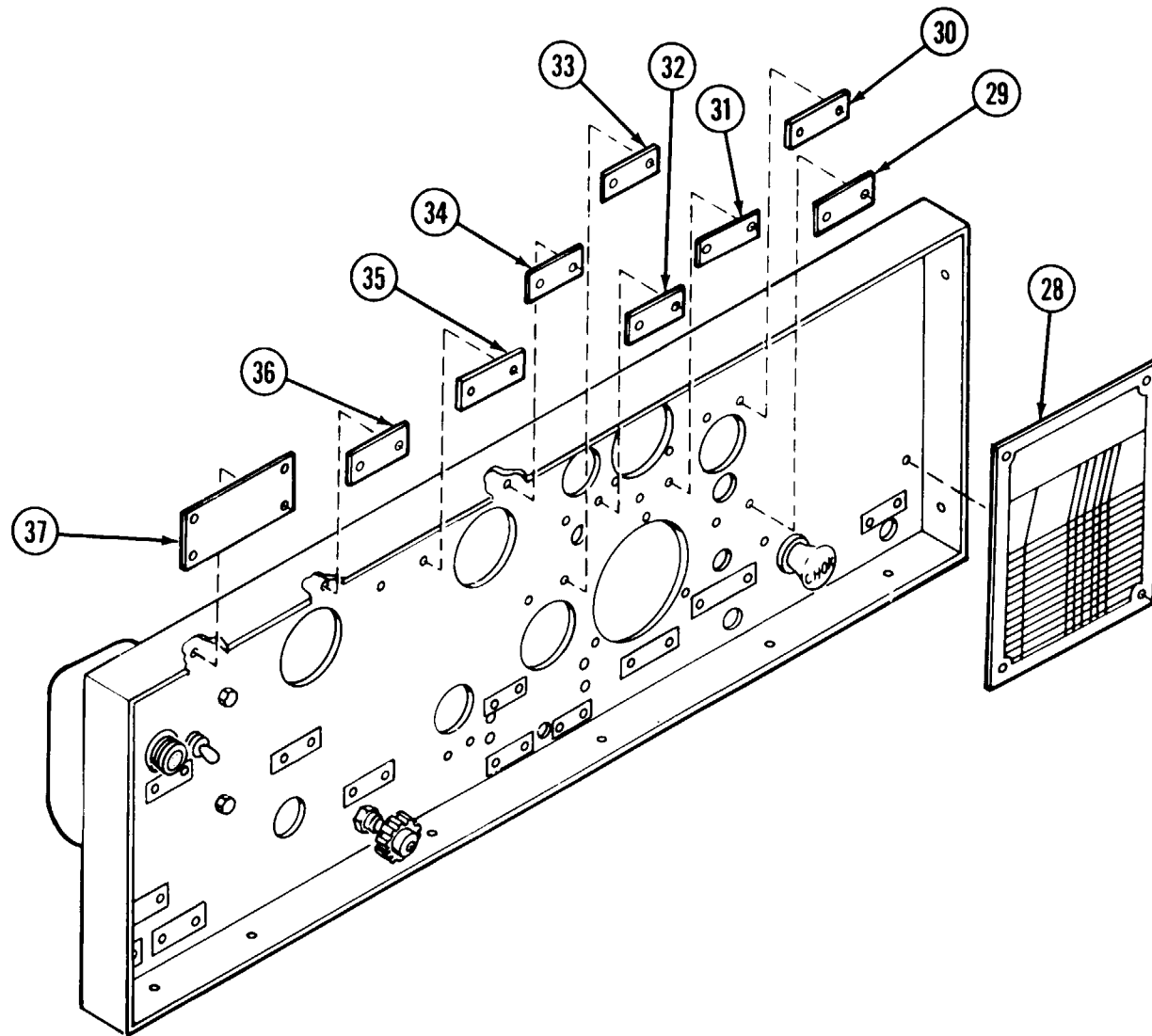
Use two drive screws (17) to attach each identification plate (18 thru 27) and (29 thru 36) and four drive screws to attach each identification plate (28 and 37) to the control panel in the proper locations.

See TM 3-4230-209-20&P for installation of selected switches, gages, and other parts.



Starting procedure

- Instruction plate (28)
- GENERATOR Identification plate (29)
- AMMETER Identification plate (30)
- VACUUM GAGE Identification plate (31)
- FUEL INDICATOR Identification plate (32)
- TACHOMETER Identification plate (33)
- VALVE NO. 3/UPPER REEL Identification plate (34)
- CIRCUIT BREAKER/OFF-ON Identification plate (35)
- VALVE NO. 2/LOWER REEL Identification plate (36)
- DECONTAMINATING APPARATUS Identification plate (37)



2-28. CONTROL PANEL ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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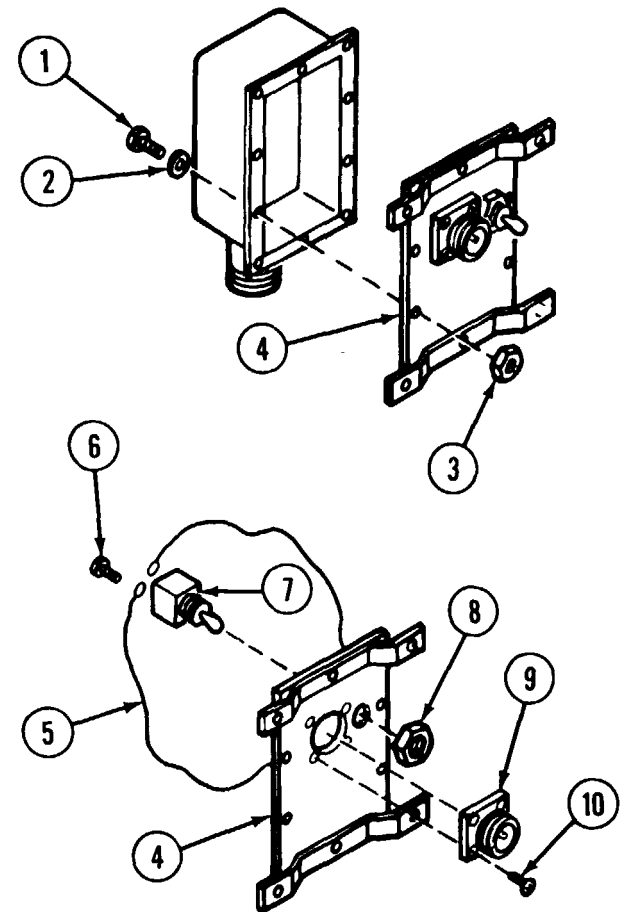
DISASSEMBLY/REPAIR/REASSEMBLY

Alternator Junction Box/

- Machine screws (1)
- Lock washers (2)
- Nuts (3)
- Cover (4)

Remove six machine screws (1), lock washers (2), nuts (3), and cover (4).

All of the following listed items are supplied as part of the alternator junction box.



- Wires (5)
- Screws (6)
- Toggle switch (7)
- Nut (8)
- Electrical connector (9)
- Machine screws (10)

Tag wires (5) to identify for installation on new switch. Unscrew and remove two screws (6) securing wires (5) to toggle switch (7). Holding toggle switch (7), unscrew and remove nut (8). Remove toggle switch (7). Tag and unsolder leads to electrical connector (9). Remove four machine screws (10) and electrical connector (9).

Replace ail unserviceable authorized parts.

Install electrical connector (9) and fasten with four machine screws (10). Connect electrical leads.

Insert toggle switch (7) through switch hole in the case, screw nut (8) onto toggle switch (7) threaded stem, and tighten.

Determine identification of wires from the tags applied earlier. Reconnect wires (5) to correct toggle switch terminals with screws (6) and tighten.

Install cover (4), and secure with six lock washers (2), machine screws (1), and nuts (3). Tighten.

2-29. ELECTRICAL WIRING.

This task covers:

- a. Disassembly
 - b. Repair
 - c. Reassembly
-

INITIAL SETUP*Tools and Special Tools*

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)
Multimeter AN/URM 105C

Equipment Condition

Wiring is removed from the pump unit assembly.

Materials/Parts

Electrical leads (fig D-63 thru D-79).

LOCATION/ITEM**ACTION****REMARKS**

DISASSEMBLY

Electrical Wiring/
Electrical leads

Cut off defective terminal from electrical leads.

REPAIR

Electrical Wiring/
Electrical leads (11 thru 29)

Fabricate new electrical wires. See table below. Refer to wiring schematic on page 2-129 for wire location. Mark wires according to following table of connections.

REASSEMBLY

Electrical Wiring/
Electrical leads

Strip 0.375 inch of insulation from electrical leads and crimp terminal lugs onto exposed wire ends.

TABLE OF CONNECTIONS

NOMENCLATURE	WIRE NO	DESCRIPTION				MIL STD 681		MANUFACTURED ITEMS	
		FROM		TO		COLOR CODE & NO	LENGTH * 50		
LEAD ELECTRICAL	1	P1	A	B1	B	RED	2	74 00	N/A
LEAD ELECTRICAL	2	P1	B	TB1	B2	BLACK	0	54 50	N/A
LEAD ELECTRICAL	3	P1	C	TB1	C3	BROWN	1	54 00	N/A
LEAD ELECTRICAL	4	P1	D	TB1	H7	GRAY	8	53 50	N/A
LEAD ELECTRICAL	5	P1	E	TB1	E5	GREEN	5	53 00	N/A
LEAD ELECTRICAL	6	P1	F	TB1	F6	ORANGE	3	52 50	N/A
LEAD ELECTRICAL	7	P1	G	TB1	G1	SHIELDING		52 50	N/A
LEAD ELECTRICAL	8	P1	H	TB1	H7	BLUE	6	52 00	N/A
LEAD ELECTRICAL	9	P1	I	TB1	I8	WHITE	9	51 50	N/A
LEAD ELECTRICAL	10	P1	J	TB1	J9	VIOLET	7	51 00	N/A
LEAD ELECTRICAL	11	TB1	A	S1	A	RED	2	14 00	D-63
LEAD ELECTRICAL	12	TB1	B	S2	A	BLACK	0	17 00	D-64
LEAD ELECTRICAL	13	TB1	C	S1	C	BROWN	1	14 50	D-65
LEAD ELECTRICAL	14	TB1	E	M1	A	GREEN	5	12 00	D-66
LEAD ELECTRICAL	15	TB1	F	S1	B	ORANGE	3	13 50	D-67
LEAD ELECTRICAL	16	TB1	H	M1	B	BLUE	6	12 50	D-68
LEAD ELECTRICAL	17	TB1	AC1	DS1	A	WHITE	9	13 00	D-69
LEAD ELECTRICAL	18	TB1	AC2	DS1	B	VIOLET	7	12 50	D-70
LEAD ELECTRICAL	19	CB1	A	M4	B	WHITE	9	23 50	D-71
LEAD ELECTRICAL	20	J1	H	S4	A	WHITE	9	19 00	D-72
LEAD ELECTRICAL	21	S4	B	S1	A	WHITE	9	22 50	D-73
LEAD ELECTRICAL	22	S1	A	S6	A	RED	2	14 00	D-74
LEAD ELECTRICAL	23	S6	B	M3	A	RED	2	5 00	D-75
LEAD ELECTRICAL	24	M3	B	R1	A	BLUE	6	29 50	D-76
LEAD ELECTRICAL	25	B1	B	G2		BLUE	6	13 00	D-77
LEAD ELECTRICAL	26	TB1	A1	M4	A	RED	2	20 00	D-78
LEAD ELECTRICAL	27	K1	A	BT1	POSITIVE	RED	2	52 00	See TM 3-4230-209-20&P
LEAD ELECTRICAL	28	BT1	NEG	G4		BLACK	0	48 00	See TM 3-4230-209-20&P
LEAD ELECTRICAL	29	S2	B	S1	B	ORANGE	3	11 50	D-79
LEAD ELECTRICAL	30	G5	A	VR1	A	BLACK	0	36 00	N/A

NOTE

*COLOR CODED WIRE AND NUMBER ARE LISTED HERE FOR REFERENCE PURPOSES

**ALL LENGTHS ARE IN INCHES

2-30. TANK UNIT.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Materials/Parts

Adhesive (item 1, app C)
Antiseizing tape (item 38, app C)
Paint brush (item 6, app C)
Polyurethane coating (black) (item 28, app C)
Polyurethane coating (green) (item 29, app C)

References

TM 3-4230-209-20&P

Personnel Required

2

Equipment Condition

Tank unit is assembled. Unit maintenance authorized components removed in TM 3-4230-209-20&P and are not covered in this manual.

LOCATION/ITEM	ACTION	REMARKS
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DISASSEMBLY

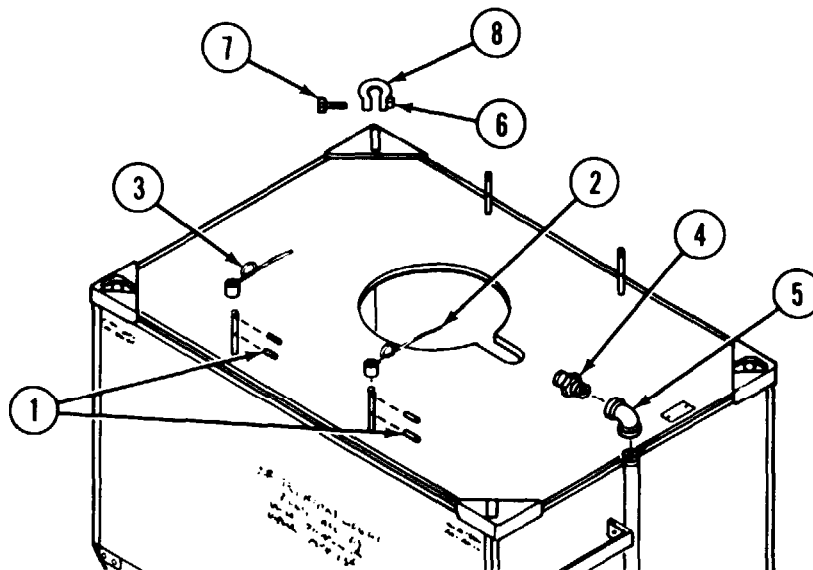
Tank Unit/

Spring pins (1)
Bracket clamps (2)
Bracket clamps (3)

Remove eight spring pins (1), one bracket clamp (2), and three bracket clamps (3).

Quick disconnect coupling half (4)
Pipe elbow (5)
Nuts (6)
Bolts (7)
Shackles (8)

Unscrew and remove quick disconnect coupling half (4), pipe elbow (5), cut four nuts (6) from bolts (7), and remove the four shackles (8). Discard nuts (6), bolts (7), and shackles (8).



2-30. TANK UNIT (CONT).

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

DISASSEMBLY (CONT)

Tank Unit/

Drive screws (9)
 Agitation identification plate (10)
 Hexagon plain nuts (11)
 Lock washers (12)
 Support pipe (13)
 Metallic pipe (14)
 Street elbow (15)
 Agitator nozzle (16)

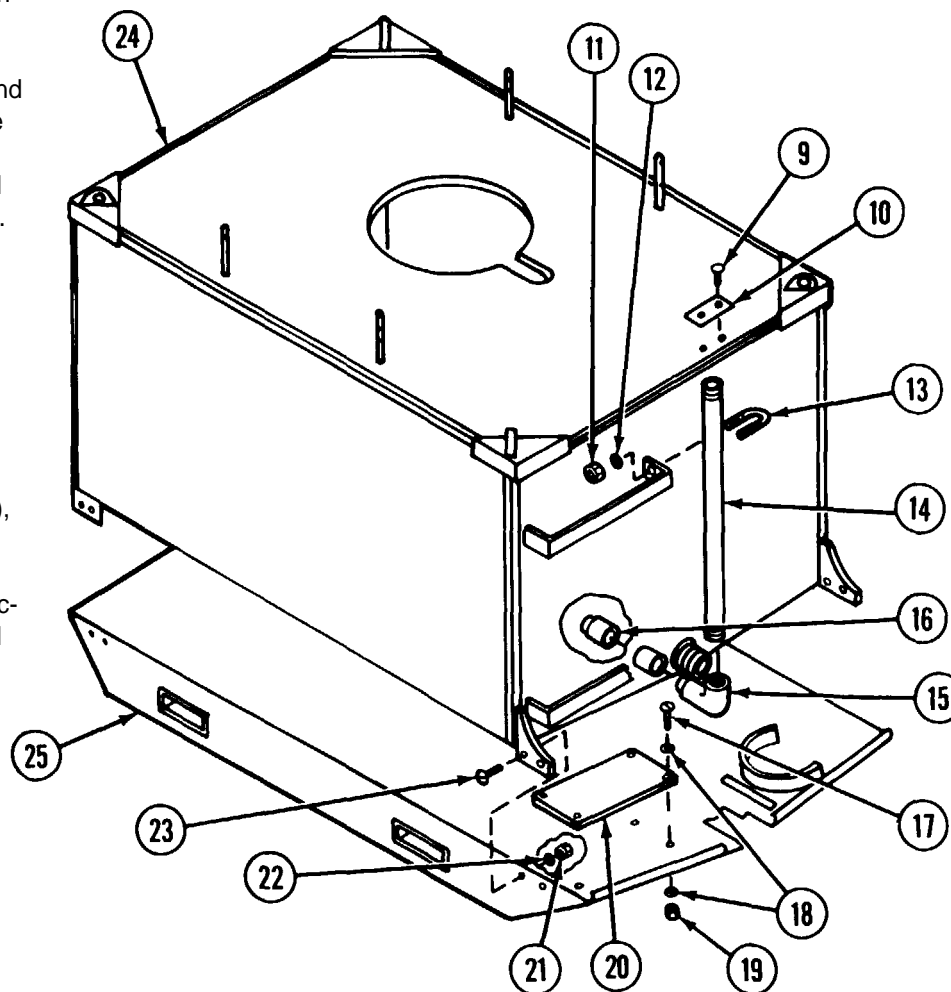
Remove two drive screws (9), agitation identification plate (10), two hexagon plain nuts (11), two lock washers (12), support pipe (13), metallic pipe (16), and street elbow (15). Crawl in through the hopper assembly hole, unscrew and remove agitator nozzle (16), and crawl out through the hopper assembly hole.

Machine screws (17)
 Flat washers (18)
 Hexagon plain nuts (19)
 Rubber pad (20)

Remove four machine screws (17), eight flat washers (18), four hexagon plain nuts (19), and rubber pad (20).

Hexagon plain nuts (21)
 Lock washers (22)
 Hexagon head cap screws (23)
 Tank assembly (24)
 Tank skid base (25)

Unscrew and remove eight hexagon plain nuts (21), eight lock washers (22), and eight hexagon head cap screws (23). Using two soldiers and a lifting device with a 1,000 pound capacity, lift tank assembly (24) off tank skid base (25).



REPAIR

Tank Unit/

Replace authorized unserviceable parts.

Paint over all yellow markings currently on the tank unit. Repaint any chipped or damaged areas with green polyurethane coating.

Repaint the former yellow information signs using black polyurethane coating in accordance with measurements and locations shown.

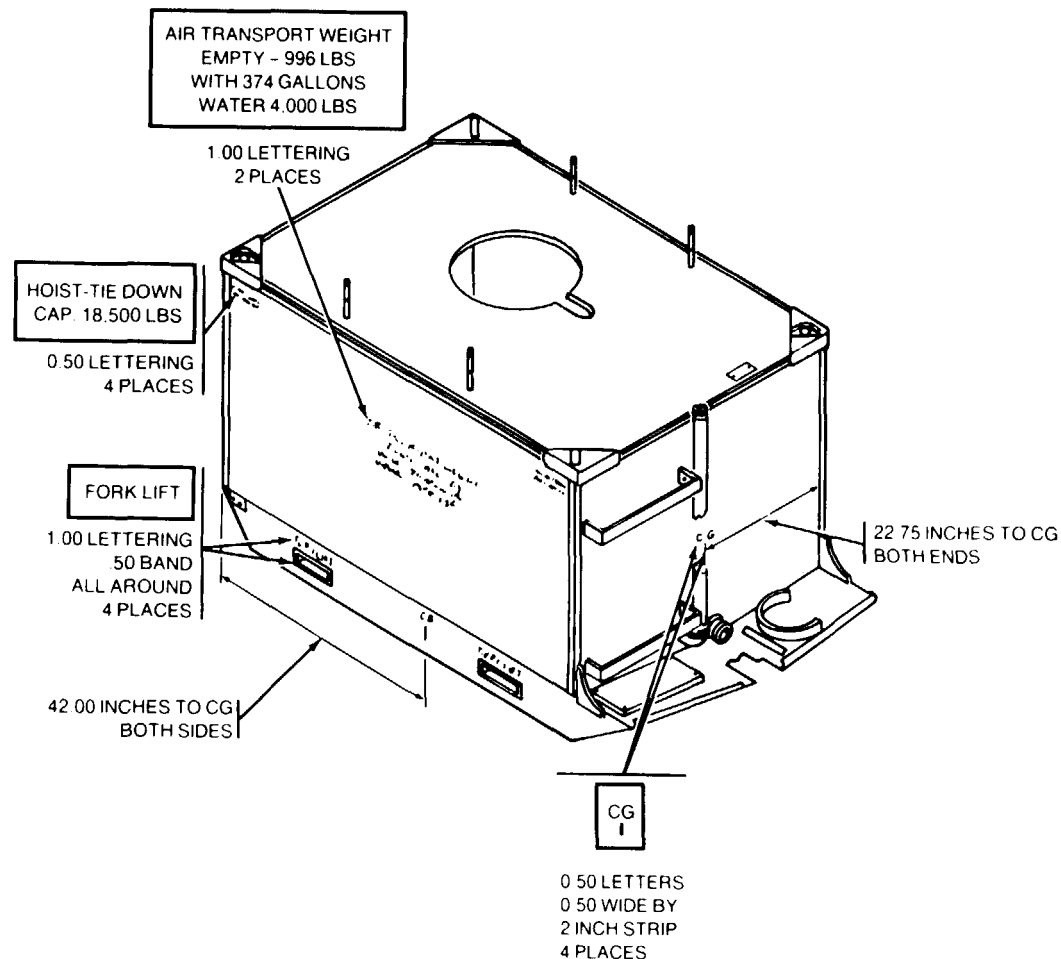
If new shackles are to be installed, tack-weld the nut after the shackle is attached.

REASSEMBLY

Tank Unit/

- Tank assembly (1)
- Tank skid base (2)
- Hexagon head cap screws (3)
- Lock washers (4)
- Hexagon plain nuts (5)

Using two soldiers and a lifting device with 1,000 pound capacity, position tank assembly (1) on tank skid base (2) and align bolt holes. Insert eight hexagon head cap screws (3) through tank assembly (1) and tank skid base (2). Attach eight lock washers (4) and eight hexagon plain nuts (5). Tighten.



2-30. TANK UNIT (CONT).

LOCATION/ITEM

ACTION

REMARKS

REASSEMBLY (CONT)

Tank Unit/

Rubber pad (6)
Machine screws (7)
Flat washers (8)
Hexagon plain nuts (9)

Position rubber pad (6) on tank skid base (2), align holes, and secure with four machine screws (7), eight flat washers (8), and four hexagon plain nuts (9).

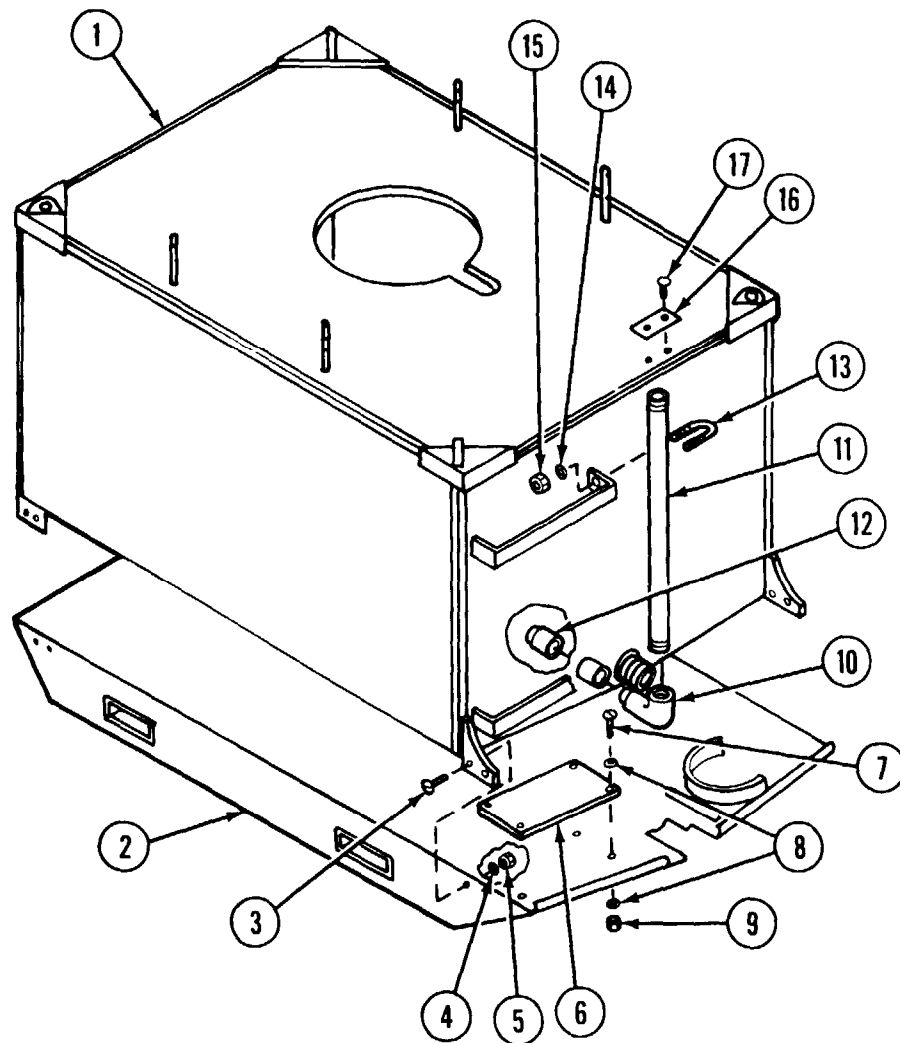
Street elbow (10)
Metallic pipe (11)
Agitator nozzle (12)
Support pipe (13)
Lock washers (14)
Hexagon plain nuts (15)

Using antiseizing tape or sealing compound, wrap or coat the external threads of street elbow (10), metallic pipe (11), and agitator nozzle (12). Screw street elbow (10) into the tank unit (1). Tighten and position street elbow (10) so its opening is pointing straight up. Screw metallic pipe (11) into the opening of the street elbow (10) and tighten. Slide support pipe (13) around metallic pipe (11), insert threaded ends through the bracket, and attach two lock washers (14) and two hexagon plain nuts (15). Tighten hexagon plain nuts (15).

Agitation identification plate (16)
Drive screws (17)

Install agitation identification plate (16) with two drive screws (17) and tighten.

Crawl inside the tank, screw and tighten agitator nozzle (12) into the tank, and then crawl out of the tank.



Bracket clamps (18)
Bracket clamps (19)
Spring pins (20)

Install three bracket clamps (18) and one bracket clamp (19). Insert eight spring pins (20), into the four posts with one spring pin above and one spring pin below each bracket clamp (18 and 19).

Bolts (21)
Nuts (22)
Shackles (23)

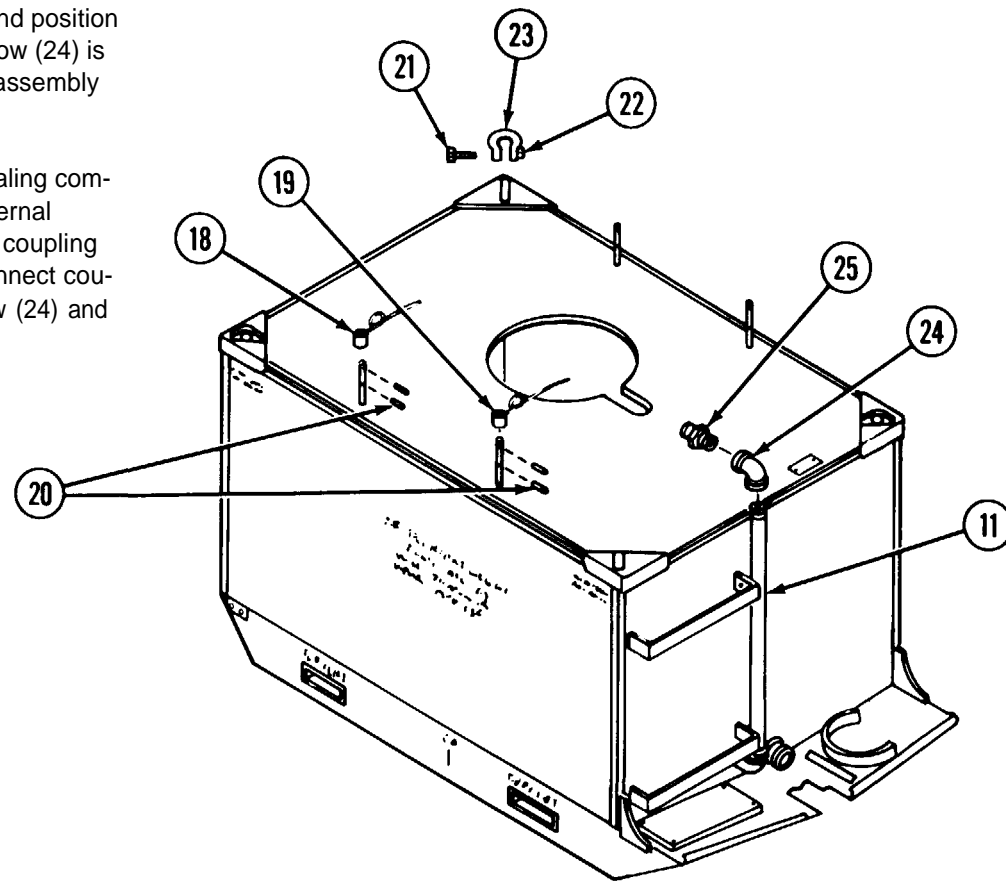
Unscrew four bolts (21) and nuts (22) and remove from four shackles (23) and slide shackles (23) over the four projection tabs welded to the tank. Reinstall the four bolts (21) and nuts (22) through each shackle (23), tighten, and tack-weld the nuts to the bolts.

Pipe elbow (24)

Screw pipe elbow (24) onto the end of metallic pipe (11). Tighten and position so that open end of pipe elbow (24) is pointed toward the hopper assembly hole.

Quick disconnect coupling half (25)

Using antiseizing tape or sealing compound, wrap or coat the external threads of quick disconnect coupling half (25). Screw quick disconnect coupling half (25) into pipe elbow (24) and tighten.



2-31. HOPPER ACCESS COVER.

This task covers disassembly/repair/reassembly.

INITIAL SETUP*Tools and Special Tools*

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

References

TM 3-4230-209-20&P

Equipment Condition

Hopper access cover removed.

Materials/Parts

Adhesive (item 1, app C)
Gasket (fig D-28)
Paint brush (item 6, app C)
Polyurethane coating (item 29, app C)

LOCATION/ITEM

ACTION

REMARKS

DISASSEMBLY/REPAIR/REASSEMBLY

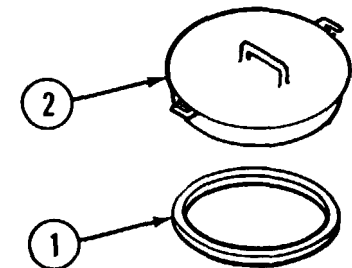
Hopper Access Cover/

Gasket (1)
Hopper lid (2)

Scrape gasket (1) from hopper lid (2) underside if damaged.

Replace authorized unserviceable gasket. Repair the access cover by fabricating new gasket (1) according to figure **D-28** Bond gasket (1) to hopper lid (2) with adhesive.

Apply adhesive to underside of hopper lid (2) and position new gasket (1) into proper position. Trim any excess length from gasket for proper fit.



2-32. LIQUID STORAGE TANK.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Gasket (fig D-32)

Sealing compound (item 32, app C)

Materials/Parts

Adhesive (item 1, app C)
Antiseizing tape (item 38, app C)

Equipment Condition

Liquid storage tank is removed from the tank unit. Unit maintenance authorized components are removed in TM 3-4230-209-20&P and are not covered in this manual.

LOCATION/ITEM

ACTION

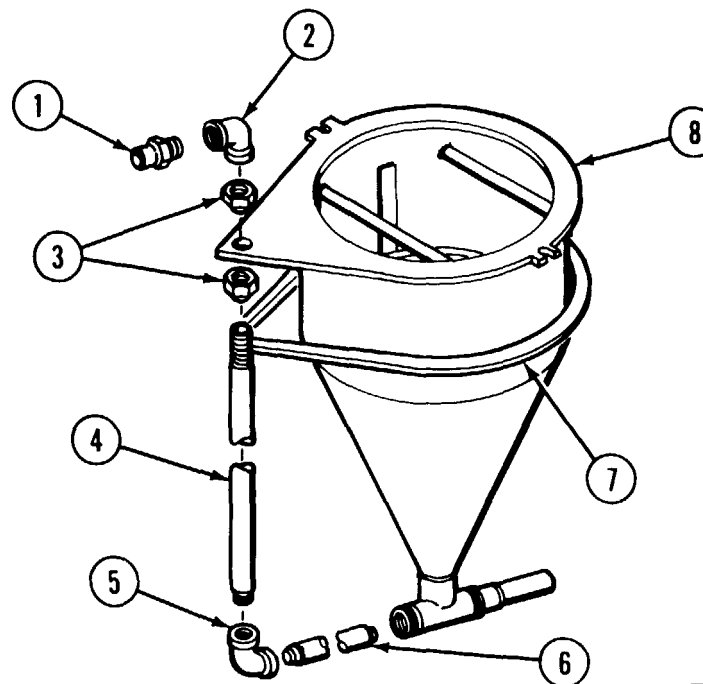
REMARKS

DISASSEMBLY

Liquid Storage Tank/

- Quick disconnect coupling half (1)
- Pipe elbow (2)
- Pipe locknuts (3)
- Metallic pipe (4)
- Pipe elbow (5)
- Pipe nipple (6)
- Gasket (7)
- Flange body (8)

Unscrew and remove quick disconnect coupling half (1), pipe elbow (2), two pipe locknuts (3), metallic pipe (4), pipe elbow (5), and pipe nipple (6). Remove gasket (7) from flange body (8) only if it needs repair.



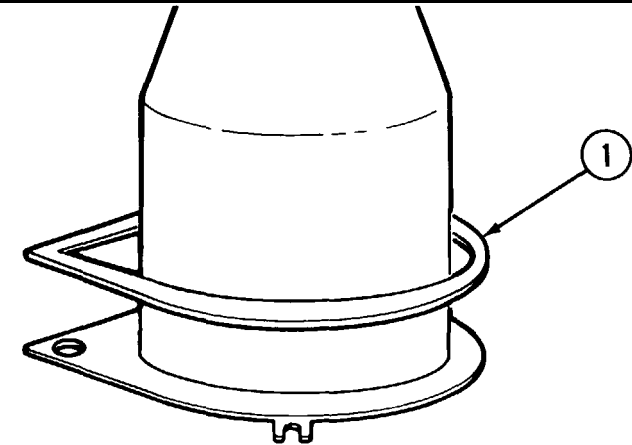
2-32. LIQUID STORAGE TANK (CONT).

LOCATION/ITEM	ACTION	REMARKS
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REPAIR

Liquid Storage Tank/ Replace authorized unserviceable parts.

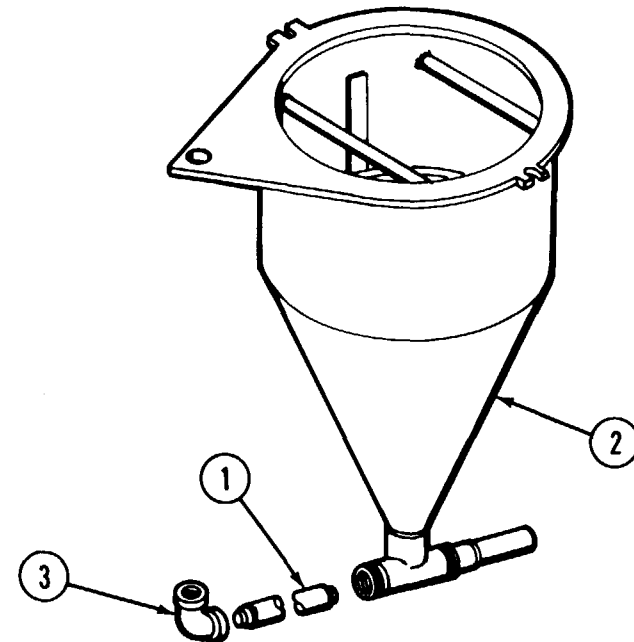
Gasket (1)
 Scrape old gasket (1) off of the bottom of the flange and discard. Fabricate a new gasket (1). (See fig D-32.) Bond gasket (1) to bottom of the flange using adhesive.



REASSEMBLY

Liquid Storage Tank/
 Pipe nipple (1)
 Body (2)
 Pipe elbow (3)
 Wrap all external threads with antiseizing tape or coat with sealing compound before reassembly.

Screw pipe nipple (1) into the body (2) and pipe elbow (3) onto the end of pipe nipple (1). Tighten and position pipe nipple (1) and pipe elbow (3). The opening in pipe elbow (3) must be pointed so it aligns with the hole in the flange of the body (2).



Pipe locknuts (4)
Metallic pipe (5)
Body flange (6)

Screw one pipe locknut (4) onto the longest threaded end of metallic pipe (5). Insert metallic pipe (5) through the body flange (6) on the body (2). Screw the other end of metallic pipe (5) into pipe elbow (3). Screw second pipe locknut (4) onto metallic pipe (5), protruding above the body flange (6), and screw two pipe locknuts (4) fingertight against body flange (6). Tighten metallic pipe (5) and two pipe locknuts (4).

Pipe elbow (7)

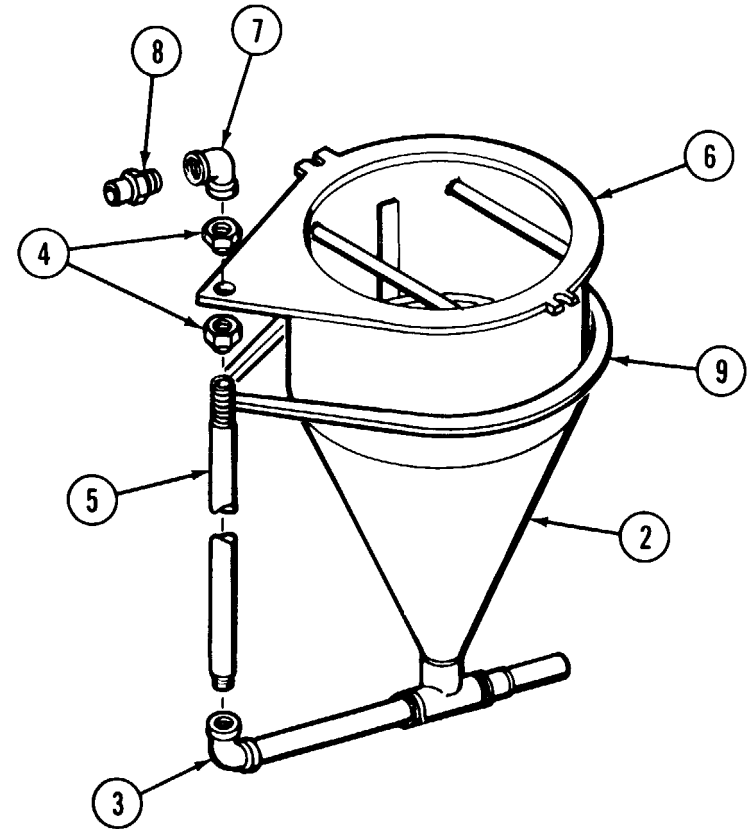
Screw pipe elbow (7) onto end of metallic pipe (5) and tighten.

Quick disconnect neck coupling half (8)

Screw quick disconnect coupling half (8) onto pipe elbow (7) and tighten.

Gasket (9)

Coat underside of body flange (6) with adhesive. Position new gasket (9) form around body flange (6). Trim any excess gasket (9) to fit.



2-33. LIQUID FUEL WATER HEATER AND CABINET TOP COVER.

This task covers:

- a. Disassembly
- b. Repair
- c. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
 Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)
 Automotive Maintenance and Repair Shop Equipment:
 Organizational Maintenance Common No. 1, Less Power
 (Sc 4910-95-CL-A74)

References

FM 10-16
 TM 43-0139

Personnel Required

2

Materials/Parts

Polyurethane coating (black) (item 28, app C)
 Polyurethane coating (green) (item 29, app C)
 Pressure sensitive tape (item 41, app C)

Equipment Condition

Unit maintenance authorized components are removed in
 TM 3-4230-209-20&P and are not covered in this manual.

LOCATION/ITEM	ACTION	REMARKS
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DISASSEMBLY

Liquid Fuel Water Heater and
 Cabinet Top Cover/

Clamping catch (1) Loosen the two clamping catches (1) holding the cabinet top cover (2)
 Cabinet top cover (2) down. Cut or drill two solid rivets (3) from each clamping catch (1) only if
 Solid rivet (3) defective. Remove and discard clamping catches (1).

Decal (4) Scrape decal (4) from underside of cabinet top cover (2) if damaged or
 illegible.

Plate (5) Scrape off operating instruction plates (5 and 6) if damaged or illegible.
 Plate (6)

Hexagon plain nuts (7)
Internal tooth lock
washers (8)
Machine screws (9)

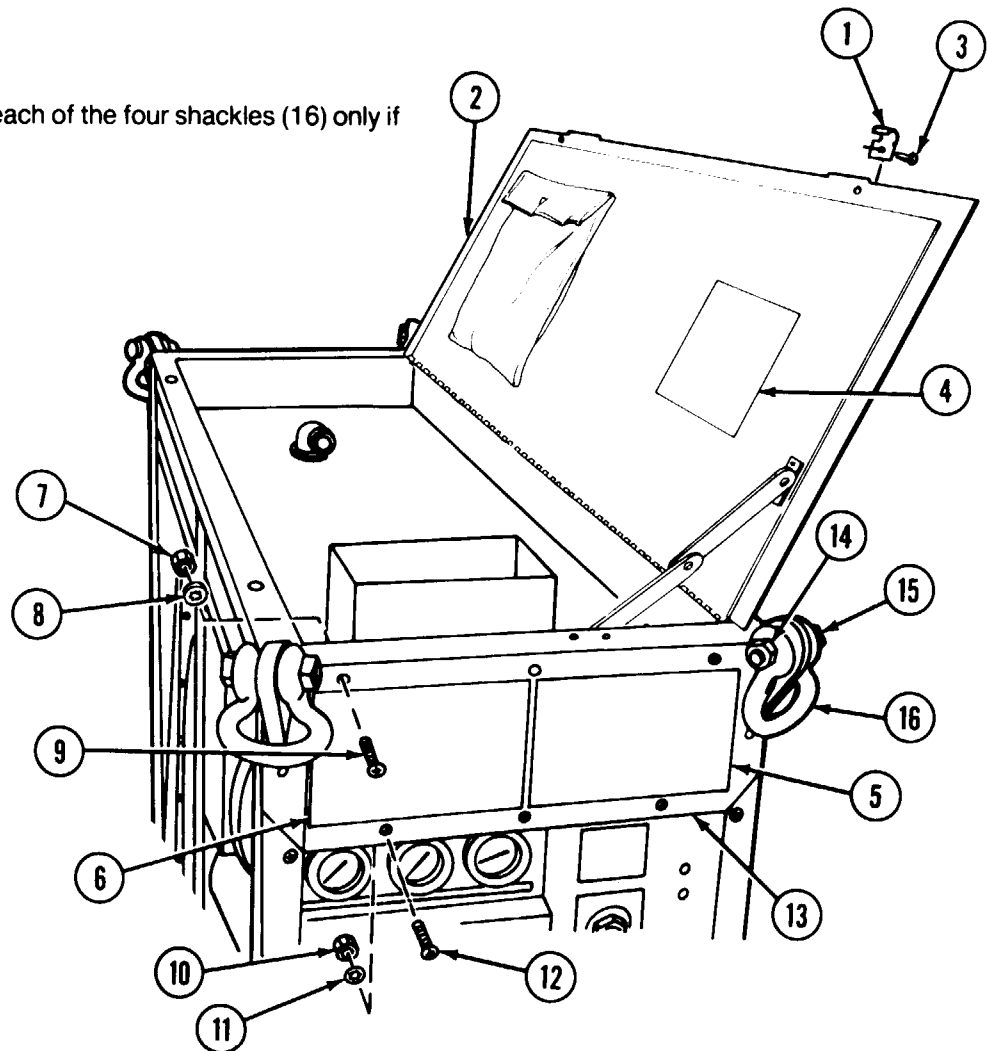
Remove five hexagon plain nuts (7), internal tooth lock washers (8), and machine screws (9).

Hexagon plain nuts (10)
Internal tooth lock
washers (11)
Machine screws (12)
Plate (13)

Remove three hexagon plain nuts (10), internal tooth lock washers (11), and machine screws (12). Remove plate (13).

Nuts (14)
Bolts (15)
Shackles (16)

Cut nut (14) and bolt (15) off of each of the four shackles (16) only if replacements are required.



2-3 LIQUID FUEL WATER HEATER AND CABINET TOP COVER (CONT).

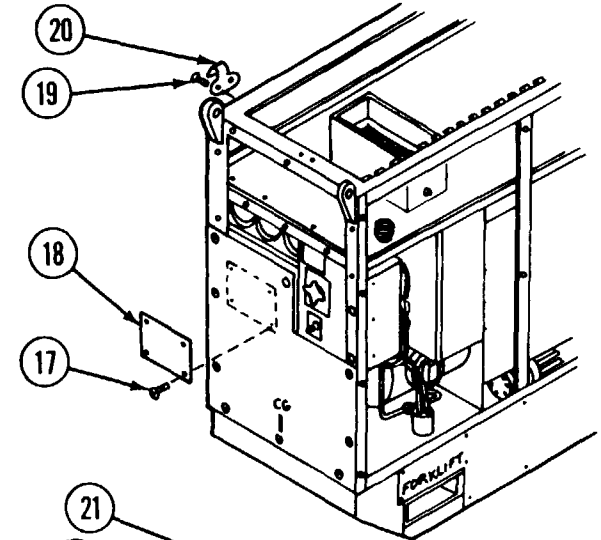
LOCATION/ITEM	ACTION	REMARKS
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DISASSEMBLY (CONT)

Liquid Fuel Water Heater and Cabinet Top Cover/

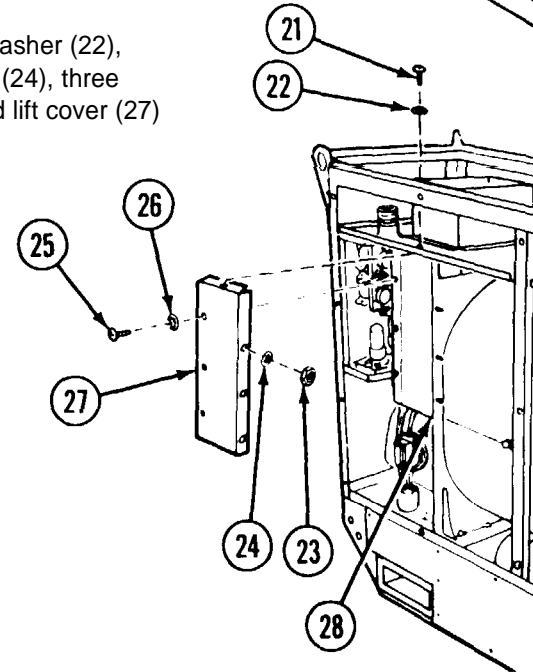
- Solid rivets (17)
- Water heater identification plate (18)
- Solid rivets (19)
- Clamping catch (20)

Remove or drill out four solid rivets (17) securing water heater identification plate (18).
Cut or drill out two solid rivets (19) from two lower sections of clamping catch (20).



- Machine screw (21)
- Internal tooth lock washer (22)
- Hexagon plain nuts (23)
- Internal tooth lock washers (24)
- Machine screws (25)
- Internal tooth lock washers (26)
- Cover (27)
- Boiler unit (28)

Remove one machine screw (21) and internal tooth lock washer (22), three hexagon plain nuts (23), internal tooth lock washers (24), three machine screws (25), internal tooth lock washers (26), and lift cover (27) from boiler unit (28).



Quick disconnect
coupling (29)
Pipe elbow (30)

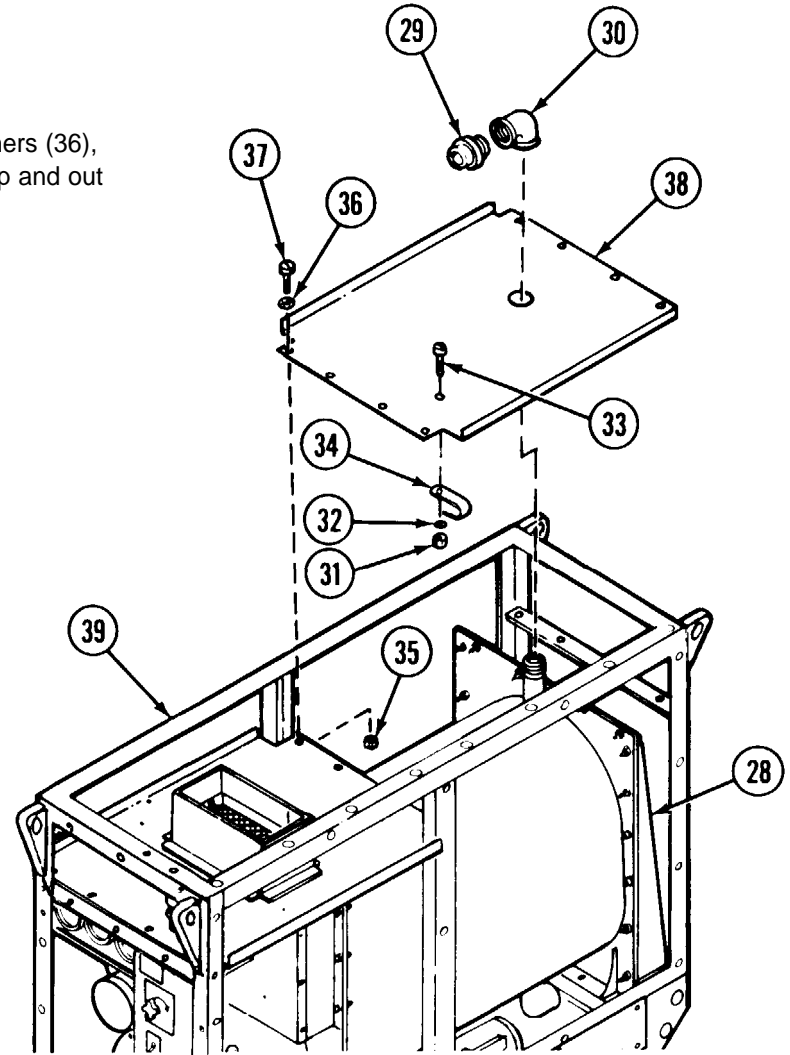
Remove quick disconnect coupling (29) and pipe elbow (30) as a unit from the boiler unit (28).

Hexagon plain nut (31)
Internal tooth lock
washer (32)
Machine screw (33)
Loop clamp (34)

Remove one hexagon plain nut (31), internal tooth lock washer (32), and machine screw (33). Slip loop clamp (34) from the bundle of wires running above the boiler unit (28).

Hexagon plain nuts (35)
Internal tooth lock
washers (36)
Machine screws (37)
Rear access cover (38)
Cabinet frame (39)

Remove eight hexagon plain nuts (35), internal tooth lock washers (36), and machine screws (37). Lift rear access cover (38) straight up and out of the cabinet frame (39).



2-33. LIQUID FUEL WATER HEATER AND CABINET TOP COVER (CONT).

LOCATION/ITEM

ACTION

REMARKS

DISASSEMBLY (CONT)Liquid Fuel Water Heater and
Cabinet Top Cover/

Machine screws (40)

Internal tooth lock
washers (41)

Hexagon plain nuts (42)

Internal tooth lock
washers (43)

Access cover (44)

Nonmetallic grommet (45)

Remove three machine screws (40),
internal tooth lock washers (41), three
hexagon plain nuts (42), and internal
tooth lock washers (43) from studs
located on boiler unit (28).

Lift the wire bundle up away from
access cover (44) and make sure non-
metallic grommet (45) comes out of the
U-slot of access cover. Carefully guide
access cover (44) out from front of the
boiler unit (28).

Slip nonmetallic grommet (45) from wire
bundle and capillary tubes carefully.

Hexagon plain nuts (46)

Internal tooth lock
washers (47)

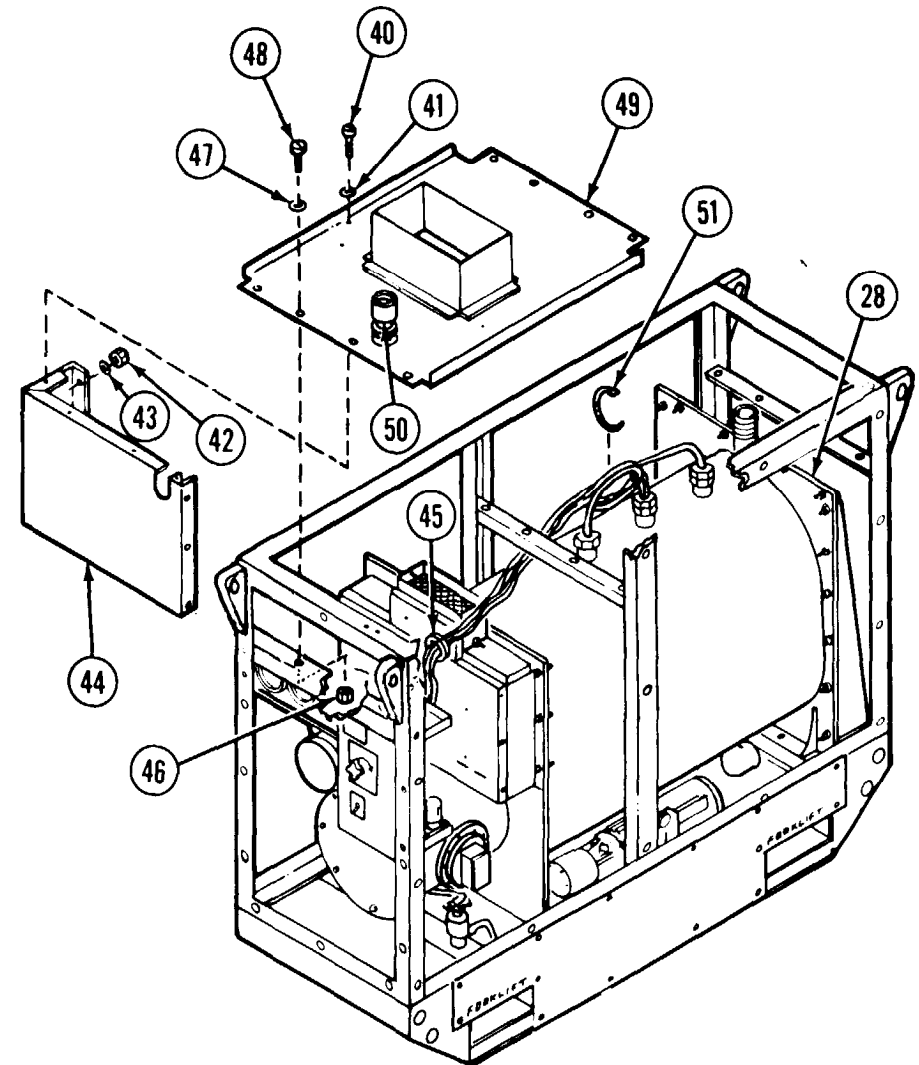
Machine screws (48)

Access cover (49)

Electrical box
connector (50)Electrical tiedown
straps (51)

Remove four hexagon plain nuts (46),
internal tooth lock washers (47), and
machine screws (48).

Lift access cover (49) out of the cabinet
frame. Remove electrical box
connector (50) only if damaged. Cut and
discard all electrical tiedown straps (51)
on wire bundle over boiler unit (28).

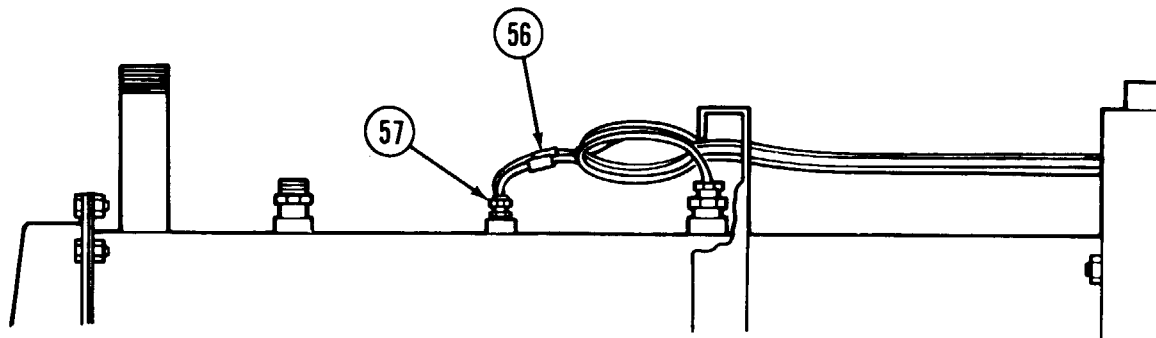
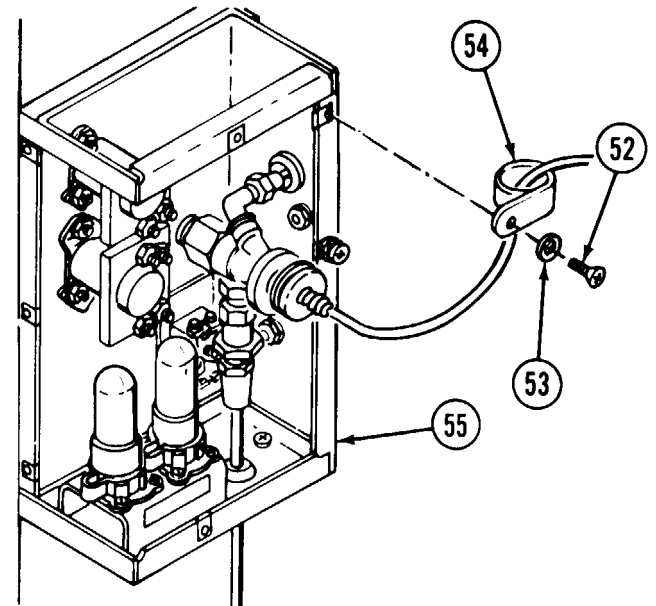


Machine screw (52)
Internal tooth lock washer (53)
Loop clamp (54)
Control box (55)

Electrical splice (56)
Thermostatic switch (57)

Remove one machine screw (52), internal tooth lock washer (53), and loop clamp (54) securing wire bundle to top inboard corner of the control box (55). Carefully slip loop clamp (54) from wire bundle and capillary tubes. Repeat for lower loop clamp holding wires running downward from control box.

Cut two electrical splices (56) for the electrical wires to thermostatic switch (57). Remove thermostatic switch (57).

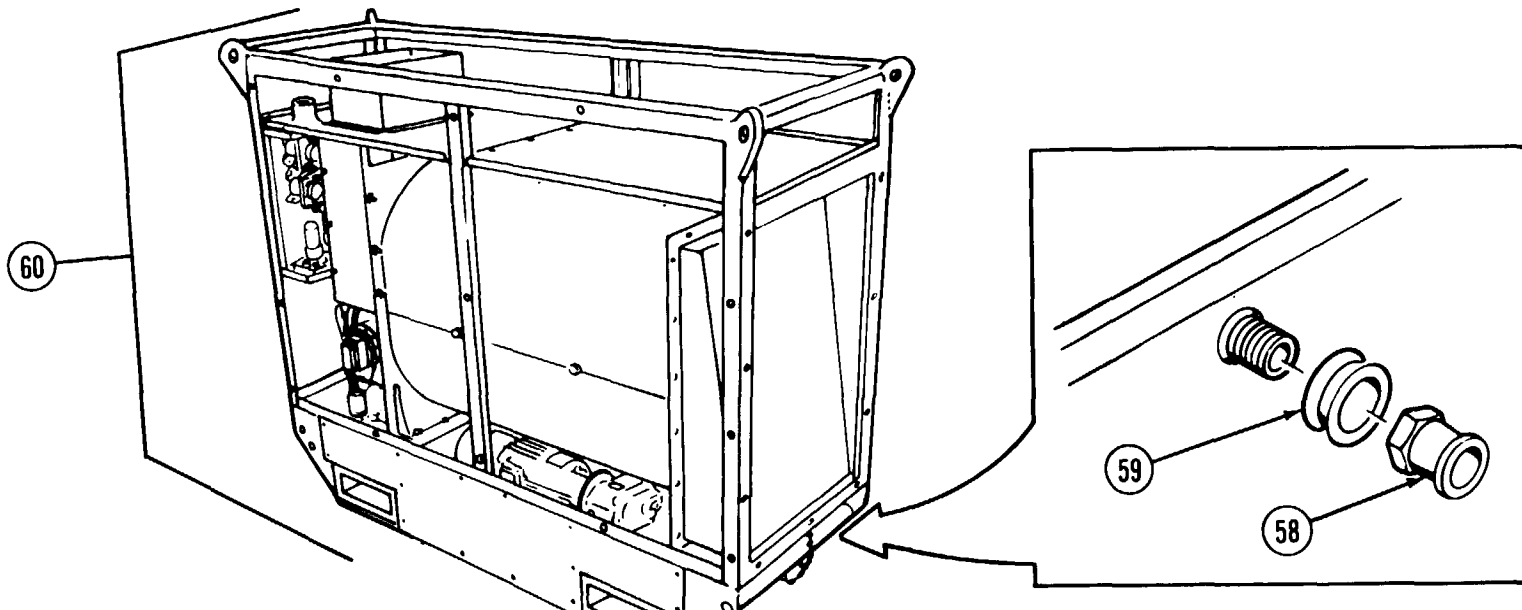


2-33. LIQUID FUEL WATER HEATER AND CABINET TOP COVER (CONT).

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY (CONT)		
Liquid Fuel Water Heater and Cabinet Top Cover/ Quick disconnect coupling half (58)	Remove quick disconnect coupling half (58) and nonmetallic grommet (59).	
Nonmetallic grommet (59)		
Electrical wiring (60)	Disconnect electrical wiring (60) throughout equipment according to electrical schematic and table of connections. Disconnect only those connections necessary for part removal.	

NOTE

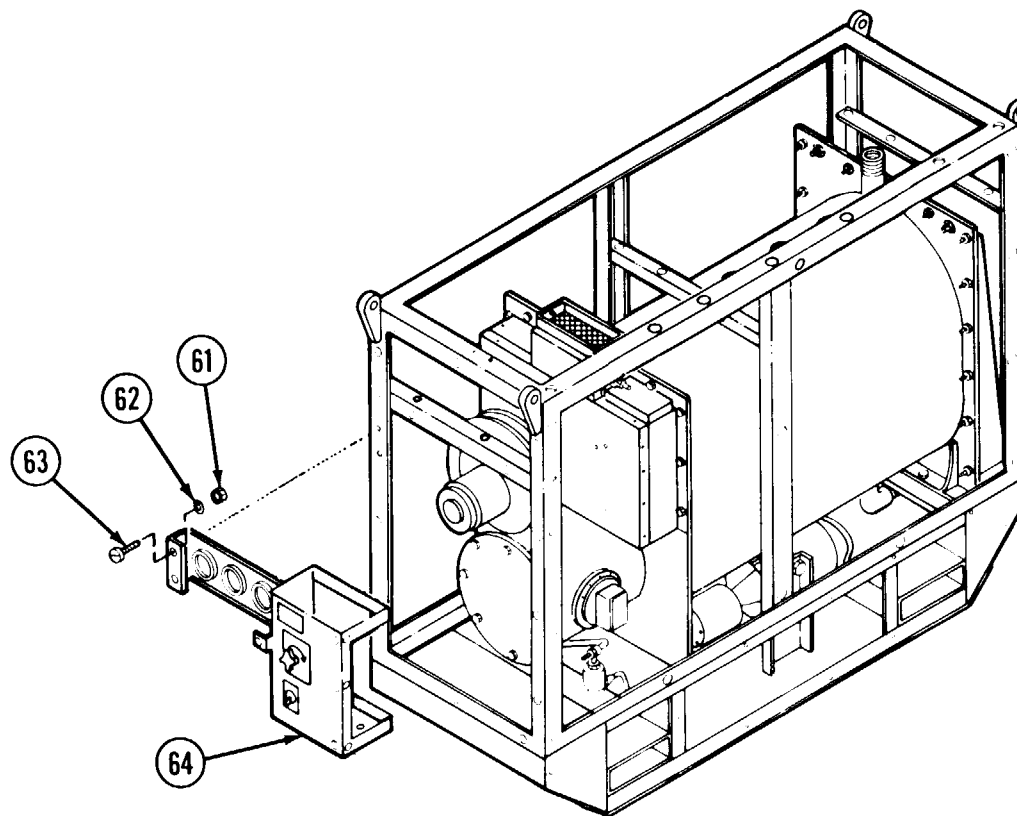
All electrical leads in this equipment will be fabricated in paragraph 2-43.



Hexagon plain nuts (61)
Internal tooth lock washers (62)
Machine screws (63)
Control box (64)

Remove five hexagon plain nuts (61), internal tooth lock washers (62), and machine screws (63), while supporting control box (64). Remove control box (64).

The control box does not have to be removed for repair. Therefore, items 61 thru 64 need not be removed. The control box is shown removed for clarity.



2-33. LIQUID FUEL WATER HEATER AND CABINET TOP COVER (CONT).

LOCATION/ITEM

ACTION

REMARKS

DISASSEMBLY (CONT)

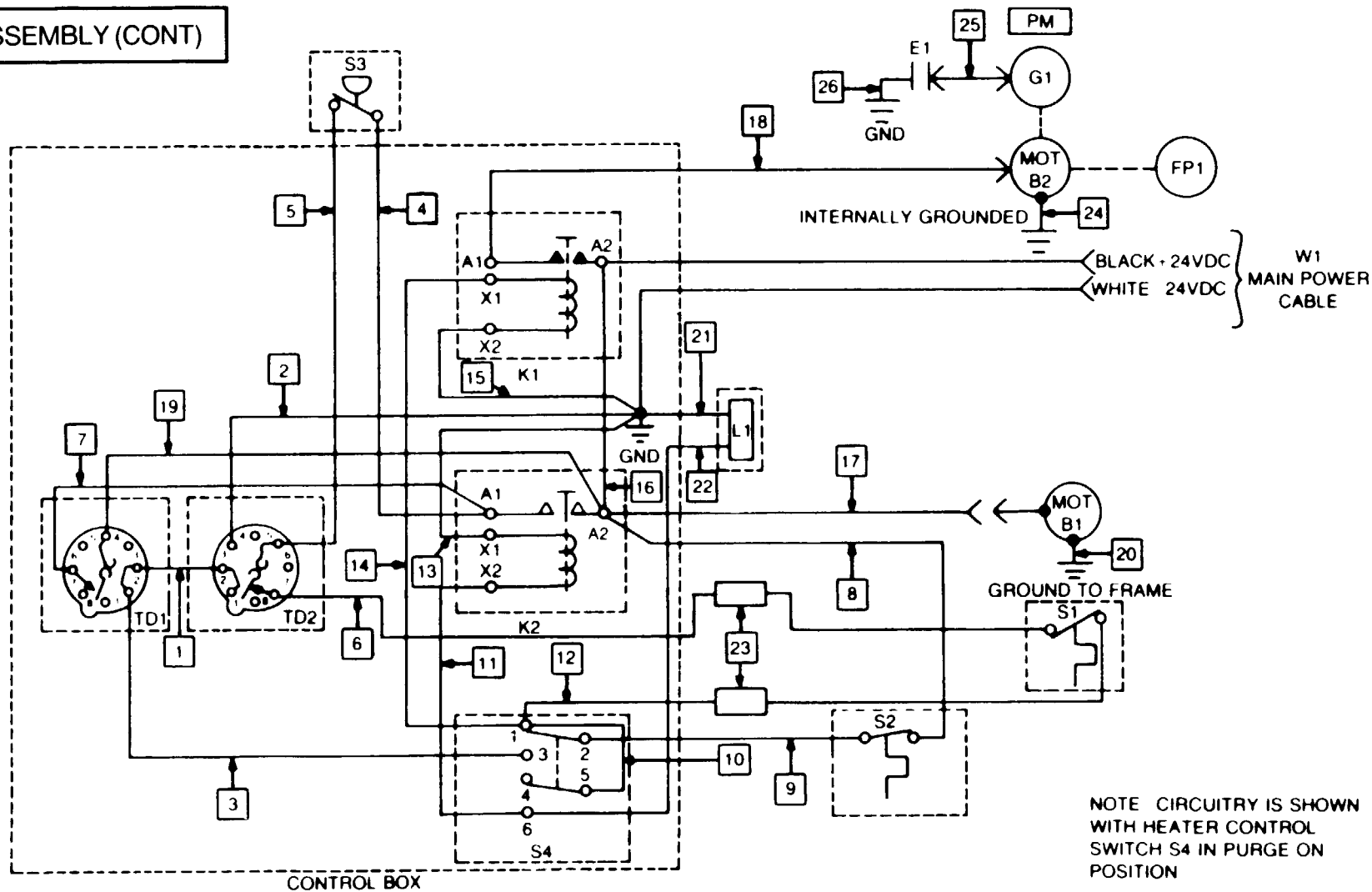


TABLE OF CONNECTIONS

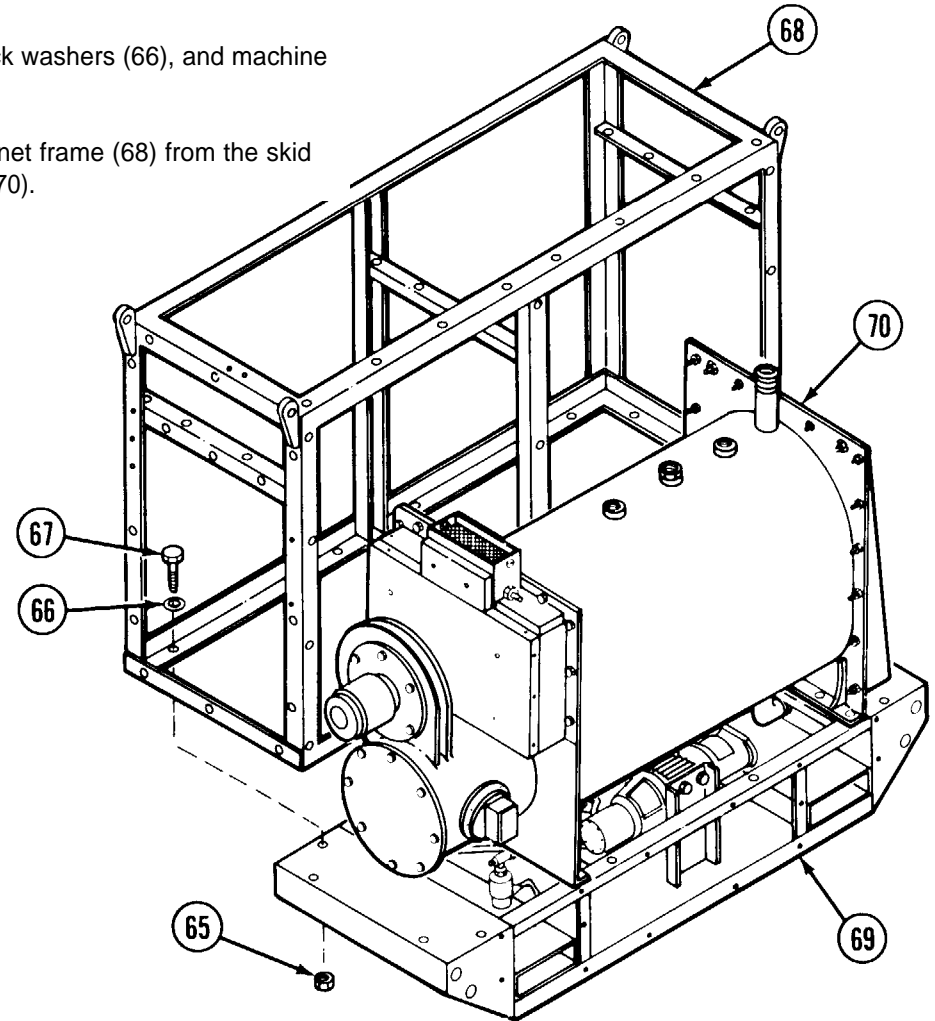
QTY REQD	NOMENCLATURE	DESCRIPTION		WIRE NO	MANUFACTURED ITEMS FIGURE NO
		FROM	TO		
1	LEAD ELECTRICAL	TD1-3	TD2-2	1	D-36
1		TD2-3	GND	2	D-37
1		TD1-2	S4-3	3	D-38
1		K2-A1	S3	4	D-39
1		TD2-5	S3	5	D-40
1		S1	TD2-7	6	D-41
1		K2-A1	TD1-7	7	D-42
1		K2-A2	S2	8	D-43
1		S4-2	S2	9	D-44
1		S4-1	S4-5	10	D-45
1		K2-X2	S4-6	11	D-46
1		S1	S4-1	12	D-47
1		K2-X1	GND	13	D-48
1		K1-X1	S4-1	14	D-49
1		K1-X2	GND	15	D-50
1		K1-A2	K2-A2	16	D-51
1		K2-A2	MOT(B1)	17	D-52
1		K1-A1	MOT(B2)	18	D-53
1		K2-A2	TD1-6	19	D-54
1		FRAME GND	MOTOR B1	20	D-55
1		GND	L1	21	
1	LEAD ELECTRICAL	S4-6	L1	22	
2	SPLICE ELECT. PERMANENT CRIMP STYLE COPPER INSULATED			23	
1	LEAD ELECTRICAL	INTERNAL GND	MOTOR B2	24	
1	CABLE IGNITION ASSEMBLY	G1	E1	25	
1	LEAD ELECTRICAL	GND	E1	26	

LEGEND

E1	SPARK PLUG IGNITOR
G1	MAGNETO
FP1	FUEL PUMP
TD-1	2-SECOND THERMAL DELAY RELAY
TD-2	120-SECOND THERMAL DELAY RELAY
K1	IGNITION RELAY
K2	IGNITION RELAY
S1	TEMPERATURE LIMIT SWITCH
S2	FLAME SWITCH
S3	COMBUSTION AIR PRESSURE SWITCH
S4	HEATER CONTROL SWITCH
L1	FUEL PUMP SOLENOID VALVE
B1	COMBUSTION AIR BLOWER MOTOR
B2	FUEL AND IGNITION DRIVE MOTOR
W1	MAIN POWER CABLE ASSEMBLY
GND	GROUND

2-33. LIQUID FUEL WATER HEATER AND CABINET TOP COVER (CONT).

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY (CONT)		
Liquid Fuel Water Heater and Cabinet Top Cover/ Hexagon plain nuts (65) Internal tooth lock washers (66) Machine bolts (67) Cabinet frame (68) Skid assembly (69) Boiler assembly (70)	Remove 12 plain nuts (65), internal tooth lock washers (66), and machine bolts (67). Using at least two soldiers, carefully lift cabinet frame (68) from the skid assembly (69) and around boiler assembly (70).	



WARNING

During lifting operations of the boiler assembly (70), keep in mind that the refractory box assembly end may have refractory castable mix installed. This adds greatly to the weight at a rate of approximately 55 pounds per cubic foot. Make allowances for the center of gravity.

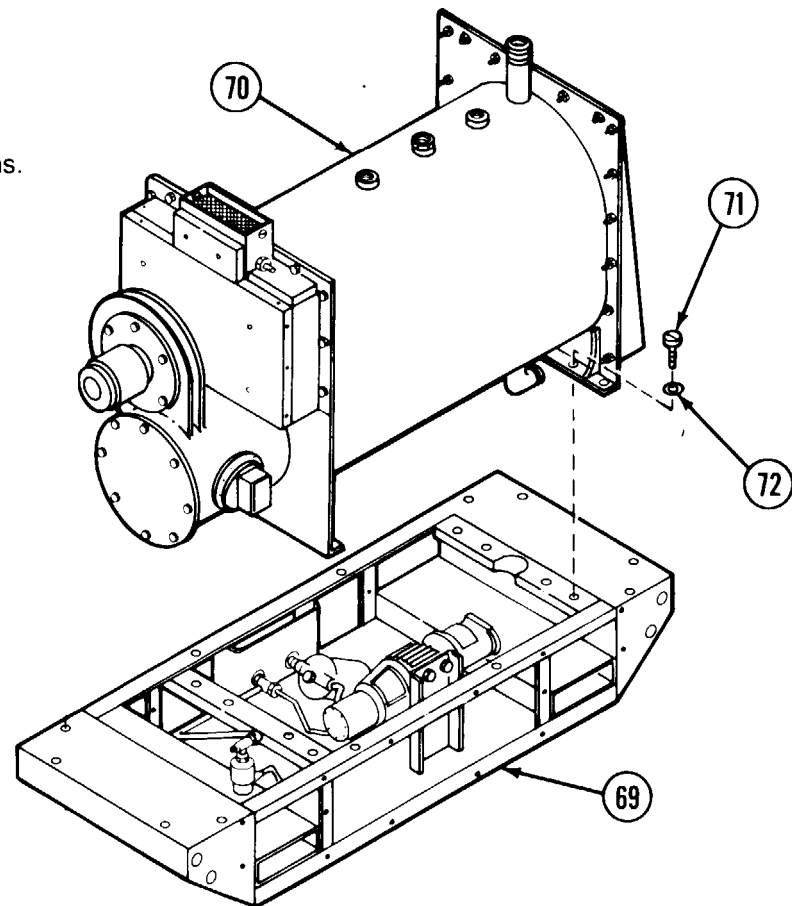
Hexagon head cap screws (71)
Internal tooth lock washers (72)

Remove eight hexagon head cap screws (71) and internal tooth lock washers (72). Use a suitable lifting device to lift boiler assembly (70) from skid assembly (69).

REPAIR

Liquid Fuel Water Heater and
Cabinet Top Cover/

Repair by replacing authorized unserviceable items.



2-33. LIQUID FUEL WATER HEATER AND CABINET TOP COVER (CONT).

LOCATION/ITEM

ACTION

REMARKS

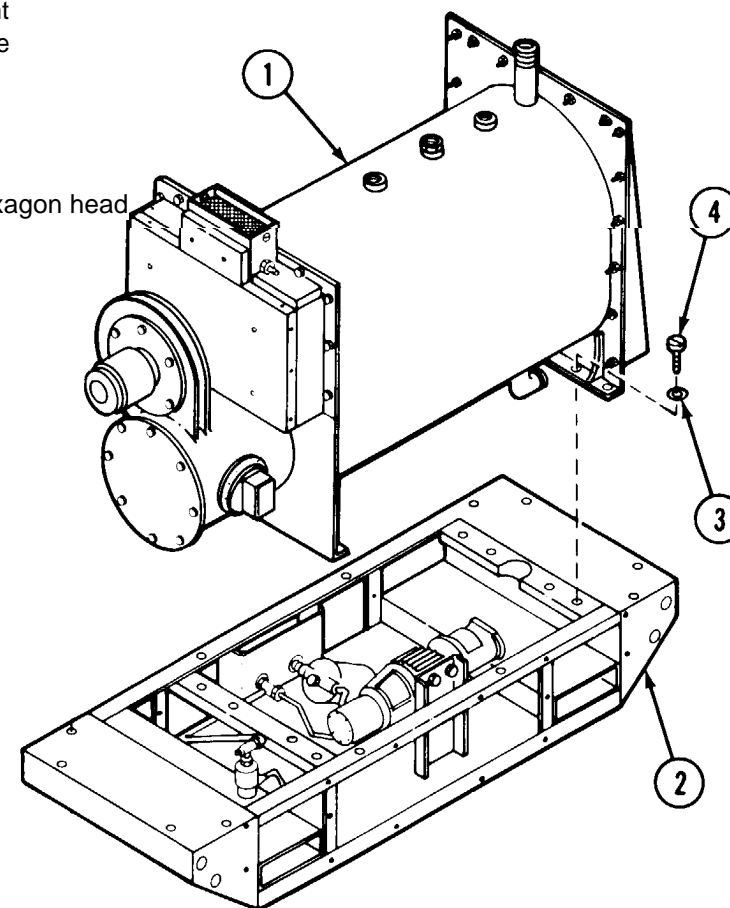
REASSEMBLY

Liquid Fuel Water Heater and
Cabinet Top Cover/WARNING

During lifting operations of the boiler assembly (1), keep in mind that the refractory box assembly end may have refractory castable mix installed. This adds greatly to the weight at a rate of approximately 55 pounds per cubic foot. Make allowances for the center of gravity.

Boiler assembly (1)
Skid assembly (2)
Internal tooth lock
washers (3)
Hexagon head cap
screws (4)

Use a suitable lifting device to lift boiler assembly (1) onto skid assembly (2), and align the eight mounting holes. Secure boiler assembly (1) with eight internal tooth lock washers (3) and hexagon head cap screws (4).



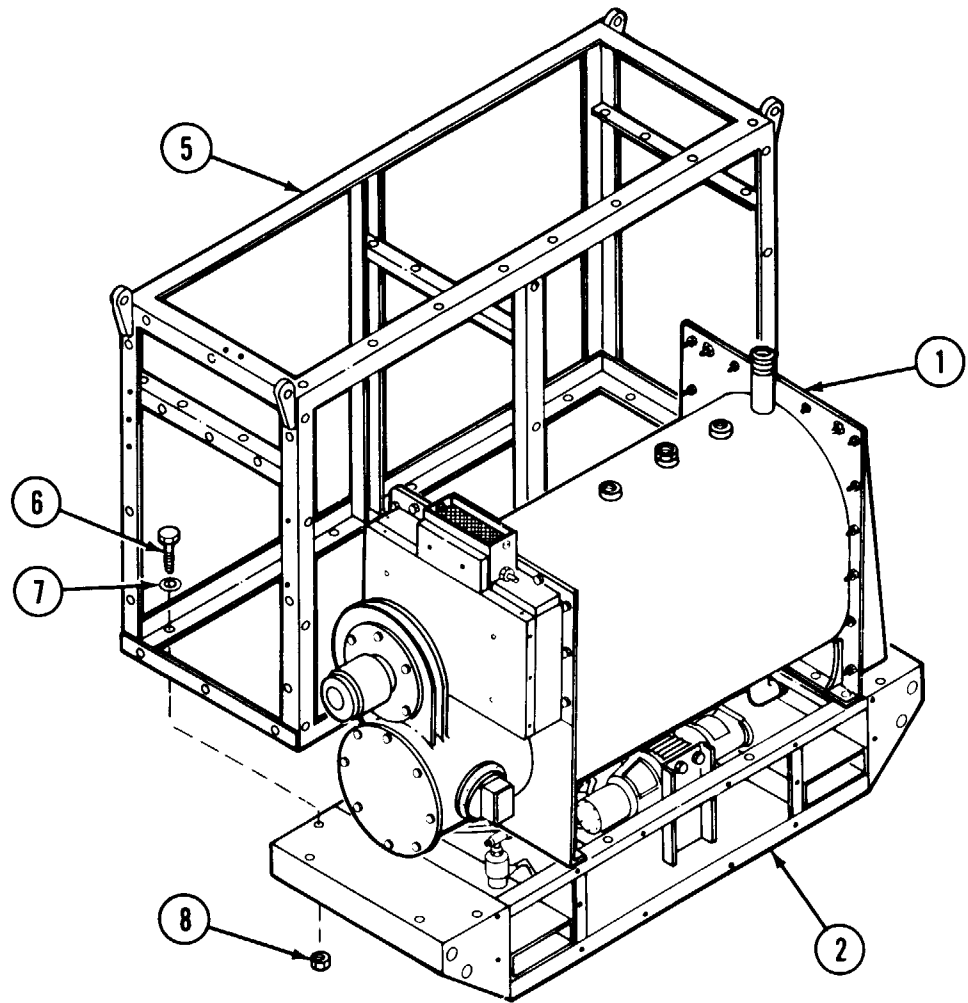
Cabinet frame (5)

Use at least two soldiers to lift cabinet frame (5) up and over the boiler assembly (1) and position it onto the skid assembly (2). Align the 12 mounting holes in the cabinet frame (5) and skid assembly (2).

Machine bolts (6)
Internal tooth lock
washers (7)

Install 12 machine bolts (6) through cabinet frame (5) and skid assembly, and secure underneath with 12 internal tooth lock washers (7) and hexagon plain nuts (8).

Hexagon plain nuts (8)



2-33. LIQUID FUEL WATER HEATER AND CABINET TOP COVER (CONT).

LOCATION/ITEM	ACTION	REMARKS
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REASSEMBLY (CONT)

Liquid Fuel Water Heater and
Cabinet Top Cover/

Control box (9)

Machine screws (10)

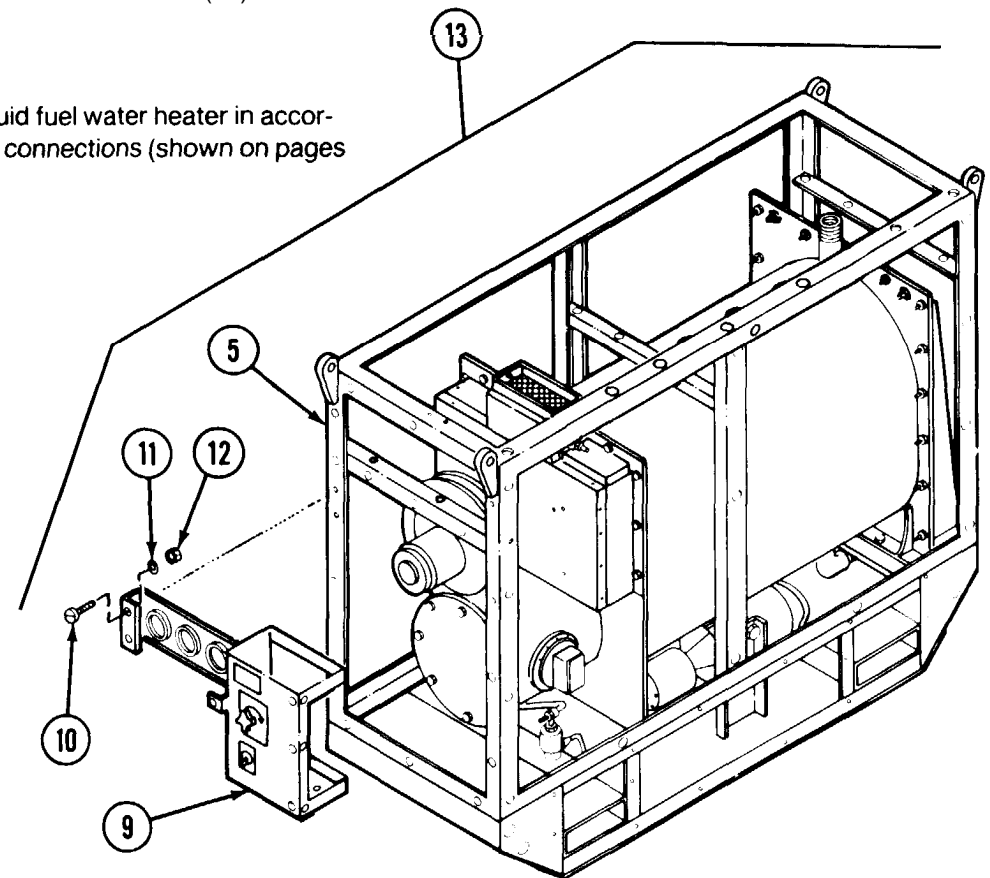
Internal tooth lock
washers (11)

Hexagon plain nuts (12)

Electrical wiring (13)

Position control box (9) into cabinet frame (5) and align the mounting holes. Install five machine screws (10) through the cabinet frame (5) and control box (9); secure with five internal tooth lock washers (11) and hexagon plain nuts (12).

Connect all electrical wiring (13) in the liquid fuel water heater in accordance with wiring schematic and table of connections (shown on pages 2-156 and 2-157).

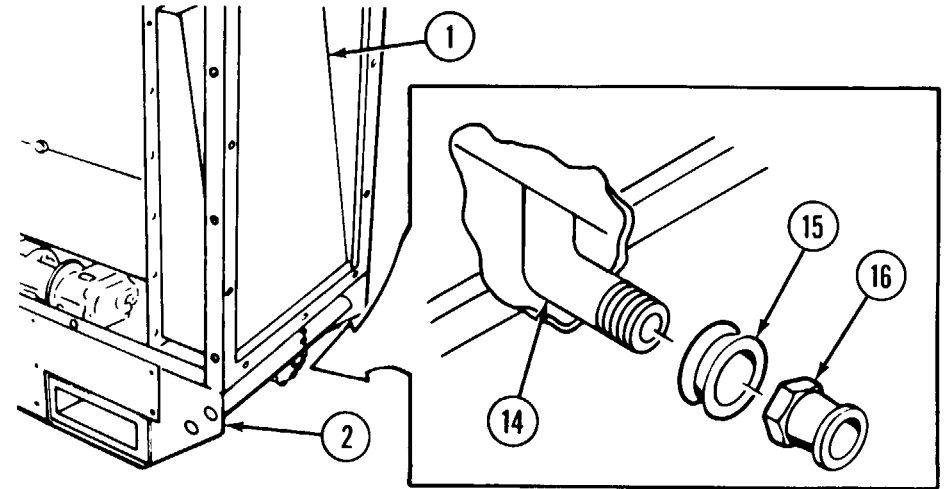


Pipe elbow (14)

Wrap antiseizing tape around external threads of the pipe elbow (14) located at the bottom of the boiler assembly (1).

Nonmetallic grommet (15)
Quick disconnect coupling half (16)

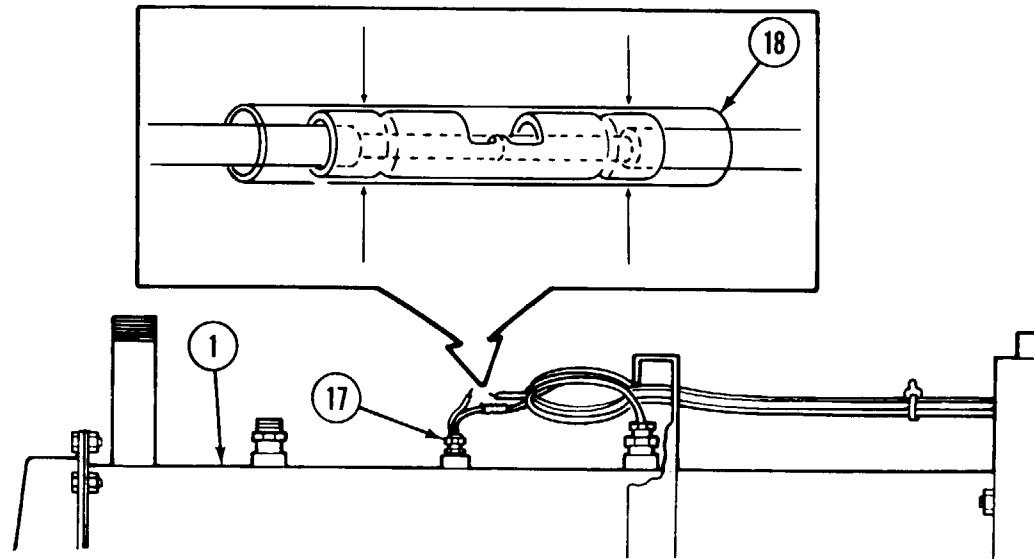
Insert nonmetallic grommet (15) into hole in the skid assembly (2). Screw quick disconnect coupling half (16) onto pipe elbow (14) and tighten.



Thermostatic switch (17)
Electrical splice (18)

Wrap antiseizing tape around the external threads of thermostatic switch (17) before installing into top of boiler assembly (1).

Install thermostatic switch (17) into top of boiler assembly (1) and tighten. Cut and strip electrical wire from thermostatic switch (17). Connect wires to the electrical wiring with two electrical splices (18). (See pages 2-154 and 2-155.)



2-33. LIQUID FUEL WATER HEATER AND CABINET TOP COVER (CONT).

LOCATION/ITEM	ACTION	REMARKS
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REASSEMBLY (CONT)

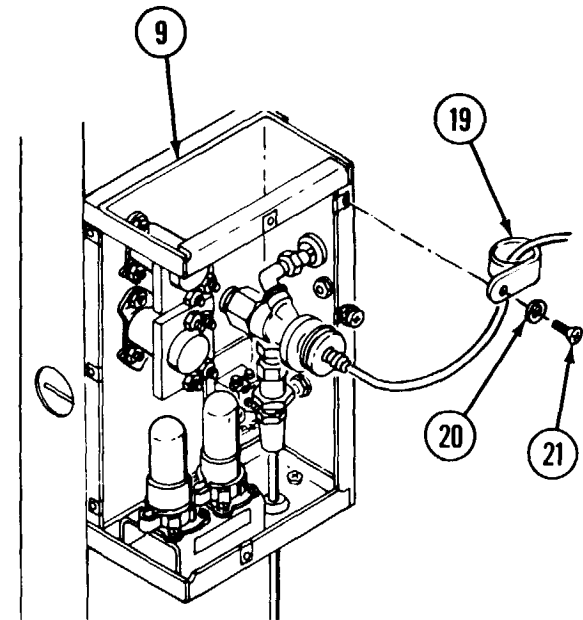
Liquid Fuel Water Heater and Cabinet Top Cover/

- Loop clamp (19)
- Internal tooth lock washer (20)
- Machine screw (21)

CAUTION

Do not bend or kink capillary tubes. Bends shall have a radius of 6 inches to prevent kinks. Any damage requires replacement.

Slide loop clamp (19) around capillary tubes and electrical wires. Position loop clamp (19) so it aligns with screw hole in the upper inboard part of the control box (9). Install internal tooth lock washer (20) and machine screw (21). Repeat for lower loop clamp holding wires running downward from control box (9).



Electrical tiedown strap (22)

Starting at the control box end of the wire bundle, install electrical tiedown straps (22) along entire length of electrical wires and capillary tube about four inches apart. Do not pull the electrical tiedown straps so tight that they smash the capillary tubes.

- Access cover (23)
- Internal tooth lock washers (24)
- Hexagon plain nuts (25)

Position access cover (23) onto front of the boiler assembly (1) and secure with three internal tooth lock washers (24) and hexagon plain nuts (25).

Nonmetallic grommet (26)

Slide nonmetallic grommet (26) around electrical wires and capillary tubes and slide nonmetallic grommet into the notched area of access cover (23).

Access cover (27)
Machine screws (28)
Internal tooth lock washers (29)
Hexagon plain nuts (30)

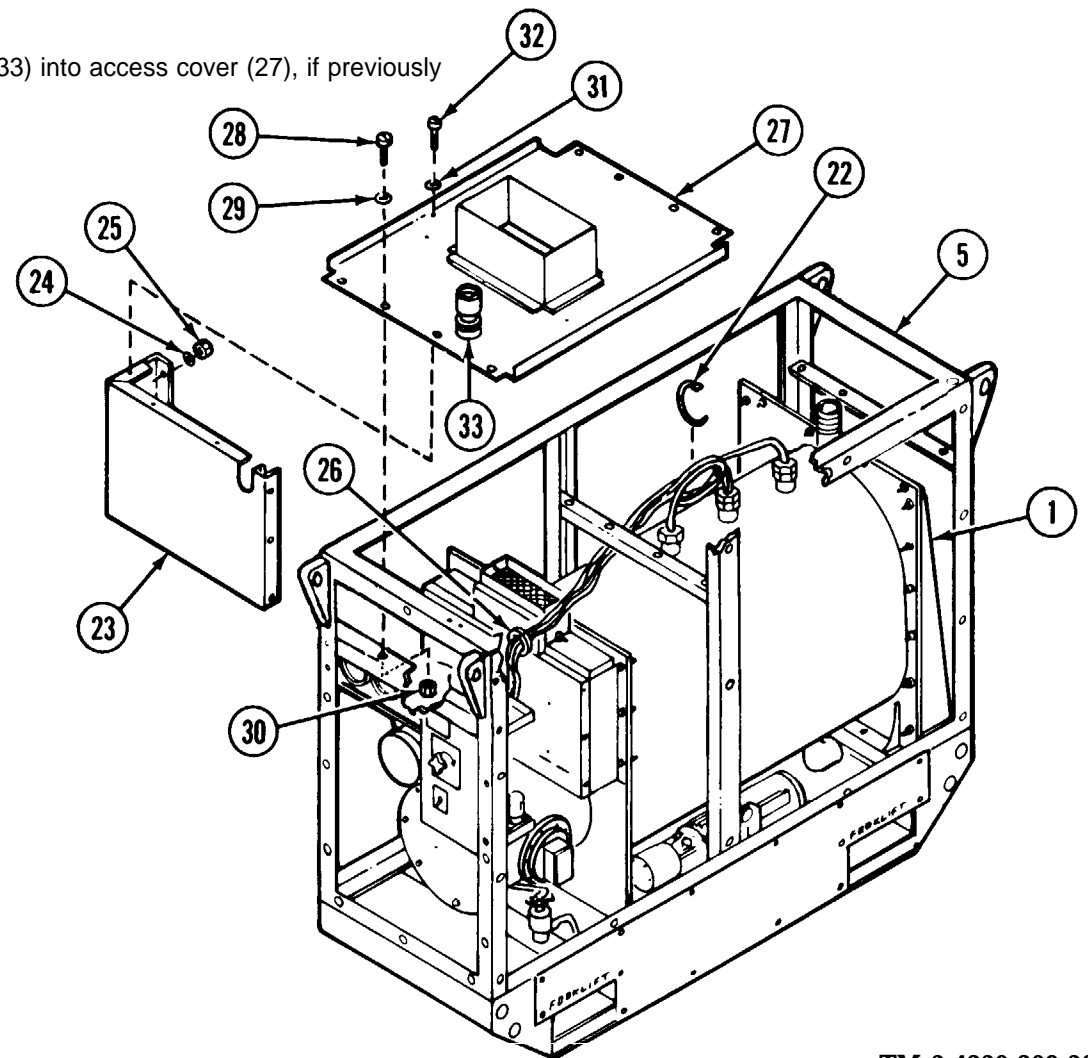
Insert access cover (27) into the cabinet frame (5) and line up the four holes in each end with holes in the cabinet frame (5). Install four machine screws (28), internal tooth lock washers (29), and hexagon plain nuts (30).

Internal tooth lock washers (31)
Machine screws (32)

Position access cover (23) to lineup the three holes with holes in access cover (27). Secure with three internal tooth lock washers (31) and machine screws (32).

Electrical box connector (33)

Screw electrical box connector (33) into access cover (27), if previously removed.



2-33. LIQUID FUEL WATER HEATER AND CABINET TOP COVER (CONT).

LOCATION/ITEM

ACTION

REMARKS

REASSEMBLY (CONT)Liquid Fuel Water Heater and
Cabinet Top Cover/Rear access cover (34)
Machine screws (35)
Internal tooth lock
washers (36)
Hexagon plain nuts (37)

Insert rear access cover (34) into cabinet frame (5). Position rear access cover (34) to align the eight end holes. Install eight machine screws (35) and secure with eight internal tooth lock washers (36) and hexagon plain nuts (37).

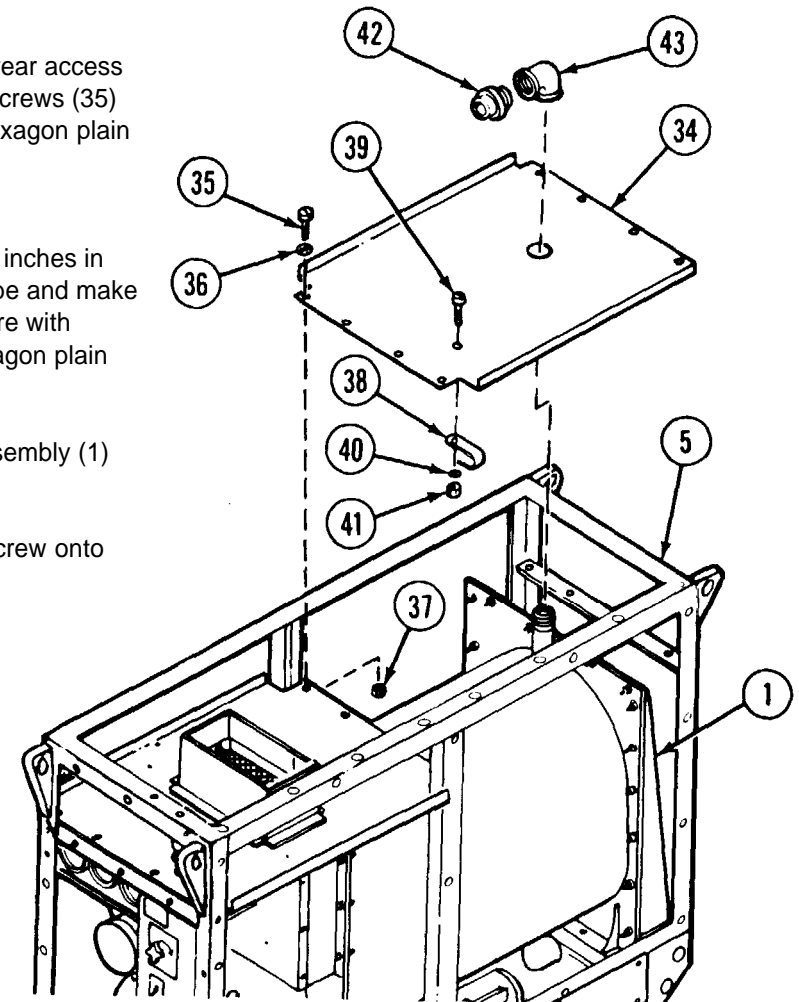
Loop clamp (38)
Machine screw (39)
Internal tooth lock
washer (40)
Hexagon plain nut (41)

Coil excess length of capillary tube into a coil no less than six inches in diameter. Slide loop clamp (38) around the coiled capillary tube and make sure capillary will not be pinched in the loop clamp (38). Secure with machine screw (39), internal tooth lock washer (40), and hexagon plain nut (41).

Quick disconnect
coupling (42)
Pipe elbow (43)

Wrap the male threads on the pipe coming from the boiler assembly (1) and quick disconnect coupling (42) with antiseizing tape.

Screw quick disconnect coupling (42) into pipe elbow (43). Screw onto pipe of boiler assembly (1) as a unit.



Cover (44)
Internal tooth lock washers (45)
Hexagon plain nuts (46)

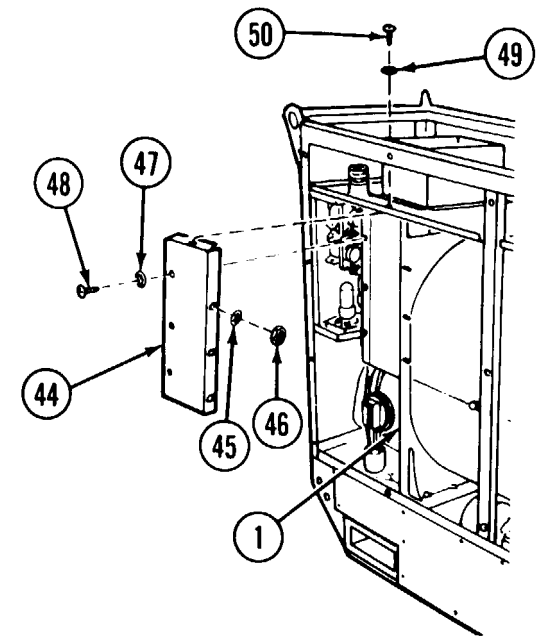
Install cover (44) onto the boiler assembly (1). Secure with three internal tooth lock washers (45) and hexagon plain nuts (46) on the boiler unit studs.

Internal tooth lock washers (47)
Machine screws (48)

Install three internal tooth lock washers (47) and machine screws (48).

Internal tooth lock washer (49)
Machine screw (50)

Install one internal tooth lock washer (49) and machine screw (50).

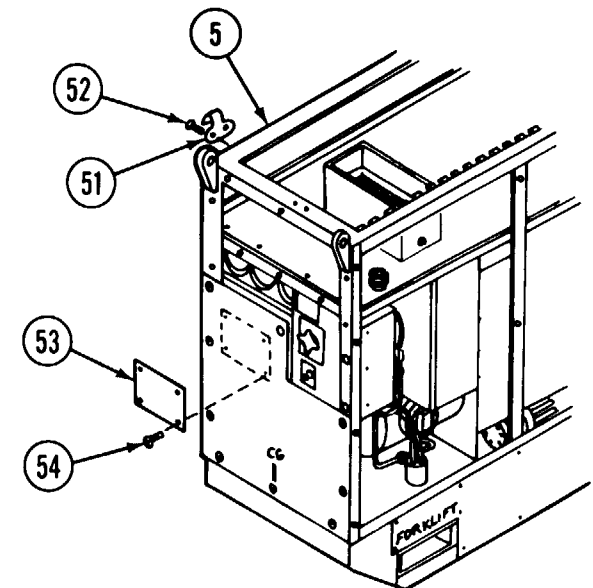


Clamping catch (51)
Solid rivets (52)

Position clamping catch (51) onto cabinet frame (5) upper edge, aline holes. Install two solid rivets (52) to secure. Repeat for clamp catch on other end of unit.

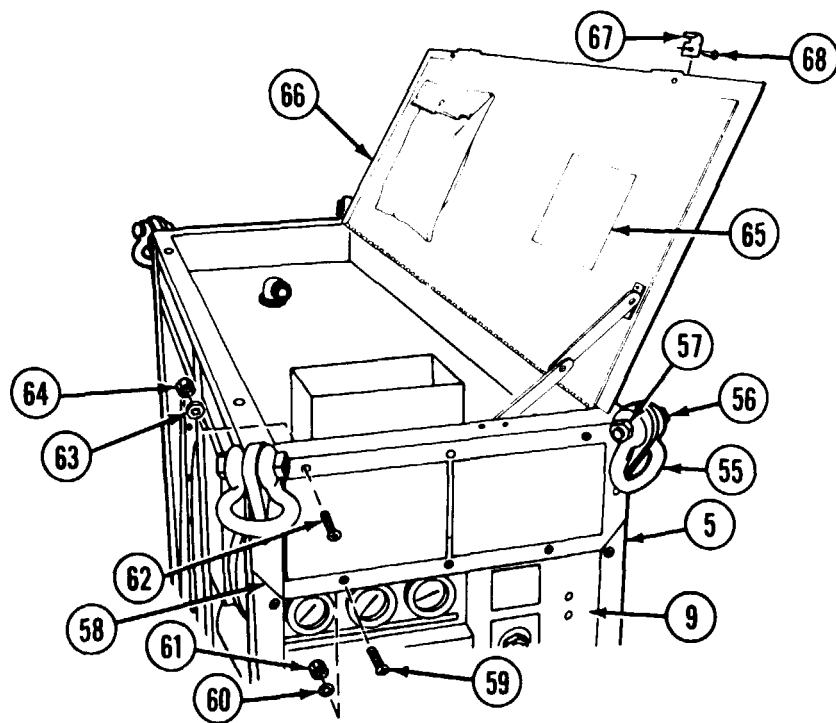
Identification plate (53)
Solid rivets (54)

Install identification plate (53), aline holes, and secure with four solid rivets (54).



2-33. LIQUID FUEL WATER HEATER AND CABINET TOP COVER (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Liquid Fuel Water Heater and Cabinet Top Cover/ Shackle (55) Bolt (56) Nut (57)	Slide shackle (55) into place and align holes. Install bolt (56) and nut (57). Tack weld nut (57) and bolt (56).	
Plate (58) Machine screws (59) Internal tooth lock washers (60) Hexagon plain nuts (61)	Position plate (58) onto cabinet frame (5) and align holes. Install three machine screws (59) through plate (58), cabinet frame (5), and top edge of control box (9). Secure with three internal tooth lock washers (60) and hexagon plain nuts (61).	Screws (59), washers (60), and nuts (61) may already be installed when control box was installed. If so, they will be removed and reinstalled correctly.
Machine screws (62) internal tooth lock washers (63) Hexagon plain nuts (64)	Install five machine screws (62) across top and sides of plate (58). Secure with five internal tooth lock washers (63) and hexagon plain nuts (64).	If new cabinet top cover is used, lineup upper and lower clamping catches to drill holes.
Decal (65) Cabinet top cover (66)	Apply new decal (65) to inside surface of cabinet top cover (66).	
Clamping catches (67) Solid rivets (68)	Position new clamping catches (67) over edge of cabinet top cover (66). Install two solid rivets (68) through clamping catch and cabinet top cover and secure.	
	Close cabinet top cover (66) and latch both clamping catches (67) to make sure they match.	



2-34. END PANEL.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

- Automotive Maintenance and Repair Field Maintenance
- Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)
- Camloc fastener pliers (4P3)
- Camloc fastener tool (T26)

References

TM 43-0139

Equipment Condition

End panel is removed from the water heater.

Materials/Parts

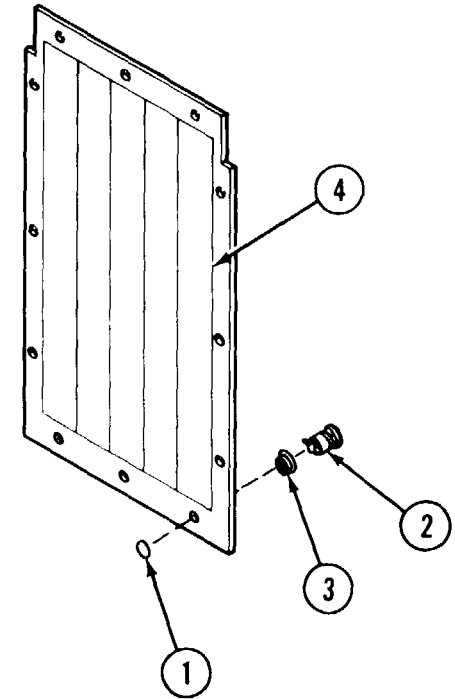
- Polyurethane coating (item 29, app C)
- Pressure sensitive tape (item 41, app C)
- Primer coating (item 30, app C)

2-34. END PANEL.

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

End Panel/ Retaining ring (1) Turnlock fastener stud assemblies (2) Turnlock fastener eyelets (3) Pressure sensitive tape (4)	Remove retaining rings (1), turnlock fastener stud assemblies (2), and turnlock fastener eyelets (3), as necessary. Scrape off and discard old pressure sensitive tape (4) from end panel.	
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End Panel/	Replace authorized unserviceable parts Repair actions include sheet metal straightening, smoothing and grinding, applying a primer coating, and applying a final protective coat of polyurethane coating. See TM 43-0139. Cut five strips of pressure sensitive tape (4), each 28.25 inches long, from bulk pressure sensitive tape.	
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REASSEMBLY

End Panel/ Retaining ring (1) Turnlock fastener stud assemblies (2) Turnlock fastener eyelets (3) Pressure sensitive tape (4)	Using camloc fastener tool and camloc fastener pliers, install turnlock fastener eyelets (3), turnlock fastener stud assemblies (2), and retaining rings (1), as necessary. Apply pressure sensitive tape (4) to inside of the end panel	
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2-35. FRONT PANEL.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)
Camloc fastener pliers (4P3)
Camloc fastener tool (T26)

References

TM 43-0139

Equipment Condition

Front panel is removed from the water heater

Materials/Parts

Polyurethane coating (item 29, app C)
Primer coating (item 30, app C)

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

DISASSEMBLY

Front Panel/

- Retaining ring (1)
- Turnlock fastener stud assemblies (2)
- Turnlock fastener eyelets (3)

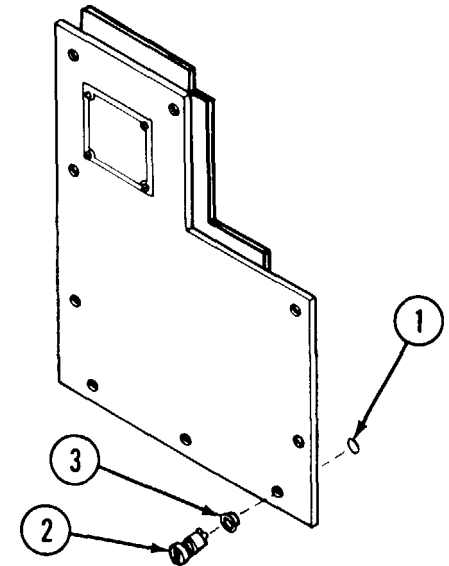
Using proper tools, remove retaining rings (1), turnlock fastener stud assemblies (2), and turnlock fastener eyelets (3), as necessary.

REPAIR

Front Panel/

Replace authorized unserviceable parts.

Repair actions include sheet metal straightening, smoothing and grinding, applying a primer coating, and applying a final protective coat of polyurethane coating. See TM 43-0139.



2-172

2-35. FRONT PANEL (CONT)

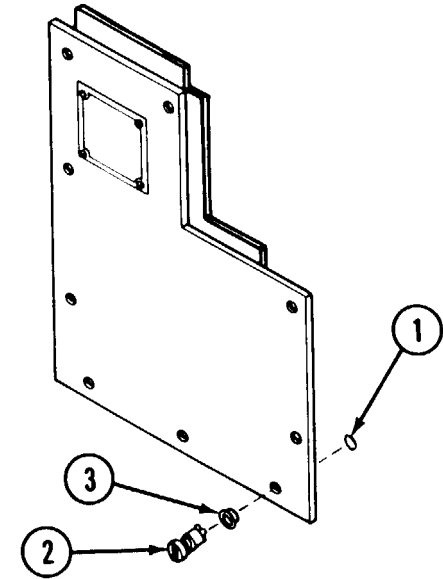
LOCATION/ITEM	ACTION	REMARKS
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REASSEMBLY

Front Panel/

- Retaining ring (1)
- Turnlock fastener stud assemblies (2)
- Turnlock fastener eyelets (3)

Using camloc fastener tool and camloc fastener pliers, install turnlock fastener eyelets (3), turnlock fastener stud assemblies (2), and retaining rings (1), as necessary.



2-36. SIDE PANEL

- This task covers:
- a. Disassembly
 - b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

- Automotive Maintenance and Repair Field Maintenance Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)
- Camloc fastener pliers (4P3)
- Camloc fastener tool (T26)

Materials/Parts

- Polyurethane coating (item 29, app C)

- Pressure sensitive tape (item 41, app C)
- Primer coating (item 30, app C)

References

- TM 43-0139

Equipment Condition

- Side panel is removed from the water heater.

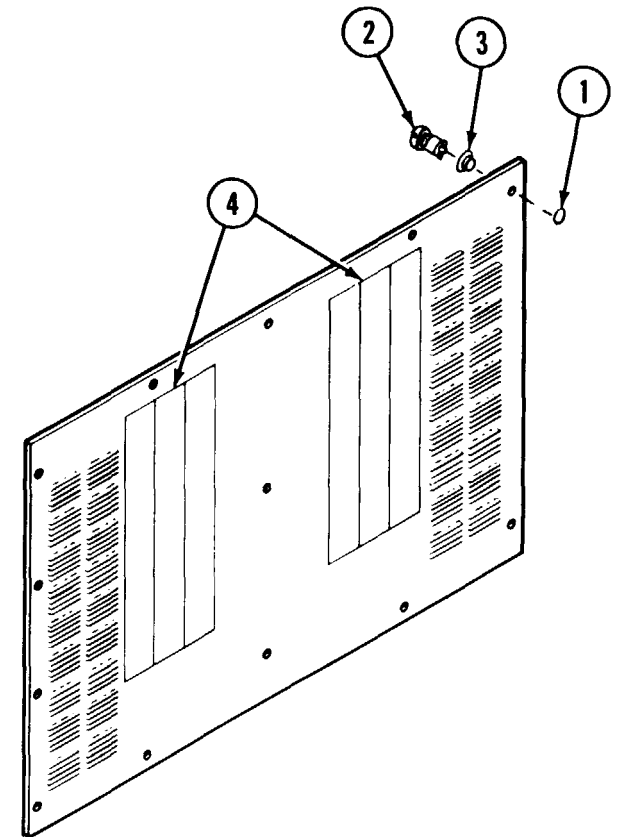
DISASSEMBLY

Side Panel/

- Retaining rings (1)
- Turnlock fastener stud assemblies (2)
- Turnlock fastener eyelets (3)
- Pressure sensitive tape (4)

Using proper tools, remove retaining rings (1), turnlock fastener stud assemblies (2), and turnlock fastener eyelets (3), as necessary.

Scrape off and discard old pressure sensitive tape (4) from side panel.



REPAIR

Side Panel/

Replace authorized unserviceable parts.

Repair actions include sheet metal straightening, smoothing and grinding, applying a primer coating, and applying a final protective coat of polyurethane coating. See TM 43-0139.

Cut six strips of pressure sensitive tape (4), each 21 inches long, from bulk pressure sensitive tape.

REASSEMBLY

Side Panel/

- Retaining ring (1)
- Turnlock fastener stud assemblies (2)
- Turnlock fastener eyelets (3)
- Pressure sensitive tape (4)

Using camloc fastener tool and camloc fastener pliers, install turnlock fastener eyelets (1), turnlock fastener stud assemblies (2), and retaining rings (1), as necessary.

Apply pressure sensitive tape (4) to inside of side panel.

2-37. CONTROL BOX ASSEMBLY.

This task covers:

- a. Disassembly
- b. Testing
- c. Repair
- d. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
 Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

References

TM 43-0139
 TB 43-180

Materials/Parts

Adhesive (item 1, app C)
 Polyurethane coating (item 29, app C)
 Pressure sensitive tape (item 41, app C)
 Primer coating (item 30, app C)
 Tube (fig D-33)
 Thermal insulation blanket (fig D-35)

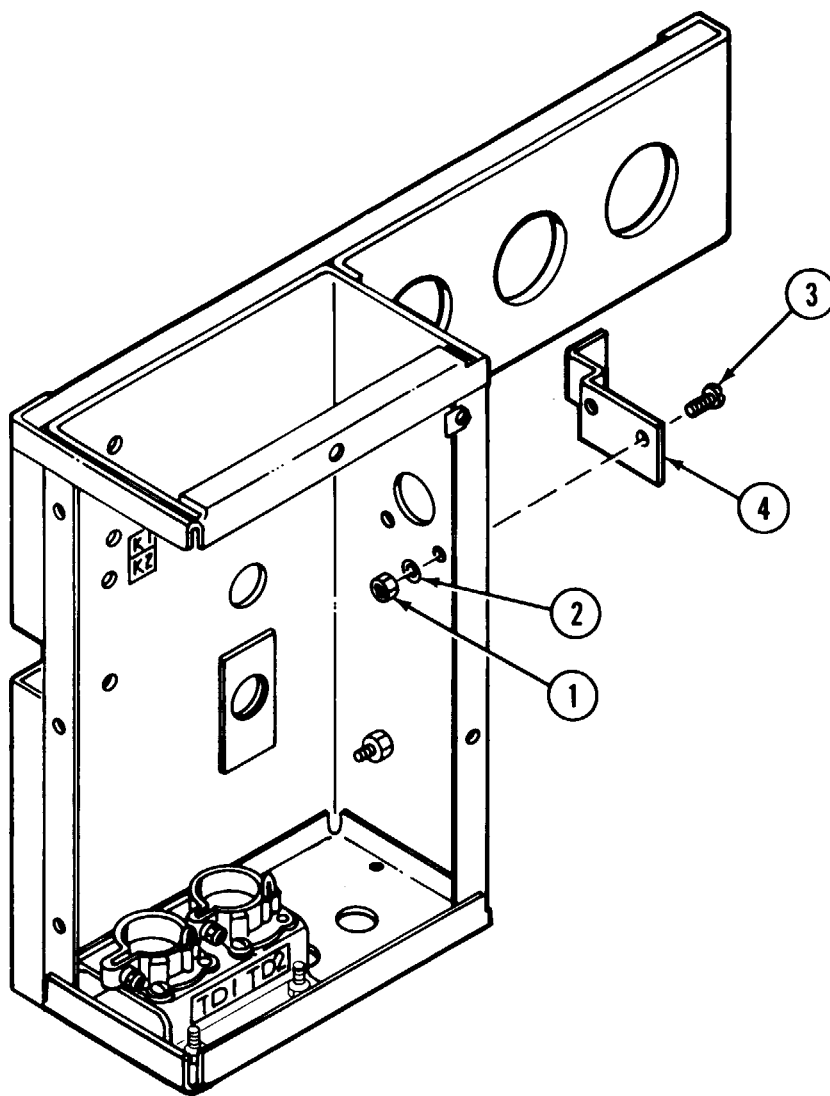
Equipment Condition

Unit maintenance authorized components removed in TM 3-4230-209-20&P.

LOCATION/ITEM	ACTION	REMARKS
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DISASSEMBLY

Control Box Assembly/ Hexagon plain nut (1) Internal tooth lock washer (2) Machine screw (3) Angle bracket (4)	Unscrew and remove two hexagon plain nuts (1), two internal tooth lock washers (2), and two machine screws (3). Remove angle bracket (4).	
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2-37. CONTROL BOX ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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DISASSEMBLY (CONT)

Control Box Assembly/

Switch identification plate (5)

Scrape off and discard switch identification plate (5), thermal delay relay identification plate (6), and relay identification plate (7) only if damaged.

Thermal delay relay identification plate (6)

Remove four hexagon plain nuts (8), internal tooth lock washers (9), and machine screws (10). Remove support (11).

Relay identification plate (7)

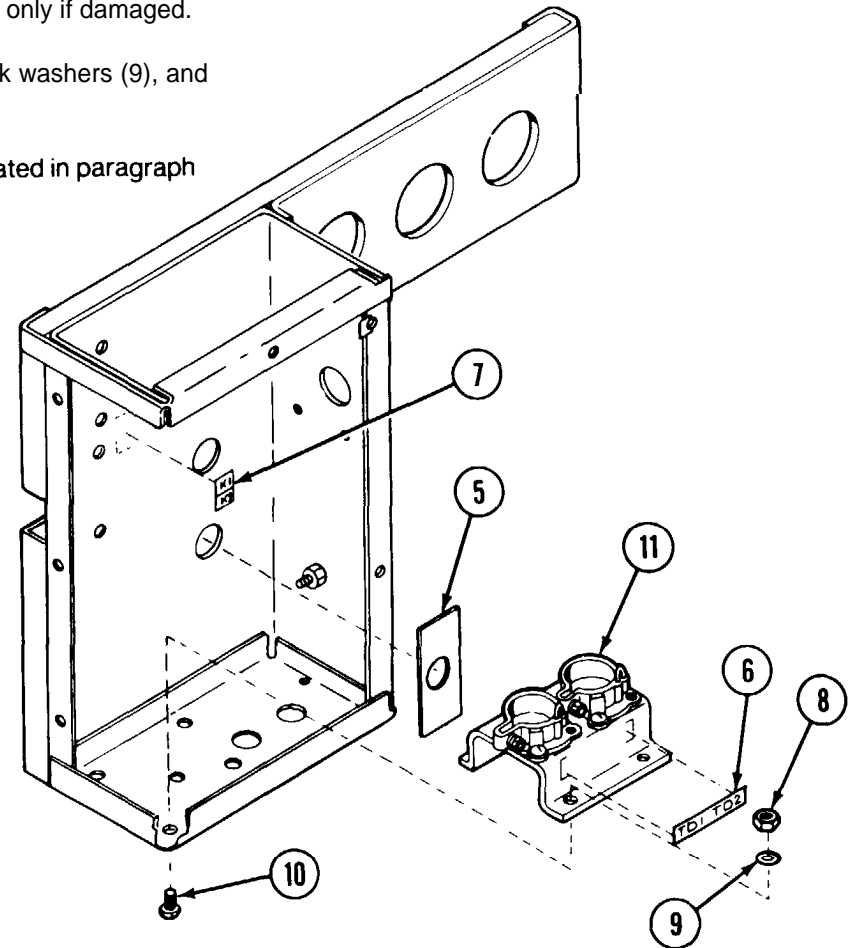
Hexagon plain nut (8)

Internal tooth lock washer (9)

Remove wiring from support (11). Wires will be fabricated in paragraph 2-43.

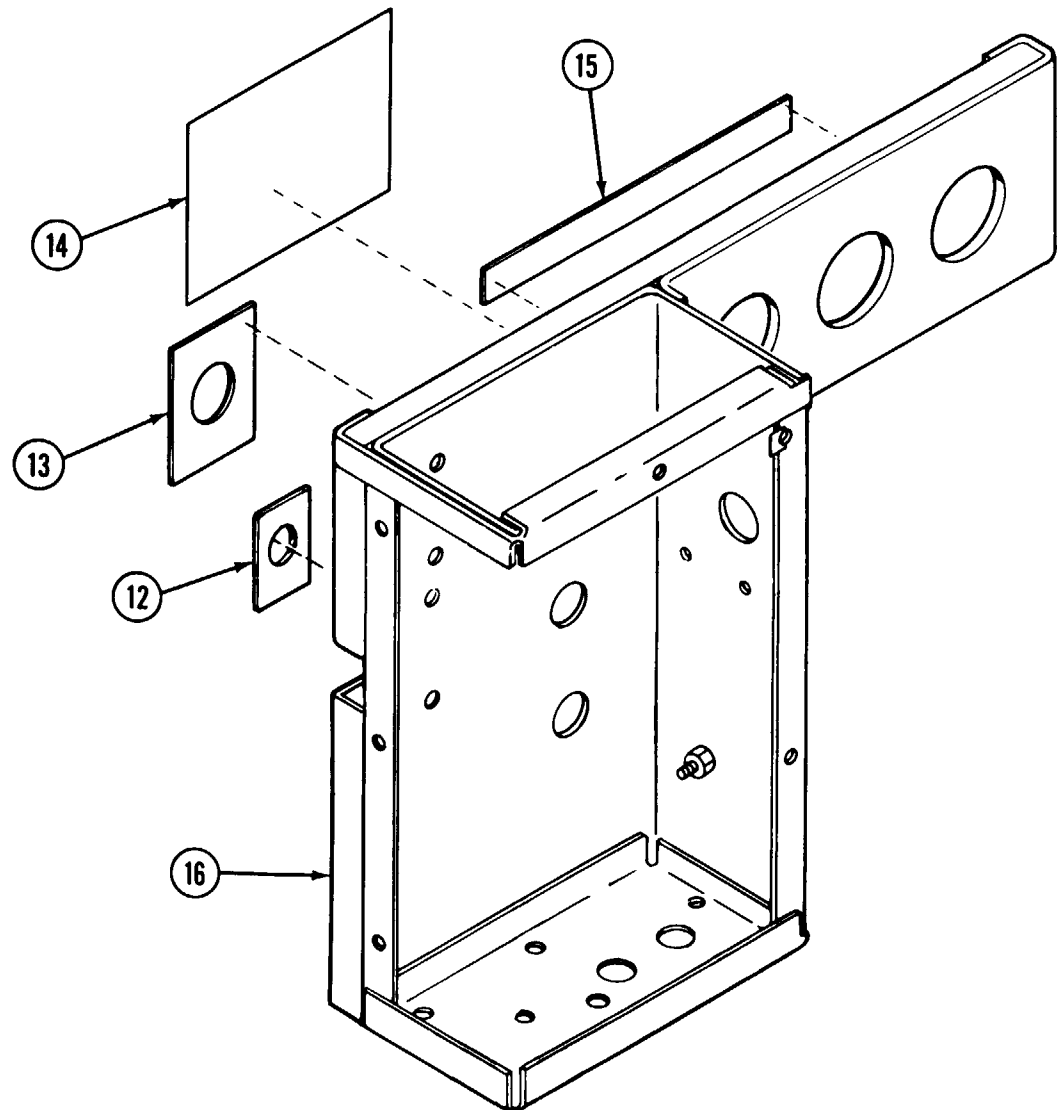
Machine screw (10)

support (11)

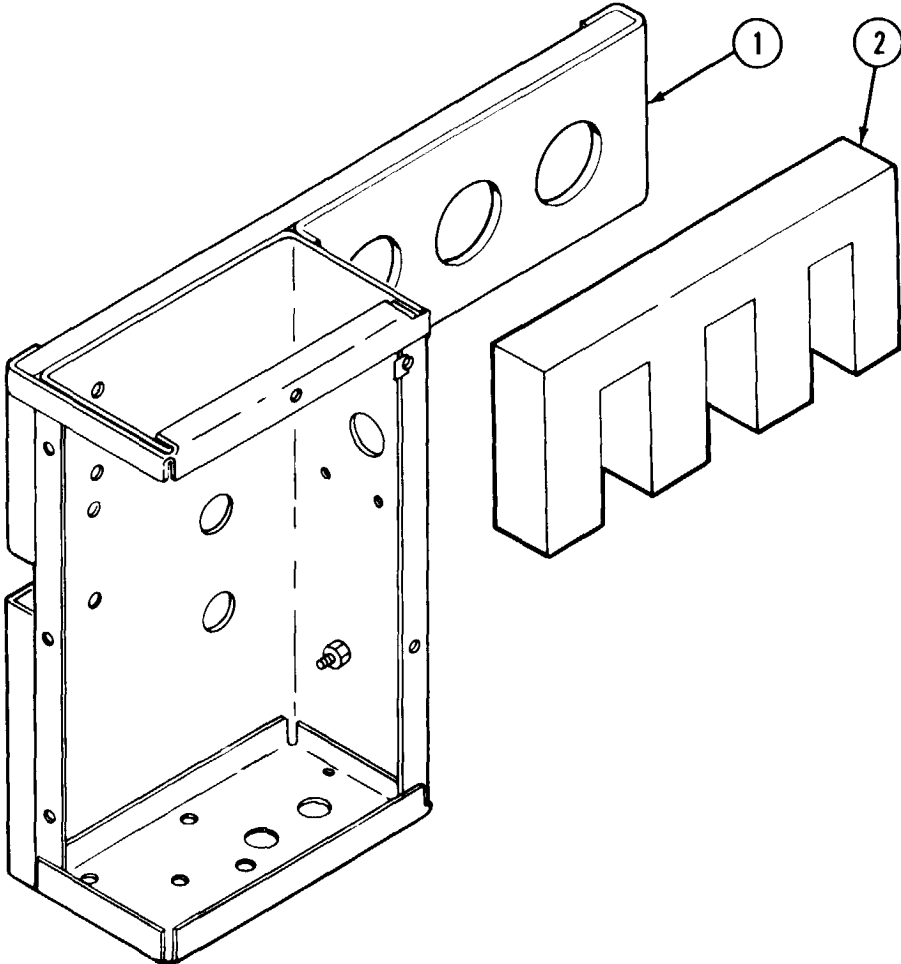


Heater control instruction
plate (12)
Temperature selector
instruction plate (13)
Decal (14)
Gage identification
plate (15)
Control box (16)

Scrape heater control instruction plate (12), temperature selector instruction plate (13), decal (14), gage identification plate (15) from control box (16) only if damaged.



2-37. CONTROL BOX ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
Control Box Assembly/ Water pressure gage Fuel pressure gage Indicating thermometer	Refer to TB 43-180 for gage and thermometer testing procedures.	
Control Box Assembly/ Control box (1)	Repair actions for control box (1) include sheet metal straightening, smoothing, grinding, applying a primer coating and a final protective coat of polyurethane coating. See TM 43-0139.	
Thermal insulation blanket (2)	If damaged, fabricate new thermal insulation blanket (2) according to figure D-35.	
Identification plates, decals, and instruction plates	Rebond loose identification plates, decals, and instruction plates with adhesive.	

REASSEMBLY

Control Box Assembly/

Gage identification plate (1)

Decal (2)

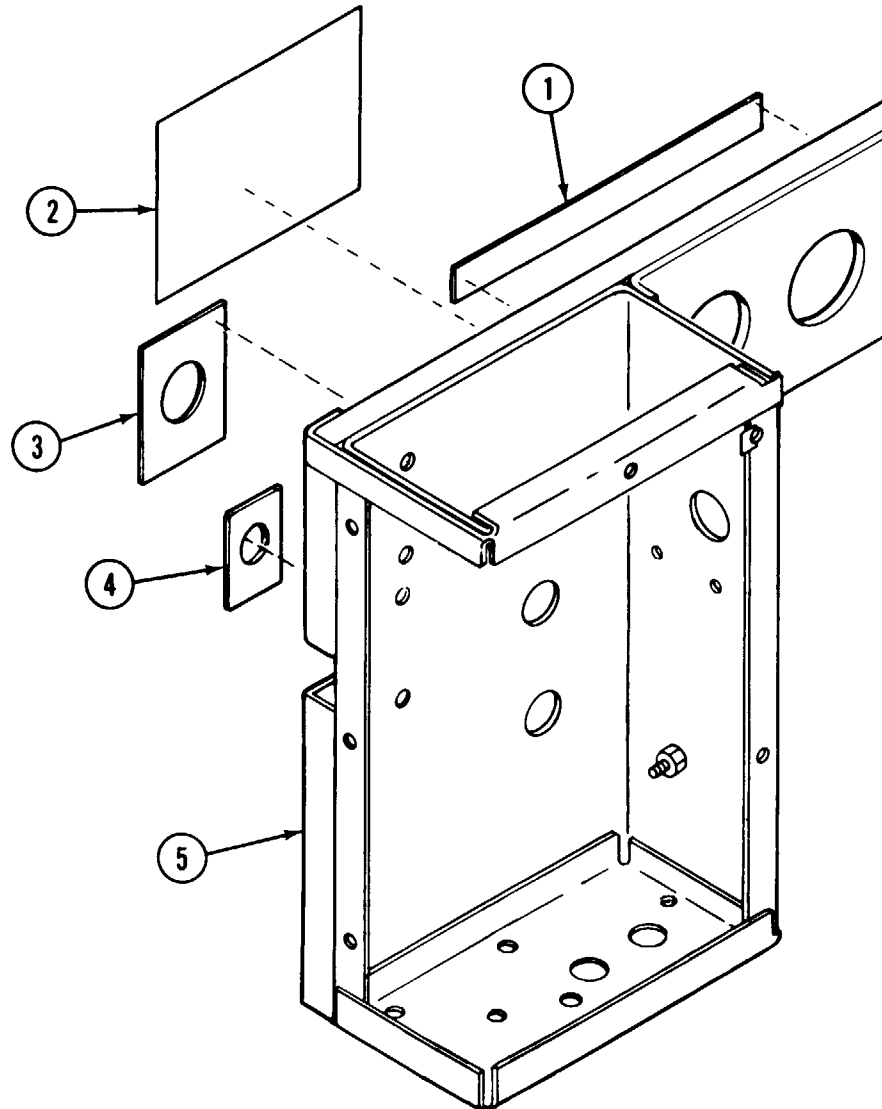
Temperature selector
instruction plate (3)

Heater control instruction
plate (4)

Control box (5)

Support (6)

If removed, install new gage identification plate (1), decal (2), temperature selector instruction plate (3), and heater control instruction plate (4) onto front of control box (5).



2-37. CONTROL BOX ASSEMBLY (CONT).

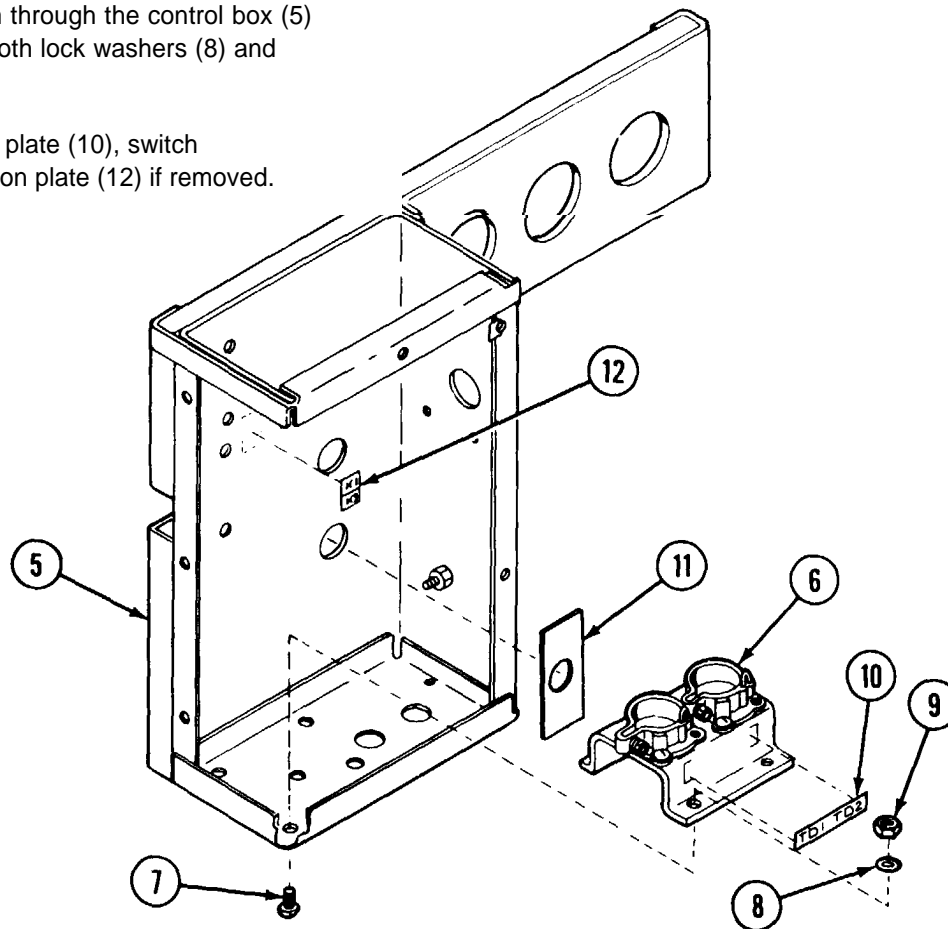
LOCATION/ITEM	ACTION	REMARKS
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Control Box Assembly/
 Machine screw (7)
 Internal tooth lock
 washer (8)
 Hexagon plain nut (9)

Position support (6) into control box (5) and align the four holes. Insert four machine screws (7) up from the bottom through the control box (5) and support (6). Secure with four internal tooth lock washers (8) and hexagon plain nuts (9).

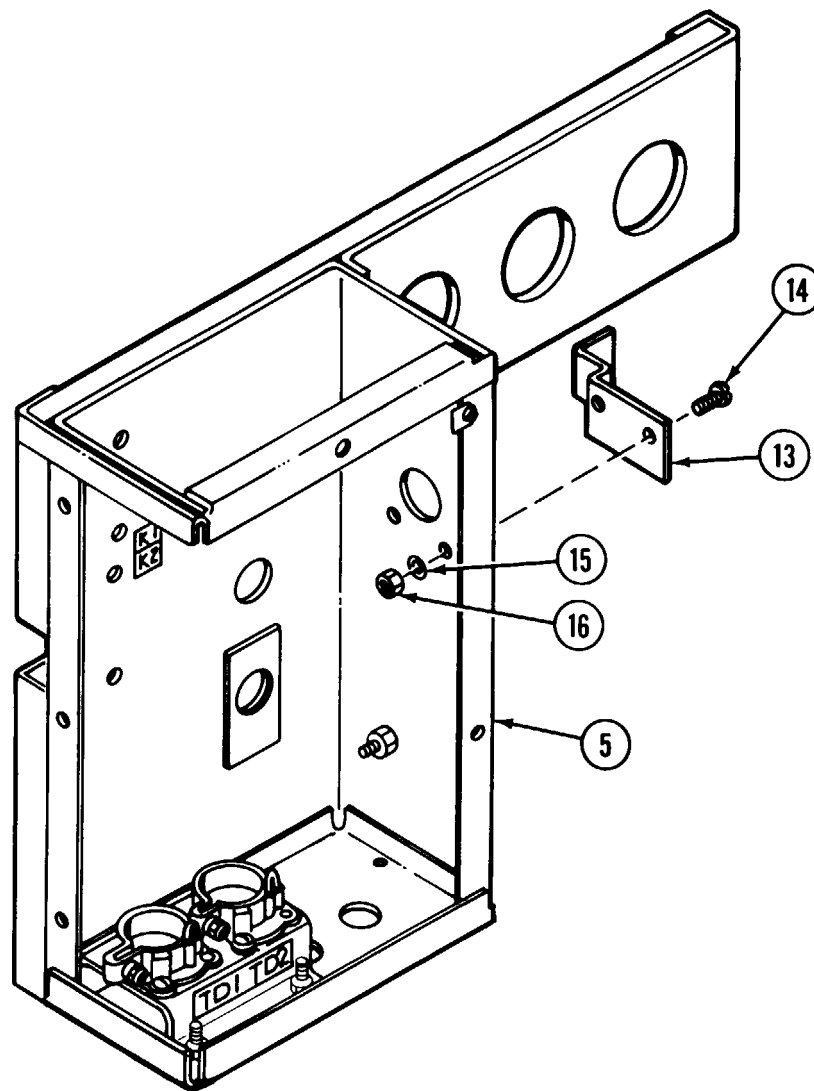
Thermal delay relay
 identification plate (10)
 Switch
 identification
 plate (11)
 Relay identification
 plate (12)

Install new thermal delay relay identification plate (10), switch
 identification plate (11), and relay identification plate (12) if removed.



Angle bracket (13)
Machine screw (14)
Internal tooth lock
washer (15)
Hexagon plain nut (16)

Position angle bracket (13) onto control box (5) and align the holes. Install two machine screws (14) and secure with internal tooth lock washer (15) and hexagon plain nut (16).



2-38. SELECTOR VALVE LINE.

This task covers repair

INITIAL SETUP*Tools and Special Tools*

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition

Selector valve line removed from heater unit

Materials/Parts

Tube (fig D-33)

LOCATION/ITEM	ACTION	REMARKS
REPAIR		
Selector Valve Line/	Fabricate new selector valve line in accordance with figure D-33.	

2-39. WATER PRESSURE LINE.

This task covers repair.

INITIAL SETUP*Tools and Special Tools*

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition

Water pressure line removed from heater unit.

Materials/Parts

Water pressure line (fig D-31)

LOCATION/ITEM	ACTION	REMARKS
REPAIR		
Water Pressure Line/	Fabricate new water pressure line in accordance with figure D-31.	

2-40. SELECTOR RETURN LINE.

This task covers repair.

INITIAL SETUP*Tools and Special Tools*

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition

Selector return line removed from heater unit.

Materials/Parts

Selector return line (fig D-30)

LOCATION/ITEM

ACTION

REMARKS

REPAIR

Selector Return Line/

Fabricate new selector return line in accordance with figure D-30.

2-41. FUEL PRESSURE LINE.

This task covers repair.

INITIAL SETUP*Tools and Special Tools*

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition

Fuel pressure line removed from heater unit.

Materials/Parts

Fuel pressure line (fig D-29)

LOCATION/ITEM

ACTION

REMARKS

REPAIR

Fuel Pressure Line/

Fabricate new fuel pressure line in accordance with figure D-29.

2-42. POWER CABLE ASSEMBLY.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
 Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition

Power cable is removed from the water heater.

Materials/Parts

Silicone compound (item 33, app C)
 Power cable (fig D-34)

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

DISASSEMBLY

Power Cable Assembly/

- Screw (1)
- Strap (2)
- Electrical cable clamp (3)
- Power cable (4)

Unscrew and remove the two screws (1) and strap (2) located on the back of electrical cable clamp (3). Unscrew electrical cable clamp (3) and slide it back on power cable (4).

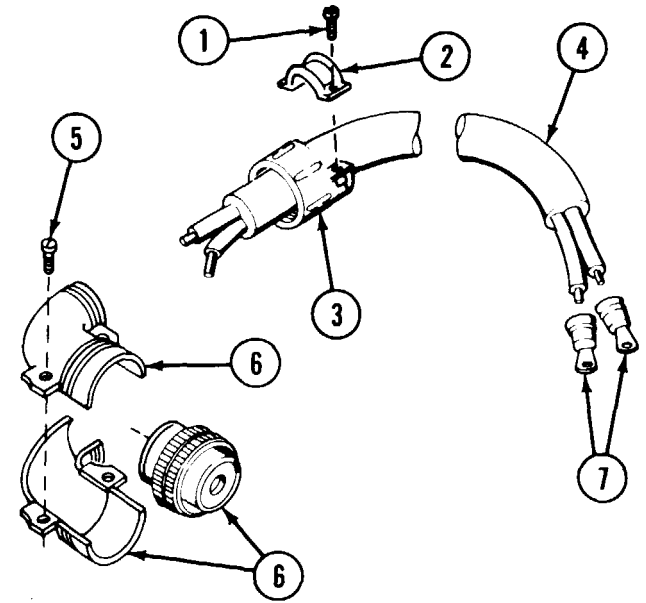
- Screws (5)
- Electrical plug connector (6)

Unscrew and remove the two screws (5) in electrical plug connector (6). Separate, the two halves.

Using proper tools, cut and scrape off the silicone compound encasing the wires. Unsolder the wires and remove power cable (4).

Lug terminals (7)

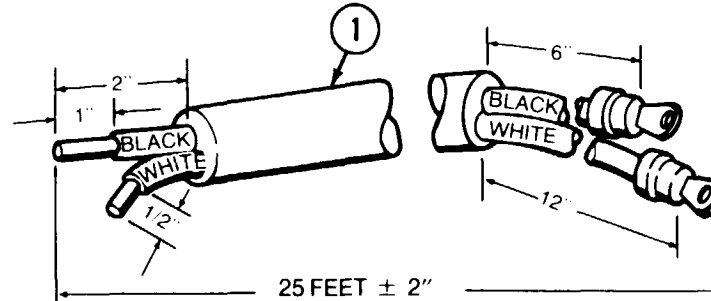
Cut two lug terminals (7) off the other end of power cable (4).



REPAIR

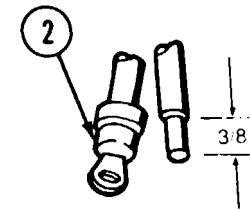
Power Cable Assembly/ Power cable (1)

Assemble new power cable (1) by fabricating electrical wire according to figure D-34. Strip the electrical wire as shown in the illustration below. Replace power cable (1) if it is less than 22 feet long.



Lug terminals (2)

Strip approximately 3/8 inch of the rubber coating off the black and white wires, and insert the wires through two lug terminals (2). Using the proper tools, crimp two lug terminals (2) onto the two wires.



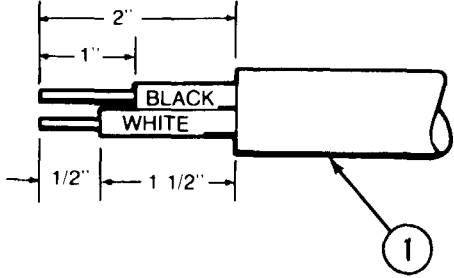
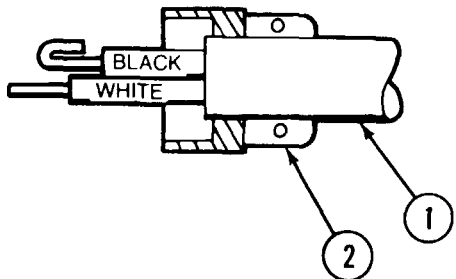
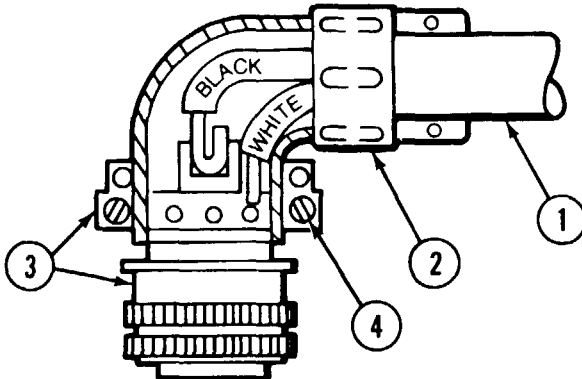
Electrical wire (3) Connector pin (4)

Using soldering equipment, unsolder the electrical wire (3) from the connector pin (4) and remove any broken wire strands.

Strip one inch of the rubber coating off the black wire and bend 1/2 inch of the wire back against itself. Insert the folded black wire into the connector pin (4) and solder.

The white wire is held against the inner metal strip and the outer metal elbow section of the electrical plug connector when assembled.

2-42. POWER CABLE ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY		
Power Cable Assembly/ Power cable (1)	Strip power cable (1) to the proper length as shown in the illustrations.	
Electrical cable clamp (2)	With the screws and strap removed from electrical cable clamp (2), slide it back on power cable (1) with the screw holes facing the long part of power cable (1). Fold the bared end of the black wire back against itself.	
Electrical plug connector (3) Screws (4)	Insert the folded black wire into the contact of electrical plug connector (3), solder the connection, and let it cool.	
	Carefully bend power cable (1) 90 degrees and lay it in one half of electrical plug connector (3) rear section. Align the keyway with power cable (1). Position the white wire (bared part) against the upper part of electrical plug connector (3). Then place the second half of electrical plug connector (3) rear section on top, insert two screws (4), and tighten.	
	Screw electrical cable clamp (2) onto electrical plug connector (3) and tighten handtight.	

- Strap (5)
- Screw (6)
- Lug terminal (7)
- Hole (8)

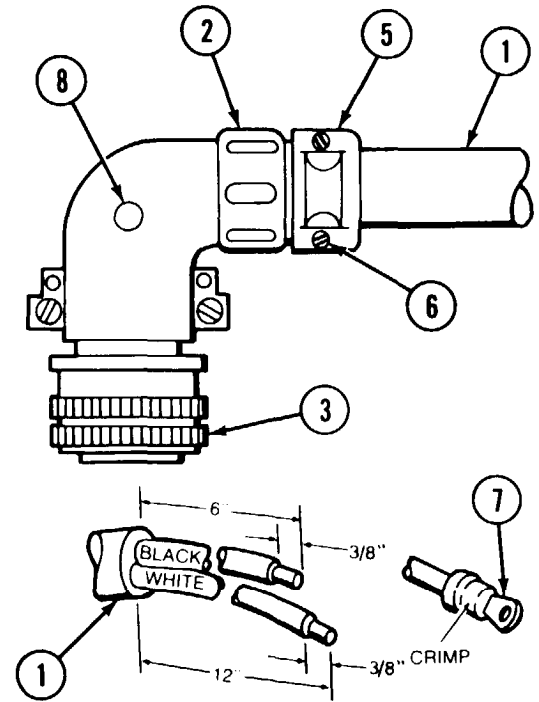
Position the strap (5) over the rear section of electrical cable clamp (2), insert two screws (6) through the strap and into electrical cable clamp (2) tapped holes, and tighten.

Strip and cut the other end of electrical power cable (1) to the lengths shown in the illustration. Install two lug terminals (7) on power cable (1) so its bare wires just protrude through the lug terminal barrel. Using proper tools, crimp lug terminals (7) to power cable (1).

Using a multimeter set at XI, zero the meter and measure the resistance between lug terminal (7) on white wire and the outside of electrical plug connector (3). The multimeter should read nearly zero ohms. Check from lug terminal (7) on black wire to electrical plug connector (3) contact pin with the multimeter. The multimeter should read nearly zero ohms.

Using a multimeter set to highest X setting, zero the meter and measure the resistance between the electrical plug connector (3) contact pin and the outer shell. The multimeter should read near infinite resistance.

Using silicone compound, fill electrical plug connector (3) rear section through the small hole (8) on the side and let it dry.



2-43. ELECTRICAL WIRING.

This task covers:

- a. Disassembly
- b. Repair
- c. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
 Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition

Wiring is removed from the water heater.

Materials/Parts

Electrical leads (fig D-36 thru D-55)

LOCATION/ITEM	ACTION	REMARKS
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DISASSEMBLY

Electrical Wiring/

Electrical leads (1 thru 20)
 Lug terminals (21)

Disassemble electrical leads (1 thru 20) listed in table on page 2-155 by cutting off any unserviceable lug terminals (21) except for electrical lead (18) which has an electrical plug connector.

Screws (22)
 Strap (23)
 Electrical connector cable clamp (24)
 Electrical conduit adapter (25)
 Electrical wire (26)
 Electrical plug connector (27)

Disassemble electrical lead (18) using the following steps:

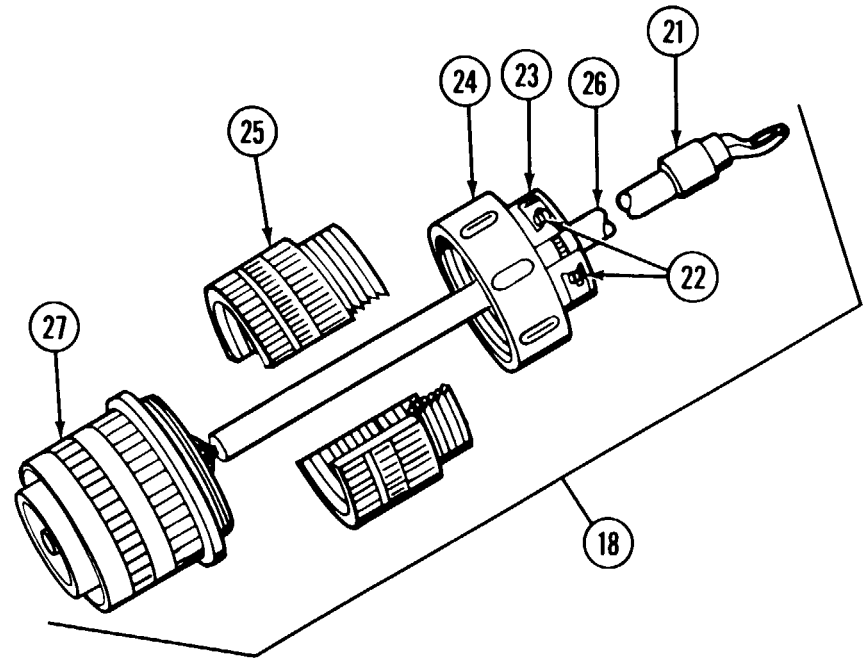
Step 1. Unscrew and remove two screws (22) and a strap (23) located on electrical connector cable clamp (24).

Step 2. Unscrew and slide electrical connector cable clamp (24) and electrical conduit adapter (25) back on electrical wire (26).

Step 3. Unsolder electrical wire (26) from electrical plug connector (27) contact pin.

Step 4. If required, slide electrical conduit adapter (25) and electrical connector cable clamp (24) off electrical wire (26).

Step 5. Cut off lug terminal (21) on the other end only if it is damaged.



REPAIR

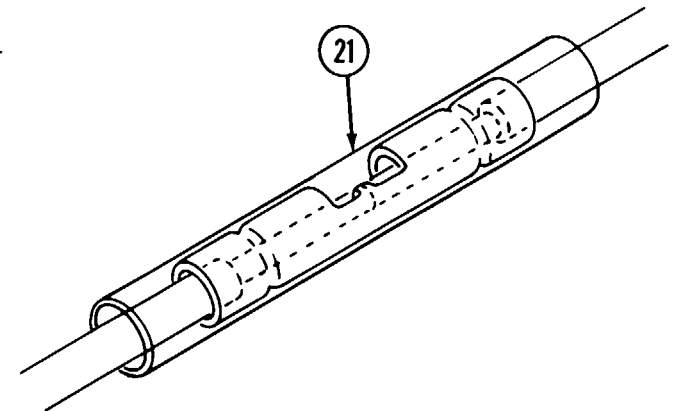
Electrical Wiring/
Electrical leads (1 thru 20)

Electrical leads (1 thru 20) are assembled during the repair procedures for electrical wiring. Refer to the table on page 2-157 to find the applicable figure in appendix D for electrical wire fabrication.

Splice connector (21) is also assembled during the repair procedures for electrical wiring.

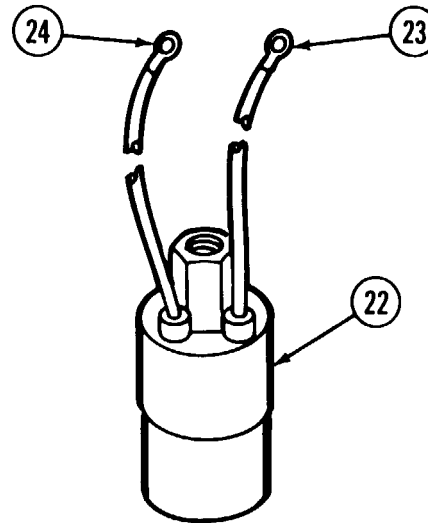
Electrical wires (1 thru 20)

Fabricate new electrical wires (1 thru 20). See table on page 2-157. Refer to wiring schematic on page 2-156 for wire location.



2-43. ELECTRICAL WIRING (CONT).

LOCATION/ITEM	ACTION	REMARKS
REPAIR (CONT)		
Electrical Wiring/ Splice connector (21) Fuel pump solenoid valve (22) Terminal lug (23) Terminal lug (24)	<p>Using splice connector (21) on the ends of electrical leads (6 and 12, shown on schematic on page 2-156), connect control box wiring to the temperature limit switch (S1).</p> <p>The fuel pump solenoid valve (22) wiring can be repaired by stripping approximately 3/8 inch insulation from the wire. Insert lug terminal (23) on the ground wire and lug terminal (24) on the input lead. Using the proper tools, crimp both lug terminals onto the ends of the electrical wire.</p>	<p>The two electrical wires from the fuel solenoid valve are not components of the electrical wiring. They are furnished with the fuel pump solenoid valve.</p>

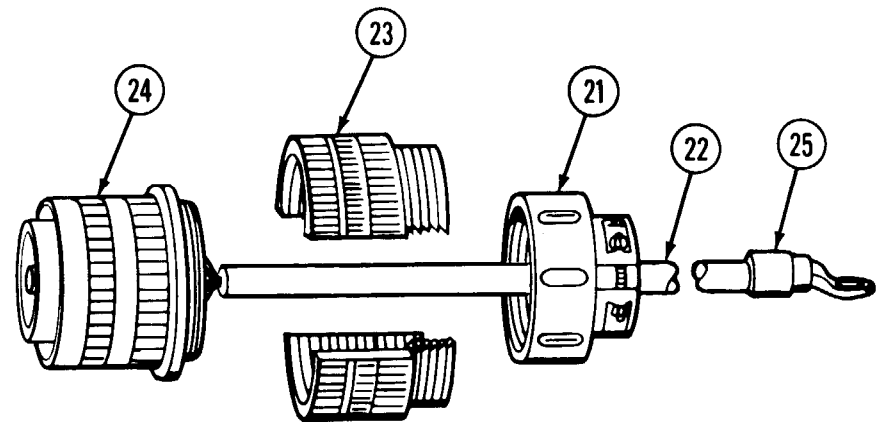


REASSEMBLY

Electrical Wiring/

Electrical leads (1 thru 20)
Electrical connector
table clamp (21)
Electrical wire (22)
Electrical conduit
adapter (23)
Electrical plug
connector (24)
Lug terminal (25)

The electrical leads (1 thru 20), electrical connector cable clamp (21), electrical wire (22), electrical conduit adapter (23), electrical plug connector (24), lug terminal (25), and splice connector are repaired and reassembled, as necessary, during the repair procedures for the electrical wiring.



2-44. FUEL HOSE ASSEMBLY AND FILLER OPENING CAP ASSEMBLY.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Materials/Parts

Electrical insulation tape (item 40, app C)
Gasket (fig D-1 5)

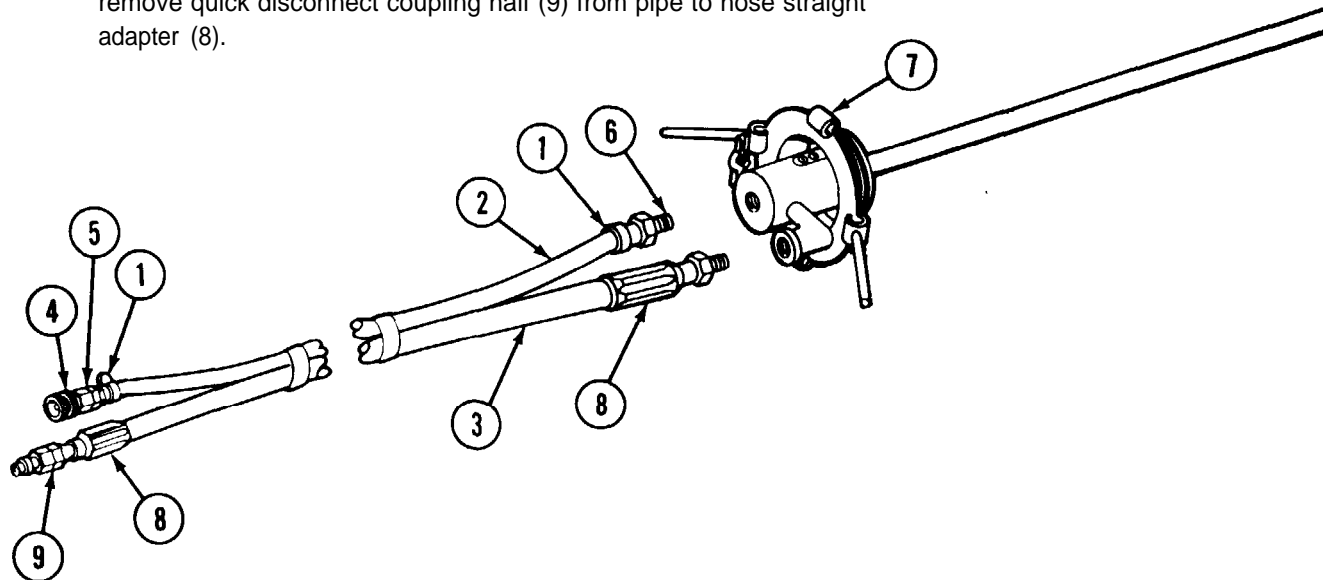
Nonmetallic hose (fig D-56)
Lubricant oil (item 24, app C)

Equipment Condition

Fuel hose is removed from the water heater.

2-44. FUEL HOSE ASSEMBLY AND FILLER OPENING CAP ASSEMBLY (CONT).

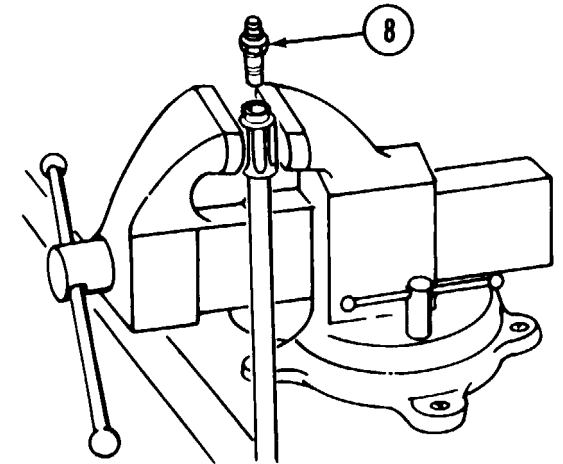
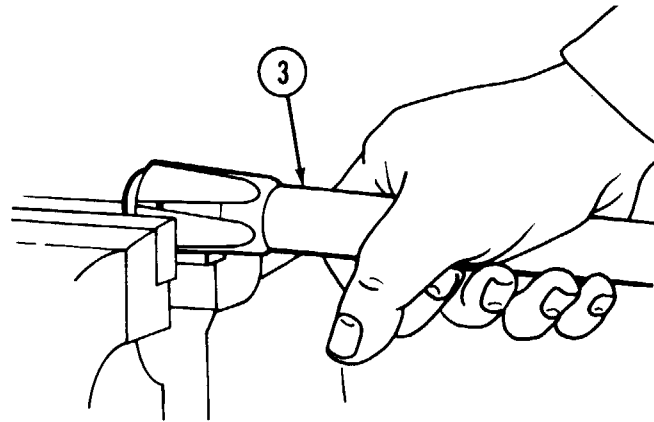
LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Fuel Hose Assembly/ Hose clamps (1)	Remove two hose clamps (1) by driving a flat bladed tool between the buckle and the band, or by cutting off nonmetallic hose assembly (2) directly behind hose clamp (1).	The old style fuel hose assembly with an external solid wire may be used until the external solid wire breaks. At that time, the old pipe to hose straight adapter (8) and rubber hose (3) will be discarded and replaced with a wire reinforced hose eliminating the need for a separate ground wire.
Nonmetallic hose (2) Rubber hose (3) Quick disconnect coupling half (4) Pipe to hose straight adapter (5)	Cut and remove the electrical tape holding nonmetallic hose (2) and rubber hose (3) together.	
Pipe to hose straight adapter (6) Plug assembly (7)	Unscrew and remove quick disconnect coupling half (4). Pull pipe to hose straight adapter (5) out of nonmetallic hose (2), then pull nonmetallic hose (2) off pipe to hose straight adapter (6). Unscrew and remove pipe to hose straight adapter (6) from plug assembly (7).	
Pipe to hose straight adapter (8) Quick disconnect coupling half (9)	Unscrew and remove pipe to hose straight adapter (8) from plug assembly (7) and remove with rubber hose (3) as an assembly. Unscrew and remove quick disconnect coupling half (9) from pipe to hose straight adapter (8).	



Remove pipe to two hose straight adapters (8) from rubber hose (3) as follows:

- Step 7. Position shell in vise as shown (right). Unscrew and remove male body (8).
- Step 2. Reposition shell in vise as shown (below). Turn rubber hose (3) clockwise to remove it from the shell.
- Step 3. Repeat steps 1 and 2 to remove pipe to hose straight adapter (8) from the other end of rubber hose (3). Discard damaged hose (3).

Pipe to hose straight adapter (8) is reusable if it is not damaged.

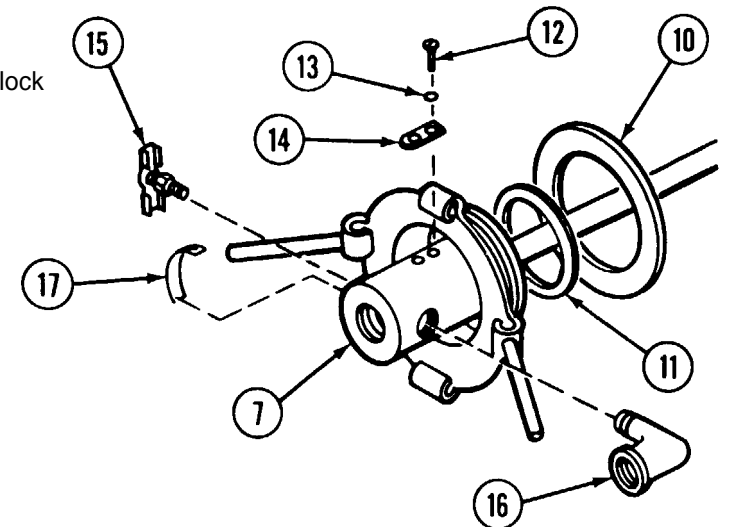


Filler Opening Cap Assembly/

- Gasket (10)
- Preformed packing (11)
- Screws (12)
- Lock washers (13)
- Grounding strip (14)
- Drain cock (15)
- Pipe elbow (16)
- Decal (17)

Remove gasket (10), preformed packing (11), two screws (12), lock washers (13), and grounding strip (14).

Unscrew drain cock (15) and pipe elbow (16). If damaged, decal (17) from plug assembly (7).



2-44. FUEL HOSE ASSEMBLY AND FILLER OPENING CAP (CONT).

LOCATION/ITEM

ACTION

REMARKS

REPAIRFuel Hose Assembly/
Filler Opening Cap Assembly/

Replace authorized unserviceable parts.

Gasket

Fabricate new gasket according to figure D-15.

Nonmetallic hose

Fabricate new nonmetallic hose according to figure D-56.

REASSEMBLY

Filler Opening Cap Assembly/

Decal (1)

Pipe elbow (2)

Drain cock (3)

Plug assembly (4)

Grounding strip (5)

Lock washers (6)

Screws (7)

Preformed packing (8)

Gasket (9)

If removed, replace decal (1). install pipe elbow (2) and drain cock (3) into plug assembly (4). Position grounding strip (5) on plug assembly (4) and fasten with two lock washers (6) and screws (7). Install preformed packing (8) and gasket (9). Fabricate new gasket (9) according to figure D-15.

Fuel Hose Assembly/

Rubber hose (10)

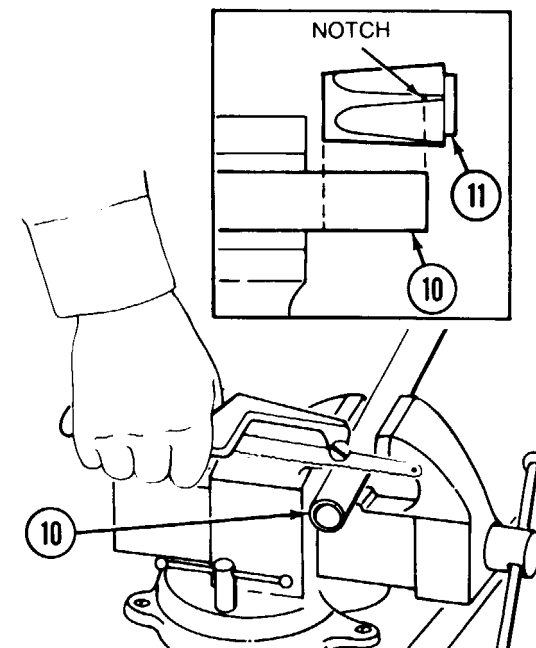
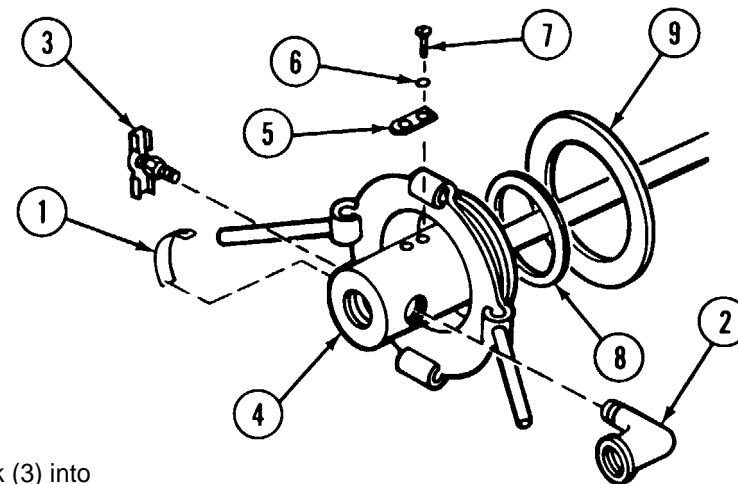
Pipe to hose straight
adapter (11)

Assemble both ends of a new rubber hose (10) using the following procedure.

Step 1. Place rubber hose (10) in vise and use a fine tooth hacksaw to cut its ends square and to the desired length.

Step 2. Using the notches on shell of pipe to hose straight adapter (11) as a length guide, cut through the cover down to wire braid all the way around rubber hose (10).

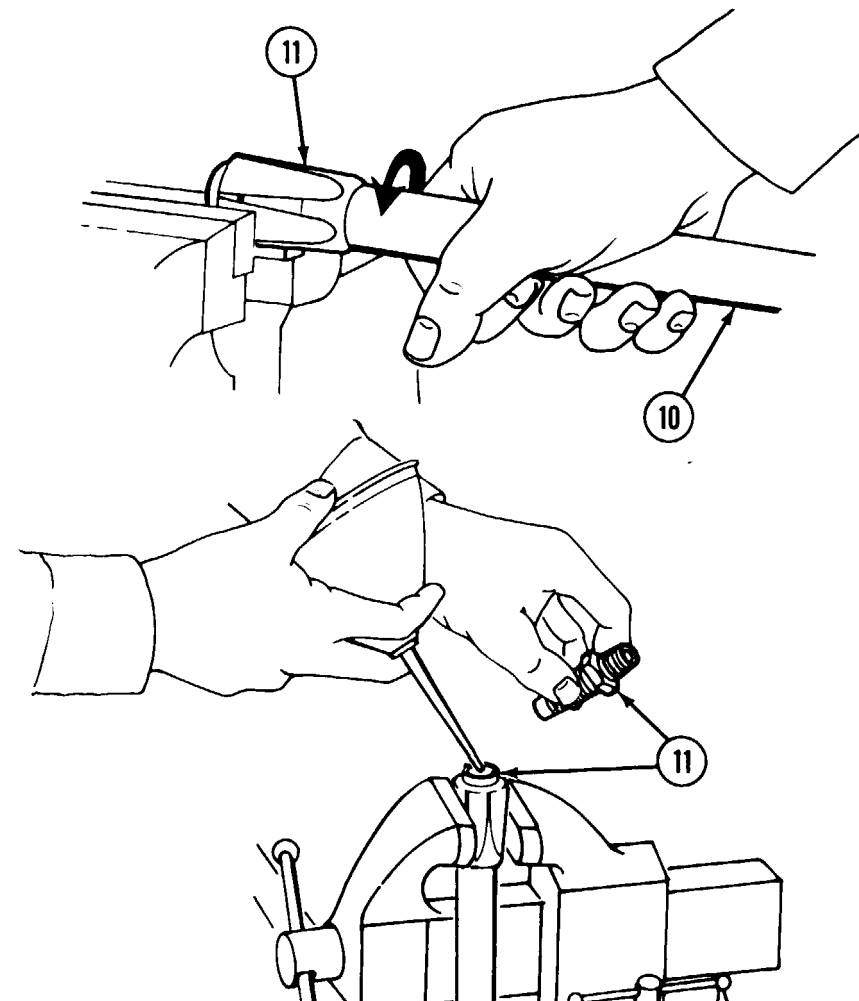
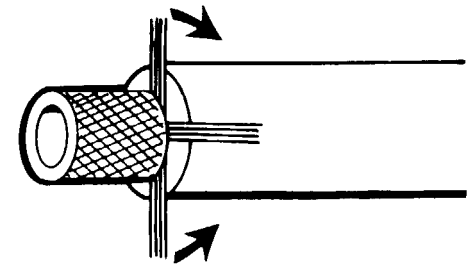
Step 3. Slit the cover lengthwise from cut to end. Use screwdriver and pliers to remove outer rubber ply to expose the bare wire braid.



Step 4. Pick four strands of wire braid at 90° spacing around the hose.
Bend the strands 180° to lay on outer cover of hose.

Step 5. Place shell of pipe to hose straight adapter (11) in vise and screw
rubber hose (10) counterclockwise into the shell until it bottoms.
Then back-off one quarter of a turn.

Step 6. Freely lubricate the inside tube of rubber hose (10) and the female
and male threads of pipe to hose straight adapter (11).



2-44. FUEL HOSE ASSEMBLY AND FILLER OPENING CAP (CONT).

LOCATION/ITEM

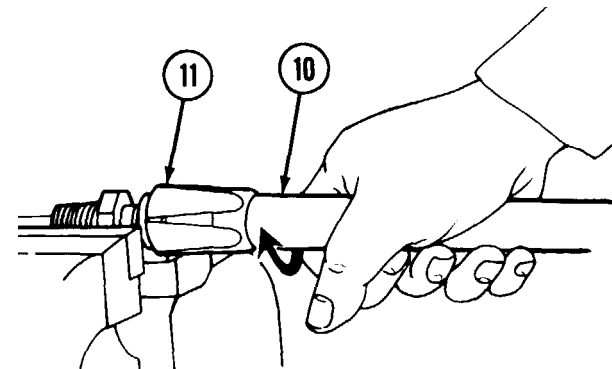
ACTION

REMARKS

REASSEMBLY (CONT)

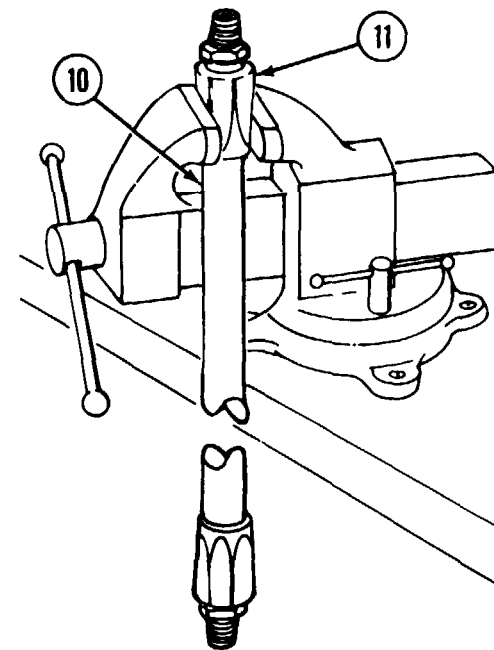
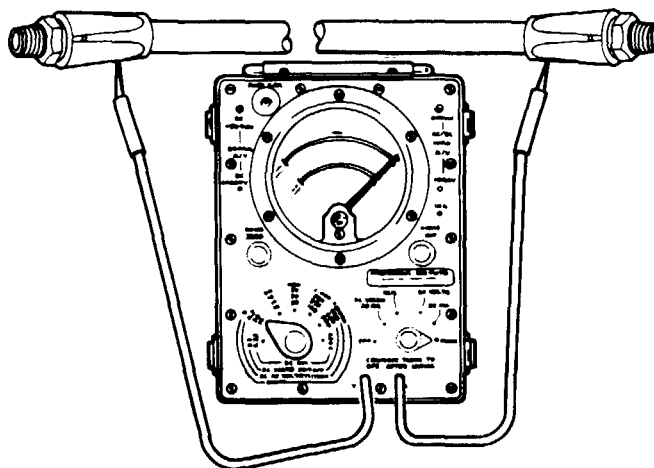
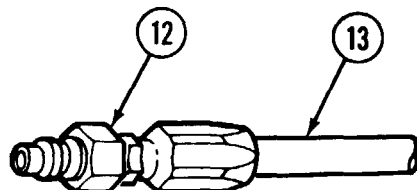
Fuel Hose Assembly/

- Step 7 Place male body of pipe to hose straight adapter (11) into vise. Push and turn shell and rubber hose (10) clockwise onto stem until large threads engage.
- Step 8 Change to a vertical position in the vise and tighten male body into shell. Assemble another pipe to hose adapter (11) to other end to complete the assembly. The completed assembly should look like the illustration.
- Step 9 Using a multimeter set to measure ohms, zero the meter. Touch the test leads to both ends of the assembled rubber hose and pipe to tube couplings. The multimeter should indicate near zero ohms.



Quick disconnect coupling half (12)
Fuel return line (13)

- Step 70. Screw quick disconnect coupling half (12) on one end of completed fuel return line (13) and tighten.



Nonmetallic hose (14)
Hose clamps (15)
Pipe to hose straight
adapter (16)
Pipe to hose straight
adapter (17)
Quick disconnect coupling
half (18)
Fuel line (19)

Slide one hose clamp (15) on each end of nonmetallic hose (14). Insert pipe to hose straight adapter (16) on one end and pipe to hose straight adapter (17) on the other end.

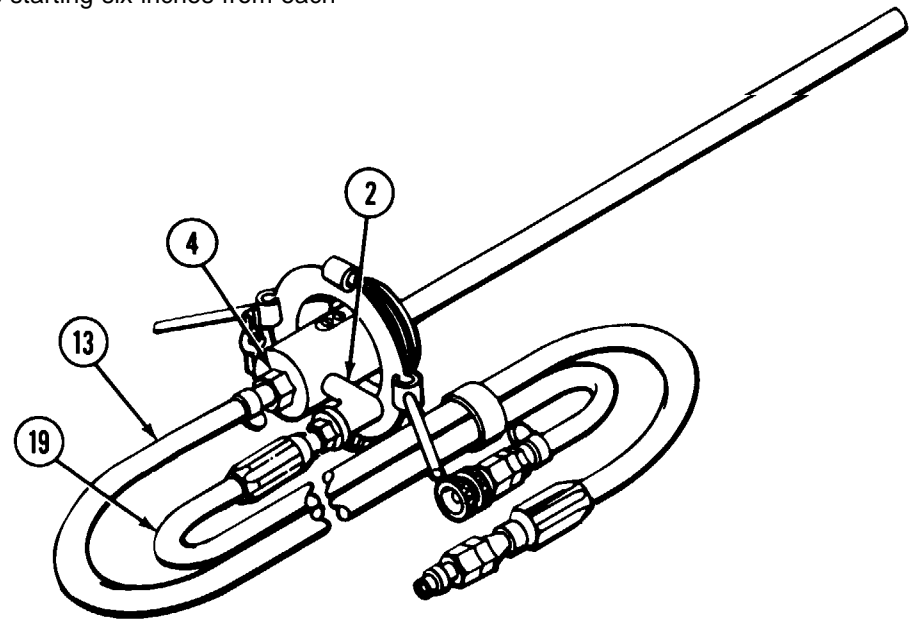
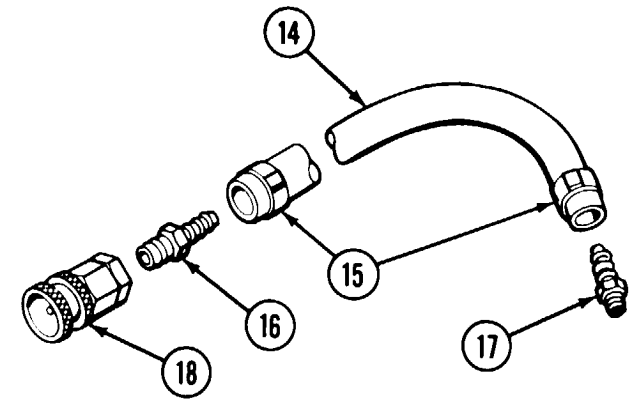
See page 2-58 for procedures used to tighten hose clamps (15)

Screw quick disconnect coupling half (18) on pipe to hose straight adapter (16).

Screw end of fuel return line (13) into the top of plug assembly (4) and tighten.

Screw end of fuel line (19) into pipe elbow (2) on plug assembly (4) and tighten.

Using electrical insulation tape, tape fuel return line (13) and fuel line (19) together. Space tape eight equal spaces starting six inches from each end.



2-45. SKID ASSEMBLY.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
 Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition

Unit maintenance authorized components are removed in
 TM 3-4230-209-20&P and are not covered in this manual.

Materials/Parts

Air cylinder nut (fig D-2)
 Wiping rag (item 31, app C)
 Fuel supply line (fig D-58)

LOCATION/ITEM

ACTION

REMARKS

DISASSEMBLY

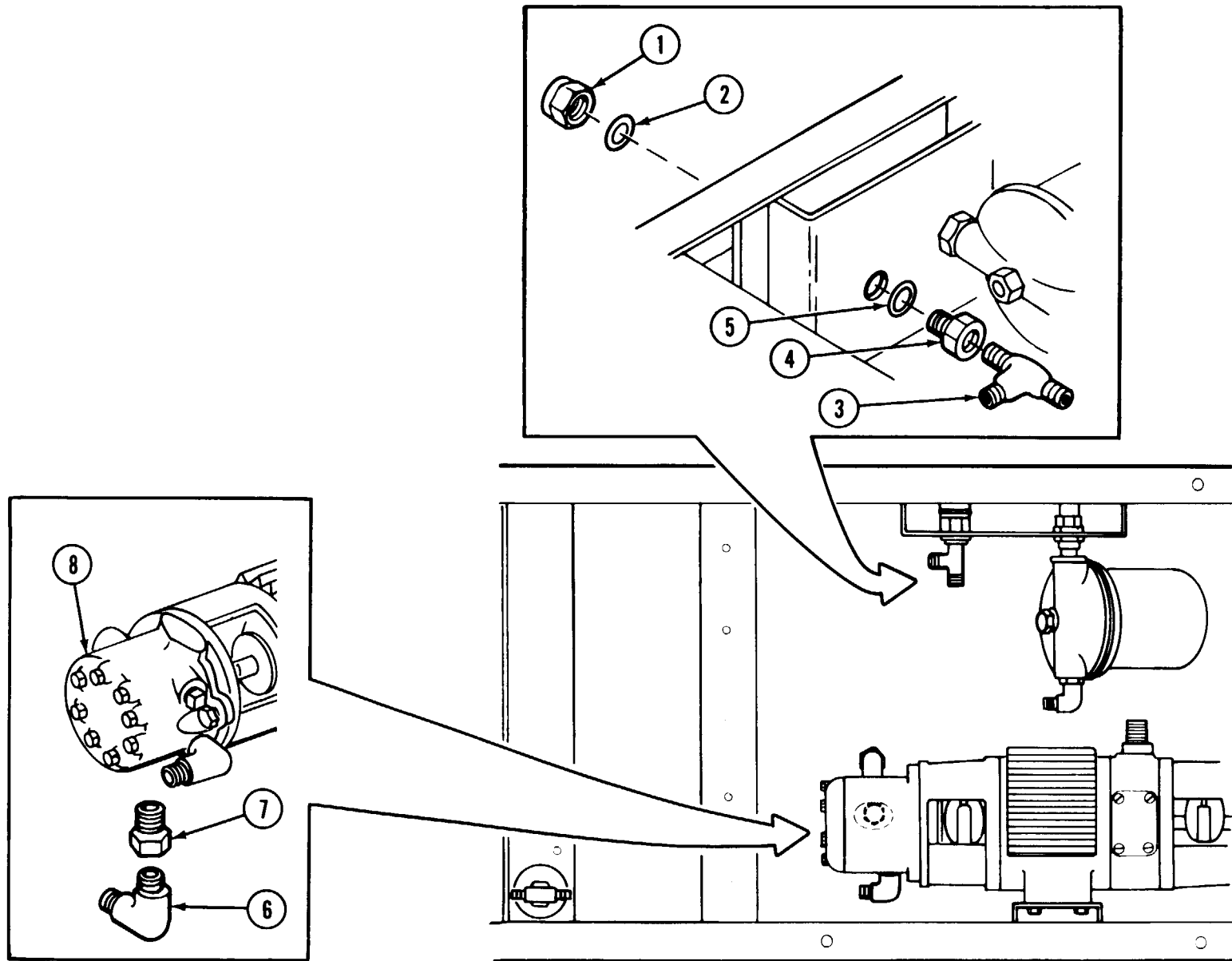
Skid Assembly/

Quick disconnect coupling
 half (1)
 Flat washer (2)
 Pipe-to-tube tee (3)
 Pipe bushing (4)
 Flat washer (5)

Remove quick disconnect coupling half (1), flat washer (2), slide pipe-to-tube tee (3), pipe bushing (4), and flat washer (5) from the skid. Separate pipe-to-tube tee (3), pipe bushing (4), and flat washer (5) only if replacement is required.

Pipe-to-tube elbow (6)
 Pipe bushing (7)
 Fuel pump assembly (8)

Remove pipe-to-tube elbow (6) and pipe bushing (7) from the bottom of fuel pump assembly (8).



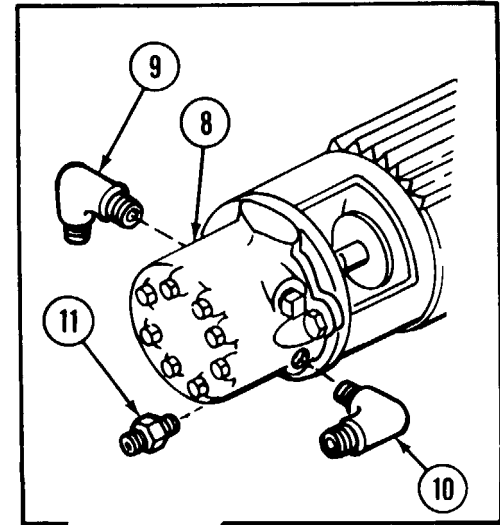
2-45. SKID ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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DISASSEMBLY (CONT)

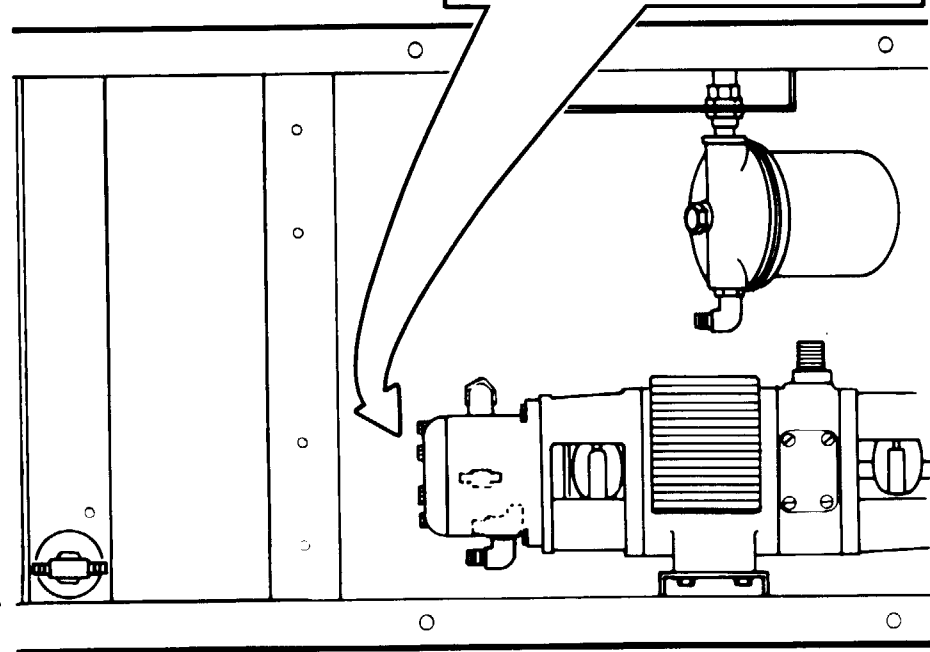
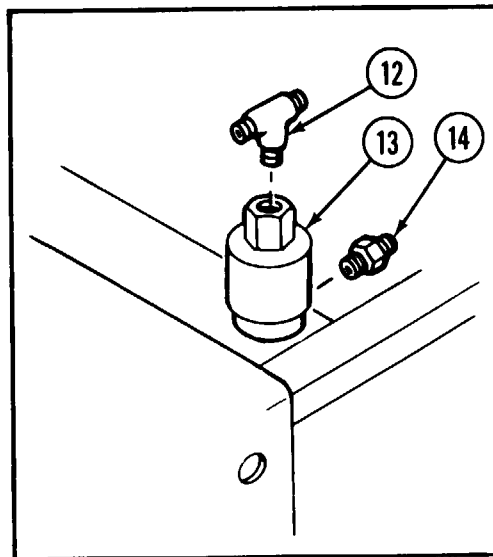
Skid Assembly/
Pipe-to-tube
elbows (9 and 10)
Pipe-to-tube straight
adapter (11)

Remove pipe-to-tube elbows (9 and 10) from the sides of fuel pump (8).
Remove pipe-to-tube straight adapter (11) from the bottom of fuel pump (8).



Pipe-to-tube tee (12)
Solenoid valve (13)
Pipe-to-tube straight
adapter (14)

Remove pipe-to-tube tee (12) from top of solenoid valve (13), and pipe-to-tube straight adapter (14) from the lower opening.



REPAIR

Skid Assembly/

- Solenoid valve coupling (1)
- Preformed packing (2)
- Nut (3)
- Data plate (4)
- Grommets (5)
- Housing (6)
- Solenoid coil (7)
- Coil insulating washer (8)
- DC sleeve assembly (9)
- Spring (10)
- Plunger seat (11)
- Pins (12)
- Plunger (13)
- Seal (14)
- Body (15)

Repair by replacing authorized unserviceable items.

Unscrew and remove coupling (1), preformed packing (2), and nut (3). Remove data plate (4), grommets (5), housing (6), and solenoid coil (7) as a unit. Remove coil insulating washer (8).

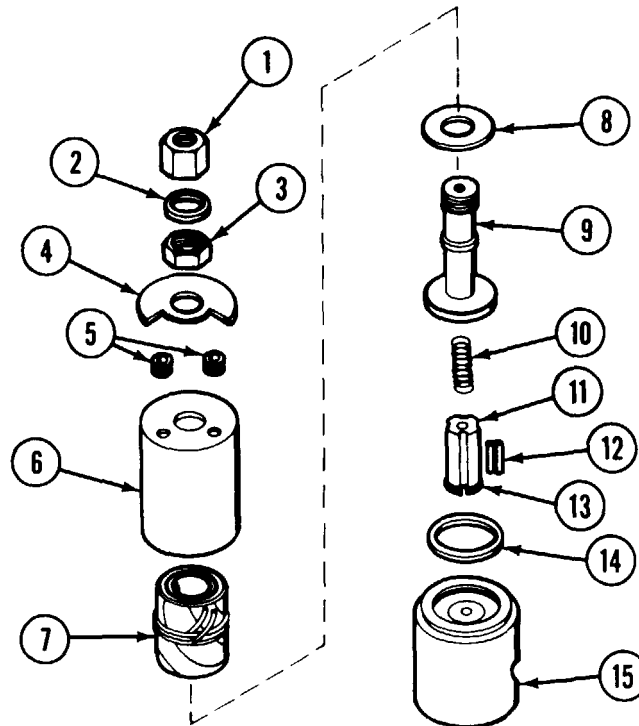
Using fabricated tool, remove DC sleeve assembly (9). Remove spring (10), plunger seat (11), two pins (12), plunger (13), and seal (14) from body (15).

Using a lint-free cloth, wipe all the solenoid valve parts clean.

Assembly is the reverse of the above disassembly procedures.

If the solenoid valve is sluggish during energization and deenergization, disassemble it. Inspect the solenoid valve for dirt and wear of the piston and bore. Dust particles or foreign matter might prevent the seal from sealing tightly. Disassembly and reassembly procedures require the use of the fabricated air cylinder nut (fig D-2).

Replace the solenoid valve if it does not work correctly after being serviced.



2-45. SKID ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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REASSEMBLY

Skid Assembly/

Solenoid valve (1)

Skid base (2)

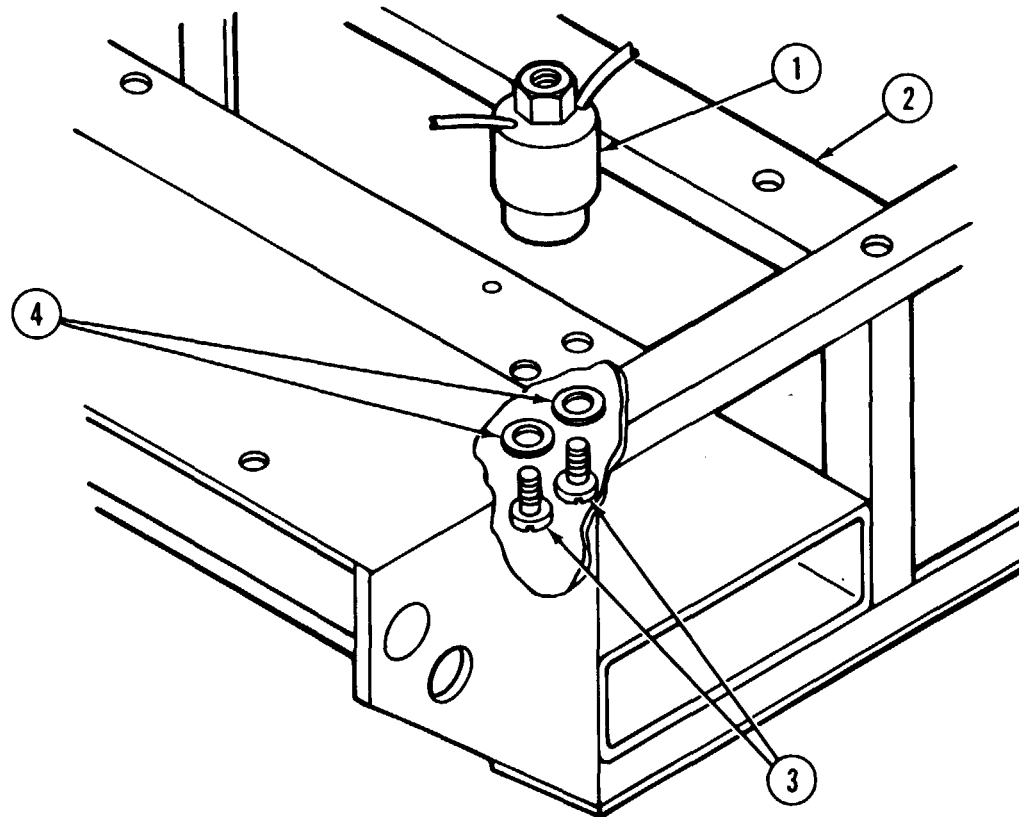
Machine screws (3)

Internal tooth lock

washers (4)

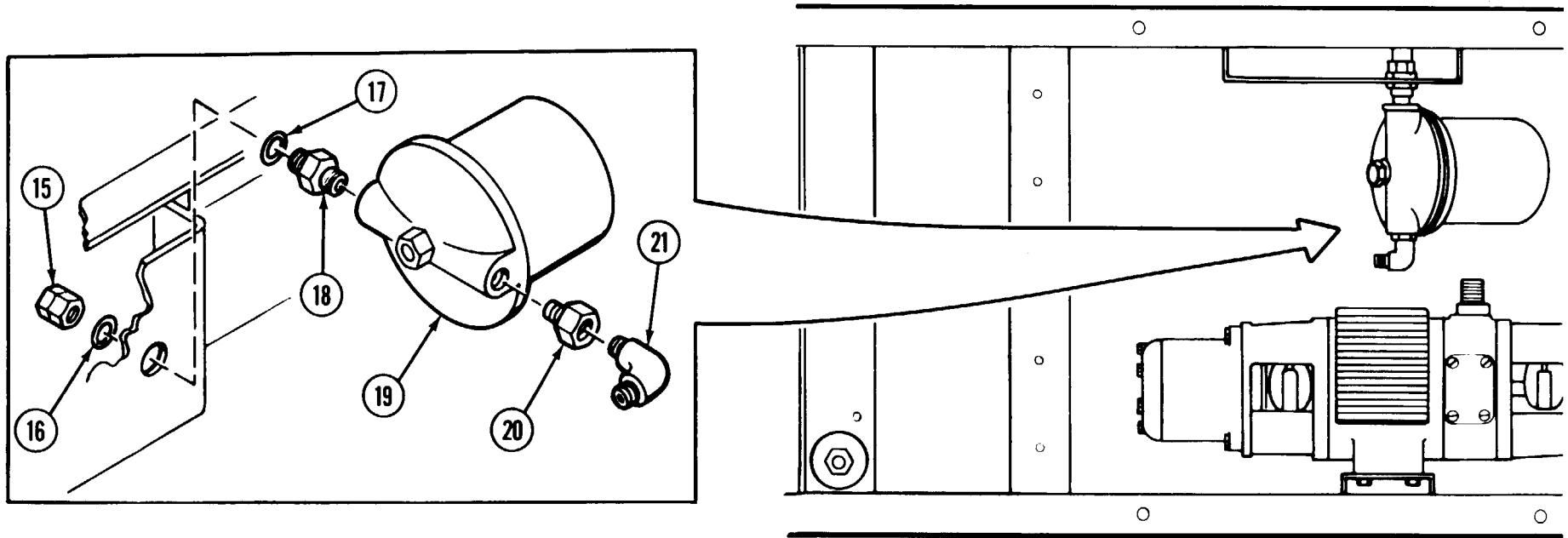
Position solenoid valve (1) onto skid base (2) and align mounting holes.
Install two machine screws (3) and internal tooth lock washers (4) up from underside of skid base and into bottom of solenoid valve (1).

Connect wire according to instructions for wiring
(p 2-156).



- Quick disconnect coupling half (15)
- Flat washers (16 and 17)
- Pipe nipple (18)
- Fluid vacuum filter (19)
- Pipe bushing (20)
- Pipe-to-tube elbow (21)

Remove quick disconnect coupling half (15) and flat washer (16). Remove flat washer (17), pipe nipple (18), fluid vacuum filter (19), pipe bushing (20), and pipe-to-tube elbow (21) as a unit. Separate only if replacement parts are necessary.



2-45. SKID ASSEMBLY (CONT).

LOCATION/ITEM

ACTION

REMARKS

DISASSEMBLY (CONT)

Skid Assembly/

Machine screws (22)

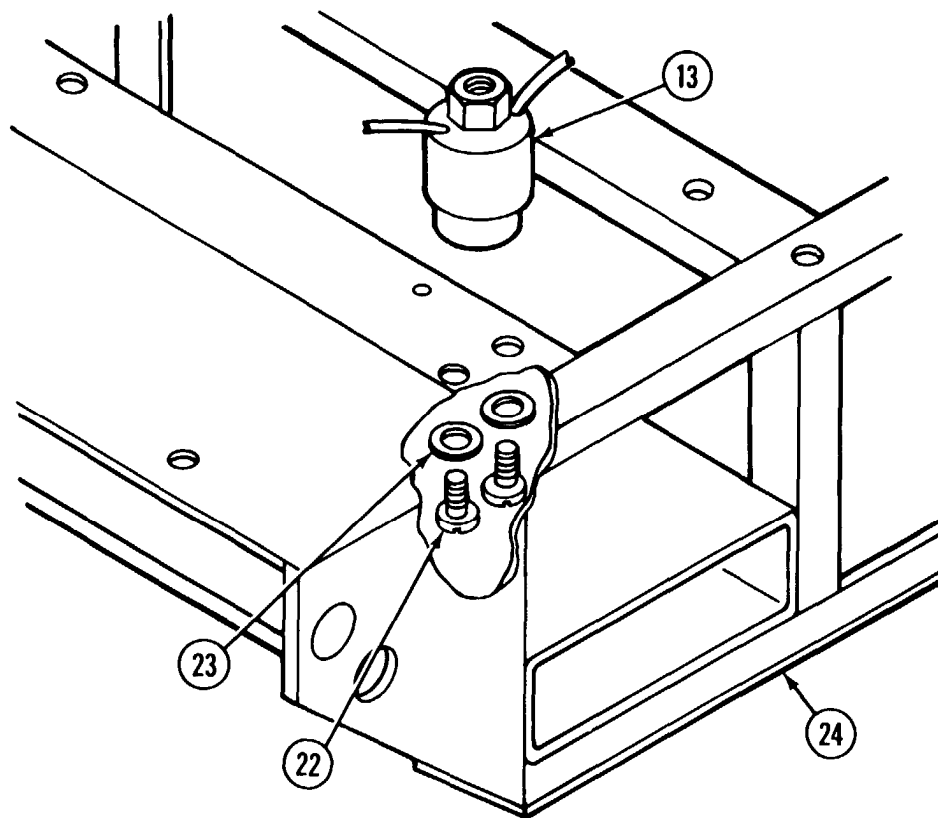
Internal tooth lock
washers (23)

Skid base (24)

Remove two machine screws (22) and internal tooth lock washers (23)

from the inside of skid base (24), directly below solenoid valve (13).

Remove solenoid valve (13) from skid base (24).

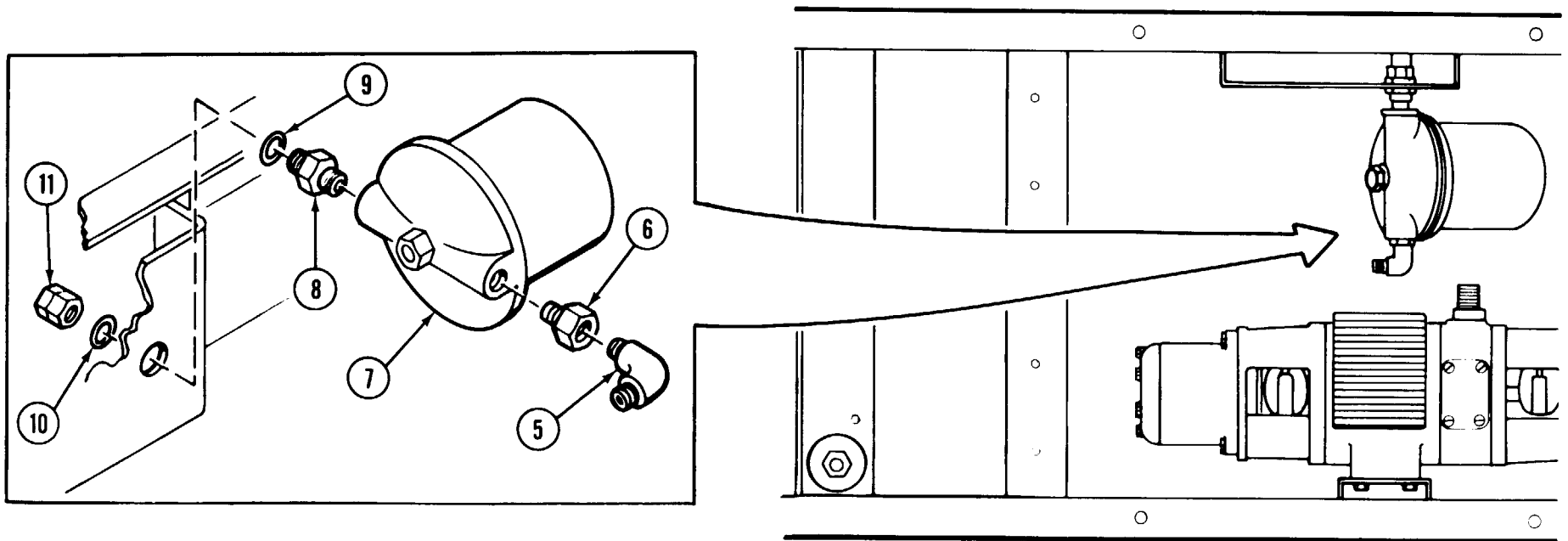


Pipe-to-tube elbow (5)
Pipe bushing (6)
Fluid vacuum filter (7)
Pipe nipple (8)

Wrap antiseizing tape around external pipe threads on pipe-to-tube elbow (5), pipe bushing (6), and pipe nipple (8). Screw pipe-to-tube elbow (5) into pipe bushing (6). Install as a unit into fluid vacuum filter (7),
Screw pipe nipple (8) into fluid vacuum filter (7).

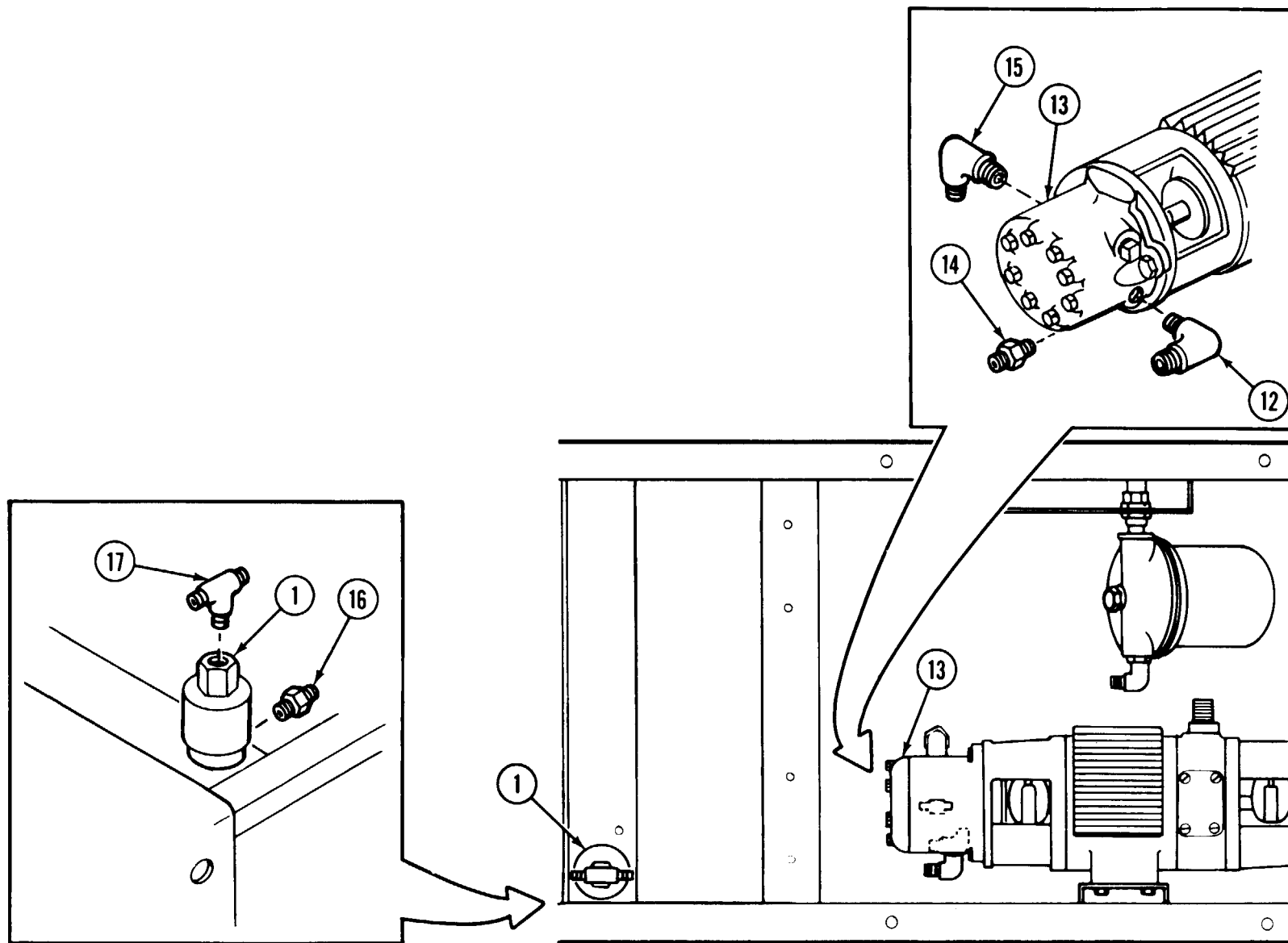
Flat washers (9 and 10)
Quick disconnect coupling half (11)

Slide one flat washer (9) onto end of pipe nipple (8), and slide end of pipe nipple (8) through hole in skid base (2). Add flat washer (10) and quick disconnect coupling half (11) and secure.



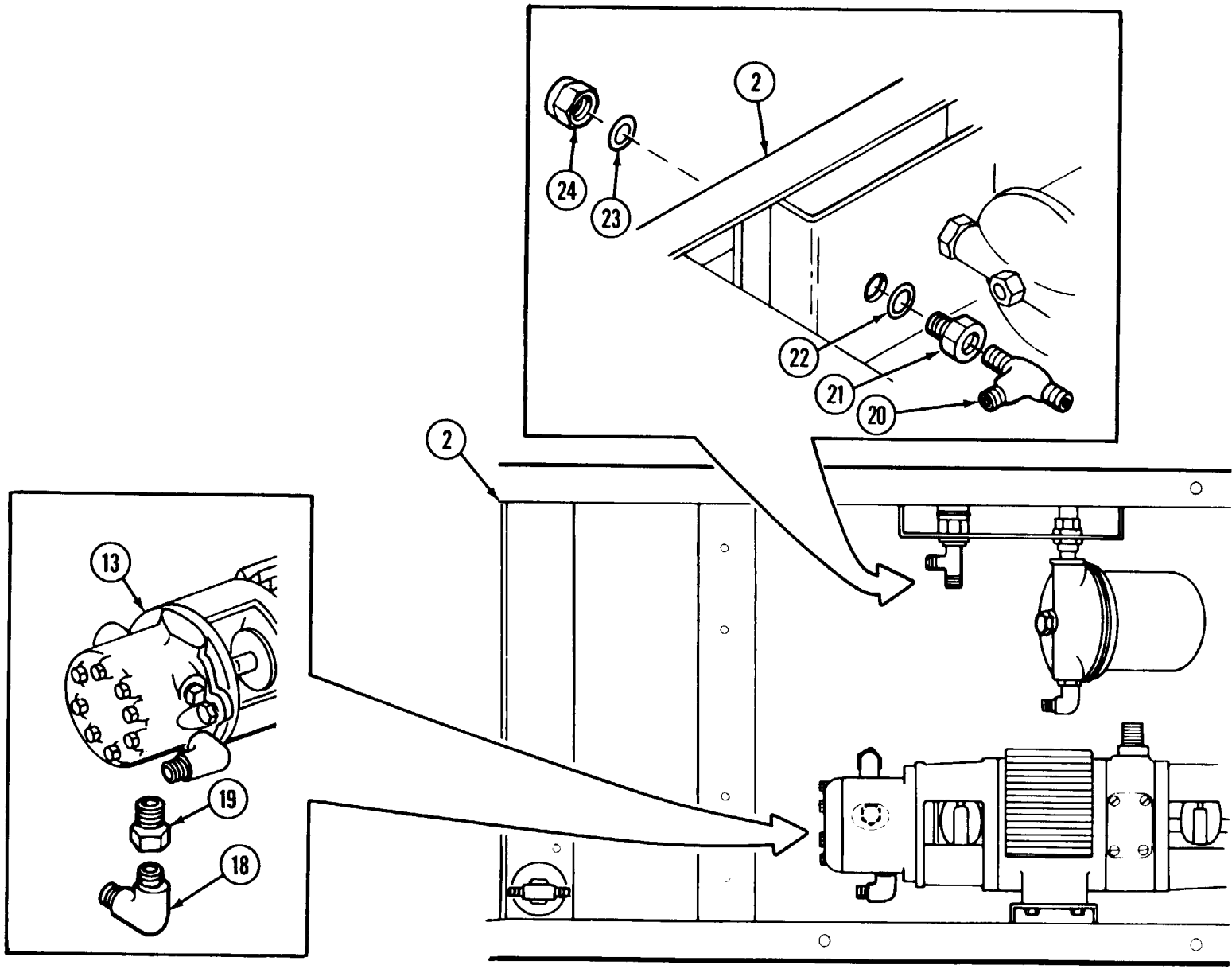
2-45. SKID ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Skid Assembly/		
Pipe-to-tube elbow (12)	Wrap antiseizing tape around external pipe threads on pipe-to-tube	
Fuel pump assembly (13)	elbow (12), pipe-to-tube straight adapter (14), pipe-to-tube elbow (15),	
Pipe-to-tube straight adapter (14)	pipe-to-tube straight adapter (16), and pipe to-tube tee (17).	
Pipe-to-tube elbow (15)	Install pipe-to-tube elbow (12) into side of fuel pump assembly (13), and	
Pipe-to-tube straight adapter (16)	point open end straight back toward solenoid valve (1). Install pipe-to- tube straight adapter (14) into bottom front of fuel pump assembly (13).	
Pipe-to-tube tee (17)	Screw pipe-to-tube elbow (15) into side of fuel pump assembly (13). Position the open end pointing downward.	
	Install pipe-to-tube straight adapter (16) into lower part of solenoid valve (1), and pipe-to-tube tee (17) into part on the top of solenoid valve (1). Position open end of pipe-to-tube tee (17) so it alines with skid base edges.	



2-45. **SKID ASSEMBLY (CONT).**

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Skid Assembly/ Pipe-to-tube elbow (18) Pipe bushing (19) Pipe-to-tube tee (20) Pipe bushing (21)	Wrap antiseizing tape around external pipe thread of pipe-to-tube elbow (18), pipe bushing (19), pipe-to-tube tee (20), and pipe bushing (21) before securing. Screw pipe-to-tube elbow (18) into pipe bushing (19) and then install into bottom of fuel pump assembly (13). Position so open end of pipe- to-tube elbow (18) is pointing toward the fluid vacuum filter side of skid base (2).	
Flat washers (22 and 23) Quick disconnect coupling half (24)	Screw pipe-to-tube tee (20) and pipe bushing (21) together and install flat washer (22) on end of pipe bushing (21). Insert end of pipe bushing (21) through hole of skid base (2) and then add flat washer (23) and quick disconnect coupling half (24).	



2-46. COMBUSTOR MAGNETO.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP
Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

*Special Safety Instructions*WARNING

Discharge the fixed capacitor as soon as the ignition distributor cap is removed. Do not touch any metal parts inside the combustor ignition magneto until the fixed capacitor has been discharged. Failure to do so will cause a severe electrical shock.

Materials/Parts

Cloth, abrasive crocus (item 9, app C)

Equipment Condition

Combustor magneto assembly removed.

LOCATION/ITEM

ACTION

REMARKS

DISASSEMBLY

Combustor Magneto/

Machine screw (1)

Internal tooth lock

washer (2)

Unscrew and remove four machine screws (1) and four internal tooth lock washers (2).

Ignition distributor cap (3)

Ignition terminal sleeve (4)

Touching only the edges, lift off ignition distributor cap (3). Shake ignition terminal sleeve (4) out of ignition distributor cap (3).

Fixed capacitor (5)

WARNING

Discharge fixed capacitor (5) as soon as ignition distributor cap (3) is removed. Do not touch any metal parts inside the combustor ignition magneto until fixed capacitor (5) is fully discharged. Failure to do so will cause a severe electrical shock.

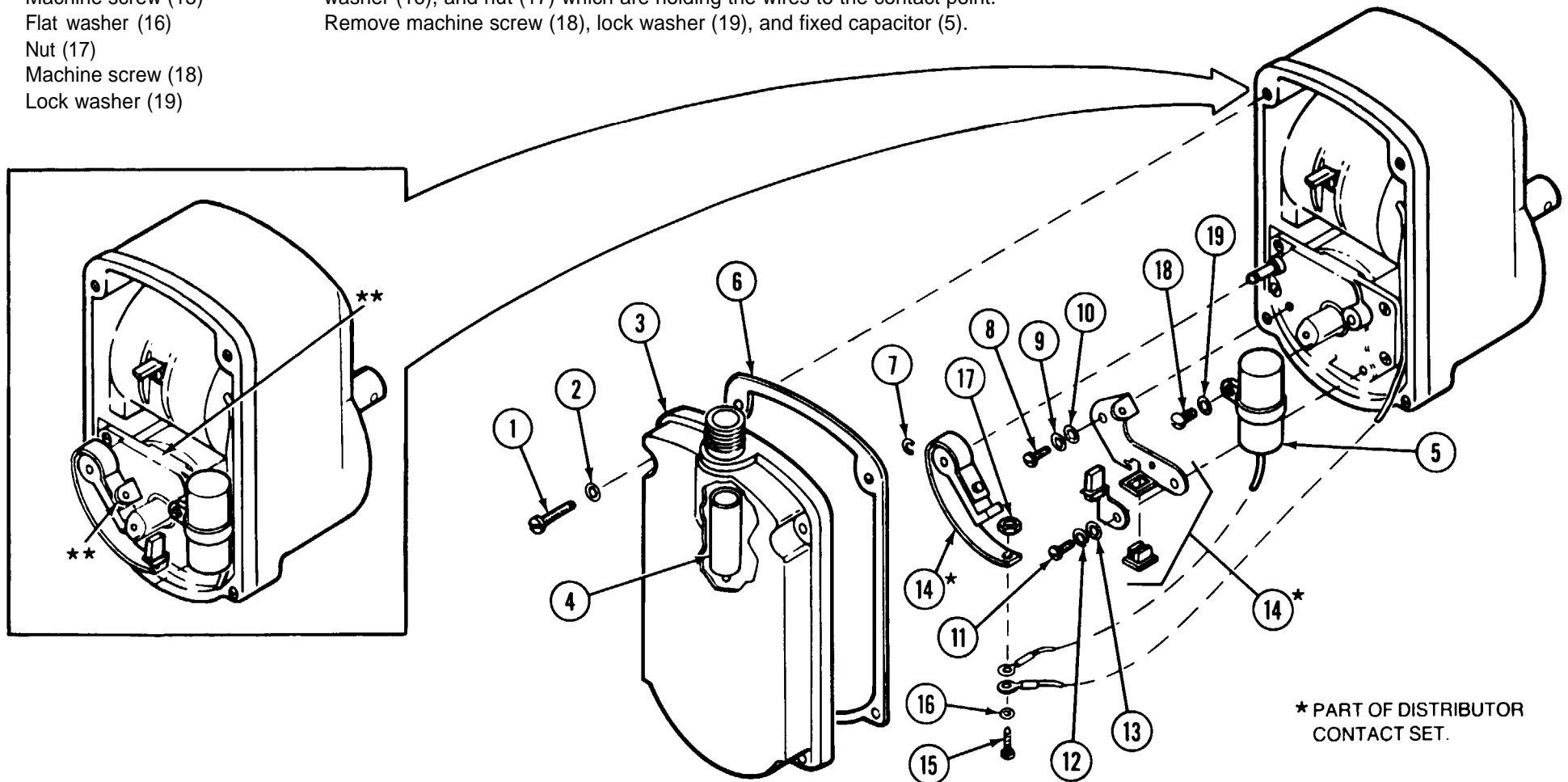
Gasket (6)
 Retaining ring (7)
 Machine screw (8)
 Lock washer (9)
 Flat washer (10)
 Machine screw (11)
 Lock washer (12)
 Flat washer (13)

Using a short length of electrical wire from bulk issue (size or type are not important), discharge fixed capacitor (5) by touching the end of the electrical wire between the points marked with stars (**).

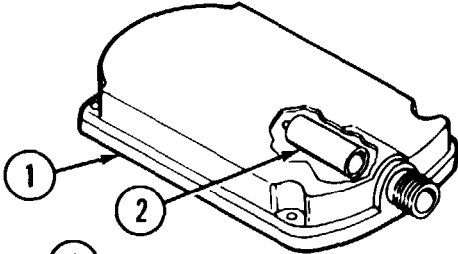
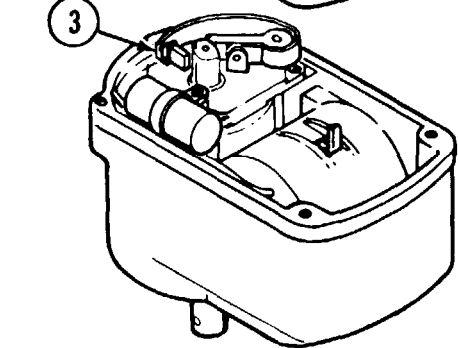
Gasket (6), distributor contact set (14), and fixed capacitor (5) are component parts of the ignition magneto parts kit.

Distributor contact set (14)
 Machine screw (15)
 Flat washer (16)
 Nut (17)
 Machine screw (18)
 Lock washer (19)

Lift up distributor contact set (14) and remove machine screw (15), flat washer (16), and nut (17) which are holding the wires to the contact point. Remove machine screw (18), lock washer (19), and fixed capacitor (5).



2-46. COMBUSTOR MAGENTO (CONT).

LOCATION/ITEM	ACTION	REMARKS
REPAIR		
Combustor Magneto/	Replace authorized unserviceable parts.	
Ignition distributor cap (1) Ignition terminal sleeve (2)	Repair ignition distributor cap (1) by replacing ignition terminal sleeve (2).	
Distributor contact set (3)	Minor pitting of distributor contact set (3) points may be repaired by using crocus cloth. Care must be taken to make sure that contact point face surfaces are flat and that all the face surfaces contact squarely.	
REASSEMBLY		
Combustor Magneto/ Fixed capacitor (1) Machine screw (2) Lock washer (3) Distributor contact set (4)	Position fixed capacitor (1) onto the mounting plate. Insert machine screw (2) through lock washer (3) and fixed capacitor (1). Screw into the mounting plate and tighten.	Fixed capacitor (1) and distributor contact set (4) are component parts of the ignition magneto parts kit.
Machine screw (5) Flat washer (6) Nut (7)	Assemble distributor contact set (4) by connecting the wires from the magneto and fixed capacitor (1) to distributor contact set (4) with machine screw (5), flat washer (6), and nut (7). Tighten the screw connecting the wires to distributor contact set (4).	
Retaining ring (8) Machine screw (9) Lock washer (10) Flat washer (11)	Position distributor contact set (4) onto the mounting plate and install retaining ring (8). Insert machine screw (9) through lock washer (10), flat washer (11), and into distributor contact set (4). Then screw into the mounting plate. Do not tighten fully.	

Machine screw (12)
Lock washer (13)
Flat washer (14)

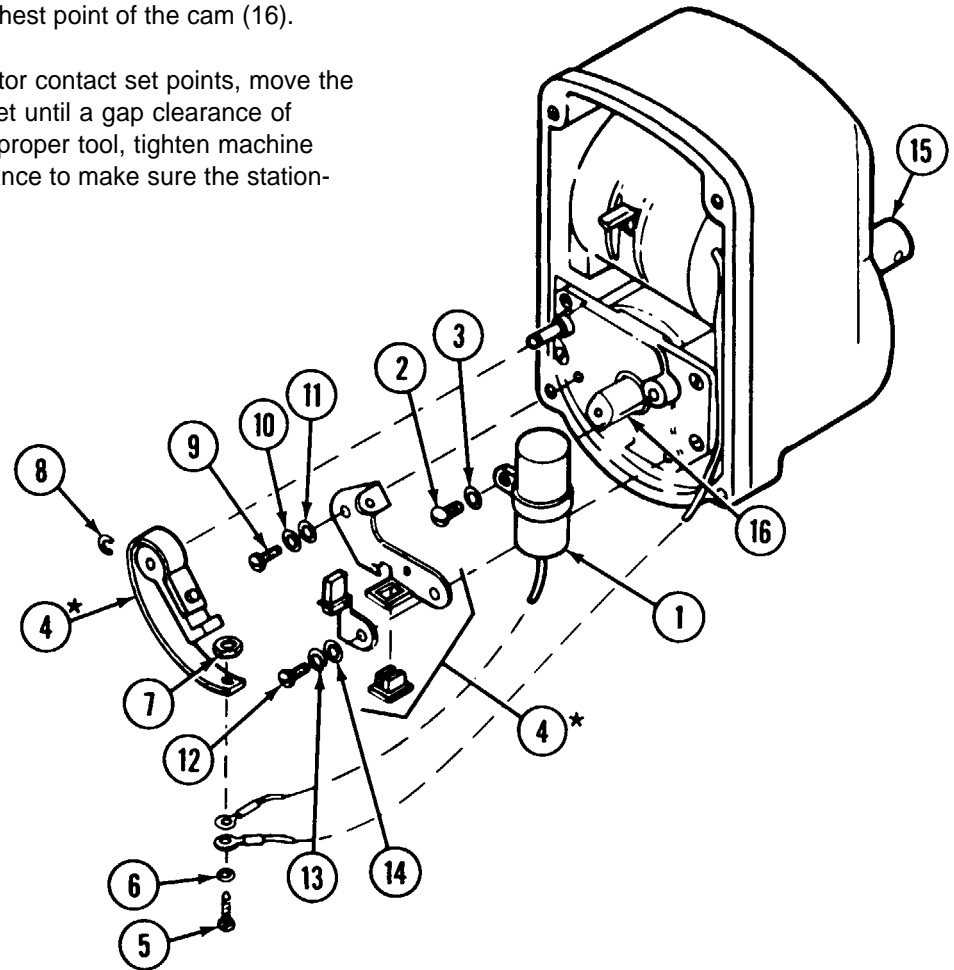
Insert machine screw (12) through lock washer (13), flat washer (14), and into distributor contact set (4). Then screw into the mounting plate. Do not tighten fully.

Shaft (15)
Cam (16)

Rotate the shaft (15) while watching the cam (16) turn until the distributor contact set breaker arm is riding on the highest point of the cam (16).

Using a feeler gage inserted in the distributor contact set points, move the stationary support bracket of the contact set until a gap clearance of 0.015 to 0.018 inch is obtained. Using the proper tool, tighten machine screws (9 and 12). Recheck the gap clearance to make sure the stationary support bracket did not move.

● PART OF DISTRIBUTOR CONTACT SET



2-46. COMBUSTOR MAGNETO (CONT).

LOCATION/ITEM

ACTION

REMARKS

REASSEMBLY (CONT)

Combustor Magneto/

Ignition terminal sleeve (17)
Ignition distributor cap (18)

Insert ignition terminal sleeve (17) into ignition distributor cap (18).

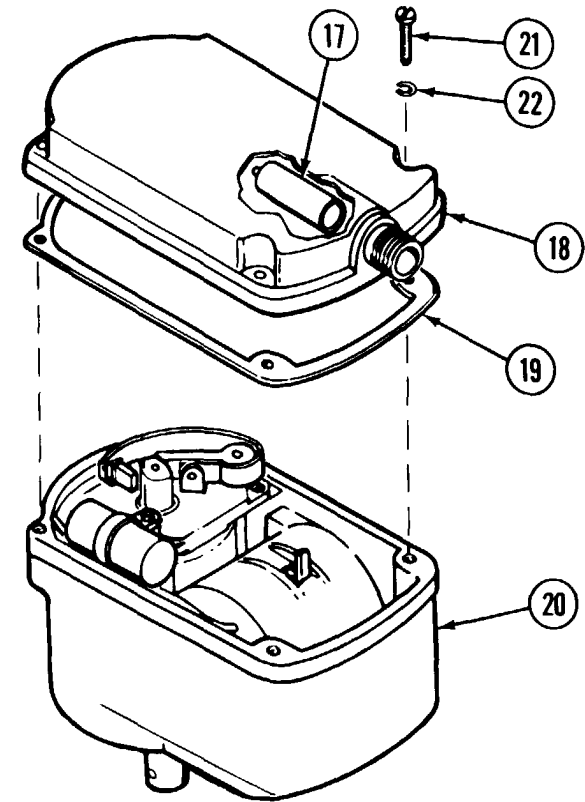
Gasket (19) is a component part of the ignition mag-
neto parts kit.

Gasket (19)
Body (20)

Position gasket (19) and ignition distributor cap (18) onto the combustor
magneto body (20).

Machine screw (21)
Lock washer (22)

Insert four machine screws (21) through four lock washers (22), ignition
distributor cap (18), and gasket (19). Screw into the combustor magneto
body (20) and tighten.



2-47. FUEL PUMP AND IGNITION DRIVE MOTOR.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition

Fuel pump and ignition drive motor removed from skid assembly. Refer to paragraph 2-45 for disassembly/reassembly procedures.

LOCATION/ITEM	ACTION	REMARKS
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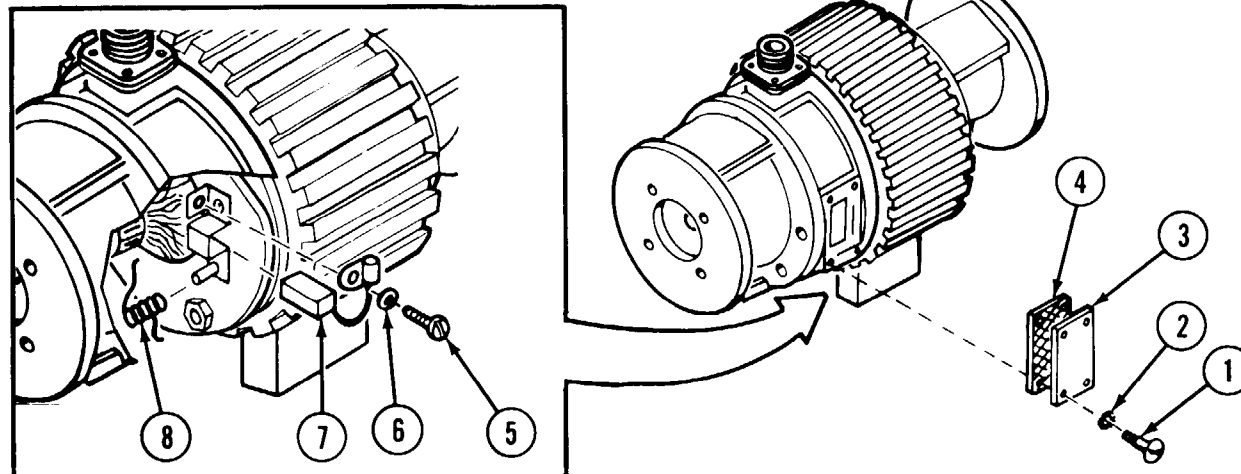
DISASSEMBLY

Fuel Pump and Ignition
Drive Motor/

- Machine screw (1)
- Lock washer (2)
- Cover (3)
- Gasket (4)
- Machine screw (5)
- Lock washer (6)
- Electrical contact brush (7)
- Torsion helical spring (8)

Unscrew and remove four machine screws (1), four lock washers (2), cover (3), and gasket (4). Inside of opening, remove machine screw (5), and lock washer (6). Remove electrical contact brush (7) by lifting torsion helical spring (8). Repeat this procedure to disassemble the electrical contact brush on the other side of the direct current motor.

Fuel pump and ignition drive motor is shown separated for illustration purposes only. The torsion helical springs (8) and electrical contact brushes (7) will be removed and reinstalled through the opening under cover (3).



2-47. FUEL PUMP AND IGNITION DRIVE MOTOR (CONT).

LOCATION/ITEM	ACTION	REMARKS
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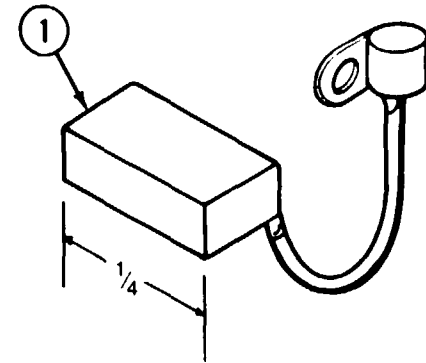
REPAIR

Fuel Pump and Ignition Drive Motor/

Replace authorized unserviceable parts.

Contact brush (1)

Replace electrical contact brushes (1), in pairs when a brush measures 1/4 inch long or less.



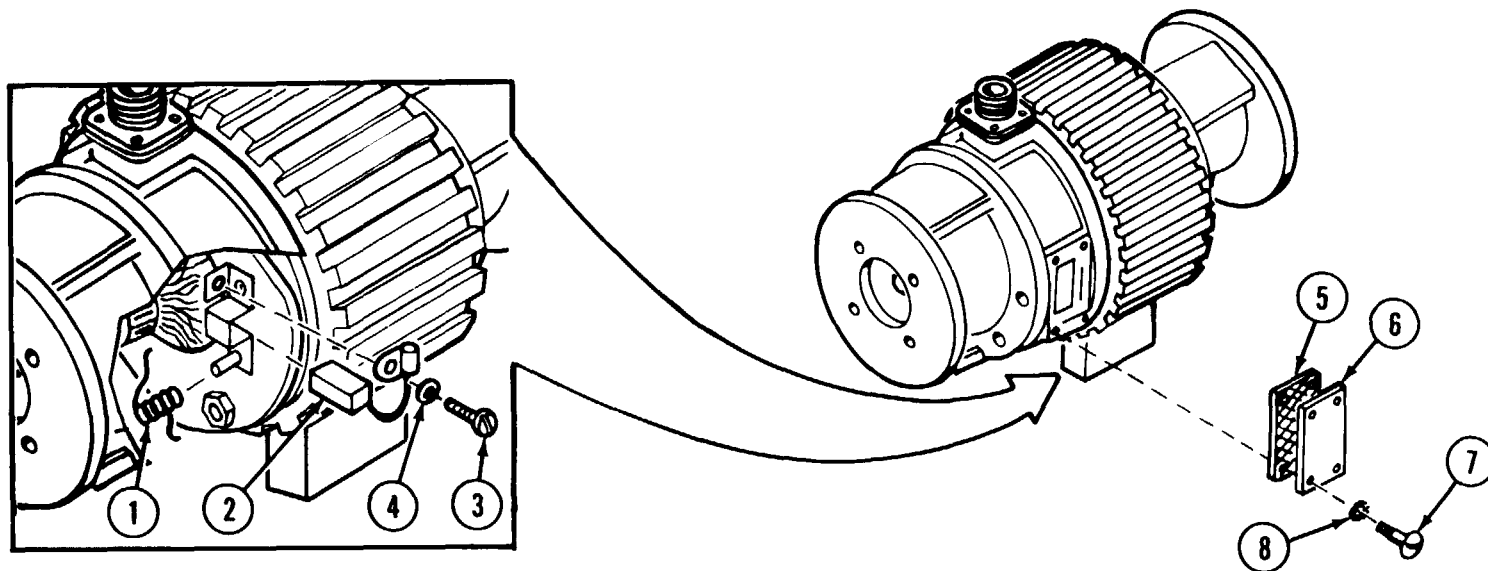
REASSEMBLY

Fuel Pump and Ignition Drive Motor/

- Torsion helical spring (1)
- Electrical contact brush (2)
- Machine screw (3)
- Lock washer (4)
- Gasket (5)
- Cover (6)
- Machine screw (7)
- Lock washer (8)

Pull upon torsion helical spring (1) and insert electrical contact brush (2). Insert machine screw (3) through lock washer (4), and the terminal end of electrical contact brush (2). Screw machine screw (3) into the attachment point in the end shell of the motor and tighten.

Position gasket (5) and cover (6) together. Insert four machine screws (7) through four lock washers (8), cover (6), and gasket (5). Screw machine screws (7) into the end shell of the motor and tighten. Repeat this procedure to reassemble the electrical contact brush on the other side of the fuel pump and ignition drive motor.



2-48. FUEL PUMP ASSEMBLY.

This task covers adjustment.

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Materials/Parts

Automotive gasoline (item 20, app C)
30 wt motor oil (item 25, app C)
Test gage line (fig D-1)

References

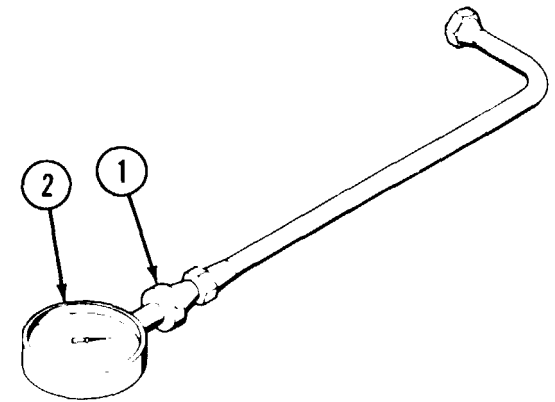
TM 3-4230-209-10

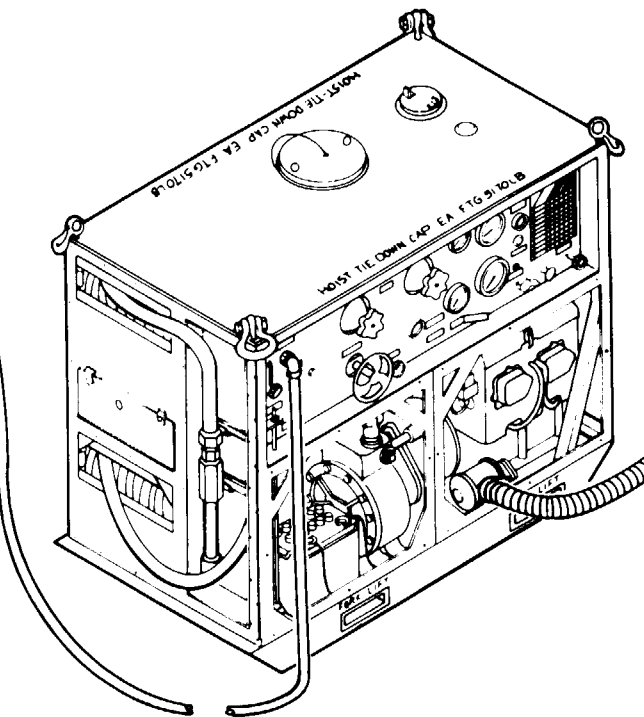
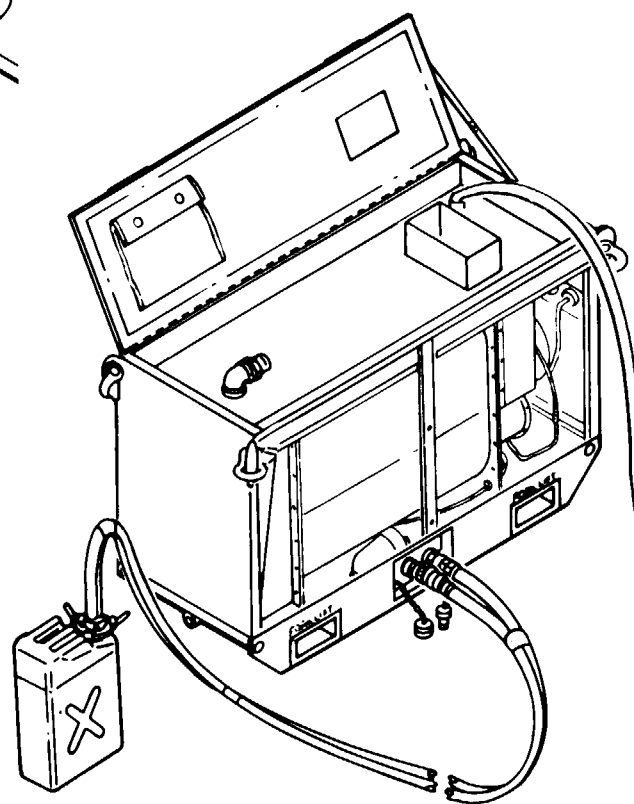
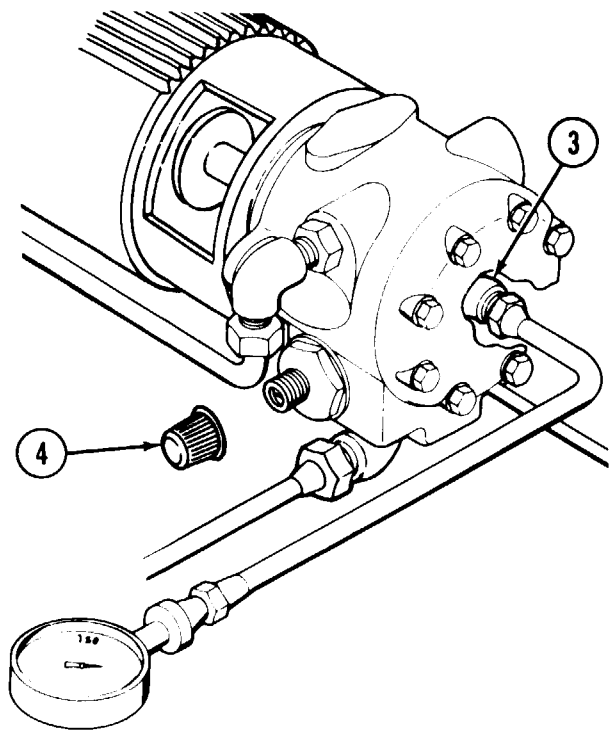
Equipment Condition

Fuel pump installed in skid assembly.

2-48. FUEL PUMP ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
ADJUSTMENT		
Fuel Pump Assembly/	<p>Prepare the water heater and the required equipment for the fuel pressure test using the following procedures:</p> <p><i>Step 1.</i> Fabricate a test gage line (fig D-1). Attach adapter (1) and pressure gage (2).</p> <p><i>Step 2.</i> Disconnect the fuel pump assembly nozzle pressure line at the fuel pump 90 degree elbow (3). Connect and tighten the test line and pressure gage to the fuel pump assembly at the 90 degree elbow. Bend the test line and pressure gage so that it is visible and accessible from the left side of the water heater.</p> <p><i>Step 3.</i> Unscrew and remove the end cap (4) nut from the rotary power-driven pump.</p> <p><i>Step 4.</i> Pour one pint of motor oil into a five gallon gasoline can and fill the rest of the can with combat automotive gasoline. The oil is used to lubricate the pump.</p> <p><i>Step 5.</i> Remove the fuel hose assembly from the top cabinet door storage area. Connect the fuel hose assembly to the water heater and to the five gallon gasoline can. Uncoil the power cable in the top cabinet storage area.</p> <p><i>Step 6.</i> Place the HEATER ON/PURGE ON switch to PURGE ON position. (See TM 3-4230-209-10.)</p> <p><i>Step 7.</i> Use the pump unit assembly for a power source.</p> <p><i>Step 8.</i> Connect the power cable to the pump unit.</p> <p><i>Step 9.</i> Apply power to the water heater. See TM 3-4230-209-10.</p>	<p>The rotary power-driven pump must be adjusted after reassembly is complete or whenever pressure is suspected to be in error. To adjust the pressure, the rotary power-driven pump must be reinstalled in the water heater.</p>





2-48. FUEL PUMP ASSEMBLY (CONT).

LOCATION/ITEM

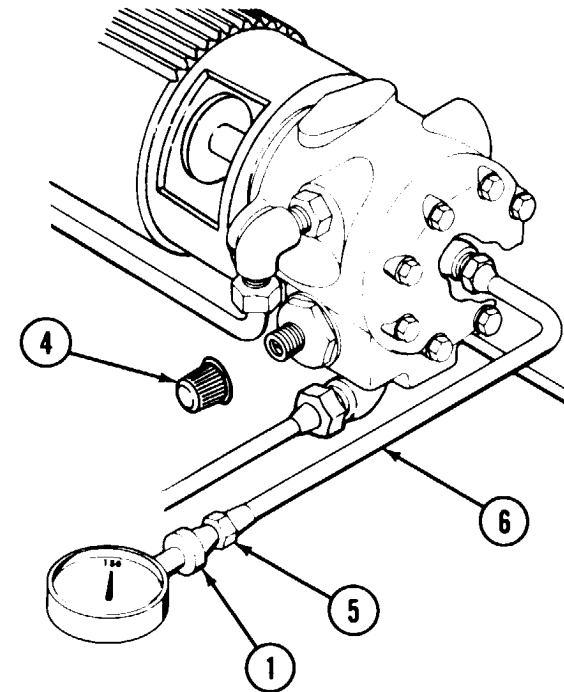
ACTION

REMARKS

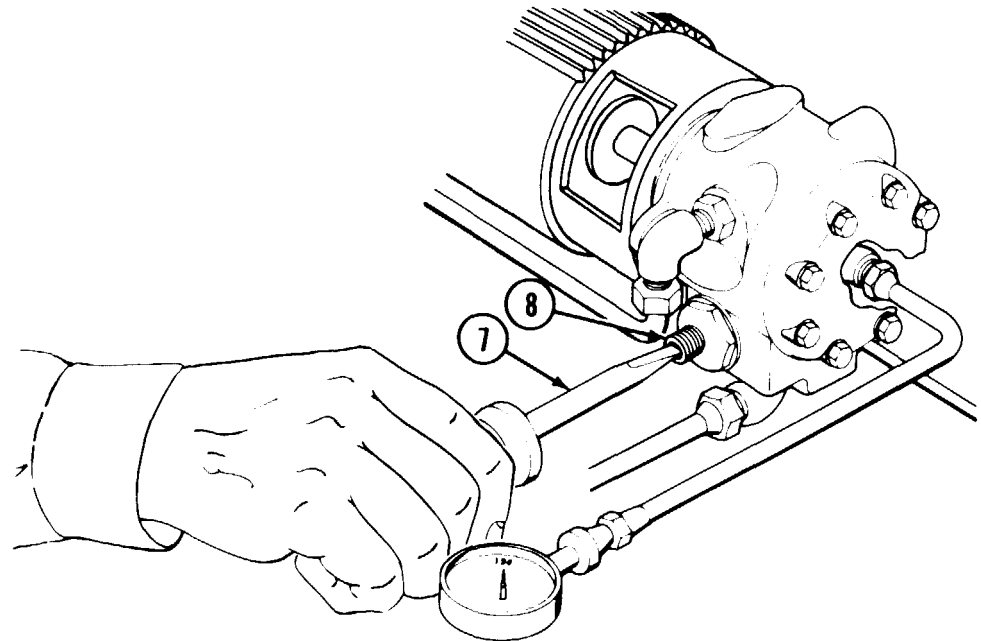
ADJUSTMENT (CONT)

Power Cable to Pump Unit/

- Step 10.* With the rotary power-driven pump pumping, slightly loosen the tube coupling nut (5) at the adapter (1) and bleed the test line (6). When fuel comes out of the tube coupling nut area, tighten the tube coupling nut (5) at the adapter (1).
- Step 11.* Leave the HEATER ON/PURGE ON switch in PURGE ON position for two minutes; then place the HEATER ON/PURGE ON switch to HEATER ON position.



- Step 12.* Monitor the pressure to make sure it reads 150 psi. Turn the pressure adjusting screw (7) (located where the end cap nut was removed) clockwise or counterclockwise, as necessary, until an indication of 150 psi pressure is reached. When the pressure is 150 psi on the test indicator, place the HEATER ON/PURGE ON switch to PURGE ON position. Screw the end cap nut (4) onto the rotary power-driven pump adjustment port (8).
- Step 13.* See TM 3-4230-209-10 for instructions on how to shut down the pump unit assembly.
- Step 14.* Disconnect power cable assembly from the pump unit assembly.



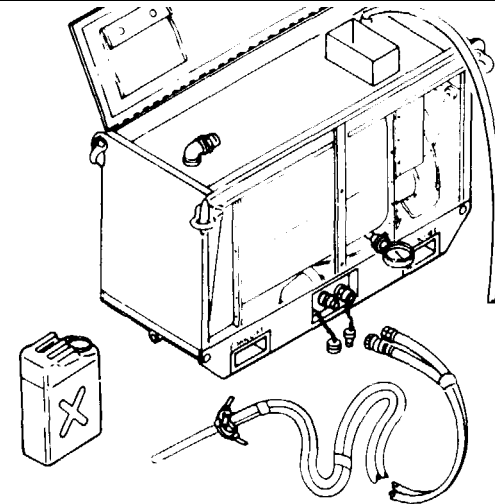
2-48. FUEL PUMP ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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ADJUSTMENT (CONT)

Power Cable to Pump Unit/

- Step 15.* Loosen the tube coupling nut at the adapter to allow fuel to drain from the fabricated test line.
- Step 16.* Disconnect the fuel hose assembly from the water heater and from the five gallon gasoline can. Dispose of fuel in accordance with local directives.
- Step 17.* Roll up fuel hose assembly and power cable assembly, and stow in the top cabinet storage area.
- Step 18.* Unscrew test line tube coupling nut from the rotary power-driven pump. Reconnect the nozzle pressure line and retighten the tube coupling nut.
- Step 19.* Restore the water heater to normal condition.



2-49. FUEL SUPPLY LINE.

This task covers repair.

INITIAL SETUP*Tools and Special Tools*

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Materials/Parts

Fuel supply line (fig D-58)

Equipment Condition

Fuel supply line removed from skid base assembly.

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

REPAIR

Fuel Supply Line/

Fabricate new fuel supply line according to figure D-58

2-50. GAGE PORT LINE.

This task covers repair.

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition

Gage port line removed from skid base assembly.

Materials/Parts

Gage port line (fig D-60)

LOCATION/ITEM

ACTION

REMARKS

REPAIR

Gage Port Line/

Fabricate new gage port line according to figure D-60.

2-51. PUMP RETURN LINE.

This task covers repair,

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition

Pump return line removed from skid base assembly.

Materials/Parts

Pump return line (fig D-57)

LOCATION/ITEM

ACTION

REMARKS

REPAIR

Pump Return Line/

Fabricate new pump return line according to figure D-57.

2-52. PURGE AND BYPASS RETURN LINE.

This task covers repair.

INITIAL SETUP
Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition

Purge and bypass return line removed from skid base assembly.

Materials/Parts

Purge and bypass return line (fig D-59)

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

REPAIR

Purge and Bypass Return Line/	Fabricate new purge and bypass return line according to figure D-59.	
-------------------------------	--	--

2-53. LOW PRESSURE HEATING BOILER ASSEMBLY.

This task covers:

- a. Disassembly
- b. Repair

- c. Reassembly
- d. Test

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Test Equipment

M5 Test Set

Materials/Parts

Antiseizing tape (item 38, app C)
Fire box gasket (fig D-20)
Side fire box gasket (fig D-4)

References

TM 3-1040-251-15
TM 3-4230-209-20&P

Equipment Condition

Unit maintenance authorized components are removed in
TM 3-4230-209-20&P and are not covered in this manual.

Special Safety Instructions

WARNING

When handling asbestos material, always wear an air filtering respirator, gloves, and goggles. Wash face and hands with soap and water before eating or smoking. Asbestos can cause cancer if handled without protection.

LOCATION/ITEM

ACTION

REMARKS

DISASSEMBLY

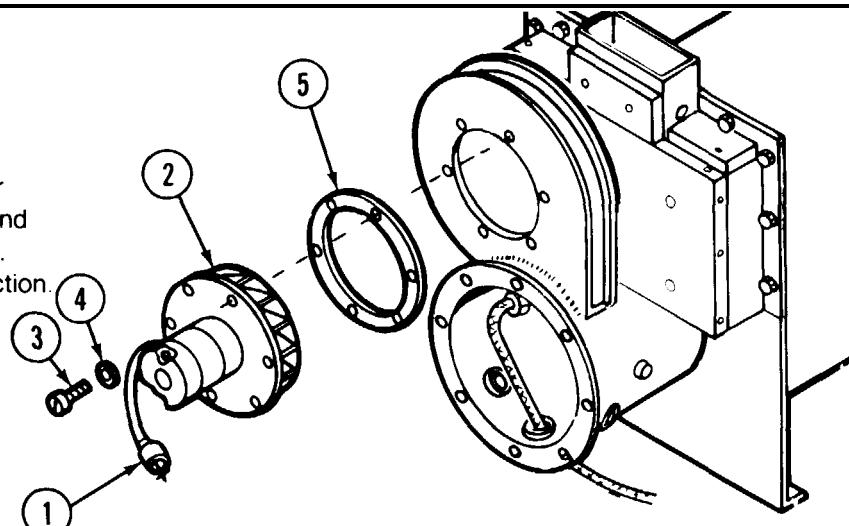
Low Pressure Heating
Boiler Assembly/

- Electrical lead (1)
- Combustion motor
mounting assembly (2)
- Hexagon head cap
screws (3)
- Internal tooth lock
washers (4)
- Gasket (5)

WARNING

When handling asbestos material, always wear an air filtering respirator, gloves, and goggles. Wash face and hands with soap and water before eating or smoking. Asbestos can cause cancer if handled without protection.

Disconnect the electrical lead (1) to combustion motor mounting assembly (2). Unscrew and remove six hexagon head cap screws (3) and seven lock washers (4). Lift off combustion motor mounting assembly (2) and gasket (5).



2-53. LOW PRESSURE HEATING BOILER ASSEMBLY (CONT).

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

DISASSEMBLY (CONT)

Low Pressure Heating
Boiler Assembly/

Ignition-combustor cable
assembly (6)
Nonmetallic grommet (7)

Remove ignition-combustor cable assembly (6) and nonmetallic grommet (7).

Machine bolts (8)
Internal tooth lock
washers (9)
Combustor assembly (10)

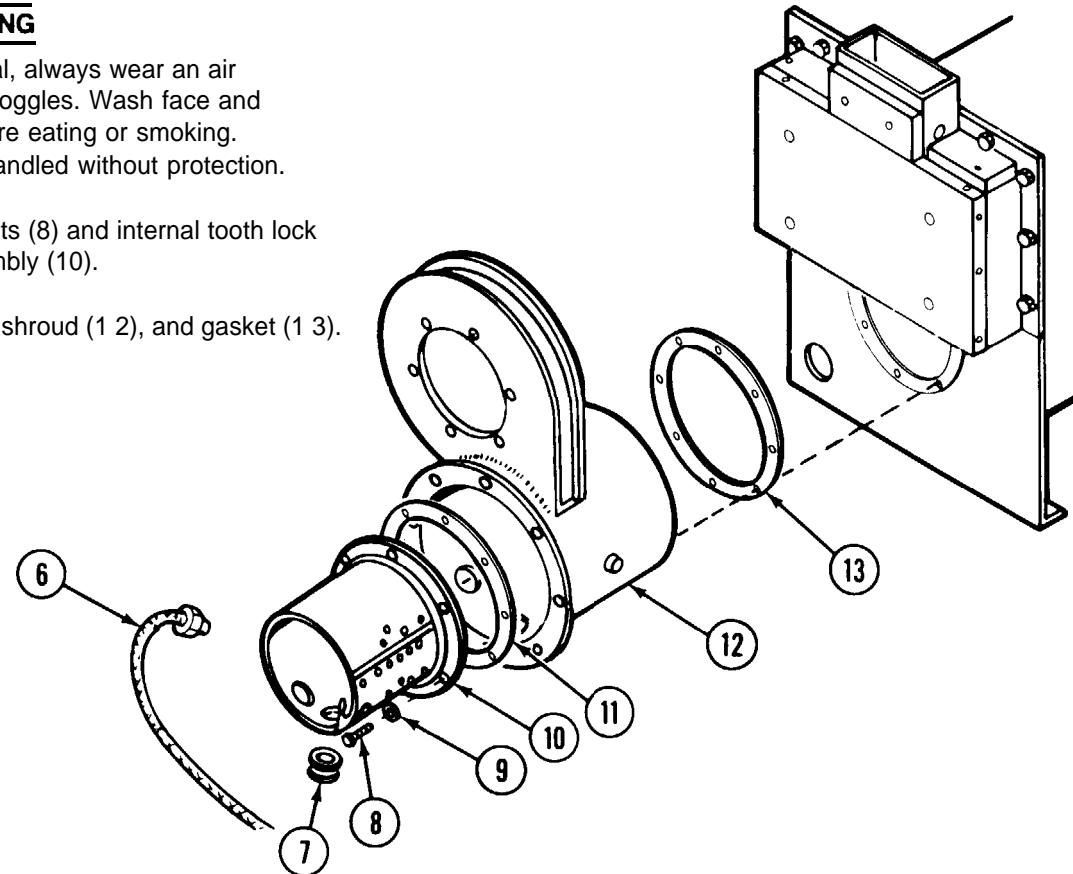
WARNING

When handling asbestos material, always wear an air filtering respirator, gloves, and goggles. Wash face and hands with soap and water before eating or smoking. Asbestos can cause cancer if handled without protection.

Unscrew and remove eight machine bolts (8) and internal tooth lock washers (9). Slide out combustor assembly (10).

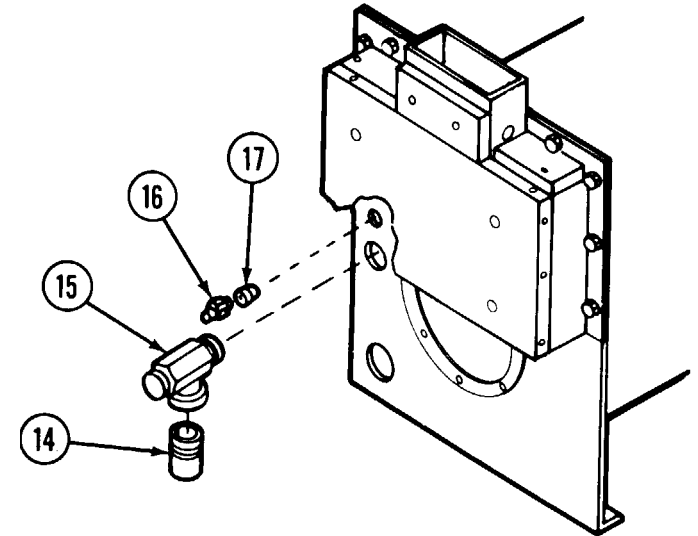
Gasket (11)
Combustor blower
shroud (12)
Gasket (13)

Remove gasket (11), combustor blower shroud (12), and gasket (13).



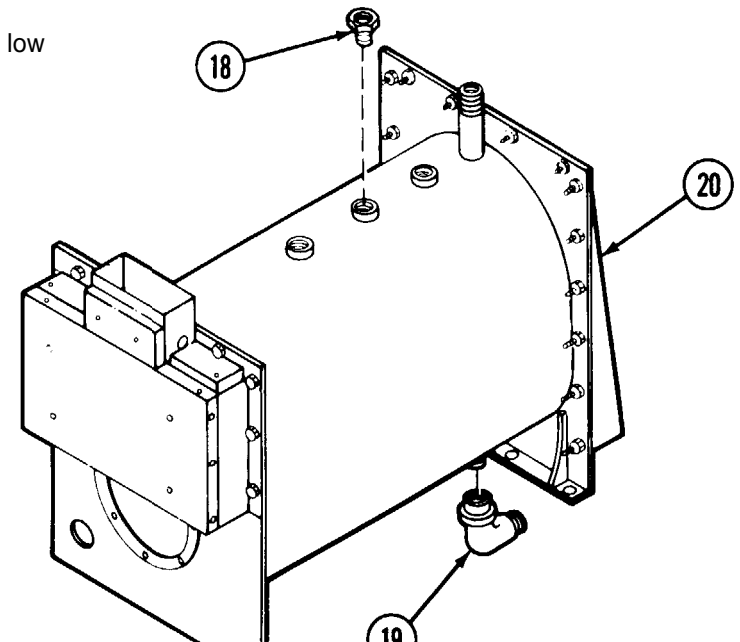
Pressure relief valve
pipe nipple (14)
Safety relief valve (15)
Pipe-to-tube straight
adapter (16)
Pipe bushing (17)

Unscrew and remove pressure relief valve pipe nipple (14), safety relief valve (15), pipe-to-tube straight adapter (16), and pipe bushing (17).



Pipe bushing (18)
Pipe elbow (19)
Low pressure heating
boiler (20)

Unscrew and remove pipe bushing (18) and pipe elbow (19) from low pressure heating boiler (20).



2-53. LOW PRESSURE HEATING BOILER ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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DISASSEMBLY (CONT)

Low Pressure Heating
Boiler Assembly/

WARNING

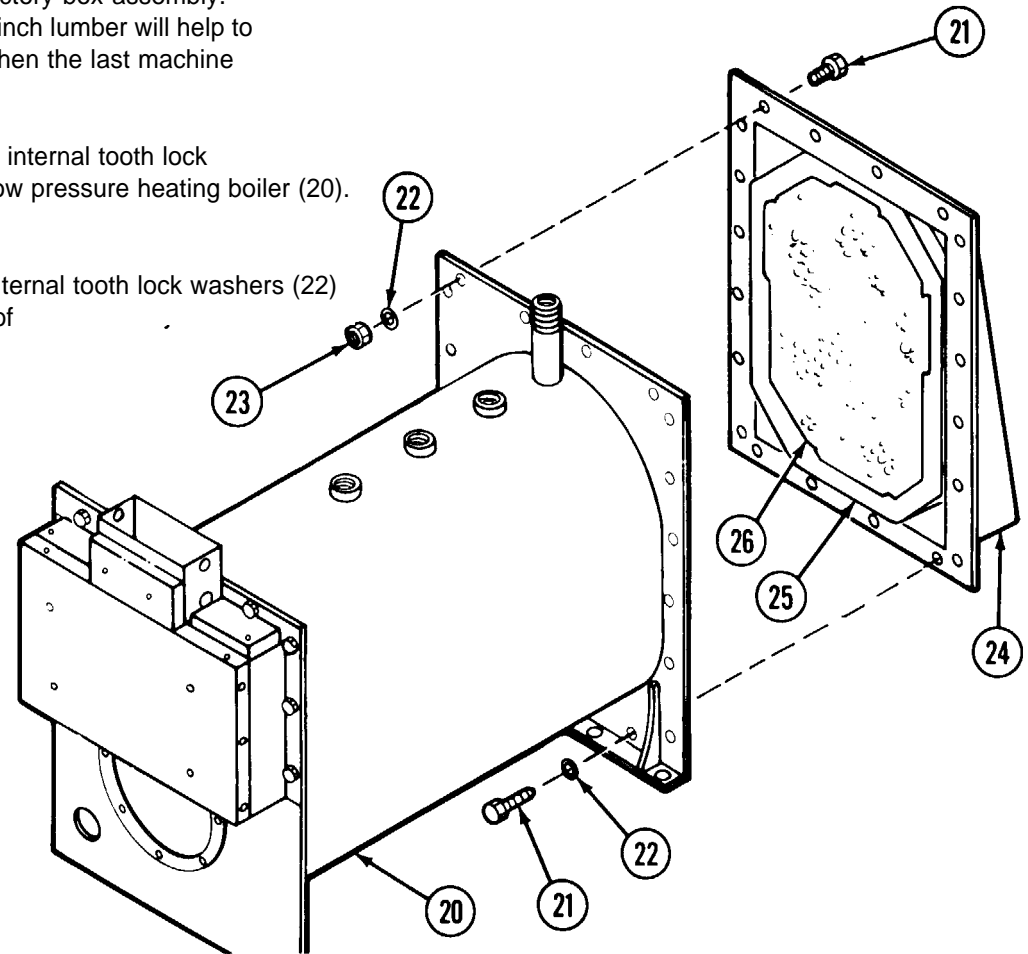
Be careful when removing the refractory box assembly. Using a pry bar or a length of 2 X 4 inch lumber will help to prevent crushed fingers or hands when the last machine screw is removed.

- Machine screws (21)
- Internal tooth lock washers (22)
- Hexagon plain nuts (23)
- Refractory box assembly (24)
- Refractory lining (25)
- Refractory castable mix (26)

Remove the four machine screws (21) and internal tooth lock washers (22) from the bottom side of the low pressure heating boiler (20).

Remove twelve hexagon plain nuts (23), internal tooth lock washers (22) and machine screws (21) from both sides of assembly (24).

Support the refractory box and remove four hexagon plain nuts (23), internal tooth lock washers (22), and machine screws (21) from the top side of the low pressure heating boiler (20). Remove refractory box assembly (24), refractory lining (25) and refractory castable mix (26), as a unit.



WARNING

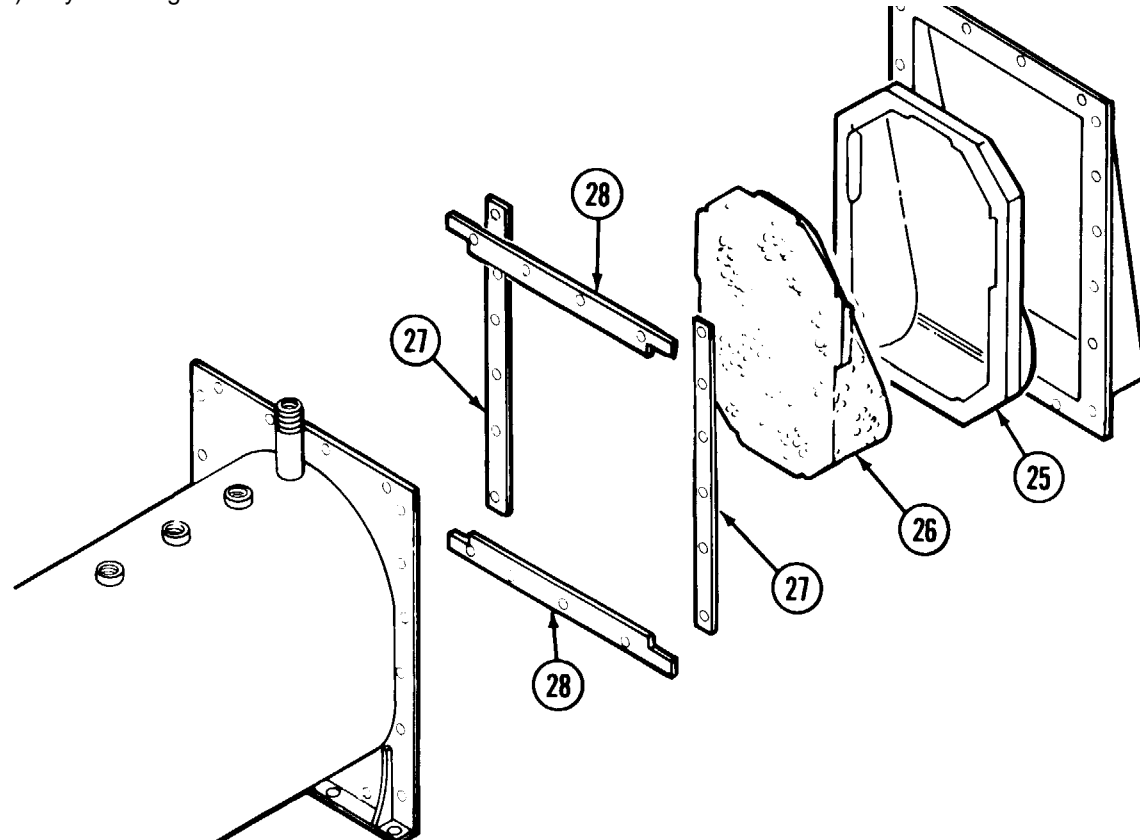
When handling asbestos material, always wear an air filtering respirator, gloves, and goggles. Wash face and hands with soap and water before eating or smoking. Asbestos can cause cancer if handled without protection.

Side fire box gaskets (27)
Fire box gaskets (28)

Remove the two side fire box gaskets (27) and two fire box gaskets (28).

If refractory castable mix has been damaged, the refractory lining must be replaced.

If installed, remove and discard refractory castable mix (26) and refractory lining (25) only if damaged.



2-53. LOW PRESSURE HEATING BOILER ASSEMBLY (CONT).

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

REPAIR

Low Pressure Heating
Boiler Assembly/
Side fire box gasket (3)
Fire box gasket (4)

Repair by replacing unserviceable components.

Fabricate side fire box gasket (4) (fig D-4) as required.

Fabricate fire box gasket (3) (fig D-20) as required.

REASSEMBLY

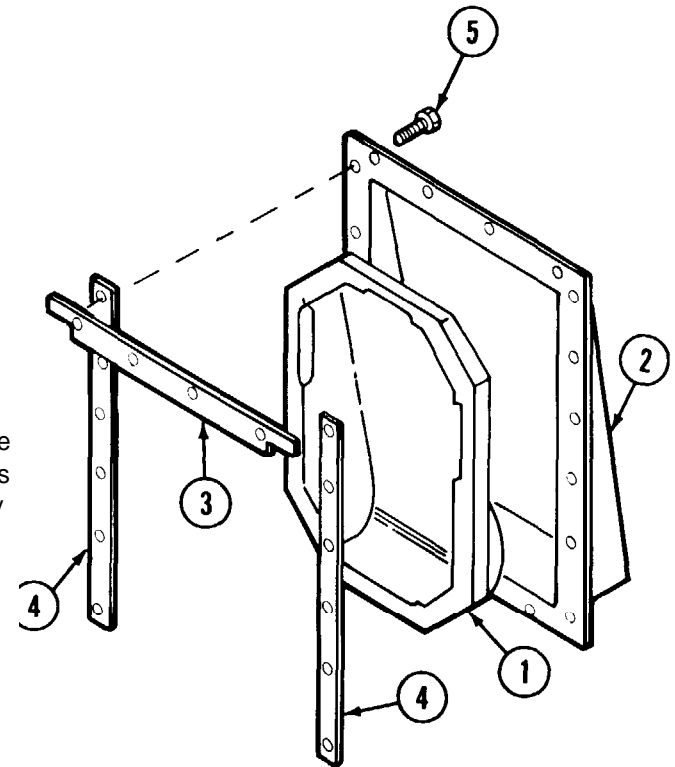
Low Pressure Heating
Boiler Assembly/

WARNING

When handling asbestos material, always wear an air filtering respirator, gloves, and goggles. Wash face and hands with soap and water before eating or smoking. Asbestos can cause cancer if handled without protection.

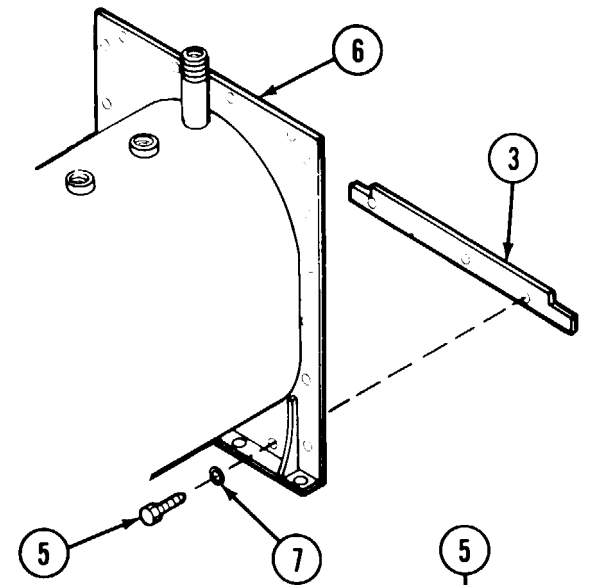
Refractory lining (1)
Refractory box
assembly (2)
Fire box gaskets (3)
Side fire box gaskets (4)
Machine screws (5)

Position new refractory lining (1) into refractory box assembly (2). Install the top fire box gasket (3) with notched ends facing downward along the top edge of refractory box assembly (2). Install two side fire box gaskets (4). Insert a couple machine screws (5) through refractory box assembly (2) and through each of the gaskets (3 and 4) to hold them in place.



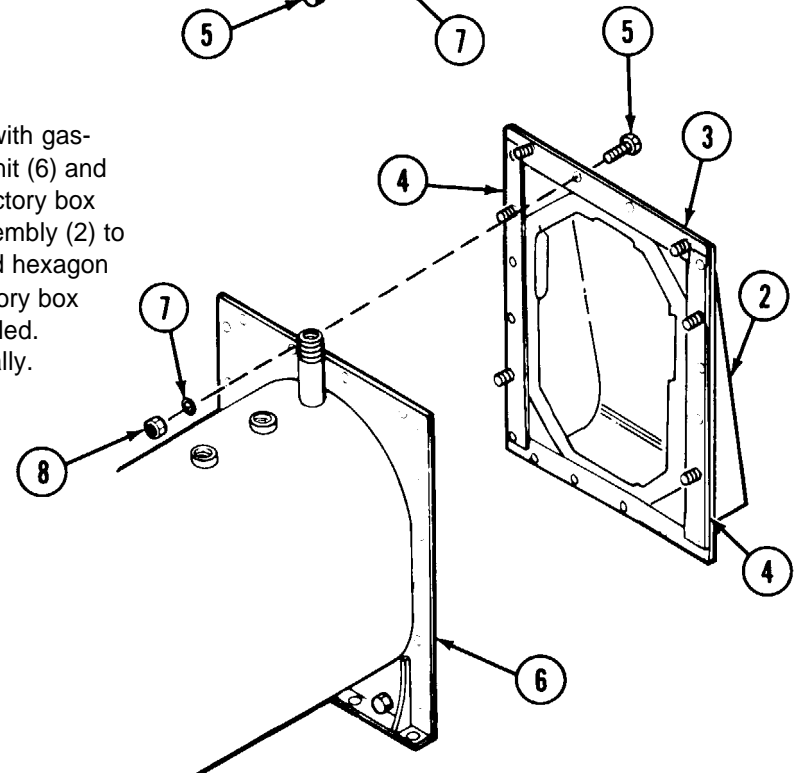
Boiler unit (6)
Internal tooth lock
washers (7)

Position the bottom fire box gasket (3) with notched end facing upward onto the boiler unit (6) and insert four machine screws (5) with internal tooth lock washers (7) through the boiler unit (6) and fire box gasket (3)



Hexagon plain nuts (8)

With two or more soldiers, lift the refractory box assembly (2) with gaskets, screws, and lining in place. Position it onto end of boiler unit (6) and aline holes. Install remaining machine screws (5) through refractory box assembly (2) and gaskets (3 and 4). Secure refractory box assembly (2) to boiler unit (6) with remaining internal tooth lock washers (7) and hexagon plain nuts (8). Check all the way around the edge of the refractory box assembly (2) to make sure gaskets (3 and 4) are properly installed. Tighten all machine screws (5) and hexagon plain nuts (8) equally.



2-53. LOW PRESSURE HEATING BOILER ASSEMBLY (CONT).

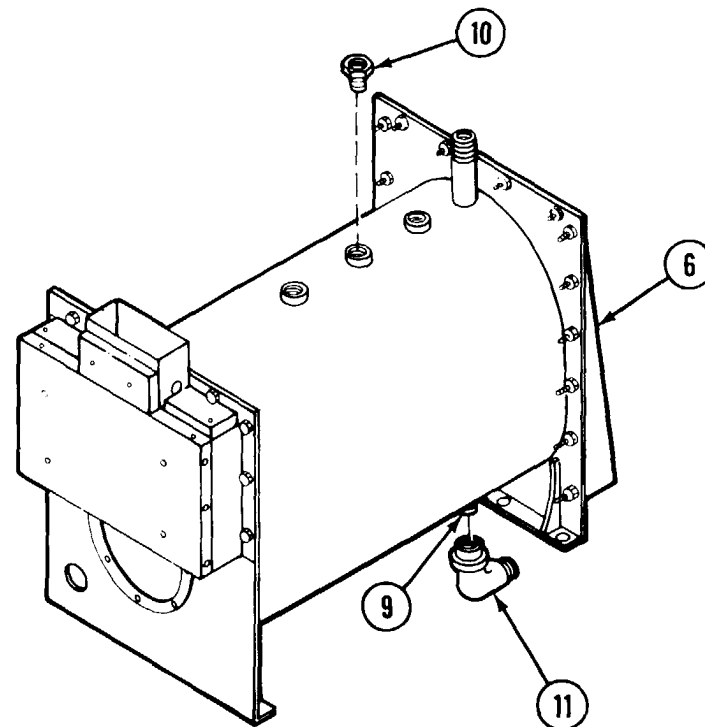
LOCATION/ITEM

ACTION

REMARKS

REASSEMBLY (CONT)Low Pressure Heating
Boiler Assembly/Connector (9)
Pipe bushing (10)
Pipe elbow (11)

Using antiseizing tape or sealing compound, wrap or coat the external threads of the connector (9) on the bottom of boiler unit (6) and pipe bushing (10). Screw on and tighten pipe bushing (10) and pipe elbow (11).



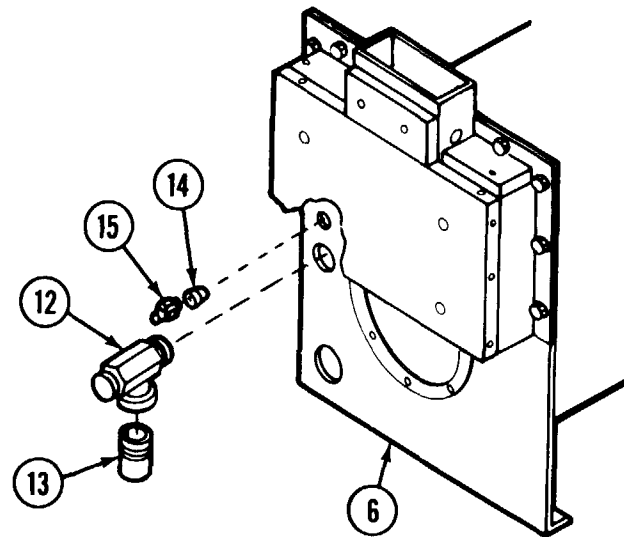
Safety relief valve (12)
Pressure relief valve pipe
nipple (13)
Pipe bushing (14)
Pipe-to-tube straight
adapter (15)

Using antiseizing tape or sealing compound, wrap or coat the external threads of safety relief valve (12), pressure relief valve pipe nipple (13), pipe bushing (14), and pipe-to-tube straight adapter (15).

Screw safety relief valve (12) into threaded hole in boiler unit (6) and tighten. The valve opening should face downward.

Screw pressure relief valve pipe nipple (13) into safety relief valve (12) and tighten.

Screw pipe bushing (14) into threaded hole in boiler unit (6) and tighten.
Screw pipe-to-tube straight adapter (15) into pipe bushing (14) and tighten.



2-53. LOW PRESSURE HEATING BOILER ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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REASSEMBLY (CONT)

Low Pressure Heating
Boiler Assembly/

Machine bolts (16)
Internal tooth lock
washers (17)
Combustor assembly (18)
Gasket (19)
Combustor blower
shroud (20)
Gasket (21)

WARNING

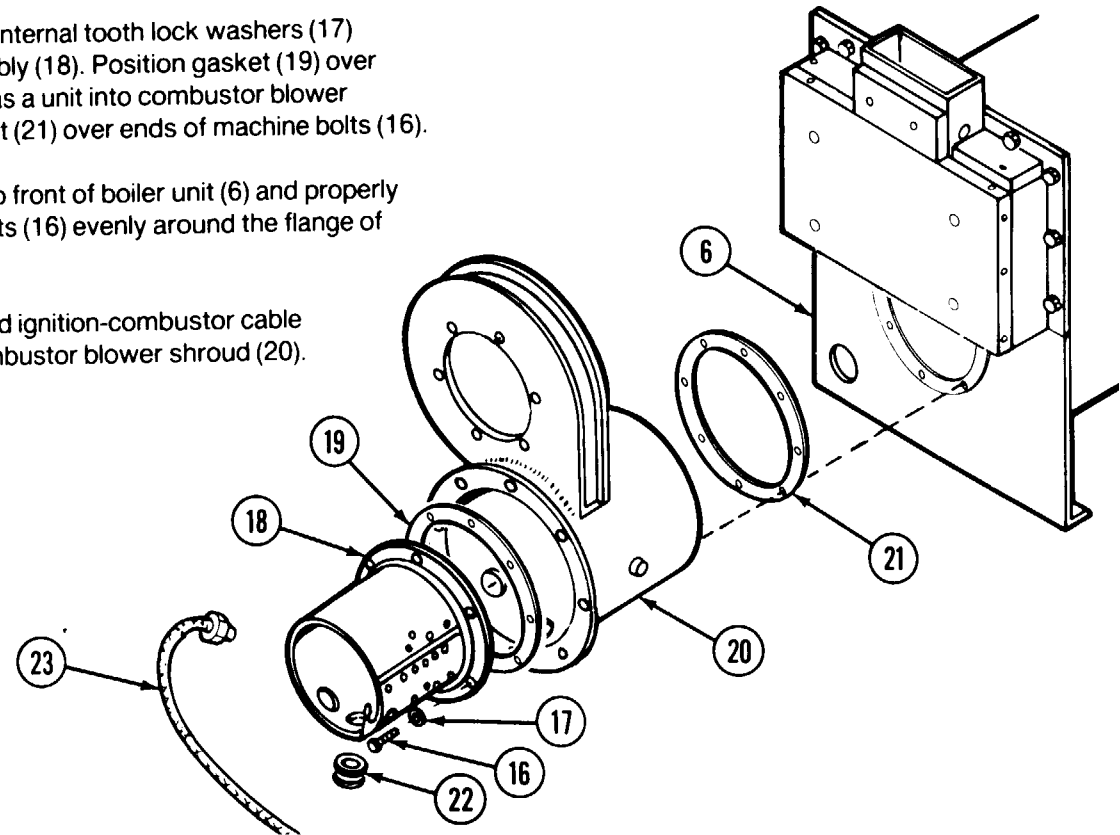
When handling asbestos material, always wear an air filtering respirator, gloves, and goggles. Wash face and hands with soap and water before eating or smoking. Asbestos can cause cancer if handled without protection.

Insert eight machine bolts (16) and internal tooth lock washers (17) around flange of combustor assembly (18). Position gasket (19) over ends of machine bolts (16), slide it as a unit into combustor blower shroud (20), and add second gasket (21) over ends of machine bolts (16).

Position entire assembled item onto front of boiler unit (6) and properly position. Tighten eight machine bolts (16) evenly around the flange of combustor assembly (18).

Nonmetallic grommet (22)
Ignition-combustor cable
assembly (23)

Install nonmetallic grommet (22) and ignition-combustor cable assembly (23) into openings of combustor blower shroud (20).



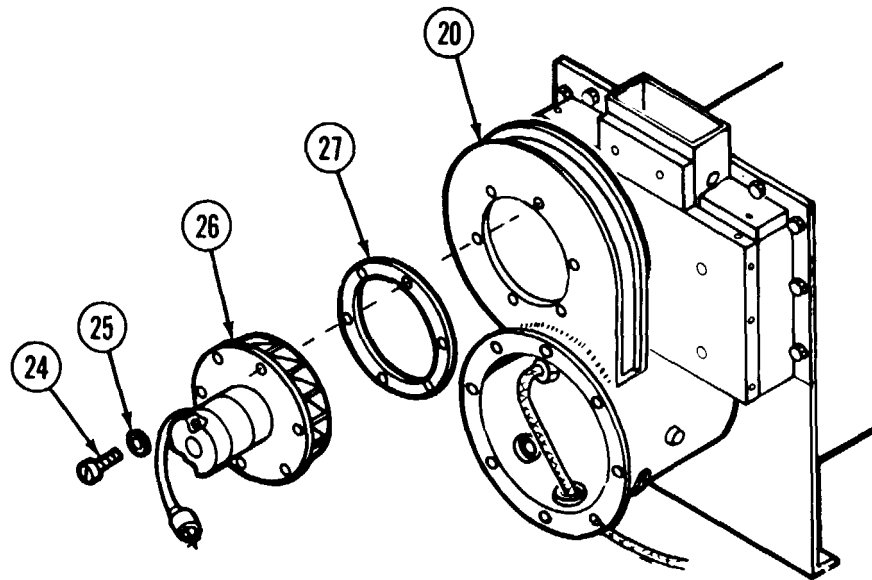
Hexagon head cap
screws (24)
Internal tooth lock
washers (25)
Combustor motor
mounting assembly (26)
Gasket (27)

WARNING

When handling asbestos material, always wear an air filtering respirator, gloves, and goggles. Wash face and hands with soap and water before eating or smoking. Asbestos can cause cancer if handled without protection.

Install six hexagon head cap screws (24) and seven internal tooth lock washers (25) through holes of combustor motor mounting assembly (26) and gasket (27).

Position assembled unit onto combustor blower shroud (20) and tighten the six hexagon head cap screws (24).



2-53. LOW PRESSURE HEATING BOILER ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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TEST

Low Pressure Heating
Boiler Assembly/

Quick disconnect coupling
half (1)
Water inlet elbow (2)
Pipe cap (3)

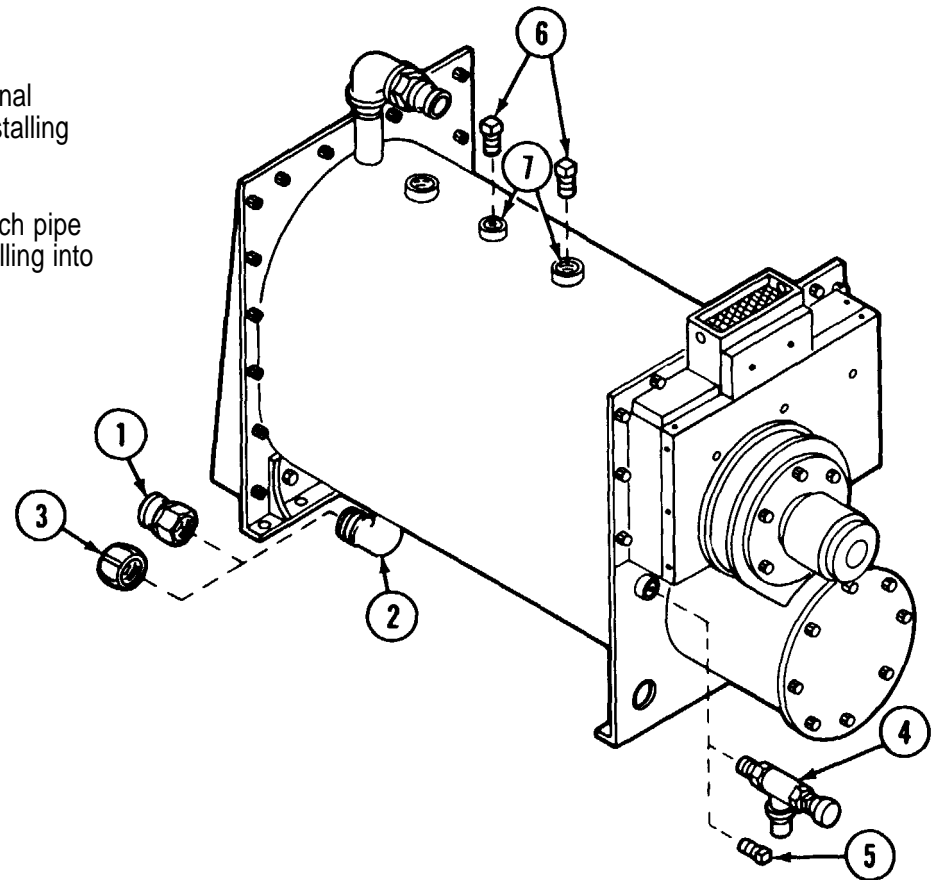
Remove quick disconnect coupling half (1) from
water inlet (2). Wrap external threads of water
inlet (2) and install a one inch pipe cap (3).

Safety relief valve (4)
Pipe plug (5)

Remove safety relief valve (4). Wrap external
threads of 1/2-inch pipe plug (5) before installing
into safety relief valve (4) opening.

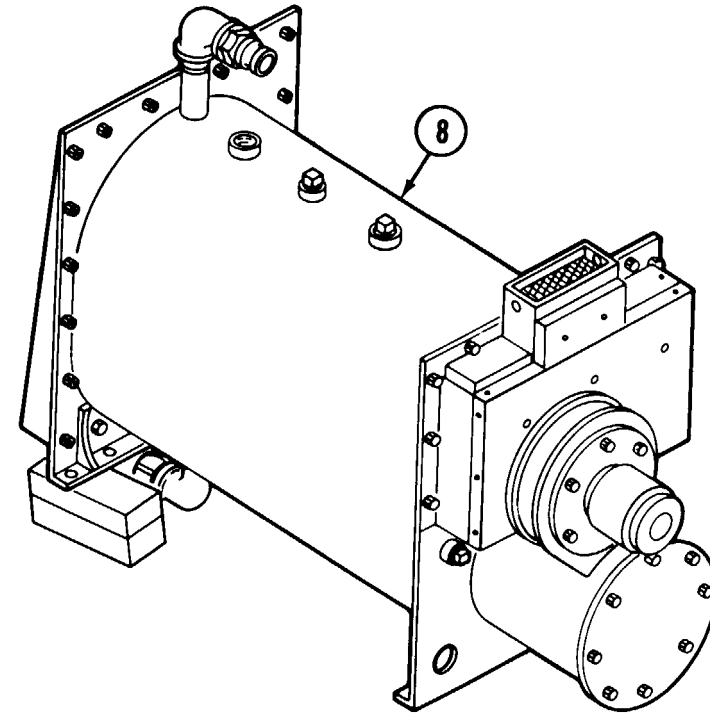
Pipe plugs (6)
Ports (7)

Wrap external threads of two of the 1/2-inch pipe
plugs (6) with antiseizing tape before installing
into the two ports (7) and secure.



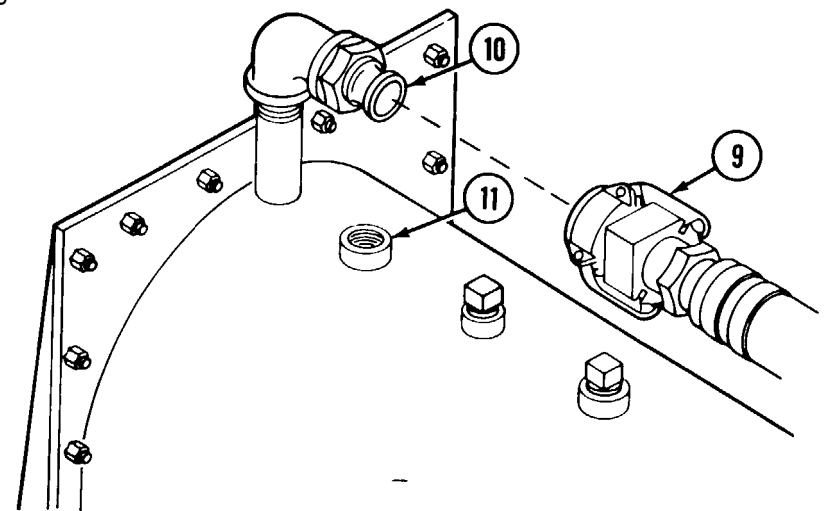
Low pressure heating boiler assembly (8)

Raise refractory end of low pressure heating boiler assembly (8) approximately four inches from the floor using 2 x 4 inch blocks or other heavy blocking materials. This will eliminate any air pockets in the boiler.



Water hose (9)
Quick disconnect coupling half (10)
Port (11)

Connect water hose (9) to quick disconnect coupling half (10). Fill low pressure heating boiler (8) with water until water flows from port (11). Shut off water. Disconnect water hose (9) from quick disconnect coupling half (10). Remove quick disconnect coupling half (10).



2-53. LOW PRESSURE HEATING BOILER ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
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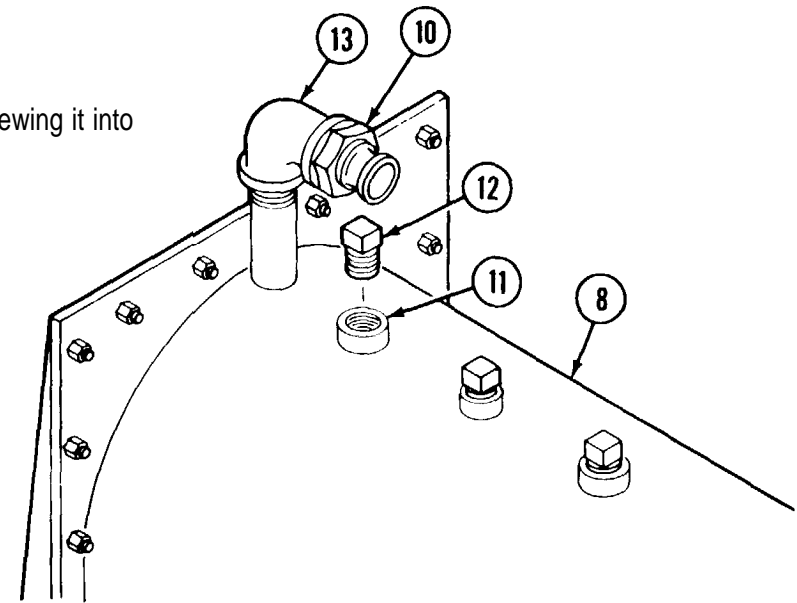
TEST (CONT)

Low Pressure Heating
Boiler Assembly/
Pipe plug (12)
Pipe elbow (13)

Wrap external threads of a 1/2-inch pipe plug (12) before screwing it into port (11).

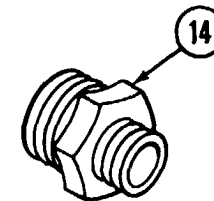
Remove quick disconnect coupling half (10) from 90° pipe elbow (13).

Continue filling low pressure heating boiler assembly (8) until water flows from 90° pipe elbow (13).



Check valve (14)

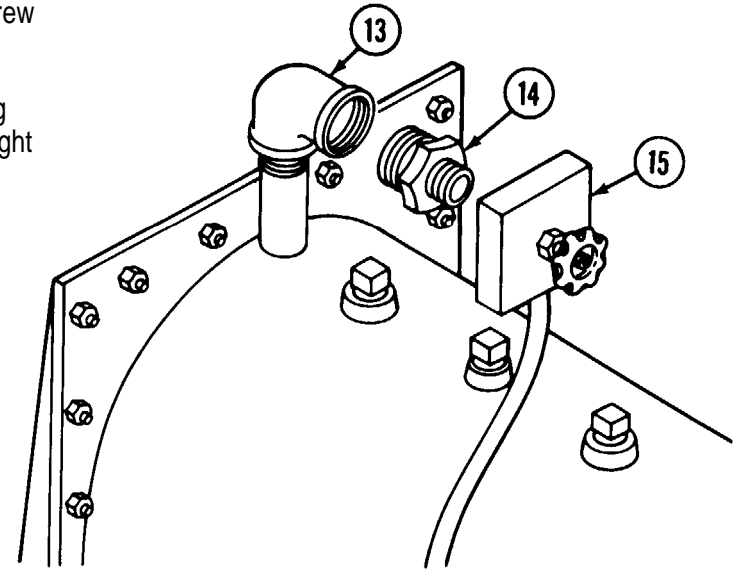
Select a check valve (14) (with 1-inch pipe thread to 3/4-14 in NPT) from the M5 test set. Remove the internal parts of the check valve (14) to make a reducing bushing.



Valve and hose assembly (15)

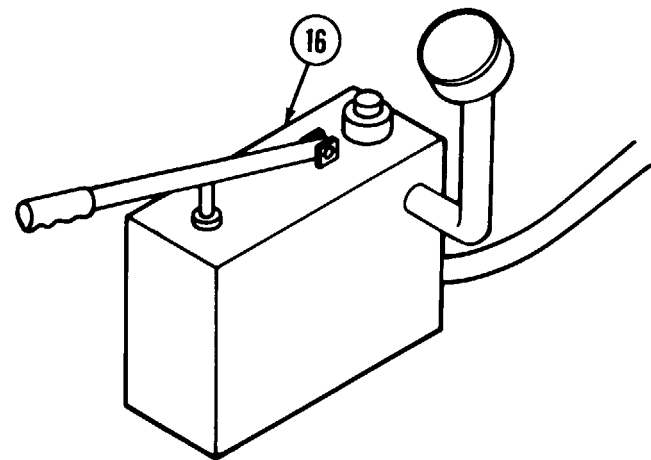
Wrap external threads of check valve (14) with antiseizing tape. Screw modified check valve (14) into 90° pipe elbow (13) and tighten.

Attach valve and hose assembly (15) from hand driven reciprocating pump to modified check valve (14). Make sure all connections are tight and not leaking. Correct any leaks before continuing with the test.



Hand driven reciprocating pump (16)

Fill hand driven reciprocating pump (16) with water.

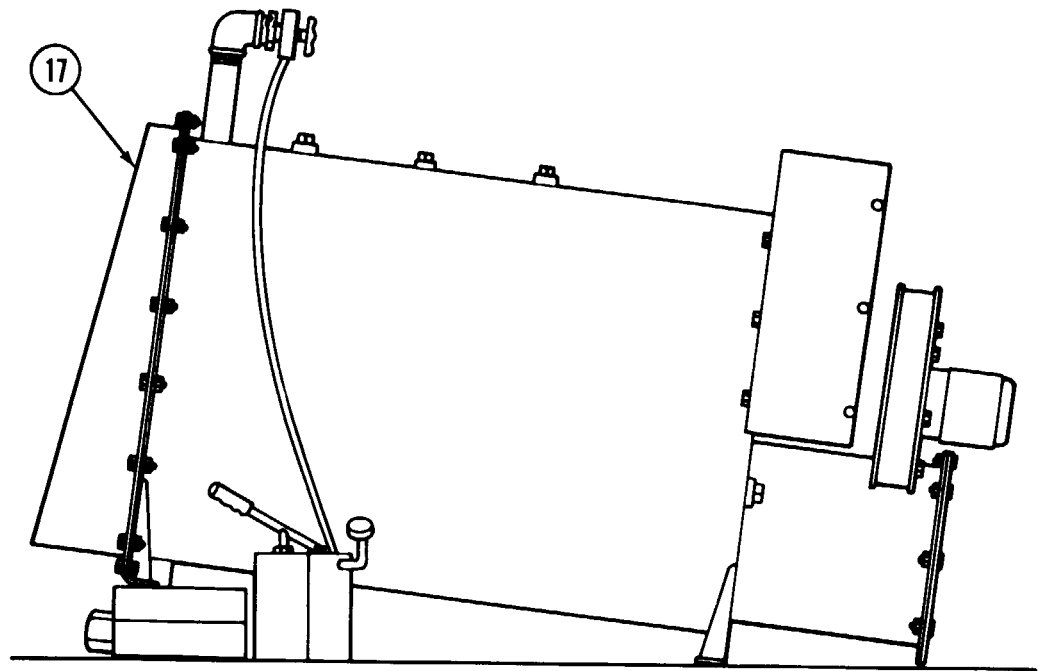


2-53. LOW PRESSURE HEATING BOILER ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
TEST (CONT)	<p data-bbox="483 373 724 414">Testing Operation</p> <p data-bbox="556 438 1123 503">Operate the hand-driven reciprocating pump. See TM 3-1040-251-15.</p> <p data-bbox="556 535 1333 698">Test that the low pressure heating boiler assembly withstands a pressure of 225 psi as indicated on the water pressure gage and the gage of the hand-driven reciprocating pump. Observe that the pressure of 225 psi, once applied, holds and does not drop after a 5-minute application.</p> <p data-bbox="556 730 1344 795">If pressure test is satisfactory, remove test equipment and return low pressure heating boiler assembly to service.</p> <p data-bbox="556 828 1323 893">If the low-pressure heating boiler assembly shows a pressure drop, go to Inspection and Repair Operation below.</p> <p data-bbox="483 925 882 958">Inspection and Repair Operation</p> <p data-bbox="556 990 1333 1149">Look for leaks at: Sheet metal welds. Inlet and outlet pipe welds. Adapter pipe welds for safety relief valve, water pressure gage, and temperature sensing ports.</p>	

Refractory box (17)

If necessary, remove refractory box (17) and check for leaks in the combustion chamber area and return tubes.



Low Pressure Heating
Boiler Assembly/

Mark any leak as it is found.

Remove pressure and make repairs.

Retest after making repairs. Release pressure.

2-54. COMBUSTION MOTOR MOUNTING ASSEMBLY.

This task covers:

- a. Disassembly
- b. Repair

c. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition

Combustion motor mounting assembly removed from low pressure heater boiler assembly.

LOCATION/ITEM

ACTION

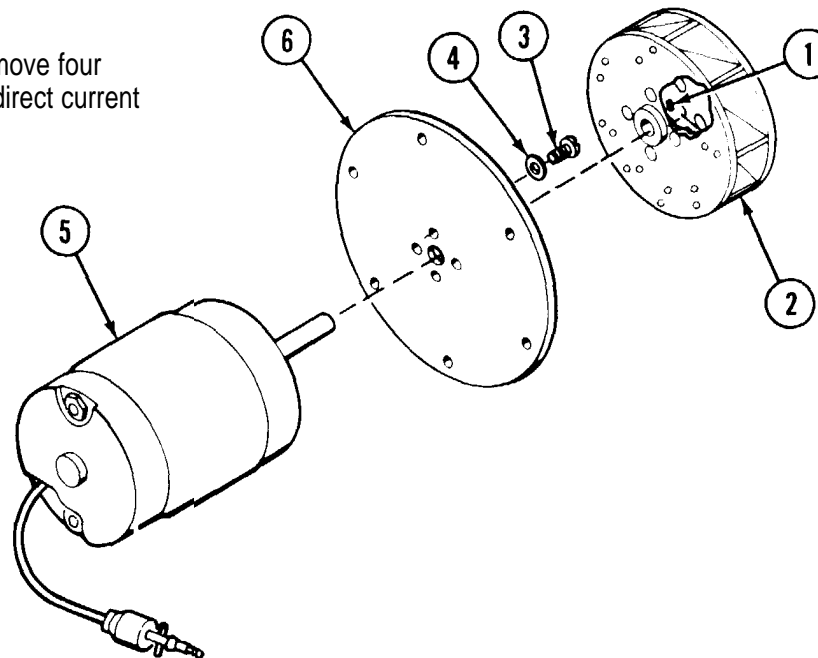
REMARKS

DISASSEMBLY

Combustion Motor
Mounting Assembly/

- Setscrew (1)
- Centrifugal fan impeller (2)
- Machine screw (3)
- Internal tooth lock washer (4)
- Direct current motor (5)
- Motor mounting plate (6)

Loosen setscrew (1) from centrifugal fan impeller (2). Remove four machine screws (3), internal tooth lock washers (4), and direct current motor (5) from motor mounting plate (6).



REPAIR

Combustion Motor
Mounting Assembly/

Repair by replacing authorized components.

REASSEMBLY

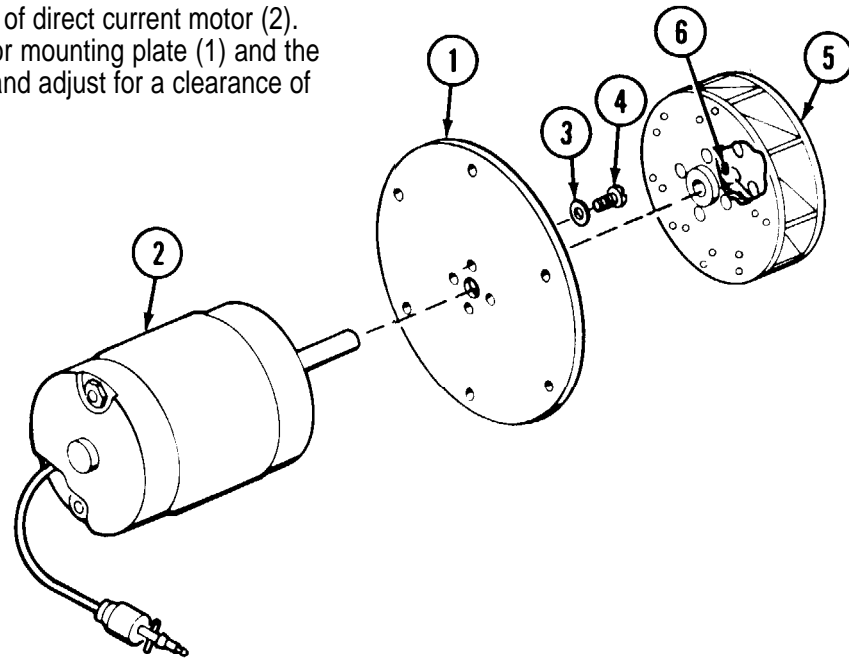
Combustion Motor
Mounting Assembly/

Motor mounting plate (1)
Direct current motor (2)
internal tooth lock
washers (3)
Machine screws (4)

Position mounting plate (1) and direct current motor (2) together and align holes. Secure with four internal tooth lock washers (3) and machine screws (4).

Centrifugal fan impeller (5)
Setscrew (6)

Slide centrifugal fan impeller (5) onto shaft of direct current motor (2). Measure between the flat surfaces of motor mounting plate (1) and the flat surface of centrifugal fan impeller (5), and adjust for a clearance of 0.590 inches. Tighten setscrew (6).



2-55. NOZZLE VALVE LINE.

This task covers repair.

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition

Nozzle valve line removed from low pressure heater boiler,

Materials/Parts

Nozzle valve line (fig D-62)

LOCATION/ITEM	ACTION	REMARKS
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REPAIR

Nozzle Valve Line/ Fabricate new nozzle valve line according to figure D-62

2-56. COMBUSTOR RETURN LINE.

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

This task covers repair.

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Field Maintenance
Shop Equipment, Basic, Less Power (SC 4910-95-CL-A31)

Equipment Condition

Combustor return line removed from low pressure heater boiler assembly.

Materials/Parts

Combustor return line (fig D-61)

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

REPAIR

Combustor Return Line/ Fabricate new combustor return line according to figure D-61.

Section V. PREEMBARKATION INSPECTION OF MATERIEL IN UNITS ALERTED FOR OVERSEAS MOVEMENT

2-57. GENERAL INFORMATION. This inspection is conducted on materiel in alerted units scheduled for overseas duty to ensure that such materiel will not become unserviceable in a relatively short time. It prescribes a higher percentage of remaining usable life in serviceable materiel to meet a specific need beyond minimum serviceability.

2-58. PREINSPECTION POINTS. The decontaminating apparatus must be thoroughly cleaned of all grease, dirt, or other material that could prevent proper operation or cover up the true condition of parts.

2-59. INSPECTION STANDARDS. Decontaminating apparatus classified serviceable must meet or exceed the inspection standards in the following tables:

Inspection Standard for Pump Unit
 Inspection Standard for Water Heater
 Inspection Standard for Tank Unit
 Inspection Standard for Shower Assembly.

INSPECTION STANDARD FOR PUMPING UNIT

Item	Inspection Standard	Item	Inspection Standard
Bolts and Screws	No stripped threads.	Paint	Painted surfaces must be in good condition and free of bare spots, rust and peeling.
Rivets	Must be tight.	Lifting and Tie-Down	Must be free of rust, cracks, breaks, or stripped threads.
Electrical Wiring and Cables	No loose or damaged connectors, cut or worn insulation, broken wires or kinks.	Eyes	
Welds	Welded joints must not show signs of separation or failure.	Control Panel	All valves, switches, and knobs must be operable. The glass windows on the gages must not be broken.
Instruction and Nameplates	Must be present, legible, and secure.	Engine	See TM 5-2805-259-14.
MWO's	Check that all required MWO's have been applied and are properly recorded. (See DA PAM 738-750.)	Hoses	Hoses and fittings must not be deformed or broken.

Item	Inspection Standard	Item	Inspection Standard
Hose Reels	Must function properly.	Pump	Pump body must not be cracked. Check that pump has been drained.
Plumbing	Must be free of leaks.	Battery	See TM 9-6140-200-14.
Gasoline Fuel System	Must be free of leaks.	Technical Publications	Must be packaged and taped to the top of pumping unit.
Drive Belts	Belts must not be cracked or glazed. Check belts for proper tension.	Tools	Must be present and in good condition.

INSPECTION STANDARD FOR WATER HEATER

Item	Inspection Standard	Item	Inspection Standard
Bolts and Screws	No stripped threads	Lifting and Tie-down Eyes	Must be free of rust, cracks, breaks, or stripped threads.
Rivets	Must be tight.	Hoses	Hoses and fittings must not be deformed or broken.
Electrical Wiring and Cables	No loose or damaged connectors, cut or worn insulation, broken wires or kinks.	Control Panel	All valves, switches, and knobs must be operable. The glass windows on the gages must not be broken.
Welds	Welded joints must not show signs of separation or failure.	Fuel System	Must be free of leaks,
Instruction and Nameplates	Must be present, legible, and secure	Water Heating Boiler	Boiler must be free of leaks. The spark arrestor must be present and free of damage. Nozzle and screen must be clean.
MWO's	Check that all required MWO's have been applied and are properly recorded. (See DA PAM 738-750.)	Tools	Must be present and in good condition
Paint	Painted surfaces must be in good condition and free of bare spots, rust, and peeling.		

INSPECTION STANDARD FOR TANK UNIT

Item	Inspection Standard	Item	Inspection Standard
Bolts and Screws	No stripped threads.	Diaphragm Valve	Must not leak. Must be operable throughout its entire range from full open to shut off. Protective cap must be in place.
Welds	Welded joints must not show signs of separation or failure.	Hoses	Hoses and fittings must not be deformed or broken.
Lifting and Tie-down Eyes	Must be free of rust, cracks, breaks, or stripped threads.	Hopper-blender	Must not be punctured. Numbers on the tank liquid level indicator must be legible. Gaskets must be present and in good condition. Strainer must be clean.
Paint	Painted surfaces must be in good condition and free of bare spots, rust, and peeling.		
Water Tank	Must be free of leaks.		

INSPECTION STANDARD FOR SHOWER ASSEMBLY

Item	Inspection Standard	Item	Inspection Standard
Pipes	Piping must not be bent or broken or have missing lengths. Holes must be clear in the showering section pipes. Threads must not be stripped.	Gaskets	Must be present in couplings and free of cracks.
Quick Release Couplings	Both halves must be present and not deformed or broken.	Sediment Strainer	The mesh screen must be clean and free of tears.

APPENDIX A REFERENCES

A-1 . ARMY REGULATIONS.

- AR 735-11-2 Reporting of Item and Packaging Discrepancies
 AR 746-1 Packaging of Army Materiel for Shipment and Storage
 AR 755-2 Disposal of Excess. Surplus. Foreign Excess. Captured. and Unwanted Materiel

A-2. DEPARTMENT OF ARMY PAMPHLETS.

- DA PAM 310-1 Consolidated Index of Army Publications and Blank Forms
 DA PAM 738-750 The Army Maintenance Management Systems (TAMMS)

A-3. FIELD MANUAL.

- FM10-16 General Fabric Repair
 FM 21-11 First Aid for Soldiers

A-4. LUBRICATION ORDERS.

- LO 3-4230-209-10 Decontaminating Apparatus, Power-Driven, Skid-Mounted, Multipurpose, Nonintegral, 500-Gallon, ABC-M12A1
 LO 5-2805-259-12 Engine, Gasoline, 20 HP, Military Standard Models (Model 4A084-2 and 4A084-3) (LI-03524B-10-1A; TO 38G2-89-41LC-1)

A-5. MILITARY STANDARDS.

- MIL-STD-171 Finishing of Metal and Wood Surfaces
 MIL-STD-681 Identification Coding and Application of Hookup and Lead Wire

A-6. COMMON TABLE OF ALLOWANCES.

- CTA 8-100 Army Medical Department Expendable/Durable Items
 CTA 50-970 Expendable/Durable Items (Except: Medical, Class V, Repair Parts and Heraldic Items)

A-7. TECHNICAL BULLETINS.

- TB 43-180 Calibration and Repair Requirements for the Maintenance of Army Material

A-8. TECHNICAL MANUALS

- TM 3-1040-251 -15 Operator's, Organizational, Direct Support, General Support and Depot Maintenance Manual: Test Set, Flame Thrower - Riot Control Agent Disperser Hydrostatic and Volumetric, 6,000 PSI,M5
- TM 3-4230-209-10 Operator's Manual: Decontaminating Apparatus, Power-Driven, Skid-Mounted, 500-Gallon, M12A1
- TM 3-4230-209-20&P Unit Maintenance Manual Including Repair Parts and Special Tools List: Decontaminating Apparatus, Power-Driven, Skid-Mounted, 500-Gallon, M12A1
- TM 5-2805-259-14 Operator's, Organizational, Direct Support, and General Support Maintenance Manual: Engine, Gasoline, 20 HP (Military Standard Models 4A084-2) (NSN 2805-00-952-3926) and (Model 4A083-3) (2805-00-872-5972) (TM-03524B-14; to 38G2-89-411)
- TM 9-237 Operator's Manual for Welding Theory and Application
- TM 9-6140-200-14 Operator's, Organizational, Direct Support and General Support Maintenance Manual for Lead-Acid Storage Batteries
- TM 38-230-1 Packaging of Materiel: Preservation (Vol 1)
- TM 43-0139 Painting Instructions for Field Use

A-9. OTHER PUBLICATIONS.

- QSTAG 233 American-British-Canadian-Australian-NewZealand Armies Standardization Program Decontaminating Apparatus, Power-Driven, Skid- Mounted: Multipurpose, Nonintegral, 500-Gallon, ABC-M12A1

APPENDIX B
INTERMEDIATE DIRECT SUPPORT MAINTENANCE
REPAIR PARTS AND SPECIAL TOOLS LIST
(INCLUDING DEPOT MAINTENANCE REPAIR PARTS)

Section I. INTRODUCTION

B-1. SCOPE. This RPSTL lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of organizational and direct support maintenance of the decontaminating apparatus. It authorizes the requisitioning, issue, and disposition of spares, repair parts and special tools indicated by the Source, Maintenance and Recoverability (SMR) codes.

B-2. GENERAL. In addition to Section 1, Introduction, this Repair Parts and Special Tools List is divided into the following sections:

a. *Section II. Repair Parts List.* A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Bulk materials are listed by item name in FIG. BULK at the end of the section. Repair parts kits are listed separately in their own functional group within section II.

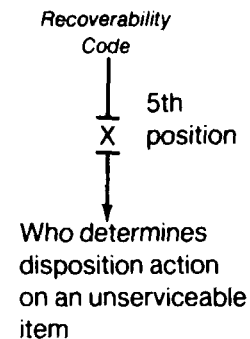
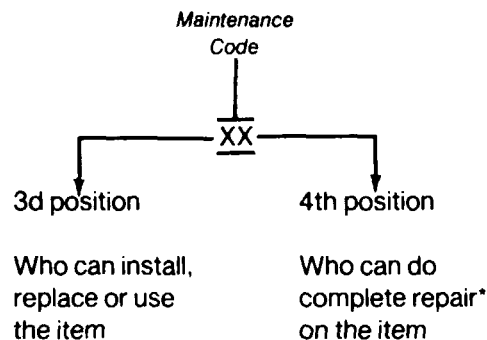
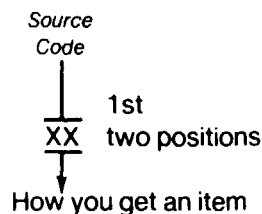
b. *Section III. Special Tools List.* Not applicable.

c. *Section IV. National Stock Number and Part Number Index.* A list, in National item identification number (NIIN) sequence, of all National stock numbered items appearing in the listing, followed by a list in alphanumeric sequence of all part numbers appearing in the listing. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance.

B-3. EXPLANATION OF COLUMNS (SECTION II).

a. *ITEM NO. (Column (1)).* Indicates the number used to identify items called out in the illustration.

b. *SMR CODE (Column (2)).* The Source, Maintenance, and Recoverability (SMR) code is a 5-position code containing supply/requisitioning information, maintenance level authorization criteria, and disposition instruction, as shown in the following breakout:



*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.

(1) 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:

Code

Explanation

PA
PB
PC**
PD
PE
PF
PG

Stocked items; use the applicable NSN to request/requisition items with these source codes. They are authorized to the level indicated by the code entered in the 3d 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 3d position of the SMR code. The complete kit must be requisitioned and applied.

MO-(Made at unit/
AVUM Level)
MF-(Made at intermediate
DS/AVIM Level)
MH-(Made at intermediate
GS Level)
ML-(Made at
Specialized
Repair Act (SRA)
MD-(Made at Depot)

Items with these codes are not to be requested/requisitioned individually. They must be made from bulk material which is identified by the part number in the DESCRIPTION AND USABLE ON CODE (UOC) column and listed in the bulk material group in the repair parts list in this RPSTL. If the item is authorized to you by the 3d position code of the SMR code, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance.

AO-(Assembled by
unit/AVUM Level)
AF-(Assembled by
intermediate DS/
AVIM Level)
AH-(Assembled by
intermediate GS Level)
AL-(Assembled by
SRA)
AD-(Assembled by
Depot)

Items with these codes are not to be requested/requisitioned individually. The parts that makeup the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the 3d position code of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher level, order the item from the higher level of maintenance.

XA - Do not requisition an "XA" -coded item. Order its next higher assembly. (Also, refer to the NOTE below.)

XB - If an "XB" item is not available from salvage, order it using the FSCM and part number given.

XC - Installation drawing, diagram, instruction sheet, field service drawing, that is identified by manufacturer's part number.

XD - Item is not stocked. Order an "XD" -coded item through normal supply channels using the FSCM and part number 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 source coded "XA".

(2) Maintenance code. Maintenance codes tell you the level(s) of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:

(a) 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 one of the following levels of maintenance:

<i>Code</i>	<i>Application/Explanation</i>
C	- Crew or operator maintenance done within unit or aviation unit maintenance.
O	- Unit or aviation unit category can remove, replace, and use the item.
F	- Intermediate direct support or aviation intermediate level can remove, replace, and use the item.
H	- Intermediate general support level can remove, replace, and use the item.
L	- Specialized repair activity can remove, replace, and use the item.
D	- Depot level can remove, replace, and use the item.

(b) 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 (i.e., 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.

This position will contain one of the following maintenance codes:

<i>Code</i>	<i>Application/Explanation</i>
O	- Unit or aviation unit is the lowest level that can do complete repair of the item.
F	- Intermediate direct support or aviation intermediate is the lowest level that can do complete repair of the item.
H	- Intermediate 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	- Nonreparable. No repair is authorized.
B	- No repair is authorized. (No parts or special tools are authorized for the maintenance of a "B" coded item.) However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

(3) Recoverability code. Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the SMR code as follows:

<i>Recoverability Codes</i>	<i>Application/Explanation</i>
Z	- Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in 3d position of SMR code.
O	- Reparable item. When uneconomically reparable, condemn and dispose of the item at unit or aviation unit level.
F	- Reparable item. When uneconomically reparable, condemn and dispose of the item at the intermediate direct support or aviation intermediate level
H	- Reparable item. When uneconomically reparable, condemn and dispose of the item at the intermediate general support level.
D	- Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item not authorized below depot level.
L	- Reparable item. Condemnation and disposal not authorized below specialized repair activity (SRA).
A	- Item requires special handling or condemnation procedures because of specific reasons (e.g., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

c. FSCM (Column (3)). The Federal Supply Code for Manufacturer (FSCM) is a 5-digit numeric code which is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

d. PART NUMBER (Column (4)). Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.

NOTE

When you use an NSN to requisition an item, the item you receive may have a different part number from the part ordered.

e. DESCRIPTION AND USABLE ON CODE (UOC) (Column (5)). This column includes the following information:

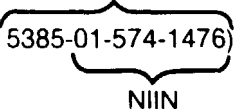
- (1) The Federal item name and, when required, a minimum description to identify the item.
- (2) Items that are included in kits and sets are listed below the name of the kit or set.
- (3) Spare/repair parts that make up an assembled item are listed immediately following the assembled item line entry.
- (4) Part numbers for bulk materials are referenced in this column in the line item entry for the item to be manufactured/fabricated.
- (5) The statement "END OF FIGURE" appears just below the last item description in column 5 for a given figure in both section II and section III.

f. QTY (Column (6)). 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 in lieu of a quantity indicates that the quantity is variable and the quantity may vary from application to application.

B-4. EXPLANATION OF COLUMNS (SECTION IV).

a. NATIONAL STOCK NUMBER (NSN) INDEX.

(1) STOCK NUMBER column. This column lists the NSN by National item identification number

(NIIN) sequence. The NIIN consists of the last nine digits of the (i.e., ).

When using this column to locate an item, ignore the first 4 digits of the NSN. However, the complete NSN should be used when ordering items by stock number.

(2) FIG. column. This column lists the number of the figure where the item is identified/located. The figures are in numerical order in section II and section III.

(3) 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.

b. *PART NUMBER INDEX*. Part numbers in this index are listed by part number in ascending alphanumeric sequence (i.e., vertical arrangement of letter and number combination which places the first letter or digit of each group in order A through Z, followed by the numbers O through 9 and each following letter or digit in like order).

(1) FSCM column. The Federal Supply Code for Manufacturer (FSCM) is a 5-digit numeric code used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

(2) PART NUMBER column. Indicates the primary number used by the manufacturer (individual, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.

(3) STOCK NUMBER column. This column lists the NSN for the associated part number and manufacturer identified in the PART NUMBER and FSCM columns to the left.

(4) FIG. column. This column lists the number of the figure where the item is identified/located in section II.

(5) ITEM column. The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

B-5. SPECIAL INFORMATION.

a. *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 D of this manual.

b. *Assembly Instructions*. Detailed assembly instructions for items source coded to be assembled from component spare/repair parts are found in this manual. Items that make up the assembly are listed immediately following the assembly item entry or reference is made to an applicable figure.

c. *Kits*. Line item entries for repair parts kits appear in a group in section II (see table of contents).

d. *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 National Stock Number/Part Number index and the bulk material list in section II.

B-6. HOW TO LOCATE REPAIR PARTS.*a. When National Stock Number or Part Number is Not Known:*

- (1) First. Using the table of contents, determine the assembly group or subassembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and listings are divided into the same groups.
- (2) Second. Find the figure covering the assembly group or subassembly group to which the item belongs.
- (3) Third. Identify the item on the figure and note the item number.
- (4) Fourth. Refer to the Repair Parts List for the figure to find the part number for the item number noted on the figure.
- (5) Fifth. Refer to the Part Number Index to find the NSN, if assigned.

b. When National Stock Number or Part Number is Known:

- (1) First. Using the index of National Stock Numbers and Part Numbers, find the pertinent National Stock Number or Part Number. The NSN index is in National Item Identification Number (NIIN) sequence (see B-4a(1)). The part numbers in the PART NUMBER INDEX are listed in ascending alphanumeric sequence (see B-4b). Both indexes cross-reference you to the illustration figure and item number of the item you are looking for.
- (2) Second. After finding the figure and item number, verify that the item is the one you're looking for, then locate the item number in the repair parts list for the figure.

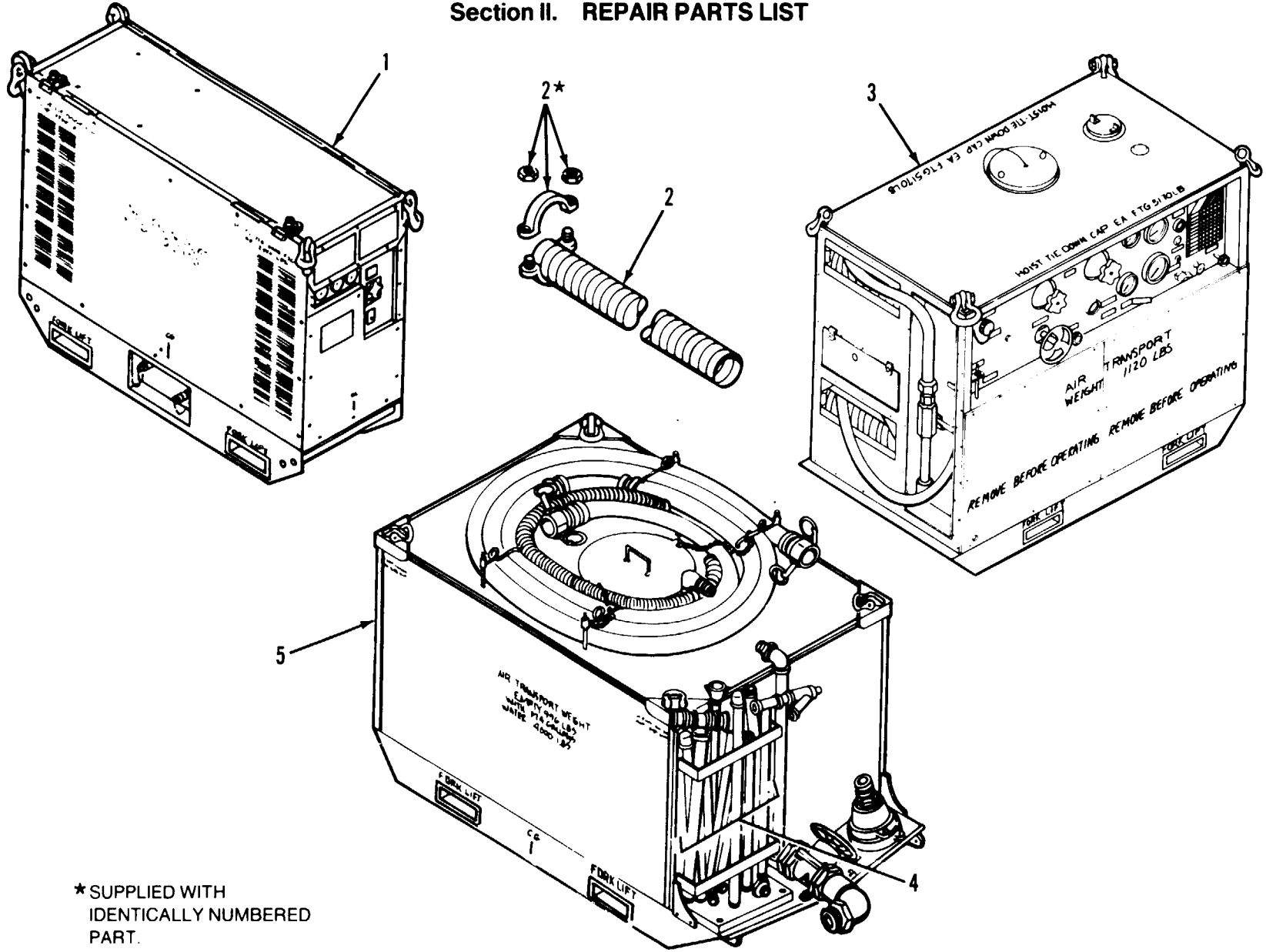
B-7. ABBREVIATIONS. Not applicable.

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Section II. REPAIR PARTS LIST



* SUPPLIED WITH IDENTICALLY NUMBERED PART.

Figure B-1. Decontaminating Apparatus.

SECTION II				TM3-4230-209-30&P	
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 00 DECONTAMINATING APPARATUS D5-45-3264	
				FIG. B-1 DECONTAMINATING APPARATUS	
1	PAOFA	81361	E5-59-200	HEATER, WATER, LIQUID FUEL (SEE FIG. B-38 FOR ASSEMBLY BREAKDOWN)	1
2	PAOZZ	81361	C5-45-3256	PIPE, EXHAUST	2
3	PAOFF	81361	D5-45-3233	PUMPING UNIT, DECONT (SEE FIG. B-3 FOR ASSEMBLY BREAKDOWN)	1
4	AOOOO	81361	D5-45-3186	SHOWER ASSEMBLY, (SEE FIG. B-2 FOR ASSEMBLY BREAKDOWN)	1
5	PAOFF	81361	C5-45-3183	TANK UNIT, DECONTAMI DECONTAMINATING APPARATUS, SKID- MOUNTED (SEE FIG. B-32 FOR ASSEMBLY BREAKDOWN)	1
				END OF FIGURE	

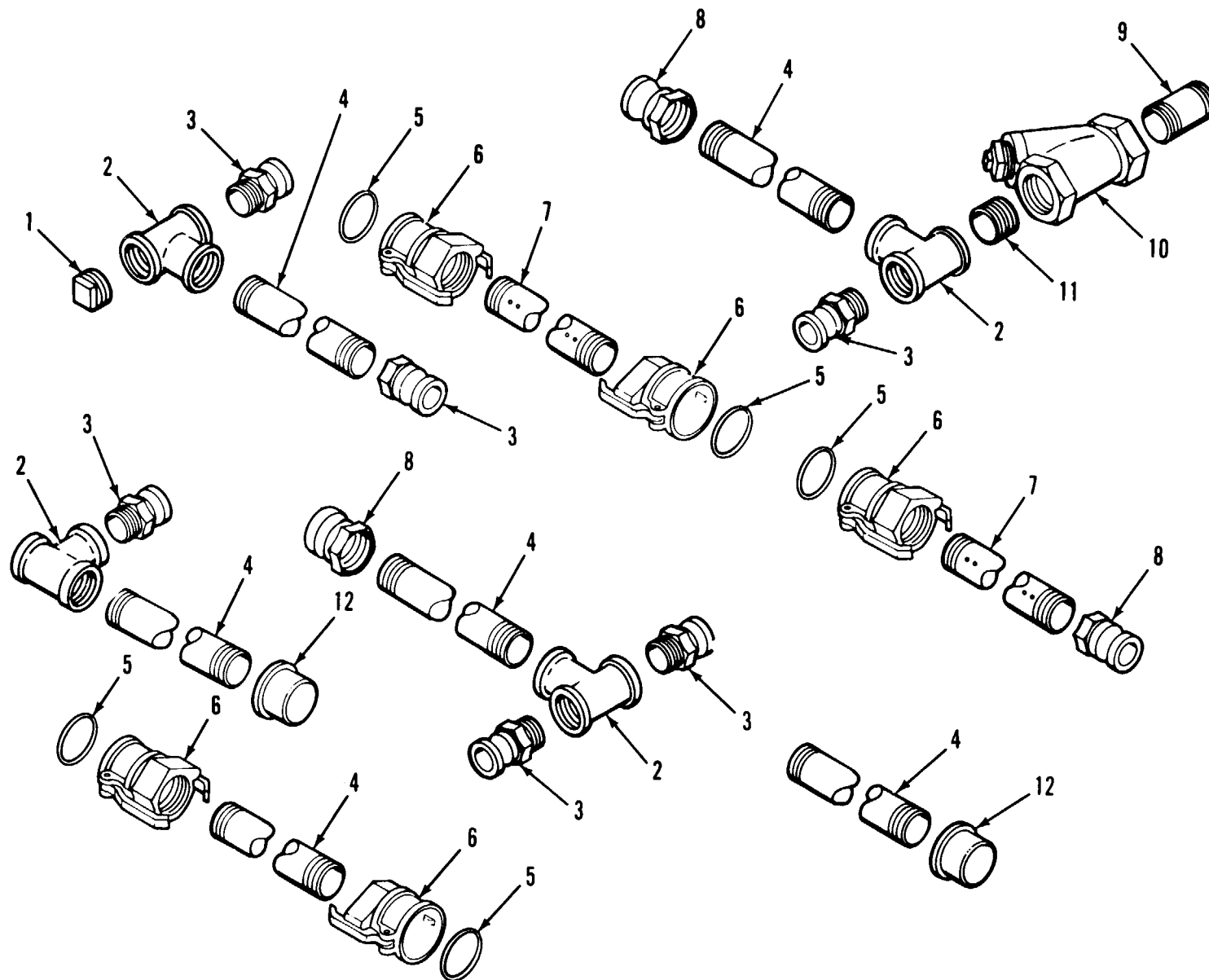
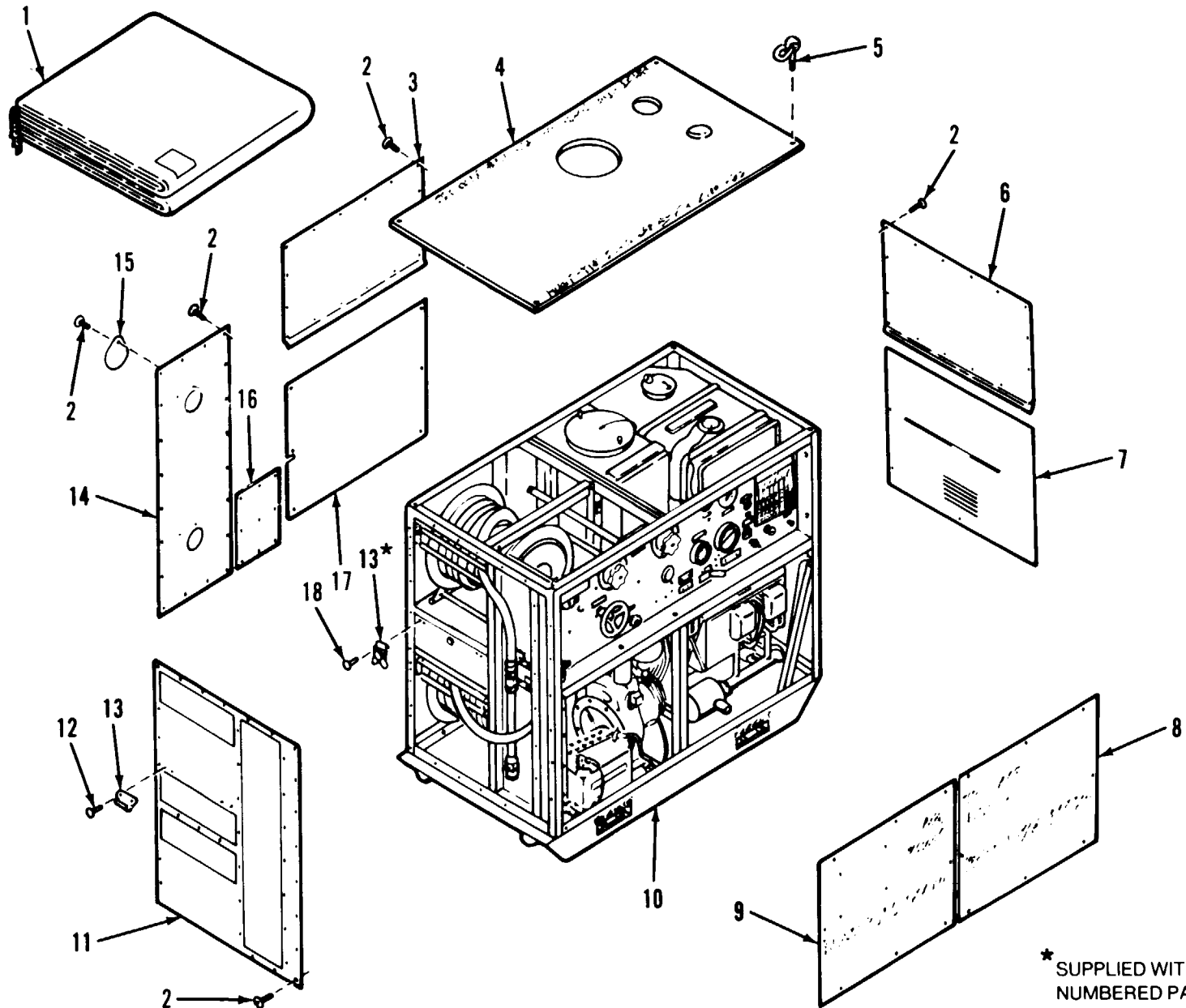


Figure B-2. Shower Assembly.

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 01 SHOWER ASSEMBLY D5-45-3186	
				FIG.B-2 SHOWER ASSEMBLY	
1	PAOZZ	96906	MS20913-8S	PLUG,PIPE	1
2	PAOZZ	35311	SD5179	TEE,PIPE	6
3	PAOZZ	96906	MS27022-6	COUPLING HALF,QUICK	7
4	MOOZZ	81361	C5-45-3185-1	PIPE, MAKE FROM PIPE, METALLIC P/N ASTM A120/NSN 4710-00-152-1020	12
5	PCCZZ	81361	B5-45-3130-1	GASKET	5
6	PAOZZ	96906	MS27024-6	COUPLING HALF,QUICK	14
7	PAOZZ	81361	B5-45-3185-2	PIPE,METALLIC	6
8	PAOZZ	96906	MS27020-6	COUPLING HALF,QUICK	7
9	PAOZZ	96906	MS51953-125	NIPPLE,PIPE	2
10	PAOZZ	81361	B5-45-2590	STRAINER SEDIMENT	1
11	PAOZZ	96906	MS51953-121	NIPPLE,PIPE	1
12	PAOZZ	82666	575GALVI3-1/2	CAP,PIPE	6
				END OF FIGURE	

SECTION II

TM 3-4230-209-30&P

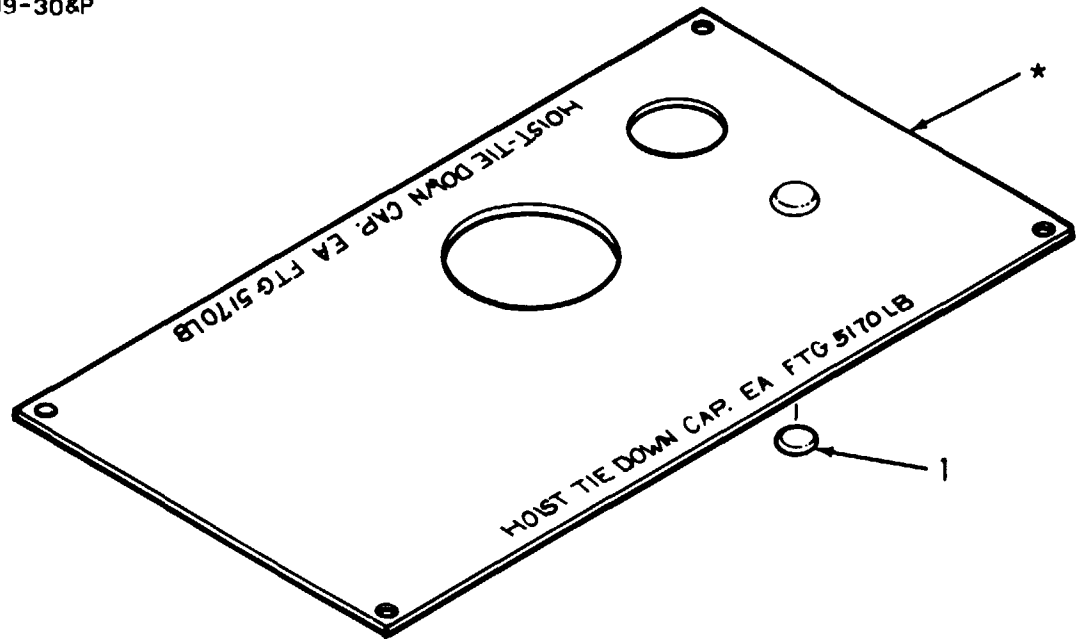


* SUPPLIED WITH IDENTICALLY
NUMBERED PART.

Figure B-3. Pumping Unit.

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 02 PUMPING UNIT D5-45-3233	
				FIG.B-3 PUMPING UNIT	
1	PAOFF	81361	E5-45-3221	COVER ASSEMBLY	1
2	PAOZZ	96906	MS51851-65	SCREW,TAPPING,THREA	109
3	PAOZZ	81361	C5-45-2979	COVER,ACCESS	1
4	PAOFF	81361	C5-45-2975	COVER,ACCESS, TOP ASSEMBLY (SEE FIG.B-4 FOR ASSEMBLY BREAKDOWN)	1
5	PAOFF	81361	C5-45-3266	CLEVIS AND EYE BOLT ASSEMBLY (SEE FIG.B-9 FOR ASSEMBLY BREAKDOWN)	4
6	PAOZZ	81361	C5-45-3011	COVER,ACCESS	1
7	AFOFF	81361	C5-45-3012	COVER PANEL ASSEMBLY (SEE FIG.B-5 FOR ASSEMBLY BREAKDOWN)	1
8	PAOFF	81361	C5-45-2973	COVER,ACCESS (SEE FIG.B-7 FOR ASSEMBLY BREAKDOWN)	1
9	PAOFF	81361	C5-45-2974	COVER,ACCESS (SEE FIG.B-8 FOR ASSEMBLY BREAKDOWN)	1
10	XAOPA	81361	D5-45-3235	PUMP UNIT ASSEMBLY (SEE FIG.B-10 FOR ASSEMBLY BREAKDOWN)	1
11	PAOZZ	81361	D5-45-2997	COVER,ACCESS	1
12	PAOZZ	96906	MS20613-4P7	RIVET,SOLID	8
13	PAOZZ	82240	NO 3	CATCH,CLAMPING	2
14	PAOZZ	81361	C5-45-2977	COVER,ACCESS	1
15	PAOZZ	81361	B5-45-2990	COVER,ACCESS	2
16	PAOZZ	81361	C5-45-2978	COVER,ACCESS	1
17	AFOFF	81361	C5-45-2972-10	PANEL ASSEMBLY, (SEE FIG.B-6 FOR ASSEMBLY BREAKDOWN)	1
18	PAOZZ	96906	MS20613-4P4	RIVET,SOLID	8

END OF FIGURE



* NO FURTHER DISASSEMBLY
AUTHORIZED.

Figure B-4. Top Access Cover Assembly.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				GROUP 0202 TOP ACCESS COVER ASSEMBLY C5-45-2975	
				FIG. B-4 TOP ACCESS COVER ASSEMBLY	
1	MFFZZ	81361	D5-45-2975-2	GASKET MAKE FROM RUBBER SHEET P/N MILR46089/NSN 9320-00-262-2274.....	1

END OF FIGURE

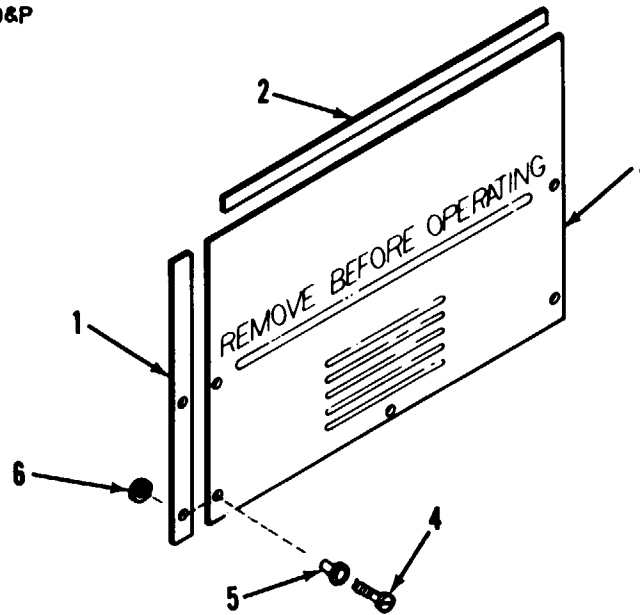


Figure B-5. Cover Panel Assembly.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
GROUP 0203 COVER PANEL ASSEMBLY C5-45-3012					
FIG. B-5 COVER PANEL ASSEMBLY					
1	MFFZZ	81361	B5-45-3097-2	GASKET MAKE FROM PACKING MATERIAL P/N M200SERIES1X1-8/NSN 9330-00-912- 2707.....	2
2	MFFZZ	81361	B5-45-3097-1	GASKET MAKE FROM PACKING MATERIAL P/N M200SERIES1X1-8/NSN 9330-00-912- 2707.....	2
3	PAFZZ	81361	C5-45-3096	COVER, ACCESS.....	1
4	PAFZZ	56878	40S5-8	STUD ASSEMBLY, TURNL.....	5
5	PAFZZ	71286	4002N	EYELET, TURNLOCK FAS.....	5
6	PAFZZ	71286	R4G	RING, RETAINING.....	5

END OF FIGURE

B-5-1

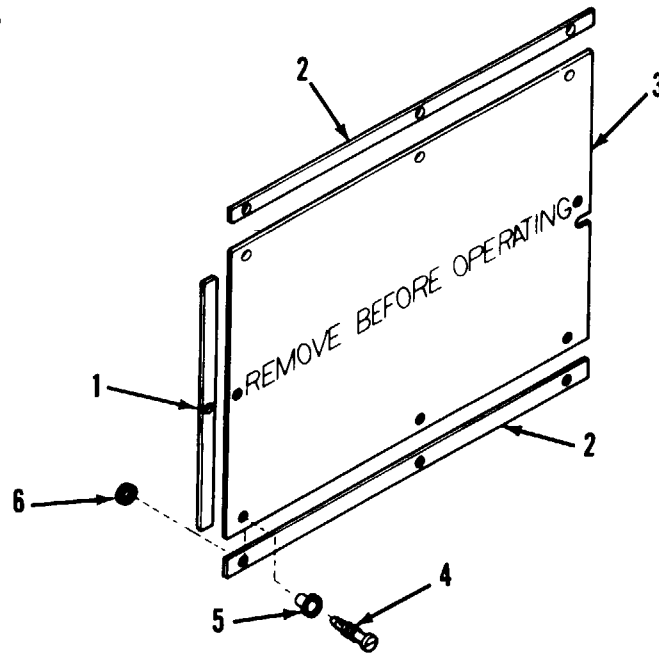


Figure B-6. Cover, Panel Assembly.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
GROUP 0204 COVER PANEL ASSEMBLY C5-45-2972-10					
FIG.B-6 COVER PANEL ASSEMBLY					
1	MFFZZ	81361	B5-45-3097-2	GASKET MAKE FROM PACKING MATERIAL P/N M200SERIES1X1-8/NSN 9330-00-912-2707.....	2
2	MFFZZ	81361	B5-45-3097-3	GASKET MAKE FROM PACKING MATERIAL P/N M200SERIES1X1-8/NSN 9330-00-912-2707.....	2
3	PAFZZ	81361	C5-45-3098-1	COVER, ACCESS.....	1
4	PAFZZ	56878	40S5-8	STUD ASSEMBLY, TURNL.....	5
5	PAFZZ	71286	4002N	EYELET, TURNLOCK FAS.....	5
6	PAFZZ	71286	R4G	RING, RETAINING.....	5

END OF FIGURE

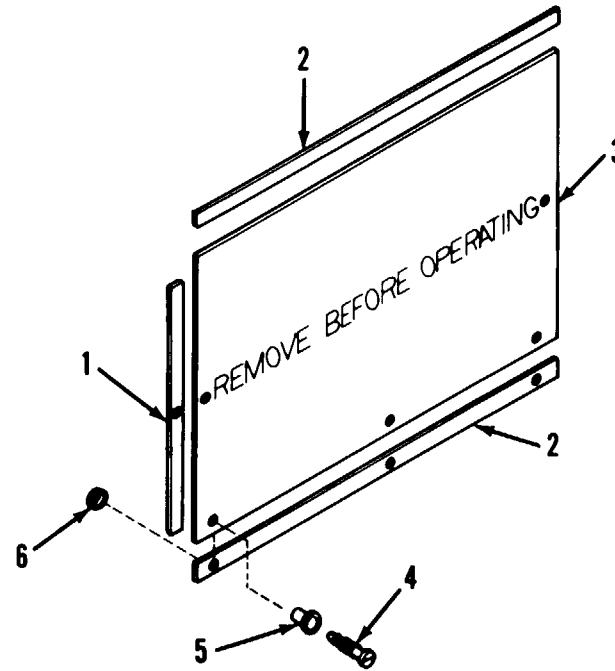


Figure B-7. Cover Panel Assembly.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
GROUP 0205 ACCESS COVER C5-45-2973					
FIG.B-7 ACCESS COVER					
1	MFFZZ	81361	B5-45-3097-4	GASKET MAKE FROM PACKING MATERIAL P/N M200SERIES1X1-8/NSN 9330-00-912-2707.....	2
2	MFFZZ	81361	B5-45-3097-6	GASKET MAKE FROM PACKING MATERIAL P/N M200SERIES1X1-3/NSN 9330-00-912-2707.....	2
3	PAFZZ	81361	C5-45-3099	COVER, PANEL.....	1
4	PAFZZ	56878	40S5-8	STUD ASSEMBLY, TURNL.....	8
5	PAFZZ	71286	4002N	EYELET, TURNLOCK FAS.....	8
6	PAFZZ	71286	R4G	RING, RETAINING.....	8

END OF FIGURE

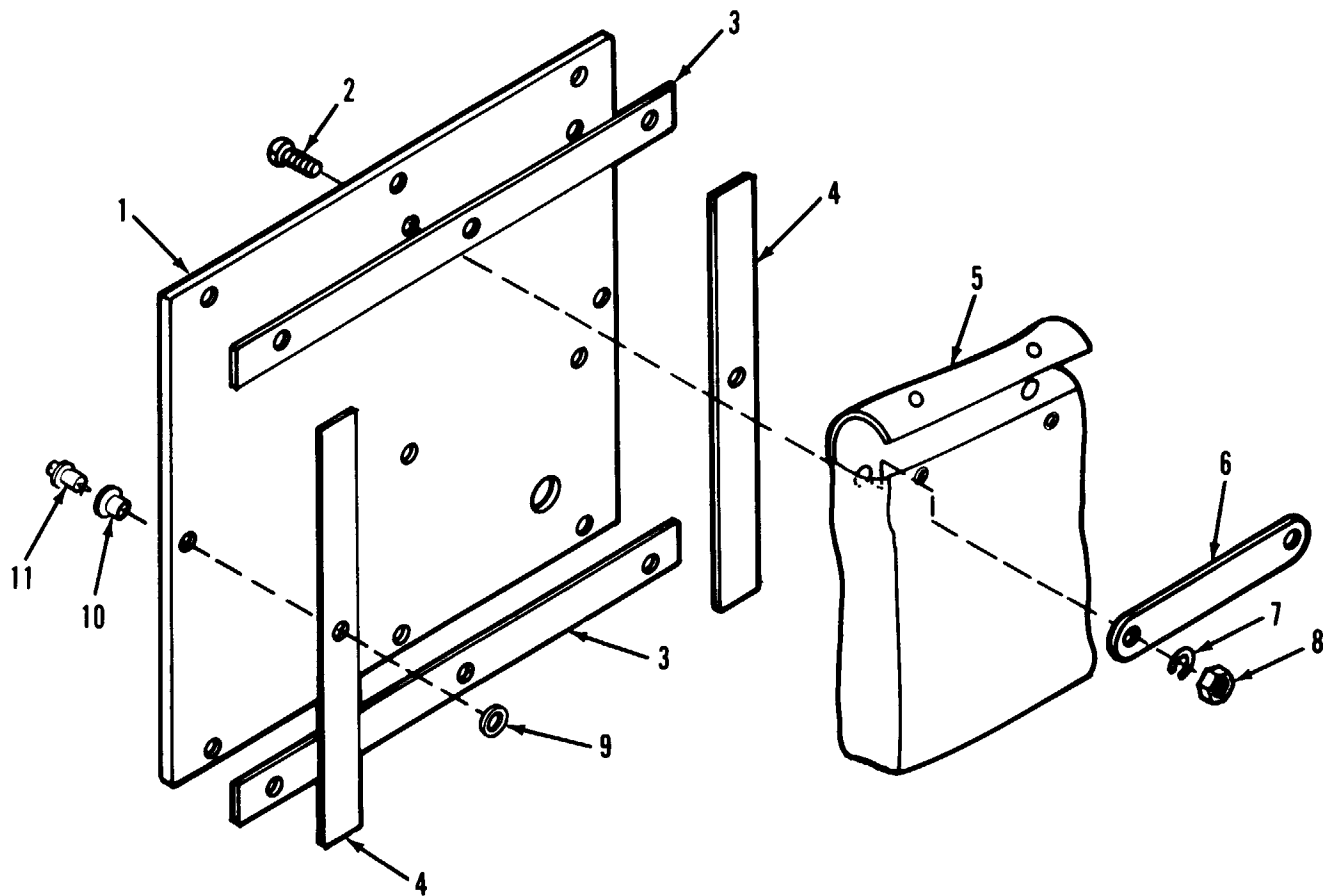
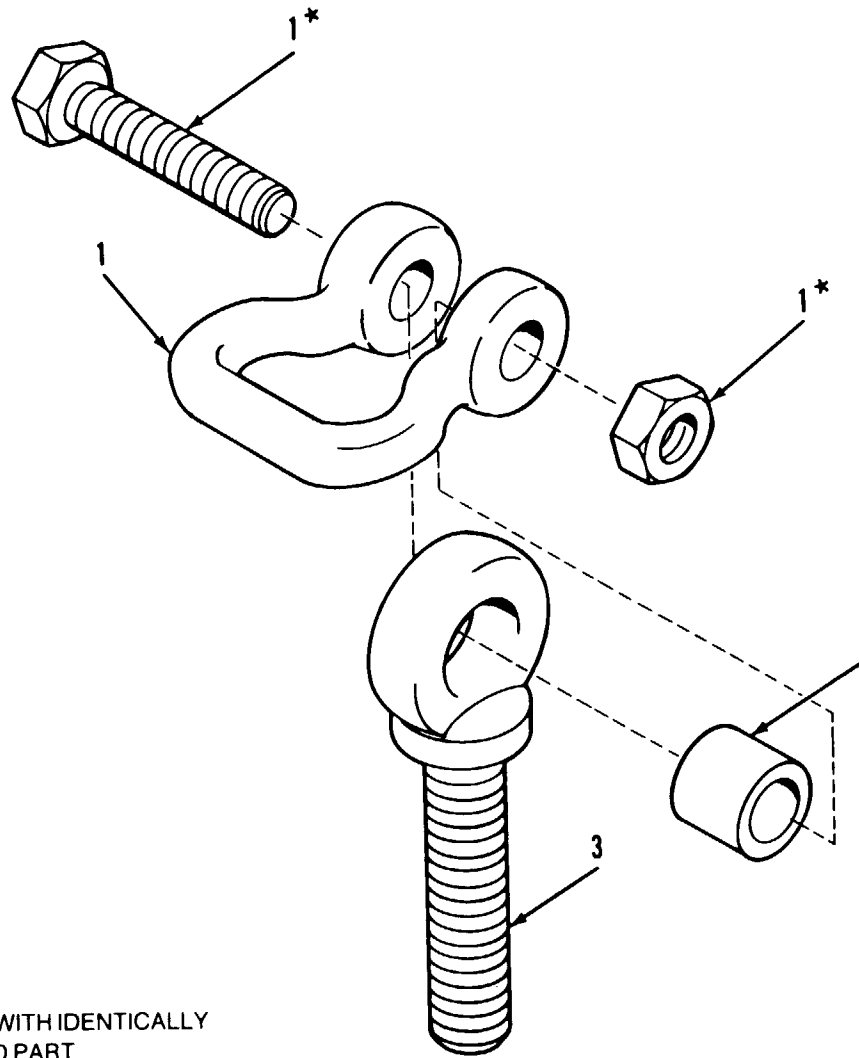


Figure B-8. Access Cover Panel Assembly.

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 0206 ACCESS COVER C5-45-2974	
				FIG.B-8 ACCESS COVER	
1	XDFZZ	81361	C5-45-3100	COVER,PANEL	1
2	PAOZZ	96906	MS35207-261	SCREW,MACHINE	4
3	MFFZZ	81361	B5-45-3097-5	GASKET MAKE FROM PACKING MATERIAL P/N M200SERIESLX1-8/NSN 9330-00-912-2707	2
4	MFFZZ	81361	B5-45-3097-4	GASKET MAKE FROM PACKING MATERIAL P/N M200SERIESLX1-8/NSN 9330-00-912-2707	2
5	PAOZZ	81361	D5-45-3240	CARRIER,TOOL	1
6	XDOZZ	81361	B5-45-3239	STRIP,POUCH	2
7	PAOZZ	96906	MS35333-39	WASHER,LCOK	4
8	PAOZZ	96906	MS35650-302	NUT,PLAIN,HEXAGON	4
9	PAFZZ	71286	R4G	RING,RETAINING	8
10	PAFZZ	71286	4002N	EYELET, TURNLOCK FAS	8
11	PAFZZ	56878	40S5-8	STUD ASSEMBLY, TRUNL	8
				END OF FIGURE	



* SUPPLIED WITH IDENTICALLY
NUMBERED PART.

Figure B-9. Clevis and Eye Bolt Assembly.

SECTION II				TM3-4230-209-30&P	
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 0207 CLEVIS AND EYE BOLT ASSEMBLY C5-45-3266	
				FIG.B-9 CLEVIS AND EYE BOLT ASSEMBLY	
1	PAFZZ	96906	MS70087-1	SHACKLE	1
2	MFFZZ	81361	C5-45-3266-1	SPACER MAKE FROM TUBE, METALLIC P/ N ASTM A 519-74/NSN 4710-01-013-9617	1
3	PAFZZ	96906	MS51937-5	BOLT,EYE	1
				END OF FIGURE	

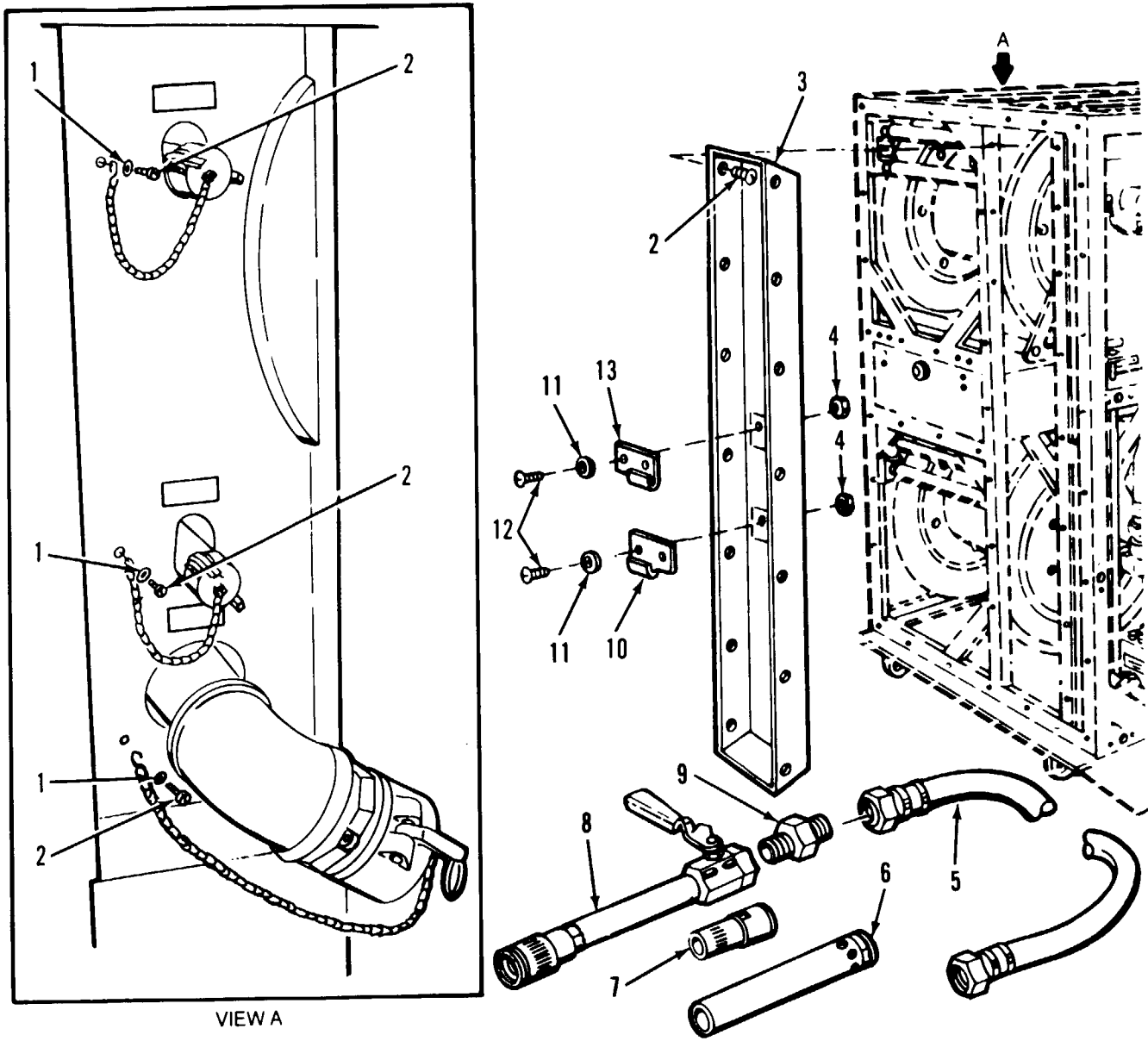


Figure B-10. Pump Unit Assembly (1 of 4).

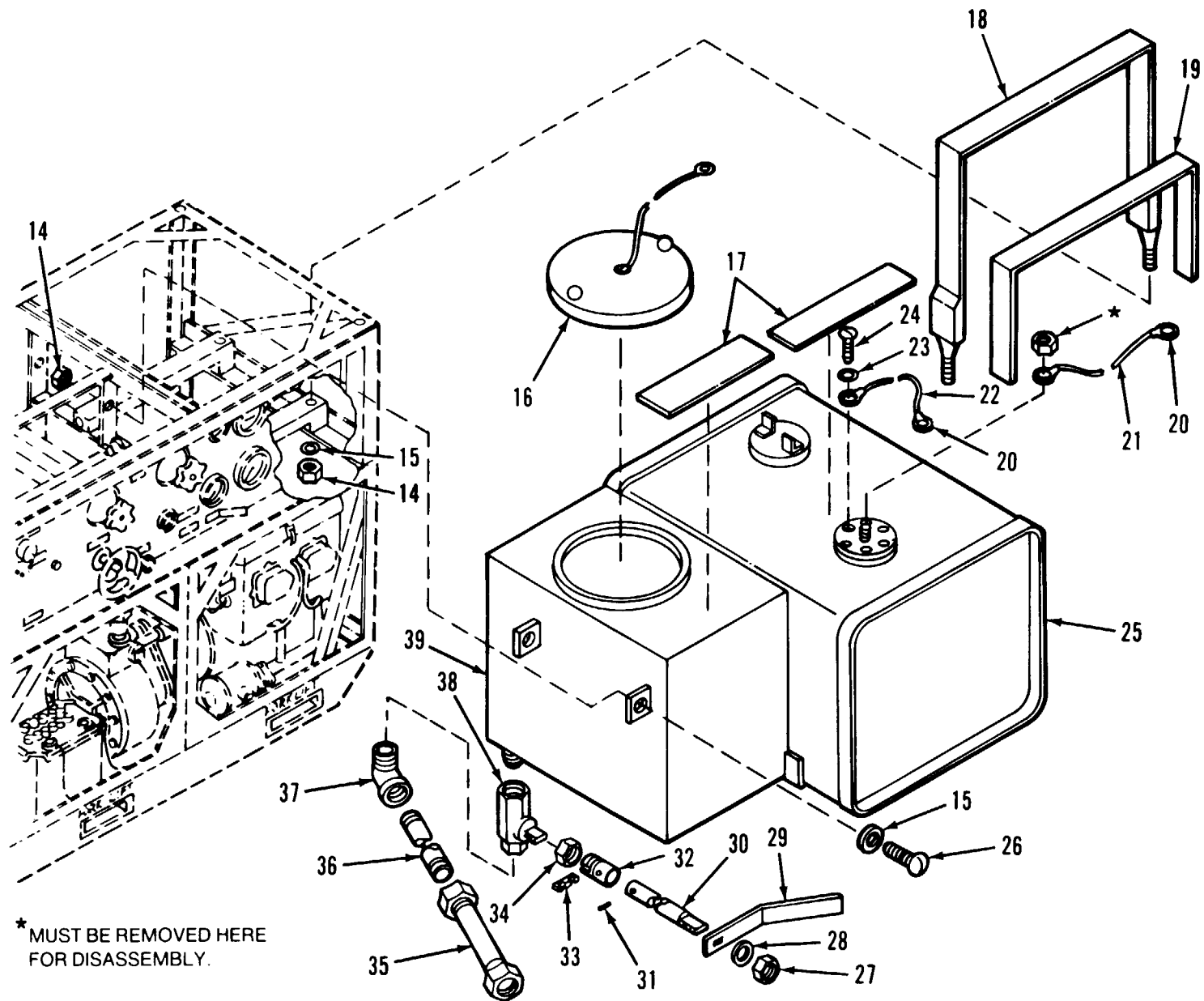


Figure B-10. Pump Unit Assembly (2 of 4).

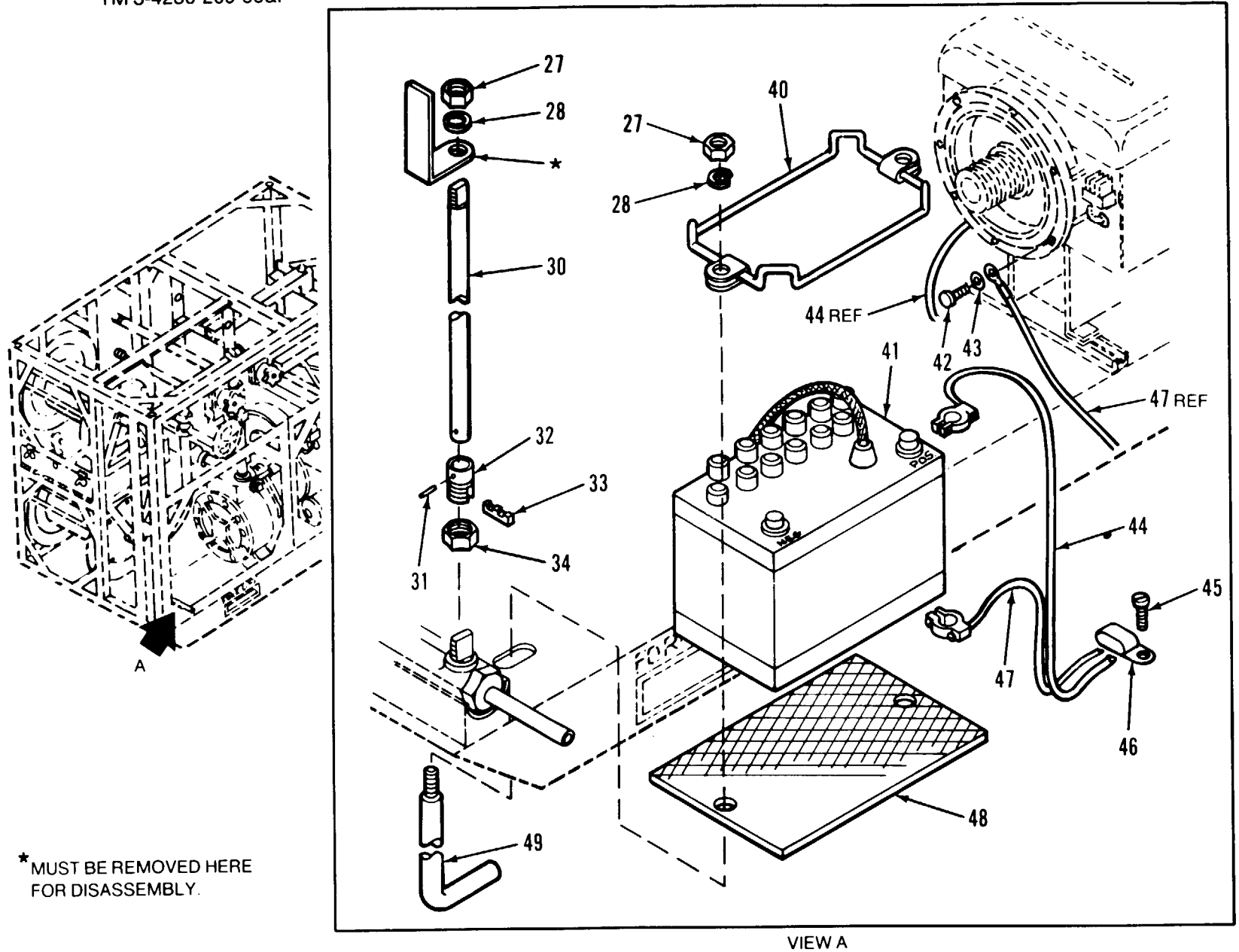
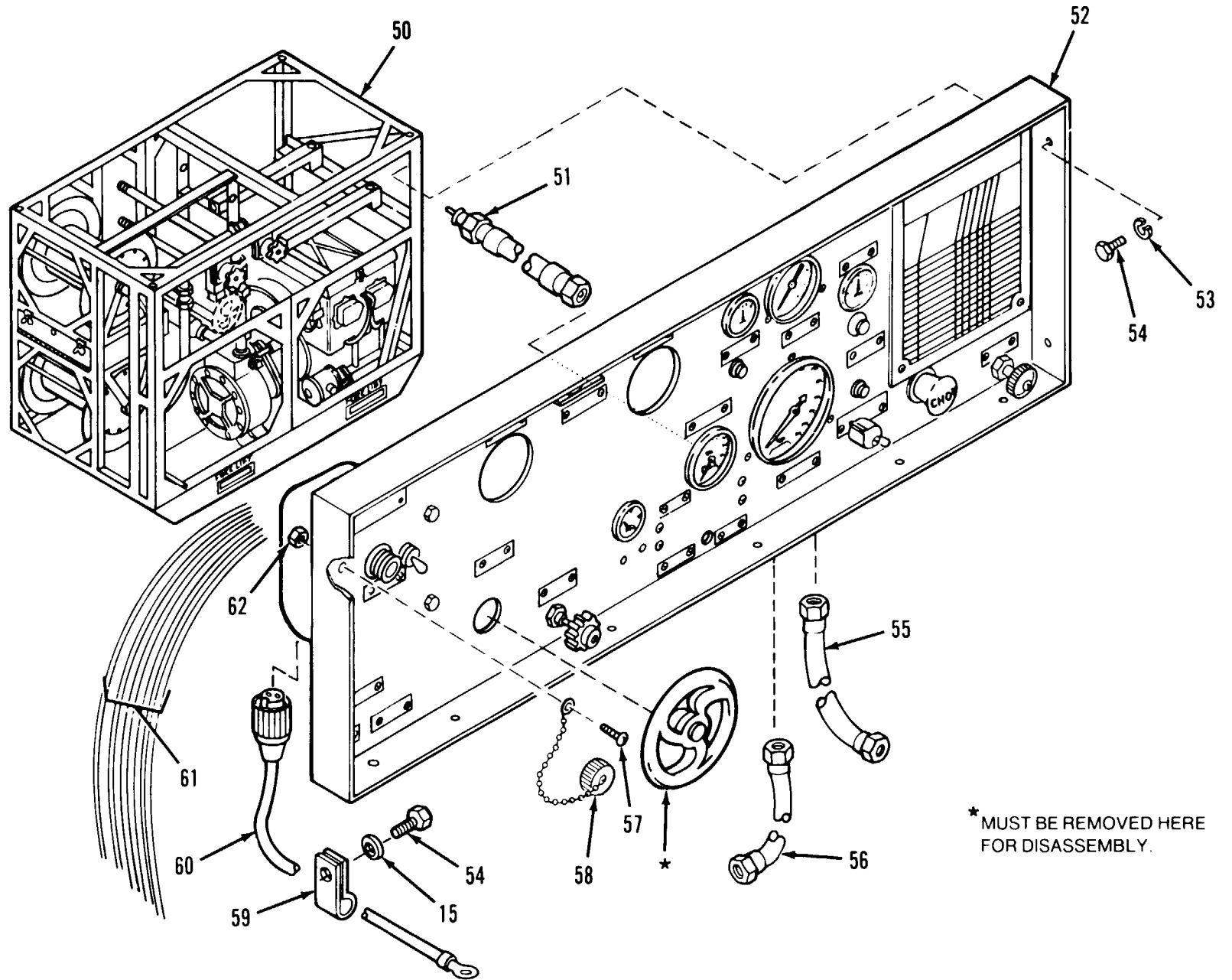


Figure B-10. Pump Unit Assembly (3 of 4).



* MUST BE REMOVED HERE FOR DISASSEMBLY.

Figure B-10. Pump Unit Assembly (4 of 4).

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 0208 PUMP UNIT ASSEMBLY	
				D5-45-3235	
				FIG.B-10 PUMP UNIT ASSEMBLY	
1	PAOZZ	96906	MS27183-7	WASHER, FLAT	3
2	PAOZZ	96906	MS51851-65	SCREW, TAPPING	17
3	XDFZZ	81361	C5-45-2986	SHELL	1
4	PAFZZ	96906	MS51922-1	NUT, SELF-LOCKING, HE	4
5	AOOOO	81361	C5-45-2735-10	HOSE ASSEMBLY, DISCHARGE (SEE FIG.B-12 FOR ASSEMBLY BREAKDOWN)	2
6	PAOZZ	81361	C5-45-2701	NOZZLE, FIRE HOSE, FO	2
7	PAOZZ	81361	C5-45-2699	NOZZLE, FIRE HOSE, WA	2
8	PAOOO	81361	C5-45-2563	GUN ASSEMBLY (SEE FIG.B-11 FOR ASSEMBLY BREAKDOWN)	2
9	PAOZZ	81361	C5-45-2932	ADAPTER, STRAIGHT, PI	2
10	XDFZZ	81361	C5-45-3002-2	BRACKET, GUN	1
11	PAFZZ	96906	MS27183-10	WASHER, FLAT	4
12	PAFZZ	96906	MS35190-290	SCREW, MACHINE	4
13	XDFZZ	81361	C5-45-3002-1	BRACKET, GUN	1
14	PAOZZ	96906	MS51922-17	NUT, SELF-LOCKING, HE	8
15	PAOZZ	96906	MS27183-14	WASHER, FLAT	9
16	PAOOO	81361	D5-45-2996	LID, TANK (SEE FIG.B-13 FOR ASSEMBLY BREAKDOWN)	1
17	PAOZZ	81361	B5-45-3074	RUBBER STRIP	2
18	XDOZZ	81361	C5-45-2995	STRAP, FUEL TANK	2
19	MOOZZ	81361	B5-45-3097-7	GASKET MAKE FROM PACKING MATERIAL P/N M200SERIES1X1-8/NSN 9330-00-912- 2707	2
20	PAFZZ	96906	MS25036-108	TERMINAL, LUG	4
21	MFFZZ	81361	NPNWIRE	WIRE, ELECTRICAL MAKE FROM WIRE, ELECTRICAL P/N M5086/1-16-6/NSN 6145-00-946-1361	1
22	MFFZZ	81361	D5-45-3250	GROUND WIRE MAKE FROM WIRE, ELECTRICAL P/N M5086/1-16-6/NSN 6145-00-946-1361	1

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
23	PAOZZ	96906	MS35338-138	WASHER, LOCK	1
24	PAOZZ	96906	MS51958-63	SCREW, MACHINE	1
25	PAOFF	81361	D5-45-3127	TANK, FUEL, ENGINE (SEE FIG.B-15 FOR ASSEMBLY BREAKDOWN)	1
26	PAOZZ	96906	MS18154-60	SCREW, CAP, HEXAGON	8
27	PAOZZ	96906	MS51922-9	NUT, SELF-LOCKING, HE	4
28	PAOZZ	96906	MS27183-12	WASHER, FLAT	2
29	XDOZZ	27742	5012-3217-102-2	DRAIN HANDLE	1
30	PAOZZ	81361	B5-45-2992	SHAFT, SHOULDERED EXTENSION	2
31	PAOZZ	96906	MS16562-33	PIN, SPRING	2
32	PAOZZ	81361	C5-45-2991	SLEEVE, EXTENSION	2
33	PAOZZ	81361	B5-45-3267	SLEEVE, LOCKING	2
34	PAOZZ	96906	MS51967-20	NUT, PLIAN, HEXAGON	2
35	A0000	81361	C5-45-3199	HOSE ASSEMBLY (SEE FIG.B-14 FOR ASSEMBLY BREAKDOWN)	1
36	PAOZZ	81361	B5-45-3015-10	NIPPLE, PIPE	1
37	PAOZZ	34646	303L5 3-4 IN 316 CRES	ELBOW, PIPE	1
38	PAOZZ	01029	A36TT-3/4	VALVE, BALL	1
39	PAOZZ	81361	D5-45-2967	TANK ASSEMBLY, PRIME DETERGENT	1
40	PAOZZ	81361	C5-45-3146	RETAINER, BATTERY	1
41	PAOFA	96906	MS75047-1	BATTERY, STORAGE	1
42	PAOZZ	96906	MS90725-32	BOLT, MACHINE	1
43	PAOZZ	96906	MS35338-45	WASHER, LOCK	1
44	A0000	81361	B5-45-3134	CABLE (SEE FIG.B-17 FOR ASSEMBLY BREAKDOWN)	1
45	PAOZZ	81348	FFS107TYPEFPPOINT	SCREW, TAPPING	1
46	PAOZZ	96906	MS21334-5	CLAMP, LOOP	1
47	A0000	81361	B5-45-3137	CABLE, NEGATIVE BATTERY (SEE FIG.B-16 FOR ASSEMBLY BREAKDOWN)	1
48	PAOZZ	81361	B5-45-3147	PAD, BATTERY	1
49	PAOZZ	81361	B5-45-3136	BOLT, HOOK	2
50	XAOFF	81361	D5-45-3231	PUMP UNIT SUBASSEMBLY (SEE FIG.B-18 FOR ASSEMBLY BREAKDOWN)	1

SECTION II		TM3-4230-209-30&P				
(1)	(2)	(3)	(4)	(5)	(6)	
ITEM	SMR		PART			
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY	
51	PAOZZ	81361	D5-45-3280	SHAFT ASSEMBLY,FLEX	1	
52	XDFFF	81361	D5-45-3236	CONTROL PANEL ASSEMBLY (SEE FIG.B-30 FOR ASSEMBLY BREAKDOWN)	1	
53	PAFZZ	88044	AN935-416	WASHER,LOCK	14	
54	PAFZZ	96906	MS90725-1	SCREW,CAP,HEXAGON	14	
55	PAOZZ	50599	R22002CC4-30	HOSE ASSEMBLY,NONME	1	
56	PAOZZ	50599	R22002CC4-9	HOSE ASSEMBLY,NONME	1	
57	PAFZZ	96906	MS35206-245	SCREW,MACHINE	1	
58	PAFZZ	96906	MS25043-16D	COVER,ELECTRICAL	1	
59	PAFZZ	96906	MS21333-76	CLAMP,LOOP	2	
60	PAFZZ	81361	B5-45-3289	CABLE ASSEMBLY	1	
61	AFFFF	81361	C5-45-3248	ELECTRICAL WIRING (SEE FIG.B-31 FOR ASSEMBLY BREAKDOWN)	1	
62	PAFZZ	96906	MS21044-N08	NUT,SELF-LOCKING HEXAGON	1	

END OF FIGURE

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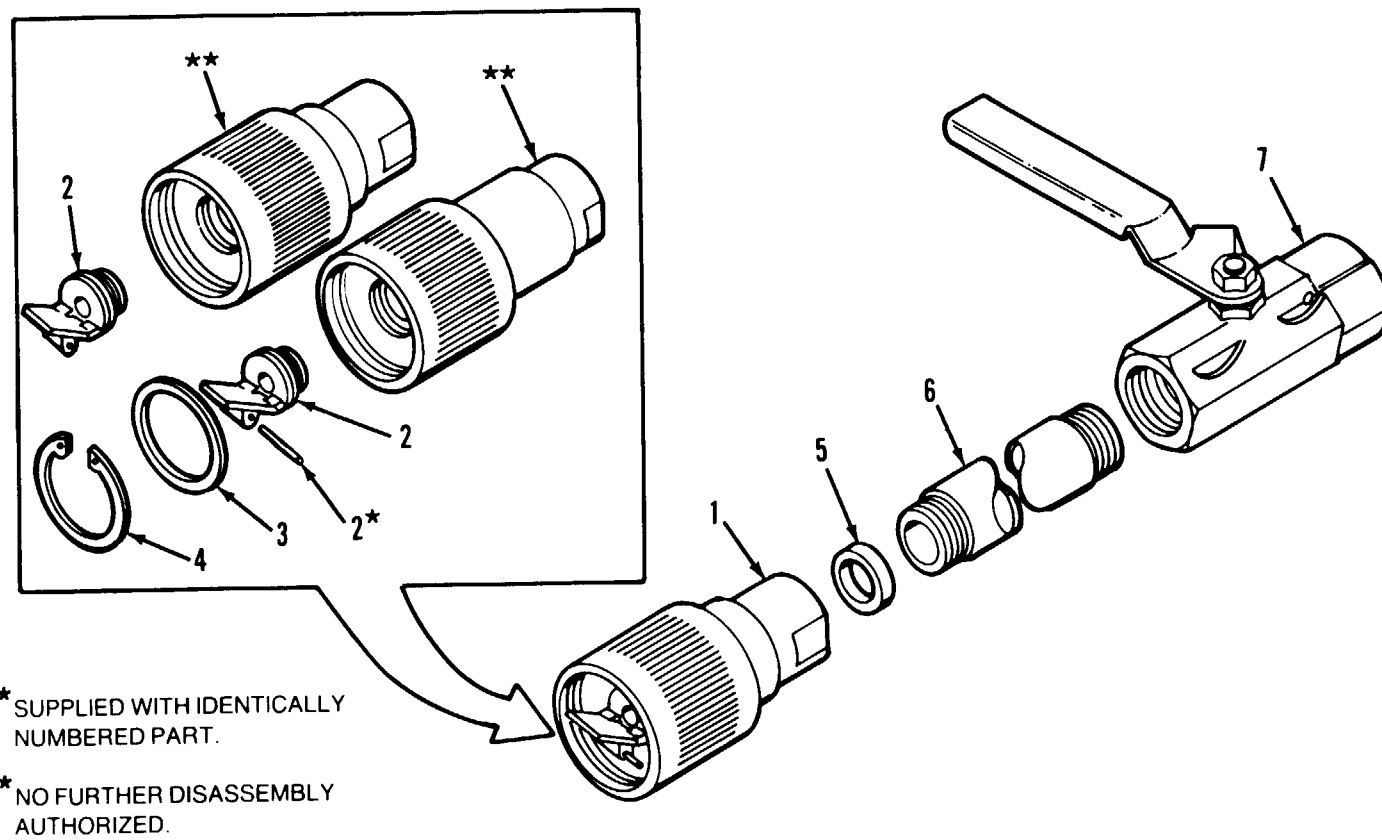


Figure B-11. Gun Assembly and Slurry Nozzle Assembly.

SECTION II				TM3-4230-209-30&P	
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 020801 GUN ASSEMBLY C5-45-2563 AND GROUP 02080101 SLURRY NOZZLE ASSEMBLY C5-45-2700	
				FIG.B-11 GUN ASSEMBLY AND SLURRY NOZZLE ASSEMBLY	
1	PAOOO	81361	C5-45-2700	NOZZLE ASSEMBLY,SLU	1
2	PAOZZ	52659	S7756-1	ORIFICE AND DEFLECT	1
3	PAOZZ	52659	S7770	SPACER,RING	1
4	PAOZZ	96906	MS16625-4156	RING,RETAINING	1
5	PCCZZ	81361	B5-45-2934	GASKET	1
6	PAOZZ	81361	C5-45-2911	ADAPTER,STRAIGHT, PIPE	1
7	PAOZZ	81361	C5-45-2920	VALVE,BALL	1
				END OF FIGURE	

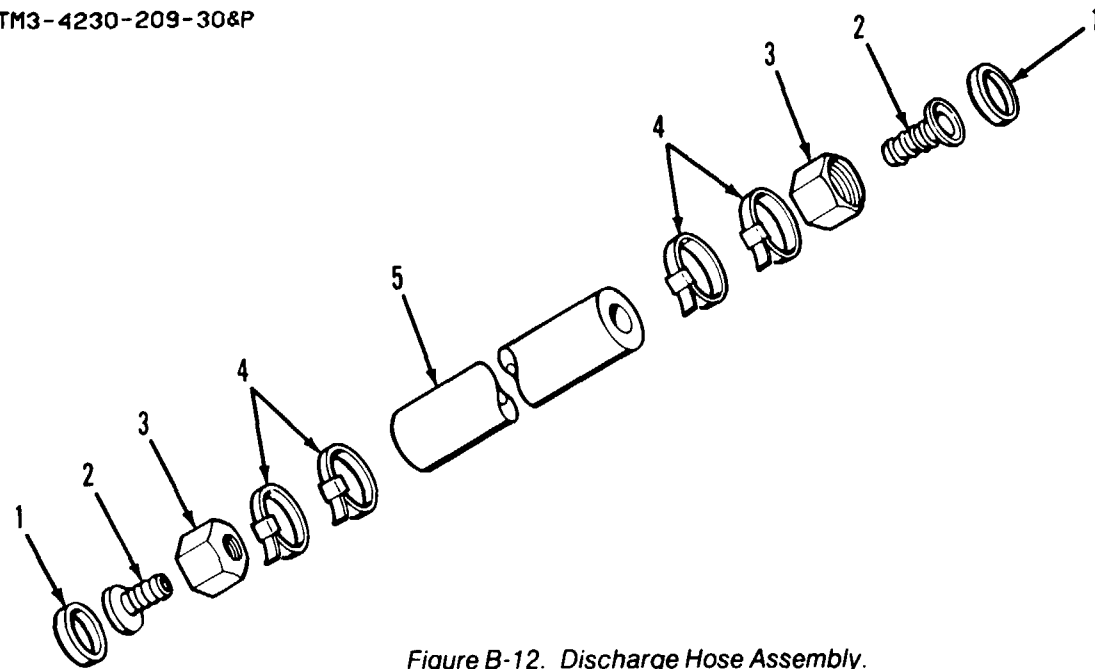


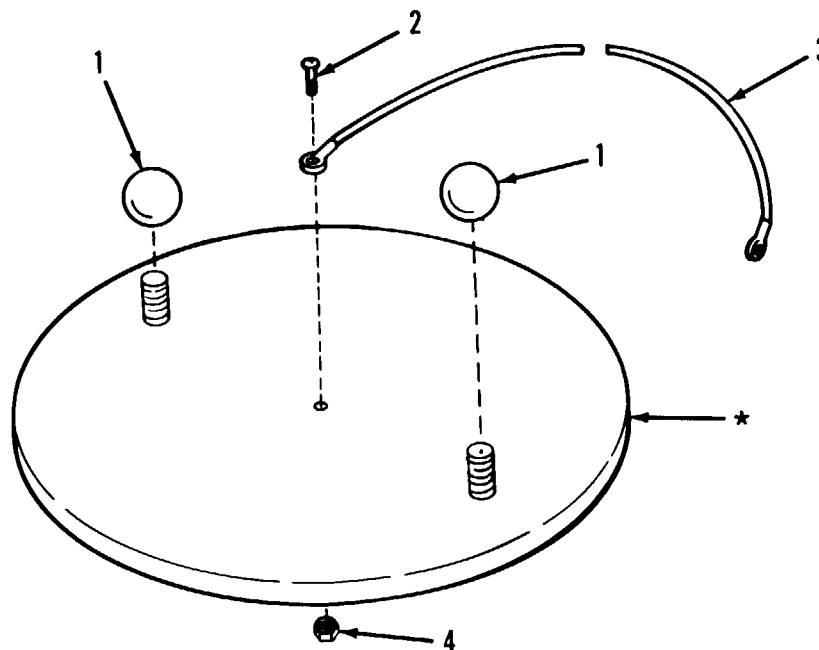
Figure B-12. Discharge Hose Assembly.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
GROUP 020802 DISCHARGE HOSE ASSEMBLY C5-45-2735-10					
FIG.B-12 DISCHARGE HOSE ASSEMBLY					
1	PA0ZZ	81361	B5-45-2635	GASKET.....	2
2	PA0ZZ	81361	B5-45-2930	COUPLING, HALF, MODIF.....	2
3	PA0ZZ	81361	B5-45-2682	NUT.....	2
4	PA0ZZ	77414	P8S-2	CLAMP, HOSE.....	4
5	M00ZZ	81361	C5-45-2736-2	HOSE MAKE FROM HOSE, NONMETALLIC P/ V N 421B-11INCHID/NSN 4720-00-595-4103.	

END OF FIGURE

SECTION II

TM 3-4230-209-30&P



*NO FURTHER DISASSEMBLY
AUTHORIZED.

Figure B-13. Tank Lid.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
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GROUP 020803 TANK LID
C5-45-2996

FIG. B-13 TANK LID

1	PAOZZ	92878	58671		
2	PAOZZ	96906	MS51958-63		
3	PAOZZ	99862	CL-22-KA-18		
4	PAOZZ	96906	MS21044C3		

KNOB.....	2
SCREW, MACHINE.....	1
WIRE ROPE ASSEMBLY.....	1
NUT, SELF-LOCKING, HE.....	1

END OF FIGURE

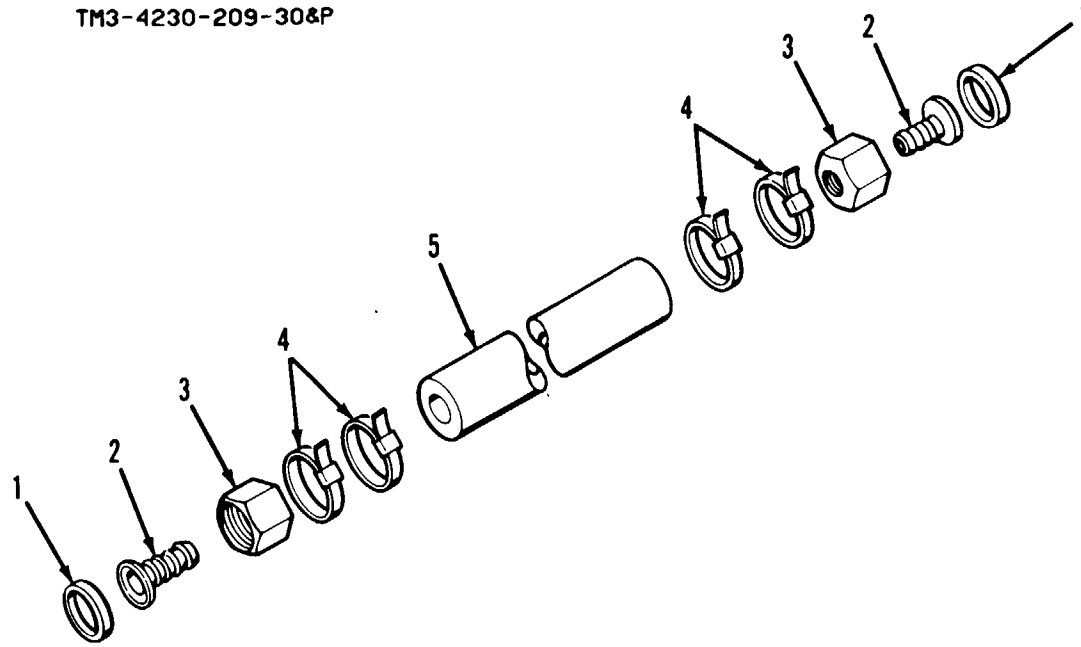


Figure B-14. Eductor Hose Assembly.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
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GROUP 020804 EDUCTOR HOSE ASSEMBLY
C5-45-3199

FIG. B-14 EDUCTOR HOSE ASSEMBLY

1	PA0ZZ	81361	B5-45-3200	GASKET.....	2
2	PA0ZZ	81361	B5-45-3201	STEM.....	2
3	PA0ZZ	81361	B5-45-3202	NUT.....	2
4	PA0ZZ	77414	P8S-2	CLAMP,HOSE.....	4
5	M00ZZ	81361	C5-45-3265	HOSE,RUBBER MAKE FROM HOSE, NONMETALLIC P/N 124WW/NSN 4720-00- 961-3522.....	1

END OF FIGURE

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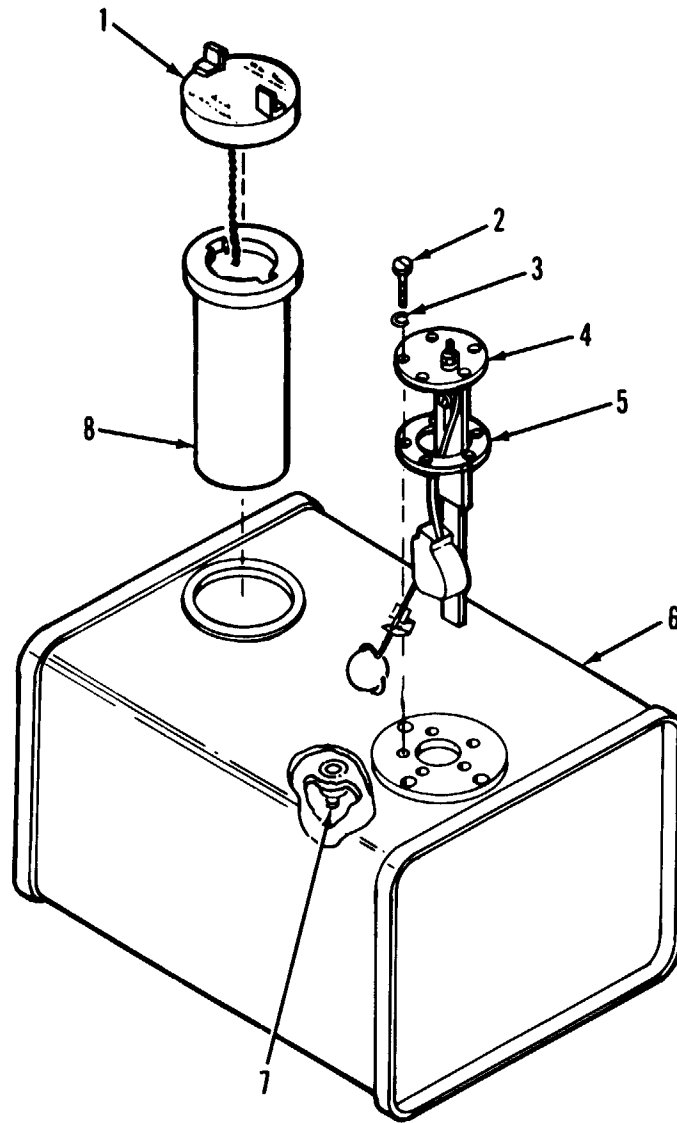
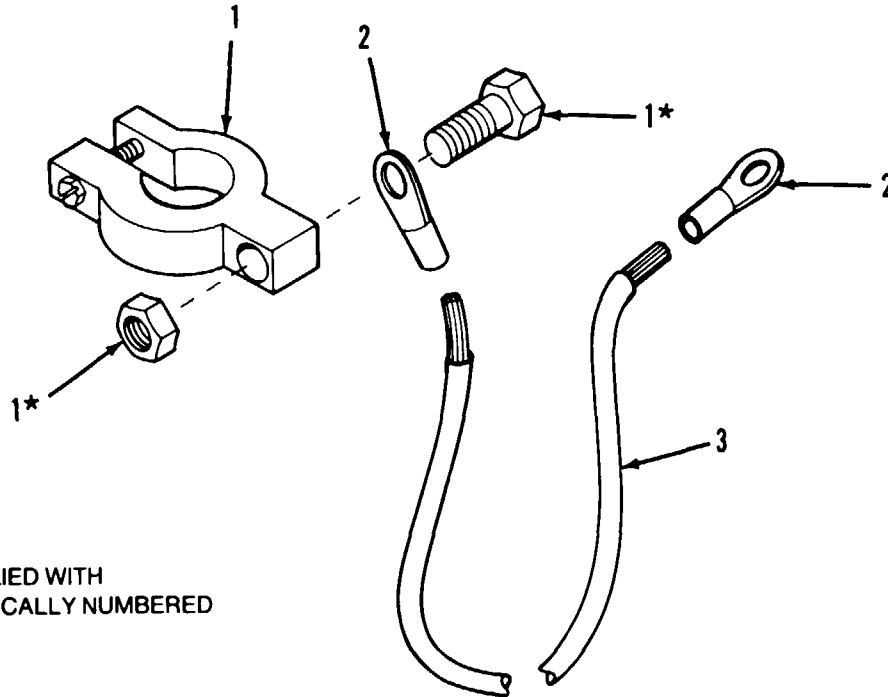


Figure B-15. Engine Fuel Tank.

SECTION II				TM3-4230-209-30&P	
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 020805 ENGINE FUEL TANK	
				D5-45-3127	
				FIG.B-15 ENGINE FUEL TANK	
1	PAOZZ	96906	MS35645-1	CAP,FILLER OPENING	1
2	PAFZZ	96906	MS51958-63	SCREW,MACHINE	5
3	PAFZZ	96906	MS35338-138	WASHER,LOCK	5
4	PAFZZ	70040	FGS3	TRANSMITTER,LIQUID	1
5	PAFZZ	81361	B5-45-3225	GASKET	1
6	XDFZZ	81361	D5-45-3127-1	TANK,FUEL: 20 GALLON	1
7	PAFZZ	79470	3325X4X2	REDUCER,PIPE	1
8	PAOZZ	96906	MS90908-1	STRAINER ELEMENT	1
				END OF FIGURE	



*SUPPLIED WITH IDENTICALLY NUMBERED PART.

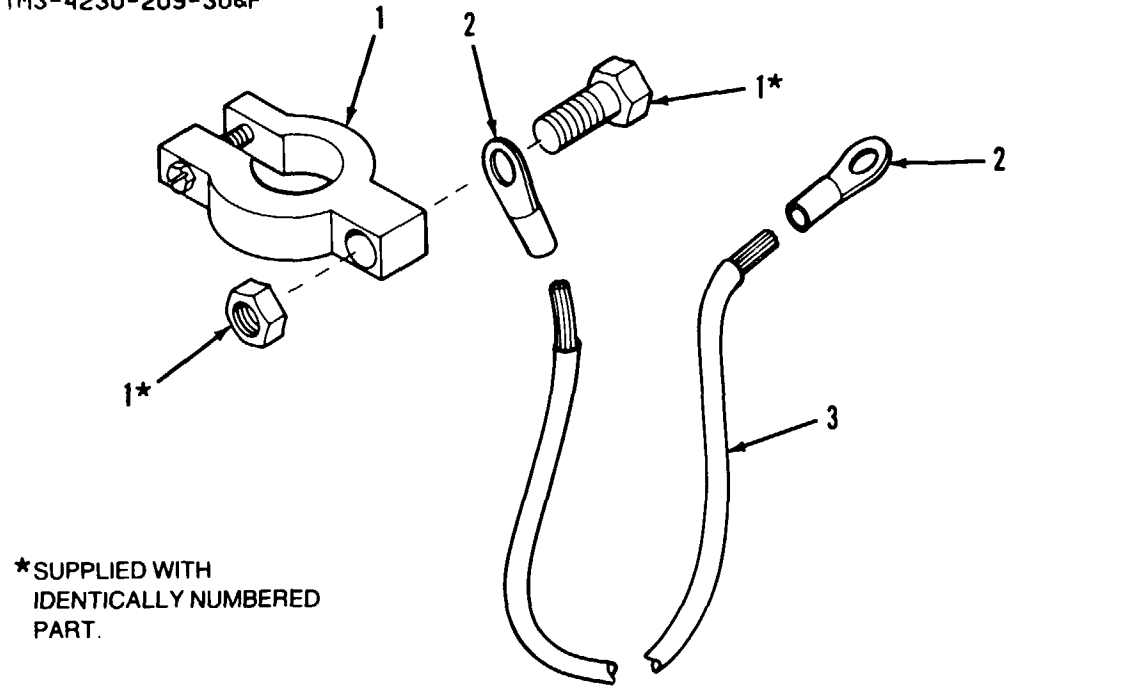
Figure B-16. Negative Battery Cable.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UGC)	(6) QTY
GROUP 020806 NEGATIVE BATTERY CABLE B5-45-3137					
FIG.B-16 NEGATIVE BATTERY CABLE					
1	PA0ZZ	96906	MS75004-2	TERMINAL, LUG.....	1
2	PA0ZZ	96906	MS25036-127	TERMINAL, LUG.....	2
3	MO0ZZ	81361	B5-45-3137-1	CABLE, NEGATIVE BATTERY 48 IN LG MAKE FROM CABLE ELECTRICAL P/N M13486/1-11.....	1

END OF FIGURE

SECTION 11

TM3-4230-209-30&P



*SUPPLIED WITH IDENTICALLY NUMBERED PART.

Figure B-17. Positive Battery Cable.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
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GROUP 020807 POSITIVE BATTERY CABLE
B5-45-3134

FIG.B-17 POSITIVE BATTERY CABLE

1	PA0ZZ	96906	MS75004-1	TERMINAL, LUG.....	1
2	PA0ZZ	96906	MS25036-127	TERMINAL, LUG.....	2
3	MO0ZZ	81361	B5-45-3134-1	CABLE, POSITIVE, BATTERY: 52 IN. LG MAKE FROM CABLE ELECTRICAL P/N M13486/1-11.....	1

END OF FIGURE

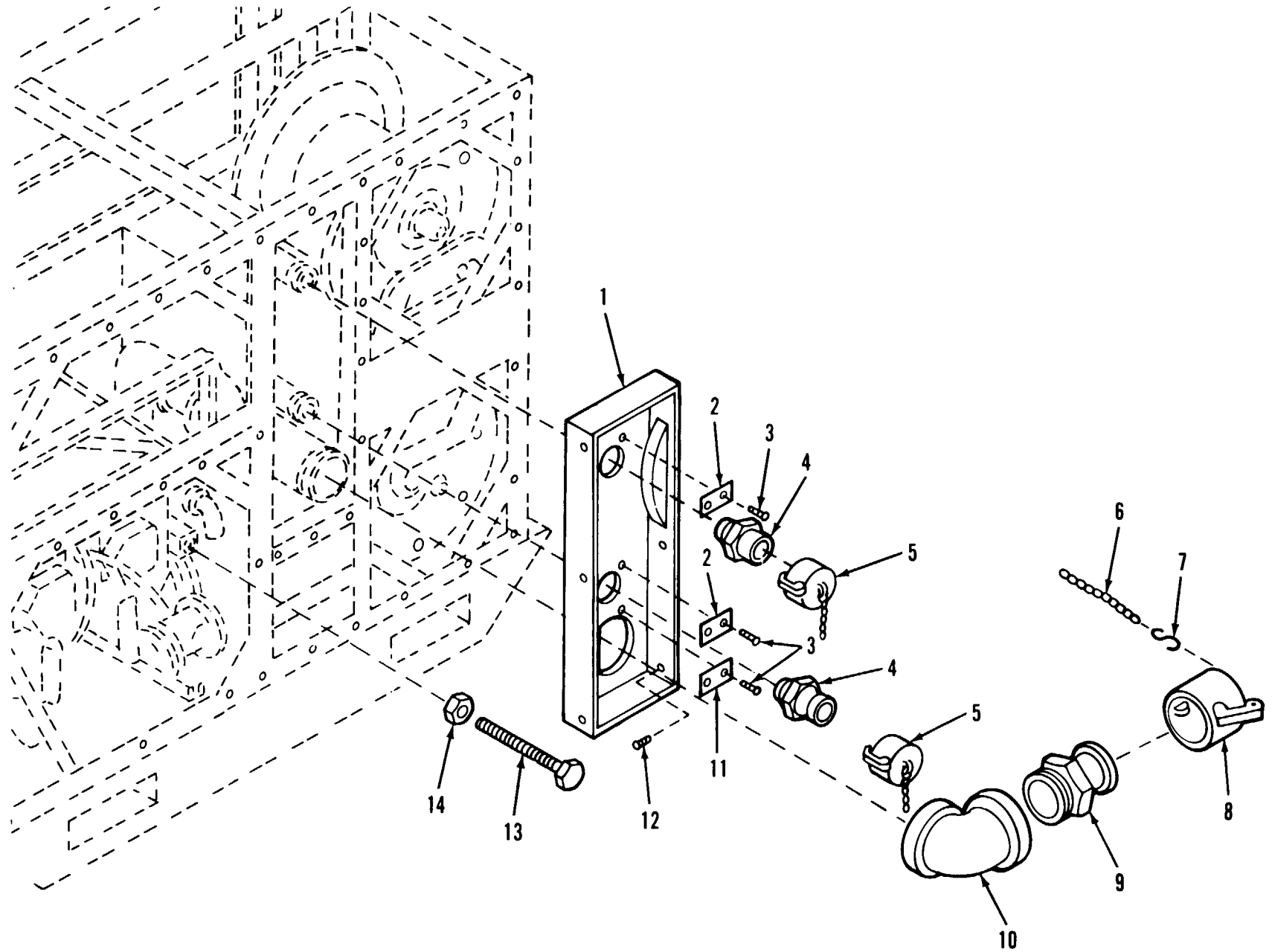


Figure B-18. Pump Unit Subassembly (1 of 3).

SECTION II

TM 3-4230-209-30&P

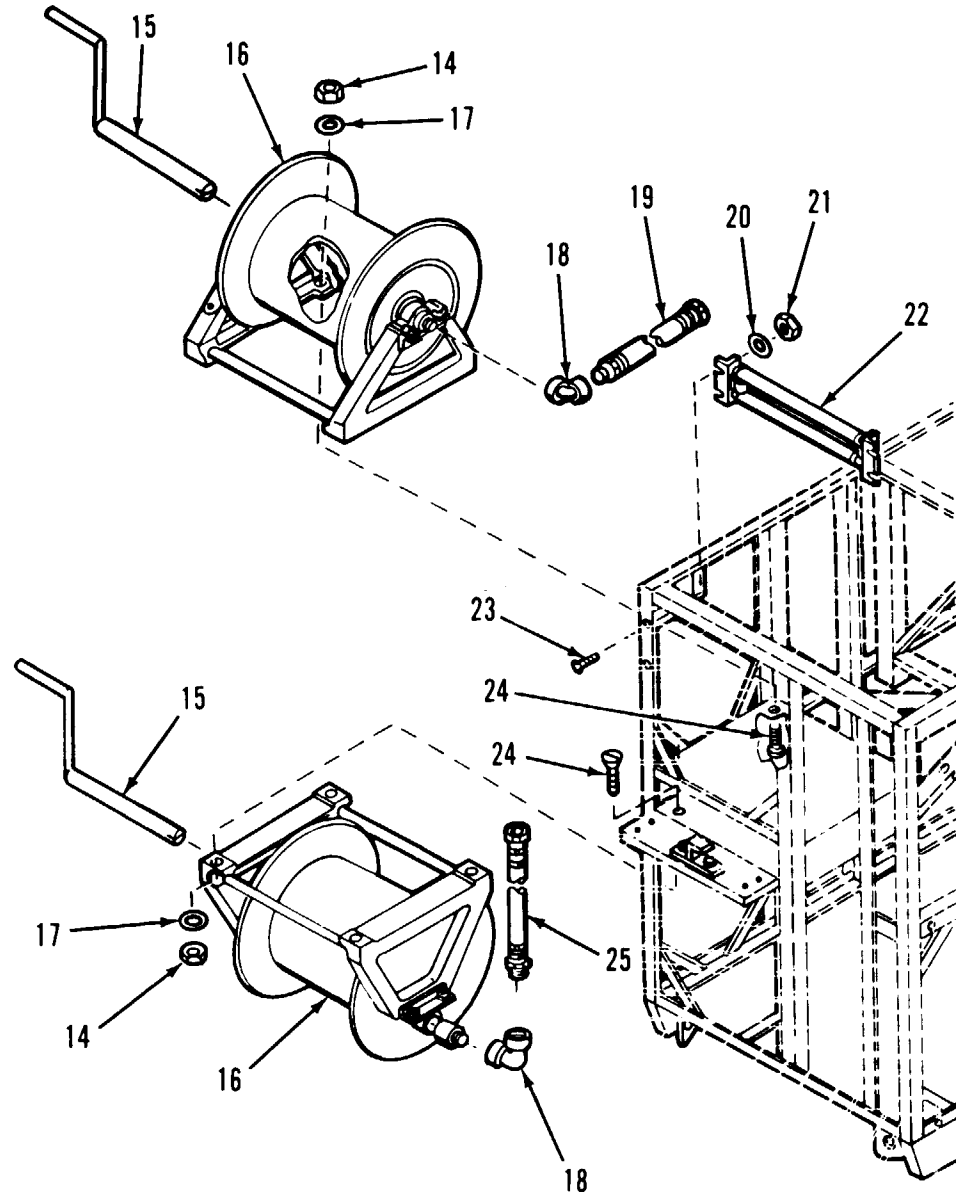


Figure B-18. Pump Unit Subassembly (2 of 3).

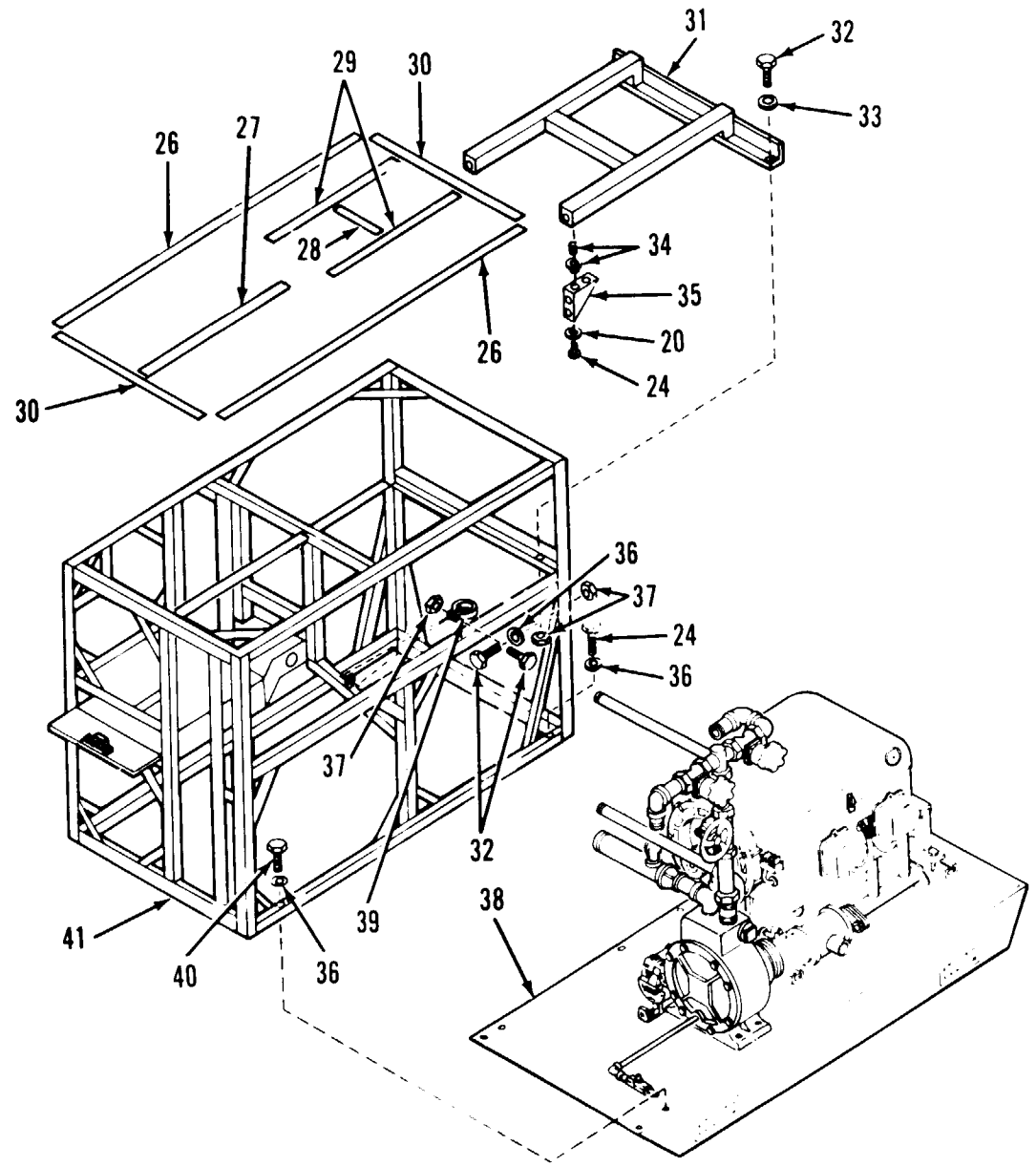


Figure B-18. Pump Unit Subassembly (3 of 3).

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 020808 PUMP UNIT SUBASSEMBLY D5-45-3231	
				FIG.B-18 PUMP UNIT ASSEMBLY	
1	XDOZZ	81361	C5-45-2976	PANEL	1
2	XDOZZ	81361	D5-45-3203-5	PLATE, IDENTIFICATION DISCHARGE	2
3	PAOZZ	96906	MS21318-20	SCREW,DRIVE	46
4	PAOZZ	96906	MS27020-6	COUPLING HALF,QUICK	2
5	PAOZZ	81361	B5-59-381	CAP,PRTECTIVE,DUST	1
6	MOOZZ	81361	C5-45-2641-1	CHAIN, MAKE FROM CHAIN, WELDLESS P/ N RRC271/NSN 4010-00-781-3129	3
7	PAOZZ	96906	MS87006-3	HOOK,CHAIN,S	3
8	PAOZZ	81361	B5-45-3268	CAP,PRTECTIVE,DUST	1
9	PAOZZ	81361	B5-45-3132-2	COUPLING HALF,QUICK	1
10	PAOZZ	81361	C5-45-2627-9	ELBOW,PIPE	1
11	XDOZZ	1361	D5-45-3203-4	PLATE, IDENTIFICATIO SUCTION N	1
12	PAOZZ	96906	MS51851-65	SCREW,TAPPING	1
13	PAOZZ	81361	C5-45-3230	BOLT,MACHINE	1
14	PAOZZ	96906	MS51922-17	NUT,SELF-LOCKING	9
15	PAOZZ	27742	1701-3192-700	CRANK, HAND	2
16	XDFZZ	81361	C5-45-3192	HOSE REEL	2
17	PAFZZ	96906	MS27183-14	WASHER,FLAT	16
18	PAFZZ	81361	C5-45-2723	SWING JOINT,PIPE	2
19	AFFFF	81361	C5-45-3216-10	HOSE ASSEMBLY OUTLET (SEE FIG.B-19 FOR ASSEMBLY BREAKDOWN)	2
20	PAFZZ	96906	MS27183-10	WASHER,FLAT	8
21	PAFZZ	96906	MS51922-1	NUT,SELF-LOCKING	8
22	XDFFF	81361	C5-45-2982	FAIRLEAD ASSEMBLY (SEE FIG.B-20 FOR ASSEMBLY BREAKDOWN)	2
23	PAFZZ	96906	MS18154-60	SCREW,CAP,HEXAGON	8
24	PAFZZ	96906	MS35190-290	SCREW,MACHINE	8
25	AFFFF	81361	C5-45-3216-20	HOSE ASSEMBLY, OUTLET (SEE FIG.B-19 FOR ASSEMBLY BREAKDOWN)	1

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
26	MFFZZ	81361	B5-45-3097-10	GASKET MAKE FROM PACKING MATERIAL P/N M200SERIES1X1-8/NSN 9330-00-912-2707	2
27	MFFZZ	81361	B5-45-3097-2	GASKET: MAKE FROM PACKING MATERIAL P/N M200SERIES1X1-8/NSN 9330-00-912-2707	1
28	MFFZZ	81361	B5-45-3097-12	GASKET MAKE FROM PACKING MATERIAL P/N M200SERIES1X1-8/NSN 9330-00-912-2707	1
29	MFFZZ	81361	B5-45-3097-6	GASKET MAKE FROM PACKING MATERIAL P/N M200SERIES1X1-8/NSN 9330-00-912-2707	2
30	MFFZZ	81361	B5-45-3097-11	GASKET 1 IN W, MAKE FROM PACKING MATERIAL P/N M200SERIES1X1-8/NSN 9330-00-912-2707	2
31	XDFZZ	81361	C5-45-2994	FRAME ASSEMBLY	1
32	PAFZZ	96906	MS90725-33	BOLT, MACHINE	3
33	PAFZZ	96906	MS27183-12	WASHER, FLAT	8
34	PAFZZ	81361	B5-45-3038	NUT, CHANNEL CLAMPIN	8
35	XDFZZ	81361	B5-45-3027	BRACKET	2
36	PAFZZ	96906	MS35338-46	WASHER, LOCK	12
37	PAFZZ	96906	MS51922-9	NUT, SELF-LOCKING, HE	3
38	XAFFF	81361	D5-45-3241	SKID BASE SUB ASSY (SEE FIG.B-22 FOR ASSEMBLY BREAKDOWN)	1
39	PBFZZ	81361	C5-45-3255	CLAMP, LOOP	1
40	PAFZZ	96906	MS18154-58	SCREW, CAP, HEXAGON	12
41	XAFFF	81361	E5-45-2984	FRAME ASSEMBLY (SEE FIG.B-21 FOR ASSEMBLY BREAKDOWN)	1

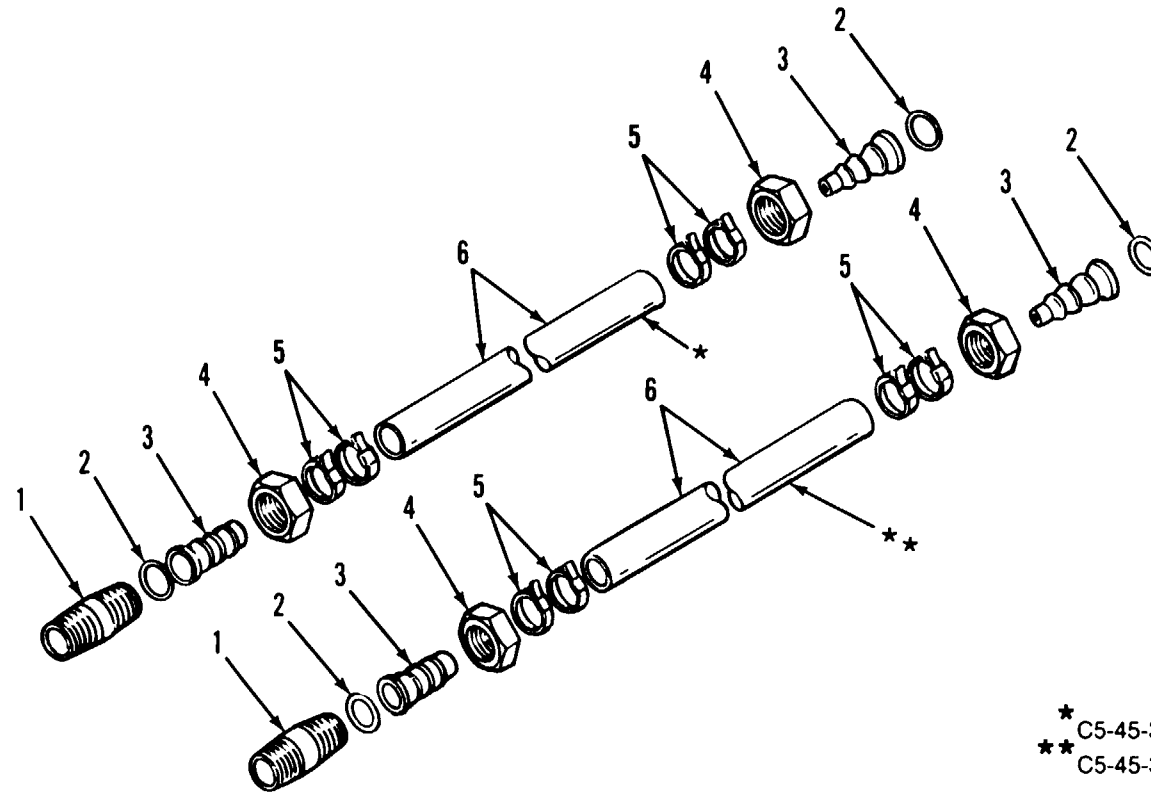
END OF FIGURE

B-18-2/(B-18-3 BLANK)

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* C5-45-3216-10
** C5-45-3216-20

Figure B-19. Outlet Hose Assembly.

SECTION II		TM3-4230-209-30&P				
(1)	(2)	(3)	(4)	(5)	(6)	
ITEM	SMR		PART			
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES	(UOC)	QTY
GROUP 02080801 OUTLET HOSE ASSEMBLY						
C5-45-3216-10 AND C5-45-3216-20						
FIG.B-19 OUTLET HOSE ASSEMBLY						
1	XDFZZ	31361	B5-45-3015-2	NIPPLE,PIPE		1
2	PAFZZ	81361	B5-45-2635	GASKET		2
3	PAFZZ	81361	B5-45-2930	COUPLING,HALF,MODIF		2
4	PAFZZ	81361	B5-45-2682	NUT		2
5	PAFZZ	77414	P8S-2	CLAMP,HOSE		4
6	MFFZZ	81361	C5-45-2736-8	HOSE 13.75 IN. LG MAKE FROM HOSE, V NONMETALLIC P/N 421B-1INCHID/NSN 4720-00-595-4103		
7	MFFZZ	81361	C5-45-2736-9	HOSE 19.75 IN. LG MAKE FROM HOSE, V NONMETALLIC P/N 421B-1INCHID/NSN 4720-00-595-4103		
END OF FIGURE						

SECTION II

TM 3-4230-209-30&P

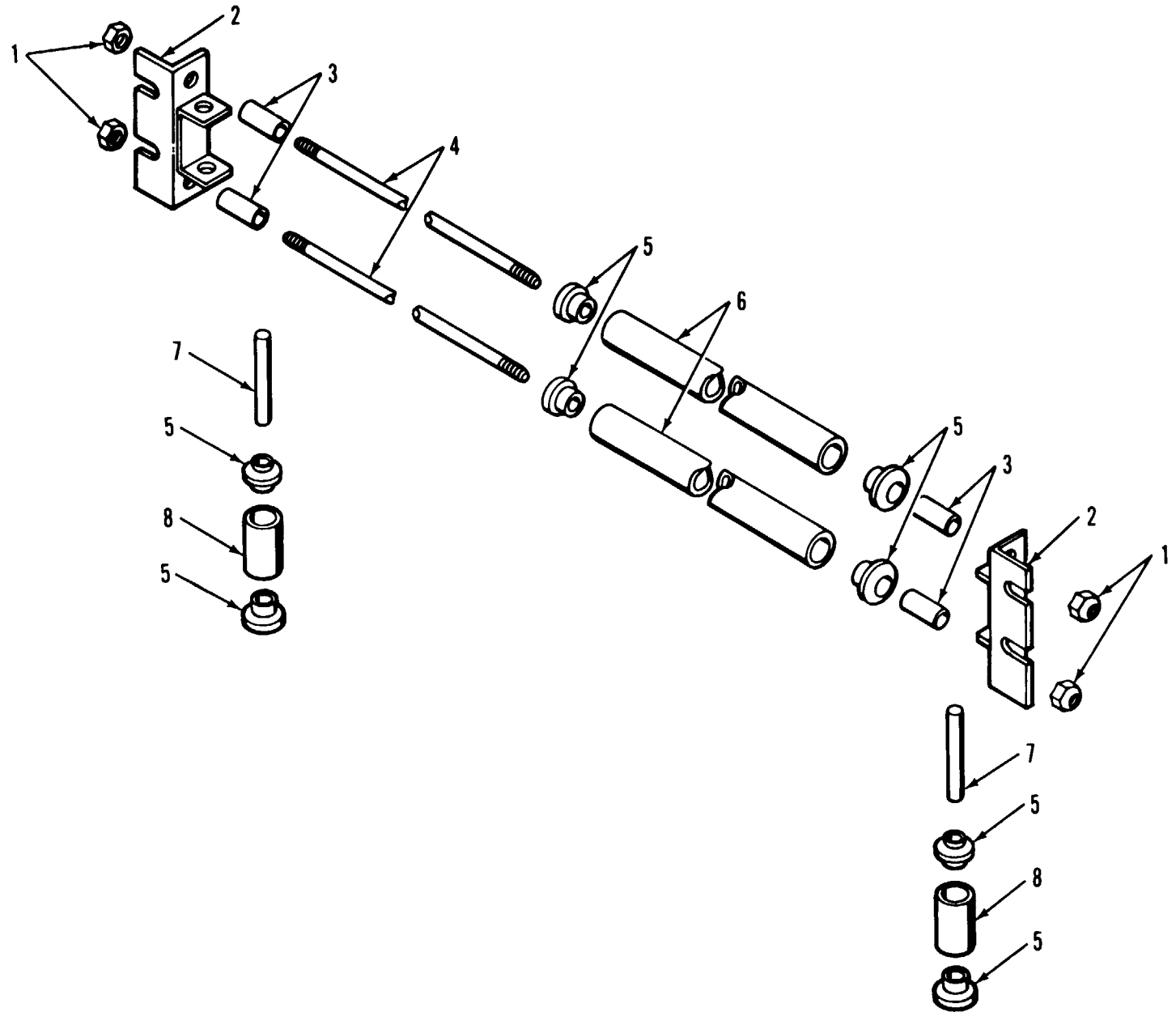


Figure B-20. Fairlead Assembly.

SECTION II		TM3-4230-209-30&P				
(1)	(2)	(3)	(4)	(5)	(6)	
ITEM	SMR		PART			
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)		QTY
				GROUP 02080802 FAIRLEAD ASSEMBLY		
				C5-45-2982		
				FIG.B-20 FAIRLEAD ASSEMBLY		
1	PAFZZ	96906	MS51922-17	NUT, SELF-LOCKING		4
2	XDFZZ	81361	C5-45-3066	BRACKET		2
3	XDFZZ	81361	B5-45-3067	SPACER		4
4	XDFZZ	81361	B5-45-3035	SHAFT		2
5	PAFZZ	81361	B5-45-3089	BEARING, BALL, ANNULA		8
6	XDFZZ	81361	B5-45-3068	ROLLER		2
7	XDFZZ	81361	B5-45-3034	PIN		2
8	PAFZZ	81361	C5-45-2982-2	BUSHING		2
				END OF FIGURE		

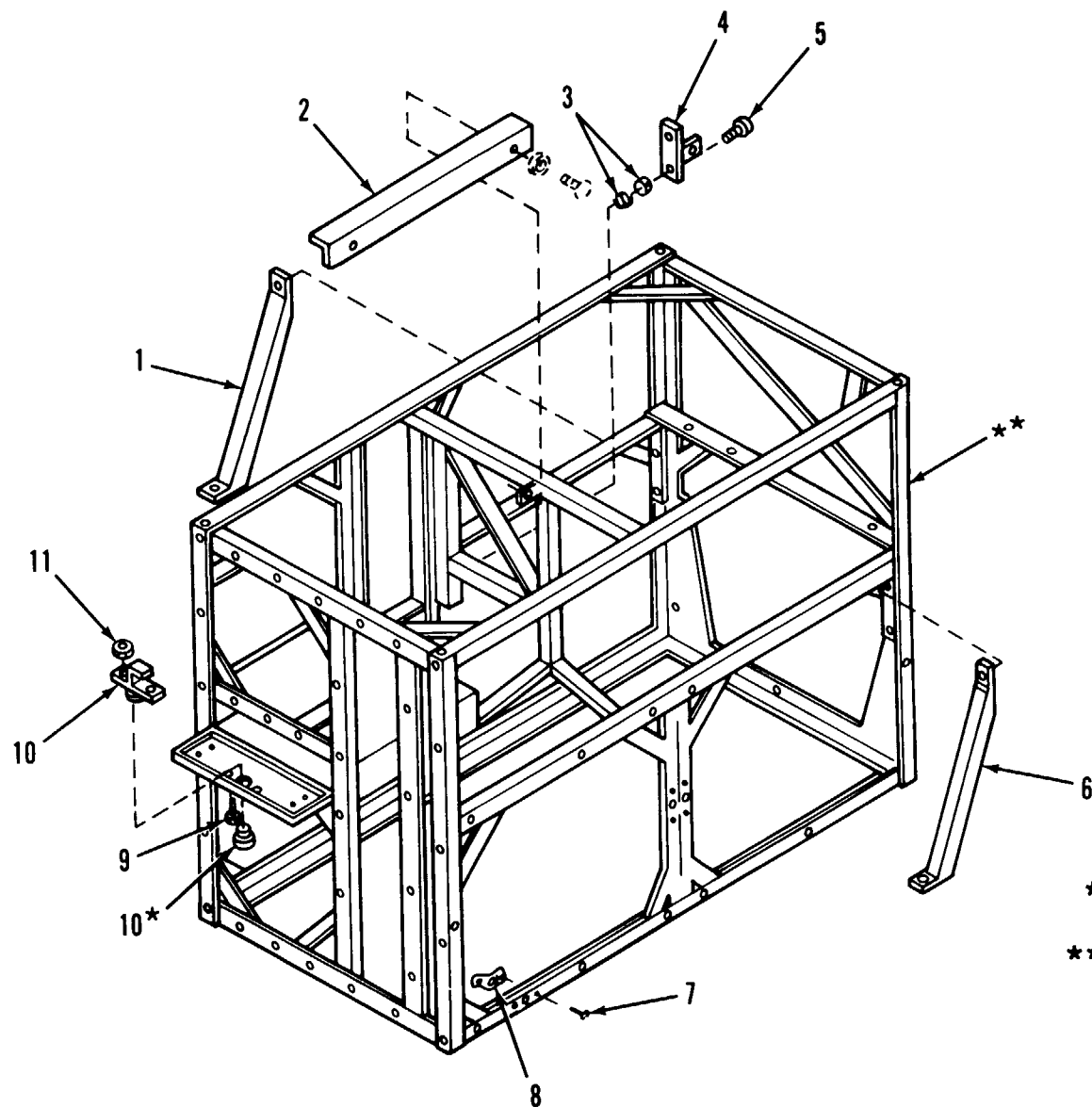


Figure B-21. Frame Assembly.

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 02080803 FRAME ASSEMBLY	
				E5-45-2984	
				FIG.B-21 FRAME ASSEMBLY	
1	XDFZZ	81361	C5-45-3033-2	ANGLE, SUPPORT FRONT	1
2	XDFZZ	81361	E5-45-2984-6	ANGLE,PUMP FRAME	1
3	PAFZZ	81361	B5-45-3038	NUT,CHANNEL CLAMPIN	4
4	XDFZZ	81361	B5-45-3039	BRACKET,ATTACH	2
5	PAFZZ	96906	MS18154-60	SCREW,CAP,HEXAGON	4
6	XDFZZ	81361	C5-45-3033-1	ANGLE ASSEMBLY	2
7	PAFZZ	96906	MS24661-9	RIVET,BLIND	52
8	PAFZZ	71286	244-22	RECEPTACLE,TURNLOCK	26
9	PAFZZ	96906	MS35207-263	SCREW,MACHINE	2
10	PAFZZ	94222	44-99-116-12	FASTENER,PAWL	1
11	PAFZZ	96906	MS21044N3	NUT,SELF-LOCKING	2

END OF FIGURE

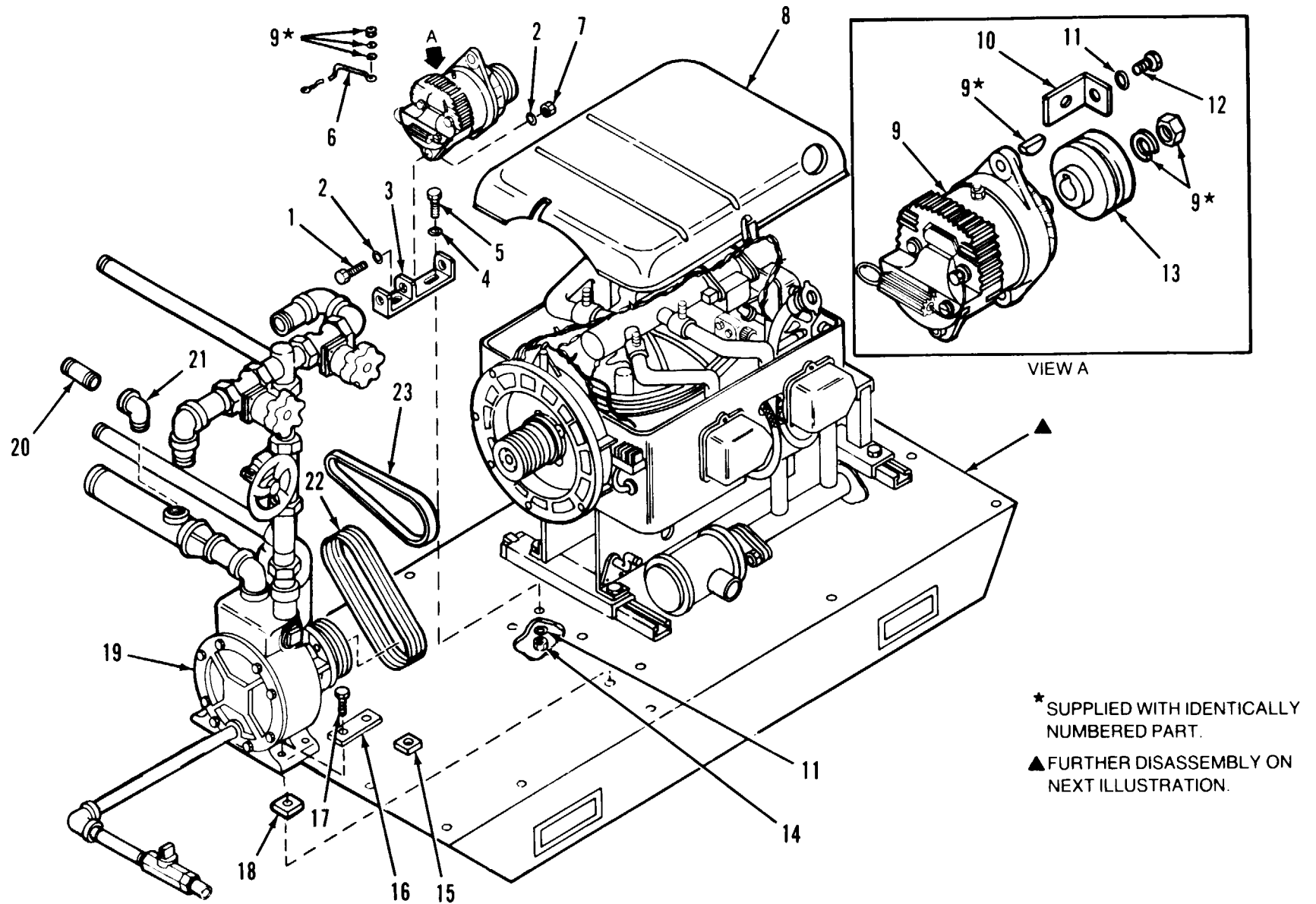


Figure B-22. Skid Base Assembly (1 of 3).

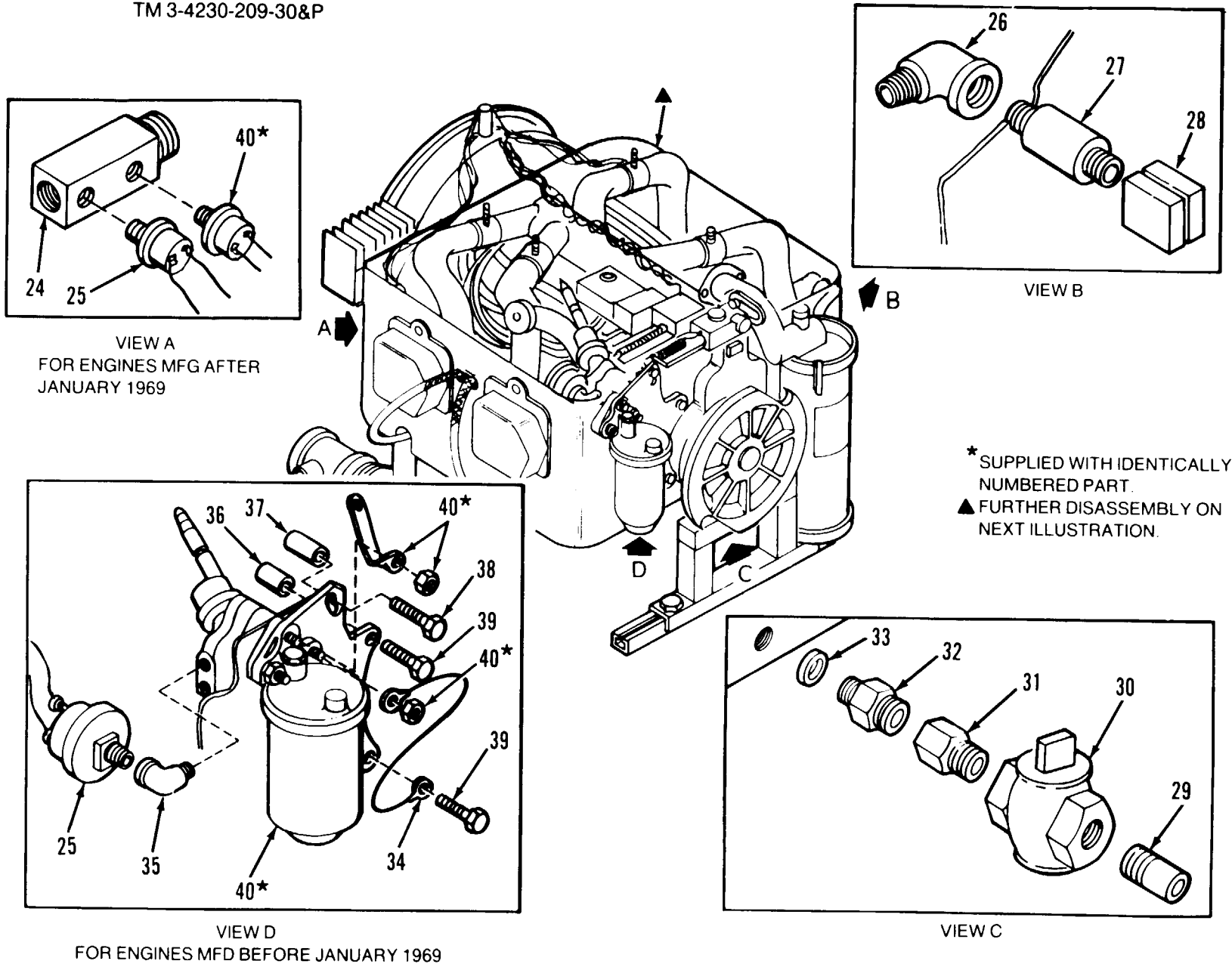
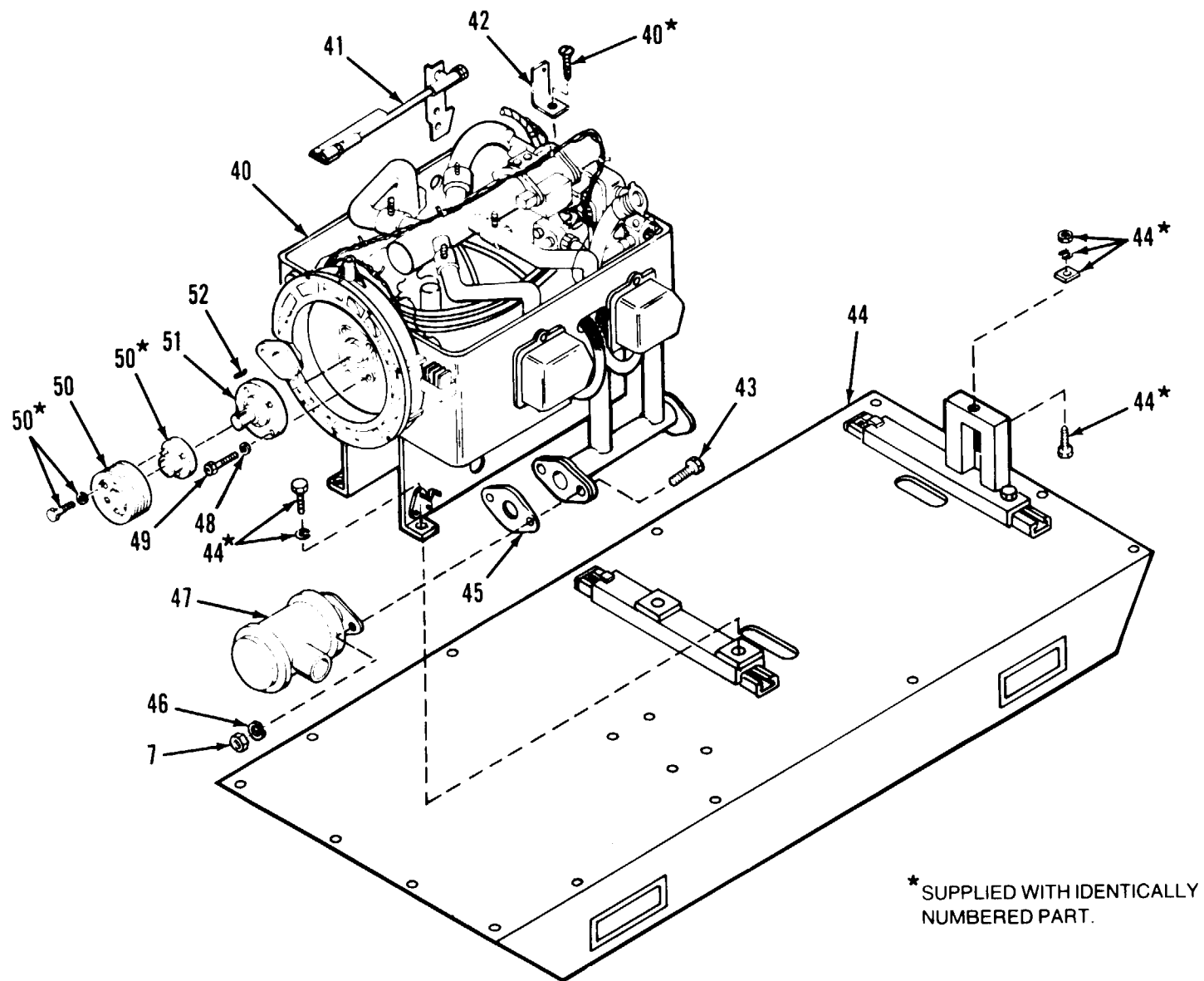


Figure B-22. Skid Base Assembly (2 of 3).



* SUPPLIED WITH IDENTICALLY
NUMBERED PART.

Figure B-22. Skid Base Assembly (3 of 3).

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 02080804 SKID BASE SUBASSEMBLY D5-45-3241	
				FIG.B-22 SKID BASE SUBASSEMBLY	
1	PAOZZ	96906	MS90728-90	SCREW,CAP,HEXAGON	2
2	PAOZZ	96906	MS35333-43	WASHER,LOCK	4
3	XDFZZ	81361	C5-45-3232	SUPPORT, GENERATOR	1
4	PAFZZ	96906	MS27183-14	WASHER,FLAT	2
5	PAFZZ	96906	MS90728-87	SCREW,CAP,HEXAGON	2
6	PAFZZ	81361	C5-45-3290	CABLE ASSEMBLY	1
7	PAOZZ	96906	MS51967-8	NUT,PLAIN,HEXAGON	6
8	PAFZZ	81361	C5-45-3191	COVER,ENGINE	1
9	XDOFF	81361	D5-45-3288	GENERATOR,ENGINE AC ALTERNATOR ASSEMBLY(SEE FIG.B-29 FOR ASSEMBLY BREAKDOWN)	1
10	PAOZZ	81361	C5-45-3229	BRACKET,ANGLE GENERATOR	1
11	PAOZZ	96906	MS35333-44	WASHER,LOCK	3
12	PAOZZ	96906	MS90725-109	SCREW,CAP,HEXAGON	1
13	PAOZZ	81361	D5-45-3312	PULLEY,GROOVE	1
14	PAFZZ	96906	MS51967-11	NUT,PLAIN,HEXAGON	2
15	XDFZZ	81361	B5-45-2993-02	STIFFENER,MOUNTING USE WITH OHLER PUMP	4
16	XDFZZ	81361	B5-45-2993-01	STIFFNER,MOUNTING USE WITH MARLOW PUMP	2
17	PAFZZ	96906	MS90725-117	SCREW,CAP,HEXAGON	4
18	PAFZZ	81361	B5-45-3109-1	PAD,MACHINE MOUNTIN	4
19	AFVFF	81361	D5-45-3029	PLUMBING ASSEMBLY (SEE FIG.B-23 FOR ASSEMBLY BREAKDOWN)	1
20	PAFZZ	81361	B5-45-3015-10	NIPPLE,PIPE	1
21	PAFZZ	39428	4821K15	ELBOW,PIPE	1
22	PAOZZ	20796	3V315-4	BELTS,V,MATCHED SET	1
23	PAOZZ	24161	3VX280	BELT	1
24	XDFZZ	81361	C5-45-3271	TEE CONNECTOR USED ON ENGINES MFD AFTER JANUARY 1969 ONLY	1

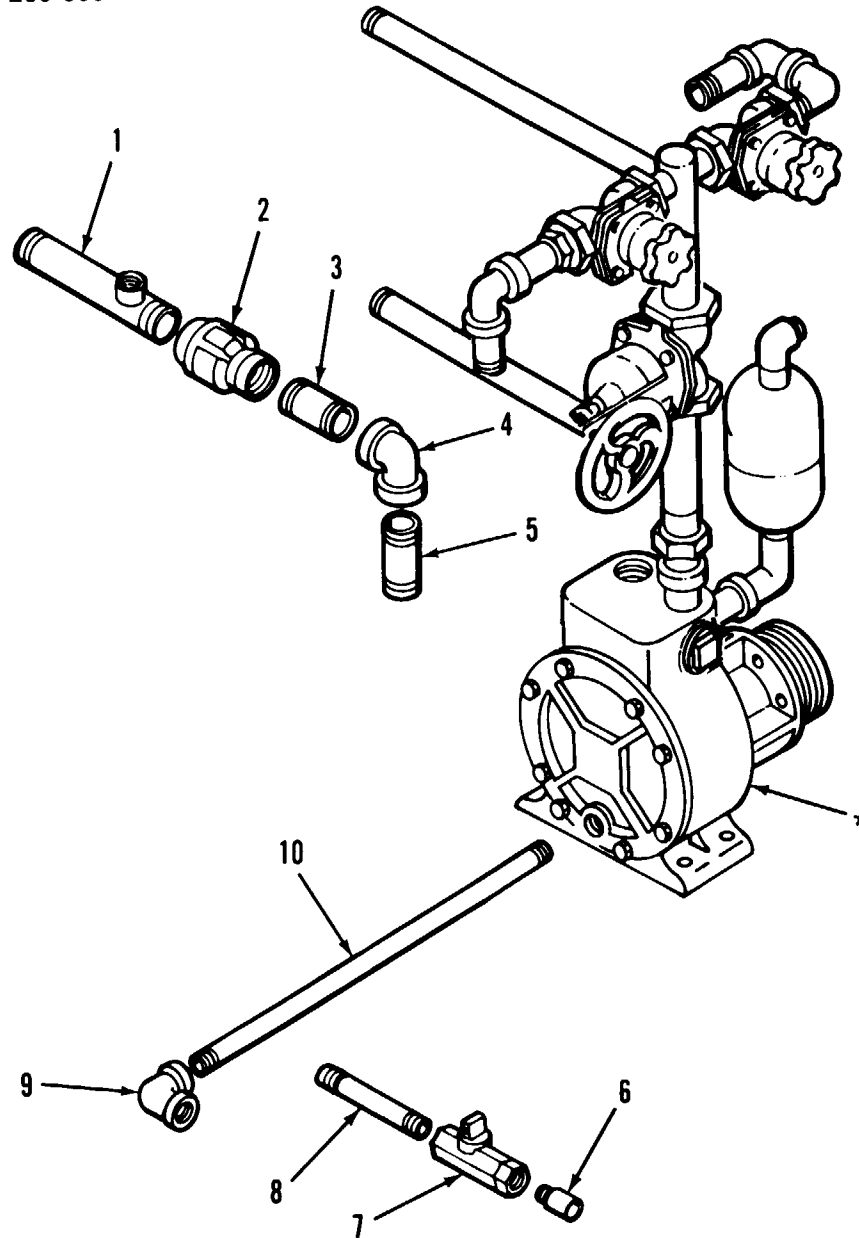
SECTION II					
(1)	(2)	(3)	TM3-4230-209-30&P	(5)	(6)
ITEM	SMR		(4)		
NO	CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
25	PAFZZ	81361	B5-45-3215	SWITCH,PRESSURE	1
26	PAFZZ	79470	3400X2	ELBOW,PIPE	1
27	XDFZZ	79470	3328X2	NIPPLE	1
28	PAFZZ	26759	101240	ELBOW,PIPE	4
29	PAFZZ	81361	B5-45-3307	NIPPLE,PIPE	1
30	PAFZZ	81361	B5-45-3306	VALVE,STOP-CHECK OIL DRAIN	1
31	PAFZZ	07860	A46070	COUPLING,PIPE	1
32	PAFZZ	01276	2000-8-8B	ADAPTER,STRAIGHT,PI	1
33	PAFZZ	97403	13213E3283	GASKET	1
34	PAFZZ	81361	C5-45-3247	LEAD,ELECTRICAL	1
35	PAFZZ	96906	MS14307-1	ELBOW,PIPE USED ON ENGINES MFD PRIOR TO JANUARY 1969 ONLY	1
36	XDFZZ	81361	B5-45-3246-2	SPACER	1
37	PAFZZ	81361	B5-45-3246-1	SPACER,SLEEVE	2
38	PAFZZ	96906	MS90725-69	SCREW,CAP,HEXAGON	1
39	PAFZZ	96906	MS90725-14	SCREW,CAP,HEXAGON	2
40	PAFHH	97403	13206E1000MARK3	ENGINE,GASOLINE	1
41	PAOOO	81361	C5-45-3157	THROTTLE LINKAGE ASSEMBLY (SEE FIG.B-27 FOR ASSEMBLY BREAKDOWN)	1
42	XDFZZ	81361	C5-45-3281	CLIP,THROTTLE LINKAGE ASSEMBLY: USED ONLY W/BENDIX CARBURETOR EQUIPPED ENGINES	1
43	PAOZZ	96906	MS90725-62	SCREW,CAP,HEXAGON	4
44	XDFFF	81361	D5-45-2988	SKID,PUMP BASE (SEE FIG.B-28 FOR ASSEMBLY BREAKDOWN)	1
45	PAOZZ	16004	B47457	GASKET	2
46	PAOZZ	96906	MS35338-46	WASHER,LOCK	4
47	PAOZZ	81361	B5-45-3165	MUFFLER,EXHAUST	2
48	PAFZZ	96906	MS35338-45	WASHER,LOCK	4
49	PAFZZZ	81361	B5-45-3205	SCREW,SELF-LOCKING	4
50	PAFZZ	81361	C5-45-3180	PULLEY,GROOVE ASSEMBLY	1
51	PAFZZ	81361	C5-45-3164	ADAPTER,POWER TAKE-	1
52	PAFZZ	96906	MS20066-381	KEY,NMACHINE	1

END OF FIGURE

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* FURTHER DISASSEMBLY
NEXT ILLUSTRATION

Figure B-23. Plumbing Assembly (1 of 2).

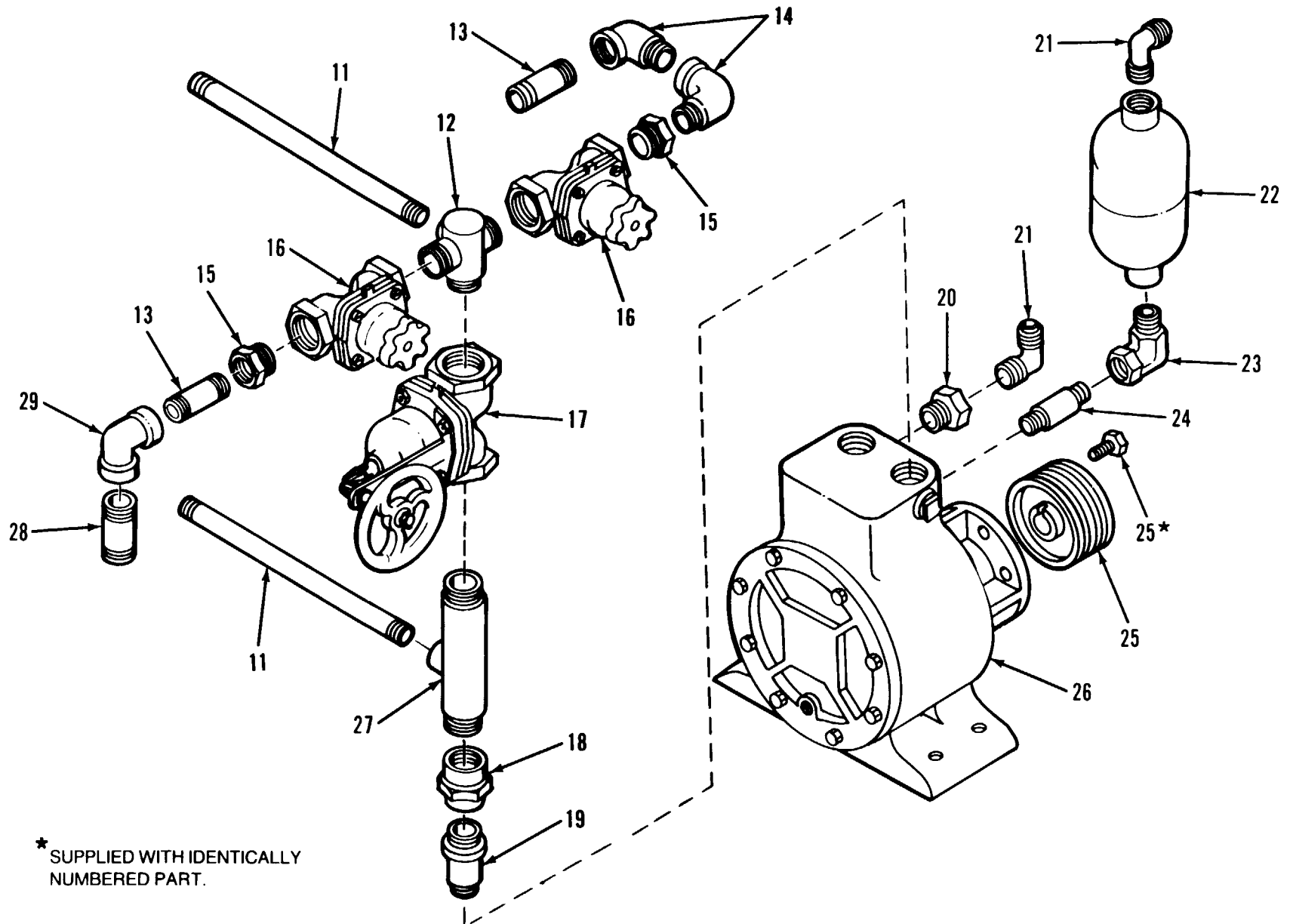


Figure B-23. Plumbing Assembly (2 of 2).

SECTION II (1) ITEM NO	(2) SMR CODE	(3) FSCM	TM3-4230-209-30&P (4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
GROUP 020808041 PLUMBING ASSEMBLY					
D5-45-3029					
FIG.B-23 PLUMBING ASSEMBLY					
1	PAFZZ	81361	C5-45-3270	EDUCATOR C5-45-3270 REPLACES C5-45-2804 WHICH MAY BE ON FIELD UNITS	1
2	PAFZZ	81361	D5-45-3029 ITEM 6	REDUCER,PIPE	1
3	PAFZZ	96906	MS51953-199	NIPPLE,PIPE	1
4	PAFZZ	88044	AN914-8C	ELBOW,PIPE	1
5	XDFZZ	81361	B5-45-3015-8	NIPPLE,PIPE	1
6	PAFZZ	81361	B5-45-3020-5	ADAPTER,STRAIGHT,PI 1 INCH	1
6	PAFZZ	81361	B5-45-3020-7	ADAPTER,STRAIGHT,PI 2 INCH	1
7	PAFZZ	81361	D5-45-3217-1	VALVE,BALL USED WITH STRAIGHT ADAPTER P/N B5-45-3020-5 ONLY	1
7	PAFZZ	81361	C5-45-3282	VALVE,BALL USED WITH STRAIGHT ADAPTER P/N B5-45-3020-7 ONLY	1
7	PAFZZ	81361	C5-45-3278	VALVE,BALL USED WITH STRAIGHT ADAPTER P/N B5-45-3020-7 ONLY	1
8	PAFZZ	81361	B5-45-3015-12	NIPPLE,PIPE	1
9	PAFZZ	14351	X5062	ELBOW,PIPE	1
10	PAFZZ	81361	B5-45-3015-11	PIPE,METALLIC	2
11	XDFZZ	81361	B5-45-3015-3	PIPE,METALLIC	2
12	PAFZZ	81361	C5-45-2980	MANIFOLD,UPPER	1
13	XDFZZ	81361	B5-45-3015-14	NIPPLE,PIPE	1
14	PAFZZ	81361	D5-45-3029ITEM17	ELBOW,PIPE	2
15	PAFZZ	30003	2519481-2	BUSHING,PIPE	2
16	PAFFF	81361	C5-45-3276-4	VALVE,REGULATING,FL (SEE FIG.B-26 FOR ASSEMBLY BREAKDOWN)	2
17	AFFFF	81361	C5-45-3272	VALVE, OFFSET (SEE FIG.B-25 FOR ASSEMBLY BREAKDOWN)	1
18	PAFZZ	39428	4825K19	UNION PIPE	1
19	PAFZZ	81361	C5-45-3015-15	NIPPLE,PIPE	1
20	PAFZZ	30780	1-2X1-4PTRSS	BUSHING,PIPE	1

SECTION II					
(1)	(2)	(3)	TM3-4230-209-30&P	(5)	(6)
ITEM	SMR		(4)		
NO	CODE	FSCM	PART	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
			NUMBER		
21	PAFZZ	96906	MS20822-4-4K	ELBOW,PIPE TO TUBE	2
22	PAFZZ	81361	C5-45-2656	TANK,SURGE	1
23	PAFZZ	81361	D5-45-3029ITEM20	ELBOW,PIPE	1
24	PAFZZ	18876	8489705	NIPPLE,PIPE	1
25	PAFZZ	81361	C5-45-3181	PULLEY,GROOVE ASSEMBLY	1
26	PAFFF	81361	D5-45-2835	PUMP,CENTRIFUGAL (SEE FIG.B-24 FOR ASSEMBLY BREAKDOWN	1
27	PAFZZ	81361	C5-45-2981	MANIFOLD,LOWER	1
28	XDFZZ	81361	B5-45-3015-2	NIPPLE,PIPE	2
29	PAFZZ	80204	ANSI B16.3	ELBOW,PIPE	1

END OF FIGURE

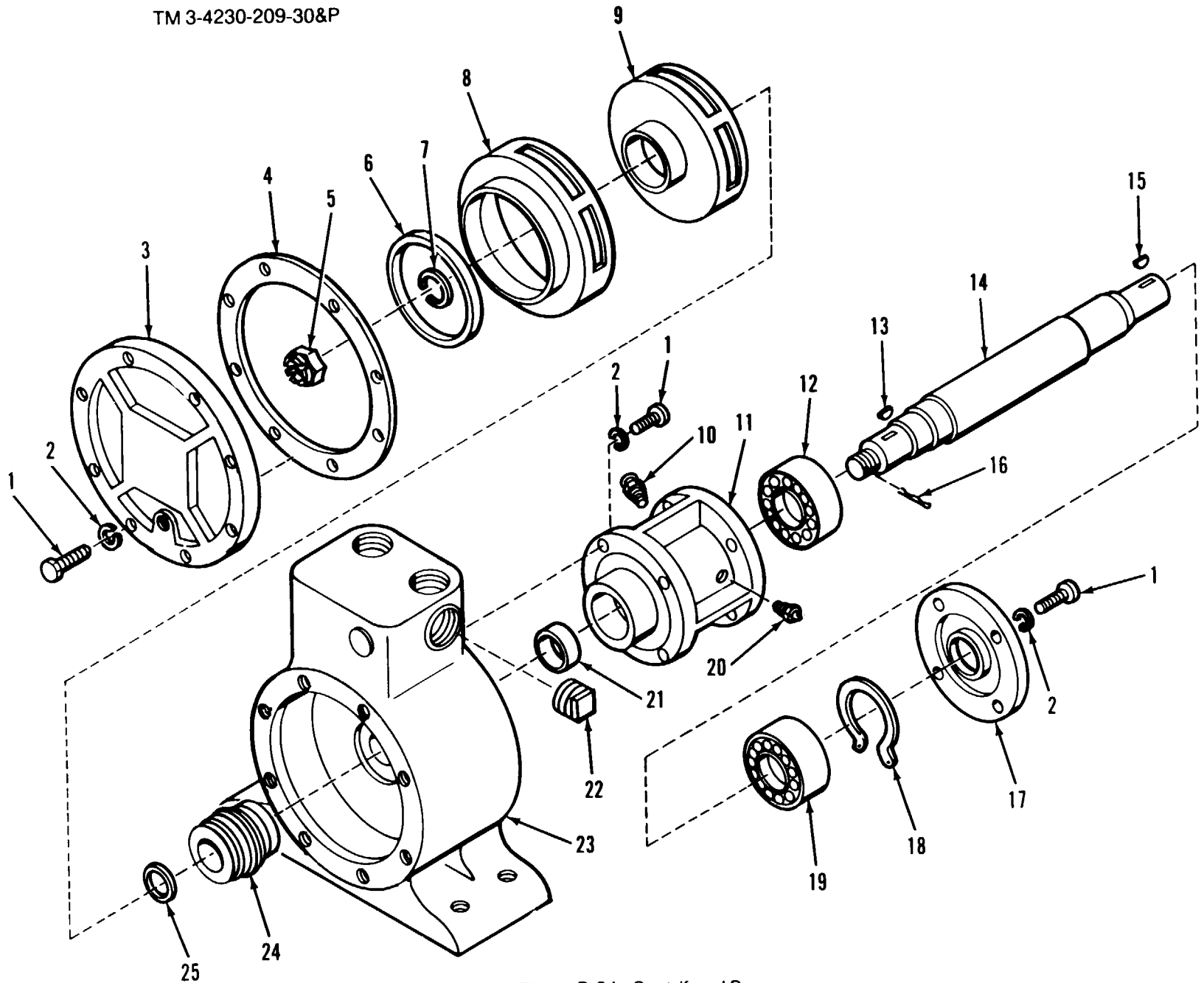


Figure B-24. Centrifugal Pump.

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 0208080411 CENTRIFUGAL PUMP	
				D5-45-2835	
				FIG.B-24 CENTRIFUGAL PUMP	
1	PAFZZ	96906	MS35307-360	SCREW,CAP,HEXAGON	16
2	PAFZZ	96906	MS35338-141	WASHER,LOCK	16
3	XAFZZ	81361	D5-45-2776	COVER, TANK,PUMP	1
4	PAFZZ	81361	B5-45-2777	GASKET	1
5	PAFZZ	96906	MS9358-14	NUT,PLAIN,CASTELLAT	1
6	PAFZZ	81361	B5-45-2775	GASKET	1
7	PAFZZ	79500	61H506-1	WASHER,FLAT	1
8	PAFZZ	81361	C5-45-2774	DIFFUSER	1
9	XAFZZ	81361	C5-45-2768	IMPELLER,PUMP	1
10	PAOZZ	38455	24454	BREATHER	1
11	XDFZZ	81361	C5-45-2750	HOUSING,BEARING	1
12	PAFZZ	52676	SKF6205	BEARING,BALL,ANNULA	1
13	PAFZZ	96906	MS35756-9	KEY,WOODRUFF	1
14	XAFZZ	81361	C5-45-2751	SHAFT	1
15	PAFZZ	96906	MS35756-15	KEY,WOODRUFF	1
16	PAFZZ	96906	MS24665-302	PIN,COTTER	1
17	XAFZZ	81361	C5-45-2755	CAP,BEARING END	1
18	PAFZZ	96906	MS16630-4100	RING,RETAINING	1
19	PAFZZ	82796	SKF6305	BEARING,BALL,ANNULA	1
20	PAOZZ	96906	MS15003-1	FITTING,LUBRICATION	1
21	PAFZZ	81361	B5-45-2754	SEAL,PLAIN ENCASED	1
22	XDOZZ	81348	WWP471PLUG2-11-1 -2NPT	PLUG	2
23	XAFZZ	81361	E5-45-2756	TANK,PUMP	1
24	PAFZZ	81361	C5-45-3311	OSEAL ASSEMBLY	1
25	PAFZZ	81361	B5-45-2770	SHIM SET	1

END OF FIGURE

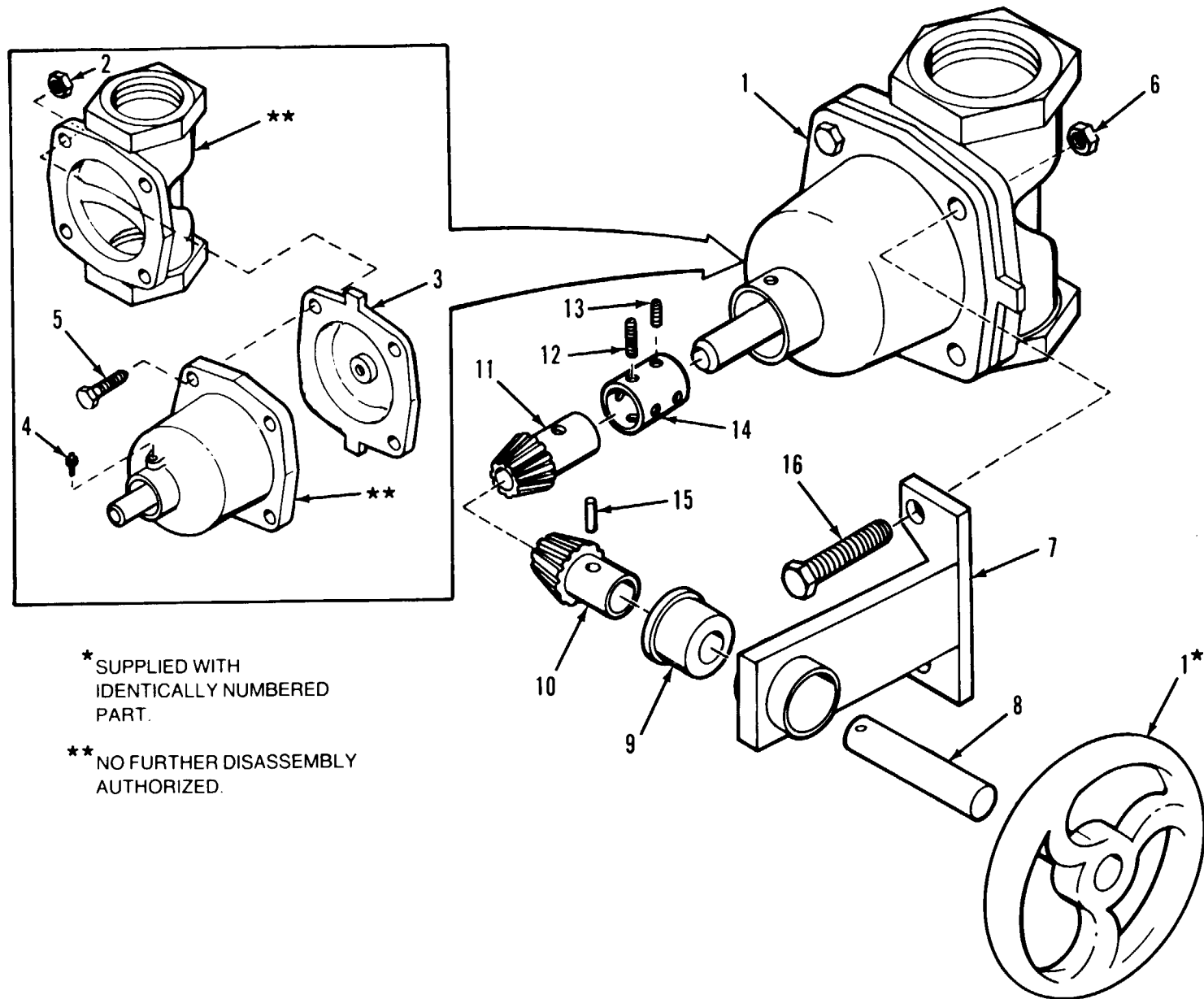
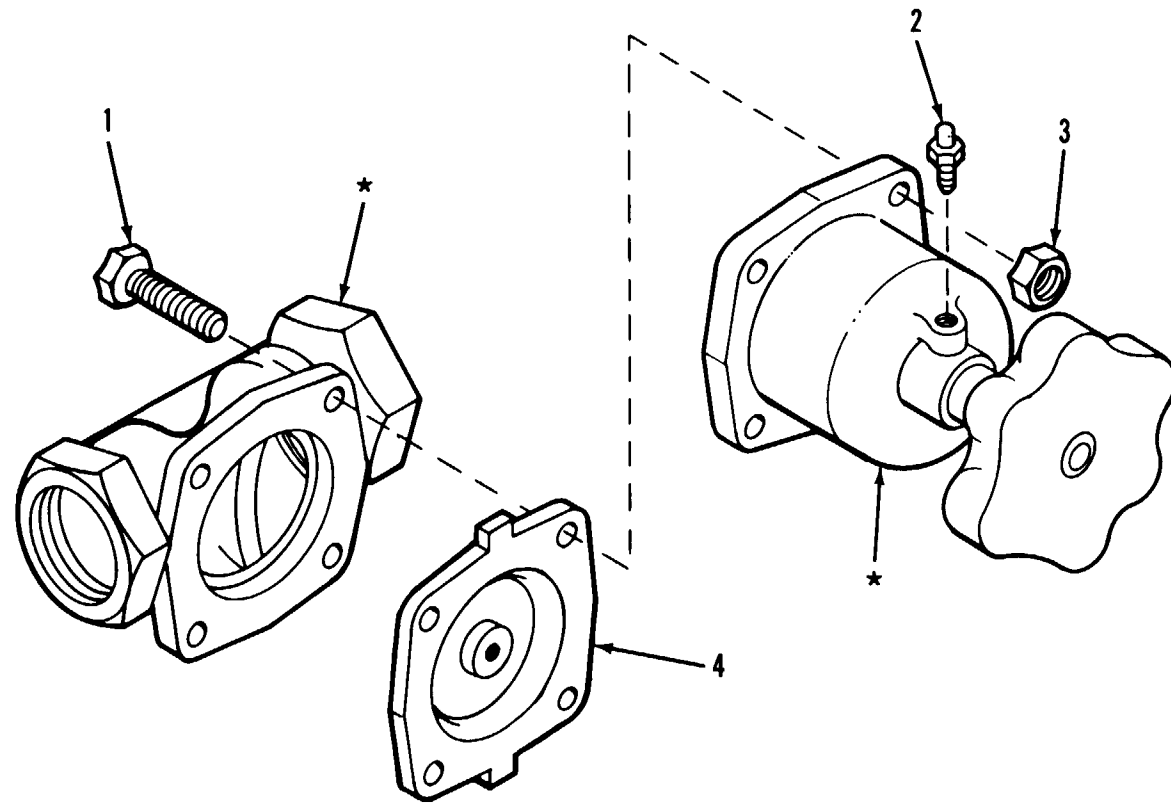


Figure B-25. Offset Valve and Regulating Valve.

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 0208080412 OFFSET VALVE C5-45-3272 AND GROUP 02080804121 REGULATING VALVE C5-45-3276-5	
				FIG.B-25 OFFSET VALVE AND REGULATING VALVE	
1	PAFFF	81361	C5-45-3276-5	VALVE, REGULATING	1
2	PAFZZ	96906	MS51968-11	NUT, PLAIN, HEXAGON	2
3	PAFZZ	19243	2 IN GRADE R-2	DIAPHRAGM, VALVE	1
4	PAOZZ	96906	MS15003-1	FITTING, LUBRICATION	1
5	PAFZZ	96906	MS90727-90	SCREW, CAP, HEXAGON	2
6	PAFZZ	96906	MS51967-11	NUT, PLAIN, HEXAGON	2
7	PAFZZ	81361	C5-45-3310	BRACKET	1
8	PAFZZ	81361	B5-45-3274	EXTENSION, SHAFT	1
9	PAFZZ	71041	FB1012-8	BEARING, SLEEVE	1
10	PAFZZ	81361	B5-45-3273	GEAR, BEVEL	1
11	PAFZZ	81361	B5-45-3090	GEAR, BEVEL	1
12	PAFZZ	96906	MS51965-52	SETSCREW	4
13	PAFZZ	969006	MS51965-66	SETSCREW	4
14	PAFZZ	81361	C5-45-3299	ADAPTER	1
15	PAFZZ	96906	MS16562-51	PIN, SPRING	3
16	PAFZZ	96906	MS90727-93	SCREW, CAP, HEXAGON	2

END OF FIGURE



* NO FURTHER DISASSEMBLY
AUTHORIZED.

Figure B-26. Regulating Valve.

SECTION II				TM3-4230-209-30&P	
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 0208080413 REGULATING VALVE C5-45-3276-4	
				FIG.B-26 REGULATING VALVE	
1	PAFZZ	96906	MS90727-90	SCREW,CAP,HEXAGON	4
2	PAFZZ	96906	MS15003-1	FITTING,LUBRICATION	1
3	PAFZZ	96906	MS51968-11	NUT,PLAIN,HEXAGON	4
4	PAFZZ	19243	11/4 GRADE R-2	DIAPHRAGM	1
				END OF FIGURE	

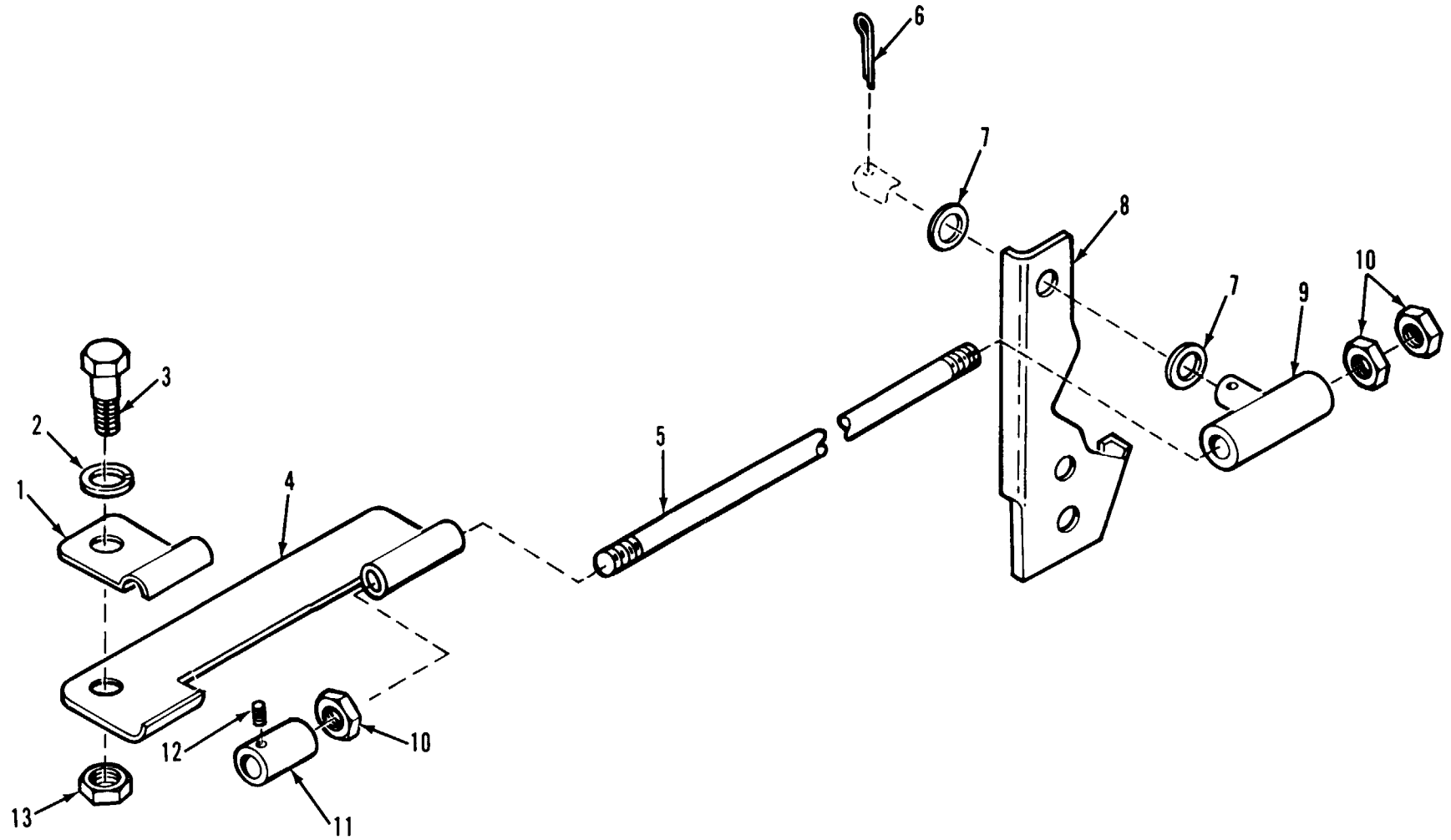
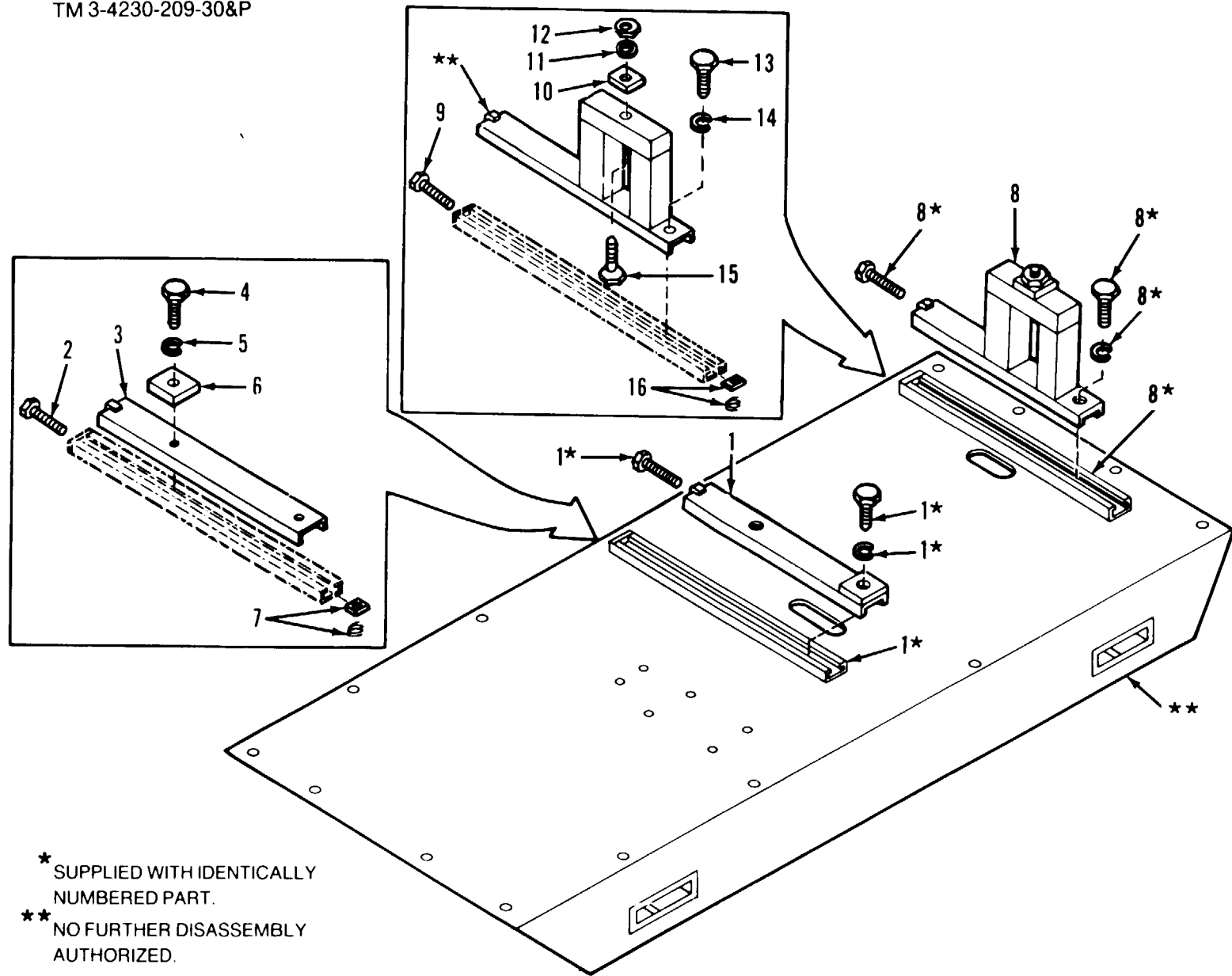


Figure B-27. Throttle Linkage Assembly.

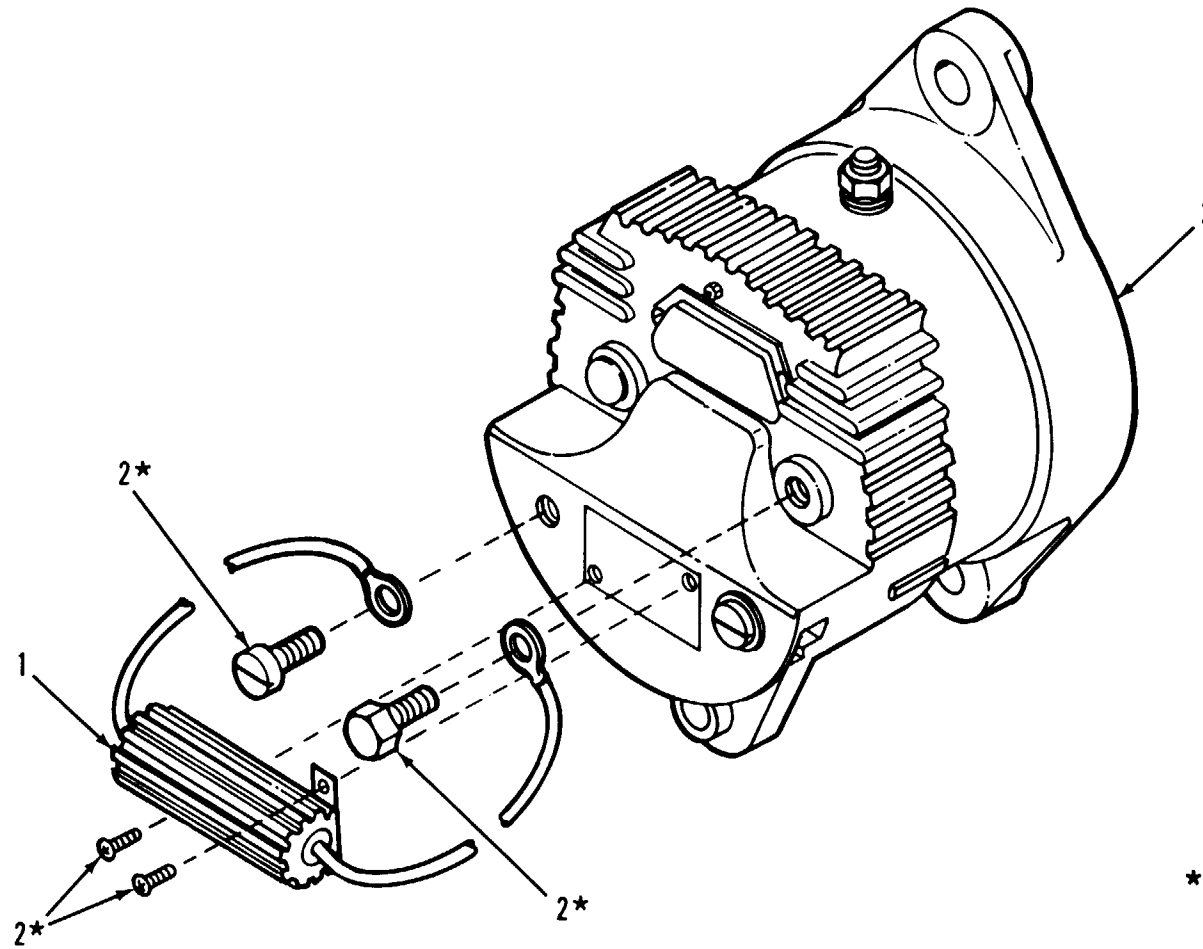
SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 020808043 THROTTLE LINKAGE	
				ASSEMBLY C5-45-3157	
				FIG.B-27 THROTTLE LINKAGE ASSEMBLY	
1	PAOZZ	81361	B5-45-3160	STRAP,RETAINING	1
2	PAOZZ	96906	MS35338-46	WASHER, LOCK	1
3	PAOZZ	96906	MS18154-58	SCREW,CAP,HEXAGON	1
4	PAOZZ	81361	B5-45-3159	CLAMP, LOOP	1
5	PAOZZ	81361	B5-45-3157-1	ROD, THROTTLE	1
6	PAOZZ	96906	MS24665-1012	PIN,COTTER	1
7	PAOZZ	96906	MS27183-7	WASHER,FLAT	2
8	PAOZZ	81361	C5-45-3228	LEVER,REMOTE CONTRO USED FOR BENDIX	1
9	XDOZZ	81361	C5-45-3285	SWIVEL	1
10	PAOZZ	96906	MS35650-302	NUT,PLAIN,HEXAGON	3
11	PAOZZ	81361	B5-45-3161	ADAPTER, THROTTLE	1
12	PAOZZ	96906	MS51964-49	SETSCREW	1
13	PAOZZ	96906	MS51967-8	NUT,PLAIN,HEXAGON	1
				END OF FIGURE	



- * SUPPLIED WITH IDENTICALLY NUMBERED PART.
- ** NO FURTHER DISASSEMBLY AUTHORIZED.

Figure B-28. Pump Base Skid and Engine Mount #1 and Engine Mount #2.

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 020808044 PUMP BASE SKID	
				D5-45-2988 AND	
				GROUP 0208080441 ENGINE MOUNT #1	
				C5-45-2964 AND	
				GROUP 0208080442 ENGINE MOUNT #2	
				C5-45-2965	
				FIG.B-28 PUMP BASE SKID AND	
				ENGINE MOUNT #1 & ENGINE MOUNT #2	
1	XDFFF	81361	C5-45-2964	MOUNT,ENGINE ASSEMBLY	1
2	PAFZZ	81361	B5-45-3119	BOLT,MACHINE	1
3	PAFZZ	81361	B5-45-3101	BRACKET,ENGINE ALIG	1
4	PAFZZ	96906	MS90725-65	SCREW,CAP,HEXAGON	2
5	PAFZZ	96906	MS35338-46	WASHER,LOCK	2
6	PAFZZ	81361	B5-45-3109-2	PAD,MACHINE	2
7	XAFZZ	96195	P4008	NUT SQUARE W/SPRING	2
8	PAFFF	81361	C5-45-2965	BRACKET,ENGINE MOUN ASSEMBLY #2	1
9	PAFZZ	81361	B5-45-3119	BOLT,MACHINE	1
10	PAFZZ	81361	B5-45-3109-1	PAD,MACHINE MOUNTIN	1
11	PAFZZ	96906	MS27183-18	WASHER,FLAT	1
12	PAFZZ	96906	MS51922-33	NUT,SELF-LOCKING,HE	1
13	PAFZZ	96906	MS18154-59	SCREW,CAP,HEXAGON	2
14	PAFZZ	96906	MS35338-46	WASHER,LOCK	2
15	PAFZZ	96906	MS90728-114	SCREW,CAP,HEXAGON	1
16	XAFZZ	96195	P4008	NUT SQUARE W/SPRING	2
				END OF FIGURE	



* SUPPLIED WITH IDENTICALLY
NUMBERED PART.

Figure B-29. Generator, Alternator Assembly.

SECTION II				TM3-4230-209-30&P	
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 020808045 GENERATOR,ALTERNATOR ASSEMBLY B5-45-3288	
				FIG.B-29 GENERATOR,ALTERNATOR ASSEMBLY	
1	PAFZZ	91637	RH50-30-1PCT	RESISTOR, FIXED, WIRE	1
2	PAFZZ	76761	N1026-1	GENERATOR-ALTERNATO	1
				END OF FIGURE	

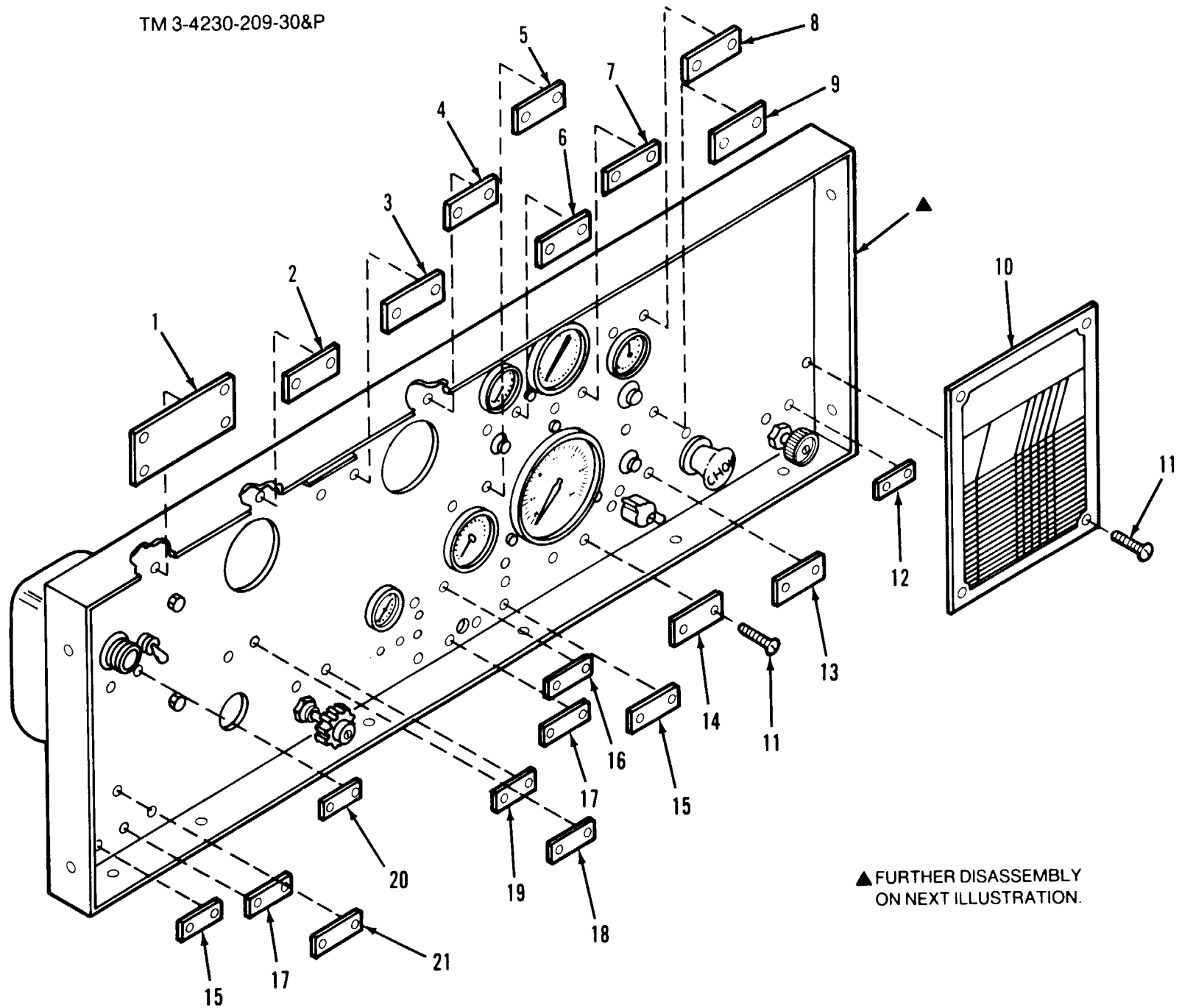
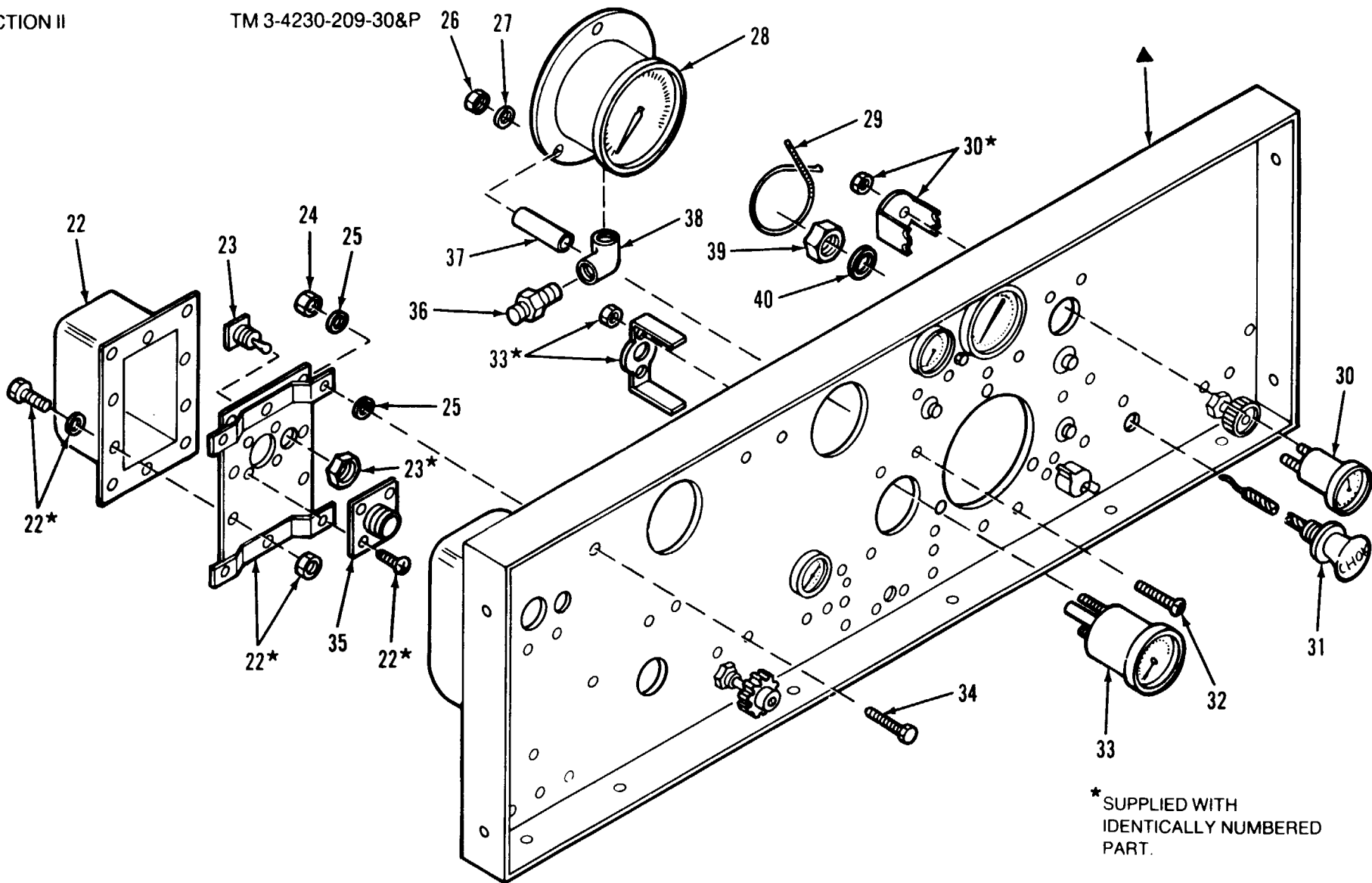


Figure B-30. Control Panel Assembly (1 of 4).

SECTION II

TM 3-4230-209-30&P



* SUPPLIED WITH IDENTICALLY NUMBERED PART.

▲ FURTHER DISASSEMBLY ON NEXT ILLUSTRATION.

Figure B-30. Control Panel Assembly (2 of 4).

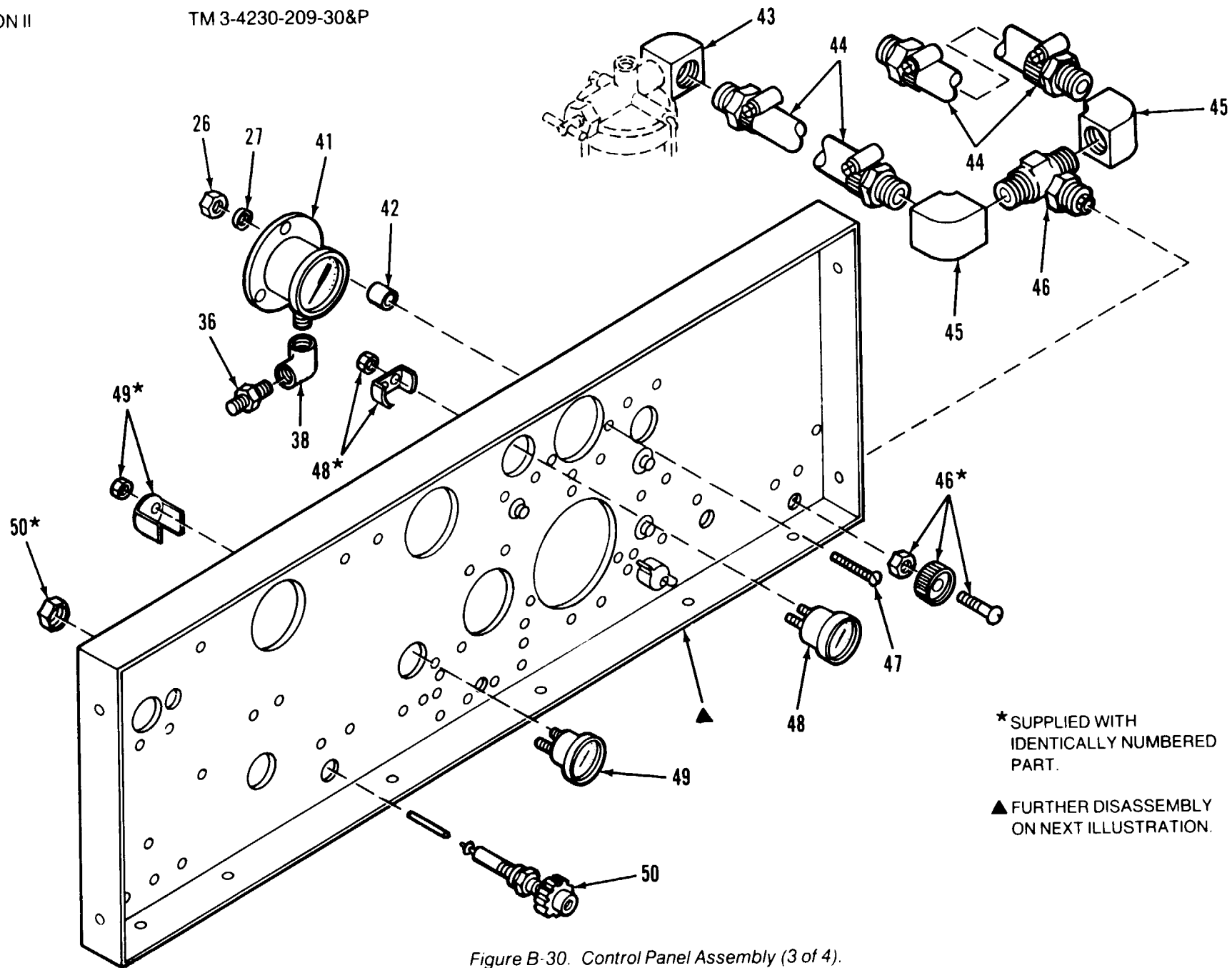


Figure B-30. Control Panel Assembly (3 of 4).

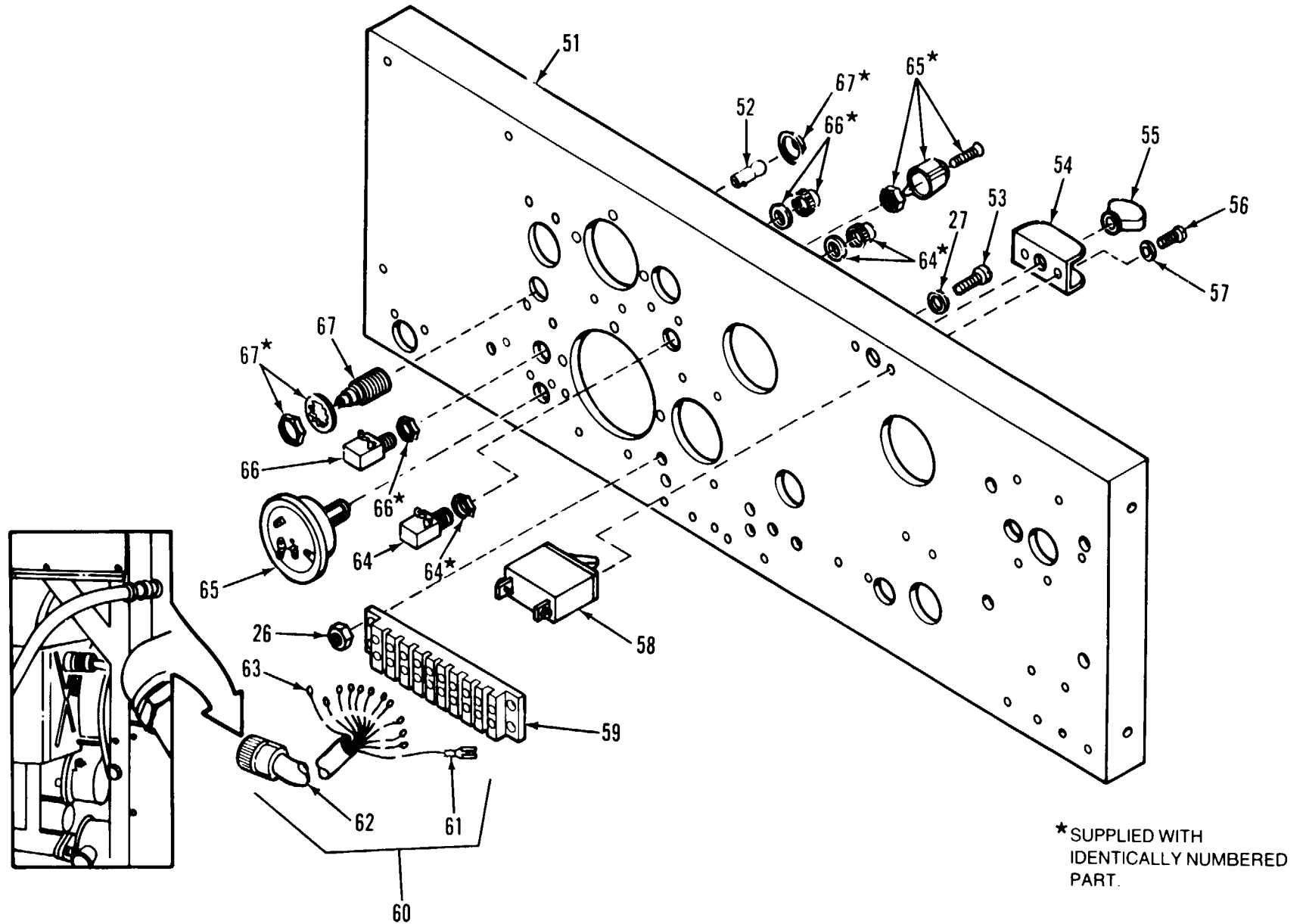


Figure B-30. Control Panel Assembly (4 of 4).

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 020809 CONTROL PANEL ASSEMBLY D5-45-3236	
				FIG.B-30 CONTROL PANEL ASSEMBLY	
1	XDFZZ	81361	D5-45-3203-23	PLATE, IDENTIFICATIO DECONTAMINATING APPARATUS	1
2	XDFZZ	81361	D5-45-3203-9	PLATE, IDENTIFICATION VALVE #2	1
3	PAFZZ	81361	D5-45-3203-24	PLATE, IDENTIFICATIO CIRCUIT BREAKER	1
4	XDFZZ	81361	D5-45-3203-10	PLATE, IDENTIFICATION VALVE #3	1
5	XDFZZ	81361	D5-45-3203-17	PLATE, IDENTIFICATION TACHOMETER	1
6	XDFZZ	81361	D5-45-3203-14	PLATE, IDENTIFICATION FUEL INDICATOR	1
7	XDFZZ	81361	D5-45-3203-12	PLATE, IDENTIFICATION VACUUM GAGE.	1
8	PAFZZ	81361	B5-45-3298	PLATE, IDENTIFICATIO AMETER	1
9	XDFZZ	81361	D5-45-3203-16	PLATE, IDENTIFICATION GENERATOR	1
10	PAFZZ	81361	D5-45-3203-19	PLATE, INSTRUCTION STARING PRODEDURE	1
11	PAFZZ	96906	MS21318-20	SCREW, DRIVE	48
12	XDFZZ	81361	D5-45-3203-15	PLATE, IDENTIFICATION FUEL SHUT- OFF	1
13	XDFZZ	81361	D5-45-3203-21	PLATE, IDENTIFICATIO OIL PRESSURE SWITCH	1
14	XDFZZ	81361	D5-45-3203-13	PLATE, IDENTIFICATION PRESSURE GAGE	1
15	XDFZZ	81361	D5-45-3203-6	PLATE, IDENTIFICATION CLOSED	2
16	PAFZZ	81361	D5-45-3203-11	PLATE, IDENTIFICATIO VALVE #4	1
17	XDFZZ	81361	D5-45-3203-7	PLATE, IDENTIFICATION OPEN	2
18	XDFZZ	81361	D5-45-3203-18	PLATE, IDENTIFICATION THROTTLE	1
19	XDFZZ	81361	D5-45-3203-8	PLATE, IDENTIFICATION VALVE #1	1
20	XDFZZ	81361	D5-45-3203-22	PLATE, IDENTIFICATIO HEATER, RECEPTACLE AND SWTICH ON-OFF	1
21	XDFZZ	81361	D5-45-3203-2	PLATE, IDENTIFICATIO DRAIN	1
22	PAFZZ	81361	D5-45-3313	JUNCTION BOX	1

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
23	PAFZZ	96906	MS25306-222	SWITCH,TOGGLE	1
24	PAFZZ	96906	MS51967-5	NUT,PLAIN,HEXAGON	1
25	PAFZZ	96906	MS35338-41	WASHER,LOCK	8
26	PAOZZ	96906	MS21044N3	NUT,SELF-LOCKING HEXAGON	1
27	PAOZZ	96906	MS27183-8	WASHER,FLAT	12
28	PAOZZ	81361	C5-45-2740	GAGE,PRESSURE,DIAL	1
29	PAFZZ	96906	MS3367-1-0	STRAP,TIEDOWN,ELECT	1
30	PAOZZ	70040	6474533	AMMETER	1
31	PAFZZ	19207	6184184	CONTROL ASSEMBLY, PUSH,CHOKE	1
32	PAOZZ	96906	MS35207-272	SCREW,MACHINE	3
33	PAOZZ	96906	MS35916-2	TACHOMETER,MECHANIC	1
34	PAFZZ	96906	MS90725-32	BOLT,MACHINE	4
35	PAFZZ	96906	MS3105-16	SHELL,ELECTRICAL	1
36	PAOZZ	88044	AN816-4-4B	ADAPTER,STRAIGHT,PI	2
37	PAOZZ	81361	B5-45-3017-2	SPACER,SLEEVE	3
38	PAOZZ	88044	AN916-2	ELBOW,PIPE	1
39	PAFZZ	96906	MS35691-21	NUT,PLAIN,HEXAGON	1
40	PAFZZ	96906	MS35338-46	WASHER,LOCK	1
41	PAOZZ	81361	C5-45-2646	GAGE,VACUUM,DIAL INDICATING	1
42	PAOZZ	81361	B5-45-3017-1	SPACER,SLEEVE	3
43	PAOZZ	79470	3400X2	ELBOW,PIPE	1
44	PAOZZ	81361	B5-45-3195	HOSE ASSEMBLY,NONME	2
45	PAOZZ	26759	101240	ELBOW,PIPE	2
46	PAOZZ	81361	B5-45-3093	VALVE,GLOBE	1
47	PAOZZ	96906	MS35207-270	SCREW,MACHINE	3
48	PAOZZ	70040	6432691	INDICATOR,LIQUID FUEL LEVEL	1
49	PAOZZ	96906	MS24541-2	INDICATOR,PRESSURE OIL	1
50	PAFZZ	81361	C5-45-2862-2	CONTROL ASSEMBLY, PUSH	1
51	XAFZZ	81361	D5-45-3227	PANEL	1
52	PAOZZ	96906	MS15569-7	LAMP,INCANDESCENT	1
53	PAOZZ	96906	MS35207-267	SCREW,MACHINE	4
54	XDOZZ	81361	B5-45-3287	SWITCH SHIELD	1
55	PAOZZ	74193	006-10211	BOOT ASSEMBLY	1
56	PAOZZ	96906	MS35206-228	SCREW,MACHINE	2

SECTION II		TM3-4230-209-30&P				
(1)	(2)	(3)	(4)	(5)	(6)	
ITEM	SMR		PART			
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY	
57	PAOZZ	96906	MS35333-37	WASHER, LOCK	2	
58	PAOZZ	74193	JA1-B3-A-20-2	CIRCUIT BREAKER	1	
59	PAOZZ	81361	B5-45-3209	TERMINAL BOARD	1	
60	PFAZZ	81361	D5-45-3237	CABLE ASSEMBLY, POWE	1	
61	PAFZZ	00779	42599-2	TERMINAL, QUICK DISCONNECT	1	
62	PAFZZ	96906	MS3106R18-1P	CONNECTOR, PLUG, ELEC	1	
63	PAFZZ	96906	MS25036-108	TERMINAL, LUG	10	
64	PAOZZ	96906	MS25089-2C	SWITCH, PUSH FUEL INDICATOR	1	
65	PAOZZ	81361	B5-45-3208	SWITCH, ROTARY STOP-RUN-START	1	
66	PAOZZ	96906	MS25089-1C	SWITCH, PUSH MAGNETO GROUND	1	
67	PAOZZ	13445	PL16GREEN	LIGHT, INDICATOR	1	

END OF FIGURE

1

2

3

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 020810 ELECTRICAL WIRING C5-45-3248	
				FIG.B-31 ELECTRICAL WIRING	
1	AFZZ	81361	D5-45-3248-11	LEAD,ELECTRICAL: 14 IN. LG	1
2	MFFZZ	81361	TB1-A/S1-A	WIRE, MAKE FROM WIRE,ELECTRICAL P/N MM2946/NSN 6145/00-500-3079	1
3	PAFZZ	96906	MS25036-108	TERMINAL,LUG	2
4	AFZZ	81361	D5-45-3248-12	LEAD,ELECTRICAL: 17 IN. LG	1
5	MFFZZ	81361	TB1-B/S2-A	WIRE, MAKE FROM WIRE,ELECTRICAL P/N MM2946/NSN 6145-00-500-3079	1
6	PAFZZ	96906	MS25036-108	TERMINAL,LUG	2
7	AFZZ	81361	D5-45-3248-13	LEAD,ELECTRICAL: 14.5 IN. LG	1
8	MFFZZ	81361	TB1-C/S1-C	WIRE, MAKE FROM WIRE,ELECTRICAL P/N MM2946/NSN 6145-00-500-3079	1
9	PAFZZ	96906	MS25036-108	TERMINAL,LUG	2
10	AFZZ	81361	D5-45-3248-14	LEAD,ELECTRICAL: 12 IN. LG.	1
11	MFFZZ	81361	TB1-E/M1-A	WIRE MAKE FROM WIRE ELECTRICAL P/ N MM2946/NSN 6145-00-500-3079	1
12	PAFZZ	96906	MS25036-108	TERMINAL,LUG	2
13	AFZZ	81361	D5-45-3248-15	LEAD,ELECTRICAL: 13.5 IN. LG	1
14	MFFZZ	81361	TB1-F/S1-B	WIRE, MAKE FROM WIRE,ELECTRICAL P/N MM2946/NSN 6145-00-500-3079	1
15	PAFZZ	96906	MS25036-108	TERMINAL,LUG	2
16	AFZZ	81361	D5-45-3248-16	LEAD,ELECTRICAL: 12.5 IN. LG	1
17	MFFZZ	81361	TB1-H/M1-B	WIRE, MAKE FROM WIRE,ELECTRICAL P/N MM2946/NSN 6145-00-500-3079	1
18	PAFZZ	96906	MS25036-108	TERMINAL,LUG	2
19	AFZZ	81361	D5-45-3248-17	LEAD,ELECTRICAL: 13 IN. LG	1
20	MFFZZ	81361	TB1-AC1/DS1-A	WIRE, MAKE FROM WIRE,ELECTRICAL P/N MM2946/NSN 6145-00-500-3079	1
21	PAFZZ	96906	MS25036-108	TERMINAL,LUG	2
22	AFZZ	81361	D5-45-3248-18	LEAD,ELECTRICAL: 12.5 IN. LG	1

SECTION II		TM3-4230-209-30&P				
(1)	(2)	(3)	(4)	(5)	(6)	
ITEM	SMR		PART			
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY	
23	MFFZZ	81361	TB1-AC2/DS1-B	WIRE, MAKE FROM WIRE,ELECTRICAL P/N MM2946/NSN 6145-00-500-3079	1	
24	PAFZZ	96906	MS25036-108	TERMINAL,LUG	2	
25	AFFFF	81361	D5-45-3248-19	LEAD,ELECTRICAL: 23.5 IN. LG	1	
26	MFFZZ	81361	CB1-A/M4-B	WIRE, MAKE FROM WIRE,ELECTRICAL P/N MM2946/NSN 6145-00-500-3079	1	
27	PAFZZ	00779	42599-2	TERMINAL,QUICK DISC	1	
28	PAFZZ	81349	CM15ED330G03	CAPACITOR,FIXED	1	
29	AFFFF	81361	D5-45-3248-20	LEAD,ELECTRICAL: 19 IN. LG	1	
30	MFFZZ	81361	J1-H/S4-A	WIRE, MAKE FROM WIRE,ELECTRICAL P/N MM2946/NSN 6145-00-500-3079	1	
31	PAFZZ	96906	MS25036-108	TERMINAL,LUG	2	
32	AFFFF	81361	D5-45-3248-21	LEAD,ELECTRICAL: 22.5 IN. LG	1	
33	MFFZZ	81361	S4-B/S1-A	WIRE, MAKE FROM WIRE,ELECTRICAL P/N MM2946/NSN 6145-00-500-3079	1	
34	PAFZZ	96906	MS25036-108	TERMINAL,LUG	2	
35	AFFFF	81361	D5-45-3248-22	LEAD,ELECTRICAL: 14 IN. LG	1	
36	MFFZZ	81361	S1-A/S6-A	WIRE, MAKE FROM WIRE, ELECTRICAL P/N MM2946/NSN 6145-00-500-3079	1	
37	PAFZZ	96906	MS25036-108	TERMINAL,LUG	2	
38	AFFFF	81361	D5-45-3248-23	LEAD,ELECTRICAL: 5 IN. LG	1	
39	MFFZZ	81361	S6-B/M3-A	WIRE, MAKE FROM WIRE,ELECTRICAL P/N MM2946/NSN 6145-00-500-3079	1	
40	PAFZZ	96906	MS25036-108	TERMINAL,LUG	2	
41	AFFFF	81361	D5-45-3248-24	LEAD,ELECTRICAL: 29.5 IN. LG	1	
42	MFFZZ	81361	M3-B/R1-A	WIRE, MAKE FROM WIRE,ELECTRICAL P/N M2946/NSN 6145-00-500-3079	1	
43	PAFZZ	96906	MS25036-108	TERMINAL,LUG	2	
44	AFFFF	81361	D5-45-3248-25	LEAD,ELECTRICAL: 13 IN. LG	1	
45	MFFZZ	81361	R1-B/GND	WIRE, MAKE FROM WIRE,ELECTRICAL P/N MM2946/NSN 6145-00-500-3079	1	
46	PAFZZ	96906	MS25036-108	TERMINAL,LUG	2	
47	AFFFF	81361	D5-45-3248-26	LEAD,ELECTRICAL: 14 IN. LG	1	
48	MFFZZ	1361	TB1-A1/CB1-B	WIRE, MAKE FROM WIRE,ELECTRICAL P/N MM2946/NSN 6145-00-500-3079	1	

SECTION II				TM3-4230-209-30&P	
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
49	PAFZZ	96906	MS25036-108	TERMINAL,LUG	2
50	AFFFF	81361	D5-45-3248-31	LEAD,ELECTRICAL: 20 IN. LG	1
51	MFFZZ	81361	M4-A/TB1-A	WIRE, MAKE FROM WIRE,ELECTRICAL P/N MM2946/NSN 6145-00-500-3079	1
52	PAFZZ	96906	MS25036-108	TERMINAL,LUG	2

END OF FIGURE

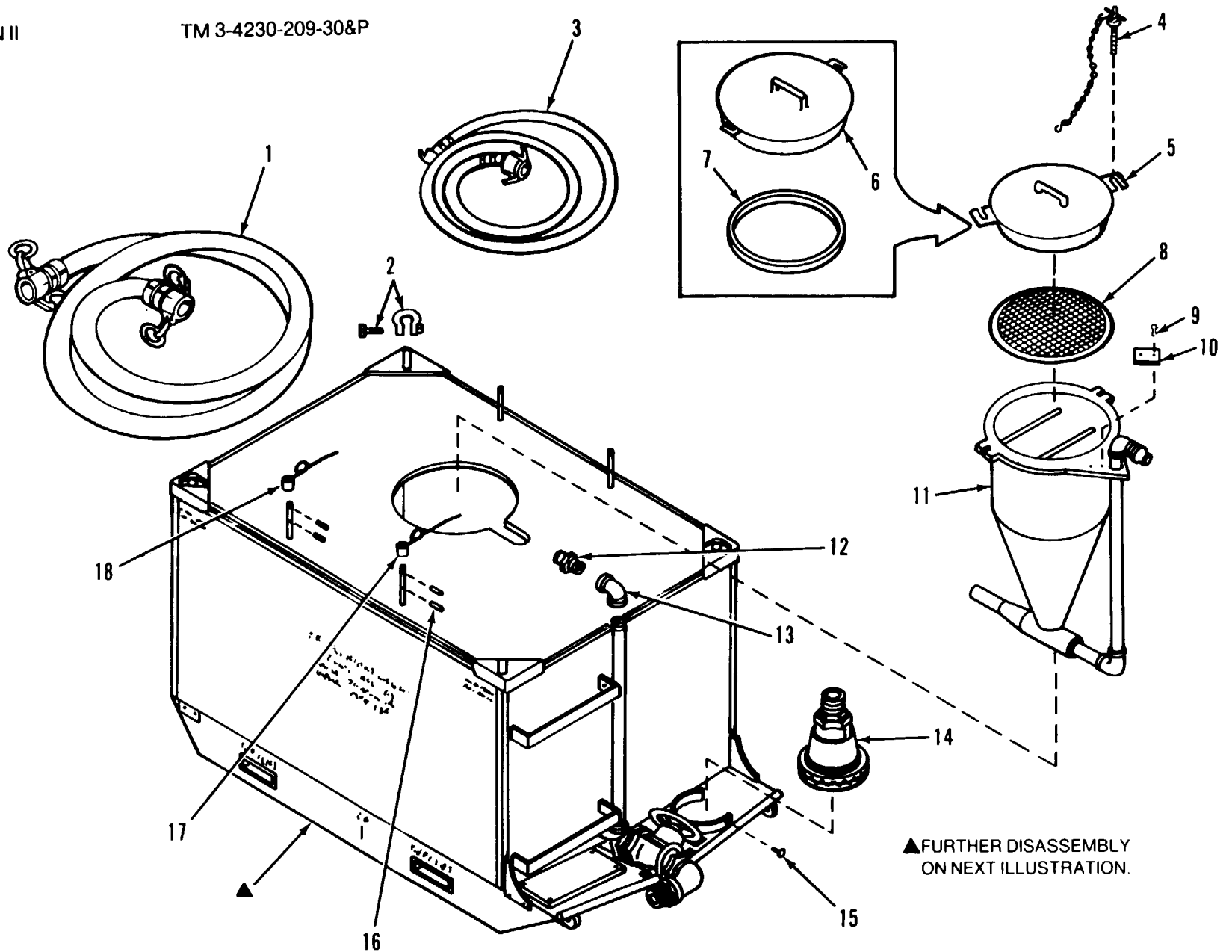


Figure B-32. Skid Mounted Decontaminating Apparatus Tank Unit and Hopper Access Cover (1 of 2).

SECTION II

TM 3-4230-209-30&P

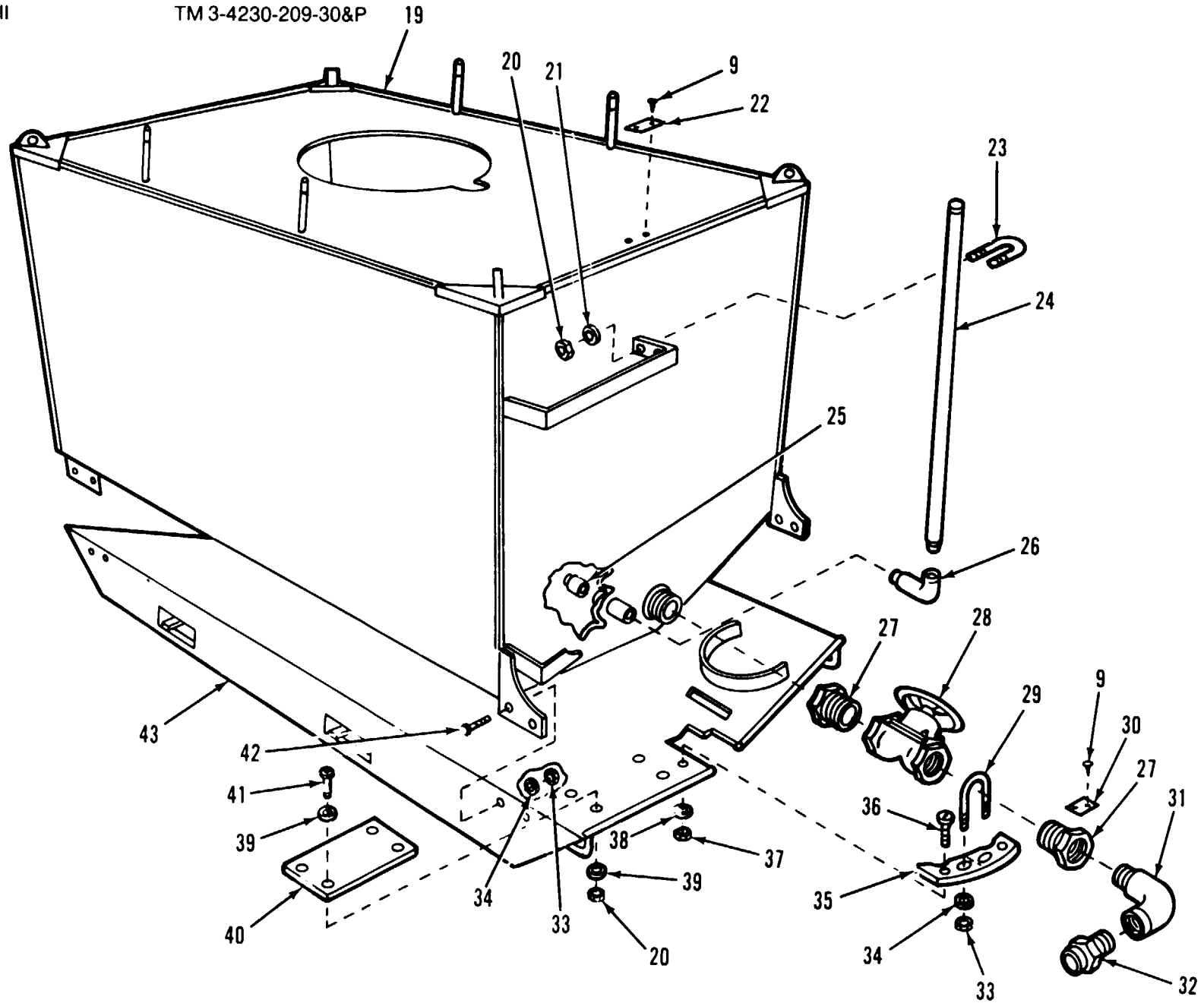


Figure B-32. Skid Mounted Decontaminating Apparatus Tank Unit and Hopper Access Cover (2 of 2).

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 03 SKID MOUNTED DECONTAMINATING APPARATUS TANK UNIT C5-45-3183 AND GORUP 0301 HOPPER ACCESS COVER C5-45-3001	
				FIG.B-32 TANK UNIT AND HOPPER ACCESS COVER	
1	A0000	81361	C5-45-3190	HOSE ASSEMBLY, SUCTIN (SEE FIG. B-34 FOR ASSEMBLY BREAKDOWN)	1
2	PAFZZ	96906	MS70087-1	SHACKLE	4
3	A0000	81361	C5-59-317	HOSE ASSEMBLY (SEE FIG. B-35 FOR ASSEMBLY BREAKDOWN)	1
4	PAOZZ	81361	B5-45-3153	BOLT ASSEMBLY, HOPPER COVER	2
5	PAOZZ	81361	C5-45-3001	COVER, ACCESS HOPPER	1
6	XAOZZ	81361	C5-45-3001-3	LID, HOPPER	1
7	PAFZZ	81361	B5-45-2889-1	GASKET	1
8	PAOZZ	8161	C5-45-2739	STRAINER ELEMENT, SEDIMENT	1
9	PAOZZ	96906	MS21318-20	SCREW, DRIVE	6
10	XDOZZ	81361	D5-45-3203-3	PLATE, IDENTIFICATION	1
11	PAOFF	81361	D5-45-3117	TANK, LIQUID STORAGE (SEE FIG. B-33 FOR ASSEMBLY BREAKDOWN)	1
12	PAFZZ	81361	B5-45-3132-1	COUPLING HALF, QUICK	1
13	XDFZZ	81361	LM5-45-3183 ITEM 23	ELBOW	1
14	A0000	81361	C5-45-3178	VALVE ASSY, FOOT (SEE FIG. B-37 FOR ASSEMBLY BREAKDOWN)	1
15	PAOZZ	96906	MS21316-56	THUMBSCREW	1
16	PAFZZ	96906	MS16562-226	PIN, SPRING	8
17	PAFZZ	81361	C5-45-3005-20	CLIP, SPRING TENSION	3
18	PAFZZ	81361	C5-45-3005-30	CLAMP, BRACKET	1
19	XAFFF	81361	B5-45-3135	TANK ASSEMBLY	1
20	PAFZZ	96906	MS51967-2	NUT, PLAIN, HEXAGON	2
21	PAFZZ	96906	MS35338-44	WASHER, LOCK	2
22	XDFZZ	81361	D5-45-3203-1	PLATE, IDENTIFICATION AGITATION	1

SECTION II		TM3-4230-209-30&P				
(1)	(2)	(3)	(4)	(5)	(6)	
ITEM	SMR		PART			
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY	
23	XDFZZ	81348	WWH171	SUPPORT PIPE	1	
24	XDFZZ	81361	B5-45-3015-13	PIPE,METALLIC	1	
25	XDFZZ	81361	B5-45-2691	NOZZLE,AGITATOR	1	
26	XDFZZ	81361	LM5-45-3135ITEM2	ELBOW	1	
			1			
27	PAOZZ	81361	5-45-3277	REDUCER,PIPE	2	
28	PAOOO	81361	C5-45-3276-5	VALVE,REGULATING (SEE FIG.B-36 FOR ASSEMBLY BREAKDOWN)	1	
29	XDOZZ	80205	NAS3106-28-28	U BOLT	1	
30	XDOZZ	81361	D5-45-3203-2	PLATE,IDENTIFICATIO DRAIN	1	
31	PAOZZ	96906	MS39230-10	ELBOW,PIPE	1	
32	PAOZZ	81361	B5-45-3132-2	COUPLING HALF,QUICK	1	
33	PAOZZ	96906	MS51971-3	NUT,PLAIN,HEXAGON	8	
34	PAOZZ	96906	MS35338-141	WASHER,LOCK	8	
35	XDOZZ	81361	C5-45-3303	SUPPORT,CROSS BAR	1	
36	PAOZZ	96906	MS90725-34	BOLT,MACHINE	2	
37	PAOZZ	9690	MS51967-5	NUT,PLAIN,HEXAGON	2	
38	PAOZZ	96906	MS35338-45	WASHER,LOCK	2	
39	PAFZZ	96906	MS27183-11	WASHER,FLAT	8	
40	PCFZZ	81361	C5-45-3305	PAD RUBBER	1	
41	PAFZZ	96906	MS35206-285	SCREW,MACHINE	4	
42	PAFZZ	96906	MS35307-358	SCREW,CAP,HEXAGON	8	
43	XAFZZ	81361	B5-45-3189	BASE,SKID,TANK	1	

END OF FIGURE

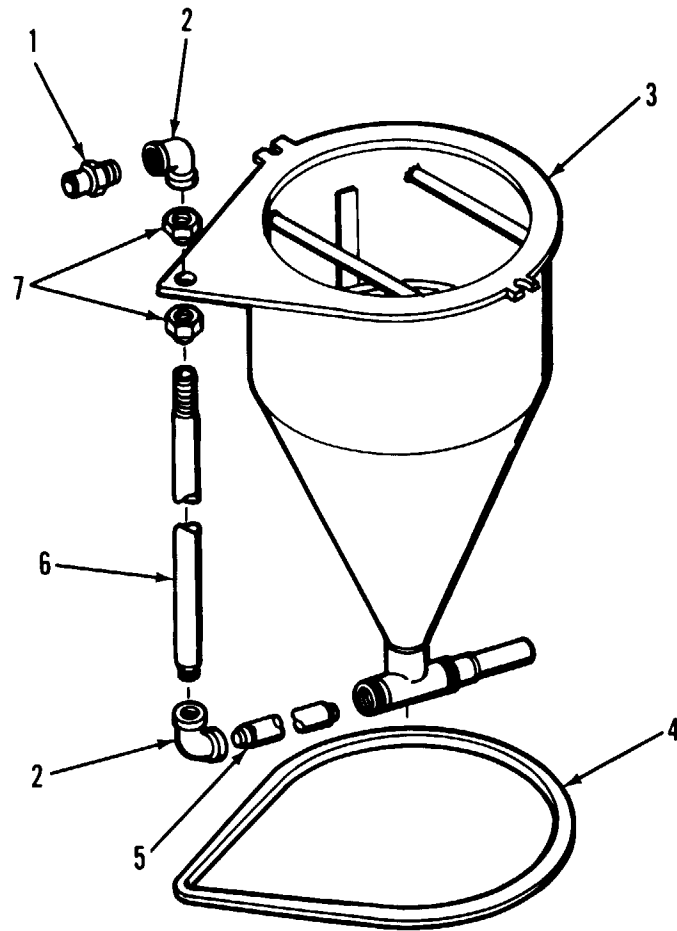


Figure B-33. Liquid Storage Tank.

SECTION II				TM3-4230-209-30&P	
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 0302 LIQUID STORAGE TANK C5-45-3117	
				FIG.B-33 LIQUID STORAGE TANK	
1	PAFZZ	81361	B5-45-3132-1	COUPLING HALF QUICK	1
2	PAFZZ	81361	D5-45-3117ITEM15	ELBOW,PIPE	2
3	XAFZZ	81361	C5-45-2845	BODY	1
4	MFFZZ	81361	B5-45-2889-3	GASKET MAKE FROM RUBBER GASKET P/N B5-45-2889/NSN 9390-00-922-6550	1
5	PAFZZ	81361	B5-45-3015-7	NIPPLE,PIPE	1
6	PAFZZ	81361	B5-45-3128	PIPE,METALLIC	1
7	XDFZZ	81361	D5-45-3117ITEM16	NUT	2
				END OF FIGURE	

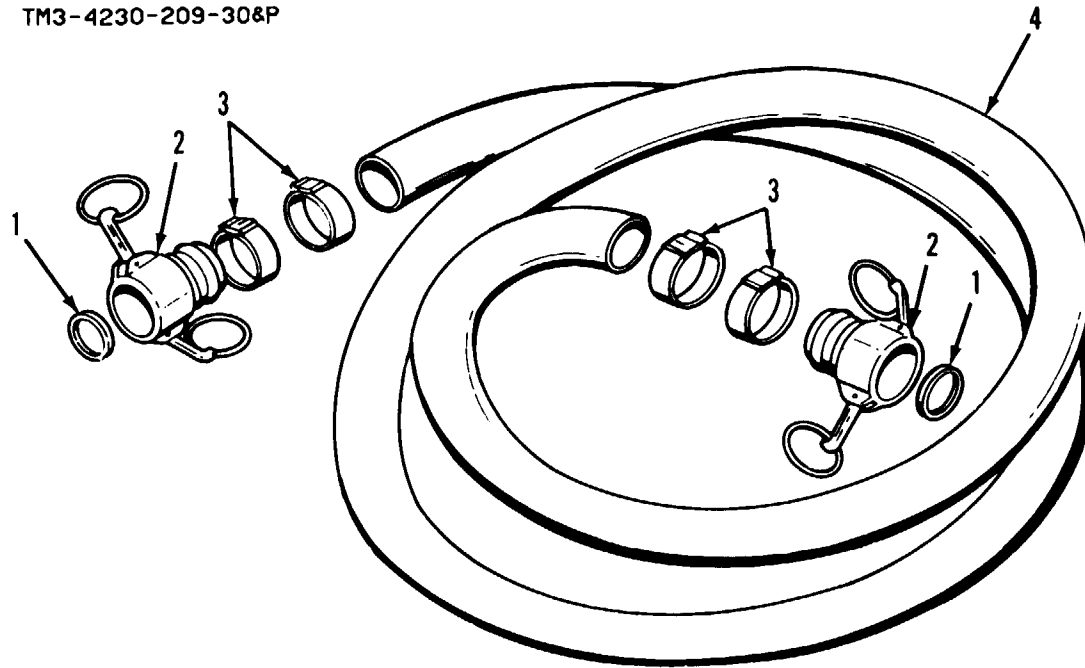


Figure B-34. Suction Hose Assembly.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
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GROUP 0303 SUCTION HOSE ASSEMBLY
C5-45-3190

FIG. B-34 SUCTION HOSE ASSEMBLY

1	PAOZZ	81361	B5-45-3130-2	GASKET.....	4
2	PAOZZ	81361	B5-45-3174-2	COUPLING HALF, QUICK.....	2
3	PAOZZ	77414	0-16S	CLAMP, HOSE.....	4
4	PAOZZ	81361	C5-45-2798	HOSE, NONMETALLIC.....	1

END OF FIGURE

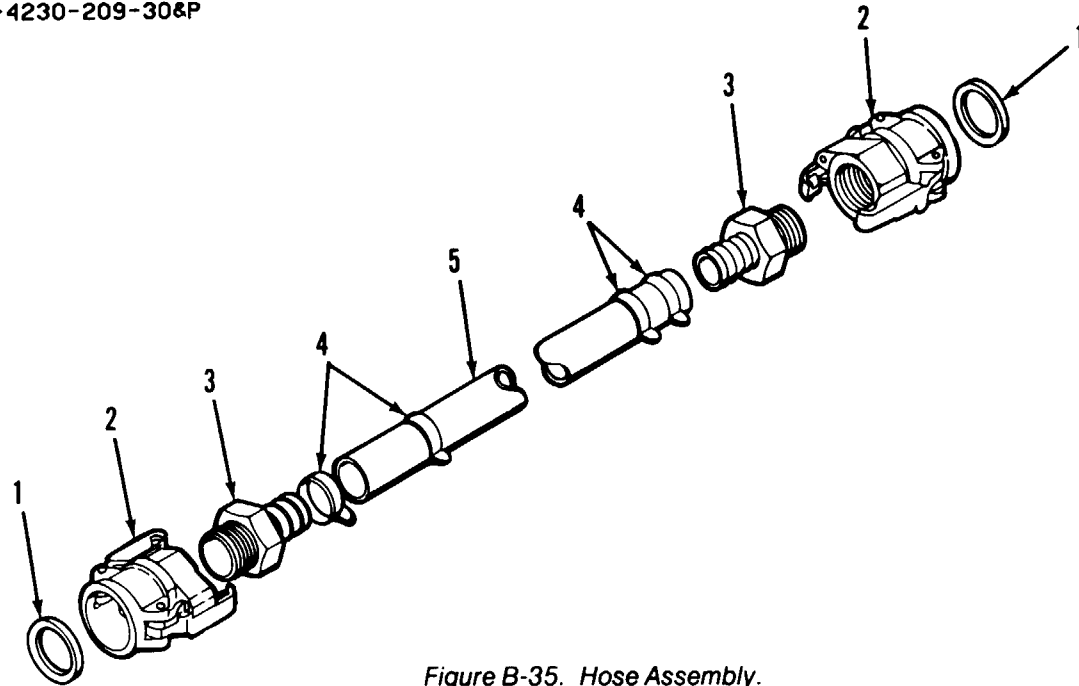
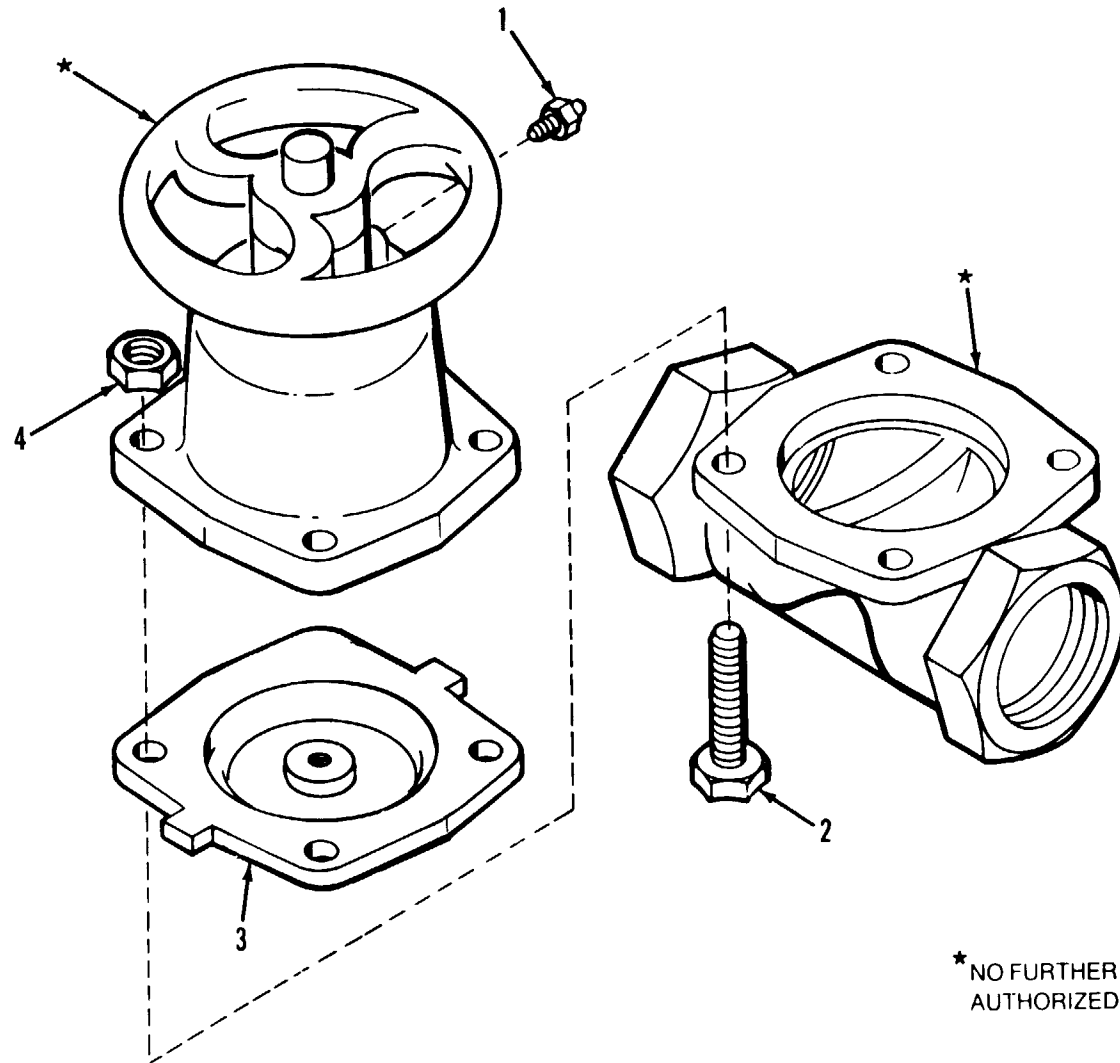


Figure B-35. Hose Assembly.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
GROUP 0304 HOSE ASSEMBLY C5-59-317					
FIG.B-35 HOSE ASSEMBLY					
1	PA0ZZ 81361	B5-45-2635		GASKET.....	1
2	PA0ZZ 80691	D101		COUPLING HALF, QUICK.....	2
3	PA0ZZ 72661	MS11		ADAPTER, STRAIGHT, PI.....	2
4	PA0ZZ 77414	P8S-2		CLAMP, HOSE.....	4
5	PA0ZZ 81361	C5-45-2736-7		HOSE, NONMETALLIC.....	1

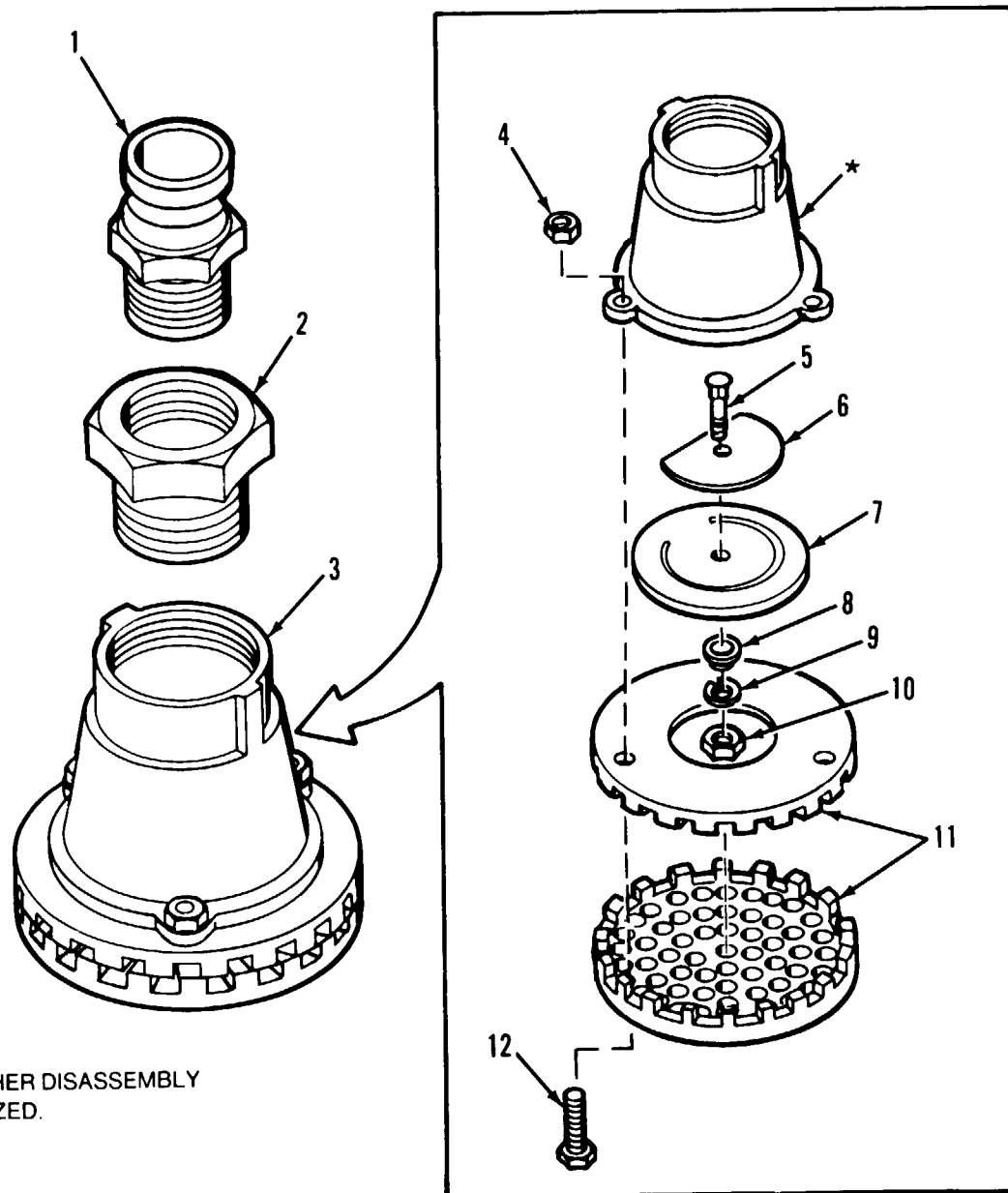
END OF FIGURE



* NO FURTHER DISASSEMBLY
AUTHORIZED.

Figure B-36. Regulating Valve.

SECTION II				TM3-4230-209-30&P	
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 0305 REGULATING VALVE C5-45-3276-5	
				FIG.B-36 REGULATING VALVE	
1	PAOZZ	96906	MS15003-1	FITTING, LUBRICATION	1
2	PAOZZ	96906	MS90727-90	SCREW, CAP, HEXAGON	4
3	PAOZZ	19243	2 IN GRADE R-2	DIAPHRAGM, VALVE	1
4	PAOZZ	96906	MS51968-11	NUT, PLAIN, HEXAGON	4
				END OF FIGURE	

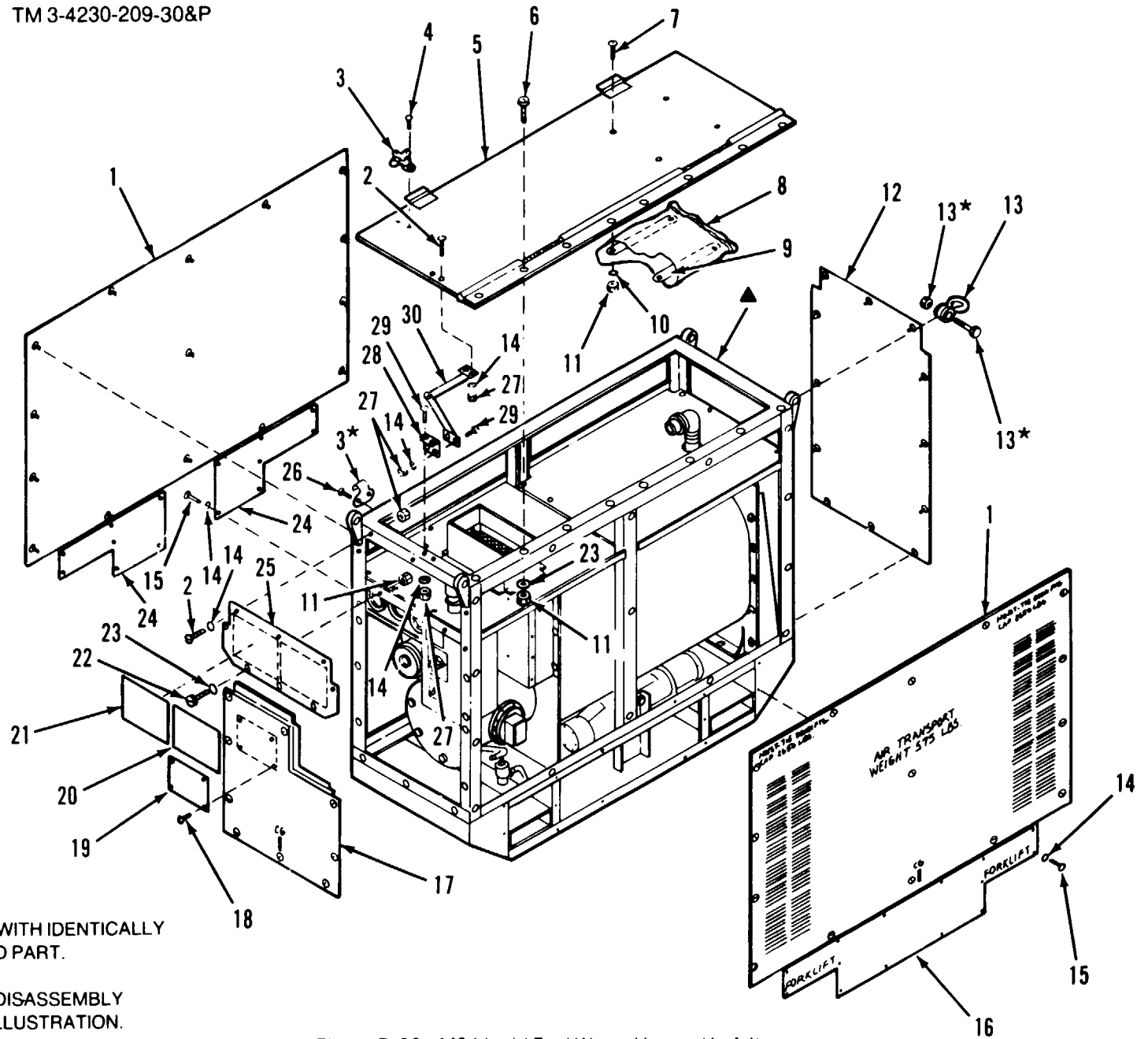


* NO FURTHER DISASSEMBLY
AUTHORIZED.

Figure B-37. Foot Valve Assembly and Foot Valve.

SECTION II				TM3-4230-209-30&P	
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 0306 FOOT VALVE ASSEMBLY C5-45-3178 AND GROUP 030601 FOOT VALVE C5-45-2598	
				FIG.B-37 FOOT VALVE ASSEMBLY AND FOOT VALVE	
1	PAOZZ	81361	B5-45-3132-2	COUPLING HALF,QUICK	1
2	PAOZZ	81346	WWP471	BUSHING,PIPE	1
3	PAOOO	81361	C5-45-2598	VALVE,FOOT	1
4	PAOZZ	96906	MS51967-5	NUT,PLAIN,HEXAGON	3
5	PAOZZ	96906	MS35751-16	BOLT,SQUARE NECK	1
6	XAOZZ	38455	21109	WEIGHT, SUCTION VALVE UPPER	1
7	PAOZZ	38455	31049	DIAPHRAGM,VALVE	1
8	XAOZZ	38455	21033	WEIGHT, SUCTION VALVE LOWER	1
9	PAOZZ	88044	AN935-416	WASHER,LOCK	1
10	PAOZZ	96906	MS51967-2	NUT,PLAIN,HEXAGON	1
11	XAOZZ	38455	31046	SEAT AND BOTTOM STRAINER	1
12	PAOZZ	96906	MS90725-43	SCREW,CAP,HEXAGON	3

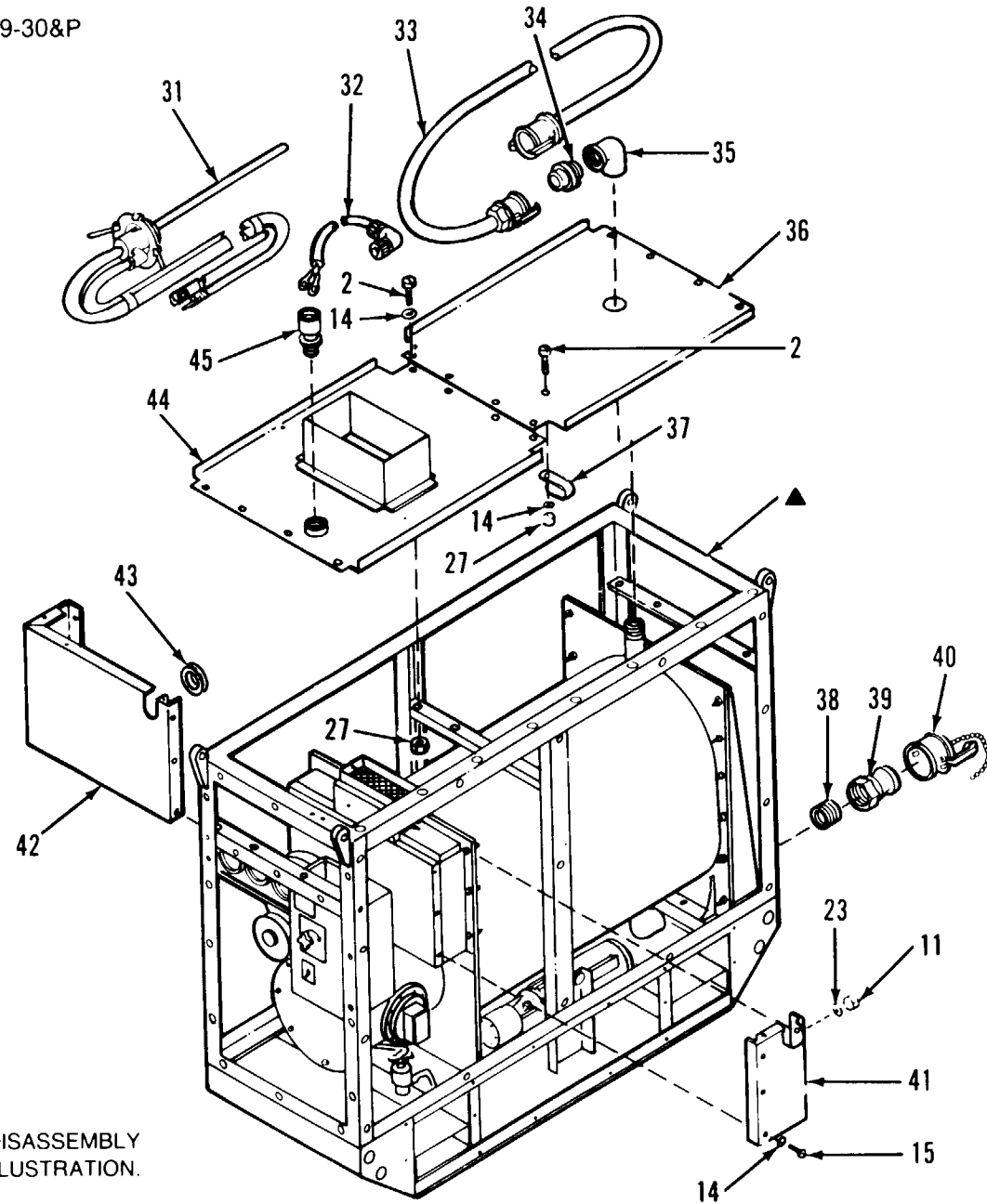
END OF FIGURE



* SUPPLIED WITH IDENTICALLY
NUMBERED PART.

▲ FURTHER DISASSEMBLY
ON NEXT ILLUSTRATION.

Figure B-38. M2 Liquid Fuel Water Heater (1 of 4).



▲ FURTHER DISASSEMBLY
ON NEXT ILLUSTRATION.

Figure B-38. M2 Liquid Fuel Water Heater (2 of 4).

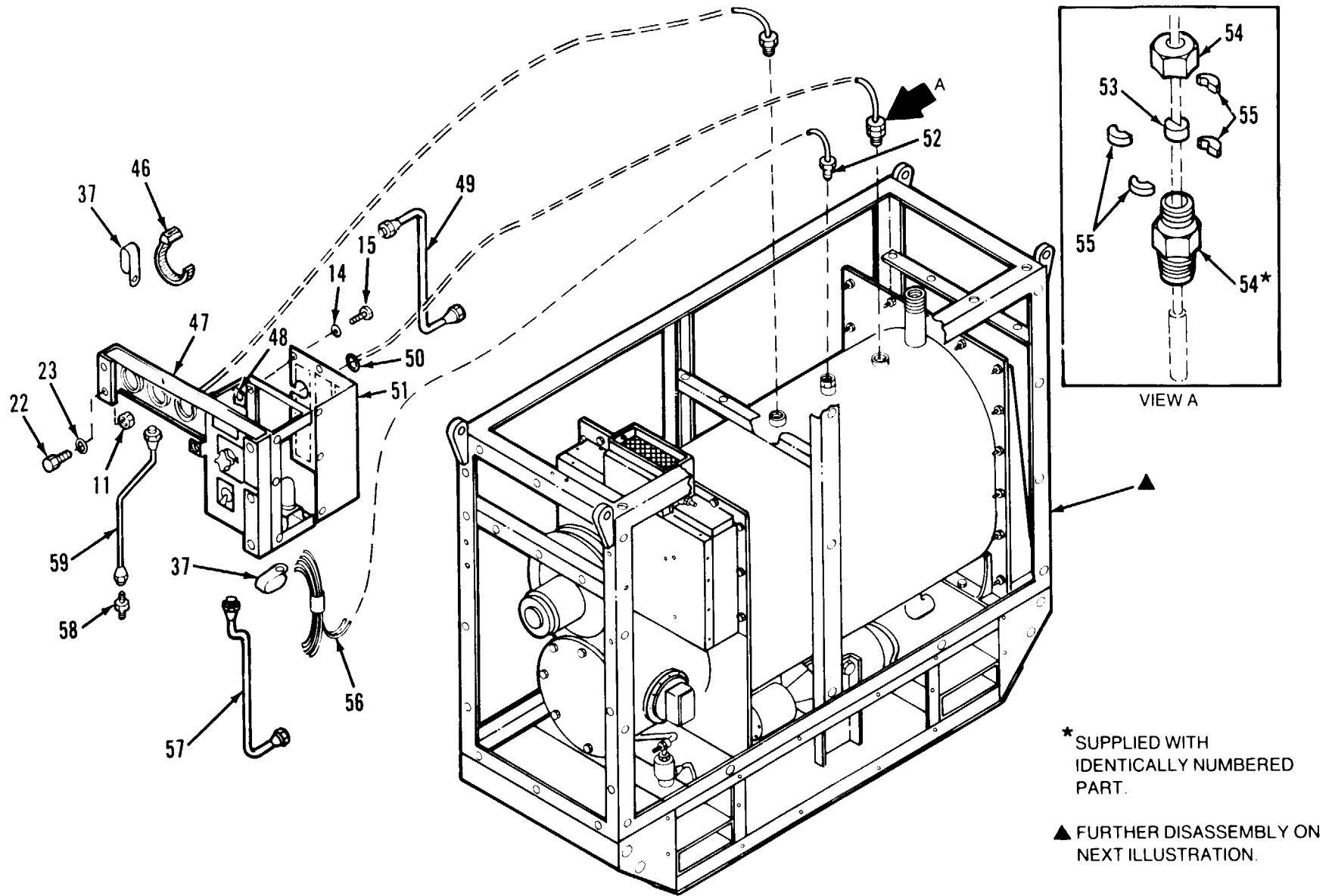


Figure B-38. M2 Liquid Fuel Water Heater (3 of 4).

SECTION II

TM 3-4230-209-30&P

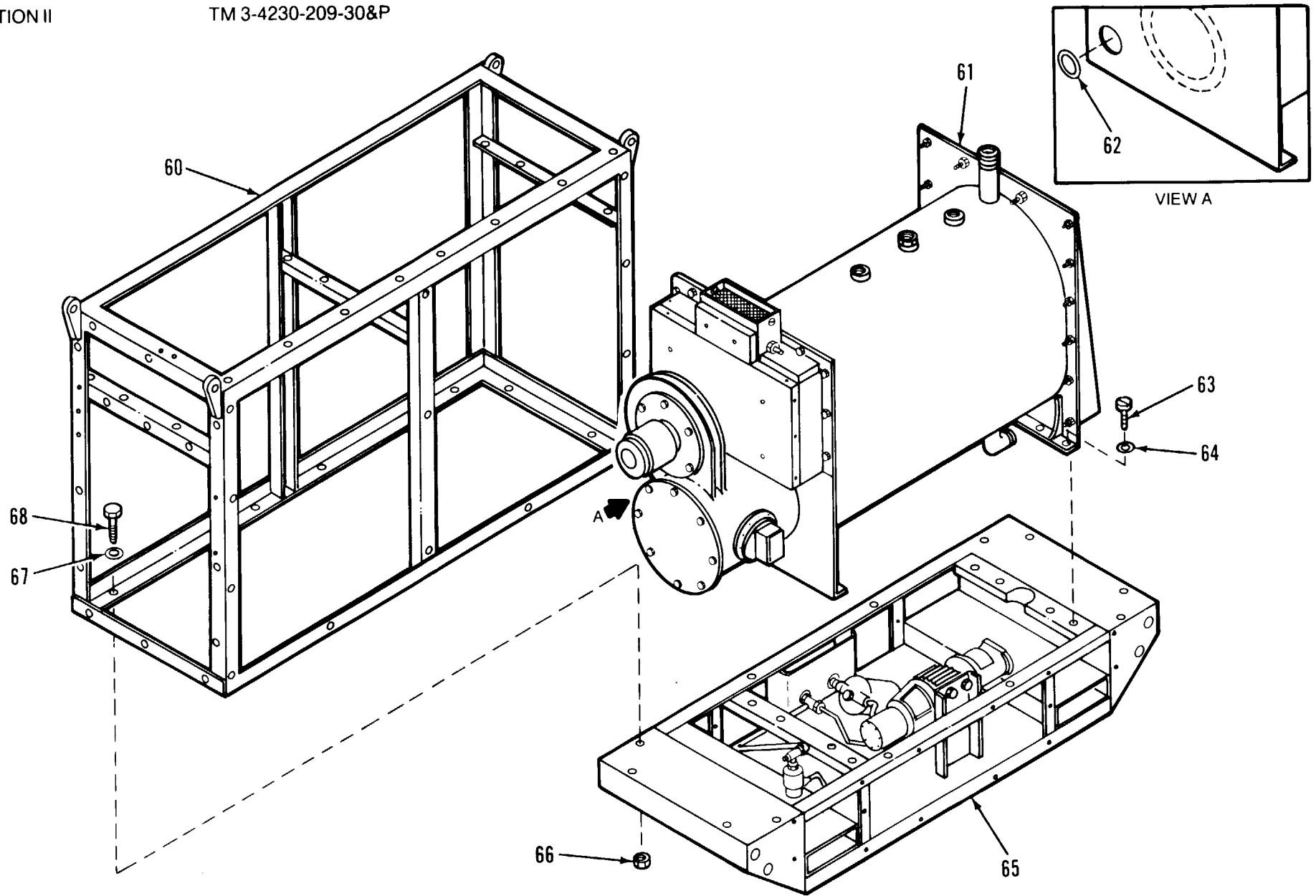


Figure B-38. M2 Liquid Fuel Water Heater (4 of 4).

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 04 LIQUID FUEL WATER HEATER E5-59-200	
				FIG.B-38 LIQUID FUEL WATER HEATER	
1	PAOFF	81361	E5-59-365	COVER,ACCESS SIDE (SEE FIG.B-42 FOR ASSEMBLY BREAKDOWN)	2
2	PAOZZ	96906	MS35207-261	SCREW,MACHINE	20
3	PAFZZ	81361	C5-45-3308	CATCH,CLAMPING	2
4	PAFZZ	96906	MS20613-4P7	RIVET,SOLID	4
5	PAOFF	81361	E5-59-323	COVER, TOP,CABINET (SEE FIG.B-39 FOR ASSEMBLY BREAKDOWN)	1
6	PAOZZ	96906	MS35206-279	SCREW,MACHINE	8
7	PAOZZ	96906	MS35206-277	SCREW,MACHINE	4
8	PAOZZ	81361	D5-45-3240	CARRIER,TOOL	1
9	XDOZZ	81361	B5-59-403	STRIP,POUCH	1
10	PAOZZ	96906	MS27183-10	WASHER,FLAT	4
11	PAOZZ	96906	MS51967-2	NUT,PLAIN,HEXAGON	26
12	XDOFF	81361	D5-59-273	PANEL,END (SEE FIG.B-40 FOR ASSEMBLY BREAKDOWN)	1
13	PAFZZ	96906	MS70087-1	SHACKLE	4
14	PAOZZ	96906	MS35333-39	WASHER,LOCK	68
15	PAOZZ	96906	MS24629-46	SCREW,TAPPING	44
16	MOOZZ	81361	C5-59-328	PANEL, SKID,RIGHT MAKE FROM METAL, SHEET P/N ASTM A366/NSN 9515-00-237- 1855	1
17	PAOFF	81361	D5-59-364	COVER,ACCESS (SEE FIG.B-41 FOR ASSEMBLY BREAKDOWN)	1
18	PAFZZ	96906	MS20470B3-4	RIVET,SOLID	4
19	PAFZZ	81361	C5-59-413	PLATE,IDENTIFICATIO WATER HEATER	1
20	XDFZZ	81361	C5-59-226-2	PLATE	1
21	XDFZZ	81361	C5-59-226-1	PLATE OPERATING INSTRUCTIONS	1
22	PAFZZ	96906	MS35206-280	SCREW,MACHINE	8
23	PAOZZ	96906	MS35333-40	PLATE	23
24	MOOZZ	81361	C5-59-329	PANEL MAKE FROM METAL SHEET P/N ASTM A366/NSN 9515-00-237-1855	2

SECTION II		TM3-4230-209-30&P				
(1)	(2)	(3)	(4)	(5)	(6)	
ITEM	SMR		PART			
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY	
25	XDFZZ	81361	C5-59-327	SHEET	1	
26	PAFZZ	96906	MS20613-4P4	RIVET,SOLID	4	
27	PAOZZ	96906	MS35650-302	NUT,PLAIN,HEXAGON	24	
28	PAOZZ	81361	B5-59-407	BRACKET,ANGLE	1	
29	PAOZZ	96906	MS51960-65	SCREW,MACHINE	4	
30	PAOZZ	90598	TCA463	SUPPORT, TOP DOOR	1	
31	AFOFF	81361	D5-59-311	HOSE ASSEMBLY (SEE FIG.B-50 FOR ASSEMBLY BREAKDOWN)	1	
32	PAOFF	81361	C5-59-360	CABLE ASSEMBLY,POWE (SEE FIG.B-48 FOR ASSEMBLY BREAKDOWN)	1	
33	AOOOO	81361	C5-59-317	HOSE ASSEMBLY, (SEE FIG.B-35 FOR ASSEMBLY BREAKDOWN)	1	
34	PAFZZ	81361	B5-45-3132-3	DOUPLING HALF,QUICK	1	
35	PAFZZ	93480	BW1044	ELBOW,PIPE	1	
36	PAFZZ	81361	D5-59-326	PLATE,REAR, TOP	1	
37	PAFZZ	83930	400WSS10	CLAMP, LOOP	3	
38	PAFZZ	96906	MS35489-25	GROMMET, NONMETALLIC	1	
39	PAFZZ	96906	MS27020-6	COUPLING HALF,QUICK	1	
40	PAOZZ	81361	B5-59-381	CAP, PROTECTIVE, DUST	2	
41	XDOZZ	81361	C5-59-396	COVER	1	
42	PAFZZ	81361	D5-59-395	COVER, ACCESS	1	
43	PAOZZ	96906	MS35489-11	GROMMET, NONMETALLIC	1	
44	PAFZZ	81361	D5-59-325	COVER, ACCESS TOP, FRONT	1	
45	PAFZZ	81361	B5-59-410	BOX CONNECTOR, ELECT ELECTRICAL	1	
46	PAOZZ	96906	MS3367-1-9	STRAP, TIEDOWN, ELECT	9	
47	PAFFF	81361	E5-59-301	CONTROL BOX, WATER ASSEMBLY (SEE FIG. B-43 FOR ASSEMBLY BREAKDOWN)	1	
48	PAOZZ	96906	MS90723-14	NUT, SHEET SPRING	7	
49	AFOFF	81361	B5-59-349	LINE, PRESSURE, WATER (SEE FIG.B- 45 FOR ASSEMBLY BREAKDOWN)	1	
50	PAFZZ	96906	MS35489-3	GROMMET, NONMETALLIC	1	
51	PAOZZ	81361	D5-59-336	COVER, ACCESS	1	
52	PAFZZ	73168	67100-0-200	SWITCH, THERMOSTATIC 200 DEGREES F	1	
53	PAFZZ	81361	B5-59-422	INSULATOR, DISK	1	
54	PAFZZ	81361	B5-59-322	UNION, CONNECTOR	1	
55	PAFZZ	81361	B5-59-421	KEY, WOODRUFF	2	

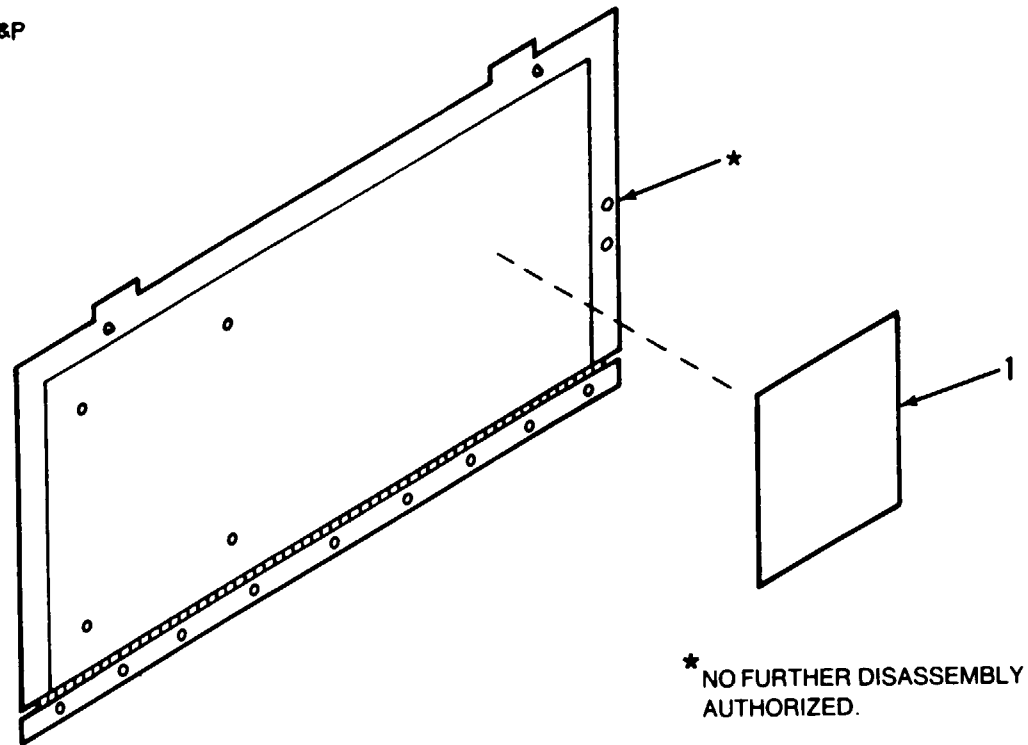
SECTION II		TM3-4230-209-30&P				
(1)	(2)	(3)	(4)	(5)	(6)	
ITEM	SMR		PART			
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY	
56	AFFFF	81361	D5-59-210	WIRING, ELECTRICAL (SEE FIG.B-49 FOR ASSEMBLY BREAKDOWN)	1	
56	AFFFF	81361	C5-59-218	WIRING, ELECTRICAL (SEE FIG.B-49 FOR ASSEMBLY BREAKDOWN)	1	
57	AFOFF	81361	C5-59-405	LINE, SELECTOR RETURN (SEE FIG.B-46 FOR ASSEMBLY BREAKDOWN)	1	
58	PAFZZ	96906	MS39157-3	NIPPLE,TUBE	1	
59	AFOFF	81361	C5-59-352	LINE, FUEL PRESSURE (SEE FIG.B-47 FOR ASSEMBLY BREAKDOWN)	1	
60	XAFZZ	81361	B5-59-274	FRAME,CABINET	1	
61	PAFFA	81361	E5-59-285	BOILER,HEATING,LOW PRESSURE (SEE FIG.B-61 FOR ASSEMBLY BREAKDOWN)	1	
62	PAFZZ	96906	MS35489-46	GROMMET,NONMETALLIC	1	
63	PAFZZ	96906	MS18154-58	SCREW,CAP,HEXAGON	8	
64	PAFZZ	96906	MS35333-42	WASHER,LOCK	8	
65	XAFFF	81361	E5-59-362	SKID ASSEMBLY (SEE FIG.B-51 FOR ASSEMBLY)	1	
66	PAFZZ	96906	MS51967-5	NUT,PLAIN,HEXAGON	12	
67	PAFZZ	96906	MS35333-41	WASHER,LOCK	12	
68	PAFZZ	96906	MS90725-33	BOLT,MACHINE	12	

END OF FIGURE

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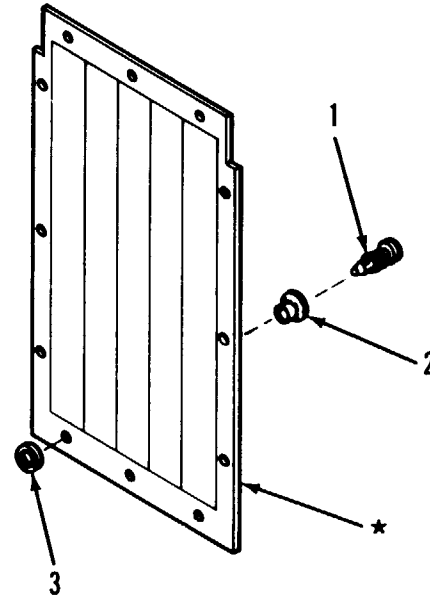
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* NO FURTHER DISASSEMBLY AUTHORIZED.

Figure B-39. Cabinet Top Cover.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 0401 CABINET TOP COVER E5-59-323					
FIG. B-39 CABINET TOP COVER					
1	XDFZZ	81361	C5-59-418	DECAL.....	1
END OF FIGURE					

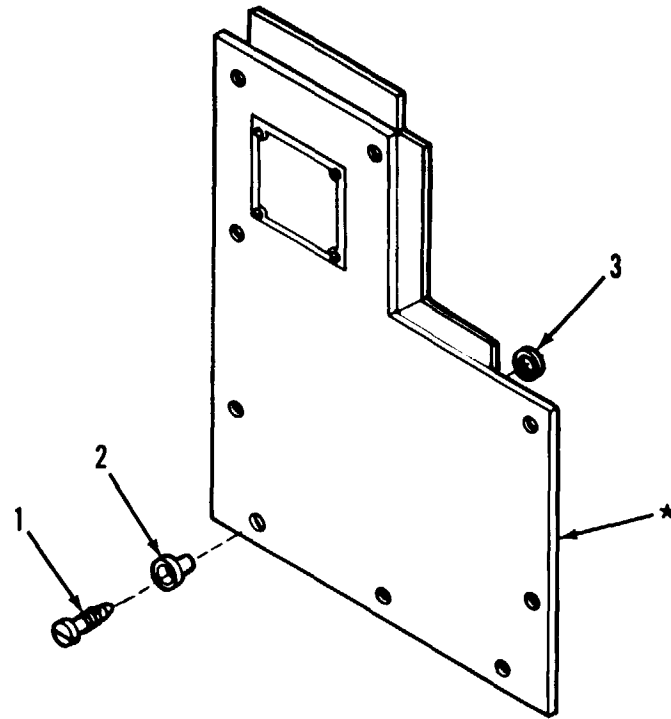


* NO FURTHER DISASSEMBLY AUTHORIZED.

Figure B-40. End Panel.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
GROUP 0402 END PANEL D5-59-273					
FIG. B-40 END PANEL					
1	PAFZZ 56878	40S5-8		STUD ASSEMBLY, TURNL.....	12
2	PAFZZ 71286	4002N		EYELET, TURNLOCK FAS.....	12
3	PAFZZ 18876	7613189		RING, RETAINING.....	12

END OF FIGURE



* NO FURTHER DISASSEMBLY AUTHORIZED.

Figure B-41. Front Panel.

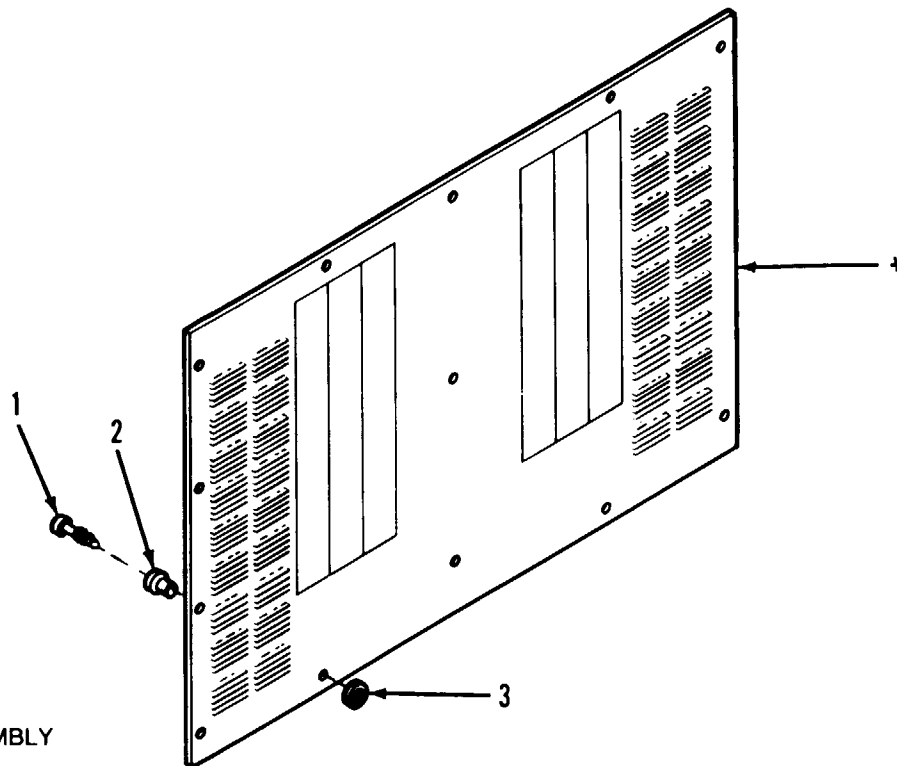
(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
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GROUP 0403 FRONT PANEL
D5-59-364

FIG.B-41 FRONT PANEL

1	PAFZZ 56878	40S5-8		STUD ASSEMBLY, TURNL.....	9
2	PAFZZ 71286	4002N		EYELET, TURNLOCK FAS.....	9
3	PAFZZ 18876	7613189		RING, RETAINING.....	9

END OF FIGURE

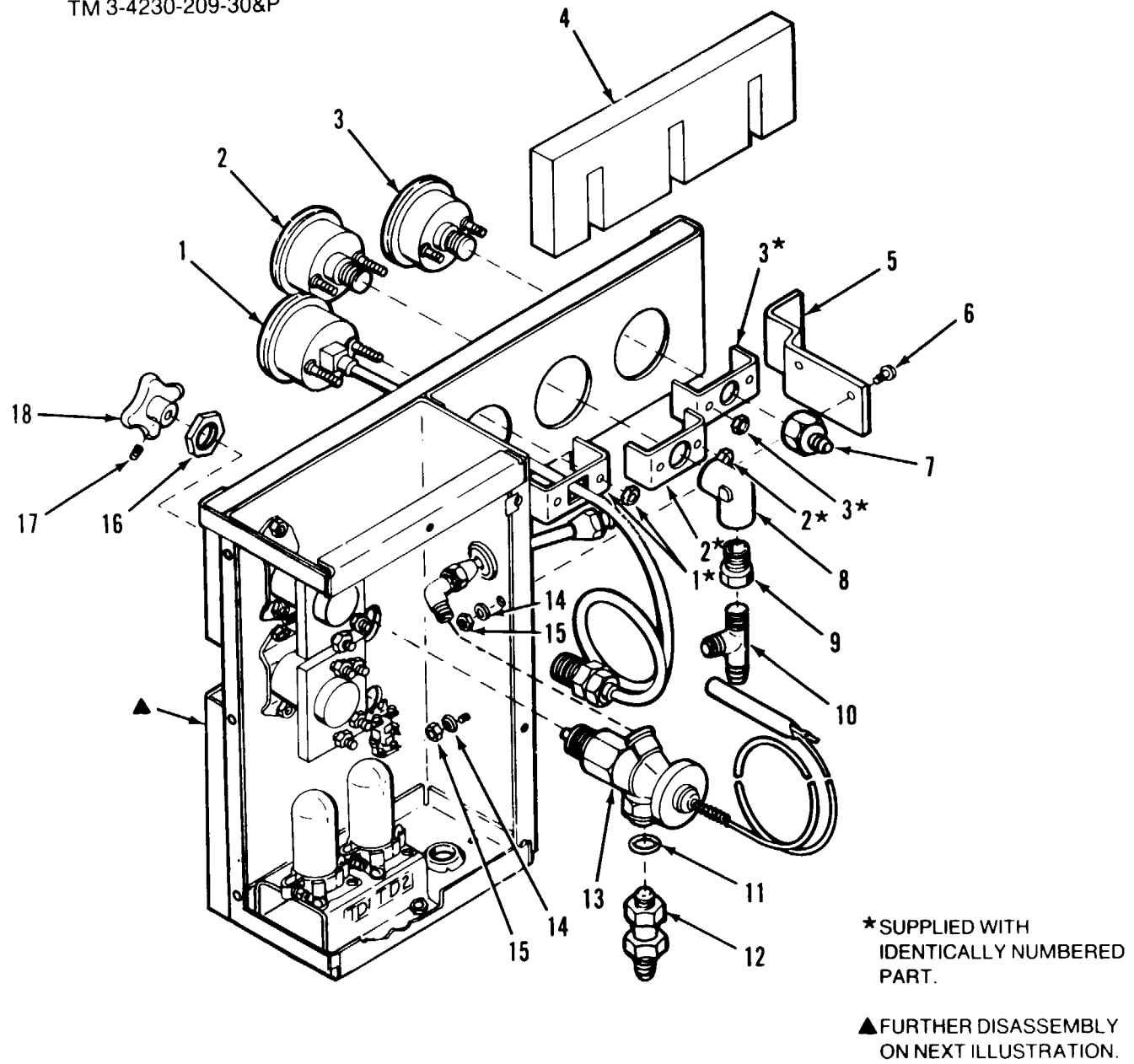


* NO FURTHER DISASSEMBLY AUTHORIZED.

Figure B-42. Side Panel.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 0404 SIDE PANEL E5-59-365					
FIG. B-42 SIDE PANEL					
1	PAFZZ	56878	40S5-8	STUD ASSEMBLY, TURNL.....	15
2	PAFZZ	71286	4002N	EYELET, TURNLOCK FAS.....	15
3	PAFZZ	71286	R4G	RING, RETAINING.....	15

END OF FIGURE



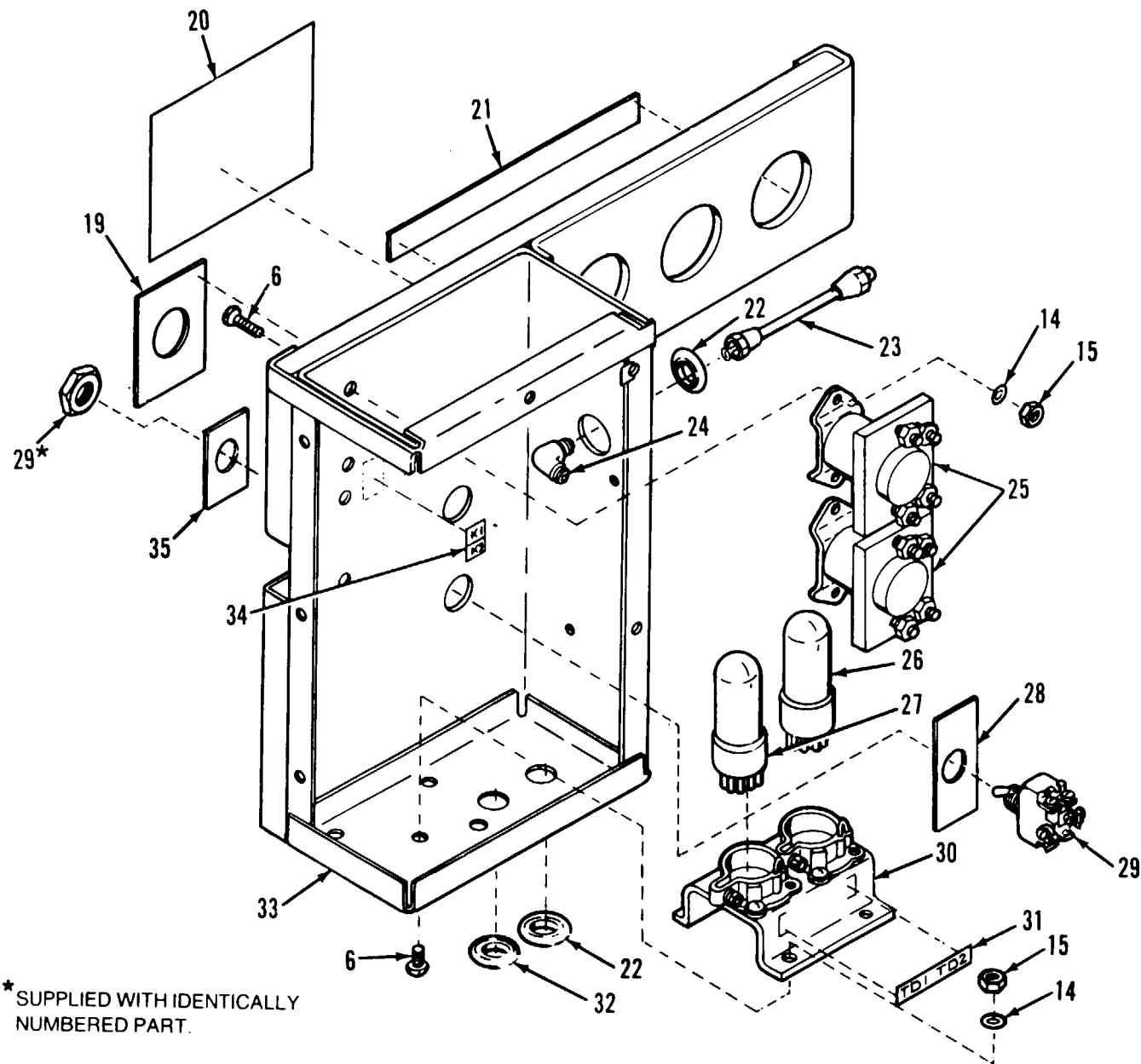
* SUPPLIED WITH IDENTICALLY NUMBERED PART.

▲ FURTHER DISASSEMBLY ON NEXT ILLUSTRATION.

Figure B-43. Control Box Assembly (1 of 2).

SECTION II

TM 3-4230-209-30&P



* SUPPLIED WITH IDENTICALLY
NUMBERED PART.

Figure B-43. Control Box Assembly (2 of 2).

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 0405 CONTROL BOX ASSEMBLY E5-59-301	
				FIG.B-43 CONTROL BOX ASSEMBLY	
1	PAOZZ	81361	C5-59-332	THERMOMETER, INDICAT	1
2	PAOZZ	81361	C5-59-203-1	GAGE, PRESSURE, DIAL FUEL	1
3	PAOZZ	81361	C5-59-203-2	GAGE, PRESSURE, DIAL WATER	1
4	MFOZZ	81361	B5-59-412	INSULATION BLANKET, MAKE FROM INSULATION BLANKET P/N PF336F/NSN 5640-00-905-3631	1
5	XDFZZ	81361	C5-59-305	BRACKET, ANGLE	1
6	PAOZZ	96906	MS35207-261	SCREW, MACHINE	10
7	PAOZZ	79470	46X4X4	ADAPTER, STRAIGHT, PI	1
8	PAOZZ	88044	AN916-2	ELBOW, PIPE	1
9	PAOZZ	66640	166D1	BUSHING, PIPE	1
10	PAOZZ	96906	MS39164-3	TEE, PIPE TO TUBE	1
11	PAOZZ	96906	MS28778-5	PACKING, PREFORMED	1
12	PAOZZ	81361	C5-59-387	VALVE, CHECK	1
13	PAOZZ	81361	C5-59-386	VALVE, REGULATING, TEMPERATURE	1
14	PAOZZ	96906	MS35333-39	WASHER, LOCK	31
15	PAOZZ	96906	MS35650-302	NUT, PLAIN, HEXAGON	11
16	PAOZZ	96906	MS35691-61	NUT, PLAIN, HEXAGON	1
17	PAOZZ	96906	MS18064-9	SETSCREW	1
18	PAOZZ	81361	C5-59-399	HANDLE, MANUAL CONTR	1
19	PAFZZ	81361	B5-59-309	PLATE, INSTRUCTION TEMPERATURE SELECTOR	1
20	PAFZZ	81361	B5-45-3304	DECAL	1
21	XDFZZ	81361	B5-59-307	PLATE, IDENTIFICATION GAGE	1
22	PAOZZ	96906	MS35489-7	GROMMET, NONMETALLIC	2
23	AFOFF	81361	C5-59-398	LINE, SELECTOR VALVE (SEE FIG.B-44 FOR ASSEMBLY BREAKDOWN)	1
24	PAOZZ	96906	MS39162-3	ELBOW, PIPE TO TUBE	1
25	PAOZZ	96906	MS24166D1	RELAY, ELECTROMAGNET	2
26	PAOZZ	70563	12C120	RELAY, THERMAL	1

SECTION II				TM3-4230-209-30&P	
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
27	PAOZZ	70563	12N02	RELAY, THERMAL	1
28	XDFZZ	81361	B5-59-415	PLATE, IDENTIFICATION, HEATER SWITCH	1
29	PAOZZ	96906	MS35059-23	SWITCH, TOGGLE, HEATER-ON, PURGE-ON	1
30	XDFZZ	81361	C5-59-310	SUPPORT, THERMAL RELAY	1
31	XDFZZ	81361	B5-59-414	PLATE, IDENTIFICATION RELAY, TIME DELAY	1
32	PAOZZ	96906	MS35489-11	GROMMET, NONMETALLIC	1
33	XAFZZ	81361	E5-59-257	BOX, CONTROL	1
34	XDFZZ	81361	B5-59-306	PLATE, IDENTIFICATION RELAY	1
35	PAFZZ	81361	B5-59-308	PLATE, INSTRUCTION HEATER CONTROL	1

END OF FIGURE

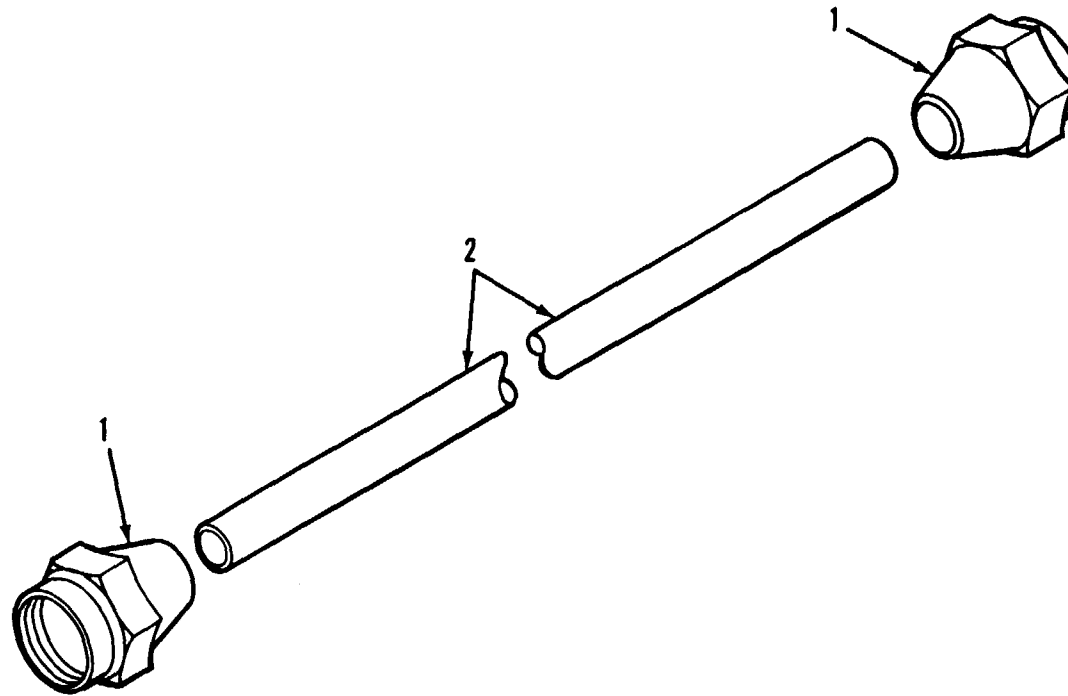


Figure B-44. Selector Valve Line.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
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GROUP 040501 SELECTOR VALVE LINE
C5-59-398

FIG.B-44 SELECTOR VALVE LINE

1	PAFZZ 96906	MS39166-3		NUT, TUBE COUPLING.....	2
2	MFFZZ 81361	C5-59-398-1		TUBE, MAKE FROM TUBE, METALLIC P/N MILT3520/NSN 4710-00-880-1091.....	1

END OF FIGURE

SECTION 11

TM3-4230-209-30&P

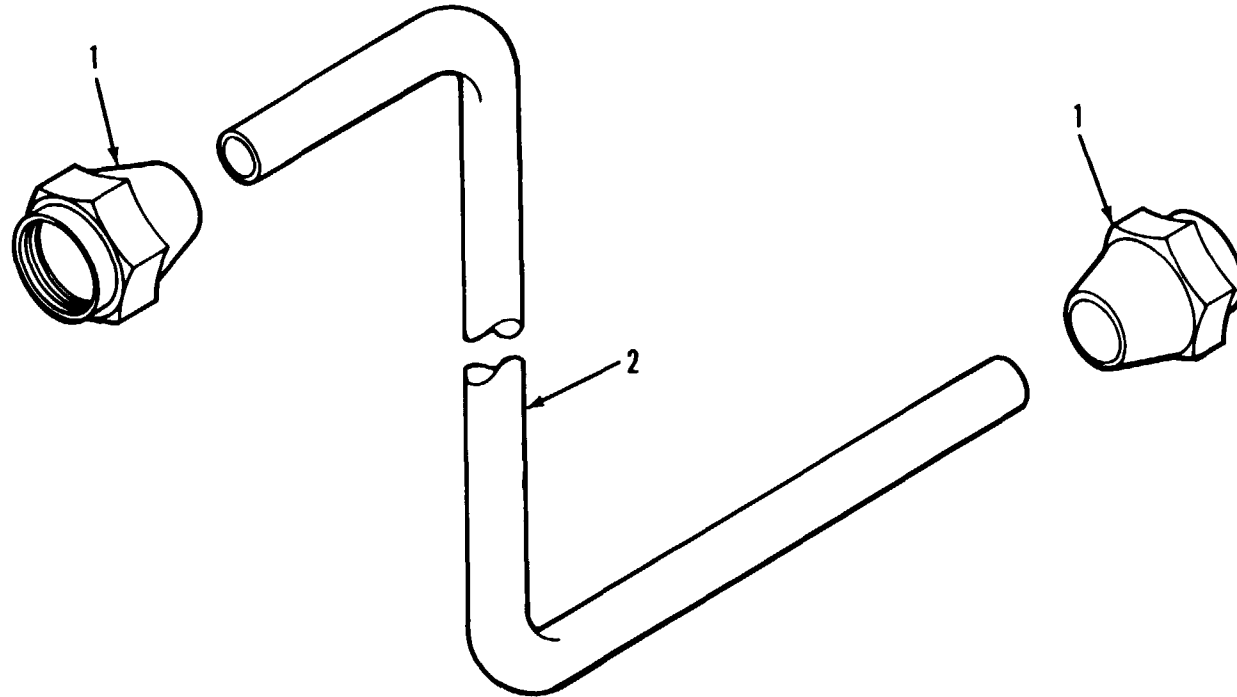


Figure B-45. Water Pressure Line.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
GROUP 0406 WATER PRESSURE LINE B5-59-349					
FIG. B-45 WATER PRESSURE LINE					
1	PAFZZ	96906	MS39166-3	NUT, TUBE COUPLING.....	2
2	MFFZZ	81361	B5-59-349-1	TUBE MAKE FROM TUBE, METALLIC P/N MILT3520/NSN 4710-00-880-1091.....	1

END OF FIGURE

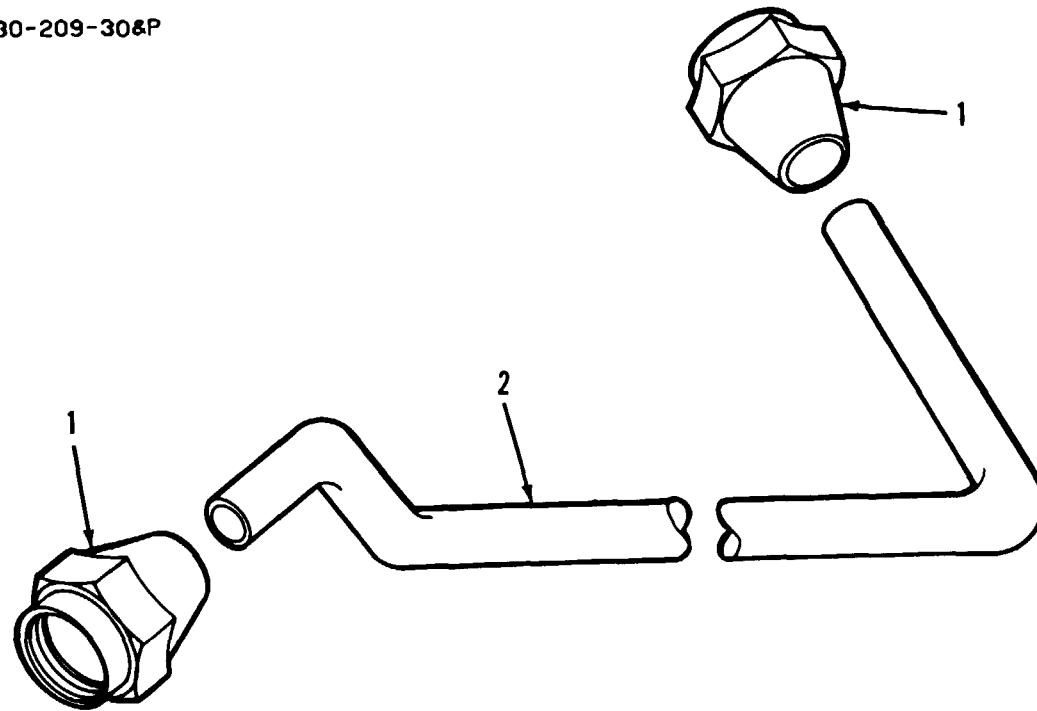


Figure B-46. Selector Return Line.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UCC)	(6) QTY
GROUP 0407 SELECTOR RETURN LINE C5-59-405					
FIG.B-46 SELECTOR RETURN LINE					
1	PAFZZ	96906	MS39166-3	NUT, TUBE COUPLING.....	2
2	MFFZZ	81361	C5-59-405-1	TUBE MAKE FROM TUBE, METALLIC P/N MILT3520/NSN 4710-00-830-1091.....	1

END OF FIGURE

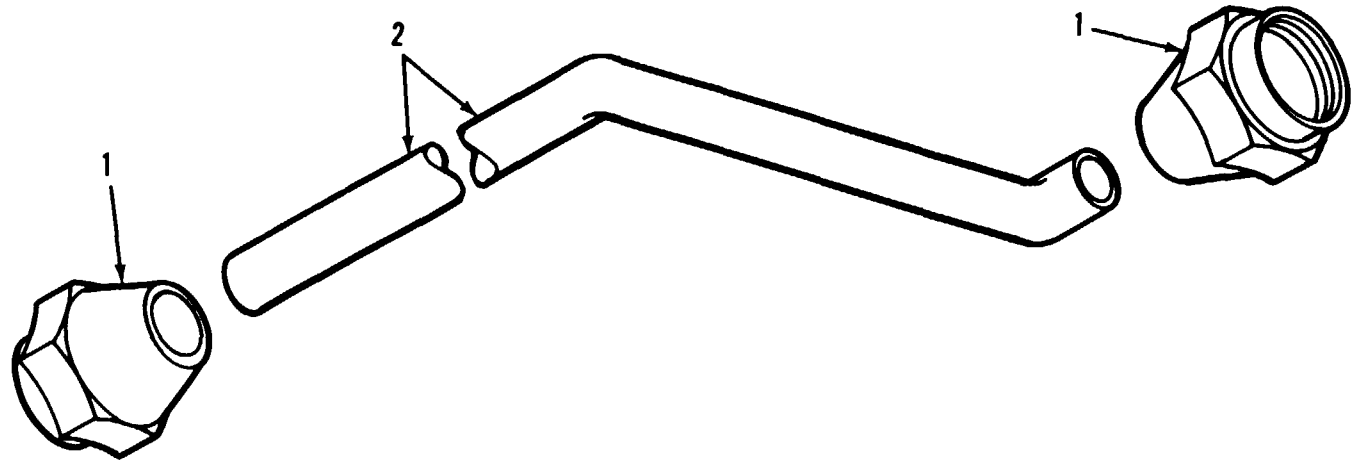


Figure B-47. Fuel Pressure Line.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UIC)	(6) QTY
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GROUP 0408 FUEL PRESSURE LINE
C5-59-352

FIG.B-47 FUEL PRESSURE LINE

1	PAFZZ 96906	MS39166-3		NUT, TUBE COUPLING.....	2
2	MFFZZ 81361	C5-59-352-1		TUBE MAKE FROM TUBE, METALLIC P/N MILT3520/NSN 4710-00-880-1091.....	1

END OF FIGURE

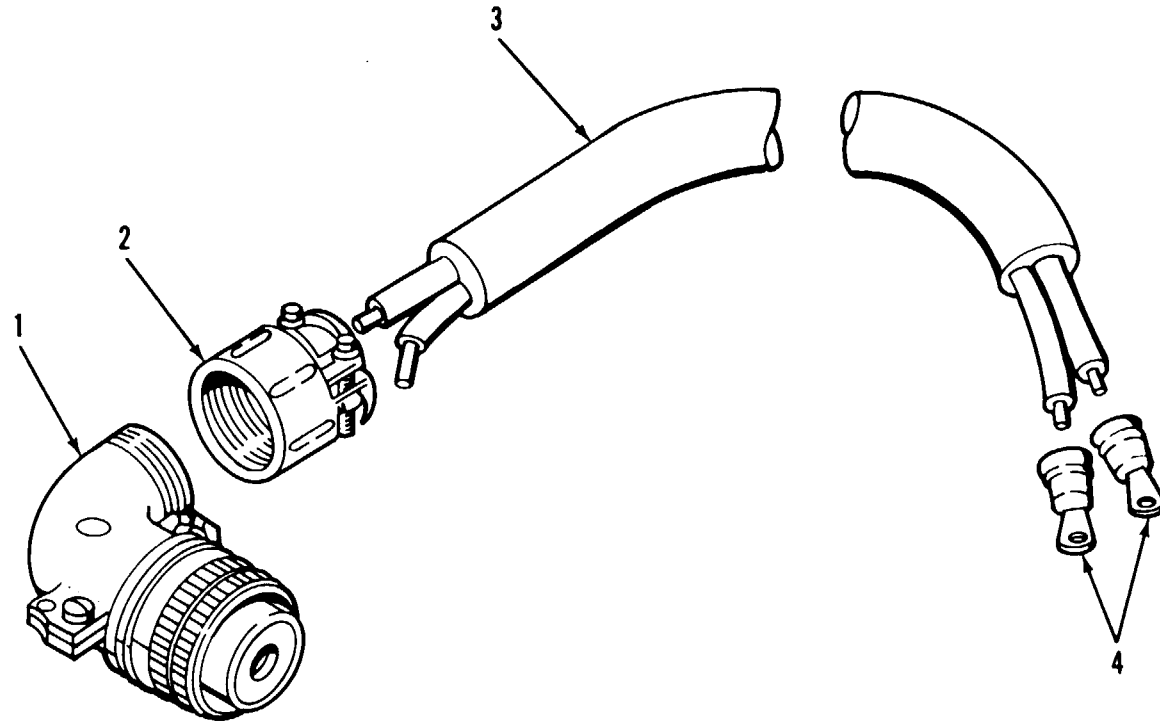


Figure B-48. Power Cable Assembly.

SECTION II				TM3-4230-209-30&P	
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 0409 POWER CABLE ASSEMBLY C5-59-360	
				FIG.B-48 POWER CABLE ASSEMBLY	
1	PAFZZ	96906	MS3108B16-12S	CONNECTOR,PLUG,ELEC	1
2	PAFZZ	81349	M85049/41-8A	CLAMP,CABLE,ELECTRI	1
3	MFFZZ	81361	C5-59-360-1	CABLE,POWER MAKE FROM CABLE,POWER P/N MILO5756B/NSN 6145-00-548-1076	1
4	PAFZZ	96906	MS25036-112	TERMINAL,LUG	2
				END OF FIGURE	

SECTION II

TM 3-4230-209-30&P

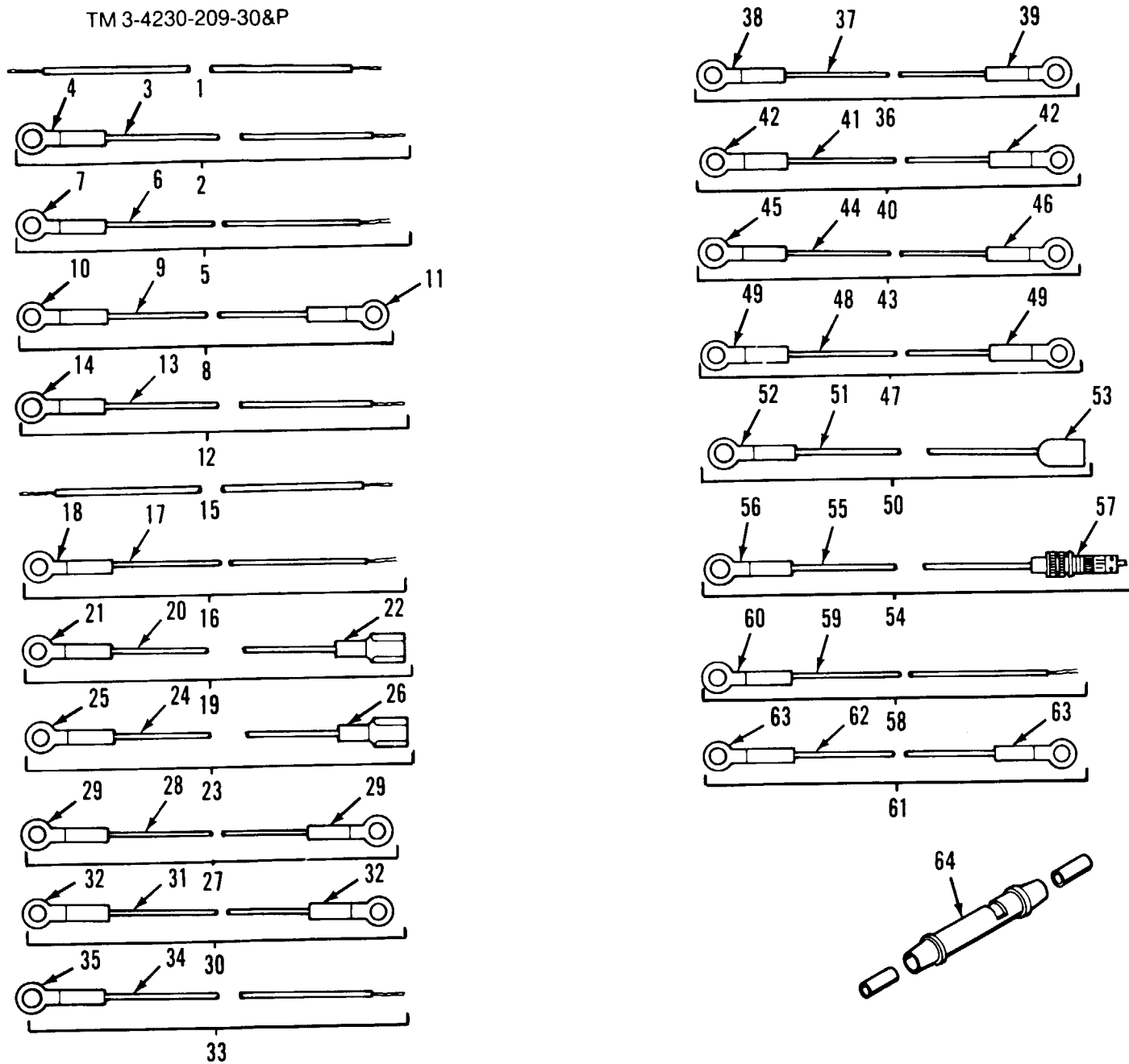


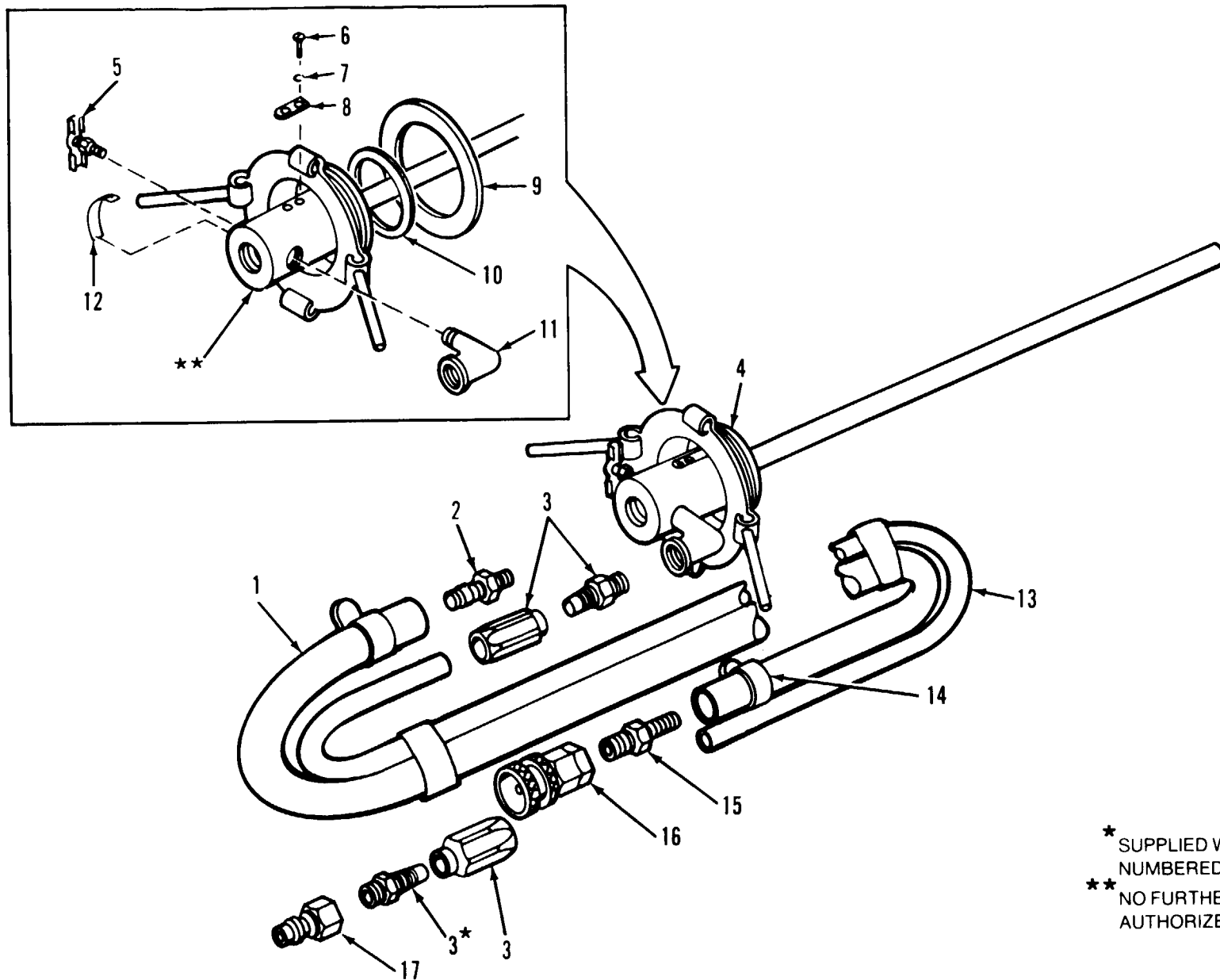
Figure B-49. Electrical Wiring.

SECTION II		TM3-4230-209-30&P				
(1)	(2)	(3)	(4)	(5)	(6)	
ITEM	SMR		PART			
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY	
				GROUP 0410 ELECTRICAL WIRING C5-59-218 AND D5-59-210		
				FIG.B-49 ELECTRICAL WIRING		
1	MFFZZ	81361	C5-59-218-1	LEAD, ELECTRICAL:1/2 IN.LG,MAKE FROM WIRE,ELECTRICAL P/N MM2946 / NSN 6145-00-500-3079	1	
2	AFZZ	81361	C5-59-218-2	LEAD, ELECTRICAL: 6 IN. LG	1	
3	MFFZZ	81361	TD2-3/G	WIRE, CUT FROM WIRE,ELECTRICAL P/ N MM2946/NSN 6145-00-500-3079	1	
4	PAFZZ	96906	MS25036-103	TERMINAL LUG	1	
5	AFZZ	81361	C5-59-218-3	LEAD, ELECTRICAL: 8.25 IN. LG	1	
6	MFFZZ	81361	TD1-2/S4-3	WIRE, CUT FROM WIRE,ELECTRICAL P/ N MM2946/NSN 6145-00-500-3079	1	
7	PAFZZ	96906	MS25036-101	TERMINAL,LUG	1	
8	AFZZ	81361	C5-59-218-4	LEAD, ELECTRICAL: 23 IN. LG	1	
9	MFFZZ	81361	K2-A1/S3	WIRE, CUT FROM WIRE,ELECTRICAL P/1 N MM2946/NSN 6145-00-500-3079	1	
10	PAFZZ	96906	MS25036-103	TERMINAL,LUG	1	
11	PAFZZ	96906	MS25036-101	TERMINAL,LUG	1	
12	AFZZ	81361	C5-59-218-5	LEAD, ELECTRICAL: 19 IN. LG	1	
13	MFFZZ	81361	TD2-5/S3	WIRE, CUT FROM WIRE,ELECTRICAL P/ N MM2946/NSN 6145-00-500-3079	1	
14	PAFZZ	96906	MS25036-101	TERMINAL,LUG	1	
15	MFFZZ	81361	C5-59-218-6	LEAD, CUT FROM WIRE, ELECTRICAL P/N MM2946/NSN 6145-00-500-3079	1	
16	AFZZ	81361	C5-59-218-7	LEAD, ELECTRICAL: 11.50 IN, LG	1	
17	MFFZZ	81361	K2-A1/TD1-7	WIRE, CUT FROM WIRE,ELECTRICAL P/ N MM2946/NSN 6145-00-500-3079	1	
18	PAFZZ	96906	MS25036-103	TERMINAL,LUG	1	
19	AFZZ	81361	C5-59-218-8	LEAD, ELECTRICAL: 35 IN. LG	1	
20	MFFZZ	81361	K2-A2/S2	WIRE, CUT FROM WIRE,ELECTRICAL P/ N MM2946/NSN 6145-00-500-3079	1	
21	PAFZZ	96906	MS25036-103	TERMINAL,LUG	1	

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
22	PAFZZ	00779	42599-2	TERMINAL,QUICK DISC	1
23	AFFFF	81361	C5-59-218-9	LEAD, ELECTRICAL: 30 IN. LG	1
24	MFFZZ	81361	S4-2/S2	WIRE, CUT FROM WIRE,ELECTRICAL P/ N MM2946/NSN 6145-00-500-3079	1
25	PAFZZ	96906	MS25036-101	TERMINAL,LUG	1
26	PAFZZ	00779	42599-2	TERMINAL,QUICK DISC	1
27	AFFFF	81361	C5-59-218-10	LEAD, ELECTRICAL: 1.75 IN. LG	1
28	MFFZZ	81361	S4-1/S4-5	WIRE, CUT FROM WIRE,ELECTRICAL P/ N MM2946/NSN 6145-00-500-3079	1
29	PAFZZ	96906	MS25036-101	TERMINAL,LUG	2
30	AFFFF	81361	C5-59-218-11	LEAD, ELECTRICAL: 4.50 IN. LG	1
31	MFFZZ	81361	K2-X2/S4-6	WIRE, CUT FROM WIRE,ELECTRICAL P/ N MM2946/NSN 6145-00-500-3079	1
32	PAFZZ	96906	MS25036-101	TERMINAL,LUG	2
33	AFFFF	81361	C5-59-218-12	LEAD, ELECTRICAL: 62 IN. LG	1
34	MFFZZ	81361	S1/S4-1	WIRE, CUT FROM WIRE,ELECTRICAL P/ N MM2946/NSN 6145-00-500-3079	1
35	PAFZZ	96906	MS25036-101	TERMINAL,LUG	1
36	AFFFF	81361	C5-59-218-13	LEAD, ELECTRICAL: 9 IN. LG	1
37	MFFZZ	81361	K2-X1/G	WIRE, CUT FROM WIRE,ELECTRICAL P/ N MM2946/NSN 6145-00-500-3079	1
38	PAFZZ	96906	MS25036-101	TERMINAL,LUG	1
39	PAFZZ	96906	MS25036-103	TERMINAL,LUG	1
40	AFFFF	81361	C5-59-218-14	LEAD,ELECTRICAL: 9.50 IN. LG	1
41	MFFZZ	81361	K1-X1/S4-1	WIRE, CUT FROM WIRE,ELECTRICAL P/ N MM2946/NSN 6145-00-500-3079	1
42	PAFZZ	96906	MS25036-157	TERMINAL,LUG	2
43	AFFFF	81361	C5-59-218-15	LEAD, ELECTRICAL: 9 IN. LG	1
44	MFFZZ	81361	K1-X2/G	WIRE, CUT FROM WIRE,ELECTRICAL P/ N MM2946/NSN 6145-00-500-3079	1
45	PAFZZ	96906	MS25036-101	TERMINAL,LUG	1
46	PAFZZ	96906	MS25036-103	TERMINAL,LUG	1
47	AFFFF	81361	C5-59-218-16	LEAD, ELECTRICAL: 5.25 IN. LG	1
48	MFFZZ	81361	K1-A2/K2-A2	WIRE, CUT FROM WIRE,ELECTRICAL P/ N MM3565/NSN 6145-00-295-2814	1

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
49	PAFZZ	96906	MS25036-112	TERMINAL,LUG	2
50	AFFFF	81361	C5-59-218-17	LEAD, ELECTRICAL: 11 IN. LG	1
51	MFFZZ	81361	K2-A2/MOT	WIRE, CUT FROM WIRE,ELECTRICAL P/ N MM3565/NSN 6145-00-295-2814	1
52	PAFZZ	96906	MS25036-112	TERMINAL,LUG	1
53	PAFZZ	96906	MS27144-1	CONNECTOR,PLUG,ELEC	1
54	AFFFF	81361	C5-59-218-18	LEAD, ELECTRICAL: 56 IN. LG	1
55	MFFZZ	81361	K1-A1/MOT	WIRE, CUT FROM WIRE,ELECTRICAL P/ N MM3565/NSN 6145-00-295-2814	1
56	PAFZZ	96906	MS25036-112	TERMINAL,LUG	1
57	PAFZZ	81361	B5-59-409	CONNECTOR ASSEMBLY	1
58	AFFFF	81361	C5-59-218-19	LEAD, ELECTRICAL: 11.50 IN. LG	1
59	MFFZZ	81361	K2-A2/TD1-5	WIRE, CUT FROM WIRE,ELECTRICAL P/ N MM2946/NSN 6145-00-500-3079	1
60	PAFZZ	96906	MS25036-103	TERMINAL,LUG	1
61	AFFFF	81361	C5-59-218-20	LEAD, ELECTRICAL: 8 IN. LG	1
62	MFFZZ	81361	B1/G	WIRE, CUT FROM WIRE,ELECTRICAL P/ N MM3565/NSN 6145-00-295-2814	1
63	PAFZZ	96906	MS25036-157	TERMINAL,LUG	2
64	PAFZZ	81349	M7928/5-3	SPLICE,CONDUCTOR	2

END OF FIGURE

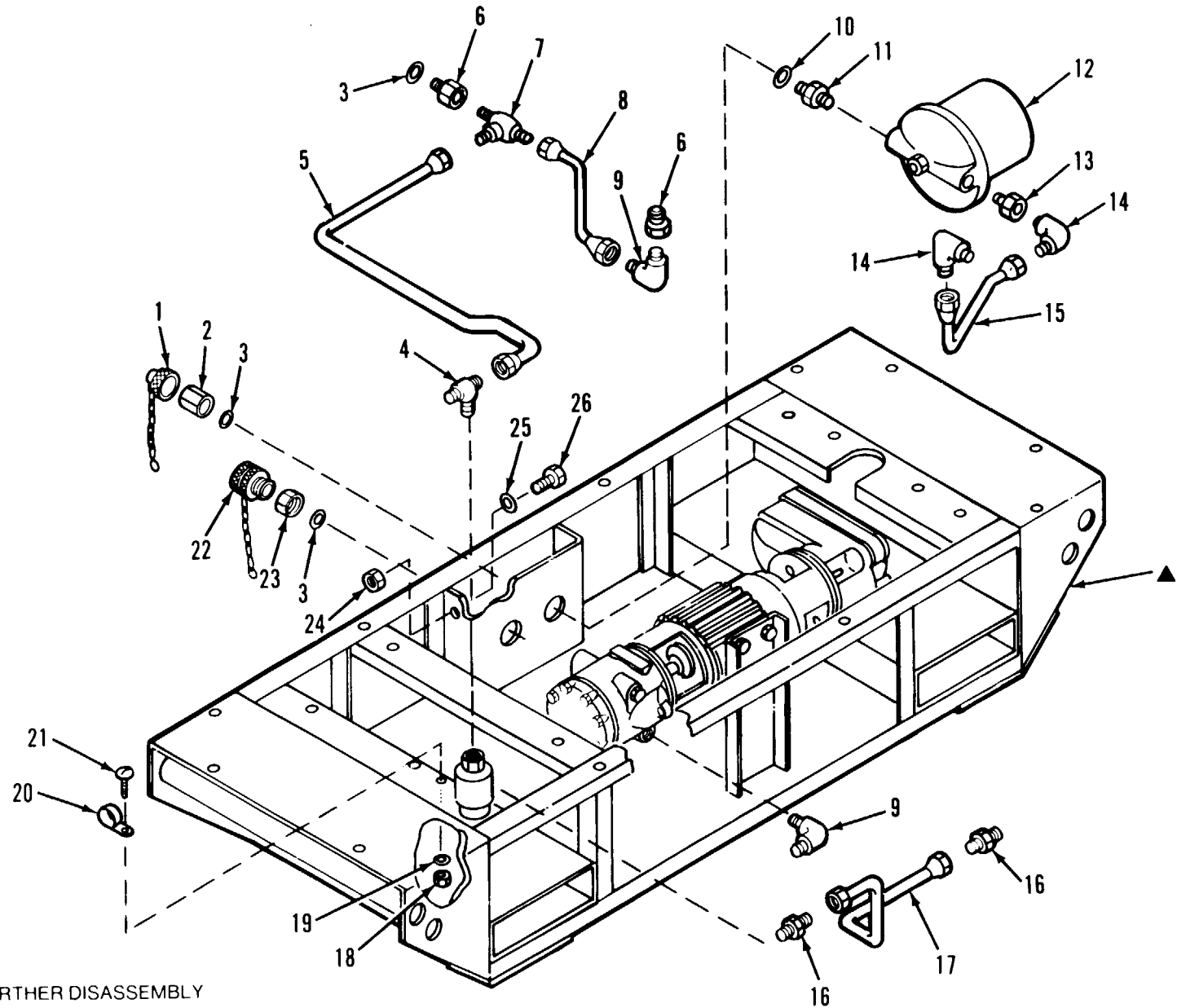


* SUPPLIED WITH IDENTICALLY
NUMBERED PART.
** NO FURTHER DISASSEMBLY
AUTHORIZED.

Figure B-50. Fuel Hose Assembly and Fuel Tank Adapter Assembly.

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 0411 FUEL HOSE ASSEMBLY D5-59-311 AND GROUP 041101 FUEL TANK ADAPTER ASSEMBLY D5-59-459	
				FIG.B-50 FUEL HOSE ASSEMBLY AND FUEL TANK ADAPTER	
1	PAFZZ	81361	C5-59-318-2	HOSE, NONMETALLIC	1
2	PAFZZ	24161	7207-318	ADAPTER, STRAIGHT PI	1
3	PAFZZ	24161	7236-0404-5	ADAPTER, STRAIGHT, PI	2
4	PAFFF	81361	D5-59-459	CAP, FILLER OPENING	1
5	PAFZZ	96906	MS35782-4	COCK, DRAIN	1
6	PAFZZ	96906	MS24629-3	SCREW, TAPPING	2
7	PAFZZ	96906	MS35333-35B	WASHER, LOCK	2
8	PAFZZ	81361	C5-59-457	GROUding STRIP	1
9	MFFZZ	81361	NPN GASKET TYPE III	GASKET MAKE FROM GASKET P/N MILG432/NSN 5330-00-298-7165	1
10	PAFZZ	96906	MS28775-217	PACKING, PREFORMED	2
11	PAFZZ	96906	MS51952-1	ELBOW, PIPE	1
12	PAFZZ	81361	B5-59-451	DECAL	1
13	MFFZZ	81361	D5-59-311-9	HOSE, RUBBER MAKE FROM HOSE, NONMETALLIC P/N 3658-0601/NSN 4720- 01-124-3740	1
14	PAFZZ	77414	P3	CLAMP, HOSE	2
15	PAFZZ	95138	3M3	ADAPTER, STRAIGHT, PI	1
16	PAFZZ	78357	VHC6F	COUPLING HALF, QUICK	1
17	PAFZZ	81361	E150-1-12-1	COUPLING HALF, QUICK	1

END OF FIGURE



▲ FURTHER DISASSEMBLY
ON NEXT ILLUSTRATION.

Figure B-51. Skid Base Assembly (1 of 2).

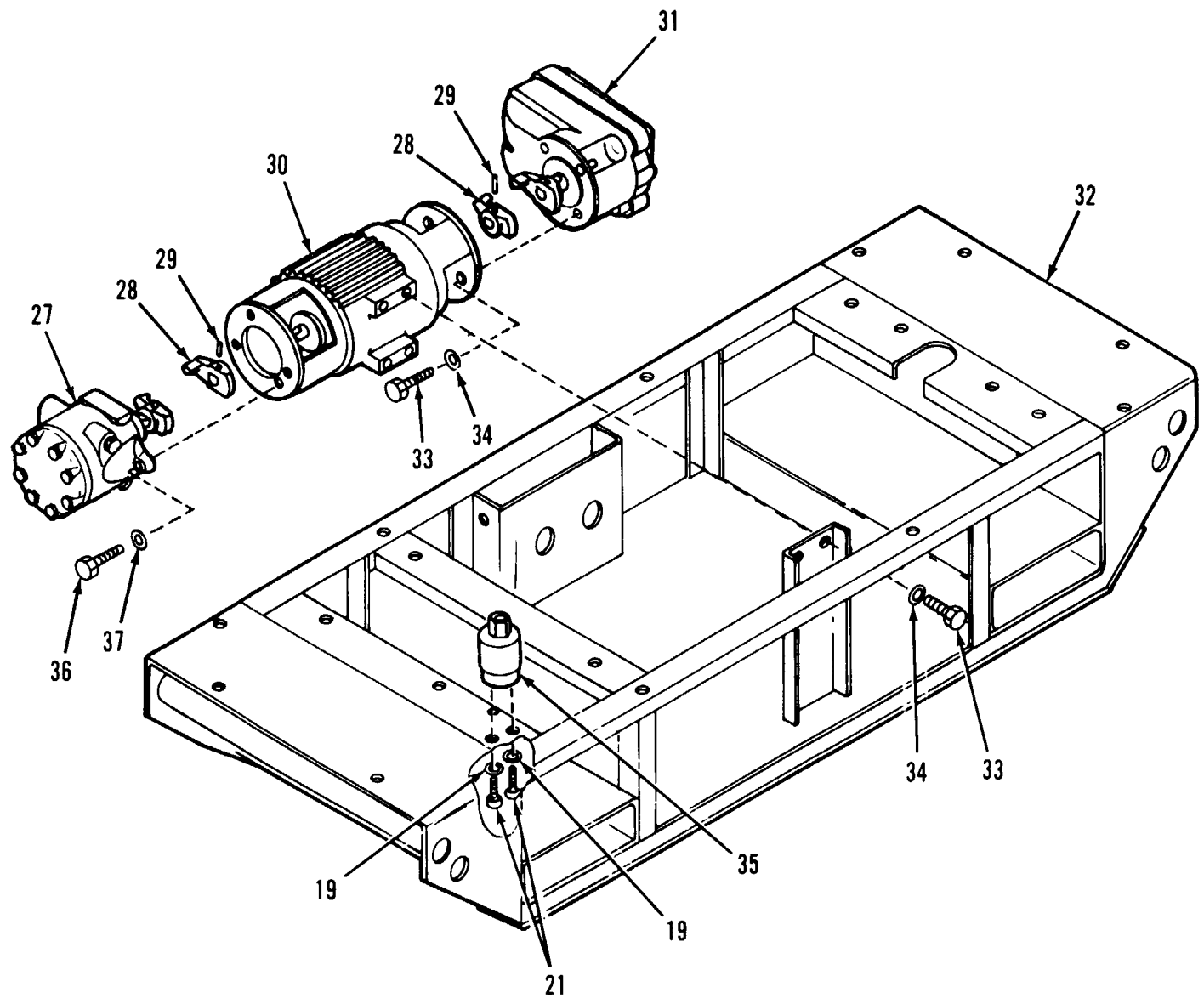
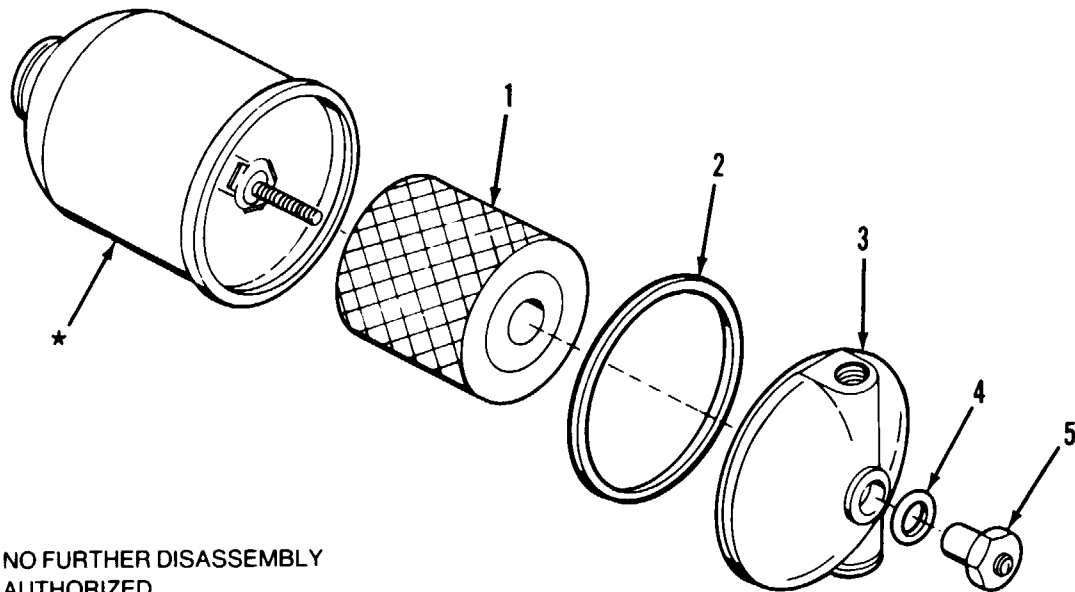


Figure B-51. Skid Base Assembly (2 of 2).

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 0413 SKID BASE ASSEMBLY	
				E5-59-362	
				FIG.B-51 SKID BASE ASSEMBLY	
1	PAOZZ	81361	D150-1-13-2	CAP,PROTECTIVE,DUST	1
2	PAFZZ	78357	VHNGF	COUPLING HALF QUICK	1
3	PAFZZ	96906	MS27183-19	WASHER,FLAT	2
4	PAFZZ	96906	MS39163-3	TEE,PIPE TO TUBE	1
5	AFOFF	81361	B5-59-347	LINE, PURGE AND BYPASS (SEE FIG B-60 FOR ASSEMBLY BREAKDOWN)	1
6	PAFZZ	15182	AN912-1	BUSHING,PIPE	1
7	PAFZZ	96906	MS39164-3	TEE,PIPE TO TUBE	1
8	AFOFF	81361	B5-59-393	LINE, PUMP RETURN (SEE FIG.B-50 FOR ASSEMBLY BREAKDOWN)	1
9	PAFZZ	96906	MS39162-3	ELBOW,PIPE TO TUBE	1
10	PAFZZ	96906	MS27183-22	WASHER,FLAT	2
11	PAFZZ	88044	AN911-3	NIPPLE,PIPE	1
12	PAFFF	81361	C5-59-344	FILTER,FLUID (SEE FIG.B-52 FOR 1 ASSEMBLY BREAKDOWN)	1
13	PAFZZ	88044	AN912-2	BUSHING,PIPE	1
14	PAFZZ	96906	MS39162-5	ELBOW,PIPE TO TUBE	2
15	AFOFF	81361	B5-59-345	LINE, FUEL SUPPLY (SEE FIG. B-57 FOR ASSEMBLY BREAKDOWN)	1
16	PAFZZ	96906	MS39158-3	ADAPTER,STRAIGHT,PI	2
17	AFOFF	81361	B5-59-346	LINE, GAGE PORT (SEE FIG.B-58 FOR ASSEMBLY BREAKDOWN)	1
18	PAOZZ	96906	MS35650-302	NUT,PLAIN,HEXAGON	2
19	PAOZZ	96906	MS35333-39	WASHER,LOCK	10
20	PAOZZ	83930	400WSS10	CLAMP,LOOP	2
21	PAOZZ	96906	MS35207-261	SCREW,MACHINE	1
22	PAOZZ	78357	AMPH4	PLUG,PROTECTIVE, DUST	1
23	PAFZZ	78357	BVHC4F	COUPLING HALF,QUICK	1
24	PAOZZ	96906	MS35649-83	NUT,PLAIN,HEXAGON	2
25	PAOZZ	96906	MS35333-38	WASHER,LOCK	1

SECTION II				TM3-4230-209-30&P	
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
26	PAOZZ	96906	MS35206-243	SCREW,MACHINE	2
27	A0000	81361	C5-59-373	PUMP ASSY, FUEL (SEE FIG.B-56 FOR ASSEMBLY BREAKDOWN)	1
28	PAOZZ	90598	TM3946	DRIVE ARM	2
29	PAOZZ	80205	NAS561C6-13	PIN,SPRING	2
30	PAOFF	81361	D5-59-202	MOTOR,DIRECT CURREN (SEE FIG. B-55 FOR ASSEMBLY BREAKDOWN)	1
31	A0000	81361	C5-59-268	MAGNETO ASSY (SEE FIG. B-53 FOR ASSEMBLY BREAKDOWN)	1
32	XDFZZ	81361	E5-59-258	BASE,SKID	1
33	PAOZZ	96906	MS90725-6	SCREW,CAP,HEXAGON	8
34	PAOZZ	96906	MS35333-40	WASHER,LOCK	8
35	PAFZZ	81978	V5D24360	VALVE,SOLENOID FUEL	1
36	PAOZZ	96906	MS18154-60	SCREW,CAP,HEXAGON	2
37	PAOZZ	96906	MS35333-42	WASHER,LOCK	2

END OF FIGURE



*NO FURTHER DISASSEMBLY AUTHORIZED.

Figure B-52. Fluid Filter.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
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GROUP 041301 FLUID FILTER
C5-59-344

FIG.B-52 FLUID FILTER

1	PA0ZZ	13800	E94RT	FILTER ELEMENT, FLUI	1
2	PA0ZZ	13800	31300	GASKET	1
3	XAFZZ	81361	C5-59-344-1	COVER, FILTER	1
4	PA0ZZ	13800	32104	GASKET	1
5	XAOZZ	81361	C5-59-344-2	NUT, COVER	1

END OF FIGURE

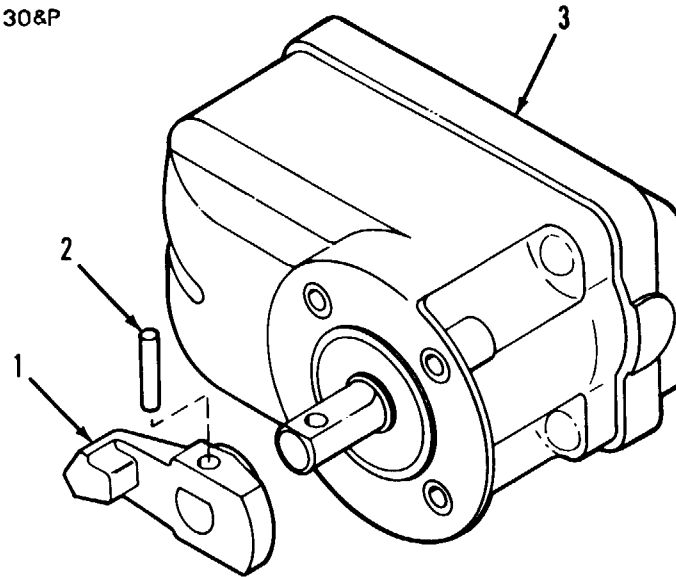


Figure B-53. Magneto Assembly.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UDC)	(6) QTY
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GROUP 041302 MAGNETO ASSEMBLY
C5-59-268

FIG. B-53 MAGNETO ASSEMBLY

1	PA0ZZ	90598	TM3946	DRIVE ARM.....	1
2	PA0ZZ	80205	NAS56106-13	PIN, SPRING..	1
3	PA0FF	81361	D5-59-252	MAGNETO, IGNITION (SEE FIG. B-54 FOR ASSEMBLY BREAKDOWN).....	1

END OF FIGURE

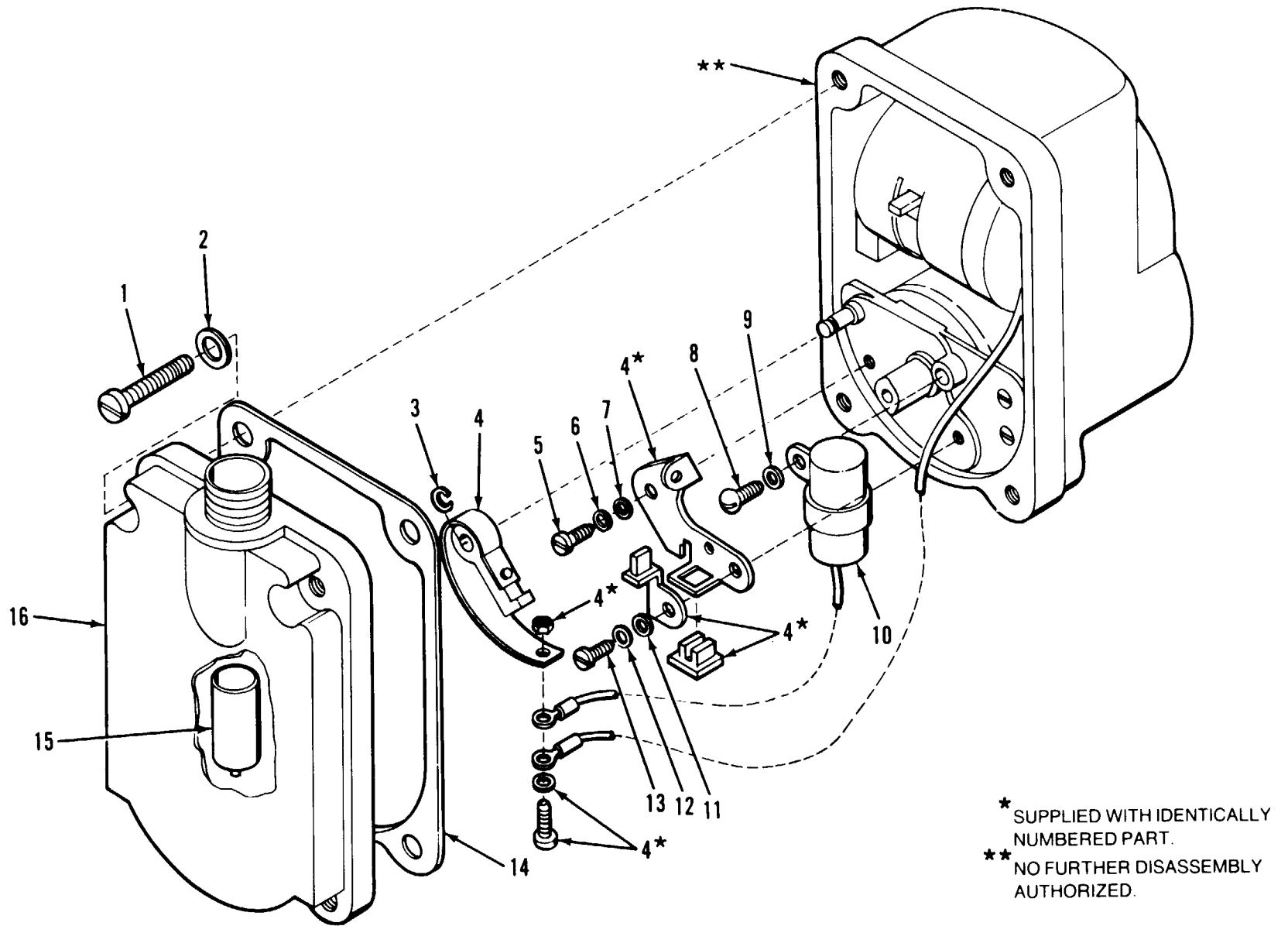


Figure B-54. Combustor Magneto.

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 04130201 COMBUSTOR MAGNETO	
				D5-59-252	
				FIG.B-54 COMBUSTOR MAGNETO	
1	PAFZZ	96906	MS35206-264	SCREW,MACHINE	4
2	PAFZZ	96906	MS35333-39	WASHER,LOCK	4
3	PAFZZ	96906	MS16633-1015	RING,RETAINING	1
4	KFFZZ	82796	W2437	CONTACT SET,DISTRIB PART OF KIT P/N SK112	1
5	PAFZZ	96906	MS35206-228	SCREW,MACHINE	1
6	PAFZZ	96906	MS35338-41	WASHER,LOCK	1
7	PAFZZ	96906	MS27183-6	WASHER,FLAT	1
8	PAFZZ	96906	MS35206-241	SCREW,MACHINE	1
9	PAFZZ	96906	MS35333-38	WASHER,LOCK	1
10	KFFZZ	82796	153968	CAPACITOR,FIXED PART OF KIT P/N SK112	1
11	PAFZZ	88044	AN960-8	WASHER,FLAT	1
12	PAFZZ	96906	MS35338-42	WASHER,LOCK	1
13	PAFZZ	96906	MS35206-243	SCREW,MACHINE	1
14	KFFZZ	82796	K2498	GASKET PART OF KIT P/N SK112	1
15	PAFZZ	82796	P2474	SLEEVE,IGNITION	1
16	PAFZZ	82796	PX2430A	CAP,IGNITION DISTRI	1
	PAFZZ	82796	SK112	PARTS KIT,IGNITION MAGNETO	1
				CAPACITOR,FIXED (1)B-54-10	
				CONTACT SET DISTRIB (1)B-54-4	
				GASKET (1)B-54-14	
				END OF FIGURE	

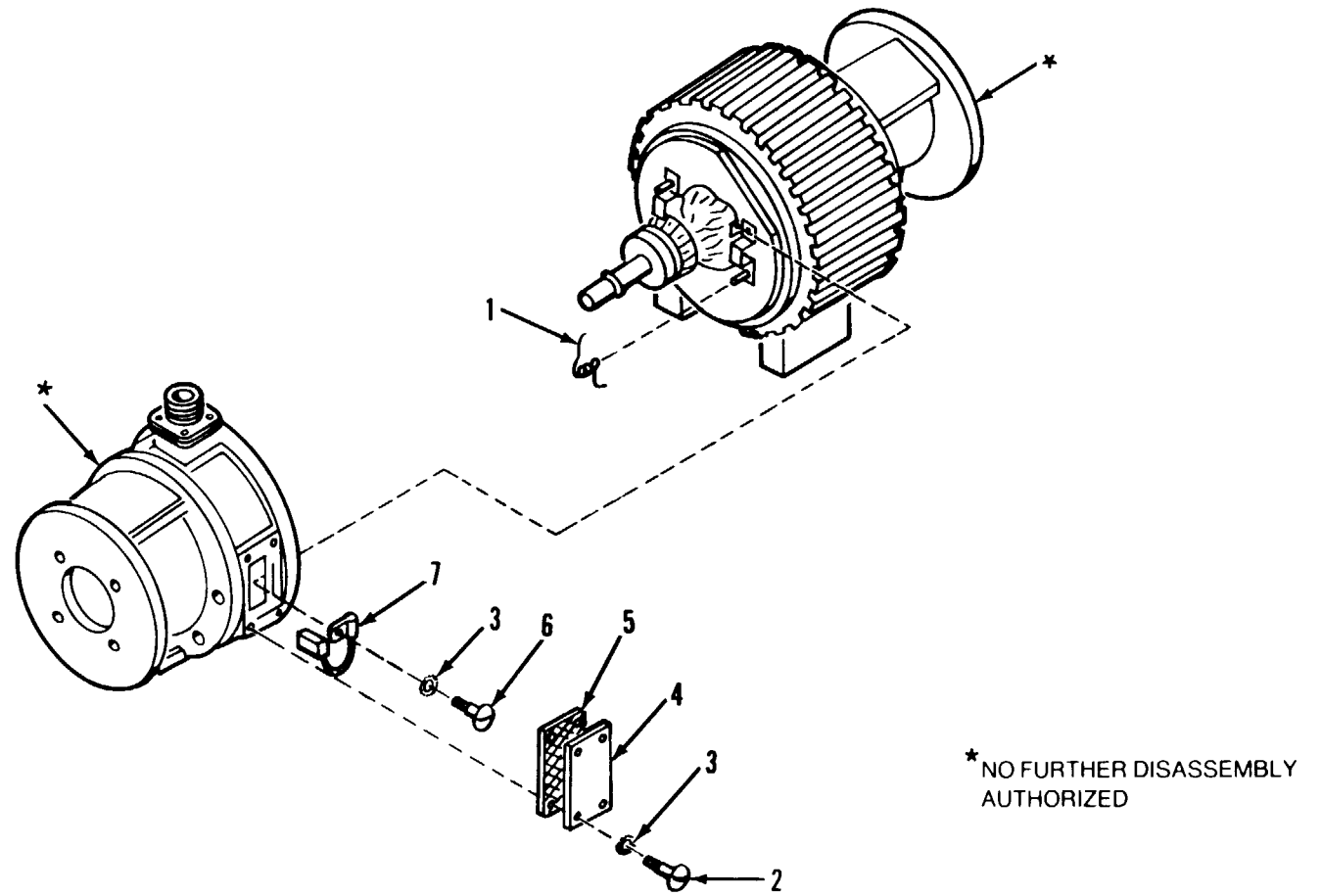


Figure B-55. Fuel Pump and Ignition Drive Motor.

SECTION II					
(1)	(2)	(3)	TM3-4230-209-30&P	(5)	(6)
ITEM	SMR		(4)		
NO	CODE	FSCM	PART	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
			NUMBER		
				GROUP 041303 FUEL PUMP AND IGNITION	
				DRIVE MOTOR D5-59-202	
				FIG.B-55 FUEL PUMP AND IGNITION	
				DRIVE MOTOR	
1	XDFZZ	51064	D25593	SPRING,HELICAL	1
2	PAFZZ	96906	MS35206-243	SCREW,MACHINE	8
3	PAFZZ	78189	C4008-14-00	WASHER,LOCK	10
4	XDFZZ	51064	D25808-1	COVER	2
5	XDFZZ	51064	D25807	GASKET	2
6	PAFZZ	96906	MS35214-42	SCREW,MACHINE	2
7	PAFZZ	51064	D25594-1	BRUSH,ELECTRICAL CO	2
				END OF FIGURE	

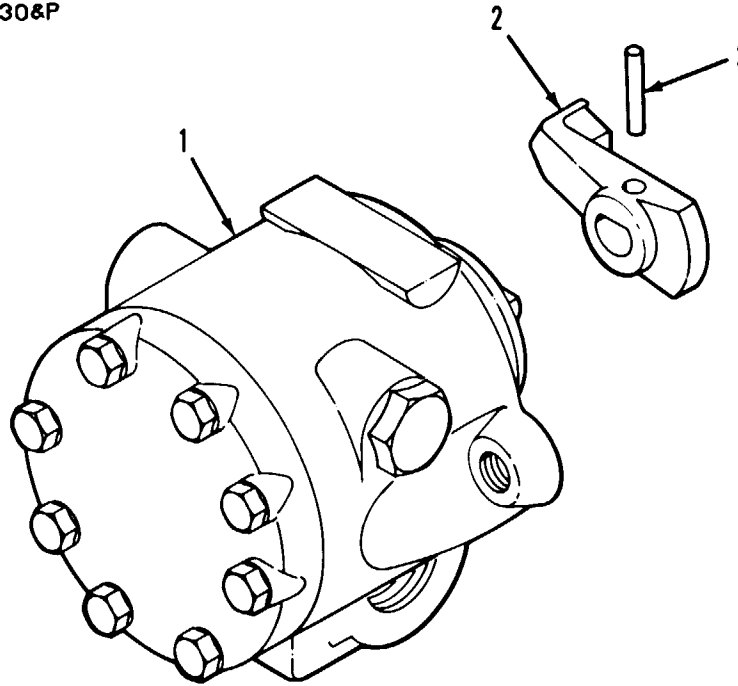


Figure B-56. Fuel Pump Assembly.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
GROUP 041304 FUEL PUMP ASSEMBLY C5-59-373					
FIG. B-56 FUEL PUMP ASSEMBLY					
1	PA0ZZ	81361	C5-59-369	PUMP, ROTARY POWER DRIVEN.....	1
2	PA0ZZ	90598	TM3946	DRIVE ARM.....	1
3	PA0ZZ	80205	NAS561C6-13	PIN, SPRING.....	1

END OF FIGURE

SECTION II

TM3-4230-209-30&P

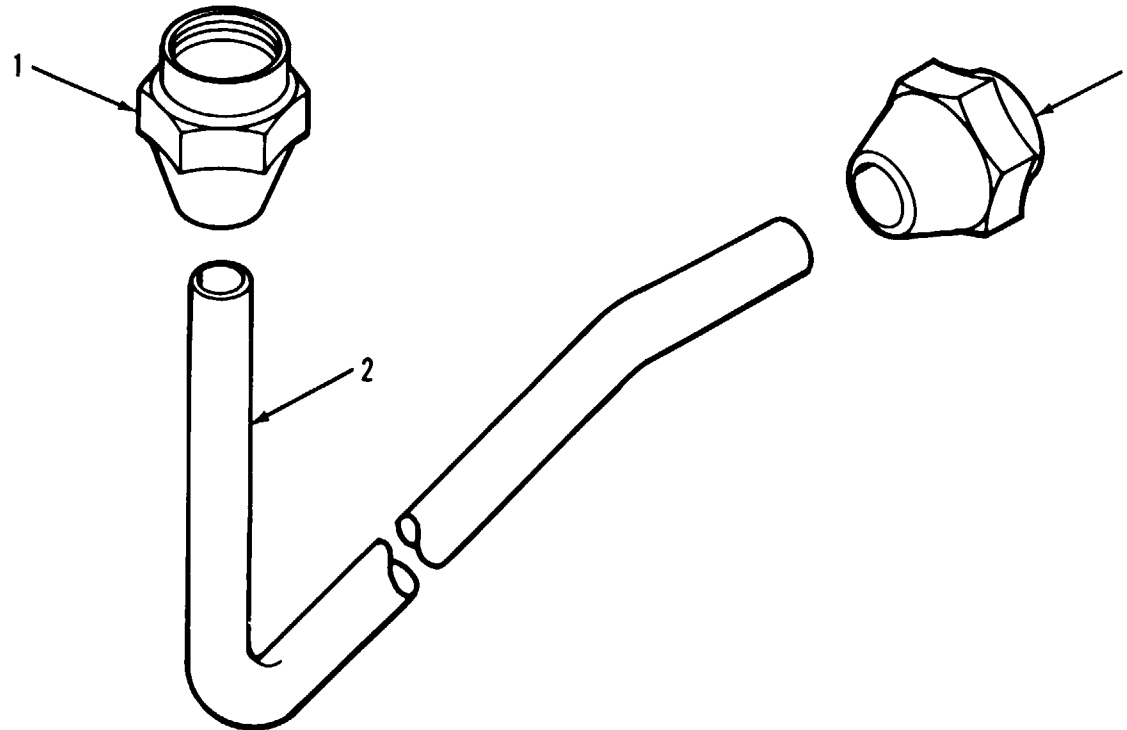


Figure B-57. Fuel Supply Line.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
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GROUP 0-11305 FUEL SUPPLY LINE
C5-59-345

FIG. B-57 FUEL SUPPLY LINE

1	PAFZZ 96906	MS39166-5		NUT, TUBE COUPLING.....	2
2	MFFZZ 81361	85-59-345-1		TUBE MAKE FROM TUBE, METALLIC P/N S5281/NSN 4710-00-335-2610.....	1

END OF FIGURE

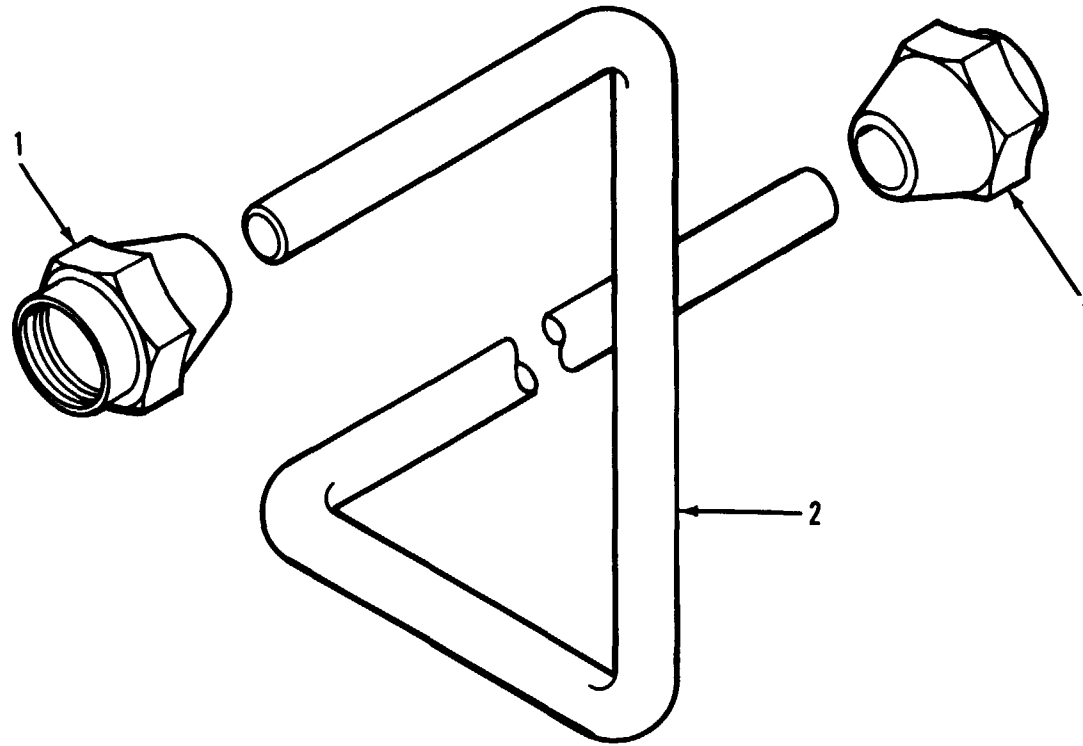


Figure B-58. Gage Port Line.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
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GROUP 041306 GAGE PORT LINE
B5-59-346

FIG. B-58 GAGE PORT LINE

1	PAFZZ 96906	MS39166-3		NUT, TUBE COUPLING.....	2
2	MFFZZ 81361	B5-59-346-1		TUBE MAKE FROM TUBE, METALLIC P/N MILT3520/NSN 4710-00-880-1091.....	1

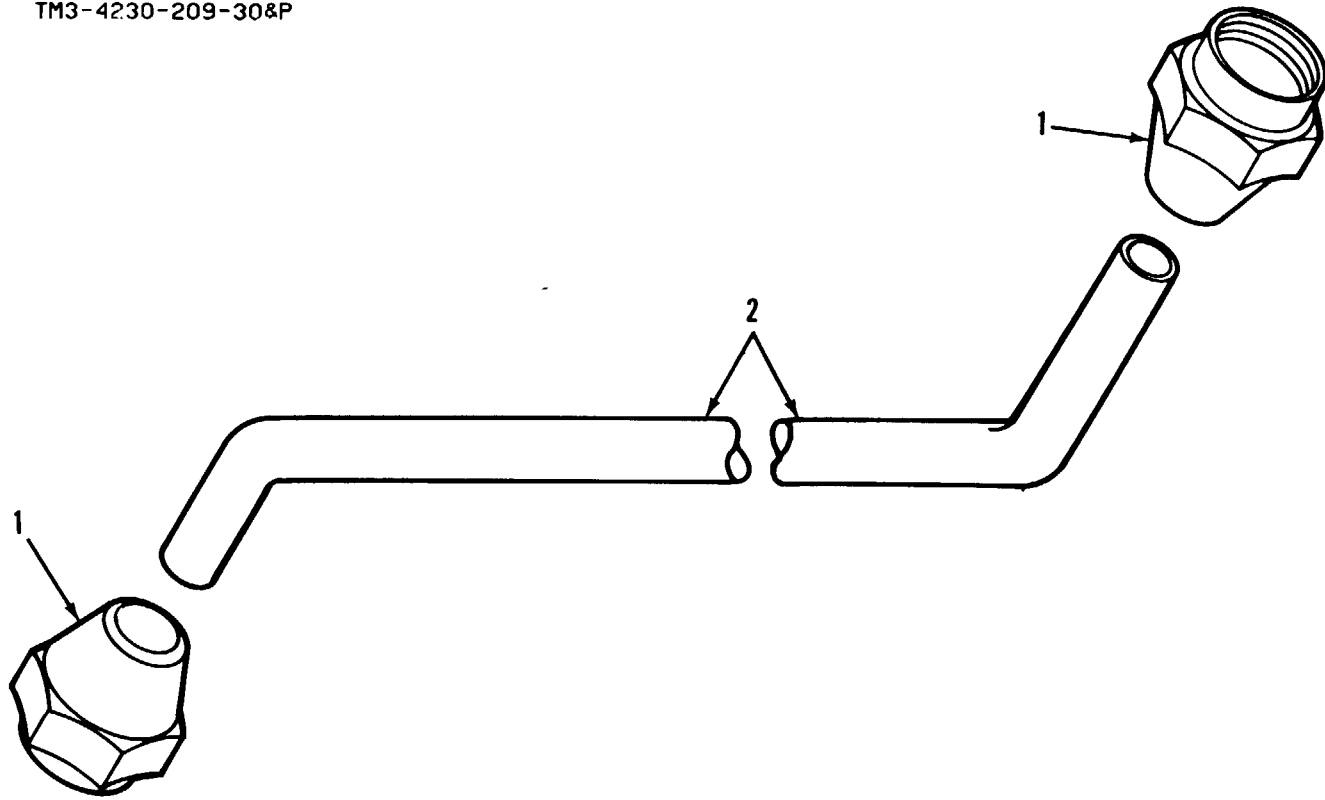


Figure B-59. Pump Return Line.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UGC)	(6) QTY
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GROUP 041307 PUMP RETURN LINE
B5-59-393

FIG.B-59 PUMP RETURN LINE

1	PAFZZ 96906	MS39166-3		NUT, TUBE COUPLING.....	2
2	MFFZZ 81361	B5-59-393-1		TUBE MAKE FROM TUBE, METALLIC P/N MILT3520/NSN 4710-00-880-1091.....	1

END OF FIGURE

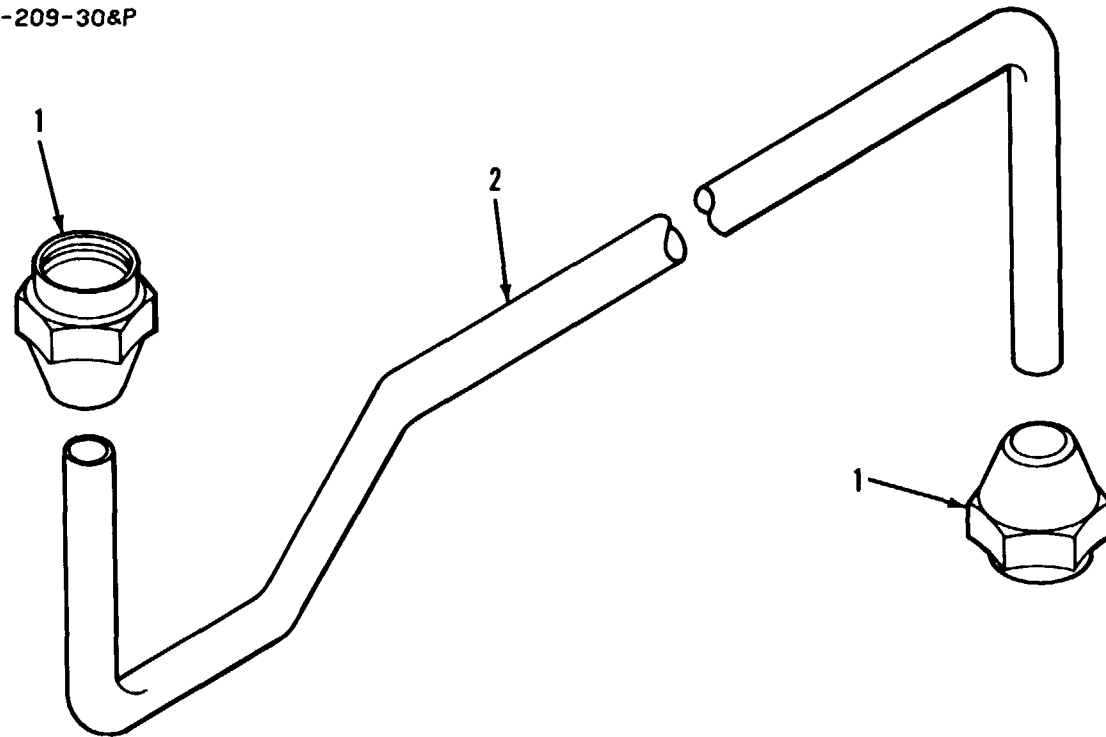


Figure B-60. Purge and Bypass Return Line.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
GROUP 041308 PURGE AND BYPASS RETURN LINE B5-59-347					
FIG.B-60 PURGE AND BYPASS RETURN LINE					
1	PAFZZ 96906	MS39166-3		NUT, TUBE COUPLING.....	2
2	MFFZZ 81361	B5-59-347-1		TUBE MAKE FROM TUBE, METALLIC P/N MILT3520/NSN 4710-00-880-1091.....	1

END OF FIGURE

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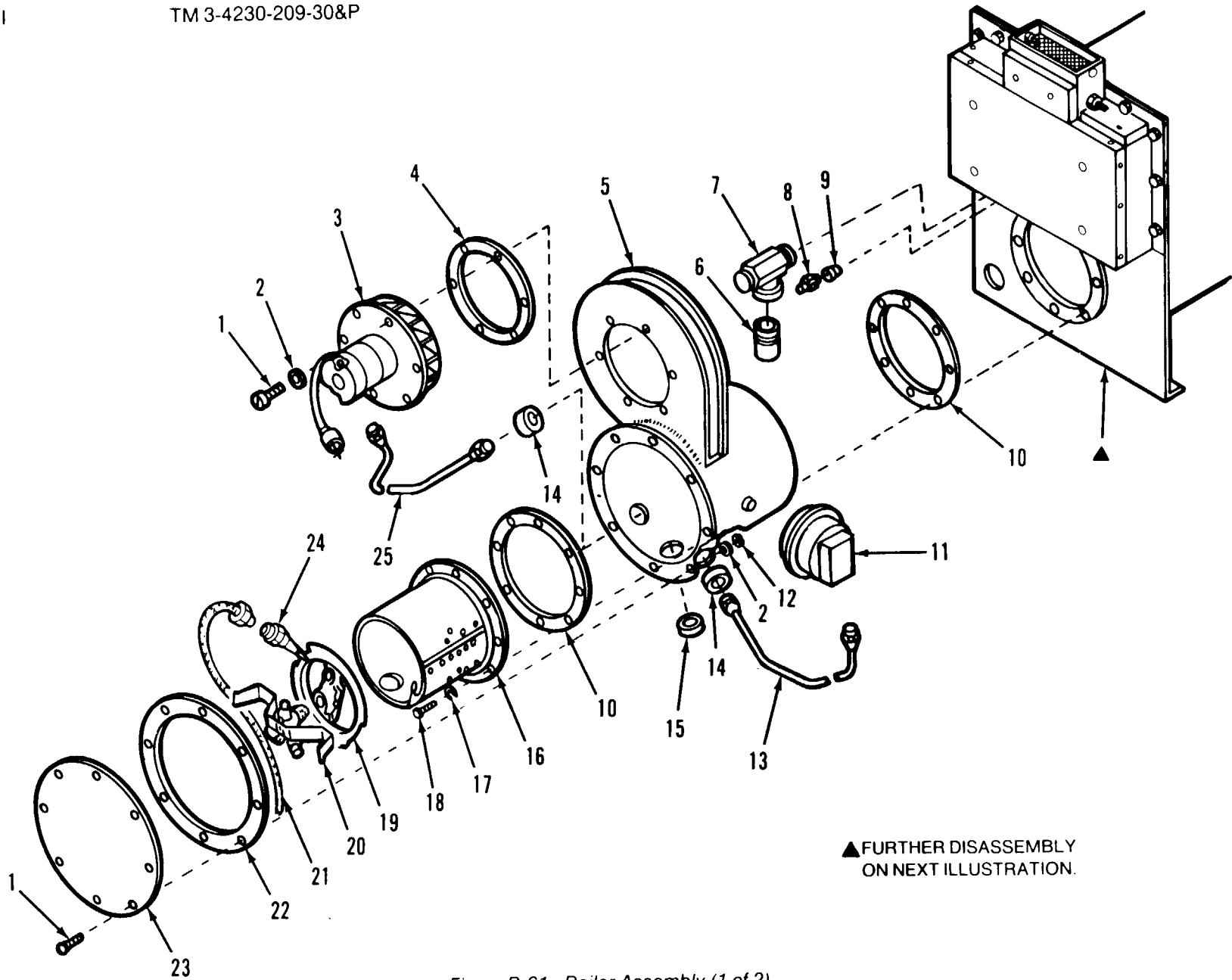


Figure B-61. Boiler Assembly (1 of 2).

SECTION II

TM 3-4230-209-30&P

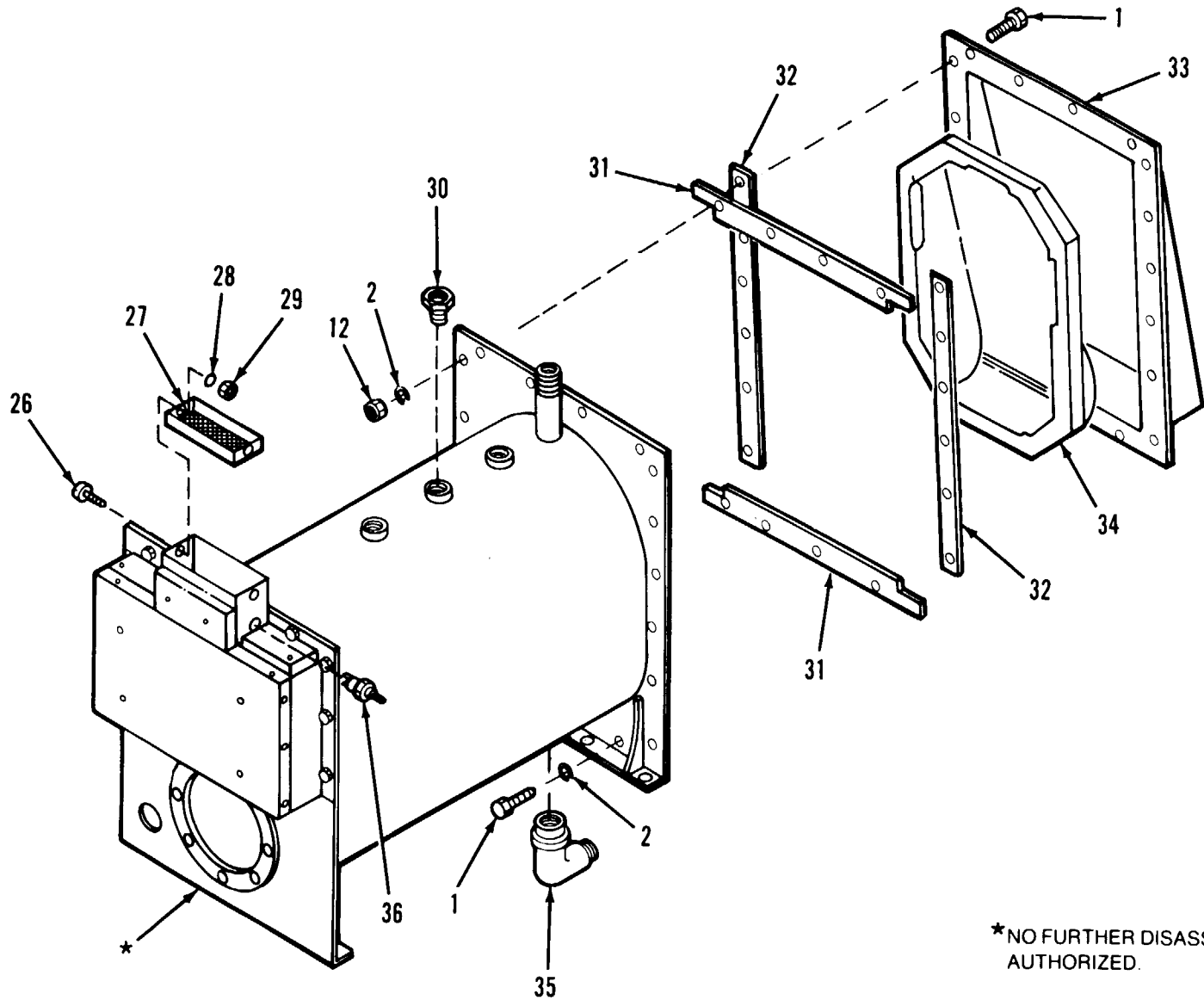
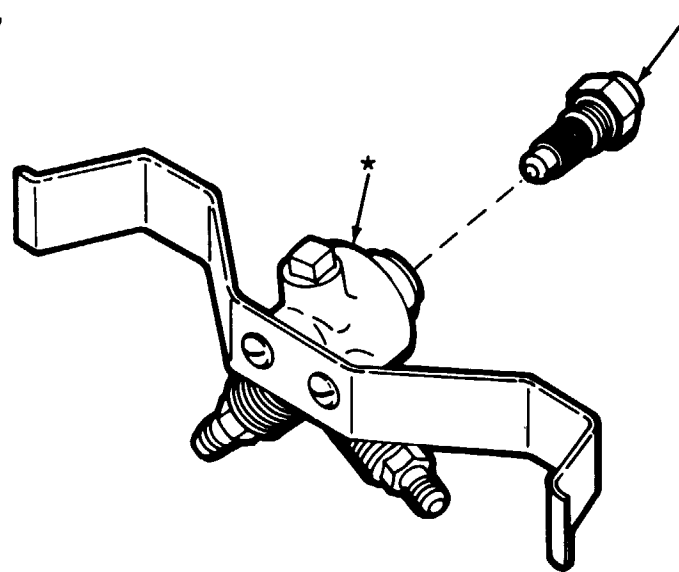


Figure B-61. Boiler Assembly (2 of 2).

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 0414 LOW PRESSURE HEATING	
				BOILER ASSEMBLY	
				E5-59-285	
				FIG.B-61 BOILER ASSEMBLY	
1	PAOZZ	96906	MS90725-5	SCREW,CAP,HEXAGON	34
2	PAOZZ	96906	MS35333-40	WASHER,LOCK	34
3	AFFFF	81361	C5-59-302	MOTOR MOUNTING ASSEMBLY, COMBUSTION (SEE FIG.B-63 FOR ASSEMBLY (BREAKDOWN)	1
4	PAFZZ	81361	B5-59-300	GASKET	1
5	XDFZZ	81361	D5-59-201	BLOWER SHROUD, COMBUSTOR	1
6	PAFZZ	96906	MS51953-80B	NIPPLE,PIPE	1
7	PAFZZ	81361	C5-59-321	VALVE,SAFETY RELIEF	1
8	PAFZZ	96906	MS39158-3	ADAPATER,STRAIGHT,PI	1
9	PAFZZ	66640	166D1	BUSHING,PIPE	1
10	PAFZZ	81361	B5-59-343	GASKET	2
11	PAOZZ	81361	C5-59-450	SWITCH,PRESSURE	1
12	PAOZZ	96906	MS51967-2	NUT,PLAIN,HEXAGON	24
13	AFOFF	81361	B5-59-350	LINE, COMBUSTION RETURN (SEE FIG.B- 65 FOR ASSEMBLY BREAKDOWN)	1
14	PAOZZ	96906	MS35489-7	GROMMET,NONMETALLIC	2
15	PAFZZ	96906	MS35489-14	GROMMET,NONMETALLIC	1
16	PAFZZ	81361	D5-59-374	COMBUSTOR ASSEMBLY	1
17	PAFZZ	96906	MS35333-41	WASHER,LOCK	8
18	PAFZZ	96906	MS90725-31	BOLT,MACHINE	8
19	XDOZZ	90598	TRF3107	COMBUSTOR PLATE	1
20	XDOOO	81361	D5-59-377	NOZZLE HOLDER ASSEMBLY (SEE FIG.B- 62 FOR ASSEMBLY BREAKDOWN)	1
21	PAFZZ	81361	C5-59-341	CABLE ASSEMBLY,IGNI	1
22	PAOZZ	81361	B5-59-299	GASKET	1
23	PAOZZ	81361	C5-59-213	COVER,ACCESS	1
24	PAOZZ	11583	806X2	IGNITER, SPARK ,GAS	1

SECTION II		TM3-4230-209-30&P			
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
25	AFOFF	81361	B5-59-394	LINE, NOZZLE VALVE (SEE FIG.B-64 FOR ASSEMBLY BREAKDOWN)	1
26	PAOZZ	96906	MS35206-242	SCREW,MACHINE	2
27	PAOZZ	81361	C5-59-294	ARRESTER, SPARK	1
28	PAOZZ	96906	MS35333-72	WASHER, LOCK	2
29	PAOZZ	96906	MS35649-284	NUT, PLAIN, HEXAGON	2
30	PAFZZ	88044	AN912-3	BUSHING, PIPE	1
31	MFFZZ	81361	B5-59-296	GASKET MAKE FROM ASBESTOS SHEET P/ N MILA7021/NSN 5330-00-527-9900 UOC:D12	2
32	MFFZZ	8136	B5-59-295	GASKET MAKE FROM ASBESTOS SHEET P/ N MILA7021/NSN 5330-00-527-9900 UOC:D12	2
33	XDFZZ	81361	D5-59-247	BOX	1
34	PAFZZ	81361	D5-59-417	UOC:D12 LINING	1
35	PAFZZ	96906	MS39230-6	UOC:D12 ELBOW, PIPE	1
36	PAOZZ	81361	B5-59-339	SWITCH, THERMOSTATIC FLAME	1

END OF FIGURE



*NO FURTHER DISASSEMBLY AUTHORIZED.

Figure B-62. Nozzle Holder Assembly.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 041401 NOZZLE HOLDER ASSEMBLY D5-59-377	
				FIG.B-62 NOZZLE HOLDER ASSEMBLY	
1	PA0ZZ	90598	TR3336	NOZZLE,OIL BURNER.....	1
END OF FIGURE					

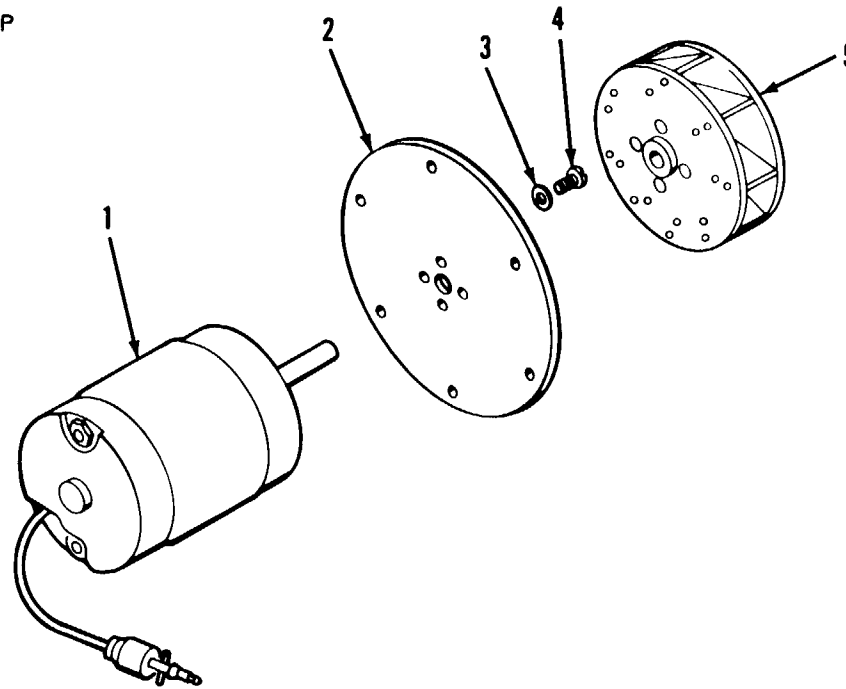


Figure B-63. Combustion Motor Mounting Assembly.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
GROUP 041402 COMBUSTION MOTOR MOUNTING ASSEMBLY C5-59-302					
FIG. B-63 COMBUSTION MOTOR MOUNTING ASSEMBLY					
1	PAFZZ	81361	D5-59-265	MOTOR, DIRECT CURREN.....	1
2	XDFZZ	81361	C5-59-217	PLATE, MOUNTING.....	1
3	PAFZZ	96906	MS35333-40	WASHER, LOCK.....	4
4	PAFZZ	96906	MS35206-276	SCREW, MACHINE.....	4
5	PAFZZ	81361	D5-59-238	IMPELLER, FAN, CENTRI.....	1

END OF FIGURE

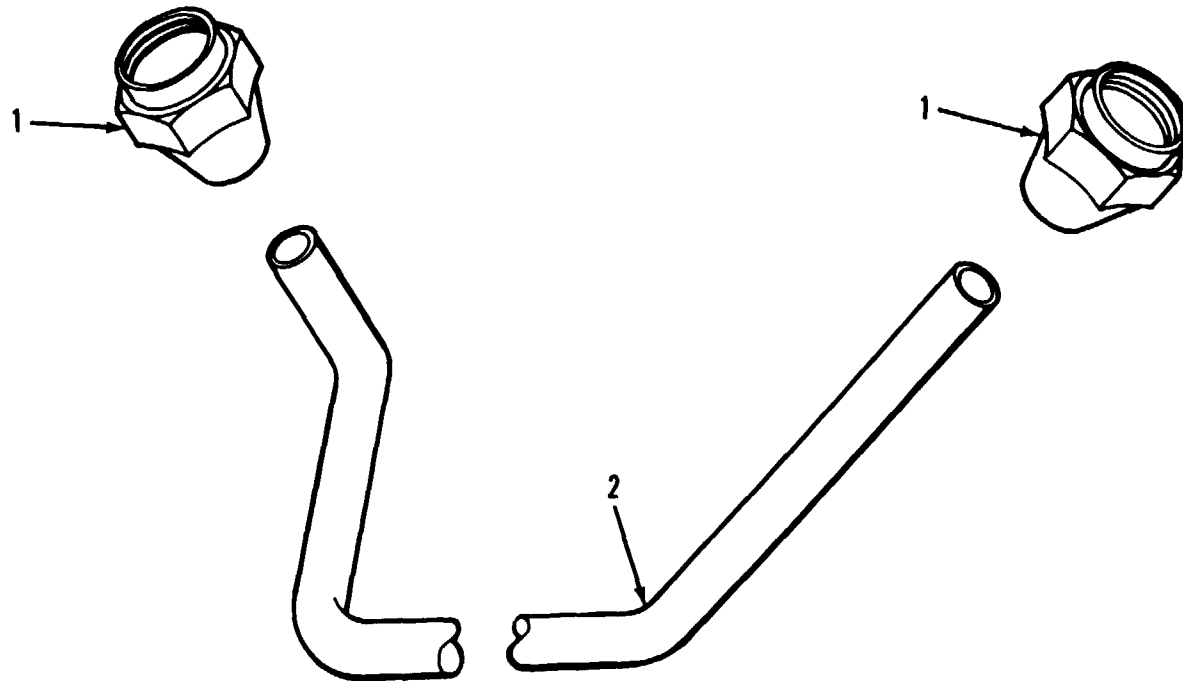


Figure B-64. Nozzle Valve Line.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
GROUP 041403 NOZZLE VALVE LINE B5-59-394					
FIG. B-64 NOZZLE VALVE LINE					
1	PAFZZ	96906	MS39166-3	NUT, TUBE COUPLING.....	2
2	MFFZZ	81361	B5-59-394-1	TUBE, STEEL MAKE FROM TUBE, METALLIC P/N MILT3520/NSN 4710-00- 880-1091.....	1

END OF FIGURE

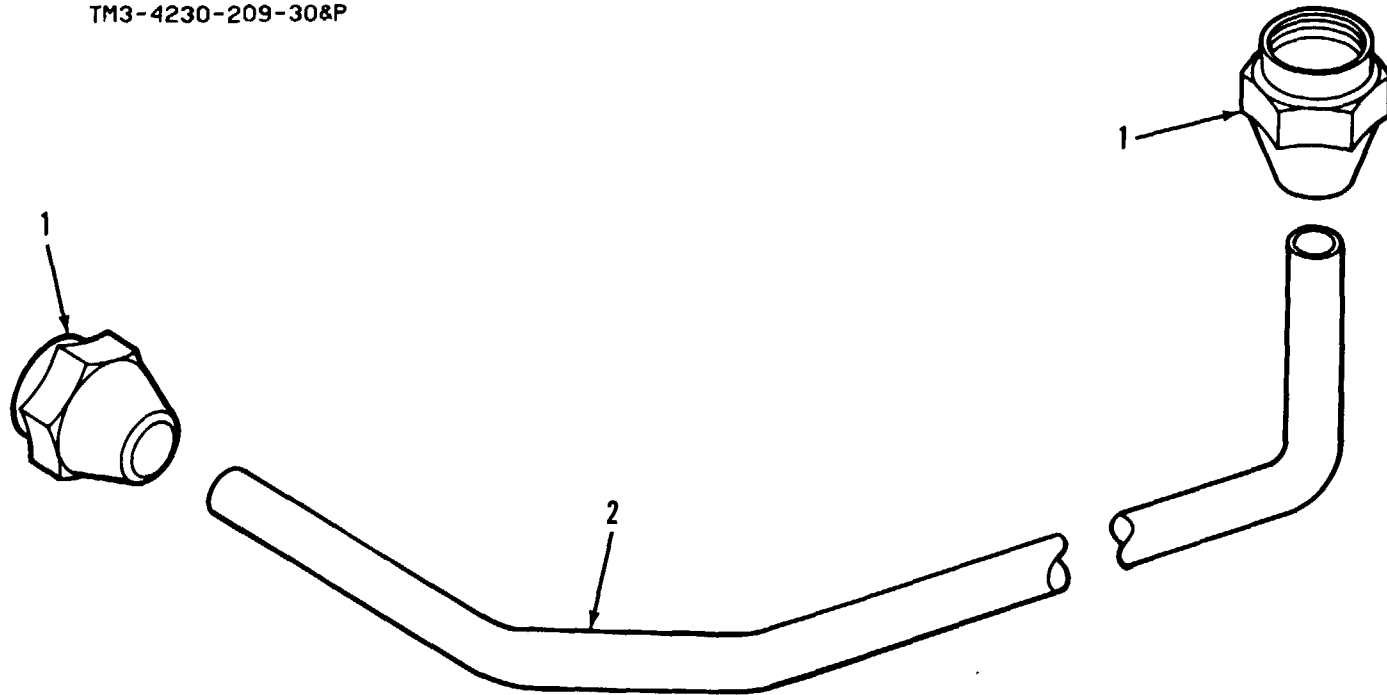


Figure B-65. Combustion Return Line.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
GROUP 041404 COMBUSTION RETURN LINE B5-59-350					
FIG. B-65 COMBUSTION RETURN LINE					
1	PAFZZ 96906	MS39166-3		NUT, TUBE COUPLING.....	2
2	MFFZZ 81361	B5-59-350-1		TUBE MAKE FROM TUBE, METALLIC P/N MILT3520/NSN 4710-00-880-1091.....	1

END OF FIGURE

SECTION II		TM3-4230-209-30&P				
(1)	(2)	(3)	(4)	(5)	(6)	
ITEM	SMR		PART			
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODE	(UOC)	QTY
GROUP 9999 BULK MATERIALS						
FIG.BULK						
1	PAOZZ	96906	M13486/1-11	CABLE,ELECTRICAL	V	
				UOC:D12		
2	PAFZZ	81349	MILA7021	ASBESTOS SHEET		1
3	PAFZZ	81349	MILC5756B	CABLE,POWER	V	
4	PAOZZ	81348	RRC271	CHAIN,WELDLESS	V	
5	PAFZZ	81349	MILG432	GASKET	V	
6	PAOZZ	24161	421B-1INCHID	HOSE,NONMETALLIC THIS HOSE MUST BE	V	
				REQUESITIONED BYT U/M & QTY AND WILL		
				BE RECEIVED PRECUT		
7	PCOZZ	24161	124WW	HOSE,NONMETALLIC	V	
8	PAFZZ	24161	3658-0601	HOSE,NONMETALLIC	V	
9	PAFZZ	45255	PF336F	INSULATION BLANKET	V	
10	PAOZZ	81346	ASTM A366	METAL SHEET	V	
11	PCFZZ	81361	B5-45-2889	NONMETALLIC SPECIAL 14 FOORT ROLL	V	
12	PAOZZ	81346	ASTM A120	PIPE,METALLIC	V	
13	PCOZZ	99806	M200SERIES1X1-8	PLASTIC STRIP,PRESS	V	
14	PAFZZ	81349	MILR46089	RUBBER SHEET	V	
15	PAFZZ	04741	S5281	TUBE,METALLIC	V	
16	PAFZZ	81346	ASTM A 519-74	TUBE,METALLIC	V	
17	PAFZZ	81349	MILT3520	TUBE,METALLIC	V	
18	PAFZZ	81349	M5086/1-16-6	WIRE,ELECTRICAL	V	
19	PAFZZ	99974	MM3565	WIRE,ELECTRICAL	V	
20	PAFZZ	99974	MM2946	WIRE,ELECTRICAL	V	

END OF FIGURE

BULK-1

Section IV. NATIONAL STOCK NUMBER AND PART NUMBER INDEX

STOCK NUMBER	NATIONAL STOCK NUMBER INDEX		STOCK NUMBER	NATIONAL STOCK NUMBER INDEX	
	FIG.	ITEM		FIG.	ITEM
4820-00-007-2251	B-10	38	5930-00-065-1932	B-30	65
4730-00-011-6452	B-44	1	6625-00-066-1278	B-30	30
	B-45	1	5305-00-068-0498	B-10	54
	B-46	1	5305-00-068-0501	B-61	1
	B-47	1	5305-00-068-0502	B-51	33
	B-58	1	4720-00-071-0615	B-35	5
	B-59	1	5305-00-071-1322	B-38	29
	B-60	1	5305-00-071-1788	B-22	5
	B-65	1	5305-00-071-2056	B-22	1
	B-65	1	5305-00-071-2070	B-28	15
4820-00-018-3077	B-37	3	5305-00-071-2237	B-22	39
6240-00-019-0878	B-30	52	5975-00-074-2072	B-38	46
4730-00-022-2499	B-22	31	5340-00-074-2116	B-38	37
5330-00-030-3212	B-24	4		B-51	20
5305-00-044-4153	B-22	12	5305-00-078-7039	B-32	15
5310-00-045-3299	B-54	12	5340-00-078-9652	B-21	10
5310-00-045-4007	B-30	25	5310-00-080-6004	B-10	15
	B-54	6	5310-00-080-6004	B-18	17
5306-00-050-0347	B-9	3		B-22	4
4730-00-050-4208	B-24	20	5310-00-081-4219	B-10	28
	B-25	4		B-18	33
	B-26	2	5310-00-082-1404	B-54	7
	B-36	1	4710-00-082-4920	B-2	7
4730-00-053-0266	B-50	11	5310-00-087-4652	B-10	14
4410-00-057-0225	B-61	34		B-18	14
5315-00-058-5088	B-51	29		B-20	1
	B-53	2	5310-00-088-1251	B-10	4
	B-56	3		B-18	21
6140-00-059-3528	B-10	41	5310-00-103-2893	B-24	5
5305-00-059-3659	B-10	24	5940-00-113-8191	B-16	2
	B-13	2		B-17	2
	B-15	2	5305-00-115-9526	B-18	40
4820-00-061-1952	B-11	7		B-27	3

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

STOCK NUMBER	NATIONAL STOCK NUMBER INDEX		STOCK NUMBER	NATIONAL STOCK NUMBER INDEX	
	FIG.	ITEM		FIG.	ITEM
	B-38	63	5940-00-143-4794	B-49	52
5320-00-119-6819	B-38	18		B-49	56
4230-00-127-2560	B-7	3	3110-00-144-8518	B-24	12
5935-00-137-4671	B-10	58	3110-00-144-8519	B-24	19
2910-00-141-9758	B-15	1	3110-00-157-6060	B-20	5
5940-00-143-4771	B-49	4	4710-00-162-1020	BULK	12
	B-49	10	5925-00-163-6547	B-30	58
	B-49	18	5310-00-167-0721	B-38	67
	B-49	21		B-61	17
	B-49	39	5935-00-167-7775	B-49	53
	B-49	46	5325-00-174-5315	B-48	22
	B-49	60		B-61	14
5940-00-143-4777	B-49	42	5325-00-185-0001	B-38	62
	B-49	63	4730-00-186-7799	B-51	11
5940-00-143-4780	B-10	20	4730-00-188-1880	B-61	6
	B-30	63	4410-00-191-3124	B-38	5
	B-31	3	4410-00-191-3142	B-38	36
	B-31	6	5305-00-191-3641	B-3	2
	B-31	9		B-10	2
	B-31	12		B-18	12
	B-31	15	4730-00-193-7078	B-23	9
	B-31	18	4730-00-194-0215	B-61	30
	B-31	21	5310-00-194-1483	B-22	11
	B-31	24	5940-00-195-5487	B-30	59
	B-31	31	4730-00-196-0916	B-37	2
	B-31	34	4730-00-196-1469	B-2	11
	B-31	37	4730-00-196-1501	B-2	9
	B-31	40	4730-00-196-1572	B-23	3
	B-31	43	5315-00-200-3586	B-27	6
	B-31	46	5365-00-200-7377	B-54	3
	B-31	49	4730-00-202-6771	B-35	3
	B-31	52	5310-00-208-9255	B-13	4
5940-00-143-4794	B-48	4	5310-00-209-0296	B-24	7
	B-49	49	6680-00-221-1037	B-30	48

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

STOCK NUMBER	NATIONAL STOCK NUMBER INDEX		STOCK NUMBER	FIG. ITEM	
	FIG.	ITEM		FIG.	ITEM
4730-00-221-2141	B-2	1	5310-00-275-9310	B-51	24
4730-00-222-1819	B-51	13	5325-00-276-6100	B-61	15
5310-00-225-6993	B-28	12	5325-00-276-6101	B-38	50
5306-00-225-8496	B-61	18	5935-00-276-9413	B-48	1
5306-00-225-8497	B-10	42	4730-00-277-5644	B-18	10
	B-30	34	4730-00-277-5683	B-22	35
5306-00-225-8498	B-18	32	4730-00-277-6988	B-38	58
	B-38	68	4730-00-277-9386	B-43	9
5306-00-225-8499	B-32	36		B-51	6
5305-00-225-8507	B-37	12		B-61	9
2920-00-229-5235	B-54		4730-00-278-2507	B-50	14
4730-00-231-5622	B-30	38	4730-00-278-4603	B-22	32
	B-43	8	5325-00-282-2045	B-5	5
5015-00-234-1864	B-24	16		B-6	5
9515-00-237-1855	BULK	10		B-7	5
4730-00-239-0215	B-23	15		B-8	10
4730-00-246-5495	B-2	2		B-40	2
4730-00-248-9340	B-43	7		B-41	2
4730-00-249-3919	B-38	35		B-42	2
5930-00-253-0426	B-30	64	4730-00-282-7460	B-23	21
4730-00-253-4420	B-32	31	5330-00-285-3825	B-52	4
5305-00-253-5614	B-18	3	4730-00-287-0547	B-30	36
	B-30	11	4730-00-287-1603	B-22	28
	B-32	9		B-30	45
4730-00-254-2744	B-61	35	5325-00-290-8021	B-21	8
4730-00-254-6211	B-43	24	5325-00-291-9366	B-38	43
	B-51	9		B-43	32
5310-00-261-6192	B-55	3	6145-00-295-2814	BULK	19
9320-00-262-2274	BULK	14	5975-00-295-9697	B-38	45
5305-00-269-3213	B-22	43	5330-00-297-5948	B-22	45
5305-00-269-3215	B-28	4	5330-00-298-7165	BULK	5
5305-00-269-3219	B-22	38	4230-00-301-4104	B-23	1
4030-00-270-5436	B-18	7	4710-00-335-2610	BULK	15

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

STOCK NUMBER	NATIONAL STOCK NUMBER INDEX		STOCK NUMBER	NATIONAL STOCK NUMBER INDEX	
	FIG.	ITEM		FIG.	ITEM
5330-00-345-7854	B-32	7	2520-00-560-4871	B-24	10
5330-00-352-5542	B-52	2	4730-00-570-2929	B-43	10
2920-00-358-7430	B-54	15		B-51	7
4030-00-360-0304	B-9	1	5305-00-576-5417	B-24	1
	B-32	2	5310-00-576-5752	B-8	7
	B-38	13		B-38	14
4730-00-374-6949	B-50	3		B-43	14
5365-00-402-4349	B-11	3		B-51	19
5310-00-407-9566	B-10	43		B-54	2
	B-22	48	5310-00-579-0079	B-30	57
	B-32	38	5330-00-579-7914	B-50	10
5330-00-446-1694	B-24	6	2920-00-580-3435	B-61	24
4820-00-456-9789	B-30	46	5310-00-582-5965	B-10	53
5340-00-460-3956	B-18	8		B-32	21
5975-00-477-4150	B-30	55		B-37	9
6145-00-500-3079	BULK	20	4730-00-585-2307	B-23	4
5310-00-515-8058	B-54	11	4720-00-595-4103	BULK	6
5325-00-515-9685	B-38	38	5310-00-595-7237	B-38	64
4730-00-516-4450	B-2	8		B-51	37
	B-18	4	5365-00-598-1474	B-5	6
	B-38	39		B-6	6
3120-00-525-8667	B-25	9		B-7	6
5330-00-527-9900	BULK	2		B-8	9
4410-00-542-5656	B-1	1		B-40	3
5310-00-543-2739	B-61	28		B-41	3
6145-00-548-1076	BULK	3		B-42	3
5940-00-549-6581	B-17	1	6105-00-608-0533	B-63	1
5940-00-549-6583	B-16	1	5315-00-616-5525	B-24	13
5310-00-550-1130	B-38	23	5315-00-616-5530	B-24	15
	B-51	34	2590-00-618-4184	B-30	31
	B-61	2	5305-00-632-2777	B-32	42
	B-63	3	5305-00-637-1123	B-55	6
5310-00-559-0070	B-51	25	5310-00-637-9541	B-18	36
	B-54	9		B-22	46

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

STOCK NUMBER	NATIONAL STOCK NUMBER INDEX		STOCK NUMBER	NATIONAL STOCK NUMBER INDEX	
	FIG.	ITEM		FIG.	ITEM
	B-27	2	5310-00-761-6882	B-32	20
	B-28	5		B-37	10
	B-28	14		B-38	11
	B-30	40		B-61	12
4730-00-639-9730	B-22	26	5310-00-763-8920	B-10	34
	B-30	43	5305-00-773-2708	B-43	17
4730-00-640-5752	B-50	16	5905-00-777-0577	B-29	1
4730-00-640-6330	B-15	7	4010-00-781-3129	BULK	4
5930-00-655-1582	B-43	29	5330-00-787-7417	B-2	5
4520-00-675-6518	B-38	30	5330-00-787-7432	B-34	1
5340-00-680-4375	B-3	13	5325-00-799-1019	B-5	4
4730-00-684-4022	B-51	2		B-6	4
5310-00-685-3228	B-22	2		B-7	4
5945-00-686-6877	B-43	25		B-8	11
2920-00-708-0640	B-54	16		B-40	1
5305-00-709-8531	B-25	16		B-41	1
5305-00-709-8540	B-25	5		B-42	1
	B-26	1	4730-00-801-1147	B-51	23
	B-36	2	5365-00-806-0204	B-11	4
5305-00-716-8128	B-22	17	5365-00-808-6933	B-24	18
4730-00-720-4914	B-23	24	4730-00-808-7447	B-2	10
5305-00-724-6736	B-25	12	5310-00-809-3078	B-32	39
5305-00-724-6748	B-25	13	5310-00-809-3079	B-51	3
5305-00-724-6798	B-27	12	5310-00-809-4058	B10	11
5340-00-724-7038	B-10	59		B-18	20
5930-00-728-4328	B-30	23		B-38	10
5945-00-729-1106	B-43	27	6685-00-809-4297	B-30	41
5310-00-732-0558	B-22	7	6685-00-809-4298	B-30	28
	B-27	13	4210-00-809-4862	B-10	7
5315-00-732-1005	B-22	52	5310-00-809-5998	B-28	11
4230-00-735-9931	B-1	5	5310-00-809-8544	B-10	1
4820-00-752-9040	B-50	5		B-27	7
2910-00-752-9138	B-15	8	5310-00-809-8546	B-30	27
5315-00-753-3893	B-32	16	5315-00-809-8786	B-25	15
4730-00-761-3891	B-23	6			

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

STOCK NUMBER	NATIONAL STOCK NUMBER INDEX		STOCK NUMBER	NATIONAL STOCK NUMBER INDEX	
	FIG.	ITEM		FIG.	ITEM
5310-00-811-3494	B-10	62	4730-00-838-6856	B-23	29
5330-00-811-9471	B-12	1		B-33	2
	B-19	2	3030-00-840-9344	B-22	23
	B-35	1	5310-00-842-1190	B-43	16
5330-00-811-9472	B-11	5	5935-00-843-4117	B-30	35
5940-00-813-0698	B-49	7	5315-00-843-7986	B-10	31
	B-49	11	4730-00-845-6678	B-2	6
	B-49	14	5306-00-845-7961	B-37	5
	B-49	25	5930-00-847-9863	B-30	66
	B-49	29	5910-00-850-9074	B-31	28
	B-49	32	5355-00-854-9098	B-13	1
	B-49	35	5305-00-855-0957	B-38	15
	B-49	38	5305-00-855-0962	B-50	6
5940-00-813-0698	B-49	45	5340-00-855-2942	B-51	22
5977-00-814-7558	B-55	7	5320-00-855-7392	B-3	12
4210-00-816-5585	B-10	6		B-38	4
4730-00-816-5589	B-11	1	4730-00-857-3228	B-18	18
4320-00-820-1835	B24	8	4230-00-857-9317	B-11	2
4230-00-820-1846	B-10	8	2805-00-872-5972	B-22	40
4230-00-821-1761	B-32	8	4230-00-872-6992	B-12	3
4320-00-821-1765	B-23	26		B-19	4
4230-00-823-5402	B-23	22	4230-00-872-6994	B-14	3
4730-00-823-5403	B-10	9	4230-00-872-6995	B-14	2
6680-00-825-2076	B-30	33	4410-00-872-7693	B-61	16
5365-00-829-1681	B-24	25	5310-00-877-5797	B-21	11
5330-00-829-2764	B-24	21		B-30	26
4730-00-830-2615	B-12	4	3030-00-880-2020	B-22	22
	B-14	4	5310-00-880-7744	B-30	24
	B-19	5		B-32	37
	B-35	4		B-37	4
5330-00-833-7491	B-43	11		B-38	66
5935-00-834-4904	B-30	62			

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

STOCK NUMBER	NATIONAL STOCK NUMBER INDEX		STOCK NUMBER	FIG. ITEM	
	FIG.	ITEM		FIG.	ITEM
5310-00-880-7745	B-25	2	6210-00-901-9301	B-30	67
	B-26	3	4230-00-902-3225	B-1	3
	B-36	4	4720-00-902-4378	B-10	55
5310-00-880-8189	B-22	14	5930-00-902-5066	B-61	36
	B-25	6	4810-00-902-8452	B-51	35
	B-51	30	4730-00-902-8989	B-51	4
6105-00-881-0553	B-61	26	4730-00-902-8990	B-57	1
5305-00-889-3002	B-23	20	4730-00-902-8991	B-51	14
4730-00-893-9547	B-50	1	5930-00-903-1909	B-38	52
4720-00-900-1615	B-63	5	6140-00-903-4002	B-10	44
4520-00-900-2341	B-51	16	5340-00-903-4764	B-51	1
4730-00-900-3296	B-61	8	4330-00-903-5389	B-52	1
6685-00-900-3723	B-43	1	5320-00-903-5549	B-21	7
	B-43	2	5340-00-903-8585	B-18	5
	B-43	3		B-38	40
6685-00-900-3724	B-50	3	5935-00-904-1381	B-49	57
6685-00-900-3725	B-43	26	5140-00-904-6101	B-8	5
4730-00-900-6279	B-18	9		B-38	8
5945-00-900-6282	B-32	32	5640-00-905-3631	BULK	9
4730-00-900-7521	B-37	1	4730-00-905-6355	B-50	17
4730-00-900-7522	B-32	12	4410-00-906-0980	B-61	21
	B-33	1	4720-00-907-2705	B-30	44
	B-51	28	4320-00-907-8312	B-56	1
4520-00-900-7998	B-53	1	6150-00-908-0782	B-38	32
	B-56	2	4820-00-908-3177	B-43	13
	B-14	1	2920-00-909-3001	B-53	3
5330-00-900-9687	B-22	47	4530-00-909-5908	B-62	1
2990-00-900-9688	B-38	48	9330-00-912-2707	BULK	13
5310-00-901-0585	B-61	7	5310-00-913-8881	B-32	33
4820-00-901-1946	B-61	22	6150-00-915-5752	B-30	60
5330-00-901-5524	B-61	4	5330-00-921-6224	B-22	33
5330-00-901-5525	B-61	10	9390-00-922-6550	BULK	11
5330-00-901-5526	B-10	51	4820-00-923-2517	B-23	7
6680-00-901-9297	B-22	25			
5930-00-901-9300					

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STOCK NUMBER	NATIONAL STOCK NUMBER INDEX		STOCK NUMBER	NATIONAL STOCK NUMBER INDEX	
	FIG.	ITEM		FIG.	ITEM
4720-00-924-4203	B-10	56	5310-00-934-9751	B-43	15
4730-00-924-5331	B-10	36		B-51	18
	B-22	20	5310-00-934-9759	B-61	29
4730-00-924-5497	B-23	8	4730-00-935-5395	B-2	3
5365-00-925-2518	B-30	37		B-38	34
5365-00-925-4026	B-30	42	5340-00-936-2336	B-18	39
4230-00-930-1981	B-32	4	4230-00-938-2836	B-10	33
4820-00-930-1982	B-37	7	6620-00-938-8212	B-30	49
5306-00-930-4269	B-10	49	5305-00-942-2196	B-10	26
5340-00-930-4271	B-27	4		B-18	23
3020-00-930-4277	B-23	25		B-21	5
3040-00-930-4278	B-30	50		B-51	36
2590-00-930-4279	B-10	48	4230-00-943-3858	B-27	11
9320-00-930-4281	B-10	17	4230-00-943-5536	B-3	1
4710-00-930-4402	B-33	6	5330-00-943-5537	B-15	5
4720-00-930-4403	B-34	4	5340-00-945-6759	B-27	1
4730-00-930-4404	B-33	5	4730-00-945-7154	B-23	14
4730-00-930-4405	B-34	2	4730-00-946-1122	B-23	2
5305-00-930-4813	B-22	49	6145-00-946-1361	BULK	18
4230-00-930-4960	B-10	32	4730-00-947-7096	B-10	37
4230-00-930-5472	B-28	6		B-22	21
4230-00-930-5473	B-22	18	4730-00-947-9695	B-23	23
	B-28	10	5940-00-948-9686	B-30	61
5306-00-930-5605	B-28	2		B-31	27
	B-28	9		B-49	22
5310-00-933-8120	B-10	23		B-49	26
	B-15	3	5310-00-951-7209	B-51	10
4710-00-934-1650	B-23	10	5306-00-952-8258	B-18	13
5365-00-934-7852	B-22	37	5305-00-954-3937	B-10	12
6150-00-934-7853	B-22	34		B-18	24
5310-00-934-9751	B-8	8	5305-00-958-0585	B-30	32
	B-27	10	4720-00-961-3522	BULK	7
	B-38	27	4730-00-965-6520	B-34	3

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

STOCK NUMBER	NATIONAL STOCK NUMBER INDEX		STOCK NUMBER	NATIONAL STOCK NUMBER INDEX	
	FIG.	ITEM		FIG.	ITEM
5840-00-974-5159	B-18	34	5305-00-995-3440	B-30	47
	B-21	3	4730-00-995-3527	B-50	15
5310-00-975-2075	B-30	39	5305-01-010-2362	B-28	13
4230-00-980-5004	B-12	2	4710-01-013-9617	BULK	16
	B19	3	2910-01-034-5201	B-10	25
5310-00-984-3806	B-10	27	4230-01-035-2040	B-10	39
	B18	37	4730-01-050-2215	B-35	2
5305-00-984-4988	B-30	56	4730-01-071-8229	B-32	27
	B-54	5	5940-01-079-1647	B-49	64
5305-00-984-6189	B-54	8	4730-01-091-3585	B-2	12
5305-00-984-6191	B-51	26	4720-01-124-3740	BULK	6
	B-54	13	4010-01-124-3741	B-13	3
	B-55	2	4230-01-124-3836	B-10	16
5305-00-984-6193	B-10	57	4230-01-124-3838	B-25	8
5305-00-984-6211	B-54	1	4230-01-128-5859	B-22	8
5975-00-984-6582	B-30	29	4230-01-128-9912	B-23	27
5310-00-984-7042	B-24	2	4230-01-128-9913	B-23	12
5310-00-984-7042	B-32	34	4230-01-129-0837	B-22	51
5305-00-988-1171	B-32	41	5340-01-129-3094	B-6	3
5305-00-988-1720	B-63	4	4230-01-129-3106	B-22	41
5305-00-988-1721	B-38	7	4230-01-132-1610	B-32	5
5305-00-988-1723	B-38	6	3020-01-132-3697	B-25	10
5305-00-988-1724	B-38	22	3020-01-136-1467	B-25	11
5305-00-989-7434	B-21	9	3020-01-136-2216	B-22	50
5305-00-990-6444	B-8	2	4730-01-141-2550	B-23	19
	B-38	2	4230-01-145-7463	B-27	8
	B-43	6	9905-01-147-0851	B-43	19
	B-51	21	9905-01-159-8077	B-43	35
5340-00-990-8712	B-10	46	4730-01-167-2781	B-23	18
5305-00-993-1851	-30	53	5935-01-168-0800	B-48	2
2990-00-994-0827	B-1	2	9905-01-169-7642	B-30	3
5320-00-994-7076	B-3	18	5340-01-181-1645	B-38	17
	B-38	26	5340-01-181-3563	B-3	6
5305-00-995-1102	B-10	45			

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NATIONAL STOCK NUMBER INDEX		NATIONAL STOCK NUMBER INDEX		NATIONAL STOCK NUMBER INDEX	
STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
4030-01-181-3680	B-3	5	5340-01-193-3022	B-3	3
5340-01-183-2905	B-43	18	5340-01-193-3023	B-61	23
5340-01-183-5019	B-5	3	5340-01-193-3024	B-38	44
4520-01-185-9474	B-50	4	6140-01-193-4839	B-10	40
5340-01-186-6421	B-3	15	5315-01-193-7446	B-38	55
5340-01-186-6424	B-3	8	3120-01-194-3320	B-20	8
3040-01-186-6481	B-10	30	5340-01-194-3338	B-3	14
9905-01-187-7529	B-30	8	5340-01-194-3339	B-38	42
5930-01-187-7530	B-61	11	5340-01-194-7194	B-3	4
7690-01-187-7537	B-43	20	6110-01-194-9800	B-30	22
4730-01-087-7539	B-22	29	4230-01-194-9804	B-10	60
4820-01-187-7562	B-22	30	4230-01-194-9805	B-22	6
5340-01-187-7589	B-38	3	4820-01-194-9815	B-25	1
5340-01-188-3170	B-22	10		B-32	28
5340-01-188-3171	B-38	28	4820-01-194-9816	B-23	16
3040-01-189-1198	B-25	7	4230-01-195-1747	B-50	8
5340-01-189-7608	B-38	51	4230-01-195-1748	B-24	24
2990-01-190-1112	B61	27	7690-01-195-1756	B-50	12
4240-01-190-2854	B-32	18	4230-01-195-6464	B-27	5
5340-01-190-6766	B-38	1	4820-01-204-0513	B25	3
5340-01-190-9688	B-3	9		B-36	3
5340-01-191-5340	B-3	16	5340-01-208-5809	B-3	11
4240-01-191-5668	B-28	3	5310-01-213-4845	B-50	7
5430-01-191-5858	B-32	11	9905-01-225-5989	B-38	19
4240-01-193-2984	B-38	47	4520-01-225-5998	B-38	61
9905-01-193-2992	B-30	16	4330-01-225-6023	B-51	12
9905-01-193-2994	B-30	10	2510-01-225-6025	B-28	8
5340-01-193-3016	B-32	17	4820-01-228-7567	B-43	12

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
78357	AMPH4	5340-00-855-2942	B51	22
80204	ANSI B16.3	4730-00-838-6856	B-23	29
88044	AN816-4-4B	4730-00-287-0547	B-30	36
88044	AN911-3	4730-00-186-7799	B-51	11
15182	AN912-1	4730-00-277-9386	B-51	6
88044	AN912-2	4730-00-222-1819	B-51	13
88044	AN912-3	4730-00-194-0215	B-61	30
88044	AN914-8C	4730-00-585-2307	B-23	4
88044	AN916-2	4730-00-231-5622	B-30	38
			B-43	8
88044	AN935-416	5310-00-582-5965	B-10	53
			B-37	9
88044	AN960-8	5310-00-515-8058	B-54	11
81346	ASTM A 519-74	4710-01-013-9617	BULK	16
81346	ASTM A120	4710-00-162-1020	BULK	12
81346	ASTM A366	9515-00-237-1855	BULK	10
01029	A36TT-3/4	4820-00-007-2251	B-10	38
07860	A46070	4730-00-022-2499	B-22	31
78357	BVHC4F	4730-00-801-1147	B-51	23
93480	BW1044	4730-00-249-3919	B-38	35
81361	B1/G		B-49	62
16004	B47457	5330-00-297-5948	B-22	45
81361	B5-45-2590	4730-00-808-7447	B-2	10
81361	B5-45-2635	5330-00-811-9471	B-12	1
			B-19	2
			B-35	1
81361	B5-45-2682	4230-00-872-6992	B-12	3
			B-19	4
81361	B5-45-2691		B-32	25
81361	B5-45-2754	5330-00-829-2764	B-24	21
81361	B5-45-2770	5365-00-829-1681	B-24	25
81361	B5-45-2775	5330-00-446-1694	B-24	6
81361	B5-45-2777	5330-00-030-3212	B-24	4

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
81361	B5-45-2889	9390-00-922-6550	BULK	11
81361	B5-45-2889-1	5330-00-345-7854	B-32	7
81361	B5-45-2889-3		B-33	4
81361	B5-45-2930	4230-00-980-5004	B-12	2
			B-19	3
81361	B5-45-2934	5330-00-811-9472	B-11	5
81361	B5-45-2990	5340-01-186-6421	B-3	15
81361	B5-45-5992	3040-01-186-6481	B-10	30
81361	B5-45-2993-01		B-22	16
81361	B5-45-2993-02		B-22	15
81361	B5-45-3015-10	4730-00-924-5331	B-10	36
			B-22	20
81361	B5-45-3015-11	4710-00-934-1650	B-23	10
81361	B5-45-3015-12	4730-00-924-5497	B-23	8
81361	B5-45-3015-13		B-32	24
81361	B5-45-3015-14		B-23	13
31361	B5-45-3015-2		B-19	1
			B-23	28
81361	B5-45-3015-3		B-23	11
81361	B5-45-3015-7	4730-00-930-4404	B-33	5
81361	B5-45-3015-8		B-23	5
81361	B5-45-3017-1	5365-00-925-4026	B-30	42
81361	B5-45-3017-2	5365-00-925-2518	B-30	37
81361	B5-45-3020-5	4730-00-761-3891	B-23	6
81361	B5-45-3020-7		B-23	6
81361	B5-45-3027		B-18	35
81361			B-20	7
81361	B5-45-3035		B-20	4
81361	B5-45-3038	5840-00-974-5159	B-18	34
			B-21	3
81361	B5-45-3039		B-21	4
81361	B5-45-3067		B-20	3
81361	B5-45-3068		B-20	6

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
81361	B5-45-3074	9320-00-930-4281	B-10	17
81361	B5-45-3089	3110-00-157-6060	B-20	5
81361	B5-45-3090	3020-01-136-1467	B-25	11
81361	B5-45-3093	4820-00-456-9789	B-30	46
81361	B5-45-3097-1		B-5	2
81361	B5-45-3097-10		B-18	26
81361	B5-45-3097-11		B-18	30
81361	B5-45-3097-12		B-18	28
81361	B5-45-3097-2		B-5	1
			B-6	1
			B-18	27
81361	B5-45-3097-3		B-6	2
81361	B5-45-3097-4		B-7	1
			B-8	4
81361	B5-45-3097-5		B-8	3
81361	B5-45-3097-6		B-7	2
			B-18	29
81361	B5-45-3097-7		B-10	19
81361	B5-45-3101	4240-01-191-5668	B-28	3
81361	B5-45-3109-1	4230-00-930-5473	B-22	18
			B-28	10
81361	B5-45-3109-2	4230-00-930-5472	B-28	6
81361	B5-45-3119	5306-00-930-5605	B-28	2
			B-28	9
81361	B5-45-3128	4710-00-930-4402	B-33	6
81361	B5-45-3130-1	5330-00-787-7417	B-2	5
81361	B5-45-3130-2	5330-00-787-7432	B-34	1
81361	B5-45-3132-1	4730-00-900-7522	B-32	12
			B-33	1
81361	B5-45-3132-2	4730-00-900-7521	B-18	9
			B-32	32
			B-37	1
81361	B5-45-3132-3	4730-00-935-5395	B-38	34
81361	B5-45-3134	6140-00-903-4002	B-10	44

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FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
81361	B5-45-3134-1		B-17	3
81361	B5-45-3135		B-32	19
81361	B5-45-3136	5306-00-930-4269	B-10	49
81361	B5-45-3137		B-10	47
81361	B5-45-3137-1		B-16	3
81361	B5-45-3147	2590-00-930-4279	B-10	48
81361	B5-45-3153	4230-00-930-1981	B-12	4
81361	B5-45-3157-1	4230-01-195-6464	B-27	5
81361	B5-45-3159	5340-00-930-4271	B-27	4
81361	B5-45-3160	5340-00-945-6759	B-27	1
81361	B5-45-3161	4230-00-943-3858	B-27	11
81361	B5-45-3165	2990-00-900-9688	B-22	47
81361	B5-45-3174-2	4730-00-930-4405	B-34	2
81361	B5-45-3185-2	4710-00-082-4920	B-2	7
81361	B5-45-3189		B-32	43
81361	B545-3195	4720-00-907-2705	B-30	44
81361	B5-45-3200	5330-00-900-9687	B-14	1
81361	B5-45-3201	4230-00-872-6995	B-14	2
81361	B5-45-3202	4230-00-872-6994	B-14	3
81361	B5-45-3205	5305-00-930-4813	B-22	49
81361	B5-45-3208	5930-00-065-1932	B-30	65
81361	B5-45-3209	5940-00-195-5487	B-30	59
81361	B5-45-3215	5930-00-901-9300	B-22	25
81361	B5-45-3225	5330-00-943-5537	B-15	5
81361	B5-45-3239		B-8	6
81361	B5-45-3246-1	5365-00-934-7852	B-22	37
81361	B5-45-3246-2		B-22	36
81361	B5-45-3267	4230-00-938-2836	B-10	33
81361	B5-45-3268	5340-00-460-3956	B-18	8
81361	B5-45-3273	3020-01-132-3697	B-25	10
81361	B5-45-3274	4230-01-124-3838	B-25	8
81361	B5-45-3287		B-30	54
81361	B5-45-3289	4230-01-194-9804	B-10	60
81361	B5-45-3298	9905-01-187-7529	B-30	8

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
81361	B5-45-3304	7690-01-187-7537	B-43	20
81361	B5-45-3306	4820-01-187-7562	B-22	30
81361	B5-45-3307	4730-01-187-7539	B-22	29
81361	B5-59-274		B-38	60
81361	B5-59-295		B-61	32
81361	B5-59-296		B-61	31
81361	B5-59-299	5330-00-901-5524	B-61	22
81361	B5-59-300	5330-00-901-5525	B-61	4
81361	B5-59-306		B-43	34
81361	B5-59-307		B-43	21
81361	B5-59-308	9905-01-159-8077	B-43	35
81361	B5-59-309	9905-01-147-0851	B-43	19
81361	B5-59-322	4730-00-878-0095	B-38	54
81361	B5-59-339	5930-00-902-5066	B-61	36
81361	B5-59-343	5330-00-901-5526	B-61	10
81361	B5-59-345		B-51	15
81361	B5-59-345		B-57	2
81361	B5-59-346		B-51	17
81361	B5-59-346-1		B-58	2
81361	B5-59-347		B-51	5
81361	B5-59-347-1		B-60	2
81361	B5-59-349		B-38	49
81361	B5-59-349-1		B-45	2
81361	B5-59-350		B-61	13
81361	B5-59-350-1		B-65	2
81361	B5-59-381	5340-00-908-8585	B-18	5
			B-38	40
81361	B5-59-393		B-51	8
81361	B5-59-393-1		B-59	2
81361	B5-59-394		B-61	25
81361	B5-59-394-1		B-64	2
81361	B5-59-403		B-38	9
81361	B5-59-407	5340-01-188-3171	B-38	28
81361	B5-59-409	5935-00-904-1381	B-49	57

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
81361	B5-59-410	5975-00-295-9697	B-38	45
81361	B5-59-412		B-43	4
81361	B5-59414		B-43	31
81361	B5-59-415		B-43	28
81361	B5-59-421	5315-01-193-7446	B-38	55
81361	B5-59-422		B-38	53
81361	B5-59-451	7690-01-195-1756	B-50	12
81361	CB1-A/M4-B		B-31	26
99862	CL-22-KA-18	4010-01-124-3741	B-13	3
81349	CM5ED330G03	5910-00-850-9074	B-31	28
78189	C4008-14-00	5310-00-261-6192	B-55	3
81361	C5-45-2563	4230-00-820-1846	B-10	8
81361	C5-45-2598	4820-00-018-3077	B-37	3
81361	C5-45-2627-9	4730-00-277-5644	B-18	10
81361	C5-45-2641-1		B-18	6
81361	C5-45-2646	6685-00-809-4297	B-30	41
81361	C5-45-2656	4230-00-823-5402	B-23	22
81361	C5-45-2699	4210-00-809-4862	B-10	7
81361	C5-45-2700	4730-00-816-5589	B-11	1
81361	C5-45-2701	4210-00-816-5585	B-10	6
81361	C5-45-2723	4730-00-857-3228	B-18	18
81361	C5-45-2735-10		B-10	5
81361	C5-45-2736-2		B-12	5
81361	C5-45-2736-7	4720-00-071-0615	B-35	5
81361	C5-45-2736-8		B-19	6
81361	C5-45-2736-9		B-19	7
81361	C5-45-2739	4230-00-821-1761	B-32	8
81361	C5-45-2740	6685-00-809-4298	B-30	28
81361	C5-45-2750		B-24	11
81361	C5-45-2751		B-24	14
81361	C5-45-2755		B-24	17
81361	C5-45-2768		B-24	9
81361	C5-45-2774	4320-00-820-1835	B-24	8

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
81361	C5-45-2798	4720-00-930-4403	B-34	4
81361	C5-45-2845		B-33	3
81361	C5-45-2862-2	3040-00-930-4278	B-30	50
81361	C5-45-2711		B-11	6
81361	C5-45-2920	4820-00-061-1952	B-11	7
81361	C5-45-2932	4730-00-823-5403	B-10	9
81361	C5-45-2964		B-28	1
81361	C5-45-2964	2510-01-225-6025	B-28	8
81361	5-45-2972-10		B-3	17
81361	C5-45-2973	5340-01-186-6424	B-3	8
81361	C5-45-2974	5340-01-190-9688	B-3	9
81361	C5-45-2975	5340-01-194-7194	B-3	4
81361	C5-45-2976		B-18	1
81361	C5-45-2977	5340-01-194-3338	B-3	14
81361	C5-45-2978	5340-01-191-5340	B-3	16
81361	C5-45-2979	5340-01-193-3022	B-3	3
81361	C5-45-2980	4230-01-128-9913	B-23	12
81361	C5-45-2981	4230-01-128-9912	B-23	27
81361	C5-45-2982		B-18	22
81361	C5-45-2982-2	3120-01-194-3320	B-20	8
81361	C5-45-2986		B-10	3
81361	C5-45-2991	4230-00-930-4960	B-10	32
81361	C5-45-2994		B-18	31
81361	C5-45-2995		B-10	18
81361	C5-45-3001	4230-01-132-1610	B-32	5
81361	C5-45-3001-3		B-32	6
81361	C5-45-3002-1		B-10	13
81361	C5-45-3002-2		B-10	10
81361	C5-45-3005-20	5340-01-193-3016	B-32	17
81361	C5-45-3005-30	4240-01-190-2854	B-32	18
81361	C5-45-3011	5340-01-181-3563	B-3	6
81361	C5-45-3012		B-3	7
81361	C5-45-3015-15	4730-01-141-2550	B-23	19
81361	C5-45-3033-1		B-21	6

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
81361	C5-45-3033-2		B-21	1
81361	C5-45-3066		B-20	2
81361	C5-45-3096	5340-01-183-5019	B-5	3
81361	5-45-3098-1	5340-01-129-3094	B-6	3
81361	C5-45-3099	4230-00-127-2560	B-7	3
81361	C5-45-3100		B-8	1
81361	C5-45-3146	6140-01-193-4839	B-10	40
81361	C5-45-3157	4230-01-129-3106	B-22	41
81361	C5-45-3164	4230-01-129-0837	B-22	51
81361	C5-45-3178		B-32	14
81361	C5-45-3180	3020-01-136-2216	B-22	50
81361	C5-45-3181	3020-00-930-4277	B-23	25
81361	C545-3183	4230-00-735-9931	B-1	5
81361	C5-45-3185-1		B-2	4
81361	C5-45-3190		B-32	1
81361	C5-45-3191	4230-01-128-5859	B-22	8
81361	C5-45-3192		B-18	16
81361	C5-45-3199		B-10	35
81361	C5-45-3216-10		B-18	19
81361	C5-45-3216-20		B-18	25
81361	C5-45-3228	4230-01-145-7463	B-27	8
81361	5-45-3229	5340-01-188-3170	B-22	10
81361	C5-45-3230	5306-00-952-8258	B-18	13
81361	C5-45-3232		B-22	3
81361	C5-45-3247	6150-00-934-7853	B-22	34
81361	C5-45-3248		B-10	61
81361	5-45-3255	5340-00-936-2336	B-18	39
81361	C5-45-3256	2990-00-994-0827	B-1	2
81361	C5-45-3265		B-14	5
81361	C5-45-3266	4030-01-181-3680	B-3	5
81361	C5-45-3266-1		B-9	2
81361	C5-45-3270	4230-00-301-4104	B-23	1
81361	C5-45-3271		B-22	24
81361	C5-45-3272		B-23	17

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
81361	C5-45-3276-4	4820-01-194-9816	B-23	16
81361	C5-45-3276-5	4820-01-194-9815	B-25	1
			B-32	28
81361	C5-45-3278	4820-01-220-0847	B-23	7
81361	C5-45-3281		B-22	42
81361	C5-45-3282	4820-01-261-6003	B-23	7
81361	C5-45-3285		B-27	9
81361	C5-45-3290	4230-01-194-9805	B-22	6
81361	C5-45-3299		B-25	14
81361	C5-45-3303		B-32	35
81361	C5-45-3305		B-32	40
81361	C5-45-3308	5340-01-187-7589	B-38	3
81361	C5-45-3310	3040-01-189-1198	B-25	7
81361	C5-45-3311	4230-01-195-1748	B-24	24
81361	C5-59-203-1	6685-00-900-3724	B-43	2
81361	C5-59-203-2	6685-00-900-3725	B-43	3
81361	C5-59-213	5340-01-193-3023	B-61	23
81361	C5-59-217		B-63	2
81361	C5-59-218		B-38	56
81361	C5-59-218-1		B-49	1
81361	C5-59-218-10		B-29	27
81361	C5-59-218-11		B-49	30
81361	C5-59-218-12		B-49	33
81361	C5-59-218-13		B-49	36
81361	C5-59-218-14		B-49	40
81361	C5-59-218-15		B-49	43
81361	C5-59-218-16		B-49	47
81361	C5-59-218-17		B-49	50
81361	C5-59-218-18		B-49	54
81361	C5-59-218-19		B-49	58
81361	C5-59-218-2		B-49	2
81361	C5-59-218-20		B-49	61
81361	C5-59-218-3		B-49	5
81361	C5-59-218-4		B-49	8

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
81361	C5-59-218-5		B-49	12
81361	C5-59-218-6		B-49	15
81361	C5-59-218-7		B-49	16
81361	C5-59-218-8		B-49	19
81361	C5-59-218-9		B-49	23
81361	C5-59-226-1		B-38	21
81361	C5-59-226-2		B-38	20
81361	C5-59-268		B-51	31
81361	C5-59-294	2990-01-190-1112	B-61	27
81361	C5-59-302		B-61	3
81361	C5-59-305		B-43	5
81361	C5-59310		B-43	30
81361	C5-59-317		B-32	3
			B-38	33
81361	C5-59-318-2	4720-00-900-1615	B-50	1
81361	C5-59-321	4820-00-901-1946	B-61	7
81361	C5-59-327		B-38	25
81361	C5-59-328		B-38	16
81361	C5-59-329		B-38	24
81361	C5-59-332	6685-00-900-3723	B-43	1
81361	C5-59-341	4410-00-906-0980	B-61	21
81361	C5-59-344	4330-01-225-6023	B-51	12
81361	C5-59-344-1		B-52	3
81361	C5-59-344-2		B-52	5
81361	C5-59-352		B-38	59
81361	C5-59-352-1		B-47	2
81361	C5-59-360	6150-00-908-0782	B-38	32
81361	C5-59-360-1		B-48	3
81361	C5-59-369	4320-00-907-8312	B-56	1
81361	C5-59-373		B-51	27
81361	C5-59-386	4820-00-908-3177	B-43	13
81361	C5-59-387	4820-01-228-7567	B-43	12
81361	C5-59-396		B-38	41
81361	C5-59-398		B-43	23

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
81361	C5-59-398-1		B-44	2
81361	C5-59-399	5340-01-183-2905	B-43	18
81361	C5-59-405		B-38	57
81361	C5-59-405-1		B-46	2
81361	C5-59-413	9905-01-225-5989	B-38	19
81361	C5-59-418		B-39	1
81361	C5-59-450	5930-01-187-7530	B-61	11
81361	C5-59-457	4230-01-195-1747	B-50	8
80691	D101	4730-01-050-2215	B-35	2
81361	D150-1-13-2	5340-00-903-4764	B-51	1
51064	D25593		B-55	1
51064	D25594-1	5977-00-814-7558	B-55	7
51064	D25807		B-55	5
51064	D25808-1		B-55	4
81361	D5-45-2776		B-24	3
81361	D5-45-2835	4320-00-821-1765	B-23	26
81361	D5-45-2967	4230-01-035-2040	B-10	39
81361	D5-45-2975-2		B-4	1
81361	D5-45-2988		B-22	44
81361	D5-45-2996	4230-01-124-3836	B-10	16
81361	D5-45-2997	5340-01-208-5809	B-3	11
81361	D5-45-3029		B-22	19
81361	D5-45-3029 ITEM 6	4730-00-946-1122	B-23	2
81361	D5-45-30291 TEM17	4730-00-945-7154	B-23	14
81361	D5-45-30291 TEM20	4730-00-947-9695	B-23	23
81361	D5-45-3117	5430-01-191-5858	B-32	11
81361	D5-45-31171 TEM15	4730-00-838-6856	B-33	2
81361	D5-45-31171TEM16		B-33	7
81361	D5-45-3127	2910-01-034-5201	B-10	25
81361	D5-45-3127-1		B-15	6
81361	D5-45-3186		B-1	4
81361	D5-45-3203-1		B-32	22
81361	D5-45-3203-10		B-30	4

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
81361	D5-45-3203-11	9905-01-193-2992	B-30	16
81361	D5-45-3203-12		B-30	7
81361	D5-45-3203-13		B-30	14
81361	D5-45-3203-14		B-30	6
81361	D5-45-3203-15		B-30	12
81361	D5-45-3203-16		B-30	9
81361	D5-45-3203-17		B-30	5
81361	D5-45-3203-18		B-30	18
81361	D5-45-3203-19	9905-01-193-2994	B-30	10
81361	D5-45-3203-2		B-30	21
			B-32	30
81361	D5-45-3203-21		B-30	13
81361	D5-45-3203-22		B-30	20
81361	D5-45-3203-23		B-30	1
81361	D5-45-3203-24	9905-01-169-7642	B-30	3
81361	D5-45-3203-3		B-32	10
81361	D5-45-3203-4		B-18	11
81361	D5-45-3203-5		B-18	2
81361	D5-45-3203-6		B-30	15
81361	D5-45-3203-7		B-30	17
81361	D5-45-3203-8		B-30	19
81361	D5-45-3203-9		B-30	2
81361	D5-45-3217-1	4820-00-923-2517	B-23	7
81361	D5-45-3227		B-30	51
81361	D5-45-3231		B-10	50
81361	D5-45-3233	4230-00-902-3225	B-1	3
81361	D5-45-3235		B-3	10
81361	D5-45-3236		B-10	52
81361	D5-45-3237	6150-00-915-5752	B-30	60
81361	D5-45-3240	5140-00-904-6101	B-8	5
			B-38	8
81361	D5-45-3241		B-18	38
81361	D5-45-3248-11		B-31	1
81361	D5-45-3248-12		B-31	4

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
81361	D5-45-3248-13		B-31	7
81361	D5-45-3248-14		B-31	10
81361	D5-45-3248-15		B-31	13
81361	D5-45-3248-16		B-31	16
81361	D5-45-3248-17		B-31	19
81361	D5-45-3248-18		B-31	22
81361	D5-45-3248-19		B-31	25
81361	D5-45-3248-20		B-31	29
81361	D5-45-3248-21		B-31	32
81361	D5-45-3248-22		B-31	35
81361	D5-45-3248-23		B-31	38
81361	D5-45-3248-24		B-31	41
81361	D5-45-3248-25		B-31	44
81361	D5-45-3248-26		B-31	47
81361	D5-45-3248-31		B-31	50
81361	D5-45-3250		B-10	22
81361	D5-45-3280	6680-00-901-9297	B-10	51
81361	D5-45-3288		B-22	9
81361	D5-45-3312	3020-01-094-3303	B-22	13
81361	D5-45-3313	6110-01-194-9800	B-30	22
81361	D5-59-201		B-61	5
81361	D5-59-202	6105-00-881-0553	B-51	30
81361	D5-59-210		B-38	56
81361	D5-59-238	4520-00-900-2341	B-63	5
81361	D5-59-247		B-61	33
81361	D5-59-252	2920-00-909-3001	B-53	3
81361	D5-59-265	6105-00-608-0533	B-63	1
81361	D5-59-273		B-38	12
81361	D5-59-311		B-38	31
81361	D5-59-311-9		B-50	13
81361	D5-59-325	5340-01-193-3024	B-38	44
81361	D5-59-336	4410-00-191-3142	B-38	36
81361	D5-59-336	5340-01-189-7608	B-38	51

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
81361	D5-59-364	5340-01-181-1645	B-38	17
81361	D5-59-374	4410-00-872-7693	B-61	16
81361	D5-45-59-377		B-61	20
81361	D5-59-395	5340-01-194-3339	B-38	42
81361	D5-59-417	4410-00-057-0225	B-61	34
81361	D5-59-459	4520-01-185-9474	B-50	4
81361	E150-1-12-1	4730-00-905-S355	B-50	17
81361	E5-45-2756		B-24	23
81361	E5-45-2984		B-18	41
81361	E5-45-2984-6		B-21	2
81361	E5-45-3221	4230-00-943-5536	B-3	1
81361	E5-59-200	4410-00-542-5656	B-1	1
81361	E5-59-257		B-43	33
81361	E5-59-258		B-51	32
81361	E5-59-285	4520-01-225-5998	B-38	61
81361	E5-59-301	4240-01-193-2984	B-38	47
81361	E5-59-323	4410-00-191-3124	B-38	5
81361	E5-59-362		B-38	65
81361	E5-59-365	5340-01-190-6766	B-38	1
13800	E94RT	4330-00-903-5389	B-52	1
71041	FB1012-8	3120-00-525-8667	B-25	9
81348	FFS107TYPEFPPOINT	5305-00-995-1102	B-10	45
70040	FGS3	6680-234-2111	B-15	4
74193	JAl-B3-A-20-2	5925-00-163-6547	B-30	58
81361	J1-H/S4-A		B-31	30
81361	K1-A1/MOT		B-49	55
81361	K1-A2/K2-A2		B-49	48
81361	K1-X1/S4-1		B-49	41
81361	K1-X2/G		B-49	44
81361	K2-A1/S3		B-49	9
81361	K2-A1/TD1-7		B-49	51
81361	K2-A2/S2		B-49	20
81361	K2-A2-TD1-5		B-49	59

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
81361	K2-X1/G		B-49	37
81361	K2-X1/G		B-49	37
82796	K2498		B-54	14
81361	LM5-45-31351TEM2 1		B-32	26
81361	LM5-45-31831TEM2 3		B-32	13
81349	MILA7021	5330-00-527-9900	BULK	2
81349	MILC5756B	6145-00-548-1076	BULK	3
81349	MILG432	5330-00-298-7165	BULK	5
81349	MILR46089	9320-00-262-2274	BULK	14
81349	MILT3520		BULK	17
99974	MM2946	6145-00-500-3079	BULK	20
99974	MM3565	6145-00-295-2814	BULK	19
72661	MS11	4730-00-202-6771	B-35	3
96906	MS14307-1	4730-00-277-5683	B-22	35
96906	MS15003-1	4730-00-050-4208	B-24	20
			B-25	4
			B-26	2
			B-36	1
96906	MS15569-7	6240-00-019-0878	B-30	52
96906	MS16562-226	5315-00-753-3893	B-32	16
96906	MS16562-33	5315-00-843-7986	B-10	31
96906	MS16562-51	5315-00-809-8786	B-25	15
96906	MS16625-4156	5365-00-806-0204	B-11	4
96906	MS16630-4100	5365-00-808-6933	B-24	18
96906	MS16633-1015	5365-00-200-7377	B-54	3
96906	MS18064-9	5305-00-773-2708	B-43	17
96906	MS18154-58	5305-00-115-9526	B-18	40
			B-27	3
			B-38	63
96906	MS18154-59	5305-01-010-2362	B-28	13
96906	MS1854-60	5305-00-942-2196	B-10	26

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
			B-18	23
			B-21	5
			B-51	36
96906	MS20066-381	5315-00-732-1005	B-22	52
96906	MS20470B3-4	5320-00-119-6819	B-38	18
96906	MS20613-4P4	5320-00-994-7076	B-3	18
			B-38	26
96906	MS20613-4P7	5320-00-855-7392	B-3	12
			B-38	4
96906	MS20822-4-4K	4730-00-282-7460	B-23	21
96906	MS20913-8S	4730-00-221-2141	B-2	1
96906	MS21044-N08	5310-00-811-3494	B-10	62
96906	MS21044C3	5310-00-208-9255	B-13	4
96906	MS21044N3	5310-00-877-5797	B-21	11
			B-30	26
96906	MS21316-56	5305-00-078-7039	B-32	15
96906	MS21318-20	5305-00-253-5614	B-18	3
			B-30	11
			B-32	9
96906	MS21333-76	5340-00-724-7038	B-10	59
96906	MS21334-5	5340-00-990-8712	B-10	46
96906	MS24166D1	5945-00-686-6877	B-43	25
96906	MS24541-2	6620-00-938-8212	B-30	49
96906	MS24629-3	5305-00-855-0962	B-50	6
96906	MS24629-46	5305-00-855-0957	B-38	15
96906	MS24661-9	5320-00-903-5549	5549	B-21
96906	MS24665-1012	5315-00-200-3586	B-27	6
96906	MS24665-302	5315-00-234-1864	B-24	16
96906	MS25036-101	5940-00-813-0698	B-49	7
			B-49	11
			B-49	14
			B-49	25
			B-49	29

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
			B-49	32
			B-49	35
			B-49	38
			B-49	45
96906	MS25036-103	5940-00-143-4771	B-49	4
			B-49	10
			B-49	18
			B-49	21
			B-49	39
			B-49	46
			B-49	60
96906	MS25036-108	5940-00-143-4780	B-10	20
			B-30	63
			B-31	3
			B-31	6
			B-31	9
			B-31	12
			B-31	15
			B-31	18
			B-31	21
			B-31	24
			B-31	31
			B-31	34
96906	MS25036-108	5940-00-143-4780	B-31	37
			B-31	40
			B-31	43
			B-31	46
			B-31	49
			B-31	52
96906	MS25036-112	5940-00-143-4794	B-48	4
			B-49	49
			B49	52
			B-49	56

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
96906	MS25036-127	5940-00-113-8191	B-16	2
			B-17	2
96906	MS25036-157	5940-00-143-4777	B-49	42
			B-49	63
96906	MS25043-16D	5935-00-137-4671	B-10	58
96906	MS25089-1C	5930-00-847-9863	B-30	66
96906	MS25089-2C	5930-00-253-0426	B-30	64
96906	MS25306-222	5930-00-728-4328	B-30	23
96906	MS27020-6	4730-00-516-4450	B-2	8
			B-18	4
			B-38	39
96906	MS27022-6	4730-00-935-5395	B-2	3
96906	MS27024-6	4730-00-845-6678	B-2	6
96906	MS27144-1	5935-00-167-7775	B-49	53
96906	MS27183-10	5310-00-809-4058	B-10	11
			B-18	20
			B-38	10
96906	MS27183-11	5310-00-809-3078	B-32	39
96906	MS27183-12	5310-00-081-4219	B-10	28
			B-18	33
96906	MS27183-14	5310-00-080-6004	B-10	15
			B-18	17
			B-22	4
96906	MS27183-18	5310-00-809-5998	B-28	11
96906	MS27183-19	5310-00-809-3079	B-51	3
96906	MS27183-22	5310-00-951-7209	B-51	10
96906	MS27183-6	5310-00-082-1404	B-54	7
96906	MS27183-7	5310-00-809-8544	B-10	1
			B-27	7
96906	MS27183-8	5310-00-809-8546	B-30	27
96906	MS28775-217	5330-00-579-7914	B-50	10
96906	MS28778-5	5330-00-833-7491	B-43	11
96906	MS3105-16	5935-00-843-4117	B-30	35

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
96906	MS3106R18-1P	5935-00-834-4904	B-30	62
96906	MS3108B16-12S	5935-00-276-9413	B-48	1
96906	MS3367-1-0	5975-00-984-6582	B-30	29
96906	MS3367-1-9	5975-00-074-2072	B-38	46
96906	MS35059-23	5930-00-655-1582	B-43	29
96906	MS35190-290	5305-00-954-3937	B-10	12
			B-18	24
96906	MS35206-228	5305-00-984-4988	B-30	56
96906	MS35206-228	5305-00-984-4988	B-56	5
96906	MS35206-241	5305-00-984-6189	B-54	8
96906	MS35206-242	5305-00-889-3002	B-61	26
96906	MS35206-243	5305-00-984-6191	B-51	26
			B-54	13
			B-55	2
96906	MS35206-245	5305-00-984-6193	B-10	57
96906	MS35206-264	5305-00-984-6211	B-54	1
96906	MS35206-276	5305-00-988-1720	B-63	4
96906	MS35206-277	5305-00-988-1721	B-38	7
96906	MS35206-279	5305-00-988-1723	B-38	6
96906	MS35206-280	5305-00-988-1724	B-38	22
96906	MS35206-285	5305-00-988-1171	B-32	41
96906	MS35207-261	5305-00-990-6444	B-8	2
			B-38	2
			B-43	6
			B-51	21
96906	MS35207-263	5305-00-989-7434	B-21	9
96906	MS35207-267	5305-00-993-1851	B-30	53
96906	MS35207-270	5305-00-995-3440	B-30	47
96906	MS35207-272	5305-00-958-0585	B-30	32
96906	MS35214-42	5305-00-637-1123	B-55	6
96906	MS35307-358	5305-00-632-2777	B-32	42
96906	MS35307-360	5305-00-576-5417	B-24	1
96906	MS35333-35B	5310-01-213-4845	B-50	7

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
96906	MS35333-37	5310-00-579-0079	B-30	57
96906	MS35333-38	5310-00-559-0070	B-51	25
			B-54	9
96906	MS35333-39	5310-00-576-5752	B-8	7
			B-38	14
			B-43	14
			B-51	19
			B-54	2
96906	MS35333-40	5310-00-550-1130	B-38	23
			B-51	34
			B-61	2
			B-63	3
96906	MS35333-41	5310-00-167-0721	B-38	67
			B-61	17
96906	MS35333-42	5310-00-595-7237	B-38	64
			B-51	37
96906	MS35333-43	5310-00-685-3228	B-22	2
96906	MS35333-44	5310-00-194-1483	B-22	11
96906	MS35333-72	5310-00-543-2739	B-61	28
96906	MS35338-138	5310-00-933-8120	B-10	23
			B-15	3
96906	MS35338-141	5310-00-984-7042	B-24	2
			B-32	34
96906	MS35338-41	5310-00-045-4007	B-30	25
			B-54	6
96906	MS35338-42	5310-00-045-3299	B-54	12
96906	MS35338-44	5310-00-582-5965	B-32	21
96906	MS35338-45	5310-00-407-9566	B-10	43
			B-22	48
			B-32	38
96906	MS35338-46	5310-00-637-9541	B-18	36
			B-22	46
			B-27	2

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
			B-28	5
			B-28	14
			B-30	40
96906	MS35489-11	5325-00-291-9366	B-38	43
			B-43	32
96906	MS35489-14	5325-00-276-6100	B-61	15
96906	MS35489-25	5325-00-515-9685	B-38	38
96906	MS35489-3	5325-00-276-6101	B-38	50
96906	MS35489-46	5325-00-185-0001	B-38	62
96906	MS35489-7	5325-00-174-5315	B-43	22
			B-61	14
96906	MS35645-1	2910-00-141-9758	B-15	1
96906	MS35649-284	5310-00-934-9759	B-61	29
96906	MS35649-83	5310-00-275-9310	B-51	24
96906	MS35650-302	5310-00-934-9751	B-8	8
			B-27	10
			B-38	27
			B-43	15
			B-51	18
96906	MS35691-21	5310-00-975-2075	B-30	39
96906	MS35691-61	5310-00-842-1190	B-43	16
96906	MS35751-16	5306-00-845-7961	B-37	5
96906	MS35756-15	5315-00-616-5530	B-24	15
96906	MS35756-9	5315-00-616-5525	B-24	13
96906	MS35782-4	4820-00-752-9040	B-50	5
96906	MS35916-2	6680-00-825-2076	B-30	33
96906	MS39157-3	4730-00-277-6988	B-38	58
96906	MS39158-3	4730-00-900-3296	B-51	16
			B-61	8
96906	MS39162-3	4730-00-254-6211	B-43	24
			B-51	9
96906	MS39162-5	4730-00-902-8991	B-51	14
96906	MS39163-3	4730-00-902-8989	B-51	4

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
96906	MS39164-3	4730-00-570-2929	B-43	10
			B-51	7
96906	MS39166-3	4730-00-011-6452	B-44	1
			B-45	1
			B-46	1
			B-47	1
			B-58	1
			B-59	1
			B-60	1
			B-64	1
			B-65	1
96906	MS39166-5	4730-00-902-8990	B-57	1
96906	MS39230-10	4730-00-253-4420	B-32	31
96906	MS39230-6	4730-00-254-2744	B-61	35
96906	MS51851-65	5305-00-191-3641	B-3	2
			B-10	2
			B-18	12
96906	MS51922-1	5310-00-088-1251	B-10	4
			B-18	21
96906	MS51922-17	5310-00-087-4652	B-10	14
			B-18	14
			B-20	1
96906	MS51922-33	5310-00-225-6993	B-28	12
96906	MS51922-9	5310-00-984-3806	B-10	27
			B-18	37
96906	MS51937-5	5306-00-050-0347	B-9	3
96906	MS51952-1	4730-00-053-0266	B-50	11
96906	MS51953-121	4730-00-196-1469	B-2	11
96906	MS51953-125	4730-00-196-1501	B-2	9
96906	MS51953-199	4730-00-196-1572	B-23	3
96906	MS51953-80B	4730-00-188-1880	B-61	6
96906	MS51958-63	5305-00-059-3859	B-10	24
			B-13	2

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
			B-15	2
96906	MS51960-65	5305-00-071-1322	B-38	29
96906	MS51964-49	5305-00-724-6798	B-27	12
96906	MS51965-52	5305-00-724-6736	B-25	12
96906	MS51965-66	5305-00-724-6748	B-25	13
96906	MS51967-11	5310-00-880-8189	B-22	14
			B-25	6
96906	MS51967-2	5310-00-761-6882	B-32	20
			B-37	10
			B-38	11
			B-61	12
96906	MS51967-20	5310-00-763-8920	B-10	34
96906	MS51967-5	5310-00-880-7744	B-30	24
			B-32	37
			B-37	4
			B-38	66
96906	MS51967-8	5310-00-732-0558	B-22	7
			B-27	13
96906	MS51968-11	5310-00-880-7745	B-25	2
			B-26	3
			B-36	4
96906	MS51971-3	5310-00-913-8881	B-32	33
96906	MS70087-1	4030-00-360-0304	B-9	1
			B-32	2
			B-38	13
96906	MS75004-1	5940-00-549-6581	B-17	1
96906	MS75004-2	5940-00-549-6583	B-16	1
96906	MS75047-1	6140-00-059-3528	B-10	41
96906	MS87006-3	4030-00-270-5436	B-18	7

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
96906	MS90723-14	5310-00-901-0585	B-38	48
96906	MS90725-1	5305-00-068-0498	B-10	54
96906	MS90725-109	5305-00-044-4153	B-22	12
96906	MS90725-117	5305-00-716-8128	B-22	17
96906	MS90725-14	5305-00-071-2237	B-22	39
96906	MS90725-31	5306-00-225-8496	B-61	18
96906	MS90725-32	5306-00-225-8497	B-10	42
			B-30	34
96906	MS90725-33	5306-00-225-8498	B-18	32
			B-38	68
96906	MS90725-34	5306-00-225-8499	B-32	36
96906	MS90725-43	5305-00-225-8507	B-37	12
96906	MS90725-5	5305-00-068-0501	B-61	1
96906	MS90725-6	5305-00-068-0502	B-51	33
96906	MS90725-62	5305-00-269-3213	B-22	43
96906	MS90725-65	5305-00-269-3215	B-28	4
96906	MS90725-69	5305-00-269-3219	B-22	38
96906	MS90727-90	5305-00-709-8540	B-25	5
			B-26	1
			B-36	2
96906	MS90727-93	5305-00-709-8531	B-25	16
96906	MS90728-114	5305-00-071-2070	B-28	15
96906	MS90728-87	5305-00-071-1788	B-22	5
96906	MS90728-90	5305-00-071-2056	B-22	1
96906	MS90908-1	2910-00-752-9138	B-15	8
96906	MS9358-14	5310-00-103-2893	B-24	5
96906	M13486/1-11		BULK	1
99806	M200SERIES1X1-8	9330-00-912-2707	BULK	13
81361	M3-B/R1-A		B-31	42
81361	M4-A/TB1-A		B-31	51
81349	M5086/1-16-6	6145-00-946-1361	BULK	18
81349	M7928/5-3	5940-01-079-1647	B-49	64
81349	M85049/41-8A	5935-01-168-0800	B-48	2

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
80205	NAS3106-28-28		B-32	29
80205	NAS561C6-13	5315-00-058-5088	B-51	29
			B-56	3
80205	NAS56106-13	5315-00-058-5088	B-53	2
82240	NO 3	5340-00-680-4375	B-3	13
81361	NPNGASKETTYPEIIII		B-50	9
81361	NPNWIRE		B-10	21
76761	N1026-1		B-29	2
45255	PF336F	5640-00-905-3631	BULK	9
13445	PL16GREEN	6210-00-901-9301	B-30	67
82796	PX2430A	2920-00-708-0640	B-54	16
82796	P2474	2920-00-358-7430	B-54	15
77414	P3	4730-00-278-2507	B-50	14
96195	P4008		B-28	7
			B-28	16
77414	P8S-2	4730-00-830-2615	B-12	4
			B-14	4
			B-19	5
77414	P8S-2	4730-00-830-2615	B-35	4
91637	RH50-30-1PCT	5905-00-777-0577	B-29	1
81348	RRC271	4010-00-781-3129	BULK	4
81361	R1-B/GND		B-31	45
50599	R22002CC4-30	4720-00-902-4378	B-10	55
50599	R22002CC4-9	4720-00-924-4203	B-10	56
71286	R4G	5365-00-598-1474	B-5	6
			B-6	6
			B-7	6
			B-8	9
			B-42	3
35311	SD5179	4730-00-246-5495	B-2	2
52676	SKF6205	3110-00-144-8518	B-24	12
82796	SKF6305	3110-00-144-8519	B-24	19
82796	SK112	2920-00-229-5235	B-54	

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
81361	S1-A/S6-A		B-31	36
81361	S1/S4-1		B-49	34
81361	S4-B/S1-A		B-31	33
81361	S4-1/S4-5		B-49	28
81361	S4-2/S2		B-49	24
04741	S5281	4710-00-335-2610	BULK	15
81361	S6-B/M3-A		B-31	39
52659	S7756-1	4230-00-857-9317	B-11	2
52659	S7770	5365-00-402-4349	B-11	3
81361	TB1-A/S1-A		B-31	2
81361	TB1-AC1/DS1-A		B-31	20
81361	TB1-AC2/DS1-B		B-31	23
81361	TB1-A1/CB1-B		B-31	48
81361	TB1-B/S2-A		B-31	5
81361	TB1-C/S1-C		B-31	8
81361	TB1-E/M1-A		B-31	11
81361	TB1-F/S1-B		B-31	14
81361	TB1-H/M1-B		B-31	17
90598	TCA463	4520-00-675-6518	B-38	30
81361	TD1-2/S4-3		B-49	6
81361	TD2-3/G		B-49	3
81361	TD2-5/S3		B-49	13
90598	TM3946	4520-00-900-7998	B-51	28
			B-53	1
			B-56	2
90598	TRF3107		B-61	19
90598	TR3336	4530-00-909-5908	B-62	1
78357	VHC6F	4730-00-640-5752	B-50	16
78357	VHNGF	4730-00-684-4022	B-51	2
81978	V5D24360	4810-00-902-8452	B-51	35
81348	WWH171		B-32	23
81346	WWP471	4730-00-196-0916	B-37	2
81348	WWP471PLUG2-11-1 -2NPT		B-24	22

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
82796	W2437		B-54	4
14351	X5062	4730-00-193-7078	B-23	9
77414	0-16S	4730-00-965-6520	B-34	3
74193	006-10211	5975-00-477-4150	B-30	55
30780	1-2X1-4PTRSS	4730-00-893-9547	B-23	20
26759	101240	4730-00-287-1603	B-22	28
			B-30	45
19243	11/4 GRADE R-2	4820-01-203-5627	B-26	4
70563	12C120	5945-00-900-6282	B-43	26
70563	12N02	5945-00-729-1106	B-43	27
24161	124WW	4720-00-961-3522	BULK	7
97403	13206E1000MARK3	2805-00-872-5972	B-22	40
97403	13213E3283	5330-00-921-6224	B-22	33
82796	153968		B-54	10
66640	166D1	4730-00-277-9386	B-43	9
			B-61	9
27742	1701-3192-700	5340-00-094-6089	B-18	15
19243	2 IN GRADE R-2	4820-01-204-0513	B-25	3
			B-36	3
01276	2000-8-8B	4730-00-278-4603	B-22	32
38455	21033		B-37	8
38455	21109		B-37	6
71286	244-22	5325-00-290-8021	B-21	8
38455	24454	2520-00-560-4871	B-24	10
30003	2519481-2	4730-00-239-0215	B-23	15
95138	3M3	4730-00-995-3527	B-50	15
24161	3VX280	3030-00-840-9344	B-22	23
20796	3V315-4	3030-00-880-2020	B-22	22
34646	303L5 3-4 IN 316	4730-00-947-7096	B-10	37
	CRES			
38455	31046		B-37	11
38455	31049	4820-00-930-1982	B-37	7
13800	31300	5330-00-352-5542	B-52	2

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
13800	32104	5330-00-285-3825	B-52	4
79470	3325X4X2	4730-00-640-6330	B-15	7
79470	3328X2		B-22	27
79470	3400X2	4730-00-639-9730	B-22	26
			B-30	43
24161	3658-0601	4720-01-124-3740	BULK	8
56878	40S5-8	5325-00-799-1019	B-5	4
			B-6	4
			B-7	4
			B-8	11
			B-40	1
			B-41	1
			B-42	1
83930	400WSS10	5340-00-074-2116	B-38	37
			B-51	20
71286	4002N	5325-00-282-2045	B-5	5
			B-6	5
			B-7	5
			B-8	10
			B-40	2
71286	4002N	5325-00-282-2045	B-41	2
			B-42	2
24161	421B-1INCHID	4720-00-595-4103	BULK	6
00779	42599-2	5940-00-948-9686	B-30	61
			B-31	27
			B-49	22
			B-49	26
94222	44-99-116-12	5340-00-078-9652	B-21	10
79470	46X4X4	4730-00-248-9340	B-43	7
39428	4821K15	4730-00-947-7096	B-22	21
39428	4825K19	4730-01-167-2781	B-23	18
81361	5-45-3277	4730-01-071-8229	B-32	27
27742	5012-3217-102-2		B-10	29

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
82666	575GALVI3-1/2	4730-01-091-3585	B-2	12
92878	58671	5355-00-854-9098	B-13	1
79500	61H506-1	5310-00-209-0296	B-24	7
19207	6184184	2590-00-618-4184	B-30	31
70040	6432691	6680-00-221-1037	B-30	48
70040	6474533	6625-00-066-1278	B-30	30
73168	67100-0-200	5930-00-903-1909	B-38	52
24161	7207-318	4730-00-900-6279	B-50	2
24161	7236-0404-5	4730-00-374-6949	B-50	3
18876	7613189	5365-00-598-1474	B-40	3
			B-41	3
11583	806X2	2920-00-580-3435	B-61	24
18876	8489705	4730-00-720-4914	B-23	24

APPENDIX C EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

Section 1. INTRODUCTION

C-1. SCOPE. This appendix lists expendable supplies and materials you will need to operate and maintain the decontaminating apparatus. This listing is for informational purposes only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items), or CTA 8-100, Army Medical Department Expendable/Durable Items.

C-2. EXPLANATION OF COLUMNS

a. Column (1) - Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., "Use dry cleaning solvent, item 14, app. C").

b. Column (2) - Level. This column identifies the lowest level of maintenance that requires the listed item.

C - Operator/Crew Maintenance

0- Unit Maintenance

F - Intermediate Direct Support Maintenance

c. Column (3) - National Stock Number. This is the National stock number assigned to the item; use it to request or requisition the item.

d. Column (4) - Description. Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the Federal Supply Code for Manufacturer (FSCM) in parentheses followed by the part number.

e. Column (5) - Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function, This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	o	8040-00-165-8614	ADHESIVE liquid form (04963) EC1300L 1 qt can	QT
2	c	6850-00-950-6489	ANTIFOAM COMPOUND, SILICONE (71984) ANTIFOAM B 5 gal can	GL

3	C	6850-00-656-0926	ANTISETTING COMPOUND DECONTAMINATING SLURRY (81349)MILAS1027 12-1/2 LB CAN	LB
4	O		BATTERY WATER (81348)O-B-41	
		6810-00-286-3783	1 GAL	GL
		6810-00-297-9540	5 GAL BOTTLE	GL
5	C	7920-00-255-7536	BRUSH, CHASSIS AND RUNNING GEAR (81348)H-B-181	EA
6	C	8020-00-205-6511	BRUSH, PAINT, 1 IN. (81348)H-B-491	EA
7	C	7920-00-291-5815	BRUSH, WIRE, SCRATCH, TYPE 2, CLASS 1 (81348)H-B-178	EA
8	C	6810-00-255-0472	CALCIUM HYPOCHLORITE, TECHNICAL (81348)O-C-114 100 LB DRUM	LB
9	O		CLOTH, ABRASIVE (81348)P-C-451	
		5350-00-192-5047	50 PER PG	EA
		5350-00-192-5049	500 PER PG	EA
		5350-00-192-5050	50 PER PG	EA
		5350-00-192-5051	50 PER PG	EA
10	O	8030-00-281-2726	COATING COMPOUND, METALLIC (81349)DOD-P-15328 1 GAL	KT

Item Number	Level	National Stock Number	Description	U/M
11	C	6850-00-297-6653	DECONTAMINATING AGENT STB (81349)MIL-D-12468 50 LB DRUM	LB
12	C	7930-00-985-6911	DETERGENT,GENERAL PURPOSE LIQUID FORM (77902)TRITONX100 5 GAL CAN	GL
13	C	9140-00-286-5294	DIESEL FUEL GRADE DF-2 (81348)VUF800GRADED2RE	GL
14	C	6850-00-274-5421	DRY CLEANING SOLVENT LIQUID FORM (81348)P-D-680 5 GAL CAN	GL
15	O	8010-00-889-7345	ENAMEL,RED (80244)TT-E-489	QT
16	C	8010-00-286-7758	ENAMEL YELLOW NO. 13538 (80244)TT-E-489G 1 QT CAN	QT
17	O	8010-01-193-0520	EPOXY,PRIMER COATING (81349)MIL-P-53030 1 GAL KIT	KT
18	C	4210-00-223-9877	FOAM LIQUID,FIRE EXTINGUISHING (87119)FORMULATIONM5718 5 GAL CAN	GL
19	C	9140-00-247-4365	FUEL OIL, BURNER GRADE NO. 2 (81348)VVF815	GL

TM3-4230-209-30&P				
20	C	9130-00-148-7103	GASOLINE,AUTOMOTIVE GRADE REGULAR MOGAS UNLEADED (81348)VVG001690/A	GL
21	O	8415-00-823-7457	GLOVES,CHEMICAL AND OIL PROTECTIVE (81348)ZZ-G-381	PR
22	C	9150-00-190-0905	GREASE,AUTOMOTIVE AND ARTILLERY (96306)BRAYCOTE 610 6.5 LB CAN	LB
23	C	9140-00-242-6748	KEROSENE (81348)VVK211	GL
24	C	9150-00-231-2361	LUBRICATING OIL,GENERAL PURPOSE, PL-M (19203)814370 1 QT CAN	QT
25	C	9150-00-186-6681	LUBRICATING OIL:30 WT (81349)MIL-L-2104	QT
26	C	9150-00-231-6689	LUBRICATING OIL,GENERAL PURPOSE,PL-S (19204)14-0-2834-10 1 QT CAN	QT
27	F		METAL BAR STEEL (81348)QSS637	
		9150-00-596-2325	.750 IN. DIA 10 TO 12 FT LG	FT
		9150-00-554-2382	1 IN. DIA 10 TO 12 FT LG	FT

Item Number	Level	National Stock Number	Description	U/M
28	O	8010-01-141-2419	POLYURETHANE COATING(BLACK) (81349)MIL-C-46168B 1 QT KIT	KT
29	C	8010-01-160-6741	POLYURETHANE COATING(GREEN 383) (81349)MIL-C-46168B 1 QT KIT	KT
30	O	8010-00-082-1714	"PRIMER, COATING" (81349)MIL-P-52192	KT
31	C	7920-00-205-1711	"RAG, WIPING: COTTON" (58536) AA-A-531 50 LB BE	LB
32	O	8030-00-999-6313	SEALING COMPOUND (06589) 19749 1.5 OZ TUBE	OZ
33	F	6850-00-880-7616	SILICONE COMPOUND (81349)9005-0201-000 8 OZ TUBE	OZ
34	C	6810-00-264-6618	"SODIUM BICARBONATE, TECHNICAL" POWDER FORM (81348)O-S-576 1 LB BOX	LB
35	C	6810-00-233-1715	"SODIUM CARBONATE, ANHYDROUS TECHNICAL" (58536)A-A-41 100 LB BAG	LB

36	C	6810-00-174-6581	SODIUM HYDROXIDE, TECHNICAL FLAKE FORM (70829)1306 100 LB DRUM	LB
37	F	6810-00-249-9354	SULFURIC ACID, ELECTROLYTE LIQUID FORM (19207) 10675529 1 GAL BOTTLE	GL
38	O	8030-00-889-3535	TAPE, ANTISEIZING WHITE 1/2-IN.WD 260 IN. LG (81755) P5025-2R	EA
39	O		TAPE, GREEN (20310) 3277	FT
40	C	5970-00-419-4290	TAPE, INSULATION, ELECTRICAL BLACK PLASTIC (20999) 7-1/2 BLACK 108 FT ROLL	FT
41	C	7510-00-816-8077	TAPE, PRESSURE SENSITIVE (81348) L-T-80 3 IN. WIDE, 60 YD ROLL	
42	C	9130-00-256-8613	TURBINE FUEL, AVIATION (81349) MILT5624 GRADE JP-4	GL
43	C	9130-00-273-2379	TURBINE FUEL, AVIATION (81349) MILT5624 GRADE JP-5	GL

APPENDIX D

ILLUSTRATED LIST OF MANUFACTURED ITEMS

D-1 . INTRODUCTION.

a. This appendix includes complete instructions for making items authorized to be manufactured or fabricated at intermediate direct support level.

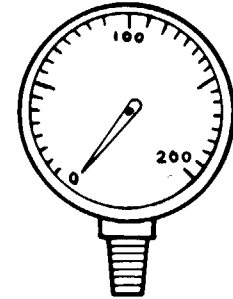
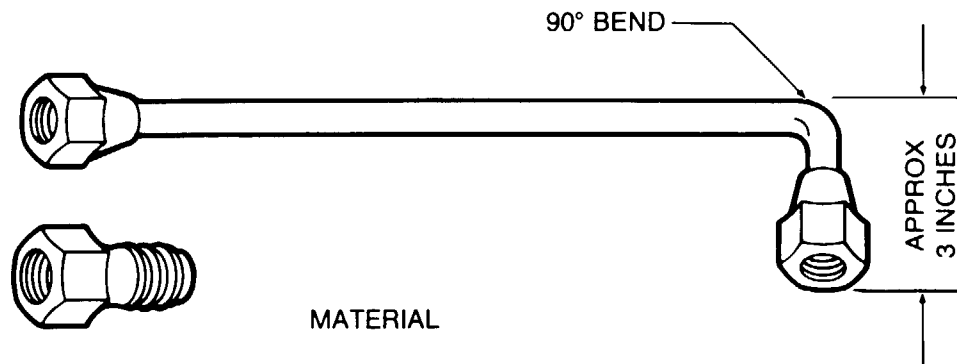
b. A part number index cross-references the item to be fabricated with the figure number covering fabrication.

c. All bulk materials needed to manufacture an item are listed in a table on the illustration.

D-2. PART NUMBER INDEX.

<i>Part Number</i>	<i>Item</i>	<i>Figure Number</i>	<i>Part Number</i>	<i>Item</i>	<i>Figure Number</i>
B5-45-2889-1	Gasket	D-28	C5-45-2736-2	Hose	D-19
B5-45-2889-3	Gasket	D-32	C5-45-2736-8	Hose	D-27
B5-45-3097-1	Gasket	D-7	C5-45-2736-9	Hose	D-26
B5-45-3097-10	Gasket	D-22	C5-45-2975-2	Gasket	D-6
B5-45-3097-11	Gasket	D-21	C5-45-3248-11	Electrical lead	D-63
B5-45-3097-12	Gasket	D-25	C5-45-3248-12	Electrical lead	D-64
B5-45-3097-2	Gasket (with holes)	D-8	C5-45-3248-13	Electrical lead	D-65
B5-45-3097-2	Gasket (without holes)	D-23	C5-45-3248-14	Electrical lead	D-66
B5-45-3097-3	Gasket	D-9	C5-45-3248-15	Electrical lead	D-67
B5-45-3097-4	Gasket	D-10	C5-45-3248-16	Electrical lead	D-68
B5-45-3097-5	Gasket	D-11	C5-45-3248-17	Electrical lead	D-69
B5-45-3097-6	Gasket (with holes)	D-12	C5-45-3248-18	Electrical lead	D-70
B5-45-3097-6	Gasket (without holes)	D-24	C5-45-3248-19	Electrical lead	D-71
B5-45-3097-7	Gasket	D-14	C5-45-3248-20	Electrical lead	D-72
B5-59-295	Gasket	D-4	C5-45-3248-21	Electrical lead	D-73
B5-59-296	Gasket	D-28	C5-45-3248-22	Electrical lead	D-74
B5-59-345	Fuel supply line	D-58	C5-45-3248-23	Electrical lead	D-75
B5-59-346	Gage port line	D-60	C5-45-3248-24	Electrical lead	D-76
B5-59-347	Purge and bypass return line	D-59	C5-45-3248-25	Electrical lead	D-77
B5-59-349	Water pressure line	D-31	C5-45-3248-26	Electrical lead	D-78
B5-59-350	Combustor return line	D-61	C5-45-3248-29	Electrical lead	D-79
B5-59-393	Pump return line	D-57	C5-45-3266-1	Spacer	D-1 3
B5-59-394	Nozzle valve line	D-62	C5-59-218-1	Electrical lead	D-36
B5-59-412	Insulation blanket	D-35	C5-59-218-10	Electrical lead	D-45
			C5-59-219-11	Electrical lead	D-46
			C5-59-218-12	Electrical lead	D-47
			C5-59-218-13	Electrical lead	D-48
			C5-59-218-14	Electrical lead	D-49
			C5-59-218-15	Electrical lead	D-50
			C5-59-219-16	Electrical lead	D-51
			C5-59-218-17	Electrical lead	D-52
			C5-59-218-18	Electrical lead	D-53
			C5-59-218-19	Electrical lead	D-54
			C5-59-218-2	Electrical lead	D-37

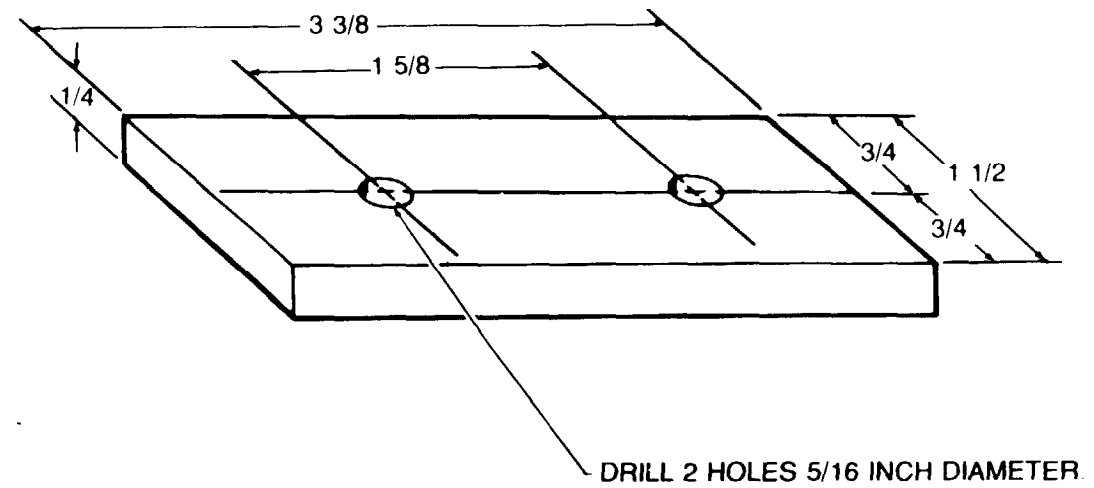
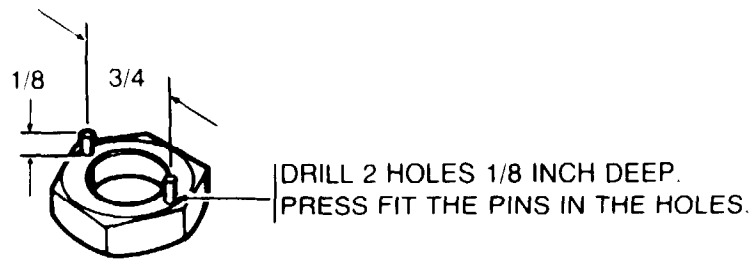
Part Number	Item	Figure Number	Part Number	Item	Figure Number
C5-59-218-20	Electrical lead	D-55	C5-59-405	Selector return line	D-30
C5-59-218-3	Electrical lead	D-38	D5-45-3250	Ground wire	D-16
C5-59-218-4	Electrical lead	D-39	MILW5086-1-16-6	Transmitter wire	D-17
C5-59-218-5	Electrical lead	D-40	NPN	Test gage line	D-1
C5-59-218-6	Electrical lead	D-41	NPN	Air cylinder nut	D-2
C5-59-219-7	Electrical lead	D-42	NPN	Wheel puller	D-3
C5-59-218-8	Electrical lead	D-43	NPN	Steel strap	D-5
C5-59-218-9	Electrical lead	D-44	NPNGASKETTYPEIII	Gasket	D-15
C5-59-352	Fuel pressure line	D-29	5-59-311-9	Rubber hose	D-56
C5-59-360-1	Power cable	D-34	594-0	Electrical wire	D-18
C5-59-398	Tube	D-33			



MATERIAL

QTY	DESCRIPTION	PART NO.
1	ADAPTER, STRAIGHT PIPE TO TUBE (1) (USE NSN 4730-00-248-9340)	
2	NUT, TUBE COUPLING (2) (USE NSN 4370-00-011-6452)	
3	TUBE, METALLIC (3) (USE NSN 4710-00-880-1091 CUT APPROXIMATELY 2 FT LONG)	
4	GAGE, PRESSURE, DIAL INDICATING (4) (USE NSN 6685-01-015-6489)	

Figure D-1. Test gage line.



MATERIAL

QTY	DESCRIPTION	PART NO.
1	NUT, HEXAGON PLAIN (USE STANDARD 5/8 IN. NUT, NSN 5310-00-543-5635)	
2	PIN (MAKE FROM NONELECTRICAL WIRE 1/16 IN. DIA MAX. NSN 9505-00-294-7373)	

1. DRILL 2 HOLES 1/8 INCH DEEP.
2. PRESS FIT THE PINS IN THE HOLES
3. ALL DIMENSIONS ARE IN INCHES.

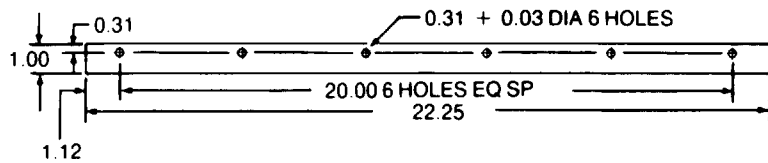
Figure D-2. Air cylinder nut.

MATERIAL

QTY	DESCRIPTION	PART NO.
1	METAL BAR (USE COLD ROLLED STEEL NSN 9510-00-596-2031)	
2	HEXAGON HEAD CAP SCREWS 1/4-20 UNC-2A, 1 1/4 IN. LONG MS35307-309 (96906) (NSN 5305-00-579-5238)	

1. ROUND ALL CORNERS AND EDGES.
2. DRILL 2 HOLES 5/16 INCH DEEP.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-3. Wheel puller



WARNING

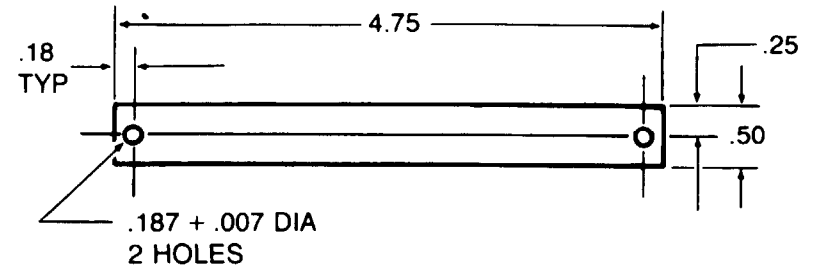
WHEN HANDLING ASBESTOS MATERIAL, ALWAYS WEAR AN AIR FILTERING RESPIRATOR, GLOVES, AND GOGGLES. WASH FACE AND HANDS WITH SOAP AND WATER BEFORE EATING OR SMOKING. ASBESTOS CAN CAUSE CANCER IF HANDLED WITHOUT PROTECTION.

MATERIAL

QTY	DESCRIPTION	PART NO.
1	GASKET	B5-59-295

1. USE BULK ISSUE ASBESTOS SHEETING FROM NSN 5330-00-527-9900.
2. CUT LENGTH OF ASBESTOS SHEETING AS ILLUSTRATED.
3. DRILL SIX HOLES AS ILLUSTRATED.
4. ALL DIMENSIONS ARE IN INCHES.

Figure D-4. Gasket B5-59-295

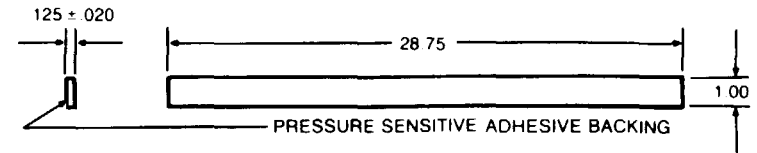
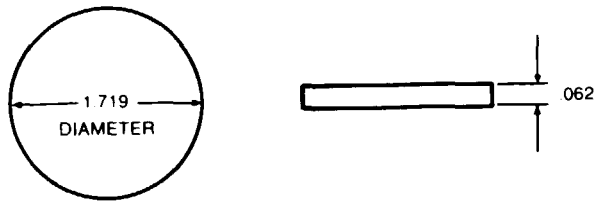


MATERIAL

QTY	DESCRIPTION	PART No.
1	STEEL STRAP (USE BULK ISSUE FLAT STRIP STEEL HOT OR COLD ROLLED STEEL 0.0359 INCH THICK - QQ-5-698)	

ALL DIMENSIONS ARE IN INCHES,

Figure D-5. Steel strap.



MATERIAL

QTY	DESCRIPTION	PART NO.
1	RUBBER SHEET	MIL-R-46089 (81 349)

1. CUT BULK ISSUE RUBBER SHEET TO DIMENSIONS SHOWN.
2. ALL DIMENSIONS ARE IN INCHES.

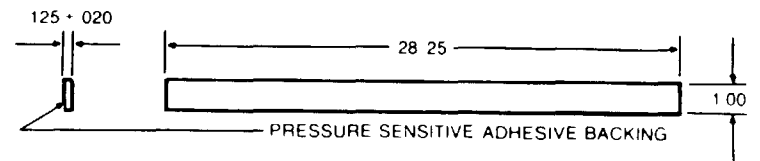
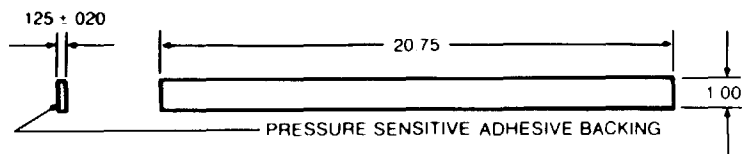
Figure D-6. Gasket C5-45-2975-2.

MATERIAL

QTY	DESCRIPTION	PART NO.
1	PACKING MATERIAL	M200 SERIES 1 X 1-8 (99806)

1. CUT BULK ISSUE PACKING MATERIAL 28.75 INCHES LONG
2. PERFORATE HOLES, AS REQUIRED, DURING ASSEMBLY.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-7. Gasket B5-45-3097-1.



MATERIAL

QTY	DESCRIPTION	PART NO.
1	PACKING MATERIAL	M200 SERIES 1 X 1-8 (99806)

1. CUT BULK ISSUE PACKING MATERIAL 20.75 INCHES LONG
2. PERFORATE HOLES, AS REQUIRED, DURING ASSEMBLY.
3. ALL DIMENSIONS ARE IN INCHES.

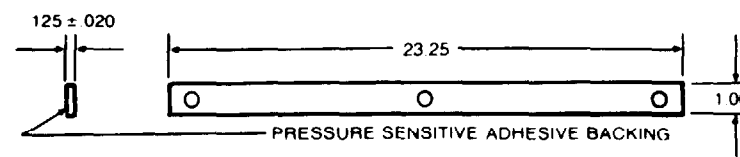
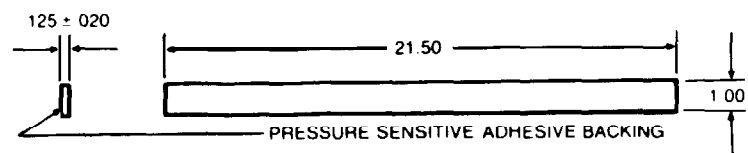
Figure D-8. Gasket B5-45-3097-2

MATERIAL

QTY	DESCRIPTION	PART NO
1	PACKING MATERIAL	M200 SERIES 1 X 1-8 (99806)

1. CUT BULK ISSUE PACKING MATERIAL 28.25 INCHES LONG.
2. PERFORATE HOLES, AS REQUIRED, DURING ASSEMBLY,
3. ALL DIMENSIONS ARE IN INCHES,

Figure D-9. Gasket B5-45-3097-3.



MATERIAL

QTY	DESCRIPTION	PART NO.
1	PACKING MATERIAL	M200 SERIES 1 X 1-8 (99806)

1. CUT BULK ISSUE PACKING MATERIAL 21.50 INCHES LONG.
2. PERFORATE HOLES, AS REQUIRED, DURING ASSEMBLY.
3. ALL DIMENSIONS ARE IN INCHES.

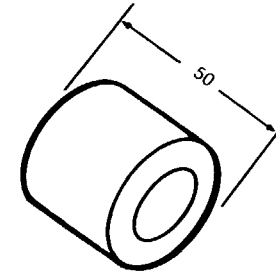
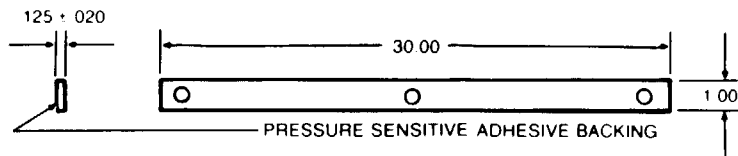
Figure D-10. Gasket 65-45-3097-4.

MATERIAL

QTY	DESCRIPTION	PART NO.
1	PACKING MATERIAL	M200 SERIES 1 X 1-8 (99806)

1. CUT BULK ISSUE PACKING MATERIAL 23.25 INCHES LONG.
2. PERFORATE HOLES, AS REQUIRED, DURING ASSEMBLY.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-11. Gasket B5-45-3097-5.



MATERIAL

QTY	DESCRIPTION	PART NO.
1	PACKING MATERIAL	M200 SERIES 1 X 1-8 (99806)

1. CUT BULK ISSUE PACKING MATERIAL 30 INCHES LONG.
2. PERFORATE HOLES, AS REQUIRED, DURING ASSEMBLY.
3. ALL DIMENSIONS ARE IN INCHES.

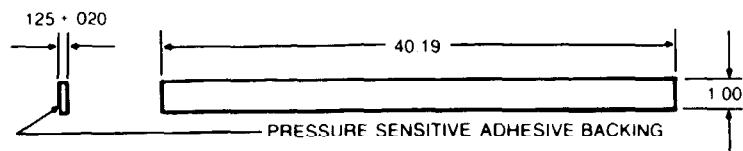
Figure D-12. Gasket B5-45-3097-6.

MATERIAL

QTY	DESCRIPTION	PART No.
1	TUBE, METALLIC	ASTM A 519-74 (81346)

1. CUT A 0.500 INCH LONG PIECE FROM BULK ISSUE TUBING.
2. FILE OFF ANY ROUGH EDGES.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-13. Spacer C5-45-3266-1.

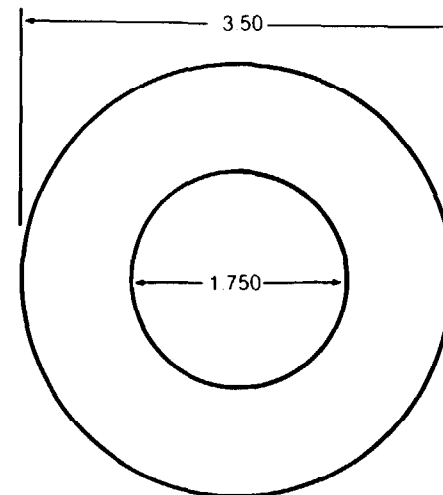


MATERIAL

QTY	DESCRIPTION	PART NO.
2	PACKING MATERIAL	M200 SERIES 1 X 1-8 (99806)

1. CUT BULK ISSUE PACKING MATERIAL 40.19 INCHES LONG.
2. FORM TO FIT INSIDE FUEL TANK STRAP C5-45-2995.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-14. Gasket B5-45-3097-7.

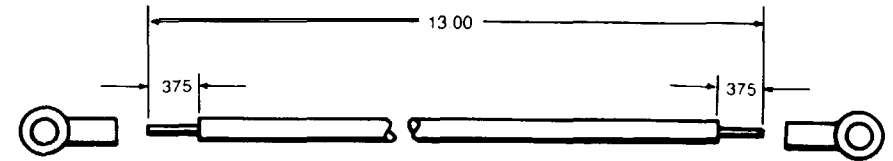
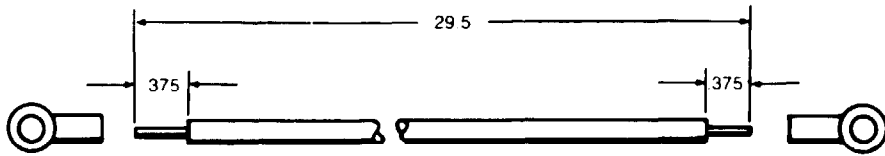


MATERIAL

QTY	DESCRIPTION	PART NO.
1	GASKET	MILG432 (81349)

1. CUT BULK GASKET MATERIAL AS ILLUSTRATED FROM NSN 5330-00-298-7165.
2. ALL DIMENSIONS ARE IN INCHES.

Figure D-15. Gasket NPNGASKETTYPEIII.



MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	M5086/1-16-6 (81349)
2	LUG, TERMINAL	MS25036-108

1. CUT BULK ISSUE ELECTRICAL WIRE 29.50 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM EACH END AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

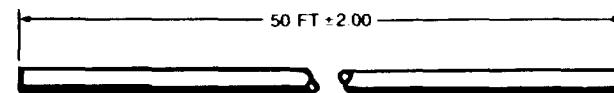
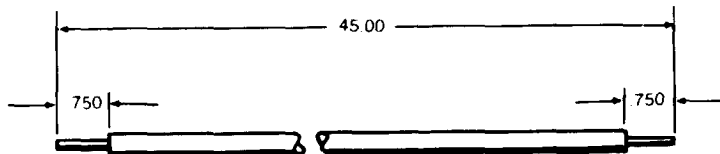
Figure D-16. Ground D5-45-3250.

MATERIAL

QTY	DESCRIPTION	PART NO
1	WIRE, ELECTRICAL	M5086/1-16-6 (81349)
2	LUG, TERMINAL	MS25036-108

1. CUT BULK ELECTRICAL WIRE 13 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM EACH END AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-17. Transmitter wire MLW5086-1-16-6



MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	594-0 (79550)

1. CUT BULK ISSUE ELECTRICAL WIRE 45 INCHES LONG.
2. STRIP 0.750 INCH OF INSULATION FROM EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

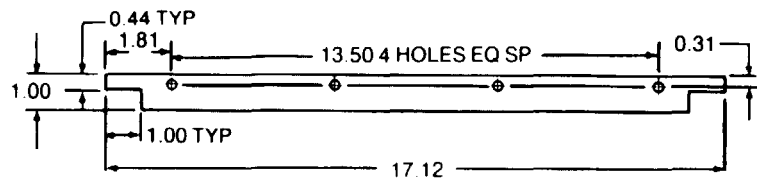
Figure D-18. Electrical wire 594-0.

MATERIAL

QTY	DESCRIPTION	PART NO.
1	HOSE ASSEMBLY	421B -1 INCH ID (24161)

1. CUT BULK HOSE ASSEMBLY 50 FEET ± 2 INCHES LONG.
2. DIMENSIONS ARE IN FEET AND INCHES.

Figure D-19. Hose C5-45-2736-2.



WARNING

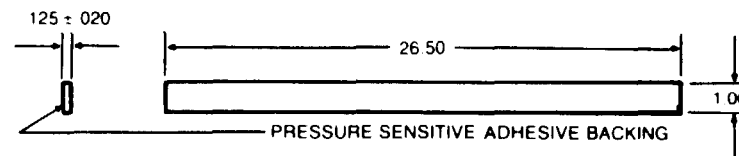
WHEN HANDLING ASBESTOS MATERIAL, ALWAYS WEAR AN AIR FILTERING RESPIRATOR, GLOVES, AND GOGGLES. WASH FACE AND HANDS WITH SOAP AND WATER BEFORE EATING OR SMOKING. ASBESTOS CAN CAUSE CANCER IF HANDLED WITHOUT Protection.

MATERIAL

QTY	DESCRIPTION	PART NO.
1	GASKET	65-59-296

1. USE BULK ISSUE ASBESTOS SHEETING FROM NSN 5330-00-527-9900.
2. CUT LENGTH OF ASBESTOS SHEETING AS ILLUSTRATED.
3. DRILL FOUR HOLES AS ILLUSTRATED.
4. ALL DIMENSIONS ARE IN INCHES.

Figure D-20. Gasket 65-59-296.

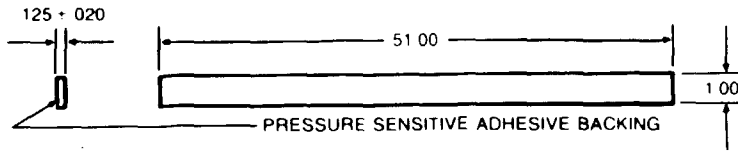


MATERIAL

QTY	DESCRIPTION	PART NO.
1	PACKING MATERIAL	M200 SERIES 1 X 1-8 (99806)

1. CUT BULK PACKING MATERIAL 26.5 INCHES LONG.
2. ALL DIMENSIONS ARE IN INCHES,

Figure D-21. Gasket 65-45-3097-11.

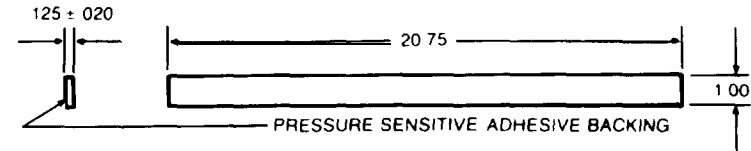


MATERIAL

QTY	DESCRIPTION	PART NO.
1	PACKING MATERIAL	M200 SERIES 1 X 1-8 (99806)

1. CUT BULK PACKING MATERIAL 51 INCHES LONG.
2. DIMENSIONS ARE IN FEET AND INCHES.

Figure D-22. Gasket B5-45-3097- 10.

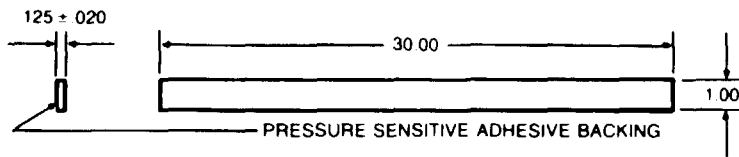


MATERIAL

QTY	DESCRIPTION	PART NO.
1	PACKING MATERIAL	M200 SERIES 1 X 1-8 (99806)

1. CUT BULK PACKING MATERIAL 20.75 INCHES LONG.
2. ALL DIMENSIONS ARE IN INCHES.

Figure D-23. Gasket B5-45-3097-2.

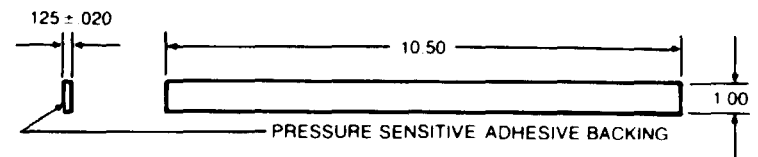


MATERIAL

QTY	DESCRIPTION	PART NO.
1	PACKING MATERIAL	M200 SERIES 1 X 1-8 (99806)

1. CUT BULK PACKING MATERIAL 30 INCHES LONG.
2. ALL DIMENSIONS ARE IN INCHES.

Figure D-24. Gasket B5-45-3097-6.

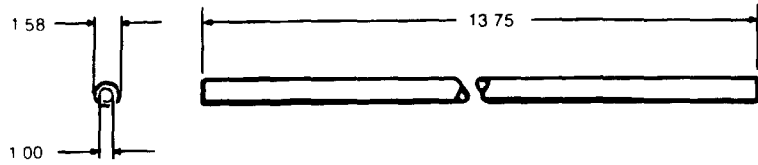


MATERIAL

QTY	DESCRIPTION	PART NO.
1	PACKING MATERIAL	M200 SERIES 1 X 1-8 (99806)

1. CUT BULK PACKING MATERIAL 10.5 INCHES LONG
2. ALL DIMENSIONS ARE IN INCHES,

Figure D-25. Gasket B5-45-3097-12.

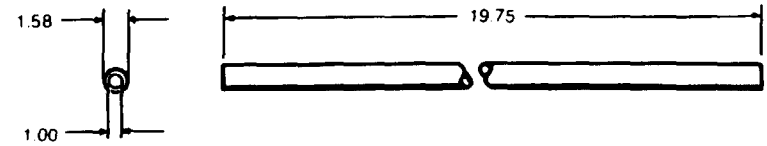


MATERIAL

QTY	DESCRIPTION	PART NO.
1	HOSE ASSEMBLY	421B -1 INCH ID (24161)

1. CUT BULK HOSE ASSEMBLY 13.750 INCHES LONG.
2. ALL DIMENSIONS ARE IN INCHES.

Figure D-26. Hose C5-45-2736-8.

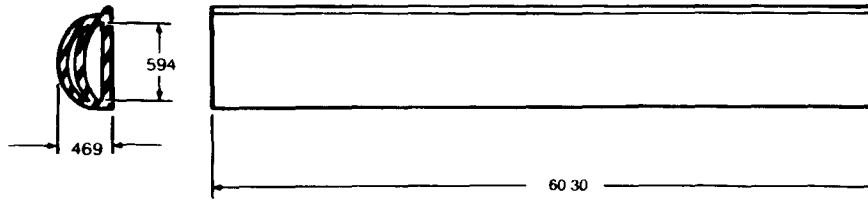


MATERIAL

QTY	DESCRIPTION	PART NO.
1	HOSE ASSEMBLY	421 B-1 INCH ID (24161)

1. CUT BULK HOSE ASSEMBLY 19.750 INCHES LONG.
2. ALL DIMENSIONS ARE IN INCHES.

Figure D-27. Hose C5-45-2736-9.

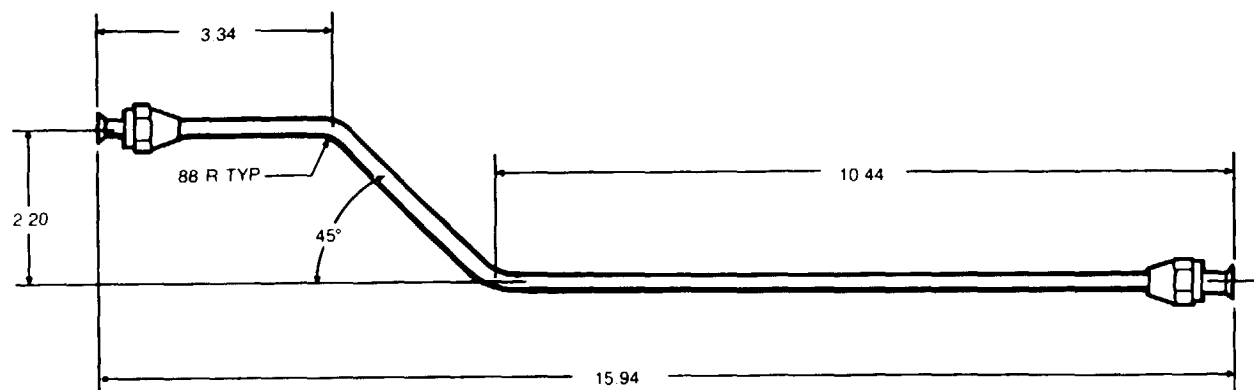


MATERIAL

QTY	DESCRIPTION	PART NO.
1	NONMETALLIC SPECIAL SHAPED SECTION	CV1 402 (74951)

1. CUT A PIECE 60.3 INCHES LONG FROM BULK ISSUE NONMETALLIC SPECIAL SHAPED SECTION.
2. FORM INTO CIRCULAR SHAPE.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-28. Gasket 85-45-2889-1.

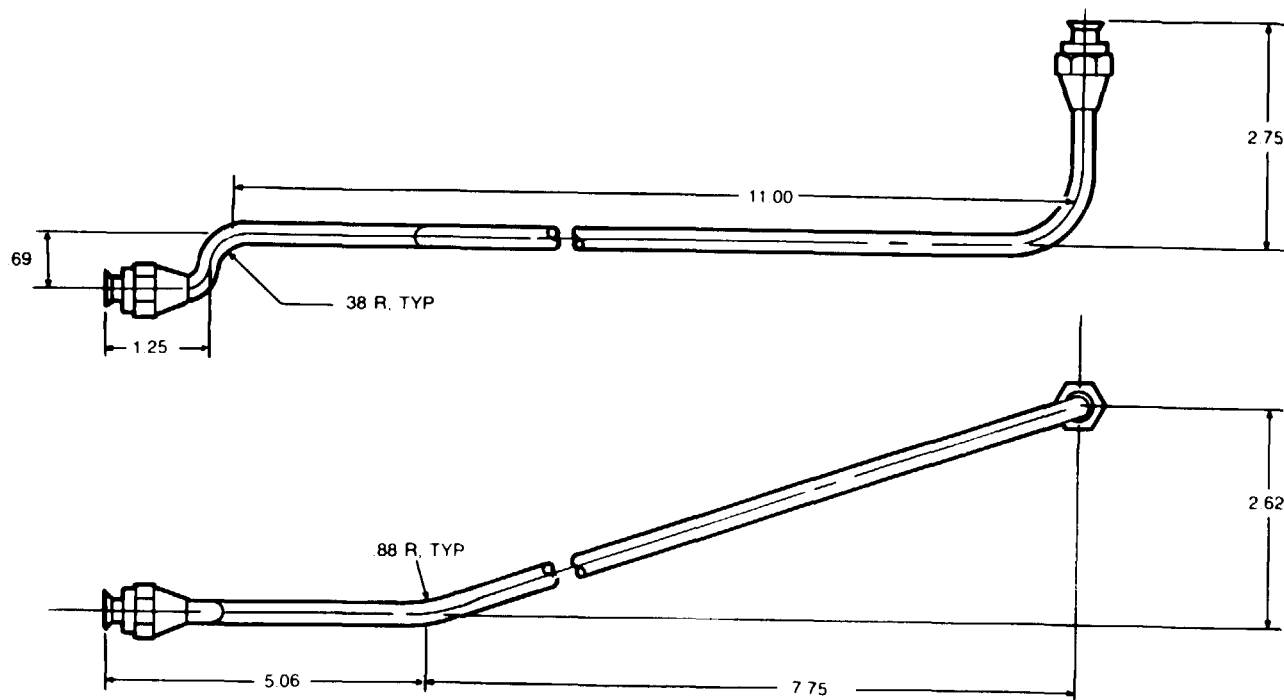


MATERIAL

QTY	DESCRIPTION	PART NO
1	TUBE, METALLIC	MILT3520 (81349)
2	NUT, TUBE COUPLING	MS39166-3

1. CUT A PIECE 15.94 INCHES LONG FROM BULK METALLIC TUBE AND BEND AS SHOWN.
2. ASSEMBLE TUBE COUPLING NUT ON EACH END AND DOUBLE FLARE EACH END 45° PER SAE STD J533.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-29. Fuel pressure line C5-59-352.

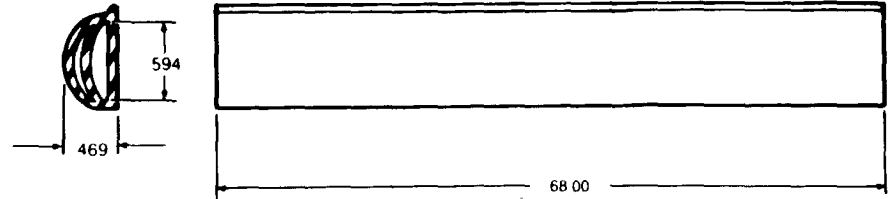
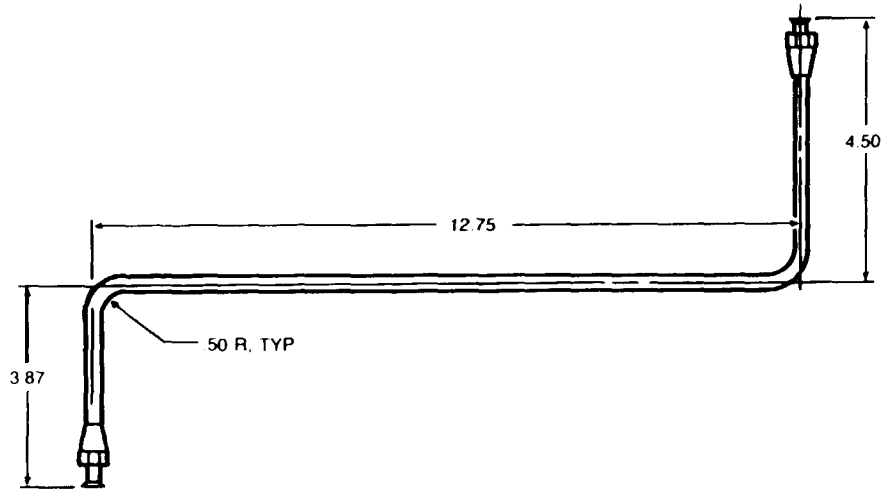


MATERIAL

QTY	DESCRIPTION	PART NO.
1	TUBE, METALLIC	MILT3520 (81349)
2	NUT, TUBE COUPLING	MS39166-3

1. CUT A PIECE 16.00 INCHES LONG FROM BULK METALLIC TUBE AND BEND AS SHOWN.
2. ASSEMBLE TUBE COUPLING NUT ON EACH END AND DOUBLE FLARE EACH END 45° PER SAE STD J533.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-30. Selector return line C5-59-405.



MATERIAL

QTY	DESCRIPTION	PART NO
1	TUBE, METALLIC	MILT3520 (81349)
2	NUT, TUBE COUPLING	MS39166-3

1. CUT A PIECE 21.12 INCHES LONG FROM BULK METALLIC TUBE AND BEND AS SHOWN.
2. ASSEMBLE TUBE COUPLING NUT ON EACH END AND DOUBLE FLARE EACH END 45° PER SAE STD J533.
3. ALL DIMENSIONS ARE IN INCHES.

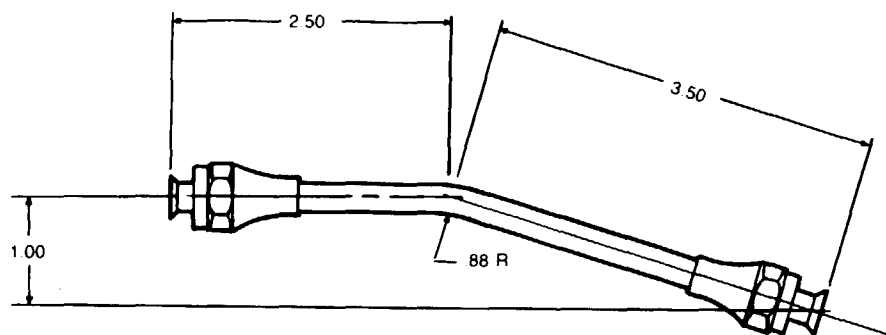
Figure D-31. Water pressure line B5-59-349.

MATERIAL

QTY	DESCRIPTION	PART NO
1	NONMETALLIC SPECIAL SHAPED SECTION	CV1 402 (74951)

1. CUT A PIECE 68 INCHES LONG FROM BULK ISSUE NONMETALLIC SPECIAL SHAPED SECTION.
2. ALL DIMENSIONS ARE IN INCHES.

Figure D-32. Gasket 85-45-2889-3.

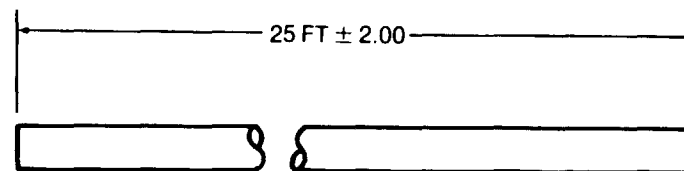


MATERIAL

QTY	DESCRIPTION	PART NO.
1	TUBE, METALLIC	MILT3520 (81349)
2	NUT, TUBE COUPLING	MS39166-3

1. CUT 6 INCH LENGTH OF BULK ISSUE METALLIC TUBE.
2. BEND AS INDICATED.
3. ASSEMBLE COUPLING NUT ON EACH END AND DOUBLE FLARE EACH END 45° PER SAE STD J533.
4. ALL DIMENSIONS ARE IN INCHES.

Figure D-33. Selector valve line C5-59-398.



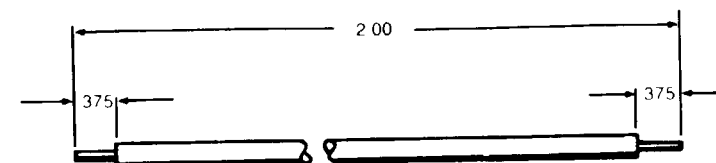
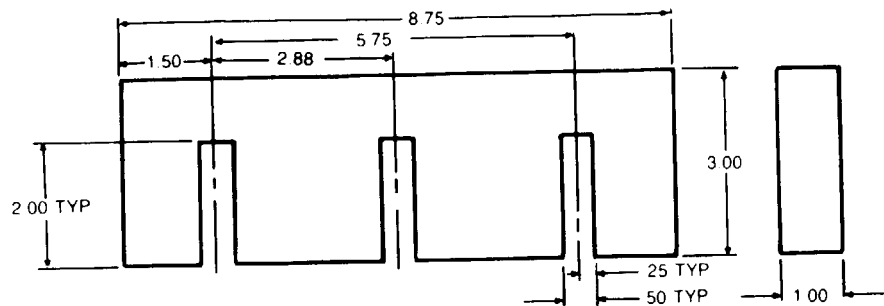
MATERIAL

QTY	DESCRIPTION	PART NO.
1	CABLE, POWER, ELECTRICAL	MILC5756B (81349)

1. CUT A PIECE 25 FEET ± 2 INCHES LONG FROM BULK ISSUE POWER CABLE.
2. DIMENSIONS ARE IN FEET AND INCHES.

Figure D-34. Power cable C5-59-360- 1.

D-20



MATERIAL

QTY	DESCRIPTION	PART NO.
1	INSULATION BLANKET	PF336F (45255)

1. CUT A PIECE 8.75 INCHES LONG FROM BULK ISSUE INSULATION BLANKET.
2. CUT THREE INDENTURES SPACED AS INDICATED.
3. ALL DIMENSIONS ARE IN INCHES.

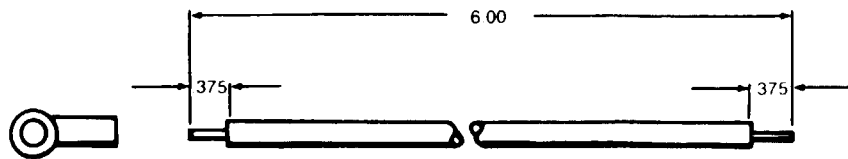
Figure D-35. Insulation blanket B5-59-412

MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946 (99974)

1. CUT BULK ELECTRICAL WIRE 2 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM BOTH ENDS
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-36. Electrical lead C5-59-218- 1.

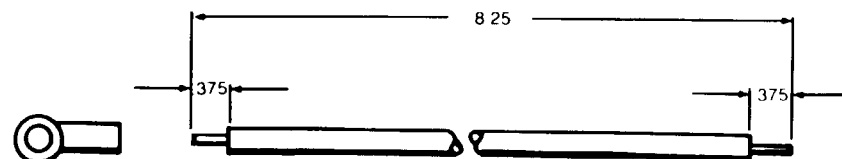


MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946 (99974)
1	LUG, TERMINAL	MS25036-103

1. CUT BULK ELECTRICAL WIRE 6 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM BOTH ENDS AND CRIMP TERMINAL LUG ON ONE END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-37. Electrical lead C5-59-218-2.

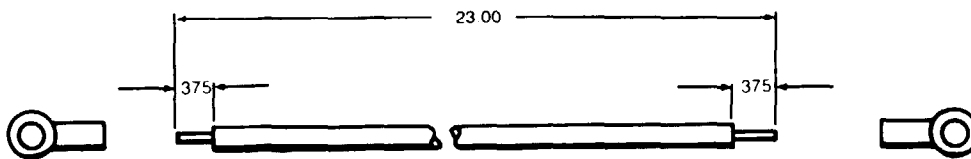


MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946 (99974)
2	LUG, TERMINAL	MS25036-101

1. CUT BULK ELECTRICAL WIRE 8.25 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM BOTH ENDS AND CRIMP TERMINAL LUG ON ONE END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-38. Electrical lead C5-59-218-3.

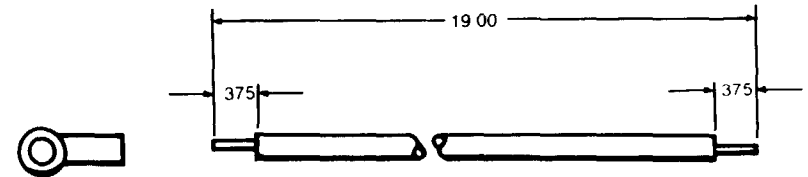


MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946 (99974)
1	LUG, TERMINAL	MS25036-101
1	LUG, TERMINAL	MS25036-103

1. CUT BULK ELECTRICAL WIRE 23 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM BOTH ENDS AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-39. Electrical lead C5-59-218-4.

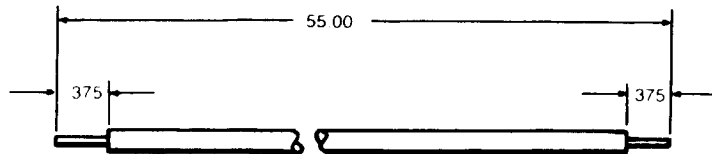


MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946 (99974)
1	LUG, TERMINAL	MS25036-101

1. CUT BULK ELECTRICAL WIRE 19 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM BOTH ENDS AND CRIMP TERMINAL LUG ON ONE END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-40. Electrical lead C5-59-218-5.

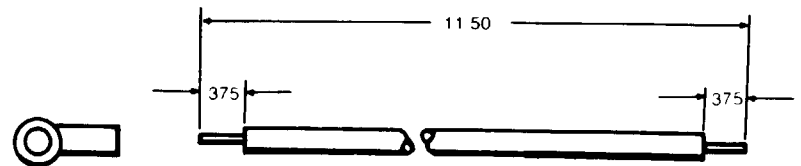


MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946 (99974)

1. CUT BULK ELECTRICAL WIRE 55 INCHES LONG,
2. STRIP 0.375 INCH INSULATION FROM BOTH ENDS.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-41. Electrical lead C5-59-218-6.

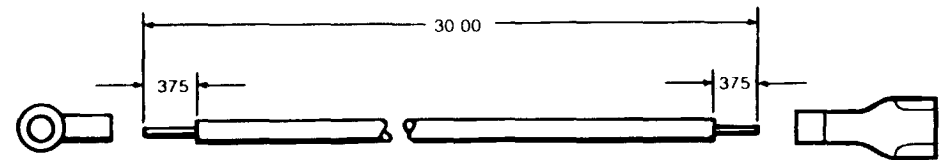
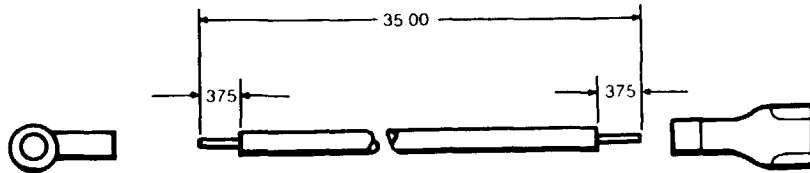


MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946 (99974)
1	LUG, TERMINAL	MS25036-103

1. CUT BULK ELECTRICAL WIRE 11.50 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM BOTH ENDS AND CRIMP TERMINAL LUG ON ONE END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-42. Electrical lead C5-59-218-7.



MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MIL-W-16878/4
1	LUG, TERMINAL	MS25036-103
1	TERMINAL, QUICK DISCONNECT	42599-2 (00779)

1. CUT BULK ELECTRICAL WIRE 35 INCHES LONG AND STRIP 0.375 INCH INSULATION FROM BOTH ENDS.
2. CRIMP TERMINAL LUG ON ONE END AND QUICK DISCONNECT TERMINAL TO OTHER END.
3. ALL DIMENSIONS ARE IN INCHES.

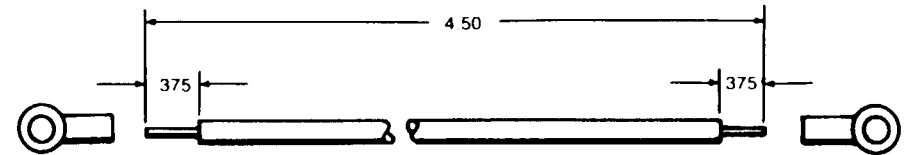
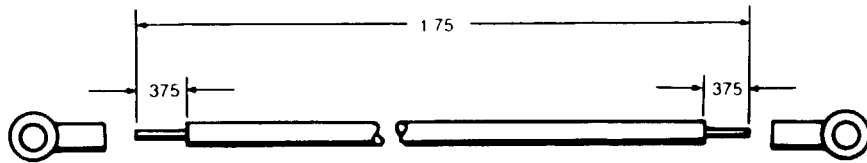
Figure D-43. Electrical lead C5-59-218-8.

MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946 (99974)
1	LUG, TERMINAL	MS25036-103
1	TERMINAL, QUICK DISCONNECT	42599-2 (00779)

1. CUT BULK ELECTRICAL WIRE 30 INCHES LONG AND STRIP 0.375 INCH INSULATION FROM BOTH ENDS.
2. CRIMP TERMINAL LUG ON ONE END AND QUICK DISCONNECT TERMINAL TO OTHER END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-44. Electrical lead C5-59-218-9.



MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946 (99974)
2	LUG, TERMINAL	MS25036-101

1. CUT BULK ELECTRICAL WIRE 1.75 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM BOTH ENDS AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

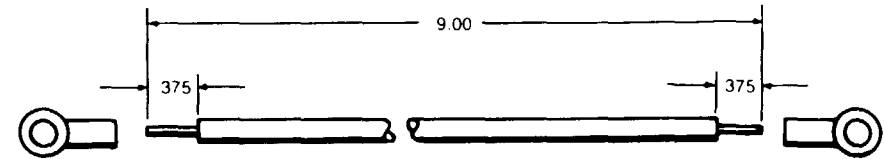
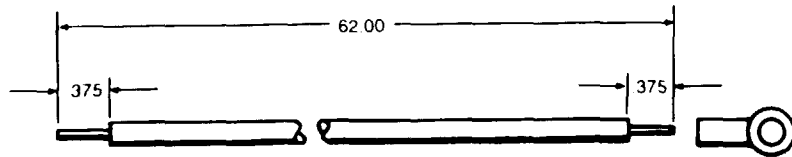
Figure D-45. Electrical lead C5-59-218-10.

MATERIAL

QTY	DESCRIPTION	PART NO
1	WIRE, ELECTRICAL	MM2946 (99974)
2	LUG, TERMINAL	MS25036-101

1. CUT BULK ELECTRICAL WIRE 4.5 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM BOTH ENDS AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-46. Electrical lead C5-59-218-11.



MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946 (99974)
1	LUG, TERMINAL	MS25036-101

1. CUT BULK ELECTRICAL WIRE 62 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM BOTH ENDS AND CRIMP TERMINAL LUG ON ONE END.
3. ALL DIMENSIONS ARE IN INCHES.

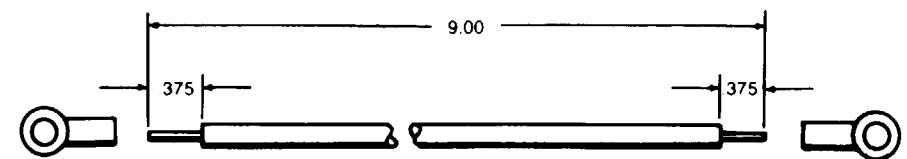
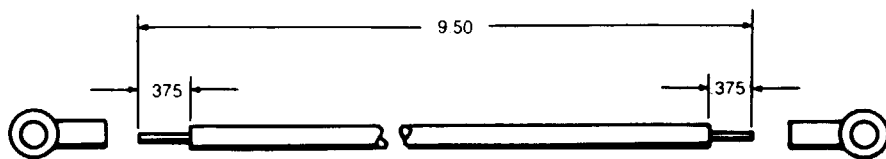
MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946 (99974)
1	LUG, TERMINAL	MS25036-103
1	LUG, TERMINAL	MS25036-101

1. CUT BULK ELECTRICAL WIRE 9 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM BOTH ENDS AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-47. Electrical lead C5-59-218-12.

Figure D-48. Electrical lead C5-59-218-13.



MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946 (99974)
2	LUG, TERMINAL	MS25036-157

1. CUT BULK ELECTRICAL WIRE 9.50 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM BOTH ENDS AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

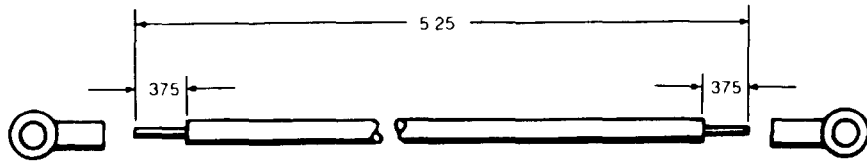
Figure D-49. Electrical lead C5-59-218-14.

MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946 (99974)
1	LUG, TERMINAL	MS25036-103
1	LUG, TERMINAL	MS25036-101

1. CUT BULK ELECTRICAL WIRE 9 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM BOTH ENDS CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

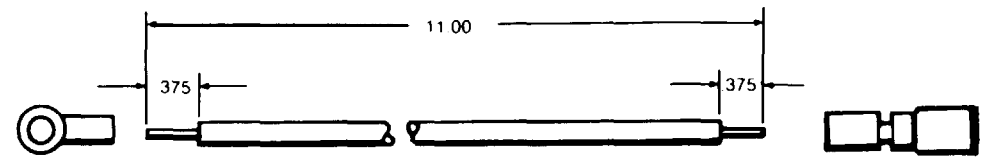
Figure D-50. Electrical lead C5-59-218-15.

**MATERIAL**

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM3565 (99974)
2	LUG, TERMINAL	MS25036-112

1. CUT BULK ELECTRICAL WIRE 5.25 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM BOTH ENDS AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

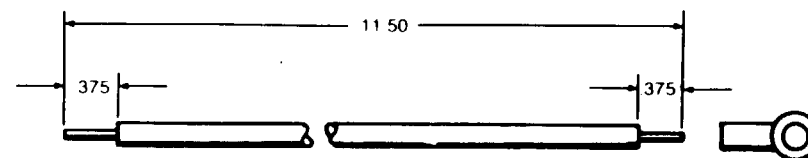
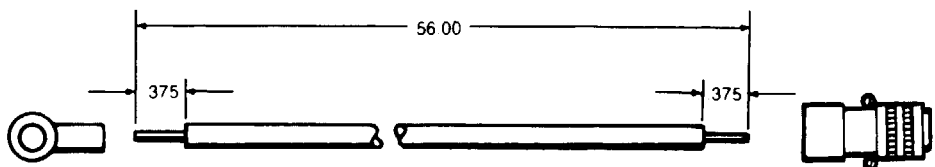
Figure D-51. Electrical lead C5-59-218-16.

**MATERIAL**

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM3565 (99974)
1	LUG, TERMINAL	MS25036-112
1	CONNECTOR, PLUG, ELECTRICAL	MS27144-1

1. CUT BULK ELECTRICAL WIRE 11 INCHES LONG AND STRIP 0.375 INCH INSULATION FROM BOTH ENDS.
2. CRIMP TERMINAL LUG ON ONE END AND ATTACH ELECTRICAL PLUG CONNECTOR TO OTHER END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-52. Electrical lead C5-59-218-17.



MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM3565 (99974)
1	LUG, TERMINAL	MS25036-112
1	CONNECTOR ASSEMBLY	B5-59-409 (81361)

1. CUT BULK ELECTRICAL WIRE 56 INCHES LONG AND STRIP 0.375 INCH INSULATION FROM BOTH ENDS.
2. CRIMP TERMINAL LUG ON ONE END AND ATTACH CONNECTOR ASSEMBLY TO OTHER END. SEE PAGE 2-242.
3. ALL DIMENSIONS ARE IN INCHES.

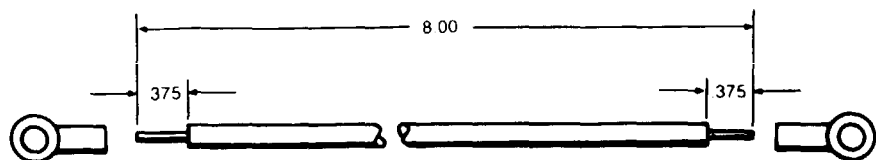
Figure D-53. Electrical lead C5-59-218-18.

MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946 (99974)
1	LUG, TERMINAL	MS25036-103

1. CUT BULK ELECTRICAL WIRE 11.50 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM BOTH ENDS AND CRIMP TERMINAL LUG ON ONE END.
3. ALL DIMENSIONS ARE IN INCHES:

Figure D-54. Electrical lead C5-59-218-19.

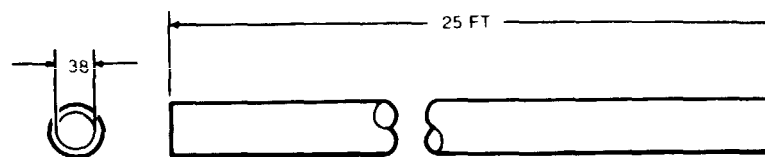


MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM3565 (99974)
1	LUG, TERMINAL	MS25036-157

1. CUT BULK ELECTRICAL WIRE 8 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM BOTH ENDS AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-55. Electrical lead C5-59-218-20.

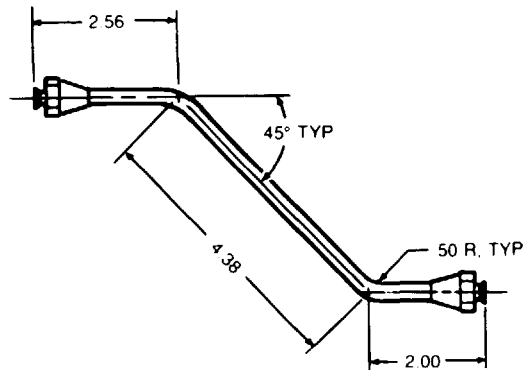


MATERIAL

QTY	DESCRIPTION	PART NO
1	HOSE, NONMETALLIC	3658-0601 (24161)

1. CUT A PIECE 25 FOOT LONG FROM BULK ISSUE NONMETALLIC HOSE.
2. DIMENSIONS ARE IN FEET AND INCHES.

Figure D-56. Rubber hose C5-59-311-9.

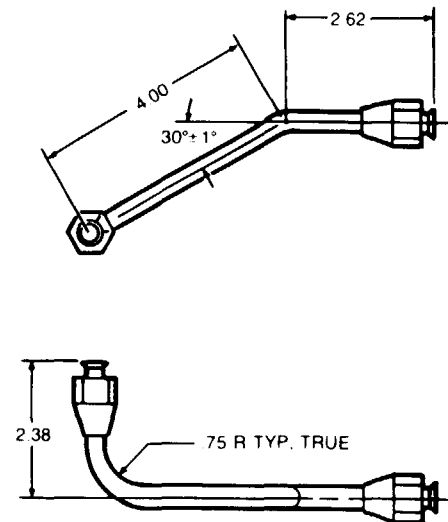


MATERIAL

QTY	DESCRIPTION	PART NO.
1	TUBE, METALLIC	MILT3520 (81349)
2	NUT, COUPLING	MS391 66-3

1. CUT A PIECE 8.94 INCHES LONG FROM BULK ISSUE METALLIC TUBE AND BEND AS SHOWN.
2. ASSEMBLE COUPLING NUT ON EACH END AND DOUBLE FLARE EACH END 45° PER SAE STD J533.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-57. Pump return line B5-59-393.

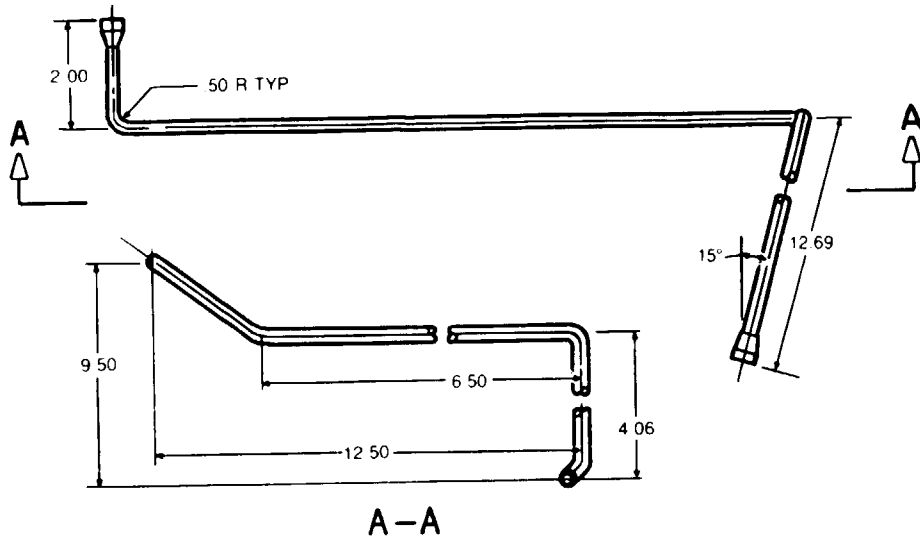


MATERIAL

QTY	DESCRIPTION	PART NO
1	TUBE, METALLIC	S5281 (04741)
2	NUT, TUBE COUPLING	MS39166-5

1. CUT A PIECE 9 INCHES LONG FROM BULK ISSUE METALLIC TUBE AND BEND AS SHOWN.
2. ASSEMBLE TUBE COUPLING NUT ON EACH END AND DOUBLE FLARE EACH END 45° PER SAE STD J533.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-58. Fuel supply line B5-59-345.

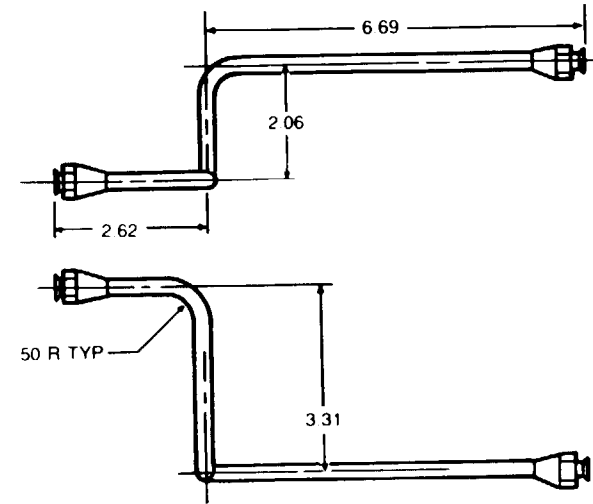


MATERIAL

QTY	DESCRIPTION	PART NO.
1	TUBE, METALLIC	MI LT3520 (81349)
1	NUT, TUBE COUPLING	MS39166-3

- 1 CUT A PIECE 31.50 INCHES LONG FROM BULK ISSUE METALLIC TUBE AND BEND AS SHOWN.
- 2 ASSEMBLE TUBE COUPLING NUT ON EACH END AND DOUBLE FLARE EACH END 45° PER SAE STD J533.
- 3 ALL DIMENSIONS ARE IN INCHES.

Figure D-59. Purge and bypass return line B5-59-347.

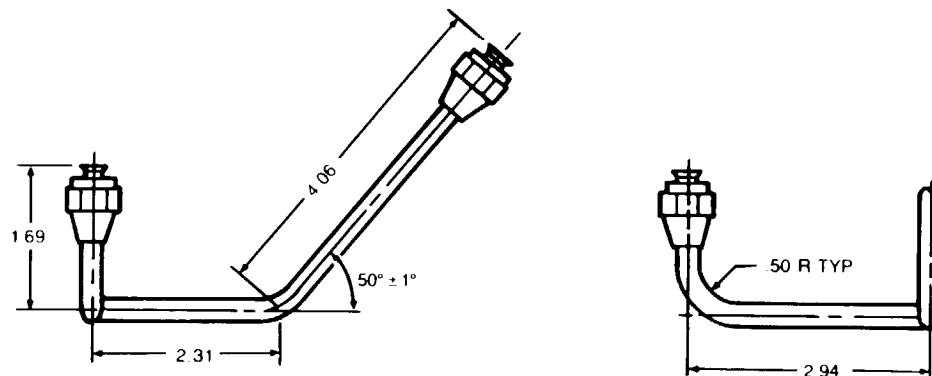


MATERIAL

QTY	DESCRIPTION	PART NO.
1	TUBE, METALLIC	MILT3520 (81349)
2	NUT, TUBE COUPLING	MS39166-3

1. CUT A PIECE 14.68 INCHES LONG FROM BULK ISSUE METALLIC TUBE AND BEND AS SHOWN.
2. ASSEMBLE TUBE COUPLING NUT ON EACH END AND DOUBLE FLARE EACH END 45° PER SAE STD J533.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-60. Gage port line B5-59-346.

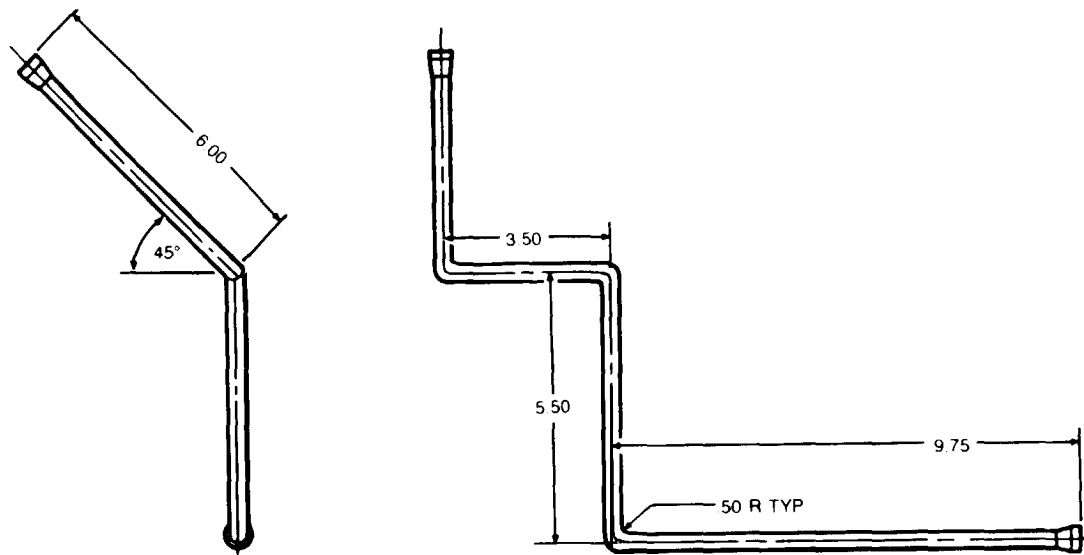


MATERIAL

QTY	DESCRIPTION	PART NO.
1	TUBE, METALLIC	MILT3520 (81349)
2	NUT, TUBE COUPLING	MS391 66-5

1. CUT A PIECE 24.75 INCHES LONG FROM BULK ISSUE METALLIC TUBE AND BEND AS SHOWN.
2. ASSEMBLE TUBE COUPLING NUT ON EACH END AND DOUBLE FLARE EACH END 45° PER SAE STD J533.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-6 1. Combustor return line B5-59-350.

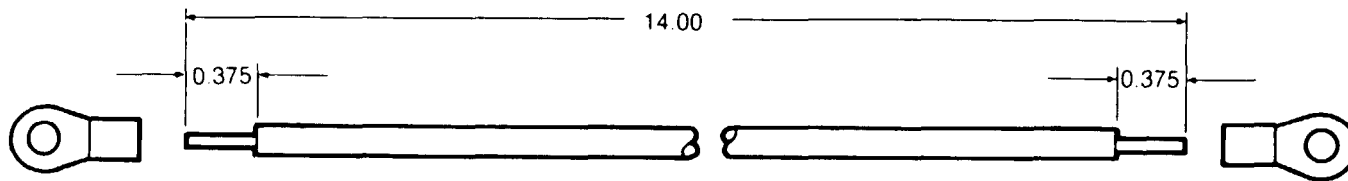


MATERIAL

QTY	DESCRIPTION	PART NO.
1	TUBE, METALLIC	MILT3520 (81349)
1	NUT, TUBE COUPLING	MS39166-3

1. CUT A PIECE 11.00 INCHES LONG FROM BULK ISSUE METALLIC TUBE AND BEND AS SHOWN.
2. ASSEMBLE TUBE COUPLING NUT ON EACH END AND DOUBLE FLARE EACH END 45° PER SAE STD J533.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-62. Nozzle valve line B5-59-394.

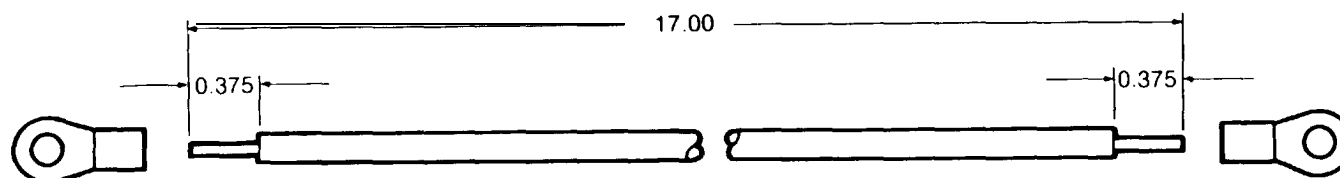


MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946
2	LUG, TERMINAL	MS25036-8

1. CUT BULK ELECTRICAL WIRE 14.00 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM EACH END AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

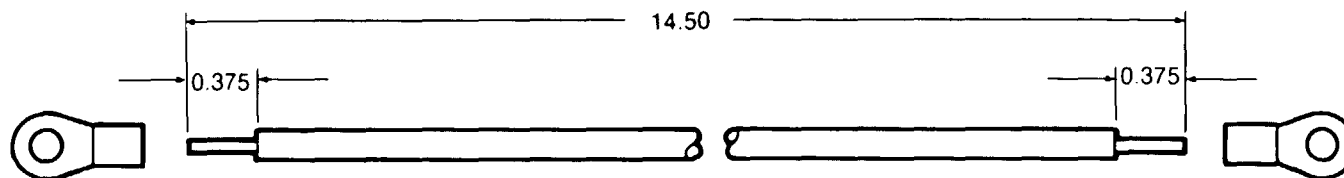
Figure D-63. Electrical wire C5-45-3248- 11.

**MATERIAL**

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946
2	LUG, TERMINAL	MS25036-8

1. CUT BULK ELECTRICAL WIRE 17.00 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM EACH END AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-64. Electrical wire C5-45-3248-12.

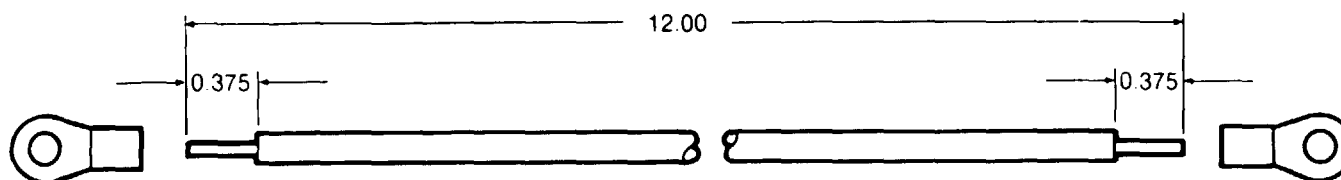


MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946
2	LUG, TERMINAL	MS25036-8

1. CUT BULK ELECTRICAL WIRE 14.50 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM EACH END AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

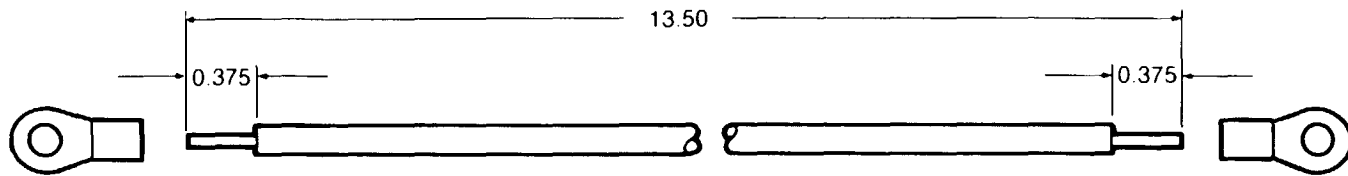
Figure D-65. Electrical wire C5-45-3248- 13.

**MATERIAL**

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946
2	LUG, TERMINAL	MS25036-8

1. CUT BULK ELECTRICAL WIRE 12.00 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM EACH END AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-66. Electrical wire C5-45-3248-14.

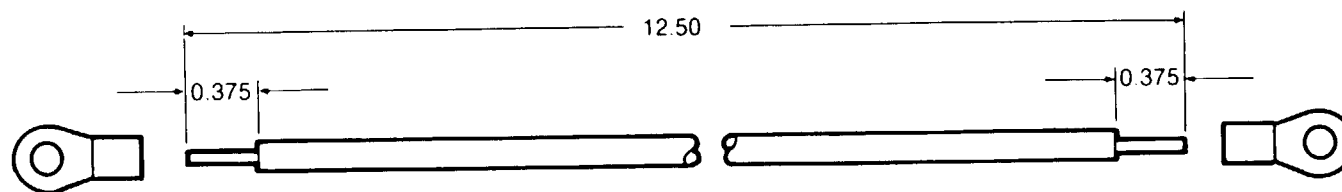


MATERIAL

QTY	DESCRIPTION	PART NO
1	WIRE, ELECTRICAL	MM2946
2	LUG, TERMINAL	MS25036-8

1. CUT BULK ELECTRICAL WIRE 13.50 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM EACH END AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

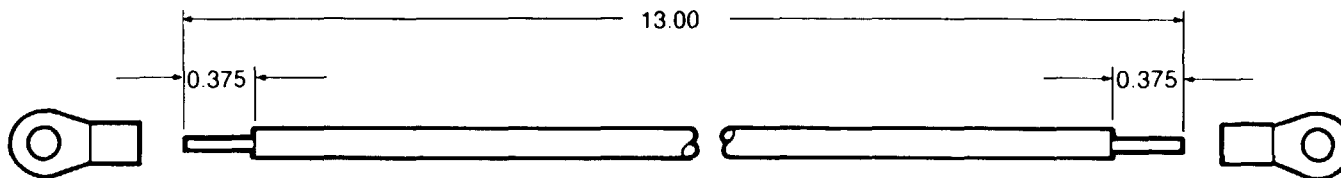
Figure D-67. Electrical wire C5-45-3248-15.

**MATERIAL**

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946
2	LUG, TERMINAL	MS25036-8

1. CUT BULK ELECTRICAL WIRE 12.50 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM EACH END AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-68. Electrical wire C5-45-3248-16.

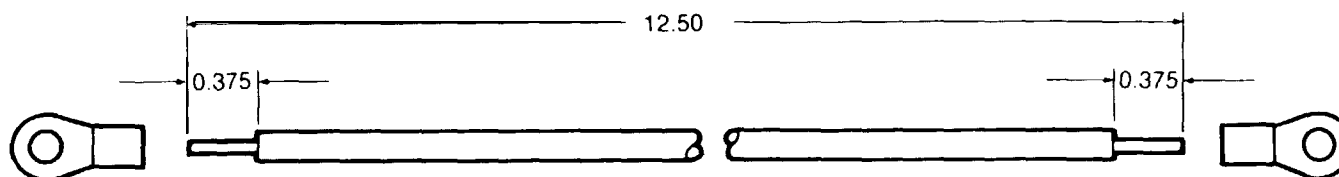


MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946
2	LUG, TERMINAL	MS25036-8

1. CUT BULK ELECTRICAL WIRE 13.00 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM EACH END AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-69. Electrical wire C5-45-3248-17.

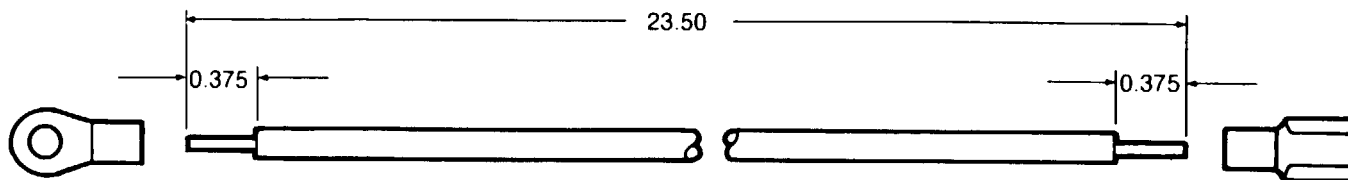


MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946
2	LUG, TERMINAL	MS25036-8

1. CUT BULK ELECTRICAL WIRE 12.50 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM EACH END AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure 0-70. Electrical wire C5-45-3248-18.



MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946
1	LUG, TERMINAL	42599-2
1	LUG, TERMINAL	MS25036-8

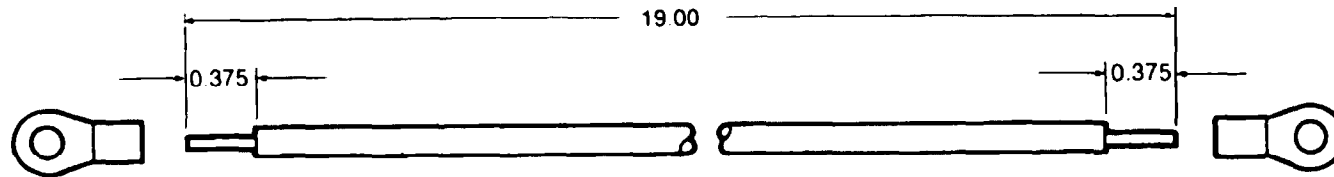
1. CUT BULK ELECTRICAL WIRE 23.50 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM EACH END AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-71. Electrical wire C5-45-3248-19.

5/8-11	420-540	700-900	800-1,125	900-1,350
5/8-18	660-780	1,100-1,300	1,200-1,730	1,300-2,160
3/4-10	700-950	1,150-1,600	1,380-1,925	1,600-2,250
3/4-16	1,300-1,500	2,300-2,500	2,400-3,500	2,500-4,500
7/8-9	1,300-1,800	2,200-3,000	2,600-3,570	3,000-4,140
7/8-14	1,500-1,800	2,500-3,000	2,750-4,650	3,000-6,300
1"-8	2,200-3,000	3,700-5,000	4,350-5,920	5,000-6,840
1"-14	2,200-3,300	3,700-5,500	4,600-7,250	5,500-9,000
1 1/8-8	3,300-4,000	5,500-6,500	6,000-8,650	6,500-10,800
1 1/8-12	3,000-4,200	5,000-7,000	6,000-10,250	7,000-13,500
1 1/4-8	4,000-5,000	6,500-8,000	7,250-11,000	8,000-14,000
1 1/4-12	5,400-6,600	9,000-11,000	10,000-16,750	11,000-22,500

***NOTE**

Torque values as specified in this table are for dry torquing.

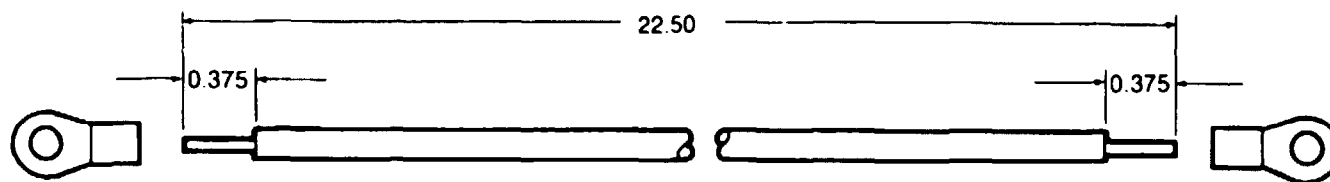


MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946
2	LUG, TERMINAL	MS25036-8

1. CUT BULK ELECTRICAL WIRE 19.00 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM EACH END AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-72. Electrical wire C5-45-3248-20.

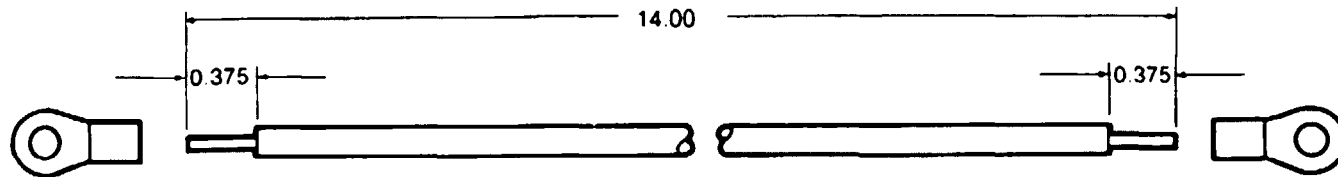


MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946
2	LUG, TERMINAL	MS250368

1. CUT BULK ELECTRICAL WIRE 22.50 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM EACH END AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-73. Electrical wire C5-45-3248-21.

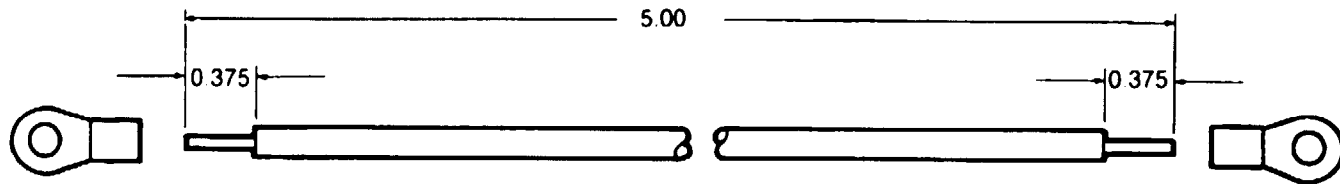


MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946
2	LUG, TERMINAL	MS25036-6

1. CUT BULK ELECTRICAL WIRE 14.00 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM EACH END AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-74. Electrical wire C5-45-3248-22.

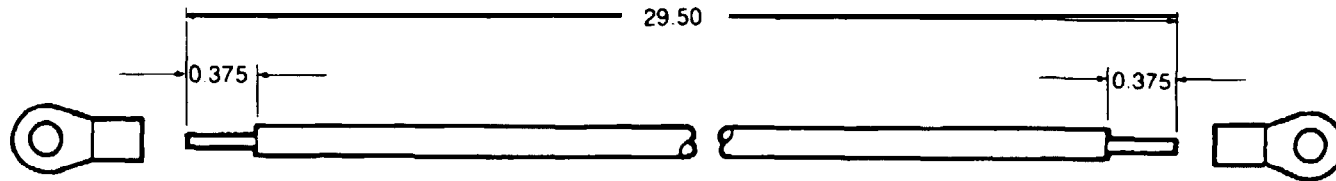


MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946
2	LUG. TERMINAL	MS25036-8

1. CUT BULK ELECTRICAL WIRE 5.00 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM EACH END AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-75. Electrical wire C5-45-3248-23.

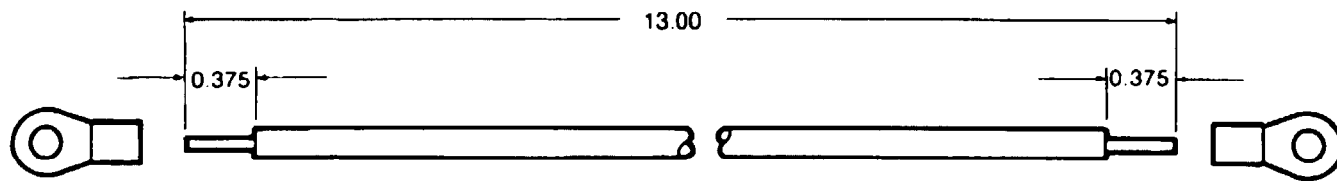


MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946
2	LUG. TERMINAL	MS250364

1. CUT BULK ELECTRICAL WIRE 29.50 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM EACH END AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-76. Electrical wire C5-45-3248-24.

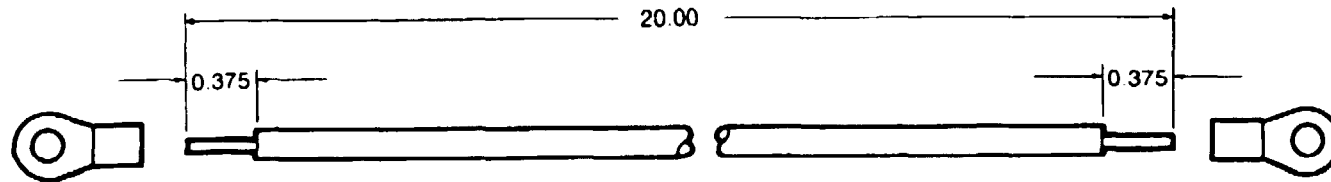


MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946
2	LUG, TERMINAL	MS250388

1. CUT BULK ELECTRICAL WIRE 13.00 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM EACH END AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-77. Electrical wire C5-45-3248-25.

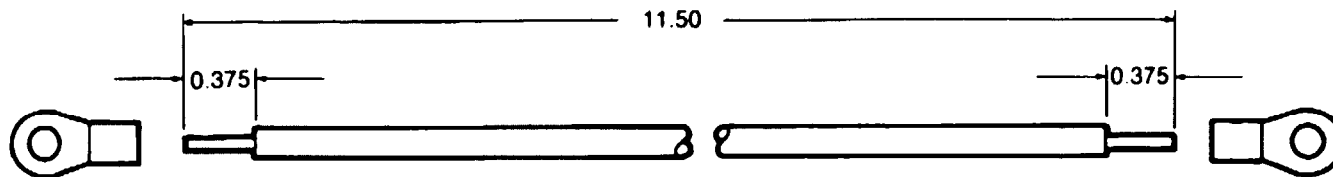


MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946
1	LUG, TERMINAL	MS25036-8
1	LUG, TERMINAL	42599-2

1. CUT BULK ELECTRICAL WIRE 20.00 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM EACH END AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-78. Electrical wire C5-45-3248-26.



MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE, ELECTRICAL	MM2946
2	LUG. TERMINAL	MS25036-6

1. CUT BULK ELECTRICAL WIRE 11.50 INCHES LONG.
2. STRIP 0.375 INCH INSULATION FROM EACH END AND CRIMP TERMINAL LUG ON EACH END.
3. ALL DIMENSIONS ARE IN INCHES.

Figure D-79. Electrical wire C5-45-3248-27.

APPENDIX E TORQUE LIMITS

E-1. INTRODUCTION.

- a. This appendix includes a standard torque table of the most commonly torqued screws, bolts, and nuts.
- b. Use these torque values when torque values are not specified.

c. The torque table values are given in inch-pounds. If a torque wrench is calibrated in foot-pounds, divide the listed number by 12 to obtain the desired torque.

STANDARD TORQUE TABLE (INCH-POUNDS)

Dry Torque Values in Inch-Pounds for Tightening Nuts'

Bolt, Stud, or Screw Size	On standard bolts, studs, and screws having a tensile strength of 125,000 to 140,000 psi		On bolts, studs, and screws having a tensile strength of 140,000 to 160,000 psi	On high-strength bolts, studs, and screws having a tensile strength of 160,000 psi and over
	Shear type nuts (AN320, AN364, or equivalent)	Tension type nuts and threaded machine parts (AN310, AN365, or equivalent)	Any nut, except shear type	Any nut, except shear type
8-32	7-9	12-15	14-17	15-18
8-36	7-9	12-15	14-17	15-18
10-24	12-15	20-25	23-30	25-35
1/4-20	25-30	40-50	45-49	50-68
1/4-28	30-40	50-70	60-80	70-90
5/16-18	48-55	80-90	85-117	90-144
5/16-24	60-85	100-140	120-172	140-203
3/8-16	95-110	160-185	173-217	185-248
3/8-24	95-110	160-190	175-271	190-351
7/16-14	140-155	235-255	245-342	255-428
7/16-20	270-300	450-500	475-628	500-756
1/2-13	240-290	400-480	440-636	480-792
1/2-20	290-410	480-690	585-840	690-990
9/16-12	300-420	500-700	600-845	700-990
9/16-18	480-600	800-1,000	900-1,220	1,000-1,440

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