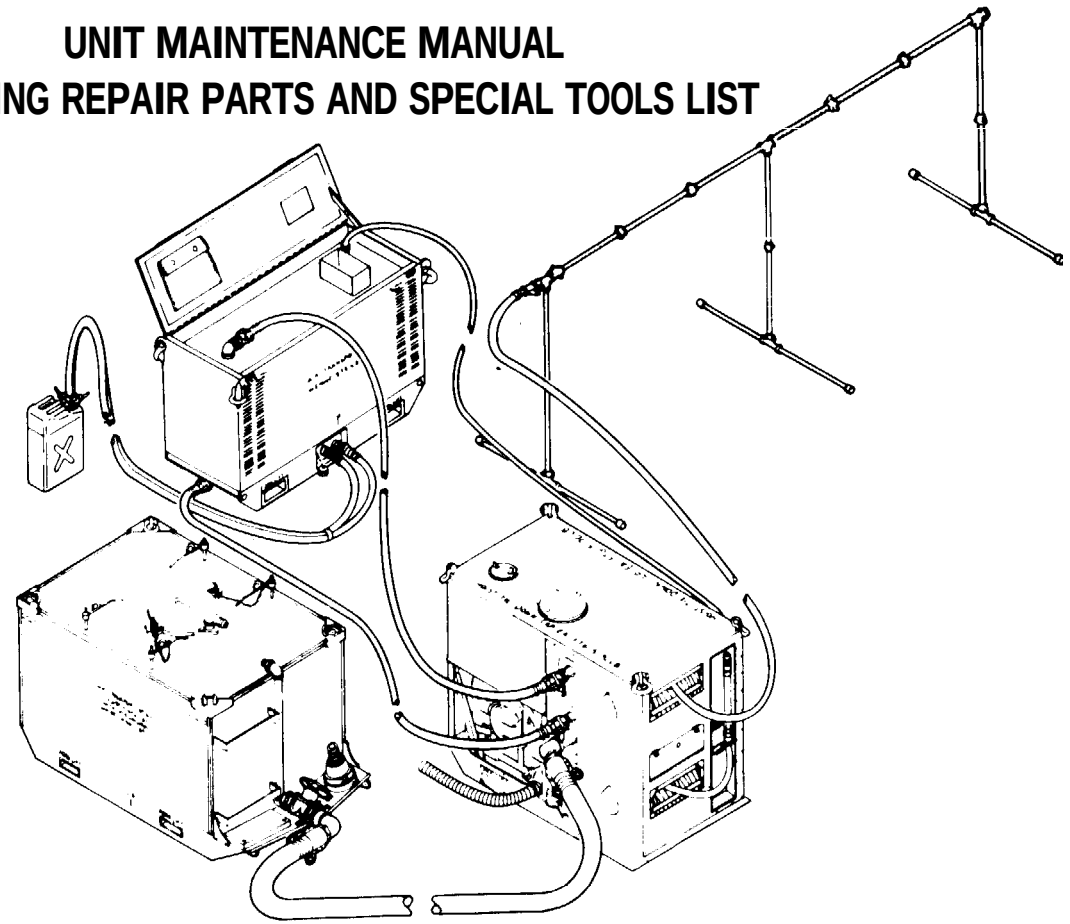
TECHNICAL MANUAL

TM 3-4230-209-20&P

UNIT MAINTENANCE MANUAL
INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST



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

HEADQUARTERS, DEPARTMENT OF THE ARMY

JUNE 1986

WARNING

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 wearer against carbon monoxide fumes.

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

Make sure that the fuel supply and fuel return lines are properly connected before operating the water heater.

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

Gasoline vapors in the fuel tank are hazardous. Inspect the fuel tank using outdoor daylight.

The battery and battery compartment area may be coated with acid caused by spillage and/or fumes. Wear protective clothing while working in this area. Wash your hands with baking soda and water solution, flush with clear water before eating, smoking, or touching your face or clothing. If battery acid splashes into your eyes, flush them out using clear 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 off the floor unless it is securely blocked. Failure to do so may result in a crushed arm.

Do not smoke when filling the fuel tank with gasoline. Do not fill the fuel tank while engine is running. Open flame, sparks, or heated objects are not permitted in the area. Do not inhale gasoline vapors. Keep gasoline away from mouth, eyes, open cuts, or abrasions. Take care to avoid spilling fuel. Wipe up any spilled fuel immediately.

Insure shower assembly is cleaned before using.

To avoid injury or electrical shock, keep the HEATER RECEPTACLE AND SWITCH on the pump unit control panel to OFF when the water heater is not in use. An operator must be present at all times during operation of the water heater. Water must be circulating through the water heater before fuel is ignited, as well as throughout the time the water heater is operating.

Insure that the electrical power cable is disconnected from the power source prior to performing inspection and servicing of electrical motors, control box, and 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.

Be sure the battery's ground cable is disconnected from the negative terminal before performing maintenance.

Authorized fuel will be obtained only from authorized fuel services or fuel trucks. Siphoning fuel from vehicles is prohibited. Siphoning can cause static electricity, mouth and throat damage.

Make certain 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.

TECHNICAL MANUAL
No. 3-4230-209-20&P

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 28 June 1986

Unit Maintenance Manual
Including Repair Parts and Special Tools List

DECONTAMINATING APPARATUS: POWER-DRIVEN, SKID-MOUNTED, 500-GALLON, M12A1 (NSN 4230-00-926-8488)

Current as of 27 May 1986 for appendix C

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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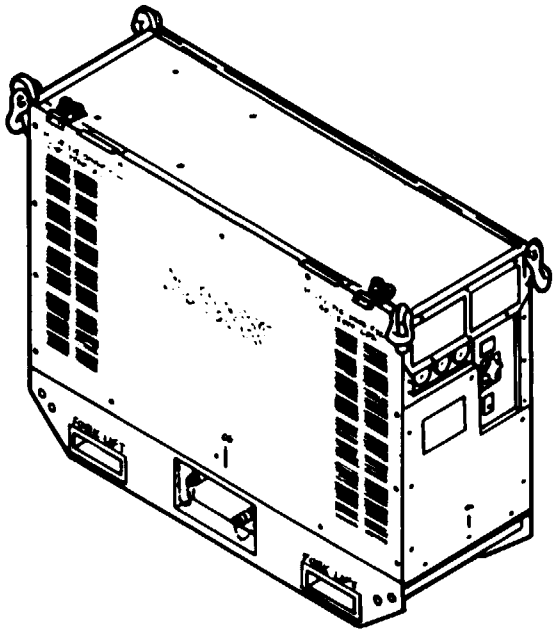
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HOW TO USE THIS MANUAL

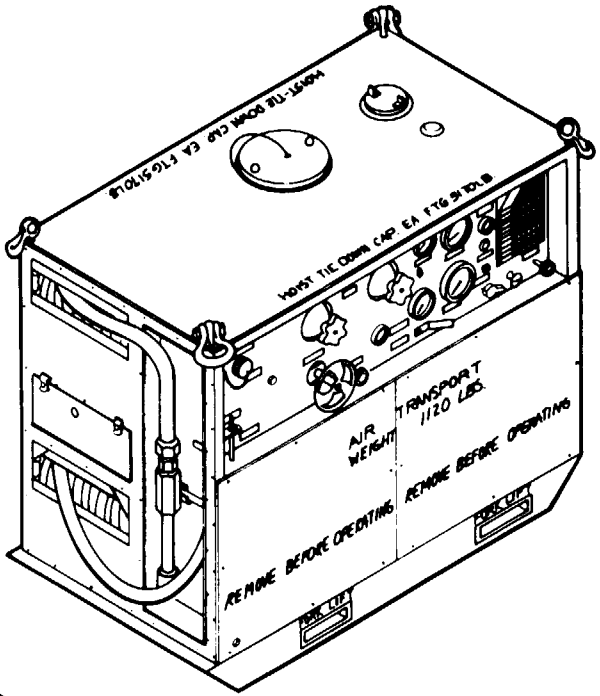
This manual is used by unit maintenance personnel to maintain the decontaminating apparatus. The Maintenance Allocation Chart (MAC) prescribes the authorized maintenance for this equipment. The MAC is in appendix B of this manual. You (the user) must familiarize yourself with the information maintained in the major sections and appendixes of this manual before attempting to accomplish any maintenance task.

This manual is to be used with M12A1 units that have had Modification Work Order (MWO) 3-4230-209-50-1 applied or manufactured after Jan 85 (serial numbers 587-2683 and larger). Modified units are identified by a plate mounted near the M12A1 nameplate on the pump unit control panel.

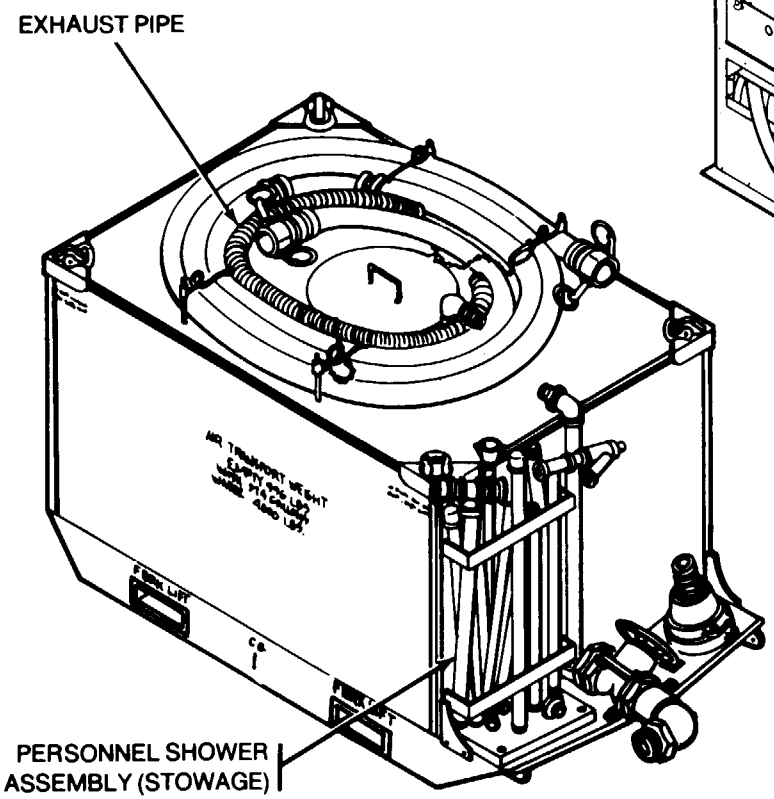
If the equipment fails to function properly after following the approved procedures given in the manual, notify your immediate supervisor. Do not attempt to apply unauthorized repairs or parts; extensive damage may result.



WATER HEATER



PUMP UNIT



TANK UNIT

MAJOR COMPONENTS OF M12A1 DECONTAMINATING APPARATUS

CHAPTER I
INTRODUCTION

Section I. GENERAL INFORMATION

1-1. SCOPE.

a. Type of Manual. Unit Maintenance Including Repair Parts and Special Tools List.

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 prescribed by DA PAM 738-750, The Army Maintenance Management System (TAMMS).

1-3. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE. Procedures and materials used to destroy the decontaminating apparatus are listed in TM 43-0002-31.

1-4. PREPARATION FOR STORAGE OR SHIPMENT. Refer to TM 740-90-1 for administrative storage requirements. Refer to TM 38-230-1 and -2 for preservation and packing instructions.

1-5. OFFICIAL NOMENCLATURE, NAMES, AND DESIGNATIONS. This listing includes nomenclature cross-references used in this manual.

NOMENCLATURE CROSS-REFERENCE LIST

Common Name	Official Nomenclature
Pump unit	Pumping Unit
Tank unit	Skid-Mounted Decontaminating Apparatus Tank Unit
Personnel shower assembly	Shower Assembly
Water heater.	Liquid Fuel Water Heater
Tank drain valve	Regulating Valve
Hopper assembly	Tank, Liquid Storage
Fuel Pump and Ignition Drive Motor	Direct Current Motor
Stem	Quick Release Clamp

1-6. CALIBRATION. No calibration is required.

1-7. 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. Tell us why a procedure is hard to perform. 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, MD 21010-5423. We'll send you a reply.

Section II. EQUIPMENT DESCRIPTION AND DATA

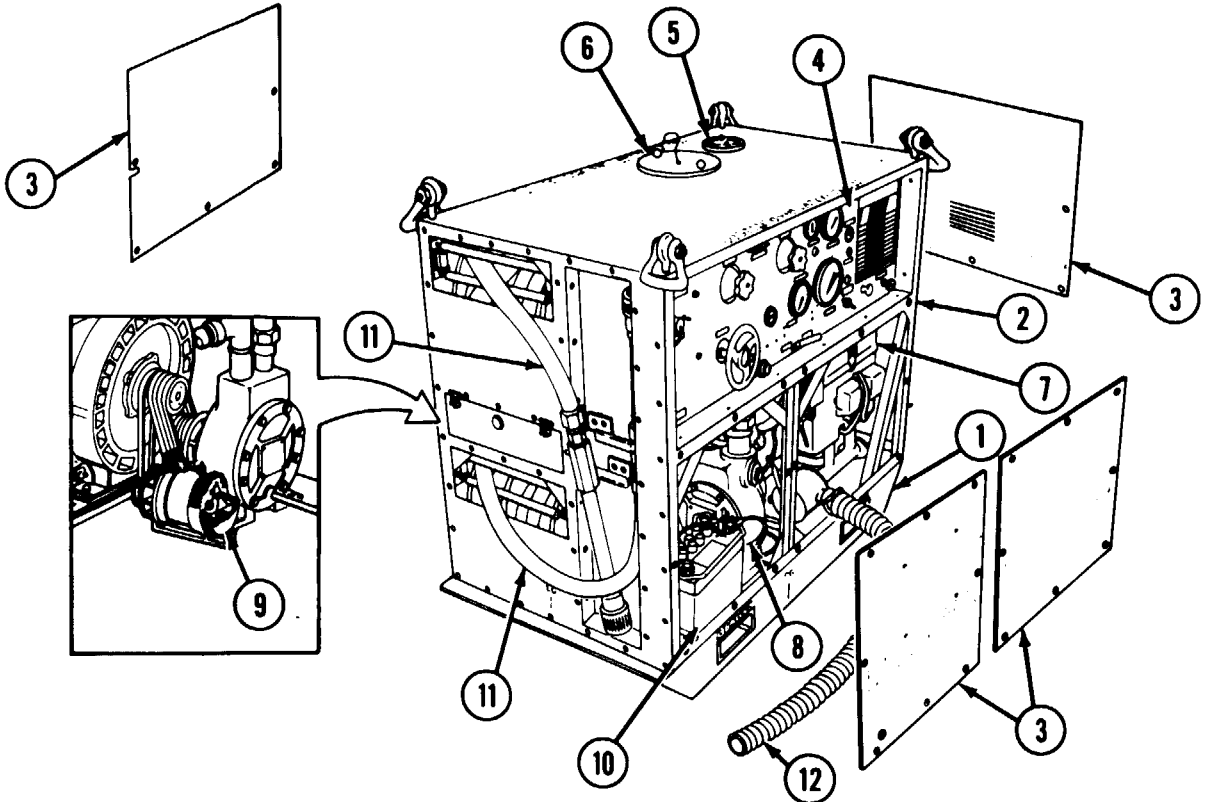
1-8. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES.

a. Characteristics.
- (1) Skid-mounted
- (2) Nonintegral
- (3) Power-driven
- (4) Multipurpose
- (5) Transportable

b. Capabilities and Features.
- (1) Sprays decontaminating materials
- (2) Firefights with water or foam
- (3) Deices
- (4) Cleans vehicles and equipment
- (5) Pumps various fluids
- (6) Showers personnel

1-9. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.

a. Pump Unit.



① SKID BASE SUBASSEMBLY. Provides base for pump unit subassembly.

② FRAME ASSEMBLY. Supports components of the pump unit.

③ COVER PANEL ASSEMBLIES. Protect components from elements. Provide access to components. When removed, ventilate the engine.

④ CONTROL PANEL. Contains controls and instruments for the pump unit.

⑤ ENGINE FUEL TANK. Holds 20 gallons of fuel for the gasoline engine.

⑥ PRIME-DETERGENT TANK ASSEMBLY. A 10-gallon tank used to store foam, detergent, or water for priming the pump.

⑦ GASOLINE ENGINE. A 20 hp engine used to drive the pump unit and alternator.

⑧ CENTRIFUGAL PUMP. Pumps fluids from sources to tank unit and water heater.

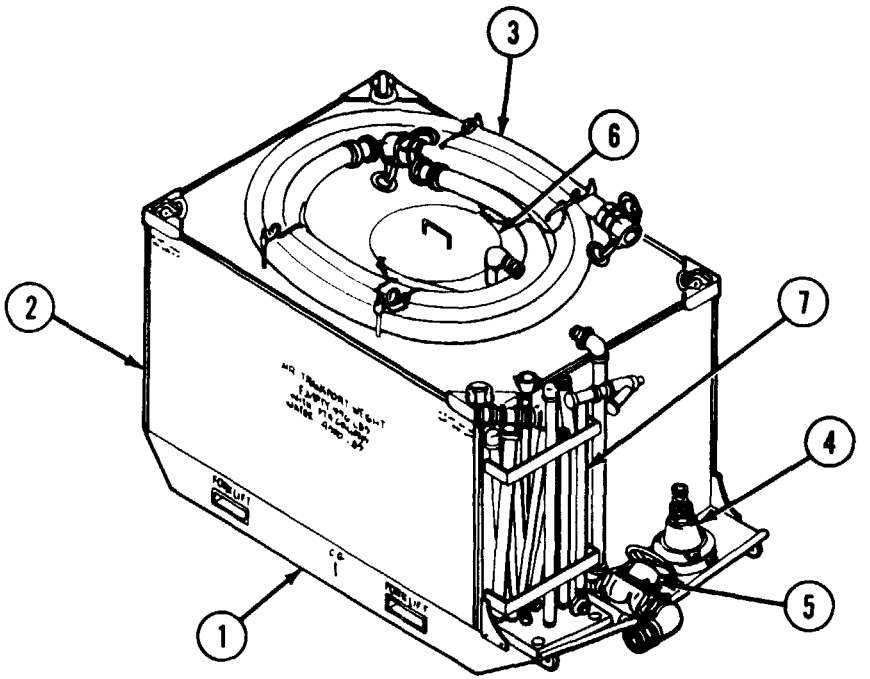
⑨ ALTERNATOR/GENERATOR. Powered by a pulley from gasoline engine. The alternator supplies power through a junction behind HEATER RECEPTACLE AND SWITCH box to the M2 water heater.

⑩ STORAGE BATTERY. Supplies current to start the gasoline engine.

⑪ HOSE ASSEMBLIES. Discharge fluid. Both hoses are mounted on fixed reel assemblies.

⑫ EXHAUST PIPE. Two exhaust pipe extensions carry fumes away from the gasoline engine. Pipes are stored on top of the tank unit.

b. Tank Unit and Personnel Shower Assembly.



① TANK SKID BASE. Supports and provides a base for the tank unit.

② TANK ASSEMBLY. A 500-gallon stainless steel tank. Operating capacity is normally 447 gallons of water or 317 gallons of slurry.

③ SUCTION HOSE ASSEMBLY. Carries water from a natural source or transfers water from tank unit to pump unit.

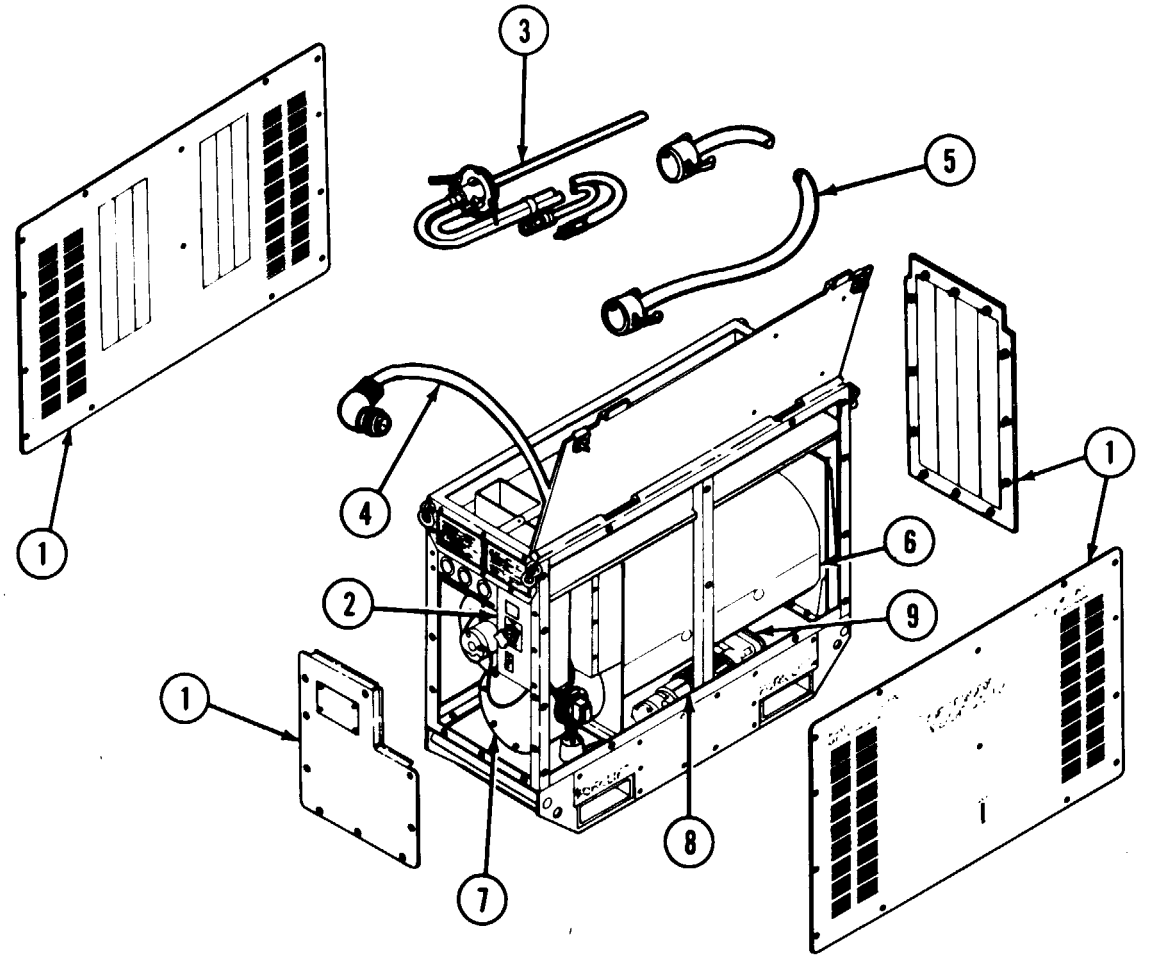
④ FOOT VALVE ASSEMBLY. Prevents solids from entering the suction hose when water is pumped from a natural source.

⑤ TANK DRAIN VALVE. Drains the tank.

⑥ HOPPER ASSEMBLY. Blends bulk powder or chemicals with water.

⑦ PERSONNEL SHOWER ASSEMBLY. Consists of pipes, couplings, and adapters which, when assembled, provide mass showering of personnel (up to 24 at one time). The shower assembly parts are shown disassembled in the stowage area.

c. Water Heater.



(1) REMOVABLE PANELS. Allow access to heater subassemblies.

(2) CONTROL BOX ASSEMBLY. Contains temperature and pressure gages and direction label.

(3) FUEL HOSE ASSEMBLY. Supplies fuel to operate the heater.

(4) POWER CABLE ASSEMBLY. Supplies electrical power to operate the heater.

(5) WATER HOSE. Carries heated water from the heater to the pump unit or tank unit.

(6) HEATING LOW PRESSURE BOILER ASSEMBLY. Heats the water.

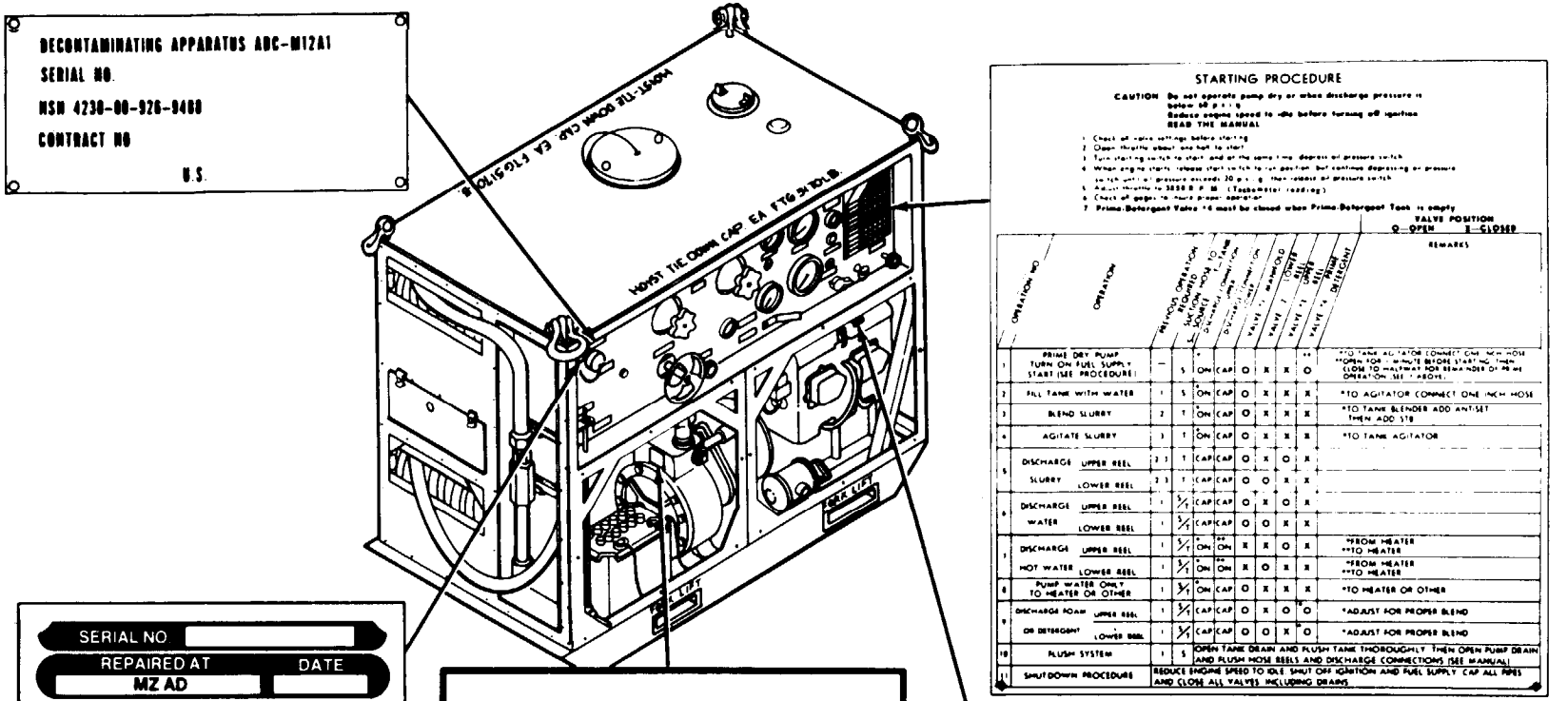
(7) COMBUSTOR ASSEMBLY. Combines fuel and spark for ignition. Projects flame into baler tubes.

(8) FUEL PUMP AND IGNITION DRIVE MOTOR. Operates fuel pump and magneto assembly.

(9) COMBUSTOR MAGNETO. Supplies voltage to igniter plug.

1-10. IDENTIFICATION AND WARNING PLATES.

a. Pump Unit.

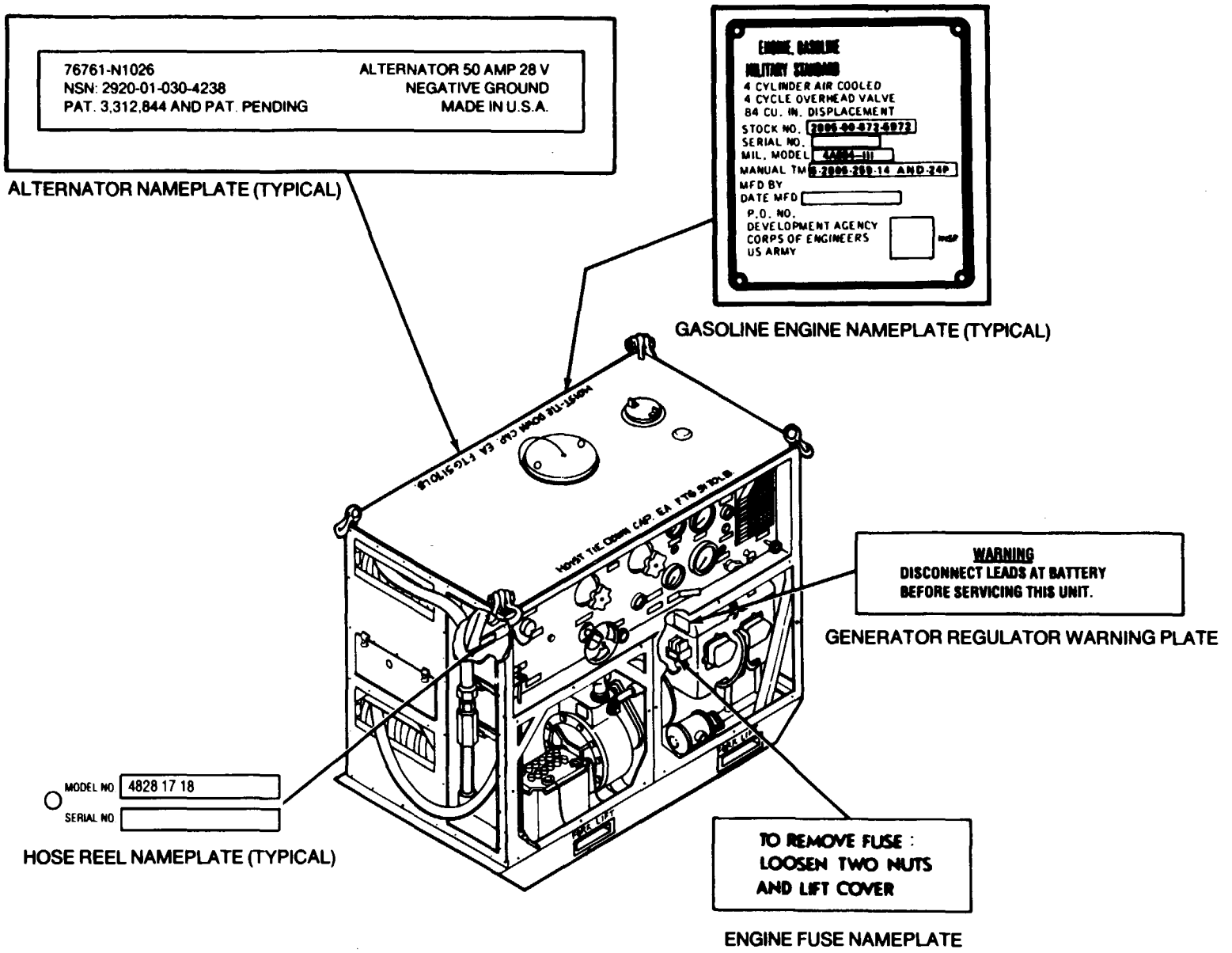


MWO IDENTIFICATION PLATE (TYPICAL)

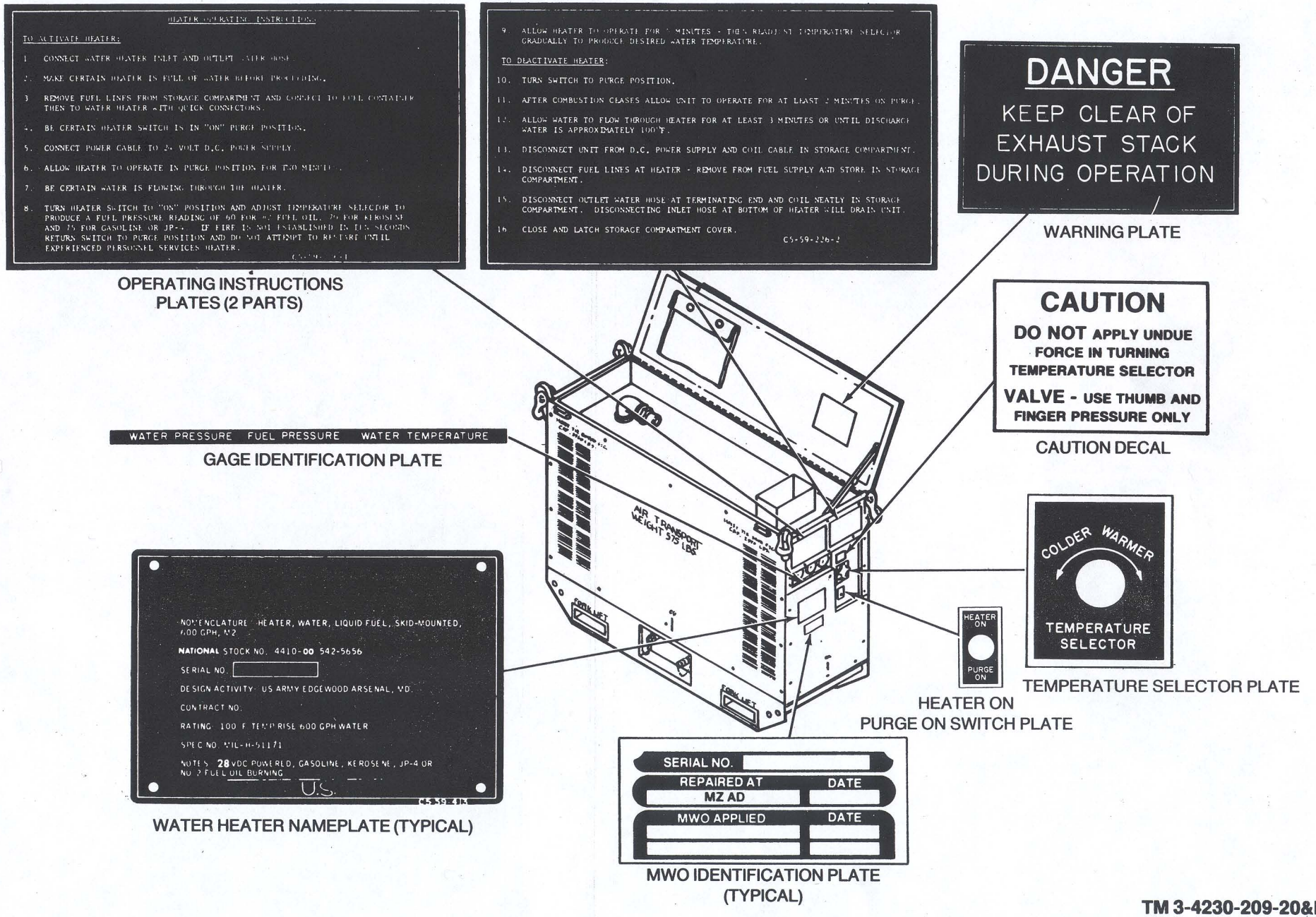
CENTRIFUGAL PUMP NAMEPLATE (TYPICAL)

20 HP ENGINE DECAL

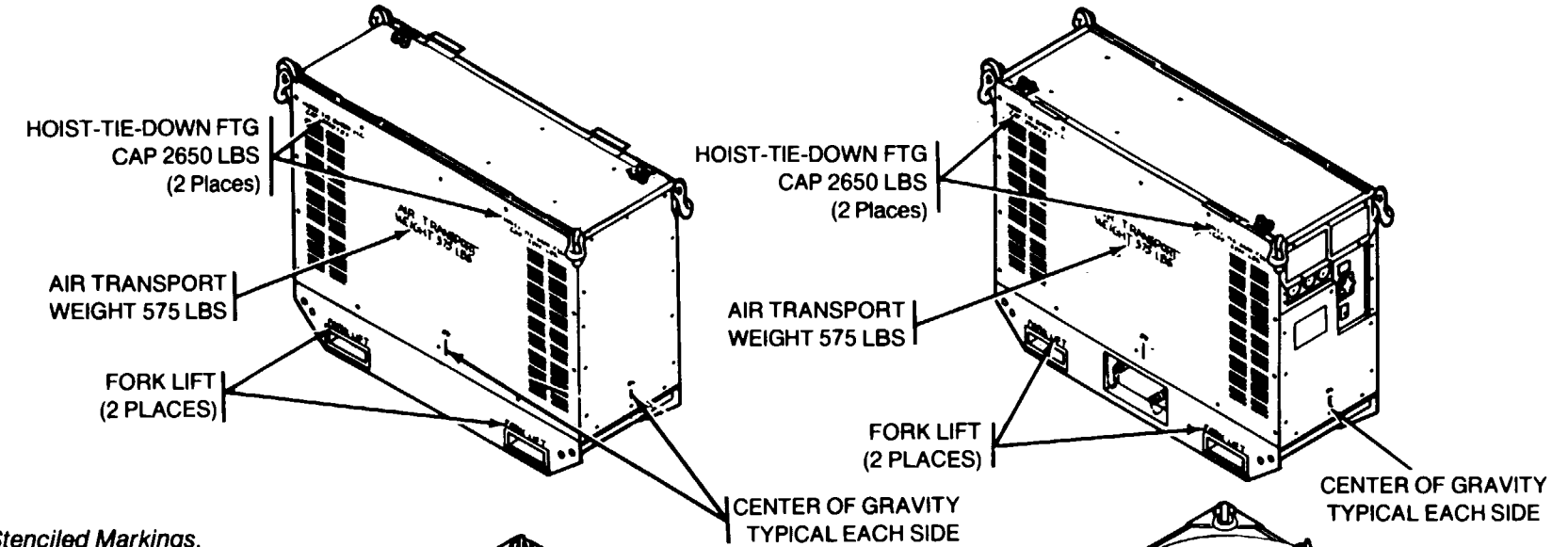
a. Pump Unit (Cont).



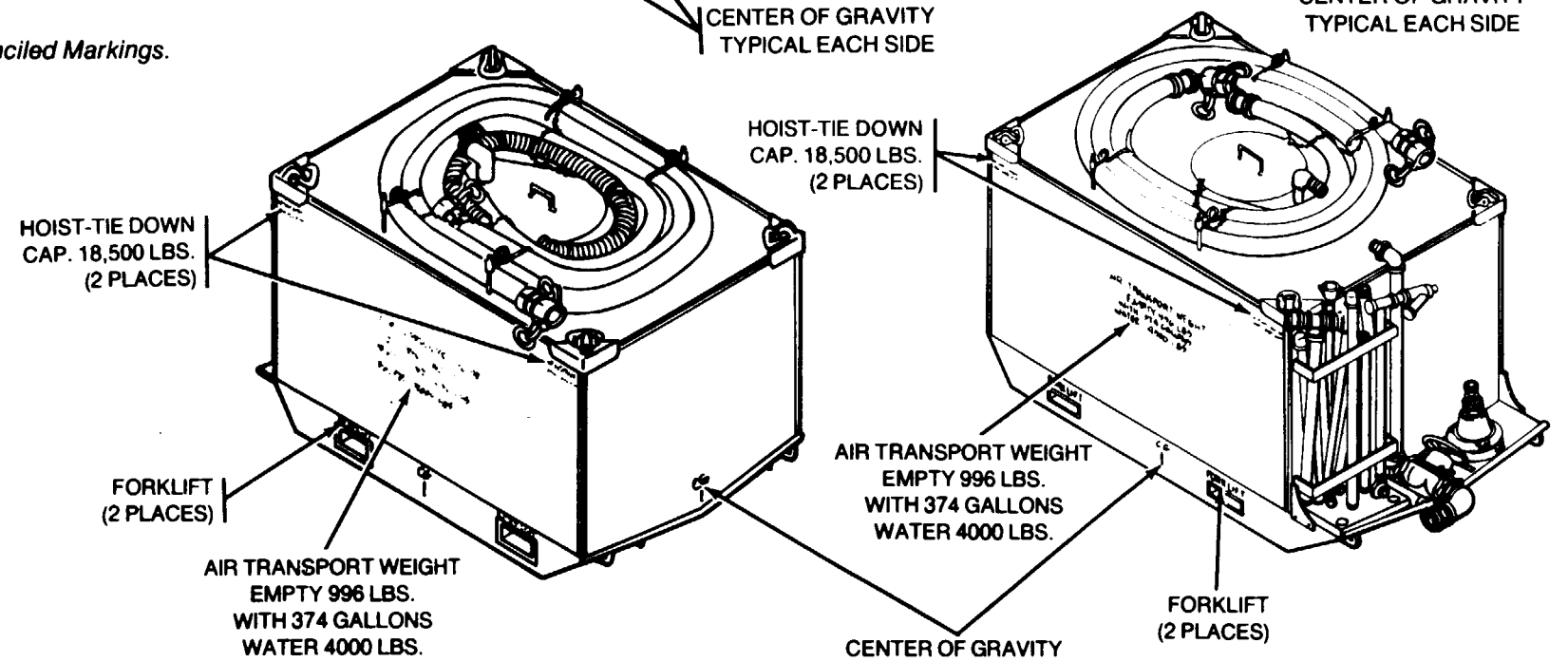
b. ***Water Heater.***



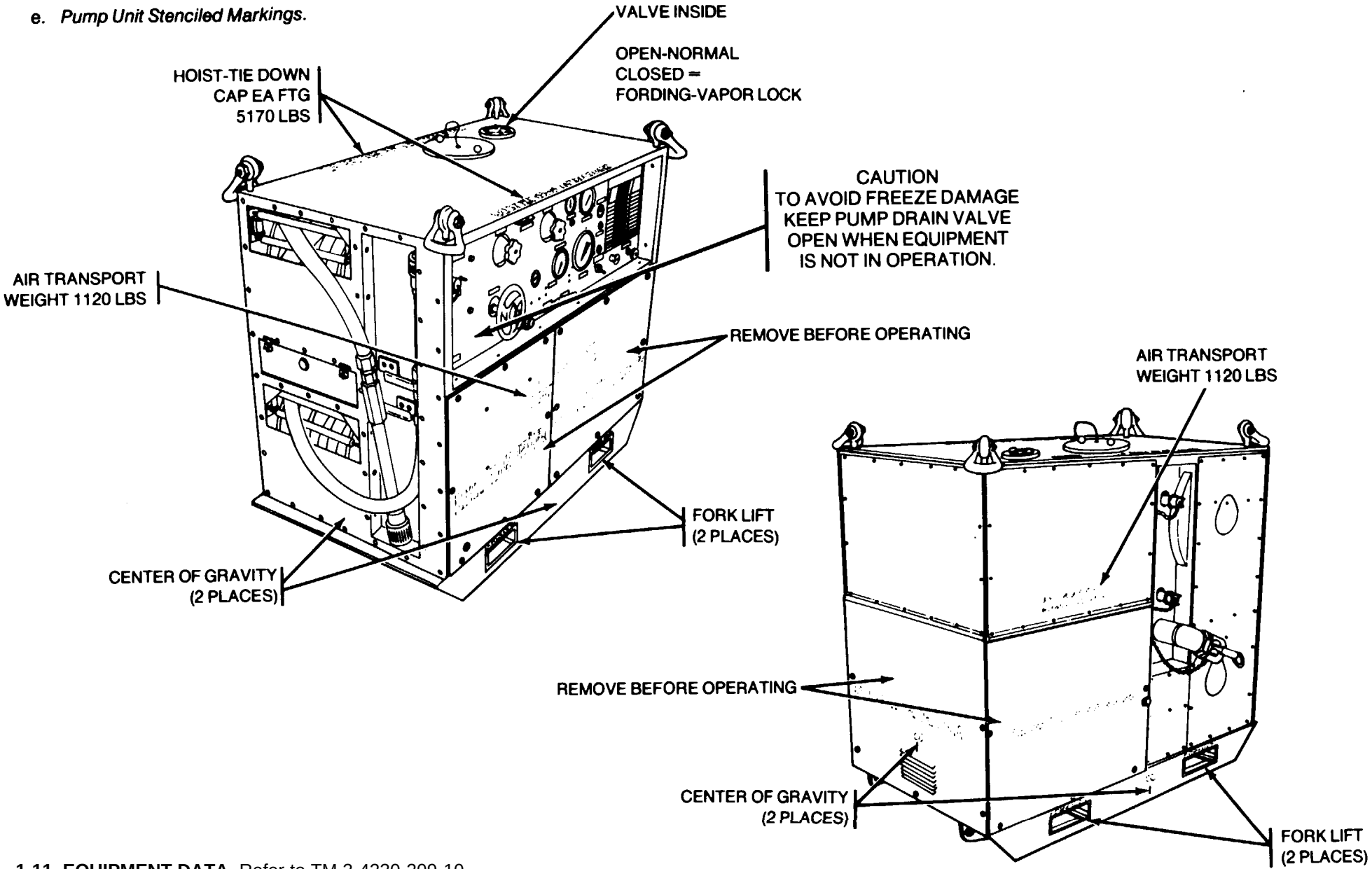
c. *Water Heater Stenciled Markings.*



d. *Tank Unit Stenciled Markings.*



e. *Pump Unit Stenciled Markings.*



1-11. EQUIPMENT DATA. Refer to TM 3-4230-209-10.

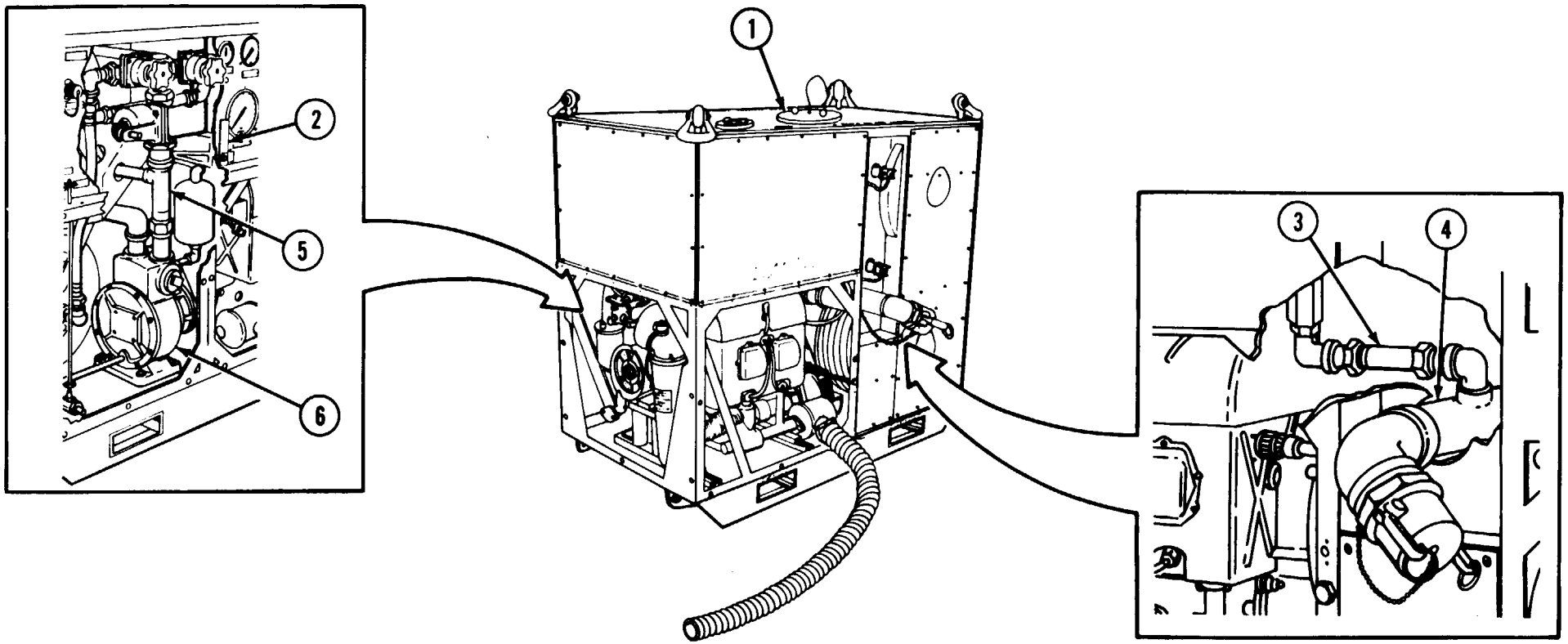
Section III. PRINCIPLES OF OPERATION

1-12. PRINCIPLES OF OPERATION.

a. Pump Unit.

(1) The pump unit is equipped with a prime detergent tank (1) that must be filled with water to prime the pump before starting.

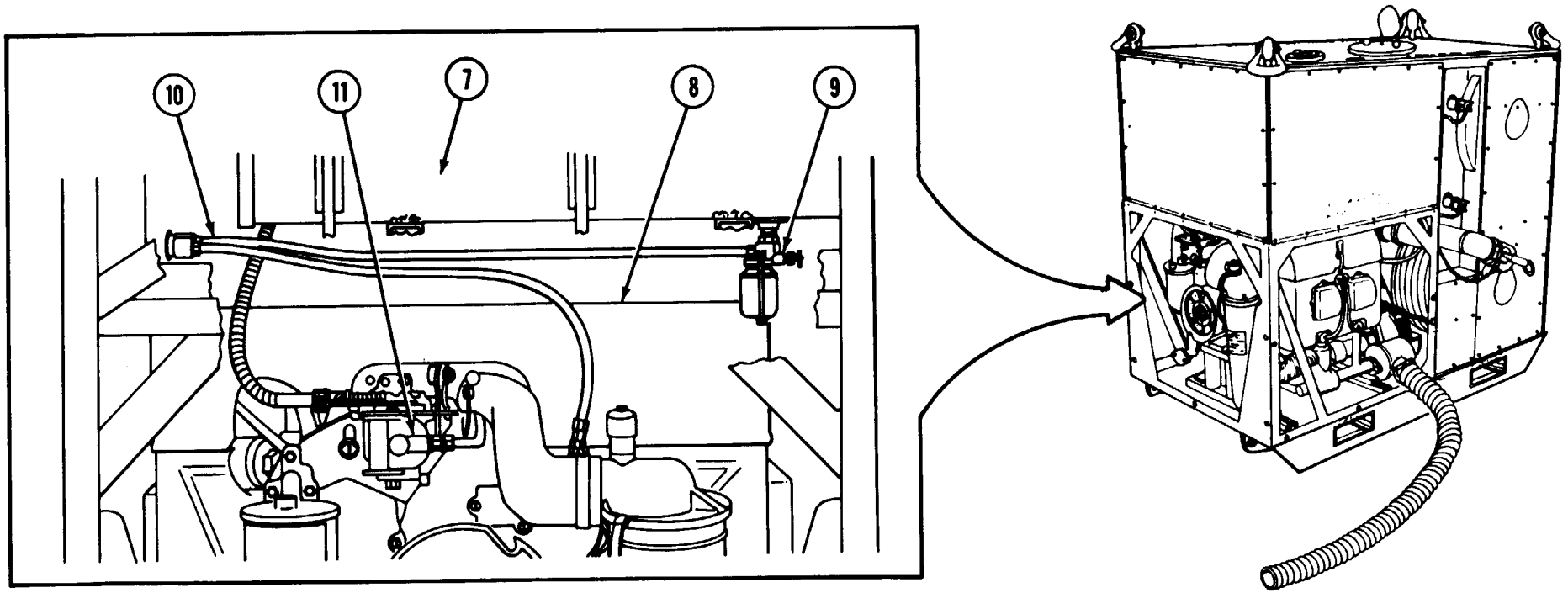
(2) Moving the handle of VALVE NO. 4 (2) to OPEN allows water to flow from prime detergent tank (1) through the valve, to the eductor hose (3) and the eductor (4) of the pump unit subassembly (5) and into the top of the centrifugal pump (6). This keeps the impeller from being operated dry until the source water reaches the pump.



(3) The pump unit does not require additional ground support equip ment to operate. The fuel tank (7) is above the engine (8). This permits the fuel to gravity feed through the fuel shutoff valve (9), through fuel hoses (10), and to the engine carburetor (11).

NOTE

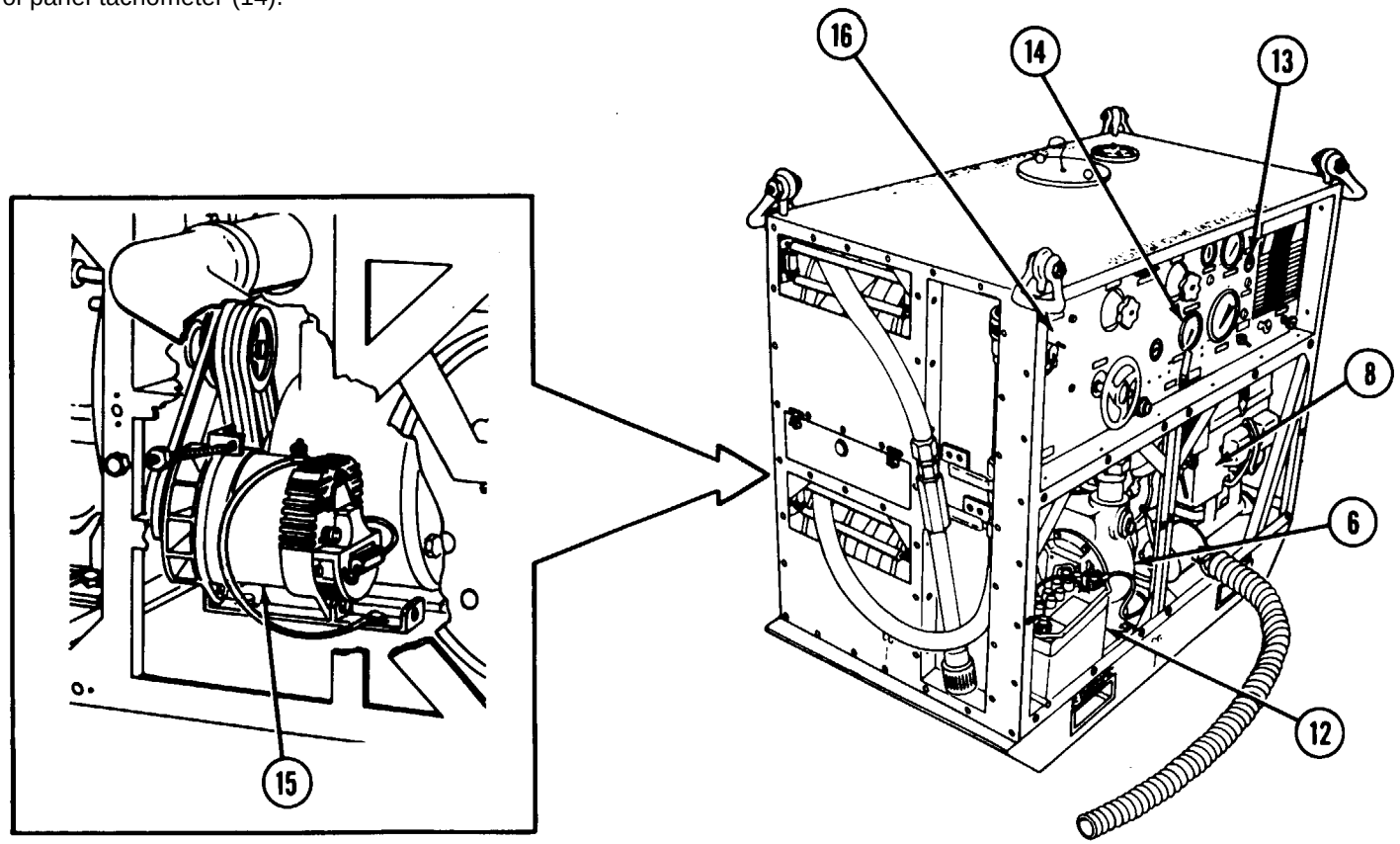
TM 5-2805-259-12 explains engine operation. It will not be cov- ered here.



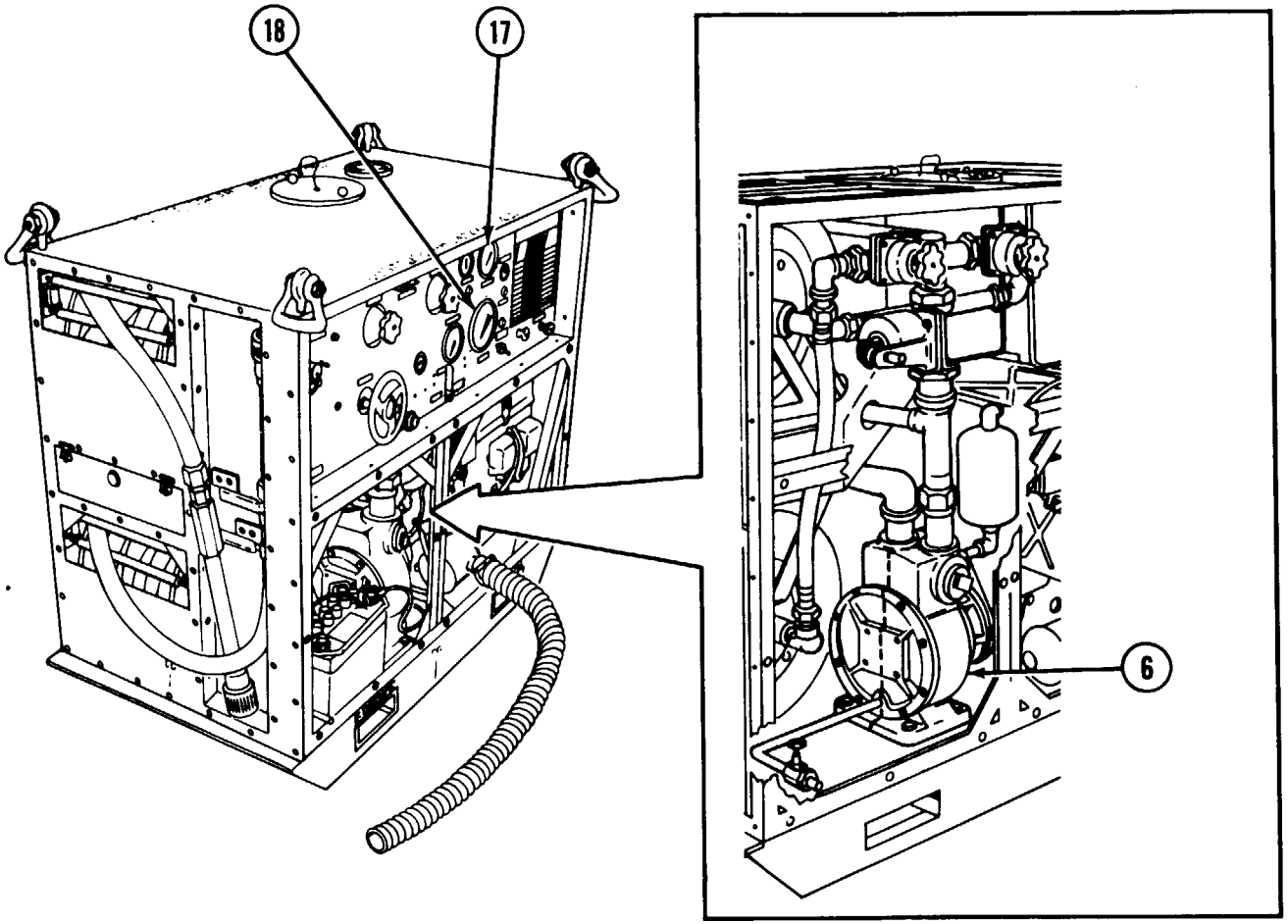
(4) The pump unit provides a 24 volt battery (12) to start the engine (8). The battery (12) is charged while the engine is being operated. The alternator is contained within the engine and is not illustrated (see TM 5-2805-259-12). The control panel ammeter battery charge gage (13) displays the charge or discharge rate.

(5) With the tank unit connected to a water source in accordance with procedures in TM 3-4230-209-10, the engine can be safely started. Once the engine is started, regulate the speed of the engine to operate at 3850 RPM as indicated on the control panel tachometer (14).

(6) The engine at 3850 RPM provides three important functions. The engine charged alternator charges the battery (12). Engine driven belts drive the centrifugal pump (6) and an alternator (15); however, the belt driven alternator does not provide any electrical power to the pump unit. The output of the alternator is connected to the junction box (16) located on the rear of control panel. It supplies power through the HEATER RECEPTACLE AND SWITCH to the electrical power cable from the water heater.

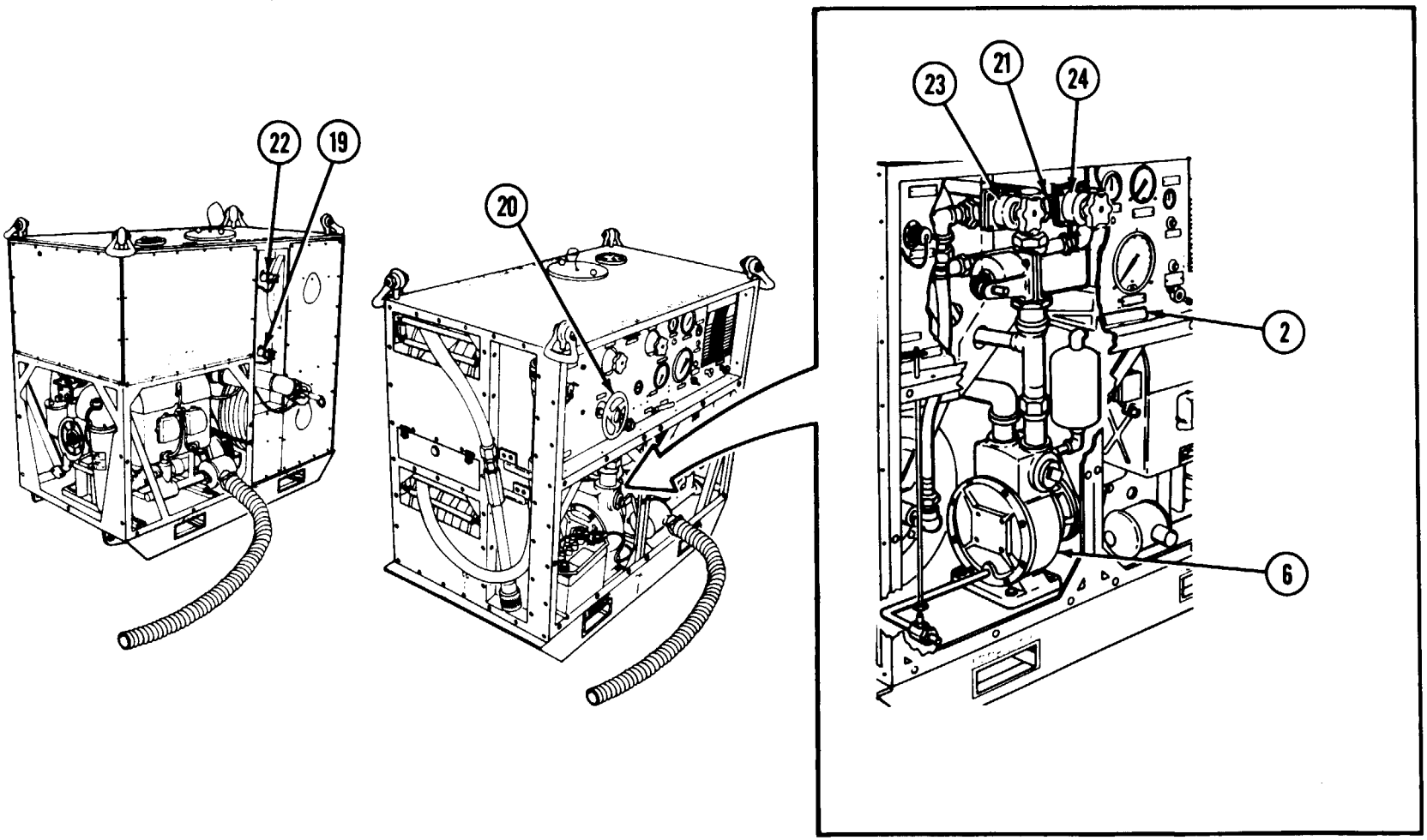


(7) After the centrifugal pump (6) is primed and rotated by the engine, the impeller on the inside of the pump spins causing a low pressure vacuum in the suction line. This vacuum draws source water through the suction line. At the same time high pressure is being built up on the discharge side of the pump. The vacuum gage (17) and the pressure gage (18) indicate the low pressure and high pressure.



(8) Once water reaches the centrifugal pump (6), VALVE NO. 4 (2) should be placed to CLOSE because the pump no longer needs to be primed.

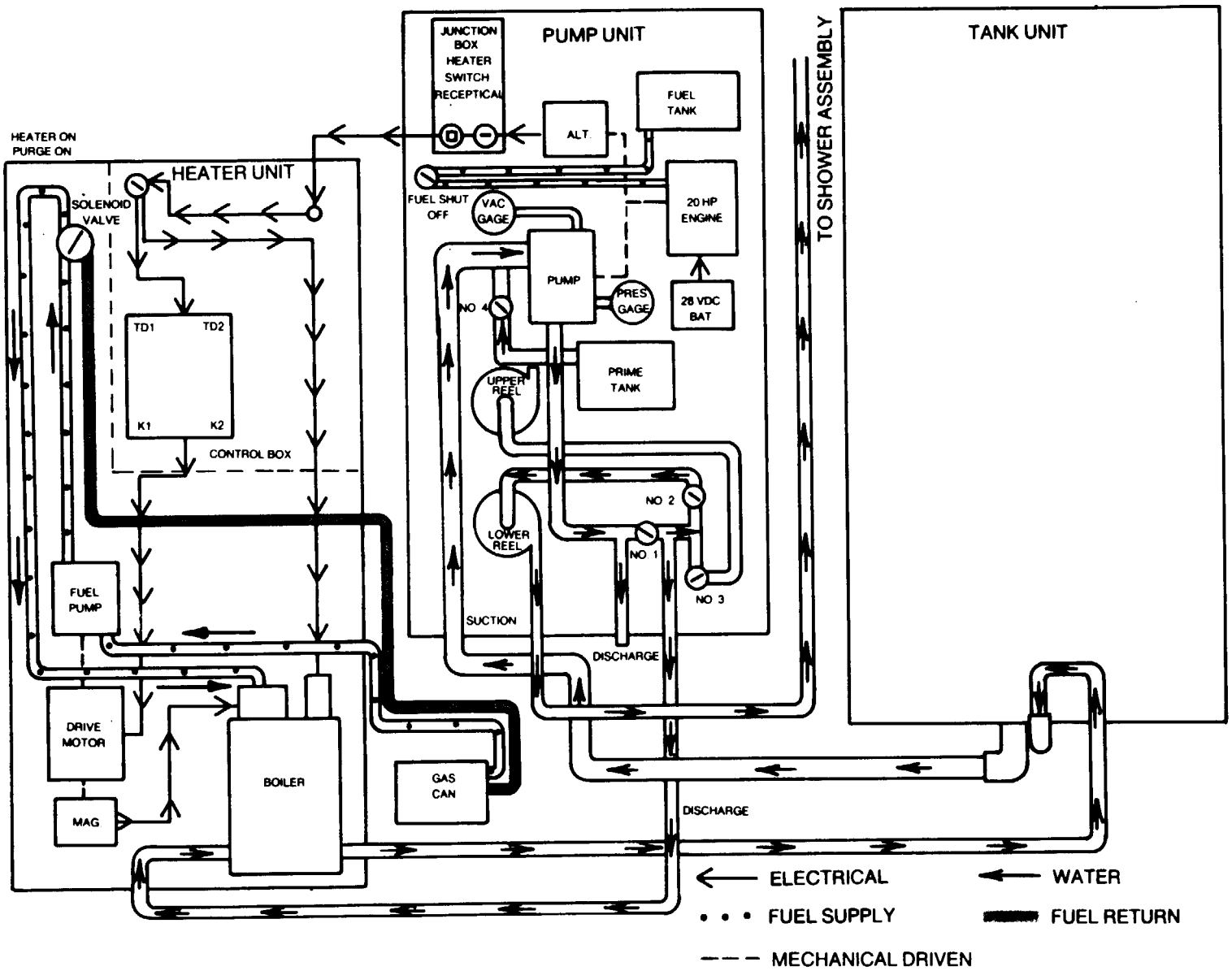
(9) The water pressure in the pump unit subassembly is ready to be used. Usage depends on the mode of operation needed. The lower discharge port (19) is pressurized whenever the pump is operating. VALVE NO. 1 MANIFOLD (20) controls the water to the upper manifold (21) and upper discharge port (22). VALVE NO. 2 LOWER REEL (23) and VALVE NO. 3 UPPER REEL (24) control water to the lower and upper hose reels respectively.



NOTE

For the following discussion assume that water is being heated in the tank and discharged through the shower assembly.

(10) Use the following diagram to trace the waterflow as covered in subparagraphs a. (1) through (9) above and the flow of fuel and electricity. Subparagraphs b (1) through (11) below discuss the heater unit.



b. Water Heater.

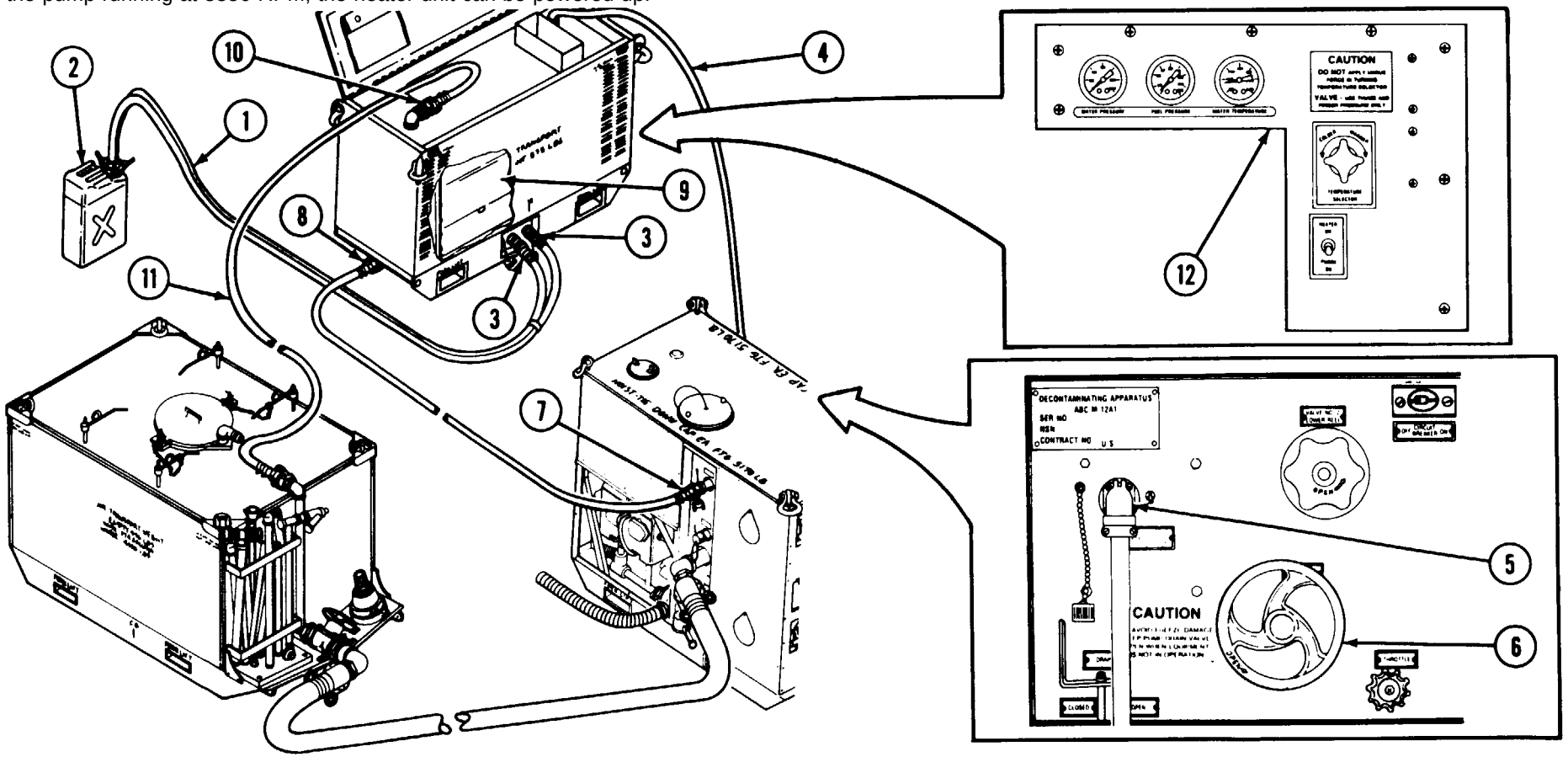
(1) Fuel (gasoline, diesel fuel, or kerosene), water, and electricity must be supplied to the water heater. Subparagraph a. above and TM 3-4230-209-10 cover the water supply.

(2) The fuel hose assembly (1) connects a 5-gallon can (2) to the fuel supply and return quick disconnect fittings (3) on the water heater. The free end of the electrical power cable (4), stored in top of the heater, connects the water heater to the pump unit HEATER RECEPTACLE AND SWITCH OFF/ ON (5).

(3) With the electrical power cable (4), fuel hose assembly (1), and all hoses connected for the mode operation needed (see TM 3-4230-209-10) and the pump running at 3850 RPM, the heater unit can be powered up.

(4) Open VALVE NO. 1 MANIFOLD (6) on pump unit. This routes the water from the upper DISCHARGE quick disconnect (7) to the lower quick disconnect (8) on the heater unit to fill the boiler (9). As water enters the boiler from the lower quick disconnect, air in top of boiler is forced out of the boiler through the upper quick disconnect (10) and water hose (11) and pumped into the tank unit where it is released. When all the air has been expelled, water will be transferred back to the tank unit. When water is flowing through the upper quick disconnect, the boiler is completely full of water and safe to start heating operations.

(5) Placing the pump unit HEATER RECEPTACLE AND SWITCH OFF/ON (5) to ON routes the 24 vdc power to the heater control box assembly (12) on the water heater.

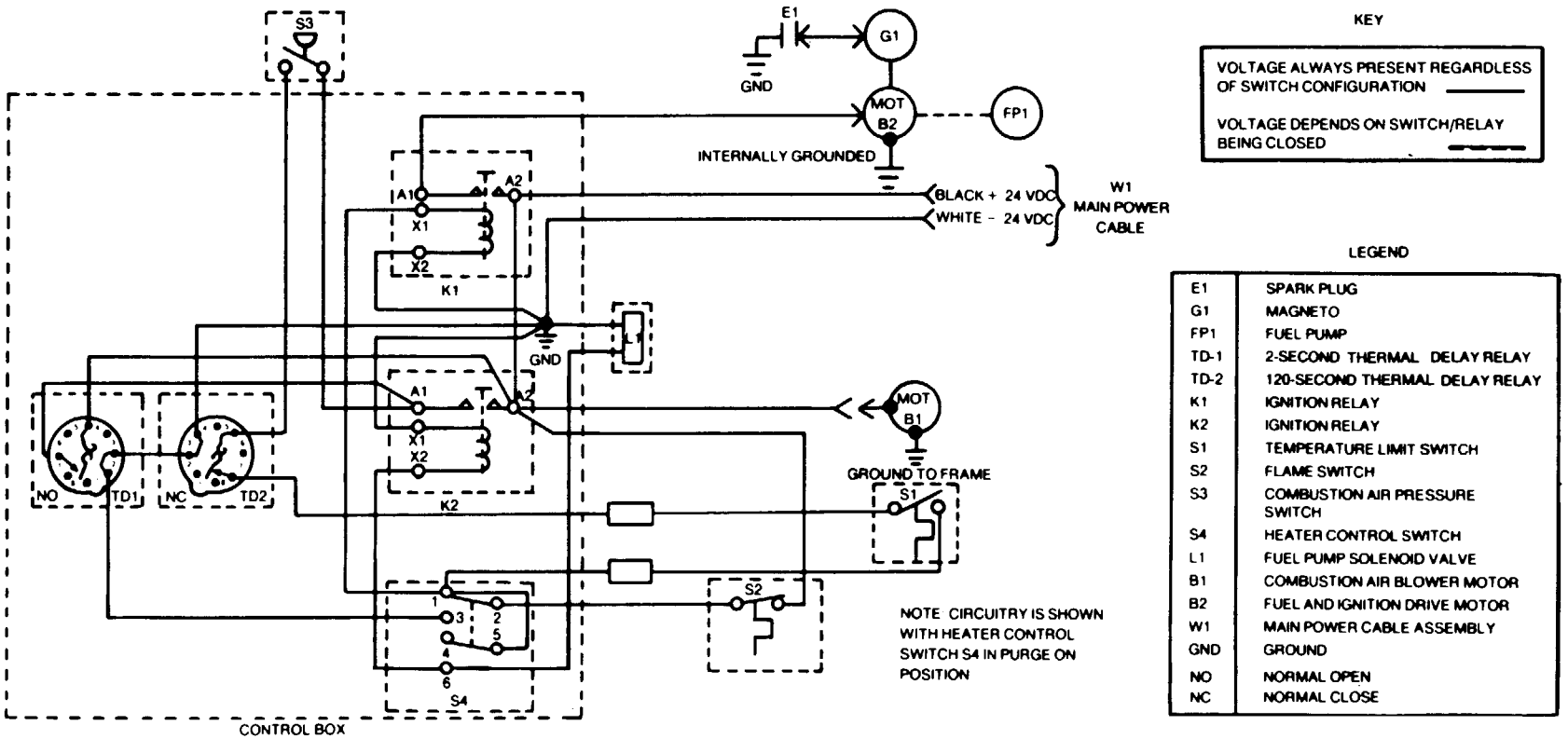


NOTE

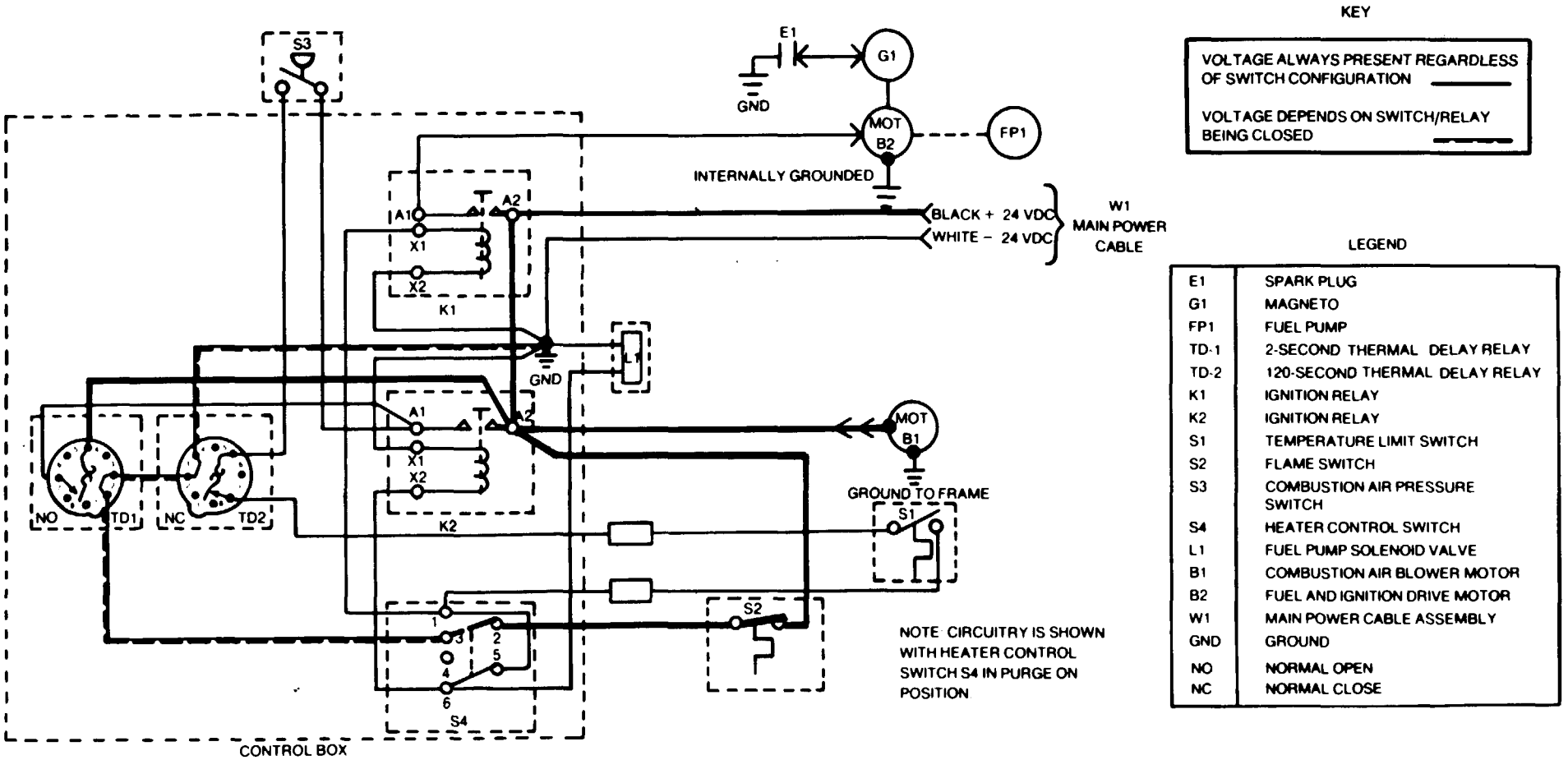
The next few steps are also shown in the schematic form and these are time cycles.

(6) The main power cable positive (black) wire connects 24 vdc to relays K1-A2, K2-A2, MOT B1 (combustor fan motor) TD1-5, through switch S2 (flame switch) and switch S4-2 (HEATER ON PURGE ON). The power should always beat these points regardless of the S4 position. When the combustor fan (MOT B1) is operating, it will build up a pressure. This pressure closes the contacts of S3 (combustion air pressure switch) when pressure is greater than 1 1/4 inches of water (gage).

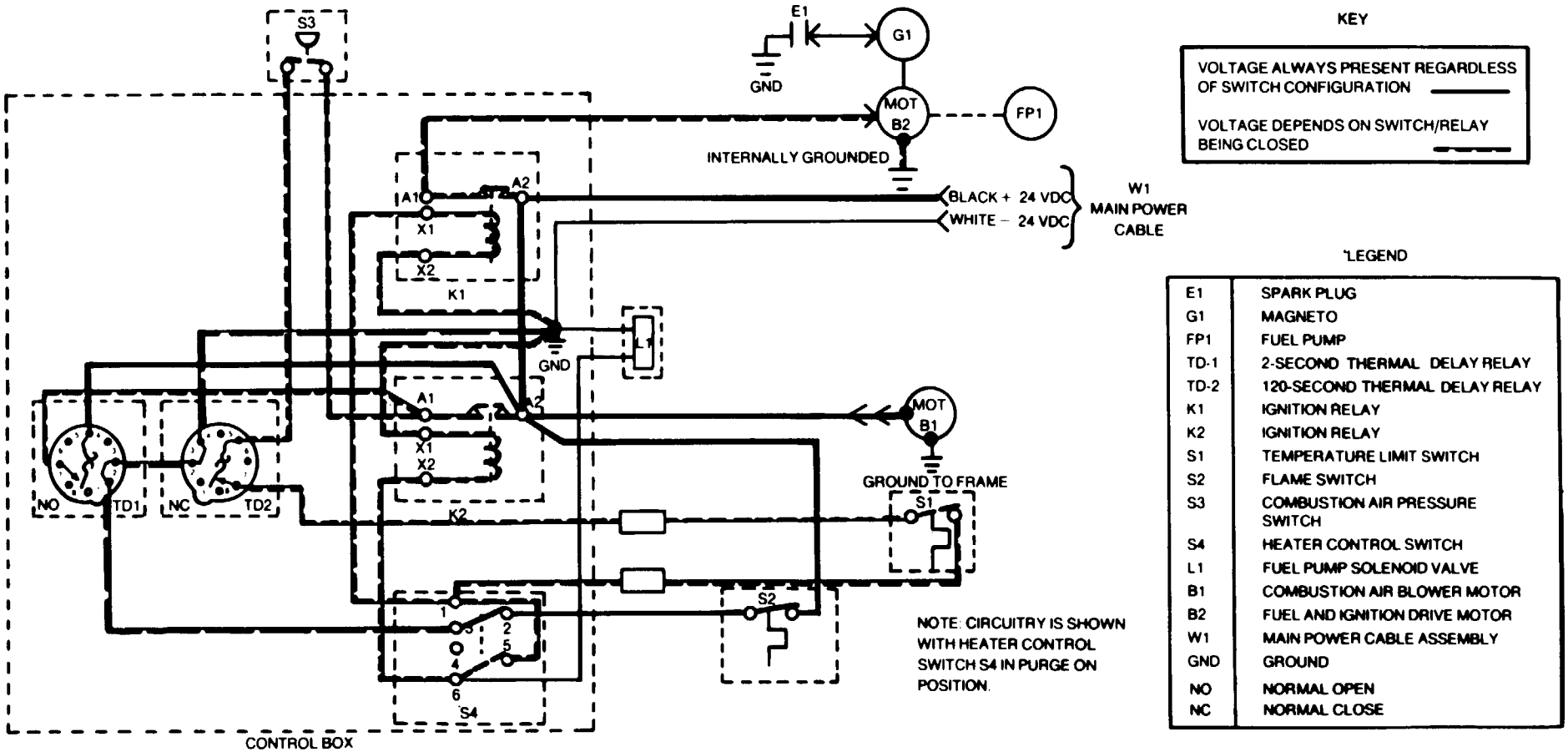
(7) With S4 switch placed to PURGE ON (as shown) the 24 vdc is connetted to two branch circuits. The first branch from S4 terminal 1 is connected to relay K1 through X1 and X2 to ground. This closes the contacts to allow the 24 volts applied to A2 to pass through closed contacts, out terminal A1, and on to the fuel pump and ignition drive motor (MOTB2). When the fuel pump and ignition drive motor is operating, fuel is pumped from the fuel supply through the water heater. Since the fuel pump solenoid valve is not powered, all the fuel is returned back to the source. At the same time the magneto is being driven to produce a very high voltage which is sent to the combustor chamber to the igniter (E1) which begins to spark. Any fuel or fuel vapors will be burned off before additional fuel is supplied. Operate in PURGE ON for at least two minutes before moving HEATER ON/PURGE ON SWITCH (S4) to HEATER ON. The second branch is a fail-safe circuit. From terminal S4-1 power is connected through the contacts of S1 (thermostatic switch), located in the top of the boiler, through pin 7 and 5 of TD-2 (thermal delay-120 seconds), and on through S3 which was closed by the air pressure in the terminal combustor unit. The voltage leaves S3 and is connected to relay K2 terminal A1 and onto pin 7 of TD-1 (thermal delay-2 seconds normally open). This branch is stopped by the open contacts at both K2-A1 and TD1-7.



(8) With S4 to HEATER ON, voltage is removed from terminal 1, as shown before. and switched to terminal 3 and 5. This voltage is connected to TD1 and TD2 (thermal delay relays) through pins 2 and 3 on each, placing the heaters in series and the voltage finally goes to ground. During the 0-2 second time span only the fan motor (MOTB1) will be operating. Relay K1 will have reopened the fuel and ignition drive motor (MOTB2) should stop.

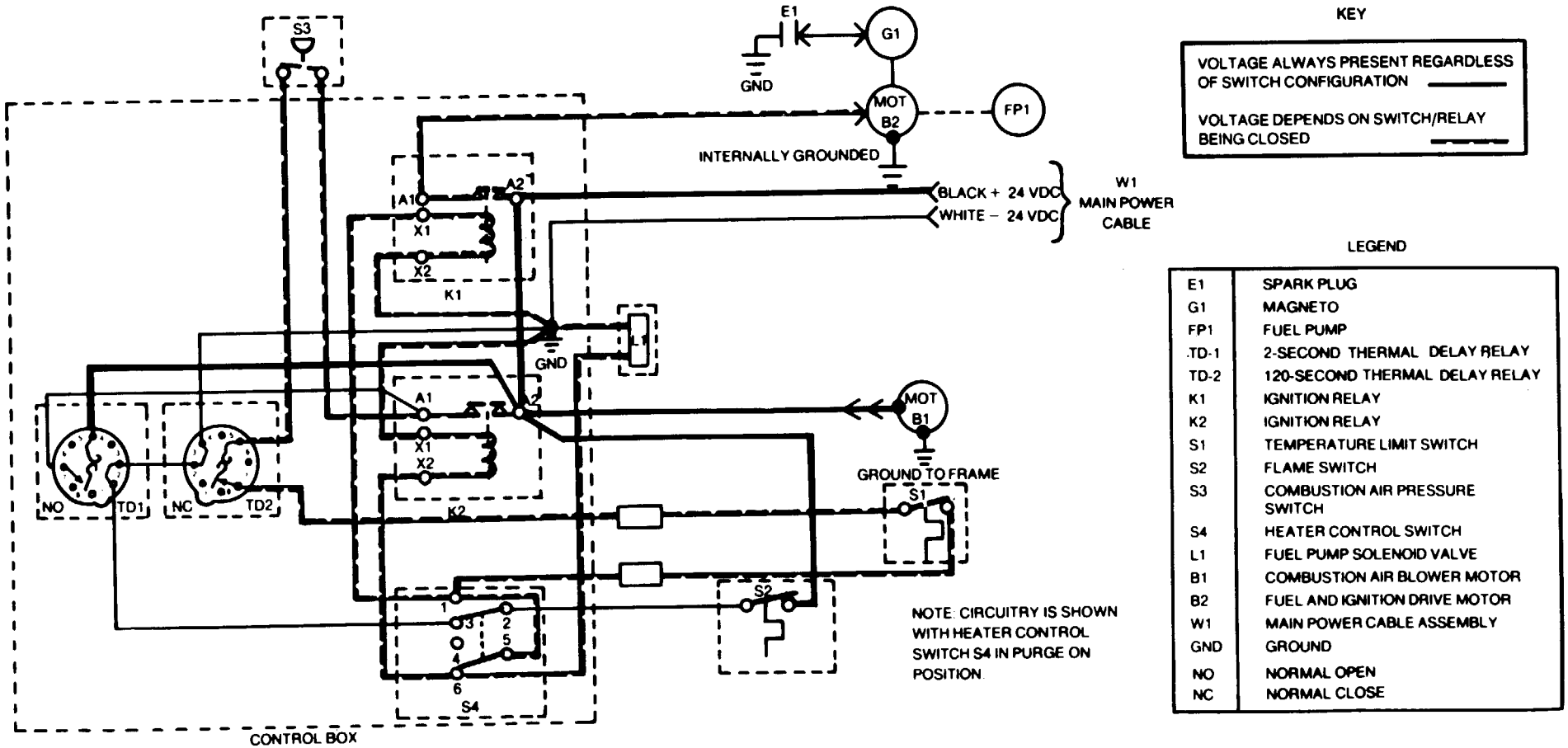


(9) After approximately 2 seconds the heat from the TD-1 heater closes the bimetallic contacts on TD-1. As we have indicated before, voltage has been applied to pin 5 of TD-1 and could not be used because of the open contact. (Now that the contact closes, the voltage is routed to relay K-2 terminal A1 (K2 deenergized). From A-1 voltage is routed through combustor air pressure switch (S3), thermal delay relay T-D-2 contacts 5 and 7. It continues on through the contacts of the temperature limit switch (S1) and back to switch S-4 at terminal 1. As before, voltage from S4-1 closes K-1 solenoid and allows the fuel and ignition drive motor to be powered. Also, the jumper wire from terminal 1 to 5 and out of terminal 6 have power. At terminal 6 there are two branch circuits. The first branch circuit is routed through the fuel pump solenoid valve (L1) which closes routing fuel to the combustor. The second branch leaves S4 terminal 6 and goes to relay K-2 solenoid (X1-X2) to ground and K2 closes. This K-2 closing places a voltage at A2 and also at A1 plus through the relay contacts. At this time there should be an indication of fuel being ignited in the combustor.



(10) If ignition has occurred, as soon as a fire is going the temperature in the exhaust flue will rise sharply. When the exhaust flue reaches 300°F, the flame switch (S2) contacts will open. This will remove the circuit voltage through S4 contacts 2 and 3, the heaters of both TD-1 and TD-2 to ground. When TD-1 and TD-2 cools down, TD-1 will open its bimetallic contacts. With TD-1 contacts now open, they no longer form a bypass circuit from K2-A2 over to A1 and the whole circuit acts as a holding relay. The heater should heat the water.

(11) In the holding relay circuit a fail-safe circuit forms an important function. Shown here is the fail-safe circuit. It starts basically at relay K2-A1 and stops at S4. An over temp condition at S1 or a low pressure at S3 will cause an immediate shutdown of the heater. If the exhaust temperature is less than 300° F, S2 will close. This would allow voltage to be applied to TD1 and TD2 heaters. If this were to occur in approximately 120 seconds, the TD2 bimetallic contacts would open up and the circuit between pins 5 and 7 would open. The fault would have-to be corrected before the circuit would hold again.



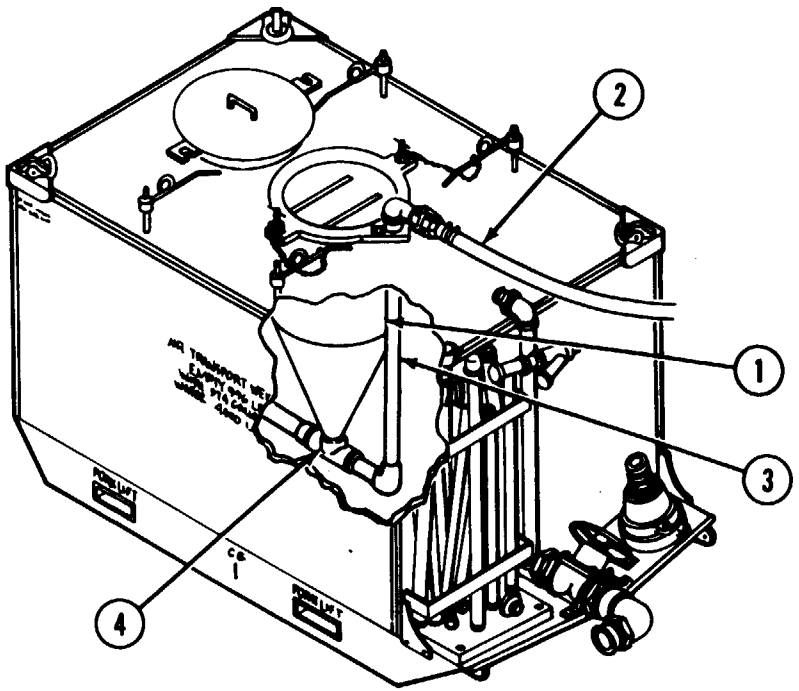
c. Tank Unit.

(1) The tank unit hopper tank (1) passes bulk powder or chemicals into the tank unit for mixing.

(2) When the tank unit is connected to the pump unit according to TM 3-4230-209-10, water flows through various routes depending on the mode of operation required. When the blender hose is connected to the quick disconnect on the hopper and to the upper DISCHARGE port on the pump, water flows as follows:

(a) VALVE NO. 1 MANIFOLD controls water flow out the upper DISCHARGE port through the blender hose (2) and into the hopper assembly quick disconnect.

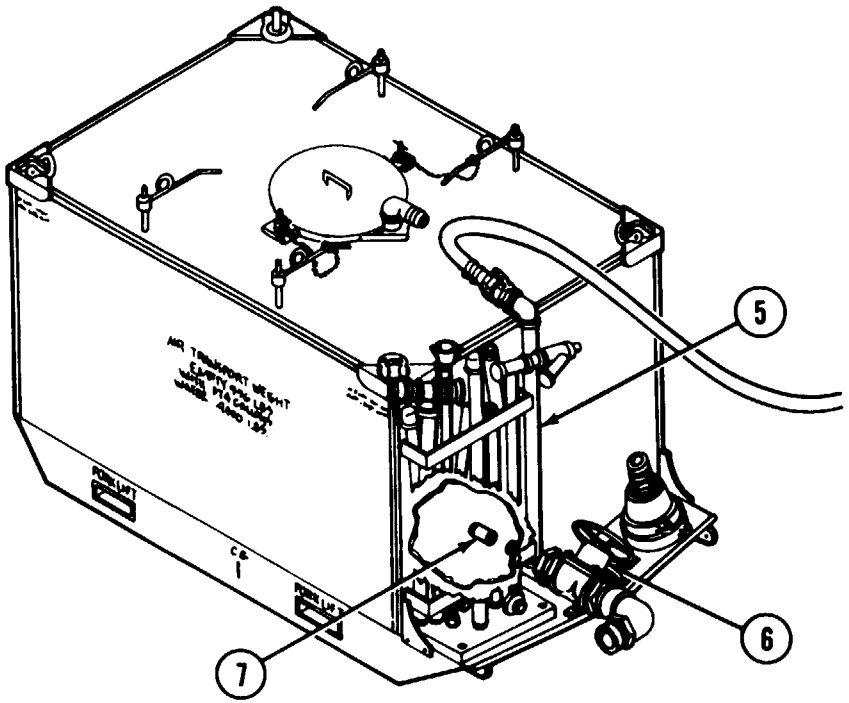
(b) Water is forced down the pipe (3), past a small opening (4) in the bottom of the hopper tank (1), and discharged into the water inside the tank unit. Water, passing through the small opening (4), causes a vortex (small turbulence) action. This vortex mixes an amount of powders or chemicals in nearly direct proportion to the water flow. Water mixes the chemicals as long as it flows through the hopper.



(3) When the water hose is connected to the agitation quick disconnect on the end of the tank unit, water flows as follows:

(a) VALVE NO. 1 MANIFOLD controls the flow of water from the (upper) DISCHARGE quick disconnect. The lower DISCHARGE quick disconnect is controlled only when capped. When uncapped, it can be connected through a water hose to the agitation quick disconnect.

(b) The flow of water is routed down through the pipe (5) mounted to the outside of the tank. The pipe is elbowed into the tank unit very near the bottom of the tank and near the tank drain valve (6). On the end of a small length of pipe just inside the tank is an agitation nozzle (7). Water passing through this agitation nozzle is changed from a direct flow to an aeration type flow. This aerated water is discharged into the water and aerates the slurry mixture. The aerated slurry mixture is agitated and cannot fall to the bottom of the tank and become useless. It is forced to rise in the water because of the effect of the air bubbles.



CHAPTER 2
MAINTENANCE INSTRUCTIONS

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 Tables of Organization and Equipment (MTOE) applicable to your unit.

2-2. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT. There are no special tools required for unit maintenance. Tools and test equipment are listed in appendix B.

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

Section II. SERVICE UPON RECEIPT

2-4. SERVICE UPON RECEIPT OF MATERIEL.

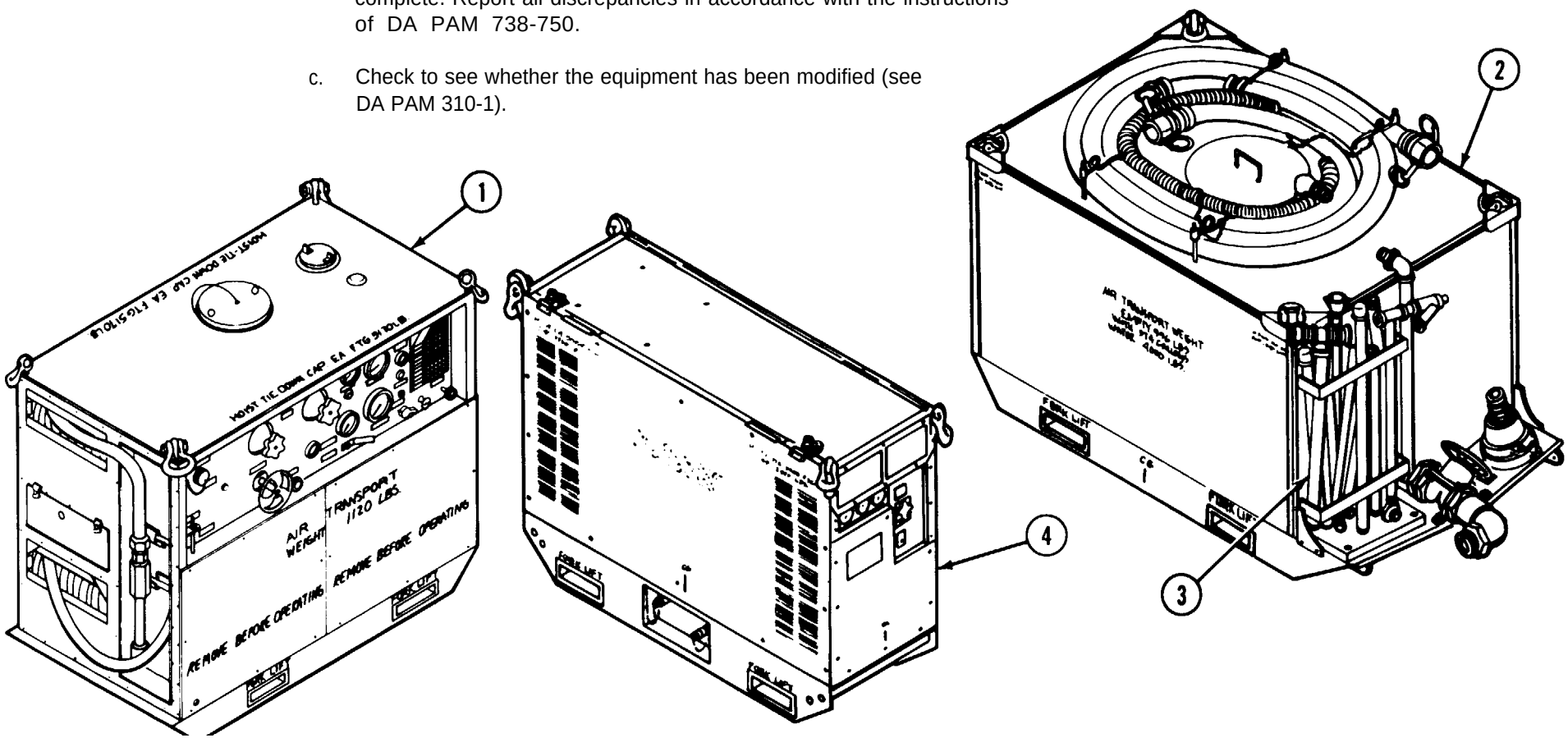
NOTE

If the decontaminating apparatus is packed in wooden crates, notify intermediate direct support maintenance personnel.

a. General. A new decontaminating apparatus is received on three skids in a dry and unserviced condition. The battery is not filled with electrolyte. The drive belt tension is released. The fuel tank and prime tank assembly are empty and their interior surfaces are coated (refer to TM 38-230-1 and -2). The oil is drained from the gasoline engine. All pipe openings are sealed with caps or pressure-sensitive adhesive tape. The gages on the control panels are taped. The interior surfaces of the pump, tanks, and all piping are coated with preservative lubricant.

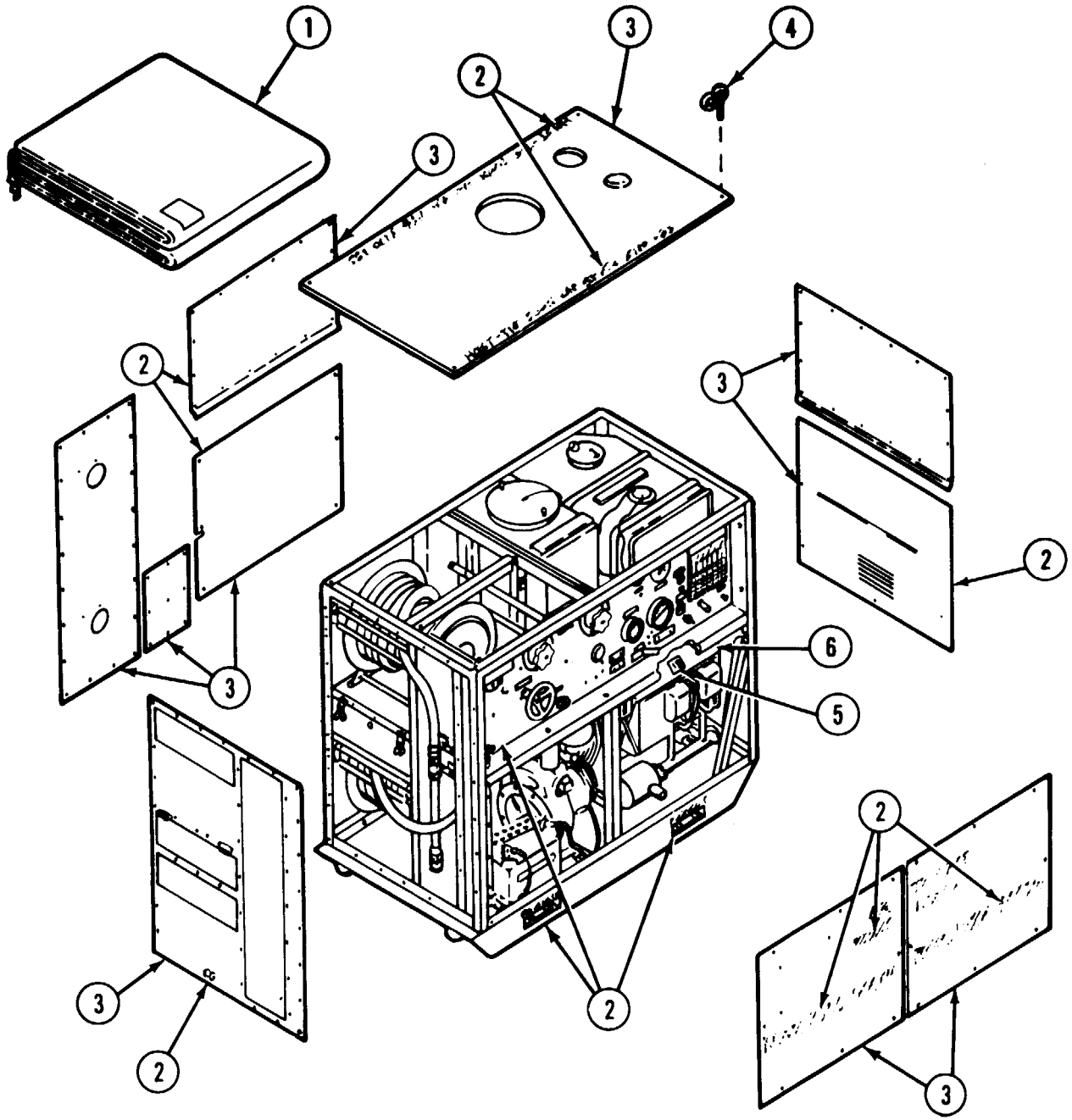
b. Unloading. Avoid damaging the equipment. Lift the three skids from the carrier or tow the skids to the receiving dock.

LOCATION/ITEM	ACTION	REMARKS
Decontaminating Apparatus/ Pumping unit (1) Tank unit (2) Shower unit (3) Heater unit (4)	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 all 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).	



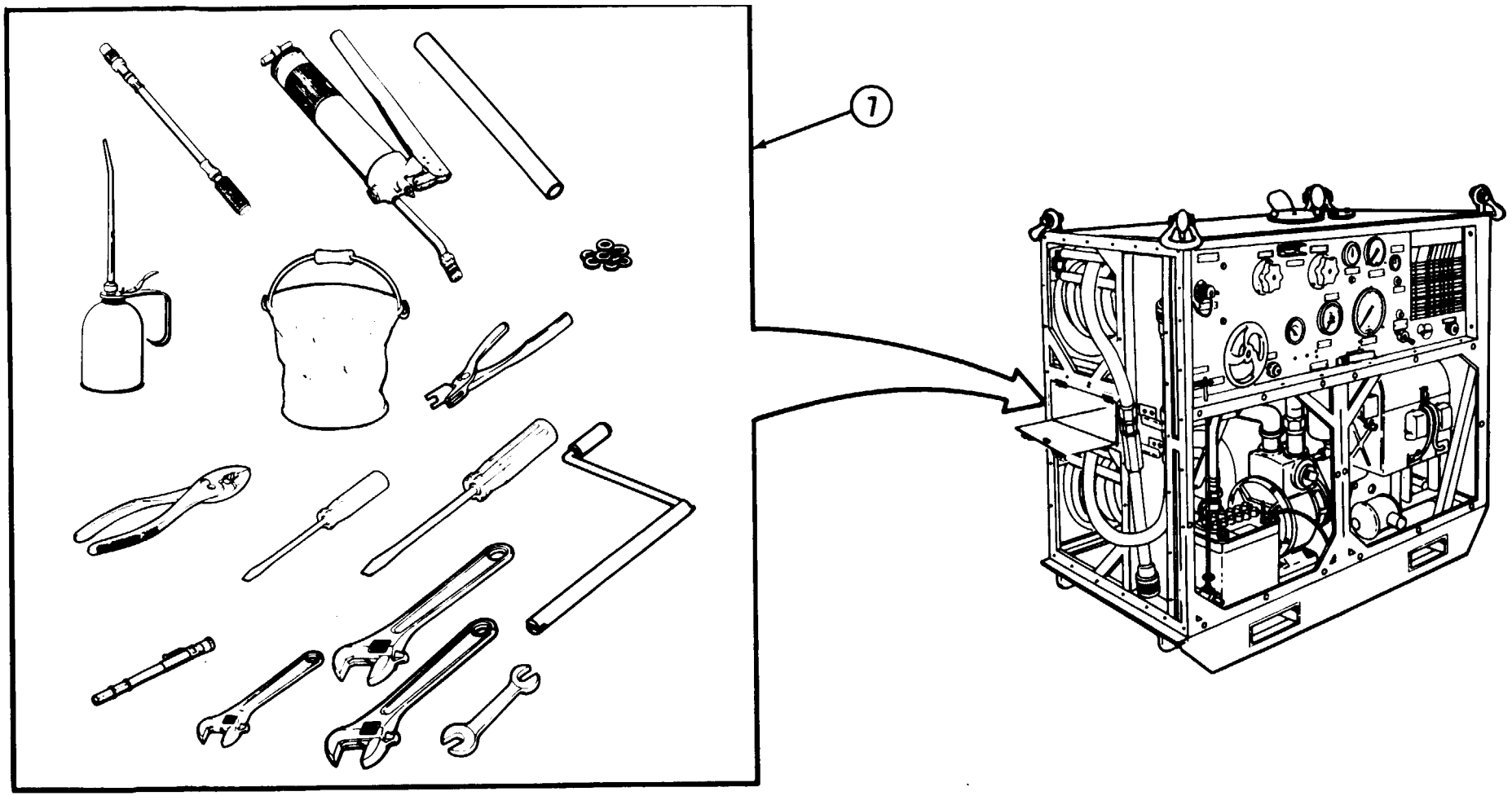
SERVICE UPON RECEIPT (CONT)

LOCATION/ITEM	ACTION	REMARKS
Pump Unit/		
Cover assembly (1)	Remove rover assembly (1) and check for holes.	
Stencil markings (2)	Inspect stencil markings (2) to make sure they are readable. See page 1-9.	
cover panels (3)	Remove cover panels (3) and check for damage or for missing parts.	
Clevis and eye bolt assembly (4)	Inspect to see that clevis and eye bolt assemblies (4) are not missing.	
Decal (5)	Inspect to make sure decal (5) “Keep This Engine Cool!” is on the engine shroud (6).	
Engine shroud (6)		

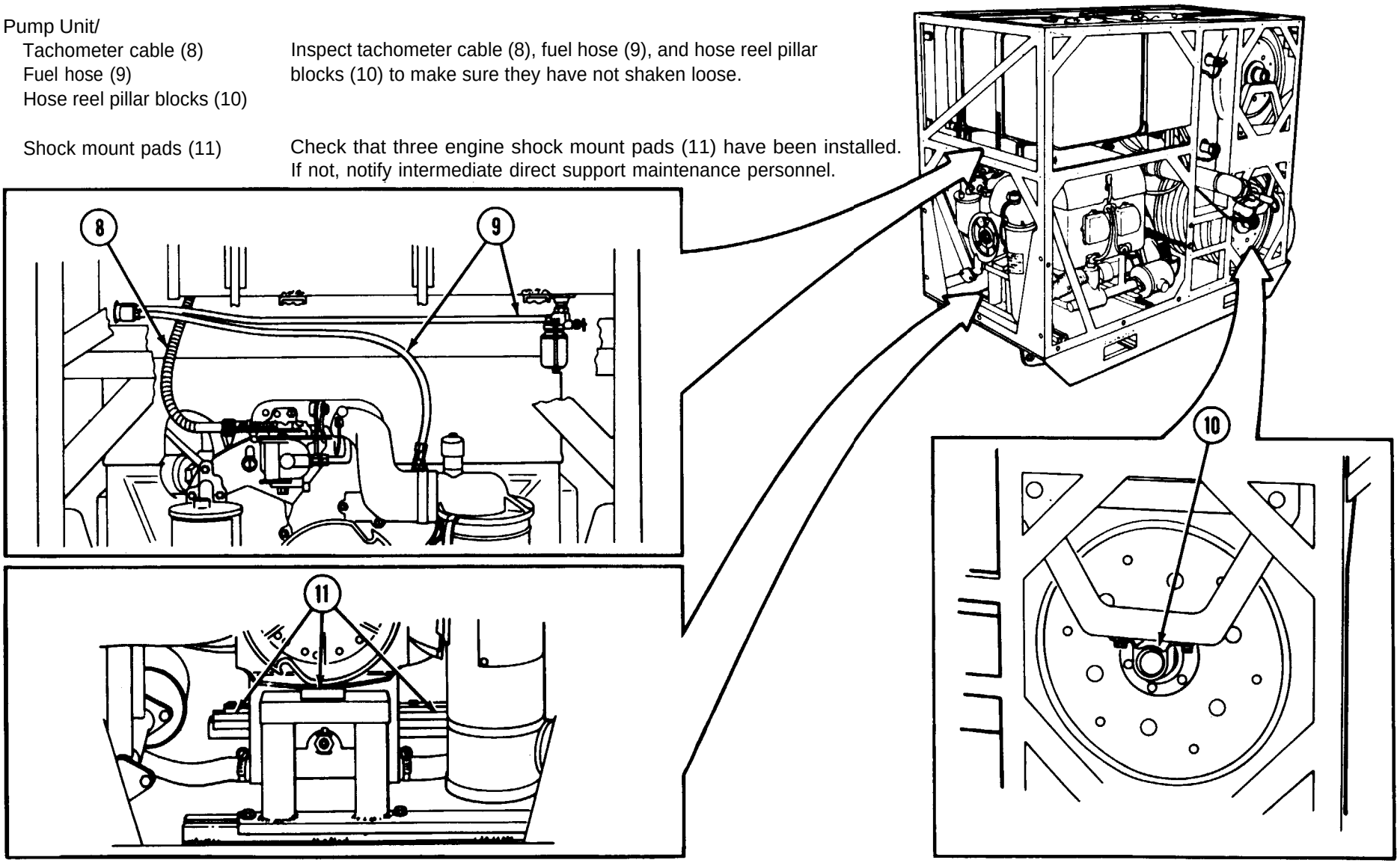

1
2
3
4
5
6

SERVICE UPON RECEIPT (CONT)

LOCATION/ITEM	ACTION	REMARKS
Pumping Unit/ Basic issue items (7)	Inspect to see that basic issue items and on-board spares (7) are present in tool box. Look for hand grease gun, flexible grease gun coupling adapter, gaskets, hand oiler, canvas collapsible pail, flat tip screwdriver, V-belt tensiometer, 15 in. adjustable wrench, 9/16 in. - 5/8 in. fixed open end wrench, camloc pliers, rubber hose, and two hose reel cranks.	Additional tools from water heater may be stored in the tool box area.

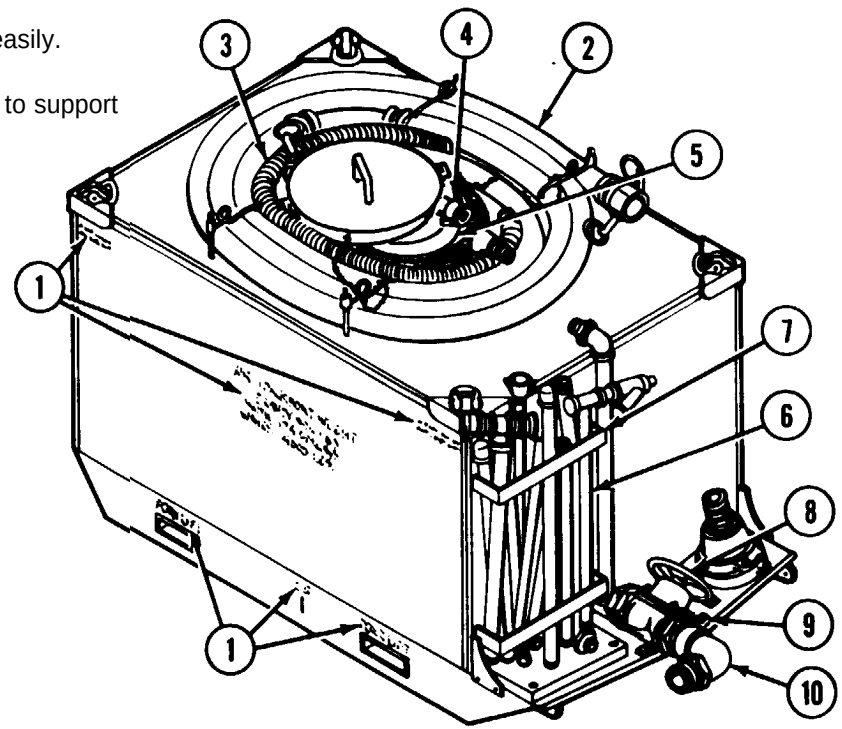


LOCATION/ITEM	ACTION	REMARKS
Pump Unit/		
Tachometer cable (8) Fuel hose (9) Hose reel pillar blocks (10)	Inspect tachometer cable (8), fuel hose (9), and hose reel pillar blocks (10) to make sure they have not shaken loose.	
Shock mount pads (11)	Check that three engine shock mount pads (11) have been installed. If not, notify intermediate direct support maintenance personnel.	

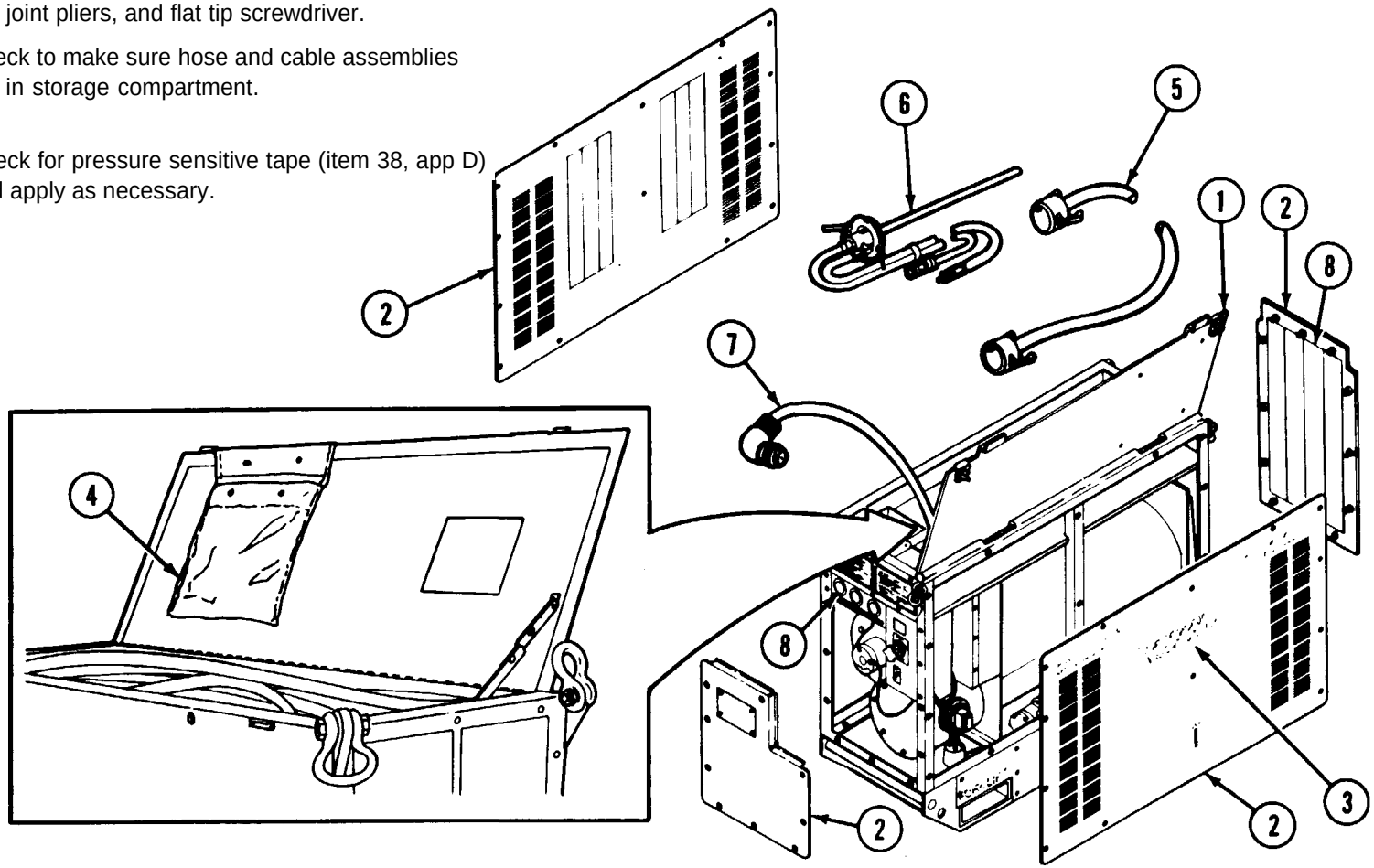


SERVICE UPON RECEIPT (CONT)

LOCATION/ITEM	ACTION	REMARKS
Tank Unit/		
Stencil markings (1)	Inspect to make sure they are readable.	
Suction hose (2) Exhaust hoses (3)	Check to make sure suction hose (2) and exhaust hoses (3) are fastened on top of the tank unit.	
Water hose (4) Hopper (5)	Check to make sure water hose (4) is stowed in the hopper (5).	
Personnel shower assembly (6)	Check that shower assembly (6) is stowed in the bracket (7) at the end of the tank unit.	
Tank drain valve (8)	Make sure tank drain valve (8) is serviceable and operates easily.	
U-bolt (9) Cross bar (10)	Check that the U-bolt (9) and the cross bar (10) are in place to support the tank drain valve (8).	



LOCATION/ITEM	ACTION	REMARKS
Water Heater/		
Top cover (1)	open.	
Panels (2)	Remove.	
Stencil markings (3)	Inspect to make sure they are readable.	
Tool carrier (4)	Check contents. Look for 8-in. adjustable wrench, slip joint pliers, and flat tip screwdriver.	These tools may be stored in the pump unit tool box.
Water hose assembly (5) Fuel hose assembly (6) Power cable assembly (7)	Check to make sure hose and cable assemblies are in storage compartment.	
End panel (2) Side panels (2) Control box assembly (8)	Check for pressure sensitive tape (item 38, app D) and apply as necessary.	



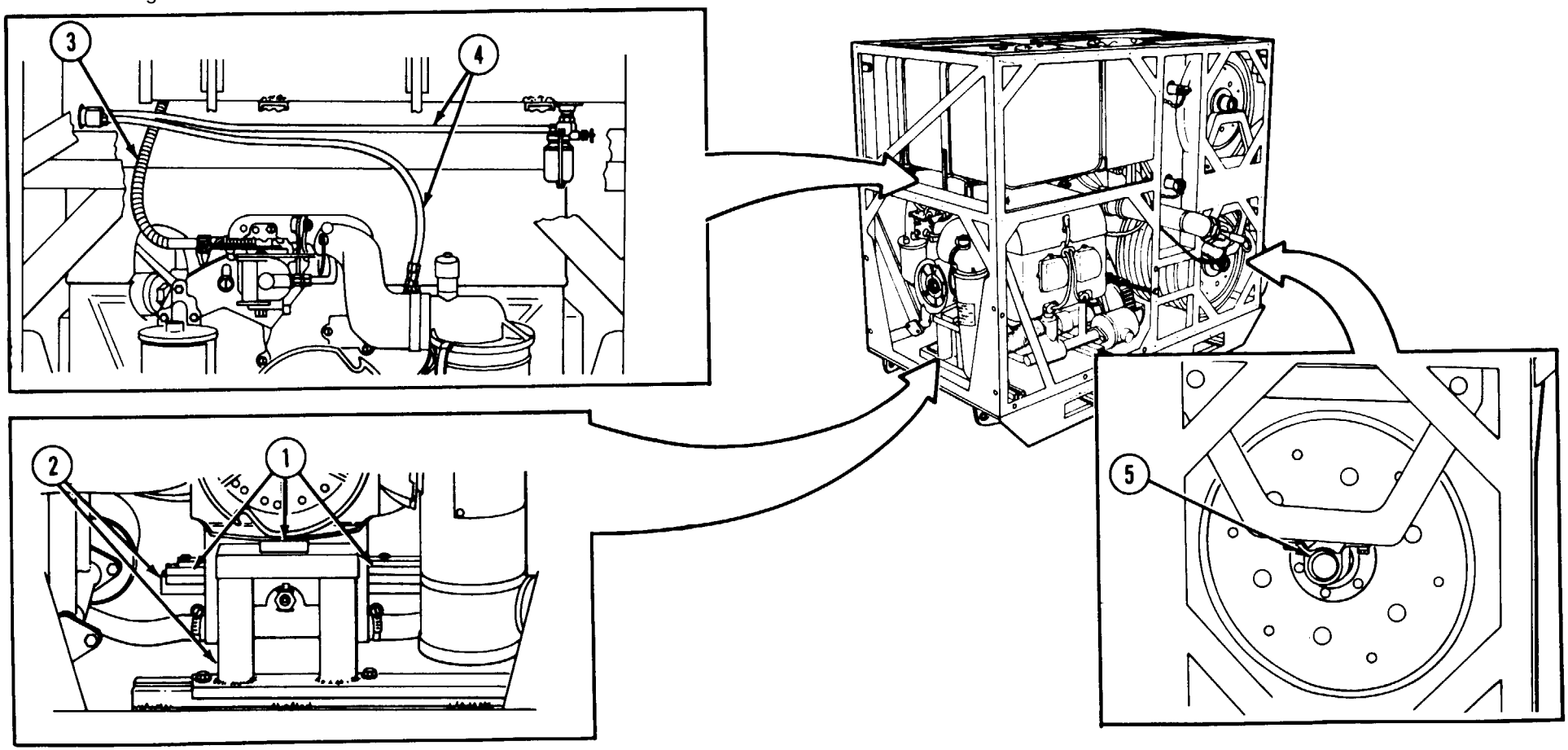
c. Unpacking. See that the equipment is complete by checking it against the packing list for each item. See that the special tools and accessories are with the equipment and two hose reel crank handles are in the toolbox. Publications must be present and stored in the canvas pouch attached to the inside of the front cover panel of the pump unit. Check that the three engine shock mount pads (1) are installed between the front and rear engine mounts and the top of the front and rear channel assemblies (2). If they are missing or are improperly installed, notify intermediate direct support maintenance personnel. Check that the tachometer cable (3), fuel hose assembly (4), and hose reel pillar blocks (5) have not shaken loose during transit.

d. Removing Protective Material.

WARNING

Do not smoke when filling the fuel tank with gasoline. Do not fill the fuel tank while engine is running. Open flame, sparks, or heated objects are not permitted in the area. Do not inhale gasoline vapors. Keep gasoline away from mouth, eyes, open cuts, or abrasions.

Authorized fuel will be obtained only from authorized fuel services. Siphoning fuel from vehicles is prohibited. Siphoning can cause static electricity and mouth or throat damage.



CAUTION

Do not allow preservative oil to enter the gasoline engine carburetor.

(1) Pump and tank units and personnel shower assembly. Remove all preservative compounds and tape from the equipment. If necessary, use dry cleaning solvent (item 14, app D) to remove remaining material. Some pump units may have preservative oil in the sediment bowl. Before filling the fuel tank with gasoline, clean the sediment bowl (TM 3-4230-209-10). Clean personnel shower assembly before using it.

(2) Water heater. Remove all preservative compounds and preservative tape from the equipment. Remove the quick-release side panels to remove barrier materiel from the combustion air intake, combustion air blower direct current motor, fuel and ignition drive motor, combustion air pressure switch (S3), and solenoid valve (L1). Where necessary, use suitable solvent to remove preservative material left on the water heater. Do not remove aluminized pressure sensitive tape from the inside of the water heater.

e. Preparation for Operation.

(1) Adjust the drive belt tension (TM 3-4230-209-10).

(2) Check that intermediate direct maintenance has filled battery with electrolyte and water and has installed protective caps on battery.

CAUTION

Do not allow preservative oil to enter the gasoline engine carburetor.

(3) Lubricate the decontaminating apparatus (LO 3-4230-209-10) and the engine (LO 5-2805-259-12). Check that the engine crankcase is filled to the full mark on the oil gage rod. Operate valves to check smoothness of operation.

(4) Load 200 gallons of water into the tank unit (TM 3-4230-209-10). Inspect for leaks at all pipe connections and valves.

(5) Fuel and test the decontaminating apparatus (TM 3-4230-209-10). Inspect for leaks at all pipe connections and valves.

2-5. USED EQUIPMENT.

a. Service a used M12A1 decontaminating apparatus the same way as a new one.

b. Examine used equipment for signs of wear, damage, or missing parts. Correct deficiencies as authorized, or notify intermediate direct support maintenance.

2-6. TEST SPRAYING.

a. Make connections necessary for showering using water drawn from the tank (TM 3-4230-209-10). Connect shower to one discharge hose. Start the pump unit to circulate water through the pump unit, water heater, and tank unit. Start the heater and operate for at least 15 minutes. Discharge half of the water through the shower. Stop the decontaminating apparatus and disconnect the personnel shower assembly. Reconnect the hose for spraying water from the tank (TM 3-4230-209-10). Start the pump unit and clear remaining water through the discharge hose. During discharge operations:

(1) Check that gun assembly does not leak when it is turned off under pressure.

(2) Inspect all pipes, connections, and hoses for signs of fuel and water leaks.

(3) Make sure the pump unit discharge pressure gage indicates above 90 psi during pumping operations.

NOTE

For new equipment, water flowing through the pump unit and water heater will clean preservative lubricant from inside the pipes and valves.

b. Correct deficiencies noted as authorized. After test spraying, flush, drain, and clean the decontaminating apparatus (TM 3-4230-209-10). Prepare the decontaminating apparatus for storage for over 24 hours (TM 3-4230-209-10).

Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

2-7. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS).

a. General This section contains the procedures and instructions necessary to perform unit preventive maintenance checks and services. These services are to be performed by unit maintenance personnel with the assistance, where practical, of the operator/crew who will clean and lubricate in accordance with TM 34230-209-10 and LO 3-4230-209-10.

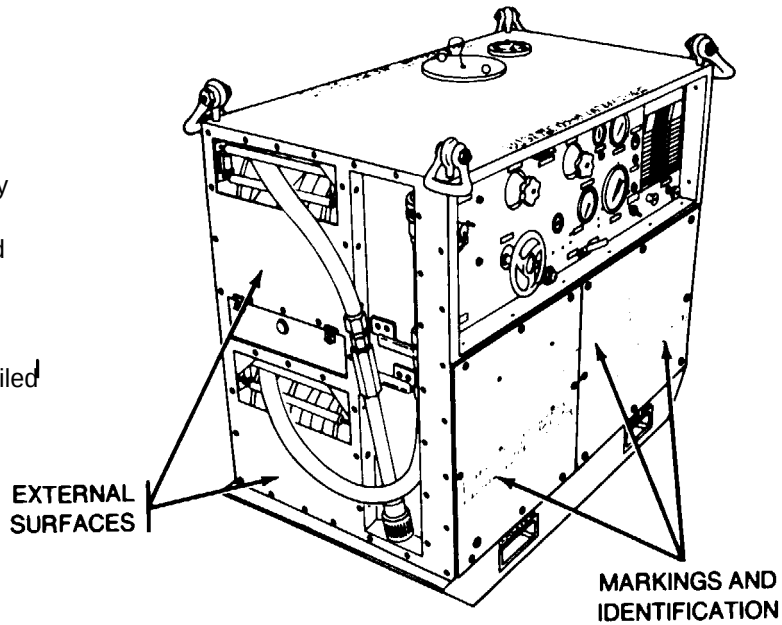
b. Item Number Column. Checks and services are numbered in chronological order regardless of interval. Use this column as the source of item numbers when recording PMCS results in the "TM Number" column on DA Form 2404, Equipment Inspection and Maintenance Worksheet.

c. Item to be Inspected Column. The items listed in this column are divided into groups, i.e., "pump unit," "tank unit." Under these groupings, items to be inspected are identified by the common name, i.e., "nozzles," "pump unit."

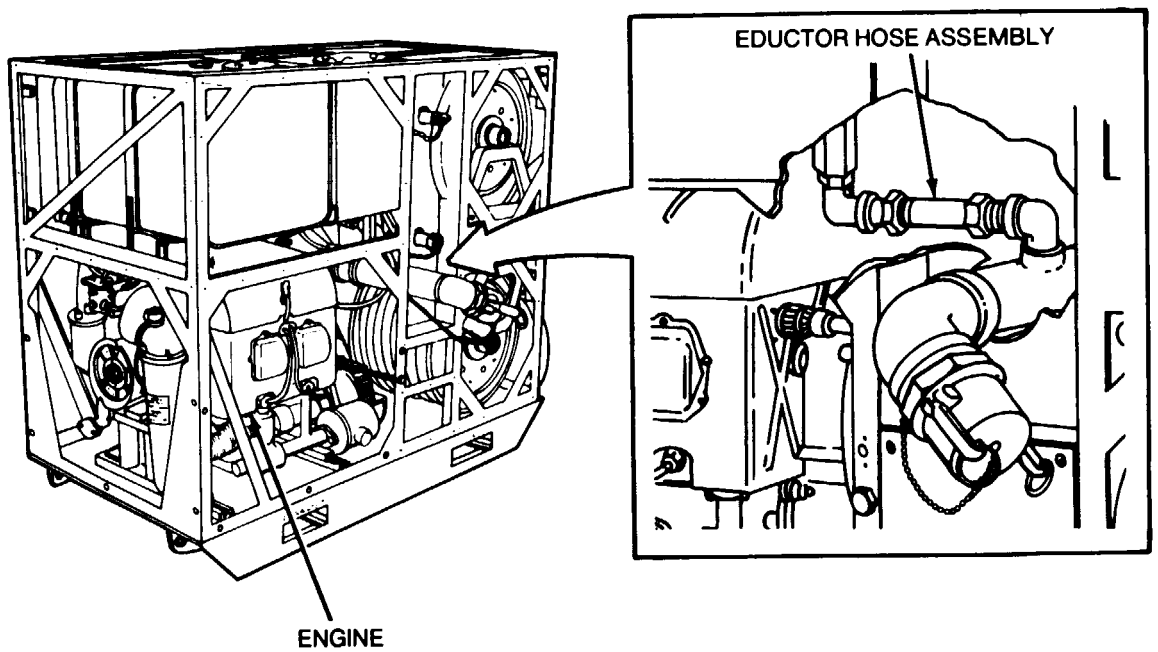
d. Procedures Column. This column briefly describes the procedure to be checked. It contains all information required to accomplish the checks and services, including appropriate tolerances, adjustment limits, and instrument and gage readings.

UNIT PREVENTIVE MAINTENANCE CHECKS AND SERVICES - QUARTERLY SCHEDULE

Item No.	Item to be Inspected	Procedures
1	DECONTAMINATING APPARATUS	Perform operator preventive maintenance checks and services and test the decontaminating apparatus (see TM 3-4230-209-10).
	PUMP UNIT	
2	External Surfaces	Check condition of paint on panels and repaint if necessary (see TM 43-0139). Inspect for loose, missing, or damaged nuts, bolts, and hardware. Inspect that parts are lubricated properly. See that canvas cover is present.
3	Markings and Identification	Check that nameplates and identification plates are clean, readable, and properly fastened. Check condition of stenciled outlet and discharge markings (p 1-9).

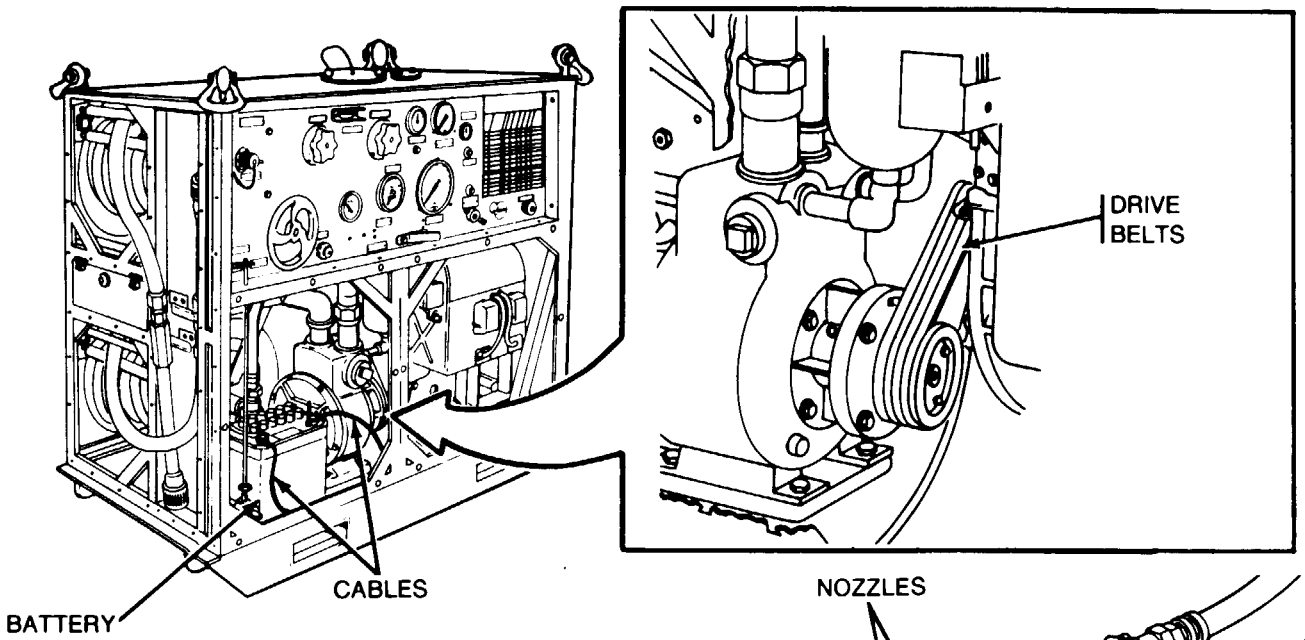


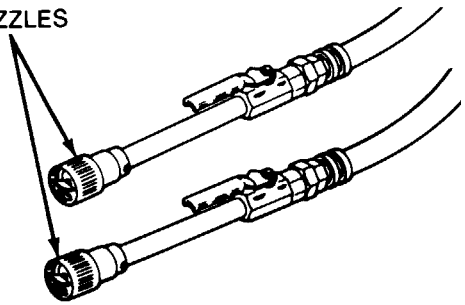
4	Eductor Hose Assembly	Check for leaks. Tighten connections if necessary.
5	Engine	Make sure engine is fastened securely to engine mounts. Tighten hardware if necessary. Refer to TM5-2805-259-14 and LO 5-2805-259-12.



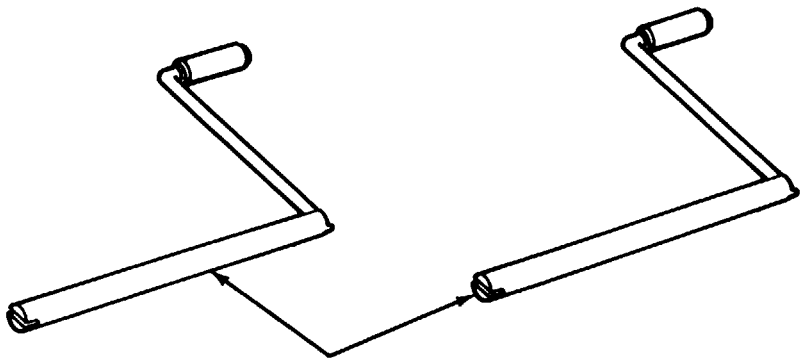
UNIT PREVENTIVE MAINTENANCE CHECKS AND SERVICES - QUARTERLY SCHEDULE (CONT)

Item No.	Item to be Inspected	Procedures
6	Drive belts	Inspect for worn or broken drive belts. Inspect for proper drive belt tension. Adjust the drive belt tension if necessary (TM 3-4230-209-10). Clean drive belts as necessary.
7	Battery and Cables	Refer to TM 9-6140-200-14 for battery care and servicing. See that the positive and ground cables are attached properly to the battery terminals and to the engine. See that the battery is fastened tightly to the pump unit. Clean corrosion from battery by using sodium bicarbonate (item 32, app D) and water.
8	Nozzles	Make sure slurry nozzles, orifice and deflector set, and fire hose foam nozzles operate. Check condition of fire hose foam nozzles. Make sure threaded fittings are clean, undamaged, and lubricated. Make sure gaskets are installed and undamaged. Make sure that nozzles are installed on extension pipes. (Spare nozzles are stored in the tool compartment when not in use.)

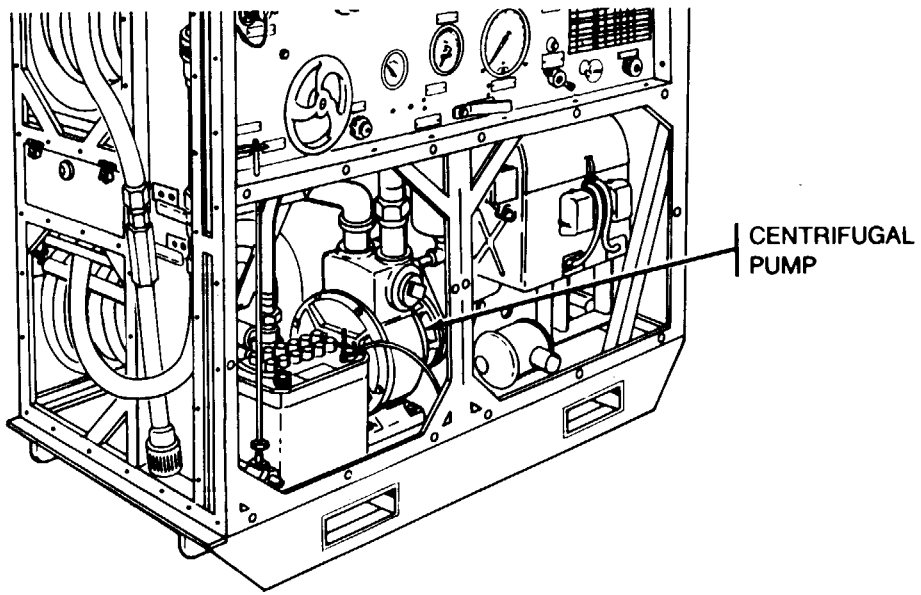




9	Tools and Accessories	Make sure required tools and accessories (see TM 3-4230-209-10), including hose reel cranks, are present, usable, and in good condition.

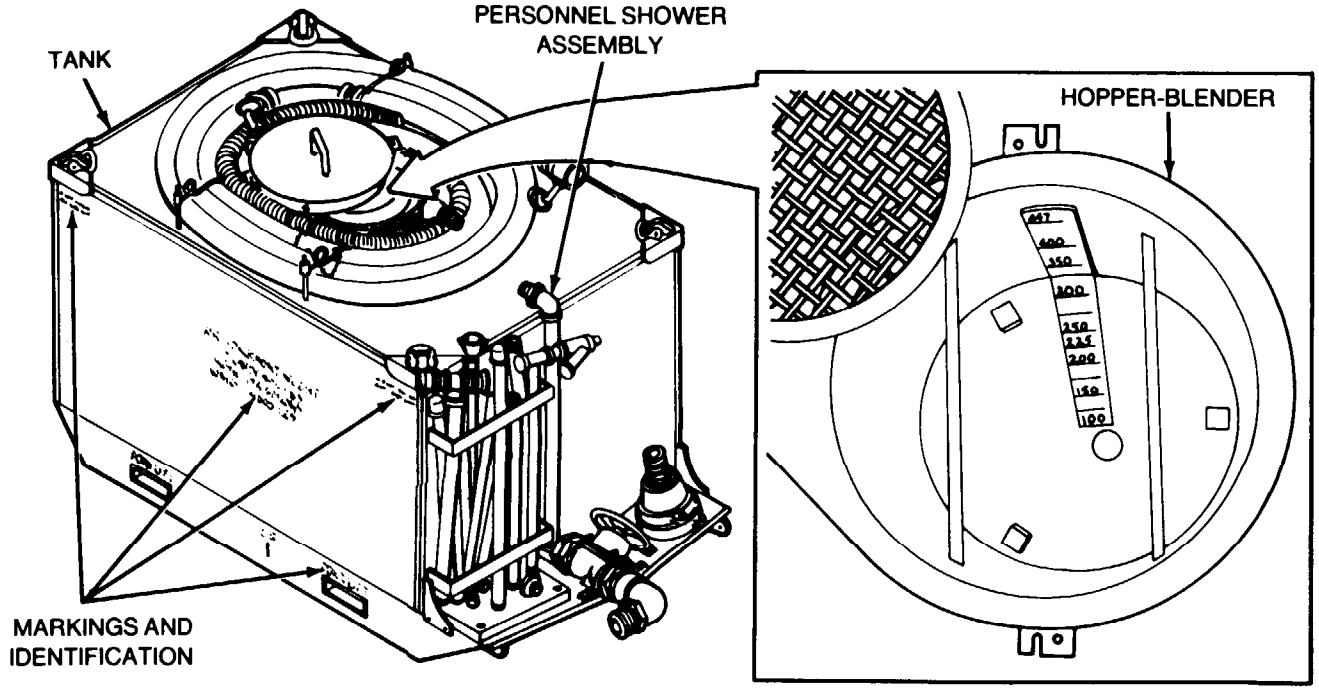


10	Centrifugal Pump	Check that centrifugal pump is mounted securely.

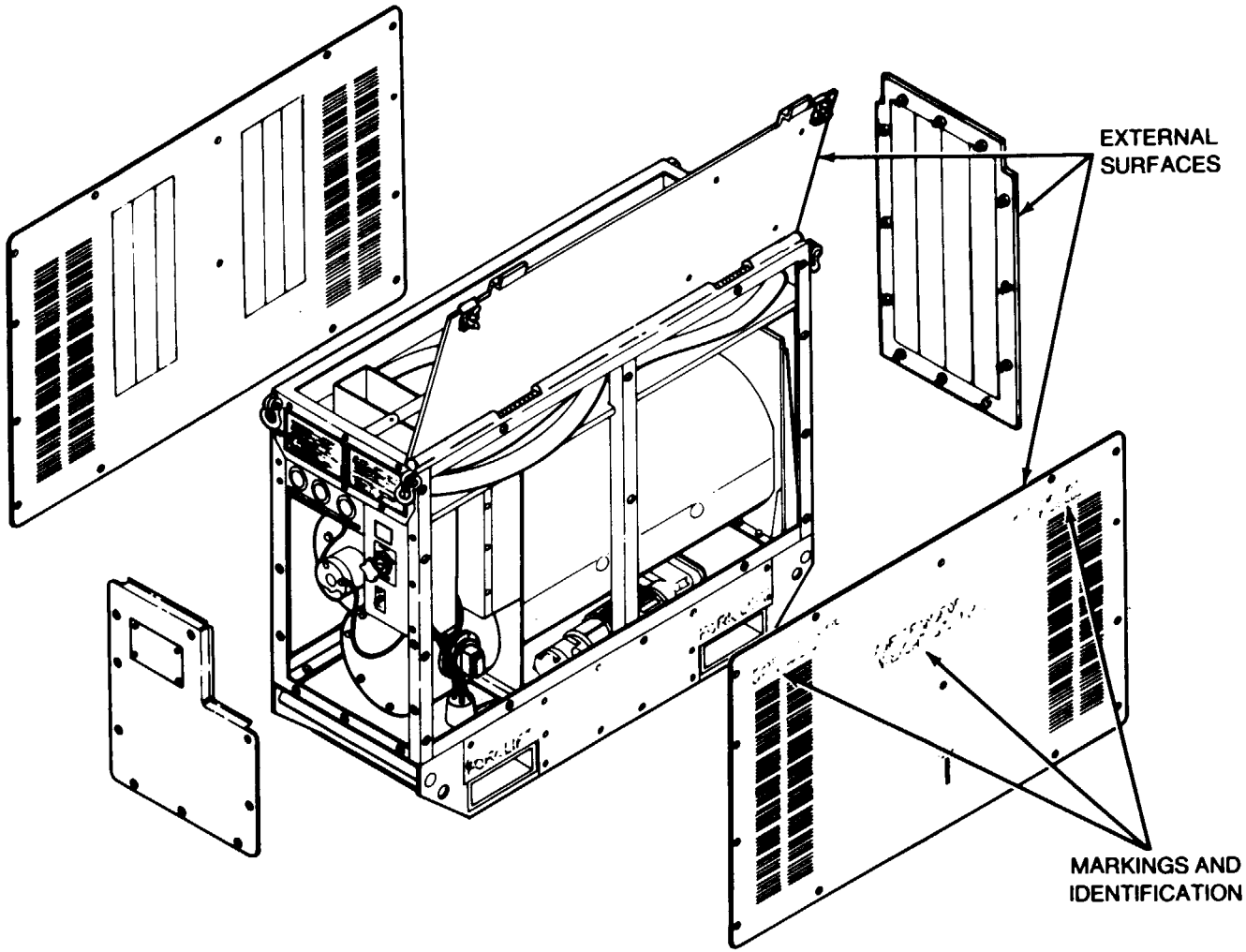


UNIT PREVENTIVE MAINTENANCE CHECKS AND SERVICES - QUARTERLY SCHEDULE (CONT)

Item No.	Item to be Inspected	Procedures
	TANK UNIT	
11	Hopper-Blender	Check condition of hopper and gaskets. Make sure strainer is clean and that numbers on the tank liquid level indicator are readable.
12	Tank	Check for cracked welds. Check condition of paint and repaint if necessary (TM 43-0139).
13	Markings and Identification	Make sure nameplates and identification plates are clean, readable, and properly fastened. Check condition of stenciled markings (p 1-8).
14	Personnel Shower Assembly	Make sure no parts are broken, damaged, or missing. Check that holes in pipes are clear. Inspect and clean mesh screen strainer. Check threaded fittings and quick release couplings for damage. Make sure gaskets are in couplings.

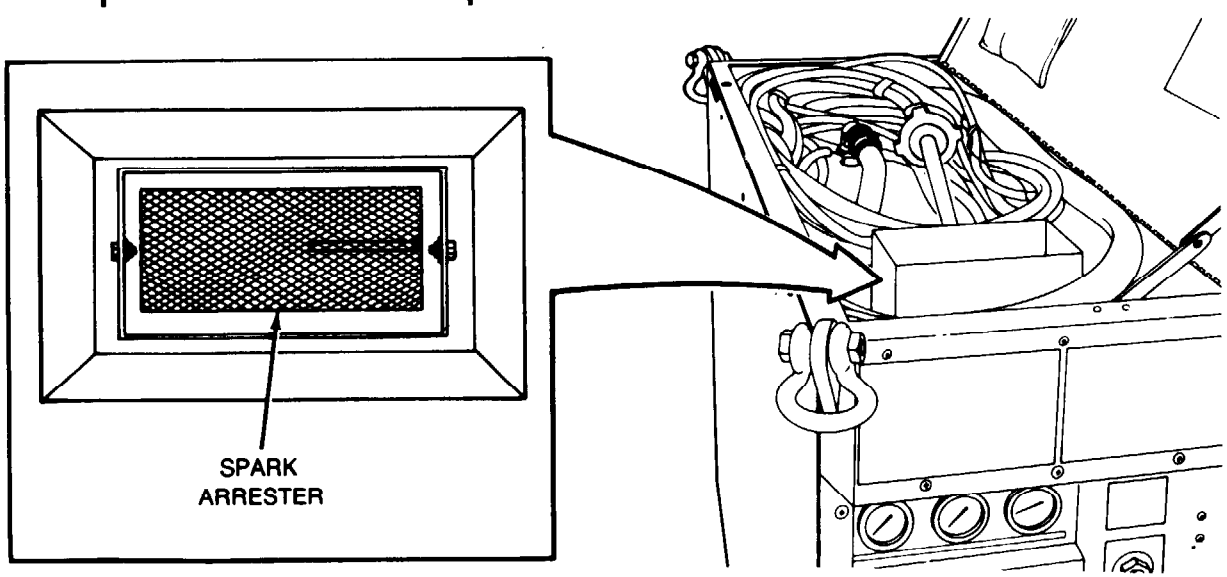


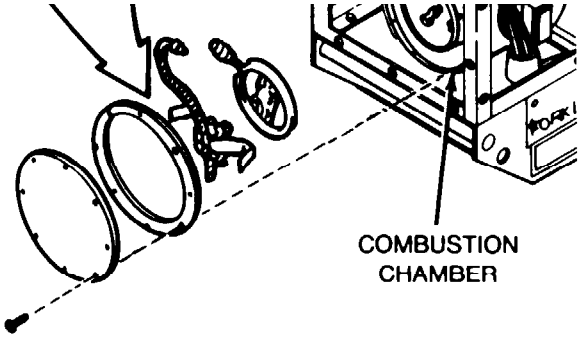
	WATER HEATER	
15	External Surfaces	Check condition of paint on panels and repaint if necessary (TM 43-0139). Inspect for loose, missing, or damaged nuts, bolts, and hardware. Inspect that parts are lubricated properly.
16	Markings and Identification	Make sure nameplates and identification plates are clean, legible, and properly fastened. Check condition of stenciled markings (p 1-8).
17	End and Side Panels, Outer Surface of Control Box, and Over Insulation on Control Box Gage Panel	Check condition of heat reflective tape. Clean or replace (item 37, app D) if necessary.



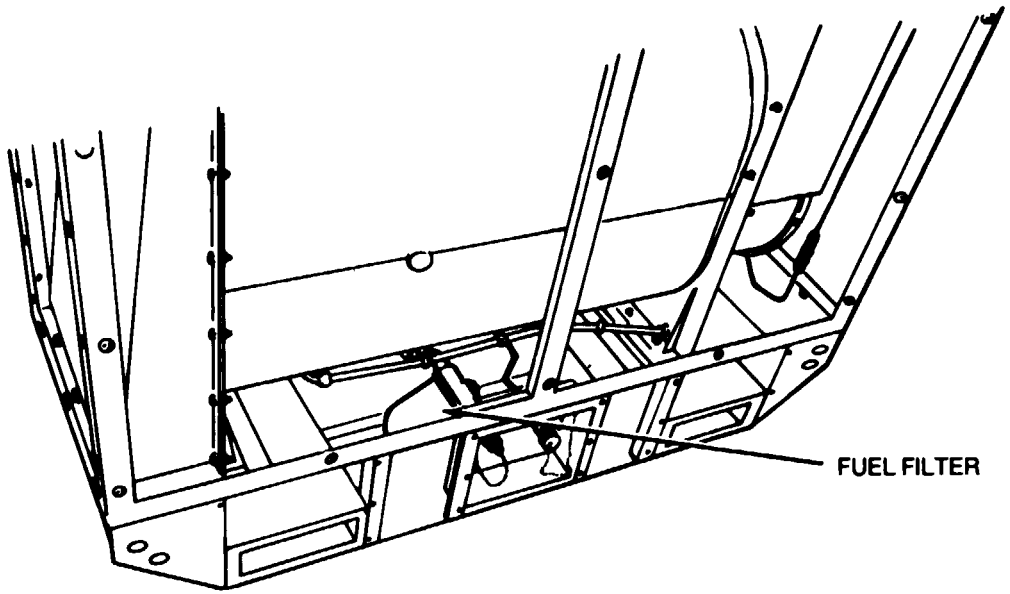
UNIT PREVENTIVE MAINTENANCE CHECKS AND SERVICES - QUARTERLY SCHEDULE (CONT)

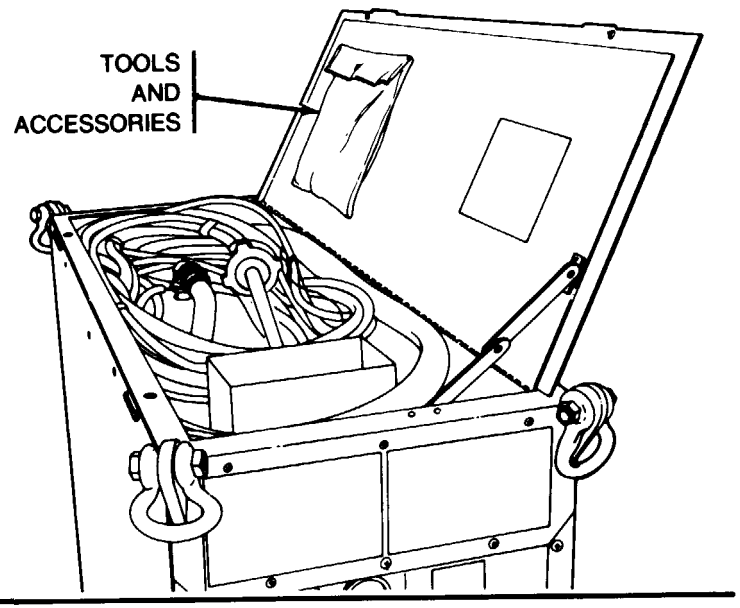
Item No.	Item to be Inspected	Procedures
18	Boiler	Inspect nozzle holder and ignition plug. Disassemble nozzle and clean screen on nozzle with dry cleaning solvent (item 14, app D). Check that the gap between the ignition plug electrode and the combustor-plate electrode is 5/32-inch. **CAUTION** Do not bend ignition plug electrode. Adjust as needed by bending the combustor plate electrode. Replace plug if unserviceable. Replace burner nozzle if damaged.
19	Spark Arrester	Inspect the condition of the spark arrester in the exhaust stack for possible damage to the screen. If screen is torn or has puncture holes, replace spark arrester.





20	Fuel Filter	Replace fuel filter element if unit has operated 100 hours since last replacement (para 2-36).
21	Tools and Accessories	Inspect to see that the special tools and accessories are in the tool carrier or in the storage compartment and that they are in good condition. **NOTE** These tools may be stored in the pump unit tool box.





Section IV. TROUBLESHOOTING

2-8. TROUBLESHOOTING PROCEDURES.

a. This section contains troubleshooting information for locating and correcting most of the operating troubles which may develop with 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.

SYMPTOM INDEX

	Troubleshooting Procedure Page
WATER HEATER	
Water heater does not heat water	2-23
PUMP UNIT	
Gasoline engine does not indicate charge/discharge on ammeter	2-20
Gasoline engine does not keep battery charged.	2-20
Gasoline engine fails to start or runs poody	2-19
Plumbing valves leak	2-22
Pump fails to operate	2-22
Pump pressure is low or falling.	2-21

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

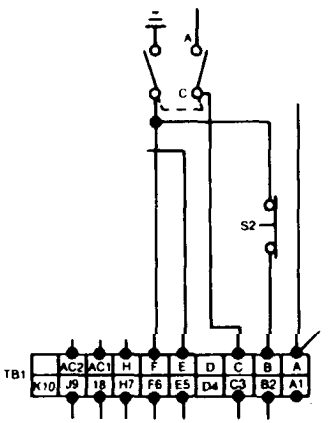
PUMP UNIT

1. GASOLINE ENGINE FAILS TO START OR RUNS POORLY.

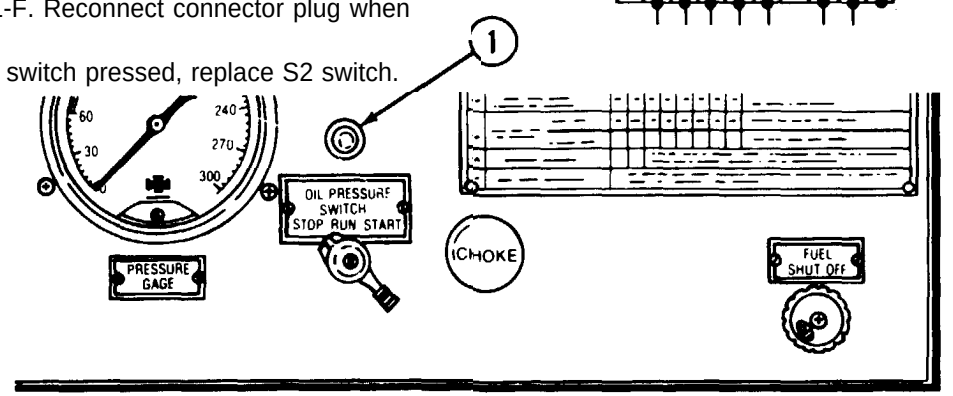
Step 1. Check fuel tank for enough fuel.
Refill fuel tank if necessary.

Step 2. Refer to troubleshooting in TM 5-2805-259-14.
Refer to maintenance in TM 5-2805-259-14.

Step 3. Check operation of oil pressure switch (S2) by disconnecting connector plug at engine, and measuring open circuit from TB1-B to TB1-F. Reconnect connector plug when finished.
If continuity (zero ohms) is indicated with switch pressed, replace S2 switch.

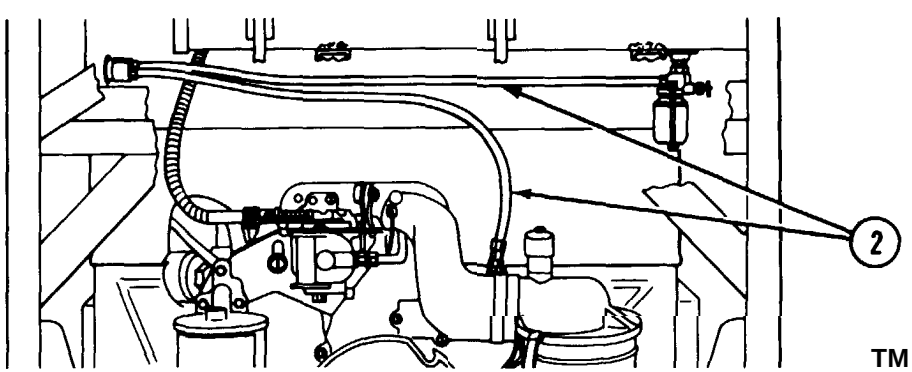


Step 4. Check oil pressure switch (S2) (1) to make sure it is properly mounted and has not rotated and is shorting out the terminals.
Resecure S2 switch and make sure no metal objects touch terminals.



Step 5. Check fuel hoses (2) to see if they are leaking.
Tighten hose clamp, if installed, or replace with new hoses.

Step 6. Check battery charge (refer to TM 9-6140-200-14).
Service battery (refer to TM 9-6140-200-14).



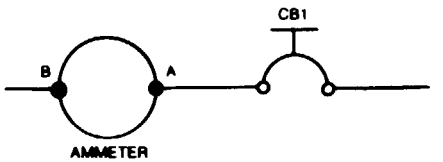
TROUBLESHOOTING (CONT)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

PUMP UNIT (CONT)

2. GASOLINE ENGINE DOES NOT KEEP BATTERY CHARGED.

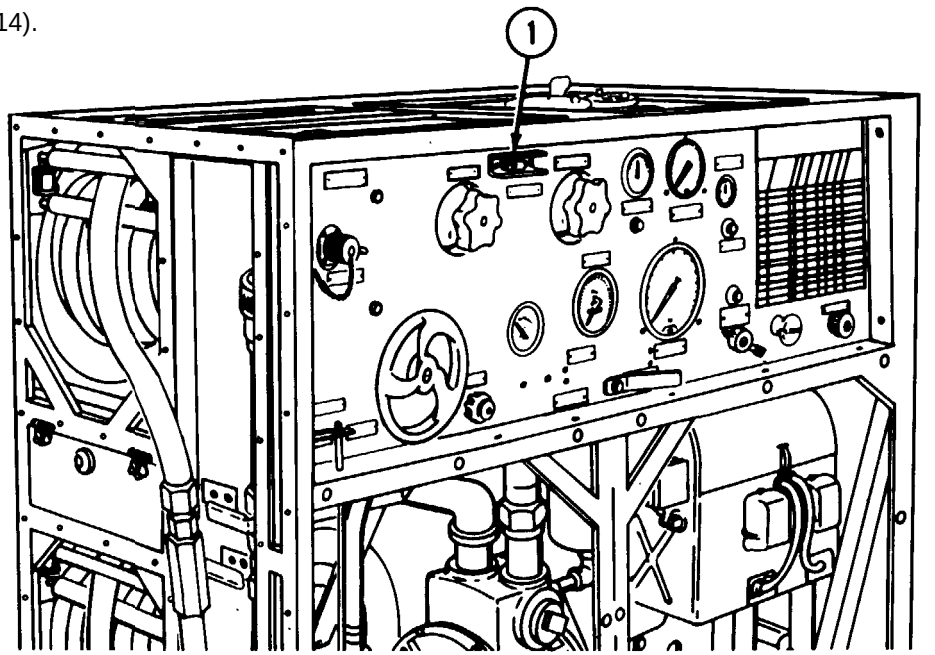
Step 7. Check at the circuit breaker (CB1) terminals to ground for at least 28 volts.
- a. If multimeter indicates 28 vdc or more, do the following in order.
  - (1) Clean corrosion from battery terminals.
  - (2) Tighten loose connections at battery, ground, or on engine starter.
  - (3) Replace battery or battery cables.
- b. If multimeter indicates less than 28 vdc, then test engine mounted alternator system (refer to TM 5-2805-259-14). Refer to maintenance in TM 5-2805-259-14.



3. GASOLINE ENGINE DOES NOT INDICATE CHARGE/DISCHARGE ON AMMETER.

Step 1. Make sure circuit breaker (1) is not tripped. Reset circuit breaker.

Step 2. With multimeter check both terminals to ground at the circuit breaker for 28 vdc.
- a. If multimeter indicates voltage on one terminal but not the other terminal, replace circuit breaker.
- b. If multimeter indicates voltage at both terminals, replace ammeter.
- c. If multimeter indicates no voltage at circuit breaker, shut engine down and notify intermediate direct support maintenance.



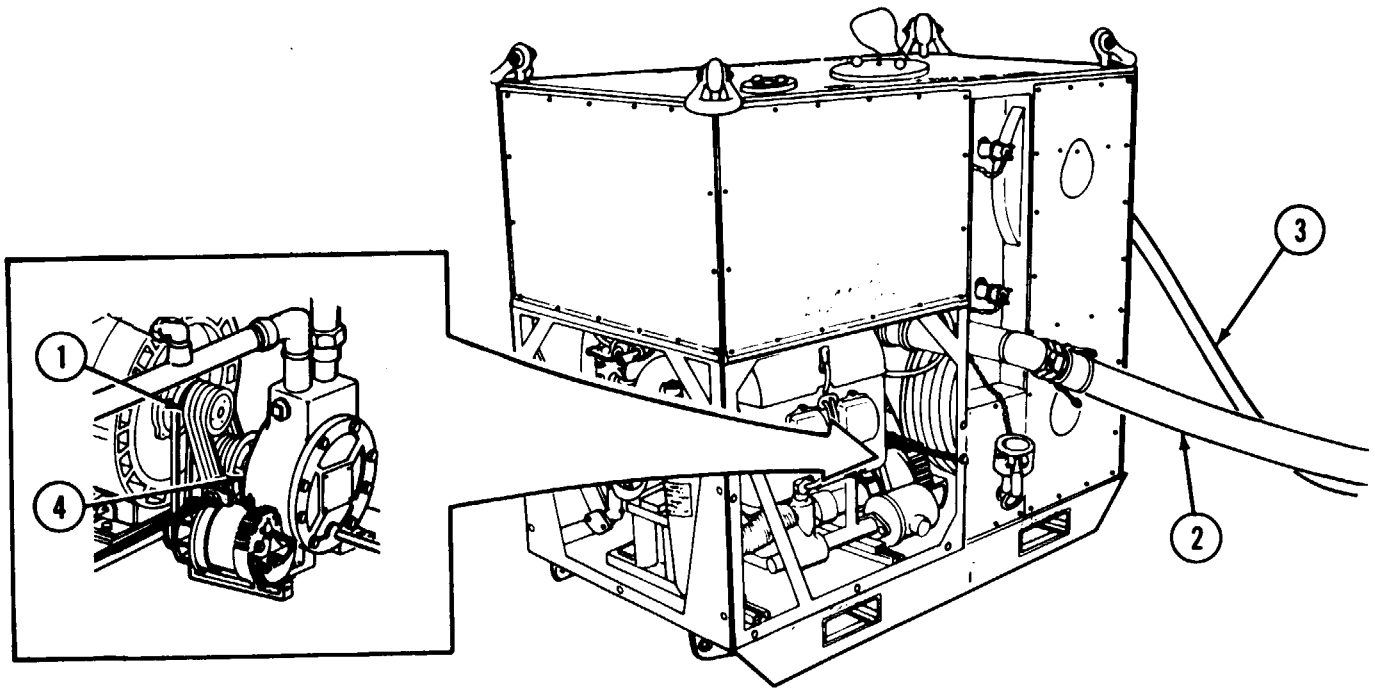
4. PUMP PRESSURE IS LOW OR FALLING.

Step 1. Check drive belts (1) for broken belts.
Replace broken belts.

Step 2. Check drive belts (1) for proper tension.
Tighten drive belts to proper tension
(TM 3-4230-209-10).

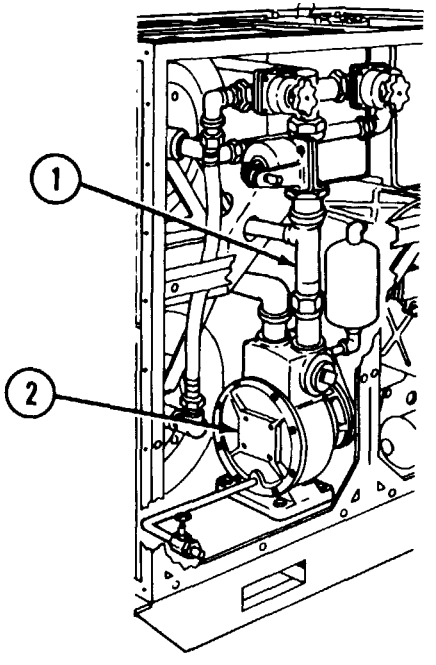
Step 3. Check for blockage in suction (2) and discharge hoses (3).
Remove blockage.

Step 4. Check for defective pump (4).
Notify intermediate direct support maintenance.



MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

PUMP UNIT (CONT)



5. PUMP FAILS COOPERATE.

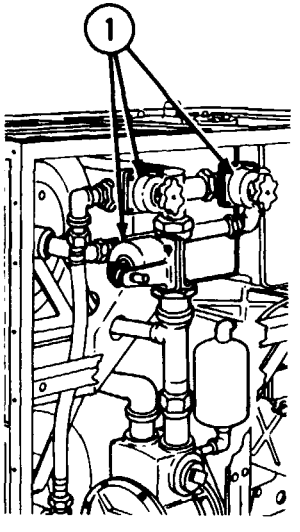
Step 1. Check for blockage in plumbing (1).
Remove blockage if possible, or notify intermediate direct support maintenance.

Step 2. Check pump (2) for binding.
Notify intermediate direct support maintenance.

6. PLUMBING VALVES LEAK.

Step 7. Check to see if valve is property seated.
Tighten connections.

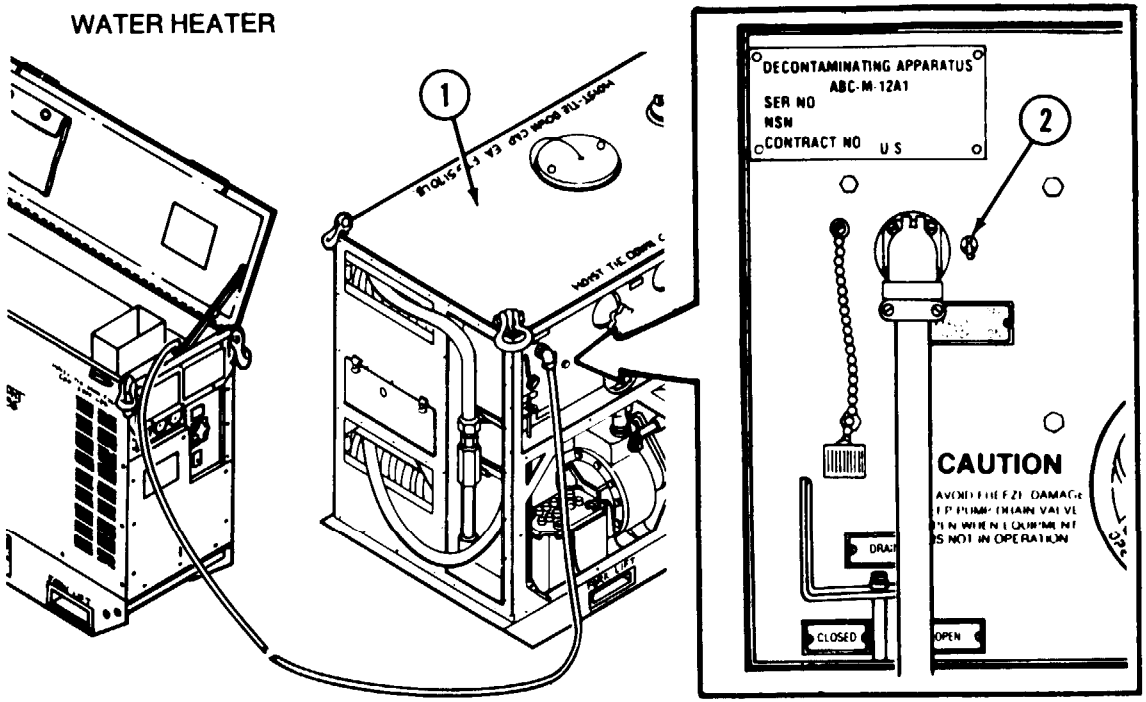
Step 2. Check for loose valve body assemblies (1).
Tighten nuts and bolts or notify intermediate direct support maintenance.



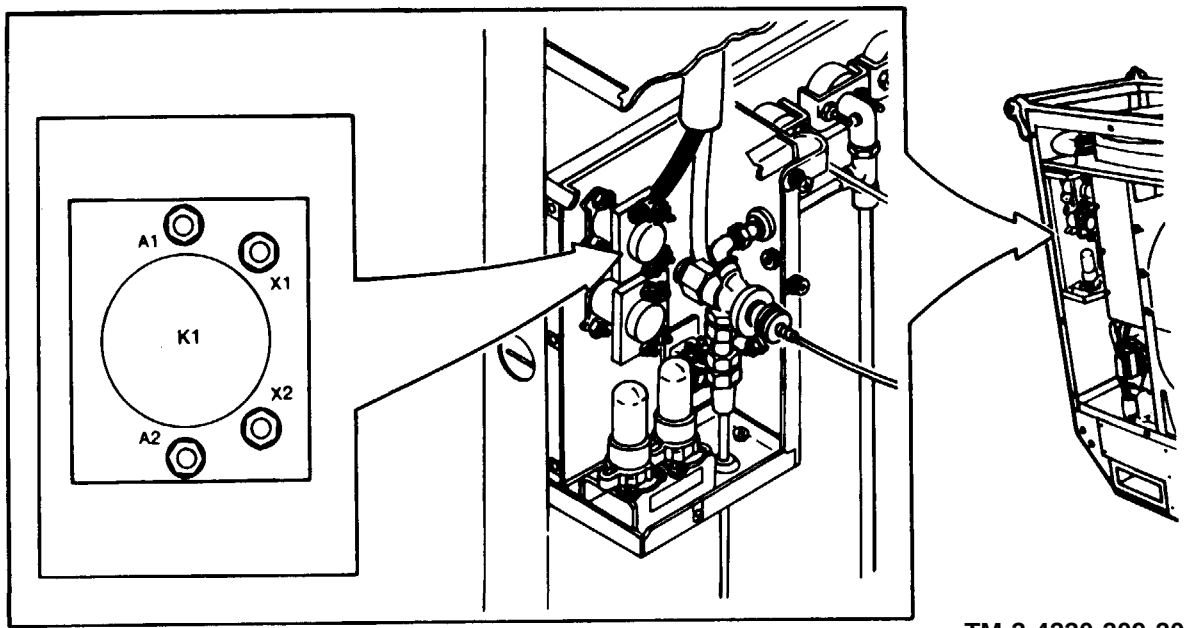
WATER HEATER DOES NOT HEAT WATER.

Step 1. 24 vdc is not available from pump unit(l).
Turn pump unit HEATER RECEPTACLE AND SWITCH to ON (2).

Step 2. Check output of alternator for at least 24 vdc at HEATER RECEPTACLE AND SWITCH, center pin to ground.
If less than 24 vdc is present, replace alternator or notify intermediate direct support maintenance.



Step 3. Check for 24 vdc from K1-A2 in the heater control box to ground.
If 24 vdc is not present, replace power cable assembly.



MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

WATER HEATER (CONT)

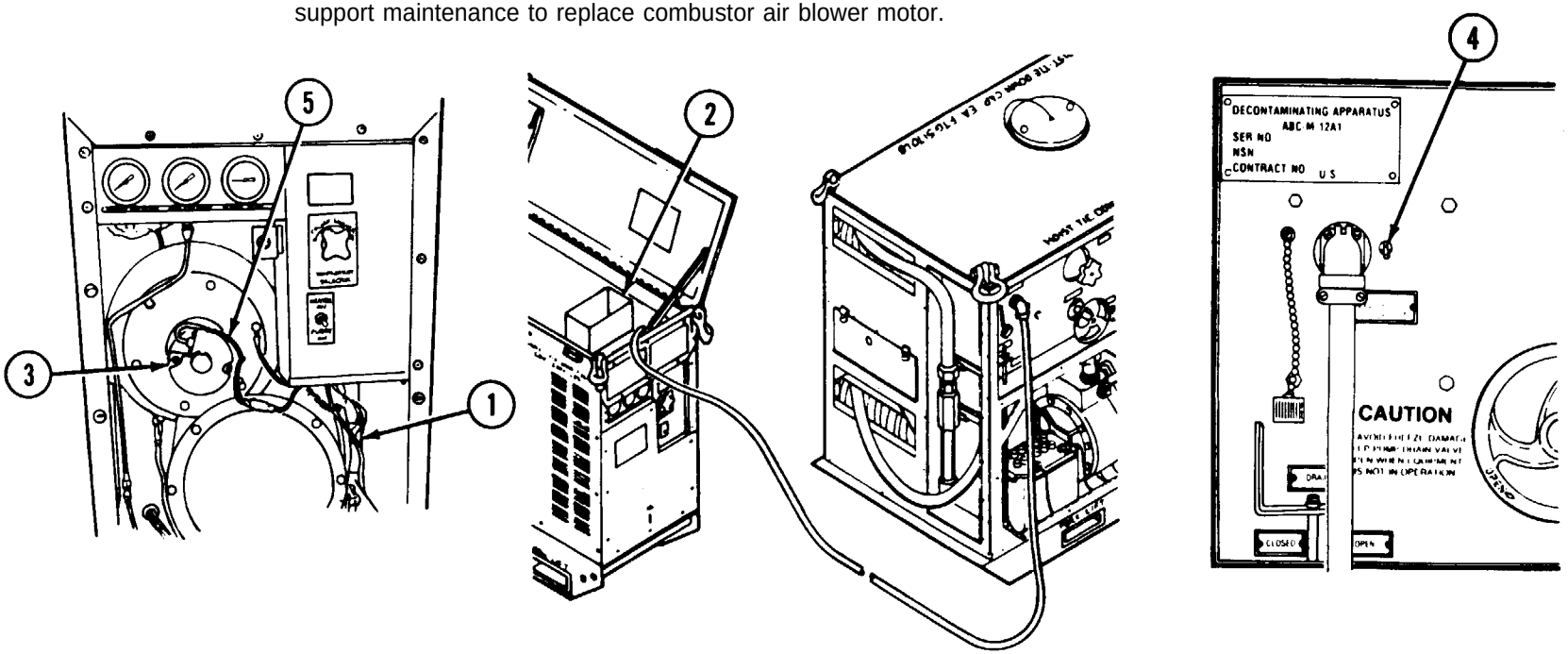
WATER HEATER DOES NOT HEAT WATER (CONT).

Step 4. Combustor air pressure switch (1) not operating.

Check exhaust area (2) for sound of combustor air blower motor (3) running (also indicated by a slight breeze). If not running, check as follows:

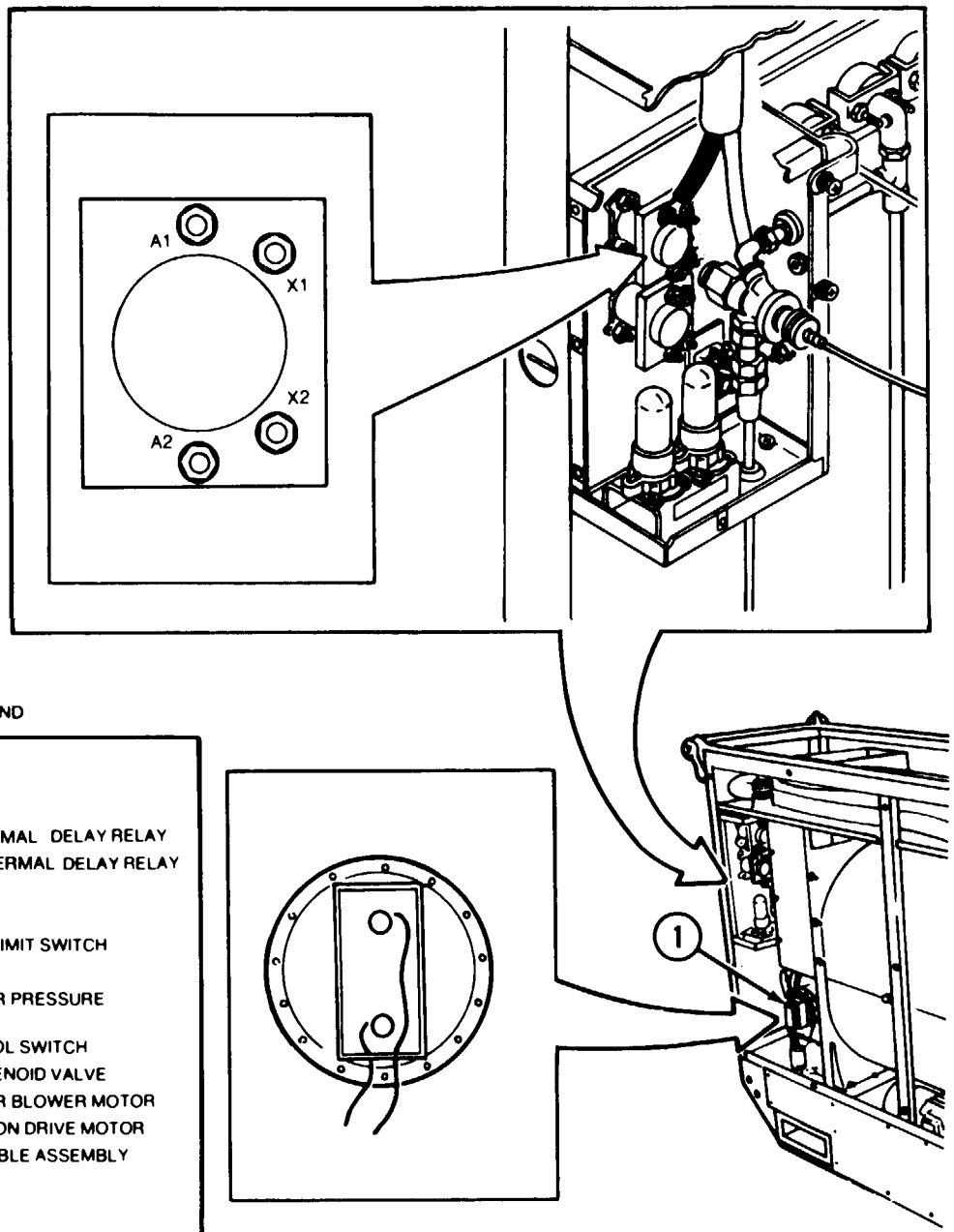
(1) Check that pump unit HEATER RECEPTACLE AND SWITCH is ON (4). Turn SWITCH to ON if necessary.

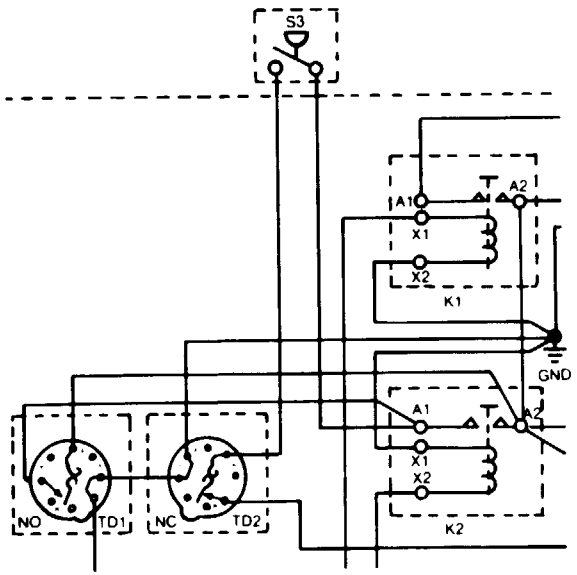
(2) Disconnect wire (5) to combustor air blower motor (3) and check for 24 vdc between female side to ground. If voltage is indicated, notify intermediate direct support maintenance to replace combustor air blower motor.



(3) Check for 24 vdc between terminal A2 of relays K1 and K2 and ground. If low voltage or no voltage is indicated, replace main power cable or troubleshoot pump unit generator/alternator circuit.

(4) Remove cover on combustor air pressure switch (1) and disconnect two wires. With combustor air blower motor operating, measure for continuity. With combustor air blower motor not operating, measure for infinity. If measurements are not as indicated, replace combustor air pressure switch.





LEGEND

E1	SPARK PLUG
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
NO	NORMAL OPEN
NC	NORMAL CLOSE

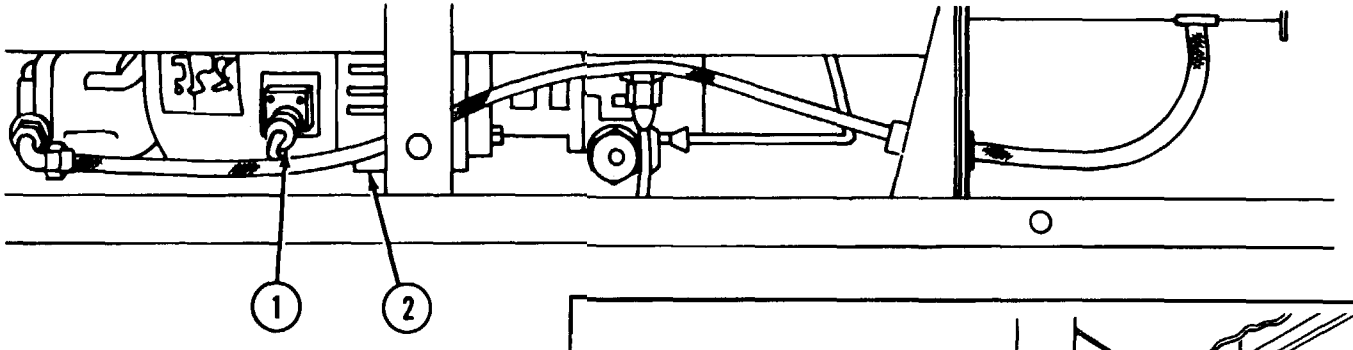
MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

WATER HEATER (CONT)

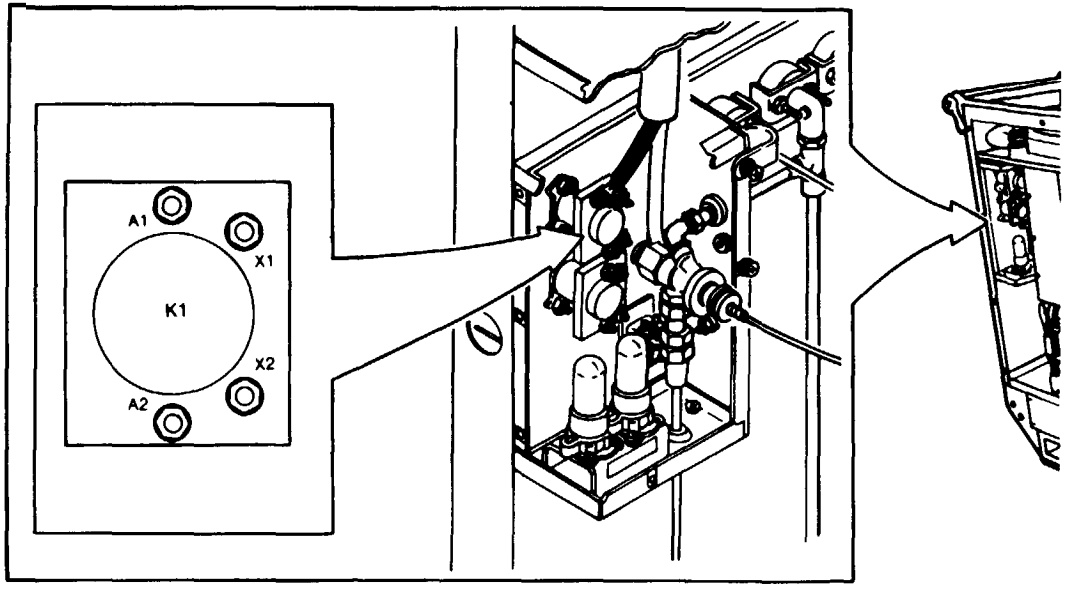
WATER HEATER DOES NOT HEAT WATER (CONT).

Step 5. Fuel pump and ignition drive motor does not run in PURGE ON.

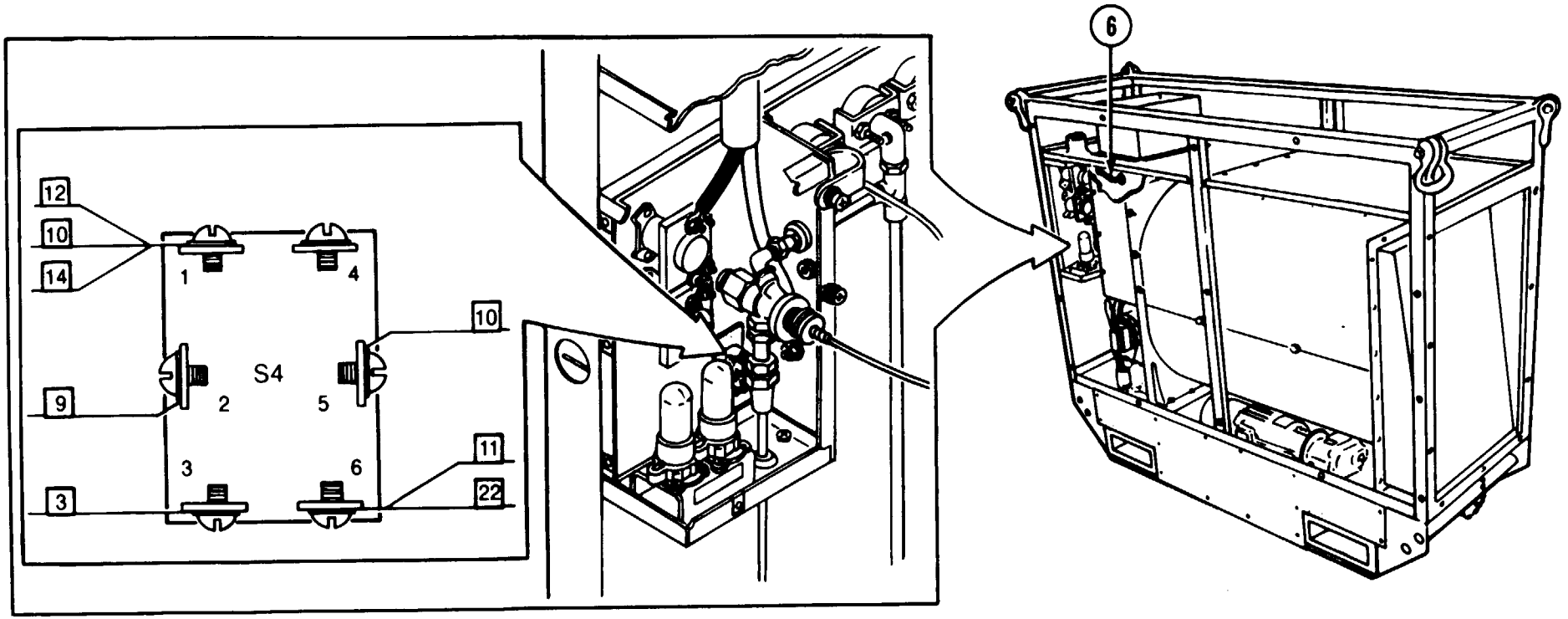
a. Disconnect electrical connector (1) from motor (2) and check for 24 vdc between female end and ground. If voltage is indicated, replace fuel pump and ignition drive motor.



b. Check for 24 vdc between terminal K1-X1 and ground and terminal K1-A1 and ground. If 24 vdc is indicated at X1 but not at A1, shut electrical power off at pump unit, and disconnect lead from X1. Check for resistance from X1 to X2 of relay coil. If continuity or infinity is indicated, replace K1 relay. Must read a few ohms for coil resistance.



c. Check for 24 vdc between HEATER ON/PURGE ON switch (S4), terminals 1, 2, and 5, and ground.
(1) If voltage is indicated at terminal 2 but not at 1 or 5, replace switch.
(2) If voltage is indicated at terminals 2 and 1 but not 5, notify intermediate direct support maintenance to repair jumper wire.
(3) If no voltage is indicated at 1, 2, and 5, disconnect wires from flame switch (S2) (6) and measure across contacts for continuity. If infinity is indicated, replace S2 switch.



MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION

WATER HEATER (CONT)

WATER HEATER DOES NOT HEAT WATER (CONT).

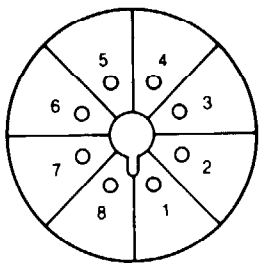
Step 6. Fuel pump and ignition drive motor operates in PURGE ON but does not operate in HEATER ON. Allow fuel pump and ignition drive motor at least two seconds but not more than two minutes to start in HEATER ON. if motor does not start in two minutes do the following in order.

a. Pull thermal delay relay tubes TD1 and TD2 out and check each for resistance between pins 2 and 3. Replace any thermal delay relay that indicates an open. With TD1 removed, check for 24 vdc between pin socket 2 and ground. If no voltage indicated, check S4 switch, terminals 2 and 3, for 24 vdc.
   (1) If 24 vdc is indicated at terminal 2 but not at 3, replace S4 switch.
   (2) Reinstall TD1.

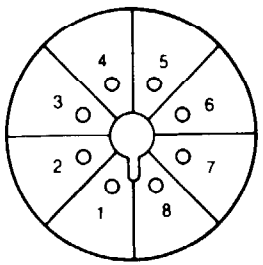
b. Check for 24 vdc between relay K2, terminal A1, and ground two seconds after heater control switch has been set to HEATER ON. If no voltage is indicated at K2-A1, remove TD1 and check between socket hole 5 and ground for voltage. If voltage is at socket hole 5, replace TD1 and retest. If still no voltage notify intermediate direct support maintenance.

c. Remove thermal delay relay tube TD2 and check for continuity from socket hole 5 to 7. If infinity is indicated, replace TD2 as defective.

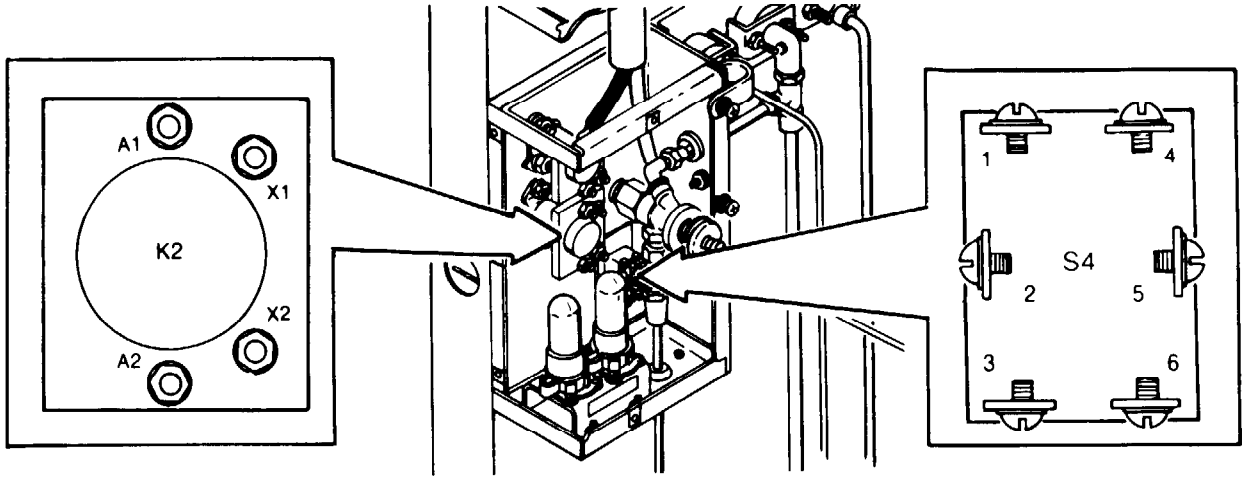
d. Check for continuity from TD2, socket hole 7, to switch S4, terminal 1. If infinity is indicated, notify intermediate direct support to replace the thermostatic switch S1.



TD1/TD2 SOCKET
VIEWED FROM TOP



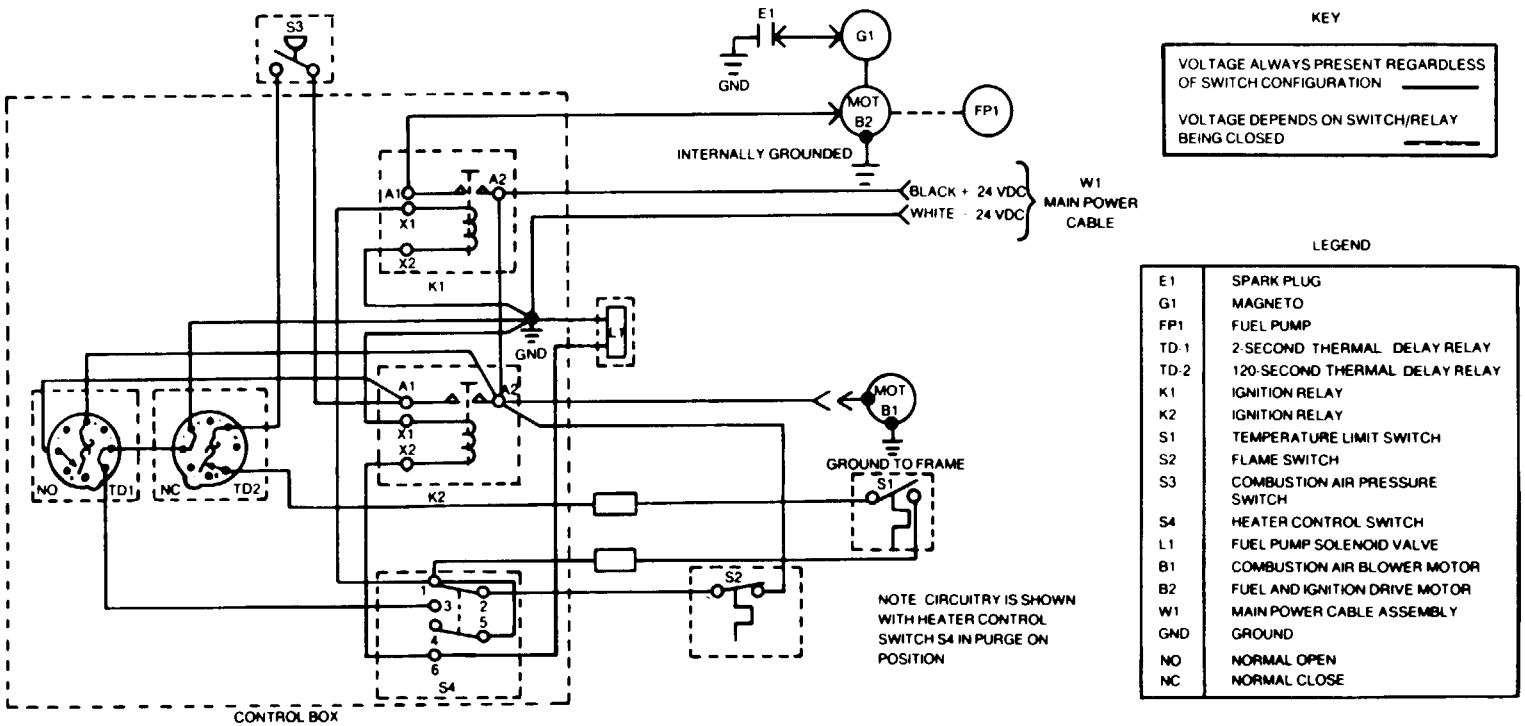
TD1/TD2 TUBE PINS
VIEWED FROM BOTTOM



Step 7. Fuel pump and ignition drive motor stops after only two minutes of operation.

a. Check for 24 vdc at HEATER ON/PURGE ON switch (S4) between terminals 2 or 3. Place heater control switch to PURGE ON and allow to operate for two minutes. If 24 vdc was indicated, and burner fails again after restarting, flame switch (S2) is faulty. Replace faulty flame switch (S2).

b. Check for 24 vdc between terminal K2-X2 and ground and terminal K2-A1 and ground.
   (1) If no voltage at X2, replace S4 switch.
   (2) If no voltage at A1, replace K2 relay.
   (3) If no voltage at X2 or A2, notify intermediate direct support maintenance.



MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

WATER HEATER (CONT)

WATER HEATER DOES NOT HEAT WATER (CONT).

Step 8. Fuel pump and ignition drive motor and combustor motor run, combustor will not light.

a. Check igniter in the combustor chamber. Clean igniter and check clearance of spark gap. Install igniter and start again (p 2-208).

b. Check fuel pressure gage on heater control panel for pressure reading. If fuel pressure is low, clean fuel pump screens and adjust. Try operating again. If fuel pressure remains low, replace fuel pump (p 2-205).

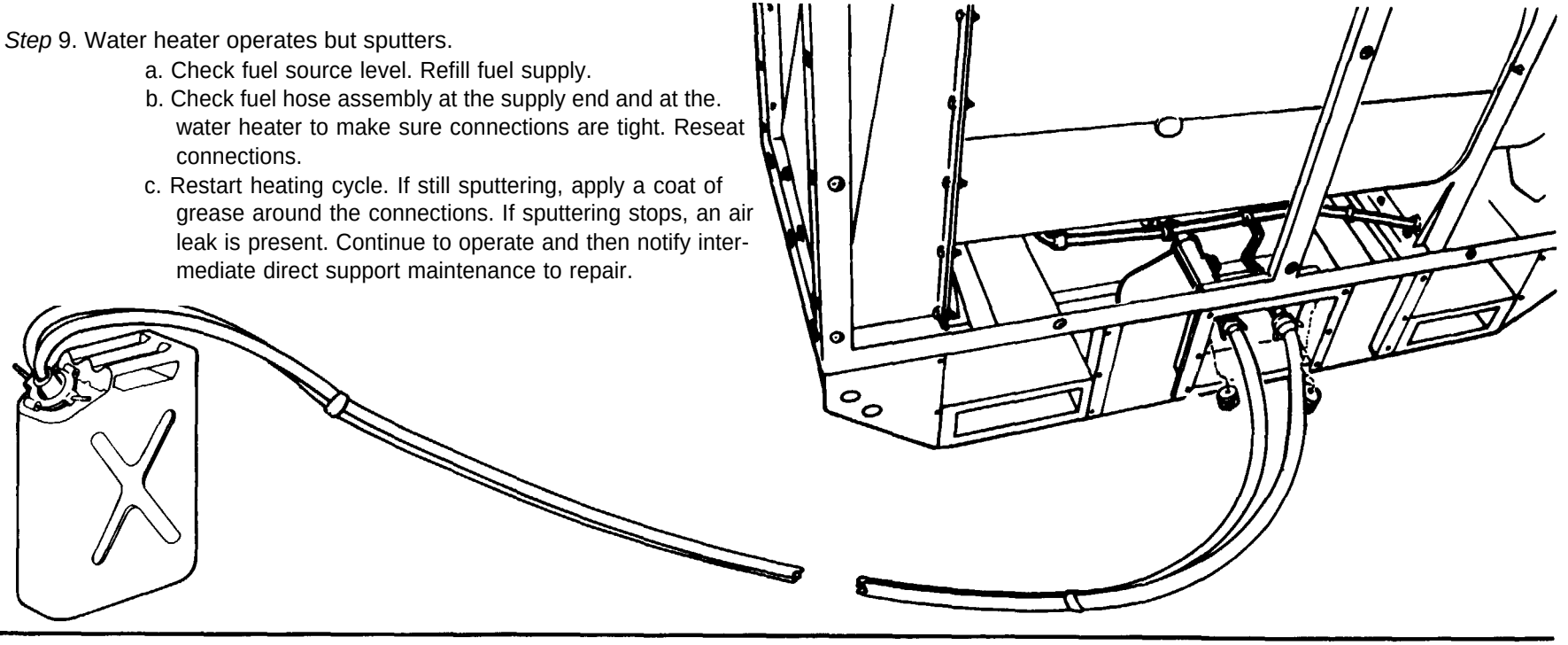
c. Check for fuel entering combustor nozzle spray assembly. If no fuel entering nozzle area, notify intermediate direct support maintenance.

Step 9. Water heater operates but sputters.

a. Check fuel source level. Refill fuel supply.

b. Check fuel hose assembly at the supply end and at the. water heater to make sure connections are tight. Reseat connections.

c. Restart heating cycle. If still sputtering, apply a coat of grease around the connections. If sputtering stops, an air leak is present. Continue to operate and then notify intermediate direct support maintenance to repair.



2-9. PERSONNEL SHOWER ASSEMBLY.

This task covers:
a. Disassembly
b. Cleaning
c. Repair
d. Reassembly

INITIAL SETUP

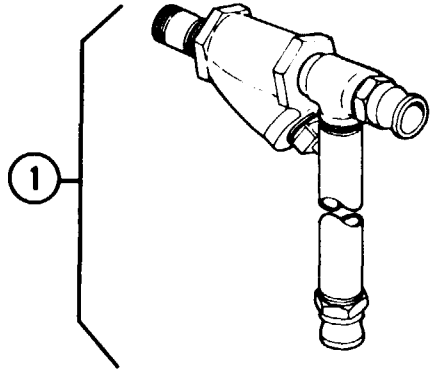
Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

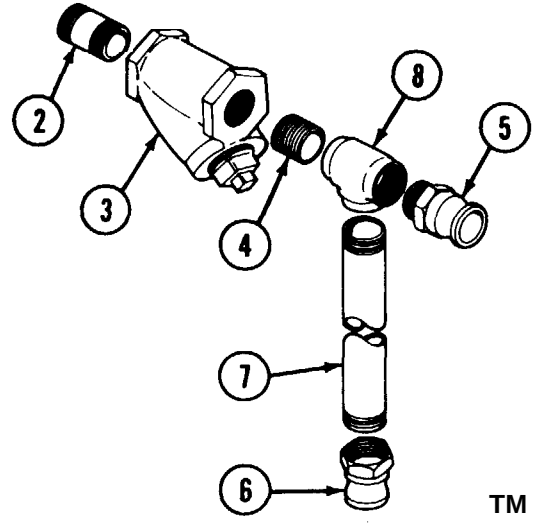
Materials/Parts
Antisiezing tape (item 35, app D)
General purpose detergent (item 12, app D)
Metallic pipe (fig E-4)
Polyurethane coating (item 28, app D)
Sealing compound (item 31, app D)

References
TM 3-4230-209-10

Equipment Condition
Personnel shower assembly is removed from tank unit. See TM 3-4230-209-10.

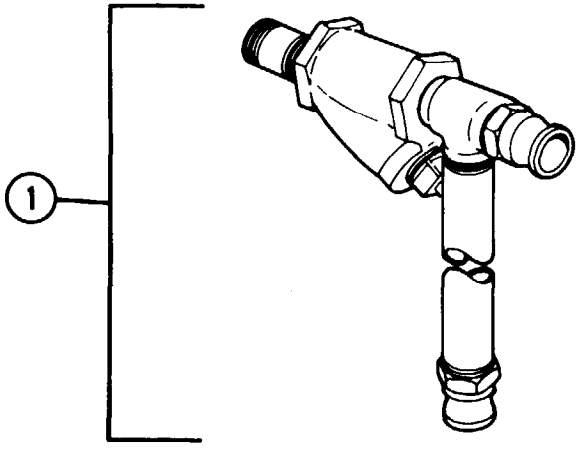
LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Personnel Shower Assembly/ Upper Front Support	Disassemble upper front support (1) by unscrewing pipe nipple (2), sediment strainer (3), pipe nipple (4), coupling half with male threads (5), couplinhg half with female threads (6), and pipe (7) from pipe tee (8).	For cleaning and repair of sediment strainer (3), see TM 3-4230-209-10.

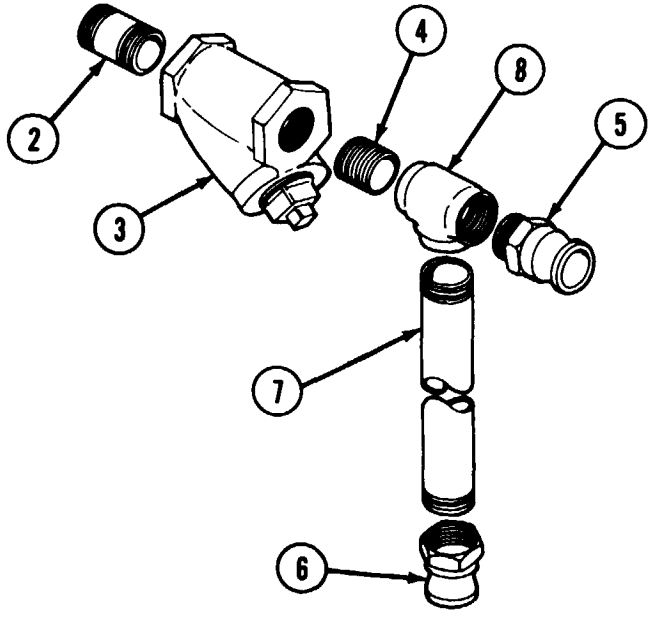




2-9. PERSONNEL SHOWER ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
CLEANING		
Personnel Shower Assembly	Remove dirt, trash, and rust. Clean with hot, soapy water then rinse with clear water. Paint chipped or worn areas with polyurethane coating, as necessary.	
REPAIR		
Personnel Shower Assembly	Replace authorized unserviceable parts. To replace pipe (7), see figure E-4.	
REASSEMBLY		
Personnel Shower Assembly/ Upper Front Support	Reassemble upper front support (1) by screwing pipe (7), coupling half with male threads (5), coupling half with female threads (6), pipe nipple (4), sediment strainer (3), and pipe nipple (2) into pipe tee (8).	Apply antiseizing tape or sealing compound to all male threads before reassembly.

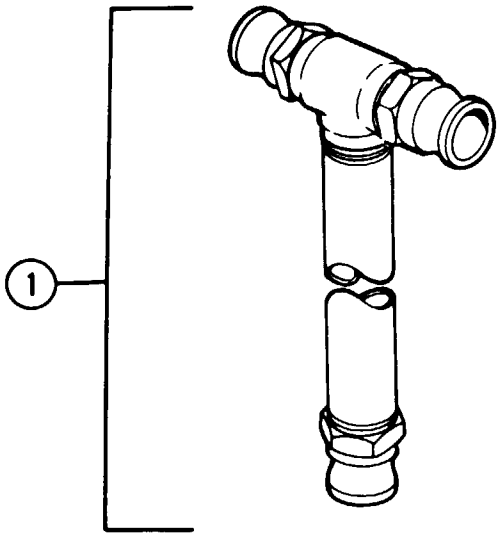


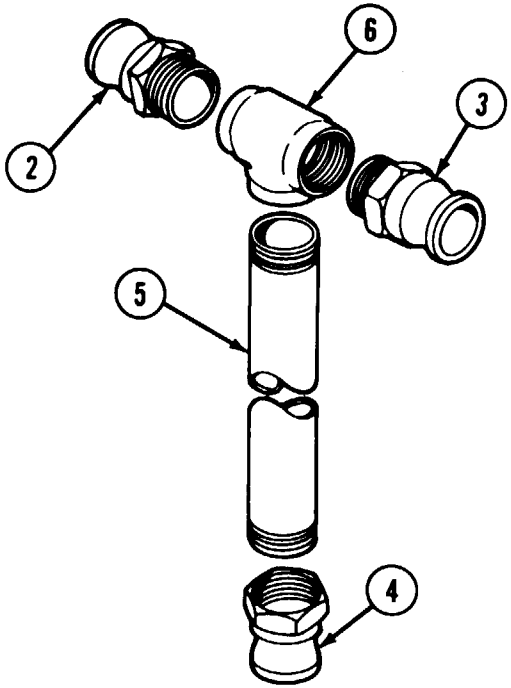


DISASSEMBLY

Personnel Shower Assembly/ Upper Center Support

Disassemble upper center support (1) by unscrewing coupling halves with male threads (2 and 3), coupling half with female threads (4), and pipe (5) from pipe tee (6).





CLEANING

Personnel Shower Assembly

Remove dirt, trash, and rust. Clean with hot, soapy water then rinse with clear water. Paint chipped or worn areas with polyurethane coating, as necessary.

REPAIR

Personnel Shower Assembly

Replace authorized unserviceable parts. To replace pipe (5), see figure E-4.

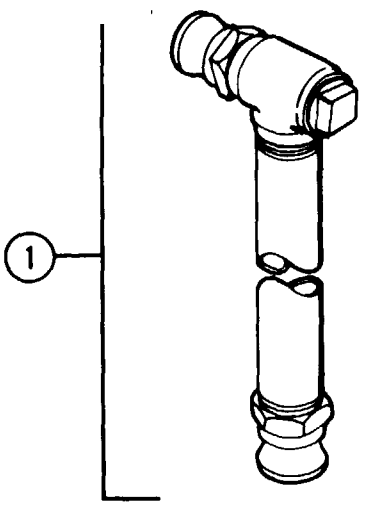
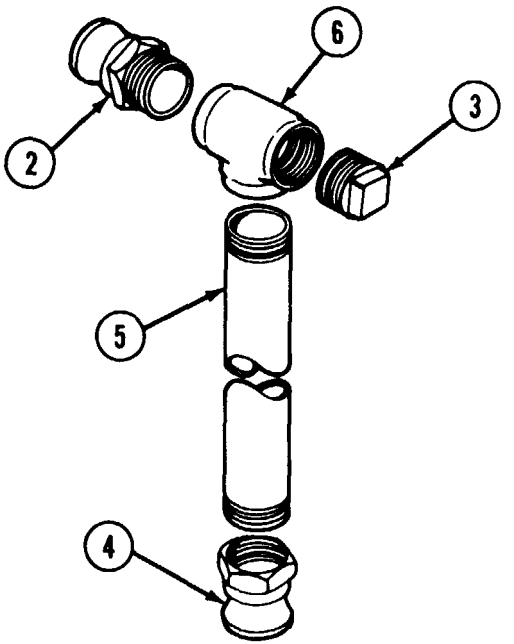
REASSEMBLY

Personnel Shower Assembly/ Upper Center Support

Reassemble by screwing pipe (5), coupling half with female threads (4), and coupling halves with male threads (2 and 3) into pipe tee (6).

Apply antiseizing tape or sealing compound to all male threads before reassembly.

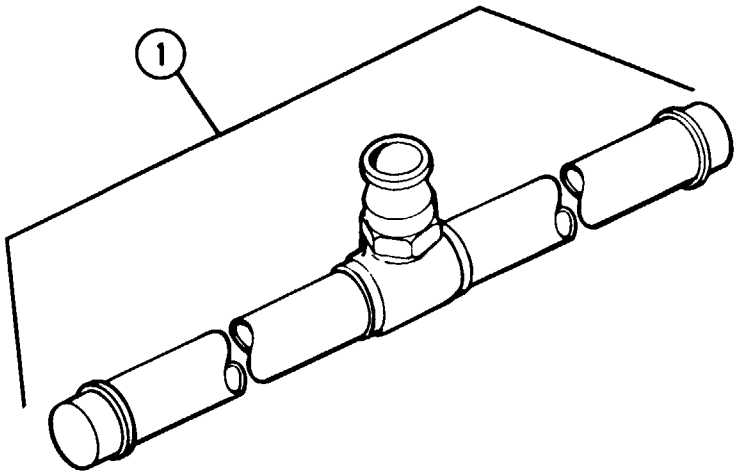
2-9. PERSONNEL SHOWER ASSEMBLY (CONT).

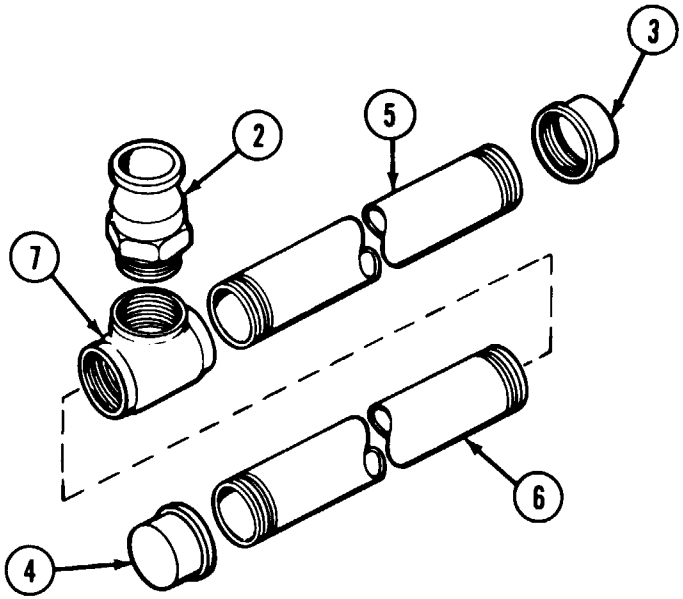
LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Personnel Shower Assembly/ Upper Rear Support	Disassemble upper rear support (1) by unscrewing coupling half with male threads (2), pipe plug (3), coupling half with female threads (4), and pipe (5) from pipe tee (6). 	
CLEANING		
Personnel Shower Assembly	Remove dirt, trash, and rust. Clean with hot, soapy water then rinse with clear water. Paint chipped and worn areas with polyurethane coating, as necessary.	
REPAIR		
Personnel Shower Assembly	Replace authorized unserviceable parts. To replace pipe (5), see figure E-4.	
REASSEMBLY		
Personnel Shower Assembly/ Upper Rear Support	Reassemble by screwing pipe (5), coupling half with female threads (4), pipe plug (3), and coupling half with male threads (2) into pipe tee (6).	Apply antiseizing tape or sealing compound to all male threads before reassembly.

DISASSEMBLY

Personnel Shower Assembly/ Horizontal Support

Disassemble horizontal support (1) by unscrewing coupling half with male threads (2), pipe caps (3 and 4), and pipes (5 and 6) from pipe tee (7).





CLEANING

Personnel Shower Assembly

Remove dirt, trash, and rust. Clean with hot, soapy water then rinse with clear water. Paint chipped or worn areas with polyurethane coating, as necessary.

REPAIR

Personnel Shower Assembly

Replace authorized unserviceable parts. To replace pipe (5 or 6) see figure E-4.

REASSEMBLY

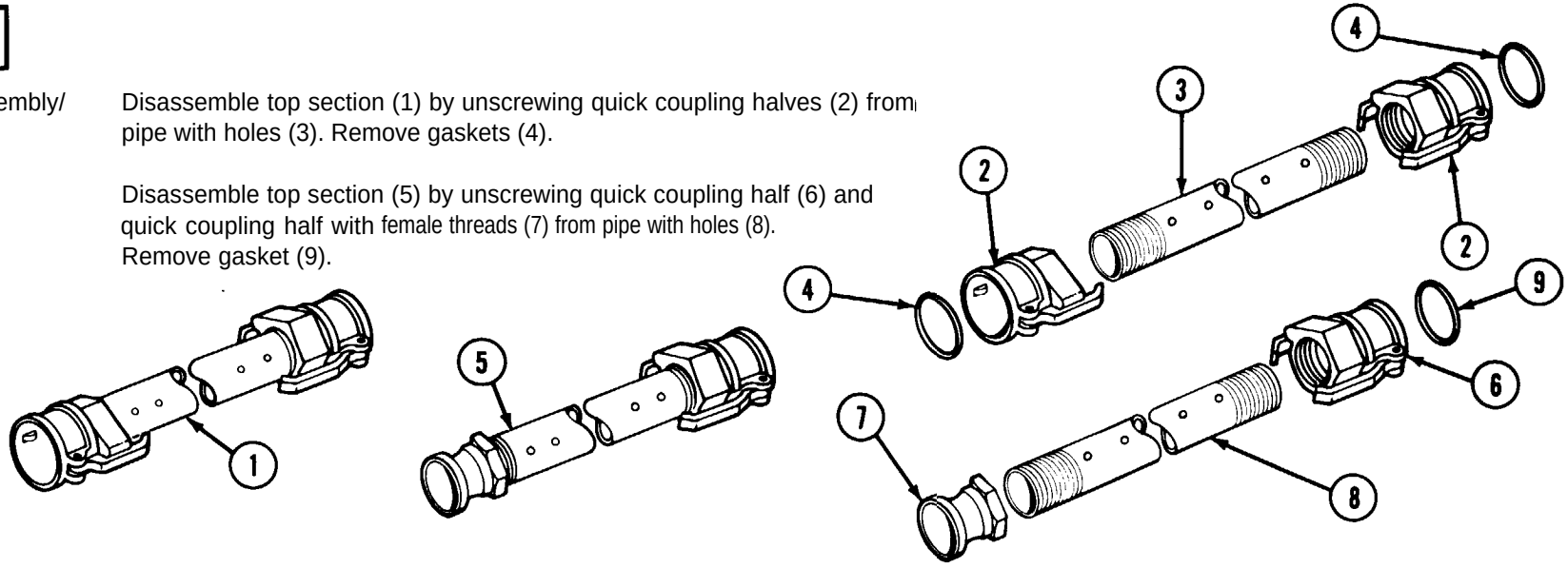
Personnel Shower Assembly/ Horizontal Support

Reassemble by screwing pipes (5 and 6), pipe caps (3 and 4), and coupling half with male threads (2) into pipe tee (7).

Apply antiseizing tape or sealing compound to all male threads before reassembly.

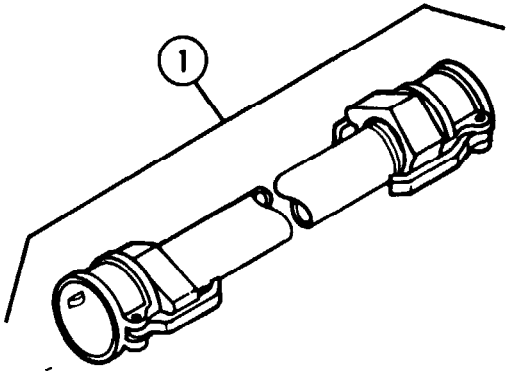
2-9. PERSONNEL SHOWER ASSEMBLY (CONT).

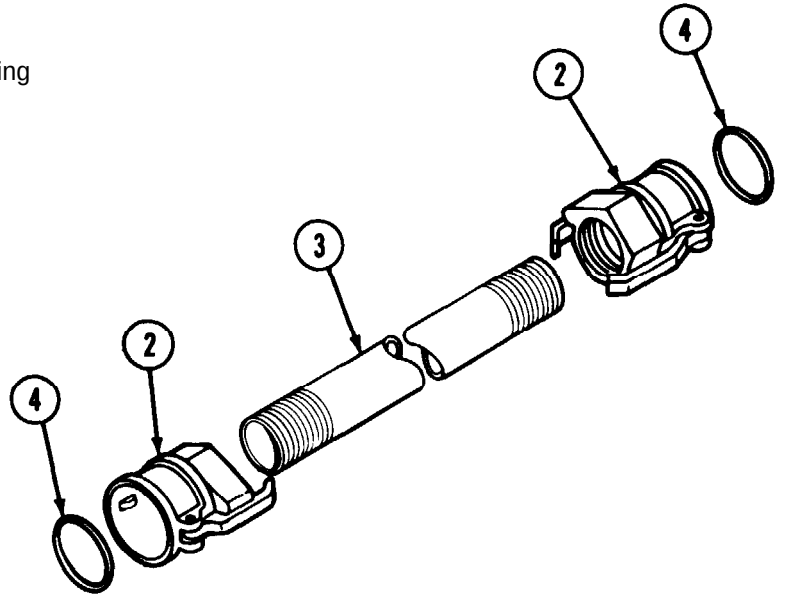
LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Personnel Shower Assembly/ Top Sections	Disassemble top section (1) by unscrewing quick coupling halves (2) from pipe with holes (3). Remove gaskets (4). Disassemble top section (5) by unscrewing quick coupling half (6) and quick coupling half with female threads (7) from pipe with holes (8). Remove gasket (9).	
CLEANING		
Personnel Shower Assembly	Remove dirt, trash, and rust. Clean with hot, soapy water then rinse with clear water. Paint chipped or worn areas with polyurethane coating, as necessary.	Be sure shower holes are open after cleaning and painting.
REPAIR		
Personnel Shower Assembly	Replace authorized unserviceable parts.	
REASSEMBLY		
Personnel Shower Assembly/ Top Sections	Reassemble top section (5) by screwing quick coupling half with female threads (7) and quick coupling half (6) on pipe with holes (8). Place gasket (9) in quick coupling half (6). Reassemble top section (1) by screwing quick coupling halves (2) on pipe with holes (3). Place gaskets (4) in quick coupling halves (2).	Apply antiseizing tape or sealing compound to all male threads before reassembly.



DISASSEMBLY

Personnel Shower Assembly/ Lower Vertical Support	Disassemble lower vertical support (1) by unscrewing quick coupling halves (2) from pipe (3). Remove gaskets (4) from quick coupling halves (2).





CLEANING

Personnel Shower Assembly	Remove dirt, trash, and rust. Clean with hot, soapy water then rinse with clear water. Paint chipped and worn areas with polyurethane coating.

REPAIR

Personnel Shower Assembly	Replace authorized unserviceable parts. To replace pipe (3), see figure E-4.

REASSEMBLY

Personnel Shower Assembly/ Lower Vertical Support	Reassemble by screwing quick coupling halves (2) on pipe (3). Place gaskets (4) in quick coupling halves (2).	Apply antiseizing tape or sealing compound to all male threads before reassembly.

2-10. PUMP UNIT ASSEMBLY.

This task covers:
a. Disassembly
b. Repair
c. Reassembly

INITIAL SETUP

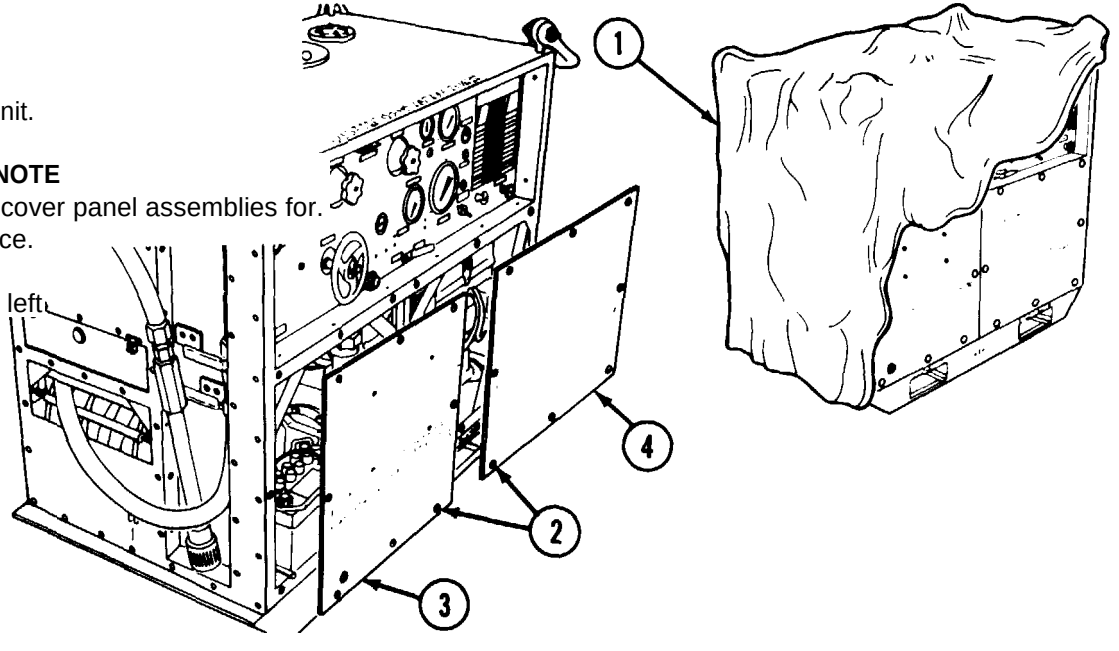
Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

Materials/Parts
Polyurethane coating (item 27, app D)
Polyurethane mating (item 28, app D)
Epoxy primer (item 29, app D)

Equipment Condition
Assembled

References
TM 43-0139

LOCATION/ITEM	ACTION	REMARKS
Pump Unit/ Cover assembly (1)	Lift cover assembly (1) off pump unit.	
	NOTE The disassembly order of cover panel assemblies for repair is of no importance.	
Turnlocks (2) Cover panel assemblies (3 and 4)	Turn eight turnlocks (2) to the left one half turn and remove cover panel assemblies (3 and 4).	

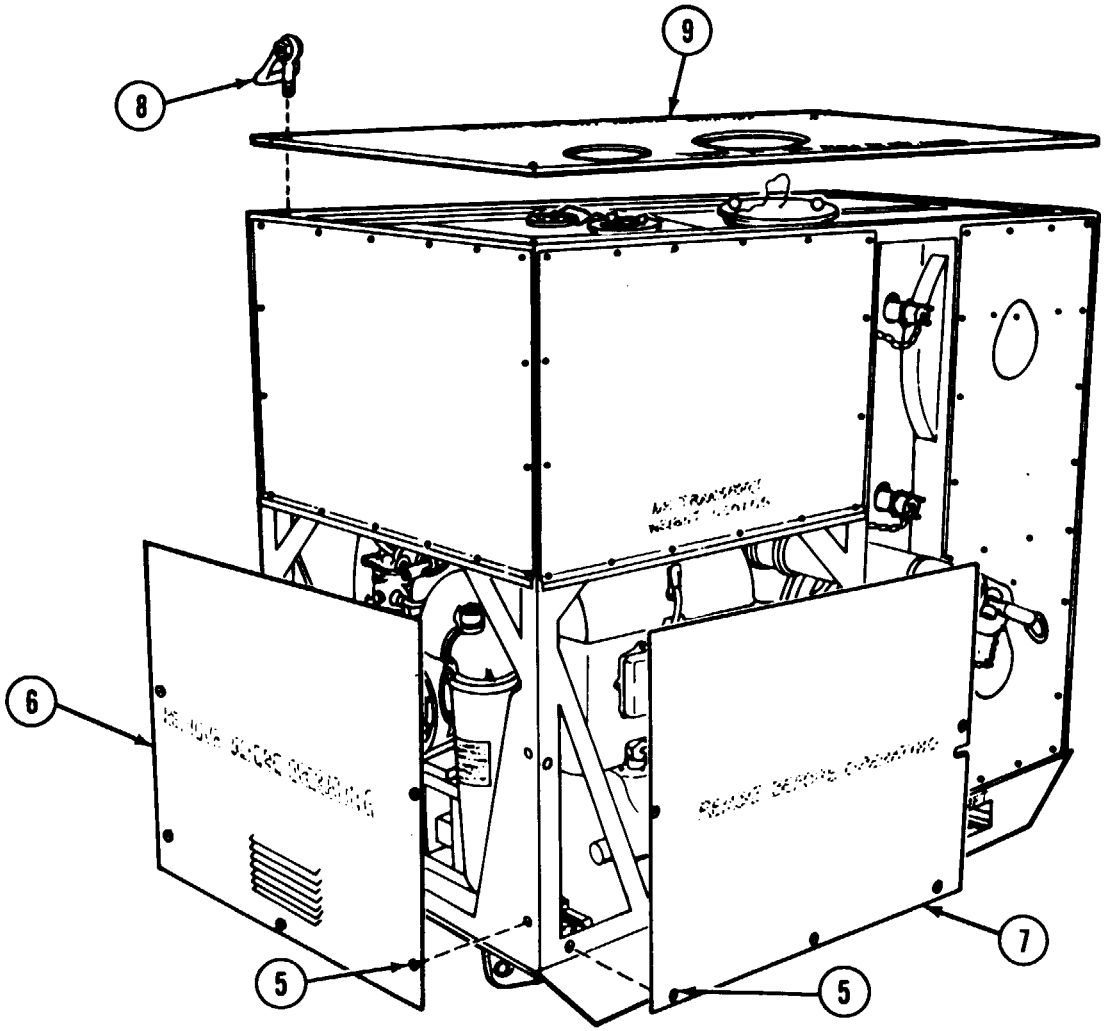


Turnlocks (5)
cover panel
assemblies (6 and 7)

Turn five turnlocks (5) in each panel one half turn to the left and remove cover panel assemblies (6 and 7).

Clevis and eye bolt
assembly (8)
Top cover (9)

Unscrew four clevis and eye bolt assemblies (8) and remove top cover (9).



2-10. PUMP UNIT ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS

DISASSEMBLY (CONT)

Pump Unit/

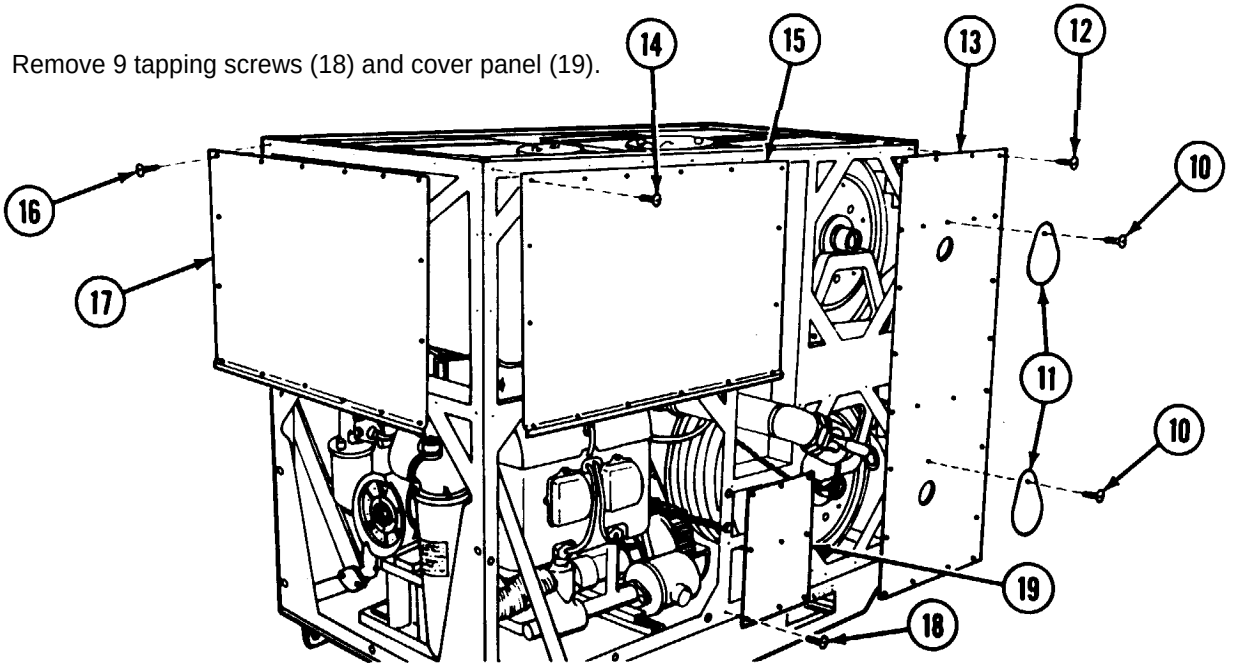
Tapping screw (10)
Access door (11) — Remove tapping screw (10) in each access door (11) only if door is damaged.

Tapping screws (12)
cover panel (13) — Remove 20 tapping screws (12) and cover panel (13).

Tapping screws (14)
Cover panel (15) — Remove 16 tapping screws (14), cover panel (15).

Tapping screws (16)
Cover panel (17) — Remove 16 tapping screws (16) and rover panel (17).

Tapping screws (18)
Cover panel (19) — Remove 9 tapping screws (18) and cover panel (19).



Gun assemblies (20)
Gun brackets (21)

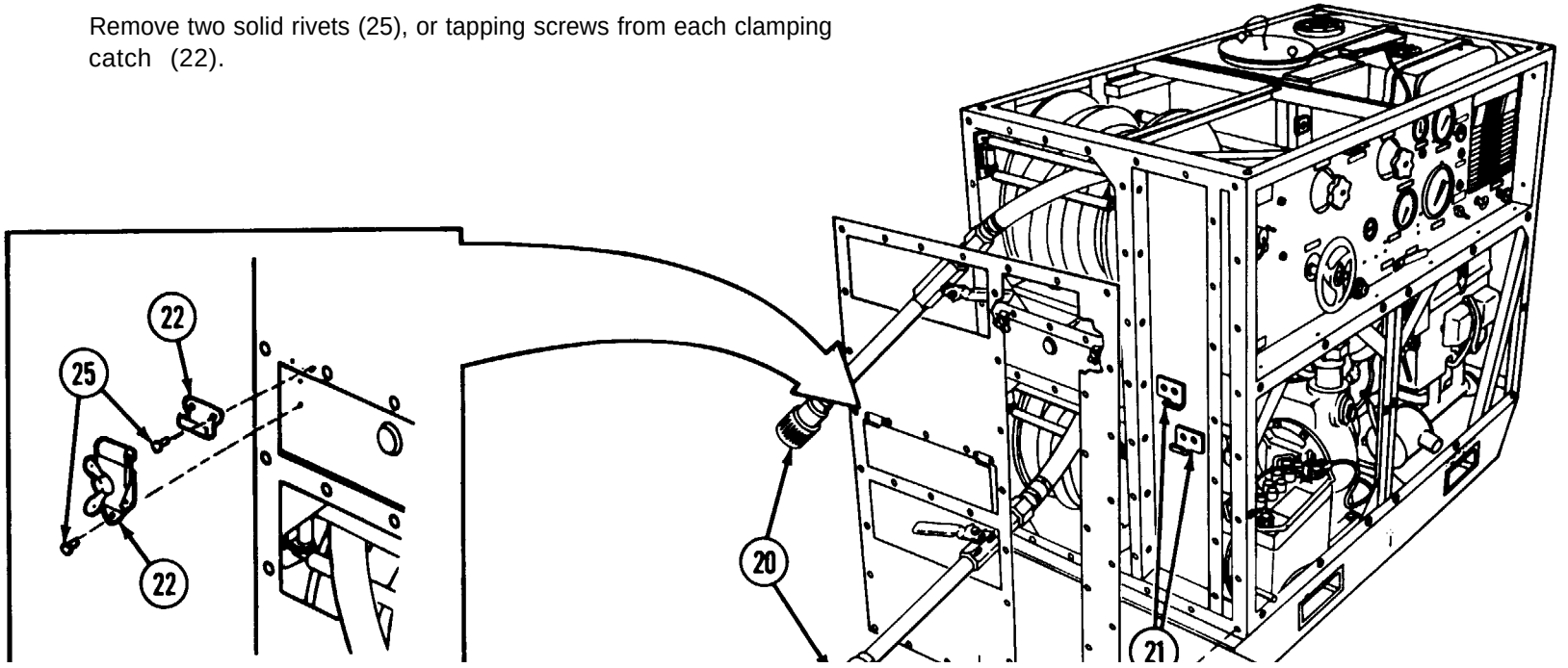
Unhook gun assemblies (20) from gun brackets (21).

Clamping catches (22)
Tapping screws (23)
Cover panel (24)

Turn two clamping catches (22) to unlatch position. Remove 44 tapping screws (23) and cover panel (24).

Solid rivet (25)

Remove two solid rivets (25), or tapping screws from each clamping catch (22).



REPAIR

Pump Unit/
- Cover assembly
- Cover panels
- Cover panel assemblies
- Access doors
- Tapping screws

Repair by replacing authorized items. Use epoxy primer and polyurethane coating to touch up pump unit (see TM 43-0139).

2-10. PUMP UNIT ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS

REASSEMBLY

Pump Unit/
Gun assemblies (1)
cover panel (2)
Tapping screws (3)
Gun brackets (4)

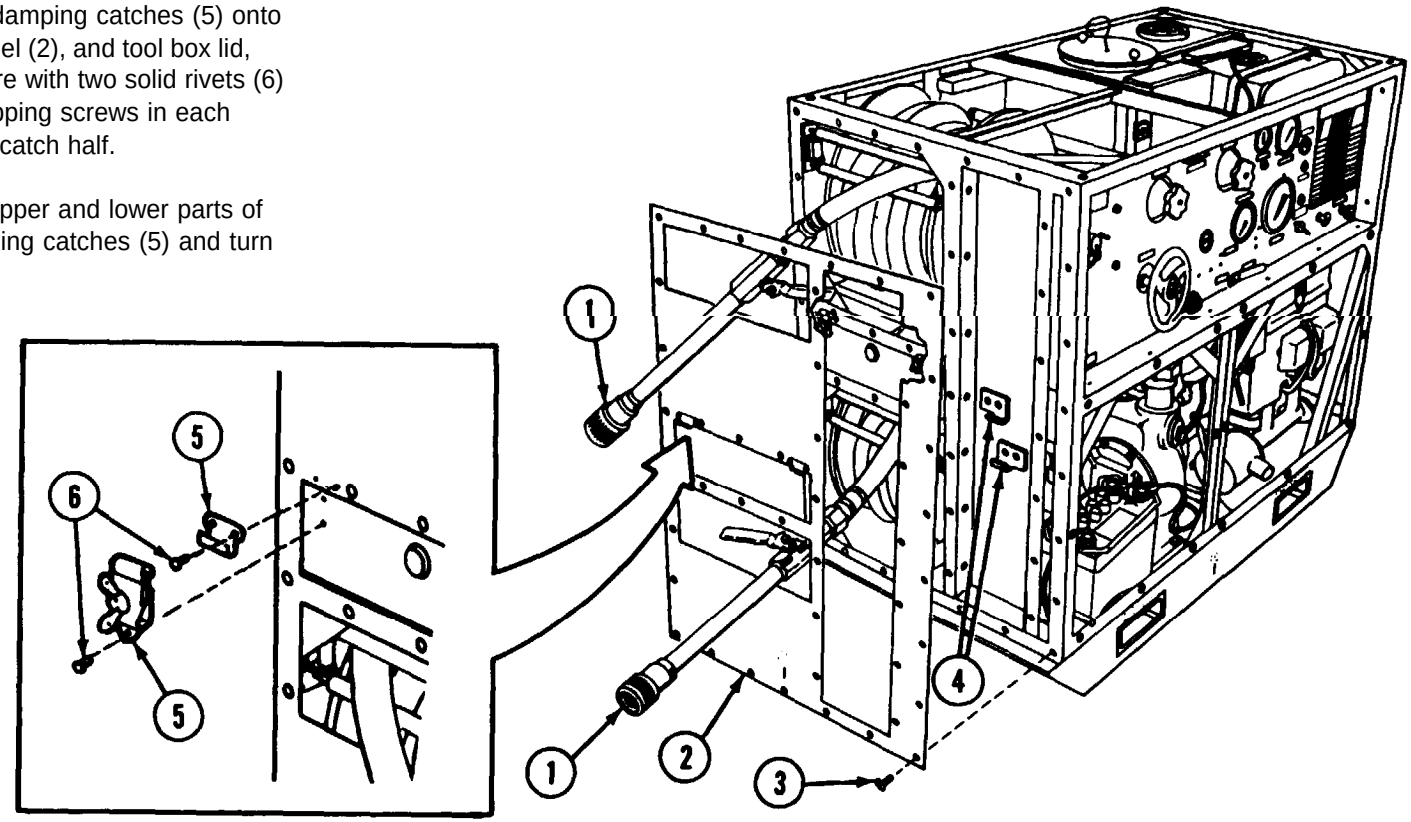
Insert gun assemblies (1) through openings in cover panel (2). Position cover panel (2) against pump unit and aline screw holes. Screw the 44 tapping screws (3) in tight.

Mount the gun assemblies (1) on the gun brackets (4).

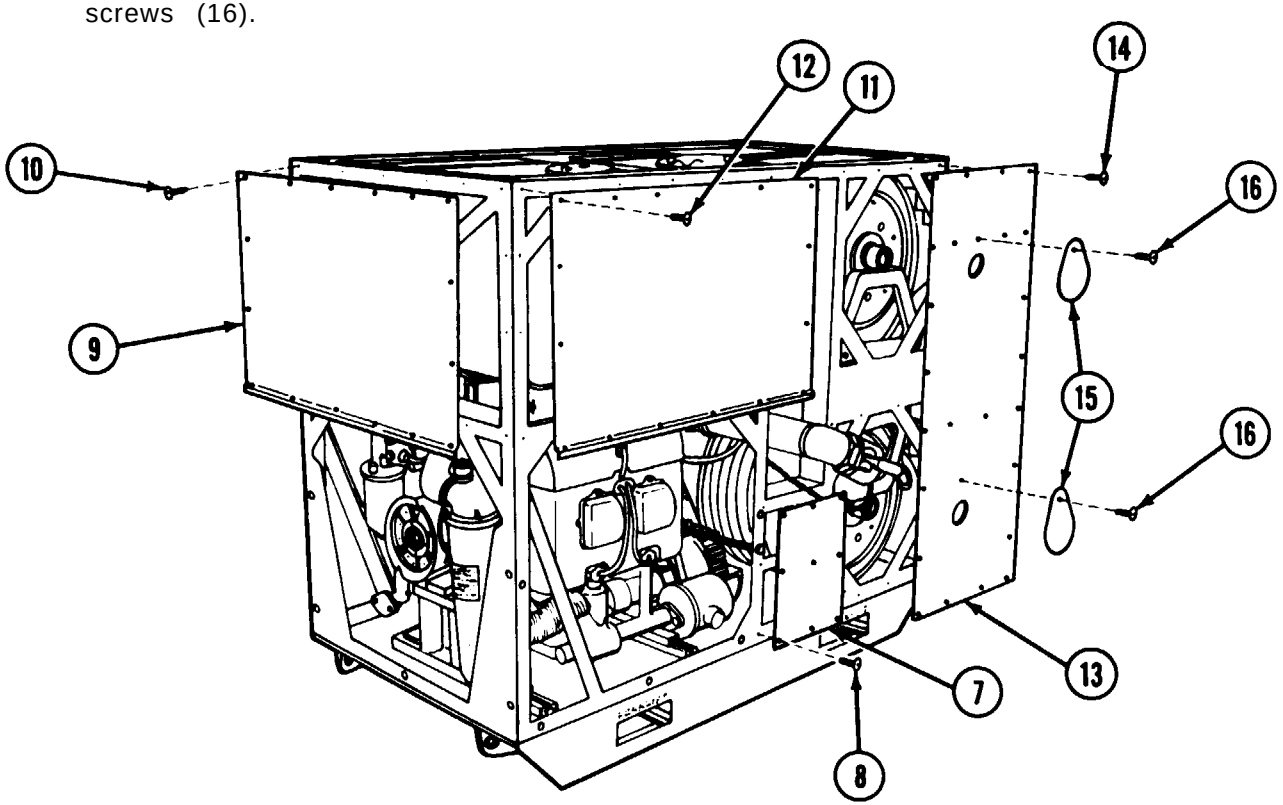
Clamping catches (5)
Solid rivet (6)

Position damping catches (5) onto cover panel (2), and tool box lid, and secure with two solid rivets (6) or two tapping screws in each clamping catch half.

Engage upper and lower parts of two damping catches (5) and turn to secure.

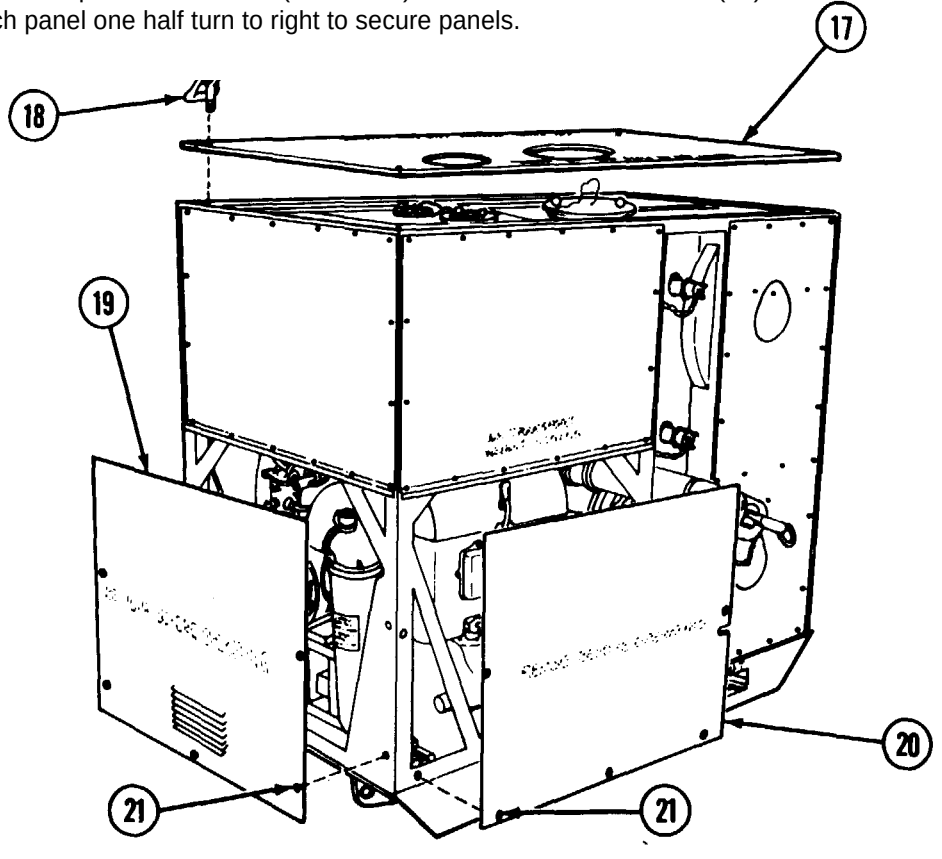


Cover panel (7) Tapping screws (8)	Install cover panel (7) and secure with nine tapping screws (8).
Cover panel (9) Tapping screws (10)	Install cover panel (9) and secure with 16 tapping screws (10).
Cover panel (11) Tapping screws (12)	Install cover panel (11) with 16 tapping screws (12).
Cover panel (13) Tapping screws (14)	Install cover panel (13) and secure with 20 tapping screws (14).
Access doors (15) Tapping screws (16)	If access doors (15) were removed, install them with two tapping screws (16).



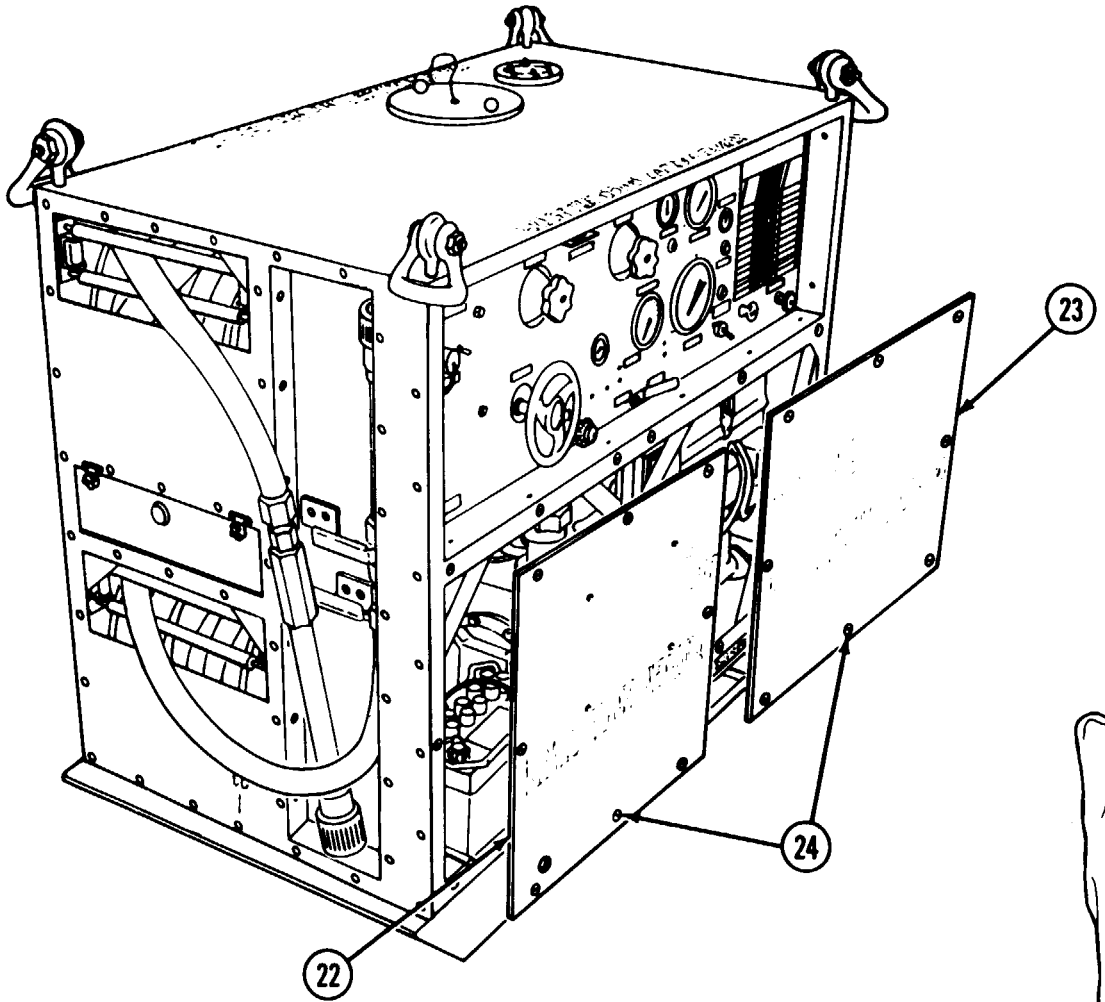
2-10. PUMP UNIT ASSEMBLY (CONT).

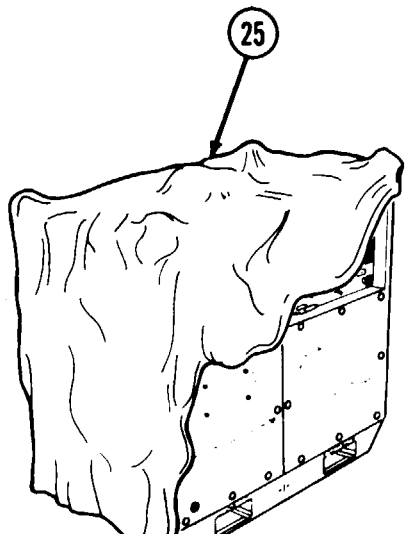
LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Pump Unit/ Top cover (17) Clevis and eye bolt assemblies (18)	Install top cover (17) and screw in four clevis and eye bolt assemblies (18). Reinstall tank lid (11).	
Cover panel assemblies (19 and 20) Turnlocks (21)	Install cover panel assemblies (19 and 20) and turn the five turnlocks (21) in each panel one half turn to right to secure panels.	



Cover panel assemblies (22 and 23)
Turnlocks (24)

Install cover panel assemblies (22 and 23) and turn eight turnlocks (24) in each panel one-half turn to right to secure.





Cover assembly (25)

Slip cover assembly (25) over pump unit and secure.

2-11. ACCESS COVER.

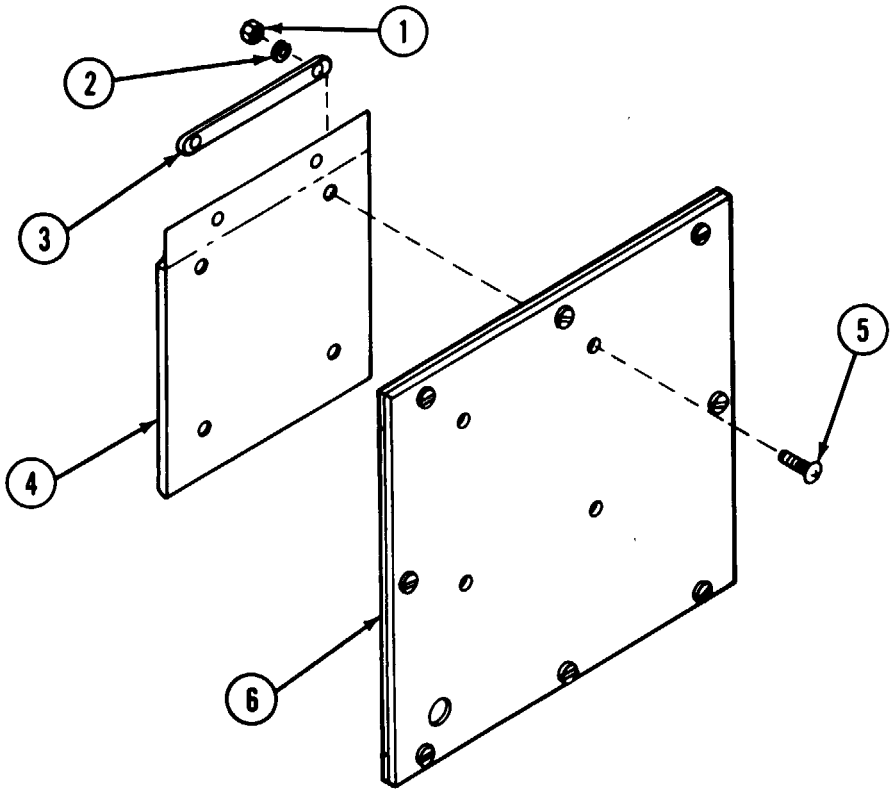
This task covers:
a. Disassembly
b. Repair
c. Reassembly

INITIAL SETUP

Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power
(SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

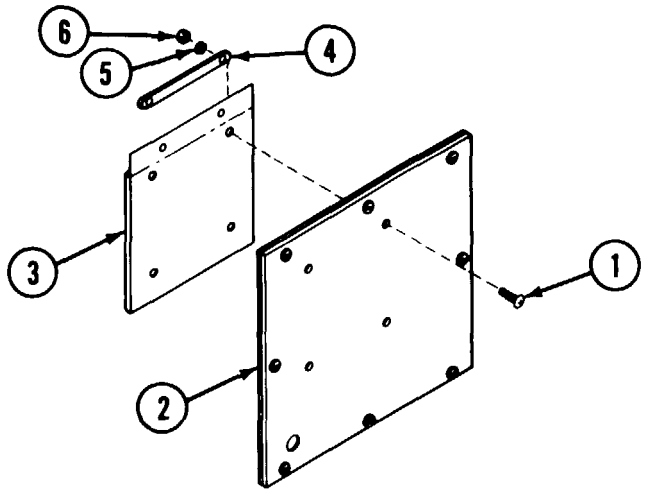
Equipment Condition
Assembled/removed

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Access Cover/		
Hexagon plain nuts (1) Lock washers (2) Pouch strips (3)	Remove four hexagon plain nuts (1), lock washers (2), and two pouch strips (3).	
Tool carrier (4) Machine screws (5) Cover panel (6).	Remove tool carrier (4) and four machine screws (5) from cover panel (6).	
REPAIR		
Access Cover/ Hexagon plain nuts Lock washers Pouch strips Tool carrier Machine screws	Repair by replacing authorized items.	



REASSEMBLY

Access Cover/ Machine screws (1) Cover panel (2) Tool carrier (3) Pouch strips (4)	Insert four machine screws (1) through holes in cover panel (2), tool carrier (3), and two pouch strips (4).
Lock washers (5) Hexagon plain nuts (6)	Install four lock washers (5) and hexagon plain nuts (6) and tighten.



2-12. PUMP UNIT.

This task covers
a. Disassembly
b. Cleaning/Inspection
c. Repair
d. Reassembly

INITIAL SETUP

Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

Materials/Parts
Adhesive (item 1, app D)
Antiseizing tape (item 35, app D)
Chassis and running gear brush (item 5, app D)
Chemical and oil protective gloves (item 21, app D)
Dry cleaning solvent (item 14, app D)
Fire hose (fig E-1)
General purpose detergent (item 12, app D)
Rubber strip (fig E-2)
Sodium bicarbonate (item 32, app D)
Wiping rag (item 30, app D)

References
TM 3-4230-209-10
TM 5-2805-259-14

Equipment Condition
Engine and pump unit protective cover and pump unit cover panels are removed and fuel is drained from fuel tank.

Special Safety Instructions

WARNING

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.

2-12. PUMP UNIT (CONT).

LOCATION/ITEM	ACTION	REMARKS

DISASSEMBLY

Pump Unit/
Fire hose nozzle (1 or 2)
Gun assembly (3)

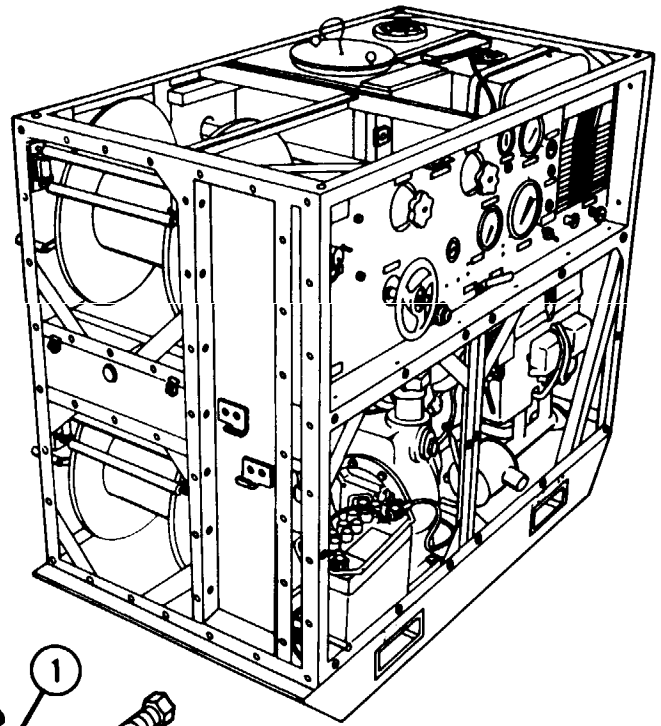
Unscrew and remove either fire hose nozzle (1 or 2) from gun assembly (3).

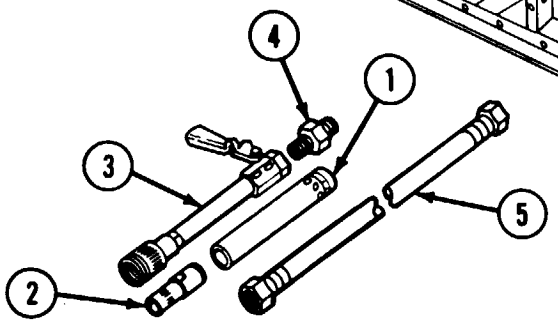
Straight adapter (4)
Discharge hose assembly (5)

Unscrew and remove gun assembly (3) from straight adapter (4) (if one is installed) or directly from discharge hose assembly (5).

Unwind discharge hose assembly (5) to its full length and unscrew and remove it from hose reel.

Remove other hose and gun assembly using the same procedures.





WARNING

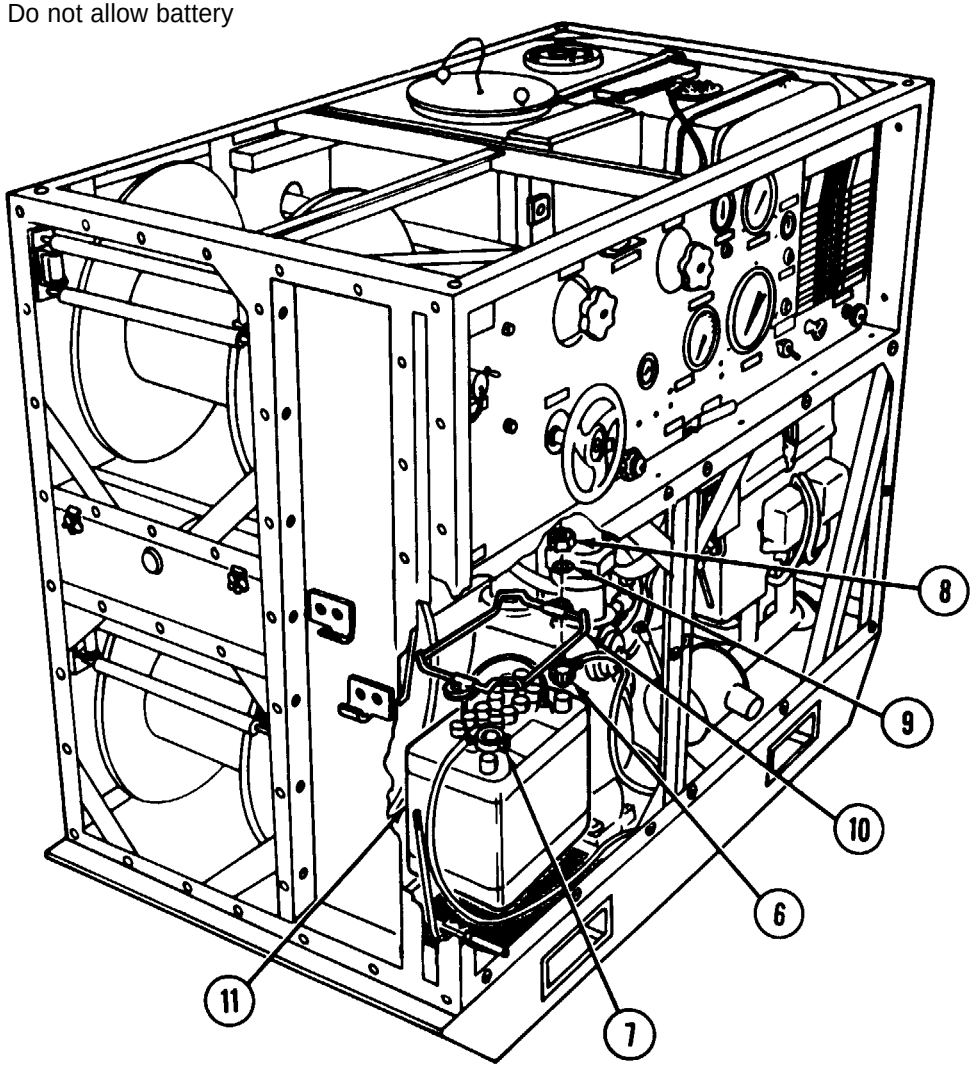
When working around or on the storage battery, always disconnect the ground cable first. Wear eye protection when working with storage battery. The storage battery contains acid which can blind you. Do not allow battery acid to get on clothing.

Ground Cable (6)
Positive battery cable (7)

Loosen terminal bolts on ends of ground cable (6) and positive battery cable (7). Pry cable loose at battety post end.

Hexagon self-locking nuts (8)
Flat washer (9)
Battery retainer (10)
Storage battery (11)

Remove two hexagon self-locking nuts (8), flat washers (9), and battery retainer (10). Lift out storage battery (11).



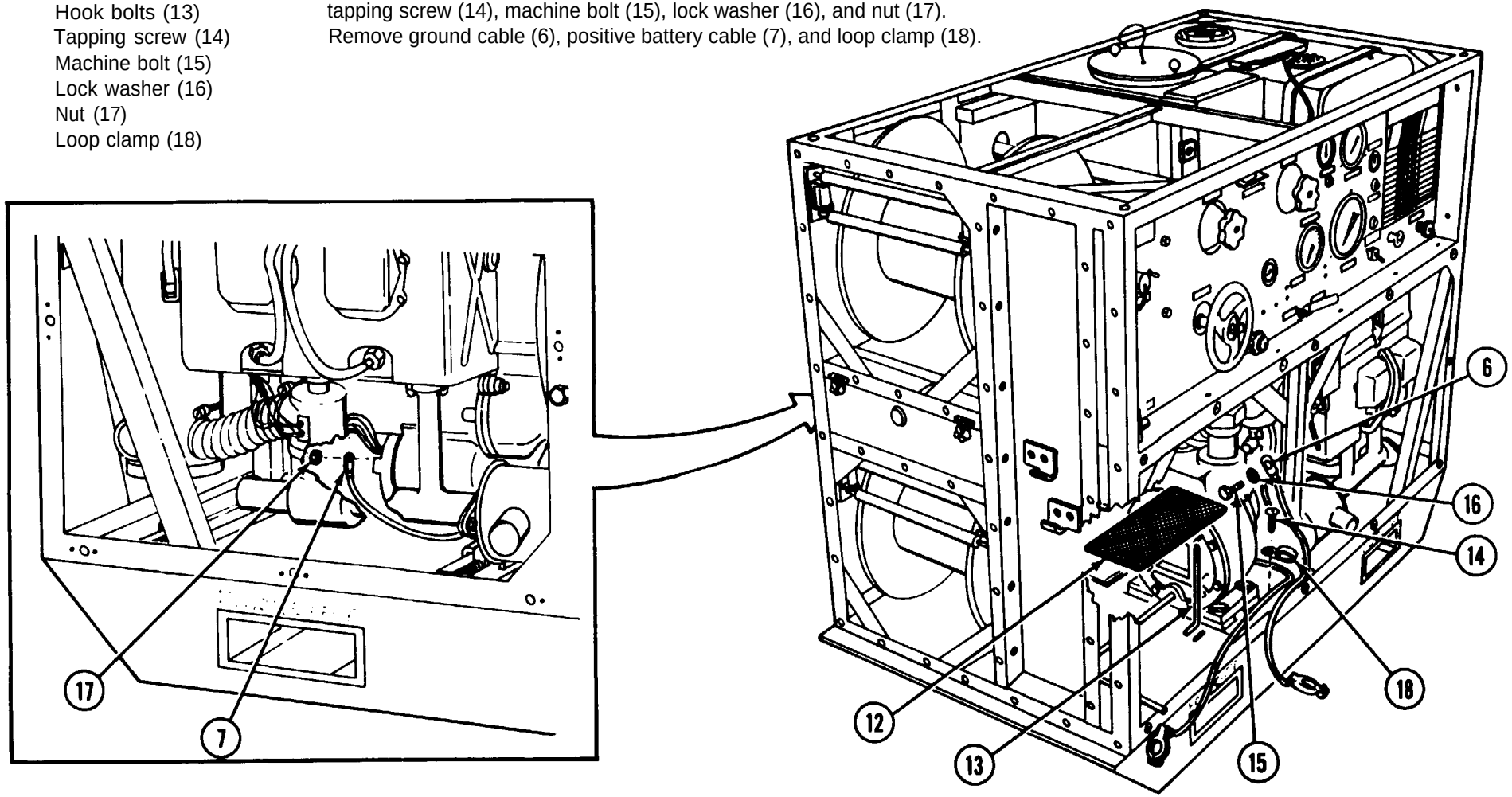
2-12. PUMP UNIT (CONT).

LOCATION/ITEM	ACTION	REMARKS

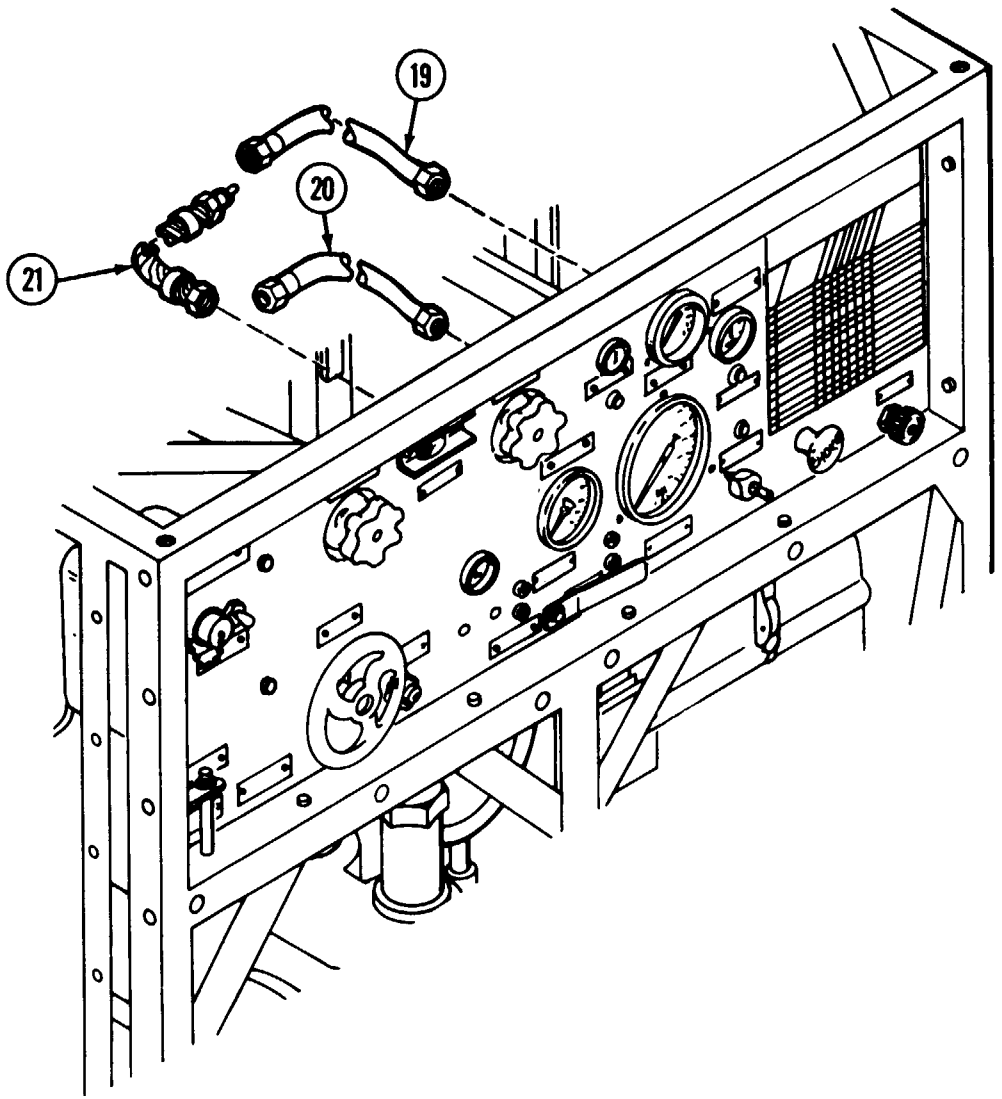
DISASSEMBLY (CONT)

Pump Unit/
- Battery pad (12)
- Hook bolts (13)
- Tapping screw (14)
- Machine bolt (15)
- Lock washer (16)
- Nut (17)
- Loop clamp (18)

Remove battery pad (12) and two hook bolts (13). Unscrew and remove tapping screw (14), machine bolt (15), lock washer (16), and nut (17). Remove ground cable (6), positive battery cable (7), and loop clamp (18).

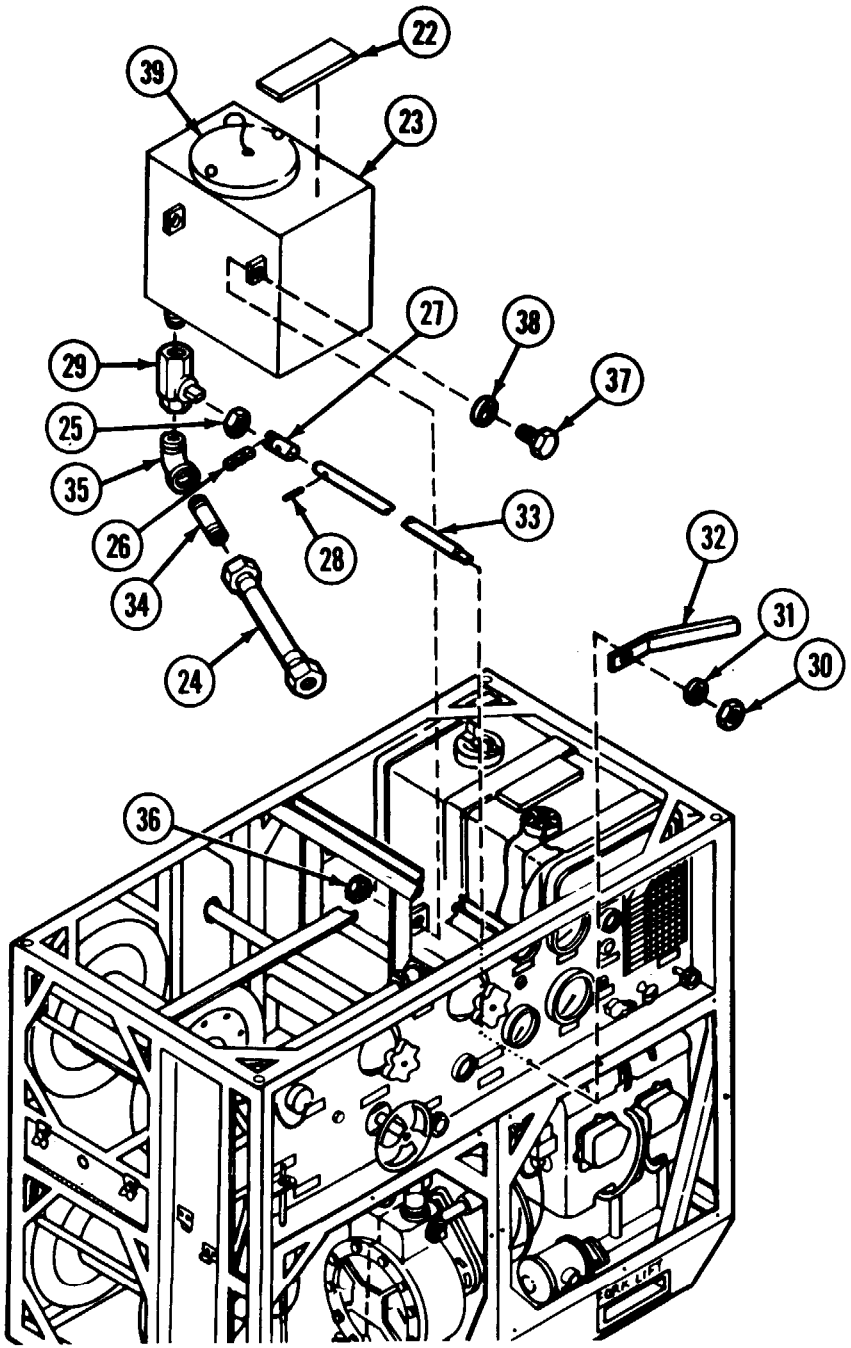


Hose assemblies (19 and 20) Flexible shaft assembly (21)	Remove hose assembly (19), connecting vacuum gage and plumbing assembly. Remove hose assembly (20), connecting presssure gage and plumbing assembly. Remove flexible shaft assembly (21) connecting tachometer and engine.



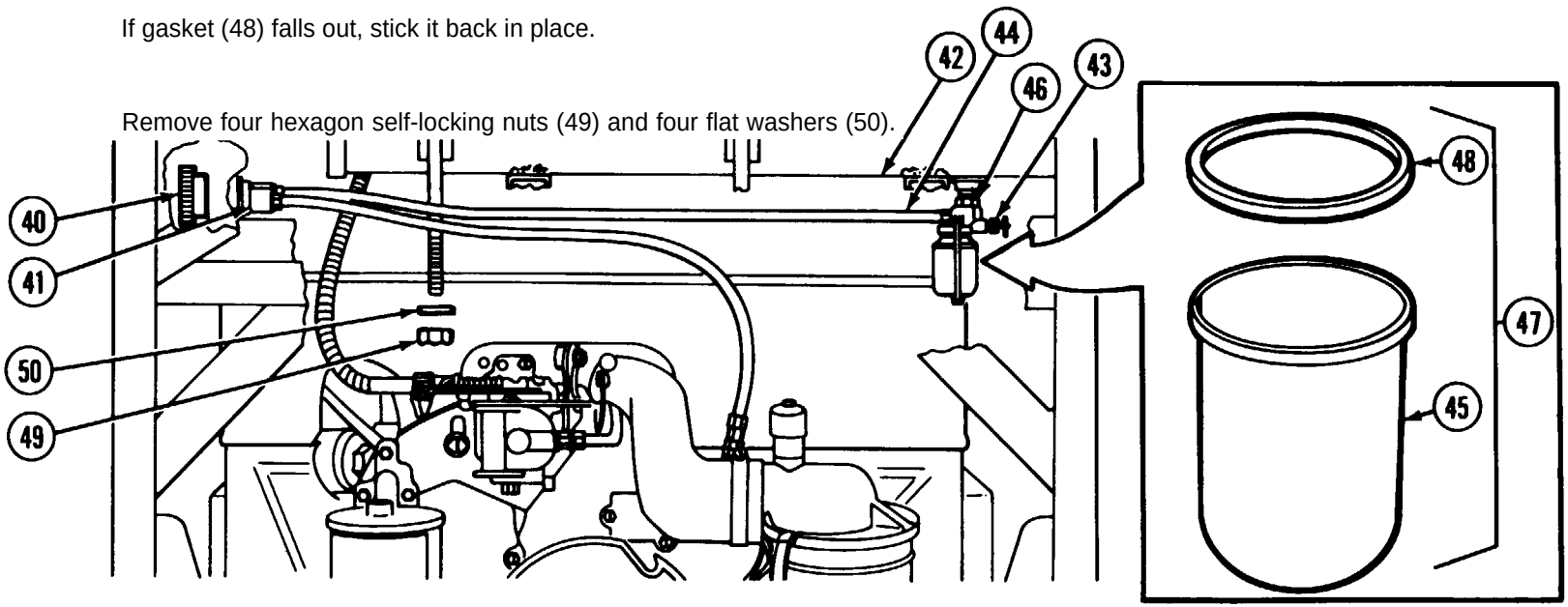
2-12. PUMP UNIT (CONT).

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY (CONT)		
Pump Unit/Prime Tank Assembly		
Rubber strip (22) Prime tank assembly (23)	If rubber strip (22) is damaged, scrape it from the top of prime tank assembly (23).	
Eductor hose assembly (24)	Close VALVE NO. 4 on control panel (see TM 3-4230-209-10). Working from the rear of the pump unit and from below prime tank assembly (23), remove eductor hose assembly (24) between prime tank assembly and plumbing assembly. Place an empty container under prime tank assembly (23). Open VALVE NO. 4 on control panel, drain prime tank assembly (23) until empty, and close VALVE NO. 4. Remove container from under prime tank assembly (23) and empty container according to approved maintenance practices.	
Nut (25) Locking sleeve (26) Sleeve extension (27) Spring pin (28) Ball valve (29) Nut (30) Flat washer (31) Handle (32) Extension rod (33)	Remove nut (25), locking sleeve (26), sleeve extension (27), and spring pin (28) from ball valve (29). Remove nut (30), flat washer (31), handle (32), and extension rod (33).	
Pipe nipple (34) Pipe elbow (35)	Remove pipe nipple (34), pipe elbow (35), and ball valve (29), as a unit, from prime tank assembly (23).	
Hexagon self-locking nuts (36)	Remove four hexagon self-locking nuts (36), four hexagon head cap screws (37), and four flat washers (38).	
Hexagon head cap screws (37) Flat washers (38) Tank lid (39)	Be sure wire cable is free from the frame. Unscrew and remove tank lid (39), and lift prime tank assembly (23) up out of the frame.	The prime tank assembly must be removed in order to remove the fuel tank.


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FORK LIFT

2-12. PUMP UNIT (CONT).

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY (CONT)		
Pump Unit/Sediment Bowl		
Knob (40) Fuel shut off valve (41) Fuel tank (42) Finger nut (43)	Turn knob (40) on fuel shutoff valve (41) until it is fully closed. Do not force it. Place an empty container under fuel tank (42). Working from below the fuel tank (42), turn finger nut (43) until it is fully closed and disconnect fuel hose (44) from fuel shut off valve (41).	
	Turn finger nut (43) and drain any remaining fuel from fuel tank (42).	
Fuel hose (44) Sediment bowl (45) Pipe nipple (46) Sediment bowl assembly (47)	Disconnect fuel hose (44) and remove sediment bowl (45). Using a wrench to keep pipe nipple (46) from turning, unscrew sediment bowl assembly (47) from bottom of fuel tank (42) with your free hand.	
Gasket (48)	If gasket (48) falls out, stick it back in place.	
Pump Unit/Fuel Tank		
Hexagon self-locking nuts (49) Flat washers (50)	Remove four hexagon self-locking nuts (49) and four flat washers (50).	



Nut (51)
Electrical lead (52)

Working from the top, remove nut (51) and electrical lead (52) from stud, and reinstall nut (51) on stud fingertight.

Machine screw (53)
Lock washer (54)
Electrical lead (55)

Remove machine screw (53) and lock washer (54) holding electrical lead (55). Remove electrical lead (55) from tank unit and leave it loose. Reinstall machine screw (53) and lock washer (54) and tighten machine screw (53).

Fuel tank straps (56)
Gasket (57)

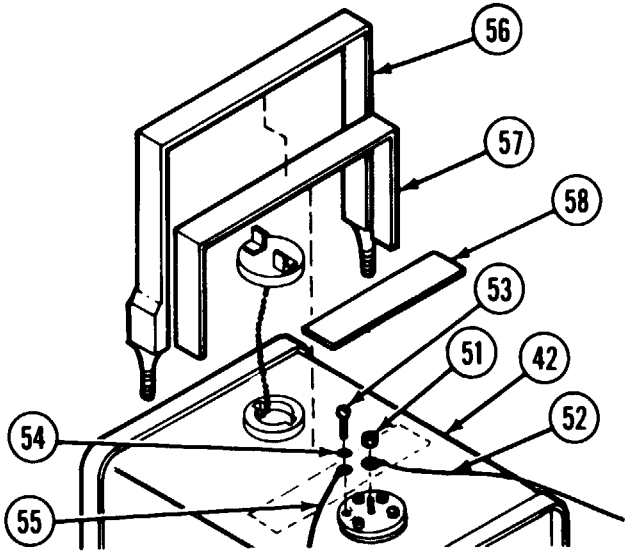
Lift off two fuel tank straps (56) and gaskets (57) as a unit. Lift fuel tank (42) out of pump unit.

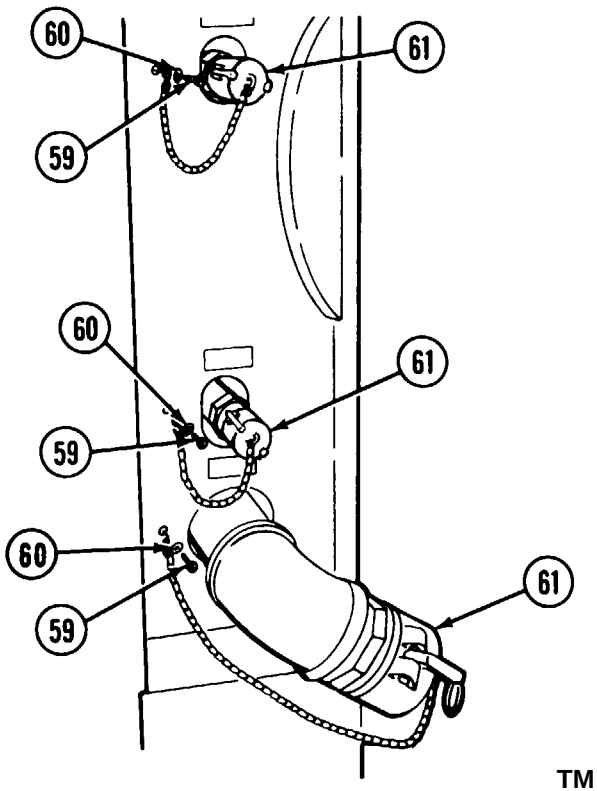
Rubber strip (58)

If damaged, remove rubber strip (58).

Pump Unit/Connector Panel
Thread-cutting tapping screws (59)
Flat washers (60)
Dust rovers (61)

Remove three thread-cutting tapping screws (59) and flat washers (60) from the attaching chains on the dust covers (61) located on the connector panel. Leave dust covers (61) installed.





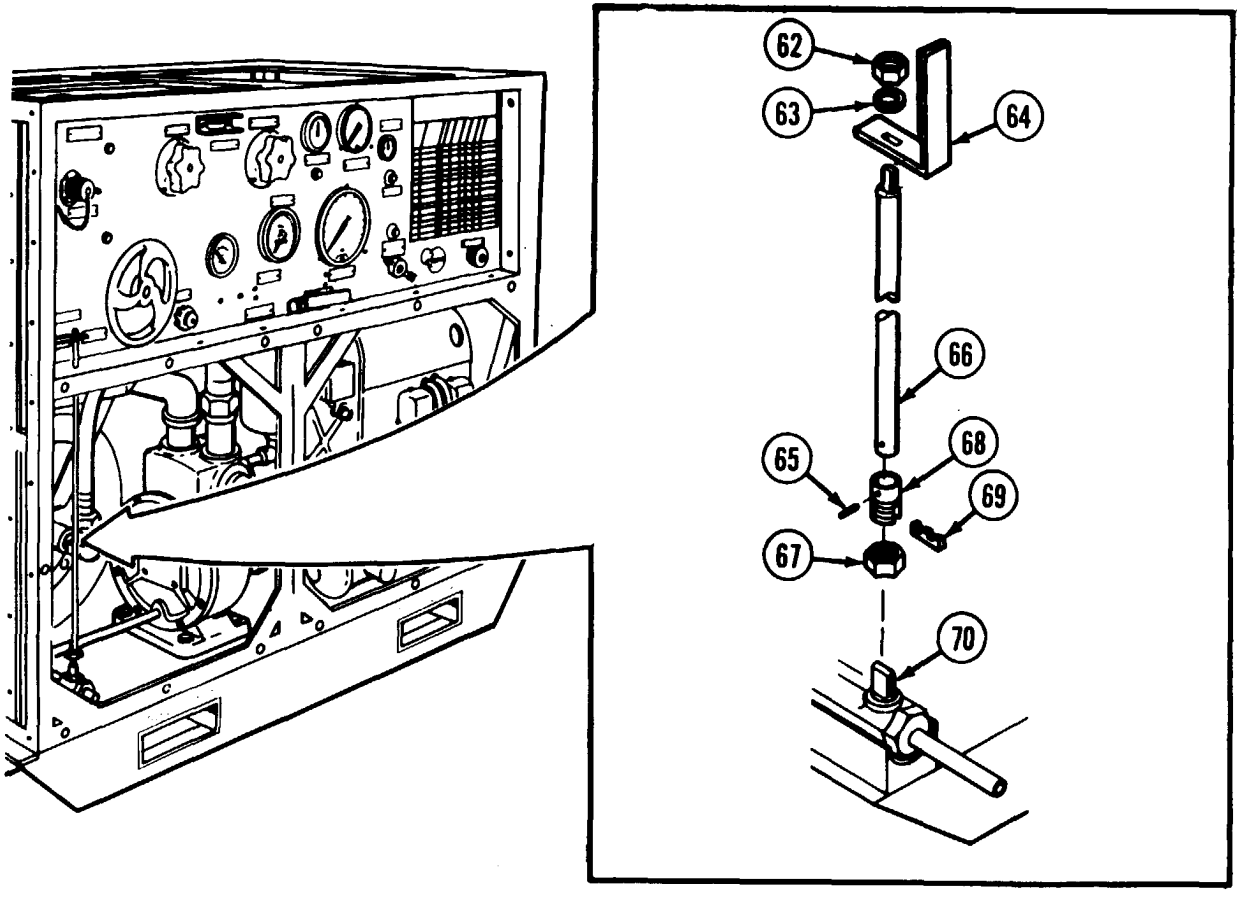
2-12. PUMP UNIT (CONT).

LOCATION/ITEM	ACTION	REMARKS

DISASSEMBLY (CONT)

Pump Unit/Control Panel
- Hexagon self-locking nut (62)
- Flat washer (63)
- Handle (64)
- Spring Pin (65)
- Extension rod (66)
- Nut (67)
- Sleeve extension (68)
- Locking sleeve (69)
- Ball valve (70)

Remove hexagon self-locking nut (62), flat washer (63), handle (64), and pin (65) from extension rod (66). Remove nut (67), sleeve extension (68) and locking sleeve (69) from ball valve (70).



CLEANING/INSPECTION

Pump Unit/Fuel Tank Assembly and Sediment Bowl

Fuel tank (1)
Nut (2)
Frame (3)
Bowl (4)
Wires (5)
Cap (6)
Gaskets (7)

Make sure the fuel in fuel tank (1) is drained into container. Clean fuel tank (1) exterior with dry cleaning solvent.

Loosen round nut (2) on the bottom of sediment bowl frame (3). Remove glass sediment bowl (4) carefully, and dump the fuel into container used to drain the fuel tank. Empty fuel in accordance with approved maintenance practices. Reinstall glass sediment bowl (4) and tighten round nut (2) until tight.

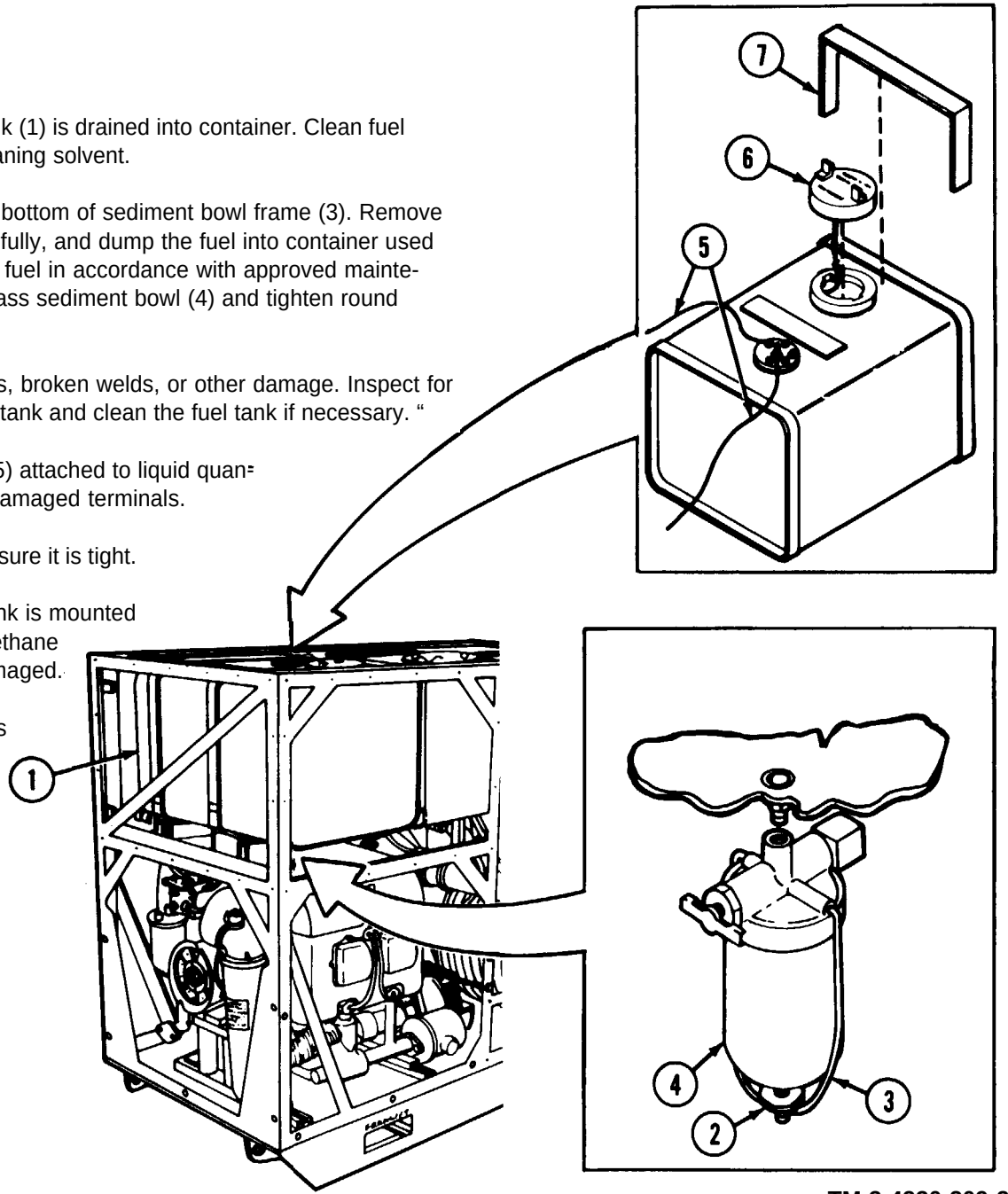
Inspect fuel tank (1) for leaks, broken welds, or other damage. Inspect for signs of corrosion inside the tank and clean the fuel tank if necessary. "

Inspect the electrical wires (5) attached to liquid quantity transmitter for loose or damaged terminals.

Inspect fuel cap (6) to make sure it is tight.

Inspect to make sure fuel tank is mounted securely. Check that polyurethane foam gaskets (7) are not damaged.

Inspect fuel tank (1) for dents chipped or damaged paint.



2-12. PUMP UNIT (CONT).

LOCATION/ITEM	ACTION	REMARKS

CLEANING/INSPECTION (CONT)

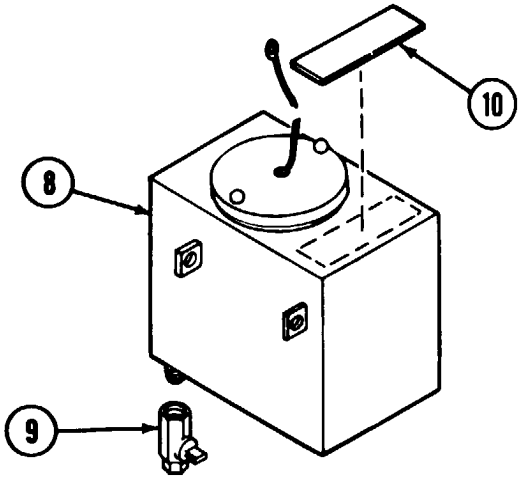
Pump Unit/Prime Tank Assembly

Prime tank assembly (8)
Valve (9)
Rubber strip (10)

Clean interior and exterior of prime tank assembly (8) with clean water.

Inspect prime tank assembly (8) for leaks, broken weIds, evidence of rust, chipped paint, or other damage.

Be sure that ball valve (9) opens and closes freely. Replace if faulty. Inspect rubber strip (10) and replace if damaged.



Pump Unit/Hose Assembly

Hose assemblies (11 and 12)
Shank nuts (13)
Gaskets (14)

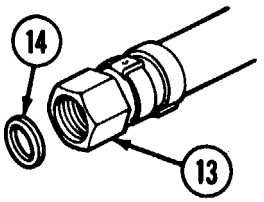
Flush hose assemblies (11 and 12) with hot water. Clean metal parts with a rag saturated with dry cleaning solvent.

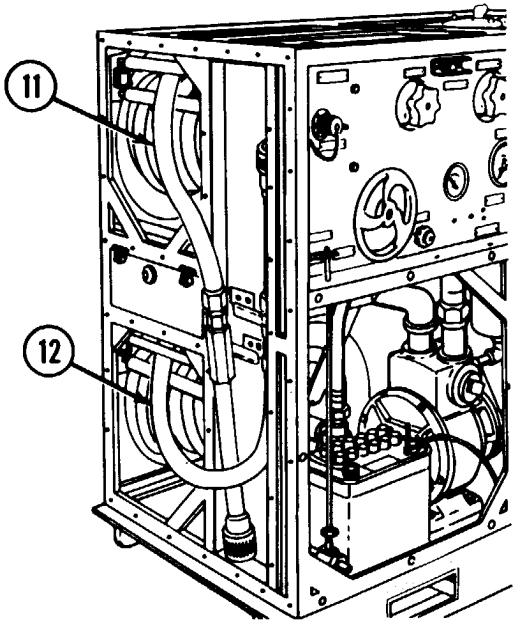
Wash exterior of hose assemblies (11 and 12) with general purpose detergent and water solution. Scrub with a stiff brush, if necessary. Rinse with clean water and dry all parts thoroughly with wiping rag.

Inspect hose assemblies (11 and 12) for leaks, breaks, loose hose clamps, or other damage by flexing the hose at various locations along its length.

Inspect shank nuts (13) for worn or damaged threads, cracks or fractures, and for out-of-roundness.

Inspect gasket (14) for wear or other damage.



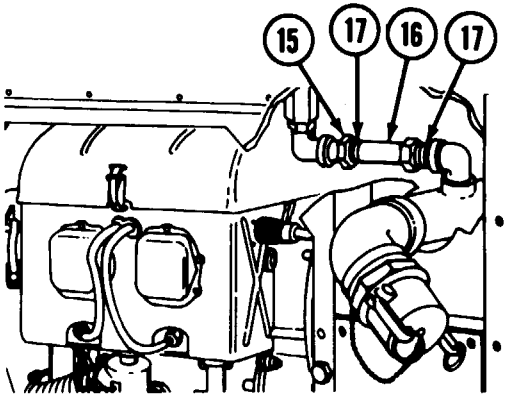


Pump Unit/Eductor Hose
- Eductor hose assembly (15)
- Hose (16)
- Hose clamps (17)

Flush eductor hose assembly (15) with hot water. Clean metal parts with a rag saturated with dry cleaning solvent.

Wash exterior of eductor hose assembly (15) with general purpose detergent and water solution. Scrub with a stiff brush, if necessary. Rinse with clear water and dry all parts thoroughly with wiping rag.

Inspect rubber hose (16) for leaks, breaks, loose hose clamps (17), or other damage.



WARNING

Make sure positive and negative battery cables are disconnected from the battery terminals in order to prevent grounding. 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 with clean water. If battery acid gets into your eyes, flush them with clean water and obtain medical treatment immediately. Failure to do so may cause blindness.

Pump Unit/Battery and
- Battery Compartment
- Posts (18)
- Terminals (19)
- Storage battery (20)
- Battery compartment (21
- Pad (22)
- Bracket assembly (23)
- Cables (24)

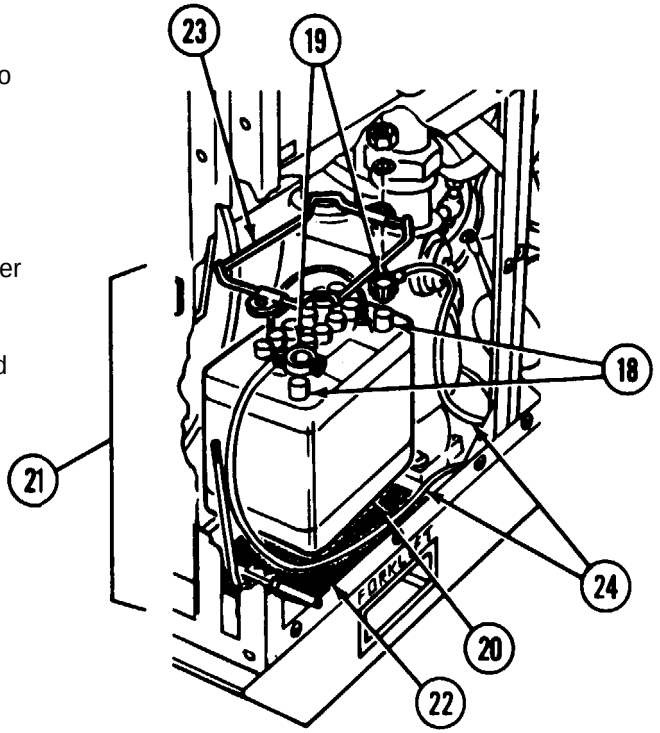
Clean storage battery posts (18) and terminals (19) with suitable brush to remove heavy corrosion.

Wash storage battery (20) and battery compartment (21) with sodium bicarbonate and water solution.

Rinse storage battery (20) and battery compartment (21) with clean water and dry all parts thoroughly.

Inspect battery compartment (21) for corrosion, chipped paint, damaged battery pad (22), and damaged battery bracket assembly (23).

Make sure terminals (19) are secure and check cables (24) for cuts.



2-12. PUMP UNIT (CONT).

LOCATION/ITEM	ACTION	REMARKS

CLEANING/INSPECTION (CONT)

Pump Unit/Control Panel

Switches (25)
Gages (26)
Control panel (27)
Nameplates (28)
Instruction plate (29)

Wipe all switches (25) and gages (26) with a cloth to remove accumulated dirt.

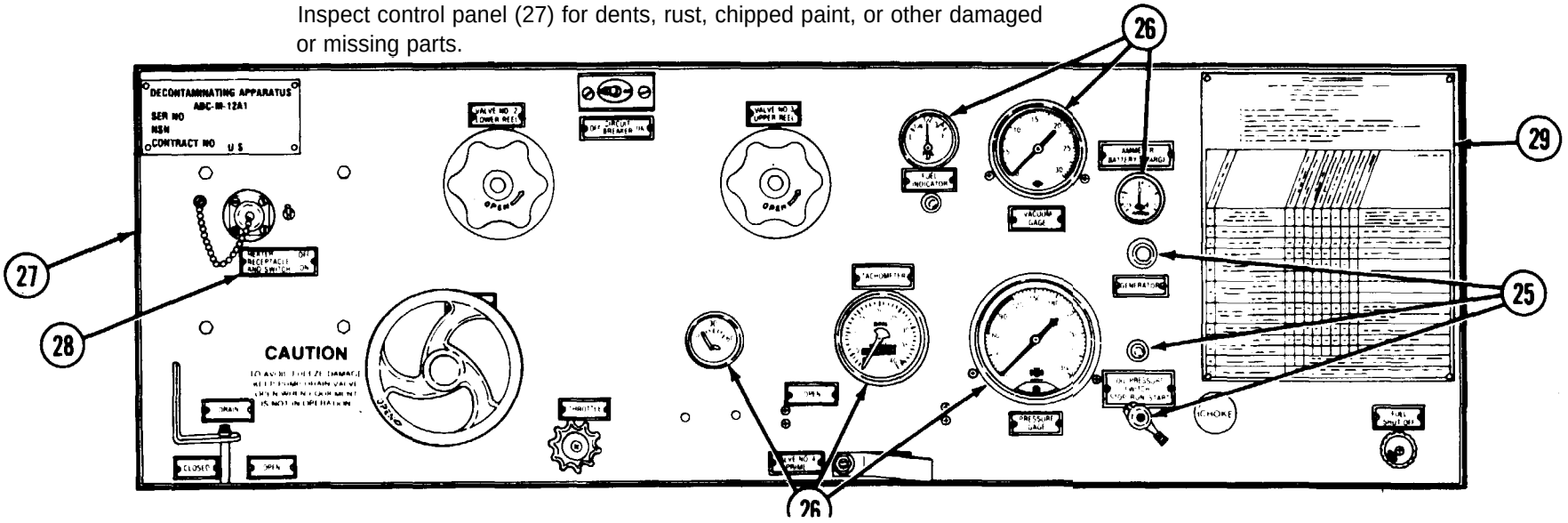
Inspect switches (25) for loose parts or damaged leads.

Inspect gages (26) for cracked dials. Make sure gages are secure.

Clean control panel (27) with a cloth saturated in water or dry cleaning solvent.

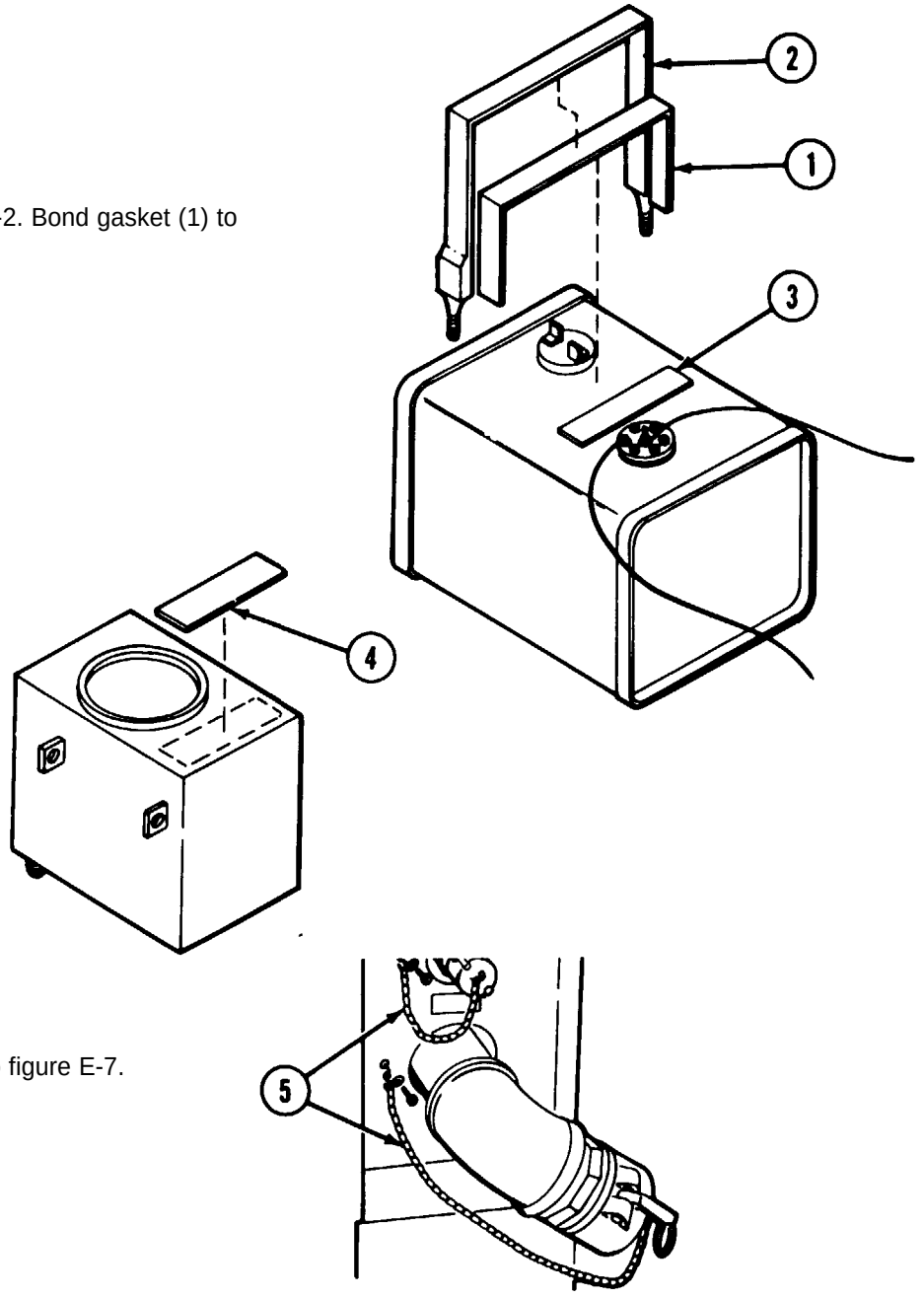
Inspect nameplates (28) and starting procedure instruction plate (30) for readability.

Inspect control panel (27) for dents, rust, chipped paint, or other damaged or missing parts.



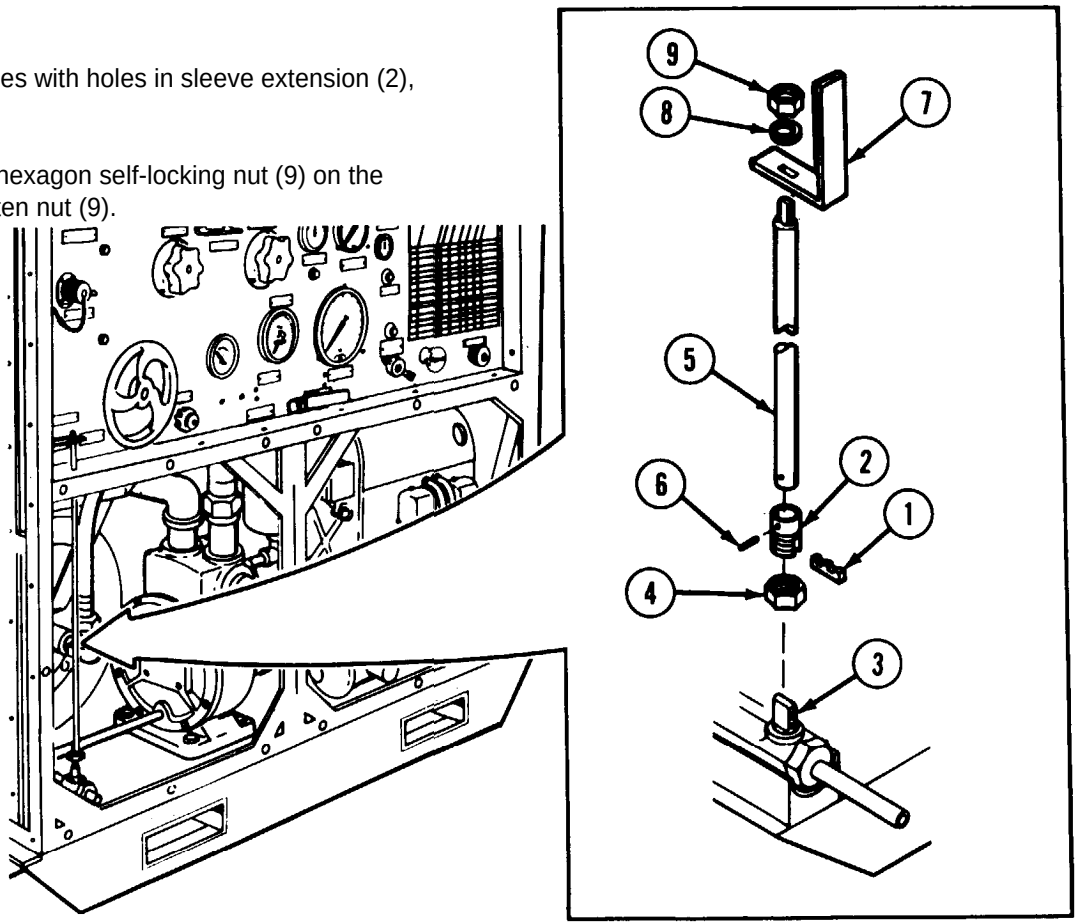
REPAIR

Pump Unit/Authorized Parts	Replace authorized unserviceable parts.
Pump Unit/Fuel Tank	
Gasket (1)	Fabricate new gasket (1) according to figure E-2. Bond gasket (1) to
Fuel tank strap (2)	inside of fuel tank strap (2) with adhesive.
Rubber strip (3)	Rebond rubber strip (3) with adhesive.
Pump Unit/Prime Tank Assembly	
Rubber strip (4)	Bond rubber strip (4) to tank with adhesive.
Chains (5)	If broken, fabricate new chains (5) according to figure E-7.



2-12. PUMP UNIT (CONT).

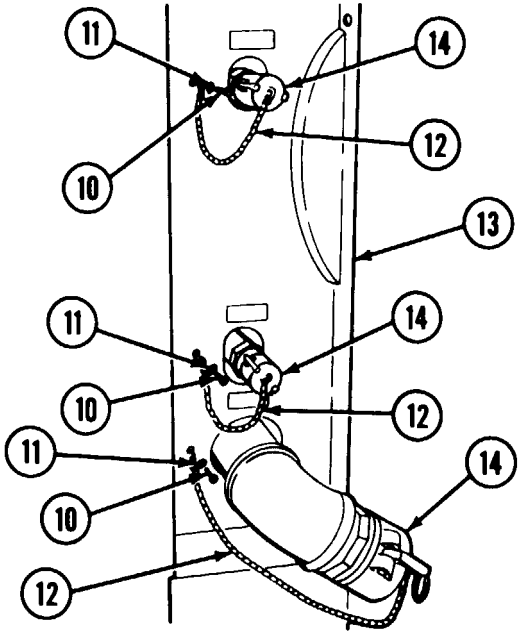
LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY		
Pump Unit/Control Panel Locking sleeve (1) Sleeve extension (2) Ball valve (3) Nut (4)	Insert locking sleeve (1) and sleeve extension (2) over the stem of ball valve (3) and secure with nut (4).	Make sure valve (3) is in open position when handle is installed in the center position. Valve will close when handle (7) is moved to CLOSE.
Extension rod (5) Spring pin (6)	Insert extension rod (5), aline its holes with holes in sleeve extension (2), and insert spring pin (6).	
Handle (7) Flat washer (8) Hexagon self-locking nut (9)	Put handle (7), fiat washer (8), and hexagon self-locking nut (9) on the other end of extension rod (5). Tighten nut (9).	



Pump Unit/Connector Panel

Thread-cutting tapping screw (10)
Flat washer (11)
Chain (12)
Panel (13)
Dust caps (14)

Insert thread-cutting tapping screw (10), through flat washer (11), the hole in the chain (12), and into the panel (13). Tighten. Repeat the operation for each of the other two chains. Make sure the chain is long enough to allow each dust cap (14) to be removed.



Pump Unit/Fuel Tank and Sediment Bowl

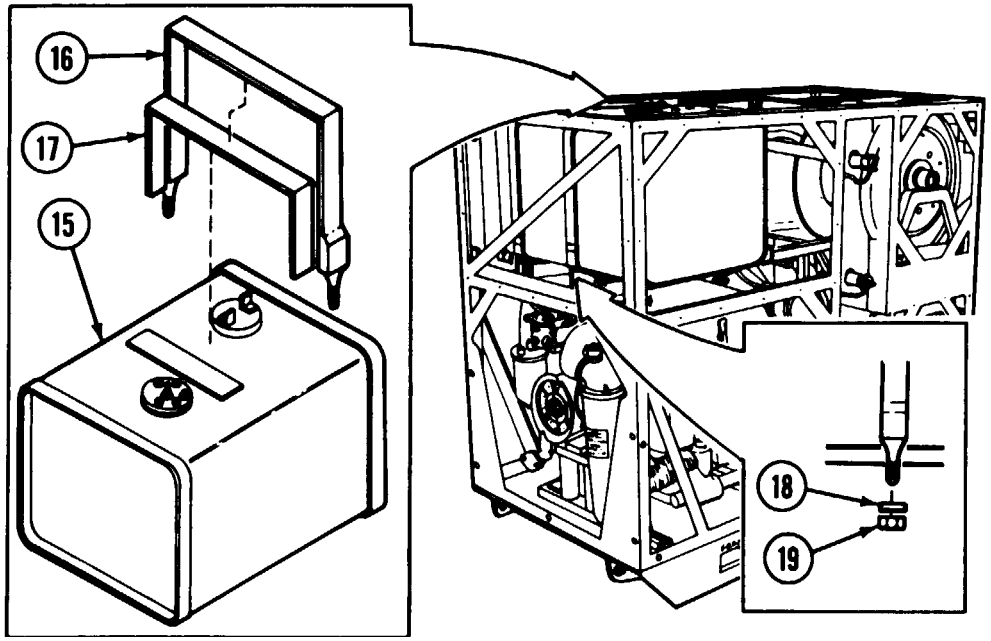
Fuel tank (15)
Fuel tank strap (16)
Gasket (17)

Working from the engine end and to the rear of the pump unit assembly, position fuel tank (15) on the frame with the liquid quantity transmitter toward the control panel. Put fuel tank straps (16), with gasket (17) attached, over the top of fuel tank (15) and insert the threaded end through frame holes.

Fuel tank must be installed in pump unit before the prime tank assembly can be installed.

Flat washers (18)
Hexagon self-locking nuts (19)

Install four flat washers (18) and four hexagon self-locking nuts (19) to the threaded ends of the fuel tank straps (16). Tighten four hexagon self-locking nuts (19).



2-12. PUMP UNIT (CONT).

LOCATION/ITEM	ACTION	REMARKS

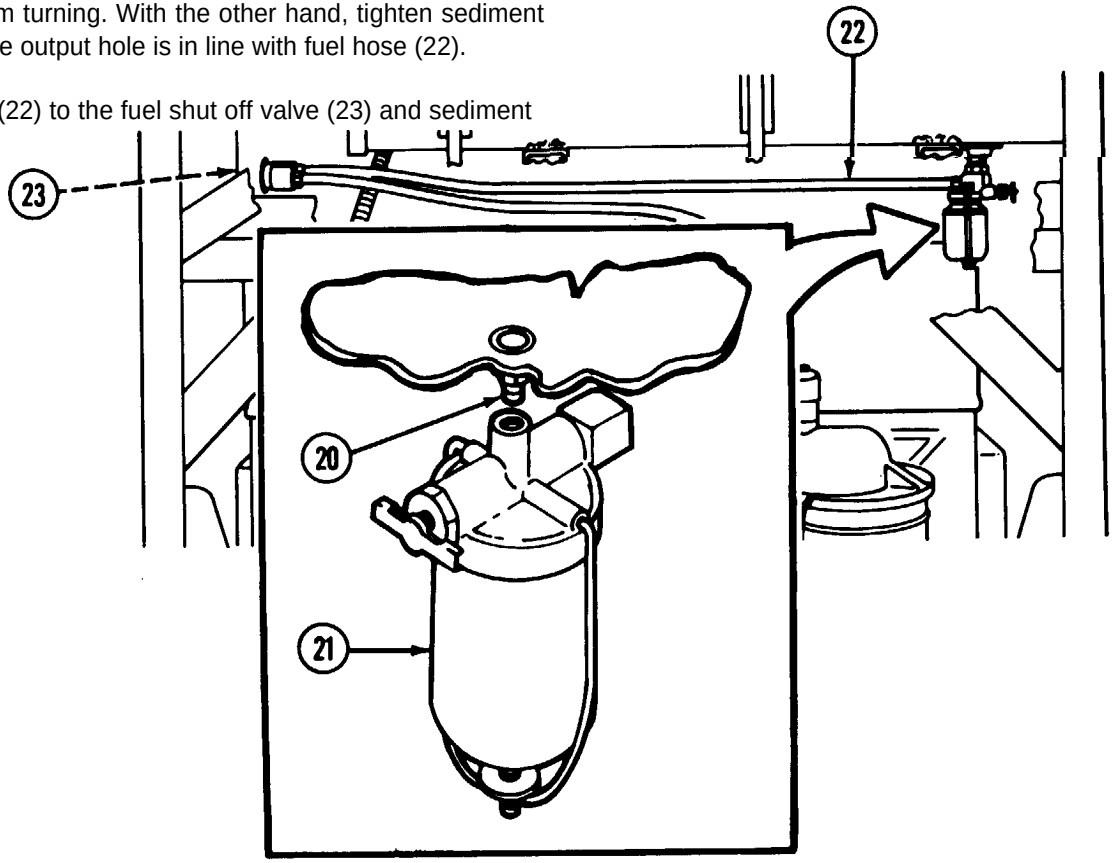
REASSEMBLY (CONT)

Pump Unit/Fuel Tank and Sediment Bowl

Pipe nipple (20) — Working from below the rear of the pump unit assembly, wrap pipe nipple (20) with antiseizing tape in a clockwise direction.

Sediment bowl assembly (21)
Fuel hose (22) — Screw sediment bowl assembly (21) on pipe nipple (20). Use a wrench to keep pipe nipple (20) from turning. With the other hand, tighten sediment bowl until it is tight and the output hole is in line with fuel hose (22).

Fuel shutoff valve (23) — Reconnect the fuel hose (22) to the fuel shut off valve (23) and sediment bowl assembly (21).



Nut (24)
Transmitter (25)
Electrical lead (26)

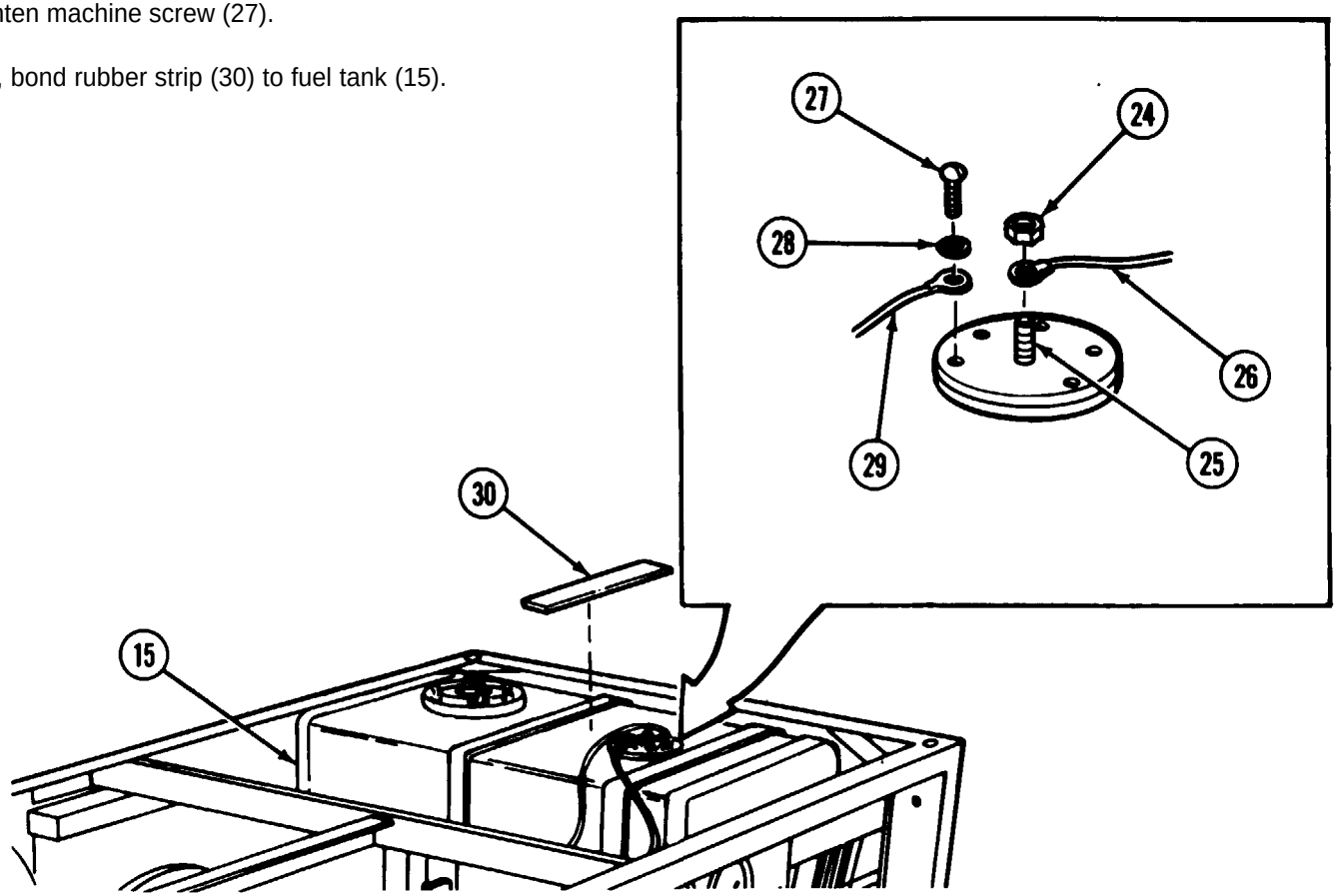
Working from the front and above the pump unit, remove nut (24) which is stowed on the liquid quantity transmitter (25) terminal. Connect electrical lead (26) from the liquid quantity indicator and tighten nut (24).

Machine screw (27)
Lock washer (28)
Electrical lead (29)

Remove machine screw (27) and lock washer (28). Connect electrical lead (29) from the mounting screw of the vacuum gage to the liquid quantity transmitter (25). Secure with lock washer (28) and machine screw (27). Tighten machine screw (27).

Rubber strip (30)

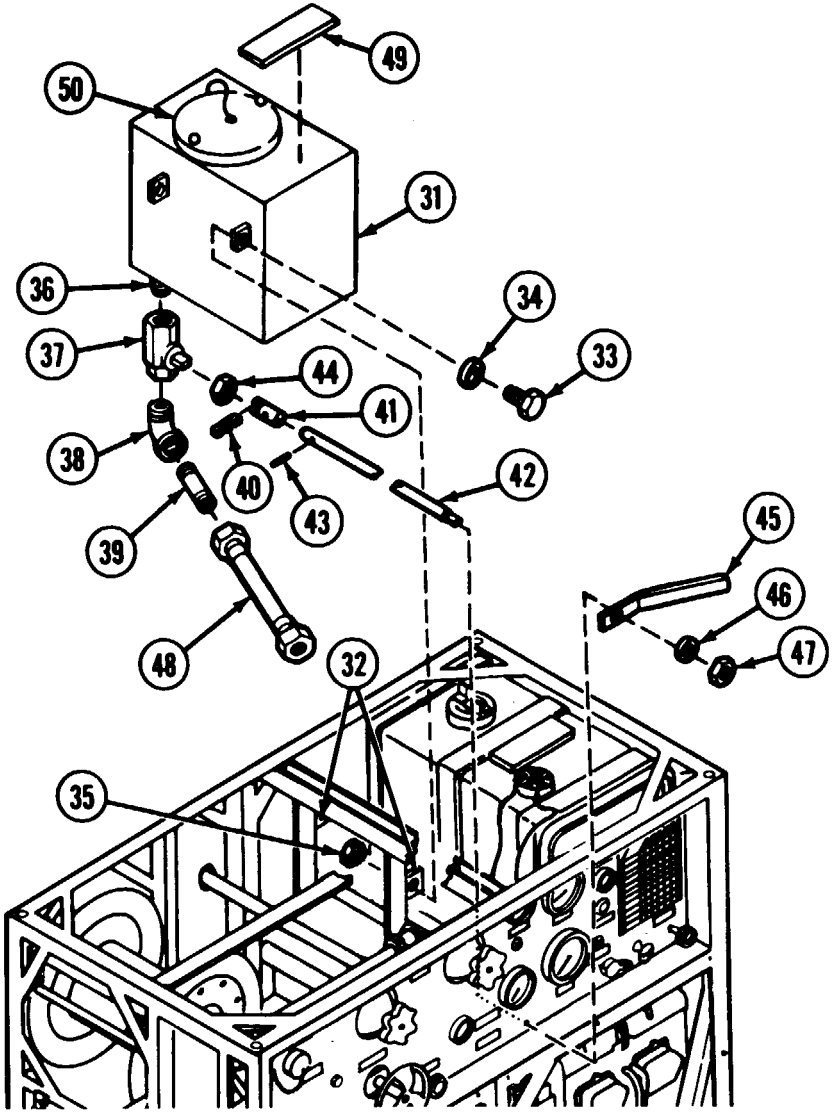
Using adhesive, bond rubber strip (30) to fuel tank (15).



2-12. PUMP UNIT (CONT).

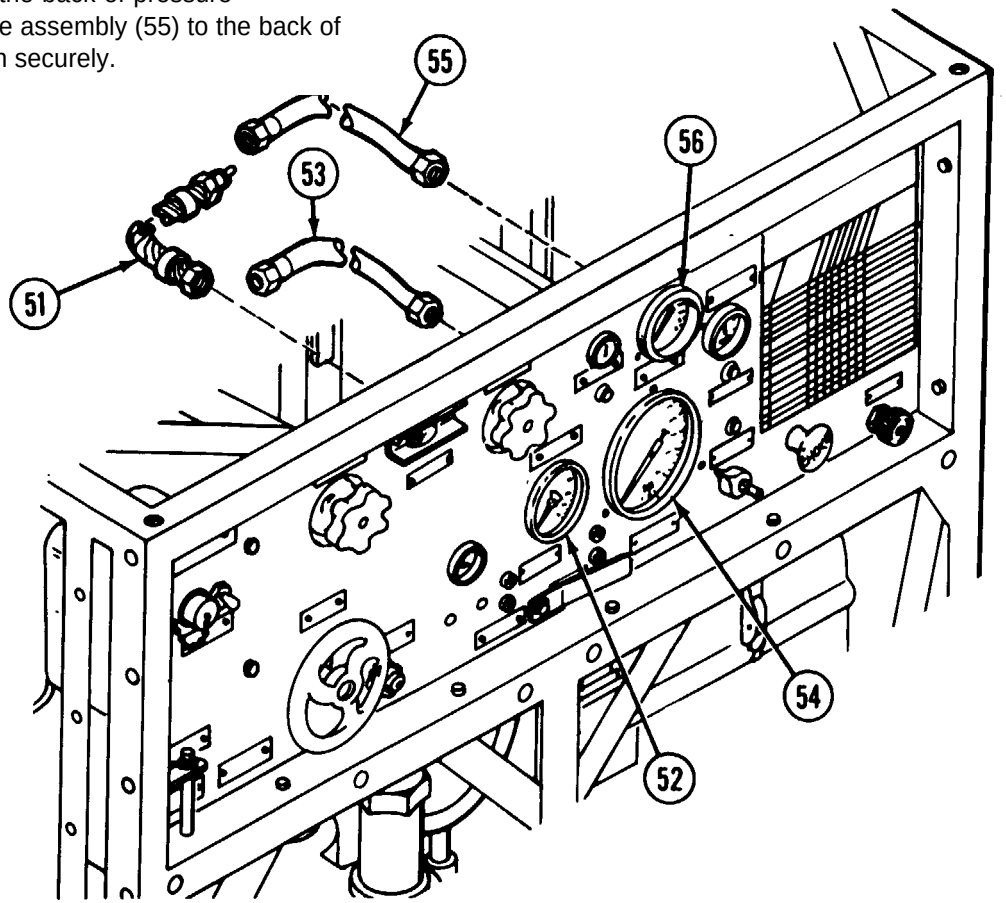
LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Pump Unit/Prime Tank Assembly		
Prime tank assembly (31) Mounting brackets (32)	Working from the rear and above the pump unit, raise prime tank assembly (31) up and over the pump unit frame. Lower prime tank assembly (31) into the frame so the two mounting brackets (32) on the left side of the tank are next to the hose reel area.	The fuel tank assembly must be installed before the prime tank assembly can be installed.
Hexagon head cap screws (33) Flat washers (34) Hexagon self-locking nuts (35)	Install two hexagon head cap screws (33), two flat washers (34), and two hexagon head self-locking nuts (35). Do not tighten two hexagon head self-locking nuts (35) until all connections are made.	
Pipe nipple (36)	Working from the rear and below the prime tank assembly, wrap antiseizing tape around external threads on the prime tank assembly pipe nipple (36) in a clockwise direction.	
Ball valve (37) Pipe elbow (38) Pipe nipple (39)	Screw ball valve (37), pipe elbow (38), and pipe nipple (39) onto prime tank assembly (31) as a unit. Tighten and position ball valve (37) so it is at approximately 45° angle and the opening is pointing toward the eductor pipe elbow.	Wrap antiseizing tape around external threads on pipe nipple (39) in a clockwise direction.
Locking Sleeve (40) Sleeve extension (41) Extension rod (42) Spring pin (43) Nut (44) Handle (45) Flat washer (46) Nut (47)	Install looking sleeve (40) and sleeve extension (41) onto extension rod (42), aline holes and secure with spring pin (43). Slip nut (44) over extension rod (42). Insert end of extension rod (42) through control panel and tighten nut (44) onto ball valve (37). Install handle (45), washer (46), and nut (47).	

Eductor hose assembly (48)	Install and tighten eductor hose assembly (48). Tighten four hexagon self-locking nuts (35) mounting the prime tank assembly (31).	Be sure gaskets are present in both ends of eductor hose assembly before installing.
Rubber Strip (49)	Bond rubber strip (49) to top of tank with adhesive.	
Tank lid (50)	Install tank lid (50).	



2-12. PUMP UNIT (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Pump Unit/ Flexible shaft assembly (51) Tachometer (52)	Reconnect flexible shaft assembly (51) to the back of tachometer (52) and to the engine.	
Pressure hose assembly (53) Pressure gage (54) Vacuum hose assembly (55) Vacuum gage (56)	Reconnect pressure hose assembly (53) to the back of pressure gage (54) and to plumbing, and vacuum hose assembly (55) to the back of vacuum gage (56) and the plumbing. Tighten securely.	



WARNING

Make sure positive and negative battey cables are disconnected from the battery terminals in order to prevent grounding. Battery and battery compartment area may be coated with add 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 with dean water. If battery add acts into your eyes, flush them with clean water and obtain medical treatment immediately. Failure to do so may cause blindness.

Pump Unit/Battery Cables

Positive battery cable (57)
Nut (58)

Position positive battery cable (57) from the starter solenoid to the battery area. Install and tighten nut (58).

Ground cable (59)
Lock washer (60)
Machine bolt (61)

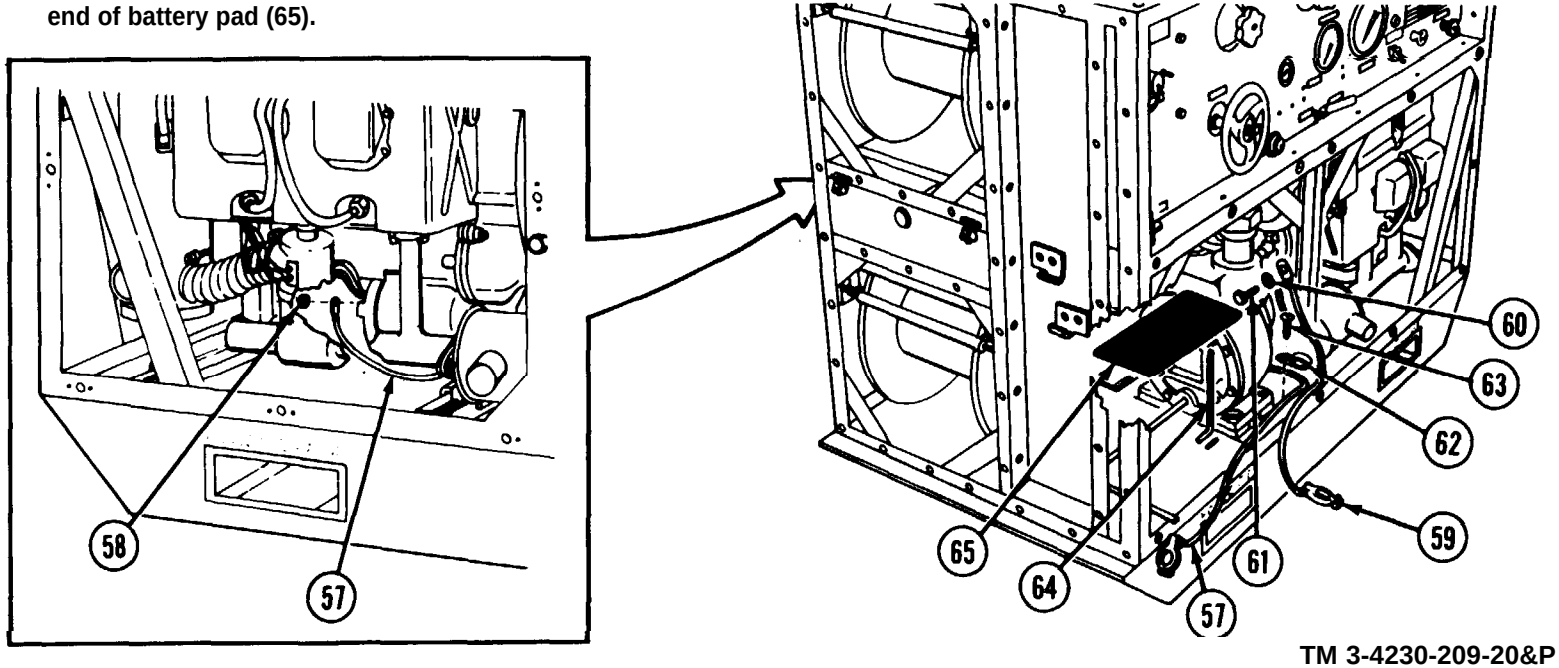
Position ground cable (59) from the rear of the gasoline engine to the battery area. Install and tighten lock washer (60) and machine bolt (61).

Loop clamp (62)
Thread-cutting tapping screw (63)

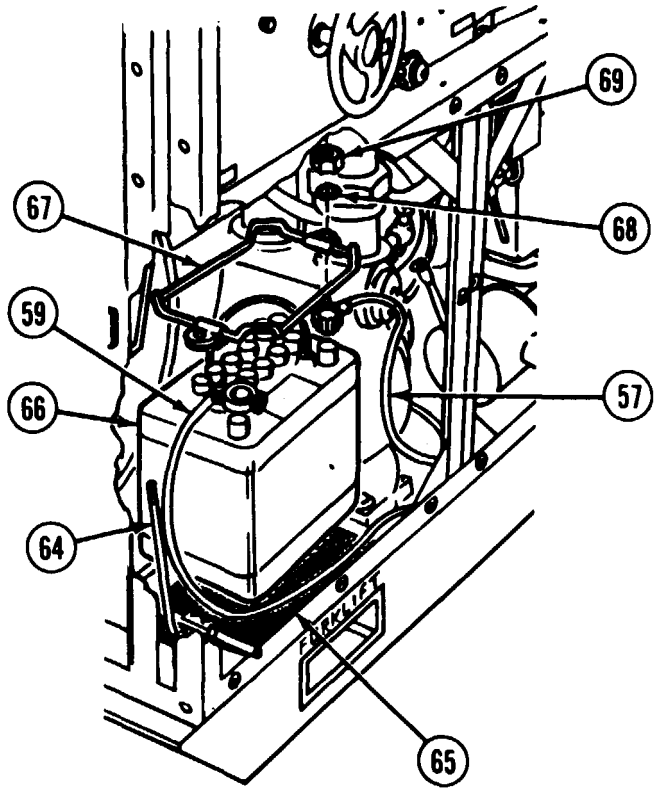
Place loop clamp (62) around positive battery cable (57) and ground cable (59). Aline loop damp (62) over the tapped hole and insert and tighten thread-cutting tapping screw (63) through loop damp (62) and into the tapped hole.

Pump Unit/Battery
Hook bolts (64)
Battery pad (65)

Insert two hook bolts (64) through the bottom of the frame and position battery pad (65) so each hook bolt goes through the hole located on each end of battery pad (65).



2-12. PUMP UNIT (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Pump Unit/Battety		
Storage battery (66) Battery retainer (67) Flat washers (68) Hexagon self-locking nuts (69)	Put storage battery (66) on battery pad (65) with the battery positive post located nearest the engine. Position battery retainer (67) so two hook bolts (64) go through the two holes and battery retainer (67) is resting on storage battery (66). Put two flat washers (68) and two hexagon self-locking nuts (69) on end of hook bolts (64) and tighten. Reconnect positive battery cable (57) to the positive post and reconnect ground cable (59) to the negative post of the storage battery. Tighten.	
Pump Unit/Hose Reel		
Elbow (70) Discharge hose assembly (71) Hose fitting (72)	Wrap antiseizing tape around the external thread on hose reel elbow (70) in a clockwise direction, and reconnect discharge hose assembly (71). Tighten the hose fitting (72). Using hose reel crank handle (77) stowed in the tool box, wind discharge hose assembly (71) onto the hose reel.	
Adapter (73) Ball valve (74)	Wrap antiseizing tape around the external threads of adapter (73) in a clockwise direction (if used) and screw into end of discharge hose assembly (71) and tighten.	Adapter (73) is not required when ball valve (74) is supplied by All-Bann Enterprises, Inc., with 1-11 1/2 NPSH external thread.

Gun assembly

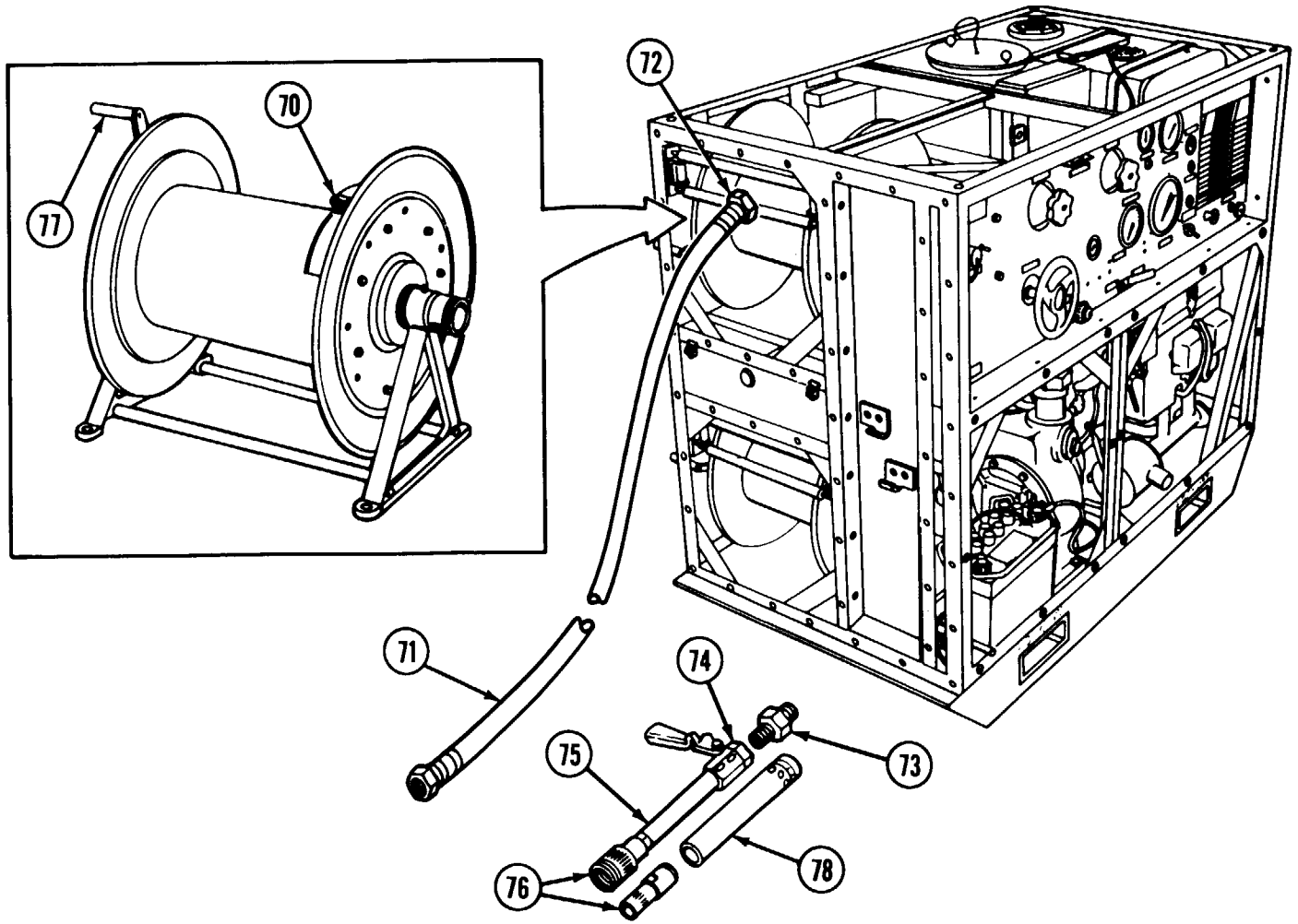
Wrap the external threads of ball valve (74) of gun assembly (75) with antisiezing tape in a clockwise direction (if applicable and attach to discharge hose assembly (71); if no external threads, attach to adapter (73).

Slurry nozzles (76)
Hose reel crank handle (77)
Foam nozzle (78)

select one of three nozzles (76 or 78), and attach it to gun assembly (75) and tighten. Stow the remaining nozzles in the tool box.

Nozzles are stored in the tool box when not attached to the gun assembly.

Repeat above steps to install the lower hose assembly.



2-13. GUN AND SLURRY NOZZLE ASSEMBLIES.

This task covers:
- a. Disassembly
- b. Cleaning
- c. Repair
- d. Reassembly

INITIAL SETUP

Tools and Special Tools
- Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

Materials/Parts
- General purpose detergent (item 12, app D)
- Paint brush (item 6, app D)

Equipment Condition
- Assembled/removed

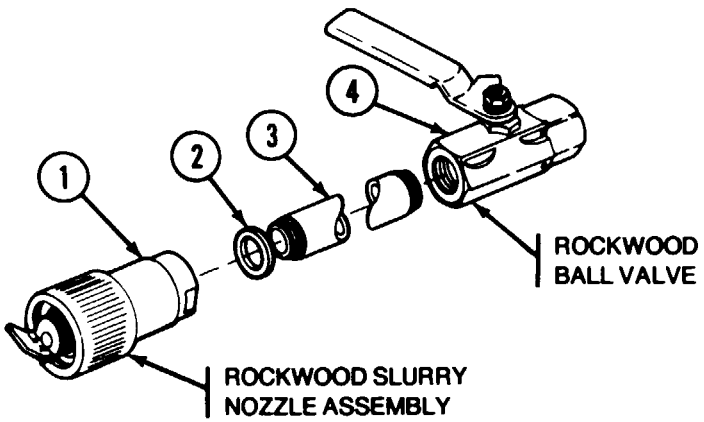
LOCATION/ITEM	ACTION	REMARKS

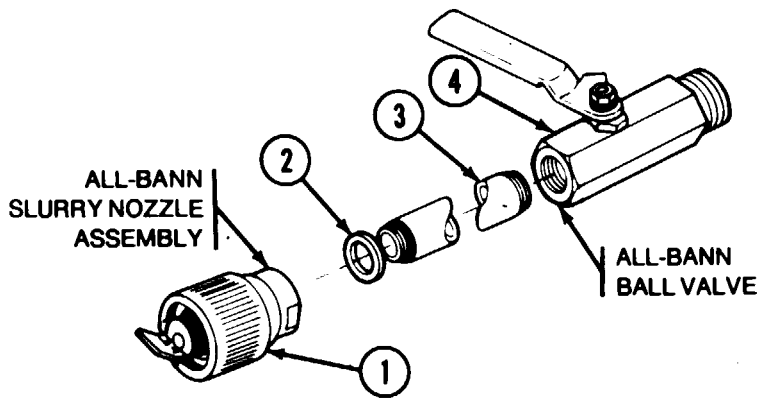
DISASSEMBLY

Gun Assembly/
- Slurry nozzle assembly (1)
- Gasket (2)
- Straight adapter (3)
- Ball valve (4)

Unscrew and remove slurry nozzle assembly (1), gasket (2), straight adapter (3), and ball valve (4).

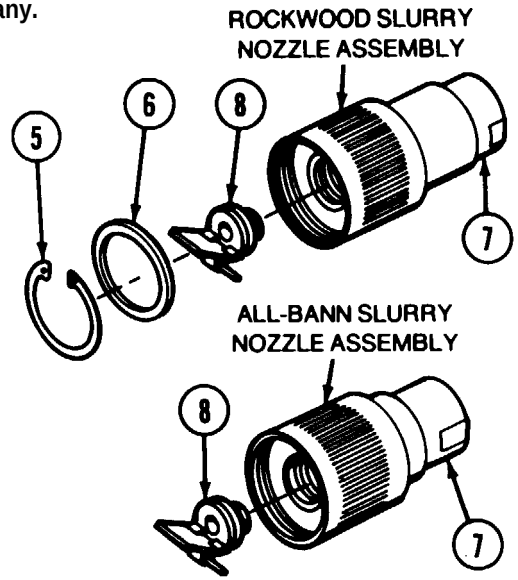
Two manufacturers supply gun assemblies. The gun assemblies are only slightly different. Both types are shown and identified. The maintenance is the same.





Rockwood	
Slurry Nozzle Assembly/	
Retaining ring (5) **Spacer ring (6)**	**Unsnap retaining ring (5). Remove retaining ring (5) and spacer ring (6).**
Nozzle (7)	**Rotate the knurled area of nozzle (7) to the left to open orifice and deflector set (8).**
Orifice and deflector set (8)	**Hold back of nozzle (7) with a wrench. Unscrew and remove orifice and deflector set (8).**
All-Bann Slurry Nozzle Assembly/	**Rotate the knurled area of nozzle (7) to the left to open orifice and deflector set (8).**
Nozzle (7)	
Orifice and deflector set (8)	**Hold back of nozzle (7) with a wrench. Unscrew and remove orifice and deflector set (8).**

Retaining ring and spacer ring are only used on slurry nozzle assemblies manufactured by the Rockwood Company.



CLEANING

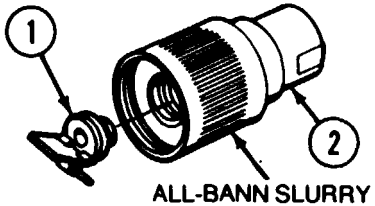
Gun Assembly/	
All parts	**Remove dirt and corrosion. If the nozzle has been used to spray anything but water, clean it with a small brush and general purpose detergent mixed with water. Rinse with clean water and dry thoroughly.**

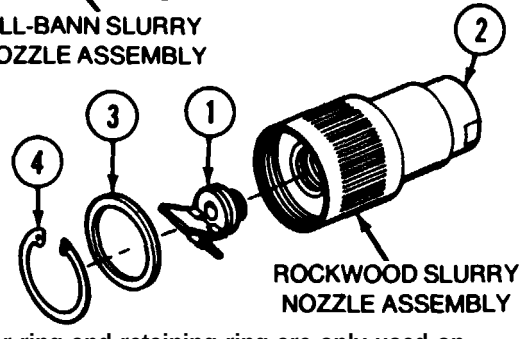
REPAIR

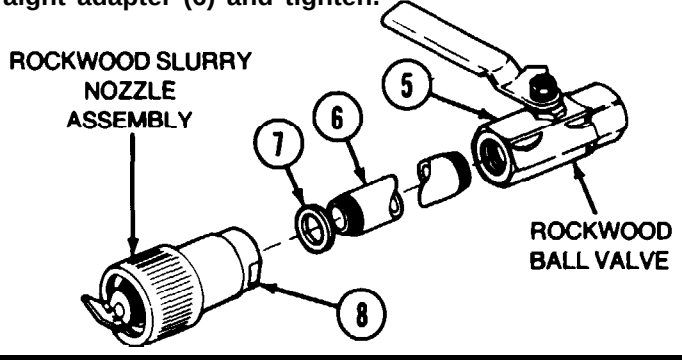
Gun and Slurry Nozzle Assemblies/	
All parts	**Repair by replacing authorized components.**

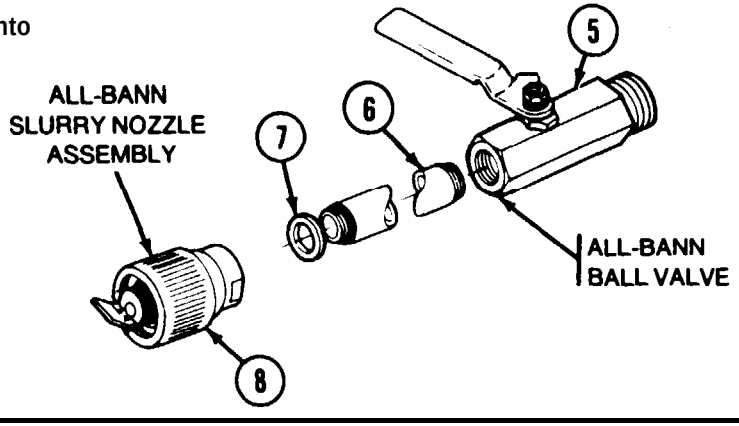
2-13. GUN AND SLURRY NOZZLE ASSEMBLIES (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY		
Rockwood and All-Bann Slurry Nozzle Assembly/ Orifice and deflector set (1) Nozzle (2)	Screw orifice and deflector set (1) into nozzle (2). Hold rear of nozzle (2) with a wrench and tighten orifice and deflector set (1).	
	Rotate knurled area of nozzle (2) until orifice and deflector set (1) closes.	
	NOTE If you have an All-Bann slurry nozzle assembly, go straight to the gun assembly and begin with ball valve.	
Rockwood Slurry Nozzle Assembly/ spacer ring (3) Retaining ring (4)	Insert spacer ring (3) and snap retaining ring (4) into front of nozzle (2).	The spacer ring and retaining ring are only used on slurry nozzles manufactured by the Rockwood Company.
Gun Assembly/ Ball valve (5) Straight adapter (6)	Screw ball valve (5) and straight adapter (6) together and tighten.	
Gasket (7) Slurry nozzle assembly (8)	Insert gasket (7) into slurry nozzle assembly (8) and screw them onto straight adapter (6) and tighten.	









2-14. DISCHARGE HOSE ASSEMBLY.

This task covers:
a. Disassembly
b. Repair
c. Reassembly

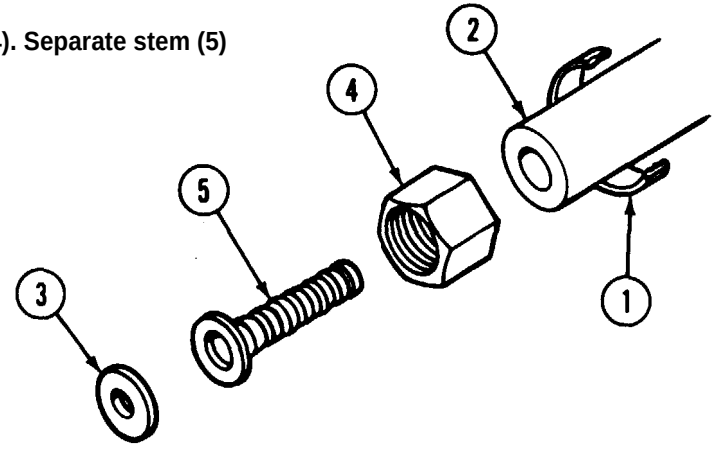
INITIAL SETUP

Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)
Strap band clamping tools P38.

Materials/Parts
Hose (fig E-1)

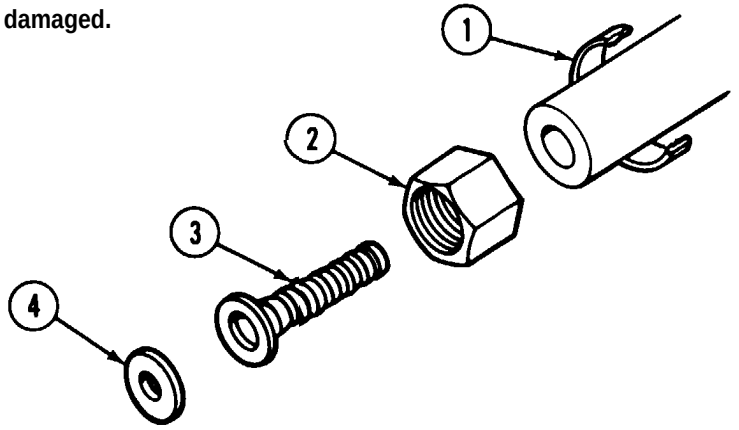
Equipment Condition
Discharge hose assembly is removed from pump unit.
See para 2-12 for disassembly/reassembly procedures.

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Discharge Hose Assembty/ Hose Clamps (1) Hose (2)	Remove two hose damps (1) by driving a flat bladed tool between buckle and band or by cutting off hose (2) directly behind the end of last hose clamp (1).	Only one end of the hose assembly is shown because both ends are the same.
Gasket (3) Nut (4) Stem (5)	Remove gasket (3). Grasp hose (2) and pull out nut (4). Separate stem (5) from nut (4). Keep serviceable items.	



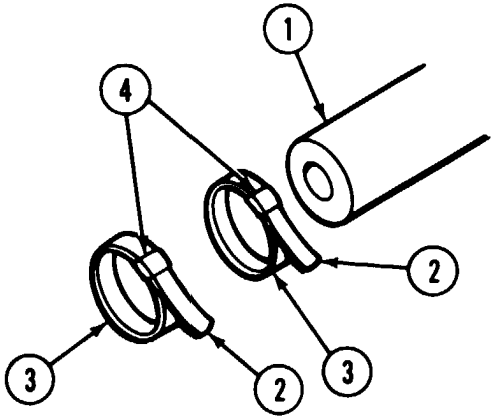
2-14. DISCHARGE HOSE ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
Discharge Hose Assembly/	Replace authorized unserviceable parts. Replace discharge hose assembly if it is less than 47 feet long.	A new discharge hose assembly is 50 feet ± 2 inches long.
Hose clamps (1)	Remove and replace the hose clamps (1) if they are loose or damaged.	
Nut (2)	Replace the nut (2) if it is out-of-round, cracked, or has damaged threads.	
Stem (3) Gasket (4)	Replace the stem (3) if it is cracked or broken, and replace the gasket (4) if it is damaged.	



REASSEMBLY

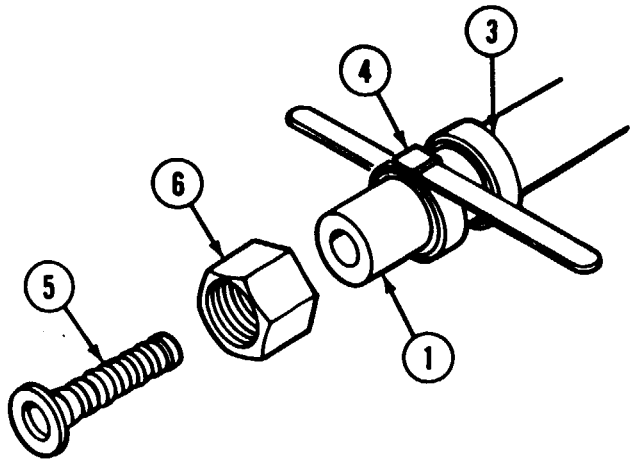
Discharge Hose Assembly/	
Hose (1)	Fabricate hose (1) according to figure E-1.
Strap end (2)	Thread the strap end (2) of each hose
Hose clamps (3)	clamp (3) through the buckle (4) of the hose
Buckle (4)	clamp (3) twice.
	Slide two hose clamps (3) onto hose (1).



Stem (5)
Nut (6)

Insert stem (5) through the hole in nut (6) then, as a unit, insert both into hose (1) 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 the buckle (4) is 180° from the first hose clamp (3) to assure a better seal.

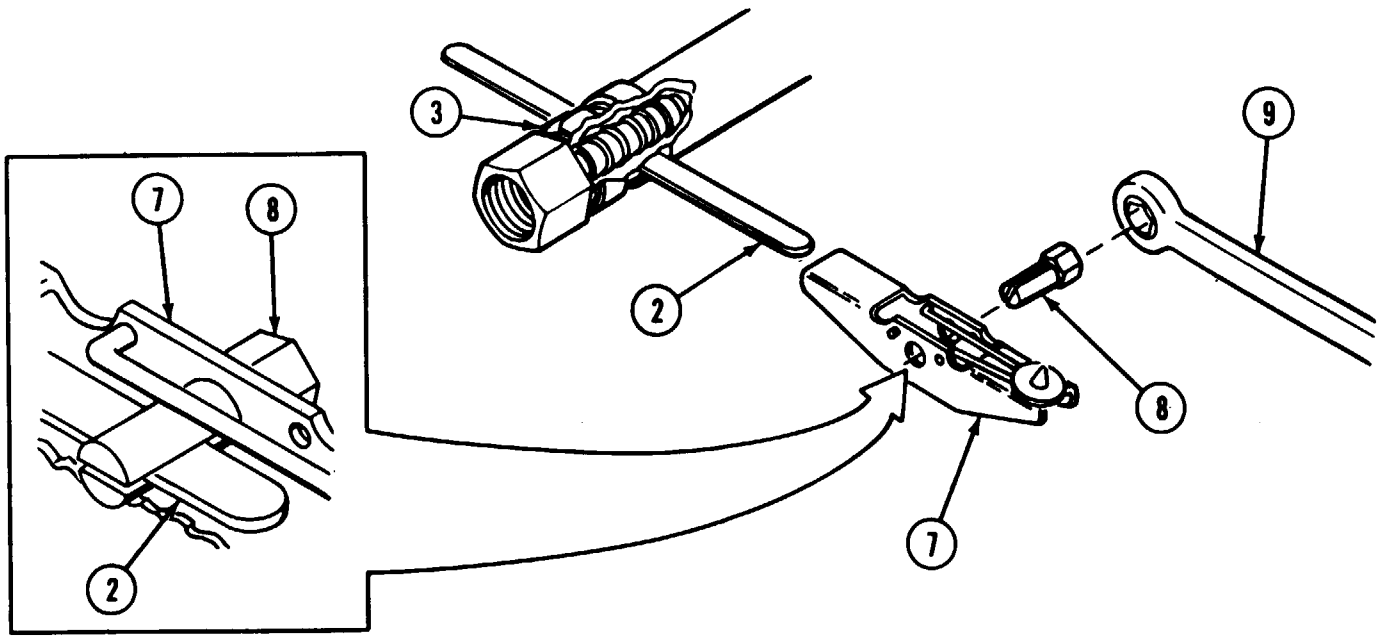


Frame (7)

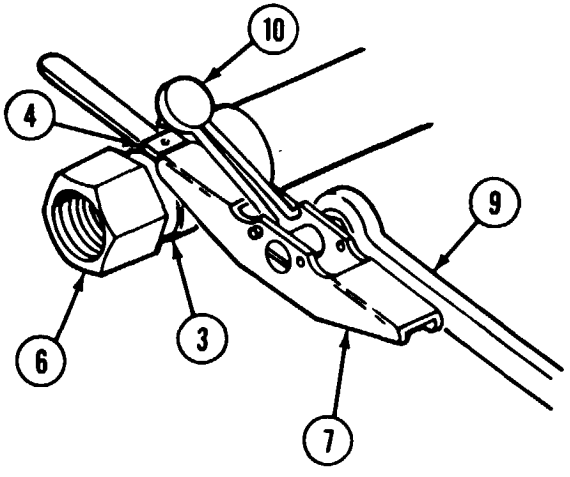
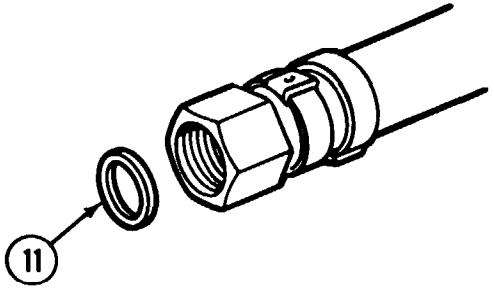
Insert the strap end (2) into the frame (7) of strap band clamping tool.

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.



2-14. DISCHARGE HOSE ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Discharge 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 look 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 lockbuckle (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). Repeat reassembly procedures for other hose clamps (3).	
Gasket (11)	Install gasket (11).	

2-15. TANK LID.

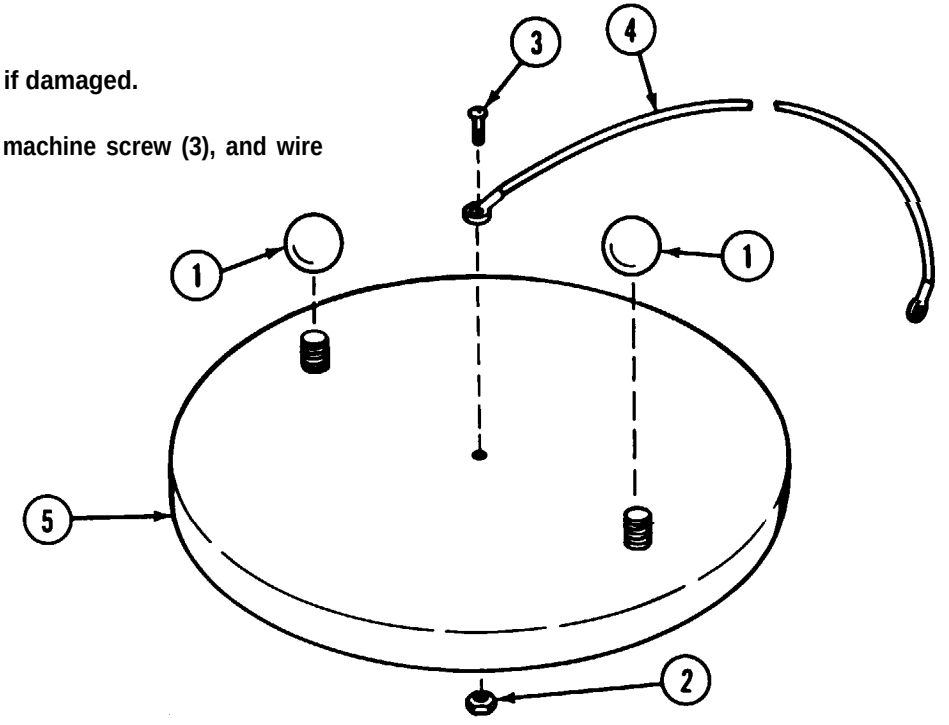
This task covers:
a. Disassembly
b. Repair/Replace
c. Reassembly

INITIAL SETUP

Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power
(SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

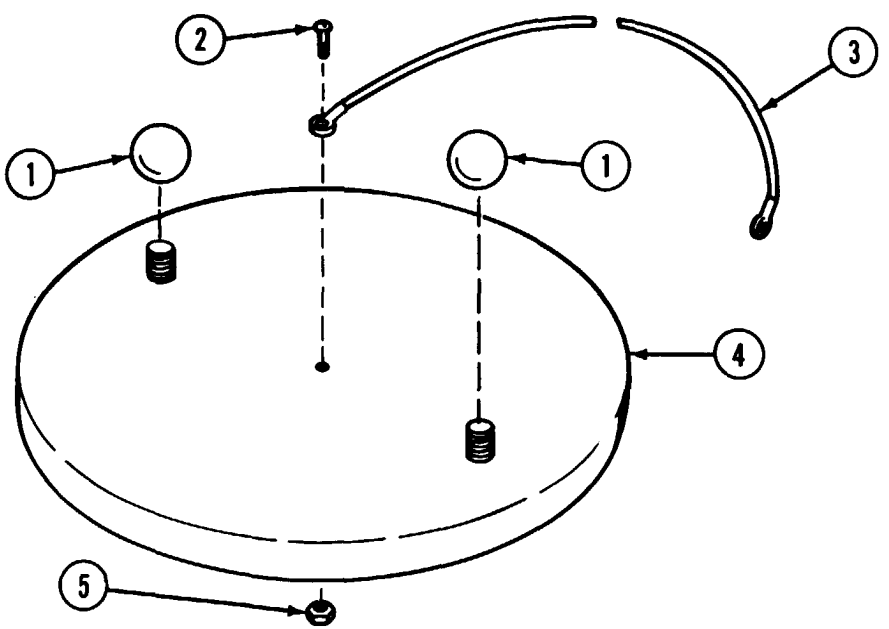
Equipment Condition
Assembled/removed

LOCATION/ITEM	ACTION	REMARKS
Tank Lid/ Knobs (1)	Unscrew and remove two knobs (1) only if damaged.	
self-locking nut (2) Machine screw (3) Wire rope assembly (4) Lid (5)	Unscrew and remove self-locking nut (2) machine screw (3), and wire rope assembly (4) from lid (5).	



2-15. TANK LID (CONT).

LOCATION/ITEM	ACTION	REMARKS
REPAIR/REPLACE		
Tank Lid/		
Knobs Self-locking nut Machine screw	Repair by replacing authorized items. Replace tank lid if repair cannot be made by replacing items.	
REASSEMBLY		
Tank Lid/		
Knobs (1) Machine screw (2) Wire rope assembly (3) Lid (4) Self-locking nut (5)	Screw two knobs (1) on studs. Do not over tighten Insert machine screw (2) through end of wire rope assembly (3) and lid (4). Attach self-locking nut (5) and tighten. Stake threaded end of machine screw (2).	



2-16. EDUCTOR HOSE ASSEMBLY.

This task covers:
a. Disassembly
b. Repair
c. Reassembly

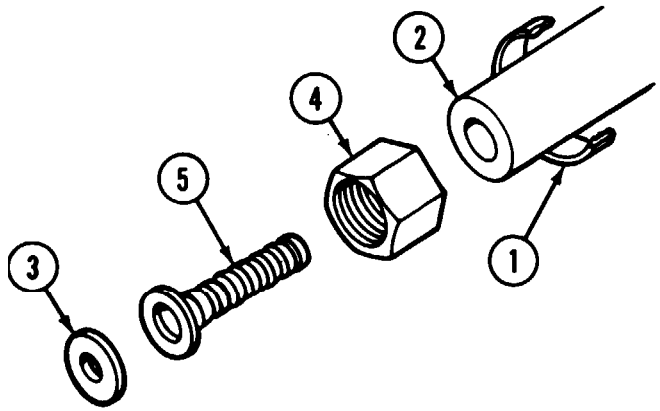
INITIAL SETUP

Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power
(SC 4910-95-CL-A72 and SC 4910-95-CL-A74)
Strap band clamping tools P38.

Materials/Parts
Rubber hose (fig E-3)

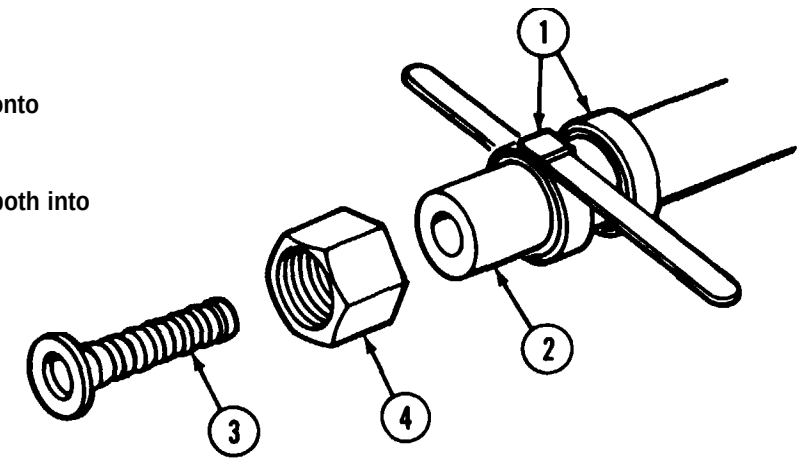
Equipment Condition
Eductor hose assembly is removed from pump unit (see page 2-47).
See para 2-12 for disassembly/reassembly procedures.

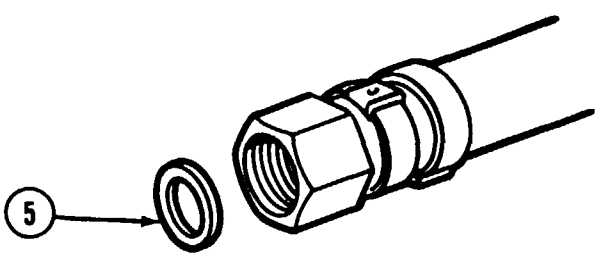
LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Eductor Hose Assembly/ Hose clamps (1) Hose (2) Gasket (3) Nut (4) Stem (5)	Remove hose clamp (1) by driving a flat bladed tool into buckle to free the band or by cutting hose (2) off behind the end of hose clamp (1). Keep serviceable parts. Remove gasket (3). Grasp hose (2) and pull out nut (4). Separate stem (5) from nut (4). Keep serviceable parts.	Only one end of the eductor hose assembly is shown because both ends are the same.
REPAIR		
Eductor Hose Assembly/	Replace authorized serviceable parts. Replace the hose (2) if it is less than 8 inches ± 0.250 inch in length. Replace the hose clamp (1) if it is loose or damaged. Replace the nut (4) it it is out-of-round, cracked, or has damaged threads. Replace the stem (5) if it is cracked or broken, and replace the gasket (3) if it is damaged.	



2-16. EDUCTOR HOSE ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY		
Eductor Hose Assembly/ Hose clamp (1) Hose (2)	Fabricate hose (2) according to figure E-2. Slide hose clamp (1) onto hose (2).	
Stem (3) Nut (4)	Insert stem (3) through the hole in nut (4). Then, as a unit, insert both into hose (2) until the rear of nut (4) is against the end of hose (2).	
	Tighten hose clamp (1) (p 2-77).	
Gasket (5)	Install gasket (5).	





2-17. ENGINE FUEL TANK.

This task covers:

a. Disassembly
b. Repair/Service
c. Reassembly

INITIAL SETUP

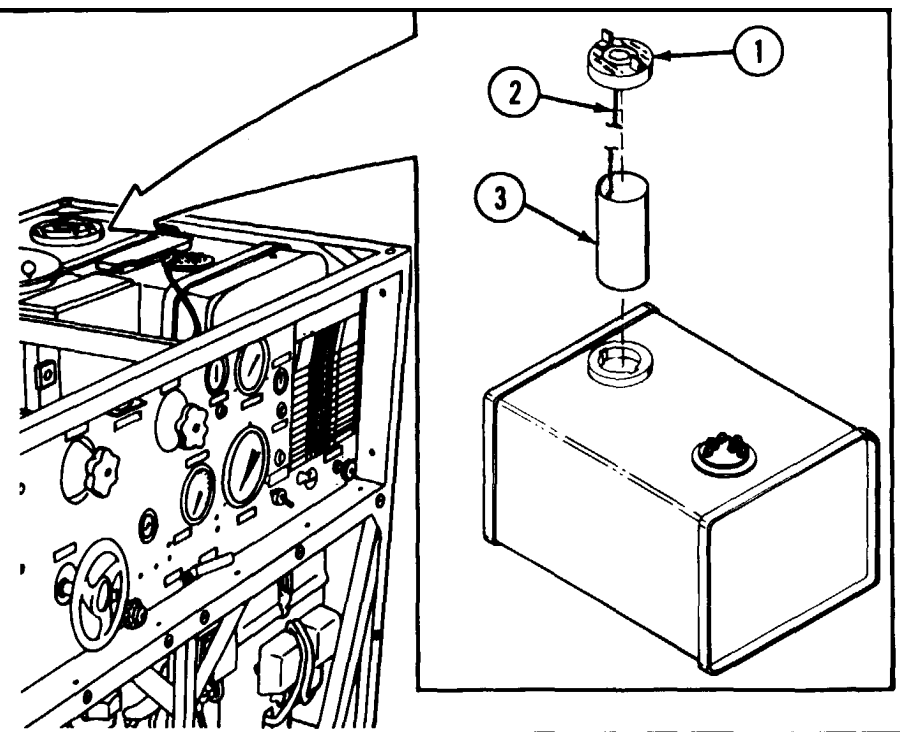
Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

Equipment Condition
Assembled

Materials/Parts
Paint brush (item 6, app D)
Yellow enamel (item 16, app D)

References
TM 43-0139

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Engine Fuel Tank/ **Filler cap (1)** **Chain (2)** **Strainer (3)**	**Unscrew filler cap (1) and disconnect chain (2) from bottom of the tank and remove as a unit. Lift out strainer (3).**	
REPAIR/SERVICE		
Engine Fuel Tank/ **Filler cap**	**Repair by replacing authorized items.**	
Strainer	**Use yellow enamel to paint the stamped lettering on filler cap (TM 43-0139).**	
REASSEMBLY		
Engine Fuel Tank/ **Strainer (3)** **Chain (2)** **Filler cap (1)**	**Securely attach end of chain (2) on filler cap (1) to strainer (3). Insert strainer (3) in tank. Place filler cap securely on top of tank.**	



2-18. GROUND CABLE.

This task covers:

a. Disassembly
b. Repair/Service
c. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

Materials/Parts

Abrasive, cloth (item 9, app D)
Cable (fig E-5)
Sodium bicarbonate, technical (item 32, app D)

Equipment Condition

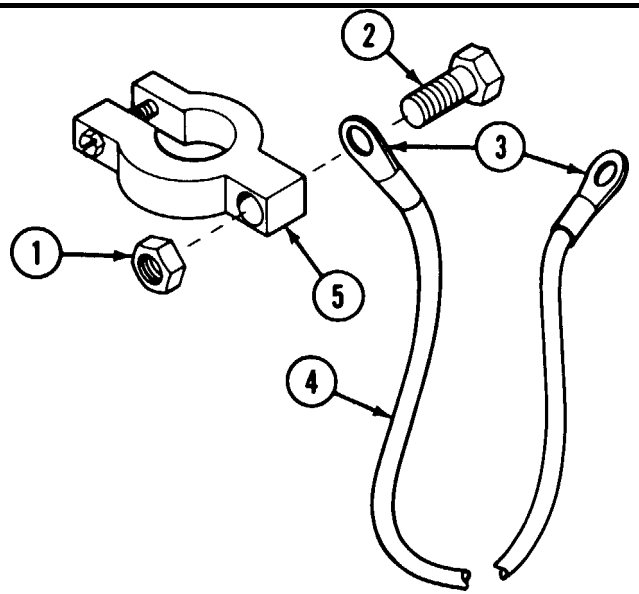
Assembled/Removed

General Safety Instructions

WARNING

The battery cable may be coated with acid caused by spillage and/or fumes. Wear protective clothing while working on the cable. Wash your hands with baking soda and water solution, flush with clean water before eating, smoking, or touching your face or clothing. If battery acid gets into your eyes, flush them out using clean water and obtain medical treatment immediately. Failure to do so may cause blindness.

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Nut (1) **Bolt (2)** **Terminal lugs (3)** **Cable (4)** **Terminal (5)**	**Unscrew nut (1) from bolt (2) and remove. Remove terminal lugs (3) and cable (4) as a unit from terminal (5).**	
	Repair by replacing authorized items. Replace terminal (5) if corrosion has heavily pitted the mating surfaces. Remove all traces of oxidization from all components by washing in baking soda and water solution or by scraping surface with a sharp edged tool. Use abrasive cloth and lightly polish inside surfaces of terminal (5) until they are bright and shiny.	



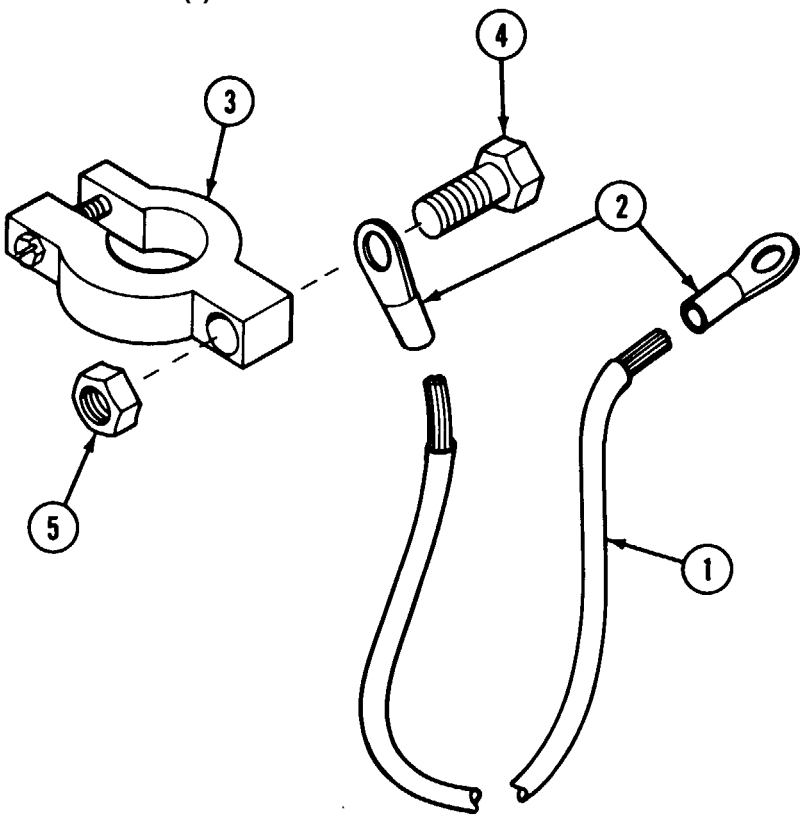
REASSEMBLY

Cable (1)
Terminal lugs (2)

Fabricate cable (1) according to figure E-5. Install terminal lugs (2) onto each end of cable (1) and crimp to secure.

Terminal (3)
Bolt (4)
Nut (5)

Position terminal (3) on end of terminal lug (2) and install bolt (4) through both holes. Secure with nut (5).



2-19. POSITIVE BATTERY CABLE.

This task covers:
a. Disassembly
b. Repair/Service
c. Reassembly

INITIAL SETUP

Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

Materials/Parts
Abrasive cloth (item 9, app D)
Cable (fig E-6)
Paint brush (item 6, app D)
Red enamel (item 15, app D)
Sodium bicarbonate, technical (item 32, app D)

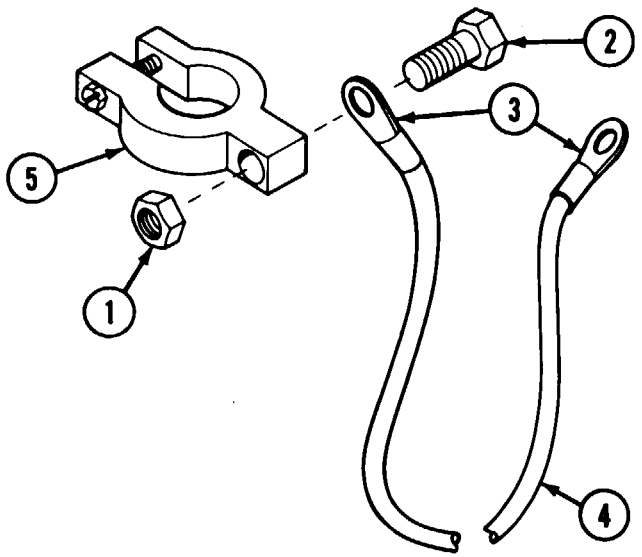
Equipment Condition
Assembled

General Safety Instructions

WARNING

The battery cable may be coated with acid caused by spillage and/or fumes. Wear protective clothing while working on the cable. Wash your hands with baking soda and water solution, flush with clean water before eating, smoking, or touching your face or clothing. If battery acid gets into your eyes, flush them out using clean water and obtain medical treatment immediately. Failure to do so may cause blindness.

LOCATION/ITEM	ACTION	REMARKS
Nut (1) Bolt (2) Terminal lugs (3) Cable (4) Terminal (5)	Unscrew nut (1) from bolt (2) and remove. Remove terminal lugs (3) and cable (4) as a unit from terminal (5).	
REPAIR/SERVICE		
	Repair by replacing authorized items. Replace terminal (5) if corrosion has heavily pitted the mating surfaces. Remove all traces of oxidization from components by washing in baking soda and water solution or by scraping surface with a sharp edged tool. Use abrasive cloth and lightly polish inside surfaces of terminal (5) until they are bright and shiny. Paint top surface of terminal (5) with red enamel paint if paint has faded or is missing.	



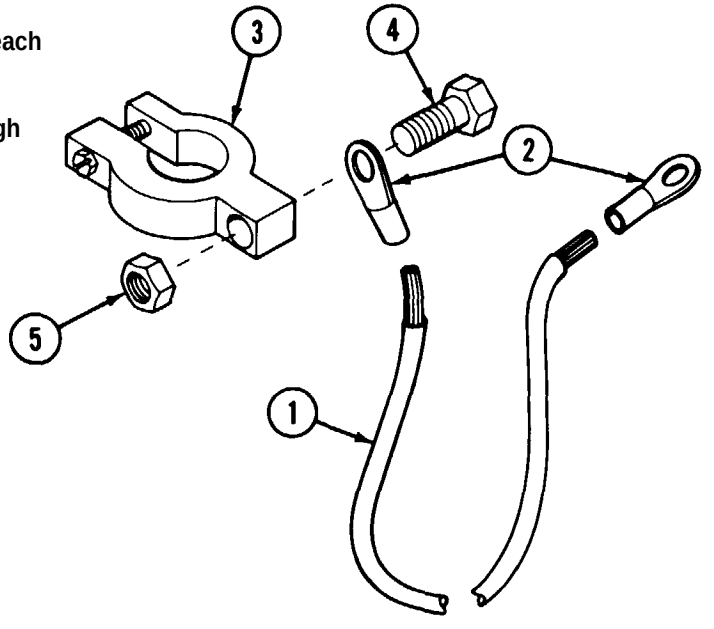
REASSEMBLY

Cable (1)
Terminal lugs (2)

Fabricate cable (1) according figure E-6. Install terminal lugs (2) onto each end of cable (1) and crimp to secure.

Terminal (3)
Bolt (4)
Nut (5)

Position terminal (3) on end of terminal lug (2) and install bolt (4) through both holes. Secure with nut (5).



2-20. PUMP UNIT SUBASSEMBLY.

This task covers:
a. Disassembly
b. Repair
c. Reassembly

INITIAL SETUP

Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

Materials/Parts
Antiseizing tape (item 35, app D)
Chain (fig E-7)
Paint brush (item 6, app D)
Polyurethane coating (green) (item 28, app D)

References
TM 43-0139

Equipment Condition
Cover panels are removed.
Major components of the pump unit assembly are removed.
See paragraph 2-12 for disassembly/reassembly procedures.

2-20. PUMP UNIT SUBASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS

DISASSEMBLY

Pump Unit Subassembly/
- Dust and moisture seal protective caps (1, 2, and 3)
- Gaskets (4, 5, and 6)
- Chains (7, 8, and 9)
- S chain hooks (10, 11, and 12)
- Quick disconnect coupling halves (13, 14, and 15)
- Pipe elbow (16)

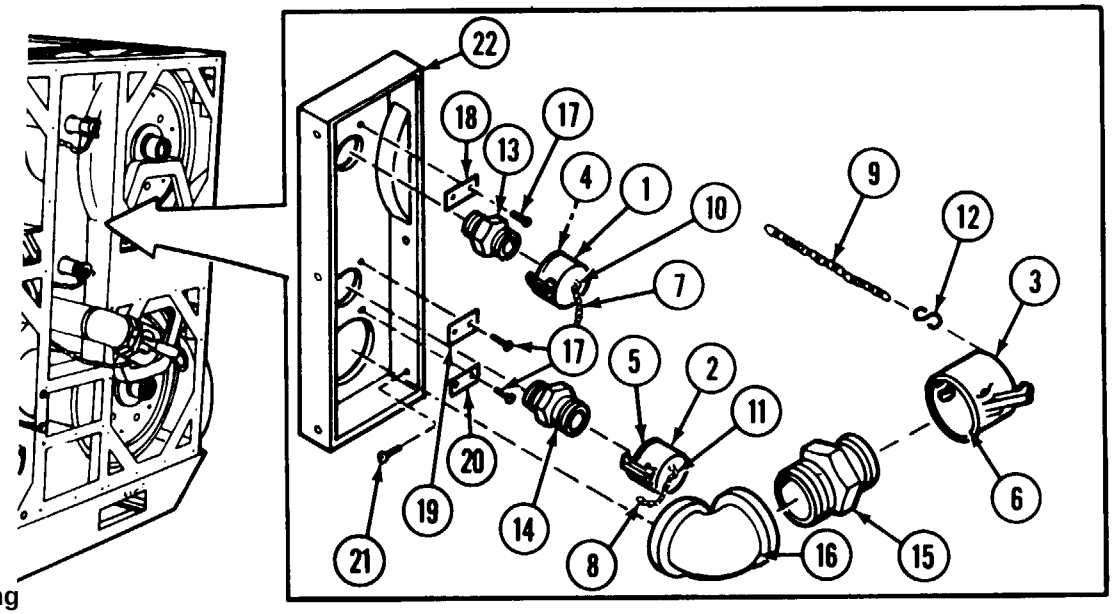
Remove dust and moisture seal protective caps (1, 2, and 3) with gaskets (4, 5, and 6) installed. Do not remove the gaskets. Disconnect chains (7, 8, and 9) by opening S chain hooks (10, 11, and 12). Unscrew and remove quick disconnect coupling halves (13, 14, and 15) and pipe elbow (16).

- Drive screws (17)
- Discharge identification plates (18 and 19)
- Suction identification plate (20)

Remove two drive screws (17) from each of the two discharge identification plates (18 and 19) and from suction identification plate (20).

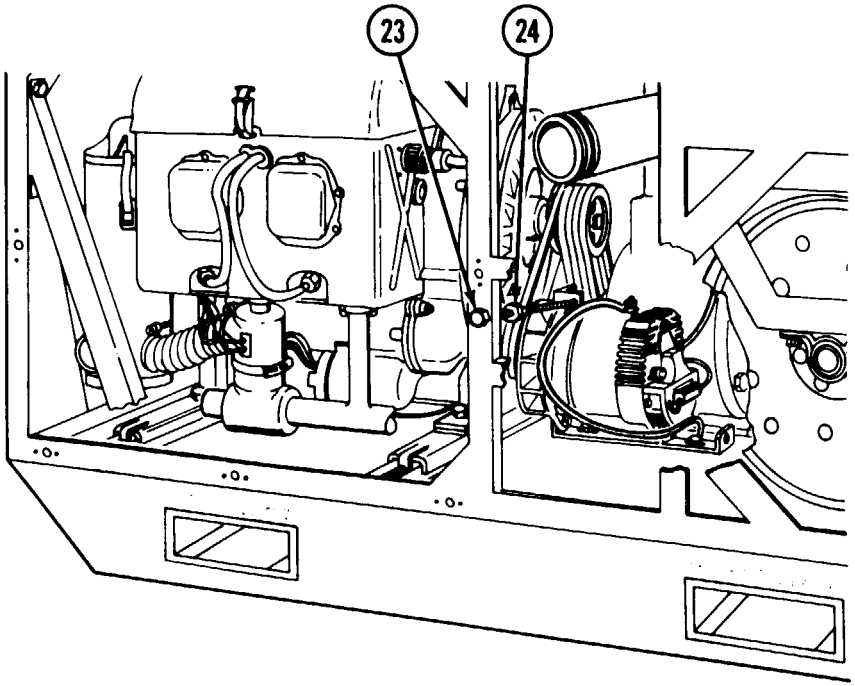
- Thread-cutting tapping screws (21)
- Connector panel (22)

Remove six thread-cutting tapping screws (21) and lift connector panel (22) from the pump unit subassembly.



Machine bolt (23)
Hexagon self-locking nut (24)

Unscrew and remove machine bolt (23) and hexagon self-locking nut (24) from between the frame and the alternator.



Pump Unit Subassembly/ connector panel

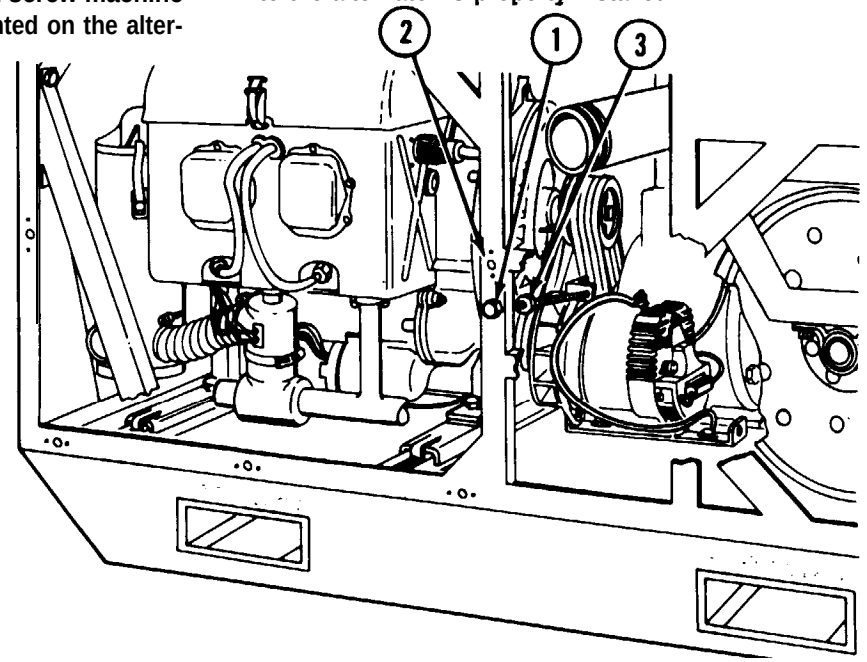
Replace authorized unserviceable and missing parts.

Chain

Clean connector panel and paint with green polyurethane coating. See TM 43-0139.

Fabricate chain according to figure E-7.

2-20. PUMP UNIT SUBASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY		
Pump Unit Subassembly/ Machine bolt (1) Frame assembly (2) Hexagon self-locking nut (3)	Insert machine bolt (1), through the frame assembly (2). Screw hexagon self-locking nut (3) part way upon machine bolt (1) and screw machine bolt (1) into the threaded hole in the angle bracket mounted on the alternator. Using tensiometer, depress drive belt 3/8 inch in the center. Tensiometer should indicate 5 to 7 lb when belt is depressed to the 3/8 inch position. After proper tension is obtained, screw hexagon self-locking nut (3) up machine bolt (1) until it is against the pump unit frame assembly (2). Hold the head of machine bolt (2) and turn hexagon self-locking nut (3) until it is tight.	Make sure that the drive belt from the gasoline engine to the alternator is property installed. 
Connector panel (4) Thread-cutting tapping screws (5) Suction identification plate (6) Discharge identification plate (7) Discharge identification plate (8) Drive screws (9)	Insert connector panel (4) and six thread-cutting tapping screws (5) into the mounting holes and tighten. Attach suction identification plate (6) and discharge identification plates (7 and 8) to the connector panel with six drive screws (9).	

Pump Unit Subassembly/

Pipe elbow (10)
Quick disconnect coupling half (11)

Orient the 90° pipe elbow (10) so that when tightened the open end is at the 4 o'clock position.

Screw pipe elbow (10) onto the suction line and tighten. Screw quick disconnect coupling half (11) into pipe elbow (10) and tighten

Wrap the external threads of the suction pipe and the two discharge pipes projecting through the connector panel with antiseizing tape.

Chain (12)
S chain hook (13)
Dust and moisture seal protective cap (14)
Gasket (15)

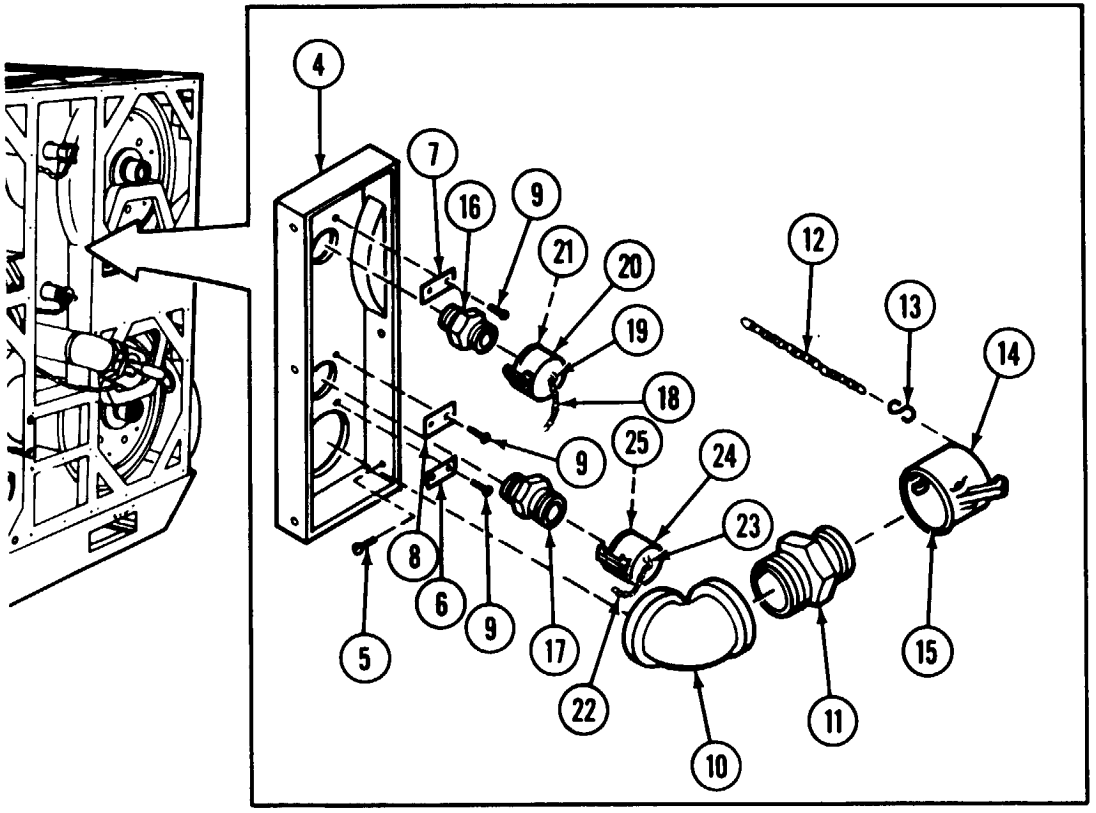
Reconnect chain (12) and S chain hook (13) to dust and moisture seal protective cap (14) with gasket (15), and recap.

Quick disconnect coupling half (16)
Quick disconnect coupling half (17)
Chain (18)
S chain hook (19)
Dust and moisture seal protective cap (20)
Gasket (21)

Screw quick disconnect coupling halves (16 and 17) onto the two discharge lines and tighten with the proper tools. Reconnect chain (18) and S chain hook (19) to dust and moisture seal protective cap (20) with gasket (21). Recap discharge line.

Chain (22)
S chain hook (23)
Dust and moisture seal protective cap (24)
Gasket (25)

Reconnect chain (22) and S chain hook (23) to dust and moisture seal protective cap (24) with gasket (25). Recap discharge line.



2-21. SKID BASE SUBASSEMBLY.

This task covers:
a. Disassembly
b. Repair
c. Reassembly

INITIAL SETUP

Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)
V-belt tensiometer 12998F

Materials/Parts
Antiseizing tape (item 35, app D)
Sealing compound (item 31, app D)
Wooden blocks

References
TM 43-0139

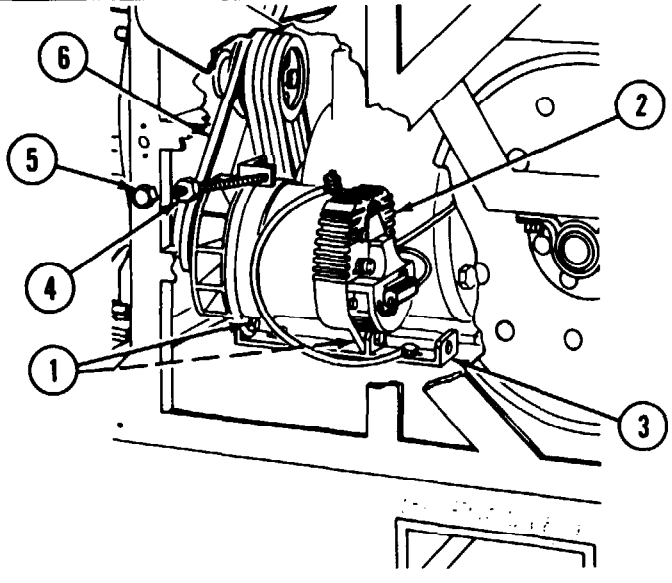
Equipment Condition
Panel covers are removed.
Authorized pump unit subassembly components are removed.
See para 2-20 for disassembly/reassembly procedures.

Special Safety Instructions

WARNING

Unless 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.

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Skid Base Subassembly/		
Hexagon plain nuts (1) Alternator (2) Alternator support (3)	Loosen two hexagon plain nuts (1) securing engine alternator (2) to alternator support (3).	
Self-locking nut (4) Machine bolt (5) V belt (6)	If V belt was not removed in paragraph 2-20, loosen self-locking nut (4) a few turns and loosen machine bolt (5) to push alternator (2) forward. Remove V belt (6) from alternator pulley. V belt to alternator cannot be removed from engine pulley at this time.	



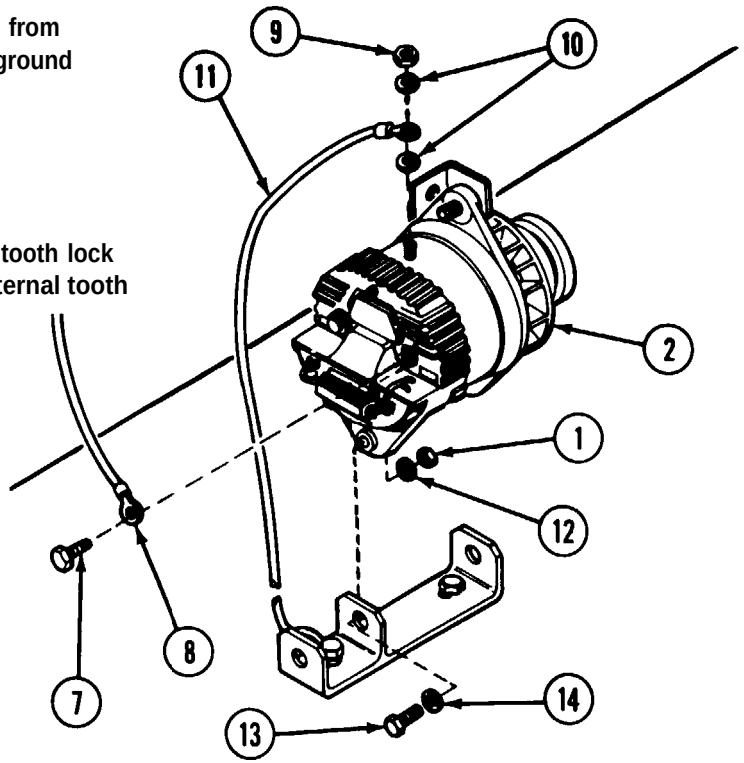
Hexagon head cap screw (7)
Cable (8)
Nut (9)
Flat washers (10)
Ground cable (11)

Remove hexagon head cap screw (7) and terminal of cable (8) from alternator (2). Remove nut (9) and flat washers (10) to loosen ground cable (11) from alternator (2).

Internal tooth lock washers (12)
Hexagon head cap screws (13)
Internal tooth lock washers (14)

Unscrew and remove two hexagon plain nuts (1), two internal tooth lock washers (12), two hexagon head cap screws (13), and two internal tooth lock washers (14).

Lift alternator (2) (intact) off the skid base subassembly.

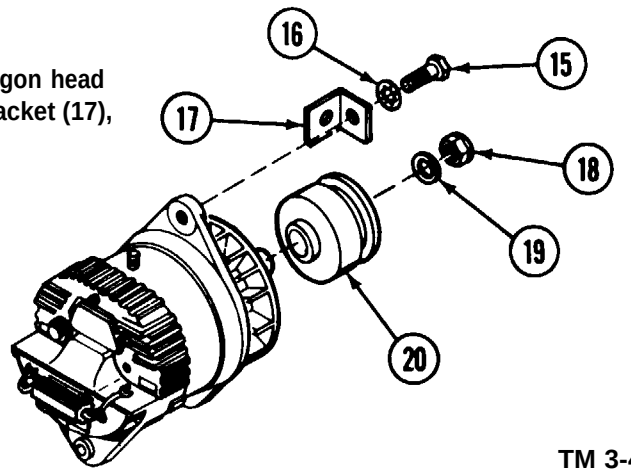


Hexagon head cap screw (15)
Internal tooth lock washer (16)
Alternator bracket (17)
Self-locking nut (18)
Flat washer (19)
Groove pulley assembly (20)

Unscrew and remove hexagon head cap screw (15), internal tooth lock washer (16), alternator bracket (17), self-locking nut (18), flat washer (19), and groove pulley assembly (20).

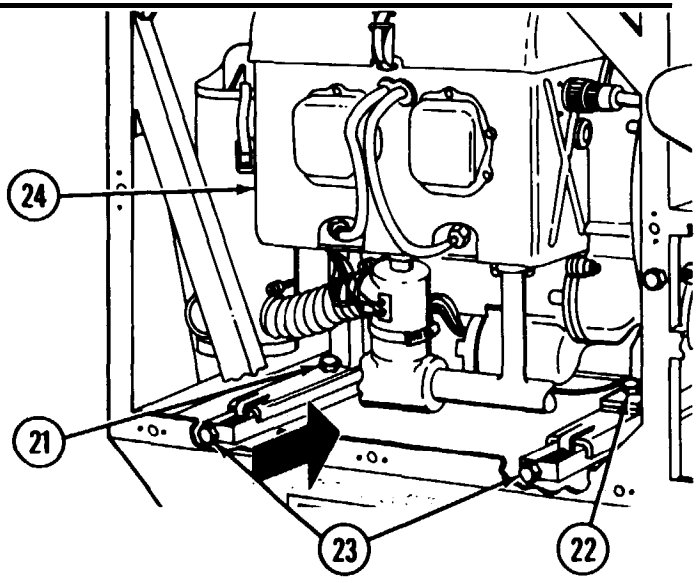
If the alternator is to be replaced, disassemble and keep hexagon head cap screw (15), internal tooth lock washer (16), alternator bracket (17), and groove pulley (20) to use on the new alternator.

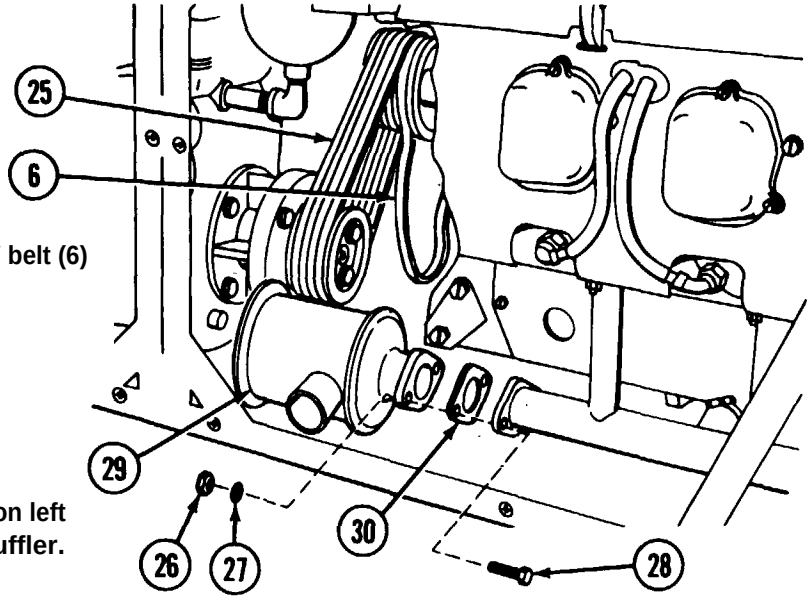
Make sure woodruff key is attached to alternator shaft.



2-21. SKID BASE SUBASSEMBLY (CONT).

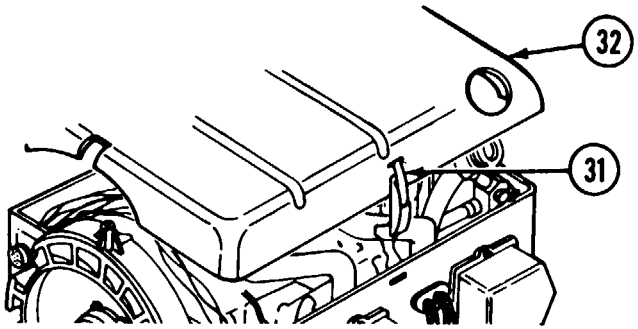
LOCATION/ITEM	ACTION	REMARKS
Skid Base Subassembly/ Hexagon head cap screws (21) Hexagon head cap screws (22)	Loosen but do not remove hexagon head cap screws (21 and 22) located on both sides of the engine.	
Machine bolts (23) Gasoline engine (24)	Loosen but do not remove two machine bolts (23) and push gasoline engine (24) forward.	
Matched set V belts (25)	Remove V belts (25) from engine and pump pulleys. Remove V belt (6) from engine pulley.	
Hexagon plain nuts (26) Internal tooth lock washers (27) Hexagon cap screws (28)	Remove two hexagon plain nuts (26), two internal tooth lock washers (27), and two hexagon cap screws (28).	
Exhaust muffler (29) Gasket (30)	Remove exhaust mufffer (29) and gasket (30). Exhaust muffle on left side of engine is installed exactly the right side muffler. Repeat same procedures to remove left exhaust muffler.	





Snap latches (31)
Engine cover (32)

Release the engine rover snap latches (31) and remove engine cover (32).



Screw (33)*
Nut (34)*
Governor control (35)*
Nut (36)*
Carburetor choke stud (37)*

Unscrew and remove screw (33), nut (34), and governor control (35). Unscrew and remove nut (36) from carburetor choke stud (37).

Items marked • are engine supplied items and must be kept with the engine. Reattach as soon as possible to prevent loss.

Setscrew (38)*
Hexagon head cap screw (39)**
Lock washer (40)**
Retaining strap (41)**
Throttle control cable (42)
Throttle linkage assembly (43)

Loosen setscrew (38). Unscrew and remove hexagon head cap screw (39), lock washer (40), retaining strap (41), and throttle control cable (42) coming from the control panel assembly. Lift out throttle linkage assembly (43).

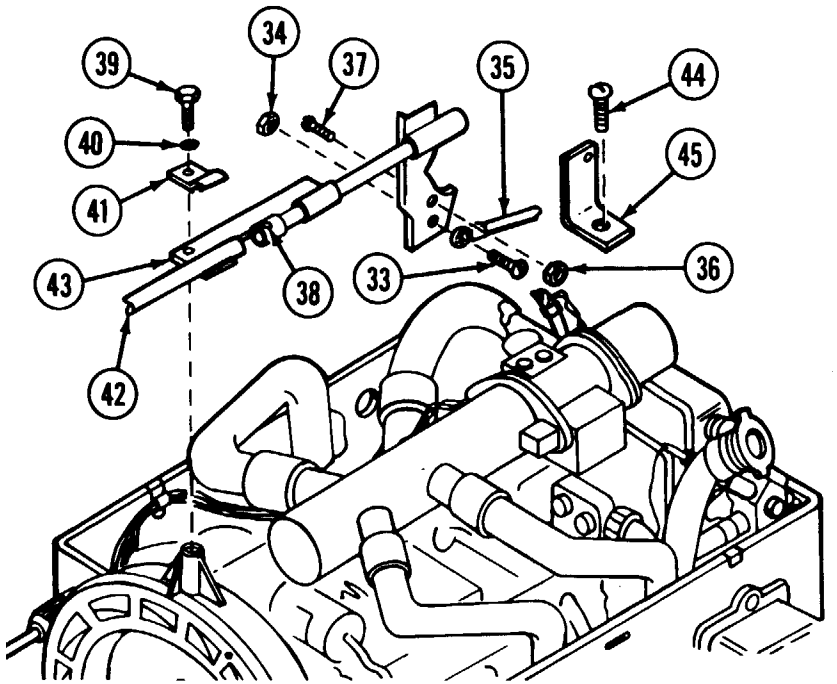
Items marked •* are throttle linkage assembly items and must be kept with the throttle linkage assembly.

Screw (44)
Clip (45)

Remove screw (44) and clip (45) from carburetor.

NOTE

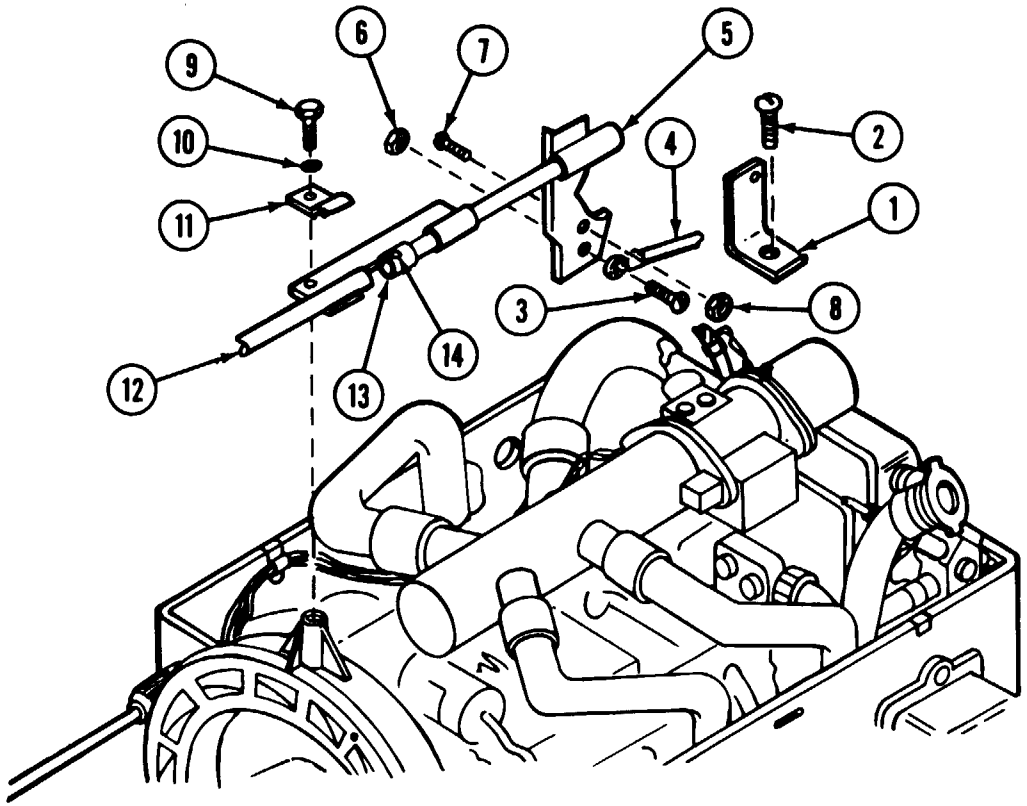
Screw (44) and clip (45) are required only on Bendix*** carburetors.



***Bendix is a trade name of Bendix Corp.

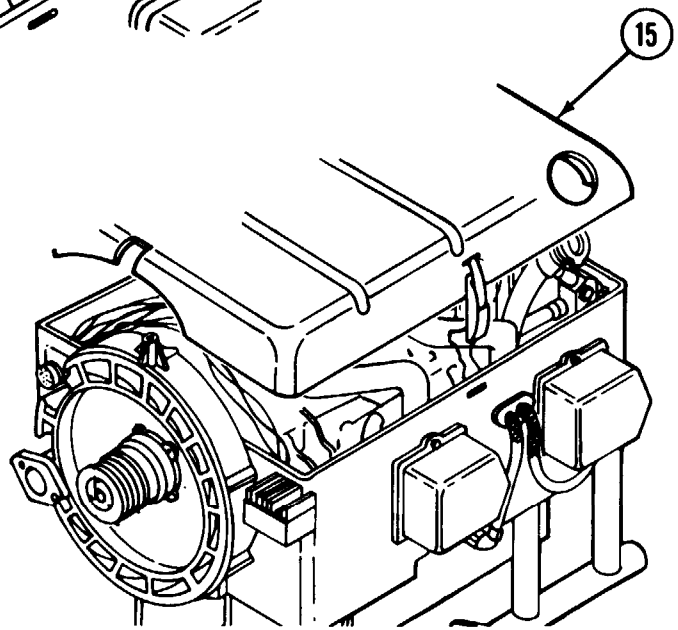
2-21. SKID BASE SUBASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REPAIR		
Skid Base Subassembly/ All components	Replace authorized unserviceable parts.	
Skid Base Subassembly/ Clip (1) Screw (2)	Insert clip (1) and fasten with screw (2) to carburetor.	Clip (1) and screw (2) are required only on Bendix* carburetors.
Screw (3)** Governor control (4)** Throttle linkage assembly (5) Nut (6)** Carburetor choke stud (7)** Nut (8)**	Insert screw (3) through the end of governor control (4) and the bottom hole of the lever on throttle linkage assembly (5). Attach nut (6). Insert carburetor choke stud (7) through the upper hole of throttle linkage assembly (5), and attach nut (8). Position throttle linkage assembly (5) in place on top of engine.	Items marked ** should be attached to gasoline engine. Remove and reuse them as they are needed.
Hexagon head cap screw (9)*** Lock washer (10)*** Retaining strap (11)***	Install hexagon head cap screw (9) through internal tooth lock washer (10), retaining strap (11), throttle linkage assembly (5), and into the gasoline engine. Install hexagon head cap screw (9) into gasoline engine three or four turns. **NOTE** Make sure throttle assembly knob on the control panel assembly is pushed in all the way.	Items marked *** are furnished as parts of throttle linkage assembly (5).
Throttle control cable (12) Throttle adapter (13) Setscrew (14)***	Install throttle control cable (12) in throttle adapter (13) and tighten setscrew (14) securely. Tighten hexagon head cap screw (9).	



Engine cover (15)

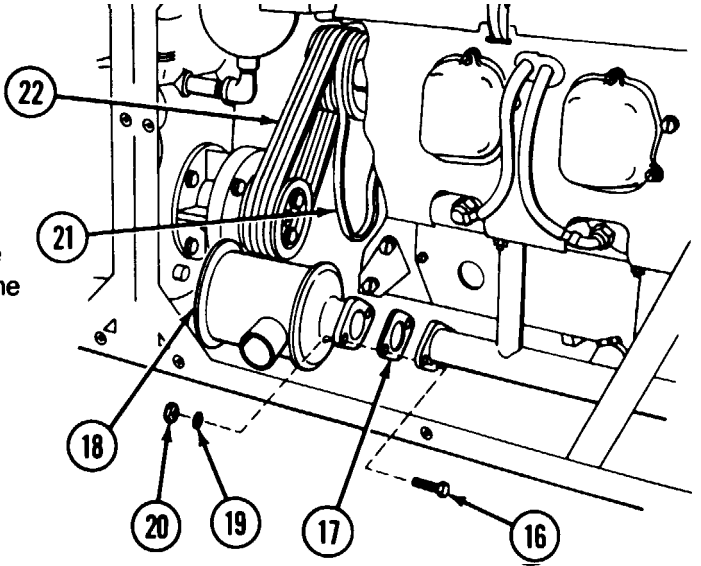
Reinstall engine cover (15) upon completion and fasten snaplatches.

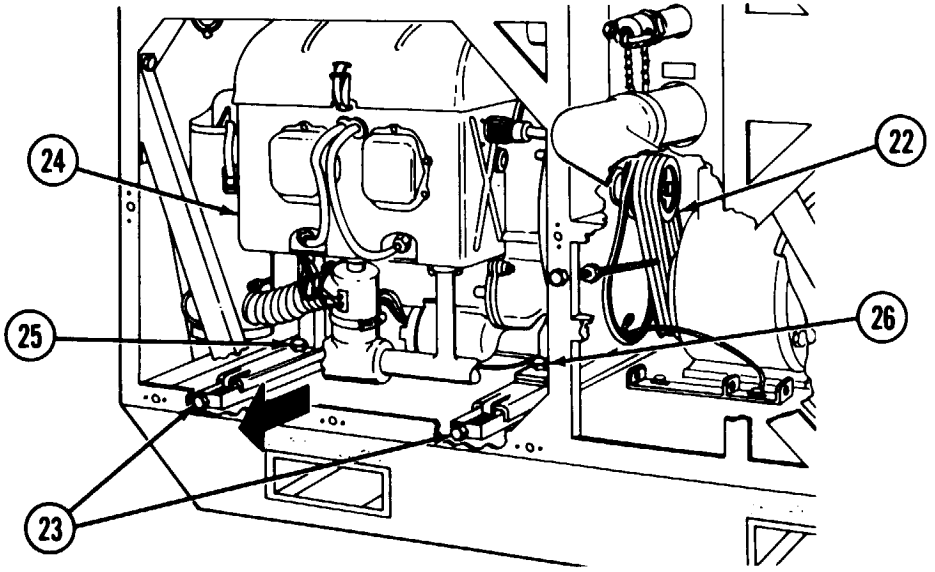


*Bendix is a trade name of Bendix Corporation.

2-21. SKID BASE SUBASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Skid Base Subassembly/ Hexagon cap screws (16) Gasket (17)	Install two hexagon cap screws (16) and gasket (17).	
Exhaust muffler (18) Internal tooth lock washers (19) Hexagon plain nuts (20)	Position exhaust muffler (18) on hexagon cap screws (16) and two internal tooth lock washers (19). Exhaust ports will be pointed away from the engine. Exhaust muffler on left side of engine is installed exactly the same as right side muffler. Repeat same procedure to install left exhaust muffler. Secure with two hexagon plain nuts (20).	
V belt (21)	Loop alternator V belt (21) on front groove of engine pulley and let hang.	
Matched set V belts (22)	Loop matched set V belts (22) on the back four grooves of engine pulley and then around the pump pulley.	
Machine bolts (23) Gasoline engine (24)	Tighten two machine bolts (23) to slide gasoline engine (24) back in place and adjust tension on matched set V belts (22). Make certain V belt (21) is still looped around the pulley.	
	Adjust tension on matched set V belts (22). Refer to TM 3-4230-209-10.	
Hexagon head cap screws (25) Hexagon head cap screws (26)	Tighten hexagon head cap screws (25 and 26) on both sides of the engine.	





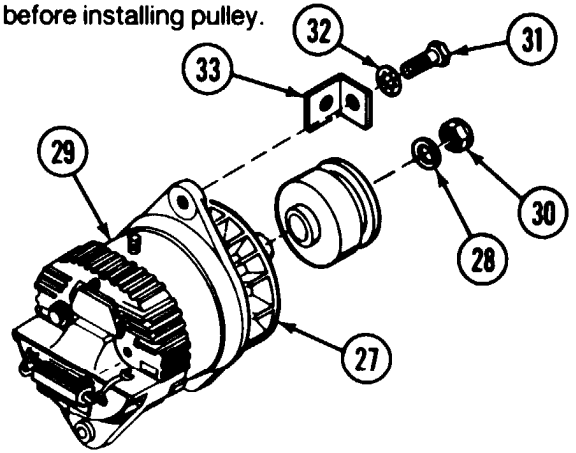
Skid Base Subassembly/
Groove pulley assembly (27)
Flat washer (28)
Alternator (29)
Self-locking nut (30)

Slide groove pulley assembly (27) and flat washer (28) onto the shaft of alternator (29). Screw on self-locking nut (30). Hold groove pulley assembly (27) and keep it from turning while self-locking nut (30) is being tightened. Torque self-locking nut (30) to 70 foot pounds.

Make sure woodruff key is installed on alternator shaft before installing pulley.

Hexagon head cap screw (31)
Internal troth lock washer (32)
Alternator bracket (33)

Insert hexagon head cap screw (31) through internal tooth lock washer (32) and alternator bracket (33). Install hexagon head cap screw (31) into the alternator (29) and tighten hexagon head cap screw (31).



Alternator support (34)
Hexagon head cap screws (35)
Internal tooth lock washers (36)
Internal tooth lock washers (37)
Hexagon plain nuts (38)

Position alternator (29) onto alternator support (34) and aline the holes. Insert two hexagon head cap screws (35) through two internal troth lock washers (36), alternator (29), and alternator support (34). Slide two internal tooth lock washers (37) onto two hexagon head cap screws (35) and screw two hexagon plain nuts (38) onto hexagon head cap screws (35). Install nuts loosely.

Grasp the top of alternator (29) and pull until V belt (21) is tight.

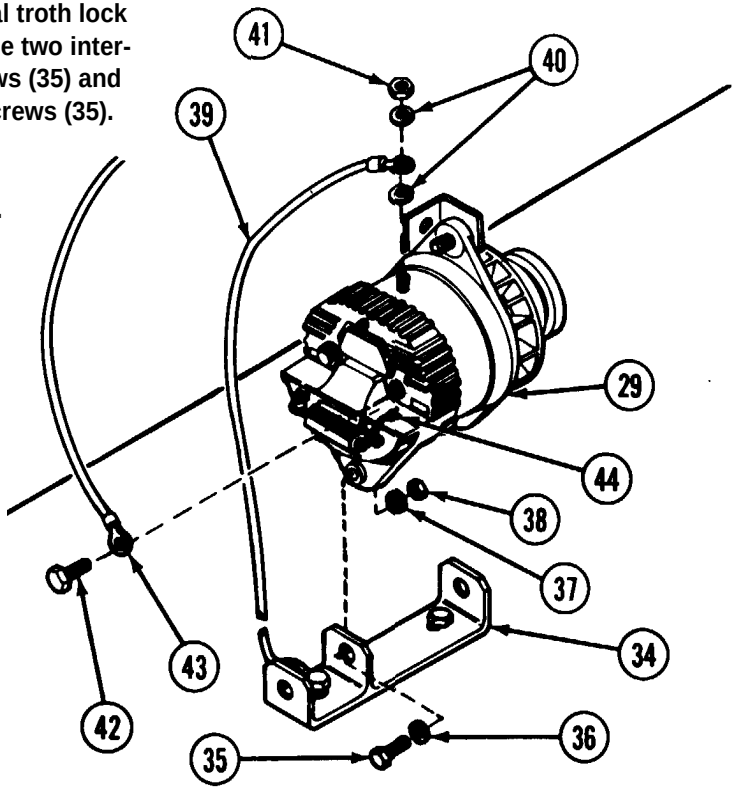
Tighten two hexagon plain nuts (38) on cap screws (35).

Ground cable (39)
Flat washers (40)
Nut (41)

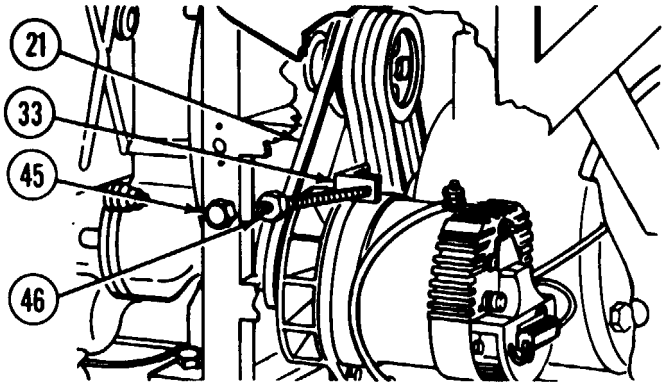
Install terminal of ground cable (39) on stud on top of alternator (29) and fasten with flat washers (40) and nut (41).

Hexagon head cap screw (42)
Cable (43)
Resistor (44)

Remove hexagon head cap screw (42). Position cable (43) and terminal of resistor (44) onto hexagon head cap screw (42) and install it back into rear of alternator (29).



2-21. SKID BASE ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Skid Base Subassembly/ **Machine bolt (45)** **Self-locking nut (46)**	**Install machine bolt (45) through frame, self-locking nut (46), and into alternator bracket (33).** **Final tension adjustment of V belt (21) will be made when skid base subassembly is installed into pump unit subassembly.**	

2-22. PLUMBING ASSEMBLY.

This task covers repair/servicing

INITIAL SETUP

Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

Equipment Condition
Assembled

References
TM 3-4230-209-10

LOCATION/ITEM	ACTION	REMARKS
REPAIR/SERVICING		
Plumbing Assembly		
All connections	**Organizational maintenance is authorized to tighten all pipe connections to stop leaks.**	
Offset valve assembly	**Service offset valve (VALVE NO. 1 MANIFOLD) (TM 3-4230-209-10).**	
Regulating valves	**Service regulating valves No. 2 and No. 3 (VALVE NO. 2 LOWER REEL and VALVE NO. 3 UPPER REEL) (TM 3-4230-209-10).**	

2-23. CENTRIFUGAL PUMP.

This task covers:
- a. Disassembly
- b. Repair
- c. Reassembly

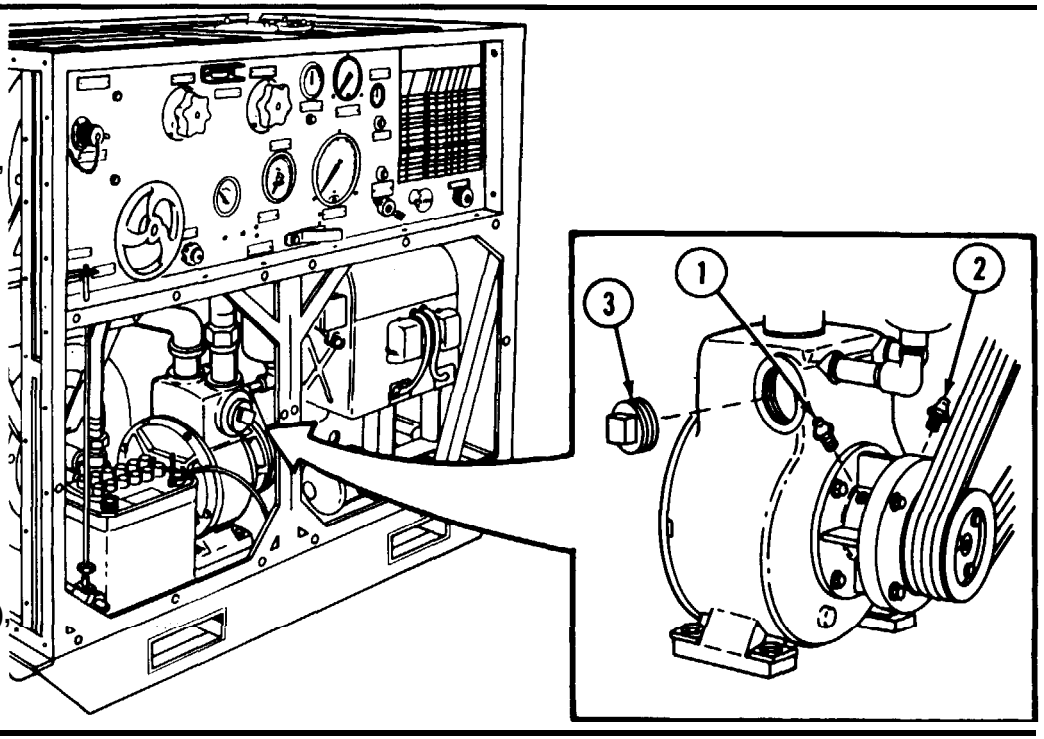
INITIAL SETUP

Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

Equipment Condition
Assembled

References
TM 3-4230-209-10

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Centrifugal Pump/ Lubrication fitting (1) Breather (2) Plug (3)	Unscrew and remove lubrication fitting (1), breather (2), and two plugs (3).	
REPAIR		
Centrifugal Pump/ All parts	Repair by replacing authorized items.	
centrifugal Pump/ Lubrication fitting (1) Breather (2) Plug (3)	Install and tighten lubrication fitting (1), breather (2), and two plugs (3).	



2-24. REGULATING VALVE.

This task covers:
a. Disassembly
b. Repair
c. Reassembly

INITIAL SETUP

Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power
(SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

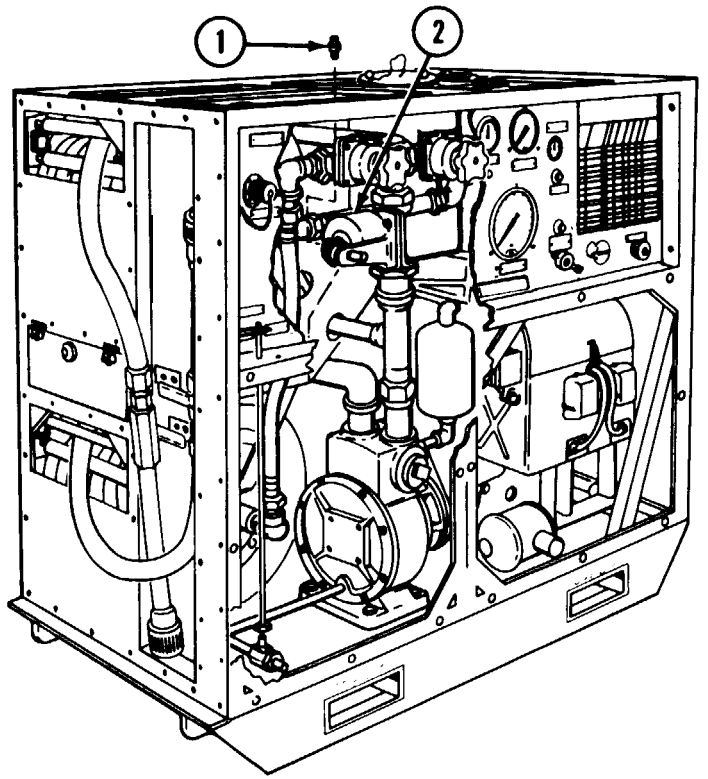
Equipment Condition
Assembled

DISASSEMBLY

Regulating Valve/ Lubrication fitting (1) Valve (2)	Unscrew and remove lubrication fitting (1) from valve (2).
Regulating Valve/ Lubrication fitting (1)	Repair by replacing lubrication fitting (1).

REASSEMBLY

Regulating Valve/ Lubrication fitting (1) Valve (2)	Screw lubrication fitting (1) into valve (2) until tight.



2-25. THROTTLE LINKAGE ASSEMBLY.

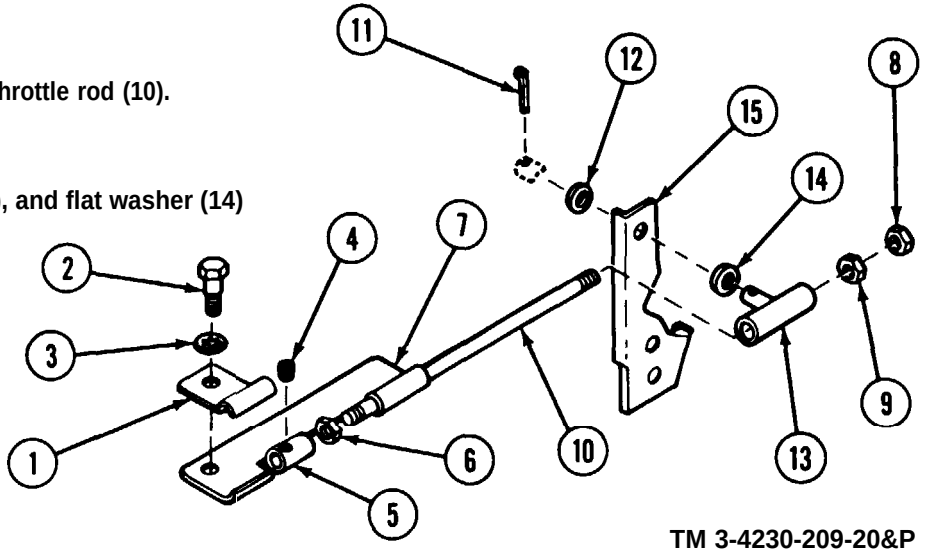
This task covers:
a. Disassembly
b. Repair
c. Reassembly

INITIAL SETUP

Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

Equipment Condition
Assembled

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Throttle Linkage Assembly/		
Retaining strap (1) Hexagon head cap screw (2) Internal tooth lock washer (3) Setscrew (4) Throttle adapter (5) Hexagon plain nut (6) Loop clamp (7)	Remove retaining strap (1), hexagon head cap screw (2), internal tooth lock washer (3), setscrew (4), throttle adapter (5), hexagon plain nut (6), and loop clamp (7).	
Hexagon plain nuts (8 and 9) Throttle rod (10)	Remove hexagon plain nuts (8 and 9) and slide out throttle rod (10).	
Cotter pin (11) Flat washer (12) Swivel (13) Flat washer (14) Remote control lever (15)	Remove cotter pin (11), flat washer (12), swivel (13), and flat washer (14) from remote control lever (15).	
REPAIR		
Throttle Linkage Assembly/		
All components	Repair by replacing authorized components.	



2-25. THROTTLE LINKAGE ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS

REASSEMBLY

Throttle Linkage Assembly/
- Throttle rod (1)
- Loop clamp (2)
- Hexagon plain nut (3)
- Throttle adapter (4)
- Setscrew (5)

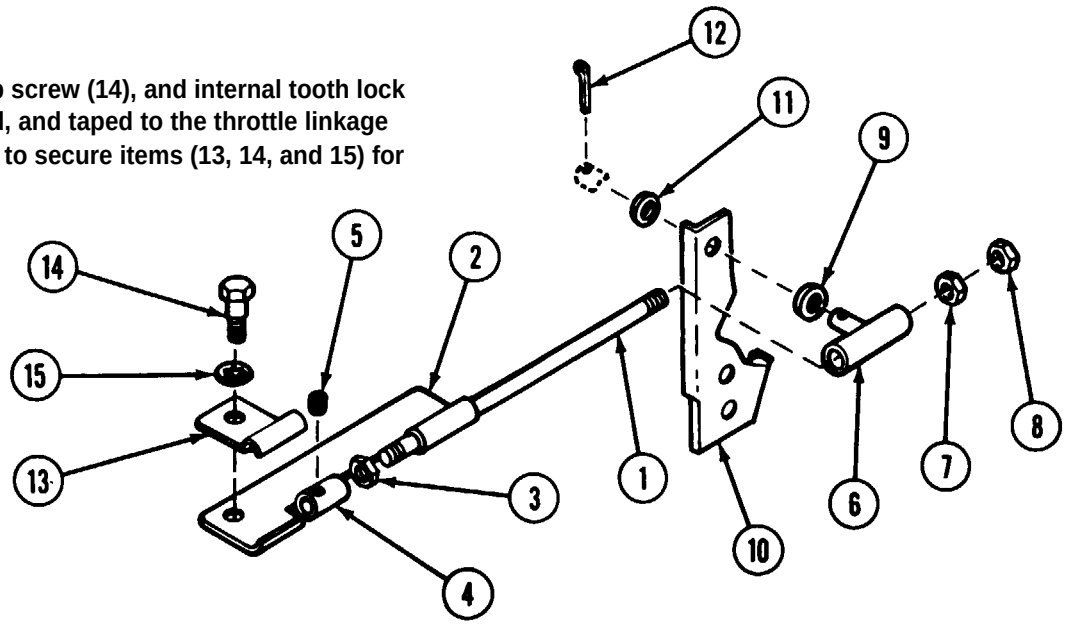
Insert the end of throttle rod (1) with the fewest threads into loop clamp (2). Screw hexagon plain nut (3) on throttle rod (1) up to the end of the threads. Screw throttle adapter (4) on throttle rod (1) until it bottoms. Screw hexagon plain nut (3) against throttle adapter (4) and tighten. Install setscrew (5) loosely.

- Swivel (6)
- Hexagon plain nuts (7 and 8)
- Flat washer (9)
- Remote control lever (10)
- Flat washer (11)
- Cotter pin (12)

Slide swivel (6) over throttle rod (1) and screw on hexagon plain nuts (7 and 8). Tighten hexagon plain nuts (7 and 8) against each other at outer end of throttle rod (1). Place flat washer (9), remote control lever (10), and flat washer (11) on stud of swivel (6). Secure with cotter pin (12).

- Retaining strap (13)
- Hexagon head cap screw (14)
- Internal tooth lock washer (15)

Retaining strap (13), hexagon head cap screw (14), and internal tooth lock washer (15) must be attached, shipped, and taped to the throttle linkage assembly. A hexagon nut can be used to secure items (13, 14, and 15) for shipment.



2-26. CONTROL PANEL ASSEMBLY.

This task covers:
- a. Disassembly
- b. Repair
- c. Reassembly

INITIAL SETUP

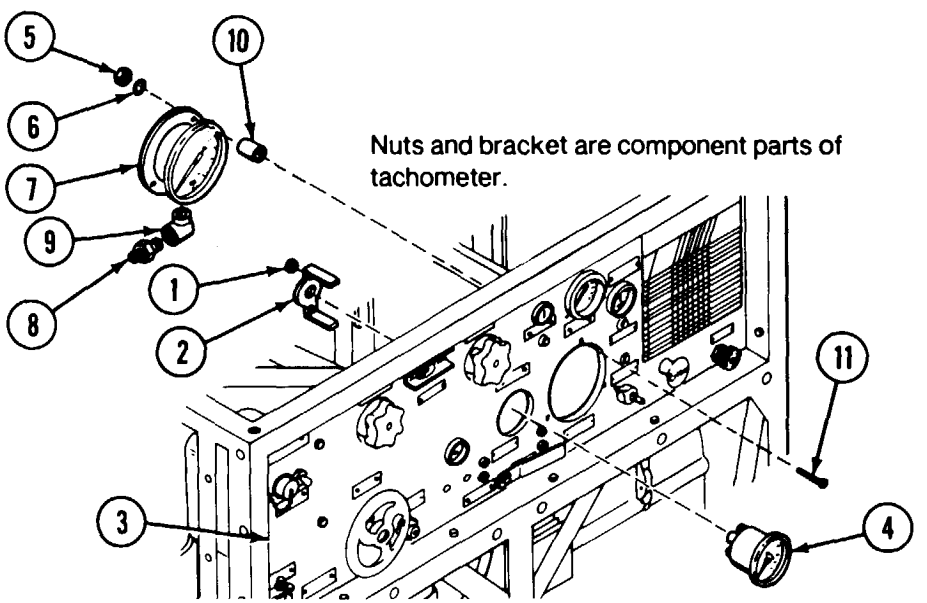
Tools and Special Tools
- Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

Materials/Parts
- Antiseizing tape (item 35, app D)
- Epoxy primer (item 29, app D)
- Green tape (item 36, app D)
- Paint brush (item 6, app D)
- Polyurethane coating (item 27, app D)
- Polyurethane coating (item 28, app D)
- Sealing compound (item 31, app D)

References
- TM 43-0139

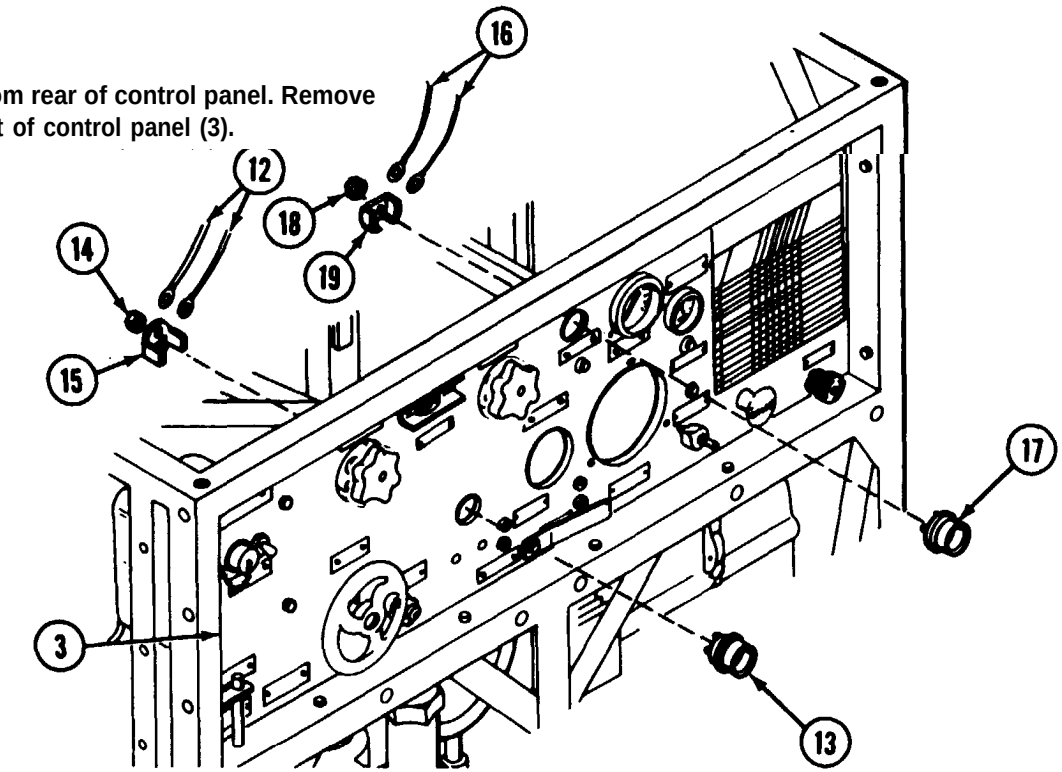
Equipment Condition
- Assembled. Tachometer flex shaft assembly, vacuum gage hose, and pressure gage hose disconnected.
- See para 2-12 to disconnect/reconnect procedures.

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Control Panel Assembly/		
Nuts (1) Bracket (2) Control panel (3) Tachometer (4)	Remove nuts (1) and bracket (2) from rear of control panel (3), and slide tachometer (4) out the front of control panel (3).	Nuts and bracket are component parts of tachometer.
Self-locking nuts (5) Flat washers (6)	Unscrew and remove self-locking nuts (5) and flat washers (6).	
Pressure gage (7) Straight adapter (8) Pipe elbow (9)	Remove pressure gage (7) with straight adapter (8) and pipe elbow (9) attached.	
Sleeve spacers (10) Machine screws (11)	Remove sleeve spacers (10) from rear of control panel (3) and machine screws (11) from front of control panel (3).	



2-26. CONTROL PANEL ASSEMBLY CONT).

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY (CONT)		
Control Panel Assembly/ Electrical leads (12) Pressure indicator (13)	Disconnect electrical leads (12) from pressure indicator (13).	Carefully tag and disconnect electrical leads (12 and 16) for reassembly.
Nuts (14) Bracket (15)	Remove nuts (14) and bracket (15) from rear of control panel (3). Remove pressure indicator (13) from front of control panel (3).	
Electrical leads (16) Liquid quantity indicator (17)	Disconnect electrical leads (16) from liquid quantity indicator (17).	
Nuts (18) Bracket (19)	Remove nuts (18) and bracket (19) from rear of control panel. Remove liquid quantity indicator (17) from front of control panel (3).	



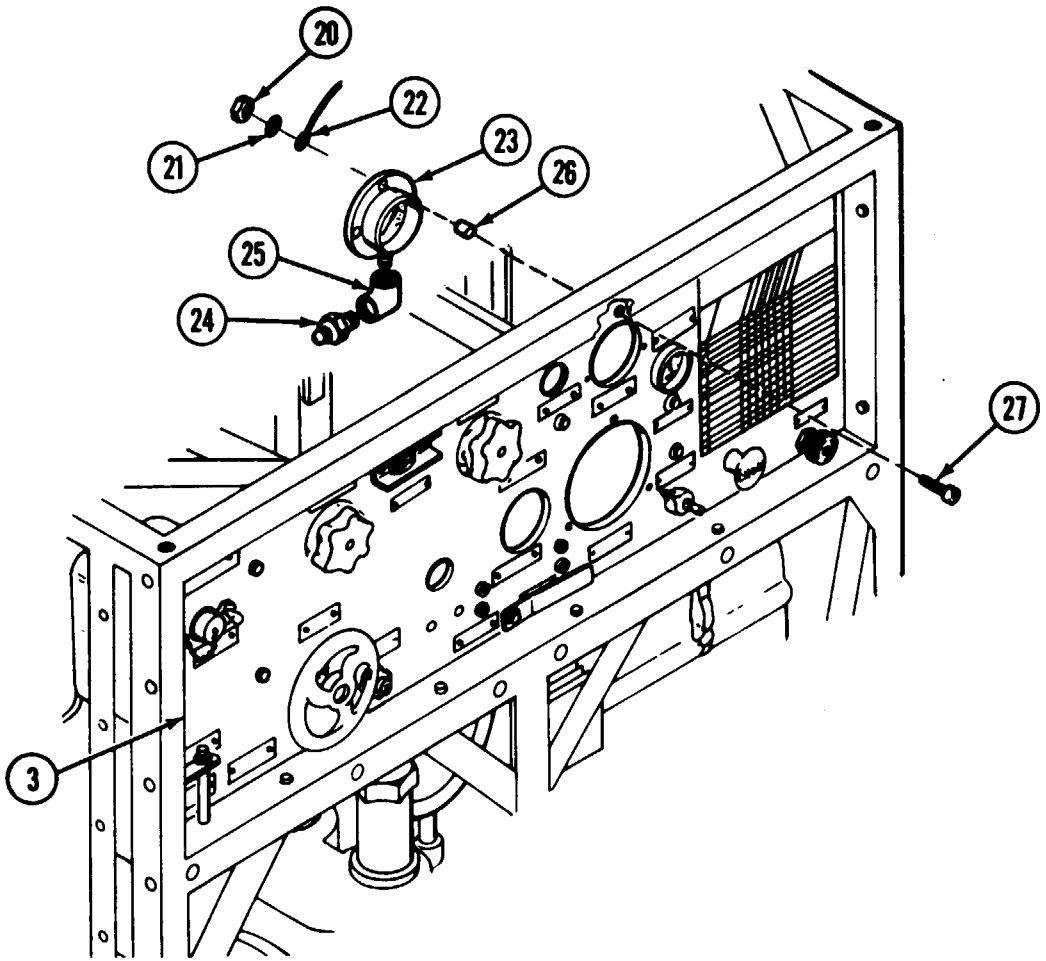
Self-locking nuts (20)
Flat washers (21)
Electrical lead (22)
Vacuum gage (23)
Straight adapter (24)
Pipe elbow (25)

Remove self-locking nuts (20), flat washers (21), electrical lead (22), and vacuum gage (23) with straight adapter (24) and pipe elbow (25) from rear of control panel (3).

Disconnect vacuum gage (23), straight adapter (24), and pipe elbow (25).

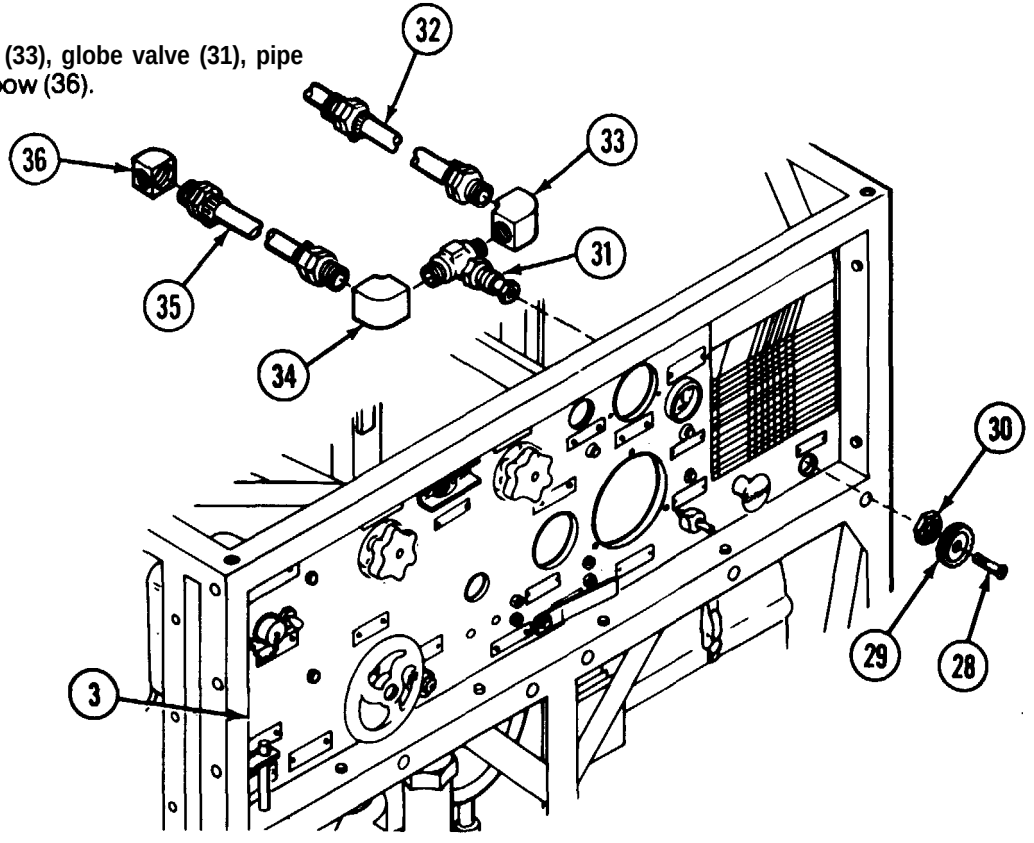
Sleeve spacers (26)
Machine screws (27)

Remove sleeve spacers (26) from rear of control panel (3) and machine screws (27) from front of control panel (3).



2-26. CONTROL PANEL ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY (CONT)		
Control Panel Assembly/ Machine screw (28) Knob (29) Nut (30)	Remove machine screw (28), knob (29), and nut (30) from front side of control panel (3).	
Globe valve (31)	Remove globe valve (31) with tubing attached from rear of control panel (3).	
Tubing assembly (32) Pipe elbow (33) Pipe elbow (34) Tubing assembly (35) Pipe elbow (36)	Disconnect tubing assembly (32), pipe elbow (33), globe valve (31), pipe elbow (34), tubing assembly (35) and pipe elbow (36).	



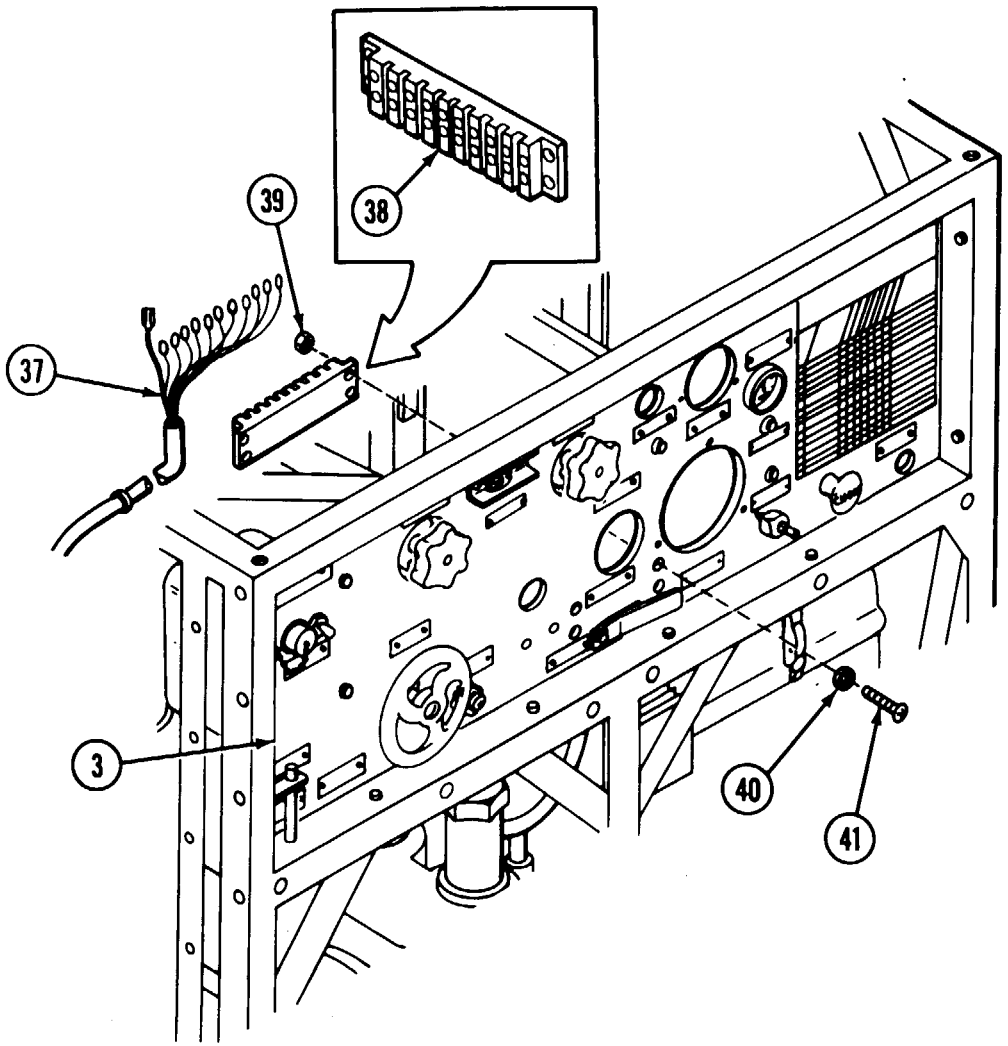
Electrical leads (37)
Terminal board (38)

Disconnect electrical leads (37) from terminal board (38).

Carefully tag and disconnect electrical leads (37) for reassembly

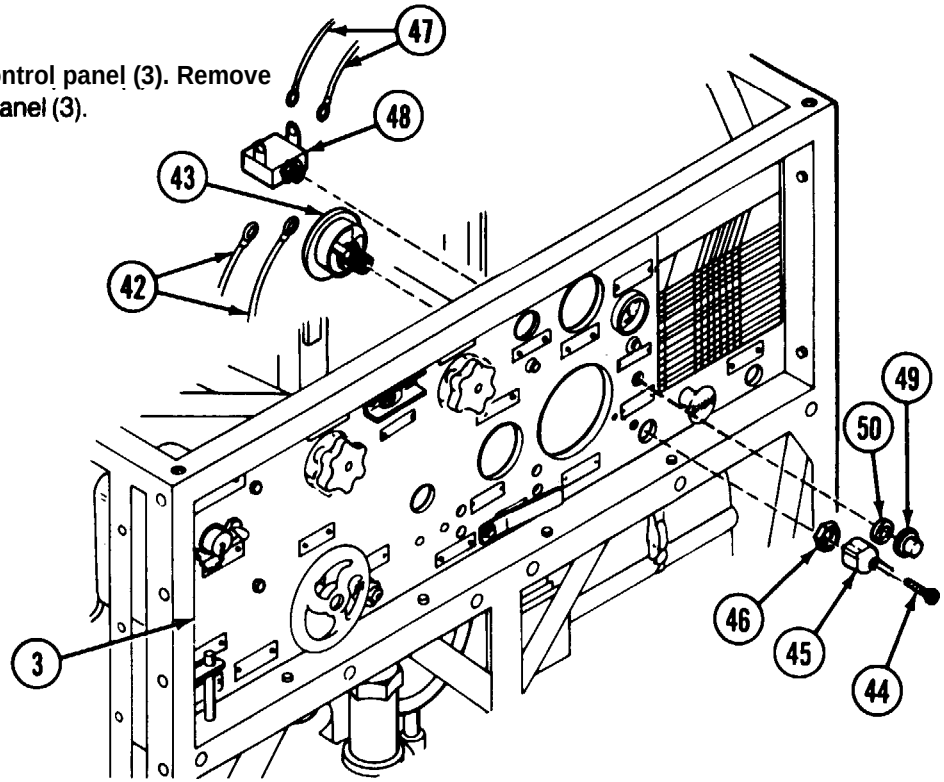
Self-locking nuts (39)
Flat washers (40)
Machine screws (41)

Remove self-locking nuts (39), flat washers (40), and machine screws (41). Remove terminal board (38) from rear of control panel (3).



2-26. CONTROL PANEL ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY (CONT)		
Control Panel Assembly/		
Electrical leads (42)	Disconnect electrical leads (42) from stop-run-start switch (43).	Carefully tag and disconnect electrical leads.
Stop-run-start switch (43)	Remove screw (44), knob (45), and nut (46) from front of control panel (3).	
Screw (44)		
Knob (45)	Remove stop-run-start switch (43) from rear of control panel (3).	
Nut (46)		
Electrical leads (47)	Disconnect electrical leads (47) from magneto ground switch (48).	
Magneto ground switch (48)		
Nut (49)	Remove nut (49) and washer (50) from front of control panel (3). Remove magneto ground switch (48) from rear of control panel (3).	
Washer (50)		



Electrical lead (51)
Indicator light (52)
Lens cap (53)
Lamp (54)
Nut (55)
Washer (56)

Disconnect electrical lead (51) from indicator light (52).

Remove lens cap (53) and lamp (54) from front side of control panel (3).

Remove nut (55) and washer (56) from rear of control panel (3).

Remove indicator light (52) from rear of control panel (3).

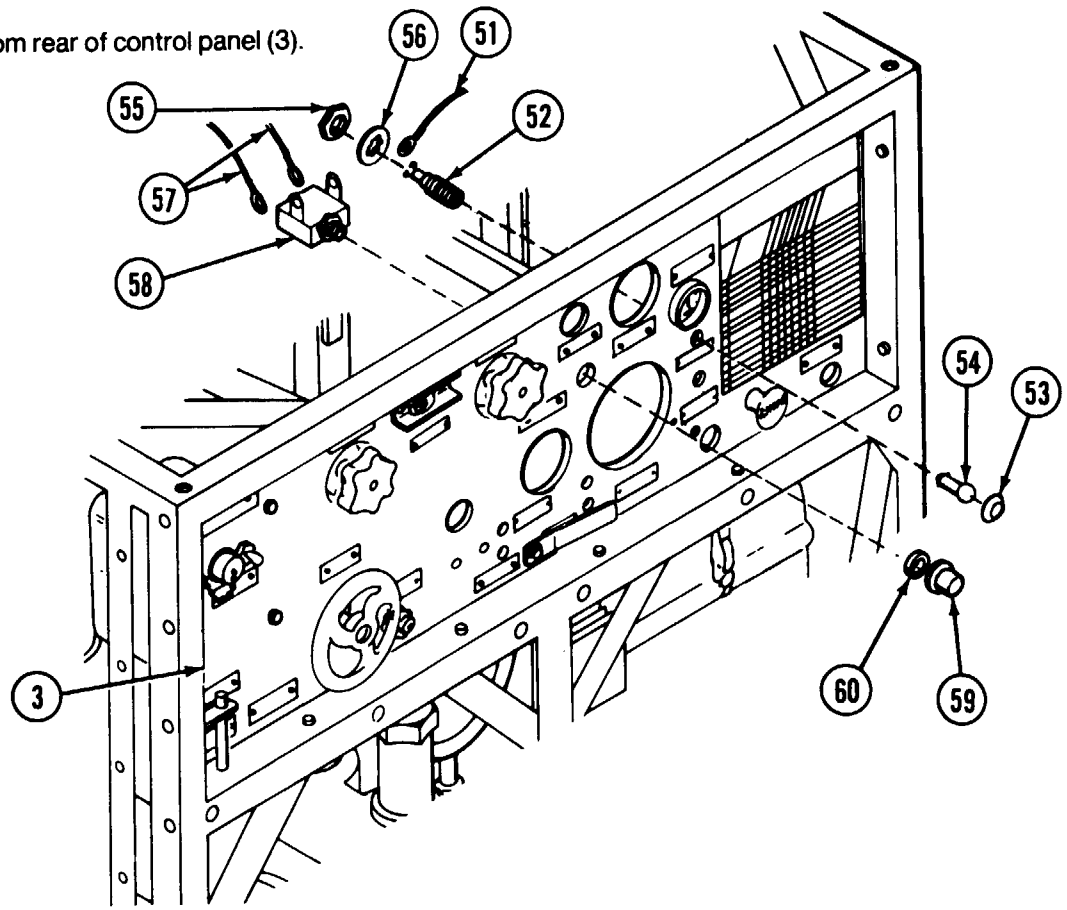
Carefully tag and disconnect electrical leads.

Electrical leads (57)
Fuel indicator switch (58)
Nut (59)
Washer (60)

Disconnect electrical leads (57) from fuel indicator switch (58).

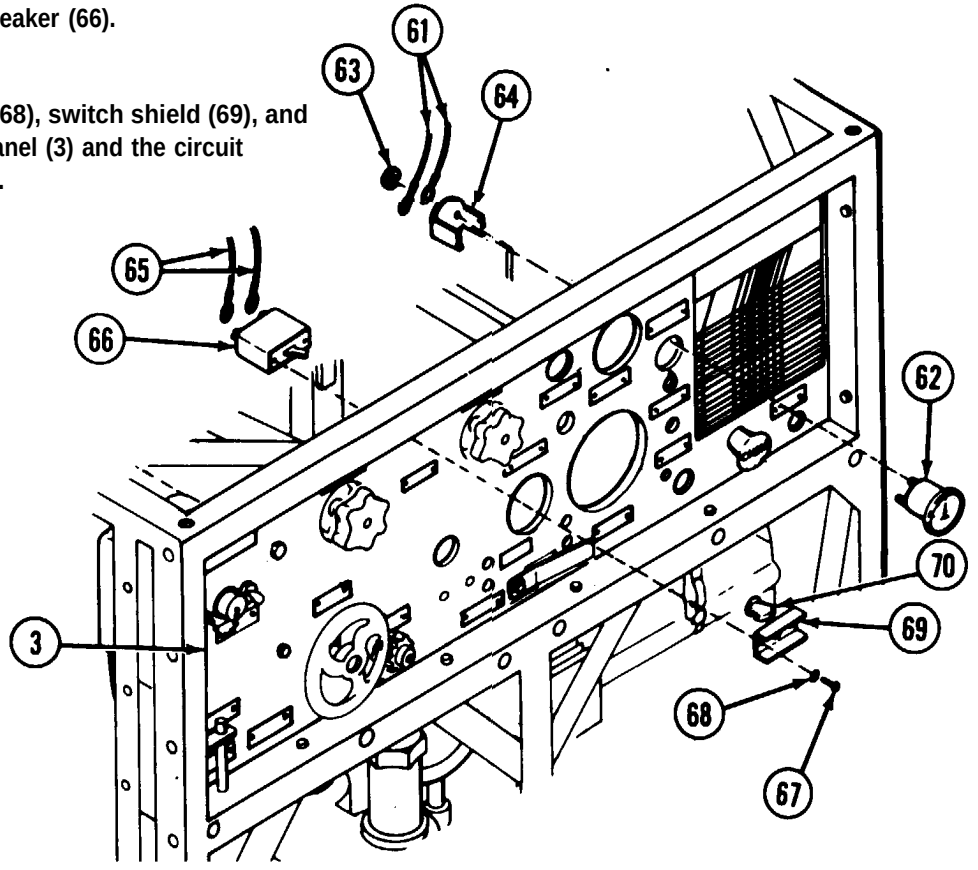
Remove nut (59) and washer (60) from front of control panel (3).

Remove fuel indicator switch (58) from rear of control panel (3).



2-26. CONTROL PANEL ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY (CONT)		
Control Panel Assembly/		
Electrical leads (61) Ammeter (62) Nuts (63) Bracket (64)	Disconnect electrical leads (61) from ammeter (62). remove nuts (63) and bracket (64) and remove ammeter (62) from control panel (3).	Carefully tag and disconnect electrical leads (61 and 65) for reassembly.
Electrical leads (65) Circuit breaker (66)	Disconnect electrical leads (65) from circuit breaker (66).	
Machine screws (67) Lock washers (68) Switch shield (69) Boot assembly (70)	Remove machine screws (67), lock washers (68), switch shield (69), and boot assembly (70) from the front of control panel (3) and the circuit breaker (66) from the back of control panel (3).	



REPAIR

Control Panel Assembly/ All components

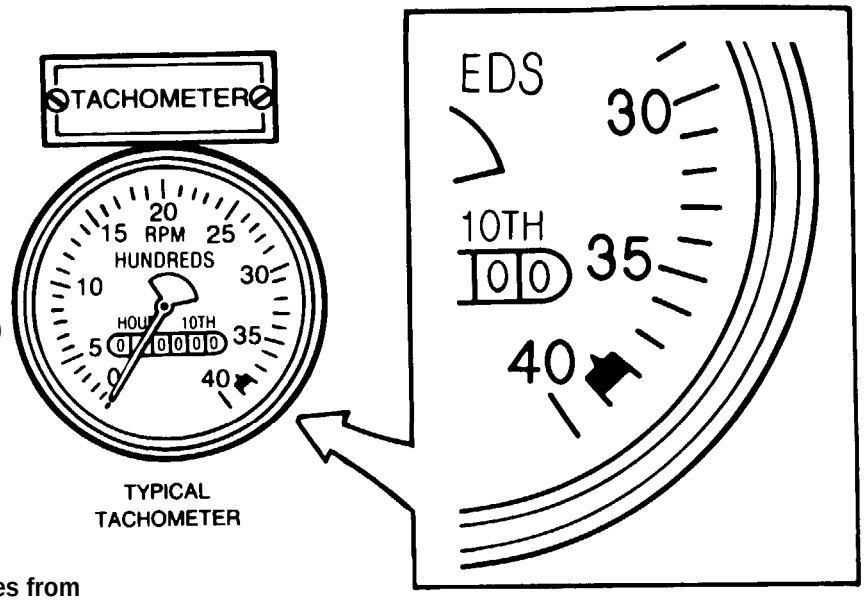
Repair by replacing authorized components.

Metal surface

Use epoxy primer and polyurethane coating to paint the control panel assembly as needed (see TM 43-0139).

Range mark on Tachometer

Cut and trim green tape to fit into the tachometer's 3800 to 3900 RPM range. Place on tachometer glass lens.



TYPICAL TACHOMETER

REASSEMBLY

Control Panel Assembly/

NOTE

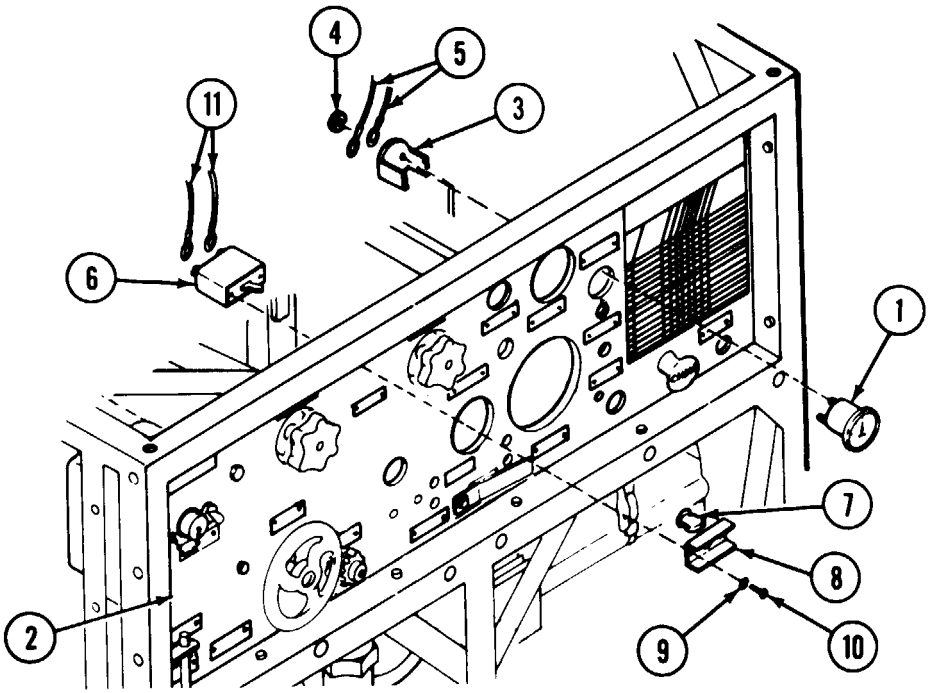
Tighten mounting hardware enough to keep gages from rotating. Do not overtighten.

Ammeter (1)
Control panel (2)
Bracket (3)
Nuts (4)
Electrical leads (5)

Install ammeter (1) into control panel (2) and fasten with bracket (3) and nuts (4). connect electrical leads (5).

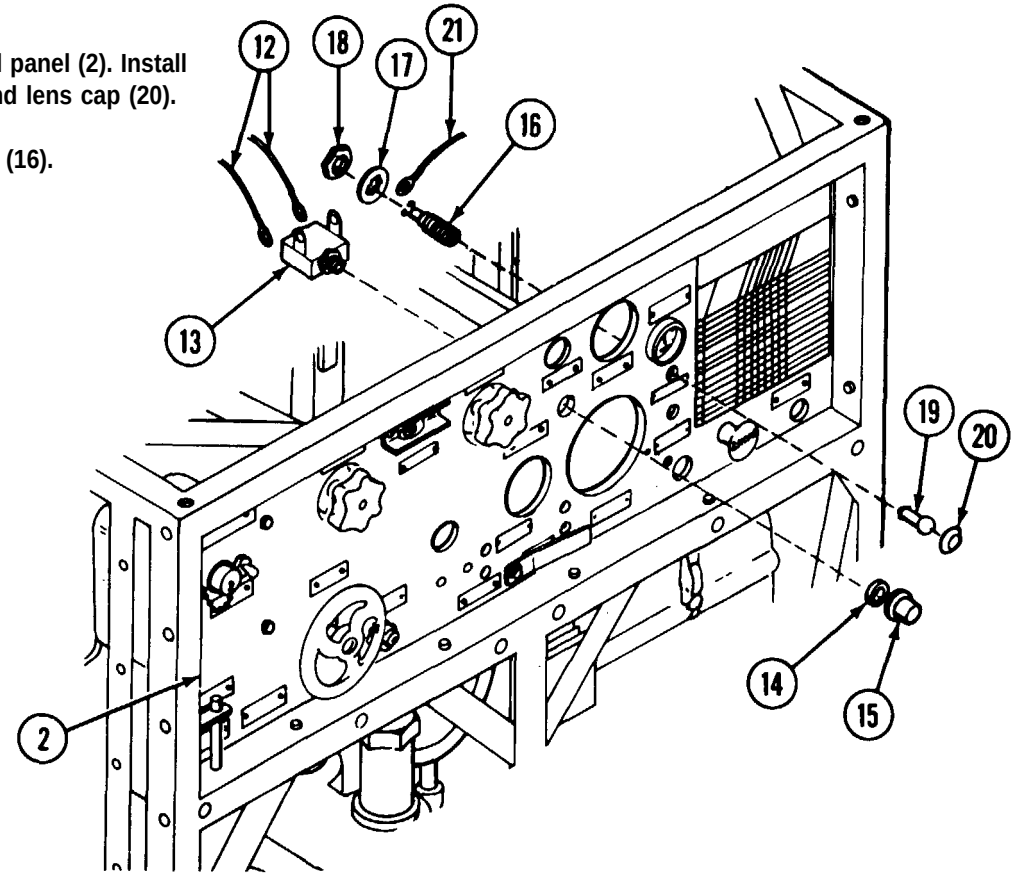
Circuit breaker (6)
Boot assembly (7)
Switch shield (8)
Lock washers (9)
Machine screws (10)
Electrical leads (11)

Install circuit breaker (6) onto rear of control panel (2) and press boot assembly (7) onto toggle of circuit breaker. Place switch shield (8) onto control panel (2), secure with lock washers (9) and machine screws (10). Connect electrical leads (11).



2-26. CONTROL PANEL ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Control Panel Assembly/		
Electrical leads (12)	Connect electrical leads (12) to fuel indicator switch (13).	
Fuel indicator switch (13)	Install fuel indicator switch (13) from rear of control panel (2).	
Washer (14)		
Nut (15)	Install washer (14) and nut (15).	
Indicator light (16)	Insert indicator light (16) from rear of control panel (2). Install washer (17) and nut (18). Install lamp (19) and lens cap (20).	
Washer (17)		
Nut (18)		
Lamp (19)		
Lens cap (20)		
Electrical lead (21)	Connect electrical lead (21) to indicator light (16).	



Electrical leads (22)
Magneto ground switch (23)
Washer (24)
Nut (25)

Connect electrical leads (22) to magneto ground switch (23) Install magneto ground switch (23) from rear of control panel (2).

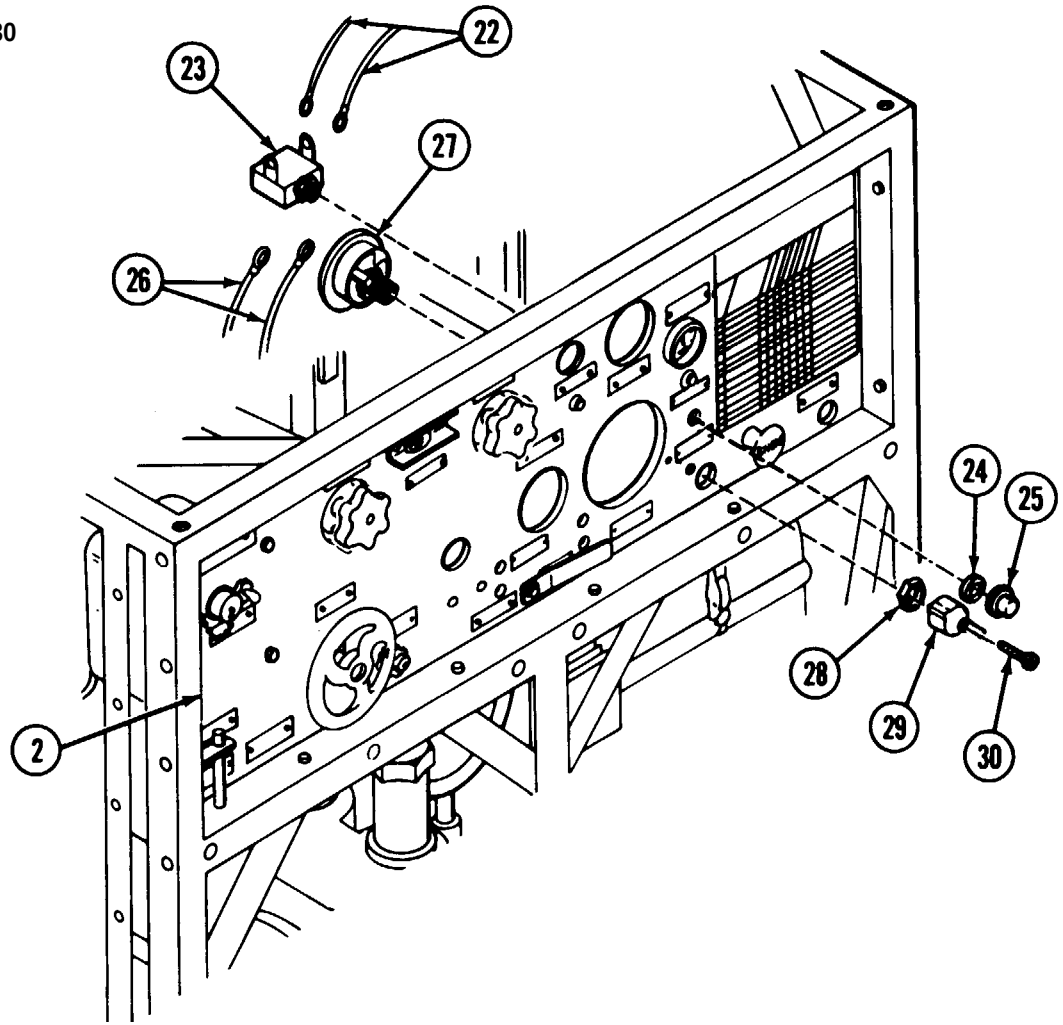
Install washer (24) and nut (25) to hold magneto ground switch (23).

Electrical leads (26)
Stop-run-start switch (27)

Connect electrical leads (26) to stop-run-start switch (27). Install stop-run-start switch (27) from rear of control panel (2).

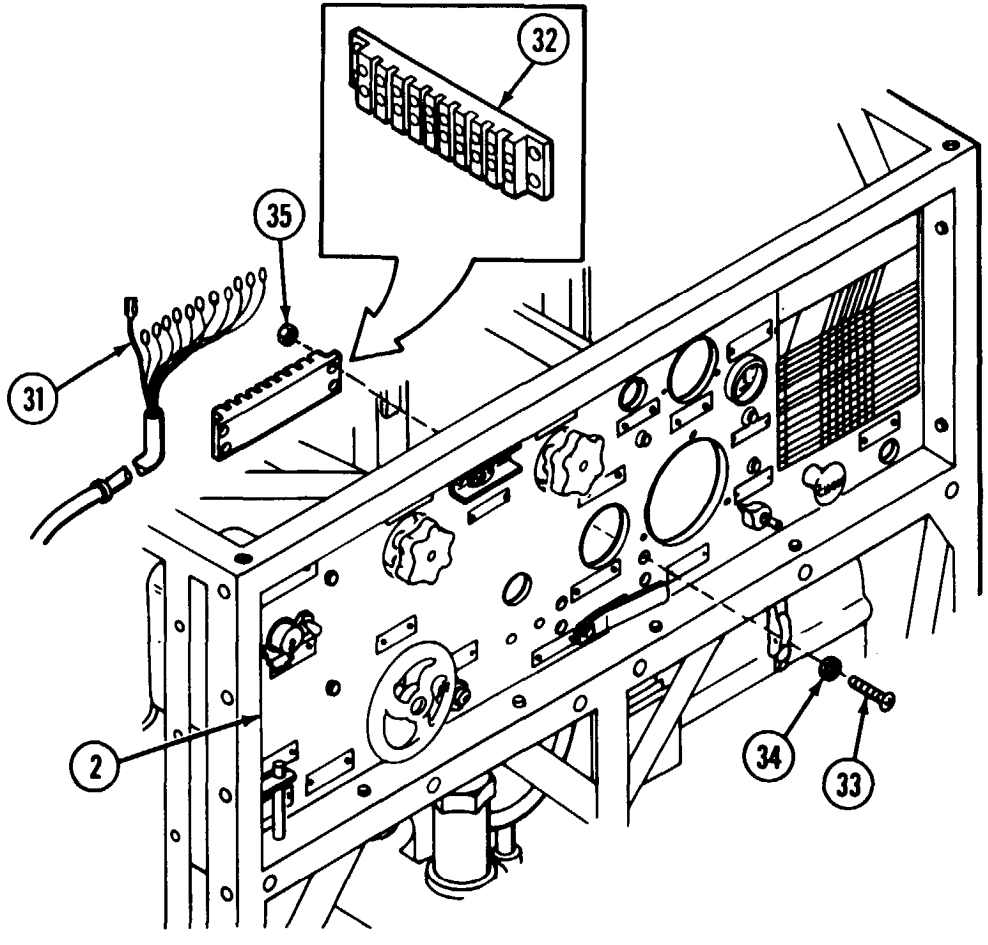
Nut (28)
Knob (29)
Screw (30)

Install nut (28), knob (29), and screw (30



2-26. CONTROL PANEL ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
Control Panel Assembly/ Electrical leads (31) Terminal board (32) Machine screws (33) Flat washers (34) Self-locking nuts (35)	Connect electrical leads (31) to terminal board (32). Position terminal board (32) on rear of control panel (2). Secure with machine screws (33) flat washers (34), and self-locking nuts (35).	



Pipe elbow (36)
Pipe elbow (37)

Screw pipe elbows (36 and 37) on globe valve (38) before installing into control panel (2).

Globe valve (38)
Nut (39)
Knob (40)
Machine screw (41)

Insert stem of globe valve (38) through control panel (2) from the rear. Install nut (39), knob (40), and machine screw (41) from the front of control panel (2).

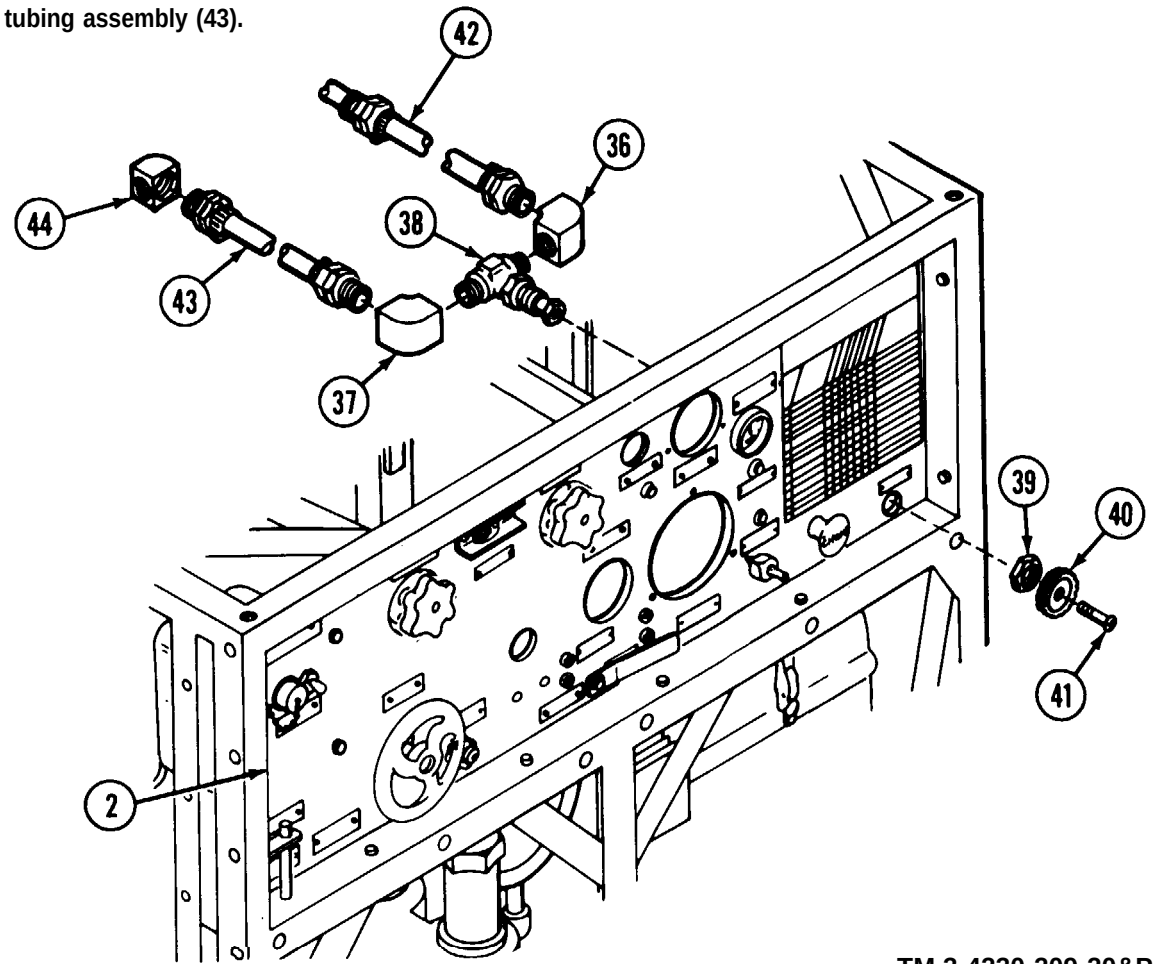
Tubing assembly (42)
Tubing assembly (43)

Screw tubing assemblies (42 and 43) into pipe elbows (36 and 37).

Pipe elbow (44)

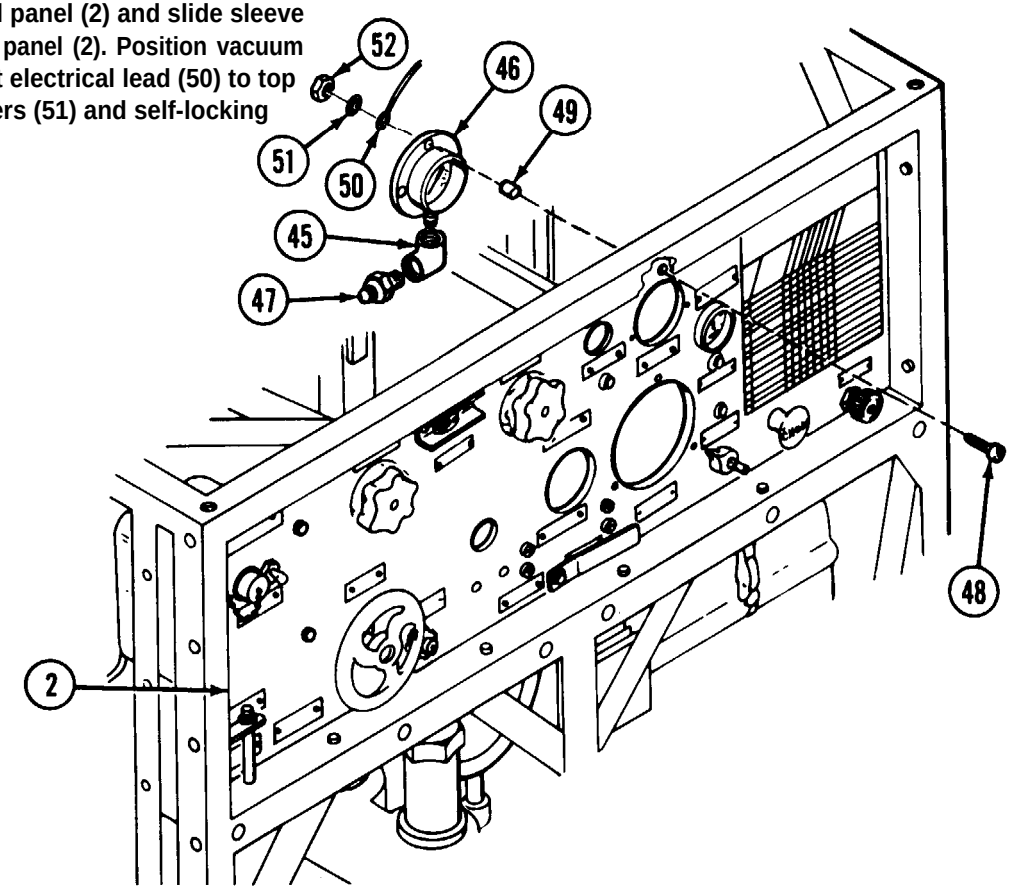
Install pipe elbow (44) on end of tubing assembly (43).

Before reassembly, wrap all male threads with anti-seizing tape or coat male threads with sealing compound to prevent leaks.



2-26. CONTROL PANEL ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Control Panel Assembly/		
Pipe elbow (45) Vacuum gage (46) Straight adapter (47)	Connect pipe elbow (45), vacuum gage (46), and straight adapter (47) together before installing vacuum gage.	Before reassembly, wrap male threads of pressure gage and straight adapter with antiseizing tape or mat male threads with sealing compound to prevent leaks.
Machine screws (48) Sleeve spacers (49) Electrical lead (50) Flat washers (51) Self-locking nuts (52)	Insert machine screws (48) through control panel (2) and slide sleeve spacers (49) on screws-from rear-of control panel (2). Position vacuum gage (46) on machine screws (48). Connect electrical lead (50) to top machine screw (48). Secure with flat washers (51) and self-locking nuts (52).	



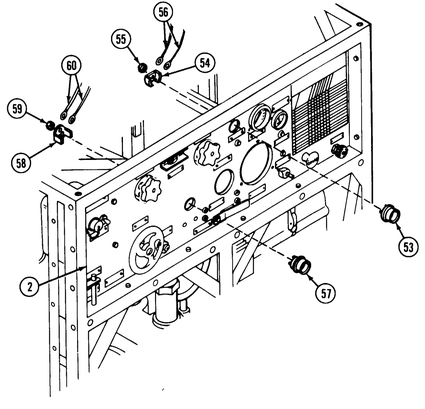
Liquid quantity indicator (53)
Bracket (54)
Nuts (55)
Electrical leads (56)

Insert liquid quantity indicator (53) through front of control panel (2). Install bracket (54), nuts (55), and electrical leads (56) on rear of gage.

Pressure indicator (57)
Bracket (58)
Nuts (59)
Electrical leads (60)

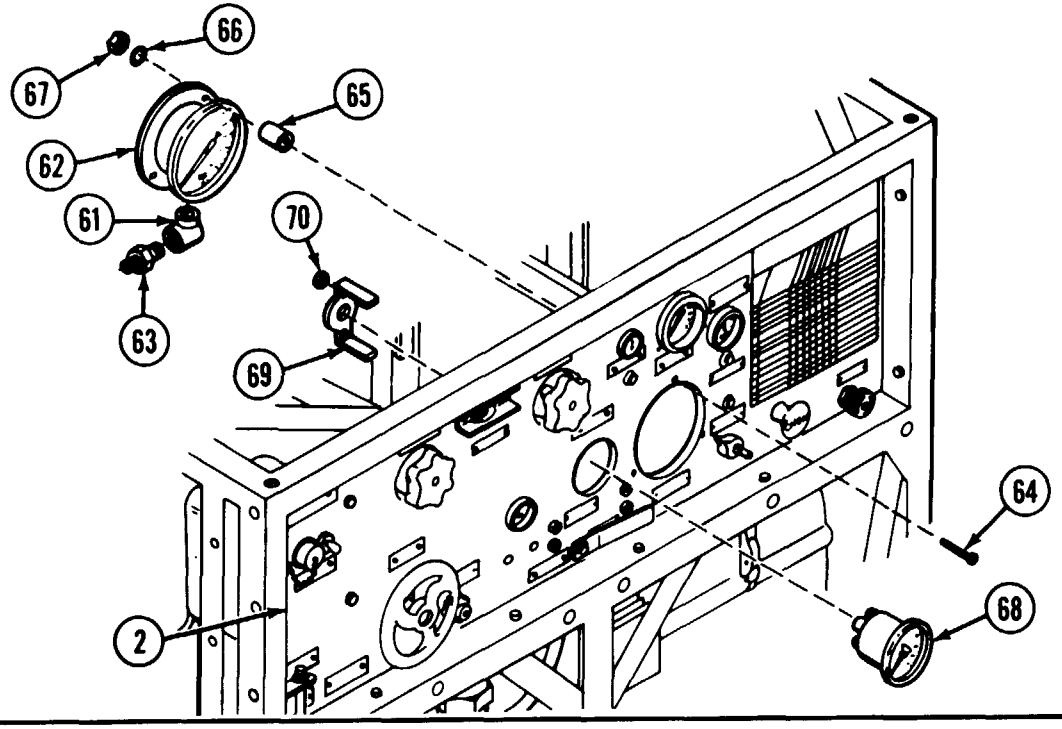
Insert pressure indicator (57) through front of control panel (2).

Install bracket (58), nuts (59), and electrical leads (60) on rear of indicator.



2-26. CONTROL PANEL ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Control Panel Assembly/		
Pipe elbow (61) Pressure gage (62) Straight adapter (63)	Connect pipe elbow (61), pressure gage (62), and straight adapter (63) together before installing pressure gage.	Before reassembly, wrap male threads of pressure gage and straight adapter with antiseizing tape or coat male threads with sealing compound to prevent leaks.
Machine screws (64) Sleeve spacers (65) "Flat washers (66) Self-locking nuts (67)	Insert machine screws (64) through front of control panel (2). Slide sleeve spacers (65) on ends of machine screws (64) and position pressure gage (62). Secure pressure gage with flat washers (66) and three self-locking nuts (67).	
Tachometer (68) Bracket (69) Nuts (70)	Slide tachometer (68) through front of control panel (2). Install bracket (69) from the rear of control panel (2) and secure with nuts (70).	



2-27. SKID MOUNTED DECONTAMINATING APPARATUS TANK UNIT AND REGULATING VALVE.

This task covers:
a. Disassembly
b. Repair/Replace
c. Reassembly

INITIAL SETUP

Tools and Speoial Tools
Automotive Maintenance and Repair Shop Equipment, Less power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

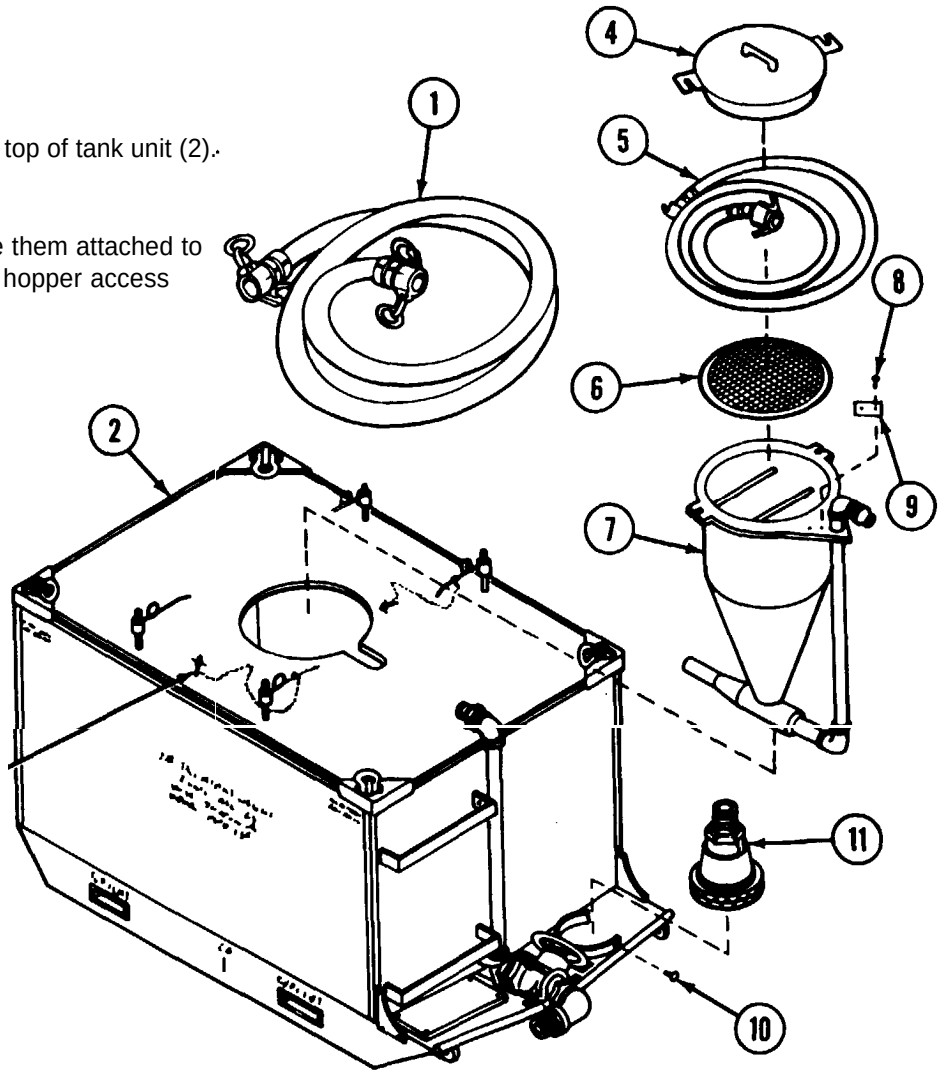
Materials/Parts
Antiseizing tape (item 35, app D)
Epoxy primer (item 29, app D)
Polyurethane coating (item 27, app D)
Polyurethane coating (item 28, app D)

References
TM 3-4230-209-10
TM 43-0139

Equipment Condition
Assembled

2-27. SKID MOUNTED DECONTAMINATING APPARATUS TANK UNIT AND REGULATING VALVE (CONT).

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Skid Mounted Decontaminating Apparatus Tank Unit And Regulating Valve/ Suction hose assembly (1) Tank unit (2)	Unroll and remove suction hose assembly (1) from top of tank unit (2).	
Hopper bolt assembly (3) Hopper access cover (4)	Unscrew two hopper bolt assemblies (3) and leave them attached to bracket clamp unless replacement is required. Lift hopper access cover (4) from top of hopper assembly.	
Water hose assembly (5) Strainer element (6) Hopper assembly (7)	Remove water hose assembly (5) and lift out strainer element (6) from inside of hopper assembly (7). Lift out hopper assembly (7).	
Drive screw (8) identification plate (9)	Remove two drive screws (8), and identification plate (9) from hopper assembly (7).	
Thumbscrew (10)	Loosen thumbscrew (10) a few turns unless thumbscrew is damaged. If damaged, remove and discard.	
Foot valve assembly (11)	Lift foot valve assembly (11) out of bracket.	



Regulating valve (12)

Disassemble regulating valve (12) for replacement or repair only. Lubrication fitting need not be removed for disassembly. Remove only for replacement.

To remove regulating valve, the valve must be disassembled in place. Do not remove regulating valve unless it must be replaced.

Lubrication fitting (13)

Unscrew and remove lubrication fitting (13).

Hexagon plain nuts (14)
Hexagon head cap screws (15)

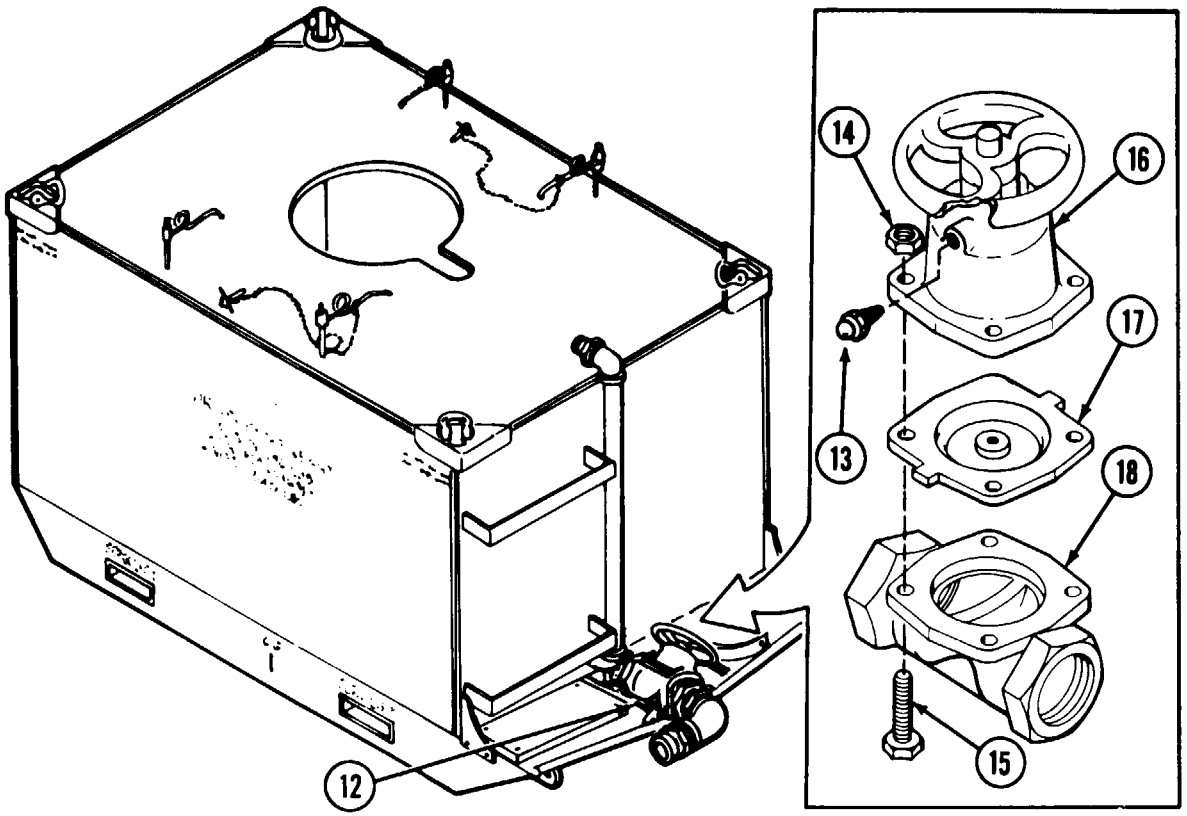
Unscrew and remove four hexagon plain nuts (14) and four hexagon head cap screws (15).

Valve top (16)
Diaphragm (17)

Remove valve top (16) and diaphragm (17).

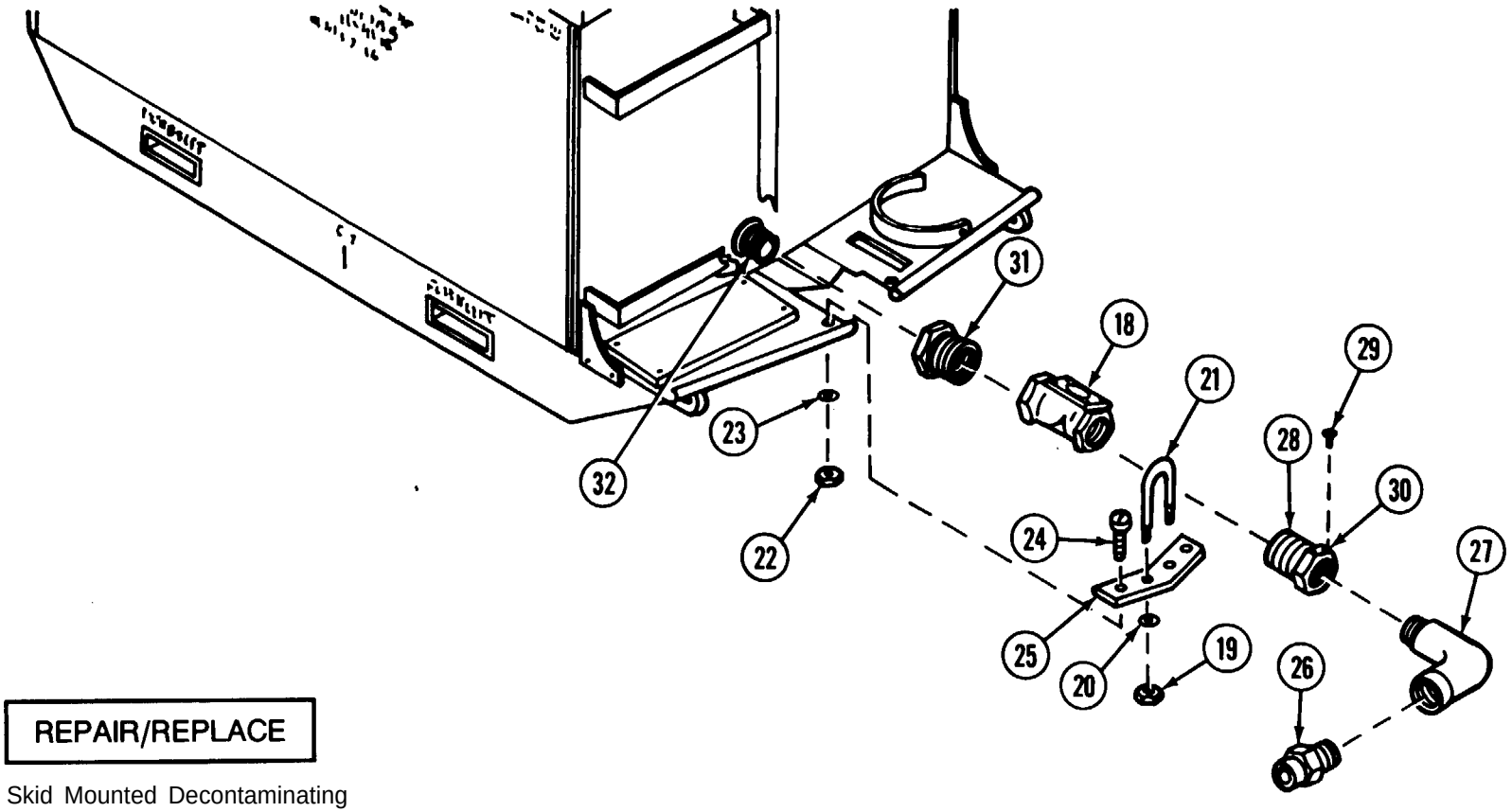
Valve bottom (18)

Valve bottom (18) cannot be removed at this time.



2-27. SKID MOUNTED DECONTAMINATING APPARATUS TANK UNIT AND REGULATING VALVE (CONT).

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY (CONT)		
Skid Mounted Decontaminating Apparatus Tank Unit And Regulating Valve/	**WARNING** When operating drain valve, be careful to prevent injury to fingers.	
Hexagon plain nuts (19) Lock washers (20) u-bolt (21) Hexagon plain nuts (22) Lock washers (23) Machine bolts (24) Cross bar support (25)	Remove two hexagon plain nuts (19), two lock washers (20), and U-bolt (21). Remove two hexagon plain nuts (22), two lock washers (23), two machine bolts (24), and cross bar support (25).	
Quick disconnect coupling (26) Pipe elbow (27) Pipe reducer (28) Drive screw (29) Identification plate (30) Pipe reducer (31) Pipe nipple (32)	Remove quick disconnect coupling (26), pipe elbow (27), pipe reducer (28) with drive screws (29), and identification plate (30) as a unit if possible. Unscrew and remove valve bottom (18) and pipe reducer (31) from pipe nipple (32).	Identification plate (30) may be secured to skid base rather than pipe reducer (28).

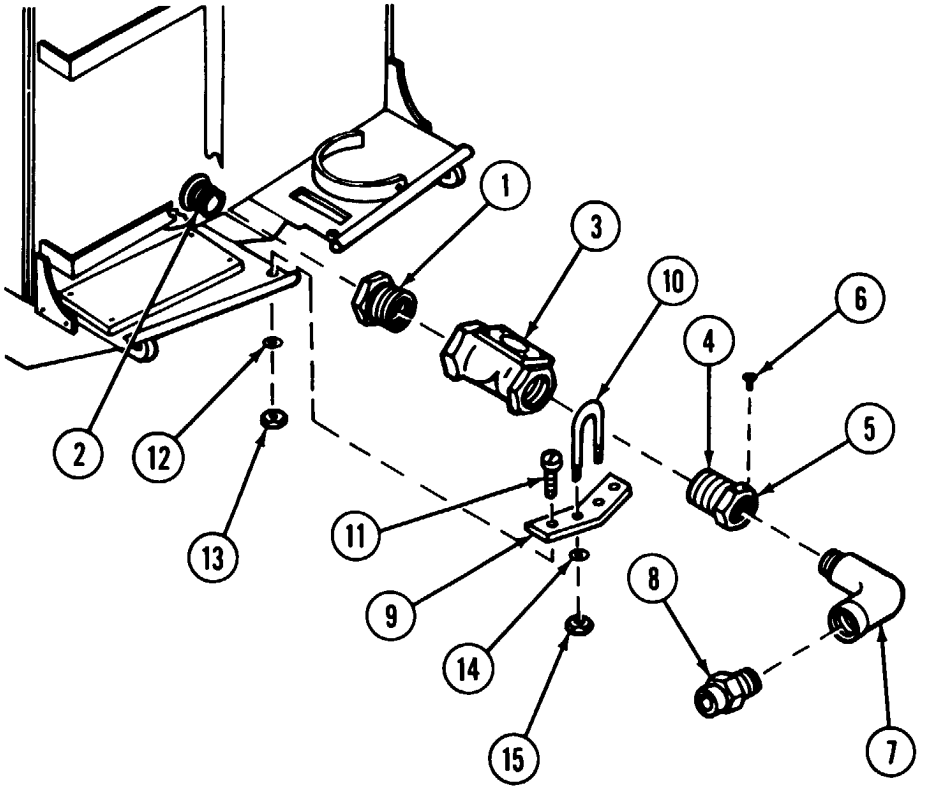


REPAIR/REPLACE

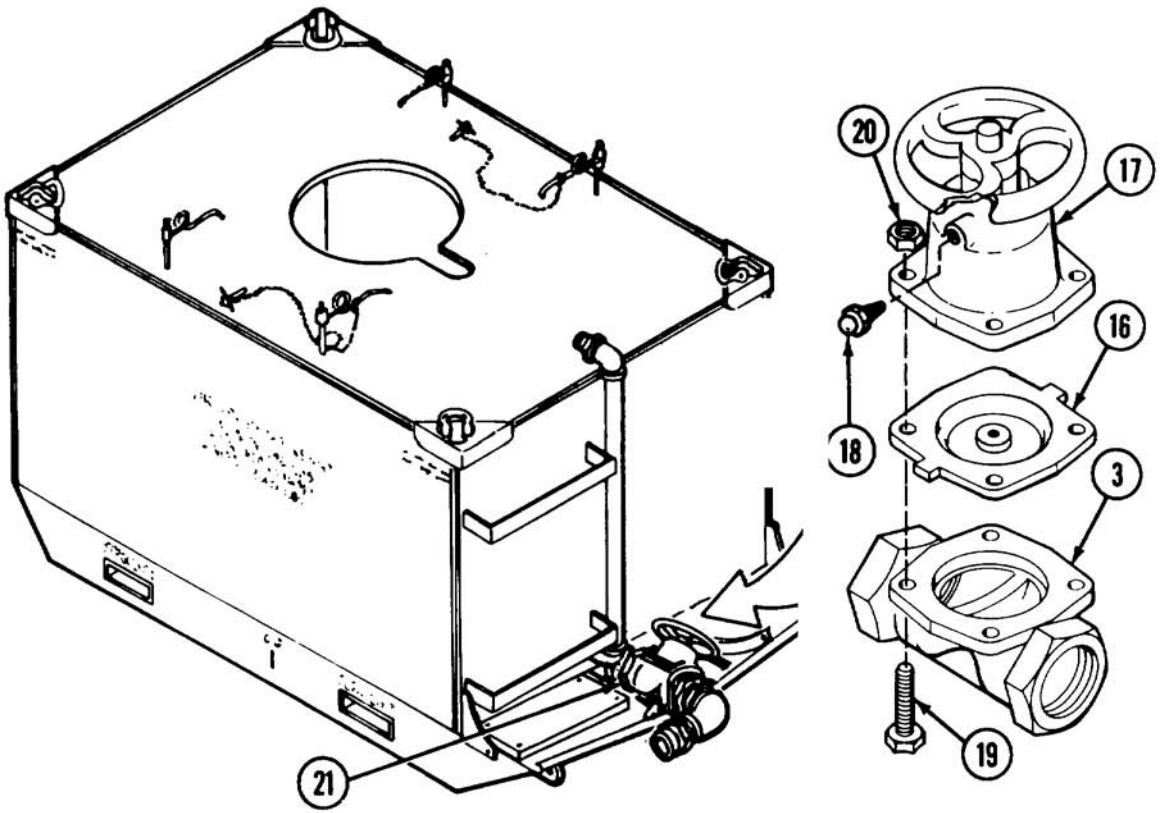
Skid Mounted Decontaminating Apparatus Tank Unit And Regulating Valve/ All parts	Repair by replacing authorized components.
Regulating valve	Repair regulating valve in place.
Painted surfaces	Paint tank unit with epoxy primer and polyurethane coating as needed (see TM 43-0139).

2-27. SKID MOUNTED DECONTAMINATING APPARATUS TANK UNIT AND REGULATING VALVE (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY		
Skid Mounted Decontaminating Apparatus Tank Unit And Regulating Valve/	**WARNING** When operating drain valve, be careful to prevent injury to fingers.	When regulating valve is replaced, new regulating valve must be disassembled (p 2-123) and reassembled on the tank unit.
Pipe reducer (1) Pipe nipple (2)	Screw pipe reducer (1) on pipe nipple (2) at bottom of tank unit.	Tape all male threads on pipe reducers, pipe elbow, quick disconnect coupling, and pipe nipple with anti-seizing tape before installing them in female threads.
Valve bottom (3)	Screw valve bottom (3) onto pipe reducer (1).	
Pipe reducer (4) Identification plate (5) Drive screws (6) Pipe elbow (7) Quick disconnect coupling (8)	Connect pipe reducer (4) with identification plate (5). Install drive screws (6), pipe elbow (7), and quick disconnect coupling (8) in valve bottom (3).	
Cross bar support (9) U-bolt (10) Machine bolts (11) Lock washers (12) Hexagon plain nuts (13) Lock washers (14) Hexagon plain nuts (15)	Position cross bar support (9) and U-bolt (10) so holes aline properly. Install two machine bolts (11). Install two lock washers (12) and two hexagon plain nuts (13). Install two lock washers (14) and two hexagon plain nuts (15) and tighten until U-bolt (10) is firmly in place.	

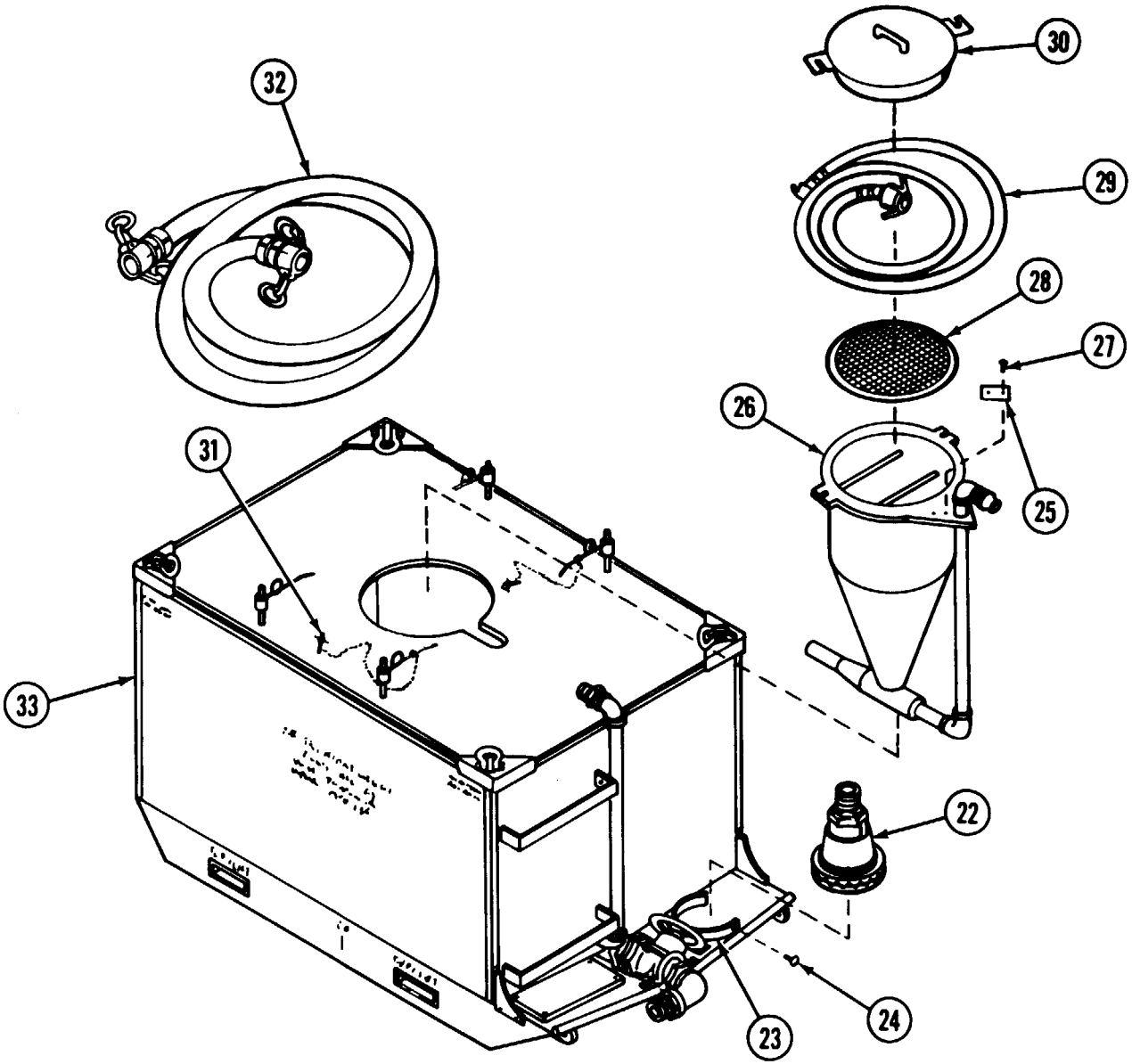


Diaphragm (16)	Position diaphragm (16) in valve bottom (3).	Make sure lubrication fitting is pointing upward.
Valve top (17) Lubrication fitting (18)	Position valve top (17) with lubrication fitting (18) on valve bottom (3) and aline holes.	
Hexagon head cap screw (19) Hexagon plain nuts (20)	Install four hexagon head cap screws (19) and four hexagon plain nuts (20) and tighten.	
Regulating valve (21)	Lubricate regulating valve (21). (Refer to TM 3-4230-209-10.)	



2-27. SKID MOUNTED DECONTAMINATING APPARATUS TANK UNIT AND REGULATING VALVE (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Skid Mounted Decontaminating Apparatus Tank Unit And Regulating Valve/		
Foot valve assembly (22) Bracket (23)	Position foot valve assembly (22) in the bracket (23).	
Thumbscrew (24)	Install thumbscrew (24), if removed, and tighten.	
Identification plate (25) Hopper assembly (26) Drive screw (27)	Position identification plate (25) onto hopper assembly (26) and aline holes. Secure with two drive screws (27). Install hopper assembly (26) into tank and aline slots over the holes.	
Strainer element (28) Blender hose assembly (29)	Position strainer element (28 in the hopper assembly (26), and coil blender hose assembly (29) in the hopper assembly (26).	
Hopper access cover (30)	Position hopper access cover (30) over top of hopper assembly (26) and position lugs to aline with screw holes.	
Hopper bolt assembly (31)	Secure hopper access cover (30) by securing hopper bolt assembly (31) in place. Cover by screwing hopper bolt assembly (31) into place. If hopper bolt assembly has been replaced, attach chain around bracket clamps with the “S” hooks provided.	
Suction hose assembly (32) Tank unit (33)	Coil suction hose assembly (32) on top of the tank unit (33).	


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2-28. SUCTION HOSE ASSEMBLY.

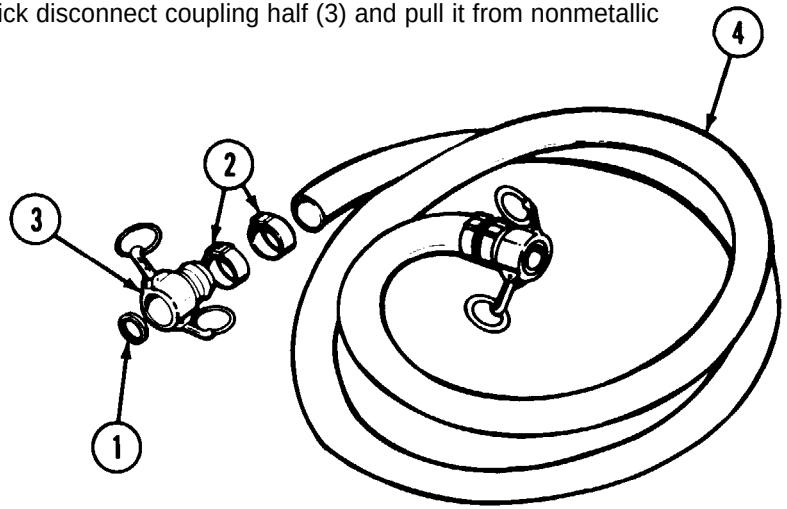
This task covers:
a. Disassembly
b. Repair
c. Reassembly

INITIAL SETUP

Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)
Strap band clamping tool P38.

Equipment Condition
Suction hose is removed from tank unit.

LOCATION/ITEM	ACTION	REMARKS
Suction Hose Assembly/ Gasket (1) Hose clamps (2) Quick disconnect coupling half (3) Nonmetallic hose (4)	Remove gasket (1). Remove two hose clamps (2) by driving a flat bladed tool between the buckle and band or by cutting nonmetallic hose (4) off directly behind the end of the last hose clamp. Grasp quick disconnect coupling half (3) and pull it from nonmetallic hose (4).	Both ends of the assembly are the same.

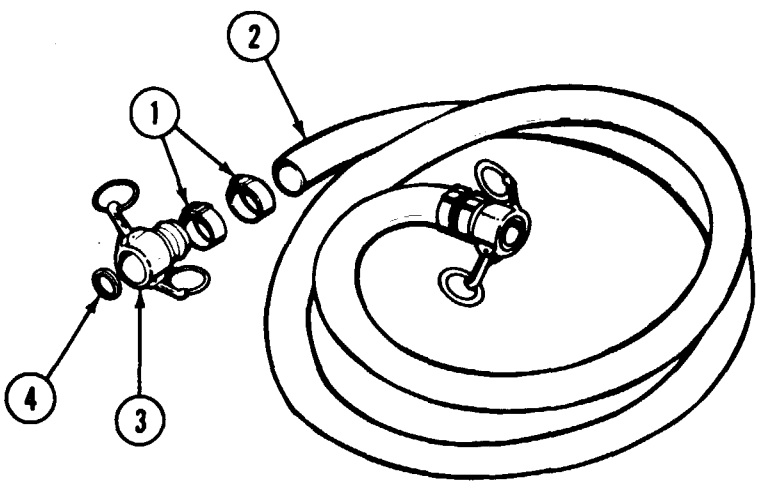


REPAIR

Suction Hose Assembly/	Replace authorized unserviceable parts.
	Replace rubber hose if it is less than 22 feet long or if it is leaking.

REASSEMBLY

Suction Hose Assembly/	
Hose clamps (1) Nonmetallic hose (2) Quick disconnect coupling half (3)	Slide two hose clamps (1) onto nonmetallic hose (2) and insert quick disconnect coupling half (3) into nonmetallic hose (2).
	Position hose clamps (1) directly over stem of quick disconnect coupling half (3).
	Tighten hose clamps (1) according to procedures listed on page 2-77.
Gasket (4)	Install gasket (4).



2-29. WATER HOSE ASSEMBLY.

This task covers:
a. Disassembly
b. Repair
c. Reassembly

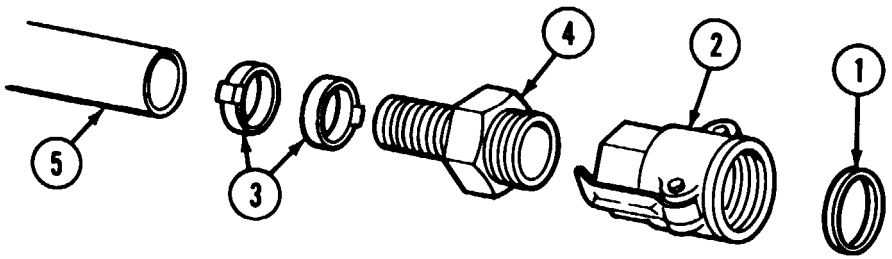
INITIAL SETUP

Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)
Strap band clamping tool P38

Materials/Parts
Antiseizing tape (item 35, app D)
Sealing compound (item 31, app D)

Equipment Condition
Water hose assembly is removed from tank unit.

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Water Hose Assembly/ Gasket (1) Quick disconnect coupling half (2)	Remove gasket (1) from quick disconnect coupling half (2). Unscrew and remove quick disconnect coupling half (2) from pipe to hose straight adapter (4).	Both ends of the assembly are the same.
Hose clamps (3) Pipe to hose straight adapter (4) Nonmetallic hose (5)	Remove two hose clamps (3) by driving a flat bladed tool between the buckle and the band or by cutting nonmetallic hose (5) off directly behind the end of the last hose clamp. Grasp pipe to hose straight adapter (4) and Dull it from nonmetallic hose (5).	



REPAIR

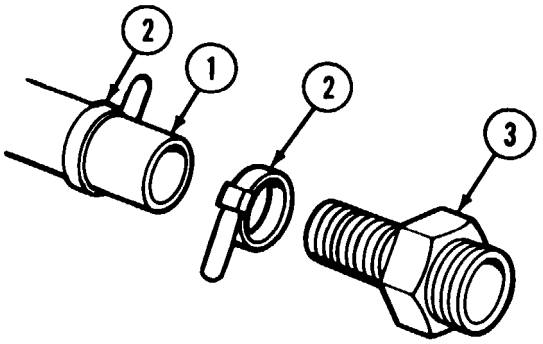
Water Hose Assembly/

Replace authorized unserviceable parts. Replace rubber hose if it is less than 25 ft long or is leaking.

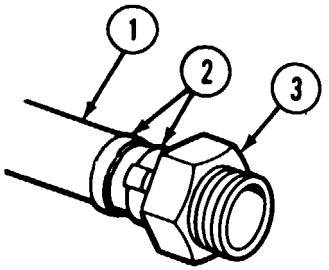
REASSEMBLY

Water Hose Assembly/
- Nonmetallic hose (1)
- Hose clamps (2)
- Pipe to hose straight adapter (3)

Slide two hose clamps (2) loosely onto the nonmetallic hose (1). Insert pipe to hose straight adapter (3) into nonmetallic hose (1). Push pipe to hose straight adapter (3) all the way back until front edge of nonmetallic hose (1) is against the hexagon nut area. Tighten hose clamps (2) according to page 2-77.

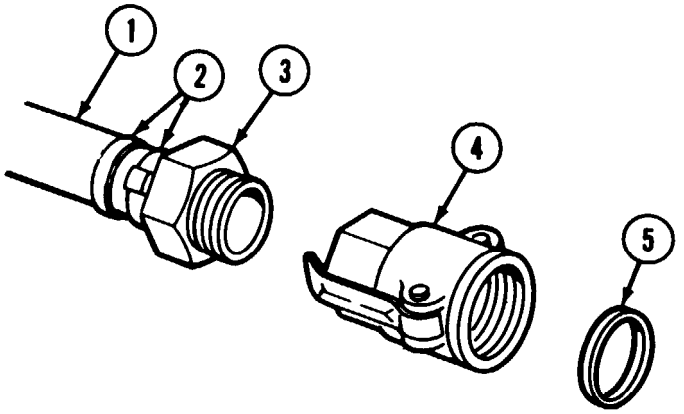


Wrap the external threads of pipe to hose straight adapter (3) with anti-seizing tape or coat with sealing compound.



- Quick disconnect coupling half (4)
- Gasket (5)

Screw quick disconnect coupling half (4) onto pipe to hose straight adapter (3) and tighten. Install gasket (5) into quick disconnect coupling half (4).



2-30. FOOT VALVE ASSEMBLY.

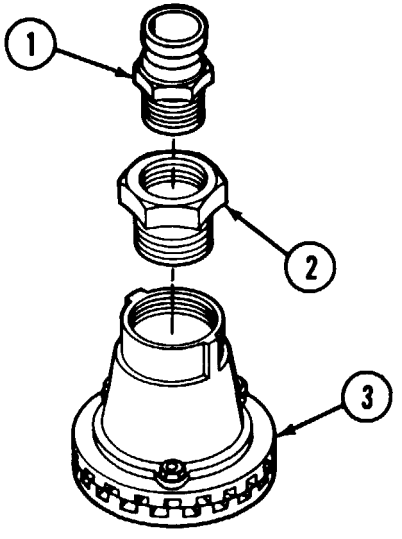
This task covers:
a. Disassembly
b. Repair
c. Reassembly

INITIAL SETUP

Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

Equipment Condition
Assembled

Materials/Parts
Antiseizing tape (item 35, app D)
Sealing compound (item 31, app D)

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Foot Valve Assembly/ Quick disconnect coupling half (1) Pipe bushing (2) Foot valve (3)	Unscrew and separate quick disconnect coupling half (1), pipe bushing (2), and foot valve (3).	
REPAIR		
Foot Valve Assembly/	Repair by tightening connections or replacing authorized items.	
REASSEMBLY		
Foot Valve Assembly/ Quick disconnect coupling half (1) Pipe bushing (2) Foot valve (3)	Wrap male threads with antiseizing tape. Connect quick disconnect coupling half (1), pipe bushing (2), and foot valve (3).	Wrap male threads of quick disconnect coupling half and pipe bushing with antiseizing tape or coat with sealing compound before connecting them to female threads.

2-31. FOOT VALVE.

This task covers:
a. Disassembly
b. Repair
c. Reassembly
d. Inspection

INITIAL SETUP

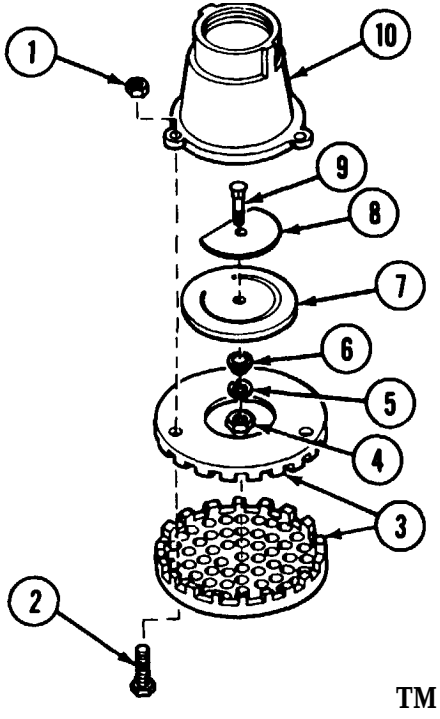
Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

References
TM 43-0139

Materials/Parts
Abrasive cloth (item 9, app D)
Epoxy primer (item 29, app D)
Polyurethane coating (item 28, app D)

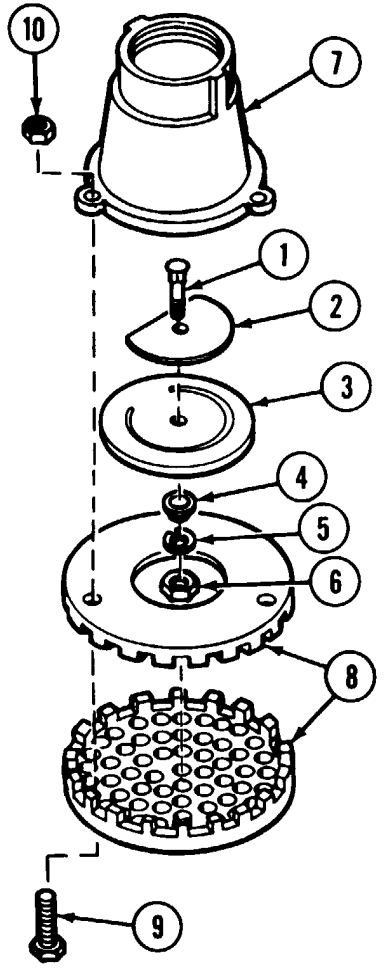
Equipment Condition
Assembled

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Foot Valve/		
Hexagon plain nuts (1) Hexagon cap screws (2) Seat and bottom strainer (3)	Unscrew and remove three hexagon plain nuts (1), three hexagon cap screws (2), and remove seat and bottom strainer (3).	
Hexagon plain nut (4) Lock washer (5) Lower suction valve weight (6) Valve diaphragm (7) Upper suction valve weight (8) Square neck bolt (9) Valve housing (10)	Unscrew and remove hexagon plain nut (4), lock washer (5), lower suction valve weight (6), valve diaphragm (7), upper suction valve weight (8), square neck bolt (9), and valve housing (10).	



2-31. FOOT VALVE (CONT).

LOCATION/ITEM	ACTION	REMARKS
REPAIR		
Foot Valve/ All parts	Repair by cleaning all dirt, rocks, or trash from the foot valve. Remove corrosion using abrasive cloth and treat with epoxy primer and polyurethane coating (see TM 43-0139). Repair by replacing authorized components.	
REASSEMBLY		
Foot Valve/ Square neck bolt (1) Upper suction valve weight (2) Valve diaphragm (3) Lower suction valve weight (4) Lock washer (5) Hexagon plain nut (6)	Assemble square neck bolt (1), upper suction valve weight (2), valve diaphragm (3), lower suction valve weight (4), lock washer (5) and secure with hexagon plain nut (6).	
Valve housing (7)	Position assembled unit into the valve housing (7).	
Seat and bottom strainer (8) Hexagon head cap screws (9)	Position seat and bottom strainer (8) in bottom of valve housing (7) and insert three hexagon cap screws (9) from the bottom.	
Hexagon plain nuts (10)	Screw on three hexagon plain nuts (10) to secure the foot valve components.	
Foot Valve/	Turn foot valve assembly upside down to check that valve flaps open and close properly. If valve flaps do not operate, the foot valve is improperly assembled.	



2-32. LIQUID FUEL WATER HEATER.

This task covers:
a. Disassembly
b. Repair
c. Reassembly

INITIAL SETUP

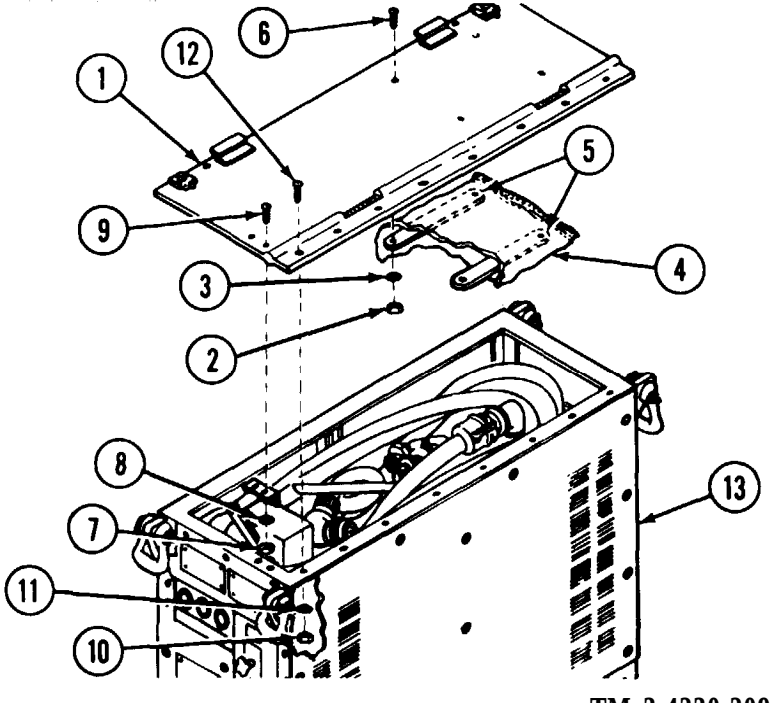
Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

Materials/Parts
Antisiezing tape (item 35, app D)
Epoxy primer (item 29, app D)
Panel (fig E-8)
Panel (fig E-9)
Polyurethane coating (item 27, app D)
Polyurethane coating (item 28, app D)
Pressure sensitive tape (item 38, app D)

References
TM 43-0139

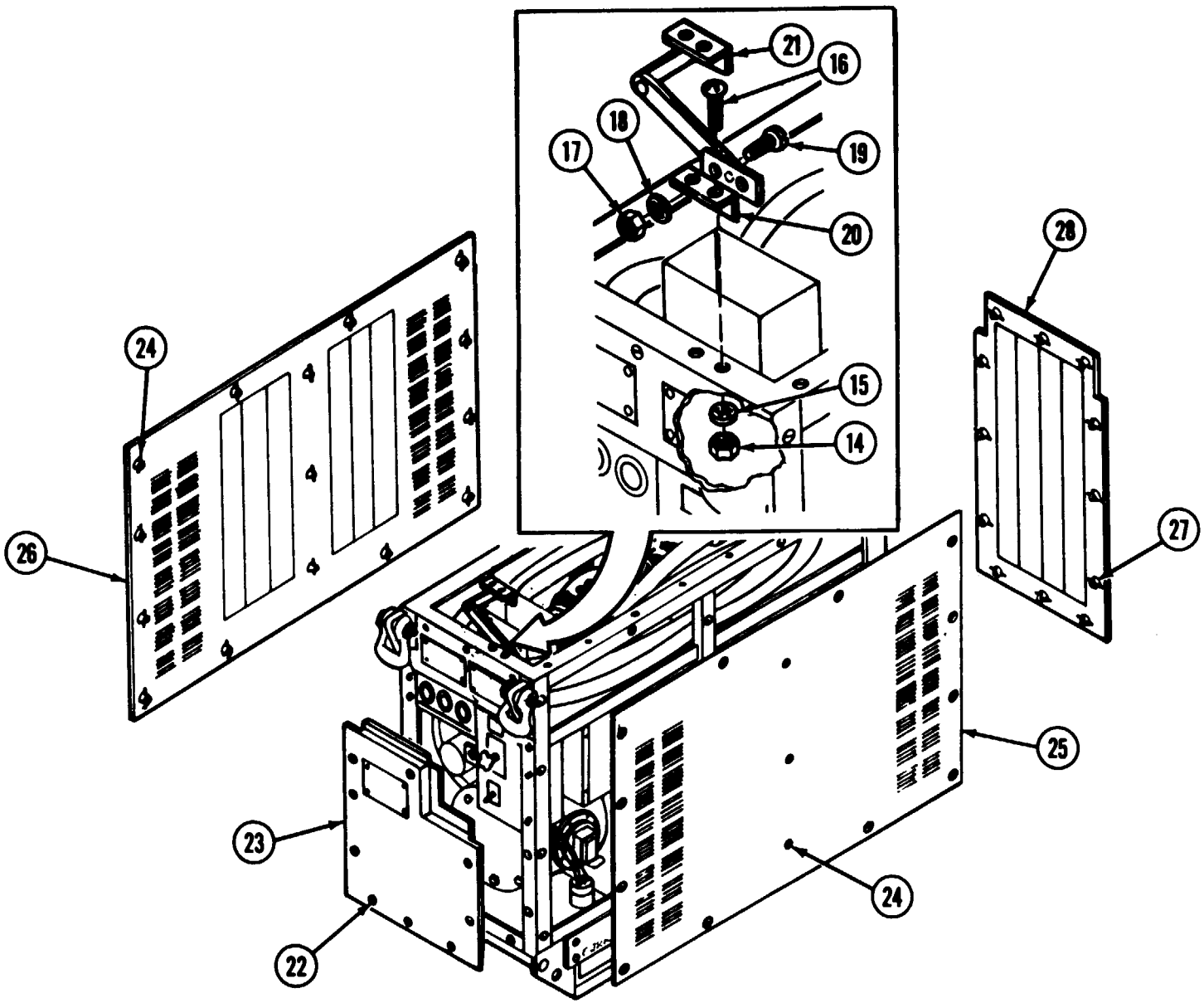
Equipment Condition
Assembled

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Liquid Fuel Water Heater/		
Cabinet top cover (1) Hexagon plain nuts 2) Flat washers (3) Tool carrier (4) Pouch strips (5) Machine screws (6)	Open cabinet top cover (1). Unscrew and remove four hexagon plain nuts (2), four flat washers (3), tool carrier (4), two pouch strips (5), and four machine screws (6).	
Hexagon plain nuts (7) Internal tooth lock washers (8) Machine screws (9)	Unscrew and remove two hexagon plain nuts (7), two internal tooth lock washers (8), and two machine screws (9).	
Hexagon plain nuts (10) Internal tooth lock washers (11) Machine screws (12)	Unscrew and remove eight hexagon plain nuts (10), eight internal tooth lock washers (11), and eight machine screws (12).	
Water heater (13)	Lift cabinet top cover (1) off water heater (13).	



2-32. LIQUID FUEL WATER HEATER (CONT).

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY (CONT)		
Liquid Fuel Water Heater/		
Hexagon plain nuts (14) Internal tooth lock washers (15) Machine screws (16)	Unscrew and remove two hexagon plain nuts (14), internal tooth lock washers (15), and two machine screws (16).	
Hexagon plain nuts (17) Internal tooth lock washers (18) Machine screws (19) Angle bracket (20) Top door support (21)	Unscrew and remove two hexagon plain nuts (17), two internal tooth lock washers (18), and two machine screws (19). Remove and separate angle bracket (20) from top door support (21).	
Turnlocks (22) Front access cover (23)	Turn nine turnlocks (22) one quarter turn to the left and remove front access cover (23).	
Turnlocks (24) Side access cover (25) Side access cover (26)	Turn the fifteen turnlocks (24) on each side access rover one quarter turn to the left. Remove side access covers (25 and 26).	
Turnlocks (27) End panel (28)	Turn twelve turnlocks (27) one quarter turn to the left and remove end panel (28).	


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2-32. LIQUID FUEL WATER HEATER (CONT).

LOCATION/ITEM	ACTION	REMARKS

DISASSEMBLY (CONT)

Liquid Fuel Water Heater/
Fuel hose assembly (29)
Water hose assembly (30)
Machine screws (31)
Internal tooth lock washers (32)

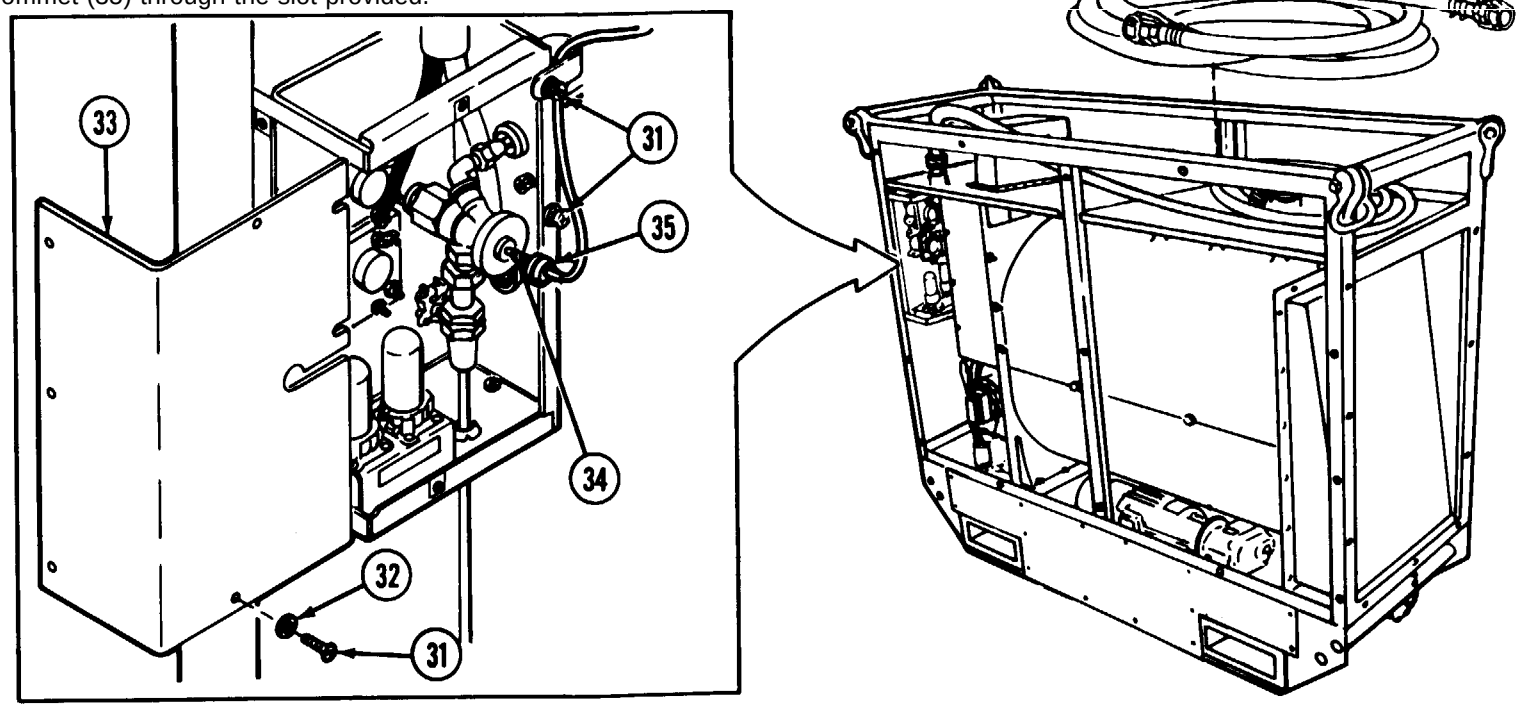
Remove fuel hose assembly (29). Remove water hose assembly (30). Loosen two machine screws (31) on the inboard side of cover. Unscrew and remove five machine screws (31) and five internal tooth lock washers (32).

CAUTION

When removing or installing control box cover panel, be very careful not to damage the capillary tube.

Cover panel (33)
Capillary tube (34)
Grommet (35)

Move cover panel (33) back and forth to clear capillary tube (34) and grommet (35) through the slot provided.



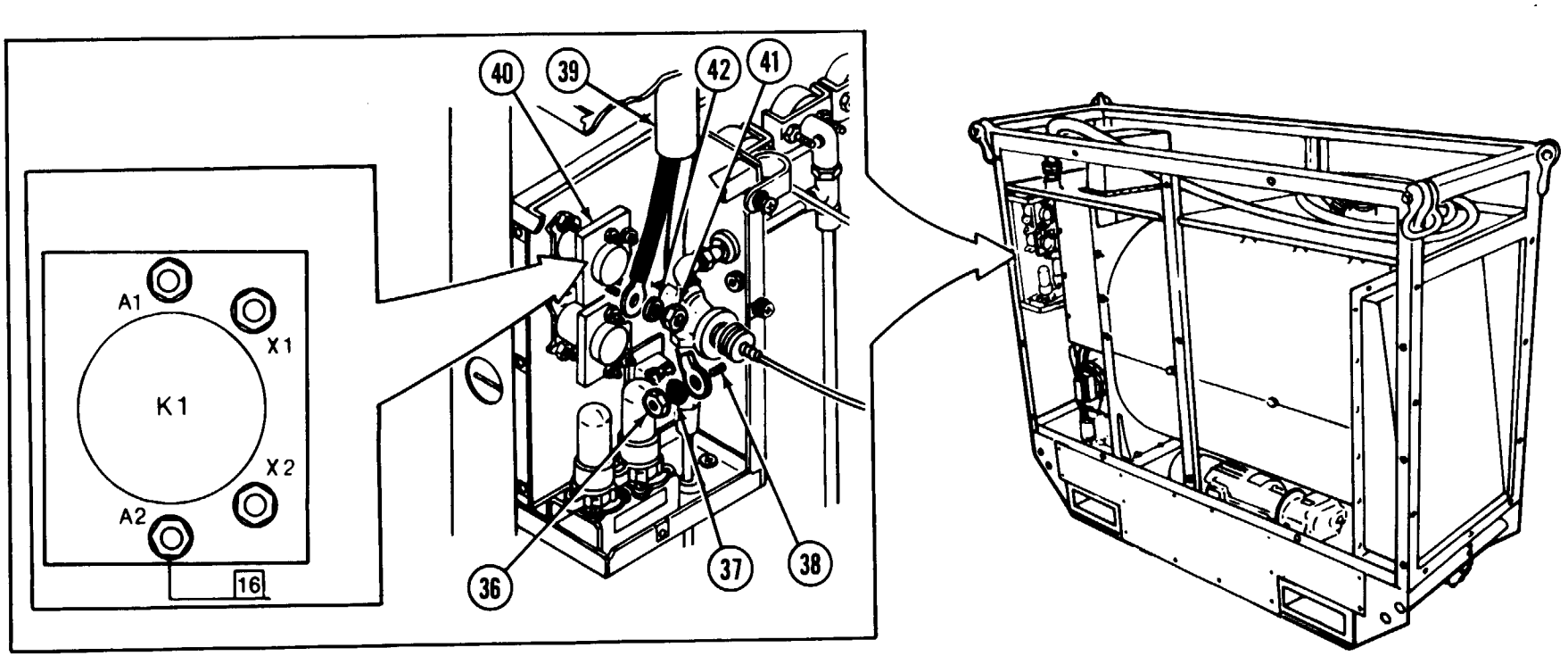
Hexagon plain nut (36)
Internal tooth lock
washer (37)
Ground lug (38)
Power cable assembly (39)

Unscrew and remove hexagon Plain nut (36) and internal tooth lock washer (37) from ground lug (38). Lift white wire of power cable assembly (39) from ground lug. Reinstall lock washer (37) and hexagon plain nut (36) on ground lug (38).

Carefully tag before disconnecting wires.

K1 relay (40)
Nut (41)
Washer (42)

Locate K1 relay (40). Unscrew and remove nut (41) and washer (42) from terminal identified as A2 and liftoff black wire of power cable assembly (39) and wire identified as 16. Reattach washer (42) and nut (41).

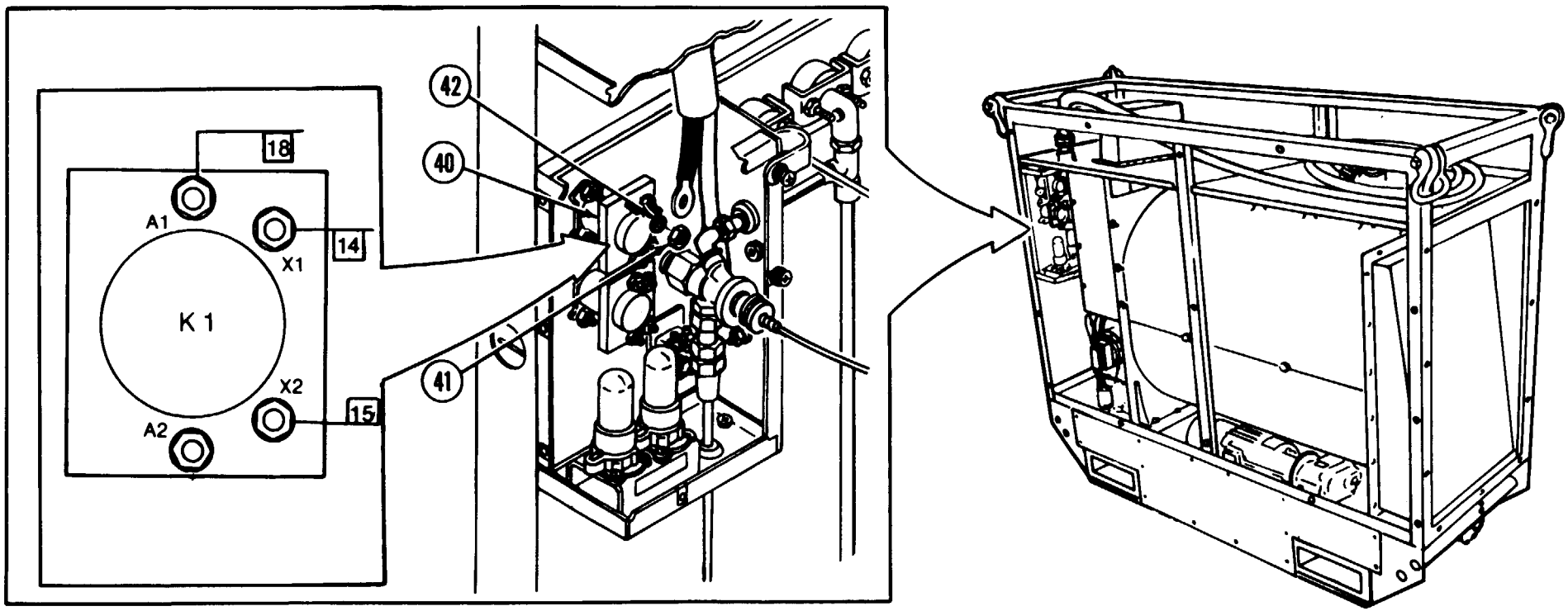


2-32. LIQUID FUEL WATER HEATER (CONT).

LOCATION/ITEM	ACTION	REMARKS

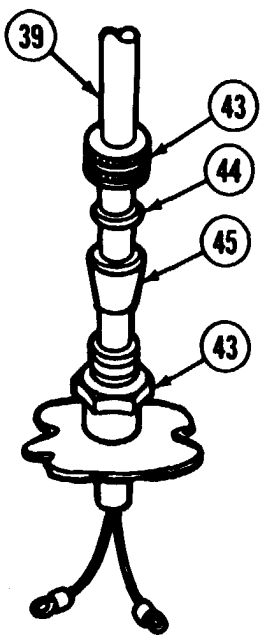
DISASSEMBLY (CONT)

Liquid Fuel Water Heater/	At rear of K1 relay (40) remove nuts (41) and washers (42) from terminals A1, X1, and X2 and lift off wires identified as 18, 14, and 15. Reattach nut (41) and washer (42) to the relay terminal studs.	



Electrical box connector (43)
Washer (44)
Rubber gasket (45)

Loosen top part of electrical box connector (43) from bottom part of electrical box connector (43). Slide washer (44) upon the power cable assembly (39). Work rubber gasket (45) out of bottom part of electrical box connector (43). Pull power cable assembly (39) out of electrical box connector (43). Slide rubber gasket (45) and washer (44) from power cable assembly (39). Install rubber gasket (45) and washer (44) into electrical box connector (43). Do not remove electrical box connector (43) from its mounting.

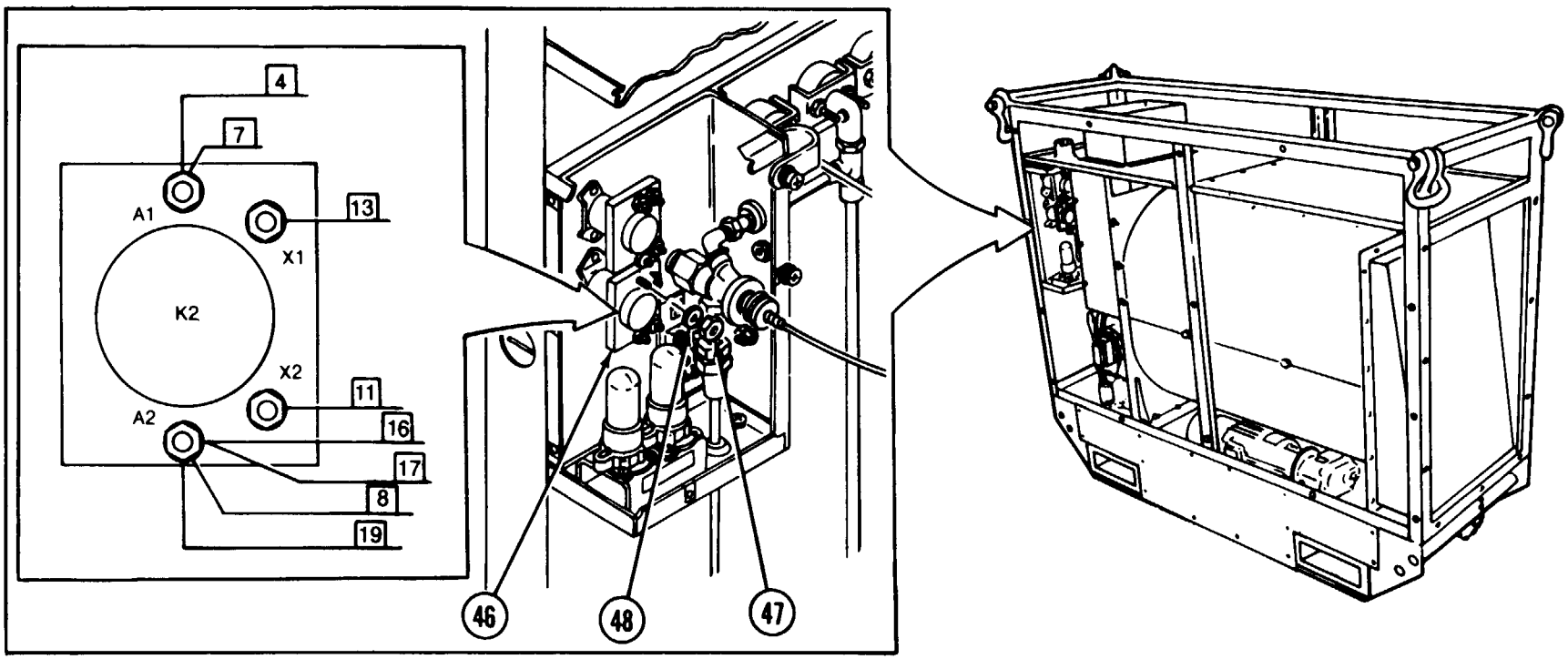


2-32. LIQUID FUEL WATER HEATER (CONT).

LOCATION/ITEM	ACTION	REMARKS

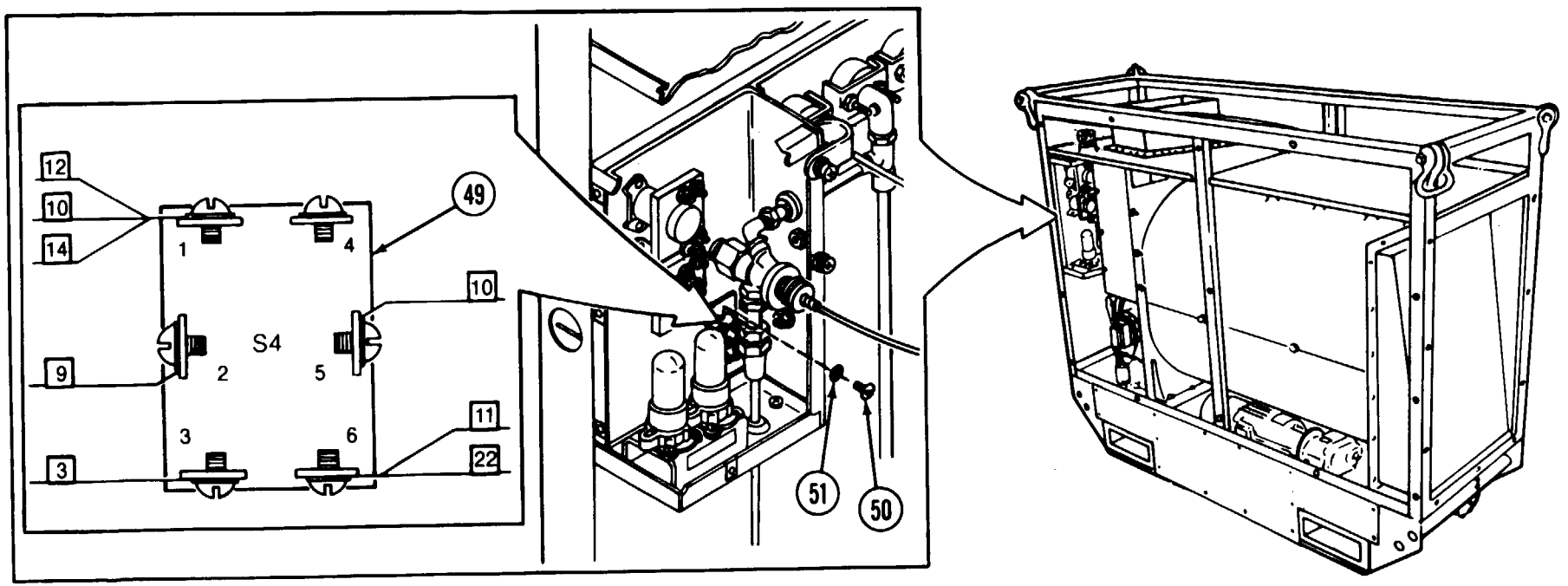
DISASSEMBLY (CONT)

Liquid Fuel Water Heater/ K2 relay (46) Nuts (47) Washers (48)	At the rear of K2 relay (46) remove nuts (47) and washers (48) from terminals A1, A2, X1 and X2. Remove wires identified as 4, 7, 8, 11, 13, 16, 17 and 19. Reattach nuts (47) and washers (48) to terminal studs.	



HEATER ON/PURGE ON switch S4 (49)
Machine screws (50)
Washers (51)

At rear of HEATER ON/PURGE ON switch S4 (49) remove the five machine screws (50) and washers (51) from terminal lugs. Disconnect wires identified as 3, 9, 10, 11, 12, 14 and 22.



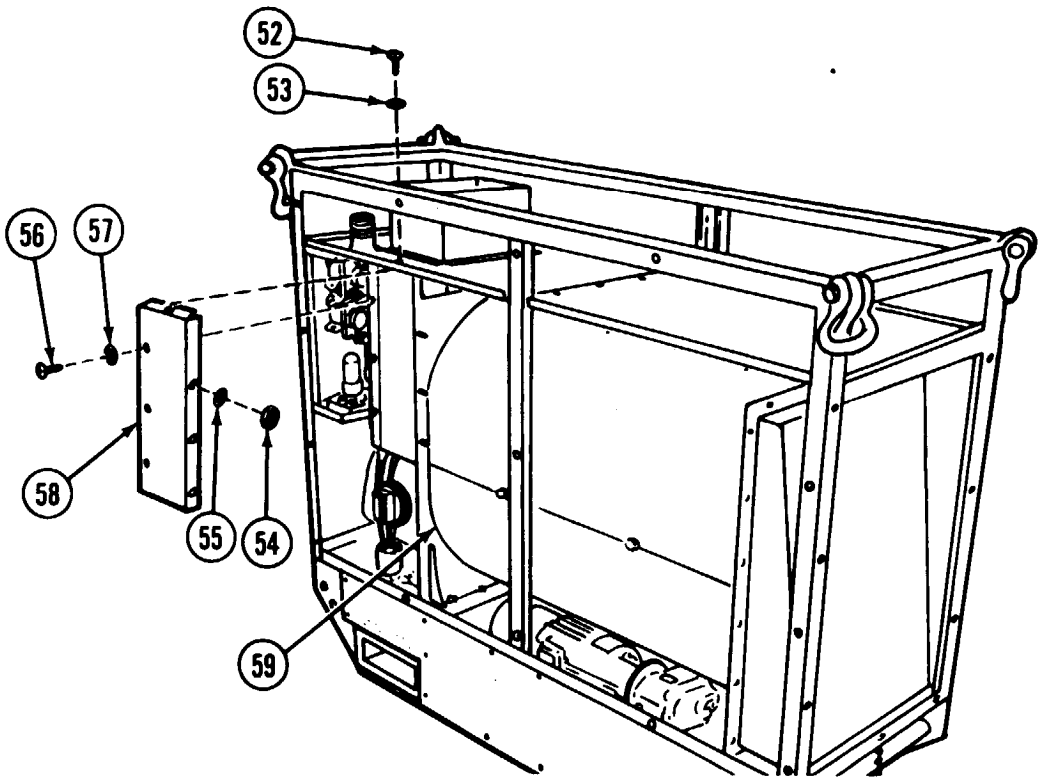
2-32. LIQUID FUEL WATER HEATER (CONT).

LOCATION/ITEM	ACTION	REMARKS

DISASSEMBLY (CONT)

Liquid Fuel Water Heater/
- Machine screw (52)
- Internal troth lock washer (53)
- Hexagon plain nuts (54)
- Internal troth lock washers (55)
- Machine screws (56)
- Internal tooth lock washers (57)
- Cover (58)
- Boiler unit (59)

Remove one machine screw (52) and internal tooth lock washer (53), three hexagon plain nuts (54), internal tooth lock washers (55), three machine screws (56), internal tooth lock washers (57), and-lift-cover (58) from boiler unit (59).



Quick disconnect Coupling (60)
pipe elbow (61)

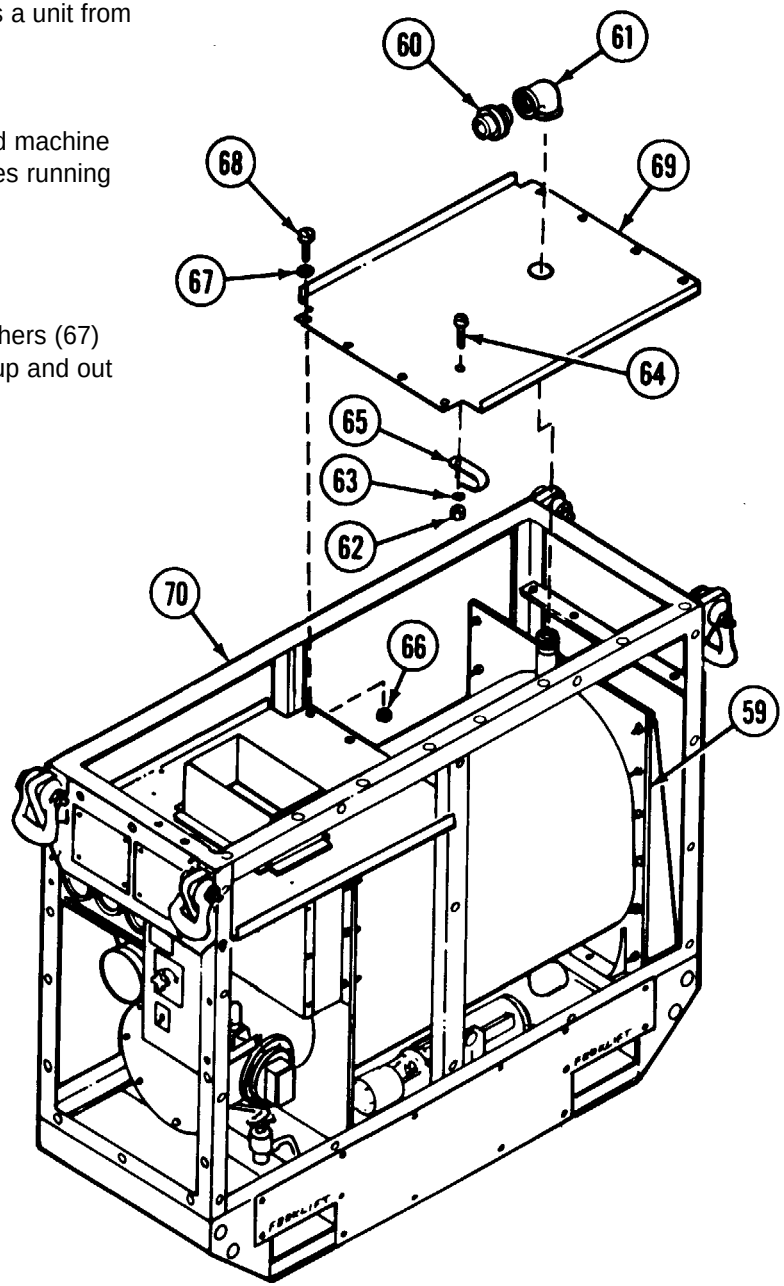
Remove quick disconnect coupling (60) and pipe elbow (61) as a unit from the boiler unit (59).

Hexagon plain nut (62)
Internal tooth lock washer (63)
Machine screw (64)
Loop clamp (65)

Remove one plain nut (62), internal tooth lock washer (63), and machine screw (64) and remove loop damp (65) from the bundle of wires running above the boiler unit (59).

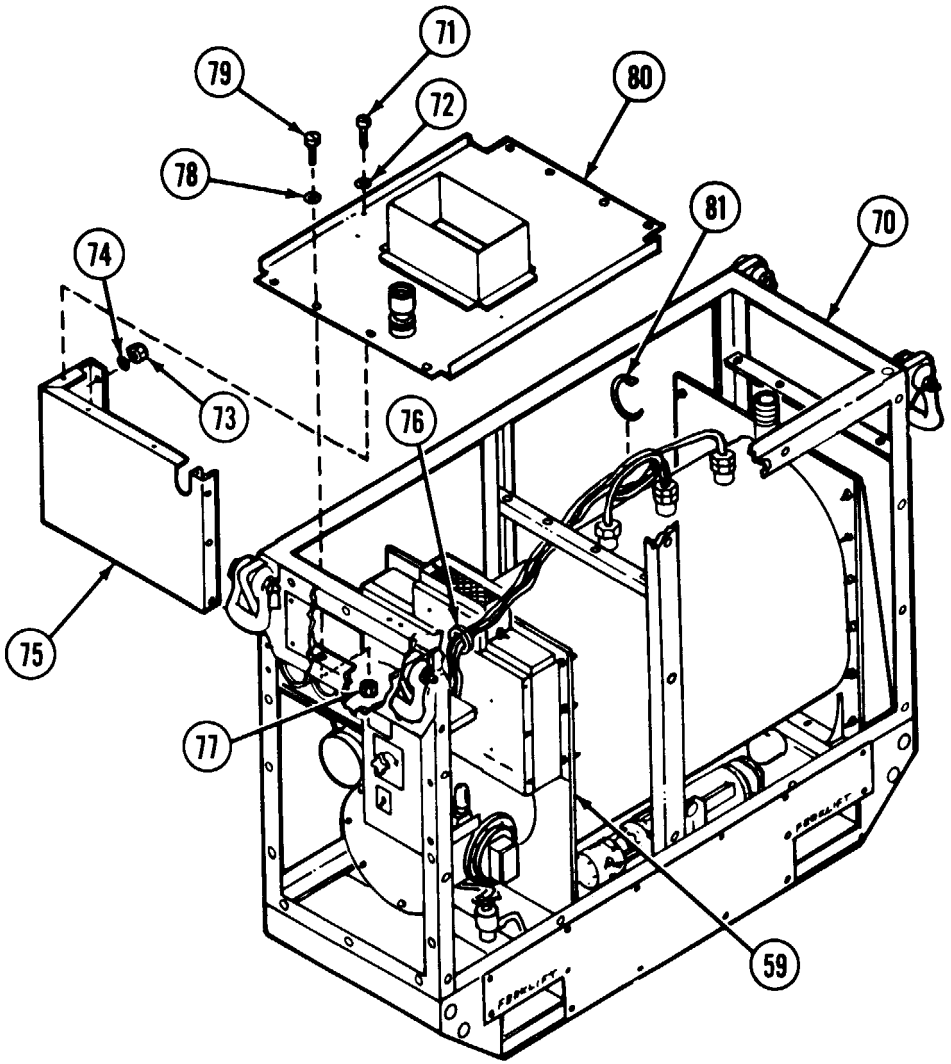
Hexagon plain nuts (66)
internal tooth lock washers (67)
Machine screws (68)
Rear access cover (69)
Cabinet frame (70)

Remove eight hexagon plain nuts (66), internal tooth lock washers (67) and machine screws (68). Lift rear access cover (69) straight up and out of the cabinet frame (70).



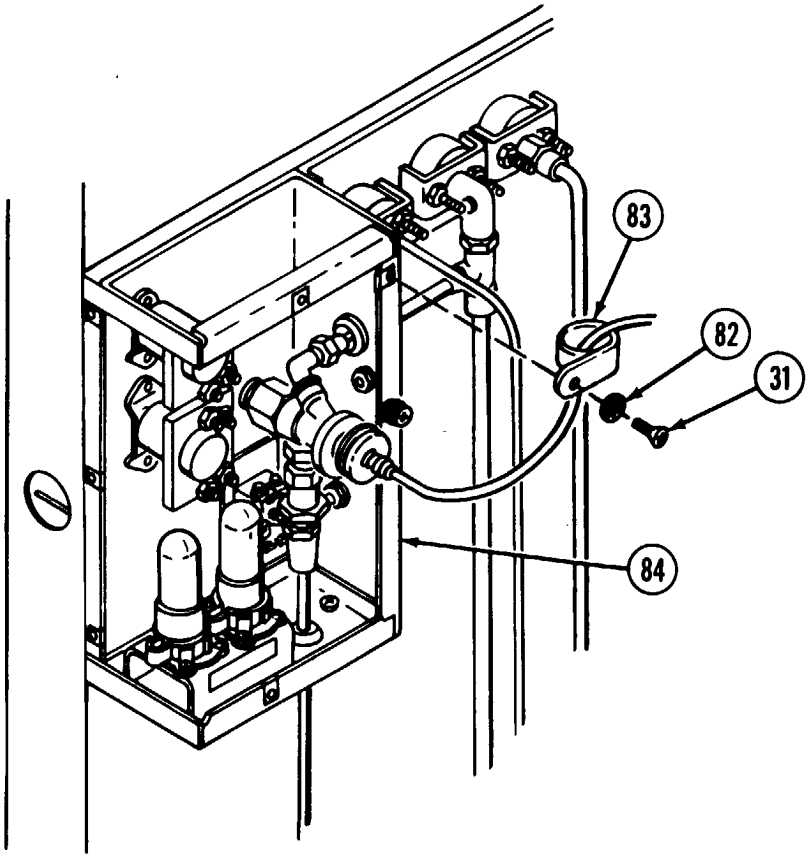
2-32. LIQUID FUEL WATER HEATER (CONT).

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY (CONT)		
Liquid Fuel Water Heater/		
Machine screws (71) Internal tooth lock washers (72) Hexagon plain nuts (73) internal tooth lock washers (74)	Remove three machine screws (71), internal tooth lock washers (72), three hexagon plain nuts (73) and internal tooth lock washers (74) from studs located on boiler unit (59).	
Access cover (75) Nonmetallic grommet (76)	Lift the wire bundle up away from access cover (75) and make sure nonmetallic grommet (76) comes out of the U-slot of access cover. Carefully guide access cover (75) out from front of the boiler unit (59). Slip nonmetallic grommet (76) off of wire bundle and capillary tube carefully.	
Hexagon plain nuts (77) internal tooth lock washers (78) Machine screws (79)	Remove four hexagon plain nuts (77), internal tooth lock washers (78) and machine screws (79).	
Access cover (80) Electrical tiedown straps (81)	Lift access cover (80) out of the cabinet frame (70). Cut and discard all electrical tiedown straps (81) on wire bundle over boiler unit (59).	


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2-32. LIQUID FUEL WATER HEATER (CONT).

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY (CONT)		
Liquid Fuel Water Heater/ Internal tooth lock washer (82) Loop clamp (83) Control box (84)	Remove one machine screw (31), internal tooth lock washer (82), and loop clamp (83), securing wire bundle to top inboard comer of the control box (84). Carefully slip loop clamp (83) off of wire bundle and capillary tube.	



Connector union (85)
Split washers (86)
Washer (87)

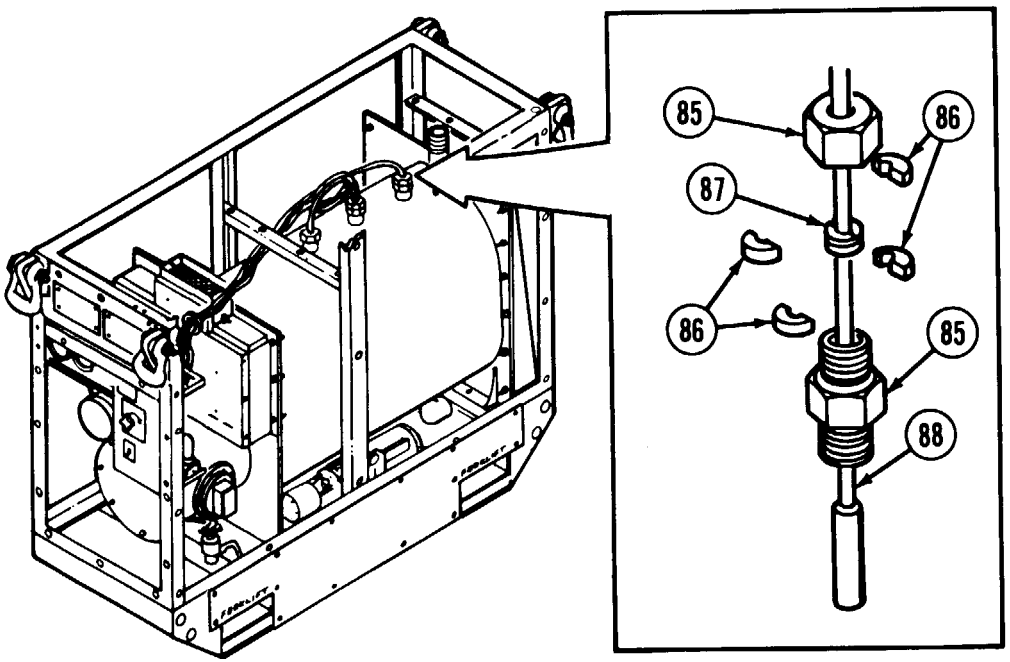
Loosen top fitting nut of the connector union (85) and slide up on capillary tube. Very carefully dig out two split washers (86), (rubber like) washer (87) and two more split washers (86).

CAUTION

Do not bend or kink the capillary tube and bulb. Any damage will require replacement.

Capillary tube and bulb (88)

Carefully pull capillary tube and bulb (88) out of connector union (85). Do not remove lower part of connector union (85) unless damaged.



2-32. LIQUID FUEL WATER HEATER (CONT).

LOCATION/ITEM	ACTION	REMARKS

DISASSEMBLY (CONT)

Liquid Fuel Water Heater/
Fitting connector (89)

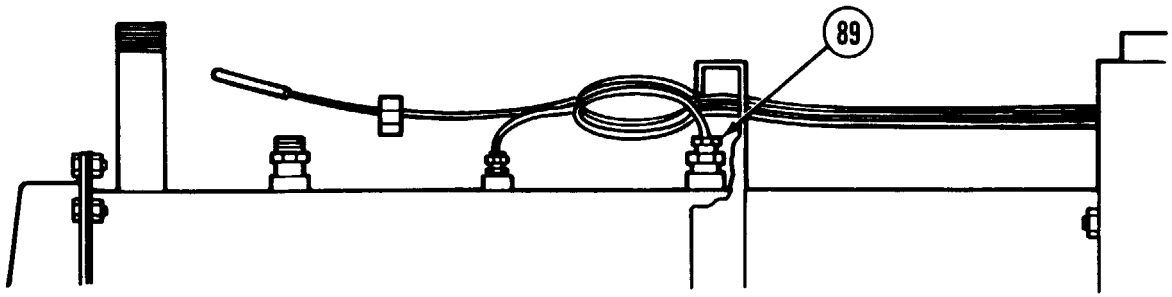
CAUTION

Do not kink, bend or damage the capillary tube connected to the indicator thermometer. Any damage will require replacement.

Loosen fitting connector (89) supplied with the indicator thermometer located on the control panel and unscrew out of top of tank unit.

CAUTION

Carefully coil both capillary tubes into a coil no less than six inches in diameter. Secure to control box.

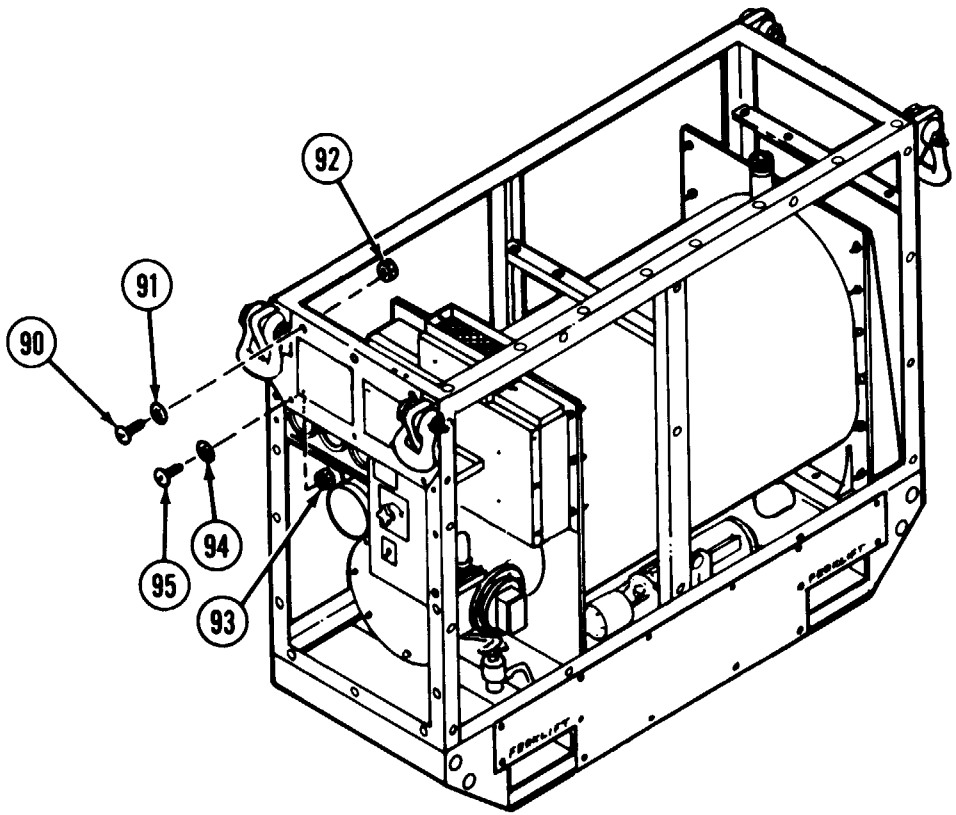


Machine screws (90)
Internal tooth lock washers (91)
Hexagon plain nuts (92)

Remove five machine screws (90), internal tooth lock washers (91), and hexagon plain nuts (92) only if defective.

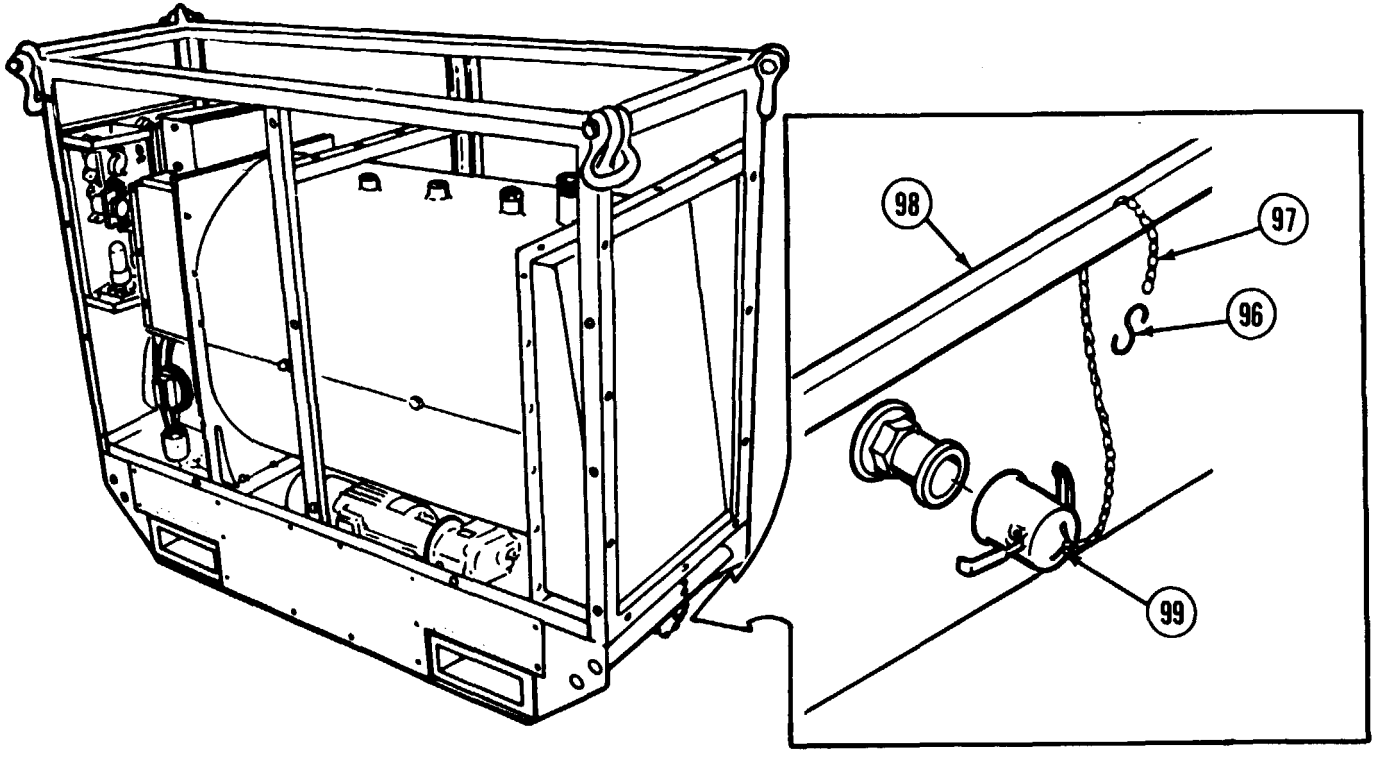
Hexagon plain nuts (93)
Internal tooth lock washers (94)
Machine screws (95)

Remove eight hexagon plain nuts (93), internal tooth lock washers (94), and machine screws (95) only if defective.



2-32. LIQUID FUEL WATER HEATER (CONT).

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY (CONT)		
Liquid Fuel Water Heater/ S hook (96) Chain (97) Cross bar (98) Dust protective cap (99)	Pry open Shook (96) slightly and slip chain (97) from cross bar (98). Remove dust protective cap (99).	



Self-tapping screws (100)
Internal tooth lock washers (101)
Panel (102)

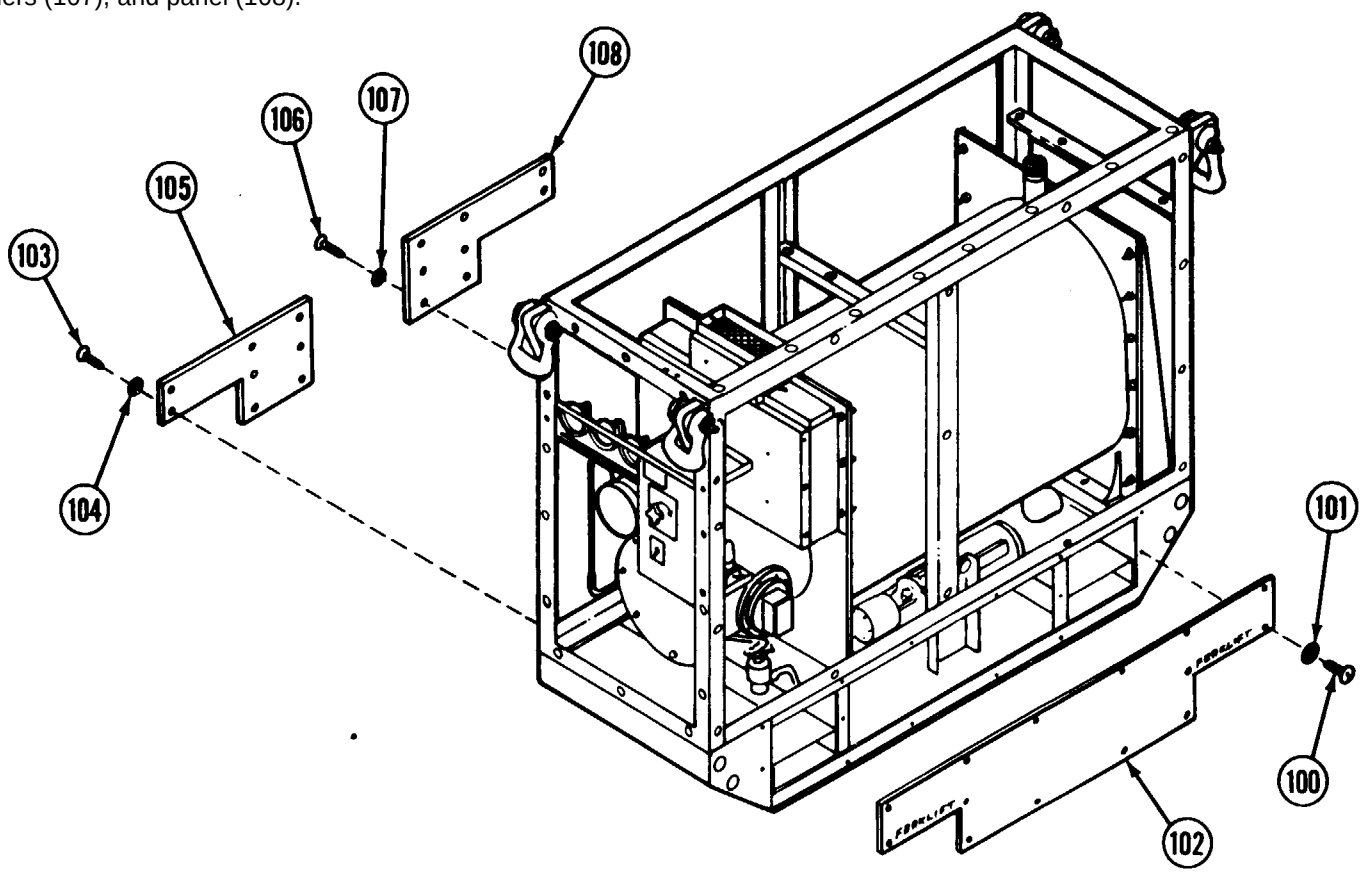
Unscrew and remove fourteen self-tapping screws (100) and fourteen internal tooth lock washers (101) and lift panel (102) off heater.

Self-tapping screws (103)
Internal tooth lock washers (104)
Panel (105)

Unscrew and remove eight self-tapping screws (103), eight internal tooth lock washers (104), and panel (105).

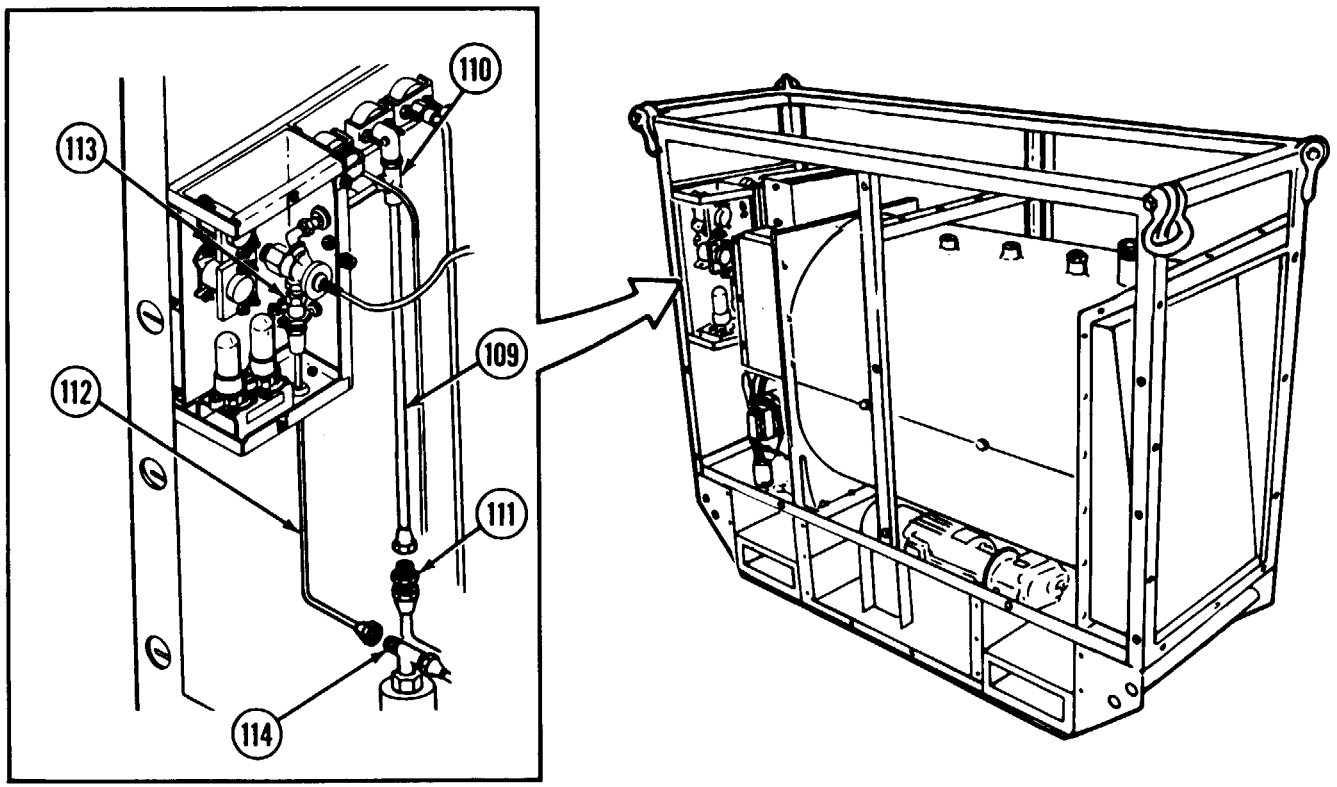
Self-tapping screws (106)
Internal tooth lock washers (107)
Panel (108)

Unscrew and remove eight self-tapping screws (108), eight internal tooth lock washers (107), and panel (108).



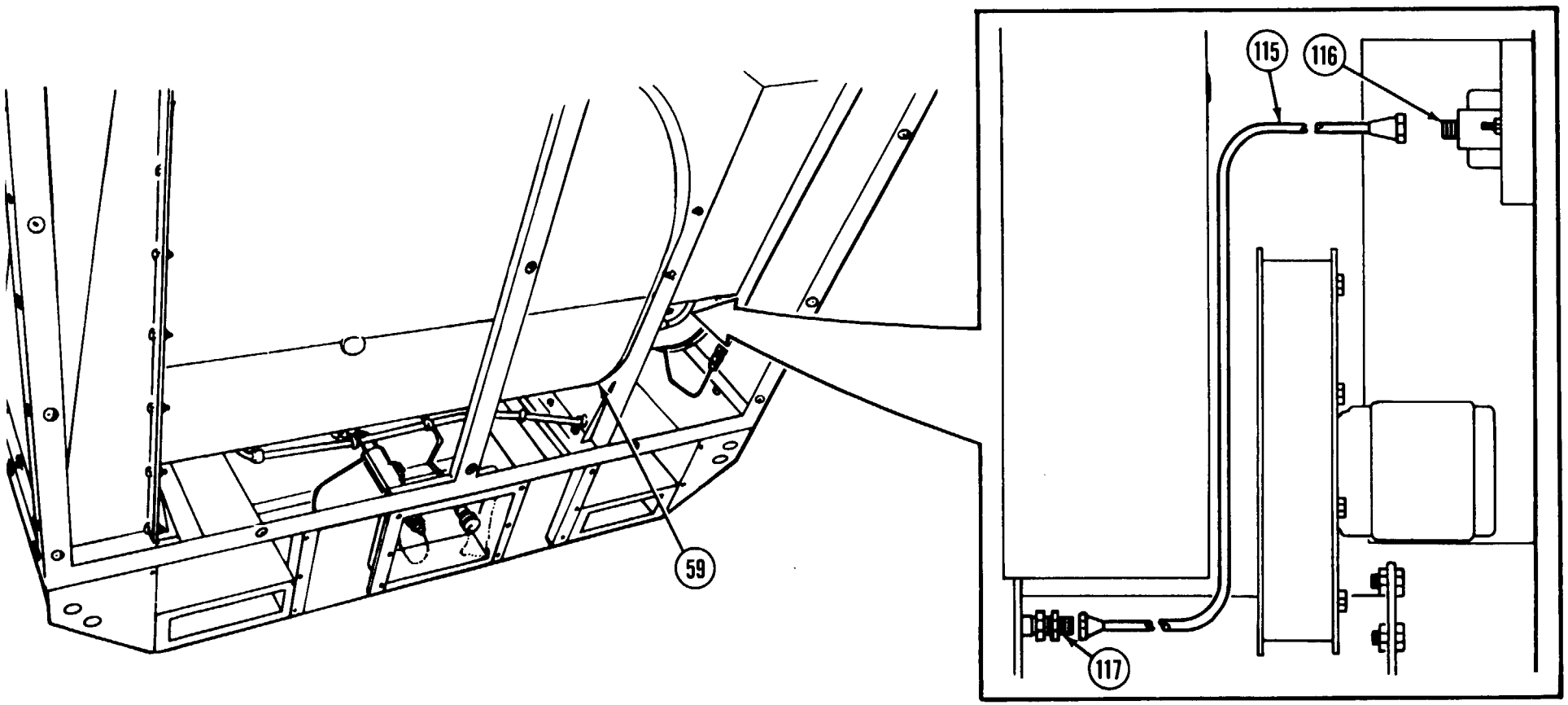
2-32. LIQUID FUEL WATER HEATER (CONT).

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY (CONT)		
Liquid Fuel Water Heater/ Fuel pressure line (109) Pipe tee (110) Tube nipple (111)	Remove fuel pressure line (109) connected between pipe tee (110) and tube nipple (111).	
Selector return line (112) Check valve (113) Pipe tee (114)	Remove selector return line (112) connected between check valve (113) and pipe tee (114).	



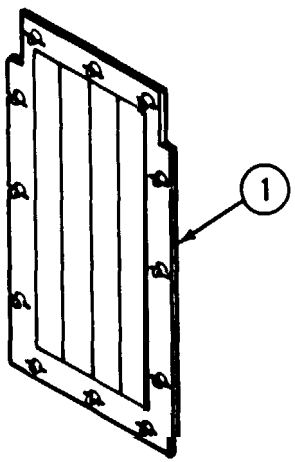
Water pressure line (115)
Straight adapter (116)
Straight adapter (117)

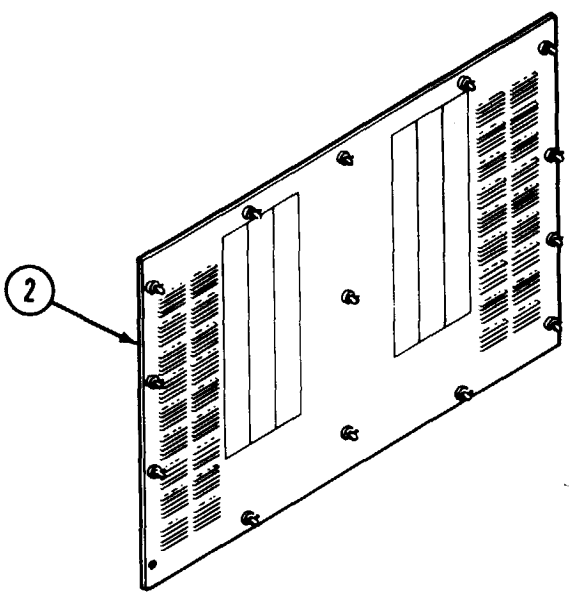
Remove water pressure line (115) connected between rear of water pressure gage pipe straight adapter (116) and pipe straight adapter (117) located on the front of boiler (59).

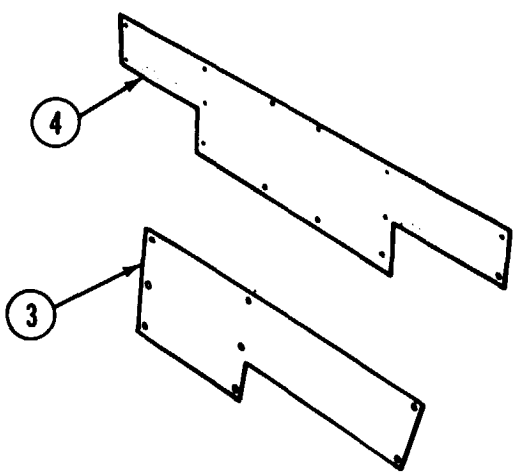


2-32. LIQUID FUEL WATER HEATER (CONT).

LOCATION/ITEM	ACTION	REMARKS
REPAIR		
Liquid Fuel Water Heater/ All parts	Repair by replacing authorized components.	
End panel (1) Side panel (2)	Unit maintenance is authorized to remove and replace any damaged pressure sensitive tape. Scrape damaged tape from end (1) and side (2) panels. Use old tape area as a guide when retaping.	
Painted surfaces	Use epoxy primer and polyurethane coating to paint the water heater as needed (see TM 43-0139).	
Panel (3)	Fabricate new panel (3) according to figure E-8.	
Panel (4)	Fabricate new panel (4) according to figure E-9.	



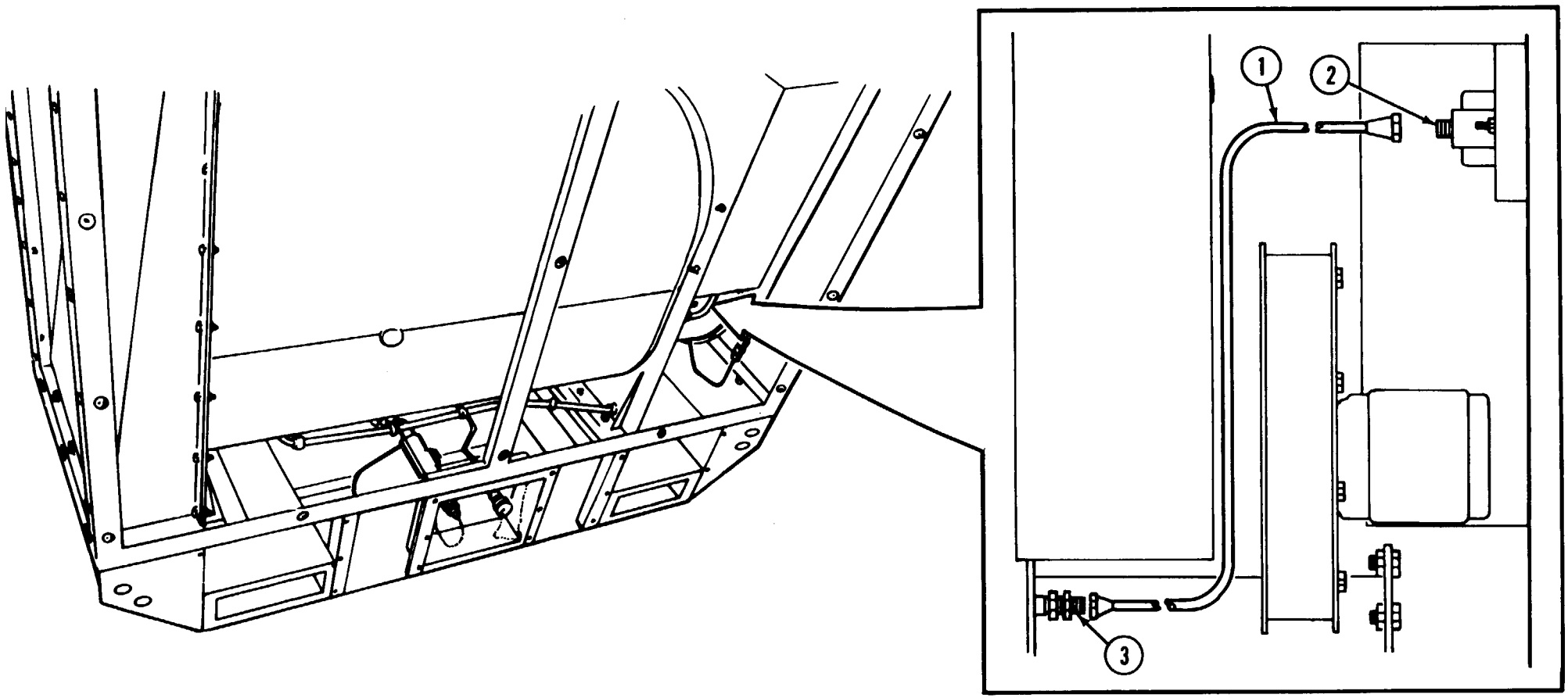




Liquid Fuel Water Heater/
Water pressure line (1)
Straight adapter (2)
Straight adapter (3)

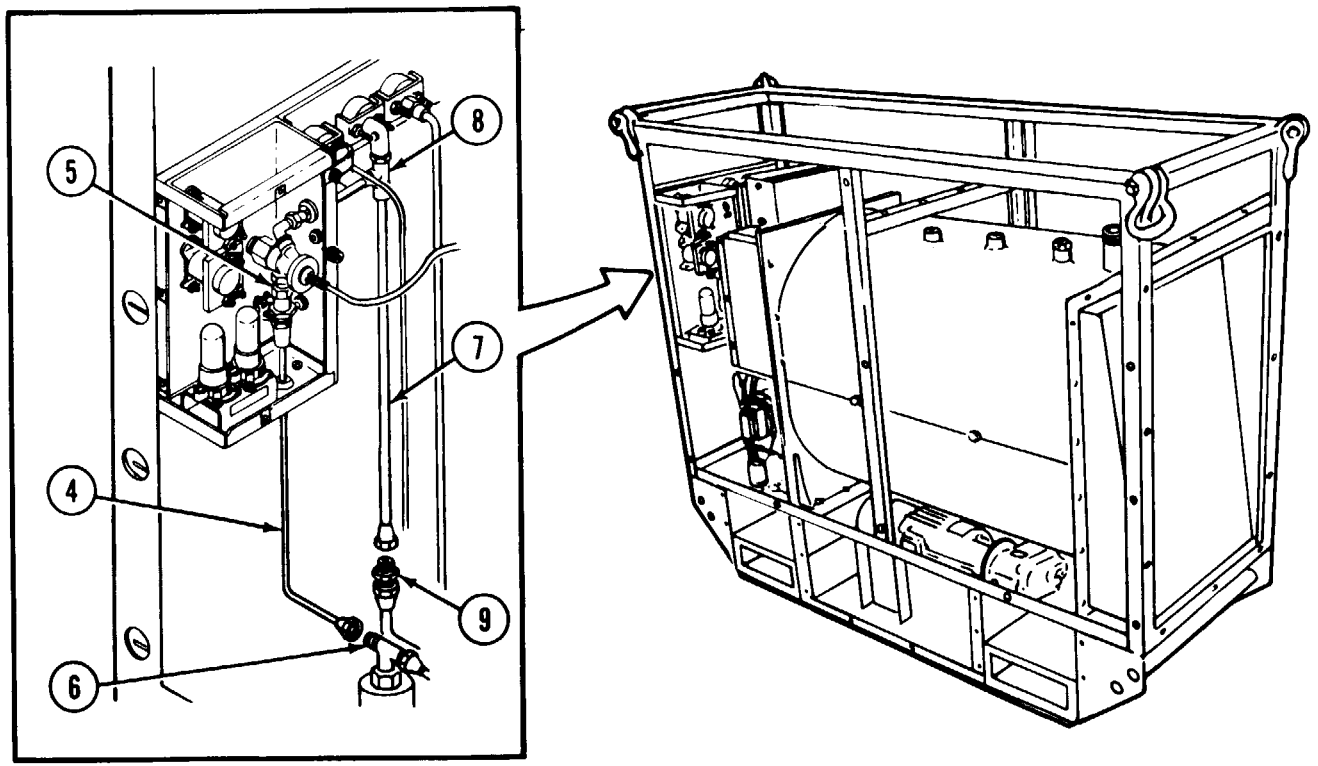
Wrap male threads on straight adapters (2 and 3) with antiseizing tape before installing water pressure link.

Install water pressure line (1) connected between rear of water pressure gage pipe straight adapter (2) and pipe straight adapter (3) located on the front of boiler.



2-32. LIQUID FUEL WATER HEATER (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Selector return line (4) Check valve (5) Pipe tee (6)	Install selector return line (4) connected between check valve (5) and pipe tee (6).	
Fuel pressure line (7) Pipe tee (8) Tube nipple (9)	Install fuel pressure line (7) connected between pipe tee (8) and tube nipple (9).	



Panel (10)
Internal tooth lock washers (11)
Self-tapping screws (12)

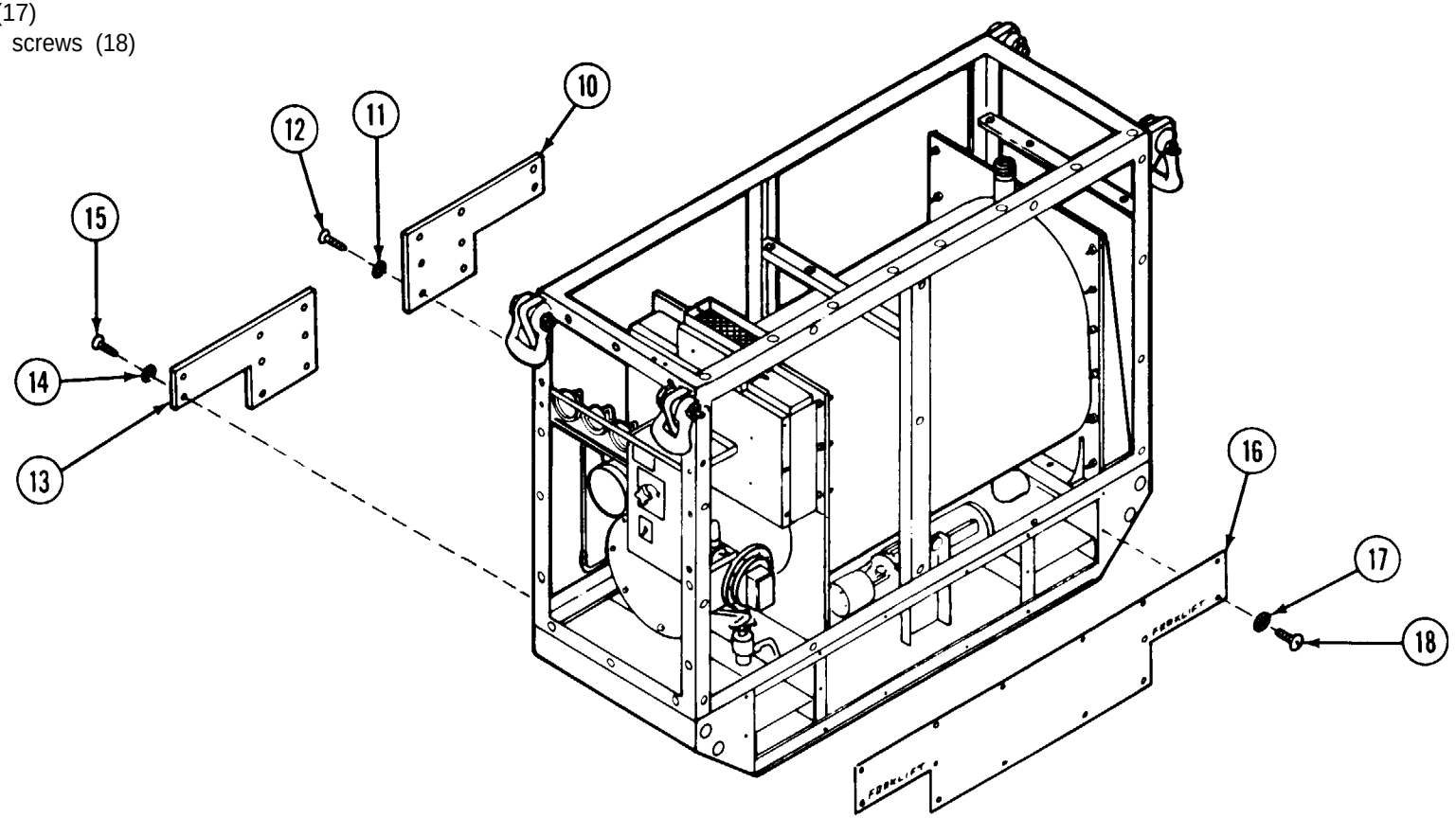
Position panel (10) in place. Secure with eight internal tooth lock washers (11) and eight self-tapping screws (12).

Panel (13)
Internal tooth lock washers (14)
Self-tapping screws (15)

Position panel (13) in place. Secure with eight internal tooth lock washers (14) and eight self-tapping screws (15).

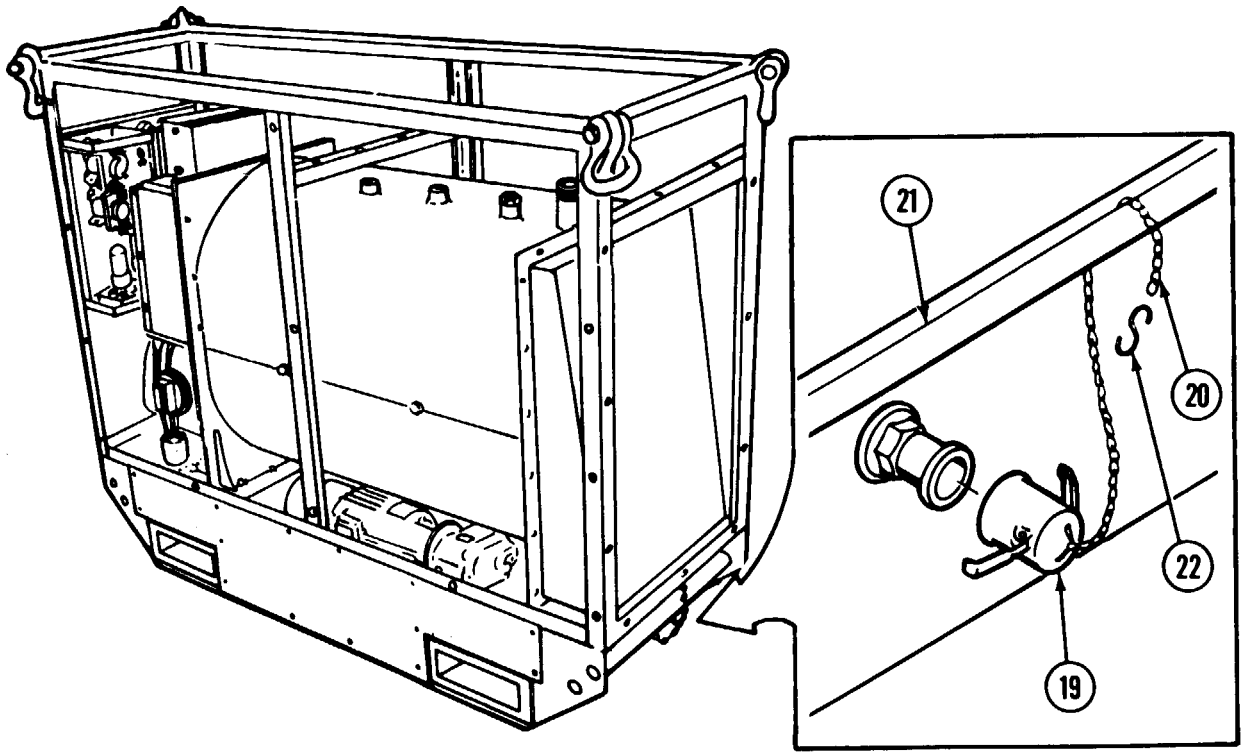
Panel (16)
Internal tooth lock washers (17)
Self-tapping screws (18)

Position panel (16) in place. Secure with fourteen internal tooth lock washers (17) and fourteen self-tapping screws (18).



2-32. LIQUID FUEL WATER HEATER (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Liquid Fuel Water Heater/ Dust protective cap (19) Chain (20) Cross bar (21) S hook (22)	Install protective cap (19), loop end of chain (20) around crossbar (21), and squeeze S hook (22) ends closed.	

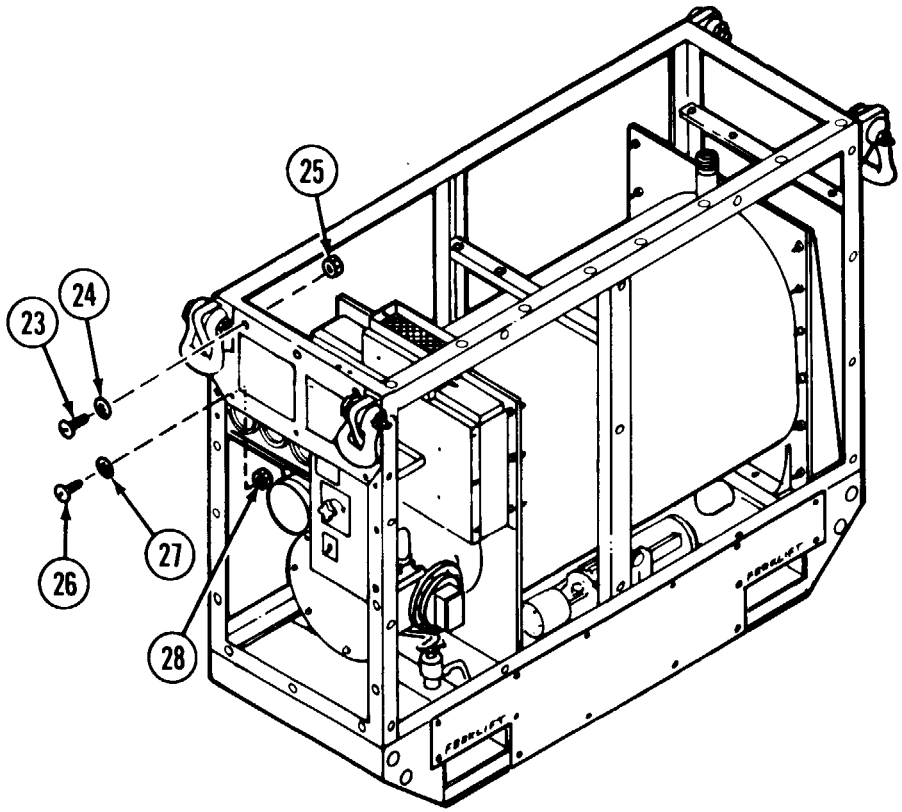


Machine screws (23)
Internal tooth lock washers (24)
Hexagon plain nuts (25)

Install eight machine screws (23), internal troth lock washers (24), and hexagon plain nuts (25) only if missing or defective.

Machine screws (26)
Internal tooth lock washers (27)
Hexagon plain nuts (28)

Install five machine screws (26), internal tooth lock washers (27), and hexagon plain nuts (28) only if removed.



2-32. LIQUID FUEL WATER HEATER (CONT).

LOCATION/ITEM	ACTION	REMARKS

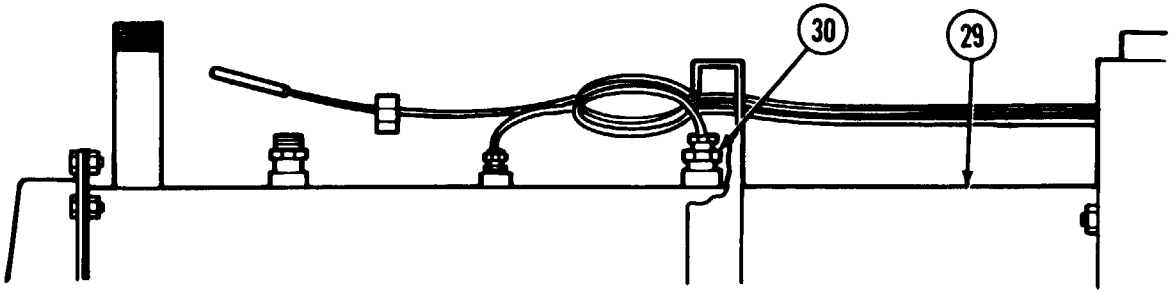
REASSEMBLY (CONT)

Liquid Fuel Water Heater/
Boiler unit (29)
Fitting connector (30)

CAUTION

Do not kink, bend or damage the capillary tube connected to the indicator thermometer. Any damage will require replacement.

Carefully route capillary tube along top of the boiler unit (29). Wrap male threads with antiseizing tape before installing fitting connector (30). Screw fitting connector (30) into first open port near center of boiler unit (29).



Capillary tube and bulb (31)
Connector union (32)
Split washers (33)
Washer (34)

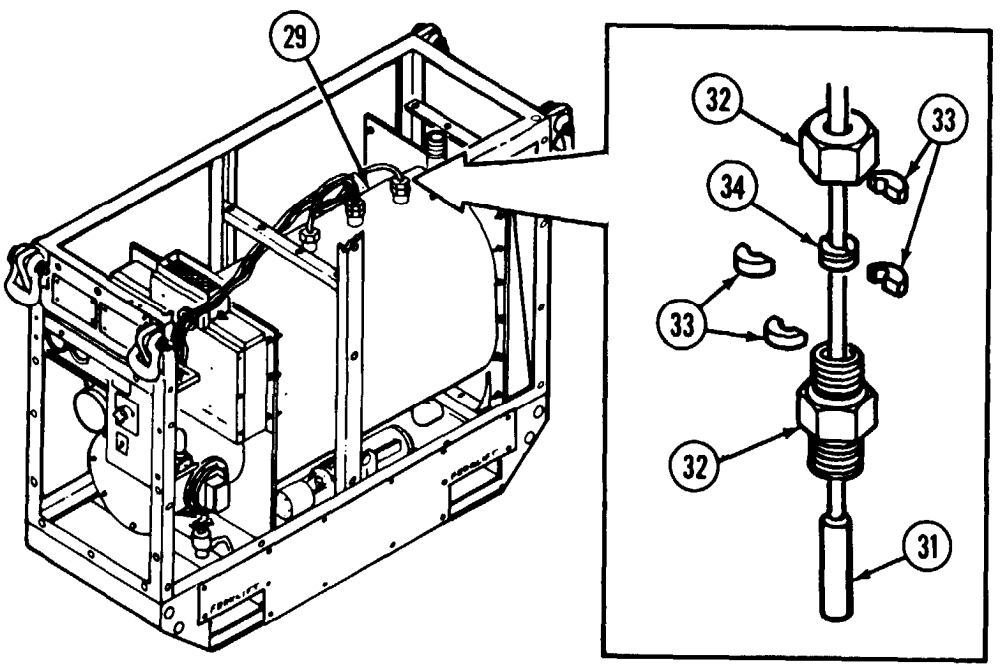
CAUTION

Do not bend or kink the capillary tube and bulb. Any damage will require replacement.

Carefully route the capillary tube and bulb (31) from the selector valve in the control box along the top of boiler unit (29).

Disassemble connector union (32) into atop and bottom half. Wrap the end of male tapered threads with antiseizing tape before installing into top of boiler unit (29).

Slide top half of connector union (32) so internal threads are nearest to the bulb. Insert the bulb of capillary tube and bulb (31) just below the lowest edge of the bottom half of connector union (32). Carefully position two split washers (33) around the capillary tube without pinching it. Slide the slot of (rubberlike) washer (34) around capillary tube and push it down inside of connector union (32) lower half and against the split washer (33). Slide two more split washers (33) around capillary tube and push them down into connector union (32) lower half. Slide top half of connector down onto the lower half and screw on tight.



2-32. LIQUID FUEL WATER HEATER (CONT).

LOCATION/ITEM	ACTION	REMARKS

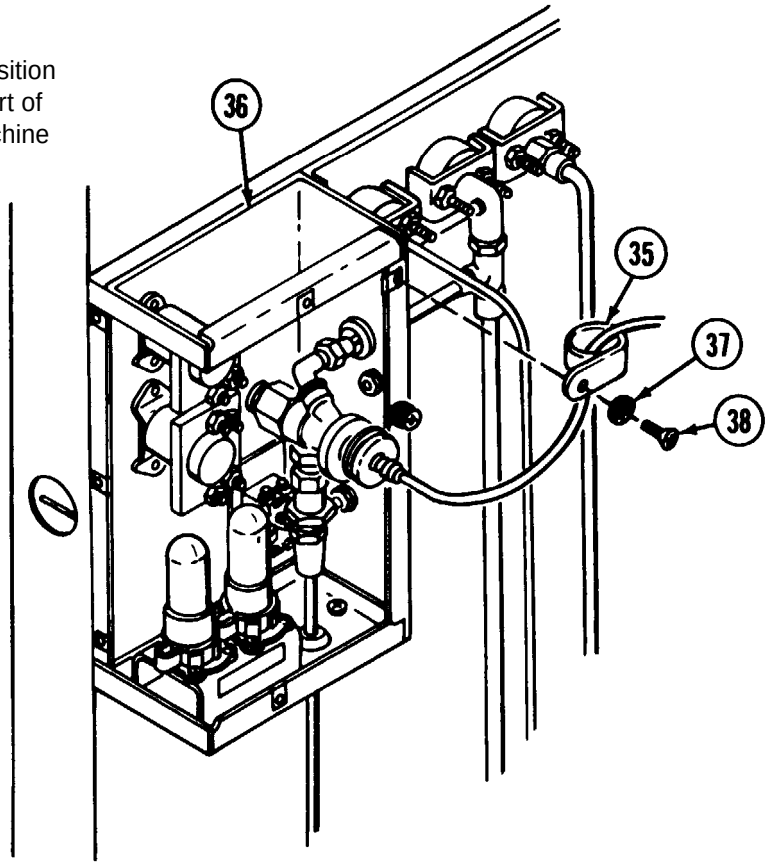
REASSEMBLY (CONT)

Liquid Fuel Water Heater/
- Loop clamp (35)
- Control box (36)
- Internal tooth lock washer (37)
- Machine screw (38)

CAUTION

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

Slide loop clamp (35) around capillary tube and electrical wires. Position loop clamp (35) so it alines with screw hole in the upper inboard part of the control box (36). Install internal tooth lock washer (37) and machine screw (38).



Electrical tiedown straps (39)

Starting at the control box end of the wire bundle, install electrical tiedown straps (39) along entire length of electrical wires and capillary tube four inches apart. Do not pull the electrical tiedown straps so tight that they smash the capillary tubes.

Access cover (40)
Internal tooth lock washers (41)
Hexagon plain nuts (42)

Position access cover (40) onto front of the boiler unit (29) and secure with three internal tooth lock washers (41) and hexagon plain nuts (42).

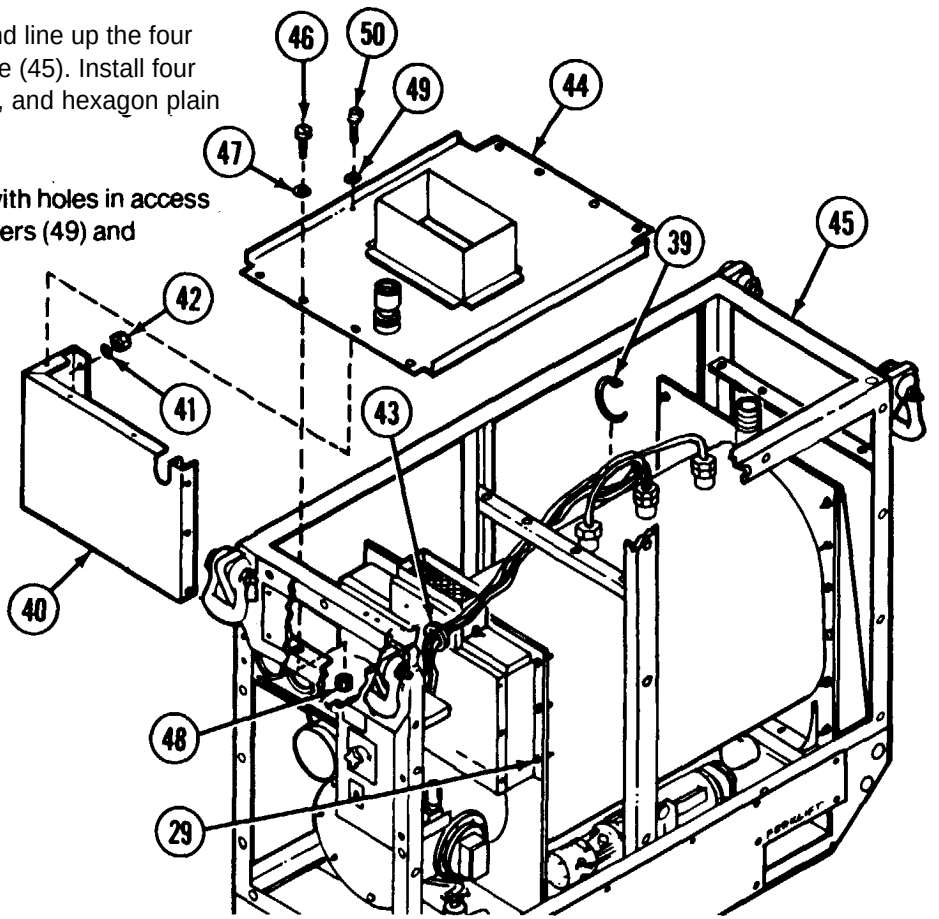
Nonmetallic grommet (43)

Slide nonmetallic grommet (43) around electrical wires and capillary tubes and slide nonmetallic grommet into the notched area of access cover (40).

Access cover (44)
Cabinet frame (45)
Machine screws (46)
Internal tooth lock washers (47)
Hexagon plain nuts (48)
internal tooth lock washers (49)
Machine screws (50)

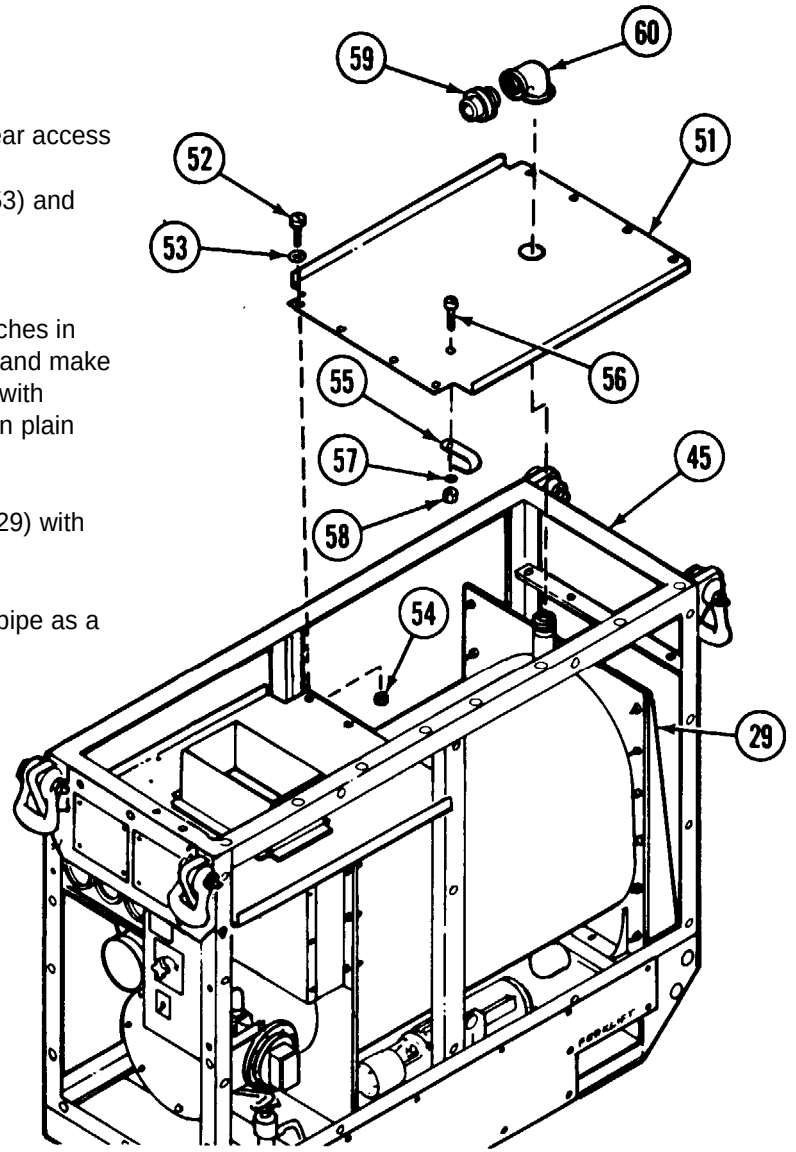
Insert access cover (44) into the cabinet frame (45) and line up the four holes in each end with those holes in the cabinet frame (45). Install four machine screws (46), internal tooth lock washers (47), and hexagon plain nuts (48).

Position access cover (40) to line up the three holes with holes in access cover (44). Secure with three internal tooth lock washers (49) and machine screws (50).



2-32. LIQUID FUEL WATER HEATER (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Liquid Fuel Water Heater/ Rear access cover (51) Machine screws (52) Internal tooth lock washers (53) Hexagon plain nuts (54)	Insert rear access cover (51) into cabinet frame (45). Position rear access cover (51) to aline the eight end holes, and install eight machine screws (52) and secure with eight internal tooth lock washers (53) and hexagon plain nuts (54).	
Loop clamp (55) Machine screw (56) Internal tooth lock washer (57) Hexagon plain nut (58)	Coil excess length of capillary tube into a coil no less than six inches in diameter. Slide loop clamp (55) around the coiled capillary tube and make sure capillary will not be pinched in the loop clamp (55). Secure with machine screw (56), internal tooth lock washer (57) and hexagon plain nut (58).	
Quick disconnect coupling (59) Pipe elbow (60)	Wrap the male threads on the pipe coming from the boiler unit (29) with antiseizing tape. Screw quick disconnect coupling (59) and pipe elbow (60) onto pipe as a unit.	



Cover (61)
Internal tooth lock washers (62)
Hexagon plain nuts (63)

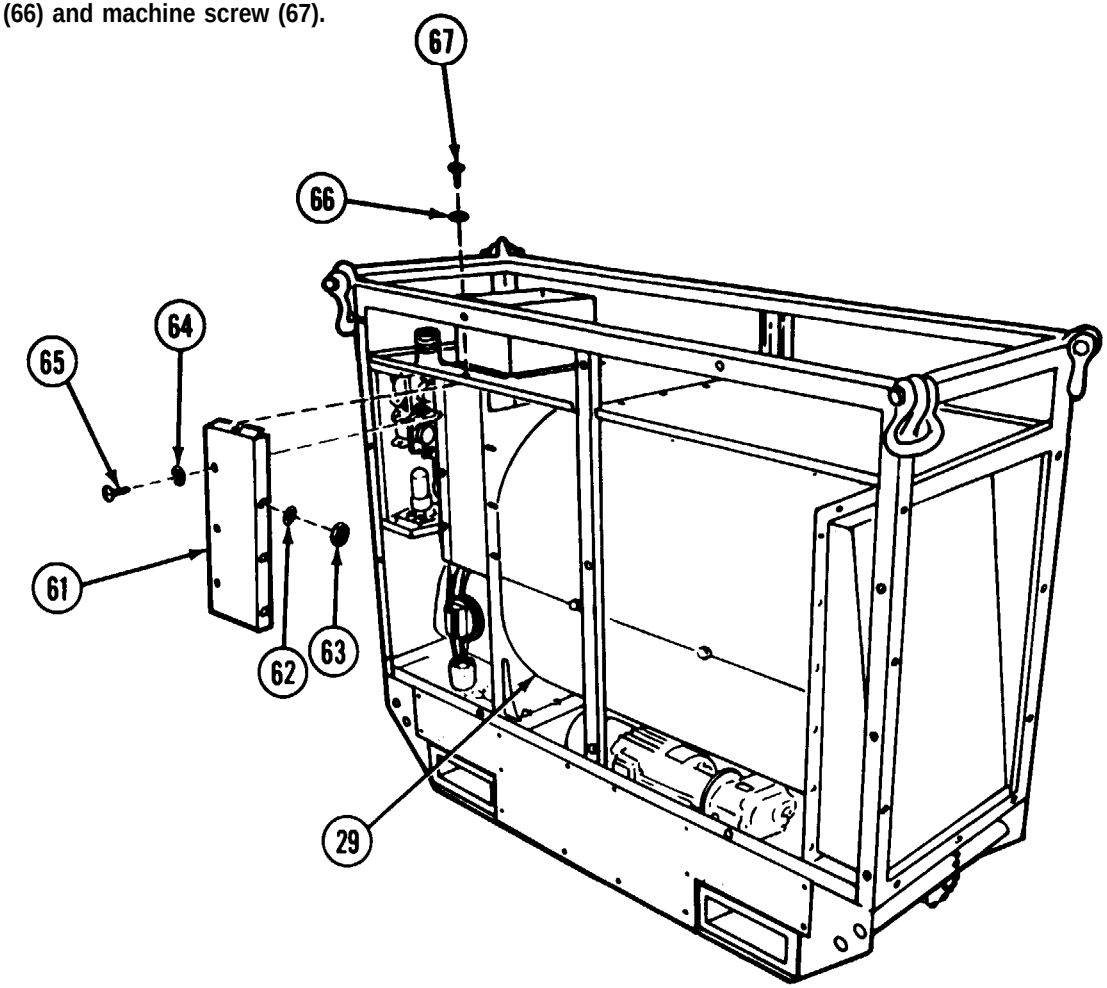
Install cover (61) onto the boiler unit (29), and secure with three internal tooth lock washers (62) and hexagon plain nuts (63) on the boiler unit studs.

Internal tooth lock washers (64)
Machine screws (65)

Install three internal tooth lock washers (64) and machine screws (65).

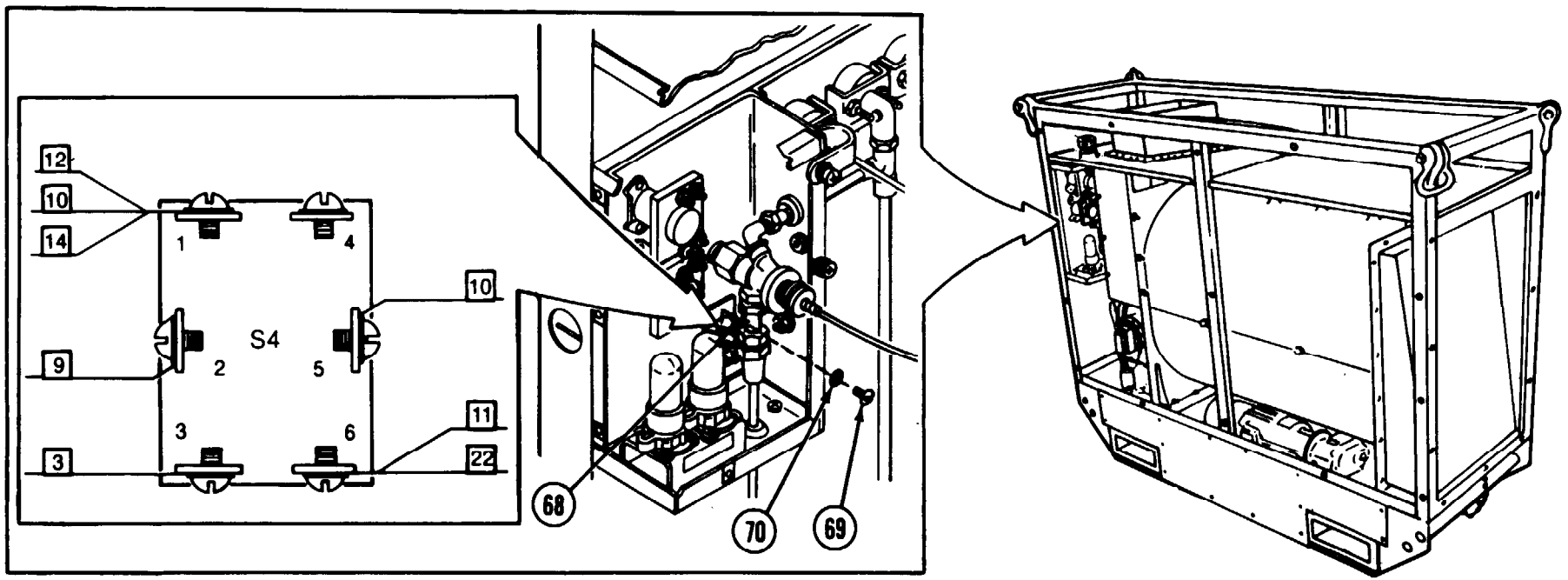
Internal tooth lock washer (66)
Machine screw (67)

Install one internal tooth lock washer (66) and machine screw (67).



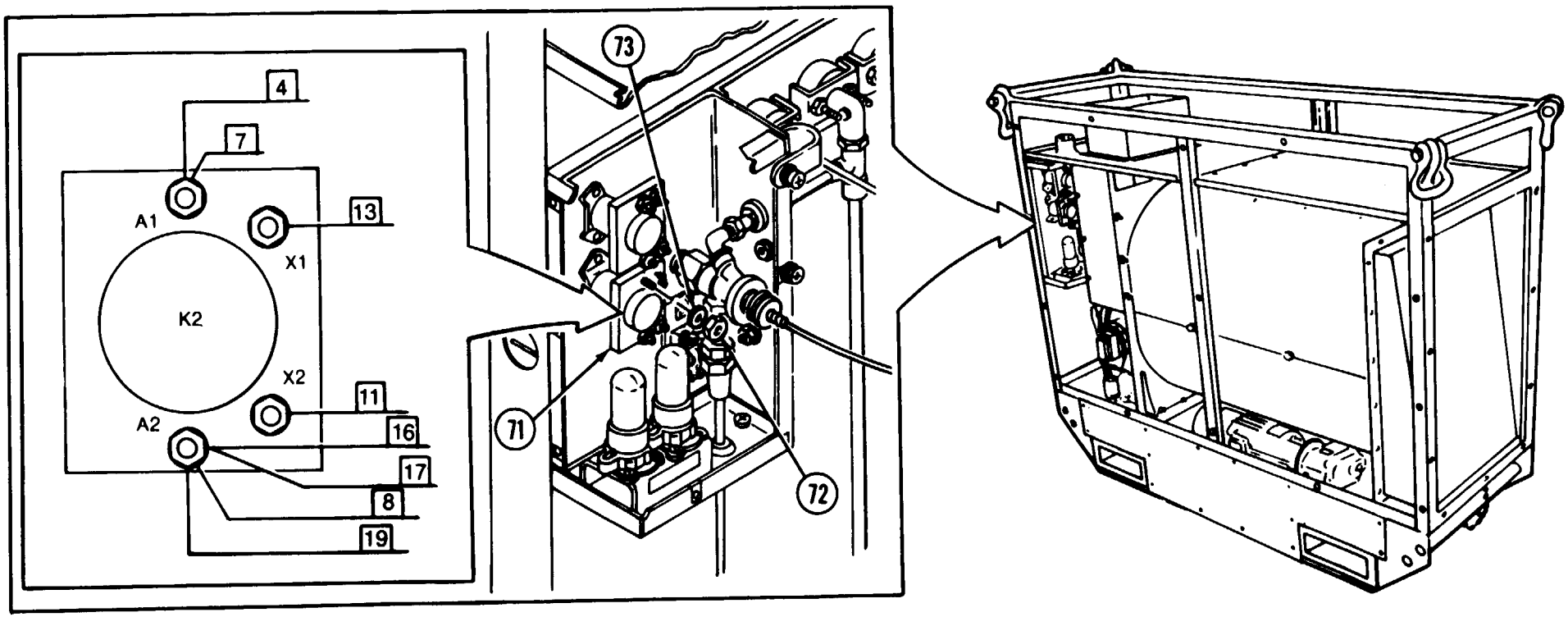
2-32. LIQUID FUEL WATER HEATER (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Liquid Fuel Water Heater/ HEATER ON/PURGE ON switch S4 (68) Screws (69) Washers (70)	**At the rear of HEATER ON/PURGE ON switch S4 (68), remove five screws (69) and washers (70) from terminal lugs. Reattach wires identified as 3, 9, 10, 11, 12, 14 and 22. Reattach washers (70) and screws (69).**	



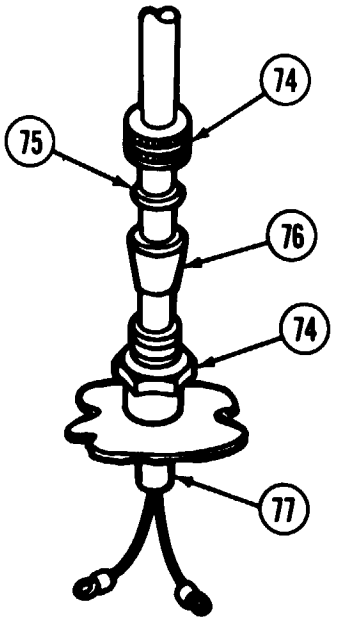
K2 relay (71)
Nuts (72)
Washers (73)

At rear of K2 relay (71) remove nuts (72) and washers (73). Reattach wires identified as 4, 7, 8, 11, 13, 16, 17 and 19. Reattach washers (73) and nuts (72).



2-32. LIQUID FUEL WATER HEATER (CONT).

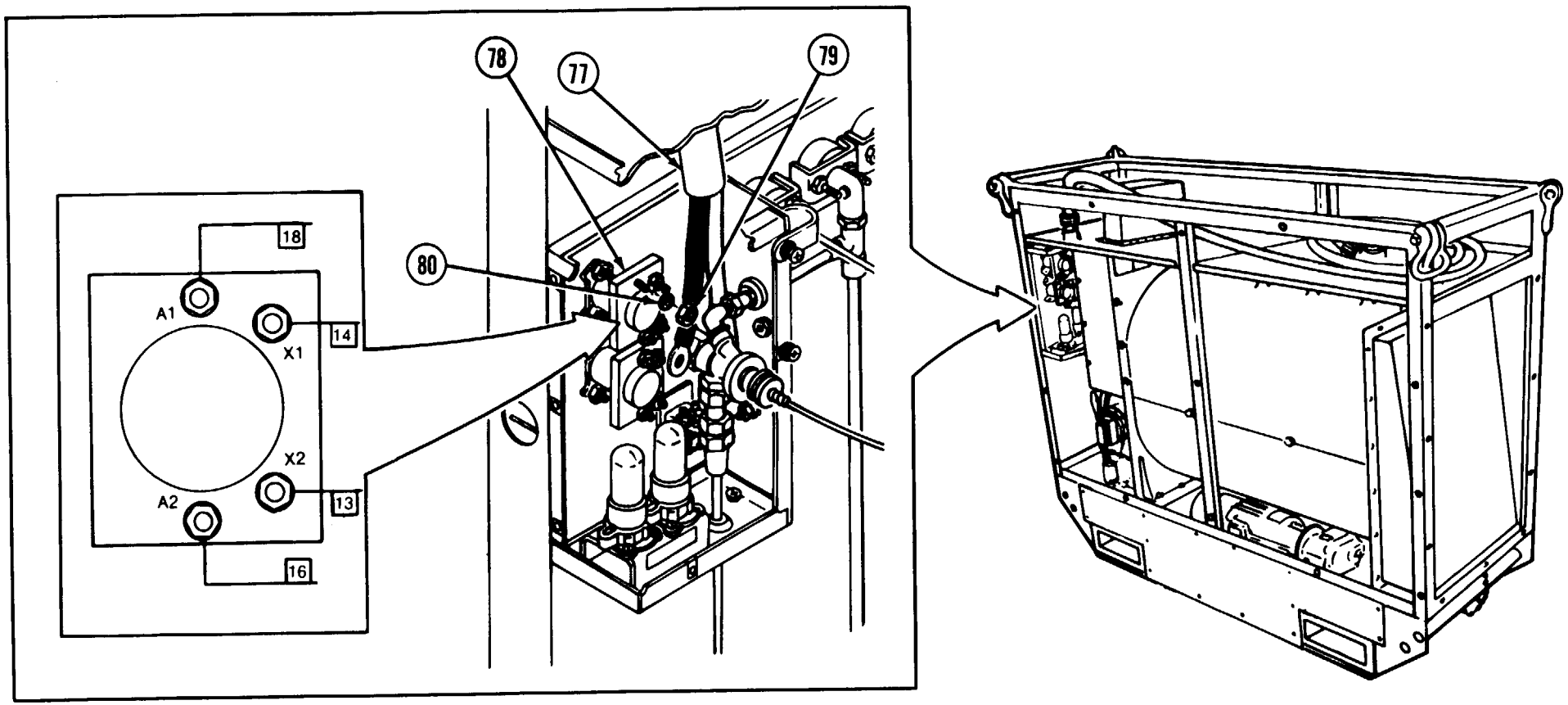
LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Liquid Fuel Water Heater/ **Electrical box connector (74)** **Washer (75)** **Rubber gasket (76)** **Power cable assembly (77)**	**Loosen top of electrical box connector (74) and remove the washer (75) and rubber gasket (76). Slide them onto power cable assembly (77) in same order removed. Insert end of power cable assembly (77) through the lower part of the electrical box connector (74). Tighten top part of electrical box connector (74).**	**Make sure enough cable is pulled through before tightening connection.**



K1 relay (78)
Nuts (79)
Washers (80)

At rear of K1 relay (78), remove nuts (79) and washers (80) from terminals A1, X1 and X2 and attach wires 18, 14 and 15. Reattach washers (80) and nuts (79).

Unscrew and remove nut (79) and washer (80) from terminal A2 and install black wire of power cable assembly (77) and wire 16.



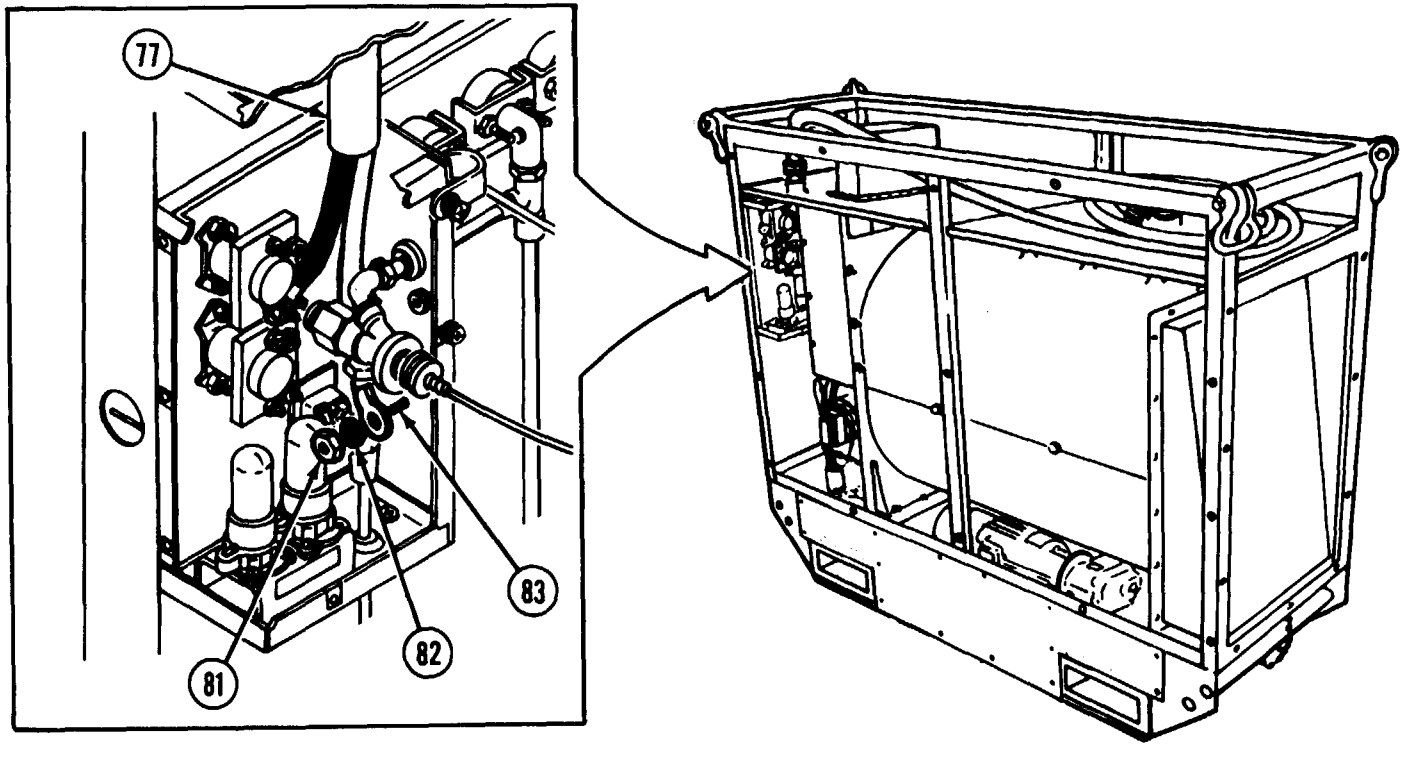
2-32. LIQUID FUEL WATER HEATER (CONT).

LOCATION/ITEM	ACTION	REMARKS

REASSEMBLY (CONT)

Liquid Fuel Water Heater/
Hexagon plain nut (81)
Internal tooth lock washer (82)
Ground lug (83)

Unscrew and remove hexagon plain nut (81) and internal tooth lock washer (82) from ground lug (83). Install white wire of power cable assembly (77) from ground lug (83).



Cover panel (84)
Capillary tube (85)
Grommet (86)

CAUTION

When removing or installing control box cover plate, be very careful not to damage the capillary tube.

Move cover panel (84) back and forth to clear capillary tube (85) and grommet (86) through the slot provided.

Internal tooth lock washers (87)
Machine screws (88)

Install five of the seven internal tooth lock washers (87) and machine screws (88) to secure cover panel (84). Tighten the two loosened machine screws (88).

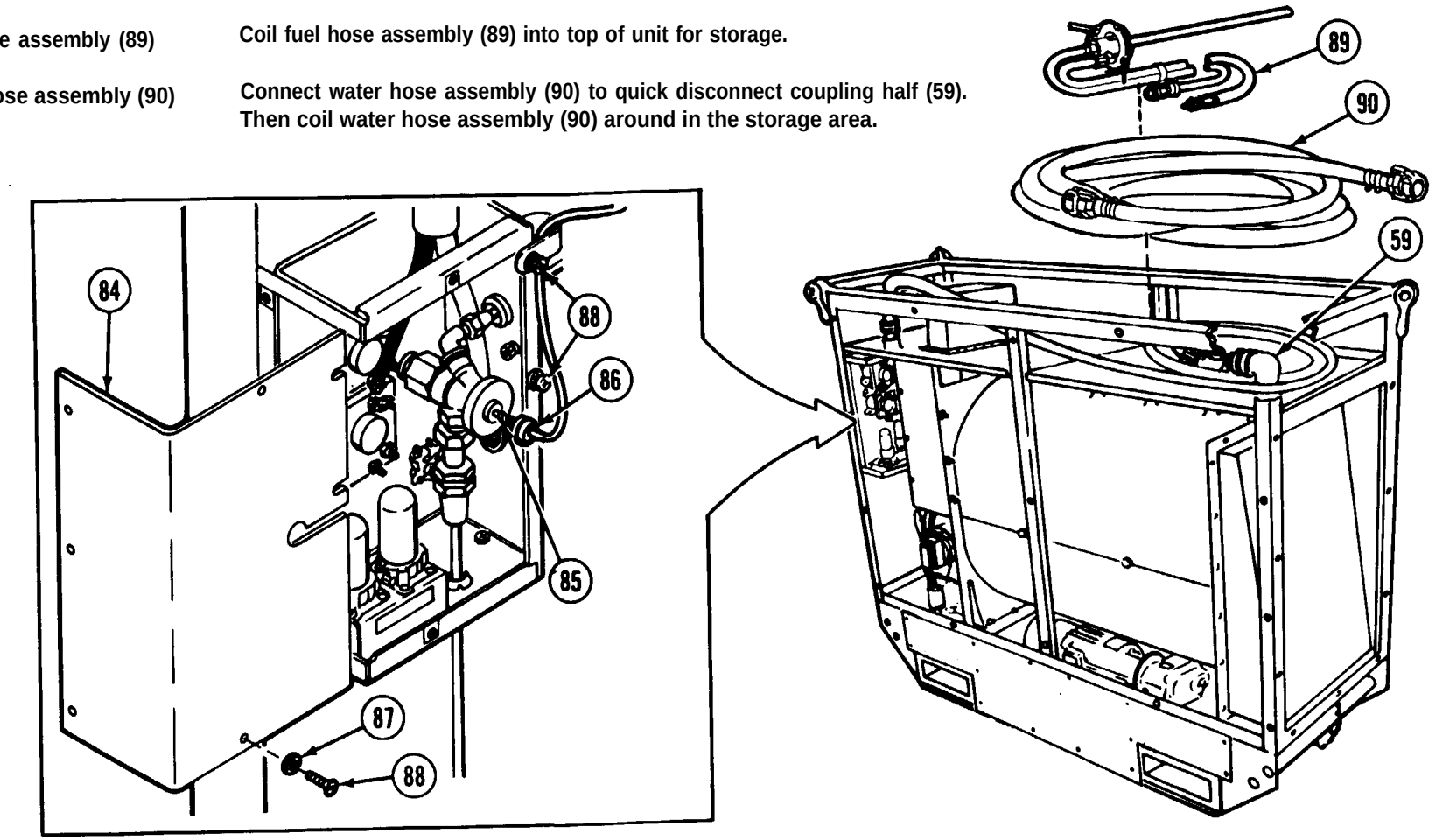
Two of the seven internal tooth lock washers (88) and machine screws (89) were only loosened in disassembly and not removed.

Fuel hose assembly (89)

Coil fuel hose assembly (89) into top of unit for storage.

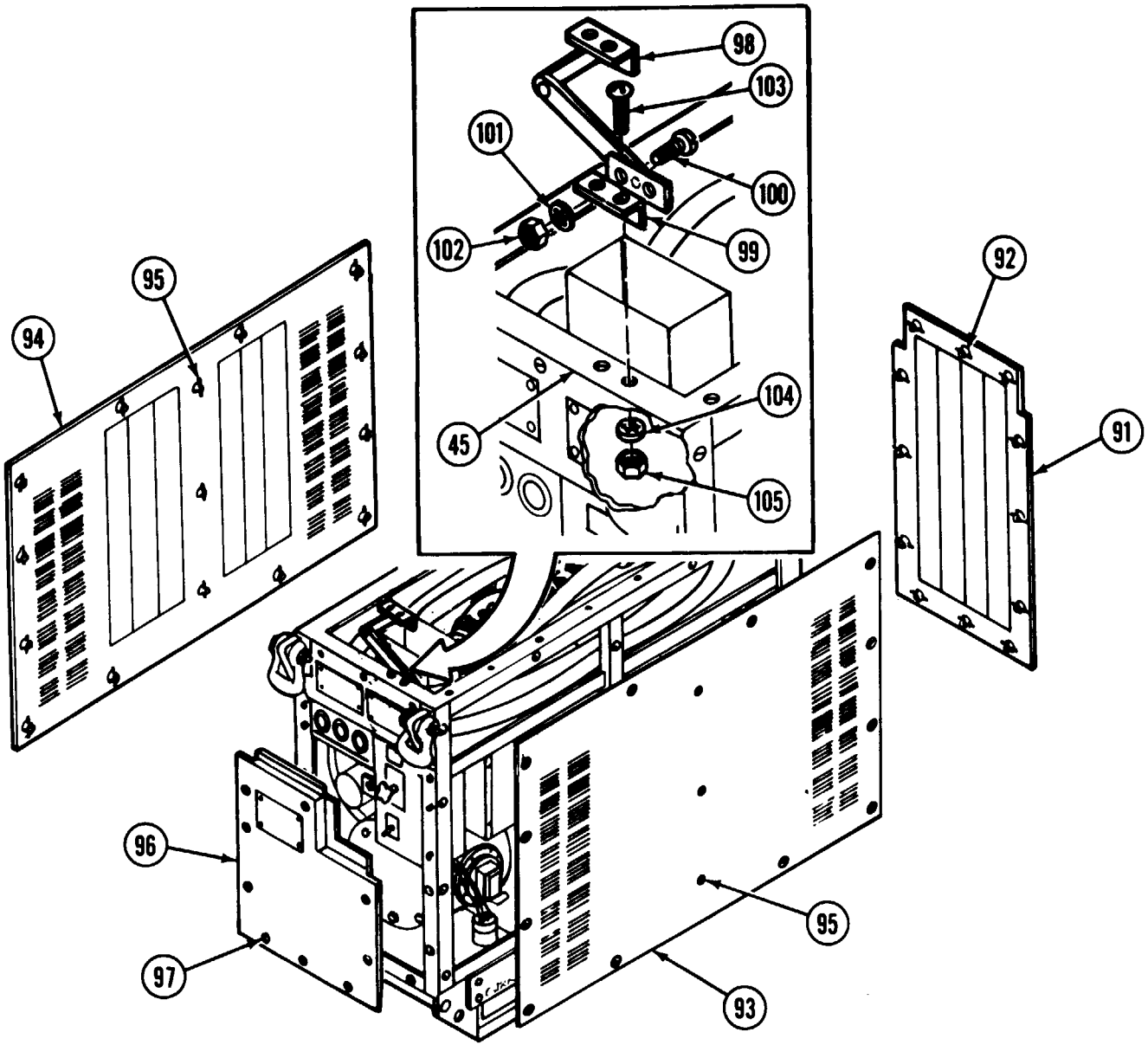
Water hose assembly (90)

Connect water hose assembly (90) to quick disconnect coupling half (59). Then coil water hose assembly (90) around in the storage area.



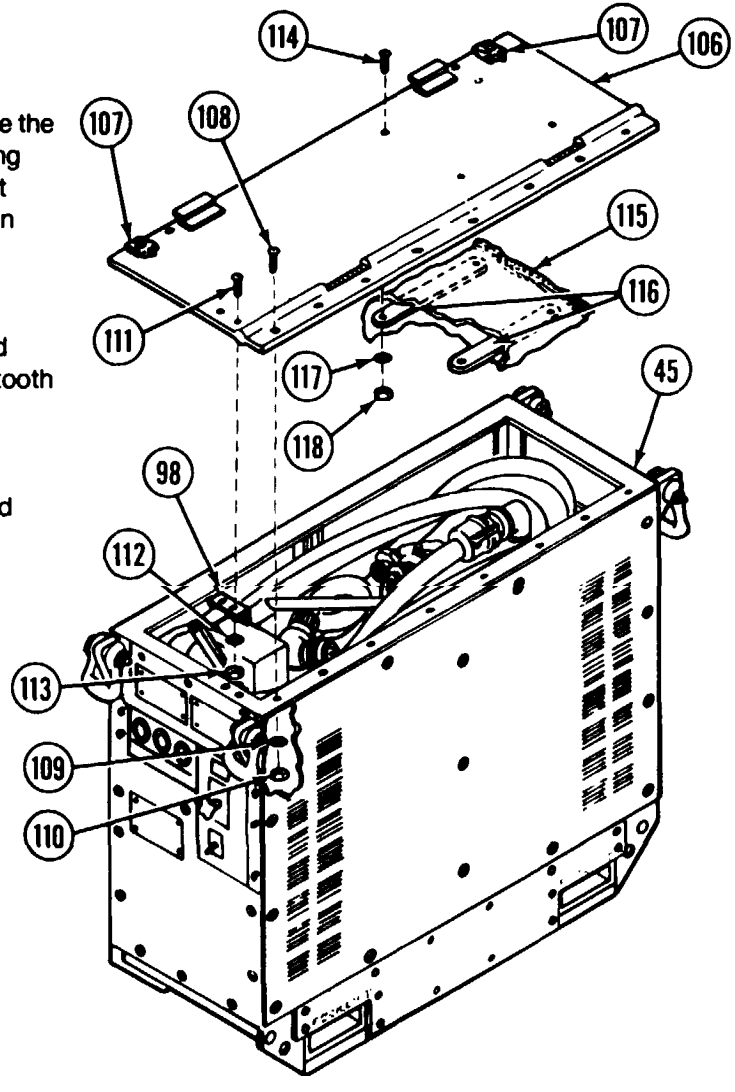
2-32. LIQUID FUEL WATER HEATER (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Liquid Fuel Water Heater/		
End Panel (91) **Turnlocks (92)**	**Install end panel (91) and turn twelve turnlocks (92) one quarter turn to the right to secure.**	
Side access cover (93) **Side access cover (94)** **Turnlocks (95)**	**Install side access covers (93 and 94) and turn fifteen turnlocks (95) in each panel one quarter turn to the right to secure.**	
Front access cover (96) **Turnlocks (97)**	**Install front access rover (96) and turn nine turnlocks (97) one quarter turn to the right to secure.**	
Top door support (98) **Angle bracket (99)** **Machine screws (100)** **Internal troth lock washers (101)** **Hexagon plain nuts (102)** **Machine screws (103)** **Internal tooth lock washers (104)** **Hexagon plain nuts (105)**	**Line up holes in top door support (98) with holes in angle bracket (99). Install two machine screws (100), internal tooth lock washers (101) and hexagon plain nuts (102). Position angle bracket onto the cabinet frame (45) and install two machine screws (103), internal tooth lock washers (104) and hexagon plain nuts (105).**	


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2-32. LIQUID FUEL WATER HEATER (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Liquid Fuel Water Heater/		
Cabinet top cover (106) Clamping catch (107) Machine screws (108) Internal troth lock washers (109) Hexagon plain nuts (110)	Position cabinet top cover (106) on top of cabinet frame (45) and aline the eight holes in the hinge and also make certain that top half of clamping catch (107) lines up with lower half of the clamping catch. Insert eight machine screws (108), internal tooth lock washers (109) and hexagon plain nuts (110).	
Machine screws (111) Internal tooth lock washers (112) Hexagon plain nuts (113)	Insert two machine screws (111) through cabinet top cover (106) and attach upper part of top door support (98). Secure with two internal tooth lock washers (112) and hexagon plain nuts (113).	
Machine screws (114) Tool carrier (115) Pouch strips (116)	Install four machine screws (114) through cabinet top cover (106) and positon tool carrier (115) and two pouch strips (116) over machine screws (114).	
Flat washers (117) Hexagon plain nuts (118)	Secure with four flat washers (117) and hexagon plain nuts (118).	



2-33. CONTROL BOX ASSEMBLY.

This task covers:
a. Disassembly
b. Repair
c. Reassembly

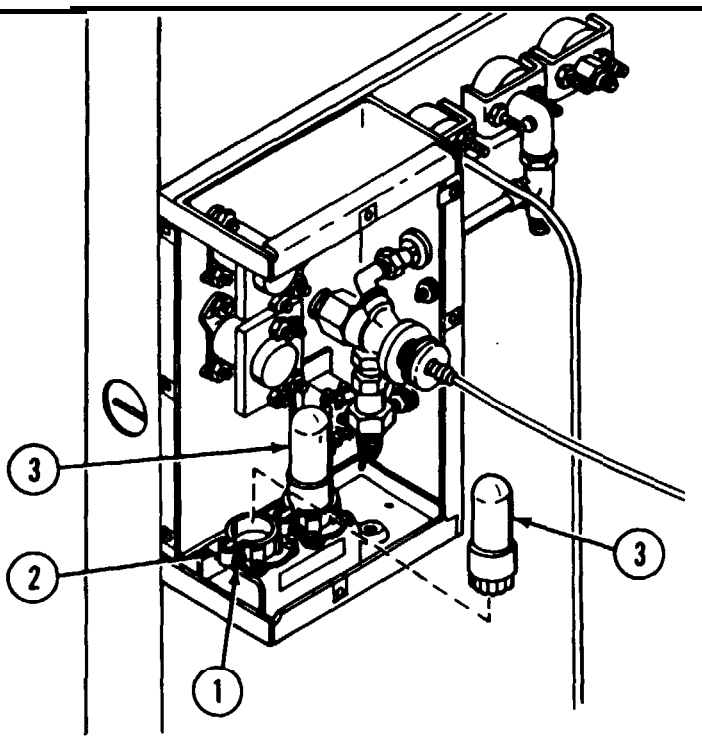
INITIAL SETUP

Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

Equipment Condition
Assembled

Materials/Parts
Pressure sensitive tape (item 38, app D)

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Control Box Assembly/		
Screw (1) **Band (2)**	**Loosen screw (1) or unlatch band (2), but do not remove.**	
Thermal relay (3)	**Remove thermal relay (3).**	
	Repeat procedures for second thermal relay (3).	



2-33. CONTROL BOX ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS

DISASSEMBLY (CONT)

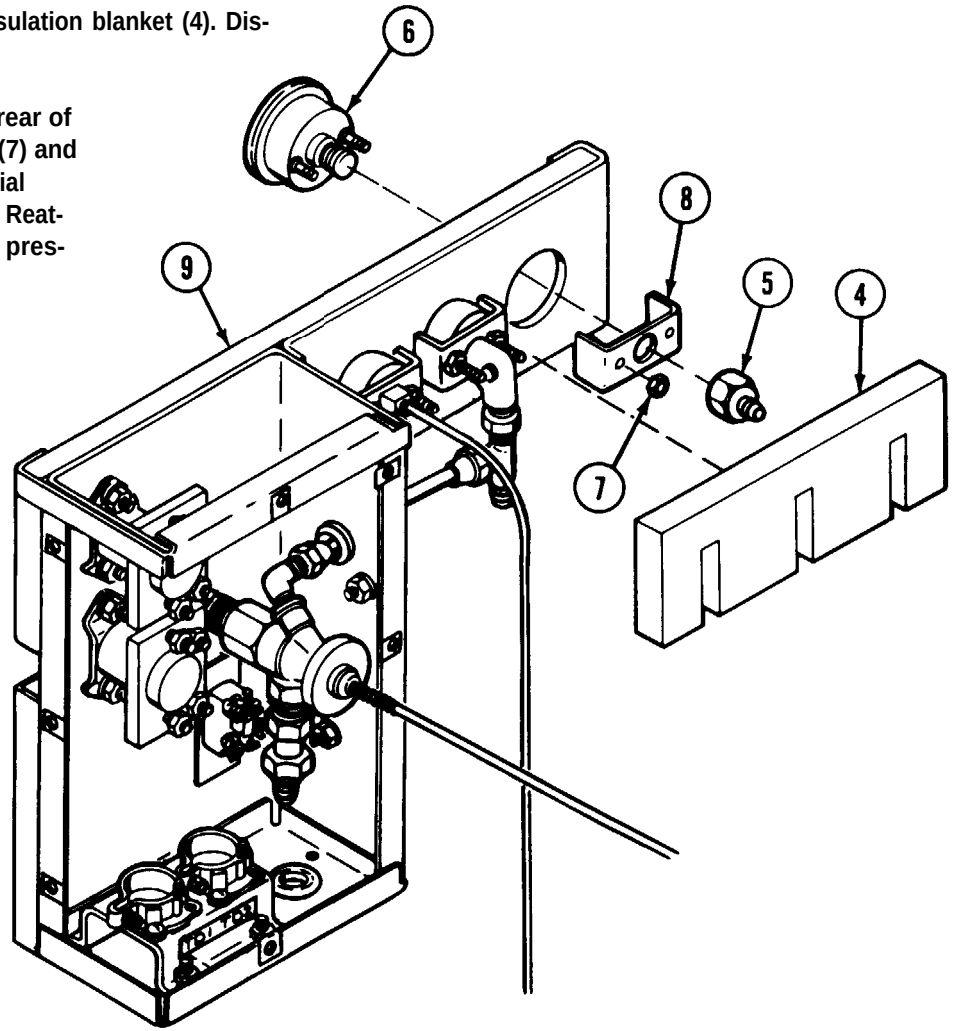
Control Box Assembly/

Insulation blanket (4)

Remove pressure sensitive tape covering the insulation blanket (4). Discard the tape and keep the blanket.

Pipe straight adapter (5)
Water pressure dial gage (6)
Nuts (7)
Metal bracket (8)
Control box assembly (9)

Remove one pipe straight adapter (5) from the rear of water pressure dial gage (6). Remove two nuts (7) and one metal bracket (8) and slide water pressure dial gage (6) out front of control panel assembly (9). Reattach metal bracket (8) and two nuts (7) to water pressure dial gage (6).



CAUTION

Do not bend or kink capillary tube. Any damage requires replacement.

Check valve (10)
Preformed packing (11)

Remove check valve (10) with preformed packing (11) installed.

Setscrew (12)
Knob (13)

Loosen setscrew (12) in knob (13) and remove knob (13).

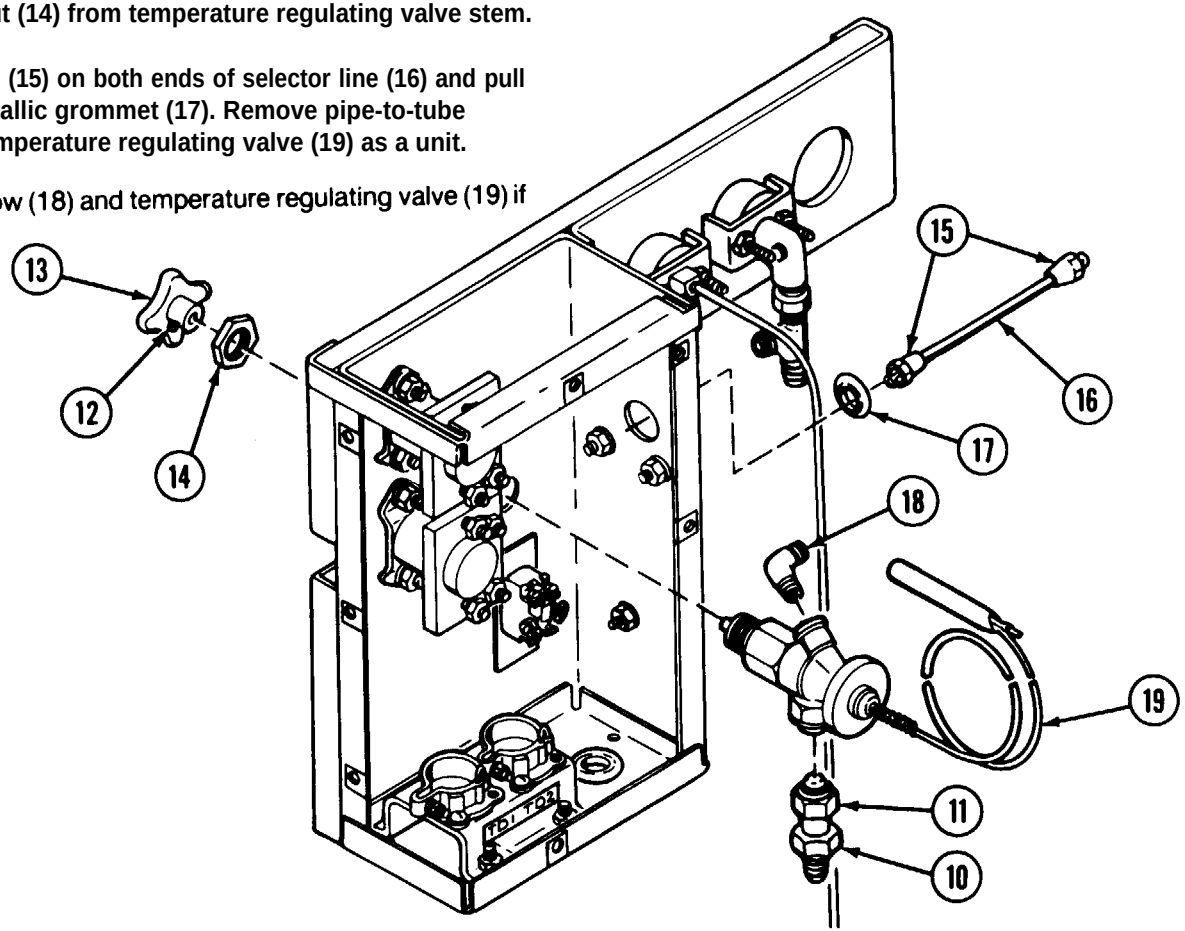
Hexagon plain nut (14)

Remove hexagon plain nut (14) from temperature regulating valve stem.

Tube coupling nuts (15)
Selector line (16)
Nonmetallic grommet (17)
Pipe-to-tube elbow (18)
Temperature regulating valve (19)

Loosen tube coupling nuts (15) on both ends of selector line (16) and pull selector line from nonmetallic grommet (17). Remove pipe-to-tube elbow (18) and remove temperature regulating valve (19) as a unit.

Separate pipe to tube elbow (18) and temperature regulating valve (19) if necessary.



2-33. CONTROL BOX ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS

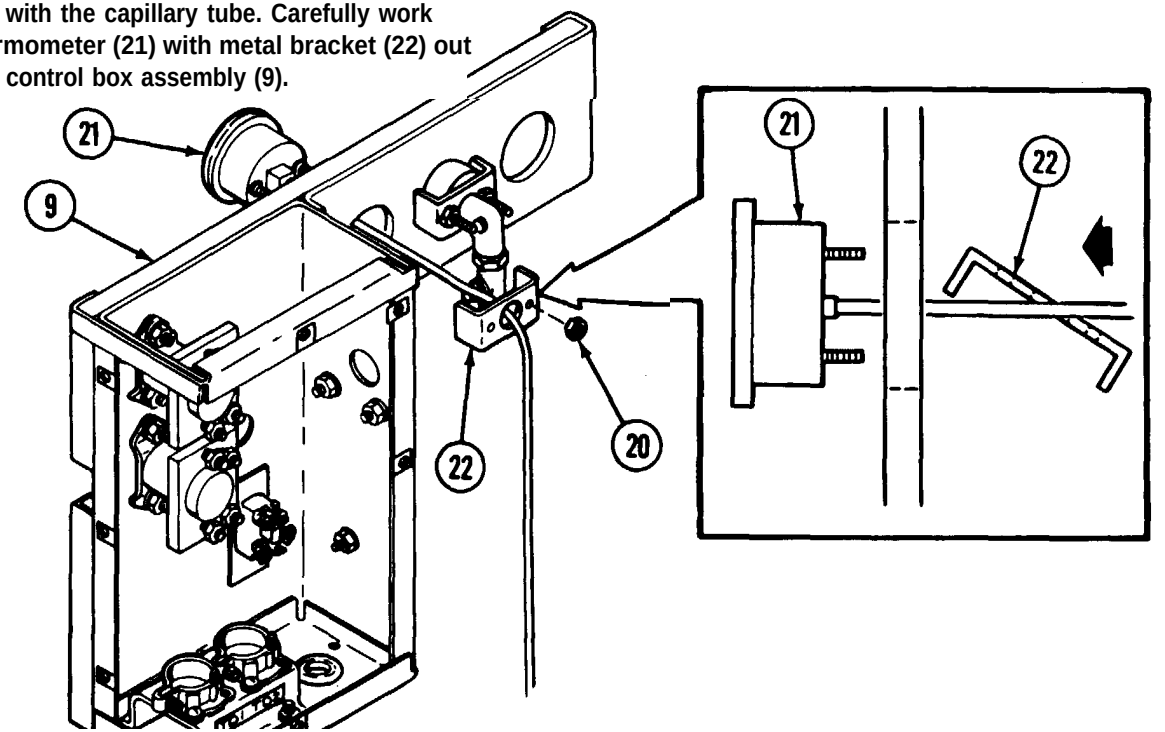
DISASSEMBLY (CONT)

Control Box Assembly/
- Nuts (20)
- Water temperature indicator thermometer (21)
- Metal bracket (22)

CAUTION

Do not bend or kink capillary tube. Any damage requires replacement. Do not coil capillary tube in a coil less than six inches in diameter.

Remove two nuts (20) from the rear of water temperature indicator thermometer (21). Slide metal bracket (22) back onto capillary tube. Position metal bracket (22) nearly parallel with the capillary tube. Carefully work water temperature indicator thermometer (21) with metal bracket (22) out through the mounting hole in the control box assembly (9).

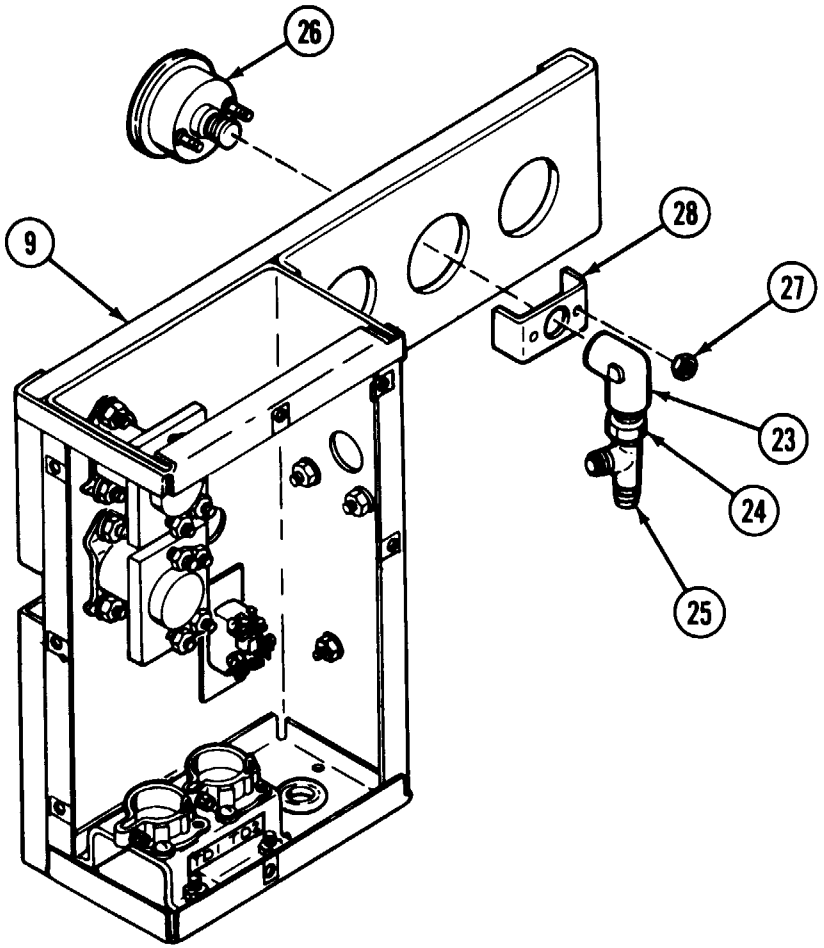


Control Box Assembly/
Pipe elbow (23)
Pipe bushing (24)
Pipe-to-tube tee (25)
Fuel pressure dial gage (26)

Remove pipe elbow (23), pipe bushing (24) and pipe-to-tube tee (25) from rear of fuel pressure dial gage (26) as a unit.

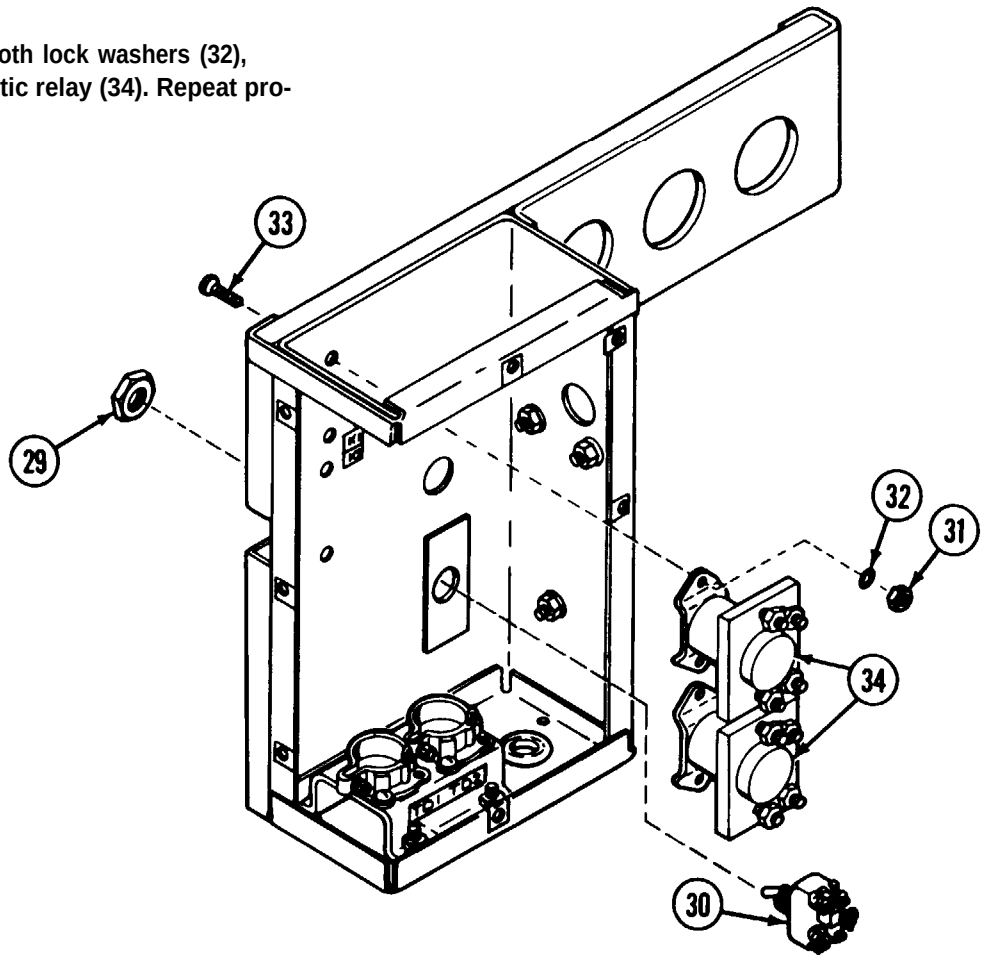
Nuts (27)
Metal bracket (28)

Remove two nuts (27) and metal bracket (28). Slide fuel pressure dial gage (26) out of the control box assembly (9). Reattach metal bracket (28) and nuts (27) onto fuel pressure dial gage (26).



2-33. CONTROL BOX ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
Control Box Assembly/		
Nut (29)	**Remove nut (29) from toggle switch (30) and remove toggle switch. Reattach nut (29) to toggle switch (30).**	
Toggle switch (30)		
Hexagon plain nuts (31)	**Remove two hexagon plain nuts (31), internal tooth lock washers (32), machine screws (33) and remove electromagnetic relay (34). Repeat procedures for second electromagnetic relay.**	
Internal tooth lock washers (32)		
Machine screws (33)		
Electromagnetic relay (34)		



REPAIR

Control Box Assembly/
Thermal relays

Repair by replacing authorized components.

Pressure sensitive tape

Apply pressure sensitive tape over rear part of gage section. Retape area covering gages.

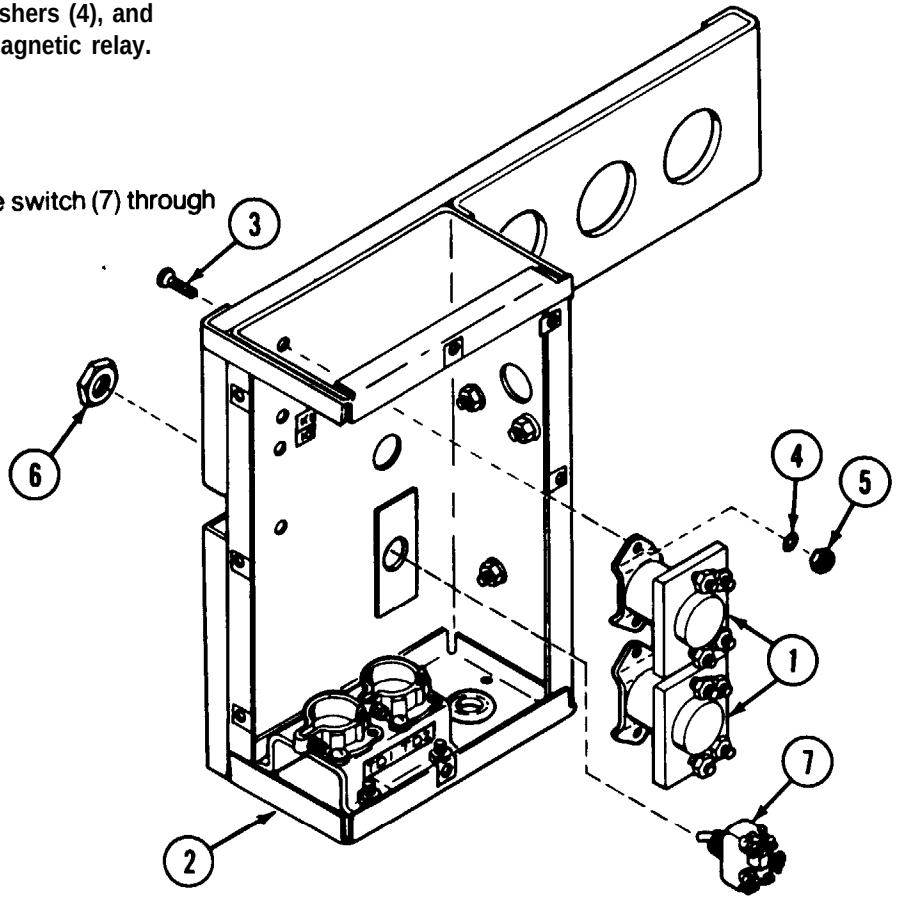
REASSEMBLY

Control Box Assembly/
Electromagnetic relay (1)
Control box assembly (2)
Machine screws (3)
Internal tooth lock washers (4)
Hexagon plain nuts (5)

Install electromagnetic relay (1) into control box assembly (2) and secure with two machine screws (3), internal tooth lock washers (4), and hexagon plain nuts (5). Repeat for second electromagnetic relay.

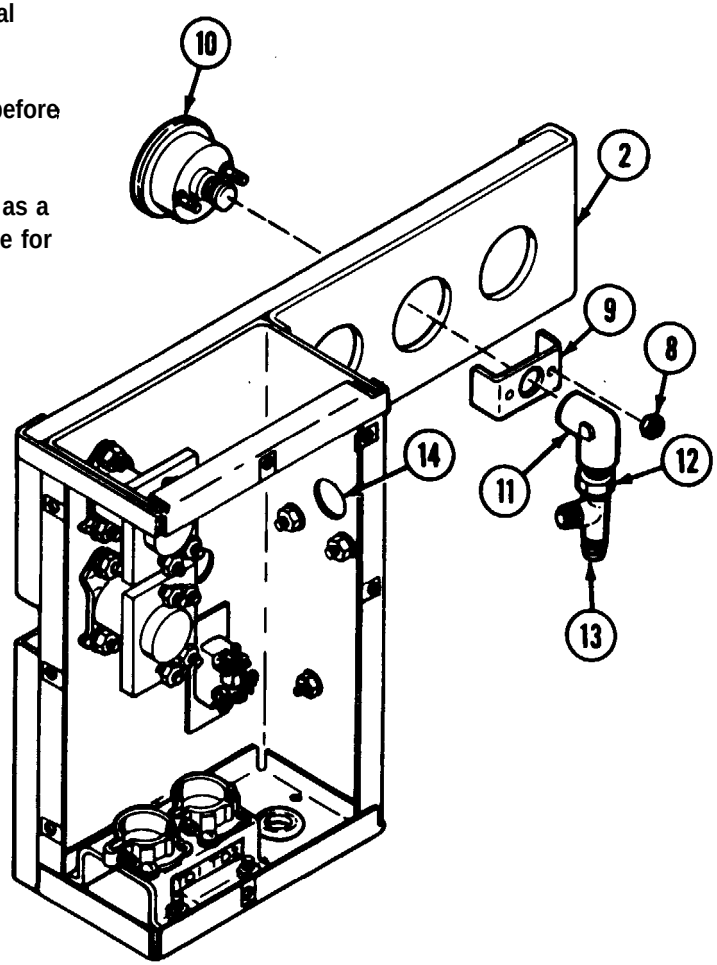
Nut (6)
Toggle switch (7)

Remove nut (6) from toggle switch (7). Install toggle switch (7) through control box and secure with nut (6).



2-33. CONTROL BOX ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Control Box Assembly/		
Nuts (8) **Metal bracket (9)** **Fuel pressure dial gage (10)**	**Remove two nuts (8) and metal bracket (9) and install fuel pressure dial gage (10) through front of control box assembly (2). Reattach metal bracket (9) and secure with two nuts (8).** **Wrap all male threads on gages and fittings with antiseizing tape before installing.**	
Pipe elbow (11) **Pipe bushing (12)** **Pipe-to-tube tee (13)** **Nonmetallic grommet (14)**	**Install pipe elbow (11), pipe bushing (1 2), and pipe-to-tube tee (13) as a unit. Point side opening on pipe-to-tube tee toward control box hole for nonmetallic grommet (14) as shown.**	



CAUTION

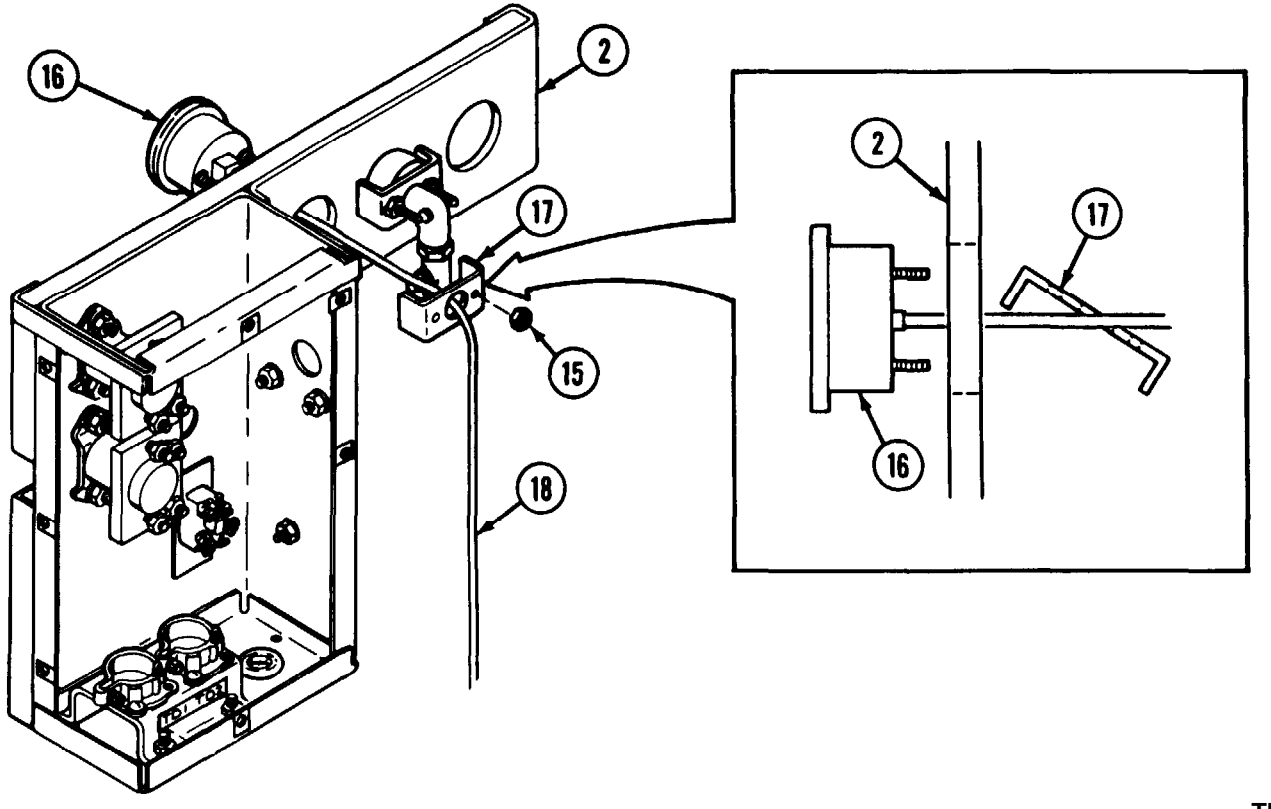
Do not bend or kink capillary tube. Any damage requires replacement. Do not coil capillary tube in a coil less than 6 inches in diameter.

Nuts (15)
Water temperature indicator thermometer (16)
Metal bracket (17)
Capillary tube (18)

Remove two nuts (15) from rear of water temperature indicator thermometer (16) and slide metal bracket (17) carefully back on the capillary tube (18) without damaging it.

Insert end of capillary tube (18) through control box assembly (2) and slightly angle metal bracket (17) so it will pass through the control box assembly hole.

Position metal bracket (17) onto rear of water temperature indicator thermometer (16) and secure with two nuts (15).



2-33. CONTROL BOX ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS

REASSEMBLY (CONT)

CAUTION

Do not bend or kink capillary tube. Any damage requires replacement. Do not coil capillary tube in a coil less than 6 inches in diameter while handling it.

Control Box Assembly/

Check valve (19)
Preformed packing (20)
Temperature regulating valve (21)
Pipe-to-tube elbow (22)

Screw check valve (19) with preformed packing (20) attached into bottom of temperature regulating valve (21). Wrap male threads of pipe-to-tube elbow (22) with antiseizing tape before screwing into top of temperature regulating valve (21). Tighten pipe-to-tube elbow (22) so the open end will point directly at the nonmetallic grommet (14). Tighten (do not loosen) pipe-to-tube elbow (22) to aline. Install temperature regulating valve (21), pipe-to-tube elbow (22), and check valve (19) as a unit into control box (2).

Selector line (23)
Tube coupling nuts (24)

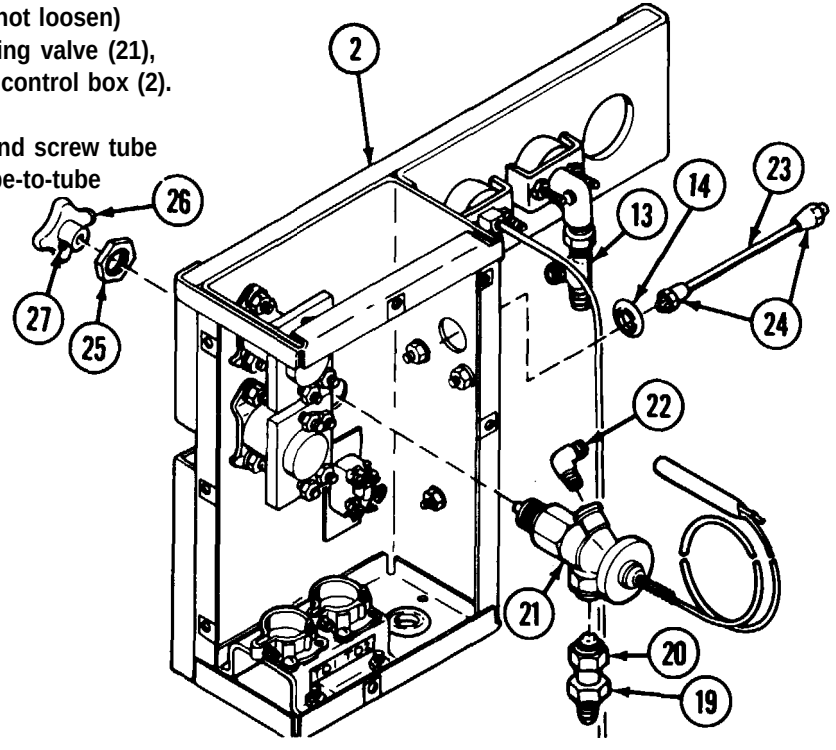
Stick selector line (23) through nonmetallic grommet (14) and screw tube coupling nuts (24) onto the pipe-to-tube elbow (22) and pipe-to-tube tee (13) fingertight.

Hexagon plain nut (25)

Install hexagon plain nut (25) onto end of temperature regulating valve (21) and tighten fingertight. Tighten two tube coupling nuts (24) and hexagon plain nut (25).

Knob (26)
Setscrew (27)

Install knob (26) with setscrew (27) installed. Tighten setscrew (27).



Nuts (28)
Metal bracket (29)
Water pressure dial gage (30)

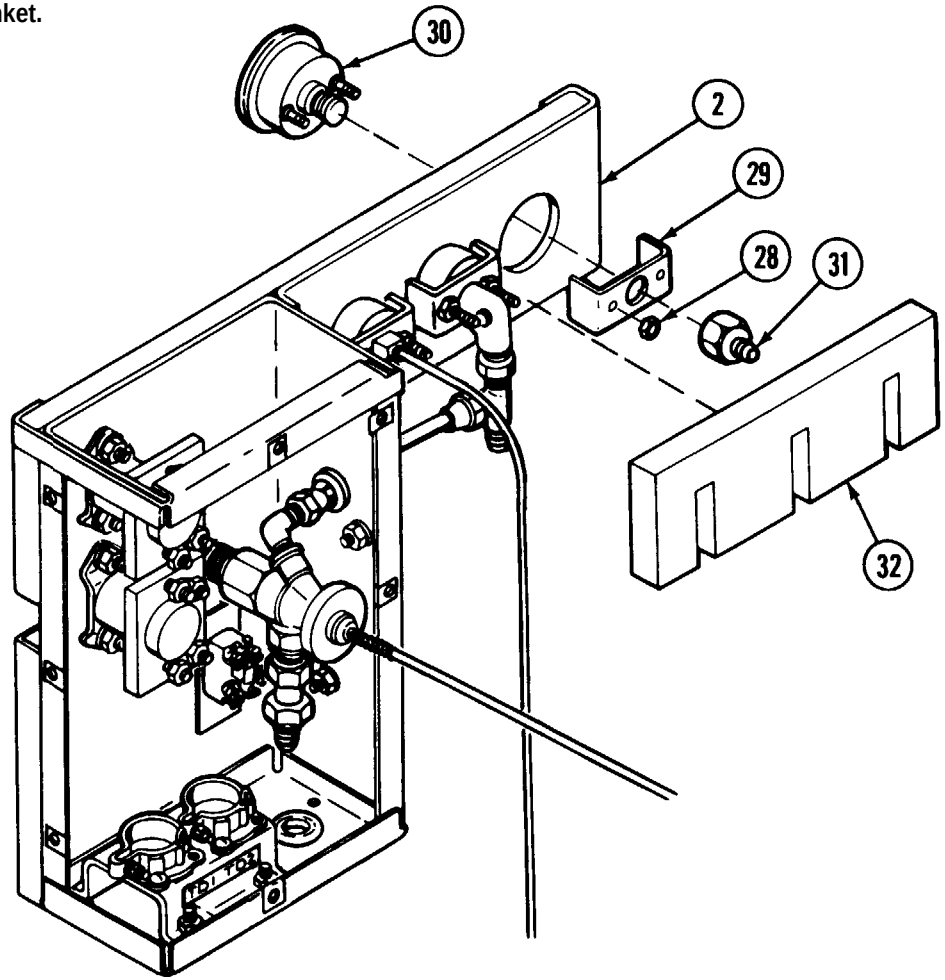
Remove two nuts (28) and metal bracket (29) from rear of water pressure dial gage (30). Install water pressure dial gage (30) into control box assembly (2) and secure with metal bracket (29) and two nuts (28).

Pipe straight adapter (31)

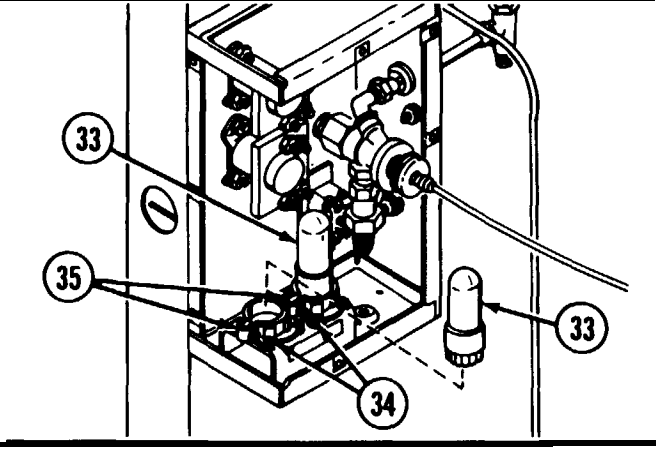
Wrap male threads of water pressure dial gage (30) with antiseizing tape before installing pipe straight adapter (31).

Insulation blanket (32)

Position insulation blanket (32) over backside of all three gages. Apply pressure sensitive tape over insulation blanket.



2-33. CONTROL BOX ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Control Box Assembly/ **Thermal relay (33)** **Screw (34)** **Band (35)**	**WARNING** **Make certain thermal relays are not installed in wrong socket. Personnel injury and damage to equipment will result.** **Position thermal relay (33) in socket and aline pins. Press in fully.** **Tighten screw (34) or snap latch until band (35) firmly holds thermal relay (33). Repeat procedures for second thermal relay (33).**	

2-34. FUEL HOSE ASSEMBLY.

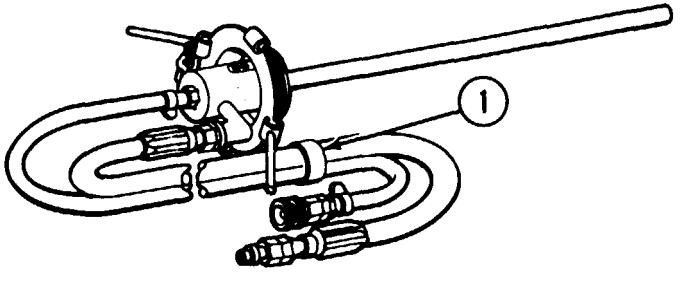
This task covers repair.

INITIAL SETUP

Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

Materials/Parts
Electrical insulation tape (item 37, app D)

Equipment Condition
Assembled

LOCATION/ITEM	ACTION	REMARKS
REPAIR		
Fuel Hose Assembly/ **Insulation tape (1)**	**Unit maintenance is authorized to tighten connections to stop fuel leaks.** **Start six inches from each end and tape full length of two hoses in eight equally spaced areas with electrical insulation tape (1).**	

2-35. WATER HOSE ASSEMBLY.

This task covers:
a. Disassembly
b. Repair
c. Reassembly

INITIAL SETUP

Refer to page 2-132.

LOCATION/ITEM	ACTION
DISASSEMBLY	
Water Hose Assembly/	Refer to page 2-132.
REPAIR	
Water Hose Assembly/	Refer to page 2-132.
REASSEMBLY	
Water Hose Assembly/	Refer to page 2-132.

2-36. SKID BASE ASSEMBLY.

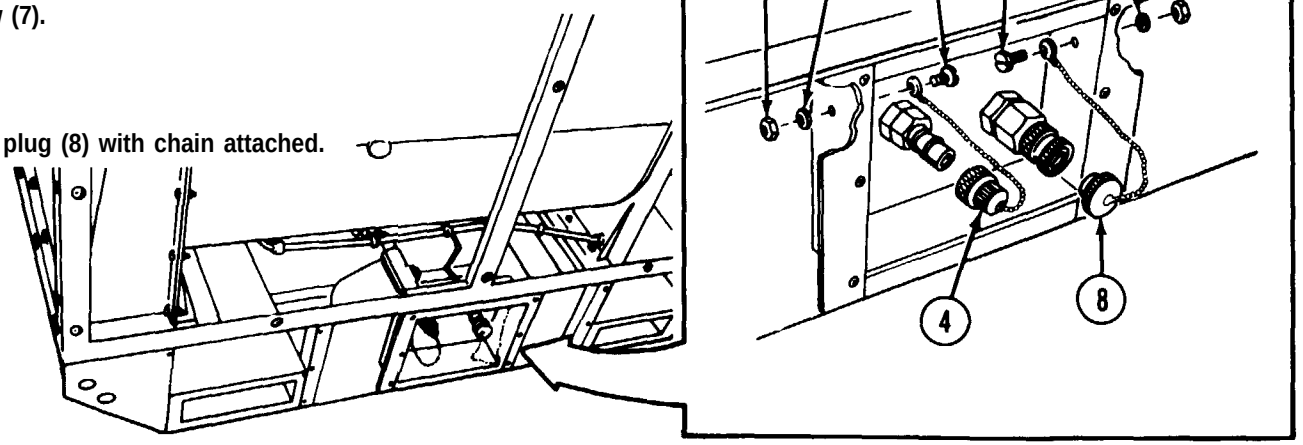
This tank covers:
a. Disassembly
b. Repair
c. Reassembly

INITIAL SETUP

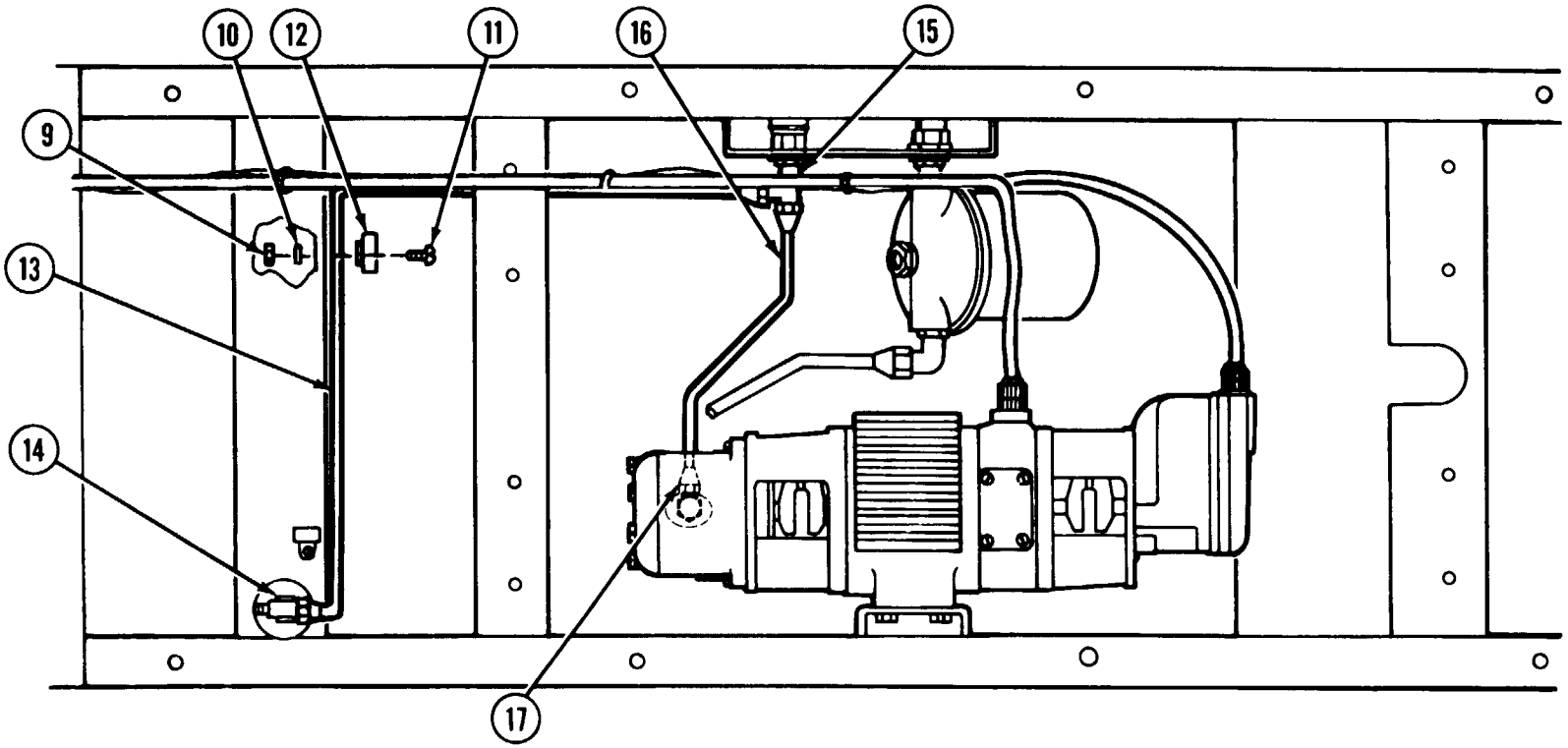
Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

Equipment Condition
Assembled

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Skid Assembly/		
Hexagon plain nut (1) Internal tooth lock washer (2) Machine screw (3)	Unscrew and remove hexagon plain nut (1), internal tooth lock washer (2), and machine screw (3).	
Protective cap (4)	Remove protective cap (4) with chain attached.	
Hexagon plain nut (5) Internal tooth lock washer (6) Machine screw (7)	Unscrew and remove hexagon plain nut (5), internal tooth lock washer (6), and machine screw (7).	
Protective plug (8)	Remove protective plug (8) with chain attached.	



Hexagon plain nut (9) Internal tooth lock washer (10) Machine screw (11) Loop clamp (12)	Remove hexagon plain nut (9), internal tooth lock washer (10), machine screw (11), and Imp clamp (12).
Purge and bypass return line (13) Pipe-to-tube tee (14) Pipe-to-tube tee (15)	Remove purge and bypass return line (13) connected to pipe-to-tube tee (14) and pipe-to-tube tee (15).
Pump return line (16) Pipe-to-tube elbow (17)	Remove pump return line (16) connected to pipe-to-tube tee (15) and pipe-to-tube elbow (17).



2-36. SKID BASE ASSEMBLY (CONT)

LOCATION/ITEM	ACTION	REMARKS

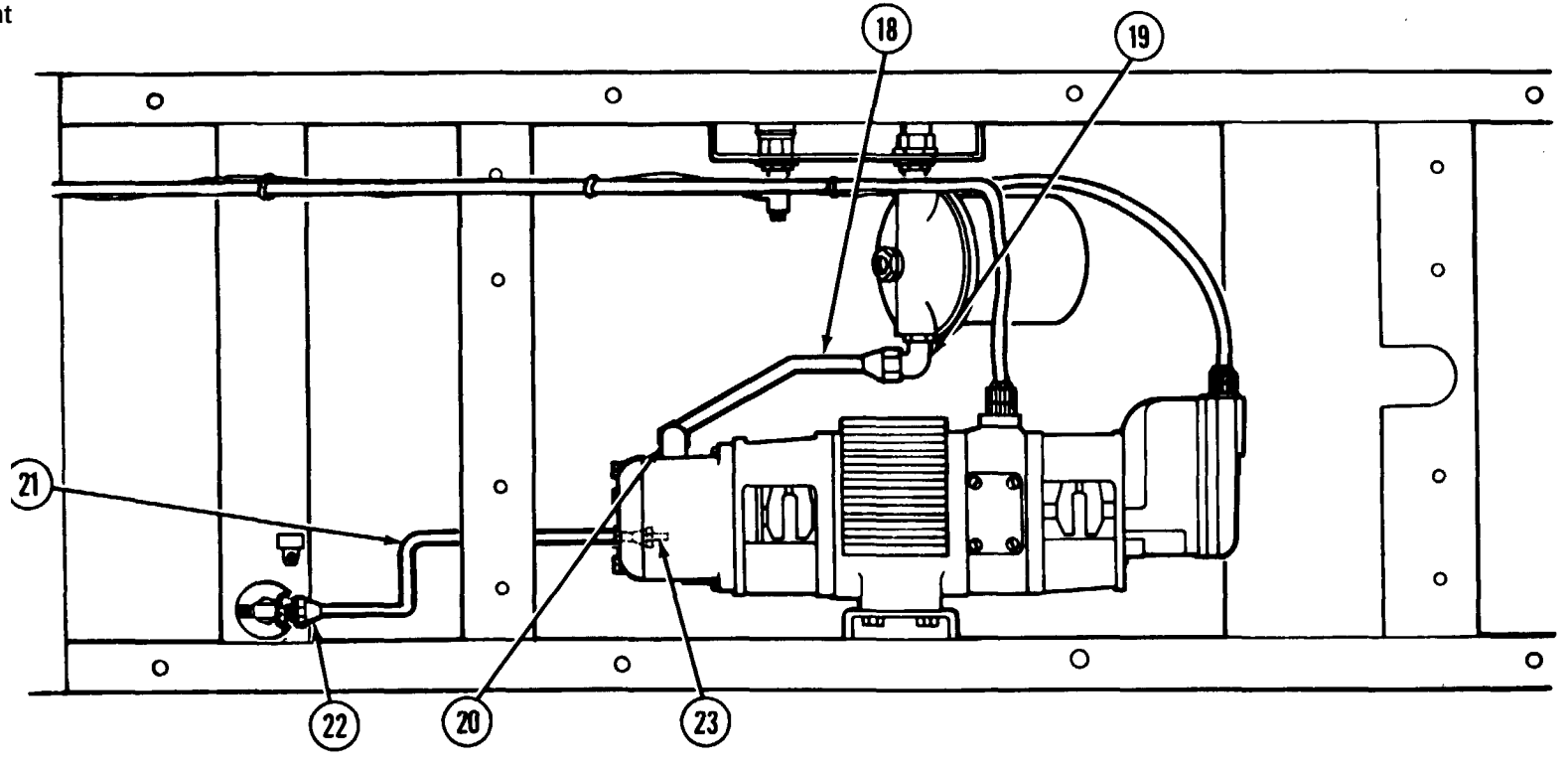
DISASSEMBLY (CONT)

Skid Base Assembly/
Fuel supply line (18)
Pipe-to-tube elbow (19)
Pipe-to-tube elbow (20)

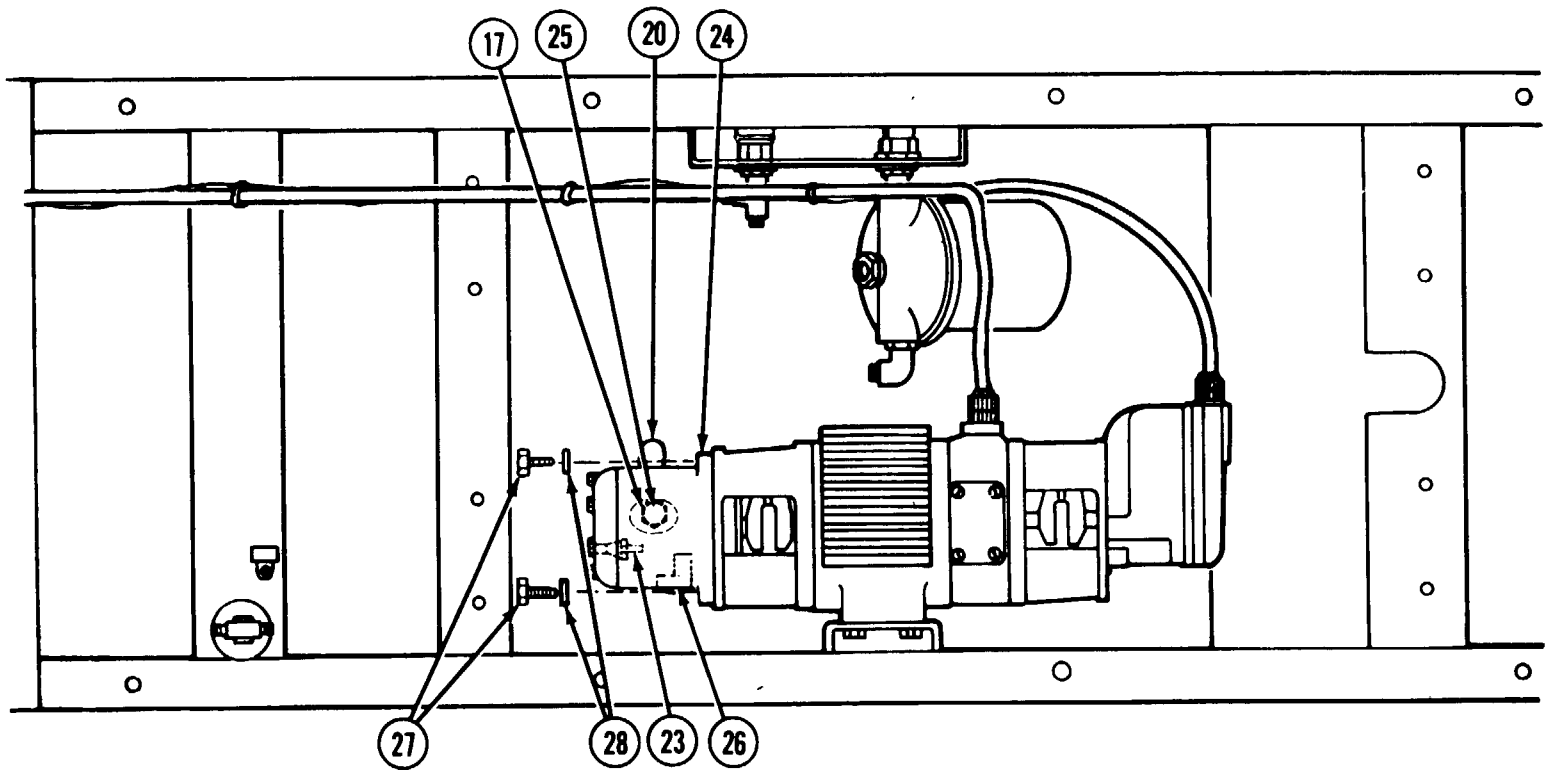
Remove fuel supply line (18) connected to pipe-to-tube elbow (19) and pipe-to-tube elbow (20).

Gage port line (21)
Pipe-to-tube straight adapter (22)
Pipe-to-tube straight adapter (23)

Remove gage port line (21) from pipe-to-tube straight adapter (22) and pipe-to-tube straight adapter (23).

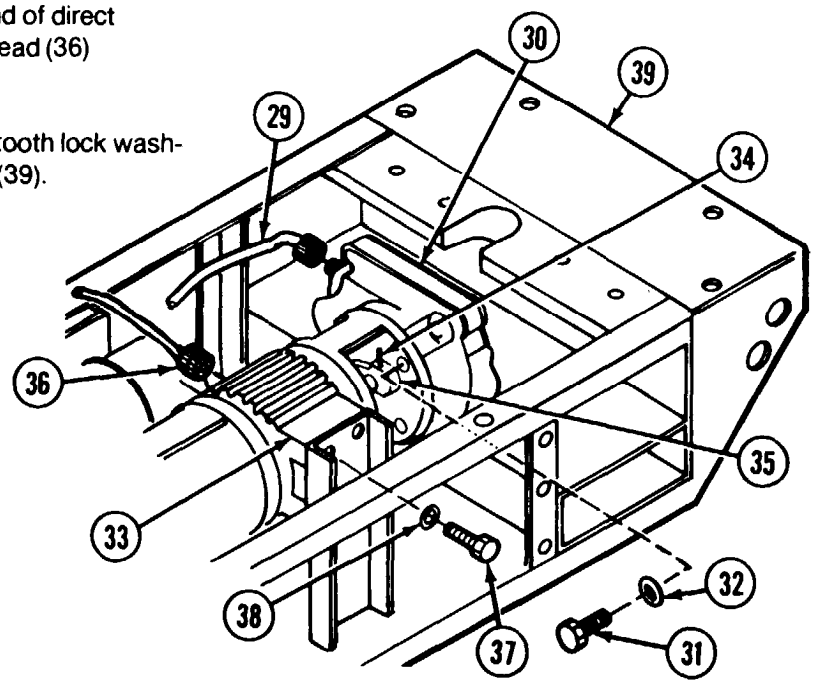


Fuel pump assembly (24) Pipe bushing (25)	Remove pipe-to-tube elbow (20) from fuel pump assembly (24). Remove pipe-to-tube elbow (17) and pipe bushing (25) as a unit.
Pipe-to-tube elbow (26)	Remove pipe-to-tube elbow (26) and pipe-to-tube straight adapter (23).
Hexagon head cap screws (27) Internal tooth lock washers (28)	Remove two hexagon head cap screws (27) and internal tooth lock washers (28). Remove fuel pump assembly (24).



2-36. SKID BASE ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY (CONT)		
Skid Base Assembly/ **Igniter cable assembly (29)** **Magneto assembly (30)**	**Disconnect igniter cable assembly (29) from the magneto assembly (30).**	
Hexagon head cap screws (31) **Internal tooth lock washers (32)** **Direct current motor (33)**	**Remove four hexagon head cap screws (31) and internal tooth lock washers (32) and remove magneto assembly (30) from the direct current motor (33).**	
Spring pins (34) **Drive arms (35)** **Electrical lead (36)**	Remove spring pins (34) and drive arms (35) from each end of direct current motor (33) only if defective. Disconnect electrical lead (36) attached to the direct current motor (33).	
Hexagon head cap screws (37) **Internal tooth lock washers (38)** **Skid base (39)**	Remove four hexagon head cap screws (37) and internal tooth lock washers (38), and lift direct current motor (33) out of skid base (39).	

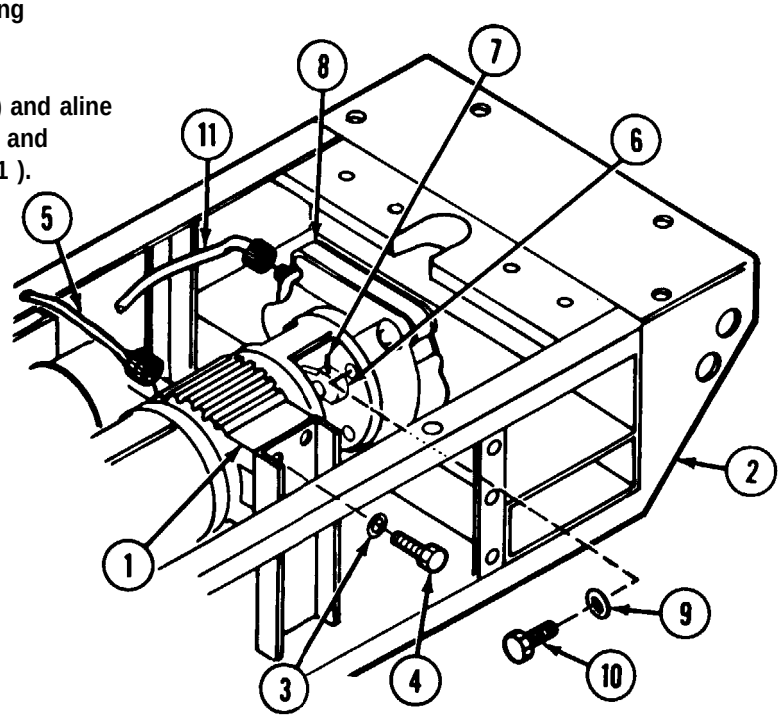


REPAIR

Skid Base Assembly/	
Authorized items	**Repair by replacing authorized items.**

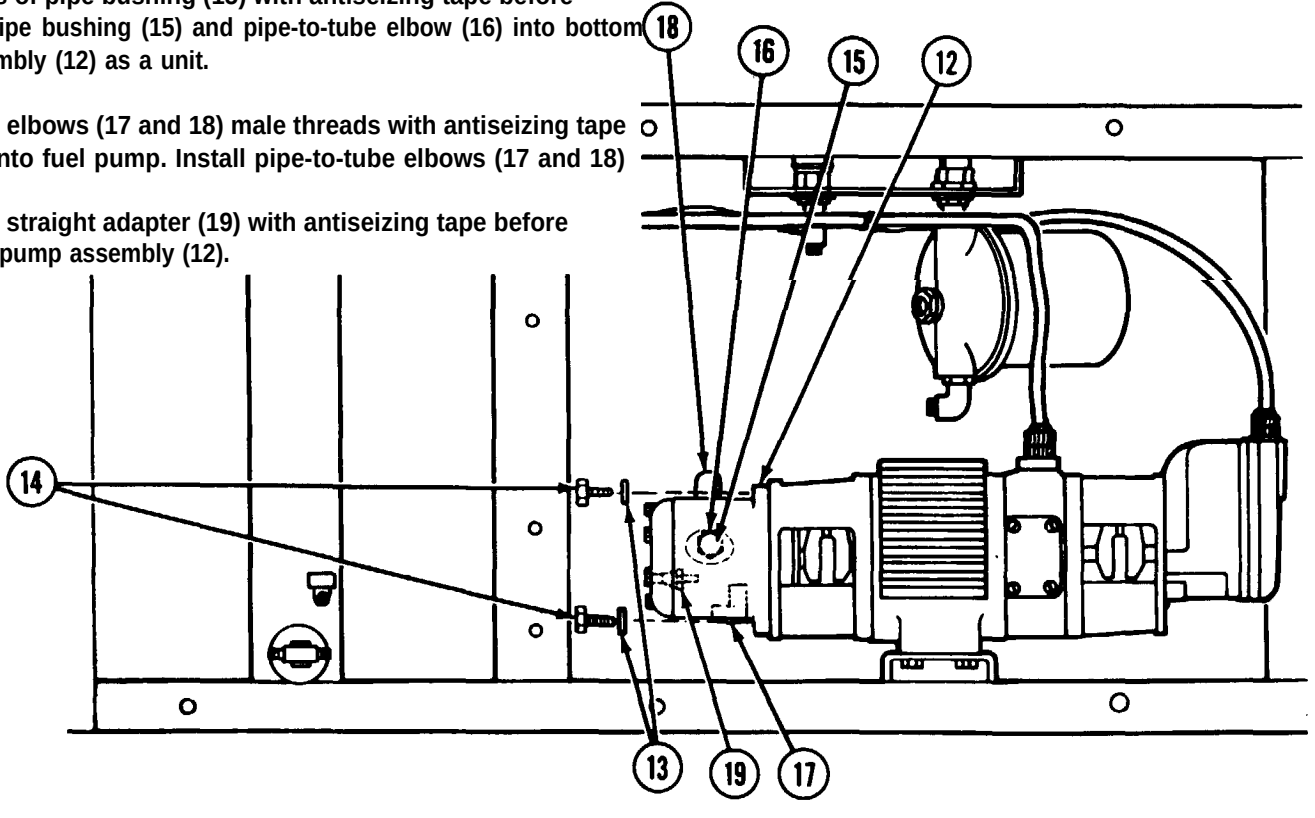
REASSEMBLY

Skid Base Assembly/	
Direct current motor (1)	**Position direct current motor (1) into skid base (2), and secure with four internal tooth lock washers (3) and hexagon head cap screws (4). Re-attach electrical lead (5).**
Skid base (2)	
Internal tooth lock washers (3)	
Hexagon head cap screws (4)	
Electrical lead (5)	
Drive arms (6)	**Install the two drive arms (6) and aline hole. Secure with the spring pins (7).**
Spring pins (7)	
Magneto assembly (8)	**Install magneto assembly (8) onto end of direct current motor (1) and aline mounting holes. Secure with four internal tooth lock washers (9) and hexagon head cap screws (10). Attach igniter cable assembly (11).**
Internal tooth lock washers (9)	
Hexagon head cap screws (10)	
Igniter cable assembly (11)	

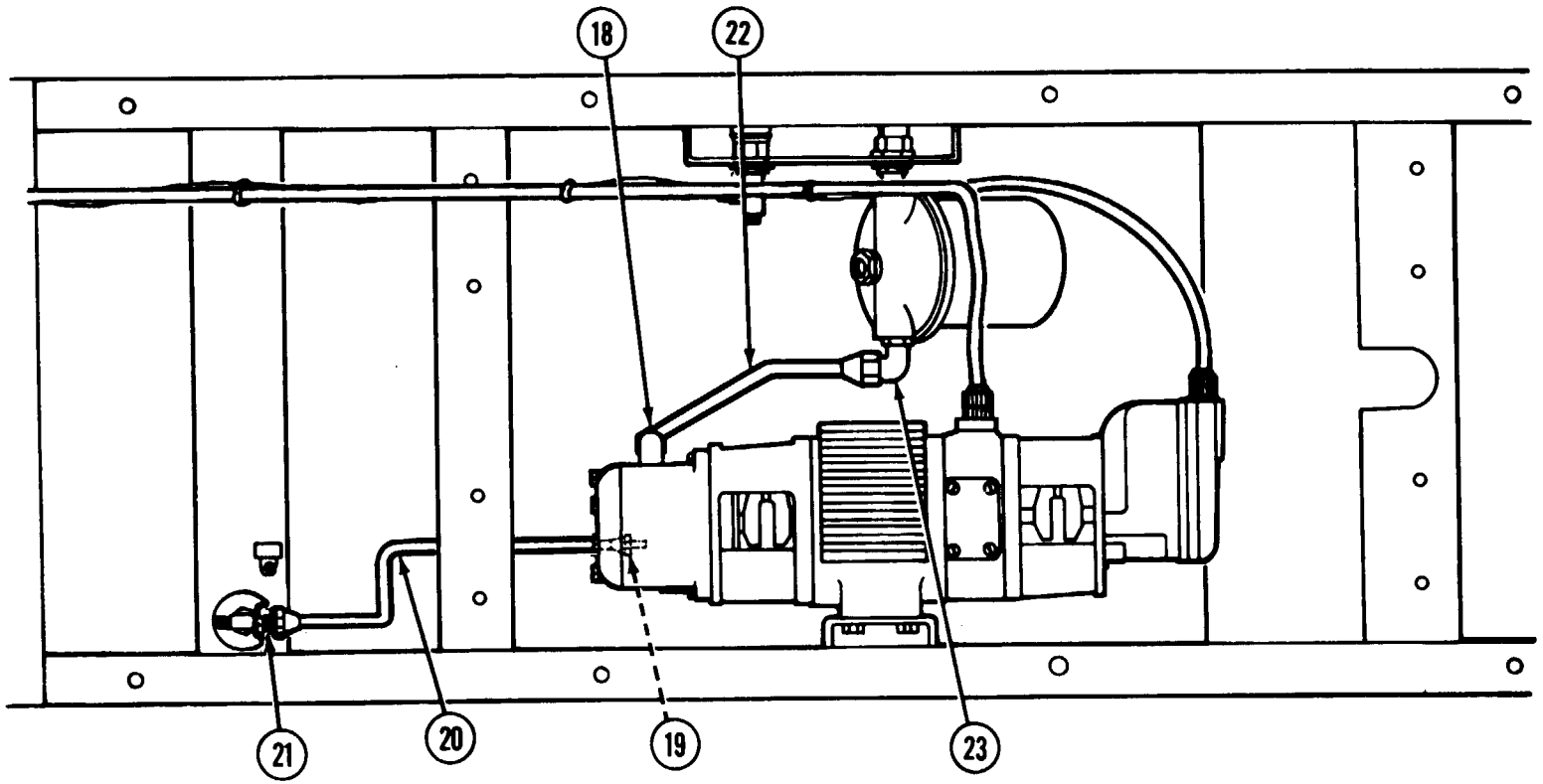


2-36. SKID BASE ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Skid Base Assembly/ Fuel pump assembly (12) Internal tooth lock washers (13) Hexagon head cap screws (14)	Install fuel pump assembly (12) and secure with two internal tooth lock washers (13) and hexagon head cap screws (14).	
Pipe bushing (15) Pipe-to-tube elbow (16)	Wrap male threads of pipe bushing (15) with antiseizing tape before installing. Install pipe bushing (15) and pipe-to-tube elbow (16) into bottom of fuel pump assembly (12) as a unit.	
Pipe-to-tube elbow (17) Pipe-to-tube elbow (18)	Wrap Pipe-to-tube elbows (17 and 18) male threads with antiseizing tape before installing into fuel pump. Install pipe-to-tube elbows (17 and 18)	
Pipe-to-tube straight adapter (19)	Wrap pipe-to-tube straight adapter (19) with antiseizing tape before installing into fuel pump assembly (12).	

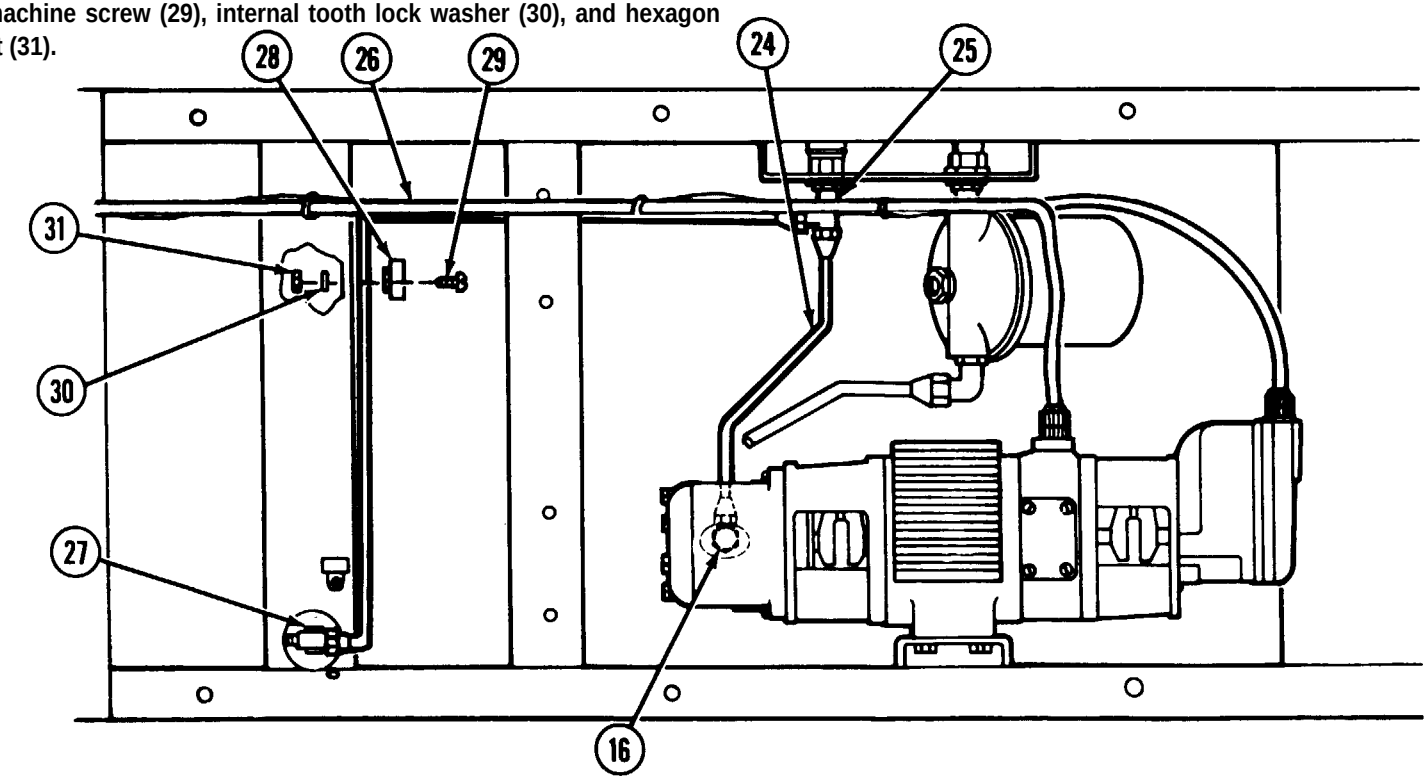


Gage port line (20) Pipe-to-tube straight adapter (21)	Install gage port line (20) between pipe-to-tube straight adapter (19) and pipe-to-tube straight adapter (21).
Fuel supply line (22) Pipe-to-tube elbow (23)	Install fuel supply line (22) between pipe-to-tube elbow (18) and pipe-to-tube elbow (23).



2-36. SKID BASE ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY (CONT)		
Skid Base Assembly/		
Pump return line (24) **Pipe-to-tube tee (25)**	**Install pump return line (24) to pipe-to-tube elbow (16) and pipe-to-tube tee (25).**	
Purge and bypass return line (26) **Pipe-to-tube tee (27)**	**Install purge and bypass return line (26) to pipe-to-tube tees (25 and 27).**	
Loop clamp (28) **Machine screw (29)** **Internal tooth lock washer (30)** **Hexagon plain nut (31)**	**Slip loop clamp (28) around purge and bypass return line (26). Aline hole. Install machine screw (29), internal tooth lock washer (30), and hexagon plain nut (31).**	

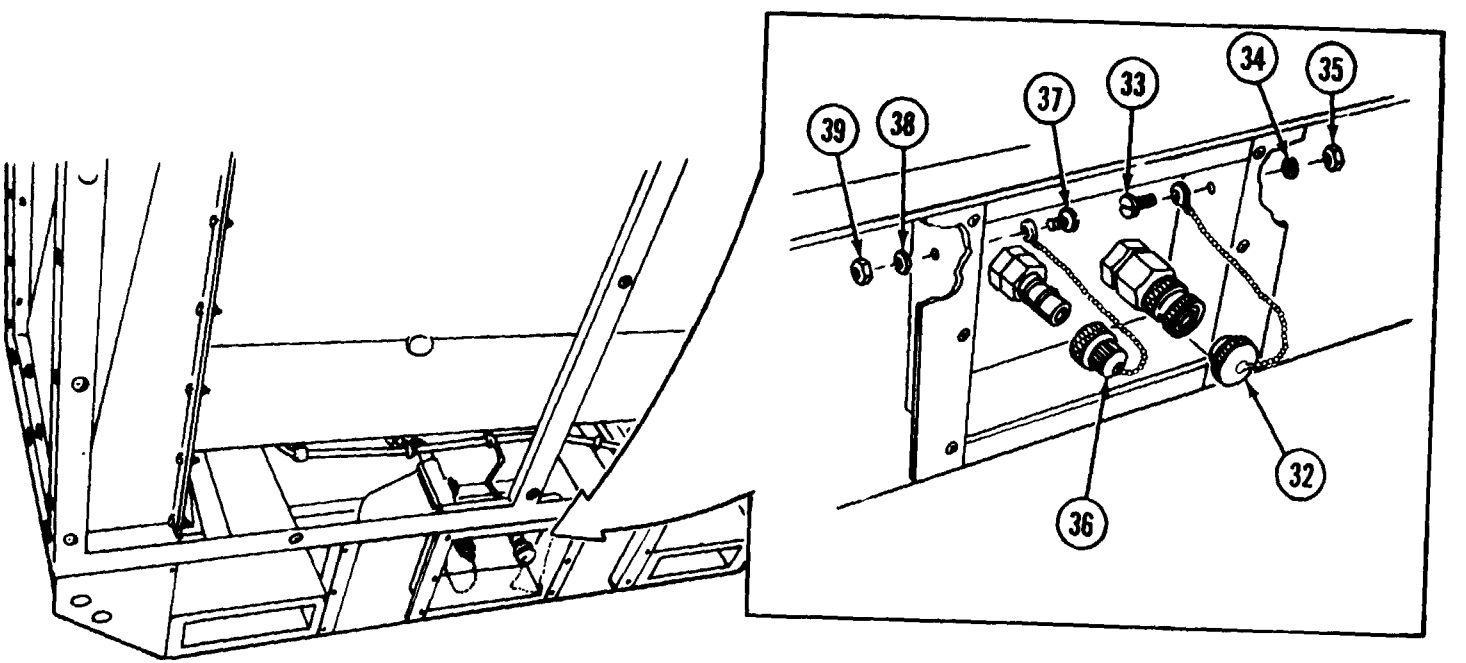


Protective plug (32)
Machine screw (33)
Internal tooth lock washer (34)
Hexagon plain nut (35)

Install protective plug (32) and secure chain with machine screw (33), internal tooth lock washer (34), and hexagon plain nut (35).

Protective cap (36)
Machine screw (37)
Internal tooth lock washer (38)
Hexagon plain nut (39)

Install protective cap (36) and secure chain with machine screw (37), internal tooth lock washer (38), and hexagon plain nut (39).



2-37. FLUID FILTER.

This task rovers:
- **a. Disassembly**
- **b. Repair**
- **c. Reassembly**

INITIAL SETUP

Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

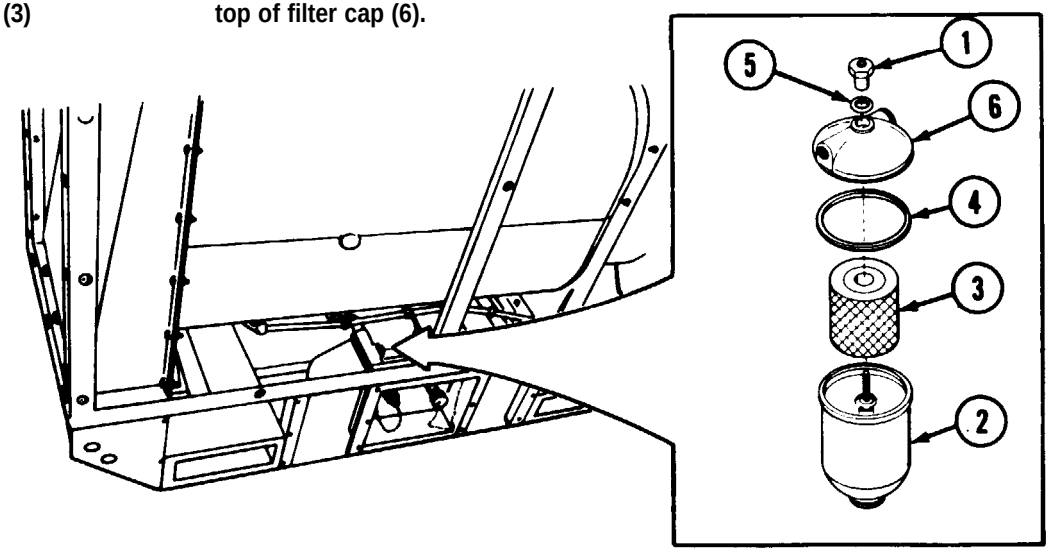
Equipment Condition
Assembled

General Safety Instructions

WARNING

Smoking and open flames are prohibited while fuel filter is open or fuel filter element is in the work area. Fuel and fuel vapors can catch on fire and cause injuries to personnel and damage to equipment.

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Fluid Filter/ **Nut (1)*** **Filter housing (2)*** **Filter element (3)** **Gasket (4)** **Gasket (5)** **Filter cap (6)***	**Loosen nut (1). Remove and separate filter housing (2), filter element (3), and gasket (4) from the bottom. Remove nut (1) and gasket (5) from the top of filter cap (6).**	**Items marked * are not authorized for replacement at organizational maintenance level. These parts are being removed to complete authorized maintenance.**

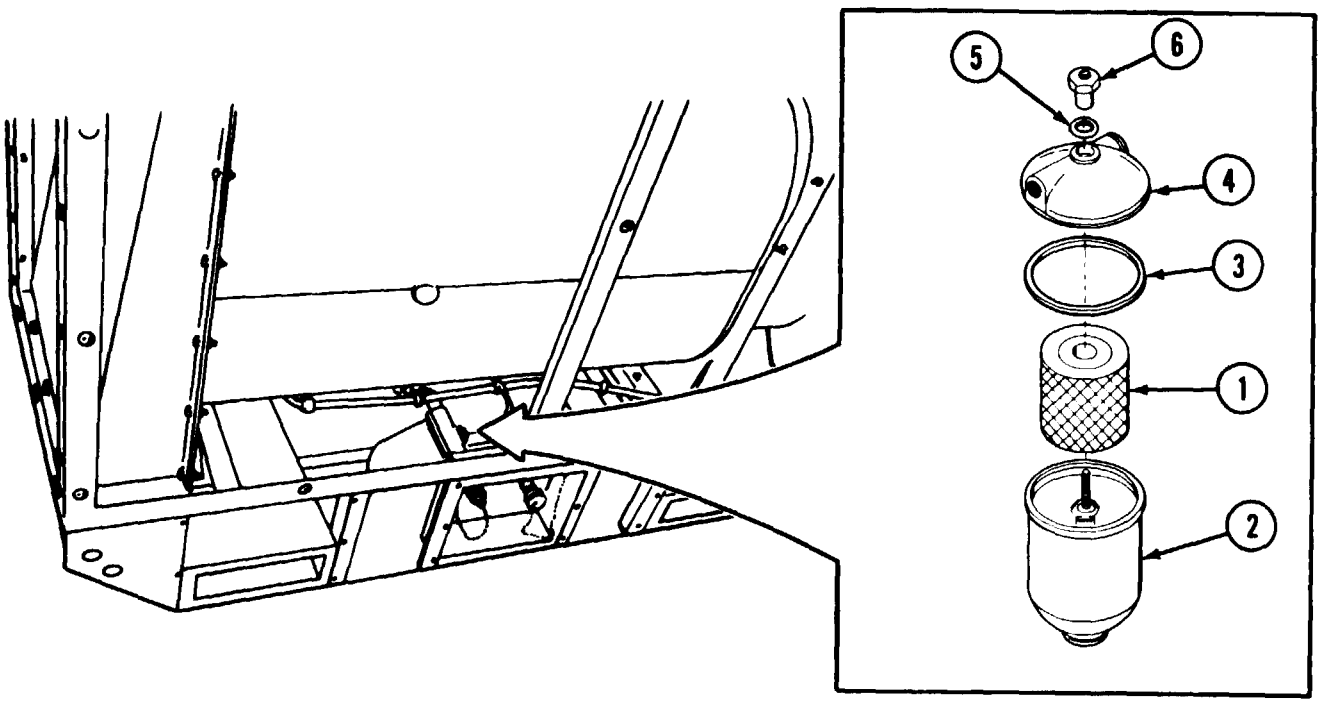


REPAIR

Fluid Filter/	
All parts	**Repair by replacing authorized items.**

REASSEMBLY

Fluid Filter/	
Filter element (1) **Filter housing (2)*** **Gasket (3)** **Filter cap (4)***	**Assemble filter element (1), filter housing (2), and gasket (3) in place in bottom of filter cap (4).**
Gasket (5) **Nut (6)***	**Install gasket (5) and nut (6) on top of filter cap (4) and tighten.**



2-38. MAGNETO ASSEMBLY.

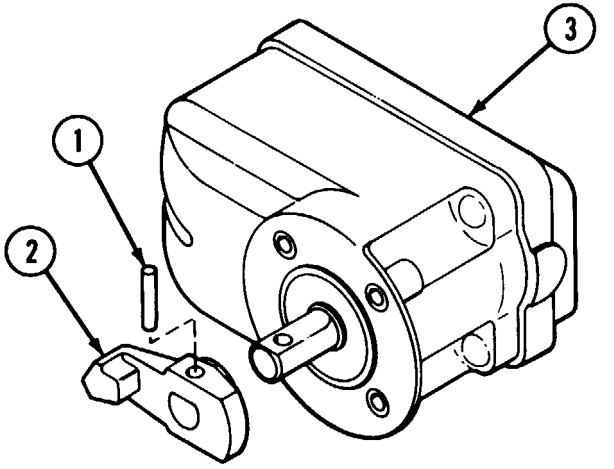
This task covers:
a. Disassembly
b. Repair
c. Reassembly

INITIAL SETUP

Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power
(SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

Equipment Condition
Assembled

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Magneto Assembly/ Spring pin (1) Drive arm (2) Combustor magneto (3)	Drive spring pin (1) out of drive arm (2). Remove drive arm (2) from combustor magneto (3).	
REPAIR		
Magneto Assembly/	Repair by replacing authorized items.	
Magneto Assembly/ Spring pin (1) Drive arm (2) Combustor magneto (3)	Install drive arm (2) onto shaft of the combustor magneto (3) and aline holes. Secure with spring pin (1).	



2-39. FUEL PUMP ASSEMBLY.

This task covers
- **a. Disassembly**
- **b. Servicing**
- **c. Reassembly**

INITIAL SETUP

Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 arid SC 4910-95-CL-A74)

References
TM 3-4230-209-10

Materials/Parts
Chemical and oil protective gloves (item 21, app D)
Dry cleaning solvent (item 14, app D)

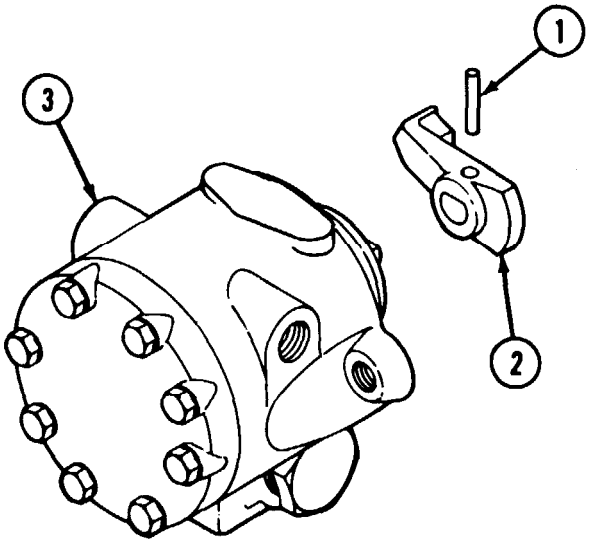
Equipment Condition
Fuel pump removed from skid base assembly.
See para 2-36 for disassembly/reassembly procedures.

LOCATION/ITEM	ACTION	REMARKS

DISASSEMBLY

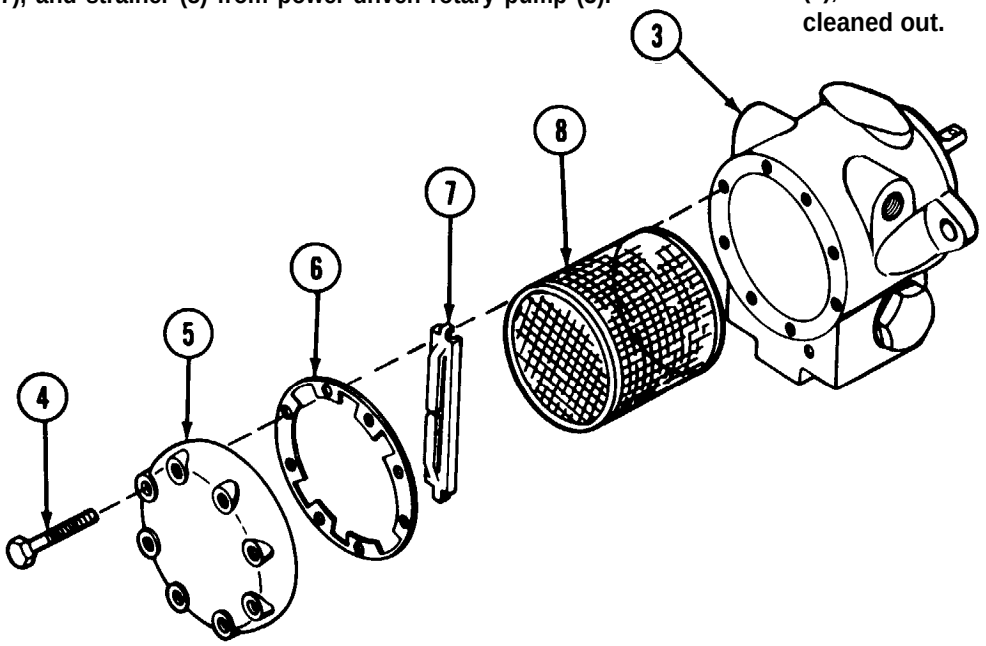
Fuel Pump Assembly/
Spring pin (1)
Drive arm (2)
Power-driven rotary pump (3)

Drive spring pin (1) out of drive arm (2) and the shaft of power-driven rotary pump (3). Separate drive arm (2) from power-driven rotary pump (3).



2-39. FUEL PUMP ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY (CONT)		
Power-Driven Rotary Pump/ **Screws (4)** **Cover (5)** **Gasket (6)** **Spring (7)** **Strainer (8)**	**Unscrew and remove eight screws (4). Lift off cover (5), gasket (6), spring (7), and strainer (8) from power-dnven rotary pump (3).**	**Disassemble screw (4), cover (5), gasket (6), spring (7), and strainer (8) only if strainer (8) needs to be cleaned out.**

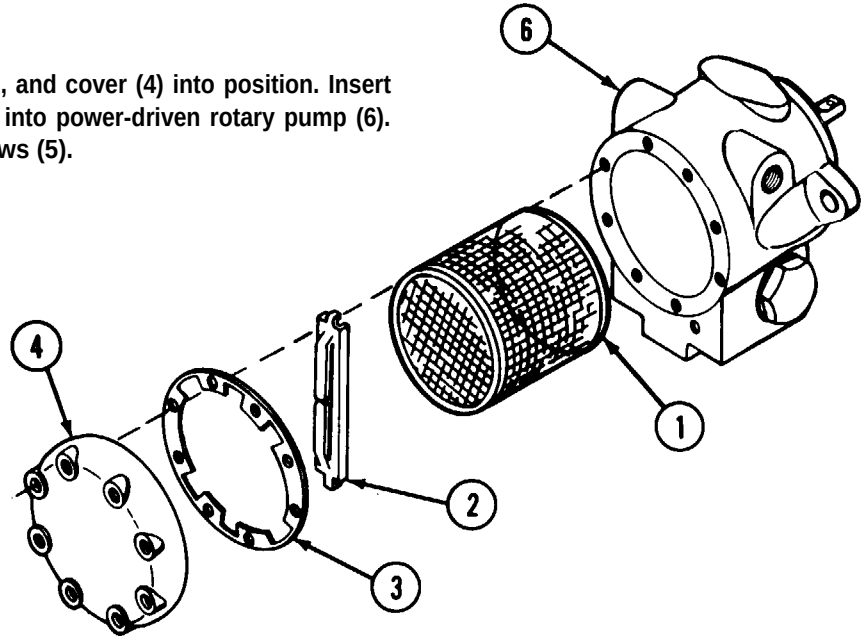


SERVICING		
Fuel Pump Assembly/ **Power-driven rotary pump**	**Service the power-driven rotary pump by cleaning all the parts with dry cleaning solvent and drying thoroughly. Wear protective gloves when using dry cleaning solvent.** **No replacement parts are authorized for the power-driven rotary pump.**	

REASSEMBLY

Power-Driven Rotary Pump/
- **Strainer (1)**
- **Spring (2)**
- **Gasket (3)**
- **Cover (4)**
- **Screws (5)**
- **Power-driven rotary pump (6)**

Place strainer (1), spring (2), gasket (3), and cover (4) into position. Insert eight screws (5) through cover (4) and into power-driven rotary pump (6). Use proper tools to tighten eight screws (5).

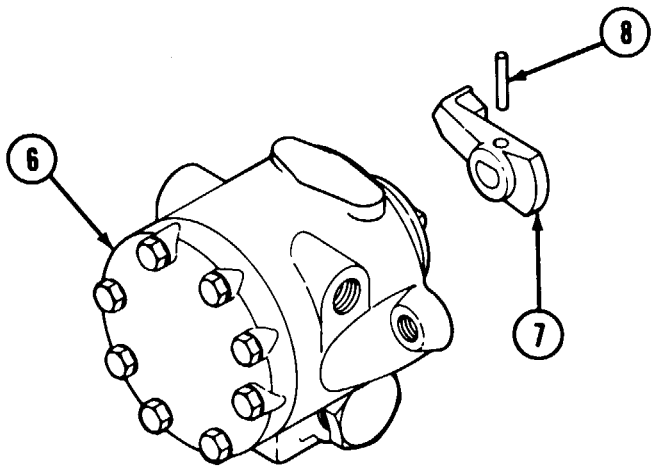


Fuel Pump Assembly/
- **Drive arm (7)**

Slide drive arm (7) onto the shaft of power-driven rotary pump (6) and aline the holes.

- **Spring pin (8)**

Drive spring pin (8) through drive arm (7) and into the shaft of power-driven rotary pump (6).



2-40. LOW PRESSURE HEATING BOILER ASSEMBLY.

This task covers:
a. Disassembly
b. Cleaning
c. Repair
d. Reassembly

INITIAL SETUP

Tools and Special Tools
Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

Materials/Parts
Brush (item 6, app D)
Chemical and oil protective gloves (item 21, app D)
Dry cleaning solvent (item 14, app D)

Equipment Condition
Assembled

Special Safety Instructions

WARNING

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

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Low Pressure Heating Boiler Assembly/ Hexagon plain nuts (1) Internal tooth lock washers (2) Hexagon cap screws (3)	Unscrew and remove eight hexagon plain nuts (1), eight internal tooth lock washers (2), and hexagon cap screws (3).	**WARNING** When handling asbestos material, always wear an air filter respirator, gloves, and goggles. Wash face and hands with soap and water before eating or smoking. Asbestos can cause cancer if handled without protection.
Cover plate (4) Gasket (5)	Remove cover plate (4) and gasket (5).	
Ignition cable assembly (6) Gas spark igniter (7)	Unscrew connector on end of ignition cable assembly (6), Disconnect but do not remove the ignition cable assembly (6) from gas spark igniter (7). Unscrew and remove gas spark igniter (7).	

Combustion return line (8)
Nozzle valve line (9)
Nonmetallic grommet (10)
Nonmetallic grommet (11)

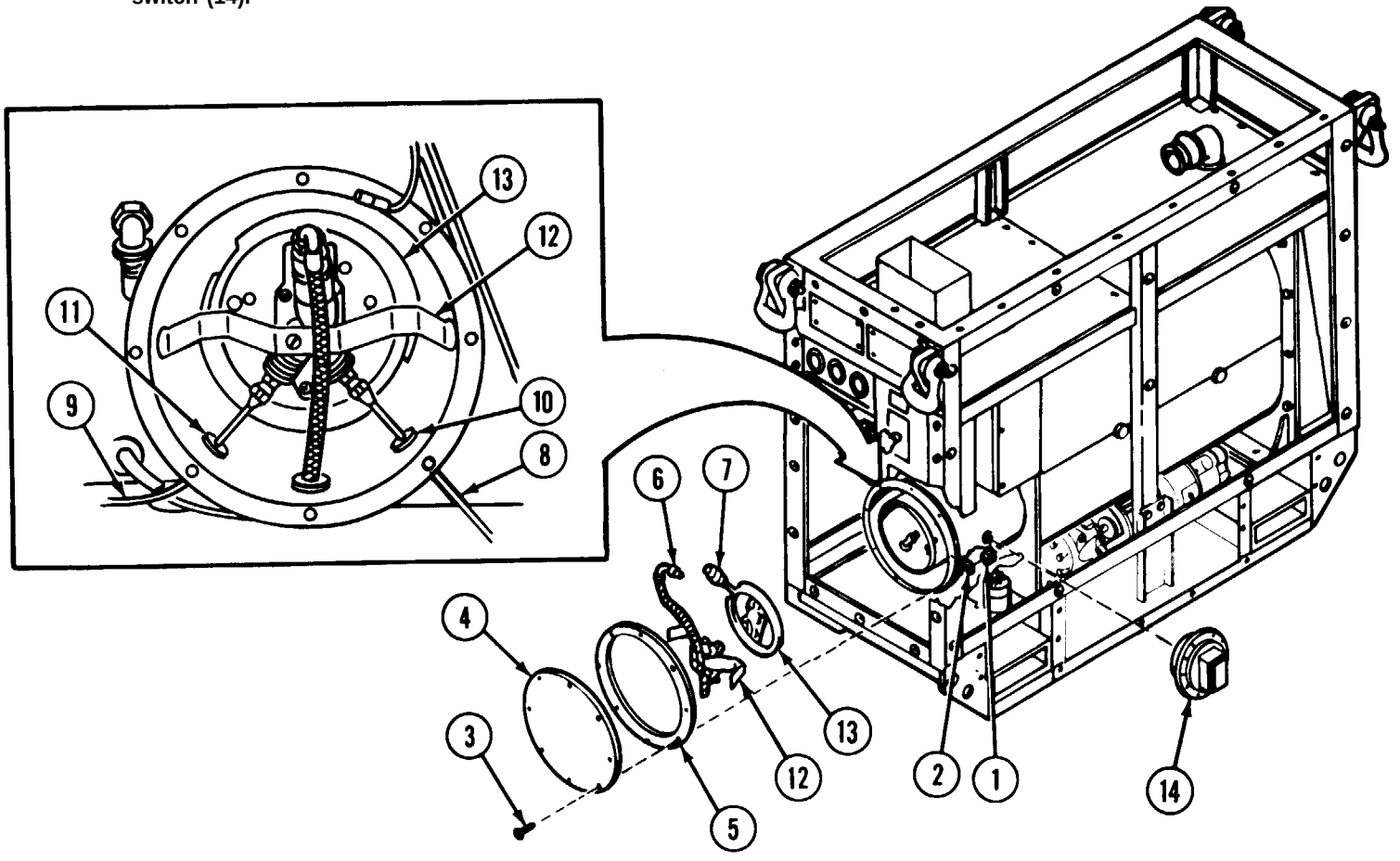
Remove combustion return line (8) and nozzle valve line (9) and pull from nonmetallic grommets (10 and 11).

Nozzle holder assembly (12)
Combustor plate (13)

Remove nozzle holder assembly (12) and combustor plate (13) only if damaged.

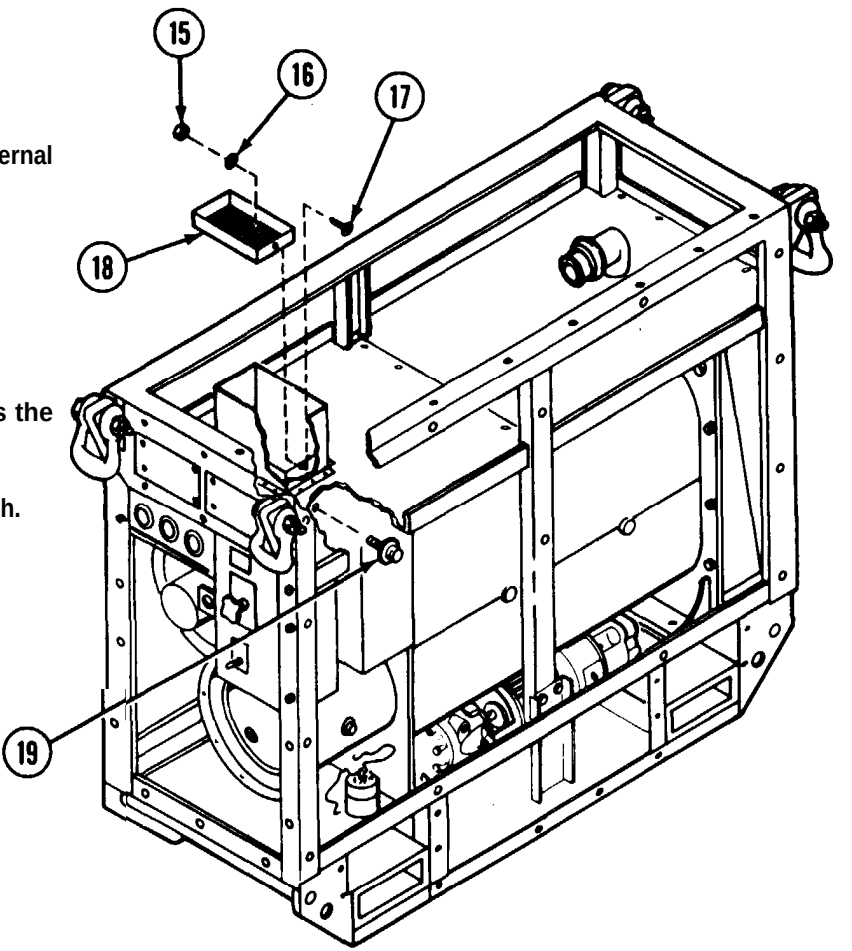
Pressure switch (14)

Remove cover panel from pressure switch (14). Disconnect electrical wiring from pressure switch (14). Unscrew and remove pressure switch (14).



2-40. LOW PRESSURE HEATING BOILER ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY (CONT)		
Low Pressure Heating Boiler Assembly/		
Hexagon plain nuts (15) **Internal tooth lock washers (16)** **Machine screws (17)**	**Unscrew and remove two hexagon plain nuts (15), two internal tooth lock washers (16), and two machine screws (17).**	
Spark arrester assembly (18)	**Lift out spark arrester assembly (18).**	
Flame thermostatic switch (19)	**Remove cover plate (if not already removed) to access the flame thermostatic switch (19).** **Disconnect electrical wiring from flame thermostatic switch. Unscrew and remove flame thermostatic switch (19).**	



CLEANING		
Low Pressure Heating Boiler Assembly/All parts	**Scrape excessive soot from inside combustor area walls. Clean soot from combustor parts with dry cleaning solvent and a small brush. Be sure to wear protective gloves when using dry cleaning solvent.**	

REPAIR

Low Pressure Heating Boiler Assembly/All parts

Repair by replacing and cleaning authorized parts.

REASSEMBLY

Low Pressure Heating Boiler Assembly/

Flame thermostatic switch (1)

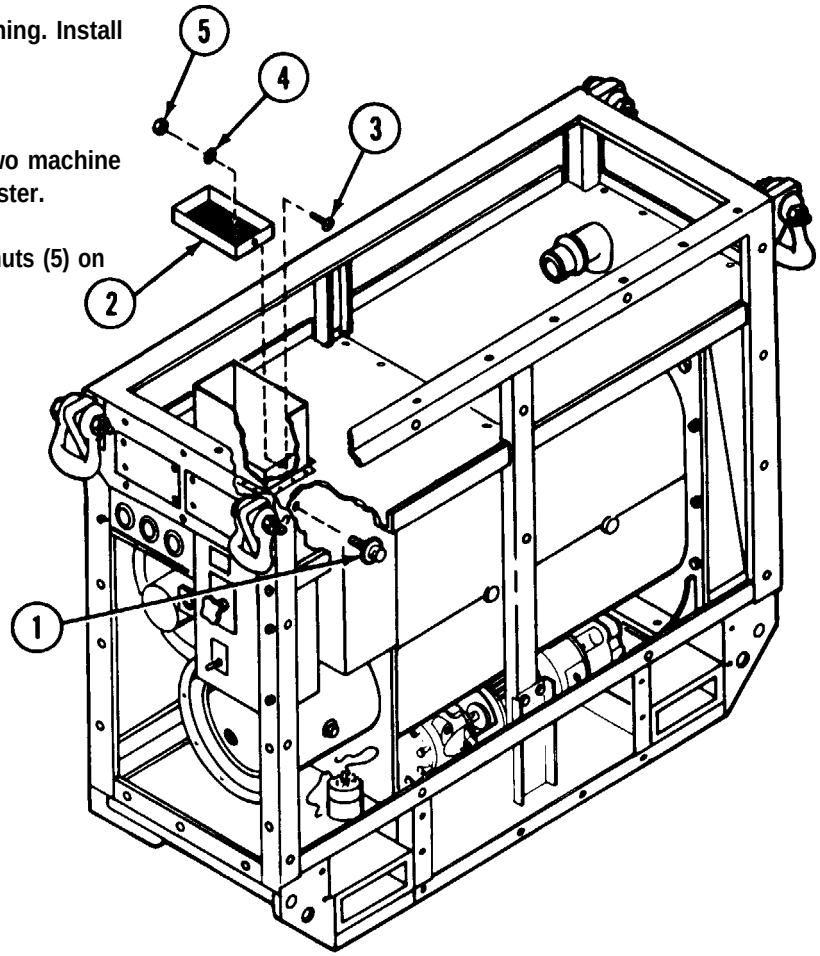
Screw flame thermostatic switch (1) in side of exhaust opening. Install cover panel if necessary.

Spark arrester (2)
Machine screws (3)

Position spark arrester (2) in exhaust opening and install two machine screws (3) through side of exhaust opening and spark arrester.

Internal tooth lock washers (4)
Hexagon plain nuts (5)

Install two internal tooth lock washers (4) and hexagon plain nuts (5) on ends of machine screws (3) and secure.



2-40. LOW PRESSURE HEATING BOILER ASSEMBLY (CONT).

LOCATION/ITEM	ACTION	REMARKS

REASSEMBLY (CONT)

Low Pressure Heating Boiler Assembly/

Pressure switch (6) — Screw pressure switch (6) in side of combustor so electrical wires enter through the bottom. Connect electrical wiring. Reinstall cover panel if necessary.

Gas spark igniter (7)
Nozzle holder assembly (8)
Combustor plate (9) — Screw gas spark igniter (7) into nozzle holder assembly (8) and combustor plate (9) unit. If unit was removed, slide it into position in the combustor.

Ignition cable assembly (10) — Connect ignition cable assembly (10) to gas spark igniter (7) and tighten connector.

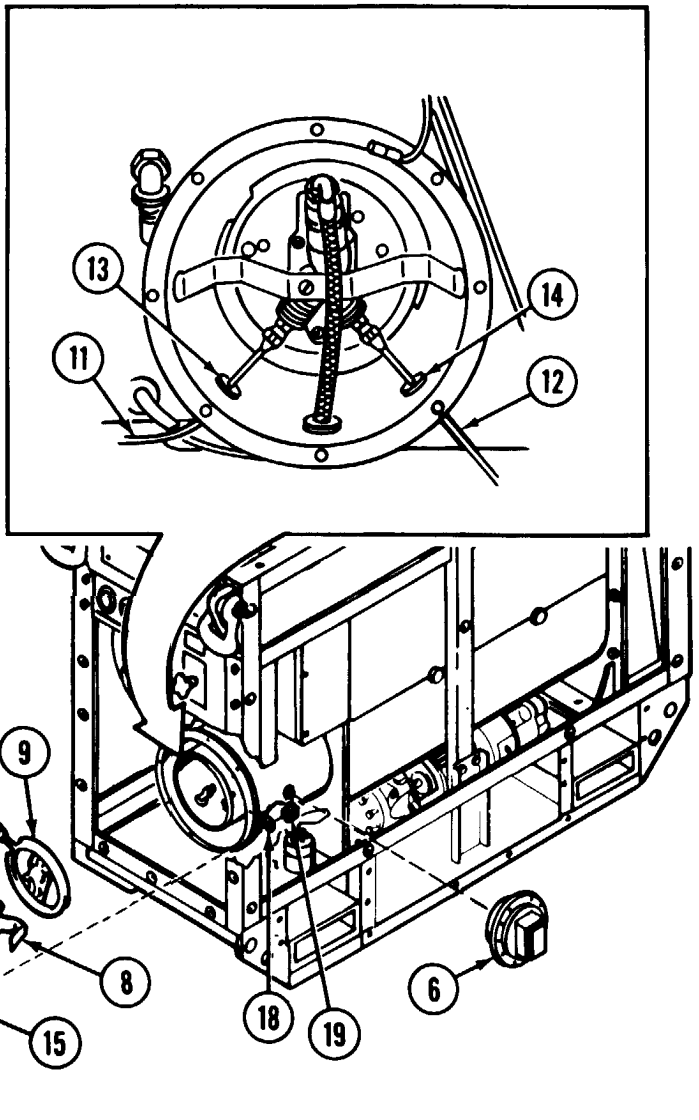
Nozzle valve line (11)
Combustion return line (12)
Nonmetallic grommet (13)
Nonmetallic grommet (14) — Insert nozzle valve line (11) and combustion return line (12) through nonmetallic grommets (13 and 14) and connect to the combustor plate.

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 (15)
Cover plate (16)
Hexagon cap screws (17) — Position gasket (15) and cover plate (16) on combustor opening and install eight hexagon cap screws (17).

Internal tooth lock washers (18)
Hexagon plain nuts (19) — Install eight internal tooth lock washers (18) and hexagon plain nuts (19), and secure.



2-41. NOZZLE HOLDER ASSEMBLY.

This task covers:

a. Disassembly
b. Cleaning
c. Repair
d. Reassembly

INITIAL SETUP

Tools and Special Tools

Automotive Maintenance and Repair Shop Equipment, Less Power (SC 4910-95-CL-A72 and SC 4910-95-CL-A74)

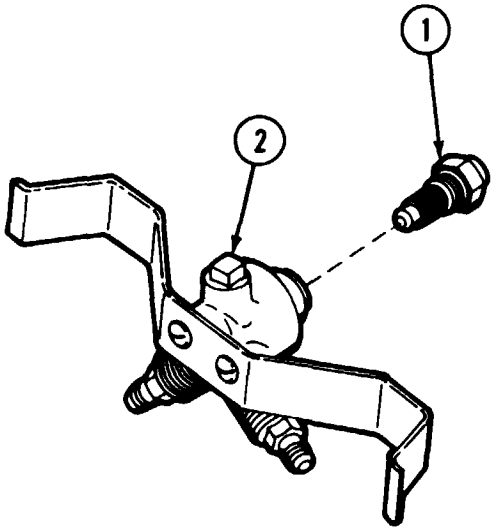
Materials/Parts

Dry cleaning solvent (item 14, app D)
Chemical and oil protective gloves (item 21, app D)

Equipment Condition

Nozzle holder assembly must be removed from equipment. See para 2-40 for disassembly/reassembly procedures.

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
Nozzle Holder Assembly/ **Oil burner nozzle (1)** **Holder (2)**	**Unscrew and remove oil burner nozzle (1) from holder (2).**	
CLEANING		
Nozzle Holder Assembly/ **Oil burner nozzle**	**Clean oil burner nozzle with dry cleaning solvent and dry. Be sure to wear gloves when using dry cleaning solvent.**	
REPAIR		
Nozzle Holder Assembly/ **Oil burner nozzle**	**Repair by replacing or cleaning damaged nozzle.**	
REASSEMBLY		
Nozzle Holder Assembly/ **Oil burner nozzle (1)** **Holder (2)**	**Screw nozzle (1) into holder (2).**	



Section VI. PREPARATION FOR STORAGE OR SHIPMENT

2-42. GENERAL.

a. Scope. This section contains general instructions for transporting the M12A1 Decontaminating Apparatus under normal climate and use conditions.

b. Transportability.

(1) The M12A1 decontaminating apparatus is transportable by all media: aircraft, truck, or cargo carrier. In phase II airborne operations, the M12A1 decontaminating apparatus can be transported in a USAF C130 aircraft while mounted in an M54A2C cargo truck or in an M548 cargo carrier. The M12A1 decontaminating apparatus also adapts to external air portability. Any vehicle with adequate transportation capabilities can be used to move the M12A1 decontaminating apparatus cross-country. The M54A2C cargo truck or the M548 cargo carrier will provide adequate cargo space for on-vehicle operation.

(2) For temporary transportation, tiedown straps are recommended; for a more permanent mounting and better clamping, use Z bars. Notify intermediate direct support maintenance for Z bar installation.

(3) Use tiedown straps conforming to MIL-T-27260 or MIL-T-8652 to fasten the M12A1 decontaminating apparatus to the truck or cargo carrier bed. The illustration shows typical uses of the tiedown straps. Tiedown information in this manual is a suggested method. If the truck or carrier is not equipped with tiedown anchors, notify intermediate direct support maintenance to install them. Additional tiedown straps can be used to secure the skid bases to the tiedown anchors. Excess lengths of straps can be rolled up and tied or taped to keep them out of the way; or they can be used to fasten hoses to the side panels of the carrier. After installing the tiedown straps, maneuver the vehicle to check the tightness of the straps. Tighten any loosened straps.

(4) USAF aircraft cargo tiedown straps and USAF tiedown straps are authorized for use in place of web strapping. Dip the ends of the web strap in a suitable wax or tar to prevent wicking; otherwise, it is extremely difficult to string the tiedown straps.

(5) The M548 carrier has a cargo deck that can be bolted in either a high- or low-level position. Use the high-level position when loading the M12A1 decontaminating apparatus.

(6) Position a spacer between the water heater and the tank unit assembly to prevent abrasion and to permit air to circulate.

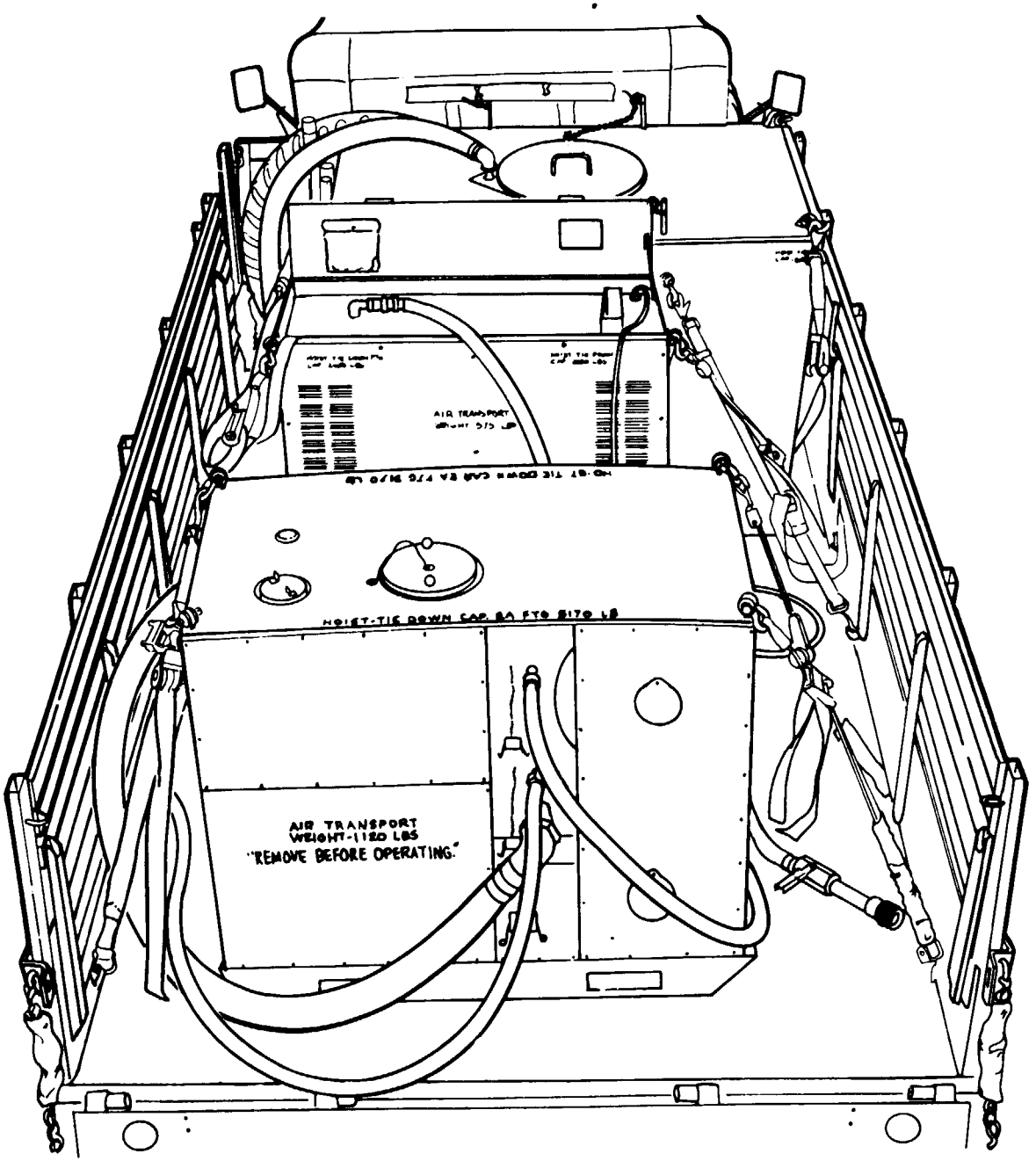
(7) If required, cut dunnage (such as 2 X 4 lumber) and space it between the three skid bases and the vehicle to prevent movement of the equipment. Use dunnage to keep the tank unit assembly spaced from the motor compartment on the carrier.

(8) Twenty-six cans of STB decontaminating agent can be stowed in the open cargo space of the vehicle between the tank unit assembly, pump unit assembly, and water heater.

(9) M54A2C cargo trucks have a storage bracket on the left running board for strapping in the 5-gallon gasoline can. On the M548 carrier, strap the can tightly to the cargo bed. Connect the fuel hose assembly between the connections at the base of the water heater and the can.

(10) To minimize vibration to the M12A1 decontaminating apparatus from the carrier, install cushioning pads beneath the skids of the three units. Make pads by cutting old tires into strips.

(11) When transporting the M12A1 decontaminating apparatus, the pump can circulate water through the water heater and tank unit. To minimize water spillage and avoid damaging the gun assembly (when inserted into the hopper-blender assembly), connect the discharge hose to the blender quick-disconnect coupling half by removing a quick-disconnect coupling half and pipe nipple from the personnel shower assembly. Remove the gun assembly and adapter from the discharge hose. (Stow the gun assembly and adapter in a safe place.) Assemble the pipe nipple and quick-disconnect coupling half on the discharge hose. Couple the discharge hose and blender coupling halves together. After the water has circulated, return equipment to its original state.


HOIST-TIE DOWN CAP. 8A FTG 8170 LB
AIR TRANSPORT
WEIGHT-1150 LBS
"REMOVE BEFORE OPERATING."

APPENDIX A
REFERENCES

A-1. SCOPE. This appendix lists afield manual, technical bulletins and manuals, lubrication orders and miscellaneous publications referenced in this manual.

A-2. FIELD MANUAL.

FM21-11 . . . . . First Aid for Soldiers

A-3. TECHNICAL MANUALS.

TM 3-4230-209-10 . . . . . Operator's Manual for Decontaminating Apparatus: Power-Driven, Skid-Mounted: 500-Gallon, M12A1 (NSN 4230-00-926-9488)

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 9-6140-200-14 . . . . . Operator's, Organizational, Direct Support and General Support Maintenance Manual for Lead-Acid Storage Batteries; 4HN, 24V (NSN 6140-00-059-3528) MS75047; 2HN, 12V (6140-00-057-2553) MS35000-1 ; 6TN, 12V (6140-00-057-2554) MS35000-3

TM 38-230-1 . . . . . Packaging of Materiel: Preservation (Vol I)

TM 38-230-2 . . . . . Packaging of Materiel: Preservation (Vol II)

TM 43-0002-31 . . . . . Destruction of Chemical Weapons and Defense Equipment to Prevent Enemy Use

TM 43-0139 . . . . . Painting Instructions for Field Use

TM 740-90-1 . . . . . Administrative Storage of Equipment

A-4. LUBRICATION ORDERS.

L0 3-4230-209-10 . . . . . Decontaminating Apparatus: Power-Driven, Skid-Mounted, 500-Gallon, M12A1

L0 5-2805-259-12 . . . . . Engine, Gasoline, 20HP, Military Standard Models (Model 4A084-2 and 4A084-3)

A-5. MISCELLANEOUS PUBLICATIONS.

DA PAM 310-1 . . . . . Consolidated Index of Army Publications and Blank Forms

DA PAM 738-750 . . . . . The Army Maintenance Management System (TAMMS)

APPENDIX B
MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

B-1. GENERAL.

a. This section provides a general explanation of all maintenance and repair functions authorized at various maintenance categories.

b. The Maintenance Allocation Chart (MAC) in section II designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component will be consistent with the capacities and capabilities of the designated maintenance categories.

c. Section III lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from section II.

d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

B-2. MAINTENANCE FUNCTIONS. Maintenance functions will be limited to and defined as follows:

a. Inspect. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel).

b. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. Service. Operations required periodically to keep an item in proper operating condition, i.e., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases.

d. Adjust. To maintain or regulate, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.

e. Aline. To adjust specified variable elements of an item to bring about optimum or desired performance.

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test, measuring, and diagnostic equipments used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. Remove/Install. To remove and install the same item when required to perform service or other maintenance functions. Install maybe the act of emplacing, seating, or fixing into position a spare repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. Replace. To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and is shown as the 3d position code of the SMR code.

i. Repair. The application of maintenance services, including fault location/troubleshooting, removal/installation, and disassembly/assembly procedures, and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

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

k. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc.) considered in classifying Army equipment/components.

B-3. EXPLANATION OF COLUMNS IN THE MAC, SECTION II.

a. Column 1, Group Number. Column 1 lists functional group code numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly. End item group number shall be "00."

b. Column 2, Component/Assembly Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column 3, Maintenance Function. Column 3 lists the functions to be performed on the item listed in column 2. (For detailed explanation of these functions, see paragraph B-2.)

d. Column 4, Maintenance Level. Column 4 specifies, by the listing of a work time figure in the appropriate subcolumn(s), the level of maintenance authorized to perform the function listed in column 3. This figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance levels, appropriate work time figures will be shown for each level. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. The symbol designations for the various maintenance levels are as fallows:

C . . . . . Operator or Crew
O . . . . . Unit Maintenance
F . . . . . Intermediate Direct Support Maintenance
H . . . . . Intermediate General Support Maintenance
L Specialized Repair Activity (SRA)
D . . . . . Depot Maintenance

e. Column 5, Tools and Equipment. Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, TMDE, and support equipment required to perform the designated function.

f. Column 6, Remarks. This column shall, when applicable, contain a letter code, in alphabetic order, which shall be keyed to the remarks contained in section IV.

B-4. EXPLANATION OF COLUMNS IN TOOL AND TEST EQUIPMENT REQUIREMENTS, SECTION III.

a. Column 1, Reference Code. The tool and test equipment reference code correlates with a code used in the MAC, section II, column 5.

b. Column 2, Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.

c. Column 3, Nomenclature. Name or identification of the tool or test equipment.

d. Column 4, National Stock Number. The National stock number of the tool or test equipment.

e. Column 5, Tool Number. The manufacturer's part number.

B-5. EXPLANATION OF COLUMNS IN REMARKS, SECTION IV.

a. Column 1, Reference Code. The code recorded in column 6, section II.

b. Column 2, Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Section II.

Section II. MAINTENANCE ALLOCATION CHART
FOR
DECONTAMINATING APPARATUS: M12A1

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIP	(6) REMARKS
			UNIT		INTERMEDIATE		DEPOT		
			C	O	F	H	D		
00	DECONTAMINATING APPARATUS:	Inspect	0.1	0.1					
		Replace		1.0					
		Repair		0.1					
		Overhaul					230.0		
01	SHOWER ASSEMBLY	Inspect	0.2						
		Service	0.1						A,B
		Replace		0.2					
		Repair	0.1	1.1				8,9	
02	PUMPING UNIT	Inspect	0.1						
		Service	0.1						A
		Replace		0.1					
		Repair		0.3				8,9	
0201	Cover Assembly	Replace		0.1					
		Repair			0.2			7	c
0202	Top Access Cover Assembly	Replace		0.1					
		Repair			0.1			7	
0203	Cover Panel Assembly	Inspect	0.1						
		Service	0.1						A
		Replace		0.1					
		Repair			1.0			2,4	
0204	Cover Panel Assembly	Inspect	0.1						
		Service	0.1						A
		Replace		0.1					
		Repair			1.0			2,4	

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIP	(6) REMARKS
			UNIT		INTERMEDIATE		DEPOT		
			C	O	F	H	D		
0205	Access Cover	Inspect	0.1						
		Service	0.1						A
		Replace		0.1					
		Repair			1.0			2,4	
0206	Access Cover	Inspect	0.1						
		Service	0.1						A
		Replace		0.1					
		Repair		0.1	1.0			2,4,8,9	A
0207	Clevis and Eye Bolt Assembly	Inspect	0.1						
		Replace		0.1					
		Repair			0.2			7	
0208	Pump Unit Assembly	Inspect	0.5	0.7					
		Service	0.1	0.7					D,E
		Adjust	0.1					1	E
		Test	1.0						
		Replace		0.1					
		Repair		1.5	3.0			7,8,9	
020801	Gun Assembly	Inspect	0.1						
		Service	0.1						
		Replace		0.3					
		Repair	0.1	0.5				8.9	
02080101	Slurry Nozzle Assembly	Inspect	0.1						
		Service	0.1						
		Replace		0.2					
		Repair		0.2				8,9	

020802	Discharge Hose Assembly	Inspect	0.1				
		Service	0.1				
		Replace		0.1			
		Repair		0.1			3,8,9
020803	Tank Lid	Inspect	0.1				
		Replace		0.1			
		Repair		0.1			8,9
020804	Eductor Hose Assembly	Inspect	0.1				
		Replace		0.5			
		Repair		1.1			3,8,9
020805	Engine Fuel Tank	Inspect	0.1				
		Service	0.1				
		Replace		1.0			
		Repair		0.2	2.0		7,8,9
020806	Negative Battery Cable	Replace		0.2			
		Repair		0.6			8,9
020807	Positive Battery Cable	Replace		0.2			
		Repair		0.6			8,9
020808	Pump Unit Subassembly	Inspect	0.2				
		Service	0.2				
		Adjust	1.0	1.0			1
		Replace		0.2			
		Repair		0.1	0.5		7,8,9
02080801	Outlet Hose Assembly	Inspect	0.1				
		Replace			0.2		
		Repair		0.1	0.3		3,7
02080802	Fairlead Assembly	Replace			0.3		
		Repair			0.5		7

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIP	(6) REMARKS
			UNIT		INTERMEDIATE		DEPOT		
			C	O	F	H	D		
02080803	Frame Assembly	Inspect	0.5						
		Service	0.5						
		Replace			0.2				
		Repair			4.0			7	
02080804	Skid Base Subassembly	Inspect	0.1						
		Service	0.1						
		Replace			0.1				
		Repair		1.0	4.0			1,7,8,9	
020808041	Plumbing Assembly	Inspect	0.1						
		Service	0.1						
		Replace			1.0				
		Repair		0.1	2.0			7,8,9	G
0208080411	Centrifugal Pump	Inspect	0.1						
		Service	0.2						
		Replace			5.0				
		Repair		0.1	1.0			7,8,9	
0208080412	Offset Valve	Inspect	0.1						
		Service	0.1						
		Replace			1.0				
		Repair			0.5			7	
,02080804121	Regulating Valve	Inspect	0.1						
		Service	0.1						
		Replace			0.5				
		Repair		0.1	0.5			7,8,9	

0208080413	Regulating Valve	Inspect	0.1						
		Service	0.1						
		Replace			0.7				
		Repair			1.0			7	
020808042	20HP Gasoline Engine Assembly	Inspect	0.1						
		Service	0.1						
		Replace			3.0				
		Repair							H
020808043	Throttle Linkage Assembly	Replace		0.5					
		Repair		0.5				8,9	
020808044	Pump Base Skid	Replace			0.1				
		Repair			0.8			7	
020808044	Engine Mount #1	Replace			0.3				
		Repair			0.4			7	
0208080442	Engine Mount #2	Replace			0.3				
		Repair			0.4			7	
020808045	Generator, Alternator Assembly	Inspect	0.5						
		Service	0.5						
		Replace		1.0					
		Repair			0.5			5,7	
020809	Control Panel Assembly	Inspect	0.1						
		Replace			2.0				
		Repair		1.0	2.0			5,7,8,9	
020810	Electrical Wiring	Replace			2.0				
		Repair			1.5			5,7	
03	SKID MOUNTED DECONTAMINATING APPARATUS TANK UNIT	Inspect	0.1						
		Service	0.1						D
		Replace		0.1					
		Repair		1.2	2.7			7,8,9	

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIP	(6) REMARKS
			UNIT		INTERMEDIATE		DEPOT		
			C	O	F	H	D		
0301	Hopper Access Cover	Replace		0.2					
		Repair			0.2			7	
0302	Liquid Storage Tank	Inspect	0.2	0.1					
		Replace		1.0					
		Repair			0.5			7	
0303	Suction Hose Assembly	Inspect	0.1						
		Replace		0.1					
		Repair		1.1				3,8,9	
0304	Hose Assembly	Inspect	0.1						
		Replace		0.1					
		Repair		1.1				3,8,9	
0305	Regulating Valve	Inspect	0.1						
		Service	0.1						
		Replace		1.0					
		Repair		1.0				8,9	
0306	Foot Valve Assembly	Inspect	0.1						
		Replace		0.1					
		Repair		0.3				8,9	
030601	Foot Valve	Replace		0.1					
		Repair		1.0				8,9	
04	LIQUID FUEL WATER HEATER	Inspect	0.2						
		Service	0.2						
		Replace		0.1					
		Repair		0.5	3.0			7,8,9	

0401	Cabinet Top Cover	Inspect	0.2					
		Service	0.2					
		Replace		0.5				
		Repair			2.0			2,4,7
0402	End Panel	Inspect	0.2					
		Service	0.2					
		Replace		0.2				
		Repair			0.3			2,4,7
0403	Front Panel	Inspect	0.2					
		Service	0.2					
		Replace		0.2				
		Repair			0.3			2,4,7
0404	Side Panel	Inspect	0.2					
		Service	0,2					
		Replace		0.2				
		Repair			0.3			2,4,7
0405	Control Box Assembly	Inspect	0.1					
		Service	0.1					
		Test		0.2				5
		Replace		1.5				
		Repair		1.5	3.0			5,7,8,9
040501	Selector Valve Line	Inspect	0.1					
		Replace		0.8				
		Repair			1.0			7
0406	Water Pressure Line	Inspect	0.1					
		Replace		0.8				
		Repair			1.0			7
0407	Selector Return Line	Inspect	0.1					
		Replace		0.8				
		Repair			1.0			7

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIP	(6) REMARKS
			UNIT		INTERMEDIATE		DEPOT		
			C	O	F	H	D		
0408	Fuel Pressure Line	Inspect	0.1						
		Replace		0.8					
		Repair			1.0			7	
0409	Power Cable Assembly	Inspect	0.1						
		Replace		1.0					
		Repair			1.5			5,7	
0410	Electrical Wiring	Replace			3.0				
		Repair			1.5			5,7	
0411	Fuel Hose Assembly	Inspect	0.1						
		Replace		0.1					
		Repair		0.1	0.5			3,5,7	G,I
041101	Fuel Tank Adapter Assembly	Replace			0.1				
		Repair			0.2			5,7	
0412	Hose Assembly	Inspect	0.1						
		Replace		0.1					
		Repair		1.1				3,8,9	
0413	Skid Base Assembly	Inspect	0.3						
		Replace			0.1				
		Repair		0.3	3.0			7,8,9	
041301	Fluid Filter	Inspect		0.2					
		Replace			1.5				
		Repair		0.2	0.1			7,8,9	
041302	Magneto Assembly	Inspect	0.1						
		Service	0.2						
		Replace		0.5					
		Repair		0.2				8,9	

04130201	Combustor Magneto	Adjust			0.6				
		Replace		0.5					
		Repair			0.5			7	
041303	Fuel Pump and Ignition Drive Motor	Inspect	0.1						
		Service	0.7						
		Replace		1.5					
		Repair			1.0			7	
041304	Fuel Pump Assembly	Inspect	0.1						
		Service	0.1	1.5					
		Replace		0.5					
		Repair		0.3				8,9	
		Adjust			0.5			6	J
041305	Fuel Supply Line	Inspect	0.1						
		Replace		0.8					
		Repair			1.0			7	
041306	Gage, Port Line	Inspect	0.1						
		Replace		0.8					
		Repair			1.0			7	
041307	Pump Return Line	Inspect	0.1						
		Replace		0.8					
		Repair			1.0			7	
041308	Purge and Bypass Return Line	Inspect	0.1						
		Replace		0.8					
		Repair			1.0			7	
0414	Low Pressure Heating Boiler Assembly	Inspect	0.2						
		Service	0.5						
		Replace			0.1				
		Repair		0.5	3.0			7,8,9	K
		Test			1.0			10	

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIP	(6) REMARKS
			UNIT		INTERMEDIATE		DEPOT		
			C	O	F	H	D		
041401	Nozzle Holder Assembly	Inspect		0.3					
		Service		0.5					
		Replace		0.5					
		Repair		0.5				8,9	
041402	Combustion Motor Mounting Assembly	Replace			0.5				
		Repair			0.3			7	
041403	Nozzle Valve Line	Inspect	0.1						
		Replace		0.8					
		Repair			1.0			7	
041404	Combustion Return Line	Inspect	0.1						
		Replace		0.8					
		Repair			1.0			7	

Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS

(1) Tool or Test Equipment	(2) Maintenance Category	(3) Nomenclature	(4) National/NATO Stock Number	(5) Tool Number
1	C	Tensiometer, V-Belt	6530-00-921-6255	12998F
2	F	Tool, Camloc Fasteners for Snap Ring Installation	5120-00-490-5581	T26

3	O	CLAMPING TOOLS, STRAP BAND,3/8 TO 5/8-INCH WIDTH RANGE, 0.20 INCH TO 0.30 INCH THICK RANGE; WITH RATCHET TENSION WRENCH	5120-00-359-6587	P38
4	F	PLIERS, CAMLOC FASTENERS FOR INSTALLATION OF TURN-LOCK STUD ASSEMBLY INTO EYELET	5120-00-321-4507	4P3
5	O	MULTIMETER	6625-00-999-6282	MIL-M-1235 AN/URM-105
6	F	GAGE, PRESSURE, FABRICATED	6685-01-015-6489	170F
7	F	SHOP EQUIPMENT, AUTOMOTIVE MAINTENANCE AND REPAIR FIELD MAINTENANCE, BASIC, LESS POWER	4910-00-934-0703	SC 4910-95-CL-A31
8	O	SHOP EQUIPMENT, AUTOMOTIVE MAINTENANCE AND REPAIR: ORGANIZATIONAL MAINTENANCE COMMON NO. 2, LESS POWER	4910-00-734-0690	SC 4910-95-CL-A72
9	O	SHOP EQUIPMENT, AUTOMOTIVE MAINTENANCE AND REPAIR: ORGANIZATIONAL MAINTENANCE COMMON NO.1, LESS POWER	4910-00-754-0654	SC 4910-95-CL-A74
10	F	TEST SET, FLAME THROWER - RIOT CONTROL AGENT DISPERSER HYDROSTATIC - AND - VOLUME METRIC, 600 PSI, M5	1040-00-050-7952	

Section IV. REMARKS

Reference Code	Remarks
A	Service consists of corrosion prevention.
B	Cleaning of shower strainer at “C.”
C	Repair limited to sewing canvas in accordance with FM 10-16.
D	All services are covered by operator and unit preventive maintenance checks and services and lubrication order.
E	Battery care and service will be in accordance with TM 9-6140-200-14.
F	Adjustment of drive belts.
G	Unit repair limited to tightening connections to eliminate leaks.
H	Repair of engine covered in TM 5-2805-259 series manuals.
I	Cheek continuity of assembly with multimeter.
J	Intermediate direct support cleans foreign matter out of fuel pump and adjusts for proper pressure output.
K	Unit repair includes replacement of combustor plug and spark arrester screen. “O” authorized to adjust spark gap.

APPENDIX C
UNIT REPAIR PARTS AND SPECIAL TOOLS LIST

Section I. INTRODUCTION

C-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 unit 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.

C-2. GENERAL. In addition to Section I, 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 in item name sequence. Items listed are shown on the associated illustration(s)/figure(s).

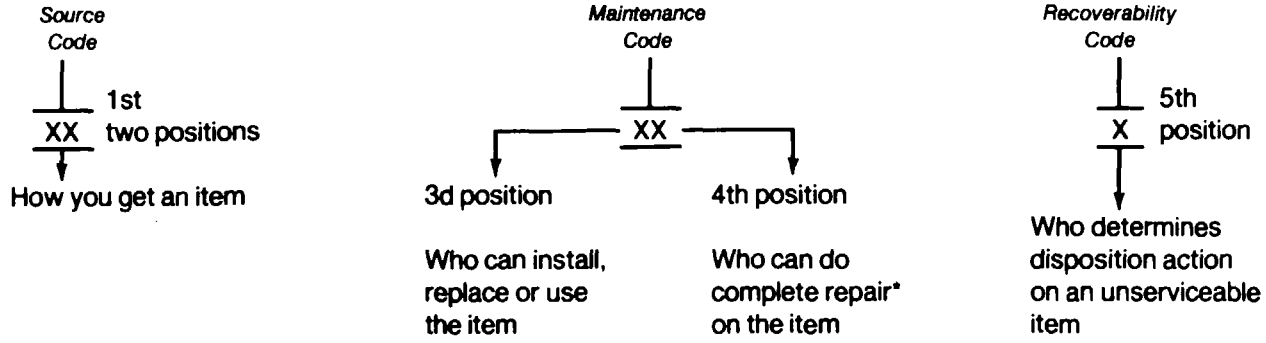
b. Section III. Special Tools List. Not applicable.

c. Section IV. National Stock Number and Part Number Index. A list, in National item identification number (NIIN) sequence, of all National stock numbers (NSN) appearing in the lists, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance.

C-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 indited 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:

Code *Application/Explanation*

C - Crew or operator maintenance done within unit or aviation unit maintenance.

O - Unit or aviation unit level 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:

Code	*Application/Explanation*
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:

Recoverability codes	*Application/Explanation*
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 Coda 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) Spare/repair parts that makeup an assembled item are listed immediately following the assembled item line entry.
(3) Part numbers for bulk materials are referenced in this column in the line item entry for the item to be manufactured/fabricated.
(4) The statement “END OF FIGURE” appears just below the last item description in column 5 for a given figure in both section II.

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.

C-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 NSN (i.e., 5385-01-574-1476).

NSN
NIIN

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.

(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 0 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 sections 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.

C-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 E 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. 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.

d. Associated Publications. The publication(s) listed below pertain to TM 3-4230-209-20&P and its components:

Publication	*Short Title*
TM 3-4230-209-10	Decontaminating Apparatus: Power-Driven, Skid-Mounted, 500-Gallon, M12A1

e. Illustrations - Listing. The illustrations in this RPSTL are identical to those published in TM 3-4230-209-30&P. Only those parts coded “C” or “0” in the third position of the SMR code are listed in the tabular listing; therefore, there maybe a break in the item number sequence. Only illustrations containing unit authorized items appear in this RPSTL.

C-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.

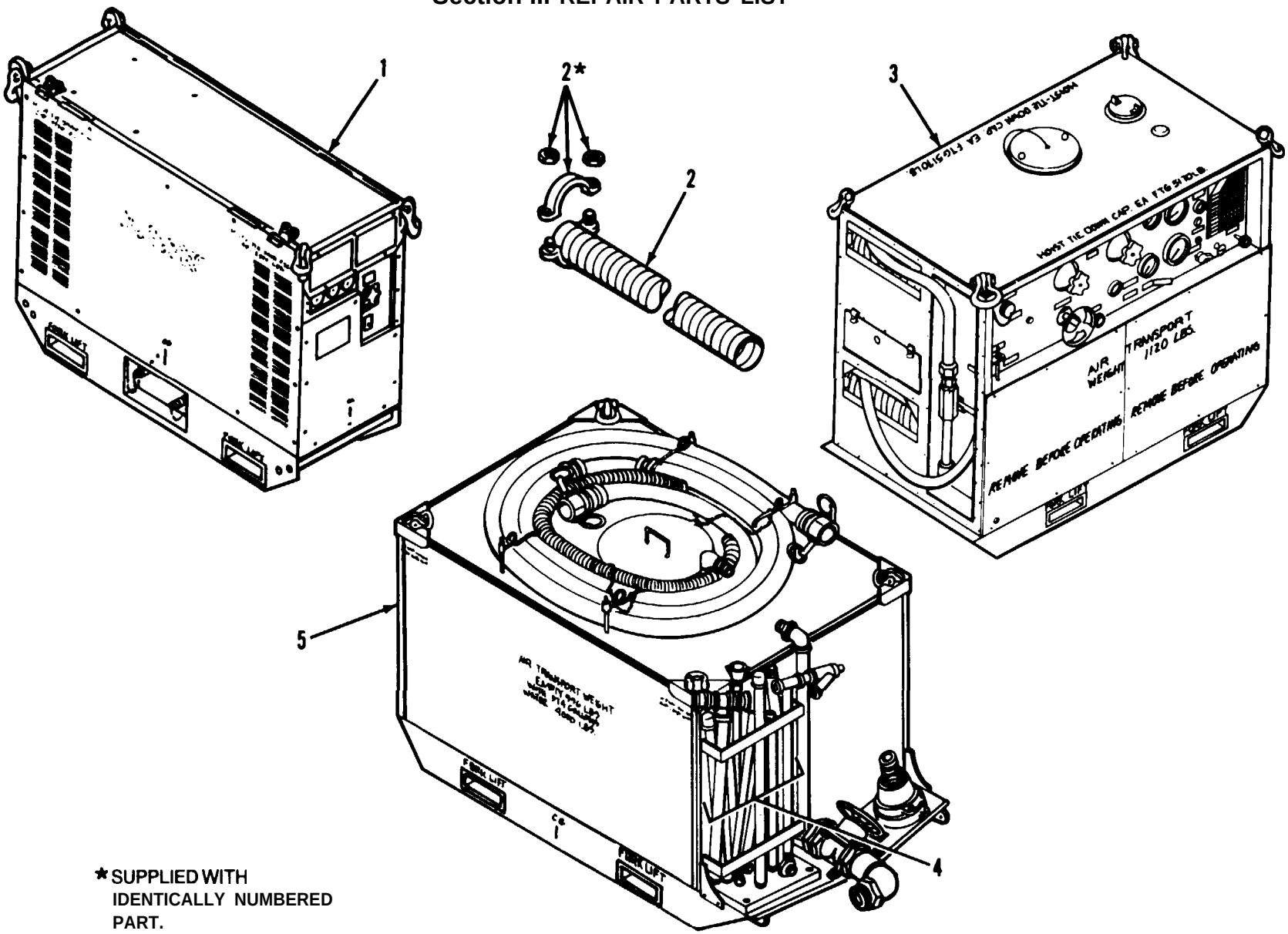
b. When National Stock Number or Part Number is Known.

(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 C-4a(1)). The part numbers in the Part Number index are listed in ascending alphanumeric sequence (see C-4b). Both indexes cross-reference you to the illustration figure and item number of the item you are lookhg 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.

C-7. ABBREVIATIONS. Not applicable.

Section II. REPAIR PARTS LIST



*SUPPLIED WITH IDENTICALLY NUMBERED PART.

Figure C-1. Decontaminating Apparatus.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 00 DECONTAMINATING APPARATUS D5-45-32-64	
				FIG. C-1 DECNTAMINATING APPARATUS	
1	PAOFA	81361	E5-59-200	HEATER, WATER, LIQUID FUEL, (SEE FIG. C-24 FOR ASSEMBLY BREAKDOWN)	1
2	PAOZZ	81361	C5-45-3256	PIPE, EXHAUST	2
3	PAOFF	81361	D5-45-3233	PUMPING UNIT, (SEE FIG.C-3 FOR ASSEMBLY BREAKDOWN)	1
4	AOOOO	81361	D5-45-3186	SHOWER ASSEMBLY (SEE FIG.C-2 FOR ASSEMBLY BREAKDOWN)	1
5	PAOFF	81361	C5-45-3183	TANK UNIT, DECONTAMINATING APPARATUS, SKID-MOUNTED (SEE FIG.C-19 FOR ASSEMBLY BREAKDOWN)	1
				END OF FIGURE	

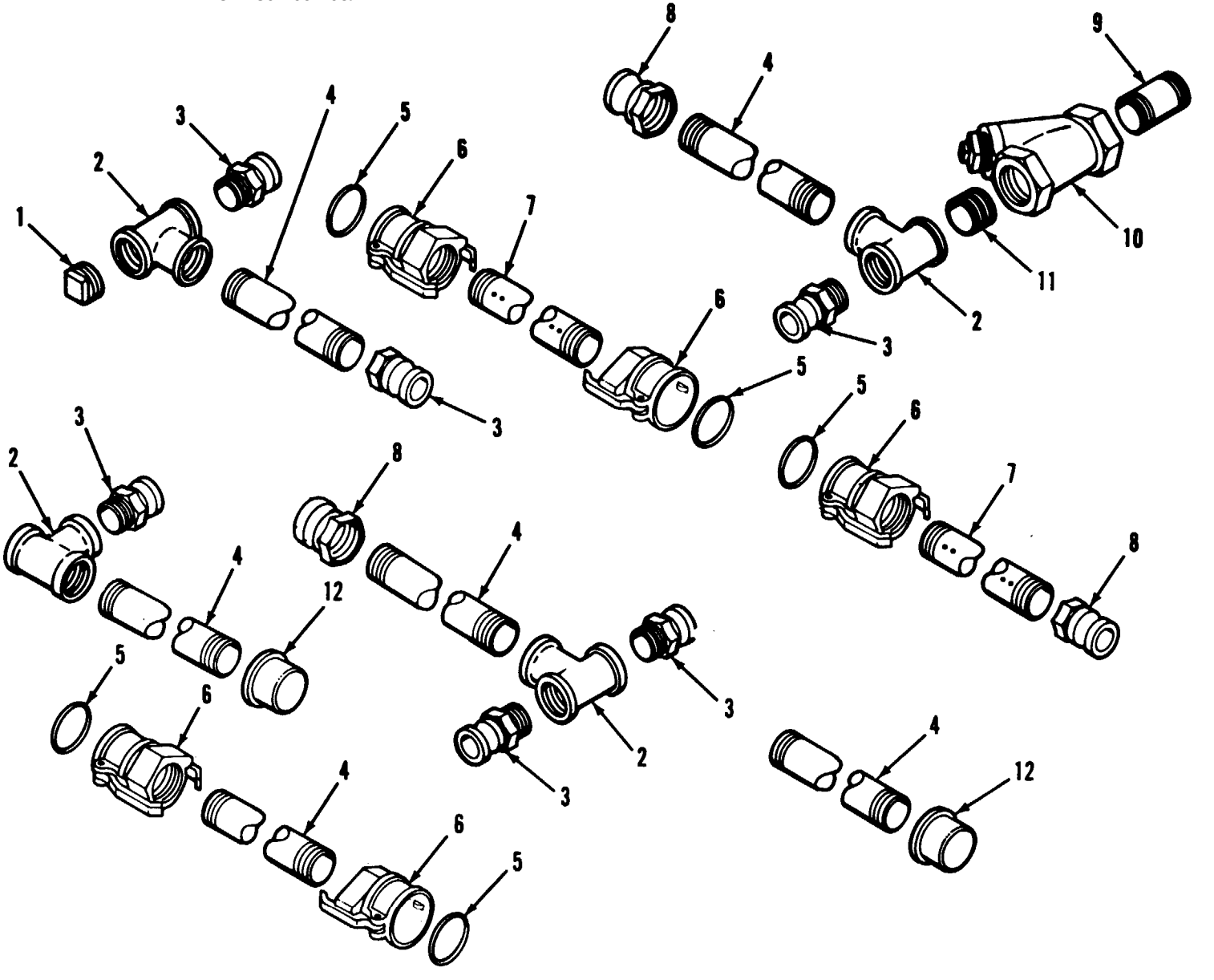


Figure C-2. Shower Assembly.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 01 SHOWER ASSEMBLY D5-45-3186	
				FIG.C-2 SHOWER ASSEMLBY	
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 4710-00-162-1020	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	

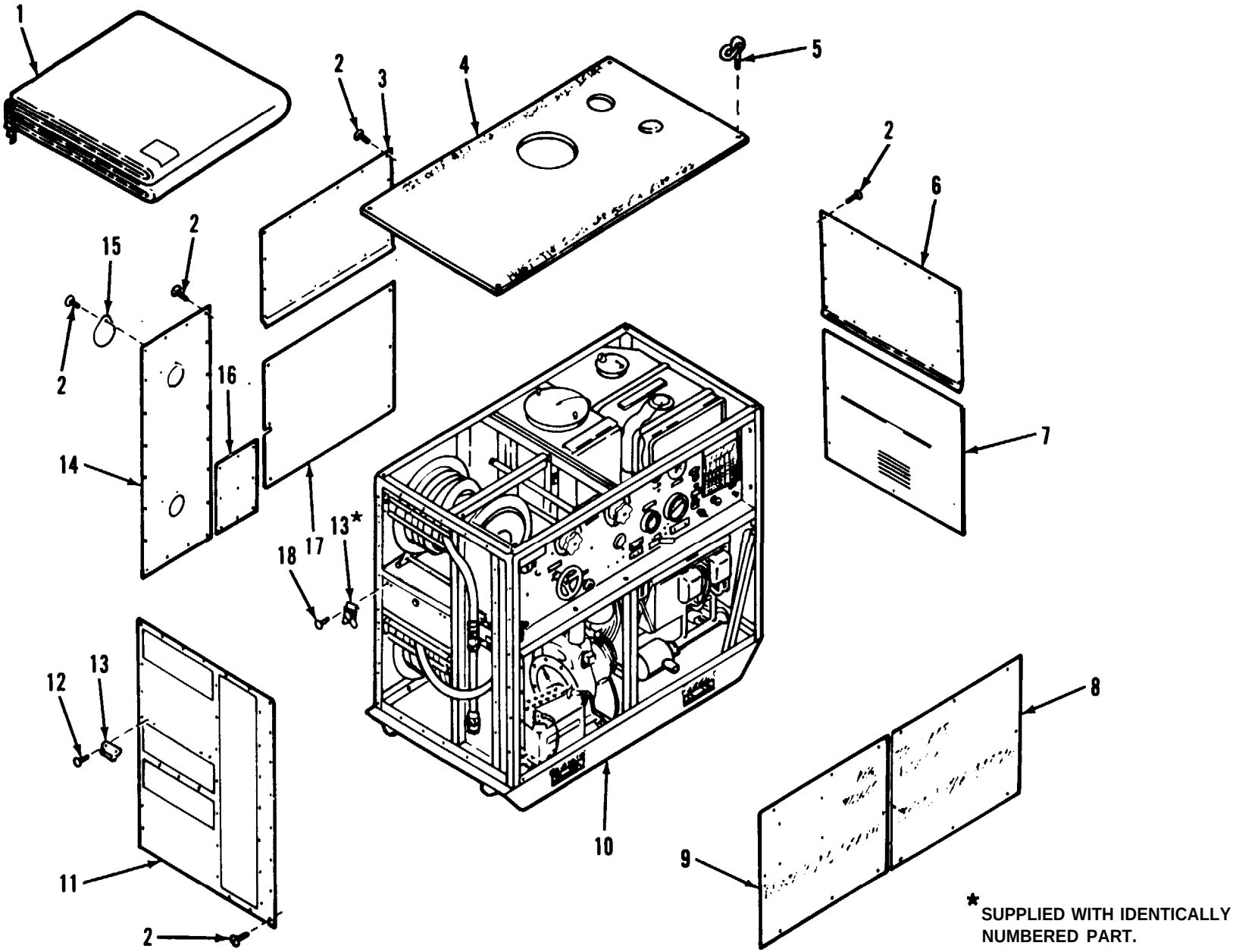


Figure C-3. Pumping Unit.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 02 PUMPING UNIT D5-45-3233	
				FIG.C-3 PUMPING UNIT	
1	PAOFF	81361	E5-45-3221	COVER ASSEMBLY	1
2	PAOZZ	96906	MS51851-65	SCREW, TAPPING	109
3	PAOZZ	81361	C5-45-2979	COVER, ACCESS	1
4	PAOFF	81361	C5-45-2975	COVER,ACCESS TOP ASSEMBLY	1
5	PAOFF	81361	C5-45-3266	CLEVIS AND EYE BOLT ASSEMBLY	4
6	PAOZZ	81361	C5-45-3011	COVER,ACCESS	1
7	AFOFF	81361	C5-45-3012	COVER PANEL ASSEMBLY	1
8	PAOFF	81361	C5-45-2973	COVER,ACCESS	1
9	PAOFF	81361	C5-45-2974	COVER,ACCESS (SEE FIG.C-4 FOR ASSEMBLY BREAKDOWN)	1
10	XAOFA	81361	D5-45-3235	PUMP UNIT ASSEMBLY (SEE FIG.C-5 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	1
18	PAOZZ	96906	MS20613-4P4	RIVET,SOLID	8
				END OF FIGURE	

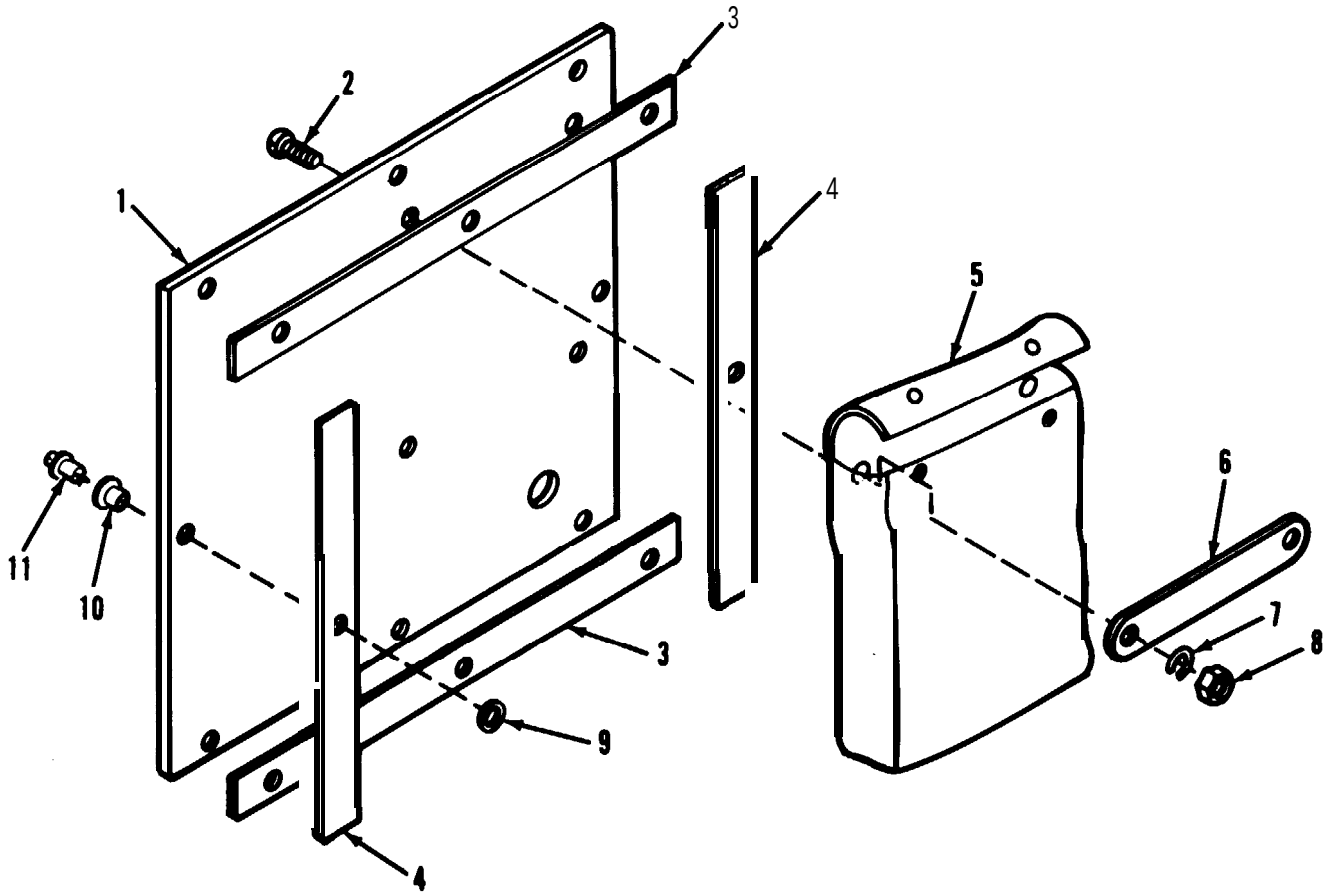


Figure C-4. Access Cover.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 0206 ACCESS COVER C5-45-2974	
				FIG.C-4 ACCESS COVER	
2	PAOZZ	96906	MS35207-261	SCREW,MACHINE	4
5	PAOZZ	81361	D5-45-3240	CARRIER,TOOL	1
6	PAOZZ	81361	B5-45-3239	STRIP, POUCH	2
7	PAOZZ	96906	MS35333-39	WASHER,LOCK	4
8	PAOZZ	96906	MS35650-302	NUT,PLAIN,HEXAGON	4
				END OF FIGURE	

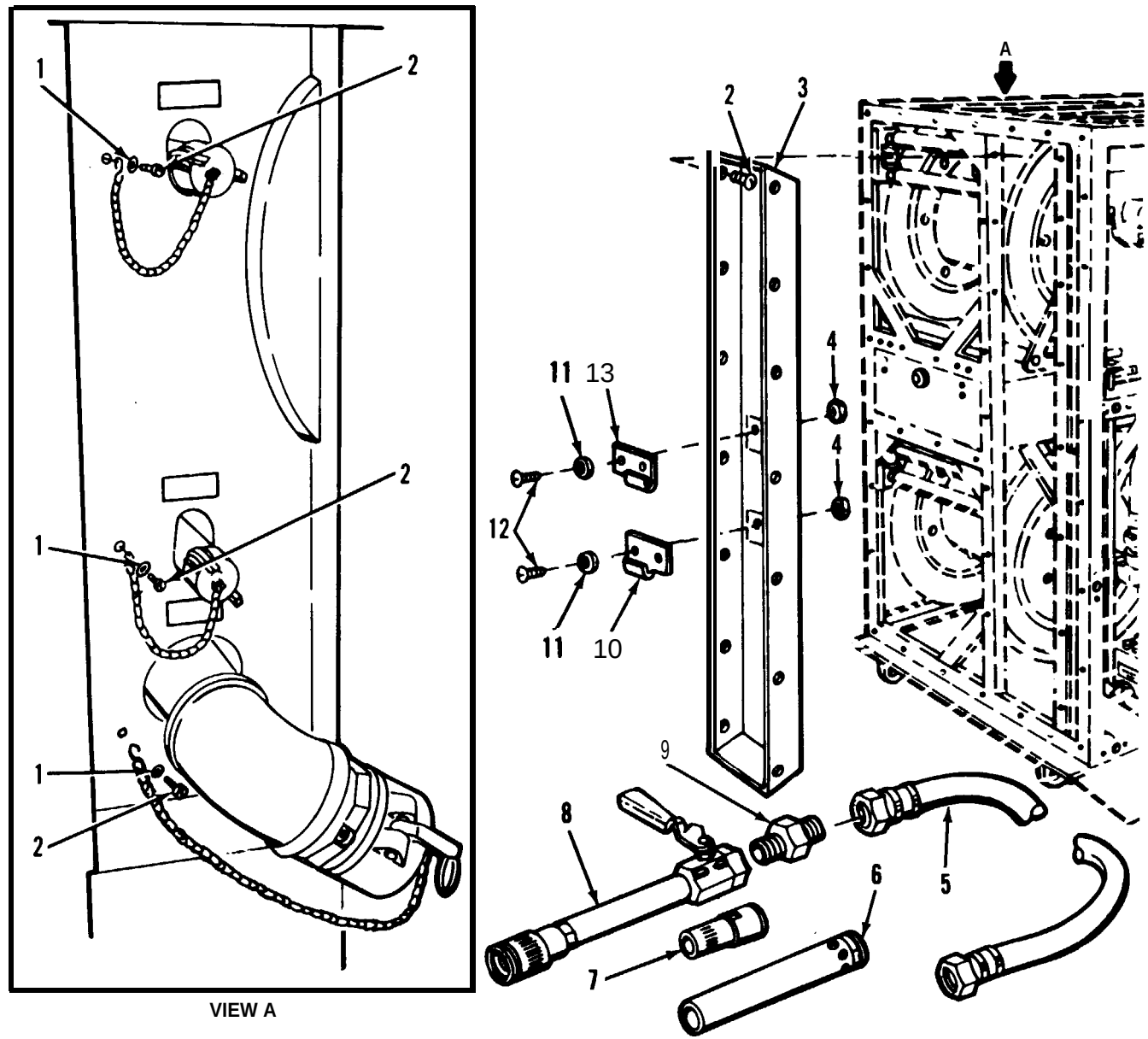


*Figure C-5. Pump Unit Assembly (1 of **4**).*

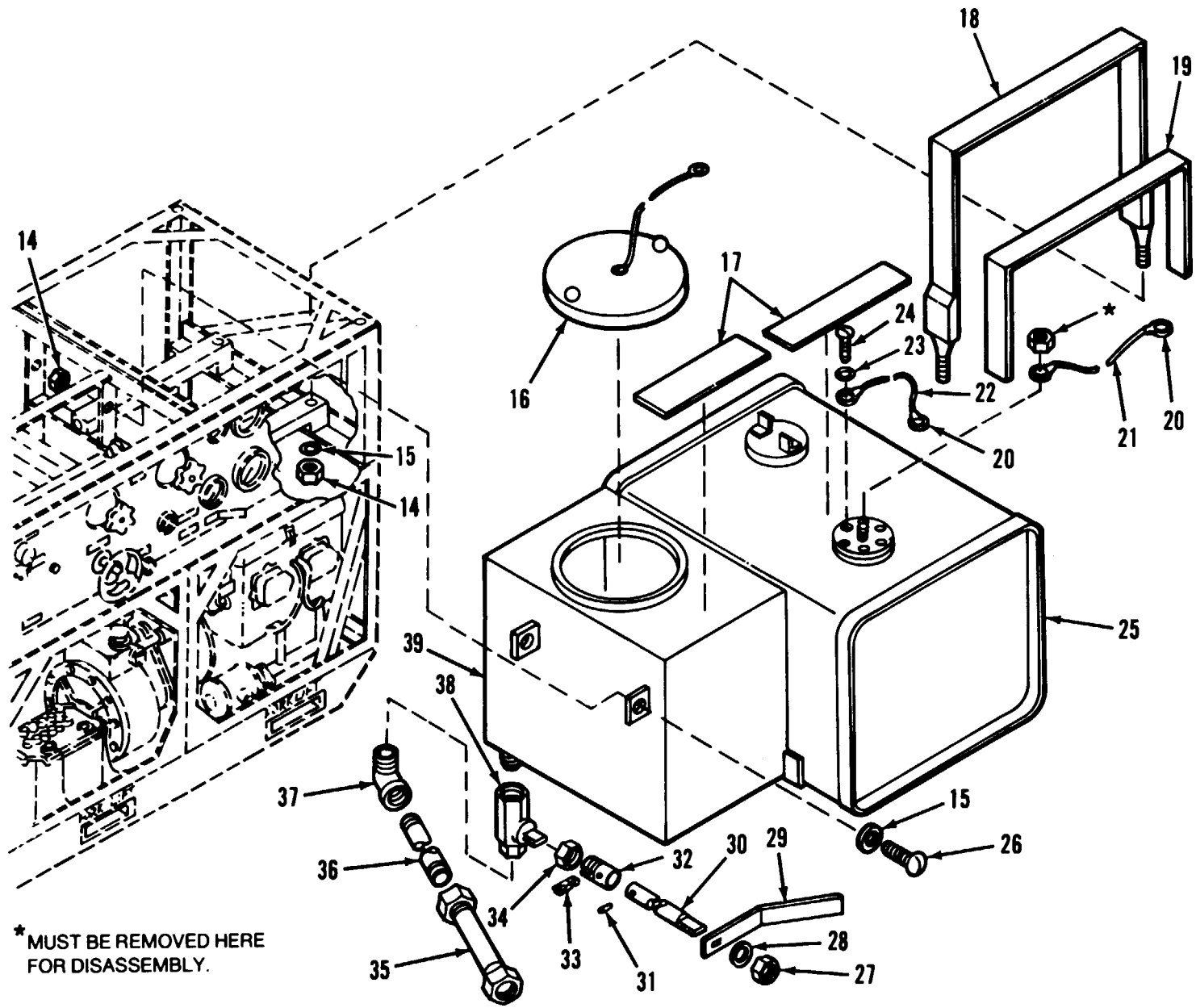
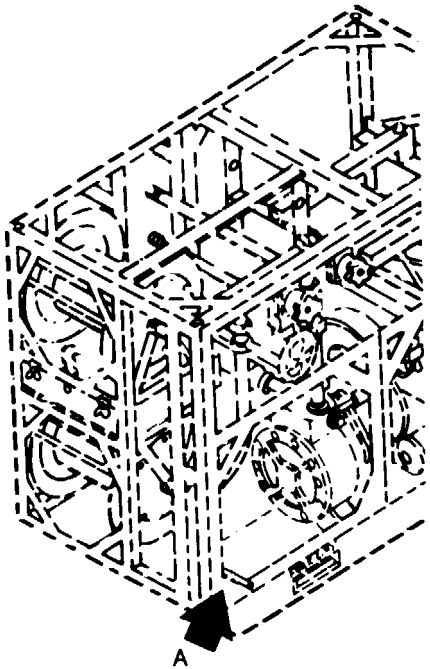
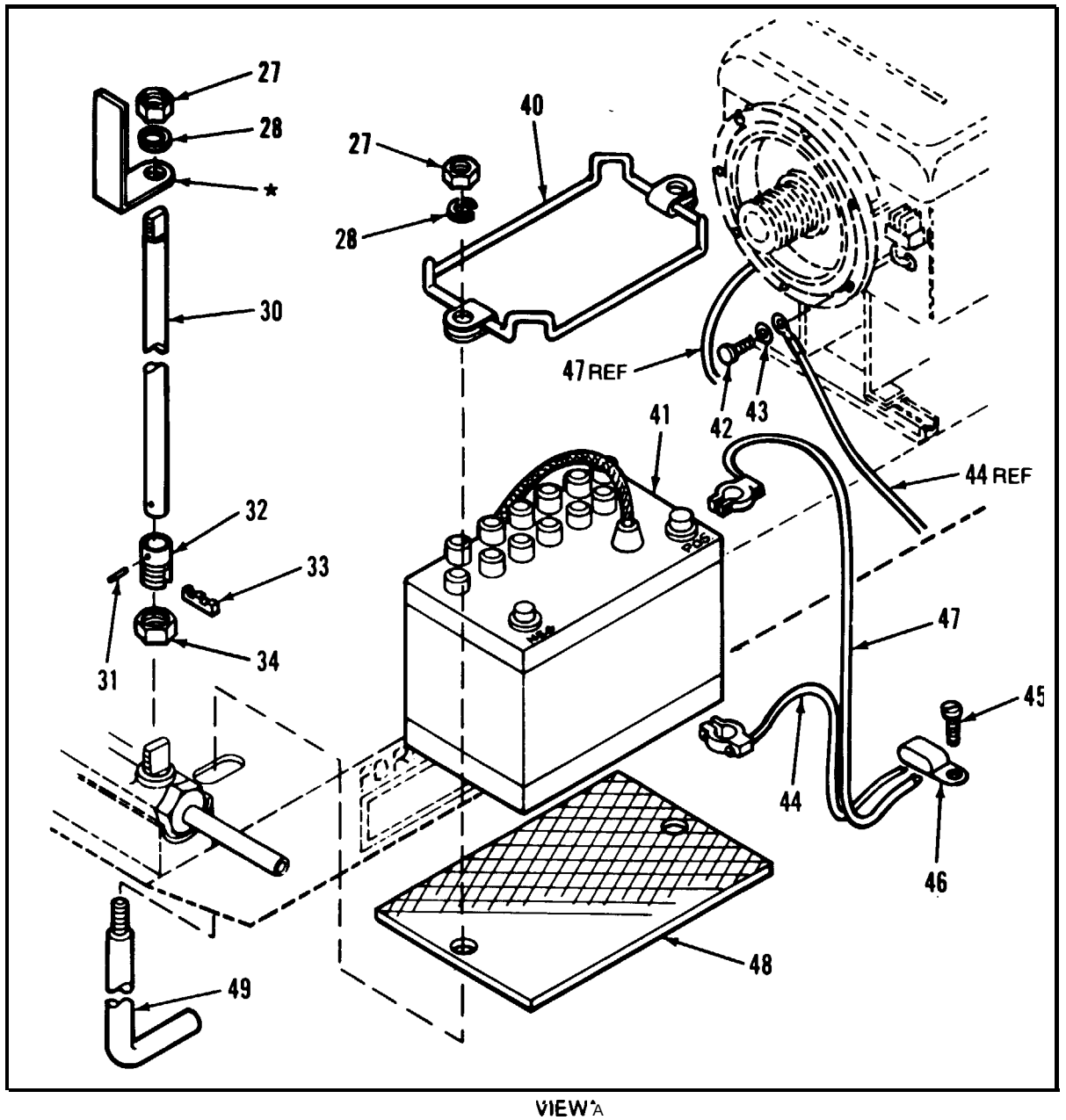


Figure C-5. Pump Unit Assembly (2 of 4).



*MUST BE REMOVED HERE FOR DISASSEMBLY.



VIEW A

Figure C-5. Pump Unit Assembly (3 of 4).

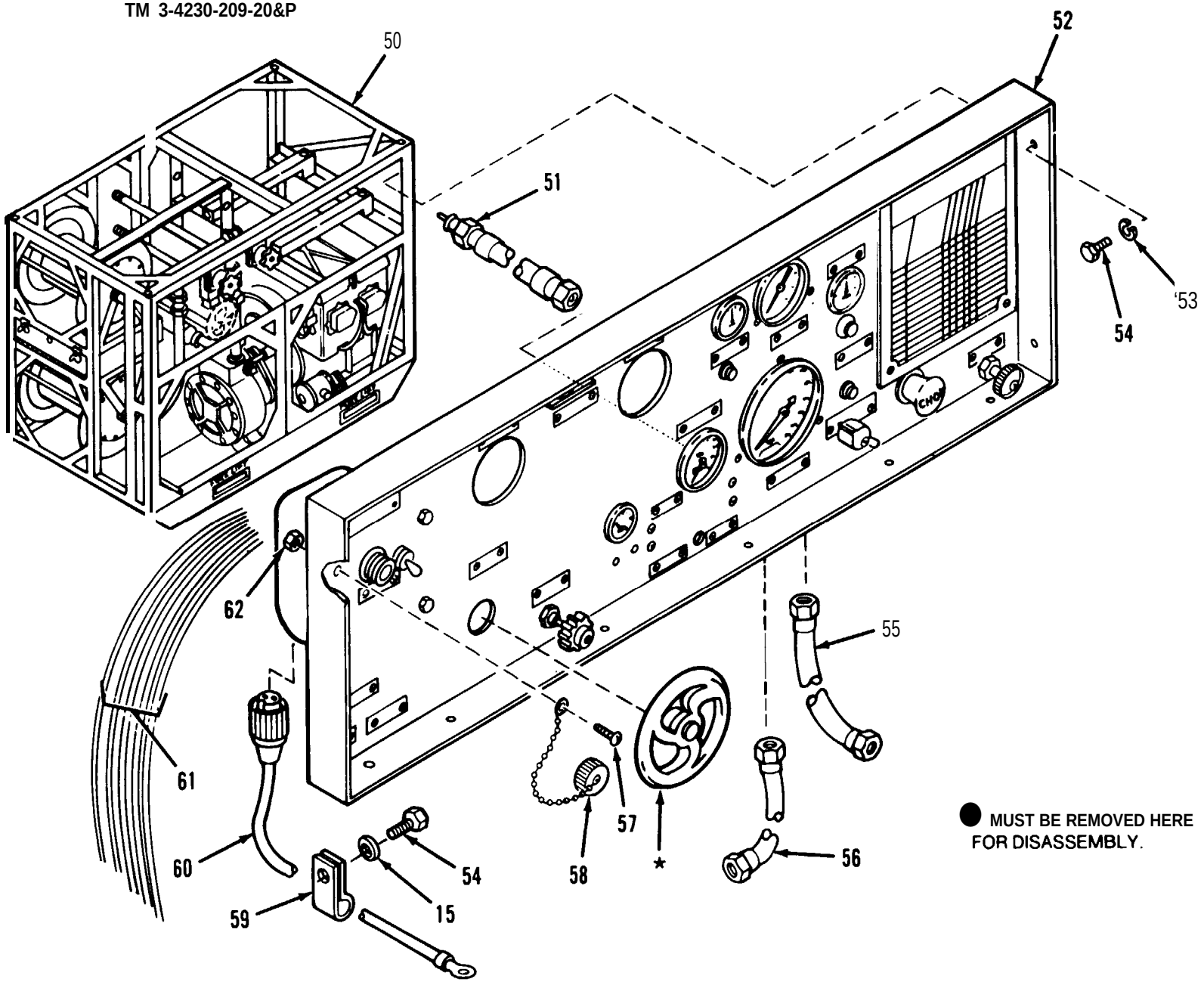


Figure C-5. Pump Unit Assembly (4 of 4).

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 0208 PUMP UNIT ASSEMBLY D5-45-3235	
				FIG.C-5 PUMP UNIT ASSEMBLY	
1	PAOZZ	96906	MS27183-7	WASHER,FLAT	3
2	PAOZZ	96906	MS51851-65	SCREW,TAPPING	17
5	AOOOO	81361	C5-45-2735-10	HOSE ASSEMBLY, DISCHARGE (SEE FIG.C-7 FOR ASSEMBLY BREAKDOWN)	2
6	PAOZZ	81361	C5-45-2701	NOZZLE,FIRE HOSE, FOAM	2
7	PAOZZ	81361	C5-45-2699	NOZZLE,FIRE HOSE, WATER	2
8	PAOOO	81361	C5-45-2563	GUN ASSEMBLY (SEE FIG.C-6 FOR ASSEMBLY BREAKDOWN)	2
9	PAOZZ	81361	C5-45-2932	ADAPTER,STRAIGHT, PIPE	2
14	PAOZZ	96906	MS51922-17	NUT,SELF-LOCKING, HEXAGON	8
15	PAOZZ	96906	MS27183-14	WASHER,FLAT	9
16	PAOOO	81361	D5-45-2996	LID, TANK (SEE FIG.C-8 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 M200 SERIES 1X1-8/NSN 9330-00-912-2707	2
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.C-10 FOR ASSEMBLY BREAKDOWN)	1
26	PAOZZ	96906	MS18154-60	SCREW,CAP,HEXAGON	8
27	PAOZZ	96906	MS51922-9	NUT,SELF-LOCKING, HEXAGON	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

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
32	PAOZZ	81361	C5-45-2991	SLEEVE,EXTENSION	2
33	PAOZZ	81361	B5-45-3267	SLEEVE,LOCKING	2
34	PAOZZ	96906	MS51967-20	NUT,PLAIN,HEXAGON	2
35	AOOOO	81361	C5-45-3199	HOSE ASSEMBLY, EDUCATOR (SEE FIG.C-9 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	AOOOO	81361	B5-45-3137	CABLE, NEGATIVE BATTERY (SEE FIG.C-11 FOR ASSEMBLY BREAKDOWN)	1
45	PAOZZ	81348	FFS107TYPEFPOINT	SCREW,TAPPING	1
46	PAOZZ	96906	MS21334-5	CLAMP,LOOP	1
47	AOOOO	81361	B5-45-3134	CABLE,POSITIVE BATTERY (SEE FIG.C-12 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.C-13 FOR ASSEMBLY BREAKDOWN)	1
51	PAOZZ	81361	D5-45-3280	SHAFT ASSEMBLY,FLEX	1
55	PAOZZ	50599	R22002CC4-30	HOSE ASSEMBLY, NONMETALLIC	1
56	PAOZZ	50599	R22002CC4-9	HOSE ASSEMBLY, NONMETALLIC	1

END OF FIGURE

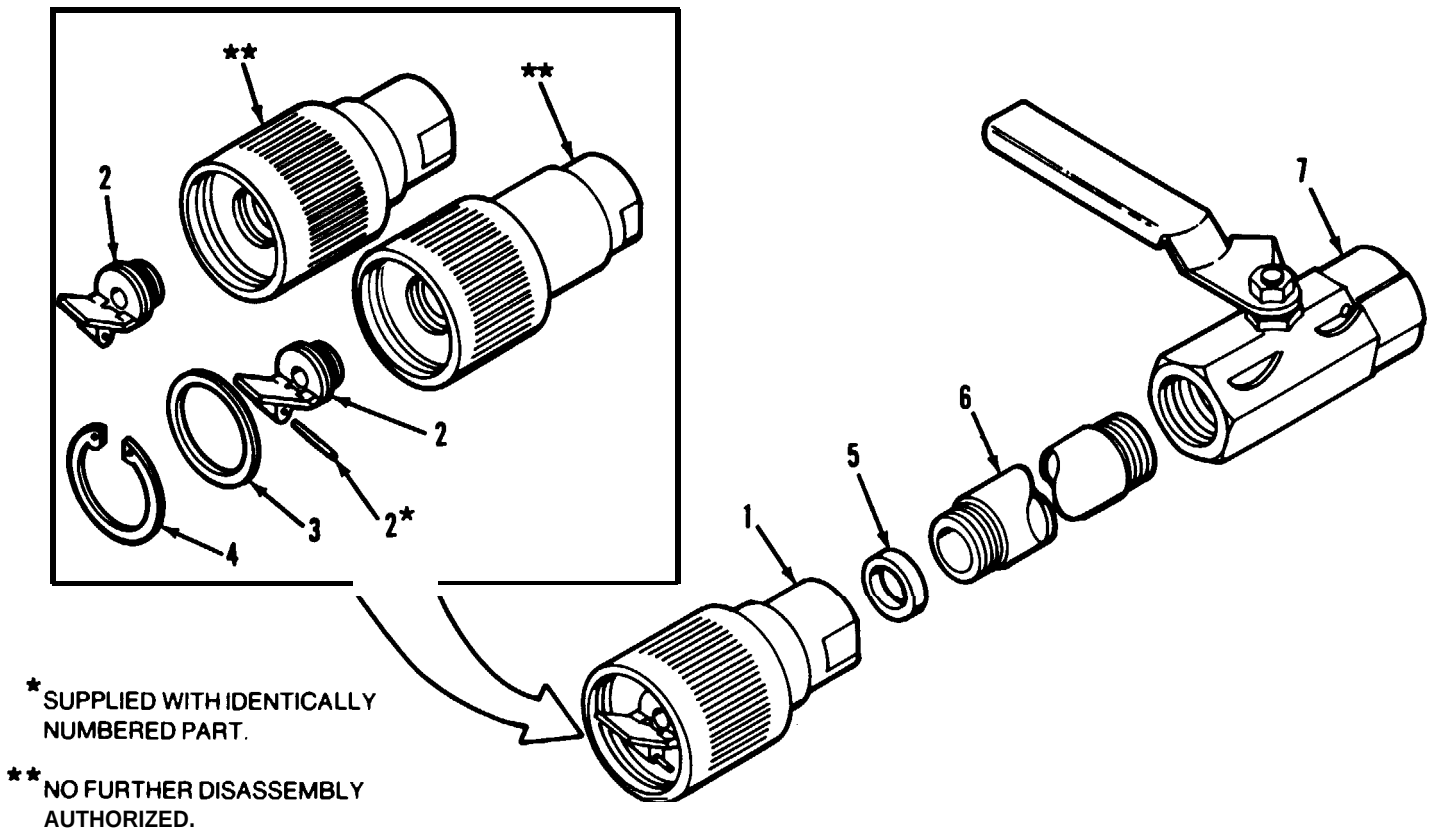


Figure C-6. Gun Assembly and Slurry Nozz/e Assembly.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 020801 GUN ASSEMBLY C5-45-2563 AND GROUP 02080101 SLURRY NOZZLE ASSEMBLY C5-45-2700	
				FIG.C-6 GUN ASSEMBLY AND SLURRY NOZZLE ASSEMBLY	
1	PAOOO	81361	C5-45-2700	NOZZLE ASSEMBLY, SLURRY	1
2	PAOZZ	52659	S7756-1	ORIFICE AND DEFLECTOR SET	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	

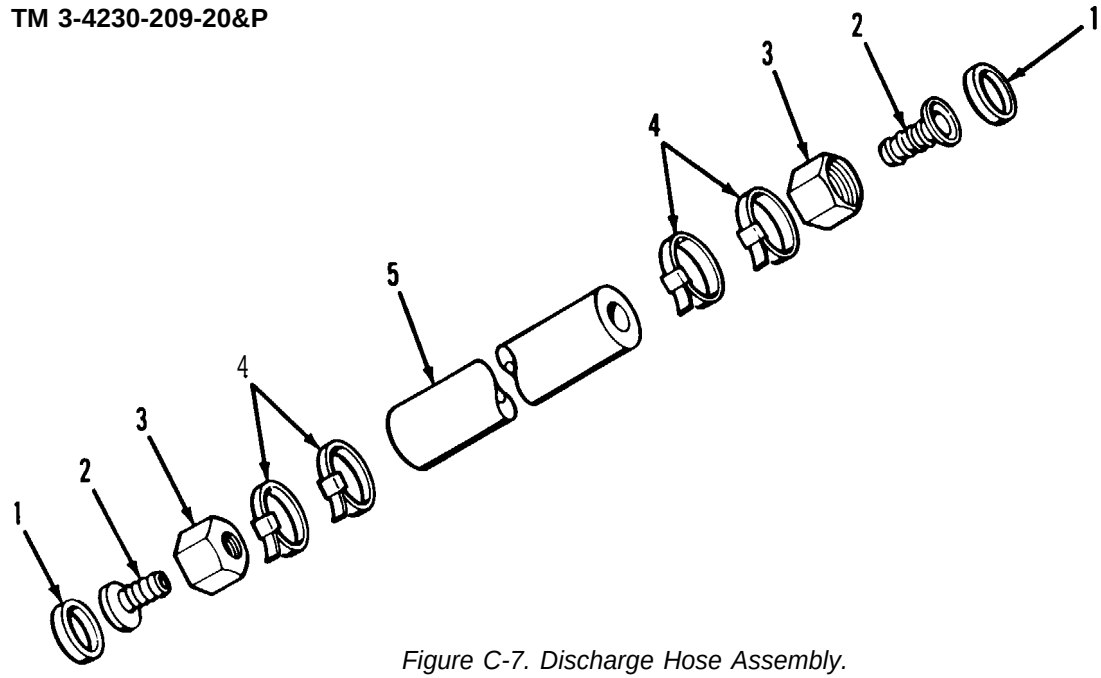
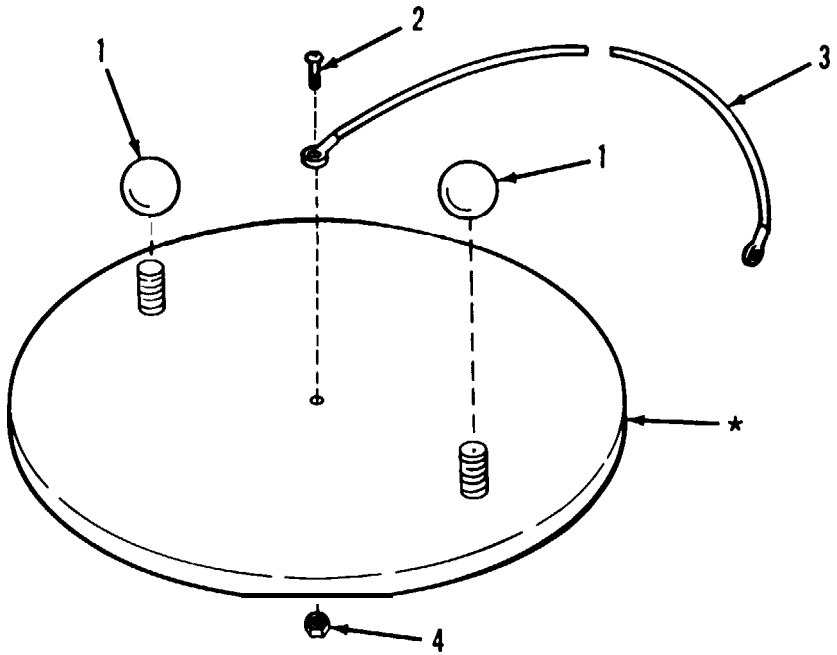


Figure C-7. Discharge Hose Assembly.

(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 C5-45-2735-1O	
				FIG. C-7 DISCHARGE HOSE ASSEMBLY	
1	PAOZZ	81361	B5-45-2635	GASKET	2
2	PAOZZ	81361	B5-45-2930	STEM	2
3	PAOZZ	81361	B5-45-2682	NUT	2
4	PAOZZ	77414	8S	CLAMP, HOSE	4
5	MOOZZ	81361	C5-45-2736-2	HOSE 50 FTLG MAKE FROM HOSE ASSEMBLY P/N 421B-11NCHID/NSN 4720-00-595-4103, . ., ...,.,...	v
				END OF FIGURE	



*NO FURTHER DISASSEMBLY AUTHORIZED

Figure C-8. Tank Lid.

(1) ITEM No	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 020803 TANK LID D5-45-2996	
				FIG. C-8 TANK LID	
1	PAOZZ	92878	58671	KNOB	2
2	PAOZZ	96906	MS51958-63	SCREW,MACHINE	1
3	PAOZZ	99862	CL-22-KA-18	WIRE ROPE ASSEMBLY	1
4	PAOZZ	96906	MS21044C3	NUT,SELF-LOCKING, HEXAGON	1
				END OF FIGURE	

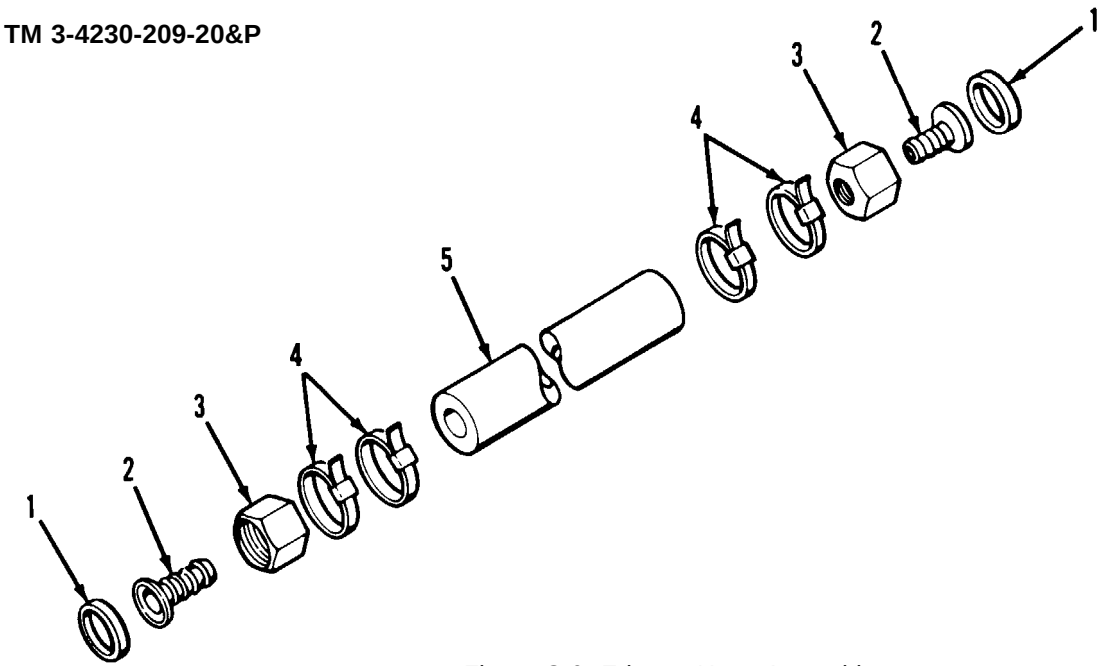


Figure C-9. Eductor Hose Assembly.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 020804 EDUCTOR HOSE ASSEMBLY C5-45-3199	
				FIG. C-9 EDUCTOR HOSE ASSEMBLY	
1	PAOZZ	81361	B5-45-3200	GASKET	2
2	PAOZZ	81361	B5-45-3201	STEM	2
3	PAOZZ	81361	B5-45-3202	NUT	2
4	PAOZZ	77414	8S	CLAMP, HOSE	4
5	MOOZZ	81361	C5-45-3265	HOSE, RUBBER MAKE FROM HOSE, NONMETALLIC P/N 124WW/NSN 4720-00-961-3522	1
				END OF FIGURE	

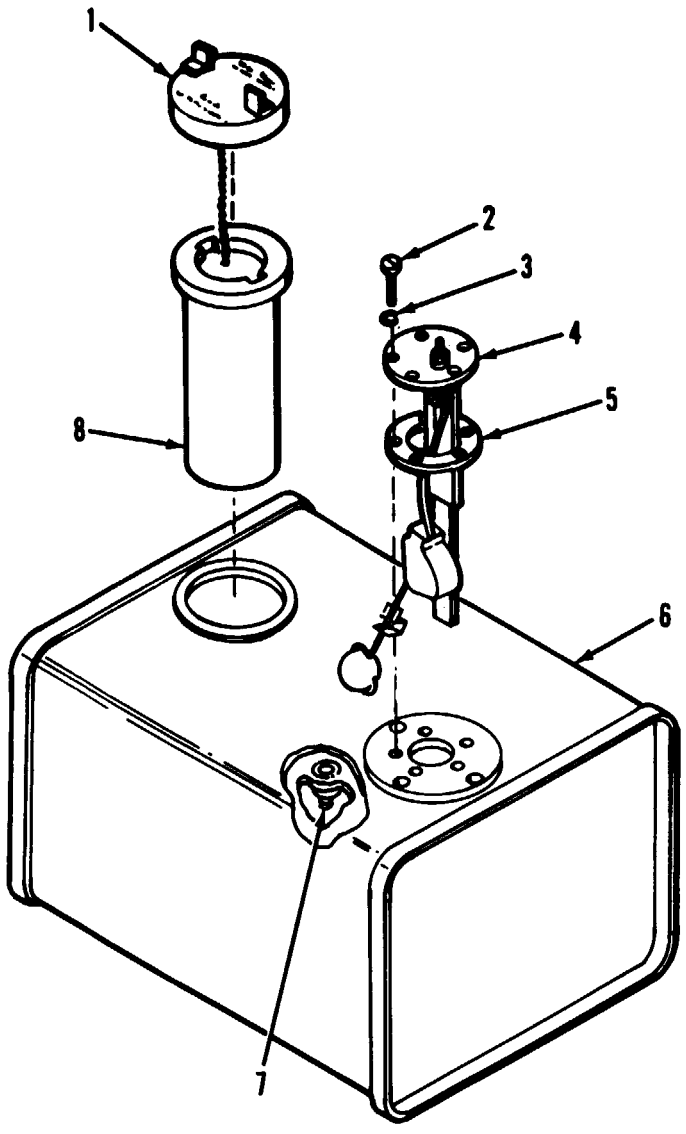


Figure C-10. Engine Fuel Tank.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 020805 ENGINE FUEL TANK D5-45-3127	
				FIG.C-10 ENGINE FUEL TANK	
1	PAOZZ	96906	MS35645-1	CAP,FILLER OPENING	1
8	PAOZZ	96906	MS90908-1	STRAINER ELEMENT	1
				END OF FIGURE	

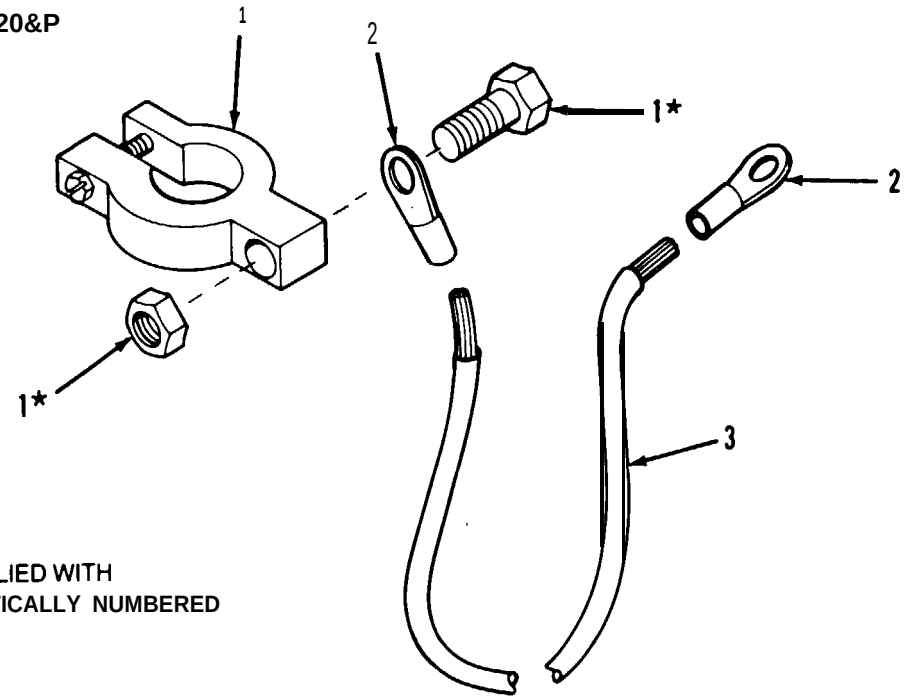


Figure C-11. Negative Battery Cable.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 020806 NEGATIVE BATTERY CABLE B5-45-3137	
				FIG.C-11 NEGATIVE BATTERY CABLE	
1	PAOZZ	96906	MS75004-2	TERMINAL, LUG	1
2	PAOZZ	96906	MS25036-127	TERMINAL, LIE	2
3	MOOZZ	81361	85-45-3137-1	CABLE, NEGATIVE BATTERY 48 IN.LG MAKE FROM CABLE ELECTRICAL P/N M13486/1-11	1
				END OF FIGURE	

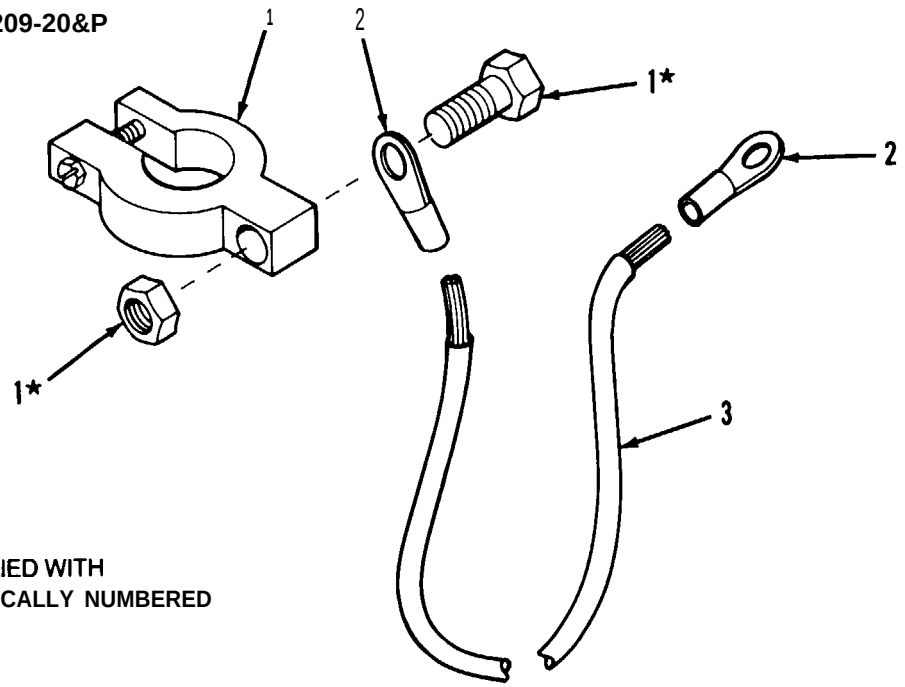


Figure C-12. Positive Battery Cable.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 020807 POSITIVE BATTERY CABLE B5-45-3134	
				FIG. C-12 POSITIVE BATTERY CABLE	
1	PAOZZ	96906	MS75004-1	TERMINAL, LUG	1
2	PAOZZ	96906	MS25036-127	TERMINAL, LUG	2
3	MOOZZ	81361	B5-45-3134-1	CABLE, POSITIVE, BATTERY: 52 IN. LG MAKE FROM CABLE ELECTRICAL P/N M13486/1-11	1
				END OF FIGURE	

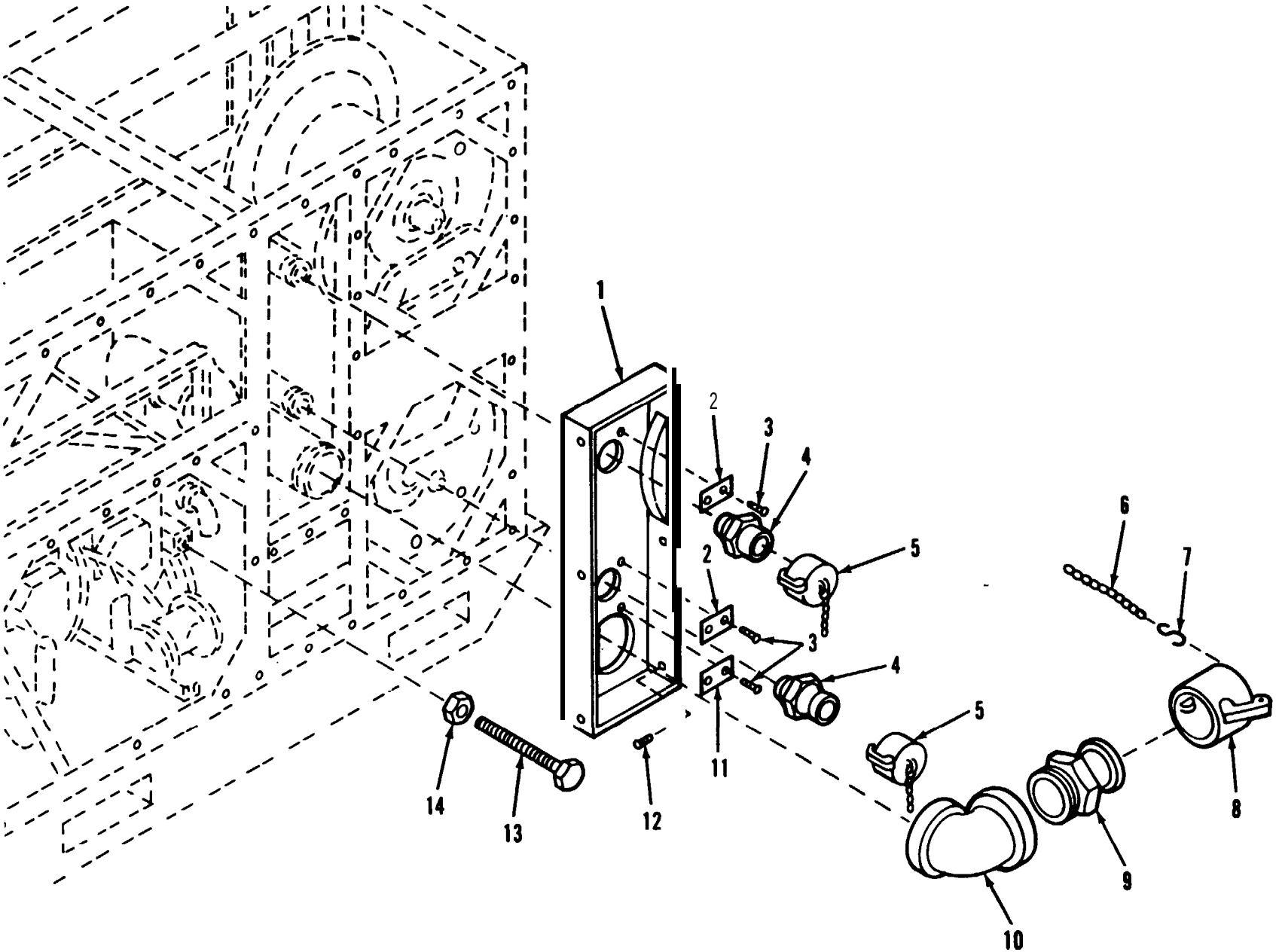


Figure C-13. Pump Unit Subassembly (1 of 3).

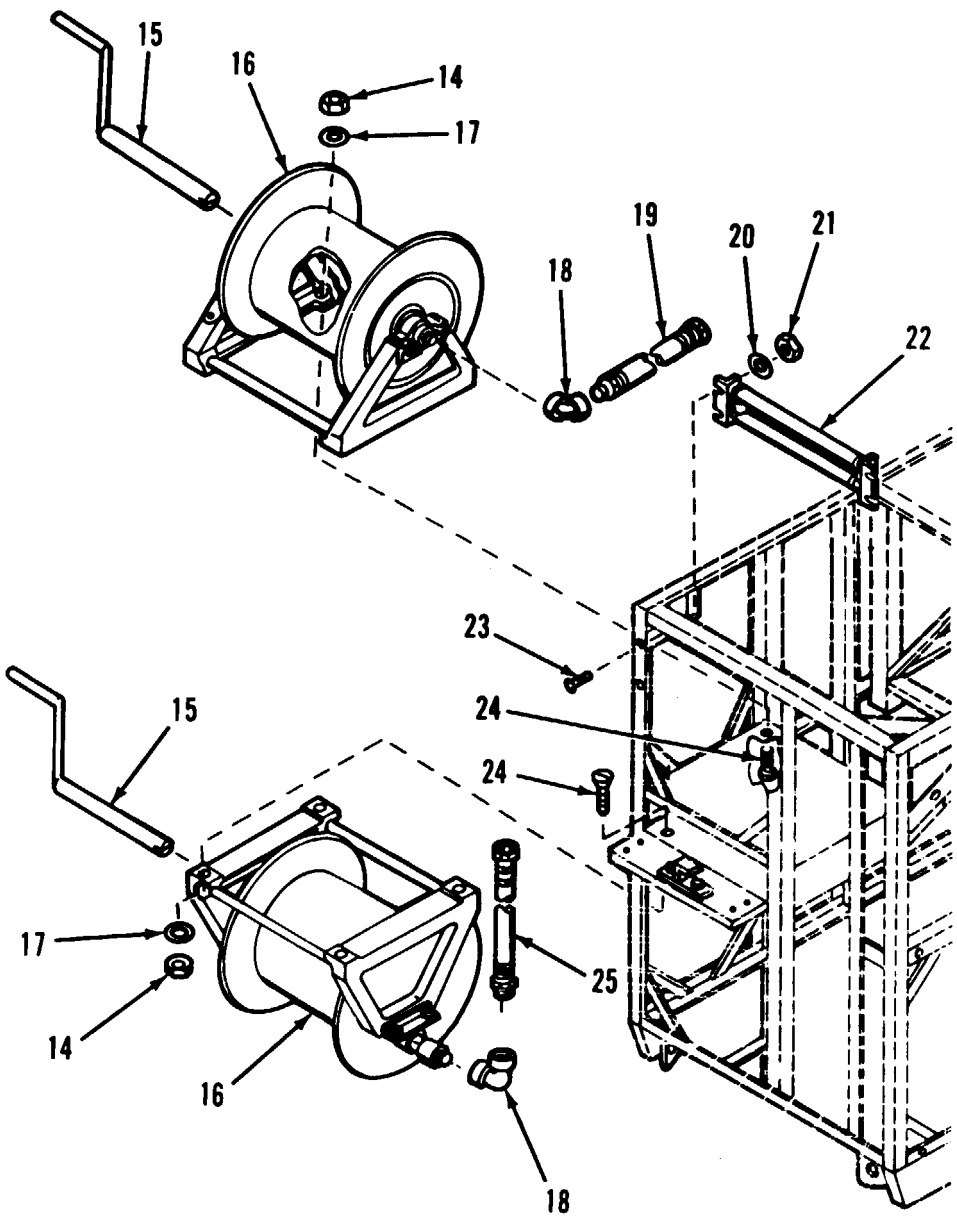


Figure C-13. Pump Unit Subassembly (2 of 3).

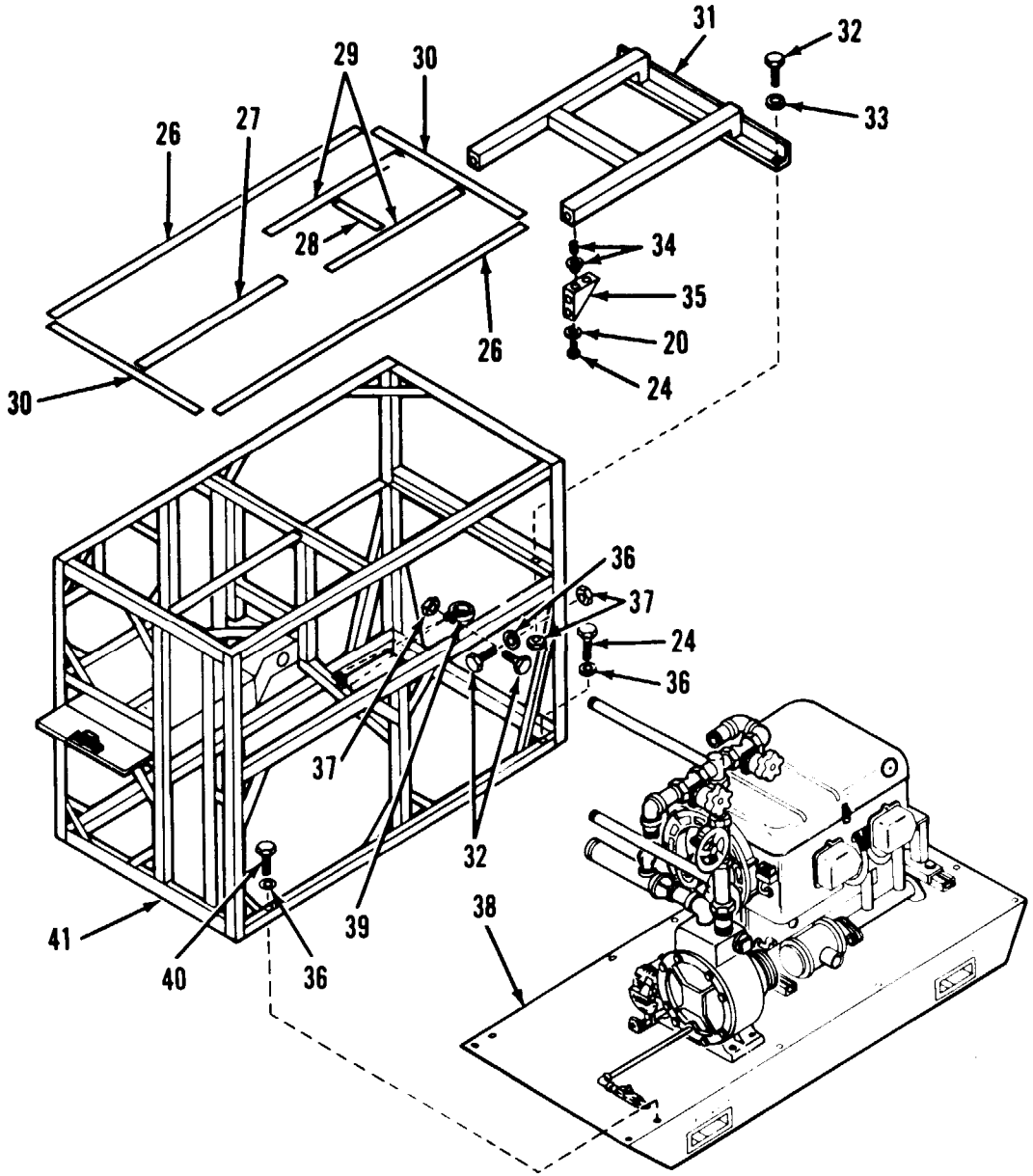


Figure C-13. Pump Unit Subassembly (3 of 3).

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 020808 PUMP UNIT SUBASSEMBLY D5-45-3231	
				FIG.C-13 PUMP UNIT SUBASSEMBLY	
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,PROTECTIVE,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, PROTECTIVE,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	81361	D5-45-3203-4	PLATE, IDENTIFICATION, SUCTION	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
				END OF FIGURE	

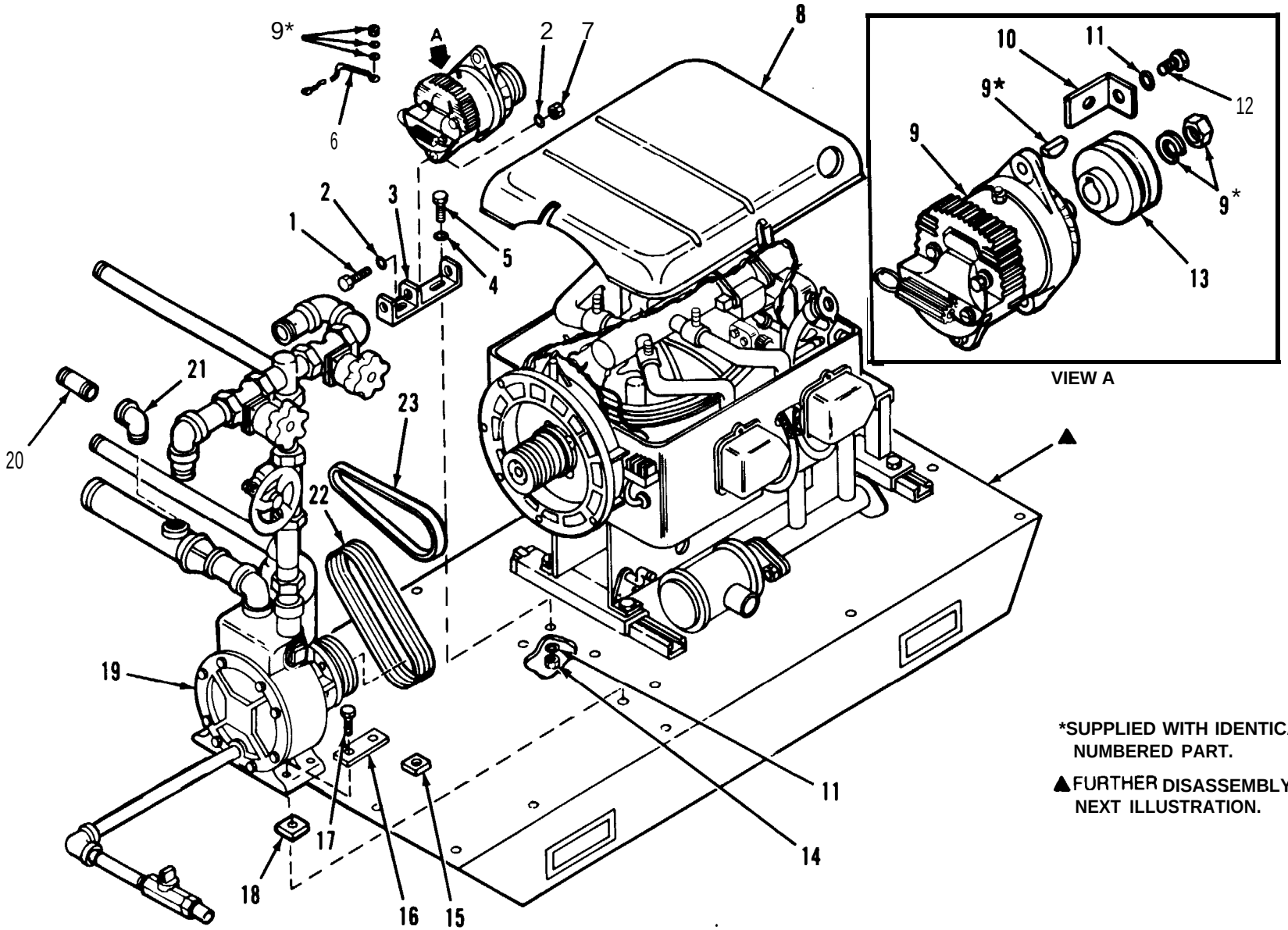
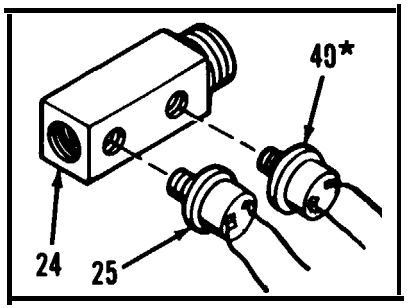
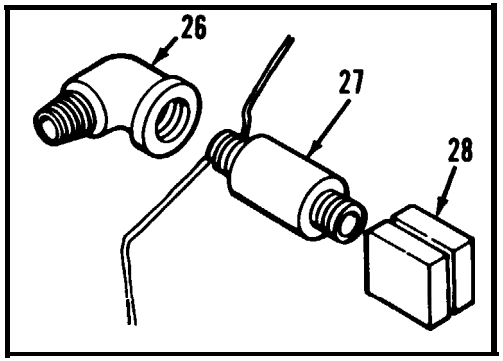


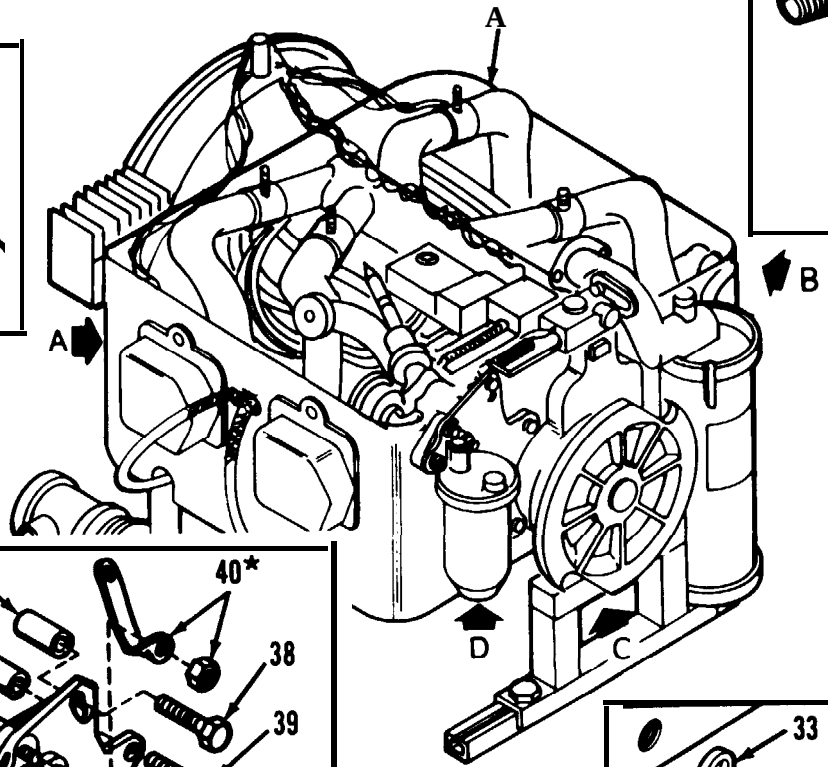
Figure C-14. Skid Base Subassembly (1 of 3).



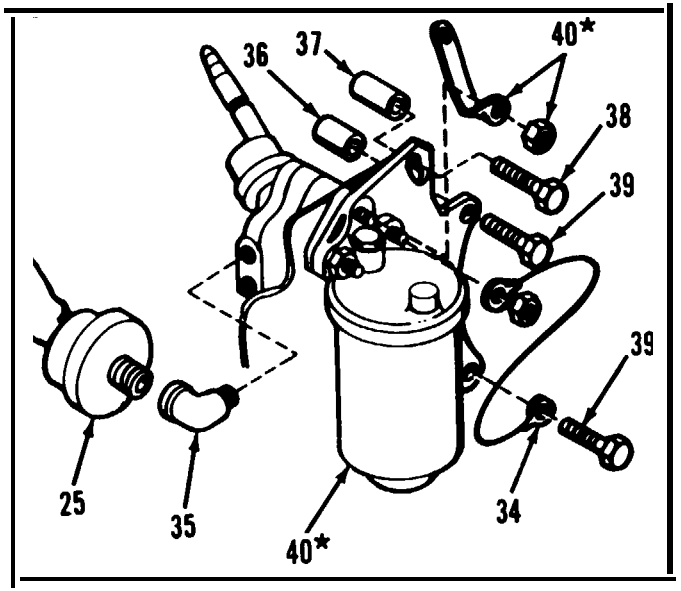
VIEW A
FOR ENGINES MFG AFTER JANUARY 1969



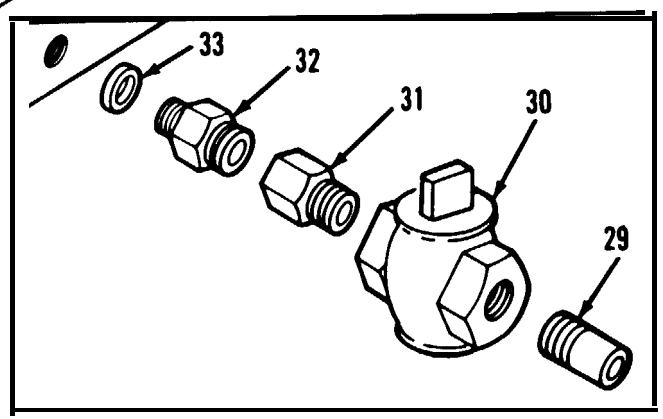
VIEW B



*SUPPLIED WITH IDENTICALLY NUMBERED PART.
A FURTHER DISASSEMBLY ON NEXT ILLUSTRATION.



VIEW D
FOR ENGINES MFD BEFORE JANUARY 1969



VIEW C

Figure C-14. Skid Base Subassembly (2 of 3).

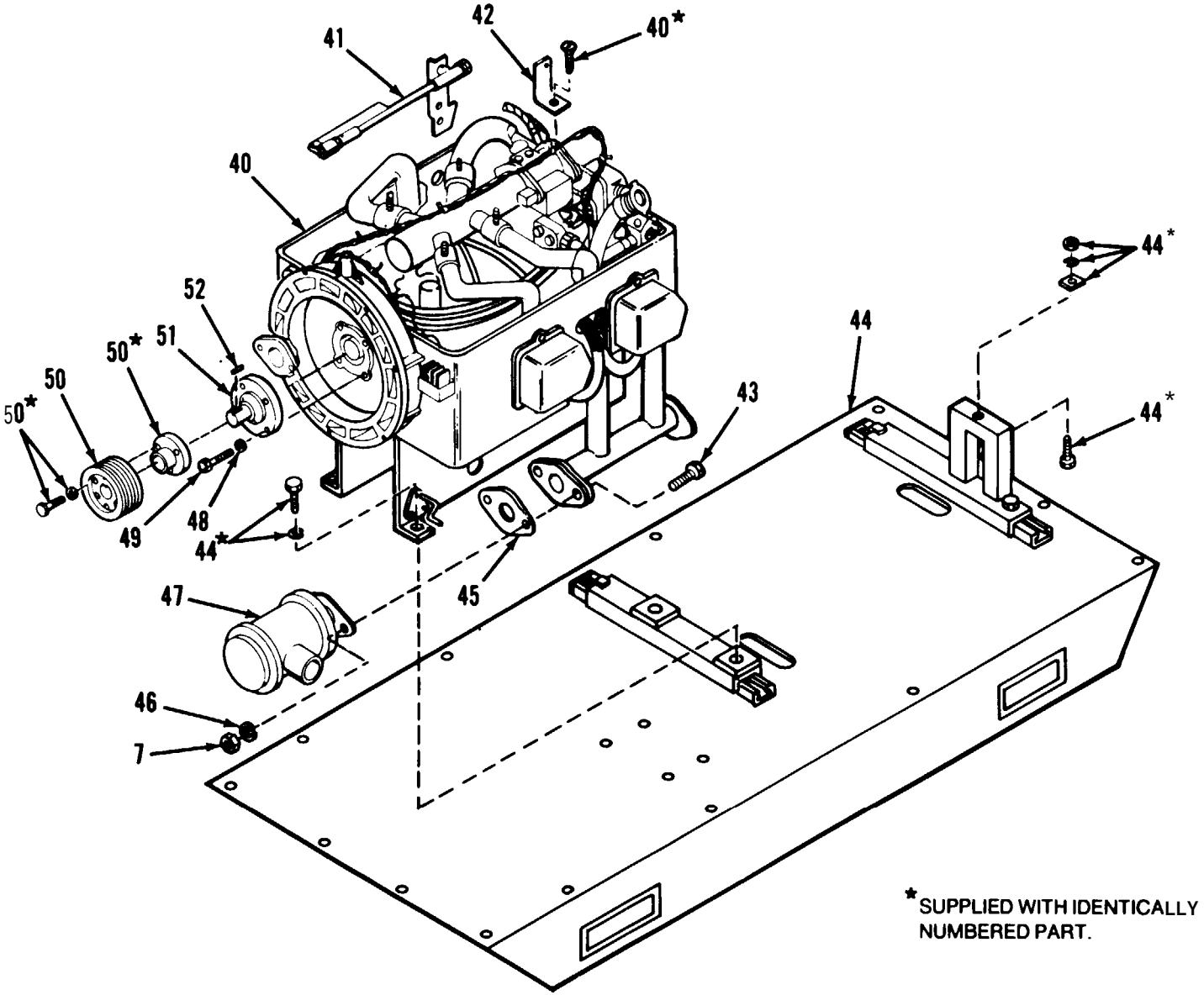


Figure C-14. Skid Base Subassembly (3 of 3).

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 02080804 SKID BASE SUBASSEMBLY D5-45-3241	
				FIG.C-14 SKID BASE SUBASSEMBLY	
1	PAOZZ	96906	MS90725-90	SCREW,CAP,HEXAGON	2
2	PAOZZ	96906	MS35333-43	WASHER,LOCK	4
7	PAOZZ	96906	MS51967-8	NUT,PLAIN,HEXAGON	6
9	XDOFF	81361	D5-45-3288	GENERATOR, ALTERNATOR ASSEMBLY	1
10	PAOZZ	81361	C5-45-3229	BRACKET,GENERATOR	1
11	PAOZZ	96906	MS35333-44	WASHER,LOCK	3
12	PAOZZ	96906	MS90725-109	SCREW,CAP,HEXAGON	1
13	PAOZZ	81361	B5-45-3312	PULLY,GROOVE	1
22	PAOZZ	20796	3V315-4	BELTS,V,MATCHED SET	1
23	PAOZZ	24161	3VX280	BELT	1
41	PAOOO	81361	C5-45-3157	THROTTLE LINKAGE ASSEMBLY (SEE FIG.C-17 FOR ASSEMBLY BREAKDOWN)	1
43	PAOZZ	96906	MS90725-62	SCREW,CAP,HEXAGON	4
45	PAOZZ	16004	B47457	GASKET	2
46	PAOZZ	96906	MS35338-46	WASHER,LOCK	4
47	PAOZZ	81361	B5-45-3165	MUFFLER,EXHAUST	2
				END OF FIGURE	

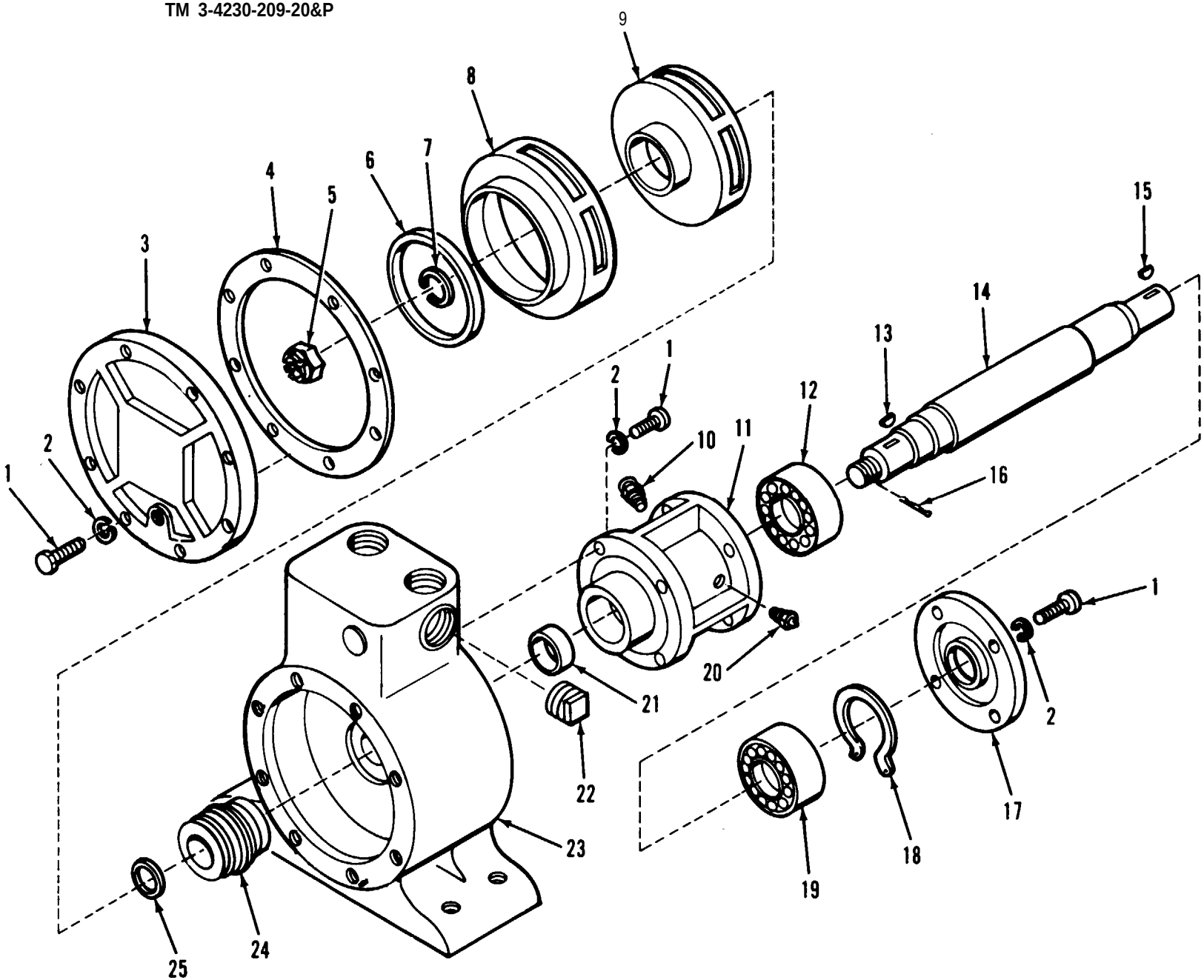
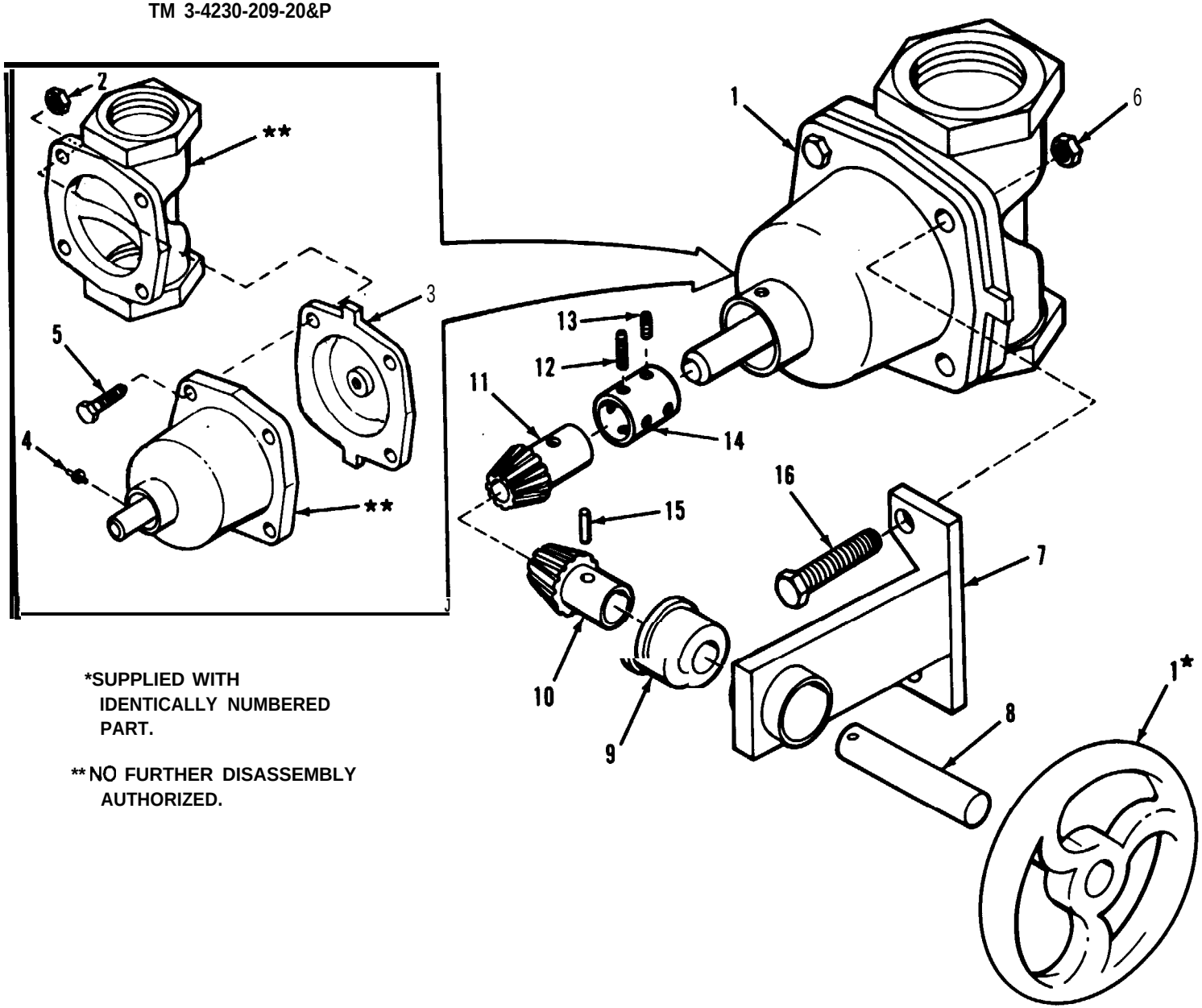


Figure C-15. Centrifugal Pump.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 0208080411 CENTRIFUGAL PUMP D5-45-2835	
				FIG.C-15 CENTRIFUGAL PUMP	
10	PAOZZ	38455	24454	BREATHER	1
20	PAOZZ	96906	MS15003-1	FITTING,LUBRICATION	1
22	XDOZZ	81348	WWP471PLUG2-11-1 -2NPT	PLUG	2
				END OF FIGURE	



*SUPPLIED WITH IDENTICALLY NUMBERED PART.

** NO FURTHER DISASSEMBLY AUTHORIZED.

Figure C-16. Offset Valve and Regulating Valve.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 0208080412 OFFSET VALVE C5-45-3272 AND GROUP 02080804121 REGULATING VALVE C5-45-3276-5 FIG.C-16 OFFSET VALVE AND REGULATING VALVE	
4	PAOZZ	96906	MS15003-1	FITTING,LUBRICATION	1
				END OF FIGURE	

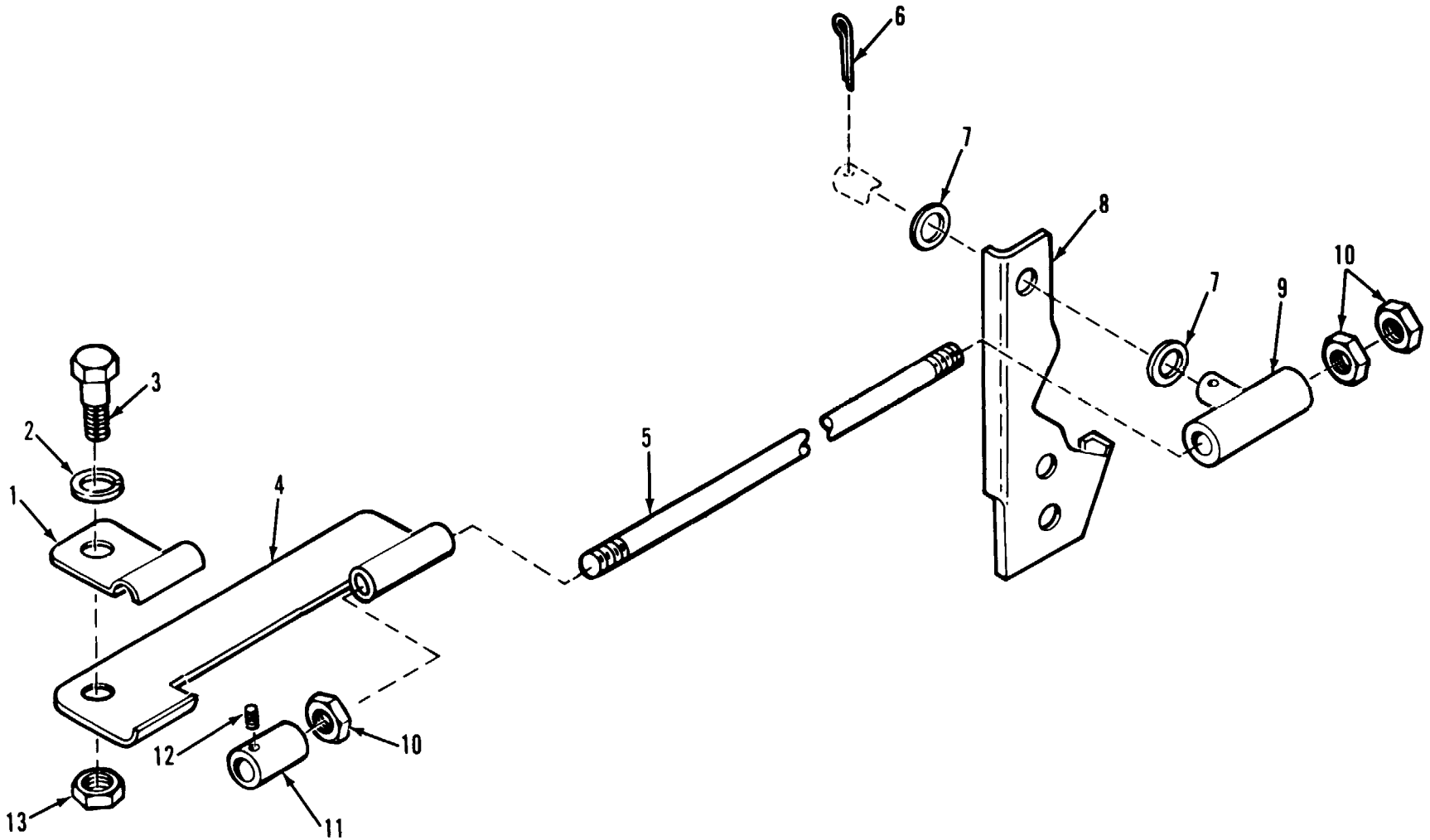


Figure C-17. Throttle Linkage Assembly.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 020808043 THROTTLE LINKAGE ASSEMBLY C5-45-3157	
				FIG.C-17 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 CONTROL 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	

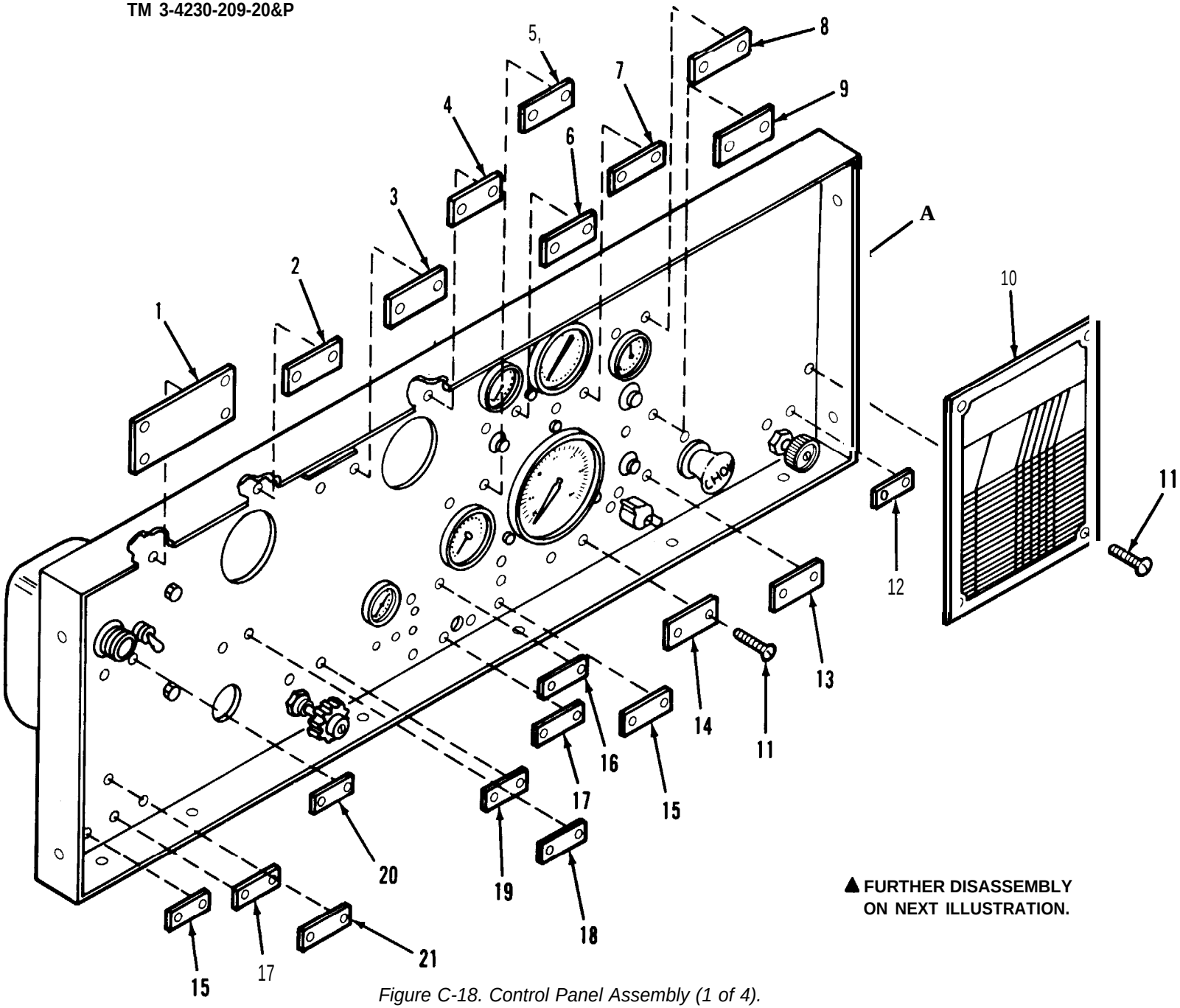


Figure C-18. Control Panel Assembly (1 of 4).

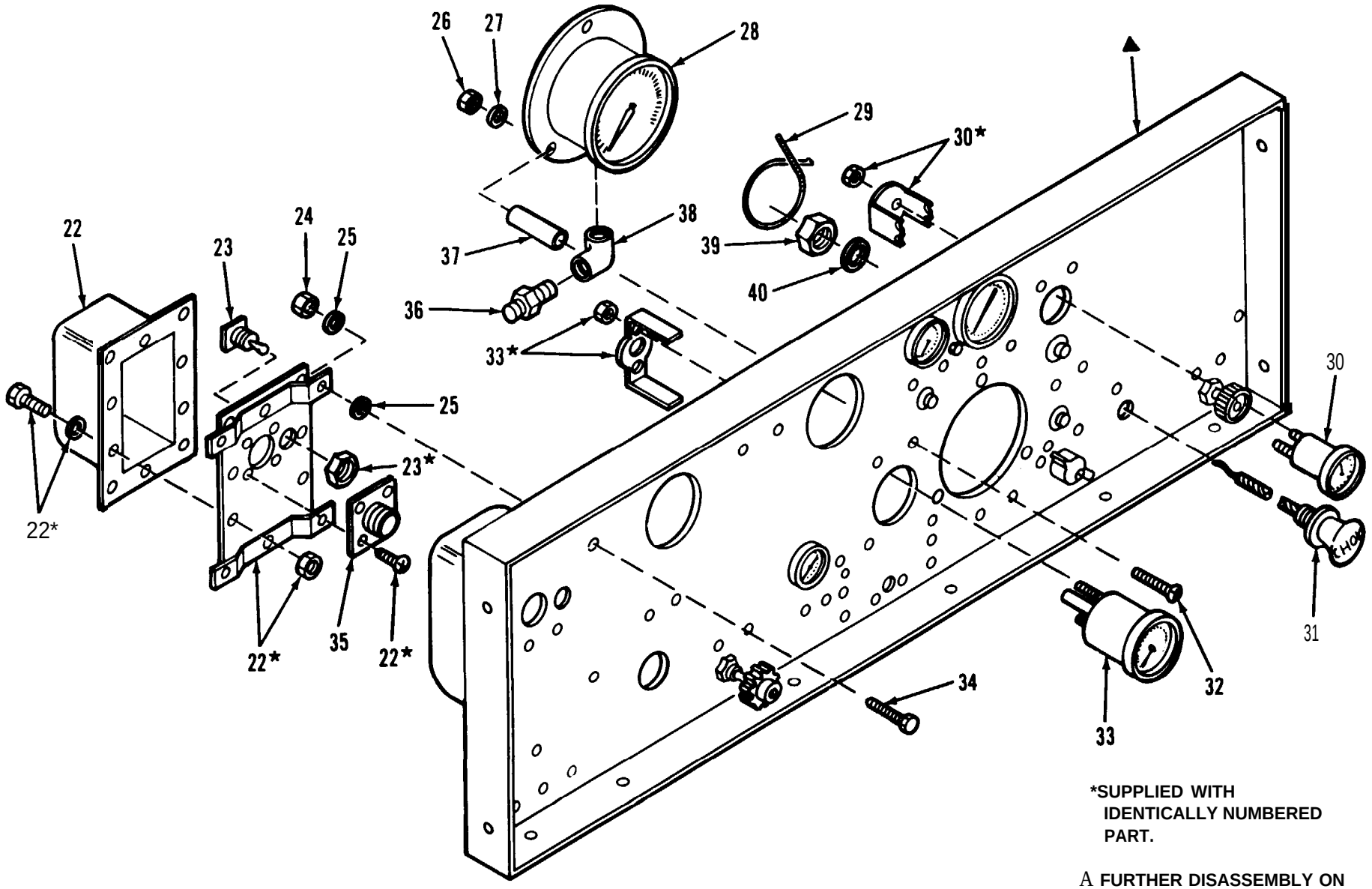


Figure C-18. Control Panel Assembly (2 of 4)

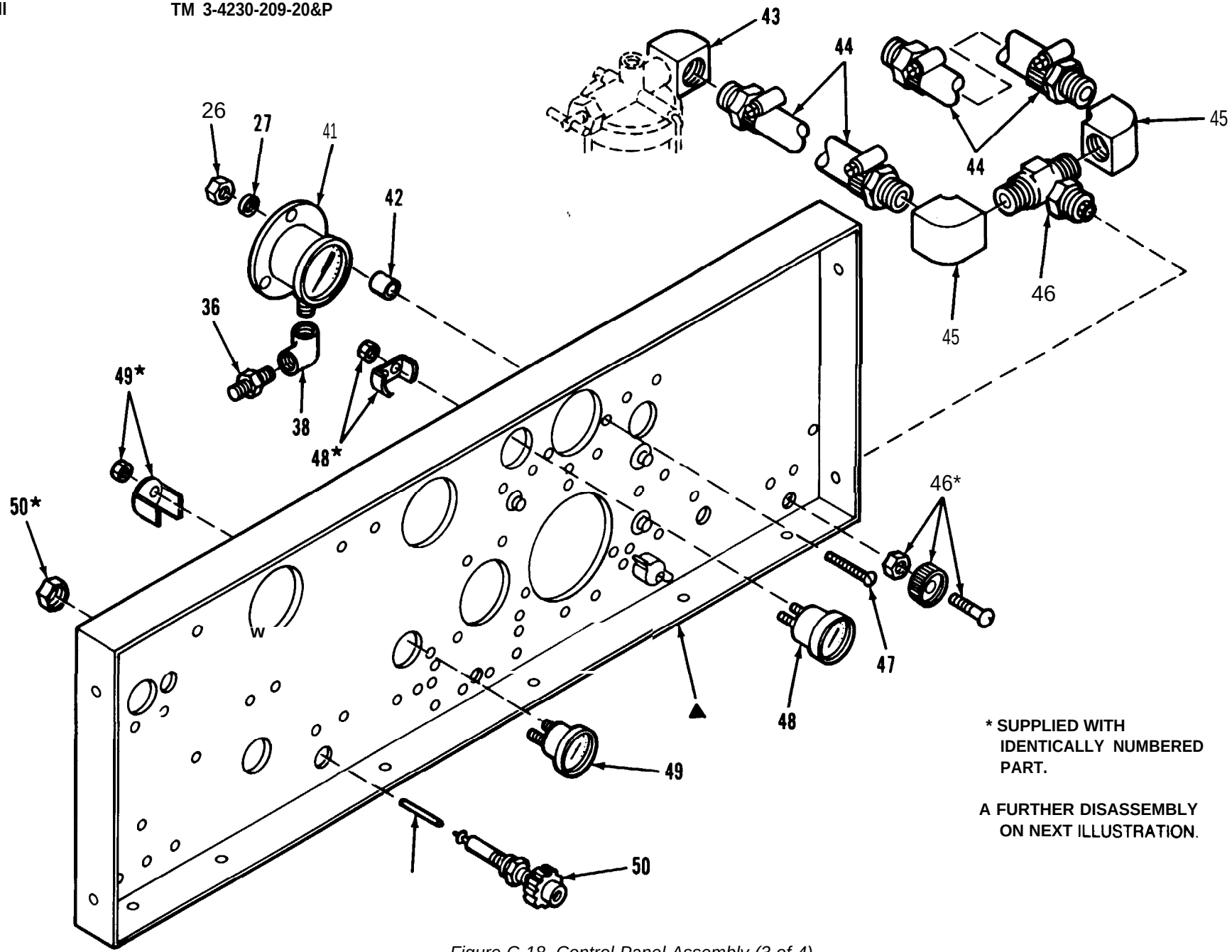


Figure C-18. Control Panel Assembly (3 of 4).

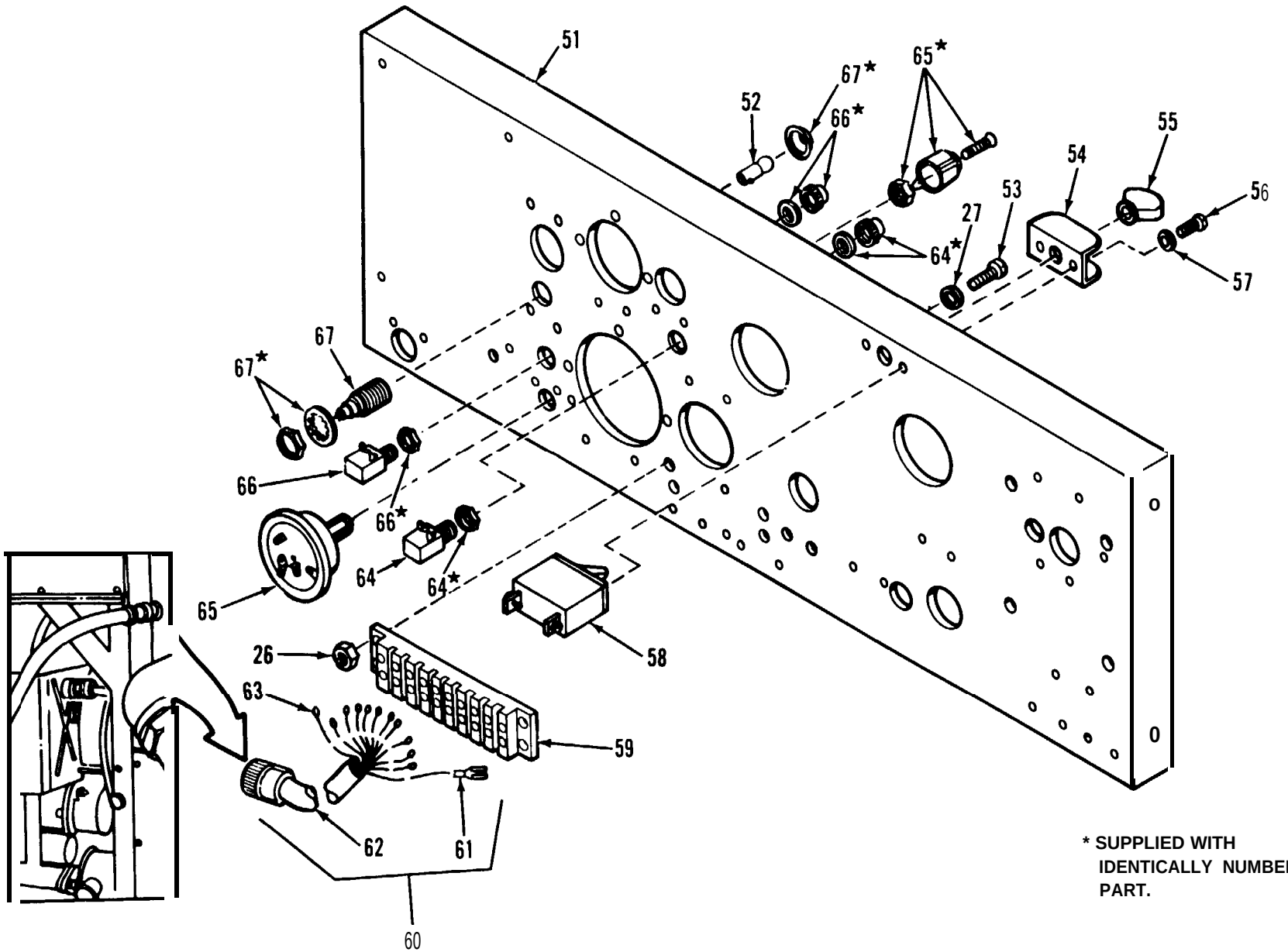


Figure C-18. Control Panel Assembly (4 of 4).

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 020809 CONTROL PANEL ASSEMBLY D5-45-3236	
				FIG.C-18 CONTROL PANEL ASSEMBLY	
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
30	PAOZZ	70040	6474533	AMMETER	1
32	PAOZZ	96906	MS35207-272	SCREW,MACHINE	3
33	PAOZZ	96906	MS35916-2	TACHOMETER,MECHANIC	1
36	PAOZZ	88044	AN816-4-4B	ADAPTER,STRAIGHT, PIPE	2
37	PAOZZ	81361	B5-45-3017-2	SPACER,SLEEVE	3
38	PAOZZ	88044	AN916-2	ELBOW,PIPE	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, NONMETALLIC	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
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
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
64	PAOZZ	96906	MS25089-2C	SWITCH,PUSH FUEL INDICATOR	1

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
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

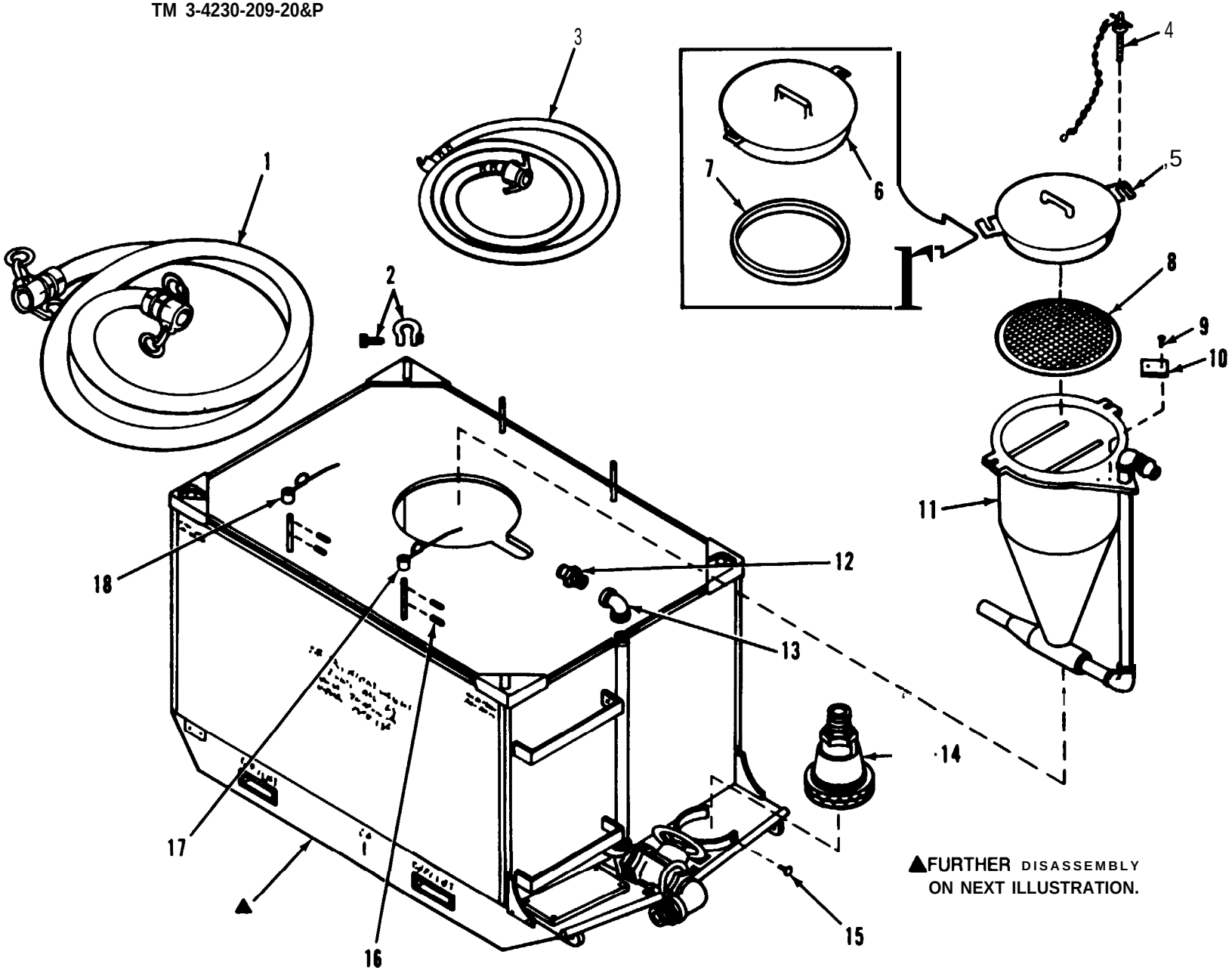


Figure C-19. Skid Mounted Decontaminating Apparatus Tank Unit and Hopper Access Cover (1 of 2).

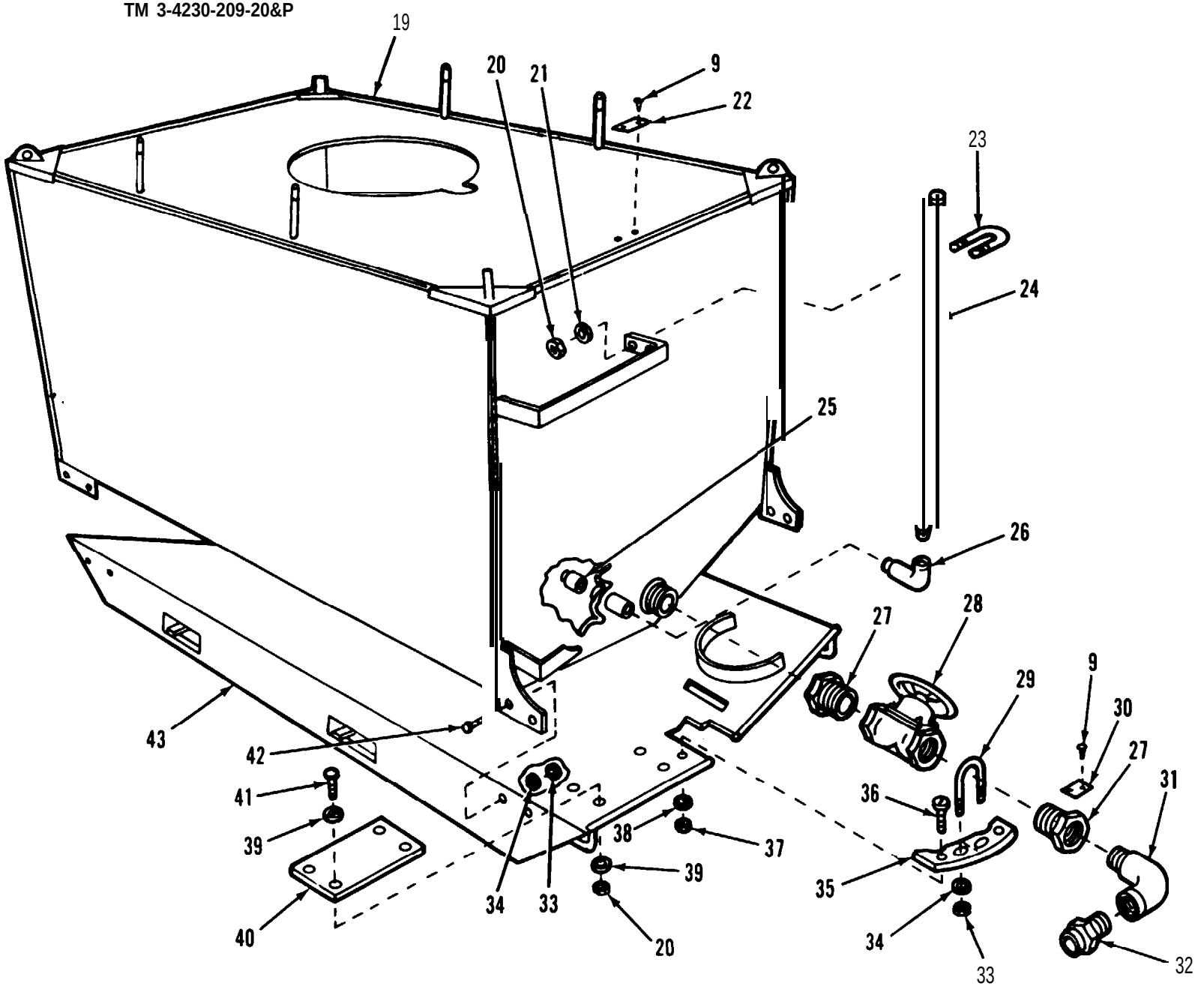


Figure C-19. Skid Mounted Decontaminating Apparatus Tank Unit and Hopper Access Cover (2 of 2).

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 03 SKID MOUNTED DECONTAMINATING APPARATUS TANK UNIT C5-45-3183 AND GROUP 0301 HOPPER ACCESS COVER C5-45-3001	
				FIG.C-19 TANK UNIT AND HOPPER ACCESS COVER	
1	AOOOO	81361	C5-45-3190	HOSE ASSEMBLY, SUCTION (SEE FIG.C-20 FOR ASSEMBLY BREAKDOWN)	1
3	AOOOO	81361	C5-59-317	HOSE ASSEMBLY (SEE FI.C-21 FOR ASSEMBLY BREAKDOWN)	1
4	PAOZZ	81361	B5-45-3153	BOLT ASSEMBLY, HOPPER COVER	2
5	PAOFF	81361	C5-45-3001	COVER,ACCESS HOPPER	1
6	XAOZZ	81361	C5-45-3001-3	LID,HOPPER	1
8	PAOZZ	81361	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	1
14	AOOOO	81361	C5-45-3178	VALVE ASSY, FOOT (SEE FIG.C-23 FOR ASSEMBLY BREAKDOWN)	1
15	PAOZZ	96906	MS21316-56	THUMBSCREW	1
27	PAOZZ	81361	5-45-3277	REDUCER,PIPE	2
28	PAOOO	81361	C5-45-3276-5	VALVE,REGULATING, TEFLON (SEE FIG.C-22 FOR ASSEMBLY BREAKDOWN)	1
29	XDOZZ	80205	NAS3106-28-28	U BOLT	1
30	XDOZZ	81361	D5-45-3203-2	PLATE, IDENTIFICATION, 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	96906	MS51967-5	NUT,PLAIN,HEXAGON	2
38	PAOZZ	96906	MS35338-45	WASHER,LOCK	2
				END OF FIGURE	

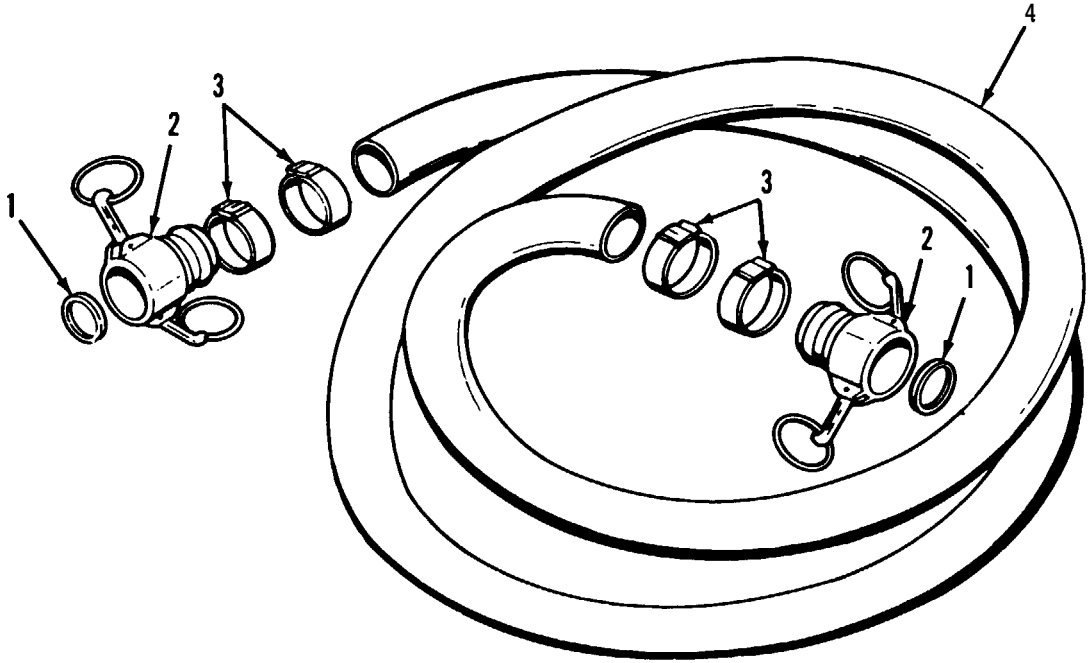


Figure C-20. Suction Hose Assembly.

(1) ITEM No	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				GROUP 0303 SUCTION HOSE ASSEMBLY	
				C5-45-3190	
				FIG. C-20 SUCTION HOSE ASSEMBLY	
1	PAOZZ	81361	65-45-3130-2	GASKET	2
2	PAOZZ	81361	85-45-3174-2	COUPLING HALF, QUICK	2
3	PAOZZ	77414	0-16S	CLAMP, HOSE	4
4	PAOZZ	81361	CS-45-2798	HOSE, NONMETALLIC	1
				END OF FIGURE	

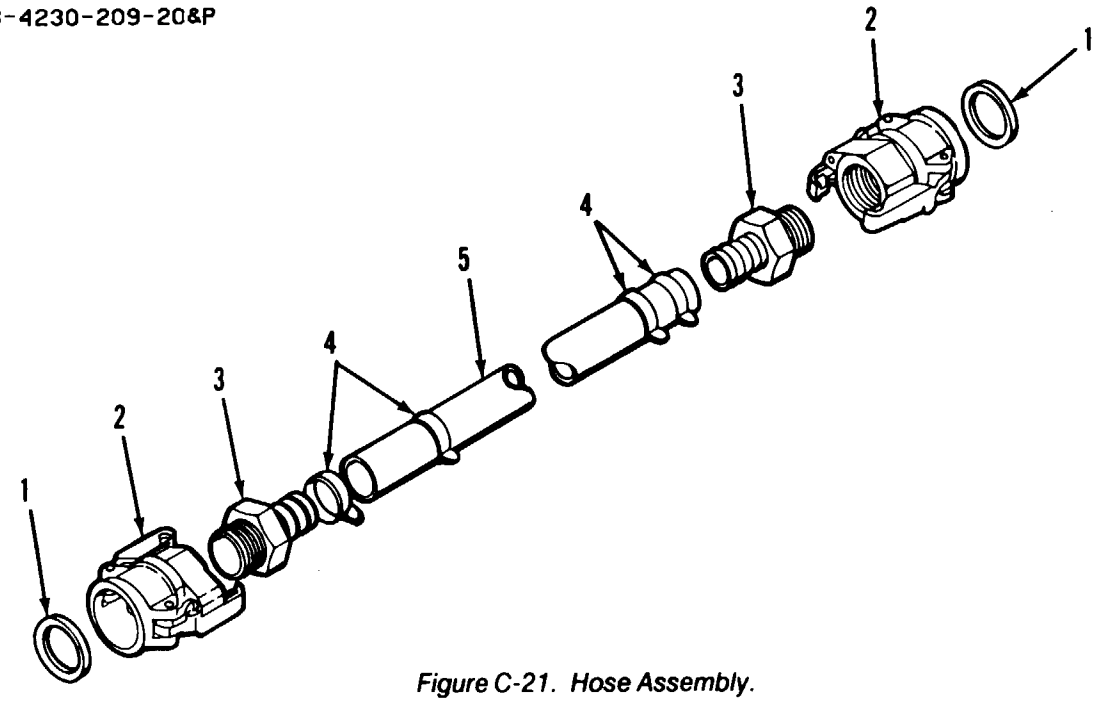


Figure C-21. Hose Assembly.

(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.C-21 HOSE ASSEMBLY	
1	PAOZZ	81361	B5-45-2635	GASKET	2
2	PAOZZ	80691	D101	COUPLING HALF,QUICK	2
3	PAOZZ	72661	MS11	ADAPTER,STRAIGHT, PIPE	2
4	PAOZZ	77414	8S	CLAMP,HOSE	4
5	PAOZZ	81361	C5-45-2736-7	HOSE,NONMETALLIC	1
				END OF FIGURE	

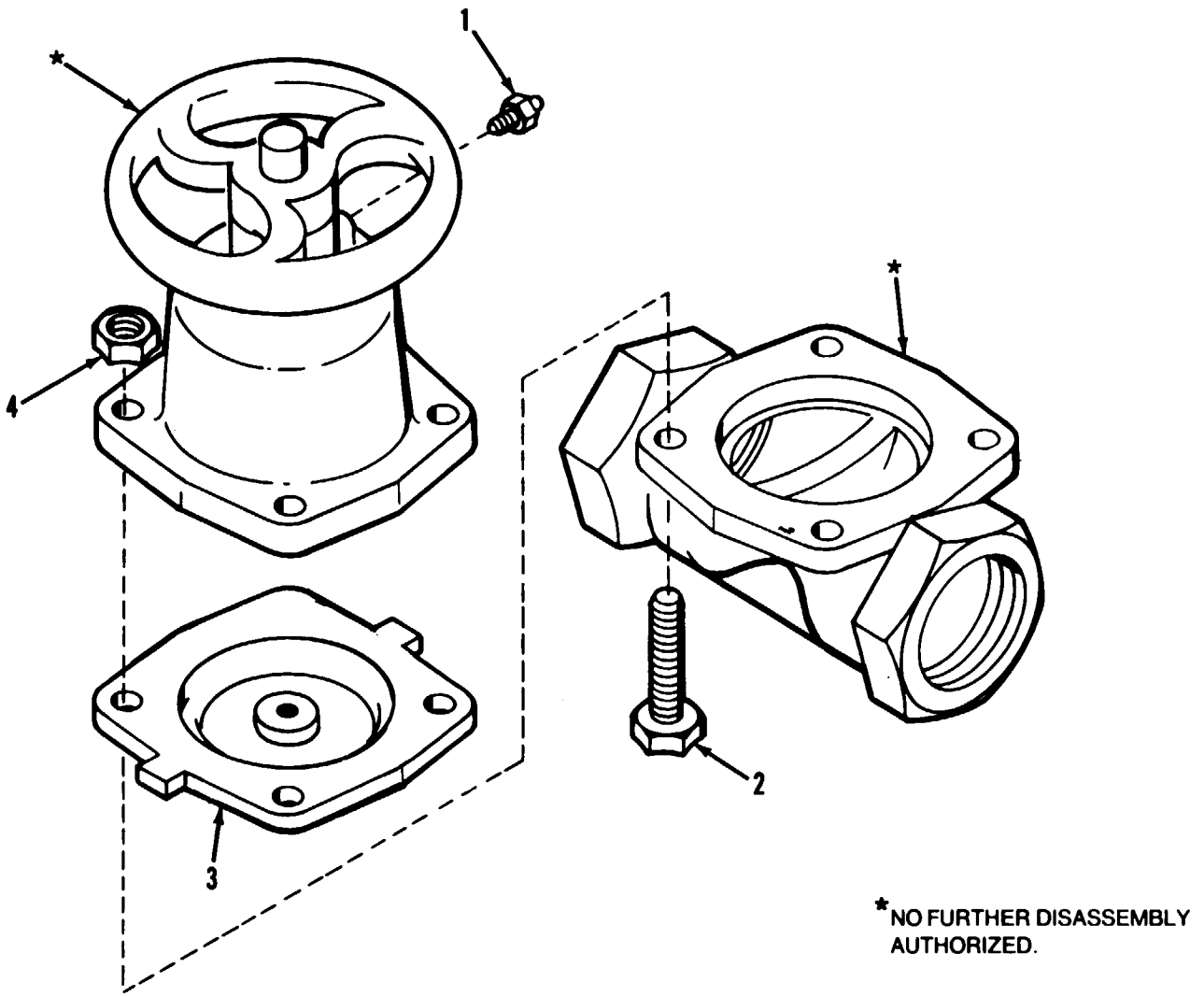
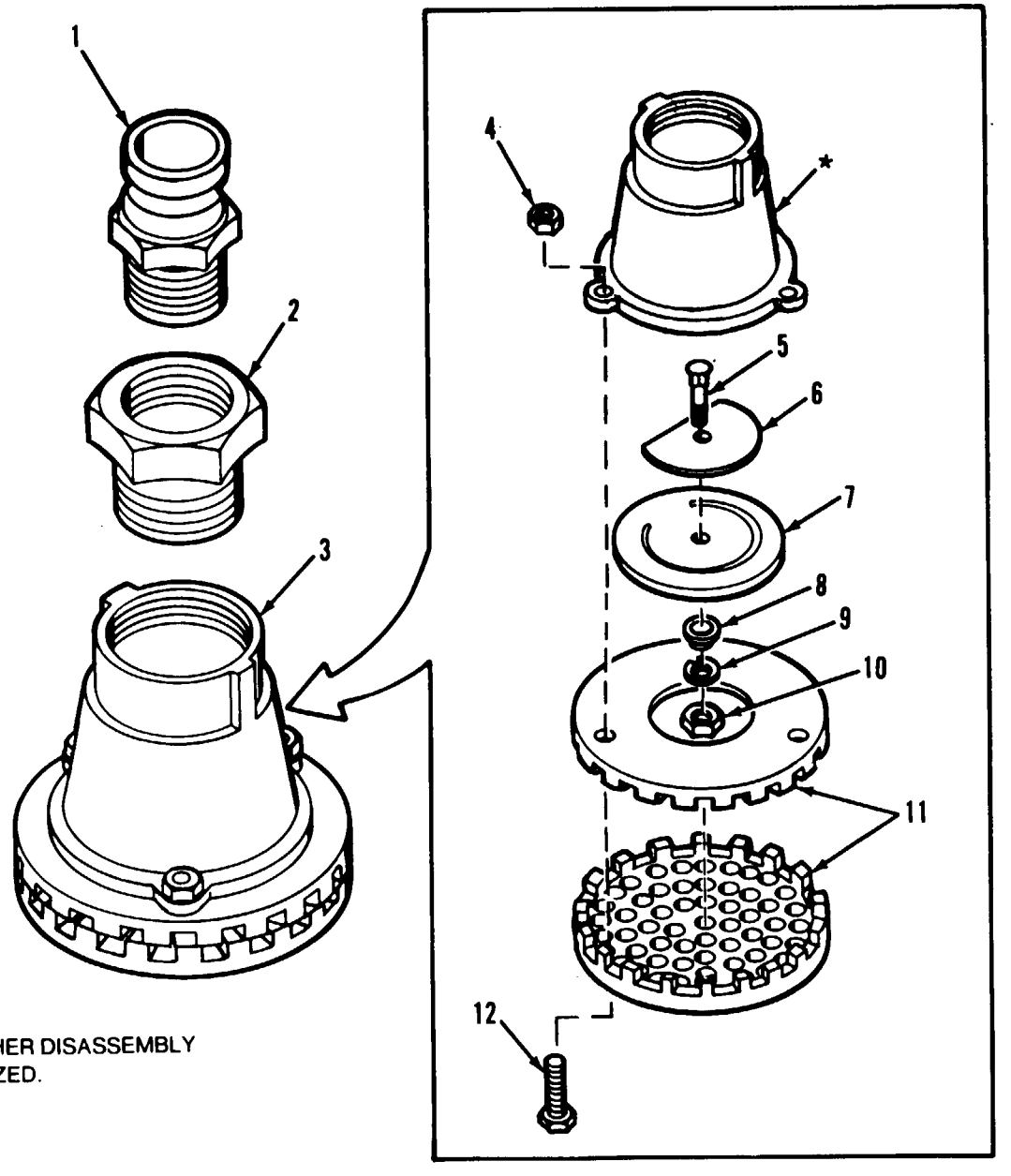


Figure C-22. Regulating Valve.

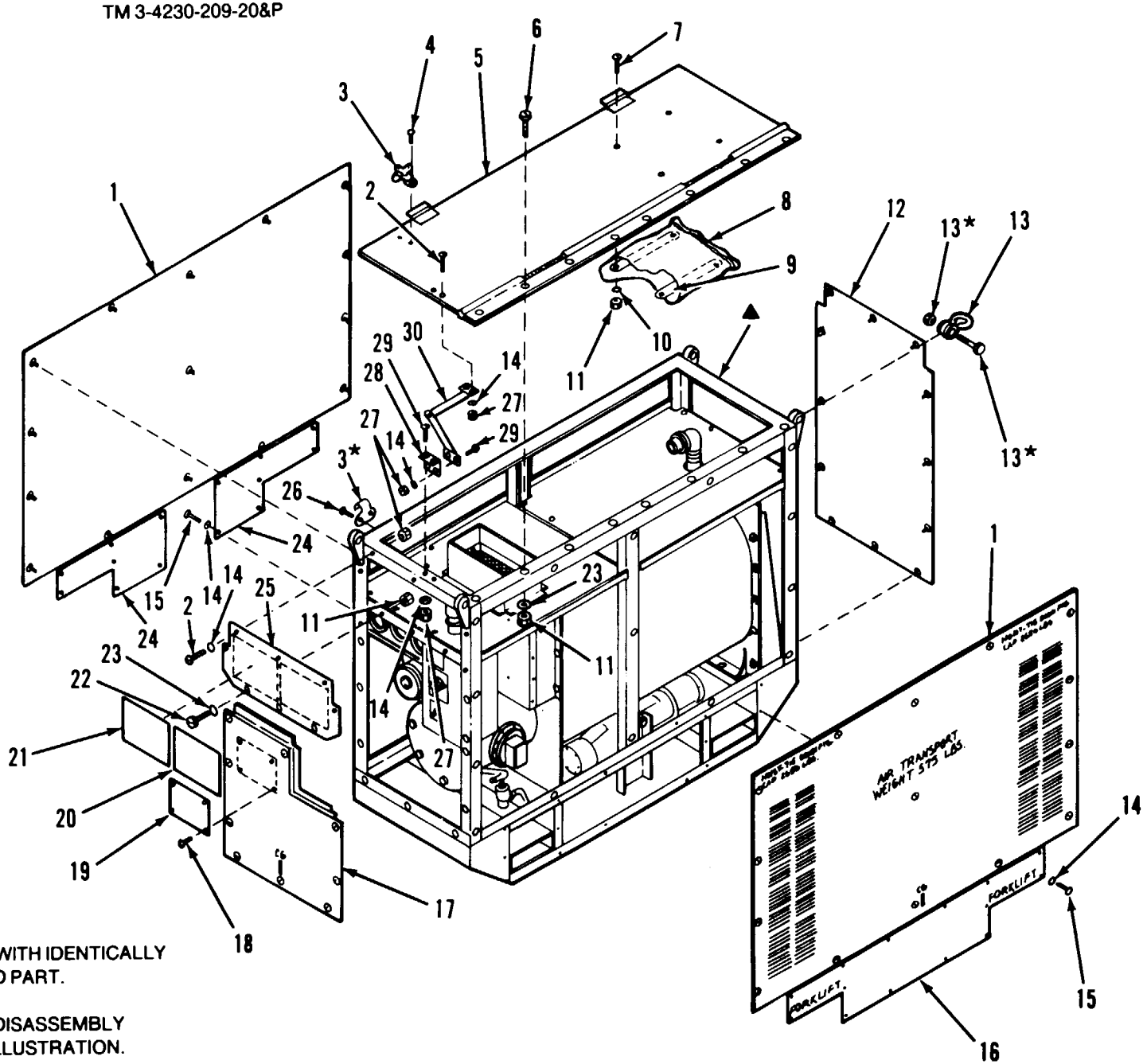
(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 0305 REGULATING VALVE C5-45-3276-5	
				FIG.C-22 REGULATING VALVE	
1	PAOZZ	96906	MS15003-1	FITTING,LUBRICATION	1
2	PAOZZ	96906	MS90727-90	SCREW,CAP,HEXAGON	4
3	PAOZZ	19243	2 IN GRADE R-2	DIAPHRAGM,VALVE	1
4	PAOZZ	96906	MS51968-11	NUT,PLAIN,HEXAGON	4
				END OF FIGURE	



*NO FURTHER DISASSEMBLY AUTHORIZED.

Figure C-23. Foot Valve Assembly and Foot Valve.

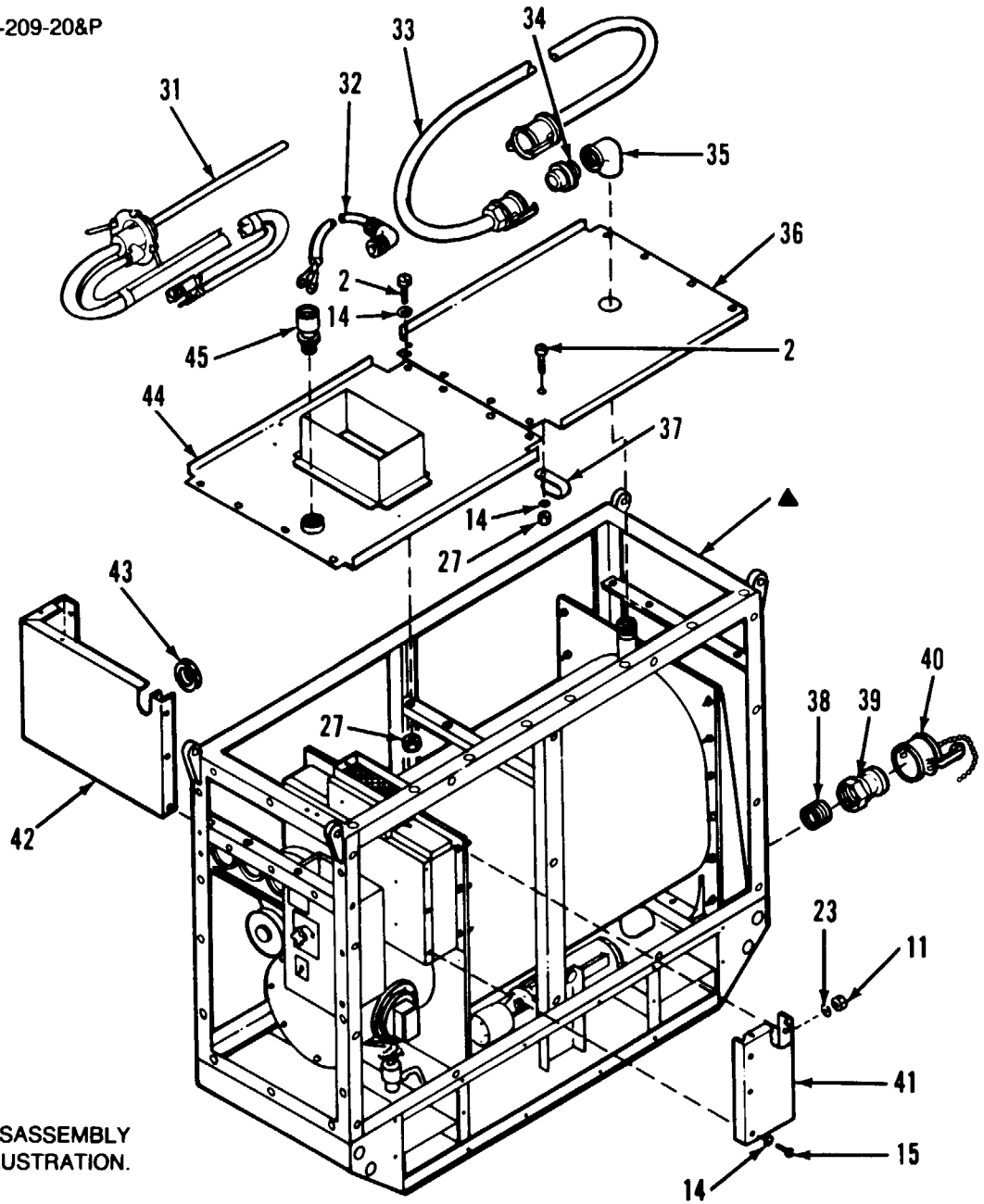
(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 0306 FOOT VALVE ASSEMBLY C5-45-3178 AND GROUP 030601 FOOT VALVE C5-45 2598	
				FIG.C-23 FOOT VALVE ASSEMBLY AND FOOT VALVE	
1	PAOZZ	81361	B5-45-3132-2	COUPLING HALF,QUICK	1
2	PAOZZ	81346	WWP471	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 C-24. Liquid Fuel Water Heater (1 of 4).



▲FURTHER DISASSEMBLY ON NEXT ILLUSTRATION.

Figure C-24. Liquid Fuel Water Heater (2 of 4).

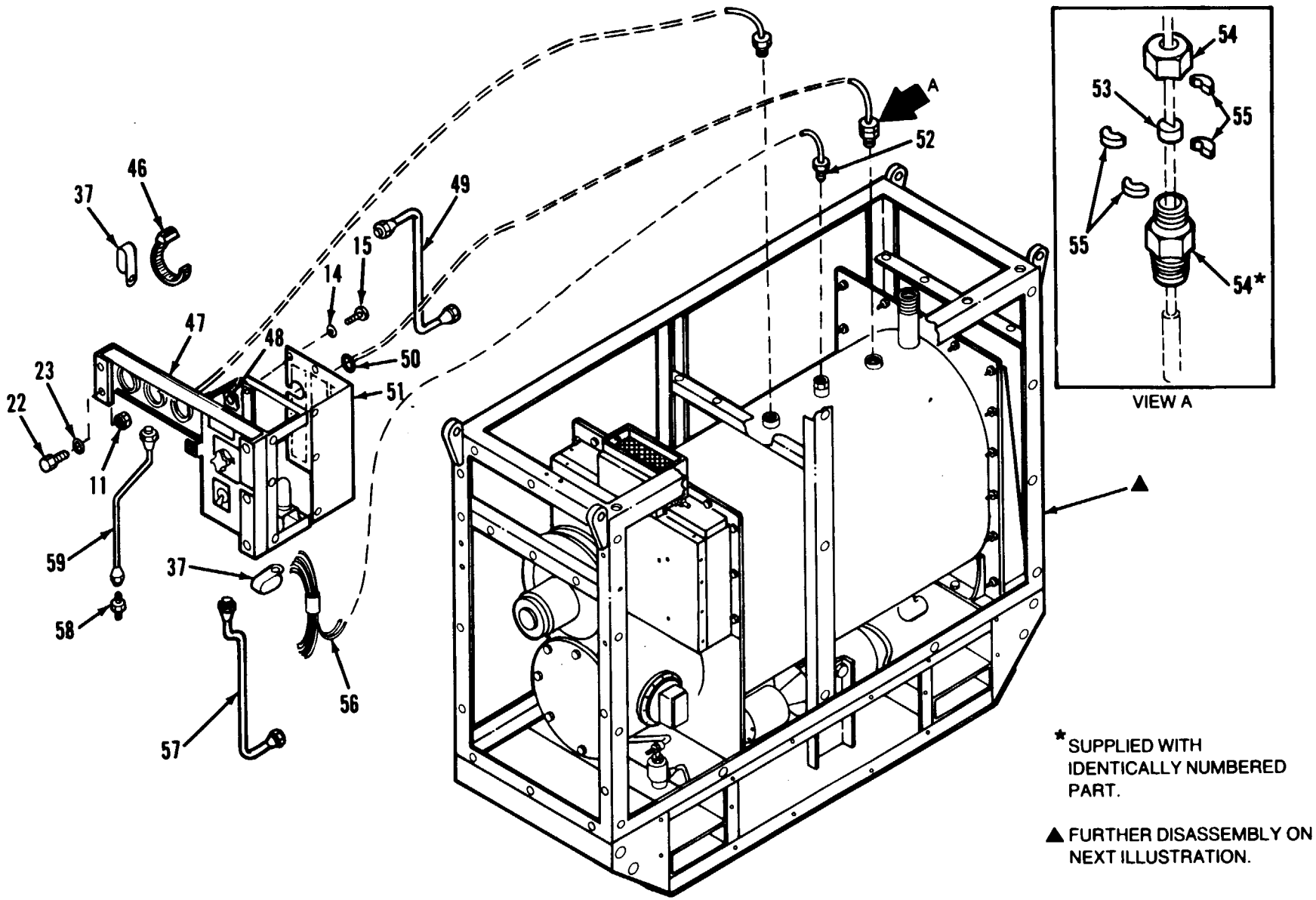


Figure C-24. Liquid Fuel Water Heater (3 of 4).

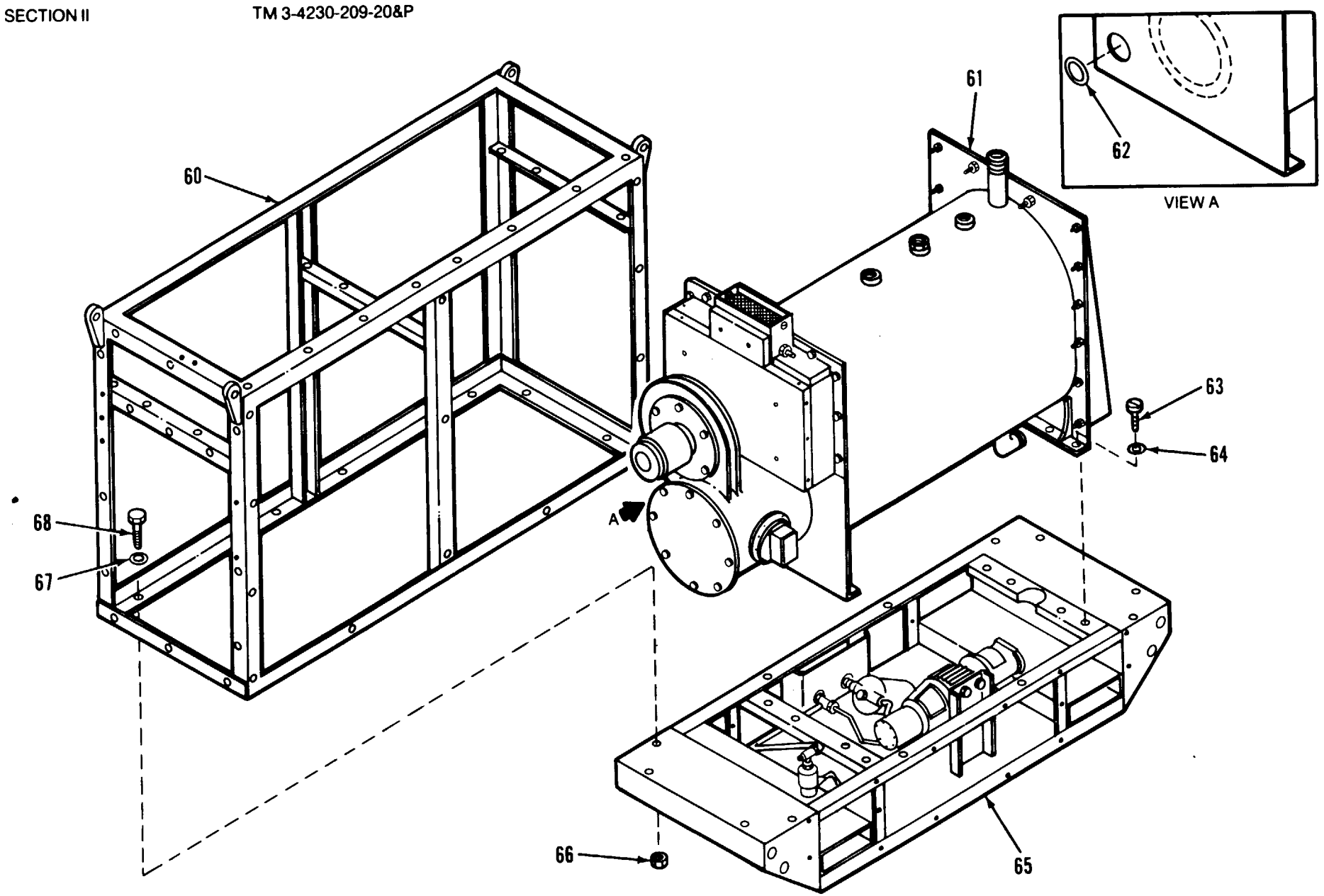
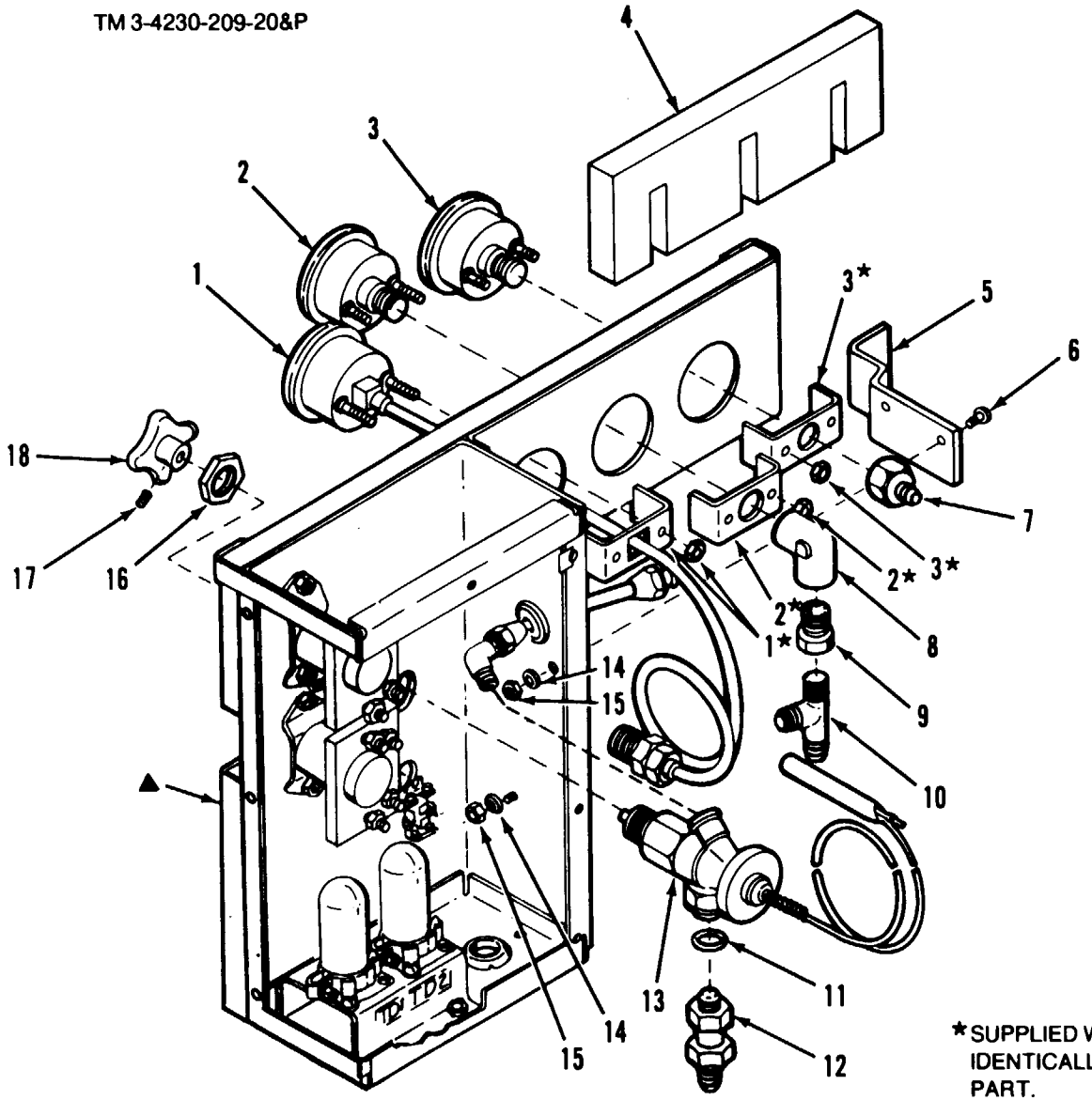


Figure C-24. Liquid Fuel Water Heater (4 of 4).

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 04 LIQUID FUEL WATER HEATER E5-59-200	
				FIG.C-24 LIQUID FUEL WATER HEATER	
1	PAOFF	81361	E5-59-365	COVER,ACCESS SIDE	2
2	PAOZZ	96906	MS35207-261	SCREW,MACHINE	20
5	PAOFF	81361	E5-59-323	COVER,TOP, CABINET	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	1
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 (FRONT)	1
23	PAOZZ	96906	MS35333-40	WASHER,LOCK	23
24	MOOZZ	81361	C5-59-329	PANEL, MAKE FROM METAL SHEET P/N ASTM A366/NSN 9515-00-237-1855	2
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	1
32	PAOFF	81361	C5-59-360	CABLE ASSEMBLY, POWER	1
33	AOOOO	81361	C5-59-317	HOSE ASSEMBLY, (SEE FIG.C-21 FOR ASSEMBLY BREAKDOWN)	1

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
40	PAOZZ	81361	B5-59-381	CAP,PROTECTIVE,DUST	2
41	XDOZZ	81361	C5-59-396	COVER	1
43	PAOZZ	96906	MS35489-11	GROMMET,NONMETALLIC	1
48	PAOZZ	96906	MS90723-14	NUT,SHEET SPRING	7
49	AFOFF	81361	B5-59-349	LINE, PRESSURE, WATER	1
51	PAOZZ	81361	D5-59-336	COVER,ACCESS	1
57	AFOFF	81361	C5-59-405	LINE, SELECTOR RETURN	1
59	AFOFF	81361	C5-59-352	LINE, FUEL PRESSURE	1

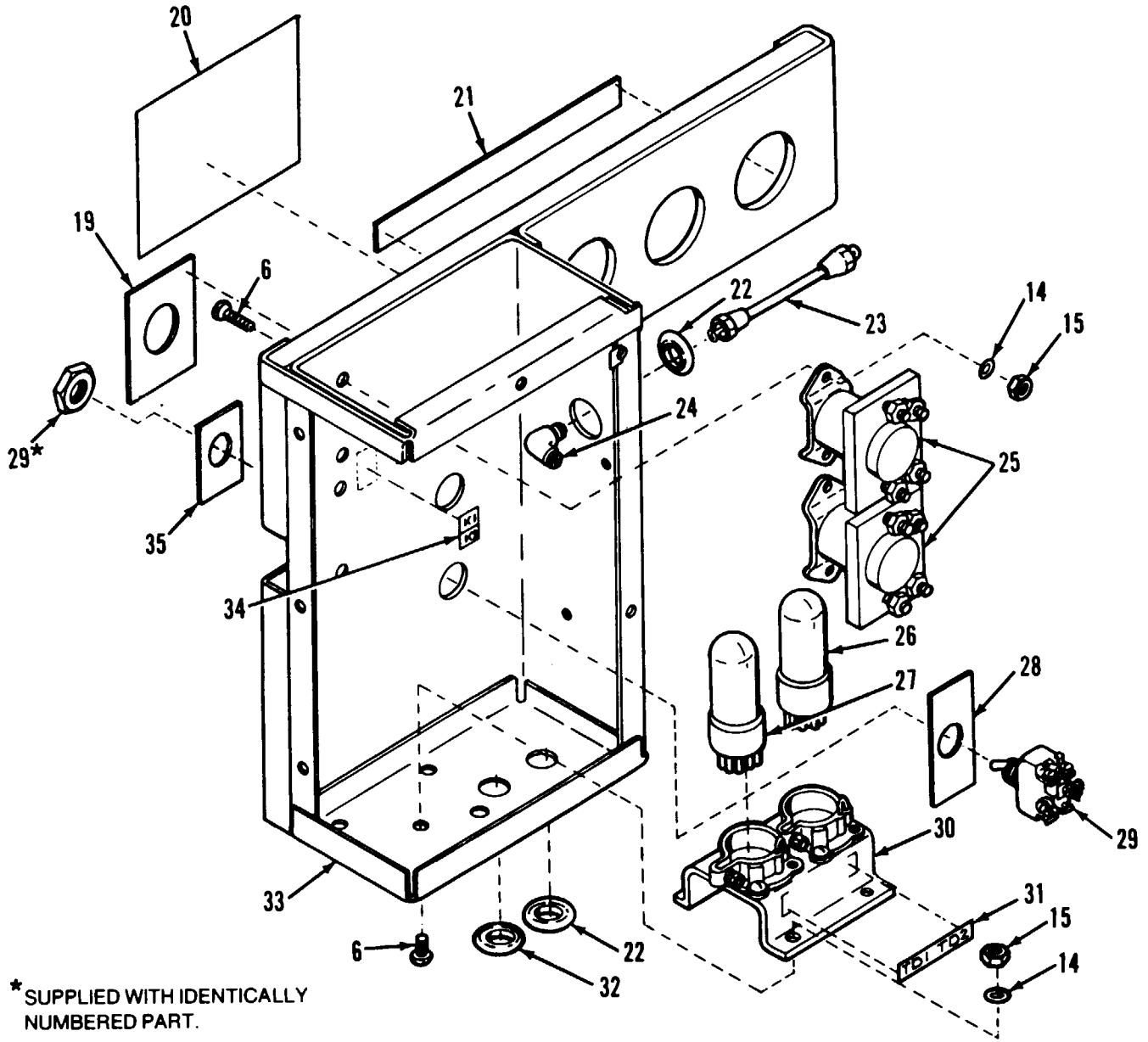
END OF FIGURE



*SUPPLIED WITH IDENTICALLY NUMBERED PART.

▲FURTHER DISASSEMBLY ON NEXT ILLUSTRATION.

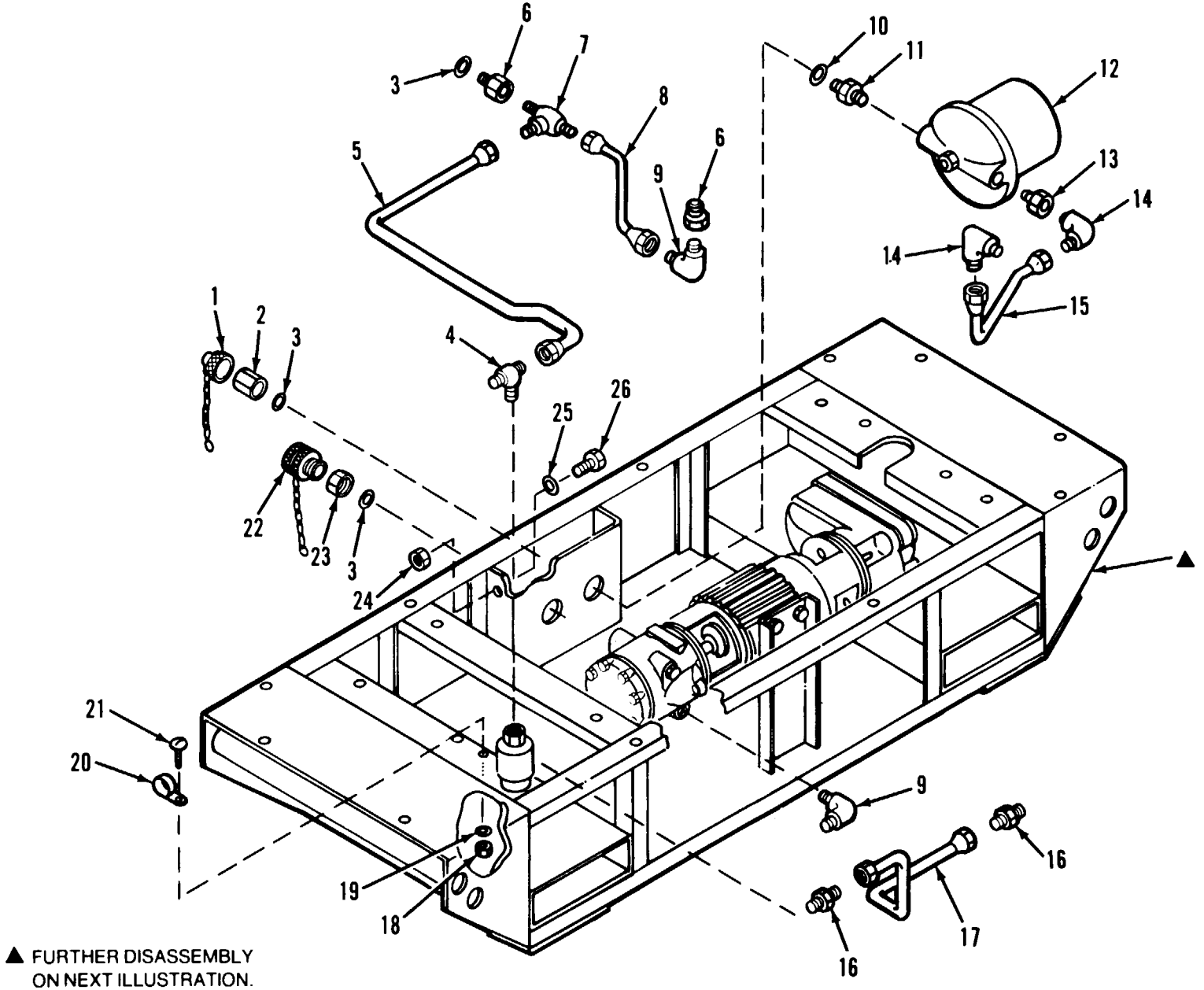
Figure C-25. Control Box Assembly (1 of 2).



*SUPPLIED WITH IDENTICALLY NUMBERED PART.

Figure C-25. Control Box Assembly (2 of 2).

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 0405 CONTROL BOX ASSEMBLY E5-59-301	
				FIG.C-25 CONTROL BOX ASSEMBLY	
1	PAOZZ	81361	C5-59-332	THERMOMETER, INDICATOR	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
6	PAOZZ	96906	MS35207-261	SCREW,MACHINE	10
7	PAOZZ	79470	46X4X4	ADAPTER,STRAIGHT, PIPE	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	1
22	PAOZZ	96906	MS35489-7	GROMMET,NONMETALLIC	2
23	AFOFF	81361	C5-59-398	LINE, SELECTOR VALVE	1
24	PAOZZ	96906	MS39162-3	ELBOW,PIPE TO TUBE	1
25	PAOZZ	96906	MS24166D1	RELAY, ELECTROMAGNETIC	2
26	PAOZZ	70563	12C120	RELAY,THERMAL	1
27	PAOZZ	70563	12N02	RELAY,THERMAL	1
29	PAOZZ	96906	MS35059-23	SWITCH,TOGGLE HEATER-ON, PURGE-ON	1
32	PAOZZ	96906	MS35489-11	GROMMET,NONMETALLIC	1
				END OF FIGURE	



▲ FURTHER DISASSEMBLY ON NEXT ILLUSTRATION.

Figure C-26. Skid Base Assembly (1 of 2).

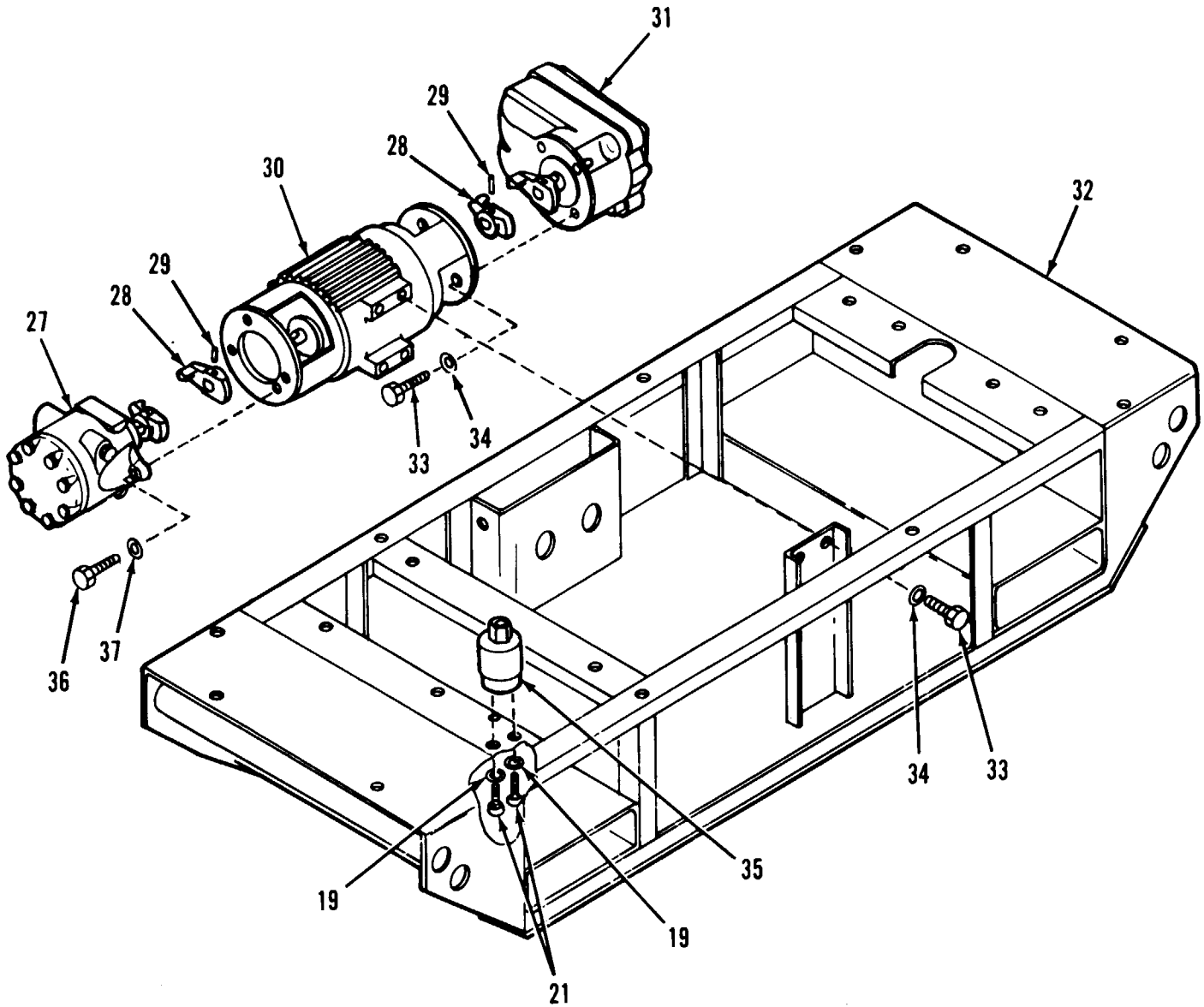
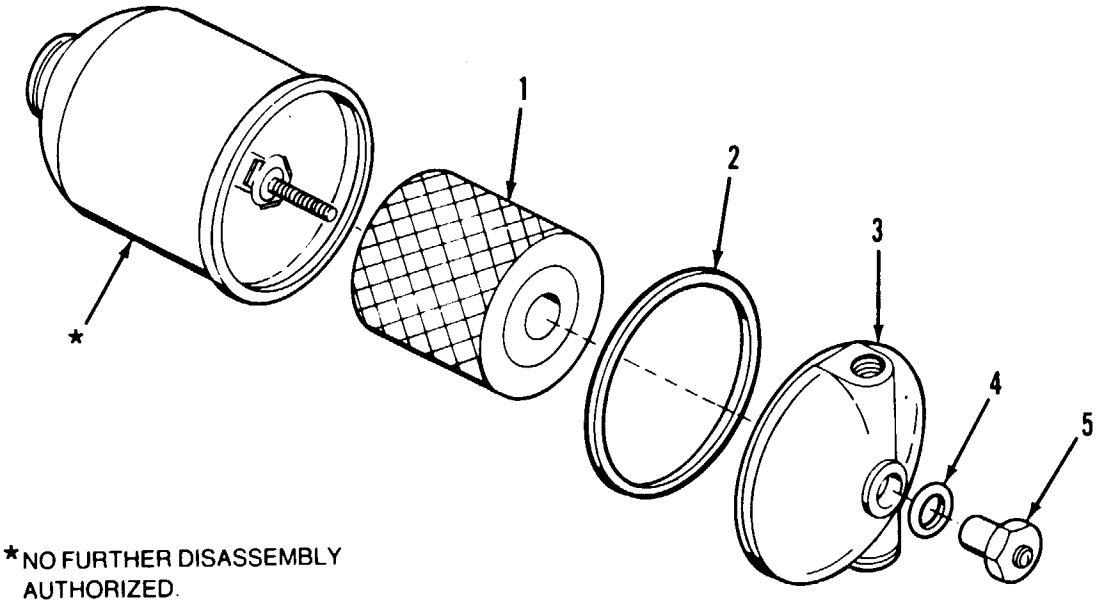


Figure C-26. Skid Base Assembly (2 of 2).

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 0413 SKID BASE ASSEMBLY E5-59-362	
				FIG.C-26 SKID BASE ASSEMBLY	
1	PAOZZ	81361	D150-1-13-2	CAP,PROTECTIVE,DUST	1
5	AFOFF	81361	B5-59-347	LINE, PURGE AND BYPASS	1
8	AFOFF	81361	B5-59-393	LINE, PUMP RETURN	1
15	AFOFF	81361	B5-59-345	LINE, FUEL SUPPLY	1
17	AFOFF	81361	B5-59-346	LINE, GAGE PORT	1
18	PAOZZ	96906	MS35650-302	NUT,PLAIN,HEXAGON	2
19	PAOZZ	96906	MS35333-39	WASHER,LOCK	12
20	PAOZZ	83930	400WSS10	CLAMP,LOOP	2
21	PAOZZ	96906	MS35207-261	SCREW,MACHINE	4
22	PAOZZ	78357	AMPH4	PLUG,PROTECTIVE, DUST	1
24	PAOZZ	96906	MS35649-83	NUT,PLAIN,HEXAGON	2
25	PAOZZ	96906	MS35333-38	WASHER,LOCK	1
26	PAOZZ	96906	MS35206-243	SCREW,MACHINE	2
27	AOOOO	81361	C5-59-373	PUMP ASSY, FUEL (SEE FIG.C-29 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 CURRENT FUEL PUMP AND IGNITION DRIVE	1
31	AOOOO	81361	C5-59-268	MAGNETO ASSY, (SEE FIG.C-28 FOR ASSEMBLY BREAKDOWN)	1
33	PAOZZ	96906	MS90725-6	SCREW,CAP,HEXAGON	8
34	PAOZZ	96906	MS35333-40	WASHER,LOCK	8
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 C-27. Fluid Filter.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 041301 FLUID FILTER	
				C5-59-344	
				FIG.C-27 FLUID FILTER	
1	PAOZZ	13800	E94RT	FILTER ELEMENT, FLUID.....	1
2	PAOZZ	13800	31300	GASKET.....	1
4	PAOZZ	13800	32104	GASKET.....	1
5	XAOZZ	81361	C5-59-344-2	NUT,COVER.....	1
				END OF FIGURE	

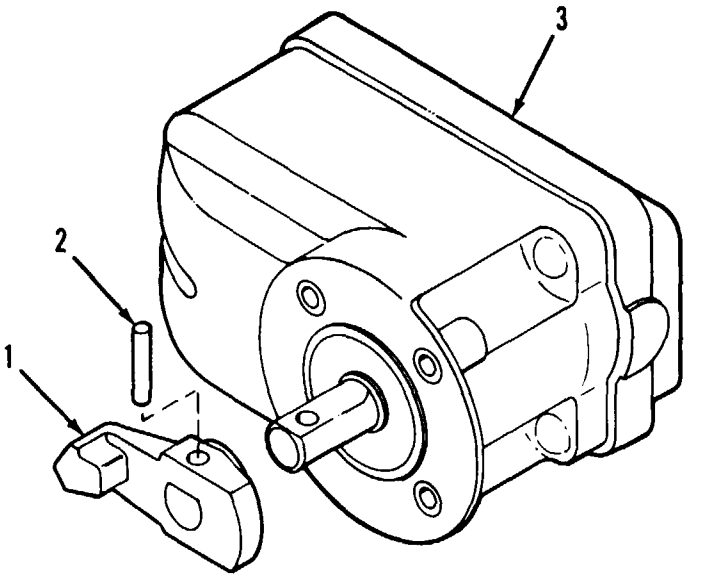


Figure C-28. Magneto Assembly.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 041302 MAGNETO ASSEMBLY C5-59-268	
				FIG.C-28 MAGNETO ASSEMBLY	
1	PAOZZ	90598	TM3946	DRIVE ARM.....	1
2	PAOZZ	80205	NAS56106-13	PIN,SPRING.....	1
3	PAOFF	81361	D5-59-252	MAGNETO,COMBUSTOR.....	1
				END OF FIGURE	

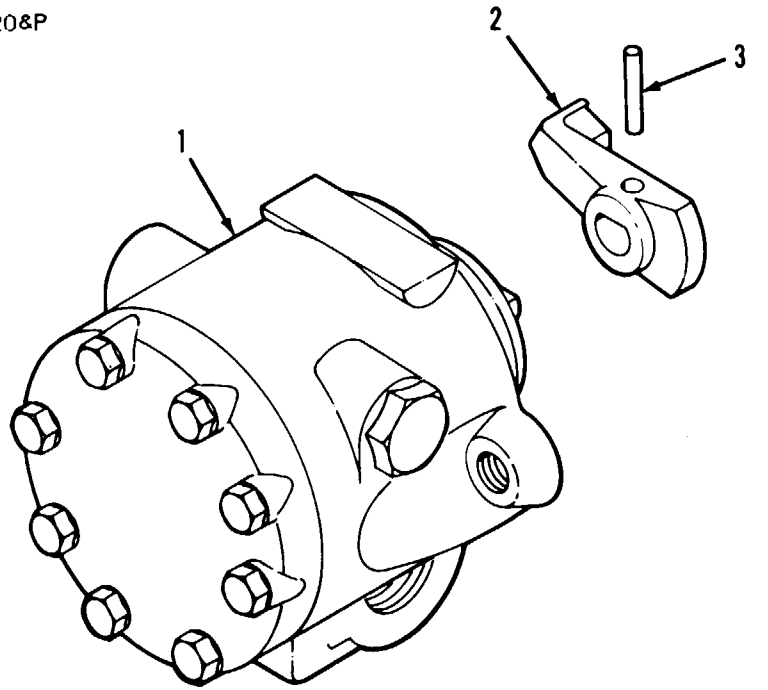


Figure C-29. Fuel Pump Assembly.

(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.C-29 FUEL PUMP ASSEMBLY	
1	PAOZZ	81361	C5-59-369	PUMP,ROTARY POWER DRIVEN.....	1
2	PAOZZ	90598	TM3946	DRIVE ARM.....	1
3	PAOZZ	80205	NAS561C6-13	PIN,SPRING.....	1
				END OF FIGURE	

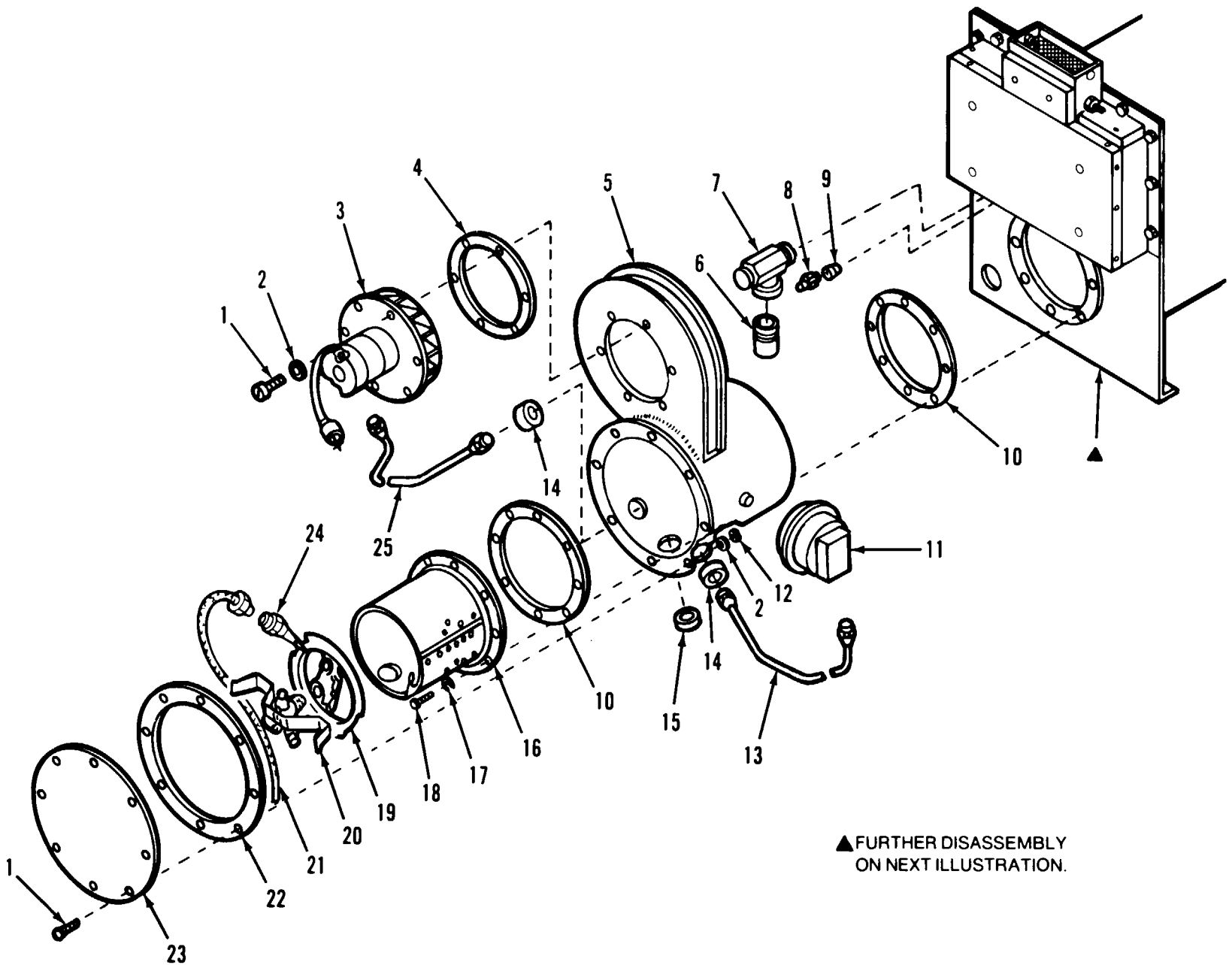
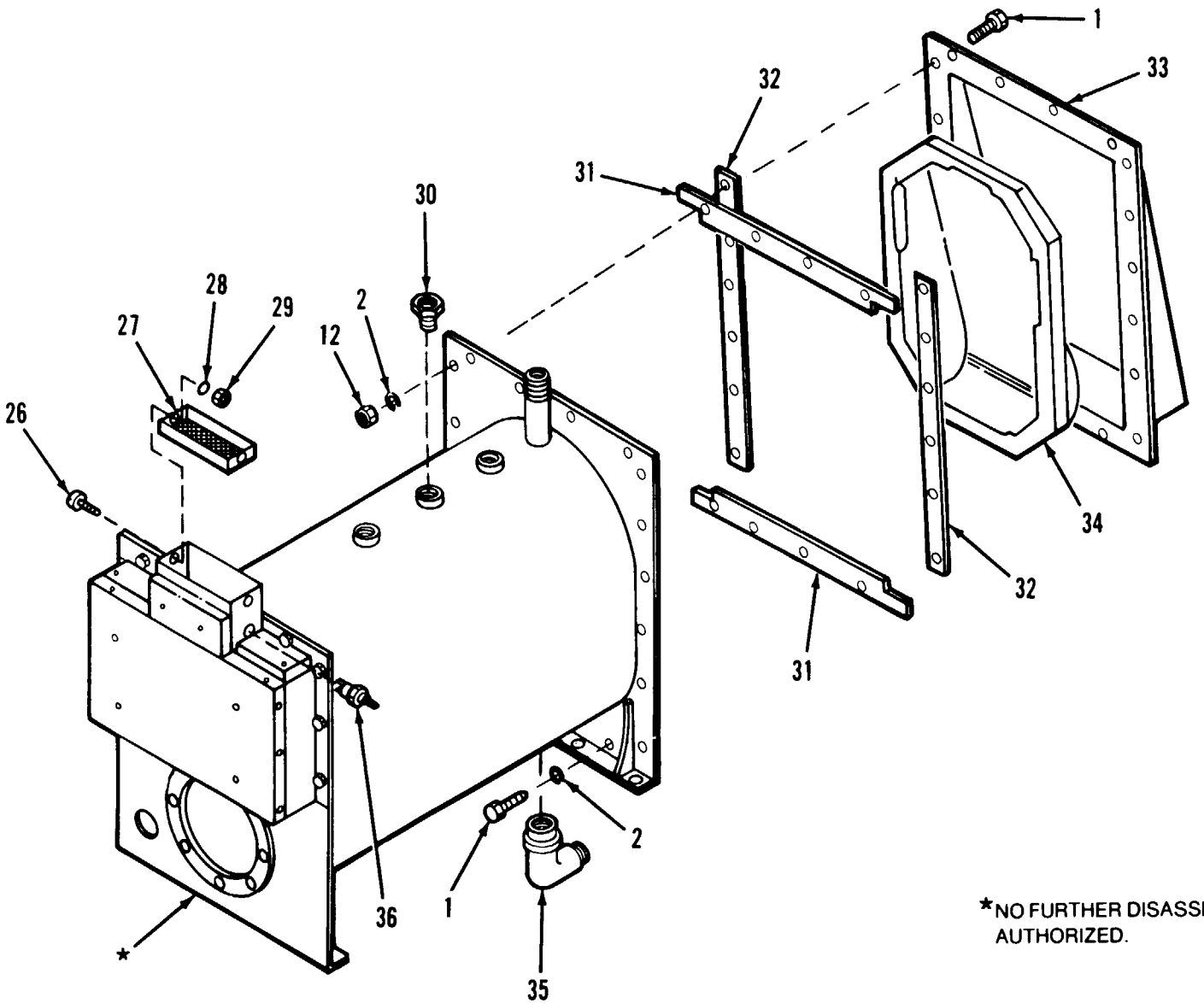


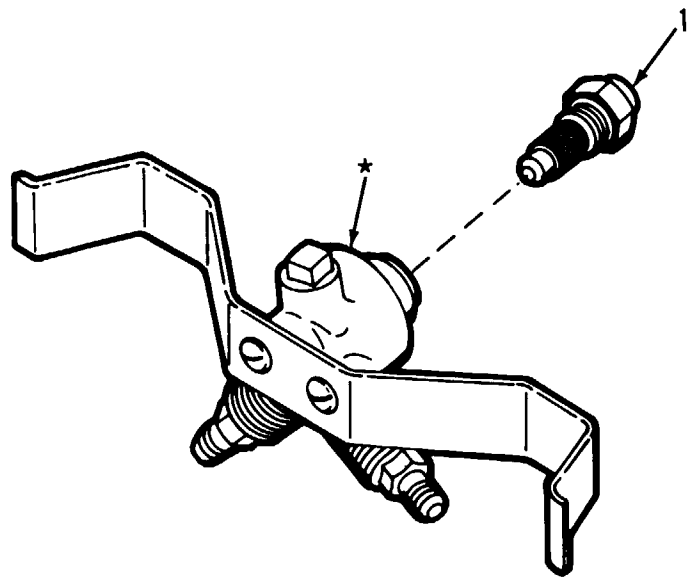
Figure C-30. Boiler Assembly (1 of 2).



*NO FURTHER DISASSEMBLY AUTHORIZED.

Figure C-30. Boiler Assembly (2 of 2).

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 0414 LOW PRESSURE HEATING BOILER ASSEMBLY E5-59-285	
				FIG.C-30 BOILER ASSEMBLY	
1	PAOZZ	96906	MS90725-5	SCREW,CAP,HEXAGON	34
2	PAOZZ	96906	MS35333-40	WASHER,LOCK	34
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	1
14	PAOZZ	96906	MS35489-7	GROMMET,NONMETALLIC	2
19	XDOZZ	90598	TRF3107	COMBUSTOR PLATE	1
20	XDOOO	81361	D5-59-377	NOZZLE HOLDER ASSEMBLY (SEE FIG.C-31 FOR ASSEMBLY BREAKDOWN)	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
25	AFOFF	81361	B5-59-394	LINE, NOZZLE VALVE	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
36	PAOZZ	81361	B5-59-339	SWITCH,THERMOSTATIC FLAME	1
				END OF FIGURE	



*NO FURTHER DISASSEMBLY AUTHORIZED.

Figure C-31. 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.C-31 NOZZLE HOLDER ASSEMBLY	
1	PAOZZ	90598	TR3336	NOZZLE,OIL BURNER.....	1
				END OF FIGURE	

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 9999 BULK MATERIALS	
				FIG:BULK	
1	PAOZZ	81348	RRC271	CHAIN,WELDLESS	V
2	PAOZZ	24161	421B-11NCHID	HOSE,NONMETALLIC THIS HOSE MUST BE REQUESITIONED BY U/M & QTY AND WILL BE RECEIVED PRECUT	V
3	PCOZZ	24161	124WW	HOSE,NONMETALLIC	V
4	PAOZZ	81346	ASTM A366	METAL SHEET	V
5	PCOZZ	99806	M200SERIES1X1-8	PACKING MATERIAL	V
6	PAOZZ	81346	ASTM A120	PIPE,METALLIC	V
				END OF FIGURE	

SECTION III. SPECIAL TOOLS LIST

NOT APPLICABLE

SECTION IV. NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
4820-00-007-2251	C-5	38	5925-00-163-6547	C-18	58
4820-00-018-3077	C-23	3	5325-00-174-5315	C-25	22
6240-00-019-0878	C-18	52		C-30	14
5305-00-042-9478	C-14	1	4410-00-191-3124	C-24	5
5305-00-044-4153	C-14	12	5305-00-191-3641	C-3	2
4730-00-050-4208	C-15	20		C-5	2
	C-16	4		C-13	12
	C-22	1	5310-00-194-1483	C-14	11
5315-00-058-5088	C-26	29	5940-00-195-5487	C-18	59
	C-28	2	4730-00-196-0916	C-23	2
	C-29	3	4730-00-196-1469	C-2	11
6140-00-059-3528	C-5	41	4730-00-196-1501	C-2	9
5305-00-059-3659	C-5	24	5315-00-200-3586	C-17	6
	C-8	2	4730-00-202-6771	C-21	3
4820-00-061-1952	C-6	7	5310-00-208-9255	C-8	4
5930-00-065-1932	C-18	65	6680-00-221-1037	C-18	48
6625-00-066-1278	C-18	30	4730-00-221-2141	C-2	1
5305-00-068-0501	C-30	1	5306-00-225-8497	C-5	42
5305-00-068-0502	C-26	33	5306-00-225-8499	C-19	36
4720-00-071-0615	C-21	5	5305-00-225-8507	C-23	12
5305-00-071-1322	C-24	29	4730-00-231-5622	C-18	38
5340-00-074-2116	C-26	20		C-25	8
5305-00-078-7039	C-19	15	9515-00-237-1855	BULK	4
5310-00-080-6004	C-5	15	4730-00-246-5495	C-2	2
5310-00-081-4219	C-5	28	4730-00-248-9340	C-25	7
4710-00-082-4920	C-2	7	5930-00-253-0426	C-18	64
5310-00-087-4652	C-5	14	4730-00-253-4420	C-19	31
	C-13	14	5305-00-253-5614	C-13	3
5940-00-113-8191	C-11	2		C-19	9
	C-12	2	4730-00-254-6211	C-25	24
5305-00-115-9526	C-17	3	5305-00-269-3213	C-14	43
2910-00-141-9758	C-10	1	4030-00-270-5436	C-13	7
4710-00-162-1020	BULK	6	5310-00-275-9310	C-26	24

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
4730-00-277-5644	C-13	10	4720-00-595-4103	BULK	2
4730-00-277-9386	C-25	9	5310-00-595-7237	C-26	37
5330-00-285-3825	C-27	4	5310-00-637-9541	C-14	46
4730-00-287-0547	C-18	36		C-17	2
4730-00-287-1603	C-18	45	4730-00-639-9730	C-18	43
5325-00-291-9366	C-24	43	5930-00-655-1582	C-25	29
	C-25	32	4520-00-675-6518	C-24	30
5330-00-297-5948	C-14	45	5340-00-680-4375	C-3	13
5330-00-352-5542	C-27	2	5310-00-685-3228	C-14	2
5365-00-402-4349	C-6	3	5945-00-686-6877	C-25	25
5310-00-407-9566	C-5	43	5305-00-709-8540	C-22	2
	C-19	38	5305-00-724-6798	C-17	12
4820-00-456-9789	C-18	46	5945-00-729-1106	C-25	27
5340-00-460-3956	C-13	8	5310-00-732-0558	C-14	7
5975-00-477-4150	C-18	55		C-17	13
4730-00-516-4450	C-2	8	4230-00-735-9931	C-1	5
	C-13	4	2910-00-752-9138	C-10	8
4410-00-542-5656	C-1	1	5310-00-761-6882	C-23	10
5310-00-543-2739	C-30	28		C-24	11
5940-00-549-6581	C-12	1		C-30	12
5940-00-549-6583	C-11	1	5310-00-763-8920	C-5	34
5310-00-550-1130	C-24	23	5305-00-773-2708	C-25	17
	C-26	34	4010-00-781-3129	BULK	1
	C-30	2	5330-00-787-7417	C-2	5
5310-00-559-0070	C-26	25	5330-00-787-7432	C-20	1
2520-00-560-4871	C-15	10	5365-00-806-0204	C-6	4
4730-00-570-2929	C-25	10	4730-00-808-7447	C-2	10
5310-00-576-5752	C-4	7	5310-00-809-4058	C-24	10
	C-24	14	6685-00-809-4297	C-18	41
	C-25	14	6685-00-809-4298	C-18	28
	C-26	19	4210-00-809-4862	C-5	7
5310-00-579-0079	C-18	57	5310-00-809-8544	C-5	1
2920-00-580-3435	C-30	24		C-17	7
5310-00-582-5965	C-23	9	5310-00-809-8546	C-18	27

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5330-00-811-9471	C-7	1	5305-00-889-3002	C-30	26
	C-21	1	6685-00-900-3723	C-25	1
5330-00-811-9472	C-6	5	6685-00-900-3724	C-25	2
4210-00-816-5585	C-5	6	6685-00-900-3725	C-25	3
4730-00-816-5589	C-6	1	5945-00-900-6282	C-25	26
4230-00-820-1846	C-5	8	4730-00-900-7521	C-13	9
4230-00-821-1761	C-19	8		C-19	32
4730-00-823-5403	C-5	9		C-23	1
6680-00-825-2076	C-18	33	4520-00-900-7998	C-26	28
4730-00-830-2615	C-7	4		C-28	1
	C-9	4		C-29	2
	C-21	4	5330-00-900-9687	C-9	1
5330-00-833-7491	C-25	11	2990-00-900-9688	C-14	47
3030-00-840-9344	C-14	23	5310-00-901-0585	C-24	48
5310-00-842-1190	C-25	16	5330-00-901-5524	C-30	22
5315-00-843-7986	C-5	31	6680-00-901-9297	C-5	51
4730-00-845-6678	C-2	6	6210-00-901-9301	C-18	67
5306-00-845-7961	C-23	5	4230-00-902-3225	C-1	3
5930-00-847-9863	C-18	66	4720-00-902-4378	C-5	55
5355-00-854-9098	C-8	1	5930-00-902-5066	C-30	36
5305-00-855-0957	C-24	15	5340-00-903-4764	C-26	1
5340-00-855-2942	C-26	22	4330-00-903-5389	C-27	1
5320-00-855-7392	C-3	12	5340-00-903-8585	C-13	5
4230-00-857-9317	C-6	2		C-24	40
4230-00-872-6992	C-7	3	5140-00-904-6101	C-4	5
4230-00-872-6994	C-9	3		C-24	8
4230-00-872-6995	C-9	2	4720-00-907-2705	C-18	44
5310-00-877-5797	C-18	26	4320-00-907-8312	C-29	1
3030-00-880-2020	C-14	22	6150-00-908-0782	C-24	32
5310-00-880-7744	C-19	37	4820-00-908-3177	C-25	13
	C-23	4	2920-00-909-3001	C-28	3
5310-00-880-7745	C-22	4	4530-00-909-5908	C-31	1
6105-00-881-0553	C-26	30	9330-00-912-2707	BULK	5

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5310-00-913-8881	C-19	33	4730-00-965-6520	C-20	3
4720-00-924-4203	C-5	56	4230-00-980-5004	C-7	2
4730-00-924-5331	C-5	36	5310-00-984-3806	C-5	27
5365-00-925-2518	C-18	37	5305-00-984-4988	C-18	56
5365-00-925-4026	C-18	42	5305-00-984-6191	C-26	26
4230-00-930-1981	C-19	4	5310-00-984-7042	C-19	34
4820-00-930-1982	C-23	7	5305-00-988-1721	C-24	7
5306-00-930-4269	C-5	49	5305-00-988-1723	C-24	6
5340-00-930-4271	C-17	4	5305-00-990-6444	C-4	2
2590-00-930-4279	C-5	48		C-24	2
9320-00-930-4281	C-5	17		C-25	6
4720-00-930-4403	C-20	4		C-26	21
4730-00-930-4405	C-20	2	5340-00-990-8712	C-5	46
4230-00-930-4960	C-5	32	5305-00-993-1851	C-18	53
5310-00-933-8120	C-5	23	2990-00-994-0827	C-1	2
5310-00-934-9751	C-4	8	5320-00-994-7076	C-3	18
	C-17	10	5305-00-995-1102	C-5	45
	C-24	27	5305-00-995-3440	C-18	47
	C-25	15	2910-01-034-5201	C-5	25
	C-26	18	4230-01-035-2040	C-5	39
5310-00-934-9759	C-30	29	4730-01-050-2215	C-21	2
4730-00-935-5395	C-2	3	4730-01-071-8229	C-19	27
4230-00-938-2836	C-5	33	4730-01-091-3585	C-2	12
6620-00-938-8212	C-18	49	4010-01-124-3741	C-8	3
5305-00-942-2196	C-5	26	4230-01-124-3836	C-5	16
	C-26	36	4230-01-129-3106	C-14	41
4230-00-943-3858	C-17	11	4230-01-132-1610	C-19	5
4230-00-943-5536	C-3	1	4230-01-145-7463	C-17	8
5340-00-945-6759	C-17	1	5340-01-181-1645	C-24	17
4730-00-947-7096	C-5	37	5340-01-181-3563	C-3	6
5306-00-952-8258	C-13	13	4030-01-181-3680	C-3	5
5305-00-958-0585	C-18	32	5340-01-183-2905	C-25	18
4720-00-961-3522	BULK	3	5340-01-186-6421	C-3	15

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5340-01-186-6424	C-3	8	5340-01-193-3023	C-30	23
3040-01-186-6481	C-5	30	6140-01-193-4839	C-5	40
5930-01-187-7530	C-30	11	3020-01-194-3303	C-14	13
5340-01-188-3170	C-14	10	5340-01-194-3338	C-3	14
5340-01-188-3171	C-24	28	5340-01-194-7194	C-3	4
5340-01-189-7608	C-24	51	4820-01-194-9815	C-19	28
2990-01-190-1112	C-30	27	4230-01-195-6464	C-17	5
5340-01-190-6766	C-24	1	4820-01-204-0513	C-22	3
5340-01-190-9688	C-3	9	5340-01-208-5809	C-3	11
5340-01-191-5340	C-3	16	4230-01-222-0548	C-4	6
5430-01-191-5858	C-19	11	4820-01-228-7567	C-25	12
5340-01-193-3022	C-3	3			

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
78357	AMPH4	5340-00-855-2942	C-26	22
88044	AN816-4-4B	4730-00-287-0547	C-18	36
88044	AN916-2	4730-00-231-5622	C-18	38
			C-25	8
88044	AN935-416	5310-00-582-5965	C-23	9
81346	ASTM A120	4710-00-162-1020	BULK	6
81346	ASTM A366	9515-00-237-1855	BULK	4
01029	A36TT-3/4	4820-00-007-2251	C-5	38
16004	B47457	5330-00-297-5948	C-14	45
81361	B5-45-2590	4730-00-808-7447	C-2	10
81361	B5-45-2635	5330-00-811-9471	C-7	1
			C-21	1
81361	B5-45-2682	4230-00-872-6992	C-7	3
81361	B5-45-2930	4230-00-980-5004	C-7	2
81361	B5-45-2934	5330-00-811-9472	C-6	5
81361	B5-45-2990	5340-01-186-6421	C-3	15
81361	B5-45-2992	3040-01-186-6481	C-5	30
81361	B5-45-3015-10	4730-00-924-5331	C-5	36
81361	B5-45-3017-1	5365-00-925-4026	C-18	42
81361	B5-45-3017-2	5365-00-925-2518	C-18	37
81361	B5-45-3074	9320-00-930-4281	C-5	17
81361	B5-45-3093	4820-00-456-9789	C-18	46
81361	B5-45-3097-7		C-5	19
81361	B5-45-3130-1	5330-00-787-7417	C-2	5
81361	B5-45-3130-2	5330-00-787-7432	C-20	1
81361	B5-45-3132-2	4730-00-900-7521	C-13	9
			C-19	32
			C-23	1
81361	B5-45-3134		C-5	47
81361	B5-45-3134-1		C-12	3
81361	B5-45-3136	5306-00-930-4269	C-5	49
81361	B5-45-3137		C-5	44
81361	B5-45-3137-1		C-11	3
81361	B5-45-3147	2590-00-930-4279	C-5	48

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
81361	B5-45-3153	4230-00-930-1981	C-19	4
81361	B5-45-3157-1	4230-01-195-6464	C-17	5
81361	B5-45-3159	5340-00-930-4271	C-17	4
81361	B5-45-3160	5340-00-945-6759	C-17	1
81361	B5-45-3161	4230-00-943-3858	C-17	11
81361	B5-45-3165	2990-00-900-9688	C-14	47
81361	B5-45-3174-2	4730-00-930-4405	C-20	2
81361	B5-45-3185-2	4710-00-082-4920	C-2	7
81361	B5-45-3195	4720-00-907-2705	C-18	44
81361	B5-45-3200	5330-00-900-9687	C-9	1
81361	B5-45-3201	4230-00-872-6995	C-9	2
81361	B5-45-3202	4230-00-872-6994	C-9	3
81361	B5-45-3208	5930-00-065-1932	C-18	65
81361	B5-45-3209	5940-00-195-5487	C-18	59
81361	B5-45-3239	4230-01-222-0548	C-4	6
81361	B5-45-3267	4230-00-938-2836	C-5	33
81361	B5-45-3268	5340-00-460-3956	C-13	8
81361	B5-45-3287		C-18	54
81361	B5-45-3312	3020-01-194-3303	C-14	13
81361	B5-59-299	5330-00-901-5524	C-30	22
81361	B5-59-339	5930-00-902-5066	C-30	36
81361	B5-59-345		C-26	15
81361	B5-59-346		C-26	17
81361	B5-59-347		C-26	5
81361	B5-59-349		C-24	49
81361	B5-59-350		C-30	13
81361	B5-59-381	5340-00-903-8585	C-13	5
			C-24	40
81361	B5-59-393		C-26	8
81361	B5-59-394		C-30	25
81361	B5-59-403		C-24	9
81361	B5-59-407	5340-01-188-3171	C-24	28
81361	B5-59-412		C-25	4

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
99862	CL-22-KA-18	4010-01-124-3741	C-8	3
81361	C5-45-2563	4230-00-820-1846	C-5	8
81361	C5-45-2598	4820-00-018-3077	C-23	3
81361	C5-45-2627-9	4730-00-277-5644	C-13	10
81361	C5-45-2641-1		C-13	6
81361	C5-45-2646	6685-00-809-4297	C-18	41
81361	C5-45-2699	4210-00-809-4862	C-5	7
81361	C5-45-2700	4730-00-816-5589	C-6	1
81361	C5-45-2701	4210-00-816-5585	C-5	6
81361	C5-45-2735-10		C-5	5
81361	C5-45-2736-2		C-7	5
81361	C5-45-2736-7	4720-00-071-0615	C-21	5
81361	C5-45-2739	4230-00-821-1761	C-19	8
81361	C5-45-2740	6685-00-809-4298	C-18	28
81361	C5-45-2798	4720-00-930-4403	C-20	4
81361	C5-45-2911		C-6	6
81361	C5-45-2920	4820-00-061-1952	C-6	7
81361	C5-45-2932	4730-00-823-5403	C-5	9
81361	C5-45-2972-10		C-3	17
81361	C5-45-2973	5340-01-186-6424	C-3	8
81361	C5-45-2974	5340-01-190-9688	C-3	9
81361	C5-45-2975	5340-01-194-7194	C-3	4
81361	C5-45-2976		C-13	1
81361	C5-45-2977	5340-01-194-3338	C-3	14
81361	C5-45-2978	5340-01-191-5340	C-3	16
81361	C5-45-2979	5340-01-193-3022	C-3	3
81361	C5-45-2991	4230-00-930-4960	C-5	32
81361	C5-45-2995		C-5	18
81361	C5-45-3001	4230-01-132-1610	C-19	5
81361	C5-45-3001-3		C-19	6
81361	C5-45-3011	5340-01-181-3563	C-3	6
81361	C5-45-3012		C-3	7
81361	C5-45-3146	6140-01-193-4839	C-5	40

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
81361	C5-45-3157	4230-01-129-3106	C-14	41
81361	C5-45-3178		C-19	14
81361	C5-45-3183	4230-00-735-9931	C-1	5
81361	C5-45-3185-1		C-2	4
81361	C5-45-3190		C-19	1
81361	C5-45-3199		C-5	35
81361	C5-45-3228	4230-01-145-7463	C-17	8
81361	C5-45-3229	5340-01-188-3170	C-14	10
81361	C5-45-3230	5306-00-952-8258	C-13	13
81361	C5-45-3256	2990-00-994-0827	C-1	2
81361	C5-45-3265		C-9	5
81361	C5-45-3266	4030-01-181-3680	C-3	5
81361	C5-45-3276-5	4820-01-194-9815	C-19	28
81361	C5-45-3285		C-17	9
81361	C5-45-3303		C-19	35
81361	C5-59-203-1	6685-00-900-3724	C-25	2
81361	C5-59-203-2	6685-00-900-3725	C-25	3
81361	C5-59-213	5340-01-193-3023	C-30	23
81361	C5-59-268		C-26	31
81361	C5-59-294	2990-01-190-1112	C-30	27
81361	C5-59-317		C-19	3
			C-24	33
81361	C5-59-328		C-24	16
81361	C5-59-329		C-24	24
81361	C5-59-332	6685-00-900-3723	C-25	1
81361	C5-59-344-2		C-27	5
81361	C5-59-352		C-24	59
81361	C5-59-360	6150-00-908-0782	C-24	32
81361	C5-59-369	4320-00-907-8312	C-29	1
81361	C5-59-373		C-26	27
81361	C5-59-386	4820-00-908-3177	C-25	13
81361	C5-59-387	4820-01-228-7567	C-25	12

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
81361	C5-59-396		C-24	41
81361	C5-59-398		C-25	23
81361	C5-59-399	5340-01-183-2905	C-25	18
81361	C5-59-405		C-24	57
81361	C5-59-450	5930-01-187-7530	C-30	11
80691	D101	4730-01-050-2215	C-21	2
81361	D150-1-13-2	5340-00-903-4764	C-26	1
81361	D5-45-2967	4230-01-035-2040	C-5	39
81361	D5-45-2996	4230-01-124-3836	C-5	16
81361	D5-45-2997	5340-01-208-5809	C-3	11
81361	D5-45-3117	5430-01-191-5858	C-19	11
81361	D5-45-3127	2910-01-034-5201	C-5	25
81361	D5-45-3186		C-1	4
81361	D5-45-3203-2		C-19	30
81361	D5-45-3203-3		C-19	10
81361	D5-45-3203-4		C-13	11
81361	D5-45-3203-5		C-13	2
81361	D5-45-3231		C-5	50
81361	D5-45-3233	4230-00-902-3225	C-1	3
81361	D5-45-3235		C-3	10
81361	D5-45-3240	5140-00-904-6101	C-4	5
81361	D5-45-3240	5140-00-904-6101	C-24	8
81361	D5-45-3280	6680-00-901-9297	C-5	51
81361	D5-45-3288		C-14	9
81361	D5-59-202	6105-00-881-0553	C-26	30
81361	D5-59-252	2920-00-909-3001	C-28	3
81361	D5-59-273		C-24	12
81361	D5-59-311		C-24	31
81361	D5-59-336	5340-01-189-7608	C-24	51
81361	D5-59-364	5340-01-181-1645	C-24	17
81361	D5-59-377		C-30	20
81361	E5-45-3221	4230-00-943-5536	C-3	1
81361	E5-59-200	4410-00-542-5656	C-1	1

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
81361	E5-59-323	4410-00-191-3124	C-24	5
81361	E5-59-365	5340-01-190-6766	C-24	1
13800	E94RT	4330-00-903-5389	C-27	1
81348	FFS107TYPEFPOINT	5305-00-995-1102	C-5	45
74193	JA1-B3-A-20-2	5925-00-163-6547	C-18	58
72661	MS11	4730-00-202-6771	C-21	3
96906	MS15003-1	4730-00-050-4208	C-15	20
			C-16	4
			C-22	1
96906	MS15569-7	6240-00-019-0878	C-18	52
96906	MS16562-33	5315-00-843-7986	C-5	31
96906	MS16625-4156	5365-00-806-0204	C-6	4
96906	MS18064-9	5305-00-773-2708	C-25	17
96906	MS18154-58	5305-00-115-9526	C-17	3
96906	MS18154-60	5305-00-942-2196	C-5	26
			C-26	36
96906	MS20613-4P4	5320-00-994-7076	C-3	18
96906	MS20613-4P7	5320-00-855-7392	C-3	12
96906	MS20913-8S	4730-00-221-2141	C-2	1
96906	MS21044C3	5310-00-208-9255	C-8	4
96906	MS21044N3	5310-00-877-5797	C-18	26
96906	MS21316-56	5305-00-078-7039	C-19	15
96906	MS21318-20	5305-00-253-5614	C-13	3
			C-19	9
96906	MS21334-5	5340-00-990-8712	C-5	46
96906	MS24166D1	5945-00-686-6877	C-25	25
96906	MS24541-2	6620-00-938-8212	C-18	49
96906	MS24629-46	5305-00-855-0957	C-24	15
96906	MS24665-1012	5315-00-200-3586	C-17	6
96906	MS25036-127	5940-00-113-8191	C-11	2
			C-12	2
96906	MS25089-1C	5930-00-847-9863	C-18	66
96906	MS25089-2C	5930-00-253-0426	C-18	64

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS27020-6	4730-00-516-4450	C-2	8
			C-13	4
96906	MS27022-6	4730-00-935-5395	C-2	3
96906	MS27024-6	4730-00-845-6678	C-2	6
96906	MS27183-10	5310-00-809-4058	C-24	10
96906	MS27183-12	5310-00-081-4219	C-5	28
96906	MS27183-14	5310-00-080-6004	C-5	15
96906	MS27183-7	5310-00-809-8544	C-5	1
			C-17	7
96906	MS27183-8	5310-00-809-8546	C-18	27
96906	MS28778-5	5330-00-833-7491	C-25	11
96906	MS35059-23	5930-00-655-1582	C-25	29
96906	MS35206-228	5305-00-984-4988	C-18	56
96906	MS35206-242	5305-00-889-3002	C-30	26
96906	MS35206-243	5305-00-984-6191	C-26	26
96906	MS35206-277	5305-00-988-1721	C-24	7
96906	MS35206-279	5305-00-988-1723	C-24	6
96906	MS35207-261	5305-00-990-6444	C-4	2
			C-24	2
			C-25	6
			C-26	21
96906	MS35207-267	5305-00-993-1851	C-18	53
96906	MS35207-270	5305-00-995-3440	C-18	47
96906	MS35207-272	5305-00-958-0585	C-18	32
96906	MS35333-37	5310-00-579-0079	C-18	57
96906	MS35333-38	5310-00-559-0070	C-26	25
96906	MS35333-39	5310-00-576-5752	C-4	7
			C-24	14
			C-25	14
			C-26	19
96906	MS35333-40	5310-00-550-1130	C-24	23
			C-26	34
			C-30	2

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS35333-42	5310-00-595-7237	C-26	37
96906	MS35333-43	5310-00-685-3228	C-14	2
96906	MS35333-44	5310-00-194-1483	C-14	11
96906	MS35333-72	5310-00-543-2739	C-30	28
96906	MS35338-138	5310-00-933-8120	C-5	23
96906	MS35338-141	5310-00-984-7042	C-19	34
96906	MS35338-45	5310-00-407-9566	C-5	43
			C-19	38
96906	MS35338-46	5310-00-637-9541	C-14	46
			C-17	2
96906	MS35489-11	5325-00-291-9366	C-24	43
			C-25	32
96906	MS35489-7	5325-00-174-5315	C-25	22
			C-30	14
96906	MS35645-1	2910-00-141-9758	C-10	1
96906	MS35649-284	5310-00-934-9759	C-30	29
96906	MS35649-83	5310-00-275-9310	C-26	24
96906	MS35650-302	5310-00-934-9751	C-4	8
			C-17	10
			C-24	27
			C-25	15
			C-26	18
96906	MS35691-61	5310-00-842-1190	C-25	16
96906	MS35751-16	5306-00-845-7961	C-23	5
96906	MS35916-2	6680-00-825-2076	C-18	33
96906	MS39162-3	4730-00-254-6211	C-25	24
96906	MS39164-3	4730-00-570-2929	C-25	10
96906	MS39230-10	4730-00-253-4420	C-19	31
96906	MS51851-65	5305-00-191-3641	C-3	2
			C-5	2
			C-13	12
96906	MS51922-17	5310-00-087-4652	C-5	14
			C-13	14

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS51922-9	5310-00-984-3806	C-5	27
96906	MS51953-121	4730-00-196-1469	C-2	11
96906	MS51953-125	4730-00-196-1501	C-2	9
96906	MS51958-63	5305-00-059-3659	C-5	24
			C-8	2
96906	MS51960-65	5305-00-071-1322	C-24	29
96906	MS51964-49	5305-00-724-6798	C-17	12
96906	MS51967-2	5310-00-761-6882	C-23	10
			C-24	11
			C-30	12
96906	MS51967-20	5310-00-763-8920	C-5	34
96906	MS51967-5	5310-00-880-7744	C-19	37
			C-23	4
96906	MS51967-8	5310-00-732-0558	C-14	7
			C-17	13
96906	MS51968-11	5310-00-880-7745	C-22	4
96906	MS51971-3	5310-00-913-8881	C-19	33
96906	MS75004-1	5940-00-549-6581	C-12	1
96906	MS75004-2	5940-00-549-6583	C-11	1
96906	MS75047-1	6140-00-059-3528	C-5	41
96906	MS87006-3	4030-00-270-5436	C-13	7
96906	MS90723-14	5310-00-901-0585	C-24	48
96906	MS90725-109	5305-00-044-4153	C-14	12
96906	MS90725-32	5306-00-225-8497	C-5	42
96906	MS90725-34	5306-00-225-8499	C-19	36
96906	MS90725-43	5305-00-225-8507	C-23	12
96906	MS90725-5	5305-00-068-0501	C-30	1
96906	MS90725-6	5305-00-068-0502	C-26	33
96906	MS90725-62	5305-00-269-3213	C-14	43
96906	MS90725-90	5305-00-042-9478	C-14	1
96906	MS90727-90	5305-00-709-8540	C-22	2
96906	MS90908-1	2910-00-752-9138	C-10	8
99806	M200SERIES1X1-8	9330-00-912-2707	BULK	5

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
80205	NAS3106-28-28		C-19	29
80205	NAS561C6-13	5315-00-058-5088	C-26	29
			C-29	3
80205	NAS56106-13	5315-00-058-5088	C-28	2
82240	NO 3	5340-00-680-4375	C-3	13
13445	PL16GREEN	6210-00-901-9301	C-18	67
81348	RRC271	4010-00-781-3129	BULK	1
50599	R22002CC4-30	4720-00-902-4378	C-5	55
50599	R22002CC4-9	4720-00-924-4203	C-5	56
35311	SD5179	4730-00-246-5495	C-2	2
52659	S7756-1	4230-00-857-9317	C-6	2
52659	S7770	5365-00-402-4349	C-6	3
90598	TCA463	4520-00-675-6518	C-24	30
90598	TM3946	4520-00-900-7998	C-26	28
			C-28	1
			C-29	2
90598	TRF3107		C-30	19
90598	TR3336	4530-00-909-5908	C-31	1
81346	WWP471	4730-00-196-0916	C-23	2
81348	WWP471PLUG2-11-1 -2NPT		C-15	22
77414	0-16S	4730-00-965-6520	C-20	3
74193	006-10211	5975-00-477-4150	C-18	55
26759	101240	4730-00-287-1603	C-18	45
70563	12C120	5945-00-900-6282	C-25	26
70563	12N02	5945-00-729-1106	C-25	27
24161	124WW	4720-00-961-3522	BULK	3
66640	166D1	4730-00-277-9386	C-25	9
27742	1701-3192-700		C-13	15
19243	2 IN GRADE R-2	4820-01-204-0513	C-22	3
38455	21033		C-23	8
38455	21109		C-23	6

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

PART NUMBER INDEX

FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
38455	24454	2520-00-560-4871	C-15	10
24161	3VX280	3030-00-840-9344	C-14	23
20796	3V315-4	3030-00-880-2020	C-14	22
34646	303L5 3-4 IN 316 CRES	4730-00-947-7096	C-5	37
38455	31046		C-23	11
38455	31049	4820-00-930-1982	C-23	7
13800	31300	5330-00-352-5542	C-27	2
13800	32104	5330-00-285-3825	C-27	4
79470	3400X2	4730-00-639-9730	C-18	43
83930	400WSS10	5340-00-074-2116	C-26	20
24161	421B-1INCHID	4720-00-595-4103	BULK	2
79470	46X4X4	4730-00-248-9340	C-25	7
81361	5-45-3277	4730-01-071-8229	C-19	27
27742	5012-3217-102-2		C-5	29
82666	575GALVI3-1/2	4730-01-091-3585	C-2	12
92878	58671	5355-00-854-9098	C-8	1
70040	6432691	6680-00-221-1037	C-18	48
70040	6474533	6625-00-066-1278	C-18	30
77414	8S	4730-00-830-2615	C-7	4
			C-9	4
			C-21	4
11583	806X2	2920-00-580-3435	C-30	24

APPENDIX D
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

D-1. SCOPE. This appendix lists expendable/durable 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.

D-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 abrasive cloth, item 9, app D").

b. *Column (2) - Level.* This column identifies the lowest level of maintenance that requires the listed item.

C-Operator/Crew
O- Unit 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 alphabetic 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	8040-00-168-8614	ADHESIVE liquid form (04963) EC1300L 1 qt cn	Q T
2	C	6850-00-950-6489	ANTIFOAM COMPOUND, SILICONE (71984) ANTIFOAM B 5 gal can	G L
3	C	6850-00-656-0926	ANTISETTING COMPOUND DECONTAMINATING SLURRY (81349) MILA51027 12-1/2 lb can	L B

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U\M
4	O		BATTERY WATER (81348)O-B-41	
		6810-00-286-3783	1 GAL	GL
		6810-00-297-9540	5 GAL BOTTLE	GL
5	O	7920-00-255-7536	BRUSH,CHASSIS AND RUNNING GEAR (81348)H-B-181	EA
6	C	8020-00-205-6511	BRUSH,PAINT,1IN. (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	50 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
11	C	6850-00-297-6653	DECONTAMINATING AGENT,STB (81349)MIL-D-12468 50 LB DRUM	LB

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
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)VUF800GRADEF2RE	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	O	8010-00-286-7758	ENAMEL YELLOW NO.13538 (80244)TT-E-489G 1 GAL 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

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
20	C	9130-00-148-7103	GASOLINE,AUTOMOTIVE GRADE REGULAR MOGAS UNLEADED (81348)VVGOO1690/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	9150-00-186-6681	LUBRICATING OIL:30 WT (81349)MIL-L-2104	QT
25	C	9150-00-231-2361	LUBRICATING OIL,GENERAL PURPOSE,PL-M (19203)814370 1 QT CAN	QT
26	C	9150-00-231-6689	LUBRICATING OIL,GENERAL PURPOSE,PL-S (19204)14-O-2834-10 1 QT CAN	QT
27	O	8010-01-141-2419	POLYURETHANE COATING(BLACK) (81349)MIL-C-46168B 1 QT KIT	KT

28	C	8010-01-160-6741	POLYURETHANE COATING(GREEN 383) (81349)MIL-C-46168B 1 QT KIT	KT
29	O	8010-00-082-1714	PRIMER,COATING (81349)MIL-P-52192	KT
30	C	7920-00-205-1711	RAG,WIPING:COTTON (58536)AA-A-531 50 LB BE	LB
31	O	8030-00-999-6313	SEALING COMPOUND (06589)19749 1.5 OZ TUBE	OZ
32	C	6810-00-264-6618	SODIUM BICARBONATE,TECHNICAL POWDER FORM (81348)O-S-576 1 LB BOX	LB
33	C	6810-00-233-1715	SODIUM CARBONATE,ANHYDROUS TECHNICAL (58536)A-A-41 100 LB BAG	LB
34	C	6810-00-174-6581	SODIUM HYDROXIDE,TECHNICAL FLAKE FORM (70829)1306 100 LB DRUM	LB
35	O	8030-00-889-3535	TAPE,ANTISEIZING WHITE 1/2- IN.WD 260 IN.LG (81755)P5025-2R	EA

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
36	O		TAPE,GREEN (20310)3277	FT
37	C	5970-00-419-4290	TAPE,INSULATION,ELECTRICAL BLACK PLASTIC (20999)7-1/2 INBLACK 108 FT ROLL	FT
38	C	7510-00-816-8077	TAPE,PRESSURE SENSITIVE (81348)L-T-80 3 IN.WIDE,60 YD ROLL	YD
39	C	9130-00-256-8613	TURBINE FUEL,AVIATION (81349)MILT5624 GRADE JP-4	GL
40	C	9130-00-273-2379	TURBINE FUEL,AVIATION (81348)MILT5624 GRADE JP-5	GL

APPENDIX E
ILLUSTRATED LIST OF MANUFACTURED ITEMS

E-1. INTRODUCTION.

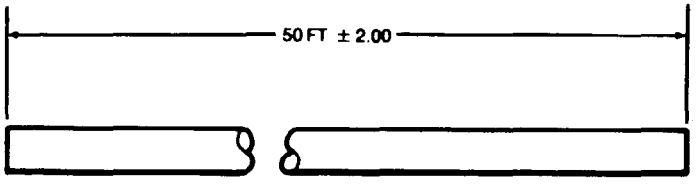
a. This appendix includes complete instructions for making items authorized to be manufactured or fabricated at unit maintenance level.

b. A part number index cross-references the item to be fabricated with the figure number which covers fabrication criteria.

c. All bulk materials needed for manufacture of an item are in a tabular list on the illustration.

E-2. PART NUMBER INDEX.

Part Number		Figure Number
B5-45-3097-7	Gasket	E-2
B5-45-3134-1	Cable	E-6
B5-45-3137-1	Cable	E-5
C5-45-2640-1	Chain	E-7
C5-45-2736-2	Hose	E-1
C5-45-3185-1	Pipe	E-4
C5-45-3265	Hose	E-3
C5-59-329	Panel	E-8
D5-59-328	Panel	E-9

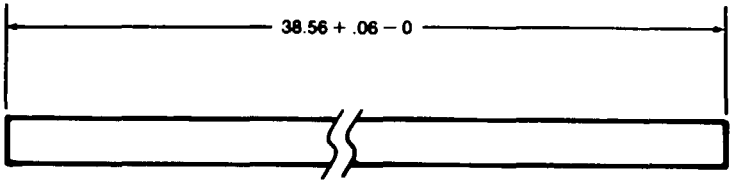


MATERIAL

QTY	DESCRIPTION	PART NO.
1	HOSE ASSEMBLY	421B-1INCHID

1. CUT BULK HOSE ASSEMBLY 50 FEET ± 2 INCHES LONG FROM NSN 4720-00-057-2285.
2. DIMENSIONS ARE IN FEET AND INCHES.

Figure E-1. Hose C5-45-2736-2.

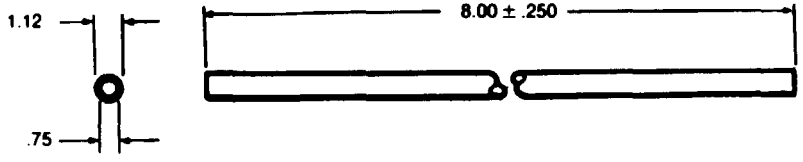


MATERIAL

QTY	DESCRIPTION	PART NO.
1	GASKET	M200SERIES1 × 1-8

1. CUT LENGTH OF MATERIAL PACKING, AS ILLUSTRATED, FROM NSN 9330-00-912-2707.
2. ALL DIMENSIONS ARE IN INCHES.

Figure E-2. Gasket B5-45-3097-7.

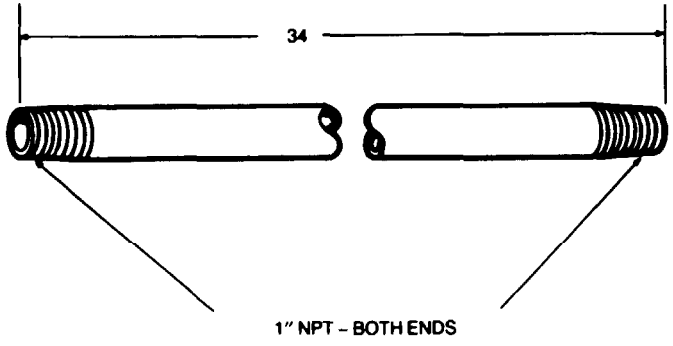


MATERIAL

QTY	DESCRIPTION	PART NO.
1	HOSE, NONMETALLIC	124WW (24161)

1. CUT BULK HOSE 8 ± 0.250 INCHES LONG FROM NSN 4720-00-961-3522.
2. ALL DIMENSIONS ARE IN INCHES.

Figure E-3. Hose C5-45-3265.

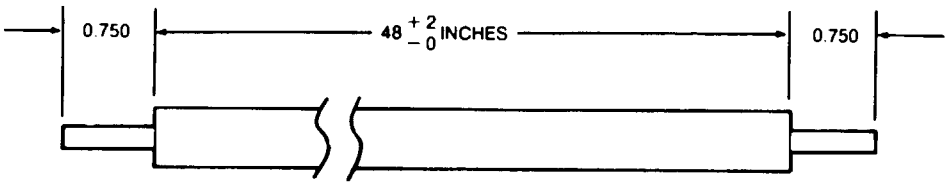


MATERIAL

QTY	DESCRIPTION	PART NO.
1	PIPE*	ASTM A120

1. USE BULK ISSUE METALLIC PIPE* FROM NSN 4710-00-162-1020.
2. ALL DIMENSIONS ARE IN INCHES.

Figure E-4. Pipe C5-45-3185-1.

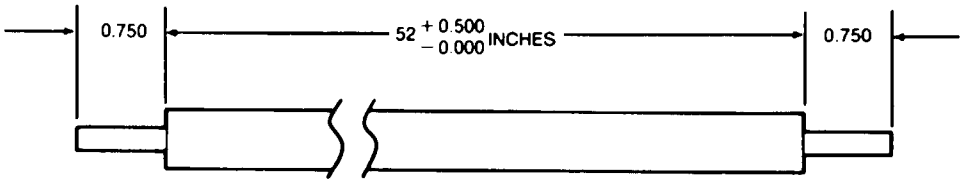


MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE*	M13486/1-11

1. USE BULK ISSUE ELECTRICAL WIRE.
2. STRIP BOTH ENDS OF INSULATION TO BARE CONDUCTOR, AS ILLUSTRATED.
3. ALL DIMENSIONS ARE IN INCHES.

Figure E-5. Cable B5-45-3137-1.

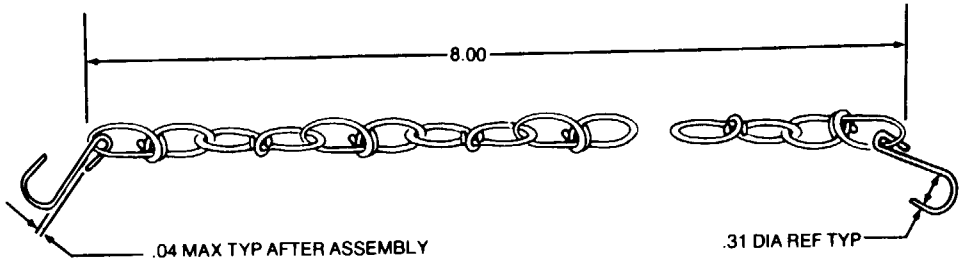


MATERIAL

QTY	DESCRIPTION	PART NO.
1	WIRE*	M13486/1-11

1. USE BULK ISSUE ELECTRICAL WIRE.
2. STRIP BOTH ENDS OF INSULATION TO BARE CONDUCTOR, AS ILLUSTRATED.
3. ALL DIMENSIONS ARE IN INCHES.

Figure E-6. Cable B5-45-3134-1.

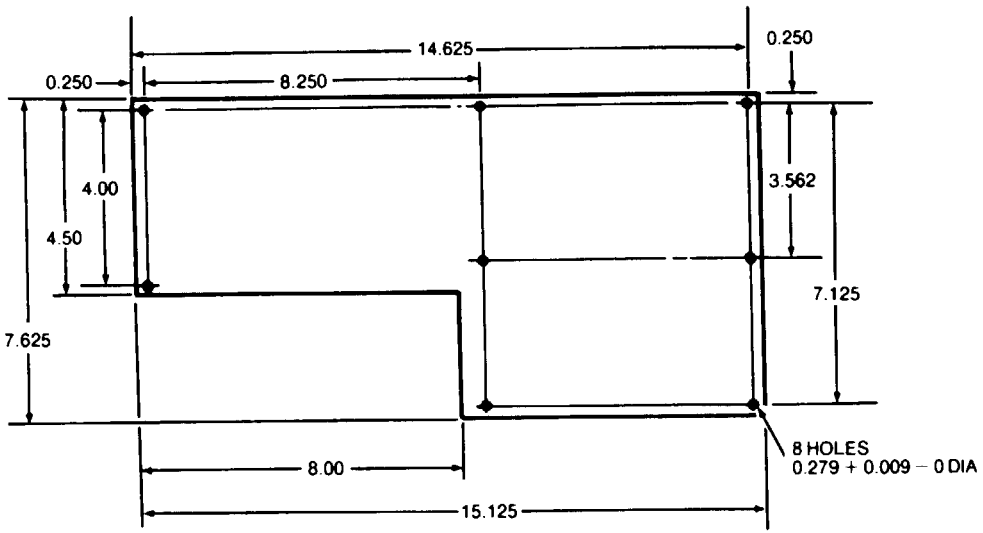


MATERIAL

QTY	DESCRIPTION	PART NO.
1	CHAIN	RRC271

1. USE BULK ISSUE CHAIN FROM NSN 4010-00-781-3129.
2. CUT LENGTH OF CHAIN AS ILLUSTRATED.
3. ALL DIMENSIONS ARE IN INCHES.

Figure E-7. Chain C5-45-2640-1.



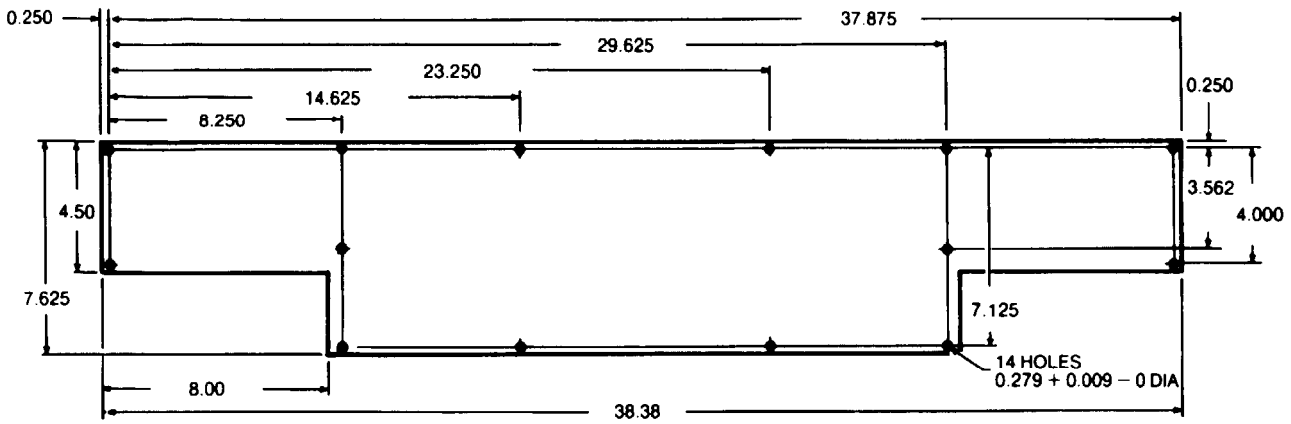
TWO PLACE DECIMALS TOLERANCE EQUALS ± 0.04.
THREE PLACE DECIMALS TOLERANCE EQUALS ± 0.010.

MATERIAL

QTY	DESCRIPTION	PART NO.
1	SHEET METAL	ASTM A366

1. USE BULK ISSUE SHEET METAL FROM NSN 9515-00-237-1855.
2. CUT PANEL AS ILLUSTRATED.
3. DRILL 8 HOLES 0.279 + 0.009 – 0 AS ILLUSTRATED.
4. PAINT BOTH SIDES OF PANEL. SEE TM 43-0139.
5. ALL DIMENSIONS ARE IN INCHES.

Figure E-8. Panel C5-59-329.



MATERIAL

QTY	DESCRIPTION	PART NO.
1	SHEET METAL	ASTM A366

1. USE SHEET METAL NSN 9515-00-237-1855 FROM BULK ISSUE.
2. CUT PANEL AS ILLUSTRATED.
3. DRILL 14 HOLES 0.279 + 0.009 – 0 AS ILLUSTRATED.
4. PAINT BOTH SIDES OF PANEL. SEE TM 43-0139.
5. ALL DIMENSIONS ARE IN INCHES.

Figure E-9. Panel D5-59-328.

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Date you filled out form.

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 3-4230-209-20&P	Date of TM	Decontaminating Apparatus Power-Driven, Skid Mounted, 500-Gallon, M12A1

BE EXACT...PIN-POINT WHERE IT IS

PAGE NO.	PARAGRAPH	FIGURE NO.	TABLE NO.
C-7-1		C-7	

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

Item 2 is listed as a "Clamp, Quick Release". The illustration shows clearly the correct part which is called a stem. This NSN nomenclature is clearly in error for this item.

SAMPLE

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER
SSgt Ted Ryba 671-3681

SIGN HERE SSG. Ted Ryba

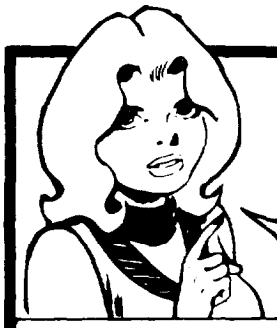
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Commander
US Army Armament, Munitions and Chemical Command
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Aberdeen Proving Ground, MD 21010-5423

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PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 3-4230-209-20&P		Decontaminating Apparatus Power-Driven, Skid Mounted, 500-Gallon, M12A1

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PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

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PAGE NO.	PARA-GRAPH	FIGURE NO	TABLE NO

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

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TEAR ALONG DOTTED LINE

DA FORM 1 JUL 79 **2028-2**

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