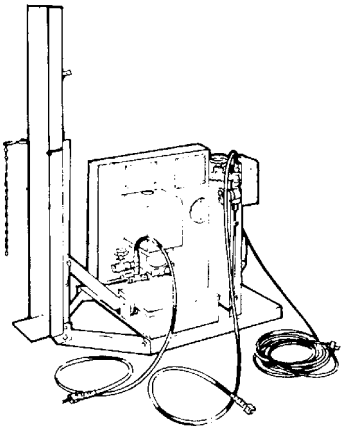
TECHNICAL MANUAL
OPERATOR'S, ORGANIZATIONAL, AND DIRECT SUPPORT MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST



RECHARGING UNIT, CARBON DIOXIDE RECIPROCATING PUMP, ELECTRIC MOTOR DRIVEN, AC, 115VOLT SINGLE PHASE, 60 HZ, 1 HP, CRYO-CHEM INC.
MODEL 12681 (NSN 3655-00-229-5246)
MODEL 12681-2 (NSN 3655-00-617-7565)
MODEL 12681-7 (NSN 3655-01-004-9873)

HEADQUARTERS, DEPARTMENT OF THE ARMY
14 APRIL 1986

WARNING

Carbon Dioxide (CO_2), when exposed to flesh, produces an effect similar to a scald or burn.

Do not attempt to disconnect hoses until pressure has been relieved.

Be careful not to contact high-voltage connections of 115 volt ac during installation, operation or performing maintenance on the recharging unit.

Make certain that the recharging unit is grounded properly during operation.

Dry cleaning solvent, P-D-680 or P-S-661, used to clean parts is potentially dangerous to personnel and property. Use in a well-ventilated area as the fumes are dangerous if inhaled. Avoid repeated and prolonged skin con- tact. Do not use near open flame or excessive heat. Flash point of solvent is 100°F. - 138F. (38C. - 59C.).

Technical Manual

No. 5-3655-214-13&P

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C. 14 April 1986

OPERATOR'S ORGANIZATIONAL, AND DIRECT SUPPORT, MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST FOR RECHARGING UNIT, CARBON DIOXIDE, RECIPROCATING PUMP, ELECTRIC MOTOR DRIVEN, AC, 115 VOLT, SINGLE PHASE, 60 HZ, 1 HP, CYRO-CHEM INC.

MODEL 12681	NSN 3655-00-229-5246
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MODEL 12681-7	NSN 3655-01-004-9873

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistake 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, U.S. Army Troop Support Command, ATTN: AMSTR-MCTS, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798. A reply will be furnished directly to you.

TABLE OF CONTENTS **PAGE**

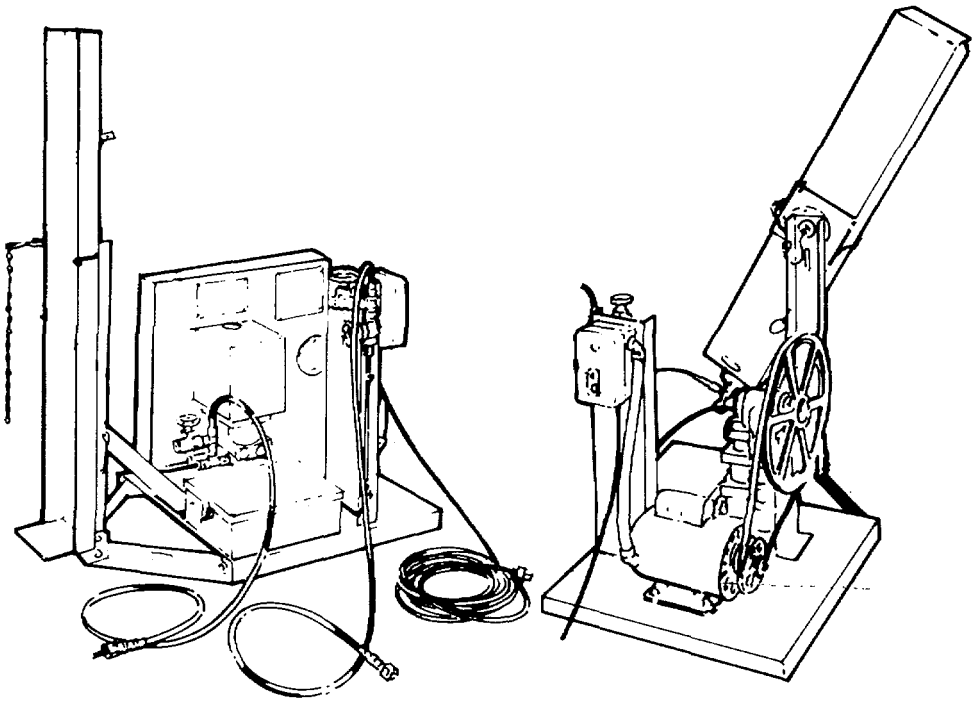
*This Manual supersedes TM5-3655-214-15, dated 2 February, 1971

TABLE OF CONTENTS - Continued

CHAPTER 1

INTRODUCTION

Section I. GENERAL INFORMATION



1-1. SCOPE.

a. Type of Manual. Operator's, Organizational and Direct Support, Maintenance Manual, including Repair Parts and Special Tools List.

b. Model Number and Equipment Name. CYRO-CHEM, Model 12681, 12681-2, 12681-7, Carbon Dioxide Recharging Unit.

c. Purpose of Equipment. The recharging unit is used to fill small carbon dioxide cylinders such as CO2 fire extinguisher cylinders.

1 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. HAND RECEIPT MANUAL

This manual has a companion document with a TM number followed by -HR (which stands for Hand Receipt). The TM 5-3655-214-13-HR consists of preprinted hand receipts (DA Form 2062) that list end item related equipment (i.e., COEI, BIII, and AAL) you must account for. As an aid to property account- ability, additional -HR manuals may be requisitioned from the following source in accordance with procedures in Chapter 3, AR 310-2:

The US Army Adjutant General Publications Center
ATTN: AGLD-OD
2800 Eastern Blvd.
Baltimore, MD 21220-2896

1-4. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If your Recharging Unit 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 or performance. Put it on a SF 368 (Quality Deficiency Report). Mail it to us at:

Commander
US Army Troop Support Command
ATTN: AMSTR-QX
4300 Goodfellow Blvd.
St. Louis, MO 63120-1798.

1-5. DESTRUCTION OF ARMY EQUIPMENT TO PREVENT ENEMY USE

Procedures for destroying Army materiel to prevent enemy use are listed in TM 750-244-3.

1-6. PREPARATION FOR STORAGE AND SHIPMENT

Except for tilt-rack, hose and adapters, the recharging unit is normally shipped and stored as a completely assembled unit.

a. Disconnect hoses, inlet adapter and discharge adapter and store in tool box.

b. Remove tilt-rack and place in shipping container.

c. Place recharging unit in shipping container.

Section II. EQUIPMENT DESCRIPTION

1-7. EQUIPMENT CHARACTERISTICS, CAPABILITIES AND FEATURES

a. Characteristics. The Carbon Dioxide Recharging Unit (hereafter referred to as "recharging unit"), is used to fill small Carbon Dioxide cylinders such as $C0_2$ fire extinguishers.

b. Capabilities and Features. The recharging unit is a self contained unit which consists of the main skid assembly and an accessory demountable tilt rack to hold and to invert the supply cylinder during filling (recharging) procedures. The main skid assembly incorporates a positive-displacement, belt- driven pump and an electrical drive motor with its associated electrical starter box and wiring. The main skid also contains all necessary plumbing and controls to connect to the small cylinders and perform the filling operation.

1-8. DIFFERENCE BETWEEN MODELS

The difference between models is in the pump motor. Each model had a different motor installed at the factory. The motors are interchangeable but their component parts are not.

1-9. EQUIPMENT DATA

a. Service Facility Requirements

Electrical	115 volts, 60 cycle, single phase at 15 amp (max)

b. Pump Data

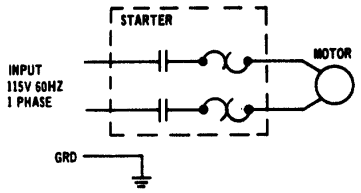
Capacity	4 lb/minute (minimum)
Maximum Discharge Pressure	1800 psig
Design Pressure Rating	3000 psig

c. Overall Dimensions (ready for operation)

Length	99.06 cm (39 in.)
Width	60.96 cm (24 in.)
Height	142.24 cm (56 in.)
Weight	129.39 kg (285 lbs.)

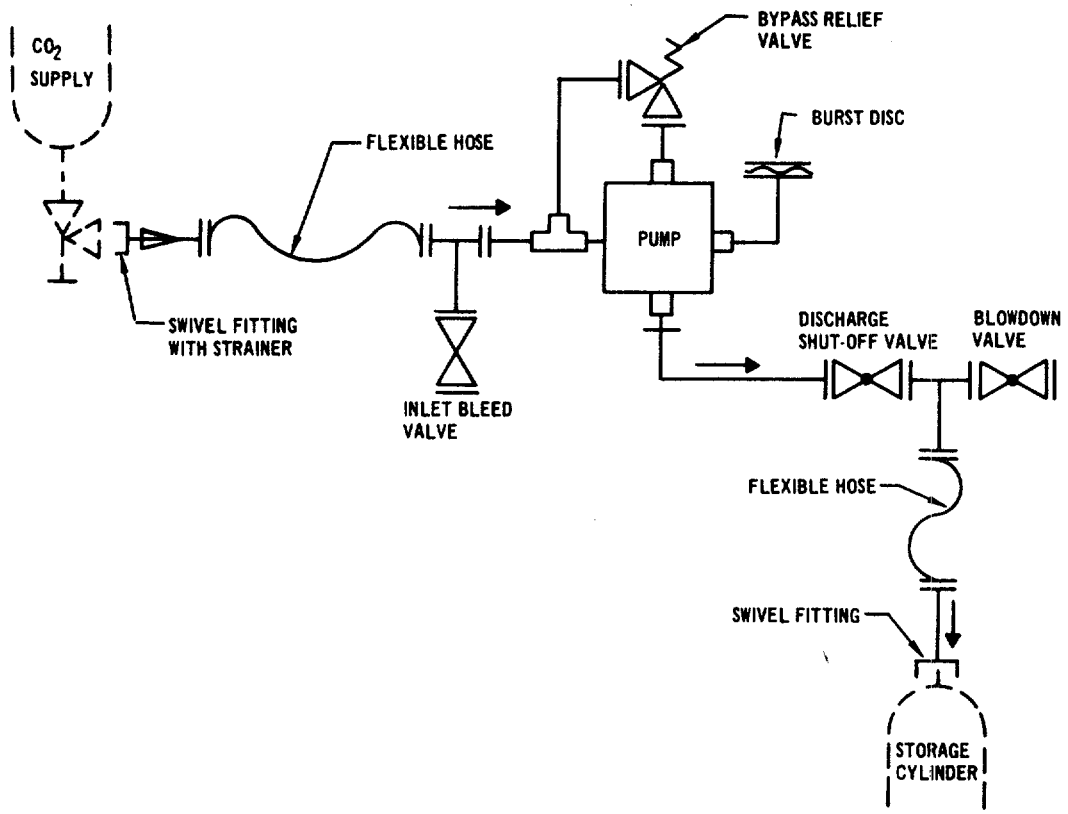
d. Schematics

(1) Electrical Diagram



1-9. EQUIPMENT DATA- Continued

(2) Flow Diagram



CHAPTER 2

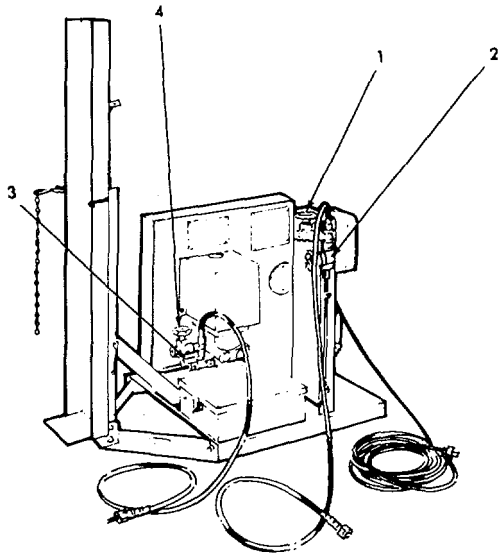
OPERATING INSTRUCTIONS

Section I. DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS

2-1. GENERAL

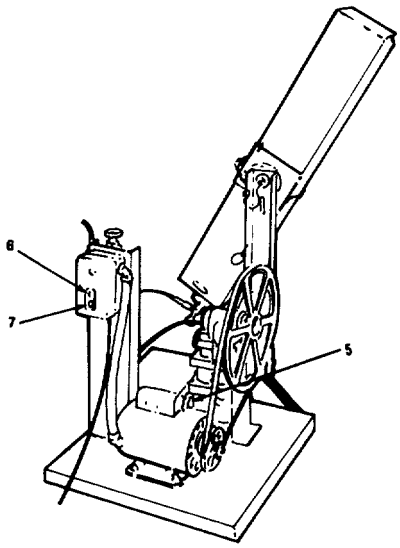
Operating personnel should be thoroughly familiar with the function and location of all controls prior to starting any filling procedures.

2-2. CONTROLS AND INDICATORS



KEY	CONTROL	FUNCTION
1.	Discharge Blow - Off Valve	Permits bleed - off of equipment operation.
2.	Discharge Shutoff Valve	Controls flow from pump to service cylinder
3.	Bypass Relief Valve	Limits charging pressure to approximately 1800 psi.
4.	Inlet Bleed Valve	Permits visual check that supply cylinder contains fluid available at the pump.

2-2. CONTROLS AND INDICATORS Continued



KEY	CONTROL	FUNCTION
5.	Safety Burst Disk	Bursts at 2800 psi to protect pump and other components from excessive pressure.
6.	STOP Pushbutton	Provides control to remove electrical supply from motor.
7.	START Pushbutton	Provides control to apply electrical supply to motor.

Section II. OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

2-3. GENERAL

a. Before you operate. Always keep in mind the warnings and cautions. Refer to paragraph 2-6a for equipment start up procedures.

b. While you operate. Always keep in mind the warnings and cautions. Once the equipment is operating there are no special procedures to observe except to check the degree of recharge in the small service cylinder.

c. After you operate. Always keep in mind the warnings and cautions. Refer to paragraph 2-6c for equipment shut-down procedures.

d. If your equipment fails to operate. Refer to troubleshoot data or report difficulties, using DA Form 2404. See DA-PAM 738-750 for instructions.

2-4. PMCS PROCEDURES

a. The PMCS table will help you keep the recharging unit from breaking down.

b. You will need to know what the numbers and letters on the table mean.

(1) Item number - the order in which you check the recharging unit. It will also be the item number to record results of PMCS in the "TM number" column on DA Form 2404, Equipment Inspection and Maintenance Worksheet.

(2) Interval - when you make your checks

B - "Before Operation"
D - "During Operation"
A - "After Operation"
W - "Weekly"
M - "Monthly"

(3) Item to be Inspected - What you should inspect.

(4) Procedure - How you make your inspection of the item.

(5) Equipment is not ready/available if - problems that may arise during operation.

c. Perform weekly as well as before operations PMCS if:

(1) You are the assigned operator and have not operated the item since the last weekly.

(2) You are operating the item for the first time.

2-4. PMCS PROCEDURES - Continued

B-Before operation
D-During operation
A-After operation
W-Weekly
M-Monthly

Item no.	Interval					Item to be inspected	Check for and have repaired or adjusted as required	Equipment is not ready/available if:
	B	D	A	W	M			
1	•					Mounting hardware	Inspect for loose or missing mounting hardware Tighten loose hardware or report missing hardware to organizational maintenance.	Mounting hardware is loose or missing
2	•					Hose connections	Inspect hose connections to insure they are tight. Tighten loose connections.	
3	•					Tailpiece filter	Inspect and clean filter (Para 3-4) Notify organzational maintenance if tailpiece is missing or damaged.	Damaged or missing filter
4				•		Electric motor	Inspect for evidence of overheating (discoloration) or noisy operation. Report defective motor to organizational maintenance.	Motor is defective
5				•		V-Belt	Inspect for breaks frays and proper tension (Para 3-5) Report defective belt to organizational maintenance.	V-Belt is defective

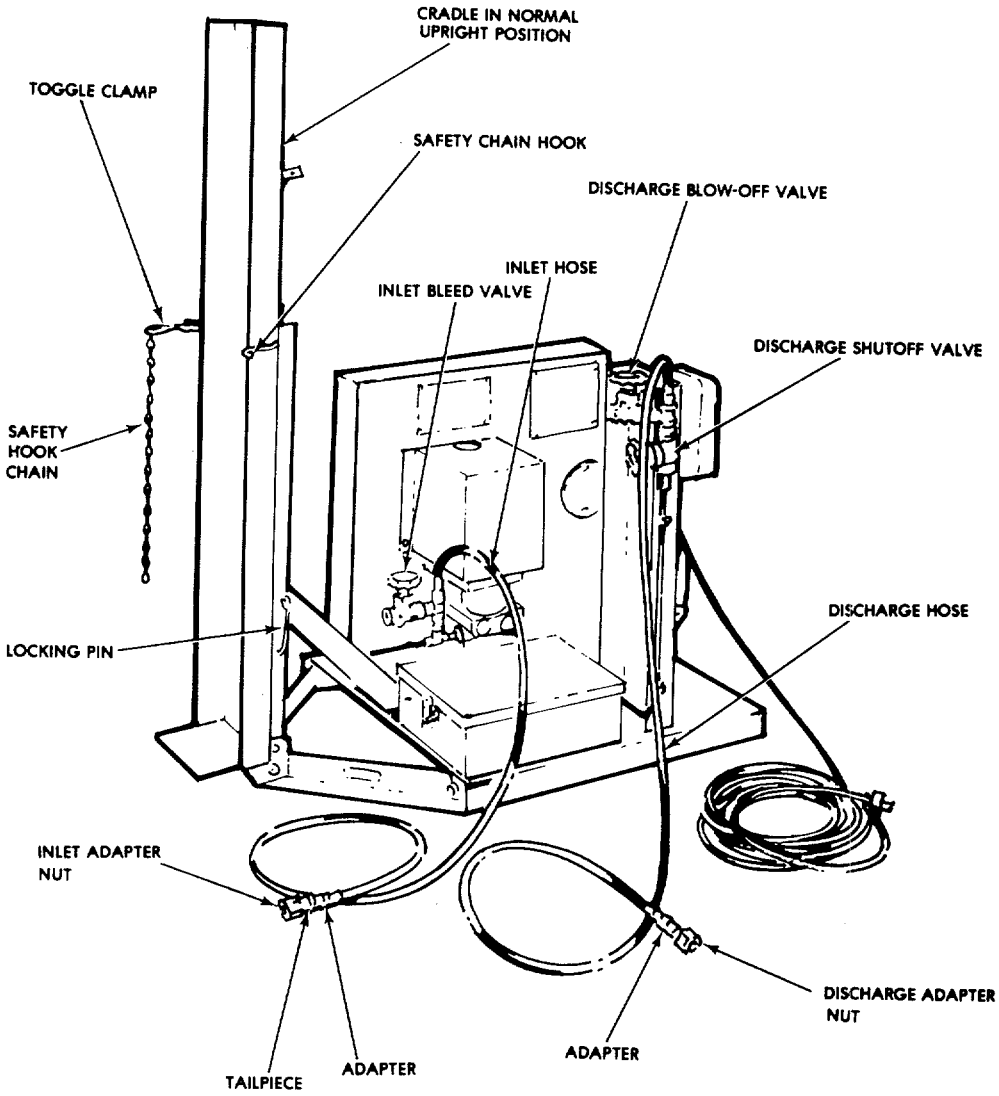
2-4. PMCS PROCEDURES - Continued.

Item no.	Interval					Item to be inspected	Check for and have repaired or adjusted as required	Equipment is not ready/available if:
	B	D	A	W	M			
6					•	Pump	Lubricate every 30 days or after 125 hours of operation (Para 3-1)	
7	•					Hoses	Inspect for corroded torn, frayed or cracked hoses. Hoses must be free of kinks and bends. Report defective hoses to organizational maintenance.	Hose is defective
8	•					Electric cable	Inspect cable for cuts and breaks. Inspect connector for damaged prongs. Report defects to organizational maintenance.	Defective cable or connector
9	•					Safety chain	Inspect chain for damage. Report defective chain to organizational maintenance.	Defective chain
10	•					Valves	Open and close valves to insure they function. Report defective valves to organizational maintenance.	Defective valve

Section III. OPERATION UNDER USUAL CONDITIONS

2-5. ASSEMBLY AND PREPARATION FOR USE.

a. Install hoses, tailpiece, adapters and nuts as shown below.



2-5. ASSEMBLY AND PREPARATION FOR USE- Continued

b. Perform preventive maintenance checks and services Paragraph 2-4.

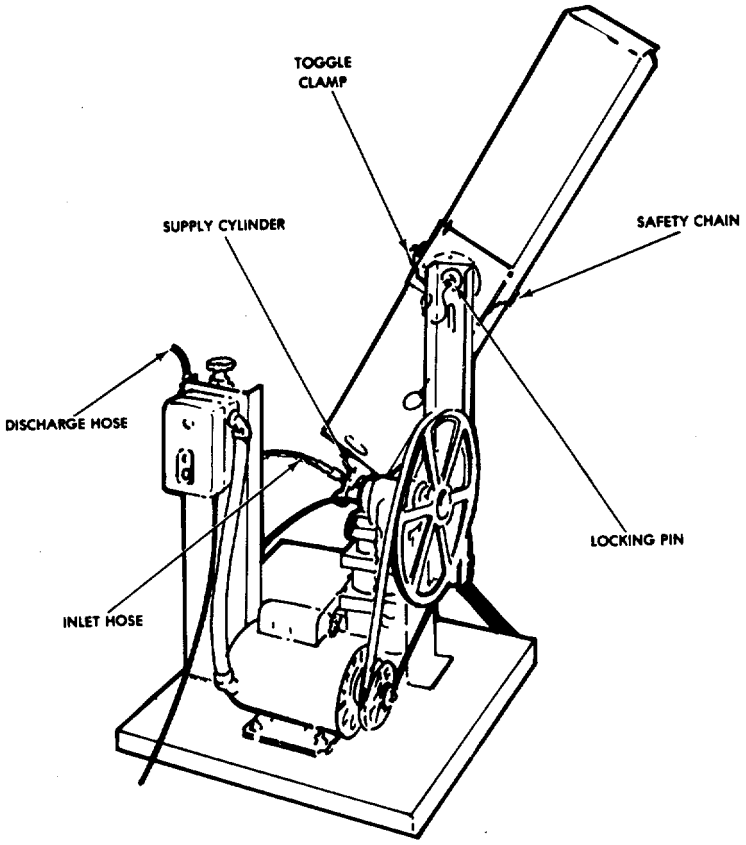
c. Check that the following valves are in the closed position: inlet bleed valve, discharge blow-off valve and discharge shutoff valve.

d. Set supply cylinder in tilt-rack cradle and in normal upright position.

e. Attach safety chain to hook and tighten toggle clamp to retain cylinder securely.

f. Refer below and rotate tilt-rack cradle to inverted position and install locking pin to secure this position.

g. Connect inlet hose to supply cylinder valve as shown below.



2-6. GENERAL OPERATING PROCEDURES

WARNING

Carbon Dioxide (C02) when exposed to the flesh, produces an effect similar to a scald or burn. Use care to avoid contact with it.

Do not attempt to disconnect hoses until pressure has been relieved.

CAUTION

Be sure recharging unit is grounded properly during operation.

a. Insure that the instructions in para 2-5 have been complied with.

NOTE

Determination of filled service cylinder is normally calculated by weight. During filling operation, it is recommended that the service cylinder be mounted on a large scale to permit easy determination of when cylinder is filled.

b. Place empty service cylinder on scale. Note weight of cylinder and record.

c. Connect discharge hose to valve on service cylinder to be recharged and open service cylinder valve.

2-6. GENERAL OPERATING PROCEDURES -Continued.

(1) Check that discharge shutoff valve is closed (fully clockwise).

(2) Open supply cylinder shutoff valve.

(3) Place container below outlet of inlet bleed valve.

WARNING

Use care to protect your flesh from contact with Carbon Dioxide (C02). It produces an effect similar to a scald or burn. Stay clear of the inlet bleed valve's outlet port.

(4) Slowly open (crack) inlet bleed valve and observe that carbon dioxide is flowing freely.

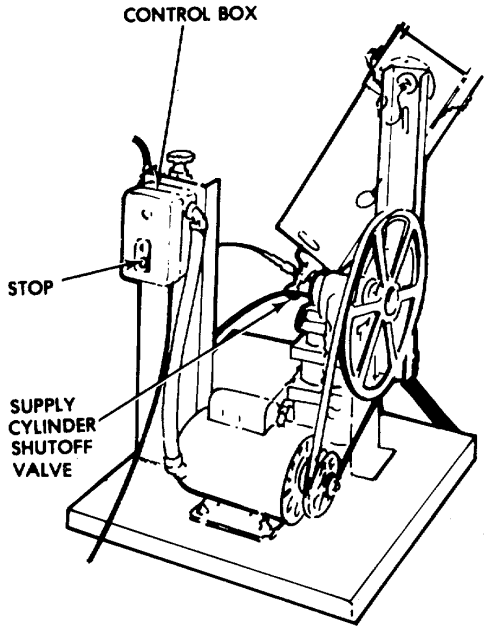
(5) Close inlet bleed valve.

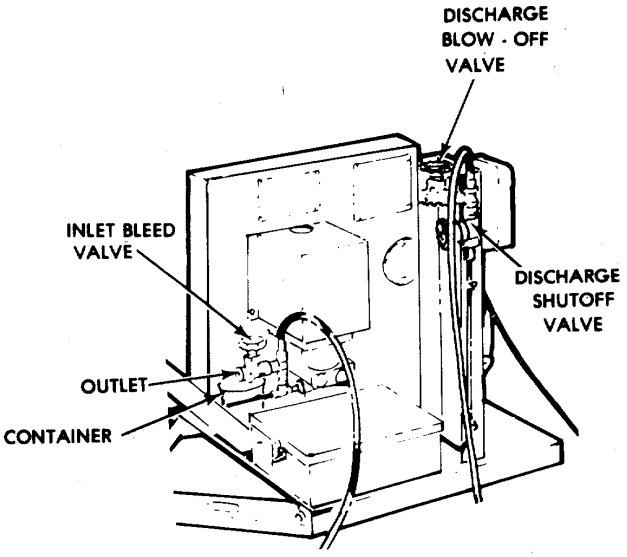
(6) Open discharge shutoff valve.

WARNING

In the event of any malfunction press STOP pushbutton and close supply cylinder shutoff valve.

(7) Press START pushbutton.





2-6. GENERAL OPERATING PROCEDURES Continued

d. Monitor the weight of service cylinder when the service cylinder is filled to the desired weight and shutdown the recharging unit.

(1) Press STOP pushbutton on starter control box.

(2) Close valve on service cylinder and supply cylinder.

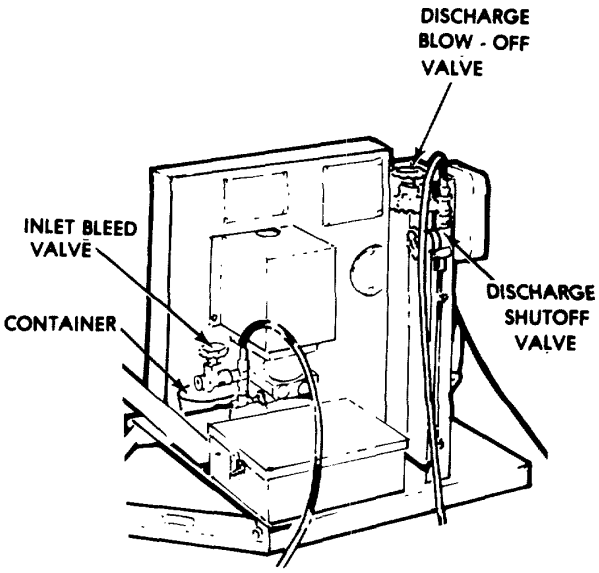
(3) Close discharge shutoff valve.

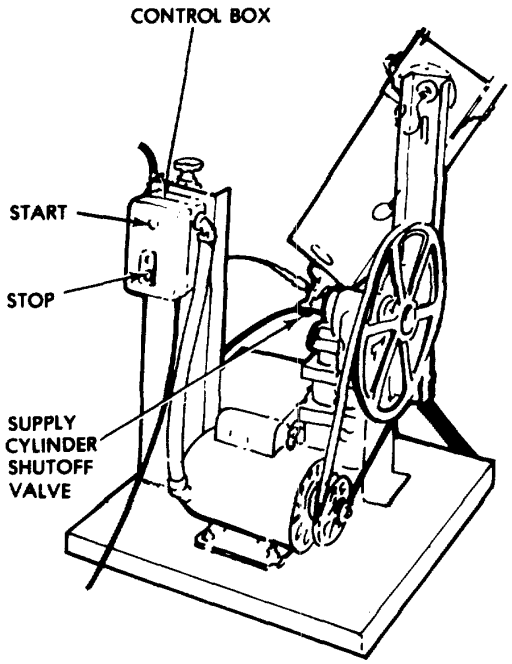
WARNING

Use care to protect your flesh from contact with Carbon Dioxide ($C0_2$). It produces an effect similar to a scald or burn. Stay clear of the inlet bleed valve outlet port and the discharge blow-off valve outlet port.

(4) Slowly open (crack) the discharge blowoff valve and the inlet bleed valve.

(5) Disconnect hose from service cylinder.





CHAPTER 3

OPERATOR'S MAINTENANCE INSTRUCTIONS

INDEX

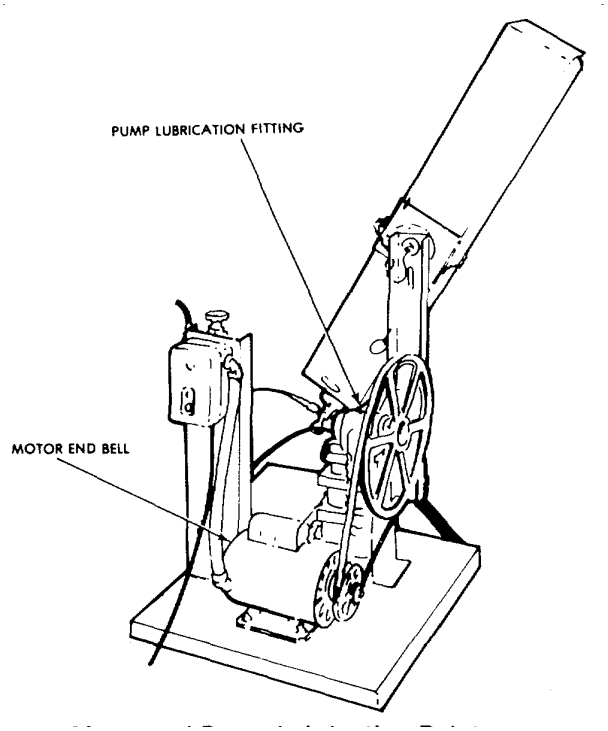
Section I. LUBRICATION INSTRUCTIONS

3-1. GENERAL

This section contains procedures required to service the recharging unit and its components in order to maintain satisfactory operating condition.

a. Pump Lubrication. Connect grease gun to pump fitting and fill crankshaft reservoir with grease conforming to specification MIL-G-10924.

b. Motor Lubrication. Remove screws from oil holes on front and rear endbells of motor. Add from 30 to 40 drops of SAE motor oil each 1500 hours of operation.



Motor and Pump Lubrication Points

Section II. TROUBLESHOOTING

3-2. TROUBLESHOOTING TABLE

a. This section lists the common malfunctions which may occur during operation of the recharging unit.

b. This manual cannot list all malfunctions that may occur. If a malfunction is not listed or is not corrected by listed corrective actions, notify your supervisor.

TROUBLESHOOTING TABLE

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
1. MOTOR DOESN'T START.
Step 1. Check electrical connection.
Correct as required.
Step 2. Motor or Cable defective.
Refer to organizational maintenance for replacement.
Step 3. Starter damaged or defective.
Refer to organizational maintenance for repair or replacement.
2. MOTOR AND PUMP OPERATE, BUT FLUID DOES NOT FLOW.
Step 1. Check that the supply valve and the discharge shut off valve are in the open position.
Open valves as required.
Step 2. Check that the inlet bleed valve and the discharge blow-off valve are in the closed position.
Close valves as required.
Step 3. Slightly open inlet bleed valve to permit visual check that the supply cylinder contains fluid.
Replace supply cylinder if fluid is not discharged from the inlet bleed valve.
Step 4. Inspect Tailpiece filter for clogged or damaged condition. See Section III.
Clean or replace filter as directed see in Section III.

3-2. TROUBLESHOOTING TABLE - Continued

3. PUMP DOES NOT OPERATE.

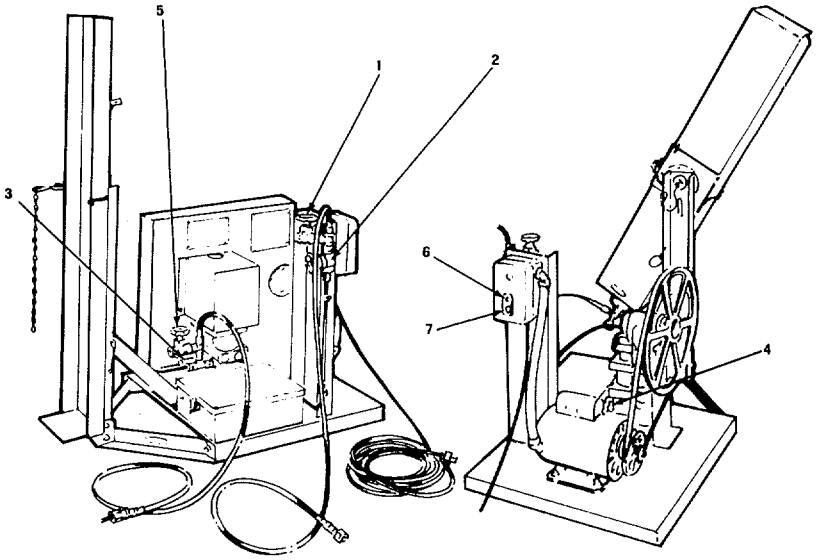
Step 1. Check V-belt tension.

Notify organizational maintenance if adjustment is required.

Section III. OPERATOR MAINTENANCE

INDEX

This section contains information on the removal, inspection, cleaning, repair/replacement and installation (where authorized by the MAC Chart in Appendix B) of the above items at the organizational level:



KEY	CONTROL	FUNCTION
1.	Discharge Blow - Off Valve	Permits bleed - off of equipment operation
2.	Discharge Shutoff Valve	Controls flow from pump to service cylinder
3.	Bypass Relief Valve	Limits charging pressure to approximately 1800 psi.
4.	Safety Burst Disk	Bursts at 2800 psi to protect pump and other components from excessive pressure
5.	Inlet Bleed Valve	Permits visual check that supply cylinder contains fluid available at the pump
6.	STOP Pushbutton	Provides control to remove electrical supply from motor
7.	START Pushbutton	Provides control to apply electrical supply to motor

3-4. FILTER, TAILPIECE- MAINTENANCE INSTRUCTIONS

This task covers:

a. Removal
b. Disassembly
c. Cleaning, inspection
d. Repair
e. Reassembly
f. Installation

INITIAL SETUP

Applicable Configurations
All

Equipment Condition
Para
3-4

Condition Description
Pump shut down
Supply cylinder
Shutoff valve - closed
Blow-off valve - open
Inlet bleed valve - open

Test Equipment
None

Special Tools
None

Special Environmental Conditions
None

Materials/Parts
Cleaning solvent
(Federal specification P-D-680)
Bristle brush

General Safety Instructions
Observe Warnings
and Cautions

Personnel Required
MOS 52C.

LOCATION/ITEM	ACTION	REMARKS

REMOVAL

CAUTION

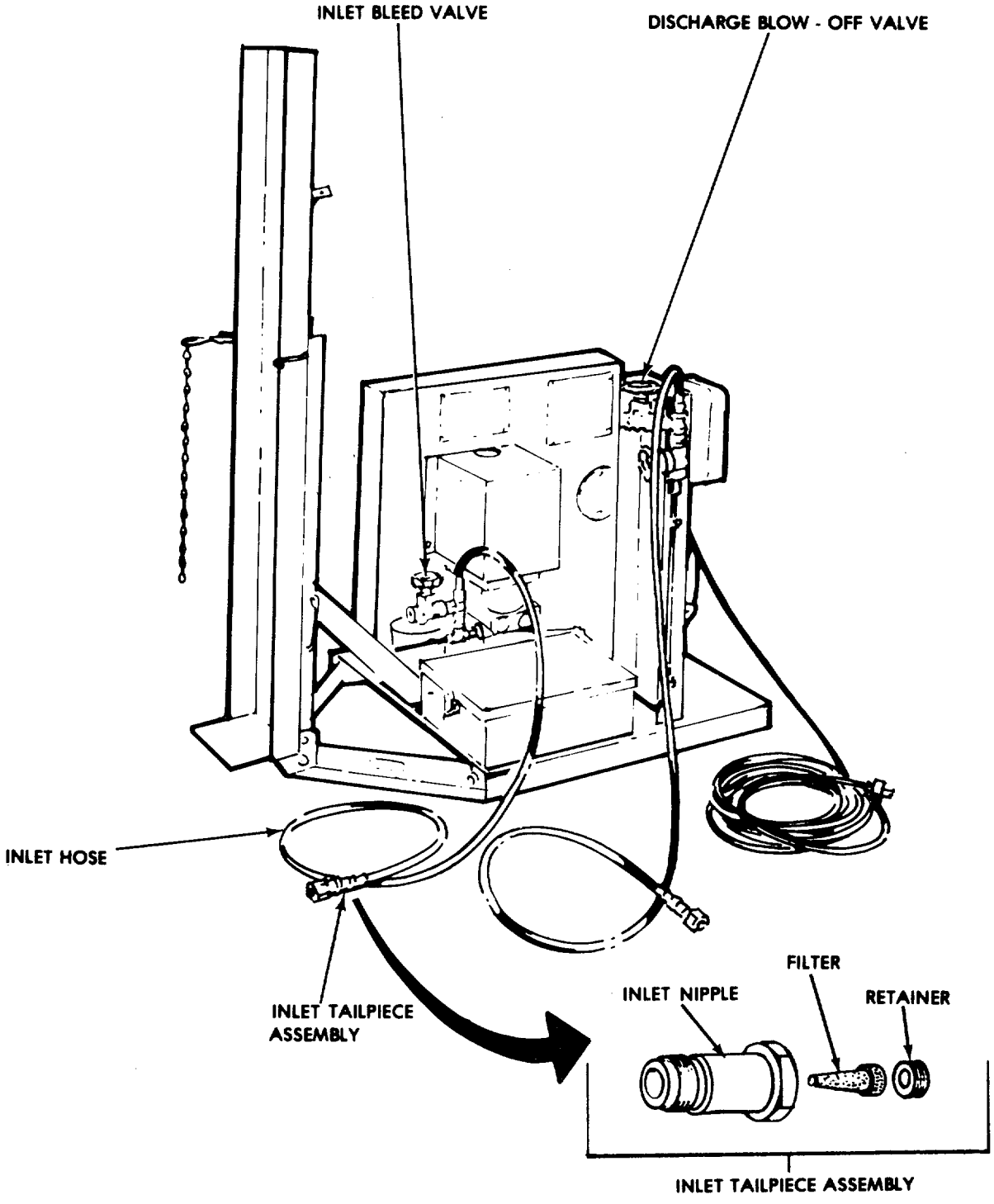
Make certain that pump has been shut down. Check that supply cylinder shutoff valve Is closed. Check that pressure has been relieved by opening the blow-off valve and inlet bleed valve.

1. Inlet hose Tailpiece assembly	a. Disconnect	The filter is part of the inlet tailpiece assembly which is installed on the inlet hose.

3.4. FILTER, TAILPIECE - MAINTENANCE INSTRUCTIONS - Continued.

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
2. Tailpiece assembly		
Retainer and filter	b. Remove retainer and filter	
	WARNING	
	Cleaning solvent, Federal Specification P-D-680, is toxic and flammable. Use solvent only in a well-ventilated area. Avoid prolonged breathing of solvent vapors. Keep solvent away from open flame. Do not use in excessive amounts.	
CLEANING, INSPECTION AND REPAIR		
3. Filter	a. Clean with solvent and dry.	
	b. Inspect for: clogged or damaged	
	c. Report damaged filter to organizational maintenance	
ASSEMBLY		
4. Tailpiece assembly		
Filter and retainer	a. Reassemble.	
INSTALLATION		
5. Tailpiece assembly	a. Install the inlet tailpiece assembly.	

3-4. FILTER, TAILPIECE - MAINTENANCE INSTRUCTIONS - Continued



Inlet Tailpiece Assembly, Removed and Disassembled

3-4. FILTER, TAILPIECE - MAINTENANCE INSTRUCTIONS - Continued

Inlet Tailpiece Assembly, Removed and Disassembled

3-5. BELT

This task covers:

a. Removal

b. Inspection

c. Installation

INITIAL SETUP

Applicable Configurations	Equipment Condition Para	Condition Description
All	3-4	Pump shut down

Test Equipment
None

Special Tools
None

Special Environmental Conditions
None

Materials/Parts
None

General Safety Instructions
Motor is off.

Personnel Required
MOS 52C.

LOCATION/ITEM	ACTION	REMARKS
REMOVAL		
1. Belt Inspection Cover	a. Remove screws	The belt is installed on the motor pulley
	b. Remove cover	pump pulley and covered with a guard.
INSPECTION		
2.	a. Check belt tension by pressing on belt for slight deflection. If belt tension requires adjustment report to organizational maintenance.	
INSTALLATION		
3.	b. Replace inspection cover and reinstall screws.	

CHAPTER 4

ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

INDEX

Section I. SERVICE UPON RECEIPT OF EQUIPMENT

4-1. UNPACKING AND CHECKING THE EQUIPMENT

a. Visually inspect the Shipping Container for evidence of damage or mishandling during storage or shipment. Carefully remove container and all barrier material from unit.

b. Inspect the unit for damage incurred during shipment. If equipment has been damaged, report the damage on DD Form 6, Packaging Improvement Report.

c. Check the equipment packing slip to see if the shipment is complete. Report all discrepancies in accordance with DA PAM 738-750.

4-2. INSTALLATION

a. Location. Locate recharging unit in a convenient location close to an electrical service facility connection and in a well-ventilated area, away from excessive smoke or fumes.

b. Assemble and install tilt rack.

c. Power source. Connect a length of No. 6 AWG or larger cable from motor ground terminal to a suit able ground; then connect power cable to 115 volt, 60 HZ, Single phase Service facility.

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

4-3. GENERAL

Repair parts are listed and illustrated in Appendix C of this Manual. Special tool, Part number 12681-133 is provided with the unit to remove the wrist pin from the crankshaft of the pump assembly. Test, measurement, and diagnostic equipment (TMDE) and support equipment is standard equipment found in any organizational maintenance shop.

Section III. LUBRICATION INSTRUCTIONS

4-4. GENERAL

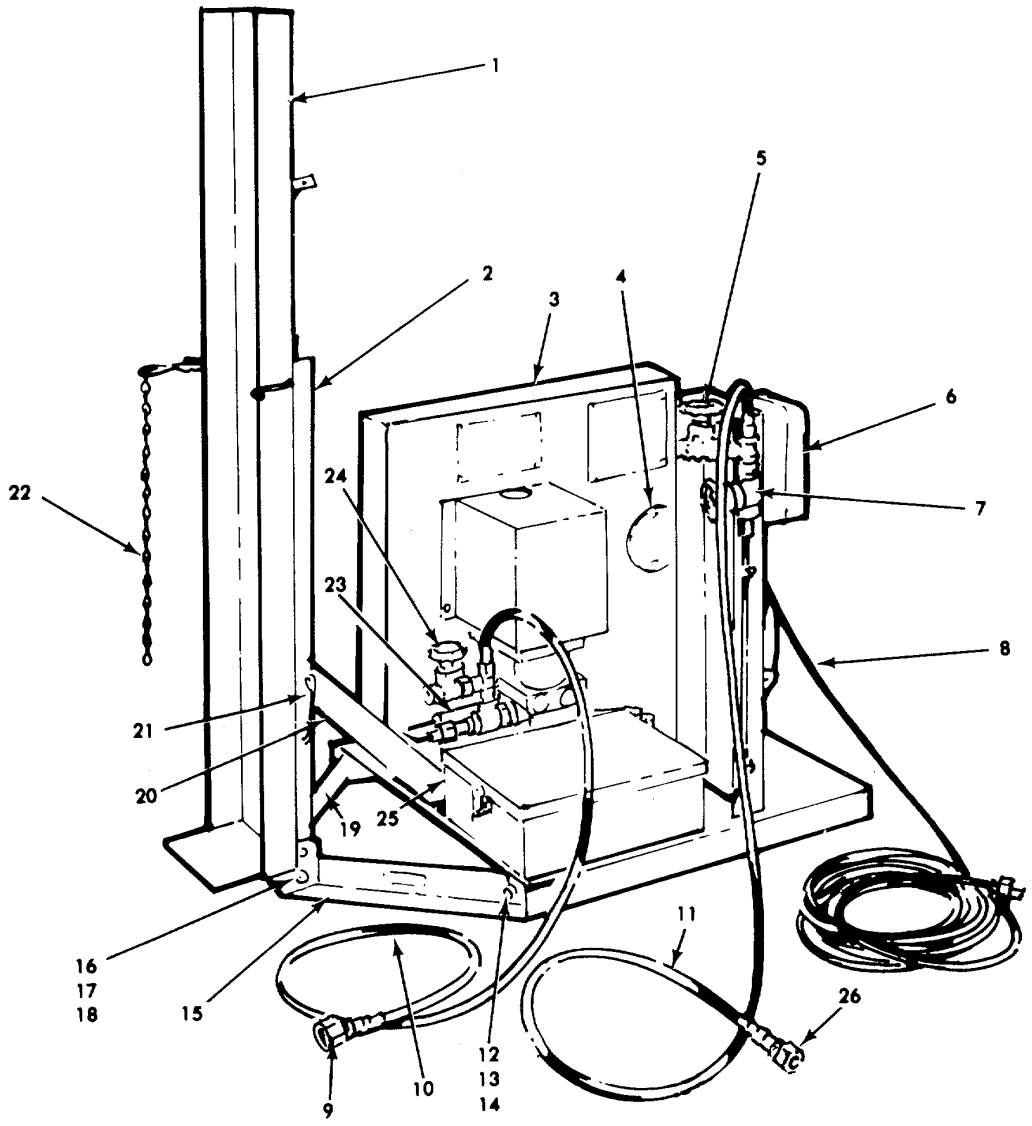
Be sure the pump and motor are lubricated. Refer to Chapter 3 for instructions.

Section IV. PREVENTATIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

4-5. GENERAL

Preventative maintenance checks and services (PMSC Table) are to be performed at the organizational maintenance level to assure the recharging unit is ready to use at all times.

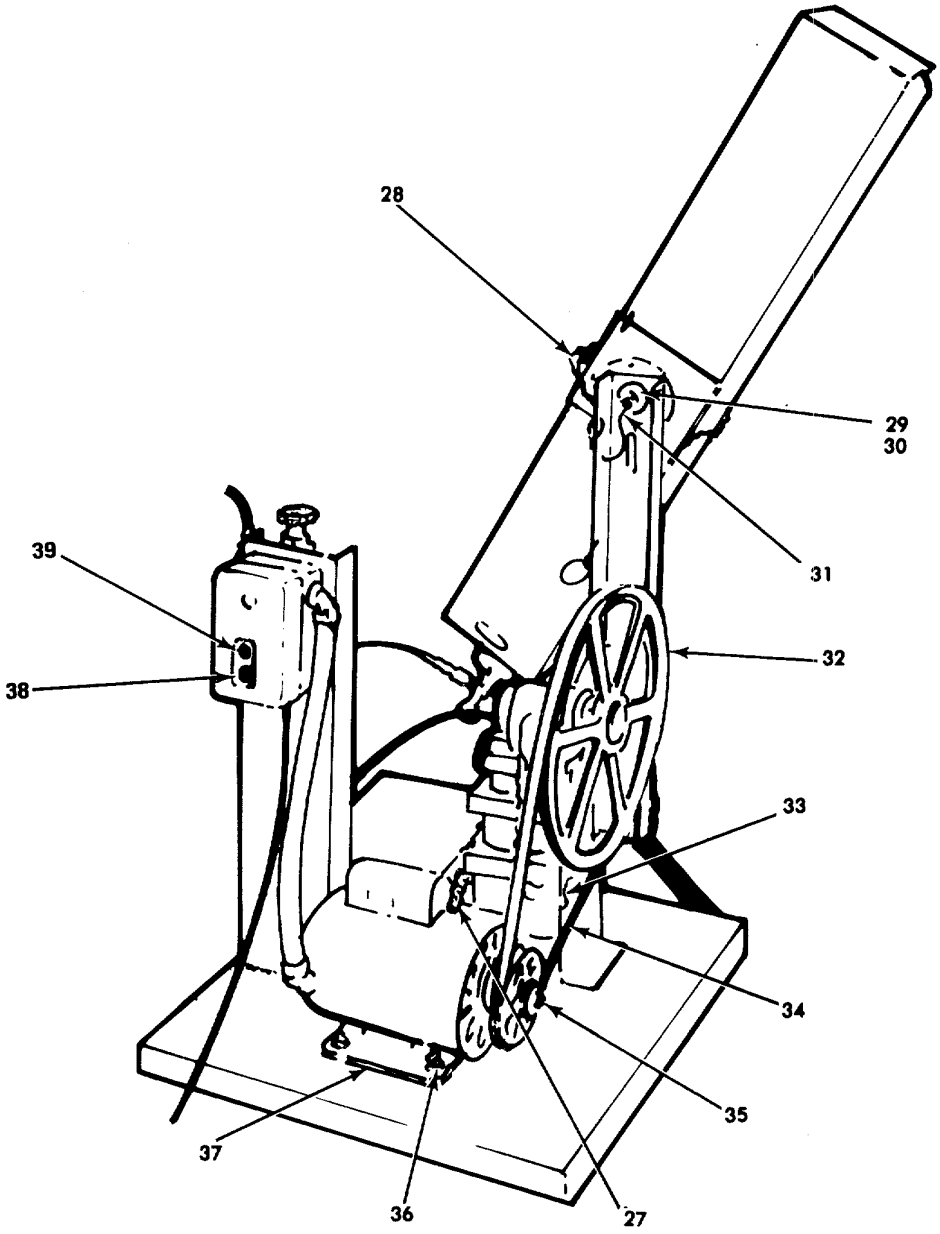
4-5. PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued



1. Cradle
2. Cradle support
3. Guard
4. Inspection port
5. Discharge blow-off valve
6. START/STOP control box
7. Discharge shutoff valve
8. Wiring harness
9. Tailpiece
10. Inlet hose
11. Discharge hose
12. Screw
13. Washer
14. Washer
15. Support, R.H.
16. Screw
17. Washer
18. Washer
19. Support, L.H.
20. Center support
21. Cotter pin
22. Safety hook chain
23. By-pass relief valve
24. Inlet bleed valve
25. Nut
26. Adapter

Carbon dioxide recharging unit

4-5. PREVENTATIVE MAINTENANCE CHECKS AND SERVICES - Continued



27. Safety burst disk
28. Toggle clamp
29. Washer
30. Nut
31. Cotter pin
32. Pulley, pump
33. Pump
34. V Belt
35. Pully, motor
36. Nut
37. A.C. Motor
38. STOP pushbutton
39. START pushbutton

Carbon dioxide recharging unit

4-5. PREVENTATIVE MAINTENANCE CHECKS AND SERVICES - Continued

Organizational Preventative Maintenance Checks and Services

NOTE Within designated interval, these checks are to be performed in the order listed.

W - Weekly
M - Monthly
Q - Quarterly
S - Semiannually
H - Hours

Item No.	Interval W	M	Q	S	H	Item to be Inspected	Procedures
1		•				Mounting hardware	Inspect for missing mounting hardware. Replace all missing mounting hardware.
2		•				Hoses	Inspect hoses for defects. Replace defective hoses.
3		•		•		Motor	Add from 30 to 40 drops of SAE 10 motor oil each 1500 hours of operation. Inspect motor for evidence of overheating (discoloration) or noisy operation. Replace defective motor.
4		•				V-Belt	Inspect for defects. Replace defective belt.
5		•				Electric cable	Inspect cable and connector for damage. Replace defective cable or connector
6		•				Safety Chain	Inspect chain for defects. Replace defective chain.
7			•			Valves	Operate valves for ease of operation and defects. Replace defective valves.

Section V. ORGANIZATIONAL MAINTENANCE TROUBLESHOOTING

4-7. TROUBLESHOOTING TABLE

a. This table contains the common malfunctions which may occur during the operation of the recharging unit or its components.

b. This manual cannot list all malfunctions which may occur. If a malfunction is not listed or is not corrected by listed action, notify your supervisor.

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
1. MOTOR DOES NOT START.
Step 1. Check power cable.
Replace defective cable.
Step 2. Test starter. Use multimeter and check for continuity. Refer to Chapter 1.
Replace defective starter.
2. MOTOR OPERATES BUT PUMP DOES NOT RUN.
Step 1. Check V-belt for worn condition. See Chapter 3.
Replace defective V-belt. See Chapter 4.
Step 2. Check V-belt for proper tension.
Adjust tension.
3. PUMP PRESSURE EXCEEDS 2800 PSI AND BURSTS THE SAFETY DISK.
Step 1. Inspect bypass valve for clogged condition.
Remove and replace defective valve.
4. PUMP OPERATES BUT THERE IS INSUFFICIENT PRESSURE TO FILL CYLINDER.
Step 1. Check bypass valve for proper closing.
Adjust bypass valve. Replace defective valve.

Section VI. ORGANIZATIONAL MAINTENANCE PROCEDURES

INDEX

14-8. GENERAL

The procedures in this section have been arranged in the order in which the items appear in the organizational maintenance level column (0) of the Maintenance Allocation Chart (MAC) in Appendix B.

4-9. GUARDS

This task covers:

a. Removal
b. Cleaning
c. Inspection
d. Repair
e. Installation

INITIAL SETUP

Applicable Configurations	Equipment Condition Para	Condition Description
All	3-4	Equipment shut-off

Test Equipment
None

Special Tools
None

Special Environmental Conditions
None

4-9. GUARDS - Continued

Materials/Parts
Approved cleaning solvent, P-D-680 or equivalent
Bristle brush

Personnel Required
MOS 52C

General Safety Instructions
Observe Warnings and Cautions

LOCATION/ITEM	ACTION	REMARKS
REMOVAL		
	WARNING	
	Make certain that pump has been shut down and electrical power disconnected.	
1. Guard section.	a. Refer to illustration at the end of this	
	b. Remove pump guard (4).	
	c. Remove six screws (5), six flat washers (6) and six lockwashers (7) attaching belt guard (8).	
REMOVAL		
1. Guard (Continued)	d. Remove belt guard	
	WARNING	
	Dry cleaning solvent, P-D-680 or P-S-661, used to clean parts is potentially dangerous to personnel and property. Use in a well-ventilated area as the fumes are dangerous if inhaled. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100F. - 138F (38C. - 59C.)	

4-9. GUARDS - Continued

LOCATION/ITEM	ACTION	REMARKS

REMOVAL

1. Guard. (continued)

d. Remove belt guard

WARNING

Dry cleaning solvent, P-D.680 or P-S-661, used to clean parts is potentially dangerous to personnel and property. Use in a well-ventilated area as the fumes are dangerous if inhaled. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100F.- 138F (38C.-59C.)

CLEANING, INSPECTION AND REPAIR

2. a. Clean all parts in an approved cleaning solvent and dry with a clean, lint-free cloth or compressed air.

3. b. Inspect screws and nuts for damaged threads.

c. Inspect guards for cracks and obvious damage.

4. d. Replace defective parts as required.

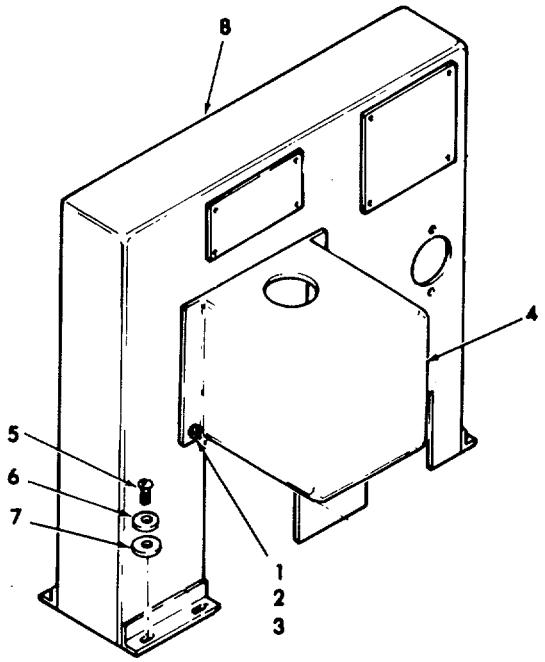
INSTALLATION

1. a. Refer to illustration at the end of this section, and install belt guard (8) on skid base.

b. Install six screws (5), six flat washers (6) and six lock-washers (7) to attach belt guard (8).

Install two screws (1), two flat washers (2) and two lock-washers (3) to attach pump guard (4).

4-9. GUARDS - Continued



Legend:

1.Screw
2.Flatwasher
3.Lockwasher
4.Pump guard
5.Screw
6.Flatwasher
7.Lockwasher
8.Belt guard

Guards, removal and installation

4-10. BELT

This task covers:

a. Removal
b. Inspection
c. Repair
d. Installation
e. Adjustment

INITIAL SETUP

Applicable Configurations	Equipment Condition Para	Condition Description
All	3-4	Equipment is OFF

Test Equipment
None

Special Tools
None

Special Environmental Conditions
None

Materials/Parts
None

General Safety Instructions
Observe Warnings and Cautions

Personnel Required
MOS 52B

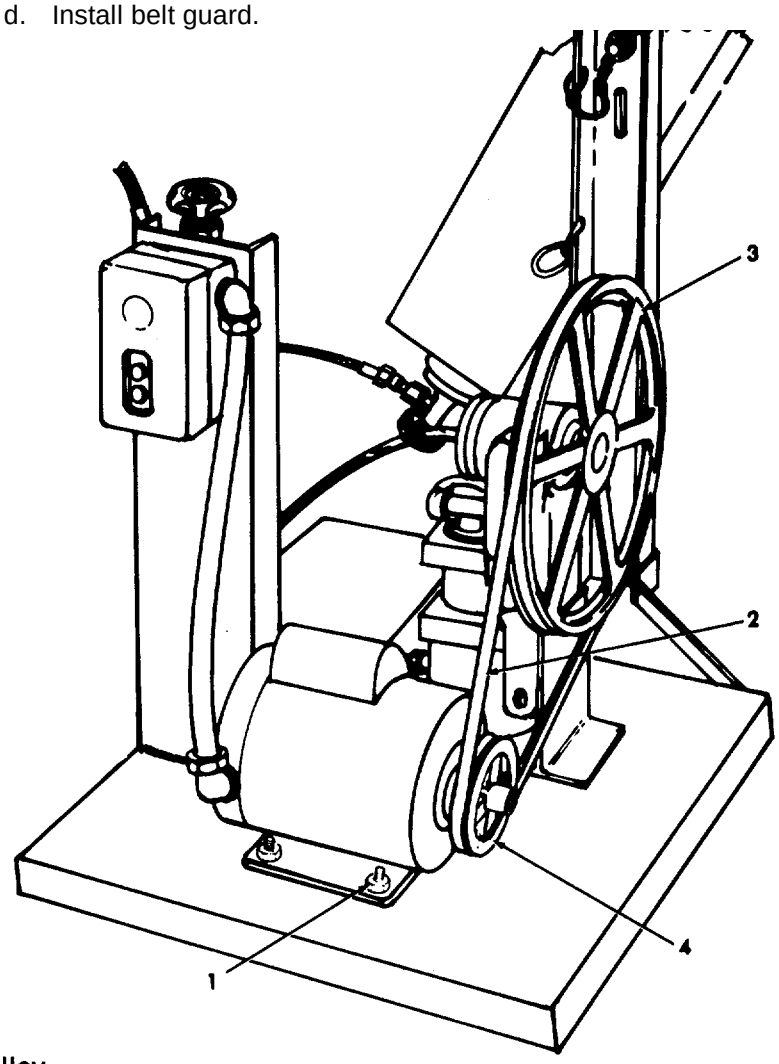
LOCATION/ITEM	ACTION	REMARKS
REMOVAL		
1. Motor Belt	a. Remove belt guard. Refer to illustration at the end of this section and slide motor toward pump. b. Slip belt (2) over pulleys (3) and (4).	

4-10. BELT- Continued

LOCATION/ITEM	ACTION	REMARKS
INSPECTION, REPAIR		
2.	a. Inspect belt for cracks or other defects. b. Replace a defective belt.	
INSTALLATION, ADJUSTMENT		
3.	a. Slip belt (2), over pulleys (3) and (4). b. Position motor away from pump and press on belt for slight deflection. Reposition on motor as necessary to obtain slight deflection on belt. c. Tighten motor mounting nuts (1). d. Install belt guard.	

4-10. BELT Continued

LOCATION/ITEM	ACTION	REMARKS
INSTALLATION, ADJUSTMENT		
3.	a. Slip belt (2), on pulleys (3) and (4). b. Position motor away from pump and press on belt for slight deflection. Reposition on motor as necessary to obtain slight deflection on belt. c. Tighten motor mounting nuts (1). d. Install belt guard.	



1. Nut
2. Belt
3. Pump Pulley
4. Motor Pully

Belt, removal installation and adjustment

4-11. PUMP PULLEY

This task covers:

a. Removal
b. Cleaning
c. Repair
d. Installation

INITIAL SETUP

Applicable Configurations	Equipment Condition Para	Condition Description
All	3-4	Equipment is OFF

Test Equipment
None

Special Tools
None

Special Environmental Conditions
None

Materials/Parts
None

General Safety Instructions
Observe Warnings and Cautions

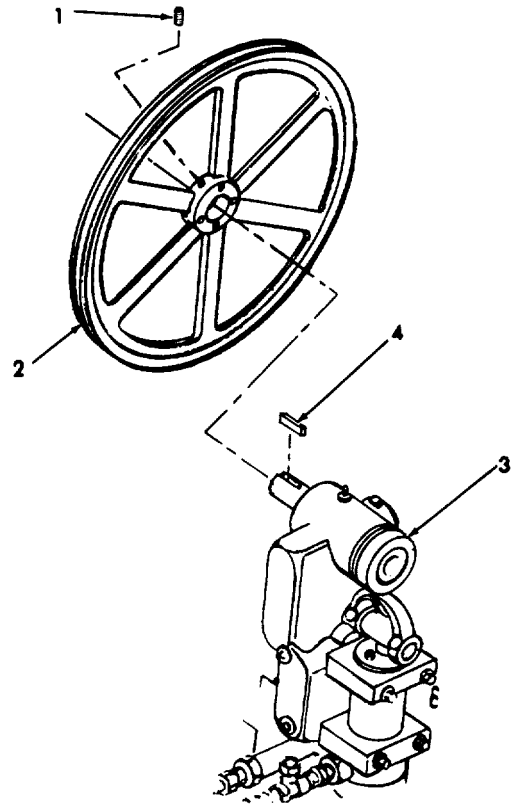
Personnel Required
MOS 52C

LOCATION/ITEM	ACTION	REMARKS
REMOVAL		
1. Pump Pulley	a. Remove belt. b. Refer to illustration - at the end of this section and remove setscrew (1) from pump pulley (2). c. Remove pump pulley (2) from pump (3). d. Remove key (4) from pump shaft.	

4-11. PUMP PULLEY . Continued

LOCATION/ITEM	ACTION	REMARKS
CLEANING		
1. Pump Pulley (Continued)		
	WARNING Dry cleaning solvent, P-D-680 or P-S-661, used to clean parts is potentially dangerous to personnel and property. Use in a well-ventilated area as the fumes are dangerous if inhaled. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100F. - 138F. (38C. - 59C.)	
2.	a. Clean all parts in an approved cleaning solvent and dry with a clean, lint-free cloth or compressed air.	
INSPECTION		
3.	a. Inspect pulley for cracks or obvious damage.	
REPAIR		
4.	a. Replace a defective pulley.	
INSTALLATION		
5.	a. Install key (4) in pump shaft. b. Install pulley (2) on pump (3). c. Install setscrew (1). d. Install belt.	

4-11. PUMP PULLEY



Legend:

1. Setscrew
2. Pulley
3. Pump
4. Key

Pump pulley, removal and installation

4-12. MOTOR PULLEY

This task covers:

a. Removal
a. Cleaning
c. Inspection
d. Repair
e. Installation

INITIAL SETUP

Applicable Configurations	Equipment Condition Para	Condition Description
All	3-4	Equipment is OFF

Test Equipment
None

Special Tools
None

Special Environmental Conditions
None

Materials/Parts
None

General Safety Instructions
Observe all Warnings and Cautions

Personnel Required
MOS 52C

LOCATION/ITEM	ACTION	REMARKS
REMOVAL		
1. Pulley	a. Remove belt.	
	b. Refer to illustration at the end of this section and remove setscrew (1) from motor pulley (2).	
	c. Remove pulley (2) from motor (3).	
	d. Remove key (4) from motor shaft.	

4-12. MOTOR PULLEY - Continued

LOCATION/ITEM	ACTION	REMARKS

WARNING

Dry cleaning solvent, P-D-680 or P-S-661, used to clean parts is potentially dangerous to personnel and property. Use in a well-ventilated area as the fumes are dangerous if inhaled. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100F. - 138F. (38C. - 59C.)

CLEANING, INSPECTION, REPAIR

2. a. Clean all parts in an approved cleaning solvent and dry with a clean, lint-free cloth or compressed air.

3. b. Inspect pulley for cracks or obvious damage.

c. Replace defective pulley.

INSTALLATION

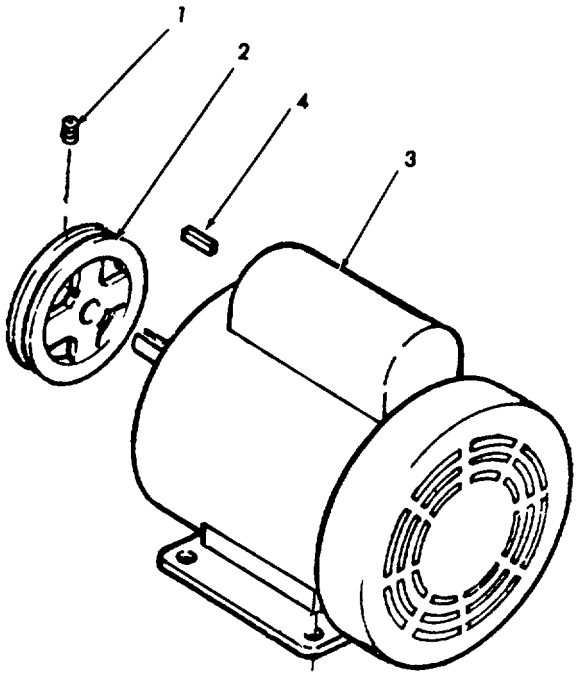
4. a. Install key (4) in motor shaft.

b. Install pulley (2) on motor (3).

c. Install setscrew (1).

d. Install belt.

4-12. MOTOR PULLEY - Continued



Legend:

1. Setscrew
2. Pulley
3. Motor
4. Key

Motor pulley, removal and installation

4-13. MOTOR ASSEMBLY

This task covers:
a. Removal
b. Test
c. Replacement
d. Installation

INITIAL SETUP

Applicable Configurations	Equipment Condition Para	Condition Description
All	3-4	Equipment is OFF

Test Equipment
Multimeter, 0 to 500V
SN 6625-00-998-6084

Special Tools
None

Special Environmental Conditions
None

Materials/Parts
None

General Safety Instructions
Observe Warnings and Cautions

Personnel Required
MOS 52C

LOCATION/ITEM	ACTION	REMARKS

REMOVAL

1. Motor

WARNING

Make certain that the electrical power source has been disconnected.

a. Remove motor pulley.

b. Refer to illustration at end of this section and disconnect wiring harness (1).

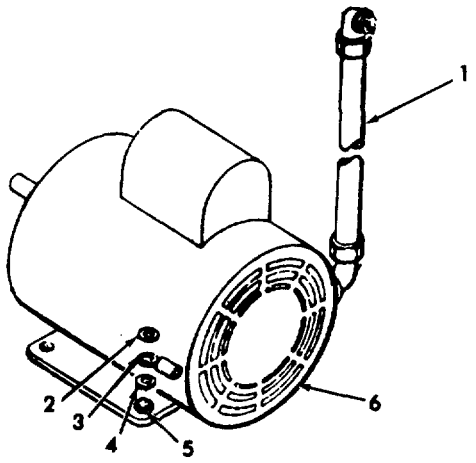
c. Remove four nuts (2) one ground lug (3), four flat washers (4) and four lockwashers (5) that attach motor (6) to skid base.

d. Remove motor.

4-13. MOTOR ASSEMBLY. Continued

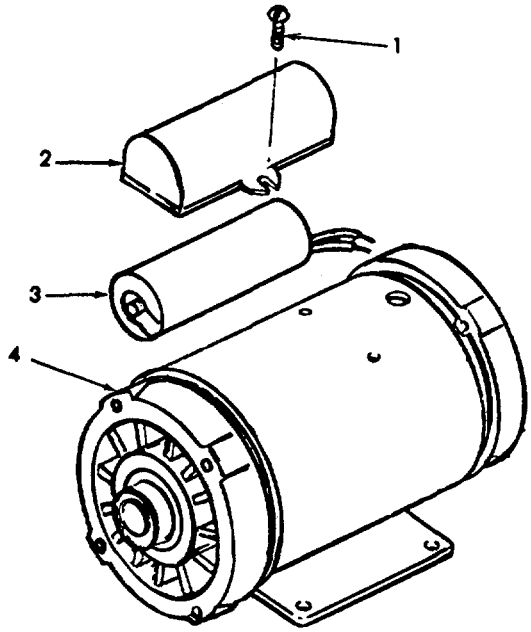
LOCATION/ITEM	ACTION	REMARKS
TEST		
2. Motor Capacitor	**NOTE** **It is not necessary to remove motor to remove and test capacitor.** a. Refer to illustration at the end of this section. b. Disconnect electrical leads from capacitor (3) c. Remove capacitor (3) from motor (4) d. Test capacitor for leaks or shorts on a capacitor tester. Electrical characteristics are: Capacitance 5-40-600 mfd, 110-135 vac, 60 HZ	
REPLACEMENT		
3.	a. Replace a defective capacitor. b. Connect capacitor (3) electrical leads and position in place on motor. c. Install cover (2) and screw (2)	
INSTALLATION		
4.	a. Place motor (6) on studs in skid base. b. Install four lockwashers (5), four flat washers (4), one ground lug (3) and four nuts (2) on studs in skid base. c. Connect wiring harness (1). d. Install motor pulley.	

4.13. MOTOR ASSEMBLY - Continued



Legend:

1.Wiring harness
2.Nut
3.Ground lug
4.Flat washer
5.Lock washer
6.Motor



Legend:

1.Screw
2.Cover
3.Capacitor
4.Motor

Motor capacitor, removal and installation

4-14. VALVES, LINES AND FITTINGS

This task covers:

a. Removal
a. Cleaning
c. Inspection
d. Repair
e. Installation

INITIAL SETUP

Applicable Configurations	Equipment Condition Para	Condition Description
All	3-4	Equipment is OFF

Test Equipment
None

Special Tools
None

Special Environmental Conditions
None

Materials/Parts
Permacel Ribbon Thread
Sealant No. 412 D or Teflon Tape (MIL SPEC T-27730)

General Safety Instructions
Observe Warnings and Cautions

Personnel Required
MOS 52C

LOCATION/ITEM	ACTION	REMARKS

REMOVAL

1.

WARNING

Make certain that pump has been shut down. Check that supply cylinder shutoff valve is closed. Check that pressure has been relieved by opening the blow-off valve and inlet bleed valve.

a. Refer to illustration at the end of this section and remove valves lines and fittings only to the extent required for replacement of defective parts.

4-14. VALVES, LINES AND FITTINGS - Continued

LOCATION/ITEM	ACTION	REMARKS

CLEANING

WARNING

Dry cleaning solvent, P-D-680 or P-S-661, used to clean parts is potentially dangerous to personnel and property. Use in a well ventilated area as the fumes are dangerous if inhaled. Avoid repeated a and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100F. -138F. (38C. - 59C.)

a. Clean valves, lines and fittings in an approved cleaning solvent and dry with a clean, lint-free cloth or compressed air.

INSPECTION

a. Inspect lines and fittings for cracks and other defects.

REPAIR

a. Replace all defective parts.

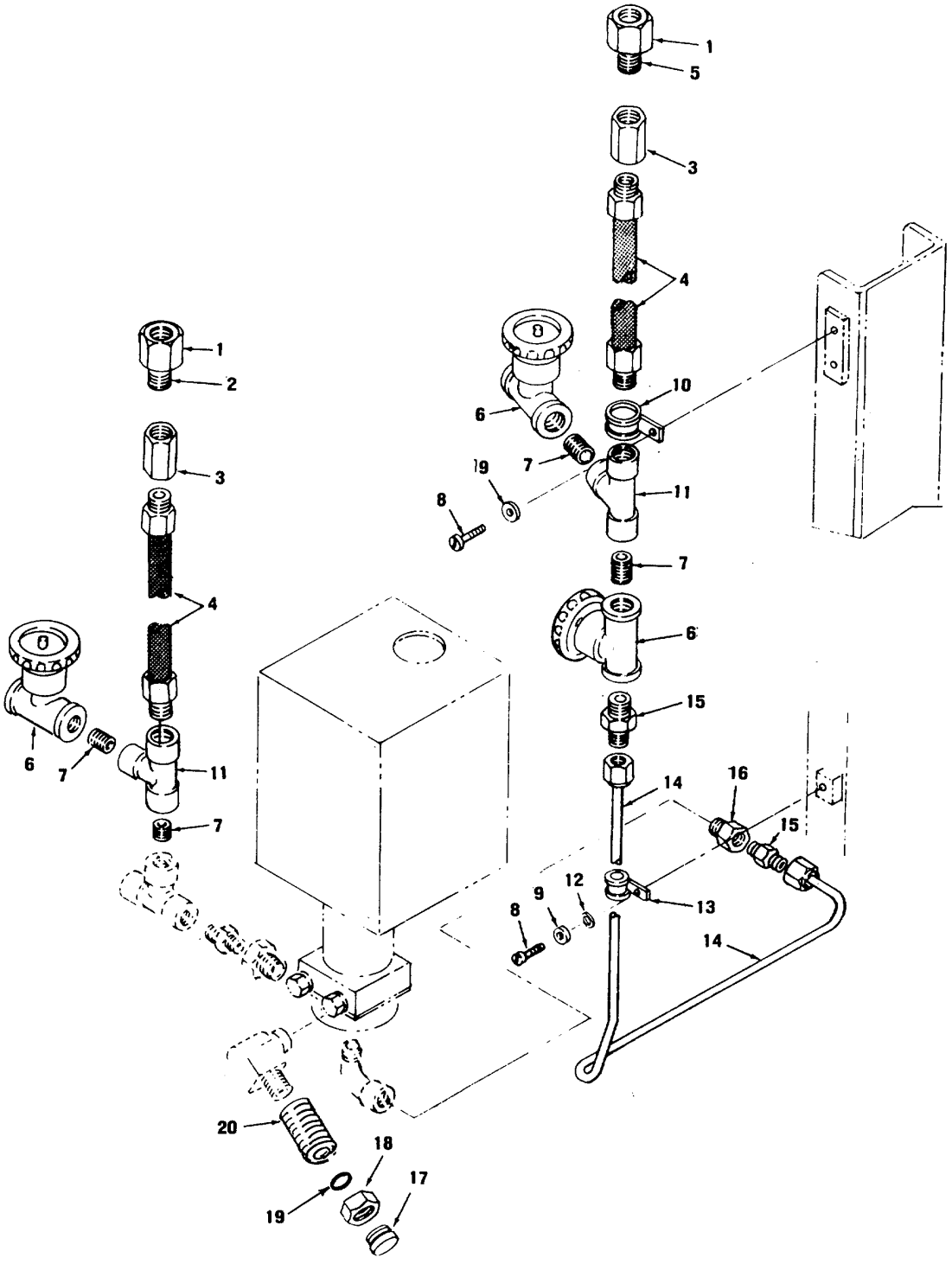
NOTE

Do not use dope or any other lubricant during reassembly of lines and fittings.

INSTALLATION

a. Refer to illustration at the end of this section and assemble all plumbing fittings with Permacel Ribbon Thread Sealant No. 412D or teflon tape (Specification MIL-T-27730).

4-14. VALVES, LINES AND FITTINGS - Continued



Valves, lines and fittings

4-15. PUMP

This task covers:

a. Removal
b. Cleaning
c. Inspection
d. Disassembly
e. Replacement/Repair
f. Reassembly

INITIAL SETUP

Applicable Configurations	Equipment Condition Para	Condition Description
All	3-4	Equipment is OFF.

Test Equipment
None

Special Tools
Extractor, Pump pin
Tool Number 12681-133-(13627)

Materials/Parts
Cleaning solvent
tions
Wire brush

Personnel Required
MOS 52C

Special Environmental Conditions
None

General Safety Instructions
Observe Warnings and Cau-
Bristle brush

LOCATION/ITEM	ACTION	REMARKS

REMOVAL

WARNING

Make certain that pump has been shutdown and electrical power disconnected. Check that supply cylinder shutoff valve is closed. Check that pressure has been relieved by opening the blow-off valve and inlet bleed valve.

1. Pump
   a. Remove pump pulley (see paragraph 4-11).
   b. Refer to illustration at the end of this section and disconnect lines and fittings (1) from pump tee fittings.

4-15. PUMP - Continued

REMOVAL

c. Disconnect line fittings (2) from pump elbow fitting.

d. Remove two capscrews (3) and two lockwashers (4).

e. Remove pump (5).

CLEANING AND INSPECTION

2.

WARNING

Dry cleaning solvent, P-D-680 or P-S-661, used to clean parts is potentially dangerous to personnel and property. Use in a well-ventilated area as the fumes are dangerous if inhaled. Avoid repeated and prolonged skin con- tact. Do not use near open flame or excessive heat. Flash point of solvent is 100F. - 138F. (38C. - 59C.)

3. a. Inspect pump drive, tube, fittings and by-pass valve for cracks or other defects. In the event any of these parts are defective, replace them as applicable in the following paragraphs.

4-15. PUMP - Continued

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
4. Pump Assembly (Continued)	a. Refer to the illustration at the end of this section, and remove tube (1), adapter (2), tee (3), adapter (4) and bushing (5).	
	b. Remove adapter (6), by-pass valve (7), elbow (8) and elbow (9).	
	c. Using a 3/16 inch diameter pin knock roll pin (10) holding wrist pin (11).	
	d. Thread end of extractor, special tool part no. 12681-133, into tapped hole in wrist pin (11) and pull wrist pin from yoke of connecting rod (14).	
	e. Use a standard screwdriver to pry end of retaining ring (12) up and unwind from shaft (18).	
	f. Press bearing (13), using a suitable press, from connecting rod (14).	
	g. Use a standard screwdriver to pry end of retaining ring (15) from shaft (18).	
	h. Remove plate (16) washer (17) and shaft (18).	
	i. Press two bearings (19) from support (24).	
	j. Remove lubrication fitting (20) from support (24).	
	k. Remove four capscrews (21), four lockwashers (22) and four flat washers (23) that attach support (24) to pump head (25).	

4-15. PUMP (Continued)

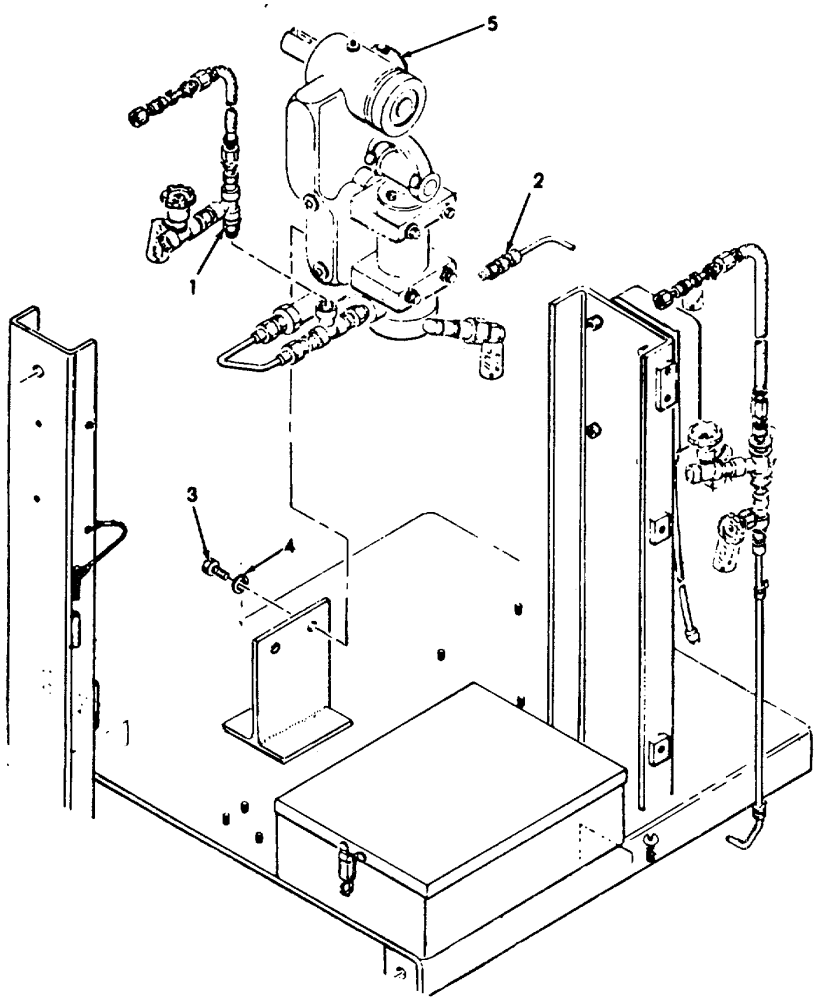
LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY		
5 Pump	a Attach pump head to support (24) using four flat washers (23), four lockwashers (22) and four capscrews (21).	
	a. Install lubrication fitting (20) in support (24).	
	b. Press two bearings (19) in support (24).	
	c. Install washer (17) on shaft (18) and slide shaft in support (24).	
	d. Place plate (16) on shaft (18) and install retaining ring (15).	
	e. Press bearing (13) in connecting rod (14) and install retaining ring (12) on connecting rod (18).	
	f. Thread end of extractor, special part no. 12681-133, into tapped hole in wrist pin (11) and push wrist pin into yoke of connecting rod (14).	
	g. Insert roll pin (10) in wrist pin (11).	
	NOTE **Assemble all plumbing fittings with Permacel Ribbon Thread Sealant No. 412D or teflon tape (Specification MIL-T-22730). Do not use any other lubricant during reassembly of plumbing fittings.**	
	h. Install elbow (8), elbow (9), by-pass valve (7) and adapter (6).	
	i. Reassemble bushing (5), adapter (4), tee (3), adapter (2) and tube (1).	
INSTALLATION		
Pump (Continued) **6**.	a. Install pump on skid base, using two capscrews (3) and lockwashers (4).	

4-15. PUMP (Continued)

b. Connect line and fittings (2) to pump elbow fitting.

c. Connect lines and fittings (1) to pump tee fitting.

d. Install pump pulley (See Paragraph 4-10).

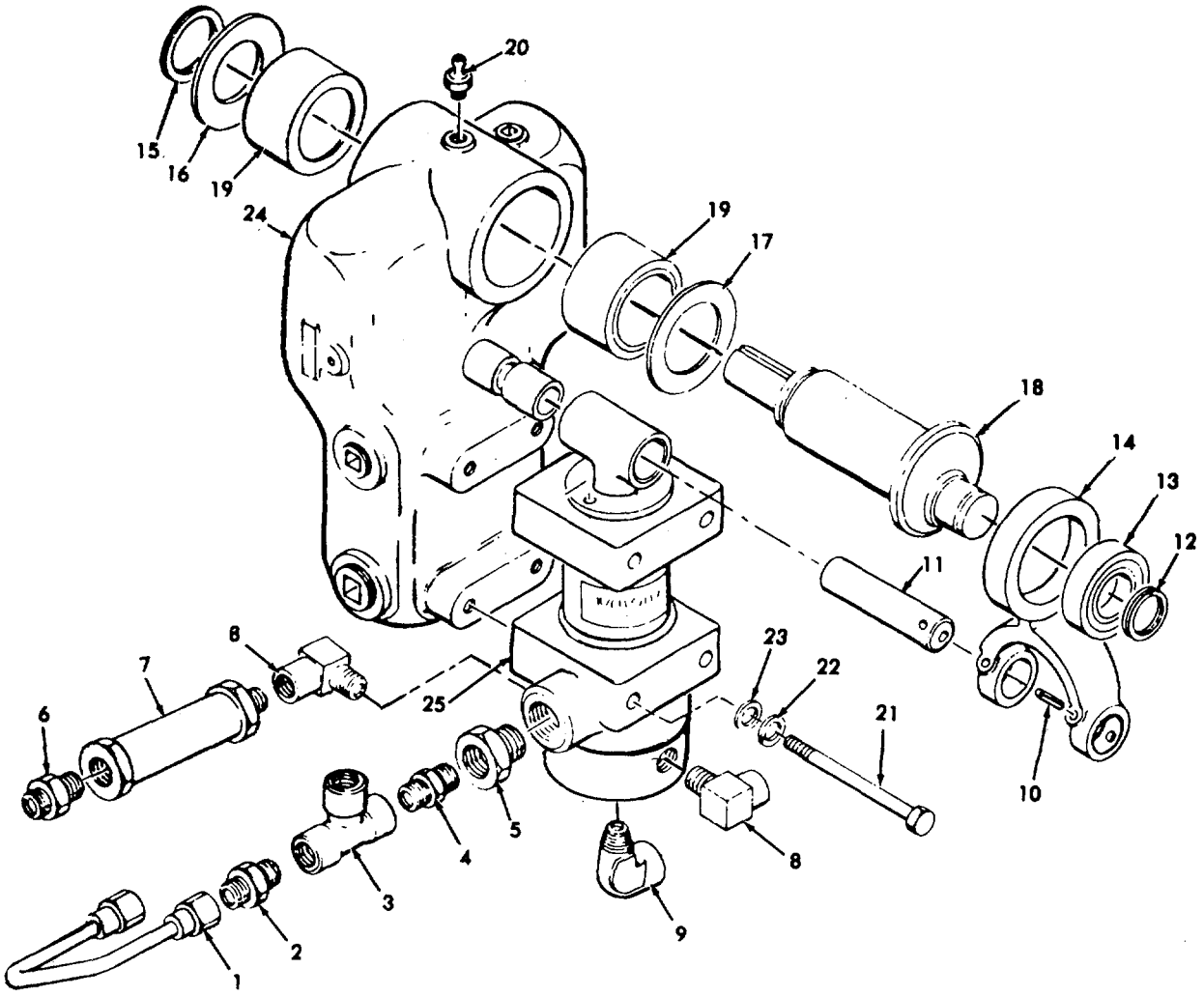


Legend:

1. Lines and fittings
2. Lines and fittings
3. Capscrew
4. Lockwasher
5. Pump

Pump, removal installation

4-15. PUMP (Continued)



Legend:

1.Tube	6.Adapter	11.Pin,wrist	16.Plate	21.Capscrew
2.Adapter	7.By-pass valve	12.Ring	17.Washer	22.Lockwasher
3.Tee	8.Elbow	13.Bearing	18.Drive shaft	23.Flatwasher
4.Adapter	9.Elbow	14.Rod,connecting	19.Bearing	24.Support
5.Bushing	10.Pin,roll	15.Ring	20.Fitting,lubrication	25.Pump head

Pump drive ,tube, fittings and by- pass valve, disassembly and reassembly

4-16. STARTER AND CABLES

This task covers:

a. Removal
b. Inspection
c. Repair/Replacement
d. Installation

INITIAL SETUP

Applicable Configurations	Equipment Condition Para	Condition Description
All	3-4	Equipment is OFF

Test Equipment
None

Special Tools
None

Special Environmental Conditions
None

Materials/Parts
None

General Safety Instructions
Observe Warnings and Cautions

Personnel Required
MOS 52C

LOCATION/ITEM	ACTION	REMARKS

REMOVAL

WARNING

Make certain that electrical power has been disconnected.

1. Starter

   a. Refer to illustration at the end of this section and remove cover (1).

   b. Disconnect terminals on wiring harness (2) and remove wiring harness.

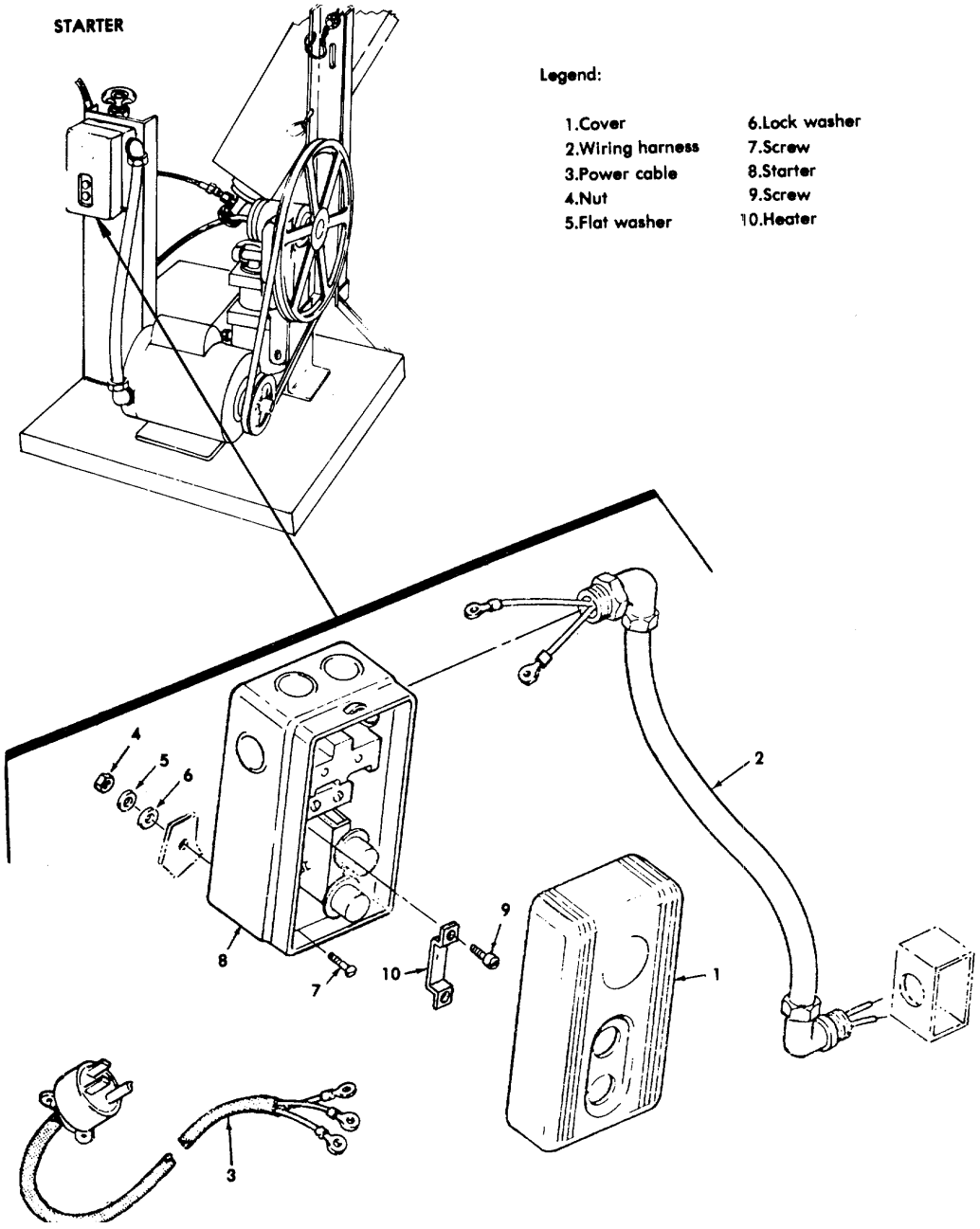
   c. Disconnect terminals on power cable (3) and remove cable.

   d. Remove four nuts (4), four flat washers, (5) four lockwashers (6), four screws (7) and starter (8).

4-16. STARTER AND CABLES (Continued)

LOCATION/ITEM	ACTION	REMARKS
INSPECTION		
2.	a. Inspect starter heater for defects. b. Inspect wiring harness (2) and power cable (3) for damage or deterioration.	
REPAIR, REPLACE		
3.	a. Replace defective heater by removing screws (9). b. Repair or replace defective wiring harness (2) and power cable (3).	
INSTALLATION		
4.	a. Position starter on skid base support and install four screws (7), four lock-washers (6), four flat washers (5) and four nuts. b. Connect terminals on power cable (3) to starter (8). c. Connect terminals on wiring harness (2) to starter (8) and motor. d. Install cover (1) on starter (8).	

4-16. STARTER AND CABLES (Continued)



Starter and cables, removal and installation

4-17. SUPPORTS

This task covers:

a. Removal

a. Cleaning

c Inspection

d. Replacement

e. Installation

INITIAL SETUP

Applicable Configurations	Equipment Condition Para	Condition Description
All	3-4	Equipment shut OFF

Test Equipment
None

Special Tools
None

Special Environmental Conditions
None

Materials/Parts
Cleaning solvent
(Federal specification P-D-680)
Bristle brush

General Safety Instructions
See Warnings and Cautions in this section

Personnel Required
MOS 52C

LOCATION/ITEM	ACTION	REMARKS
REMOVAL		
1. Supports	a. Refer to illustration following this section and remove cotter pin (1), nut (2), two flat washers (3) from stud on bottle cradle (4).	
	b. Remove bottle cradle (4) from cradle support (5).	

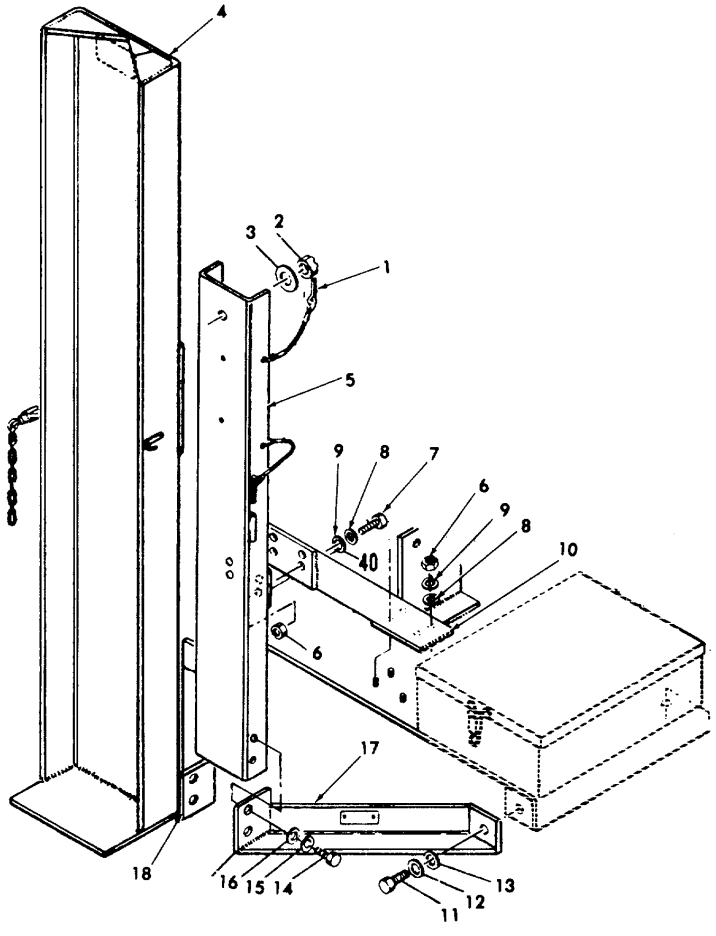
4-17. SUPPORTS - Continued

LOCATION/ITEM	ACTION	REMARKS
REMOVAL		
1. Supports (Continued) (10).	c. Remove eight nuts (6), four screws (7), eight flat washers (8) and eight lock washers (9) attaching center support	
	d. Remove center support (10).	
	e. Remove two screws (11) two flat washers (12) two lock washers (13) from supports (17) and (18).	
	f. Remove four screws (14), four flat washers (15) and four lock washers (16) from supports (17) and (18).	
	g. Remove supports (17) (18) and (5).	
	WARNING **Dry cleaning solvent, P-D-680 or P-S-661, used to clean parts is potentially dangerous to personnel and property. Use in a well-ventilated area as the fumes are dangerous if inhaled. Avoid repeated and prolonged skin con- tact. Do not use near open flame or excessive heat. Flash point of solvent is 100F. - 138F. (38C. - 59C.)**	
CLEANING		
2.	a. Cleaning Clean all parts in an approved cleaning solvent and dry with a clean lint-free cloth or compressed air.	

4-17. SUPPORTS - Continued

LOCATION/ITEM	ACTION	REMARKS
INSPECTION		
3.	a. Inspect screws and nuts for damaged threads. b. Inspect supports for cracks and ob vious damage.	
REPAIR		
4.	a. Replace defective parts as required.	
INSTALLATION		
5.	(1) Refer to the illustration following and align screw holes in supports (17) and (18) with center support (5). (2) Install four screws (14), four flat washers (15) and four lockwashers (16) thru supports (17), (18) and center sup port (5). (3) Install two screws (11) two flat washers (12) and two lockwashers (13) attaching supports (17) and (18) to skid base. (4) Attach center support (10) to cradle support (5) and skid base with four screws (7), eight flat washers (8), eight lockwashers (9) and eight nuts (6). (5) Install stud on cradle (4) thru hole in cradle support (4). (6) Install two flat washers (2) and one nut (2); tighten nut so that washers are snug against cradle support (5) and permit cradle (4) to rotate easily. (7) Align slot in nut (2) with hole in welded stud on cradle (4) and install cotter pin (1) to lock nut in place.	

4-17. SUPPORTS - Continued



Legend:

1.Cotter pin	7.Screw	13.Lockwasher
2.Nut	8.Flatwasher	14.Screw
3.Flatwasher	9.Lockwasher	15.Flatwasher
4.Bottle cradle	10.Center support	16.Lockwasher
5.Cradle support	11.Screw	17.Support
6.Nut	12.Flatwasher	18.Support

Cradle and Supports, removal and installation

4-18. TOOL BOX

This task covers:

a. Removal
b. Cleaning, Inspection
c. Repair
d. Installation

INITIAL SETUP

Applicable Configurations	Equipment Condition Para	Condition Description
All	3-4	Equipment is OFF

Test Equipment
None

Special Tools
None

Special Environmental Conditions
None

Materials/Parts
None

General Safety Instructions
Observe Warnings and Cautions

Personnel Required
MOS 52C

LOCATION/ITEM	ACTION	REMARKS
REMOVE		
1. Tool Box	a. Open tool box and refer to illustration at the end of this section. Remove four screws (1), four lockwashers (2), four flat washers (3) and four nuts (4).	
	b. Remove tool box (5) from skid (6).	

4-18. TOOL BOX - Continued

LOCATION/ITEM	ACTION	REMARKS

CLEANING, INSPECTIONI

WARNING

Dry cleaning solvent, P-D-680 or P-S-661, used to clean parts is potentially dangerous to personnel and property. Use in a well-ventilated area as the fumes are dangerous if inhaled. Avoid repeated and prolonged skin con- tact. Do not use near open flame or excessive heat. Flash point of solvent is 100F. - 138F. (38C. - 59C.)

2. a. Clean tool box in an approved cleaning solvent and dry with a clean, lint-free cloth or compressed air.

   b. Inspect the tool box for any obvious damage.

REPAIR

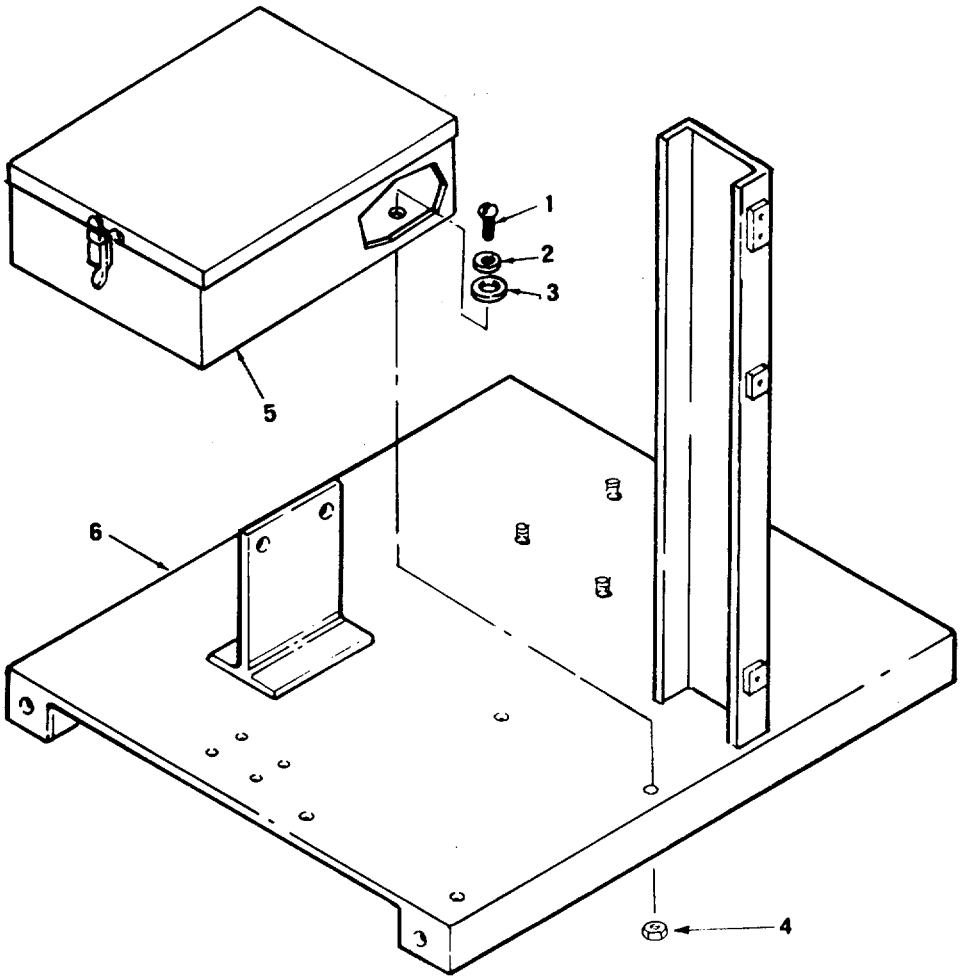
3. a. Replace a damaged tool box.

INSTALLATION

4. a. Position tool box on skid base (6).

   b. Install four screws (1), four lockwashers (2), four flat washers (3) and four nuts (4) that attach tool box (5) to skid (6).

4-18. TOOL BOX- Continued



Tool box, removal and installation

CHAPTER 5

DIRECT SUPPORT MAINTENANCE INSTRUCTIONS

INDEX

5-1. GENERAL

a. For authorized common tools and equipment, refer to Appendix B and the table of Organizaton and Equipment (MTOE) applicable to your unit.

b. Test Maintenance and Diagnostic Equipment (TMDE) and support equipment includes electrical test equipment found as standard equipment in direct support shops.

c. Repair parts are illustrated in Appendix C.

Section II. MAINTENANCE PROCEDURES

5-2. MOTOR, ELECTRICAL (Used on Model 12681)

This task covers:

a. Removal
b. Disassembly
c. Cleaning/**In**spection
d. Repair/Replacement
e. Reassembly
f. Installation

INITIAL SETUP

Applicable Configurations	Equipment Condition Para	Condition Description
All	3-4	Equipment is OFF.

Test Equipment
None

Special Tools
Kit,Soldering Gun, 115 VAC, **6HZ,** NSN 3439-99-930-1638, tool no. 450 K4 (11103)

Special Environmental Conditions
None

Materials/Parts
Solder

General Safety Instructions
Observe Warnings and Cautions

Personnel Required
MOS 52C

LOCATION/ITEM	ACTION	REMARKS
REMOVAL		
1. Motor, Electric	a. Refer to Chapter 4 for removal instructions.	

5-2. MOTOR, ELECTRIC - Continued

LOCATION/ITEM	ACTION	REMARKS

DISASSEMBLY

2. Motor (Continued)

a. Refer to the illustration at the end of this section and remove two screws (1) and terminal cover (2).

b. Remove four nuts (3) and four screws (4) attaching end bell (5) and (6). Remove end bell (5) and (6).

c. Remove switch and terminal board (7).

d. Remove thermoguard (8).

e. Remove two bearings (9).

f. Remove rotating switch (10).

g. Remove rotor (11).

h. Remove two screws (12), cover (13), and unsolder capacitor (14) from stator and housing (15).

CLEANING, INSPECTION

3.

WARNING

Dry cleaning solvent, P-D-680 or P-S-661, used to clean parts is potentially dangerous to personnel and property. Use in a well-ventilated area as the fumes are dangerous if inhaled. Avoid repeated and prolonged skin con- tact. Do not use near open flame or excessive heat. Flash point of solvent is 100F.. 138F. (38C. - 59C.).

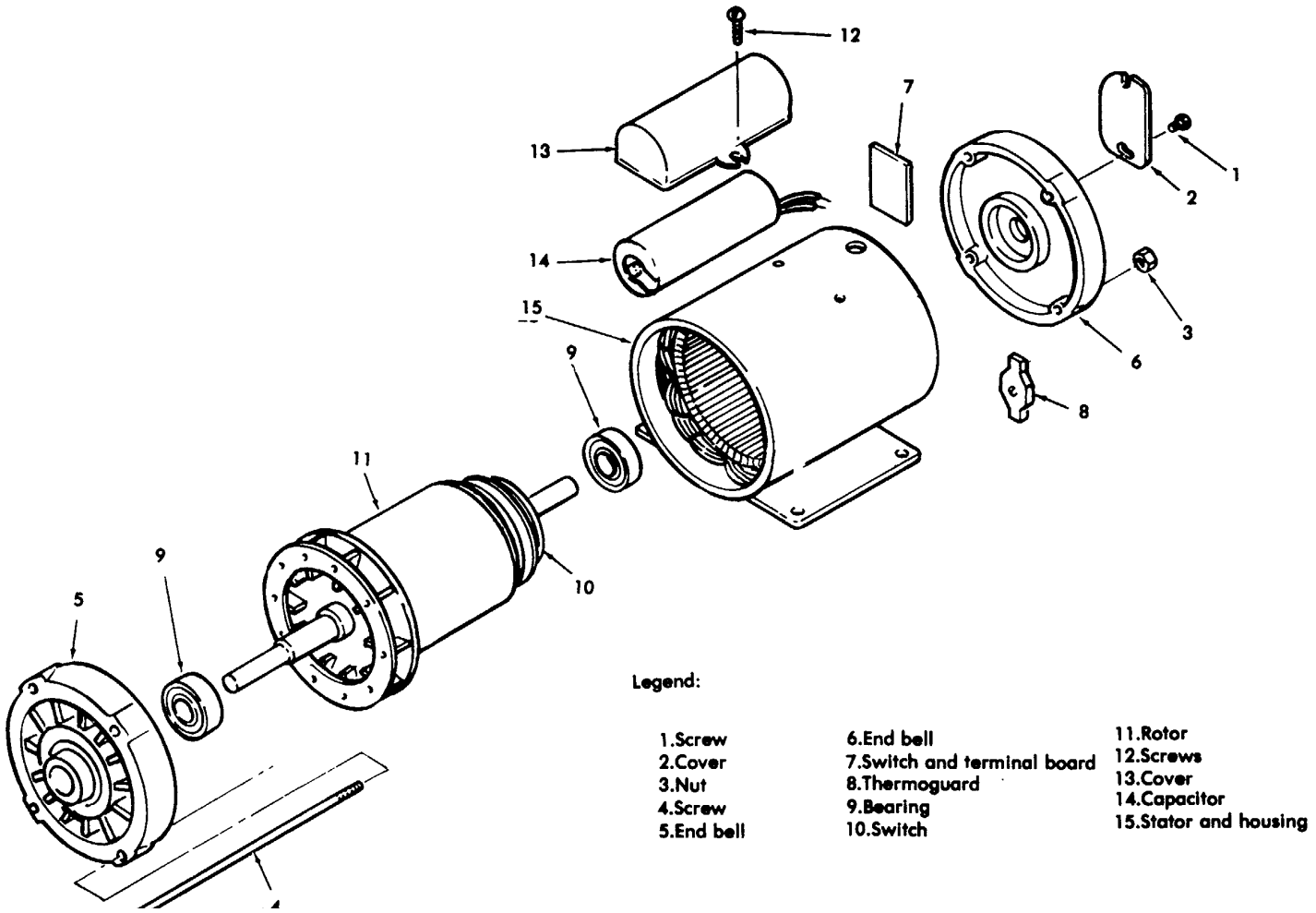
a. Clean end bells (5,6, figure 5-1) in an approved cleaning solvent and dry with
a. lean cloth or compressed air.

b. Clean electrical parts with a clean, soft bristled brush or blow dry with compressed air.

5-2. MOTOR ELECTRIC - Continued

LOCATION/ITEM	ACTION	REMARKS
	c. Inspect end bells (5, 6), for cracks or other defects.	
	d. Inspect bearings (9), for looseness, flat edges or other defects.	
	e. Inspect electrical parts for evidence of overheating, arcing or insulation breakdown.	
REPAIR REPLACEMENT		
4.	a. Replace all defective parts.	
REASSEMBLY		
5.	a. Solder capacitor leads (14) and install cover (13) and two screws (12).	
	b. Install rotor (11) in stator and housing (15).	
	c. Place rotating switch (10) on rotor (11).	
	d. Press one bearing (9) in end bell (5) and end bell (6).	
	e. Install thermoguard (8) and switch and terminal board (7).	
	f. Position end bell (5) and (6) on frame (15) and install four screws (4) and four nuts (3).	
	g Install terminal cover (2) with two screws (1).	
INSTALLATION		
6	a. Refer to Chapter 4 and install motor.	

5-2. MOTOR ELECTRIC - Continued



Electric motor, used on Model 12681

5.3. MOTOR, ELECTRIC (MODEL 12681-2)

This task covers:

a. Removal
b. Disassembly
c. Cleaning/Inspection
d. Repair/Replacement
e. Reassembly

INITIAL SETUP

Applicable Configurations	Equipment Condition Para	Condition Description
All	3-4	Equipment is OFF

Test Equipment
None

Special Tools
None

Special Environmental Conditions
None

Materials/Parts
None

General Safety Instructions
Observe VVARNINGS and Cautions

Personnel Required
MOS 52C

LOCATION/ITEM	ACTION	REMARKS
REMOVAL		
1.	a. Refer to Chapter 4 and remove motor.	
DISASSEMBLY		
2. Continued	a. Refer to the illustration at the end of this section and remove four screws (1) and lift cover (2) from motor.	

5-3. MOTOR, ELECTRIC (MODEL - 12681-2) - Continued

LOCATION/ITEM	ACTION	REMARKS

DISASSEMBLY

b. Loosen setscrew (3) and slip fan (4) off end of rotor.

c. Remove two screws (5) and cover (6). Unsolder capacitor leads andremove capacitor (7).

d. Remove two screws (8), cover plate (9) and gasket (10).
e. Remove two screws (11) box (12) and gasket (13).

f. Remove seal (14), four nuts (15), four screws (16) and end bell (17).

g. Remove two bearings (18).

h. Remove four screws (19) two switches (20), and end bell (21).

i. Remove rotor (25) rotating switch (22), three plugs (23) and three grommets (24).

j. Remove grommet (26) and (27) from stator and housing (28).

WARNING

Dry cleaning solvent, P-D-680 or P-S-661, used to clean parts is potentially dangerous to personnel and property. Use in a well-ventilated area as the fumes are dangerous if inhaled. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100F. - 138F. (38C. - 59C.).

5-3. MOTOR, ELECTRIC (MODEL - 12681-2) - Continued

CLEANING, INSPECTION

1.

a Clean end bells (17, 21) in an approved cleaning solvent, and dry with a clean cloth or compressed air.

b. Clean electrical parts with a clean soft bristled brush or blow with compressed air.

c. Inspect end bells (17, 21) for cracks or other defects.

d. Inspect bearings (9) for looseness, flat edges, or other defects.

e. Inspect electrical parts for evidence of overheating, arcing or insulation breakdown.

REPAIR

2.

a Replace all defective parts.

REASSEMBLY

3.

a Install grommet (27, 26) in stator and housing (28).

b. Reassemble three grommets (24) and three plugs (23), rotating switch (22) and install rotor (25) in stator and housing (28).

c. Install one bearing (18) on each end of rotor shaft.

d. Install two switches (20) with four screws (19) in end bells (21).

5-3. MOTOR, ELECTRIC (MODEL - 12681-2) - Continued

REASSEMBLY

e. Position end bell (21) and end bell (17) in place on stator and housing (28) and attach them with four screws (16) and four nuts (15).

f. Insert seal (14) in end bell (17).

g. Install gasket (13) and box (12) with two screws (11).

h. Install gasket (10) and cover plate (9) with two screws (8).

i. Solder capacitor (7) leads.

j. Install capacitor cover (6) with two screws (5).

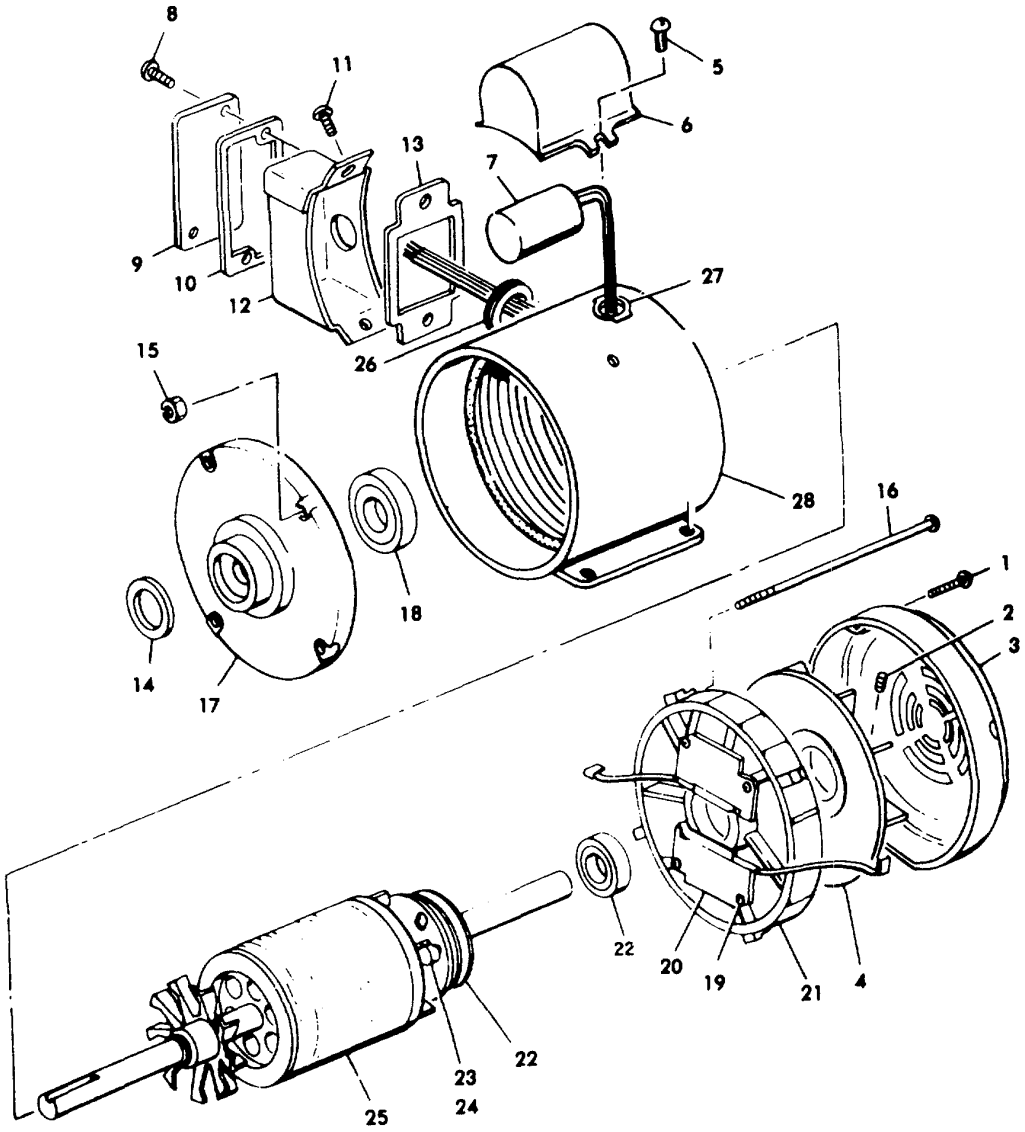
k. Slip fan (4) on rotor shaft and tighten setscrew. (3).

I. Install fan cover (2) with four screws (1).

INSTALLATION

4. a Refer to Chapter 4 and install motor.

5-3. MOTOR, ELECTRIC (MODEL - 12681-2) - Continued



Legend:

1.Screw	8.Screw	15.Nut	22.Switch
2.Cover	9.Cover	16.Screw	23.Plugs
3.Setscrew	10.Gasket	17.End bell	24.Grommet
4.Fan	11.Screw	18.Bearing	25.Rotor
5.Screw	12.Box	19.Screw	26.Grommet
6.Cover	13.Gasket	20.Switch	27.Grommet
7.Capacitor	14.Seal	21.End bell	28.Stator and housing

Electric motor used on 12681-2

5.4. MOTOR, ELECTRIC (MODEL 12681-7)

This task covers:

a Removal

b. Disassembly

c. Cleaning, Inspection, Repair

d. Reassembly

e. Installation

INITIAL SETUP

Applicable Configurations
All

Equipment Condition
Para
3-4

Condition Description
Equipment is OFF

Test Equipment
None

Special Tools
None

Special Environmental Conditions
None

Materials/Parts
None

General Safety Instructions
Observe WARNINGS and Cautions

Personnel Required
MOS 52C

LOCATION/ITEM	ACTION	REMARKS
REMOVE		
1.	a Refer to Chapter 4 and remove motor.	
DISASSEMBLY		
2.	a Refer to the illustration following this section and remove the two screws (1), cover (2) and gasket (3).	

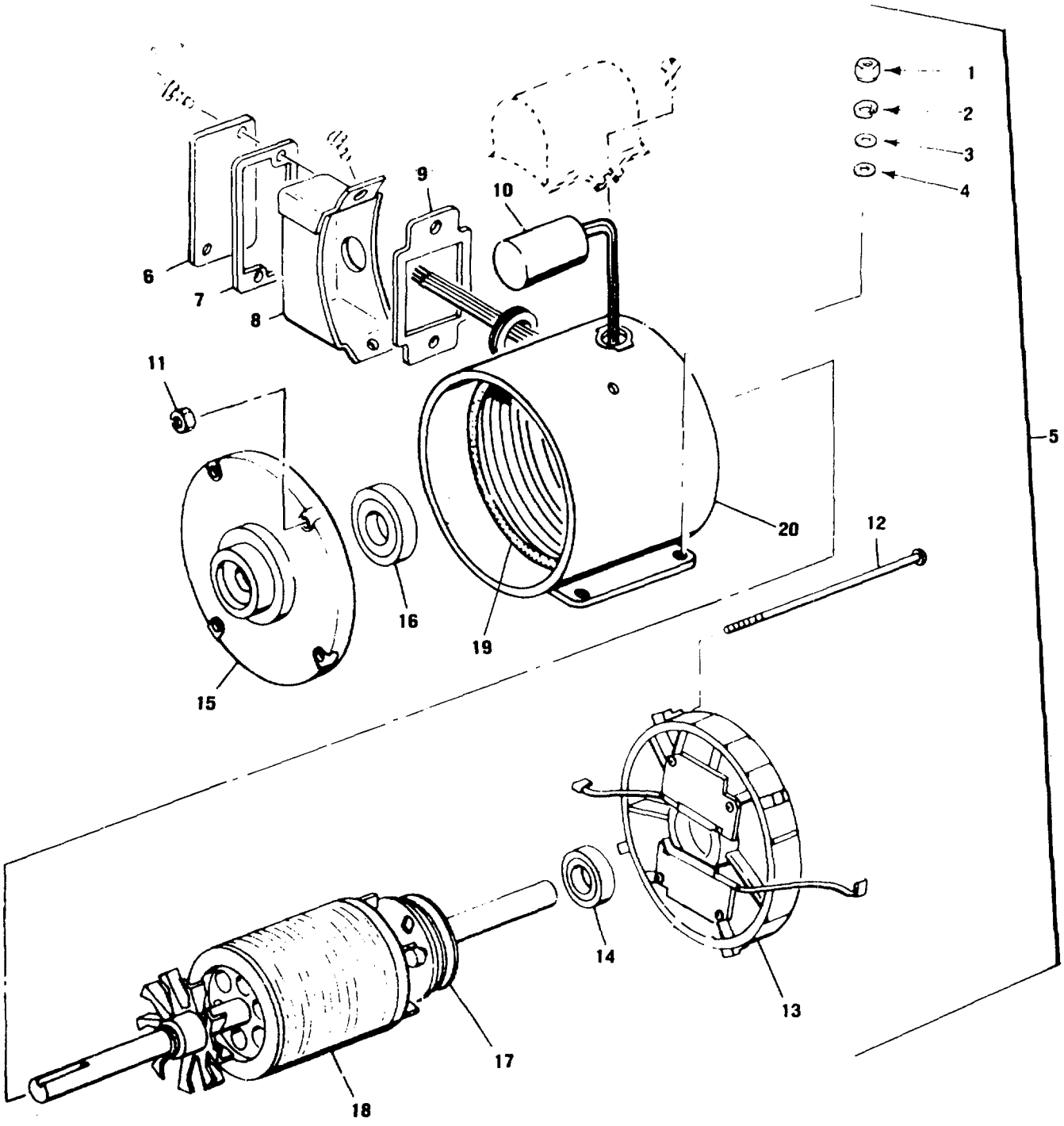
5.4. MOTOR, ELECTRIC (MODEL 12681-7)

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
2. Continued	b. Remove two screws (4), box (5) and gasket (6).	
	c. Remove two screws (7) cover (8) and unsolder capacitor leads to remove capacitor (9).	
	d. Remove four nuts (10) and four bolts (11).	
	e. Remove rear end plate (12) and front end plate (13).	
	f. Remove rear end bearing (14) and front end bearing (15).	
	g. Remove switch (16) and rotor (17), from stator and housing (18).	
	WARNING **Dry cleaning solvent, P-D-680 or P-S-661, used to clean parts is potentially dangerous to personnel and property. Use in a well-ventilated area as the fumes are dangerous if inhaled. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100F. - 138F. (38C. - 59C.).**	
CLEANING		
3.	a Clean end plates (12, 13) in an approved cleaning solvent, and dry with a clean cloth or compressed air.	
	b. Clean electrical parts with a clean soft bristled brush or blow with compressed air.	

5.4. MOTOR, ELECTRIC (MODEL 12681-7)

LOCATION/ITEM	ACTION	REMARKS
INSPECTION		
4.	a Inspect end bells (12, 13) for cracks or other defects.	
	b. Inspect bearings (14) and (15) for looseness, flat edges, or other defects.	
	c. Inspect electrical parts for evidence of overheating, arcing or insulation breakdown.	
REPAIR		
5.	a Replace all defective parts.	
REASSEMBLY		
6.	a Install switch (16) on rotor (17), and place rotor in housing (18).	
	b. Install rear bearing (14) and front end bearing (15).	
	c. Position front end plate (13) and rear end plate (12) on housing (18) attach with four bolts (11) and four nuts (10).	
	d. Position capacitor (9) in place on housing (18) and solder capacitor leads.	
	e. Attach capacitor cover (8) with two screws (7).	
	f. Install gasket (6), box (5) with two screws (4).	
	g. Install gasket (3), cover (2) with two screws (1).	
INSTALLATION		
7.	a Refer to Chapter 4, and install motor.	

5.4. MOTOR, ELECTRIC (MODEL 12681-7)



Electric motor, used on model 12681-7

5-5. PUMP HEAD

This task covers:

a Removal

b. Disassembly

INITIAL SETUP

Applicable Configurations	Equipment Condition Para	Condition Description
All	3-4	Equipment is OFF

Test Equipment
None

Special Tools
None

Special Environmental Conditions
None

Materials/Parts
None

General Safety Instructions
Observe WARNINGS and Caution

Personnel Required
MOS 52C

LOCATION/ITEM	ACTION	REMARKS
REMOVE		
1.	a Refer to Chapter four and remove pump head.	
DISASSEMBLY		
2.	a Refer to the illustration at the end of this section, and remove two bushings (1), and piston (2).	
	b. Remove two screws (3), two lock-washers (4), two flat washers (5) and ring (6).	

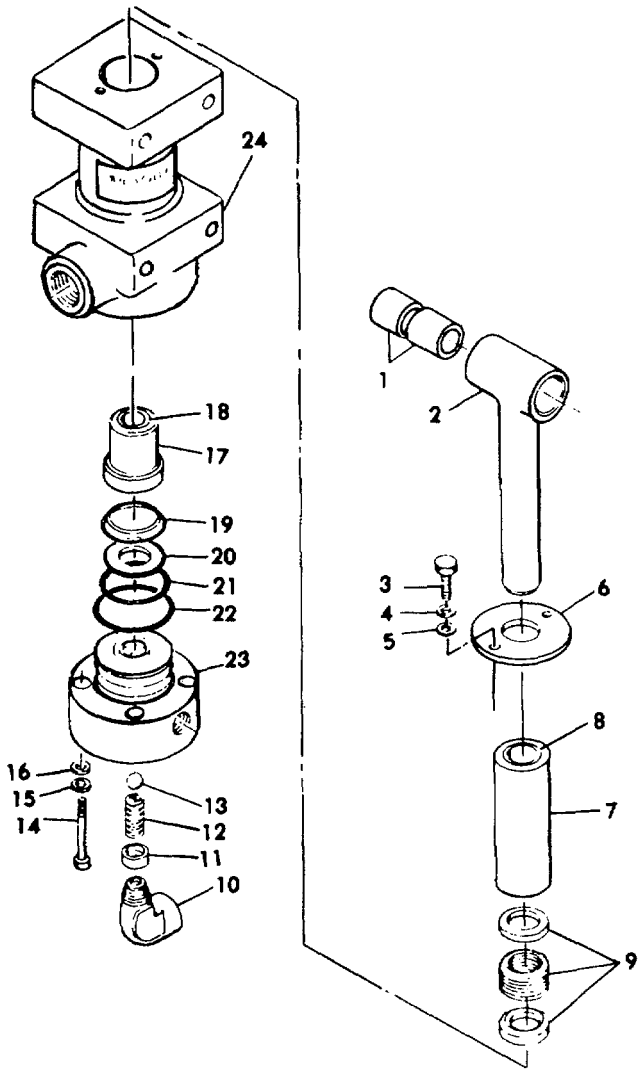
5-5. PUMP HEAD - Continued

LOCATION/ITEM	ACTION	REMARKS
DISASSEMBLY		
2. Continued	c. Remove guide assembly (7). Do not remove bushing (8) until it has been determined that it is to be replaced.	
	d. Remove packing (9).	
	e. Remove elbow (10), retainer (11), spring (12), and bearing (13).	
	f. Remove four screws (14), four lock-washers (15) and four flat washers (16).	
	g. Separate head (23) from cylinder (24).	
	h. Remove guide assembly (17). Do not remove bushing (18) until it has been determined that it is to be replaced.	
	i. Remove spring (19), valve (20), packing (21) and packing (22) from head (23).	
	WARNING **Dry cleaning solvent, P-D-680 or P-S-661, used to clean parts is potentially dangerous to personnel and property. Use in a well-ventilated area as the fumes are dangerous if inhaled. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100F. - 138F. (38C. - 59C.).**	
CLEANING, INSPECTION		
3.	a Clean all parts in an approved cleaning solvent, and dry with a clean cloth or compressed air.	
4.	b. Inspect all parts for defects.	
REPAIR		
5.	a Replace defective parts.	

5-5. PUMP HEAD - Continued

LOCATION/ITEM	ACTION	REMARKS
REASSEMBLY		
6.	a Assemble packing (22) packing (21), valve (20), spring (19) and guide assembly (17) on cylinder (23) and insert in cylinder (24).	
	b. Install four flat washers (16), four lockwashers (15), and four screws (14) that attach head (23) to cylinder (24).	
	c. Install bearing (13), spring (12), retainer (11) and elbow (10) in head (23).	
	d. Install packing (9), guide assembly (7), ring (6), four flat washers (5), four lockwashers (4) and four screws (3).	
	e. Install piston (2) and two bushings (1).	
INSTALLATION		
7.	a Refer to Chapter 4 and install pump head.	

5-5. PUMP HEAD - Continued



Legend:

1.Bushing	9.Packing	17.Guide assembly
2.Piston	10.Elbow	18.Bushing
3.Screw	11.Retainer	19.Spring
4.Lockwasher	12.Spring	20.Valve
5.Flatwasher	13.Bearing	21.Packing
6.Ring	14.Screw	22.Packing
7.Guide Assembly	15.Lockwasher	23.Head
8.Bushing	16.Flatwasher	24.Cylinder

Pump head

56-6. SKID

This task covers:

a Removal

b. Cleaning

c. Inspection

d. Repair

e. Installation

INITIAL SETUP

Applicable Configurations	Equipment Condition Para	Condition Description
All	3-4	Equipment is OFF

Test Equipment
None

Special Tools
None

Special Environmental Conditions
None

Materials/Parts
None

General Safety Instructions
Observe WARNINGS and Cautions

Personnel Required
MOS 52C

LOCATION/ITEM	ACTION	REMARKS

REMOVAL

1. a Refer to Chapter 4 and remove:
   1. Supports
   2. Guards
   3. Motor
   4. Lines and fittings
   5. Pump
   6. Starter and Cables
   7. Tool box

5-6. SKID - Continued

LOCATION/ITEM	ACTION	REMARKS

CLEANING, INSPECTION

2.

WARNING

Dry cleaning solvent, P-D-680 or P-S-661, used to clean parts is potentially dangerous to personnel and property. Use in a well-ventilated area as the fumes are dangerous if inhaled. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100F. - 138F. (38D. - 59C.).

a Clean the skid with an approved cleaning solvent and dry with a clean cloth or compressed air.

b. Inspect for cracks and obvious damage.

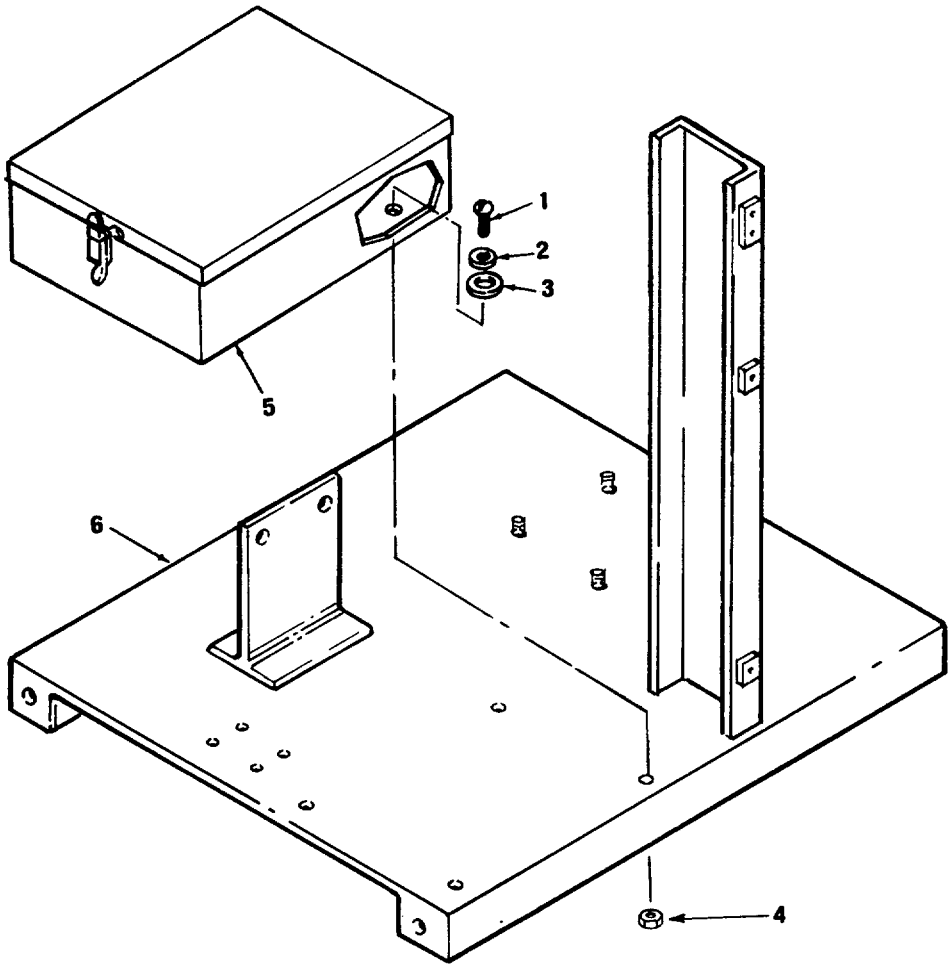
REPAIR

3. a Replace a defective skid.

INSTALLATION

4. a Refer to Chapter 4 and install:
1. Tool box
2. Starter
3. Pump
4. Lines and fittings
5. Motor
6. Guards
7. Supports

5-6. SKID- Continued



Skid

APPENDIX A

REFERENCES

A-1. SCOPE

This appendix lists all forms, field manuals, technical manuals and miscellaneous publications, referenced in this manual.

A-2. TECHNICAL MANUALS

Administrative Storage of Equipment	TM 740-90-1
Hand Portable Fire Extinguishers for Army Users	TM 5-4210-200-10
Electric Motor and Generator Repair	TM 5-764
Procedures for Destruction of Equipment to Prevent Enemy Use	TM 750-244-3
Painting Instructions for Field Use	TM 43-0139

A-3. Miscellaneous Publications

Fuels, Lubricants, Oils and Waxes	C 91001L
Dry Cleaning Solvent	Fed. Spec P-D-680
The Army Maintenance Management System	DA PAM 738-750

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 levels.

b. The Maintenance Allocation Chart (MAC) in section II designates overall responsibility for the performance of maintenance functions on the identified end item or component. The implementation of the maintenance functions upon the end item or component will be consistent with the assigned maintenance functions.

c. Section III lists the special tools and test equipment 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

a Inspect. To determine the serviceability of an item by comparing its physical, mechanical and/or electrical characteristics with established standards through examination.

b. Test. To verify serviceability and detect incipient failure by measuring the mechanical 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 (decontaminate), to preserve, to drain, to paint, or to replenish fuel, lubricants, hydraulic fluids, or compressed air supplies.

d. Adjust. To maintain, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.

e. Align. 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 to be adjusted on instruments or test, measuring, and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of know accuracy, to detect and adjust discrepancy in the accuracy of the instrument being compared.

B.2. MAINTENANCE FUNCTIONS- Continued

g. Install. The act of emplacing, seating, or fixing into position an item, part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. Replace. The act of substituting a serviceable like part, subassembly, or module (component or assembly) for an unserviceable counterpart.

i. Repair. The application of maintenance services or other maintenance actions to 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 (services/actions) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (i. e. ., DMWR) in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

k. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of material maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc.) considered in classifying Army equipments/components.

B-3. EXPLANATION OF COLUMNS IN THE MAC, SECTION III

a Column 1, Group Number. Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next higher assembly.

b. Column 2, Component/Assembly. Column 1 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column 3, Maintenance Functions. Column 3 lists the functions to be performed on the item listed in column 2. (For detailed explanation of these functions, see para B-2.)

d. Column 4, Maintenance Level. Column 4 specifies, by the listing of a "work time" figure in the appropriate subcolumn(s), the lowest level of maintenance authorized to perform the function listed in column 3. This figure represents the active time required to perform the maintenance function at the indicated level of maintenance. If the number or complexity of the task within the listed maintenance function vary at different maintenance levels, appropriate "work time" figures will be shown for each level. The number of man-hours specified by the "work time" figure represents the average time required to restore an item (assembly, subassembly, components, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time, troubleshooting time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. The symbol designations for the various maintenance levels are as follows:

B-3. EXPLANATION OF COLUMNS IN THE MAC, SECTION II.

C.....Operator or crew.
O.....Organization maintenance.
F.....Direct support maintenance.
H.....General support maintenance.
D.....Depot maintenance.

e. Column 5, Tools and Equipment. Column 5 specifies, by code, those common tool sets 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 THE MAC, 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 Category. The lowest category 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.

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIP	(6) REMARKS
			C	O	F	H	D		
01	SUPPORTS	Replace		0.5				1	
02	GUARDS	Replace		0.3				1	
03	BELT AND PULLEY								
	Belt	Inspect	0.1						
		Adjust		0.3				1	
		Replace		0.5				1	
	Pulley	Replace		0.4				1	
04	ELECTRIC MOTOR								
	Motor Assembly	Inspect	01						
		Test		0.1				3	
		Service	0.1						
		Replace		0.6				1	
		Repair			3.0			1	
		Rebuild							
	Capacitor	Test	0.1						
		Replace		0.3				2	
05	LINES AND FITTINGS								
	Hose Assemblies	Inspect	0.1						
		Replace		0.2				1	
	Valves, Lines and	Inspect	0.2						
	Fittings	Replace		0.5				1	
06	PUMP								
	Pump Assembly	Service	0.1						
		Repair		1.0				1	
		Repair		2.0				1,4	
07	STARTER AND CABLES								
	Starter	Test		0.1				3	
		Replace		0.5				1	
	Power Cable	Replace		0.5				1	
		Repair		1.0				1	
	Wiring Harness	Replace		0.5				1	
		Repair		1.0				1	
08	SKID	Replace		5.0				1	

APPENDIX B

Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS

MAINTENANCE ALLOCATION CHART

(1) Tool/Test Equip. Ref. Code	(2) Mainten-Ance Category	(3) Nomenclature	(4) National/NATO stock number	(5) Tool number
1	C,O,F	Tool Kit, General Mechanics Automotive.	5180-00-177-7033	
2,	O,F	Kit, Soldering Gun, 115V, 6Hz, Complete with solder and carrying case	3439-00-930-1638	450K4 (11103)
3	O,F	Multimeter, 0 to 5000V	6625-00-998-6084	
4	O,F	Extractor, Pump Pin		12681-133 (13627)

APPENDIX C

REPAIR PARTS AND SPECIAL TOOLS LIST

INDEX

Section I. INTRODUCTION

C-1. SCOPE

This manual lists spares and repair parts; special tools, special test, measurement, diagnostic equipment (TMDE), and other special support equipment required for performance of organizational maintenance of the unit. It authorizes the requisitioning and issue of spares and repair parts as indicated by the source and maintenance codes.

C-2. GENERAL

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 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 numeric sequence, with the parts in each group listed in figure and item number sequence. Bulk materials are listed in NSN sequence.

b. Section III. Special Tools List. A list of special tools, special TMDE, and other special support equipment authorized for the performance of maintenance. There are no special tools required to maintain the unit.

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 listings, 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. This index is followed by a cross-reference list of reference designators to figure and item numbers.

C-3. EXPLANATION OF COLUMNS

a. Illustration. This column is divided as follows:

(1) Figure Number. Indicates the figure number of the illustration on which the item is shown.

(2) Item Number. The number used to identify item called out in the illustration.

b. Source, Maintenance and Recoverability (SMR) Codes.

(1) Source Code. Source codes indicate the manner of acquiring support items for maintenance, repair or overhaul of end items. Source codes are entered in the first and ,second positions of the Uniform SMR Code format as follows:

Section 1. INTRODUCTION - Continued

Code	Definition
PA	Item procured and stocked for anticipated or known usage.
PB	Item procured and stocked for insurance purposes because essentiality dictates that a minimum quantity be available in the supply system.
PC	Item procured and stocked and which otherwise would be coded PA except that is is deteriorative in nature.
PD	Support item, excluding support equipment, procured for initial issue or outfitting and stocked only for subsequent or additional initial issues or outfittings. Not subject to automatic replenishment.
PE	Support equipment procured and stocked for initial issue or outfitting to specified maintenance repair activities.
PF	Support equipment which will not be stocked but which will be centrally procured on demand.
PG	Item procured and stocked to provide for sustained support for the life of the equipment. It is applied to an item peculiar to the equipment which, because of probable discontinuance or shutdown of production facilities, would prove uneconomical to reproduce at a later time.
KD	An item of a depot overhaul/repair kit and not purchased separately. Depot kit defined as a kit that provides items required at the time of overhaul or repair.
KF	An item of a maintenance kit and not purchased separately. Maintenance kit defined as a kit that provides an item that can be replaced at organizational or intermediate levels of maintenance.
KB	Item included in both a depot overhaul/repair kit and a maintenance kit.
MO	Item to be manufactured or fabricated at the organizational level.
MF	Item to be manufactured or fabricated at the direct support maintenance level.
MH	Item to be manufactured or fabricated at the general support maintenance level.
MD	Item to be manufactured or fabricated at the depot support maintenance level.
AO	Item to be assembled at organization level.

Section 1. INTRODUCTION - Continued

AF	Item to be assembled at the direct support maintenance level.
AH	Item to be assembled at general support maintenance level.
AD	Item to be assembled at depot maintenance level.
XA	Item is not procured or stocked because the requirements for the item will result in the replacement of the next higher assembly.
XB	Item is not procured or stocked. If not available through salvage, requisition.
XC	Installation drawing, diagram, instruction sheet, field service drawing, that is identified by manufacturer's part number.
XD	A support item that is not stocked. When required, item will be procured through normal supply channels.

NOTE

Cannibalization or salvage may be used as a source of supply for any items source coded above except those coded XA.

(2) Maintenance Code. Maintenance codes are assigned to indicate the levels of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the Uniform SMR Code format as follows:

(a) The maintenance code entered in the third position will indicate the lowest maintenance level authorized to remove, replace, and use the support item. The maintenance code entered in the third position will indicate one of the following levels of maintenance:

Code	Definition
C	Crew or operator maintenance performed within organizational maintenance.
O	Support item is removed, replaced, used at the organizational level.
F	Support item is removed, replaced, used at the direct support level.
H	Support item is removed, replaced, used at the general support level.
D	Support items that are removed, replaced, used at depot, mobile depot, or specialized repair activity only.

Section 1. INTRODUCTION - Continued

(b) The maintenance code entered in the fourth position indicates whether the item is to be repaired and identifies the lowest maintenance level with the capability to perform complete repair (i.e., all authorized maintenance functions). This position will contain one of the following maintenance codes:

Code	Application/Explanation
O	The lowest maintenance level capable of complete repair of the support item is the organizational level.
F	The lowest maintenance level capable of complete repair of the support item is the direct support level.
H	The lowest maintenance level capable of complete repair of the support item is the general support level.
D	The lowest maintenance level capable of complete repair of the support item is the depot level.
L	Repair restricted to designated, Specialized Repair Activity.
Z	Nonrepairable. No repair is authorized.
B	No repair is authorized. The item may be reconditioned by adjusting, lubricating, etc., at the user level. No parts or special tools are procured for the maintenance of this item.

(3) Recoverability Code. Recoverability codes are assigned to support items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the Uniform SMR Code format as follows:

Recoverability Code	Definition
Z	Nonrepairable item. When unserviceable, condemn and dispose at the level indicated in position 3.
O	Repairable item. When uneconomically repairable, condemn and dispose at organizational level.
F	Repairable item. When uneconomically repairable, condemn and dispose at the direct support level.

Section 1. INTRODUCTION - Continued

H	Repairable item. When uneconomically repairable, condemn and dispose at the general support level.
D	Repairable item. When beyond lower level repair capability, return to depot. Condemnation and disposal not authorized below depot level. j
L	Repairable item. Repair, condemnation, and disposal not authorized below depot/specialized repair activity level.
A	Item requires special handling or condemnation procedures because of specific reasons (i.e., precious metal content, high dollar value, critical material or hazardous material). Refer to appropriate manuals/directives for specific instructions.

c. National Stock Number. Indicates the National stock number assigned to the item and which will be used for requisitioning purposes.

d. Part Number. Indicates the primary number used by the manufacturer 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 a stock numbered item is requisitioned, the repair part received may have a different part number than the part being replaced.

e. Federal Supply Code for Manufacturer (FSCM). The FSCM is a 5-digit numeric code listed in SB 708-42 which is used to identify the manufacturer, distributor or Government agency, etc.

f. Description. Indicates the Federal item name and, if required, a minimum description to identify the item. Items that are included in kits and sets are listed below the name of the kit or set, with the quantity of each item in the kit or set indicated in the quantity incorporated in unit column. When the part to be used differs between serial numbers of the same model, the effective serial numbers are shown as the last line of the description. In the Special Tools List, the initial basis of issue (BOI) appears as the last line in the entry for each special support equipment. When density of equipments supported exceeds density spread indicated in the basis of issue, the total authorization is increased accordingly.

g. Unit of Measure (U/M). Indicates the standard of the basic quantity of the listed item as used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in., pr, etc.). When the unit of measure differs from the unit of issue, the lowest unit of issue that will satisfy the required units of measure will be requisitioned.

Section 1. INTRODUCTION Continued

h. Quantity Incorporated in Unit. 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 no specific quantity in applicable (e.g., shims, spacers, etc.).

C-4. SPECIAL INFORMATION

a. Usable on codes are shown in the description column. Uncoded items are applicable to all models. Identification of the usable codes in this manual are:

Code	Used On
CCA	Model 12681
CCB	Model 1281-2
CSR	Model 1281-7

b. In the parts list, some items are indented to show that they are a component or components of the item under which they are indented.

C-5. HOW TO LOCATE REPAIR PARTS

a. When National Stock Number or Part Number is Unknown:

(1) First. Using the table of contents, determine the functional group within which the repair part belongs. This is necessary since illustrations are prepared for functional groups, and listings are divided into the same groups.

(2) Second. Find the illustration covering the functional group to which the repair part belongs.

(3) Third. Identify the repair part on the illustration and note the illustration figure number and item number of the repair part.

(4) Fourth. Using the repair parts listing, find the figure and item number noted on the illustration.

b. When National Stock Number or Part Number is Known.

(1) First. Using the Index of National Stock Numbers and Parts Numbers, find the pertinent National stock number or part number. This index is in NIIN sequence followed by a list of part numbers alphanumeric sequence, cross-referenced to the illustration figure number and item number.

C-5. HOW TO LOCATE REPAIR PARTS

(2) Second. Find the illustration covering the functional group to which the repair part belongs.

(3) Third. Identify the repair part on the illustration and note the illustration figure number and item number of the repair part.

(4) Fourth. Using the repair parts listing, find the figure and item number noted on the illustration.

b. When National Stock Number or Part Number is Known.

(1) First. Using the Index of National Stock Numbers and Parts Numbers, find the pertinent National stock number or part number. This index is in NIIN sequence followed by a list of part numbers alphanumeric sequence, cross-referenced to the illustration figure number and item number.

(2) Second. After finding the figure and item number, locate the figure and item number in the repair parts list.

C-6. ABBREVIATIONS

Abbreviations	Explanation	Abbreviations	Explanation
Assy	Assembly	Ident	Identification
Brg	Bearing	In	Inch
Brkt	Bracket	L	Long
Fl	Flat	Lh	Left Hand
Hd	Head	Mtg	Mounting
Hex	Hexagon	Rh	Right Hand

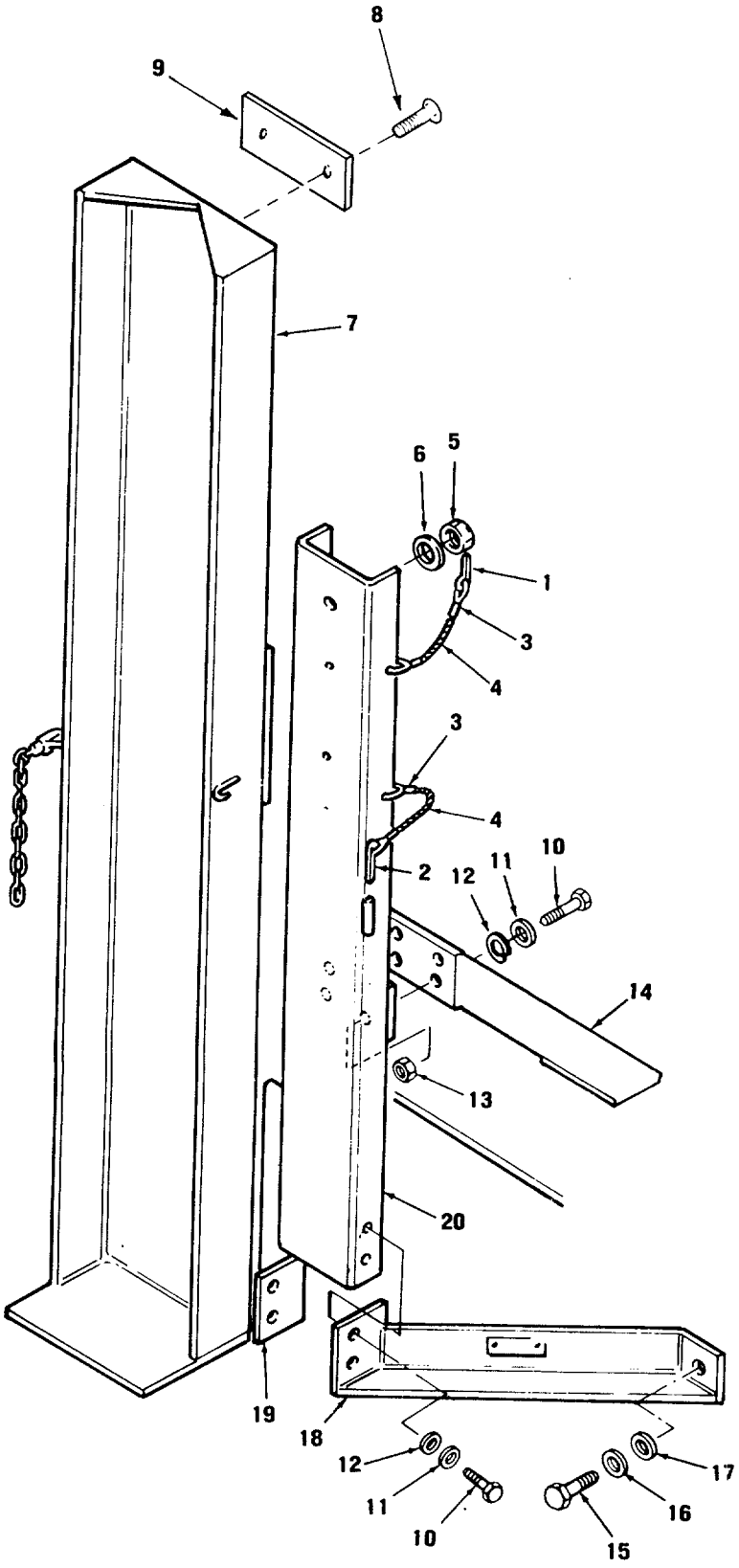


Figure C-1. Supports

Section II. Repair Parts List

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION *USABLE ON CODE*	(7) U/M	(8) QTY INC IN UNIT	
						GROUP 01 SUPPORTS			
C-1	1	PAOZZ	5315-00-234-1664	96906	MS24665-495	PIN, COTTER CRADEL MTG		EA	1
C-1	2	PAOZZ	5315-00-187-9595	96906	MS24665-749	PIN,COTTER SUPPORT	EA	1	
C-1	3	XBOZZ		08716	27-1B	SLEEVE,SWAGED	EA	4	
C-1	4	XBOZZ		08716	3X7SS	ROPE,WIRE PIN	EA	1	
C-1	5	PAOZZ		96906	MS35692-1202	NUT,SLOTTED CRADLE MTG	EA	1	
C-1	6	PAOZZ	5310-00-584-7799	96906	MS15795-822	WASHER,FLAT CRADLE MTG	EA	2	
C-1	6	PAOZZ	5310-00-809-8536	96906	MS27183-24	WASHER,FLAT CRADLE MTG CSR	EA	2	
C-1	7	XBOZZ		13627	12681-105	CRADLE,BOTTLE	EA	1	
C-1	8	PAOZZ	5305-00-253-5608	96906	MS21318-9	.SCREW CSR	EA	2	
C-1	9	XBOZZ		13627	12681-134-1	.IDENT PLATE, CSR	EA	1	
C-1	10	PAOZZ	5305-00-717-5467	96906	MS35307-362	SCREW,CAP,HEXAGON SUPPORT MTG	EA	8	
C-1	11	PAOZZ	5310-00-773-7618	96906	MS15795-814	WASHER,FLAT SUPPORT MTG CCA,CCB	EA	6	
C-1	12	PAOZZ	5310-00-184-8971	96906	MS35338-103	WASHER,LOCK SUPPORT MTG CCA,CCB	EA	12	
C-1	12	PAOZZ	5310-00-080-6004	96906	MS27183-14	WASHER,LOCK SUPPORT MTG CSR	EA	4	
C-1	13	PAOZZ		96906	MS35690-602	NUT,PLAIN,HEXAGON SUPPORT MTG	EA	12	
C-1	14	XBOZZ		13627	12681-109	SUPPORT CENTER CCA,CCB	EA	1	
C-1	15	PAOZZ	5305-00-646-7389	96906	MS535307-409	SCREW,CAP,HEXAGON SUPPORT MTG	EA	2	
C-1	16	PAOZZ	5310-00-577-5354	96906	4S35338-105	WASHER,LOCK SUPPORT MTG	EA	2	
C-1	17	PAOZZ	5310-00-767-9425	96906	4515795-818	WASHER,FLAT SUPPORT MTG	EA	2	
C-1	18	KBOZZ		13627	12681-110	SUPPORT,RH	EA	1	
C-1	19	KBOZZ		13627	12681-111	SUPPORT,LH	EA	1	
C-1	20	KBOZZ		13627	12681-112	SUPPORT,CRADLE	EA	1	

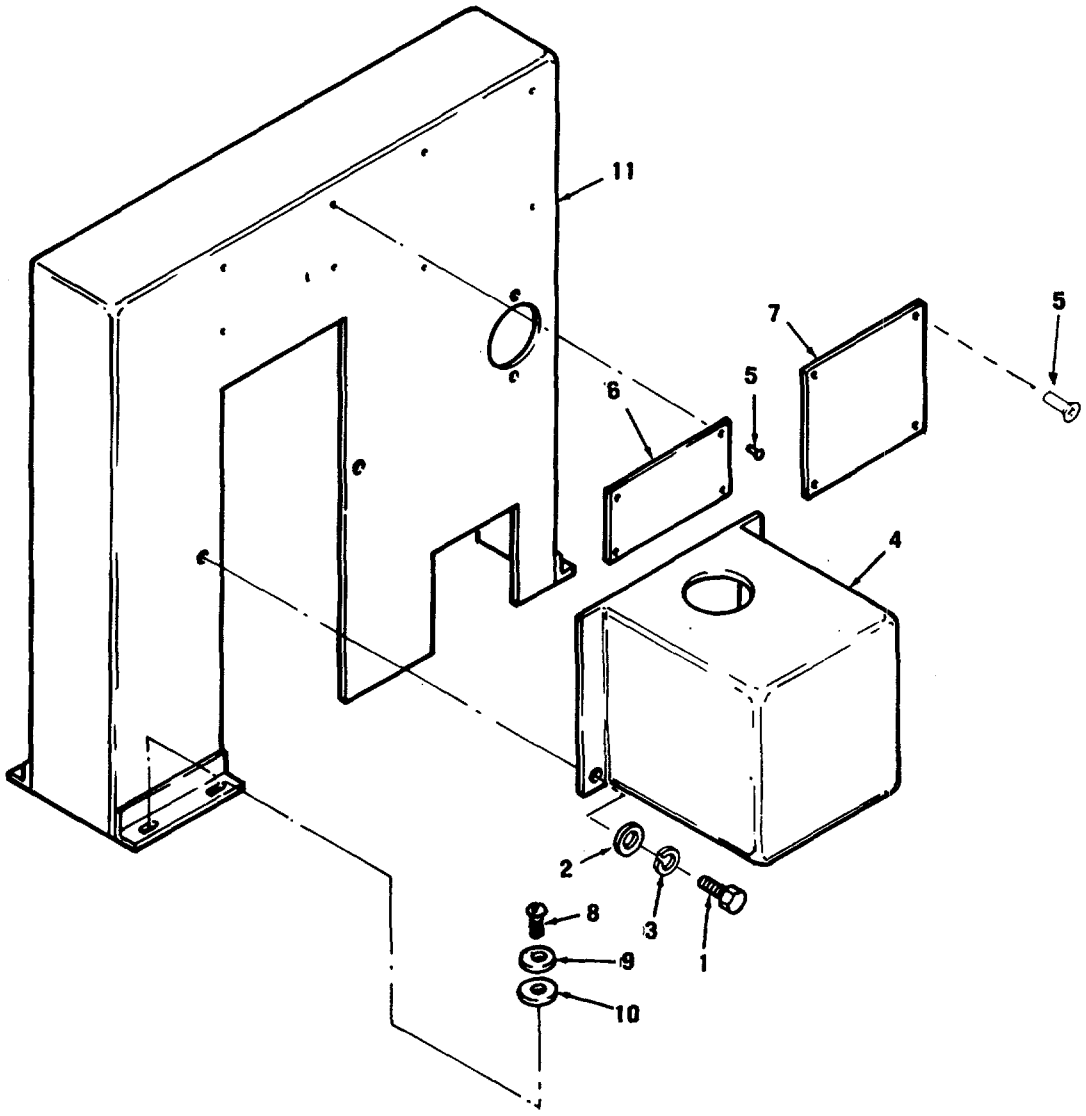


Figure C-2. Guards

SECTION II

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION *USABLE ON CODE*	(7) U/M	(8) QTY INC IN UNIT
						GROUP 02 GUARDS		
C-2	1	XBOZZ	5305-00-059-3660	96906	MS35234-64	SCREW, MACHINE GUARD MTG.....	EA	2
C-2	2	PAOZZ	5310-00-19-1148	96906	MS15795-808	WASHER, FLAT GUARD MTG.....	EA	2
C-2	3	PAOZZ	5310-00-261-8278	96906	MS35338-100	WASHER, LOCK GUARD MTG .....CCA,CCB	EA	2
C-2	4	XBOZZ		13627	12681-107	GUARD,PUMP	EA	1
C-2	5	XBOZZ		96906	MS20604AD5T2	RIVET, PLATE MTG .....CCA,CCB	EA	8
C-2	6	XBOZZ		13627	12681-115	PLATE, IDENTIFICATION.....CCA	EA	1
C-2	6	XBOZZ		13627	12681-115-2	PLATE, IDENTIFICATION .....CCB	EA	1
C-2	6	XBOZZ		13627	12681-115-7	PLATE, IDENTIFICATION.....CSR	EA	1
C-2	7	XBOZZ		13627	12681-116	PLATE, INSTRUCTDN	EA	1
C-2	8	XBOZZ	5305-00-059-3660	96906	MS23534-64	SCREW, MACHINE BELT GUARD MTG.....	EA	9
C-2	9	PAOZZ	5310-00-619-1148	96906	MS15795-808	WASHER, FLAT BELT GUARD MTG.....	E	9
C-2	10	PAOZZ	5310-00-261-8278	96906	MS35338-100	WASHER, LOCK BELT GUARO NTG	EA	9
C-2	11	XBOZZ		13627	12681-106	GUARD, BELT .....CCA	EA	1
C-2	11	XBOZZ		13627	12681-106-1	GUARD,BELT .....CCB,CSR	EA	1

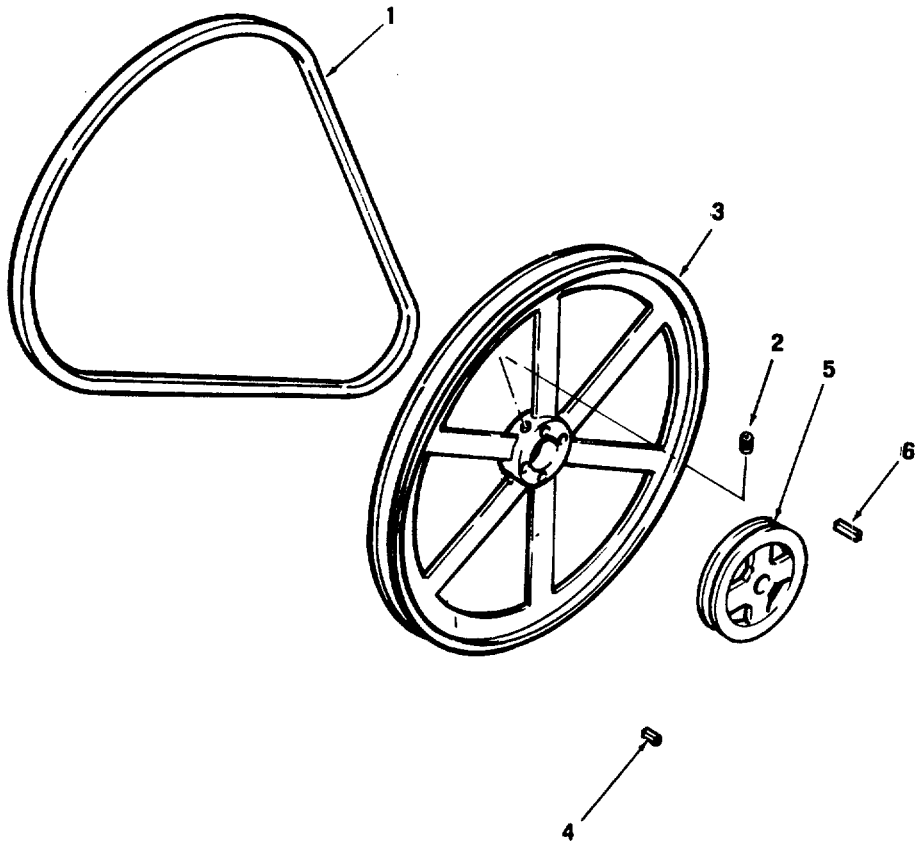


Figure C-3. Belt and Pulley

SECTION II

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION *USABLE ON CODE*	(7) U/M	(8) QTY INC IN UNIT
						GROUP 03 BELT AND PULLEY		
C-3	1	XDOZZ	3030-00-529-0355	96906	MS39255A60	BELT,V	E	1
C-3	2	PAOZZ	5305-00-724-6748	96906	MS51965-66	SETSCREW,PULLEY	E	1
C-3	3	XBOZZ		71176	AK154HH7-8	PULLEY,GROVE	EA	1
C-3	4	XBQZZ	5315-00-730-4577	96906	MS20066-147	KEY,MACHINE	EA	1
C-3	5	XBOZZ		71176	AK49-5-8	PULLEY	EA	1
C-3	6	XBOZZ	5315-00-616-4249	96906	MS20066-189	KEY	EA	1

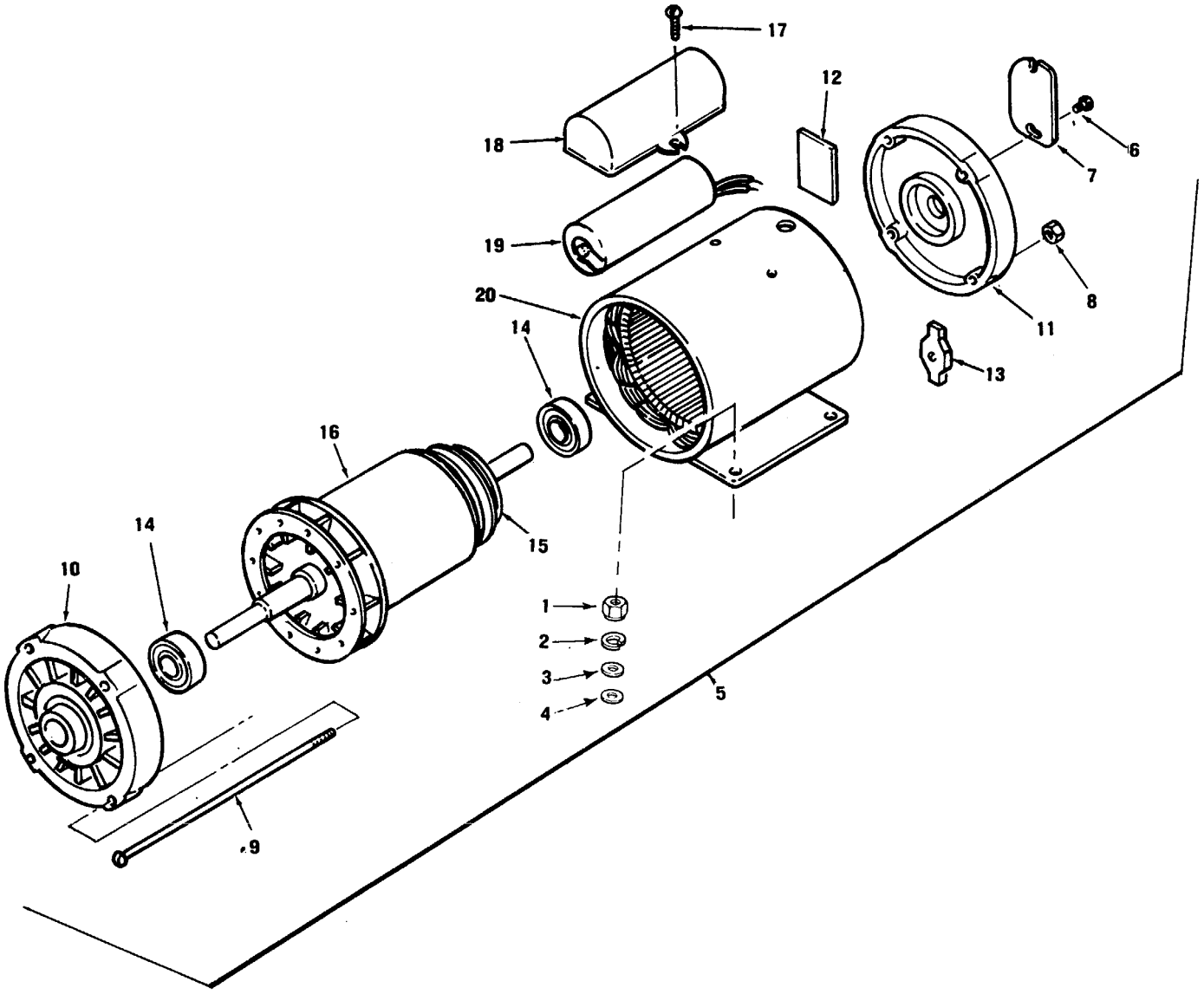


Figure C-4. Electric Motor, Used on Model 12681

SECTION II

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION *USABLE ON CODE*	(7) U/M	(8) QTY INC IN UNIT
						GROUP 04 ELECTRIC MOTOR		
C-4	1	XDDZZ	5310-00-761-6182	96906	MS51967-2	NUT,PLAIN,HEXAGON MOTOR MTG ....CCA.CCB	EA	4
C-4	2	PAOZZ	5310-00-184-8970	96906	MS35338-101	WASHER,LOCK MOTOR MTG .....CCA,CCB	EA	4
C-4	3	PAOZZ	5310-00-592-5677	96906	MS15795-810	WASHER,FLAT MOTOR MTG .....CCA,CCB	EA	4
C-4	4	XBOZZ	5940-00-549-8075	74159	SLU70	LUG,GROUND ....CCA,CCB	EA	1
C-4	5	XOOZZ	6105-00-411-5934	83843	311P321A	MOTOR ASSEMBLY .....CCA	EA	1
C-4	6	PAOZZ	5305-00-984-6189	96906	MS35206-241	SCREW,PLATE .....CCA	EA	2
C-4	7	XBOZZ		13627	12681-138	COVER TERMINAL .....CCA	E	1
C-4	8	XBFZZ		96906	MS35650-101	NUT,RETAINING SCREW .....CCA	EA	4
C-4	9	XBFZZ	4720-01-022-8302	13627	12681-139	SCREW, RETAINING.....CCA	EA	4
C-4	10	XBFZZ		83843	262B161A06	BELL,END REAR.....CCA	EA	1
C-4	11	XBFZZ		83843	2628396A08	BELL,END FRONT .....CCA	EA	1
C-4	12	XBFZZ		83843	369C426A06	SWITCH AND TERMINAL.....CCA	EA	1
C-4	13	XBFZZ		83843	18D4638P06	THERMOGUARD . .....CCA	EA	1
C-4	14	XBFZZ		83843	368C943H52	BEARING.....CCA	E4	2
C-4	15	XBFZZ		83843	369C506A10	SWITCH,ROTATING.....CCA	E	1
C-4	16	XBFZZ		83843	284B666A01	ROTOR.....CCA	EA	1
C-4	17	PAOZZ	5305-00-984-6226	96906	MS35206-240	SCREW CAPACITOR COVER .....CCA	EA	2
C-4	18	XBOZZ		13627	12681-137	COVER CAPACITOR .....CCA	EA	1
C-4	19	XB0ZZ		00853	2628524H11l	CAPACITOR.....CCA	EA	1
C-4	20	XBDZH		83843	804C586A11	STATOR AND HOUSING.....CCA	EA	1

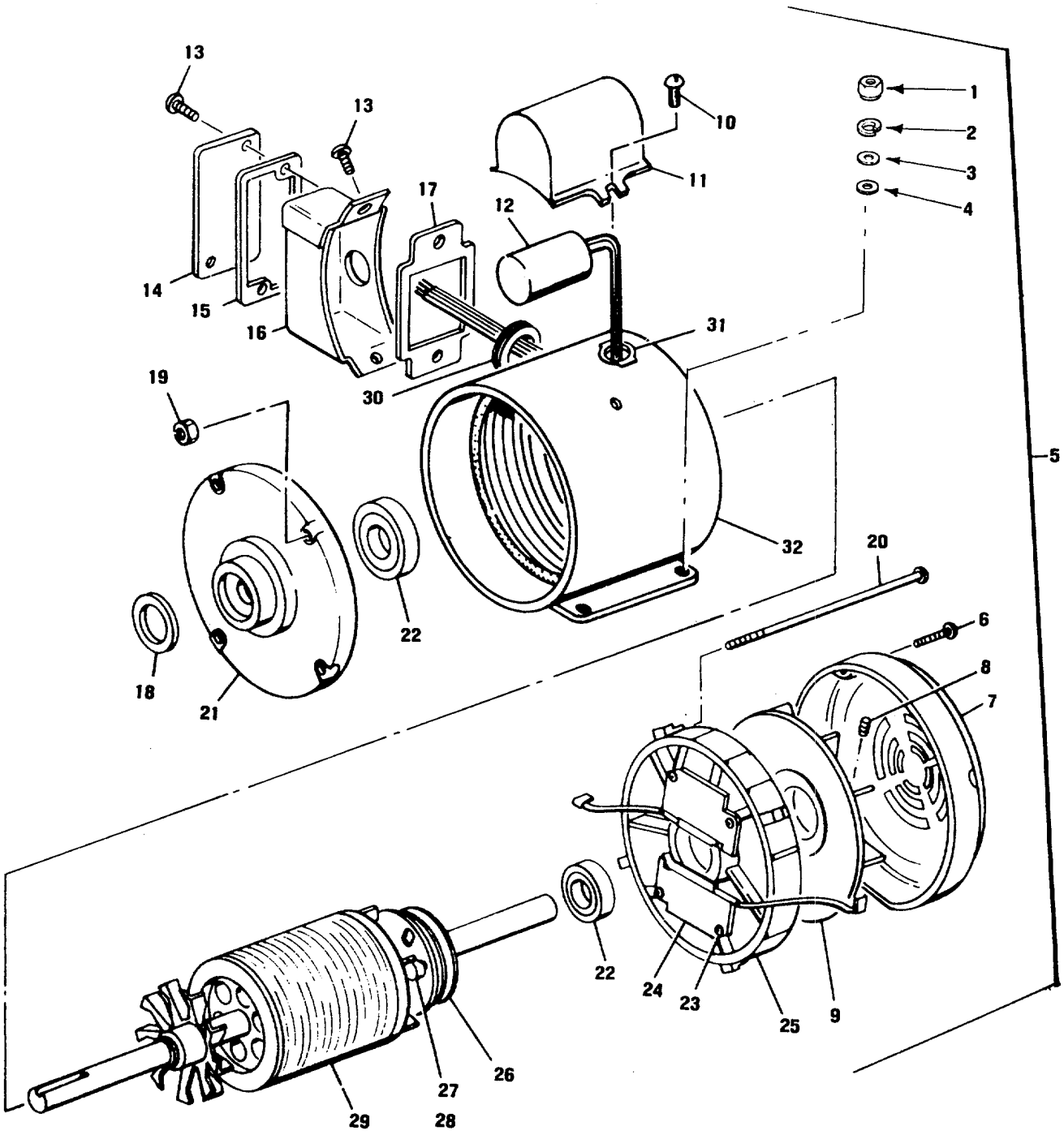


Figure C-5. Electric Motor, Used on Model 12681-2

SECTION II

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION *USABLE ON CODE*	(7) U/M	(8) QTY INC IN UNIT
C-5	1	XDOZZ	5310-00-761-6882	96906	NS51967-2	NUT, PLAIN, HEXAGON TOOL BOX SPACER ..... CCB	EA	4
C-5	2	PAOZZ	5310-00-184-8970	96906	MS35338-101	WASHER, LOCK MOTOR MTG ..... CCB	EA	4
C-5	3	PAOZZ	5310-00-582-5677	96906	MS15795-110	WASHER, FLAT MOTOR MTG ..... CCB	EA	4
C-5	4	XBOZZ	5940-00-549-8075	74159	SLU70	LUG, GROUND ..... CCB,CSR	EA	1
C-5	5	XBOZZ		83843	311P325	MOTOR ASSEMBLY ..... CCB	EA	1
C-5	6	PAFZZ	5305-00-984-6198	96906	MS35206-250	.SCREW, MACHINE COVER MTG ..... CCB	EA	4
C-5	7	XBFZZ		83843	369C485H02	.COVER PAN ..... CCB	EA	1
C-5	8	XBFZZ	5305-00-0433643	96906	MS51964-38	.SCREW, SET FAN MTG ..... CCB	EA	1
C-5	9	XBFZZ		83843	165A815H01	.FAN ..... CCB	EA	1
C-5	10	PAOZZ	5305-00-984-6208	96906	MS35206-261	.SCREW, MACHINE CAPACITOR COVER ..... CCB	EA	2
C-5	11	XBOZZ		13271	12681-137	.COVER CAPACITOR ..... CCB	EA	1
C-5	12	XBOZZ		00853	2628524H11	.CAPACITOR ..... CCB	EA	1
C-5	13	PAOZZ	5305-00-984-6191	96906	MS35206-243	.SCREW, MACINE ..... CCB	EA	2
C-5	14	XBOZZ		13627	12681-141	.PLATE, COVER ..... CCB	EA	1
C-5	15	XBOZZ		83843	262B76H01	.GASKET ..... CCB	EA	1
C-5	16	XBOZZ		83843	262B744H02	.BOX, CONNECTOR ..... CCB	EA	1
C-5	17	XBOZZ		83843	262B766H01	.GASKET ..... CCB	EA	1
C-5	18	XBFZZ		13627	12681-145	.SHIELD ..... CCB	EA	1
C-5	19	XBFZZ		96906	MS35650-101	.NUT, PLAIN, HEXAGON RETAINING SCREW .... CCB,CSR	EA	4
C-5	20	XBFZZ		13627	12681-146	.SCREW, RETAINING ..... CCB	EA	4
C-5	21	XBFZZ		83843	264B161407	.END BELL REAR ..... CCB	EA	1
C-5	22	XBFZZ		83843	368C943H52	.BEARING, BALL ..... CCB	EA	2
C-5	23	PAFZZ	5305-00-984-4984	96946	MS35206-227	.SCREW, MACHINE SWITCH AND TERMINAL MTG .... CCB	EA	4
C-5	24	XBFZZ		83843	369C430A12	.BOARD, SWITCH AND TERMINAL ..... CCB	EA	2
C-5	25	XBFZZ		83843	262B396A18	.END BELL, FRONT ..... CCB	EA	1
C-5	26	XBFZZ		83843	369C506A10	.SWITCH, ROTATING ..... CCB	EA	1
C-5	27	XBFZZ		13627	12681-147	.PLUG ..... CCB	EA	1
C-5	28	XBFZZ		13627	12681-148	.GROMMET ..... CCB	EA	3
C-5	29	XBFZZ		63843	262B435A06	.ROTOR ASSEMBLY ..... CCB	EA	1
C-5	30	XBFZZ		13627	12681-149	.GROMMET ..... CCA,CCB	EA	1
C-5	31	XBFZZ		13627	12681-124	.GROMMET ..... CCA,CCB	EA	1
C-5	32	XBDZH		83843	804C593407	.HOUSING AND STATOR ..... CCA,CCB	EA	1

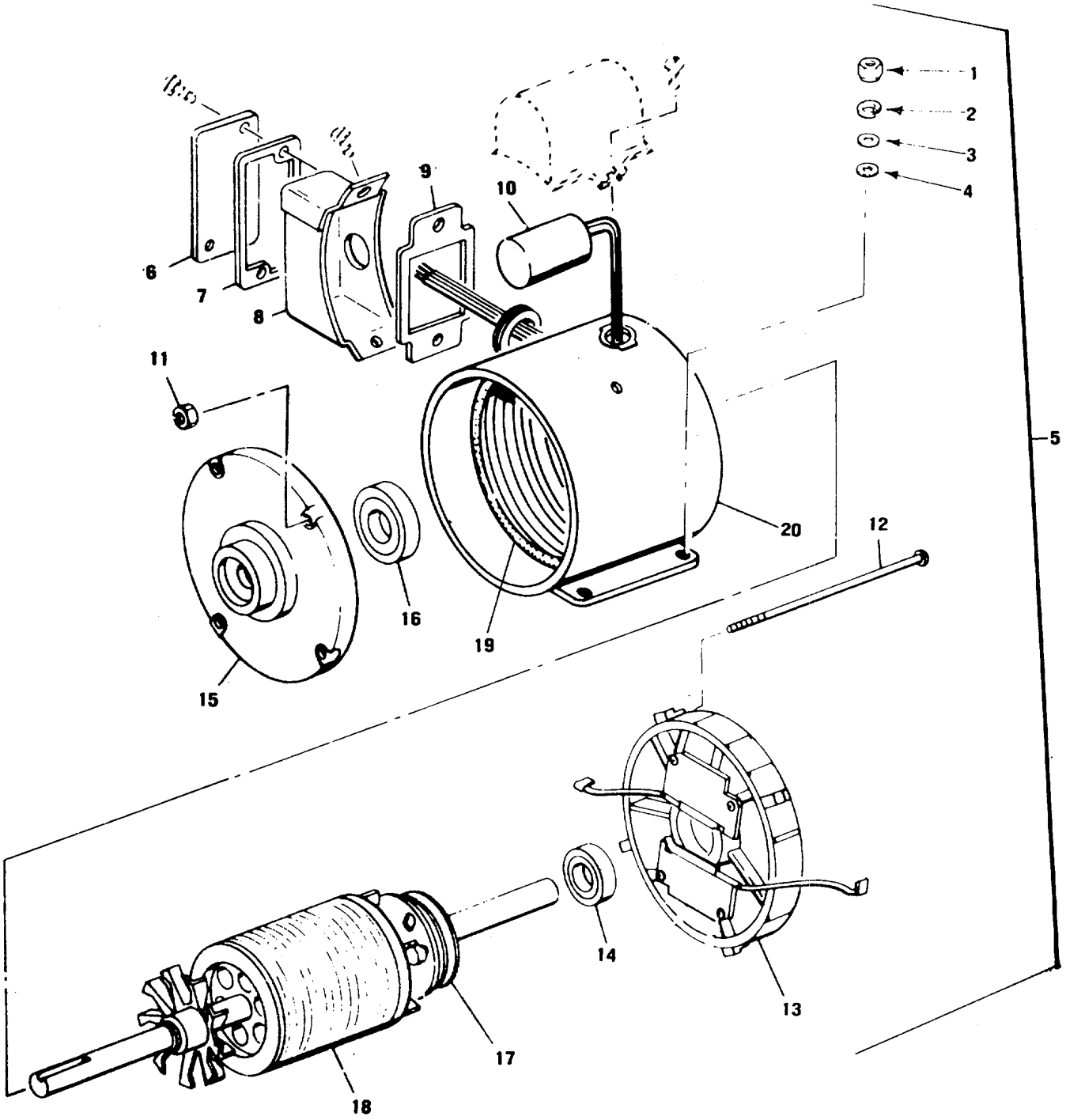


Figure C-6. Electric Motor, Used on Model 12681-7

SECTION II

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION *USABLE ON CODE*	(7) U/M	(8) QTY INC IN UNIT
C-6	1	XDOZZ	5310-00-761-6882	96906	MS35690-402	NUT, PLAIN, HEXAGON MOTOR MTG .....CSR	EA	4
C-6	2	PAOZZ	5310-00-582-5965	96906	MS35338-25	WASHER, LOCK MOTOR MTG .....CSR	EA	4
C-6	3	PAOZZ	5310-00-809-4058	96906	MS27183-10	WASHER, FLAT MOTOR MTG .....CSR	EA	1
C-6	4	XBOZZ	5940-00-549-8075	74159	SLU70	LUG. TERMINAL .....CSR	EA	1
C-6	5	PAOZZ	6105-01-021-7152	05472	L1310M	MOTOR, ASSEMBLY .....CSR	EA	1
C-6	6	XBFZZ	5975-01-078-6500	05472	34-60	.COVER BOX .....CSR	EA	1
C-6	7	XBFZZ	5330-01-067-9696	05472	36-49	.GASKET .....CSR	EA	1
C-6	8			05472	35-7500	.BOX, CONDUIT .....CSR	EA	1
C-6	9	XBFZZ	5330-01-065-8851	05472	36-48	.GASKET .....CSR	EA	1
C-6	10	PAFZZ	5910-01-030-5048	05472	91300	.CAPACITOR .....CSR	EA	1
C-6	11	PAFZZ	5310-00-934-9751	96906	MS35650-302	.NUT, HEXAGON .....CSR	EA	4
C-6	12	PAFZZ	5306-01-023-5332	05472	35-32C	.BOLT RETAINING .....CSR	EA	4
C-6	13	XBFZZ		05472	35-8582	.END PLATE, FRONT .....CSR	EA	1
C-6	14	PAFZZ	3110-00-156-5167	21335	203S	.BEARING .....CSR	EA	1
C-6	15	XBFZZ		05472	35-8613	.END PLATE, REAR .....CSR	EA	1
C-6	16	PAFZZ		05472	205S	.BEARING .....CSR	EA	1
C-6	17	PAFZZ		13627	2-3ROTATING	.SWITCH .....CSR	EA	1
C-6	18	XAFZZ		05472	35-538-524L	.ROTOR .....CSR	EA	1
C-6	19	XAFZZ		05472	35-538	.STATOR .....CSR	EA	1
C-6	20	XAFZZ		05472	35-2355-2	.HOUSING .....CSR	EA	1

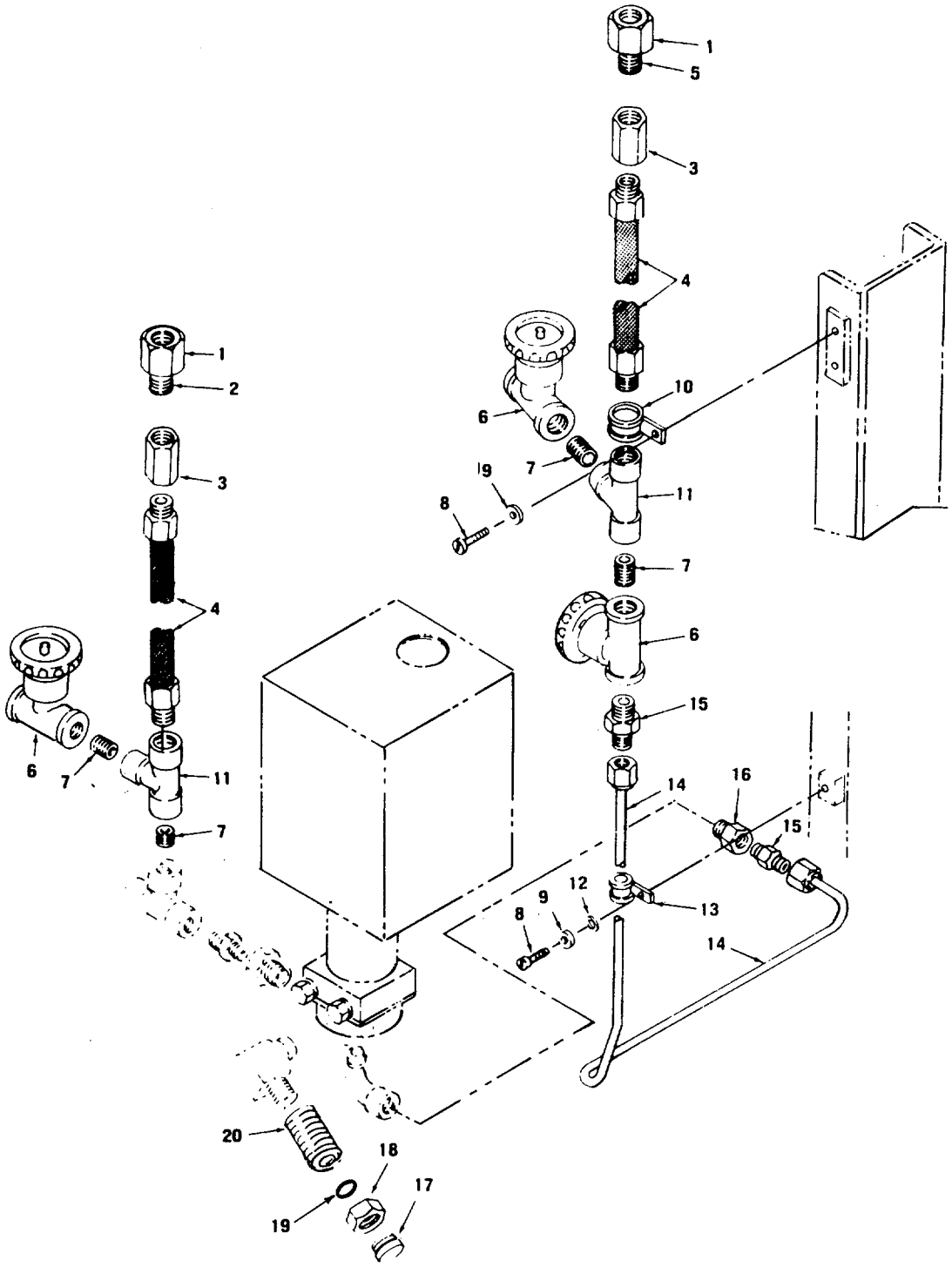


Figure C-7. Lines and Fittings

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION *USABLE ON CODE*	(7) U/M	(8) QTY INC IN UNIT
						GROUP 05 LINES AND FITTINGS		
C-7	1	XBOZZ		06023	968-4	NUT, SWIVEL	EA	2
C-7	2	PAOZZ	4730-00-411-7123	06023	33-11P	NIPPLE	EA	1
C-7	3	XBOZZ	4730-00-223-9255	88044	AN910-2	ADAPTER	EA	2
C-7	4	XBOZZ		06366	4MMBB4MB72	HOSE ASSEMBLY	EA	2
C-7	5	XBOZZ		06203	33-114	NIPPLE	EA	1
C-7	6	PAOZZ	4820-00-411-5542	06203	9452U	VALVE ASSEMBLY	EA	3
C-7	7	XBOZZ	4730-00-186-7798	88044	AN911-2	ADAPTER	EA	4
C-7	8	XBOZZ	5305-00-059-3660	96906	MS35234-64	SCREW	EA	4
C-7	9	PAOZZ	5310-00-619-1148	96906	MS15795-808	WASHER, FLAT	EA	4
C-7	10	XBOZZ	5340-00-200-6535	96906	MS21919DG13	CLAMP	EA	2
C-7	11	XBOZZ	4730-00-278-3990	88044	AN917-2	TEE	EA	2
C-7	12	PAOZZ	5310-00-261-8278	96906	MS35338-100	WASHER, LOCK	EA	4
C-7	13	XBOZZ	5340-00-205-6301	96906	MS21919DG4	CLAMP	EA	2
C-7	14	XBOZZ		13627	12681-126	TUBE ASSEMBLY	EA	1
C-7	15	XBOZZ	4730-00-287-0547	88044	AN816-4-4B	ADAPTER	EA	5
C-7	16	XBOZZ	4730-00-222-1819	88044	AN912-2	BUSHING	EA	1
C-7	17	XBOZZ		06023	950CK2800	CAP, SAFETY	EA	1
C-7	18	XDOZZ	5310-00-436-3292	06023	977-13	NUT	EA	1
C-7	19	PAOZZ	3655-00-394-4230	06023	12-2800	DISK, RUPTURE	EA	1
C-7	20	XBOZZ	4730-00-457-1575	13627	12681-127	ADAPTER, STRAIGHT PIPE	EA	1

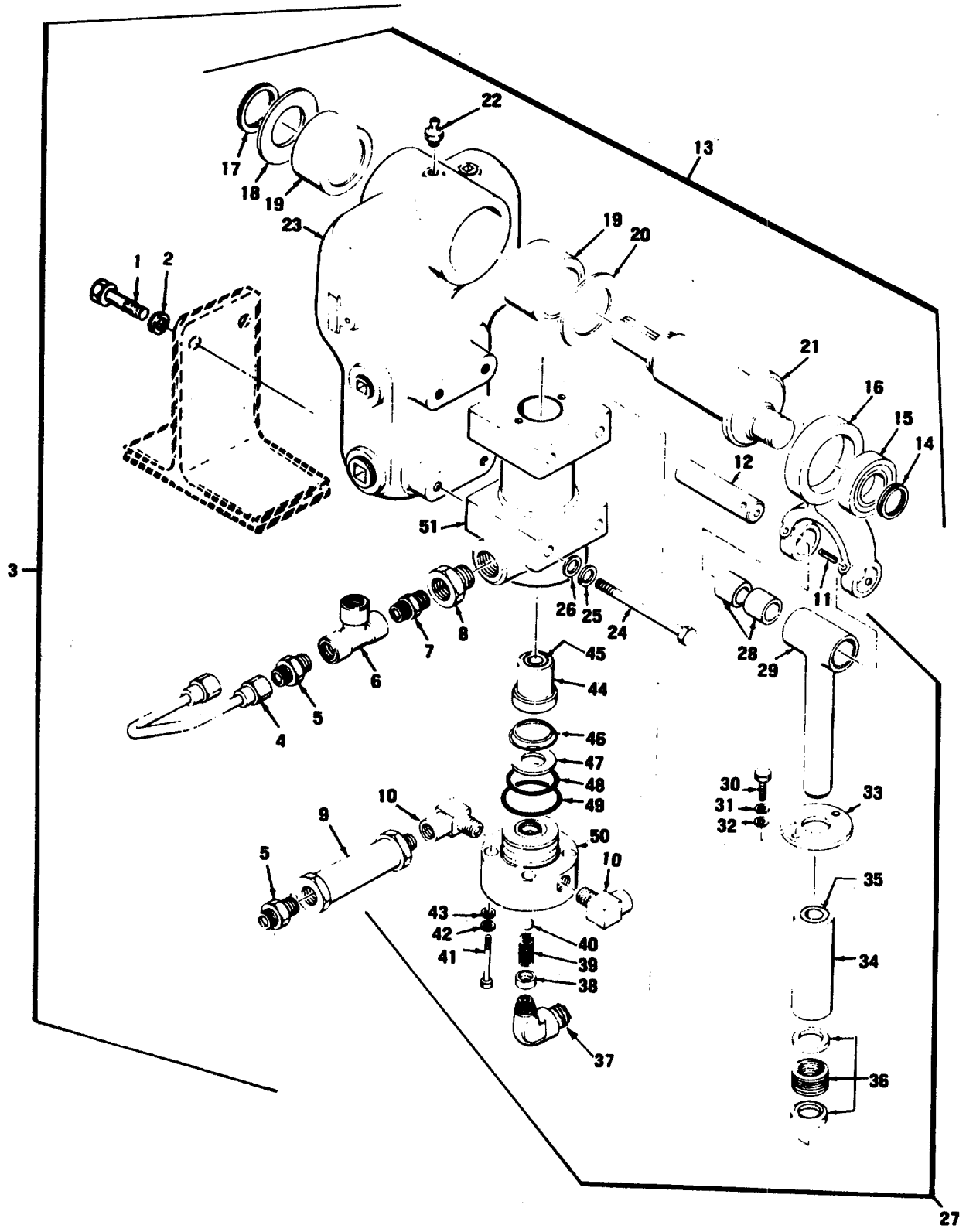


Figure C-8. Pump

SECTION II

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION *USABLE ON CODE*	(7) U/M	(8) QTY INC IN UNIT
						GROUP 06 PUMP		
C-8	1	PAOZZ	5305-00-632-2777	96906	MS35307-358	SCREW, CAP, HEXAGON PUMP MTG	EA	2
C-8	2	PAOZZ	5310-00-184-8971	96906	MS35338-103	WASHER, LOCK PUMP MTG	EA	2
C-8	3	XBOZZ	4320-01-022-8541	13627	P610-5002	PUMP ASSEMBLY	EA	1
C-8	4	XBOZZ	4710-00-438-1552	13627	12681-125	.TUBE ASSEMBLY	EA	1
C-8	5	XBOZZ	4730-00-287-0547	88044	AN816-4-4B	.ADAPTER, MALE PUMP	EA	2
C-8	6	XBOZZ	4730-00-278-3990	88044	AN917-2	.TEE, FEMALE PUMP	EA	1
C-8	7	XBOZZ	4730-00-186-77198	88044	AN911-2	.ADAPTER, .MALE PUMP	EA	1
C-8	8	XBOZZ	4730-00-194-0216	88044	AN912-5	.BUSHING PUMP	EA	1
C-8	9	PAOZZ	4820-00-450-9350	91816	515982MP1000	.VALVE, BY-PASS	EA	1
C-8	10	XBOZZ	4730-00-231-5602	88044	AN914-2	.ELBOW VALVE	EA	2
C-8	11	XBOZZ	5315-00-6648073	96906	MS171680	.PIN, SPRING DRIVE	EA	1
C-8	12	XDOZZ	3655-00-498-7465	13627	P600-5502	.PIN, WRIST	EA	1
C-8	13	XBOZO	3655-00-463-4984	13627	P600-5001	.DRIVE ASSEMBLY, PUMP	EA	1
C-8	14	XBOZZ		05341	RS98	..RING, RETAINING	EA	1
C-8	15	PAOZZ	3110-00-109-1155	21335	205NPP	..BEARING, CONNECTING ROD	EA	1
C-8	16	XBOZZ		13627	P600-5301	..ROD, CONNECTING	EA	1
C-8	17	XBOZZ		05341	RS125	..RING, RETAINING	EA	1
C-8	18	PAOZZ	3655-00-463-4985	13627	P600-5503	..PLATE, THRUST	EA	1
C-8	19	PAOZZ		92563	MR26SS	..BEARING DRIVE SHAFT	EA	2
C-8	20	PAOZZ	3120-00-436-8058	13627	P600-5405	..WASHER, THRUST	EA	1
C-8	21	PAOZZ	3655-00-463-4983	13627	P600-5303	..SHAFT, DRIVE	EA	1
C-8	22	PAOZZ	4730-00-050-4208	96906	MS15003-1	..FITTING, LUBRICATION	EA	1
C-8	23	XBOZZ		13627	P600-5101	..SUPPORT, DRIVE	EA	1
C-8	24	XBOZZ	5305-00-907-0044	96906	MS35307-373	.SCREW, CAP, HEXAGON CYLINDER TO SUPPORT	EA	4
C-8	25	PAOZZ	5310-00-184-8971	96906	MS35338-103	.WASHER, LOCK, CYLINDER TO SUPPORT	EA	4
C-8	26	PAOZZ	5310-00-773-7618	96906	MS17595-814	.WASHER, FLAT CYLINDER TO SUPPORT	EA	4
C-8	27	XBFZH		13627	P600-1002	.PUMP HEAD ASSEMBLY	EA	1
C-8	28	PAFZZ	3120-00-981-5117	73680	12DU16	..BUSHING	EA	2
C-8	29	PAFZZ	3655-00-437-7938	13627	P600-1201	..PISTON	EA	1
C-8	30	PAFZZ	5305-00-802-0016	96906	MS35307-317	..SCREW, CAP, HEXAGON RING MTG	EA	2
C-8	31	PAFZZ	5310-00-184-8970	96906	MS35338-101	..WASHER, LOCK, RING MTG	EA	2
C-8	32	PAFZZ	5310-00-582-5677	96906	MS15795-810	..WASHER, FLAT, RING MTG	EA	2
C-8	33	XBFZZ		13627	P600-2101	..RING, LOAD	EA	1
C-8	34	XBFZZ		13627	P600-1601	..GUIDE ASSEMBLY UPPER	EA	1
C-8	35	PAFZZ	3120-00-981-5117	73680	12DU16	...BUSHING	EA	1
C-8	36	PAFZZ	5330-00-457-4073	13627	P600-1701	..PACKING, PUMP	EA	1
C-8	37	XBOZZ	4730-00-231-5603	88044	AN914-3	..ELBOW VALVE	EA	1
C-8	38	XBFZZ		13627	P600-1902	..RETAINER, SPRING	EA	1
C-8	39	PAFZZ	5360-00-489-9149	13627	S11001	..SPRING	EA	1

SECTION II

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION *USABLE ON CODE*	(7) U/M	(8) QTY INC IN UNIT
C-8	40	PAFZZ	3110-00-248-5865	96906	MS19060-11	..BEARING, BALL	EA	1
C-8	41	PAFZZ	5305-00-964-0635	96906	MS35307-369	..SCREW, CAP, HEXAGON HEAD MTG	EA	4
C-8	42	PAFZZ	5310-00-184-8971	96906	MS35338-103	..WASHER, LOCK HEAD MTG	EA	4
C-8	43	PAFZZ	5310-00-773-7618	96906	MS15795	..WASHER, FLAT HEAD MTG	EA	4
C-8	44	XBFZZ	3655-00-438-2473	13627	P600-1602	..GUIDE ASSEMBLY, VALV LOWER	EA	1
C-8	45	XBFZZ		73680	12DU08	...BUSHING	EA	1
C-8	46	PAFZZ	5360-00-477-5311	13627	12681-131	..SPRING, INLET	EA	1
C-8	47	PAFZZ	3655-00-438-2448	13627	P600-1301	..VALVE, INLET	EA	1
C-8	48	PAFZZ	5330-00-265-1086	96906	MS29513-130	..PACKING, PREFORMED	EA	1
C-8	49	PAFZZ	5330-00-265-1078	96906	MS29513-127	..PACKING, PREFORMED	EA	1
C-8	50	XAFZF		13627	P600-1103	..HEAD VALVE	EA	1
C-8	51	XAFZZ		13627	P600-1102	..CYLINDER	EA	1

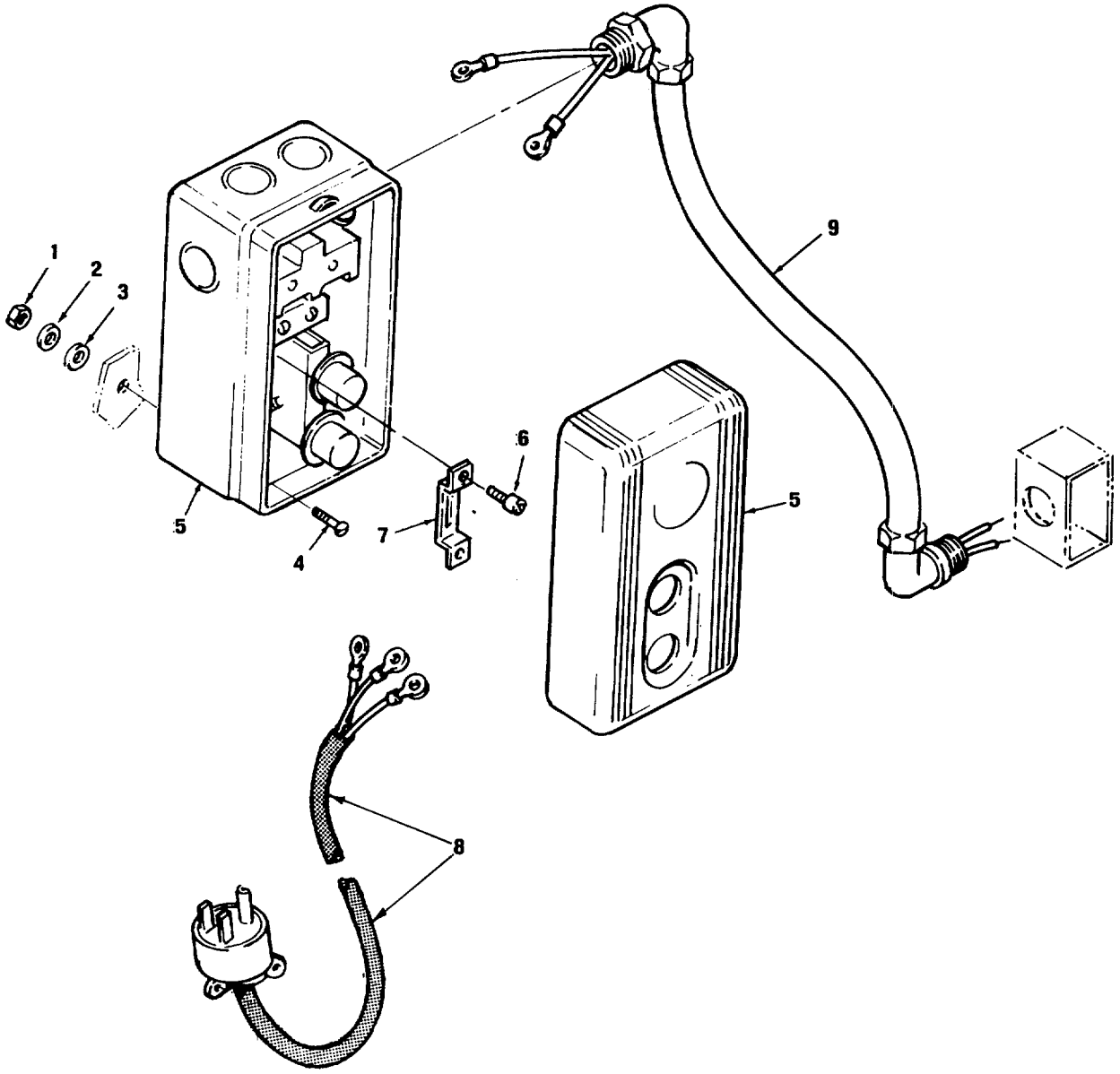


Figure C-9. Starter and Cables

SECTION II

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION *USABLE ON CODE*	(7) U/M	(8) QTY INC IN UNIT
						GROUP 07 STARTER AND CABLES		
C-9	1	PAOZZ	5310-00-934-9751	96906	MS35650-102	NUT STARTER MTG ..... CCA,CCB	EA	4
C-9	1	XDFZZ	5310-00-761-6882	96906	MS35690-402	NUT, PLAIN, HEXAGON..... CSR	EA	4
C-9	2	PAOZZ	5310-00-619-1148	96906	MS15795-808	WASHER, FLAT STARTER MTG.....	EA	4
C-9	3	PAOZZ	5310-00-261-8278	96906	MS35338-100	WASHER, LOCK STARTER MTG.....	EA	4
C-9	4	XBOZZ	5305-00-059-3660	96906	MS35234-64	SCREW STARTER MTG.....	EA	4
C-9	5	PAOZZ	6110-00-760-6352	13627	12681-100	STARTER, .MOTOR	EA	1
C-9	6	PAFZZ	5305-00-984-4983	96906	MS35206-226	.SCREW, MACHINE HEATER MTG.....	EA	2
C-9	7	PAFZZ		04009	42225	.HEATER, BIMETAL.....	EA	1
C-9	8	NOOZZ		13627	12681-114	CABLE, POWER, MANUFACTURE FROM 3-EA, TERMEA 1 INAL, P/N MS25036-108, 1-EA, CONNECTOR, P/N PT5276, 26-FT, WIRE, NSN 9330-01-893-0927.....		
C-9	9	NFFZZ		13627	12681-123	HARNESS ASSEMBLY MANUFACTURE FROM 4-EA, EA 1 TERMINAL, P/N MS25036-108, 2-EA, ELBOW, P/N 5252 19-IN, CONDUIT, P/N TYPE UA1-2, 61-IN, WIRE, P/N 242.....		

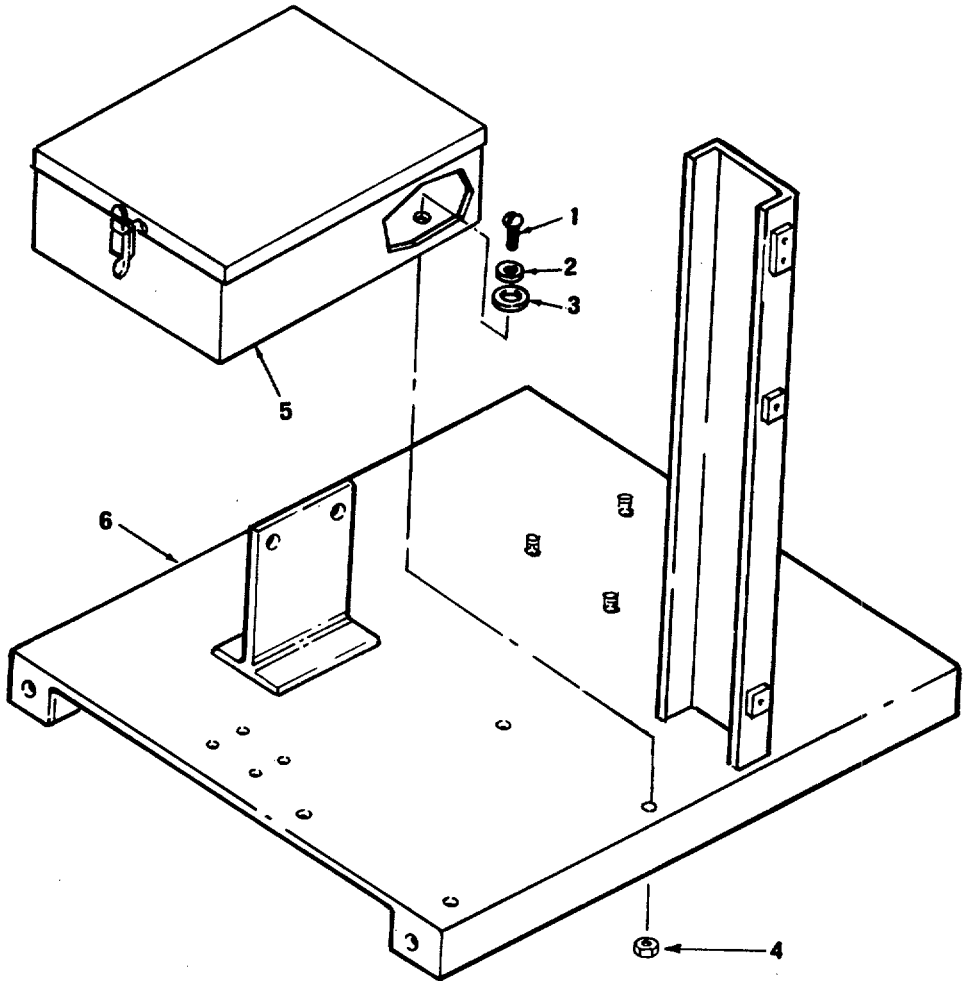


Figure C-10. Skid

SECTION II

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION *USABLE ON CODE*	(7) U/M	(8) QTY INC IN UNIT
						GROUP 08 SKID		
C-10	1	XBOZZ	5305-00-059-3660	96906	MS35234-64	SCREW, MACHINE TOOL BOX MTG	EA	4
C-10	2	PAOZZ	5310-00-619-1148	96906	MS15795-808	WASHER, LOCK, TOOL BOX MTG	EA	4
C-10	3	PAOZZ	5310-00-261-8271	96906	MS35336-100	WASHER, FLAT TOOL BOX MTG	EA	4
C-10	4	XDOZZ	5310-00-761-6882	96906	MS51967-2	NUT, PLAIN, HEXAGON TOOL BOX SPACER	EA	1
C-10	5	XBOZZ		13627	12681-122	TOOL BOX	EA	1
C-10	6	XBFZZ		13627	12681-103	SKID CCA	EA	1
C-10	6	XBFZZ		13627	12681-103-1	SKID CCB,CSR	EA	1

SECTION II

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION *USABLE ON CODE*	(7) U/M	(8) QTY INC IN UNIT
						GROUP 09 BULK MATERIAL		
BULK		XBFZZ		70510	TYPEUA1-2	CONDUIT	FT	
BULK		XDOZZ	5935-00-280-2380	84009	PT5276	CONNECTOR, POWER	EA	
BULK		PAOZZ	5940-00-143-4780	96906	MS25036-108	TERMINAL	EA	
BULK		XBFZZ	5975-00-578-3643	59173	5252	BOX, CONNECTOR, ELECT	EA	
BULK		PAFZZ	6145-00-050-7405	06542	242	WIRE	FT	
BULK		XBOZZ				CABLE. POWER	FT	

Section IV. National Stock Number and Part Number Index

STOCK NUMBER	FIGURE NO.	ITEM NO.
5305-00-043-3643	C-5	8
4730-00-050-4208	C-B	22
6145-00-050-7405	BULK	
5305-00-059-3660	C-10	1
5305-00-059-3660	C-2	1
5305-00-059-3660	C-2	8
5305-00-059-3660	C-1	B
5305-00-059-3660	C-9	4
5310-00-080-6004	C-1	12
3110-00-109-1155	C-8	15
5940-00-143-4780	BULK	
3110-00-156-5167	C-6	14
5310-00-I84-8970	C-4	2
5310-00-184-8970	C-5	2
5310-00--184-8970	C-8	31
5310-00-184-8971	C-1	12
5310-00-184-8971	C-8	2
5310-00-184-8971	C-8	25
5310-00-184-897I	C-8	42
4730-00-186-7798	C-7	1
4730-00-186-7798	C-8	7
5315-00-187-9595	C-1	2
4730-00-194-0216	C-8	8
5340-00-200-6535	C-7	10
5340-00-205-6301	C-7	13
4730-00-222-1819	C-7	16
4730-00-223-9255	C-7	3
4730-00-231-5602	C-8	10
4730-00-231-5603	C-8	31
5315-00-234-1664	C-1	1
3110-00-248-5865	C-8	40
5305-00-253-5608	C-1	8
5310-00-261-8278	C-10	3
5310-00-261-8278	C-2	3
5310-00-261-8278	C-2	10
5310-00-261-8278	C-7	12
5310-00-261-8278	C-9	3
5330-00-265-1078	C-8	49
5330-00-265-1086	C-8	48
4730-00-278-3990	C-7	11
4730-00-278-3990	C-8	6
5935-00-280-2380	BULK	
4730-00-287-0547	C-7	15
4730-00-287-0547	C-8	5
3655-00-394-4230	C-7	19
4820-00-411-5542	C-7	6
6105-00-411-5934	C-4	5
4730-00-41-8123	C-7	2
5310-00-436-3292	C-7	18
3126-00-436-8058	C-8	20
3655-00-431-7938	C-8	29
4710-00-438-1552	C-8	4
3655-00-438-2448	C-8	41
3655-00-438-2473	C-8	44
4820-00-450-9350	C-8	9
4730-00-451-1575	C-7	20
5330-00-457-4073	C-8	36
3655-00-463-4983	C-8	21
3655-00-463-4964	C-8	13
3655-00-463-4985	C-8	18
5360-00-477-5311	C-8	46
5360-00-489-9149	C-8	39
3655-00-498-7465	C-8	12
3030-00-529-0355	C-3	1
5940-00-549-8075	C-4	4
5940-00-549-8075	C-5	4
5940-00-549-8075	C-6	4
5310-00-577-5354	C-1	16
5975-00-578-3643	BULK	
5310-00-582-5677	C-4	3
5310-00-582-5617	C-5	3
5310-00-582-5677	C-8	32
5310-00-582-5965	C-6	2
5310-00-584-7799	C-1	6
5315-00-616-4249	C-3	6
5310-00-619-1148	C-10	2
5310-00-619-1148	C-2	2
5310-00-619-1148	C-2	9
5310-00-619-1148	C-7	9
5310-00-619-1148	C-9	2
5305-00-632-2777	C-8	1
5305-00-646-7389	C-1	15
5315-00-664-8013	C-8	11
5305-00-111-5467	C-1	10
5305-00-724-6748	C-3	2
5315-00-730-4577	C-3	4
6110-00-760-6352	C-9	5
5310-00-761-6882	C-10	4
5310-00-761-6882	C-4	1
5310-00-761-6882	C-5	1
5310-00-761-6882	C-6	1
5310-00-161-6882	C-9	1
5310-00-767-9425	C-1	17
5310-00-773-7618	C-1	11
5310-00-773-1618	C-8	26
5310-00-773-7618	C-8	43
5305-00-802-0016	C-8	30
5310-00-809-4058	C-6	3
5310-00-809-8536	C-1	6
5305-00-907-0044	C-8	24
5310-00-934-9751	C-6	11
5310-00-934-9751	C-9	1
5305-00-964-0635	C-8	41
3120-00-981-5117	C-8	28
3120-00-981-5117	C-8	35
5305-00-984-4983	C-9	6
5305-00-984-4984	C-5	23
5305-00-984-6189	C-4	6
5305-00-984-6191	C-5	13
5305-00-984-6198	C-5	6
5305-00-984-6208	C-5	10
5305-00-984-6226	C-4	1
6105-01-021-1152	C-6	5
4720-01-022-8302	C-4	5
4320-01-022-8541	C-8	3
5306-01-023-5332	C-6	12
5910-01-030-5048	C-6	10
5330-01-065-8851	C-6	9
5330-01-067-9696	C-6	7
5975-01-018-6500	C-6	6

FSCM	PART NUMBER	FIGURE NO.	ITEM NO.
71176	AK154HH7-8	C-3	3
7117T6	4K49-5-8	C-3	5
88044	AN816-4-4B	C-7	15
88044	AN816-4-4	C-8	5
88044	N91L0-2	C-7	3
88044	AN911-2	C-7	7
88044	AN911-2	C-8	1
88044	AN912-2	C-7	16
88044	AN912-5	C-B	e
88044	AN914-2	C-8	10
96906	MS15003-1	C-8	22
96906	MS15795-808	C-10	2
96906	MS15795-808	C-2	2
96906	MS15795-808	C-2	9
96906	MS15795-808	C-7	9
96906	MS15795-808	C-9	2
96906	MS15795-810	C-4	3
96906	MS15795-810	C-5	3
96906	MS15795-810	C-8	32
96906	MS15795-814	C-1	11

SECTION IV

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	FIGURE NO.	ITEM NO.	FSCM	PART NUMBER	FIGURE NO.	ITEM NO.
88044	AN914-3	C-8	31	96906	MS15795-8L4	C-8	26
88044	AN917-2	C-7	11	96906	MS15795-814	C-8	43
88044	AN911-2	C-8	6	96906	MS15795-818	C-1	11
05472	L1310H	C-6	5	96906	MS15795-822	C-1	6
92563	NR26SS	C-8	19	96906	MS17680	C-8	11
96906	MS19060-11	C-8	40	05341	RS125	C-8	11
96906	MS20066-147	C-3	4	05341	RS98	C-8	14
96906	MS20066-189	C-3	6	74159	SLU7O	C-4	4
96906	MS20604AD5T2	C-2	5	74159	SLU70	C-5	4
96906	MS21318-9	C-I	8	14159	SLU70	C-6	4
96906	MS21919DG13	C-7	10	13627	S1001	C-8	39
96906	MS21919DG4	C-7	13	70510	TYPEUA1-2	BULK	
96906	MS24665-495	C-1	1	06023	12-2800	C-7	19
96906	MS24665-749	C-1	2	13680	12DU08	C-8	45
96906	MS25036-108	BULK		13680	12DU16	C-8	28
96906	MS27183-10	C-6	3	73680	12DU16	C-8	35
96906	MS27183-14	C-1	12	13627	12681-100	C-9	5
96906	MS27183-24	C-1	6	13627	12681-103	C-10	6
96906	MS29513-127	C-8	49	13627	12681-103-1	C-10	6
96906	MS29513-130	C-8	48	13627	12681-105	C-1	7
96906	MS35206-226	C-9	6	13627	12681-106	C-2	11
96906	MS35206-227	C-5	23	13627	12681-106-1	C-2	11
96906	NS35206-240	C-4	17	13627	12681-107	C-2	4
96906	NS35206-241	C-4	6	13627	12681-109	C-1	14
96906	NS35206-243	C-5	13	13627	1268L-110	C-1	18
96906	NS35206-250	C-5	6	13627	12681-111	C-1	19
96906	NS35206-261	C-5	10	13627	12681-112	C-1	20
96906	MS35234-64	C-10	1	13627	12681-114	C-9	8
96906	MS35234-64	C-2	1	13621	12681-115	C-2	6
96906	MS35234-64	C-2	I	13627	12681-115-2	C-2	6
96906	MS35234-64	C-T	8	13627	12681-115-7	C-2	6
96906	MS35234-64	C-9	4	13627	12681-116	C-2	7
96906	MS35307-317	C-8	30	13627	12681-122	C-10	5
96906	MS35307-358	C-8	1	13627	12681-123	C-9	9
96906	MS35307-362	C-1	10	13627	12681-124	C-5	31
96906	MS35307-369	C-8	41	13627	12681-125	C-8	4
96906	MS35307-373	C-8	24	13627	12681-126	C-7	14
96906	MS35307-409	C-1	15	13627	12681-127	C-7	20
96906	MS35338-100	C-10	3	13627	12681-131	C-8	46
96906	MS35338-100	C-2	3	13627	12681-134-1	C-1	9
96906	MS35338-100	C-2	10	13627	12681-137	C-4	18
96906	MS35338-100	C-7	12	13627	12681-137	C-5	11
96906	MS35338-100	C-9	3	1362T	12681-138	C-4	7
96906	MS35338-101	C-4	2	13627	12681-139	C-4	9
96906	MS35338-101	C-5	2	13627	12681-141	C-5	14
96906	MS35338-101	C-8	31	13627	12681-145	C-5	18
96906	MS35338-103	C-1	12	13627	12681-146	C-S	20
96906	MS35338-103	C-8	2	13627	12681-147	C-5	27
96906	MS35338-103	C-8	25	13627	12681-148	C-S	28
96906	MS35338-103	C-8	42	13621	12681-149	C-5	30
96906	MS35338-105	C-1	16	83843	165A815H01	C-5	9
96906	MS35338-25	C-6	2	83843	18D4638P06	C-4	13
96906	MS35650-101	C-4	8	13627	2-3ROTATING	C-6	17
96906	MS35650-101	C-5	19	21335	203S	C-6	14
96906	MS35650-102	C-9	1	21335	205NPP	C-8	15
96906	MS35650-302	C-6	11	06542	242	BULK	
96906	MS35690-402	C-6	1	83843	262B161A06	C-4	10
96906	MS35690-402	C-9	1	83843	262B396A08	C-4	11
96906	MS35690-602	C-1	13	83843	262B396A18	C-5	25
96906	MS35692-1202	C-1	5	83843	262B4351A06	C-5	29
96906	MS39255A60	C-3	1	00853	262B524H11	C-4	19
96906	MS51964-38	C-5	8	00853	262B524H11	C-5	12
96906	MS51965-66	C-3	2	83843	262B744H02	C-5	16
96906	MS51967-2	C-10	4	83843	262B766H01	C-5	17
96906	MSS1967-2	C-4	1	83843	262B767H01	C-5	15
96906	MS51967-2	C-5	1	83843	264B161A07	C-5	21
04009	PT5276	BULK		83843	264B666A01	C-4	16
13627	P600-1002	C-8	27	08716	27-18	C-1	3
13627	P600-1102	C-8	51	08716	3X7SS	C-1	4
13627	P600-1103	C-8	50	83843	311P3214	C-4	5
13627	P600-1201	C-8	27	83843	311P325	C-5	5
13627	P600-1301	C-8	47	06023	33-11A	C-7	5
13627	P600-1601	C-8	34	06023	33-11P	C-7	2

SECTION IV

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	FIGURE NO.	ITEM NO.	FSCM	PART NUMBER	FIGURE NO.	ITEM NO.
13627	P600-1602	C-8	44	05472	35-2355-2	C-6	20
13627	P600-1701	C-8	3e	05472	35-32C	C-6	12
13627	P600-1902	C-8	38	05472	35-538-5241	C-6	18
13627	P600-2101	C-8	33	05472	35-7500	C-6	8
13627	P600-5001	C-8	13	05472	35-8582	C-6	13
13627	P600-5101	C-8	23	05472	35-8613	C-6	15
13627	P600-5301	C-8	16	05472	36-40	C-6	6
13627	P600-5303	C-8	21	05472	36-48	C-6	9
13627	P600-5405	C-8	20	05472	36-49	C-6	7
13627	P600-5502	C-8	12	83843	368C943H52	C-4	14
13627	P600-5503	C-8	18	83843	368C943H52	C-5	22
13627	P610-5002	C-8	3	83843	369C426A06	C-4	11
83843	369C430A12	C-5	24	83843	804C586A11	C-4	20
83843	369C485H02	C-S	7	83843	804C593A07	C-5	32
83843	369C506A10	C-4	15	05472	91300	C-6	10
83843	369C506A10	C-5	26	06023	9452U	C-7	6
06366	4MMBB4MB72	C-7	4	06023	950CK2800	C-7	17
04009	42225	C-9	7	06023	968-4	C-7	1
91816	5159B2P1000	C-8	9	06023	977-13	C-7	18
59730	5252	BULK					

APPENDIX D

ADDITIONAL AUTHORIZATION LIST

Section I. INTRODUCTION

D-1. SCOPE

This appendix lists additional items you are authorized for the support of the recharging unit.

D-2. GENERAL

This list identifies items that do not have to accompany the recharging unit and that do not have to be turned in with it. These items are all authorized to you by CTA, MTOE, TDA, or JTA.

D-3. EXPLANATION OF LISTING

National stock numbers, descriptions, and quantities are provided to help you identify and request the additional items you require to support this equipment. The items are listed in alphabetical sequence by item name under the type document (i.e., CTA, MTOE, TDA, or JTA) which authorized the item(s) to you.

Section II. ADDITIONAL AUTHORIZATION LIST

(1)	(2)		(3)	(4)
	DESCRIPTION			
NATIONAL STOCK NUMBER	FSCM & PART NUMBER	USABLE ON CODE	U/M	QTY AUTH
7520-00-559-9618	Cotton-duct, Case		Ea	1

APPENDIX E

EXPENDABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

E-1. SCOPE

This appendix lists expendable supplies and materials you will need to operate and maintain the recharging unit. These items are authorized to you by CTA 50-970, Expendable items (except Medical, Class V, Repair Parts, and Heraldic Items).

E-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 silicone adhesive sealant, item 1, Appendix "E".

b. Column (2) - Level. This column identifies the lowest level of maintenance that requires the listed item.

C - Operator/Crew

O - Organizational Maintenance

F - Direct Support Maintenance

H - General Support Maintenance

c. Column (3) - National Stock Number. This is the National stock number assigned to the item; use it to request or requisition the item.

d. Column (4) - Description. Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the Federal Supply Code for Manufacturer (FSCM) in parentheses followed by the part number.

e. Column (5) - Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

Section II

EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	C	6830-00-209-7967	Carbon Dioxide Liquid form, 50 lb. cylinder	
2	C	9150-00-190-0904	Grease, Automotive and Artillery, 1 lb. can	
3	O	3439-01-045-7940	Flux, Soldering Liquid Rosin Base, MIL-F-14256	
4	O,F	6850-00-264-9037	Dry Cleaning Solvent P-D-680	Qt.

APPENDIX F

COMPONENTS OF END ITEM AND BASIC ISSUE ITEM LIST

Section I INTRODUCTION

F-1. SCOPE

This appendix lists components of end item and basic items for the recharging unit to help you inventory items required for safe and efficient operation.

F-2. GENERAL

The Components of End Item and Basic Issue Items Lists are divided into the following sections:

a. Section II. Components of End Item. This listing is for informational purposes only, and is not authority to requisition replacements. These items are part of the end item, but are removed and separately packaged for transportation or shipment. As part of the end item, these items must be with the end item, whenever it is issued or transferred between property accounts. Illustrations are furnished to assist you in identifying the items.

b. Section III. Basic Issue Items. Not applicable.

F-3. EXPLANATION OF COLUMNS

The following provides an explanation of columns found in the tabular listings:

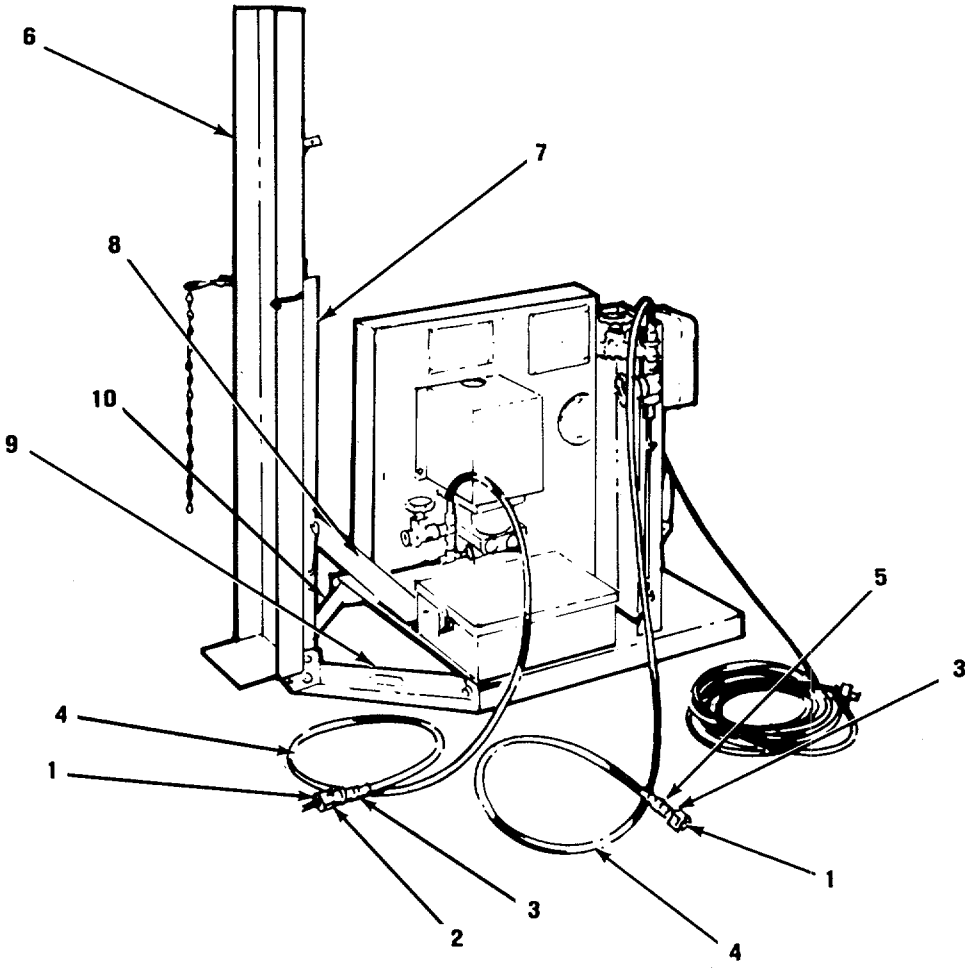
a. Column (1) - Illustration Number (Illus. Number). This column indicates the number of the illustration in which the item is shown.

b. Column (2) - National Stock Number. Indicates the National stock number assigned to the item and will be used for requisitioning purposes.

c. Column (3) - Description. Indicates the Federal item name and, if required, a minimum description to identify and locate the item. The last line for each item indicates the FSCM (in parentheses) followed by the part number.

d. Column (4) - Unit of Measure *(U/M).* Indicates the measure used in performing the actual operation/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr).

e. Column (5) - Quantity required (Qty rqr). Indicates the quantityof the item authorized to be used with/on the equipment.



Section II. COMPONENTS OF END ITEM

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION FSCM and Part number	USABLE ON CODE	(4) U/M	(5) QTY rqr
1		NUT, SWIVEL (06023) 968-4		EA	2
2	4730-00-411-8123	NIPPLE, INLET (06023) 3311P		EA	
3	4730-00-223-9255	ADAPTER (88044) AN910-2		EA	2
4		HOSE (06023) 4WM BB4M B72		EA	2
5		NIPPLE, OUTLET (06023) 3311A		EA	1

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION FSCM and Part number	USABLE ON CODE	(4) U/M	(5) QTY rqr
6		CRADLE, BOTTLE 13627) 12681-105		EA	1
7		SUPPORT, CRADLE 13627) 12681-112		EA	1
8		SUPPORT, CENTER (13627) 12681-109		EA	1
9		SUPPORT, RH (13627) 12681-110		EA	1
10		SUPPORT, LH (13627) 12681-111		EA	1

ALPHABETICAL INDEX

ALPHABETICAL INDEX (Cont.)

ALPHABETICAL INDEX (Cont.)

By Order of the Secretary of the Army:

JOHN A. WICKHAM, JR.
General, United States Army
Chief of Staff

Official:

MILDRED E. HEDBERG
Brigadier General, United States Army
The Adjutant General

DISTRIBUTION:
To be distributed in accordance with DA Form 12-25A, Operator's, Organizational, and Direct Support Maintenance requirements for Recharging, Unit, Carbon Dioxide, 1HP, 115V, 60HZ, 1PH, Models 12681, 12681-2.

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P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.

The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigram = .035 ounce
1 decagram = 10 grams = .35 ounce
acres
1 hectogram = 10 decagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 33.81 fl. ounces
1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47

1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

To change	*To*	*Multiply by*	*To change*	*To*	*Multiply by*
inches	centimeters	2.540	ounce-inches	Newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29,573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	Newton-meters	1.356	metric tons	short tons	1.102
pound-inches	Newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

PIN: 059900