TECHNICAL MANUAL

OPERATOR'S, AVIATION UNIT AND INTERMEDIATE MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)

FOR

HYDRAULIC SYSTEM TEST STAND, TYPE D-6A P/N 7459 NSN 4920-00-914-7054

"Approved for public release; distribution is unlimited."

Headquarters, Department of the Army

25 June 1990

WARNING

WARNING SUMMARY

Personnel performing operations, procedures, and practices which are included or implied in this technical manual shall observe the following instructions. Disregard of these warnings may result in serious or fatal injury to personnel.

GENERAL MAINTENANCE

Be sure that all electrical power is removed from the unit before beginning any maintenance operation. To avoid personal injury, test stand must be shut down and all hydraulic pressure relieved before beginning any maintenance operation.

TOWING

Maximum safe towing speed on an improved surface is 20 mph. Maximum speed over a rough surface is 10 mph.
Release brake before towing.

GROUNDING

Be sure all ground circuits within the unit are intact and that equipment is properly grounded before energizing.

PARKING

Set parking brake on test stand and towing vehicle when parked.

WHEEL REMOVAL

While working on any of the test stand wheels, the trailer weight must be adequately supported with a jackstand. The brake must be set, and the wheels at the end of the trailer opposite that being serviced must be properly chocked. Make certain that all pressure is removed from tire and tube prior to removing wheel assembly to avoid personal injury.

CHECKING HOSES & FITTINGS

Extremely high hydraulic fluid pressures are developed during test stand operation. The connecting hoses must be free of defects and connecting fittings clean to avoid hose rupture or leaks.

SERVICING FILTERS & VALVES

Test stand must be shut down and all pressure relieved before servicing filters or valves to avoid personal injury.

WARNING

USE OF CLEANING SOLVENTS

Those areas of skin and clothing that come in contact with cleaning solvents should be thoroughly washed immediately.

Saturated clothing should be removed immediately.

Area in which cleaning solvents are used should be adequately ventilated to keep vapors to a minimum.

If cleaning solvents contact the eyes, nose, or ears, flush them with generous quantities of water. Seek medical attention immediately.

USE OF LUBRICATING OIL

Produces paralysis if swallowed.

May burn if exposed to heat or flames.

Areas of skin and clothing that come in contact with lubricating oil should be thoroughly washed immediately.

Saturated clothing should be removed immediately.

Areas in which lubricating oil is used should be adequately ventilated to keep mist and fumes to a minimum.

TECHNICAL MANUAL

TM 1-4920-446-13 & P

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 25 June 1990

OPERATOR'S, AVIATION UNIT AND INTERMEDIATE MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST FOR HYDRAULIC SYSTEM TEST STAND, ELECTRIC MOTOR DRIVEN, TYPE D-6A

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Aviation Systems Command, ATIN: AM-SAV-MC, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished directly to you.

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CHAPTER 1
INTRODUCTION

SECTION I. GENERAL INFORMATION

1-1. Scope.

Type of Manual: Operator's, Aviation Unit Maintenance and Intermediate Maintenance including Repair Parts and Special Tools List.

Part Number and Equipment Name: Part Number: 7459; Hydraulic System Test Stand, Electric Motor Driven, Type D-6A.

Purpose of Equipment: To facilitate ground check and maintenance of aircraft hydraulic systems by performing the following test and service operations.

a. Test the aircraft system for internal and external leakage.

b. Test the function and operation of aircraft hydraulic systems and their components.

c. Drain, flush, and refill the aircraft hydraulic systems with micronically filtered hydraulic fluid.

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 738-751, the Functional Users Manual for The Army Maintenance Management System-Aviation (TAMMS-A).

1-3. **Destruction of Army Material to Prevent Enemy Use**. Refer to TM 750-244-1-4, Procedure for Destruction of Aviation Support Equipment (FSC 4920) for instructions on destroying this test stand.

1-4. **Preparation for Storage and Shipment**. Refer to TM 55-1500-204-25/1, Administrative Storage of Equipment and TM 743-200-1, Storage and Material Handling.

1-5. **Quality Assurance, Quality Control**. For quality assurance, quality control requirements refer to FM 55-411.

1-6. **Reporting Equipment Improvement Recommendation (EIR).** If your Hydraulic Test Stand 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. Tell us why you don't like the design or why a procedure is hard to perform. Put it on an SF 368 (Quality Deficiency Report). Mail it to us at: Commander, U.S. Army Aviation Systems Command, Attn: AMSAV-MMD, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. We'll send you a reply.

1-7. **Administrative Publication Storage**. Administrative storage of this publication shall be in accordance with TM 55-1500-204-25/1.

SECTION II. EQUIPMENT -DESCRIPTION AND DATA

1-8. **Physical Description.**

a. The test stand (Figure 1-1) incorporates one hydraulic piping system and a high pressure pump. The pump is driven by a 20 horsepower, 220/440 volt, 60 hertz, 3-phase motor.

NOTE

Left and right sides are determined standing at the towbar and facing the test stand.

b. Operator's controls and instruments are located at the right rear side of the test stand. The electrical components box is located at the right front side of the unit. External hose connections are located on the rear frame. Two U-shaped hangers are located on the cabinet front panel to stow the hydraulic hoses.

1-9. **TEST STAND CAPABILITIES**.

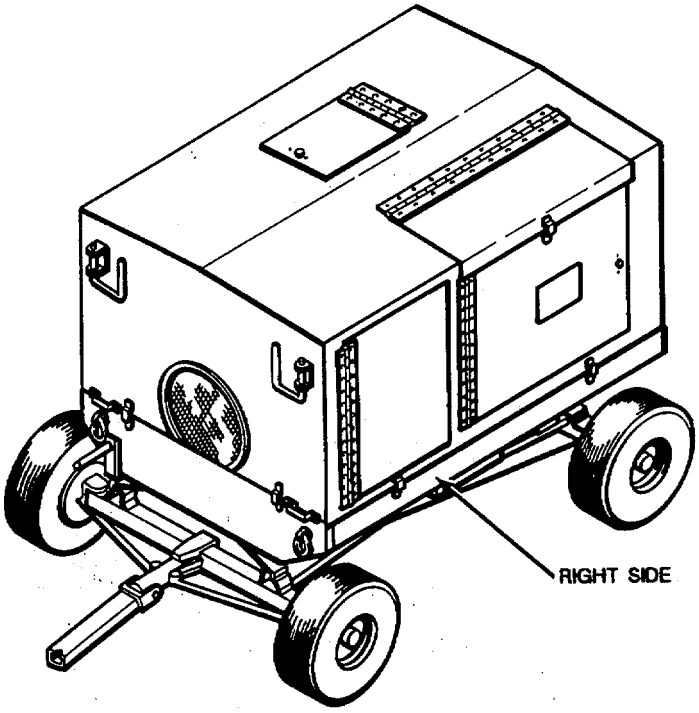
a. The stand is capable of supplying 0 to 10 gpm (gallons per minute) of hydraulic fluid at 3000 psi (pounds per square inch), or 0 to 5 gpm at 5000 psi.

b. The test stand is mounted on a four wheel trailer and is completely mobile. It may be towed at speeds up to 20 mph over improved roads or surfaces; 10 MPH over rough terrain. The unit is air transportable. It has been designed to withstand the gravitational forces which might be encountered in normal flight. The stand weight is 3060 pounds (wet). To familiarize using personnel with the equipment characteristics and physical makeup, a table of equipment data is presented in Table 1-1 and some of the major components are identified in Figure 1-2.

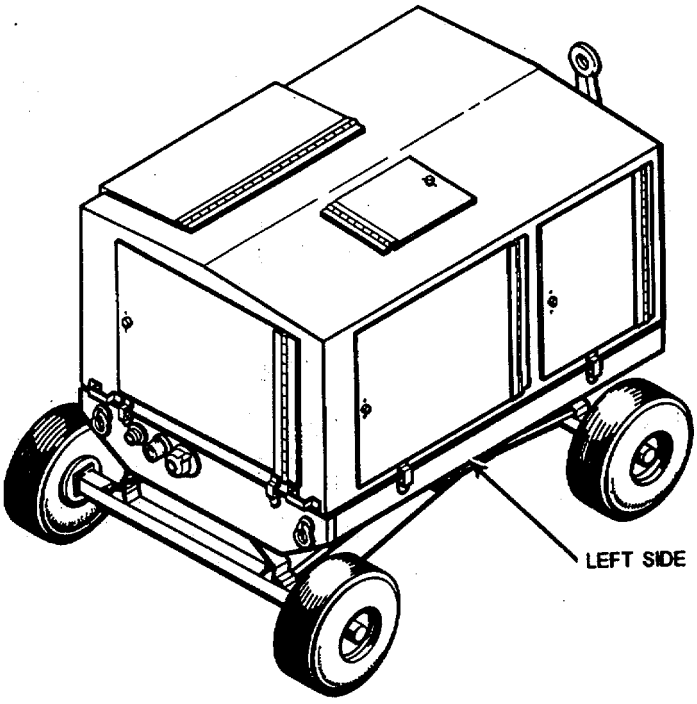
1-10. **Descriptive Details**. The stand operating components, including the control panel, are enclosed in a steel, weather resistant cabinet. The cabinet is mounted on the four wheel trailer. A hand operated mechanical parking brake on the rear wheels holds the test stand stationary while in operation or when parked. The major components and systems of the test stand are: trailer and running gear, cabinet, electric motor, high pressure hydraulic pump, hydraulic reservoir, hydraulic filters, instruments and controls, and the electrical system.

1-11. Trailer and Running Gear Assembly. The trailer frame is welded steel construction. The trailer rolls easily on four steel wheels equipped with 6.00/6.90-9,6 ply tires. Transverse leaf springs and radius rods attached to the front and rear axles cushion the stand against road shock and rough terrain, protecting the components of the test stand. A hinged towbar permits ease of positioning of the test stand and towing. The towbar can be latched in the upright position. Front wheel steering is the conventional type with steering knuckles, tie rods, and king pins. A hand lever (Figure 1-1) sets the rear wheel brakes, holding the test stand stationary when not being moved. Tiedown rings (Figure 1-1) at each corner of the trailer frame permit tiedown of the test stand for storage or shipment.

1-12. Housing. Two hinged doors on each side and one on the rear of the cabinet permit access to all internal components. A two hinged cover protects the controls when the test stand is not in use. By releasing two catches on each side, front and rear, the entire housing can be lifted off the chassis. A hinged access panel on top affords access to the hydraulic reservoir fill cap.



FRONT VIEW



REAR VIEW

Figure 1-1. Test Stand Hydraulic System Electric Motor Drive, Type-D-6A

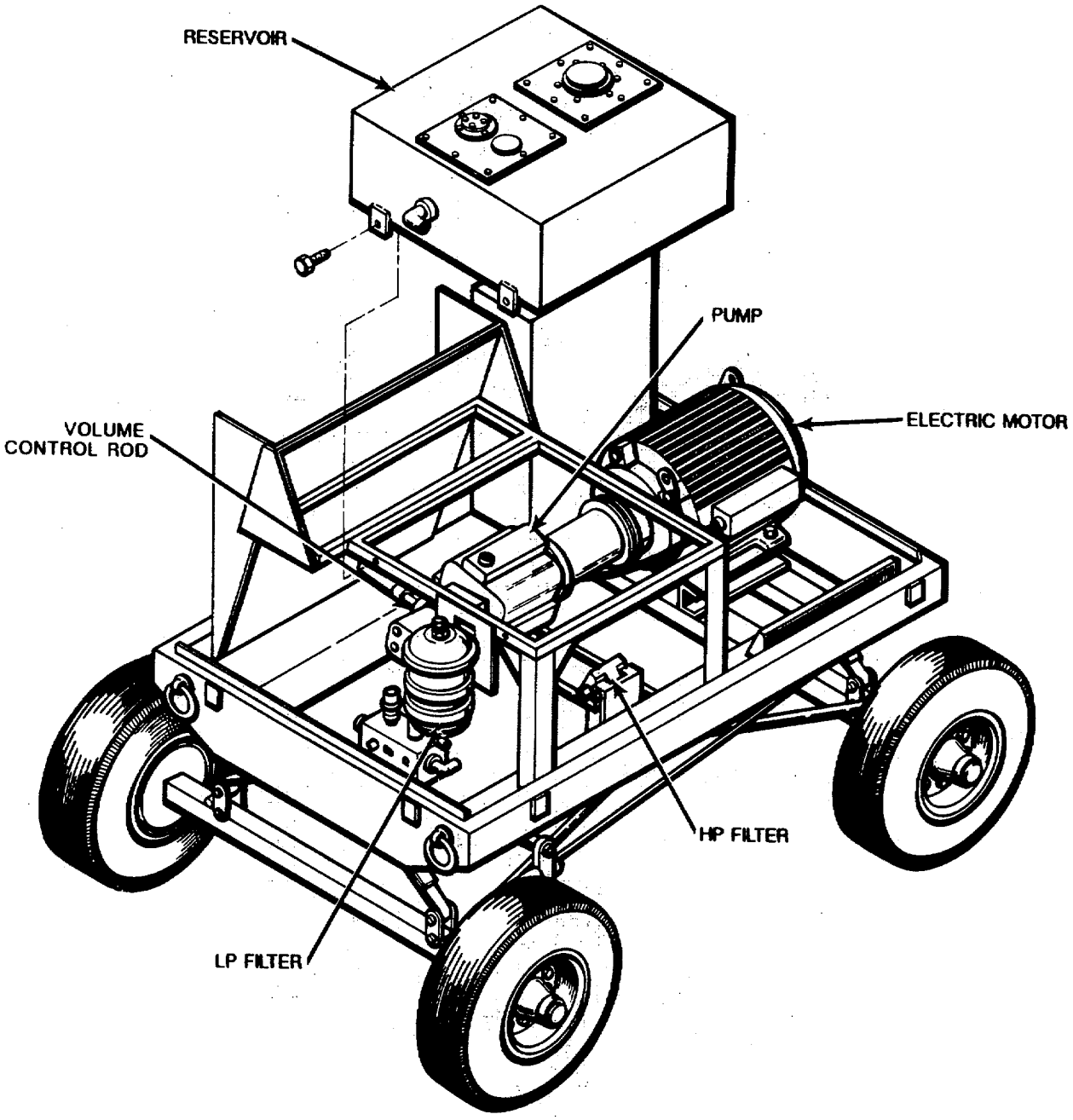


Figure 1-2. Test Stand Hydraulic System Electric Motor Drive, Type D-6A Major Internal Components

Table 1-1. Equipment Data

Length	77-1/2 inches (w/towbar vertical) 126-7/8 inches (w/towbar horizontal)
Width	56 inches
Height	54 inches
Cube	135.6 cubic feet (w/towbar removed)
Weight	3060 pounds (wet)
Housing	Metal, weather resistant, withstands 200 PSI static load
Mobility	Towing - Up to 20 MPH on improved surface 10 mph on rough surface. Airlift - Withstands shocks loads of up to 8G fore and aft, 3G sideward. Tiedown rings provided at each corner (10,000 pound tensile strength). Tires - 6.00/6.90-9, 60 psi
Operating Temperature (Ambient)	-40° F (-40° C) to + 125° F (49° C), up to 99% humidity
Storage Temperature	-55° F (-48° C) to + 160° F (71° C)
Output Capability	0-10 gpm at 3000 psi 0-5 gpm at 5000 psi
Reservoir Capacity	22 gallons (20 gallons usable)
Hydraulic Fluid	MIL-H-83282
Protective Devices	Over temperature switch High pressure differential switches Circuit breaker

1-13. Electric Motor. Power is supplied by a 20 horsepower, 220/440 volt, 3-phase, 60 hertz, electric motor (Figure 1-2 and Figure 1-5).

1-14. Hydraulic Hoses. Three hydraulic hoses are provided with the test stand. The 1/2 and 3/4 inch diameter hoses connect the high pressure system to the aircraft hydraulic system. The 1 inch diameter hose is the suction return line from the aircraft. Each hose has a quick disconnect fitting protected by a dust cap on each end. Each hose connects to the applicable quick disconnect fitting mounted on the rear of the frame. When not in use, the hoses can be stored on hooks on the front of the cabinet.

1-15. Electrical Cable Assembly. The external cable is approximately 56 feet long. It has a female plug on one end to plug into a hangar or flight line electrical receptacle. The 6 wires at the other end attach to the test stand electrical system.

1-16. Hydraulic Pump . The hydraulic pump is a high pressure, variable stroke, variable pressure, axial piston type. It includes a pressure compensator and handwheel stroke control. The rotation is clockwise (facing the input shaft), 1800 rpm, and output of 10 gpm at 3, 000 psi, and 5 gpm at 5, 000 psi. It incorporates a 1/4 inch needle valve for pressure compensator shutoff. Pressure and volume adjustments may be fixed at any point within the range of 800 to 5, 000 psi and 0 to 10 gpm. The pump mounting bracket attaches the pump to the electric motor. A removable panel on the bracket allows access to the flexible coupling attached to the motor output and pump input shafts.

1-17. Hydraulic Reservoir.

a. The hydraulic reservoir stores hydraulic fluid (MIL-H-83282) and supplies it for test stand functions. The reservoir holds 22 gallons of hydraulic fluid, 20 of which are usable. A 3 gallon space above the normal full level allows for expansion. A bolted access plate on top allows reservoir clean out and incorporates the fill tube with removable cap. An electrical float type fluid level assembly is installed in the reservoir. It's connected to a fluid level gauge on the instrument panel.

b. The reservoir can be removed by lifting off the cabinet, draining the tank, disconnecting plumbing and wiring, and removing 4 bolts.

1-18. High Pressure Filter. A filter (Figure 1-2) is located in the high pressure output line. A micronic filter element within the filter gives the pressurized fluid a final cleaning before outlet to the aircraft. A warning light on the operator's control panel indicates high differential pressure between the filter inlet and outlet. Should a filter element become clogged, the warning light will come on.

1-19. Low Pressure Filter. A low pressure filter (Figure 1-2) is incorporated in the outlet line from the system boost pump. The filter cleans hydraulic fluid before it enters the high pressure pump section. The filter housing' incorporates a drain plug, a filling port, and an air bleed valve which can be opened (using a screwdriver) to release entrapped air.

1-20. **Protective Devices and Instrumentation** (Figures 1-3 and 1-4).

a. A thermal relief valve limits pressure in the low pressure section caused by thermal expansion of fluid.

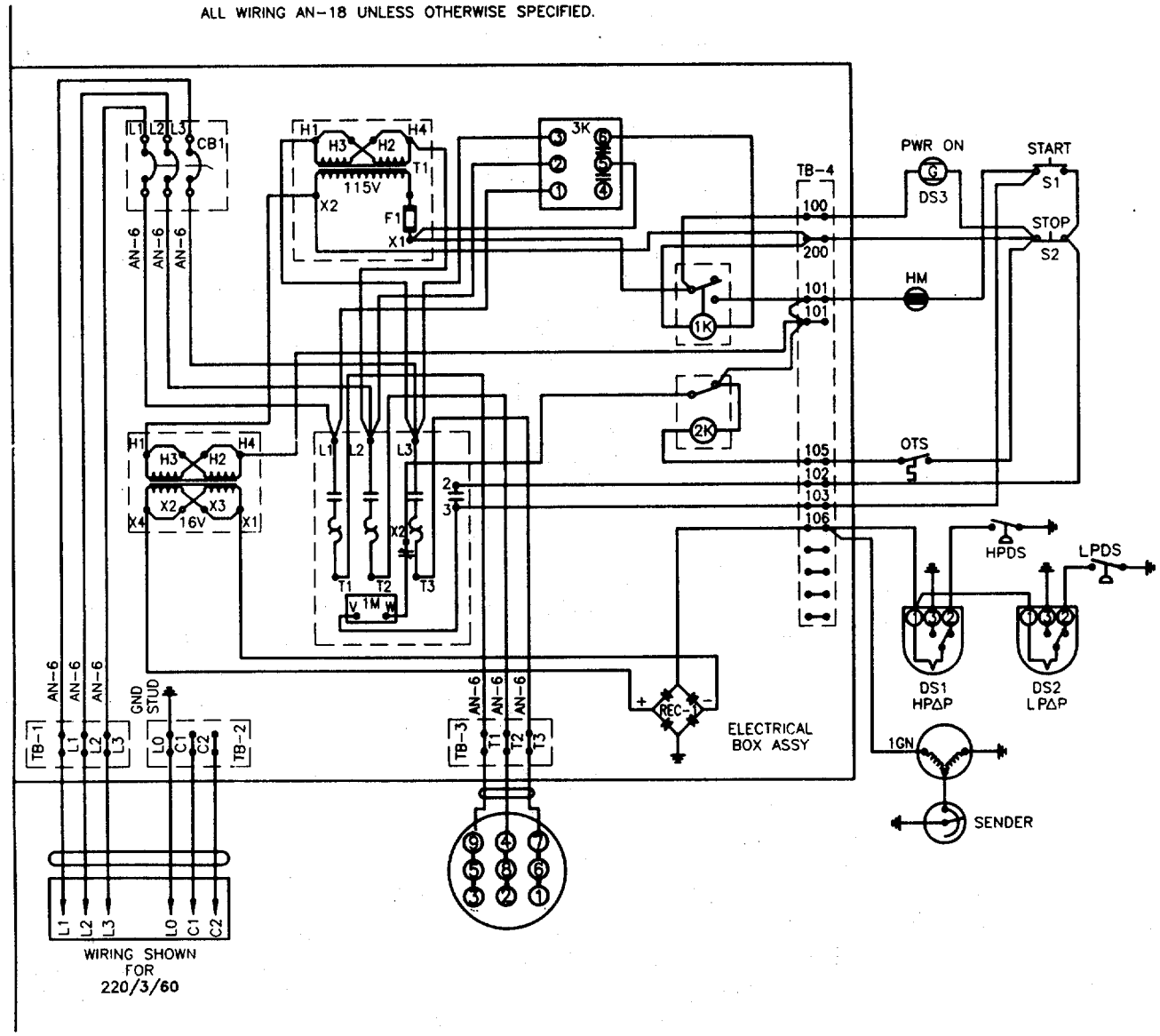


Figure 1-3. Electrical Wiring Schematic, D-6A (Sheet 1 of 2)

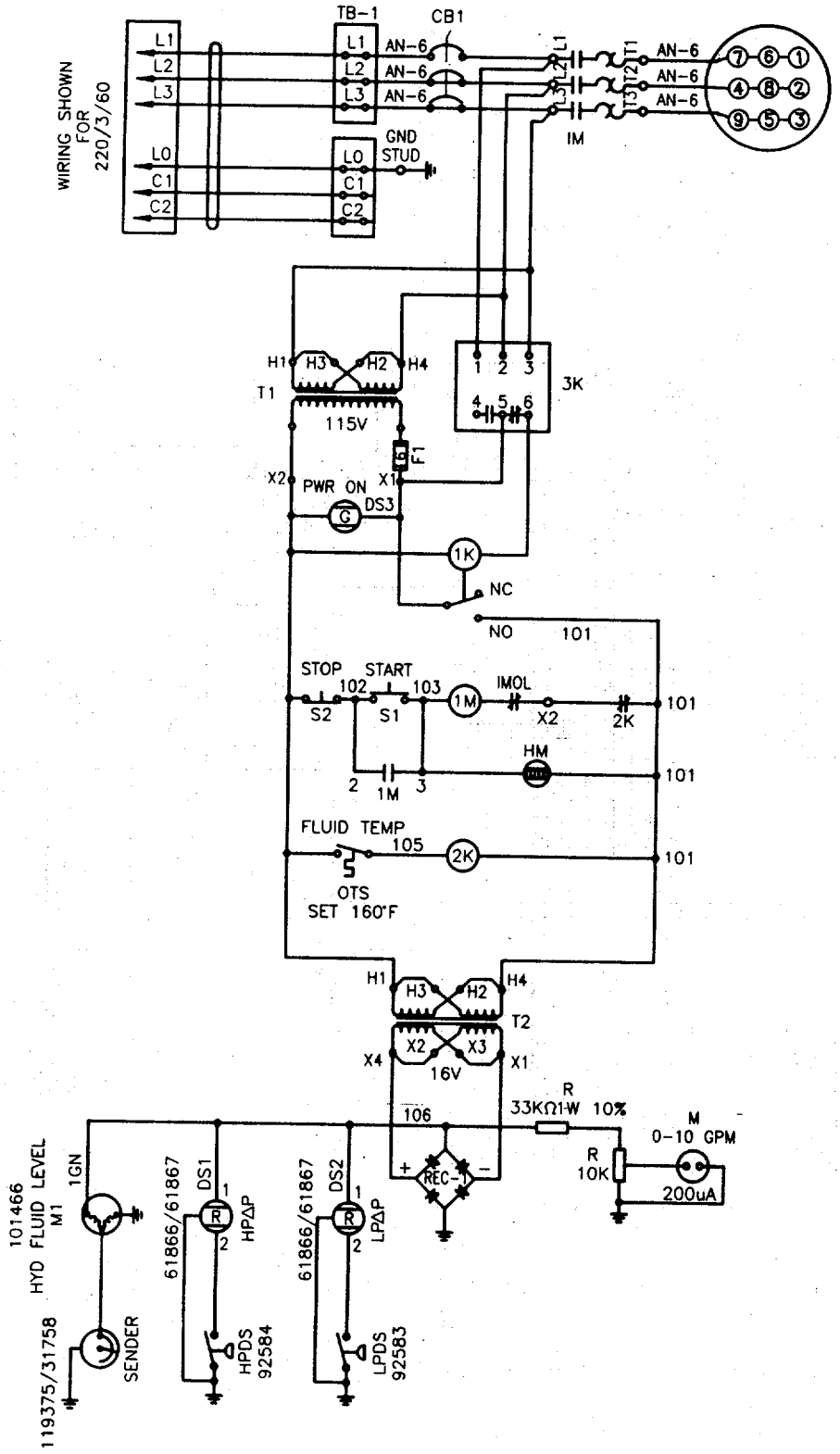
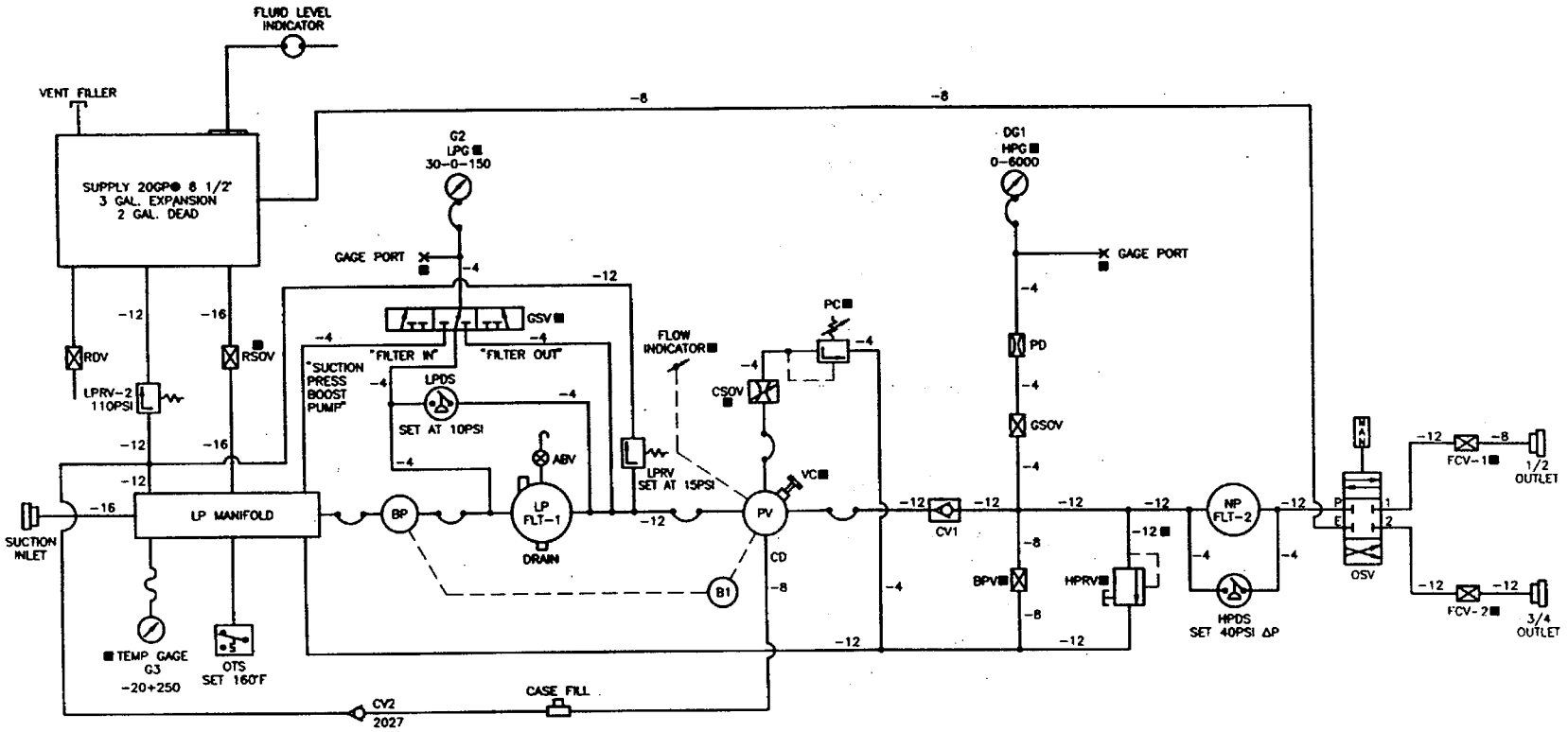


Figure 1-3. Electrical Wiring Schematic, D-6A (Sheet 2 of 2)



REFERENCE DESIGNATORS

ABV – AIR BLEED VALVE
LPRV – LOW PRESS. RELIEF VALVE
RDV – RESERVOIR DRAIN VALVE
RSOV – RESERVOIR SHUT OFF VALVE
OTS – OIL TEMP SW
BPV – BYPASS VALVE
HPRV – HIGH PRESS. RELIEF VALVE
CV – CHECK VALVE
CSOV – COMPENSATOR SHUT OFF VALVE
HPG – HIGH PRESS. GAGE
GSOV – GAGE SHUT OF VALVE
OSV – OUTLET SELECTOR VALVE
PC – PRESS. COMPENSATOR
VOL – VOLUME
FLT-1 – LOW PRESS. FILTER
FLT-2 – HIGH PRESS. FILTER
PD – PULSATION DAMPNER
PV – HIGH PRESS. PUMP
CD – CASE DRAIN
LPDS – LOW PRESS. DIFF. SW
HPDS – HIGH PRESS. DIFF. SW
LPG – LOW PRESS. GAGE
BP – BOOST PUMP
B1 – ELECTRIC MOTOR

■ – DENOTES PANEL MOUNTED

Figure 1-4. Hydraulic Schematic Diagram, D-6A

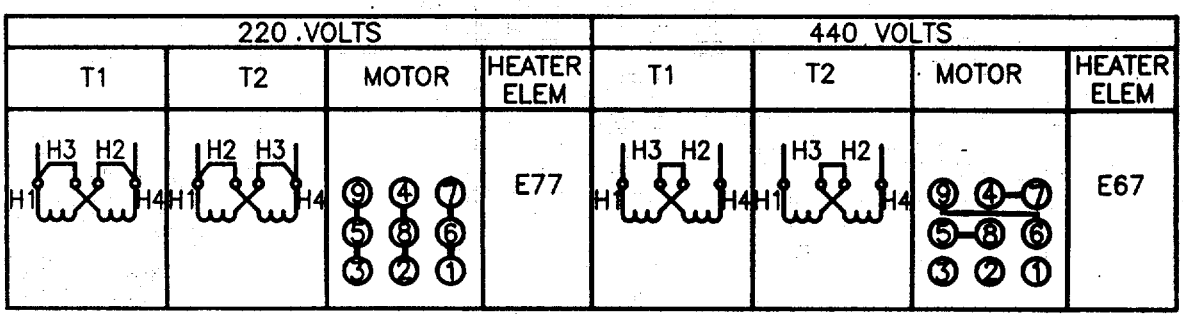


Figure 1-5. Connection Diagram for 220v or 440v, D-6A

b. A thermoswitch in the high pressure pump shuts down the unit when fluid temperature exceeds 160°F.

c. Low pressure switches protect the high pressure pumps against cavitation due to low inlet pressure or boost pump failure. If the pressure drops below 40±5 psig, the unit is automatically shutdown.

d. Check valves prevent reverse flow of hydraulic fluid.

e. Differential pressure switches across filter ports of the high and low pressure filters illuminate warning lights on the control panel to indicate a clogged filter.

f. A circuit breaker is provided for overload protection of various circuits. Refer to Figure C-4 for location of electrical components and Figure 1-3 for wiring schematic.

g. Complete instrumentation and controls are located on the control panels. Refer to Chapter 2, Figure 2-2 and Table 2-1 for description of function and location.

1-21. **Electrical System** (Figure 1-3). The system provides the circuits and control for proper functioning of electrical components. Electrical power is supplied by an external source through the external electrical cable.

1-22. **Equipment Data.** The equipment data in Table 1-1 summarizes the specific capabilities and limitations on the equipment.

SECTION III. PRINCIPLES OF OPERATION

1-23. **Simplified Principles of Operation**. (Figure 1-4.) The boost pump receives fluid from the aircraft through the suction return port and flowmeter. The output of the boost pump is passed through the low pressure filter to the suction side of the high pressure pump. The boost pump pressure is controlled by the low pressure relief valve. The output of the high pressure pump is passed through the high pressure check valve, high pressure filter, flow control valve, and pressure outlet to the aircraft. The output pressure is controlled by the high pressure relief valve and a compensator control on the high pressure pump. The output is controlled by the flow control valve, and regulated by a volume control on the high pressure pump.

NOTE

Before operation ensure test stand is wired for 220 volt operation.

CHAPTER 2
OPERATING INSTRUCTIONS

SECTION I. DESCRIPTION AND USE OF CONTROLS AND INSTRUMENTS

2-1. **Controls and Instruments**. Controls and instruments for operation and monitoring of the test stand are located at the right rear side. All controls are identified in Table 2-1 and located on Figure 2-2. Control settings are explained in Table 2-2.

SECTION II. OPERATING PROCEDURES

NOTE

Before operation ensure test stand is wired for 220 volt operation.

2-2. **Test Stand Operation**. Personnel operating the test stand must be familiar with the location and function of all controls and indicators. They must also have a thorough knowledge of the principles of operation involved.

WARNING

Extremely high hydraulic fluid pressures are developed during test stand operation. The connecting hoses must be free of defects and the connecting fittings clean to avoid hose rupture or leaks.

2-3. Preliminary Checks. Prior to operation, the following steps should be taken to ensure the stand will operate properly and safely.

a. Open all doors prior to beginning checks.

WARNING

Use volatile solvents only in a well ventilated area. Avoid prolonged contact with the skin.

b. Inspect the connecting hoses and clean the fittings using dry cleaning solvent, P-D-680, if necessary.

WARNING

Be sure all ground circuits within the unit are intact and that equipment is properly grounded before energizing.

c. Set circuit breaker CB1 (Figure 2-1) to ON position to check fluid level.

d. Observe the fluid level gauge and add fluid, MIL-H-83282, until gauge indicates ¾ FULL.

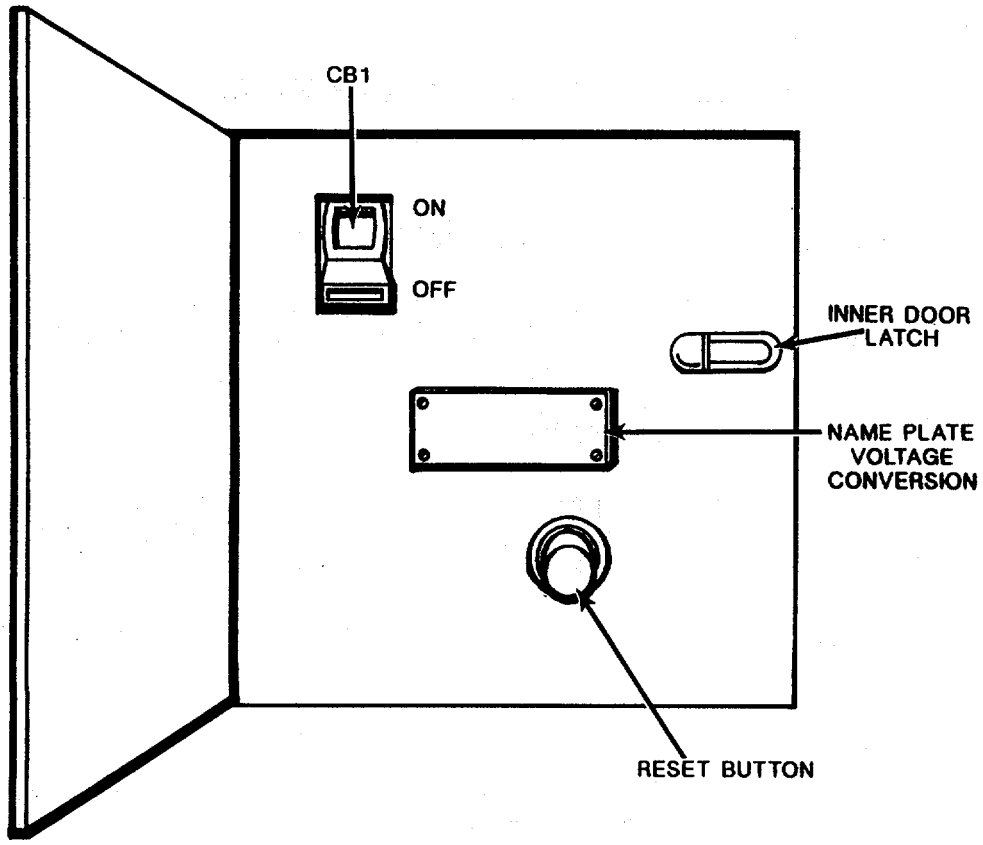


Figure 2-1. Electrical Component Box

Table 2-1. Controls and Instruments

Nomenclature	Item No. (fig. 2-2)	Function or Use
Hour Meter	1	Records elapsed operating time of test stand.
Fluid Pressure Gauge	2	Indicates main pump output fluid pressure.
Boost Pressure Gauge	3	Indicates boost pump fluid pressure.
Fluid Temp. Gauge	4	Indicates temperature of hydraulic fluid entering main pump. Gauge redlined at 160°F.
Reservoir Fluid Level Indicator Indicator	5	Indicates hydraulic fluid level in reservoir.
Compensator Shutoff Valve	6	Controls pressure of main pump fluid output.
High Pressure Bypass Valve	7	When opened, causes high pressure relief valve to dump flow to return line at no pressure.
Selector Valve	8	4 position, 3-way selector valve with lever handle. (Suction pressure boost pump, filter out, filter in.)
Reservoir Shut-off Valve	9	Shutoff fluid flow from reservoir.
High Pressure Relief Valve	10	Adjustable pressure regulating valve which controls outlet pressure to safe limits.
Flow Limit Adjust	11	Adjusts flow volume at main pump outlet port.
Flow Control Valve, 3/4 Inch Outlet	12	Controls flow of fluid through outlet hose.
Flow Control Valve, 1/2 Inch Outlet	13	Controls flow of fluid through outlet hose

Table 2-1. Controls and Instruments (Contd)

Nomenclature	Item No. (fig. 2-2)	Function or Use
Outlet Selector Valve	14	Directs high pressure fluid flow to 1/2 inch or 3/4 inch outlet, or to stand reservoir.
Pressure Compensator Valve	15	Sets fluid pressure as indicated on high pressure gauge.
Fluid Pressure Gauge Shutoff Valve	16	Used to isolate high pressure gauge from system.
Flow Indicator GPM	17	Indicates hydraulic fluid flow in gallons per minute.
LP Δ P (press-to-test)	18	Lights when high differential pressure exists across low pressure filter.
HP Δ P (press-to-test)	19	Lights when high differential pressure exists across high pressure filter.
HP Gauge Calibration port	20	Allows for calibration of high pressure gauge. Make sure cap on this port is securely fastened during operation of test stand.
Low Pressure Calibration Port	21	Allows for calibration of low pressure gauge. Make sure cap on this port is securely fastened during operation of the test stand.
Hydraulic Flow Diagram	22	Self explanatory.
Capacity Nameplate	23	Provides maximum flow rates at various pressures.
Warning Nameplate	24	Provides warnings to heed with test stand in operation.
Start Pushbutton	25	Push in to start electric motor.
Stop Pushbutton	26	Push in to stop electric motor.
Motor Light	27	Lit when motor is running.

CAUTION

Never operate the test stand if the hydraulic fluid reservoir is less than half full. System damage could result. Replenish as required.

e. Inspect piping and fittings for obvious leaks.

f. Close and secure all doors except those giving access to the control panel and electrical components panel.

2-4. Pre-operation Control Settings. Set the operating controls as listed in Table 2-2.

2-5. Pre-operation Fill and Bleed Procedure. With the controls set as specified in paragraph 2-4, proceed as follows:

a. Set circuit breaker (CB1) to ON position to set up hydraulic pump.

b. Turn outlet selector (14, Figure 2-2) to valve closed position.

c. Make certain flow control valves (12 and 13) are closed.

d. Activate bleed valve (on top of the low pressure filter) to bleed air from the system. Continue to actuate bleed valve until system is purged of air (Paragraph 1-19).

e. Replenish the hydraulic reservoir to the proper level (3/4 full) with hydraulic fluid, MIL-H-83282. Observe fluid level gauge.

2-6. The test stand is now full and air free.

2-7. Preliminary Adjustments and Control Settings. The test stand system is filled with hydraulic fluid at the completion of the procedures in paragraph 2-5. It is now necessary to set the stand controls to accommodate the test to be run.

a. Set the reservoir shutoff valve to the closed position (9, Figure 2-2).

b. Depress start pushbutton (25).

c. Set the selector valve (8) to the LP filter in position.

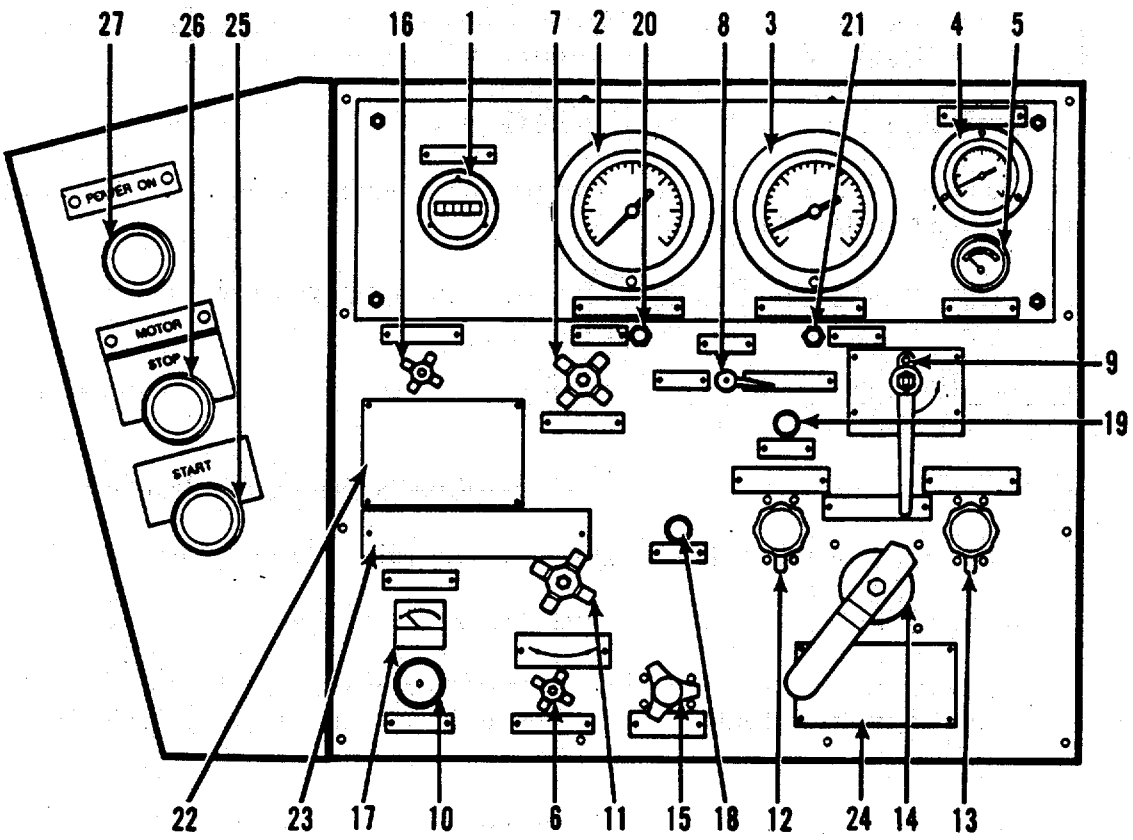
d. Open flow control valve (12 or 13). Turn valve counterclockwise.

e. Slowly close HP bypass valve (7).

f. Adjust HP relief valve (10) to closed (fully clockwise) position.

g. Adjust compensator control (6) to achieve an output pressure of 3300 psi as indicated on the fluid pressure gauge.

h. Reset HP relief valve (10) to obtain a reading of 3000 psi on the fluid pressure gauge (2).



1. HOUR METER
2. FLUID PRESSURE GAUGE
3. BOOST PRESSURE GAUGE
4. FLUID TEMP GAUGE
5. RESERVOIR FLUID LEVEL INDICATOR
6. COMPENSATOR SHUTOFF VALVE
7. HIGH PRESSURE BYPASS VALVE
8. SELECTOR VALVE
9. RESERVOIR SHUTOFF VALVE
10. HIGH PRESSURE RELIEF VALVE
11. FLOW LIMIT ADJUST
12. FLOW CONTROL VALVE 3/4 INCH OUTLET
13. FLOW CONTROL VALVE 1/2 INCH OUTLET
14. OUTLET SELECTOR VALVE
15. PRESSURE COMPENSATOR
16. FLUID PRESSURE GAUGE SHUTOFF VALVE
17. FLOW INDICATOR GPM
18. LOW PRESSURE DIFFERENTIAL INDICATOR
19. HIGH PRESSURE DIFFERENTIAL INDICATOR
20. HIGH PRESSURE GAUGE CALIBRATION PORT
21. LOW PRESSURE CALIBRATION PORT
22. HYDRAULIC FLOW DIAGRAM
23. CAPACITY NAMEPLATE
24. WARNING NAMEPLATE
25. START PUSHBUTTON
26. STOP PUSHBUTTON
27. MOTOR LIGHT

Figure 2-2. Instrument Panel Assy, D-6A

Table 2-2. Control Settings

Control	Position
Fluid Pressure Gauge Shutoff (16)	One quarter turn from fully open
Selector Valve (8)	LP filter in position
Pressure Compensator Valve (15)	Adjusted to lowest pressure setting (rotated fully counter-clockwise)
Outlet Selector Valve (14)	Closed
HP Relief Valve (10)	Completely counterclockwise
Flow Limit Adjust (11)	Set to zero flow (rotated fully clockwise)
HP Bypass Valve (7)	Open (rotated fully counterclockwise)

i. Adjust flow limit adjust control (11) to obtain a flow of 10 gallons per minute (gpm) as indicated on flowmeter (17).

j. Observe fluid flow meter (17) . Erratic needle movement indicates air presence. If air is entrapped, intermittently activate the bleed valve control to remove air (paragraph 1-19).

k. Decrease the hydraulic fluid flow to a minimum using the flow limit adjust (11, Figure 2-2).

NOTE

HP relief valve (10) must always be set 200/250 psi higher than compensator control (6) to achieve proper flow conditions.

l. Adjust compensator shutoff valve (6) and HP relief valve (10) for correct pressure for the test to be run.

m. Shut down test stand and stop the HP pump in accordance with paragraph 2-8.

2-8. Shutting Down the Test Stand. After making the preliminary adjustments to ensure the test stand is functioning properly or following a test or fill operation, the stand may be shut down by the following steps:

a. Open HP relief valve (10) by turning completely counterclockwise.

b. Open the HP bypass valve (7).

c. Depress stop button (26).

d. Set circuit breaker CB1 to OFF position.

2-9 . Emergency Shutdown. If necessary to stop the test stand rapidly, depress stop pushbutton and open the HP by-pass valve (7).

2-10. Fluid Sampling. A hydraulic fluid sample may be withdrawn from the suction pressure calibration port (21).

SECTION III. AIRCRAFT FILL AND TEST PROCEDURES

2-11. **Positioning and Connecting the Test Stand to Aircraft**.

a. Move the test stand to the operating site using a suitable towing vehicle.

b. Position the test stand so the hoses can be connected between the aircraft and test stand without sharp bends or kinks.

c. Set the brakes by pushing down on the brake lever.

d. Raise the tow bar and secure it in the vertical position. Secure with the tow bar latch.

e. Remove the hoses from the hangers on which they are stored.

WARNING

Use volatile solvents only in a well ventilated area. Avoid prolonged contact with the skin.

f. Check that the connector fittings on the hoses and the outlet and return fittings on the test stand are clean. If the fittings are dirty, wash with solvent, P-D-680, Type II.

g. Connect hoses between the aircraft and the outlet and return fittings at the rear of the test stand. Accessory fittings and adapters for use in making aircraft connections are supplied with the test stand.

2-12. **Replacing Lost Hydraulic Fluid in an Aircraft**. Small quantities of fluid, such as that lost when making the hose connections, may be replaced during normal operation of the test stand. To fill and bleed air from an aircraft system which has been drained, refer to paragraph 2-13.

2-13. **Bleeding an Aircraft Hydraulic System.** If an aircraft system has been drained or the hydraulic fluid supply depleted, the following procedure will renew the system.

NOTE

Two persons are required; one to operate the test stand, the other to cycle the aircraft controls and monitor from the aircraft.

a. Ensure the test stand has been prepared for operation (paragraph 2-5) and is properly connected to the aircraft. Set reservoir shutoff valve (9, Figure 2-2) to the closed position.

NOTE

For correct fill procedures, refer to the technical publication which applies to the aircraft being serviced.

b. Adjust the pump flow limit adjust control (11) for minimum flow and activate the test stand (25).

c. Open flow control valve (12 or 13).

d. Set selector valve (8) in the LP filter out position.

e. Slowly close the HP bypass valve (7).

f. Set the compensator control (6) and HP relief valve (10) for the pressure required for the particular aircraft.

g. Slowly increase the volume output of the test stand with the flow limit adjust control (11) in accordance with aircraft requirements.

CAUTION

Do not exceed the rated volume flow for the aircraft system pumps. Refer to the aircraft publication for pump capacities.

h. Aircraft controls must be continually cycled to ensure all air is bled from the system and to prevent heat build up.

i. Add hydraulic fluid to the test stand during filling to maintain the reservoir over one-half full.

j. When bleeding is complete, use standard operating procedures to shut down the test stand (paragraph 2-8).

2-14. **Aircraft Testing Procedures**.

a. Connect hoses to the aircraft.

b. Set reservoir shutoff valve to open.

c. Set flow control (12 or 13) to open.

d. Set HP bypass valve (7) to closed.

e. Operate the test stand in the manner described in paragraph 2-7.

f. Set the HP compensator control (6) to the desired pressure.

NOTE

HP relief valve (10) must be set 200/250 psi higher than compensator control (6) to achieve desired pressure.

e. Open HP bypass valve (7).

f. Adjust the flow limit adjust control to the flow required by the aircraft being serviced. Observe the flowmeter.

g. Slowly close HP bypass valve (7).

2-15. **Aircraft System Test**. To test an aircraft system, proceed as follows:

a. Ensure the test stand has been prepared for operation (paragraph 2-7) and is properly connected to the aircraft.

b. Make certain that the aircraft system is filled, free of entrapped air and correctly pressurized.

NOTE

Refer to the technical publication which applies to aircraft being serviced for the proper test procedures.

c. Set the outlet selector valve to point towards the 1/2 inch or 3/4 inch flow control outlet valve (12 or 13). Fully open the selected valve.

d. Set selector valve (8) to filter out position.

e. Activate the test stand (25).

f. Slowly close the HP bypass valve (7).

g. Proceed with the aircraft system test as directed in the technical publication applicable to the aircraft being tested.

h. Observe fluid pressure gauge (2). Adjust the compensator control (6) to obtain the required pressure for the specific aircraft.

i. Observe the flow indicator (17). Adjust the flow limit adjust (11) to obtain the required hydraulic fluid flow for the aircraft being tested.

j. Monitor the temperature of the hydraulic fluid at the LP filter outlet by observing the fluid temperature gauge (4).

k. Occasionally, or as necessary, check the return pressure from the aircraft. Switch the selector valve (8) to the suction pressure, boost pump position and observe boost pressure gauge (3).

l. After completing the hydraulic test of the aircraft, shut down the test stand using standard operating procedures (paragraph 2-8).

m. With the test stand shut down, disconnect the test stand from the aircraft and store the hoses.

CHAPTER 3
MAINTENANCE INSTRUCTIONS, AVUM, AVIM

SECTION I. REPAIR PARTS, SPECIAL TOOLS, AND TEST EQUIPMENT

3-1. Common Tools and Equipment. For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

3-2. Tools for AVUM and AVIM. See Appendix B, Section III.

3-3. Special Tools. No special tools are required.

3-4. Test Equipment. The following test equipment is required to check and adjust the instrumentation of the hydraulic test stand: Calibrated 0-6000 psi master gauge, 0-300 psi master gauge, and calibrated flowmeter.

3-5. Repair Parts. Repair parts are listed and illustrated in Appendix C of this manual.

SECTION II. SERVICE UPON RECEIPT

3-6 . Unpacking and Installation. The test stand is shipped completely assembled on fully inflated tires and requires no major assembly of components prior to preparing the stand for use. Open all cabinet doors and access panels. Thoroughly inspect interior of the test stand. Remove all extraneous packing or cushioning material used to protect internal components during shipment. Small areas of normally exposed metal surfaces may be wrapped with protective paper covering or tape during shipment. Be certain all such coverings are removed.

3-7. Initial Inspection. It is important to carefully inspect the complete test stand for any possible, damage which may have occurred during shipment. The following initial inspection procedures are recommended.

a. Check the data appearing on the test stand nameplate to verify it is the type of unit designated in paragraph 1-1 of this manual. If there is any doubt, do not operate the test stand.

b. Remove the hose assemblies from the cabinet. Inspect the hose assemblies carefully for evidence of damage, breaks, or loose fittings.

WARNING

The output hose assemblies are subjected to extremely high pressures. Replace a defective hose assembly before operating the test stand.

c. Open the control and instrument panel access door. Inspect all gauges, indicators and controls for evidence of shipping damage. Check that all parts are securely mounted. Check that all manually operated switches and controls operate freely.

d. Open access doors: Inspect the plumbing installation for damaged tube assemblies or fittings. Check that all fittings are securely connected.

e. Carefully inspect the electrical wiring for broken wires or frayed insulation. Check that all electrical connections are secure. Be sure all ground circuits within the unit are intact and that equipment is properly grounded before energizing.

f. Inspect the motor installation for evidence of shipping damage. Check that the motor mounting bolts are securely tightened.

g. Inspect oil reservoir for evidence of physical damage in shipment. Check that the gauge sensor is securely mounted in the oil reservoir. Check that the electrical wiring to the sensing unit is not damaged. Check the fluid system carefully for evidence of leakage.

h. Checktires for proper inflation pressure. Normal tire pressure is 60 psi with tires cold. Inspect tire treads and casings for cuts or abrasions and remove any imbedded objects from treads.

i. Check the tow bar and steering assemblies. Make certain that tie rods have not been bent or damaged and that the steering apparatus swings freely.

j. Check hand brake assembly by setting the hand brake and testing rear wheels for braking action.

k. Inspect the test stand trailer and cabinet for any damage, making certain that all bolts and screws are secured. Check doors and door latches for proper closing and locking.

l. Open electric motor access door and remove external electrical cable. Lay out cable and inspect condition of cable and end fitting. Any damage to the cable end fitting or evidence of broken wires in the cable is cause for replacement of the cable. Ensure cable ends are securely connected to terminal boards 1 and 2 (TB1, TB2) in the electrical assembly enclosure. A new test stand is factory wired for 220 volt, 3 phase, 60 hertz operation. Refer to Figure 1-5 to verify test stand is wired for 220 volt operation. or to convert to 440 volt operation.

3-8. Servicing Hydraulic System. Service the hydraulic system for use as follows:

a. If the hydraulic fluid reservoir (Figure 1-2) has been filled with a preservative fluid for shipment, drain the reservoir by opening the reservoir drain plug in the bottom of the reservoir. Make certain drain plug is closed after reservoir has been completely drained.

b. Drain the preservative fluid (if necessary) from the hydraulic system at the low pressure filter drain (Figure 1-2). When completely drained, replace drain plug.

c. If necessary, drain the preservative fluid from the high pressure pump by removing the drain plug located in the corner of the pump case. When completely drained, replace plug. Refill pump case with hydraulic fluid, MIL-H-83282.

d. Place main pump circuit breaker located in the electrical components panel in ON position. This will energize the reservoir fluid level gauge located on the control panel.

e. Ensure drain valve is closed then fill the test stand reservoir with hydraulic fluid, MIL-H-83282, until the fluid level gage indicates 3/4 full.

3-9. Preliminary Lubrication. Carefully inspect the test stand lubricating points referred to in Figure 3-1. Be sure that initial lubrication exists at all specified points.

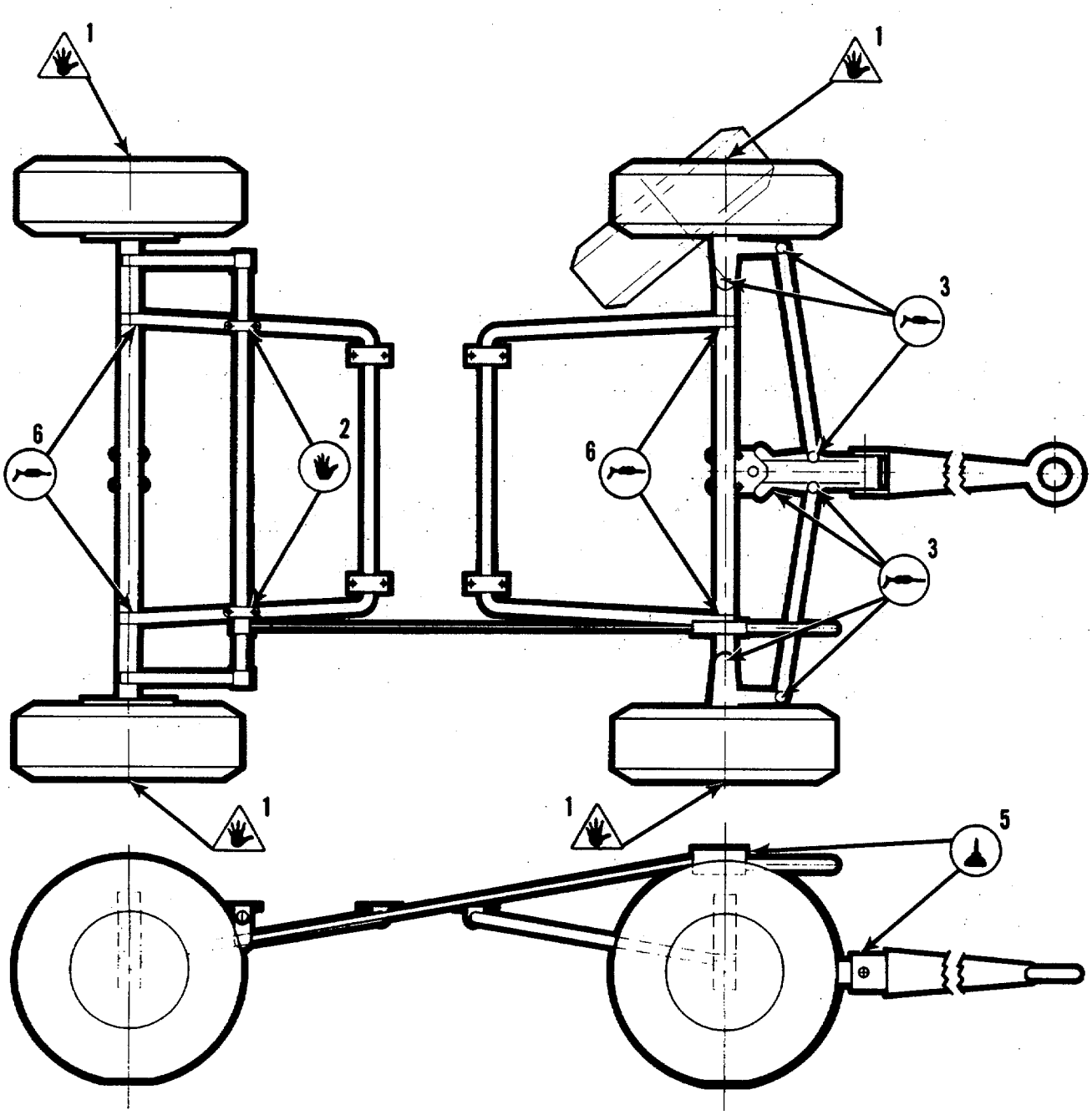
SECTION III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

3-10. General Information. Maintenance consists of periodic inspections of the hydraulic and electrical components, including piping, hoses, and connections; replacement of filter elements; testing of instrument accuracy; troubleshooting a malfunctioning unit; and lubrication. Section V of this chapter provides repair or replacement instructions authorized at the Aviation Unit Maintenance level. Repair or replacement of all other parts is to be done at the Aviation Intermediate Maintenance Level (annotated in parenthesis after the component to be maintained). The AVUM/AVIM Maintenance procedures complies with the maintenance Allocation Chart, Appendix B.

3-11. Periodic inspection and servicing. The test stand shall be periodically inspected in accordance with Table 3-1. Lubrication shall be performed as part of periodic inspection. Daily inspections should be performed before and/or after each day's operation. Intermediate and periodic inspections (Tables 3-2 and 3-3) will be done at operating intervals of 50 and 100 hours. Refer to Table 3-4 for daily servicing requirements, and to Table 3-5 for a list of lubricants to be used.

NOTE

Keep all foreign matter out of lubricants. Do not leave lubricant containers open any longer than necessary. Store lubricants in a clean, dry area.



FREQUENCY SYMBOLS

100 HOURS

250 HOURS

LEGEND

1. WHEEL BEARINGS
2. HANDBRAKE LINKAGE
3. STEERING LINKAGE
4. PINTLE HOOK
5. TOWBAR LATCH, HANDBRAKE
6. SPRING AND SHACKLE ATTACHING BOLTS

APPLICATION SYMBOLS

HAND PACK

GREASE GUN

OIL CAN

Figure 3-1. Lubrication Diagram

Table 3-1. Daily Inspection Requirements

Item	Period	Requirements
Hydraulic reservoir	Preinspect /postinspect	Check fluid level; add fluid as needed. Inspect for leaks. Check hydraulic line connections for loose connections and damage. Correct or report defects.
Cabinet interior	Preinspect /postinspect	Check electrical wiring for breaks, worn insulation, and loose connections. Correct or report defects.
Trailer	Preinspect/postinspect	Inspect tires for deep cuts and excessive wear. Correct or report defects.
Control panel gauges and controls	Preinspect/postinspect	Check for broken glass, bent indicating needles, or other obvious defects. Check that all controls operate smoothly and are tightly mounted. Correct or report defects.
Test stand	Postinspect	Start and operate test stand and check for hydraulic leaks. Check to make sure that 3000 PSI hydraulic pressure can be obtained at maximum GPM flow. Check temperature and flow indicators.

Table 3-2. Intermediate Inspection Requirements

Item	Period	Requirements
General	50 hour	Check general appearance of test stand, paying particular attention to cleanliness. Perform services listed in Table 3-1.
Lubrication fittings	50 hour	Check for missing or damaged lubrication fittings and for indications of improper lubrications. Lubricate as necessary according to Table 3-5. Replace missing or damaged fit Correct all oil or grease leaks.
Control panel	50 hour	Inspect control panel for loose mounting hardware.
Gauges and meters	50 hour	Check to see that all gauges indicate correctly and that glass is not cracked or broken. Tighten loose mounting hardware and hydraulic connections. Replace any defective or damaged gauge. Check to see that all meters are tightly mounted and operate properly. Check that glass is not cracked or broken and pointers are not bent or broken. Tighten loose electrical connections and mounting hardware. Replace any defective or damaged meter.
Control valves	50 hour	Inspect all control valves for packing leaks. Check to see that they operate properly. See that handwheels are tightly mounted. Tighten packing, or replace if necessary. Replace any defective or damaged valve.
Tires	50 hour	Inspect all tires for underinflation, abnormal or uneven wear, cuts, embedded foreign matter, and missing valve caps. Remove embedded foreign mat

Table 3-2. Intermediate Inspection Requirements (Contd)

Item	Period	Requirements
		ter Replace cut or worn tires. Ensure that all tires are inflated to correct pressure (60 PSI) and that all valve caps are in place.
Wheels	50 hour	Inspect for loose wheel mounting bolts. Inspect wheel bearings for proper adjustment. Tighten loose wheel bolts and adjust wheel bearings as required.
Axle	50 hour	Inspect axle assemblies for loose mounting and misalignment. Inspect springs for cracks, breaks, and weakened condition. Tighten all axle mounting bolts. Align front wheels as required. Replace defective springs.
Brake assembly	50 hour	Check brake assembly for unsatisfactory braking action. Check brake rods for loose mounting. Tighten all brake assembly mounting hardware and adjust brakes as required.
High pressure filter assembly	50 hour	Inspect filter assembly for dirty or clogged condition causing excessive pressure drop. Replace dirty or clogged filter element.
Oil temperature switch	50 hour	Inspect switch for security and loose mounting. Replace inoperative or damaged switch.
Low pressure filter assembly	50 hour	Inspect filter assembly for dirty or clogged condition causing excessive pressure drop. Replace dirty or clogged filter element.

Table 3-3. Periodic Inspection Requirements
(In addition to the 50 hour inspection requirements, perform the following tasks)

Item	Period	Requirements
General	100 hour	Inspect test stand for general appearance, paying particular attention to cleanliness. Perform services listed in Table 3-1
Markings	100 hour	Inspect identification plates and markings for legibility.
Paint	100 hour	Inspect for chipped paint and exposed and rusty metal. Correct as necessary.
Electric Motor/ Hydraulic Pump	100 hour	Inspect electric motor securely mounted and electrical connections tight. Inspect hydraulic pump for secure mounting of flexible coupling and hydraulic connections. Tighten all loose hydraulic connections.
Hose assemblies	100 hour	Inspect all hose assemblies for loose connections, cracks, breaks, and frayed or rotted fabric covering. Tighten loose connections. Replace hose assembly, if it is otherwise defective.
Hydraulic tubing	100 hour	Inspect tubing for cracks, breaks, and distortion. Tighten all hydraulic connections. Replace damaged or defective tubing or fittings.
½, ¾, and 1 inch external hoses.	100 hour	Inspect condition of hoses, and couplings. Ensure dust caps installed on couplings.

Table 3-4. Daily Servicing

System	Component	Requirements
Hydraulic	Reservoir (Figure 1-2)	Check reservoir fluid level.; Add hydraulic fluid as necessary.
	Access door hinges	Check for free movement. Lubricate, if needed (Table 3-5)
	Draw bar	Check for free movement. Lubricate, if needed (Table 3-5)

Table 3-5. Lubricants

Draw bar: assembly and latch	VV-L-800
Door hinges and latches	VV-L-800 ~
Wheel bearings	MIL-G-10924
Tie rod ends	MIL-G-10924
Brake assy yokes	VV-L-800
Spring bolt lube fitting (front and rear)	MIL-G-10924
Steering arm center pin	MIL-G-10924
Electric Motor	MIL-L-15719

3-12. Lubrication. Lubrication of test stand components and assemblies should be performed in accordance with Figure 3-1, and Table 3-4.

SECTION IV. TROUBLESHOOTING

3-13. Troubleshooting. In the event that operation of the test stand becomes faulty or erratic, refer to the trouble-shooting chart, Table 3-6; to aid in isolating and correcting troubles.

Table 3-6. Troubleshooting Chart

Malfunction	Inspect	Corrective Action
Failure of high pressure pump.	Low fluid content in test stand or aircraft reservoirs.	Refill reservoirs to specified.
Note: Low boost pres sure will shutdown test stand	Air leak in boost pump intake line	Check and tighten all fittings.
	Mechanical failure of pump.	Replace pump. See para. 3-63.
	Shaft seal leakage of pump.	Replace pump See para. 3-63.
Pump fails to deliver sufficient volume	Incorrect operating procedures	Check correct operating pro cedure. See Chapter 2. Also check volume control. See para. 3-64.
	Pump seizure due to lack of fluid supply	Maintain adequate supply of hydraulic fluid in test stand or aircraft reservoirs. Replace pump. See para. 3-63.
	Defective high pres sure relief valve	Remove and service or re place. See para. 3-67, 3-68, and Figure C-10.
Pump fails to compen sate	Incorrect operating procedure	Check correct operating pro-cedure. See Chapter 2.
	Pressure Compensator valve inoperative	Replace compensator valve (Figure 1-4) on control panel. See para. 3-68
Test stand fails to develop sufficient pres sure	High pressure relief valve sticking or scored	Replace valve. See para. 3-67, 3-68, and Figure C-10
System pressure too high	Compensator improperly adjusted	Adjust pressure compensator valve to correct setting for

Table 3-6. Troubleshooting Chart (Contd)

Malfunction	Inspect	Corrective Action
		aircraft system specified. Check operating procedures in Chapter 2
	High pressure relief valve	If inoperative, replace valve. See para. 3-67, 3-68, and Figure C-10.
High pressure relief valve chattering	.: Relief valve cone not seated properly due to dirt or foreign matter lodged between cone and seat	If chattering persists, replace valve. See para. 3-68, and Figure C-10.
Test stand inoperative	Check main power cable	Ensure cable end fully seated in receptacle. Ensure receptacle has electricity.
	Main circuit breaker CB1	Reset if tripped.
.	Fuse (F1)	Remove and check fuse (F1). Replace if defective.
	Magnetic Starter	Reset L1, L2, or L3 if tripped.
Hydraulic pump motor inoperative	Defective circuit breaker	Replace faulty circuit breaker.
	Overload activated (will shutdown test stand)	Reset or Replace overload as necessary. Check motor for cause of fault. Remove per para. 3-51 and replace if necessary.
Control circuit inoperative	Fuse (F1)	If blown, replace fuse. Figure C-4. Check for use of overload. Repair fault.
	Input wiring connected improperly	Check input wiring to ensure it conforms to Figure 1-5 for 220 or 440 volts.
Indicator lights do not illuminate	Fuse (F1)	If blown, replace fuse. Figure C-4. Check light sockets and wiring for shorts.

Table 3-6. Troubleshooting Chart (Contd)

Malfunction	Inspect	Corrective Action
	Bulb(s) burned out	Replace bulb(s).
Electrical system failure(s)	Broken, loose, or grounded wires and connections	Check electrical circuits with electrical system schematic (Figure 1-3).
	Improper connections	Check electrical connections for 220 or 440 volt input. See Figure 1-5.

SECTION V. MAINTENANCE PROCEDURES

3-14. Maintenance of significant components. For maintenance procedures, the trailer will be divided into the assemblies listed below.

Assembly	Includes	Refer to Paragraph
Cabinet	Doors, Catches, Panels	3-15
Chassis	Axle and steering assembly tie rods and ends, springs, wheels, hub and bearings, brake assembly, tires and tubes, tow bar.	3-19
Electrical System	Motors, switches, and circuit breakers, wiring and cables, fuses.	3-49
Hydraulic System	Pumps, cooler, compensator control, volume control, valves, fluid reservoir, filter assemblies, lines, tubing, fittings, hose assemblies, manifolds, pressure gauges.	3-61
Instrument Panel	Control knobs, panel assembly instruments.	3-81
Frame Assy	Frame work tiedown/lifting rings stencil data, enclosure latches	3-90

3-15. Summary of cabinet assembly maintenance. Maintenance tasks are listed below with information necessary to locate detailed procedures.

Task Number	Task	Refer to Paragraph
1	Inspect cabinet assembly.	3-16
	Perform task 1, then perform task 2 and 3 as needed.	
2	Repair cabinet assembly.	3-17
3	Replace cabinet assembly	3-18

3-16.	Cabinet assembly	3-16

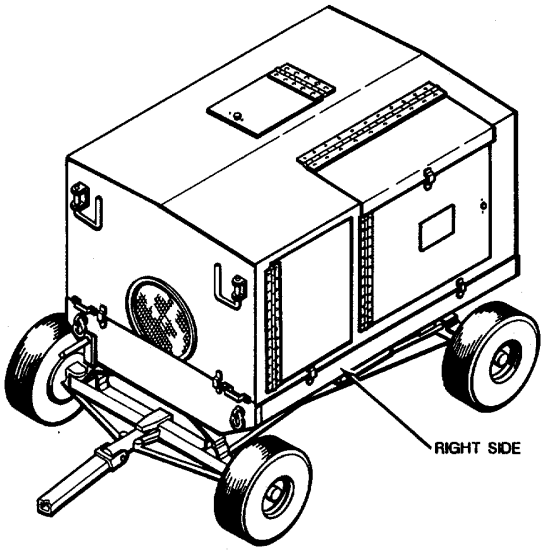
This task covers: Inspection

INITIAL SETUP

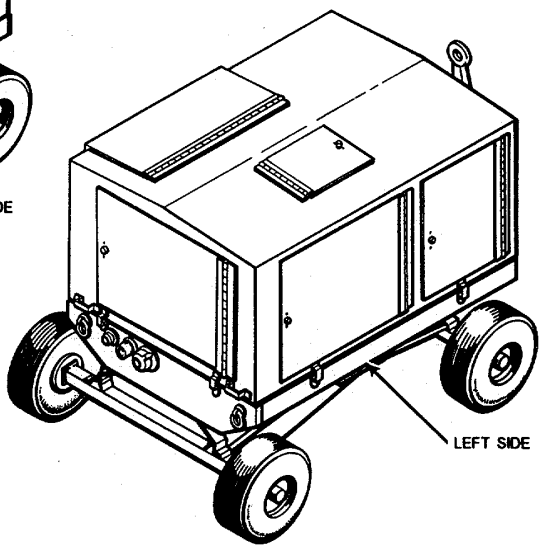
Personnel Required:
MOS 67

INSPECTION

Inspect doors, fasteners and access panels for damage or wear, positive closing and locking, and positive latching in open position.



FRONT VIEW



REAR VIEW

END OF TASK

3-17.	Cabinet assembly - Repair	3-17

This task covers: Repair

INITIAL SETUP

Tools:
Shop Set, AVIM, Sheet Metal, NSN 4920-00-166-5505
Shop Set, AVIM, Welding, NSN 4920-00-163-5093

Personnel Required:
MOS 68G

Reference Information:
Para. 3-16 Illustration

REPAIR (AVIM):

1. Remove dents in doors and access panels where possible and repair welds as necessary.

2. Replace fastening and latching hardware, and hinges if worn or damaged.

END OF TASK

3-18. Cabinet assembly - Replace 3-18

This task covers: Removal and installation

INITIAL SETUP

Personnel Required:
MOS 67

Reference Information:
Para. 3-16 Illustration

REMOVAL

1. Ensure door to electrical component box and all cabinet access doors/panels are latched shut.
2. Unfasten frame to cabinet catches (8 total).
3. Using handles at each end lift cabinet up and off frame.

INSTALLATION

1. Ensure door to electrical component box and all cabinet doors and access panels are latched shut.

CAUTION

When installing cabinet, make sure left side does not hit reservoir drain valve lever.

2. Using handles at each end, lift cabinet up and set on frame.
3. Attach catches to cabinet (8 total).

END OF TASK

3-19. Summary of chassis maintenance. Maintenance tasks are listed below with information necessary to locate detailed procedures.

Task Number	Task	Refer to Paragraph
1.	Inspect axle and steering assembly. Perform task 1, then perform task 2, 3, 4, and 5 as needed.	3-20
2.	Service axle and steering assembly.	3-21
3	Replace axle and steering assembly.	3-22
4.	Repair axle and steering assembly.	3-23
5	Repair axle and steering assembly.	3-24
6.	Inspect tie rods and ends. Perform task 6, then perform task 7 and 8 as needed.	3-25
7.	Service tie rod ends.	3-26
8.	Replace tie rod ends.	3-27
9.	Inspect springs. Perform task 9, then perform 10 and 11 as needed.	3-28
10.	Service springs.	3-29
11.	Replace springs.	3-30
12.	Inspect wheels. Perform task 12, then perform task 13 and 14 as needed.	3-31
13.	Service wheels.	3-32
14.	Replace wheels.	3-33
15	Inspect hub and bearings. Perform task 15, then perform task 16 and 17 as needed.	3-34

3-19. Summary of chassis maintenance. (Contd)

Task Number	Task	Refer to Paragraph
16.	Service hub and bearings.	3-35
17.	Replace hub and bearings.	3-36
18.	Inspect brake assembly.	3-37
	Perform task 18, then perform task 19, 20 and 21 as needed.	
19	Service brake assembly	3-38
20.	Adjust brake assembly	3-39
21.	Replace brake assembly	3-40
22.	Inspect tire and tube.	3-41
	Perform task 22, then perform task 23, 24 and 25 as needed.	
23.	Service tire and tube.	3-42
24.	Repair tire and tube.	3-43
25.	Replace tire and tube.	3-44
26.	Inspect tow bar assembly.	3-45
	Perform task 26, then perform task 27, 28 and 29 as needed.	
27.	Service tow bar assembly.	3-46
28.	Repair tow bar assembly.	3-47
29.	Replace tow bar assembly.	3-48

3-20. Axles and steering assembly - Inspect 3-20

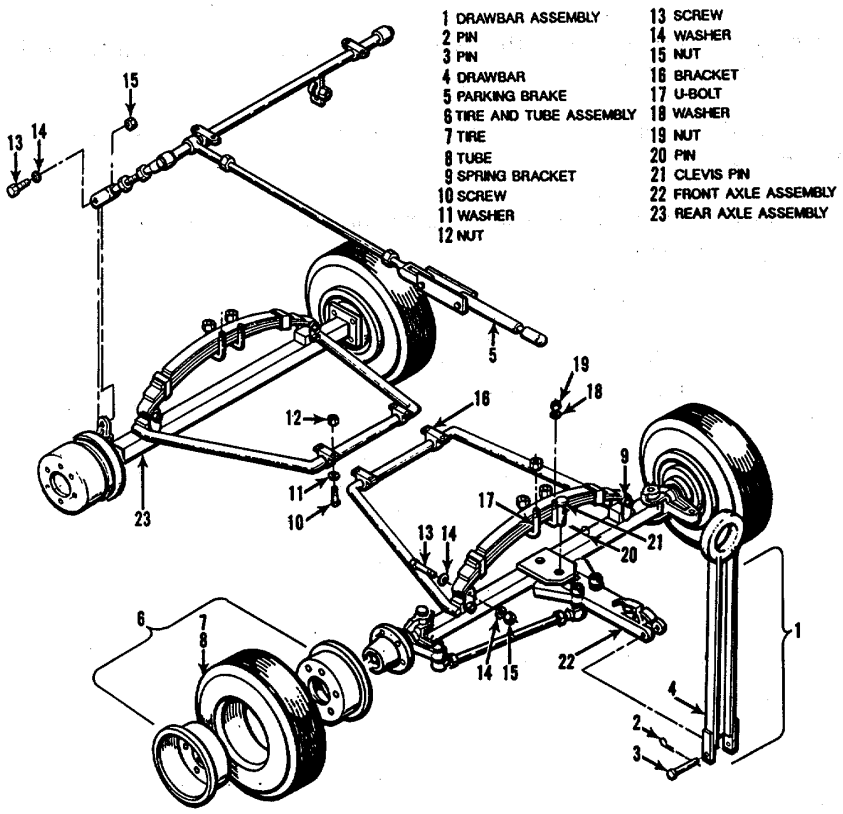
This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION:

1. Check axle and steering assembly for bends or distortion.
2. Check axle and steering assembly for cracks, burrs, sharp edges and other similar damage.
3. Check axles and steering assembly for loose, missing, or worn parts.



END OF TASK

3-21. Axles and steering assembly - Service 3-21

This task covers: Service

INITIAL SETUP

Tools:
Tool Set, AVUM Set No. 2 NSN 4920-00-567-0476

Material Required:
Grease - MIL-G-10924

Personnel Required:
MOS 67

SERVICE:

1. Apply grease MIL-G-10924 to lube fittings on steering assembly with grease gun as indicated in figure 3-1. (7 points)
2. Apply MIL-G-10924 grease to spring and shackle attaching bolts 3 front and 3 rear (see Figure 3-1).
3. Tighten loose hardware and replace missing hardware as required.

END OF TASK

3-22. Axles and steering assembly - Replace 3-22

This task covers: Removal and Installation

INITIAL SETUP

Tools:
Tool Kit, Aircraft Mechanics General, NSN 5180-00-323-4692

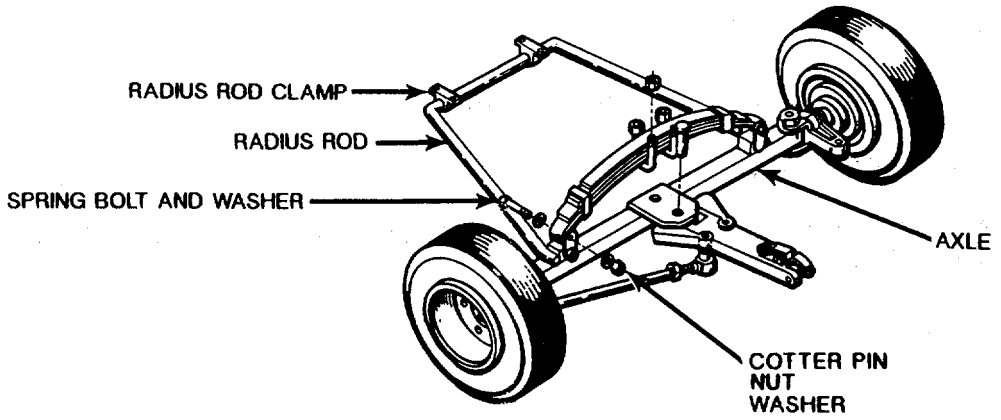
Special Tools:
Jack 2 ton (2)
Jack stand (2)
Chock (2)

Parts Required:
Pin, Cotter, MS 24665-355 (2)

Personnel Required:
MOS 67

REMOVAL:

Front Axle and Steering Assembly



1. Chock wheels.

2. Jack up trailer, install jackstands so tires have a 1/2 inch clearance from the ground.

GO TO NEXT PAGE

3. Install two small jacks under front axle.
4. Remove cotter pins from bolts connecting axle to the spring.
5. Remove nuts and bolts connecting the axle to the spring.
6. While supporting forward radius rod, disconnect two radius rod clamps.
7. Lower the axle with the small jacks.
8. Remove small jacks.
9. Pull the front axle out of the front of the test stand.

INSTALLATION:

Front Axle and steering assembly.

1. Position front axle and steering assembly below elevated test stand.
2. Place two small jacks under axle.
3. Support radius rod then raise axle and attach to spring assembly with nuts and bolts.
4. Install cotter pins in spring bolts.
5. Attach radius rod using radius rod clamps.
6. Remove the two small jacks.
7. If only replacing front axle and steering assembly, lower test stand to ground and remove jack stands.

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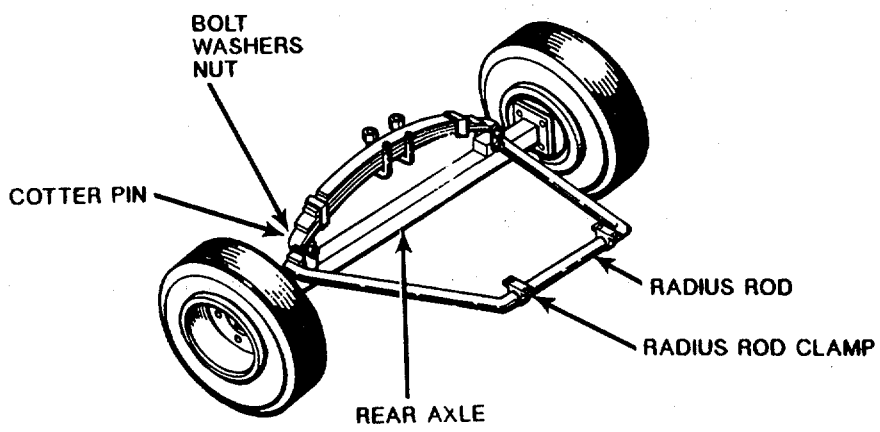
3-22. Axles and steering assembly - Replace (Contd) 3-22

Rear Axle

1. Chock wheels.



2. Jack up trailer, install jackstands so tires have a 1/2 inch clearance from the ground.
3. Install two small jacks under rear axle.
4. Disconnect two short brake rods from the brake lever at each side.
5. Remove cotter pins from bolts connecting axle to the spring.
6. Remove nuts and bolts connecting the axle to the spring.
7. While supporting the rear radius rod, disconnect the two radius rod clamps.
8. Lower the axle with the small jacks.
9. Remove small jacks.
10. Pull the rear axle out the rear of the test stand.

INSTALLATION:

Rear Axle:

1. Position rear axle below elevated test stand.

2. Place two small jacks under axle.

GO TO NEXT PAGE

3-22. Axles and steering assembly - Replace (Contd) 3-22

3. Support radius rod then raise axle and attach to spring assembly with bolts and nuts.
4. Install cotter pins in bolts connecting axle to spring.
5. Attach radius rod clamps.
6. Remove small jacks from under axle.
7. Attach the two short brake rods, one at each side.
8. If only replacing rear axle, lower test stand to ground and remove jack stands.

END OF TASK

3-23.	Axles and steering assembly - Repair	3-23

This task covers: Disassembly and Reassembly

INITIAL SETUP

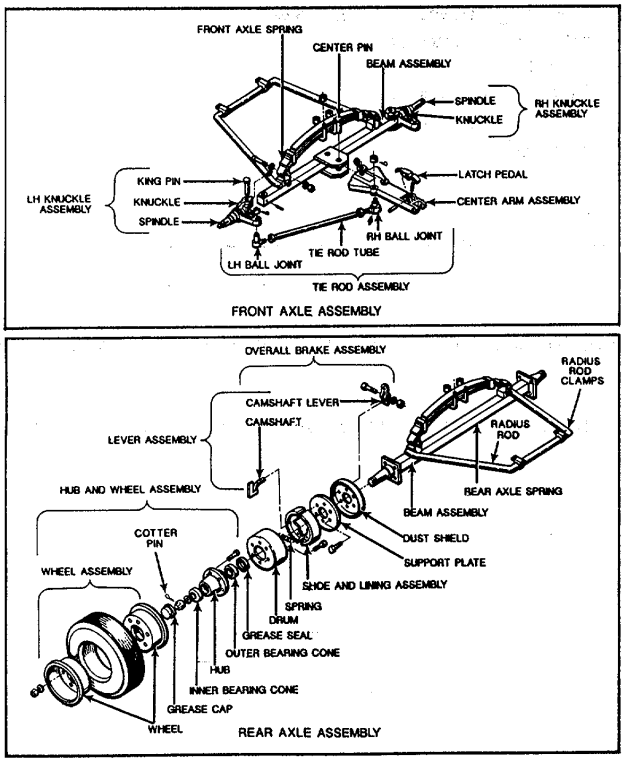
Tools:
Tool Kit, Aircraft Mechanics General, NSN 5180-00-323-4692

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-22 Axle and steering assembly removed.

DISASSEMBLY (AVIM):

Using the breakdown illustration of the running gear, front and rear axle, disassemble to the extent necessary for repair.



REASSEMBLY (AVIM):
Refer to the illustration of the running gear, front and rear axle and reassemble to the extent of disassembly.

END OF TASK

3-24. Axles and steering assembly - Repair 3-24

This task covers: Repair

INITIAL SETUP

Tools:
Shop Set, AVIM, Welding, NSN 4920-00-163-5093

Personnel Required:
MOS 44B

Reference Information:
TM 55-1500-204-25/1 General Aircraft Maintenance Manual.

Equipment Condition:
Para. 3-22 Axles and steering assembly removed.
Para. 3-27 Tie rods and ends removed.
Para. 3-33 Wheels removed.
Para. 3-36 Hubs and bearing removed.
Para. 3-40 Brake assembly removed.
Para. 3-48 Tow bar removed.

REPAIR (AVIM):

1. Welding. Welding to repair cracks is to be done in accordance with TM 55-1500-204-25/1.

2. Use appropriate hand file to remove burrs and sharp edges from axles and steering assembly.

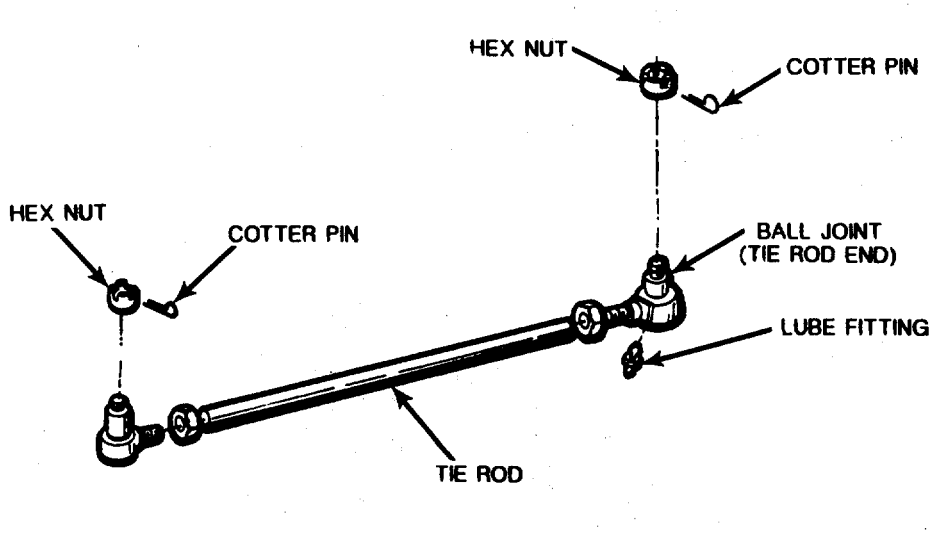
END OF TASK

3-25. Tie rods and ends - Inspect 3-25

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67



INSPECTION:

1. Check tie rod assembly for bends or distortion.
2. Check tie rod assembly for loose, missing or damaged parts.

END OF TASK

3-26.	Tie rods and ends - Service	3-26

This task covers: Service

INITIAL SETUP

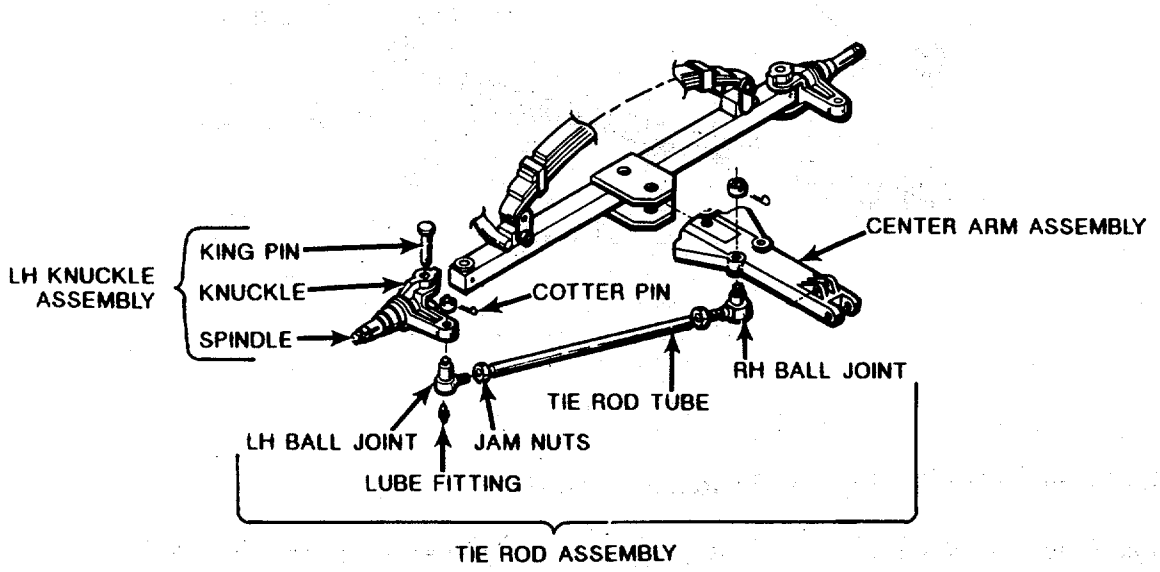
Tools:
Tool Set, AVUM Set No. 2 NSN 4920-00-567-0476

Material Required:
Grease - MIL-G-10924

Personnel Required:
MOS 67

SERVICE:

Apply MIL-G-10924 grease to lube fittings in ball joints on tie rod ends. Use grease gun for this task.



END OF TASK

3-27. Tie rod and ends - Replace 3-27

This task covers: Removal and Installation

INITIAL SETUP

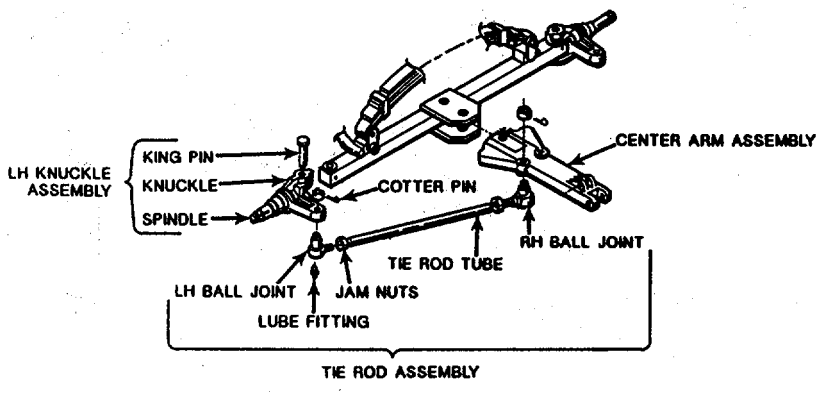
Tools:
Tool Kit, Aircraft Mechanics General, NSN 5180-00-323-4692

Parts Required:
Cotter Pins

Personnel Required:
MOS 67

REMOVAL:

1. Straighten out and remove two cotter pins located at both ends of the tie rod assembly.
2. Unthread the two slotted hex nuts securing the tie rod assembly to the axle and to the tongue assembly. Remove tie rod.
3. Loosen jam nuts.
4. Remove ball joints if required.



INSTALLATION:

1. Install ball joint into the tie rods.
2. Tighten jam nuts.
3. Position one end of the tie rod assembly through hole in axle knuckle and the other end through hole in tongue assembly.
4. Install tie rod assembly from the bottom.
5. Install two slotted hex nuts securing the tie rod to the axle knuckle and the tongue assembly. Thread the nuts on the bolts far enough to install new cotter pins through slots in nuts into the hole in the bolts.
6. Bend the open end of the cotter pins to secure them in place.

END OF TASK

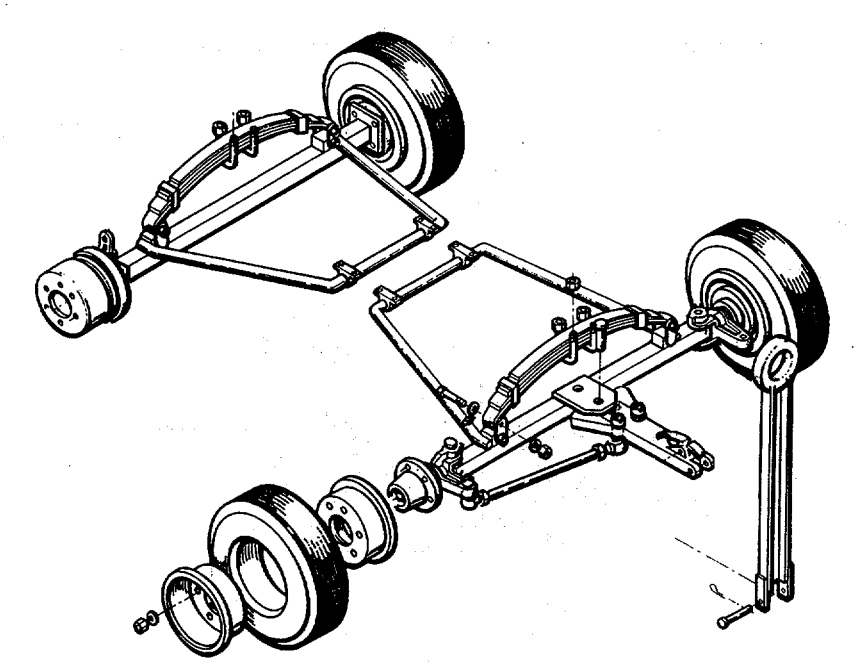
3-28. Springs - Inspect 3-28

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION:



Inspect springs for loose or missing parts and damaged or broken leafs.

END OF TASK

3-29.	Springs - Service	3-29

This task covers: Service

INITIAL SETUP

Tools:
Tool Set, AVUM, Set No. 2 NSN 4920-00-567-0476

Personnel Required:
MOS 67

SERVICE:

1. Tighten loose hardware.

END OF TASK

3-30. Springs - Replace 3-30

This task covers: Removal and Installation

INITIAL SETUP

Tools:
Tool Kit, Aircraft Mechanics General NSN 5180-00-323-4692

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-22 Axles and steering assembly removed.

REMOVAL:

1. While supporting spring from below, remove two U bolts.
2. Remove spring from test stand.

INSTALLATION:

1. Position spring below test stand.
2. Install two U bolts.

END OF TASK

3-31. Wheel assembly - Inspect 3-31

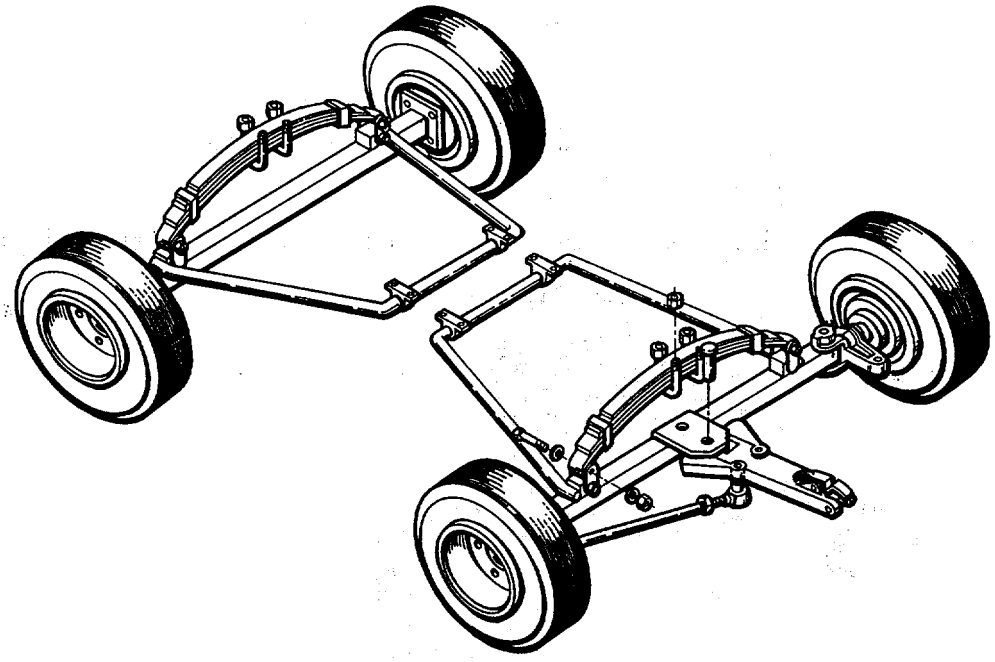
This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67

Equipment Conditions:
Para. 3-33 Wheel assembly removed.

INSPECTION:



1. Check wheel assembly for cracks, burrs, sharp edges and other similar damage.
2. Check wheel assembly for bends or distortion.
3. Check wheel assembly for loose, missing or damaged parts.

END OF TASK

3-32. Wheel assembly - Service 3-32

This task covers: Service

INITIAL SETUP

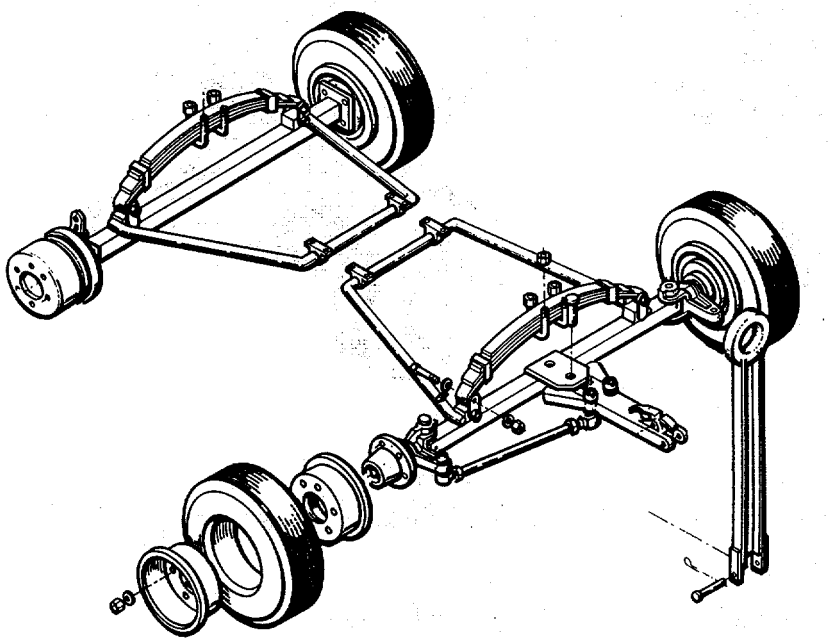
Tools:
Tool Set, AVUM Set No. 2 NSN 4920-00-567-0476
Tool Kit, Aircraft Mechanics General, NSN 5180-00-323-4692

Personnel Required:
MOS 67

Equipment Conditions:
Para. 3-33 Wheel removed from test stand.

SERVICE:

1. Use the appropriate hand file contained in. the tool Kit to remove burrs and sharp edges.
2. Tighten loose parts. Also replace missing, damaged, bent or distorted parts.



END OF TASK

3-33. Wheel assembly - Replace 3-33

This task covers: Removal, Installation, Disassembly and Reassembly

INITIAL SETUP

Tools:
Tool Set, AVUM, Set No. 2, NSN 4920-00-567-0476
Tool Kit, Aircraft Mechanics General, NSN 5180-00-323-4692
Wrench, Torque 0-600 in-lbs

Personnel Required:
MOS 67

REMOVAL:

1. Set parking brake. Chock wheels.
2. Loosen five lug nuts.
3. Jack up axle so that tire is 1/2 inch off the ground. Install jack stand.
4. Remove five nuts with washers securing rim assembly, tire and tube to hub.
5. Remove rim assembly, tire and tube from hub.

INSTALLATION:

1. Position the rim assembly, tire and tube on hub.
2. Install five washers and nuts to secure the rim assembly, tire and tube to hub.
3. Remove jack stand and lower axle to the ground.
4. Tighten nuts to a torque of 540 in-lbs.
5. Remove chocks and release parking brake as necessary to move unit.

DISASSEMBLY (Wheel Assembly Removed from Hub)

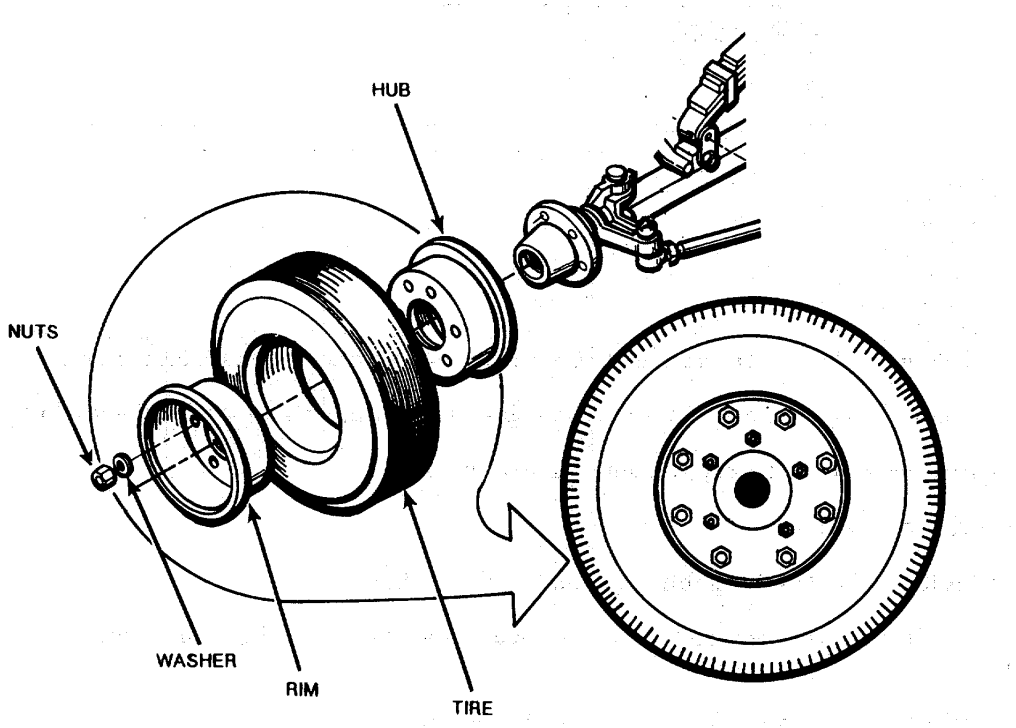
WARNING

Deflate tire before loosening bolts securing rim halves. Failure to deflate tire could cause explosive rim failure.

GO TO NEXT PAGE

3-33. Wheel assembly - Replace (Contd) 3-33

1. Depress valve in valve stem to allow air to be released from tube.
2. Remove eight nuts and washer from bolts securing both halves of the rim assembly together.
3. Remove eight bolts and separate both halves of rim assembly from the tire and tube, being careful not to damage the valve stem on the tube.



REASSEMBLY:

1. Position both halves of rim assembly on the tire and tube. Align holes being careful not to pinch the tube between the rim halves or damage the valve stem.

2. Insert eight bolts in the rim assembly and install eight washers and nuts. Tighten to a torque of 228 in-lbs.

3. Inflate tire and tube to 60 psi.

END OF TASK

3-34.	Hub and bearings - Inspect	3-34

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67

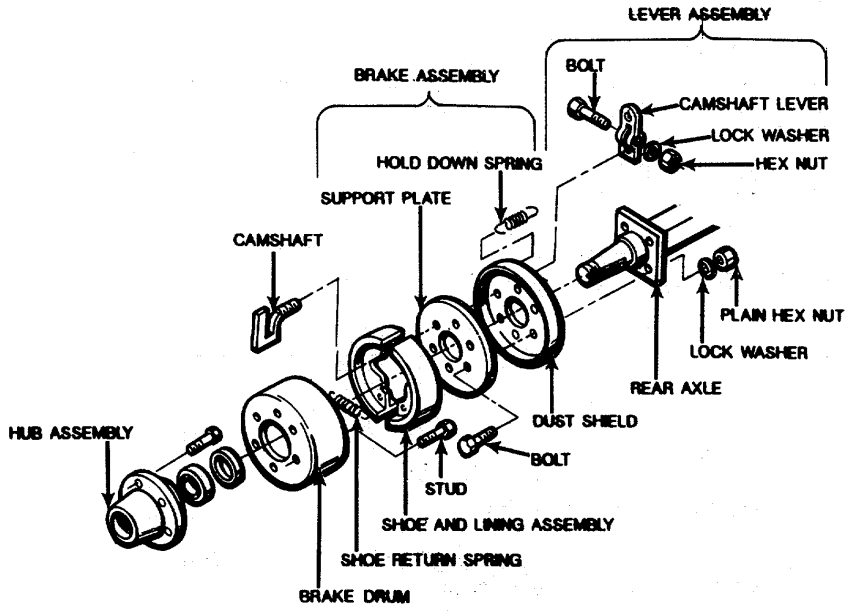
Equipment Condition to perform Step 3:
Para. 3-36 Hub and bearings removed.

INSPECTION:

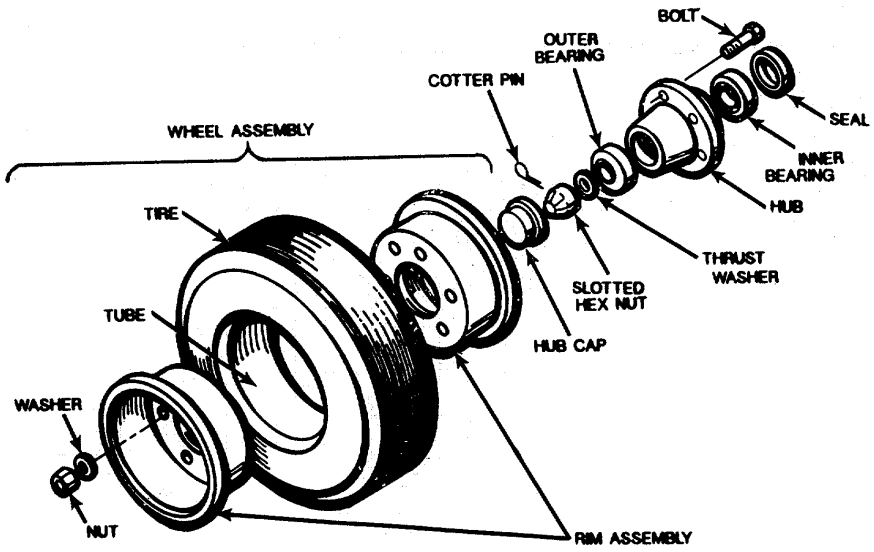
1. Loosen 5 lug nuts.
2. Jack up trailer, install jack stands.
3. Check wheel for any sideways movement of bearings. Note: wheel is to be raised off the ground to complete this task.
4. Check bearings for excessive noise when wheel is rotated.
5. Remove hub and bearings (para. 3-36).
6. Check hub and bearings for worn or damaged parts.

GO TO NEXT PAGE

3-34. Hub and bearings - Inspect (Contd) 3-34



REAR AXLE AND BRAKE ASSEMBLY



FRONT WHEEL AND HUB ASSEMBLY

3-35. Hub and bearings - Service 3-35

This task covers: Service

INITIAL SETUP

Tools:
Tool Set, AVUM Set No. 2, NSN 4920-00-567-0476
Tool Kit, Aircraft Mechanics General, NSN 5180-00-323-4692

Material Required:
Grease - MIL-G-10924
Dry Cleaning Solvent, P-D-680, Type II

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-36 Bearings removed from hub.

SERVICE:

WARNING

Dry cleaning solvent is flammable, toxic, and a skin irritant. Keep open flame away, avoid prolonged skin contact, and wash affected skin areas.

1. Rinse bearings in dry cleaning solvent (or kerosene as an alternate) to remove old grease. Remove bearings from solvent and let air dry.
2. Repack bearings with grease. Hand pack.

END OF TASK

3-36. Hub and bearings - Replace 3-36

This task covers: Removal and Installation

INITIAL SETUP

Tools:
Tool Kit, Aircraft Mechanics General, NSN 5180-00-323-4692
Tool Set, AVUM, Set No. 2, NSN 4920-00-567-0476

Parts Required:
Cotter Pin, Part No. 4800-4 (CAGE 22938) or MS24665-360
Grease Seal, Part No. 6311(22938) or 21208 (CAGE 51829)

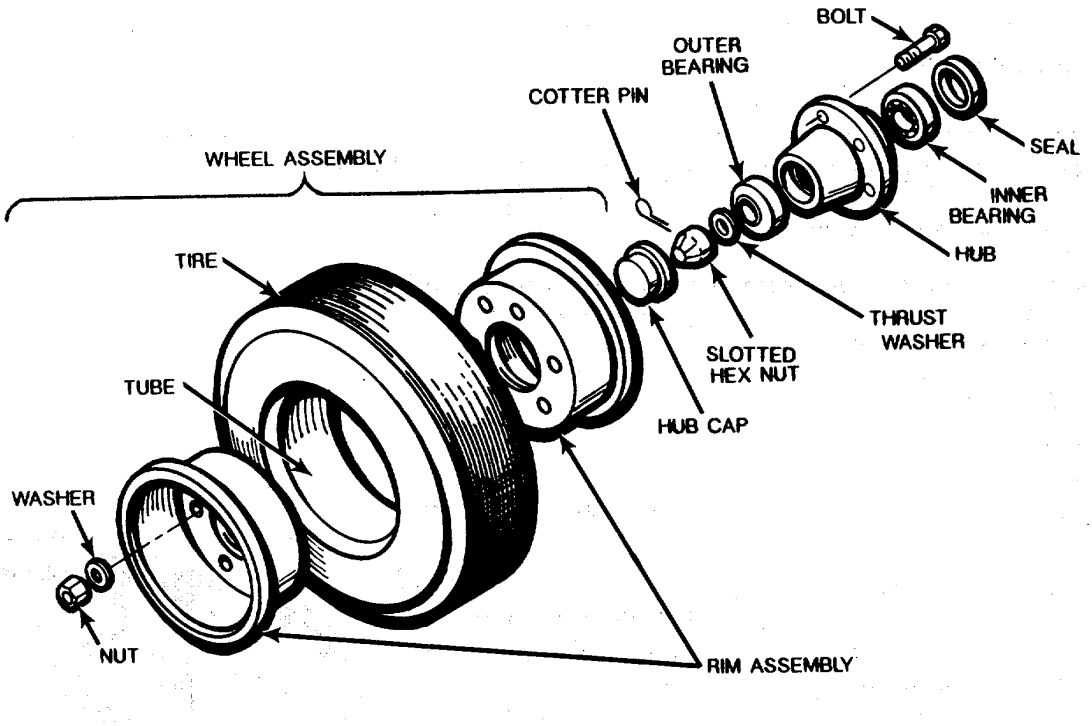
Personnel Required:
MOS 67

REMOVAL:

1. Remove hub cap.
2. Straighten ends of cotter pin and pull out of slotted hex nut.
3. Remove slotted hex nut, thrust washer and outer bearing.
4. Remove wheel assembly from axle.
5. Remove inner grease seal and inner bearing cone from hub. Discard seal.
6. Drive inner and outer bearing cups from hub.
7. Service bearings in accordance with para. 3-35.

GO TO NEXT PAGE

3-36. Hub and bearings - Replace (Contd) 3-36



INSTALLATION:

1. Drive inner bearing cup and outer bearing cup into hub until they bottom out in hub.
2. Insert inner bearing cone into hub and install new grease seal into hub making certain that seal does not become cocked in the hub.
3. Slide wheel assembly with bearing cups, inner bearing cone and grease seal installed, on axle shaft or axle and king pin pivot assembly.
4. Install outer bearing cone, thrust washer, and slotted hex nut on axle shaft.
5 Tighten slotted hex nut while rotating the tire until a noticeable drag is felt.

Back off the nut about 1/8 turn to the nearest cotter pin slot.

6. Install cotter pin and bend open end to keep it in place.
7. Install hub cap.

END OF TASK

3-37. Brake assembly - Inspect 3-37

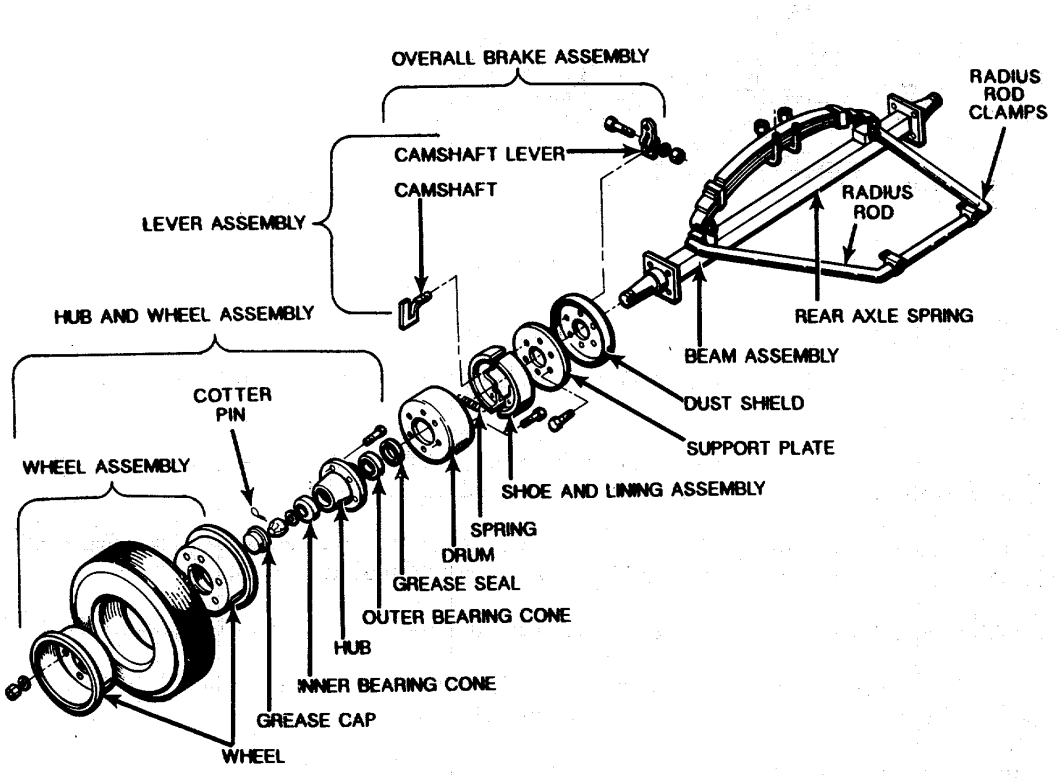
This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67

DISASSEMBLY FOR INSPECTION

1. Chock the forward wheels.
2. Jack up unit so that rear wheels are 1/2 inch off the ground.
3. Install jack stands.
4. Release hand brake.
5. Remove grease cap.



GO TO NEXT PAGE

6. Remove cotter pin from hex nut.
7. Remove nut and washer.
8. Remove wheel assembly.
9. Check brake drum and shoe for wear.
10. Check brake drum and shoe assembly for evidence of grease, oil or other contaminants.
11. Check brake assembly for loose, missing or damaged parts.

REASSEMBLY FOLLOWING INSPECTION

1. Install wheel, drum and bearing as a unit.
2. Install outer bearing.
3. Install washer and hex nut.
4. Tighten hex nut while turning wheel until resistance is felt. Back off 1/8 turn to nearest cotter pin slot.
5. Install cotter pin and bend open end of cotter pin.
6. Install grease cap.
7. Remove jack stands.
8. Lower unit to the ground.

END OF TASK

3-38. Brake assembly - Service 3-38

This task covers: Service

INITIAL SETUP

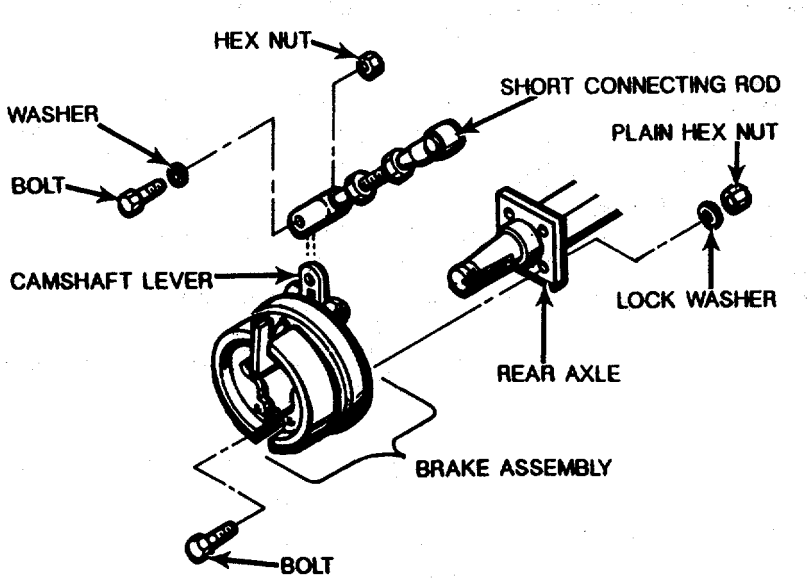
Material Required:
Lubricating Oil VV-L-800

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-36 Hub and bearing removed. (Note: Remove hub, bearings and wheel as a single assembly).

SERVICE:

1. Apply lubricating oil to hand brake as indicated in Figure 3-1 and Table 3-5.
2. Clean grease, oil, or other contaminants from brake drum and shoe assembly.
3. Replace loose, missing, damaged or worn parts as indicated in para. 3-40.



END OF TASK

3-39. Brake assembly - Adjust 3-39

This task covers: Adjustment

INITIAL SETUP

Personnel Required:
MOS 67

ADJUSTMENT

1. Adjust both brakes simultaneously by rotating the knurled knob on the brake operating handle. If this adjustment is insufficient, proceed to step No. 2.

2. Loosen lock nuts on either end of long connecting rod.

3. Make sure the operating lever is in the off position.

4. Remove cotter pin and clevis pin from rear clevis on the long connecting rod.

5. Shorten or lengthen rod as necessary by turning rod or clevis.

6. Reinstall clevis pin and cotter pin in rear clevis.

7. Check holding ability of brake. If further adjustment is necessary, repeat steps 4, 5 and 6.

8. If braking action on the rear wheels is uneven, individual brake action may be adjusted by lengthening or shortening the short connecting rod between the cross shaft and the brake lever at each rear wheel.

9. Loosen lock nuts on either end of the short connecting rod.

10. Make sure the operating handle is in the off position.

11. Remove cotter pin and clevis pin from rear clevis on the short connecting rod.

12. Shorten or lengthen rod as necessary by turning rod or clevis.

13. Reinstall clevis pin and cotter pin in rear clevis.

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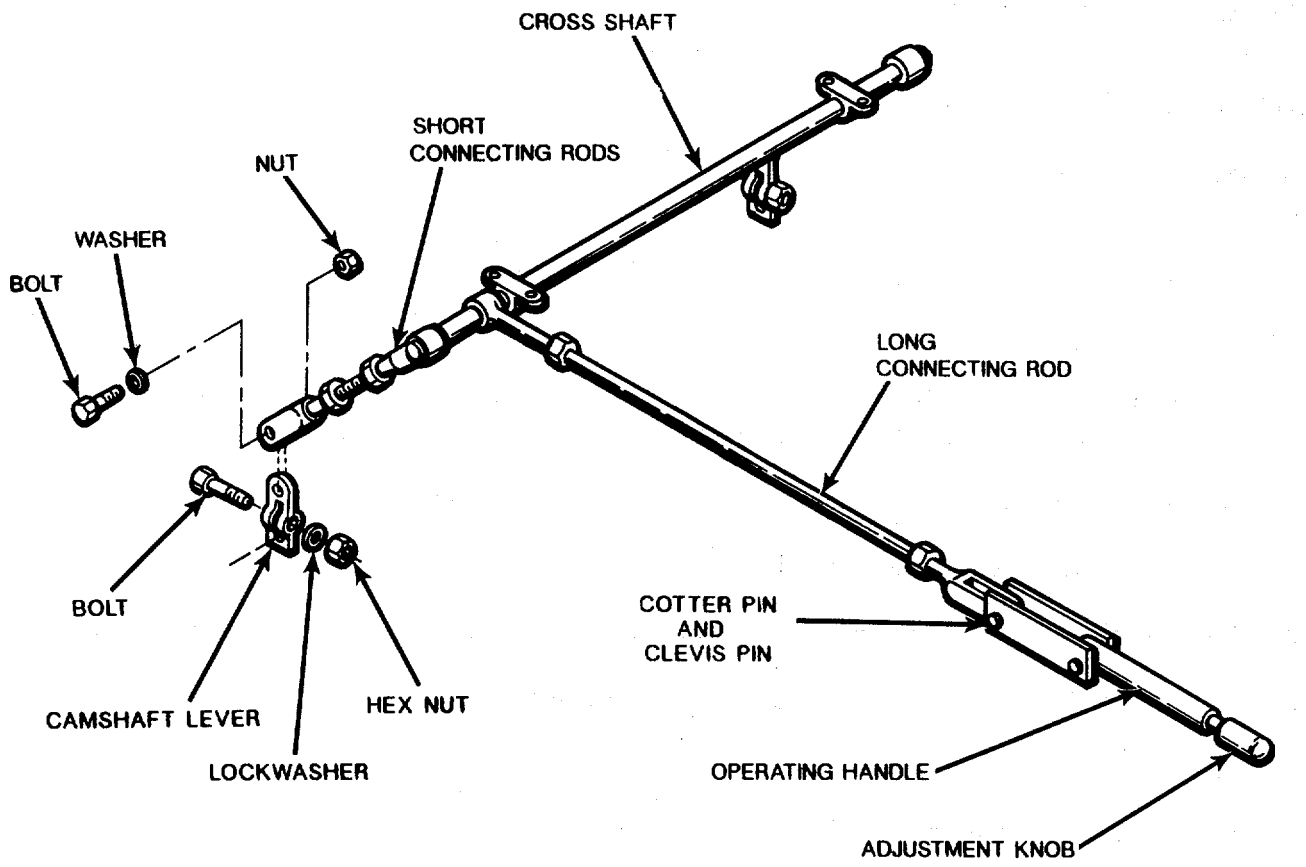
3-39. Brake assembly - Adjust (Contd) 3-39



14. Check holding ability of brake. If further adjustment is necessary repeat steps 11, 12, and 13.

END OF TASK

3-40. Brake assembly - Replace 3-40

This task covers: Removal and Installation (AVIM)

INITIAL SETUP

Tools:
Tool Kit, Aircraft Mechanics General, NSN 5180-00-323-4692
Shop Set, AVIM Tool Crib NSN 4920-00-472-4183
Wrench, Torque 0-600 in-lbs

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-36 Hub and bearings removed. (Note: Remove hub, bearings and wheel as a single assembly).

REMOVAL:

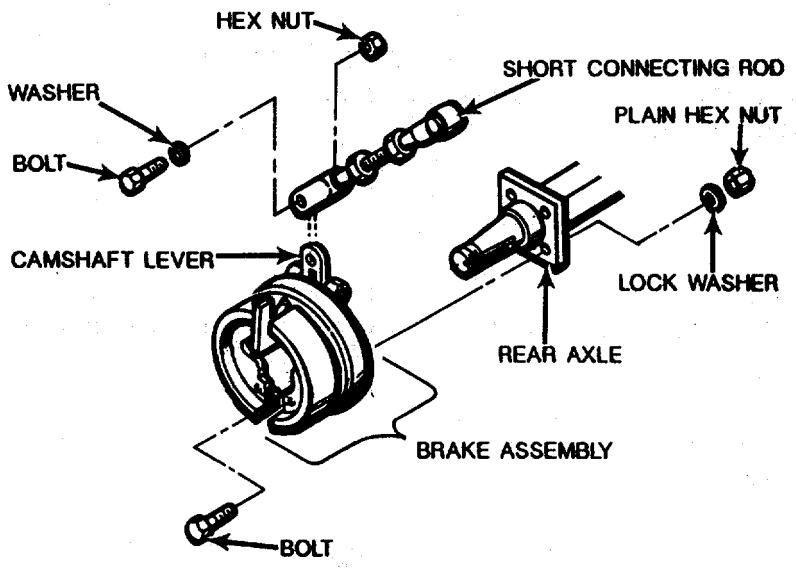
NOTE

Place the brake lever in the off position to perform the following task.

1. Disconnect the brake lever from the short connecting rod.
2. Remove four mounting bolts, lock washers and nuts securing the brake assembly to the rear axle.
3. Remove brake assembly.

GO TO NEXT PAGE

3-40. Brake assembly- Replace (Contd) 3-40



INSTALLATION:

1. Position the brake assembly on the rear axle and align holes.

2. Install four mounting bolts through the brake assembly and place a lock washer and mounting nut on each bolt. Tighten nuts to a torque of 228 in-lbs.

3. Connect brake lever to short connecting rod.

4. Ensure that bearings are properly installed in hub assembly.

5. Position brake drum and hub assembly on rear axle and reinstall, para. 3-37.

NOTE

Brake assembly is self adjusting.

END OF TASK

3-41. Tire and tube - Inspect 3-41

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION:

1. Check tire pressure on all four tires. They should all be 60 psi.
2. Check tire for cuts, defects, wear and leaks.
3. Check tire for any object imbedded in the treads.

END OF TASK

3-42. Tire and tube - Service 3-42

This task covers: Service

INITIAL SETUP

Personnel Required:
MOS 67

SERVICE:

Service of tire and tube. Check air pressure at 60 psi.

END OF TASK

3-43. Tire and tube - Repair 3-43

This task covers: Repair (AVIM)

INITIAL SETUP

Tools:
Tool Kit, Aircraft Mechanics General, NSN 5180-00-323-4692
Shop Set, AVIM Tool Crib, NSN 4920-00-472-4183

Personnel Required:
MOS 67

Reference Information:
TM 9-2610-200-24 Organizational, Direct Support and General Support Care, Maintenance and Repair of Pneumatic Tires and Inner Tubes.

Equipment Condition:
Para. 3-33 Wheel assembly removed from hub and tire and tube removed from rim assembly

REPAIR:

1. Repair any damaged tires or tubes.

2. All tires and tube repair will be done in accordance with TM 9-2610-200-24.

3. Remove any objects imbedded in the treads.

END OF TASK

3-44. Tire and tube - Replace 3-44

This task covers: Removal and Installation

INITIAL SETUP

Tools:
Tool Kit, Aircraft Mechanics General, NSN 5180-00-323-4692

Personnel Required:
MOS 67

Reference Information:
TM 9-2610-200-24 Organizational, Direct Support and General Support Care, Maintenance and Repair of Pneumatic Tires and Inner Tubes.

Equipment Condition:
Para. 3-33 Wheel assembly removed from hub and tire and tube removed from rim assembly.

REMOVAL AND INSTALLATION

1. Replace any non-repairable tires or tubes.

2. Removal and installation of tire and tube is to be done in accordance with TM 9-2610-200-24.

END OF TASK

3-45. Towbar assembly - Inspect 3-45

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION:

1. Check tow bar assembly for cracks, burrs, sharp edges and other similar damage.
2. Check towbar assembly for bends or distortion.
3. Check towbar assembly for loose, damaged or missing parts.

END OF TASK

3-46. Towbar assembly - Service 3-46

This task covers: Service

INITIAL SETUP

Material Required:
Lubricating Oil VV-L-800

Personnel Required:
MOS 67

SERVICE:

Oil towbar linkage and lock with lubricating oil, VV-L-800, as depicted in Figure 3-1 and Table 3-5.

END OF TASK

3-47. Towbar assembly - Repair 3-47

This task covers: Repair (AVIM)

INITIAL SETUP

Tools:
Tool Kit, Aircraft Mechanics General, NSN 5180-00-323-4692
Shop Set, AVIM Welding NSN 4920-00-163-5093

Personnel Required:
MOS 44E

Reference Information:
TM 55-1500-204-25/1 General Aircraft Maintenance manual.

REPAIR:

1. Welding. Welding to repair cracks is to be done in accordance with TM 55-1500-204-25/1.

2. Use the appropriate hand file contained in the tool kit to remove burrs and sharp edges from towbar assembly.

3. Tighten loose parts. Replace missing, damaged, bent or distorted parts.

END OF TASK

3-48. Towbar assembly - Replace 3-48

This task covers: Removal and Installation

INITIAL SETUP

Tools:
Tool Kit, Aircraft Mechanics General, NSN 5180-00-323-4692

Parts Required:
Cotter Pin MS24665-623

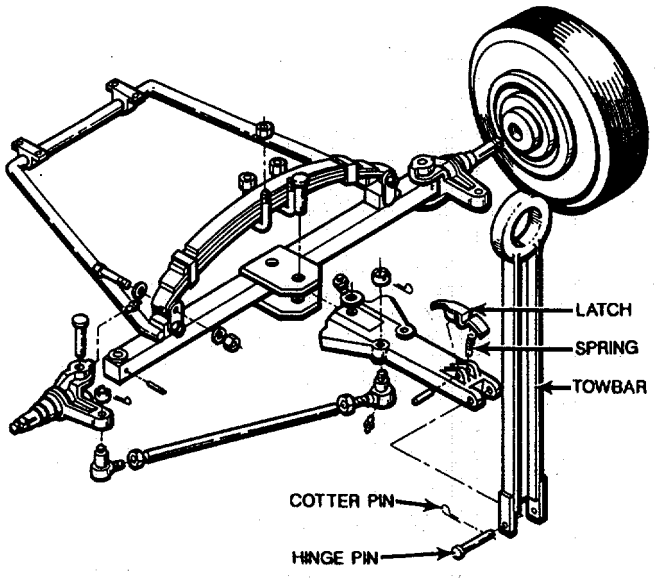
Personnel Required:
MOS 67

REMOVAL:

1. Straighten out cotter pins and remove from hinge pin securing the towbar assembly to the tongue assembly.
2. Remove hinge pin and towbar.

INSTALLATION:

1. Position towbar on tongue assembly install hinge pin, and new cotter pins. Bend over ends of cotter pins.



END OF TASK

3-49. Summary of electrical system maintenance. Maintenance tasks are listed below with information necessary to locate detailed procedures.

Task Number	Task	Refer to Paragraph
1	Inspect main pump motor	3-50
	Perform task 1, then task 2 as needed.	
2	Replace main hydraulic pump motor.	3-51
3	Inspect switches and circuit breakers.	3-52
	Perform task 3, then task 4 and 5 as needed.	
4	Service switches and circuit breakers.	3-53
5	Replace switches and circuit breakers.	3-54
6	Inspect wiring and cables	3-55
	Perform task 6, then task 7, 8, and 9.	
7	Service wiring and cables	3-56
8	Repair wiring and cables.	3-57
9	Replace wiring and cables	3-58
10	Inspect fuses.	3-59
	Perform task 10, then task 11 as needed.	
11	Replace fuses	3-60

3-50. Electric motor - Inspect 3-50

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 68F

INSPECTION:

1. Check security of electric motor mounting.
2. Check for failure of electric motor.
3. Check condition of electric wires and security of pump mounting.

END OF TASK

3-51. Electric motor - Replace 3-51

This task covers: Removal, replacement, and installation

INITIAL SETUP

Tools:
Tool Kit, Aircraft Mechanics General, NSN 5180-00-323-4692
Chain Hoist

Personnel Required:
MOS 67 and 68F

Equipment Condition:
Para. 3-18 Cabinet assembly removed.
Para. 3-71 Hydraulic reservoir removed (optional)

General Safety Instructions:

WARNING

Be sure that all electrical power is removed from the unit before beginning any maintenance operation. To avoid personal injury test stand must be shut down and all hydraulic pressure relieved before beginning any maintenance operation.

REMOVAL - ELECTRIC MOTOR

1. Disconnect all hoses and tubing to pump.
2. Disconnect volume control extension shaft.

NOTE

Tag all disconnected wiring to ease installation.

3. Disconnect conduit and electrical connections inside the motor connection box.
4. Remove flow indicator assy by removing 2 lower pump mounting bracket bolts.

GO TO NEXT PAGE

3-51. Electric motor - Replace (Contd) 3-51

CAUTION

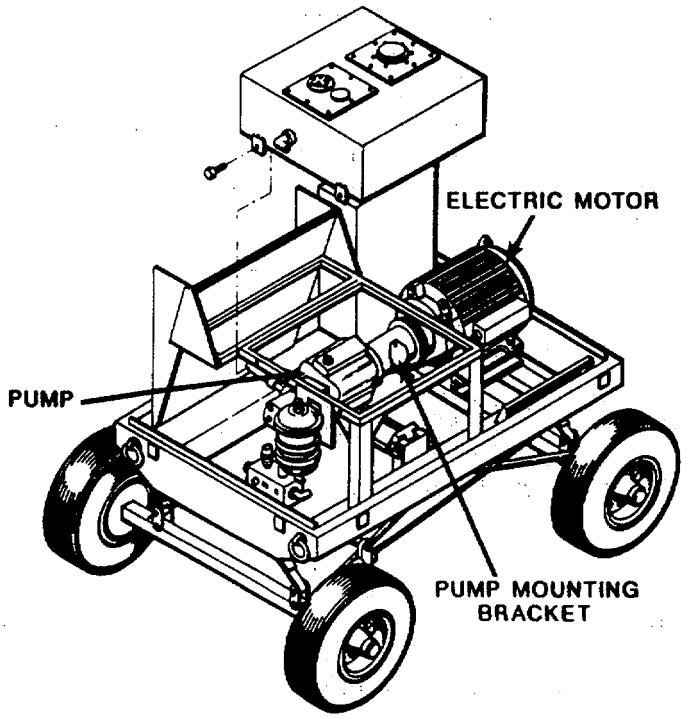
Use two legged sling or other suitable lifting device which will prevent the motor and pump from shifting when motor bolts are removed.

5. Attach suitable lifting device to motor lift brackets, take up slack then remove four mounting nuts, washers and bolts; lift motor and pump assembly out of test stand, set assembly on work bench.

REPLACEMENT - ELECTRIC MOTOR

1. Remove four bolts attaching motor to pump mounting bracket and remove motor.

2. Remove rubber spider from inside bracket, then flexible coupling half, and key from motor shaft.



3. Position replacement motor on workbench.

4. Insert key in motor shaft keyway and install flexible coupling half on motor shaft. Do not tighten coupling half on motor shaft at this time.

GO TO NEXT PAGE

3-51. Electric motor - Replace (Contd) 3-51

5. Attach motor on mounting bracket using 4 bolts previously removed.

6. Remove cover plate on mounting bracket.

7. Position rubber spider between flexible coupling halves and slide motor coupling half against spider and tighten to motor shaft. Install cover plate.

INSTALLATION - ELECTRIC MOTOR

1. Attach suitable lifting device to motor lift brackets and set motor and pump assembly in test stand.

2. Secure motor to frame using hardware previously removed.

3. Attach volume control extension shaft to pump.

CAUTION

While attaching flow indicator assembly, ensure spur gear mesh correctly.

4. Attach flow indicator assembly using 2 lower pump mounting bracket bolts.

5. Ensure hose/tube end fittings and pump fluid ports are clean, then connect hydraulic hoses/tubes to main and boost pumps.

6. Connect electrical wires inside motor connection box.

END OF TASK

3-52. Switches, circuit breakers, and lights - Inspect 3-52

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 68F

General Safety Instructions:

WARNING

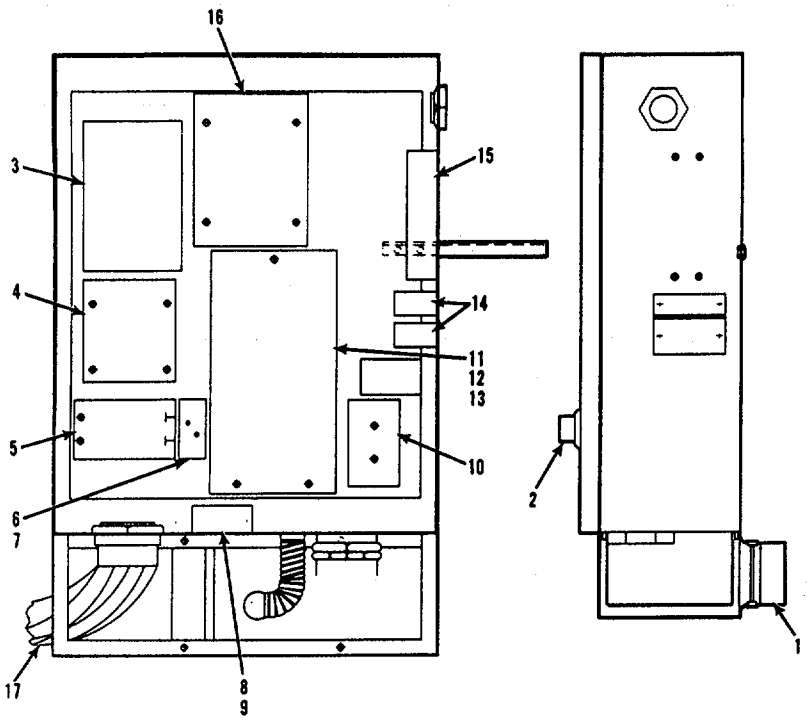
Be sure that all electrical power is removed from the unit before beginning any maintenance operation.

INSPECTION

1. Open access panel to both the electrical components box and the control panel.
2. Check switches, circuit breakers, and light for physical damage.
3. Check mounting hardware for tightness.
4. Check switch, circuit breaker, and light terminals to make sure wiring is secure.
5. With power applied, check for burned out light bulbs.

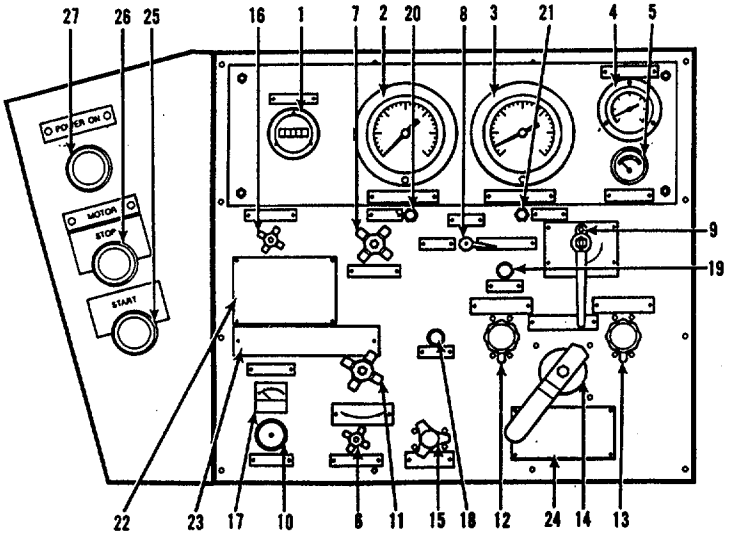
GO TO NEXT PAGE

3-52. Switches, circuit breakers, and lights - Inspect (Contd) 3-52



LEGEND

1. TRANSFORMER
2. OVERLOAD RESET KIT
3. CIRCUIT BREAKER
4. RELAY
5. TERMINAL BLOCK
6. FUSE BLOCK
7. CARTRIDGE TYPE FUSE
8. TERMINAL BLOCK
9. TERMINAL BLOCK
10. RECTIFIER
11. MAGNETIC STARTER
12. HEATER ELEMENT
13. HEATER ELEMENT
14. RELAY
15. TERMINAL BLOCK
16. TRANSFORMER
17. HYD TEST STAND CABLE ASSY.



1. HOUR METER
2. FLUID PRESSURE GAUGE
3. BOOST PRESSURE GAUGE
4. FLUID TEMP GAUGE
5. RESERVOIR FLUID LEVEL INDICATOR
6. COMPENSATOR SHUTOFF VALVE
7. HIGH PRESSURE BYPASS VALVE
8. SELECTOR VALVE
9. RESERVIOR SHUTOFF VALVE
10. HIGH PRESSURE RELIEF VALVE
11. FLOW LIMIT ADJUST
12. FLOW CONTROL VALVE 3/4 INCH OUTLET
13. FLOW CONTROL VALVE 1/2 INCH OUTLET
14. OUTLET SELECTOR VALVE
15. PRESSURE CONPENSATOR
16. FLUID PRESSURE GAUGE SHUTOFF VALVE
17. FLOW INDICATOR GPM
18. PRESSURE DIFFERENTIAL INDICATOR
19. HIGH PRESSURE DIFFERENTIAL INDICATOR
20. HIGH PRESSURE GAUGE CALIBRATION PORT
21. LOW PRESSURE CALBRATION PORT
22. HYDRAULIC FLOW DIAGRAM
23. CAPACITY NAMEPLATE
24. WARNING NAMEPLATE
25. START PUSHBUTTON
26. STOP PUSHBOTTON
27. MOTOR LIGHT

END OF TASK

3-53. Switches, circuit breakers and lights - Service 3-53

This task covers: Service

INITIAL SETUP

Personnel Required:
MOS 68F

SERVICE

1. Tighten mounting hardware.
2. Tighten terminal screws.
3. Replace burned out light bulbs.

END OF TASK

3-54. Switches, circuit breakers, and lights - Replace 3-54

This task covers: Removal and installation

INITIAL SETUP

Tools:
Tool Kit, Electrical, NSN 5180-00-323-4915

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-18 Cabinet Assy. removed.
Para .3-55 Electrical Components Box Door Open

REMOVAL - SWITCHES AND LIGHTS

1. Disconnect wiring from two switches, three lights, hourmeter, and transformers.

NOTE

Tag all disconnected wiring to ease reinstallation.

2. Remove two switches, three lights, hourmeter, and transformers.

INSTALLATION - SWITCHES AND LIGHTS

1. Install transformers, hourmeter, three lights, and two switches with mounting hardware.

2. Connect wiring using electrical wiring diagram, Figure 1-5 and tags as a guide.

INSTALLATION - CIRCUIT BREAKERS AND OTHER ELECTRICAL COMPONENTS

1. Install components in the electrical components panel with mounting hardware as necessary.

2. Connect wiring to devices using electrical wiring diagram Figure 1-5 and tags as a guide.

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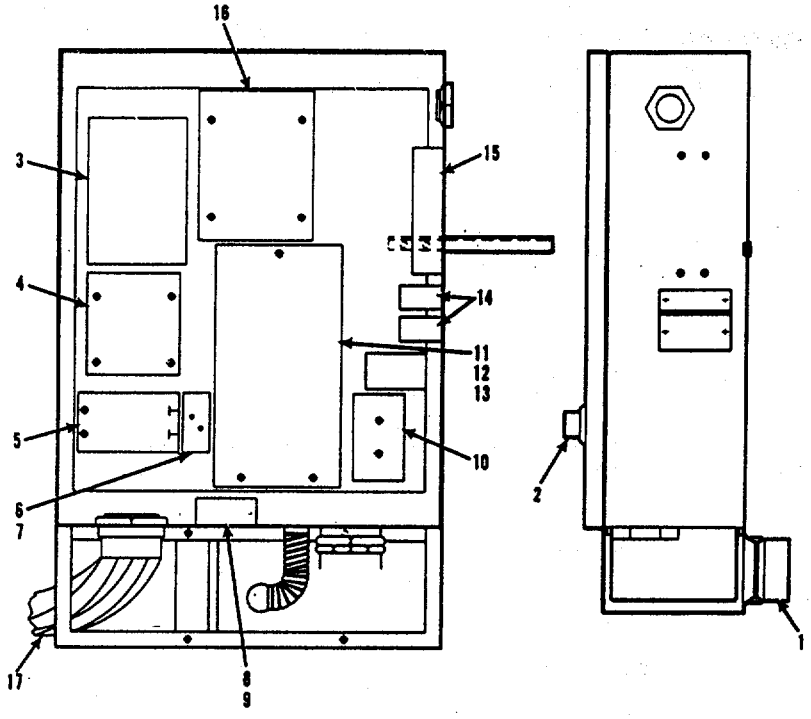
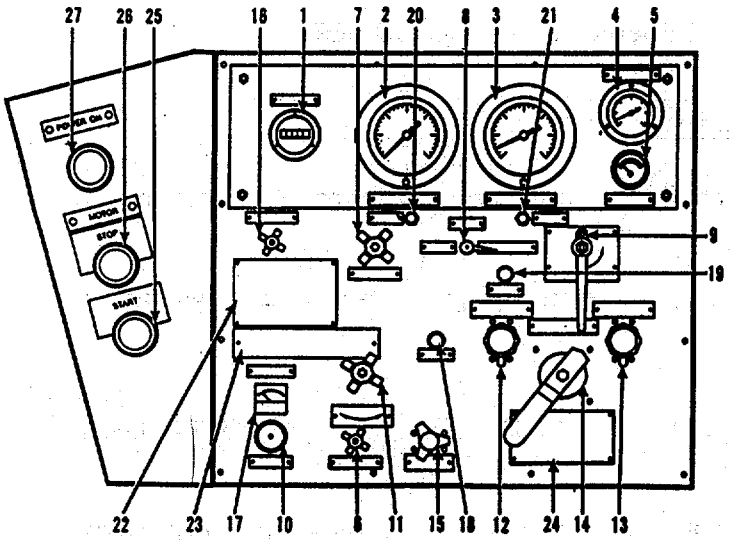
3-54. Switches, circuit breakers, and lights - Replace (Contd) 3-54



LEGEND

1. TRANSFORMER
2. OVERLOAD RESET KIT
3. CIRCUIT BREAKER
4. RELAY
5. TERMINAL BLOCK
6. FUSE BLOCK
7. CARTRIDGE TYPE FUSE
8. TERMINAL BLOCK
9. TERMINAL BLOCK
10. RECTIFIER
11. MAGNETIC STARTER
12. HEATER ELEMENT
13. HEATER ELEMENT
14. RELAY
15. TERMINAL BLOCK
16. TRANSFORMER
17. HYD TEST STAND CABLE ASSY.



1. HOUR METER
2. FLUID PRESSURE GAUGE
3. BOOST PRESSURE GAUGE
4. FLUID TEMP GAUGE
5. RESERVOIR FLUID LEVEL INDICATOR
6. COMPENSATOR SHUTOFF VALVE
7. HIGH PRESSURE BYPASS VALVE
8. SELECTOR VALVE
9. RESERVIOR SHUTOFF VALVE
10. HIGH PRESSURE RELIEF VALVE
11. FLOW LIMIT ADJUST
12. FLOW CONTROL VALVE 3/4 INCH OUTLET
13. FLOW CONTROL VALVE 1/2 INCH OUTLET
14. OUTLET SELECTOR VALVE
15. PRESSURE CONPENSATOR
16. FLUID PRESSURE GAUGE SHUTOFF VALVE
17. FLOW INDICATOR GPM
18. PRESSURE DIFFERENTIAL INDICATOR
19. HIGH PRESSURE DIFFERENTIAL INDICATOR
20. HIGH PRESSURE GAUGE CALIBRATION PORT
21. LOW PRESSURE CALBRATION PORT
22. HYDRAULIC FLOW DIAGRAM
23. CAPACITY NAMEPLATE
24. WARNING NAMEPLATE
25. START PUSHBUTTON
26. STOP PUSHBOTTON
27. MOTOR LIGHT

END OF TASK

3-55. Wiring and cables - Inspect 3-55

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 68F

INSPECTION

1. Open electrical components box door.
2. Check wiring and cables for broken, loose, or grounded wires and connections.
3. Check electrical circuits with electrical system schematic Figure 1-3 for proper connections.

END OF TASK

3-56. Wiring and cables - Service 3-56

This task covers: Service

INITIAL SETUP

Personnel Required:
MOS 67

SERVICE

1. Tighten loose connections and terminals.

2. Replace damaged or faulty wiring, cables, and terminals if not repairable.

END OF TASK

3-57. Wiring and cables - Repair (AVIM) 3-57

This task covers: Repair

INITIAL SETUP

Tools:
Tool Kit, Electrical NSN 5180-00-323-4915
Shop Set, AVIM, Electrical Instrument NSN 4920-00-165-1453

Personnel Required:
MOS 68F

REPAIR

Repair damaged or loose wiring, cables, and terminals as necessary.

END OF TASK

3-58. Wiring and cables - Replace (AVIM) 3-58

This task covers: Removal and installation

INITIAL SETUP

Tools:
Tool Kit, Electrical NSN 5180-00-323-4915
Shop Set, AVIM, Electrical Instrument NSN 4920-00-165-1453

Personnel Required:
MOS 68

Equipment Condition:
Para. 3-18 Cabinet assembly removed.
Para. 3-55 Electrical components box door open.

REMOVAL

Disconnect both ends of damaged wires or cable and remove from test stand.

INSTALLATION

Install new wires or cable in the test stand in place of removed damaged wire or cable and connect each end of the wire to its proper place.

END OF TASK

3-59. Fuse - Inspect 3-59

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 68F

Equipment Required:
Continuity checker or ohmmeter

Equipment Condition:
Para. 3-55 Electrical components box door open

INSPECTION

Check F1, six ampere fuse (6) with continuity checker or ohmmeter. A good fuse will show continuity or zero ohms.

END OF TASK

3-60. Fuse - Replace 3-60

This task covers: Removal and installation

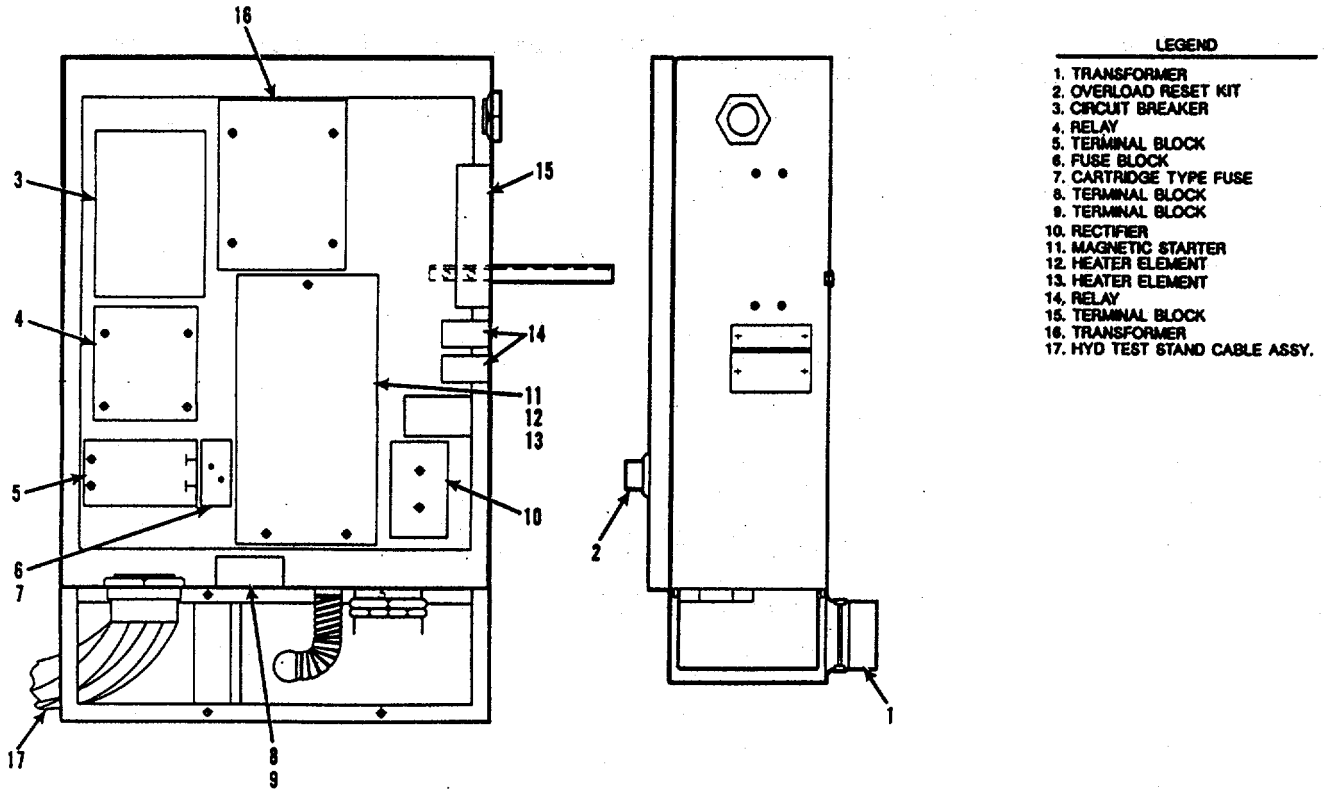
INITIAL SETUP

Parts Required:
Fuse, NON6 (CAGE 71400)

Personnel Required:
MOS 68F

REMOVAL AND INSTALLATION

Remove fuse F1 (7) from its fuse holder and replace with new fuse.



END OF TASK

3-61. Summary of hydraulic system maintenance. Maintenance tasks are listed below with information necessary to locate detailed procedures.

Task Number	Task	Refer to Paragraph
1	Inspect pump	3-62
	Perform task 1, then task 2 as necessary.	
2	Replace pump	3-63
3	Inspect volume control	3-64
	Perform task 3, then tasks 4 and 5 as necessary.	
4	Service volume control	3-65
5	Replace volume controls	3-66
6	Inspect valves	3-67
	Perform task 6, then task 7 as necessary.	
7	Replace valves	3-68
8	Inspect fluid reservoir	3-69
	Perform task 8, then tasks 9 and 10 as necessary.	
9	Replace fluid reservoir	3-70
10	Replace fluid reservoir	3-71
11	Inspect filter assemblies	3-72
	Perform task 11, then tasks 12 and 13 as necessary.	
12	Service filter assemblies.	3-73
13	Replace filter assemblies.	3-74
14	Inspect hydraulic piping assembly.	3-75
	Perform task 14, then tasks 15, 16, and 17 as necessary.	
15	Repair hydraulic piping assembly.	3-76

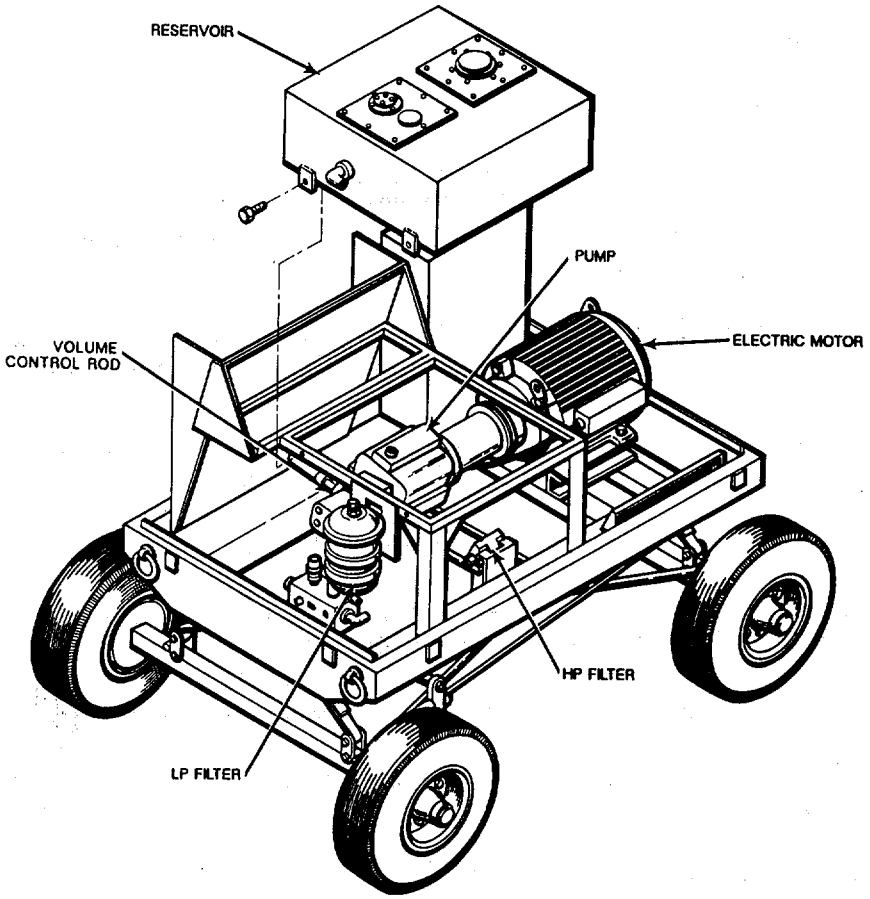
Task Number	Task	Refer to Paragraph
16	Replace hydraulic piping assembly.	3-77
17	Test hydraulic piping assembly.	3-78
18	Inspect pressure gauges.	3-79
	Perform task 18, then task 19 as necessary.	
19	Replace pressure gauges.	3-80

3-62. Pump - Inspect 3-62

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67



INSPECTION

1. Check performance of hydraulic pump during normal operation of test stand.
2. Check for leaks, damage, or loose connections at pump connection ports.

END OF TASK

3-63. Pump - Replace 3-63

This task covers: Removal and Installation

INITIAL SETUP

Tools:
Tool Kit, Hydraulic, NSN 5180-00-323-4891

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-18 Cabinet removed

General Safety Instructions

WARNING

Be sure that all electrical power is removed from the unit before beginning any maintenance operation. To avoid personal injury test stand must be shut down and all hydraulic pressure relieved before beginning any maintenance operation.

REMOVAL - MAIN PUMP

NOTE

The main hydraulic pump, boost pump, and electric motor will be removed and installed as an assembly.

1. Position test stand under chain fall or other suitable lifting device.
2. Disconnect all electrical wiring and hydraulic tubing/lines from the motor/pump assembly.
3. Disconnect the volume control rod at the pump.
4. Remove flow indicator assembly by removing two lower pump mounting bolts.

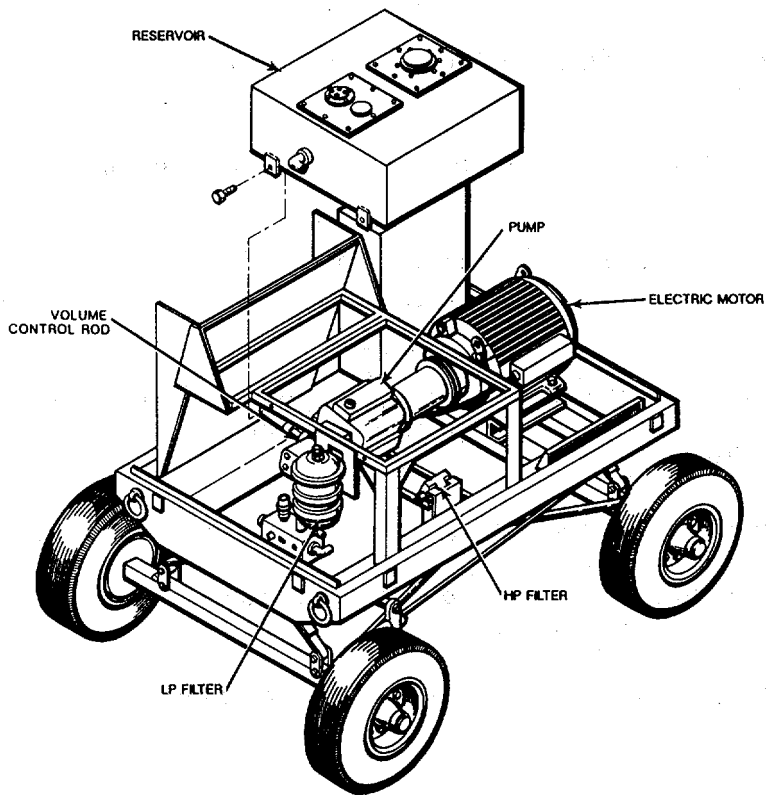
CAUTION

Use two legged sling or other suitable lifting device which will prevent the motor and pump from shifting when motor bolts are removed.

GO TO NEXT PAGE

3-63. Pump - Replace (Contd) 3-63

5. Attach suitable lifting device to motor lift brackets, take up slack then remove four mounting nuts, washer, bevel washers and bolts; lift motor and pump assembly out of test stand, set assembly on work bench.



6. Remove motor, pump, and boost pump out of test stand.

7. Position motor and pump assembly on suitable work surface.

8. Remove boost pump from main hydraulic pump.

9. Remove two remaining bolts holding main hydraulic pump to pump mounting bracket. Remove main hydraulic pump.

10. Remove pump side of flexible coupling from pump shaft. Retain metal key.

INSTALLATION - MAIN PUMP

1. Install pump side of flexible coupling with metal key on main pump shaft.

2. Remove cover plate on pump mounting bracket to expose motor side of flexible coupling.

GO TO NEXT PAGE

3. Install main hydraulic pump using four bolts.

NOTE

Make sure that flexible coupling halves and rubber spider are properly seated.

4. Tighten pump coupling half to shaft, then replace mounting bracket cover plate.

5. Install boost pump onto main hydraulic pump.

CAUTION

Use two legged sling or other suitable lifting device which will prevent the motor and pump from shifting when motor and pump are lifted.

6. Attach lifting device to motor lifting brackets.

7. Position motor, pump, and boost pump over chassis and attach using four mounting bolts. Remove lifting device.

8. Remove two lower pump bolts and reinstall flow indicator assy.

NOTE

While installing flow indicator assembly, ensure spur gears mesh correctly.

9. Connect all electrical wiring and hydraulic tubing/lines to the motor/pump assembly.

10. Reattach volume control rod at the pump.

END OF TASK

3-64. Volume control - Inspect 3-64

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION

1. Check volume control assembly for loose or missing parts.

2. Check volume control for proper operation under normal operating conditions (see operating instructions, Chapter 2).

END OF TASK

3-65. Volume control - Service 3-65

This task covers: Service

INITIAL SETUP

Personnel Required:
MOS 67

SERVICE

Tighten or replace loose or missing parts on volume control assembly.

END OF TASK

3-66. Volume control - Replace 3-66

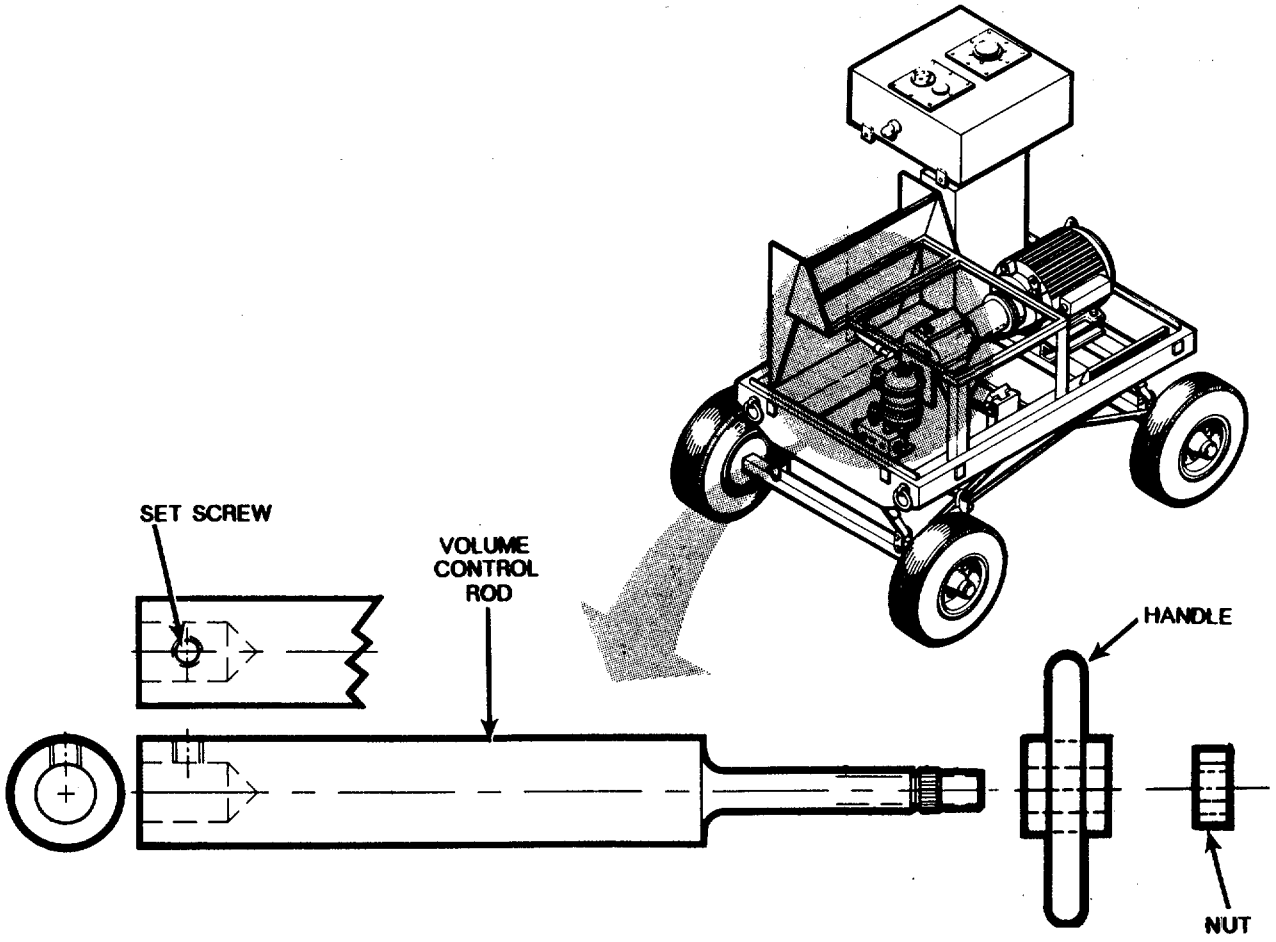
This task covers: Removal and installation

INITIAL SETUP

Tools:
Tool Kit, Hydraulic, NSN 5180-00-323-4891

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-18 Cabinet assy removed.



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3-66. Volume control - Replace (Contd) 3-66

REMOVAL - VOLUME CONTROL

1. Remove nut and handle from volume control rod.
2. Loosen set screw at volume control stem.
3. Remove volume control rod.

INSTALLATION - VOLUME CONTROL

1. Install volume control rod on volume control stem.
2. Tighten set screw on volume control rod.
3. Install handle. Secure with nut.

END OF TASK

3-67. Valves - Inspect 3-67

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION

Check condition of valves for damage, loose connections, and leaks.

END OF TASK

3-68. Valves - Replace 3-68

This task covers: Removal and Installation

INITIAL SETUP

Tools:
Tool Kit, Hydraulic, NSN 5180-00-323-4891

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-18 Cabinet assembly removed.

General Safety Instructions:

WARNING

Be sure all electrical power is removed from the unit before beginning any maintenance operation.

To avoid personal injury, test stand must be shut down and all hydraulic pressure relieved before beginning any maintenance operation.

NOTE

To minimize loss of hydraulic fluid during maintenance operations which require disconnecting of the hydraulic lines, set reservoir shutoff valve to the off position. Reposition valve to the flow position at the completion of maintenance operation.

Tag all disconnected tubing and lines to ease reinstallation.

Removal:

The following valves are attached to the control panel. This area is extremely congested. To remove a defective valve, it might be necessary to totally remove hydraulic tubing from the unit.

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3-68. Valves - Replace (Contd) 3-68

Control Panel Mounted Valves: (See Figure 2-2 and Table 2-1 for identity by item number)

1. 4 way selector valve
2. Compensator shutoff valve
3. Gauge shutoff valve
4. High pressure relief valve
5. High pressure bypass valve
6. Outlet selector valve
7. Flow limit adjust valve
8. Pressure compensator valve
9. Reservoir shutoff valve (ensure reservoir is empty)

To Remove Valve:

1. Remove hydraulic tubing attached to valve and any other tubing as necessary. Cap lines.
2. Remove attaching hardware.
3. Remove valve.

The following valves are inline valves.

1. Check valve.
2. Check valve, 3/4" tube.
3. Reservoir drain valve (ensure reservoir is empty).
4. Low pressure relief valve (2).

To remove valve

1. Disconnect hydraulic plumbing at valve. Cap lines.
2. Remove valve.

GO TO NEXT PAGE

3-68. Valves - Replace (Contd) 3-68

Installation:

Inline valves,

1. Position replacement valve.
2. Remove caps and attach tubing.
3. Pressurize system and check for leaks as appropriate.

Control panel mounted valves,

1. Using attaching hardware, install replacement valve.
2. Connect tubing.
3. Pressurize system and check for leaks as appropriate.

END OF TASK

3-69. Fluid reservoir - Inspect 3-69

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67-series

INSPECTION

1. Check fluid level to make sure it is at least 3/4 full.
2. Check all tubing and line connections for leaks.
3. Check sending unit wire for loose connection or corrosion.
4. Check reservoir tank for physical damage.

END OF TASK

3-70. Fluid reservoir - Repair (AVIM) 3-70

This task covers: Repair

INITIAL SETUP

Tools:
Tool Kit, Hydraulic, NSN 5180-00-323-4891
Shop Set, AVIM, Hydraulic, NSN 4920-00-165-1454

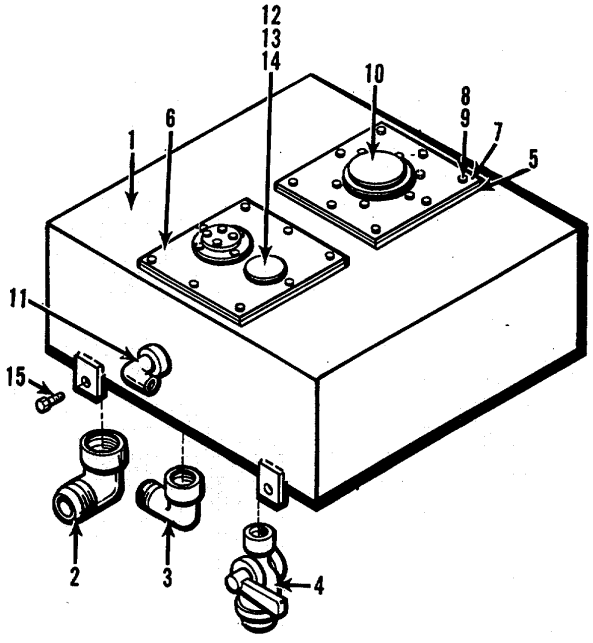
Parts Required:
Gasket (2) P/N 101471-01

Personnel Required:
MOS 68H

Equipment Condition:
Para. 3-18 Cabinet assy. removed
Para. 3-71 Fluid reservoir removed from test stand

REPAIR

1. RESERVOIR
2. ELBOW
3. ELBOW
4. RESERVOIR DRAIN VALVE
5. GASKET
6. COVER, RESERVOIR FILL
7. COVER, RESERVOIR FLOAT
8. LOCK WASHER
9. SCREW
10. STRAINER AND FILLER
11. ELBOW
12. FILTER, BREATHER
13. INSTALLATION KIT
14. FLOAT ASSEMBLY
15. BOLT (4)



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3-70. Fluid reservoir - Repair (AVIM) (Contd) 3-70

CAUTION

When moving reservoir (1), care should be taken to avoid damaging elbows (2), (3), and (11) and drain valve (4).

1. Remove access covers (6) and (7) by removing screws (9) and lockwashers (8).
2. Discard gaskets (5).
3. Clean and inspect interior.
4. Check operation of level indicator float (14).
5. Check strainer (10) and breather filter (12).
6. Repair any damage or replace broken parts as necessary.
7. Install new gaskets (5).
8. Replace access covers (6) and (7).

END OF TASK

3-71. Fluid reservoir - Replace 3-71

This task covers: Removal and installation

INITIAL SETUP

Personnel Required:
MOS 68 - series 2 personnel required

Equipment Condition:
Para. 3-18 Cabinet assembly removed.

General Safety Instructions:

WARNING

Be sure all electrical power is removed from the unit before beginning any maintenance operation.

To avoid personal injury, test stand must be shut down and all hydraulic pressure relieved before beginning any maintenance operation.

NOTE

Tag all disconnected tubing and lines to ease reinstallation.

REMOVAL

1. Drain reservoir (1) using drain valve (4). Reservoir contains 22 gals of fluid.
2. Disconnect return line from elbow (11) on side of reservoir.
3. Disconnect 2 hydraulic lines at elbows (2 and 3) on bottom of reservoir.
4. Disconnect sending unit wire (13).
5. Remove four mounting nuts, washers, and bolts (15).

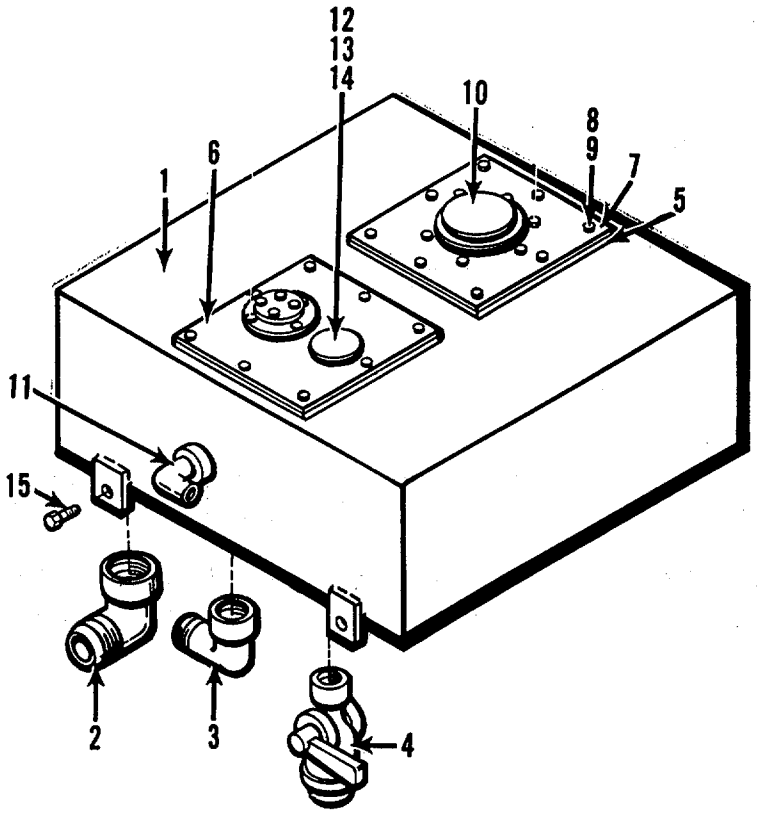
NOTE

The reservoir drain valve (4) protrudes under the frame. When moving the reservoir, be careful not to damage the reservoir drain valve.

6. Lift reservoir off of the test stand.

GO TO NEXT PAGE

1. RESERVOIR
2. ELBOW
3. ELBOW
4. RESERVOIR DRAIN VALVE
5. GASKET
6. COVER, RESERVOIR FILL
7. COVER, RESERVOIR FLOAT
8. LOCK WASHER
9. SCREW
10. STRAINER AND FILLER
11. ELBOW
12. FILTER, BREATHER
13. INSTALLATION KIT
14. FLOAT ASSEMBLY
15. BOLT (4)



INSTALLATION

NOTE

The reservoir drain valve protrudes under the frame. When moving the reservoir be careful not to damage the reservoir drain valve.

1. Position reservoir (1) in test stand.
2. Install four mounting bolts, washers, and nuts (15).
3. Connect sending unit wire (13).
4. Connect 2 hydraulic lines at elbows (2 and 3) on bottom of reservoir.
5. Connect return line at elbow (11) on side of reservoir.
6. Refill reservoir to 3/4 full of hydraulic fluid, MIL-H-83282.

END OF TASK

3-72. Filter assemblies - Inspect 3-72

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67 - series

Reference Information:
Figure 1-2 for location of filters.

INSPECT

1. Check to see if a high or low pressure warning light on the control panel is on indicating excessive differential pressure at either of the test stand filters.

2. High differential pressure usually indicates a dirty filter element in need of replacement. See para. 3-73, Servicing Filter Assemblies.

END OF TASK

3-73. Filter assemblies - Service 3-73

This task covers: Service

INITIAL SETUP

Personnel Required:
MOS 67 - series

Parts Required:
Filter element, HP, AN6235-4A
Filter element, LP, AN6236-3

General Safety Instructions:

WARNING

Test stand must be shut down and all pressure relieved before servicing filters.

Use volatile solvents only in a well ventilated area. Avoid prolonged contact with the skin.

NOTE

It is not necessary to remove filters from test stand to change filter elements.

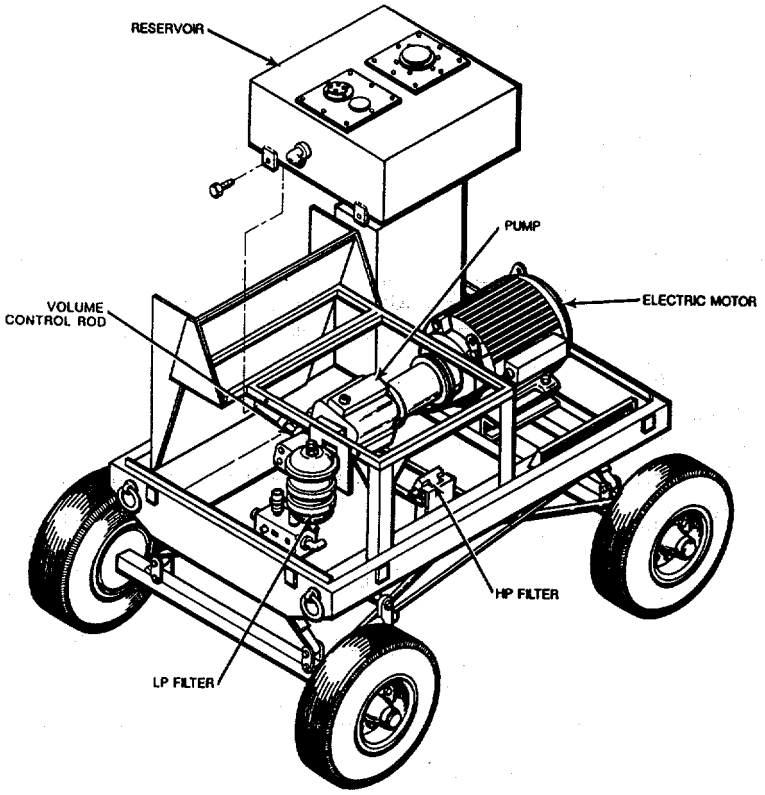
SERVICE - HIGH PRESSURE FILTER

1. Remove safety wire.
2. Remove filter bowl.
3. Remove filter element. See para. 3-74 for disassembly of filter.
4. Empty fluid from bowl.
5. Clean head assembly and bowl with cleaning solvent, P-D-680, Type II and clean cloth.
6. Install replacement filter element, AN6235-4A
7. Fill bowl approximately 3/4 full with hydraulic fluid and install.

GO TO NEXT PAGE

8. If after replacing the filter element the differential pressure warning light still activates, the differential pressure switch may be defective. See para. 3-88 to replace this switch.

9. Safety wire bowl to the head.



SERVICE - LOW PRESSURE FILTER

1. Loosen two bolts holding filter assembly cover enough to remove cover.

2. Drain filter assembly. Ensure drain plug is reinstalled.

3. Remove filter element.

4. Clean inside of filter housing with dry cleaning solvent, P-D-680, Type II and clean cloth.

5. Install replacement filter element, AN6236-3.

6. Install filter assembly cover and secure with two bolts.

7. Fill filter assembly with hydraulic fluid.

END OF TASK

3-74. Filter assemblies - Replace 3-74

This task covers: Removal, Installation, Disassembly, and Reassembly

INITIAL SETUP

Tools:
Tool Kit, Aircraft Mechanics General, NSN 5180-00-323-4692

Material Required:
Antiseize tape MIL-T-27730

Parts Required:
Filter assembly HP 50223
Filter assembly LP 58342-01

Personnel Required:
MOS 67 - series

Equipment Condition:
Para. 3-18 cabinet assembly removed.
Test stand shut down and pressure exhausted.

NOTE

Tag all disconnected tubing and lines to ease reinstallation.

HIGH PRESSURE FILTER

Removal:

1. Disconnect high pressure differential switch from both sides of high pressure filter. Be careful not to damage differential switch, as these two connections are the only support for the switch.

2. Set differential switch aside being careful not to damage the electrical wire.

3. Disconnect hydraulic lines from filter. Retain "T" joints with filter assembly.

4. Remove two screws holding filter assembly to mounting bracket.

5. Remove filter assembly from unit.

GO TO NEXT PAGE

3-74. Filter assemblies - Replace (Contd) 3-74

Disassembly:

1. Remove "T" fittings and reducers from input and output sides of defective filter.
2. Discard defective filter.

Assembly:

NOTE

Antiseize tape shall be applied to male threads prior to installation of fittings. Ensure tape does not cover the first thread. All connections should be tightened as necessary to preclude leakage of hydraulic fluid.

1. Use antiseize tape, MIL-T-27730, on all hydraulic connections.
2. Install reducers and "T" fittings into input and output sides of filter.

Installation:

1. Position filter and install on mounting bracket using two screws. Make sure that flow direction (arrow) is correct.
2. Install hydraulic lines on either side of "T" joints.
3. Position differential pressure switch and connect two hydraulic connections.
4. Pressurize system and check for leaks.

LOW PRESSURE FILTER

Removal:

1. Drain filter.
2. Disconnect all hydraulic tubing/lines from the filter. Retain three large and one small "T" fitting with filter.
3. Remove four bolts holding filter to chassis.
4. Remove filter.

GO TO NEXT PAGE

3-74. Filter assemblies - Replace (Contd) 3-74

Disassembly:

1. Remove "T" fittings and reducers from input and output sides of filter.
2. Discard defective filter.

Assembly:

NOTE

Antiseize tape shall be applied to male threads prior to installation of fittings. Ensure tape does not cover the first thread. All connections should be tightened as necessary to reclude leakage of hydraulic fluid.

1. Use antiseize tape, MIL-T-27730, on all hydraulic connections.
2. Install reducers and "T" fittings into input and output sides of filter.

Installation:

1. Position filter and attach to chassis using four bolts.
2. Connect input and output hydraulic tubing/lines.
3. Pressurize system and check for leaks.

END OF TASK

3-75. Hydraulic piping - Inspect 3-75

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67 - series

INSPECTION

Check all hydraulic lines, tubing, fittings, hose assemblies and manifold for damage, loose connections, cuts on hoses, and leakage.

END OF TASK

3-76. Hydraulic piping assembly - Repair (AVIM) 3-76

This task covers: Repair

INITIAL SETUP

Tools:
Tool Kit, Hydraulic, NSN 5180-00-323-4891
Shop Set, AVIM Hydraulic, NSN 4920-00-165-1454

Personnel Required:
MOS 68H

NOTE

Tag all disconnected tubing and lines to ease reinstallation.

REPAIR

1. Repair or replace all damaged or worn lines, tubing, fittings, hose assemblies, and manifold.
2. Tighten all loose connections.

END OF TASK

3-77. Hydraulic piping assembly - Replace 3-77

This task covers: Removal and installation

INITIAL SETUP

Personnel Required:
MOS 67

Equipment Condition:
Para. 2-10 Test stand shutdown
Para. 3-18 Cabinet Assy Removed

General Safety Instructions:

WARNING

Be sure all electrical power is removed from the unit before beginning any maintenance operation.

To avoid personal injury, test stand must be shut down and all hydraulic pressure relieved before beginning any maintenance operation.

NOTE

Tag all disconnected tubing and lines to ease reinstallation.

REMOVAL

Disconnect and remove hydraulic lines, tubing, fittings, hose assemblies, and manifold only to the extent necessary for the repair or replacement of damaged or worn parts.

INSTALLATION

Install all hydraulic lines, tubing, fittings, hose assemblies, and manifold that have been removed for repair or replacement.

END OF TASK

3-78. Hydraulic piping assembly - Test (AVIM) 3-78

This task covers: Testing

INITIAL SETUP

Personnel Required:
MOS 67

TESTING

Test piping assembly for leakage while operating test stand under full flow and pressure conditions. See Chapter 2, Operating Instructions.

END OF TASK

3-79. Gauges - Inspect 3-79

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION

1. Check gauges for physical damage.
2. Check all hose and tubing connections to back of gauges, tighten as necessary.
3. Check gauges for accuracy by comparing to aircraft gauges under test. See paragraph 3-89 for calibration procedures.

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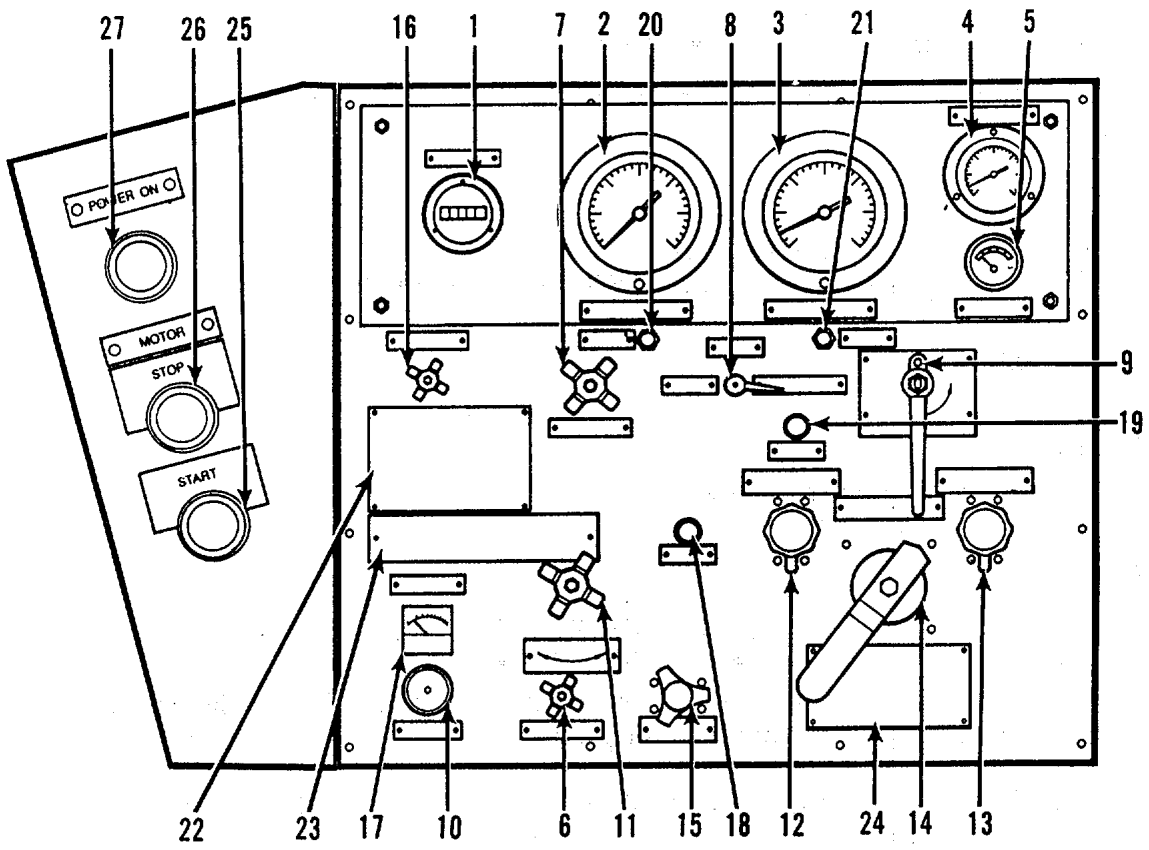

1. HOUR METER
2. FLUID PRESSURE GAUGE
3. BOOST PRESSURE GAUGE
4. FLUID TEMP GAUGE
5. RESERVOIR FLUID LEVEL INDICATOR
6. COMPENSATOR SHUTOFF VALVE
7. HIGH PRESSURE BYPASS VALVE
8. SELECTOR VALVE
9. RESERVOIR SHUTOFF VALVE
10. HIGH PRESSURE RELIEF VALVE
11. FLOW LIMIT ADJUST
12. FLOW CONTROL VALVE 3/4 INCH OUTLET
13. FLOW CONTROL VALVE 1/2 INCH OUTLET
14. OUTLET SELECTOR VALVE
15. PRESSURE CONPENSATOR
16. FLUID PRESSURE GAUGE SHUTOFF VALVE
17. FLOW INDICATOR GPM
18. PRESSURE DIFFERENTIAL INDICATOR
19. HIGH PRESSURE DIFFERENTIAL INDICATOR
20. HIGH PRESSURE GAUGE CALIBRATION PORT
21. LOW PRESSURE CALBRATION PORT
22. HYDRAULIC FLOW DIAGRAM
23. CAPACITY NAMEPLATE
24. WARNING NAMEPLATE
25. START PUSHBUTTON
26. STOP PUSHBOTTON
27. MOTOR LIGHT

END OF TASK

3-80. Pressure Gauges - Replace (AVIM) 3-80

This task covers: Removal and installation

INITIAL SETUP

Tools:
Tool Kit, Instruments, NSN 5180-00-323-4913
Shop Set, AVIM, Electrical-Instrument, NSN 4920-00-165-1453

Personnel Required:
MOS 68

Equipment Condition:
Para. 3-18 Cabinet assembly removed

General Safety Instructions:

WARNING

Be sure that all electrical power is removed from the unit before beginning any maintenance operation.

To avoid personal injury test stand must be shut down and all hydraulic pressure relieved before beginning any maintenance operation.

NOTE

Tag all disconnected tubing and lines to ease reinstallation.

Removal - Low Pressure and High Pressure Gauges:

1. Loosen the knurled bolts and remove covers from both gauges.
2. Disconnect the flexible hoses in back of the panel.
3. Remove three screws from each gauge. Pull gauges out through the front of the panel.
4. To calibrate gauges refer to para 3-89.

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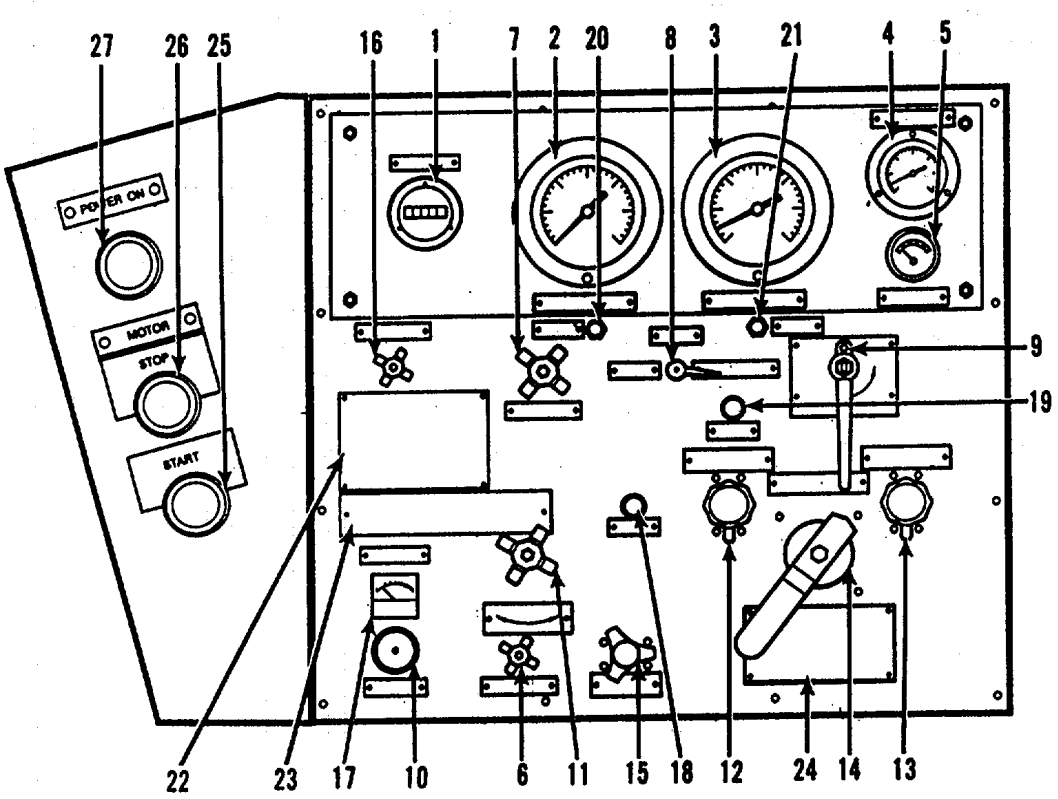
3-80 Pressure Gauges - Replace (AVIM) (Contd) 3-80

Installation - Low Pressure and High Pressure Gauges:

1. Position gauges by inserting through front of the panel.
2. Attach gauges using three screws for each gauge.
3. Connect the flexible hoses in the back of the panel.
4. Install front covers using knurled bolts.



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3. BOOST PRESSURE GAUGE
4. FLUID TEMP GAUGE
5. RESERVOIR FLUID LEVEL INDICATOR
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8. SELECTOR VALVE
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10. HIGH PRESSURE RELIEF VALVE
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21. LOW PRESSURE CALBRATION PORT
22. HYDRAULIC FLOW DIAGRAM
23. CAPACITY NAMEPLATE
24. WARNING NAMEPLATE
25. START PUSHBUTTON
26. STOP PUSHBOTTON
27. MOTOR LIGHT

END OF TASK

3-81. Summary of instrument panel maintenance. Maintenance tasks are listed below with information necessary to locate detailed procedures.

Task Number	Task	Refer to Paragraph
1	Inspect control knobs.	3-82
	Perform task number 1, then task 2 as necessary.	
2	Replace control knobs.	3-83
3	Inspect panel assembly.	3-84
	Perform task number 3, then task 4 and 5 as necessary.	
4	Repair panel assembly.	3-85
5	Replace panel assembly.	3-86
6	Inspect instruments.	3-87
	Perform task number 6, then task 7 and 8 as necessary.	
7	Replace instruments.	3-88
8	Calibrate instruments.	3-89

3-82. Control knobs - Inspect 3-82

This task covers: Inspection

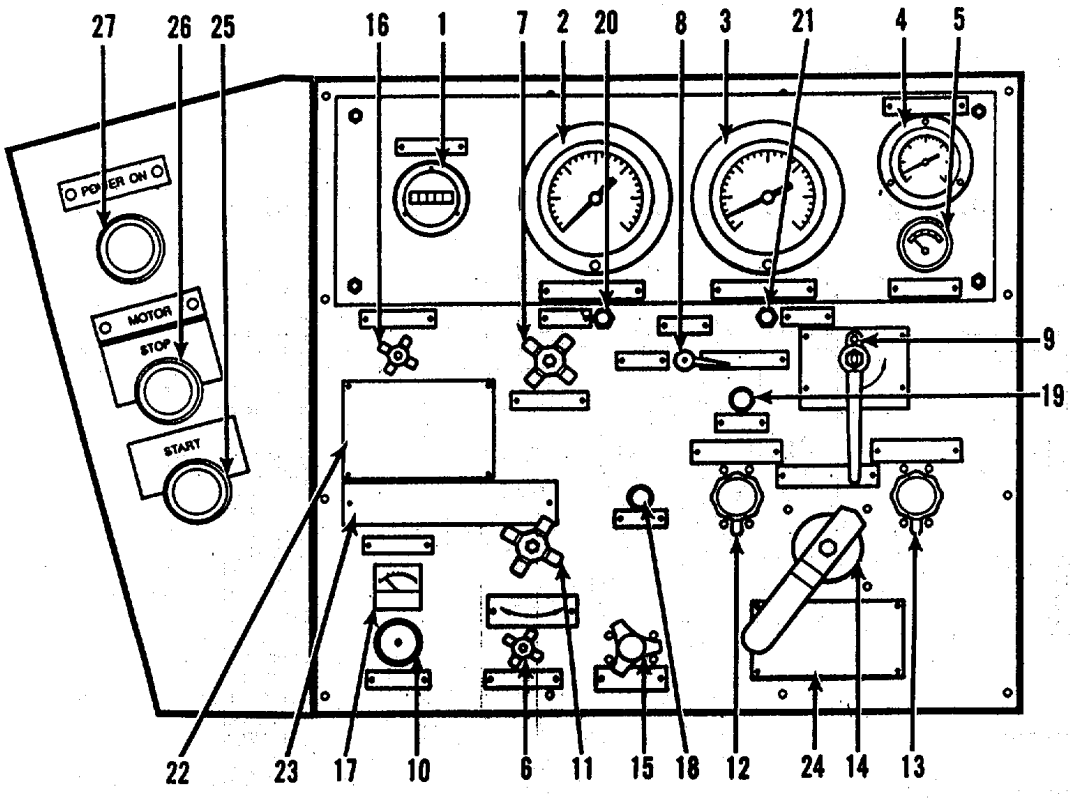
INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION

1. Check for damaged, loose, or missing control knobs.

2. Tighten loose knobs.



1. HOUR METER
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5. RESERVOIR FLUID LEVEL INDICATOR
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18. PRESSURE DIFFERENTIAL INDICATOR
19. HIGH PRESSURE DIFFERENTIAL INDICATOR
20. HIGH PRESSURE GAUGE CALIBRATION PORT
21. LOW PRESSURE CALBRATION PORT
22. HYDRAULIC FLOW DIAGRAM
23. CAPACITY NAMEPLATE
24. WARNING NAMEPLATE
25. START PUSHBUTTON
26. STOP PUSHBOTTON
27. MOTOR LIGHT

END OF TASK

3-83. Control knobs - Replace 3-83

This task covers: Removal and installation

INITIAL SETUP

Tools:
Tool Kit, Instrument, NSN 5180-00-323-4913

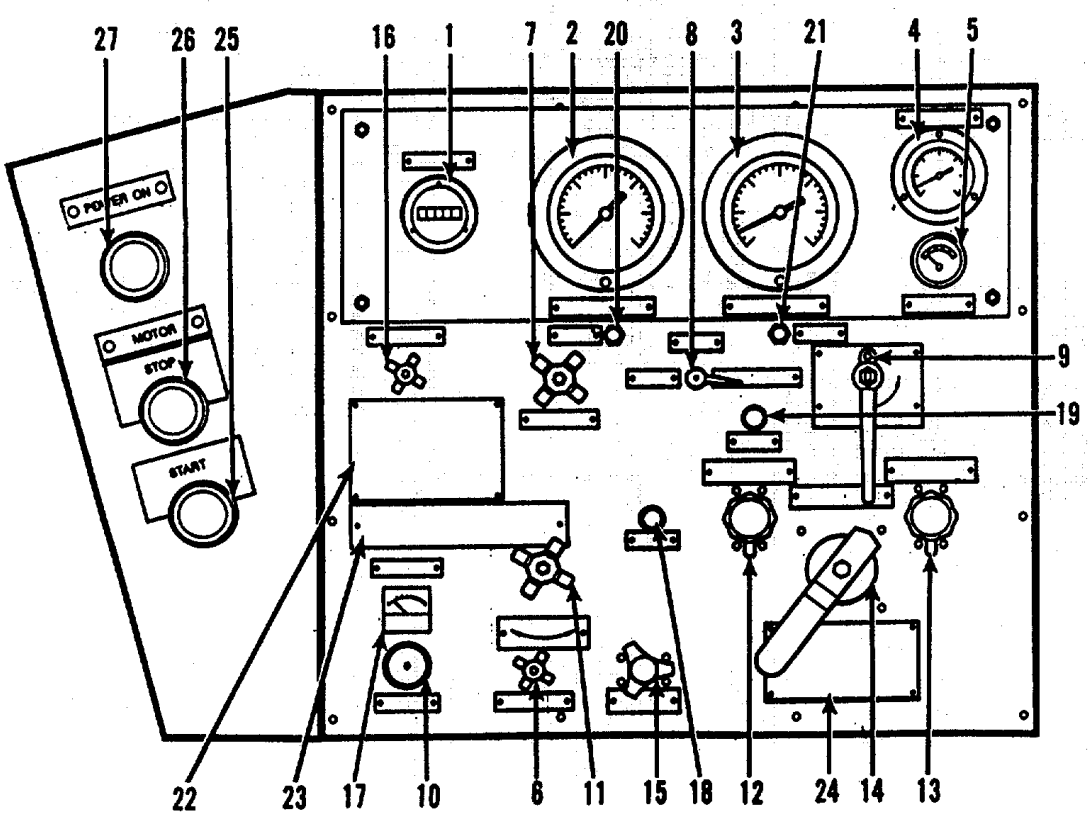
Personnel Required:
MOS 67

REMOVAL

1. Remove attaching hardware securing damaged knob.
2. Remove any damaged control knob.

INSTALLATION

Replace any damaged or missing control knobs. Align properly and tighten as necessary.



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5. RESERVOIR FLUID LEVEL INDICATOR
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17. FLOW INDICATOR GPM
18. PRESSURE DIFFERENTIAL INDICATOR
19. HIGH PRESSURE DIFFERENTIAL INDICATOR
20. HIGH PRESSURE GAUGE CALIBRATION PORT
21. LOW PRESSURE CALBRATION PORT
22. HYDRAULIC FLOW DIAGRAM
23. CAPACITY NAMEPLATE
24. WARNING NAMEPLATE
25. START PUSHBUTTON
26. STOP PUSHBOTTON
27. MOTOR LIGHT

END OF TASK

3-84. Panel assembly - Inspection 3-84

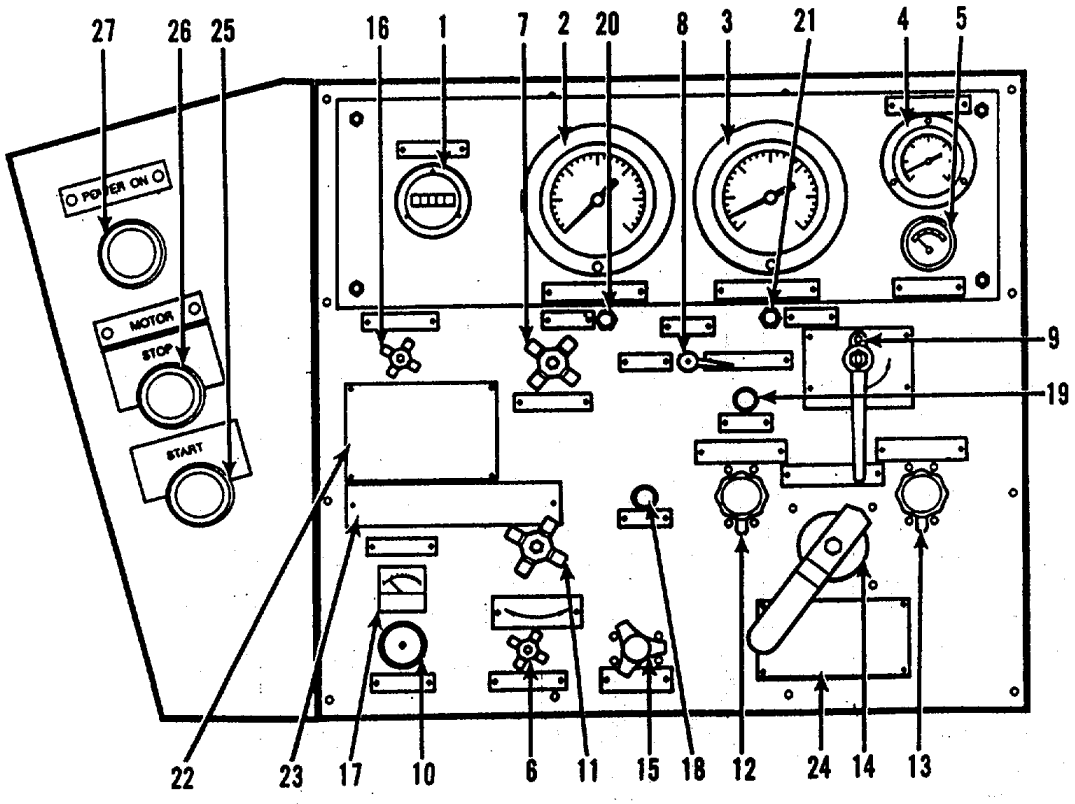
This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION

Inspect panel for damage, loose, or missing hardware and illegible identification plates.



1. HOUR METER
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3. BOOST PRESSURE GAUGE
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18. PRESSURE DIFFERENTIAL INDICATOR
19. HIGH PRESSURE DIFFERENTIAL INDICATOR
20. HIGH PRESSURE GAUGE CALIBRATION PORT
21. LOW PRESSURE CALBRATION PORT
22. HYDRAULIC FLOW DIAGRAM
23. CAPACITY NAMEPLATE
24. WARNING NAMEPLATE
25. START PUSHBUTTON
26. STOP PUSHBOTTON
27. MOTOR LIGHT

END OF TASK

3-85. Panel assembly - Repair (AVIM) 3-85

This task covers: Repair

INITIAL SETUP

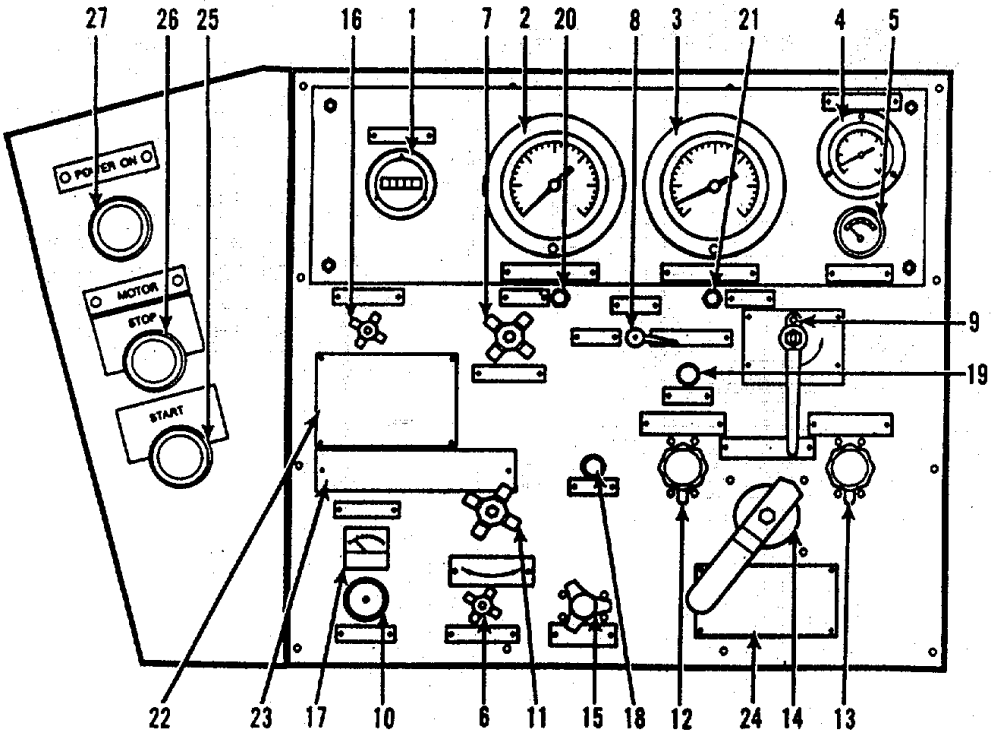
Tools:
Tool Kit, Instrument, NSN 5180-00-323-4913
Shop Set, AVIM, Hydraulic, NSN 4920-00-165-1454

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-86 Panel assembly removed

REPAIR

1. Repair dents and straighten bent edges.
2. Repaint if needed.
3. Install new identification plates as needed.



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19. HIGH PRESSURE DIFFERENTIAL INDICATOR
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22. HYDRAULIC FLOW DIAGRAM
23. CAPACITY NAMEPLATE
24. WARNING NAMEPLATE
25. START PUSHBUTTON
26. STOP PUSHBOTTON
27. MOTOR LIGHT

END OF TASK

3-86. Panel assembly - Replace 3-86

This task covers: Removal and installation

INITIAL SETUP

Personnel Required:
MOS 67 2 personnel required

Equipment Condition:
Para. 3-18 Cabinet assembly removed

General Safety Instructions:

WARNING

Be sure that all electrical power is removed from the unit before beginning any maintenance operation.

To avoid personal injury, test stand must be shut down and all hydraulic pressure relieved before beginning any maintenance operation.

Removal:

1. Disconnect temperature gauge line at the low pressure manifold and remove all routing clamps.

2. Disconnect all electrical wiring from the back of instruments and remove all routing clamps, securing the wiring to the back of the instrument panel.

NOTE

Tag all disconnected wiring to ease reinstallation.

3. Disconnect all fluid lines, tubing, and flexible hoses from the back of the panel.

4. Remove volume control handle.

5. Remove twelve bolts mounting the panel to the chassis.

6. Use two people, lift the panel assembly from the test stand.

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3-86. Panel assembly - Replace (Contd) 3-86

Installation:

1. Use two people, position panel assembly into test stand and fasten with twelve mounting bolts.

2. Install volume control handle.

3. Connect all fluid lines, tubing, and flexible hoses to the back of the panel.

4. Connect all electrical wiring to the back of the instruments and secure wires to the chassis using routing clamps.

5. Connect temperature gauge line to the low pressure manifold and secure line to the chassis using routing clamps.

6. Observe test stand during normal operation to verify proper operation of the gauges and instruments and that there are no hydraulic leaks.

END OF TASK

3-87. Instruments - Inspection 3-87

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION

1. Check instruments for damage.
2. Check tubing and hose connections to instruments for tightness and leaks.
3. Check instruments for accuracy, see paragraph 3-89 for calibration procedures.

END OF TASK

3-88. Instruments - Replace 3-88

This task covers: Removal and installation

INITIAL SETUP

Tools:
Tool Kit, Instrument, NSN 5180-00-323-4913
Shop Set, AVIM, Electrical-Instrument, NSN 4920-00-165-1453

Personnel Required:
MOS 68

Equipment Condition:
Para. 3-18 Cabinet assembly removed
Test stand shut down and pressure relieved

NOTE

Tag all disconnected wiring to ease reinstallation.

Removal: Fluid temperature gauge (4)

1. Disconnect line at the low pressure filter manifold (under the low pressure filter), then remove all routing clamps.
2. Remove mounting hardware and pull gauge out through front of panel.

Removal: Fuel gauge (5)

1. Disconnect wires at back of gauge.
2. Remove mounting hardware and pull gauge out through front of panel.

Removal: Hourmeter (1)

1. Disconnect wiring at back of meter.
2. Remove mounting hardware and pull out through front of panel.

Removal: Flow indicator (17)

1. Remove wire at back of indicator.
2. Remove mounting hardware and pull out through front of panel.

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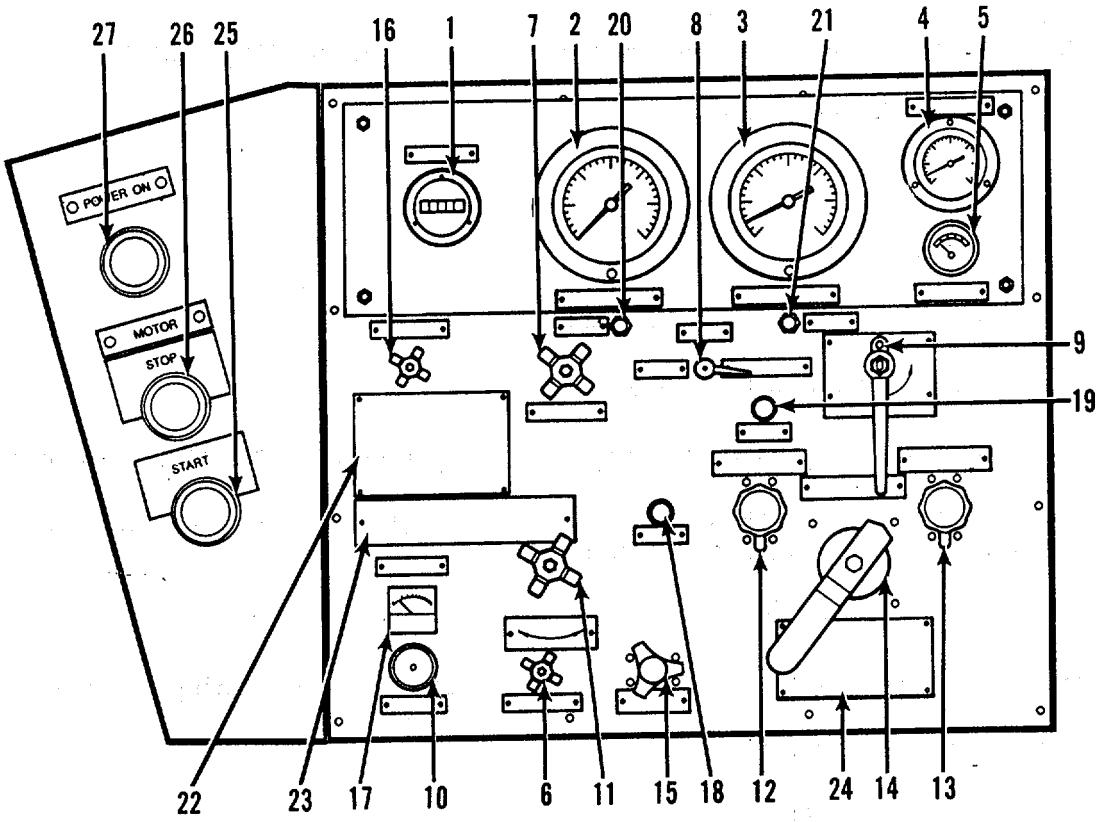

1. HOUR METER
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27. MOTOR LIGHT

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Removal: Low pressure and high pressure indicator lamps (18) and (19)

1. Remove three electrical wires.
2. Remove bezel.
3. Remove attaching nut.
4. Remove indicator lamp from rear of panel.

Installation: Fluid temperature gauge (4)

1. Install gauge through front of panel and attach using mounting hardware.
2. Connect line at low pressure filter manifold (under the low pressure filter), then secure to chassis using routine clamps.

Installation: Fuel gauge (5)

1. Insert gauge through front of panel and attach using mounting hardware.
2. Connect wires to gauge.

Installation: Hourmeter (1)

1. Insert meter through front of panel and attach using mounting hardware.
2. Connect wiring at back of meter.

Installation: Flowmeter (17)

1. Insert indicator through front of panel and attach using mounting hardware.
2. Connect wire at back of indicator.

Installation: Low pressure and high pressure indicator lamps (18) and (19)

1. Install indicator lamp from rear of panel.
2. Install attaching nut.
3. Install bezel.
4. Install three electrical wires.

END OF TASK

3-89. Instruments - Calibration (USATSG) 3-89

This task covers: Calibration

INITIAL SETUP

Tools and Equipment
0-6000 PSI calibrated standard gauge
0-300 PSI calibrated standard gauge
Standard thermometer (to 2000F)

Personnel Required:
MOS 35H

Equipment Condition:
Test stand doors open, not operating, and fluid pressure relieved.

NOTE

Calibration will be performed by the U.S. Army, Measurement and Diagnostic Equipment Support Group.

CALIBRATION - HIGH PRESSURE GAUGE

Method I (Primary)

1. Connect a suitable 0-6000 psi calibrated standard gauge to the HP gauge test port on the panel (20).

2. Operate system under normal condition. See Chapter 2 for operating instructions.

3. Compare the test stand gauge readings with the readings on the calibrated standard gauge at various points over the scale.

4. The gauge readings must agree within one percent ± 1/2 percent or less of full scale.

5. If the test stand gauge readings are inaccurate or erratic, replace the gauge.

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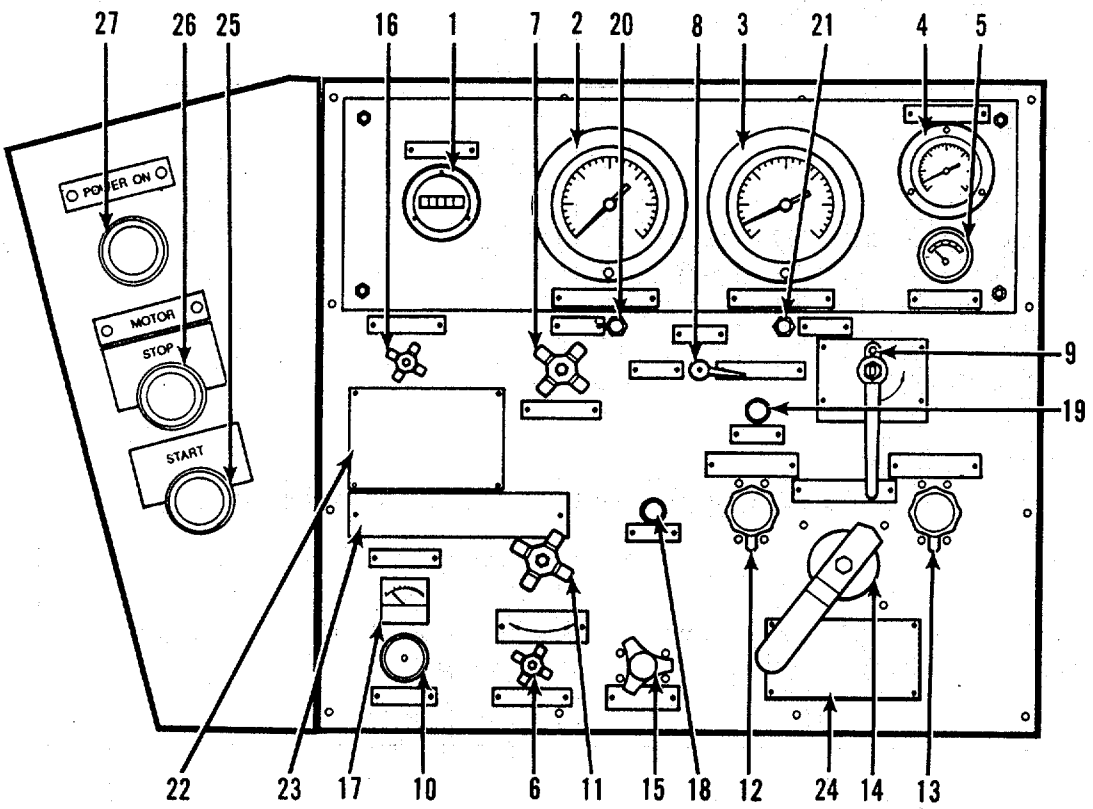

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27. MOTOR LIGHT

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CALIBRATION - HIGH PRESSURE GAUGE (Contd)

Method II (Alternate)

1. Isolate the gauge from the hydraulic system by closing the HP GAUGE SHUT-OFF valve.

2. Connect a 0-6000 psi calibrated test gauge and hydraulic pressurizing equipment to the HP GAUGE TEST port.

3. Operate the pressurizing equipment and compare the two gauge readings over various points on the scale.

4. The test stand gauge must be replaced if the readings do not conform to the limitations stated in step 4 of Method I above.

CALIBRATION - LOW PRESSURE GAUGE (21)

1. Place selector valve in LP GAUGE CALIBRATION position.

2. Connect a 0-300 psi test gauge and hydraulic pressurizing equipment to the LP GAUGE TEST port.

3. Operate the pressurizing equipment and compare the two gauge readings at various points on the scale.

4. The test stand gauge must be replaced if its readings do not agree with the standard gauge within one percent 24± 1/2 percent of full scale.

CALIBRATION - FLUID TEMPERATURE GAUGE

1. The fluid temperature gauge is equipped with a five foot capillary tube and sensing bulb. Remove the sensing bulb from the thermostat well.

2. Immerse the sensing tube into a water container with a controlled temperature.

3. Check the water temperature with a standard thermometer and compare readings with test stand gauge.

4. Replace the gauge if the temperature readings are inaccurate or erratic.

END OF TASK

3-90. Frame assembly 3-90

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-18 Cabinet assembly removed
Test stand shut down and pressure relieved.

INSPECTION

1. Inspect frame assembly for cleanliness, missing paint, and labels.
2. Inspect frame assembly for dents, corrosion, rust, and broken welds.
3. Inspect tiedowns and cabinet hardware for presence, cleanliness and material condition.
4. Inspect hydraulic couplings for damage, cleanliness, corrosion, and presence of dust caps.
5. Report any discrepancies.

END OF TASK

SECTION VI
PREPARATION FOR STORAGE OR SHIPMENT

3-91. For detailed instructions for the preparation for storage or shipment, refer to TM 55-1500-204-25/1 General Aircraft Maintenance Manual and TM 743-200-1, Storage and Material Handling.

APPENDIX A
REFERENCES

A-1. Dictionaries of Terms and Abbreviations

AR 310-25	Dictionary of United States Army Terms
AR 310-50	Authorized Abbreviations and Brevity Codes

A-2. Publication Index

DA PAM 25-30	Consolidated Index of Army Publications and Blank Forms

A-3. Logistics and Storage

TM 743-200-1	Storage and Materials Handling

A-4. Maintenance of Supplies and Equipment

AR 750-1	Army Material Maintenance Policies
DA PAM 738-751	Functional Users Manual for the Army Maintenance Management System - Aviation (TAMMS-A)
TB 43-180	Calibration and Repair Requirements for the Maintenance of Army Material.
TM 43-0139	Painting Instructions for Army Material
FM 1-509	Fundamentals of Aircraft Pneudraulics
FM 1-563	Fundamentals of Airframe Maintenance
FM 1-511	Army Aircraft Quality Control and Technical Inspection
FM 55-411	Quality Assurance, Quality Control
TM 55-1500-204-25/1	General Aircraft Maintenance Manual
TM 9-2610-200-24	Organizational, Direct Support & General Support Care, Maintenance & Repair of Pneumatic Tires and Inner Tubes

A-5. Other Publications

TM 750-244-1-4	Procedures for the Destruction of Aviation Ground Support Equipment (FSC 4920) to Prevent Enemy Use
AR 420-90	Fire Prevention and Protection
AR 55-38	Reporting of Transportation Discrepancies in Shipment
AR 700-58	Packaging Improvement Report
DA PAM 310-13	Posting and Filing Publications
FM 21-11	First Aid for Soldiers

APPENDIX B
MAINTENANCE ALLOCATION CHART

SECTION I. INTRODUCTION

B-1. General.

a. This section provides a general explanation of all maintenance and repair functions authorized at various maintenance categories.

b. The Maintenance Allocation Chart (MAC) in Section II designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance function to the end item or component will be consistent with the capacities and capabilities of the designated maintenance categories.

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

d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

B-2. Maintenance functions. Maintenance functions will be limited to and defined as follows:

a. Inspect. To determine the serviceability of an item by comparing its physical and mechanical characteristics with established standards through examination (e.g., by sight, sound, or feel).

b. Service. Operations required periodically to keep an item in proper operating condition i.e., to clean, to preserve, to paint, or to replenish lubricants or gases.

c. Replace. To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and is shown as the 3rd position code of the SM&R code.

d. Repair. The application of maintenance services, including fault location/troubleshooting, removal/installation, and disassembly/assembly procedures, and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, or end item.

B-3. Explanation of Columns in the MAC, Section II.

a. Column 1, Group Number. Column 1 lists functional group code numbers, the purpose of which is to identify maintenance of significant components, assemblies, and subassemblies, with the next higher assembly. End item group number is "00".

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

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

d. Column 4, Maintenance Category. Column 4 specifies, by the listing of a work time figure in the appropriate subcolumn(s), the category of maintenance authorized to perform the function listed in Column 3. This figure represents the active time required to perform that maintenance function at the indicated category of maintenance. The work time figure represents the average time required to restore and item (assembly, subassembly, component, or end item) to a serviceable condition under typical field operating conditions.

e. Column 5, Tools and Equipment. Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, TMDE, and support equipment required to perform the designated function.

f. Column 6, Remarks. This column shall, when applicable, contain a letter code, in alphabetical order, which shall be keyed to the remarks contained in Section

B-4. Explanation of Columns in Tools and Test Equipment Requirements, Section III.

a. Column 1, Reference Code. The tool and test equipment reference code correlates with a code in the MAC, Section II, Column 5.

b. Column 2, Maintenance Category. The lowest category of maintenance authorized to use the tool The "O" code corresponds to Aviation Unit Maintenance (AVUM), and the "F" code corresponds to Aviation Intermediate Maintenance (AVIM).

c. Column 3, Nomenclature. Name or identification of the tool.

d. Column 4, National Stock Number. The National Stock Number of the tool.

B-5. Explanation of Columns in Remarks, Section IV.

a. Column 1, Reference Code. The code recorded in Column 6, Section II.

b. Column 2, Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Section II.

SECTION II. MAINTENANCE ALLOCATION CHART FOR HYDRAULIC TEST STRAND

(1) Group Number	(2) Component/ Assembly	(3) Maintenance Function	(4) Maintenance Category AVUM	AVIM	Depot	(5) Tools and Eqpt	(6) Remarks
00	Test Stand Hydraulic, Sys, Elect. Motor Driven. D-6A						
01	Cabinet Assy						
0101	Doors	Inspect	.3				
		Repair		.8		114-117	
		Replace	.5			102	
0102	Catches	Inspect	.3				
		Service	.3				
		Replace	.8			102	E,F
0103	Panels (Access)	Inspect	.3				
		Service	.3				
		Repair		.5		114	
		Replace	.3			102	
02	Running Gear						
0201	Axle & Steering Assy	Inspect	.5				
		Service	.5			101	E,F
		Repair		1.0		117	G
		Replace	1.0			102	
0202	Tie Rods and Ends	Inspect	.3				
		Service	.5			101	
		Replace	1.0			102	G
0203	Springs	Inspect	.3			101	
		Service	.3				
		Replace	1.0			102	
0204	Wheels	Inspect	.3				
		Service	.3				
		Replace	.5			101-102	
0205	Hub and Bearings	Replace	.8			101-102	
		Inspect	.8				
		Service	1.0			101-102	E,F

SECTION II. MAINTENANCE ALLOCATION CHART FOR HYDRAULIC TEST STRAND (Contd)

(1) Group Number	(2) Component/ Assembly	(3) Maintenance Function	(4) Maintenance Category AVUM	AVIM	Depot	(5) Tools and Eqpt	(6) Remarks
0206	Brake Assy	Replace		1.0		115	
		Inspect	.5				
		Service.	5				
		Adjust	.5				
0207	Tires and Tubes	Replace	5		102		G
		Inspect	3				
		Service	.3				
		Repair		1.0		115	G
0208	Tow Bar	Inspect	.3				
		Service	.3				
		Repair		1.0		102-117	
		Replace	.3				
03	Electrical System						
0301	Electric Motor Main Hydr. Pump	Inspect	.3				
		Replace	1.0			102	
		Repair			2.0		
0302	Switches and Circuit Breakers	Inspect	.3				
		Service	.3				
		Replace	.5			106	
0303	Wiring & Cables	Inspect	.3				
		Service	.3				
		Repair		.8		106-109	
		Replace		.8		106-109	
0304	Fuses	Inspect	.3				
		Replace	.3				
04	Hydraulic System						
0401	Pump	Inspect	.3				
		Replace	1.0			104-110	
		Repair			2.0		

SECTION II. MAINTENANCE ALLOCATION CHART FOR HYDRAULIC TEST STRAND (Contd)

(1) Group Number	(2) Component/ Assembly	(3) Maintenance Function	(4) Maintenance Category AVUM	AVIM	Depot	(5) Tools and Eqpt	(6) Remarks
0402	Compensator	Inspect	.3				
	Control	Service	.3				
	Replace		1.0			104	
0403	Volume	Inspect	.3				
	Control	Service	.3				
		Replace	1.0			104	
0404	Valves,	Inspect	.3				
	Relief, Check	Repair			1.0		
	Bleed, 4-Way, By-Pass	Replace	1.0				
0405	Fluid	Inspect	.3				
	Reservoir	Repair		.8		104-110	
		Replace	1.0				
0406	Filter	Inspect	.3				
	Assemblies	Service	.3				
		Replace	.5			102	A
		Test	.3				B
0407	Lines, Tubing	Inspect	.3				
	Fittings,	Repair		1.0		104-110	
	Hose Assy, &	Replace	.8			104	
	Manifold	Test		.5			B
0408	Pressure	Inspect	.3				
	Gauges	Replace		.8		105-109	
05	Instrument Panel						
0501	Control Knobs	Inspect	.3				
		Replace	.5			105	
0502	Panel Assy	Inspect	.3				
		Repair		1.0		105-109	
		Replace	.8				

SECTION II. MAINTENANCE ALLOCATION CHART FOR HYDRAULIC TEST STRAND (Contd)

(1) Group Number	(2) Component/ Assembly	(3) Maintenance Function	(4) Maintenance Category AVUM	AVIM	Depot	(5) Tools and Eqpt	(6) Remarks
0503	Instruments	Inspect	.3				
		Replace	.3				C,D
		Calibrate*		.5			
06	Frame Assy	Inspect	.3				
		:Repair			3.0		

* Calibration to be performed by the U .S. Army, Test, Measurement and Diagnostic c Equipment, Support Group.

SECTION III. TOOLS AND TEST EQUIPMENT

(1) Ref. No.	(2) Maint. Cat.	(3) Nomenclature	(4) National Stock Number	(5) Tool Number
101	0	Tool Set, AVUM Set No. 2	4920-00-567-0476	SC4920-99-CL-A92
102 .	0	Tool Kit, Aircraft Mechanics General	5180-00-323-4692	SC5180-99-CL-A01
104	0	Tool Kit, Hydraulic	5180-00-323-4891	SC5180-97-CL-A03
105	0	Tool Kit, Instrument	5180-00-323-4913	SC5180-99-CL-A05
106	0	Tool Kit, Electrical	5180-00-323-4915	SC5180-99-CL-A06
109	F	Shop Set, AVIM Electrical/Instrument	4920-00-165-1453	SC4920-99-CL-A80
110	F	Shop Set, AVIM Hydraulic	4920-00-165-1454	~SC4920-99-CL-A81
114	F	Shop Set, AVIM Sheet Metal	4920-00-166-5505	SC4920-99-CL-A85
115	F	Shop Set, AVIM Tool Crib	4920-00-472-4183	SC4920-99-CL-A86
117	F	Shop Set, AVIM welding	4920-00-163-5093	SC4920-99-CL-A88

SECTION IV. REMARKS

TEST STAND HYDRAULIC, D-6A	
Ref. Code	Remarks
A	Clean and/or replace filter elements, high and low pressure filters
B	Operational test for leaks
C	Calibrate LAW existing procedures, TB 43-180
D	Operational test can be performed with component installed on end item
E,F	Lubricate and clean
G	Use available motor pool tools

APPENDIX C
REPAIR PARTS AND SPECIAL TOOLS LIST

SECTION L INTRODUCTION

C-1. Scope. This RPSTL lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of Aviation Unit and Aviation Intermediate maintenance on the Type D-6A Hydraulic Test Stand. It authorizes the requisitioning, issue, and disposition of spares, repair parts, and -special tools as indicated by the Source, Maintenance, and Recoverability (SM&R) codes.

C-2. General. The RPSTL is further divided into the following sections:

SECTION II. REPAIR PARTS LIST

A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Bulk materials are listed in item name sequence. Repair parts kits are listed separately in their own functional group within Section II. Repair parts for repairable special tools are also listed in this section. Items listed are shown on the associate illustration(s)/figure(s).

SECTION III. SPECIAL TOOLS LIST

There are no special tools, special TMDE, or other special support equipment required the performance of maintenance on the equipment in this manual.

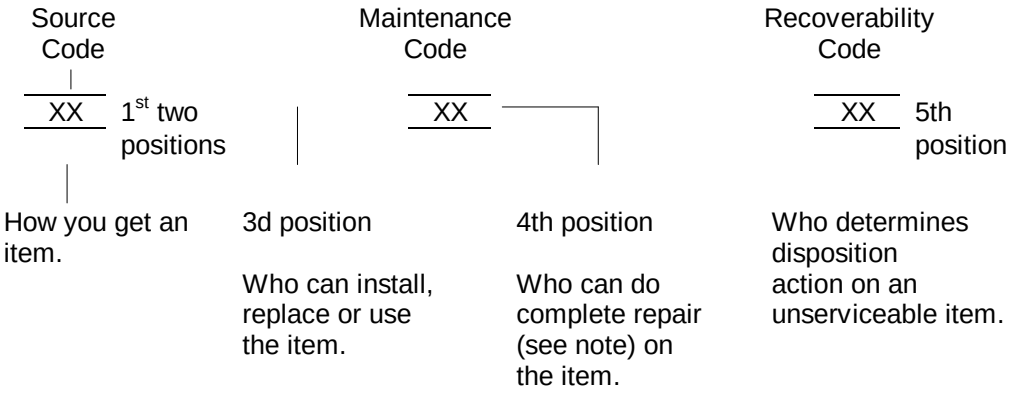
SECTION IV. NATIONAL STOCK NUMBER AND PART NUMBER INDEXES

A list, in National Item Identification Number (NIIN) sequence, of all National Stock Number (NSN) items appearing in the RPSTL, followed by a list in alphanumeric sequence of all part numbers appearing in the RPSTL. NSN and part numbers are cross-referenced to each illustration figure and item number appearance. The Figure Number index lists the item number alphanumeric sequence and crossreferences NSN, GAGE code, and part number.

C-3. Explanation of Columns (Section II and III).

a. Item No. (Column (1). Indicates the number used to identify items called out in the illustration.

b. SM&R Code (Column (2). The Source, Maintenance, and Recoverability (SM&R) code is a 5-position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instruction, as shown in the following breakout:



* Complete Repair: Maintenance capacity, capability, and authority - to perform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

(1) Source Code. The source code tells you how to get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follows:

Code	Explanation
PA PB PC** PD PEl PF PG	Stocked items; use the applicable NSN- to request/requisition items with these source codes. They are authorized to the category indicased by the code entered in the 3rd position of the SM&R code. ****NOTE**: Items coded PC are subject to deterioration.
KD KF KB	Items with these codes are not to be requested/requisitioned-individually. They are part of a kit which is authorized to the maintenance category indicated in the 3rd position of the SM&R code. The complete kit must be requisitioned and applied.

Code	Explanation
MO-(Made at org/ AVUM Level) MF-(Made at DS/ AVUM Level) MH-(Made at GS Level) ML-(Made at Specialized Repair Act [SRA] MD-(Made at Depot)	Items with these codes are not to be requested requisitioned individually. T hey must be made from bulk mate rial which is identified by the part number in the DESCRIPTION AND USEABLE ON CODE (UOG) column and listed in the Bulk Material group of the repair parts list in this RPSTL. If the item is authorized to you by 3rd position code of the SM&R code, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance.

Code	Explanation
AO-(Assembled by org/AVUM Level) AF-(Assembled by DS/AVIM Level) AH-(Assembled by GS Category) AL- Assembled by SRA) AD-(Assembled by Depot)	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the 3rd position code of the SM&R code authorizes you to replace the item, but the source code indicates the item is assembled at a higher level, order the item from the higher level of maintenance

XA-	Do not requisition an "XA"-coded item. Order its next higher assembly. (Refer to the NOTE below.)
XB-	If an "XB" item is not available from salvage, order it using the CAGE code and part number given.
XC-	Installation drawing, diagram, instruction sheet, field service drawing, that is identified by manufacturer's part number.
XD-	Item is not stocked. Order an "XD"-coded item through normal supply channels using the CAGE code and part number given, if no NSN is available.

NOTE: Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes, except for those source coded "XA" or restricted aircraft support items (refer to AR 750-1).

(2) Maintenance Code. Maintenance codes tell you the level(s) of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the SM&R Code as follows:

(a) The maintenance code entered in the third position tells you the lowest maintenance level authorized to remove, replace, and use an item. The maintenance codes are entered in the third position will indicate authorization to one of the following levels of maintenance.

Code	Application/Explanation
C	-Crew or operator maintenance done within organizational or aviation unit maintenance.
O	-Organizational or aviation unit category can remove, replace, and use the item.
F	-Direct support or aviation intermediate level can remove, replace, and use the item.
H	-General support level can remove, replace, and use the item.
L	-Specialized repair activity can remove, replace, and use the item.
D	-Depot level can remove, replace, and use the item.

(b) The maintenance code entered in the fourth position tells whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (i.e., perform all authorized repair functions). **NOTE**: Some limited repair may be done on the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAG) ~ and SM&R codes. This position will contain one of the following maintenance codes.

Code	Application/Explanation
O	-Organizational or (aviation unit) is the lowest level that can do complete repair of the item.
F	-Direct support or aviation intermediate is the lowest level that can do complete repair of the item.
H	-General support is the lowest level that can do complete repair of the item.
L	-Specialized repair activity (designate the specialized repair activity) is the lowest level that can do complete repair of the item.
D	-Depot is the lowest level that can do complete repair of the item.
Z	-Nonrepairable. No repair is authorized.
B	-No repair is authorized. No parts or special tools are authorized for the maintenance of a "B" coded item. However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

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

Recoverability Code	Application/ Explanation
Z	-Nonrepairable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in 3rd position of SM&R Code.
O	-Repairable item. When not economically repairable, condemn and dispose of the item at organizational or aviation unit level.
F	-Repairable item. When not economically repairable, condemn and dispose of the item at the direct support or aviation intermediate level.
H	-Repairable item. When not economically repairable, condemn and dispose of the item at the general support level.

D -Repairable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item not authorized below depot level.

L -Repairable item. Condemnation and disposal not authorized below specialized repair activity (SRA).

A -Item requires special handling or condemnation procedures because of specific reasons (e.g., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

c. CAGE Code (Column (3). The Commercial and Government Entity (CAGE) Code is a 5-digit numeric or alphanumeric code which is used to identify the manufacturer, distributor, or government agency, etc., that supplies the item. The codes are contained in Cataloging Handbook H4/H8.

d. Part Number (Column (4). Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or government activity), which controls the design and characteristics of the item by means of its engineering drawings, specification standards, and inspection requirements to identify an item or range of items.

NOTE: When you use a NSN to requisition an item, the item you receive may have a different part number from the part ordered.

e. Description and Usable On Code (UOC) (Column (5). This column includes the following information:

(1) The federal item name and, when required, a minimum description to identify the item.

(2) The physical security classification of the item is indicated by the parenthetical entry (insert applicable physical security classification abbreviation, e.g., Phy Sec C1 (C) -Confidential, Phy Sec C1 (S) - Secret, Phy Sec C1 (T) Top Secret).

(3) Items that are included in kits and sets are listed below the name of the kit or set.

(4) Spare/repair parts that make up an assembled item are listed immediately following the assembled item line entry.

(5) Part numbers for bulk materials are referenced in this column in the line item entry for the item to be manufactured/fabricated.

(6) When the item is not used with all serial numbers of the same model, the effective serial numbers are shown on the last line(s) of the description (before UOC).

(7) The usable on code, when applicable (see paragraph 5, Special Information).

(8) In the Special Tools List section, the basis of issue (BOI) appears as the last line(s) in the entry for each special tool, special TMDE, and other special support equipment. When density of equipments supported exceeds density spread indicated in the basis of issue, the total authorization is increased proportionately.

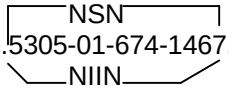
(9) The statement "END OF FIGURE" appears just below the last item description in Column 5 for a given figure in both Section II and Section III.

f. QTY (Column (6). The QTY (quantity per figure column) indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column in lieu of a quantity indicates that the quantity is variable and the quantity may vary from application to application.

C-4. Explanation of Columns (Section IV).

a. National Stock Number (NSN) Index.

(1) Stock Number Column. This column lists t he NSN by National Item Identification Number (NIIN) sequence. The NIIN consists of the last nine digits



of the NSN (i. e. 5305-01-674-1467.= When using this column to locate an item,

ignore the first 4 digits of the NSN. However, the complete NSN should be used when ordering items by stock number.

(2) Figure Column. This column lists the number of the figure where the item is identified/located. The figures are in numerical order in Section II and Section III.

(3) Item Column. The item number identifies the item associated with the figure listed in the adjacent FIGURE column. This item is also identified by the NSN listed on the same line.

b. Part Number Index. Part numbers in this index are listed by part number in ascending alphanumeric sequence (i.e., vertical arrangements of letter and number combination which places the first letter or digit of each group in order ~ through Z. followed by the numbers 0 through 9 and each following letter or digit in like order).

(1) CAGE Code Column. The Commercial and Government Entity (CAGE) Code is a 5-digit numeric or alphanumeric code used to identify the manufacturer, distributor, or government agency, etc., that supplies the item.

(2) Part Number Column. Indicates the primary number used by the manufacturer (individual, firm, corporation, or government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of terms.

(3) Stock Number Column. This column lists the NSN for the associated part number and manufacturer identified in the Part Number and CAGE Code Columns to the left.

(4) - FIGURE Column. This column lists the number of the figure where the item is identified/located in Section II and III.

(5) Item Column. The item is that number assigned to the items as it appears in the figure referenced in the adjacent figure number column.

c. Figure and Item Number Index. Not applicable.

C-5. Special Information. Use the following subparagraphs as applicable:

a. Usable On Code. The usable on code appears in the lower left corner of the Description column heading. Usable on codes are shown as "UOC:" in the description column (justified left) on the first line applicable item description/nomenclature. Uncoded items are applicable to all models. Identification of the usable on codes used in the RPSTL are:

Code	Used On
	Not Applicable

b. Fabrication Instructions. Bulk materials required to manufacture items are listed in the Bulk Material Functional Group of this RPSTL. Part numbers for bulk materials are also referenced in the description column of the line entry for the item to be manufactured/fabricated. Detailed fabrication instructions for items source codes to be manufactured or fabricated are not applicable.

c. Assembly Instructions. Detailed assembly instructions for items source coded to be assembled from component spare/repair parts are not applicable. Items that make up the assembly are listed immediately following the assembly item entry or reference is made to an applicable figure.

d. Kits. Line item entries for repair parts kits appear in a group in Section II (Not Applicable).

e. Index Numbers. Items which have the word BULK in the figure column will have an index number shown in the item number column. This index number is a cross-reference between the National Stock Number/Part Number Index and the bulk material list in Section II.

f. Associated Publications. Not applicable.

g. Illustrated - Listing. Not applicable.

C-6. How to Locate Repair Parts.

a. When national stock number or part number is not known.

(1) First. Using the table of contents, determine the assembly group or subassembly group to which the item belongs. This is necessary since f gores are prepared for assembly groups and subassembly groups, and listings are divided into the same groups.

(2) Second. Find the figure covering the assembly group or subassembly group to which the item belongs.

(3) Third. Identify the item on the figure and note the item number.

(4) Fourth. Refer to the Repair Parts List for the figure to find the part number for the item number noted on the figure.

(5) Fifth. Refer to the Part Number Index to find the NSN, if assigned.

b. When national stock number or part number is known:

(1) First. Using the Index of National Stock Numbers and Part Numbers find the pertinent national stock number or part number. The NSN index is- in National Item Identification Number (NIIN) sequence (see C-4.a(1)). The part numbers in the Part Number index are listed in ascending alphanumeric sequence (see C-4.b). Both indexes cross-reference you to the illustration figure and item number of the item you are looking for.

(2) Second. After finding the figure and item number, verify that the item is the one you're looking for, then locate the item number in the repair parts list for the figure.

C-7. Abbreviations. All are applicable to RPSTL and are listed in MIL-STD-12.

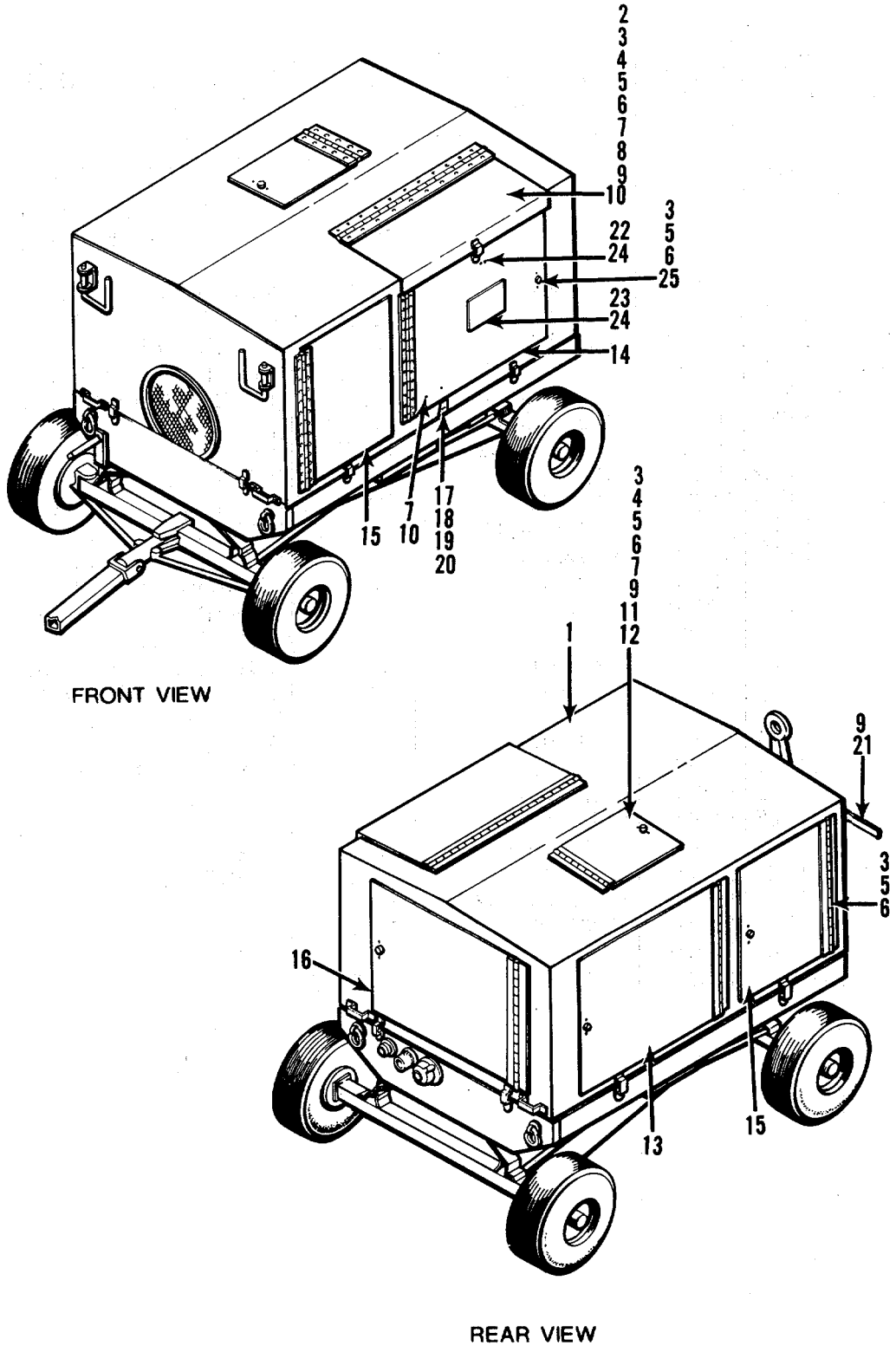


Figure C-1 Cabinet Assembly, D-6A

ITEM NO.	SM&R CODE	CAGE CODE	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 01 CABINET ASSY GROUP 0101 DOORS GROUP 0103 PANELS, ACCES FIGURE C-1, CABINET ASSY	
	AFFFF	22680	48255-01	CABINET ASSY.....	
1	AFFFF	22680	58329-01	HOUSING WELDMENT.....	1
2	XDFZZ	22680	58330-01	DOOR TOP PANEL.....	1
3	XDFZZ	96906	MS35207-263	SCREW, MACHINE PNH	47
4	PAFZZ	96906	MS25281-F4	CLAMP, LOOP, PLASTIC.....	2
5	PAFZZ	96906	MS35338-43	WASHER, LO CK`	47
6	PAFZZ	96906	MS35650-302	NUT, PLAIN HEX.....	47
7	XDFZZ	03614	3781	CLIP, FUSE.....	4
8	XDFZZ	22680	89277-01	HOLDER-DOOR	1
9	PAFZZ	96906	MS24665-132	PIN, COTTER.....	7
10	XDFZZ	73020	AD42ABS	RIVET, POP	4
11	XDFZZ	22680	58334-01	DOOR, RESERVOIR FILL.....	1
12	XDFZZ	22680	89275-01	HOLDER-DOOR	1
13	XDFZZ	22680	58331-01	DOOR, LEFT SIDE.....	1
14	XDFZZ	22680	58332-01	DOOR, RIGHT SIDE PANEL	1
15	XDFZZ	22680	58333-01	DOOR, MOTOR COMPART..... MENT	2
16	XDFZZ	22680	58335-01	DOOR, REAR.....	1
17	XDFZZ	22680	89266-01	SUPPORT-DOOR BRACKET.....	1
18	PAFZZ	96906	MS35206-245	SCREW, MACHINE PNH	2
19	PAFZZ	96906	MS35338-42	WASHER, LOCK.....	2
20	PAFZZ	96906	MS35649-282	NUT, PLAIN HEX.....	2
21	XDFZZ	22680	89276-01	HOLDER-DOOR	5
22	XDFZZ	98003	SC-B-83314-2CE	CATCH.....	1
23	XDFZZ	22680	452026-01	NAMEPLATE, UNIT.....	1
24	XDFZZ	73020	AD43ABS	RIVET, POP	8
25	XDFZZ	3M181	44-1-2-0	LATCH, ADJ.....	6
				END OF FIGURE	

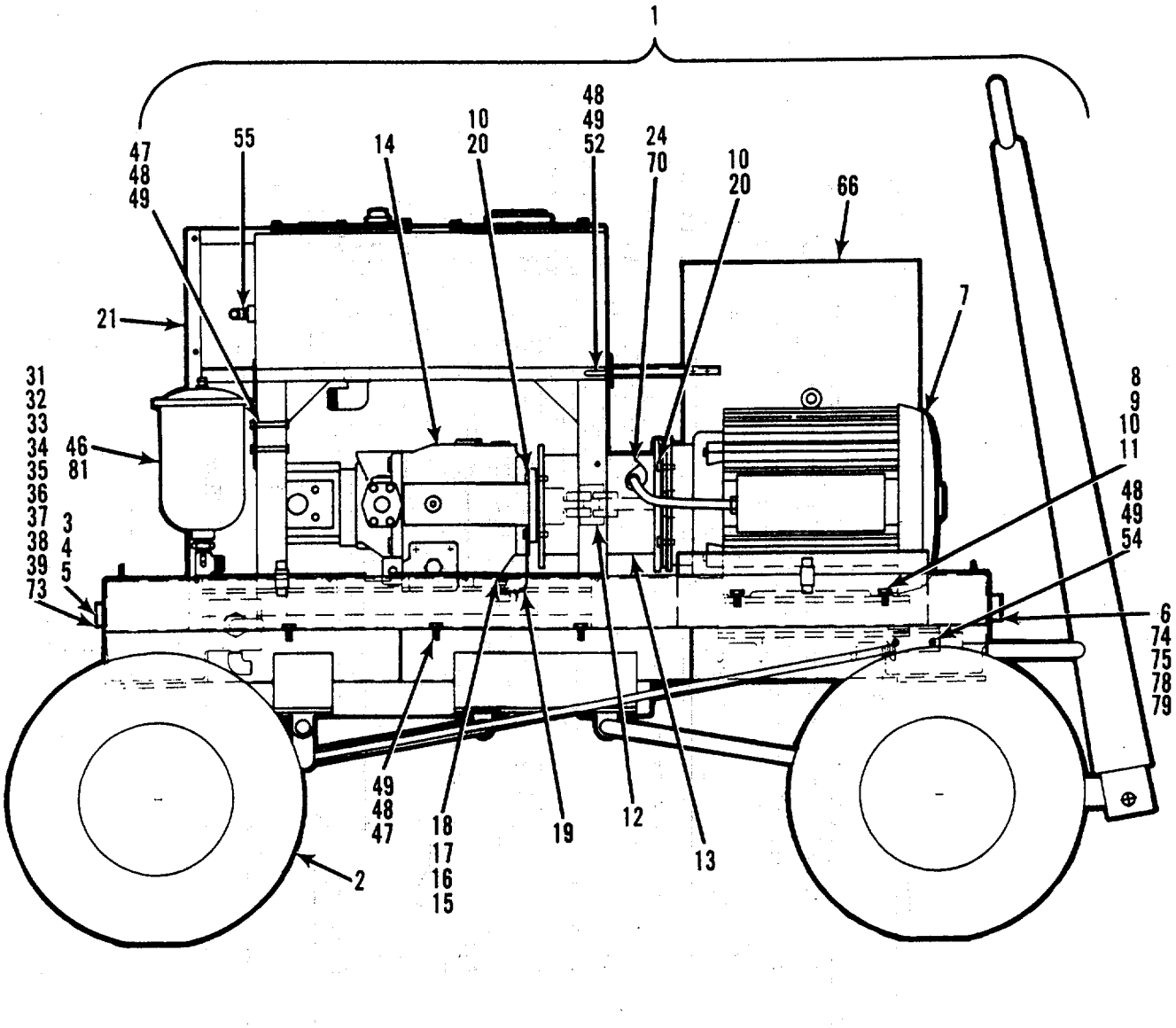


Figure C-2 Internal Components Assembly, D-6A (Sheet 1 of 3)

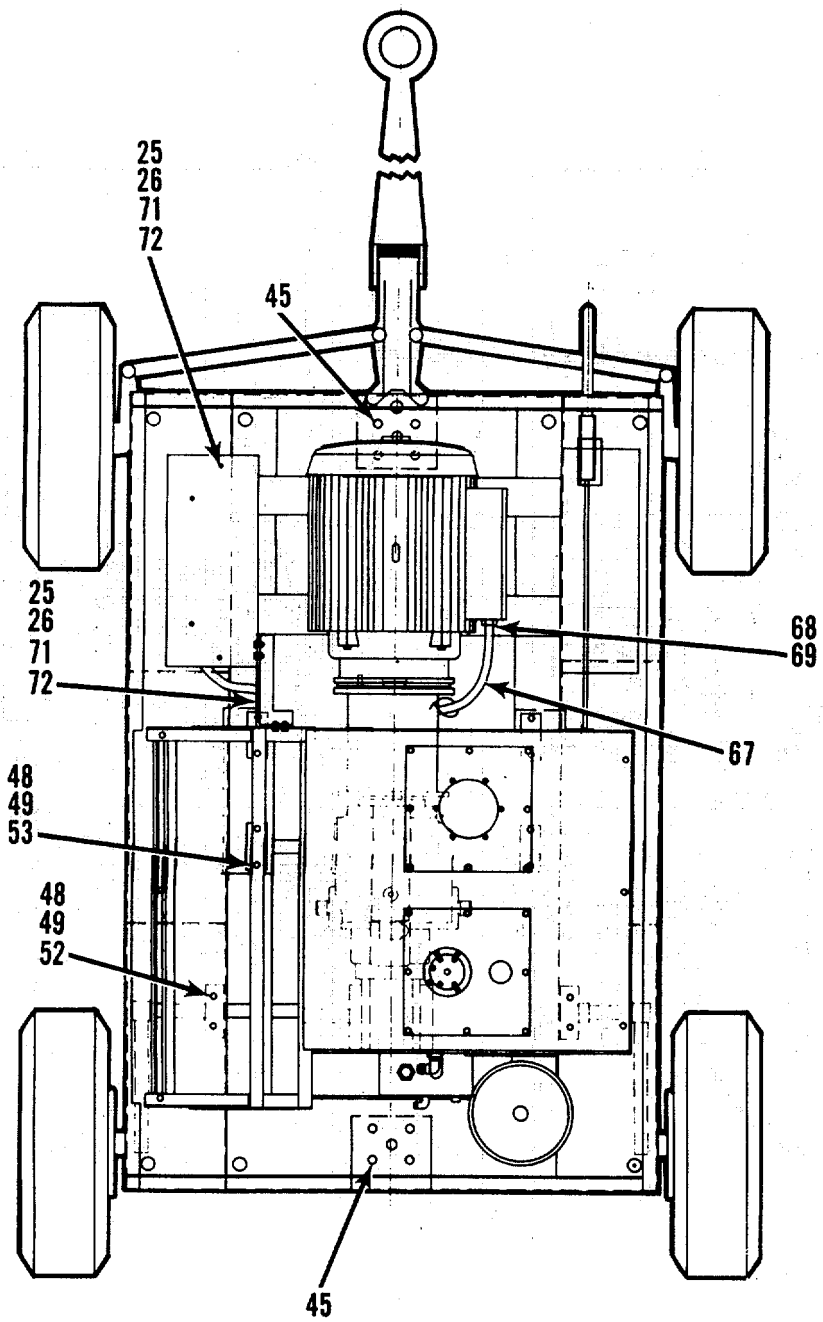


Figure C-2 Internal Components Assembly, D-6A (Sheet 2 of 3)

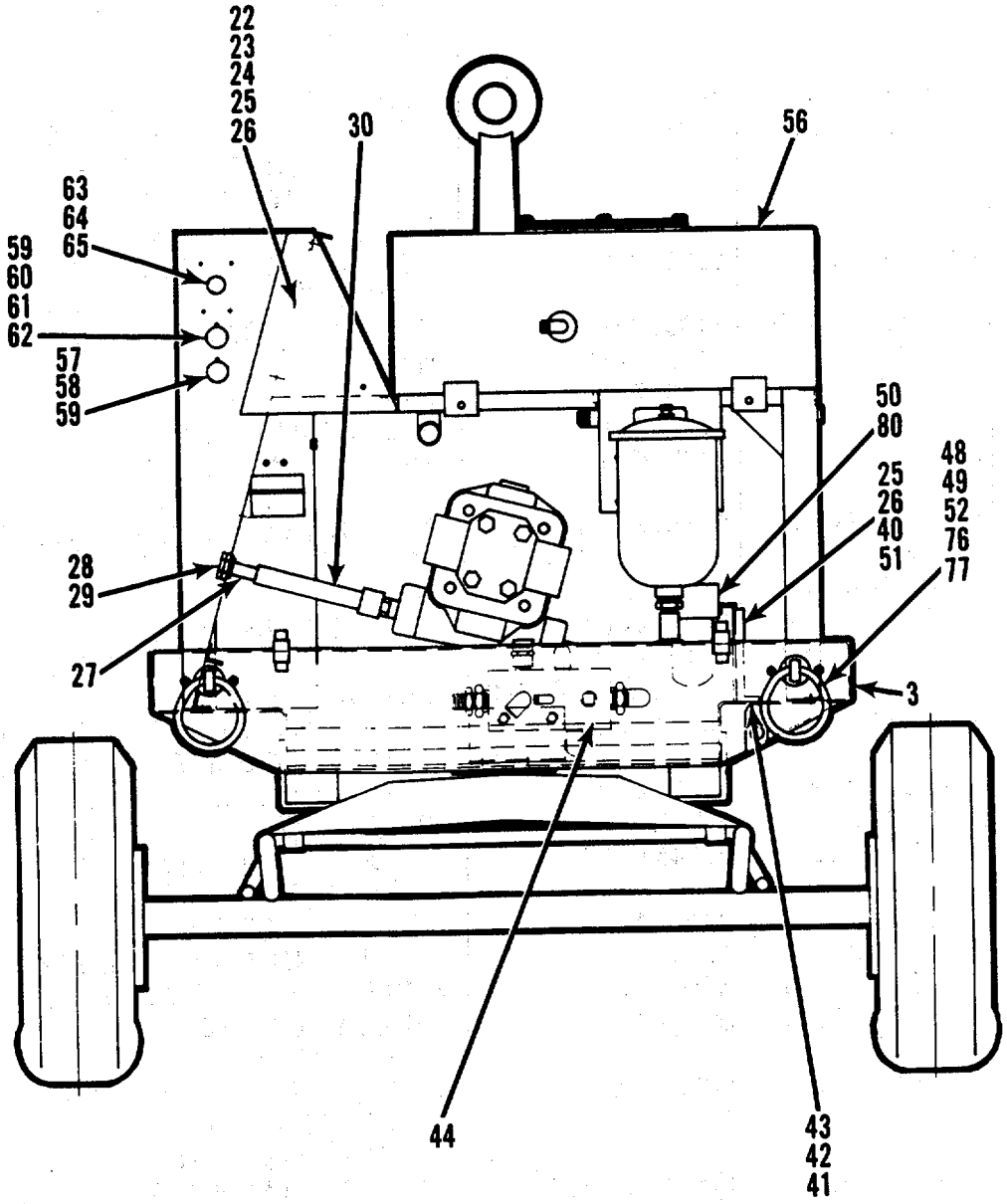


Figure C-2 Internal Components Assembly, D-6A (Sheet 3 of 3)

ITEM NO.	SM&R CODE	CAGE CODE	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 00 HYD TEST STAND FIGURE C-2 INTERNAL COMPONENTS ASSY	
	AFFFF	22680	48249-01	UNIT SUB-ASSY	
1	AFFFF	22938	184	TRAILER RUNNING GEAR, ... 3000 LB CAPACITY,..... FIGURE C-3 FOR..... BREAKDOWN	1
2	XDFZZ	22680	89325-01	FRAME ASSY TRAILER..... WELDED.....	1
3	XDFZZ	22680	119562-01	N/P 1" SUCTTON.....	1
4	XDFZZ	22680	119562-02	N/P 3/4" OUTLET	1
5	XDFZZ	22680	119562-03	N/P 1/2" OUTLET	1
6	XDFZZ	22680	119562-04	N/P EARTH GND.....	1
7	XDFZZ	18097	P0920397	MOTOR, AC, 28HP, 220/440/ 3160	1
8	XDFZZ	39428	91151A033	STANDARD BEVEL WASHER	4
9	PAFZZ	96906	MS90726-114	SCREW, CAP, HEX HD.....	4
10	PAFZZ	96906	MS35338-48	WASHER, LOCK	12
11	PAFZZ	96906	MS51971-5	PLAIN HEX.....	4
12	XDFZZ	22680	411261-01	COUPLING, FLEXIBLE	1
13	XDFZZ	61675	1304S-320S-X-6.63	BRAGKET, MTG PUMP	1
14	XDFZZ	22680	1012154-01	PUMP HP, 10 GPM 3000..... PSI, 5 GPM 5000 PSI	1
15	XDFZZ	22680	119362-01	SPACER	1
16	XDFZZ	29440	F48S3-84	SPUR GEAR	1
17	XDFZZ	1BD74	91245A350	SCREW, CAP, HEX HD,..... METRIC	1
18	XDFXX	39428	91105A133	WASHER, STAR	1
19	XDFZZ	22680	58355-01	FLOW INDICATOR ASSY	1
20	PAFZZ	96906	MS90725-113	SCREW, CAP, HEX HD.....	4
21	XDFZZ	22680	89317-01	FRAME PANEL AND ..... RESERVOIR	1
22	AFFFF	22680	58339-01	CONTROL PANEL ASSY,: ..... FIGURE C-10 FOR..... BREAKDOWN	1
23	PAFZZ	96906	MS35206-280	SCREW PNH MACHINE	4
24	PAFZZ	96906	MS35206-281	SCREW PNH MAGHINE	8
25	PAFZZ	96906	MS35338-44	WASHER, LOCK	12
26	PAFZZ	96906	MS35649-2252	NUT, PLAIN HEX.....	12
27	XDFZZ	22680	119349-01	EXTENSION SHAFT, VOLUME..... ..... CONTROL	1
28	XDFZZ	30780	8B79-6	HANDLE, NHA C-10	REF
29	XDFZ2	30780	459B-1	NUT, NHA C-10	REF

ITEM NO.	SM&R CODE	CAGE CODE	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
30	PAFZZ	96906	MS18067-37	SET SCREW, HEX SKT	1
31	XDFZZ	01276	155-S4-8D	COUPLING HALF, 1/2 INCH	1
32	PAFZZ	96906	MS35207-263	SCREW MACHINE PNH	6
33	PAFZZ	96906	MS35338-43	WASHER LOCK	6
34	PAFZZ	96906	MS35650-302	NUT, PLAIN HEX	6
35	XDFZZ	01276	155-S7-8D	CAP, DUST, 1/2 INCH	1
36	XDFZZ	01276	155-S4-12D	COUPLING HALF, 3/4 INCH	1
37	XDFZZ	01276	155-S7-12D	CAP,DUST 3/4 INCH	1
38	XDFZZ	01276	155-S4-16D	COUPLING HALF, 1 INCH	1
39	XDFZZ	01276	155-S7-16D	CAP, DUST, 1 INCH	1
40	XDFZZ	22680	119369-01	BRACKET	1
41	PAFZZ	96906	MS90725-32	SCREW CAP HEX	4
42	PAF ZZ	96906	MS35338-45	WASHER, LOCK	4
43	PAFZZ	96906	MS35649-2312	NUT, PLAIN HEX	4
44	AFFFF	22680	58341-01	MANIFOLD ASSY, FIGURE C-9 FOR BREAKDOWN	1
45	PAF ZZ	96906	MS27183-18	WASHER, FLAT	8
46	XDFZZ	22680	58342-01	FILTER ASSY	1
47	PAFZZ	96906	MS90725-58	SCREW, CAP HEX	4
48	PAF ZZ	96906	MS35338-46	WASHER, LOCK	33
49	PAFZZ	96906	MS35649-2382	NUT, PLAIN HEX	33
50	XDFZZ	81321	50223	FILTER, MICRONIC, 5000 PSI, 12 GPM	1
51	PAFZZ	96906	MS90725-15	SCREW CAP HEX	2
52	PAFZZ	96906	MS90725-60	SCREW CAP HEX	17
53	PAFZZ	96906	MS90725-62	SCREW CAP HEX	8
54	PAFZZ	96906	MS90725-65	SCREW CAP HEX	2
55	AFFFF	22680	48243-01	HYD INSTL, FIGURE C-7 FOR BREAKDOWN	1
56	AFFFF	22680	48227-01	HYD RESERVOIR ASSY, FIGURE C-8 FOR BREAKDOWN	1
57	XDF ZZ	23826	52RAS03	PLATE, LEGEND	1
58	XDFZZ	23826	52PA8A3	OPERATOR PUSHBUTTON	1
59	XDFZZ	23826	52BAA	BLOCK, CONTACT	2
60	XDF ZZ	23826	52RAS04	PLATE, LEGEND	1
61	XDFZZ	23826	52PA8A2	OPERATOR PUSHBUTTON	1
62	XDFZZ	22680	119562-05	N/P MOTOR	1
63	XDFZZ	6X156	104-3502-0213-403	LIGHT, PILOT	1
64	XDFZZ	71744	6S6DC-130 V	LAMP, BAYONET	1
65	XDFZZ	22680	119562-06	N/P POWER ON	1
66	AFFFF	22680	48253-01	ENCLOSURE ASSY, ELECTRICAL, FIGURE C-4 FOR BREAKDOWN	1
67	XDFZZ	83664	1342-36231	CONDUIT	4

ITEM NO.	SM&R CODE	CAGE CODE	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
68	XDFZZ	57797	ST-100	CONNECTOR	1
69	XDFZZ	17680	RAC01370	WASHER, REDUCING	2
70	XDFZZ	53421	T120MR	TIE, CABLE	1
71	PAFZZ	96906	MS90725-6	SCREW, CAP HEX	6
72	PAFZZ	96906	MS27183-10	WASHER, FLAT	9
73	PAFZZ	96906	MS90725-3	SCREW, CAP HEX	3
74	PAFZZ	96906	MS35335-35	WASHER, LOCK	1
75	PAFZZ	96906	MS35426-16	NUT, WING	1
76	XDFZZ	04368	N-2150	PLATE NUT, TIEDOWN, TRAILER CHASSIS	4
77	XDFZZ	04368	T-2200	RING ASSY, TIEDOWN 10,000 LB	4
78	PAF ZZ	8134g	M5086/2-18-9	WIRE ELECTRIC	50
79	PAFZZ	81349	M5086/2-6-9	WIRE ELECTRIC	24
80	PAFZZ	88044	AN6235-4A	ELEMENT, HP FILTER	1
81	PAFZZ	88044	AN6236-3	ELEMENT, LP FILTER	1
				END OF FIGURE	

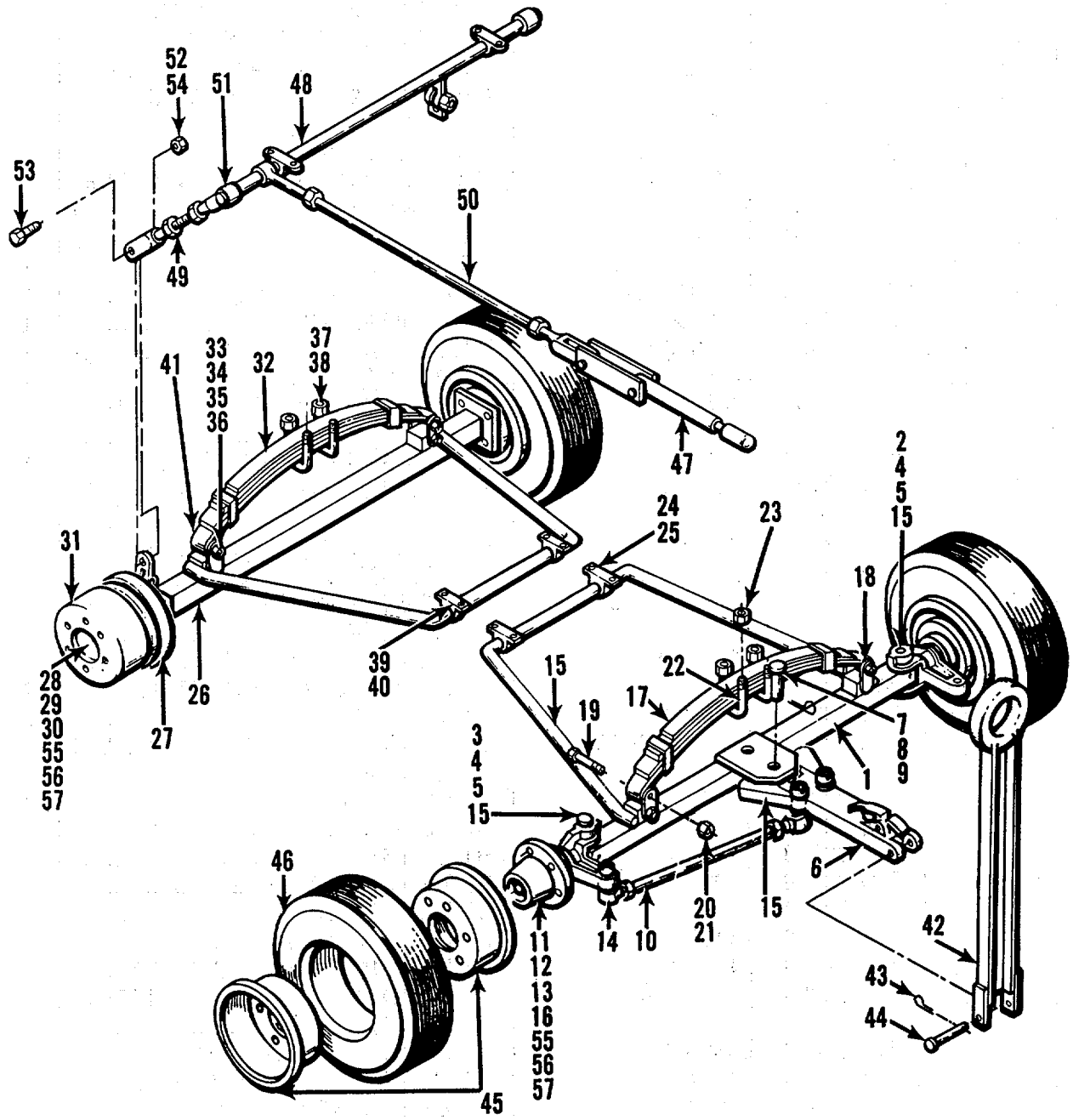


Figure C-3 Running Gear Assembly, D-6-A

ITEM NO.	SM&R CODE	CAGE CODE	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 02 RUNNING GEAR GROUP 0201 AXLE AND STEERING ASSY GROUP 0206 BRAKE ASSY GROUP 0207 TIRES AND TUBES GROUP 0208 TOWBAR FIGURE C-3 RUNNING GEAR ASSY	
	AFFFF	22938	1-184-1396	FRONT AXLE ASSY	1
1	XAFZZ	22938	184-1396-1	BEAM ASSY, WELDMENT	1
2	XDFZZ	22938	3-3806	KNUCKLE ASSY, LH	1
3	XDFZZ	22938	4-3806	KNUCKLE ASSY, RH	1
	XDFZZ	22938	5401	KING PIN	2
5	PAFZZ	22938	MS16562-174	ROLL PIN, 3/8' DIAMETER X 1-3/4" LG	2
6	XDFZZ	22938	1 3851	CENTER ARM ASSY	1
7	XDFZZ	22938	4701-3	WASHER, 1-3/16" ID X 2-1/4" OD	3
8	XDFZZ	22938	5400-1	CENTER PIN, 1-1/8"~ DIA METER X 3-5/8" LG	1
	XDFZZ	22938	MS24665-623	COTTER PIN, 1/8" DIAMETER X 2" LG	1
10	XDFZZ	22938	3906-190	TIE ROD ASSY, 19" C TO C	2
11	XDFZZ	22938	4702-2	WASHER, SPINDLE, 1" ID	2
12	XDFZZ	2293&	4600-2	NUT, SPINDLE, 1-14 NF	2
13	XDFZZ	22938	MS24665-360	PIN, COTTER, 1/8 DIAMETER X 2 LG	2
14	XDFZZ	22938	5801	LUBE FITTING, 1/4 - 28	4
15	XDFZZ	22g38	5800	LUBE FITTING, 1/8 NPT	g
16	XDFZZ	22g38	1 3612	HUB ASSY	2
17	XDFZZ	22938	4020-1	SPRING TRANSVERSE	1
18	XDFZZ	22938	4257-4	LINK, SHACKLE	2
19	XDFZZ	22938	5402-2	BOLT, SHACKLE	3
20	XDFZZ	22938	4600-3	NUT, 9/16 - 18, SLOTTED	3
21	XDFZZ	22938	MS24665-355	PIN, COTTER, 1/8 DIAMETER 1-1/4	3
22	XDFZZ	22938	5100-2	U-BOLT, 1/2 20 X 3	2
23	XDFZZ	22938	4601-7	NUT, 1/2 - 20 SLF LKG	4
24	XDFZZ	22938	4264-1	CLAMP, RADIUS ROD	2
25	XDFZZ	22938	4264-2	BUSHING, CLAMP	2
	AFFFF	22938	1-184-1346	REAR AXLE ASSY	1
26	XAFZZ	22938	184-1346-2	BEAM ASSY, WELDMENT	1
27	XDFZZ	22938	1-8209	BRAKE ASSY	2

ITEM NO.	SM&R CODE	CAGE CODE	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
28	XDFZZ	22938	4600-2	NUT, SPINDLE, 1 - 14 NF	2
29	XDFZZ	22938	4702-2	WASHER, SPINDLE, 1 ID	2
30	XDFZZ	22938	4800-5	PIN, COTTER, 7/8" DIA-..... METER 2".....	2
31	XDFZZ	22938	2-3612	HUB & DRUM ASSY	2
32	XDFZZ	22938	4020-1	SPRING, TRANSVERSE	1
33	XDFZZ	22938	4257-4	LINK, SHACKLE	2
34	XDFZZ	22938	5402-1	BOLT, SHACKLE	3
35	XDFZZ	22938	4600-3	NUT, 9/16 - 18",- SLOTTED	3
36	XDFZZ	22938	4800-8	PIN, COTTER, 1/8 X 1-1/4"	3
37	XDFZZ	22938	5100-2	U-BOLT, 1/2 - 20 X 3	2
38	XDFZZ	22938	4601-7	NUT, 1/2 - 20 SLF LKG	4
39	XDFZZ	22938	4264-1	CLAMP, RADIUS ROD	2
40	XDFZZ	22938	4264-2	BUSHING, CLAMP	2
41	XDFZZ	22938	5800	LUBE FITTING, 1/8 NPT	3
	XDFZZ	22938	1-3502	DRAWBAR ASSY	1
42	XDFZZ	22938	3502-01	DRAWBAR WELDMENT	1
43	XDFZZ	22938	MS24665-623	PIN, COTTER, 1/4" DIA..... METER X 1-1/2"	1
44	XDFZZ	22938	5416	PIN, HINGE, 3/4" DIA-..... METER X 5-7/8"	1
	AFFFF	22938	1-3712	WHEEL & TIRE ASSY.....	
45	XDFZZ	22938	3712	WHEEL ASSY	4
46	XDFFF	22938	6555	TIRE & TUBE	
47	XDFFF	22938	1-5904	HANDBRAKE LEVER ASSY	1
48	XDFFF	22938	184-5911	CROSS SHAFT ASSY	1
49	XDFFF	22938	8300-090	BRAKE ROD (SHORT).....	2
50	XDFFF	22938	8300-380	BRAKE ROD (LONG)	1
51	XDFFF	22938	5205	YOKE	6
52	XDFFF	22938	4601-5	NUT, 3/8 - 24	6
53	XDFFF	22938	5206	YOKE PIN	5
54	XDFZZ	22938	MS 24665-283	PIN , C OTTER, 3/ 32" D IA..... METER X 5/8"	5
55	XDFZZ	60038	24780	BEARING, INNER	4
56	XDFZZ	60038	15123	BEARING, OUTER	4
57	XDFZZ	51829	21208	SEAL	8
				END OF FIGURE	

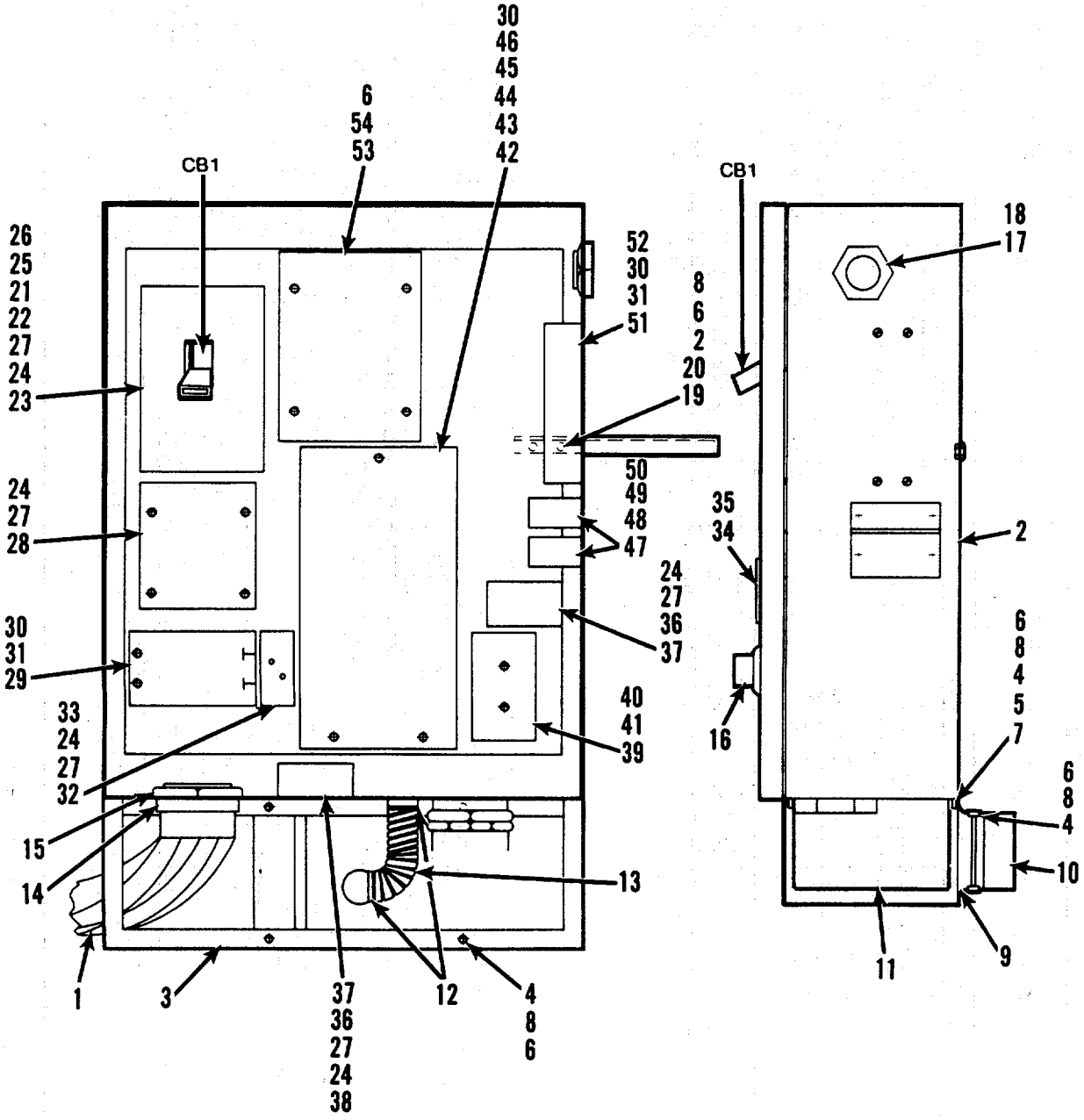
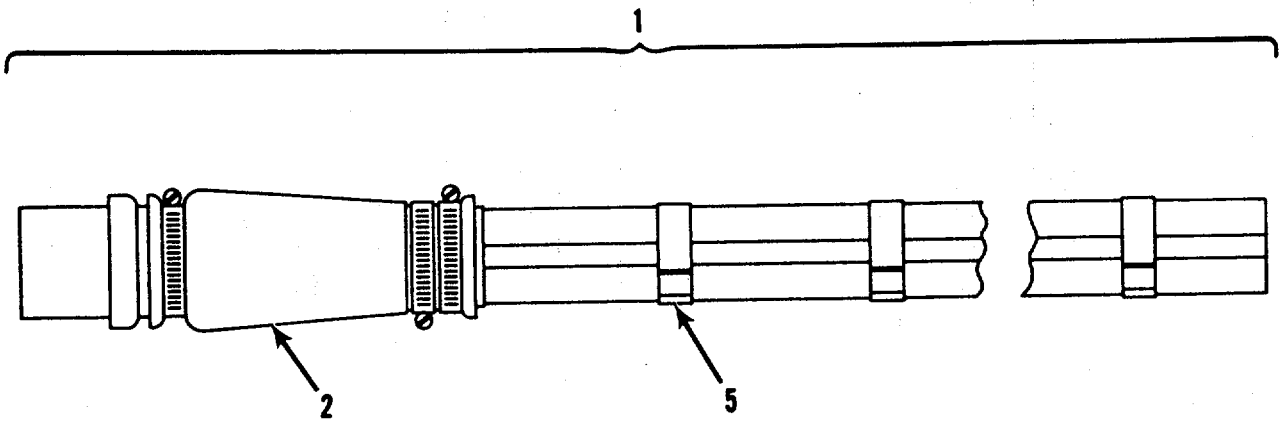


Figure C-4 Electrical Components Assembly, D-6A

ITEM NO.	SM&R CODE	CAGE CODE	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 03 ELECTRICAL SYSTEM GROUP 0302 SWITCHES & CIRCUIT BREAKERS GROUP 0304 FUSE FIGURE C-4 ELECTRICAL COMPONENTS ASSEMBLY	
	AFFFF	22680	48253-01	ENCLOSURE ASSY, ELEC..... TRICAL.....	
1	XDFFF	22680	48258-01	CABLE ASSY, HYD TEST ..... STAND/FIGURE C-5 ..... FOR BREAKDOWN.....	1
2	XDFZZ	22680	l 19320-01	ENCLOSURE, ELECTRICAL.....	1
3	PAFZZ	22680	89326-01	MTG, FRAME ELECTRICAL ..... BOX.....	1
4	PAFZZ	96906	MS90725-3	SCREW, CAP HEX.....	11
5	PAFZZ	96006	MS90725-10	SCREW, CAP HEX	1
6	PAFZZ	96906	MS35338-44	WASHER, LOCK	20
7	PAFZZ	96006	MS35338-33	WASHER, LOCK	1
8	PAFZZ	96906	MS35649-2252	NUT, PLAIN HEX	16
9	XDF ZZ	22680	119367-01	BRACKET, TRANSFORMER	1
10	XDF ZZ	3D566	9T58B2893	TRANSFORMER	1
11	PAFZZ	96906	MS21266-3N	GROMMET, PLASTIC	1
12	XDFZZ	98636	5302	CONNECTOR	2
13	XDFZZ	83664	1342-36231	CONDUIT	1
14	XDFZZ	17680	RAC01668	NIPPLE, CHASE	1
15	XDFZZ	59730	146	LOCKNUT, CONDUIT	1
16	XDFZZ	23826	49D52209-003	KIT, OVERLOAD RESET	1
17	XDFZZ	59730	1945	NIPPLE, CHASE	1
18	XDFZZ	59730	144	LOCKNUT	1
19	XDFZZ	22680	89327-01	SUPPORT, ELECTRICAL BOX	1
20	PAFZZ	96906	MS90725-8	SCREW, CAP HEX	2
21	PAFZZ	96906	MS27183-41	WASHER, FLAT	4
22	PAFZZ	3D566	TEC36100	BREAKER, CIRCUIT	1
23	XBFZZ	22680	89330-01	MTG BRACKET, CIRCUIT..... BREAKER	1
24	PAFZZ	96906	MS35338-42	WASHER, LOCK.....	22
25	XDFZZ	22680	40363-01	SCREW, RH MACHINE	4
26	PAFZZ	96906	MS35206-245	SCREW, MACHINE PNH	14
27	XDFZZ	25248	910-3X	RELAY	1
28	PAFZZ	73631	T-3	BLOCK, TERMINAL	1
29	PAF ZZ	96906	MS35338-43	WASHER, LO CK	11
30	PAFZZ	96906	MS35207-261	SCREW, MACHINE PNH	8

ITEM NO.	SM&R CODE	CAGE CODE	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
31	XDFZZ	71400	BM6031SQ	BLOCK, FUSE	1
32	PAFZZ	71400	NON6	FUSE, CARTRIDGE TYPE	1
33	XDFZZ	22680	520047-01	N/P VOLTAGE CONVER-SION	1
34	PAFZZ	73020	AD42ADS	RIVET, BLIND	4
35	XDFZZ	5N603	230	BLOCK, TERMINAL	2
36	XDFZZ	5N603	222	BLOCK, TERMINAL	6
37	PAFZZ	96906	MS35649-282	NUT, PLAIN HEX	6
38	XDFZZ	04713	MDA952-2	RECTIFIER	1
39	PAFZZ	96906	MS35338-40	WASHER, LO CK	2
40	PAFZZ	96906	MS35206-220	SCREW, MACHINE PNH	2
41	XDFZZ	23826	14GF32AA81	STARTER, MAGNETIC	1
42	PAFZZ	23826	E-77	ELEMENT, HEATER	3
43	PAFZZ	23826	E-67	ELEMENT, HEATER	3
44	PAFZZ	96906	MS35207-263	SCREW, MACHINE PNH	1
45	PAFZZ	96906	MS35207-264	SCREW, MACHINE PNH	2
46	PAFZZ	2N406	MR5A	RELAY	2
47	PAFZZ	96906	MS35206-228	SCREW, MACHINE PNH	4
48	PAFZZ	96906	MS35338-41	WASHER, LOCK	4
49	PAFZZ	96906	MS35649-262	NUT, PLAIN HEX	
50	XDFZZ	73631	BT-12	BLOCK, TERMINAL	1
51	PAFZZ	96906	MS35650-302	NUT, PLAIN HEX	4
52	PAFZZ	3D566	9T55Y50G2	TRANSF ORMER	I
53	PAFZZ	96906	MS35206-279	SCREW, MACHINE PNH	4
				END OF FIGURE	



SIDE VIEW

END VIEWS

Figure C-5 Electrical Wiring and Cable, D-6A

ITEM NO.	SM&R CODE	CAGE CODE	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 03 ELECTRICAL SYSTEM GROUP 0303 WIRING GABLES	
1	AFFFF	22680	48258-01	CABLE ASSY, HYD TEST	
				STAND	1
2	PAFZZ	96906	MS27265-3	CONNECTOR	1
3	XDFZZ	22680	11989-R-001	WIRE, AWG 1/0 X 55 FEET	3
4	XDFZZ	22680	10728-R-001	WIRE, AWG 6/0 X 55 FEET	3
5	PAFZZ	77414	7S	CLAMP, PUNCH-LOK NO. 7S	36
				END OF FIGURE	

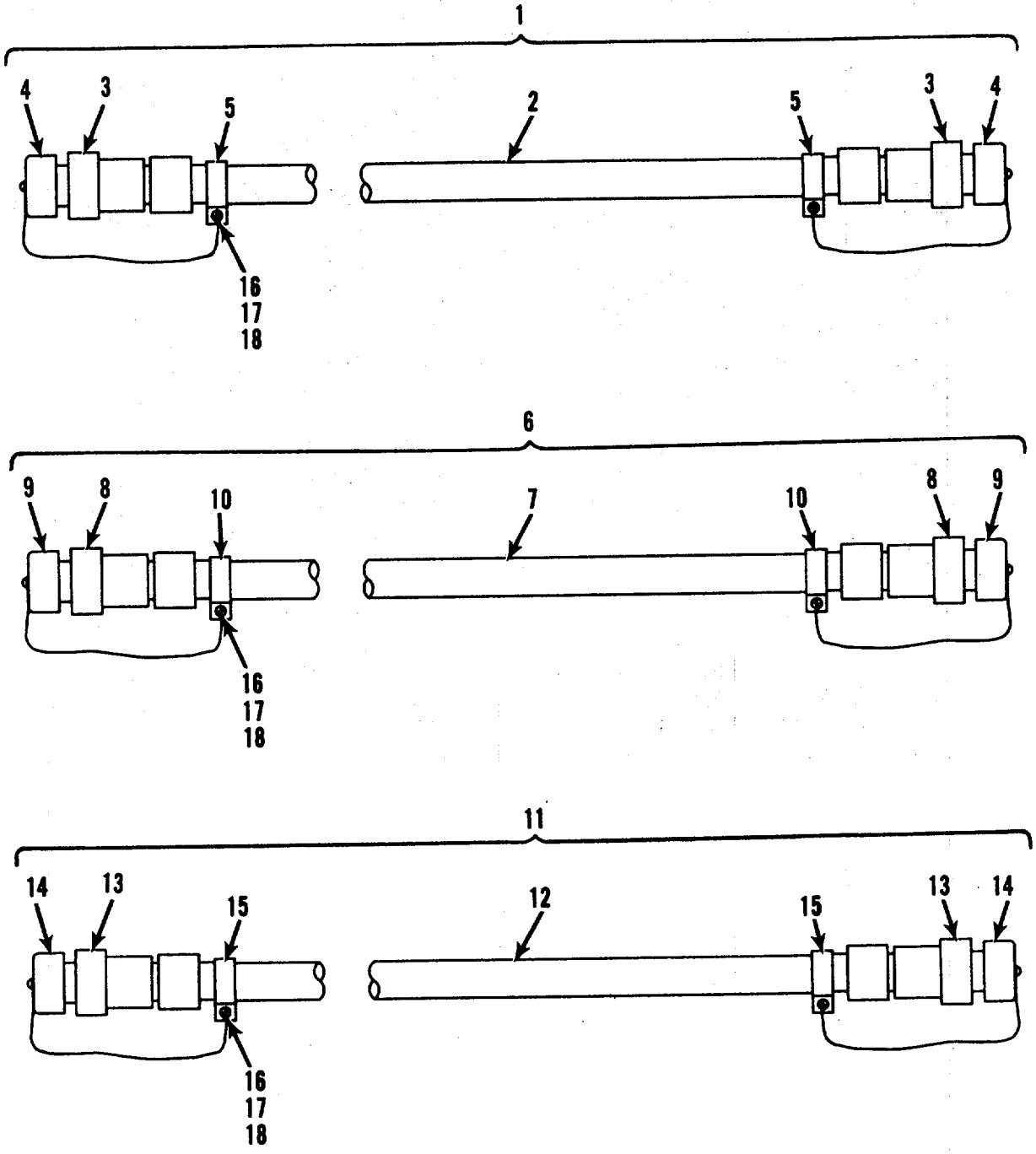


Figure C-6 Hose Assemblies, Test Stand to Aircraft, D-6A

ITEM NO.	SM&R CODE	CAGE CODE	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 0407 HOSE ASSEMBLY FIGURE C-6 HOSE ASSEMBLIES (TEST STAND TO AIRCRAFT)	
1	AHFZZ	22680	48250-01	HOSE ASSY, 1/2 INCH	1
2	XBFZZ	98441	4240C8-JS8-JS8-120	HOSE, 1/2 INCH X 10 FEET.	1
3	XBFZZ	01276	155-S5-8D	COUPLING HALF	2
4	XBFZZ	01276	155-S9-8D	PLUG, DUST	2
5	PAFZZ	96906	MS21919D G- 16	CLAMP, LOOP, CUSHIONED	2
6	AHFZZ	22680	48251-01	HOSE ASSY, 3/4 INCH	1
7	XBFZZ	98441	4240C12-JS12-JS12-120	HOSE, 3/4 INCH X 10 FEET.	1
8	XBFZZ	01276	155-S5-12D	COUPLING HALF	2
9	XBFZZ	01276	155-S9-12D	PLUG, DUST	2
10	PAFZZ	96906	MS21919DG-20	CLAMP, LOOP, CUSHIONED	2
11	AHFZZ	22680	48252-01	HOSE ASSY, 1 INCH	1
12	XBFZZ	98441	215G16-JS16-JS16 120	HOSE, 1 INCH XX 10 FEET	1
13	XBFZZ	01276	155-S5-16D	COUPLING HALF	2
14	XBFZZ	01276	155-S9-16D	PLUG, DUST	2
15	PAFZZ	96906	MS21919DG-22	CLAMP, LOOP, CUSHIONED	2
16	XBFZZ	01276	5100-S10-12	CHAIN	AR
17	PAFZZ	96906	MS35207-263	SCREW, MACHINE, PNH	6
18	PAFZZ	96906	MS35650-302	NUT, PLAIN HEX	6
				END OF FIGURE	

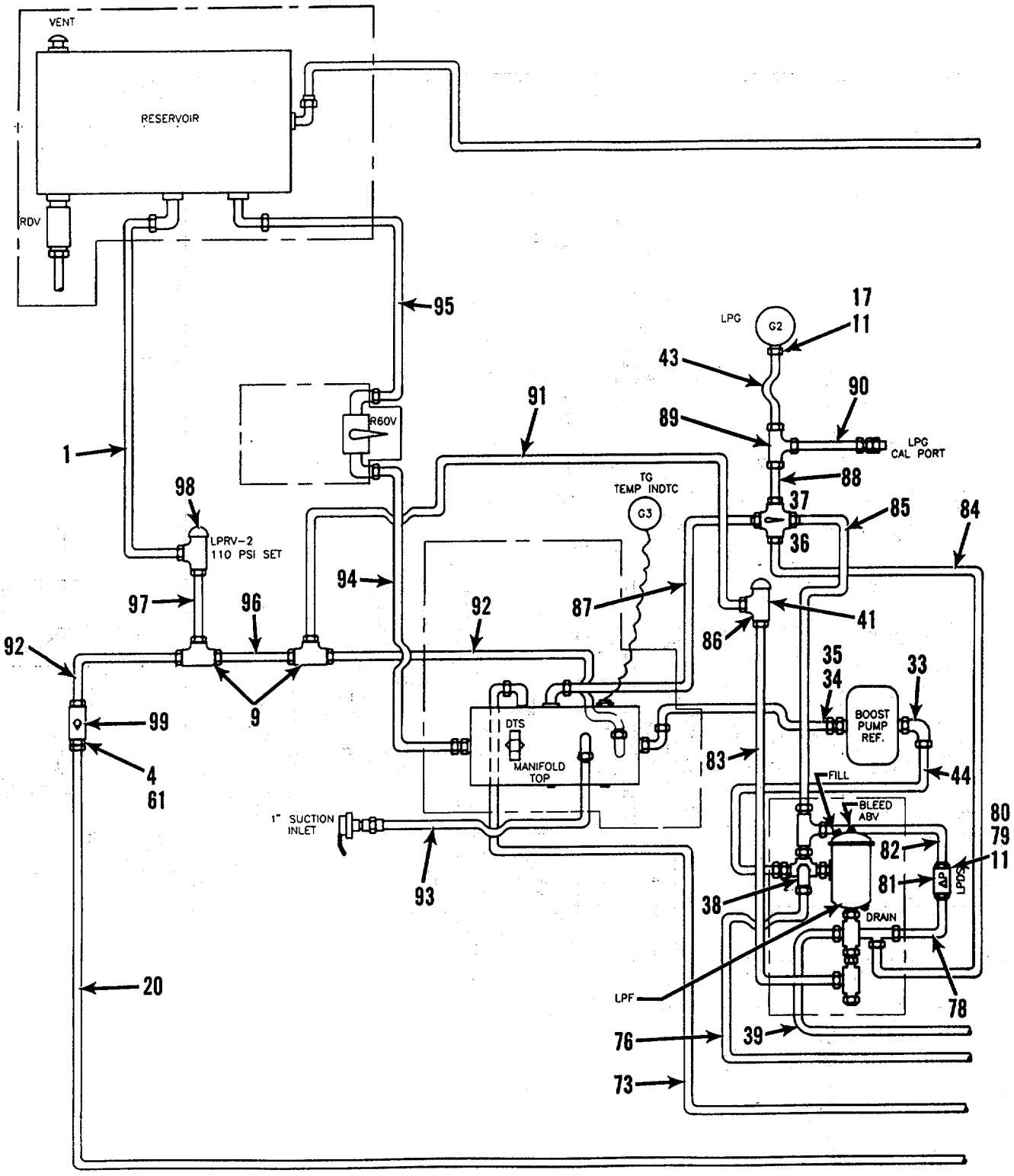


Figure C-7 Hydraulic Piping Installation, D-6A (Sheet 1 of 2)

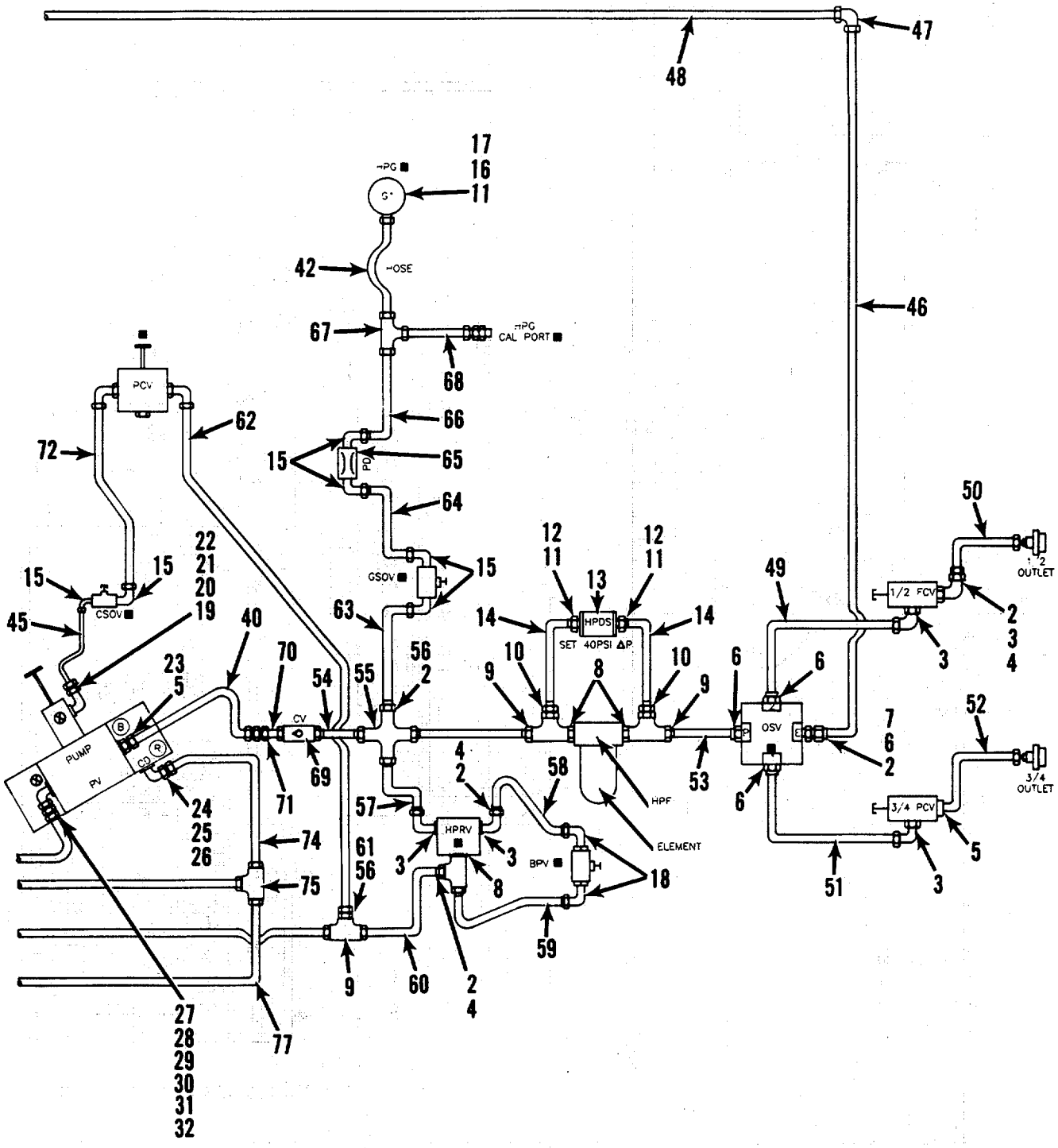


Figure C-7 Hydraulic Piping Installation, D-6A (Sheet 2 of 2)

ITEM NO.	SM&R CODE	CAGE CODE	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 0407 LINES, TUBING, FITTINGS FIGURE C-7 HYD PIPING INSTALLATION	
	AFFFF	22680	48243-01	HYD INSTL.....	
1	XDFZZ	22680	119559-01	TUBE ASSY	1
2	PAFZZ	88044	AN818-12	NUT, TUBE COUPLING, ... SHORT	5
3	XDFZZ	79470	C35515X12	FITTING	5
4	XDFZZ	79470	C5015X12X8	FITTING	4
5	PAFZZ	96906	MS51525-B12	ADAPTER, STRAIGHT, TUBE ..... TO BOSS	2
6	XDFZZ	79470	C35315X12	FITTING	4
7	XDFZZ	30780	12-8TRBTX-S	FITTING, REDUCER	1
8	XDFZZ	30780	12R50XS	FITTING	3
9	PAFZZ	88044	AN824-12D	TEE FLARED TUBE	6
10	XDF ZZ	30780	12-4TRBTX-S	FITTING REDUCER	2
11	PAFZZ	96906	MS28778-4	PACKING PREFORMED.....	6
12	PAFZZ	88044	AN815-4	UNION FLARED TUBE.....	2
13	XDFZZ	30839	1203PS-lA-1	SWITCH, HP, DP, 5000 PSI	1
14	XDFZZ	22680	119520-01	TUBE ASSY	2
15	XDFZZ	96906	MS20822-4-4	ELBOW, FLARED TUBE AND..... PIPE THREADS, 90°	6
16	XDFZZ	88044	AN6289-4	NUT TUBE.....	1
17	XDFZZ	96906	MS51527-B4S	ELBOW, TUBE TO BOSS, 90°	2
18	XDFZZ	96906	MS51527-B8	ELBOW, TUBE TO BOSS, 90°	2
19	XDFZZ	96906	MS28778- 6	PACKING, PREFORMED.....	1
20	XDFZZ	96906	MS51527-B6	ELBOW TUBE.....	1
21	XDFZZ	30780	6-4TRBTX-S	TUBE END REDUGER.....	1
22	PAFZZ	88044	AN818-6	NUT, TUBE COUPLING, ... SHORT	1
23	PAF ZZ	96906	MS28778-12	PACKING, PREFORMED	1
24	PAFZZ	96906	MS28778-10	PACKING, PREFORMED.....	1
25	PAFZZ	96906	MS51527-B10	ELBOW, TUBE TO BOSS, 90°	1
26	XDFZZ	30780	10-8TRBTX-S	TUBE END REDUCER	1
27	PAFZZ	96906	MS28778-24	PACKING PREFORMED.....	1
28	PAFZZ	96906	MS51527-B24	ELBOW, TUBE TO BOSS, 90°	1
29	XDFZZ	30780	24X20TRBTX-S	TUBE END REDUCER	1
30	PAFZZ	88044	AN818-24	TUBE COUPLING, SHORT	1
31	XDFZZ	30780	20X16TRBTX-S	TUBE END REDUCER	1
32	PAFZZ	88044	AN818-20	NUT, TUBE COUPLING ..... SHORT	1
33	XDFZZ	79470	C5515X16	FITTING	1
34	PAFZZ	96906	MS28778- 16	PREFORMED	1

ITEM NO.	SM&R CODE	CAGE CODE	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
35	PAFZZ	96906	MS51525-B16	ADAPTER, STRAIGHT, TUBE TO BOSS	1
36	PAFZZ	96906	MS20822-4-4D	ELBOW, FLARED TUBE TO PIPE	3
37	PAFZZ	88044	AN816-4-4D	ADAPTER, STRAIGHT, PIPE TO TUBE	1
38	PAFZZ	88044	AN816-8	ADAPTER, STRAIGHT, PIPE TO TUBE	1
39	XDFZZ	98441	111417-16D-0200	HOSE	1
40	XDFZZ	98441	4240C12-JSl2-J9OS12-16	HOSE	1
41	XDFZZ	98441	111417-16D-0140	HOSE 1	
42	XDFZZ	98441	212R4-JSN4-JSN4 18	HOSE SIZE4	1
43	XDFZZ	98441	193000-4D-0180	HOSE SIZE4	1
44	XDFZZ	98441	111417-16D-0260	HOSE SIZE16	1
45	XDFZZ	98441	212R4-JSN-4JSN-4-0240	HOSE SIZE4	I
46	XDFZZ	22680	119521-01	TUBEASSY	1
47	PAFZZ	88044	AN821-8D	ELBOW, FLARED TUBE, 90°.	1
48	XDFZZ	22680	119522-01	TUBEASSY	1
49	XDFZZ	22680	119523-01	TUBEASSY	1
50	XDFZZ	22680	119524-01	TUBEASSY	1
51	XDFZZ	22680	119525-01	TUBEASSY	1
52	XDFZZ	22680	119526-01	TUBEASSY	1
53	XDFZZ	22680	119527-01	TUBEASSY	1
54	XDFZZ	22680	119528-01	TUBEASSY	2
55	PAF ZZ	88044	AN827-12	CROSS-FLARED TUBE	1
56	XDF ZZ	2B027	C5015X12X4	FITTING, REDUCER	1
57	XDFZZ	22680	119529-01	TUBE ASSY	1
58	XDFZZ	22680	119530-01	TUBE ASSY	1
59	XDFZZ	22680	119531-01	TUBE ASSY	1
60	XDFZZ	22680	119532 01	TUBE ASSY	1
61	PAFZZ	88044	AN818-12D	NUT, TUBE COUPLING, SHORT	2
62	XDFZZ	22680	119533-01	TUBE ASSY	1
63	XDFZZ	22680	119534-01	TUBE ASSY	1
64	XDFZZ	22680	119535-01	TUBE ASSY	1
65	XDF ZZ	4L709	150-5000	DAMPENER-PRESS PUL-SATION	1
66	XDFZZ	22680	119536-01	TUBE ASSY	1
67	PAFZZ	88044	AN824-4	TEE-FLARED TUBE	1
68	XDFZZ	22680	119537-01	TUBE ASSY	1
69	XDFZZ	6M075	458-12SS27-6	VALVE, CHECK	1
70	XDFZZ	22680	119538-01	TUBEASSY	1

ITEM NO.	SM&R CODE	CAGE CODE	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
71	PAFZZ	88044	AN815-12	UNION-FLARED TUBE	1
72	XDFZZ	22680	119539-01	TUBE ASSY.....	1
73	XDFZZ	22680	119540-01	TUBE ASSY.....	1
74	XDFZZ	22680	119541-01	TUBE ASSY.....	1
75	PAF ZZ	88044	AN824-8D	TEE-FLARED TUBE	1
76	XDFZZ	22680	119542-01	TUBE ASSY.....	1
77	XDFZZ	22680	119543-01	TUBE ASSY.....	1
78	XDFZZ	22680	119544-01	TUBE ASSY.....	1
79	PAFZZ	96906	MS28777-4	PACKING, PREFORMED.....	2
80	PAFZZ	88044	AN815 4D	UNION-FLARED TUBE	2
81	XDFZZ	30839	1201PS-1	SWITCH, DP, 150 PSI	1
82	XDFZZ	22680	119545-01	TUBE ASSY.....	1
83	XDFZZ	22680	119546-01	TUBE ASSY.....	1
84	XDFZZ	22680	119547-01	TUBE ASSY.....	1
85	XDFZZ	22680	119548-01	TUBE ASSY.....	1
86	XDFZZ	6M075	624XB-1-12-2	VALVE, RELIEF, ANGLE	1
87	XDFZZ	22680	119549-01	TUBE ASSY.....	1
88	XDFZZ	22680	119550-01	TUBE ASSY.....	1
89	PAF ZZ	88044	AN824-4D	TEE-FLARED TUBE	1
90	XDFZZ	22680	119551-01	TUBE ASSY.....	1
91	XDFZZ	22680	119552-01-	TUBE ASSY.....	1
92	XDFZZ	22680	119553-01	TUBE ASSY.....	1
93	XDFZZ	22680	119554-01	TUBE ASSY.....	1
94	XDFZZ	22680	119555-01	TUBE ASSY.....	1
95	XDFZZ	22680	119556-01	TUBE ASSY.....	1
96	XDFZZ	22680	119557-01	TUBE ASSY.....	1
97	XDFZZ	22680	119558-01	TUBE ASSY.....	1
98	XDFZZ	6M075	624XB-3-12-2	VALVE, RELIEF, ANGLE	1
99	XDFZZ	6M075	458-12D27-10	VALVE, CHECK, 3/4~ TUBE	1
				END OF FIGURE	

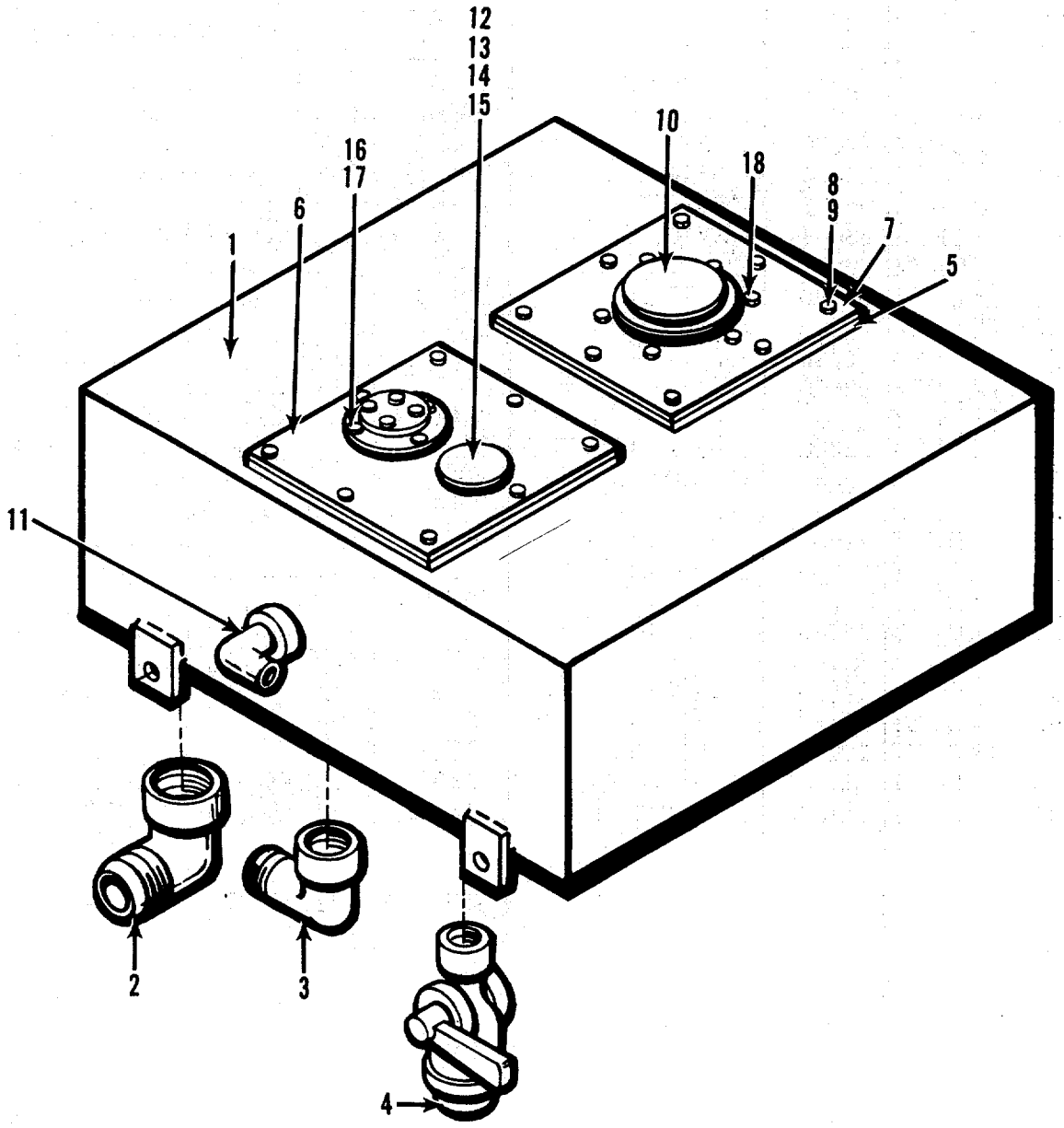


Figure C-8 Hydraulic Fluid Reservoir, D-6A

ITEM NO.	SM&R CODE	CAGE CODE	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 0405 HYDRAULIC FLUID RESERVOIR FIGURE C-8 HYD RESERVOIR ASSY	
	PAFZZ	22680	48227-01	HYD RESERVOIR ASSY	
1	PAFZZ	22680	48228-01	RESERVOIR HYD	1
2	XDFZZ	96906	MS51504-B16	ELBOW PIPE TO TUBE	1
3	XDFZZ	96906	MS20822-12D	ELBOW FLARED	1
4	XDFZZ	1H408	101-HD	VALVE, PLUG-TYPE SHUT-OFF	1
5	PAFZZ	22680	101471-01	GASKET CLEAN OUT	2
6	XDFZZ	22680	119560-01	COVE-A, RESERVOIR FILL.....	1
7	XDFZZ	22680	119561-01	COVER, R ESERVOIR FLOAT.	1
8	PAFZZ	96906	MS35338-44	Washer, LOCK	16
9	PAFZZ	96906	MS90725-3	SCREW, MACHINE PNH.....	16
10	XDFZZ	4K739	FCS-1303-70	ASSY, STRAINER AND FILLER.....	1
11	XDFZZ	96906	MS20822-8D	ELBOW PIPE TO TUBE	1
12	PAFZZ	75816	BF-4	FILTER, BREATHER	1
13	PAFZZ	5F877	366-LP	KIT, INSTL.....	1
14	PAFZZ	22680	119373-01	RESERVOIR FLOAT ASSY	1
15	PAFZZ	22680	101470-01	GASKET SENSOR	1
16	PAFZZ	96906	MS35338-42	WASHER, LOCK	10
17	PAFZZ	96906	MS35265-42	SCREW, MACHINE	6
18	PAFZZ	96906	MS35265-46	SCREW, MACHINE	4
				END OF FIGURE	

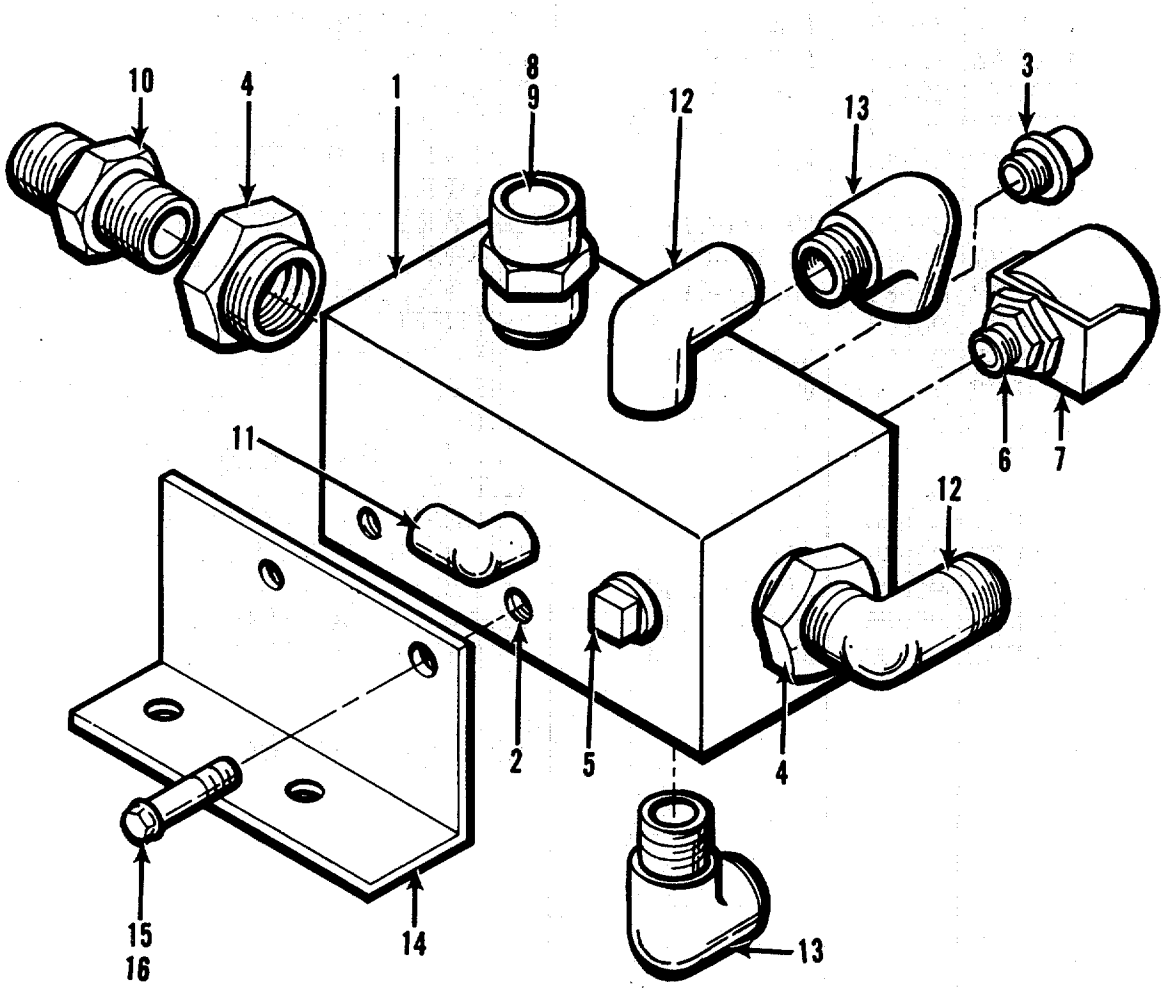


Figure C-9 Manifold Assembly, D-6A

ITEM NO.	SM&R CODE	CAGE CODE	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 0407 MANIFOLD FIGURE C-9 MANIFOLD ASSY	
	AFFFF	22680	58341-01	MANIFOLD ASSY	1
1	XAFZZ	22680	101920-01	MANIFOLD HYDRAULIC	1
2	PAFZZ	91767	1185-4CN750	INSERT HELICOIL	2
3	PAFZZ	30780	114 SHP-S	FITTING, PIPE PLUG	1
4	PAFZZ	30780	1-1/2 X 1 PTR-S	FITTING PIPE THREAD	2
5	PAFZZ	30780	3/4 SHP-S	FITTING	1
6	PAFZZ	88044	AN912-7D	BUSHING, PIPE	1
7	XDFZZ	73168	20110-0	~SWITCH, THERM, SPDT	1
8	PAFZZ	22680	89389-01	NIPPLE, MOD	1
9	PAFZZ	88044	AN910-4D	COUPLING, PIPE	1
10	PAFZZ	88044	AN816-16D	ADAPTER, STRAIGHT PIPE TO TUBE	1
11	PAFZZ	96906	MS20822-4-4D	ELBOW, FLARED TUBE TO PIPE	1
12	PAFZZ	96906	MS51504-B16	ELBOW PIPE TO TUBE	2
13	PAFZZ	96906	MS20822-12D	ELBOW FLARED TUBE TO PIPE	2
14	XDFZZ	22680	119370-01	BRACKET, MANIFOLD	1
15	PAPZZ	96906	MS35338-44	WASHER, LOCK	2
16	PAFZZ	96906	MS90725-8	SCREW, CAP HEX HD	2
				END OF FIGURE	

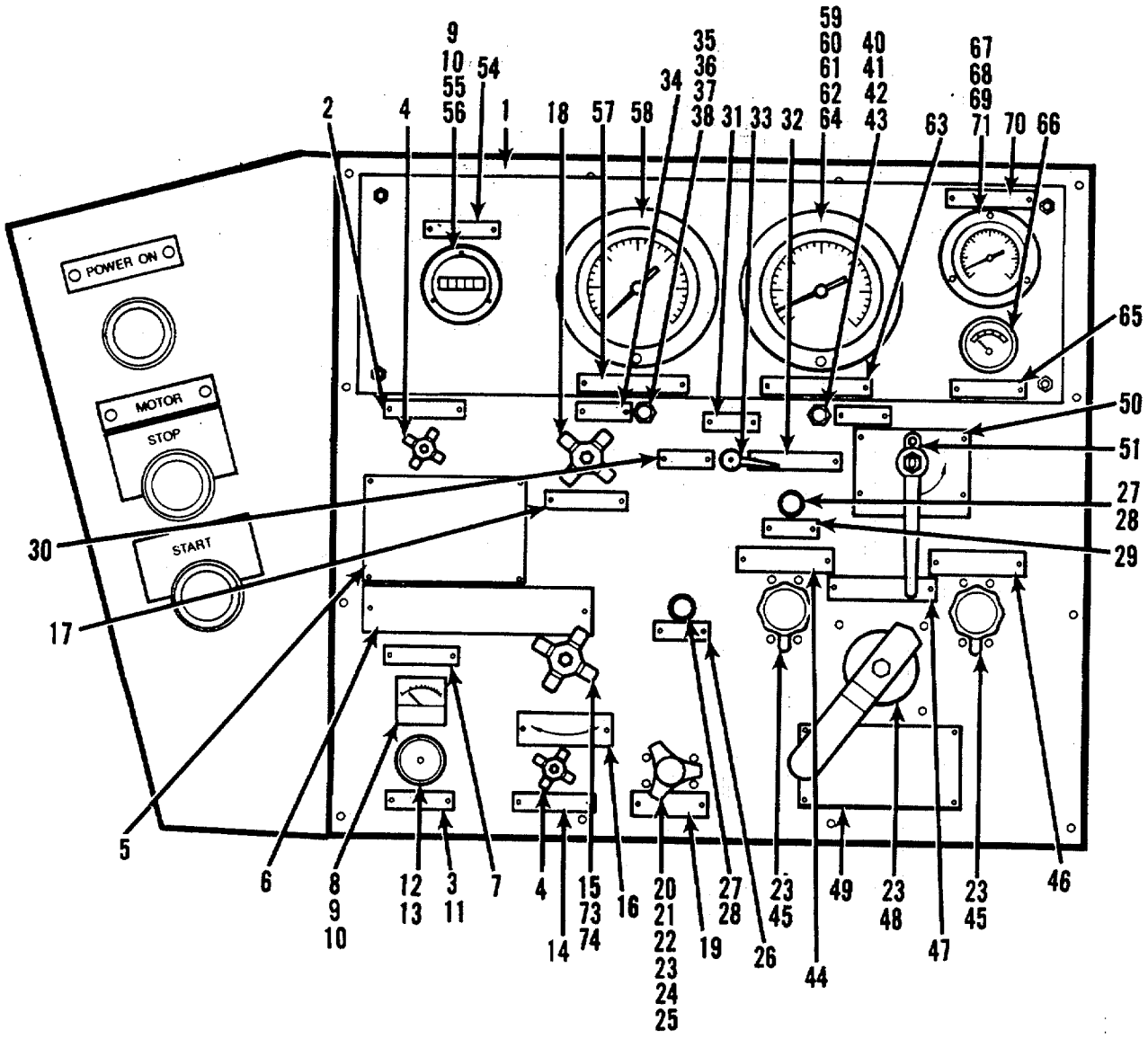


Figure C-10 Control Panel Assembly, D-6A

ITEM NO.	SM&R CODE	CAGE CODE	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
				GROUP 05 INSTRUMENT PANEL GROUP 0502 CONTROL PANEL ASSY FIGURE C-10 CONTROL PANEL ASSY	
	AFFFF	22680	58339-01	CONTROL PANEL ASSY.....	
1	XDFZZ	22680	119337-01	CONTROL PANEL	1
2	XDFZZ	22680	119562-07	N/P FLUID PRESS GAUGE SHUTOFF	1
3	PAFZZ	73020	AD42ABS	RIVET, BLIND.....	58
4	XDFZZ	30780	MV-430-S	VALVE, HP NEEDLE ¼-INCH	2
5	XDFZZ	22680	452038-01	N/P HYD FLOW DIAGRAM.....	1
6	XDFZZ	22680	119562-08	N/P CAPACITY.....	1
7	XDFZZ	22680	119562-09	N/P FLOW INDICATOR GPM	1
8	XDFZZ	22680	119350-01	GAUGE, FLOW INDICATOR MOD	1
9	PAFZZ	96906	MS35649-242	NUT, PLAIN HEX.....	2
10	PAFZZ	96906	MS35338-40	WASHER, LOCK	2
11	XDFZZ	22680	119562-10	N/P HP RELIEF VALVE	1
12	XDFZZ	96259	1A32-R12-60S	VALVE, RELIEF, 400-5000 PSI.....	1
13	PAFZZ	96906	MS51968-23	NUT, PLAIN.....	1
14	XDFZZ	22680	119562-11	N/P COMP SHUTOFF VALVE	1
15	XDFZZ	30780	8B79-6	HANDLE.....	1
16	XDFZZ	22680	119562-12	N/P FLOW LIMIT ADJUST.....	1
17	XDFZZ	22680	119562-13	N/P HP BYPASS VALVE.....	1
18	XDFZZ	30780	MV-830-S	VALVE, FLOW BYPASS.....	1
19	XDFZZ	22680	119562-14	N/P PRESSURE COMP.....	1
20	XDFZZ	27005	DBDH6G1X/400/12	PRESSURE COMP VALVE	1
21	XDFZZ	22680	119335-01	BRACKET, MTG-VALVE	1
22	PAFZZ	96906	MS90725-15	SCREW, CAP HEX.....	4
23	PAFZZ	96906	MS35206-281	SCREW, MACHINE PNH.....	4
24	PAFZZ	96906	MS35338-44	WASHER, LOCK	8
25	PAFZZ	96906	MS35649-2252	NUT, PLAIN HEX.....	8
26	XDFZZ	22680	119562-15	N/P LPAP	1
27	XDFZZ	6X156	806-1710-0431-504	LIGHT, INDICATOR	2
28	PAFZZ	3D566	1815	LAMP	2
29	XDFZZ	22680	119562-16	N/P HPAP.....	1
30	XDFZZ	22680	119562-17	N/P FILTER IN.....	1
31	XDFZZ	22680	119562-18	N/P FILTER OUT.....	1
32	XDFZZ	22680	119562-19	N/P SUCT PRESS, BOOST PUMP	1

ITEM NO.	SM&R CODE	CAGE CODE	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
33	XDFZZ	30327	443-B-4A	VALVE, 4-WAY BALL, SELECTOR	1
34	XDFZZ	22680	119562-20	N/P HP GAUGE CAL PORT	1
35	PAFZZ	88044	AN832-4	UNION-FLARED TUBE 3/8	1
36	PAFZZ	88044	AN924-4	NUT, TUBE	1
37	PAFZZ	88044	AN820-4S	CAP FLARED-TUBE FITTING	1
38	PAFZZ	88044	AN6289-4	NUT, TUBE	1
39	XDFZZ	22680	119562-21	N/P SUCT PRESS CAL PORT	1
40	PAFZZ	88044	AN832-4D	UNION FLARED TUBE 3/8	1
41	PAFZZ	88044	AN924-4D	NUT, TUBE	1
42	PAFZZ	88044	AN820-4D	CAP-FLARED TUBE FITTING	1
43	PAFZZ	88044	AN6289-4D	NUT, TUBE	1
44	XDFZZ	22680	119562-22	N/P FLOW CONTROL VALVE 3/4" OUTLET	1
45	XDFZZ	86768	1-1758-14R	VALVE, HP, FLOW CONTROL	2
46	XDFZZ	22680	119562-23	N/P FLOW CONTROL VALVE 1/2" OUTLET	1
47	XDFZZ	22680	119562-24	N/P OUTLET SEL VALVE	1
48	XDFZZ	22680	132798-01	VALVE, MANUAL, ROTARY SEL, 4 WAY	1
49	XDFZZ	22680	119562-25	N/P WARNING	1
50	XDFZZ	22680	119562-26	N/P RESERVOIR SHUTOFF VALVE	
51	XDFZZ	22680	48248-01	RESERVOIR SHUTOFF VALVE ASSY	1
52	XDFZZ	22680	89318-01	GAUGE PANEL	1
53	XDFZZ	0D486	A22-041	FLEX-BOLT MOUNTING	4
54	XDFZZ	22680	119562-27	N/P HOURMETER	1
55	XDFZZ	28292	11N-G1	HOURMETER, 0 TO 9,999	1
56	PAFZZ	96906	MS35206-217	SCREW MACHINE PNH	3
57	XDFZZ	22680	119562-28	N/P FLUID PRESS GAUGE	1
58	XDFZZ	03773	206SFAS0-0-6000	GAUGE, PRESS 0-6000 PSI	1
59	PAFZZ	96906	MS35207-264	SCREW MACHINE PNH	3
60	PAFZZ	96906	MS35335-32	WASHER, LOCK	3
61	PAFZZ	96906	MS35338-43	WASHER, LOCK	3
62	PAFZZ	96906	MS35650-302	NUT, PLAIN HEX	3
63	XDFZZ	22680	119562-29	N/P BOOST PRESS GAUGE	1
64	XDFZZ	03773	206SFAS30-0-150	GAUGE PRESS, CMPD 30-0-150	1
65	XDFZZ	22680	119562-30	N/P RESERVOIR FLUID INDICATOR	1
66	XDFZZ	5F877	316-AD	GAUGE, FUEL LEVEL	1
67	PAFZZ	96906	MS 35206-245	SCREW, MACHINE	3
68	PAFZZ	96906	MS 35338-42	WASHER LOCK	6

ITEM NO.	SM&R CODE	CAGE CODE	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
69	PAFZZ	96906	MS35649-282	NUT, PLAIN HEX.....	3
70	XDFZZ	22680	119562-31	N/P FLUID TEMP GAUGE	1
71	XDFZZ	8U456	8514-152	GAUGE TEMP 60 TO 200 DEG F.....	1
72	XDFZZ	28520	2073	BUSHING, SNAP.....	1
73	PAFZZ	30780	459B-1	NUT	1
				END OF FIGURE	

SECTION IV. CROSS-REFERENCE INDEXES

A. NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIGURE	ITEM	STOCK NUMBER	FIGURE	ITEM
5310-00-003-9415	C-2	45	5315-00-212-0066	C-3	13
5310-00-004-3220	C-2	75	5315-00-212-0066	C-3	30
5310-00-004-5033	C-2	48	5306-00-225-3839	C-4	20
5305-00-042-6417	C-2	20	5306-00-225-3839	C-9	16
4730-00-044-4577	C-9	3	5306-00-225-8497	C-2	41
5310-00-045-3296	C-2	33	4730-00-231-4010	C-7	15
5310-00-045-3296	C-1	5	5330-00-251-8839	C-7	23
5310-00-045-3296	C-10	61	5306-00-269-3211	C-2	52
5310-00-045-3296	C-4	29	5306-00-269-3213	C-2	53
5310-00-045-3299	C-1	19	5306-00-269-3215	C-2	54
5310-00-045-3299	C-4	24	4330-00-277-3274	C-2	80
5310-00-045-3299	C-10	68	4730-00-277-6372	C-7	16
5310-00-045-3299	C-8	16	4730-00-277-6372	C-10	38
5310-00-045-4007	C-4	8	6610-00-277-6445	C-10	40
5310-00-056-3395	C-2	49	6610-00-277-6458	C-10	35
5305-00-068-0500	C-2	73	4730-00-277-6837	C-7	12
5305-00-068-0500	C-8	9	6610-00-278-0611	C-7	55
5305-00-068-0500	C-4	4	6610-00-278-2681	C-9	9
5306-00-068-0502	C-2	71	4730-00-278-9376	C-7	67
5305-00-071-2236	C-10	22	5330-00-285-9842	C-7	24
5305-00-071-2236	C-2	51	5340-00-286-9418	C-6	5
5305-00-071-2241	C-4	5	4730-00-287-0267	C-7	30
5310-00-082-1404	C-5	2	4730-00-287-0285	C-7	61
5305-00-105-4056	C-2	30	4730-00-287-0296	C-7	2
5306-00-115-9526	C-2	47	4730-00-287-1024	C-8	11
5306-00-136-9800	C-3	19	4730-00-287-1027	C-8	3
5975-00-152-1071	C-4	18	4730-00-287-1027	C-9	13
6240-00-155-7859	C-10	28	4330-00-288-6907	C-2	50
5310-00-177-7655	C-3	11	4730-00-293-7848	C-2	36
5310-00-177-7655	C-3	29	4730-00-324-1483	C-9	5
5330-00-186-4947	C-7	79	2530-00-350-8642	C-3	6
4730-00-186-9963	C-7	36	5925-00-360-3870	C-4	22
4730-00-187-0840	C-7	37	5310-00-407-9566	C-2	42
5945-00-189-8773	C-4	46	5930-00-435-3898	C-2	59
4730-00-194-0210	C-9	6	2530-00-440-0095	C-3	45
4730-00-194-1043	C-7	47	2530-00-455-1181	C-3	16
4730-00-197-1114	C-7	38	5315-00-460-8315	C-3	5
5920-00-199-9483	C-4	32	4730-00-482-5409	C-2	31
4730-00-203-3831	C-7	22	5320-00-510-7823	C-1	10
5310-00-208-5769	C-10	36	5320-00-510-7823	C-10	3
2530-00-208-7252	C-3	51	5310-00-520-1602	C-3	12

STOCK NUMBER	FIGURE	ITEM
5310-00-520-1602	C-3	28
4730-00-540-1268	C-6	8
4730-00-541-1116	C-2	38
5310-00-543-2410	C-4	39
5310-00-543-2410	C-10	10
5340-00-543-3904	C-2	35
4730-00-546-4736	C-2	39
4730-00-554-7734	C-6	3
4730-00-555-0896	C-6	13
5305-00-559-8145	C-8	17
4730-00-561-1544	C-2	37
5340-00-561-1545	C-6	9
5340-00-576-5545	C-6	4
6145-00-578-6594	C-2	79
6145-00-578-6602	C-2	78
2610-00-582-1416	C-3	46
5310-00-582-5965	C-4	6
5310-00-582-5965	C-8	8
5310-00-582-5965	C-2	25
5310-00-582-5965	C-9	15
5310-00-582-5965	C-10	24
5310-00-584-5272	C-2	10
5310-00-596-7691	C-10	60
5310-00-596-9441	C-4	7
5310-00-608-7174	C-3	52
5305-00-622-9476	C-8	18
5310-00-627-6128	C-2	74
5340-00-631-0888	C-6	14
5975-00-642-7263	C-4	15
4730-00-675-9216	C-7	4
4730-00-698-4030	C-10	42
4730-00-698-4030	C-10	37
4730-00-710-5571	C-7	5
4730-00-719-2789	C-7	56
5306-00-719-5235	C-2	9
4730-00-722-0086	C-7	75
5340-00-726-9321	C-6	10
5340-00-726-9322	C-6	15
5975-00-752-2703	C-4	17
5310-00-763-8901	C-10	13
5310-00-768-0321	C-2	11
6210-00-803-9882	C-10	27
4330-00-804-1541	C-2	81
5330-00-804-5694	C-7	34
5330-00-804-5695	C-7	19
5330-00-805-2966	C-7	11
5310-00-809-4058	C-2	72
5310-00-809-4058	C-4	21
6685-00-814-5701	C-10	71
5330-00-819-5111	C-7	27
4730-00-822-5609	C-7	18
5310-00-829-9981	C-2	43
4130-00-832-9801	C-4	43
4730-00-833-9315	C-8	2
4730-00-833-9315	C-9	12
5950-00-835-9845	C-4	52
5315-00-839-2325	C-10	9
5340-00-840-6582	C-10	53
4730-00-840-7236	C-7	33
5925-00-869-7739	C-4	42
5305-00-889-2999	C-10	56
5970-00-900-7898	C-10	72
5320-00-904-4136	C-10	24
5930-00-910-5630	C-2	58
5930-00-910-5633	C-2	61
4730-00-930-5392	C-7	35
5310-00-934-9739	C-10	09
5310-00-934-9747	C-4	9
5310-00-934-9751	C-6	18
5310-00-934-9751	C-2	34
5310-00-934-9751	C-10	62
5310-00-934-9751	C-10	6
5310-00-934-9751	C-4	51
5310-00-934-9757	C-10	69
5310-00-934-9757	C-3	7
5310-00-934-9757	C-1	20
5340-00-943-6041	C-1	4
4730-00-974-7313	C-7	25
5305-00-984-4977	C-4	0
5305-00-984-4988	C-4	47
5305-00-984-6193	C-4	26
5305-00-984-6193	C-10	18
5305-00-984-6193	C-10	67
4730-00-986-9492	C-9	10
5305-00-988-1723	C-4	53
5305-00-988-1724	C-2	23
5305-00-988-1725	C-2	24
5305-00-988-1725	C-10	23
5305-00-989-7434	C-6	17
5305-00-989-7434	C-4	44
5305-00-989-7434	C-2	32

STOCK NUMBER	FIGURE	ITEM	STOCK NUMBER	FIGURE	ITEM
5305-00-989-7434	C-1	3	2530-01-023-7090	C-3	4
5305-00-989-7435	C-10	59	2530-01-023-7826	C-3	2
5305-00-989-7435	C-4	45	2530-01-023-7870	C-3	3
5305-00-990-6444	C-4	30	5315-01-024-2559	C-3	44
5310-00-997-1888	C-4	8	5310-01-041-9170	C-10	41
5310-00-997-1888	C-2	26	4730-01-056-1623	C-7	89
5310-00-997-1888	C-10	25	4730-01-056-9433	C-10	43
4730-01-008-1884	C-3	14	5320-01-077-6837	C-4	34
4730-01-008-2814	C-3	15	4010-01-080-0603	C-6	16
4730-01-008-2814	C-3	41	4730-01-105-3911	C-7	32
5315-01-009-7474	C-3	53	5940-01-110-1141	C-4	28
5310-01-009-7475	C-3	35	4730-01-110-9155	C-7	17
5310-01-009-7475	C-3	20	4730-01-143-3941	C-7	20
5310-01-009-7477	C-3	23	2530-01-147-3974	C-3	31
5310-01-009-7477	C-3	38	5210-01-167-5298	C-10	64
5315-01-009-7478	C-3	8	5340-01-186-7762	C-1	22
5310-01-009-7529	C-3	7	4730-01-187-0489	C-7	71
5315-01-012-2711	C-3	43	5930-01-203-1715	C-7	13
5315-01-012-2711	C-3	9	4730-01-205-8034	C-7	28
2530-01-015-0293	C-3	47	6685-01-218-6512	C-10	58
2530-01-015-5216	C-3	27	5310-01-238-7208	C-2	8

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B. PART NUMBER INDEX

CAGE	PART NUMBER	STOCK NUMBER	FIGURE	ITEM
73020	AD42ABS	5320-00-510-7823	C-1	10
73020	AD42ABS	5320-00-510-7823	C-10	3
73020	AD43ABS	5320-00-904-4136	C-1	24
73020	AK42ABS	5320-01-077-6837	C-4	34
88044	AN6235-4A	4330-00-277-3274	C-2	80
88044	AN6236-3	4330-00-804-1541	C-2	81
88044	AN6289-4	4730-00-277-6372	C-10	38
88044	AN6289-4	4730-00-277-6372	C-7	16
88044	AN6289-4D	4730-01-056-9433	C-10	43
88044	AN815-12	4730-01-187-0489	C-7	71
88044	AN815-4	4730-00-277-6837	C-7	12
88044	AN815-4D		C-7	80
88044	AN816-16D	4730-00-986-9492	C-9	10
88044	AN816-4-4D	4730-00-187-0840	C-7	37
88044	AN816-8	4730-00-197-1114	C-7	38
88044	AN818-12	4730-00-287-0296	C-7	2
88044	AN818-12D	4730-00-287-0285	C-7	61
88044	AN818-20	4730-01-105-3911	C-7	32
88044	AN818-24	4730-00-287-0267	C-7	30
88044	AN818-6	4730-00-203-3831	C-7	22
88044	AN820-4D	4730-00-698-4030	C-10	42
88044	AN820-4S	4730-00-698-4030	C-10	37
88044	AN821-8D	4730-00-194-1043	C-7	47
88044	AN824-12D		C-7	9
88044	AN824-4	4730-00-278-9376	C-7	67
88044	AN824-4D	4730-01-056-1623	C-7	89
88044	AN824-8D	4730-00-722-0086	C-7	75
88044	AN827-12	6610-00-278-0611	C-7	55
88044	AN832-4	6610-00-277-6458	C-10	35
88044	AN832-4D	6610-00-277-6445	C-10	40
88044	AN910-4D	6610-00-278-2681	C-9	9
88044	AN912-7D	4730-00-194-0210	C-9	6
88044	AN924-4	5310-00-208-5769	C-10	36
88044	AN924-4D	5310-01-041-9170	C-10	41
0D486	A22-041	5340-00-840-6582	C-10	53
75816	BF-4		C-8	12
71400	BM6031SQ		C-4	31
73631	BT-12		C-4	50
79470	C35315X12		C-7	6
79470	C35515X12		C-7	3
79470	C5015X12X4	4730-00-719-2789	C-7	56
79470	C5015X12X8	4730-00-675-9216	C-7	4
79470	C5515X16	4730-00-840-7236	C-7	33
27005	DBDH6G1X/400/12		C-10	20
23826	E-67	4130-00-832-9801	C-4	43
23826	E-77	5925-00-869-7739	C-4	42

CAGE	PART NUMBER	STOCK NUMBER	FIGURE	ITEM
4K739	FCS-1303-70		C-8	10
29440	F48S3-84		C-2	16
04713	MDA952-2		C-4	38
2N406	MR5A	5945-00-189-8773	C-4	46
22938	MS16562-174	5315-00-460-8315	C-3	5
96906	MS18067-37	5305-00-105-4056	C-2	30
96906	MS20822-12D	4730-00-287-1027	C-9	13
96906	MS20822-12D	4730-00-287-1027	C-8	3
96906	MS20822-4-4	4730-00-231-4010	C-7	15
96906	MS20822-4-4D	4730-00-186-9963	C-7	36
96906	MS20822-4-4D	4730-00-186-9963	C-9	11
96906	MS20822-8D	4730-00-287-1024	C-8	11
96906	MS21266-3N		C-4	11
96906	MS21919DG-16	5340-00-286-9418	C-6	5
96906	MS21919DG-20	5340-00-726-9321	C-6	10
96906	MS21919DG-22	5340-00-726-9322	C-6	15
96906	MS24665-132	5315-00-839-2325	C-1	9
22938	MS24665-283		C-3	54
22938	MS24665-355		C-3	21
22938	MS24665-360	5315-00-212-0066	C-3	13
22938	MS24665-623	5315-01-012-2711	C-3	9
22938	MS24665-623	5315-01-012-2711	C-3	43
96906	MS25281-F4	5340-00-943-6041	C-1	4
96906	MS27183-10	5310-00-809-4058	C-2	72
96906	MS27183-18	5310-00-003-9415	C-2	45
96906	MS27183-41	5310-00-809-4058	C-4	21
96906	MS27265-3	5310-00-082-1404	C-5	2
96906	MS28777-4	5330-00-186-4947	C-7	79
96906	MS28778-10	5330-00-285-9842	C-7	24
96906	MS28778-12	5330-00-251-8839	C-7	23
96906	MS28778-16	5330-00-804-5694	C-7	34
96906	MS28778-24	5330-00-819-5111	C-7	27
96906	MS28778-4	5330-00-805-2966	C-7	11
96906	MS28778-6	5330-00-804-5695	C-7	19
96906	MS35206-217	5305-00-889-2999	C-1	56
96906	MS35206-220	5305-00-984-4977	C-4	40
96906	MS35206-228	5305-00-984-4988	C-4	47
96906	MS35206-245	5305-00-984-6193	C-10	18
96906	MS35206-245	5305-00-984-6193	C-4	26
96906	MS35206-245	5305-00-984-6193	C-10	67
96906	MS35206-279	5305-00-988-1723	C-4	53
96906	MS35206-280	5305-00-988-1724	C-2	23
96906	MS35206-281	5305-00-988-1725	C-2	24
96906	MS35206-281	5305-00-988-1725	C-10	23
96906	MS35207-261	5305-00-990-6444	C-4	30
96906	MS35207-263	5305-00-989-7434	C-2	32
96906	MS35207-263	5305-00-989-7434	C-6	17
96906	MS35207-263	5305-00-989-7434	C-1	3
96906	MS35207-263	5305-00-989-7434	C-4	44
96906	MS35207-264	5305-00-989-7435	C-10	59

CAGE	PART NUMBER	STOCK NUMBER	FIGURE	ITEM
96906	MS35207-264	5305-00-989-7435	C-4	45
96906	MS35265-42	5305-00-559-8145	C-8	17
96906	MS35265-46	5305-00-622-9476	C-8	18
96906	MS35335-32	5310-00-596-7691	C-10	60
96906	MS35335-35	5310-00-627-6128	C-2	74
96906	MS35338-33	5310-00-596-9441	C-4	7
96906	MS35338-40	5310-00-543-2410	C-4	39
96906	MS35338-40	5310-00-543-2410	C-10	10
96906	MS35338-41	5310-00-045-4007	C-4	48
96906	MS35338-42	5310-00-045-3299	C-8	16
96906	MS35338-42	5310-00-045-3299	C-1	19
96906	MS35338-42	5310-00-045-3299	C-10	68
96906	MS35338-42	5310-00-045-3299	C-4	24
96906	MS35338-43	5310-00-045-3296	C-10	61
96906	MS35338-43	5310-00-045-3296	C-2	33
96906	MS35338-43	5310-00-045-3296	C-10	5
96906	MS35338-43	5310-00-045-3296	C-4	29
96906	MS35338-44	5310-00-582-5965	C-8	8
96906	MS35338-44	5310-00-582-5965	C-2	25
96906	MS35338-44	5310-00-582-5965	C-4	6
96906	MS35338-44	5310-00-582-5965	C-9	15
96906	MS35338-44	5310-00-582-5965	C-10	24
96906	MS35338-45	5310-00-407-9566	C-2	42
96906	MS35338-46	5310-00-004-5033	C-2	48
96906	MS35338-48	5310-00-584-5272	C-2	10
96906	MS35426-16	5310-00-004-3220	C-2	75
96906	MS35649-2252	5310-00-997-1888	C-10	25
96906	MS35649-2252	5310-00-997-1888	C-2	26
96906	MS35649-2252	5310-00-997-1888	C-4	8
96906	MS35649-2312	5310-00-829-9981	C-2	43
96906	MS35649-2382	5310-00-056-3395	C-2	49
96906	MS35649-242	5310-00-934-9739	C-10	9
96906	MS35649-262	5310-00-934-9747	C-4	49
96906	MS35649-282	5310-00-934-9757	C-10	69
96906	MS35649-282	5310-00-934-9757	C-4	37
96906	MS35649-282	5310-00-934-9757	C-1	20
96906	MS35650-302	5310-00-934-9751	C-1	6
96906	MS35650-302	5310-00-934-9751	C-6	18
96906	MS35650-302	5310-00-934-9751	C-2	34
96906	MS35650-302	5310-00-934-9751	C-10	62
96906	MS35650-30	5310-00-934-9751	C-4	51
96906	MS51504-B16	4730-00-833-9315	C-8	2
96906	MS51504-B16	4730-00-833-9315	C-9	12
96906	MS51525-B12	4730-00-710-5571	C-7	5
96906	MS51525-B16	4730-00-930-5392	C-7	35
96906	MS51527-B10	4730-00-974-7313	C-7	25
96906	MS51527-B24	4730-01-205-8034	C-72	8
96906	MS51527-B4S	4730-01-110-9155	C-7	17
96906	MS51527-B6	4730-01-143-3941	C-7	20
96906	MS51527-B8	4730-00-822-5609	C-7	18

CAGE	PART NUMBER	STOCK NUMBER	FIGURE	ITEM
96906	MS51968-23	5310-00-763-8901	C-10	13
96906	MS51971-5	5310-00-768-0321	C-2	11
96906	MS90725-10	5305-00-071-2241	C-4	5
96906	MS90725-113	5305-00-042-6417	C-2	20
96906	MS90725-15	5305-00-071-2236	C-2	51
96906	MS90725-15	5305-00-071-2236	C-10	22
96906	MS90725-3	5305-00-068-0500	C-8	9
96906	MS90725-3	5305-00-068-0500	C-4	4
96906	MS90725-3	5305-00-068-0500	C-2	73
96906	MS90725-32	5306-00-225-8497	C-2	41
96906	MS90725-58	5306-00-115-9526	C-2	47
96906	MS90725-6	5306-00-068-0502	C-2	71
96906	MS90725-60	5306-00-269-3211	C-2	52
96906	MS90725-62	5306-00-269-3213	C-2	53
96906	MS90725-65	5306-00-269-3215	C-2	54
96906	MS90725-8	5306-00-225-3839	C-9	16
96906	MS90725-8	5306-00-225-3839	C-4	20
96906	MS90726-114	5306-00-719-5235	C-2	9
30780	MV-430-S		C-10	4
30780	MV-830-S		C-10	18
81349	M5086/2-18-9	6145-00-578-6602	C-2	78
81349	M5086/2-6-9	6145-00-578-6594	C-2	79
04368	N-2150		C-2	76
71400	NON6	5920-00-199-9483	C-4	32
18097	P0920397		C-2	7
17680	RAC01370		C-2	69
17680	RAC01668		C-4	14
98003	SC-B-83314-2CE	5340-01-186-7762	C-1	22
57797	ST-100		C-2	68
04368	T-2200		C-2	77
73631	T-3	5940-01-110-1141	C-4	28
3D566	TEC36100	5925-00-360-3870	C-4	22
53421	T120MR		C-2	70
30780	1-1/2X 1	PTR-S	C-9	4
86768	1-1758-14R		C-10	45
22938	1-184-1346		C-3	
22938	1-184-1396		C-3	
22938	1-3502		C-3	
22938	1-3612	2530-00-455-1181	C-3	16
22938	1-3712		C-3	
22938	1-3851	2530-00-350-8642	C-3	6
22938	1-5904	2530-01-015-0293	C-3	47
22938	1-8209	2530-01-015-5216	C-3	27
30780	1/4 SHP-S	4730-00-044-4577	C-9	3
96259	1A32-R12-60S		C-10	12
30780	10-8TRBTX-S		C-7	26
1H408	101-HD		C-8	4
22680	1012154-01		C-2	14
22680	101470-01		C-8	15
22680	101471-01		C-8	5

CAGE	PART NUMBER	STOCK NUMBER	FIGURE	ITEM
22680	101920-01		C-9	1
6X156	104-3502-0213-403		C-2	63
22680	10728-R-001		C-5	3
98441	111417-16D-0140		C-7	41
98441	111417-16D-0200		C-7	39
98441	111417-16D-0260		C-7	44
91767	1185-4CN750		C-9	2
22680	119335-01		C-10	21
22680	119337-01		C-10	1
22680	119349-01		C-2	27
22680	119350-01		C-10	8
22680	119362-01		C-2	15
22680	119367-01		C-4	9
22680	119369-01		C-2	40
22680	119370-01		C-9	14
22680	119373-01		C-8	14
22680	119520-01		C-7	14
22680	119521-01		C-7	46
22680	119522-01		C-7	48
22680	119523-01		C-7	49
22680	119524-01		C-7	50
22680	119525-01		C-7	51
22680	119526-01		C-7	52
22680	119527-01		C-7	53
22680	119528-01		C-7	54
22680	119529-01		C-7	57
22680	119530-01		C-7	58
22680	119531-01		C-7	59
22680	119532-01		C-7	60
22680	119533-01		C-7	62
22680	119534-01		C-7	63
22680	119535-01		C-7	64
22680	119536-01		C-7	66
22680	119537-01		C-7	68
22680	119538-01		C-7	70
22680	119539-01		C-7	72
22680	119540-01		C-7	73
22680	119541-01		C-7	74
22680	119542-01		C-7	76
22680	119543-01		C-7	77
22680	119544-01		C-7	78
22680	119545-01		C-7	82
22680	119546-01		C-7	83
22680	119547-01		C-7	84
22680	119548-01		C-7	85
22680	119549-01		C-7	87
22680	119550-01		C-7	88
22680	119551-01		C-7	90
22680	119552-01		C-7	91
22680	119553-01		C-7	92

CAGE	PART NUMBER	STOCK NUMBER	FIGURE	ITEM
22680	119554-01		C-7	93
22680	119554-01		C-7	93
22680	119555-01		C-7	94
22680	119556-01		C-7	95
22680	119557-01		C-7	96
22680	119558-01		C-7	97
22680	119559-01		C-7	1
22680	119560-01		C-8	6
22680	119561-01		C-8	7
22680	119562-01		C-2	3
22680	119562-02		C-2	4
22680	119562-03		C-2	5
22680	119562-04		C-2	6
22680	119562-05		C-2	62
22680	119562-06		C-2	65
22680	119562-07		C-10	2
22680	119562-08		C-10	6
22680	119562-09		C-10	7
22680	119562-10		C-10	11
22680	119562-11		C-10	14
22680	119562-12		C-10	16
22680	119562-13		C-10	17
22680	119562-14		C-10	19
22680	119562-15		C-10	26
22680	119562-16		C-10	29
22680	119562-17		C-10	30
22680	119562-18		C-10	31
22680	119562-19		C-10	32
22680	119562-20		C-10	34
22680	119562-21		C-10	39
22680	119562-22		C-10	44
22680	119562-23		C-10	46
22680	119562-24		C-10	47
22680	119562-25		C-10	49
22680	119562-26.		C-10	50
22680	119562-27		C-10	54
22680	119562-28		C-10	57
22680	119562-29		C-10	63
22680	119562-30		C-10	65
22680	119562-31		C-10	70
22680	11989-R-001		C-5	4
28292	11N-G1		C-10	55
30780	12-4TRBTX-S		C-7	10
30780	12-8TRBTX-S		C-7	7
30839	1201PS-1		C-7	81
30839	1203PS-1A	15930-01-203-1715	C-7	13
30780	12R50X-S		C-7	8
61675	1304S-320S-X-6.63		C-2	13
22680	132798-01		C-10	48
83664	1342-36231		C-2	67
83664	1342-36231		C-4	13

CAGE	PART NUMBER	STOCK NUMBER	FIGURE	ITEM
23826	14GF32AA81		C-4	41
59730	144	5975-00-152-1071	C-4	18
59730	146	5975-00-642-7263	C-4	15
4L709	150-5000		C-7	65
60038	15123		C-3	56
01276	155-S4-12D	4730-00-293-7848	C-2	36
01276	155-S4-16D	4730-00-541-1116	C-2	38
01276	155-S4-8D	4730-00-482-5409	C-2	31
01276	155-S5-12D	4730-00-540-1268	C-6	8
01276	155-S5-16D	4730-00-555-0896	C-6	13
01276	155-S5-8D	4730-00-554-7734	C-6	3
01276	155-S7-12D	4730-00-561-1544	C-2	37
01276	155-S7-16D	4730-00-546-4736	C-2	39
01276	155-S7-8D	5340-00-543-3904	C-2	35
01276	155-S9-12D	5340-00-561-1545	C-6	9
01276	155-S9-16D	5340-00-631-0888	C-6	14
01276	155-S9-8D	5340-00-576-5545	C-6	4
3D566	1815	6240-00-155-7859	C-10	28
22938	184		C-2	1
22938	184-1346-2		C-3	26
22938	184-1396-1		C-3	1
22938	184-5911		C-3	48
98441	193000-4D-0180		C-7	43
59730	1945	5975-00-752-2703	C-4	17
22938	2-3612	2530-01-147-3974	C-3	31
30780	20X16TRBTX-S		C-7	31
73168	20110-0		C-9	7
03773	206SFAS0-0-6000	6685-01-218-6512	C-10	58
03773	206SFAS30-0-150	5210-01-167-5298	C-10	64
28520	2073	5970-00-900-7898	C-10	72
98441	212R4-JSN-4JSN-4-0240		C-7	45
98441	212R4-JSN4-JSN4-18		C-7	42
51829	21208		C-3	57
98441	215C16-JS16-JS16-1		C-6	12
5N603	222		C-43	6
5N603	230		C-43	5
30780	24X20TRBTX-S		C-72	9
60038	24780		C-35	5
22938	3-3806	2530-01-023-7826	C-3	2
30780	3/4 SHP-S	4730-00-324-1483	C-9	5
5F877	316-AD		C-10	66
22938	3502-01		C-34	2
5F877	366-LP		C-8	13
22938	3712	2530-00-440-0095	C-3	45
03614	3781		C-1	7
22938	3906-190		C-3	10
22938	4-3806	2530-01-023-7870	C-3	3
22938	4020-1		C-3	17
22938	4020-1		C-3	32
22680	40363-01		C-4	25

CAGE	PART NUMBER	STOCK NUMBER	FIGURE	ITEM
22680	411261-01		C-2	12
98441	4240C12-JS12-JS12-120		C-6	7
98441	4240C12-JSI2-J90S12-16		C-7	40
98441	4240C8-JS8-JS8-120		C-6	2
22938	4257-4		C-3	33
22938	4257-4		C-3	18
22938	4264-1		C-3	24
22938	4264-1		C-3	39
22938	4264-2		C-3	25
22938	4264-2		C-3	40
3M181	44-1-2-0		C-1	25
30327	443-B-4A		C-10	33
22680	452026-01		C-1	23
22680	452038-01		C-10	5
6M075	458-12D27-10		C-7	99
6M075	458-12SS27-6		C-7	69
30780	459B-1		C-2	29
22938	4600-2	5310-00-520-1602	C-3	28
22938	4600-2	5310-00-520-1602	C-3	12
22938	4600-3	5310-01-009-7475	C-3	35
22938	4600-3	5310-01-009-7475	C-3	20
22938	4601-5	5310-00-608-7174	C-3	52
22938	4601-7	5310-01-009-7477	C-3	38
22938	4601-7	5310-01-009-7477	C-3	23
22938	4701-3	5310-01-009-7529	C-3	7
22938	4702-2	5310-00-177-7655	C-3	11
22938	4702-2	5310-00-177-7655	C-3	29
22938	4800-5	5315-00-212-0066	C-3	30
22938	4800-8		C-3	36
22680	48227-01		C-8	
22680	48227-01		C-2	56
22680	48228-01		C-8	1
22680	48243-01		C-2	55
22680	48243-01		C-7	
22680	48248-01		C-10	51
22680	48249-01		C-2	
22680	48250-01		C-6	1
22680	48251-01		C-6	6
22680	48252-01		C-6	11
22680	48253-01		C-2	66
22680	48253-01		C-4	1
22680	48253-01		C-4	
22680	48255-01		C-1	
22680	48258-01		C-5	1
22680	48258-01		C-4	2
23826	49D52209-003		C-4	16
81321	50223	4330-00-288-6907	C-2	50
01276	5100-S10-12	4010-01-080-0603	C-6	16
22938	5100-2		C-3	37
22938	5100-2		C-3	22

CAGE	PART NUMBER	STOCK NUMBER	FIGURE	ITEM
23826	52BAA	5930-00-435-3898	C-2	59
23826	52PA8A2	5930-00-910-5633	C-2	61
23826	52PA8A3	5930-00-910-5630	C-2	58
23826	52RAS03		C-2	57
23826	52RAS04		C-2	60
22680	520047-01		C-4	33
22938	5205	2530-00-208-7252	C-3	51
22938	5206	5315-01-009-7474	C-3	53
98636	5302		C-4	12
22938	5400-1	5315-01-009-7478	C-3	8
22938	5401	2530-01-023-7090	C-3	4
22938	5402-1		C-3	34
22938	5402-2	5306-00-136-9800	C-3	19
22938	5416	5315-01-024-2559	C-3	44
22938	5800	4730-01-008-2814	C-3	15
22938	5800	4730-01-008-2814	C-3	41
22938	5801	4730-01-008-1884	C-3	14
22680	58329-01		C-1	1
22680	58330-01		C-1	2
22680	58331-01		C-1	13
22680	58332-01		C-1	14
22680	58333-01		C-1	15
22680	58334-01		C-1	11
22680	58335-01		C-1	16
22680	58339-01		C-10	
22680	58339-01		C-2	22
22680	58341-01		C-2	44
22680	58341-01		C-9	
22680	58342-01		C-2	46
22680	58355-01		C-2	19
30780	6-4TRBTX-S		C-7	21
71744	6S6DC-130V		C-2	64
6M075	624XB-1-12-2		C-7	86
6M075	624XB-3-12-2		C-7	98
22938	6555	2610-00-582-1416	C-3	46
77414	7S		C-5	5
30780	8B79-6		C-10	15
30780	8B79-6		C-2	28
6X156	806-1710-0431-504	6210-00-803-9882	C-10	27
22938	8300-090		C-3	49
22938	8300-380		C-3	50
8U456	8514-152	6685-00-814-5701	C-10	71
22680	89266-01		C-1	17
22680	89275-01		C-1	12
22680	89276-01		C-1	21
22680	89277-01		C-1	8
22680	89317-01		C-2	21
22680	89318-01		C-10	52
22680	89325-01		C-2	2
22680	89326-01		C-4	3

CAGE	PART NUMBER	STOCK NUMBER	FIGURE	ITEM
22680	89327-01		C-4	19
22680	89330-01		C-4	23
22680	89389-01		C-9	8
3D566	9T55Y50G2	5950-00-835-9845	C-4	52
3D566	9T58B2893		C-4	10
25248	910-3X		C-4	27
39428	91105A133		C-2	18
39428	91151A033	5310-01-238-7208	C-2	8
1BD74	91245A350		C-2	17

C. FIGURE NUMBER INDEX

FIGURE	ITEM	STOCK NUMBER	CAGE	PART NUMBER
C-1			22680	48255-01
C-1	1		22680	58329-01
C-1	2		22680	58330-01
C-1	3	5305-00-989-7434	96906	MS35207-263
C-1	4	5340-00-943-6041	96906	MS25281-F4
C-1	5	5310-00-045-3296	96906	MS35338-43
C-1	6	5310-00-934-9751	96906	MS35650-302
C-1	7		03614	3781
C-1	8		22680	89277-01
C-1	9	5315-00-839-2325	96906	MS24665-132
C-1	10	5320-00-510-7823	73020	AD42ABS
C-1	11		22680	58334-01
C-1	12		22680	89275-01
C-1	13		22680	58331-01
C-1	14		22680	58332-01
C-1	15		22680	58333-01
C-1	16		22680	58335-01
C-1	17		22680	89266-01
C-1	18	5305-00-984-6193	96906	MS35206-245
C-1	19	5310-00-045-3299	96906	MS35338-42
C-1	20	5310-00-934-9757	96906	MS35649-282
C-1	21		22680	89276-01
C-1	22	5340-01-186-7762	98003	SC-B-83314-2CE
C-1	23		22680	452026-01
C-1	24	5320-00-904-4136	73020	AD43ABS
C-1	25		3M181	44-1-2-0
C-2			22680	48249-01
C-2	1		22938	184
C-2	2		22680	89325-01
C-2	3		22680	119562-01
C-2	4		22680	119562-02
C-2	5		22680	119562-03
C-2	6		22680	119562-04
C-2	7		18097	P0920397
C-2	8	5310-01-238-7208	39428	91151A033
C-2	9	5306-00-719-5235	96906	MS90726-114
C-2	10	5310-00-584-5272	96906	MS35338-48
C-2	11	5310-00-768-0321	96906	MS51971-5
C-2	12		22680	411261-01
C-2	13		61675	1304S-320S-X-6.63
C-2	14		22680	1012154-01
C-2	15		22680	119362-01
C-2	16		29440	F48S3-84
C-2	17		1BD74	91245A350
C-2	18		39428	91105A133
C-2	19		22680	58355-01
C-2	20	5305-00-042-6417	96906	MS90725-113

FIGURE	ITEM	STOCK NUMBER	CAGE	PART NUMBER
C-2	21		22680	89317-01
C-2	22		22680	58339-01
C-2	23	5305-00-988-1724	96906	MS35206-280
C-2	24	5305-00-988-1725	96906	MS35206-281
C-2	25	5310-00-582-5965	96906	MS35338-44
C-2	26	5310-00-997-1888	96906	MS35649-2252
C-2	27		22680	119349-01
C-2	28		30780	8B79-6
C-2	29		30780	459B-1
C-2	30	5305-00-105-4056	96906	MS18067-37
C-2	31	4730-00-482-5409	01276	155-S4-8D
C-2	32	5305-00-989-7434	96906	MS35207-263
C-2	33	5310-00-045-3296	96906	MS35338-43
C-2	34	5310-00-934-9751	96906	MS35650-302
C-2	35	5340-00-543-3904	01276	155-S7-8D
C-2	36	4730-00-293-7848	01276	155-S4-12D
C-2	37	4730-00-561-1544	01276	155-S7-12D
C-2	38	4730-00-541-1116	01276	155-S4-16D
C-2	39	4730-00-546-4736	01276	155-S7-16D
C-2	40		22680	119369-01
C-2	41	5306-00-225-8497	96906	MS90725-32
C-2	42	5310-00-407-9566	96906	MS35338-45
C-2	43	5310-00-829-9981	96906	MS35649-2312
C-2	44		22680	58341-01
C-2	45	5310-00-003-9415	96906	MS27183-18
C-2	46		22680	58342-01
C-2	47	5306-00-115-9526	96906	MS90725-58
C-2	48	5310-00-004-5033	96906	MS35338-46
C-2	49	5310-00-056-3395	96906	MS35649-2382
C-2	50	4330-00-288-6907	81321	50223
C-2	51	5305-00-071-2236	96906	MS90725-15
C-2	52	5306-00-269-3211	96906	MS90725-60
C-2	53	5306-00-269-3213	96906	MS90725-62
C-2	54	5306-00-269-3215	96906	MS90725-65
C-2	55		22680	48243-01
C-2	56		22680	48227-01
C-2	57		23826	52RAS03
C-2	58	5930-00-910-5630	23826	52PA8A3
C-2	59	5930-00-435-3898	23826	52BAA
C-2	60		23826	52RAS04
C-2	61	5930-00-910-5633	23826	52PA8A2
C-2	62		22680	119562-05
C-2	63		6X156	104-3502-0213-403
C-2	64		71744	6S6DC-130 V
C-2	65		22680	119562-06
C-2	66		22680	48253-01
C-2	67		83664	1342-36231
C-2	68		57797	ST-100
C-2	69		17680	RAC01370
C-2	70		53421	T120MR
C-2	71	5306-00-068-0502	96906	MS90725-6

FIGURE	ITEM	STOCK NUMBER	CAGE	PART NUMBER
C-2	72	5310-00-809-4058	96906	MS27183-10
C-2	73	5305-00-068-0500	96906	MS90725-3
C-2	74	5310-00-627-6128	96906	MS35335-35
C-2	75	5310-00-004-3220	96906	MS35426-16
C-2	76		04368	N-2150
C-2	77		04368	T-2200
C-2	78	6145-00-578-6602	81349	M5086/2-18-9
C-2	79	6145-00-578-6594	81349	M5086/2-6-9
C-2	80	4330-00-277-3274	88044	AN6235-4A
C-2	81	4330-00-804-1541	88044	AN6236-3
C-3			22938	1-184-1396
C-3	1		22938	184-1396-1
C-3	2	2530-01-023-7826	22938	3-3806
C-3	3	2530-01-023-7870	22938	4-3806
C-3	4	2530-01-023-7090	22938	5401
C-3	5	5315-00-460-8315	22938	MS16562-174
C-3	6	2530-00-350-8642	22938	1-3851
C-3	7	5310-01-009-7529	22938	4701-3
C-3	8	5315-01-009-7478	22938	5400-1
C-3	9	5315-01-012-2711	22938	MS24665-623
C-3	10		22938	3906-190
C-3	11	5310-00-177-7655	22938	4702-2
C-3	12	5310-00-520-1602	22938	4600-2
C-3	13	5315-00-212-0066	22938	MS24665-360
C-3	14	4730-01-008-1884	22938	5801
C-3	15	4730-01-008-2814	22938	5800
C-3	16	2530-00-455-1181	22938	1-3612
C-3	17		22938	4020-1
C-3	18		22938	4257-4
C-3	19	5306-00-136-9800	22938	5402-2
C-3	20	5310-01-009-7475	22938	4600-3
C-3	21		22938	MS24665-355
C-3	22		22938	5100-2
C-3	23	5310-01-009-7477	22938	4601-7
C-3	24		22938	4264-1
C-3	25		22938	4264-2
C-3			22938	1-184-1346
C-3	26		22938	184-1346-2
C-3	27	2530-01-015-5216	22938	1-8209
C-3	28	5310-00-520-1602	22938	4600-2
C-3	29	5310-00-177-7655	22938	4702-2
C-3	30	5315-00-212-0066	22938	4800-5
C-3	31	2530-01-147-3974	22938	2-3612
C-3	32		22938	4020-1
C-3	33		22938	4257-4
C-3	34		22938	5402-1
C-3	35	5310-01-009-7475	22938	4600-3
C-3	36		22938	4800-8
C-3	37		22938	5100-2
C-3	38	5310-01-009-7477	22938	4601-7
C-3	39		22938	4264-1

FIGURE	ITEM	STOCK NUMBER	CAGE	PART NUMBER
C-3	40		22938	4264-2
C-3	41	4730-01-008-2814	22938	5800
C-3			22938	1-3502
C-3	42		22938	3502-01
C-3	43	5315-01-012-2711	22938	MS24665-623
C-3	44	5315-01-024-2559	22938	5416
C-3			22938	1-3712
C-3	45	2530-00-440-0095	22938	3712
C-3	46	2610-00-582-1416	22938	6555
C-3	47	2530-01-015-0293	22938	1-5904
C-3	48		22938	184-5911
C-3	49		22938	8300-090
C-3	50		22938	8300-380
C-3	51	2530-00-208-7252	22938	5205
C-3	52	5310-00-608-7174	22938	4601-5
C-3	53	5315-01-009-7474	22938	5206
C-3	54		22938	MS24665-283
C-3	55		60038	24780
C-3	56		60038	15123
C-3	57		51829	21208
C-4			22680	48253-01
C-4	1		22680	48258-01
C-4	2		22680	119320-01
C-4	3		22680	89326-01
C-4	4	5305-00-068-0500	96906	MS90725-3
C-4	5	5305-00-071-2241	96906	MS90725-10
C-4	6	5310-00-582-5965	96906	MS35338-44
C-4	7	5310-00-596-9441	96906	MS35338-33
C-4	8	5310-00-997-1888	96906	MS35649-2252
C-4	9		22680	119367-01
C-4	10		3D566	9T58B2893
C-4	11		96906	MS21266-3N
C-4	12		98636	5302
C-4	13		83664	1342-36231
C-4	14		17680	RAC01668
C-4	15	5975-00-642-7263	59730	146
C-4	16		23826	49D52209-003
C-4	17	5975-00-752-2703	59730	1945
C-4	18	5975-00-152-1071	59730	144
C-4	19		22680	89327-01
C-4	20	5306-00-225-3839	96906	MS90725-8
C-4	21	5310-00-809-4058	96906	MS27183-41
C-4	22	5925-00-360-3870	3D566	TEC36100
C-4	23		22680	89330-01
C-4	24	5310-00-045-3299	96906	MS35338-42
C-4	25		22680	40363-01
C-4	26	5305-00-984-6193	96906	MS35206-245
C-4	27		25248	910-3X
C-4	28	5940-01-110-1141	73631	T-3
C-4	29	5310-00-045-3296	96906	MS35338-43
C-4	30	5305-00-990-6444	96906	MS35207-261

FIGURE	ITEM	STOCK NUMBER	CAGE	PART NUMBER
C-4	31		71400	BM6031SQ
C-4	32	5920-00-199-9483	71400	NON6
C-4	33		22680	520047-01
C-4	34	5320-01-077-6837	73020	AK42ABS
C-4	35		5N603	230
C-4	36		5N603	222
C-4	37	5310-00-934-9757	96906	MS35649-282
C-4	38		04713	MDA952-2
C-4	39	5310-00-543-2410	96906	MS35338-40
C-4	40	5305-00-984-4977	96906	MS35206-220
C-4	41		23826	14GF32AA81
C-4	42	5925-00-869-7739	23826	E-77
C-4	43	4130-00-832-9801	23826	E-67
C-4	44	5305-00-989-7434	96906	MS35207-263
C-4	45	5305-00-989-7435	96906	MS35207-264
C-4	46	5945-00-189-8773	2N406	MR5A
C-4	47	5305-00-984-4988	96906	MS35206-228
C-4	48	5310-00-045-4007	96906	MS35338-41
C-4	49	5310-00-934-9747	96906	MS35649-262
C-4	50		73631	BT-12
C-4	51	5310-00-934-9751	96906	MS35650-302
C-4	52	5950-00-835-9845	3D566	9T55Y50G2
C-4	53	5305-00-988-1723	96906	MS35206-279
C-5	1		22680	48258-01
C-5	2	5310-00-082-1404	96906	MS27265-3
C-5	3		22680	10728-R-001
C-5	4		22680	11989-R-001
C-5	5		77414	7S
C-6	1		22680	48250-01
C-6	2		98441	4240C8-JS8-JS8-120
C-6	3	4730-00-554-7734	01276	155-S5-8D
C-6	4	5340-00-576-5545	01276	155-S9-8D
C-6	5	5340-00-286-9418	96906.	MS21919DG-16
C-6	6		22680	48251-01
C-6	7		98441	4240C12-JS12-JS12-120
C-6	8	4730-00-540-1268	01276	155-S5-12D
C-6	9	5340-00-561-1545	01276	155-S9-12D
C-6	10	5340-00-726-9321	96906	MS21919DG-20
C-6	11		22680	48252-01
C-6	12		98441	215C16-JS16-JS16-120
C-6	13	4730-00-555-0896	01276	155-S5-16D
C-6	14	5340-00-631-0888	01276	155-S9-16D
C-6	15	5340-00-726-9322	96906	MS21919DG-22
C-6	16	4010-01-080-0603	01276	5100-S10-12
C-6	17	5305-00-989-7434	96906	MS35207-263
C-6	18	5310-00-934-9751	96906	MS35650-302
C-7			22680	48243-01
C-7	1		22680	119559-01
C-7	2	4730-00-287-0296	88044	AN818-12
C-7	3		79470	C35515X12
C-7	4	4730-00-675-9216	79470	C5015X12X8

FIGURE	ITEM	STOCK NUMBER	CAGE	PART NUMBER
C-7	5	4730-00-710-5571	96906	MS51525-B12
C-7	6		79470	C35315X12
C-7	7		30780	12-8TRBTX-S
C-7	8		30780	12R50X-S
C-7	9		88044	AN824-12D
C-7	10		30780	12-4TRBTX-S
C-7	11	5330-00-805-2966	96906	MS28778-4
C-7	12	4730-00-277-6837	88044	AN815-4
C-7	13	5930-01-203-1715	30839	1203PS-1A-1
C-7	14		22680	119520-01
C-7	15	4730-00-231-4010	96906	MS20822-4-4
C-7	16	4730-00-277-6372	88044	AN6289-4
C-7	17	4730-01-110-9155	96906	MS51527-B4S
C-7	18	4730-00-822-5609	96906	MS51527-B8
C-7	19	5330-00-804-5695	96906	MS28778-6
C-7	20	4730-01-143-3941	96906	MS51527-B6
C-7	21		30780	6-4TRBTX-S
C-7	22	4730-00-203-3831	88044	AN818-6
C-7	23	5330-00-251-8839	96906	MS28778-12
C-7	24	5330-00-285-9842	96906	MS28778-10
C-7	25	4730-00-974-7313	96906	MS51527-B10
C-7	26		30780	10-8TRBTX-S
C-7	27	5330-00-819-5111	96906	MS28778-24
C-7	28	4730-01-205-8034	96906	MS51527-B24
C-7	29		30780	24X20TRBTX-S
C-7	30	4730-00-287-0267	88044	AN818-24
C-7	31		30780	20X16TRBTX-S
C-7	32	4730-01-105-3911	88044	AN818-20
C-7	33	4730-00-840-7236	79470	C5515X16
C-7	34	5330-00-804-5694	96906	MS28778-16
C-7	35	4730-00-930-5392	96906	MS51525-B16
C-7	36	4730-00-186-9963	96906	MS20822-4-4D
C-7	37	4730-00-187-0840	88044	AN816-4-4D
C-7	38	4730-00-197-1114	88044	AN816-8
C-7	39		98441	111417-16D-0200
C-7	40		98441	4240C12-JS12-J90S12-16
C-7	41		98441	111417-16D-0140
C-7	42		98441	212R4-JSN4-JSN4-18
C-7	43		98441	193000-4D-0180
C-7	44		98441	111417-16D-0260
C-7	45		98441	212R4-JSN-4JSN-4-0240
C-7	46		22680	119521-01
C-7	47	4730-00-194-1043	88044	AN821-8D
C-7	48		22680	119522-01
C-7	49		22680	119523-01
C-7	50		22680	119524-01
C-7	51		22680	119525-01
C-7	52		22680	119526-01
C-7	53		22680	119527-01
C-7	54		22680	119528-01
C-7	55	6610-00-278-0611	88044	AN827-12

FIGURE	ITEM	STOCK NUMBER	CAGE	PART NUMBER
C-7	56	4730-00-719-2789	79470	C5015X12X4
C-7	57		22680	119529-01
C-7	58		22680	119530-01
C-7	59		22680	119531-01
C-7	60		22680	119532-01
C-7	61	4730-00-287-0285	88044	AN818-12D
C-7	62		22680	119533-01
C-7	63		22680	119534-01
C-7	64		22680	119535-01
C-7	65		4L709	150-5000
C-7	66		22680	119536-01
C-7	67	4730-00-278-9376	88044	AN824-4
C-7	68		22680	119537-01
C-7	69		6M075	458-12SS27-6
C-7	70		22680	119538-01
C-7	71	4730-01-187-0489	88044	AN815-12
C-7	72		22680	119539-01
C-7	73		22680	119540-01
C-7	74		22680	119541-01
C-7	75	4730-00-722-0086	88044	AN824-8D
C-7	76		22680	119542-01
C-7	77		22680	119543-01
C-7	78		22680	119544-01
C-7	79	5330-00-186-4947	96906	MS28777-4
C-7	80		88044	AN815-4D
C-7	81		30839	1201PS-1
C-7	82		22680	119545-01
C-7	83		22680	119546-01
C-7	84		22680	119547-01
C-7	85		22680	119548-01
C-7	86		6M075	624XB-1-12-2
C-7	87		22680	119549-01
C-7	88		22680	119550-01
C-7	89	4730-01-056-1623	88044	AN824-4D
C-7	90		22680	119551-01
C-7	91		22680	119552-01
C-7	92		22680	119553-01
C-7	93		22680	119554-01
C-7	94		22680	119555-01
C-7	95		22680	119556-01
C-7	96		22680	119557-01
C-7	97		22680	119558-01
C-7	98		6M075	624XB-3-12-2
C-7	99		6M075	458-12D27-10
C-8			22680	48227-01
C-8	1		22680	48228-01
C-8	2	4730-00-833-9315	96906	MS51504-B16
C-8	3	4730-00-287-1027	96906	MS20822-12D
C-8	4		1H408	101-HD
C-8	5		22680	101471-01
C-8	6		22680	119560-01

FIGURE	ITEM	STOCK NUMBER	CAGE	PART NUMBER
C-8	7		22680	119561-01
C-8	8	5310-00-582-5965	96906	MS35338-44
C-8	9	5305-00-068-0500	96906	MS90725-3
C-8	10		4K739	FCS-1303-70
C-8	11	4730-00-287-1024	96906	MS20822-8D
C-8	12		75816	BF-4
C-8	13		5F877	366-LP
C-8	14		22680	119373-01
C-8	15		22680	101470-01
C-8	16	5310-00-045-3299	96906	MS35338-42
C-8	17	5305-00-559-8145	96906	MS35265-42
C-8	18	5305-00-622-9476	96906	MS35265-46
C-9			22680	58341L01
C-9	1		22680	101920-01
C-9	2		91767	1185-4CN750
C-9	3	4730-00-044-4577	30780	1/4 SHP-S
C-9	4		30780	1-1/2 X 1 PTR-S
C-9	5	4730-00-324-1483	30780	3/4 SHP-S
C-9	6	4730-00-194-0210	88044	AN912-7D
C-9	7		73168	20110-0
C-9	8		22680	89389-01
C-9	9	6610-00-278-2681	88044	AN910-4D
C-9	10	4730-00-986-9492	88044	AN816-16D
C-9	11	4730-00-186-9963	96906	MS20822-4-4D
C-9	12	4730-00-833-9315	96906	MS51504-B16
C-9	13	4730-00-287-1027	96906	MS20822-12D
C-9	14		22680	119370-01
C-9	15	5310-00-582-5965	96906	MS35338-44
C-9	16	5306-00-225-3839	96906	MS90725-8
C-10			22680	58339-01
C-10	1		22680	119337-01
C-10	2		22680	119562-07
C-10	3	5320-00-510-7823	73020	AD42ABS
C-10	4		30780	MV-430-S
C-10	5		22680	452038-01
C-10	6		22680	119562-08
C-10	7		22680	119562-09
C-10	8		22680	119350-01
C-10	9	5310-00-934-9739	96906	MS35649-242
C-10	10	5310-00-543-2410	96906	MS35338-40
C-10	11		22680	119562-10
C-10	12		96259	1A32-R12-60S
C-10	13	5310-00-763-8901	96906	MS51968-23
C-10	14		22680	119562-11
C-10	15		30780	8B79-6
C-10	16		22680	119562-12
C-10	17		22680	119562-13
C-10	18		30780	MV-830-S
C-10	19		22680	119562-14
C-10	20		27005	DBDH6G1X/400/12
C-10	21		22680	119335-01

FIGURE	ITEM	STOCK NUMBER	CAGE	PART NUMBER
C-10	22	5305-00-071-2236	96906	MS90725-15
C-10	23	5305-00-988-1725	96906	MS35206-281
C-10	24	5310-00-582-5965	96906	MS35338-44
C-10	25	5310-00-997-1888	96906	MS35649-2252
C-10	26		22680	119562-15
C-10	27	6210-00-803-9882	6X156	806-1710-0431-504
C-10	28	6240-00-155-7859	3D566	1815
C-10	29		22680	119562-16
C-10	30		22680	119562-17
C-10	31		22680	119562-18
C-10	32		22680	119562-19
C-10	33		30327	443-B-4A
C-10	34		22680	119562-20
C-10	35	6610-00-277-6458	88044	AN832-4
C-10	36	5310-00-208-5769	88044	AN924-4
C-10	37	4730-00-698-4030	88044	AN820-4S
C-10	38	4730-00-277-6372	88044	AN6289-4
C-10	39		22680	119562-21
C-10	40	6610-00-277-6445	88044	AN832-4D
C-10	41	5310-01-041-9170	88044	AN924-4D
C-10	42	4730-00-698-4030	88044	AN820-4D
C-10	43	4730-01-056-9433	88044	AN6289-4D
C-10	44		22680	119562-22
C-10	45		86768	1-1758-14R
C-10	46		22680	119562-23
C-10	47		22680	119562-24
C-10	48		22680	132798-01
C-10	49		22680	119562-25
C-10	50		22680	119562-26
C-10	51		22680	48248-01
C-10	52		22680	89318-01
C-10	53	5340-00-840-6582	0D486	A22-041
C-10	54		22680	119562-27
C-10	55		28292	11N-G1
C-10	56	5305-00-889-2999	96906	MS35206-217
C-10	57		22680	119562-28
C-10	58	6685-01-218-6512	03773	206SFASO-0-6000
C-10	59	5305-00-989-7435	96906	MS35207-264
C-10	60	5310-00-596-7691	96906	MS35335-32
C-10	61	5310-00-045-3296	96906	MS35338-43
C-10	62	5310-00-934-9751	96906	MS35650-302
C-10	63		22680	119562-29
C-10	64	5210-01-167-5298	03773	206SFAS30-0-150
C-10	65		22680	119562-30
C-10	66		5F877	316-AD
C-10	67	5305-00-984-6193	96906	MS35206-245
C-10	68	5310-00-045-3299	96906	MS35338-42
C-10	69	5310-00-934-9757	96906	MS35649-282
C-10	70		22680	119562-31
C-10	71	6685-00-814-5701	8U456	8514-152
C-10	72	5970-00-900-7898	28520	2073
C-10	73		30780	459B-1

APPENDIX D
EXPENDABLE SUPPLIES AND MATERIALS LIST

SECTION I. INTRODUCTION

D-1. Scope. This appendix lists expendable supplies and materials needed to operate and maintain the D-6A Aircraft Hydraulic System Test Stand. These items are authorized to you by CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

D-2. Explanation of columns.

a. Column (1) - Item number. This number is assigned to the entry in the listing.

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

O - Aviation Unit Maintenance (AVUM)

F - Aviation Intermediate Maintenance (AVIM)

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

d. Column (4) - Description. Indicates the federal item name and, if required, a description to identify the item.

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 MATERIAL LIST FOR
TEST STAND, AIRCRAFT HYDRAULIC SYSTEM, TYPE D-6A

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	O	9150-00-190-0904	Grease, Automotive and Artillery MIL-G-10924	lb
2	F	6850-00-285-8011	Solvent, Dry Cleaning, P-D-680	gl

SECTION II.
EXPENDABLE SUPPLIES AND MATERIAL LIST FOR
TEST STAND, AIRCRAFT HYDRAULIC SYSTEM, TYPE D-6A (Contd)

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
3	O	9150-00-223-4134	Fluid, Hydraulic MIL-H-5606	gl
4	O	9150-00-231-9062	Oil, Lubricating VV-L-800	gl
5	O	8030-00-889-3535	Tape, Antisieze MIL-T-27730	roll
6	O	9150-00-903-7094	Grease, Silicon, Electric Motor MIL-L-15719	lb

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Subject — Paragraph

U

V

W

By Order of the Secretary of the Army:

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Chief of Staff

Official:

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AMSAV-M Form
1 Oct 87 **1379**

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 dekagram = 10 grams = .35 ounce
acres
1 hectogram = 10 dekagrams = 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 milliliters = .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

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