TECHNICAL MANUAL

OPERATOR'S AVIATION UNIT AND INTERMEDIATE MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) FOR AIRCRAFT HYDRAULIC SYSTEM TEST STAND, TRAILER MOUNTED TYPE MK-1 P/N 56578-7450 MODEL NUMBER D7450 NSN 4920-01-070-0871

HEADQUARTERS, DEPARTMENT OF THE ARMY

20 FEBRUARY 1987

CHANGE

NO. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 4 November 1991

Operator's Aviation Unit and
Intermediate Maintenance Manual
(Including Repair Parts and Special Tools List)
for
AIRCRAFT HYDRAULIC SYSTEM TEST STAND,
TRAILER MOUNTED
TYPE MK-1, P/N 56578-7450
MODEL NUMBER D7450, NSN 4920-01-070-0871

TM 55-4920-442-13&P, 20 February 1987, is changed as follows:

1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

Remove pages	Insert pages
i and ii	i and ii
1-1 and 1-2	1-1 and 1-2
3-7 through 3-10	3-7 through 3-10
3-13 and 3-14	3-13 and 3-14
A-1/A-2	A-1/A-2
C-15 and C-16	C-15 and C-16
C-23 and C-24	C-23 and C-24
C-31 through C-34	C-31 through C-34
C-43 and C-44	C-43 and C-44
C-53 and C-54	C-53 and C-54
C-61 and C-62	C-61 and C-62
C-73 and C-74	C-73 and C-74

2. Retain this sheet in front of manual for reference purposes.

By Order of the Secretary of the Army:

GORDON R. SULLIVAN
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Chief of Staff

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WARNING

PRECAUTIONARY DATA

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.

GROUNDING

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

TOWING

Do not tow faster than 20 m.p.h. Release brake before towing.

PARKING

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

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 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 0F 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, and then 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

No. 55-4920-442-13 & P

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 20 February 1987

OPERATOR'S AVIATION UNIT AND INTERMEDIATE MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST FOR AIRCRAFT HYDRAULIC SYSTEM TEST STAND, TRAILER MOUNTED TYPE MK- 1

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, ATTN: AMSAV-MC, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished directly to you.

Page

Functional Group Numbers

00 - Test stand hydraulic, elect. eng. driven, type MK-1
01- Cabinet assembly
02 - Chassis
03 - Electrical system
04 - Hydraulic system
05 - Instrument panel

LIST OF ILLUSTRATIONS

LIST OF TABLES

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.

Model Number and Equipment Name: Part Number: 4920-01-170-0871, Test Stand, Aircraft Hydraulic System, Type MK-1.

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

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

b. Test the function and operation of aircraft hydraulic system 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 equipment.

1-4. Preparation for storage and shipment. Refer to TM 55-1500-204-25/1, General Aircraft Maintenance Manual and TM 743-200-1, Storage and Material Handling.

1-5. Quality assurance quality Control (QAQC). For quality assurance quality control requirements refer to FM 55-411.

1-6. Reporting equipment improvement recommendation (EIRs). 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-QRF, 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.

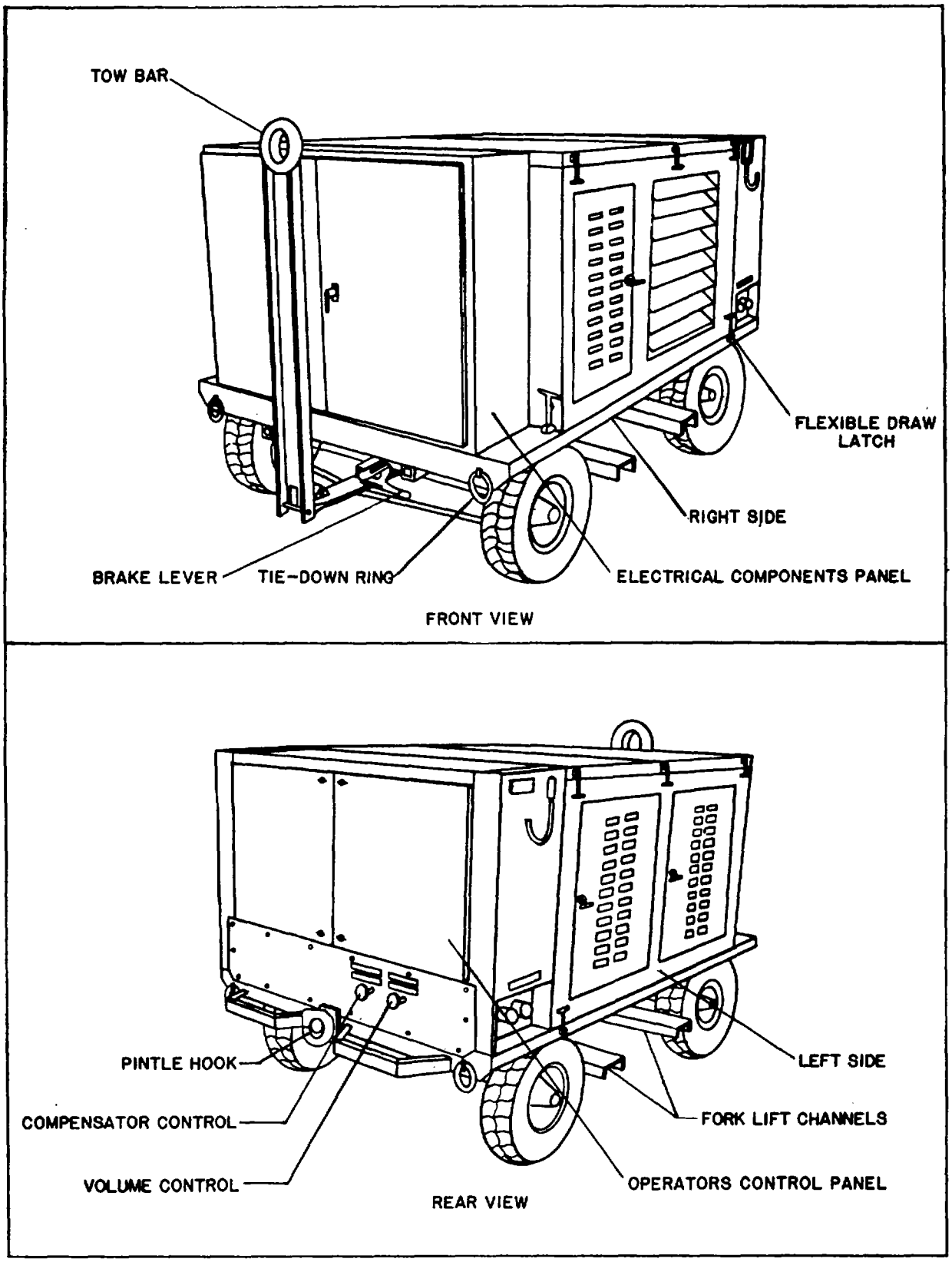


FIGURE 1-1. AIRCRAFT HYDRAULIC SYSTEM TEST STAND TRAILER MOUNTED TYPE MK-1

SECTION II. EQUIPMENT DESCRIPTION AND DATA

1-8. Physical description. The test stand, as illustrated in figure 1-1 incorporates one hydraulic piping system, high pressure pump driven by a 60 horsepower, 230/460 volt, 3 phase motor.

Operator's controls and instruments are located at the rear of this test stand and the electrical components panel is located at the front of the unit. External hose connections are located on the right and left sides of the test stand near the rear end, adjacent to the operator's control panel.

Hanging devices are located above the external hose connections to stow the hoses between tests.

1-9. Test stand capabilities. The stand is capable of supplying 0 to 30 GPM (gallons per minute) of hydraulic fluid conforming to MIL-H-83282 at 3000 PSI (pounds per square inch), or 0 to 15 GPM at 5000 PSI. It is powered by an electric motor.

Completely mobile, the test stand is mounted on a four wheel trailer which may be towed at speeds up to 20 miles per hour over improved roads or surfaces; 10 MPH over rough terrain. The unit is air transportable, having 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 housing, mounted on the four wheel trailer. Hand operated mechanical-type parking brakes which act upon the rear wheels, hold the test stand in a fixed position, while in operation or when parked on a grade. The unit may be fork lifted by inserting fork lift tines under the unit frame at marked channels. The major components and systems of the test stand are as follows: trailer and running gear, housing, electric motor, fill pump and bleed system, hydraulic reservoir, hydraulic filters, instruments and controls and the electrical system.

Trailer and running gear assembly. The trailer frame is of welded steel construction. The trailer rolls easily on four steel wheels equipped with 6.00/6.90-9, 6 ply tires. Individual leaf springs for each wheel give the stand good cushioning against road shocks and rough terrain, protecting the components of the test stand. A hinged towbar (figure 1-1) permits ease of positioning of the test stand and towing. The 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 in a fixed position during test operation or in parking on a grade. Two tiedown rings (figure 1-1) are provided on both the front and rear of the trailer frame to permit tie down of the test stand for storage or shipment. A pintle hook is provided for coupling and towing the vehicle (figure 1-1).

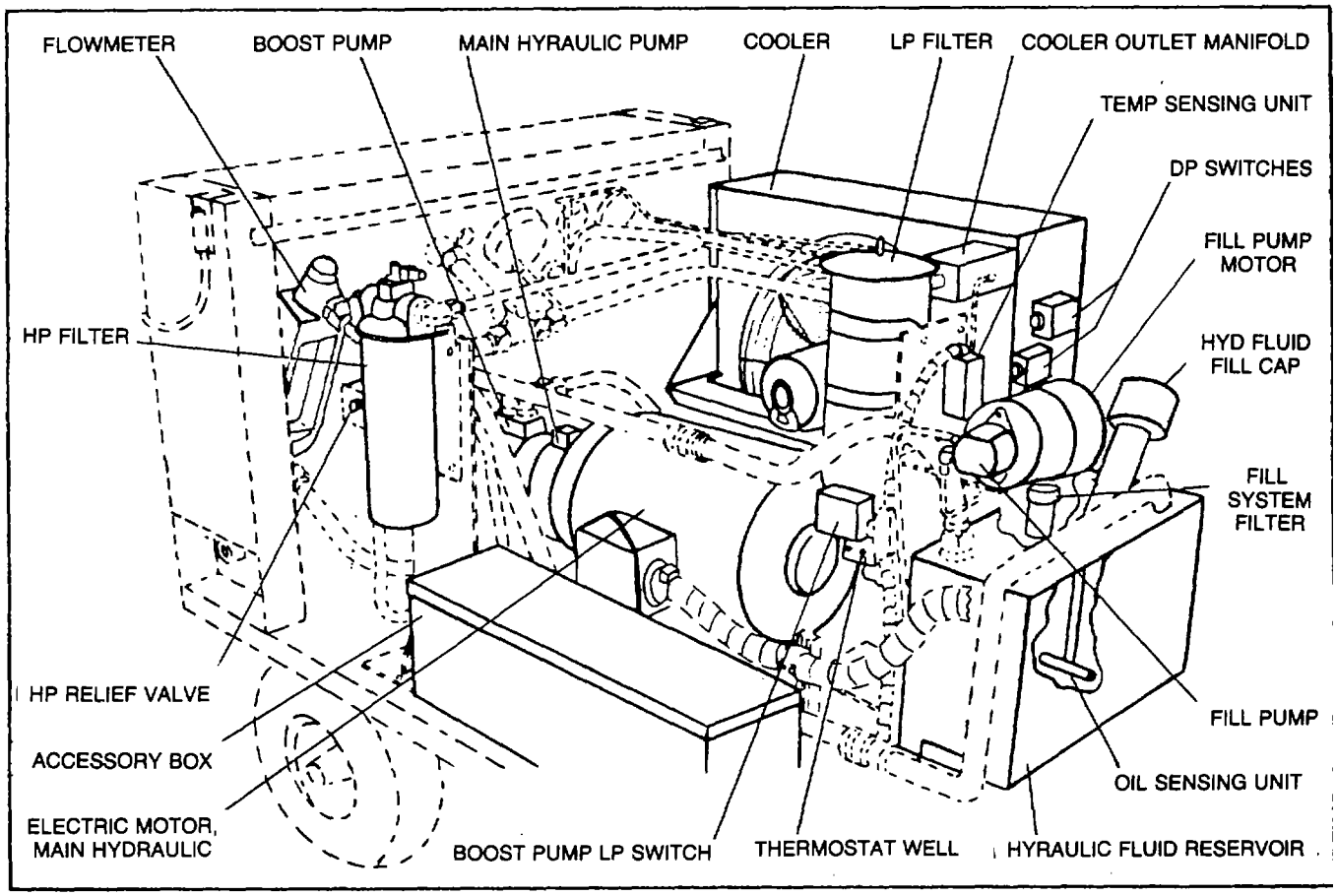


FIGURE 1-2. INTERNAL COMPONENTS ASSEMBLY

Housing. Hinged doors on the sides of the cabinet permit access to all internal components. A hinged instrument panel cover protects the controls when the test stand is not in use. The accessory box is located near the center of the unit on the right side (figure 1-2).

Electric motor. Power for the test stand is supplied by a 60 horsepower, 230/460 volt, 3 phase, 60 hertz, 3535 RPM electric motor (figure 1-2).

Electrical components panel. The circuit breaker and starter for the electric pump motor is located in the electrical components panel (figure 1-1) at the front of the unit as are the circuit breakers and starters for the fill pump and cooling fan.

Main hydraulic pump. The main hydraulic pump (figure 1-2) supplies fluid at high pressure for testing of a high pressure pump section and integral boost pump section. The pump contains a manual compensator control (figure 1-1) for varying the output pressure and volume control (figure 1-1) to regulate the output volume by changing the stroke length of the pumping pistons. Change in piston stroke length is controlled by system pressure so that when the pump is operating at a pressure less than the maximum setting of the compensator

control, the pump delivers full volume. When the system pressure reaches the compensator control setting, the pump output is automatically reduced to the amount of flow required to maintain this pressure throughout the system. The compensator control provides an adjustable range of 750 to 5000 psig with the flow varying to 30 gpm maximum. Further reduction to 500 psig can be achieved by adjusting the minimum volume stop adjustment located on the side of the main pump. The volume control permits regulation of maximum volume output by limiting the angle of a cam plate through a threaded mechanism within the pump. The return lines for the test system also include a flowmeter located on the control panel (figure 1-2) to monitor fluid flow.

Reservoir. The reservoir (figure 1-2) supplies hydraulic fluid for test stand functions including filling and bleeding of test stand system, and filling of aircraft system under test. A cleanout cover is accessible on the top of the reservoir. A fill neck, which is located on top of the reservoir, allows manual filling of reservoir. A fluid level indicator is provided on the control panel.

Oil cooler. The oil cooler (figure 1-2) consists of a two-section radiation type heat exchanging cooler with a cooling fan. The cooling fan is driven by a fractional horsepower motor. Both sections of the cooler serve the hydraulic system. The fan draws air through the cooler for cooling the hydraulic oil. Air is exhausted through vents in the cabinet.

High pressure filter. A filter (figure 1-2) is located in the high pressure output line. A micron filter element gives the pressurized fluid a final cleaning before outlet to the aircraft. A warning light displayed on the operator's control panel (figure 1-1) indicates a high differential pressure condition between the filter inlet and outlet should the filter elements become clogged with sediment removed from the hydraulic fluid.

Low pressure filter. A low pressure filter (figure 1-2) in the outlet line from the system boost pump is incorporated to clean hydraulic fluid of contamination before entering the high pressure pump section. The filter is maintained by removing top panel for replacement of the filtering element.

A drain is provided for the low pressure filter.

Fill pump system. (refer to figures 1-3 and 1-4). This system is used to fill the test stand hydraulic system with fluid in the preparatory operation of readying the test stand for scheduled operation. It also functions to fill the aircraft reservoir with pressurized fluid from the stand reservoir. The system includes an electric motor driven fill pump with filter, system actuating valves on control panel, relief valve and check valve. This filter is provided with a differential pressure (P) light on the control panel to indicate clogging.

Bleed system. (refer to figure 1-4). The test stand hydraulic system incorporates a bleed valve (4) to eliminate entrapped air from the system and sight glass to observe the fluid flow to the hydraulic reservoir. The valve is actuated by pressing in on the spring loaded valve stem with a push-type handle on the control panel. Air and fluid are bled to the reservoir from the low pressure filter and the cooler. A thermal relief valve in parallel with the bleed valve prevents increased pressure in the cooler and filter caused by thermal expansion.

Protective Devices and Instrumentation (Refer to figures 1-3 and 1-4).

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

b. A thermoswitch in the high pressure pump inlet circuit actuates to shut down the unit when the fluid temperature reaches 165 ± 5F.

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 automatic shutdown of the unit is executed automatically.

d. Check valves prevent reverse flow to the fill pump system.

e. Differential pressure switches across filter ports of the high pressure filter illuminate red warning light on control panel to indicate a clogged filter element.

f. Circuit breakers are provided for overload protection of various circuits. Refer to figure C-7 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 Section IV. for description of function and location.

Electrical system. (see figure 1-3). The system provides the circuits and control for proper functioning of electrical components.

a. Electrical power is supplied by an external source through No. AWG 00 4/c extra flexible cable, 50 ft. long.

b. The fill pump motor is controlled by a switch on the control panel and a circuit breaker in the electrical components panel.

c. A time delay relay (1TR) is actuated when the start pushbutton (2PB) is depressed to allow a 1 second delay for pressure build-up.

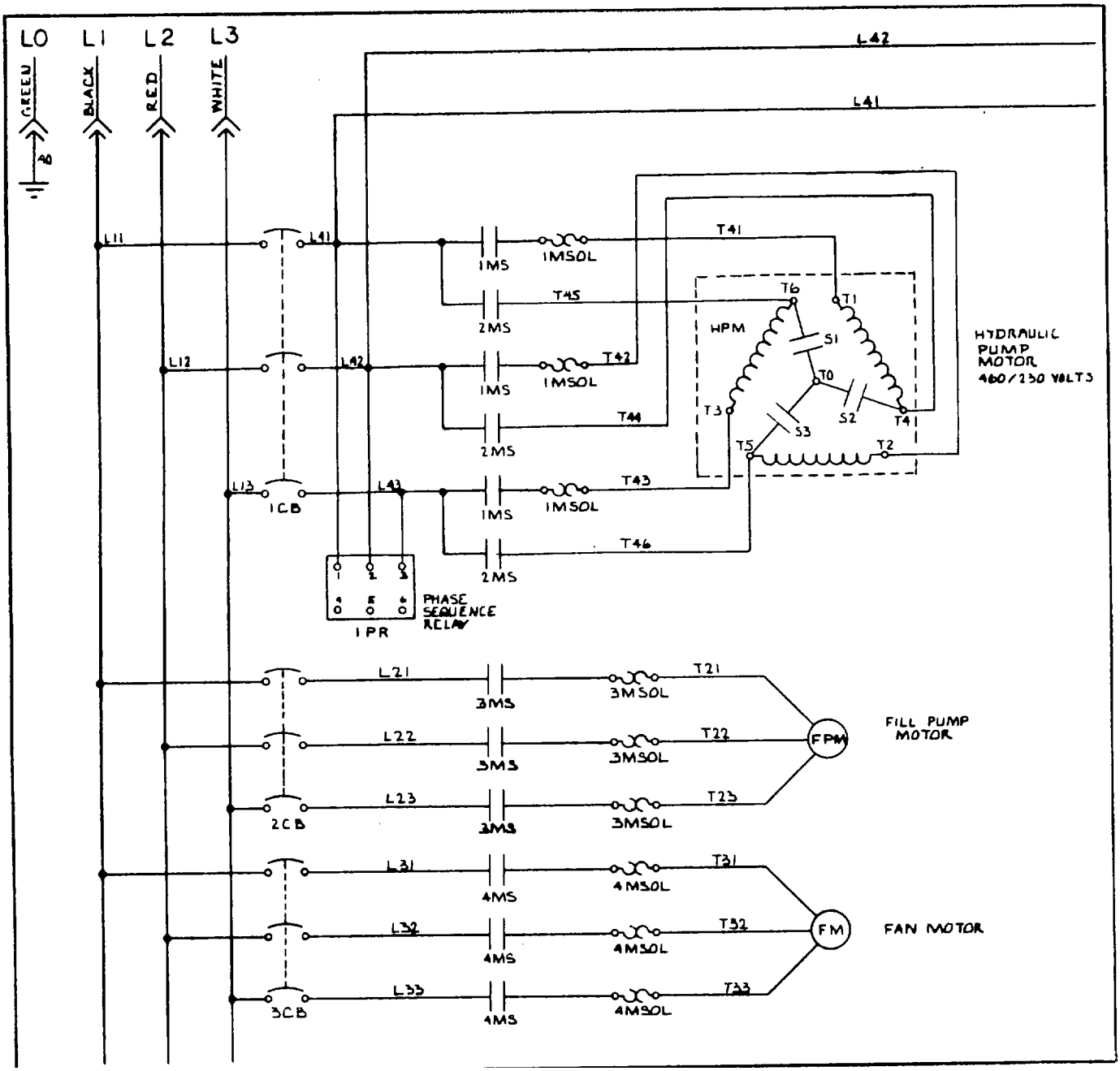


FIGURE 1-3. ELECTRICAL SCHEMATIC DIAGRAM (SHEET 1 OF 2)

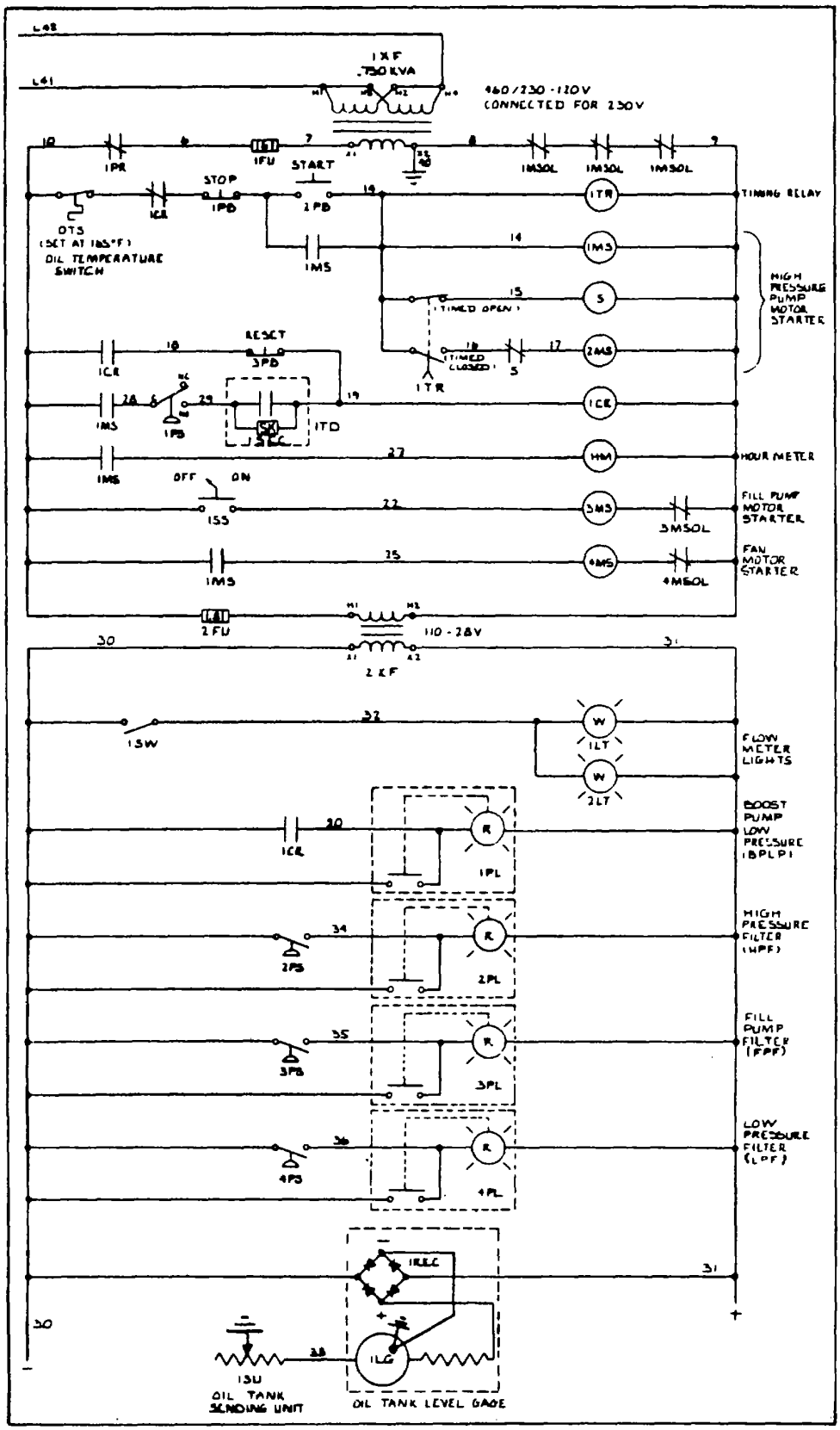


FIGURE 1-3. ELECTRICAL SCHEMATIC DIAGRAM (SHEET 2 OF 2)

1-11. Equipment data. The equipment data in table 1-1 summarizes the specific capabilities and limitations of the equipment and other critical data needed by the aviation unit and intermediate maintenance personnel for operation and maintenance of the MK-1 hydraulic test stand.

TABLE 1-1 EQUIPMENT DATA

Length	104 inches
Width	60-1/2 inches
Height	58-3/4 inches
Weight	3060 pounds (wet)
Housing	Metal, weather resistance, with-stands 200 PSI static load
Mobility	Towing - Up to 20 MPH Airlift - Withstands shocks loads of up to 8G fore and aft, 3G side-ward. Tie down rings provided at each corner (10, 000 pound tensile strength). Forklift - Tine channels provided at center of balance.
Operating Temperature (Ambient)	-40° to + 125° F, up to 99% humidity
Storage Temperature	-55° to + 160° F
Output Capability	0-30 GPM at 3000 PSI 0-50 GPM at- 5000 PSI
Tank Capacity	28 gallons, hydraulic fluid
Protective Devices	Over temperature switch Low pressure differential switches circuit breakers

SECTION III. PRINCIPLES OF OPERATION

1-12. Simplified principles of operation.

a. (See figure 1-4). The boost pump (2) fluid from the aircraft through the suction return port and flowmeter (1). The output of the boost pump is passed through the cooler (6) and the low pressure filter (7) to the suction side of the high pressure pump (13). The boost pump pressure is controlled by the low pressure relief valve (10). The output of the high pressure pump is passed through the high pressure check valve (20), the high pressure filter (22), the flow control valve (24) and the pressure outlet to the aircraft. The output pressure is controlled by the high pressure relief valve (31) and a compensator control on the high pressure pump. The output is controlled by the flow control valve (24), and regulated by a volume control on the high pressure pump.

b. The flowmeter (1) is a transparent tube type equipped with a metal float. The flowmeter scale is calibrated for 3 to 30 gpm of hydraulic fluid at 125° F. A calibration curve is mounted on the control and instrument panel access cover. This calibration curve is used for converting flowmeter indications at various fluid temperatures.

c. The fill and bleed system can be operating in either the bleed or fill mode. In the fill or bleed mode of operation, the fill pump motor and pump (28) are energized by the-fill pump switch. When a fill valve (30) is opened, the fill pump draws fluid from the oil reservoir (27) and passes fluid through the fill pump filter (23), low pressure check valve (16) and the actuated fill valve.

d. In the bleed mode of operation, when a bleed valve (4) pushbutton is depressed, fluid flows from the low pressure filter (7) through the actuated bleed valve (4) to oil reservoir (27). The bleed valve system consists of a spring-loaded shutoff valve and a sight gage (3). The sight gage is a transparent tube that provides a means of checking the air bleed operation.

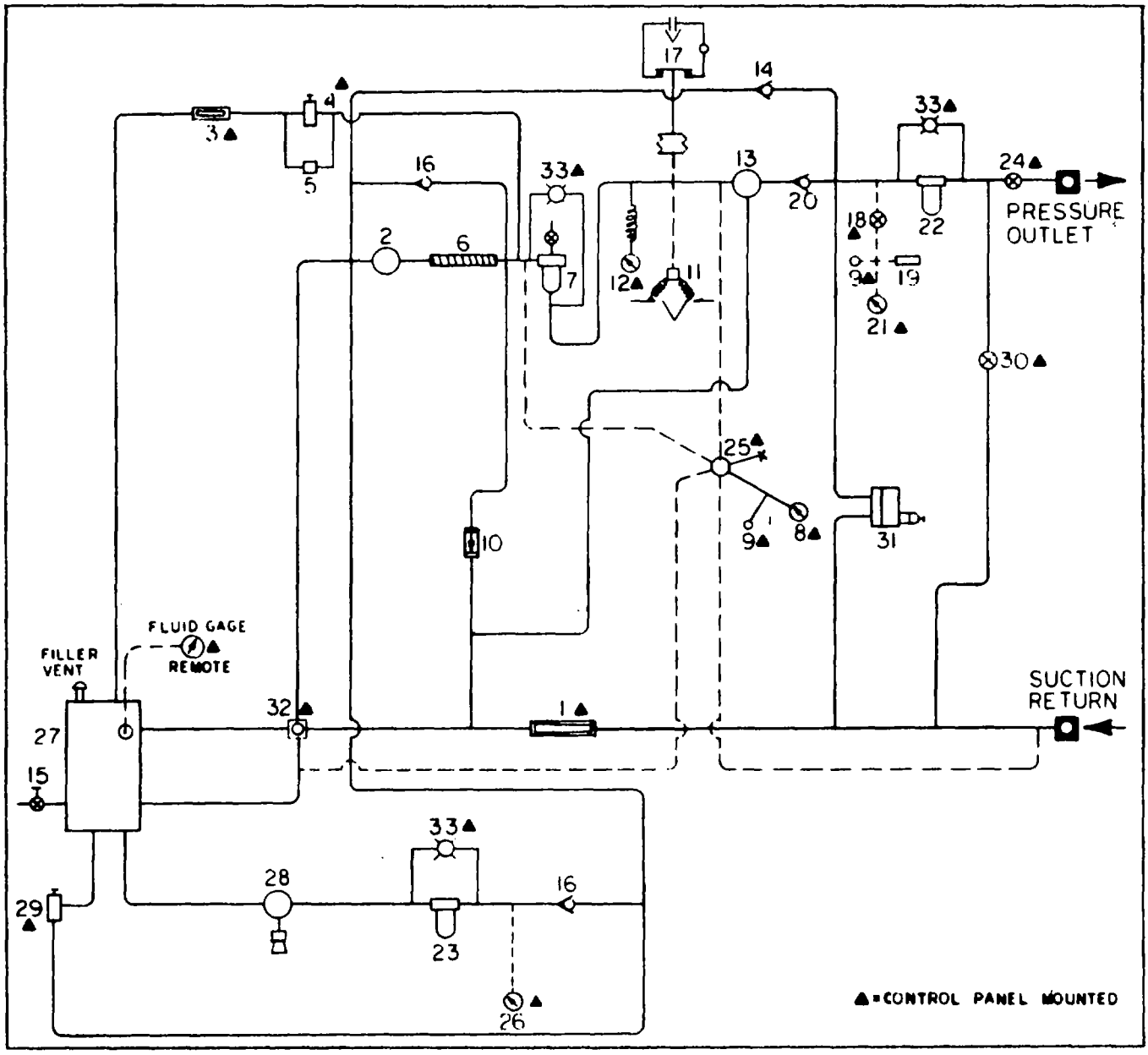


FIGURE 1-4. HYDRAULIC SCHEMATIC DIAGRAM

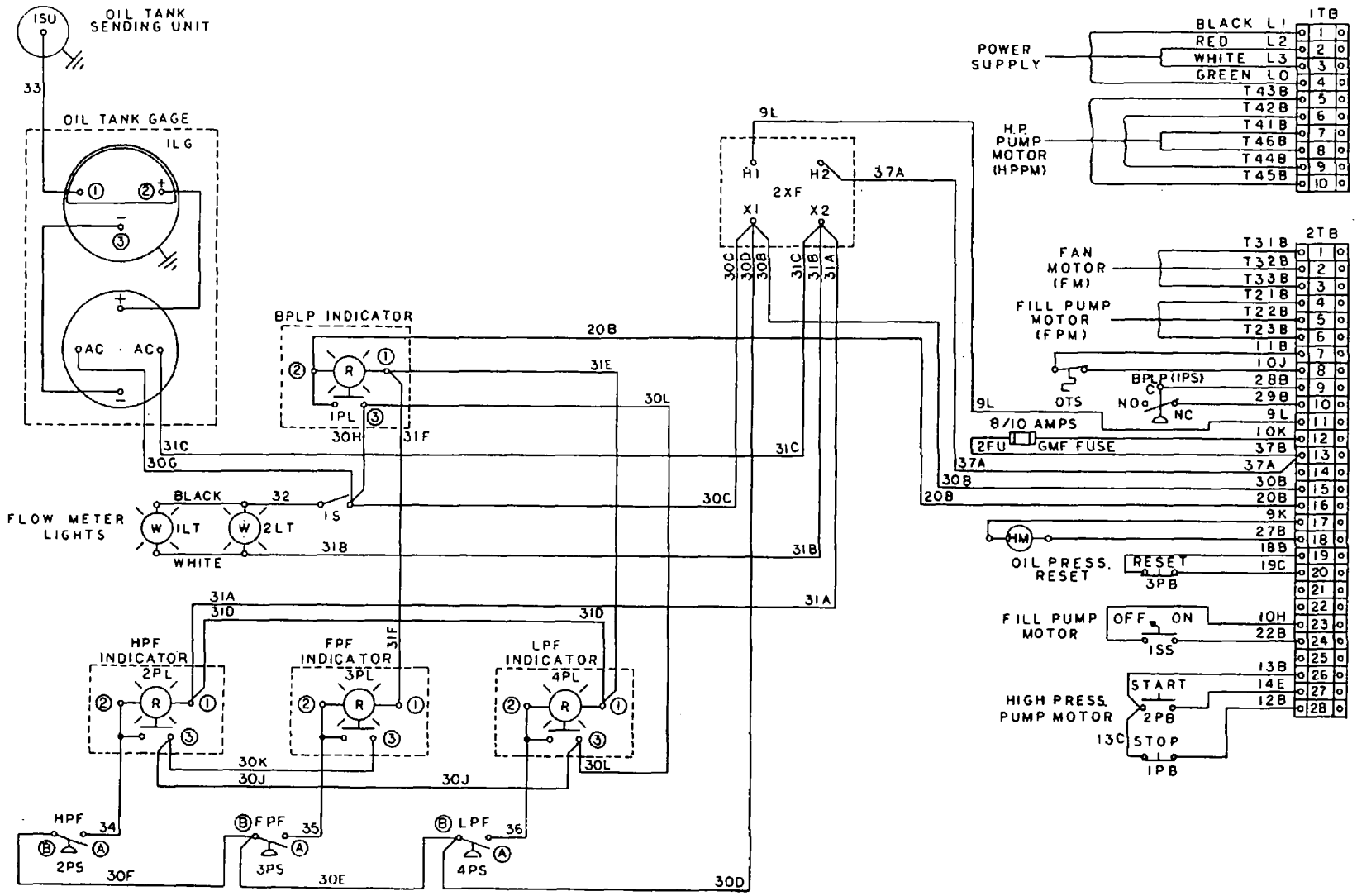


FIGURE 1-5. ELECTRICAL WIRING DIAGRAMS (SHEET I OF 2)

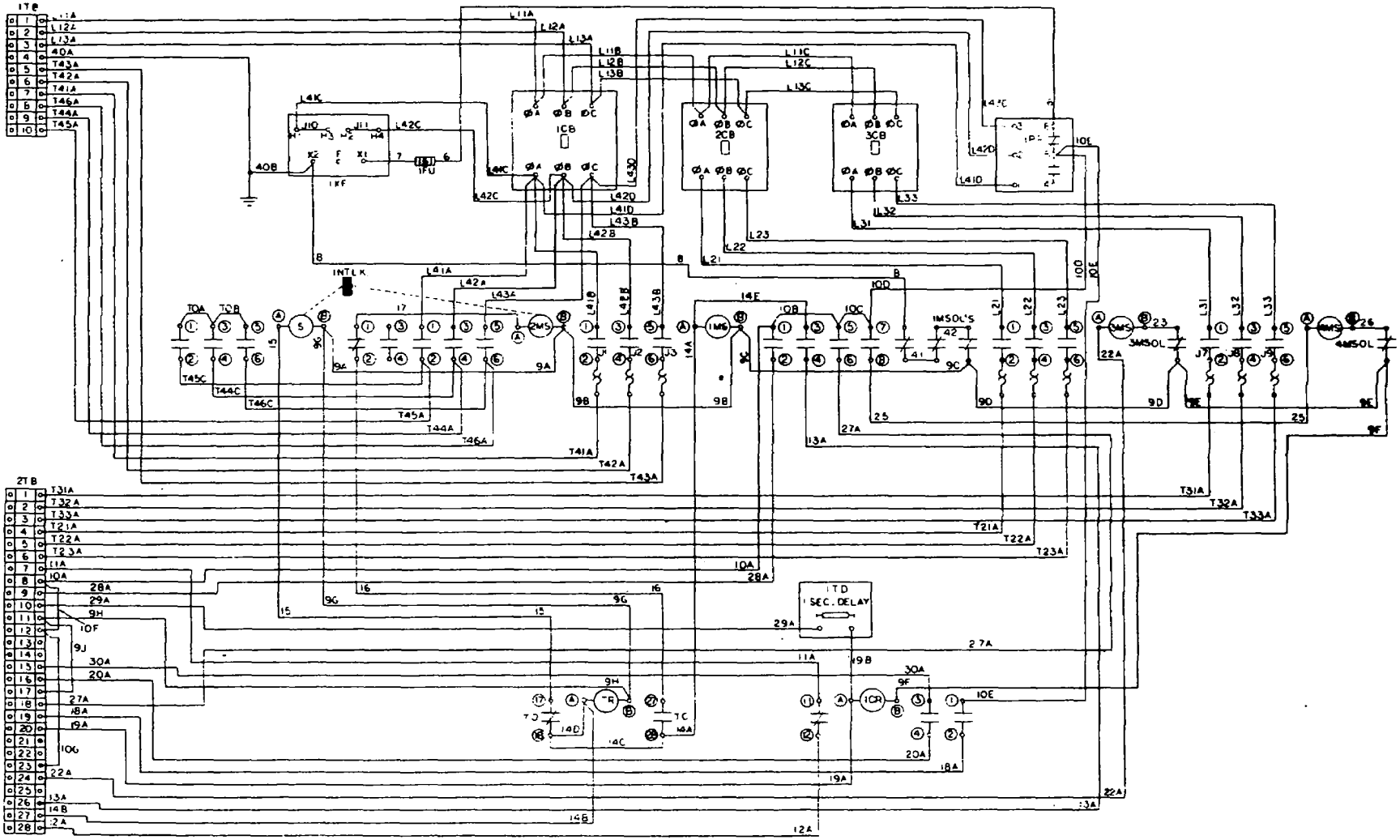
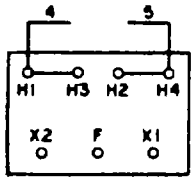
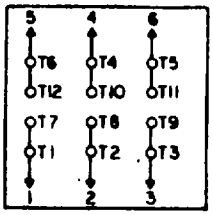


FIGURE 1-5. ELECTRICAL WIRING DIAGRAMS (SHEET 2 OF 2)

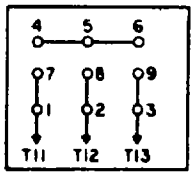
ELECTRICAL CONNECTIONS
FOR 220 VOLT STAND OPERATION



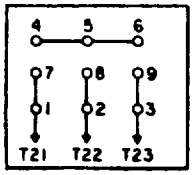
TRANSFORMER XF1



60 H.P. PUMP MOTOR

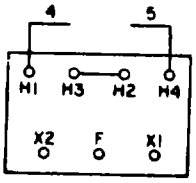


½ H.P. PUMP MOTOR



½ H.P. FAN MOTOR

ELECTRICAL CONNECTIONS
FOR 440 VOLT STAND OPERATION



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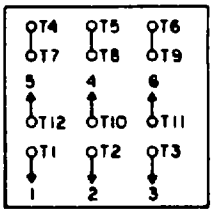
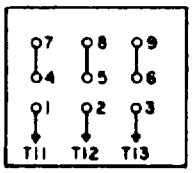
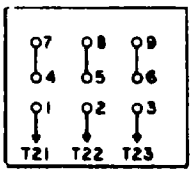


60 H.P. PUMP MOTOR



½ H.P. PUMP MOTOR



½ H.P. FAN MOTOR

CONTACTOR O/L RELAY	HEATER SIZE	
	220 V.	440 V.
1MOL	E92	E70
FPMOL	E31	E19
FMOL	E34	E24

FIGURE 1-6. CONNECTION DIAGRAMS FOR 220V AND 440V OPERATION

CHAPTER 2
OPERATING INSTRUCTIONS

SECTION I. DESCRIPTION AND USE OF CONTROLS AND INSTRUMENTS.

2-1. Controls and instruments. The controls and instruments for the operation and monitoring of the test stand are located at the operator's station at the rear of the stand.

2-2. The high pressure relief valve is located adjacent to the high pressure filter inside the access door on the right hand side of the unit.

2-3. All controls are identified in table 2-1 and located on figure 2-1.

The item numbers used on the hydraulic schematic diagram, figure 1-4, are those assigned to the same components on the unit and used on the marker plates on the control panel. Control settings are explained in table 2-2.

SECTION II. OPERATING PROCEDURES.

2-4. Personnel operating the test stand must be familiar with the location and function of all controls and indicators and 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 connection fittings clean to avoid hose rupture or leaks.

2-5. Preliminary checks. Prior to test stand operation, the following steps should be taken to make certain that the stand will operate properly and safely.

WARNING

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

a. Inspect the connecting hoses and clean the fittings using a solvent conforming to specification PD-680, if necessary.

WARNING

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

b. Set circuit breaker (1CB, Figure C-7) momentarily to on position to check fluid level.

NOTE

This step is necessary to energize fluid gage.

c. Observe the hydraulic oil gage and add fluid conforming to MIL-H-83282 until gage indicates 3/4 to 7/8 full.

CAUTION

Never operate the test stand if the hydraulic fluid reservoir is less than 1/2 full. System damage could result. Replenish as required.

d. Inspect piping and fittings for obvious leaks.

e. Close and secure all doors except that giving access to the control panel and electrical components panel.

2-6. Pre-operation control settings. Set the operating controls as listed in table 2-2.

2-7. Pre-operation fill and bleed procedure. With the controls set as specified in paragraph 2-6, proceed as follows:

a. Set circuit breakers (1CB, 2CB, and 3CB) to on position to set up hydraulic pump, fill pump and fan circuits for operation (see figure C-7).

NOTE

The fill system relief valve has been pre-set to actuate at 110 PSIG.

b. Turn 4-way valve to aircraft reservoir position.

c. Make certain flow control valve is closed.

d. Set fill pump switch to on.

e. Press the bleed valve actuating button intermittently to bleed air from the system. Observe fluid flow in sight tube. Continue to actuate bleed valve until system is purged of air.

f. When system is free of air, set fill pump switch to off.

g. Replenish the hydraulic reservoir to the proper level (3/4 to 7/8 full) with hydraulic fluid conforming to MIL-H-83282. Observe hydraulic oil gage.

2-8. The test stand is now full and air free.

2-9. Preliminary adjustments and control settings. The test stand system is filled with hydraulic fluid at the completion of the procedures in paragraph 2-7. It is now necessary to set the stand controls to accommodate the test to be run.

a. Set the 4-way valve to the stand reservoir position.

b. Depress hp start pushbutton.

c. Set the selector valve to the LP filter inlet position.

d. Open HP flow control valve.

e. Slowly close HP bypass valve.

f. Adjust HP relief valve, located adjacent to HP filter, to closed. (Fully clockwise) position.

g. Adjust compensator control to achieve an output pressure of 3300 psi as indicated on high pressure gage.

h. Reset HP relief valve to obtain a reading of 3000 psi on the high pressure gage.

i. Adjust volume control to obtain a flow of 20 gallons per minute (GPM) as indicated on flowmeter.

j. Observe fluid flow through flow meter. If air is entrained, intermittently press bleed valve control until fluid is clear.

k. Decrease the hydraulic fluid flow to a minimum with volume control.

NOTE

HP relief valve must always be set 10 percent lower than compensator control to achieve proper flow conditions.

l. Adjust compensator control and HP relief valve to achieve the correct pressure for the test to be run.

m. Shut down test stand and stop the HP pump in accordance with the procedures in paragraph 2-10.

2-10. Shutting down the test stand. After making the preliminary adjustments to be sure the test stand is functioning properly or at the completion of a test or filling operation, the stand may be shut down by performing the following steps:

a. Open HP relief valve by turning completely counterclockwise.

b. Open the HP bypass valve.

c. Depress stop button.

d. Set all circuit breakers to off position.

2-11. Emergency shutdown. 'Should it be necessary to stop the test stand rapidly, depress stop pushbutton and open the HP bypass valve.

2-12. Fluid sampling. A sample of hydraulic fluid may be withdrawn from the system to analyze for contamination utilizing the LP gage test port.

SECTION III. AIRCRAFT FILL AND TEST PROCEDURES.

2-13. Positioning and connecting the test stand to aircraft. Position and connect the test stand for aircraft test as follows:

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

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

c. Set the brakes by pulling out on the brake lever.

d. Raise the tow bar and secure it in its vertical position using 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 the fittings with solvent conforming to Federal Specification PD-680, Type II.

g. Make the necessary hose connections between the aircraft and the outlet and return fittings on either side of the test stand. Accessory fittings and adapters for use in making aircraft connections are supplied with the test stand.

2-14. Replacing lost hydraulic fluid in an aircraft. Small quantities of fluid, such as that lost when making the hose connections, may be replaced in an aircraft using the fill pump of the test stand. The procedures described in the following steps should be used with the hoses connected to the aircraft. To completely fill and bleed air from an aircraft system which has been drained, refer to paragraph 2-15.

NOTE
Refer to the applicable aircraft publication for proper fill procedures.

a. Close HP flow control valve.

b. Open HP bypass valve.

c. Set fill pump switch to on position.

d. After filling operation is complete, close HP bypass valve, set fill pump switch to off and disconnect service hose at aircraft.

2-15. Bleeding an aircraft hydraulic system. If an aircraft system has been drained or the hydraulic fluid supply badly depleted, the following procedure will allow the operator to renew the system.

NOTE
Two persons are required for this operation; one to operate the test stand, the other to cycle the aircraft controls as necessary, and monitor the filling operation from the aircraft.

a. Make certain that the test stand has been prepared for operation as described in paragraph 2-7 and is properly connected to the aircraft. Then set 4-way valve to stand reservoir position.

NOTE
Refer to the technical publication which applies to the aircraft being serviced for correct fill procedures as they apply to the aircraft.

b. Adjust the pump volume control for minimum flow and activate the test stand.

c. Open HP flow control valve.

d. Set selector valve in the LP filter outlet position.

e. Slowly close the HP bypass valve.

f. Set the compensator control and HP relief valve for the pressure required for the particular aircraft.

g. Slowly increase the volume output of the test stand with the volume control 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. The controls in the aircraft must be continually cycled to make certain all air is bled from the aircraft system by the bleeding procedure.

i. Replace the hydraulic fluid used during the bleed operation to maintain a sufficient supply in the stand reservoir (over one-half full) while filling is in progress.

j. When the bleeding process is complete, use standard operating procedures to shut down the test stand. Refer to paragraph 2-11.

2-16. Aircraft testing procedure. For testing aircraft use the following procedures.

a. Connect hoses to the aircraft.

b. Set the following controls to the positions indicated.

(1) 4-way valve aircraft reservoir.

(2) HP flow control open.

(3) HP bypass valve closed.

c. Operate the test stand in the manner described in paragraph 2-9.

d. Set the HP compensator control to the desired pressure.

NOTE

HP relief valve must be adjusted to 10 percent lower than compensator control to achieve desired pressure.

e. Open HP bypass valve.

f. Adjust the HP volume control to the flow required by the aircraft being serviced. Observe the flowmeter.

g. Slowly close HP bypass valve.

2-17. To test an aircraft system, proceed as follows:

a. Make certain that the test stand has been prepared for operation as described in paragraphs 2-9 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 4-way valve to the aircraft reservoir position.

d. Set selector valve to LP filter outlet position.

e. Activate the test stand.

f. Open the HP flow control valve.

g. Slowly close the HP bypass.

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

i. Observe high pressure gage and adjust the compensator control to obtain the required pressure for the specific aircraft.

j. Observe the flowmeter and adjust the volume control to obtain the required hydraulic fluid flow for the aircraft being tested.

k. Monitor the temperature of the hydraulic fluid at the LP filter outlet by observing the oil temperature gage.

l. Occasionally or as necessary check the return pressure from the aircraft by switching the selector valve to the suction return position and observe low pressure gage.

m. After completing the hydraulic test of the aircraft shut down the test stand using standard operating procedures (refer to paragraph 2-10).

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

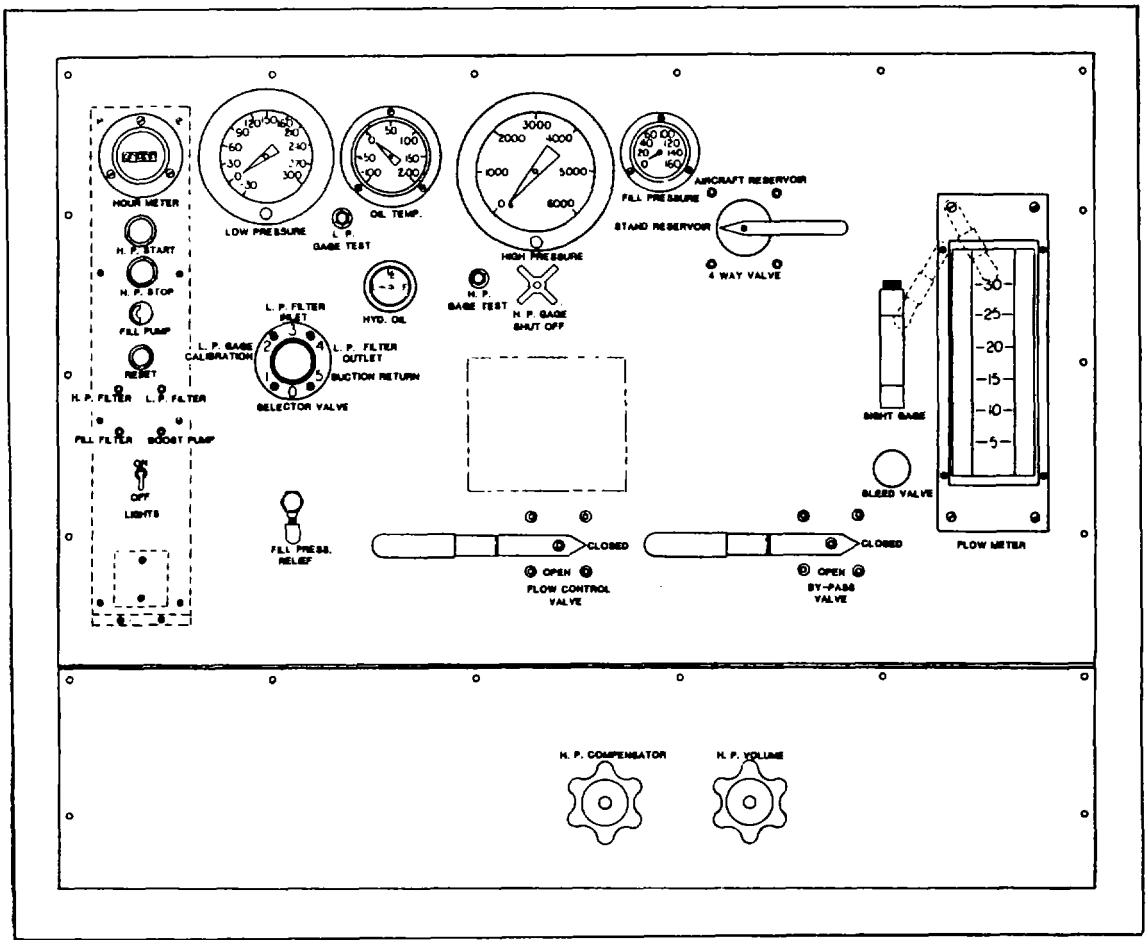


FIGURE 2- 1. INSTRUMENT PANEL ASSEMBLY

TABLE 2-1 CONTROLS AND INSTRUMENTS

Nomenclature	Item No. Hydraulic Schematic (Figure 1-4)	Function or Use
Hourmeter	--	Monitors Hydraulic Test Stand usage
Low Pressure Gage	8	Indicates output pressure of boost pump
Oil Temp Gage	12	Indicates temperature of hydraulic fluid at LP filter outlet
High Pressure Gage	21	Indicates output pressure of system
Fill Pressure Gage	26	Indicates output pressure of fill pump
4-Way Valve	32	Directs hydraulic fluid flow to aircraft or test stand reservoir
Bleed Valve	4	Bleeds air from system at LP filter
Sight Gage	3	Flow of air-free fluid may be observed
Flowmeter	1	Indicates volume of fluid returning to system
Fill Pressure Relief Valve	29	Bleeds over pressured hydraulic fluid in fill line to the reservoir
Selector Valve	25	Selects pressure source to be monitored by low pressure gage - low pressure filter inlet, low pressure filter outlet or suction return line and low pressure gage calibration
HP Bypass Valve	30	Bypasses fluid from high pressure outlet line to suction return line
HP Gage Shut-Off Valve	18	Isolates HP gage from system
HYD Oil Gage	--	Indicates level (amount) of hydraulic fluid in test stand reservoir
HP Filter P Indicator Light	--	Lights when high differential pressure exists across HP filter
LP Gage Test Port	9	Allows external calibration of LP gage
HP Gage Test Port	9	Allows external calibration of HP gage

Table 2-1 (Continued next page)

Table 2-1 Controls and Instrument (Cont.)

Nomenclature	Item No. Hydraulic Schematic (Figure 1-4)	Function or Use
Low Pressure Filter Pressure	--	Lights when high differential pressure exists across low pressure filter
Fill Filter P Light	--	Indicates pressure differential between input and output of fill filter
Booster Pump Low Pressure Indicator	--	Lights when boost pump pressure drops below 40 PSIG
HP Start Pushbutton	--	Starts HP pump motor
HP Stop Pushbutton	--	Stops HP pump motor
Fill Pump Switch	--	Energizes fill pump motor to fill test system or aircraft system
Reset	--	Resets start circuit after low pressure shutdown
Lights Switch	--	Controls illumination of panel lights
HP Compensator Control	--	Maintains constant pressure in hydraulic system as delivered by the pump
HP Volume Control	--	Regulates volume of high pressure hydraulic fluid delivered by the pump from 0-30 GPM
HP Relief Valve	31	Relieves excessive pressure in stand output line by bleeding hydraulic fluid to suction return line (located adjacent to high pressure filter)
Flow Control Valve	24	Controls flow of hydraulic fluid to test stand outlet ports

TABLE 2-2 CONTROL SETTINGS

Control	Position
HP Gage Shut-Off	One quarter turn from fully open
Selector Valve	LP filter inlet
Compensator Control	Adjusted to lowest pressure setting (rotated fully counterclockwise)
Flow Control Valve	Closed
HP Relief	Completely counterclockwise
HP Volume Control	Set to zero flow (rotated fully clockwise)
HP Bypass Valve	Open

CHAPTER 3

MAINTENANCE INSTRUCTIONS, AVUM, AVIM

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

3-1. Common tool 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: 0-6000 P.S.I. master gage or equivalent, 0-300 P.S.I. master gage, calibrated flowmeter and standard thermometer.

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 thoroughly inspect interior of the test stand to 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 attempt to operate the test stand in accordance with the instructions contained in this manual.

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. Repair any defective hose assembly before using the hose assembly during operation of the test stand.

c. Open the control and instrument panel access door. Inspect all gages, 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 gage sensor is securely mounted in the oil reservoir. Check that the electrical wiring to the sensing units is not damaged. Check the fluid system carefully for evidence of leakage.

h. Check tires for proper inflated pressure. Normal tire pressure should be 40 ± 5 pounds 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. Connect 175 amp, 230 volt or 87 amp, 460 volt power source to input terminals of hydraulic test stand with the No. AWG 00,4 conductor cable provided. Terminals are located in the upper left hand corner of electrical components panel. Hydraulic pump motor, fill pump, fan motor and control transformer are factory connected for 230 volt, 60 hertz (see figure 1-5 for connection diagrams).

3-8. Servicing hydraulic system. To service the hydraulic system for use, proceed as outlined in the following steps.

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 filter drain for the low pressure filter (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 conforming to specification MIL-H-83282.

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

e. Fill the test stand reservoir at the filler neck with hydraulic fluid. Specification MIL-H-83282, until the reservoir level gage indicates 3/4 to 7/8 full.

CAUTION
Hydraulic fluid level in reservoir must be 1/2 full minimum for proper operation of cooling fan.

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

3-11. Periodic inspection. The test stand shall be periodically inspected in accordance with Table 3-1. Servicing shall be performed prior to each days operation. Lubrication shall be performed as part of periodic inspection.

Table 3-1. Periodic Inspections Chart

Component	Periodic	100 Hour	250 Hour
Trailer and Running Gear	Check tires for cuts and 40 psig ± 5 pressure. Inspect steering for ease of turning. Check operation of parking brake. See Para. 3-38.	Lubricate points shown in Figure 3-1.	Repaint and re-stencil worn painted and stenciled areas.
Housings and Enclosures	Check security of doors, latches and fasteners. (See Figure C-1 and C-2.)	Lubricate points indicated in Figure 3-1. Check hinges of doors. Replace broken fasteners.	Repair dents and scratches, hinges and fasteners. Paint and re-stencil worn areas and lettering.
Hydraulic Systems	Perform procedures of paragraphs 2-5 through 2-10. Check for leaks. Press jewels of all warning indicator lights to check operation.	Check general conditions of all interior components for damage loose connections, cuts on hoses and leaking. Clean filters and replace elements.	Disassemble and replace damaged tubing or hoses, worn valves, worn packings and scored seats. Check accuracy of flowmeters, temperature gages and pressure switches. Replace faulty components. (See Figure C-9).
		Inspect systems under maximum flow and pressure. Torque all unions in fittings where leaks occur.	
Hydraulic Pumps	Monitor performance during operation procedures. for leaks.	Check performance indications under pressure Check and flow conditions (paragraphs 2-5 through 2-10).	

Table 3-1. Periodic Inspections Chart (cont.)

Component	Periodic	100 Hour	250 Hour
Hydraulic Reservoir	Check fluid level (3/4 to 7/8 full)	Check for leaks	Drain reservoir. Remove cleanout covers, clean and inspect interior, level indicator float. (See Figure C-2, Item 21, Figure C-9, Item 44.)
Hydraulic Cooler and Fan Assembly	With power off, turn fan to check for freedom of movement and secure mounting. Check for leaks. Check that fan and hub are secured to shaft. Shaft to be flush with, or protrude slightly from fan hub.	Clean core free of dirt accumulation	Inspect for damaged cored sections. Tighten connections and mounting. Check for leakage. Replace faulty components. (See Figure C-2, Item 72 and 73.)
Hydraulic Fill and Bleed System	Check bleed valve, sight tubes, relief valves, fill valves, and filters. (See. Figure C-9.)	Check for leaks and tighten connections if necessary.	
Instrument Panel, Control and Knobs	Check security of mounting and freedom of movement. Clean and inspect cover glass.	Check all hose, tubing and connections to gages and valves Tighten connections if necessary.	Replace panel and all damaged instruments, controls, and knobs. (See Figure C-22.)
Hydraulic External Hose	Check for cleanliness, dust capped and properly stored.	Check for wear, cuts and abrasions. Check for burring and damaged threading to couplings; replace if necessary. (See Figure C-8.)	

Table 3-1. Periodic Inspections Chart (cont.)

Component	Periodic	100 Hour	250 Hour
Motors, Main Hydraulic and Fill Pump	Check mounting and connections. Tighten if necessary	Clean exterior. Inspect for over-heating and general condition.	
Electrical System	Check operation of all switches. Check condition of all lamps.	Check connections and wiring for security. Tighten if necessary.	Inspect circuit breakers and switches. Inspect internal wiring for damage. Replace faulty parts. (See Figure C-22 and C-7.)

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

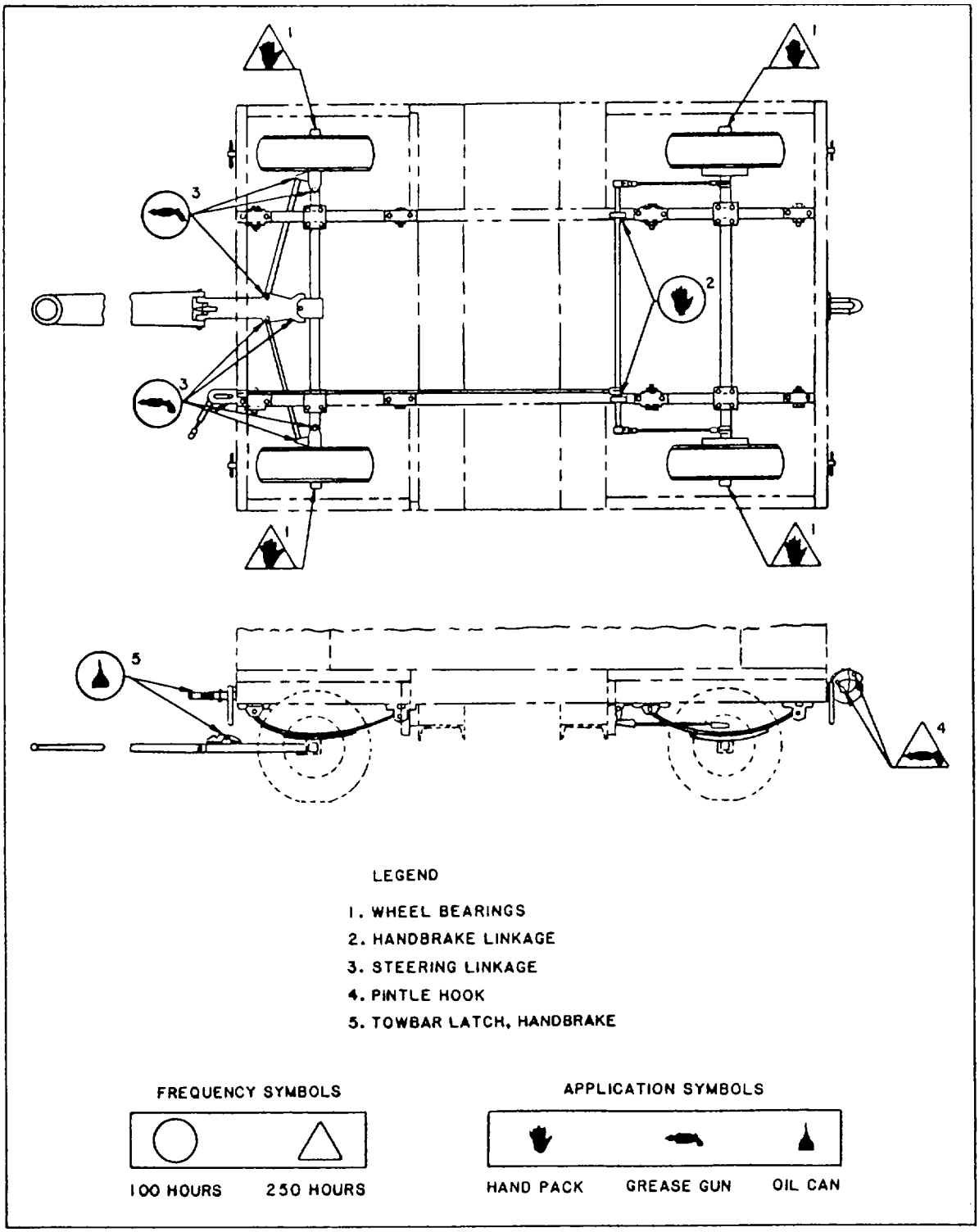


FIGURE 3-1. LUBRICATION DIAGRAM

TABLE 3-2. TABLE OF LUBRICANTS

Component	Lubricant Specification	Lubrication Point and Method of Application
Trailer Wheels	MILG-10924 or Equivalent	Pack Wheel Bearings.
Wheel Spindles	MILG-10924 or Equivalent	Apply to lube fittings on spindles, tie rod ends and steering assembly with grease gun (Figure 3-1).
Housing Doors and Latches	VV-L-800 or Equivalent	Apply several drops to hinges and fasteners (Figure 3-1).
Brake Linkage	VV-L-800	Apply several drops to lever ratchet and pivot (Figure 3-1).
Fill Pump Motor		Equipped with sealed-for life bearings; require no lubrication.

SECTION IV. TROUBLESHOOTING

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

Table 3-3. Troubleshooting Chart

MALFUNCTION	INSPECT	CORRECTIVE ACTION
Failure of high pressure pump	Low fluid content in test stand or aircraft reservoirs	Refill reservoirs to specified level.
Note: Low boost pressure will shut down test stand	Air leak in boost pump intake line	Check and tighten all fittings.
	Boost pump not primed	Bleed air thoroughly from cooler and filters.
	Mechanical failure of pump	Replace pump. See Para. 3-64.
	Shaft seal leakage of pump	Replace pump. See Para. 3-64.
Pump fails to deliver sufficient volume	Incorrect operating procedures	Check correct operating procedure. See Chapter 2. Also check volume control. See Para. 3-68.
	Pump seizure due to lack of fluid supply	Maintain adequate supply of hydraulic fluid in test stand or aircraft reservoirs. Replace pump. See Para. 3-64.
	Defective high pressure relief valve	Remove and service or replace. See Para. 3-71, 3-72, 3-73 and Figure C-14.
Pump fails to compensate	Incorrect operating procedure	Check correct operating procedure. See Chapter 2.
	Compensator assembly inoperative	Disassemble compensator assembly; check parts; clean and reassemble. See Para. 3-68, 3-69 and 3-70.

Table 3-3. Troubleshooting Chart (cont.)

MALFUNCTION	INSPECT	CORRECTIVE ACTION
Test stand fails to develop sufficient pressure	High pressure relief valve sticking or scored	Disassemble high pressure relief valve and check for scoring, dirt or gum which may cause sticking. Clean valve parts thoroughly with solvent and re-assemble. If inoperative upon reassembly, replace valve. See Para. 3-71, 3-72, 3-73 and Figure C-14.
System pressure too high	Compensator control improperly adjusted	Adjust compensator to correct setting for air-craft system specified. Check operating procedures in Chapter 2.
	High pressure relief valve spool remaining inoperative	Disassemble relief valve and check freedom of spool. If not operative, replace valve. See Para. 3-71, 3-72, 3-73 and Figure C-14.
High pressure relief valve chattering	Relief valve cone not seated properly due to dirt or foreign matter lodged between cone and seat	Disassemble relief valve and check both control cone and seat for presence of dirt, gum or foreign matter. Clean thoroughly and reassemble. If chat-tering persists, replace valve. See Para. 3-72, 3-73 and Figure C-14.
Oil cooler inoperative	Fan blade loose on shaft	Tighten blade.
	Foreign material blocking fan rotation	Clear foreign material from cabinet.
	Defective cooler fan motor	Replace cooler fan motor.
	Defective circuit breaker	Replace circuit breaker. See Figure C-7, Item 6.
	Overload heater activated	Reset or replace heater as necessary. See Figure C-7, Item 22.

Table 3-3. Troubleshooting Chart (cont.)

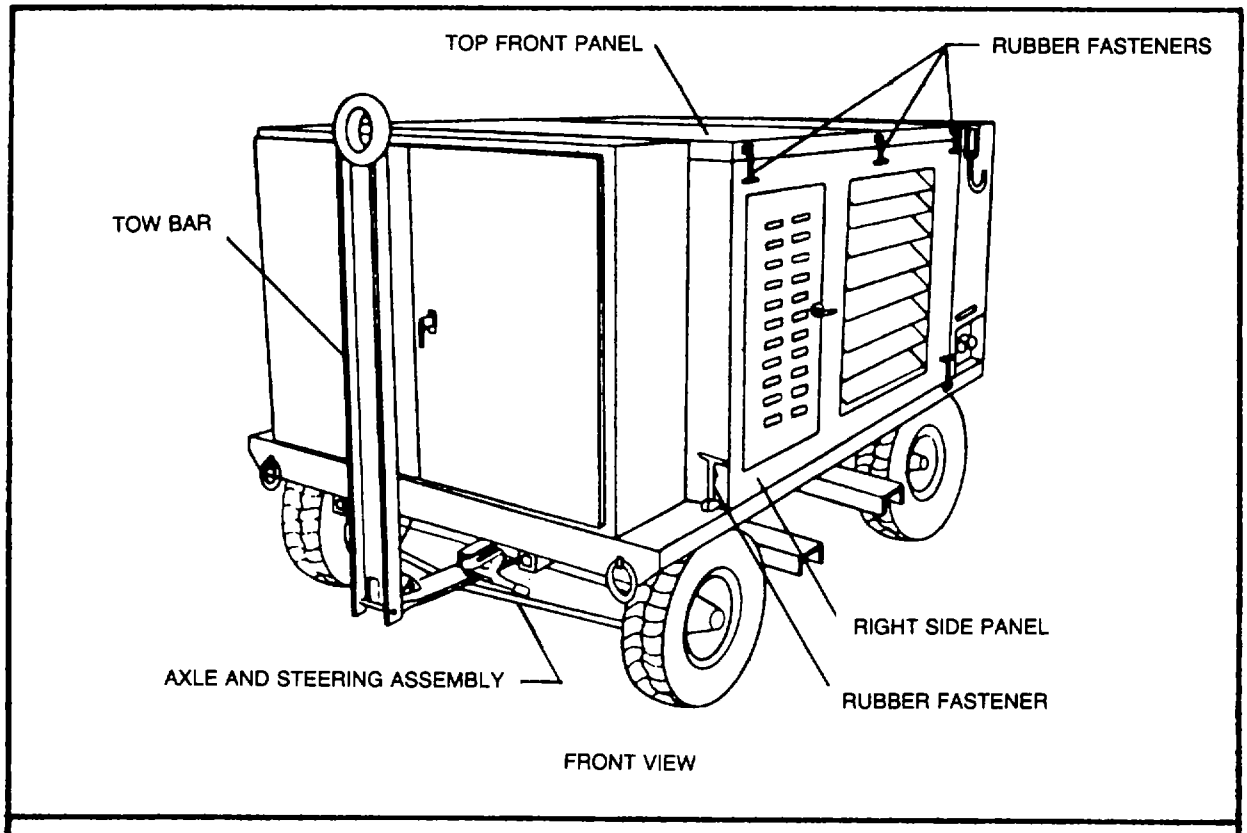
MALFUNCTION	INSPECT	CORRECTIVE ACTION
Oil cooler inoperative (cont.)	Defective cooler	Repair or replace. See Para. 3-66 and 3-67.
Hydraulic pump motor inoperative	Defective circuit breaker	Replace faulty circuit breaker.
	Overload activated (will shutdown test stand)	Reset or replace overload as necessary. Check motor for cause of fault. Remove per Para. 3-55 and replace if necessary.
Fill pump motor inoperative	Defective circuit breaker	Replace faulty circuit breaker.
	Overload activated	Reset or replace overload as necessary. Check motor for cause of fault. Remove per Para. 3-55 and replace if necessary.
Control circuit inoperative	Fuse (1FU blown)	Replace fuse. Figure C-7, Item 9. Check for cause of overload. Repair fault.
	Improper phase sequence	Reverse any two input leads.
Indicator lights do not illuminate	Fuse (2FU) blown	Replace fuse. Figure C-7, Item 25. Check light sockets and wiring for shorts.
	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) and wiring diagrams (Figure 1-5).
	Improper connections	Check electrical connections for 220 or 440 volt input. See Figure 1-6.

SECTION V. MAINTENANCE PROCEDURES

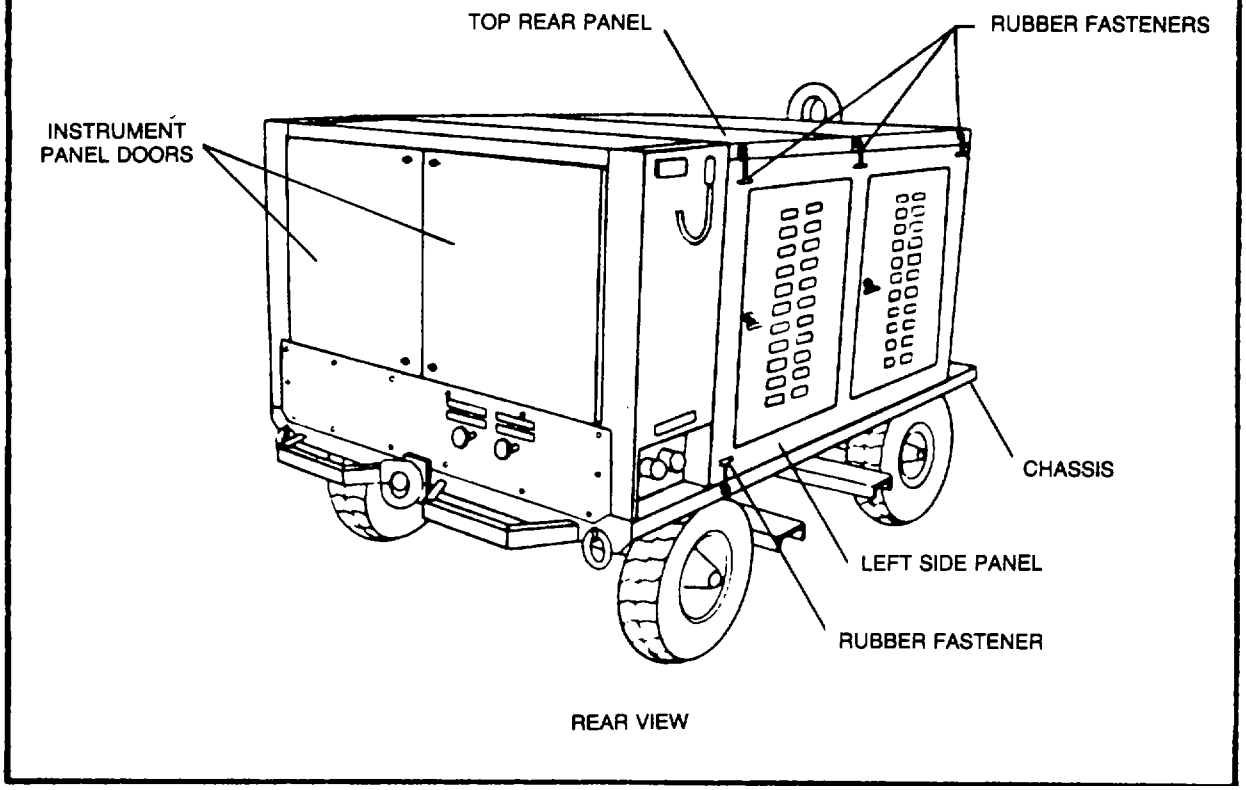
3-14. Maintenance of significant components. For maintenance procedures, the trailer will be divided into the assemblies listed below.

Assembly	Includes	Refer to Paragraph
Cabinet	Doors, Catches, Panels	3-14
Chassis	Axle and steering assembly tie rods and ends, springs, wheels, hub and bearings, brake assembly, tires and tubes, tow bar.	3-20
Electrical System	Motors, switches, and circuit breakers, wiring and cables, fuses.	3-50
Hydraulic System	Pumps, cooler, compensator control, volume control, valves, fluid reservoir, filter assemblies, lines, tubing, fittings, hose assemblies, manifolds, pressure gages.	3-62
Instrument Panel	Control knobs, panel assembly instruments.	3-87

3-14. Maintenance of significant components (cont.)



FRONT VIEW



REAR VIEW

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. Perform task 1, then perform task 2 and 3 as needed.	3-16
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.

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 68

Reference Information:
Para. 3-14 Illustration

REPAIR (AVIM)

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

2. Replace rubber fasteners if worn or damaged.

END OF TASK

3-18. Cabinet assembly - Replace 3-18

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:
Para. 3-14 Illustration

REMOVAL

1. Lift rubber fasteners off of catches.
2. Remove top rear panel first.
3. Remove top front panel.
4. Lift and pull out left and right side panels.
5. Remove snap ring, pin and rubber fastener.

GO TO NEXT PAGE

INSTALLATION

1. Install rubber fasteners with pin and snap ring.
2. Align left and right side panels with alignment pins in chassis and set in place.
3. Install top front panel.
4. Install top rear panel.
5. Lift and engage fasteners into place.

END OF TASK

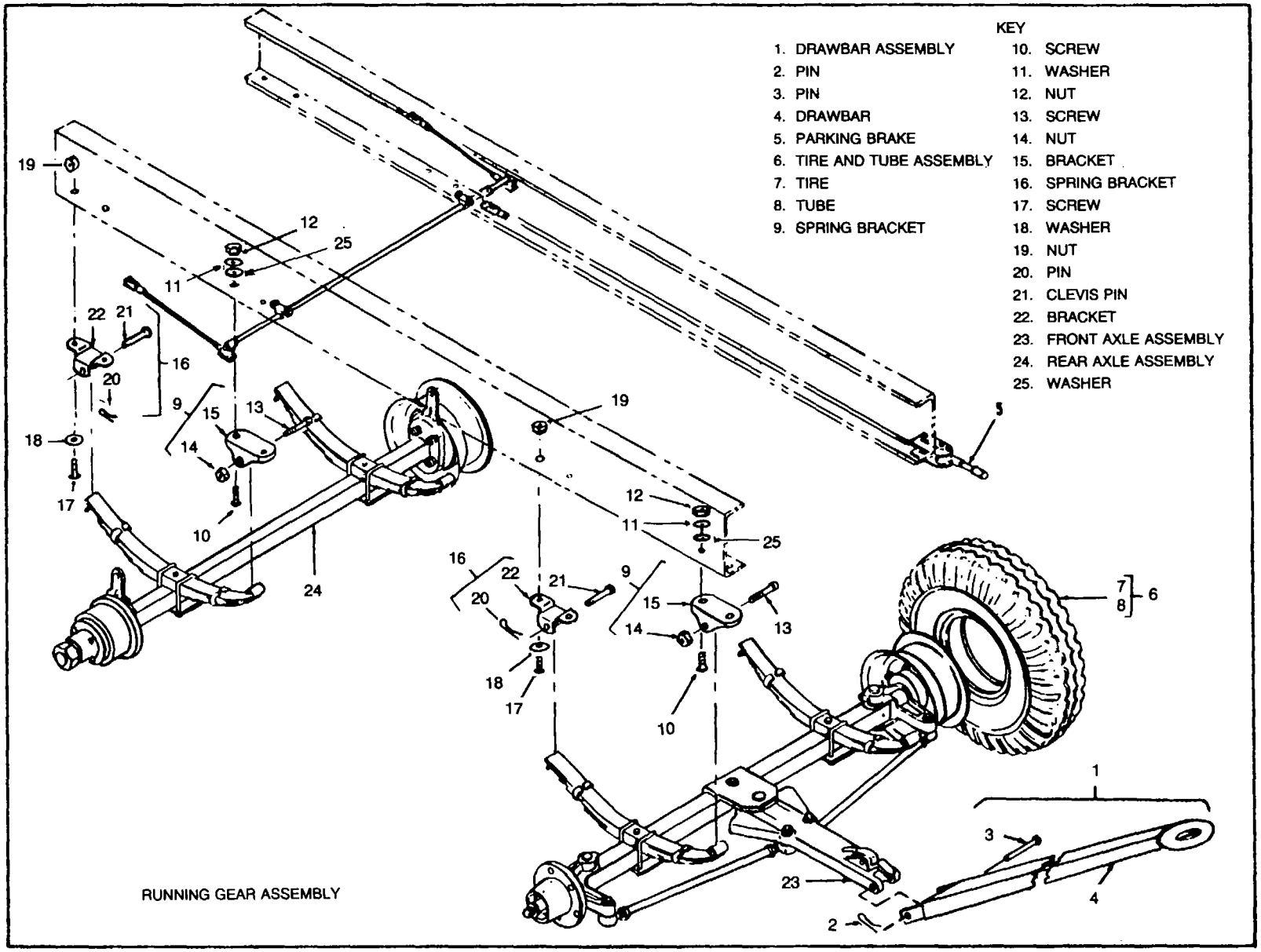
3-20. Summary of chassis maintenance. Maintenance tasks are listed below with information necessary to locate detailed procedures.

Task Number	Task	Refer to Paragraph
1	Inspect axle and steering assembly. Perform task 1, then perform task 2, 3 and 4 as needed.	3-21
2.	Service axle and steering assembly.	3-22
3.	Repair axle and steering assembly.	3-23
4.	Replace axle and steering assembly.	3-24
5.	Inspect tie rods and ends. Perform task 5, then perform task 6 and 7 as needed.	3-26
6.	Service tie rod ends.	3-27
7.	Replace tie rod ends.	3-28
8.	Inspect springs. Perform task 8, then perform 9 and 10 as needed.	3-29
9.	Service springs.	3-30
10.	Replace springs.	3-31
11.	Inspect wheels. Perform task 11, then perform task 12 and 13 as needed.	3-32
12.	Service wheels.	3-33
13.	Replace wheels.	3-34
14.	Inspect hub and bearings Perform task 14, then perform task 15 and 16 as needed.	3-35
15.	Service hub and bearings.	3-36
16.	Replace hub and bearings.	3-37

3-20. Summary of chassis maintenance (cont.)

Task Number	Task	Refer to Paragraph
17.	Inspect brake assembly. Perform task 17, then perform task 18, 19 and 20 as needed.	3-38
18.	Service brake assembly.	3-39
19.	Adjust brake assembly.	3-40
20.	Replace brake assembly.	3-41
21.	Inspect tire and tube. Perform task 21, then perform task 22, 23 and 24 as needed.	3-42
22.	Service tire and tube.	3-43
23.	Repair tire and tube.	3-44
24.	Replace tire and tube.	3-45
25.	Inspect tow bar assembly. Perform task 25, then perform task 26, 27 and 28 as needed.	3-46
26.	Service tow bar assembly.	3-47
27.	Repair tow bar assembly.	3-48
28.	Replace tow bar assembly.	3-49

3-20. Summary of chassis maintenance (cont.)



3-21. Axle and steering assembly - Inspect 3-21

This task covers:

Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION

1. Check axles and steering assembly for bends or distortion.
2. Check axles 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

3-22. Axle and steering assembly - Service 3-22

This task covers:

Service

INITIAL SETUP

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

Material:
Grease - MIL-G-10924

Personnel Required:
MOS 67

SERVICE

1. Apply MIL-G-10924 grease to lube fittings on steering assembly with grease gun as indicated in figure 3-1.

2. Tighten loose hardware and replace missing hardware as required.

END OF TASK

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

This task covers:
Repair

INITIAL SETUP

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

Personnel Required:
MOS 68

Reference Information:
FM55-63

Equipment Condition:
Para. 3-23 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.

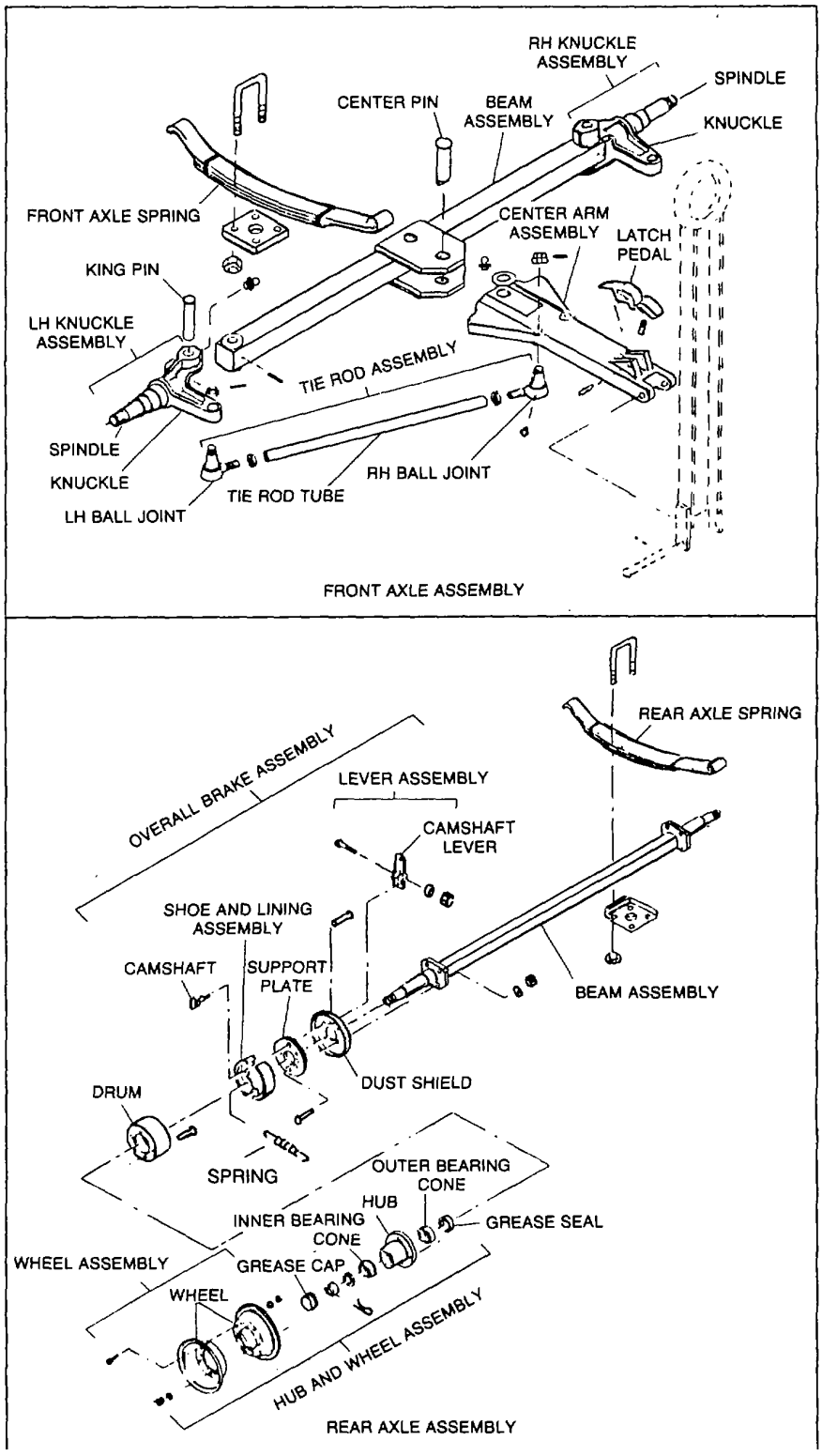
General Safety:
Refer to Para. 7-70, TM55-1500-204-25/1 for welding safety.

REPAIR (AVIM)

1. Welding. Welding to repair cracks is to be done in accordance with FM55-63, fundamentals of airframe maintenance.

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

GO TO NEXT PAGE


RH KNUCKLE ASSEMBLY
SPINDLE
CENTER PIN
BEAM ASSEMBLY
KNUCKLE
FRONT AXLE SPRING
CENTER ARM ASSEMBLY
LATCH PEDAL
KING PIN
LH KNUCKLE ASSEMBLY
TIE ROD ASSEMBLY
SPINDLE
KNUCKLE
RH BALL JOINT
TIE ROD TUBE
LH BALL JOINT
FRONT AXLE ASSEMBLY
REAR AXLE SPRING
OVERALL BRAKE ASSEMBLY
LEVER ASSEMBLY
CAMSHAFT LEVER
SHOE AND LINING ASSEMBLY
CAMSHAFT
SUPPORT PLATE
BEAM ASSEMBLY
DUST SHIELD
DRUM
SPRING
OUTER BEARING CONE
HUB
INNER BEARING CONE
GREASE SEAL
WHEEL ASSEMBLY
GREASE CAP
WHEEL
HUB AND WHEEL ASSEMBLY
REAR AXLE ASSEMBLY

END OF TASK

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

This task covers:

Removal and Installation

INITIAL SETUP

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

Personnel Required:
MOS 67

REMOVAL

1. Chock wheels.
2. Jack up trailer with jack stand so tires have a 1/2 inch clearance from the ground.
3. On the rear axle, disconnect the two short brake rods, one to each wheel.
4. Install two small jacks under front axle and two small jacks under rear axle.
5. Remove nuts, U bolts and plate connecting the axles to the springs, then lower the axles with the small jacks.
6. Remove small jacks.
7. Pull the rear axle out of the rear of the test stand and the front axle out of the front of the test stand.

GO TO NEXT PAGE

3-24. Axles and steering assembly - Replace (cont.) **3-24**

INSTALLATION

1. Install front and rear axles separately.
2. Place two small jacks under each axle.
3. Attach axles to spring assemblies with U bolts, nuts and plate.
4. Remove small jacks from under the axles.
5. Connect the brake rods to the rear wheels.
6. Lower trailer so tires rest on the ground and remove jack stands and chocks.

END OF TASK

3-25. Axle and steering assemblies - Repair 3-25

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. 3-24 Axle and steering assembly removed.

DISASSEMBLY (AVIM)

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

REASSEMBLY (AVIM)

Refer to the illustrations of the running gear, front and rear axle and reassemble to the extent of disassembly.

END OF TASK

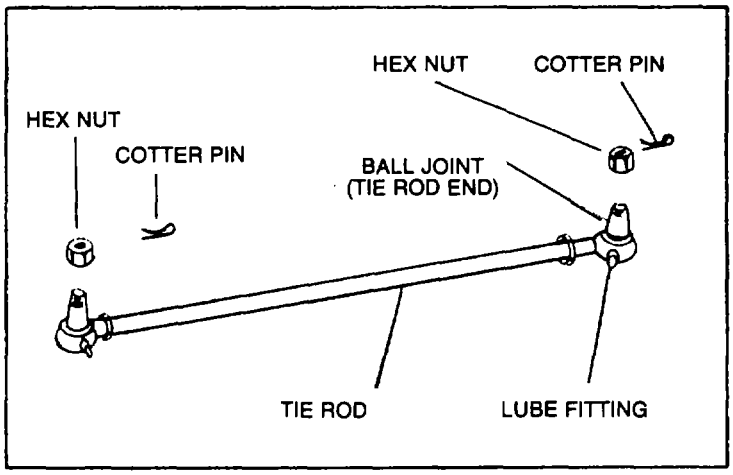
3-26. Tie rods and ends - Inspect **3-26**

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

3-27. Tie rods and ends - Service **3-27**

This task covers: Service

INITIAL SETUP

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

Material:
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

3-28. Tie rod and ends - Replace 3-28

This task covers: **Removal and Installation**

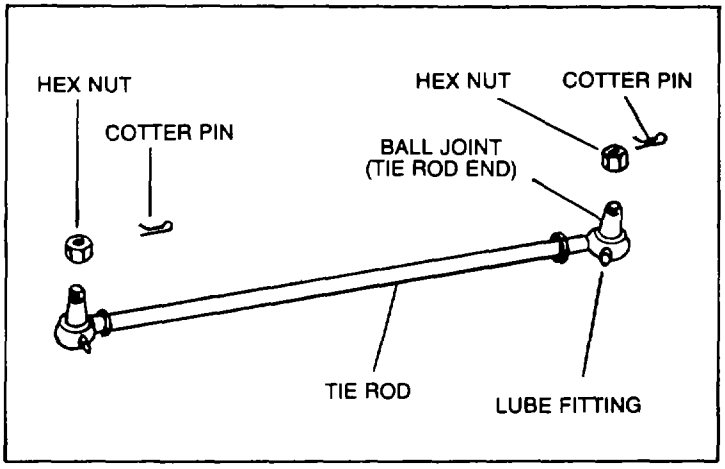
INITIAL SETUP

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

Personnel Required:
MOS 67

Parts Required:
Cotter Pins

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.

GO TO NEXT PAGE

3-28. Tie rod and ends - Replace (cont.) **3-28**

INITIAL SETUP

1. Position one end of the tie rod assembly through hole in axle knuckle and the other end through hole in tongue assembly.

2. Install tie rod assembly from the bottom as depicted above.

3. Install two slotted bolts on tie rod ends. Thread the nuts on the bolts far enough to install new cotter pins through slots in nuts into the hole in the bolts.

4. Bend the open end of the cotter pins to secure in place.

END OF TASK

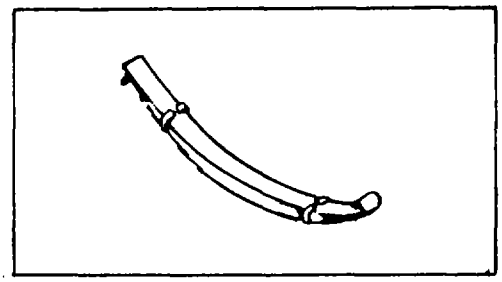
3-29. Springs - Inspect **3-29**

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

3-30. Springs - Service **3-30**

This task covers: Service

INITIAL SETUP

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

Personnel Required:
MOS 67

SERVICE

1. Replace missing or broken parts
2. Tighten loose hardware.

END OF TASK

3-31. Springs - Replace 3-31

This task covers: **Removal and Installation**

INITIAL SETUP

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

Personnel Required:
MOS 67

Parts Required:
Cotter Pins

Equipment Condition:
Para. 3-24 Axles and steering assembly removed.

REMOVAL

1. Remove straight pin and cotter pin from rear end of spring and lower this end of spring.
2. Remove nut and bolt connecting the front end of the spring to the shackles.

INSTALLATION

1. Install front end of spring by aligning hole in spring with holes in shackle and installing bolt and nut.
2. Lift rear end of spring into position and install straight pin and new cotter pin. Bend open end of cotter pin to secure.

END OF TASK

3-32. Wheel assembly - Inspect 3-32

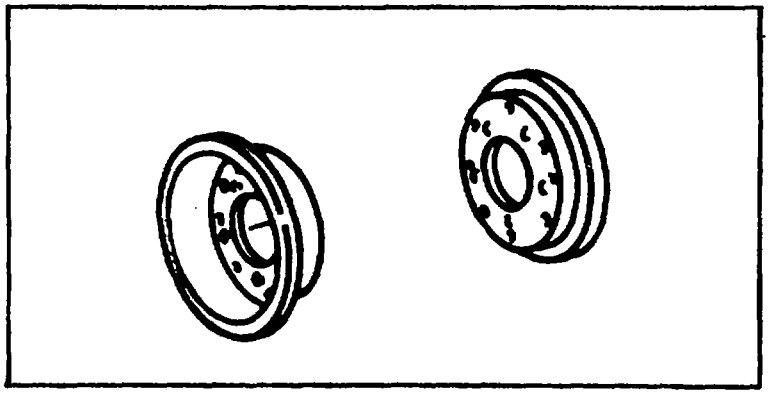
This task covers: **Inspection**

INITIAL SETUP

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-34 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

3-33. Wheel assembly - Service 3-33

This task covers: Service

INITIAL SETUP

Tools:
Shop Set, AVUM, Tool Crib NSN 4920-00-567-0476
Tool Kit, Aircraft Mechanics General NSN 5180-00-323-4692

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-34 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

3-34. Wheel assembly - Replace 3-34

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

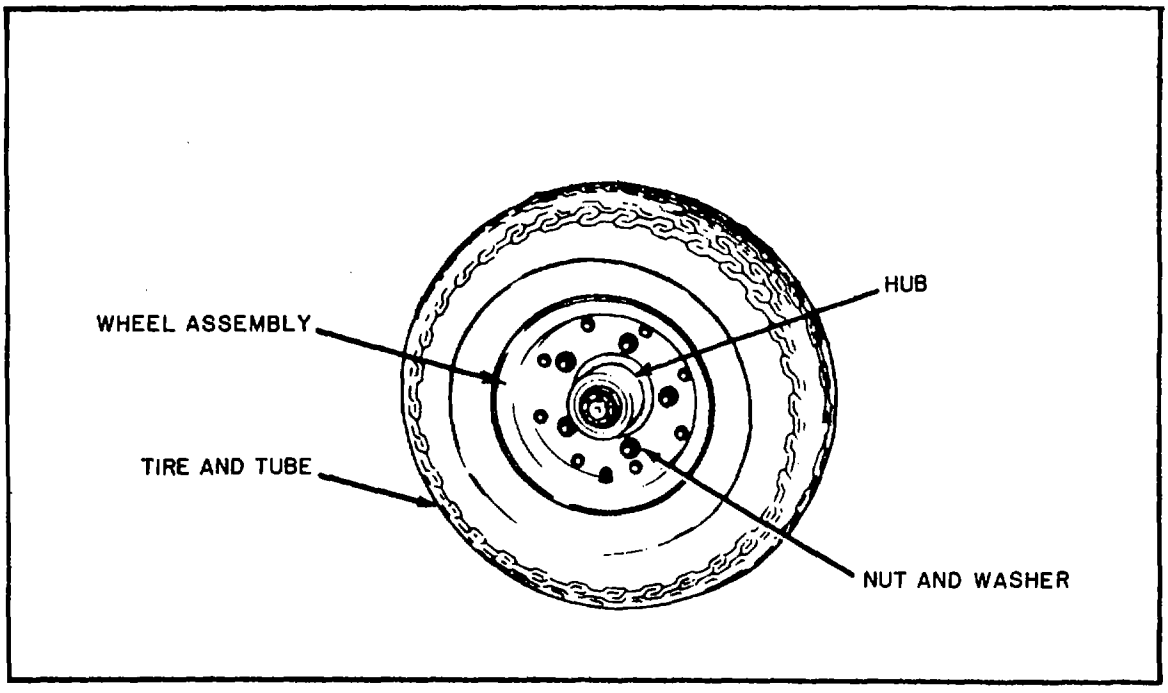
INITIAL SETUP

Tools:
Tool set, AVUM, 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. Remove five nuts with washers securing rim assembly, tire and tube to hub.
2. Remove rim assembly, tire and tube from hub.



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3-34. Wheel assembly - Replace (cont.) **3-34**

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. Tighten nuts to a torque of 540 in-lbs.

GO TO NEXT PAGE

3-34. Wheel assembly - Replace (cont.) **3-34**

DISASSEMBLY (Wheel Assembly Removed from Hub)

WARNING

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

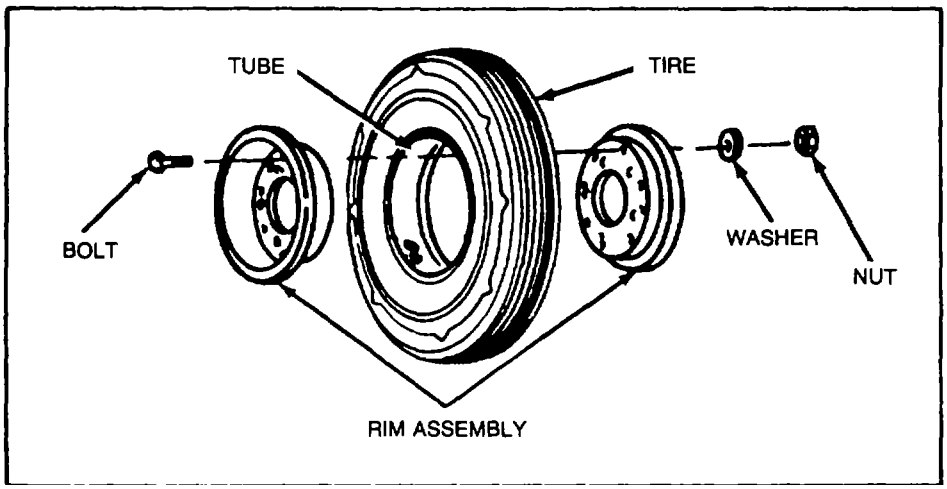
1. Depress valve in valve stem to allow air to be released from tube.

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.

GO TO NEXT PAGE

3-34. Wheel assembly - Replace (cont.) **3-34**



REASSEMBLY

1. Position both halves of rim assembly on the tire and tube. Aline 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 19 ft-lbs.

3. Inflate tire and tube to 65 psi.

END OF TASK

3-35. Hub and bearings - Inspect 3-35

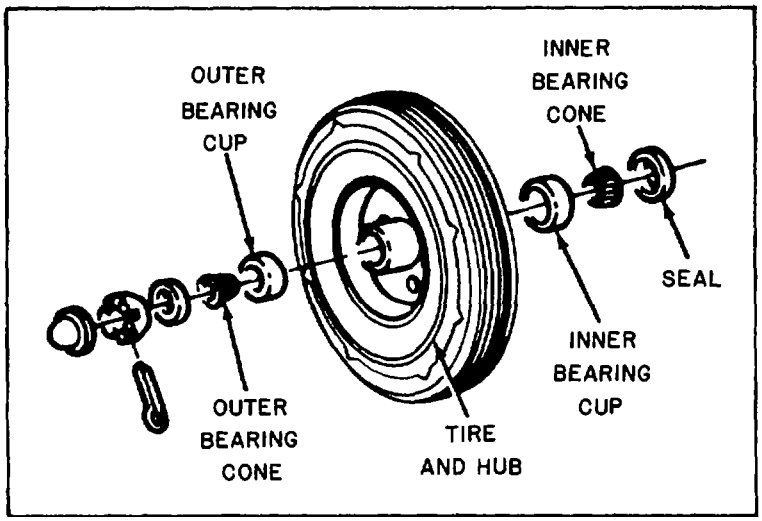
This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67

Equipment Condition Prior to Step 3:
Para. 3-37 Hub and bearings removed.

INSPECTION



1. Check wheel for any sideways movement of bearings. Note that wheel is to be raised off the ground to complete this task.

2. Check bearings for excessive noise when wheel is rotated.

3. Check hub and bearings for worn or damaged parts.

END OF TASK

3-36. Hub and bearings - Service 3-36

This task covers: Service (AVIM)

INITIAL SETUP

Tools:
Shop Set, AVUM, Tool Crib NSN 4920-00-567-0476
Tool Kit, Aircraft Mechanics General NSN 5180-00-323-4692

Material:
Grease - MIL-G-10924
Dry Cleaning Solvent, Federal Specification PD-680

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-37 Bearings removed from hub.

SERVICE

WARNING

Kerosene (or dry cleaning solvent) is flammable and a skin irritant. Keep open flame away, avoid prolonged skin contact, and wash contacted skin areas.

1. Rinse bearings in kerosene or dry cleaning solvent to remove old grease. Remove bearings from kerosene or solvent and let, air dry.

2. Repack bearings with grease.

END OF TASK

3-37. Hub and bearings - Replace 3-37

This task covers: Removal and Installation

INITIAL SETUP

Tools:
Tool Kit, Aircraft Mechanics General NSN 5180-00-323-4692
Shop Set, AVUM, Tool Crib NSN 4920-00-567-0476

Personnel Required:
MOS 67

Parts Required:
Cotter pin
Seal

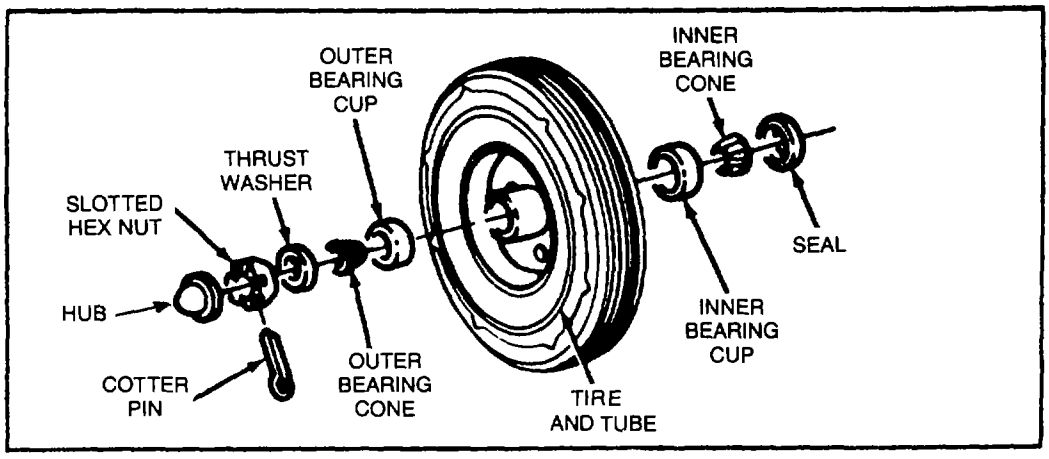
Equipment Condition:
Para. 3-36 Hub and bearing serviced.

GO TO NEXT PAGE

3-37. Hub and bearings - Replace (cont.) **3-37**

REMOVAL

1. Remove hub cap from hub.
2. Straighten the ends of the cotter pin and pull out of slotted hex nut.
3. Unthread slotted hex nut and remove thrust washer and other bearing.
4. Remove tire and hub from axle.
5. Remove inner grease seal and inner bearing cone from hub. Discard seal.
6. Drive inner and outer bearing cup from hub.



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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 drive new grease seal into hub making certain that seal does not become cocked in the hub.

3. Slide tire and hub 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 cotter pin and bend open end to keep it in place.

7. Install hub cap.

END OF TASK

3-38. Brake assembly - Inspect 3-38

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-37 Hub and bearings removed.

INSPECTION

1. Check brake lever assembly for proper adjustment.
2. Check brake drum and shoe assembly for wear.
3. Check brake drum and shoe assembly for evidence of grease.
4. Check brake assembly for loose missing or damaged parts.

END OF TASK

3-39. Brake assembly - Service **3-39**

This task covers: Service

INITIAL SETUP

Material Required:
Lubricating Oil MIL-L-15016A

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-37 Hub and bearings removed.

SERVICE

1. Apply lubricating oil to hand brake as indicated in figure 3-1 and table 3-2.
2. Clean grease from brake drum and shoe assembly.
3. Replace loose, missing, damaged or worn parts as indicated in para. 3-41.

END OF TASK

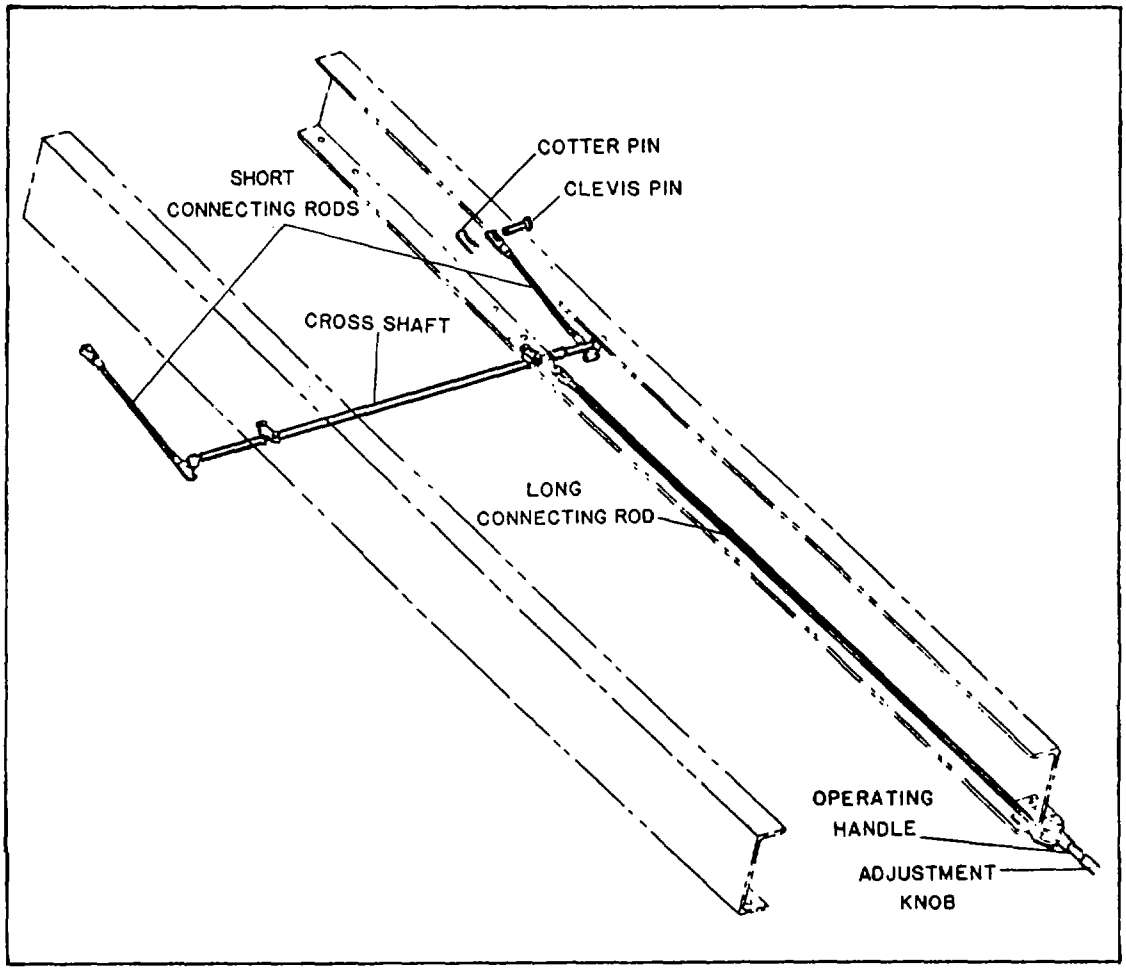
3-40. Brake assembly - Adjust **3-40**

This task covers: **Adjustment**

INITIAL SETUP

Personnel Required:
MOS 67

ADJUSTMENT



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3-40. Brake assembly - Adjust (cont.) **3-40**

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.

END OF TASK

3-41. Brake assembly - Replace **3-41**

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

REMOVAL

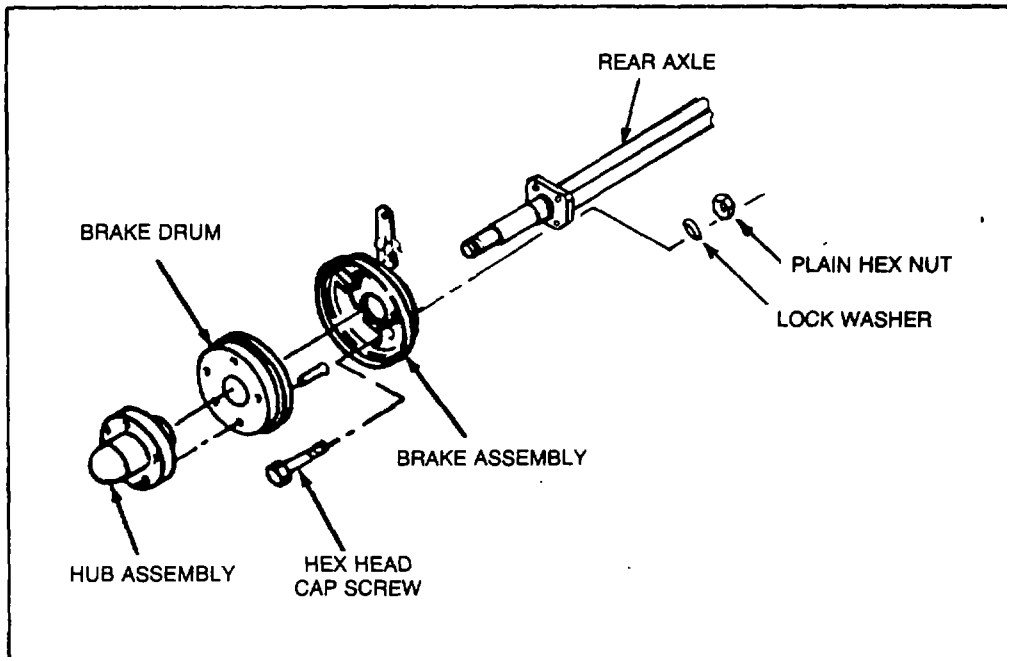
NOTE
Place the brake pedal in the off position to perform the following task.

1. Pull brake drum and hub assembly off the brake assembly.

2. Remove four hex head cap screws, lock washers and plain hex nuts securing the brake assembly to the rear axle. Remove brake assembly.

GO TO NEXT PAGE

REMOVAL (cont.)



END OF TASK

INSTALLATION

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

2. Install four hex head cap screws through the brake assembly and place a lock washer and a plain hex nut on each screw. Tighten nuts to a torque of 19 ft-lbs.

3. Position the brake drum and hub assembly on brake assembly after installing hub and bearings (refer to illustration above).

NOTE
Brake assembly is self adjusting.

GO TO NEXT PAGE

3-41. Brake assembly - Replace (cont.) **3-41**

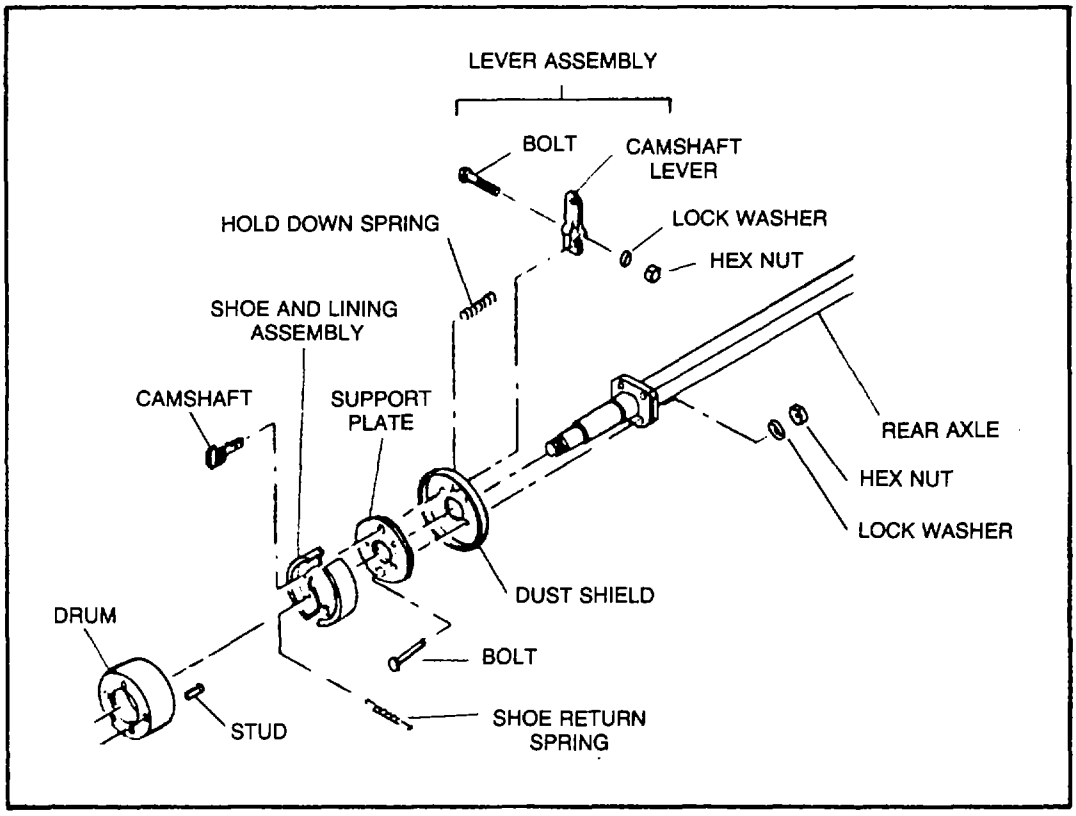
DISASSEMBLY (Hub removed from axle; brake assembly removed from axle)

1. Remove the shoe return spring and the two hold-down springs.
2. Remove the worn brake shoes.

GO TO NEXT PAGE

3-41. Brake assembly - Replace (cont.) **3-41**

DISASSEMBLY (cont.)



REASSEMBLY

1. Place new shoes on the support plate and secure with two hold-down springs.
2. Install the shoe return spring. Note that the brake is self-adjusting.

END OF TASK

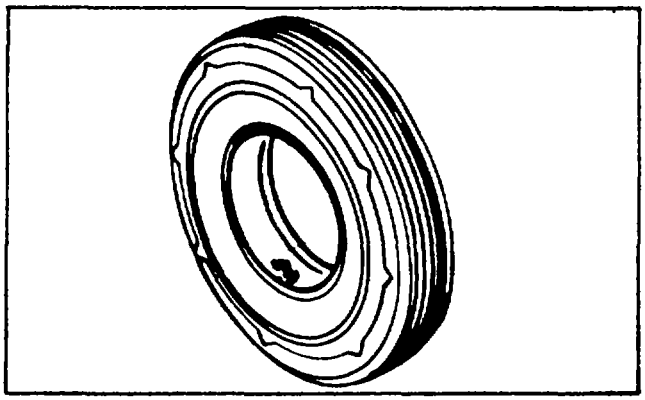
3-42. Tire and tube - Inspect **3-42**

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION



1. Check tire pressure on all four tires. They should all be 65 psi.
2. Check tire for cuts, defects, wear and leaks.
3. Check tire for any object imbedded in the treads.

END OF TASK

3-43. Tire and tube - Service **3-43**

This task covers: Service

INITIAL SETUP

Personnel Required:
MOS 67

SERVICE

Service of tire and tube is to be done in accordance with FM 55-63, Fundamentals of Airframe Maintenance.

END OF TASK

3-44. Tire and tube - Repair 3-44

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:
FM 55-63

Equipment Condition:
Para. 3-34 Wheel assembly removed from hub and tire and tube removed from rim assembly.

REPAIR

1. All tire and tube repair will be done in accordance with FM 55-63, Fundamentals of Airframe Maintenance.

2. Remove any objects imbedded in the threads.

END OF TASK

3-45. Tire and tube - Replace **3-45**

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. 3-34 Wheel assembly removed from hub and tire and tube removed from rim assembly.

REMOVAL AND INSTALLATION

Removal and installation of tire and tube is to be done in accordance with FM 55-63, Fundamentals of Airframe Maintenance.

END OF TASK

3-46. Towbar assembly-Inspect **3-46**

This task covers:

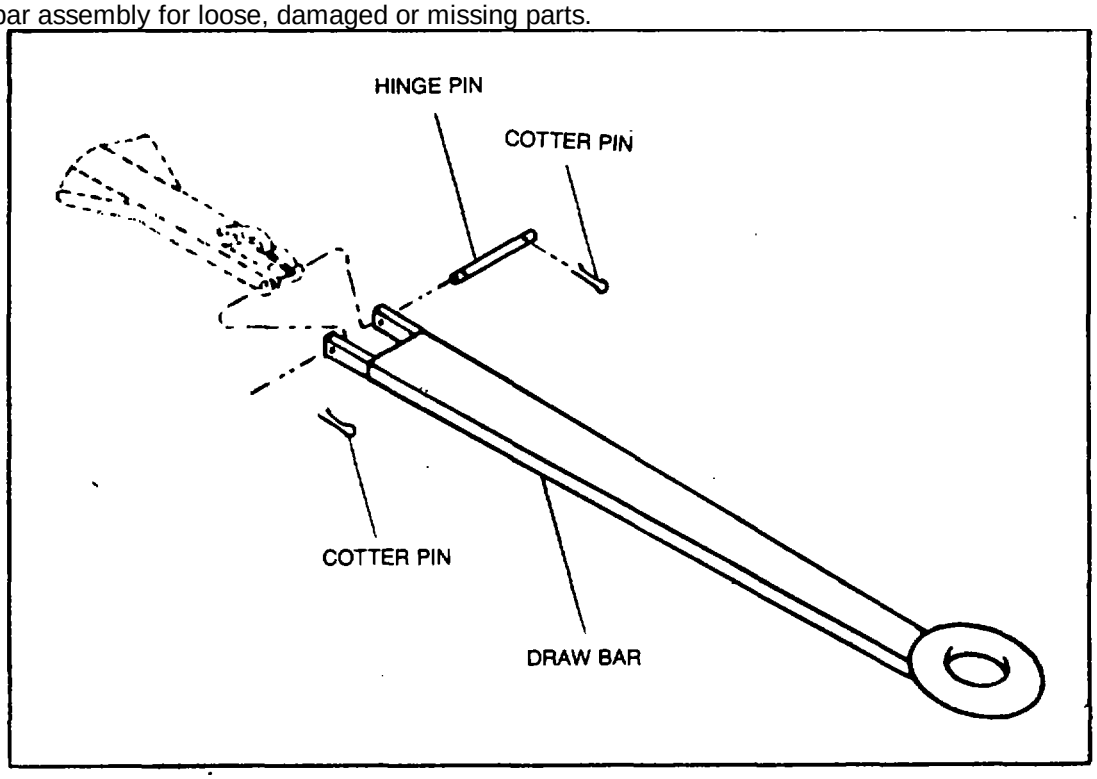
Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTON

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

3-47. Towbar assembly-Service **3-47**

This task covers:

Service

INITIAL SETUP

Personnel Required:
MOS 67

Material Required:
Lubricating Oil MIL-L-15016A

SERVICE

Oil towbar linkage and lock with lubricating oil MIL-L-15016A as depicted in figure 3-1 and table 3-2.

END OF TASK

3-48. Towbar assembly-Repair **3-48**

This task covers:

Repair (AVIM)

INITIAL SETUP

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

Personnel Required:
MOS 68

Reference Information:
FM 55-63

General Safety:
Refer to Para. 7-70, TM 55-1500-204-25/1
for welding safety.

REPAIR

1. Welding. Welding to repair cracks is to be done in accordance with FM 55-63, Fundamentals of Airframe Maintenance.

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

3. Tighten loose parts. Also replace missing, damaged, bent or distorted parts.

END OF TASK

3-49. Towbar assembly-Replace **3-49**

This task covers:

Removal and Installation

INITIAL SETUP

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

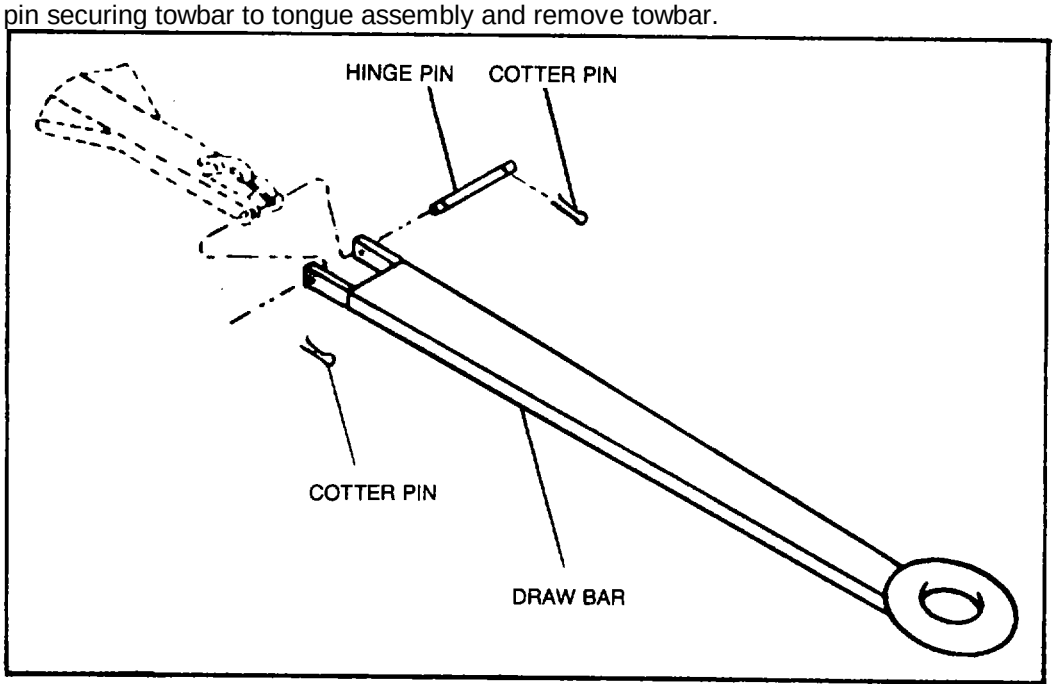
Personnel Required:
MOS 67

Parts Required:
Cotter Pin

REMOVAL

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

2. Remove hinge pin securing towbar to tongue assembly and remove towbar.



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INSTALLATION

1. Position towbar on tongue assembly and install hinge pin.

2. Install hinge pin and the new cotter pins in the holes of the pin. Bend the open end of the cotter pins to keep them in place.

END OF TASK

3-50. 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 and fill pump motor. Perform task 1, then task 2 as needed.	3-51
2	Replace main hydraulic pump motor and fill pump motor.	3-52
3	Inspect switches and circuit breakers. Perform task 3, then task 4 and 5 as needed.	3-53
4	Service switches and circuit breakers.	3-54
5	Replace switches and circuit breakers.	3-55
6	Inspect wiring and cables. Perform task 6, then task 7, 8 and 9.	3-56
7	Service wiring and cables.	3-57
8	Repair wiring and cables.	3-58
9	Replace wiring and cables.	3-59
10	Inspect fuses. Perform task 10, then task 11 as needed.	3-60
11	Replace fuses.	3-61

3-51. Main pump motor and fill pump motor-Inspect **3-51**

This task covers:

Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION

1. Check for electrical failure of main pump motor.
2. Check for electrical failure of fill pump motor.

END OF TASK

3-52. Main pump motor and fill pump motor-Replace

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. 3-18 top and side panels removed.

REMOVAL - MAIN PUMP MOTOR

1. Disconnect and remove tubing leading from reservoir to 4-way valve bottom connection to free area over top of motor.

2. Disconnect all tubing to main pump.

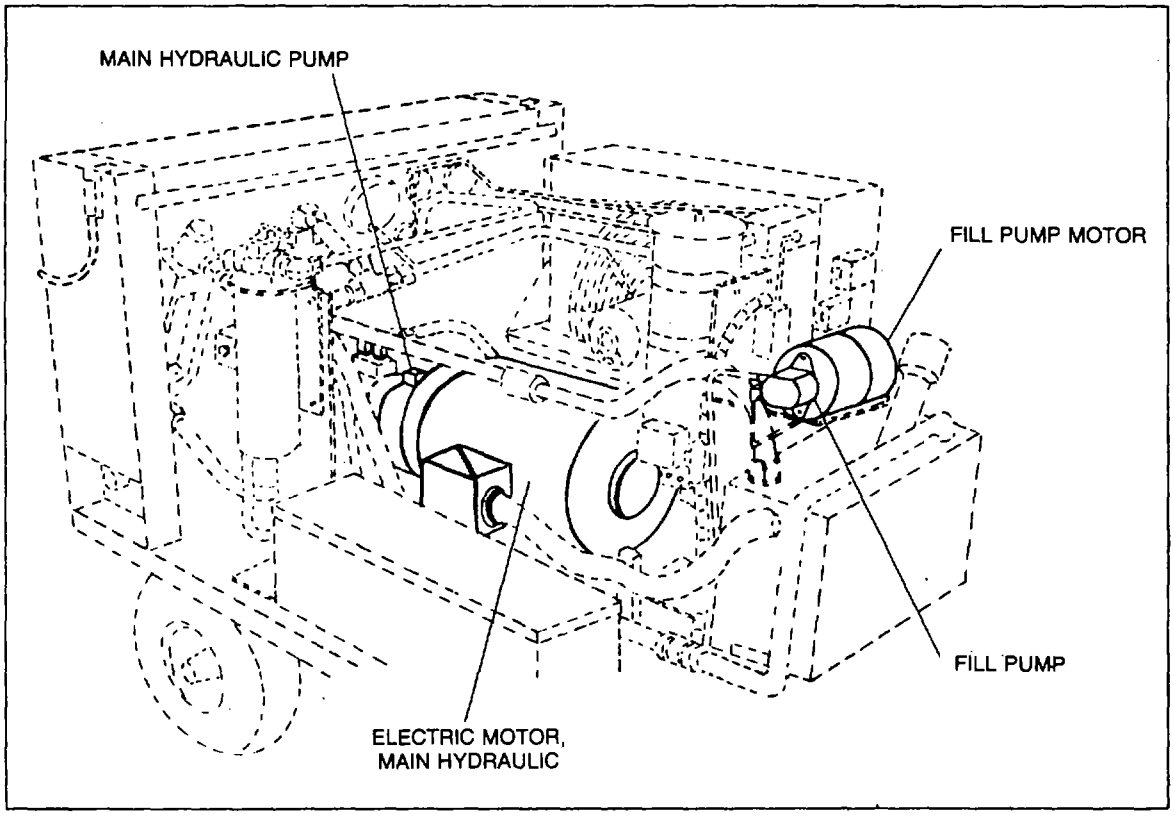
3. Disconnect volume and compensator control rods.

4. Disconnect conduit and electrical connections inside the motor connection box.

5. Attach suitable lifting device, remove four mounting nuts, washers and bolts and lift motor and pump assembly out through top of test stand.

GO TO NEXT PAGE

3-52. Main pump motor and fill pump motor-Replace (cont.) **3-52**



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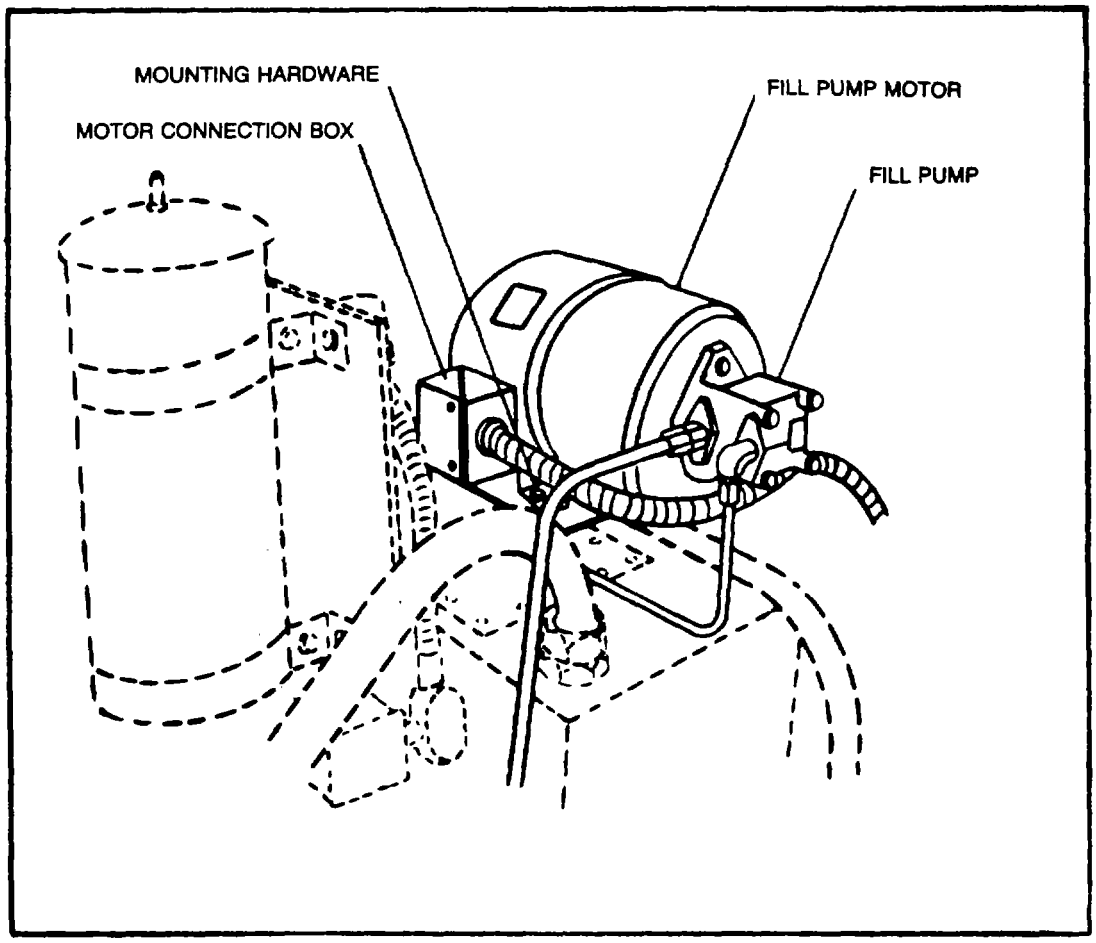
3-52. Main pump motor and fill pump motor-Replace (cont.) **3-52**

REMOVAL - FILL PUMP MOTOR

1. Disconnect all tubing and fluid lines to fill pump.
2. Disconnect conduit and wiring inside motor connection box.
3. Remove four mounting nuts, washers and bolts.
4. Lift fill pump and motor out of test stand.



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INSTALLATION - MAIN PUMP MOTOR

1. Lower main pump and motor assembly into the test stand using a suitable lifting device.
2. Install four mounting bolts, washers and nuts.
3. Connect conduit and wiring inside motor connection box.
4. Connect volume and compensator control rods.
5. Connect all tubing to main pump.
6. Connect tubing leading from reservoir to bottom of 4-way valve.

INSTALLATION - FILL PUMP MOTOR

1. Place pump and motor assembly in test stand.
2. Install four mounting bolts, washers and nuts.
3. Install conduit and wiring inside motor connection box.
4. Connect all tubing and fluid lines to fill pump.

END OF TASK

3-53. Switches, circuit breakers and lights-Inspect **3-53**

This task covers:

Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION

1. Check switches, circuit breakers and lights for physical damage.
2. Check mounting hardware for tightness.
3. Check switch, circuit breaker and light terminals to make sure wiring is secure.
4. Check for burned out light bulbs.

END OF TASK

3-54. Switches and circuit breakers-Service **3-54**

This task covers:

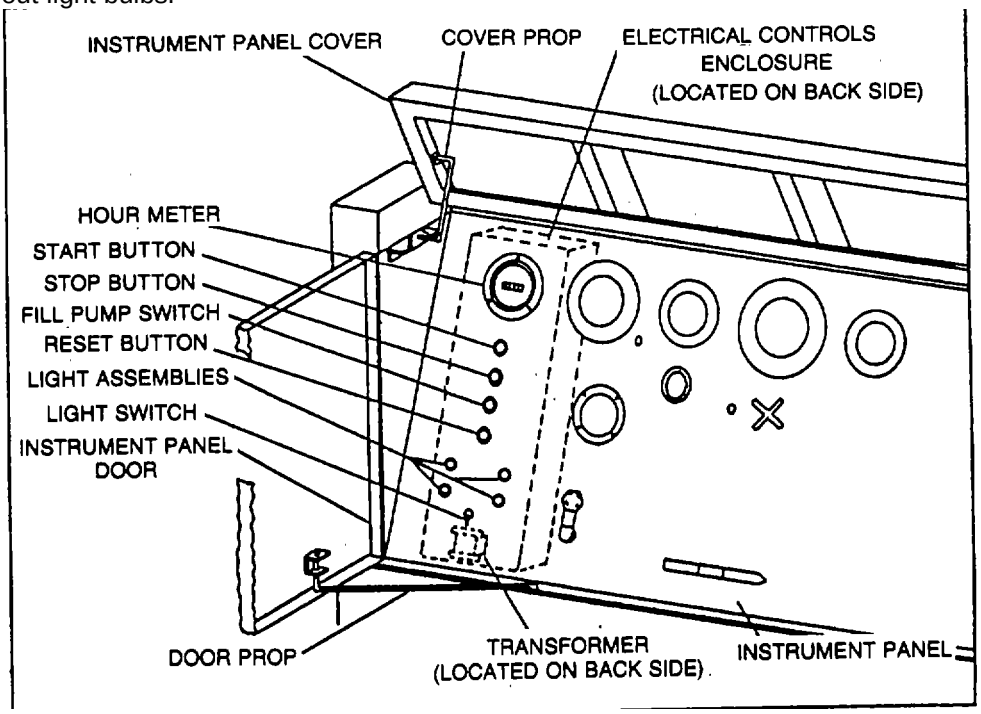
Service

INITIAL SETUP

Personnel Required:
MOS 67

SERVICE

1. Replace any damaged or malfunctioning switches and circuit breakers.
2. Tighten mounting hardware.
3. Tighten terminal screws.
4. Replace burned out light bulbs.



END OF TASK

3-55. Switches, circuit breakers and lights-Replace **3-55**

This task covers:

Removal and Installation

INITIAL SETUP

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

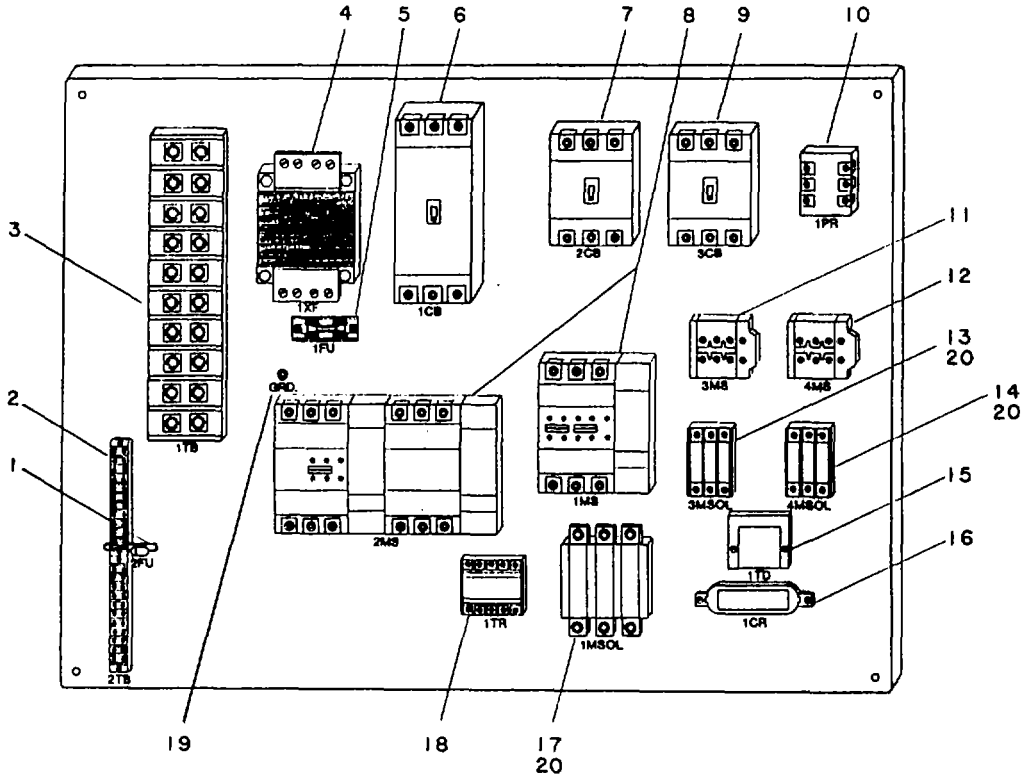
Personnel Required:
MOS 67

REMOVAL - SWITCHES AND LIGHTS

1. Open both instrument panel rear doors. Lift up the overhead instrument panel cover and secure props.
2. Remove cover behind left side of instrument panel.
3. Disconnect wiring from two switches, three pushbuttons, four lights, hourmeter and transformer.
4. Remove the two switches, three pushbuttons, four lights, hourmeter and transformer.

GO TO NEXT PAGE

3-55. Switches, circuit breakers and lights-Replace (cont.) 3-55



1. FUSE, TRANSFORMER (110-28V)
2. TERMINAL STRIP
3. TERMINAL BLOCK
4. TRANSFORMER (460/230-120V)
5. FUSE AND FUSE BLOCK, (460/230-120V) TRANSFORMER
6. CIRCUIT BREAKER, HP PUMP
7. CIRCUIT BREAKER, FILL PUMP MOTOR
8. MOTOR STARTER, HP PUMP
9. CIRCUIT BREAKER, FAN MOTOR
10. RELAY, PHASE SEQUENCE
11. STARTER, FILL PUMP MOTOR
12. STARTER, FAN MOTOR
13. OVERLOAD, FILL PUMP
14. OVERLOAD, FAN MOTOR
15. TIME CAPSULE
16. RELAY, CONTROL
17. OVERLOAD, HP PUMP
18. RELAY, TIMING
19. GROUND STUD ASSEMBLY
20. HEATERS

ELECTRICAL COMPONENTS PANEL

GO TO NEXT PAGE

REMOVAL - CIRCUIT BREAKERS AND OTHER ELECTRICAL COMPONENTS

1. Lower towbar and open both front doors

WARNING
Make sure electrical power to the test stand is shut off.

2. Disconnect wiring and remove mounting hardward from the item or items to be replaced.
3. Remove components from the panel to the extent necessary for maintenance or repair.

INSTALLATION - SWITCHES AND LIGHTS

1. Install transformer, hourmeter, four lights, three pushbuttons and two selector switches with mounting hardware.
2. Connect wiring using electrical wring diagram, figure 1-5 as a guide.
3. Install cover behind left side of instrument panel.
4. Disengage props, lower overhead cover and close doors.

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 as a guide.
3. Close doors, raise and secure towbar.

END OF TASK

3-56. Wiring and cables-Inspect **3-56**

This task covers:

Inspection

INITIAL SETUP

Personnel Required:
MOS 68

INSPECTION

1. Check wiring and cables for broken, loose or grounded wires and connections.

2. Check electrical circuits with electrical system schematic figure 1-3 and wiring diagram, figure 1-5 for proper connections.

END OF TASK

3-57. Wiring and cables-Service **3-57**

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

3-58. Wiring and cables-Repair (AVIM) **3-58**

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 68

REPAIR

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

END OF TASK

3-59. Wiring and cables-Replace (AVIM) **3-59**

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 Top and side panels removed.
Para. 3-55 Instrument panel doors open and cover propped up.
Para. 3-55 Electrical components panel doors open.

REMOVAL

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

INSTALLATION

Install new wires in the test stand in place of removed damaged wires and connect each end of the wire to its proper place. Use wiring diagram, figure 1-5 as a guide.

END OF TASK

3-60. Fuses-Inspect

This task covers:

Inspection

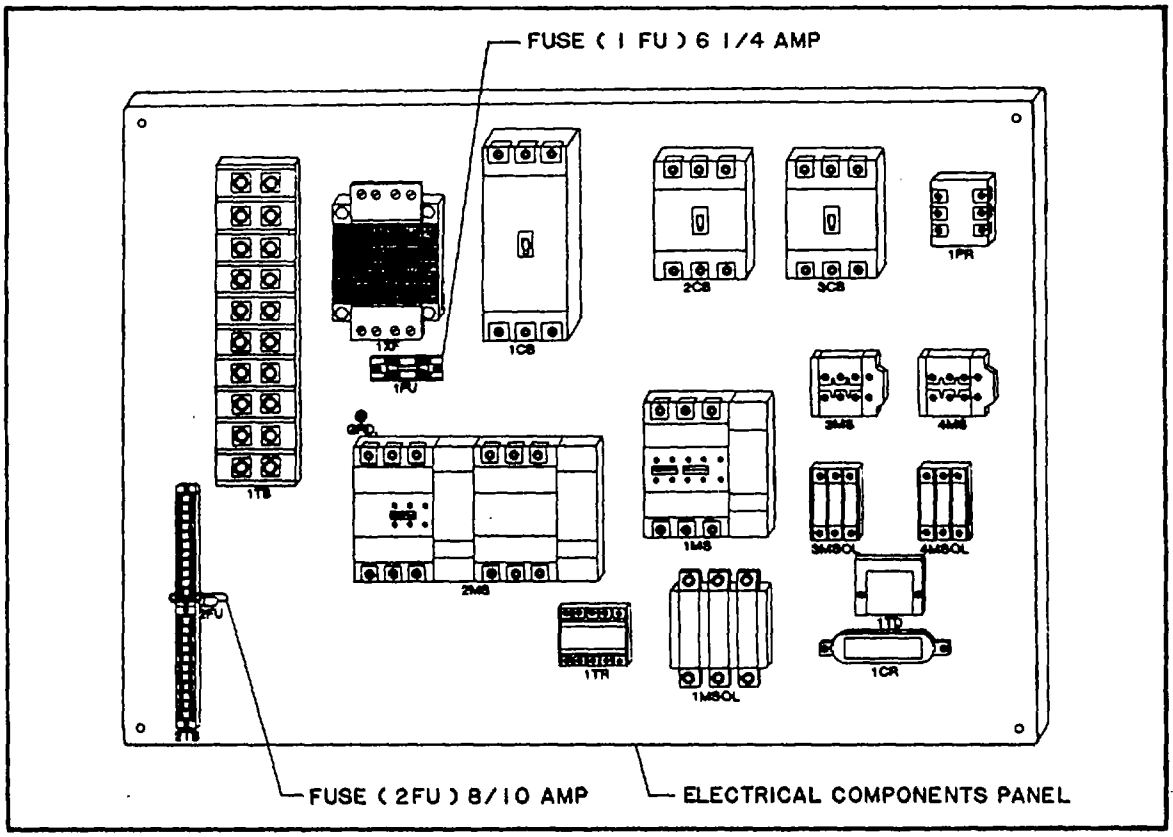
INITIAL SETUP

Personnel Required:
MOS 67

Equipment Required:
Continuity checker or ohmmeter

Equipment Condition:
Para. 3-56 Electrical components doors open.

INSPECTION



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INSPECTION (Cont.)

Check 1FU, six and one fourth ampere fuse and 2FU, eight-tenths ampere fuse with continuity checker or ohmmeter. A good fuse will show continuity or zero ohms.

END OF TASK

3-61. Fuses-Replace **3-61**

This task covers:

Removal and Installation

INITIAL SETUP

Personnel Required:
MOS 67

Parts Required:
Fuses

REMOVAL AND INSTALLATION

Remove fuse 1FU from its fuse holder or fuse 2FU from terminal strip 2TB as necessary and replace with new fuse(s).

END OF TASK

3-62. 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 pumps. Perform task 1, then task 2 as necessary.	3-63
2	Replace pumps.	3-64
3	Inspect cooler. Perform task 3, then tasks 4 and 5 as necessary.	3-65
4	Repair cooler.	3-66
5	Replace cooler.	3-67
6	Inspect compensator control and volume control. Perform task 6, then tasks 7 and 8 as necessary.	3-68
7	Service compensator control and volume control.	3-69
8	Replace compensator control and volume control.	3-70
9	Inspect valves. Perform task 9, then tasks 10 and 11 as necessary.	3-71
10	Repair valves.	3-72
11	Replace valves.	3-73
12	Inspect fluid reservoir. Perform task 12, then tasks 13 and 14 as necessary.	3-74
13	Repair fluid reservoir.	3-75
14	Replace fluid reservoir.	3-76

3-62. Summary of hydraulic system maintenance (cont.)

Task Number	Task	Refer to Paragraph
15	Inspect filter assemblies. Perform task 15, then tasks 16, 17 and 18 as necessary.	3-77
16	Service filter assemblies.	3-78
17	Test filter assemblies.	3-79
18	Replace filter assemblies.	3-80
19	Inspect hydraulic piping assembly. Perform task 19, then tasks 20, 21 and 22 as necessary.	3-81
20	Repair hydraulic piping assembly.	3-82
21	Replace hydraulic piping assembly.	3-83
22	Test hydraulic piping assembly.	3-84
23	Inspect pressure gages. Perform task 23, then task 24 as necessary.	3-85
24	Replace high pressure gages.	3-86

3-63. Pumps-Inspect **3-63**

This task covers:

Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION

1. Check performance of hydraulic pumps during normal operation of test stand.

2. Check for leaks, damage or loose connections at pump connection ports.

END OF TASK

3-64. Pumps-Replace **3-64**

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 Top and sides removed.

REMOVAL - MAIN PUMP

1. Disconnect all tubing and lines to and from the main pump assembly.
2. Disconnect balance control and compensator control at the pump.
3. Support main and boost pump assembly with sling of overhead lifting device.
4. Disconnect main pump from motor by removing twelve mounting bolts and washers.
5. Remove pump out of bottom of test stand.

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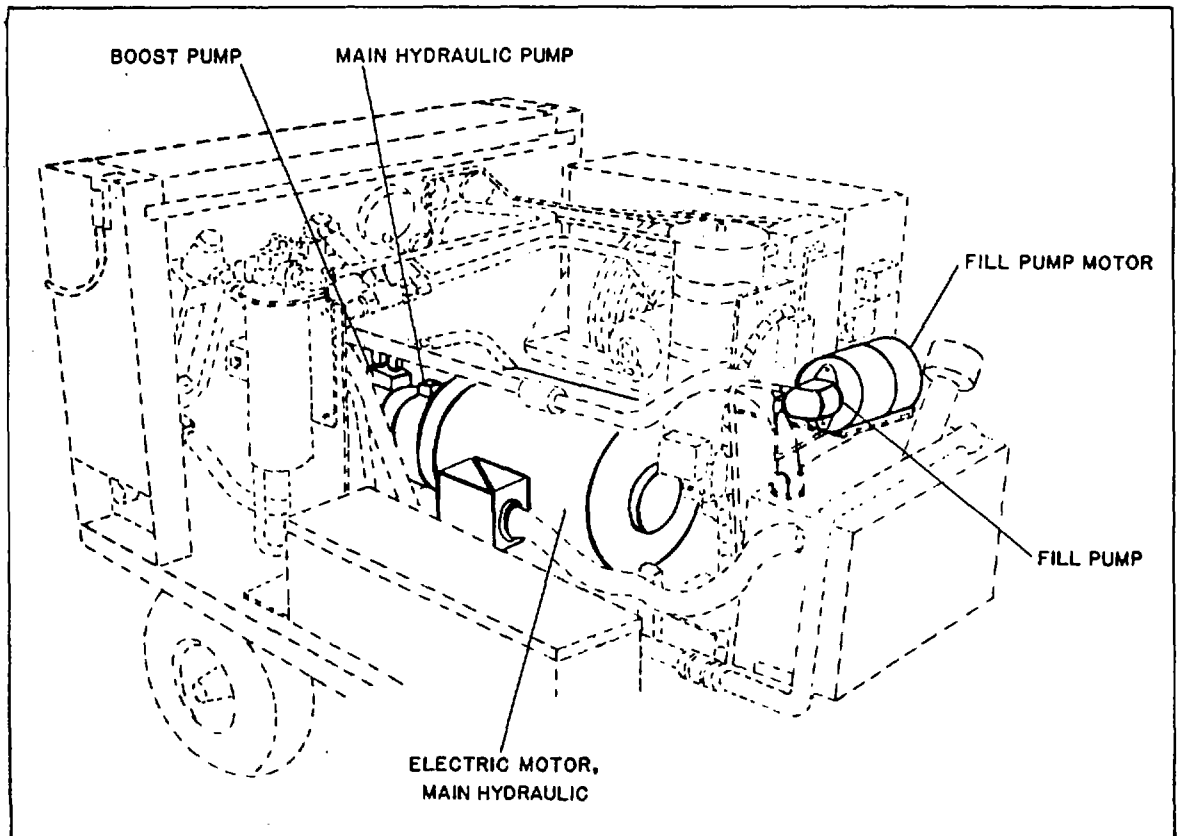

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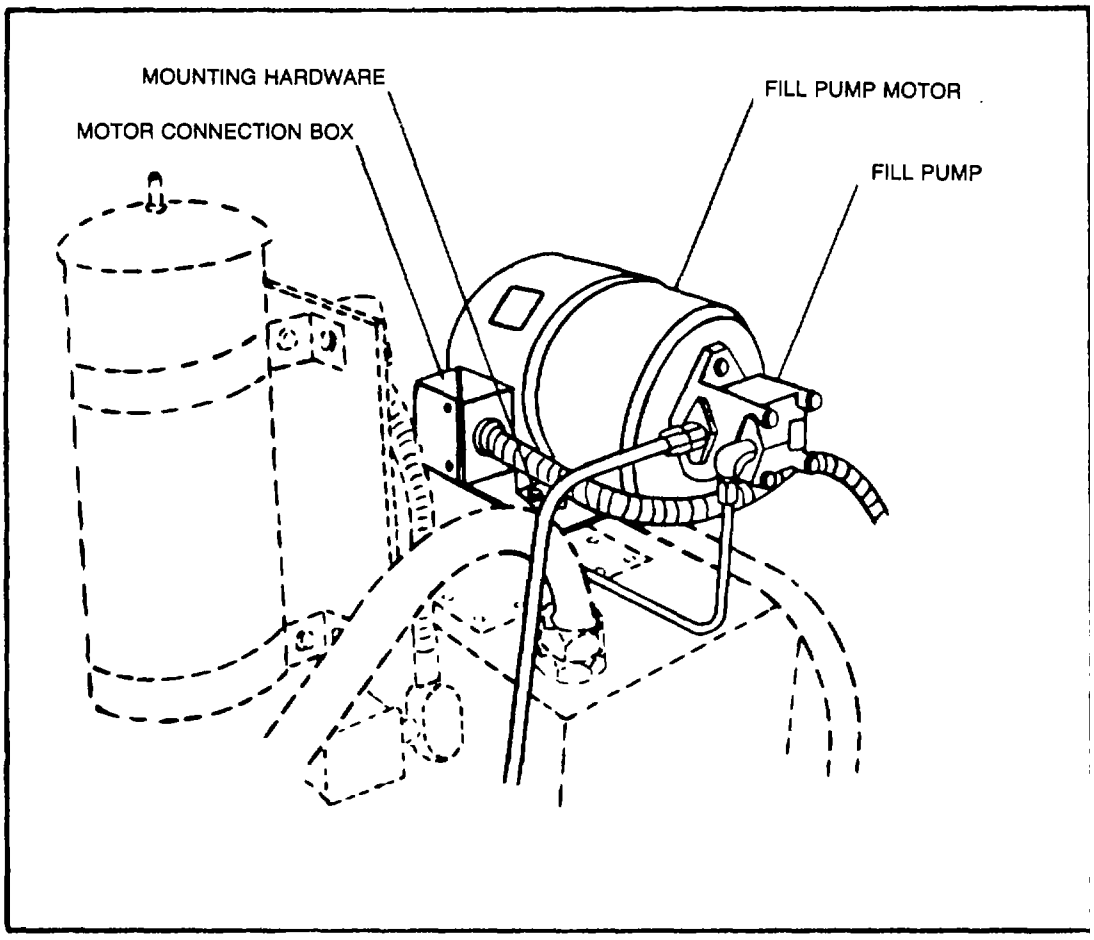
REMOVAL - FILL PUMP

1. Disconnect two lines from the fill pump.
2. Disconnect fill pump from motor by removing mounting bolts.
3. Lift fill pump out of test stand.



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INSTALLATION - MAIN PUMP

1. Lift pump into place through bottom of test stand using sling of overhead lifting device.
2. Attach main pump to motor with twelve mounting bolts and washers.
3. Connect volume and compensator controls to the pump.
4. Connect all tubing and lines to and from the pump.

INSTALLATION - FILL PUMP

1. Connect fill pump to motor with mounting bolts.
2. Connect two lines to fill pump.

END OF TASK

3-65. Cooler - Inspect 3-65

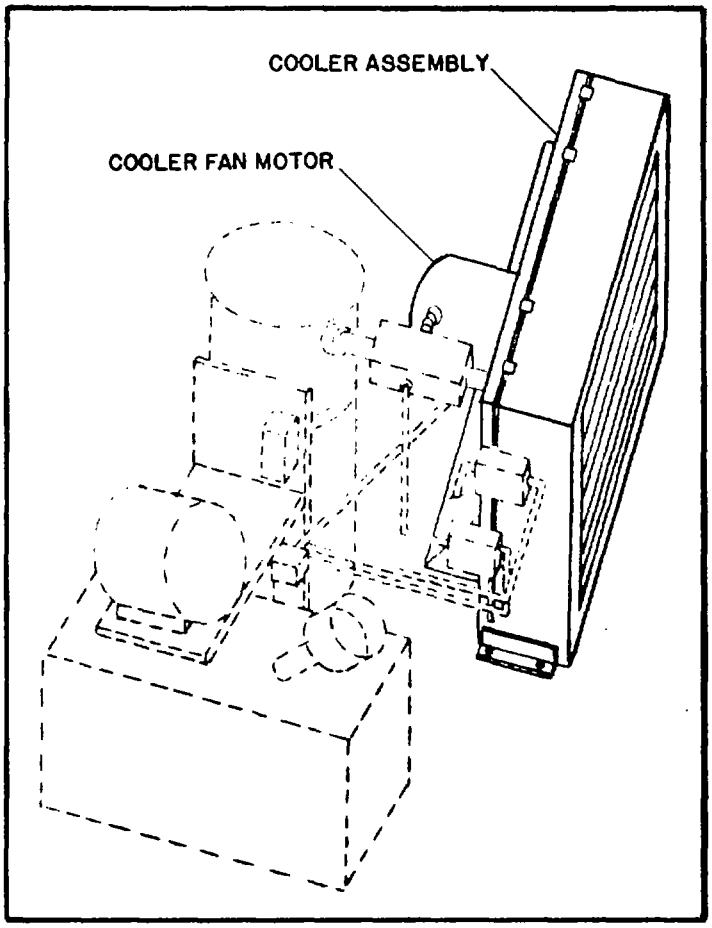
This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-18 Top and sides removed.

INSPECTION



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INSPECTION (Cont.)

1. With power off, turn fan by hand to check for freedom of movement and secure mounting.
2. Check that fan hub is secure to shaft. Shaft to be flush with or protrude slightly from the fan hub.
3. Check for leaks.
4. Check that core of cooler is free from dirt.
5. Check for damaged core sections.

END OF TASK

3-66. Cooler - Repair 3-66

This task covers: Repair

INITIAL SETUP

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-18 Top and sides removed.

REPAIR

1. Tighten mounting hardware on fan motor and cooler housing.
2. Tighten fan hub to shaft.
3. Clean dirt from cooler core.
4. Repair damaged core sections as necessary.

END OF TASK

3-67. Cooler - Replace 3-67

This task covers: Removal and Installation

INITIAL SETUP

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-18 Top and sides removed.

REMOVAL

1. Disconnect temperature gage line which runs across the top and down the side of the cooler shroud cover.

2. Remove bolts, washers, nuts and spacers to free the fill pressure filter switch and low pressure filter switch located on left side of cooler fan shroud cover.

3. Disconnect conduit and electrical wiring in motor connection box.

4. Disconnect lines and tubing on the fan side of the cooler assembly.

5. Disconnect the low pressure filter to manifold piping (top and bottom).

6. Remove four nuts, bolts and washers securing the cooler fan assembly to the chassis and remove assembly from the test stand.

GO TO NEXT PAGE

INSTALLATION

1. Place cooler assembly in test stand and secure with four bolts, washers and nuts.
2. Connect manifold piping to low pressure filter and other lines and tubing to fan side of cooler assembly.
3. Connect electrical wiring and conduit to motor connection box.
4. Install fill pressure filter switch and low pressure filter switch located on left side of cooler fan shroud cover.
5. Install temperature gage line across top and down side of cooler shroud cover.

END OF TASK

3-68. Compensator control and volume control - Inspect 3-68

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION

1. Check compensator and volume control assemblies for loose or missing parts.

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

END OF TASK

3-69. Compensator control and volume control - Service 3-69

This task covers: Service

INITIAL SETUP

Personnel Required:
MOS 67

SERVICE

Tighten or replace loose or missing parts on compensator and volume control assemblies.

END OF TASK

3-70. Compensator control and volume control - Replace 3-70

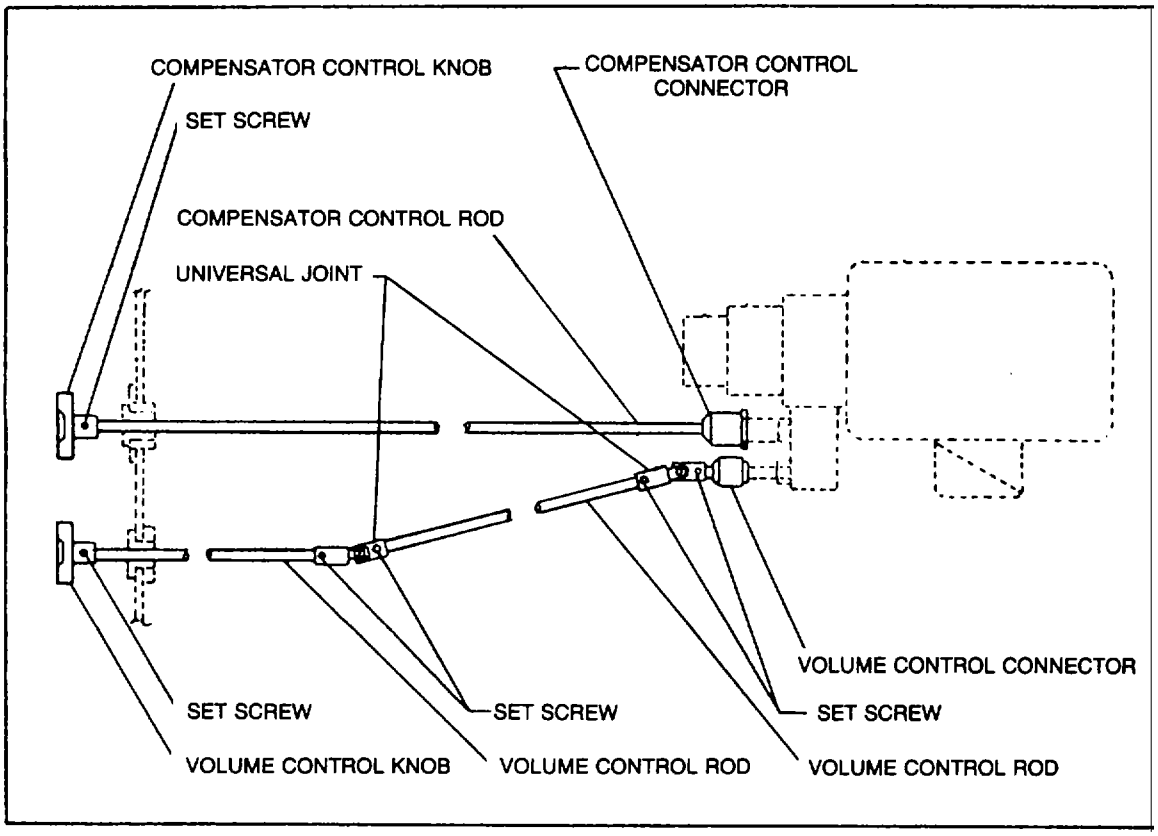
This task covers: Removal and Installation

INITIAL SETUP

Tools Required:
Tool Kits, Hydraulic NSN 5180-00-323-4891

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-18 Top and sides removed.



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REMOVAL - COMPENSATOR CONTROL

1. Loosen set screw and remove control knob.
2. Unscrew control rod from connector.
3. Remove connector from compensator control stem.

REMOVAL - VOLUME CONTROL

1. Loosen set screw and remove control knob from rod.
2. Remove four set screws, two universal joints and two control rods.
3. Remove connector from volume control stem.

INSTALLATION - COMPENSATOR CONTROL

1. Install connector on compensator control stem.
2. Screw connector rod into connector.
3. Place control knob on rod and tighten set screw.

INSTALLATION - VOLUME CONTROL

1. Install connector on volume control stem.
2. Install two control rods, four universal joints and four set screws.
3. Place control knob on rod and tighten set screw.

END OF TASK

3-71. Valves - Inspect 3-71

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION

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

END OF TASK

3-72. Valves - Repair (AVIM) 3-72

This task covers: Repair

INITIAL SETUP

Personnel Required:
MOS 68

Materials Required:
Cleaning Solvent PD-680, Type II

REPAIR

1. Clean interior of valve(s) and valve parts with cleaning solvent to remove dirt, gum or foreign matter.

2. Replace worn parts.

END OF TASK

3-73. Valves - Replace 3-73

This task covers: Removal and Installation

INITIAL SETUP

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

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-18 Top and sides removed.
Control panel doors open.

REMOVAL - HIGH PRESSURE RELIEF VALVE

1. Open side door.
2. Disconnect two no. 16 lines.
3. Remove four bolts and washers.
4. Remove high pressure relief valve.

REMOVAL - LOW PRESSURE RELIEF VALVE

1. Open side door.
2. Disconnect line from low pressure relief valve to tee feeding four way valve and flowmeter.
3. Remove fitting from valve.
4. Disconnect line at cooler outlet manifold.
5. Remove valve at manifold.

GO TO NEXT PAGE

REMOVAL - FILL SYSTEM RELIEF VALVE

1. Located on the control panel, see figure 2-1.

2. Disconnect fitting behind the panel.

3. Loosen the fitting at the front of the control panel and remove valve.

REMOVAL - FLOW CONTROL VALVE AND BY-PASS VALVE

1. Located on the control panel, see figure 2-1.

2. Disconnect lines and tubing in back of the control panel.

3. Remove nut and washer on handles of each valve on the front of the panel.

4. Remove four mounting bolts and washers on each valve and remove valves.

REMOVAL - CHECK VALVES

1. A one inch and a three-eighths inch check valve are located in the four way manifold below the high pressure filter near the main motor connection box.

2. Disconnect tubing and unscrew both valves from manifold.

3. One three-eighths inch check valve is located in the cooler outlet manifold.

4. Disconnect tubing and unscrew check valves from manifold.

5. One three-eighths check valve is located off of the fill system filter at the base of the low pressure filter.

GO TO NEXT PAGE

REMOVAL - CHECK VALVES (Cont.)

6. Disconnect three-eighths inch tubing and tee and remove check valve.

REMOVAL - BLEED VALVE

1. Located on the control panel, see figure 2-1.
2. Disconnect tubing at back of control panel.
3. Unscrew knob and springs at front of control panel.
4. Remove four screws and washers.
5. Remove valves from rear of control panel.

REMOVAL - FOUR WAY VALVE

1. Located on the control panel, see figure 2-1.
2. Disconnect the tubing at the back of the control panel.
3. Remove handle from front of control panel.
4. Remove four bolts and washers.
5. Remove valves from back of panel.

INSTALLATION - HIGH PRESSURE RELIEF VALVE

1. Mount high pressure relief valve in place on high pressure filter bracket with four mounting bolts and washers.
2. Connect two no. 16 hydraulic lines to the valve.

GO TO NEXT PAGE

INSTALLATION - LOW PRESSURE RELIEF VALVE

1. Install valve at cooler outlet manifold.
2. Connect fitting between valve and cooler manifold.
3. Connect line from valve to tee feeding four way valve and flowmeter.

INSTALLATION - FILL SYSTEM RELIEF VALVE

1. Locate on the control panel, see figure 2-1.
2. Tighten fitting at the front of the control panel.
3. Connect fitting behind the control panel.

INSTALLATION - FLOW CONTROL VALVE AND BYPASS VALVE

1. Install valves on the control panel with four mounting bolts and washers on each valve, see figure 2-1.
2. Install handle on each valve with one nut and washer.
3. Install lines and tubing to valve in back of control panel.

INSTALLATION - CHECK VALVES

1. Install one three-eighths inch check valve at the base of the low pressure filter off of the fill system filter.
2. Connect three-eighths inch tubing and tee.
3. Screw one three-eighths inch check valve into the cooler outlet manifold.

GO TO NEXT PAGE

INSTALLATION - CHECK VALVES (Cont.)

4. Connect tubing to check valve.

5. Install a one inch and a three-eighths inch check valve in the four way manifold below the high pressure filter near the main motor connection box.

6. Screw both valves into manifold and connect tubing.

INSTALLATION - BLEED VALVE

1. Install valve from back of control panel, see figure 2-1.

2. Mount with four screws and washers at front.

3. Screw on springs and knob at front of panel.

4. Connect tubing at back of control panel.

INSTALLATION - FOUR WAY VALVE

1. Install valves from back of panel. See Figure 2-1.

2. Install four bolts and washers from front of panel.

3. Connect tubing at the back of the control panel.

GO TO NEXT PAGE

3-73. Valves - Replace (cont.) **3-73**

This task covers: Repair, Disassembly and Reassembly (AVIM)

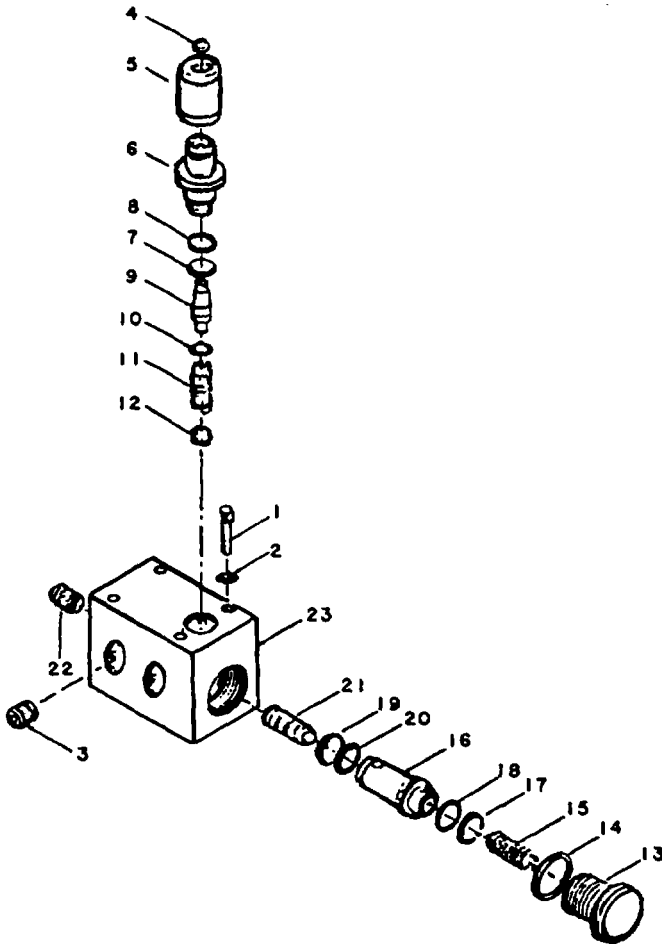
INITIAL SETUP

Personnel Required:
MOS 68

Equipment Condition:
Para. 3-73 Valves removed from test stand.

DISASSEMBLY - HIGH PRESSURE RELIEF VALVE

Disassemble in numerical sequence starting with number 1.



REASSEMBLY - HIGH PRESSURE RELIEF VALVE

Reassemble in reverse numerical sequence starting with number 23.

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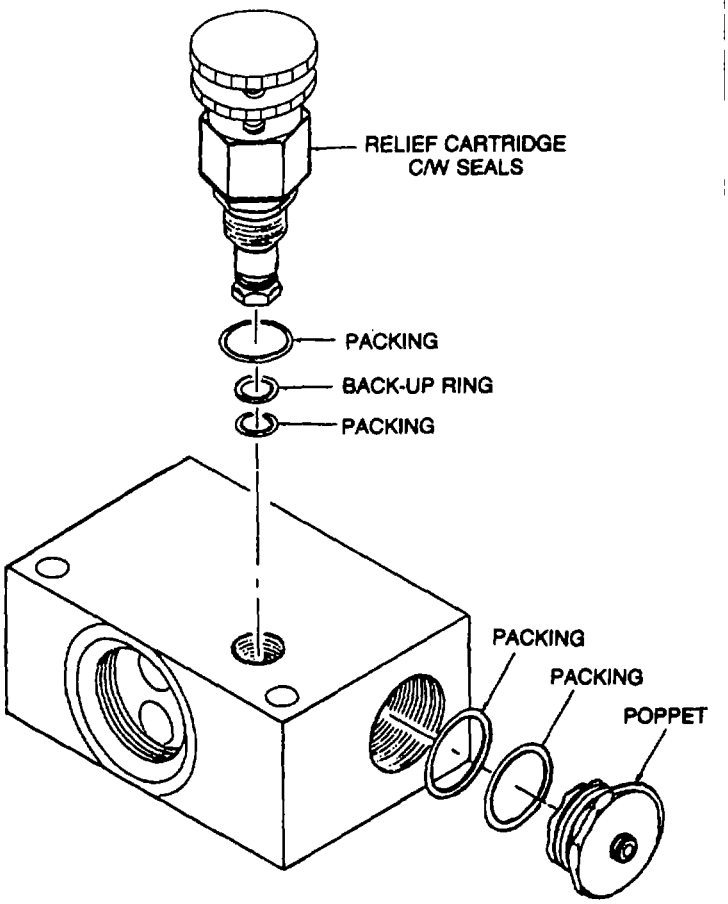
DISASSEMBLY - LOW PRESSURE RELIEF VALVE

1. Remove relief cartridge, packing and back-up ring.
2. Remove poppet and packing.



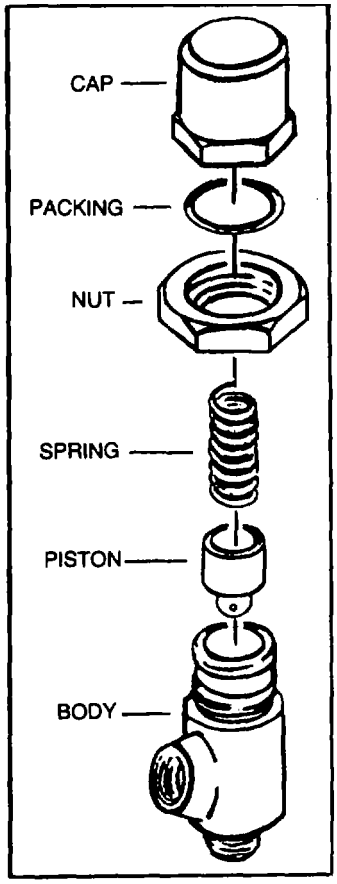
REASSEMBLY - LOW PRESSURE RELIEF VALVE

1. Install poppet with packing in valve body.
2. Install relief cartridge with packing and back-up ring in valve body.

GO TO NEXT PAGE

DISASSEMBLY - FILL SYSTEM RELIEF VALVE

1. Unscrew cap from body.
2. Remove packing.
3. Unscrew nut from body.
4. Remove spring and piston.



REASSEMBLY - FILL SYSTEM RELIEF VALVE

1. Install piston and spring in body.
2. Screw nut onto body.
3. Install packing and cap.

DISASSEMBLY - FLOW CONTROL VALVE AND BYPASS VALVE

1. Remove nut, washer and handle.
2. Remove detent spacer, washer, ring and pin.
3. Remove four bolts, washers and nuts to separate body.
4. Remove "O" ring and actuator.

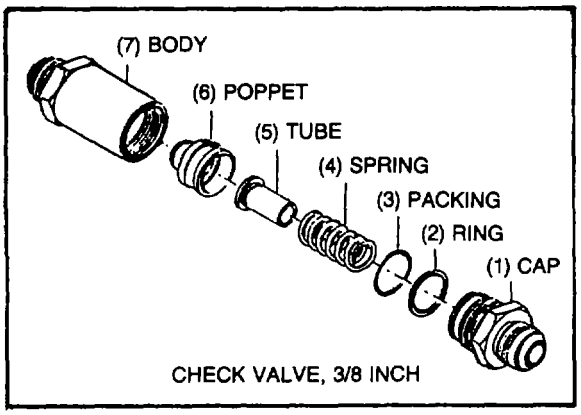
GO TO NEXT PAGE

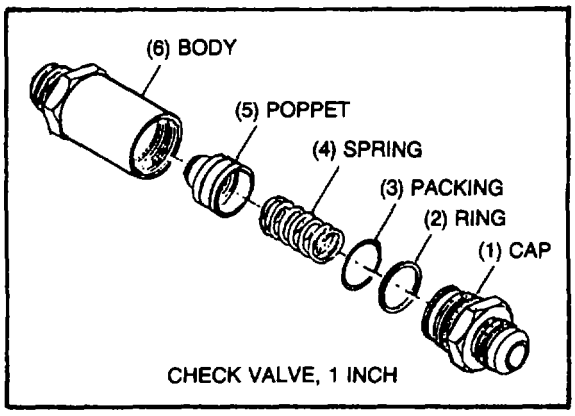
REASSEMBLY - FLOW CONTROL VALVE AND BYPASS VALVE

1. Insert actuator and install "O" ring.
2. Fasten the two halves of the body together with four bolts, washers and nuts.
3. Install detent pin, ring and spacer.
4. Install handle, washer and nut.

DISASSEMBLY - CHECK VALVES

Disassemble check valves in numerical order starting with lowest number shown.





REASSEMBLY - CHECK VALVES

Reassemble check valves in reverse numerical order starting with highest number shown.

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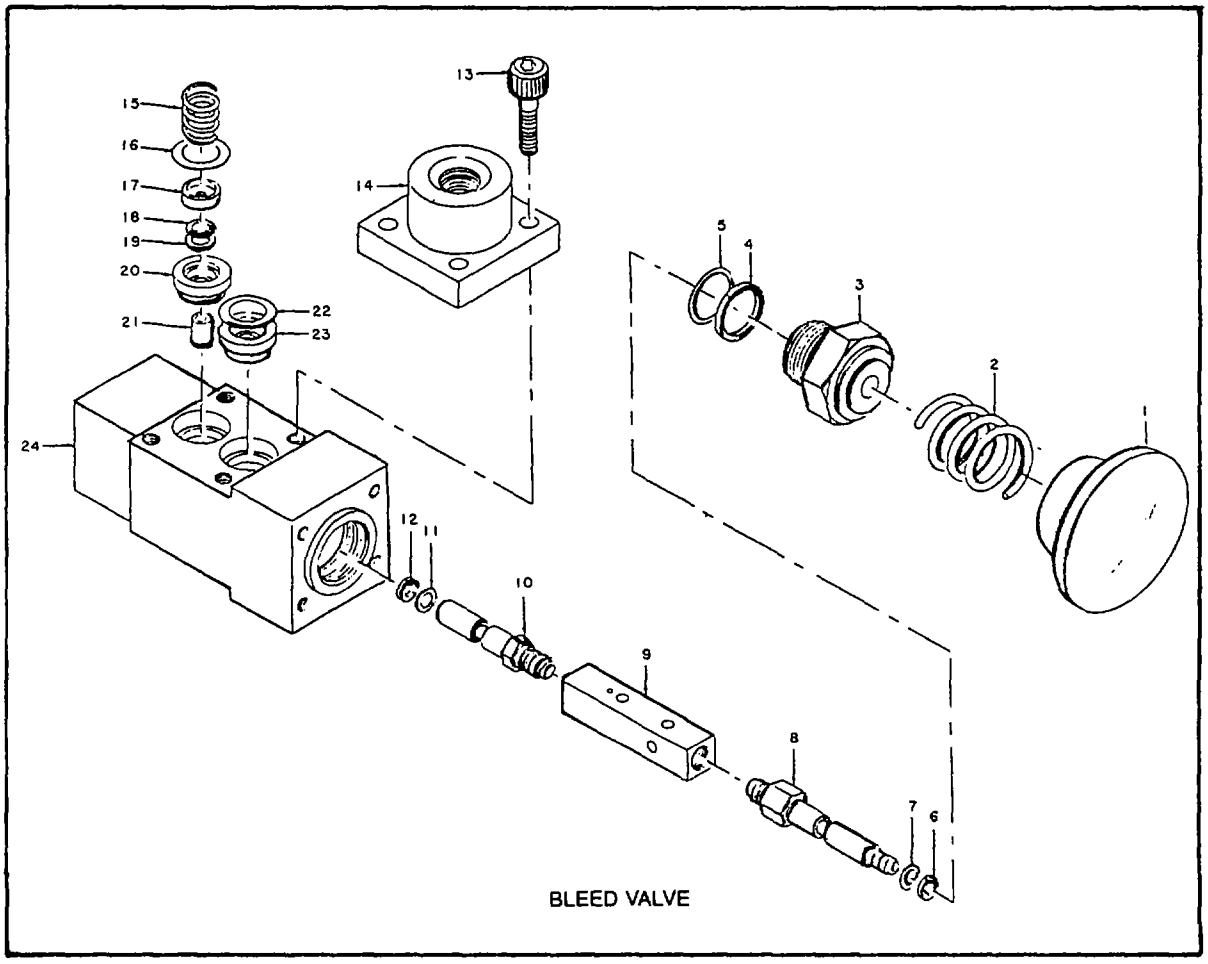
DISASSEMBLY - BLEED VALVE

Disassemble bleed valve in numerical sequence starting with number one.



BLEED VALVE

REASSEMBLY - BLEED VALVE

Reassemble bleed valve in reverse numerical sequence starting with highest number.

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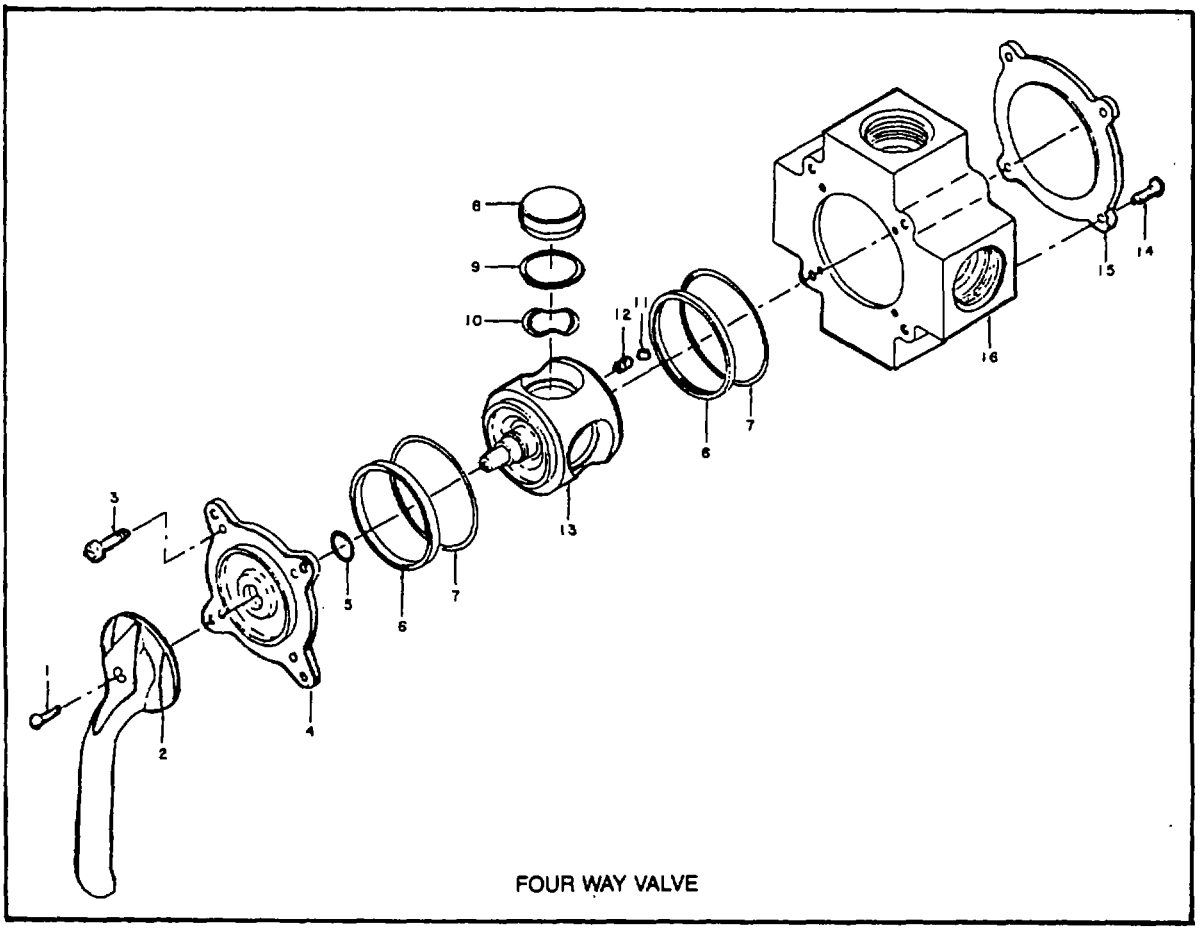
DISASSEMBLY - FOUR WAY VALVE

Disassemble four way valve in numerical sequence starting with number one.



FOUR WAY VALVE

REASSEMBLY - FOUR WAY VALVE

Reassembly four way valve in reverse numerical sequence starting with number 16.

END OF TASK

3-74. Fluid reservoir - Inspect 3-74

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION

1. Check fluid level to make sure it is 3/4 to 7/8 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 mechanical damage.

END OF TASK

3-75. Fluid reservoir - Repair (AVIM) 3-75

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 68

Equipment Condition:
Para. 3-76 Fluid reservoir removed from test stand.

REPAIR

1. Remove access cover.
2. Clean and inspect interior.
3. Check operation of level indicator float. Repair or replace broken parts as necessary.
4. Replace access cover.

END OF TASK

3-76. Fluid reservoir - Replace 3-76

This task covers: Removal and Installation

INITIAL SETUP

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-18 Top and sides of test stand removed.

REMOVAL

1. Drain reservoir and disconnect drain line under the reservoir.
2. Disconnect filler cap drain line.
3. Disconnect 1-1/2 inch return line on top of reservoir at opposite end from fill pump motor.
4. Disconnect 1-1/2 inch suction line on top of reservoir at pump end.
5. Disconnect fill pump line over top of reservoir.
6. Disconnect sending unit wire.
7. Remove four mounting nuts, washers and bolts.
8. Lift reservoir up an inch or two and slide out of the left side of the test stand.

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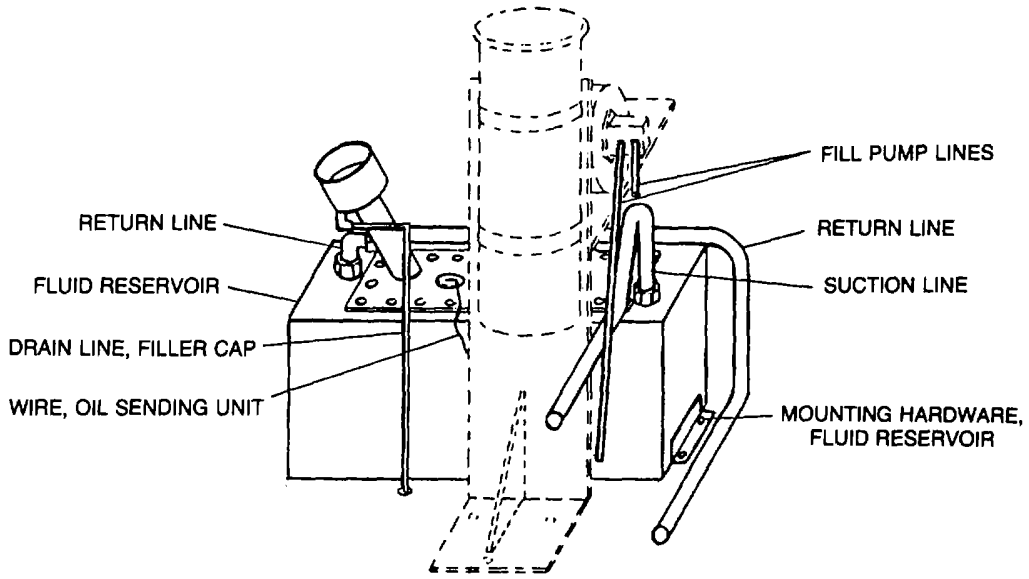


INSTALLATION

1. Slid reservoir into place from left side of test stand.
2. Install four mounting bolts, washers and nuts.
3. Connect sending unit wire.
4. Connect fill pump line over top of reservoir.
5. Connect 1-1/2 inch suction line on top of reservoir at pump end.
6. Connect 1-1/2 inch return line on top of reservoir at opposite end from fill pump.
7. Connect filter cap drain line.
8. Connect ,drain line under reservoir.
9. Refill reservoir 3/4 to 7/8 full of hydraulic fluid conforming to MIL-H-83282.

END OF TASK

3-77. Filter assemblies - Inspect 3-77

This task covers: Inspection

INITIAL SETUP

Personnel Required:
MOS 67

Reference:
Figure 1-2 for location of filters.

INSPECTION

1. Check to see if a warning light on the control panel is on indicating excessive differential pressure at any of the three test stand filters (high pressure, low pressure and fill system).

2. High differential pressure usually indicates a dirty filter element in need of replacement. See para. 3-78, Servicing Filter Assemblies.

END OF TASK

3-78. Filter assemblies - Service 3-78

This task covers: Service

INITIAL SETUP

Personnel Required:
MOS 67

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 PESSURE FILTER

1. Change filter element(s). See para. 3-80 for disassembly of filter.

2. Clean head assembly and bowl with cleaning solvent PD-680, Type II and medium bristle brush.

3. If after replacing the filter element(s) the differential pressure warning light still activates, the differential pressure switch may be defective. See para. 3-79 to test this switch.

GO TO NEXT PAGE

SERVICE - LOW PRESSURE FILTER

1. Change filter element(s). See para. 3-80 for disassembly of filter.
2. Clean inside of filter housing with dry cleaning solvent, PD-680, type II and medium bristle brush.

SERVICE - FILL SYSTEM FILTER

1. Change filter element and 0-ring. See para. 3-80 for disassembly of filter.
2. Clean case and head assembly with dry cleaning solvent, PD-680, type II and medium bristle brush.

END OF TASK

3-79. Filter assemblies - Test **3-79**

This task covers: Testing

INITIAL SETUP

Personnel Required:
MOS 67

TESTING - HIGH PRESSURE FILTER

1. Perform steps in para. 3-79 for removing elements but do not discard.

2. Install an AN814-12 fitting with a bore seal into the threaded connection of the filter head and install fiber bowl. Do not install elements for the test.

3. Check the reset button to determine that it is depressed.

4. Apply minimum hydraulic pressure, 85 psig to inlet port of filter. If switch does not actuate warning light, slowly increase to maximum 115 psig. Switch is preset for 100±15 psig.

5. During the above test, after the switch has actuated, depress the reset button; the warning light should go off. When the reset button is released, it should rise and the warning light should illuminate. Reduce pressure to zero and depress reset button. The warning light should go off and the reset button remain depressed.

6. There should be continuity between switch connector pins B and A when the switch is activated. Pin A on the switch should be connected to pin 2 on the warning light.

7. After successfully completing this test, remove the AN -fitting installed in step 2.

8. Reinstall the reserved element(s) and filter bowl.

END OF TASK

3-80. Filter assemblies - Replace 3-80

This task covers:

Removal **Installation** **Disassembly** **Reassembly**

INITIAL SETUP

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

Personnel Required:
MOS 67

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

REMOVAL - HIGH PRESSURE FILTER

1. Disconnect two fluid lines and pressure sensor wires at top of filter.
2. Remove two nuts and "U" bolt from mounting bracket.
3. Remove complete assembly from test stand.

REMOVAL LOW PRESSURE FILTER

1. Disconnect one fluid line at top and one at bottom of filter.
2. Remove four nuts and washers from mounting bracket and remove complete assembly from test stand.

GO TO NEXT PAGE

3-80. Filter assemblies - Replace 3-80

REMOVAL - FILL SYSTEM FILTER

1. Disconnect two fluid lines at top of filter.
2. Remove two mounting bolts, lockwashers and nuts and remove complete filter from test stand.

INSTALLATION HIGH PRESSURE FILTER

1. Install filter on mounting bracket with "U" bolt and two nuts.
2. Connect two fluid lines and pressure sensor wires at top of filter.

INSTALLATION LOW PRESSURE FILTER

1. Attach filter assembly to mounting bracket with four washers and nuts.
2. Connect two fluid lines, one at the top and one at the bottom of the filter.

INSTALLATION FILL SYSTEM FILTER

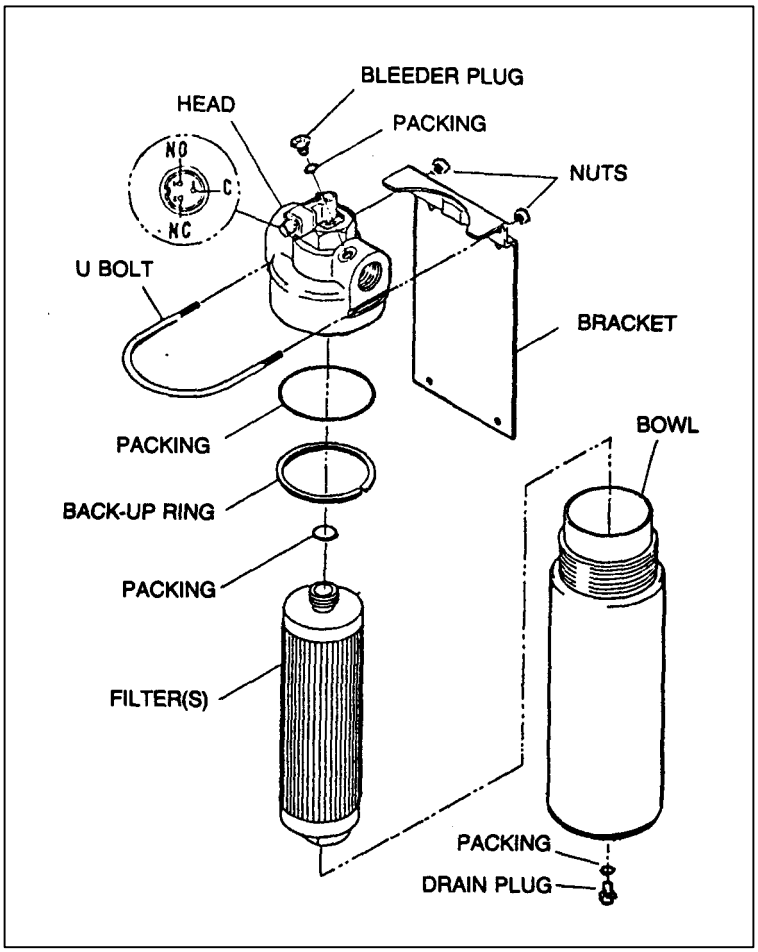
1. Install filter with two bolts, lockwashers and nuts.
2. Connect two fluid lines at top of filter.

GO TO NEXT PAGE

3-80. Filter assemblies - Replace (cont.) 3-80

DISASSEMBLY - HIGH PRESSURE FILTER

1. Remove nuts and U bolts.
2. Remove bleeder plug and packing, crack drain plug and allow filter to drain, then remove drain plug and packing.
3. Remove bowl, back-up ring and packing.
4. Remove dual elements by pulling straight down. Remove single elements by unscrewing from filter head.



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3-80. Filter assemblies - Replace (cont.) 3-80

REASSEMBLY - HIGH PRESSURE FILTER

1. Install filter(s).
2. Install packing, back-up ring and bowl onto filter head.
3. Install packing and drain plug.
4. Install packing and bleeder plug.
5. Install U bolt and nuts to mounting bracket.

DISASSEMBLY LOW PRESSURE FILTER

1. Remove bolt, washer, nut and bracket.
2. Drain filter by opening drain plug on bottom of unit.
3. Remove bolt, washer, nut, clamping ring, packing and cover.
4. Remove wing nut, seal retainer and top gasket.
5. Remove top element, middle gasket, bottom element and bottom gasket.

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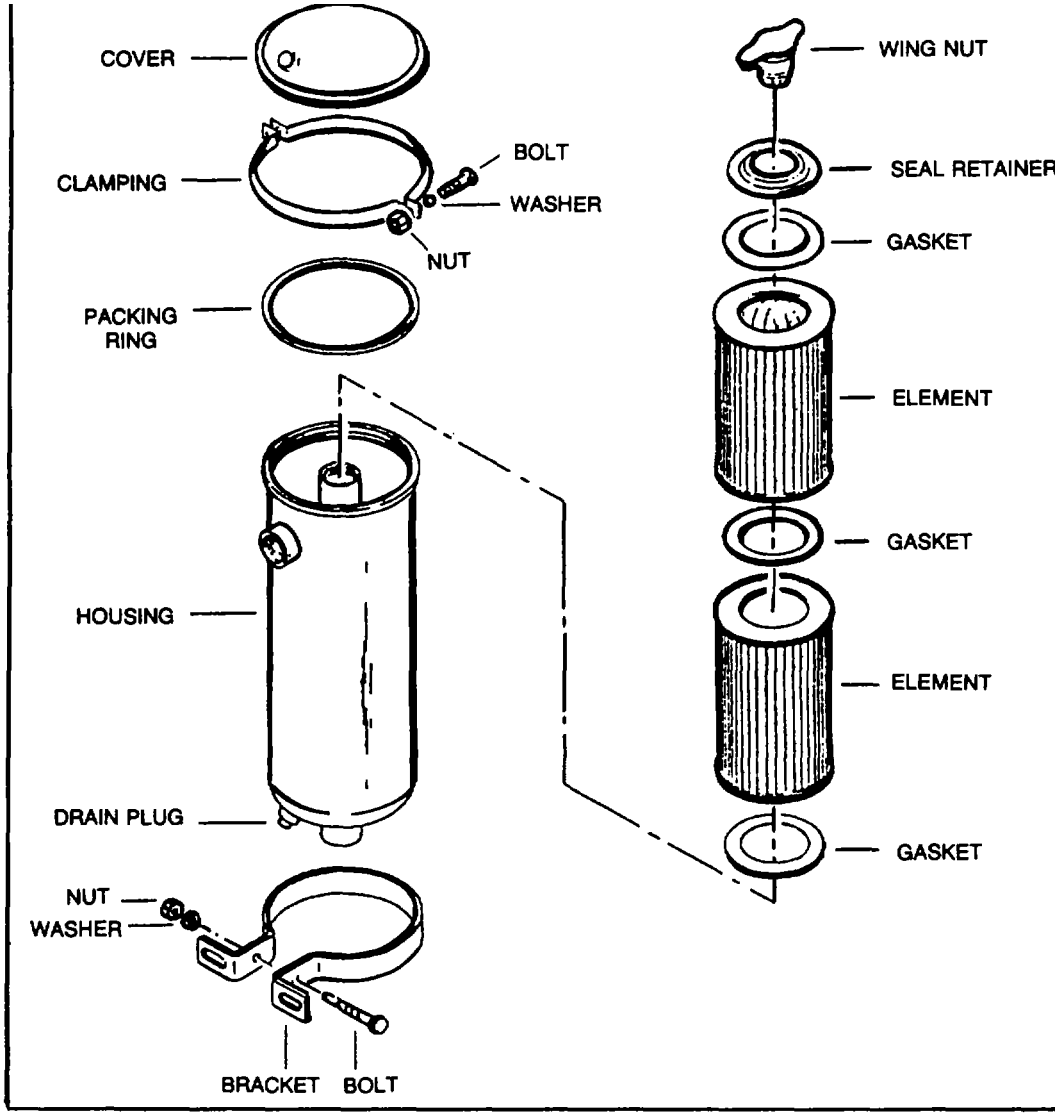

REASSEMBLY - LOW PRESSURE FILTER

1. Install bottom gasket, bottom filter, middle gasket, top filter and top gasket in filter housing.
2. Install seal retainer and wing nut.
3. Install cover, packing and clamping ring with bolt, washer and nut.
4. Install mounting bracket, bolt, washer and nut.

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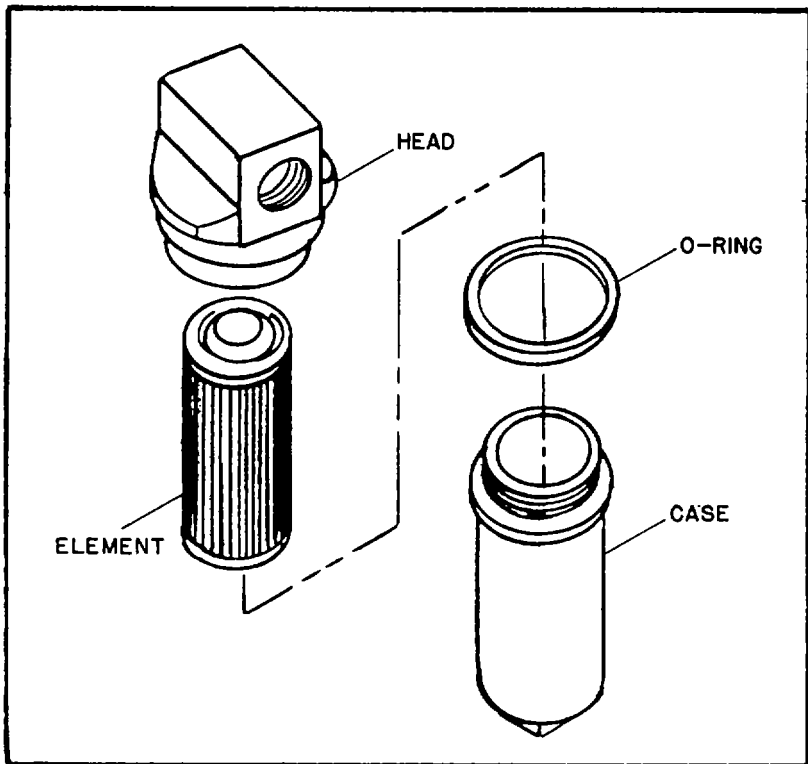
DISASSEMBLY - FILL SYSTEM FILTER

1. Cut safety wire and unscrew case from head assembly.
2. Remove element and 0-ring.



REASSEMBLY - FILL SYSTEM FILTER

1. Install element and 0-ring.
2. Screw case onto head and install safety wire.

END OF TASK

3-81 Hydraulic piping - Inspect 3-81

This task covers:

Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION

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

END OF TASK

3-82. Hydraulic piping assembly - Repair (AVIM) 3-82

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 68

REPAIR

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

END OF TASK

3-83. Hydraulic piping assembly - Replace **3-83**

This task covers:

Removal **Installation**

INITIAL SETUP

Personnel Required:
MOS 67

Equipment Condition:
Para. 2-10 Test stand shut down.

REMOVAL

Disconnect and remove hydraulic lines, tubing, fittings, hose assemblies and manifolds 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 manifolds that have been removed for repair or replacement.

END OF TASK

3-84. Hydraulic piping assembly - Test (AVIM) 3-84

This task covers:

Testing

INITIAL SETUP

Personnel Required:
MOS 67

TESTING

Test piping assembly for leaks while operating test stand under full flow and pressure conditions. See chapter 2, operating instructions.

END OF TASK

3-85. Gages - Inspect **3-85**

This task covers:

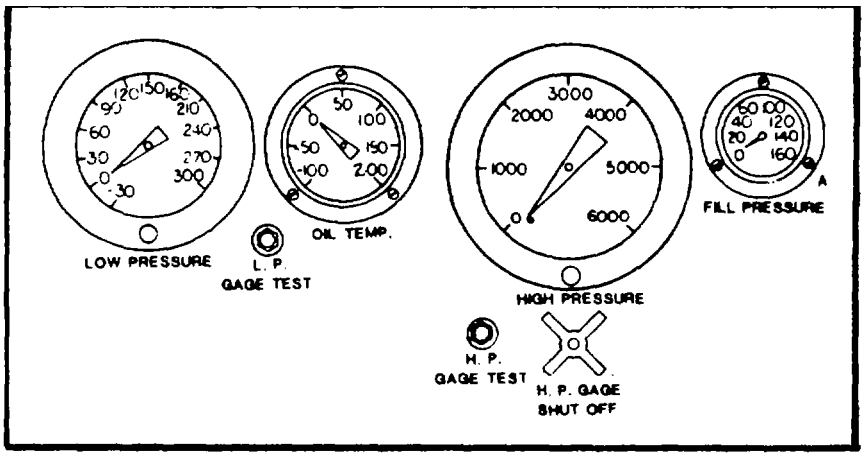
Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION

1. Check gages for physical damage.
2. Check all hose and tubing connections to back of gages, tighten as necessary.
3. Check gages for accuracy by comparing to aircraft gages under test. See paragraph 3-95 for calibration procedures.



END OF TASK

3-86. Gages - Replace (AVIM) **3-86**

This task covers:

Removal **Installation** **Disassembly** **Reassembly**

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:
Paragraph 3-18 Top and sides removed.

REMOVAL - LOW PRESSURE AND HIGH PRESSURE GAGES

1. Open rear doors.
2. Loosen the knurled bolts and remove covers from both gages.
3. Disconnect the flexible hoses in back of the panel.
4. Remove three screws from the low pressure gage. Remove three screws and washers from the high pressure gage. Pull gages out through the front of the panel.

REMOVAL FILL PRESSURE GAGE

1. Open rear doors.
2. Disconnect flexible hose in back of panel.
3. Remove three screws and washers from the gage.
4. Pull gage out through front of panel.

GO TO NEXT PAGE

REMOVAL - OIL TEMPERATURE GAGE

1. Open rear doors.
2. Disconnect line at the low pressure filter manifold (under the low pressure filter), then remove all routing clamps. This line is routed over the cooler fan shroud.
3. Remove three mounting screws and washers and pull gage out front of panel.

INSTALLATION LOW PRESSURE AND HIGH PRESSURE GAGES

1. Install gages through front of panel.
2. Attach low pressure gage to panel with three mounting screws. Attach high pressure gage to panel with three mounting screws and washers.
3. Connect flexible hoses to gage in back of panel.
4. Install cover and tighten knurled nut.

INSTALLATION FILL PRESSURE GAGE

1. Install the gage through front of panel.
2. Attach to the panel with three screws and washers.
3. Connect the flexible hose to the gage in back of the panel.

GO TO NEXT PAGE

INSTALLATION - OIL TEMPERATURE GAGE

1. Install temperature gage through front of panel.
2. Attach gage to panel with three mounting screws.
3. Connect line to low pressure filter manifold. Route over cooler fan shroud and fasten in place with cable clamps.

END OF TASK

3-87. 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. Perform task number 1, then task 2 as necessary.	3-88
2	Replace control knobs.	3-89
3	Inspect panel assembly. Perform task number 3, then task 4 and 5 as necessary.	3-90
4	Repair panel assembly.	3-91
5	Replace panel assembly.	3-92
6	Inspect instruments. Perform task number 6, then task 7 and 8 as necessary.	3-93
7	Replace instruments.	3-94
8	Calibrate instruments.	3-95

3-88. Control knobs - Inspect **3-88**

This task covers:
Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION

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

END OF TASK

3-89. Control knobs - Replace **3-89**

This task covers:

Removal **Installation**

INITIAL SETUP

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

Personnel Required:
MOS 67

REMOVAL

1. Open rear doors.
2. Remove any damaged control knobs.

INSTALLATION

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

END OF TASK

3-90. Panel assembly - Inspection 3-90

This task covers:

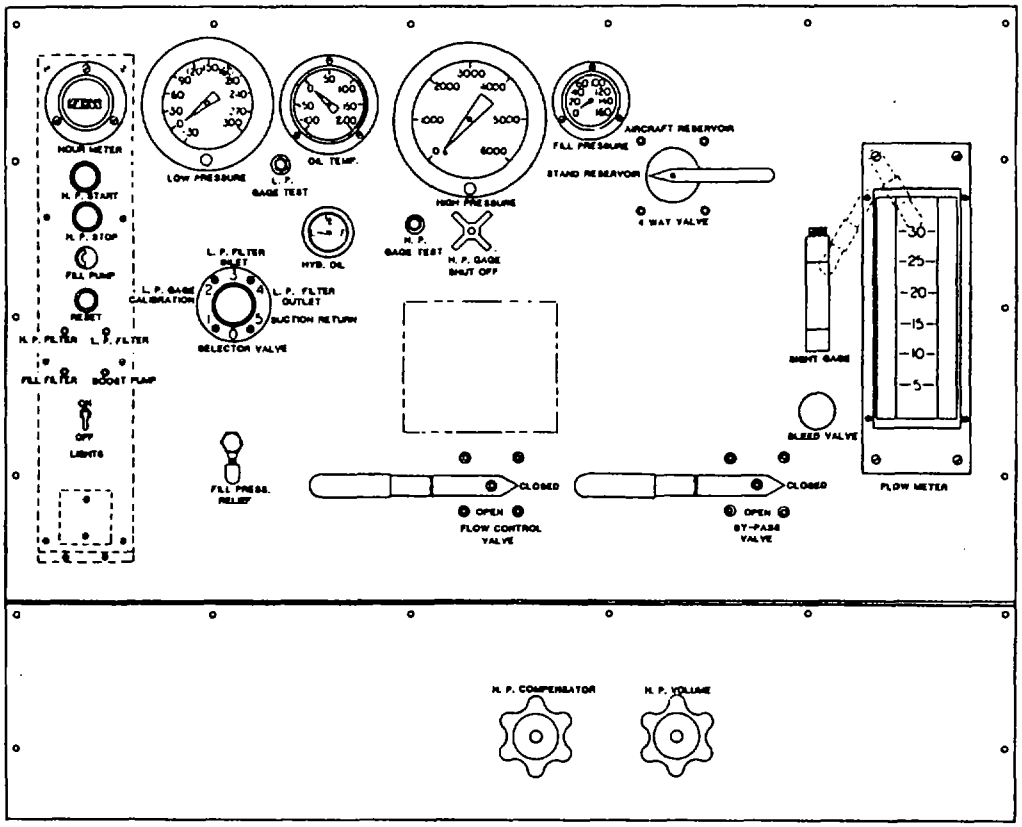
Inspection

INITIAL SETUP

Personnel Required:
MOS 67

INSPECTION

Check panel for damage, loose or missing hardware and illegible identification stencils.



END OF TASK

3-91. Panel assembly - Repair (AVIM) 3-91

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 68

Equipment Condition:
Para. 3-92 Panel assembly removed.

REPAIR

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

END OF TASK

3-92. Panel assembly - Replace **3-92**

This task covers:

Removal **Installation** **Disassembly** **Reassembly**

INITIAL SETUP

Personnel Required:
MOS 67

Equipment Condition:
Para. 3-18 Top and sides removed.

REMOVAL

1. Open rear doors.
2. Disconnect all fluid lines, tubing, flexible hoses and wiring from back of panel.
3. Remove volume and compensator control handles.
4. Remove four nuts, washers and bolts mounting the rear cover plate at the foremost ends of the test stand, and remove cover plate.
5. Remove twelve bolts and washers mounting the panel to the chassis.
6. Use two people, lift the panel assembly from the test stand.

END OF TASK

3-92. Panel assembly - Replace (cont) 3-92

INSTALLATION

1. Use two people, lift the panel into the stand and fasten with twelve mounting bolts and washers.
2. Install rear cover plate. Fasten to panel with four bolts, washers and nuts.
3. Install volume and compensator control handles.
4. Connect all lines, tubing, hoses and wiring to back of panel.

END OF TASK

3-93. Instruments - Inspection 3-93

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 3-95 for calibration procedures.

END OF TASK

3-94. Instruments - Replace (AVIM) **3-94**

This task covers:

Removal **Installation** **Disassembly** **Reassembly**

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 Top and sides removed.
Rear doors open.
Test stand shut down and pressure relieved.

REMOVAL - FLOWMETER

1. Remove four 10-32 pan head screws from front of panel.
2. Disconnect tubing at top and bottom of flowmeter at rear of panel.
3. Remove flowmeter from rear of panel.

REMOVAL LOW PRESSURE GAGE

1. Loosen thumb screw and remove gage cover.
2. Tag and disconnect gage at test port tee on back of control panel.
3. Remove three mounting screws and gage from front of panel.

GO TO NEXT PAGE

REMOVAL - HIGH PRESSURE GAGE

1. Loosen thumb screw and remove gage cover.
2. Disconnect flexible hoses in back of panel.
3. Remove three screws and washers and pull gage out through front of panel.

REMOVAL FILL PRESSURE GAGE

1. Disconnect flexible hoses from gage in back of panel.
2. Remove three screws and washers from the gage.
3. Pull gage out from front of panel.

REMOVAL OIL TEMPERATURE GAGE

1. Disconnect line at the low pressure filter manifold (under the low pressure filter), then remove all routing clamps. This line is routed over the cooler fan shroud.
2. Remove three mounting screws and washers and pull gage out of front of panel.

INSTALLATION FLOWMETER

1. Install flowmeter from rear of panel.
2. Connect tubing at top and bottom rear of flowmeter.
3. Install four 10-32 pan head screws from front of panel.

GO TO NEXT PAGE

INSTALLATION - LOW PRESSURE GAGE

1. Install gage through front of panel and attach with three mounting screws.
2. Connect gage at test port tee on back of panel.
3. Install gage cover and tighten thumb screw.

INSTALLATION HIGH PRESSURE GAGE

1. Install gage through front of panel and attach with three screws and washers.
2. Connect flexible hoses to gage in back of panel.
3. Install cover and tighten thumb screw.

INSTALLATION FILL PRESSURE GAGE

1. Install gage through front of panel and attach with three screws and washers.
2. Connect flexible hoses to gages in back of panel.

INSTALLATION OIL TEMPERATURE GAGE

1. Install gage through front of panel and attach with three screws and washers.
2. Route line from the oil temperature gage over the cooler fan shroud to the low pressure filter manifold (under the low pressure filter). Fasten line in place with cable clamps.

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DISASSEMBLY - FLOWMETER

CAUTION
All instruments are delicate. They must be handled with care.

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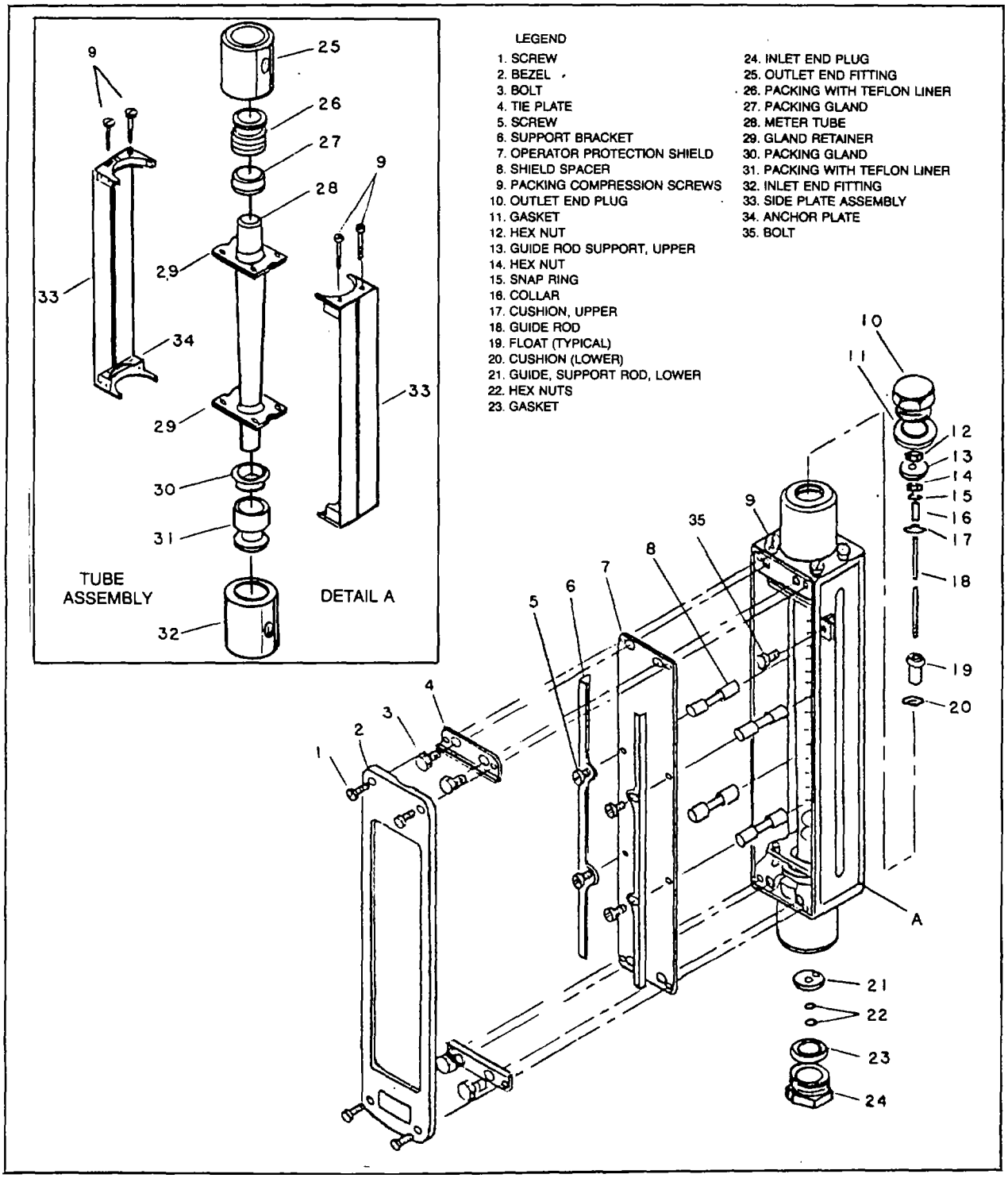
DISASSEMBLY - FLOWMETER (Cont.)



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DISASSEMBLY - FLOWMETER (Cont.)

1. Support the flowmeter on a workbench or other suitable stand.

2. Remove four screws (1) and lift off bezel (2). This will expose four 3/8-16 pan head screws, 1/2 inch long (3) which hold the tie plates (4) in place. Remove these four bolts and two tie plates.

3. Remove the four screws (5) which hold the support brackets (6) to the shield spacers (8). Remove brackets (6) and the protective shield (7).

4. Remove inlet plug (24) allowing any oil remaining in the instrument to drain.

5. Remove the two hex nuts (22) from the lower end of the guide rod (18) and allow the guide support (21) to drop from the inlet end fitting (32).

6. Remove the outlet end plug (10) and withdraw the guide rod support assembly (with float (19) attached).

CAUTION

The float is a precision manufactured part. Do not nick, drop or damage as meter accuracy will be adversely affected. Protect it with suitable wrapping when removed.

7. Remove the float cushion (20) from the lower end of the guide rod (18) and carefully remove float (19).

NOTE

Further disassembly is unnecessary for cleaning.

WARNING

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

8. Remove and discard gaskets (11 and 23) from end plugs (10 and 24).

GO TO NEXT PAGE

DISASSEMBLY - FLOWMETER (Cont.)

9. Bathe all removed parts in a suitable solvent such as that described by Federal Specification PD-680, Type II. Flush meter tube with the same solvent and wipe clean with a lint free cloth.

10. Blow all parts thoroughly dry with low pressure (20 psig) clean, dry air.

11. If further disassembly is necessary, the rear bezel and protective shield must be removed. This is accomplished in a manner similar to the front (step a).

12. Further disassembly will be simplified by referring to detail A and removing the four packing compression screws (9) from each end of the side plate assembly, then disassemble tube assembly.

REASSEMBLY FLOWMETER

1. Assemble tube assembly, two side plates (33) and four compression screws (9) as shown in detail A of illustration.

2. Attach rear protective shield and tie plates with four 3/8-16 pan head screws, 1/2" long and rear bezel with four screws.

3. Carefully install float (19) on guide rod (18) and attach float cushion (20).

4. Assemble upper portion of guide rod.

5. Insert the guide rod support assembly with float attached into the flow tube.

6. Install new gaskets (11) and (23) with inlet and outlet plugs (10) and (24).

7. Attach front protective shield (7), spacers (8) and support brackets (6) with four screws (5).

GO TO NEXT PAGE

REASSEMBLY - FLOWMETER (Cont.)

8. Attach two tie plates (4) with four 3/8-16 x 1/2 inch bolts.
9. Install front bezel with four screws.

END OF TASK

3-95. Instruments-Calibration (CRC) **3-95**

This task covers:

a. Calibration

INITIAL SETUP

Tools and Equipment:
0-6000 PSI Standard Gage
0-300 PSI Standard Gage
Calibrated Standard Flowmeter
Standard Thermometer

Personnel Required:
MOS 35H

Equipment Condition:
Test and doors open.

CALIBRATION - HIGH PRESSURE GAGE

Method I

1. Connect a suitable 0-6000 psi standard gage to the HP gage test port on the panel.
2. Operate system under normal condition. See Chapter 2 for operating instructions.
3. Compare the test stand gage readings with the readings on the standard gage at various points over the scale.
4. The gage readings must agree within one percent ±1/2 percent or less of full scale.
5. If the test stand gage readings are inaccurate or erratic, replace the gage.

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CALIBRATION - HIGH PRESSURE GAGE (Cont.)

Method II

1. Isolate the gage from the hydraulic system by closing the HP GAGE SHUT-OFF valve.

2. Connect a 0-6000 psi test gage and hydraulic pressurizing equipment to the HP GAGE TEST port.

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

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

CALIBRATION - LOW PRESSURE GAGE

1. Place selector valve in LP GAGE CALIBRATION position.

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

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

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

CALIBRATION - FILL PRESSURE GAGE

1. Remove gage from the test stand as outlined in para. 3-86.

2. Connect to pressuring equipment along with a standard 0-300 psi gage and compare the two readings.

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CALIBRATION - FILL PRESSURE GAGE (Cont.)

3. If the test stand gage does not agree with the standard gage within one percent ±1/2 percent, replace the fill pressure gage.

CALIBRATION - OIL TEMPERATURE GAGE

1. The oil temperature gage 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 gage.

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

CALIBRATION - THERMOSWITCH

1. The thermoswitch is located in the output manifold of the low pressure filter and activates to shut down the unit if the temperature of the hydraulic fluid exceeds that for which it is set (165°F). Should the thermoswitch required readjustment, proceed as follows.

2. Loosen locknut on adjusting screw.

3. Turn slotted screw clockwise to raise the temperature setting at which the switch will activate; rotate screw counterclockwise to lower setting.

4. When switch is correctly set, retighten locknut.

GO TO NEXT PAGE

CALIBRATION - FLOWMETER

1. To check the accuracy of the fluid volume indicated by the flowmeter, connect a calibrated standard flowmeter in the corresponding suction return line of the test stand.

2. Operate test stand accordingly., checking fluid flow indicated by both meters.

3. Replace flowmeter if readings are inaccurate or erratic.

END OF TASK

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 55-1500-204-25/1	General Aircraft Maintenance Manual
TM 743-200-1	Storage and Materials Handling

A-4. Maintenance of Supplies and Equipment

AR 750-1	Army Material Maintenance Concepts and Policies
DA PAM 738-751	Functional Users Manual for the Army Maintenance Management System - Aviation (TAMMS-A)
TM 43-0139	Painting Instructions for Field Use
FM 55-63	Fundamentals of Airframe Maintenance
FM 55-411	Maintenance, Quality Control and Technical Inspection Guide for Army Aircraft

A-5. Other Publications

TM 750-244-14	Procedures for the Destruction of Aviation Ground Support Equipment (FSC 4920) to Prevent Enemy Use
AR 420-90	Fire Prevention and Protection
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 3d position code of the SMR 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-3. Explanation of Columns in the MAC, Section II (cont).

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 an 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 alphabetic order, which shall be keyed to the remarks contained in Section IV.

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 STAND

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY AVUM	(4) MAINTENANCE CATEGORY AVIM	(5) TOOLS AND EQPT	(6) REMARKS
00	Test Stand Hydraulic, Elect. Eng. Driven, Type MK1					
01	Cabinet Assembly					
0101	Doors	REMOVE	.3		102	
		INSPECT	.3			
		REPAIR		.8	114-117	
		REPLACE	.5		102	
0102	Catches	REMOVE	.3			
		INSPECT	.3			
		SERVICE	.3			
		REPLACE	.8		102	E, F
0103	Panels (Access)	REMOVE	.3		102	
		INSPECT	.3			
		SERVICE	.3			E, F
		REPAIR		.5	114	
		REPLACE	.3		102	
02	Chassis					
0201	Axle & Steering Assy.	REMOVE	1.0		102	
		INSPECT	.5			
		SERVICE	.5		101	E, F
		REPAIR		1.0	117	G
		REPLACE	1.0		102	
0202	Tie Rods and Ends	REMOVE	1.0		102	
		INSPECT	.3			
		SERVICE	.5		101	
		REPLACE	1.0		102	G
0203	Springs	REMOVE	1.0		102	
		INSPECT	.3			
		SERVICE	.3		101	
		REPLACE	1.0		102	

SECTION II. MAINTENANCE ALLOCATION CHART FOR HYDRAULIC TEST STAND (Cont)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY AVUM	(4) MAINTENANCE CATEGORY AVIM	(5) TOOLS AND EQPT	(6) REMARKS
0204	Wheels	REMOVE	.5		101-102	
		INSPECT	.3			
		SERVICE	.3			
		REPLACE	.5		101-102	
0205	Hub and Bearings	REMOVE	.5		101-102	
		INSPECT	.8			
		SERVICE	1.0		101-102	E, F
		REPLACE	.8		101-102	
0206	Brake Assy.	REMOVE	1.0		101-102	
		INSPECT	.5			
		SERVICE	.5			
		ADJUST	.5			
		REPLACE		1.0	115	
0207	Tire and Tubes	REMOVE	.5		102	
		INSPECT	.3			
		SERVICE	.3			
		REPAIR		1.0	115	G
		REPLACE	.5		102	G
0208	Tow Bar	REMOVE	.3			
		INSPECT	.3			
		SERVICE	.3			
		REPAIR		1.0	102-117	
		REPLACE	.3			
03	Electrical System					
0301	Motors Main Hydr. Elect. Pump & Fill Motor	REMOVE	1.0		102	
		INSPECT	.3			
		REPLACE	1.0			
0302	Switches and Circuit Breakers	REMOVE	.5			
		INSPECT	.3			
		SERVICE	.3			
		REPLACE	.5		106	

SECTION II. MAINTENANCE ALLOCATION CHART FOR HYDRAULIC TEST STAND (Cont)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY AVUM	(4) MAINTENANCE CATEGORY AVIM	(5) TOOLS AND EQPT	(6) REMARKS
0303	Wiring & Cables	REMOVE		.8	106-109	
		INSPECT	.3			
		SERVICE	.3			
		REPAIR		.8	106-109	
		REPLACE		.8	106-109	
0304	Fuses	REMOVE	.3			
		INSPECT	.3			
		REPLACE	.3			
04	Hydraulic System					
0401	Pumps	REMOVE	1.0		104	
		INSPECT	.3			
		REPLACE	1.0		104-110	
0402	Cooler	REMOVE	1.0			
		INSPECT	.5			
		REPAIR	2.0			
		REPLACE	1.0			
0403	Compensator Control and Volume Control	REMOVE	1.0		104	
		INSPECT	.3			
		SERVICE	.3			
		REPLACE	1.0		104	
0404	Valves, Relief, Check Bleed, 4-Way By-Pass	REMOVE	1.0		104	
		INSPECT	.3			
		REPAIR		1.0		
		REPLACE	1.0			
0405	Fluid Reservoir	REMOVE	1.0			
		INSPECT	.3			
		REPAIR		.8	104-110	
		REPLACE	1.0			
0406	Filter Assemblies	REMOVE	.5			
		INSPECT	.3			
		SERVICE	.3			
		REPLACE	.5		102	A
		TEST	.3			B

SECTION II. MAINTENANCE ALLOCATION CHART FOR HYDRAULIC TEST STAND (Cont)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY AVUM	(4) MAINTENANCE CATEGORY AVIM	(5) TOOLS AND EQPT	(6) REMARKS
0407	Lines, Tubing, Fittings, Hose Assy, & Manifolds	REMOVE	.8		104	
		INSPECT	.3			
		REPAIR		1.0	104-110	
		REPLACE	.8		104	
		TEST		.5		B
0408	Pressure Gages	REMOVE		.8		
		INSPECT	.3			
		REPLACE		.8	105-109	
05	Instrument Panel					
0501	Control Knobs	REMOVE	.5			
		INSPECT	.3			
		REPLACE	.5		105	
0502	Panel Assy.	REMOVE	.8			
		INSPECT	.3			
		REPAIR		1.0	105-109	
		REPLACE	.8			
0503	Instruments	REMOVE	.3		105-109	
		INSPECT	.3			
		REPLACE	.3			
		CALIBRATE		CRC	C, D	

SECTION III. TOOLS AND TEST EQUIPMENT

(1) Reference Code	(2) Maintenance Category	(3) Nomenclature	(4) National Stock Number	(5) Tool Number
101	0	Shop Set, AVUM Set No. 2	4920-00-567-0476	SC4920-99-CL-A92
102	0	Tool Kit, Aircraft Mechanics General	5180-00-323-4692	SC5180-97-CL-A01
104	0	Tool Kit, Hydraulic	5180-00-323-4891	SC5180-97-CL-A03
105	0	Tool Kit, Instrument	5180-00-323-4913	SC5180-97-CL-A05
106	0	Tool Kit, Electrical	5180-00-323-4915	SC5180-97-CL-A06
109	F	Shop Set, AVIM Electrical Instrument	4920-00-165-1453	SC4920-99-CL-A80-ELAM
110	F	Shop Set, AVIM Hydraulic	4920-00-165-1454	SC4920-99-CL-A81-HYAM
114	F	Shop Set, AVIM Sheet Metal	4920-00-166-5505	SC4920-99-CL-A85-SMAN
115	F	Shop Set, AVIM Tool Crib	4920-00-472-4183	SC4920-99-CL-A83-TCAM
117	F	Shop Set, AVIM Welding	4920-00-163-5093	SC4920-99-CL-A88-WEAM

SECTION IV. REMARKS

TEST STAND HYDRAULIC, MK-1	
Ref. Code	Remarks
A	Clean and/or replace filter elements, high and low pressure filters
B	Operational test for leaks
C	Calibrate I/A/W 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 I. INTRODUCTION

C-1. Scope. This RPSTL lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of Aviation Unit and Aviation Intermediate maintenance of the MK1 Test Stand. It authorizes the requisitioning, issue, and disposition of spares, repair parts and special tools as indicated by the source, maintenance and recoverability (SMR) codes.

C-2. General. In addition to Section I, Introduction, this Repair Parts and Special Tools List is divided into the following sections:

a. Section II. Repair Parts List. A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Bulk materials are listed in item name sequence. 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 associated illustration(s)/figure(s).

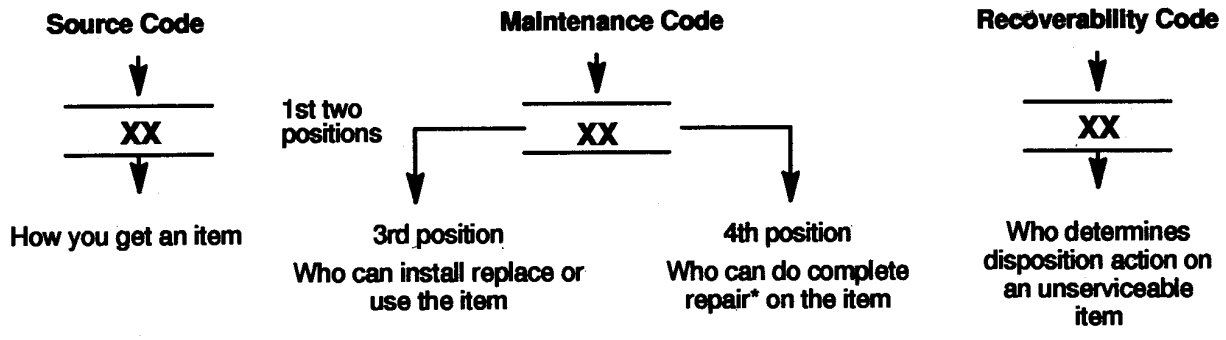
b. Section II. Special Tools List. A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in DESCRIPTION AND USABLE ON CODE column) for the performance of maintenance. (Not applicable)

c. Section IV. National Stock Number and Part Number Index. A list, in National item identification number (NIIN) sequence, of all National stock numbered items appearing in the listing, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance.

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

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

b. SMR Code (Column (2)). The Source, Maintenance, and Recoverability (SMR) code is a 5-position code containing supply/requisitioning information, maintenance 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 you get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follow.

Code	Explanation
PA PB PC** PD PE PF PG	Stocked items; use the applicable NSN to request/requisition items with these source codes. They are authorized to the category indicated by the code entered in the 3rd position of the SMR code. **NOTE : Items coded PC are subject to deterioration.
KD KF KB	Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance category indicated in the 3rd position of the SMR 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 Activity (SRA)) MD (Made at Depot)	Items with these codes are not to be requested/requisitioned individually. They must be made from bulk material which is identified by the part number in the DESCRIPTION AND USABLE ON CODE (UOC) column and listed in the Bulk Material group of the repair parts list in the RPSTL. If the item is authorized to you by the 3rd position code of the SMR code, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance.

Code	Explanation
AO (Assembled by org/ AVUM Level) AF (Assembled by DS/AVUM 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 SMR code, authorizes you to replace the item, but the source code indicates the items are assembled at a higher level, order the item from the higher level of maintenance.

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

NOTE

Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes, except for those source coded "XA" or those aircraft support items restricted by requirements of 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 SMR code as follows:

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

Maintenance Code	Application/Explanation
C	Crew or operator maintenance done within unit/AVUM maintenance.
O	Unit level/AVUM maintenance can remove, replace, and use the item.
F	Direct support/AVIM maintenance can remove, replace, and use the item.
H	General support maintenance can remove, replace, and use the item.
L	Specialized repair activity can remove, replace, and use the item.
D	Depot 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). 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 is the lowest level that can do complete repair of the item.

D - Depot is the lowest level that can do complete repair of the item.

Z - Nonreparable. No repair is authorized.

B - No repair is authorized. No parts or special tools are authorized for the maintenance of a "B" coded item. However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

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

Recoverability Codes	Application/Explanation

Z - Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in 3d position of SMR Code.

O - Reparable item. When not economically reparable, condemn and dispose of the item at unit or AVUM level.

F - Reparable item. When uneconomically reparable, condemn and dispose of the item at the direct support or aviation intermediate level.

H - Reparable item. When uneconomically reparable, condemn and dispose of the item at the general support level.

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

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

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

c. FSCM (Column (3)). The Federal Supply Code for Manufacturer (FSCM) is a 5-digit numeric code which is used to identify the manufacturer, distributor, or Government agency/activity that supplies the item.

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

NOTE

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

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, 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 of bulk materials are referenced in this column in the line 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 (reference 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 equipment 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 instead of a quantity indicates that the quantity is variable and may vary from application to application.

C-4. EXPLANATION OF INDEX FORMAT AND COLUMNS (SECTION IV).

a. NATIONAL STOCK NUMBER (NSN) INDEX.

(1) STOCK NUMBER Column. This column lists the NSN in national item identification number (NIIN) sequence. The NIIN consists of the last nine digits of the NSN, i.e.

NSN
5305-01-674-1467
NIIN

When using this column to locate an item, ignore the first four digits of the NSN. Use the complete NSN (1 3 digits) when requisitioning items by stock number.

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

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

b. PART NUMBER INDEX. Part numbers in this index are listed in ascending alphanumeric sequence (i. e., vertical arrangement of letter and number combinations which place the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9, and each following letter or digit in like order).

(1) FSCM Column. The Federal Supply Code for Manufacturers (FSCM) is a 5-digit numeric code used to identify the manufacturer, distributor, or Government agency/activity that supplies the item.

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

(3) STOCK NUMBER Column. This column lists the NSN for the associated part number and manufacturer identified in the PART NUMBER and FSCM columns to the left.

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

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

C-5. SPECIAL INFORMATION.

a. 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 last line of the applicable item description/nomenclature. Uncoded items are applicable to all models. Identification of the usable on codes used in this 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 item entry for the item to be manufactured/fabricated. Detailed fabrication instructions for items source coded 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. The publications) listed below pertain to (insert applicable equipment nomenclature) and its components:

Publication	Short Title
NOT APPLICABLE	

NOTE: Associated publications shall not be listed here in combined narrative and RPSTL manuals.

C-6. How to Locate Repair Parts.

a. When National Stock Number or Part Number is Not Known.

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

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

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

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

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

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

(1) First. Using the Index of National Stock Numbers and Part Numbers, find the pertinent National Stock Number or Part Number. The NSN index is in National Item Identification Number (NIIN) sequence (see C-4.a(1l). The part numbers in the Part Number index are listed in ascending alphanumeric sequence (see 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.

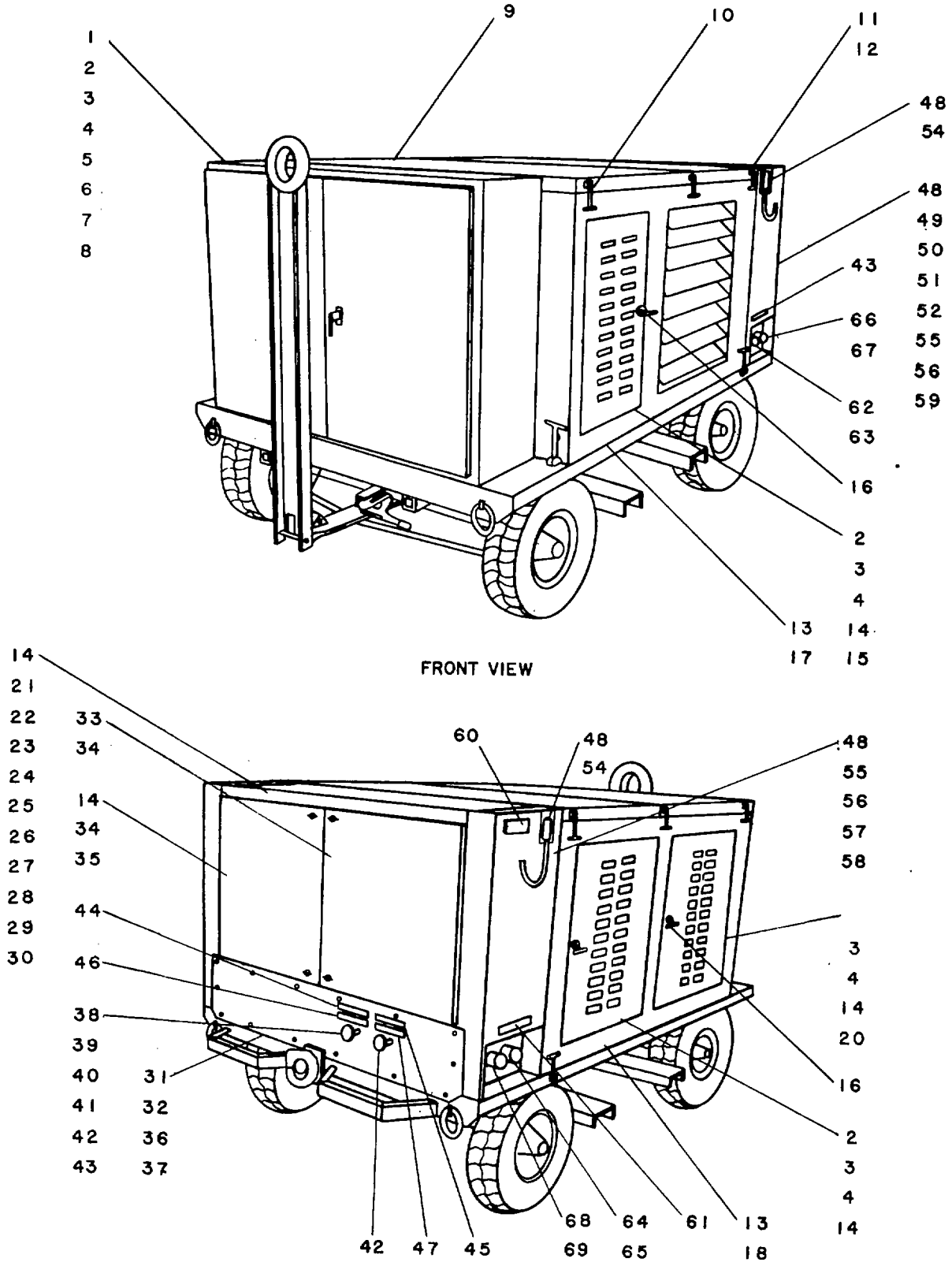


Figure C-1. CABINET ASSEMBLY

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 01. CABINET ASSY	
				FIG. C-1. CABINET ASSEMBLY	
1	XDOFF	56578	D7475	ENCLOSURE, ELECTRICAL	1
2	XDOZZ	56578	A7487	.DOOR PROP	5
3	PBOZZ	96906	MS24665-385	.PIN, COTTER	5
4	PBOZZ	96906	MS27183-10	.WASHER, FLAT	5
5	XDOZZ	08136	1056	.WASHER , BEVEL	4
6	PBOZZ	96906	MS90728-64	.SCREW, CAP, HEXAGON H	4
7	PBOZZ	96906	MS35338-46	.WASHER, LOCK	4
8	PBOZZ	96906	MS35649-2382	.NUT, PLAIN, HEXAGON	4
9	XDOFF	56578	D7469	.TOP PANEL, FRONT	1
10	XDOZZ	94222	37-10-071-20	.LATCH, DRAW, FLEXIBLE	6
11	XDOZZ	11815	CP3523-6-5	.POP RIVET 3/16X1/4X3/8 GRP	16
12	XDOFF	56578	D7470	.TOP PANEL, REAR	1
13	XDOZZ	56578	A7529	.SCREW CAP, SKT HD MODIFIED	6
14	XDOZZ	11815	CR3523-4-3	.POP RIVET 1/8X1/8X1 14 GRP	64
15	XDOFF	56578	D7474-3	.DOOR ASSY, OIL FILL	1
16	XDOZZ	94222	68-10-101-20	.HANDLE, TEE	1
17	XDOFF	56578	D7468	.SIDE PANEL, COOLER	1
18	XDOFF	56578	D7467	.SIDE PANEL, HP FILTER	1
19	XDOFF	56578	D7474-2	.DOOR ASSY, HP FILTER	1
20	XDOFF	56578	D7474-1	.DOOR ASSY, ACCESS BOX	1
21	XDOZZ	56578	A7496	.PIN, HINGE	2
22	PBOZZ	96906	MS51963-67	.SETSCREW HEAD 1/4-20X1/2	2
23	XDOZZ	56578	A7497	.HOLDER, DOOR	2
24	PBOZZ	96906	MS27183-10	.WASHER, FLAT	2
25	PBOZZ	96906	MS24665-315	.PIN, COTTER	2
26	XDOZZ	56578	A7510	.DECAL, CAUTION	1
27	XDOZZ	56578	A7509	.DECAL, ACTUAL FLOW	1
28	XDOZZ	94222	68-10-101-20	.HANDLE, TEE	2
29	XDOFF	56578	D7495	.COVER ASSY, INSTR PANEL	1
30	XDOFF	56578	D7466	.COVER, INSTR PANEL	1
31	PBOZZ	96906	MS90728-3	.SCREW, CAP, HEXAGON H	6
32	PBOZZ	96906	MS35338-44	.WASHER, LOCK	6
33	XDOFF	56578	D7474-4	.DOOR ASSY, INSTR LH	1
34	XDOZZ	94222	57-10-301-10	.LATCH, SPRING	4
35	XDOFF	56578	D7474-5	.DOOR ASSY, INSTR LH	1
36	XDOFF	56578	D7471-1	.PLATE ASSY, COVER, REAR	1
37	XDOFF	56578	D7471-2	.PLATE, COVER REAR	1
38	PBOZZ	96906	MSD35207-263	.SCREW, MACHINE 10-32X1/2	4
39	PBOZZ	96906	MS35650-302	.NUT, PLAIN, HEXAGON	4
40	PBOZZ	96906	MS27183-8	.WASHER, FLAT	4
41	PBOZZ	96906	MS35338-43	.WASHER, LOCK	4
42	XDOZZ	71041	NF-68-4	.BUSHING, NYLON, FLANG	2
43	XDOZZ	56578	D7471-4	.PLATE, ADAPTER	1
44	XDOZZ	56578	A7514-23	.LABEL, INSTRUMENT	1
45	XDOZZ	56578	A7514-24	.LABEL, INSTRUMENT	1
46	XDOZZ	56578	A7514-25	.LABEL, INSTRUMENT	1
47	XDOZZ	56578	A7514-26	.LABEL, INSTRUMENT	1
48	PBOZZ	96906	MS90728-32	.BOLT, MACHINE	50

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
49	PBOZZ	96906	MS35649-2312	.NUT, PLAIN, HEXAGON	50
50	PBOZZ	96906	MS27183-12	.WASHER, FLAT	50
51	PBOZZ	96906	MS35338-45	.WASHER, LOCK	50
52	XDOZZ	56578	D7464	.PANEL CONTROL, LH	1
53	XDOZZ	56578	A7513-1	.LABEL, INSTRUMENT	1
54	XDOZZ	56578	D7485-1	.HANGER ASSY, HOSE	2
55	XDOZZ	56578	D7490-1	.PIN, LOCK, REAR BRACKET	2
56	XDOZZ	56578	D7490-5	.PIN, LOCK	2
57	XDOFF	56578	D7465	.CONTROL PANEL RH SIDE BOX	1
58	XDOZZ	56578	D7491-3	.BRACKET	1
59	XDOZZ	56578	D7491-2	.BRACKET, SUPPORT LH	1
60	XDOZZ	56578	A7511	.PLATE, NAME	1
61	XDOZZ	56578	A7513-2	.LABEL, INSTRUMENT	1
62	PBOZZ	00624	TA155-S4-8D	.COUPLING HALF, QUICK IN	1
63	PBOZZ	00624	155-S7-8D	.CAP, PROTECTIVE, DUST	1
64	PBOZZ	00624	TA155S4-12D	.COUPLING HALF, QUICK INCH	1
65	PBOZZ	00624	155-S7-12D	.CAP, QUICK DISCONNEC	1
66	PBOZZ	00624	TA155-S4-16D	.COUPLING HALF, QUICK	1
67	PBOZZ	00624	155-S7-16D	.CAP, QUICK DISCONNEC	1
68	XDOZZ	00624	B145-S4-24D	.COUPLING HALF, QUICK INCH	1
69	XDOZZ	00624	145S7-24D	.CAP, CLICK DISCONNEC	1

END OF FIGURE

A. RIGHT SIDE VIEW

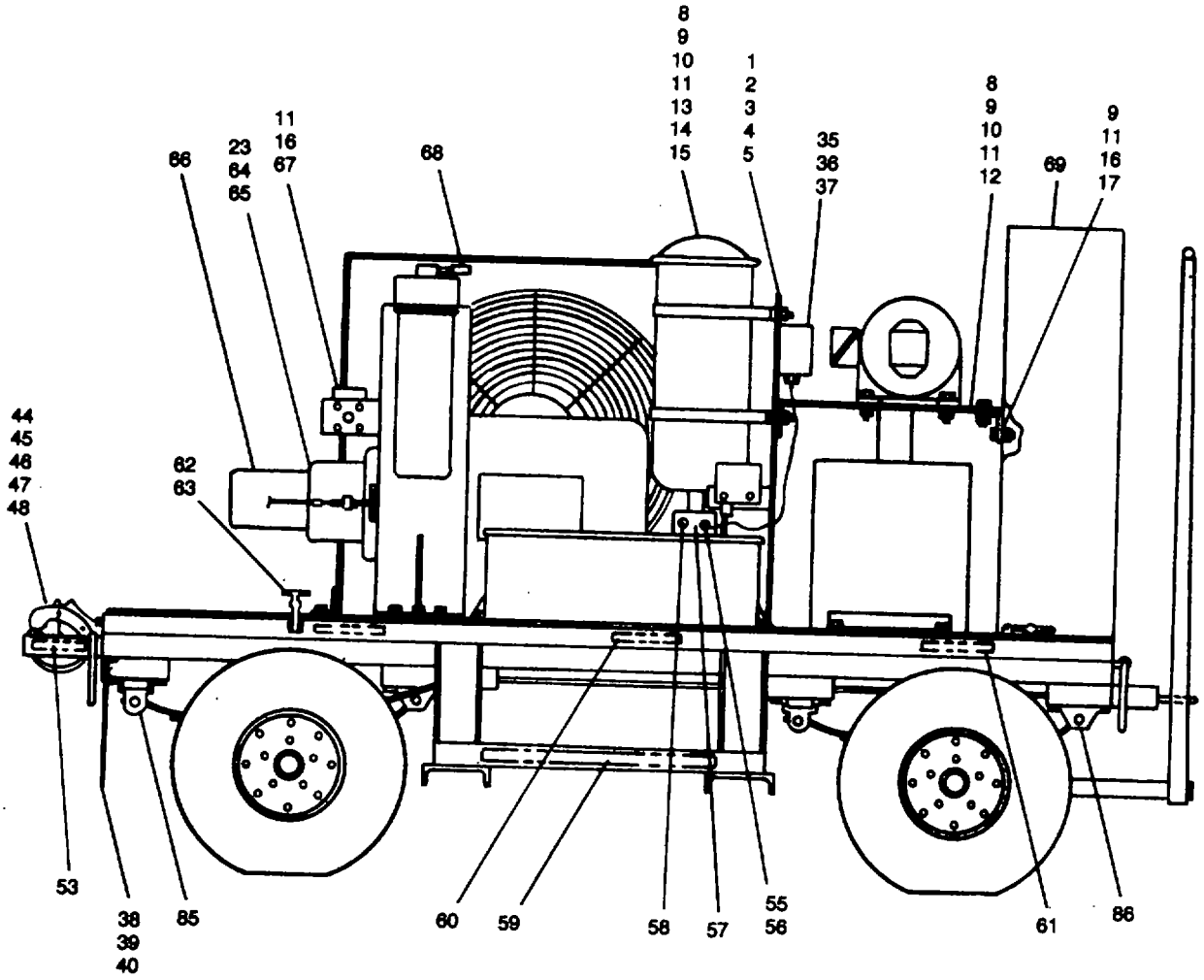


Figure C-2. INTERNAL COMPONENTS ASSEMBLY
(SHEET 1 OF 3)

B. PLAN VIEW

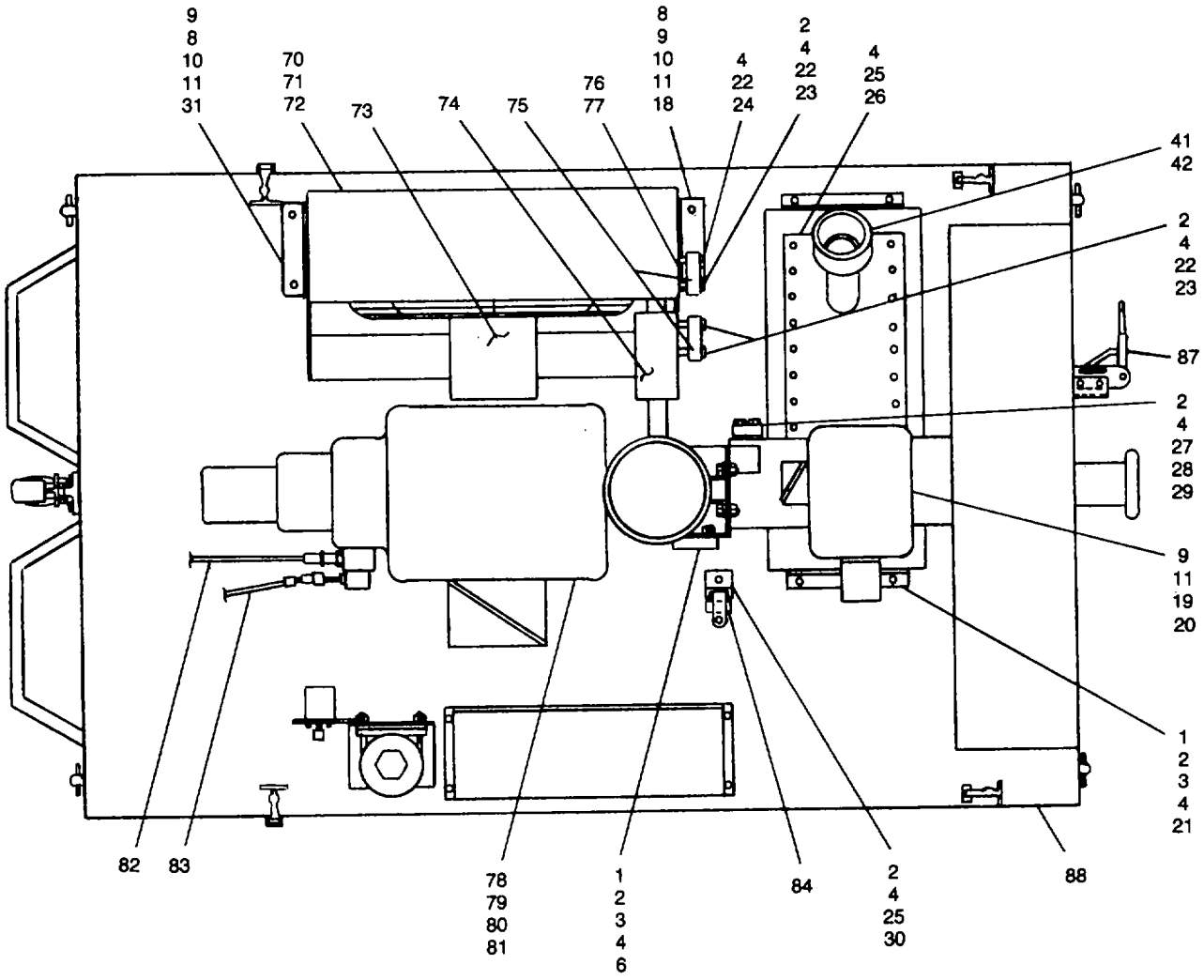


FIGURE C-2. INTERNAL COMPONENTS ASSEMBLY
(SHEET 2 OF 3)

C. FRONT VIEW

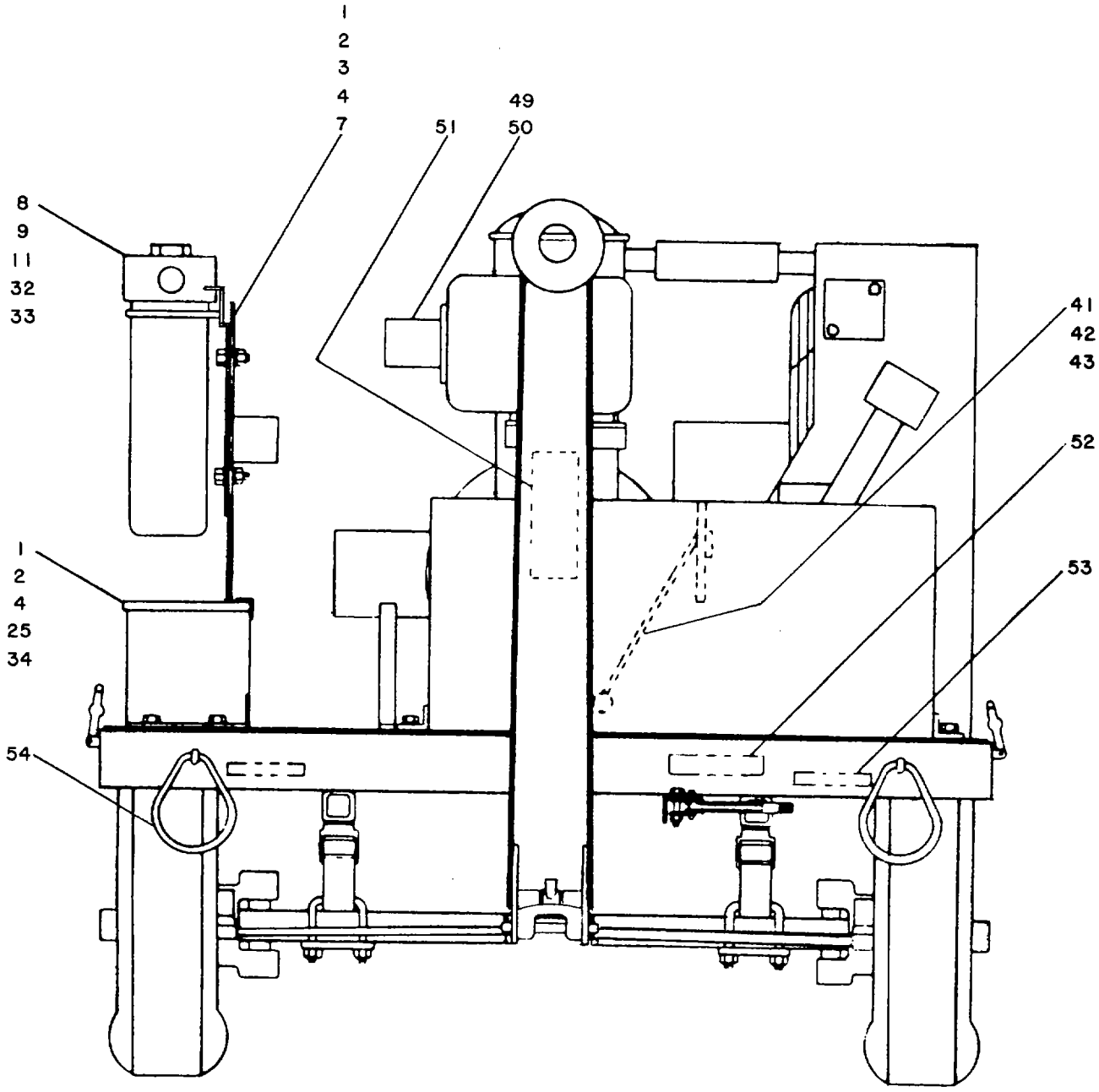


FIGURE C-2. INTERNAL COMPONENTS ASSEMBLY
(SHEET 3 OF 3)

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				FIG. C-2. INTERNAL COMPONENTS ASSEMBLY	
	XDOFF	56578	D7492	INTERNAL COMP ASSY	1
1	PBOZZ	96906	MS90728-8	.SCREW, CAP, HEXAGON H	12
2	PBOZZ	96906	MS35649-2252	.NUT, PLAIN, HEXAGON	22
3	PBOZZ	96906	MS27183-10	.WASHER, FLAT	12
4	PBOZZ	96906	MS35338-44	.WASHER, LOCK	43
5	XDOFF	56578	7455-1	.STAND, FILTER, LOW-PRESSURE	1
6	XDOZZ	34950	5NNK45	.SWITCH, LP BOOST PUMP	1
7	XDOFF	56578	D7455-2	.STAND, FILTER, HI PR	1
8	PBOZZ	96906	MS90728-34	.BOLT, MACHINE	12
9	PBOZZ	96906	MS35649-2312	.NUT, PLAIN, HEXAGON	20
10	PBOZZ	96906	MS27183-12	.WASHER, FLAT	10
11	PBOZZ	96906	MS35338-45	.WASHER, LOCK	24
12	XDOFF	56578	D7493-1	.MTG PLATE, FILL PUMP AND FILL FILTER	1
13	PBOZZ	96906	MS90728-36	.BOLT, MACHINE X 1 1/4 INCH	2
14	XDOOO	81321	P32-55	.FILTER, LOW PRESS	1
15	PBOZZ	38044	AN6236-3A	.FILTER ELEMENT	2
16	PBOZZ	96906	MS90728-32	.BOLT, MACHINE X3/4 INCH	6
17	XDOZZ	56578	D7493-2	.SUPPORT, MTG PLATE FILL PUMP, FILL FILTER	1
18	XDOZZ	56578	D7489-1	.FOOT, OIL COOLER RT	1
19	PBOZZ	96906	MS90728-38	.BOLT, MACHINE X 1 1/2 INCH	4
20	XDOZZ	89762	TYPED000-291E	.MOTOR, PUMP, FILL	1
21	XDOFF	56578	D7457-1	.RESERVOIR, HYD FLUID	1
22	PBOZZ	96906	MS90728-12	.SCREW, CAP, HEXAGON H	4
23	XDOZZ	56578	A7522-2	.SPACER	3
24	XDOZZ	56578	A7522-1	.SPACER	1
25	PBOZZ	96906	MS90728-6	.SCREW, CAP, HEXAGON H ¾	20
26	XDOFF	56578	D7457-2	.COVER, RESERVOIR	1
27	PBOZZ	96906	MS90728-15	.SCREW, CAP, HEXAGON H	2
28	XDOZO	81321	50221	.FILTER, FLUID	1
29	PBOZZ	05228	6655566	.FILTER ELEMENT, FLUI	1
30	XDOZZ	56578	D7489-3	.SUPPORT, TUBING & COND	1
31	XDOZZ	56578	D7489-2	.FOOT, OIL COOLER LFT	1
32	XDOOO	01414	ADHT5458E9716MDB	.FILTER, FLUID HI PRESSURE	1
33	PBOZZ	01414	AC-9516F-1	.FILTER ELEMENT, FLUI	1
34	XDOFF	56578	D7486-1	.BOX ASSY ACCESORIES	1
35	PBOZZ	96906	MS35207-263	.SCREW, MACHINE 32 X 1 1/2 INCH	2
36	PBOZZ	96906	MS35338-43	.WASHER, LOCK	2
37	XDOZZ	01121	837-A4A	.SWITCH, TEMPERATURE	1
38	XDOZZ	11815	CR3523-4-7	.RIVET POP 1/8X3/8-1/2 GRIP	2
39	XDOZZ	56578	A7517	.FLAP, MUD	2
40	XDOZZ	56578	A7518	.BRKT MTG, MUD FLAP	2
41	PBOZZ	96906	MS35206-245	.SCREW, MACHINE X1/2	11
42	PBOZZ	96906	MS35338-42	.WASHER, LOCK	11
43	PBOZZ	56578	A7523	.HYDRAULIC OIL TRANS	1
44	PBOZZ	96906	MS90726-64	.SCREW, CAP, HEXAGON H 3/8-24X1 1/2 INCH	12
45	PBOZZ	96906	MS35649-2382	.NUT, PLAIN, HEXAGON	4
46	PBOZZ	96906	MS35338-46	.WASHER	16

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
47	PBOZZ	96906	MS27183-13	.WASHER, FLAT	4
48	XDOZZ	96906	MS51335-2	.PINTLE ASSEMBLY, TOW	1
49	PBOZZ	96906	MS90728-60	.SCREW, CAP, HEXAGON H X1 INCH	2
50	XDOZZ	61038	V110-15-10-10-S2 14	.FILL PUMP	1
51	XDOZZ	56578	D7453-2	.STENCIL	1
52	XDOZZ	56578	D7453-1	.STENCIL	1
53	XDOZZ	56578	D7453-8	.STENCIL	4
54	XDOZZ	56578	A7516	.TIE-DOWN , RING	4
55	XDOZZ	56578	A7535-1	.THERMOSTAT WELL	1
56	XDOZZ	56578	A7535-2	.ADAPTER, THERMOSTAT	1
57	XDOFF	56578	D7494	.MANIFOLD, LO PRESS, FILTER	1
58	XDOZZ	38056	75W0450SP385AA	.THERMOSTAT WELL	1
59	XDOZZ	56578	D7453-7	.STENCIL	2
60	XDOZZ	56578	D7453-6	.STENCIL	2
61	XDOZZ	56578	D7453-5	.STENCIL	4
62	XDOZZ	11815	CP3523-6-7	.RIVET POP 3/16X3/8X 1/3 IN GRIP	8
63	XDOZZ	94222	37-10-101-10	.LATCH, FLEXIBLE DRAW	4
64	PBOZZ	96906	MS90728-64	.SCREW, CAP, HEXAGON H X1 1/2 INCH	4
65	XDOZZ	12027	610574	.PUMP, HIGH PRESS	1
66	XDOZZ	12027	NPN	.PUMP-BOOSTER, PART OF HIGH PRESSURE PUMP	1
67	XDOFF	86768	R6701-4-3/4-S2	.VALVE, RELIEF HP	1
68	XDOZZ	01414	MC606EH097	.SWITCH, PRESS HP FILTER	1
69	XDOFF	56578	D7475	.CONTROL PANEL, ELEC SEE FIG C-1 FOR BREAKDOWN	1 1
70	PBOZZ	96906	MS90728-109	.SCREW, CAP, HEXAGON H X1 INCH	2
71	PBOZZ	96906	MS35338-48	.WASHER, LOCK	2
72	XDOFF	56578	A7519	.COOLER	1
73	XDOZZ	12532	5K43MG2930	.MOTOR, FAN GE	1
74	XDOFF	56578	D7454	.MANIFOLD, COOLER OUTLET	1
75	XDOZZ	34950	17R3-K2	.SWITCH, PRESS DIFF	1
76	XDOZZ	11815	CR3523-4-5	.RIVET, POP 1/8X1/4-3/8 GRIP	2
77	XDOZZ	56578	A7521	.MOUNT, PRESS SWITCH DIFFERENTIAL FILL FILTERS	1
78	PBOZZ	96906	MS90728-162	.SCREW, CAP, HEXAGON H	4
79	PBOZZ	96906	MS51967-20	.NUT, PLAIN, HEXAGON	4
80	PBOZZ	96906	MS35338-50	.WASHER, LOCK	4
81	XDOZZ	38151	HM326UTDR618BB1W	.MOTOR, PUMP HP	1
82	XDOZZ	56578	D7536-1	.COMPENSATOR ASSY, SEE FIG C-20 FOR BREAKDOWN	1
83	XDOZZ	56578	D7536-2	.CONTROL ASSY, VOLUME SEE FIG C-21 FOR BREAKDOWN	1
84	XDOZZ	56578	A7537	.CLAMP TUBING	1
85	XDOFF	22938	368-1346	.AXLE ASSY, REAR SEE FIG C-6 FOR BREAKDOWN	1
86	XDOFF	22938	368-1396	.AXLE ASSY, FRONT SEE FIG C-5 FOR BREAKDOWN	1
87	XDOOO	22938	368-5901	.BRAKE ASSY, PARK SEE FIG C-4 FOR BREAKDOWN	1
88	XDOFF	56578	D7451	.CHASSIS WELDMENT	1

END OF FIGURE

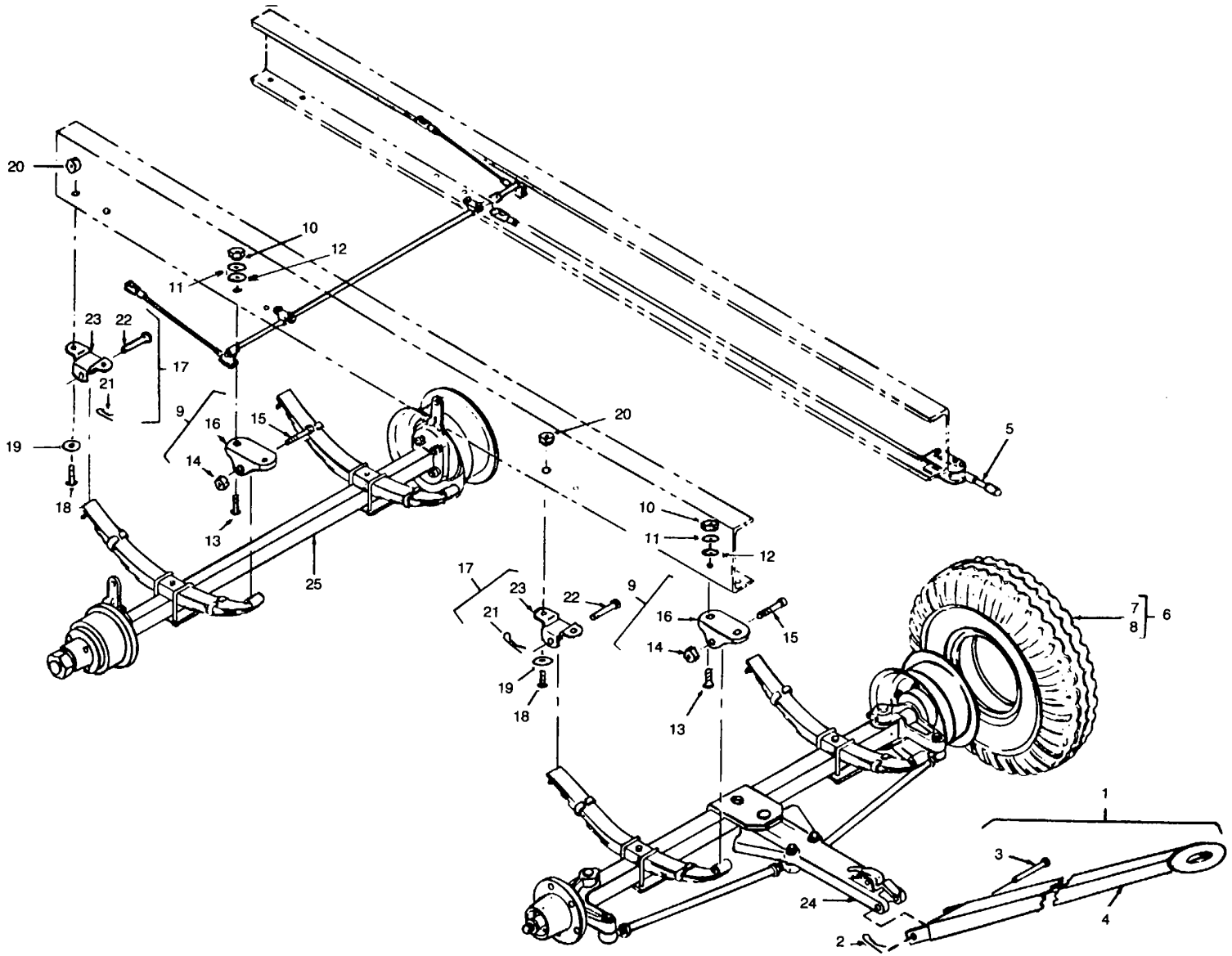


FIGURE C-3. FOUR WHEEL RUNNING GEAR ASSEMBLY

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 02. CHASSIS	
				FIG. C-3. FOUR WHEEL RUNNING GEAR ASSEMBLY	
	XDOFF	22938	368	RUNNING GEAR,4 WHL	1
1	XDOFF	22938	1-3502	DRAWBAR ASSY	1
2	PBOZZ	96906	MS24665-563	.PIN, COTTER	2
3	XDOZZ	22938	5416	.PIN HINDGE	1
4	XDOFF	22938	12-3502	.CRAWBAR	1
5	XOOCO	29938	368-5901	PARKING BRAKE ASSY SEE FIG C-4 FOR BREAKDOWN	1
6	XDOFF	22938	6555	TIRE TUBE ASSY	4
7	PBOFH	81348	ZZ-T-410A/GP1/600/6.90-9/C/ PLR B	.TIRE PNEUMATIC	4
8	PBOFF	73808	6-00X9	.INNER TUBE, PNEUMATIC	4
9	XDOZZ	22938	1-4250	SPRING BRACKET ASSY, FRONT	4
10	PBOZZ	96906	MS51968-14	.NUT, PLAIN, HEXAGON	8
11	PBOZZ	96906	MS35338-48	.WASHER, LOCK	8
12	XDOZZ	98255	13725P	.WASHER, BEVEL	16
13	PBOZZ	96906	MS90726-121	.SCREW, CAP, HEXAGON H	8
14	XDOZZ	22938	4601-33	.NUT, SELF-LOCK, HEX	1
15	XDOZZ	22938	4901-19	.SCREW, CAP	1
16	XDOZZ	22938	4250	.BRACKET, SPRING	1
17	XDOZZ	22938	1-1425	SPRING, BRACKET ASSY	4
18	PBOZZ	96906	MS90725-121	.SCREW, CAP, HEXAGON H	8
19	PBOZZ	96906	MS35338-48	.WASHER, LOCK	8
20	PBOZZ	96906	MS51968-14	.NUT, PLAIN, HEXAGON	8
21	XDOZZ	22938	4800-3	.PIN, COTTER	1
22	XDOZZ	22938	5403-1	.PIN, CLEVIS	4
23	XDOZZ	22938	4251	.BRACKET SPRING	1
24	XDOFF	22938	368-1396	FRONT AXLE ASSY, SEE FIG C-5 FOR BREAKDOWN	1
25	XDOFF	22938	368-1346	REAR AXLE ASSY SEE FIG C-6 FOR BREAKDOWN	1
				END OF FIGURE	

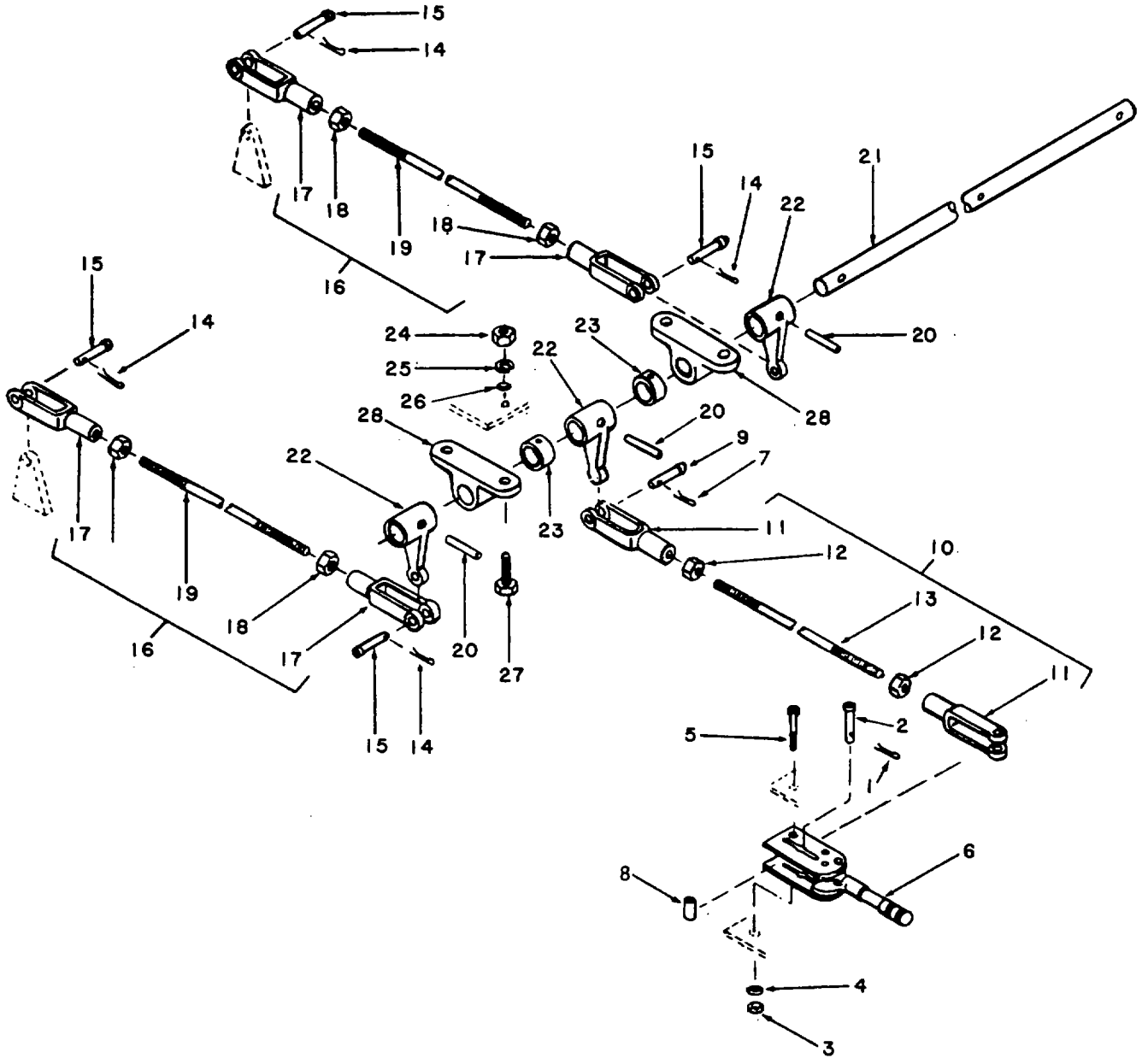


FIGURE C-4. BRAKE LEVER ASSEMBLY

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0201. PARKING BRAKE ASSY.	
				FIG. C-4. BRAKE LEVER ASSEMBLY.	
	XDOOO	22938	368-5901	PARKING BRAKE ASSY. SEE FIG C-2 FOR NHA.....	1
1	PBOZZ	96906	MS24665-283	.PIN, COTTER.....	6
2	PBOZZ	96906	MS20392-5C31	.PIN, STRAIGHT, HEADED.....	6
3	PBOZZ	96906	MS51967-8	.NUT, PLAIN, HEXAGON	2
4	PBOZZ	96906	MS35338-46	.WASHER, LOCK.....	2
5	PBOZZ	96906	MS90726-70	.SCREW, CAP, HEXAGON H.....	2
6	XDOZZ	22938	1-5904	.LEVER, BRAKE.....	1
7	PBOZZ	96906	MS24665-283	.PIN, COTTER.....	1
8	XDOZZ	22938	5204	.SPACER	2
9	PBOZZ	96906	MS20392-5C31	.PIN, STRAIGHT, HEADED.....	1
10	XDOZZ	56578	7413-1	.BRAKE ROD ASSY	1
11	XDOZZ	22938	5205	..YOKE	2
12	PBOZZ	96906	MS51967-8	..NUT, PLAIN, HEXAGON	2
13	XDOZZ	56578	D7500-11	..ROD, BRAKE	1
14	PBOZZ	96906	MS24665-283	.PIN COTTER.....	4
15	PBOZZ	96906	MS20392-5C31	.PIN, STRAIGHT, HEADED.....	1
16	XDOZZ	56578	7413-2	.BRAKE ROD ASSY	2
17	XDOZZ	22938	5205	..YOKE	2
18	PBOZZ	96906	MS51967-8	..NUT, PLAIN, HEXAGON	2
19	XDOZZ	22938	8300-120	..ROD, BRAKE	2
20	XDOZZ	22938	5000-2	.PIN, ROLL.....	3
21	XDOZZ	56578	D7500-17	.SHAFT, CROSS.....	1
22	XDOZZ	22938	5909	.LEVER, SHAFT.....	3
23	XDOZZ	22938	6319-2	.COLLAR, SET SCREW	2
24	PBOZZ	96906	MS51967-8	.NUT, PLAIN, HEXAGON	4
25	PBOZZ	96906	MS35338-46	.WASHER LOCK.....	4
26	XDOZZ	98255	13725P	.WASHER, BEVEL	1
27	PBOZZ	96906	MS90727-72	.SCREW, CAP, HEXAGON H.....	4
28	XDOZZ	22938	5908	.BEARING, CROSS SHAFT	2

END OF FIGURE

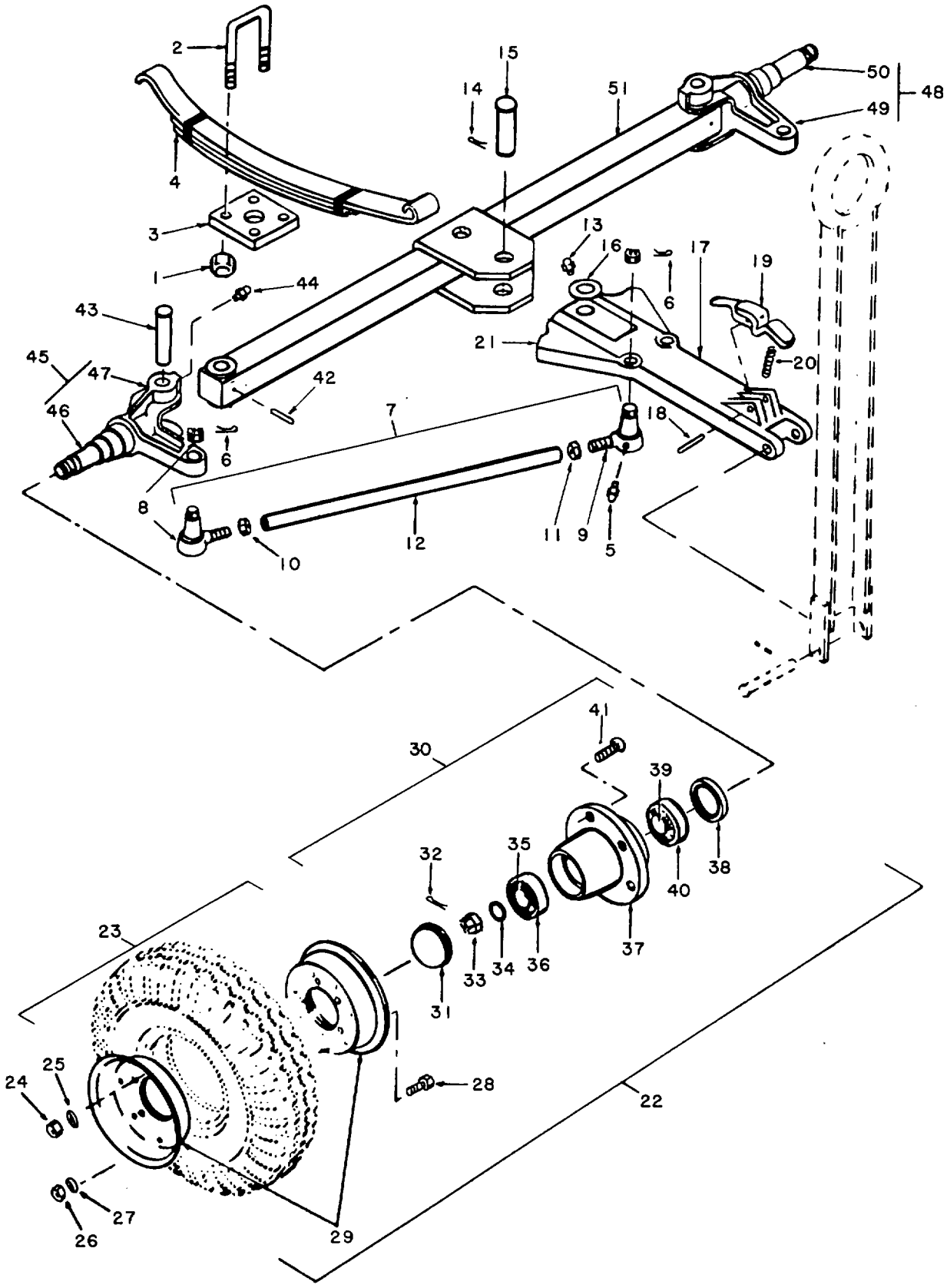


FIGURE C-5. FRONT AXLE ASSEMBLY

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0202. FRONT AXLE ASSY	
				FIG. C-5. FRONT AXLE ASSEMBLY	
	XDOFF	22938	368-1396	FRONT AXLE ASSY, SEE FIG C-2 FOR NHA	1
1	PBOZZ	96906	MS51968-8	.NUT, PLAIN, HEXAGON	8
2	XDOZZ	22938	6100-7	.U BOLT	2
3	XDOZZ	22938	5600-9	.TIE PLATE	2
4	XDOZZ	22938	14010-2	.SPRING, FRONT AXLE	2
5	XDOZZ	96906	MS15001-1	.FITTING, LUBE	4
6	PBOZZ	96906	MS24665-285	.PIN, COTTER	2
7	XDOZZ	22938	3906-215	.TIE ROD ASSY	2
8	XDOZZ	22938	3950-2	..BALL JOINT, L.H., W/ JAM NUT	2
9	XDOZZ	22938	3950-1	..BALL JOINT, R.H., W/ JAM NUT	2
10	XDOZZ	22938	4602-1	..JAM NUT, L.H	2
11	XDOZZ	22938	4602-2	..JAM NUT, R.H	2
12	XDOZZ	22938	3900-154	..TUBE, TIE ROD	2
13	XDOZZ	96906	MS15001-1	.FITTING, LUBE	1
14	PBOZZ	96906	MS24665-563	.PIN, COTTER	1
15	XDOZZ	22938	5400-1	.PIN, CENTER	1
16	XDOZZ	22938	4701-3	.WASHER, CENTER	1
17	XDOFF	22938	1-3854	.CENTER ARM ASSY	1
18	XDOZZ	22938	5000-1	.PIN, ROLL	1
19	XDOZZ	22938	3855	.PEDAL, LATCH	1
20	XDOZZ	96906	MS24585	.SPRING	1
21	XDOFF	22938	3854	.ARM, CENTER	1
22	XDOZZ	22938	AR-6-2	.HUB/WHL ASSY FRNT AXLE	2
23	XDOZZ	96906	MS24325	..WHEEL ASSY	2
24	PBOZZ	96906	MS35690-82	...NUT, PLAIN, HEX	10
25	PBOZZ	96906	MS35338-48	...WASHER, LOCK	10
26	PBOZZ	96906	MS51968-14	...NUT, PLAIN, HEXAGON	16
27	PBOZZ	96906	MS35338-48	...WASHER, LOCK	16
28	PBOZZ	96906	MS90728-20	...SCREW, CAP, HEXAGON, H	16
29	PBOZZ	96906	MS24325-1	...WHEEL, PNEUMATIC TIR	2
30	XDOZZ	22938	3613-1	..HUB, ASSY	2
31	XDOZZ	22938	6312	...CAP, GREASE	2
32	PBOZZ	96906	MS24665-359	...PIN, COTTER	2
33	PBOZZ	88044	AN320-16	...NUT, PLAIN, SLOTTED, H	2
34	XDOZZ	22938	4702-2	...WASHER, SPINDLE	2
35	PBOZZ	22938	6058	...CONE AND ROLLERS, TA	2
36	PBOZZ	22938	6151	...CUP, TAPERED ROLLER	2
37	XDOZZ	22938	3613	...HUB	2
38	XDOZZ	22938	6311	...SEAL, GREASE	2
39	PBOZZ	22938	6057	...CONE AND ROLLERS, TA	2
40	PBOZZ	22938	6152	...BEARING	2
41	XDOZZ	22938	6251-10	.STUD, PLAIN	10
42	XDOZZ	22938	5000-1	.PIN, ROLL	2
43	XDOZZ	22938	5401	.KINGPIN	2
44	XDOZZ	96906	7S15001	.FITTING, TUBE	2
45	XDOZZ	22938	4-3806	.KNUCKLE ASSY, L.H	1
46	XDOZZ	22938	6016	..SPINDLE	1
47	XDOZZ	22933	3800-2	..KNUCKLE	1

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
48	XDOZZ	22938	3-3806	KNUCKLE ASSY, R.H	1
49	XDOZZ	22938	6016	..SPINDLE.	1
50	XDOZZ	22938	3800-1	..KNUCKLE	1
51	XDOFF	22938	368-139X-1	.BEAM ASSY	1

END OF FIGURE

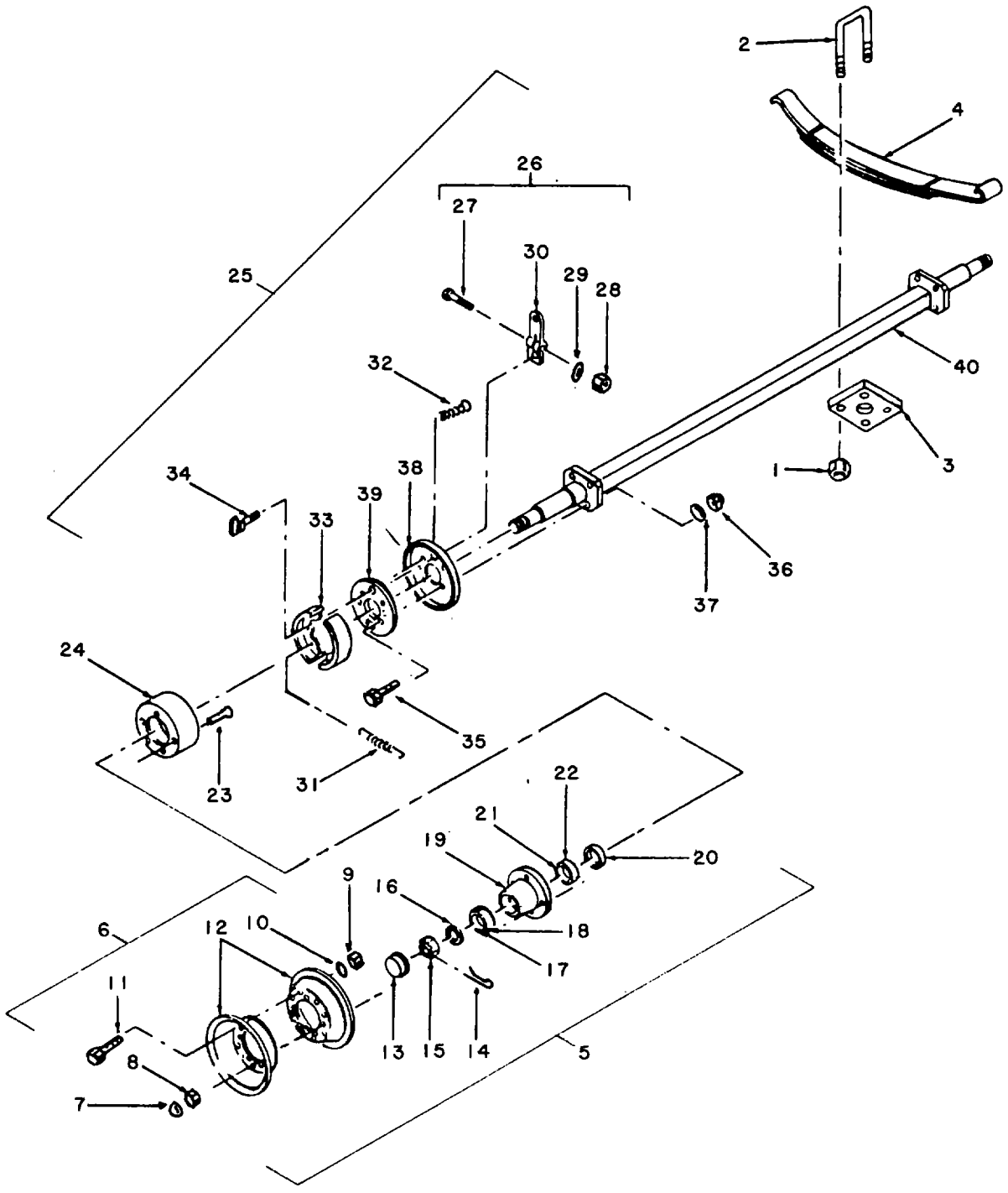


FIGURE C-6. REAR AXLE ASSEMBLY

FIGURE C-6. REAR AXLE ASSEMBLY

GROUP 0203. REAR AXLE ASSY

FIG. C-6. REAR AXLE ASSEMBLY

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
	XDOFF	22938	368-1346	REAR AXLE ASSY, SEE FIG C-2 FOR NHA	1
1	PBOZZ	96906	MS51968-8	.NUT,PLAIN,HEXAGON	8
2	XDOZZ	22938	5100-7	.U BOLT	2
3	XDOZZ	22938	5600-9	.TIE PLATE	2
4	XDOZZ	22938	1-4010-2	.SPRING, REAR AXLE	2
5	XDOZZ	22938	AR-6-1	.HUB/WHL ASSY,REAR AXLE	2
6	XDOZZ	96906	MS24325	..WHEEL ASSY	2
7	PBOZZ	96906	MS35690-82	...NUT,PLAIN,HEX	10
8	PBOZZ	96906	MS35338-48	...WASHER,LOCK	10
9	PBOZZ	96906	MS51968-14	...NUT,PLAIN,HEXAGON	8
10	PBOZZ	96906	MS35338-48	...WASHER,LOCK	8
11	PBOZZ	96906	MS90728-20	...SCREW,CAP,HEXAGON H	8
12	PBOZZ	96906	MS24325-1	...WHEEL,PNEUMATIC TIR	2
13	XDOZZ	22938	6312	...CAP,GREASE	2
14	PBOZZ	96906	MS24665-359	...PIN,COTTER	2
15	PBOZZ	88044	AN320-16	...NUT,PLAIN,SLOTTED,H SPINDLE	2
16	XDOZZ	22938	4702-2	...WASHER,SPINDLE	2
17	PBOZZ	22938	6058	...CONE AND ROLLERS,TA	2
18	PBOZZ	22938	6151	...CUP,TAPERED ROLLER	2
19	XDOZZ	22938	3613	...HUB	2
20	XDOZZ	22938	6311	...SEAL,GREASE	2
21	PBOZZ	22938	6057	...CONE AND ROLLERS,TA	2
22	PBOZZ	22938	6152	...BEARING	2
23	XDOZZ	22938	6251-9	...STUD	10
24	XDOZZ	22938	8221	...DRUM	2
25	XDOZZ	22938	1-8209	.BRAKE ASSY,OVERALL	1
26	XDOZZ	14892	8225	..LEVER ASSY	2
27	XDOZZ	14892	318607	...BOLT,MACHINE	2
28	XDOZZ	14892	901625	...NUT,PLAIN,HEX	2
29	XDOZZ	14892	901007	...WASHER,LOCK	2
30	XDOZZ	14892	317967	...CAMSHAFT LEVER	2
	XDOZZ	14892	8209	..BRAKE ASSY	2
31	XDOZZ	14892	4150098	...SPRING,SHOE RETURN	2
32	XDOZZ	14892	310959	...SPRING,SHOE HOLD	4
33	PBOZZ	14892	317973	...BRAKE SHOE SET,INTE	4
34	XDOZZ	14892	919061	...CAMSHAFT	2
35	PBOZZ	96906	MS90726-60	.SCREW,CAP,HEXAGON H	8
36	PBOZZ	96906	MS51968-8	.NUT,PLAIN,HEXAGON H	8
37	PBOZZ	96906	MS35338-46	.WASHER,LOCK	8
38	XDOZZ	22938	8210	.DUST SHIELD	2
39	XDOZZ	14892	310949	.SUPPORT PLATE	2
40	XDOZZ	22938	368-1346-2	.BEAM ASSY,REAR AXLE	1

END OF FIGURE

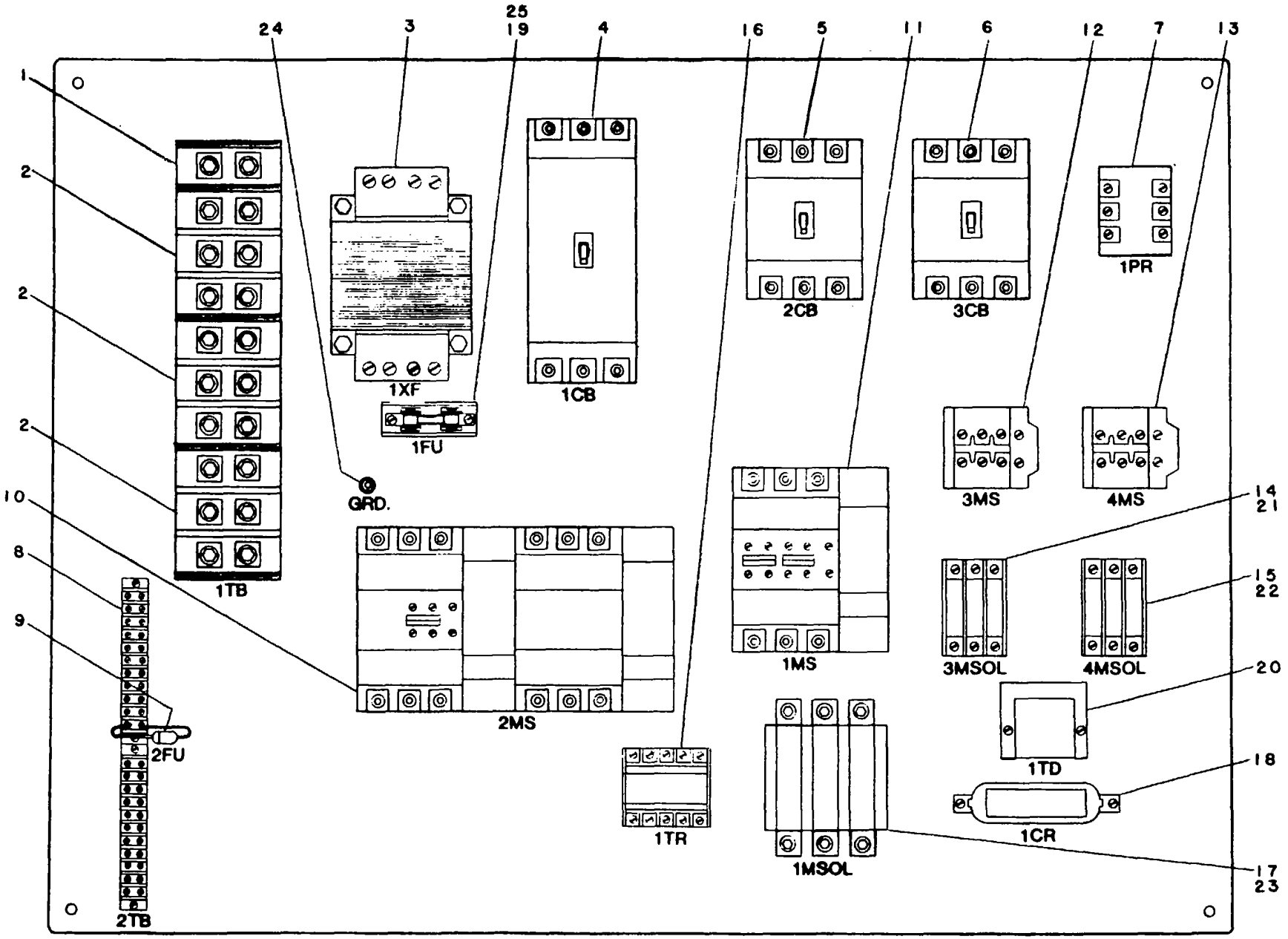


FIGURE C-7. ELECTRICAL COMPONENTS PANEL ASSEMBLY

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 03. ELECTRICAL SYSTEM	
				FIG. C-7. ELECTRICAL COMPONENTS PANEL ASSEMBLY	
	XDOFF	56578	D7515	PANEL ASSEY, ELECTRONIC	1
1	XDFZZ	11660	TBAE-1	.TERMINAL	1
2	XDFZZ	11660	TBAE-3	.TERMINAL	3
3	XDOZZ	00159	TA-1-81216	.TRANSFORMER	1
4	XDOZZ	11660	JB3225W	.CIRCUIT BREAKER	1
5	XDOZZ	30086	EH3-B015	.CIRCUIT BREAKER	1
6	XDOZZ	30086	EH3-B015	.CIRCUIT BREAKER	1
7	XDOZZ	25248	910-3X	.RELAY,ELECTROMAGNET SEQUENCE	1
8	XDFZZ	02989	CR151D10214	.TERMINAL	1
9	XDFZZ	71400	CMF8/10	.FUSE AND CAP	1
10	XDOZZ	52034	CAU1-60-12	.CONTACTOR	1
11	XDOZZ	52034	CA1-60-120VAC	.CONTACTOR	1
12	XDOZZ	52034	CA1-10E	.CONTACTOR	1
13	XDOZZ	52034	CA1-10E	.CONTACTOR	1
14	XDOZZ	23826	48DC37AA4	.OVERLOAD RELAY	1
15	XDOZZ	23826	48DC37AA4	.OVERLOAD RELAY	1
16	XDOZZ	52034	RZEY2-11	.TIMING RELAY	1
17	XDOZZ	18676	48DC37AA4	.OVERLOAD RELAY	1
18	XDOZZ	95692	CS1UA	.RELAY	1
19	XDOZZ	23826	403	.FUSE BLOCK	1
20	XDOZZ	23826	438U	.TIME CAPSULE	1
21	XDOZZ	23826	E31	.HEATER 220V	1
21	XDOZZ	23826	E19	.HEATER 440V	1
22	XDOZZ	23826	E34	.HEATER 220V	1
22	XDOZZ	23826	E24	.HEATER 440V	1
23	XDOZZ	23826	E92	.HEATER 220V	1
23	XDOZZ	23826	E70	.HEATER 440V	1
24	XDOZZ	56578	D7515-23	.GROUND STUD ASSY	1
25	PBOZZ	71400	FRN-R61/4	.FUSE,CARTRIDGE	1

END OF FIGURE

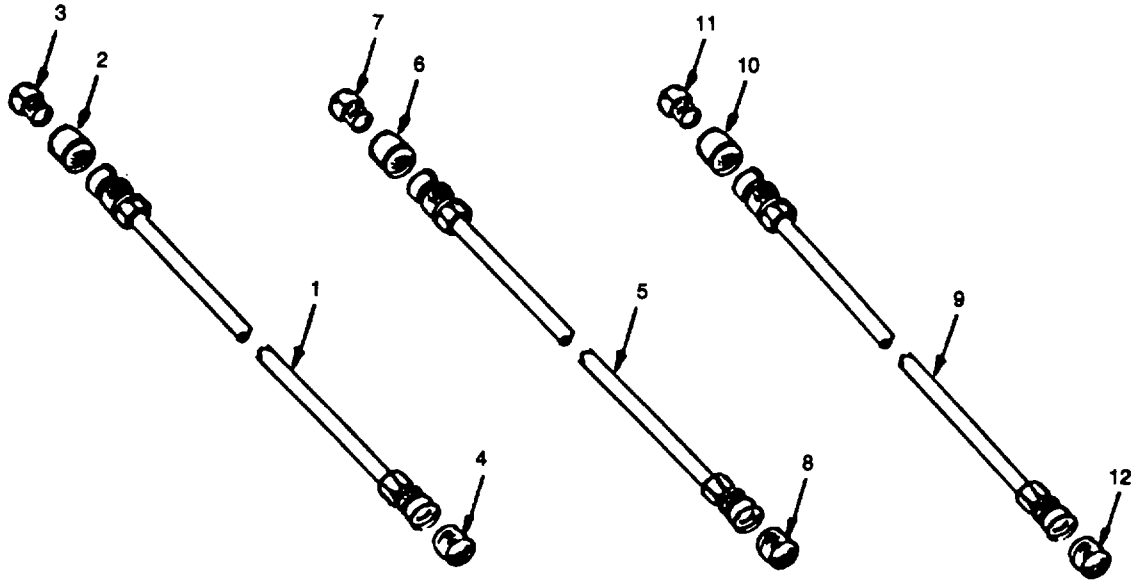


FIGURE C8. HOSE ASSEMBLIES

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0401. HOSE ASSEMBLIES	
				FIG. C-8. HOSE ASSEMBLIES	
1	XDOFF	50599	MS28759M1200	HOSE ASSEMBLY, NONME	2
2	PBOZZ	00624	155-S5-16D	.COUPLING, HALF, QUICK	2
3	PBOZZ	00624	155S9-16D	.PLUG, PROTECTIVE, DUS	2
4	PBOZZ	88044	AN815-16	.NIPPLE, TUBE	2
5	PBOFZ	96906	MS28759-K-1200	HOSE ASSEMBLY, NONME 1OFT	2
6	PBOZZ	00624	155S5-12D	.COUPLING, HALF, QUICK	2
7	PBOZZ	00624	155-S9-12D	.PLUG, PROTECTIVE	2
8	PBOZZ	88044	AN815-12	.NIPPLE, TUBE	2
9	PBOFZ	96906	MS28759-H-1200	HOSE ASSEMBLY, NONME X 10 FEET	2
10	PBOZZ	00624	155-S5-8D	.COUPLING HALF, QUICK	2
11	PBOZZ	00624	155-S9-8D	.PLUG, PROTECTIVE, DUS	2
12	PBOZZ	96906	MS24392-8	.NIPPLE, TUBE	2

END OF FIGURE

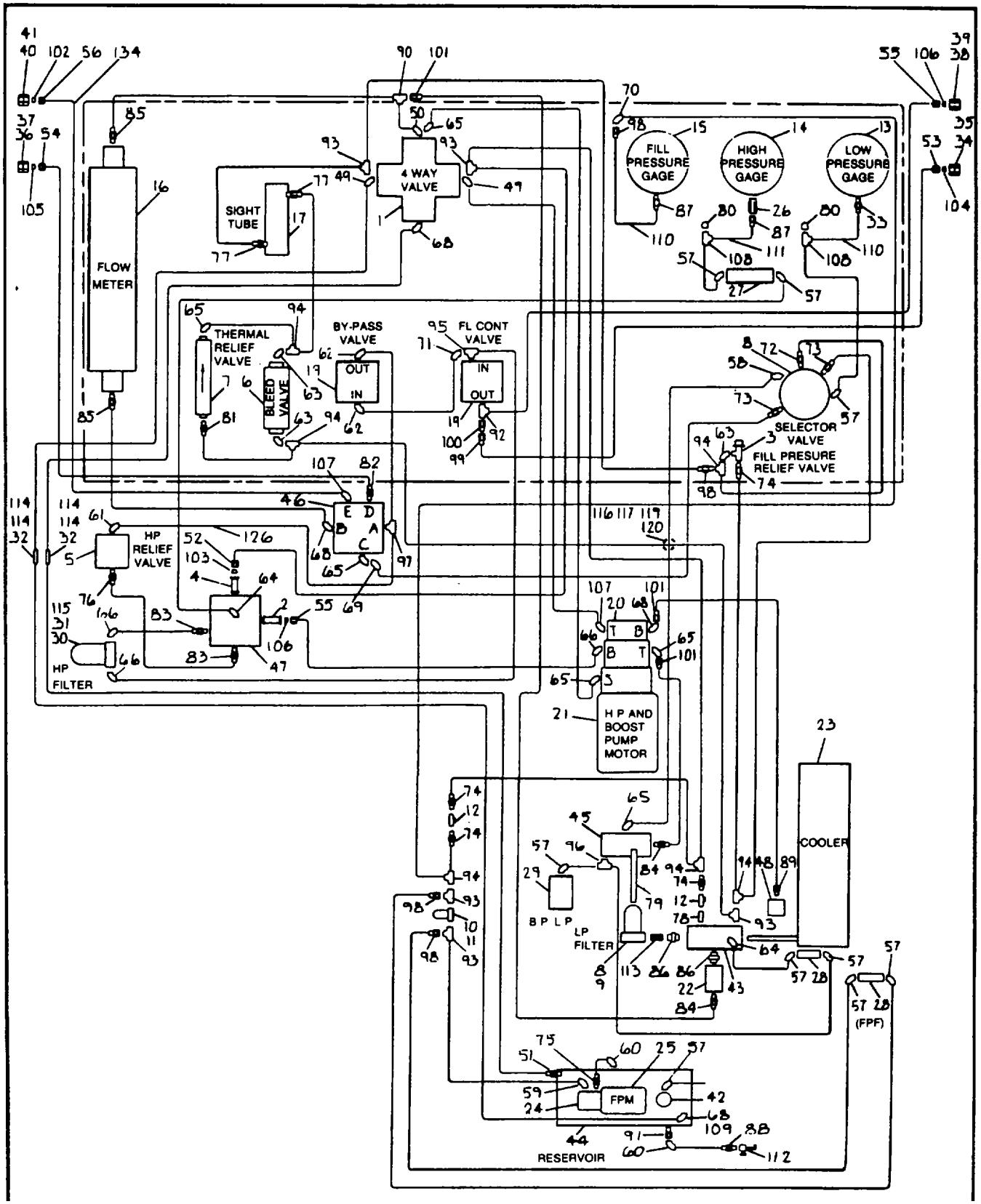


FIGURE C-9. HYDRAULIC PIPING INSTALLATION

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0402. HYDRAULIC PIPING INSTALLATION	
				FIG. C-9. HYDRAULIC PIPING INSTALLATION	
	XDOZZ	56578	D7504	HYD. PIPING INSTALL	1
1	XDOFF	86768	744-24-D2P	.4-WAY VALVE, SEE FIG C-15 FOR BRKDWN	1
2	XDOFF	86768	458-16S27-6	.H.P. CHECK VALVE, SEE FIG C-11 FOR BRKDWN	1
3	XDOFF	86768	622B-3-3/8-D27	.RLF VALVE, FILL PRES SEE FIG C-19 FOR BRKDWN	1
4	XDOFF	86768	458-6S27-6	.H.P. CHECK VALVE, SEE FIG C-10 FOR BRKDWN	1
5	XDOFF	86768	R6701-4-3/4-S2	.H.P. RLF VALVE, SEE FIG C-14 FOR BRKDWN	1
6	XDOFF	86768	689B-3-3/8-D27	.FILTER BLEED VALVE, SEE FIG C-18 FOR BRKDWN	1
7	XDOZZ	86768	665-3-6027	.THERMAL RLF VALVE	1
8	XDOOO	81321	P32-55	.L.P. FILTER, SEE FIG C-12 .FOR BRKDWN	1
9	PBOZZ	88044	AN6236-3A	.FILTER ELEMENT	2
10	XDOZO	81321	50221	.FILTER, FLUID	1
11	PBOZZ	05228	6655566	.FILTER ELEMENT, FLUI.....	1
12	XDOZZ	24207	PO-375-S	.CHECK VALVE	2
13	XDOZZ	72100	4VGBSF-1	.LOW PRESS, GAGE	1
14	XDOZZ	38056	60-1377RTS-14BC	.HIGH PRESS, GAGE	1
15	XDOZZ	38056	1009S-XFF	.FILL PRESS, GAGE	1
16	XDOFF	22375	10A1755	.FLOWMETER, SEE FIG C-17 FOR BRKDWN	1
17	XDOZZ	22375	449-P-543-UO1	.SIGHT TUBE.....	1
18	XDOZZ	99895	MS5A2.0/5	.SELECTOR VALVE	1
19	XDOZZ	89326	195P6HM2	.VALVE, PANEL MOUNT	2
20	XDOZZ	12027	610574	.H. BRAND BOOST PUMP	1
21	XDOZZ	38151	HM326UTDR618881W	.MOTOR	1
22	XDOFF	96259	1AR1-R20T-15S	.L.P. RLF. VALVE, SEE FIG C-16 FOR BRK DWN	1
23	XDOZZ	56578	A7519	.COOLER	1
24	XDOZZ	61038	V110-15-10-10-S2	.PUMP FILL	1
25	XDOZZ	89762	TYPEDOCC-291E	.MOTOR, FILL PUMP	1
26	XDOZZ	81400	27201	.GAGE DAMPER	1
27	XDOZZ	92029	S-250-SIP	.SHUT OFF, HP GAGE	1
28	XDOZZ	34950	17R3-K2	.SWITCH, PRESS DIFF	1
29	XDOZZ	34950	5NNK45	.SWITCH LP BOOST PUMP	1
30	XDOZZ	01414	ADHT5458E9716MDB	.FILTER, HP.....	1
31	PBOZZ	01414	AC-9516F-1	.FILTER, ELEMENT, FLUI	1
32	XDOZZ	565578	A7531	.COUPLER TUBE, SUCTION AND RETURN	2
33	XDOZZ	56578	D7504-33	.COUPLING, REDUCER 1/2 - 1/4	1
34	PBOZZ	00624	TA155-S4-8D	.COUPLING, HALF, QUICK	1
35	PBOZZ	00624	155-S7-8D	.CAP, PROTECTIVE, DUST	1
36	PBOZZ	00624	TA155S4-12D	.COUPLING, HALF, QUICK	1

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
37	PBOZZ	00624	155-S7-12D	.CAP, QUICK DISCONNEC	1
38	PBOZZ	00624	TA155-S4-16D	.COUPLING HALF, QUICK	1
39	PBOZZ	00624	155-S7-16D	.CAP, QUICK DISCONNEC	1
40	XDOZZ	00624	B145-S4-24D	.COUPLING HALF, QUICK INCH	1
41	XDOZZ	00624	145S7-24D	.CAP, QUICK DISCONNEC	1
42	XDOZZ	12190	A-100-X-G	.FILLER CAP	1
43	XDOZZ	56578	D7454	.COOLER CUTLET MANIFOLD	1
44	XDOFF	56578	D7457-1	.HYD. FLUID RESERVOIR	1
45	XDOFF	56578	D7494	.L.P. FILTER MANIFOLD	1
46	XDOFF	56578	D7501	.Q.D. MANIFOLD	1
47	XDOFF	56578	D7502	.4-WAY MANIFOLD	1
48	XDOFF	56578	D7503	.ELBOW 90 DEG	1
49	XDOFF	56578	A7505	.ELBOW, L.H. SIDE PORT	2
50	XDOFF	56578	A7506	.ELBOW, R.H. SDE PORT	1
51	XDOFF	56578	A7507	.SUCTION LINE FITTING	1
52	XDOZZ	30780	6-BTX-S	.NUT	1
53	XDOZZ	30780	8-BTX-S	.NUT	1
54	XDOZZ	30780	12-BTX-S	.NUT	1
55	XDOZZ	30780	16-BTX-S	.NUT	2
56	XDOZZ	30780	24-BTX-S	.NUT	1
57	XDOZZ	30780	4-4-CBTX-S	.MALE ELBOW	9
58	XDOZZ	30780	6-CBTX-S	.MALE ELBOW	1
59	XDOZZ	30780	6-6-CBTX-S	.MALE ELBOW	1
60	XDOZZ	30780	8-CBTX-S	.MALE ELBOW	2
61	XDOZZ	30780	12-16-CBTX-S	.ELBOW, MALE	1
62	XDOZZ	30780	16-CBTX-S	.ELBOW, MALE	2
63	XDOZZ	30780	6-6-CTX-S	.ELBOW, MALE BODY ONLY	3
64	XDOZZ	30780	4-C5BX-S	.ELBOW, STRAIGHT THRD	2
65	XDOZZ	30780	6-C5BX-S	.ELBOW, STRAIGHT THRD	5
66	XDOZZ	30780	16-C5BX-S	.ELBOW, STRAIGHT THRD	2
67	XDOZZ	30780	16-C5BX-S	.ELBOW, STRAIGHT THRD	1
68	XDOZZ	30780	24-C5BX-S	.ELBOW, STRAIGHT THRD	5
69	XDOZZ	30780	6-C6BX-S	.NUT, SWIVEL, ELBOW	1
70	XDOZZ	30780	6-EBTX-S	.UNION, ELBOW	1
71	XDOZZ	30780	16-06BX-S	.SWIVEL NUT ELBOW	1
72	XDOZZ	30780	4-4-FBTX-S	.CONNECTOR, MALE	1
73	XDOZZ	30780	6-FBTX-S	.CONNECTOR, MALE	2
74	XDOZZ	30780	6-6-FBTX-S	.CONNECTOR, MALE	4
75	XDOZZ	30780	8-8-FBTX-S	.MALE CONNECTOR	1
76	XDOZZ	30780	12-16-FBTX-S	.CONNECTOR, MALE	1
77	XDOZZ	30780	6-2-FBTX-S	.CONNECTOR, MALE	2
78	XDOZZ	30780	3/8-FF-S	.NIPPLE, PIPE	1
79	XDOZZ	30780	11/4-FFS	.NIPPLE, PIPE	1
80	XDOZZ	30780	4-FNTX-S	.CAP	2
81	XDOZZ	30780	6-F5BX-S	.CONNECTOR, STRAIGHT THREAD	1
82	XDOZZ	30780	12-F5BX-S	.CONNECTOR, STRAIGHT THREAD	1
83	XDOZZ	30780	16-F5BX-S	.CONNECTOR, STRAIGHT THREAD	2
84	XDOZZ	30780	20-F5BX-S	.CONNECTOR, STRAIGHT THREAD	3
85	XDOZZ	30780	24-F5BX-S	.CONNECTOR, STRAIGHT THREAD	2
86	XDOZZ	30780	F50F50-20	.UNION	2
87	XDOZZ	30780	1/4-GG-S	.PIPE CONNECTOR	2
88	XDOZZ	30780	8-GBTX-S	.CONNECTOR, FEMALE	1

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
89	XDOZZ	56578	A7538	.NIPPLE	1
90	XDOZZ	30780	24-JBTX-S	.UNION TEE	1
91	XDOZZ	30780	3/4X3/8-PTR-S	.PIPE THREAD REDUCER	1
92	XDOZZ	30780	16-RBTX-S	.MALE RUN TEE	1
93	XDOZZ	30780	6-R5BX-S	.STRAIGHT THRD RUN TEE	5
94	XDOZZ	30780	6-R6BX-S	.SWIVEL NUT RUN TEE	6
95	XDOZZ	30780	16-SBTX-S	.MALE BRANCH TEE	1
96	XDOZZ	30780	4-S5BX-S	.STRAIGHT THRD, BRANCH TEE	1
97	XDOZZ	30780	16-S5BX-X	.STRAIGHT THRD, BRANCH TEE	1
98	XDOZZ	30780	6-4-TRBTX-S	.TUBE END REDUCER	4
99	XDOZZ	30780	12-8-TRBTX-S	.REDUCER, TUBE END	1
100	XDOZZ	30780	16-12-TRBTX-S	.REDUCER, TUBE END	1
101	XDOZZ	30780	24-20-TRBTX-S	.REDUCER, TUBE END	3
102	XDOZZ	30780	24-TX-S	.SLEEVE, INCH	1
103	XDOZZ	30780	6-TX-S	.SLEEVE, INCH	1
104	XDOZZ	30780	8-TX-S	.SLEEVE, INCH	1
105	XDOZZ	30780	12-TX-S	.SLEEVE, INCH	1
106	XDOZZ	30780	16-TX-S	.SLEEVE, INCH	2
107	XDOZZ	30780	24-V5BX-S	.ELBOW, STRAIGHT THRD	2
108	XDOZZ	30780	4-WJJBTX-S	.BULKHEAD TEE	2
109	XDOZZ	30780	24-WLN-S	.NUT, LOCK BULKHEAD	1
110	XDOZZ	30780	520N-4	.HOSE, LP AND FILL PRESSURE GAGE	2
111	XDFZZ	85757	41734SYNFLEX	.HOSE	1
112	XDOZZ	30780	V41QNIA-8-8	.VALVE, DRAIN RESEV	1
113	XDOZZ	85757	41734SYNFLEX	.HOSE	1
113	XDOZZ	30780	0107-20-20	.SWIVEL, FEMALE PIPE	1
114	XDOZZ	88044	AN737TW74	.CLAMP, HOSE	4
115	XDOZZ	01414	MC606EH097	.SWITCH, FILTER, HP	1
116	XDOZZ	56578	A7522-3	.SPACER	1
117	XDOZZ	96906	MS21919-DF6	.CLAMP, LOOP	2
118	PBOZZ	96906	MS51958-68	.SCREW, MACHINE	1
119	PBOZZ	96906	MS35650-3C2	.NUT, PLAIN, HEXAGON	1
120	PBOZZ	96906	MS35338-43	.WASHER, LOCK	1

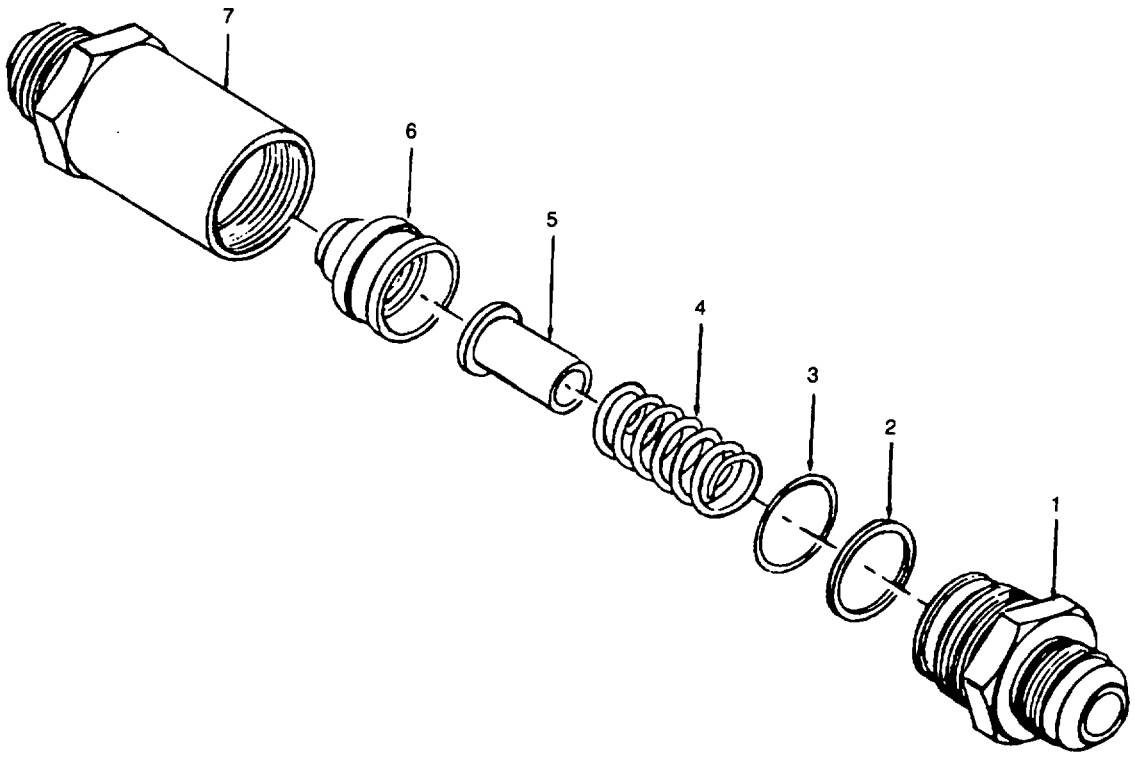


FIGURE C-10. CHECK VALVE, 3/8 INCH

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0403. CHECK VALVE, 3/8 INCH	
				FIG. C-10. CHECK VALVE, 3/8 INCH	
	XDOFF	86768	458-6S27-6	VALVE, CHK SEE FIG C-8 FOR NHA.....	1
1	XDFZZ	86768	2-255-14-3	.CAP.....	1
2	XDFZZ	86768	SP201-899	.RING, BACKUP.....	1
3	XDFZZ	86768	S[100-89	.PACKING, PREFORMED.....	1
4	XDFZZ	86768	2-255-46	.SPRING	1
5	XDFZZ	86768	12-155-21-6	.TUBE	1
6	XDFZZ	86768	2-255-40-1	.POPPET.....	1
7	XDFZZ	86768	2-255-11-3	.BODY.....	1

END OF FIGURE

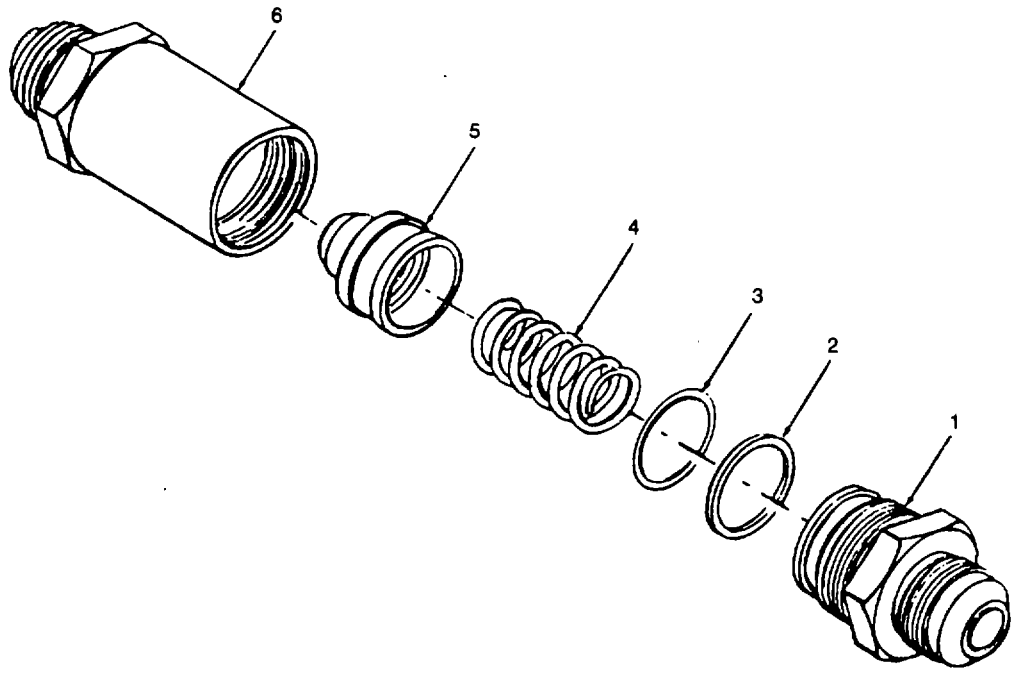


FIGURE C11. CHECK VALVE, 1 INCH

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0404. CHECK VALVE, 1 INCH	
				FIG. C-11. CHECK VALVE, 1 INCH	
	XDOZZ	86768	458-16S27-6	VALVE, CHECK, H.P., SEE FIG C-9 FOR NHA	1
1	XDFZZ	86768	2-255-38-3	.CAP.....	1
2	XDFZZ	96906	MS28774-026	.RETAINER, PACKING	1
3	XDFZZ	96906	MS28775-026	.PACKING, PREFORME	1
4	XDFZZ	86768	2-255-50	.SPRING	1
5	XDFZZ	86768	2-255-44-1	.POPPET.....	1
6	XDFZZ	86768	2-555-35-3	.BODY.....	1

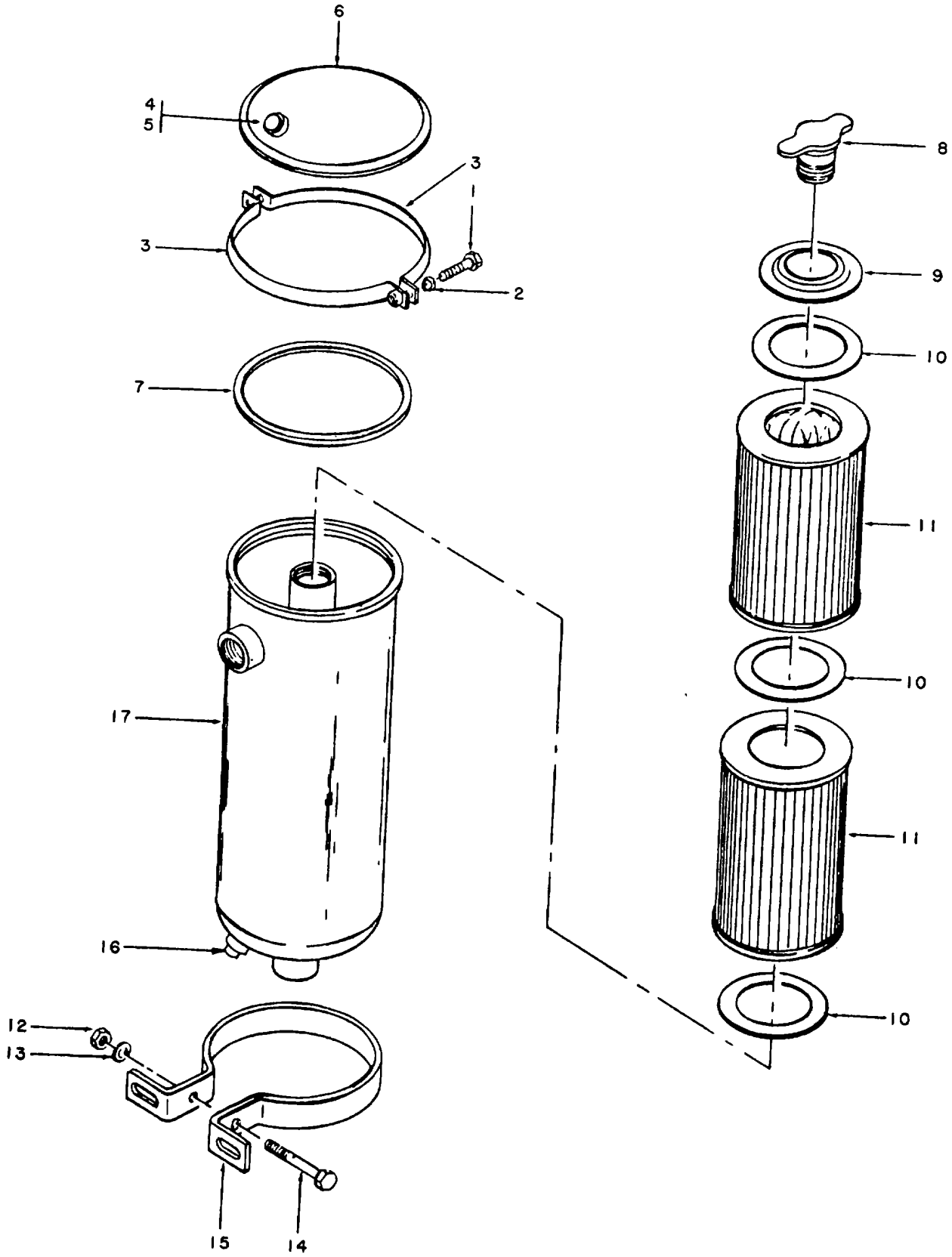


FIGURE C12. LOW PRESSURE FILTER

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0405. FILTER ASSEMBLIES	
				FIG. C-12. LOW PRESSURE FILTER	
	XDOOO	81321	P32-55	FILTER,LOW PRESS., SEE FIG C-8 FOR NHA	1
1	PBOZZ	96906	MS90725-66	.SCREW,CAP,HEXAGON H.....	2
2	PBOZZ	96906	MS35338-46	.WASHER,LOCK.....	2
3	XDOZZ	81321	6654655	.RING,CLAMPING.....	2
4	XDOZZ	81321	7335	.PLUG,FILLER	1
5	XDOZZ	81321	7494	.GASKET,FILLER PLUG	1
6	XDOZZ	81321	60260	.COVER ASSY	1
7	PBOZZ	81321	6653463	.GASKET.....	1
8	XDOZZ	81321	6670117	.RETAINER,ELEMENT.....	1
9	XDOZZ	81321	60263	.RETAINER,FILTER	1
10	PBOZZ	81321	30102	.WASHER,FLAT.....	3
11	PBOZZ	81321	AN6236-3A	.FILTER ELEMENT	2
12	PBOZZ	96906	MS51967-8	.NUT,PLAIN,HEXAGON	2
13	PBOZZ	96906	MS35338-46	.WASHER,LOCK.....	2
14	PBOZZ	96906	MS90725-70	.SCREW,CAP,HEXAGON H.....	2
15	XDOZZ	81321	22202	.BRACKET	2
16	XDOZZ	81321	7886	.PLUG, DRAIN	1
17	XDOZZ	81321	63387	.CASE	1

END OF FIGURE

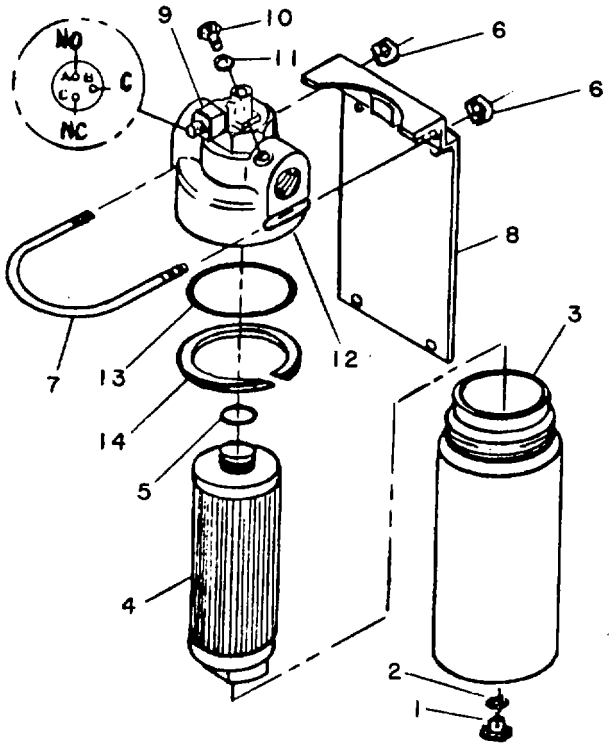


FIGURE C-13. HIGH PRESSURE FILTER

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				FIG. C-13. HIGH PRESSURE FILTER	
	XDOOO	01414	ADHT5458E9716MDB	FILTER, H.P., SEE FIG. C-2 FOR NHA	1
1	XDOZZ	88044	AN814-4D	.PLUG, MACHINE THREAD	2
2	PBOZZ	96906	MS28778-4	.PACKING, PREFORMED	1
3	XDOZZ	01414	AC-547-TD2A	.BOWL, FILTER	1
4	PBOZZ	01414	AC-9516F-1	.FILTER ELEMENT, FLUI	1
5	PBOZZ	96906	MS28778-12	.PACKING, PREFORMED	1
6	XDOZZ	88044	AN335-4	.NUT.....	2
7	XDOZZ	01414	AA-5457-ID9	.U BOLT	1
8	XDOZZ	01414	AC-5457-1D8	.BRACKET	1
9	XDOZZ	01414	MC606EH097	.SWITCH DIFF PRESS	1
10	XDOZZ	88044	AN814-4D	.PLUG, MACHINE THREAD	1
11	XDOZZ	96906	MS28778-4	.PACKING, PREFORMED	1
12	XDOZZ	01414	AC-5457-1D116A	.HEAD, FILTER	1
13	PBOZZ	96906	MS28775-243	.PACKING, PREFORMED	1
14	XDOZZ	96906	MS28774-243	.SPACER, RING	1

END OF FIGURE

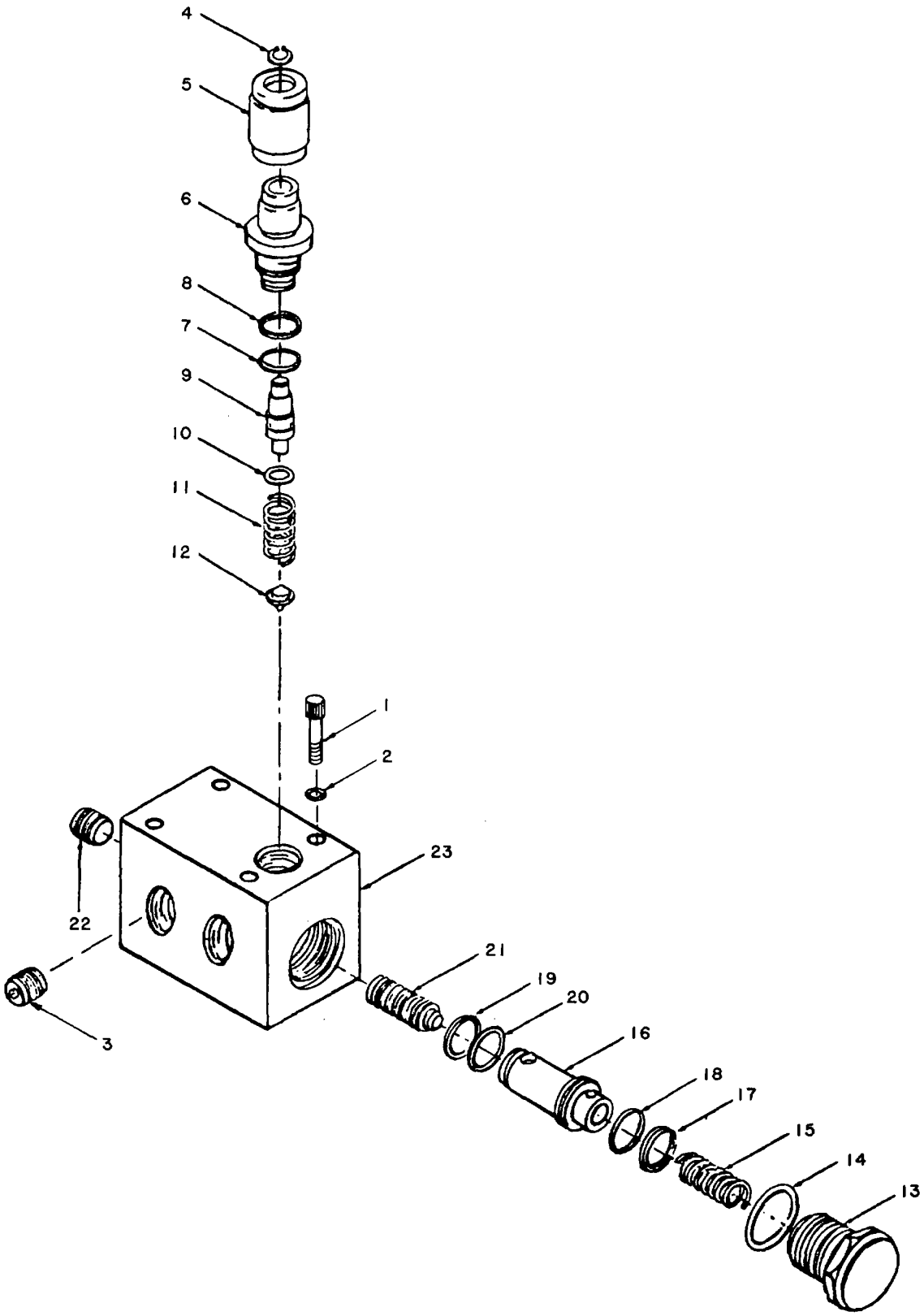


FIGURE C-14. HIGH PRESSURE RELIEF VALVE

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0406. H.P. RELIEF VALVE	
				FIG. C-14. HIGH PRESSURE RELIEF VALVE	
	XDOFF	86768	R6701-4314-S2	VALVE H.P. RELIEF SEE FIG C-2 FOR NHA	1
1	PBOZZ	96906	MS16997-78	.SCREW CAP SOCKET HD	4
2	PBOZZ	96906	MS35338-45	.WASHER,LOCK	4
3	XDFZZ	81348	WWP471-AACBCE	.PLUG PIPE ¾-14	1
4	XDFZZ	86768	00175-0411-1300	.RING SNAP	1
5	XDFZZ	86768	00621-0431-1190	.HANDLE ADJUSTING	1
6	XDFZZ	86768	00621-0411-0800	.CAP PILOT	1
7	XDFZZ	86768	500000-0018-0027	.PACKING PREFORMED	1
8	XDFZZ	86768	500001-0018-0000	.RING BACKUP PILOT	1
9	XDFZZ	86768	00621-0441-0990	.STEM PILOT	1
10	XDFZZ	86768	500000-0111-0027	.PACKING PREFORMED	1
11	XDFZZ	86768	00621-0441-1206	.SPRING PILOT	1
12	XDFZZ	86768	00621-0441-2690	.SEAT PILOT	1
13	XDFZZ	86768	00621-0811-0290	.CAP	1
14	XDFZZ	86768	500000-0916-0027	.PACKING PREFORMED	1
15	XDFZZ	86768	00621-0841-0700	.SPRING	1
16	XDFZZ	86768	00621-0811-0490	.SLEEVE	1
17	XDFZZ	86768	500000-0022-0027	.PACKING PREFORMED	1
18	XDFZZ	86768	500001-0022-0000	.RING	1
19	XDFZZ	86768	500001-0019-0000	.RING BACKUP SLEEVE	1
20	XDFZZ	86768	500000-0019-0027	.PACKING PREFORM SLE	1
21	XDFZZ	86768	00621-0841-0590	.PISTON	1
22	XDFZZ	86768	519112-0310-0000	.PLUG PRESSURE	1
23	XDFZZ	86768	00622-1211-0191	.BODY	1
				END OF FIGURE	

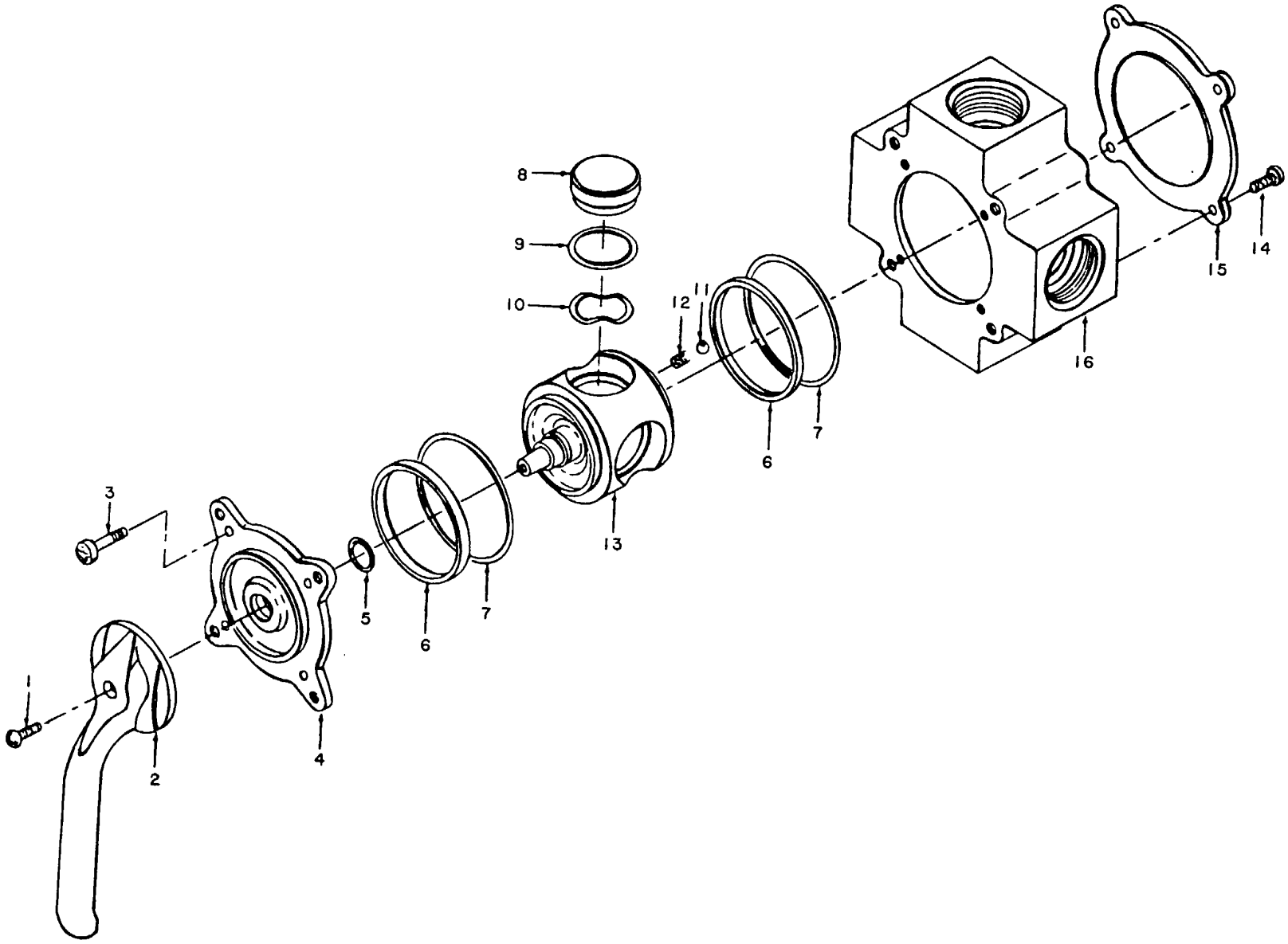


FIGURE C-15. FOURWAY VALVE

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0407. FOUR-WAY VALVE	
				FIG. C-15. FOUR-WAY VALVE	
	XDOFF	86768	744-24-D2P	VALVE 4-WAY SEE FIG C-22 FOR NHA	1
1	XDFZZ	88044	AN117006	.SCREW MACHINE	1
2	XDFZZ	86768	2-2866-3	.HANDLE	1
3	PBOZZ	96906	MS35190-288	.SCREW, MACHINE	4
4	XDFZZ	86768	5-1061-2-1	.PLATE COVER TOP	1
5	XDFZZ	86768	SP132-92	.PACKING PREFORM PLU	1
6	XDFZZ	86768	4-2156-4	.BEARING	1
7	XDFZZ	86768	SP132-137	.PACKING PREFORMED	1
8	XDFZZ	86768	10-3156-1C-1	.SEAL ASSY	2
9	XDFZZ	86768	SP132-114 .	.PACKING PREFORMED	2
10	XDFZZ	86768	10-3156-1	.SPRING WASHER	2
11	XDFZZ	86768	1/4 DIA NYLON	.BALL DETENT	2
12	XDFZZ	86768	4-1454-15	.SPRING DETENT	2
13	XDFZZ	86768	10- 1562- 7	.PLUG	1
14	PBOZZ	96906	MS35265-80	.SCREW MACHINE	4
15	XDFZZ	86768	10-2956-5-1	.PLATE	1
16	XDFZZ	86769	C11-267-1-10	.BODY	1

END OF FIGURE

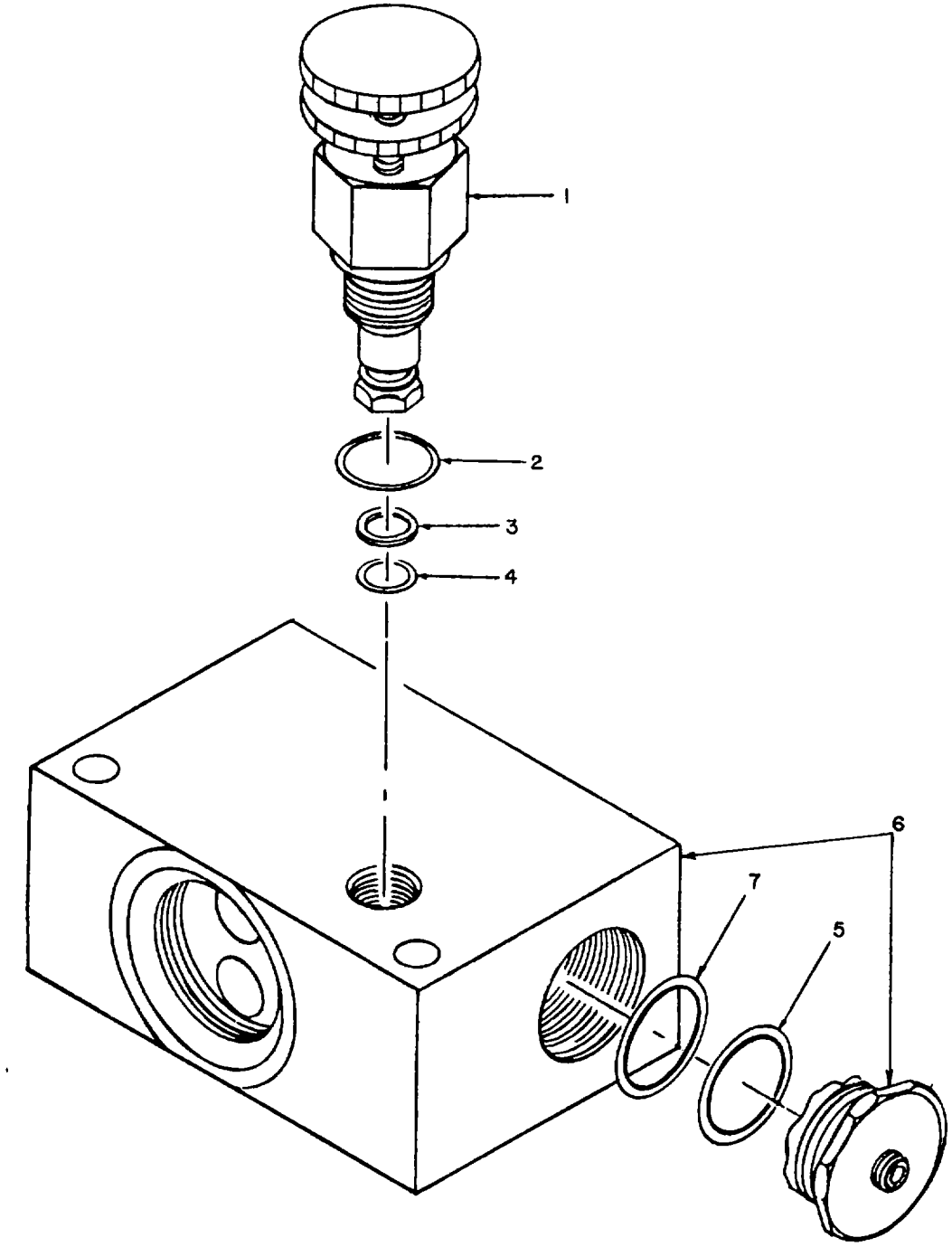


FIGURE C-16. LOW PRESSURE RELIEF VALVE

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0408. LP RELIEF VALVE	
				FIG. C-16. LOW PRESSURE RELIEF VALVE	
	XDOFF	96259	1AR41-R20T-15S	VALVE LP RELIEF SEE FIG C-5 FCR NHA	1
1	XDFZZ	96259	1D70-R-15S	.CARTRIDGE RELIEF	1
2	XDFZZ	96259	139108	.PACKING PREFORMED	1
3	XDFZZ	96259	145012	.RING BACKUP	1
4	XDFZZ	96259	132107	.PACKING PREFORMED.....	1
5	XDFZZ	96259	139120	.PACKING PREFORMED	1
6	XDFZZ	96259	B-1212131SM	.POPPET GLIDE	1
7	XDFZZ	96259	139118	.PACKING PREFORMED	1

END OF FIGURE

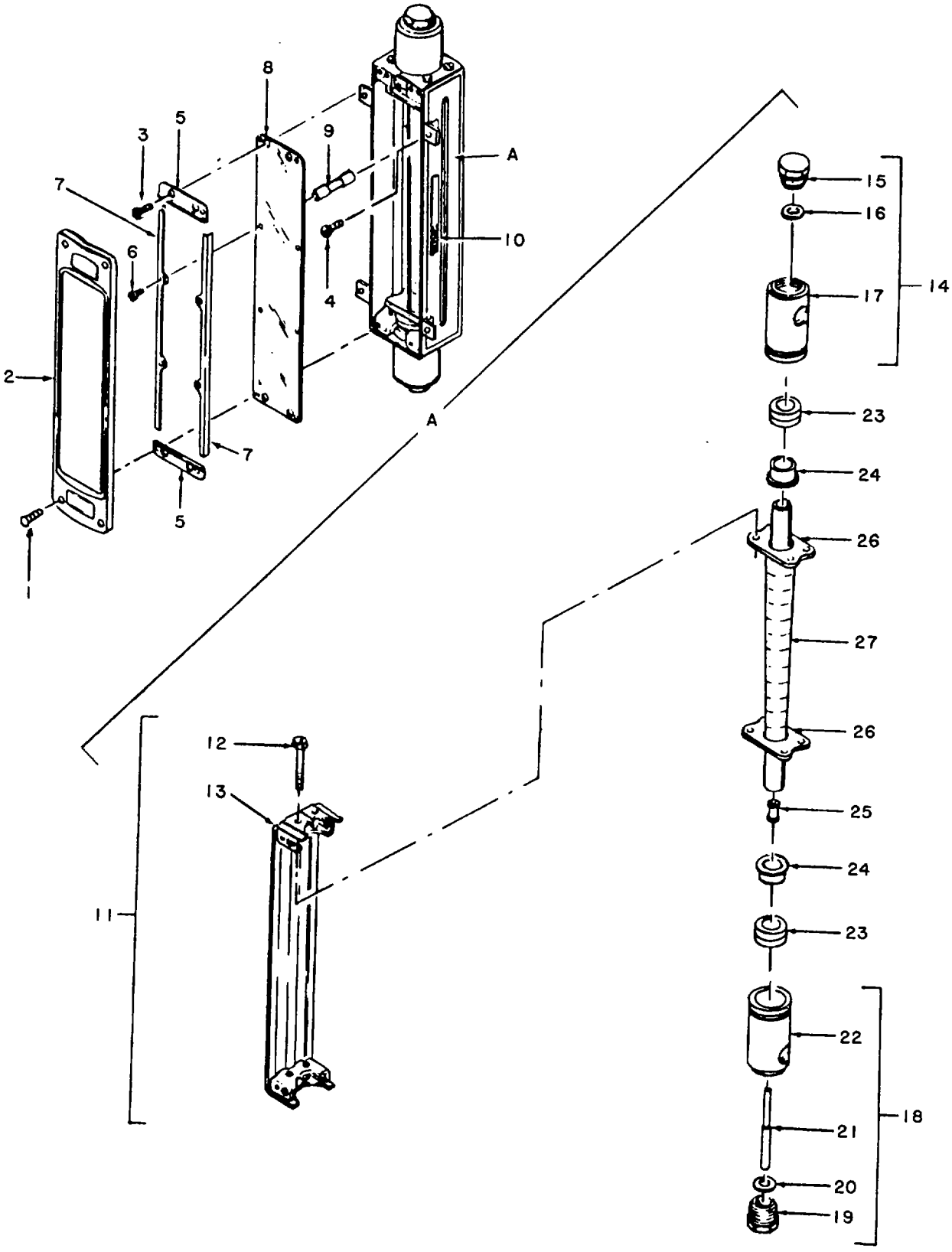


FIGURE C17. FLOWMETER

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0409. FLOWMETER	
				FIG. C-17. FLOWMETER	
	XDOFF	22375	10A1775	FLOWMETER SEE FIG C-22 FOR NHA	1
1	XDFZZ	22375	002H012710	.SCREW FLAT HD	8
2	XDFZZ	22375	330B001T12	.BEZEL	2
3	PBOZZ	96906	MS35206-307	.SCREW PH 3/8-16X1/2	4
4	PBOZZ	96906	MS35206-279	.SCREW, MACHINE	4
5	XDFZZ	22375	355K369T12	.PLATE TIE	5
6	XDFZZ	22375	006L006T10	.SCREW	8
7	XDFZZ	22375	353D258U02	.BRACKET SUPPORT	4
8	XDFZZ	22375	332A210416	.SHIELD OPERATOR PRO	2
9	XDFZZ	22375	403B242T30	.POST SPACER	4
10	XDFZZ	22375	338E36U01	.TAG CAUTION	1
11	XDFZZ	22375	BODY SIZES	.BODY METER	1
12	XDFZZ	22375	396B001V11	.SCREW PACKING COMPR	8
13	XDFZZ	22375	606A102T12	.PLATE SIDE	2
14	XDFZZ	22375	MTRS1ZE5T	.FITTING THREAD	1
15	XDFZZ	22375	302B002S14	.PLUG END	1
16	XDFZZ	22375	333C016Q20	.GASKET	1
17	XDFZZ	22375	301A309U08	.FITTING OUTLET	1
18	XDFZZ	22375	MTRS1ZE5B	.FITTING THREADED	1
19	XDFZZ	22375	302B002S14	.PLUG END	1
20	XDFZZ	22375	333C016Q20	.GASKET	1
21	XDFZZ	22375	304A001T60	.ROD FLOAT STOP	1
22	XDFZZ	22375	301A309U21	.FITTING INLET	1
23	XDFZZ	22375	605P046Q10	.PACKING OUTLET	1
24	XDFZZ	22375	307A006T30	.GLAND OUTLET PACKING	2
25	XDFZZ	22375	NPN	.FLOAT METER	1
26	XDFZZ	22375	NPN	.RETAINER GLAND	1
27	XDFZZ	22375	NPN	.TUBE METER	1

END OF FIGURE

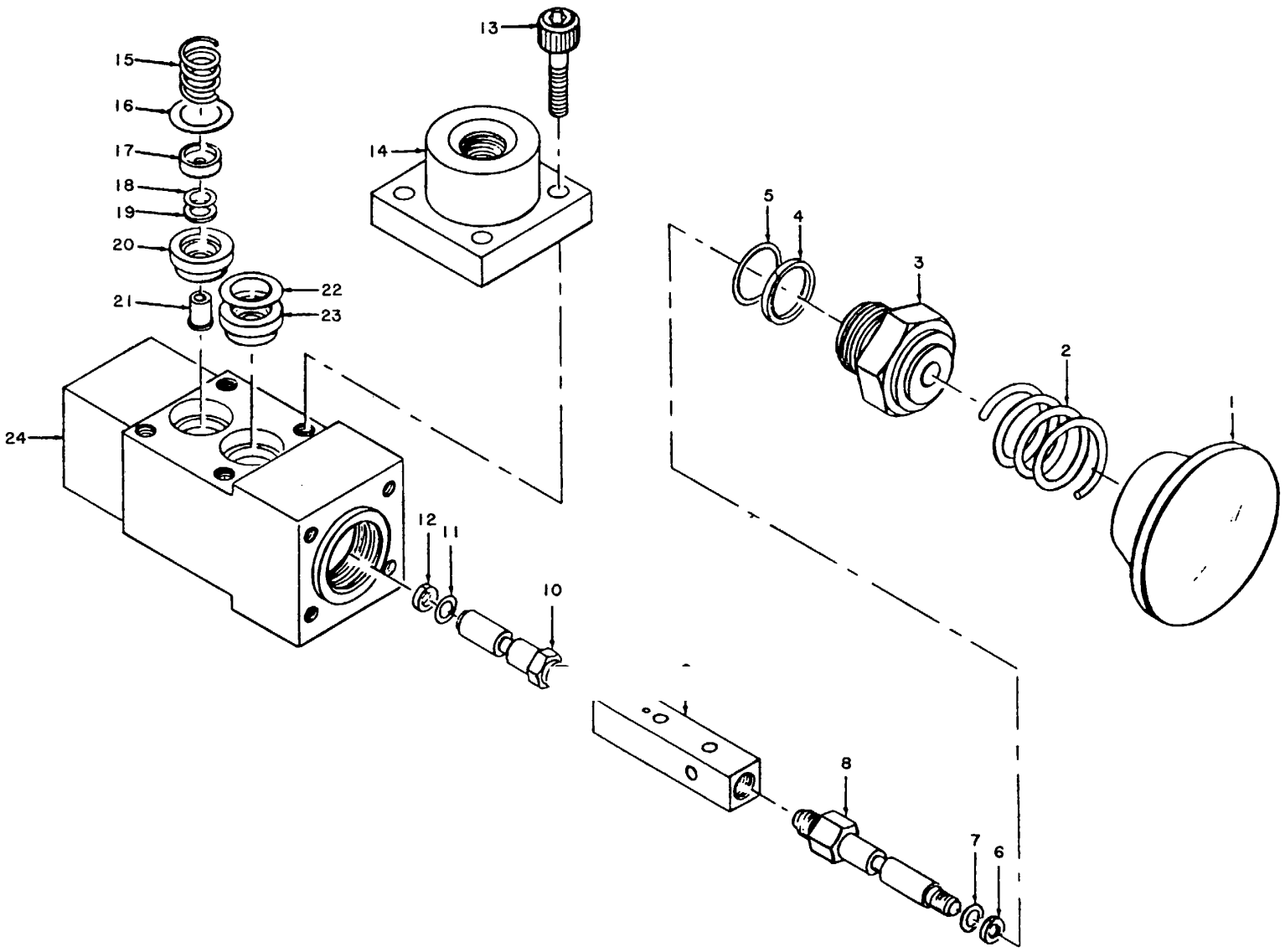


FIGURE C-18. BLEED VALVE

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0410 BLEED VALVE	
				FIG. C-18. BLEED VALVE.	
	XDOFF	86768	689B-3-3/8-D27	VALVE BLEED FILTER	
				SEE FIG C-22 FOR NHA	1
1	XDFZZ	86768	00660-0481-0700	.HANDLE	1
2	XDFZZ	86768	00211-0000-1100	.SPRING STEM END	1
3	XDFZZ	86768	00214-0004-0600	.GUIDE	1
4	XDFZZ	86768	50000-0013-0000	.RING BACKUP GUIDE	1
5	XDFZZ	86768	500000-0013-0002	.PACKING PREFORMED	1
6	XDFZZ	86768	500001-0006-0000	.RING BACKUP	1
7	XDFZZ	86768	500000-0006-0002	.PACKING PREFORMED	1
8	XDFZZ	86768	00214-0004-0500	.SHAFT	1
9	XDFZZ	86768	00214-0004-0301	.SLIDE	1
10	XDFZZ	86768	00214-0004-0400	.ROD PUSH	1
11	XDFZZ	86768	500000-0006-0002	.PACKING PREFORMED	2
12	XDFZZ	86768	500001-0006-0000	.RING BACKUP	2
13	XDFZZ	86768	514108-1110-0000	.SCREW SOCKET HD CAP	4
14	XDFZZ	86768	00214-0053-0200	.CAP	2
15	XDFZZ	86768	00211-0000-1200	.SPRING	2
16	XDFZZ	86768	00211-0000-0700	.WASHER	2
17	XDFZZ	86768	00211-0000-0500	.SEAL	1
18	XDFZZ	86768	500000-0008-0002	.PACKING PREFORMED	2
19	XDFZZ	86768	500001-0008	.RING BACKUP	2
20	XDFZZ	86768	00211-0000-0600	.INSERT	1
21	XDFZZ	86768	00211-0000-0500	.SEAL	1
22	XDFZZ	86768	500000-0013-0002	.PACKING PREFORMED	1
23	XDFZZ	86768	00211-0000-0600	.INSERT	1
24	XDFZZ	86768	00214-0004-0100	.BODY	1

END OF FIGURE

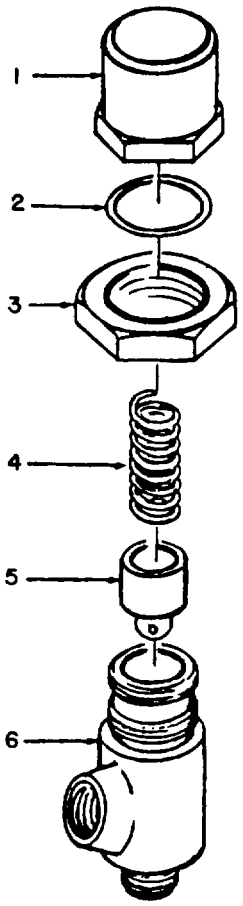


FIGURE C-19. RELIEF VALVE, FILL PRESSURE

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0411. FILL PRESSURE RELIEF VALVE	
				FIG. C-19. RELIEF VALVE, FILL PRESSURE	
	XDOFF	86768	622B-3-3/8-D27	VALVE RELIEF SEE FIG C-22 FCR NHA.	1
1	XDFZZ	86768	3-2546-4-2	.CAP.....	1
2	XDFZZ	86768	SP132	.PACKING PREFORMED	1
3	XDFZZ	86768	11-1C39-1-15	.NUT LOCK	1
4	XDFZZ	86768	11-475-5	.SPRING	1
5	XDFZZ	86768	10-857-1-3	.PISTON.....	1
6	XDFZZ	86768	4-846-4-2	.BODY	1
				END OF FIGURE	

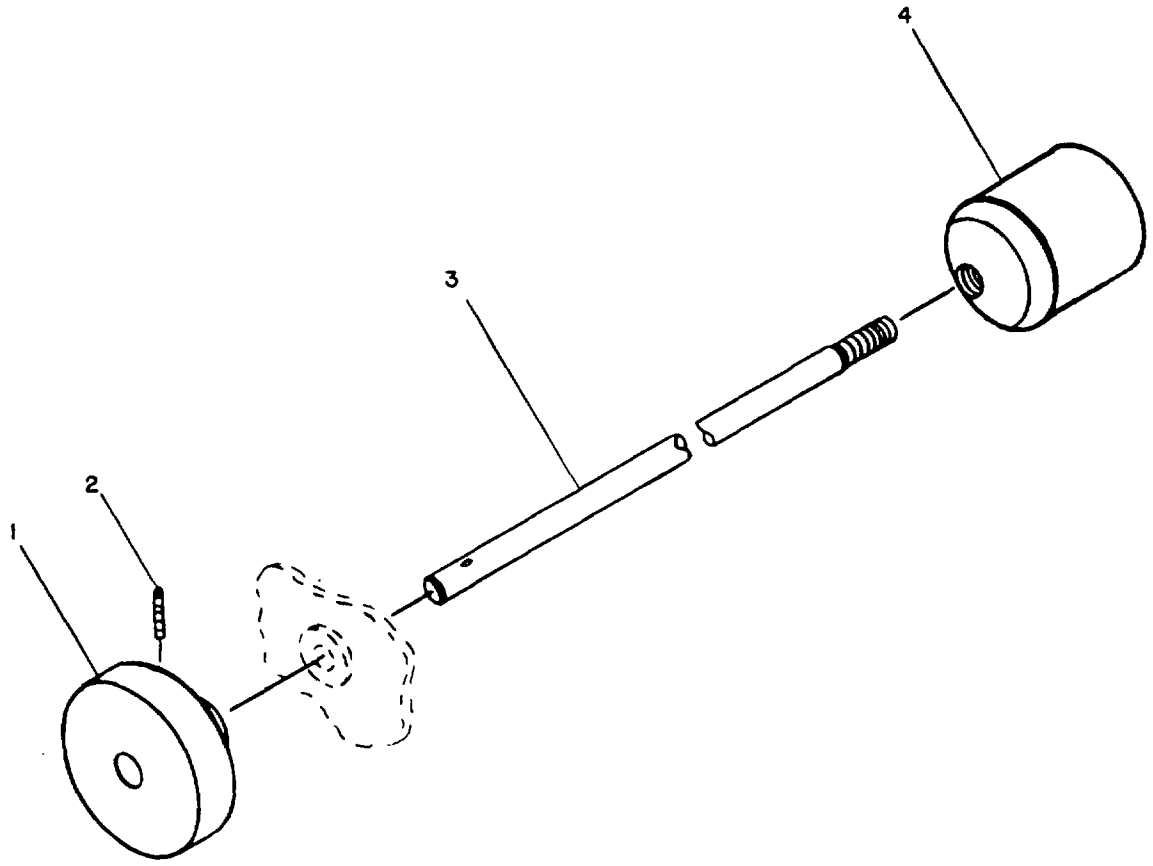


FIGURE C-20. COMPENSATOR CONTROL ASSEMBLY

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0412. VOLUME AND COMPENSATOR CONTROL	
				FIG. C-20. COMPENSATOR CONTROL ASSEMBLY	
	XDOZZ	56578	D7536-1	COMPENSATOR CONTROL SEE FIG C-2 FOR NHA	1
1	XDOZZ	56578	A7524	.KNOB	1
2	PBOZZ	96906	MS51977-52	.SET SCREW	1
3	XDOZZ	56578	A7532-3	.ROD CONTROL COMP	1
4	XDOZZ	56578	A7525	.CONN CONTROL COMP	1

END OF FIGURE

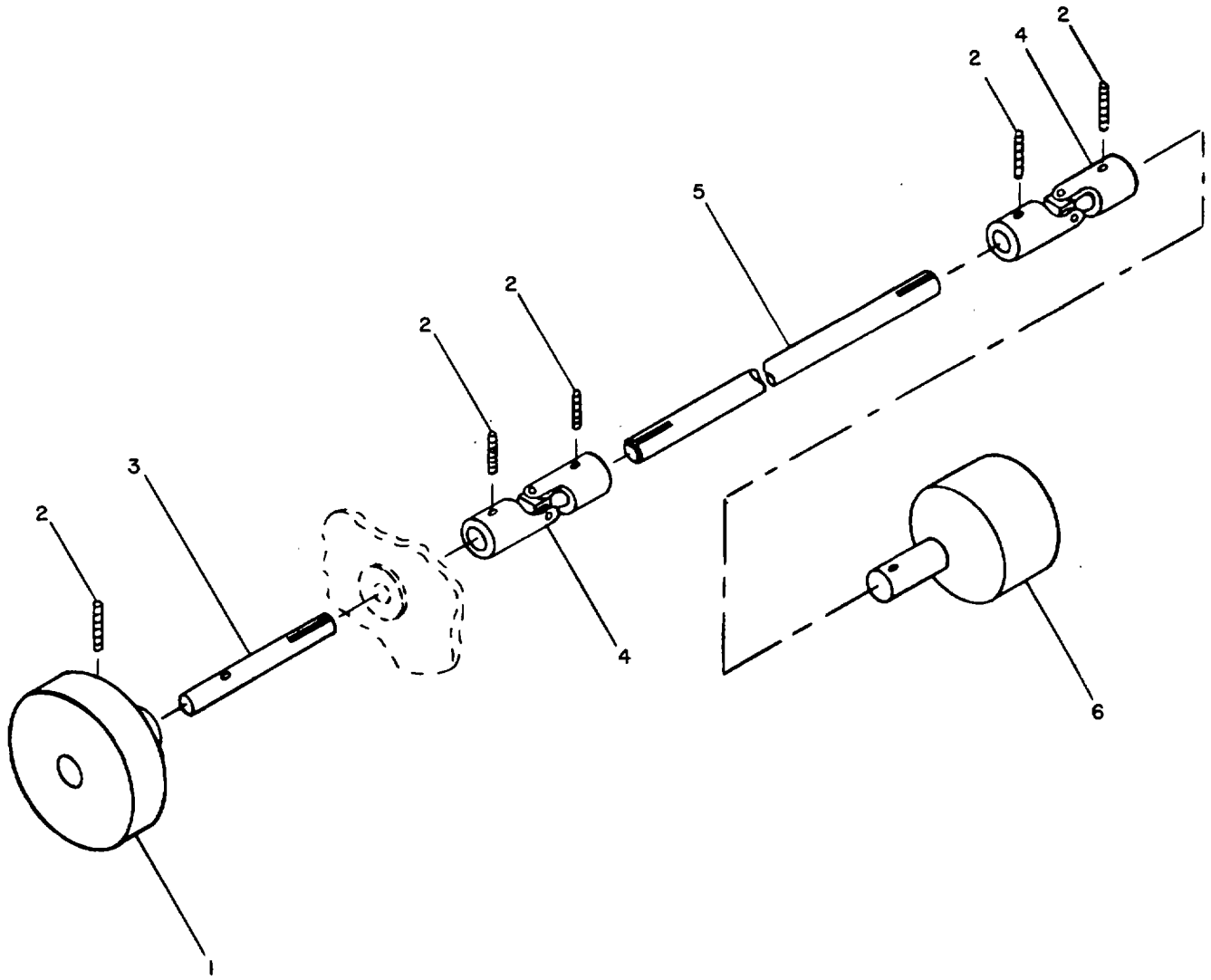


FIGURE C-21. VOLUME CONTROL ASSEMBLY

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				FIG. C-21. VOLUME CONTROL ASSEMBLY	
	XDOZZ	56578	D7536-2	VOLUME CONTROL ASSY SEE FIG C-2 FOR NHA	1
1	XDOZZ	56578	A7524	.KNOB	1
2	PBOZZ	96906	MS51977-52	.SET SCREW	5
3	XDOZZ	56578	A7532-2	.ROD CONTROL VOLUME	1
4	XDOZZ	56578	A7526	.JOINT UNIVERSAL	2
5	XDOZZ	56578	A7532-1	.ROD CONTROL VOLUME	1
6	XDOZZ	56578	A7527	.CONN CONT VOLUME	1

END OF FIGURE

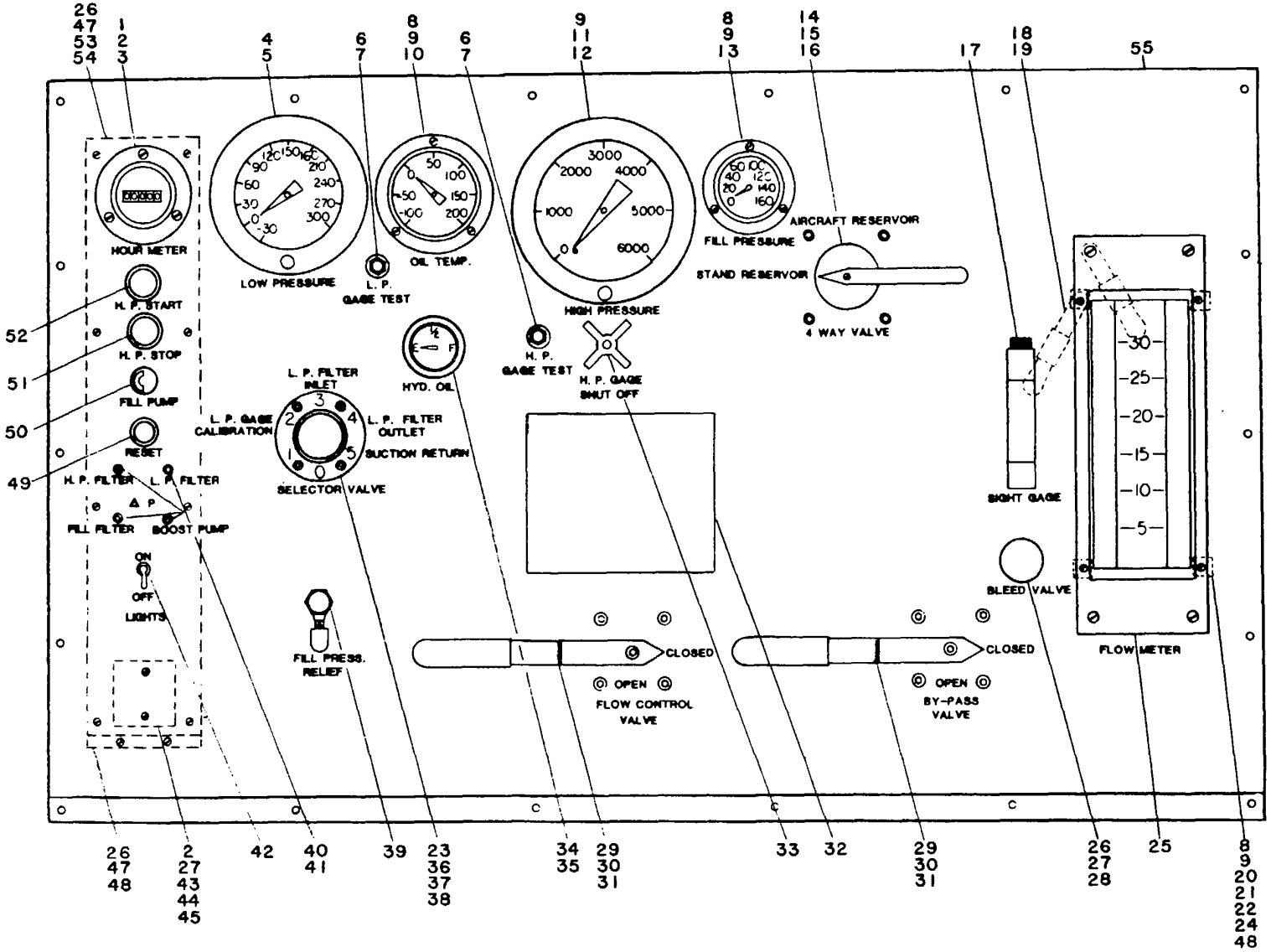


FIGURE C-22. INSTRUMENT PANEL ASSEMBLY

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 05. INSTRUMENT PANEL	
				FIG. C-22 INSTRUMENT PANEL ASSEMBLY	
	XDOFF	56578	D7498	PANEL ASSY INSTR	1
1	PBOZZ	96906	MS35206-232	.SCREW	3
2	PBOZZ	96906	MS35338-41	.WASHER, LOCK	5
3	XDOZZ	31356	31-EXW-5	.HOURMETER	1
4	PBOZZ	96906	MS35238-74	.SCREW MACH FLAT HD 10-32-.750	3
5	XDOZZ	72100	4VGBSF-1	.GAGE, LP	1
6	XDOZZ	30780	4-FNTX-S	.CAP	2
7	XDOZZ	30780	4-WJJBTX-S	.TEE BULKHEAD	2
8	PBOZZ	96906	MS35207-263	.SCREW, MACHINE 10-32 X 1/2 IN	9
9	PBOZZ	96906	MS35338-43	.WASHER, LOCK	13
10	XDOZZ	72100	SU-5	.GAGE TEMP. OIL, 31/2 INCH, 100-200 DEGREE FAHRENHEIT	1
11	PBOZZ	96906	MS35207-263	.SCREW, MACHINE 10-32 X 1/2 IN	9
12	XDOZZ	38056	60-1377PTS-1/4BC	.GAGE HIGH PRESS	1
13	XDOZZ	38056	1009S-XFF	.GAGE FILL PRESS	1
14	PBOZZ	96906	M90728-6	.SCREW, CAP, HEXAGON H 1/4-20-.750	4
15	XDFZZ	11660	TBAE-1	.TERMINAL	1
16	XDOFF	86768	744-24-D2P	.VALVE FOUR-WAY	1
17	XDOZZ	22375	449-P-543-UO1	.TUBE SIGHT	1
18	PBOZZ	58854	6S6-120V	.BULB CANDELABRA BASE	2
19	XDOZZ	95263	4-36-6	.HOLDER LAMP	2
20	PBOZZ	96906	MS35207-265	.SCREW, MACHINE	4
21	PBOZZ	96906	MS16996-10	.SCREW, CAP, SOCKET HE 10-32X.500	4
22	PBOZZ	96906	MS27183-8	.WASHER, FLAT	4
23	PBOZZ	96906	MS35649-2252	.NUT, PLAIN, HEXAGON	4
24	XDOZZ	56578	A7520	.MOUNT FLOW METER	4
25	XDOFF	22375	10A1755	.FLOWMETER SEE FIG C-17 FOR BRKDWN	1
26	PBOZZ	96906	MS35206-230	.SCREW, MACHINE	2
27	PBOZZ	96906	MS35338-42	.WASHER, LOCK	8
28	XDOFF	86768	689B-3-3/8-D27	.VALVE, FILTER BLEED	1
29	PBOZZ	96906	MS90728-107	.SCREW, CAP, HEXAGON H	8
30	PBOZZ	96906	MS27183-18	.WASHER FLAT 1/2	8
31	XDOZZ	89326	19586HM2	.VALVE	2
32	XDOZZ	56578	D7459	.DECAL, FLD SCHEMATIC	1
33	XDOZZ	92029	S-250-S1P	.SHUTOFF, HP GAGE	1
34	XDOZZ	56578	A7528	.GAGE, HYD FLD LEVEL	1
35	XDOZZ	07397	ECG5304	.RECTIFIER, BRIDGE	1
36	PBOZZ	96906	MS16997-82	SCREW CAP, SOCKET	4
37	PBOZZ	96906	MS35338-44	.WASHER, LOCK	4
38	XDOZZ	99895	MS5A2.0/5	.VALVE SELECTOR	1
39	XDOZZ	86768	6228-3-3/8-D27	.VALVE RELIEF FILL	1
40	PBOZZ	72619	1819	.LAMP, INCANDESCENT	4
41	PBOZZ	96906	MS25331-56	LAMP ASSY (803-171C)	4
42	XDOZA	96906	MS35058-22	.SWITCH, TOGGLE	1
43	XDOZZ	29309	F184X	.TRANSFORMER	1
44	PBOZZ	96906	MS35649-262	.NUT, PLAIN, HEXAGON	2
45	PBOZZ	96906	MS27183-5	.WASHER, FLAT	2
46	XDOFF	56578	D4788-2	.CAP ENCLOSURE	1
47	PBOZZ	96906	MS35206-245	.SCREW, MACHINE	16
48	PBOZZ	96906	MS35650-302	.NU1, PLAIN, HEXAGON	1

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
49	XDOZZ	52034	DTD2-RR	.PUSH BUTTON.....	1
50	XDOZZ	52034	DTD2-22-32	.SWITCH SELECTOR	1
51	XDOZZ	52034	DTD2-R	.PUSH BUTTON RED	1
52	XDOZZ	52034	DTD2-G	.PUSH BUTTON GREEN	1
53	PBOZZ	96906	MS35649-282	.NUT, PLAIN, HEXAGON	12
54	XDOFF	56578	F7488-1	.ENCLOSURE	1
55	XDOFF	56578	D7461	.PANEL INSTRUMENT	1

END OF FIGURE

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STOCK NUMBER	FIG.	ITEM
5315-00-005-0442	C-5	6
	C-5	6
5315-00-013-7214	C-5	32
	C-5	32
	C-6	14
	C-6	14
5310-00-045-3296	C-1	41
	C-1	41
	C-2	36
	C-2	36
	C-9	120
	C-9	120
	C-22	9
	C-22	9
5310-00-045-3299	C-2	42
	C-2	42
	C-22	27
	C-22	27
5310-00-045-4007	C-22	2
	C-22	2
2610-00-050-9840	C-3	7
	C-3	7
5305-00-052-6456	C-22	21
	C-22	21
5310-00-056-3395	C-1	8
	C-1	8
	C-2	45
	C-2	45
5305-00-058-9380	C-20	2
	C-20	2
	C-21	2
	C-21	2
5305-00-059-3664	C-9	118
	C-9	118
5305-00-068-0508	C-2	25
	C-2	25
	C-22	14
	C-22	14
5305-00-068-0510	C-2	49
	C-2	49
5305-00-071-2066	C-2	70
	C-2	70
5305-00-071-2506	C-1	31
	C-1	31
5305-00-071-2509	C-2	22
	C-2	22
5305-00-071-2512	C-2	27
	C-2	27
5310-00-081-4219	C-1	50
	C-1	50
5310-00-081-4219	C-2	10
	C-2	10
5310-00-087-7493	C-2	47
	C-2	47
4730-00-088-0205	C-8	
	C-8	
2610-00-089-5997	C-3	8
	C-3	8
3110-00-100-3537	C-5	39
	C-5	39
	C-6	21
	C-6	21
6240-00-155-8707	C-22	40
	C-22	40
5310-00-176-8117	C-5	33
	C-5	33
	C-6	15
	C-6	15
4730-00-187-0489	C-8	8
	C-8	8
4730-00-187-0490	C-8	4
	C-8	4
5315-00-187-9376	C-1	25
	C-1	25
5310-00-196-6695	C-12	10
	C-12	10
3110-00-198-2169	C-5	35
	C-5	35
	C-6	17
	C-6	17
3110-00-198-2170	C-5	36
	C-5	36
	C-6	18
	C-6	18
5306-00-226-4825	C-1	48
	C-1	48
	C-2	16
	C-2	16
5306-00-226-4827	C-2	8
	C-2	8
5306-00-226-4829	C-2	13
	C-2	13
5330-00-251-8839	C-13	5
	C-13	5
5305-00-269-2803	C-6	35
	C-6	35
5305-00-269-2807	C-2	44
	C-2	44
5305-00-269-3216	C-12	1
	C-12	1

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
12190	A-100-X-G		C-9	42
			C-9	42
01414	AA-5457-1D9		C-13	7
			C-13	7
01414	AC-5457-1D116A		C-13	12
			C-13	12
01414	AC-5457-1D8		C-13	8
			C-13	8
01414	AC-547-TD2A		C-13	3
			C-13	3
01414	AC-9516F-1	4330-00-406-3898	C-2	33
			C-2	33
			C-9	31
			C-9	31
			C-13	4
			C-13	4
01414	ADHT5458E9716MDB		C-2	32
			C-2	32
			C-9	30
			C-9	30
01414	ADHT548E9716MDB		C-13	
			C-13	
88044	AN117006		C-15	1
			C-15	1
88044	AN320-16	5310-00-176-8117	C-5	33
			C-5	33
			C-6	15
			C-6	15
88044	AN335-4		C-13	6
			C-13	6
88044	AN6236-3A		C-2	15
			C-2	15
			C-9	9
			C-9	9
			C-12	11
			C-12	11
88044	AN737TW74		C-9	114
			C-9	114
88044	AN814-4D		C-13	1
			C-13	1
			C-13	10
			C-13	10
88044	AN815-12	4730-00-187-0489	C-8	8
			C-8	8
88044	AN815-16	4730-00187-0490	C-8	4
			C-8	4
88044	AN929A12	4730-00-088-0205	C-8	
			C-8	
88044	AN929A8	4730-00-541-8296	C-8	
			C-8	
22938	AR-6-1		C-6	5

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
22938	AR-6-1		C-6	5
22938	AR-6-2		C-5	22
			C-5	22
56578	A7487		C-1	2
			C-1	2
56578	A7496		C-1	21
			C-1	21
56578	A7497		C-1	23
			C-1	23
56578	A7505		C-9	49
			C-9	49
56578	A7506		C-9	50
			C-9	50
56578	A7507		C-9	51
			C-9	51
56578	A7509		C-1	27
			C-1	27
56578	A7510		C-1	26
			C-1	26
56578	A7511		C-1	60
			C-1	60
56578	A7513-1		C-1	53
			C-1	53
56578	A7513-2		C-1	61
			C-1	61
56578	A7514-23		C-1	44
			C-1	44
56578	A7514-24		C-1	45
			C-1	45
56578	A7514-25		C-1	46
			C-1	46
56576	A7514-26		C-1	47
			C-1	47
56578	A7516		C-2	54
			C-2	54
56578	A7517		C-2	39
			C-2	39
56578	A7518		C-2	40
			C-2	40
56578	A7519		C-2	72
			C-2	72
			C-9	23
			C-9	23
56578	A7520		C-22	24
			C-22	24
56578	A7521		C-2	77
			C-2	77
56578	A7522-1		C-2	24
			C-2	24
56578	A7522-2		C-2	23
			C-2	23

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
56578	A7522-3		C-9	116
			C-9	116
56578	A7523	4920-01-200-4767	C-2	43
			C-2	43
56578	A7524		C-20	1
			C-20	1
			C-21	1
			C-21	1
56578	A7525		C-20	4
			C-20	4
56578	A7526		C-21	4
			C-21	4
56578	A7527		C-21	6
			C-21	6
56578	A7528		C-22	34
			C-22	34
56578	A7529		C-1	13
			C-1	13
56576	A7531		C-9	32
			C-9	32
56578	A7532-1		C-21	5
			C-21	5
56578	A7532-2		C-21	3
			C-21	3
56578	A7532-2		C-20	3
			C-20	3
56578	A7535-1		C-2	55
			C-2	55
56578	A7535-2		C-2	56
			C-2	56
56578	A7537		C-2	84
			C-2	84
56578	A7538		C-9	89
			C-9	89
96259	B-1212131SM		C-16	6
			C-16	6
22375	BODY SIZES		C-17	11
			C-17	11
00624	B145-S4-24D		C-1	68
			C-1	68
			C-9	40
			C-9	40
52034	CAU1-60-12		C-7	10
			C-7	10
52034	CA1-10E		C-7	12
			C-7	12
			C-7	13
			C-7	13
52034	CA1-60-120VAC		C-7	11
			C-7	11
71400	CMF8/10		C-7	9

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
71400	CMF8/10		C-7	9
02989	CR151D10214		C-7	8
			C-7	8
11815	CR3523-4-3		C-1	14
			C-1	14
11815	CR3523-4-5		C-2	76
			C-2	76
11815	CR3523-4-7		C-2	38
			C-2	38
11815	CR3523-6-5		C-1	11
			C-1	11
11815	CR3523-6-7		C-2	62
			C-2	62
52034	CS1UA		C-7	18
			C-7	18
86768	C11-267-1-10		C-15	16
			C-15	16
52034	DTD2-G		C-22	52
			C-22	52
52034	DTD2-R		C-22	51
			C-22	51
52034	DTD2-RR		C-22	49
			C-22	49
52034	DTD2-22-32		C-22	50
			C-22	50
56578	D4788-2		C-22	46
			C-22	46
56578	D7451		C-2	88
			C-2	88
56578	D7453-1		C-2	52
			C-2	52
56578	D7453-2		C-2	51
			C-2	51
56578	D7453-5		C-2	61
			C-2	61
56578	D7453-6		C-2	60
			C-2	60
56578	D7453-7		C-2	59
			C-2	59
56578	D7453-8		C-2	53
			C-2	53
56578	D7454		C-2	74
			C-2	74
			C-9	43
			C-9	43
56578	D7455-2		C-2	7
			C-2	7
56578	D7457-1		C-2	21
			C-2	21
			C-9	44
			C-9	44

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
56578	D7457-2		C-2	26
			C-2	26
56578	D7459		C-22	32
			C-22	32
56578	D7461		C-22	55
			C-22	55
56578	D7464		C-1	52
			C-1	52
56578	D7465		C-1	57
			C-1	57
56578	D7466		C-1	30
			C-1	30
56578	D7467		C-1	18
			C-1	18
56578	D7468		C-1	17
			C-1	17
56578	D7469		C-1	9
			C-1	9
56578	D7470		C-1	12
			C-1	12
56578	D7471-1		C-1	36
			C-1	36
56578	D7471-2		C-1	37
			C-1	37
56578	D7471-4		C-1	43
			C-1	43
56578	D7474-1		C-1	20
			C-1	20
56578	D7474-2		C-1	19
			C-1	19
56578	D7474-3		C-1	15
			C-1	15
56578	D7474-4		C-1	33
			C-1	33
56578	D7474-5		C-1	35
			C-1	35
56578	D7475		C-1	1
			C-1	1
			C-2	69
			C-2	69
56578	D7485-1		C-1	54
			C-1	54
56578	D7486-1		C-2	34
			C-2	34
56576	D7489-1		C-2	18
			C-2	18
56578	D7489-2		C-2	31
			C-2	31
56578	D7489-3		C-2	30
			C-2	30
56578	D7490-1		C-1	55

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
56578	D7490-1		C-1	55
56578	D7490-5		C-1	56
			C-1	56
56578	D7491-2		C-1	59
			C-1	59
56578	D7492		C-2	
			C-2	
56578	D7493-1		C-2	12
			C-2	12
56578	D7493-2		C-2	17
			C-2	17
56578	D7494		C-2	57
			C-2	57
			C-9	45
			C-9	45
56578	D7495		C-1	29
			C-1	29
56578	D7498		C-22	
			C-22	
56578	D7500-11		C-4	13
			C-4	13
56578	D7500-17		C-4	21
			C-4	21
56578	D7501		C-9	46
			C-9	46
56578	D7502		C-9	47
			C-9	47
56578	D7503		C-9	48
			C-9	48
56578	D7504		C-9	
			C-9	
56578	D7504-33		C-9	33
			C-9	33
56578	D7515		C-7	
			C-7	
56578	D7515-23		C-7	24
			C-7	24
56578	D7536-1		C-2	82
			C-2	82
			C-20	
			C-20	
56578	D7536-2		C-2	83
			C-2	83
			C-21	
			C-21	
07397	ECG5304		C-22	35
			C-22	35
30086	EH3-B015		C-7	5
			C-7	5
			C-7	6
			C-7	6

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
23826	E19		C-7	21
			C-7	21
23826	E24		C-7	22
			C-7	22
23826	E31		C-7	21
			C-7	21
23826	E34		C-7	22
			C-7	22
23826	E70		C-7	23
			C-7	23
23826	E92		C-7	23
			C-7	23
71400	FRN-R61/4		C-7	25
			C-7	25
29309	F184X		C-22	43
			C-22	43
30780	F50F50-20		C-9	86
			C-9	86
56578	F7488-1		C-22	54
			C-22	54
38151	HM326UTDR618BB1W		C-2	81
			C-2	81
			C-9	21
			C-9	21
11660	JB3225W		C-7	4
			C-7	4
01414	MC606EH097		C-2	68
			C-2	68
			C-9	115
			C-9	115
			C-13	9
			C-13	9
96906	MS35207-263		C-1	38
			C-1	38
96906	MS15001		C-5	5
			C-5	5
			C-5	13
			C-5	13
96906	MS16996-10	5305-00-052-6456	C-22	21
			C-22	21
96906	MS16997-78	5305-00-983-5346	C-14	1
			C-14	1
96906	MS16997-82	5305-00-983-6623	C-22	36
			C-22	36
96906	MS20392-5031	5315-00-990-2889	C-4	2
			C-4	2
			C-4	9
			C-4	9
			C-4	15
			C-4	15
96906	MS21919-DE6		C-9	117

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS21919-DF6		C-9	117
96906	MS24325		C-5	23
			C-5	23
			C-6	6
			C-6	6
96906	MS24325-1	2530-00-528-7224	C-5	29
			C-5	29
			C-6	12
			C-6	12
96906	MS24392-8	4730-00-804-1926	C-8	12
			C-8	12
96906	MS24585		C-5	20
			C-5	20
96906	MS24665-283	5315-00-842-3044	C-4	1
			C-4	1
			C-4	7
			C-4	7
			C-4	14
			C-4	14
96906	MS24665-285	5315-00-005-0442	C-5	6
			C-5	6
96906	MS24665-315	5315-00-187-9376	C-1	25
			C-1	25
96906	MS24665-359	5315-00-013-7214	C-5	32
			C-5	32
			C-6	14
			C-6	14
96906	MS24665-385		C-1	3
			C-1	3
96906	MS24665-563	5315-00-834-9745	C-3	2
			C-3	2
			C-5	14
			C-5	14
96906	MS25331-56		C-22	41
			C-22	41
96906	MS27183-10	5310-00-809-4058	C-1	4
			C-1	4
			C-1	24
			C-1	24
			C-2	3
			C-2	3
96906	MS27183-12	5310-00-081-4219	C-1	50
			C-1	50
			C-2	10
			C-2	10
96906	MS27183-13	5310-00-087-7493	C-2	47
			C-2	47
96906	MS27183-18		C-22	30
			C-22	30
96906	MS27183-5	5310-00-983-8483	C-22	45
			C-22	45

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS27183-8	5310-00-809-8546	C-1	40
			C-1	40
			C-22	22
			C-22	22
96906	MS28759-H-1200	4720-00-580-8446	C-8	9
			C-8	9
96906	MS28759-K-1200	4720-00-541-6610	C-8	5
			C-8	5
50599	MS28759M1200		C-8	1
			C-8	1
96906	MS28774-C26		C-11	2
			C-11	2
96906	MS28774-243		C-13	14
			C-13	14
96906	MS28775-026		C-11	3
			C-11	3
96906	MS28775-243	5330-00-579-7544	C-13	13
			C-13	13
96906	MS28778-12	5330-00-251-8839	C-13	5
			C-13	5
96906	MS28778-4	5330-00-804-2966	C-13	2
			C-13	2
			C-13	11
			C-13	11
96906	MS35058-22		C-22	42
			C-22	42
96306	MS35190-288	5305-00-958-5245	C-15	3
			C-15	3
96906	MS35206-230	5305-00-889-3000	C-22	26
			C-22	26
96906	MS35206-245	5305-00-984-6193	C-2	41
			C-2	41
			C-22	47
			C-22	47
96906	MS35206-279	5305-00-988-1723	C-17	4
			C-17	4
96906	MS35206-307	5305-00-984-5687	C-17	3
			C-17	3
96906	MS35207-263	5305-00-989-7434	C-2	35
			C-2	35
			C-22	8
			C-22	8
			C-22	11
			C-22	11
96906	MS35207-265	5305-00-993-1848	C-22	20
			C-22	20
96906	MS35238-74		C-22	4
			C-22	4
96906	MS35265-80	5305-00-660-2467	C-15	14
			C-15	14
96906	MS35338-41	5310-00-045-4007	C-22	2

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS35338-41	5310-00-045-4007	C-22	2
96906	MS35338-42	5310-00-045-3299	C-2	42
			C-2	42
			C-22	27
			C-22	27
96906	MS35338-43	5310-00-045-3296	C-1	41
			C-1	41
			C-2	36
			C-2	36
			C-9	120
			C-9	120
			C-22	9
			C-22	9
96906	MS35338-44	5310-00-582-5965	C-1	32
			C-1	32
			C-2	4
			C-2	4
			C-22	37
			C-22	37
96906	MS35338-45	5310-00-407-9566	C-1	51
			C-1	51
			C-2	11
			C-2	11
			C-14	2
			C-14	2
96906	MS35338-46	5310-00-637-9541	C-1	7
			C-1	7
			C-4	4
			C-4	4
			C-4	25
			C-4	25
			C-6	37
			C-6	37
			C-12	2
			C-12	2
			C-12	13
			C-12	13
96906	MS35338-48	5310-00-584-5272	C-2	71
			C-2	71
			C-3	11
			C-3	11
			C-3	19
			C-3	19
			C-5	25
			C-5	25
			C-5	27
			C-5	27
			C-6	8
			C-6	8
			C-6	10
			C-6	10

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS35338-50	5310-00-820-6653	C-2	80
			C-2	80
96906	MS35649-2255	5310-00-997-1888	C-2	2
			C-2	2
			C-22	23
			C-22	23
96906	MS35649-2312	5310-00-829-9981	C-1	49
			C-1	49
			C-2	9
			C-2	9
96906	MS35649-2382	5310-00-056-3395	C-1	8
			C-1	8
			C-2	45
			C-2	45
96906	MS35649-262	5310-00-934-9747	C-22	44
			C-22	44
96906	MS35649-282	5310-00-934-9757	C-22	53
			C-22	53
96906	MS35650-302	5310-00-934-9751	C-1	39
			C-1	39
			C-9	119
			C-9	119
			C-22	48
			C-22	48
96906	MS35690-82		C-5	24
			C-5	24
			C-6	7
			C-6	7
99895	MS5A2.0/5		C-9	18
			C-9	18
			C-22	38
			C-22	38
96906	MS51335-2		C-2	48
			C-2	48
96906	MS51958-68	5305-00-059-3664	C-9	118
			C-9	118
96906	MS51963-67		C-1	22
			C-1	22
96906	MS51967-20	5310-00-763-8920	C-2	79
			C-2	79
96906	MS51967-8	5310-00-732-0558	C-4	3
			C-4	3
			C-4	12
			C-4	12
			C-4	18
			C-4	19
			C-4	24
			C-4	24
			C-12	12
			C-12	12
96906	MS51968-14	5310-00-732-0560	C-3	10

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS51968-14	5310-00-732-0560	C-3	10
			C-3	20
			C-3	20
			C-5	26
			C-5	26
			C-6	9
			C-6	9
96906	MS51968-8	5310-00-732-0559	C-5	1
			C-5	1
			C-6	1
			C-6	1
			C-6	36
			C-6	36
96906	MS51977-52	5305-00-058-9380	C-20	2
			C-20	2
			C-21	2
			C-21	2
96906	MS90725-66	5305-00-269-3216	C-12	1
			C-12	1
96906	MS90725-70	5305-00-269-3220	C-12	14
			C-12	14
96906	MS90726-121		C-3	13
			C-3	13
			C-3	18
			C-3	18
96906	MS90726-60	5305-00-269-2803	C-6	35
			C-6	35
96906	MS90726-64	5305-00-269-2807	C-2	44
			C-2	44
96906	MS90726-70	5305-00-269-3246	C-4	5
			C-4	5
96906	MS90727-72		C-4	27
			C-4	27
96906	MS90728-107	5305-00-732-0512	C-22	29
			C-22	29
96906	MS90728-109	5305-00-071-2066	C-2	70
			C-2	70
96906	MS90728-12	5305-00-071-2509	C-2	22
			C-2	22
96906	MS90728-15	5305-00-071-2512	C-2	27
			C-2	27
96906	MS90728-162		C-2	78
			C-2	78
96906	MS90728-20		C-5	28
			C-5	28
			C-6	11
			C-6	11
96906	MS90728-3	5305-00-071-2506	C-1	31
			C-1	31
96906	MS90728-32	5306-00-226-4825	C-1	48
			C-1	48

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS90728-32	5306-00-226-4825	C-2	16
			C-2	16
96906	MS90728-34	5306-00-226-4827	C-2	8
			C-2	8
96906	MS90728-36	5306-00-226-4829	C-2	13
			C-2	13
96906	MS90728-38		C-2	19
			C-2	19
96906	MS90728-6	5305-00-068-0508	C-2	25
			C-2	25
			C-22	14
			C-22	14
96906	MS90728-60	5305-00-068-0510	C-2	49
			C-2	49
969C6	MS90728-64	5305-00-725-2317	C-1	6
			C-1	6
			C-2	64
			C-2	64
96906	MS90728-8		C-2	1
			C-2	1
22375	MTRS1ZE5B		C-17	18
			C-17	18
22375	MTRS1ZE5T		C-17	14
			C-17	14
71041	NF-68-4		C-1	42
			C-1	42
12027	NPN		C-2	66
			C-2	66
			C-17	25
			C-17	25
			C-17	26
			C-17	26
			C-17	27
			C-17	27
24207	PC-375-S		C-9	12
			C-9	12
81321	P32-55		C-2	14
			C-2	14
			C-9	8
			C-9	8
			C-12	
			C-12	
52034	RZEY2-11		C-7	16
			C-7	16
86768	R6701-4-3/4-S2		C-2	67
			C-2	67
			C-9	5
			C-9	5
86768	R6701-4314-S2		C-14	
			C-14	
92029	S-250-S1P		C-9	27

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
92029	S-250-S1P		C-9	27
			C-22	33
			C-22	33
72100	SJ-5		C-22	10
			C-22	10
86768	SP100-89		C-10	3
			C-10	3
86768	SP132		C-19	2
			C-19	2
86768	SP132-114		C-15	9
			C-15	9
86768	SP132-137		C-15	7
			C-15	7
86768	SP132-92		C-15	5
			C-15	5
86768	SP201-89		C-10	2
			C-10	2
00159	TA-1-81216		C-7	3
			C-7	3
00624	TA155-S4-16D	4730-00-541-1116	C-1	66
			C-1	66
			C-9	38
			C-9	38
00624	TA155-S4-8D	4730-00-540-0392	C-1	62
			C-1	62
			C-9	34
			C-9	34
00624	TA155S4-12D	4730-00-541-1115	C-1	64
			C-1	64
			C-9	36
			C-9	36
11660	TBAE-1		C-22	15
			C-22	15
11660	TBAE-3		C-7	2
			C-7	2
89762	TYPED000-291E		C-2	20
			C-2	20
			C-9	25
			C-9	25
61038	V110-15-10-10-S2 14		C-2	50
			C-2	50
			C-9	24
			C-9	24
30780	V41QNTA-8-8		C-9	112
			C-9	112
81348	WWP471-AACBCE		C-14	3
			C-14	3
81348	ZZ-T-410A/GP1/6. 00/6.90-9/C/PLRB	2610-00-050-9840	C-3	7
			C-3	7
			C-3	7

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
86768	00175-0411-1300		C-14	4
			C-14	4
22375	002H012710		C-17	1
			C-17	1
86768	00211-0000-0500		C-18	17
			C-18	17
			C-18	21
			C-18	21
86768	00211-0000-0600		C-18	20
			C-18	20
			C-18	23
			C-18	23
86768	00211-0000-0700		C-18	16
			C-18	16
86768	00211-0000-1100		C-18	2
			C-18	2
86768	00211-0000-1200		C-18	15
			C-18	15
86768	00214-0004-0100		C-18	24
			C-18	24
86768	00214-0004-0301		C-18	9
			C-18	9
86768	00214-0004-0400		C-18	10
			C-18	10
86768	00214-0004-0500		C-18	8
			C-18	8
86768	00214-0004-0600		C-18	3
			C-18	3
86768	00214-00-53-0200		C-18	14
			C-18	14
22375	006L006T10		C-17	6
			C-17	6
86768	00621-0411-0800		C-14	6
			C-14	6
86768	00621-0431-1190		C-14	5
			C-14	5
86768	00621-0441-0990		C-14	9
			C-14	9
86768	00671-0441-1206		C-14	11
			C-14	11
86768	00621-0441-2690		C-14	12
			C-14	12
86768	00621-0811-0290		C-14	13
			C-14	13
86768	00621-0811-0490		C-14	16
			C-14	16
86768	00621-0841-0590		C-14	21
			C-14	21
86768	00621-0341-0700		C-14	15
			C-14	15
86768	00622-1211-0191		C-14	23

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
86768	00622-1211-0191		C-14	23
86768	00660-0481-0700		C-18	1
			C-18	1
30780	0107-20-20		C-9	113
			C-9	113
22938	1-3502		C-3	1
			C-3	1
22938	1-3854		C-5	17
			C-5	17
22938	1-4010-2		C-5	4
			C-5	4
			C-6	4
			C-6	4
22938	1-4250		C-3	9
			C-3	9
22938	1-5904		C-4	6
			C-4	6
22938	1-8209		C-6	25
			C-6	25
86768	1/4 DIA NYLON		C-15	11
			C-15	11
30780	1/4-GG-S		C-9	87
			C-9	87
96259	1AR41-R20T-15S		C-9	22
			C-9	22
			C-16	
			C-16	
96259	1D70-R-15S		C-16	1
			C-16	1
86768	10-1562-7		C-15	13
			C-15	13
86768	10-2956-5-1		C-15	15
			C-15	15
86768	10-3156-1		C-15	10
			C-15	10
86768	10-3156-10-1		C-15	8
			C-15	8
86768	10-857-1-3		C-19	5
			C-19	5
22375	10A1755		C-9	16
			C-9	16
			C-22	25
			C-22	25
22375	10A1775		C-17	
			C-17	
38056	1009S-XFF		C-9	15
			C-9	15
			C-22	13
			C-22	13
08136	1056		C-1	5
			C-1	5

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
86768	11-1039-1-15		C-19	3
			C-19	3
86768	11-475-5		C-19	4
			C-19	4
30780	11/4-FFS		C-9	79
			C-9	79
30780	12-BTX-S		C-9	54
			C-9	54
30780	12-F5BX-S		C-9	82
			C-9	82
30780	12-TX-S		C-9	105
			C-9	105
86768	12-1555-21-6		C-10	5
			C-10	5
30780	12-16-CBTX-S		C-9	61
			C-9	61
30780	12-16-FBTX-S		C-9	76
			C-9	76
22938	12-3502		C-3	4
			C-3	4
30780	12-8-TRBTX-S		C-9	99
			C-9	99
96259	132107		C-16	4
			C-16	4
98255	13725P		C-3	12
			C-3	12
			C-4	26
			C-4	26
96259	139108		C-16	2
			C-16	2
96259	139118		C-16	7
			C-16	7
96259	139120		C-16	5
			C-16	5
00624	145S5-24D		C-8	
			C-8	
00624	145S7-24D		C-1	69
			C-1	69
			C-9	41
			C-9	41
96259	145012		C-16	3
			C-16	3
00624	155-S5-16D	4730-00-555-0896	C-8	2
			C-8	2
00624	155-S5-8D	4730-00-554-7737	C-8	10
			C-8	10
00624	155-S7-12D	4730-00-561-1544	C-1	65
			C-1	65
			C-9	37
			C-9	37
00624	155-S7-16D	4730-00-546-4736	C-1	67

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
00624	155-S7-16D	4730-00-546-4736	C-1	67
			C-9	39
			C-9	39
00624	155-S7-8D	5340-00-543-3904	C-1	63
			C-1	63
			C-9	35
			C-9	35
00624	155-S9-12D	5340-00-561-1545	C-8	7
			C-8	7
00624	155-S9-24D	5340-01-216-2684	C-8	
			C-8	
00624	155-S9-8D	5340-00-576-5545	C-8	11
			C-8	11
00624	155S5-12D	4730-00-540-1268	C-8	6
			C-8	6
00624	155S9-16D	5340-00-631-0888	C-8	3
			C-8	3
30780	16-BTX-S		C-9	55
			C-9	55
30780	16-CBTX-S		C-9	62
			C-9	62
30780	16-C5BX-S		C-9	66
			C-9	66
			C-9	67
			C-9	67
30780	16-C6BX-S		C-9	71
			C-9	71
30780	16-F5BX-S		C-9	83
			C-9	83
30780	16-RBTX-S		C-9	92
			C-9	92
30780	16-SBTX-S		C-9	95
			C-9	95
30780	16-S5PX-S		C-9	97
			C-9	97
30780	16-TX-S		C-9	106
			C-9	106
30780	16-12-TRBTX-S		C-9	100
			C-9	100
34950	17R3-K2		C-2	75
			C-2	75
			C-9	28
			C-9	28
72619	1819	6240-00-155-8707	C-22	40
			C-22	40
89326	195P6HM2		C-9	19
			C-9	19
89326	19586HM2		C-22	31
			C-22	31
86768	2-255-11-3		C-10	7
			C-10	7

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
86768	2-255-14-3		C-10	1
			C-10	1
86768	2-255-38-3		C-11	1
			C-11	1
86768	2-255-40-1		C-10	6
			C-10	6
86768	2-255-44-1		C-11	5
			C-11	5
86768	2-255-46		C-10	4
			C-10	4
86768	2-255-50		C-11	4
			C-11	4
86768	2-555-35-3		C-11	6
			C-11	6
30780	20-F5BX-S		C-9	84
			C-9	84
81321	22202		C-12	15
			C-12	15
30780	24-BTX-S		C-9	56
			C-9	56
30780	24-C5BX-S		C-9	68
			C-9	68
30780	24-F5BX-S		C-9	85
			C-9	85
30780	24-JBTX-S		C-9	90
			C-9	90
30780	24-TX-S		C-9	102
			C-9	102
30780	24-V5BX-S		C-9	107
			C-9	107
30780	24-WLN-S		C-9	109
			C-9	109
30780	24-20-TRBTX-S		C-9	101
			C-9	101
81400	27201		C-9	26
			C-9	26
86768	3-2546-4-2		C-19	1
			C-19	1
22938	3-3806		C-5	48
			C-5	48
30780	3/4 X 3/8-BTR-S		C-9	91
			C-9	91
30780	3/8-FF-S		C-9	78
			C-9	78
22375	301A309U08		C-17	17
			C-17	17
22375	301A309U21		C-17	22
			C-17	22
81321	30102	5310-00-196-6695	C-12	10
			C-12	10
22375	302B002S14		C-17	15

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22375	302B002S14		C-17	15
			C-17	19
			C-17	19
22375	304A001T60		C-17	21
			C-17	21
22375	307A006T30		C-17	24
			C-17	24
31356	31-EXW-5		C-22	3
			C-22	3
14892	310949		C-6	39
			C-6	39
14892	310959		C-6	32
			C-6	32
14892	313061		C-6	34
			C-6	34
14892	317967		C-6	30
			C-6	30
14892	317973	2530-00-873-5322	C-6	33
			C-6	33
14892	318607		C-6	27
			C-6	27
00624	3205-12	4730-00-585-0469	C-8	
			C-8	
00624	3205-8	4730-00-729-5854	C-8	
			C-8	
00624	3209-12	4730-00-626-8340	C-8	
			C-8	
00624	3209-8	4730-00-768-7025	C-8	
			C-8	
22375	330B001T12		C-17	2
			C-17	2
22375	332A210416		C-17	8
			C-17	8
22375	3330016Q20		C-17	16
			C-17	16
			C-17	20
			C-17	20
22375	338E36U01		C-17	10
			C-17	10
22375	353D258U02		C-17	7
			C-17	7
22375	355K369T12		C-17	5
			C-17	5
22938	3613		C-5	37
			C-5	37
			C-6	19
			C-6	19
22938	3613-1		C-5	30
			C-5	30
22938	368		C-3	
			C-3	

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
22938	368-1346		C-2	85
			C-2	85
			C-3	25
			C-3	25
			C-6	
			C-6	
22938	368-1346-2		C-6	40
			C-6	40
22938	368-139X-1		C-5	51
			C-5	51
22938	368-1396		C-2	86
			C-2	86
			C-3	24
			C-3	24
			C-5	
			C-5	
22938	368-5901		C-2	87
			C-2	87
			C-3	5
			C-3	5
			C-4	
			C-4	
94222	37-10-071-20		C-1	10
			C-1	10
94222	37-10-101-10		C-2	63
			C-2	63
22938	3800-1		C-5	50
			C-5	50
22938	3800-2		C-5	47
			C-5	47
22938	3854		C-5	21
			C-5	21
22938	3855		C-5	19
			C-5	19
22938	3900-154		C-5	12
			C-5	12
22938	3906-215		C-5	7
			C-5	7
22938	3950-1		C-5	9
			C-5	9
22938	3950-2		C-5	8
			C-5	8
22375	396B001V11		C-17	12
			C-17	12
30780	4-C5BX-S		C-9	64
			C-9	64
30780	4-FNTX-S		C-9	80
			C-9	80
			C-22	6
			C-22	6
30780	4-S5BX-S		C-9	96

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
30780	4-S5BX-S		C-9	96
30780	4-WJJBTX-S		C-9	108
			C-9	108
			C-22	7
			C-22	7
86768	4-1454-15		C-15	12
			C-15	12
86768	4-2156-4		C-15	6
			C-15	6
95263	4-36-6		C-22	19
			C-22	19
22938	4-3806		C-5	45
			C-5	45
30780	4-4-CBTX-S		C-9	57
			C-9	57
30780	4-4-FBTX-S		C-9	72
			C-9	72
86768	4-846-4-2		C-19	6
			C-19	6
72100	4VGBSF-1		C-9	13
			C-9	13
			C-22	5
			C-22	5
18676	403		C-7	19
			C-7	19
22375	403B242T30		C-17	9
			C-17	9
14892	4150098		C-6	31
			C-6	31
85757	41734SYNFLEX		C-9	113
			C-9	113
22938	4250		C-3	16
			C-3	16
22938	4251		C-3	23
			C-3	23
95692	438U		C-7	20
			C-7	20
22375	449-P-543-U01		C-9	17
			C-9	17
			C-22	17
			C-22	17
86768	459-16S27-6		C-9	2
			C-9	2
			C-11	
			C-11	
86768	458-6S27-6		C-9	4
			C-9	4
			C-10	
			C-10	
22938	4601-33		C-3	14
			C-3	14

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

PART NUMBER INDEX

FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
22938	4602-1		C-5	10
			C-5	10
22938	4602-2		C-5	11
			C-5	11
22938	4701-3		C-5	16
			C-5	16
22938	4702-2		C-5	34
			C-5	34
			C-6	16
			C-6	16
23826	48DC37AA4		C-7	14
			C-7	14
			C-7	15
			C-7	15
23826	48JA37AA4		C-7	17
			C-7	17
22938	4800-3		C-3	21
			C-3	21
22938	4901-19		C-3	15
			C-3	15
86768	5-1061-2-1		C-15	4
			C-15	4
12532	5K43MG2930		C-2	73
			C-2	73
34950	5NNK45		C-2	6
			C-2	6
			C-9	29
			C-9	29
22938	5000-1		C-5	18
			C-5	18
			C-5	42
			C-5	42
22938	5000-2		C-4	20
			C-4	20
86768	500000-0013-0000		C-18	4
			C-18	4
86768	500000-0006-0002		C-18	7
			C-18	7
			C-18	11
			C-18	11
86768	500000-0008-0002		C-18	18
			C-18	18
86768	500000-0013-0002		C-18	5
			C-18	5
			C-18	22
			C-18	22
86768	500000-0018-0027		C-14	7
			C-14	7
86768	500000-0019-0027		C-14	20
			C-14	20
86768	500000-0022-0027		C-14	17

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
86768	500000-0022-0027		C-14	17
86768	500000-0111-0027		C-14	10
			C-14	10
86768	500000-0916-0027		C-14	14
			C-14	14
86768	500001-0006-0000		C-18	6
			C-18	6
			C-18	12
			C-18	12
86768	500001-0008		C-18	19
			C-18	19
86768	500001-0018-0000		C-14	8
			C-14	8
86768	500001-0019-0000		C-14	19
			C-14	19
81321	50221		C-2	28
			C-2	28
			C-9	10
			C-9	10
22938	5100-7		C-5	2
			C-5	2
			C-6	2
			C-6	2
86768	514108-1110-0000		C-18	13
			C-18	13
86768	519112-0310-0000		C-14	22
			C-14	22
30780	520N-4		C-9	110
			C-9	110
22938	5204		C-4	8
			C-4	8
22938	5205		C-4	11
			C-4	11
			C-4	17
			C-4	17
22938	5400-1		C-5	15
			C-5	15
22938	5401		C-5	43
			C-5	43
22938	5403-1		C-3	22
			C-3	22
22938	5416		C-3	3
			C-3	3
22938	5600-9		C-5	3
			C-5	3
			C-6	3
			C-6	3
94222	57-10-301-10		C-1	34
			C-1	34
22938	5908		C-4	28
			C-4	28

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
22938	5909		C-4	22
			C-4	22
30780	6-BTX-S		C-9	52
			C-9	52
30780	6-CBTX-S		C-9	58
			C-9	58
30780	6-C5BX-S		C-9	65
			C-9	65
30780	6-C6BX-S		C-9	69
			C-9	69
30780	6-EBTX-S		C-9	70
			C-9	70
30780	6-FBTX-S		C-9	73
			C-9	73
30780	6-F5BX-S		C-9	81
			C-9	81
30780	6-R5BX-S		C-9	93
			C-9	93
30780	6-R6BX-S		C-9	94
			C-9	94
30780	6-TX-S		C-9	103
			C-9	103
73808	6-00X9	2610-00-089-5997	C-3	8
			C-3	8
30780	6-2-FBTX-S		C-9	77
			C-9	77
30780	6-4-TRBTX-S		C-9	98
			C-9	98
30780	6-6-CBTX-S		C-9	59
			C-9	59
30780	6-6-CTX-S		C-9	63
			C-9	63
30780	6-6-FBTX-S		C-9	74
			C-9	74
58854	6S6-120V		C-22	18
			C-22	18
38056	60-1377RTS-1/4 BC		C-9	14
			C-9	14
			C-22	12
			C-22	12
22938	6016		C-5	46
			C-5	46
			C-5	49
			C-5	49
81321	60260		C-12	6
			C-12	6
81321	60263		C-12	9
			C-12	9
22375	605P046Q10		C-17	23
			C-17	23
22938	6057	3110-00-100-3537	C-5	39

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
22938	6057	3110-00-100-3537	C-5	39
			C-6	21
			C-6	21
22938	6058	3110-00-198-2169	C-5	35
			C-5	35
			C-6	17
			C-6	17
22375	606A102T12		C-17	13
			C-17	13
12027	610574		C-2	65
			C-2	65
			C-9	20
			C-9	20
22938	6151	3110-00-198-2170	C-5	36
			C-5	36
			C-6	18
			C-6	18
22938	6152		C-5	40
			C-5	40
			C-6	22
			C-6	22
86768	622B-3-3/8-D27		C-9	3
			C-9	3
			C-19	
			C-19	
			C-22	39
			C-22	39
22938	6251-10		C-5	41
			C-5	41
22938	6251-9		C-6	23
			C-6	23
22938	6311		C-5	38
			C-5	38
			C-6	20
			C-6	20
22938	6312		C-5	31
			C-5	31
			C-6	13
			C-6	13
22938	6319-2		C-4	23
			C-4	23
81321	63387		C-12	17
			C-12	17
22938	6555		C-3	6
			C-3	6
86768	665-3-6027		C-9	7
			C-9	7
81321	6653463	5330-00-843-1156	C-12	7
			C-12	7
81321	6654655		C-12	3
			C-12	3

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
05228	6655566	4330-00-542-2060	C-2	29
			C-2	29
			C-9	11
			C-9	11
81321	6670117		C-12	8
			C-12	8
94222	68-10-101-20		C-1	16
			C-1	16
			C-1	28
			C-1	28
86768	689B-3-3/8 D27		C-9	6
			C-9	6
			C-18	
			C-18	
			C-22	28
			C-22	28
96906	7S15001		C-5	44
			C-5	44
81321	7335		C-12	4
			C-12	4
56578	7413-1		C-4	10
			C-4	10
56578	7413-2		C-4	16
			C-4	16
86768	744-24-D2P		C-9	1
			C-9	1
			C-15	
			C-15	
			C-22	16
			C-22	16
56578	7455-1		C-2	5
			C-2	5
81321	7494		C-12	5
			C-12	5
38056	75W0450SP385AA		C-2	58
			C-2	58
81321	7886		C-12	16
			C-12	16
30780	8-BTX-5		C-9	53
			C-9	53
30780	8-CBTX-S		C-9	60
			C-9	60
30780	8-GBTX-S		C-9	88
			C-9	88
30780	8-TX-S		C-9	104
			C-9	104
30780	8-8-FBTX-S		C-9	75
			C-9	75
14892	8209		C-6	
			C-6	
22938	8210		C-6	38

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
22938	8210		C-6	38
22938	8221		C-6	24
			C-6	24
14892	8225		C-6	26
			C-6	26
22938	8300-120		C-4	19
			C-4	19
01121	837-A4A		C-2	37
			C-2	37
14892	901007		C-6	29
			C-6	29
14892	901625		C-6	28
			C-6	28
25248	910-3X		C-7	7
			C-7	7

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 MK-1 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.

0 - 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 MK-1

(1)	(2)	(3)	(4)	(5)
ITEM NUMBER	LEVEL	NATIONAL STOCK NUMBER	DESCRIPTION	U/M
1	0	9150-00-190-0904	Grease, Automotive and Military MIL-G-10924	lb
2	F	6850-00-285-8011	Solvent, Dry Cleaning P-D-680	gl

SECTION II.
EXPENDABLE SUPPLIES AND MATERIALS LIST FOR
TEST STAND, AIRCRAFT HYDRAULIC SYSTEM, TYPE MK-1 (Cont.)

(1)	(2)	(3)	(4)	(5)
ITEM NUMBER	LEVEL	NATIONAL STOCK NUMBER	DESCRIPTION	U/M
3	0		Fluid, Hydraulic MIL-H-83282	gl
4	0		Oil, Lubricating MIL-H- 15016	gl

ALPHABETICAL INDEX

Subject Paragraph

C
(cont.)

D

Subject Paragraph

D
(cont.)

E

F

Subject Paragraph

F
(cont.)

G

H

Subject Paragraph

I
(cont.)

Subject Paragraph

I
(cont.)

L

M

Subject Paragraph

R
(cont.)

Subject Paragraph

R
(cont.)

Subject Paragraph

R
(cont.)

S

By Order of the Secretary of the Army:

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

Official:

R.L. DILWORTH
Brigadier General, United States Army
The Adjutant General

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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 = 3.2808.8 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
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

Cubic Measure

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

Square measure

1 sq. centimeter = 100 sq. millimeters =.155 sq. in.
1 sq. decimeter = 100 sq. centimeters = 15.5 inches
1 sq. meter (centare) = 100 sq. decimeters = 10.76 feet
1 sq. dekameter (are) = 100 sq. meters = 1.076.4 sq. ft.
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
1 sq. kilometer = 100 hectometers = .386 sq. miles

Liquid Measure

1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons
1 liter = 10 deciliters = 33.81 fl. ounces
1 centiliter = 10 milliliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3 38 fl. ounces
1 metric ton = 10 quintals = 1.1 short tons

Approximate Conversion Factors

To change	To	Multiply by
inches	centimeters	2.540
feet	meters	.305
yards	meters	.914
miles	kilometers	1.609
sq. inches	sq. centimeters	6.451
sq. feet	sq. meters	.093
sq. yards	sq. meters	.836
sq. miles	sq. kilometers	2.590
acres	sq. hectometers	.405
cubic feet	cubic meters	.028
cubic yards	cubic meters	.765
fluid ounces	milliliters	29.573
pints	liters	.472
quarts	liters	.946
gallons	liters	3.785
ounces	grams	28.349
pounds	kilograms	.454
short tons	metric tons	.907
pound inches	newton-meters	.11296

To change	To	Multiply by
ounce inches	newton-meters	.0070062
centimeters	inches	.394
meters	feet	3.280
meters	yards	1.094
kilometers	miles	.621
sq. centimeters	sq. inches	.155
sq. meters	sq. yards	10.764
sq. kilometers	sq. miles	1.196
sq. hectometers	acres	2.471
cubic meters	cubic feet	35.315
milliliters	fluid ounces	.034
liters	pints	2.113
liters	quarts	1.057
grams	ounces	.035
kilograms	pounds	2.205
metric tons	short tons	1.102
pound-feet	newton-meters	1.356

Temperature (Exact)

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

PIN: 061186-000