

**\*TM 55-4920-426-13&P**

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**TECHNICAL MANUAL**

**OPERATORS, AVIATION UNIT,  
AND INTERMEDIATE,  
MAINTENANCE MANUAL  
(INCLUDING REPAIR PARTS  
AND SPECIAL TOOLS LIST)  
FOR**

**GASOLINE ENGINE DRIVEN  
HYDRAULIC SYSTEMS  
TEST STAND, TYPE D5-D**

**P/N 79009-100  
NSN 4920-01-119-8795**

“Approved for public release; distribution is unlimited.”

This manual supersedes TM 55-4920-426-13&P, 1 December 1986, including all changes.

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**HEADQUARTERS, DEPARTMENT OF THE ARMY**

**29 JUNE 1988**



CHANGE

NO. 2

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DEPARTMENT OF THE ARMY  
WASHINGTON, D.C., 30 April 1993

OPERATORS. AVIATION UNIT, AND INTERMEDIATE,  
MAINTENANCE MANUAL (INCLUDING REPAIR  
PARTS AND SPECIAL TOOLS LIST)

FOR

GASOLINE ENGINE DRIVEN HYDRAULIC  
SYSTEMS TEST STAND, TYPE D5-D  
P/N 79009-100, NSN 4920-01-119-8795

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OPERATORS, AVIATION UNIT, AND INTERMEDIATE,  
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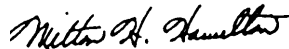
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1-1 and 1-2	1-1 and 1-2
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**WARNING**

Operation of this equipment presents a noise hazard to personnel in the area. The noise level exceeds the allowable limits for unprotected personnel. Wear ear muffs or earplugs fitted by a trained professional.

**WARNING**

Do not operate engine in a closed building unless the exhaust is piped outside. This exhaust contains carbon monoxide, a poisonous, odorless and invisible gas which, if breathed, causes serious illness and possible

**WARNING**

Never fill fuel tank while engine is running or is hot. Spilled fuel can cause a fire.

**WARNING**

Relieve all system pressure prior to removal of components from the hydraulic system. The hydraulic system under pressure can cause personnel injury.

**WARNING**

Wheel rims are under pressure. Completely deflate tire before removal or installation. Wheel rims under pressure can cause personnel injury.

**WARNING**

To avoid injury to personnel, cleaning operations shall be performed in a well ventilated area, away from open frames, heat and sparks.

**WARNING**

Do not kneel, bend over, or stand directly in front of the towbar. It is possible for the towbar latch to be accidentally tripped, causing the towbar to fail and possibly causing injury.





TECHNICAL MANUAL

NO. 55-4920-426-13&amp;P

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
WASHINGTON, D. C., 29 June 1988**OPERATOR'S, AVIATION UNIT AND INTERMEDIATE  
MAINTENANCE MANUAL INCLUDING  
REPAIR PARTS AND SPECIAL TOOLS LIST****GASOLINE ENGINE DRIVEN HYDRAULIC  
SYSTEMS TEST STAND, TYPE D5-D  
NSN 4920-01-119-8795****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 (Recommended Changes to Equipment Technical Publications) located in the back of this manual direct to: Commander, U.S. Army Aviation Systems Command, ATTN: AMSAV-MC, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798. A reply will be furnished directly to you.

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## CHAPTER 1

## INTRODUCTION

## Section 1. GENERAL INFORMATION

## 1-1 SCOPE

1-1

- a. This manual is for use by Aviation Unit and Intermediate Maintenance personnel to operate and maintain the Aircraft Hydraulic Systems Test Stand Type D5-D, Figures 1-1, 1-2, 1-3.
- b. The test stand determines the performance and operating characteristics of aircraft hydraulic systems.
- c. The manufacturer is Hydraulics International, Inc., Chatsworth, California.

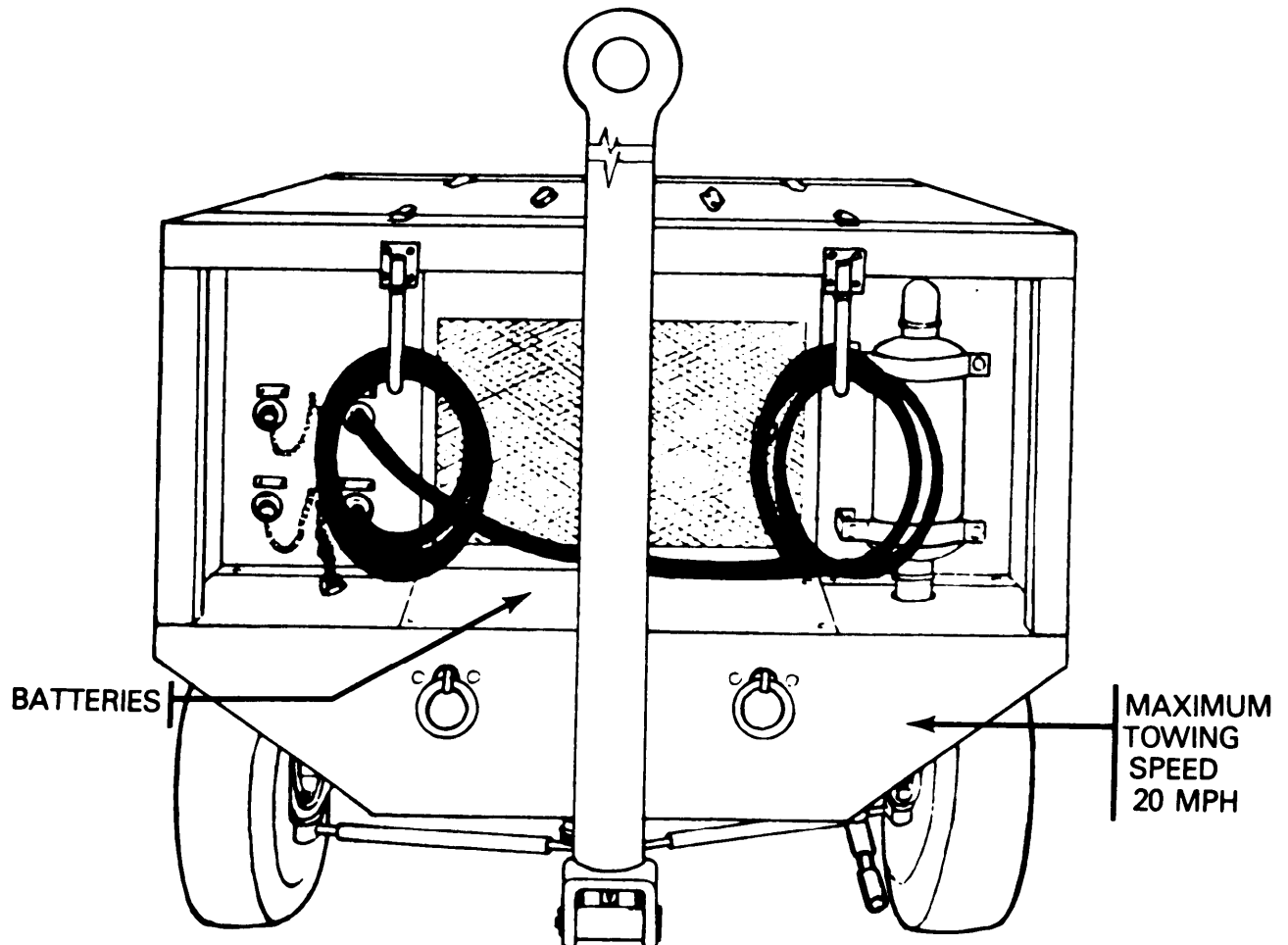


FIGURE 1-1. HYDRAULIC TEST STAND, D5-D, FRONT VIEW

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**1-2 MAINTENANCE FORMS, RECORDS AND REPORTS 1-2**

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Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-751, The Army Maintenance Management System - Aviation (TAMMS-A).

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**1-3 DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE 1-3**

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Procedures for destroying Army materiel to prevent enemy use are listed in TM 750-244-1-4.

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**1-4 ADMINISTRATIVE STORAGE OF EQUIPMENT 1-4**

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Refer to TM 55-1500-204-25/1 for administrative storage of equipment instructions.

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**1-5 REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR) 1-5**

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EIR can and must be submitted by anyone who is aware of an unsatisfactory condition with the equipment design or use. It is not necessary to show a new design or list a better way to perform a procedure, just simply tell why the design is unfavorable or why a procedure is difficult. EIR may be submitted on SF 368 (Quality Deficiency Report). Mail directly to Commander, U.S. Army Aviation Systems Command. ATTN: AMSAV-QRF 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished to you.

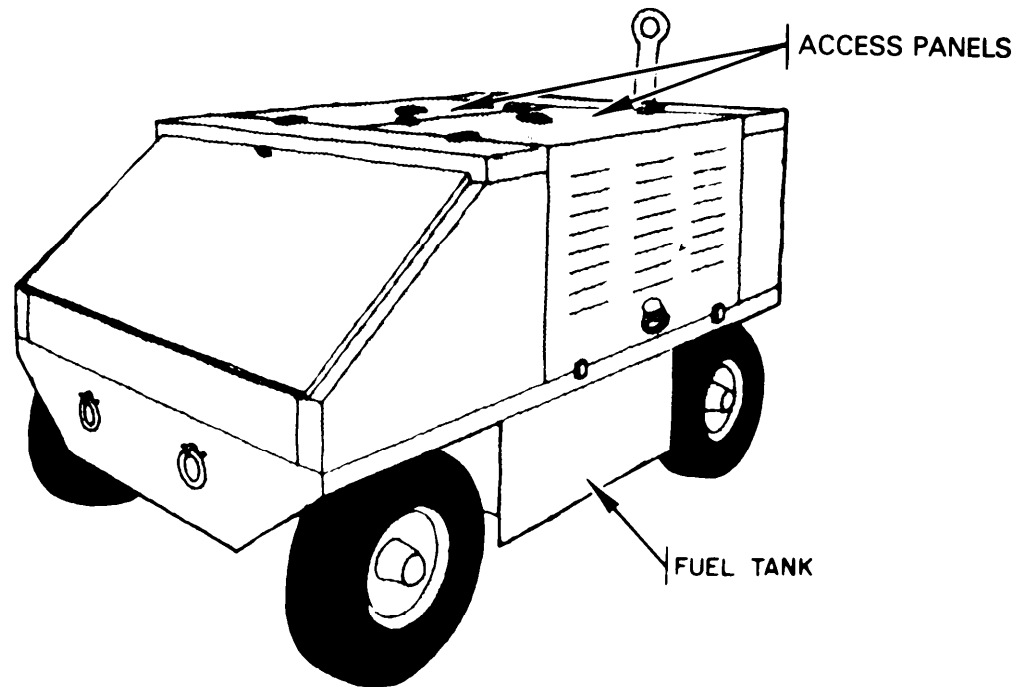


FIGURE 1-2. HYDRAULIC TEST STAND, TYPE D5-D, LEFT SIDE VIEW

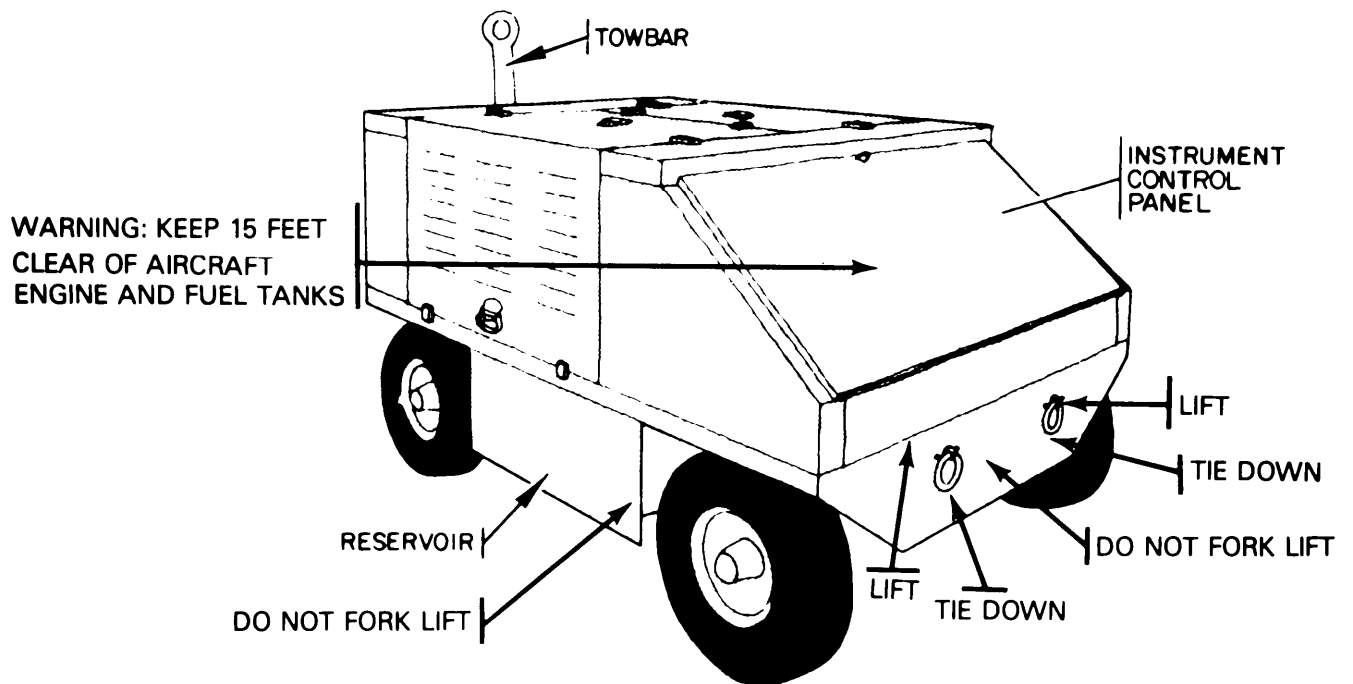


FIGURE 1-3 HYDRAULIC TEST STAND, TYPE D5-D, RIGHT SIDE VIEW

**Section II. EQUIPMENT DESCRIPTION AND DATA**

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**1-6 PURPOSE 1-6**

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Provide a source of hydraulic pressure and fluid for testing and operating aircraft hydraulic systems and components. The following service operation can be performed:

- (1) Test the aircraft system for internal and external leakage.
- (2) Drain, flush and refill the aircraft hydraulic system with micronically filtered hydraulic fluid.
- (3) Bleed air from aircraft hydraulic systems.

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**1-7 CAPABILITIES 1-7**

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The test stand is all weather operational. Operational at an angle of 8½ degrees in any direction from horizontal. Can deliver hydraulic fluid MIL-H-83282 or MIL-H-5606 at the rate of 10 gpm at pressures to 3000 psi and with reduced flow, 5 gpm or less, at pressures of 3000 psi to 5000 psi.

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**1-8 GENERAL DESCRIPTION 1-8**

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The test stand is a self-contained, mobile, testing unit enclosed in a steel weather-resistant cabinet mounted on a four wheel trailer assembly. A hand operated mechanical type parking brake is provided which acts upon the rear wheels, holding the test stand in a fixed position during test operation or when parking on a grade. A hinged towbar permits towing by vehicle at speeds up to 20 miles per hour. Removable side housings permit access to all parts within the cabinet. Operator controls and instruments are located at the rear of test stand. Two lifting/tie-down fittings are on front and rear of the test stand. External hose connections and hoses for connection to the aircraft are located on the front of the test stand. The major components of the test stand are shown in Figures 1-4, 1-5, and 1-6.

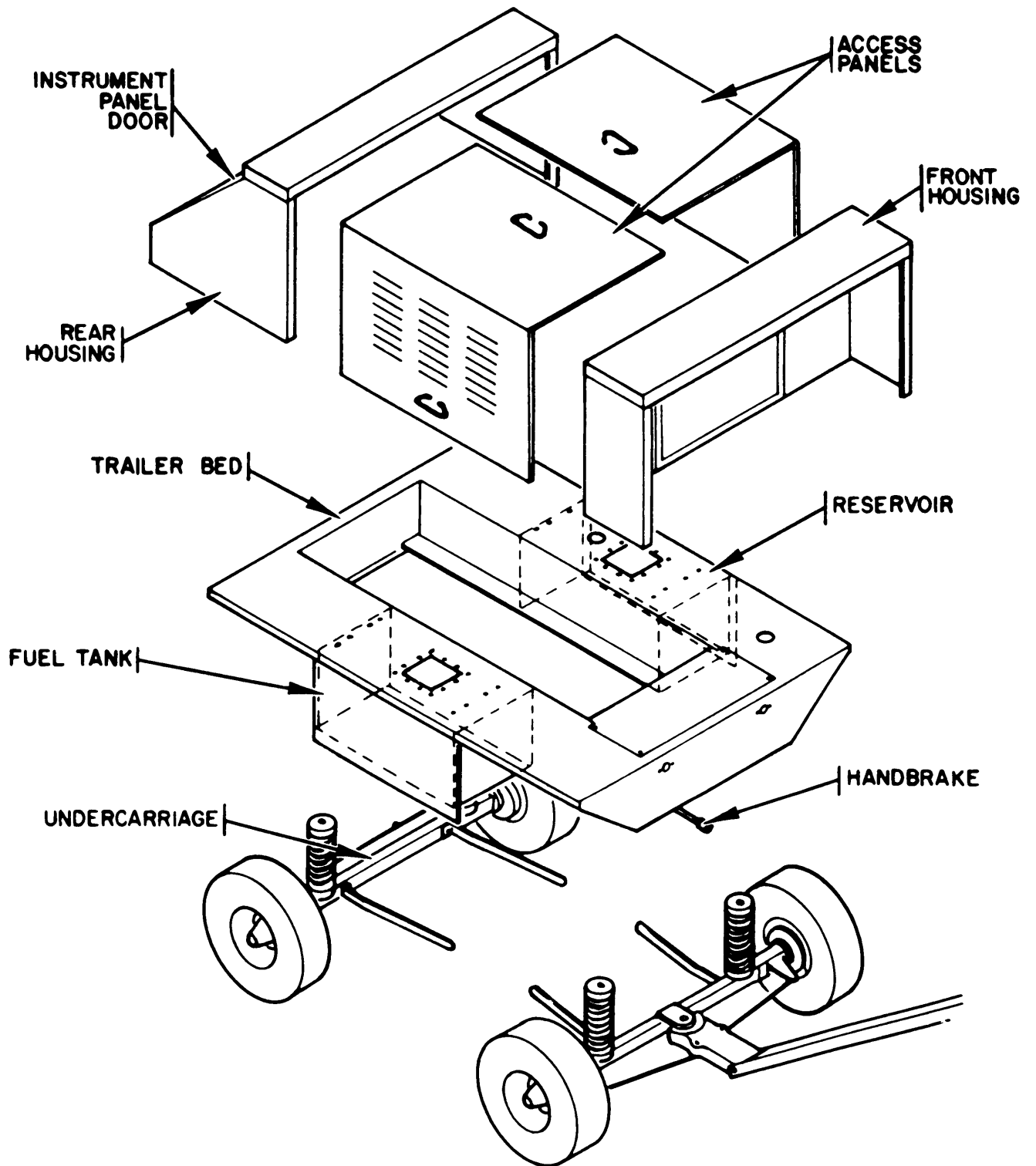
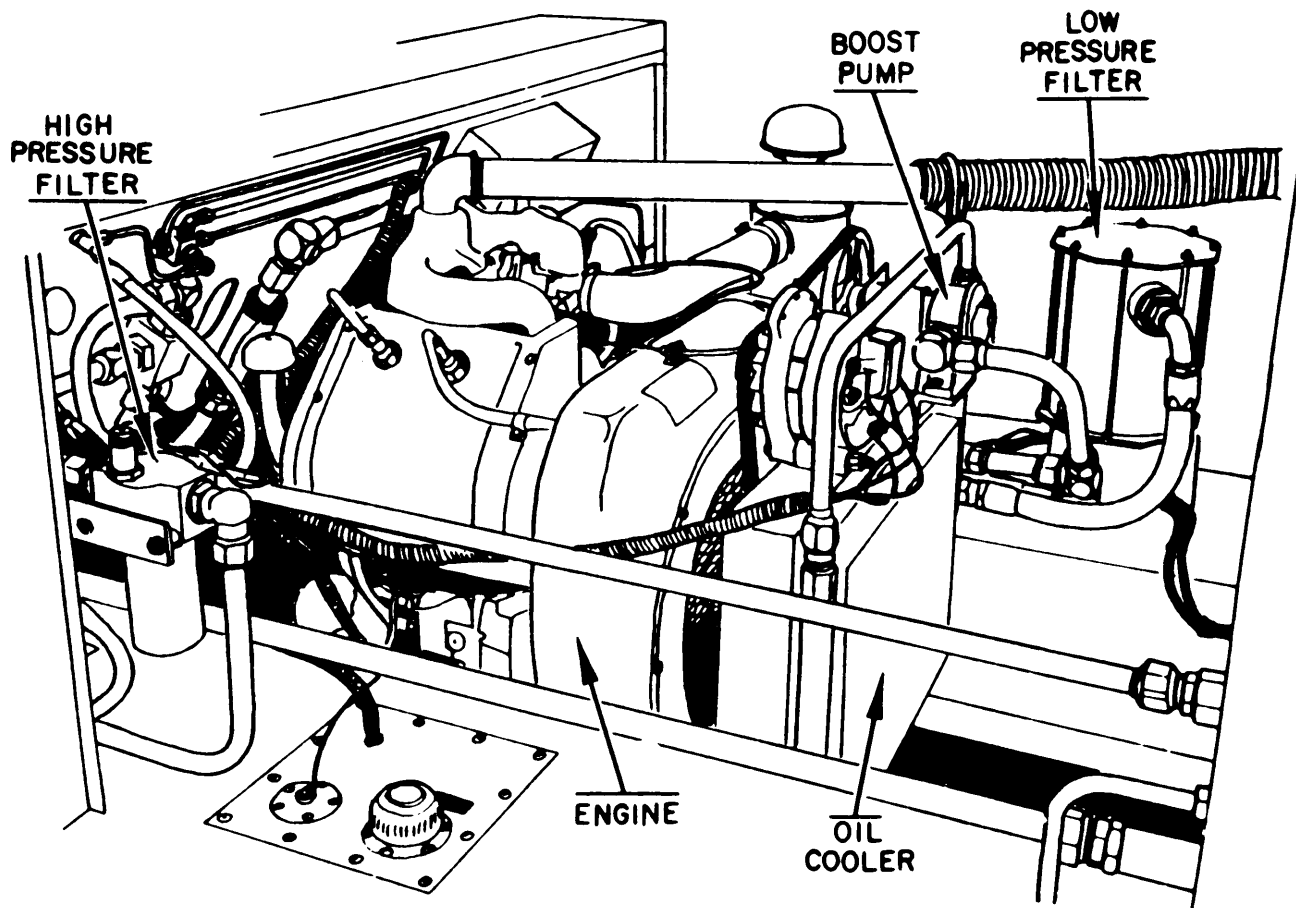


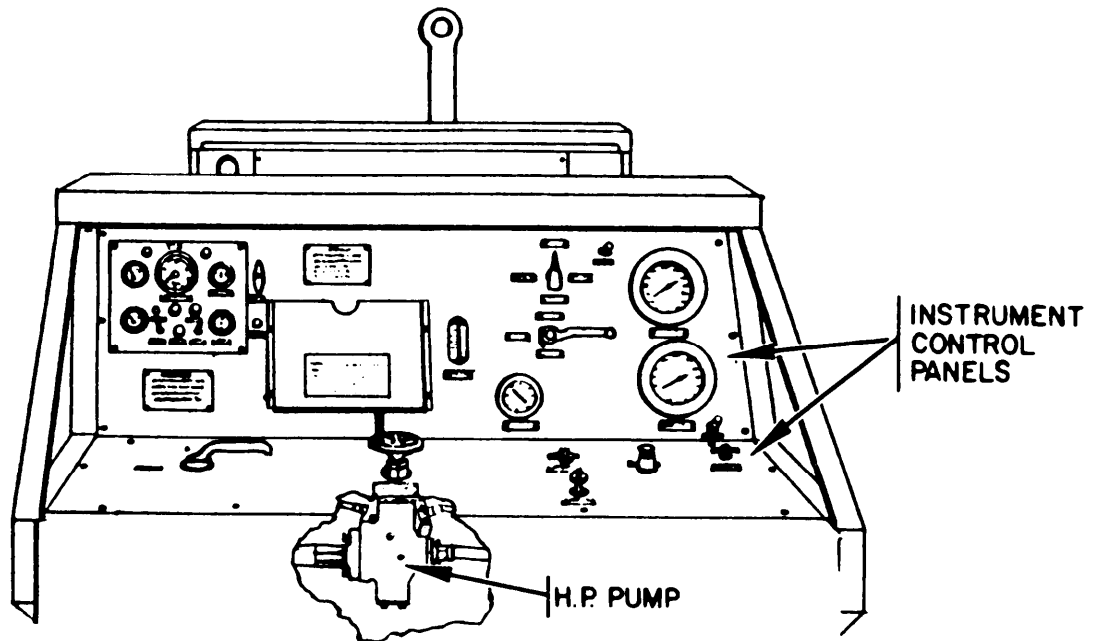
FIGURE 1-4. MAJOR COMPONENTS OF TEST STAND HOUSING



**FIGURE 1-5. MAJOR COMPONENTS OF TEST STAND ENGINE**

GASOLINE ENGINE	—4 cylinder, air cooled. Horsepower varies with rpm, ranging from 25 hp at 1400 rpm to 37 hp at 2400 rpm.
LOW PRESSURE FILTER	—filters the hydraulic fluid of contamination before entering the high pressure pump.
HIGH PRESSURE FILTER	—filters the hydraulic fluid of contamination before entering the aircraft.
BOOST PUMP	—overcomes the pressure drop of the heat exchanger, the low pressure filter and prevents unnecessary back pressure on the aircraft.
OIL COOLER	—cools the hydraulic fluid in the system.





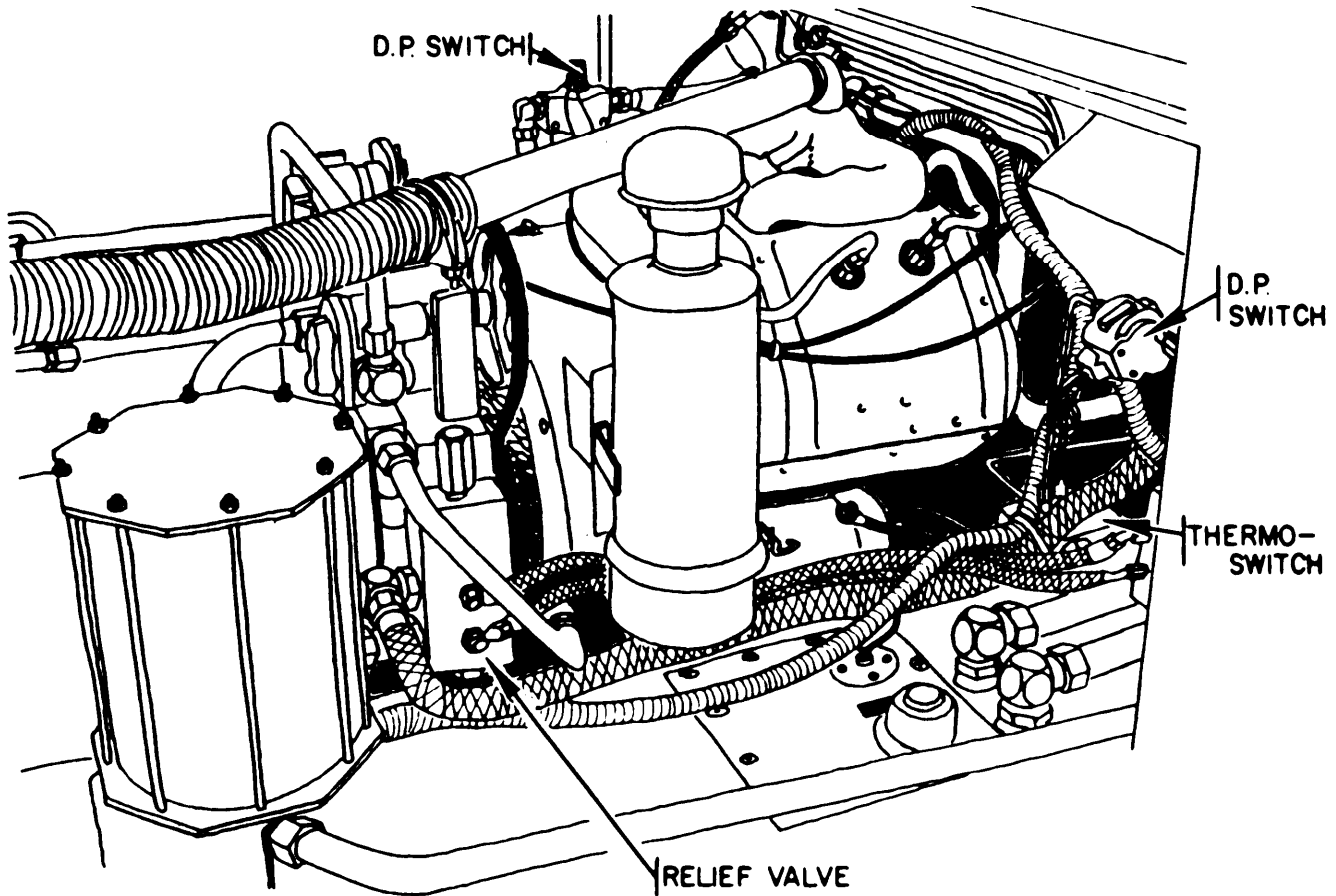
**FIGURE 1-6. CONTROL PANELS AND HIGH PRESSURE PUMP**

CONTROL PANEL

—contains the instruments and controls for operation of the test stand.

HIGH PRESSURE PUMP

—is a variable stroke, variable pressure, axial, piston type pump with a pressure compensator and hand wheel stroke control. The pump output is 10 gpm at 3000 psi, lowering to 5 gpm at 5000 psi.



PROTECTIVE DEVICES:

RELIEF VALVE

—located on the inlet side of the high pressure pump to return hydraulic fluid to the return system when/if the boost pump pressure exceeds the high pressure pump setting.

DIFFERENTIAL PRESSURE SWITCH

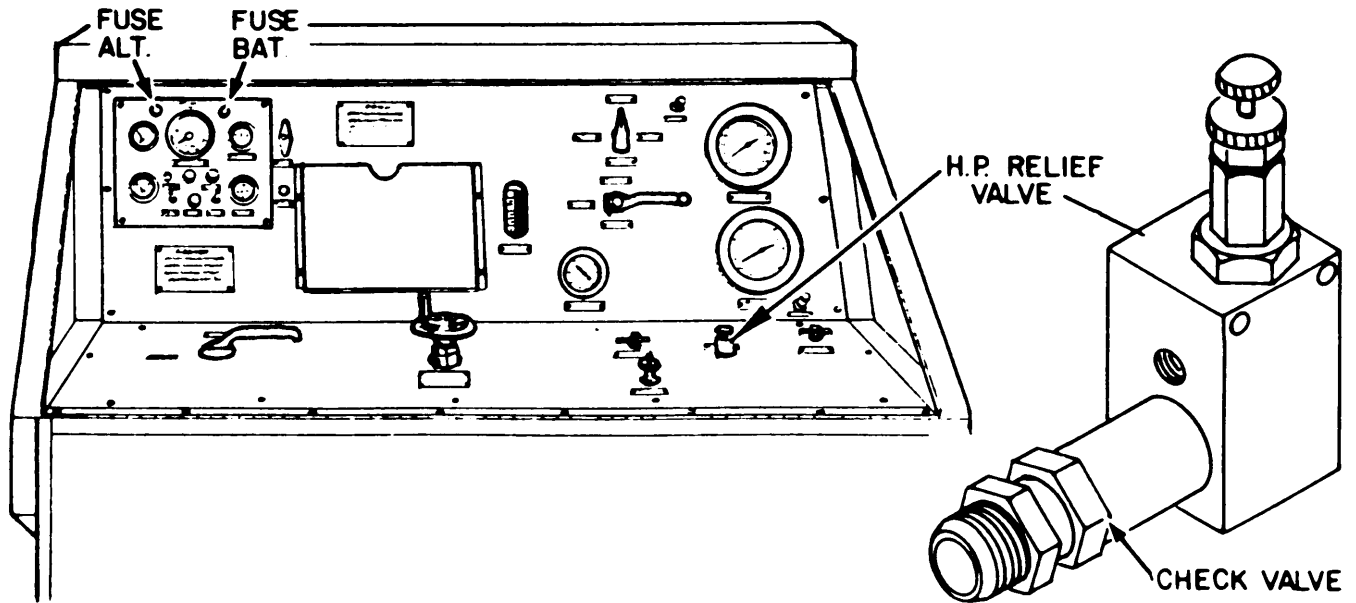
—located across the inlet and outlet ports of the high pressure filter, illuminates a red warning light “H. P. FILTER CLOGGED” on the instrument control panel.

DIFFERENTIAL PRESSURE SWITCH

—located on the back of the control panel, illuminates a red warning light “L.P. FILTER CLOGGED” on the instrument control panel.

THERMOSWITCH

—located before the high pressure pump, will shut off the gasoline engine when the hydraulic fluid temperature exceeds 160°F.



PROTECTIVE DEVICES (Cont)

SYSTEM H.P. RELIEF VALVE

—located after the high pressure pump to protect the hydraulic system from excess pressure.

CHECK VALVE

—located in outlet line to prevent reverse flow of hydraulic fluid to pump.

FUSE ALT.

—located on the instrument control panel to protect the alternator.

FUSE BAR.

—located on the instrument control panel to protect the electrical system.

See Table 1-1 for leading particulars (tabulated data).

<b>TABLE 1-1. LEADING PARTICULARS</b>
---------------------------------------

<b>FLUID RESERVOIR:</b>	
Capacity (at incline of 8½ degrees) . . . . .	20 Useable U.S. Gallons
<b>HYDRAULIC FLUID:</b> . . . . . MIL-H-83282 or MIL-H-5606	
<b>HYDRAULIC PUMP:</b> . . . . . High pressure, axial piston type, variable stroke, variable pressure pump with pressure compensator	
PUMP CAPACITY . . . . .	10gpm @ 3000 psi/5 gpm @ 5000 psi
PRESSURE COMPENSATOR . . . . .	Adjustable at control panel from 400 to 5000 psig
BOOST PUMP CAPACITY: . . . . .	12 gpm @ 100 psi
<b>HIGH PRESSURE FILTER:</b>	
Rating . . . . .	12 gpm @ 5000 psi
Element . . . . .	3 micron
<b>LOW PRESSURE FILTER</b>	
Rating . . . . .	30gpm @ 3000 psi
Element . . . . .	20 micron
<b>OIL COOLER:</b>	
Type . . . . .	Air-to-oil, fan cooled
Capacity . . . . .	125°F, maximum 10gpm @ 3000 psi
POWER PLANT: . . . . .	Gasoline engine, 25.0 hp @ 1400 rpm to 37 hp @ 2400 rpm
CRANKCASE CAPACITY . . . . .	New Engine 5 quarts Oil and filter change 5 quarts Les filter or filter change 4½ quarts
CONTROLS AND INSTRUMENTATION: . . . . .	Panel mounted
<b>TRAILER AND CABINET:</b>	
Construction . . . . .	Welded steel
Wheels. . . . .	Four pneumatic tires, 6.00 x 9.00 inch

**Table 1-1. Leading Particulars (Cont)**

Springs .....	Coil type
Brake .....	Hand operated, mechanical type on rear wheels
Steering .....	Knuckle type on front wheels with towbar and pintle ring
Cabinet .....	Metal enclosure with access panels; hinged doors; weather-resistant properties

PHYSICAL DATA (Approximate Dimension):

Length .....	87 inches
Width .....	47 inches
Height .....	48 inches
Weight (dry) .....	2080 pounds
Weight (wet) .....	2380 pounds

### Section III. TECHNICAL PRINCIPLES OF OPERATION

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**1-10 HYDRAULIC OPERATIONS**

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**1-10**

- a. Hydraulic fluid, taken from the test stand reservoir or the aircraft reservoir, is forced under pressure by the test stand high pressure pump (directly driven by the gasoline engine), first through a relief valve, check valve, high pressure filter and a two way selector valve to the supply port on the test stand and then to the aircraft being tested through one of the external hoses provided.
- b. The fluid is then returned to the test stand. Complete instrumentation is provided on the control panel to indicate test stand engine rpm, oil pressure and alternator output, plumbing system pressure, return flow gpm, hydraulic fluid temperature, hydraulic fluid reservoir level and fuel level.

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**1-11. HOSE**

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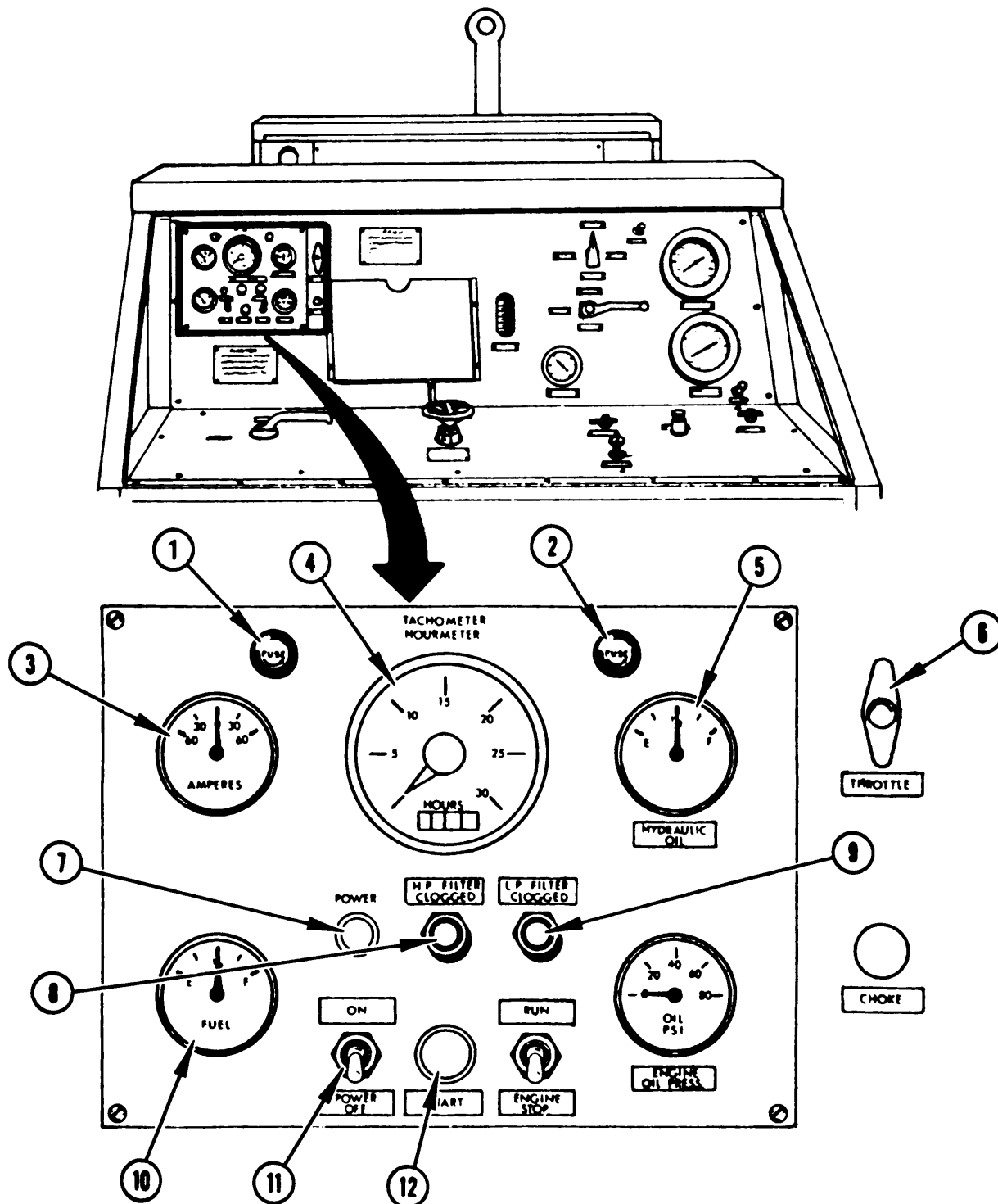
**1-11**

Hose assemblies are furnished with the test stand to connect the stand to the aircraft. The hoses are stored on two hooks, located on the front of the test stand.

CHAPTER 2

OPERATING INSTRUCTIONS

Section I. DESCRIPTION AND USE OF OPERATOR CONTROLS AND INSTRUMENTS



See Tables 2-1 and 2-2.

<b>TABLE 2-1</b>
------------------

<b>NO.</b>	<b>NAMEPLATE</b>	<b>DESCRIPTION</b>	<b>FUNCTION</b>
1.	FUSE ALT	25 amp	Protection for the alternator
2.	FUSE BAT	25 amp	Protection for the electric system
3.	AMPERES	60-0-60	Indicates alternator output and/or ampere load imposed on battery
4.	TACHOMETER/ HOURMETER	0 to 3000 RMP 0 to 1000 HOUR	Indicates engine crankshaft RPM/ Total test stand operating hours
5.	HYDRAULIC OIL	E to F	Indicates hydraulic oil fluid level in the test stand reservoir
6.	THROTTLE	Push-Pull (turn-lock)	Manually controls engine rpm setting
7.	POWER	Indicator light	Indicates power is on in the system
8.	H. P. FILTER CLOGGED	Indicator light	Indicates when the high pressure filter element need change
9.	L. P. FILTER CLOGGED	Indicator light	Indicates when the low pressure filter element needs change
10.	FUEL	E to F	Indicates fuel level in the fuel tank
11.	POWER ON/OFF	On/Off switch	Turns power on/off from battery
12.	START	Momentary contact switch	Energizes starter solenoid to crank engine



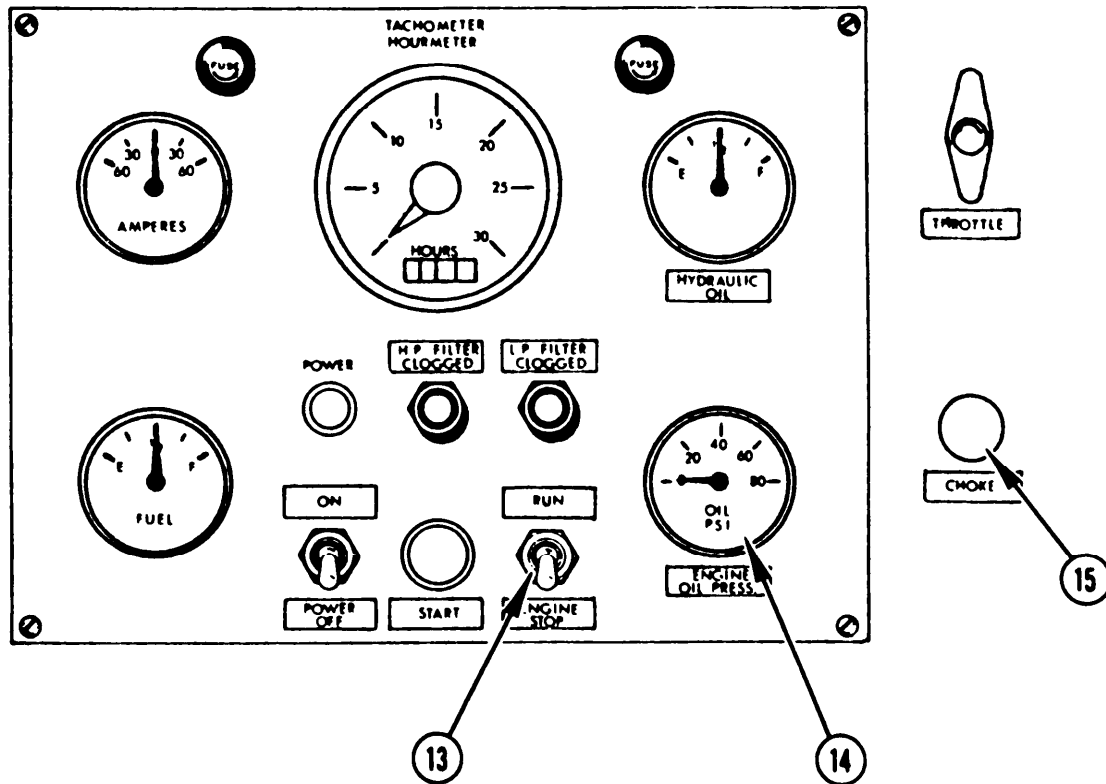


TABLE 2-1 (Cont)]

NO.	NAMEPALTE	DESCRIPTION	FUNCTION
13.	ENGINE RUN/ STOP	On/Off switch	Opens and closes engine ignition circuit
14.	ENGINE OIL PRESSURE	0 to 16 psi	Indicates engine oil pressure
15.	CHOKE	Push-pull	Manually controls engine choke setting

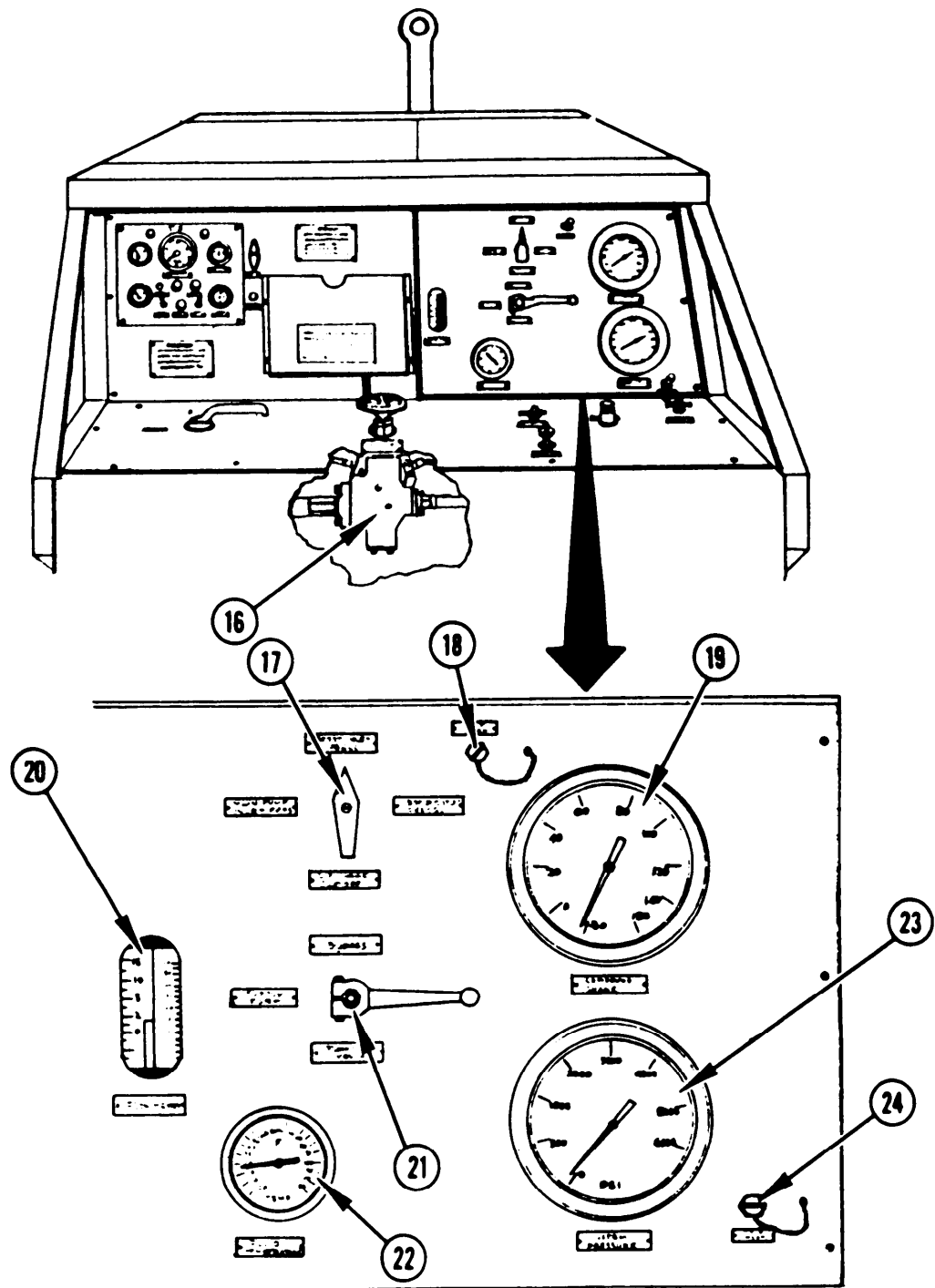


TABLE 2-1 (Cont)

NO.	NAMEPLATE	DESCRIPTION	FUNCTION
16.	HIGH PRESSURE PUMP	Variable stroke, variable pressure, axial, piston type pump	Pumps hydraulic fluid from test stand to aircraft and return
17.	L.P. GAGE SHUT OFF	3-way needle valve	Selects boost pump inlet, outlet, main pump inlet pressure and will isolate the compound gage
18.	TEST PORT	AN fitting	Calibrate compound gage
19.	COMPOUND GAGE	30 in. vacuum and 0 to 150 psi	Indicates vacuum and/or pressure in the plumbing suction system
20.	FLOWMETER	Direct reading indicator	Indicates return flow in gpm of hydraulic fluid from the aircraft
21.	FLOW CONTROL VALVE	2-way valve	Bypass pump delivery
22.	TEMPERATURE GAGE	-20°F to 240°F	Indicates hydraulic oil temperature in the plumbing system
23.	SYSTEM PRESSURE	0-6000 psi	indicates pressure in the test stand hydraulic system
24.	TEST PORT	AN fitting	Calibrate system pressure gage
25.	RESERVOIR SELECTOR	2-way valve	Manually cycles pressure and return flow
26.	FLUID VOLUME	Handwheel	Regulates pump delivery of hydraulic fluid from 0 to 10 gpm
27.	COMPENSATOR SHUTOFF	Needle valve	Isolates pressure compensator from the plumbing system
28.	SYSTEM RELIEF VALVE	200-5000 psi	Regulates pressure in the plumbing system
29.	H.P. GAGE SHUTOFF	Needle valve	Isolates system pressure gage from the plumbing system
30.	PRESSURE COMPENSATOR	Screw shaft	Maintains constant circuit pressure

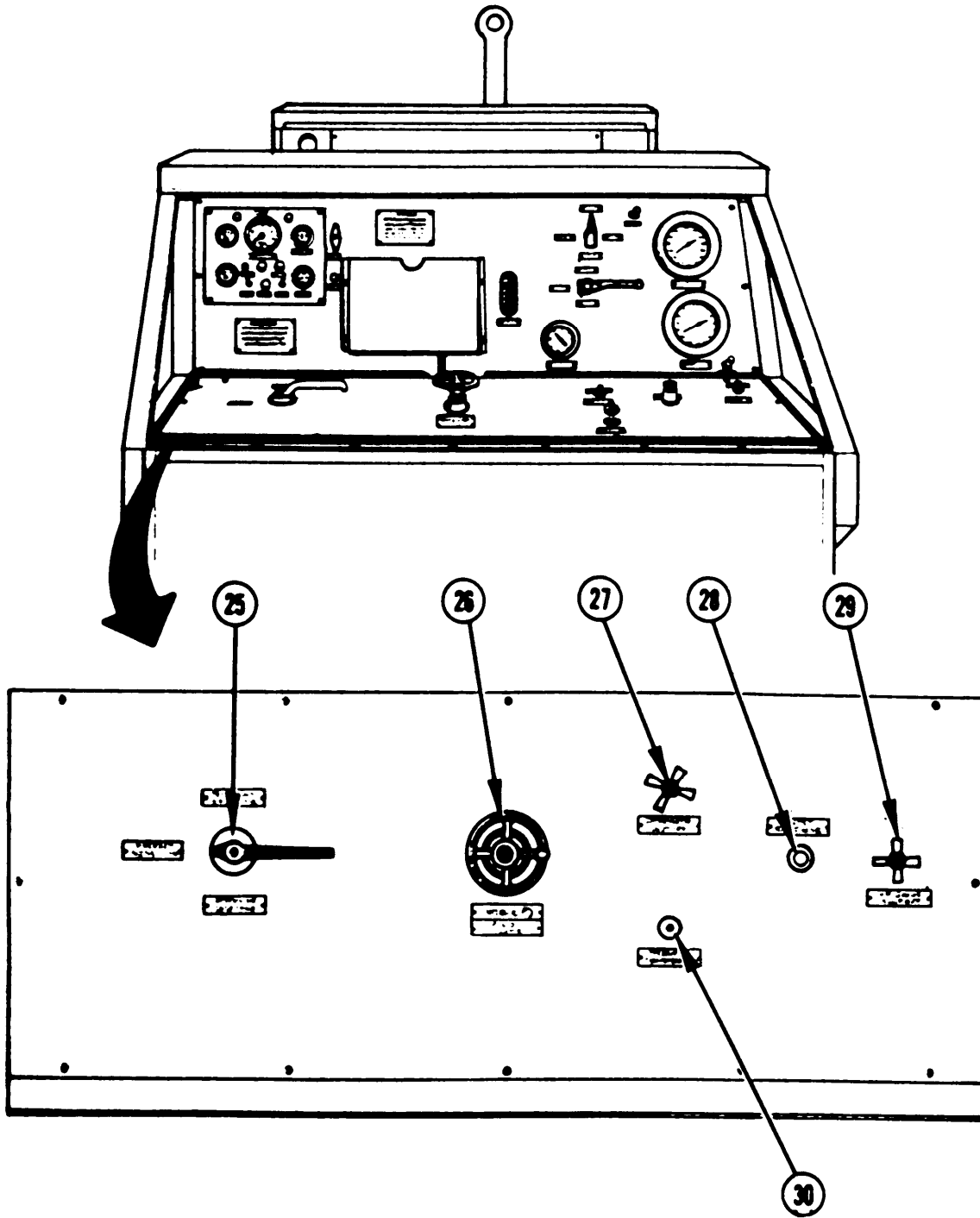


TABLE 2-2

LUBRICATION CHART

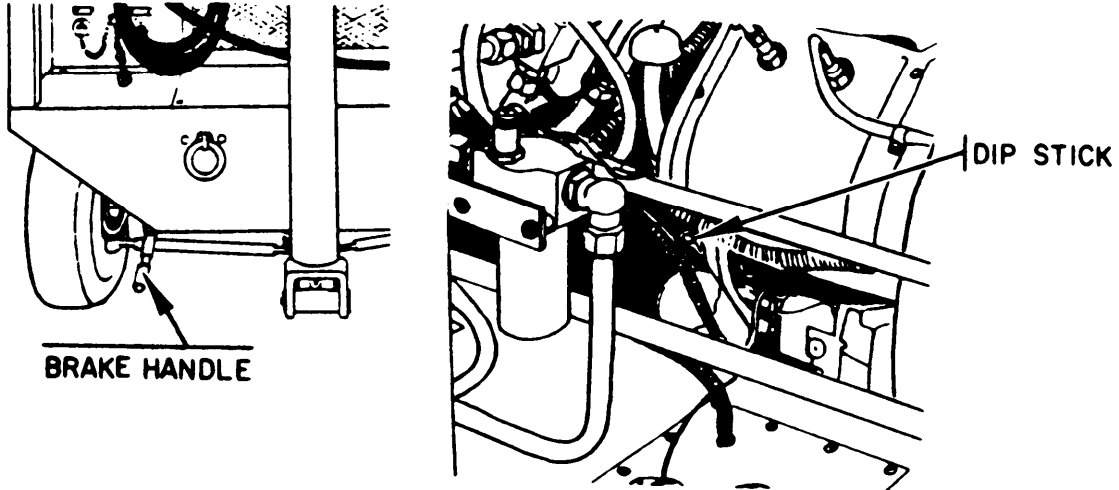
LOCATION	LUBRICATION	TEMPERATURE	CHANGE INTERVAL
ENGINE			
ENGINE OIL	SAE 30 MIL-L-2104	Above 30°F	50 hours
	SAE 10 MIL-L-2104	Below 30°F to -10°F	50 hours
	SUB-ZERO SAE-5		
	MIL-L-10295	Below 10°F to -65°F	As Required
DOOR HINGES/ FASTENERS	2190 Lubrication oil (general purpose)	All temperatures	As Required
WHEEL BEAR- INGS AND SPINDLES, TIE ROD ENDS	GAA GREASE (Auto- motive & Artillery)	All temperatures	100 hours

Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES

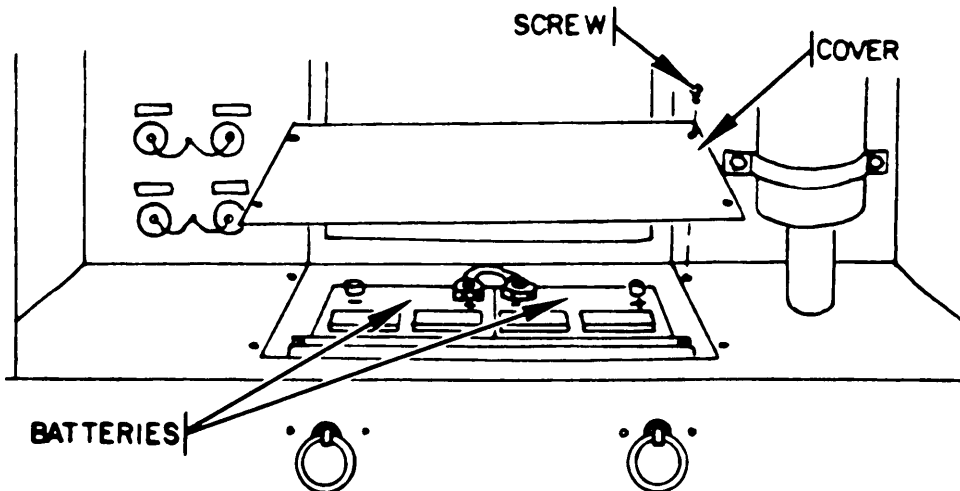
NOTE

The following checks to be performed before operating the test stand.

1. HANDBRAKE SET - insure that brake handle is straight out.



2. TIRES - insure that tires are inflated to 35 PSI.
3. ENGINE OIL LEVEL - add oil if level is a quart or more low on the dip stick



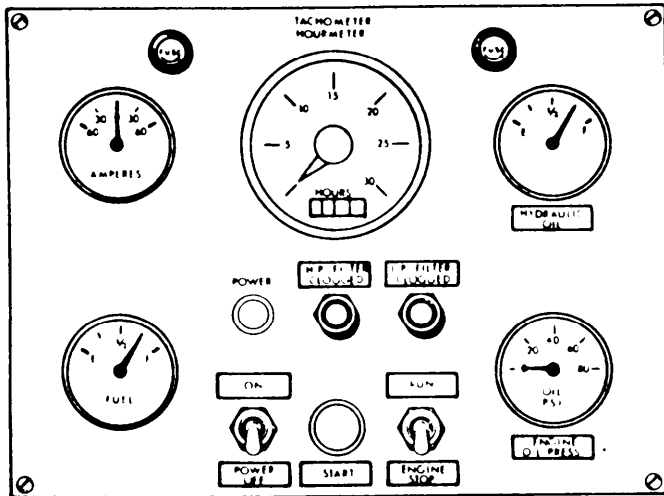
4. BATTERIES (Lead acid) - if electrolyte level is low, add distilled water up to vent well.

**Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued**

5. HYDRAULIC OIL FLUID LEVEL - insure that fluid level is at minimum, 3/4 full.

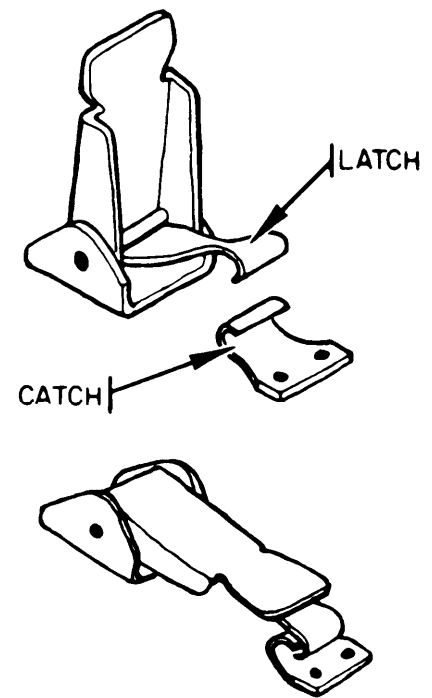
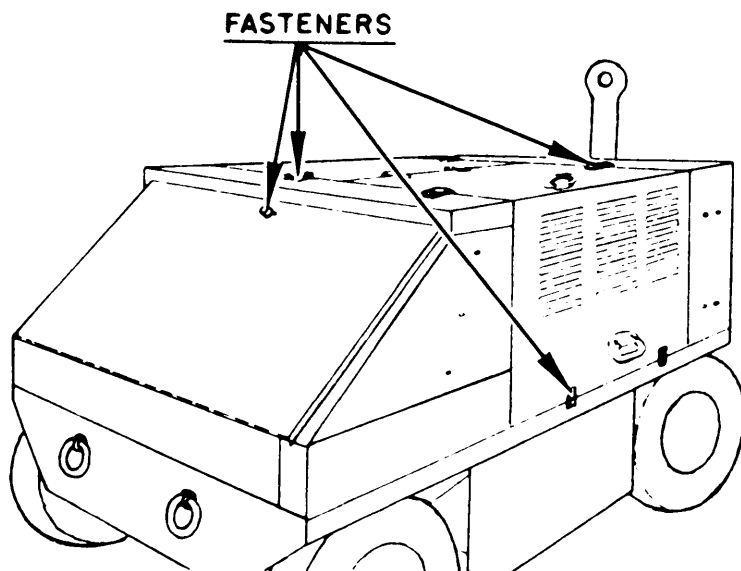
**CAUTION**

During operation do not drop below 1/4 full.



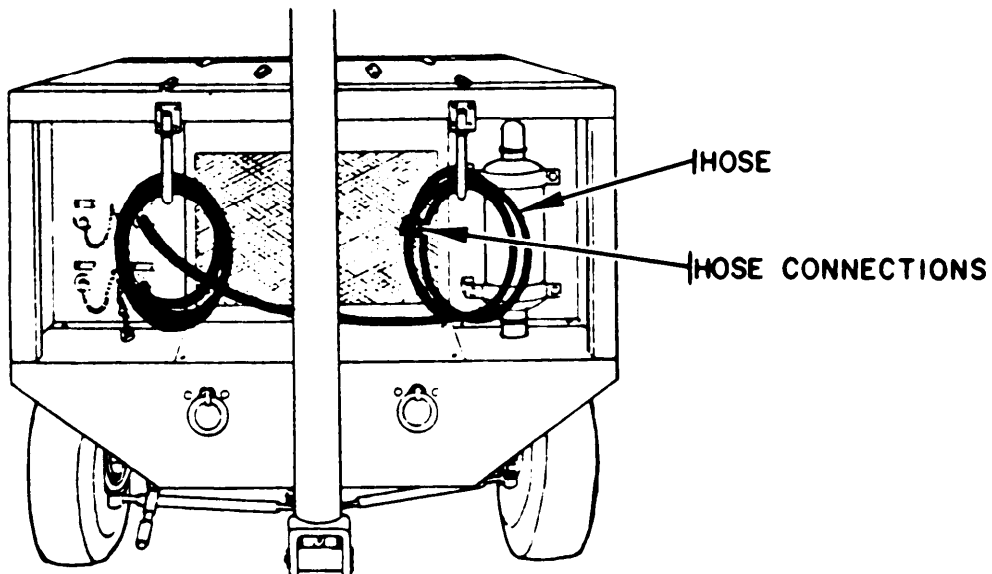
6. FUEL (GASOLINE) LEVEL - insure that fuel level is at minimum, 3/4 full.

7. HOUSING - all fasteners secure.

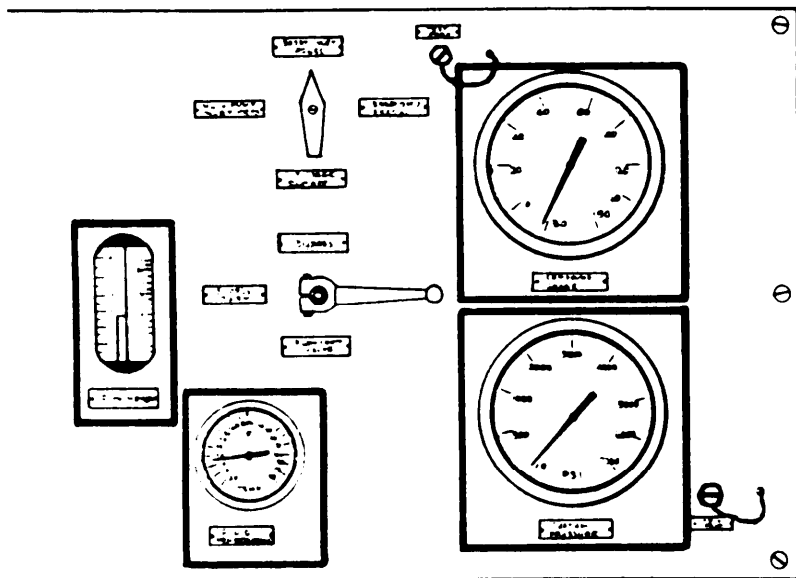


**Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued**

8. HOSES, HOSE CONNECTIONS - shall not be damaged, cut or deteriorated



9. GAGES, INSTRUMENTS - shall not be damaged, pointer loose, glass broken or loose in instrument panel.





Section III. OPERATION UNDER USUAL CONDITIONS

2-2 PRELIMINARY PROCEDURE

2-2

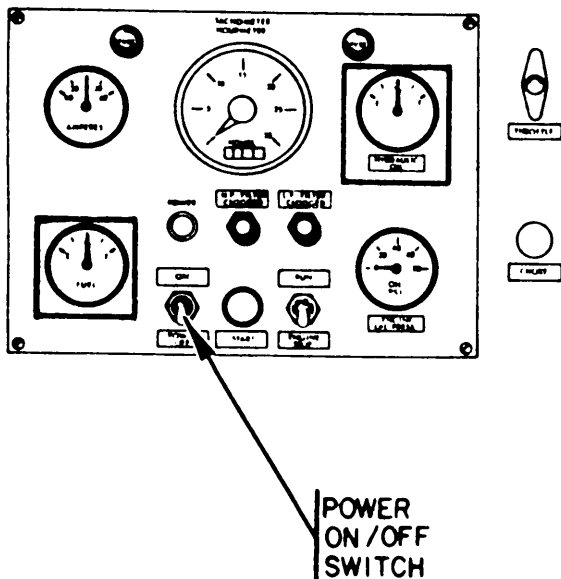
Make the following checks before operating the test stand. Schematics are located at end of Chapter 2 .

**WARNING**

Do not operate the engine in a closed building unless the exhaust is piped outside. This exhaust contains carbon monoxide, a poisonous, odorless and invisible gas, which if breathed causes serious illness and possible death.

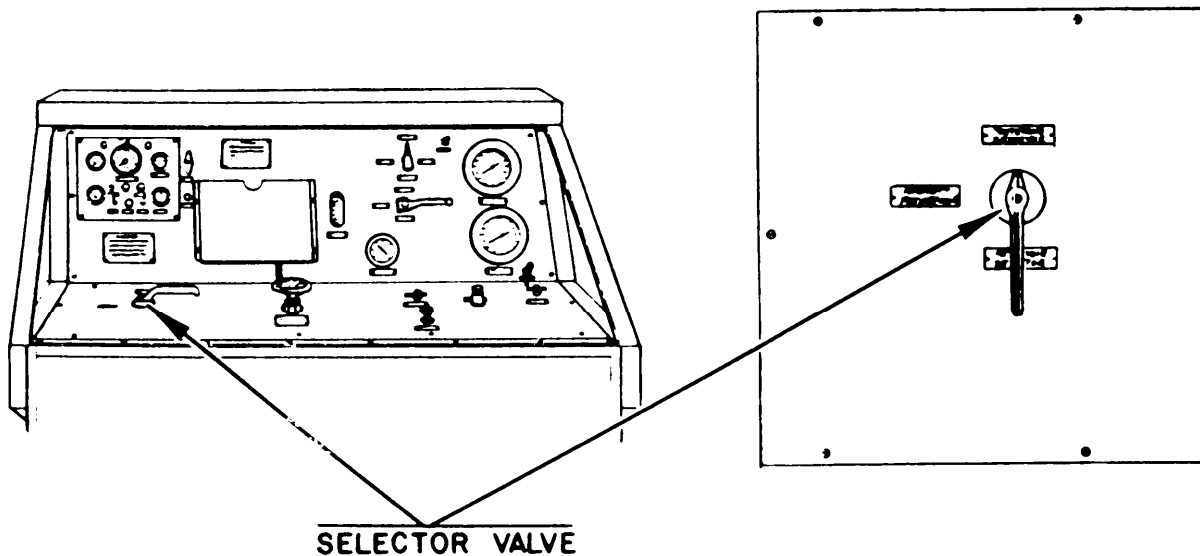
**WARNING**

Operation of this equipment present a noise hazard to personnel in the area. The noise level exceeds the allowable limits for unprotected personnel; wear ear muffs or earplugs which have been fitted by a trained professional.



**NOTE**

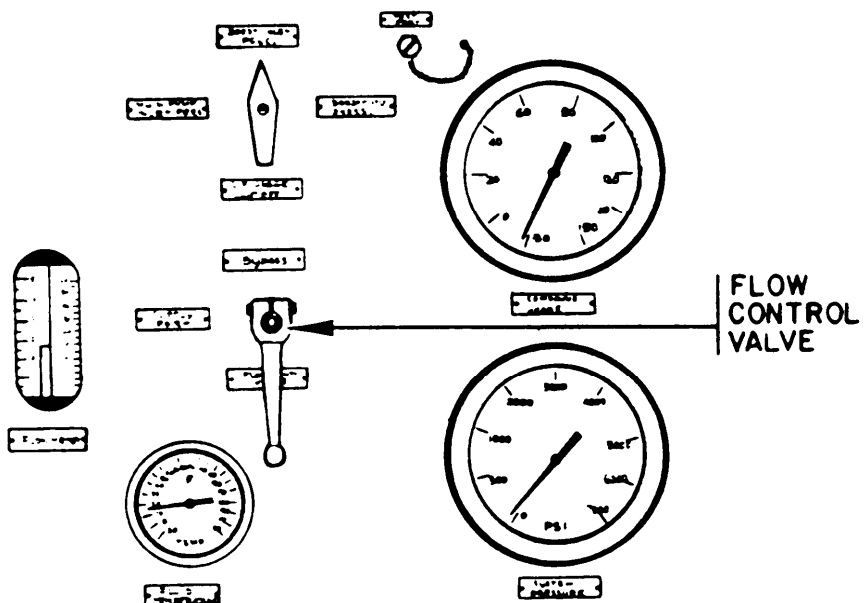
Power On/Off switch must be in the ON position to energize the hydraulic oil and fuel level indicators.



**WARNING**

Insure valves are in the noted positions, otherwise damage to equipment and harm to personnel will occur.

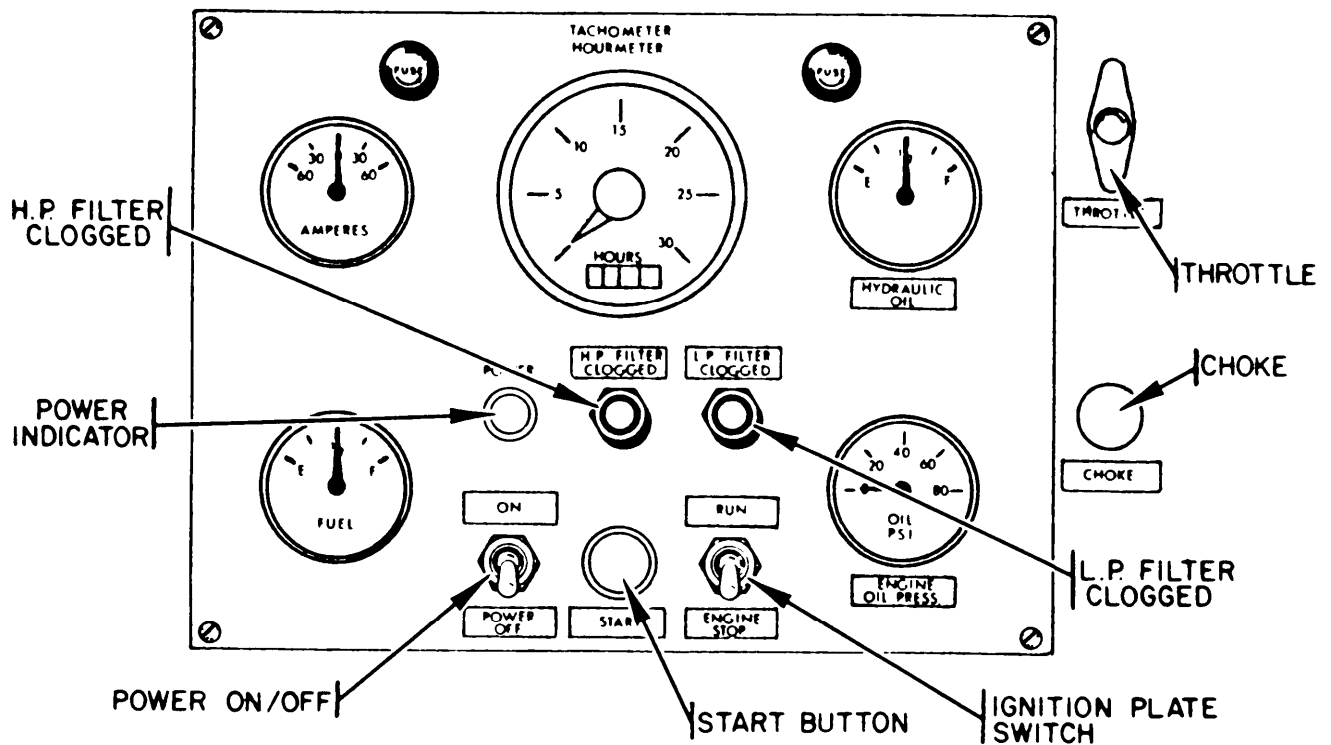
- a. Put the selector valve in the test stand reservoir position



- b. Put the flow control valve in the by-pass position.
- c. Open high pressure gage shutoff valve, turn counterclockwise.

## 2-3 STARTING THE ENGINE - Continued

2-3

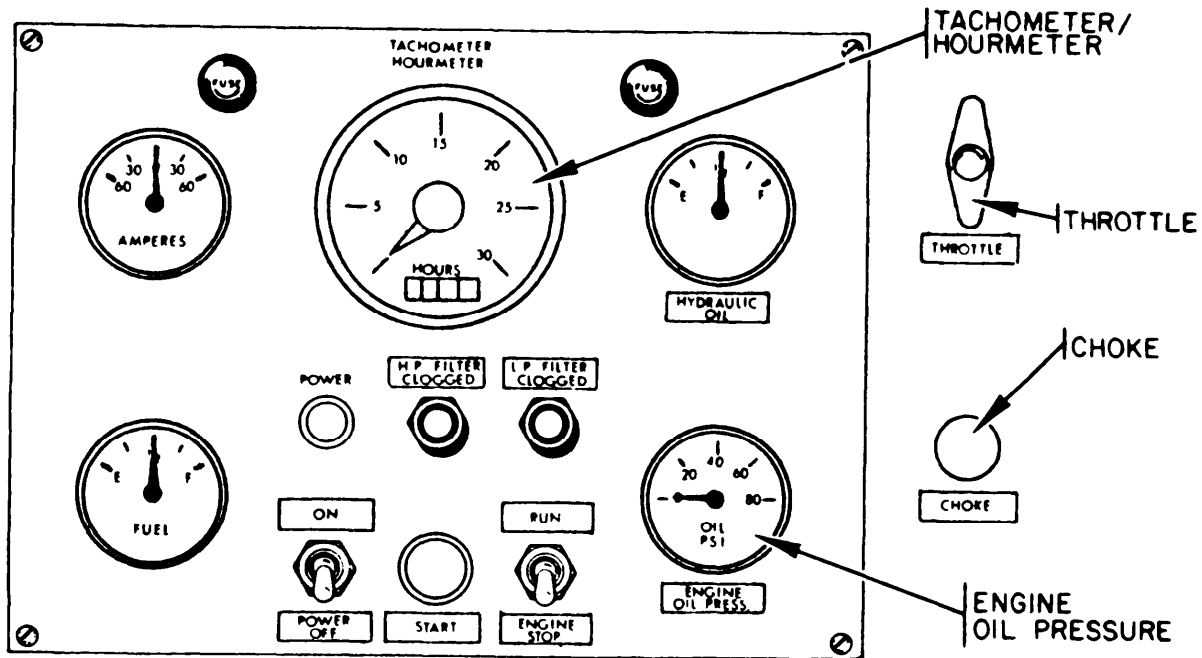


- d. Pull choke out
- e. Turn throttle handle to the left  $\frac{1}{2}$  turn and pull out  $\frac{1}{4}$  inch.
- f. Put the power On/Off switch in the ON position. Power indicator light will come on,
- g. Press in the H P Filter Clogged light to verify operation, light will light up.
- h. Press in the L P Filter Clogged light to verify operation, light will light up.
- i. Put the ignition switch in the RUN position.

**CAUTION**

**Holding start switch in more than the normal 5-7 seconds  
can cause damage to the starter.**

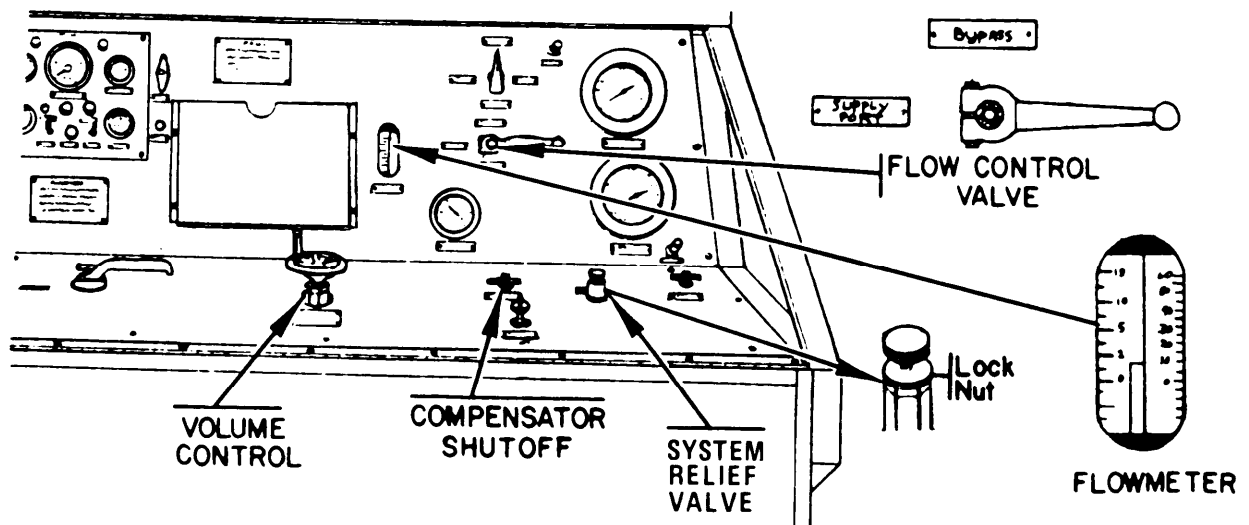
Press start switch, hold for 5 to 7 seconds, repeat until engine starts.



- k. The engine oil pressure gage should indicate 8 to 12 psi.
- l. With engine operating, slowly push the choke in until the engine is operating normally with choke fully in.
- m. With throttle, set engine speed 1000 to 1400 rpm on the tachometer/hourmeter, operate engine for approximately 10 minutes for warm-up.
- n. With throttle, set engine speed to 1800 rpm on the tachometer
- o. With engine operating, go to HYDRAULIC SYSTEM OPERATION, (Para. 2-4),

## NOTE

Valve settings are performed prior to attaching hoses to the aircraft



- a. Release the locknut located below the adjusting screw on the system relief valve. Turn the system relief valve adjusting screw counterclockwise 3 turns.
- b. Close the compensator shutoff valve, turn handle clockwise.

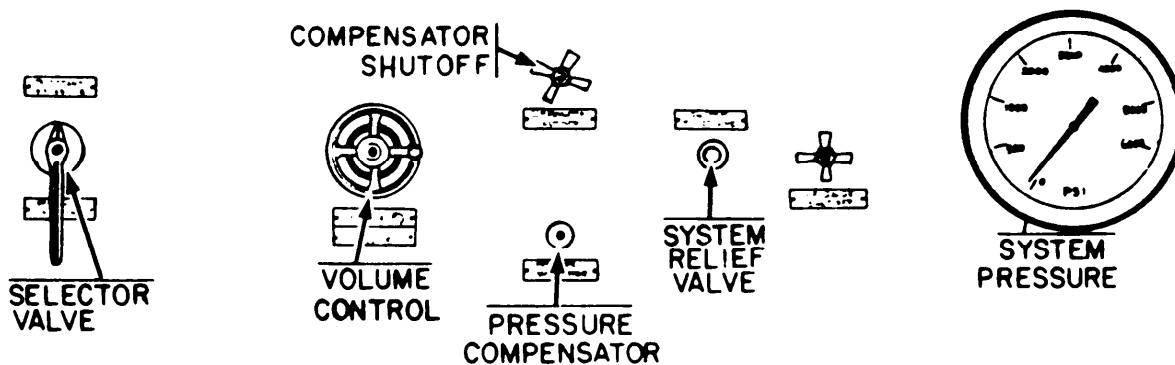
## NOTE

Capacity is 10 GPM flow maximum at 3000 PSI diminishing to 5 GPM flow maximum at 5000 psi.

- c. Adjust the fluid volume control clockwise to 2 gpm flow. The flow is shown by the flowmeter.
- d. Turn the flow control valve to the supply port position.

**WARNING**

Always set the high pressure relief valve at a higher pressure (150 PSI higher) than the pump compensator pressure - DO NOT use the relief valve to regulate the test stand output pressure.



- e. Adjust the system relief valve to relieve the system pressure at 150 psi above the pressure required for test. Refer to the applicable aircraft technical manual to determine the required pressure for testing. (Example: 800 psi test pressure, set the system relief valve at 950 psi on the system pressure gage. Turn the system relief valve adjusting screw clockwise until 950 psi shows on the system pressure gage. Lock the adjustment screw with the locknut.)
- f. Open the compensator shutoff valve, turn handle counterclockwise. Adjust the system pressure with the pressure compensator until the system pressure gage indicates a pressure slightly higher (50 psi higher) than the maximum pressure required for test. (Example: 800 psi test pressure, set system pressure with the pressure compensator, turn screw knob, clockwise until 850 psi is indicated on the system pressure gage. Lock the control with the locknut under the knob.)

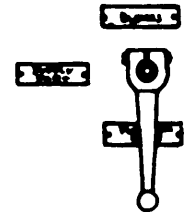
2-4 HYDRAULIC SYSTEM OPERATION – Continued

2-4

- g. Return the flow control valve to the by-pass position.
- h. With the volume control, adjust to the required fluid flow on the flowmeter for test.
- i. Turn throttle to the left and push fully in, let engine idle for a minute or two.
- j. Put ignition switch in the stop position. Engine stopped.
- k. The test stand is now ready for attaching to the aircraft.



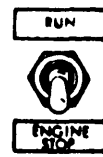
FLOWMETER



FLOW CONTROL VALVE



THROTTLE



IGNITION

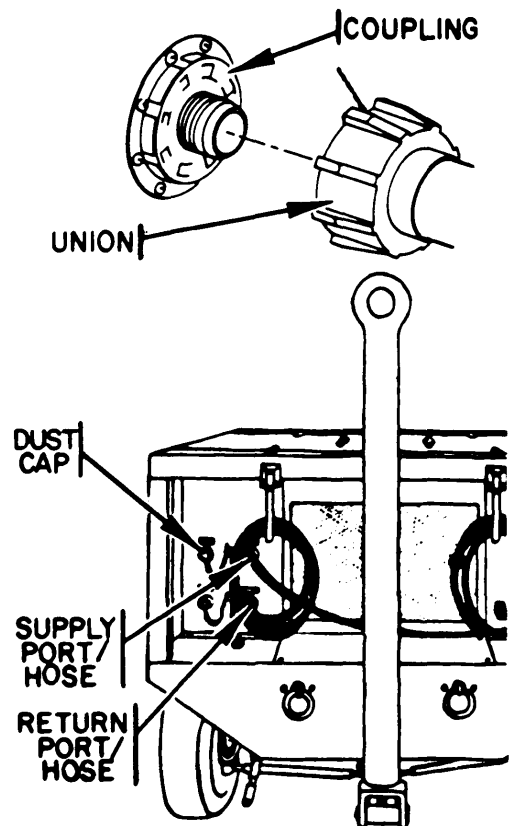
**CAUTION**

Do not attach hoses to aircraft when test stand is operating.

2-5 ATTACH HOSES BETWEEN TEST STAND AND AIRCRAFT

2-5

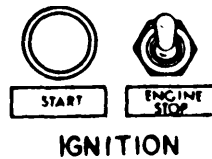
- a. Remove dust cap from the supply port coupling on the test stand.  
(Remove dust plug from the supply hose union nut.)  
(Connect the supply hose union nut to the supply port coupling.)
- b. Remove dust cap from the return port coupling on the test stand.  
(Remove dust plug from the return hose union nut.)  
(Connect the return hose union nut to the return port coupling.)
- c. Connect the supply hose and return hose to corresponding ports on the aircraft.



- a. Start engine, put ignition switch in the "run" position.

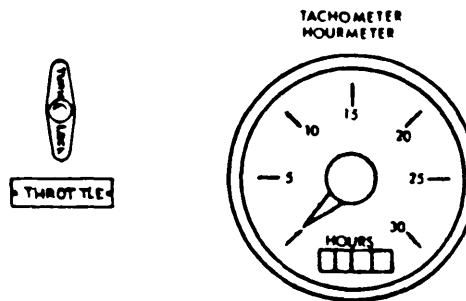
**CAUTION**

**Holding start switch in more than the normal 5-7 seconds can cause damage to the stater.**

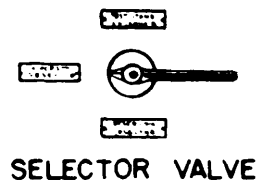


- b. Press start switch, hold for 5 to 7 seconds, repeat until engine starts.

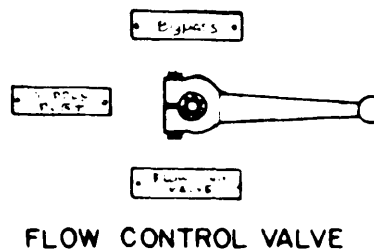
- c. With the throttle, set engine speed to 2000 rpm on tachometer/hourmeter.



- d. Place the selector valve in the aircraft reservoir position.



- e. Place flow control valve in the supply port position, the aircraft is now receiving hydraulic fluid, proceed with the test in accordance with the aircraft manual.



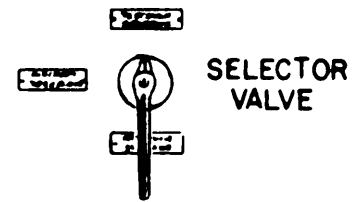
- f. Test Complete.



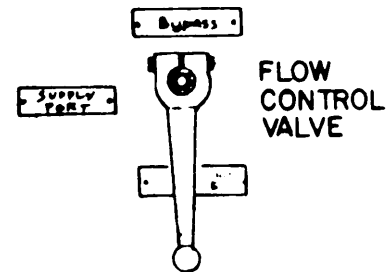
## 2-7 HYDRAULIC SYSTEM OPERATION SHUTDOWN

2-7

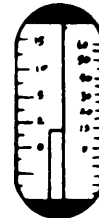
- a. Place the selector valve in the test stand reservoir position.



- b. Place the flow control valve in the by-pass position.



- c. Adjust fluid flow to zero on the flowmeter. Turn the volume control clockwise.



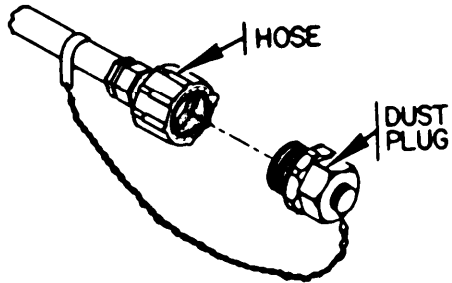
- d. Relieve compensator pressure, turn knob counterclockwise three turns.

- e. Relieve system pressure, turn adjusting screw counterclockwise, three turns.

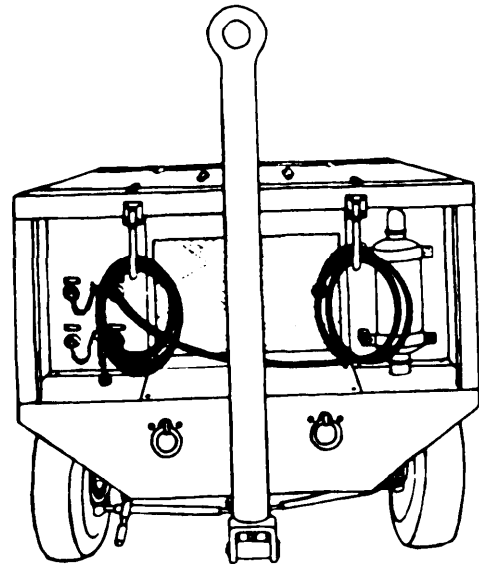
- f. Place the ignition switch in the stop position. Engine stopped.

- g. Place power on/off switch in the off position.

- h. Disconnect return supply hose from the aircraft. Insert the dust plug (attached to hose) into the union nut and tighten hand tight.
- i. Disconnect the supply hose from the aircraft. Insert the dust plug (attached to hose) into the union nut and tighten hand tight.



- j. Place hoses on hose hooks.



- a. Start engine using procedures in Para 2-3, Steps A thru N.
- b. Release the locknut located below the adjusting screw on the system relief valve. Turn the system relief valve adjusting screw counterclockwise, three times.
- c. Set the LP Gage shutoff valve to main pump inlet.
- d. Turn the fluid volume control counterclockwise to maximum output. Flowmeter should indicate 10 GPM or more.
- e. Read pressure on compound GAGE. Reading should be between 30 and 40 psi. If pressure is not within the range, remove the cap on the low pressure relief valve. Back off the locknut. Turn the adjustment screw (clockwise = increase, counterclockwise = decrease) until desired pressure range is obtained. Tighten locknut and install cap.
- f. Close the compensator shut off valve, turn knob clockwise.
- g. Adjust the fluid volume control to 2 GPM.
- h. Turn the flow control valve to the supply port position.

**WARNING**

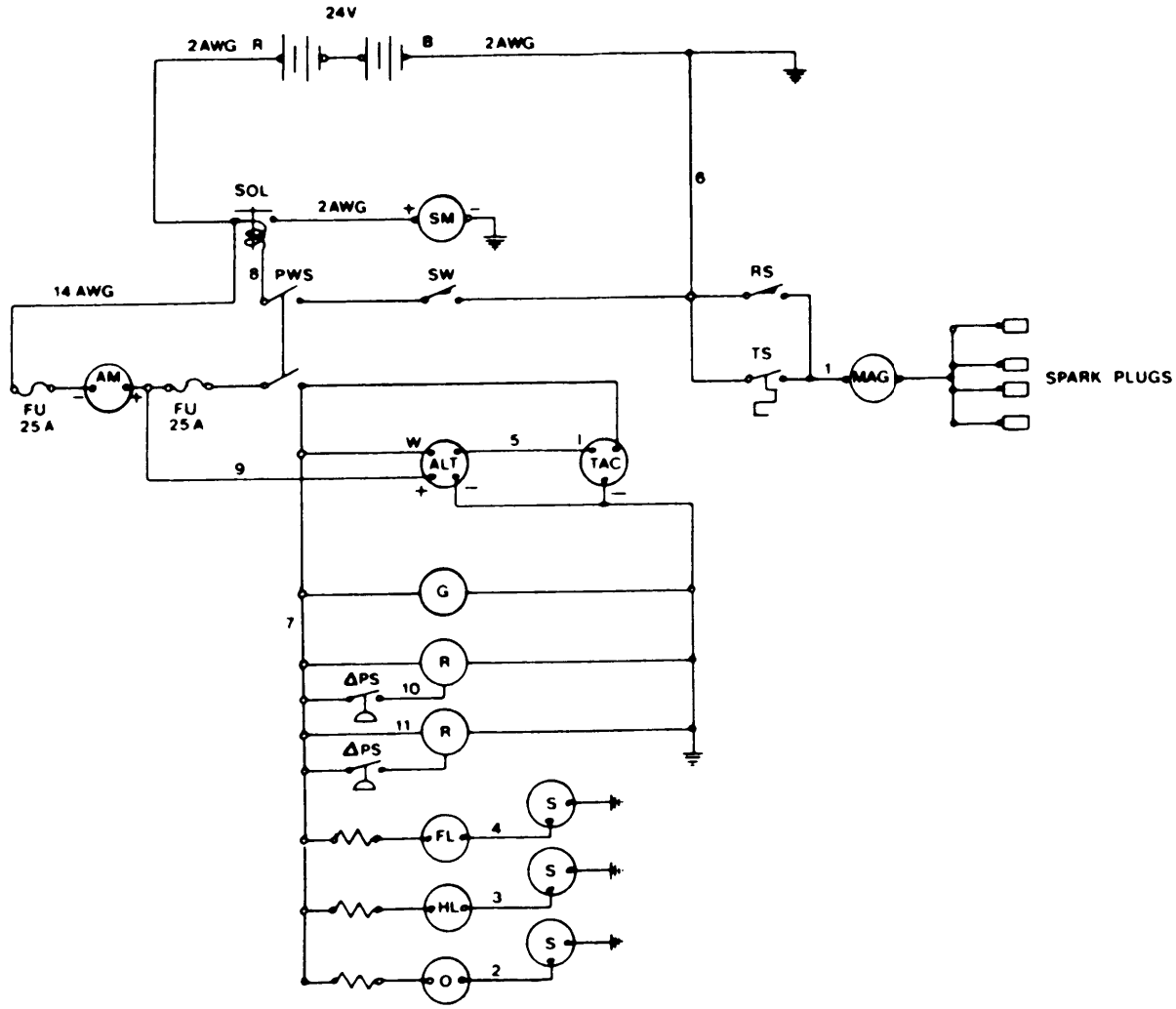
**Always set the high pressure relief valve at a higher pressure (150 psi higher) than the pump compensator pressure. DO NOT use relief valve to regulate the test stand output pressure.**

- i. Adjust the system relief valve to relieve the system pressure at 3150 psi. Turn the system relief valve adjusting screw clockwise until 3150 psi indicates on the system pressure gage. Lock the adjustment screw with the locknut.
- j. Open the compensator shut off valve, turn knob counterclockwise. Adjust the system pressure with the pressure compensator until the system pressure gage indicates a pressure of 3000 PSI. Lock control with locknut under knob.
- k. Return the flow control valve to the BY-PASS position.
- l. Increase the volume flow to 10 GPM.
- m. Check the hydraulic fluid temperature gage for proper operating range. Check overall system for leaks.
- n. Close the compensator shut off valve .
- o. Decrease the fluid flow to 2 GPM.
- p. Turn the flow control valve to the SUPPLY PORT position.

- q. Adjust the system relief valve to relieve the system pressure at 5150 PSI. Turn the sytem relief valve adjusting screw clockwise until 5150 PSI indicates on the system pressure gage. Lock the adjustment screw with the locknut.
- r. Open the compensator shut off valve, turn knob counterclockwise. Adjust the system pressure with the pressure compensator until the system pressure gage indicates a pressure of 5000 psi. Lock control with locknut under knob.
- s. Return the flow control valve to the BY-PASS position.
- t. Increase the volume flow and attempt to obtain a flow of 5 GPM.
- u. Check the hydraulic fluid temperature gage for proper operating range. Check overall system for leaks.
- v. Adjust fluid flow to zero on the flow meter, turn control clockwise.
- w. Place the flow control to the SUPPLY PORT position.
- x. Open the pressure compensator until the system pressure gage indicates 500 PSI or less.
- y. Relieve system pressure, turn adjusting screw counterclockwise three turns.
- z. Turn throttle to the left and push fully in, let engine idle for a minute or two.
- aa. Put ignition switch in the stop position. Put the power ON/OFF switch to OFF.

#### **Section IV. OPERATION UNDER UNUSUAL CONDITIONS**

The test stand is designed to operate under conditions of extreme cold, extreme dry heat, extreme moist heat, dust storms, sand storms, or rain storms without making any special procedural changes.



MOTOR STARTER

POWER SW. START SW., STOP SW.

AMMETER, TEMP. SW., MAGNETO

MOTOR ALTERNATOR  
TACHOMETER - HOURMETER

POWER ON

HIGH PRESS. FILTER

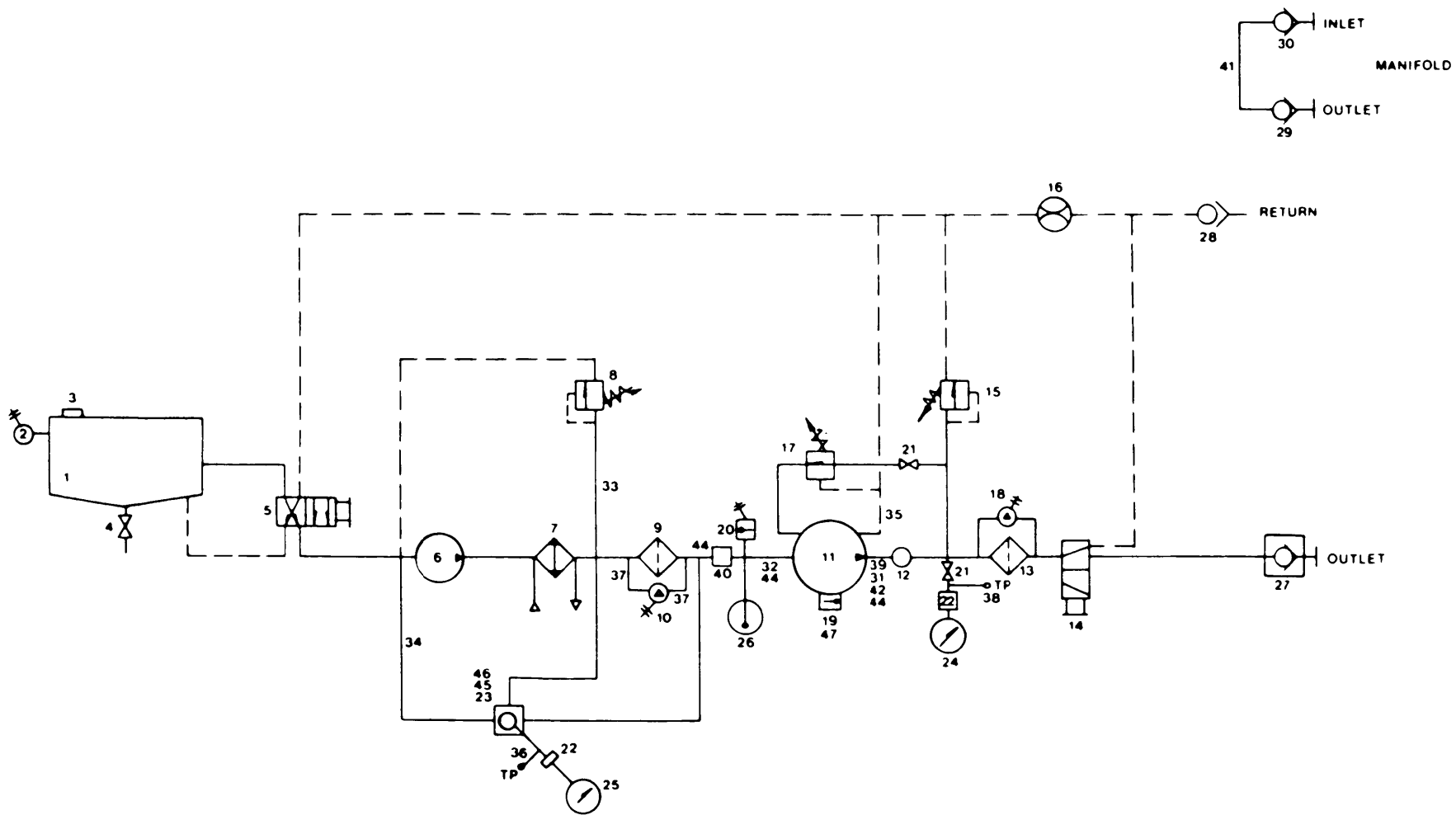
LOW PRESS. FILTER

SENSOR  
FUEL LEVEL

SENSOR  
HYD. LEVEL

SENSOR  
OIL PRESS

ELECTRICAL SCHEMATIC



HYDRAULIC SCHEMATIC

**Hydraulic Schematic Legend:**

- |                           |                                |
|---------------------------|--------------------------------|
| 1. Reservoir              | 25. L. P. Gage                 |
| 2. Liquid Level Indicator | 26. Temperature Gage           |
| 3. Fill Vent              | 27. Disconnect Outlet          |
| 4. Drain Valve            | 28. Disconnect Return          |
| 5. Selector Valve         | 29. Disconnect Manifold Outlet |
| 6. Boost Pump             | 30. Disconnect Manifold Inlet  |
| 7. Oil Cooler             | 31. Adapter                    |
| 8. L.P. Relief Valve      | 32. Hose Assy                  |
| 9. L.P. Filter            | 33. Hose Assy                  |
| 10. Switch                | 34. Hose Assy                  |
| 11. Pump                  | 35. Hose Assy                  |
| 12. Check Valve           | 36. Hose Assy                  |
| 13. H.P. Filter           | 37. Hose Assy                  |
| 14. Valve                 | 38. Hose Assy                  |
| 15. H.P. Relief Valve     | 39. Hose Assy                  |
| 16. Flowmeter             | 40. Manifold                   |
| 17. Pressure Control      | 41. Tube Assy                  |
| 18. Switch                | 42. O Ring                     |
| 19. Volume Control        | 43. O Ring                     |
| 20. Thermal Switch        | 44. O Ring                     |
| 21. Shutoff Valve         | 45. O Ring                     |
| 22. Dampner               | 46. Fitting                    |
| 23. Selector Valve        | 47. Spacer                     |
| 24. H.P. Gage             |                                |



## CHAPTER 3

## AVIATION UNIT MAINTENANCE INSTRUCTIONS

---

**Section 1. REPAIR PARTS, SPECIAL TOOLS, TMDE AND SUPPORT EQUIPMENT**

---

**3-1 COMMON TOOLS AND EQUIPMENT****3-1**

For authorized common tools and equipment refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

---

**3-2 REPAIR PARTS****3-2**

Repair parts are listed in Appendix C.

---

**3-3 SPECIAL TOOLS, TMDE AND SUPPORT EQUIPMENT****3-3**

No special tools or equipment are required.

---

**Section II SERVICE UPON RECEIPT**

---

**3-4 UNPACKAGING AND INSTALLATION****3-4**

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 other than the following:

- a. Check the data on the test stand nameplate to verify it is the unit designated on the cover sheet of this manual.
- b. Carefully inspect the complete test stand for any possible damage which may have occurred during shipment.
- c. Open the instrument panel door located at the rear of the test stand, inspect for damaged, broken gages or instruments.
- d. Check that all manually operated switches and controls operate freely.
- e. Remove the hose assemblies from inside the recess area at the front of the test stand. Inspect the hose for evidence of damage, breaks, or loose fittings.

---

**3-4 UNPACKAGING AND INSTALLATION – Continued**

---

**3-4**

- f. Remove the two side housings, inspect the interiors for loose, damaged components.
- g. Inspect the plumbing installation for damaged tube assemblies, fittings and hose assemblies. Check that all fittings are securely connected and hoses are not deteriorated.
- h. Inspect the electrical wiring for broken wires, frayed insulation and/or loose connections.
- i. Inspect the hydraulic fluid reservoir for evidence of damage during shipment.
- j. Inspect fuel tank for evidence of damage during shipment.
- k. Check tires for proper inflated pressure, 35 pounds.
- l. Check the towbar and steering assemblies for damage. Check that the tie rods are not bent and the steering apparatus moves freely.
- m. Check the hand brake, by setting the hand brake and testing the rear wheels for braking action.

---

**3-5 BATTERIES**

---

**3-5****WARNING**

**Do not get electrolyte on personnel or equipment. Personnel may be badly burned and equipment may be damaged.**

**Wear rubber gloves and goggles while working with electrolyte to avoid serious injury from battery acid.**

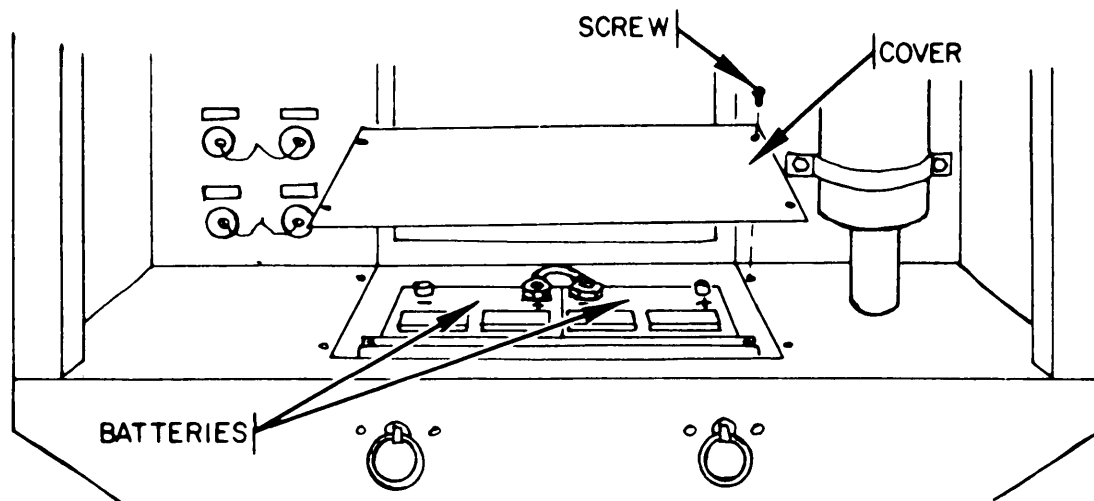
**Do not let battery retainer touch battery posts. They could short, making batteries explode, causing serious injury to personnel.**

**Do not let tools touch battery and test stand. This will cause a direct short and arcing tool will heat to red hot, and battery may explode. This can cause serious injury to personnel and damage to equipment.**

## NOTE

The batteries (2 each) furnished with the test stand are “dry” type batteries and have to be activated by the adding of electrolyte (acid) battery fluid which is shipped with the test stand. This fluid is in the container secured to the protective screen and resting on the cover of the battery compartment.

- a. Remove from the container the two individual cartons of electrolyte (acid) battery fluid. Discard the container and place the cartons (2 each) of electrolyte (acid) battery fluid in a safe place until ready for use.
- b. Remove the four screws securing the battery cover on the battery compartment.
- c. Remove the cover, exposing two batteries.



- d. Remove the vent caps from the batteries.
- e. Each vent opening is sealed with a removable plastic seal.
- f. Remove and discard the plastic seals, a total of 12 seals.
- g. To fill the battery, position one of the electrolyte (acid) battery fluid containers close by the battery to be filled. The electrolyte container shall be 2 or 3 inches higher than the battery being filled.
- h. Using the thumb, push in the perforated tab at the black dot, pull out the large flap. Reach in through the opening and pull out the white dispensing hose.

- i. Lay the electrolyte container down.
- j. Pinch the dispensing hose tightly with thumb and forefinger, with scissors or wire cutters, cutoff the plugged end of hose.
- k. Insert end of the hose into each cell, control the flow by pinching the hose with thumb and forefinger.
- l. On the first filling, fill each cell until electrolyte fluid level reaches the top of the separators only.
- m. Complete the filling by adding electrolyte fluid to each cell until it reaches the bottom of the vent well.

**NOTE**

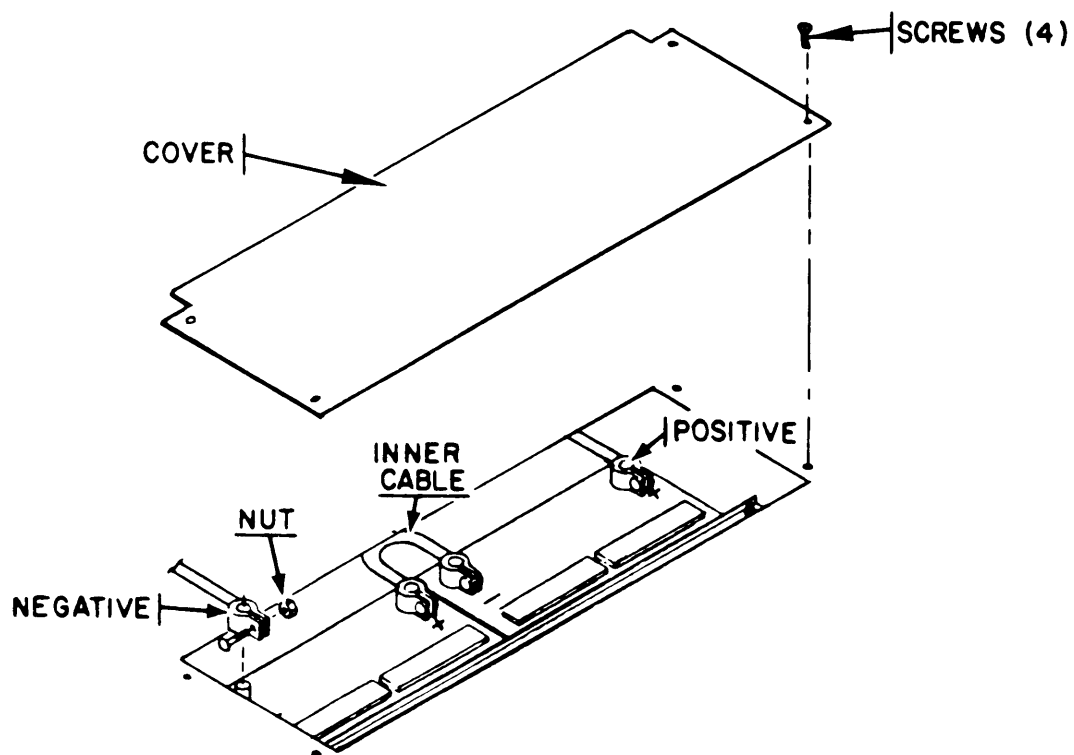
**Uneven filling of cells will affect the battery capacity and life.**

- n. Insert the large vent caps into vent openings and press firmly into place.
- o. Return the electrolyte container to the upright position.

**NOTE**

**Before disposing of the electrolyte fluid container, neutralize the excess electrolyte (acid) fluid with baking soda and rinse the container with water.**

- p. Connect the battery cable to the battery posts.
  - (1) Connect inner cable first.
  - (2) Connect the positive cable.
  - (3) Connect the negative (ground) cable.

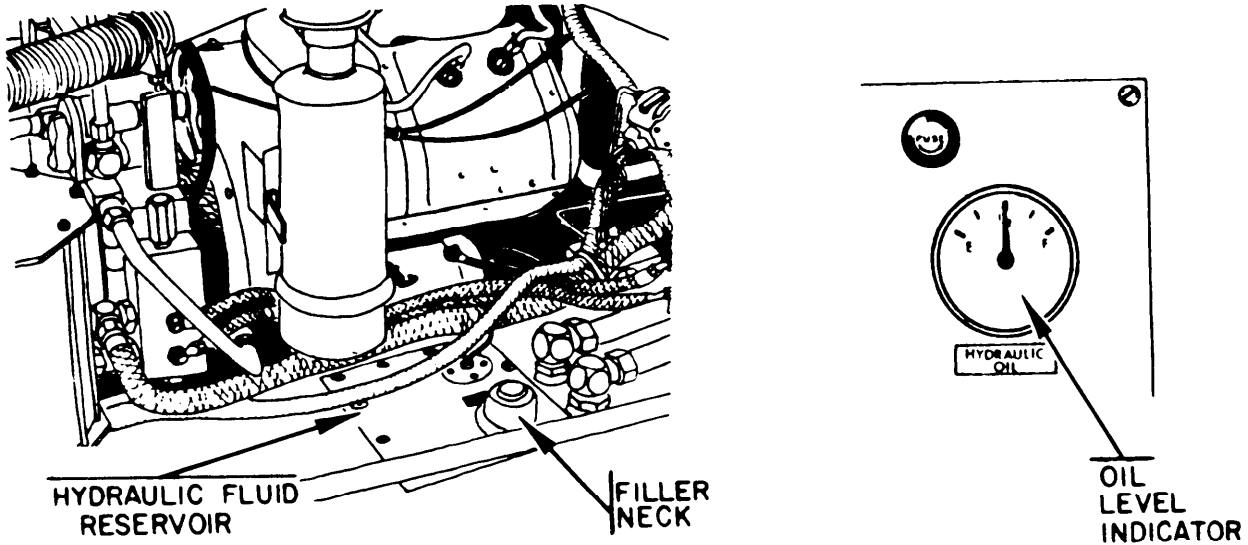


- q. Replace battery compartment cover, replace the four screws and secure the cover in place.
- r. The batteries are now ready for use.

3-6 SERVICE HYDRAULIC SYSTEM

3-6

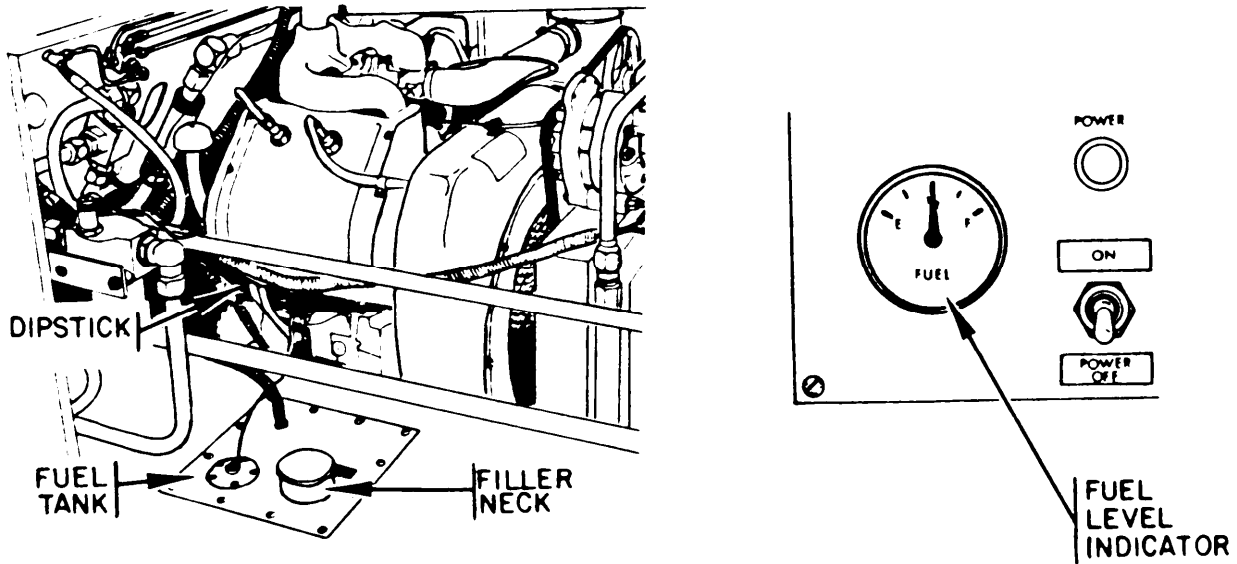
Fill the test stand reservoir at the filler neck with hydraulic fluid, MIL-H-83282 or MIL-H-5606, until the hydraulic oil indicator indicates 3/4 full minimum.



3-7 SERVICE THE ENGINE

3-7

- a. Fill the fuel tank at the filler neck with a gasoline of an octane rating of at least 90. Fill with gasoline until the fuel indicator indicates 3/4 full minimum.



- b. Check the engine oil, add oil if level is a quart or more low on the dipstick.

Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES

NOTE

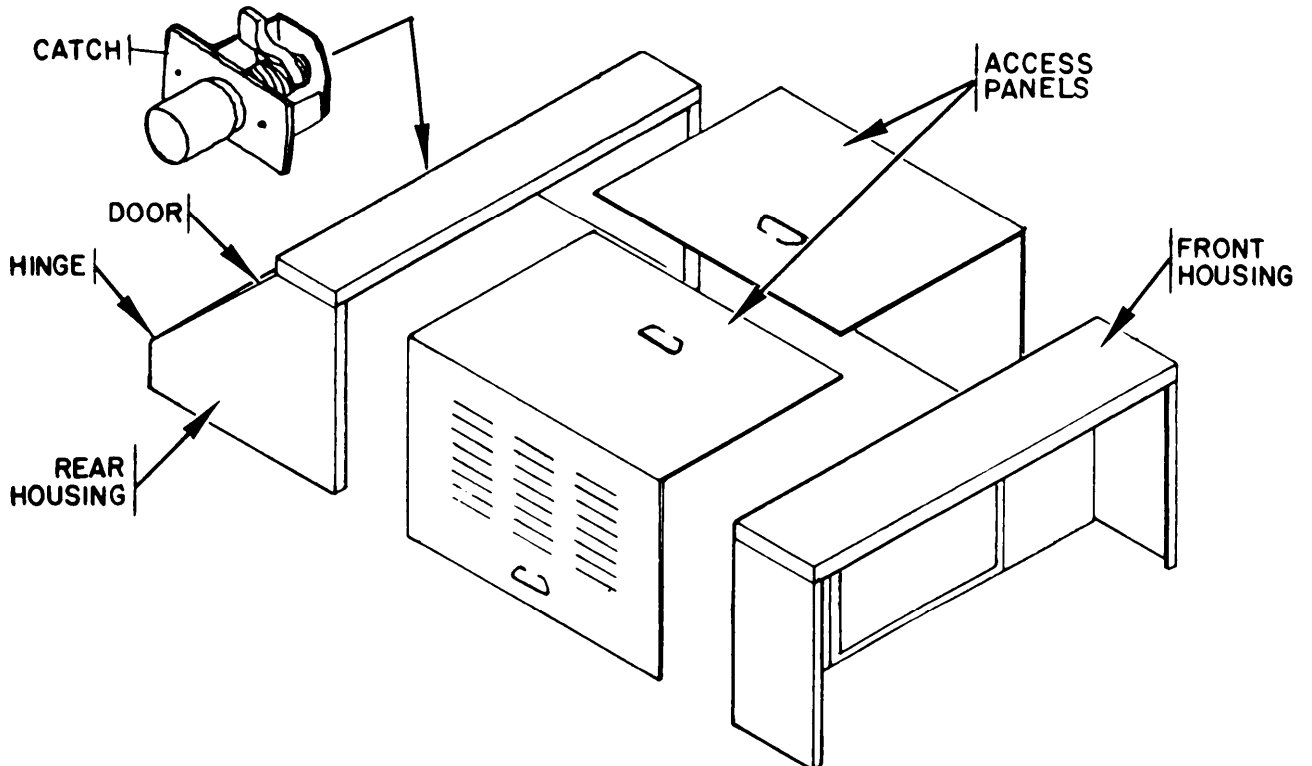
Within the designated interval, these checks are to be performed in the order listed.

B – Before  
D – During

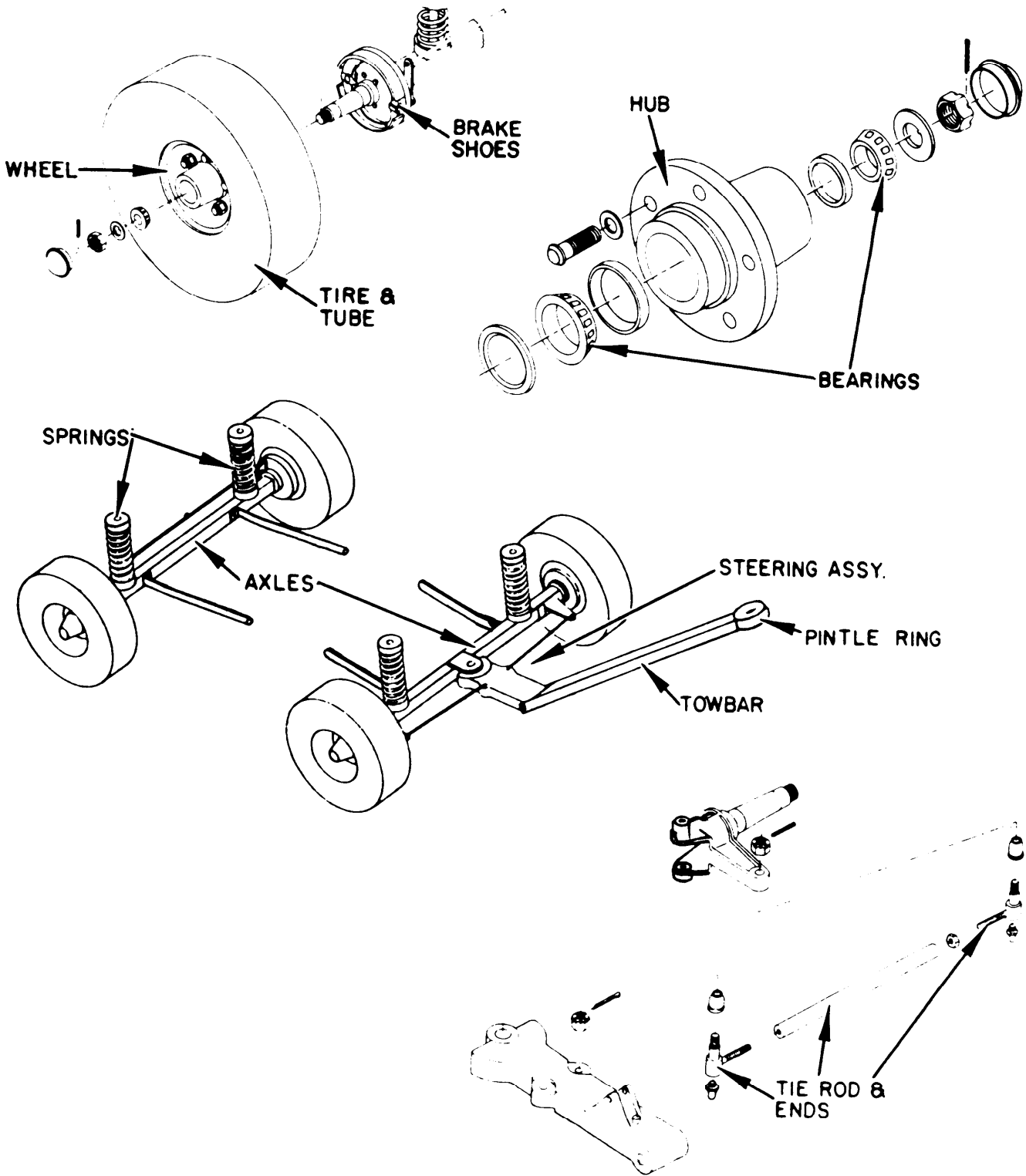
W – Weekly  
Q – Quarterly

A – Annually  
C – Combat Operability

Item No.	Interval						Item to be inspected	Procedures Check for and have repaired or adjusted as necessary	Equipment will be reported NOT READY if:
	B	D	W	Q	A	C			
1							CABINET ASSEMBLY  • Panel Door & Housing  • Hinges & Catches  • Panel (access)	Damaged, bent, catch missing  Corroded, damaged or missing  Damaged	



Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued





Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES — Continued

NOTE

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

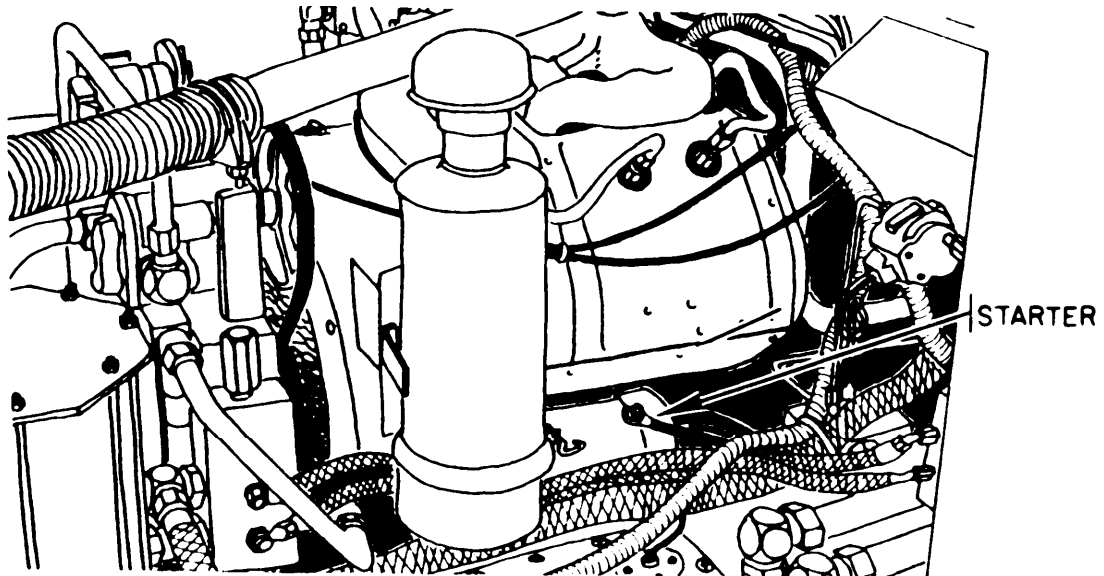
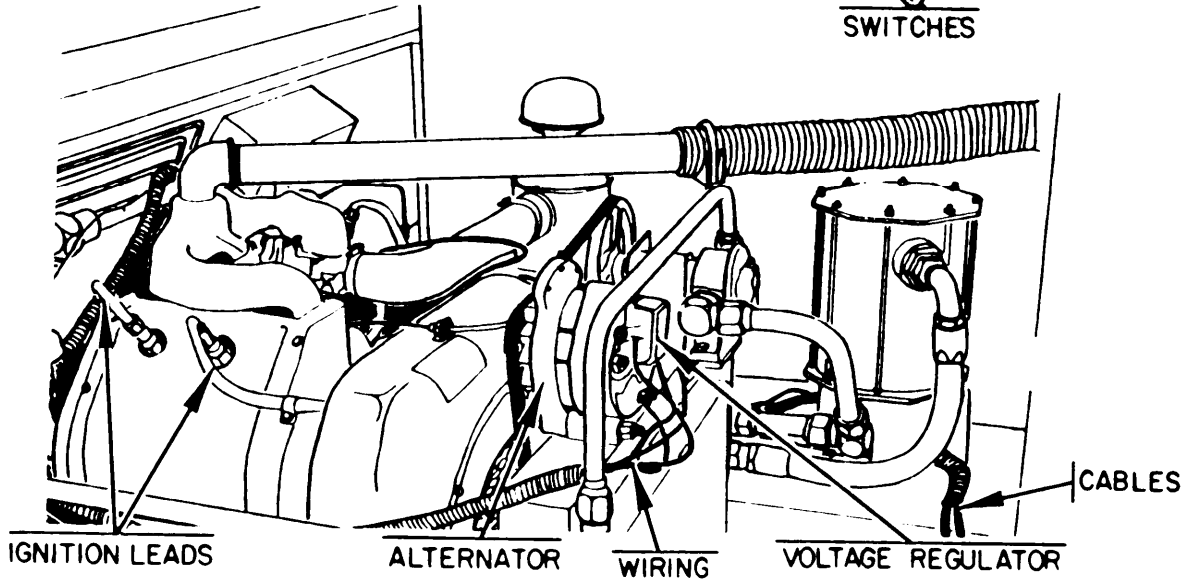
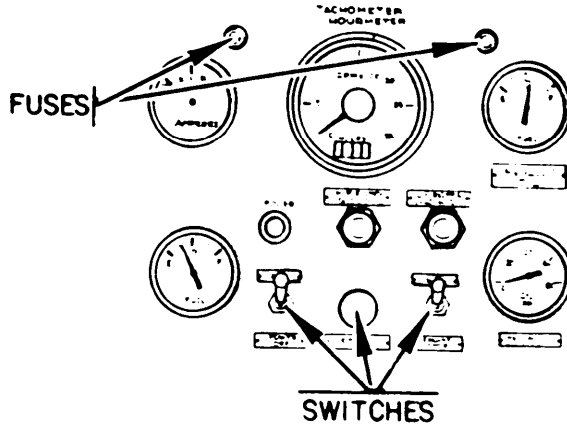
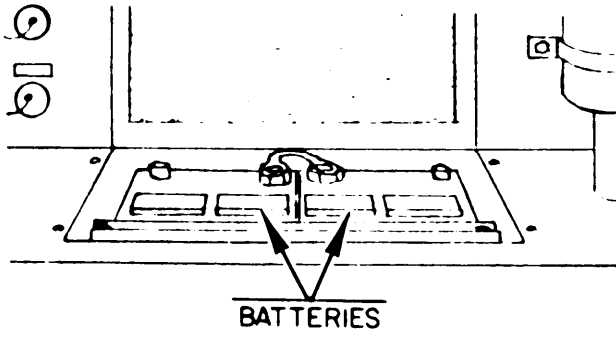
B – Before  
D – During

W – Weekly  
Q – Quarterly

A – Annually  
C – Combat Operability

Item No.	Interval						Item to be inspected	Procedures Check for and have repaired or adjusted as necessary	Equipment will be reported NOT READY if:
	B	D	W	Q	A	C			
2							CHASSIS		
	•				•		Axle & Steering Assembly	Distorted, worn, cracked, binds	Cracked
				•	•		Tie Rods & Ends	Distorted, worn	Distorted, excess wear
				•	•		Springs	Coil damaged, cracked	Cracked
	•			•	•		Wheels	Distorted, rim bent	Bent
					•		Hub & Bearing	Foreign matter in hub or on bearing	
					•		Brake Shoes	Worn to 1/32 in. or less	
	•				•		Tires & Tubes	Wear, cuts, tears, nails	Worn
	•		•		•		Towbar	Cracked, distorted, pintle ring cracked	Cracked

Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued



Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES — Continued

NOTE

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

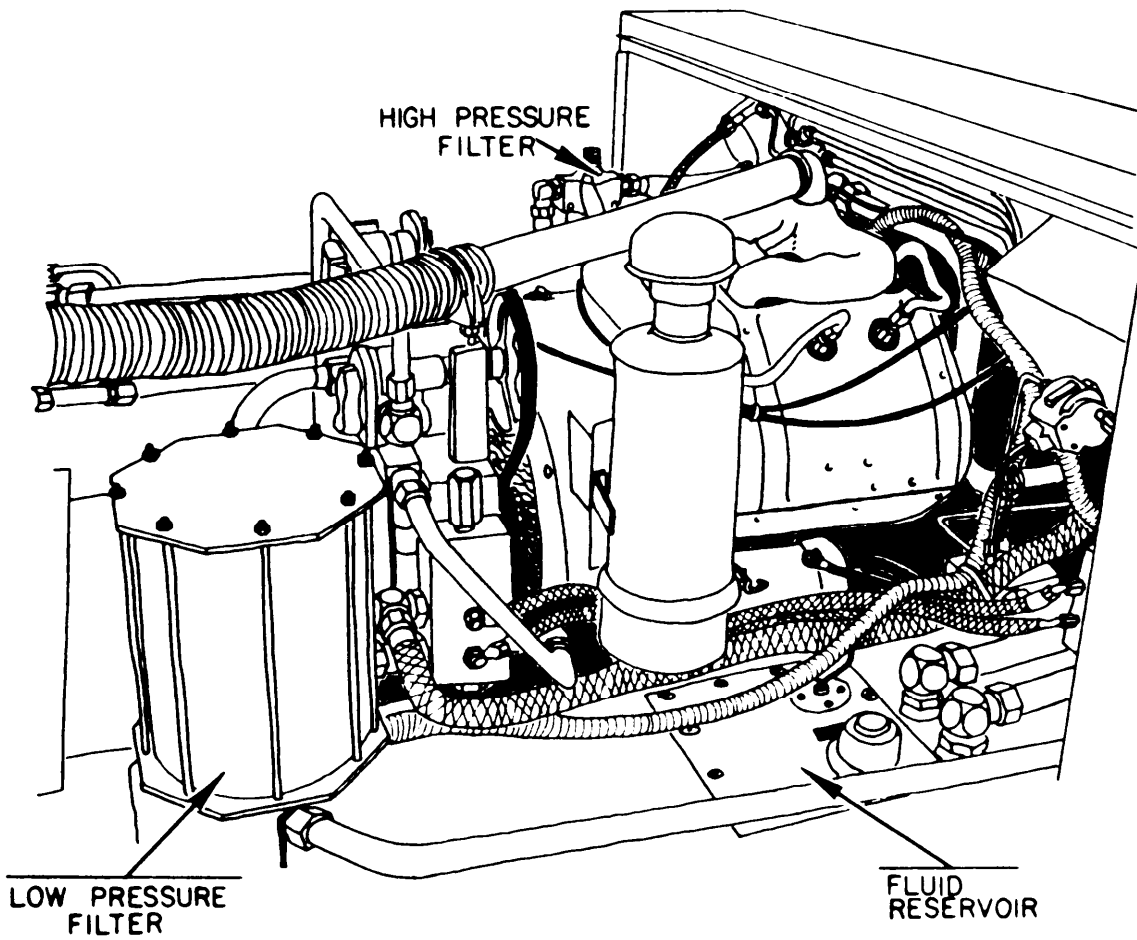
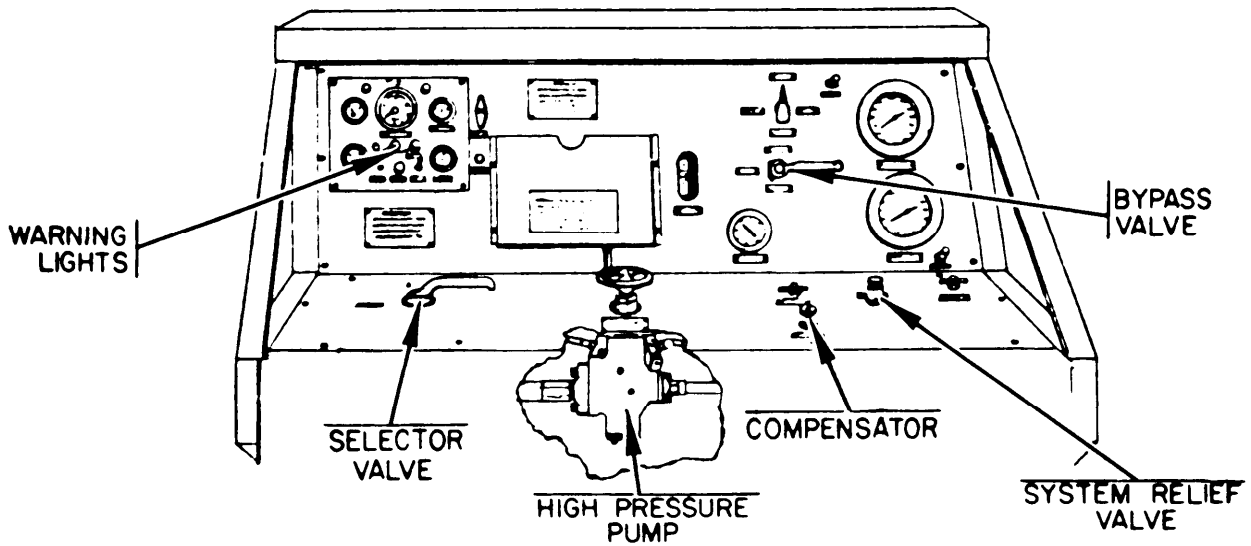
B – Before  
D – During

W – Weekly  
Q – Quarterly

A – Annually  
C – Combat Operability

Item No.	Interval						Item to be inspected	Procedures Check for and have repaired or adjusted as necessary	Equipment will be reported NOT READY if:
	B	D	W	Q	A	C			
3							ELECTRICAL SYSTEM		
	•		•				Battery	Damaged, electrolyte level	Damaged or low on electrolyte
	•		•				Switches	Damaged, inoperative	Inoperative
	•		•				Wiring & Cables	Damaged, cut, corroded	Damaged
			•	•			Generator/ Alternator	Output inadequate	Output inadequate
	•	•					Voltage Regulator	Damaged, inoperative	Inoperative
	•						Starter	Fails to engage or disengage, binds	Either is present
							Ignition Leads	Cut, burned, loose	Cut or burned
							Fuse	Element burned, ends loose	Test stand blows fuse

Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued



Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES — Continued

NOTE

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

B – Before  
D – During

W – Weekly  
Q – Quarterly

A – Annually  
C – Combat Operability

Item No.	Interval						Item to be inspected	Procedures Check for and have repaired or adjusted as necessary	Equipment will be reported NOT READY if:
	B	D	W	Q	A	C			
4							HYDRAULIC SYSTEM		
		•	•			•	High Pressure Pump	Leaks, damaged	Damaged
			•	•			Boost Pump	Leaks	
			•	•			Compensator Control	Fails to maintain system pressure	Present
			•	•			Selector Valve	Leaks	
			•	•			Bypass Valve	Leaks	
			•	•			System Pressure Relief Valve	Leaks	
		•		•			Fluid Reservoir	Damaged, Leaks	
		•		•			High Pressure Filter	Warning light comes on	
	•		•			Low Pressure Filter	Warning light comes on		

Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES – Continued

NOTE

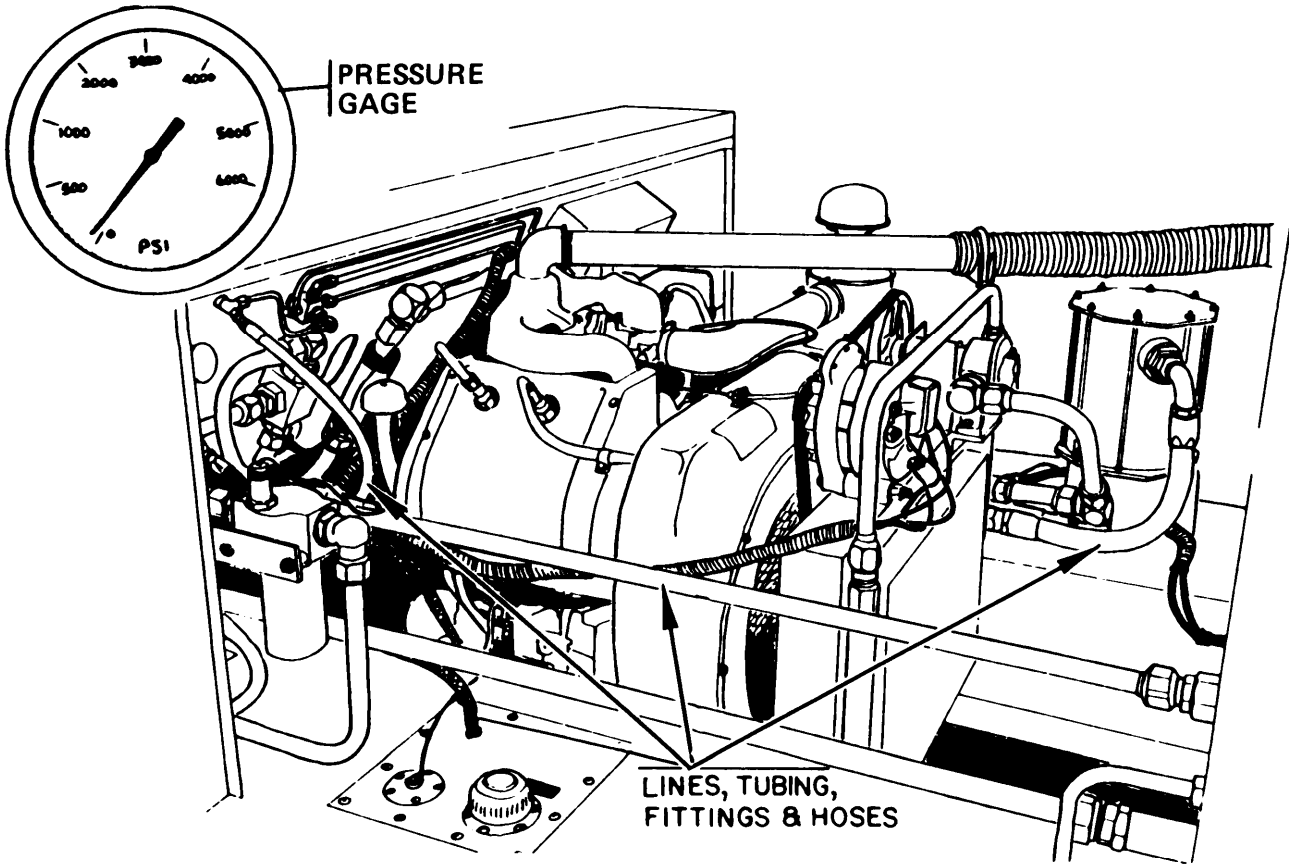
Within the designated interval, these checks are to be performed in the order listed.

B – Before  
D – During

W – Weekly  
Q – Quarterly

A – Annually  
C – Combat Operability

Item No.	Interval						Item to be inspected	Procedures Check for and have repaired or adjusted as necessary	Equipment will be reported NOT READY if:
	B	D	W	Q	A	C			
4	•	•	•				Lines, Tubing, Fittings and Hose Assys	Leaks	Damaged, inoperative
	•	•	•			•	Pressure Gage	Damaged, inoperative	



Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES — Continued

NOTE

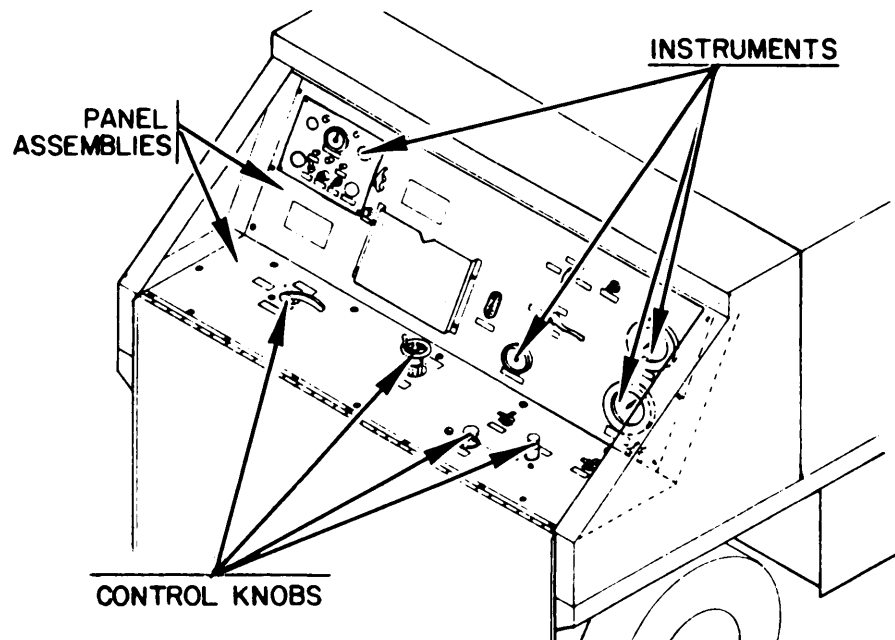
Within the designated interval, these checks are to be performed in the order listed.

B – Before  
D – During

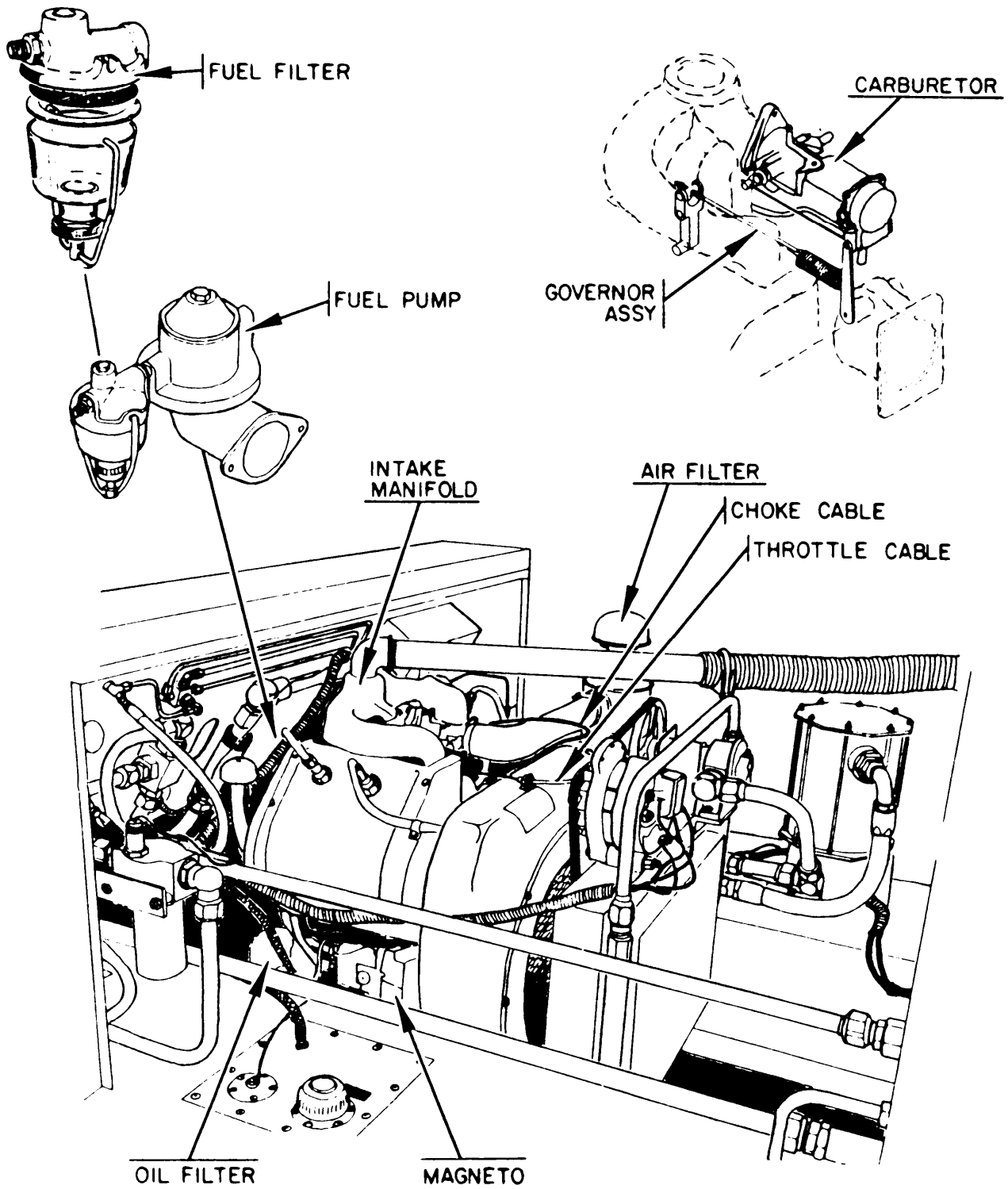
W – Weekly  
Q – Quarterly

A – Annually  
C – Combat Operability

Item No.	Interval						Item to be inspected	Procedures Check for and have repaired or adjusted as necessary	Equipment will be reported NOT READY if:
	B	D	W	Q	A	C			
5							INSTRUMENT PANEL		
		•		•			Panel Assy	Damaged	
		•	•	•		•	Instruments	Damaged	Inoperative
	•	•	•		•	Control Knobs	Broken, missing, loose	Broken, missing	



Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued





Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES — Continued

NOTE

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

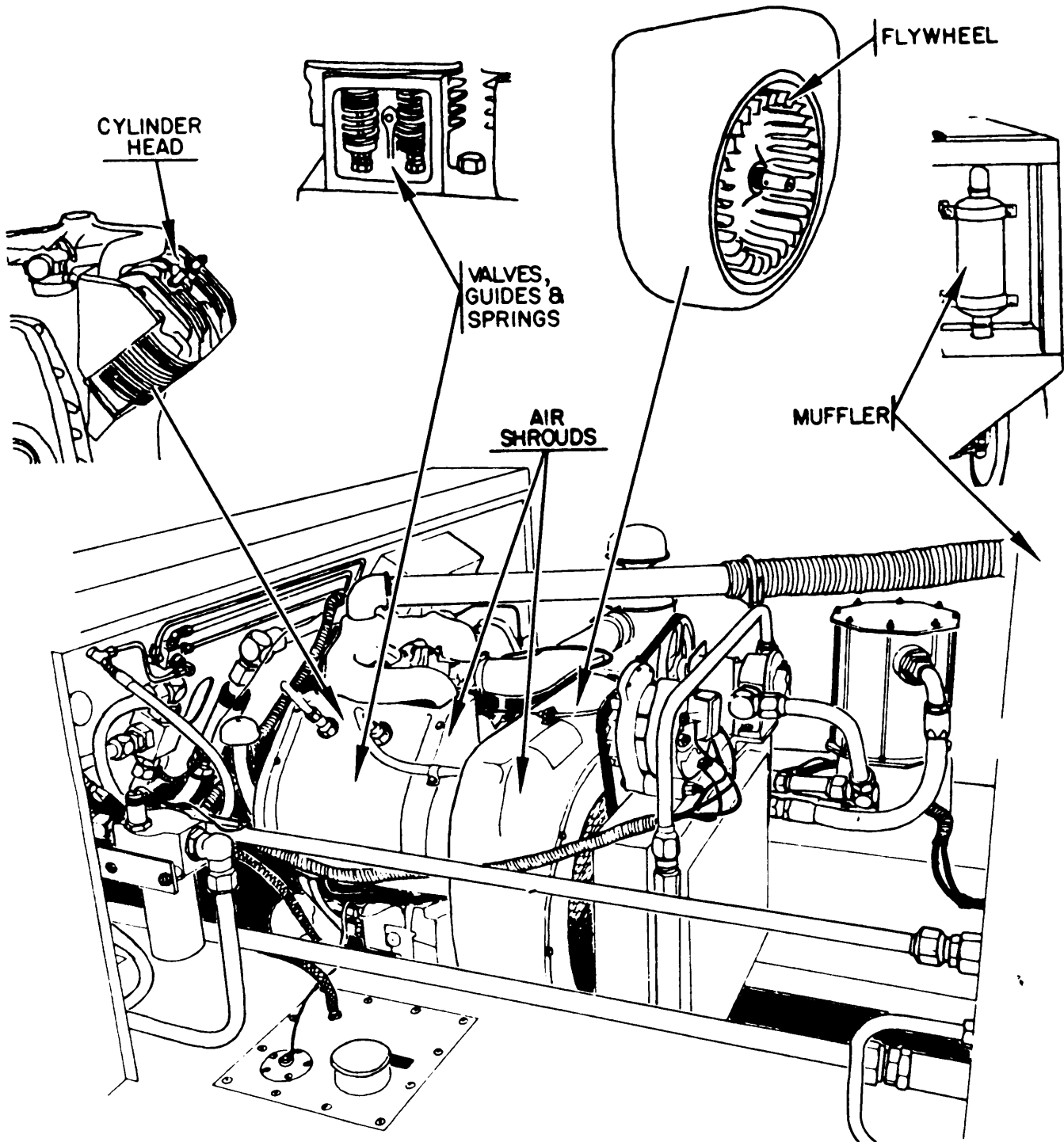
B – Before  
D – During

W – Weekly  
Q – Quarterly

A – Annually  
C – Combat Operability

Item No.	Interval						Item to be inspected	Procedures Check for and have repaired or adjusted as necessary	Equipment will be reported NOT READY if:
	B	D	W	Q	A	C			
6							ENGINE		
		•	•	•			Control Cable Assy	Binds, loose, broken	Throttle cable binds, broken
			•	•			Governor Assy	Linkage adjustment	
			•	•			Fuel Pump	Inoperative, leaks	
			•	•			Carburetor	improper adjustment	
		•		•			Air Filter	Dirty	
				•			Fuel Filter	Dirty	
			•	•			Oil Filter	Leaks	Leaks
			•	•		•	Magneto	Weak spark	Weak spark
		•	•	•			Muffler	Corroded, leaks	
		•	•	•			Intake Manifold	Cracked	
		•	•		•	Cylinder Head	Cracked	Cracked	
	•		•		•	Fan Belt	Cracks, cuts, tension, wear	Worn, broken	

Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued



**Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES – Continued**

**NOTE**

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

B – Before  
D – During

W – Weekly  
Q – Quarterly

A – Annually  
C – Combat Operability

Item No.	Interval						Item to be inspected	Procedures Check for and have repaired or adjusted as necessary	Equipment will be reported NOT READY if:
	B	D	W	Q	A	C			
		•	•			•	Valves, Guides & Springs	Excess noise	Present
		•		•		•	Flywheel	Dirty, cracked or broken fins	Cracked
		•		•			Air Shrouds & Baffeling	Loose	
		•		•		•	Fuel Tank	Punctured	Punctured

## Section IV. TROUBLESHOOTING

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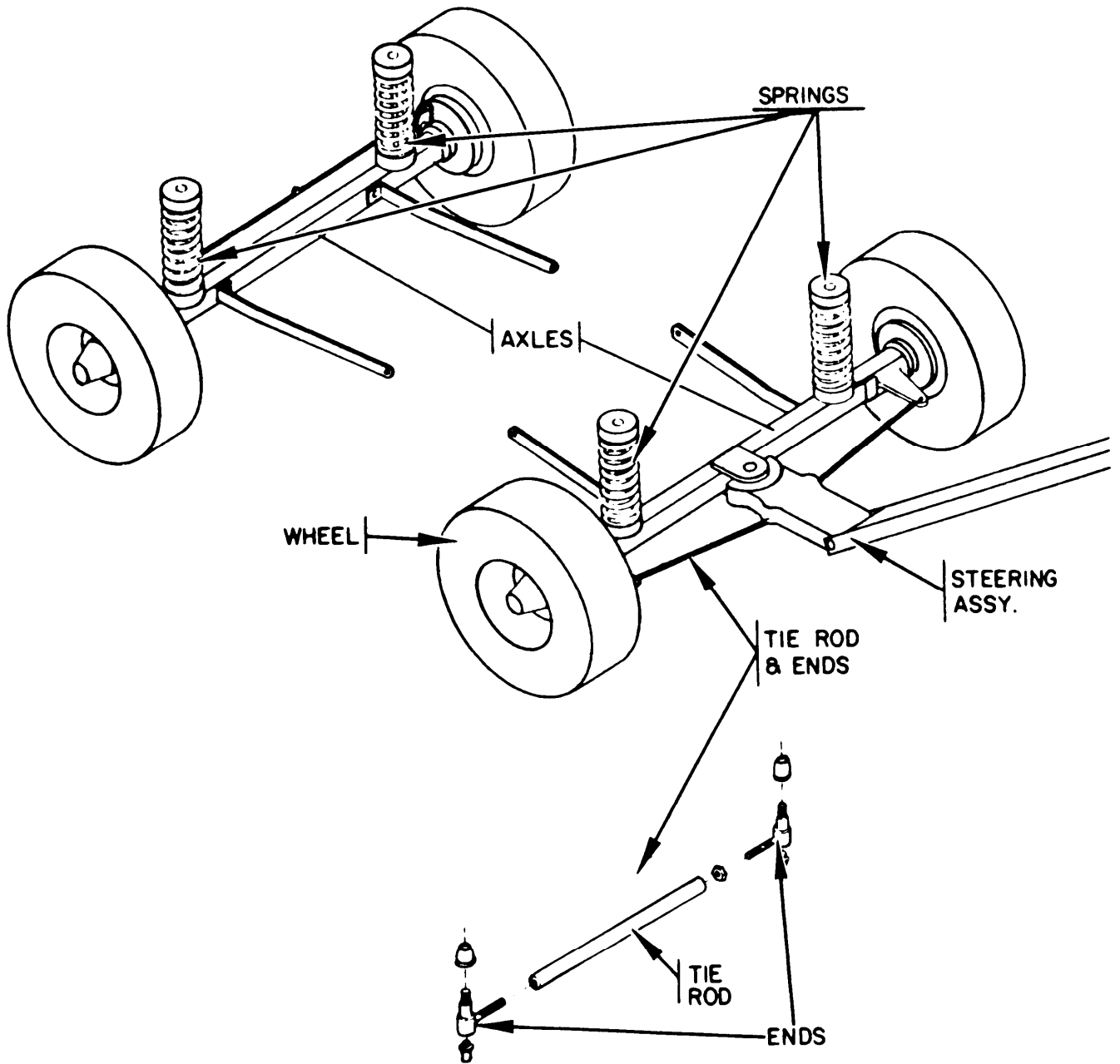
**3-8 TROUBLESHOOTING CHART**

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**3-8**

- Malfunction. Malfunctions listed are the ones most likely to happen. Not all possible malfunctions can be foreseen and listed.
- Test or Inspection. Tests or inspections are listed to help you find the cause of the malfunction. The tests are grouped by what system they belong to. (The fuel system tests are with the fuel system.) Within each group the tests are arranged so that the easier tests come before the harder tests.
- Corrective Action. Corrective actions are listed to help you eliminate the malfunction. Where the corrective action is too complicated to be listed in full detail, the paragraph number of the detailed procedure is given in parentheses.
- PMCS Before troubleshooting, perform all preventive maintenance checks and services.

Section IV. TROUBLESHOOTING - Continued



Section IV. TROUBLESHOOTING - Continued

---

3-8 TROUBLESHOOTING CHART - Continued

---

3-8

---

**MALFUNCTION**  
**TEST OR INSPECTION**  
**CORRECTIVE ACTION**

---

**CHASSIS D5-D HYDRAULIC TEST STAND**

1. TEST STAND TOWS ERRATIC.

Step 1. Inspect for loose wheel, hub or bearing.

Secure wheel. (Para. 3-36)

Step 2. Inspect for bent axle.

Repair (Para. 4-8 AVIM).

Step 3. Inspect for damaged steering assembly.

Repair (Para. 4-8 AVIM).

2. **TEST STAND STEERS TO LEFT/RIGHT WHILE BEING TOWED STRAIGHT.**

Step 1. Inspect for bent, cracked tie rod.

Replace (Para. 3-27).

Step 2. Inspect for bent, cracked tie rod end.

Replace (Para. 3-27).

3. TEST STAND SAGS IN ONE DIRECTION.

Step 1. Inspect for loose or missing spring rod nut.

Tighten or replace rod nut (Para. 3-32).

Step 2. Inspect for bent, distorted, cracked spring.

Replace (Para. 3-32).

## Section IV. TROUBLESHOOTING - Continued

## CHASSIS D5-D HYDRAULIC TEST STAND (cont)

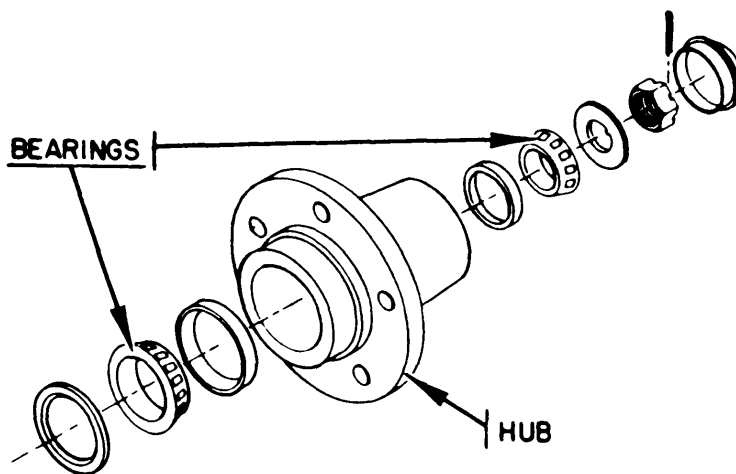
## 4. WHEEL TURNS WITH A WOBBLE.

Step 1. Inspect for damaged, distorted wheel,

Replace (Para. 3-36)

Step 2. Inspect for loose nut on axle.

Tighten nut on axle (Para. 3-36)



## HUB AND BEARINGS

Section IV. TROUBLESHOOTING - Continued

**MALFUNCTION**  
**TEST OR INSPECTION**  
**CORRECTIVE ACTION**

**CHASSIS D5-D HYDRAULIC TEST STAND (cont)**

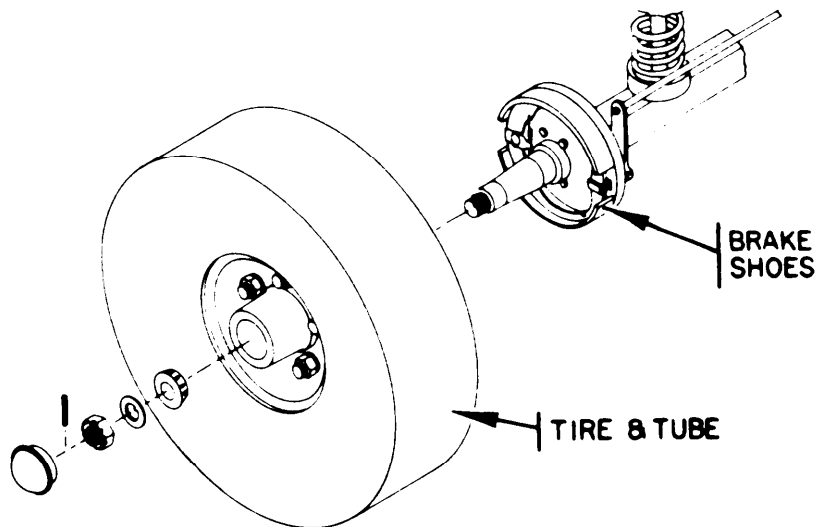
5. WHEEL IS NOISY.

Step 1. Inspect for dirty, dry, or worn bearings.

Clean and lubricate (Para. 3-37), Replace (Para. 3-40).

Step 2. Inspect hub for dirt or foreign matter.

Clean and lubricate (Para. 3-37).



**BRAKE SHOES**



Section IV. TROUBLESHOOTING - Continued

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3-8 TROUBLESHOOTING CHART - Continued 3-8

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**MALFUNCTION**  
**TEST OR INSPECTION**  
**CORRECTIVE ACTION**

---

**CHASSIS D5-D HYDRAULIC TEST STAND (cont)**

6. BRAKE FAILS TO HOLD TEST STAND IN SET POSITION.

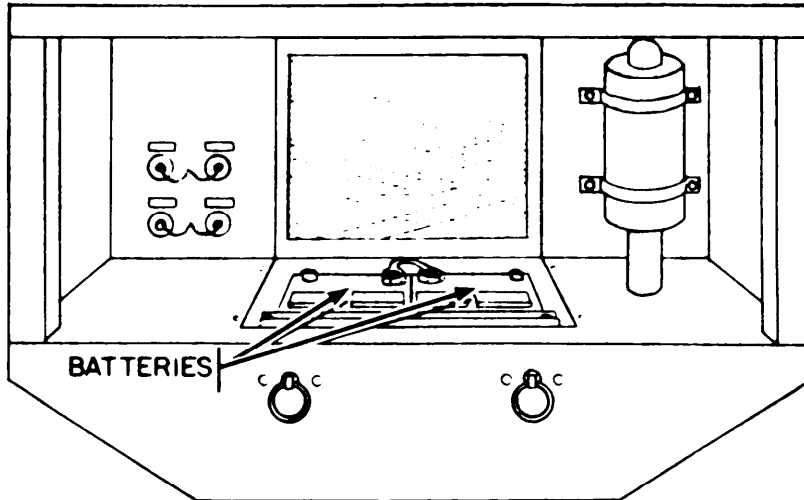
Step 1. Check for brake adjustment.

Adjust brake, tighten brake rod knurled knob on brake handle.

Step 2. Inspect brake lining.

Replace if lining is worn to a thickness of 1/32 inch or less (Para. 3-44).

Section IV. TROUBLESHOOTING - Continued



BATTERIES

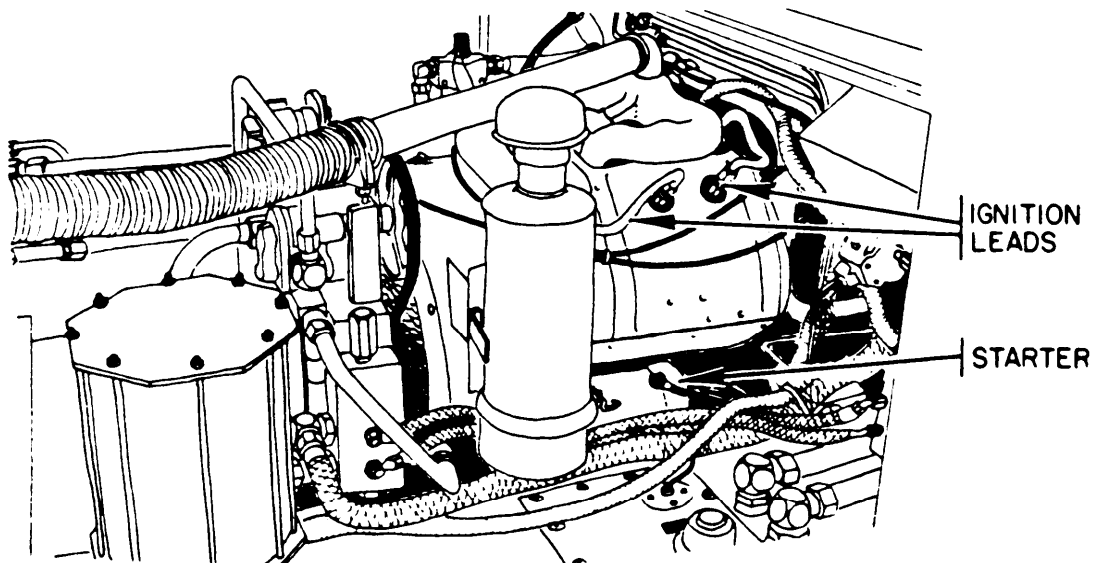
**MALFUNCTION**  
**TEST OR INSPECTION**  
**CORRECTIVE ACTION**

**ELECTRICAL SYSTEM D5-D HYDRAULIC TEST STAND**

**1. ENGINE FAILS TO TURN OVER.**

- Step 1. Inspect battery for serviceability and proper connections.  
 Secure cables to battery post, and service batteries (Para. 3-51).
- Step 2. Inspect starter cable for connection  
 Secure.
- Step 3. Inspect starter circuit for continuity.  
 Test.
- Step 4. Inspect starter brushes for wear.  
 Replace (brushes) (Para. 4-18, AVIM).

Section IV. TROUBLESHOOTING - Continued



Section IV. TROUBLESHOOTING - Continued

**MALFUNCTION**  
**TEST OR INSPECTION**  
**CORRECTIVE ACTION**

**ELECTRICAL SYSTEM D5-D HYDRAULIC TEST STAND (cont)**

**2, SWITCH FAILS TO OPERATE.**

Step 1. inspect for loose wire.

Secure loose wire

Step 2. Inspect for continuity.

Replace (Para. 3-55).

Step 3. inspect for damaged switch.

Replace (Para. 3-55).

**3. HIGH PRESSURE FILTER CLOGGED LIGHT FAILS TO LIGHT UP.**

Step 1. Inspect for burned-out bulb.

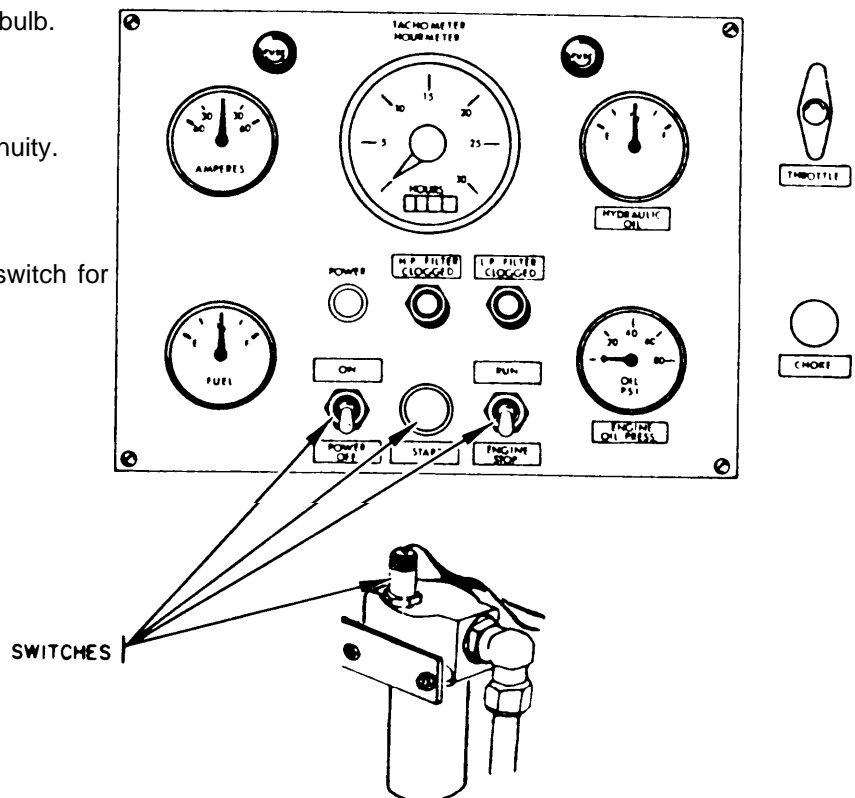
Replace bulb.

Step 2. Inspect circuit for continuity.

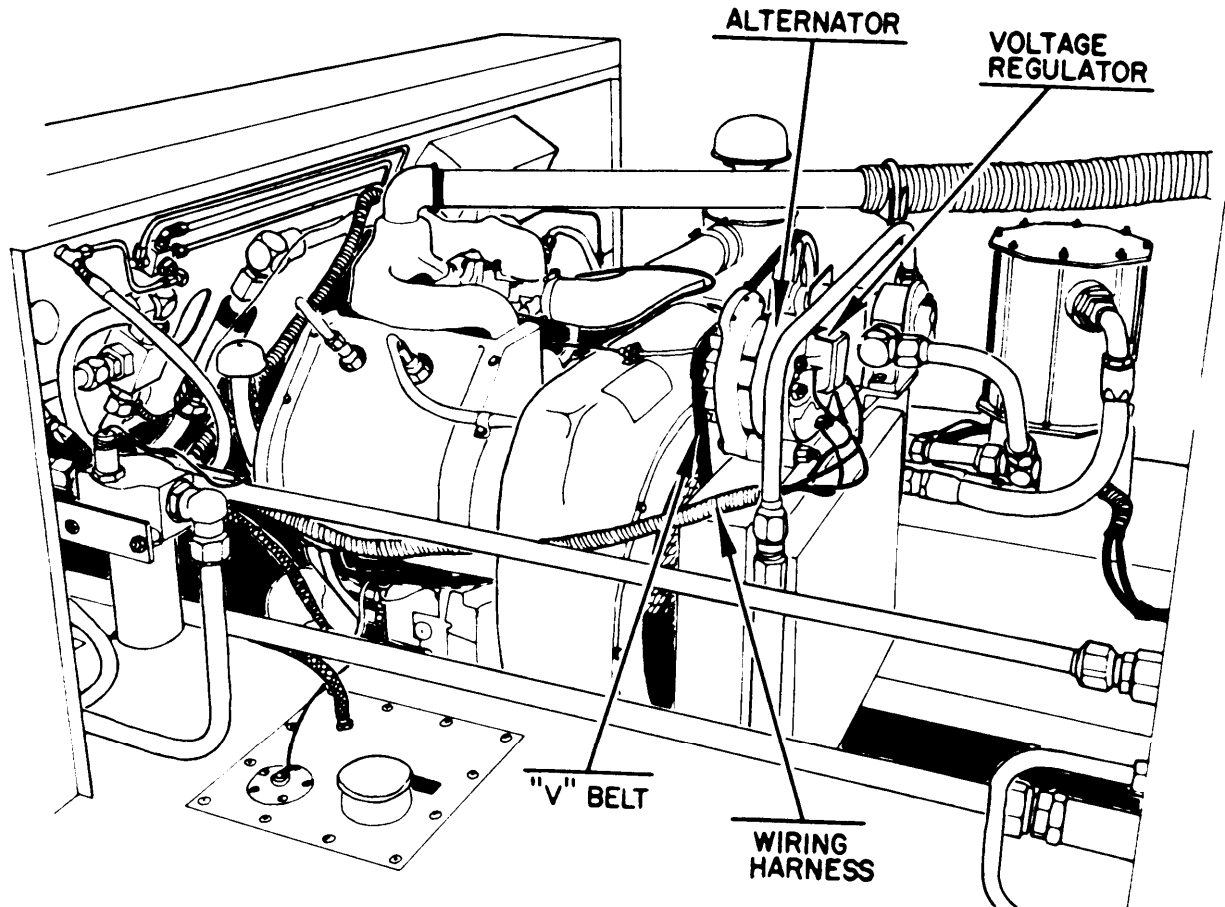
Replace switch. (Para. 3-56).

Step 3. Inspect high pressure switch for damage.

Replace (Para. 3-56).



Section IV. TROUBLESHOOTING - Continued



WIRING AND ELECTRICAL COMPONENTS.

Section IV. TROUBLESHOOTING - Continued

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3-8 TROUBLESHOOTING CHART - Continued

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3-8

---

**MALFUNCTION**  
**TEST OR INSPECTION**  
**CORRECTIVE ACTION**

---

**ELECTRICAL SYSTEM D-5D HYDRAULIC TEST STAND (cont)**

4. AMMETER SHOWS EXCESSIVE DISCHARGE

Step 1. Inspect for loose "V" belt.

Replace.

Step 2. Inspect for loose wire on alternator.

Secure wire.

Step 3. Inspect for broken wire.

Replace.

Step 4. Inspect for damaged alternator.

Replace (Para. 3-62).

5. VOLTAGE REGULATOR FAILS TO OPERATE.

Step 1. Inspect for loose wire.

Secure wire.

Step 2. Inspect for broken wire.

Replace.

Step 3. Inspect for damaged voltage regulator.

Replace (Para. 3-65).

Section IV. TROUBLESHOOTING - Continued

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<b>3-8</b>	<b>TROUBLESHOOTING CHART - Continued</b>	<b>3-8</b>
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<b>MALFUNCTION</b>	<b>TEST OR INSPECTION</b>	<b>CORRECTIVE ACTION</b>
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**ELECTRICAL SYSTEM D5-D HYDRAULIC TEST STAND (cont)**

6. ENGINE MALFUNCTIONS.

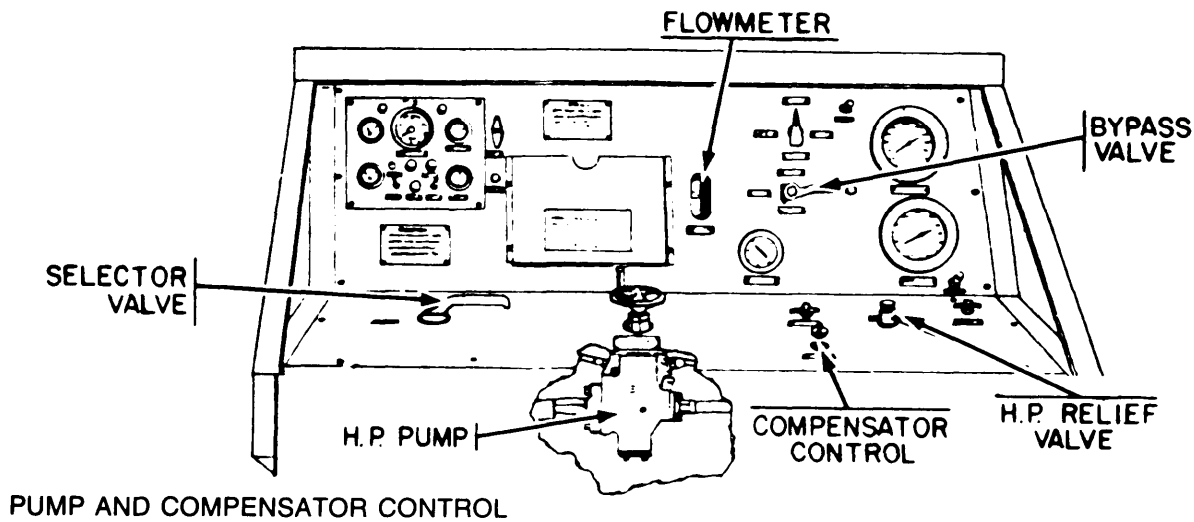
Step 1. Inspect for ignition leads being fully seated and secure.

Secure (Para. 3-162).

Step 2. inspect ignition leads for damage or breaks.

Replace (Para. 3-162).

Section IV. TROUBLESHOOTING - Continued



**MALFUNCTION**  
**TEST OR INSPECTION**  
**CORRECTIVE ACTION**

**HYDRAULIC SYSTEM D5-D HYDRAULIC TEST STAND**

1. VOLUME LOSS IN PLUMBING CIRCUIT.

Step 1. Inspect high pressure pump for leaks.

Repair (Para. 3-71).

Step 2. Inspect for clogged high pressure filter.

Replace (Para. 3-116).

Step 3. Inspect compensator control for leaks.

Replace (Para. 3-116) or Repair (Para. 4-15, AVIM).

2. COMPENSATOR FAILS TO OPERATE.

Step 1. Inspect compensator control for leaks.

Repair (Para. 3-80, AVIM).



## Section IV. TROUBLESHOOTING – Continued

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**3-8 TROUBLESHOOTING CHART — Continued**

---

3-8

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**MALFUNCTION****TEST OR INSPECTION****CORRECTIVE ACTION**

---

**HYDRAULIC SYSTEM D5-D HYDRAULIC TEST STAND (cont)**

Step 2. Inspect for leaks in system

Repair (Para. 4-15 AVIM).

Step 3. Inspect compensator for damage.

Replace (Para. 3-81).

VALVES: FOUR-WAY VALVE  
THREE-WAY VALVE  
HIGH PRESSURE RELIEF VALVE  
FLOWMETER

**3. VALVE OPERATES IMPROPERLY.**

Step 1. Inspect valve for leaks.

Repair (Para. 3-84, 3-88, 3-92, and 3-96).

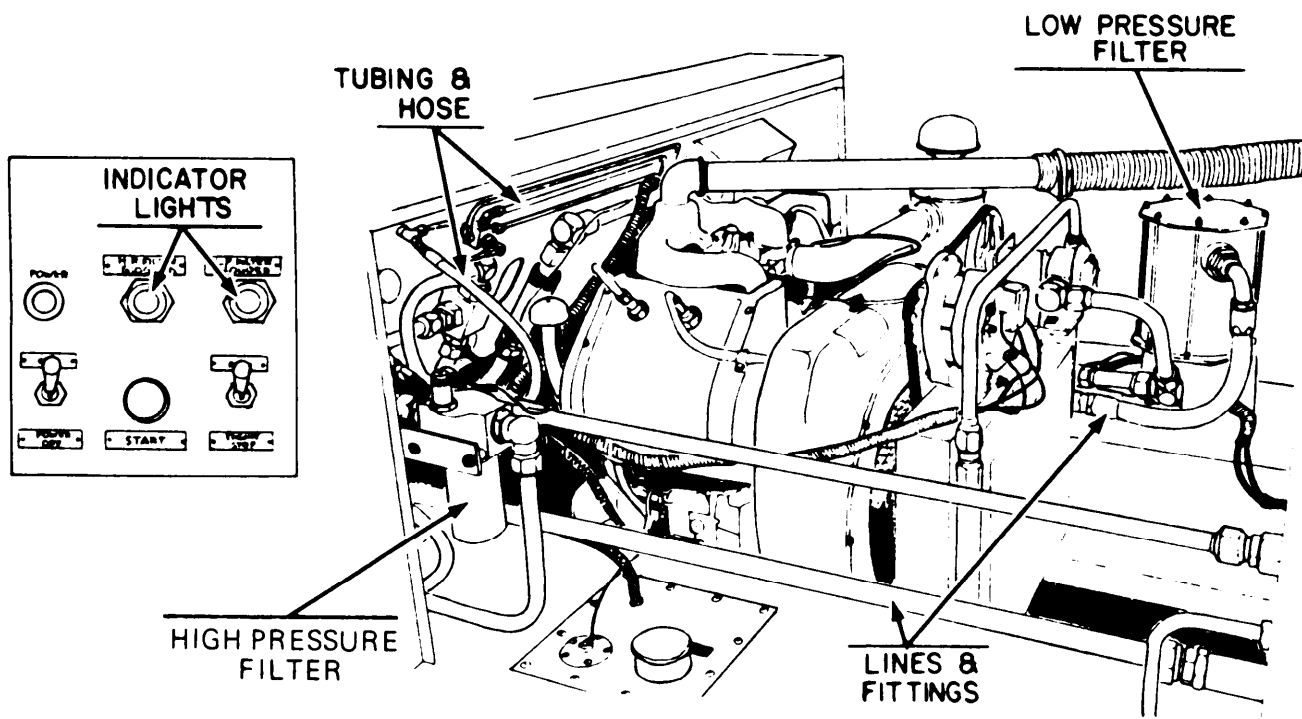
Step 2. Inspect valve for damage or stripped threads.

Replace (Para. 3-85, 3-89, 3-93, and 3-97).

Step 3. Inspect valve plumbing circuit for leaks.

Repair (Para. 4-15 and 4-16).

Section IV. TROUBLESHOOTING - Continued



Section IV. TROUBLESHOOTING - Continued

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3-8 TROUBLESHOOTING CHART - Continued

---

3-8

---

**MALFUNCTION**  
**TEST OR INSPECTION**  
**CORRECTIVE ACTION**

---

**HYDRAULIC SYSTEM D5-D HYDRAULIC TEST STAND (cont)**

FILTER ASSEMBLIES:    HIGH PRESSURE  
                                   LOW PRESSURE

4. INDICATOR LIGHT ON INSTRUMENT PANEL IS ON.

Inspect for clogged filter element.

Replace (Para. 3-109, 3-114).

5. FLUID VOLUME FLOW DROPS OFF.

Step 1.    Inspect lines, tubing, and hoses for leaks.

Repair (Para. 4-15, 4-16 AVIM).

Step 2.    Inspect fitting for stripped threads.

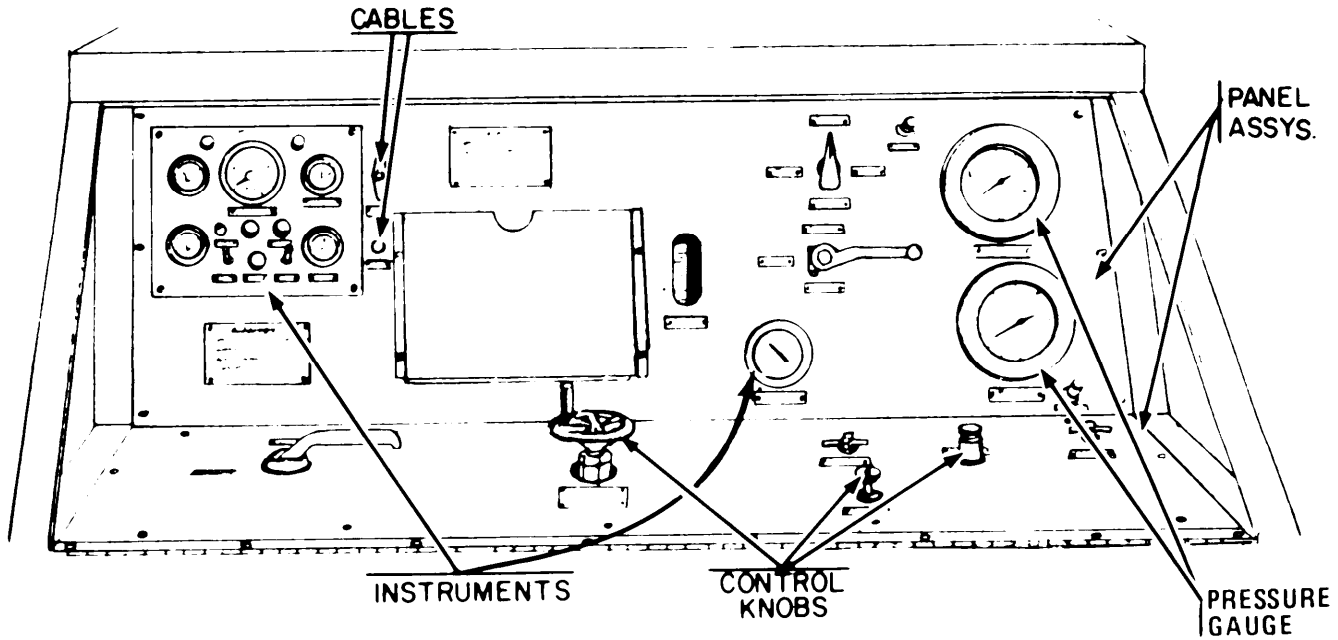
Repair (Para. 4-15, 4-16 AVIM).

Step 3.    Inspect tubing for damaged flare.

Repair (Para. 4-15, 4-16 AVIM).

Step 4. Operate test stand and test for leaks after all repairs have been made (Paras. 2-3, 2-4 and 2-8).

Section IV. TROUBLESHOOTING - Continued



**MALFUNCTION**  
**TEST OR INSPECTION**  
**CORRECTIVE ACTION**

**INSTRUMENT PANEL D5-D HYDRAULIC TEST STAND**

**1. HYDRAULIC PRESSURE GAGE FLOWMETER INOPERATIVE**

Step 1. Inspect for loose pointer cracked glass.

Replace gage (Para. 3-100).

Step 2. Inspect for loose mounting screws.

Secure.

## Section IV. TROUBLESHOOTING - Continued

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**3-8 TROUBLESHOOTING CHART - Continued**


---

**3-8**


---

**MALFUNCTION**  
**TEST OR INSPECTION**  
**CORRECTIVE ACTION**


---

**INSTRUMENT PANEL D5-D HYDRAULIC TEST STAND (cont)**

**2. INSTRUMENT ERRATIC OR INOPERATIVE.**

Step 1. Inspect for loose wire.

Secure.

Step 2. Inspect for cracked glass or loose pointer.

Replace (Para. 3-129).

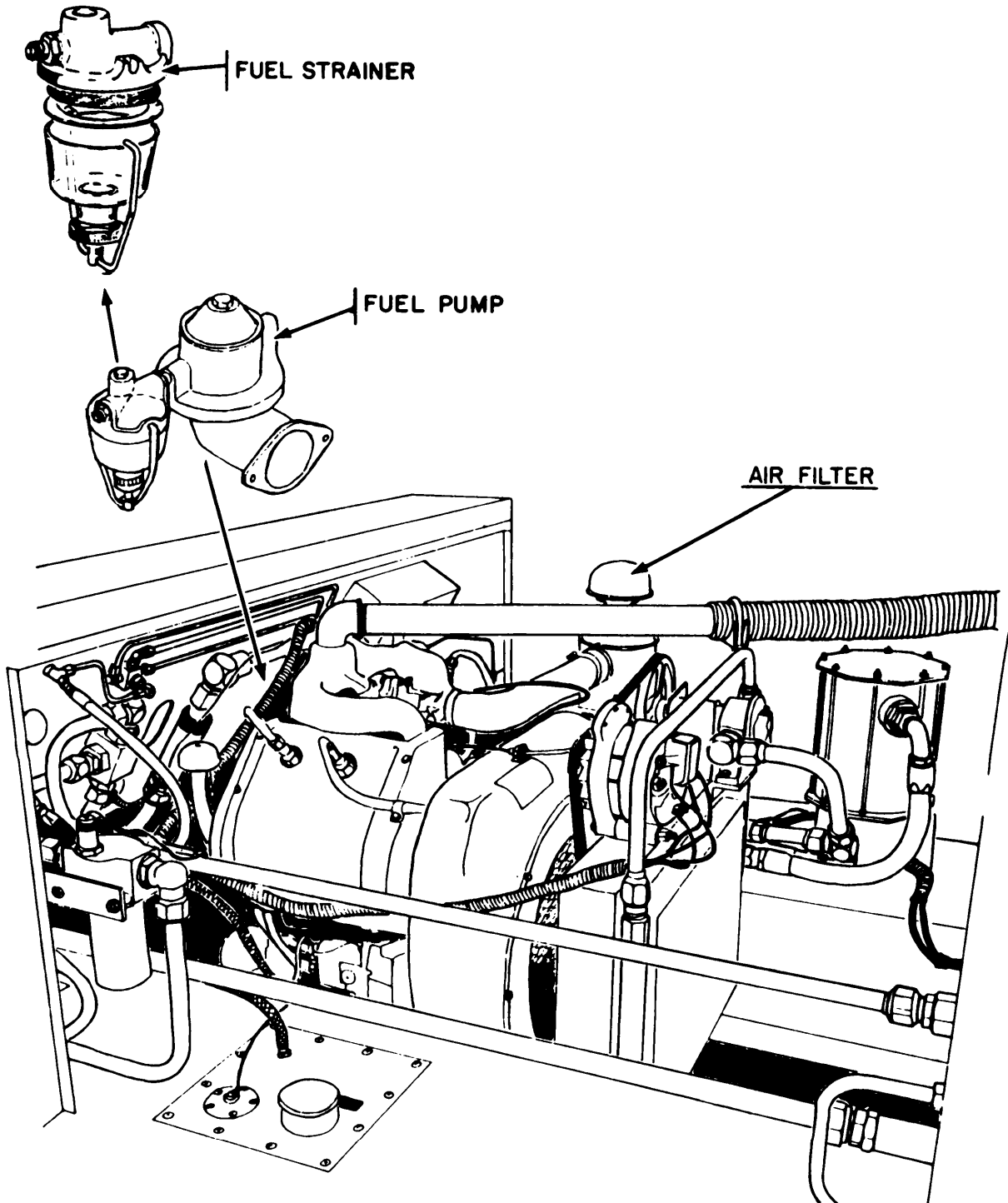
Step 3. Inspect for damaged instruments.

Replace (Para. 3-129).

Section IV. TROUBLESHOOTING — Continued

3-8 TROUBLESHOOTING CHART — Continued

3-8



Section IV. TROUBLESHOOTING - Continued

**MALFUNCTION**  
**TEST OR INSPECTION**  
**CORRECTIVE ACTION**

**ENGINE D5-D HYDRAULIC TEST STAND**

ENGINE EXTERNAL/INTERNAL COMPONENTS

1. ENGINE RPM FLUCTUATES.

Inspect governor for proper adjustment.

Adjust (Para, 3-136),

2. NO FUEL SUPPLY TO CARBURETOR.

Inspect fuel pump for defects/inoperability.

Replace (Para. 3-140).

3. CARBURETOR FLOODS.

Step 1. Inspect that choke cable is pushed fully in.

If out, push fully in.

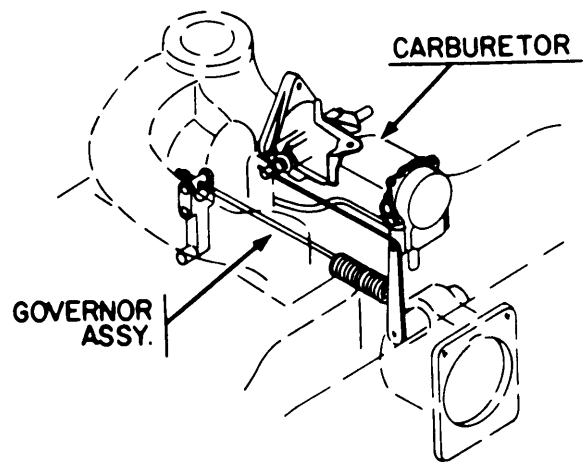
Step 2. Inspect that float is not stuck open.

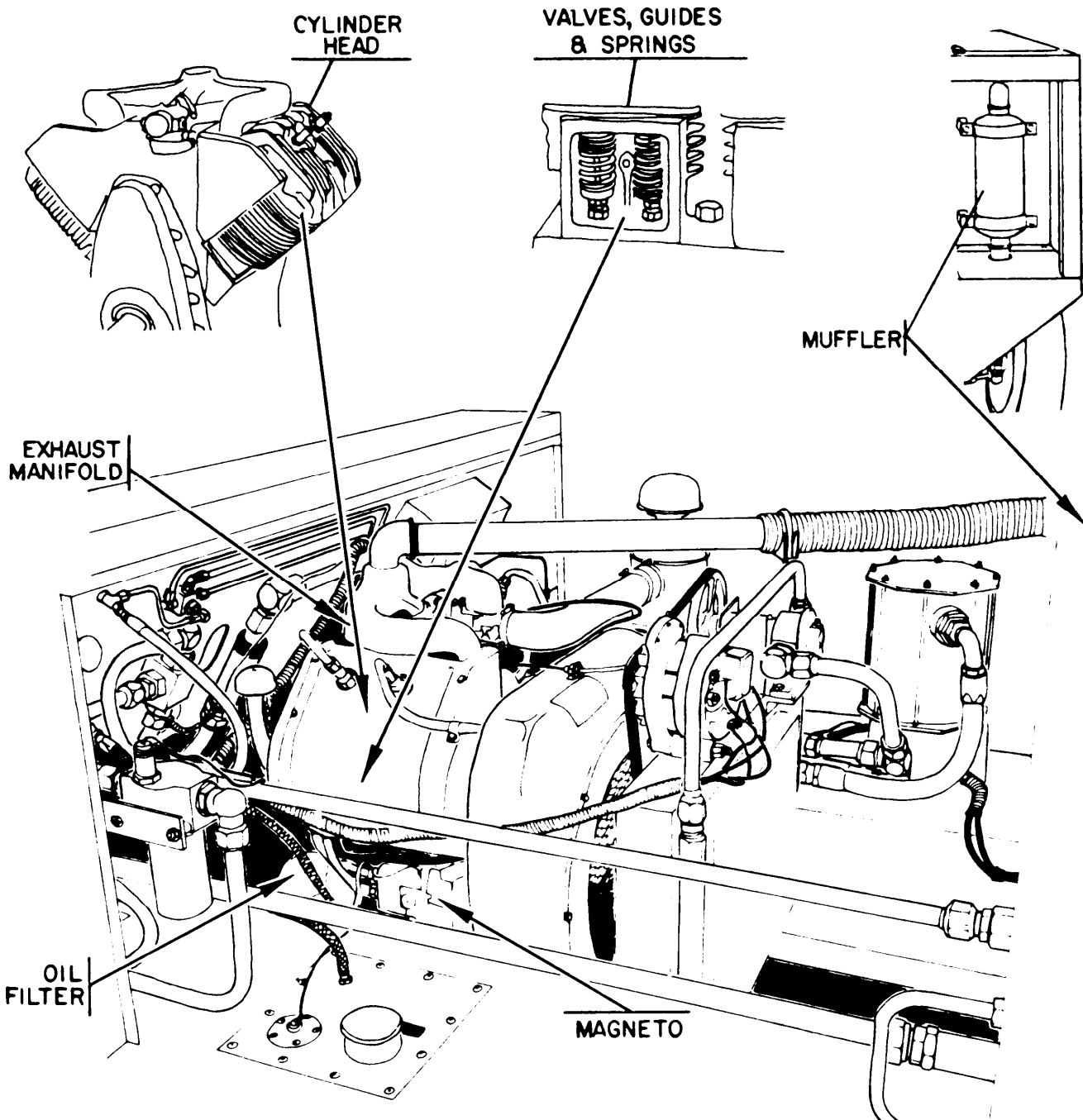
Repair (Para. 3-143).

4. NO FUEL TO CARBURETOR.

Inspect the fuel strainer for dirt/water.

Clean. (Para. 3-150).







Section IV. TROUBLESHOOTING - Continued

---

3-8 TROUBLESHOOTING CHART — Continued

---

3-8

---

**MALFUNCTION**  
**TEST OR INSPECTION**  
**CORRECTIVE ACTION**

---

**ENGINE D5-D HYDRAULIC TEST STAND (cont)**

5. ENGINE MISFIRES.

Inspect magneto for weak or no spark (Para. 3-154).

Adjust (Para. 3-155).

6. HISSING NOISE ON COMPRESSION STROKE.

Step 1. Inspect for a loose spark plug.

Tighten.

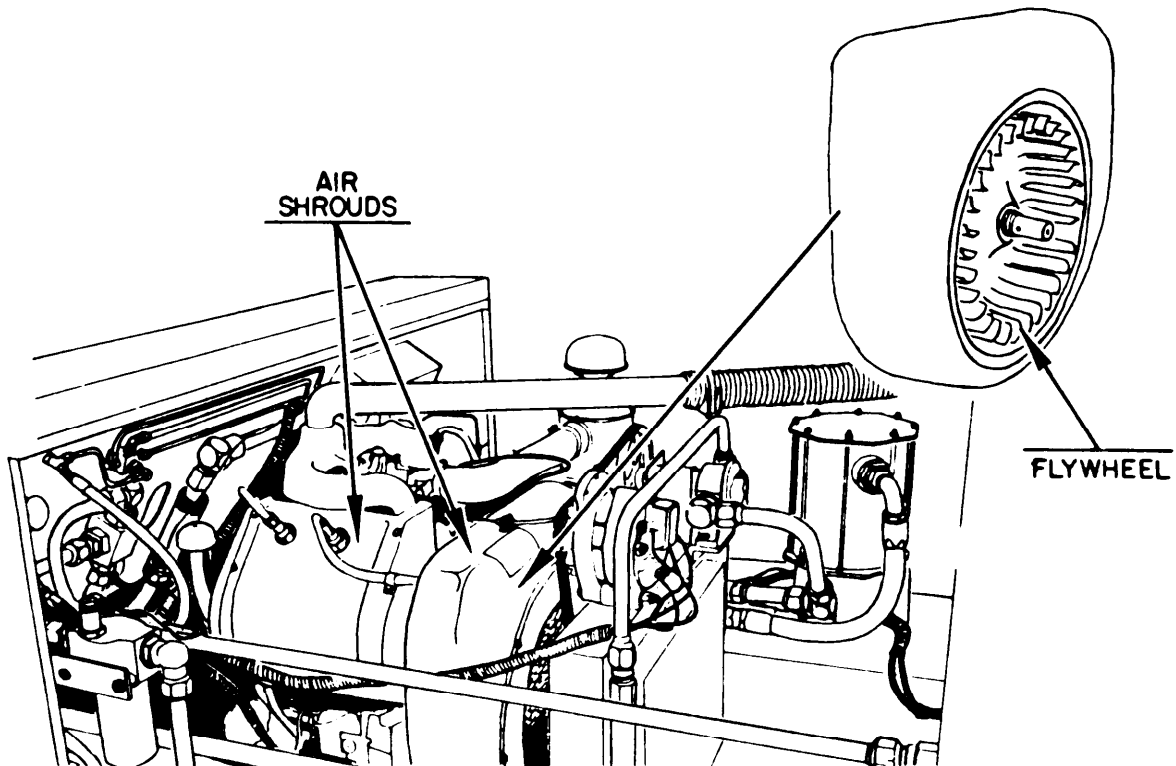
Step 2. Inspect for a loose cylinder head.

Tighten mounting bolts.

Step 3. Inspect for damaged cylinder head gasket.

Replace (Para. 4-21, AVIM).

Section IV. TROUBLESHOOTING - Continued



**MALFUNCTION**

**TEST OR INSPECTION**

**CORRECTIVE ACTION**

**ENGINE D5-D HYDRAULIC TEST STAND (cont)**

**7. FLYWHEEL RUBS ON SHROUDS.**

Inspect for cause.

Replace (Para. 4-29, AVIM).

**Section V. MAINTENANCE PROCEDURES**

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**3-9 MAINTENANCE**

---

**3-9**

Maintenance procedures for maintaining the test stand in a ready condition consist of periodic inspection, cleaning, adjustments, minor repair, replacement of components and lubrication.

---

**3-10 MAINTENANCE FUNCTIONS/PROCEDURES**

---

**3-10**

Each paragraph identifies the maintenance function specified in the MAC. All maintenance procedures required to complete a maintenance function are identified under "This task covers", in the order in which they are most logically accomplished.

This task covers: Removal

---

INITIAL SETUP

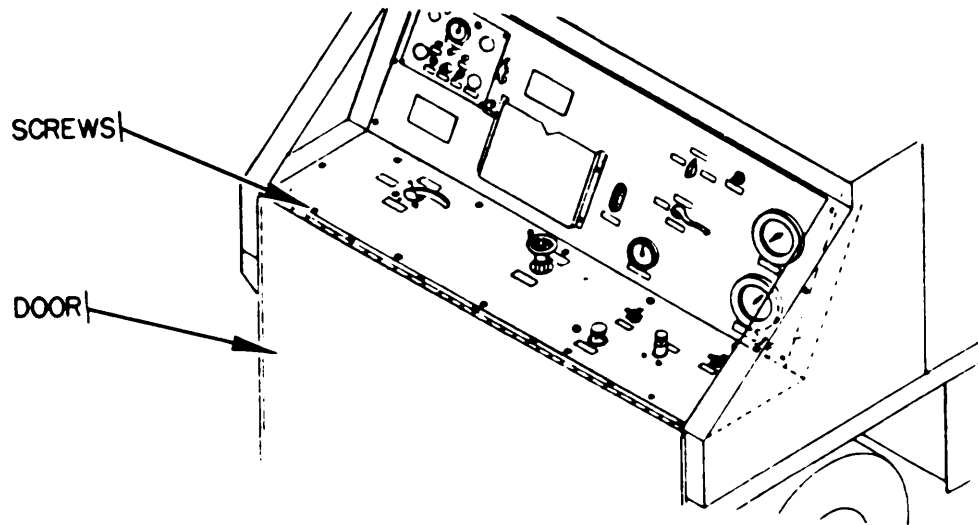
Personnel Required

68H Aircraft Pneudraulics  
Repairman

Tools

Tool Kit, NSN  
5180-00-323-4891

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GO TO NEXT PAGE

---

**3-11 DOOR – REMOVE – Continued**

---

3-11

## REMOVAL

- a. Open door.
- b. Remove eight screws.
- c. Remove door.

END OF TASK

---

**3-12 DOOR – INSPECT**

---

3-12

This task covers: Inspection

---

INITIAL SETUPPersonnel Required68H Aircraft Pneudraulic  
RepairmanMaterials/PartsDoor-Part Number  
79009-118-1Tools

Tool Kit, NSN 5180-00-323-4891

---

INSPECTION

- a. Check for a badly bent or deformed door.
- b. Inspect for scratches and large sections of paint removed.

END OF TASK

---

**3-13 DOOR – REPLACE**

---

**3-13**

This task covers: Installation (See INITIAL SETUP, Para. 3-12)

## INSTALLATION

- a. Install door and secure with eight screws.
- b. Close door.

END OF TASK

---

**3-14 CATCHES, FASTENERS – REMOVE**

---

**3-14**

This task covers: Removal and Inspection

## INITIAL SETUP

Personnel Required

68G Aircraft Structural  
Repairman

Tools

Kit, NSN 5180-00-323-4876

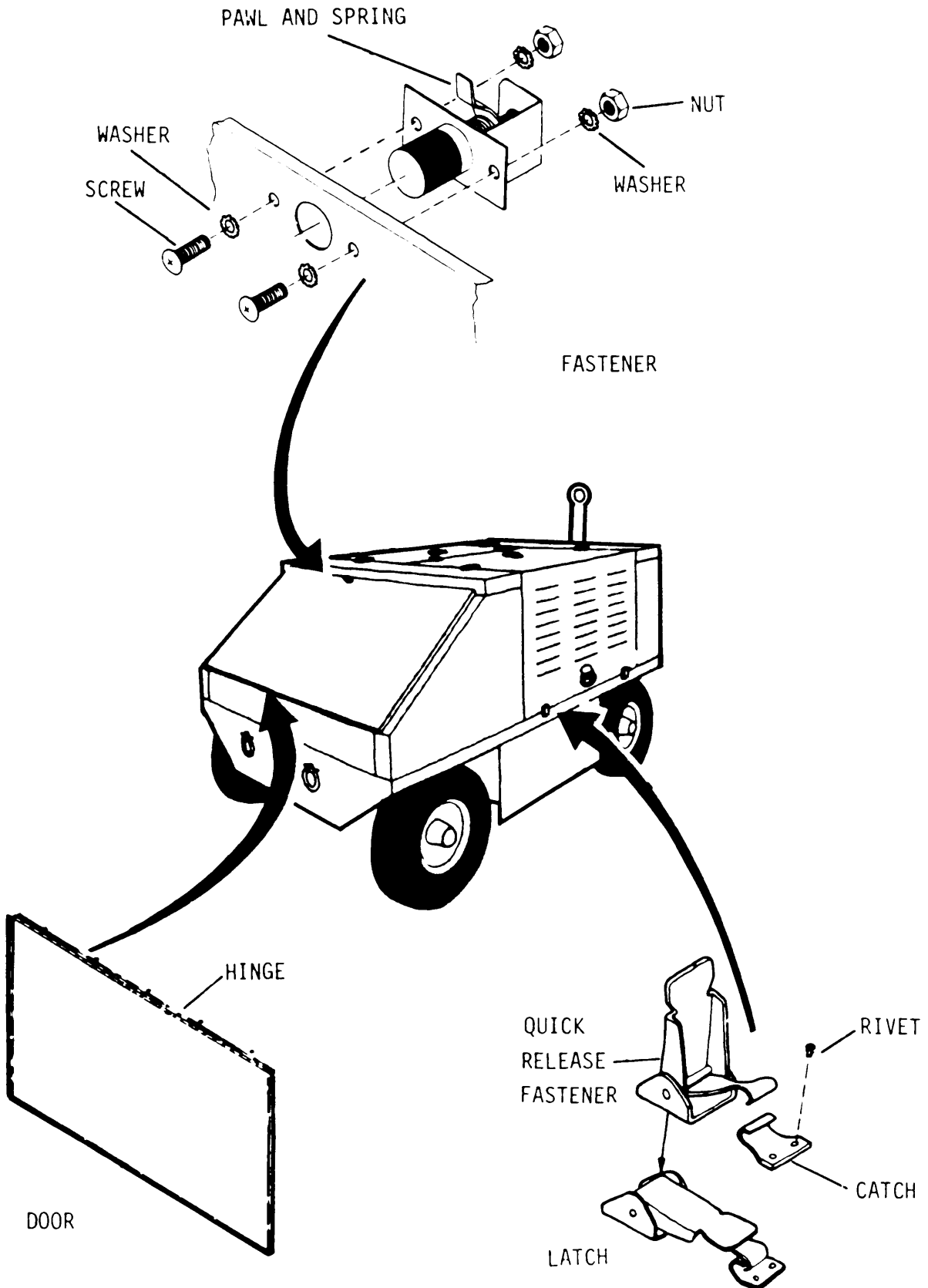
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REMOVAL

- a. Open instrument control panel door.
- b. Remove two nuts and washers securing the fastener.
- c. Remove screw and fastener.
- d. Drill out the old rivets and remove the latch and/or catch.
- e. Inspect for a twisted or bent hinge. If badly damaged, replace door (Para. 3-13).

END OF TASK

3-14 CATCHES, FASTENERS – REMOVE – Continued



---

**3-15 CATCHES, FASTENERS – INSPECT**

**3-15**

---

This task covers: Inspection

---

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-14	Catches/fasteners removed

---

INSPECTION

- a. Inspect catch and latch for cracks.
- b. Inspect pawl and spring for breaks.

END OF TASK

---

**3-16 HINGES, CATCHES, FASTENERS - SERVICE**

**3-16**

---

This task covers: Cleaning and Lubrication

---

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-14	Catches/fasteners removed, door open
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-323-4891	General purpose lube oil, Item 2, Appendix D	

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1. CLEANING.

Use wire brush to remove corrosion.

2. LUBRICATION.

Lubricate with general purpose lubricating oil.

END OF TASK



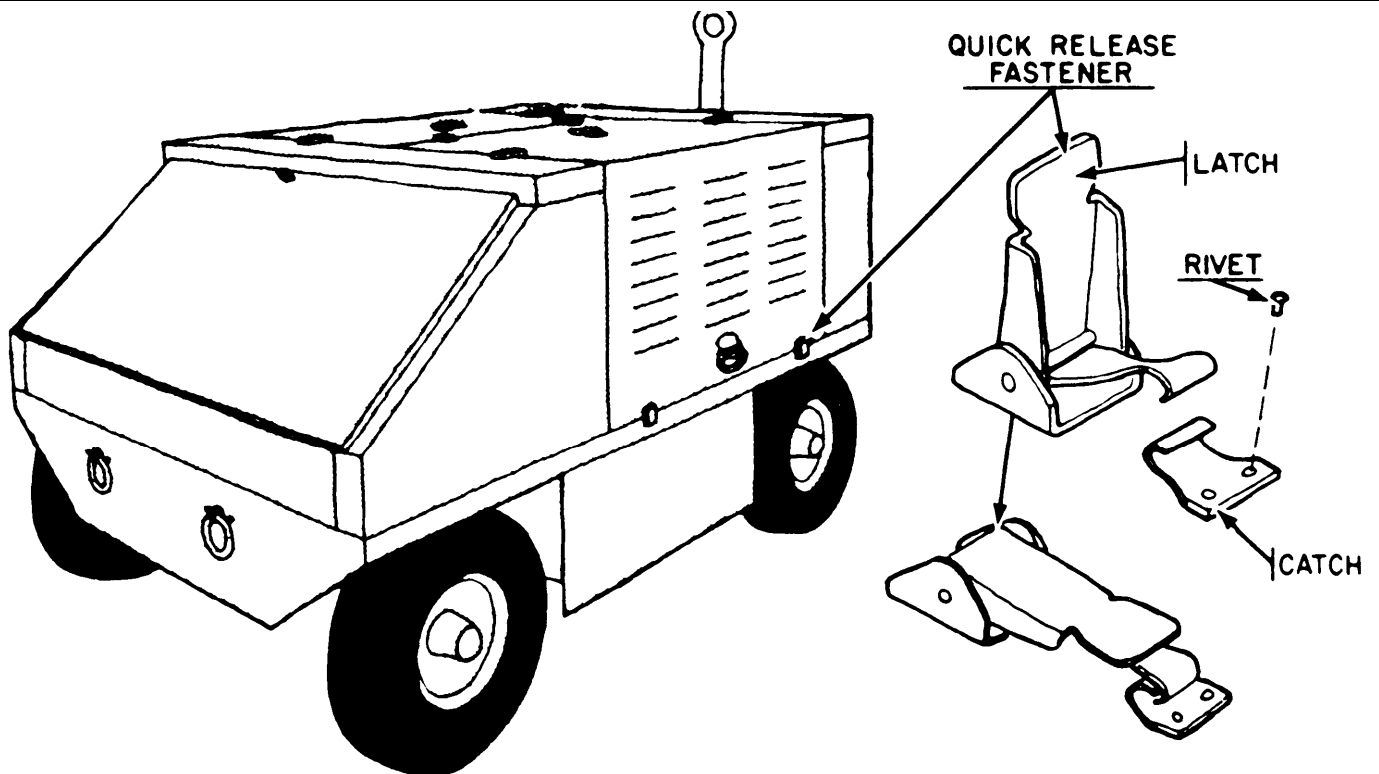
**3-17 CATCHES, FASTENERS-REPLACE**

3-17

This task covers: Installation

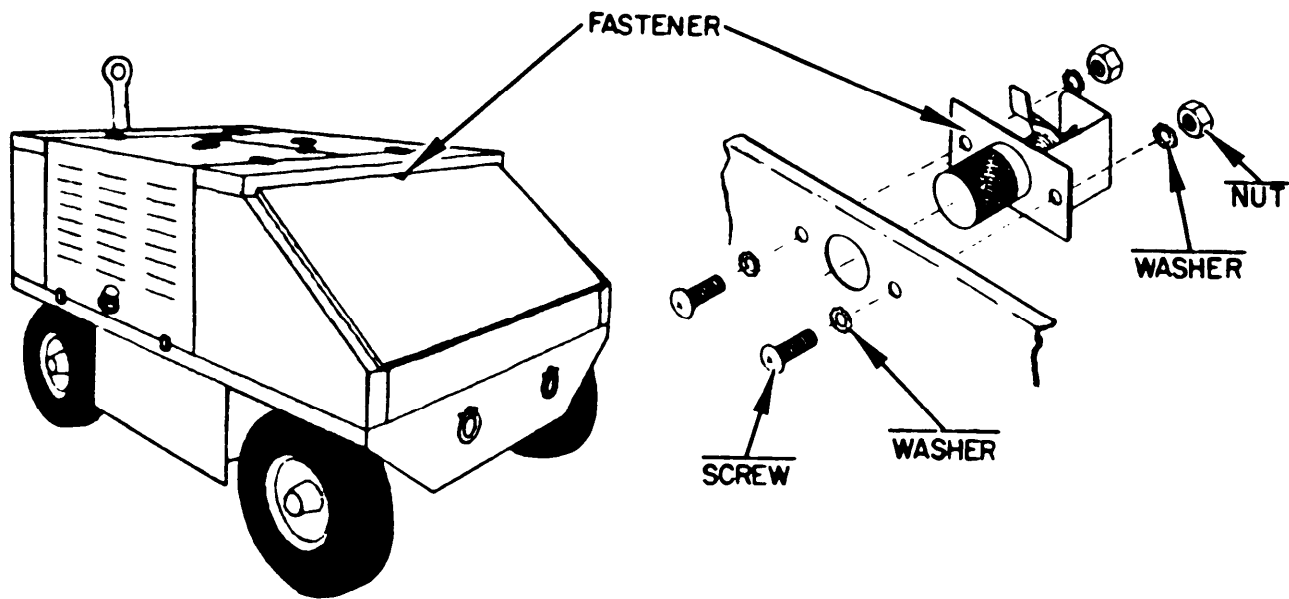
INITIAL SETUPPersonnel Required68G Aircraft Structural  
RepairmanMaterials/partsCatch-Part number TL 100-5  
Latch-Part number TL 100-A  
Rivet-Part number SSP 54  
Fastener-Part number 14-10-11-11Tools

Kit, NSN 5180-00-323-4876

INSTALLATION

- a. Install the quick release fastener.
- b. Install four rivets, attaching catch and latch.

GO TO NEXT PAGE



- c. Place fastener in door, secure with two nuts and screws and four washers.
- d. Tighten nuts.
- e. Close door.

END OF TASK

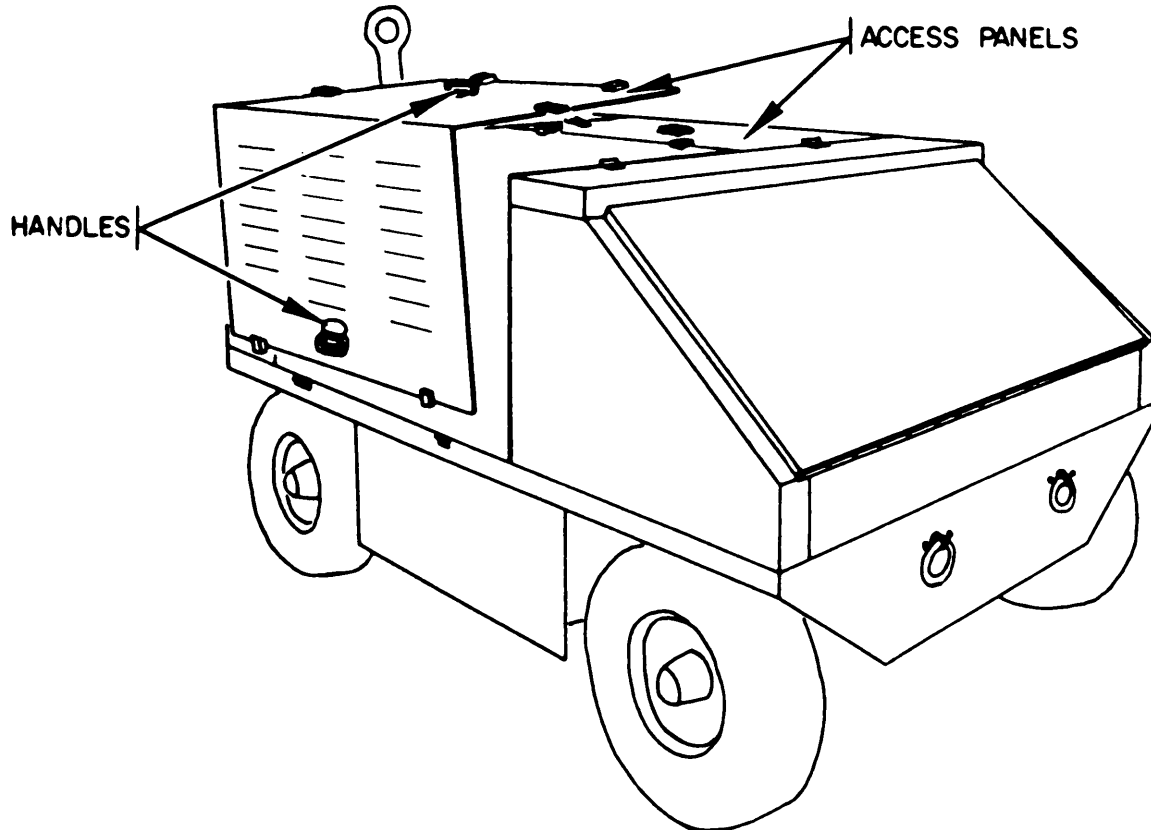
This task covers: Removal

INITIAL SETUP

Personnel Required

68H Aircraft Pneudraulic  
Repairman

GO TO NEXT PAGE



#### REMOVAL

- a. Release six quick release fasteners.
- b. With each hand, grasp handles and remove panels.

END OF TASK

---

**3-19    PANELS (ACCESS) – INSPECT**

---

**3-19**

This task covers:    Inspection

---

INITIAL SETUP

Personnel Required

68H Aircraft Pneudraulic  
Repairman

---

INSPECTION

- a. Inspect for dents, dirt, oil, grease.
- b. Check for paint

END OF TASK

---

**3-20    PANELS (ACCESS) – SERVICE**

---

**3-20**

This task covers:    Cleaning and Painting

---

INITIAL SETUP

Personnel Required

68H Aircraft Pneudraulic  
Repairman

Materials/Parts

Paint, Item 4, Appendix D  
Clean rags

---

1. CLEANING.

Remove dirt, grease and oil with soapy water and clean rags.

2. PAINTING.

Paint over bare metal and scratches.

END OF TASK

---

**3-21      PANELS (ACCESS) – REPLACE**

---

**3-21**

This task covers:      Installation

---

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-18	Panels removed
	<u>Materials/Parts</u>	
	Access panel - Part Number 79009-116-1	

---

INSTALLATION

- a. Replace panel. Grasp panel by the handles and position on test stand.
- b. Secure six quick release fasteners.

END OF TASK

This task covers: Removal

---

INITIAL SETUP

Personnel Required

68H Aircraft Pneudraulic  
Repairman

Tools

Kit, NSN 5180-00-323-4891

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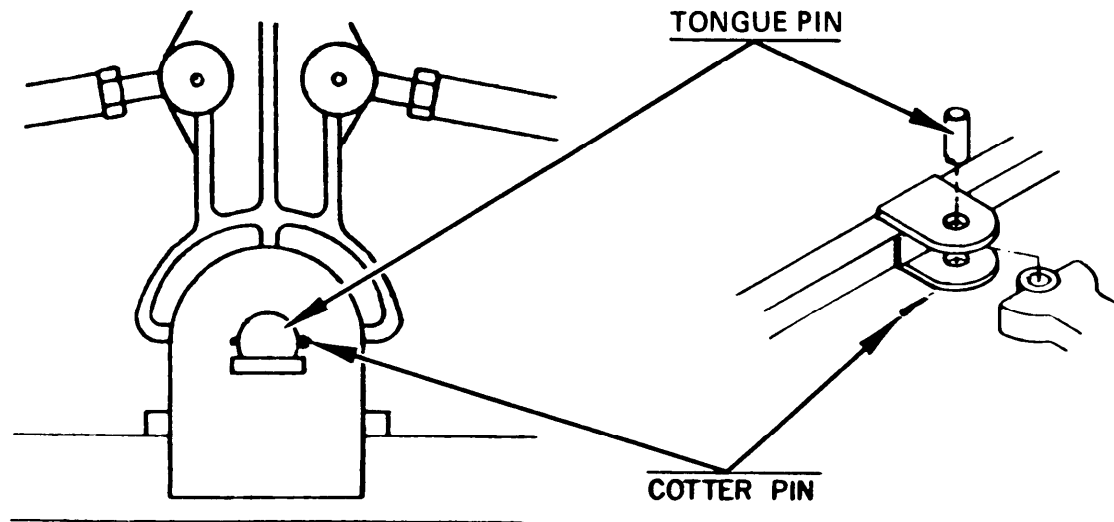
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**3-22. AXLE AND STEERING ASSEMBLY PINS - REMOVE - Continued**

---

3-22

**REMOVAL**

- a. Remove cotter pin.
- b. Remove tongue pin.

**END OF TASK**

---

**3-23 AXLE AND STEERING ASSEMBLY PINS - INSPECT**

---

3-23

This task covers: Inspection

---

**INITIAL SETUP**Personnel Required68H Aircraft Pneudraulic  
Repairman

---

**INSPECTION**

Inspect pins for wear, breaks.

**END OF TASK**

---

**3-24 AXLE AND STEERING ASSEMBLY – PINS – REPLACE**

---

**3-24**

This task covers:    Installation

---

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-22	Pins removed

Tools

Kit, NSN 5180-00-323-4891  
Oil Can

Materials/Parts

Tongue pin - Part Number 23003-2  
Cotter pin - Part Number MS24665-357  
General Purpose Lubricating Oil,  
Item 2 appendix D.

---

**GO TO NEXT PAGE**



**3-24. AXLE AND STEERING ASSEMBLY, –PINS– REPLACE Continued**

3-24

**INSTALLATION**

- a. Lubricate tongue pin with oil.
- b. Install tongue pin.
- c. Secure axle and tongue. placing cotterpin through tongue pin
- d. Bend ends of cotter pin apart.

**END OF TASK**

**3-25 TIE RODS AND TIE BARS – REMOVE**

3-25

This task covers: Removal

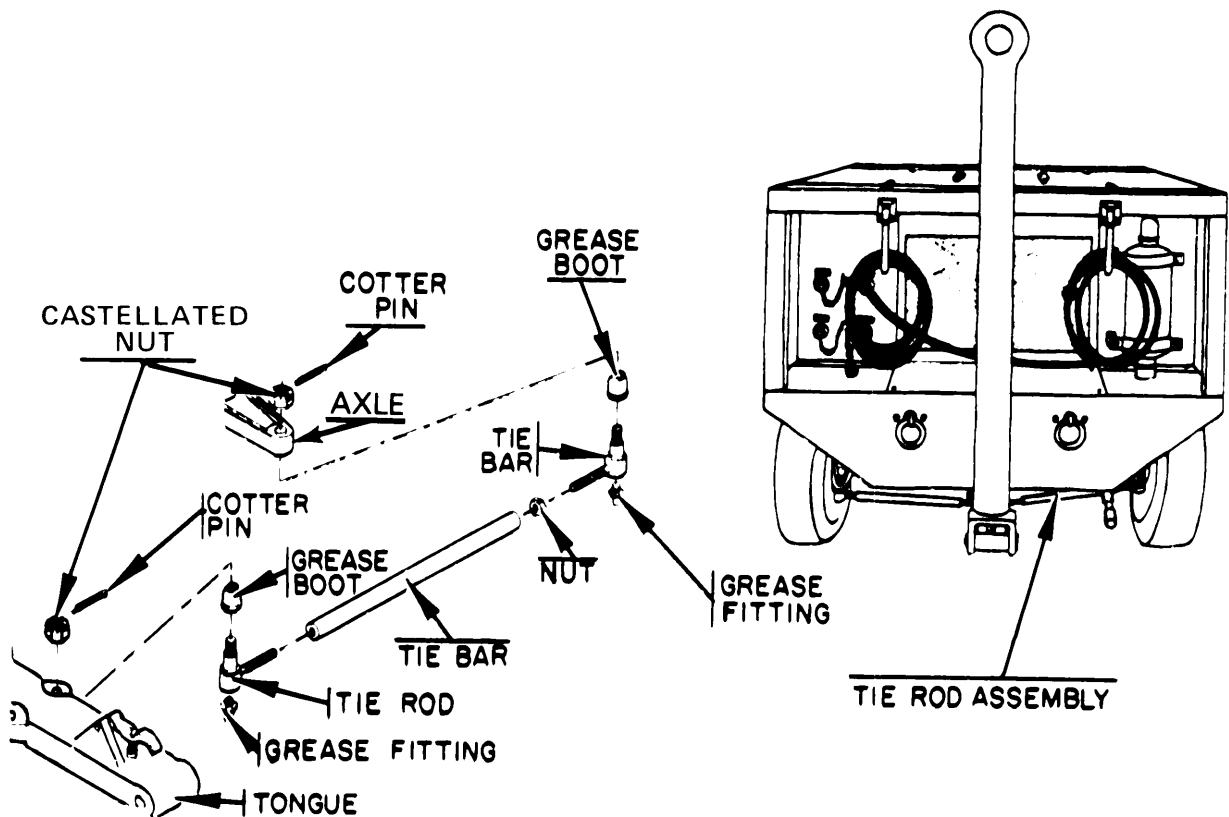
**INITIAL SETUP**

Personnel Required

Tools

68H Aircraft Pneudraulic Repairman

Kit, NSN 5180-00-323-4891



GO TO NEXT PAGE

REMOVAL

- a. Remove two cotter pins from two nuts.
- b. Remove nuts.
- c. Remove tie rod and tie bar assembly from the axle and tongue.
- d. Record the distance between the tie rod ends, this distance will be referred to as assembly.
- e. Loosen tie bar nut.
- f. Remove tie bar from two tie rods.
- g. Remove grease boot.
- h. Remove grease fitting.

END OF TASK

This task covers:    Inspection

---

INITIAL SETUP

Personnel Required

68H Aircraft Pneudraulic Repairman

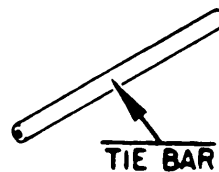
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INSPECTION

- a. Inspect for a bent tie rod.
- b. Inspect rod for cracks or stripped threads.



- c. Inspect for a bent tie bar.
- d. Inspect bar for cracks or stripped threads.



END OF TASK

**3-27 TIE RODS AND TIE BARS – REPLACE****3-27**

This task covers: Installation

**INITIAL SETUP**

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-25	Rods and bars removed
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-323-4891	Tie rod (L), Part Number ES416L Tie rod (R), Part Number ES416R Tie bar, Part Number 23008-1 Grease Fitting, Part Number MS 15003-1	

**INSTALLATION**

- a. Replace nut on tie rod.
- b. Install two tie rods to two tie bars.
- c. Adjust the distance between tie rod ends. Refer to distance recorded prior to disassembly.
- d. Tighten tie bar nut to the tie bar.
- e. Replace two grease boots.
- f. Replace tie bar assembly to axle and tongue.
- g. Replace two castellated nuts on tie rods.
- h. Tighten two castellated nuts until the holes in the tie rods line up with the slots in the nuts.
- i. Replace cotter pin, bend cotter pin ends.
- j. Replace grease fitting.

**END OF TASK**

This task covers: Lubrication

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INITIAL SETUP

Personnel Required

68H Aircraft Pneudraulic  
Repairman

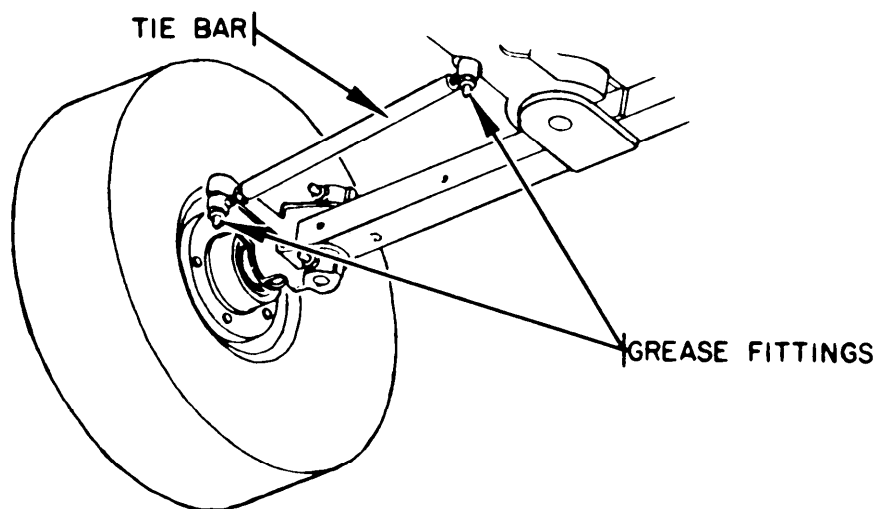
Materials/Parts

GAA (grease automotive and artillery),  
Item 8, Appendix D

Tools

Grease gun

---



LUBRICATION

Grease two tie rods.

END OF TASK

---

**3-29 SPRINGS – REMOVE**

---

**3-29**

This task covers: Removal

---

**INITIAL SETUP**Personnel Required68H Aircraft Pneudraulic  
RepairmanToolsKit, NSN 5180-00-323-4891  
Jack stands or equivalent,  
Jack, one-ton, floor

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**REMOVAL**

<b>WARNING</b>
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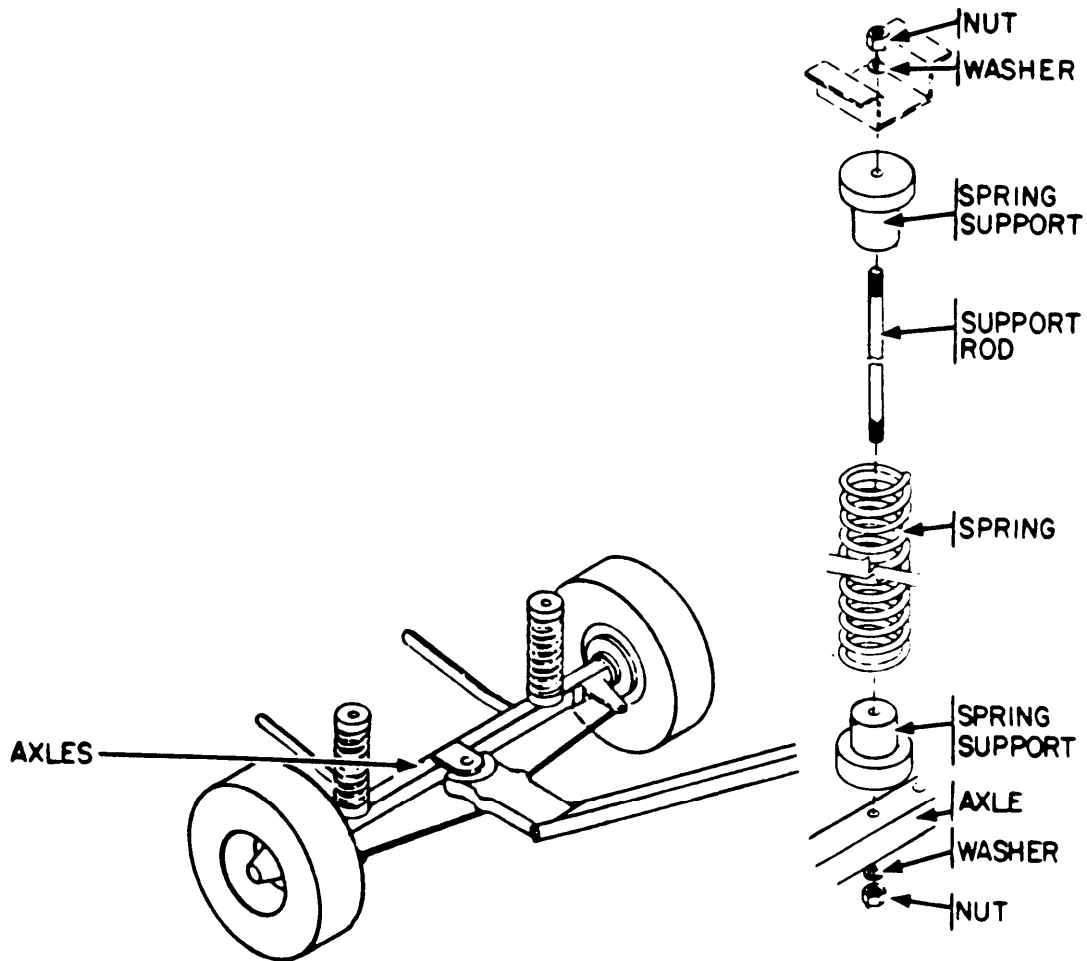
**Always use jack stands when equipment is raised since injury or death can result from equipment falling.**

**NOTE**

**Axle must be raised a minimum of 16 inches above the ground to provide enough clearance to remove the support rod.**

- a. Jack and support axle a minimum of 16 inches above ground.
- b. Loosen and remove upper nut.
- c. Remove support rod.
- d. Place jack under the test stand frame and raise frame until tension is released from the spring.
- e. Remove spring and spring support.

**GO TO NEXT PAGE**



END OF TASK

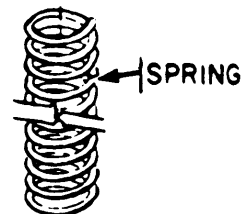
END OF TASK

**3-30 SPRINGS — INSPECT****3-30**

This task covers: Inspection

**INITIAL SETUP**Personnel Required68H Aircraft Pneudraulic  
Repairman**INSPECTION**

- a. Inspect for cracks, dirt, oil and grease.
- b. Examine for paint scratches.

**END OF TASK****3-31 SPRINGS – SERVICE****3-31**

This task covers: Cleaning and Painting

**INITIAL SETUP**Personnel Required68H Aircraft Pneudraulic  
RepairmanMaterials/PartsPaint-Item 4, Appendix D  
Clean rags**CLEANING AND PAINTING**

- a. Remove oil, grease or dirt. Use clean rags.
- b. Paint scratches or bare metal.

**END OF TASK**

This task covers: Installation

INITIAL SETUP

<u>Personnel Required</u>	Equipment Condition <u>Para</u>	Condition <u>Description</u>
68H Aircraft Pneudraulic Repairman	3-29	Springs removed
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-323-4876	Spring-Part Number 20050-8	

INSTALLATION

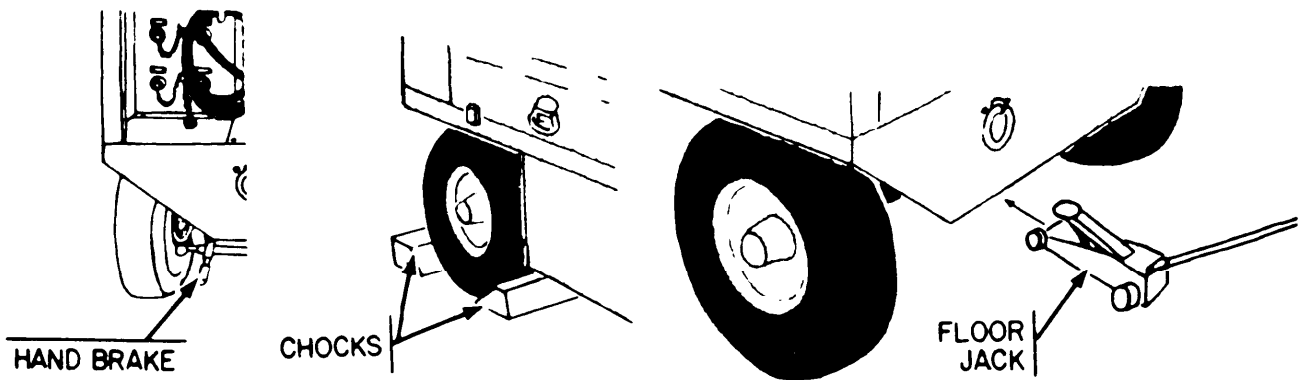
- a. Install two spring supports into spring.
- b. Replace spring assembly on the axle.
- c. Lower jack slowly and apply a small amount of tension to the spring.
- d. Insert the spring support rod through the axle, spring support, spring, spring support and into the test stand frame.
- e. Lower the jack completely to allow rod to extend through test stand frame.
- f. Install the top nut and washer, tighten the top nut until a minimum of two threads are showing.
- g. Raise axle and remove jack stand,
- h. Lower jack and remove.

END OF TASK



**3-33 WHEELS, TIRES AND TUBES – REMOVE****3-33**

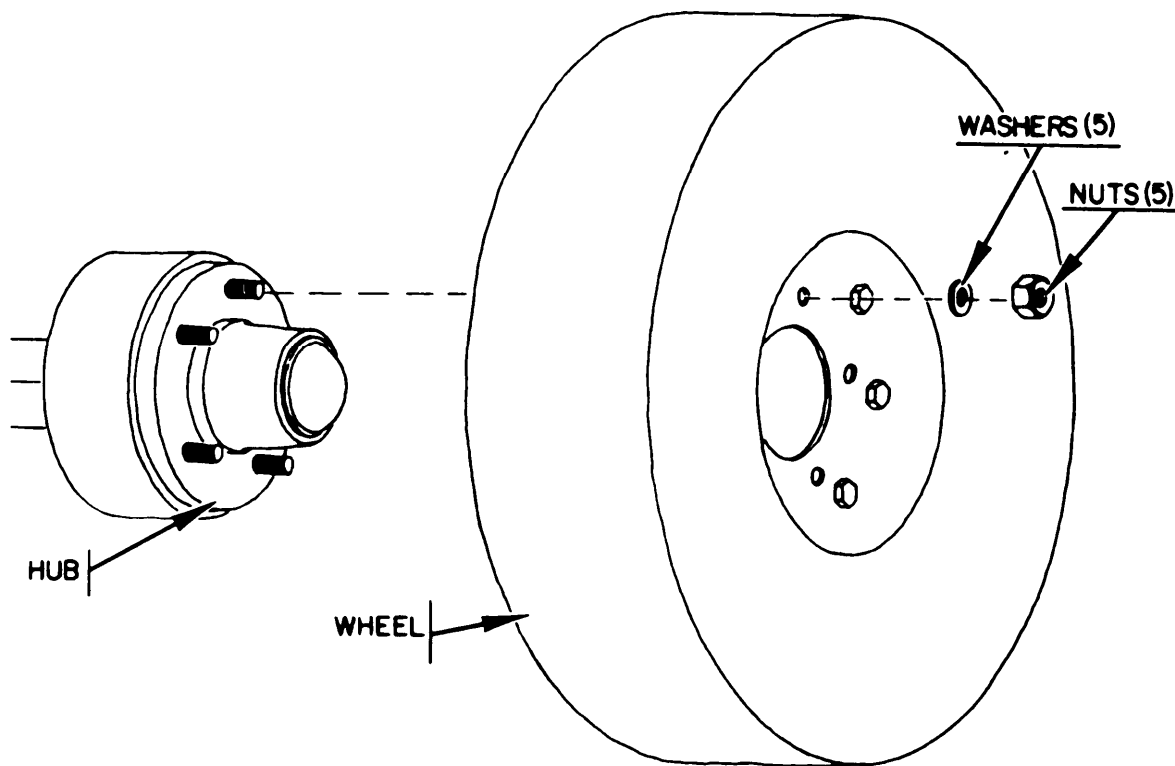
This task covers: Removal and Disassembly

**INITIAL SETUP**Personnel Required68H Aircraft Pneudraulic  
RepairmanToolsKit, NSN 5180-00-323-4891  
Floor Jack.  
Wheel Chocks.  
jack stand or equivalent.**WARNING****Always use jack stands when equipment is raised since injury or death can result from equipment falling.**

GO TO NEXT PAGE

1. REMOVAL

- a. Set hand brake.
- b. Place chocks under wheel.
- c. Place floor jack under axle, jack up the test stand.
- d. Place jack stand under axle.
- e. Loosen five wheel nuts.

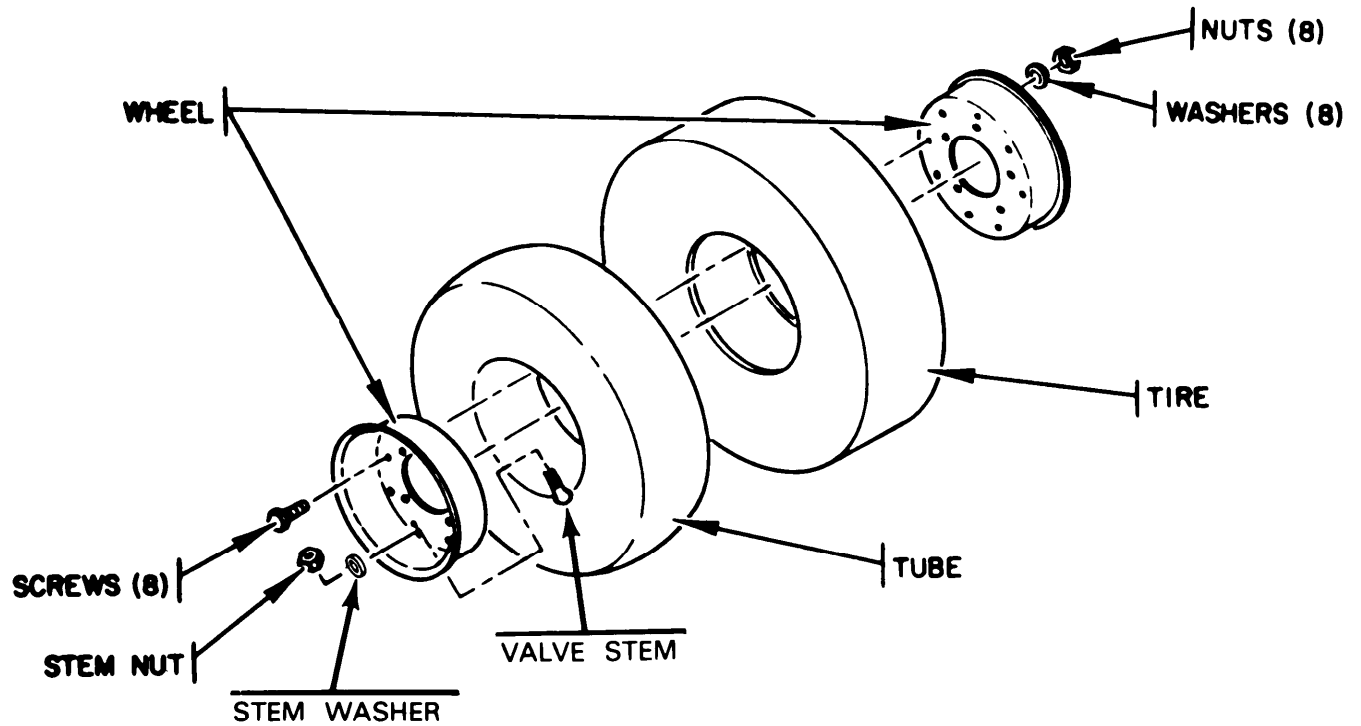


- f. Remove five wheel nuts and washers.
- g. Remove wheel from hub.

GO TO NEXT PAGE

**WARNING**

Completely deflate tire during removal. Wheel rims under pressure can cause personal injury.



## 2. DISASSEMBLY

- a. Let air out of tire.
- b. Remove valve stem nut and washer.
- c. Remove eight nuts.
- d. Remove the two wheels.
- e. Remove inner tube from tire.

END OF TASK

---

**3-34 WHEELS, TIRES AND TUBES — INSPECT/REPAIR**

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**3-34**

This task covers: Inspection and Repair

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**INITIAL SETUP**

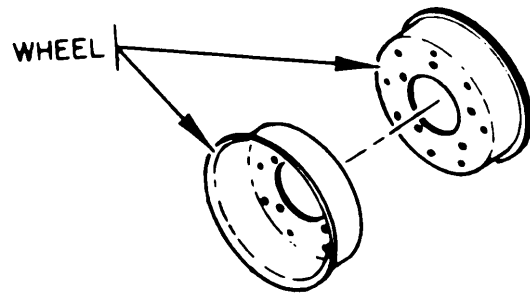
Personnel Required

68H Aircraft Pneudraulic Repairman

---

**INSPECTION**

- a. Inspect for a bent wheel.
- b. Check for paint scratches.
- c. Inspect tires for damaged casing, nails, cuts.
- d. Inspect tube for puncture and cuts.
- e. Repair cut/hole in inner tube.



**END OF TASK**

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**3-35 WHEELS, TIRES AND TUBES – SERVICE**

---

**3-35**

This task covers: Cleaning and Painting

---

**INITIAL SETUP**

Personnel Required

68H Aircraft Structural Repairman

Materials/Parts

Paint-Item 4, Appendix D  
Clean rags  
Shop Air Supply

---

**CLEANING AND PAINTING**

- a. Remove oil, grease, or dirt. Remove by wiping with clean rags.
- b. Paint scratches or bare metal.
- c. Replace bent or damaged wheel.

**END OF TASK**

**3-36 WHEELS, TIRES AND TUBES – REPLACE****3-36**

This task covers: Assembly and Installation

**INITIAL SETUP**

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-33 3-34 3-35	Wheels removed and disassembled; Inspected and repaired
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-323-4891 Jack stand Floor jack Wheel chocks	Shop air supply Wheels-Part Number MS24325-1. Tube-Part Number MS35392-52 Tire-Part Number MS35389-6	

**1. ASSEMBLY**

- a. Inflate inner tube with very little air, sufficient only for tube to take shape.
- b. Install inner tube in tire.
- c. Insert valve stem through hole in wheel.
- d. Position the other wheel on the other side of tire. Match up the eight holes.
- e. Install eight hex head screws.
- f. Install eight washers and nuts. Tighten.
- g. Install valve stem washer and nut. Tighten.
- h. Inflate tire to 35 pounds pressure.

GO TO NEXT PAGE

2. INSTALLATION

- a. Install wheel on hub.
- b. Install five washers and nuts.
- c. Tighten nuts.
- d. Remove jack stand.
- e. Remove pressure on the floor jack and let the test stand down.
- f. Remove wheel chocks.

END OF TASK

---

**3-37 HUB AND BEARINGS – REMOVE**

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This task covers: Disassembly and Cleaning

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INITIAL SETUP

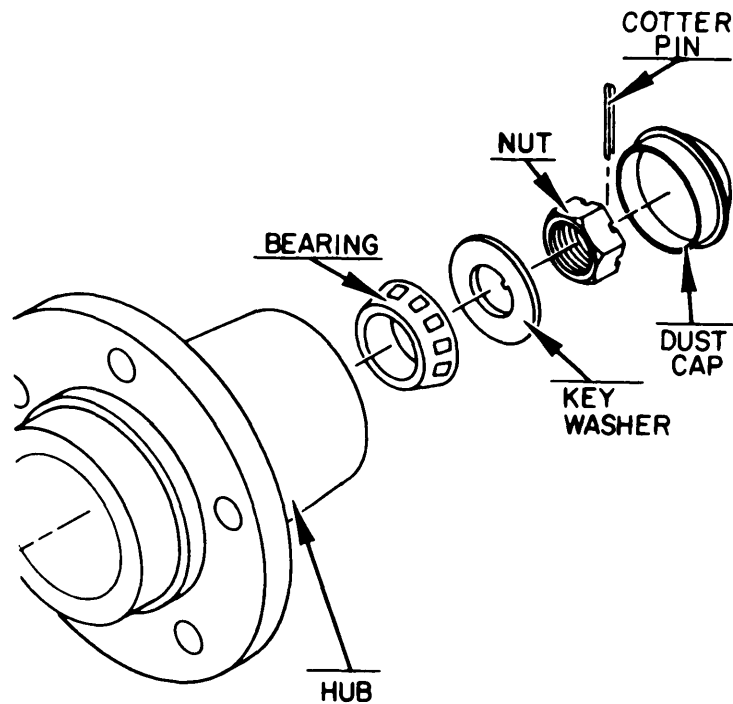
<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-33	Wheels removed
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-323-4891 Ball peen hammer 6 in., 1/2 in. diameter brass drift pin Metal container	PD-680 Solvent-Item 7, Appendix D	

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## 3-37. HUB AND BEARINGS – REMOVE – Continued

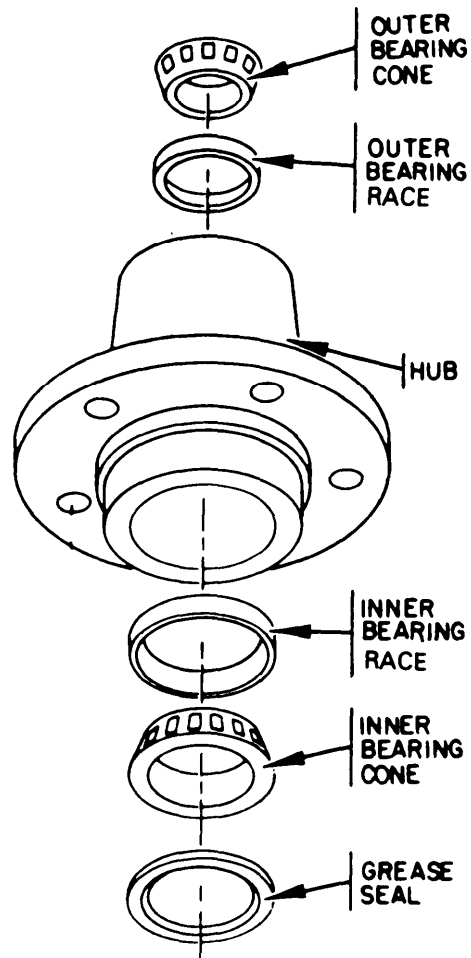
3-37



## 1. DISASSEMBLY

- a. Remove dust cap from hub.
- b. Remove cotter pin from axle.
- c. Remove nut from axle.
- d. Remove key washer from axle.
- e. Remove hub and bearings from axle. Place on a clean surface.
- f. Remove outer bearing cone.
- g. Remove outer bearing race. Use the 6 inch brass drift pin and ball peen hammer.
- h. Pry out grease seal.
- i. Remove inner bearing cone.
- j. Remove inner bearing race. Use the 6 inch brass drift pin and ball peen hammer.

GO TO NEXT PAGE



**2. CLEANING**

- a. Place components in container and cover with PD-680 solvent.
- b. Clean components using parts cleaning brush and dry using shop air.

END OF TASK



**3-38 HUB AND BEARINGS – INSPECTION****3-38**

This task covers: Inspection and Cleaning

**INITIAL SET UP**

Personnel Required	Equipment Condition Para	Condition Description
63B Wheel Vehicle Mechanic	3-37	Hub disassembled
	Material/Parts	
	GAA grease, Item 8, Appendix D	

**INSPECTION**

- a. Inspect for pitted, loose or worn bearing.
- b. Inspect for rust, frozen bearing.
- c. Check bearing race for wear.
- d. Replace (Para. 3-40) if any of the above are present.
- e. Clean dirt or hardened grease in hub.

END OF TASK

**3-39 HUB AND BEARING — SERVICE****3-39**

This task covers: Lubrication (See INITIAL SETUP, Para. 3-38)

**LUBRICATION**

- a. Lubricate bearings, place the bearing cone in the palm of your hand. With your fingers of the other hand, scoop out an amount of grease from the grease container. Force and work this grease into, around and on the bearings.
- b. Apply a light film of grease to the bearing race.
- c. Apply a light film of grease to the grease seal.
- d. Apply a light film of grease to inside surface of the hub.

END OF TASK

This task covers: Assembly

INITIAL SETUP

Personnel Required	Equipment Condition Para	Condition Description
63B Wheel Vehicle Mechanic	3-37	Hub/bearings disassembled
Tools	Materials/Parts	
Kit, NSN 5180-00-545-8645 6 in., ½ in. diameter drift pin	Outer bearing cone-Part Number 15123 Outer bearing race-Part Number 15245 Inner bearing cone-Part Number 24780 Inner bearing race-Part Number 24720 Grease seal-Part Number 21208	

ASSEMBLY

- a. Place the hub on a level surface, with the large opening up.
- b. Insert inner bearing race, with wide flat surface down into hub.
- c. Tap the bearing race into place, use the 6 inch brass drift pin and ball peen hammer.
- d. Insert inner bearing cone into hub.
- e. Insert grease seal, with part number up, in the hub opening. Tap the grease seal into the hub. The seal is seated when the edge is flush with the hub.
- f. Turn hub over, and with small opening up, repeat steps b and c above with the outer bearing race.
- g. Install hub on the axle.
- h. Install outer bearing cone onto the axle.
- i. Install key washer onto axle.
- j. Install nut onto the axle. Tighten nut finger tight while turning the hub clockwise, this action will seat the bearings.

GO TO NEXT PAGE

## ASSEMBLY (cont)

- k. Back off the nut to a “just loose” position. Hand tighten the nut, then loosen the nut until the hole in the axle lines up with the slot in the nut. Loosen nut not more than 1/2 of flat.
- l. Install cotter pin through slot in nut and hole in axle and spread ends apart and around the axle.
- m. Install dust cap into hub and gently tap into place.

END OF TASK

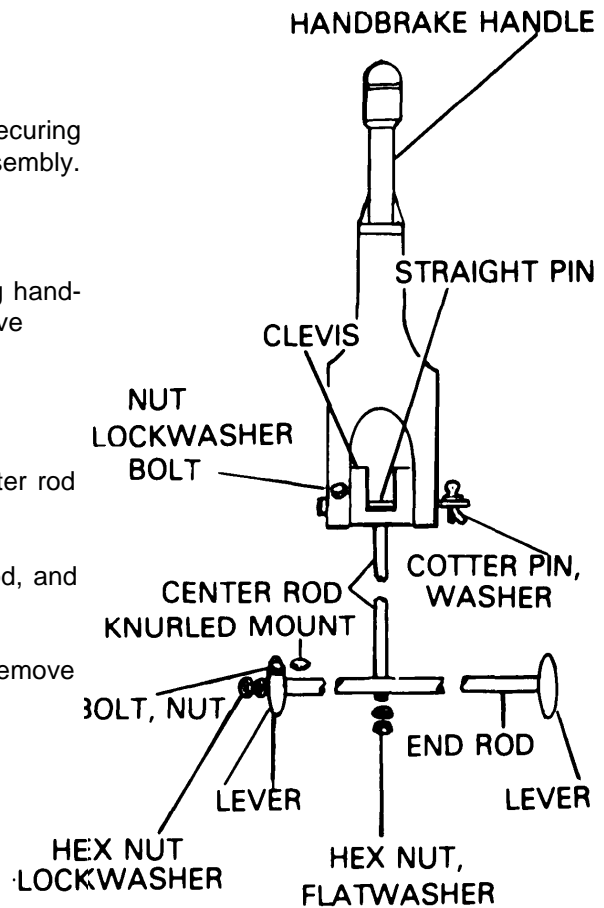
This task covers: Removal and Installation

INITIAL SETUP

<u>Personnel Required</u>	<u>Tools</u>	<u>Materials/Parts</u>
63B Wheel Vehicle Mechanic	Kit, NSN 5180-00-545-8645	Handbrake, P/N 02182600 Rods, P/Ns 23020-3 and 23020-6

1. REMOVAL

- a. Remove cotter pin and washer from straight pin securing the center rod clevis to the hand brake handle assembly.
- b. Gently drive out the straight pin.
- c. Remove two nuts, lockwashers, and bolts securing handbrake handle assembly to test stand frame. Remove handbrake handle.
- d. Unscrew clevis from center rod.
- e. Remove nut and flatwasher from other end of center rod to free rod.
- f. Remove nut and lockwasher at each end of the rod, and remove rod.
- g. Remove a bolt and nut securing each lever, and remove the two levers off the knurled mount.



GO TO NEXT PAGE

**2. INSTALLATION**

- a. Secure the two levers with a bolt and a nut, after placing on the knurled mount.
- b. Install lockwasher and nut at each end of end rod, securing rod to the levers.
- c. Install one end of center rod to the end rod and install flatwasher and nut.
- d. Screw the clevis onto the other end (handbrake handle end) of the center rod.
- e. Install the handbrake handle to the test stand frame, securing with two bolts, lockwashers and nuts.
- f. Gently drive the straight pin through the handbrake bracket holes and the clevis mounting holes, and secure the handbrake handle assembly in place with a washer and cotter pin.

END OF TASK

This task covers: Removal

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INITIAL SETUP

Personnel Required

63B Wheel Vehicle  
Mechanic

Tools

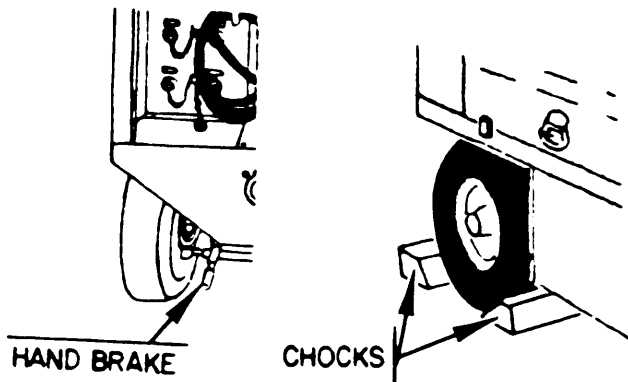
Kit, NSN 5180-00-545-8645  
Visegrip pliers or equivalent  
Floor jack  
Wheel chocks  
Jack stand

---

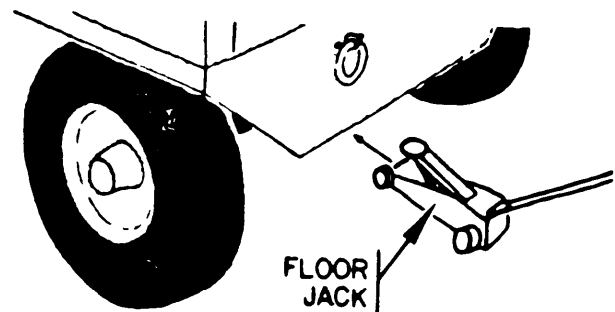
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**WARNING**

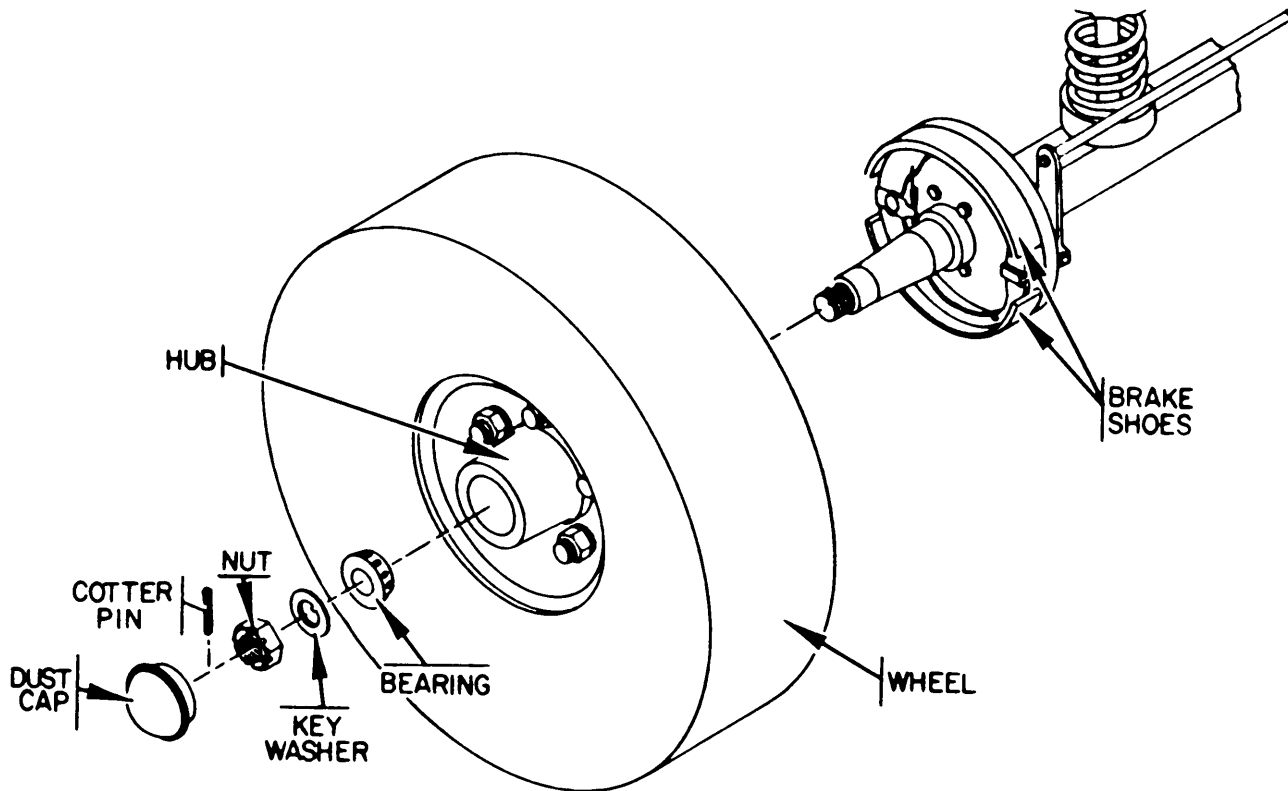
Always use jack stands when equipment is raised since injury/death can result from equipment failing.


**REMOVAL**

- a. Set hand brake, place chocks under wheel.
- b. Place floor jack under axle.
- c. Jack up test stand.
- d. Place jack stand under axle.



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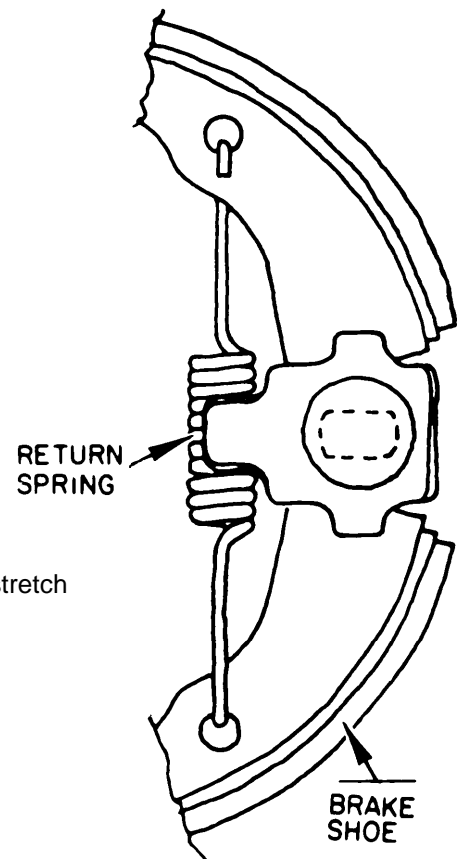
## REMOVAL (cont)

- e. Remove dust cap from hub.
- f. Remove cotter pin from axle.
- g. Remove nut from axle.
- h. Remove key washer from axle.
- i. Remove outer bearing cone.
- j. Release handbrake.
- k. Remove wheel and hub from axle thus exposing the brake shoes.

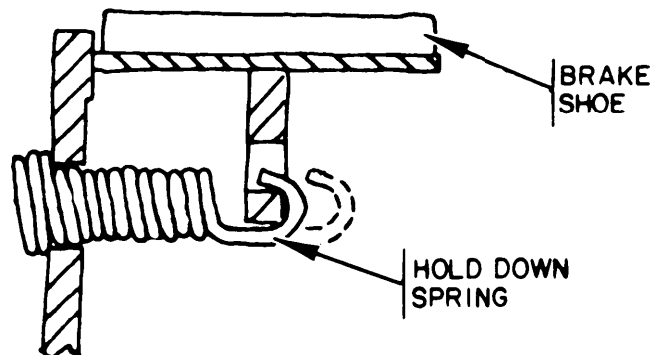
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REMOVAL (cont)



- I. Remove return spring. Use visegrip pliers, or similar tools, stretch the spring and remove it from the brakeshoe.



- m. Remove hold-down spring. Stretch the hold down spring and release it from the brakeshoe. Remove brake shoe. Repeat the operation for the other shoe.

END OF TASK

This task covers: Inspection

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INITIAL SETUP

Personnel Required

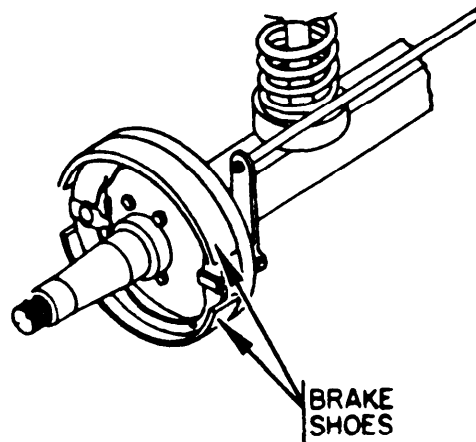
63B Wheel Vehicle Mechanic

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INSPECTION

Inspect brake shoes for:

- (1) Brake lining worn (1/32 inch or less of lining left on brake shoe).
- (2) Replace if worn as stated above (Para. 3-44).



END OF TASK

This task covers: Installation

INITIAL SETUP

Personnel Required

63B Wheel Vehicle  
Mechanic

Materials/Parts

Brake shoe assy-Part Number 3206471

Tools

Kit, NSN 5180-00-545-86-45  
Visegrip pliers or equivalent

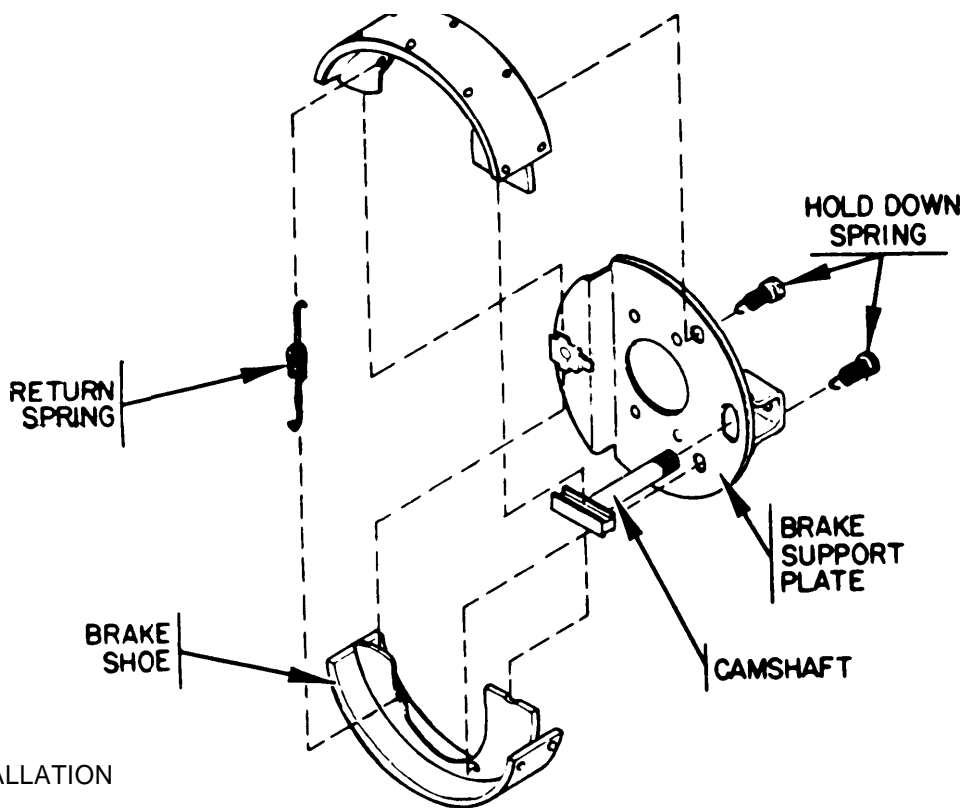
Equipment  
Condition  
Para

Equipment  
Condition

Jack stand  
Floor jack  
Wheel chocks

3-42

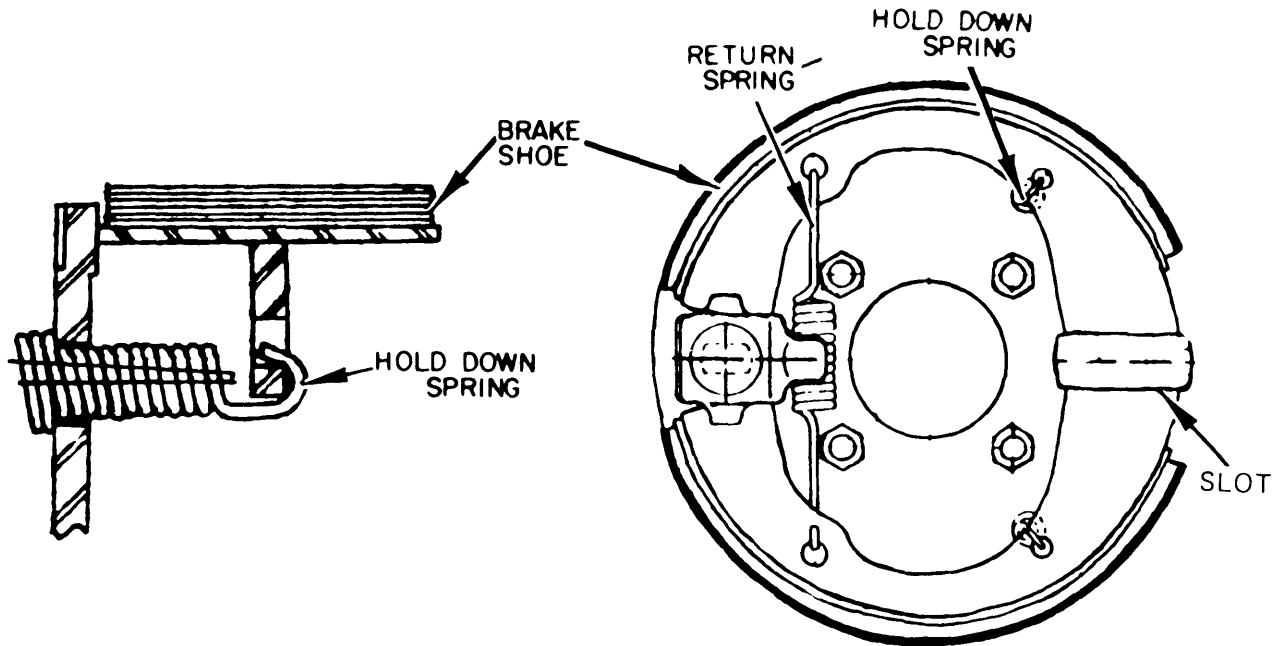
Brake shoes  
Removed



INSTALLATION

- a. Install brake shoe against the brake support plate with the brake shoe edge in the camshaft slot.
- b. Attach the hold-down spring into the aligning hole in the brake shoe.

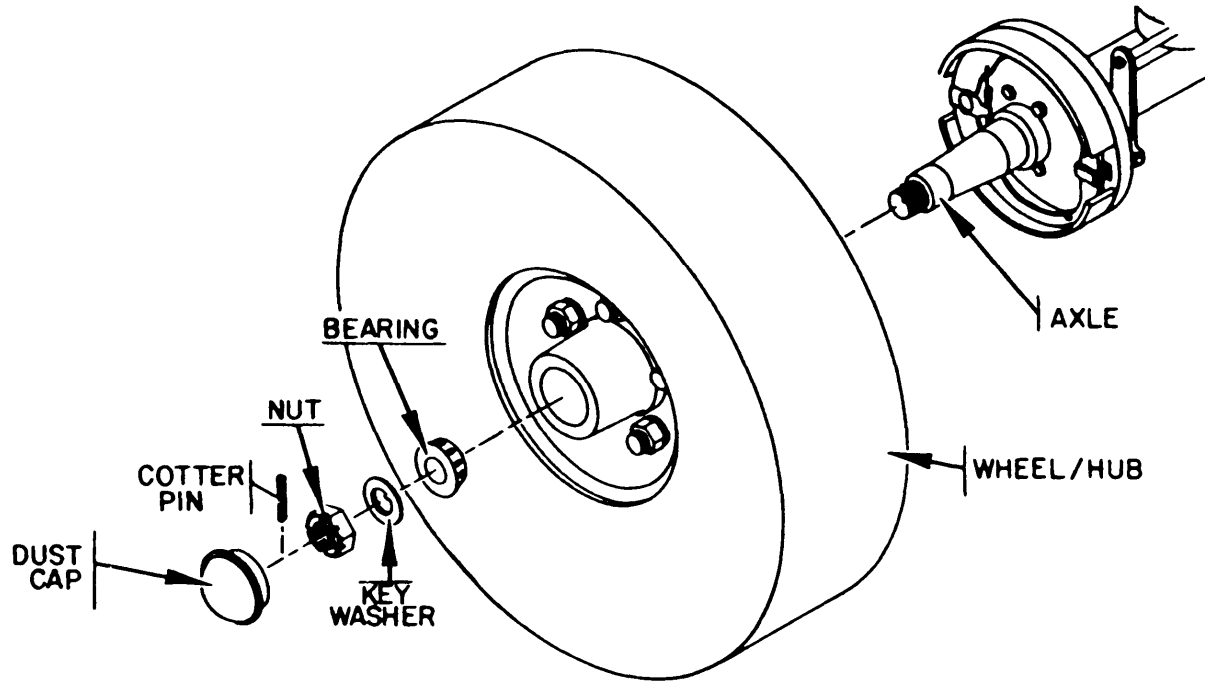
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## INSTALLATION (cont)

- c. Verify the brake shoe edges are in the camshaft slots.
- d. Hook the return spring into the lower hole in the brake shoe, stretch the spring and hook it into the similar hole in the other shoe. Use the visegrip pliers, or similar tool.
- e. With the palm of the hand, lightly slap the brake shoe lining, this will tend to settle the brake shoe into place.

GO TO NEXT PAGE



## INSTALLATION (Cont)

- f. Install wheel and hub on axle.
- g. Install outer bearing cone on axle.
- h. Install key washer on axle.
- i. Install nut on axle. Tighten nut finger tight while turning the wheel clockwise, this action will seat the bearing.
- j. Back off the nut to "just loose" position. Hand tighten the nut, then loosen the nut until the hole in the axle lines up with the slot in the nut. Loosen the nut not more than 1/2 of flat.
- k. Install cotter pin through slot in nut and hole in axle and spread the ends apart and around the axle.
- l. Install dust cap into hub and gently tap into place.
- m. Remove jack stand.
- n. Release pressure on the floor jack and let test stand down. Apply the handbrake. Remove chocks from wheel.

END OF TASK

This task covers: Removal

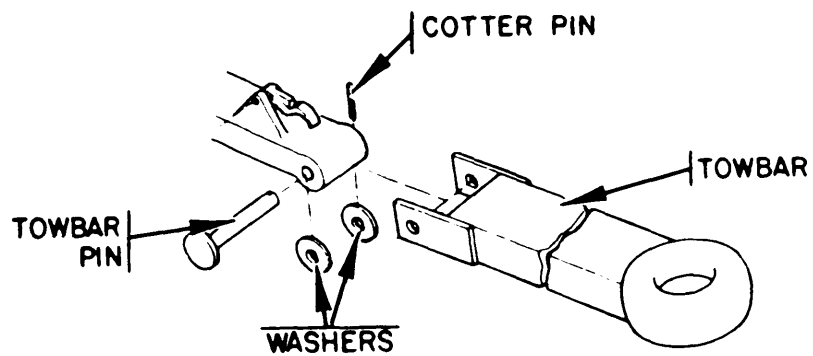
### INITIAL SETUP

#### Personnel Required

68H Aircraft Pneudraulic  
Repairman

#### Tools

Kit, NSN 5180-00-323-4891



### REMOVAL

- a. Remove cotter pin from towbar pin.
- b. Remove towbar pin and two washers.
- c. Remove towbar.

END OF TASK

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**3-46 TOWBAR – INSPECT**

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3-46

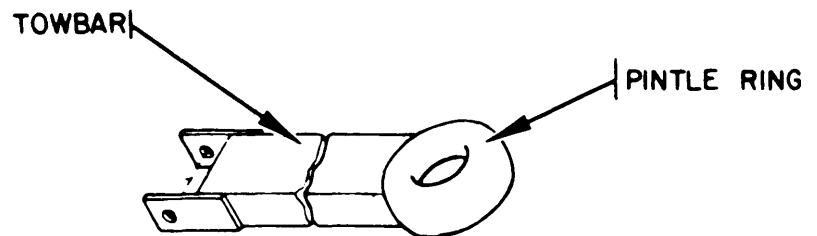
This task covers: Inspection

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**INITIAL SETUP**Personnel Required

68H Aircraft Pseudraulic  
Repairman

---

**INSPECTION**

- a. Inspect towbar for cracks.
- b. Replace if towbar or pintle ring is cracked (Para. 3-48).  
Send to AVIM (Field) for repair if towbar or ring is cracked.

**END OF TASK**

---

**3-47 TOWBAR — SERVICE**

---

3-47

This task covers: Painting

**PAINTING**

- a. See Para. 3-46 for INITIAL SETUP.
- b. Paint scratches or bare metal.

**END OF TASK**

---

**3-48 TOWBAR – REPLACE**

---

**3-48**

This task covers: Installation

---

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-45	Towbar removed

<u>Tools</u>	<u>Material/Parts</u>
Kit, NSN 5180-00-323-4891	Towbar-Part Number 23013-100 Cotter pin-Part Number MS24665-353

---

INSTALLATION

- a. Install towbar to tongue.
- b. Install towbar pin through towbar, washers and tongue.
- c. Install cotter pin through towbar pin.
- d. Bend cotter pin ends.

END OF TASK

---

**3-49 BATTERY – REMOVE**

---

**3-49**

This task covers: Removal

---

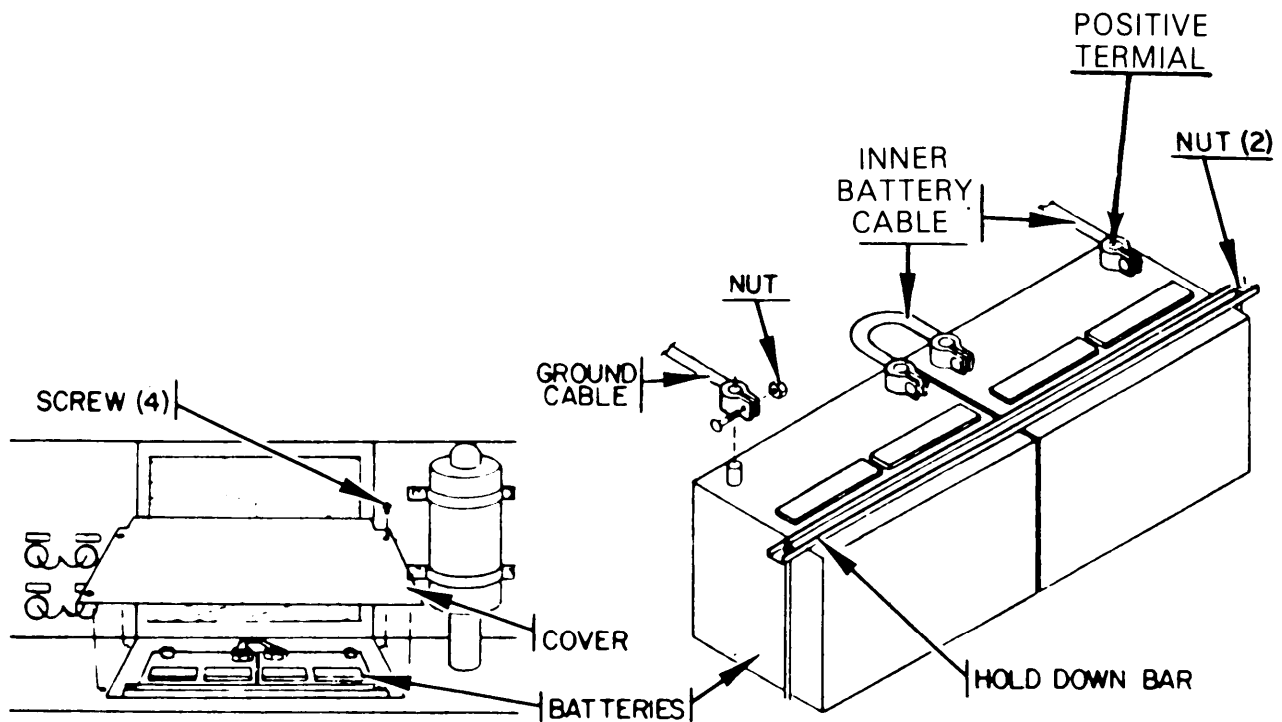
INITIAL SETUP

<u>Personnel Required</u>	<u>Tools</u>
68H Aircraft Pneudraulic Repairman	Kit, NSN 5180-00-323-4891

---

GO TO NEXT PAGE





## REMOVAL

- a. Remove the four screws securing the battery cover on the battery compartment.
- b. Remove the cover exposing the batteries.
- c. Disconnect battery ground cable.
- d. Remove two nuts securing the hold-down bar.
- e. Remove hold-down bar.
- f. Disconnect remaining battery cables.
- g. Remove battery from battery compartment.

END OF TASK



---

**3-50 BATTERY – INSPECT**

---

**3-50**

This task covers: Inspection

---

**INITIAL SETUP**Personnel Required

63B Wheel Vehicle  
Mechanic

Materials/Parts

Battery distilled water

Tools

Wire brush  
Hydrometer  
Battery charger

---

**INSPECTION**

- a. Inspect battery for corrosion, low level electrolyte and discharged battery. Use hydrometer.
- b. Check for cracked case. Replace cracked battery (Para. 3-52).

END OF TASK

---

**3-51 BATTERY – SERVICE**

---

**3-51**

This task covers: Service (see INITIAL SETUP, Para. 3-50).

**SERVICE**

- a. Remove corrosion from battery cable and/or post. Use wire brush.
- b. Electrolyte (acid) level low, add sufficient distilled water to bring level up to the bottom of filler hole.
- c. Battery discharged, verify with hydrometer. Charge with battery charger, check with hydrometer.

END OF TASK

This task covers: Installation

---

INITIAL SETUP

<u>Personnel Required</u>	Equipment Condition <u>Para</u>	Condition <u>Description</u>
68H Aircraft Pneudraulics Repairman	3-49	Battery removed
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-323-4891	Battery-Part Number 6TN Cables-Part Numbers 79009301-2, 79009301-3	

---

INSTALLATION

- a. Install batteries in battery tray. Position batteries so the inner posts (pos. and neg.) are next to each other.
- b. Install battery hold-down bar. Install two flat washers and two lockwashers. Install and secure the two nuts.
- c. Install inner battery cable first and secure cable nut.
- d. Install positive cable and secure cable nut.
- e. Install ground cable and secure cable nut.
- f. Install battery compartment cover and secure with four screws.

END OF TASK

**3-53 SWITCHES – REMOVE****3-53**

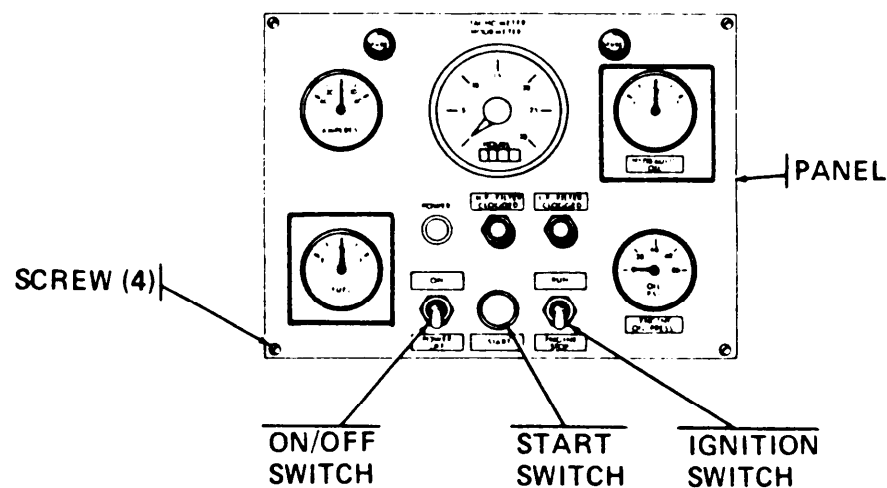
This task covers: Removal

**INITIAL SETUP**Personnel Required68H Aircraft Pneudraulic  
RepairmanTools

Kit, NSN 5180-00-323-4876

**REMOVAL**

- a. Open instrument panel door.
- b. Remove four screws.
- c. Lift out panel.
- d. Remove start switch boot (counterclockwise).
- e. Remove nut from start switch.
- f. Remove nuts securing ON/OFF and ignition switches.
- g. Tag switch wires so they can be properly replaced.
- h. Remove screws securing wires.
- i. Remove wires and switches.



END OF TASK

---

**3-54 SWITCH — INSPECT**

---

**3-54**

This task covers: Inspection

---

**INITIAL SETUP**Personnel Required68H Aircraft Pneudraulic  
RepairmanTools

Multimeter, AN-SPM-45

---

**INSPECTION**

- a. Check switches for continuity. Use multimeter.
- b. Replace if damaged (Para. 3-55).

**END OF TASK**

---

**3-55 SWITCHES – REPLACE**

---

**3-55**This task covers: Installation

---

**INITIAL SETUP**

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-53	Switches removed
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-323-4891	ON/OFF switch-Part Number 551085 Ignition switch-Part Number 551800 Start switch-Part Number 90030	

---

**INSTALLATION**

- a. Install switches (ON/OFF, ignition, start) in panel.
- b. Install nut on switches, tighten finger tight and then tighten nut a minimum of ¼ turn more.
- c. Install wires and screws securing wires.
- d. Install panel. Install four screws securing panel.
- e. Install rubber boot on start switch (clockwise).
- f. Close door.

END OF TASK

**3-56 DIFFERENTIAL PRESSURE SWITCH-REPLACE****3-56**

This task covers: Removal and Installation

Personnel Required

68H, Hydraulic Pneudraulic  
Repairman

Tools

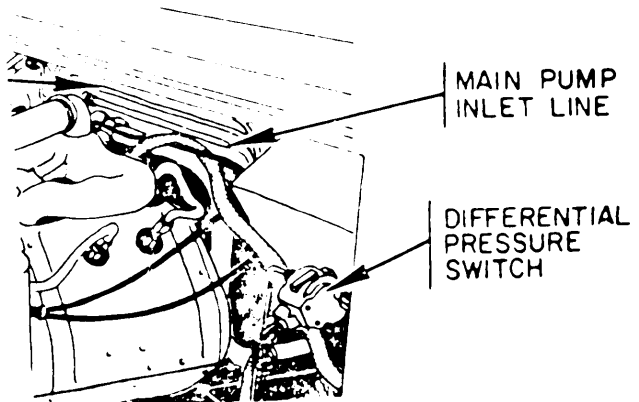
Kit, NSN 5180-00-323-4891

Materials/Parts

Switch, Part Number  
EPD 1S-BB40

**1. REMOVAL**

- a. Remove access panel.
- b. Disconnect tubing at both sides of differential pressure switch.
- c. Disconnect oil gage line.
- d. Remove four screws and partially remove instrument.
- e. Remove two phillip screws and remove differential switch.

**2. INSTALLATION**

- a. Install switch and secure with two phillips screws.
- b. Install instrument panel and secure with four screws.
- c. Connect oil gage line.
- d. Connect tubing on both sides of switch.
- e. Install access panel.

END OF TASK



**3-57 TEMPERATURE SENSOR THERMO SWITCH — REPLACE****3-57**

This task covers: Removal and Installation

**INITIAL SETUP**Personnel Required

68H Aircraft Pneudraulic  
Repairman

Tools

Kit, NSN 5180-00-323-4891

Materials/Parts

Switch, Part Number  
08-810 211-XXX

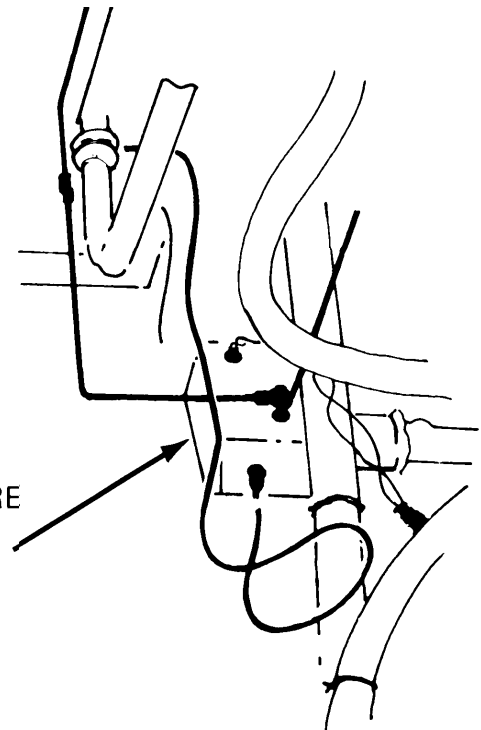
**1. REMOVAL**

- a. Remove access panel.
- b. Disconnect tubing and fitting.
- c. Disconnect the high pressure pump hose.
- d. Disconnect switch wires.
- e. Remove mounting hardware from block assy and remove sensor thermo switch unit.

**2. INSTALLATION**

- a. Install unit and mounting hardware.
- b. Connect switch wires.
- c. Connect high pressure pump hose.
- d. Connect all tubing and fittings
- e. Install access panel.

TEMPERATURE  
SENSOR  
THERMO  
SWITCH



END OF TASK

This task covers; Removal and Installation

### INITIAL SET UP

#### Personnel Required

68H Aircraft  
Pneudraulic Repairman

#### Tools

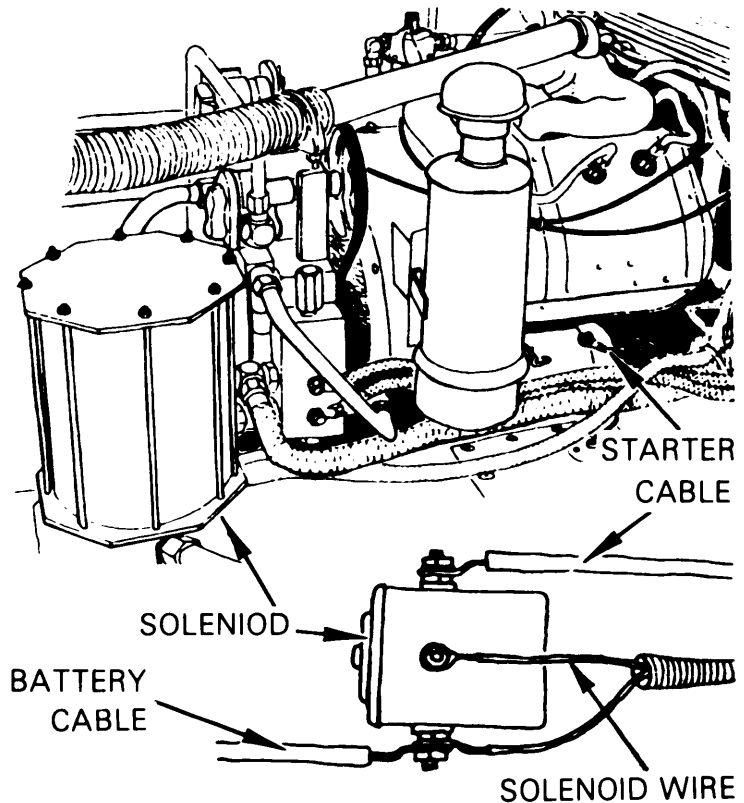
Kit,  
NSN 5180-00-323-4963

#### Material/Parts

Solenoid, Starter

### 1. REMOVAL

- a. Remove access panel.
- b. Remove filter-to-switch line.
- c. Disconnect cables from solenoid.
- d. Disconnect wires at solenoid.
- e. Remove two mounting bolts, nuts and washers. Remove solenoid from filter bracket.



### 2. INSTALLATION

- a. Install solenoid to filter bracket and secure with two bolts, nuts and washers.
- b. Connect wires to solenoid.
- c. Connect cables to solenoid.
- d. Install filter-to-switch line.
- e. Install access panel.

END OF TASK

3-59 WIRES AND CABLES – INSPECT

3-59

This task covers: Inspection

INITIAL SETUP

Personnel Required

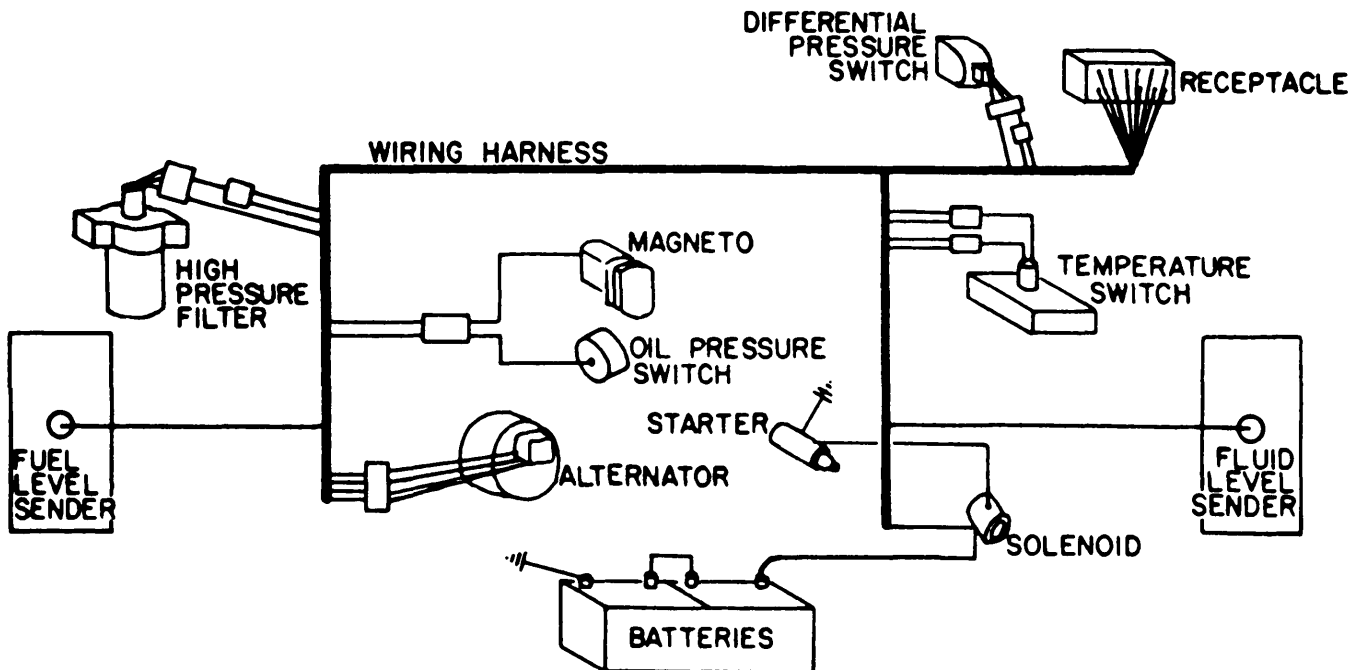
68H Aircraft Pneudraulic  
Repairman

Tools

Multimeter AN-SPM-45

INSPECTION

- a. Inspect wiring harness for damage (bare wire, damaged plug).
- b. Use multimeter and check continuity.
- c. Inspect battery cables for corrosion.
- d. Send wiring and cables to AVIM for repair or replacement.



END OF TASK

This task covers: Removal

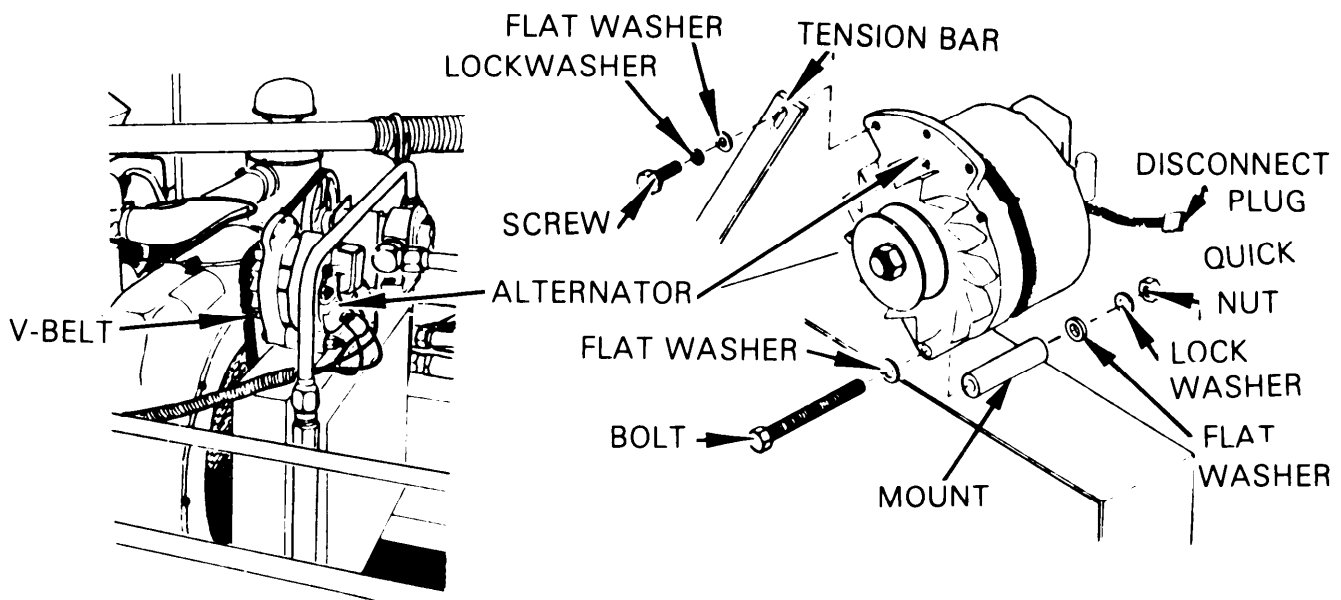
INITIAL SETUP

Personnel Required

63B Wheel Vehical  
Mechanic

Tools

Kit, NSN 5180-00-545-8645



REMOVAL

- a. Remove access panel.
- b. Remove screw, lockwasher and washer from tension bar.
- c. Remove V belt from pulley.
- d. Disconnect the electrical quick-disconnect plug.
- e. Remove nut, lockwasher and flat washer from bolt.
- f. Support alternator and remove bolt and flat washer.
- g. Remove alternator.

END OF TASK

---

**3-61 ALTERNATOR — INSPECT**

---

**3-61**

This task covers: Inspection

---

INITIAL SETUP

Personnel Required

63B Wheel Vehicle  
Mechanic

---

INSPECTION

Inspect for cut or broken wire, damaged fan or pulley. Replace damaged alternator (Para 3-62) or repair (Para. 4-13).

END OF TASK

---

**3-62 ALTERNATOR — REPLACE**

---

**3-62**

This task covers: Installation

---

INITIAL SETUP

Personnel Required

63B Wheel Vehicle Mechanic

Materials/Parts

Alternator-Part Number RA24-900  
"V" belt-Part Number 8560

Tools

Kit, NSN 5180-00-545-8645

Equipment Condition

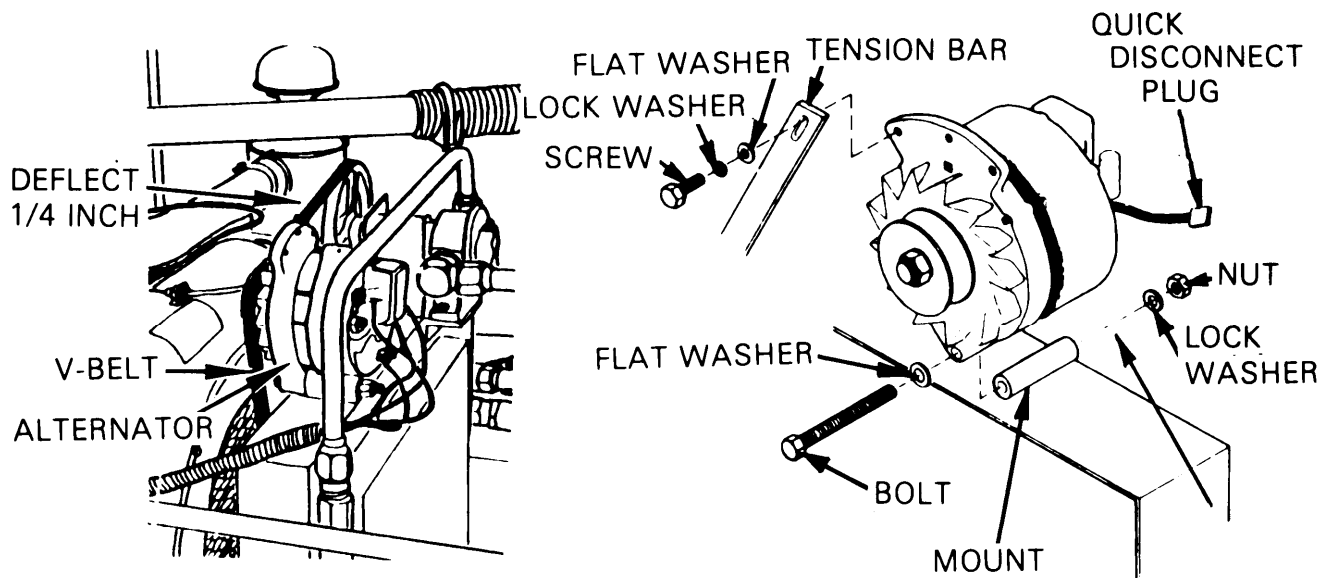
Para 3-60

Equipment Description

Alternator removed

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GO TO NEXT PAGE



#### INSTALLATION

- a. Support alternator and install bolt and flatwasher through mount and alternator with the head of the bolt toward the engine.
- b. Install flatwasher, lockwasher and nut onto the bolt. Tighten nut finger tight.
- c. Install "V" belt onto pulley.
- d. Install screw through lockwasher, flatwasher, tension bar and screw into alternator. Snug up the screw, put tension on the alternator tightening the "V" belt so that it can be deflected no more than approximately  $\frac{1}{4}$  inch. Tighten screw.
- e. Tighten nut a minimum of one turn.
- f. Connect the disconnect plug.
- g. Install access panel.

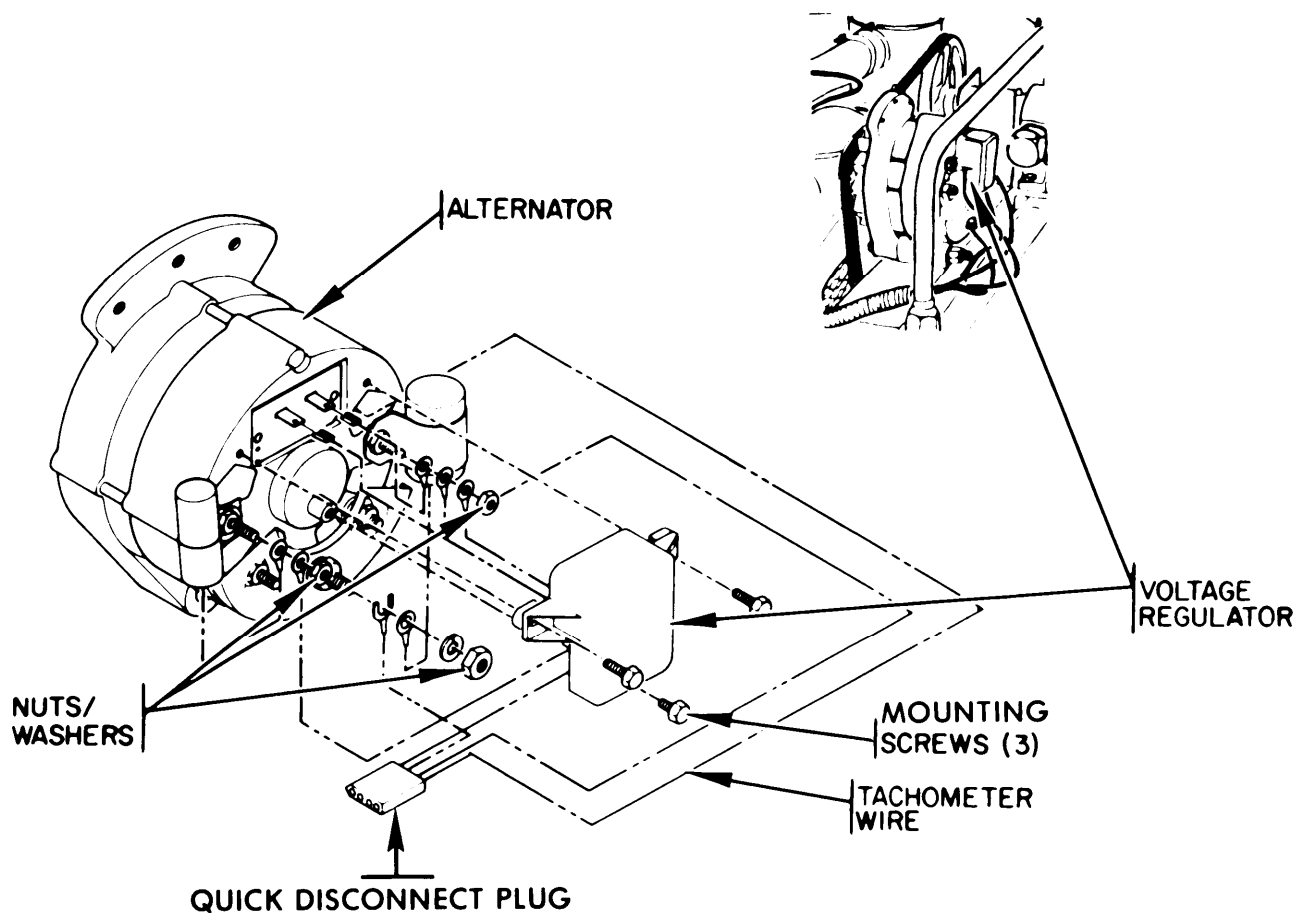
END OF TASK

**3-63 VOLTAGE REGULATOR – REMOVE****3-63**

This task covers: Removal

**INITIAL SETUP**Personnel Required

63B Wheel Vehicle Mechanic

ToolsKit, NSN 5180-00-545-8645  
Soldering Gun**REMOVAL**

- a. Remove access panel.
- b. Disconnect the quick disconnect plug.
- c. Remove three mounting screws.
- d. Tag wires so they can be properly installed.

GO TO NEXT PAGE

---

**3-63 VOLTAGE REGULATOR – REMOVE – Continued**

---

**3-63**

REMOVAL (cont)

- e. Remove three nuts and washer.
- f. Remove three wires.
- g. Remove tachometer wire. Use soldering gun.
- h. Remove voltage regulator.

END OF TASK

---

**3-64 VOLTAGE REGULATOR — INSPECT**

---

**3-64**

This task covers: Inspection

---

INITIAL SETUP

Personnel Required

63B Wheel Vehicle Mechanic

---

INSPECTION

- a. Inspect the voltage regulator for damage, defects and broken wires.
- b. Replace damaged regulator (Para. 3-65).

END OF TASK



3-65 VOLTAGE REGULATOR — REPLACE

3-65

This task covers: Installation

INITIAL SETUP

Personnel Required

63B Wheel Vehicle Mechanic

Materials/Parts

Voltage regulator-Part Number 5-48

Tools

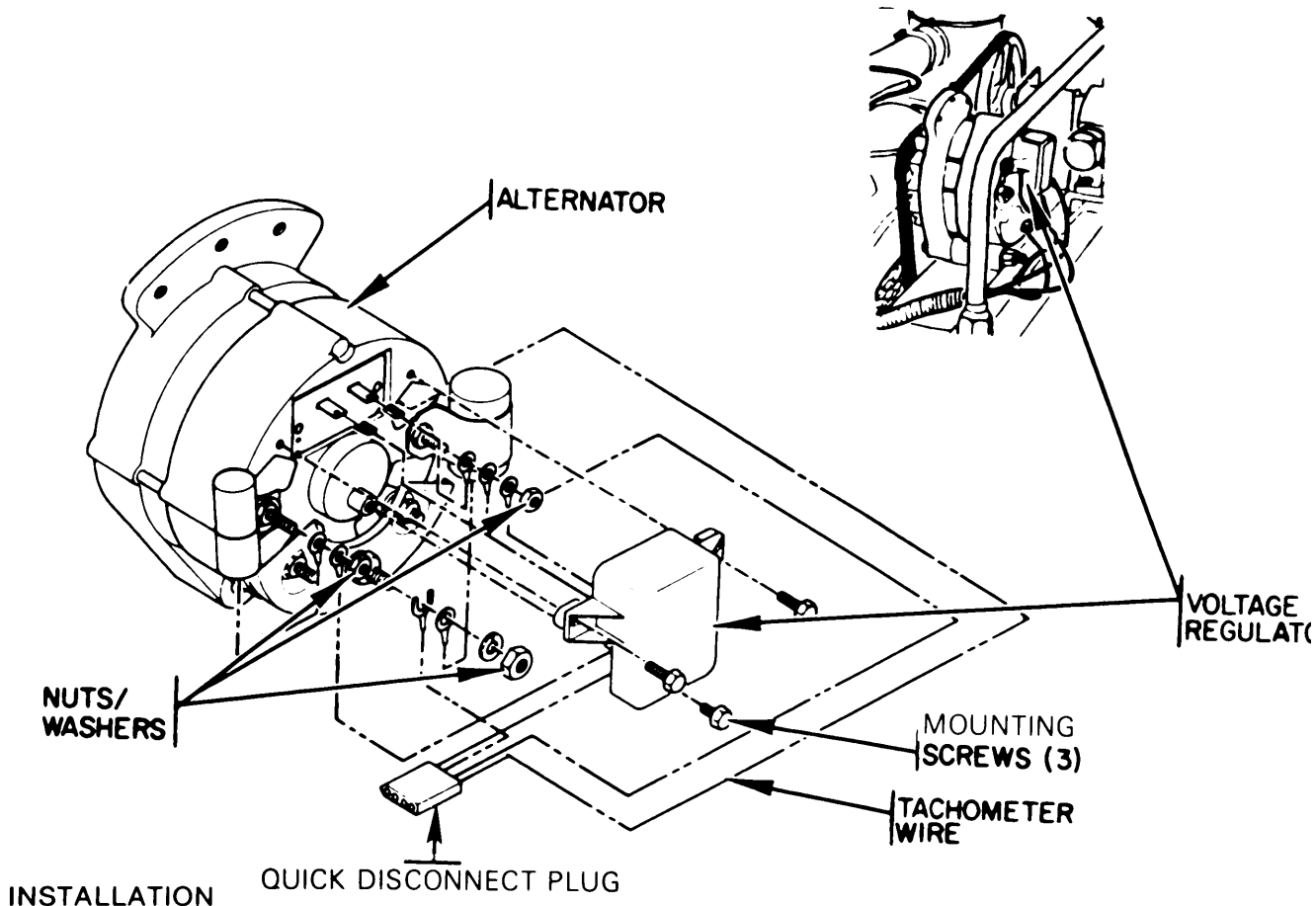
Kit NSN 5180-00-545-8645

Equipment Condition:  
Description

Voltage Regulator Removed

Equipment Condition

para 3-63



INSTALLATION

GO TO NEXT PAGE

INSTALLATION (cont)

- a. Install tachometer wire by soldering wire into place. Use soldering gun.
- b. Install three mounting screws.
- c. Install three wires and secure with three nuts and washers.
- d. Install access panel.

END OF TASK

This task covers: Removal

---

INITIAL SETUP

Personnel Required

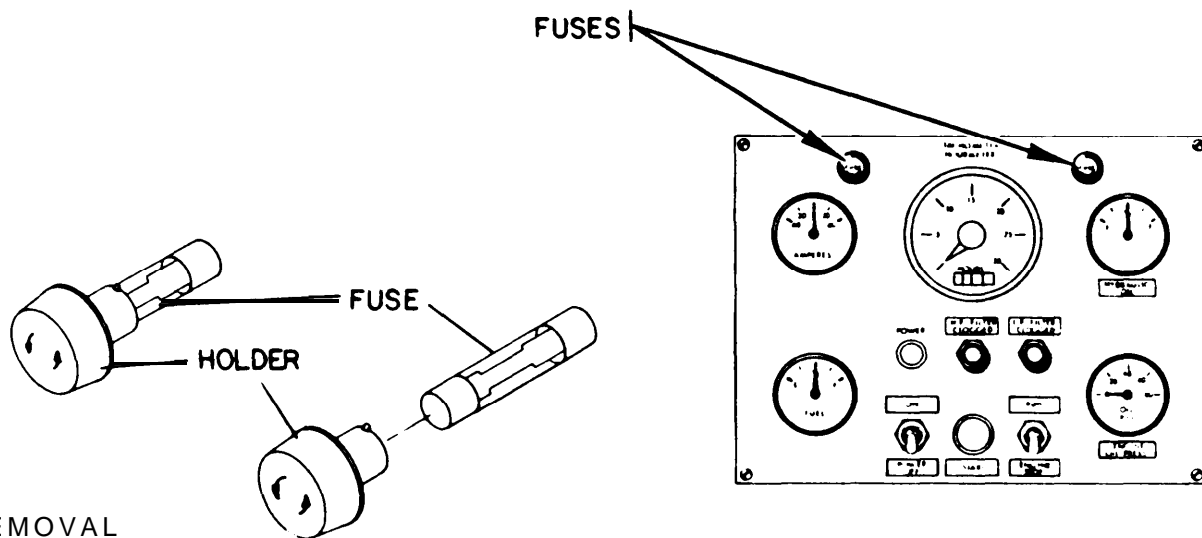
68H Aircraft Pneudraulic Repairman

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GO TO NEXT PAGE

**3-66 FUSES – REMOVE – Continued**

3-66

**REMOVAL**

- a. Open instrument panel door.
- b. Hold fuse holder with thumb and forefinger, push in and turn counterclockwise. Fuse holder with fuse will come out.
- c. Remove fuse from fuse holder.

END OF TASK

**3-67 FUSES – INSPECT**

3-67

This task covers: Inspection

**INITIAL SETUP**Personnel Required

68H Aircraft Pneudraulic Repairman

**INSPECTION**

- a. Inspect fuse for loose end and/or broken filament.
- b. Replace damaged fuse (Para. 3-68).

END OF TASK

3-107

---

**3-68 FUSES – REPLACE**

---

**3-68**

This task covers: Installation

---

**INITIAL SETUP**

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Description</u>
68H Aircraft Pneudraulic Repairman	3-66	Fuses removed
	<u>Material/Parts</u>	
	Fuse, 32 volts, Fuse, 15 Amp., Holder-Part Number HKP	

---

**INSTALLATION**

- a. Insert fuse into fuse holder until fuse is firmly seated.
- b. Insert the holder with fuse into fuse holder receptacle and turn clockwise. Fuse holder will remain in place.
- c. Close instrument panel door.

**END OF TASK**

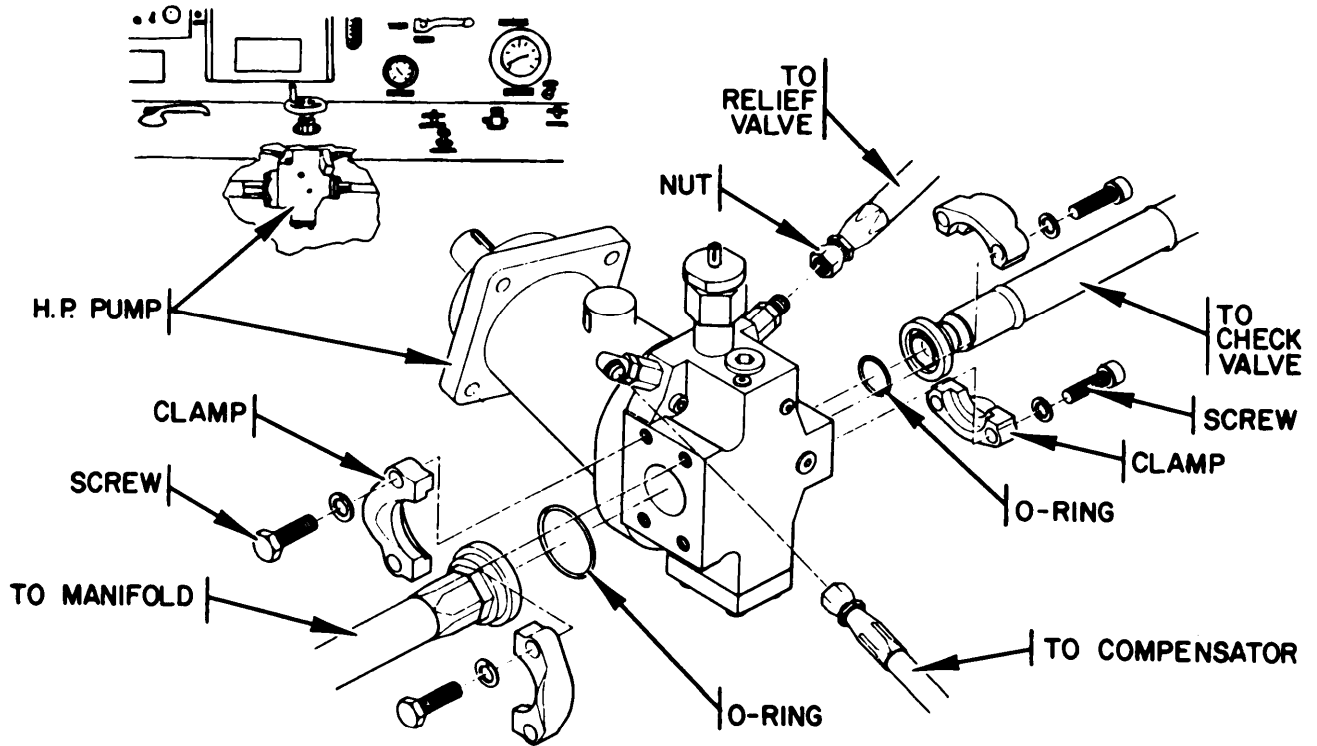
**3-69 HIGH PRESSURE PUMP – REMOVE**

3-69

This task covers: Removal

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-123	Lower panel removed
<u>Tools</u>		
Kit, NSN 5180-00-323-4891		

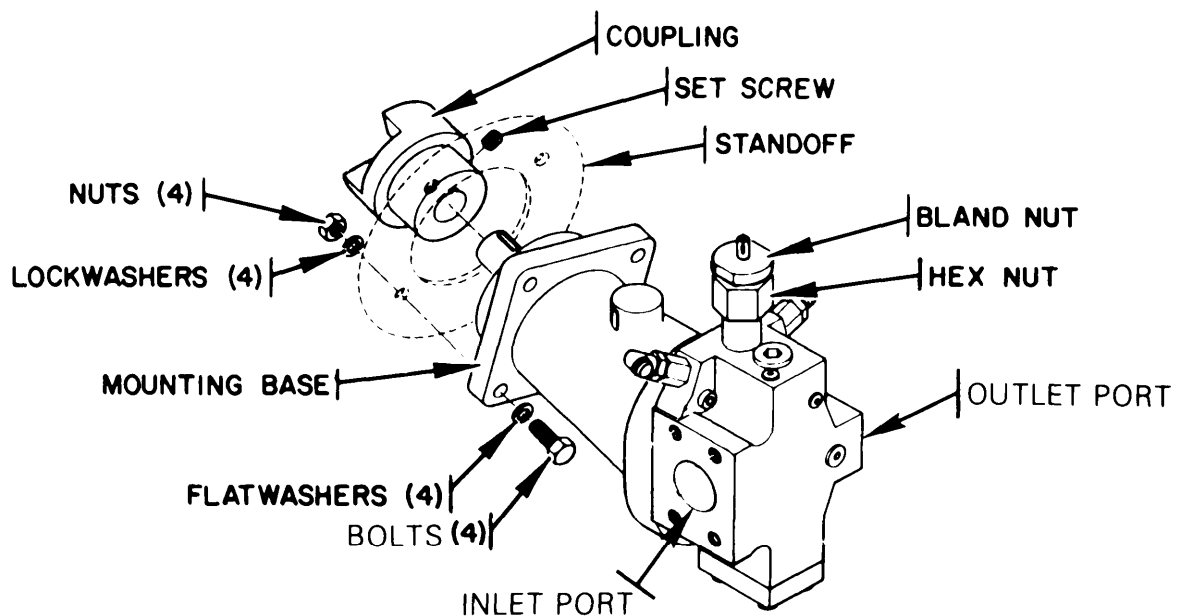


GO TO NEXT PAGE



## REMOVAL

- a. Remove the nut on the hose from the pump to the compensator.
- b. Remove the nut on the hose from the pump to the system relief valve. Hold the nipple with a wrench while turning the nut.
- c. Remove the inlet hose from the pump to the manifold. Remove the four bolts and lockwashers from the clamp securing the hose to the pump.
- d. Remove the hose and “O” ring.
- e. Remove the outlet hose from the pump to the system relief valve. Remove the four socket head screws from the clamp securing the hose to the pump.
- f. Remove the hose and “O” ring.



- g. Remove four bolts, nuts and washers from the pump mount base.
- h. Remove the pump.
- i. Loosen setscrew on the coupling half on the pump shaft.
- j. Remove coupling half.

END OF TASK

---

**3-70 HIGH PRESSURE PUMP – INSPECT**

---

**3-70**

This task covers: Inspection

---

INITIAL SETUP

Personnel Required

68H Aircraft Pneudraulic Repairman

---

INSPECTION

- a. Inspect pump for a cut "O" ring.
- b. Inspect pump for cracks.
- c. Check for leaks in plumbing (tighten tubing nuts and fittings).
- d. Replace damaged pump (Para. 3-72).

END OF TASK



---

**3-71 HIGH PRESSURE PUMP — REPAIR**

---

**3-71**

This task covers: Disassembly and assembly.

---

INITIAL SETUP

Personnel Required

68H Aircraft Pneudraulic  
Repairman

<u>Tools</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
Kit, NSN 5180-00-323-4891	3-69	Pump Removed

Materials/Parts

“O” ring for bland nut, Part number MS82775-020

“O” ring for stem, Part number MS28775-204

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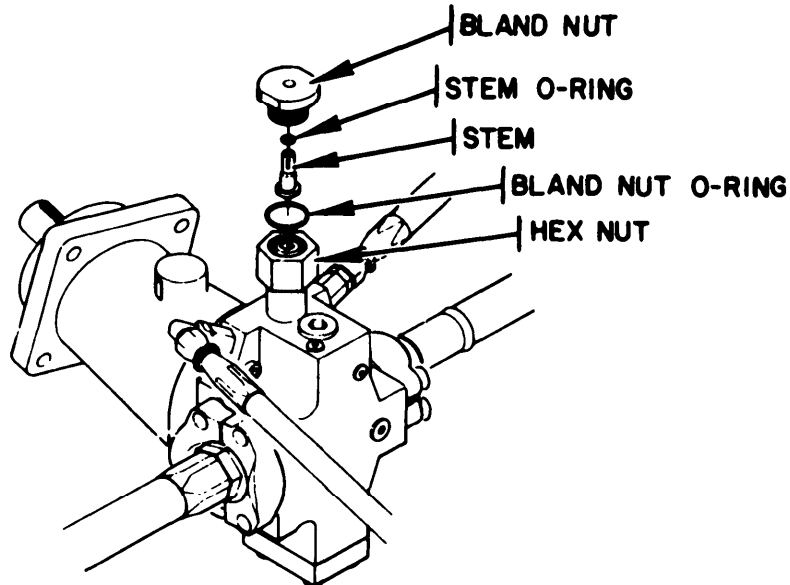
GO TO NEXT PAGE

## 1. DISASSEMBLY

- a. Remove bland nut on pump.
- b. Remove the “O” ring from the bland nut.
- c. Push the stem out of the bland nut.
- d. Remove “O” ring from the stem.

## 2. ASSEMBLY

- a. Place “O” ring on the stem.
- b. Push the stem into the bland out.
- c. Place the “O” ring over the bland nut.
- d. Assemble the bland nut to the next nut.



END OF TASK

---

**3-72 HIGH PRESSURE PUMP – REPLACE**

---

**3-72**

This task covers: Installation

---

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-89 3-123	Pump and lower panel removed
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-323-4891	Hydraulic fluid-item 3, Appendix D Pump Part Number A7V20R O Ring, MS28775-214 O Ring, MS28775-2251	

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GO THE NEXT PAGE

## INSTALLATION

- a. Install coupling on pump shaft.
- b. Install pump on mounting base.
- c. Engage coupling to the coupling half extending from the engine.
- d. Install the four bolts and flatwashers through pump base, into the mounting plate.
- e. Install four lockwashers and nuts on bolts. Tighten nuts.
- f. Ensure that coupling is fully engaged and then tighten the set screw on the coupling.
- g. Install “O” ring on the fitting on the outlet hose. Apply a light film of hydraulic fluid to the “O” ring.
- h. Install the outlet hose fitting on the outlet side of the high pressure pump. Align the hose clamp over the hose fitting and the screw holes on the pump. Replace the four socket head screws and lockwashers. Tighten the four screws.
- i. Install “O” ring on the fitting on the inlet hose. Apply a light film of hydraulic fluid to the “O” ring.
- j. Install the inlet hose fitting on the inlet side of the high pressure pump. Align the hose clamp over the hose fittings and the screw holes on the pump. Replace the four bolts and lockwashers. Tighten bolts.
- k. Install the nut on the hose from the compensator to the nipple on the pump. Tighten finger tight and then using a 9/16 inch open end wrench, tighten the nut 1/4 turn more.
- l. Install the nut on the hose from the system relief valve to the nipple on the pump. Tighten nut.
- m. Perform the hydraulic system functional test, para 2-8.

END OF TASK

---

**3-73 PULLEY, COUPLING ASSY – REPLACE**

---

**3-73**

This task covers: Removal and Installation

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**INITIAL SETUP**Personnel RequiredToolsMaterials/Parts

63B Wheel Vehicle Mechanic

Kit, NSN 5180-00-545-8645

Bearing, - Part Number  
R10ZZ

---

**1. REMOVAL**

- a. Remove access panel
- b. Release the tension on “V” belt and remove from boost pump pulley.
- c. Remove the two bolts that secure the bushing to the pulley. Reinstall the bolts into the other tapped holes in the bushing. Tighten bolts evenly. This will separate the bushing from the pulley.
- d. Remove the boost pump from the mounting plate. If shims are installed note their position for reinstallation.
- e. Loosen the set screw from the coupling half on the pulley shaft and remove the coupling half.
- f. Remove the two bearing retaining rings from bearing support.
- g. Tap the pulley shaft toward the oil cooler using a mallet.
- h. Remove bearings from bearing support.

**2. INSTALLATION**

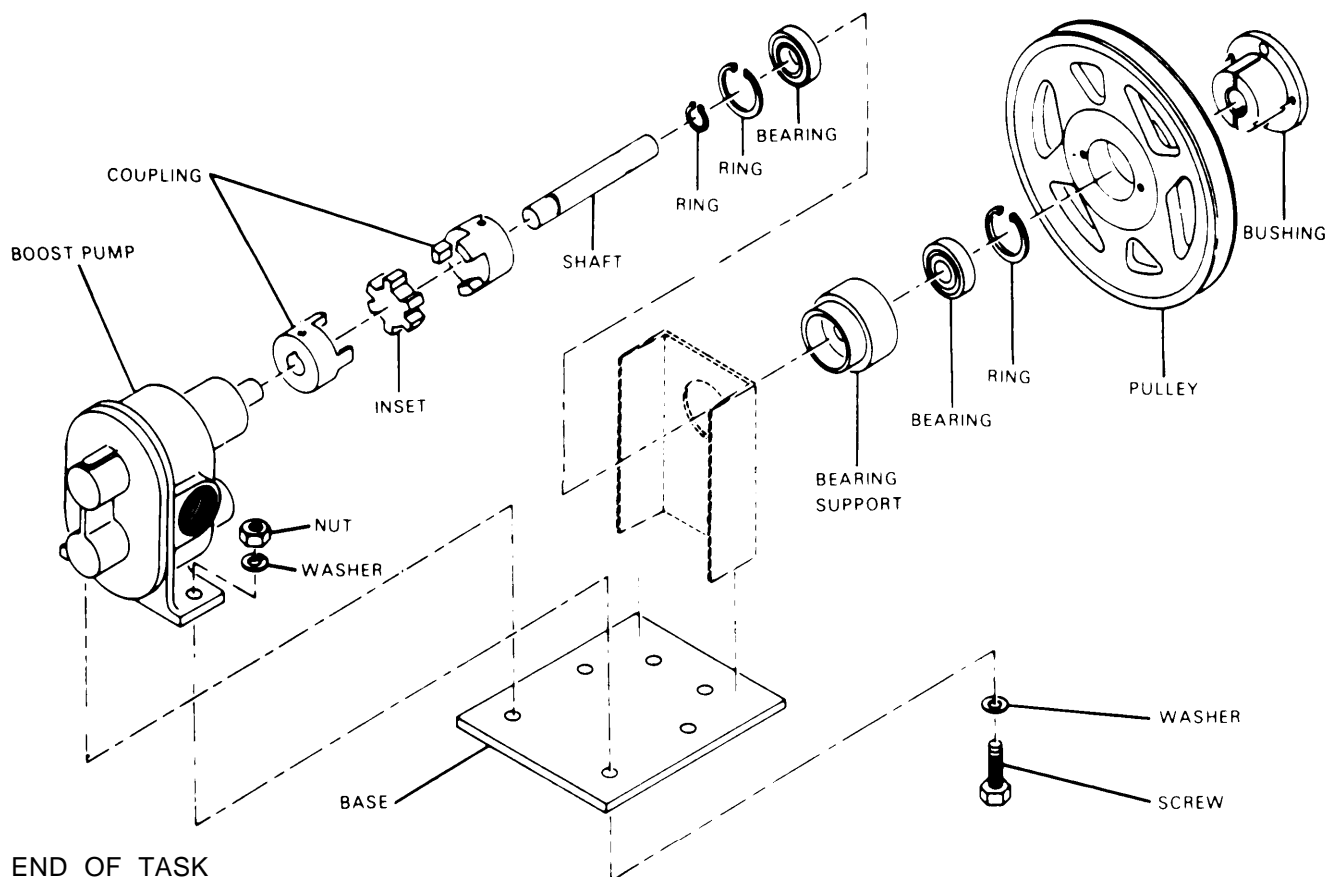
- a. Press bearings into bearing support and install two retaining rings.
- b. Install pulley shaft through the bearings. Ensure that small retaining ring is installed in the groove of the shaft and facing toward the oil cooler.

GO TO NEXT PAGE

## 3-73. PULLEY, COUPLING ASSY – REPLACE – Continued

3-73

- c. Install the coupling half onto the pulley shaft.
- d. If shims were used reinstall in the same location on base plate. Position the boost pump on the base plate and engage the coupling halves. Ensure that the inset is between the coupling halves.
- e. Secure the boost pump using two bolts, flatwashers, lockwashers and nuts.
- f. Engage the coupling halves completely and tighten the setscrew.
- g. Position the bushing in the pulley and insert the two bolts through the bushing and thread them into the pulley. DO NOT TIGHTEN.
- h. Install the pulley and bushing assembly onto the pulley shaft and tighten the two bolts.
- i. Install the “V” belt on the pulleys and apply tension so that it can be deflected no more than approximately  $\frac{1}{4}$  inch.
- j. Check the alignment of the “V” belt. If “V” belt appears out of alignment, loosen the belt and repeat steps h and i.
- k. Install the boost pump inlet and the outlet tubing.

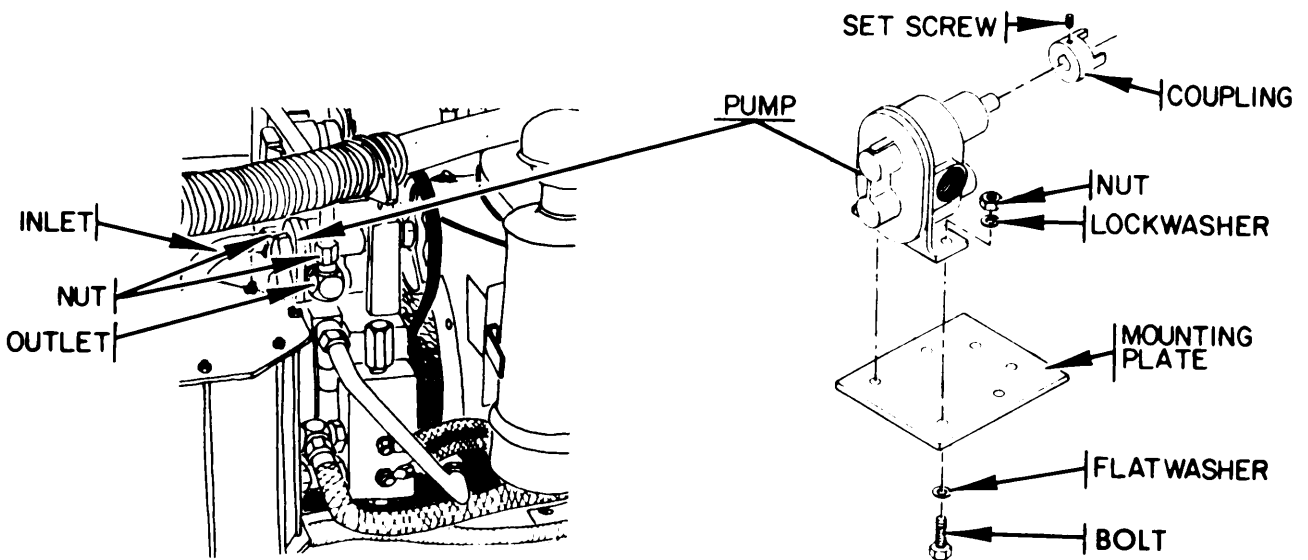


END OF TASK

**3-74 BOOST PUMP — REMOVE**

3-74

This task covers: Removal

**INITIAL SETUP**Personnel Required68H Aircraft Pneudraulic  
RepairmanToolsKit, NSN 5180-00-323-4891.  
1-¼ in. open end wrench  
1-½ in. open end wrench**REMOVAL**

- a. Remove access panel.
- b. Remove inlet tubing nuts from both ends and remove tubing cap openings.
- c. Remove outlet tubing nuts from both ends and remove tubing cap openings (1-¼ in.).
- d. Loosen nut on inlet elbow. Use 1-½ inch. open end wrench.
- e. Remove elbow. Use 1-½ inch open end wrench.

GO TO NEXT PAGE

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**3-74 BOOST PUMP – REMOVE – Continued**

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**3-74**

## REMOVAL (cont)

- f. Loosen nut on outlet elbow. Use 1-½ inch open end wrench.
- g. Remove elbow. Use 1-½ inch open end wrench.
- h. Remove two “O” rings from elbows. Discard “O” rings
- i. Remove two nuts and lockwashers securing boost pump to mounting base.
- j. Remove two bolts and flatwashers.
- k. Remove boost pump.
- l. Remove coupling from pump shaft by loosening setscrew.

END OF TASK

---

**3-75 BOOST PUMP – INSPECT**

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**3-75**

This task covers: Inspection

---

INITIAL SETUPPersonnel Required68H Aircraft Pneudraulic  
Repairman

---

INSPECTION

- a. Inspect pump for cracks, breaks, and leaks.
- b. Replace pump (Para. 3-77).
- c. Repair pump (Para. 3-76).

END OF TASK



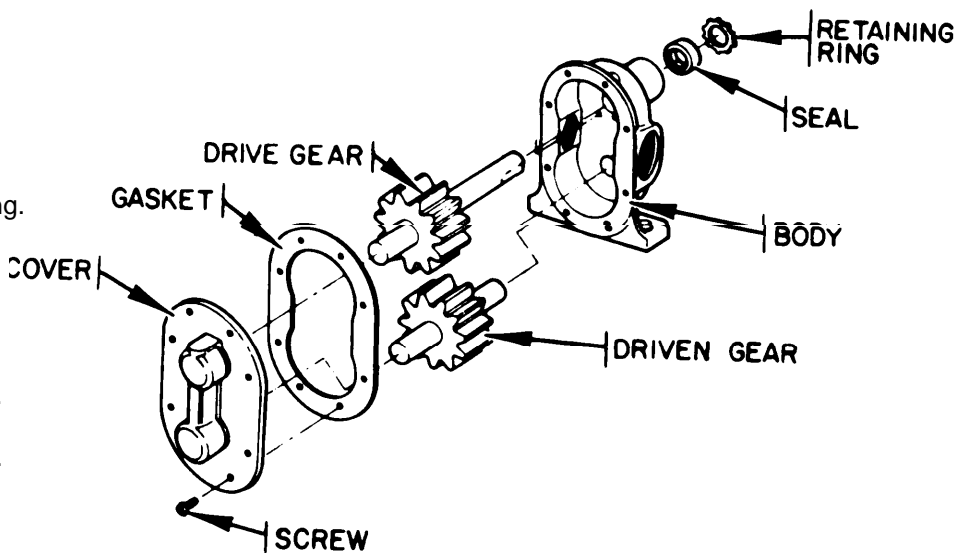
This task covers: Disassembly and Assembly

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-74	Pump removed
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-323-4891	Gasket-Part Number 79009-202-3 Seal-Part Number 79009-202-9	

1. DISASSEMBLY

- a. Remove screws (8 places).
- b. Remove gasket.
- c. Remove drive gear.
- d. Remove driven gear.
- e. Remove retaining ring.
- f. Remove seal.



2. ASSEMBLY

- a. Press seal into body.
- b. Install retaining ring.
- c. Install driven gear.
- d. Install drive gear.
- e. Replace gasket.
- f. Install eight screws.
- g. Tighten screws.

END OF TASK

This task covers: Installation

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-74	Pump removed
<u>Tools</u>	<u>Materials/Parts.</u>	
Kit, NSN 5180-00-323-4891 1-¼ in. open end wrench 1-½ in. open end wrench	Pump assy.-Part Number 79009-145 Hydraulic Fluid, Item 3, Appendix D. O-Rings-Part Number MS28778-16	

INSTALLATION

- a. Pour a small amount of hydraulic fluid into the inlet port while rotating the pump shaft. This will lubricate the internal components.
- b. Install coupling on pump shaft.
- c. Install "O" ring on inlet elbow.
- d. Install inlet elbow on boost pump, tighten hand tight.
- e. Install "O" ring on outlet elbow.
- f. Install outlet elbow on boost pump, tighten hand tight.
- g. Install pump on mounting plate.
- h. Install bolts through flatwasher, mounting plate and pump (2 places).
- i. Install two lockwashers and nuts, tighten nuts.
- j. Engage the coupling halves and tighten setscrew.
- k. Install outlet tubing and tighten nuts. Use 1-¼ open end wrench.
- l. Tighten the nut on the outlet elbow. Use 1-½ inch open end wrench.

GO TO NEXT PAGE

- m. Install inlet tubing and tighten nuts. Use 1-½ inch open end wrench.
- n. Tighten the nut on the inlet elbow. Use 1-½ inch open end wrench.
- o. Service the hydraulic reservoir (Para. 3-6).
- p. Perform the hydraulic system functional test (Para. 2-8).
- q. Install the access panel.

END OF TASK

This task covers: Removal

---

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-123	Lower panel removed

Tools

Kit, NSN 5180-00-323-4891

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**NOTE**

**Hold adapter on compensator valve with a wrench while  
removing hose/tubing nuts.**

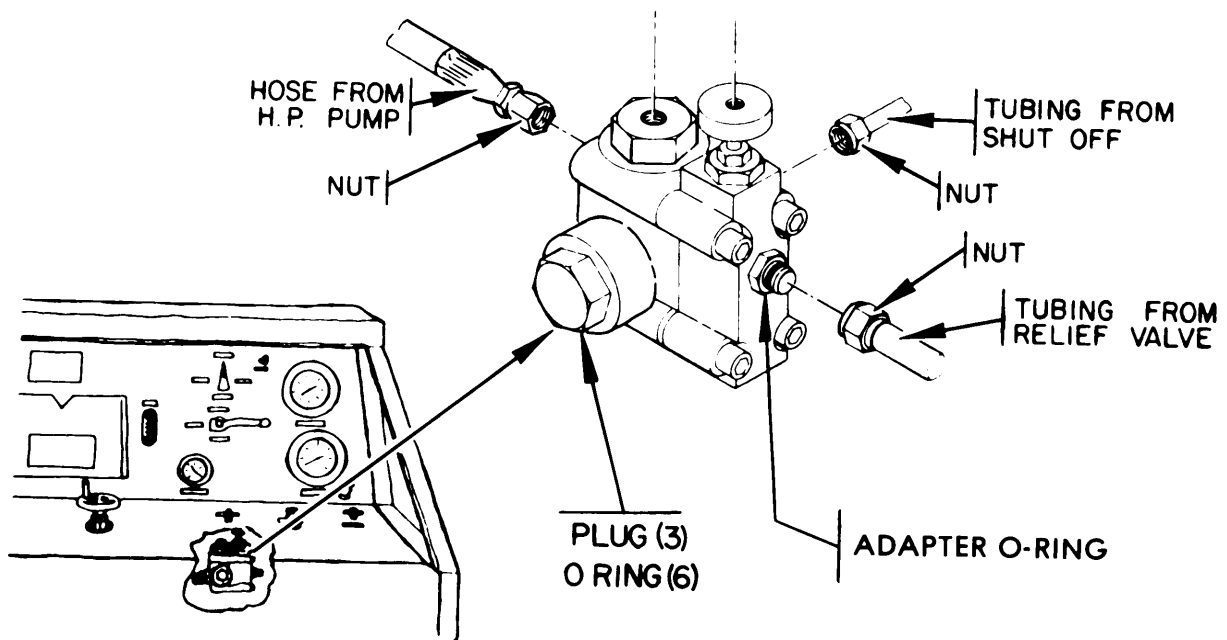
REMOVAL

- a. Remove nut on hose from high pressure pump.
- b. Remove the nut on the tubing from the system relief valve.
- c. Remove the nut on the tubing from the compensator shut-off valve.
- d. Remove the compensator valve.

GO TO NEXT PAGE

## 3-78 COMPENSATOR CONTROL – REMOVE – Continued

3-78



END OF TASK

## 3-79 COMPENSATOR CONTROL – INSPECT

3-79

This task covers: Inspection

## INITIAL SETUP

Personnel Required

68H Aircraft Pneudraulic Repairman

## INSPECTION

- a. Inspect the compensator control for damage.
- b. Check "O" rings for cuts/damage.
- c. Replace defective compensator and "O" rings (Para. 3-81).

END OF TASK

This task covers: Disassembly and Assembly

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-78	Compensator control removed
 <u>Tools</u>		 <u>Materials/Parts</u>
Kit, NSN 5180-00-323-4891		Seal piston-Part Number 036-21767 “O” rings-Part Numbers 671-00012 691-00013 691-00022 691-00018 Control device-Part Number 316-39148

1, DISASSEMBLY

- a. Remove the control device.
- b. Remove seal piston.
- c. Remove “O” ring from seal piston.
- d. Remove four screws.
- e. Remove body.
- f. Remove three “O” rings from body.

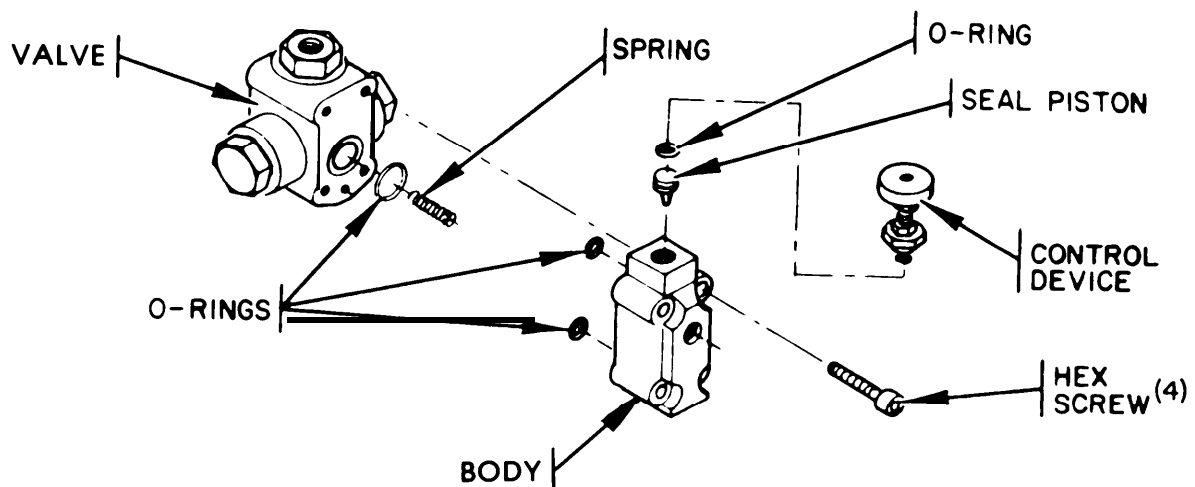
2. ASSEMBLY

- a. Install three “O” rings into body.
- b. Install spring.

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## 2. ASSEMBLY (cont)

- c. Position body against valve.
- d. Install four screws and tighten.
- e. Install “O” ring on seal piston.
- f. Install seal piston.
- g. Replace the control device.



END OF TASK

---

**3-81 COMPENSATOR CONTROL – REPLACE**

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**3-81**

This task covers: Installation

---

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-78 3-123	Compensator removed Lower panel removed
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-323-4891	Compensator-Part Number 016-65057R4 503-515-12A "O" ring-Part Number MS28778-4	

---

INSTALLATION

- a. Install new "O" rings on the three adapters and install adapters into the compensator. Tighten adapters.
- b. Install the nut on the hose from the high pressure pump to the nipple on the compensator.
- c. Install the nut on the tubing from the compensator shut-off valve to the nipple on the compensator.
- d. Install the nut on the tubing from the system relief valve to the nipple on the compensator.
- e. Tighten the three nuts.
- f. Perform functional test, Para. 2-8.

END OF TASK



**3-82 RESERVOIR SELECTOR – REMOVE****3-82**

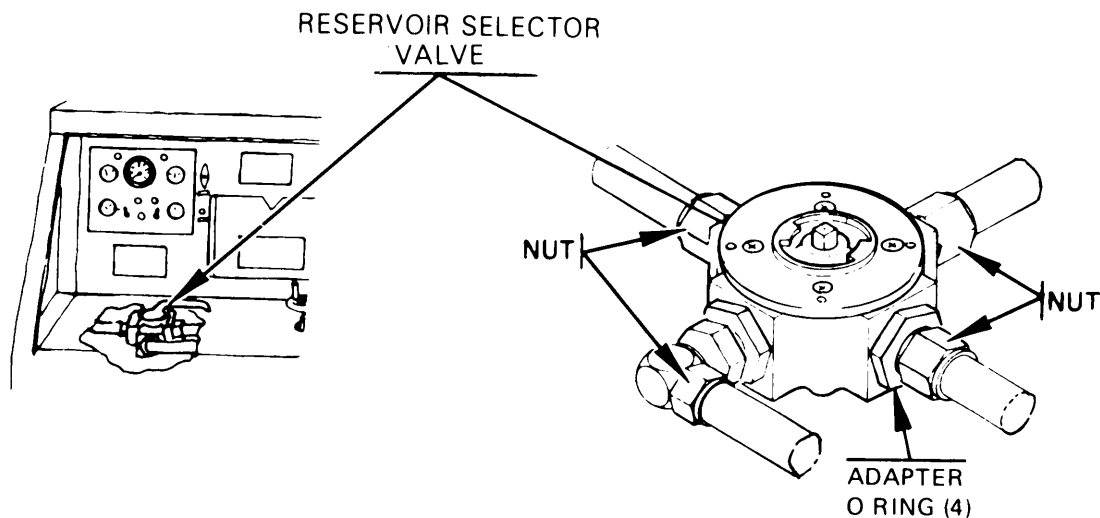
This task covers: Removal

**INITIAL SETUP**

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-123	Lower panel removed

Tools

Kit, NSN 5180-00-323-4891

**REMOVAL**

- Remove three nuts from valve tubing. Other end of tubing may be disconnected to facilitate removal of the valve.
- Remove nut from hose, using 1-½ in. open end wrench.
- Remove reservoir selector valve.

**END OF TASK**

---

**3-83 RESERVOIR SELECTOR VALVE – INSPECT**

---

**3-83**

This task covers:     Inspection

---

INITIAL SETUP

Personnel Required

68H Aircraft Pneudraulic Repairman

---

INSPECTION

- a.   Inspect valve for cracks/breaks.
- b.   Replace damaged valve and "O" rings (Para. 3-85).

END OF TASK

**3-84 RESERVOIR SELECTOR VALVE-REPAIR****3-84**

This task covers: Disassembly and Assembly

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-82	Valve removed
<u>Tools</u>		<u>Materials Parts</u>
Kit, NSN 5180-00-323-4891		Plug "O" ring – Part Number 79009-206-4 Cover "O" ring – Part Number 79009-206-3 Seal "O" ring – Part Number 79009-206-15 Bottom cover "O" ring – Part Number 79009-206-11 Detent spring – Part Number 79009-206-9 Detent ball – Part Number 79009-206-10

## 1. DISASSEMBLY

- a. Mark the position of the cover plate to the body. This will be required for accurate assembly
- b. Remove four screws.
- c. Remove top cover plate.
- d. Remove plug "O" ring.
- e. Remove top body "O" ring.
- f. Remove top bearing.
- g. Remove plug.
- h. Remove two detent springs.
- i. Remove two detent balls.
- j. Remove two sub-assembly seals

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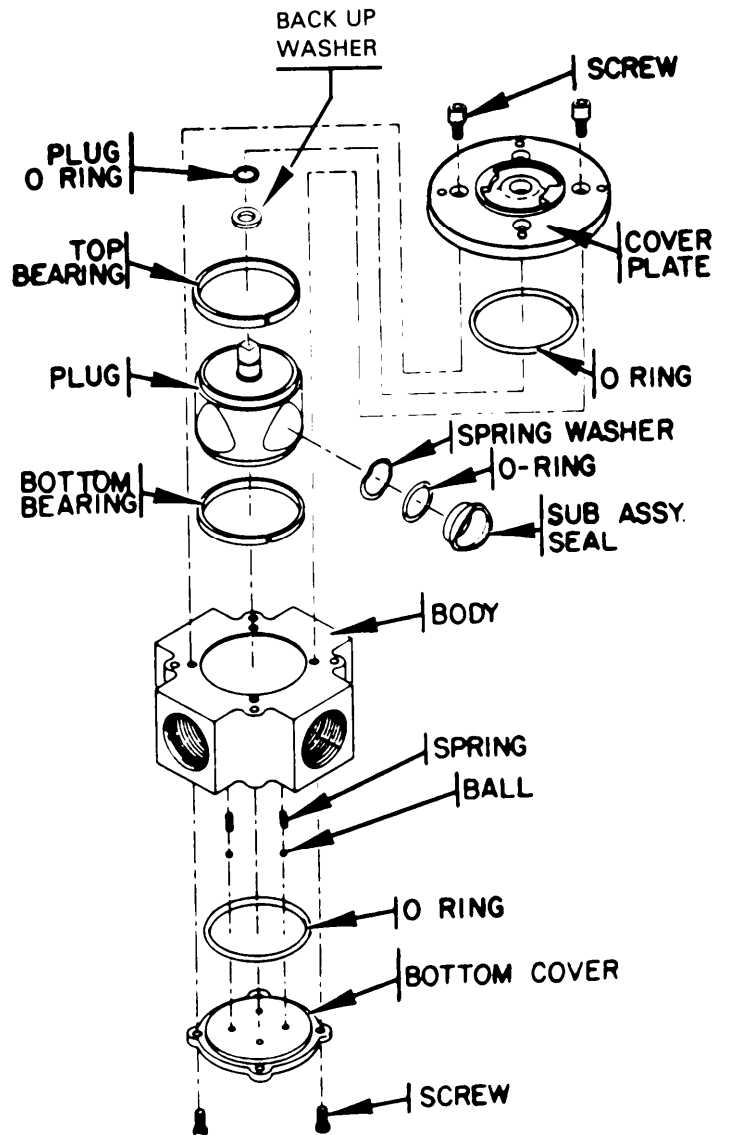
1. DISASSEMBLY(cont)

- k. Remove two "O" rings.
- l. Remove two spring washers.
- m. Remove bottom bearing.
- n. Remove four screws.
- o. Remove bottom cover plate. Mark plate to body.
- p. Remove bottom cover "O" ring.

GO TO NEXT PAGE

2. ASSEMBLY

- a. Install two spring washers.
- b. Install two "O" ring.
- c. Install two sub-assembly seals.
- d. Install bottom plug, "O" ring and back up washer.
- e. Install the plug.
- f. Install two detent springs.
- g. Install two detent balls.
- h. Install bottom bearing.
- i. Install bottom cover "O" ring.
- j. Install bottom cover. Align marks and secure with four screws.
- k. Install top bearing.
- l. Install top body "O" ring.
- m. Install top plug "O" ring and back up washer,
- n. Install top cover plate. Align mark made during disassembly. Install screws.



END OF TASK

---

**3-85 RESERVOIR SELECTOR VALVE – REPLACE**

**3-85**

---

This task covers: Installation

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INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-82 3-123	Valve and lower panel removed
 <u>Tools</u>	 <u>Materials/Parts</u>	
Kit, NSN 5180-00-323-4891 1-1/2 in. open end wrench	Valve-Part Number 744241STD2P "O" rings-Part Number MS28778-24	

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INSTALLATION

- a. Replace "O" rings if adapter was removed.
- b. Install adapters into valve. Tighten adapters.
- c. Install elbow onto adapter (No. 4) for tubing leading to flowmeter.
- d. Position the valve with adapter (No. 1) toward instrument panel.
- e. Start the four nuts on the elbow adapters and tighten finger tight.
- f. Tighten nuts. Use 1-½ inch open end wrench.
- g. Perform functional test, para 2-8.

END OF TASK

**3-86 THREE-WAY FLOW CONTROL VALVE – REMOVE**

3-86

This task covers: Removal

INITIAL SETUP

Personnel Required

68H Aircraft Pneudraulic  
Repairman

Tools

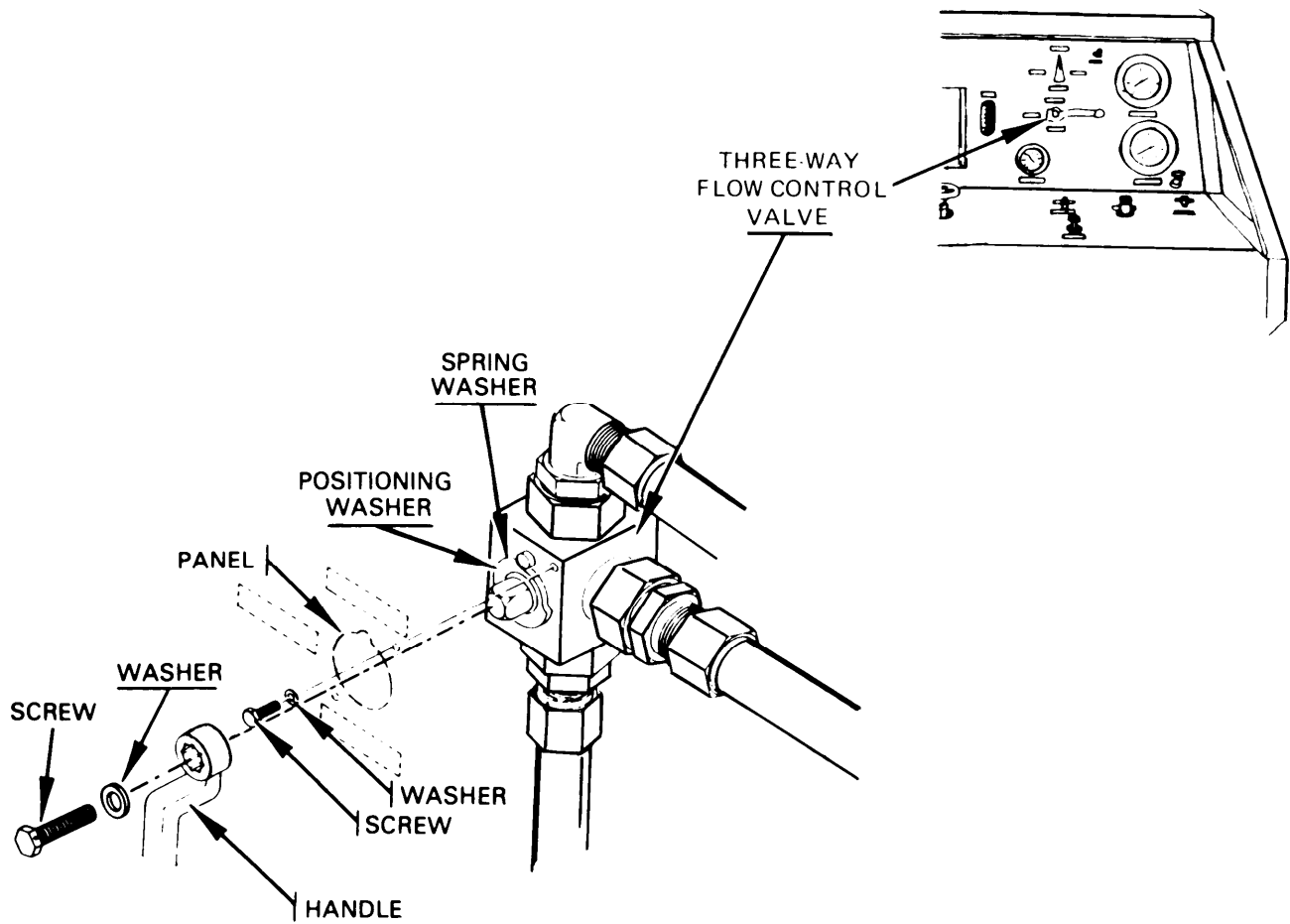
Kit, NSN 5180-00-323-4891  
1-¼ in. open end wrench  
1-½ in. open end wrench

Equipment  
Condition  
Para

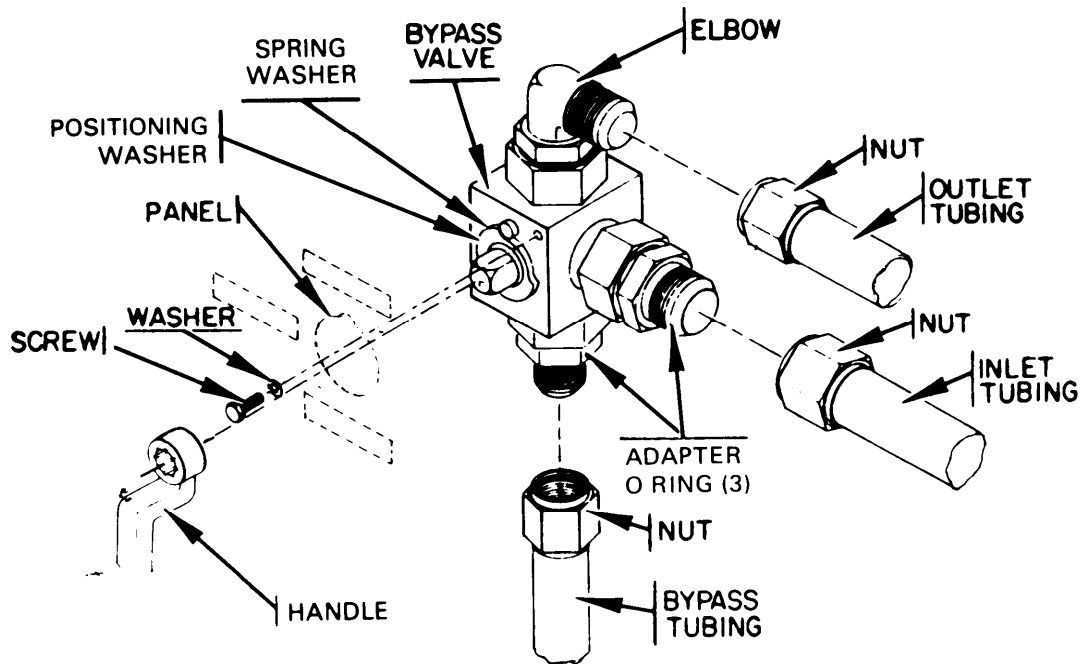
3-123

Equipment  
Condition

Panel  
Assembly  
Removed



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## REMOVAL

- a. Loosen nut on inlet tubing. Use 1-¼ inch open end wrench.
- b. Loosen nut on outlet tubing. Use 1-¼ inch open end wrench.
- c. Loosen nut on bypass tubing. Use 1-½ inch open end wrench.
- d. Remove bolt and washer on the valve handle.
- e. Remove handle.
- f. Reinstall bolt and washer to hold positioning washer in place.
- g. Remove two hex head screws and washers.
- h. Remove inlet tubing nut from the valve.
- i. Remove outlet tubing nut from the valve.
- j. Remove bypass tubing nut from the valve.
- k. Remove three-way flow control valve.

END OF TASK



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**3-87 THREE-WAY FLOW CONTROL VALVE – INSPECT**

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**3-87**

This task covers:     Inspection

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**INITIAL SETUP****Personnel Required**

68H Aircraft Pneudraulic Repairman

---

**INSPECTION**

- a.   Inspect valve for cracks/breaks.
- b.   Check for stripped threads.
- c.   Replace damaged valve and “O” rings. (Para. 3-89).

**END OF TASK**

This task covers: Disassembly and Assembly.

---

**INITIAL SETUP**

<u>Personnel Required</u>	Equipment Condition <u>Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-86	Valve removed
 <u>Tools</u>		 <u>Materials/Parts</u>
Kit, NSN 5180-00-323-4891 1-5/8 in. open end wrench		Adapter "O" ring Part Number 79009-203-2 Backup ring - Part Number 79009-203-3 Seal - Part Number 79009-203-4 Teflon seal - Part Number 79009-203-7 Handle post "O" ring - Part Number 79009-203-8

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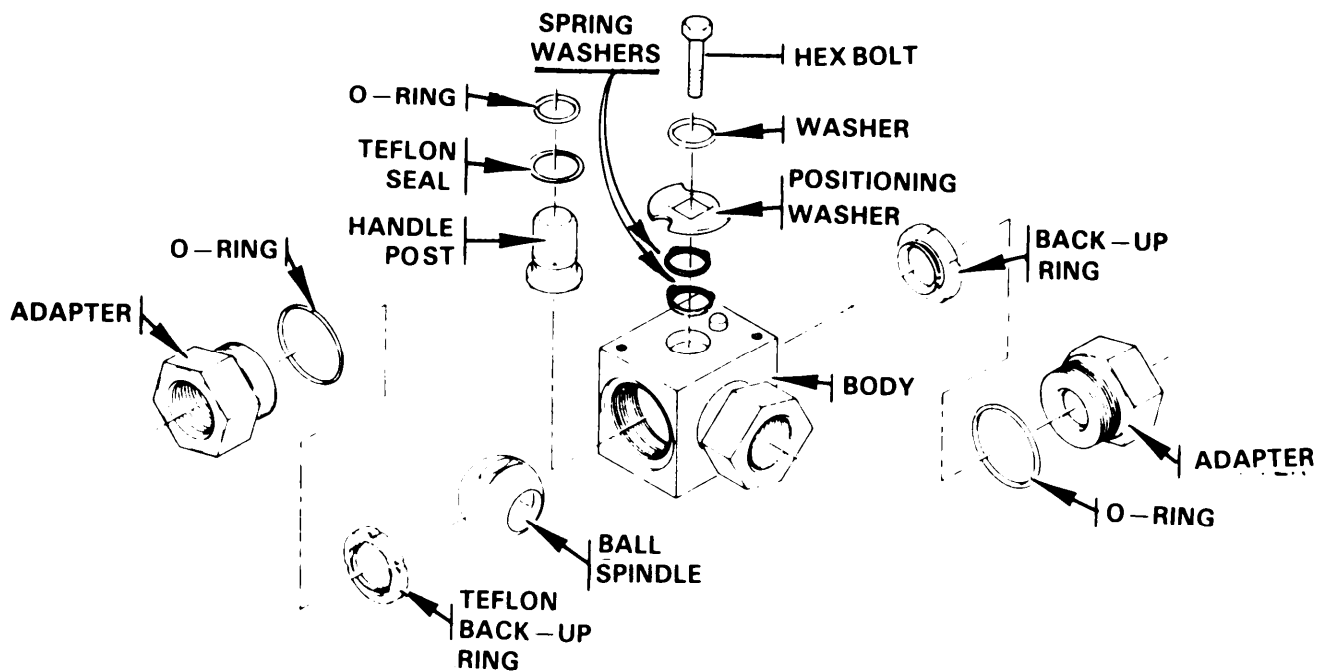
**1. DISASSEMBLY**

- a. Remove two connection adapters. Use 1-5/8 inch open end wrench.
- b. Remove two backup ring cup seal assemblies.
- c. Remove ball spindle.
- d. Push the handle post down into and out of the valve body.
- e. Remove teflon seal.
- f. Remove "O" ring.

GO TO NEXT PAGE

## 2. ASSEMBLY

- a. Install teflon seal on handle post.
- b. Install "O" ring on handle post.
- c. Insert the post handle assembly into the valve body and up through the handle opening.
- d. Insert the ball spindle into the valve body, aligning the slot with the handle.
- e. Assemble the positioning washer in the noted position. And hold in place with washer and bolt.
- f. Install two "O" rings on connection adapters.
- g. Install two seals and backup ring assemblies.
- h. Install two adapters and tighten.



END OF TASK

This task covers: Installation

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-86	Valve removed
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-323-4891 1-1/4 in. open end wrench 1-1/2 in. open end wrench	"O" ring-Part Number 79009-203-2 Valve-Part Number 79009-203	

INSTALLATION

- a. Replace "O" rings if adapters are removed
- b. Align holes in instrument panel with mounting holes in the three-way flow control valve.
- c. Place hex head bolt through washer, panel and into valve mounting holes and tighten.
- d. Remove the bolt and flatwasher that secures handle. Do not change the position of the positioning washer. Install handle and secure with flatwasher and bolt.
- e. Install tubing nut on valve adapter and tighten.
- f. Install outlet tubing nut on valve elbow and tighten.
- g. Install inlet tubing nut on valve adapter and tighten.
- h. Tighten outlet tubing nut and inlet tubing nut. Use 1-¼ inch open end wrench.
- i. Tighten bypass tubing nut. Use 1-½ inch open and wrench.
- j. Perform functional test, Para. 2-8.

END OF TASK

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**3-90 HIGH PRESSURE RELIEF VALVE — REMOVE**

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**3-90**

This task covers: Removal

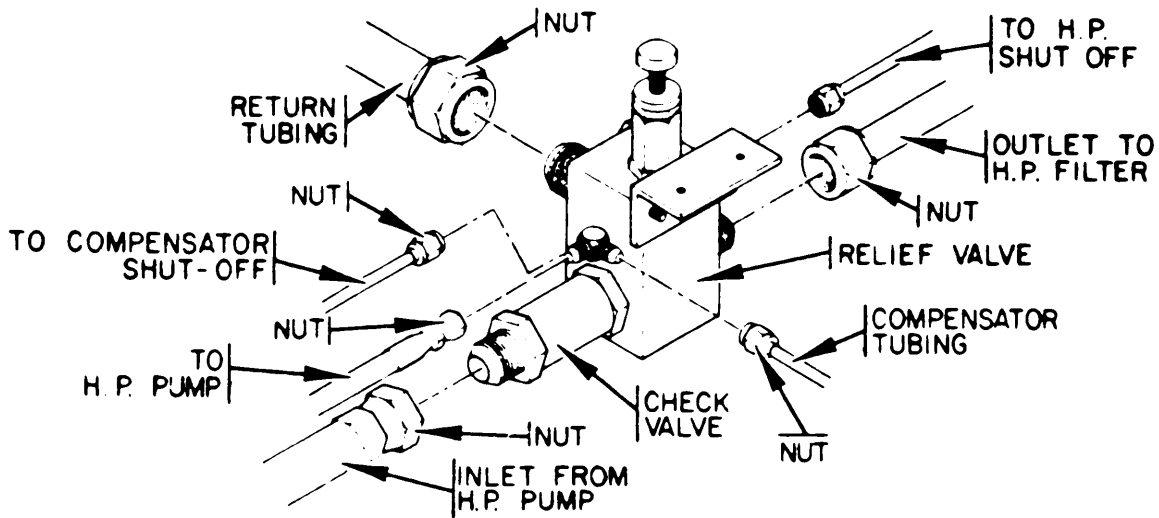
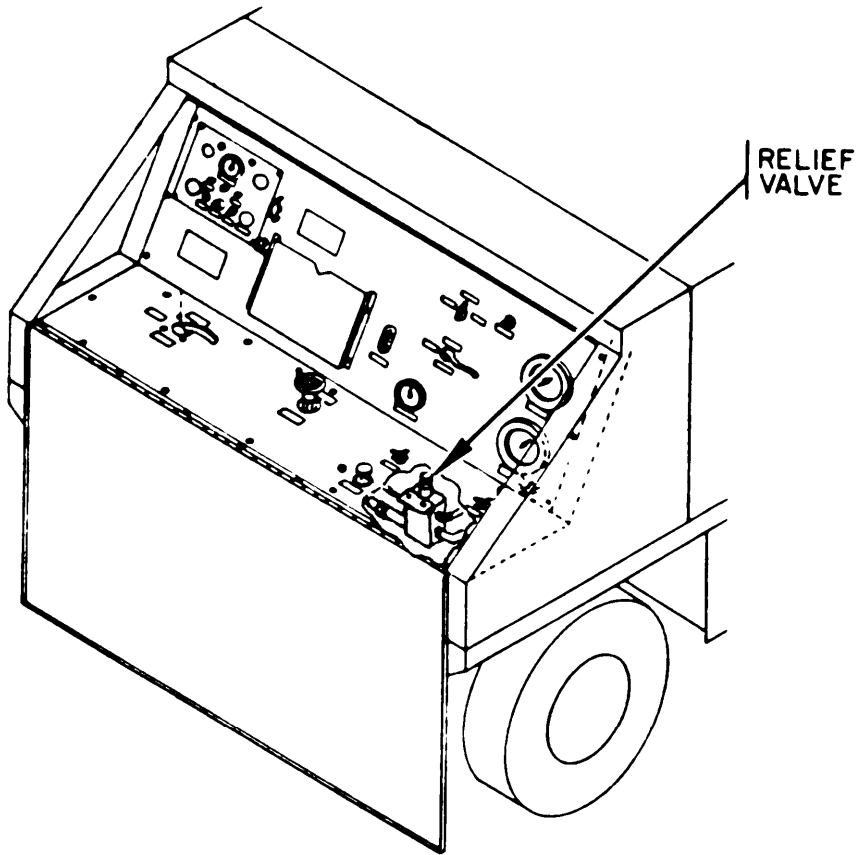
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**INITIAL SETUP**

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-123	Lower panel removed
 <u>Tools</u>		
Kit, NSN 5180-00-323-4891 1-1/8 in. open end wrench		

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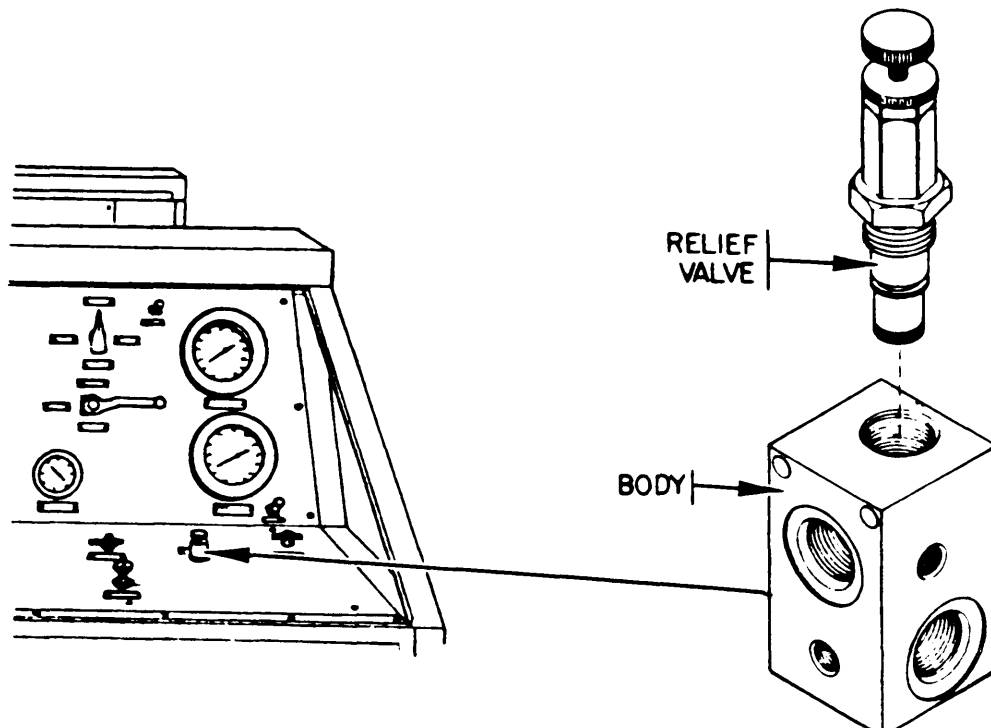
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## REMOVAL

- a. Remove nut securing the compensator tubing to the relief valve.
- b. Remove nut securing the tubing from the compensator shut-off to the relief valve.
- c. Remove nut securing the tubing from the high pressure shut-off valve to the relief valve.
- d. Remove the nut securing the outlet tubing to the high pressure valve. Use 1-1/8 inch open end wrench.
- e. Remove the nut securing the return tubing to the relief valve. Use 1-1/2 in. open end wrench.
- f. Remove the nut securing the hose from the pump to the relief valve.
- g. Remove the nut securing the inlet hose to the check valve on the relief valve.
- h. Remove the relief valve assembly.



END OF TASK

This task covers: Inspection

---

INITIAL SETUP

Personnel Required

68H Aircraft Pneudraulic Repairman

---

INSPECTION

- a. Inspect valve for cracks, breaks, leaks, damaged threads.
- b. Replace (Para. 3-93).

END OF TASK



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**3-92 HIGH PRESSURE RELIEF VALVE – REPAIR**

---

**3-92**

This task covers: Disassembly and Assembly

---

**INITIAL SETUP**

<u>Personnel Required</u>	Equipment Condition <u>Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-90	Valve removed
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-323-4891 1-1/8 in. open end wrench	Housing "O" ring - Part Number 79009-205-12 Housing backup ring - Part Number 79009-205-11 Housing large "O" ring - Part Number 79009-205-10 Cap "O" ring - Part Number 79009-205-6 Piston "O" ring - Part Number 79009-205-5	

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**1. DISASSEMBLY**

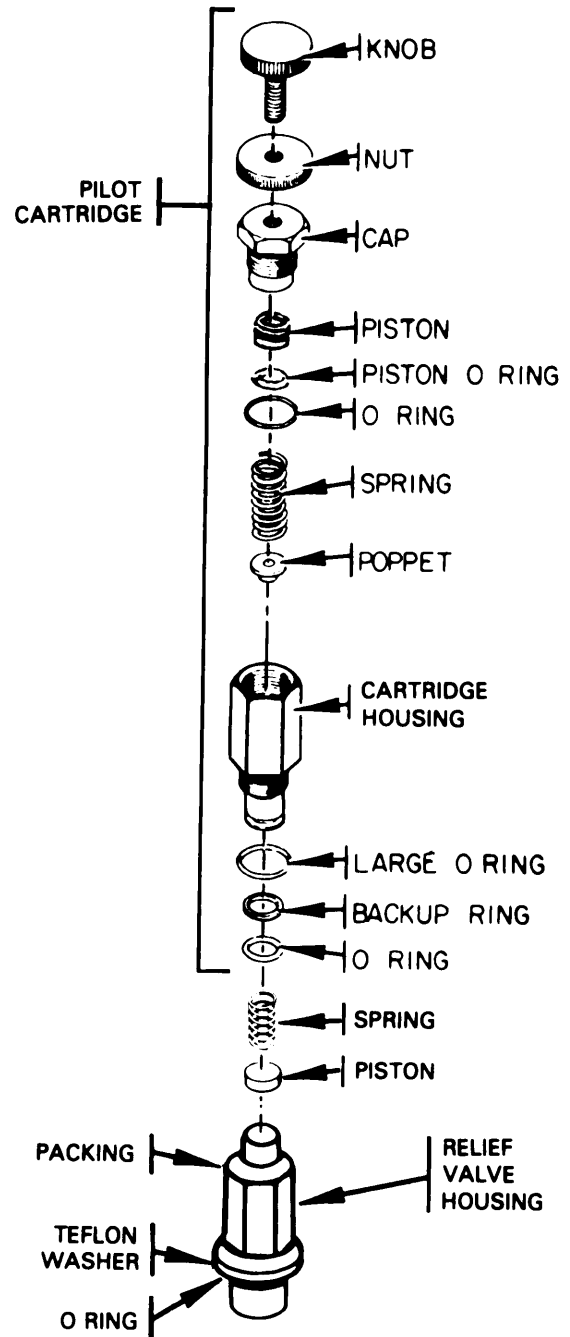
- a. Remove relief valve from body using a 1-1/8 inch open end wrench.
- b. Hold relief valve assembly with a 1-1/8 inch open end wrench, then use open end wrench and remove pilot cartidge (Knob cartridge housing) from relief valve housing. Remove spring.
- c. Remove "O" ring and backup ring from cartridge housing.
- d. Remove large "O" ring from cartridge housing.
- e. Remove cap from cartridge housing, using open end wrench.
- f. Remove spring and poppet.
- g. Remove cap "O" ring.
- h. Remove piston, piston "O" ring, nut and knob from cap.
- i. Remove the large "O" ring from the relief valve housing.
- j. Remove the "O" ring and back up ring from the relief valve housing.

GO TO NEXT PAGE

2. ASSEMBLY

- a. Screw knob onto knurl nut.
- b. Install knob and nut assembly in cap.
- c. Install new "O" ring on piston.
- d. Place piston and "O" ring in cap.
- e. Place poppet in cartridge housing, bearing away from spring.
- f. Install spring in cartridge housing.
- g. Install new "O" ring on cap.
- h. Install cap assembly in cartridge housing. Tighten the assembly.
- i. Install the "O" ring on the cartridge housing.
- j. Install the back-up ring and "O" ring on cartridge housing.
- k. Install piston into relief valve housing.
- l. Install spring into relief valve housing.
- m. Install cartridge housing into relief valve housing.
- n. Install large "O" ring on relief valve housing.
- o. Install back up ring and "O" ring on relief valve housing.
- p. Install relief valve into housing.

END OF TASK



**3-93 HIGH PRESSURE RELIEF VALVE – REPLACE****3-93**

This task covers: Installation

**INITIAL SETUP**

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-90 3-123	Valve removed Lower panel removed
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-323-4891  1-¼ in. open end wrench 1-½ in. open end wrench	Valve-Part Number RAV50-H12S-50A	

**INSTALLATION**

- a. Install the nut on the inlet hose from the pump to the check valve on the relief valve. Tighten the nut using 1-¼ inch open-end wrench.
- b. Install the nut on the hose from the pump to the tee on the relief valve. Tighten nut.
- c. Install the nut on the outlet tubing to the adapter on the relief valve. Tighten nut.
- d. Install the nut on the return tubing to adapter on the relief valve. Tighten the nut.
- e. Install the nut on the tubing from the compensator to the tee on the relief valve. Tighten the nut.
- f. Install the nut on the tubing from the compensator shut-off valve to the tee on the relief valve.
- g. Install the nut on the tubing from the high pressure shut-off valve to the tee on the relief valve. Tighten the nut.
- h. Install the nut on the high pressure hose from the pump to the tee on the relief valve. Tighten the nut.
- i. Perform functional test, Para. 2-8.

**END OF TASK**

This task covers:      Removal

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**INITIAL SETUP****Personnel Required**

68H Aircraft Pneudraulic  
Repairman

**Tools**

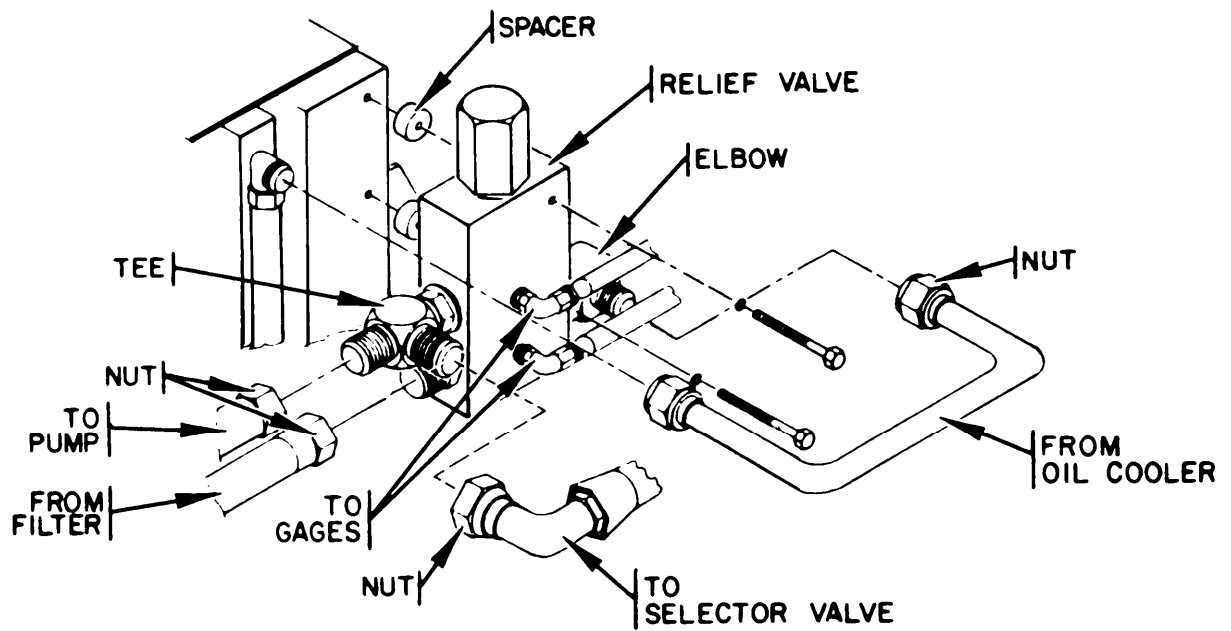
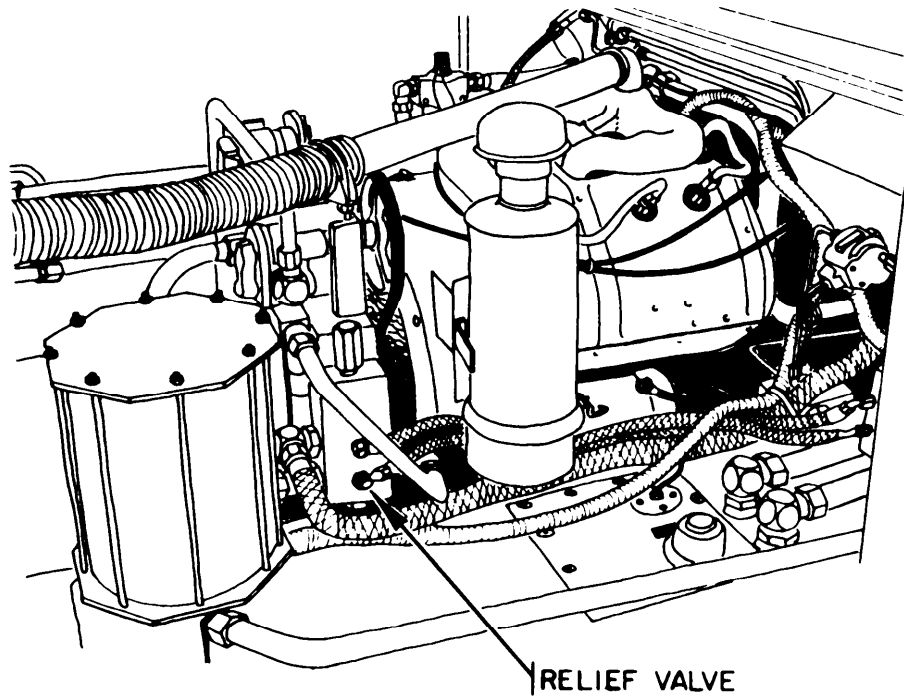
Kit, NSN 5180-00-323-4891  
1-¼ in. open end wrench  
1-½ in. open end wrench

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**REMOVAL**

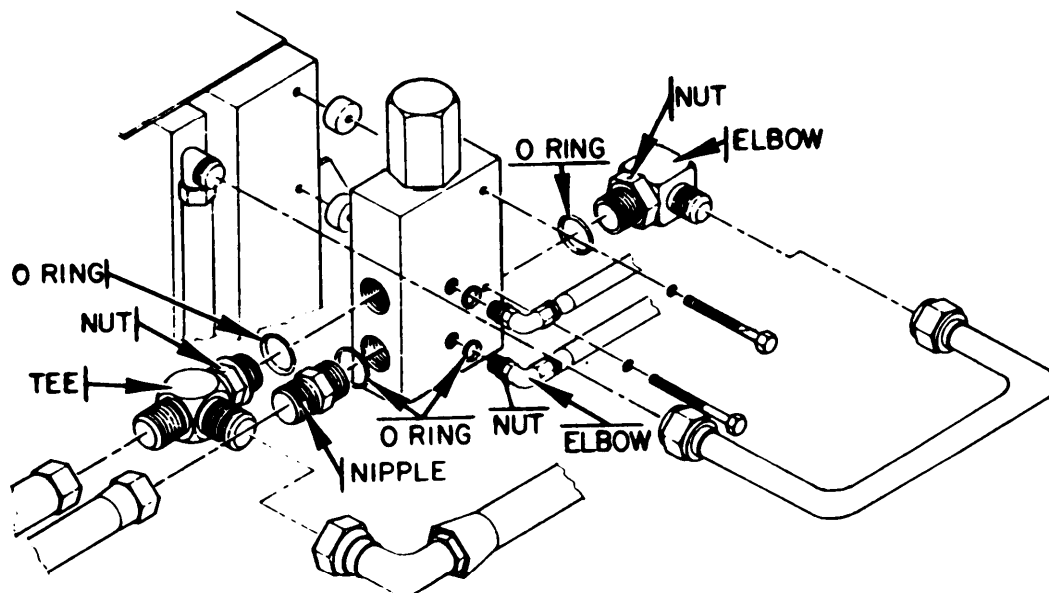
- a. Remove access panel.
- b. Disconnect hose from the filter to the valve. Use 1-½ inch open end wrench.
- c. Remove nut on the tubing to the boost pump. Use 1-½ inch open end wrench.
- d. Remove nut on the hose from the reservoir selector valve. Use 1-½ inch open end wrench.
- e. Remove nut on the tubing from the oil cooler to valve, Use 1-¼ inch open end wrench.
- f. Remove nut (2 places) on the gage line hoses.
- g. Remove bolts, lockwasher and flatwasher securing valve to motor mount.
- h. Remove valve and spacer.

GO TO NEXT PAGE



GO TO NEXT PAGE

## REMOVAL (cont)



- i. Remove nipple and "O" ring. Use 1-½ inch open and wrench.
- j. Loosen nut on the tee. Use 1-½ inch open end wrench.
- k. Remove tee and "O" ring. Use 1-½ inch open end wrench.
- l. Loosen nut on elbow. Use 1-½ inch open end wrench.
- m. Remove elbow and "O" ring. Use 1-½ inch open end wrench.
- n. Loosen two nuts on elbows.
- o. Remove elbows and "O" rings.

END OF TASK

---

**3-95 LOW PRESSURE RELIEF VALVE – INSPECT**

---

**3-95**

This task covers: Inspection

---

**INITIAL SETUP****Personnel Required**

68H Aircraft Pneudraulic Repairman

---

**INSPECTION**

- a. Inspect valve for cracks, breaks, leaks.
- b. Inspect “O” rings for cuts/damage.
- c. Check nipple and elbows for thread damage.
- d. Replace parts (Para. 3-97).

END OF TASK

This task covers: Disassembly and Assembly

INITIAL SETUP

<u>Personnel Required</u>	Equipment Condition <u>Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-94	Valve removed
 <u>Tools</u>		<u>Materials/Parts</u>
Kit, NSN 5180-00-323-4891 1 1/8 in. open end wrench 1 3/4 in. open end wrench		Plug "O" ring - Part Number MS29512-16 Piston "O" ring - Part Number 22026-1 Elbow "O" ring - Part Number MS28778-4

1. DISASSEMBLY

- a. Remove cap. Use 1-3/4 inch open end wrench.
- b. Remove nut from stud. Hold stud with screwdriver. Remove nut with 1-1/8 inch open end wrench.
- c. Remove stud.
- d. Remove spring.
- e. Remove bushing.
- f. Remove plug from bottom of valve.
- g. Remove "O" rings from plug.
- h. Push piston from valve body.
- i. Remove back-up ring from piston.
- j. Remove "O" ring from piston.

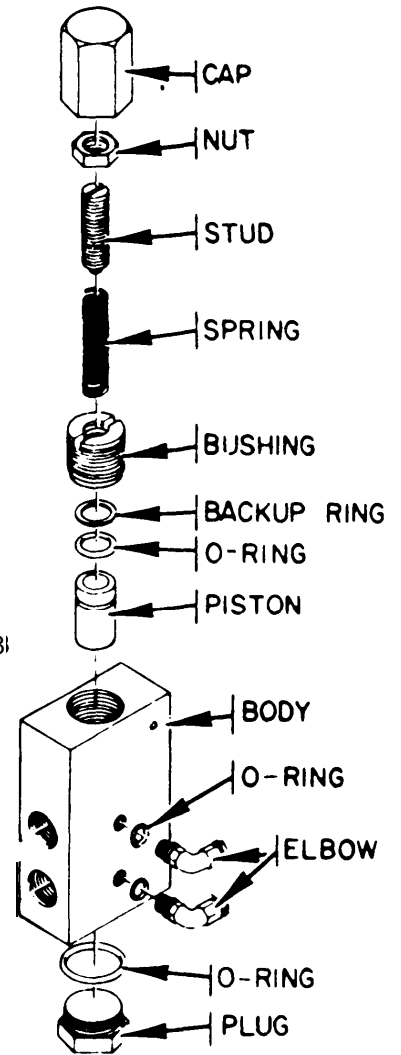
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2. ASSEMBLY

- a. Install "O" ring on plug.
- b. Install plug in valve body, and tighten.
- c. Install "O" ring on piston.
- d. Install back-up ring on piston.
- e. Install piston in valve body.
- f. Install bushing in valve body, tighten.
- g. Install spring.
- h. Install stud, secure in bushing.
- i. Install nut. Tighten until the nut contacts the bushing. Use 1-1/8 inch open end wrench.
- j. Install cap, tighten.

END OF TASK



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**3-97 LOW PRESSURE RELIEF VALVE – REPLACE**

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**3-97**

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This task covers:     Installation

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INITIAL SETUP

<u>Personnel Required</u>	Equipment Condition <u>Para</u>	Condition <u>Description</u>
68H Aircraft Pneudraulic Repairman	3-94	Valve removed

Tools

Kit, NSN 5180-00-323-4891  
 1-¼ in. open end wrench  
 1-½ in. open end wrench

Materials/Parts

Tee “O” ring-Part Number MS28778-16  
 Nipple “O” ring-Part Number MS28778-16  
 Elbow “O” ring-Part Number MS28778-4  
 Elbow “O” ring-Part Number MS29512-16  
 Low pressure relief valve-Part Number 22025-100

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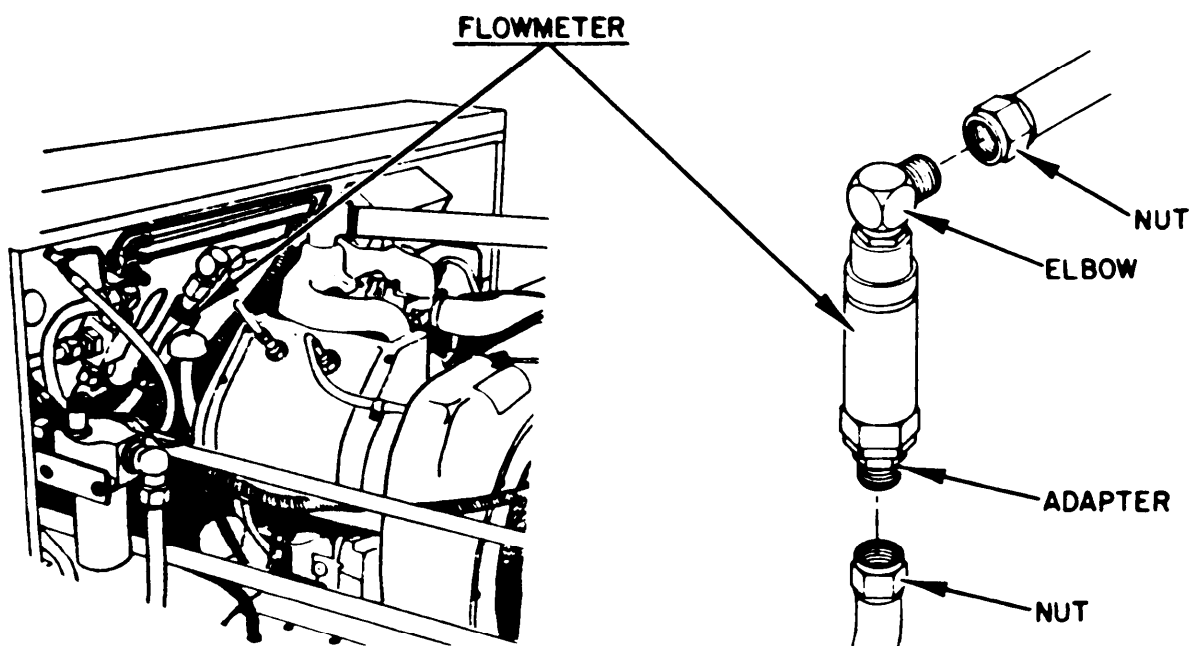
**INSTALLATION**

- a. Install "O" ring on elbow.
- b. Install elbow, tighten hand tight.
- c. Install "O" ring on tee.
- d. Install tee, tighten hand tight.
- e. Install "O" ring on nipple.
- f. Install nipple, tighten hand tight.
- g. Install relief valve on motor mount. Install bolts (2 places) through lockwashers and flatwashers, valve body and spacers into motor mounts. Tighten bolts.
- h. Install "O" rings on the gage line elbows and install elbows in valve body.
- i. Install the nuts on the gage line hose (2 places) to the elbows (2 places), tighten.
- j. Tighten the jam nuts on the elbows (2 places) and the nuts on the gage line hose (2 places).
- k. Install nuts (2 places) on the tubing to the oil cooler. Tighten.
- l. Install the nut on the hose from the reservoir selector valve to the tee, tighten and then with 1-½ inch open end wrench tighten nut.
- m. Install the tubing from the boost pump to the tee, tighten with 1-½ inch open end wrench.
- n. Install nut on the hose from the filter to the nipple, tighten with 1-½ inch open end wrench.
- o. Tighten the jam nuts on the elbow, tee fitting and nipple.
- p. Perform functional test, Para. 2-8.
- q. Install access panel.

**END OF TASK**

**3-98 FLOWMETER – REMOVE****3-98**

This task covers: Removal

**INITIAL SETUP**Personnel Required68H Aircraft Pneudraulic  
RepairmanToolsKit, NSN 5180-00-323-4891  
1-½ in. open end wrench.**REMOVAL**

- a. Remove nut from elbow. Use 1-½ inch open end wrench.
- b. Remove nut from adapter, Use 1-½ inch open end wrench.
- c. Remove flowmeter.

**END OF TASK**

---

**3-99 FLOWMETER — INSPECT**

---

**3-99**

This task covers: Inspection

---

**INITIAL SETUP****Personnel Required**

68H Aircraft Pneudraulic Repairman

---

**INSPECTION**

- a. Inspect for broken, stripped threads.
- b. Inspect for cracked or deteriorated gage.
- c. Replace flowmeter (Para. 3-101). Repair flowmeter (Para. 3-100).

END OF TASK

This task covers: Disassembly and Assembly

INITIAL SETUP

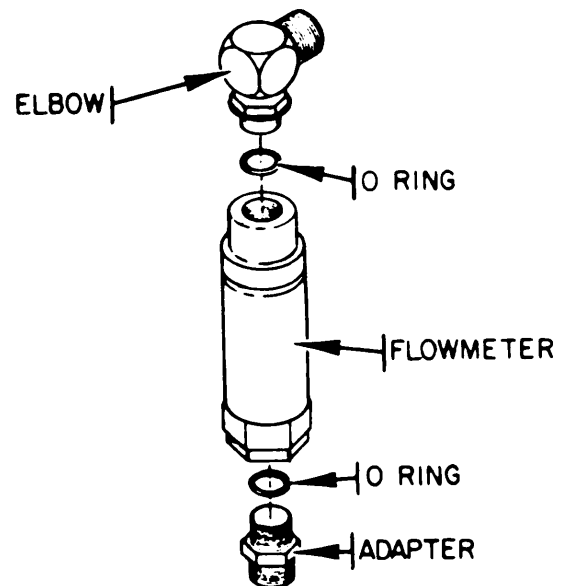
<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-98	Flowmeter removed
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-323-4891 1-½ in. open end wrench	Elbow and adapter "O" rings -Part Number MS29512-12 Flowmeter - Part Number 22092-100	

1. DISASSEMBLY

- a. Unscrew adapter from flowmeter and remove rings, using 1-½ in. open end wrench.
- b. Remove elbow, flowmeter, and remove "O" ring.

2. ASSEMBLY

- a. Install "O" ring on the elbow.
- b. Install elbow in flowmeter, and tighten jam nut.
- c. Install "O" ring on adapter.
- d. Install adapter in flowmeter and tighten.



END OF TASK

---

**3-101 FLOWMETER — REPLACE**

---

**3-101**

This task covers: Installation

---

**INITIAL SETUP**

<u>Personnel Required</u>	Equipment Condition <u>Para</u>	Condition <u>Description</u>
68H Aircraft Pneudraulic Repairman	3-98	Flowmeter removed
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-323-4891 1-½ in. open end wrench	Flowmeter-Part Number 22092-100	

---

**INSTALLATION**

- a. Install flowmeter elbow on tubing. Tighten nut.
- b. Install flowmeter adapter on tubing. Tighten nut.
- c. Using 1-½ inch open end wrench, tighten nut on elbow and adapter.
- d. Perform functional test, Para. 2-8.

**END OF TASK**

**3-102 FLUID RESERVOIR – REMOVE**

**3-102**

This task covers: Removal and Disassembly

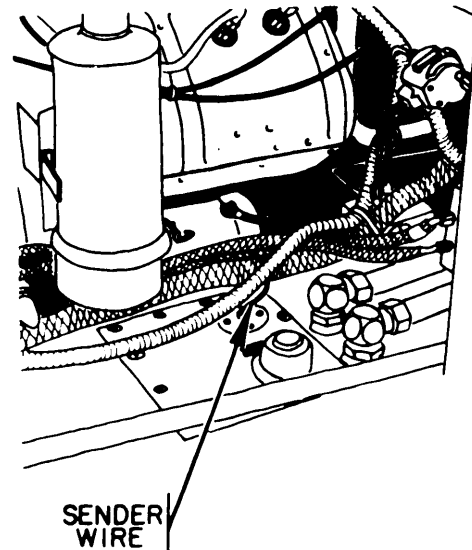
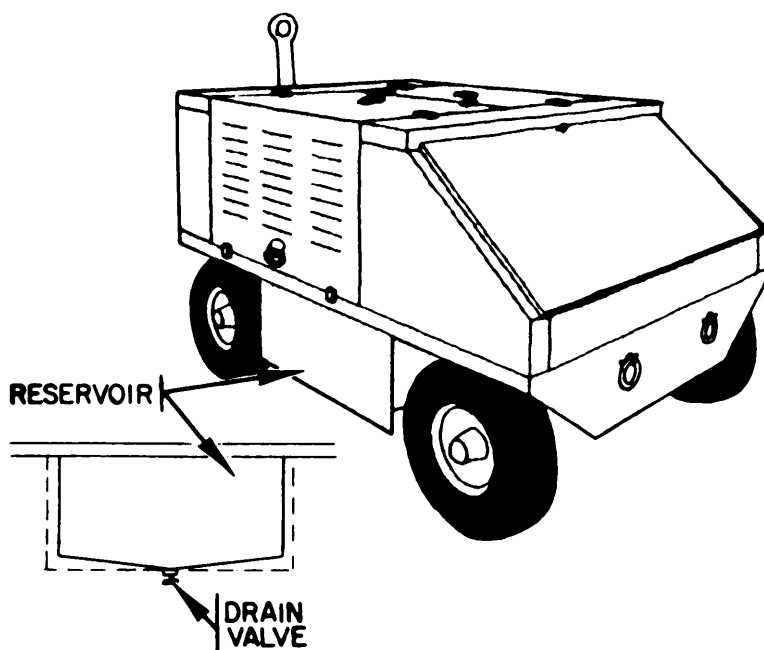
**INITIAL SETUP**

Personnel Required

68H Aircraft Pneudraulic  
Repairman

Tools

Kit, NSN 5180-00-323-4891  
1-1/2 in. open end wrench  
1-3/8 in. open end wrench

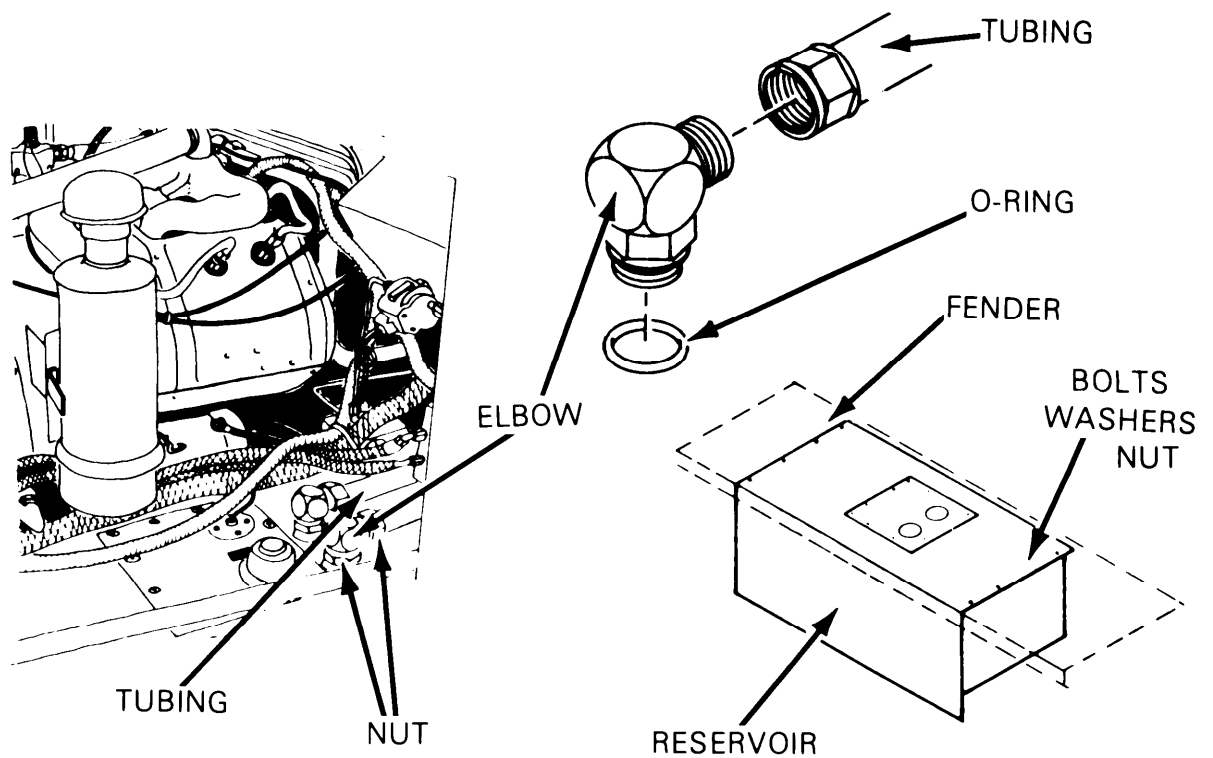


**1. REMOVAL**

- a. Remove access panel.
- b. Open drain valve, drain reservoir, After draining, close drain valve.
- c. Remove sender wire.

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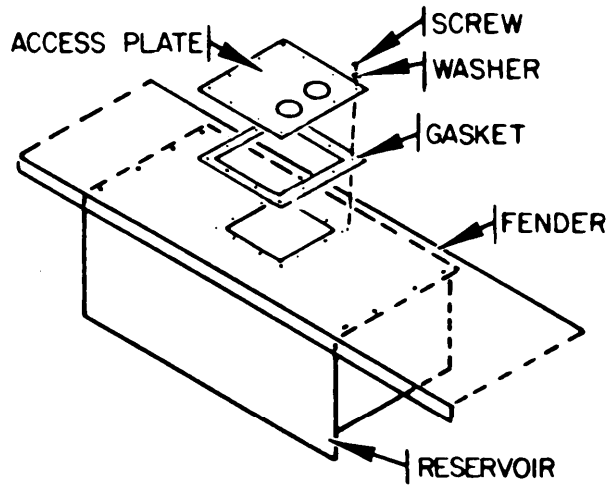
### 1. REMOVAL (cont)

- d. Disconnect the hydraulic tubing. Hold the elbow with a 1-3/8 inch open end wrench. Remove two nuts with a 1-1/2 inch open end wrench.
- e. Remove the elbows. Hold elbows with a 1-3/8 inch open end wrench.
- f. Loosen two nut. Use 1-1/2 inch open end wrench.
- g. Remove two elbows. Use 1-3/8 inch open end wrench.
- h. Remove eight bolts and nuts.
- i. Remove reservoir.

GO TO NEXT PAGE

2. DISASSEMBLY

- a. Remove 12 screws.
- b. Remove plate and gasket.



END OF TASK

This task covers: Inspection

INITIAL SETUP

Personnel Required

68H Aircraft Pneudraulic  
Repairman

Materials/Parts

Clean rags

INSPECTION

- a. Inspect reservoir for punctures, cracks and dirt.
- b. Replace if damaged (Para. 3-105). Service if dirty (Para. 3-104). Send to AVIM for repair.

END OF TASK

---

**3-104 FLUID RESERVOIR – SERVICE**

**3-104**

---

This task covers:     Cleaning (See INITIAL SETUP, Para. 3-103).

---

CLEANING

Clean reservoir with clean rags.

END OF TASK

---

**3-105 FLUID RESERVOIR – REPLACE**

**3-105**

---

This task covers:     Assembly and Installation.

---

INITIAL SETUP

Personnel Required	Equipment Condition Para	Condition Description
68H Aircraft Pneudraulic Repairman	3-102	Reservoir removed and disassembled
<b>Tools</b>	<b>Materials/Parts</b>	
Kit, NSN 5180-00-323-4891 1-1/2 in. open end wrench 1-3/8 in. open end wrench	Reservoir-Part Number 79009-126 Gasket-Part Number 4508X1/2 “O” ring-Part Number MS28778-16 Hydraulic Fluid Mil-H-5606, Item 3, Appendix D.	

---

1. ASSEMBLY

- a. Install gasket and access plate. Align holes in gasket and plate with holes in reservoir.
- b. Install 12 screws. Tighten.

GO TO NEXT PAGE



**2. INSTALLATION**

- a. Position reservoir under test stand fender.
- b. Align holes in reservoir with holes in fender.
- c. Install eight bolts and flatwashers.
- d. Install eight lockwashers and nuts on bolts and tighten.
- e. Install new “O” rings on the two elbows.
- f. Install two elbows. Tighten.
- g. Align elbow with hydraulic tubing and tighten the bottom nut on the elbow. Use 1-½ inch open end wrench.
- h. Install tubing nuts on elbows and tighten nut, using 1-½ inch open end wrench.
- i. Install sender wire.
- j. Service with hydraulic fluid, MIL-H-5606.
- k. Install access panel.

**END OF TASK**

This task covers: Disassembly

INITIAL SETUP

Personnel Required

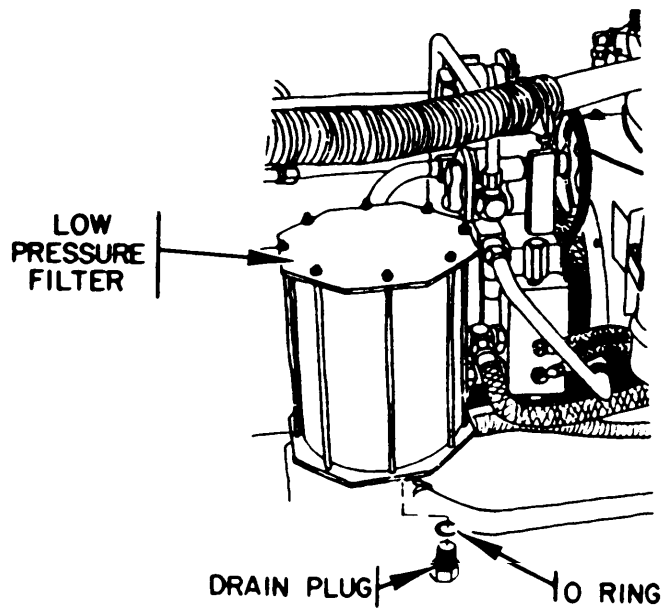
Materials/Parts

68H Aircraft Pneudraulic  
Repairman

Clean rags

Tools

Kit, NSN 5180-00-323-4891  
1-½ in, open end wrench  
Metal container



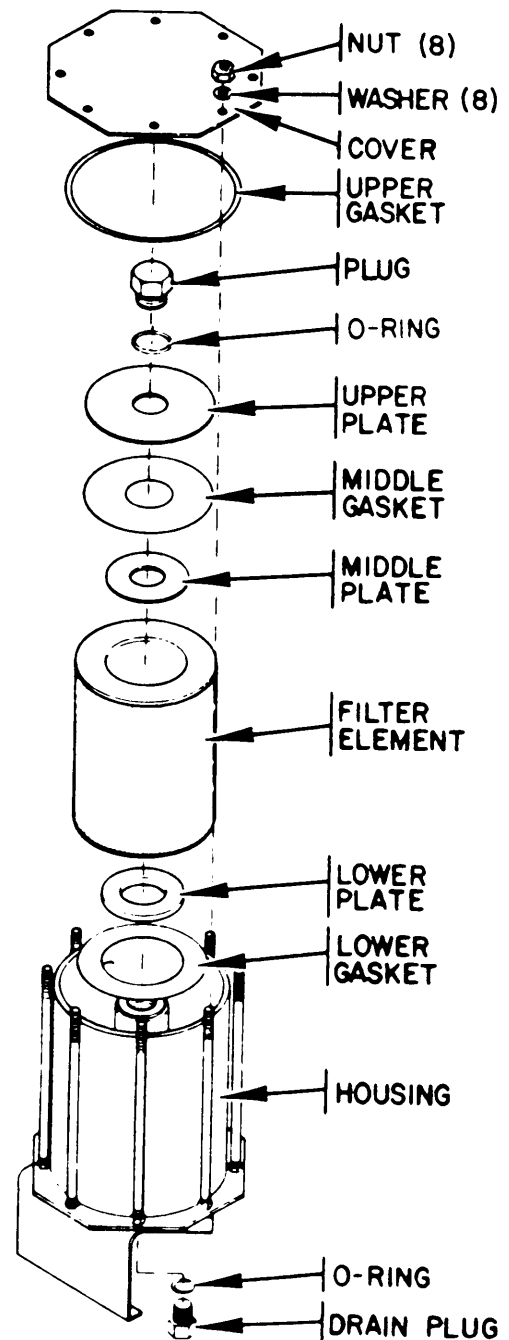
DISASSEMBLY

- a. Remove access panel.
- b. Remove drain plug and "O" ring.
- c. Discard the "O" ring.
- d. Drain fluid into metal container.

GO TO NEXT PAGE

## DISASSEMBLY (cont)

- e. Remove eight nuts and flatwashers.
- f. Remove cover.
- g. Remove upper gasket. Discard.
- h. Remove plug. Use 1-½ inch open end wrench.
- i. Remove "O" ring. Discard.
- j. Remove upper plate.
- k. Remove middle gasket. Discard.
- l. Remove middle plate.
- m. Remove filter element. Discard; the filter element is not re-usable.
- n. Remove lower plate.
- o. Remove lower gasket. Discard.
- p. Clean interior of housing. Wipe with clean rags.



END OF TASK

---

**3-107 LOW PRESSURE FILTER – INSPECT**

**3-107**

---

This task covers: Inspection (See INITIAL SETUP, Para. 3-106)

---

INSPECTION

- a. Inspect filter element for dirt, sludge, chips.
- b. Check for cut “O” rings and gaskets.
- c. Replace damaged items (Para. 3-109).

END OF TASK

---

**3-108 LOW PRESSURE FILTER – SERVICE**

**3-108**

---

This task covers: Cleaning (See INITIAL SETUP, Para. 3-106)

---

CLEANING

Use clean rags and wipe/remove all dirt, chips in filter housing.

END OF TASK

---

**3-109 LOW PRESSURE FILTER — REPLACE**

**3-109**

---

This task covers: Assembly

---

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-106	Filter Disassembled
 <u>Tools</u>	 <u>Materials/Parts</u>	
Kit, NSN 5180-00-323-4891 1-1/2 in. open end wrench	Filter element-Part Number AN6236-3 Upper gasket-Part Number 22052-1 Plug “O” ring-Part Number AN960-2116 Middle gasket-Part Number 22074-2 Lower gasket-Part Number 22074-1 Drain plug “O” ring-Part Number MS29512-04 Hydraulic Fluid, MIL-H-5606 Item 3, Appendix D.	

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GO TO NEXT PAGE



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**3-109 LOW PRESSURE FILTER — REPLACE — Continued**

---

**3-109**

## ASSEMBLY

- a. Position "O" ring on drain plug.
- b. Install drain plug and tighten.
- c. Install lower gasket, lower plate and filter element.
- d. Install middle gasket between middle and upper plates.
- e. Install "O" ring on plug.
- f. Install plug and tighten using 1-½ inch open end wrench. Keep upper plate from rotating while tightening plug.
- g. Install upper gasket and cover.
- h. Secure assembly with eight washers and nuts and tighten nuts.
- i. Service with hydraulic fluid, MIL-H-5606
- j. Install access panel.

END OF TASK

---

**3-110 LOW PRESSURE FILTER – TEST**

---

**3-110**

This task covers: Testing

---

INITIAL SETUPPersonnel Required68H Aircraft Pneudraulic Repairman

---

## TESTING

Operate test stand, refer to paragraphs 2-3 through 2-4j. Check for leaks.

END OF TASK

---

**3-111 HIGH PRESSURE FILTER – REMOVE**

---

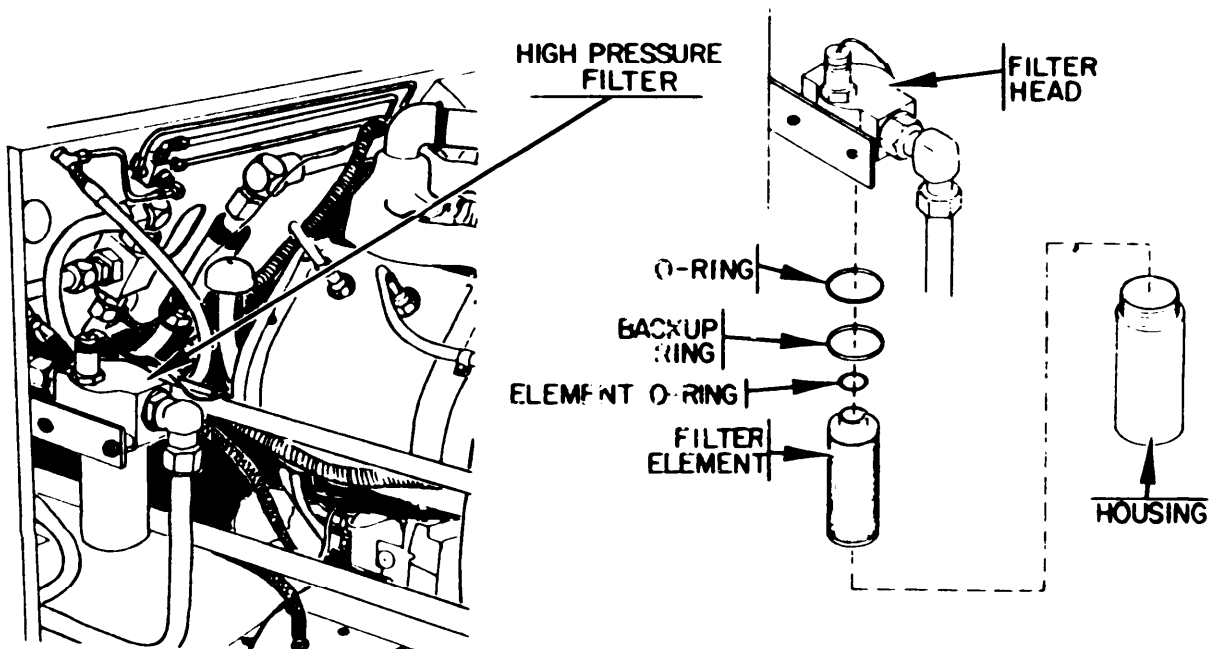
3-111

This task covers: Removal

---

**INITIAL SETUP**Personnel Required68H Aircraft Pneudraulic Repairman

---

**REMOVAL**

- a. Grasp filter housing and turn counterclockwise, unscrewing the housing from the filter head.
- b. Remove the filter element.
- c. Discard the filter element; it is not reusable.

**END OF TASK**

---

**3-112 HIGH PRESSURE FILTER – INSPECT**

---

**3-112**

This task covers: Inspection

---

**INITIAL SETUP**Personnel Required

68H Aircraft Pneudraulic Repairman

Materials/Parts

Clean rags

---

**INSPECTION**

Inspect filter head “O” rings for cuts/deterioration,

**END OF TASK**

---

**3-113 HIGH PRESSURE FILTER — SERVICE**

---

**3-113**

This task covers: Cleaning (See INITIAL SETUP, Para. 3-112)

**CLEANING**

Use clean rags and wipe/remove dirt from housing.

**END OF TASK**

---

**3-114 HIGH PRESSURE FILTER – REPLACE**

---

**3-114**

This task covers: Installation

---

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Conditon Description</u>
68H Aircraft Pneudraulic Repairman	3-111	Filter removed

Materials/Parts

Filter element-Part Number AC-9497F-12H  
 "O" ring, head-Part Number MS28775-136  
 Back-up ring-Part Number MS28774-136  
 Element "O" ring-Part Number MS28778-8

---

INSTALLATION

- a. Insert "O" ring into "O" ring groove in filter head,
- b. Insert back-up ring into groove in filter head.
- c. Insert "O" ring into filter element. Insert filter element into filter housing.
- d. Install the housing into filter head. Screw housing clockwise, tighten.

END OF TASK

---

**3-115 HIGH PRESSURE FILTER — TEST**

---

**3-115**

This task covers: Testing

---

INITIAL SETUP

Personnel Required

68H Aircraft Pneudraulic Repairman

---

TESTING

Operate test stand, refer to paragraphs 2-3 through 2-4J. Check for leaks.

END OF TASK

---

**3-116 LINES (FLEX AND RIDGE) AND CONNECTORS – INSPECTION**

---

3-116

This task covers:     Inspection

---

**INITIAL SETUP**Personnel Required

68H Aircraft Pneudraulic  
Repairman

References

Refer to TM55-1500-204-25/1  
General Aircraft Maintenance Manual

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**NOTE**

**Refer to TM55-1500-204-25/1 for inspection criteria for  
lines/connectors.**

**INSPECTION**

- a.   Inspect rigid lines for cracks, damaged threads, dents and security.
- b.   Inspect flex lines for deterioration, damaged threads and security.
- c.   Inspect connectors for damaged threads, cracks and leaks.
- d.   Replace damaged items (send to AVIM for fabrication).

**END OF TASK**

This task covers: Inspection, Removal Cleaning And Installation

---

**INITIAL SETUP**Personnel Required

68H Aircraft Pneudraulic  
Repairman

Tools

Kit, NSN 5180-00-323-4891

Materials/Parts  
Oil Cooler

---

**1. INSPECTION**

- a. Inspect for breaks and deformed condition; punctures.
- b. Check for clogged condition.

**2. Removal**

- a. Remove the oil cooler inlet and outlet tubing.
- b. Remove the four screws from the oil cooler rubber mounts. Remove oil cooler. Install caps on inlet and outlet fittings.

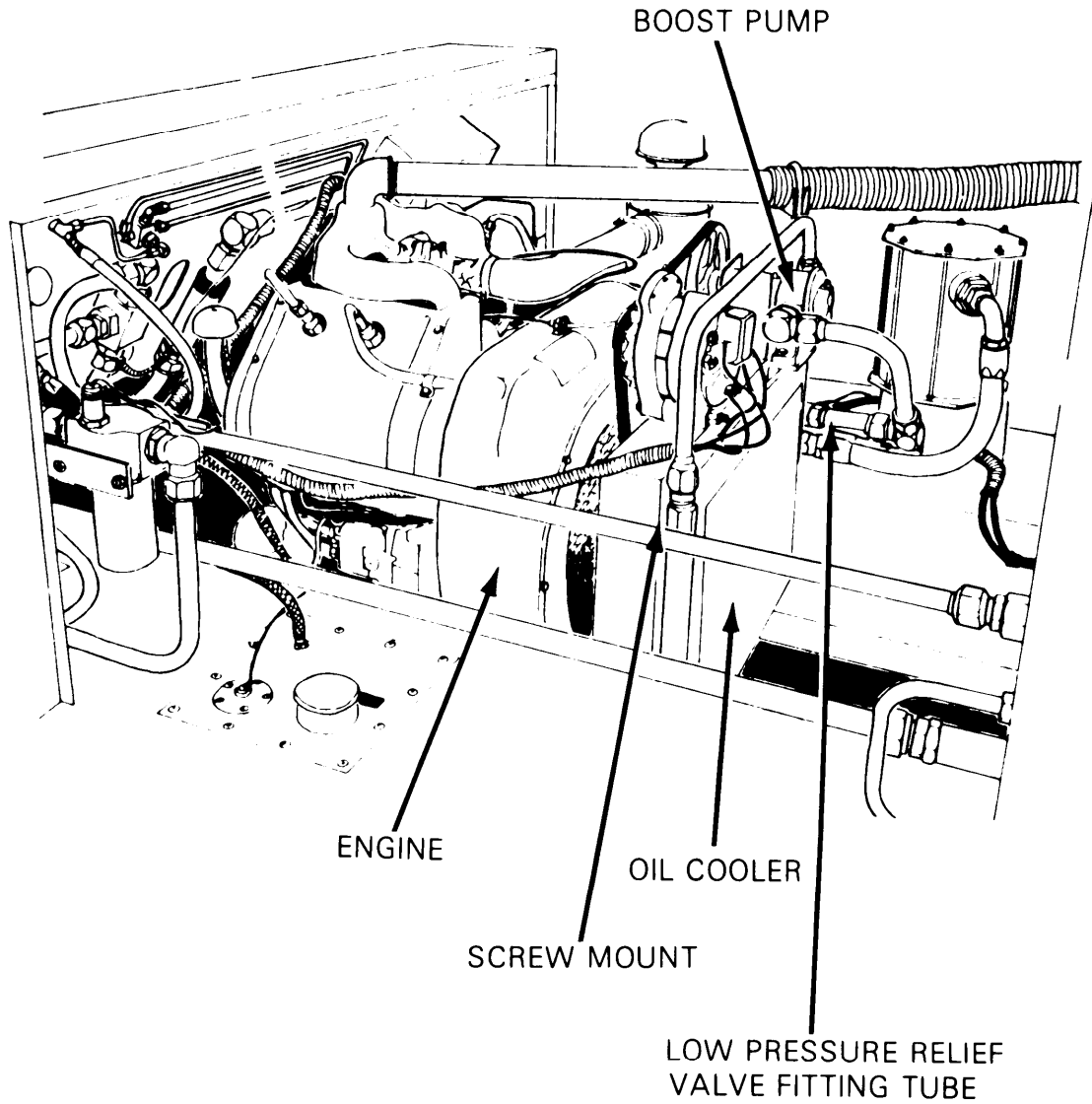
**3. CLEANING**

Flush out dirt and debris from the cooler with a high pressure hose.

**4. INSTALLATION**

Install cooler or replace with a serviceable unit by securing in place with four mounts and screws. Install the inlet and outlet tubing.

GO TO NEXT PAGE



END OF TASK

This task covers: Inspection

---

INITIAL SETUP

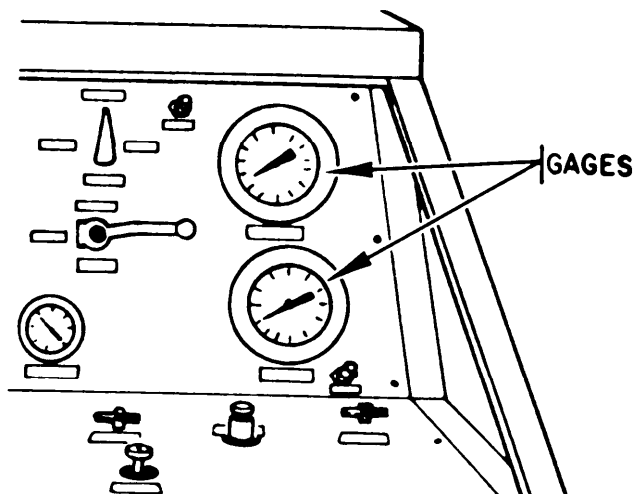
Personnel Required

68H Aircraft Pneudraulic Repairman

---

INSPECTION

Inspection gages for cracked glass, loose pointer and stripped threads.



END OF TASK



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**3-119 PRESSURE GAGES – REPLACE**

---

3-119

This task covers: Removal and Installation

---

INITIAL SETUPPersonnel Required

68H Aircraft Pneudraulic Repairman

Tools

Kit NSN 5180-00-323-4891

Materials/Parts

System pressure gage

Part Number

45-1377RS-XPDFD-

02B-30-0-150

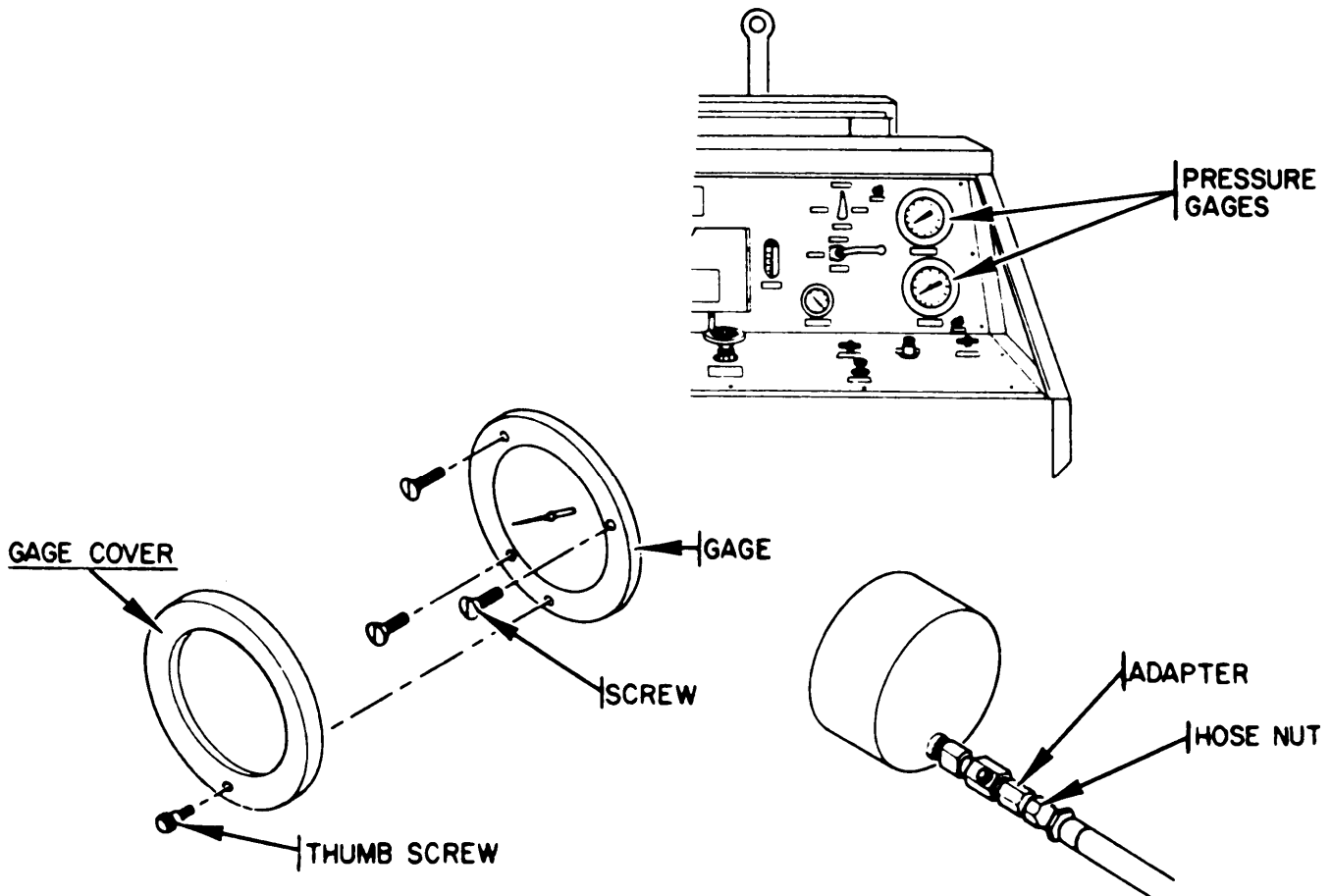
Compound pressure gage

Part Number 45-1377RT-

SXPDFD-02B-6000

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#### REMOVAL AND INSTALLATION

- Remove/install gage glass cover. Unscrew thumb screw.
- Remove/install screws.
- Remove/install gages from instrument panel.
- Remove/install hose nut, while holding adapter with wrench.
- Remove/install gages.

END OF TASK

---

**3-120 CONTROL KNOBS/HANDLES – REMOVE**

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**3-120**

This task covers:     Removal

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**INITIAL SETUP**Personnel Required

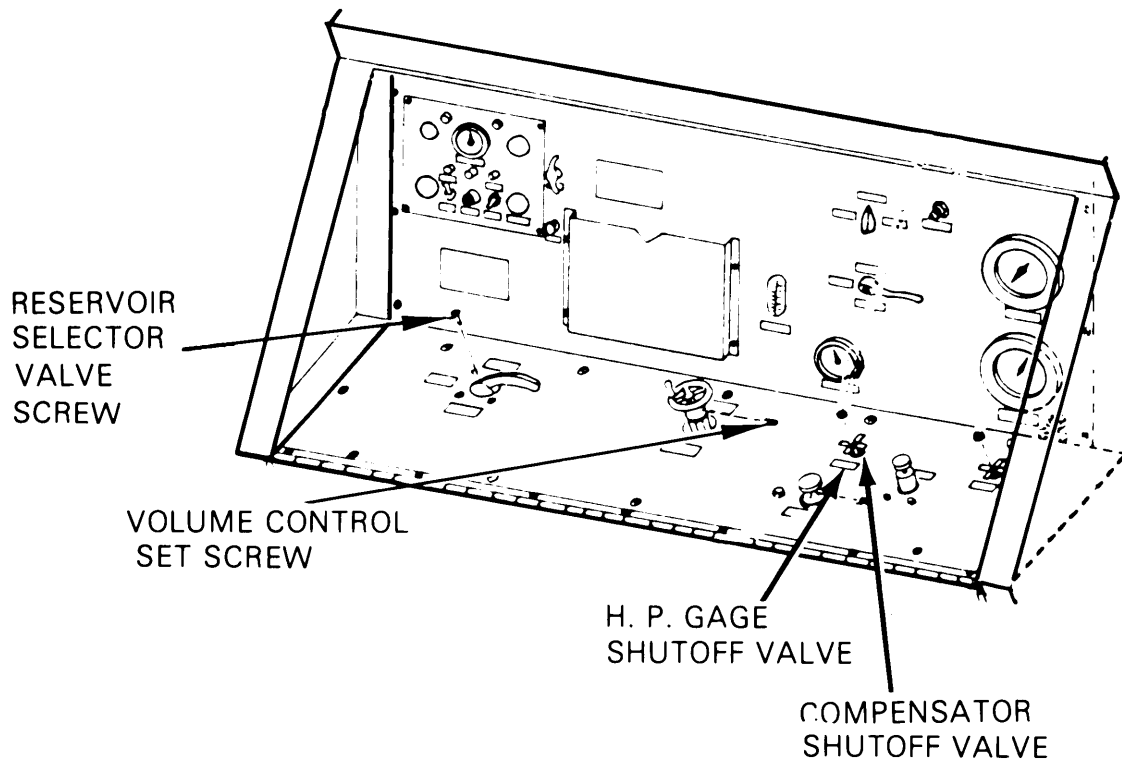
68H Aircraft Pneudraulic  
Repairman

Tools

Kit, NSN 5180-00-323-4891

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GO TO NEXT PAGE



#### REMOVAL

- a. Open instrument panel door.
- b. Remove compensator shutoff valve control knob setscrew.
- c. Remove volume control hand wheel.
- d. Remove reservoir selector valve handle.
- e. Remove H.P. Gage control knob.
- f. Remove knob/handle and/or hand wheel.

END OF TASK

---

**3-121 CONTROL KNOBS/HANDLES – INSPECT**

---

**3-121**

This task covers: Inspection

---

INITIAL SETUP

Personnel Required

68H Aircraft Pneudraulic Repairman

---

INSPECTION

- a. Check for broken knobs and handles.
- b. Inspect for looseness and thread damage.
- c. Replace damaged items (Para. 3-122).

END OF TASK

---

**3-122 CONTROL KNOBS/HANDLES – REPLACE**

---

**3-122**

This task covers: Installation

---

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Conditon Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-120	Knob/handles removed

<u>Tools</u>	<u>Materials/Parts</u>
Kit, NSN 5180-00-323-4891	Reservoir selector Valve handle-Part Number 79009-216-17 Shut-off valve handle-Part Number 79009-402 Handwheel-Part Number 186NSX1/2 Knob-Part Number 79009-205-1

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GO TO NEXT PAGE

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**3-122 CONTROL KNOBS/HANDLES – REPLACE – Continued**

---

**3-122**

INSTALLATION

- a. Install reservoir selector valve handle and screw. Tighten screw.
- b. Install volume control handwheel and setscrew. Tighten setscrew.
- c. Install compensator shutoff control knob and screw. Tighten screw.
- d. Install H.P. Gage shut-off valve control knob and screw. Tighten nut.
- e. Close instrument panel door.

END OF TASK

---

**3-123 PANEL ASSEMBLY — REMOVE**

---

**3-123**

This task covers: Removal

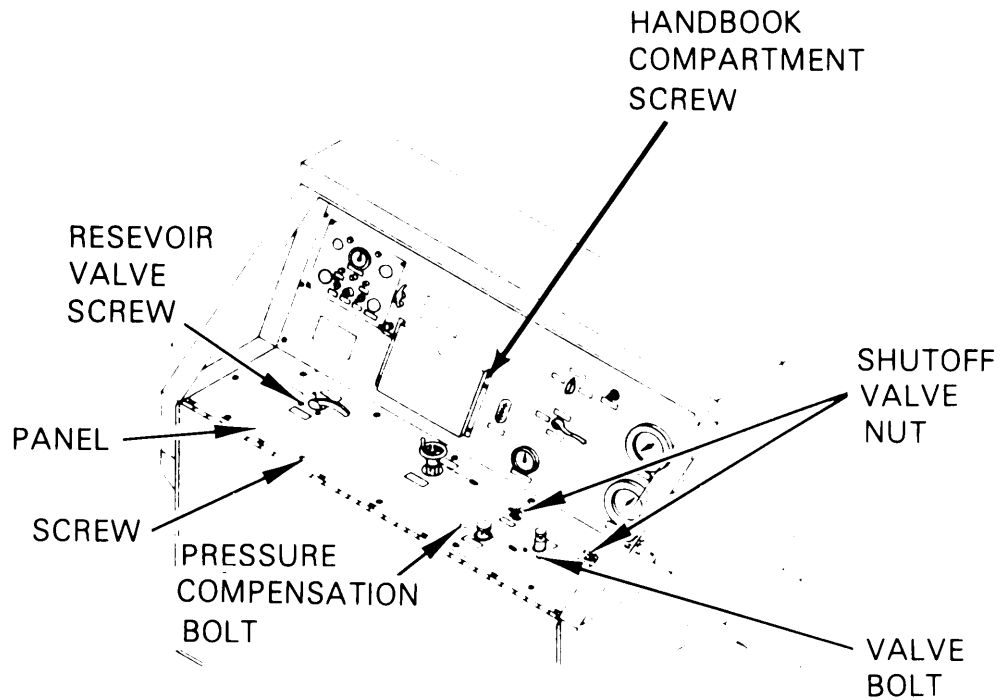
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INITIAL SETUP

<u>Personnel Required</u>	Equipment Condition <u>Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-120	Knob/handles removed
 <u>Tools</u>		
Kit, NSN 5180-00-323-4891		

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GO TO NEXT PAGE



## REMOVAL

- a. Remove the four screws securing the reservoir selector valve to the panel.
- b. Remove bolt securing the pressure compensator control to the panel.
- c. Remove bolts securing system relief valve to the panel.
- d. Remove nuts from compensator shut-off valve and H.P. Gage valve securing the valve to the panel,
- e. Remove four screws securing handbook compartment to upper panel.
- f. Remove 12 screws securing lower panel in place.
- g. Remove lower panel.

END OF TASK

---

**3-124 PANEL ASSEMBLY — INSPECT**

---

**3-124**

This task covers: Inspection

---

**INITIAL SETUP****Personnel Required**

68H Aircraft Pneudraulic Repairman

**Materials/Parts**Paint, Item 4, Appendix D

---

**INSPECTION**

- a. Inspect for loose or missing identification plates and scratched paint.
- b. Inspect for dents.
- c. Service and/or replace panel (Paras. 3-125, 3-126).
- d. Inspect for loose, missing or defaced identification plates.

**END OF TASK**

---

**3-125 PANEL ASSEMBLY — SERVICE**

---

**3-125**

This task covers: Cleaning and Painting (See INITIAL SETUP, Para. 3-124).

**1. CLEANING**

- a. Wash dirt, oil, grease from panel. Use soap and warm water.
- b. Rinse soap and water from panel. Use clean water.
- c. Dry with clean rags.

**2. PAINTING**

Paint bare spots.

**END OF TASK**



This task covers: Installation

INITIAL SETUP

Personnel Required	Equipment Condition Para	Condition Description
68H Aircraft Pneudraulic Repairman	3-123 3-120	Panel removed Knob/handles removed
Tools	Materials/Parts	
Kit, NSN 5180-00-323-4891	Panel-Part Number 79009-149	

INSTALLATION

- a. Install lower panel on test stand. Align holes in panel with mating screw holes in test stand.
- b. Install 12 screws and tighten.
- c. Install nut securing the H.P Gage shutoff valve to the panel. Tighten the nut finger tight and then tighten the nut a minimum 1/3 turn more.
- d. Install nut securing the compensator shut-off valve to the panel. Tighten the nut finger tight and then tighten the nut a minimum 1/3 turn more.
- e. Install the bolts and lockwashers (2 places) securing the pressure compensator to the panel. Tighten the bolts (2 places) finger tight and then tighten the bolts a minimum of 2/3 turn more.
- f. Install the bolt and lockwasher securing the pressure compensator control to the panel. Tighten the bolt finger tight and then tighten the bolt a minimum of 3/4 turn more.
- g. Install the four screws securing the reservoir selector to the panel. Tighten the screws.

GO TO NEXT PAGE

INSTALLATION (cont)

- h. Install four screws securing handbook compartment to panel, tighten screws.
- i. install control knob/handle (Para. 3-120).

END OF TASK

This task covers: Removal

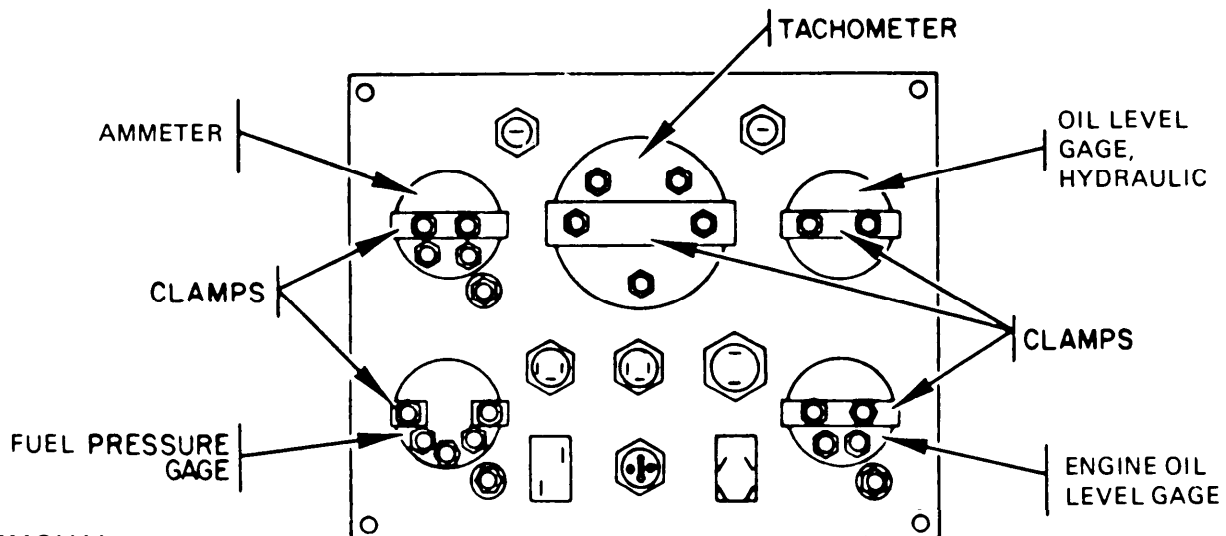
INITIAL SETUP

Personnel Required

Tools

68H Aircraft Pneudraulic  
Repairman

Kit, NSN 5180-00-323-4891



REMOVAL

- a. Disconnect battery, Para. 3-49.
- b. Open instrument panel door.
- c. Remove four screws securing instrument panel to the upper panel.
- d. Lift out instrument panel.

GO TO NEXT PAGE

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**3-127 INSTRUMENTS – REMOVE – Continued**

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3-127

## REMOVAL (cont)

- e. Remove three nuts securing wires on tachometer.
- f. Remove and tag wires so they can be properly replaced.
- g. Remove two nuts securing clamp holding tachometer in panel.
- h. Remove nuts securing wires to ammeter and level gages.
- i. Remove and tag wires so they can be properly replaced.
- j. Disconnect oil line from oil pressure gage (if required).
- k. Remove two nuts securing clamp holding ammeter, oil pressure, or level gages in panel.
- l. Remove ammeter, oil pressure, or level gages as applicable.

END OF TASK

---

**3-128 INSTRUMENTS — INSPECT**

---

3-128

This task covers: Inspection

---

INITIAL SETUPPersonnel Required

68H Aircraft Pneudraulic Repairman

---

INSPECTION

- a. Inspect gages for cracked glass, loose pointer and other damage.
- b. Replace gages as applicable (Para. 3-129).

END OF TASK

This task covers: Installation

---

### INITIAL SETUP

<u>Personnel Required</u>	Equipment Condition <u>Para</u>	Condition <u>Description</u>
68H Aircraft Pneudraulic Repairman	3-127	Gages removed
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-323-4891	Ammeter-Part Number 284A Tachometer-Parts Number 24HT3A Oil Indicator, hydr.- Part Number 284M Oil indicator, engine- Part Number 284AE Fuel indicator, Part Number 284M	

---

### INSTALLATION

- a. install two nuts securing clamp to ammeter, hydraulic oil level gage, engine oil gage or fuel gage.
- b. Install wiring and secure with nuts.
- c. Install two nuts securing clamp holding tachometer to panel. Install wires and secure with nuts.
- d. Connect oil line to oil pressure gage (if required).
- e. Install the instrument panel and secure with four screws.
- f. Close the door.
- g. Connect battery (para 3-52).

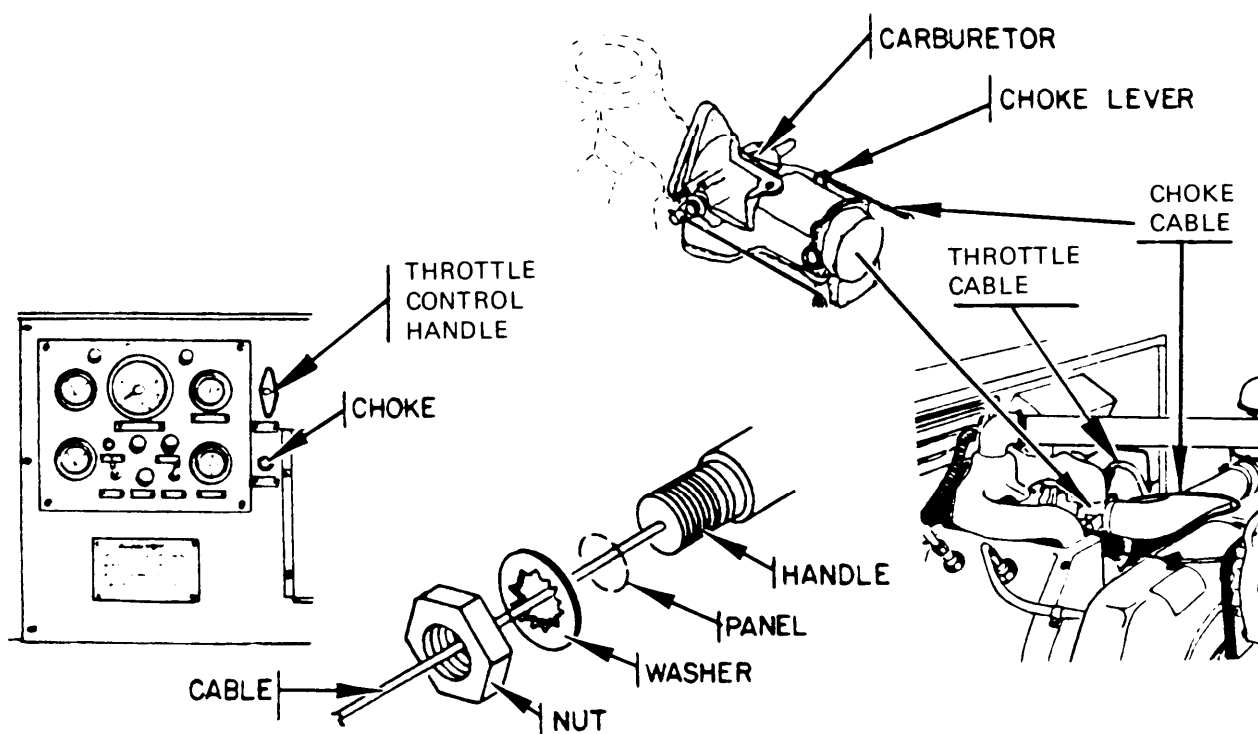
END OF TASK

**3-130 CONTROL CABLE ASSEMBLIES – REMOVE****3-130**

This task covers: Removal

**INITIAL SETUP**Personnel Required68H Aircraft Pneudraulic  
RepairmanTools

Kit, NSN 5180-00-323-4891

**REMOVAL**

- a. Open instrument panel door and remove access panels.
- b. Remove nut/washer securing choke cable to instrument panel.
- c. Loosen screw securing cable in choke lever or carburetor.
- d. Release camshaft securing cable in place and remove cable assy.
- e. Remove nut and washer securing throttle in the instrument panel.
- f. Remove throttle cable from the variable speed lever.

GO TO NEXT PAGE

---

**3-130 CONTROL CABLE ASSEMBLIES – REMOVE – Continued**

---

**3-130**

REMOVAL (cont)

- g. Remove nut from cable bracket.
- h. Unscrew cable bracket from cable.
- i. Remove cable through grommet and instrument panel. washer and nut.

END OF TASK

---

**3-131 CONTROL CABLE ASSEMBLIES – INSPECT**

---

**3-131**

This task covers: Inspection

---

INITIAL SETUP

Personnel Required

Tools

68H Aircraft Pneudraulic  
Repairman

Wire brush  
Oil can with oil

---

INSPECTION

- a. Inspect cables for rust, corrosion.
- b. Check cables for kinks and bends.
- c. Service cables (Para. 3-132). Replace cables (Para 3-133).

END OF TASK

---

**3-132 CONTROL CABLE ASSEMBLIES — SERVICE**

---

**3-132**

This task covers: Cleaning and Lubrication (See INITIAL SETUP, Para. 3-131).

---

1. CLEANING

Remove rust or corrosion from cables. Use wire brush.

2. LUBRICATION

Lubricate the cables. Use oil can with oil.

END OF TASK

---

**3-133 CONTROL CABLE ASSEMBLIES – REPLACE**

---

**3-133**

This task covers: Installation

---

**INITIAL SETUP**

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-130	Cables removed
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-323-4891	Choke cable-Part Number VE-435-E Throttle cable-Part Number VE-527-WV	

---

**INSTALLATION**

- a. Install choke cable through instrument panel, washer and nut, cable bracket and into choke lever. Secure cable in cable bracket.
- b. Tighten screw securing choke cable in choke lever.
- c. Install washer and nut securing choke cable to instrument panel and tighten nut.
- d. Install throttle cable through instrument panel, nut, and washer. Screw cable bracket onto cable.
- e. Install nut on cable bracket and tighten.
- f. Install throttle cable to the variable speed lever and secure in place.
- g. Install washer and nut securing throttle cable in the instrument panel and tighten nut.
- h. Install access panels and close instrument panel door.

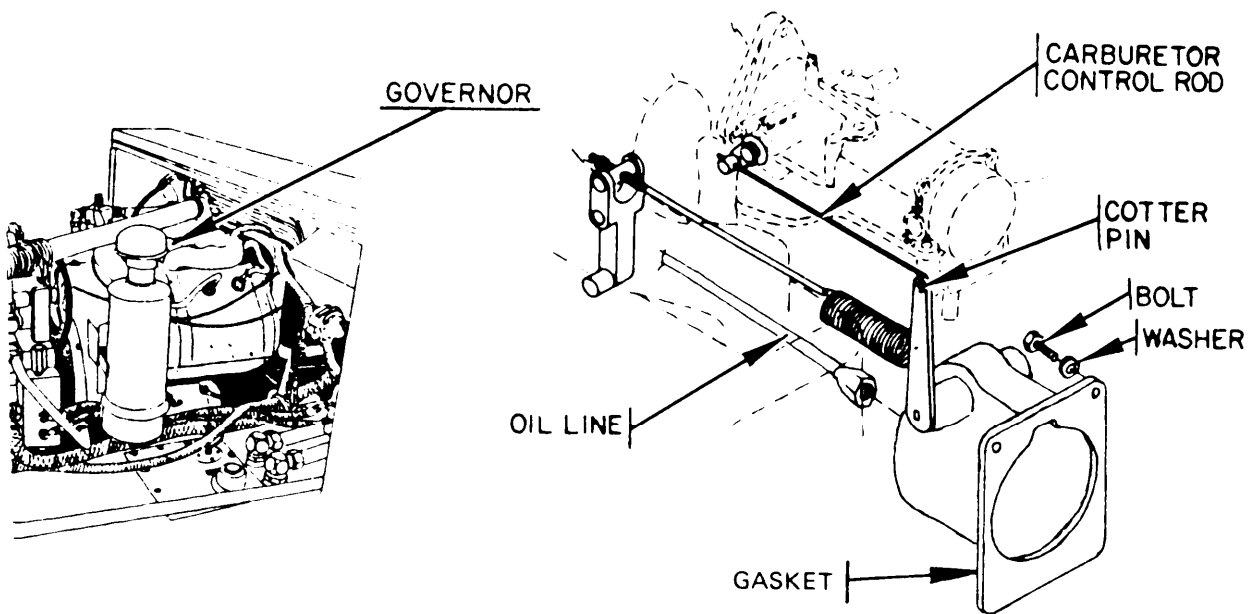
**END OF TASK**

**3-134 GOVERNOR ASSEMBLY – REMOVE****3-134**

This task covers: Removal

## INITIAL SETUP

Personnel Required	Tools	Equipment Condition Para	Equipment Condition
63B Wheel Vehicle Mechanic	Kit, NSN 5180-00-545-8645	3-141	Carburetor removed



## REMOVAL

- a. Remove access panels.
- b. Remove spring from governor lever.
- c. Remove oil line nut.
- d. Remove four bolts and lockwashers.
- e. Remove governor and gasket.

END OF TASK



---

**3-135 GOVERNOR ASSEMBLY – INSPECT**

**3-135**

---

This task covers: Inspection

---

INITIAL SETUP

Personnel Required

63B Wheel Vehicle Mechanic

---

INSPECTION

- a. Check governor for cracks/breaks.
- b. Check for binding at adjustment points.
- c. Replace damaged governor and gasket (Para. 3-136).

END OF TASK

---

**3-136 GOVERNOR ASSEMBLY – REPLACE**

**3-136**

---

This task covers: Installation and Adjustment

---

INITIAL SETUP

Personnel Required

63B Wheel Vehicle Mechanic

Equipment

Condition

Para

3-134

3-141

Condition

Description

Governor removed

Carburetor removed

Tools

Kit, NSN 5180-00-545-8645

Materials/Parts

Governor - Part Number TT-61-F3

Gasket - Part Number QD-615-A

---

INSTALLATION

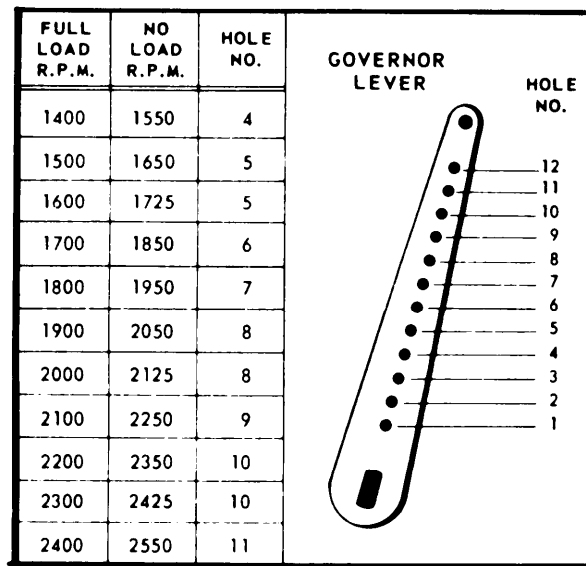
- a. Install governor gasket on the governor.
- b. Install governor on engine, aligning holes.

GO TO NEXT PAGE

INSTALLATION (Cont)

- c. Install four lockwashers and mounting bolts. Tighten bolts.
- d. Install oil line nut. Tighten.
- e. Install spring on governor lever. See accompanying illustration adjustment. Adjust to maintain 2000 RPM,
- f. Install access panel.

END OF TASK



---

**3-137 FUEL PUMP – REMOVE**

---

3-137

This task covers: Removal

---

**INITIAL SETUP**Personnel Required

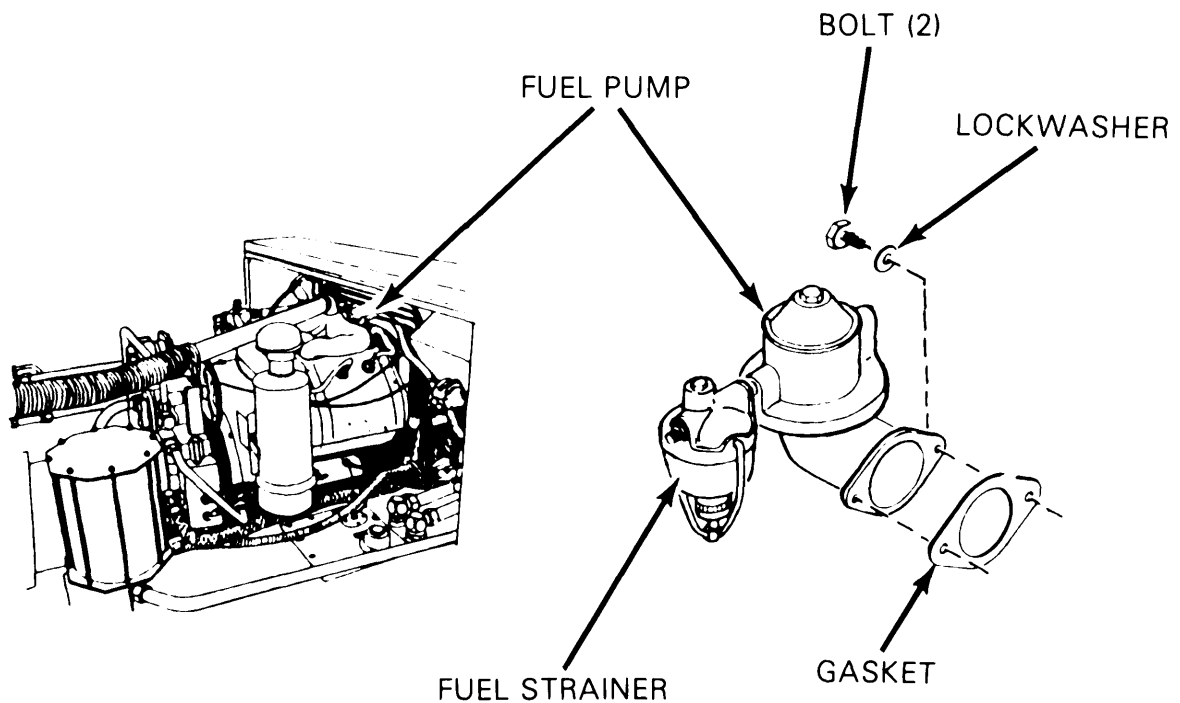
63B Wheel Vehicle Mechanic

ToolsKit, NSN 5180-00-545-8645

---

**REMOVAL**

- a. Remove access panels.
- b. Remove fuel line from carburetor.
- c. Remove fuel line from the fuel strainer.
- d. Remove bolts and lock washer (2 places) securing fuel pump to adapter housing.
- e. Remove fuel pump and fuel strainer. Remove gasket.
- f. Remove fuel strainer from fuel pump.

**END OF TASK**



---

**3-138 FUEL PUMP – INSPECT**

---

**3-138**

This task covers: Inspection

---

INITIAL SETUP

Personnel Required

63B Wheel Vehicle Mechanic

---

INSPECTION

- a. Inspect fuel pump for cracks, breaks, leaks.
- b. Note all malfunctioning conditions.
- c. Repair or replace an inoperative fuel pump:

- Repair, Para. 3-139
  - Replace, Para. 3-140.

END OF TASK

---

**3-139 FUEL PUMP — REPAIR**

---

**3-139**

This task covers: Disassembly and Assembly

---

INITIAL SETUP

Personnel Required

63B Wheel Vehicle Mechanic

Tools

Kit, NSN 5180-00-545-8645

Equipment  
Condition  
Para

3-137

Materials/Parts

Repair Kit-Part Number LQ-46

Condition  
Description

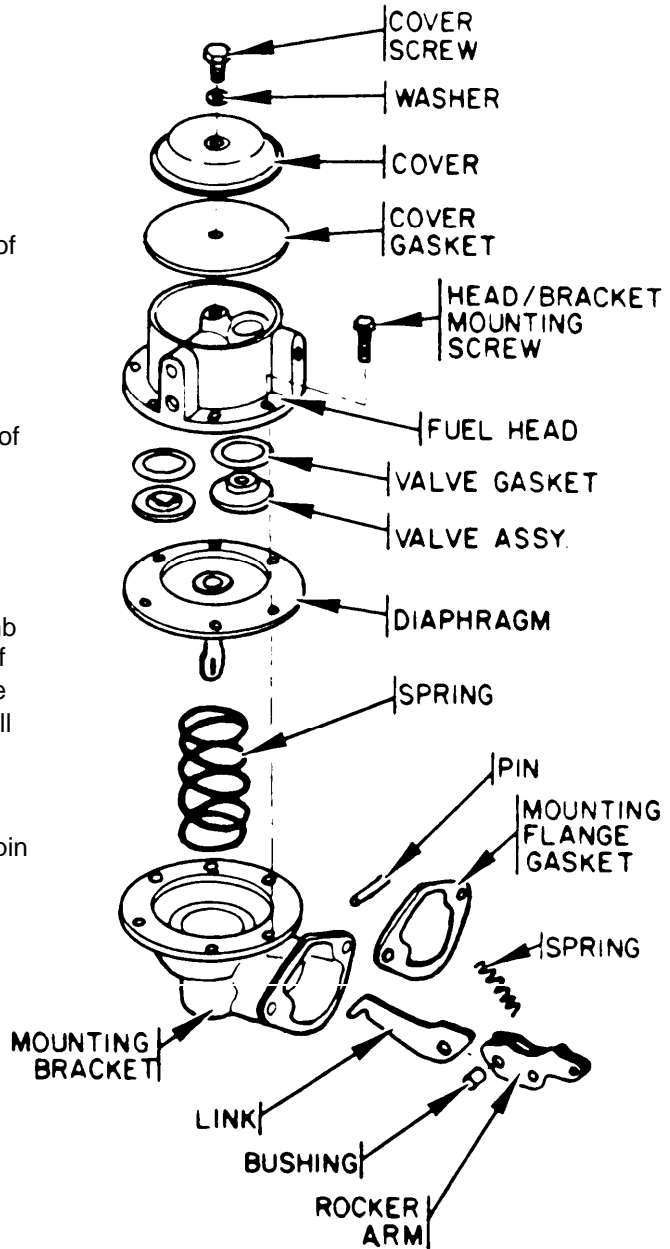
Pump removed from engine

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GO TO NEXT PAGE

1. DISASSEMBLY

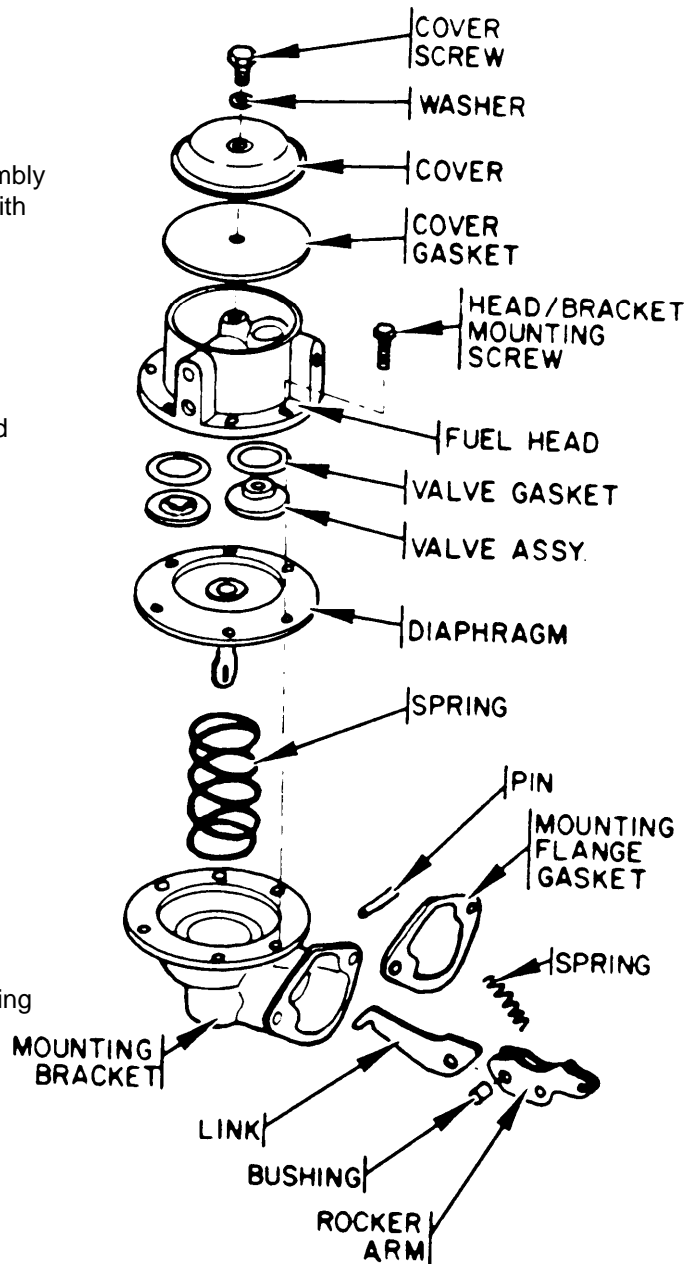
- a. File a groove across a point at the union of the mounting bracket and the fuel head, this is a positive location when reassembling.
- b. Remove six screws.
- c. Remove fuel head.
- d. Remove coverscrew.
- e. Remove cover and gasket. Discard gasket.
- f. Turn fuel head over, note the position of the valves.
- g. Remove the two valve assemblies and gaskets.
- h. Remove rocker arm spring, insert the end of screwdriver into the coils of spring and remove.
- i. Remove link from end of diaphragm. Hold mounting bracket in the left hand with the rocker arm toward your body and the thumb nail on the end of the link. With the heel of the right hand on diaphragm, compress the diaphragm spring and at the same time pull toward your body, unhook link from end of diaphragm.
- j. Remove rocker arm pin, with punch drive pin out from the small end.
- k. Remove rocker arm and bushing.



GO TO NEXT PAGE

2. ASSEMBLY

- a. Install link on rocker arm.
- b. Install bushing on link and rocker arm assembly.
- c. Place bushing, link and rocker arm assembly into mounting bracket. Secure in place with rocker arm pin. Stake pin in place. Use punch.
- d. Position diaphragm spring in mounting bracket.
- e. Install diaphragm, compressing spring and hooking link end in diaphragm.
- f. Install rocker arm spring.
- g. Install two valve gaskets on fuel head.
- h. Position two valves in fuel head.
- i. Install cover gasket.
- j. Install cover.
- k. Install cover washer and screw. Tighten screw.
- l. Install fuel head on mounting bracket.
- m. Install six screws in fuel head and mounting bracket. Tighten.



END OF TASK

This task covers: Installation

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
63B Wheel Vehicle Mechanic	3-137	Pump removed from engine
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-545-8645	Pump-Part Number LP-38E Gasket-Part Number QD-538-A	

INSTALLATION

- a. Install fuel strainer on fuel pump. Tighten.
- b. Install mounting flange gasket.
- c. Install fuel pump on gasket and mounting flange, and secure with two bolts and lockwashers.
- d. Install fuel line on fuel strainer. Tighten nut.
- e. Install fuel line from the carburetor. Tighten nut.
- f. Install access panels.

END OF TASK



---

**3-141 CARBURETOR – REMOVE**

---

3-141

This task covers: Removal

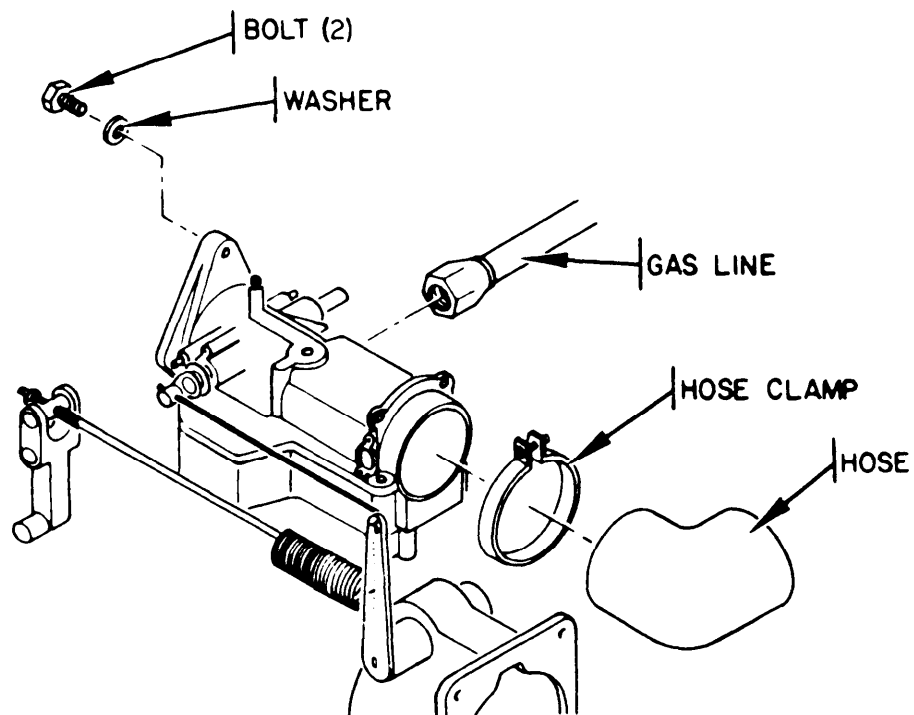
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**Initial Setup**Personnel Required

63B Wheel Vehicle Mechanic

ToolsKit, NSN 5180-00-545-8645

---

**REMOVAL**

- a. Remove access panels.
- b. Loosen screw on air hose clamp.
- c. Remove air hose from carburetor.

**GO TO NEXT PAGE**

---

**3-141 CARBURETOR – REMOVE – Continued**

---

**3-141**

## REMOVAL (cont)

- d. Remove fuel line from fuel pump and then disconnect from carburetor.
- e. Remove clip from control rod.
- f. Remove control rod from governor lever.
- g. Loosen screw securing choke cable to lever. Use screwdriver.
- h. Remove choke cable.
- i. Remove two mounting bolts.
- j. Remove carburetor and gasket.

END OF TASK

---

**3-142 CARBURETOR – INSPECT**

---

**3-142**

This task covers: Inspection

---

INITIAL SETUPPersonnel Required63B Wheel Vehicle Mechanic

---

## INSPECTION

- a. Inspect the carburetor for cracks, breaks, leaks.
- b. Check operation.
- c. If damaged or inoperative, replace/repair:
  - Replace: Para. 3-144.
  - Repair: Para. 3-143.

END OF TASK

---

**3-143 CARBURETOR – REPAIR**

---

**3-143**

This task covers: Disassembly and Assembly

---

**INITIAL SETUP**

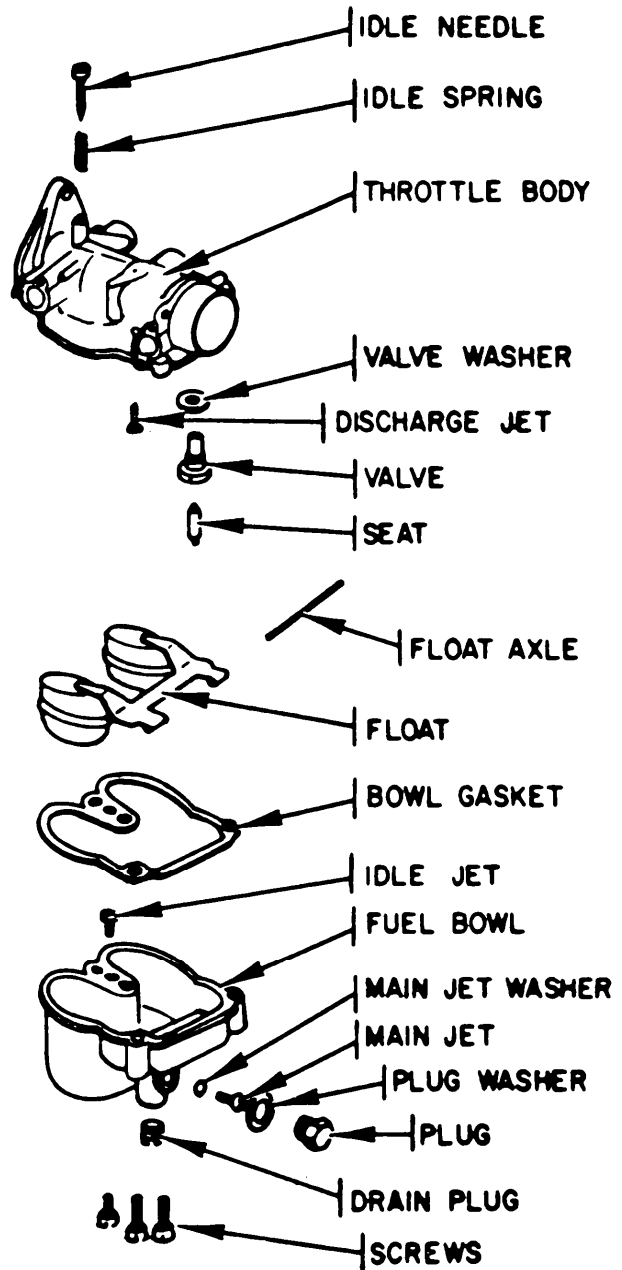
<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
63B Wheel Vehicle Mechanic	3-141	Carburetor removed from engine
<u>Tools</u>		<u>Materials/Parts</u>
Kit, NSN 5180-00-545-8645		Valve and seat-Part Number 93-C81-17-35 Main jet washer - Part Number 93-T56-24 Plug fiber washer - Part Number 93-T56-23 Bowl gasket - Part Number 93-C142-55 Idle needle - Part Number 93-C46-49 Carburetor - Part Number L-57-1

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GO TO NEXT PAGE

1. DISASSEMBLY

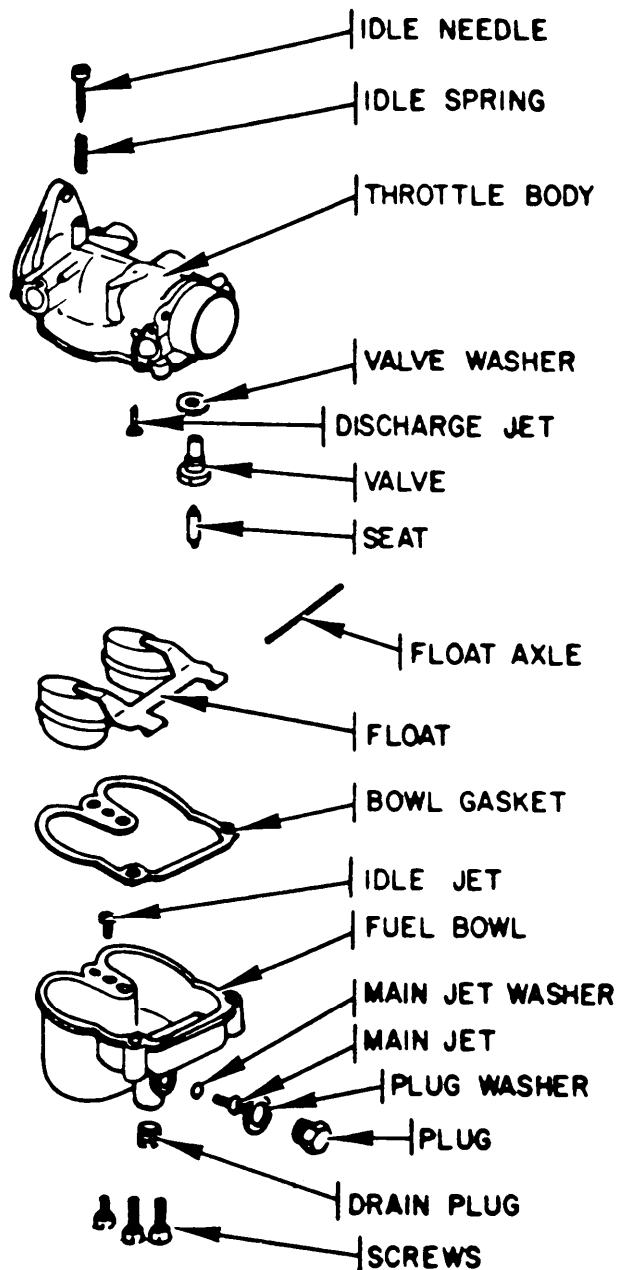
- a. Remove three bowl assembly screws.
- b. Separate fuel bowl from throttle body. Remove gasket.
- c. Remove the main jet plug and fiber washer.
- d. Remove the main jet and fiber washer, use screwdriver, flat tip.
- e. Remove the idle jet.
- f. Remove the drain plug.
- g. Remove the float axle.
- h. Remove the float.
- i. Remove the fuel valve needle valve using fingers.
- j. Remove the main discharge jet.
- k. Remove the fuel valve seat and fiber washer. Use screwdriver, flat tip.
- l. Remove the idle adjusting needle and spring.



GO TO NEXT PAGE

2. ASSEMBLY

- a. Install valve seat washer in throttle body.
- b. Install discharge jet and needle valve.
- c. Assemble the float to the throttle body, insert the float axle into float bracket, center the axle in bracket.
- d. Turn the throttle body over, the float body must be centered.
- e. The float setting is measured from the machined surface (no gasket) to the seam side of the float body. The measurement should be  $31/32$  inch plus or minus  $1/32$  inch.
- f. Replace bowl gasket.
- g. Assemble idle adjusting needle and spring. Screw needle in clockwise until it seats lightly and then back it out  $1-1/2$  turns.
- h. Install main jet washer and main jet in fuel bowl. Tighten.
- i. Install washer and the jet plug. Tighten.
- j. Install the idle jet.
- k. Install drain plug.
- l. Assemble the throttle body to the fuel bowl.
- m. Install the three bowl screws through fuel body into throttle body. Tighten.



END OF TASK

This task covers: Installation

INITIAL SETUP

<u>Personnel Required</u>	Equipment Condition <u>Para</u>	Condition <u>Description</u>
63B Wheel Vehicle Mechanic	3-141	Carburetor removed
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-545-8645	Carburetor-Part Number L-57-1 Gasket-Part Number QC-12-A	

INSTALLATION

- a. Align gasket and carburetor with mounting holes in manifold.
- b. Install two lock washers and bolts and tighten.
- c. Install fuel line. Attach to carburetor first and tighten. Then attach to fuel pump.
- d. install control rod on governor lever.
- e. Install clip on control rod.
- f. Install air hose.
- g. Tighten hose clamp screw.
- h. Install choke control cable to carburetor. Tighten screws.
- i. Install choke control cable in bracket, secure in place. Tighten screw.
- j. Install access panels.

END OF TASK

**3-145 AIR FILTER – REMOVE**

3-145

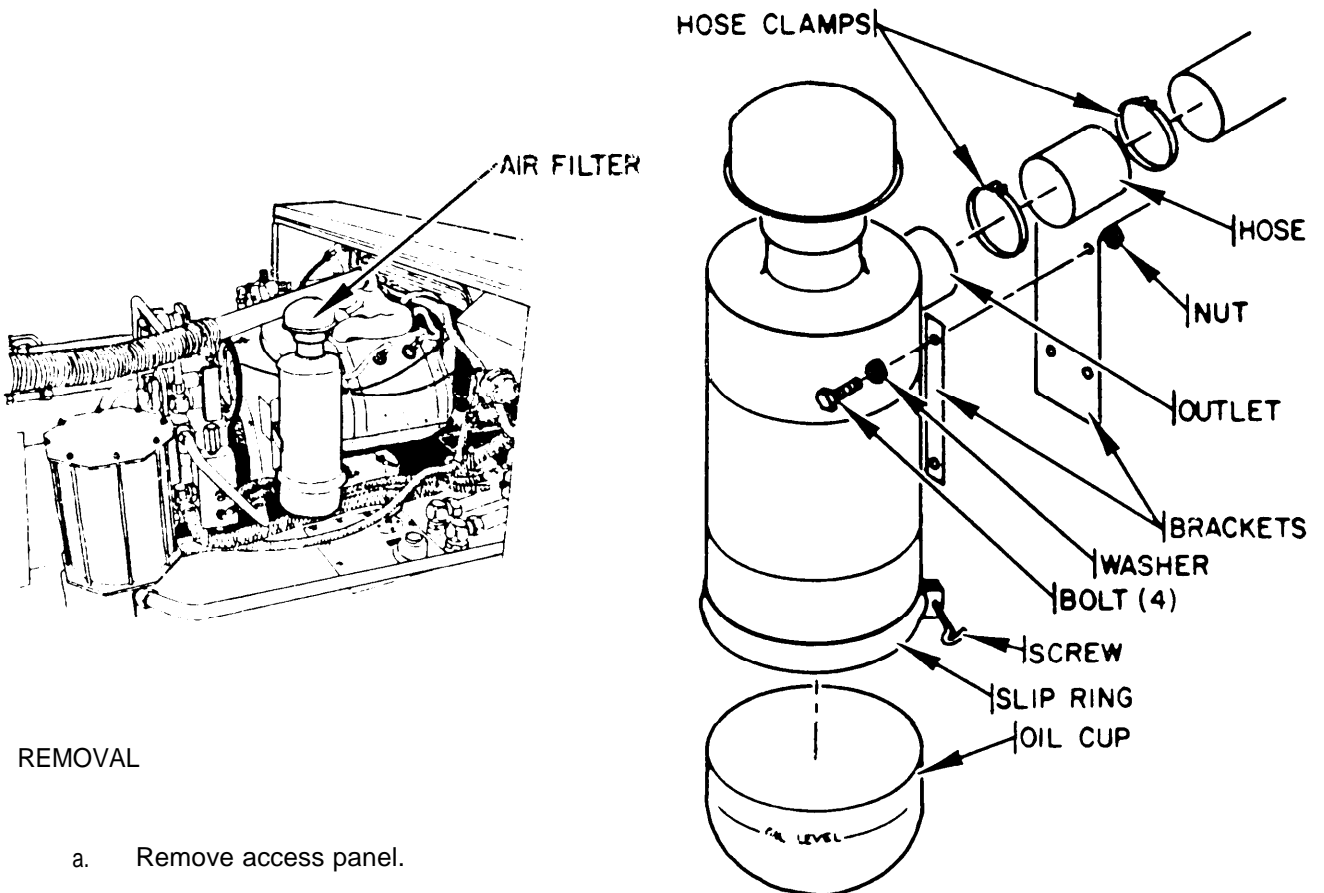
This task covers: Removal

Personnel Required

63B Wheel Vehicle Mechanic

Tools

Kit, NSN 5180-00-545-8645



## REMOVAL

- a. Remove access panel.
- b. Loosen screw securing slip ring on oil cup.
- c. Remove oil cup and slip ring.
- d. Loosen the two screws on hose clamps. Use flat tip screwdriver.
- e. Remove four bolts, washers and nuts.

END OF TASK

---

**3-146 AIR FILTER — INSPECT**

---

**3-146**

This task covers: Inspection

---

**INITIAL SETUP**Personnel Required

63B Wheel Vehicle Mechanic

Tools

Kit, NSN 5180-00-545-8645

Materials/Parts

Oil, SAE 30, Item 1, App-D; Solvent, PD-680-Item 7, Appendix D; Air Filter Assy - Part Number LAA-100

---

**INSPECTION**

- a. Inspect air filter assembly for extensive damage and unserviceable condition.
- b. Check filter element for dirt and sludge.
- c. Service element (Para. 3-147) or replace filter assembly (Para. 3-148).

END OF TASK

---

**3-147 AIR FILTER — SERVICE**

---

**3-147**

This task covers: Cleaning (See INITIAL SETUP, Para. 3-146) Wash the filter element with solvent P-D-680. Let Dry.

---

**3-148 AIR FILTER — REPLACE**

---

**3-148**

This task covers: Installation (See INITIAL SETUP, Para. 3-146).

---

**INSTALLATION**

- a. Install filter air outlet into hose. Install clamps.
- b. Hold filter in place and install four bolts through washer and brackets, and secure with washers and nuts.
- c. Tighten two screws on hose clamps.
- d. Put oil in oil cup, fill to oil level mark. Install slip ring on filter.
- e. Install oil cup on filter and tighten slip ring finger tight.
- f. Install access panel.

END OF TASK



**3-149 FUEL FILTER (STRAINER) – REMOVE**

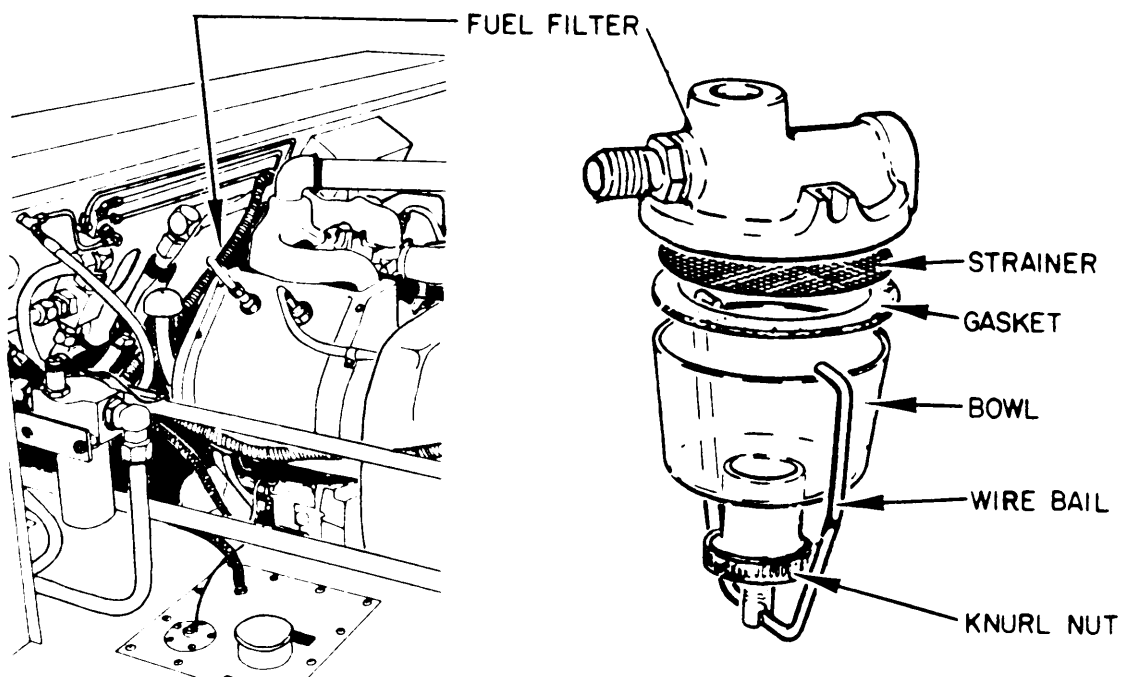
3-149

This task covers: Removal

**INITIAL SETUP**

Personnel Required

63B Wheel Vehicle Mechanic

**REMOVAL**

- a. Remove access panel.
- b. Turn knurl nut counterclockwise until wire bail is loose.
- c. Swing the wire bail aside, remove the bowl.
- d. Remove gasket.
- e. Remove strainer.

END OF TASK

---

**3-150 FUEL FILTER (STRAINER)—INSPECT**

---

**3-150**

This task covers: Inspection and Cleaning

---

INITIAL SETUP

Personnel Required

63B Wheel Vehicle Mechanic

---

1. INSPECTION

- a. inspect the strainer for dirt.
- b. Inspect gasket for deterioration.
- c. Replace damaged parts (Para. 3-151).

2. CLEANING

- a. Clean dirt from strainer with shop air.
- b. Clean the bowl with a clean rag.

END OF TASK

---

**3-151 FUEL FILTER (STRAINER)—REPLACE**

---

**3-151**

This task covers: Installation

---

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
63B Wheel Vehicle Mechanic	3-149	Fuel filter removed

Materials/Parts

Strainer-Part Number LP19  
 Repair kit-Part Number LQ-32

---

GO TO NEXT PAGE

**3-210**

**3-151 FUEL FILTER (STRAINER) – REPLACE – Continued**

3-151

## INSTALLATION

- a. Install the strainer in filter head,
- b. Install the gasket.
- c. Install the bowl.
- d. Install the bail under the bowl.
- e. Tighten knurled nut hand tight.

END OF TASK

**3-152 OIL FILTER — REMOVE**

3-152

This task covers: Removal and draining oil sump.

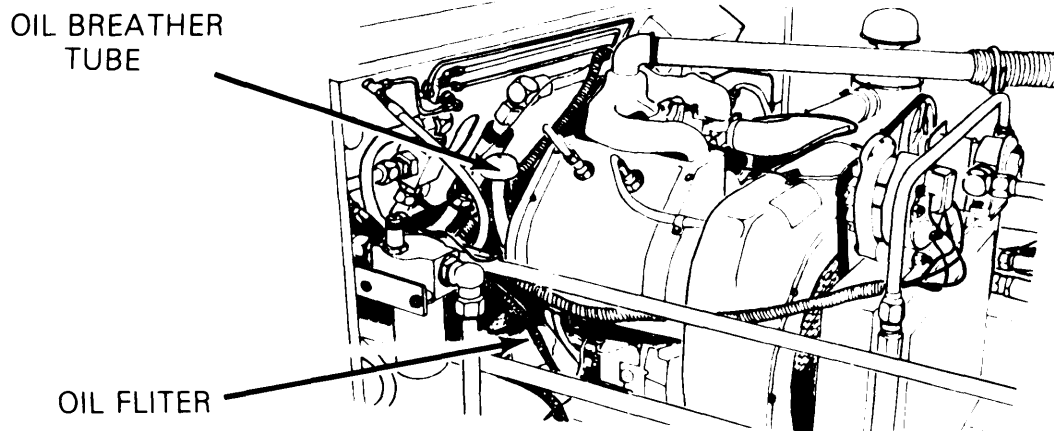
## INITIAL SETUP

## Personnel Required

63B Wheel Vehicle Mechanic

## Tools

Kit, NSN 5180-00-545-8645  
Oil filter wrench



## REMOVAL

- a. Remove access panel.
- b. Remove oil filter. Use oil filter wrench and turn counterclockwise.
- c. Remove the oil drain plug located on the oil sump next to the oil filter, and allow oil to drain.
- d. Install the oil drain plug.

END OF TASK

3-211

---

**3-153 OIL FILTER – REPLACE**

---

**3-153**

This task covers: Installation and Securing Oil Sump

---

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
63B Wheel Vehicle Mechanic	3-152	Filter removed

Materials/Parts

Oil filter - Part Number RV52

---

INSTALLATION

- a. Replace oil filter. Apply a light film of oil to the gasket.
- b. Tighten oil filter hand tight, turn clockwise.
- c. Service the oil sump through the oil breather tube with recommended grade (see table 2-2). Add 5 quarts of oil. Run engine for a short period. Shut engine down and check level of oil. Remove the gage saber located next to the oil breather tube. Add enough oil to bring level to the full mark.
- d. Install access panel.

END OF TASK

---

**3-154 MAGNETO-INSPECT**

---

**3-154**

This task covers: Inspection

---

INITIAL SETUP

<u>Personnel Required</u>	<u>Tools</u>
63B Wheel Vehicle Mechanic	Kit, NSN 5180-00-545-8645

---

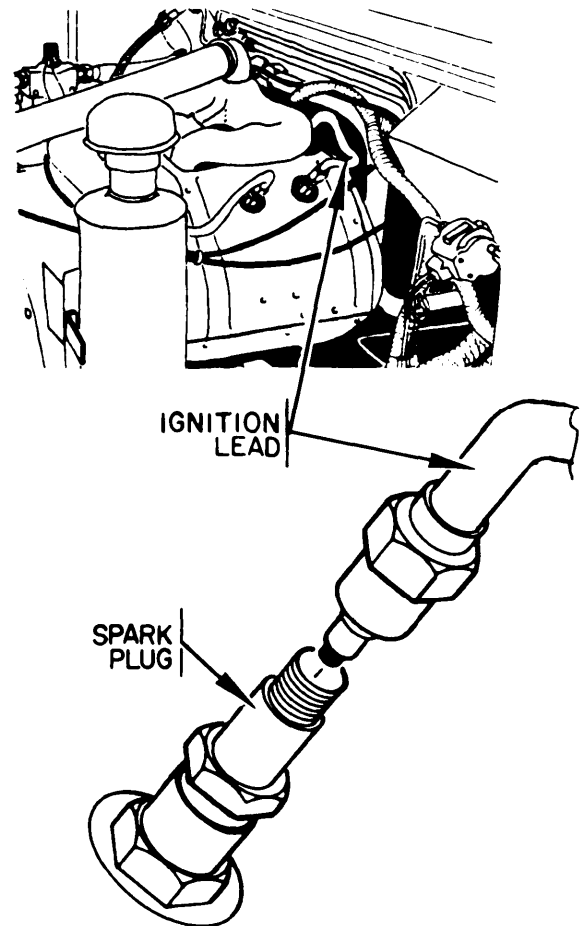
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**3-154 MAGNETO - INSPECT - Continued**

3-154

## INSPECTION

- a. Remove access panel.
- b. Inspect for weak magneto ignition spark.
- c. Remove ignition lead from spark plug.
- d. Lay the ignition lead terminal down close enough to the cylinder head shroud to observe a spark.
- e. With engine starter, turn engine over and watch for spark discharge which should occur.
- f. Install ignition lead on spark plug and tighten.
- g. Repeat the check for each spark plug.
- h. If there is a weak spark or none at all, check breaker point opening. If weak or no spark condition exists after checking breaker points, replace magneto, para 3-156.
- i. Install access panel.



## END OF TASK

**3-155 MAGNETO-ADJUST**

3-155

This task covers: Adjustment

## INITIAL SETUP

Personnel Required

63B Wheel Vehicle

Tools

Kit, NSN 5180-00-545-8645

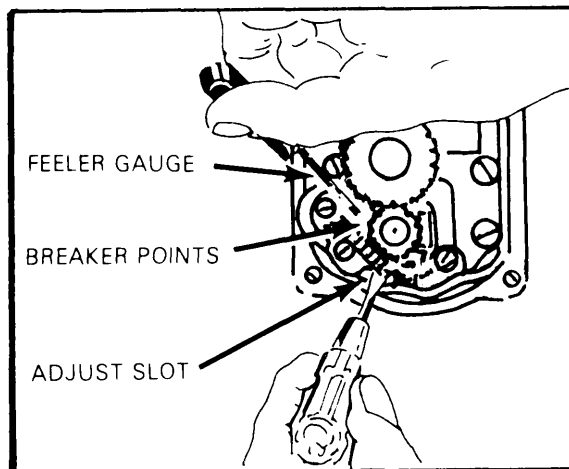
GO TO NEXT PAGE

3-213

## ADJUSTMENT

- a. Remove access panel.
- b. Remove magneto end cover.
- c. Rotate the crankshaft, use the starter, until the breaker points are wide open.
- d. Points that are badly worn or pitted should be replaced.
- e. Pitted or pyramided points should be resurfaced with a small tungsten file.
- f. Measure the breaker point opening, the opening should measure .015 inch. Use feeler gage.
- g. Readjust the points, loosen the locking screws on the contact plate.
- h. Insert screwdriver, flat tip into the adjusting slot at the bottom of the contact plate and open or close the breaker points until the proper opening is obtained.
- i. Tighten locking screws.
- j. Install magneto end cover.
- k. Install access panel.

## END OF TASK



**3-156 MAGNETO – REPLACE****3-156**

This task covers: Removal and Installation

INITIAL SETUP

<u>Personnel Required</u>	<u>Tools</u>	<u>Materials/Parts</u>
63B Wheel Vehicle Mechanic	Kit, NSN 5180-00-545-8645	Magneto, P/N Y98C. Gasket, P/N QD616.

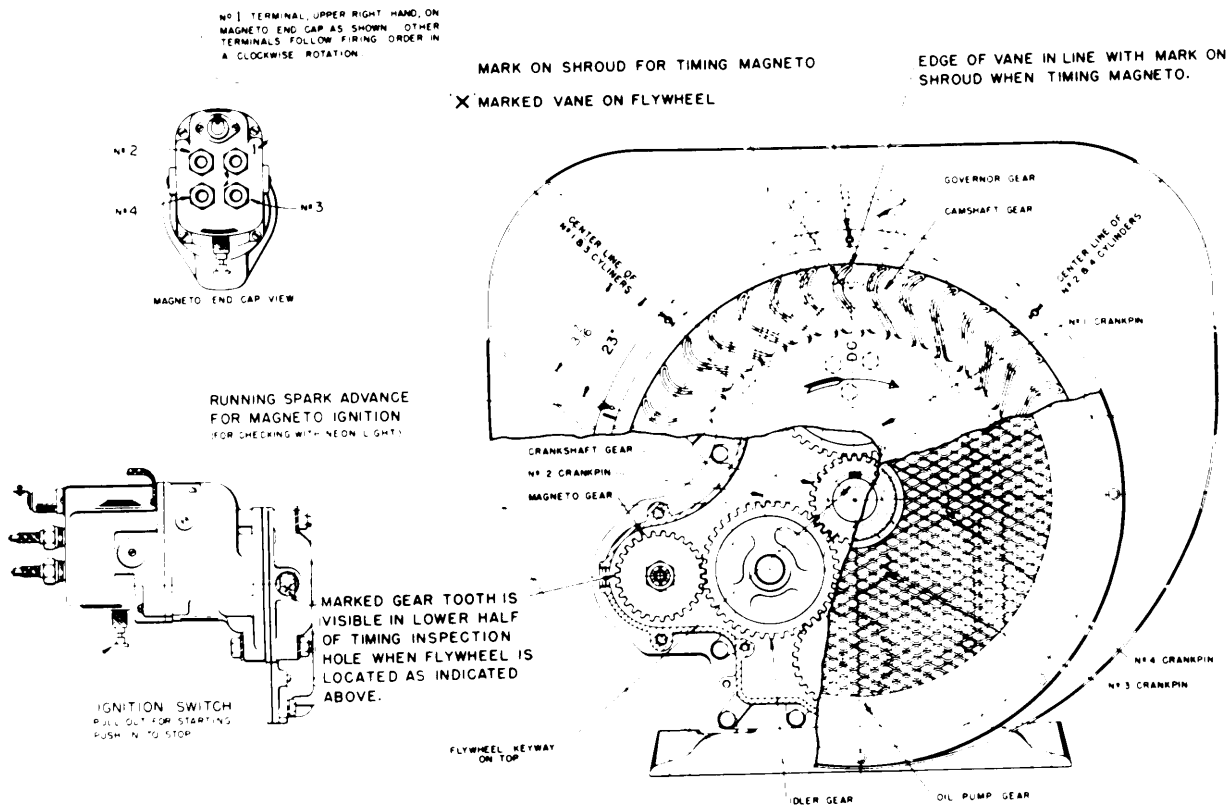
**1. REMOVAL**

- a. Remove access panel.
- b. Remove the four ignition leads from the magneto.
- c. Remove screws securing two wires to the stop switch on the magneto.
- d. Remove mounting hardware securing magneto to engine.

**2. INSTALLATION**

- a. Remove three screws over the flywheel air intake opening. This will expose timing marks on flywheel and shroud.
- b. Remove the No. 1 cylinder plug, Hold finger over spark plug hole and rotate engine slowly, so that compression stroke can be determined by air blowing out the hole.
- c. Align edge of circulating vane marked with an X, to the mark on vertical center line on shroud, see illustration.
- d. Remove fitting from inspection hole located on gear cover at magneto mounting flange.
- e. The Number 1 cylinder firing position of the magneto must be determined; Insert the ignition cable into the No. 1 tower terminal of the magneto end cap and hold the spark plug terminal at the other end, about 1/8" away from the magneto body. Turn the magento gear in a clockwise rotation, tripping the impulse coupling, until the No. 1 terminal sparks, then hold the gear in this position. Mount the magneto the to engine, meshing the gears so that when the magneto is in place, the gear tooth marked with an 'X' will be visible through the lower half of the inspection hole in the gear cover. Tighten the nut and capscrew for mounting the magneto, making sure the magneto flange gasket is in place.

GO TO NEXT PAGE



- f. The No. 1 terminal is the upper right hand tower on the magneto cap. The terminals follow the proper firing order of 1-3-4-2 in a clockwise direction viewing the cap end. The leads from the magneto should be connected to spark plugs of corresponding numbers.
- g. When the magneto is properly timed the impulse coupling will snap when the 'DC' and 'X' marked vane of the flywheel, lines up with the mark on the flywheel which should indicate the centerline of the No. 1 and 3 cylinders. This can be checked by turning crankshaft over slowly by hand. The impulse will also snap every 180° of flywheel rotation thereafter.
- h. The proper spark advance is 23°. To check timing with a neon light, the running spark advance is indicated by a 1/8" diameter hole on the flywheel shroud, 23° before vertical centerline of the No. 1 and 3 cylinder. The end of the 'X' marked vane should be whitened with chalk or paint for this operation.
- i. The magneto rotates at crankshaft speed in clockwise direction when viewing driving gear end of magneto. The magneto distributor rotor turns at half engine speed.
- j. Install electrical wires on magneto stop switch.
- k. Install No. 1 cylinder spark plug and lead.
- l. Install screw over flywheel air intake opening.
- m. Install access panel.

END OF TASK



**3-157 STARTER - REMOVE****3-157**

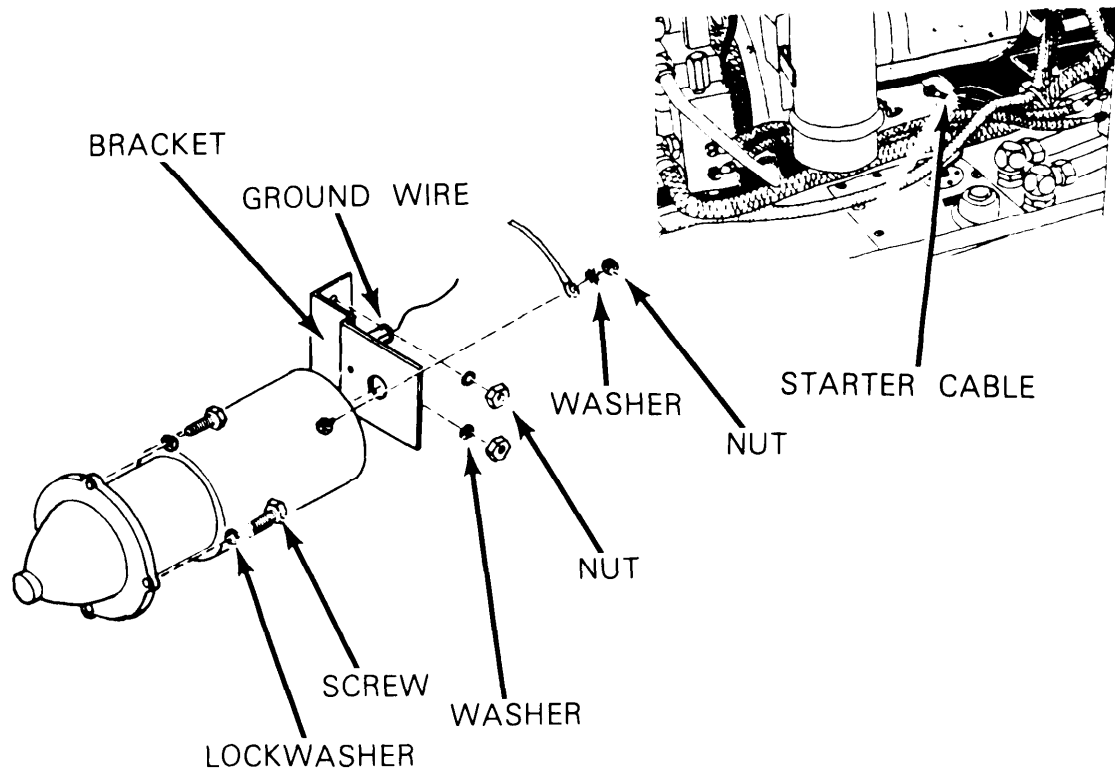
This task covers: Removal

**INITIAL SETUP****Personnel Required**Two 63B Wheel Vehicle  
Mechanics**Tools**

Kit, NSN 5180-00-545-8645

**REMOVAL**

- a. Remove access panel.
- b. Remove two nuts and washers securing starter bracket and ground cable to engine.
- c. Remove nut and lockwasher securing starter cable. Use .9/16 inch socket and ratchet.
- d. Remove starter cable.
- e. Remove three screws and washers securing starter to engine.
- f. Remove starter.

**END OF TASK****3-217**

---

**3-158    STARTER – INSPECT**

---

**3-158**

This task covers:    Inspection

---

INITIAL SETUP

Personnel Required

63B Wheel Vehicle Mechanic

---

INSPECTION

- a. Inspect starter for cracked or inoperative condition.
- b. If damaged, replace starter (Para. 3-159) or refer to Para. 4-18. for repair.

END OF TASK

---

**3-159    STARTER – REPLACE**

---

**3-159**

This task covers:    Installation

---

INITIAL SETUP

<u>Personnel Required</u>	Equipment Condition <u>Para</u>	Condition <u>Description</u>
63B Wheel Vehicle Mechanic	3-157	Starter removed
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-545-8645	Starter-Part Number YA-56-A	

---

GO TO NEXT PAGE

---

**3-159 STARTER –REPLACE —Continued**

---

**3-159****INSTALLATION**

- a. Install starter on engine.
- b. Install three lockwashers and screws.
- c. Snug up screws and then tighten a minimum of ½ turn more.
- d. Position bracket onto starter and mounting stud.
- e. Install ground cable on upper stud and secure with a nut.
- f. Install the lockwasher and nut on the lower bracket stud.
- g. Install starter cable.
- h. Install nut, tighten finger tight and then tighten a minimum of 3/4 turn more.
- i. Install access panel.

**END OF TASK**

---

**3-160 IGNITION LEADS AND SPARK PLUGS – REMOVE**

---

**3-160**

This task covers: Removal

---

**INITIAL SETUP**Personnel Required63B Wheel Vehicle  
MechanicTools

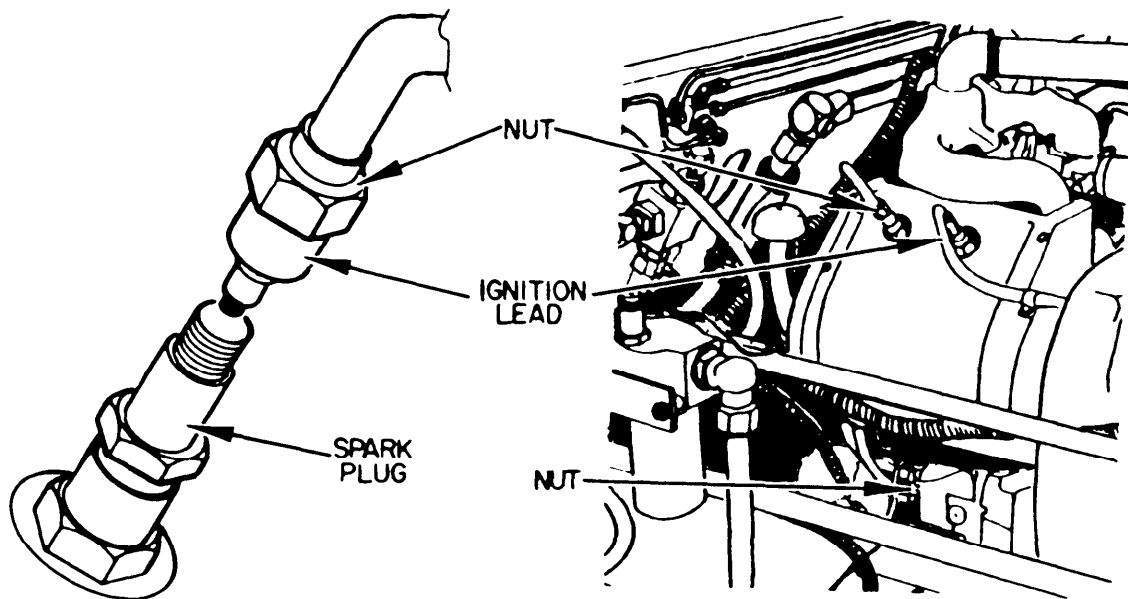
Kit, NSN 5180-00-545-8645

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**REMOVAL**

- a. Remove access panel.
- b. Loosen ignition nut on spark plug
- c. Disconnect nut on the other end of ignition lead on the magneto.
- d. Remove spark plugs for cylinder head.

**GO TO NEXT PAGE**



END OF TASK

This task covers: Inspection and Cleaning

INITIAL SETUP

Personnel Required

63B Wheel Vehicle  
Mechanic

Tools

Kit, NSN 5180-00-545-8645  
Brush, non-metallic

INSPECTION

- a. Inspect leads for cracked end and shield damage. Replace (Para. 3-162).
- b. Inspect spark plug for burned tip, carbon buildup, cracked insulator, tread damage, missing gasket and .030 inch gap. Replace if damaged (Para. 3-162).
- c. Remove excess carbon using a stiff brush or equivalent.

END OF TASK

---

**3-162 IGNITION LEADS AND SPARK PLUGS — REPLACE**

---

**3-162**

This task covers: Installation

---

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
63B Wheel Vehicle Mechanic	3-160	Leads and spark plugs removed
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-545-8645	Ignition lead, No. 1 and No. 4 cyls.-Part Number YD300-32	
Spark plug cleaning machine	Ignition lead, No. 2 cyl.-Part Number YD300-40	
	Ignition lead, No. 3 cyl.-Part Number YD300-23	
	Spark plug, part number MS51009-1	

---

INSTALLATION

- a. Set gap on spark plug to .030 of an inch.
- b. Install gasket on spark plug and thread spark plug into cylinder head, torque plug to 25-30 foot pounds.
- c. Tighten nut on ignition lead at the magneto. Tighten nut finger tight and then tighten nut a minimum of 3/4 turn more.
- d. Tighten nut on the ignition lead at the sparkplug. Tighten nut finger tight and then tighten the nut a minimum of 1/3 turn more.
- e. Install access panel.

END OF TASK

---

3-163 MUFFLER – REMOVE

---

3-163

This task covers: Removal

---

INITIAL SETUP

Personnel Required

63B Wheel Vehicle Mechanic

Tools

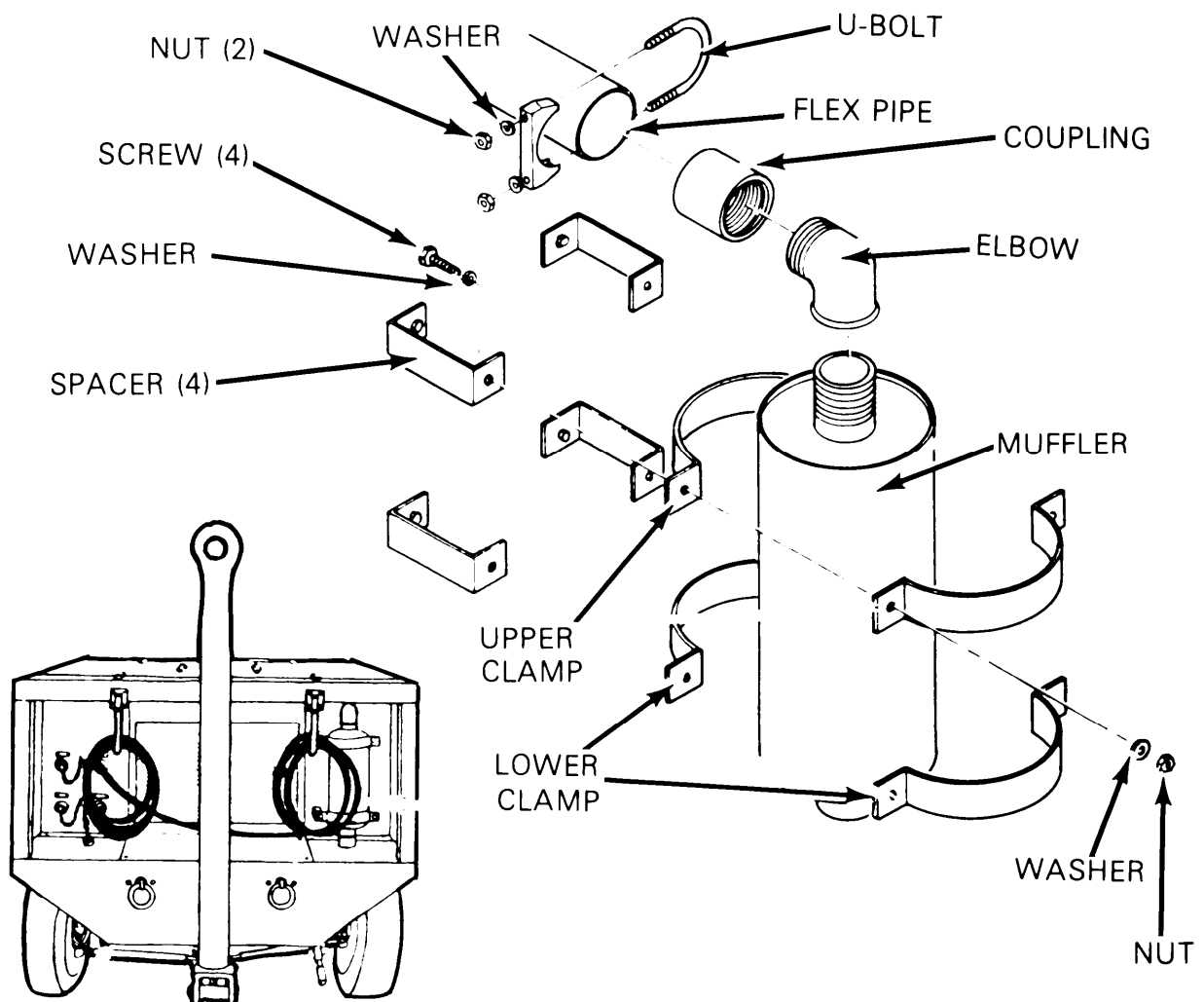
Kit, NSN 5180-00-545-8645  
14 in. pipe wrench

---

GO TO NEXT PAGE

## REMOVAL

- a. Remove two nuts and washers from "U" bolt securing flex pipe to muffler. Remove "U" bolt.
- b. Remove four nuts and washers from the upper and lower clamps.
- c. Remove four clamps.
- d. Remove muffler.
- e. Remove elbow from muffler. Use pipe wrench.



END OF TASK

---

**3-164 MUFFLER — INSPECT**

**3-164**

---

This task covers: Inspection

---

INITIAL SETUP

Personnel Required

63B Wheel Vehicle Mechanic

---

INSPECTION

- a. Inspect for burned out or cracked muffler.
- b. Replace damaged muffler (Para. 3-165).

END OF TASK

---

**3-165 MUFFLER – REPLACE**

**3-165**

---

This task covers: Installation

---

INITIAL SETUP

<u>Personnel Required</u>	Equipment Condition <u>Para</u>	Condition <u>Description</u>
63B Wheel Vehicle Mechanic	3-163	Muffler removed
<u>Tools</u>	<u>Materials/Parts</u>	
Kit, NSN 5180-00-545-8645 14 in. pipe wrench	Muffler-Part Number WD 90	

---

INSTALLATION

- a. Install elbow on muffler. Tighten with pipe wrench.
- b. Install muffler with end of elbow inserted into flex pipe.
- c. Install upper and lower clamps and secure with bolt, flatwasher, lockwasher and nut.
- d. Install "U" bolt on the flex pipe with washers and nuts.

END OF TASK



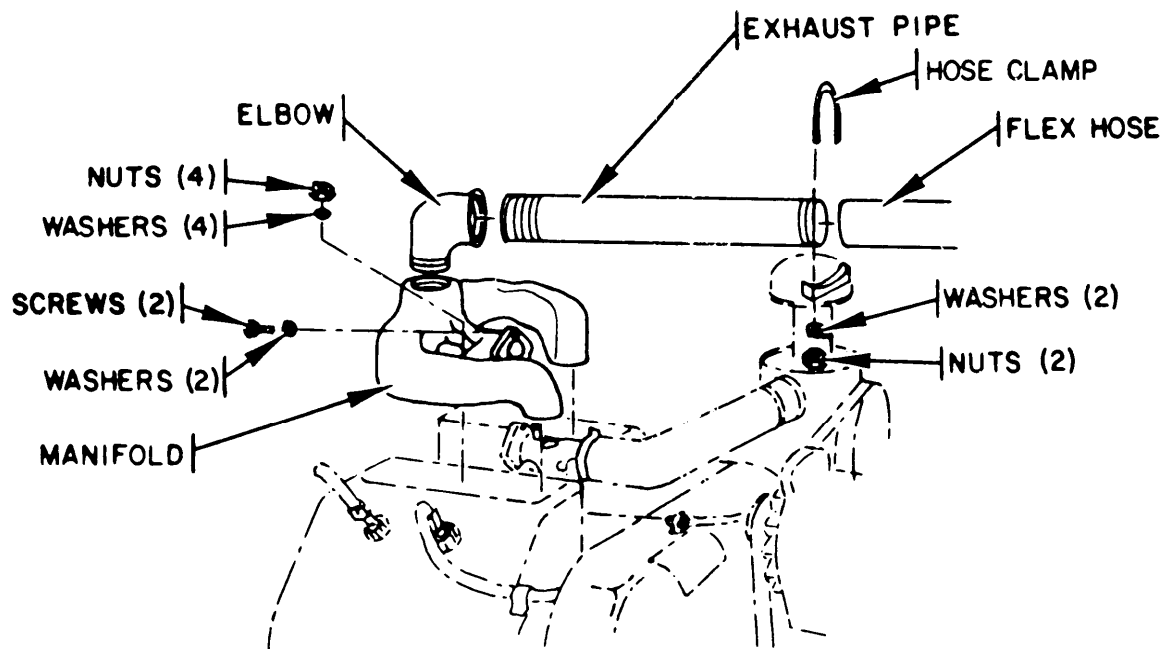
**3-166 MANIFOLD – REMOVE**

3-166

This task covers: Removal

**INITIAL SETUP**Personnel Required

63B Wheel Vehicle Mechanic

ToolsKit, NSN 5180-00-545-8645  
14 in. pipe wrench.**REMOVAL**

- a. Remove access panels.
- b. Loosen two nuts on hose clamp.
- c. Remove exhaust pipe from manifold. Use 14 inch pipe wrench.
- d. Remove two bolts and washers holding carburetor to manifold.
- e. Remove four manifold nuts and washers.
- f. Remove manifold.

END OF TASK

---

**3-167     MANIFOLD – INSPECT**

---

**3-167**

This task covers:     Inspection

---

INITIAL SETUP

Personnel Required

63B Wheel Vehicle Mechanic

---

INSPECTION

- a. Inspect manifold for cracks/breaks.
- b. Replace damaged manifold (Para. 3-168).

END OF TASK

---

**3-168     MANIFOLD – REPLACE**

---

**3-168**

This task covers:     Installation

---

INITIAL SETUP

Personnel Required

63B Wheel Vehicle Mechanic

Equipment  
Condition  
Para

3-166

Condition  
Description

Manifold removed

Tools

Kit, NSN 5180-00-545-8645  
14 in. pipe wrench.

Materials/Parts

Manifold-Part Number LD-240

---

INSTALLATION

- a. Install manifold on cylinder head.

GO TO NEXT PAGE

---

**3-168 MANIFOLD — REPLACE — Continued**

---

**3-168**

## INSTALLATION (cont)

- b. Install four washers and nuts. Torque manifold mounting nuts to 35-foot pounds.
- c. Position carburetor on manifold and secure with two bolts and washers.
- d. Install exhaust pipe on manifold. Tighten, use 14 inch pipe wrench.
- e. Tighten two nuts on flex exhaust pipe hose clamp.
- f. Install access panel.

END OF TASK

---

**3-169 AIR SHROUDS AND BAFFELING — INSPECT**

---

**3-169**

This task covers: Inspection

---

INITIAL SETUPPersonnel Required

63B Wheel Vehicle Mechanic

---

INSPECTION

- a. Remove access panels
- b. Inspect the air shrouds and baffeling for dents, breaks and holes.
- c. Refer to Paras. 3-171 and 3-172 for repair and replacement.
- d. Install access panels.

END OF TASK

This task covers: Removal

---

#### INITIAL SETUP

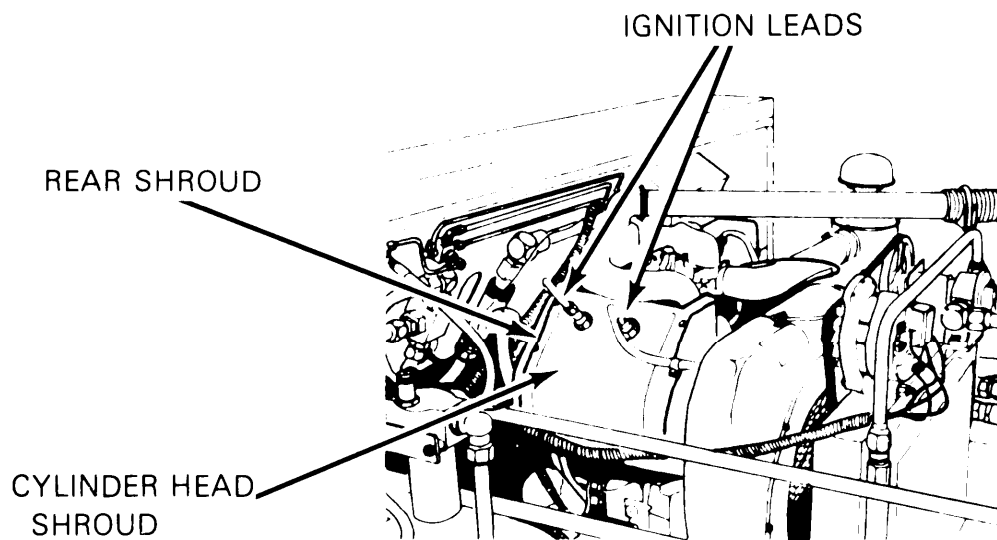
##### Personnel Required

63B Wheel Vehicle Mechanic

##### Tools

Kit, NSN 5180-00-545-8645

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#### REMOVAL

- a. Remove access panel.
- b. Remove ignition leads.
- c. Remove 12 cylinder head cover screws and lockwashers.
- d. Remove cylinder head shroud.
- e. Remove two rear shroud covers.
- f. Remove rear shroud cover.
- g. Install access panel.

END OF TASK

**3-171 AIR SHROUDS BAFFELING — REPAIR****3-171**

This task covers: Repair

**INITIAL SETUP**

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
636 Wheel Vehicle Mechanic	3-170	Shrouds removed from engine
<u>Tools</u>	<u>Material/Parts</u>	
Kit, NSN 5180-00-545-8645	Shrouds - Part Numbers: SE-127 SE-127-A SE-124 SE-126 SE-126-A SE-125 SE-125-A	

**REPAIR**

- a. Remove dents. Patch holes (use shop equipment).
- b. Replace shrouds which are damaged beyond repair (Para 3-172).

END OF TASK

**3-172 AIR SHROUDS AND BAFFELING — REPLACE****3-172**

This task covers: Installation (See INITIAL SETUP, Para. 3-171).

**INSTALLATION**

- a. Install rear shroud cover.
- b. Install two rear shroud cover screws.
- c. Install cylinder head cover.
- d. Install 12 cylinder head screws. Tighten screws.
- e. Install ignition leads.
- f. Tighten ignition lead nut.
- g. Install access panels.

END OF TASK

This task covers: Removal and Disassembly

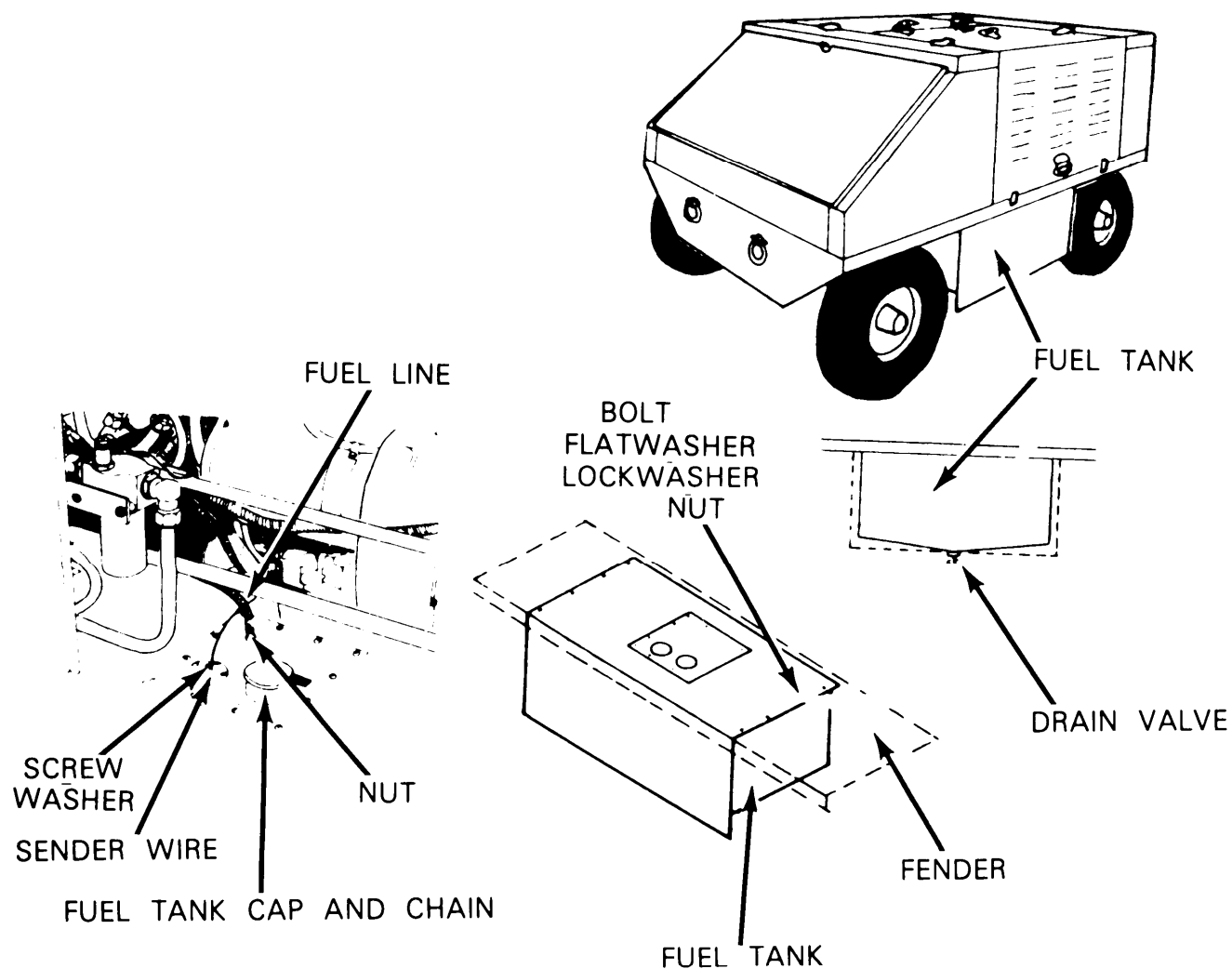
INITIAL SETUP

Personnel Required

68H Aircraft Pneudraulic  
Repairman

Tools

Kit, NSN 5180-00-323-4891



GO TO NEXT PAGE

## 3-173 FUEL TANK — REMOVE — Continued

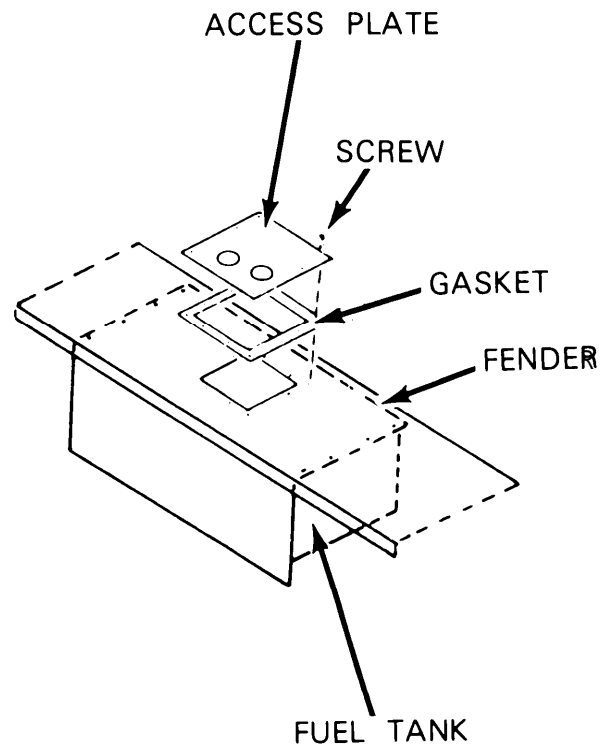
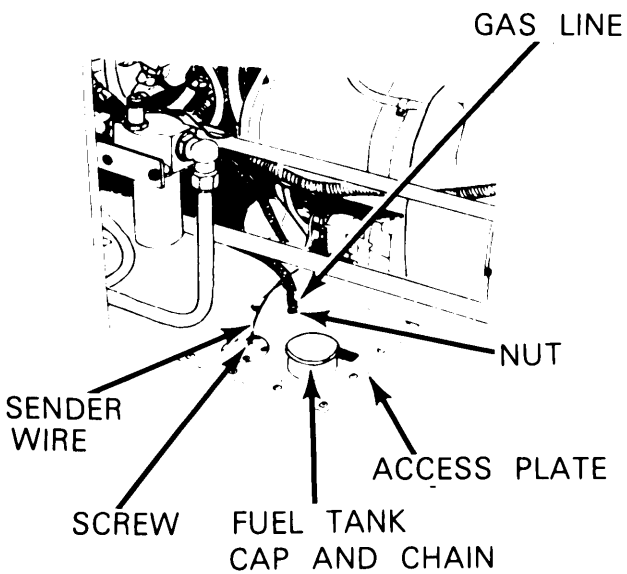
3-173

## 1. REMOVAL

- a. Remove access panel.
- b. Open drain valve, drain fuel tank. After draining, close valve,
- c. Disconnect sender wire by removing screw and washer.
- d. Remove nut on fuel line.
- e. Remove fuel line.
- f. Remove eight bolts, flatwashers, lockwashers and nuts.
- g. Remove fuel tank.

## 2. DISASSEMBLY

- a. Remove 12 phillips screws.
- b. Remove access plate and gasket.
- c. Remove chain and fuel cap.
- d. Remove drain valve.



END OF TASK

---

**3-174 FUEL TANK — INSPECT**

---

**3-174**

This task covers: Inspection

---

INITIAL SETUP

Personnel Required

Materials/Parts

68H Aircraft Pneudraulic  
Repairman

Clean rags

---

INSPECTION

- a. inspect tank for cracks/punctures and dirt/chips.
- b. If tank is damaged or dirty, perform the following:
  - (1) Service (Para. 3-175).
  - (2) Replace (Para. 3-176).
  - (3) Repair (para 4-30) .

END OF TASK

---

**3-175 FUEL TANK – SERVICE**

---

**3-175**

This task covers: Cleaning (See INITIAL SETUP, Para. 3-174).

CLEANING

Use clean rags and wipe/remove chips and dirt from tank.

END OF TASK



**3-176 FUEL TANK – REPLACE****3-176**

This task covers: Assembly and Installation

**INITIAL SETUP**

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68H Aircraft Pneudraulic Repairman	3-173	Tank removed and disassembled
<u>Tools</u>	<u>Materials/Parts</u>	
Screwdriver, flat tip	Tank-Part Number 79009-127	
Screwdriver, phillips tip	Cover gasket-Part Number 4508X/2	
7/16 in. open end wrench	Tank fuel cap.	
9/16 in. open end wrench	Drain valve.	
9/16 in. socket with ½ in. drive		
Ratchet with ½ in. drive		

**1. ASSEMBLY**

- a. Replace gasket.
- b. Install access plate and secure with 12 screws.
- c. Install fuel cap and chain.
- d. Install drain valve.

**2. INSTALLATION**

- a. Position fuel tank under test stand fender.
- b. Install eight flatwashers, bolts, lockwashers and nuts.
- c. Install fuel line and secure nut.
- d. Install sender wire, secure with screw and washer.
- e. Install access panel.

END OF TASK

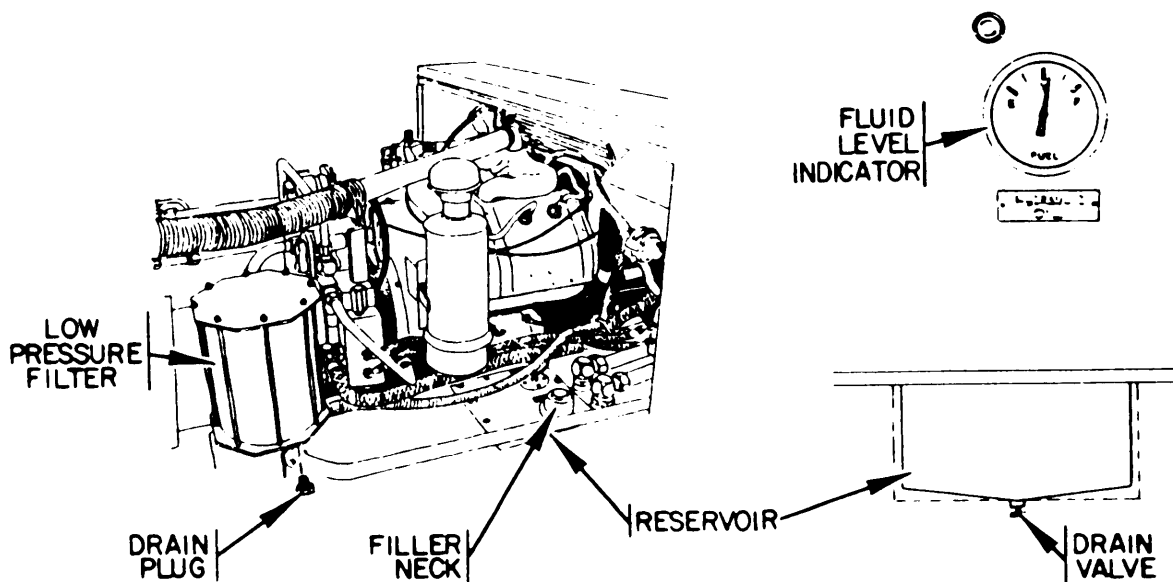
## Section VI. PREPARATION FOR STORAGE OR SHIPMENT

3-177 TEST STAND PREPARATION

3-177

if using preservative MIL-H-6083A, prepare test stand as follows:

1. Drain the reservoir, open the drain valve.
2. After draining reservoir, close drain valve
3. Drain the low pressure filter, remove drain plug.
4. After draining the low pressure filter, replace the drain plug.
5. Fill the test stand reservoir at the filler neck with preservative fluid MIL-H-6083A until the reservoir fluid level indicator on the instrument panel indicates 3/4 to 7/8 full.
6. Operate the test stand for approximately 5 minutes to fill the system with preservative fluid. Refer to paragraphs 2-3 and 2-4.
7. Secure the hoses on the retainer hooks. Check the external hydraulic connections are capped. Secure all quick release fasteners and the gage panel door.
8. Tag the control panel to state: "System preserved with MIL-H-6083A. Drain and service with MIL-H-83282 or MIL-H-5606."
9. Secure all quick release fasteners and the instrument panel door.
10. The test stand is now ready for storage or shipment, it does not need an external packing case.



## CHAPTER 4

## AVIATION INTERMEDIATE MAINTENANCE INSTRUCTIONS

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

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**4-1 REPAIR PARTS 4-1**

---

Repair parts are listed and illustrated in Appendix C.

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**4-2 SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT 4-2**

---

No special tools or support equipment are required.

**Section II. SERVICE UPON RECEIPT OF EQUIPMENT**

---

**4-3 SERVICE UPON RECEIPT 4-3**

---

Refer to Chapter 3, Section II.

**Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)**

---

**4-4 PMCS 4-4**

---

Refer to Chapter 3, Section III.

**Section IV. TROUBLESHOOTING**

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**4-5 TROUBLESHOOTING CHART 4-5**

---

Refer to Chapter 3, Section IV.

Section V. MAINTENANCE PROCEDURES

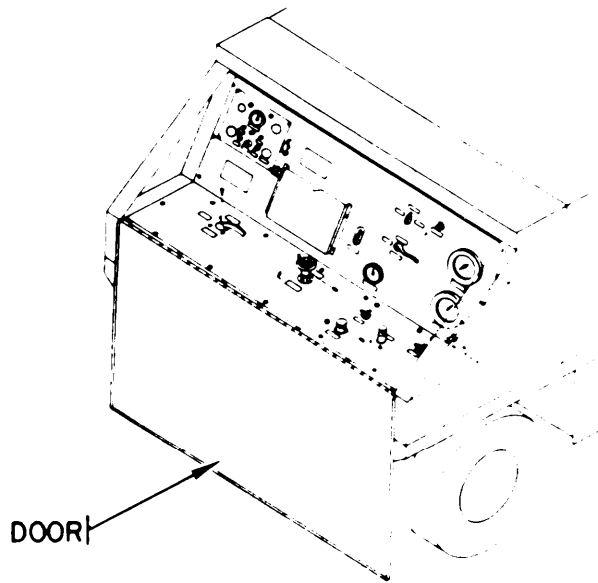
4-6 DOOR – REPAIR

4-6

This task covers: Repair

INITIAL SETUP

<u>Personnel Required</u>	Equipment Condition <u>Para</u>	<u>Condition Description</u>
68G Aircraft Structural Repairman	3-11	Door removed
<u>Tools</u>		<u>Materials/Parts</u>
Shop Equipment		Door-Part Number 79009-118-1



REPAIR

- a. Patch holes, use shop equipment (shears, drill, rivet gun).
- b. Paint bare areas.

END OF TASK

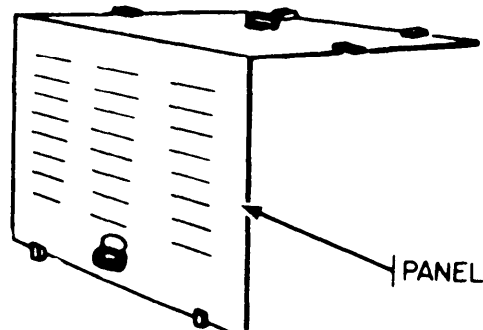
4-7 PANELS (ACCESS) – REPAIR

4-7

This task covers: Repair

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
68G Airframe Repairman	3-18	Panels removed
<u>Tools</u>		<u>Materials/Parts</u>
Shop Equipment		Panels (Housing, Access)- Part Number 79009-116-1



REPAIR

- a. Patch holes, use shop equipment (shears, rivet gun, power drill).
- b. Paint bare areas.

END OF TASK

This task covers: Repair

---

INITIAL SETUP

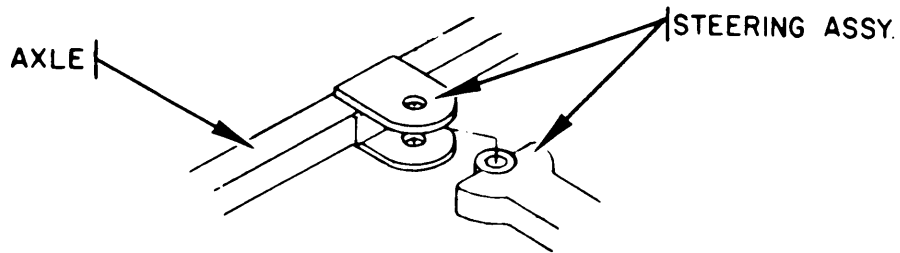
Personnel Required

44B Welder

Tools

Shop equipment

---



REPAIR

- a. Straighten a bent axle, use shop equipment.
- b. Weld steering assembly, use shop equipment (welder).

END OF TASK

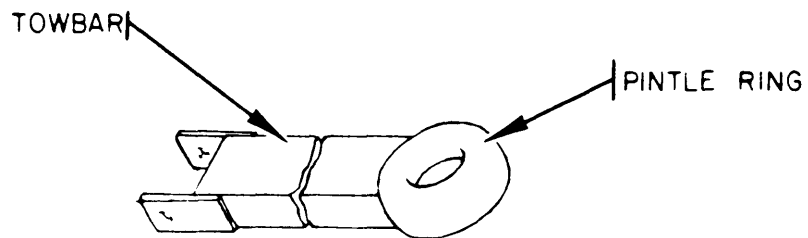
4-9 TOWBAR — REPAIR

4-9

This task covers: Repair

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
44B Welder	3-45	Towbar removed
<u>Tools</u>	<u>Materials/Parts</u>	
Shop equipment	Towbar-Part Number 23013-100	



REPAIR

Use shop equipment (welder) and weld cracks/breaks in towbar.

END OF TASK

This task covers: Removal

INITIAL SETUP

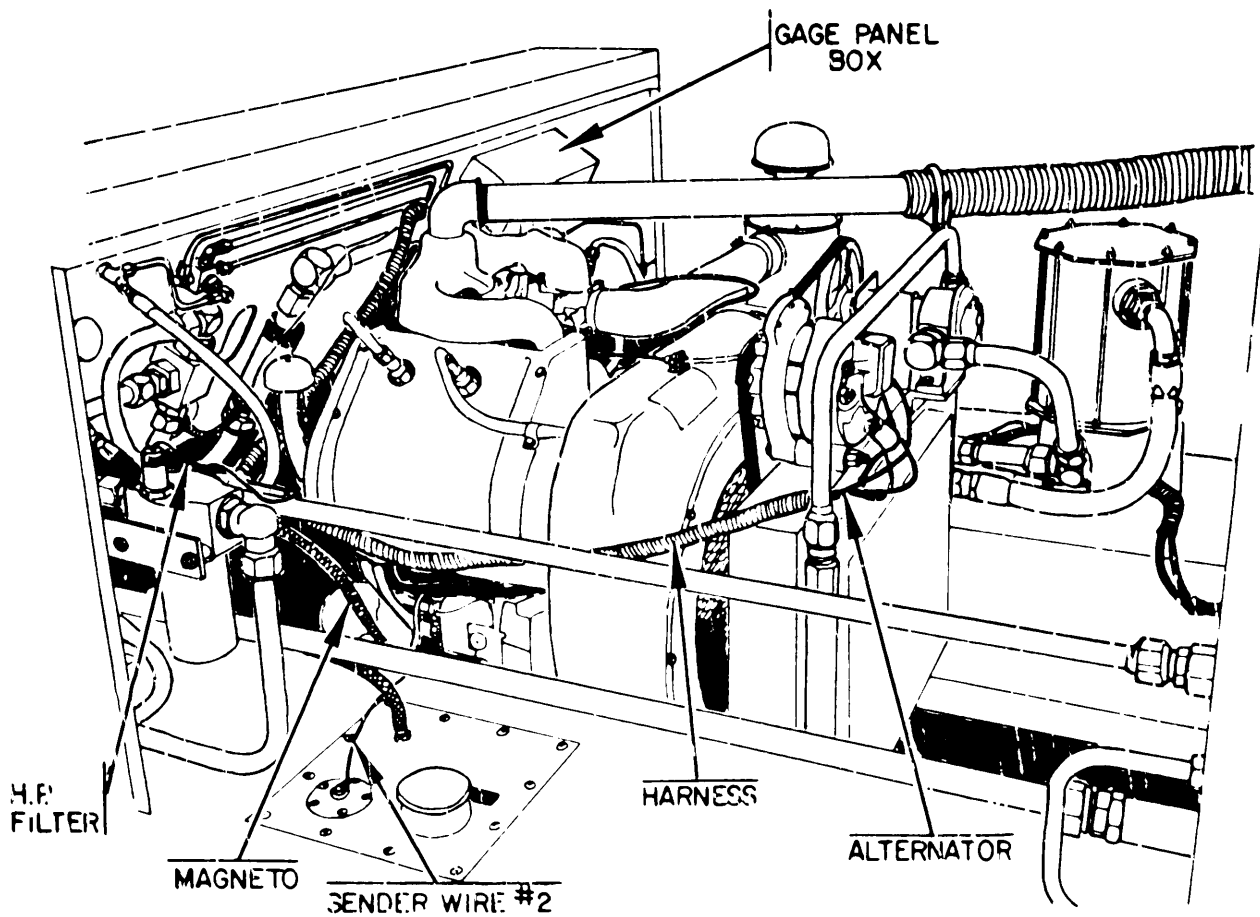
Personnel Required

68F Instrument Repairman

Tools

Kit, NSN 5180-00-323-4913

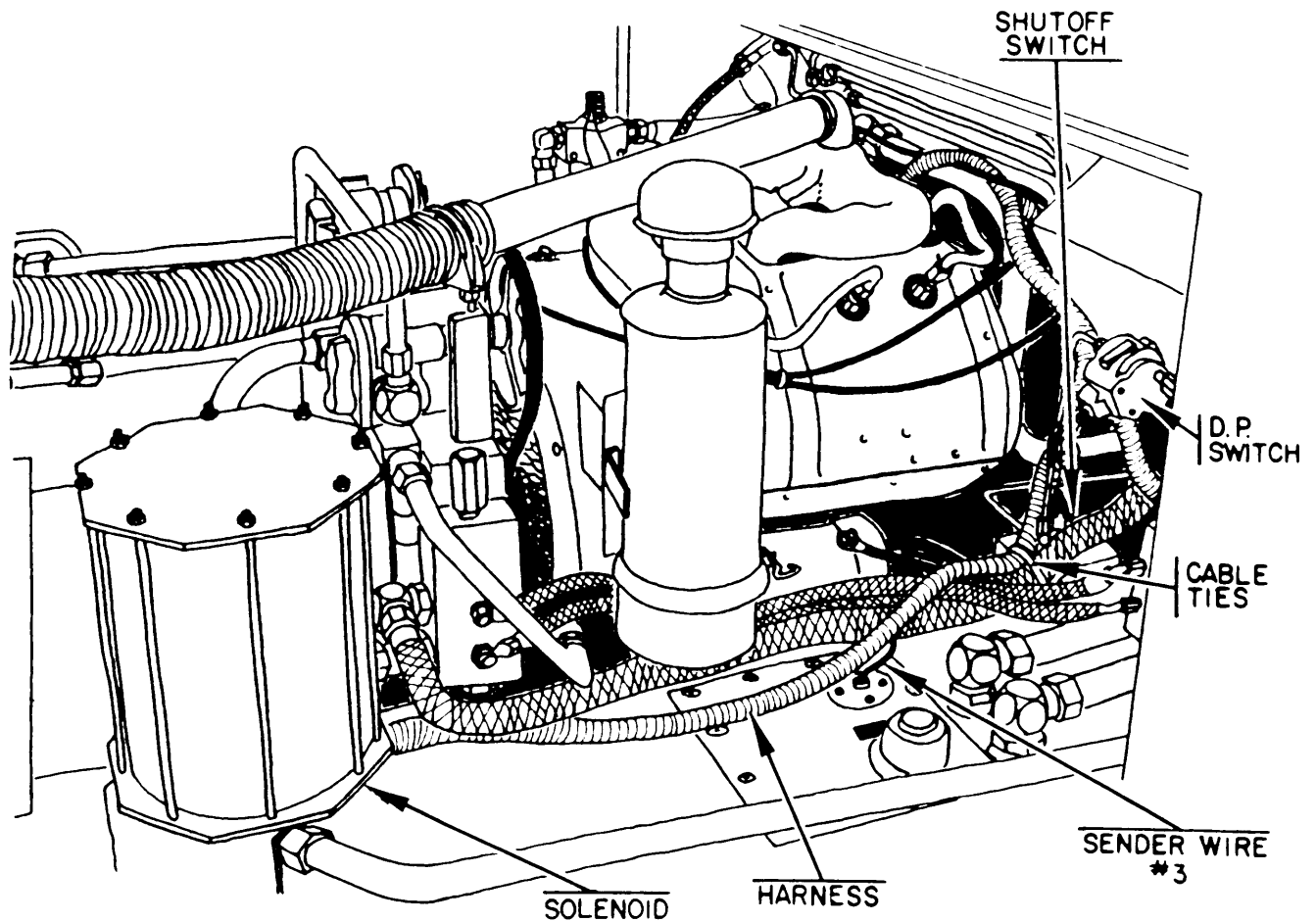
REMOVAL



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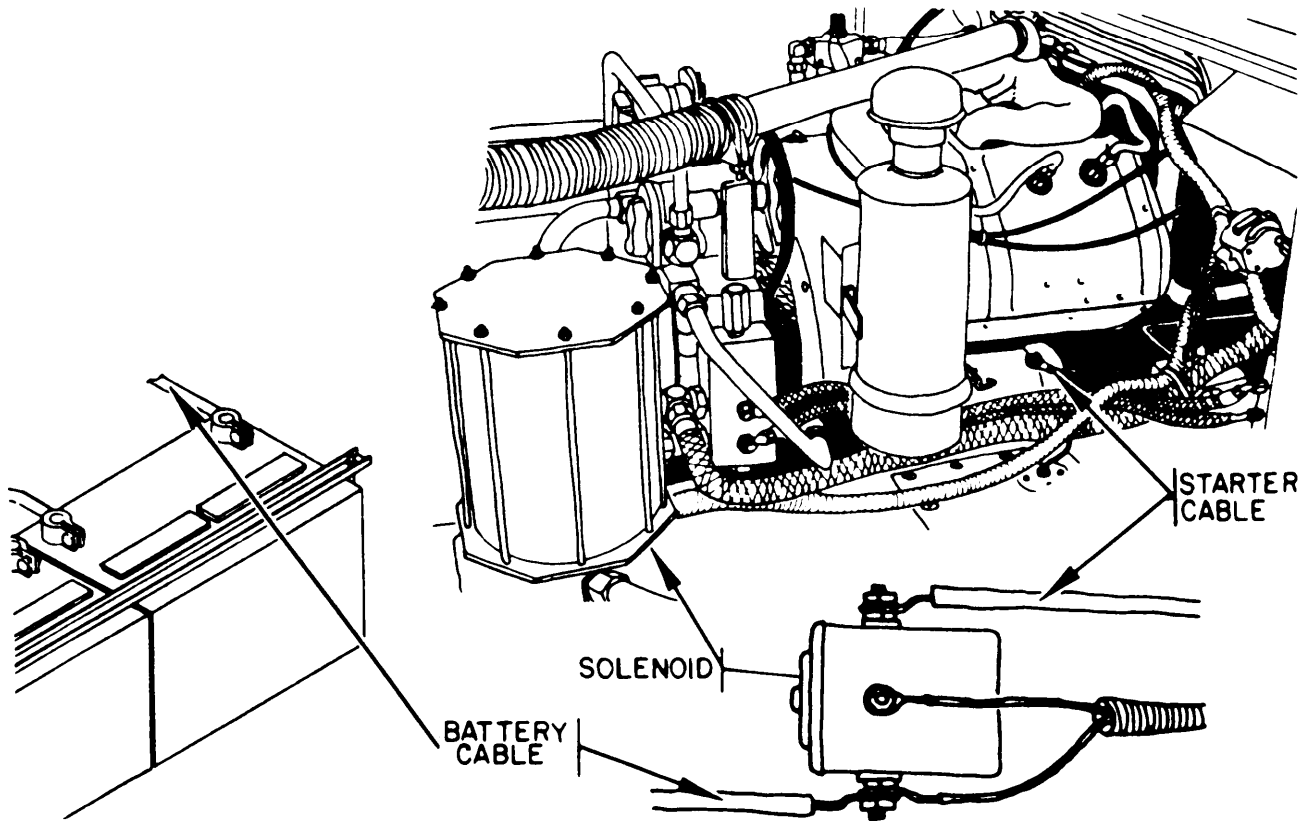
## REMOVAL (cont)



- a. Remove access panels.
- b. Disconnect the harness plug from receptacle at the alternator, high pressure filter, magneto, differential pressure switch, high temperature shut off switch and the gage panel box.
- c. Remove screw from sender wire on the fuel tank.
- d. Remove screw from sender wire on the hydraulic oil reservoir.
- e. Remove nut and washer securing wire to solenoid.

GO TO NEXT PAGE

REMOVAL (cont)



f. Cut cable tie securing harness to tubing.

g. Remove harness.

END OF TASK

---

**4-11 WIRING AND CABLES — REPAIR**

---

4-11

This task covers:    Repair

---

**INITIAL SETUP**Personnel Required

68F Instrument Repairman

Tools

Shop Equipment

---

**REPAIR**

- a. Crimp on new terminals, solder if necessary.
- b. Splice broken wiring.
- c. Clean all cable wiring and terminals thoroughly.

**END OF TASK**

This task covers: Installation

---

INITIAL SETUP

Personnel Required	Equipment Condition Para	Condition Description
68F Instrument Repairman	4-10	Wiring and cables removed
Tools		Materials/Parts
Kit, NSN 5180-00-323-4913		Wiring harness-Part Number 79009-300-1 Cables-Part Numbers: 7900-301-1 7900-301-2 7900-301-3

---

INSTALLATION

- a. Install wiring harness. Install the plug into the receptacle on the gage panel box, replace the plug to the differential pressure switch, the high temperature shut-off switch, the magneto, the high pressure filter and the alternator.
- b. Install the sender wire on the fuel tank and secure with screws.
- c. Install the sender wire on the hydraulic oil reservoir and secure with screw.
- d. Install wires on solenoid and secure with washers and nuts.
- e. Stretch the harness along the large return line from the flowmeter and outlet supply line.
- f. Secure harness in place with cable ties.
- g. Install access panels.

END OF TASK

---

**4-13 ALTERNATOR – REPAIR**

---

4-13

This task covers: Disassembly and Assembly

---

**INITIAL SETUP**Personnel Required

63B Wheel Vehicle Mechanic

Equipment Condition

Para 3-60 3-63

Tools

Kit NSN 5180-00-545-8645

Condition Description

Alternator Removed

Voltage regulator removed

Materials/Parts

Brush assembly-Part

Number 3-2

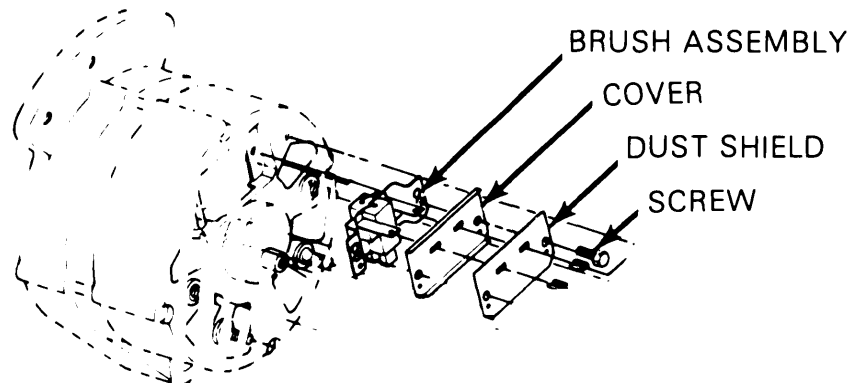
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**1. Disassembly**

Remove two screws, dust shield cover and brush assembly.

**2. Assembly**

Install brush assembly and cover and dust shield, secure with two screws.



END OF TASK

4-14 FLUID RESERVOIR – REPAIR

4-14

This task covers: Repair

INITIAL SETUP

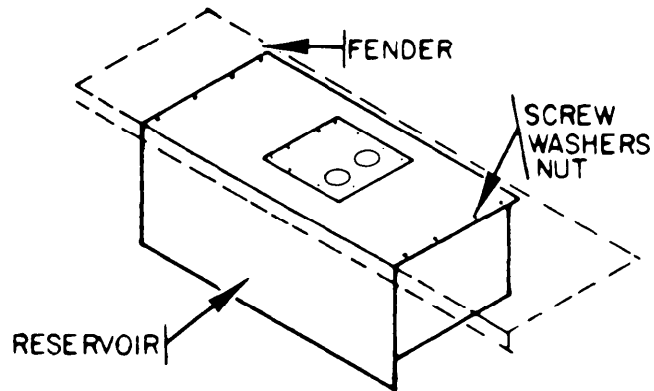
<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
44B Welder	3-101	Reservoir removed and disassembled

Tools

Shop equipment (welder)

REPAIR

Weld a cracked or punctured reservoir.



END OF TASK

---

**4-15 LINES, TUBING, FITTINGS AND HOSE ASSEMBLIES – REPAIR**

---

4-15

This task covers: Repair

---

**INITIAL SETUP****Personnel Required**

68H Aircraft Pneudraulic  
Repairman

**Tools**

Pneudraulic repairman's  
fabrication shop tools

---

**REPAIR**

- a. If tubing is cracked, split or flare damaged, fabricate new items. Use Pneudraulic shop tools.
- b. If hose is cut, worn or damaged, fabricate new item. Use pneudraulic shop tools.

**END OF TASK**

---

**4-16 LINES, TUBING, FITTINGS AND HOSE ASSEMBLIES — TEST**

---

4-16

This task covers: Test (See INITIAL SETUP, Para. 4-15)

---

**TESTING**

Before/after removal and repair of any of the lines, tubing or hose assemblies, test for leaks by operating the test stand. Refer to Chapter 2, Paragraphs 2-3 thru 2-4J.

**END OF TASK**

This task covers: Removal and Installation

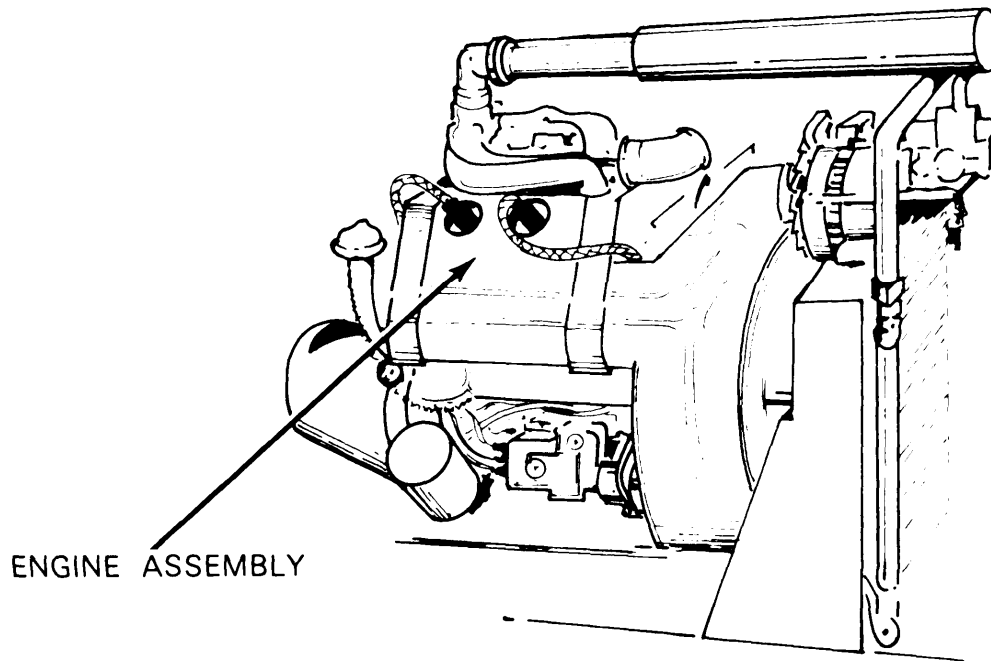
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INITIAL SETUP

Personnel Required  
63B Wheel Vehicle Mechanic

Tools  
Kit, NSN  
5180-00-545-8645

Materials/Parts  
Engine,  
Part Number  
VG4D  
(Spec. No. 418964)



GO TO NEXT PAGE



**1. REMOVAL**

- a. Remove access panels.
- b. Remove lower instrument panel.
- c. Disconnect the four bolts from the H.P. Pump and housing. Provide a means to support pump.
- d. Disconnect fuel line from fuel filter strainer.
- e. Disconnect the direct reading oil pressure gage line from the fitting on the engine.
- f. Disconnect the quick disconnect electrical lead from magneto.
- g. Remove clamp on oil cooler housing which secures alternator wiring harness. Disconnect quick disconnect wiring harness.
- h. Release clamps on flex exhaust pipe. Slide pipe over rigid exhaust pipe.
- i. Remove inlet tubing from boost pump. Remove outlet tubing between oil cooler and low pressure relief valve. Remove two bolts which secure low pressure relief valve to oil cooler housing.
- j. Disconnect power wire from starter. Disconnect ground wire from starter support plate.
- k. Disconnect choke, throttle cables and clamps.
- l. Remove air filter housing assy.
- m. Remove the four bolts which attach the engine mount assembly to the test stand frame.
- n. Attach a suitable lifting device (chain, strap or equivalent) to the engine and oil cooler housing. Lift engine approximately two inches off the rubber mounts. Move the engine toward the front of the test stand approximately 12 inches. Lift the engine and oil cooler straight up and out of the test stand.

**NOTE**

**If the engine is to be replaced with a serviceable unit, remove the following components:**

1. V-Belt.
2. H.P. pump mounting base.
3. H.P. pump coupling from engine output shaft.
4. Four engine mount bolts.
5. Oil cooler fan and pulley from engine shaft.

GO TO NEXT PAGE

## 2. INSTALLATION

- a. Install oil cooler fan and pulley on engine shaft.
- b. Using a suitable lifting device position engine onto frame and secure with four bolts, flatwashers, lockwashers and nuts.
- c. Install H.P. pump coupling on engine output shaft.
- d. Install H.P. pump mounting base and secure with bolts and lockwashers.
- e. Install V-belt onto the pulleys. Put tension on the alternator, tightening V-belts so that it can be deflected no more than approximately  $\frac{1}{4}$  inch. Tighten the screw on the tension bar.
- f. Place the lifting device (chain, straps or equivalent) to the engine and the hydraulic oil cooler housing. Lift and position the engine assembly over the test stand. Lower the engine onto the four rubber mounts.
- g. Install four bolts and lockwashers through the frame and thread into rubber mounts. Tighten bolts. Remove lifting device.
- h. Install H.P pump onto the mounting base. Engage the coupling to the coupling half extending from the engine.
- i. Secure H.P. pump with four bolts, flatwashers, lockwashers and nuts.
- j. Ensure the coupling halves are fully engaged, then tighten the setscrew on the coupling installed on the engine output shaft.
- k. Connect the fuel line to the fuel filter strainer.
- l. Connect the direct reading oil pressure gage line to the fitting on the engine.
- m. Connect the quick-disconnect electrical lead to the magneto.
- n. Secure the alternator electrical harness to the oil cooler housing using a clamp. Connect the alternator quick-disconnect plug to the harness.
- o. Install the exhaust flex hose onto the muffler and the rigid exhaust pipe. Secure with two clamps.
- p. Secure the lower pressure relief valve to the oil cooler housing. Install two bolts through lockwashers, flatwashers, relief valve, spacers and thread into housing.
- q. Install hydraulic line from oil cooler outlet fitting to the pressure relief valve.
- r. Install the hydraulic line from the inlet boost pump fitting to the tee adapter on the low pressure relief valve.

GO TO NEXT PAGE

- s. Connect the power wire onto the starter.
- t. Connect the ground wire onto the starter support plate.
- u. Connect the choke cable onto the carburetor and secure in place with clamps.
- v. Connect the throttle cable to the variable speed lever and secure in place with clamps.
- w. Install the air filter housing assembly.
- x. Install lower instrument panel.
- y. Service hydraulic reservoir.
- z. Service engine oil sump.
- aa. Install access panels.

END OF TASK

This task covers: Disassembly and Assembly

INITIAL SETUP

Personnel Required  
63B Wheel Vehicle Mechanic

Equipment Condition  
Para 3-157

Condition Description  
Starter removed

Tools  
Kit, NSN 5180-00-545-8645

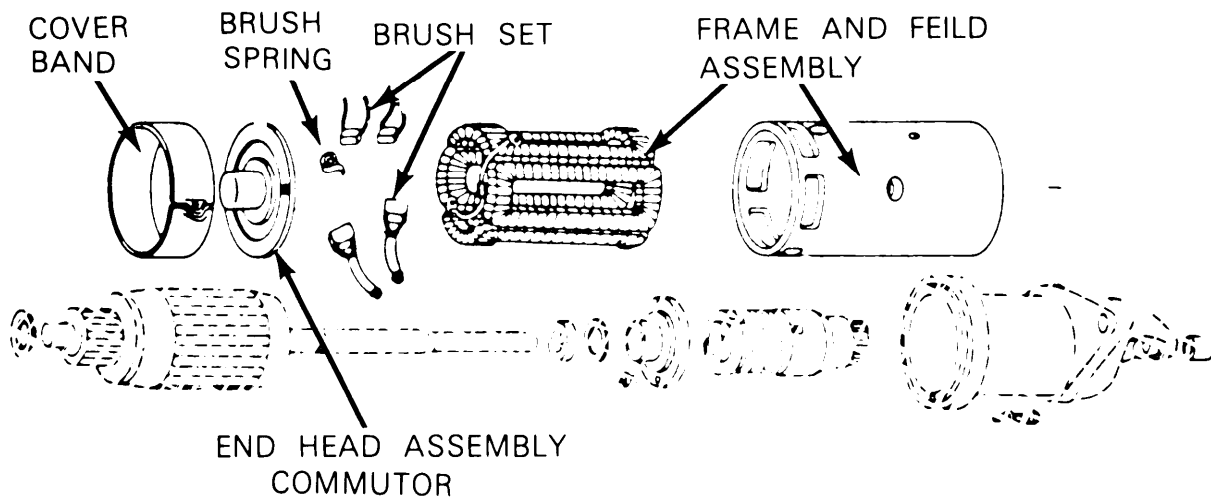
Materials/Parts

Cleaning solvent  
PD-680, item 7, Appendix D  
Brush spring set-  
Part Number 28 MZ-19CS  
Cover band-Part Number  
28-MZ-1024AD

Starter-Part Number Y-56-A  
Brush set-Part Number  
28 MBW-2012CS

Frame and field assembly-  
Part Number 28 MBP-20225  
Bearing assembly-Part  
Number, 28-MZ-1360A

Bronze bearing-Part  
Number 28-MZ-364



GO TO NEXT PAGE

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**4-18 STARTER — REPAIR — Continued**

---

**4-18****1. DISASSEMBLY**

- a. Loosen screw on cover band and remove cover band.
- b. Remove four screws from commutator end head assembly and remove head assembly.
- c. Clean all metal parts in cleaning solvent and dry thoroughly.
- d. Clean frame with a clean cloth dampened with cleaning solvent and dry thoroughly with compressed air,
- e. Clean brushholder and spring with a brush and cleaning solvent. Dry thoroughly with compressed air.
- f. Clean brushes with a clean dry cloth, only. Do not permit cleaning solvent to come in contact with brushes.
- g. Replace brushes if less than ½ inch long.

**2. ASSEMBLY**

- a. Install the commutator end head assembly and secure with four screws.
- b. Install cover band.

END OF TASK

---

**4-19 CYLINDER HEAD – REMOVE**

---

**4-19**

This task covers: Removal

---

**INITIAL SETUP**

Personnel Required

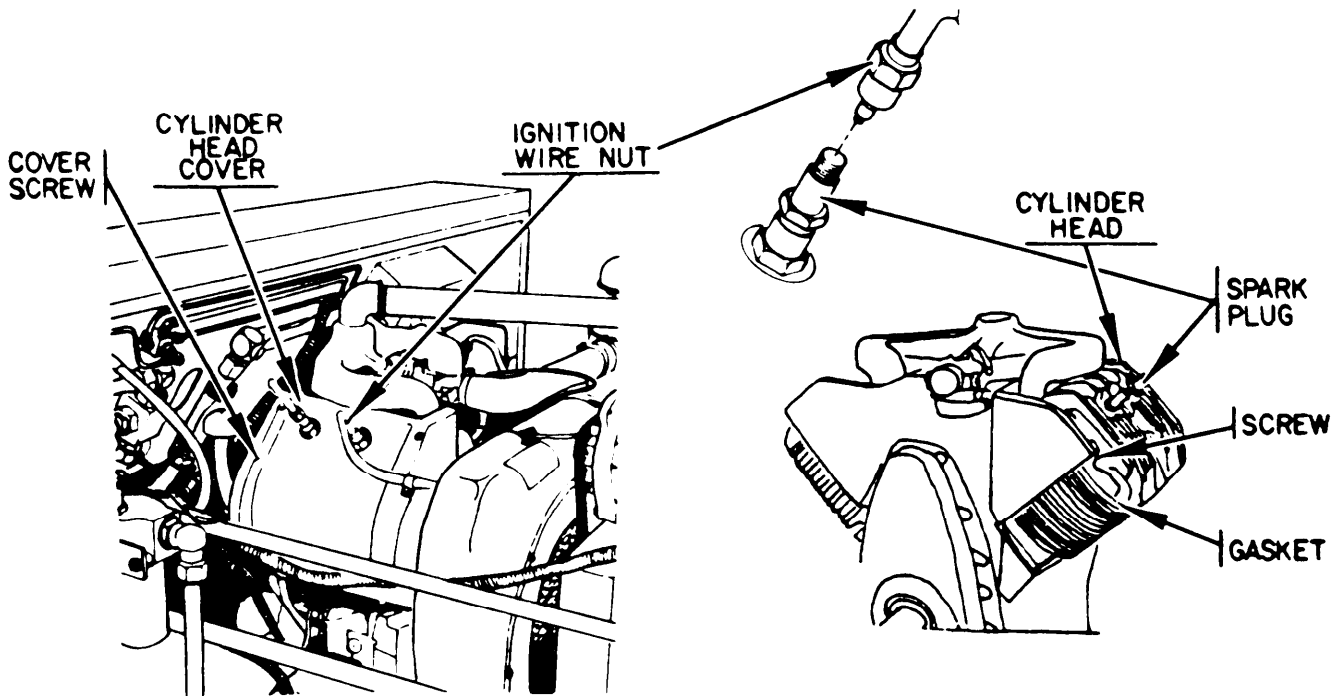
Tools

63B Wheel Vehicle Mechanic

Kit, NSN 5180-00-545-8645

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GO TO NEXT PAGE



## REMOVAL

- a. Remove access panel.
- b. Remove ignition wires and spark plugs.
- c. Remove manifold assy (Para. 3-165).
- d. Remove cylinder head cover shroud screws and rear shroud covers. (3 inch extension and ratchet).
- e. Remove 17 cylinder head screws and washers.
- f. Remove cylinder head and gasket.

END OF TASK

---

**4-20 CYLINDER HEAD – INSPECT**

**4-20**

---

This task covers: Inspection

---

INITIAL SETUP

Personnel Required

63B Wheel Vehicle Mechanic

---

INSPECTION

- a. Inspect cylinder head for cracks.
- b. Replace damaged cylinder head and gasket (Para. 4-21).

END OF TASK

---

**4-21 CYLINDER HEAD — REPLACE**

**4-21**

---

This task covers: Installation

---

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
63B Wheel Vehicle Mechanic	4-19	Cylinder head removed
<u>Tools</u>		<u>Materials/Parts</u>
Kit, NSN 5180-00-545-8645		Oil and graphite mix
Torque wrench		Cylinder Head-Part Number AB-111
		Gasket-Part Number QD-631

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GO TO NEXT PAGE

INSTALLATION

- a. Install cylinder head gasket on cylinder block.
- b. Install cylinder head on cylinder block.
- c. Install 17 cylinder head screws and washers. Use a mixture of graphite and oil on the screw threads to prevent them from rusting tight in the cylinder block.
- d. Tighten cylinder head screws 25 to 32 foot pounds torque.

**NOTE**

**After complete assembly and engine run-in, re-torque head screws.**

- e. Install cylinder head shrouds and rear shroud covers. Secure with screws.
- f. Install the manifold assy (Para. 3-167).
- g. Install spark plugs and connect spark plug leads.
- h. Install access panel.

END OF TASK

This task covers: Removal and Cleaning

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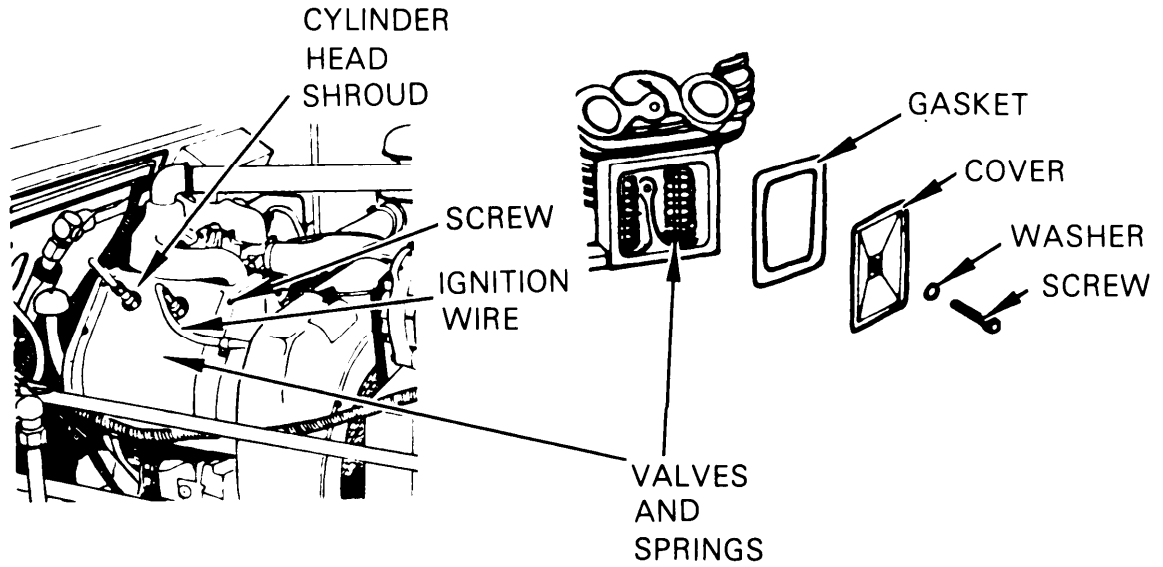
INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Tools</u>
63B Wheel Vehicle Mechanic	3-133 4-19	Kit, NSN 5180-00-545-8645 Valve Lifter Clean Rags
	<u>Equipment Condition</u> Governor Removed, Cylinder Head Removed.	

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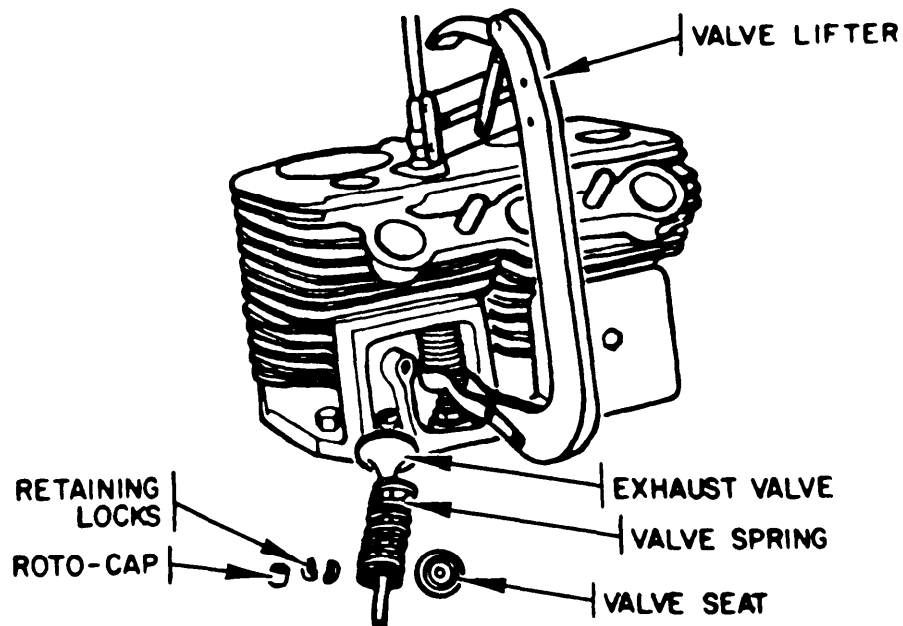




REMOVAL

- a. Remove valve inspection cover, screw and lockwasher.
- b. Remove valve inspection cover gasket.

GO TO NEXT PAGE



## REMOVAL (cont)

- c. Wedge a rag into the opening at the bottom of the valve chamber so the retaining locks do not fall into the crankcase.
- d. Compress valve spring, Use valve lifter.
- e. Remove the roto-caps, rotating locks, seats, springs and valves.
- f. Tag each valve so that they can be replaced into the same guides from which they were removed.
- g. Clean all parts as well as the ports and guides of all carbon and gum deposit.

END OF TASK

**4-23 VALVES AND SPRINGS – INSPECT**

4-23

This task covers: Inspection

**INITIAL SETUP**

Personnel Required

Tools

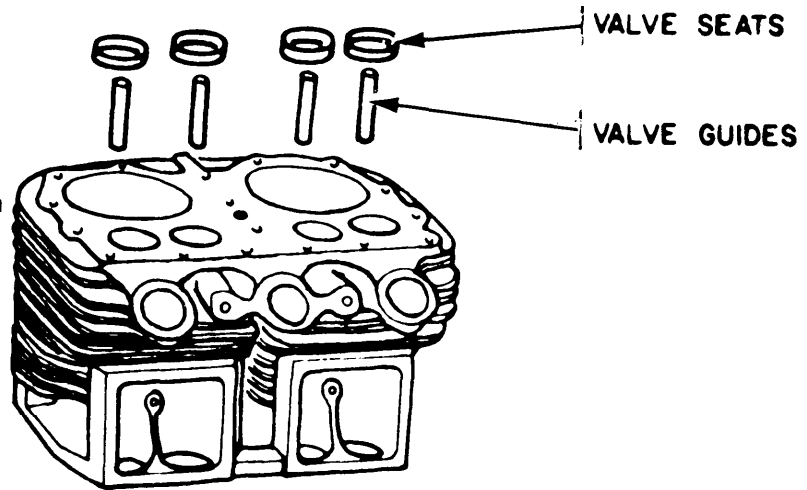
63B Wheel Vehicle Mechanic

Kit, NSN 5180-00-545-8645

**INSPECTION**

- a. Inspect for burned or pitted valves, pitted valve seat, worn valve guide.
- b. Check all components for foreign deposit buildup.

END OF TASK



**4-24 VALVES AND SPRINGS – REPAIR**

4-24

This task covers: Replacement and Cleaning (See INITIAL SETUP, Para. 4-23).  
(Grinding and Seating)

**REPAIR**

- a. Grind the valve face at 45° to the vertical center line of valve stem.
- b. Grind the valve seat insert at 45°.
- c. Lap valve and insert using lapping compound. Lap the valves by rotating them back and forth with a reciprocating advance valve tool. After valves are lapped, wash the valve and seat thoroughly with cleaning solvent.

END OF TASK

This task covers: Installation

---

## INITIAL SETUP

Personnel Required

63B Wheel Vehicle Mechanic

Tools

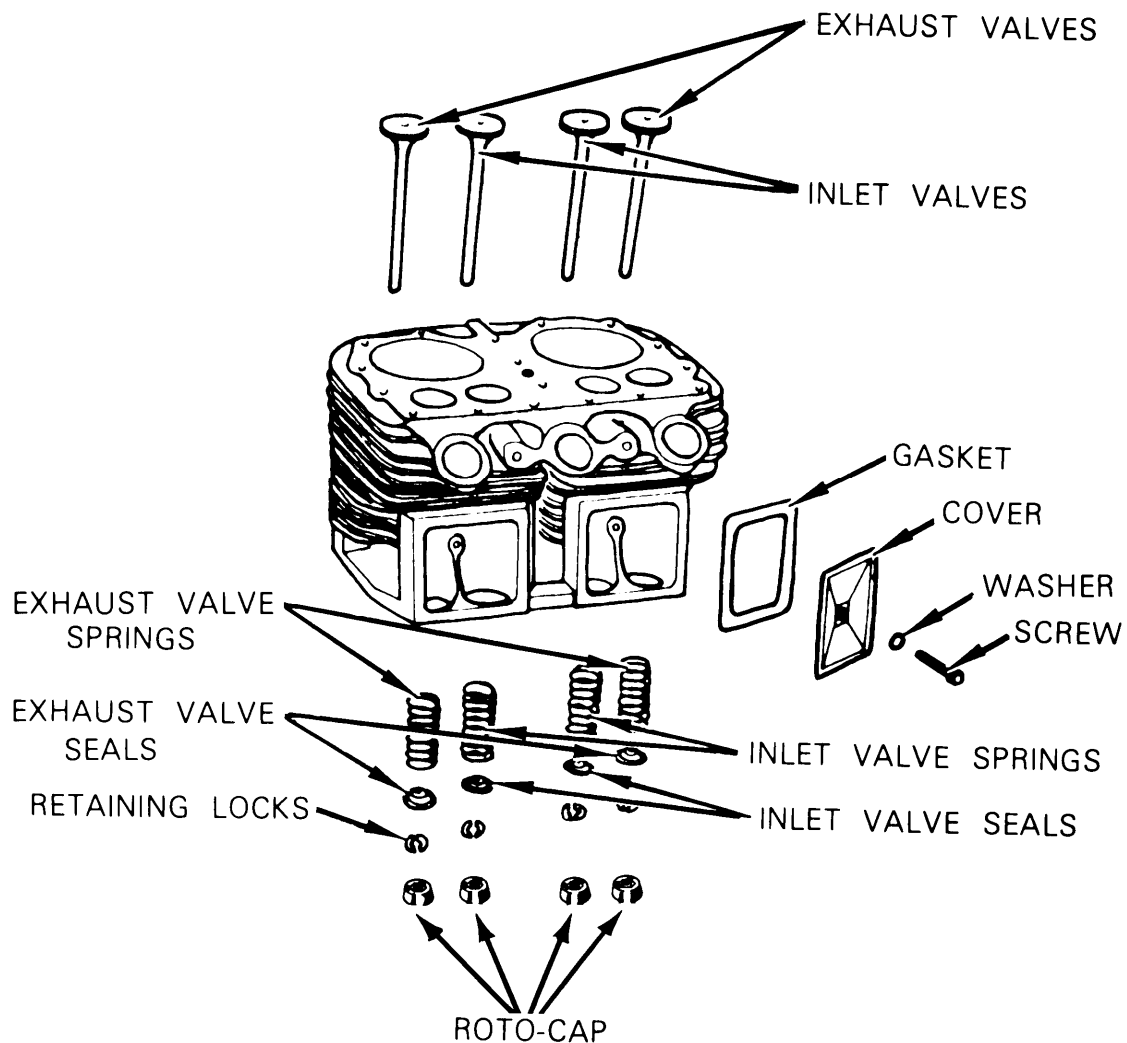
Valve lifter  
Clean rags

Materials/Parts

Valve, exhaust-Part Number  
AE-76-D  
Valve, inlet-Part Number  
AE-76-E  
Valve seat, exhaust-Part  
Number HG-150-D  
Valve seat, inlet-Part Number  
HG-150-A  
Valve spring, exhaust-Part  
Number AF-55  
Valve spring, inlet-Part Number  
AF-52  
Retaining lock-Part Number  
AH-9  
Roto-Cap -Part Number AG-31

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GO TO NEXT PAGE



- Replace valves in cylinder block.
- Wedge a rag into the opening at the bottom of the valve chamber so the retaining locks do not fall into the crankcase,
- Assemble valve spring seats to valve springs, and install on valve stem.
- install the roto-caps on the end of the valve stems,
- Compress valve spring. Use valve lifter,
- Install retainer locks.
- Release valve spring, remove valve lifter.

END OF TASK

This task covers: Adjustment

### INITIAL SETUP

#### Personnel Required

63B Wheel Vehicle Mechanic

#### Materials/Parts

Valve cover gasket-Part Number  
QD-482

#### Tools

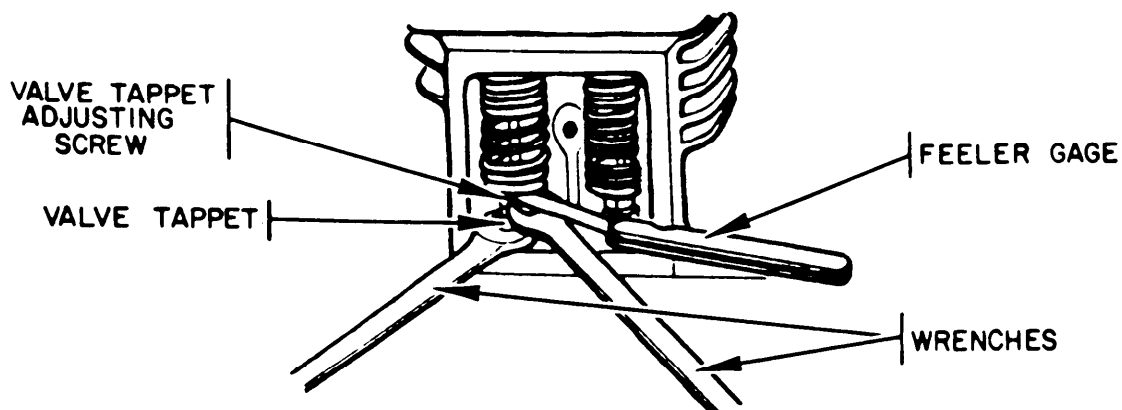
Kit, NSN 5180-00-545-8645

### 1. ADJUSTMENT

#### NOTE

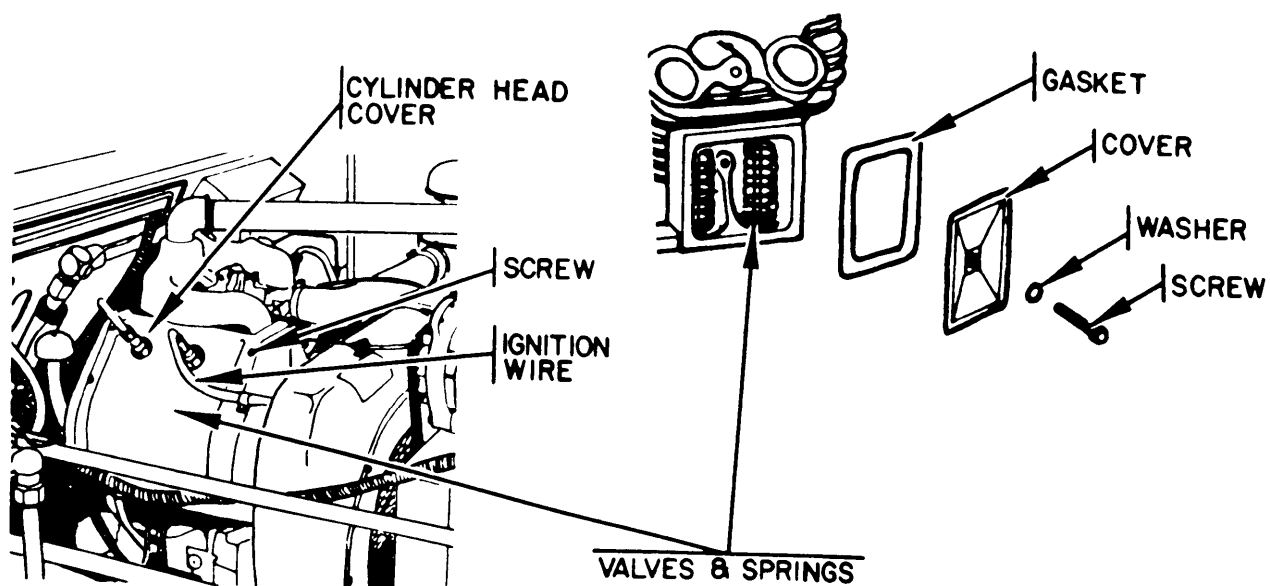
**Valve tappets are adjusted when engine is cold.**

- a. Rotate engine so the tappets are in their lowest position.
- b. Adjust the inlet valve tappet clearance to .008 inch and the exhaust to .016 inch.



## 2. INSTALLATION

- a. Install valve gasket and cover, secure with screw and washer.
- b. Install governor assembly (Para. 3-135.)
- c. Install cylinder head and gasket (Para. 4-21).
- d. Install 12 cylinder head lockwashers and screws.

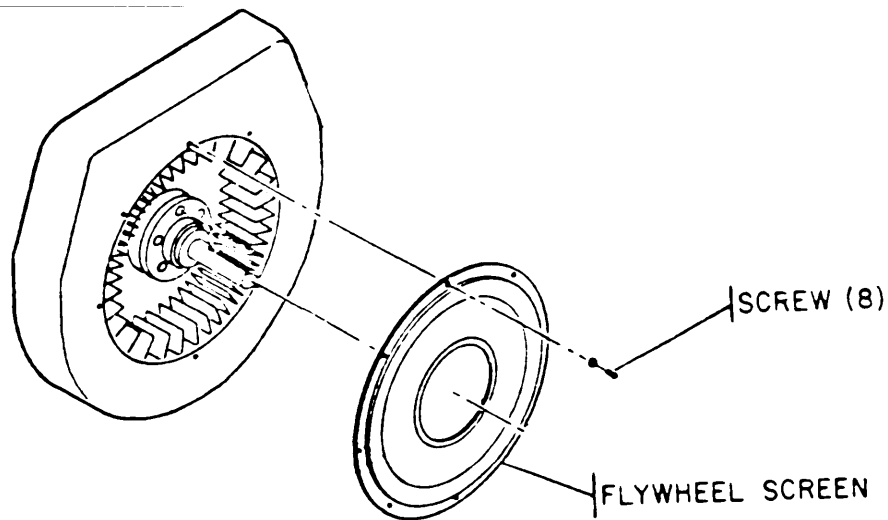


END OF TASK

This task covers: Removal

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Tools</u>
63B Wheel Vehicle Mechanic	3-116	Kit, NSN 5180-00-545-8645 1-½ in. socket
	<u>Equipment Condition</u>	
	Oil Cooler removed.	

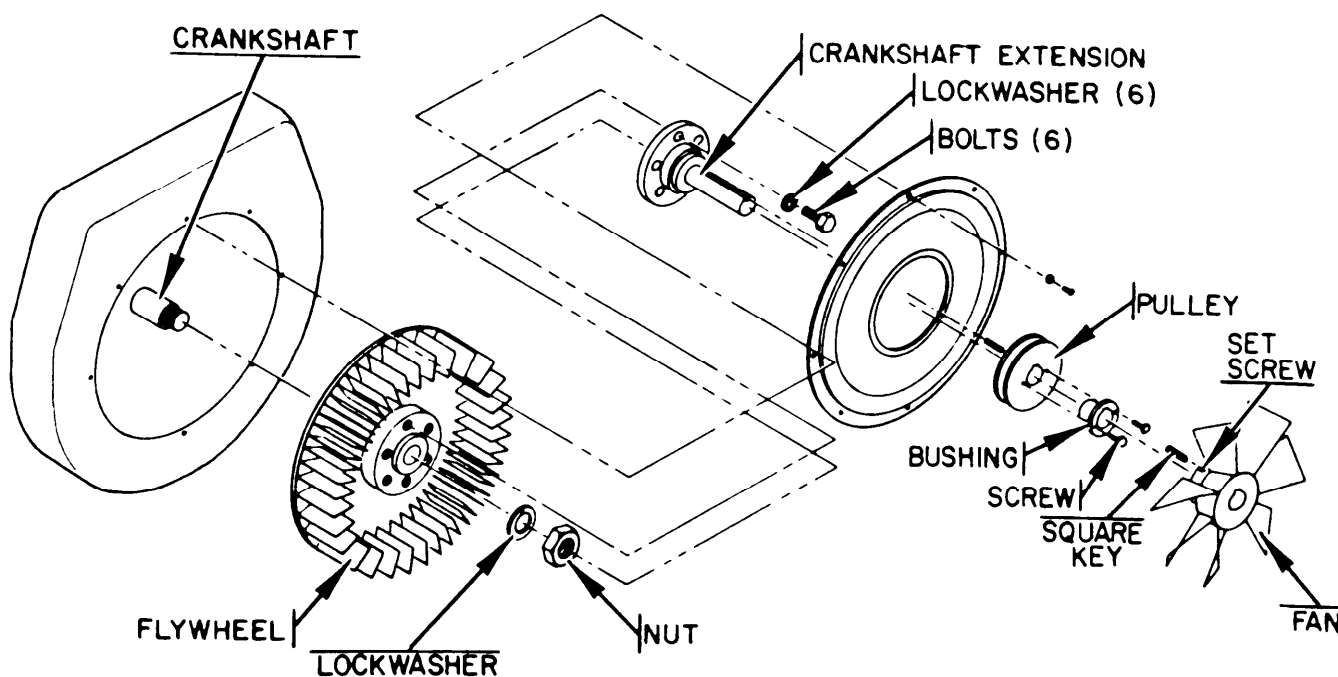


REMOVAL

- a. Loosen the "V"-belt and remove belt from pulleys.
- b. Remove two setscrews securing fan to crankshaft.
- c. Remove fan and square key.
- d. Remove eight screws from flywheel screen, and remove screen.
- e. Remove two screws securing bushing to the pulley. Insert the screws into the threaded holes in the bushing (this will allow the pulley to be loosened).
- f. Remove pulley.

GO TO NEXT PAGE





## REMOVAL (cont)

- g. Remove six bolts and lockwashers from the crankshaft extension.
- h. Remove crankshaft extension.
- i. Remove nut and lockwasher securing flywheel to crankshaft. Use 1½ inch socket.
- j. The flywheel is mounted on the taper of the crankshaft. Take a hold on the flywheel fins, pull downward and at the same time strike the end of the crankshaft. Use a soft hammer, other than steel; the flywheel will slide off the taper of the crankshaft,
- k. Remove woodruff key from crankshaft,

END OF TASK

---

**4-28 FLYWHEEL – INSPECT**

---

**4-28**

This task covers: Inspection

---

INITIAL SETUP

Personnel Required

63B Wheel Vehicle Mechanic

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**INSPECTION**

- a. Inspect for a cracked flywheel.
- b. Check grooves in pulley for burrs and roughness.
- c. Check for broken fan blades.
- d. Replace damaged flywheel (Para. 4-29).

END OF TASK

---

**4-29 FLYWHEEL – REPLACE**

---

**4-29**

This task covers: Installation

---

INITIAL SETUP

<u>Personnel Required</u>	<u>Equipment Condition Para</u>	<u>Condition Description</u>
63B Wheel Vehicle Mechanic	4-27	Flywheel removed from engine
<u>Tools</u>		<u>Materials/Parts</u>
Kit, NSN 5180-00-545-8645 1-½ in. open end socket		Flywheel-Part Number NC-146-H

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GO TO NEXT PAGE

**INSTALLATION**

- a. Place woodruff key in crankshaft.
- b. Install flywheel on crankshaft. Make sure the key way in the flywheel is lined up with the woodruff key.
- c. Install lockwasher and nut on crankshaft. Tighten nut, using 1-½ inch socket.
- d. Install crankshaft extension on flywheel.
- e. Install six bolts through lockwasher and crankshaft extension into flywheel. Tighten the bolts.
- f. Install bushing in pulley.
- g. Install bushing and pulley on crankshaft. Locate pulley 2-¼ inches from end of crankshaft.
- h. Secure bushing and pulley to crankshaft. Tighten two screws on bushing.
- i. Install flywheel screen on flywheel baffling and secure with eight screws,
- j. Place square key on crankshaft.
- k. Install fan on crankshaft. Make sure the keyway in the fan is lined up with the square key and flush with end of crankshaft.
- l. Install two setscrews securing fan to crankshaft. Tighten setscrews.
- m. Install oil cooler (Para. 3-116).

**END OF TASK**

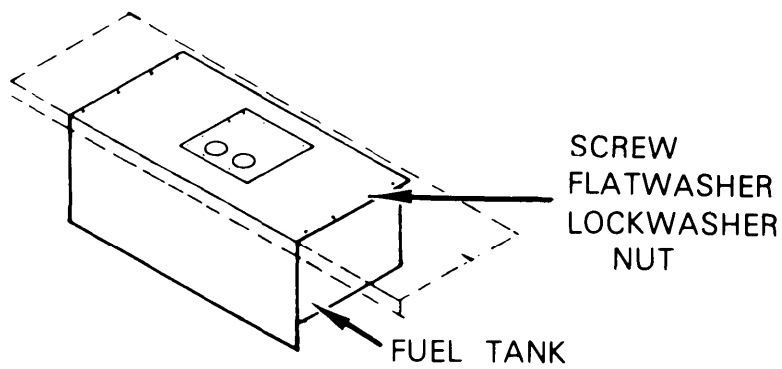
This task covers; repair

INITIAL SETUP

Personnel Required	Equipment Condition	Condition Description
44B Welder	Para 3-173	Fuel tank removed

Tools

Shop Equipment



REPAIR

Inspect fuel tank for cracks and punctures.  
Use welder and weld as required

END OF TASK

**APPENDIX A**

**REFERENCES**

**A-1 SCOPE A-1**

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

**A-2 FORMS A-2**

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

**A-3 TECHNICAL MANUALS A-3**

The Army Maintenance Management System-Aviation (TAMMS-A). . . . . DA PAM 738-751  
 Storage and Materials Handling . . . . . TM 743-200-1  
 Painting Operations instructions for Field Use . . . . . TM 43-0139  
 Army Material Maintenance Concepts and Policies . . . . . AR 750-1  
 Procedures for the Destruction of Aviation Ground Support  
 Equipment (FSC 4920) to Prevent Enemy Use . . . . . TM 750-244-1-4  
 General Aircraft Maintenance Manual . . . . . TM 55-1500-204-25/1

**A-4 OTHER PUBLICATIONS A-4**

Fire Prevention and Protection . . . . . AR 420-90  
 Reporting of Transportation Discrepancies in Shipments . . . . . AR 55-38  
 Packaging Improvement Report. . . . . AR 700-58  
 Military Publications Posting and Filling . . . . . DA PAM 310-13  
 First Aid for Soldier . . . . . FM 21-11  
 Calibration Requirements for the Maintenance of Army Material . . . . . TB 43-180



## APPENDIX B

## MAINTENANCE ALLOCATION CHART (MAC)

## Section I. INTRODUCTION

**B-1 GENERAL****B-1**

- a. This section provides a general explanation of all maintenance and repair functions authorized at various maintenance levels,
- b. The Maintenance Allocation Chart (MAC) in section II designates overall responsibility for the performance of maintenance functions on the identified end item or component. The implementation of the maintenance functions upon the end item or component will be consistent with the assigned maintenance functions.
- c. Section III lists the special tools and test equipment required for each maintenance function as referenced from section II.
- d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

**B-2 MAINTENANCE FUNCTIONS****B-2**

- a. Inspect. To determine the serviceability of an item by comparing its physical, mechanical and/or electrical characteristics with established standards through examination.
- b. Test. To verify serviceability and detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.
- c. Service. Operations required periodically to keep an item in proper operating condition, i.e., to clean (decontaminate), to preserve, to drain, to paint, or to replenish fuel, lubricants, hydraulic fluids, or compressed air.
- d. Adjust. To maintain, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.
- e. Align. To adjust specified variable elements of an item to bring about optimum or desired performance.
- f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test, measuring, and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

- g. Install. The act of emplacing, seating, or fixing into position an item, part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.
- h. Replace. The act of substituting a serviceable like part, subassembly, or module (component or assembly) for an unserviceable counterpart.
- i. Repair. The application of maintenance services or other maintenance actions to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.
- j. Overhaul. That maintenance effort (services/actions) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (i. e., DMWR) in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like-new condition.
- k. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like-new condition in accordance with original manufacturing standards. Rebuild is the highest degree of material maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc.) considered in classifying Army equipments/components.

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

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- a. Column 1, Group Number. Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next higher assembly.
- b. Column 2, Component/Assembly. Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.
- c. Column 3, Maintenance Functions. Column 3 lists the functions to be performed on the item listed in column 2. (For detailed explanation of these functions, see para. B-2.)
- d. The maintenance categories (levels) AVUM, AVIM, and DEPOT are listed on the Maintenance Allocation Chart with individual columns that indicate the work times for maintenance functions at each maintenance level, Work time presentations such as 0.1 indicate the average time it requires a maintenance function. If a work time has not been established, the columnar presentation shall indicate "-.-" Maintenance levels higher than the level of maintenance indicated are authorized to perform the indicated function.
- e. Column 5, Tools and Equipment. Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, TMDE, and support equipment required to perform the designated function.
- f. Column 6, Remarks. This column shall, when applicable, contain a letter code, in alphabetical order, which shall be keyed to the remarks contained in Section IV.



**SECTION II. MAINTENANCE ALLOCATION CHART**

**TEST STAND HYDRAULIC, MIL-T-7612C(AV)**

Group Number	Component/Assembly	Maintenance Function	Maintenance Category			Tools and Equipment	Remarks
			AVUM	AVIM	DEPOT		
00	Test Stand, Hydraulic, Gasoline Engine Driven, Type D5-D						
01	Cabinet Assembly						
0101	Doors	Remove Inspect Repair Replace	0.3 0.3  0.5	0.8		104  114 104	
0102	Hinges, Fasteners	Remove Inspect Service Replace	0.3 0.3 0.3 0.8			102 114	D
0103	Panels (Access)	Remove Inspect Service Repair Replace	0.3 0.3 0.3  0.3	0.5		104   114 104	D
02	Chassis						
0201	Axle & Steering Assembly Pins	Remove Inspect Service Repair Replace	1.0 0.5 0.5  1.0	1.0		104  101 117 104	D E

SECTION II. MAINTENANCE ALLOCATION CHART — Continued

TEST STAND HYDRAULIC, MIL-T-7612C(AV)

Group Number	Component/Assembly	Maintenance Function	Maintenance Category			Tools and Equipment	Remarks
			AVUM	AVIM	DEPOT		
0202	Tie Rods and Tie Bars	Remove	1.0			104	E
		Inspect	0.3				
		Service	0.5			102	
		Replace	1.0			101	
0203	Springs	Remove	1.0			104	
		Inspect	0.3				
		Service	0.3			101	
		Replace	1.0			104	
0204	Wheels	Remove	0.5				E
		Inspect	0.3				
		Service	0.3				
		Replace	0.5				
0205	Tires and Tubes	Remove	0.5			104	E E
		Inspect	0.3				
		Service	0.3				
		Repair	1.0			115	
		Replace	0.5			104	
0206	Hub and Bearings	Remove	0.5				D
		Inspect	0.8				
		Service	1.0			101-104	
		Replace	0.8			101-104	
0207	Brake System	Remove	1.0				
		Inspect	0.5				
		Replace	1.0				

SECTION II. MAINTENANCE ALLOCATION CHART – Continued							
TEST STAND HYDRAULIC, MIL-T-7612C(AV)							
Group Number	Component/Assembly	Maintenance Function	Maintenance Category			Tools and Equipment	Remarks
			AVUM	AVIM	DEPOT		
0208	Towbar	Remove Inspect Service Repair Replace	0.3 0.3 0.3 0.3	1.0		104-117	
03	Electrical System						
0301	Battery	Remove Inspect Service Replace	0.3 0.3 0.3 0.5			104	E
0302	Switches	Remove Inspect Service Replace	0.5 0.3 0.3 0.5			104	
0303	Wiring and Cables	Remove Inspect Service Repair Replace	0.3 0.3	0.8 0.8		106-109 106-109 106-109	

SECTION II. MAINTENANCE ALLOCATION CHART – Continued							
TEST STAND HYDRAULIC, MIL-T-7612C(AV)							
Group Number	Component/Assembly	Maintenance Function	Maintenance Category			Tools and Equipment	Remarks
			AVUM	AVIM	DEPOT		
0304	Alternator	Remove Inspect Repair Replace	1.0 0.3 1.0	1.0			E E
0305	Voltage Regulator	Remove Inspect Replace	0.5 0.3 0.5				
0306	Fuses	Remove Inspect Replace	0.3 0.3 0.3				
04	Hydraulic System						
0401	Pumps	Remove Inspect Repair Replace	2.0 0.3 2.0 2.0			104 104 104	B

SECTION II. MAINTENANCE ALLOCATION CHART – Continued							
TEST STAND HYDRAULIC, MIL-T-7612C(AV)							
Group Number	Component/Assembly	Maintenance Function	Maintenance Category			Tools and Equipment	Remarks
			AVUM	AVIM	DEPOT		
0402	Compensator Control	Remove	1.0			104	B
		Inspect	0.3				
		Repair	1.0			104	
		Replace	1.0			104	
0403	Valves Relief, Flow Control	Remove	1.0			104	B
		Inspect	0.3				
		Repair	1.0				
		Replace	1.0				
0404	Fluid Reservoir	Remove	1.0			104-110	B
		Inspect	0.3				
		Service	0.3				
		Repair		0.8			
		Replace	1.0				
0405	Filter Assemblies	Remove	0.5			104	A B
		Inspect	0.3				
		Service	0.3				
		Replace	0.5				
		Test	0.3				
0406	Lines, Tubing, Fittings and Hose Assembly	Inspect	0.3			104-110 104-110	B
		Repair		1.0			
		Replace	0.8				
		Test		0.5			
0407	Hydraulic Oil Cooler	Inspect	0.2			104	B
		Replace	0.5				

SECTION II. MAINTENANCE ALLOCATION CHART – Continued

TEST STAND HYDRAULIC, MIL-T-7612C(AV)

Group lumber	Component/Assembly	Maintenance Function	Maintenance Category			Tools and Equipment	Remarks
			AVUM	AVIM	DEPOT		
0408	Pressure Gage	Inspect Replace	0.3 0.8			104	C
05	Instrument Panel						
0501	Control Knobs	Remove Inspect Replace	0.5 0.3 0.5			104	
0502	Panel Assembly	Remove Inspect Service Replace	0.8 0.3 0.5 0.8			104	
0503	Instruments	Remove Inspect Replace	0.3 0.3 0.3			104	
06	Engine	Remove Replace		3.0 5.0			
0601	Control Cable Assembly	Remove Inspect Service Replace	0.5 0.5 0.5 0.5			104	E

SECTION II. MAINTENANCE ALLOCATION CHART – Continued							
TEST STAND HYDRAULIC, MIL-T-7612C(AV)							
Group Number	Component/Assembly	Maintenance Function	Maintenance Category			Tools and Equipment	Remarks
			AVUM	AVIM	DEPOT		
0602	Governor Assembly	Remove	1.0				
		Inspect	0.5				
		Replace	1.0				
0603	Fuel Pump	Remove	1.0				
		Inspect	0.3				
		Repair	1.0				E
		Replace	1.0				
0604	Carburetor	Remove	1.0				
		Inspect	0.3				
		Repair	1.5				E
		Replace	1.0				E
0605	Air Filter	Remove	0.3				
		Inspect	0.3				
		Service	0.5				
		Replace	0.3				
0606	Fuel Strainer	Remove	0.5				
		Inspect	0.3				
		Replace	0.5				E
0607	Oil Filter	Remove	0.5				
		Replace	0.5				
0608	Magneto	Inspect	0.5				
		Replace	1.0				
		Adjust	1.0				
0609	Starter	Remove	0.5				
		Inspect	0.3				
		Repair		1.0			E
		Replace	0.5				E
0610	Ignition Leads, Spark Plugs	Remove	1.0				
		Inspect	0.3				
		Replace	1.0				

SECTION II. MAINTENANCE ALLOCATION CHART – Continued

TEST STAND HYDRAULIC, MIL-T-7612C(AV)

Group Number	Component/Assembly	Maintenance Function	Maintenance Category			Tools and Equipment	Remarks
			AVUM	AVIM	DEPOT		
0611	Muffler	Remove Inspect Replace	0.8 0.3 0.8				
0612	Manifold	Remove Inspect Replace	2.0 0.5 2.0				E
0613	Cylinder Head	Remove Inspect Replace		1.5 1.5 1.5			E
0614	Valves, Guides and Springs	Remove Inspect Repair Replace Adjust		2.0 1.0 2.5 2.0 1.0			E E E
0615	Flywheel	Remove Inspect Replace		1.0 0.5 1.0			E E
0616	Air Shrouds and Baffeling	Remove Inspect Repair Replace	1.0 0.5 0.8 1.0				E
0617	Fuel Tank	Remove Inspect Service Repair Replace	1.0 0.3 0.3 1.0	0.5		104 102	



## Section III. TOOLS AND TEST EQUIPMENT

REF. NO.	MAINT. CATEGORY	NOMENCLATURE	NSN	TOOL NO.
100	O	Tool Set, AVUM Set No. 1	4920-00-159-8727	SC492099CLA90
101	O	Tool Set, AVUM Set. No. 2	4920-00-567-0476	SC492099CLA92
102	O	Tool Kit, Acft Mech Gen	5180-00-323-4692	SC518099CLA01
103	O	Tool Kit, Arfrm Rpmm	5180-00-323-4876	SC518099CLA02
104	O	Tool Kit, Hyd Rpmm	5180-00-323-4891	SC518099CLA03
105	O	Tool Kit, Instr Rpmm	5180-00-323-4913	SC518099CLA05
106	O	Tool Kit, Elec Rpmm	5180-00-323-4915	SC518099CLA06
107	O	Tool Kit, Eng Rpmm	5180-00-323-4944	SC518099CLA07
108	O	Tool Kit, Pwt Trn	5180-00-003-5267	SC518099CLA13
109	F	Shop Set, AVIM Elec-Instr	4920-00-165-1453	SC492099CLA91ELAM
110	F	Shop Set, AVIM Hyd	4920-00-165-1454	SC492099CLA91HYAM
111	F	Shop Set, AVIM Machine Shop	4920-00-405-9279	SC492099CLA91MAAM
112	F	Shop Set, AVIM Pwr Trn	4920-00-001-4132	SC492099CLA91PTAM

Section III. TOOLS AND TEST EQUIPMENT – Continued

REF. NO.	MAINT. CATEGORY	NOMENCLATURE	NSN	TOOL NO.
113	F	Shop Set, AVIM Rtr Shop	4920-00-405-9270	SC492099CLA91ROAM
114	F	Shop Set, AVIM Sheet Metal	4920-00-166-5505	SC492099CLA91SMAM
115	F	Shop Set, AVIM Tool Crib	4920-01-149-4538	SC492099CLA91TCAM
116	F	Shop Set, AVIM Turbine Eng	4920-00-224-3684	492099CLA91ENTAM
117	F	Shop Set, AVIM Welding	4920-00-163-5093	492099CLA91WEAM

Section IV. REMARKS

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, TB43-180.
D	Lubricate and clean.
E	Use available motor pool tools,

## APPENDIX C

## REPAIR PARTS AND SPECIAL TOOLS LIST

## Section 1. 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 D5D Hydraulic Systems 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 1, Introduction, this Repair Parts and Special Tools List is divided into the following sections:

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

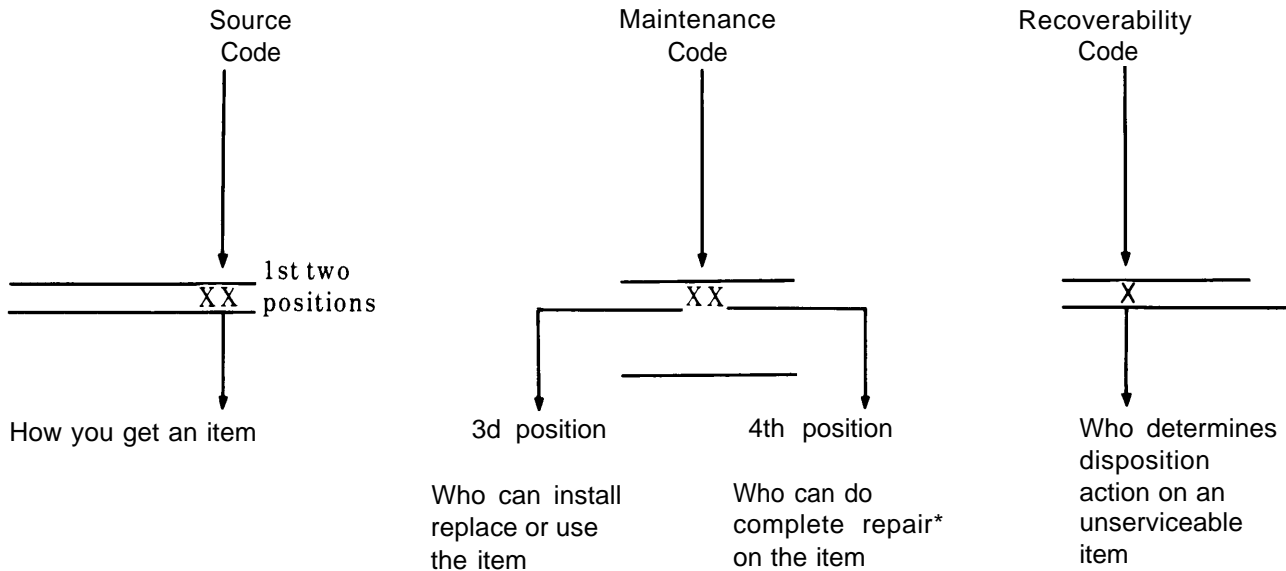
b. Section III. Special Tools List. A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in DESCRIPTION AND USABLE ON CODE column) for the performance of maintenance. (Not Applicable).

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 I and II).

a. ITEM NO. (Column {1}). Indicates the number used to identify items called out in the illustration.

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



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

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

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 3d position of the SMR code.

\*\*NOTE: Items coded PC are subject to deterioration.

KD  
KF  
KB

Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance category indicated in the 3d position of the SMR code. The complete kit must be requisitioned and applied.

Explanation

MO- (Made at org/AVUM Level)  
 MF- (Made at DS/AVUM Level)  
 MH- (Made at GS Level)  
 ML- (Made at Specialized Repair Act (SRA))  
 MD- (Made at Depot)

Items with these codes are not to be requested/requisitioned individually. 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 this RPSTL. If the item is authorized to you by the 3d position code of the SMR code, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance.

AO- (Assembled by org/AVUM Level)  
 AF- (Assembled by DS/AVIM Level)  
 AH- (Assembled by GS Category)  
 AL- (Assembled by SRA)  
 - (Assembled by Depot)

Items with these codes are not to be requested/requisitioned individually. The parts that make up these assembled items must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the 3d position code of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher level, order the item from the higher level of maintenance.

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

NOTE: Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes, except for those source coded "XA" or those aircraft support items restricted by requirements of AR 700-42.

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

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

Code	Application/Explanation
C	—Crew or operator maintenance done within organizational or aviation unit maintenance.
O	—Organizational or aviation unit category can remove, replace, and use the item.

- F —Direct support or aviation intermediate level can remove, replace, and use the item.
- H —General support level can remove, replace, and use the item.
- L —Specialized repair activity can remove, replace and use the item.
- D —Depot level can remove, replace, and use the item.

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

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

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

Recoverability Codes	Application/Explanation
Z	—Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in 3d position of SMR Code.
O	—Reparable item. When uneconomically reparable, condemn and dispose of the item at organizational or aviation unit 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, etc., that supplies the item.

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

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

e. DESCRIPTION AND USABLE ON CODE (UOC) (Column (5)). This column includes the following information:

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

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

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

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

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

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

(7) The usable on code, when applicable (see paragraph C-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 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 breakdown shown on the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column in lieu of a quantity indicates that the quantity is variable and the quantity may vary from application to application.



**C-4 Explanation of columns (Sect. IV).**

## a. NATIONAL STOCK NUMBER (NSN) INDEX.

(1) STOCK NUMBER column. This column lists the NSN by National item identification number (NIIN) sequence. The NIIN consists of the last nine digits of the NSN (i.e., NSN 5305-01-674-1467-NIIN). When using this column to locate an item, ignore the first 4 digits of the NSN. However, the complete NSN should be used when ordering items by stock number.

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

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

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

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

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

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

(4) FIG. column. This column lists the number of the figure where the item is identified/located in Section II and 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.** Use the following subparagraphs as applicable:

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

b. 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.

## **C-6. How to Locate Repair Parts**

### a. When National Stock Number of 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 (1)). The part numbers in the Part Number index are listed in ascending alphanumeric sequence (see C-4.b.). Both indexes cross-reference you to the illustration figure and item number of the item you are looking for.

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



*Index 9 / (Index 10 blank)*  
**INDEX 9 / (INDEX 10 Blank)**

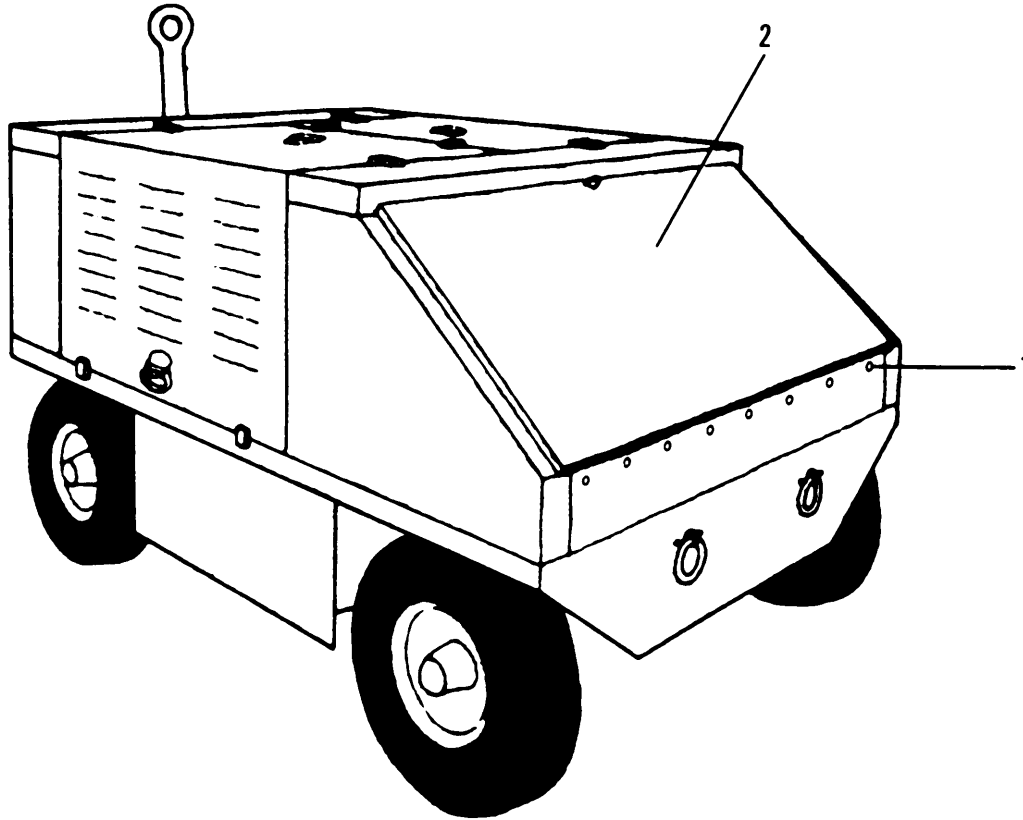


Figure C-1. Instrument Panel Door

SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
GROUP 01. CABINET ASSEMBLY					
FIGURE C-1. INSTRUMENT PANEL DOOR					
1	PBOZZ	96906	MS35206-279	SCREW,MACHINE . . . . .	8
2	XDOFF	56529	79009-118-1	DOOR . . . . .	1

END OF FIGURE

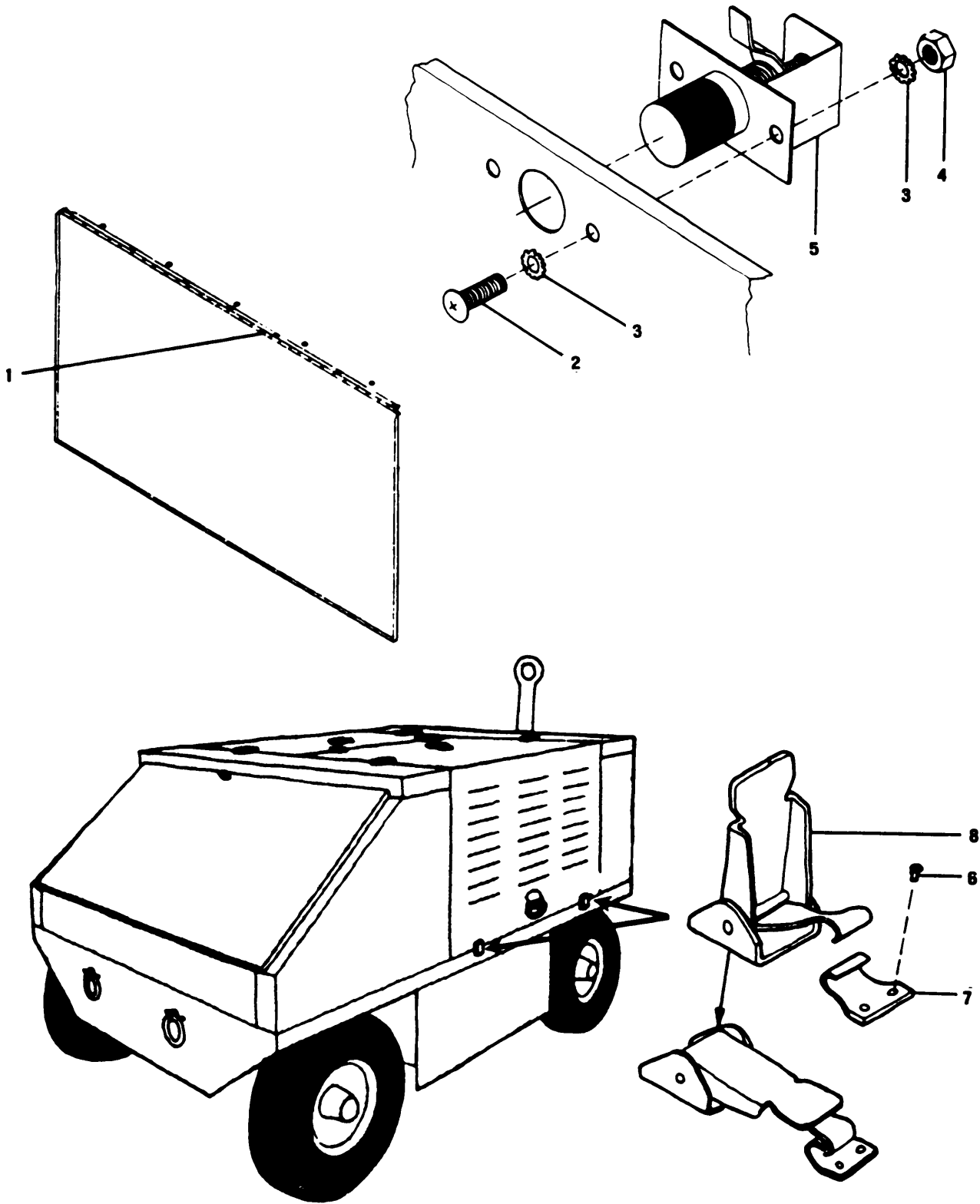


Figure C-2. Hinges and Fasteners

SECTION II			TM 55-4920-426-13&P			
(1)	(2)	(3)	(4)	(5)	(6)	
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY	
FIGURE C-2. HINGES AND FASTENERS						
1	XDOZZ	96906	MS35826-16D	HINGE,CONT.....	1	
2	PBOZZ	96906	MS35206-279	SCREW,MACHINE.....	2	
3	PBOZZ	96906	MS35335-33	WASHER,LOCK.....	4	
4	PBOZZ	96906	MS51967-2	NUT,PLAIN,HEXAGON.....	2	
5	PBOZZ	94222	14-10-11-11	FASTENER,PAWL.....	1	
6	XDOZZ	05693	SSP54	RIVET.....	40	
7	PBOZZ	72794	TL100-5	STRIKE,CATCH.....	10	
8	PBOZZ	72794	TL100-A	CATCH,CLAMPING.....	10	

END OF FIGURE

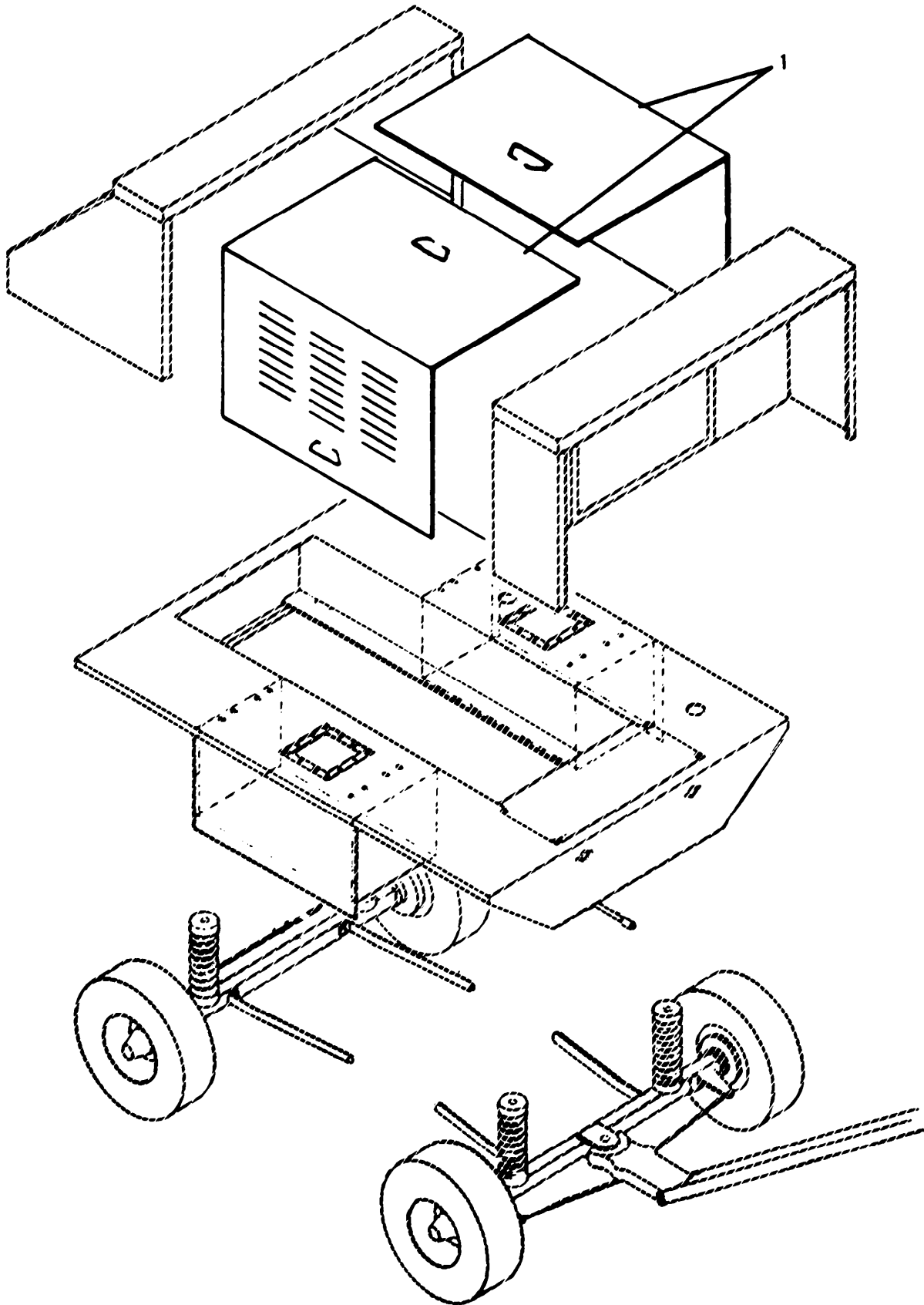


Figure C-3. Panels (Access)



SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
1	XDOFF	56529	79009-116-1	PANEL, HOUSING .....	2
END OF FIGURE					

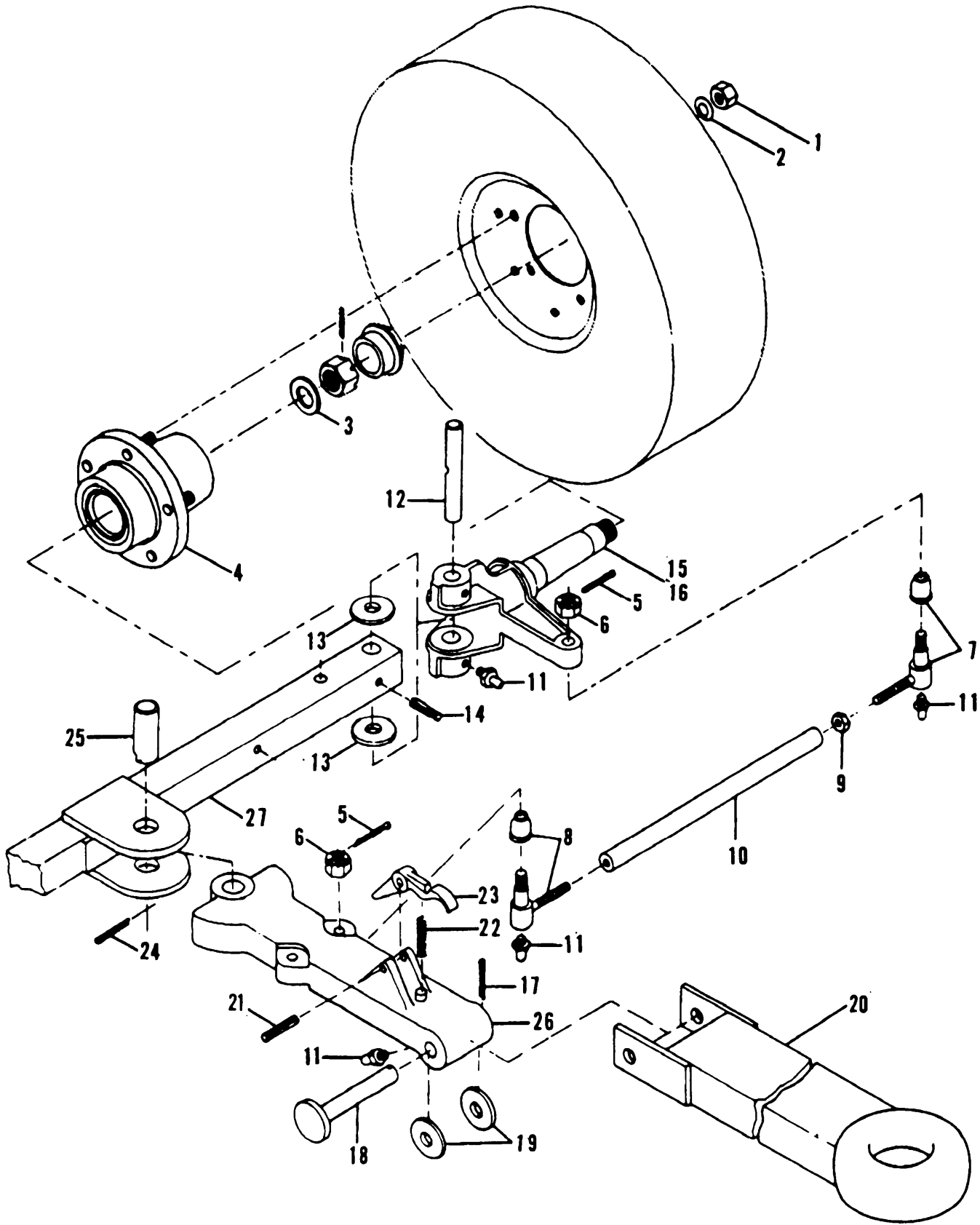


Figure C-4. Front Axle Assembly (Sheet 1 of 2)

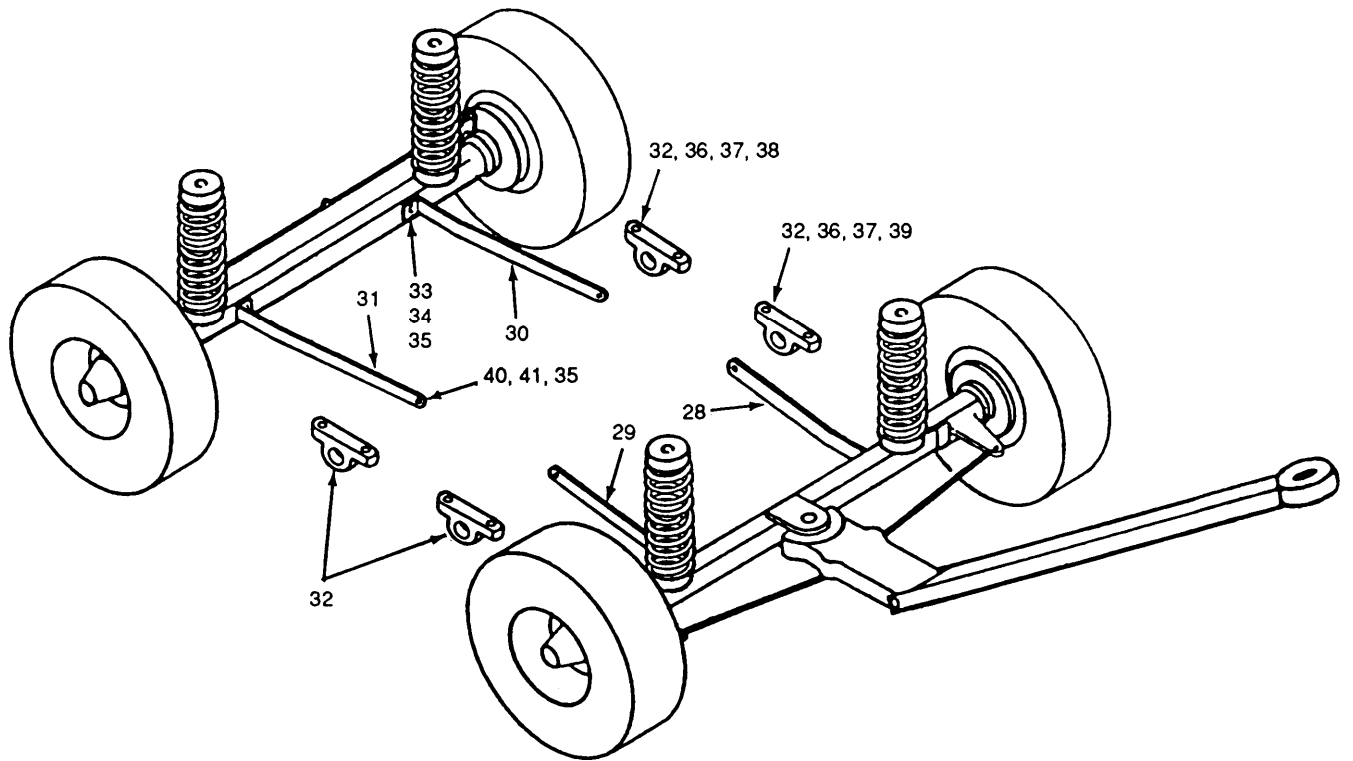


Figure C-4. Front Axle Assembly (Sheet 2 of 2)



SECTION II

TM 55-4920-426-13&P

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
GROUP 02. CHASSIS					
FIGURE C-4. FRONT AXLE ASSEMBLY					
	XDOFF	56529	23017-100	AXLE ASSY, FRONT . . . . .	1
1	PBOZZ	96906	MS51968-14	.NUT,PLAIN,HEXAGON . . . . .	10
2	PBOZZ	96906	MS35338-48	.WASHER,LOCK . . . . .	10
3	PAOZZ	96906	MS21258-16	.WASHER,KEY . . . . .	2
4	XDOZZ	56529	23016-100	.HUB ASSY . . . . .	2
5	PBOZZ	96906	MS24665-289	.PIN,COTTER . . . . .	4
6	PBOZZ	88044	AN320-8	.NUT,PLAIN,SLOTTED, H . . . . .	4
7	PBOZZ	23040	CIUZ3A131A	.TIE ROD END, STEERING . . . . .	2
8	PBOZZ	81285	ES416R	.TIE ROD END, STEERING . . . . .	2
9	PBOZZ	56529	23015-5	.NUT,PLAIN,HEXAGON . . . . .	2
10	PBOZZ	56529	23008-1	.TIE ROD, STEERING . . . . .	2
11	PBOZZ	96906	MS15003-1	.FITTING,LUBRICATION . . . . .	5
12	PBOZZ	56529	23003-1	.PIN,YOKE . . . . .	2
13	PBOZZ	56529	23015-2	.WASHER,FLAT . . . . .	4
14	PBOZZ	96906	MS16562-255	.PIN,SPRING . . . . .	2
15	XDOFF	56529	22046-100	.YOKE ASSY . . . . .	1
16	XDOFF	56529	22046-200	.YOKE ASSY . . . . .	1
17	PBOZZ	96906	MS24665-353	.PIN,COTTER . . . . .	1
18	PBOZZ	56529	23003-100	.PIN,TOW ASSY . . . . .	1
19	PBOZZ	56529	23015-3	.WASHER,FLAT . . . . .	2
20	XDOFF	56529	23013-100	.TOWBAR ASSY . . . . .	1
21	PBOZZ	96906	MS171719	.PIN,SPRING . . . . .	1
22	PBOZZ	92830	CR0420-063-1750M	.SPRING,HELICAL, COMP . . . . .	1
23	XDOZZ	56529	22049-2	.LATCH . . . . .	1
24	PBOZZ	96906	MS24665-357	.PIN,COTTER . . . . .	1
25	XDOZZ	56529	23003-2	.PIN,TONGUE . . . . .	1
26	XDOFF	56529	22048-1	.TONGUE ASSY . . . . .	1
27	XDOFF	56529	23001-100	.AXLE ASSY . . . . .	1
28	XDOFF	56529	23012-1	SWAYBAR . . . . .	1
29	XDOFF	56529	23012-2	SWAYBAR . . . . .	1
30	XDOFF	56529	23012-3	SWAYBAR . . . . .	1
31	XDOFF	56529	23012-4	SWAYBAR . . . . .	1
32	XDOFF	56529	23021-100	BEARING . . . . .	4
33	PBOZZ	96906	MS90726-70	SCREW, HEX HD . . . . .	4
34	PBOZZ	96906	MS27183-14	WASHER, FLAT . . . . .	2
35	PBOZZ	96906	MS20365-624	NUT, LOCK . . . . .	4
36	PBOZZ	96906	MS51967-8	NUT, HEX . . . . .	8
37	PBOZZ	96906	MS35338-46	WASHER, SPR . . . . .	8
38	PBOZZ	96906	MS90725-66	SCREW, HEX HD . . . . .	4
39	PBOZZ	96906	MS90725-60	SCREW, HEX HD . . . . .	4
40	PBOZZ	88044	AN6-21	BOLT . . . . .	4
41	PBOZZ	88044	AN960-616L	WASHER,FLAT . . . . .	4

END OF FIGURE

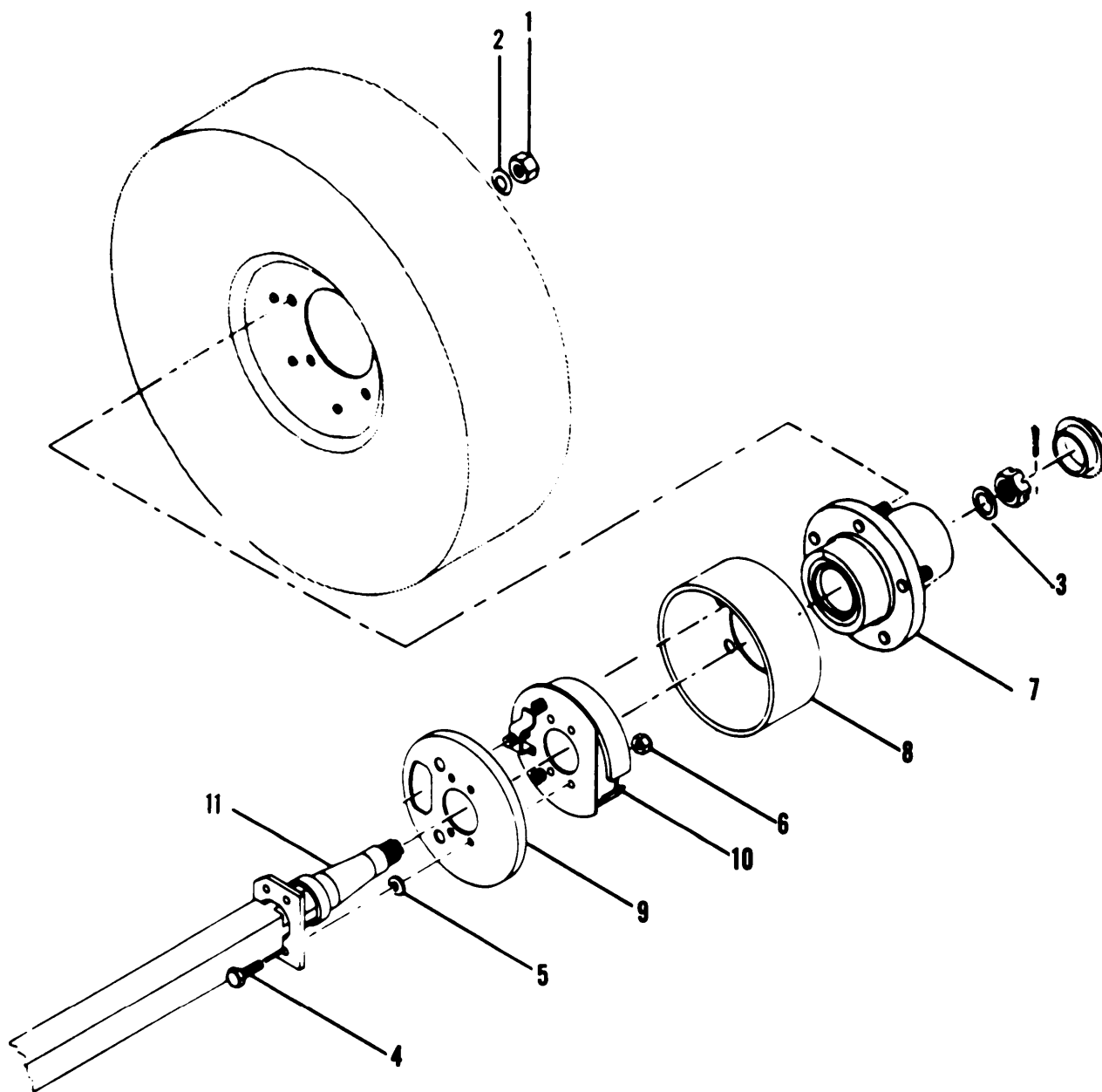


Figure C-5. Rear Axle Assembly

SECTION	II	TM	55-4920-426-13&P	(5)	(6)
(1)	(2)	(3)	(4)		
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY

FIGURE C-5. REAR AXLE ASSEMBLY

	XDOFF	56529	23018-100	AXLE ASSY,REAR . . . . .	1
1	PBOZZ	96906	MS51968-14	ŽNUT,PLAIN,HEXAGON . . . . .	10
2	PBOZZ	96906	MS35338-48	•WASHER,LOCK . . . . .	10
3	PBOZZ	96906	MS21258-16	•WASHER,KEY . . . . .	2
4	PBOZZ	96906	MS90727-64	•SCREWS,CAP,HEXAGON H. . . . .	8
5	PBOZZ	20076	23015-1	•WASHER,FLAT . . . . .	8
6	PBOZZ	96906	MS21044N6	•NUT,SELF-LOCKING,HE . . . . .	8
7	XDOZZ	56529	23016-200	•HUB ASSY . . . . .	2
8	XDOFF	93072	622262	•DRUM,BRAKE . . . . .	2
9	XDOZZ	14892	317968	•COVER,DUST . . . . .	2
10	XDOZZ	14892	310775-33/8BC	•BRAKE ASSY. . . . .	2
11	XDOFF	56529	23004-100	•AXLE ASSY. . . . .	1

END OF FIGURE

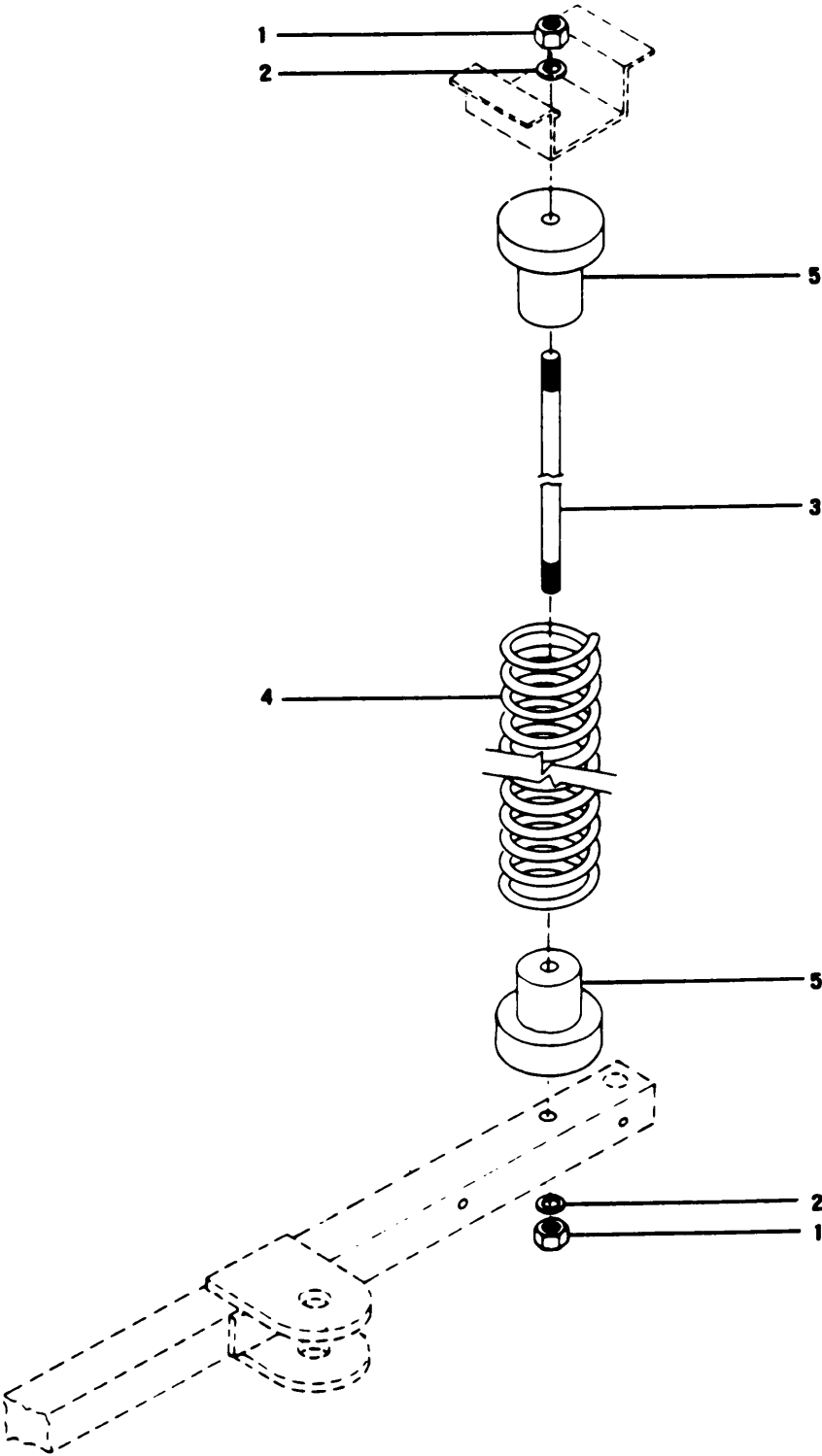


Figure C-6. Springs



(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
SECTION II TM 55-4920-426-13&P					
FIGURE C-6. SPRINGS					
1	PBOZZ	96906	MS21044N8	NUT,SELF-LOCKING,HE . . . . .	8
2	PBOZZ	96906	MS27183-18	WASHER,FLAT . . . . .	8
3	PAOZZ	56529	23020-4	ROD,SUPPORT,SPRING . . . . .	4
4	PAOZZ	56529	20050-8	SPRING . . . . .	4
5	PAOZZ	56529	23006-1	SUPPORT,SPRING . . . . .	8

END OF FIGURE

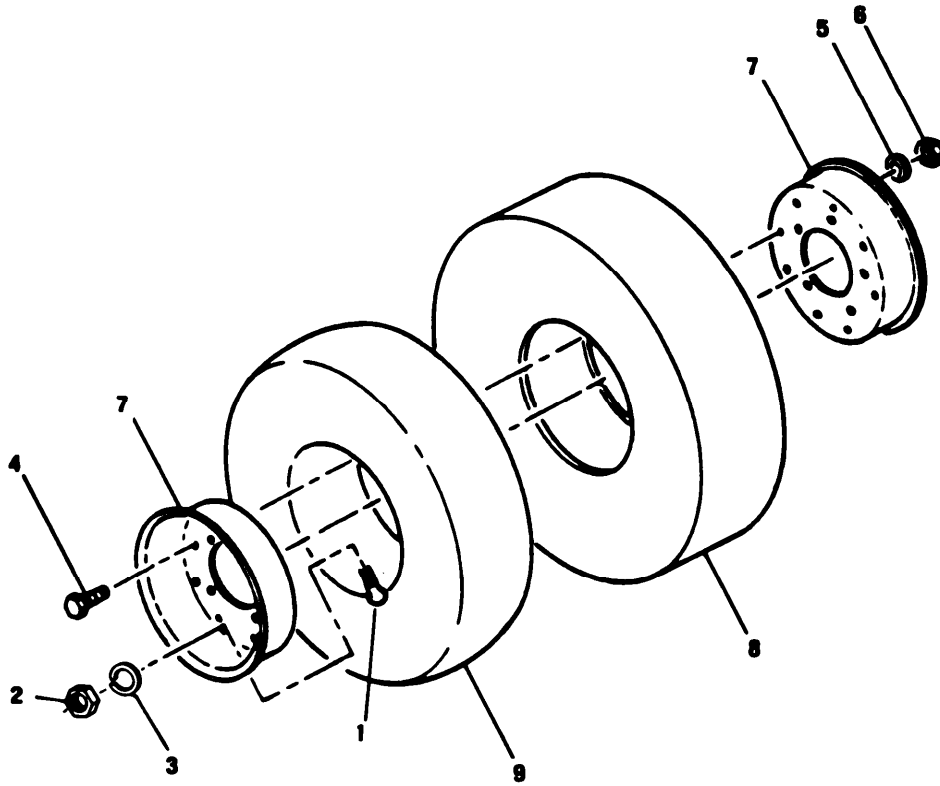


Figure C-7. Wheels.

SECTION II			TM 55-4920-426-13&P		
[1)	(2)	(3)	(4)	(5)	(6)
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
FIGURE C-7. WHEELS					
1	PAOZZ	96906	MS35659-3385	NUT VALVE STEM.....	4
2	PBOZZ	96906	MS51968-14	NUT,PLAIN,HEXAGON . . . . .	20
3	PBOZZ	96906	MS35338-48	WASHER,LOCK . . . . .	20
4	PBOZZ	96906	MS90727-64	SCREW,CAP,HEXAGON H . . . . .	32
5	PBOZZ	20076	23015-1	WASHER,FLAT . . . . .	32
6	PBOZZ	96906	MS21044N6	NUT,SELF-LOCKING,HE . . . . .	32
7	XDOZZ	96906	MS24325-1	WHEEL,PNEUMATIC TIR . . . . .	4
8	PBOOO	81348	ZZ-T-410A/GP1/6. 00/6.90-9/C/PLRB	TIRE,PNEUMATIC . . . . .	4
9	PBOOF	73808	6-00X9	INNER TUBE,PNEUMATI . . . . .	4

END OF FIGURE

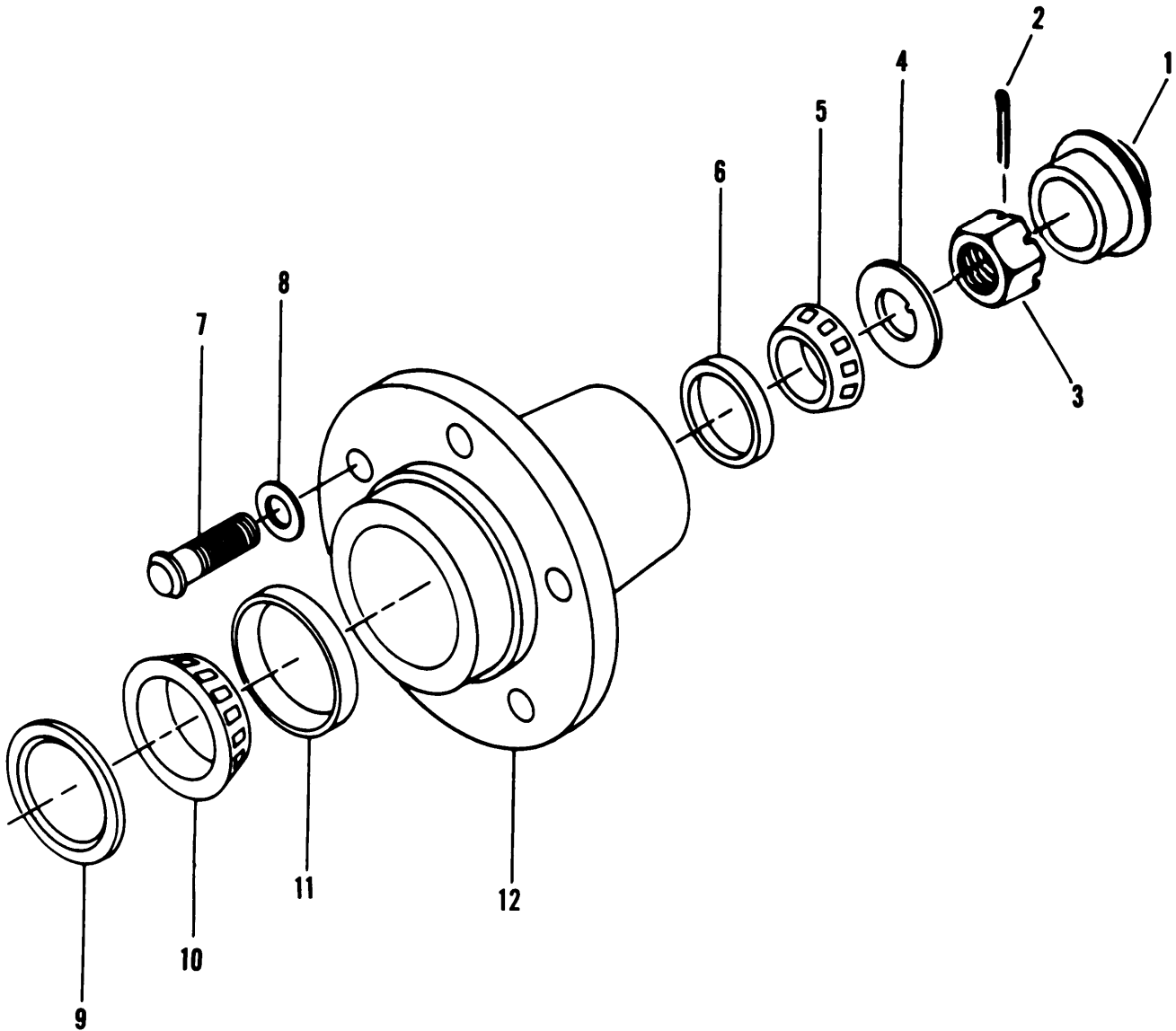


Figure C-8. Hub Assembly (Hub and Bearings)

	SECTION II		TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY

FIGURE C-8. HUB ASSEMBLY (HUB AND BEARINGS)

	XDOFF	56529	23016-100	HUB ASSY . . . . .	2
1	XDOZZ	14892	0611804	•DEFLECTOR,DIRT AND . . . . .	2
2	PBOZZ	96906	MS24665-359	•PIN,COTTER . . . . .	2
3	PBOZZ	88044	AN320-15	•NUT,PLAIN,SLOTTED, H. . . . .	2
4	PAOZZ	96906	MS21258-16	•WASHER,KEY . . . . .	1
5	PBOZZ	60038	15123	•CONE AND ROLLERS, TA . . . . .	1
6	POOZZ	60038	15245	•CUP,TAPERED ROLLER . . . . .	1
7	PBOZZ	56529	0616063	•BOLT,RIBBED . . . . .	5
8	PBOZZ	20076	23015-1	•WASHER,FLAT . . . . .	5
9	PBOZZ	80201	21208	•SEAL . . . . .	1
10	PBOZZ	60038	24780	•CONE AND ROLLERS,TA . . . . .	1
11	PBOZZ	60038	24720	•CUP,TAPERED ROLLER . . . . .	1
12	PBOZZ	56529	22065-1	• HUB . . . . .	1

END OF FIGURE

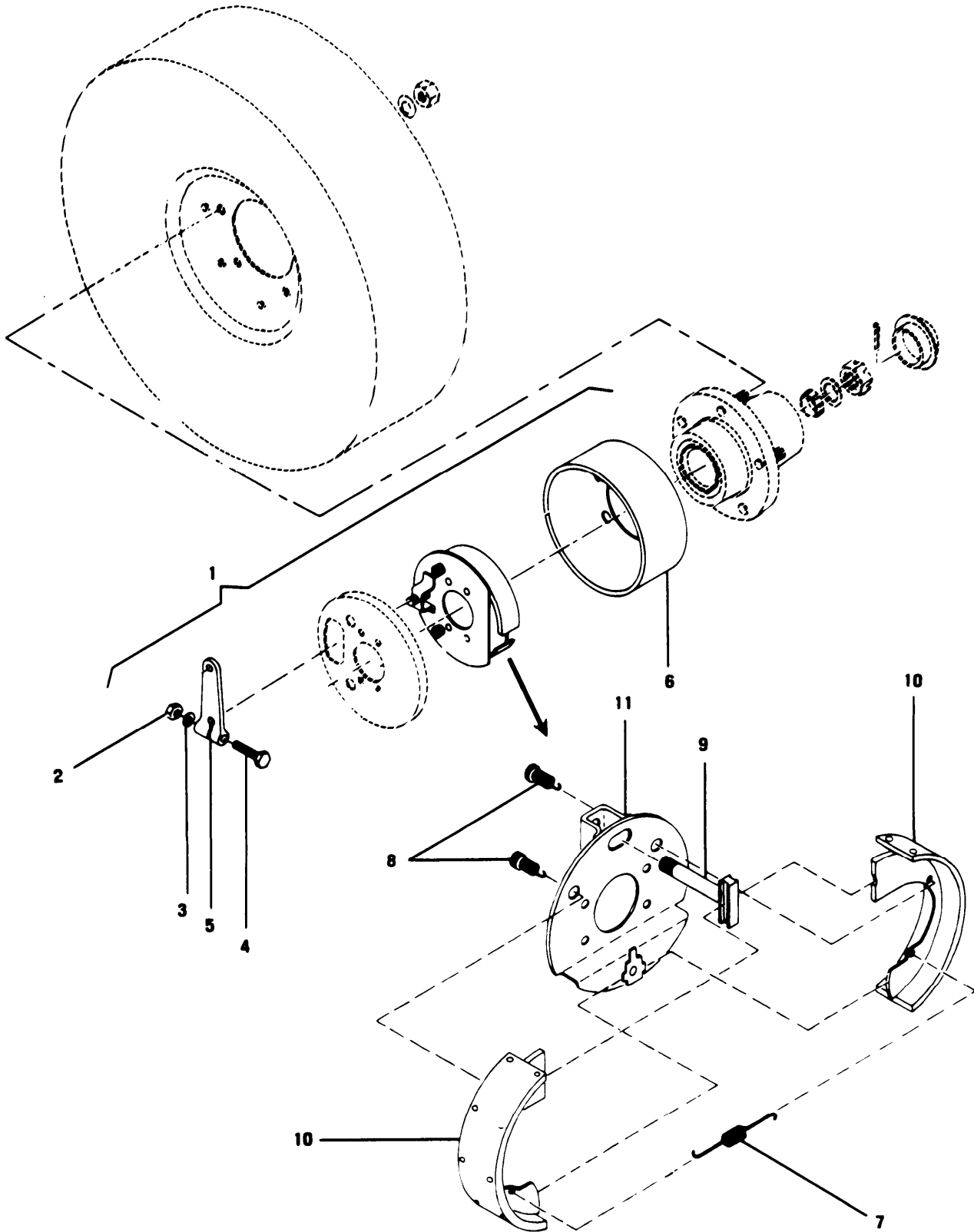


Figure C-9. Brake Shoes

SECTION II			TM 55-4920-426-13&P			
(1)	(2)	(3)	(4)	(5)	(6)	
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY	
FIGURE C-9. BRAKE SHOES						
1	XDOZZ	14892	310775-33/8BC	BRAKE ASSY. . . . .	1	
2	XDOZZ	14892	901626	•NUT . . . . .	1	
3	XDOZZ	14892	901050	•WASHER . . . . .	1	
4	XDOZZ	14892	900542	•BOLT. . . . .	1	
5	XDOZZ	14892	310963	•LEVER . . . . .	1	
6	XDOOO	93072	622262	•DRUM,BRAKE . . . . .	1	
7	PBOZZ	14892	4150098	•SPRING . . . . .	1	
8	XDOZZ	14892	310959	•SPRING,HELICAL,EXTE . . . . .	2	
9	XDOZZ	14892	312853	•CAMSHAFT. . . . .	1	
10	PBOZF	14892	3206471	•BRAKE SHOE . . . . .	2	
11	XDOOO	14892	324378	•PLATE ASSY,BRAKE. . . . .	1	
	XDOZZ	56529	23020-6	CROSS ROD. . . . .	1	
	XDOZZ	56529	23020-3	BRAKE ROD. . . . .	1	
	XDOZZ	92867	02182600	HANDLE,BRAKE. . . . .	1	

END OF FIGURE

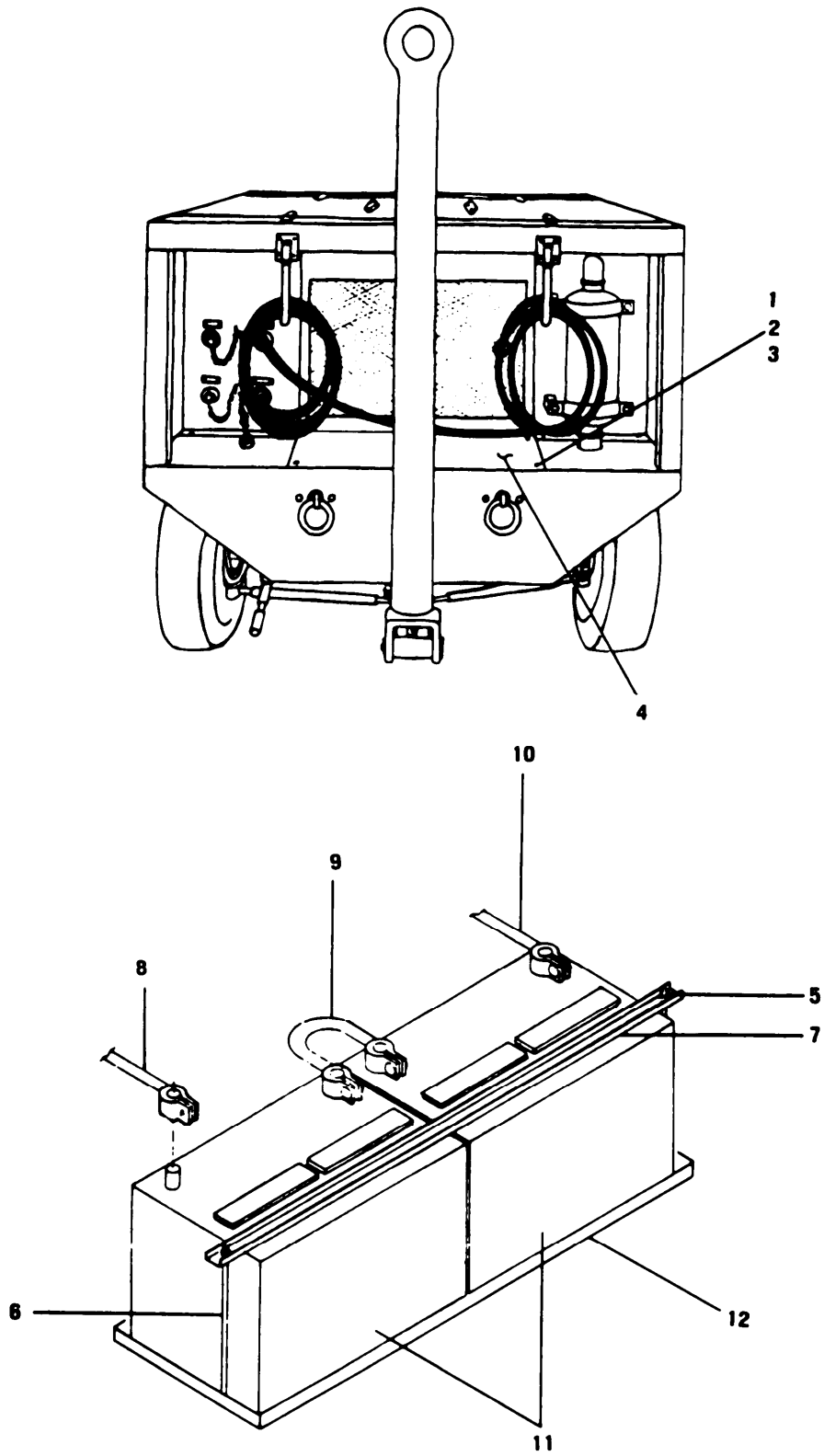


Figure C-10. Battery



SECTION II			TM 55-4920-426-13&P		
(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC) GROUP 03. ELECTRICAL SYSTEM FIGURE C-10. BATTERY	(6) QTY
1	PBOZZ	96906	MS90725-5	SCREW,CAP, HEXAGON H .....	4
2	PBOZZ	96906	MS35338-44	WASHER,LOCK .....	4
3	PBOZZ	96906	MS51967-2	NUT, PLAIN, HEXAGON .....	4
4	XDOZZ	56529	79009-122-1	COVER,BATTERY .....	1
5	PBOZZ	96906	MS51967-5	NUT,PLAIN,HEXAGON .....	2
6	PBOZZ	56529	79009-123-2	BOLT,TIE .....	2
7	PBOZZ	56529	79009-123-1	STRAP,RETAINING .....	2
8	MF077	56529	79009-301-1	CABLE,GROUND .....	1
9	PBOZZ	56529	79009-301-2	LEAD,STORAGE BATTERY. ....	1
10	PBOZZ	56529	79009-301-3	LEAD, STORAGE BATTERY .....	1
11	PAOZZ	96906	MS35000-1	BATTERY,STORAGE.....	2
12	PBOZZ	56529	79009-121	TRAY,BATTERY .....	1

END OF FIGURE

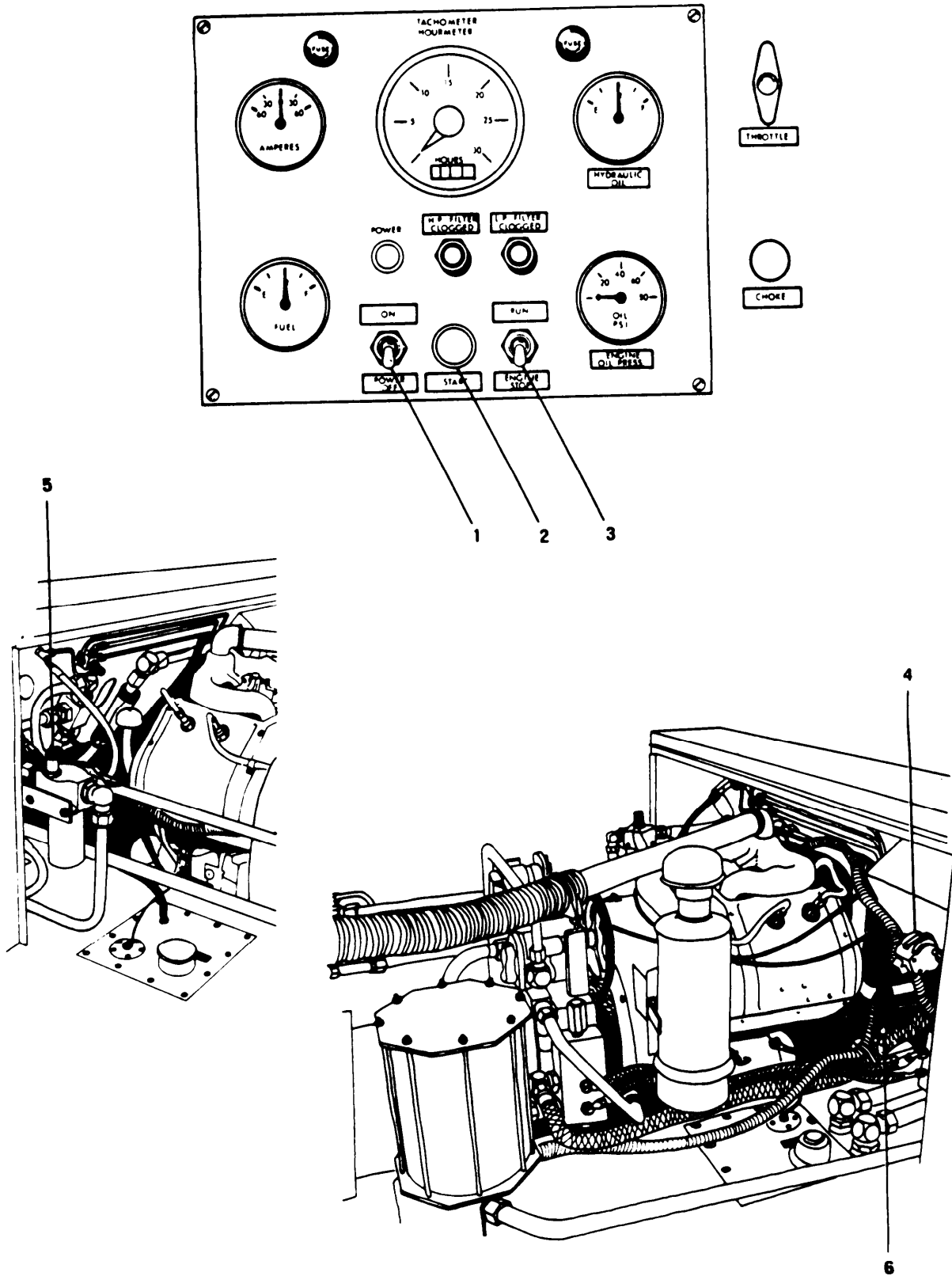


Figure C-11. Switches

SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY

FIGURE C-11. SWITCHES

1	PBOZZ	13445	551805	SWITCH,TOGGLE POWER ON/OFF .....	1
2	PBOZZ	13445	90030	SWITCH,ENGINE START BUTTON .....	1
3	PBOZZ	13445	551800	SWITCH,TOGGLE . . . . .	1
4	XDOZZ	20604	EPD1S-BB40	SWITCH,DIFF.PRESS	1
5	PBOZZ	06816	RC991CZ097H	SWITCH,DIFF.PRESS . . . . .	1
6	PBOZZ	15801	08-810211-XXX	PROTECTOR,THERMAL-O .....	1

END OF FIGURE

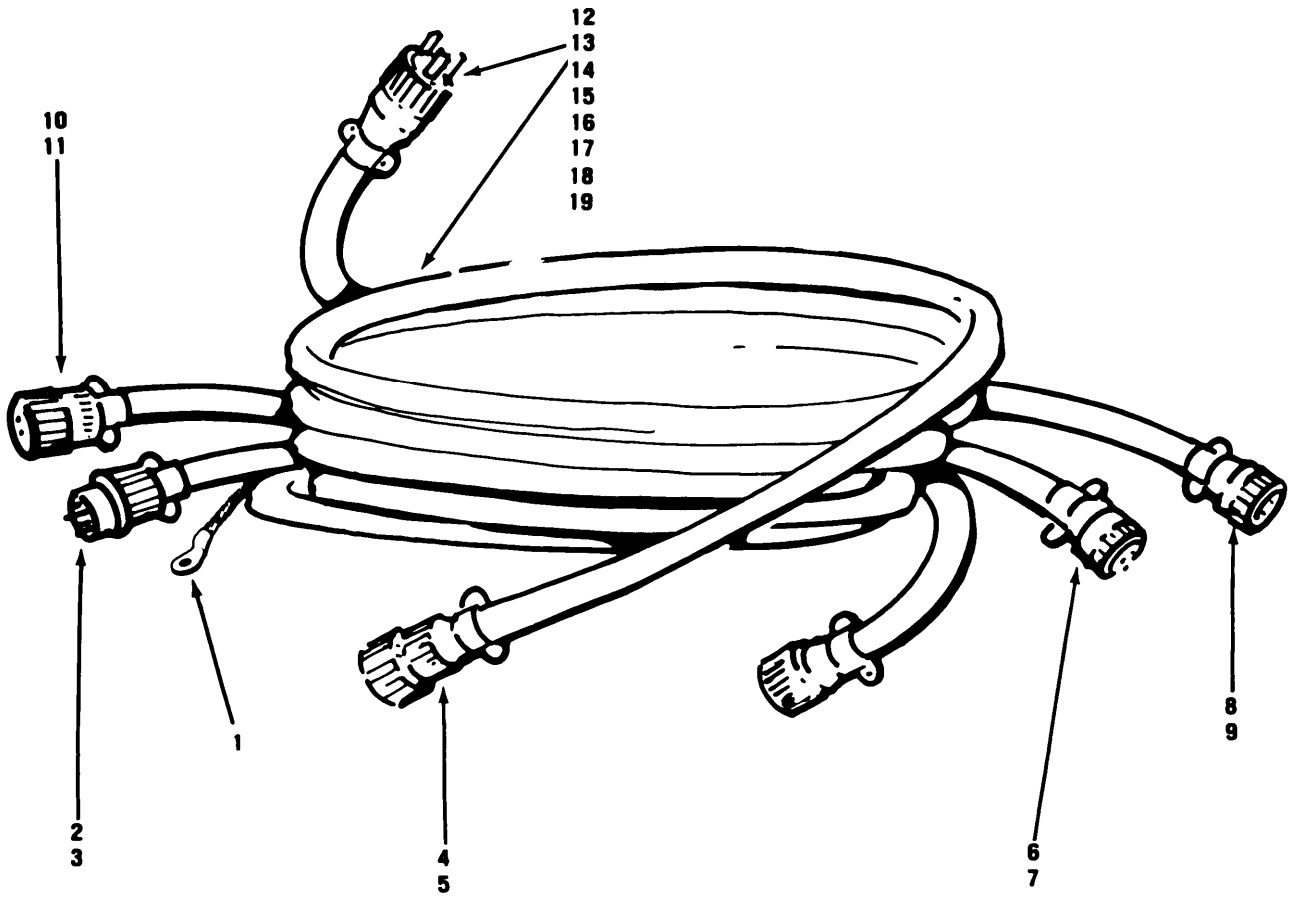


Figure C-12. Wiring and Cables

SECTION II			TM 55-4920-426-13&P	(5)	(6)
(1)	(2)	(3)	(4)		
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
FIGURE C-12. WIRING AND CABLES					
1	PBFZZ	16327	5X425	TERMINAL. . . . .	2
2	PBFZZ	27264	02-09-1103	CONTACT,ELECTRICAL . . . . .	22
3	PBFZZ	27264	02-09-2103	CONTACT,ELECTRICAL. . . . .	22
4	PBFZZ	27264	03-09-1022	CONNECTOR,PLUG,ELEC . . . . .	1
5	PBFZZ	27264	03-09-2022	CONNECTOR,PLUG,ELEC . . . . .	1
6	PBFZZ	27264	03-09-1032	CONNECTOR,PLUG,ELEC . . . . .	2
7	PBFZZ	27264	03-09-2032	CONNECTOR BODY, PLUG . . . . .	2
8	PBFZZ	27264	03-09-1042	CONNECTOR BODY, RECE . . . . .	1
9	XDFZZ	27264	03-09-2042	CONNECTOR, PLUG,ELEC . . . . .	1
10	PBFZZ	27264	03-09-1126	CONNECTOR BODY, RECE. . . . .	1
11	PBFZZ	27264	03-09-2121	CONNECTOR BODY, PLUG . . . . .	1
12	XDFZZ	75037	560	SPLICE,CONDUCTOR. . . . .	2
13	PBFZZ	57733	829525-2	RESISTOR,VARIABLE,W. . . . .	3
14	PBFZZ	59730	14RB8FLX	TERMINAL. . . . .	38
15	PBFZZ	59730	14RB-38X	TERMINAL. . . . .	1
16	PBFZZ	00779	29249	TERMINAL,LUG. . . . .	4
17	XDFZZ	14726	R80028	TERMINAL,LUG. . . . .	6
18	PBFZZ	16956	8432	CLAMP,CABLE. . . . .	7
19	XDFFF	56529	79009-300-1	HARNESS,WIRING. . . . .	1

END OF FIGURE

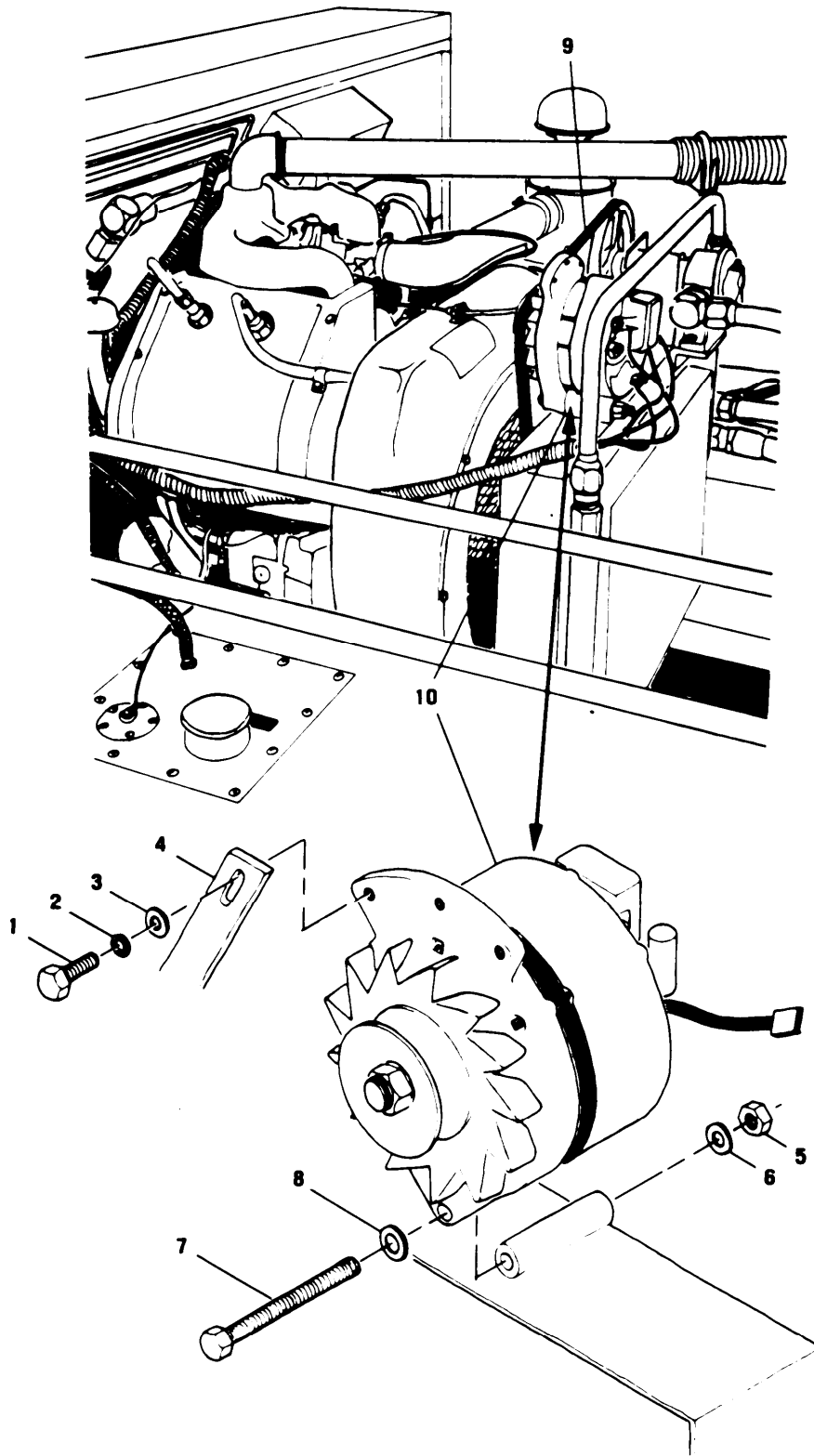


Figure C-13., Alternator Voltage Regulator (Sheet 1 of 2)

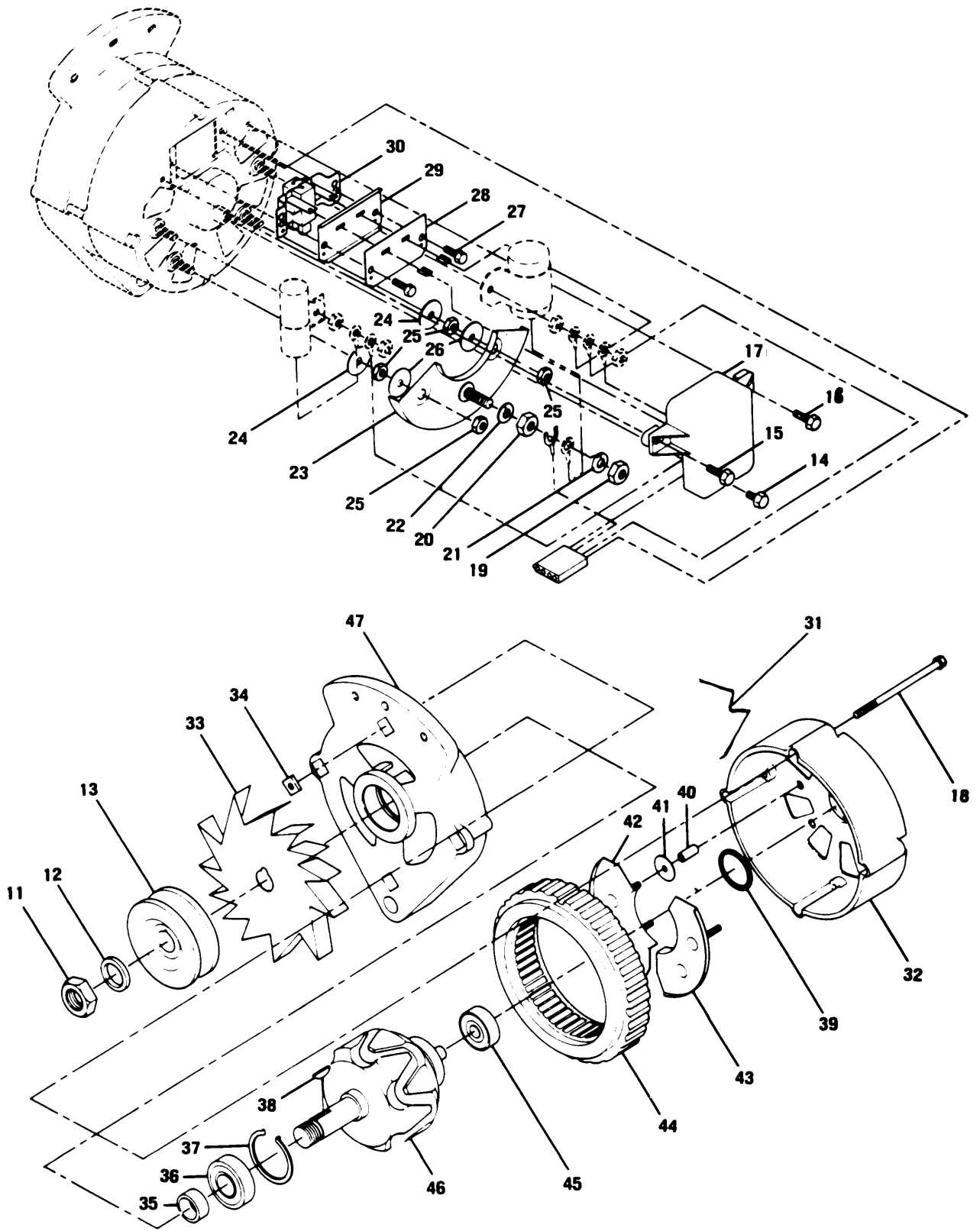


Figure C-13. Alternator Voltage Regulator (Sheet 2 of 2)

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	TM 55-4920-426-13&P (5)	(6) QTY
FIGURE C-13. ALTERNATOR VOLTAGE REGULATOR					
1	PBOZZ	96906	MS90725-34	BOLT,MACHINE . . . . .	1
2	PBOZZ	96906	MS35338-45	WASHER ,LOCK . . . . .	1
3	PBOZZ	96906	MS27183-12	WASHER,FLAT . . . . .	1
4	XDOZZ	56529	79009130-3	BAR,TENSION . . . . .	1
5	PBOZZ	96906	MS51967-14	NUT,PLAIN,HEXAGON . . . . .	1
6	PBOZZ	96906	MS35338-48	WASHER,LOCK. . . . .	1
7	PBOZZ	96906	MS90728-125	SCREW,CAP,HEXAGON. . . . .	1
8	PBOZZ	96906	MS27183-18	WASHER,FLAT . . . . .	1
9	PBOZZ	24161	8560	BELT,FAN . . . . .	1
10	PBOFF	31211	10-111	ALTERNATOR ENG. AC. . . . .	1
11	XDFZZ	31211	20-136	NUT,PLAIN,HEXAGON. . . . .	1
12	XDFZZ	31211	20-5	•WASHER,LOCK PULLEY MTG. . . . .	1
13	PBFZZ	31211	7-10	•PULLEY,GROOVE. . . . .	1
14	XDFZZ	31211	20-99	•SCREW,TAPPING,THREA LOCKWASHER. . . . .	1
15	XDFZZ	31211	20-223	•SCREW,TAPPING. . . . .	2
16	XDFZZ	31211	20-234	•SCREW,TAPPING . . . . .	1
17	XDOZZ	31211	5-182	•REGULATOR,VOLTAGE . . . . .	1
18	XDFZZ	31211	20-2	•BOLT ,SPECIAL . . . . .	4
19	XDFZZ	31211	20-33	•NUT,HEX,ID-24. . . . .	1
20	XDFZZ	31211	20-146	•NUT,PLAIN,HEXAGON. . . . .	1
21	XDFZZ	31211	20-62	•WASHER,SPLITLOCK. . . . .	1
22	XDFZZ	31211	15-4	•INSULATOR,WASHER . . . . .	1
23	XDFZZ	31211	1-24	•DIODE,ISOLATION. . . . .	1
24	XDFZZ	31211	15-2	•INSULATOR,BUSHING. . . . .	2
25	XDFZZ	31211	20-34	•NUT,PLAIN,HEXAGON. . . . .	2
26	XDFZZ	31211	15-3	•INSULATOR,WASHER. . . . .	2
27	XDFZZ	31211	20-32	•SCREW,TAPPING . . . . .	1
28	XDFZZ	31211	3-5	•COVER,HOLDER,BRUSH. . . . .	1
29	XDFZZ	31211	3-13	•DUST SHIELD, BRUSH. . . . .	1
30	PBFZZ	31211	3-2	•BRUSH AND COVER. . . . .	1
31	XDFZZ	31211	16-42	•CABLE ASSY,GROUND . . . . .	1
32	XDFZZ	31211	14-5	•HOUSING,REAR. . . . .	1
33	XDFZZ	31211	7-8	•FAN . . . . .	1
34	XDFZZ	31211	20-3	•NUT,SQUARE,10-32. . . . .	1
35	XDFZZ	31211	20-92	•SPACER. . . . .	1
36	PBFZZ	31211	11-21	•BEARING,BALL,ANNULA. . . . .	1
37	PBFZZ	31211	11-3	•RING,RETAINING FRONT. . . . .	1
38	XDFZZ	31211	20-7	•KEY,WOODRUFF NO. 5. . . . .	1
39	PBFZZ	31211	11-25	•PACKING,REFORMED REAR. . . . .	1
40	XDFZZ	31211	15-1	•INSULATOR,SLEEVE. . . . .	1
41	XDFZZ	31211	20-25	•WASHER,FLAT. . . . .	1
42	XDFZZ	31211	1-10	•SEMICONDUCTOR DEVIC . . . . .	1
43	XDFZZ	31211	1-11	•STRAP,RETAINING. . . . .	1
44	XDFZZ	31211	13-5	•STATOR,MOTOR. . . . .	1
45	PBFZZ	31211	11-23	•BEARING,BALL,ANNULA. . . . .	1
44	XDFZZ	31211	12-6	•ROTOR ASSY . . . . .	1
47	XDFZZ	31211	14-1	•HOUSING,FRONT. . . . .	1

END OF FIGURE





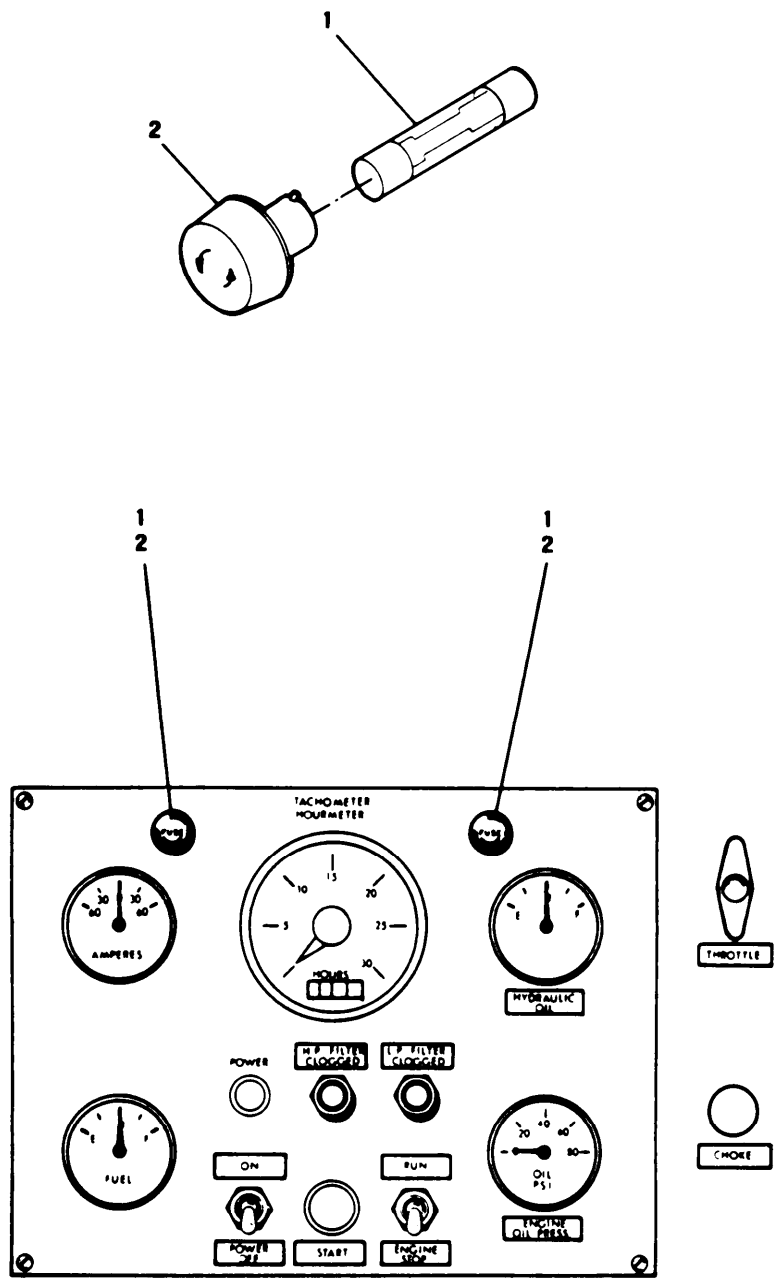


Figure C-14. Fuses

SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
FIGURE C-14. FUSES					
1	XDOZZ	71400	15AMP	FUSE,PLUG . . . . .	2
2	PBOZZ	71400	HKP	FUSEHOLDER,EXTRACTO. . . . .	2

END OF FIGURE

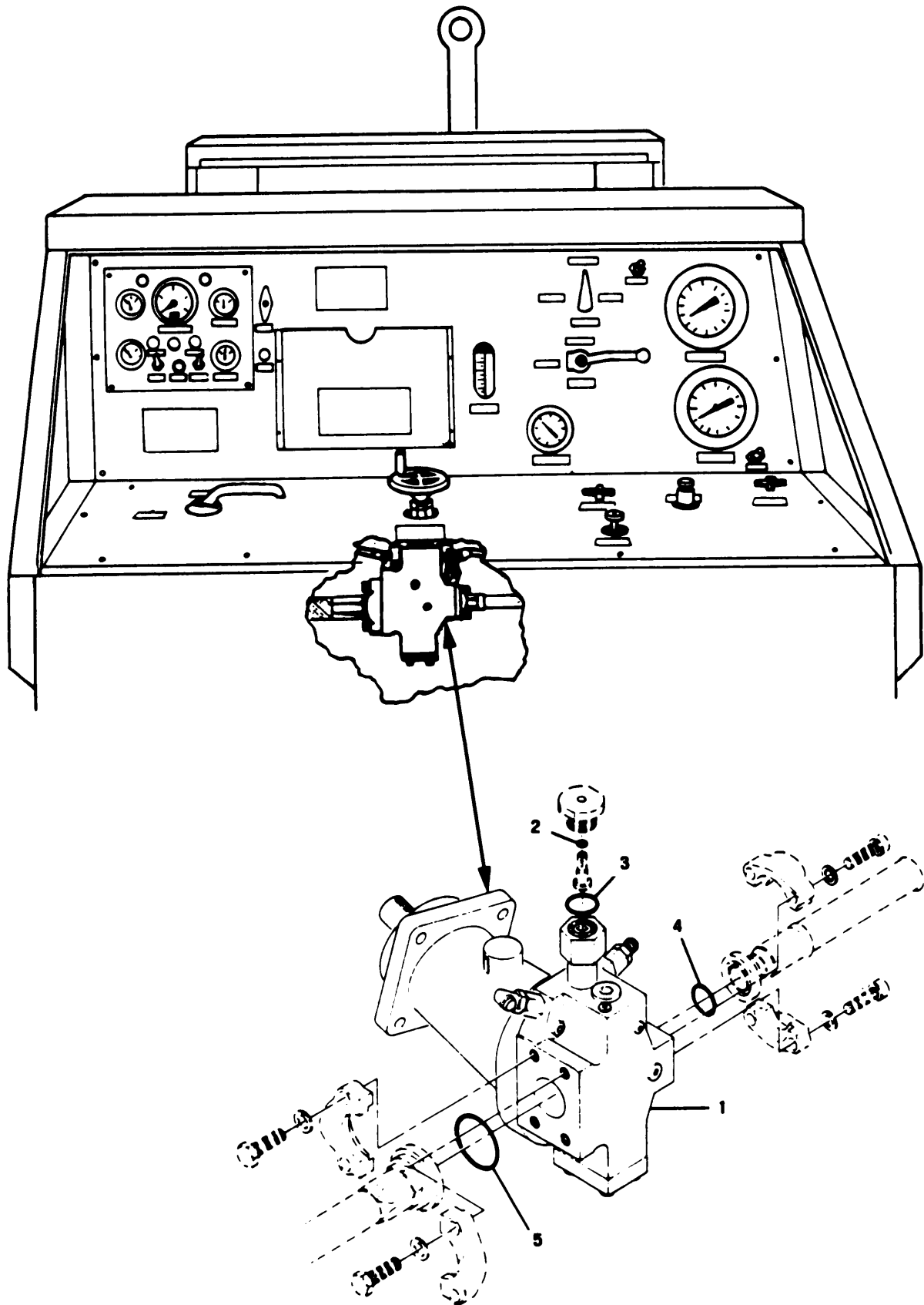


Figure C-15. High Pressure Pump

SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
GROUP 04. HYDRAULIC SYSTEM					
FIGURE C-15. HIGH PRESSURE PUMP					
1	PBOOF	27005	844088	PUMP,HIGH PRESSURE.....	1
2	PBOZZ	96906	MS28775-020	•PACKING,PREFORMED.....	1
3	PBOZZ	96906	MS28775-204	•PACKING,PREFORMED.....	1
4	PBOZZ	96906	MS28775-214	•PACKING,PREFORMED.....	1
5	PBOZZ	96906	MS28775-2251	•PACKING,PREFORMED.....	1

END OF FIGURE

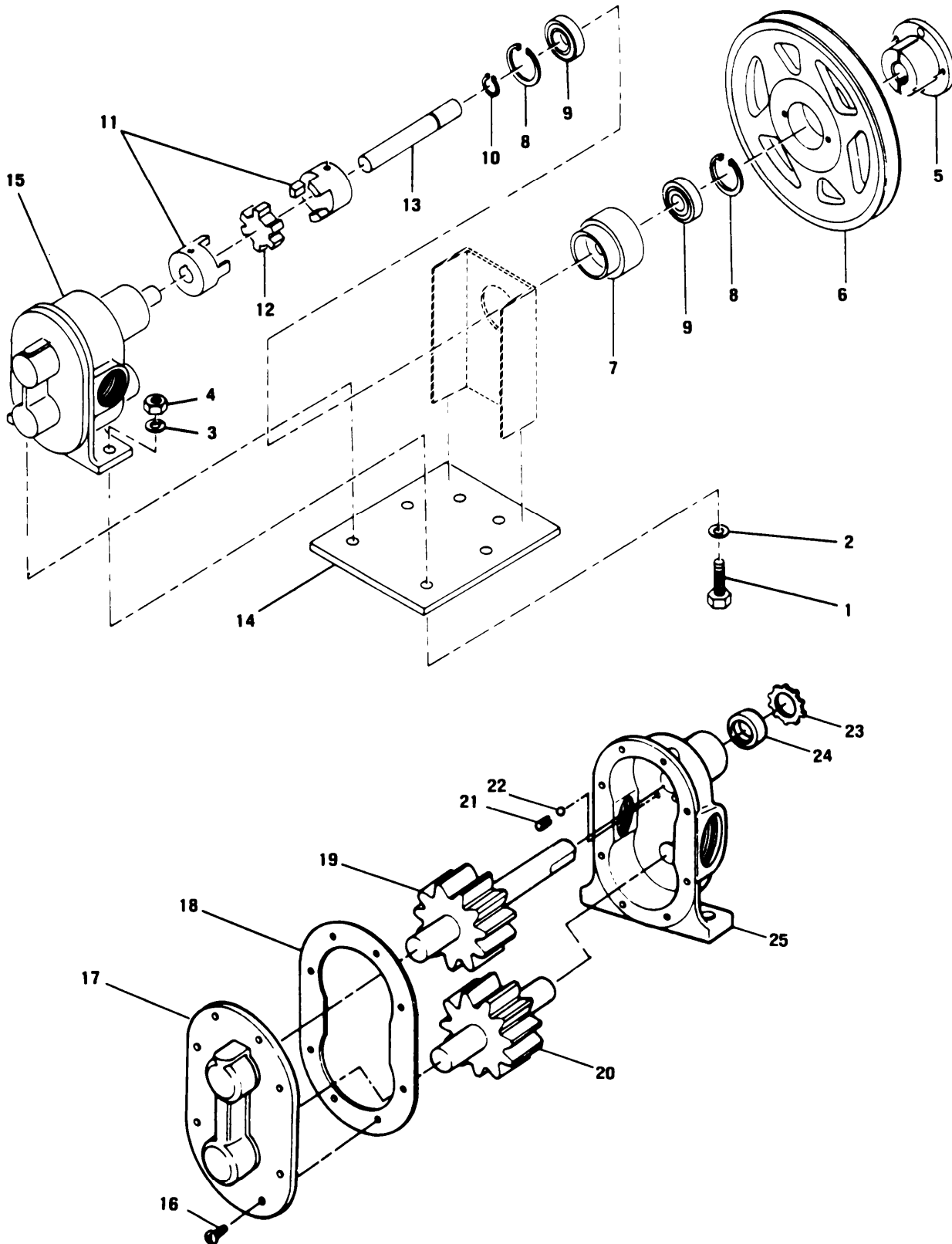


Figure C-16. Boost Pump Assembly

SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
				FIGURE C-16. BOOST PUMP ASSEMBLY	
	XDO00	56529	79009-145	PUMP ASSY,BOOST . . . . .	1
1	PBOZZ	96906	MS90728-62	•SCREW,CAP,HEXAGON . . . . .	2
2	PBOZZ	96906	MS27183-14	•WASHER,FLAT. . . . .	2
3	PBOZZ	96906	MS35338-46	•WASHER,LOCK . . . . .	2
4	PBOZZ	96906	MS51967-8	•NUT,PLAIN,HEXAGON . . . . .	2
5	XDOZZ	71176	H-5/8	•BUSHING. . . . .	1
6	XDOZZ	71176	AK74H	•PULLEY. . . . .	1
7	XDOZZ	56529	79009-144-1	•BEARING,SUPPORT. . . . .	1
8	PBOZZ	96906	MS16624-1062	•RING,RETAINING . . . . .	2
9	PBOZZ	38443	R10ZZ	•BEARING,BALL,ANNULA . . . . .	2
10	PBOZZ	96906	MS16625-1137	•RING,RETAINING . . . . .	1
11	XDOZZ	75665	LO75-5/8	•COUPLING,HALF . . . . .	2
12	XDOZZ	75665	LO75	•INSERT,NEOPRENE . . . . .	1
13	XDOZZ	56529	79009-144-2	•SHAFT,BOOST PUMP . . . . .	1
14	XDOZZ	56529	79009-143-1	•BASE,BOOST PUMP . . . . .	1
15	PBOZZ	16327	TEEL1P775	•PUMP,ROTARY . . . . .	1
16	XDOZZ	56529	79009-202-1	••SCREW . . . . .	8
17	XAOZZ	56529	79009-202-2	••CAP,END. . . . .	1
18	XDOZZ	56529	79009-202-3	••GASKET . . . . .	1
19	XAOZZ	56529	79009-202-4	••GEAR,DRIVE . . . . .	1
20	XAOZZ	56529	79009-202-5	••GEAR,DRIVEN . . . . .	1
21	XAOZZ	56529	79009-202-6	••PIN,ROLL . . . . .	1
22	XAOZZ	56529	79009-202-7	••BALL . . . . .	1
23	XDOZZ	56529	79009-202-8	••RING,RETAINING . . . . .	1
24	XDOZZ	56529	79009-202-9	••BEARING,SEAL . . . . .	1
25	XAOZZ	56529	79009-202-10	••BODY. . . . .	1

END OF FIGURE

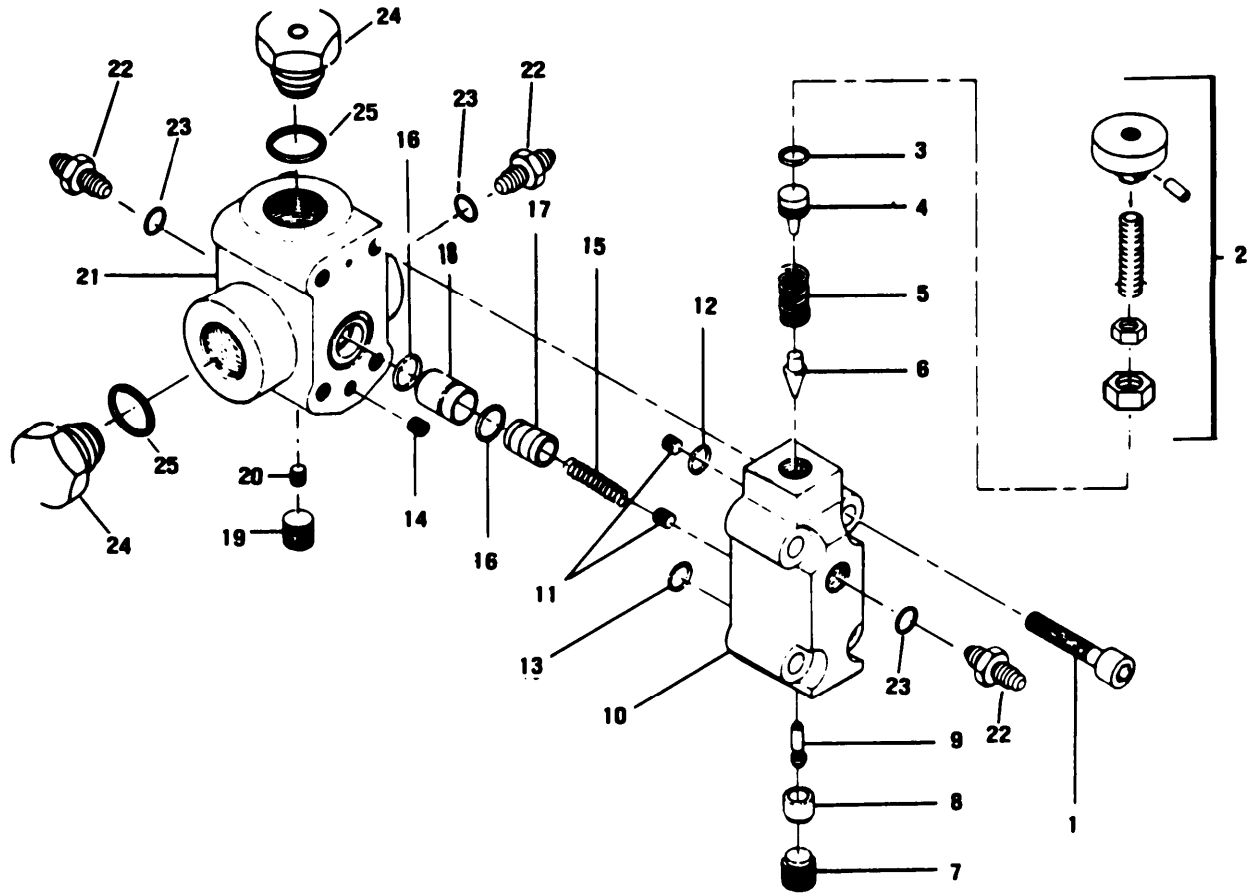


Figure C-17. Compensator Control



SECTION II			TM 55-4920-426-13&P			
(1)	(2)	(3)	(4)	(5)	(6)	
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY	
				FIGURE C-17. COMPENSATOR CONTROL		
	PBOOZ	16954	R4S03-515-12A	VALVE,SEQUENCE . . . . .	1	
1	XDOZZ	16954	359-15220	•SCREW . . . . .	4	
2	PBOOO	16954	S16-39148	•DEVICE,CONTROL . . . . .	1	
3	XDOZZ	16954	671-00012	•PACKING,PREFORMED . . . . .	1	
4	XDOZZ	16954	036-21767	•DISK,VALVE.. . . . .	1	
5	XDOZZ	16954	036-12289	ŽSPRING,HELICAL,COMP. . . . .	1	
6	XDOZZ	16954	S16-09768	•CONTROL,PILOT. . . . .	1	
7	XDOZZ	16954	036-38910	•CAP . . . . .	1	
8	XDOZZ	16954	036-27548	•SPACER . . . . .	1	
9	XDOZZ	16954	312-23104	•SCREW,SET . . . . .	1	
10	XDOZZ	16954	036-38563	•BODY . . . . .	1	
11	XDOZZ	16954	431-90204	•PLUG . . . . .	2	
12	XDOZZ	16954	691-00013	•O RING. . . . .	1	
13	XDOZZ	16954	691-00022	•O RING. . . . .	1	
14	XDOZZ	16954	488-35001	•PLUG . . . . .	1	
15	XDOZZ	16954	036-38448	•SPRING . . . . .	1	
16	XDOZZ	16954	691-00018	•O RING. . . . .	2	
17	XDOZZ	16954	036-38444	•PISTON. . . . .	1	
18	XDOZZ	16954	036-38464	•SLEEVE . . . . .	1	
19	XDOZZ	16954	036-25528	•PLUG,ORIFICE . . . . .	1	
20	XDOZZ	16954	036-12819	•VALVE,SAFETY RELIEF . . . . .	1	
21	XDOZZ	16954	S16-63129	INDICATOR,RATE OF F. . . . .	1	
22	PBOZZ	96906	MS51525A4	ADAPTER,STRAIGHT,TU . . . . .	3	
23	PBOZZ	96906	MS28778-4	PACKING,PREFORMED . . . . .	3	
24	PBOZZ	96906	MS51840-28	PLUG,MACHINE THREAD . . . . .	3	
25	PBOZZ	96906	MS28778-6	PACKING,PREFORMED . . . . .	3	

END OF FIGURE

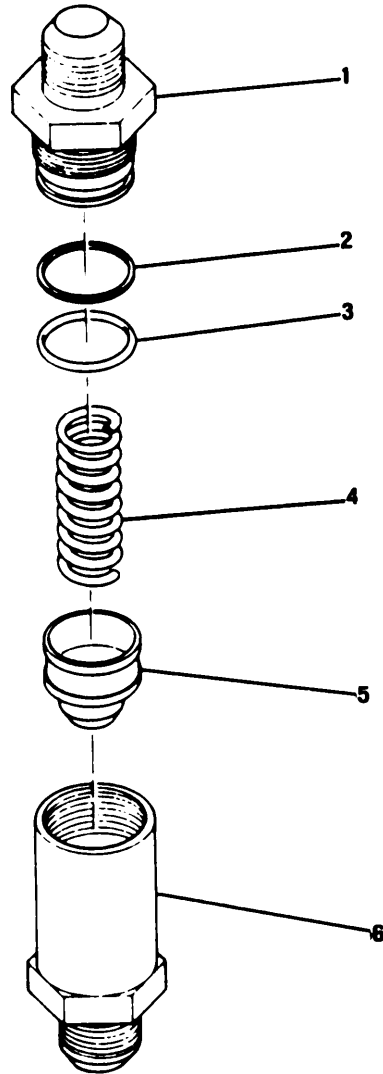


Figure C-18. High Pressure Check Valve Assembly

SECTION II			TM 55-4920-426-13&P			
(1)	(2)	(3)	(4)	(5)	(6)	
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY	
				FIGURE C-18. HIGH PRESSURE CHECK VALVE ASSEMBLY		
	PBOOZ	86768	458-12S-6	VALVE,CHECK	1	
1	XDOZZ	86768	658-12S-6-1	•CAP	1	
2	XDOZZ	86768	458-12S-6-2	•RING,BACKUP	1	
3	XDOZZ	86768	458-12S-6-3	•O RING	1	
4	XDOZZ	86768	458-12S-6-4	•SPRING	1	
5	XDOZZ	86768	458-12S-6-5	•POPPET	1	
6	XDOZZ	86768	458-12S-6-6	•BODY	1	

END OF FIGURE

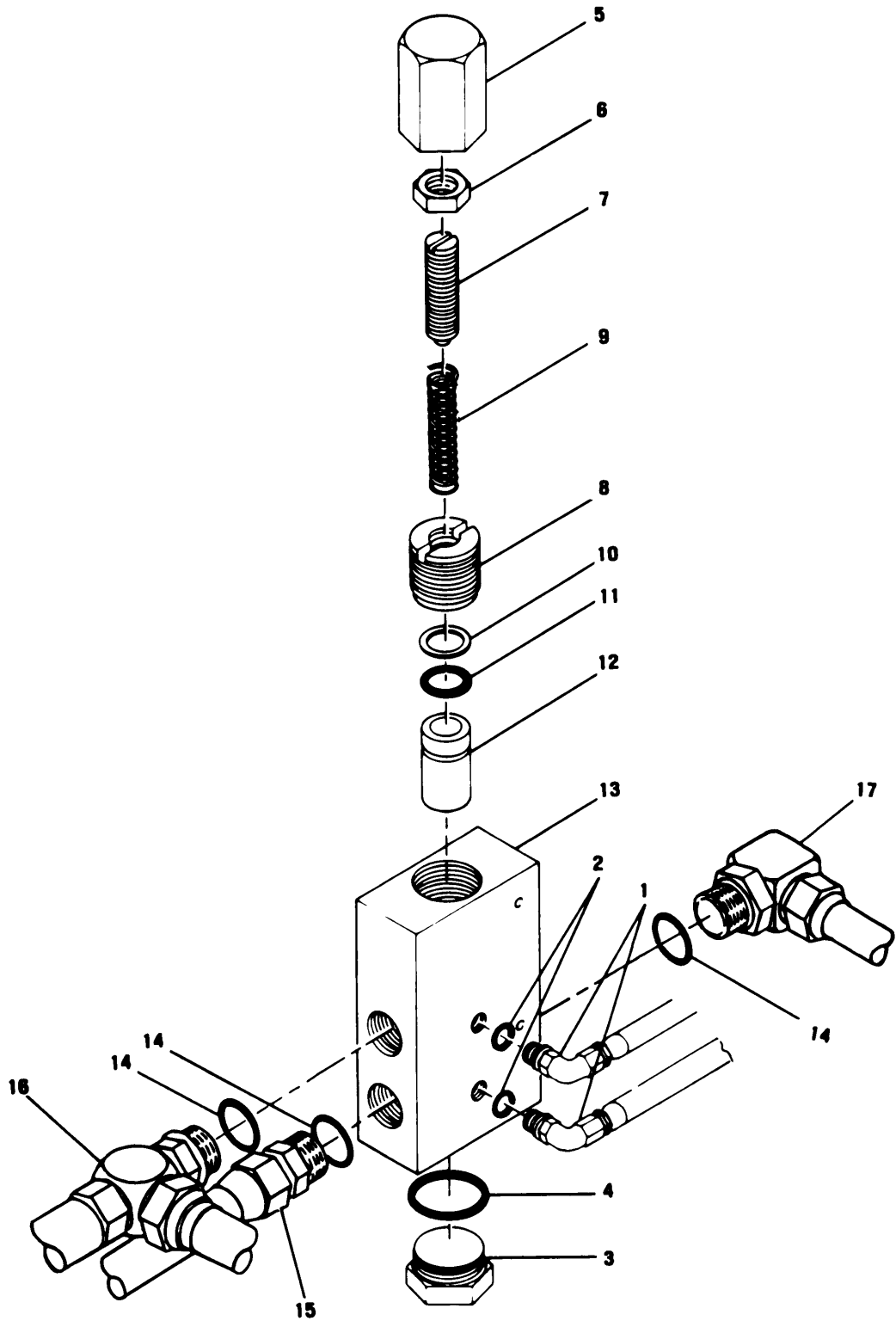


Figure C-19. Low Pressure Relief Valve Assembly

SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
FIGURE C-19. LOW PRESSURE RELIEF VALVE ASSEMBLY					
	PBOOZ	56529	22025-100	VALVE,SAFETY RELIEF . . . . .	1
1	PBOZZ	96906	MS51527A4	•ELBOW,TUBE TO BOSS. . . . .	2
2	PBOZZ	96906	MS28778-4	•PACKING,PREFORMED . . . . .	2
3	XDOZZ	96906	MS51891-10	•PLUG. . . . .	1
4	PBOZZ	96906	MS29512-16	•PACKING,PREFORMED . . . . .	1
5	XDOZZ	56529	22029-1	•CAP . . . . .	1
6	XDOZZ	88044	AN924-10	•NUT,PLAIN,HEXAGON. . . . .	1
7	XDOZZ	56529	22039-1	•STUD. . . . .	1
8	XDOZZ	56529	22028-1	•BUSHING . . . . .	1
9	XDOZZ	56529	20050-6	•SPRING. . . . .	1
10	XDOZZ	96906	MS28775-120	•PACKING,PREFORMED . . . . .	1
11	XDOZZ	96906	MS28774-120	•RETAINER,PACKING . . . . .	1
12	XDOZZ	56529	22026-1	•PISTON . . . . .	1
13	XDOZZ	56529	22027-1	•BODY . . . . .	1
14	PBOZZ	96906	MS28778-16	•PACKING,PREFORMED . . . . .	3
15	PBOZZ	96906	MS51525816	•ADAPTER,STRAIGHT,TU. . . . .	1
16	PBOZZ	96906	MS51530A16	•TEE,TUBE TO BOSS . . . . .	1
17	BPOZZ	01276	2062-16-12S	•ELBOW,TUBE TO BOSS . . . . .	1

END OF FIGURE

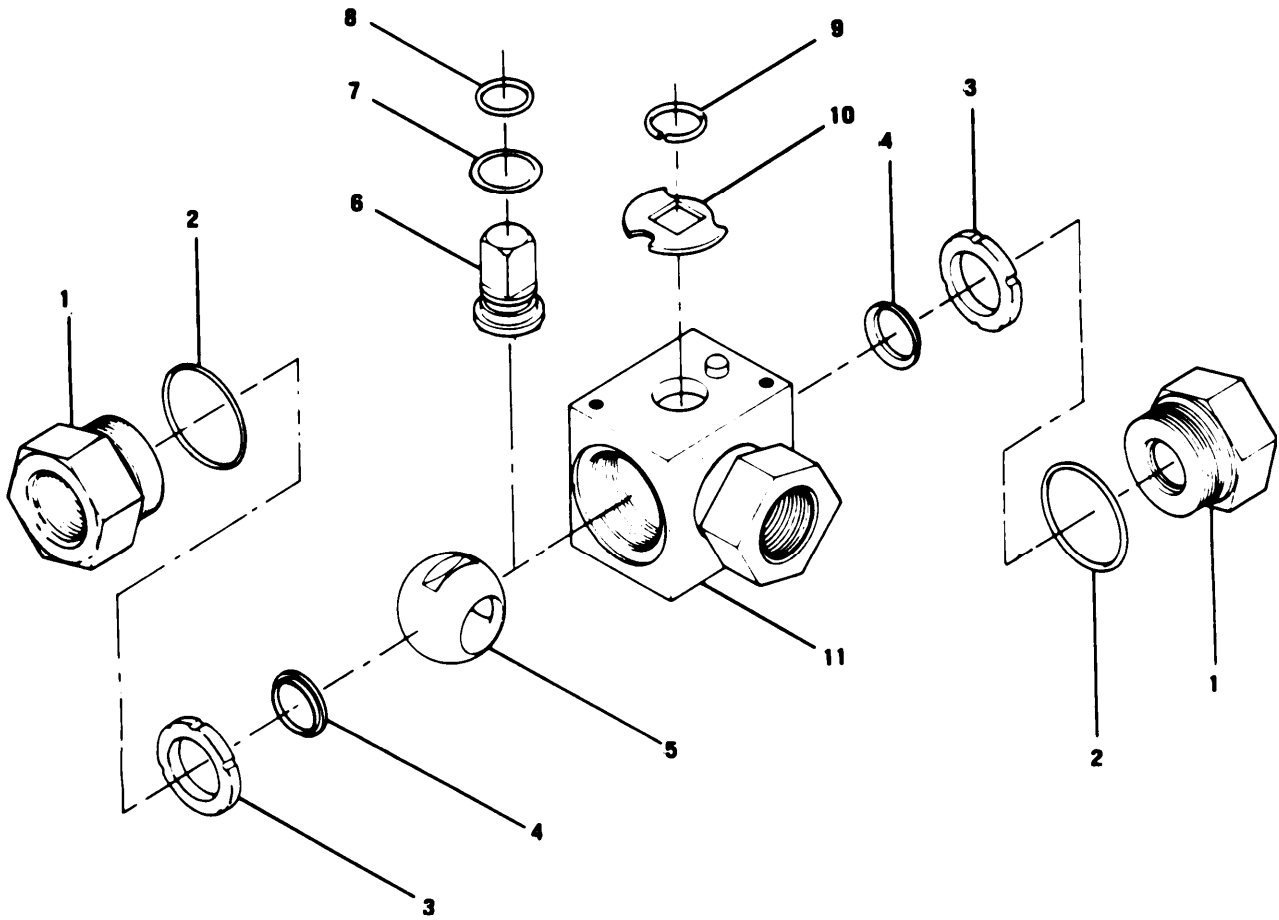


Figure C-20. 3-Way Flow Control Valve Assembly

SECTION II			TM 55-4920-426-13&P			
(1)	(2)	(3)	(4)	(5)	(6)	
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY	
				FIGURE C-20. 3-WAY FLOW CONTROL VALVE ASSEMBLY		
	PBOOZ	56529	79009-203	VALVE, PLUG.....	1	
1	XDOZZ	56529	79009-203-1	.ADAPTER.....	2	
2	XDOZZ	56529	79009-203-2	.O RING.....	2	
3	XDOZZ	56529	79009-203-3	.RING, BACKUP.....	2	
4	XDOZZ	56529	79009-203-4	.SEAL.....	2	
5	XDOZZ	56529	79009-203-5	.BALL, SPINDLE.....	1	
6	XDOZZ	56529	79009-203-6	.POST, HANDLE.....	1	
7	XDOZZ	56529	79009-203-7	.SEAL, TEFLON.....	1	
8	XDOZZ	56529	79009-203-8	.O RING.....	1	
9	PBOOO	56529	79009-203-11	.RING, SNAP.....	1	
10	XDOZZ	56529	79009-203-10	.WASHER, POSITIONING.....	1	
11	XDOZZ	56529	79009-203-9	.BODY.....	1	

END OF FIGURE

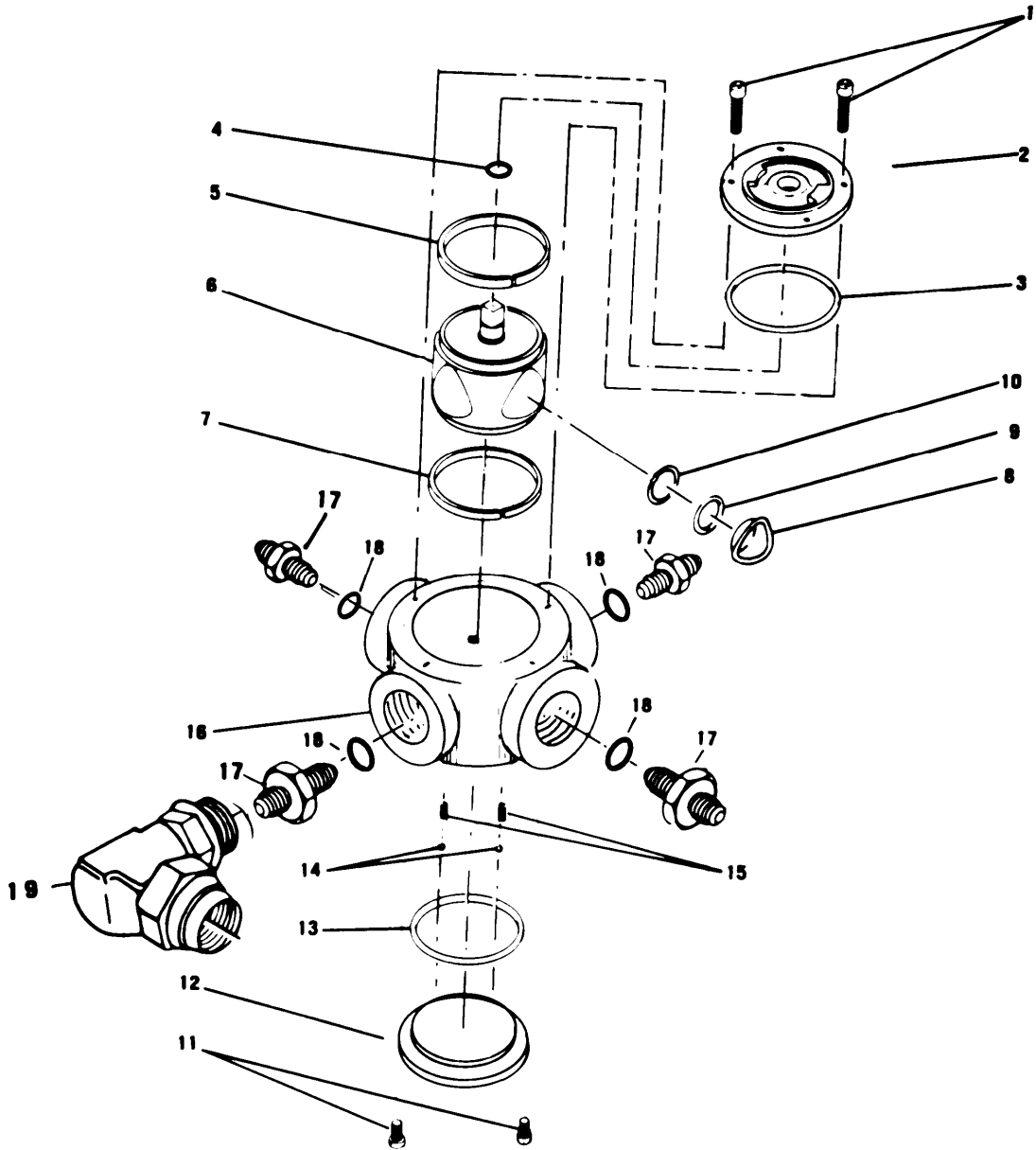


Figure C-21. Cylinder Plug Valve Assembly



SECTION II			TM 55-4920-426-13&P			
(1)	(2)	(3)	(4)	(5)	(6)	
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY	
				FIGURE C-21. CYLINDER PLUG VALVE ASSEMBLY		
	PBOOZ	86768	744-24D2	VALVE, PLUG CYLINDER, PLUG.....	1	
1	XDOZZ	56529	79009-206-1	. SCREW, FLAT HD, PHIL.....	4	
2	XDOZZ	56529	79009-206-2	. PLATE, COVER.....	1	
3	XDOZZ	56529	79009-206-3	. O RING.....	1	
4	XDOZZ	56529	79009-206-4	. O RING, PLUG.....	1	
5	XDOZZ	56529	79009-206-5	. BEARING, TOP.....	1	
6	XDOZZ	56529	79009-206-6	. PLUG.....	1	
7	XDOZZ	56529	79009-206-7	. BEARING, BOTTOM.....	1	
8	XDOZZ	56529	79009-206-16	. SEAL, SUB ASSY.....	2	
9	XDOZZ	56529	79009-206-15	. O RING.....	2	
10	XDOZZ	56529	79009-206-14	. WASHER, SPRING.....	2	
11	XDOZZ	56529	79009-206-13	. SCREW, RHD.....	4	
12	XDOZZ	56529	79009-206-12	. COVER, BOTTOM.....	1	
13	XDOZZ	56529	79009-206-11	. O RING.....	1	
14	XDOZZ	56529	79009-206-10	. BALL, DETENT.....	2	
15	XDOZZ	56529	79009-206-9	. SPRING, DETENT.....	2	
16	XDOZZ	56529	79009-206-8	. BODY.....	1	
17	PBOZZ	96906	MS24399D28	. REDUCER, TUBE.....	4	
18	PBOZZ	96906	MS28778-24	. PACKING, PREFORMED.....	4	
19	PBOZZ	96906	MS51521A16	. ELBOW, TUBE.....	1	

END OF FIGURE

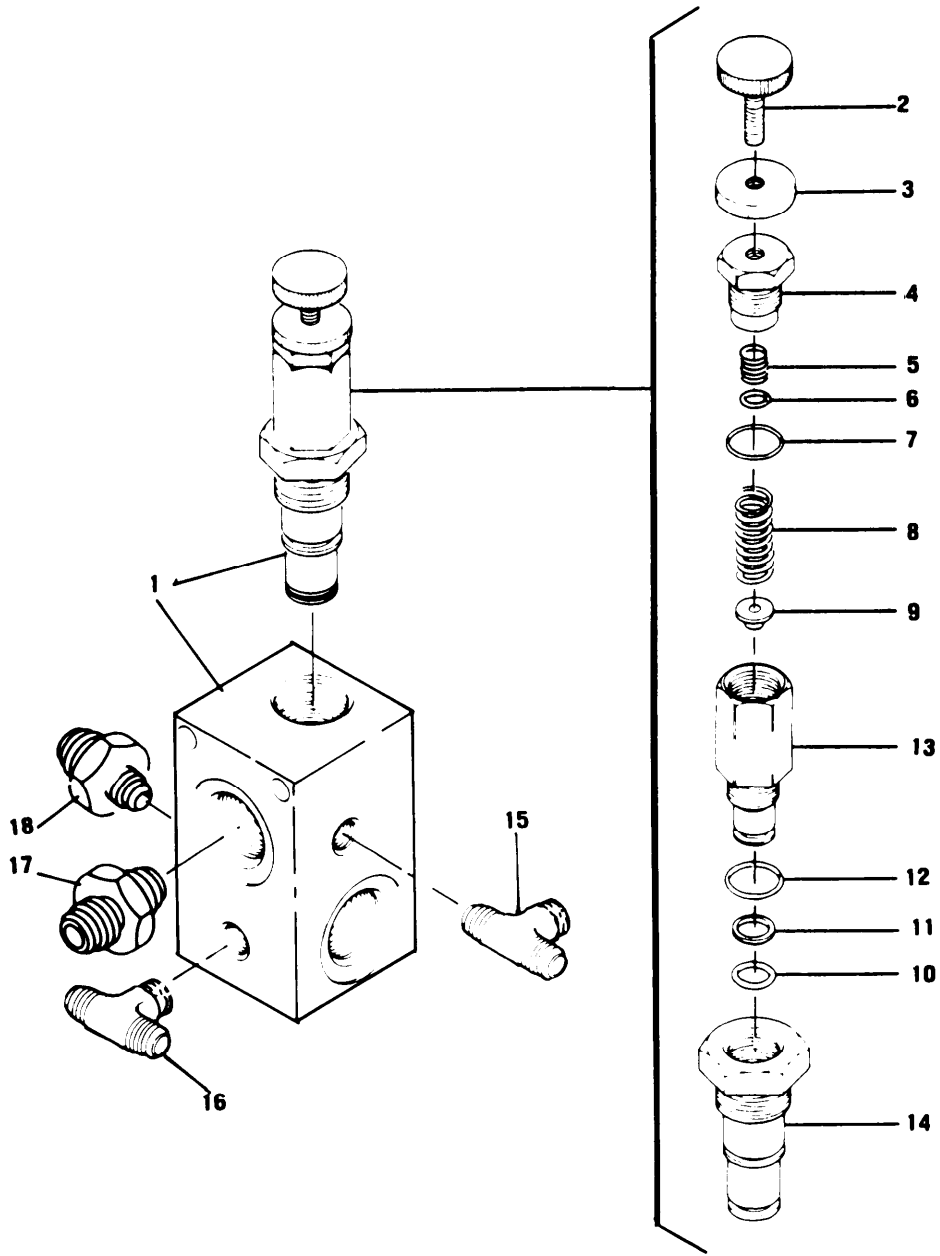


Figure C-22. High Pressure Relief Valve Assembly

SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
FIGURE C-22. HIGH PRESSURE RELIEF VALVE ASSEMBLY					
1	PBOOZ	78357	RAV50-H12S-50A	VALVE,LINEAR,DIRECT PRESSURE RELIEF	1
2	XDOZZ	56529	79009-205-1	•KNOB . . . . .	1
3	XDOZZ	56529	79009-205-2	•NUT. . . . .	1
4	XDOZZ	56529	79009-205-3	•CAP . . . . .	1
5	XDOZZ	56529	79009-205-4	•PISTON. . . . .	1
6	XDOZZ	56529	79009-205-5	•O RING,PISTON . . . . .	1
7	XDOZZ	56529	79009-205-6	•O RING . . . . .	1
8	XDOZZ	56529	79009-205-7	•SPRING. . . . .	1
9	XDOZZ	56529	79009-205-8	•POPPET . . . . .	1
10	XDOZZ	56529	79009-205-12	•O RING . . . . .	1
11	XDOZZ	56529	79009-205-11	•RING,BACKUP . . . . .	1
12	XDOZZ	56529	79009-205-10	•O RING,LARGE . . . . .	1
13	XDOZZ	56529	79009-205-9	•HOUSING,CARTRIDGE . . . . .	1
14	XDOZZ	56529	79009-205-13	•HOUSING,RELIEF VALV . . . . .	1
15	PBOZZ	96906	MS5153084	TEE,TUBE TO BOSS . . . . .	1
16	PBOZZ	96906	MS51529A4	TEE,TUBE TO BOSS . . . . .	1
17	PBOZZ	96906	MS51525B16	ADAPTER,STRAIGHT,TU . . . . .	1
18	PBOZZ	96906	MS51525A12S	ADAPTER,STRAIGHT,TU . . . . .	1

END OF FIGURE

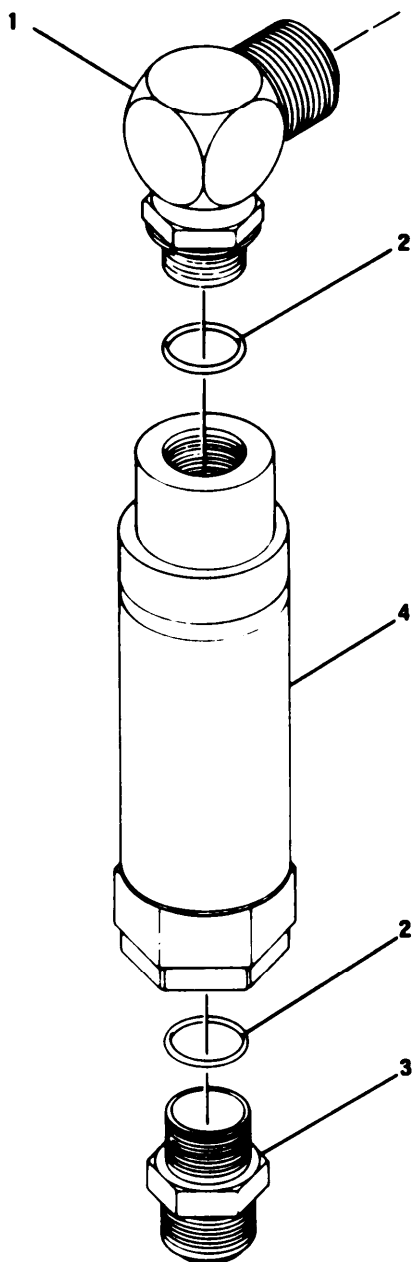


Figure C-23. Flowmeter

SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
FIGURE C-23. FLOWMETER					
1	PBOZZ	96906	MS51527A12	ELBOW,TUBE TO BOSS . . . . .	1
2	PBOZZ	96906	MS29512-12	PACKING,PREFORMED . . . . .	2
3	PBOZZ	96906	MS51525-A12	ADAPTER,STRAIGHT,TU . . . . .	1
4	PBOZZ	56529	22092-100	INDICATOR,RATE OF F. . . . .	1

END OF FIGURE

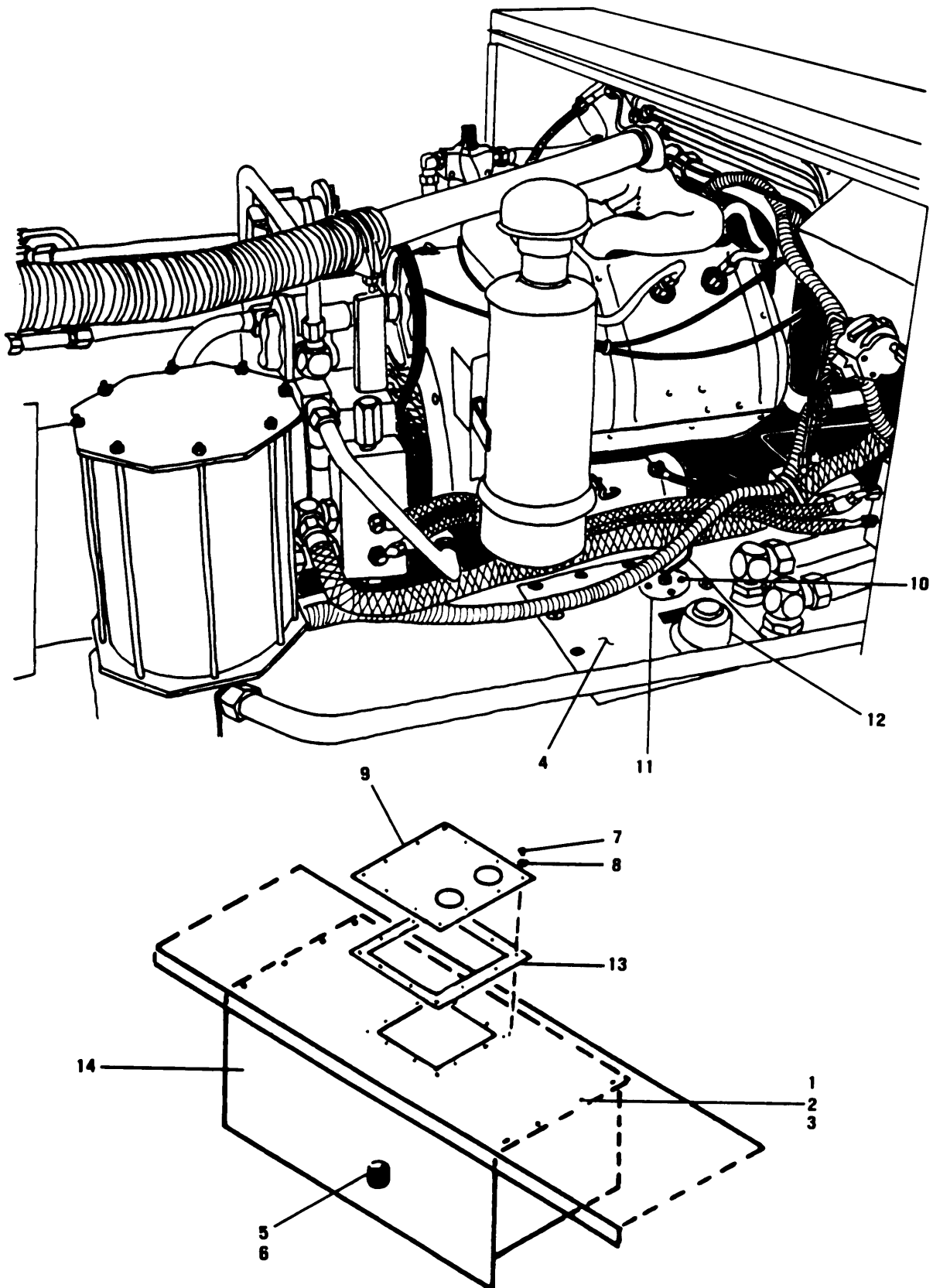


Figure C-24. Fluid Reservoir Assembly

SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY

FIGURE C-24. FLUID RESERVOIR ASSEMBLY

1	PBOZZ	96906	MS18154-58	SCREW,CAP,HEXAGON H.....	8
2	PBOZZ	96906	MS35338-46	WASHER,LOCK.....	8
3	PBOZZ	96906	MS51967-8	NUT,PLAIN,HEXAGON.....	8
4	XDOFF	56529	79009-126	RESERVOIR ASSY.....	1
5	XDOZZ	56529	22062-100	.PLUG,VALVE.....	1
6	PBOZZ	96906	MS29512-08	.PACKING,PREFORMED.....	1
7	PBOZZ	96906	MS35206-282	.SCREW,MACHINE.....	12
8	PBOZZ	96906	MS35335-33	.WASHER,LOCK.....	12
9	XDOZZ	56529	79009-128-1	.COVER.....	1
10	PBOZZ	96906	MS51861-65	.SCREW,TAPPING,THREA.....	5
11	PBOZZ	57733	391A	.TRANSMITTER,LIQUID.....	1
12	XDOZZ	97576	57XL40	.BREATHER,FILLER.....	1
13	XDOZZ	56529	4508X1/2	.GASKET.....	1
14	XDOFF	56529	79009-124	.RESERVOIR.....	1

END OF FIGURE

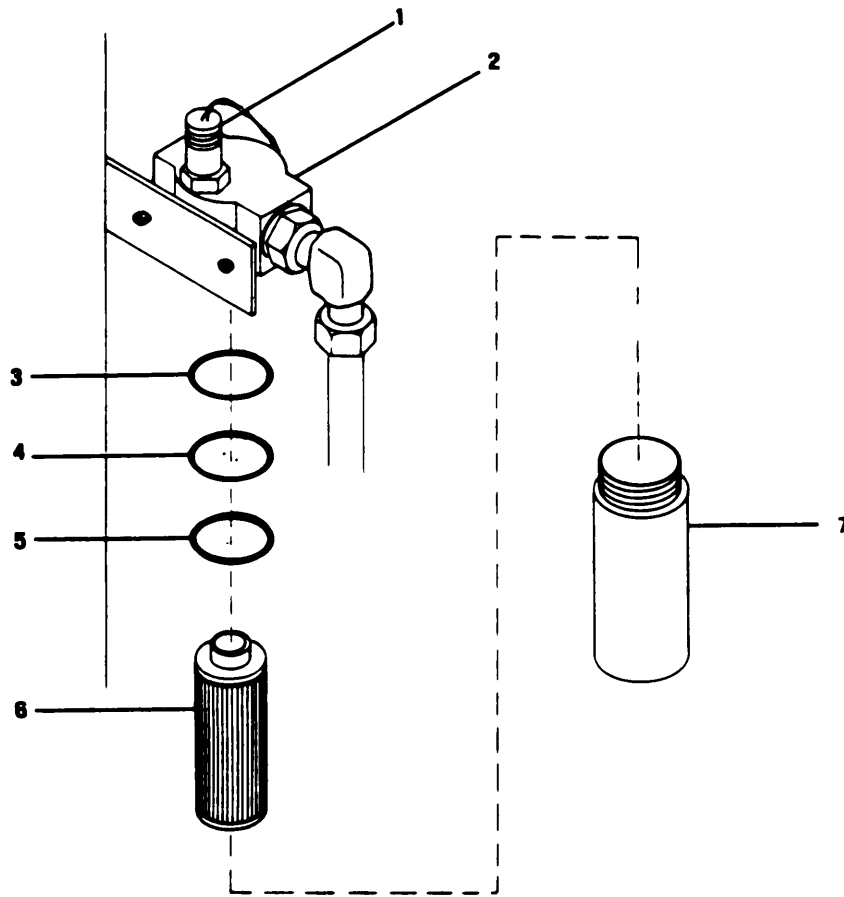


Figure C-25. High Pressure Filter Assembly



SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
				FIGURE C-25. HIGH PRESSURE FILTER ASSEMBLY	
	XDOOO	06816	AH9998A12RWL	<b>FILTER ASSY,HIGH PRESSURE.....</b>	<b>1</b>
1	PBOZZ	06816	RC991CZ097H	<b>.SWITCH,DIFF.PRESS.....</b>	<b>1</b>
2	XDOZZ	06816	AC-9020-12D11	<b>.HEAD.....</b>	<b>1</b>
3	PBOZZ	96906	MS28775-136	<b>.PACKING,PREFORMED.....</b>	<b>1</b>
4	PBOZZ	96906	MS28774-136	<b>.RETAINER,PACKING.....</b>	<b>1</b>
5	PBOZZ	96906	MS28778-8	<b>.PACKING,PREFORMED.....</b>	<b>1</b>
6	PBOZZ	01414	AC-9497F-12H	<b>.FILTER ELEMENT,FLUI.....</b>	<b>1</b>
7	XDOZZ	06816	AC-9020-12DR	<b>.BOWL.....</b>	<b>1</b>

END OF FIGURE

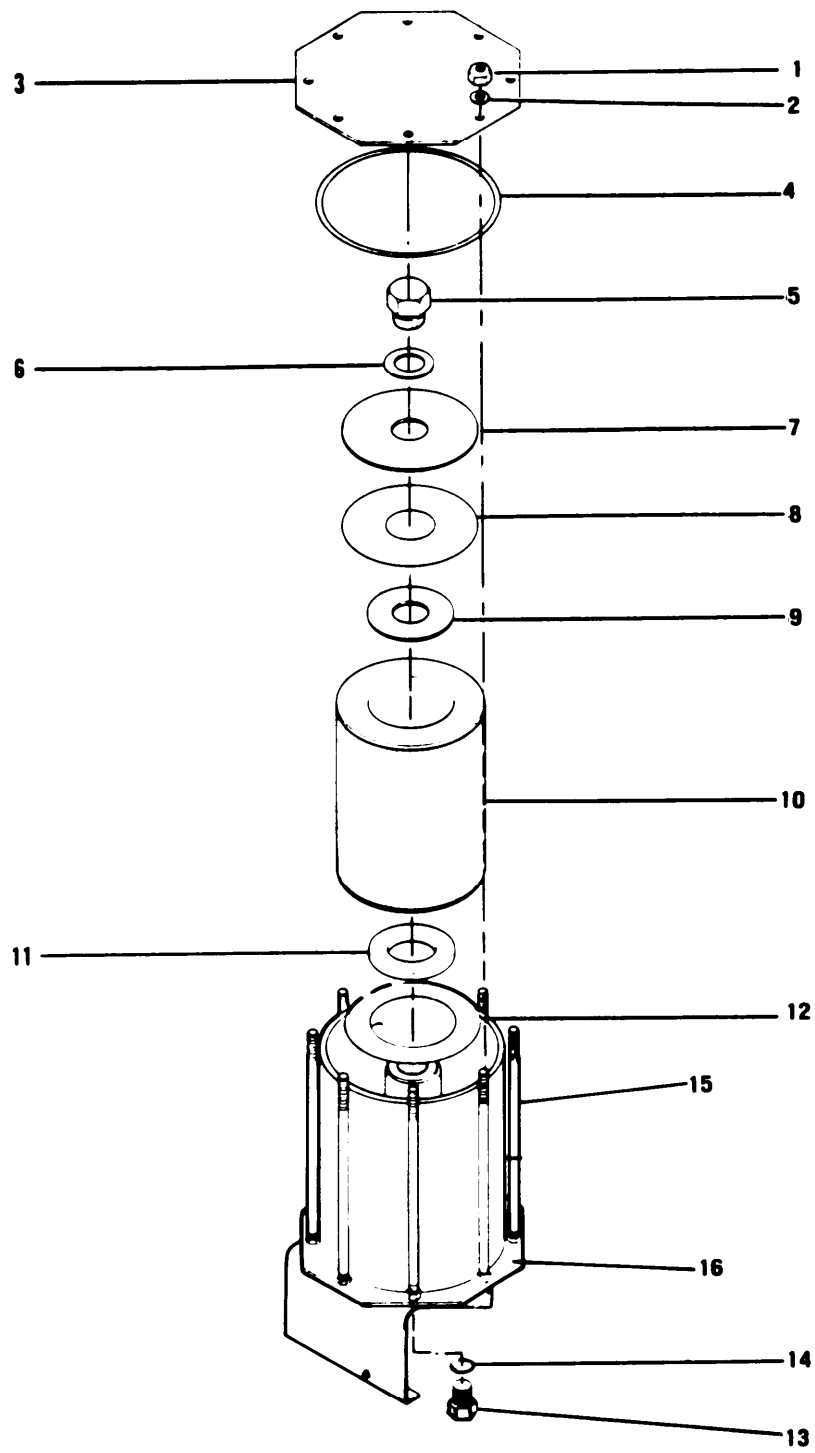


Figure C-26. Pressure Filter Assembly

SECTION II			TM 55-4920-426-13&P	(5)	(6)
(1)	(2)	(3)	(4)		
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
FIGURE C-26. PRESSURE FILTER ASSEMBLY					
	XDOOO	56529	22066-200	FILTER ASSY, LOW PRESSURE.....	1
1	POOZZ	96906	MS21044N4	.NUT, SELF-LOCKING, HE.....	16
2	PBOZZ	96906	MS27183-10	.WASHER, FLAT.....	16
3	XDOZZ	56529	22069-2	.COVER.....	1
4	PBOZZ	56529	22052-1	.GASKET, UPPER.....	1
5	PBOZZ	96906	MS51840-30	.PLUG, MACHINE THREAD.....	1
6	PBOZZ	88044	AN960-2116	.O RING.....	1
7	XDOZZ	56529	22070-3	.PLATE, UPPER.....	1
8	PBOZZ	56529	22074-2	.GASKET.....	1
9	XDOZZ	56529	22070-1	.PLATE, MIDDLE.....	1
10	PBOZZ	81352	AN6236-3	.FILTER ELEMENT, FLUI.....	1
11	XDOZZ	56529	22070-2	.PLATE, LOWER.....	1
12	PBOZZ	56529	22074-1	.GASKET.....	1
13	PBOZZ	96906	MS51840-23	.PLUG, MACHINE THREAD.....	1
14	PBOZZ	96906	MS29512-04	.PACKING, PREFORMED.....	1
15	XDOZZ	56529	22073-1	.STUD.....	8
16	XDOZZ	%529	22068-100	.HOUSING.....	1

END OF FIGURE

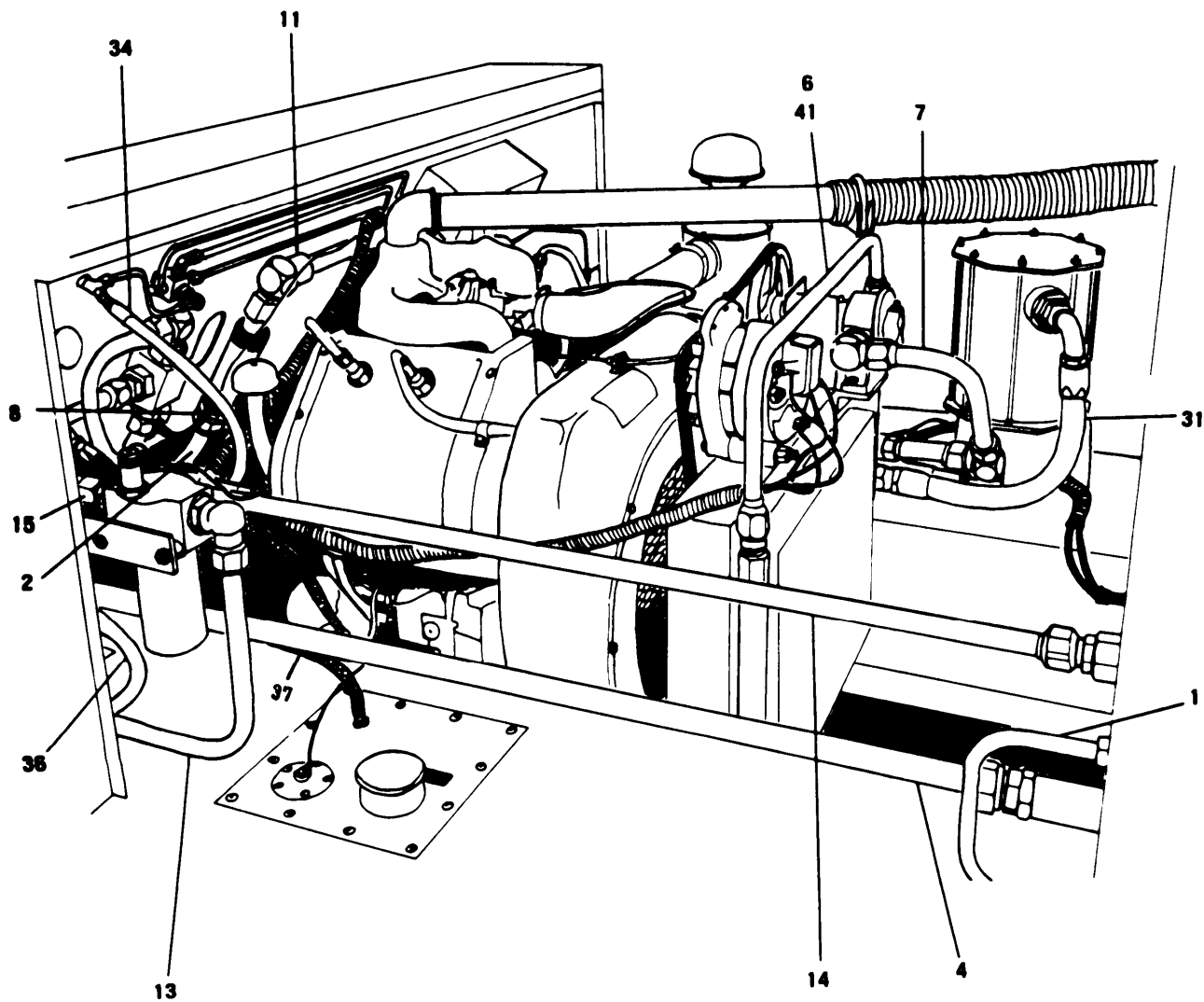


Figure C-27. Lines, Tubing, Fitting and Hose Assembly (Sheet 1 of 3)

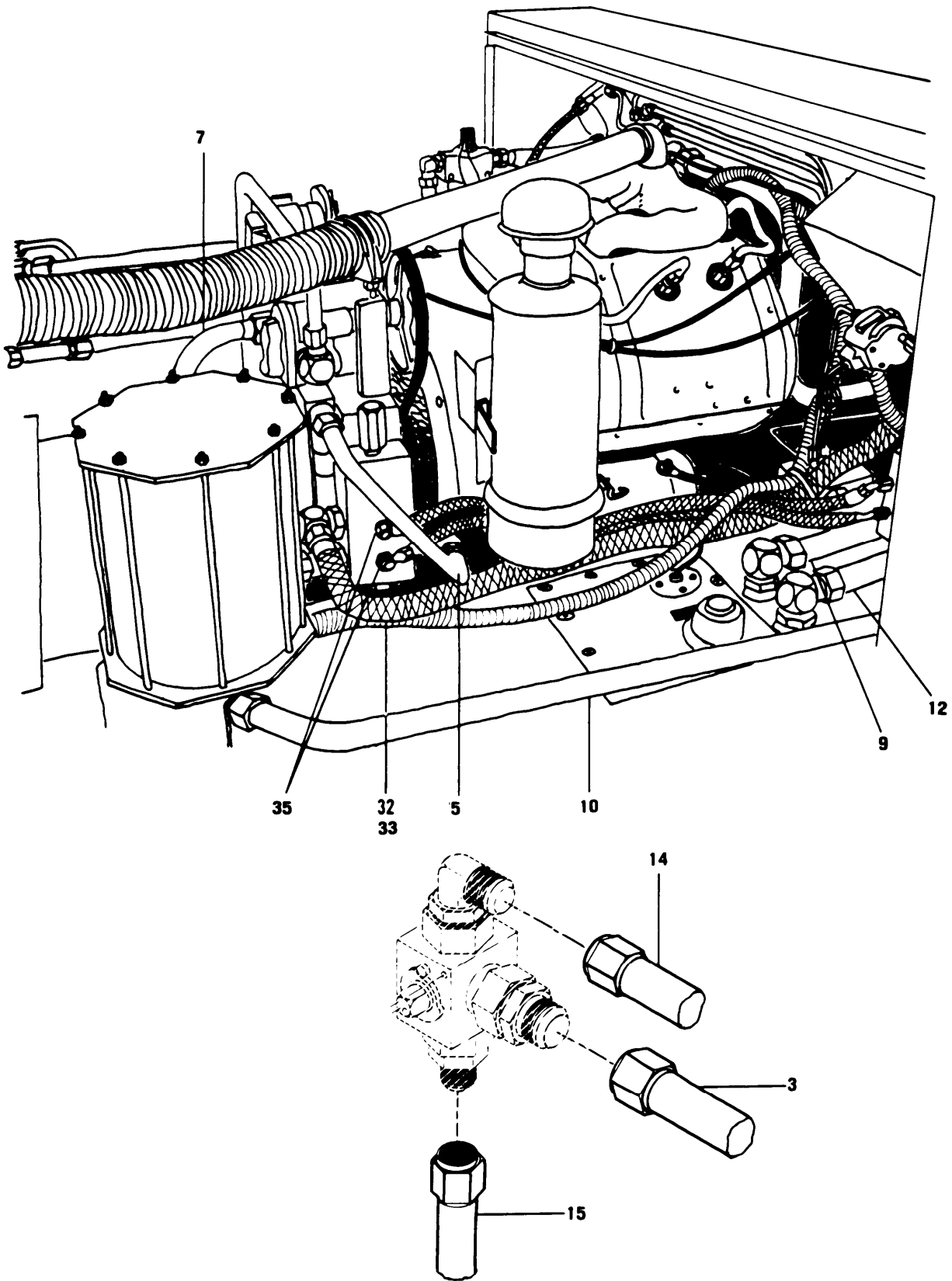


Figure C-27. Lines, Tubing, Fitting and Hose Assembly (Sheet 2 of 3)

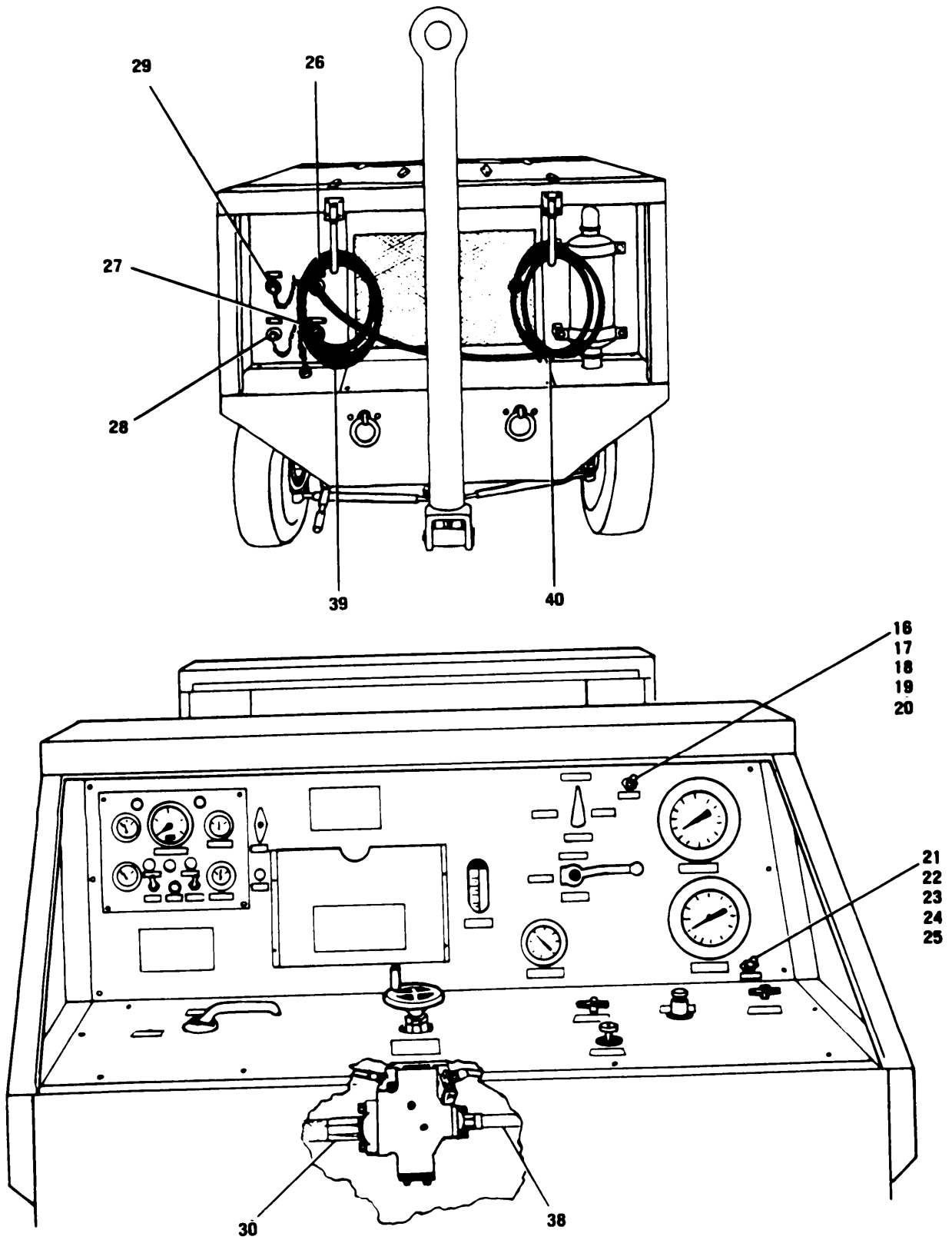


Figure C-27. Lines, Tubing, Fitting and Hose Assembly (Sheet 3 of 3)

SECTION II			TM 55-4920-426-13&P			
(1)	(2)	(3)	(4)	(5)	(6)	
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY	
FIGURE C-27. LINES, TUBING, FITTING AND HOSE ASSEMBLY						
1	XDOFF	56529	79009-221	TUBE ASSY,MANIFOLD . . . . .	1	
2	XDOFF	56529	79009-223	TUBE ASSY,RETURN LINE TO FLOWMETER.	1	
3	XDOFF	56529	79009-224	TUBE ASSY,RETURN LINE TO CONTROL VALVE. . . . .	1	
4	XDOFF	56529	79009-225	TUBE ASSY,RETURN LINE . . . . .	1	
5	XDOFF	56529	79009-226	TUBE ASSY,COOLER TO LOW PRESSURE RELIEF . . . . .	1	
6	XDOFF	56529	79009-227	TUBE ASSY,BOOST PUMP TO COOLER . . . . .	1	
7	XDOFF	56529	79009-228	TUBE ASSY,BOOST PUMP TO LOW PRS RELIEF VALVE . . . . .	1	
8	XDOFF	56529	79009-229	TUBE ASSY,RETURN LINE TO FLOWMETER.	1	
9	XDOFF	56529	79009-230	TUBE ASSY,RESERVOIR TO SELECTOR VALVE . . . . .	1	
10	XDOFF	56529	79009-231	TUBE ASSY,LOW PRESSURE FILTER TO MANIFOLD . . . . .	1	
11	XDOFF	56529	79009-232	TUBE ASSY,FLOWMETER TO SELECTOR VALVE . . . . .	1	
12	XDOFF	56529	79009-233	TUBE ASSY,SELECTOR VALVE TO RESERVOIR . . . . .	1	
13	XDOFF	56529	79009-234	TUBE ASSY,HIGH PRES RELIEF VALVE TO HIGH PRESS FILTER . . . . .	1	
14	XDOFF	56529	79009-235	TUBE ASSY,OUTLET SUPPLY LINE . . . . .	1	
15	XDOFF	56529	79009-236	TUBE ASSY,HIGH PRES FILTER TO FLOW CONTROL VALVE . . . . .	1	
16	PBOZZ	96906	MS24390-4	TEE,TUBE CALIBRATE COMPOUND GUAGE . .	1	
17	PBOZZ	88044	AN924-4	NUT,PLAIN,HEXAGON . . . . .	1	
18	PBOZZ	88044	AN929A4	CAP,TUBE . . . . .	1	
19	XDOZZ	30485	NO.6SS	BOLT,EYE . . . . .	2	
20	PBOZZ	30485	NO.5SS	CHAIN . . . . .	1	
21	PBOZZ	96906	MS24390-4	TEE,TUBE CALIBRATE COMPOUND GAUGE. .	1	
22	PBOZZ	88044	AN924-4	NUT,PLAIN,HEXAGON . . . . .	1	
23	PBOZZ	80044	AN929A4	CAP,TUBE . . . . .	1	
24	XDOZZ	30485	NO.6SS	BOLT,EYE . . . . .	2	
25	PBOZZ	30485	NO.5SS	CHAIN . . . . .	1	
26	PBOZZ	18876	9081170	CAP,PROTECTIVE,DUST . . . . .	1	
27	PBOZZ	00624	155S7-12D	CAP,QUICK DISCONNec . . . . .	1	
28	PBOZZ	00624	155S7-12D	CAP,QUICK DISCONNec OUTLET . . . . .	1	
29	PBOZZ	18876	9081170	CAP,PROTECTIVE,DUST . . . . .	1	
30	XDOFF	56529	79009-210	HOSE ASSY,MANIFOLD TO HIGH PRESSURE PUMP . . . . .	1	
31	XDOFF	56529	79009-211	HOSE ASSY,LOW PRESS REL VALVE TO LOW PRESSURE FILTER . . . . .	1	
32	XDOFF	56529	79009-212	HOSE ASSY,BOOST PUMP TO SELECTOR VALVE . . . . .	1	
33	XDOFF	56529	79009-213	HOSE ASSY,HIGH PRES PUMP TO HIGH PRESSURE RELIEF VALVE . . . . .	1	
34	XDOFF	56529	79009-214	HOSE ASSY,LOW PRESSURE SHUTOFF TO LOW PRESSURE GAUGE . . . . .	1	
35	XDOFF	56529	79009-215	HOSE ASSY,LOW PRESSURE RELIEF	2	

TM 55-4920-426-13&P

SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
36	XDOFF	56529	79009-217	VALVE 10 GAUGE SHUTOFF . . . . .	
				HOSE ASSY,HIGH PRES SHUTOFF TO	1
				HIGH PRESSURE GAUGE . . . . .	
37	XDOFF	56529	79009-218	HOSE ASSY,FUEL LANE . . . . .	1
38	XDOFF	56529	79009-219	HOSE ASSY,OUTLET TO HIGH PRESSURE	1
				PUMP TO CHECK VALVE . . . . .	
39	XDOZZ	56529	79009-237	HOSE ASSY,SUPPLY . . . . .	1
40	XDOZZ	56529	79009-238	HOSE ASSY,RETURN . . . . .	1
41	PBOFF	50184	10724S1	HEAT EXCHANGER,ASSY . . . . .	1

END OF FIGURE





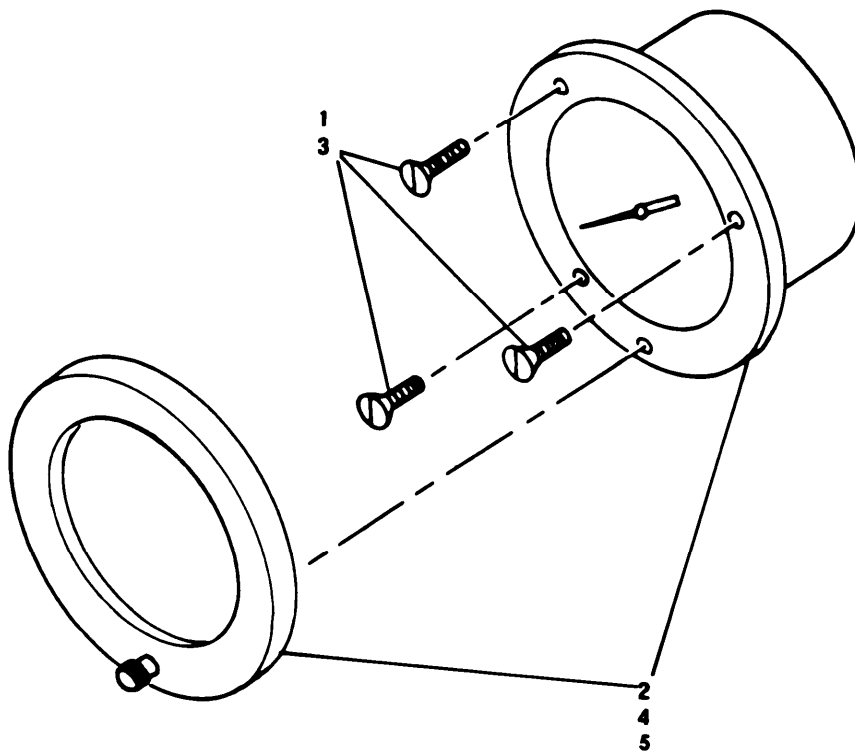


Figure C-28. Pressure Gauges

SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY

FIGURE C-28. PRESSURE GUAGES

1	PBOZZ	96906	MS35190-284	SCREW,MACHINE	1
2	PBOZZ	03773	206SFAS30-0-150	GAGE,PRESS	1
3	PBOZZ	96906	MS35190-284	SCREW,MACHINE	1
4	PBOZZ	38056	45-1377RT-SXPFD	GAUGE,COMPOUND PRESSURE	1
			-028-6000		
5	PAOZZ	58905	JCM-15284-001	VALVE,SAFETY RELIEF	1

END OF FIGURE

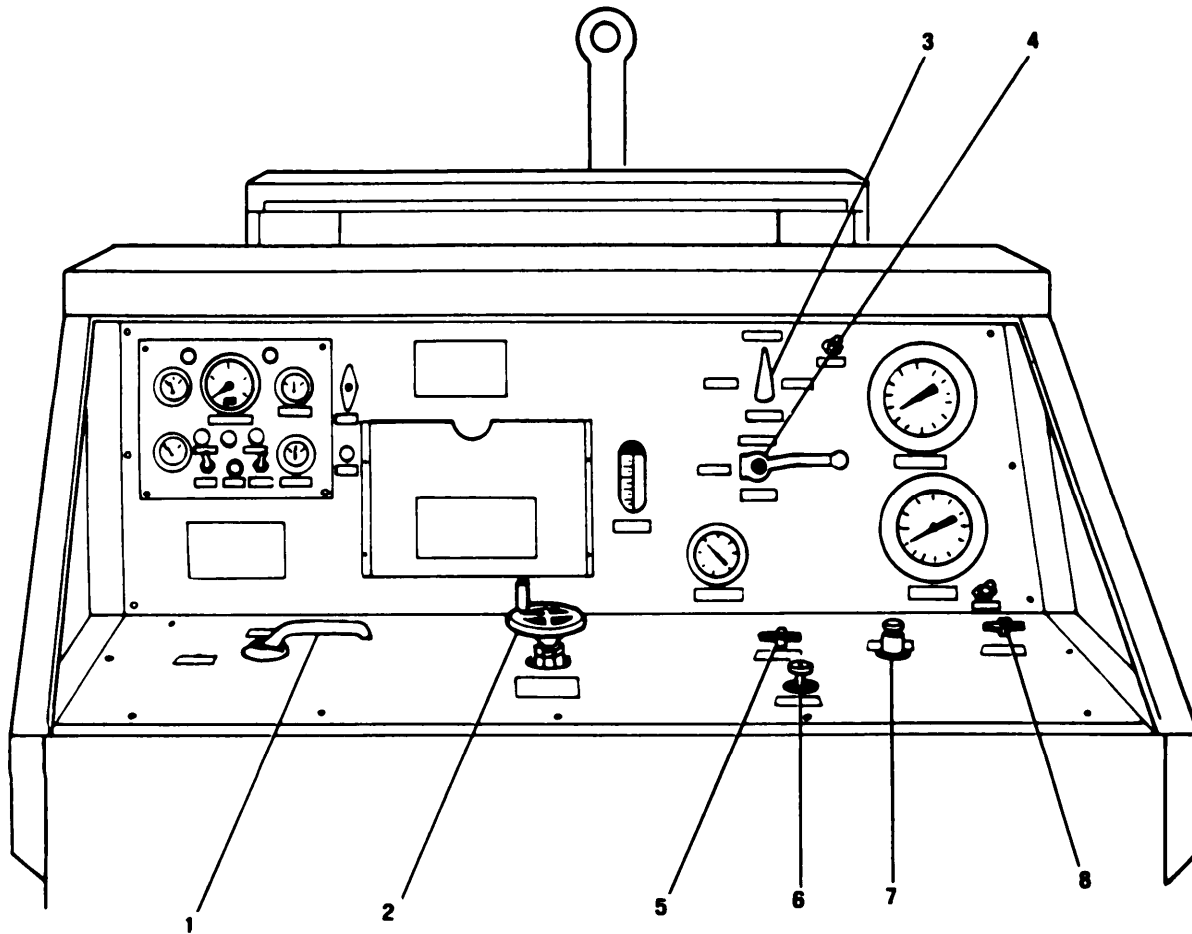


Figure C-29. Control Knobs

	SECTION II		TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY

GROUP 05. PANEL ASSEMBLY

FIGURE C-29. CONTROL KNOBS

1	XDOZZ	56529	79009-216-17	HANDLE,SELECTOR, RESERVOIR.....	1
2	XDOZZ	71437	186NSX1/2	HANDWHEEL,FLUID VOLUME.....	1
3	XDOZZ	56529	79009-402	HANDLE,SHUTOFF, GAUGE,LOW PRESSURE.	1
4	XDOZZ	56529	79009-403	HANDLE,VALVE,FLOW CCNTROL.....	1
5	XDOZZ	56529	79009-404	SHUTOFF,COMPENSATOR.....	1
6	XDOZZ	16954	S16-39148	SCREW SHAFT, PRESSURE COMPENSATOR..	1
7	XDOZZ	56529	79009-205-1	KNOB,VALVE,SYSTEM RELIEF.....	1
8	XDOZZ	56529	79009-404	SHUTOFF,HIGH PRESSURE GAUGE.....	1

END OF FIGURE

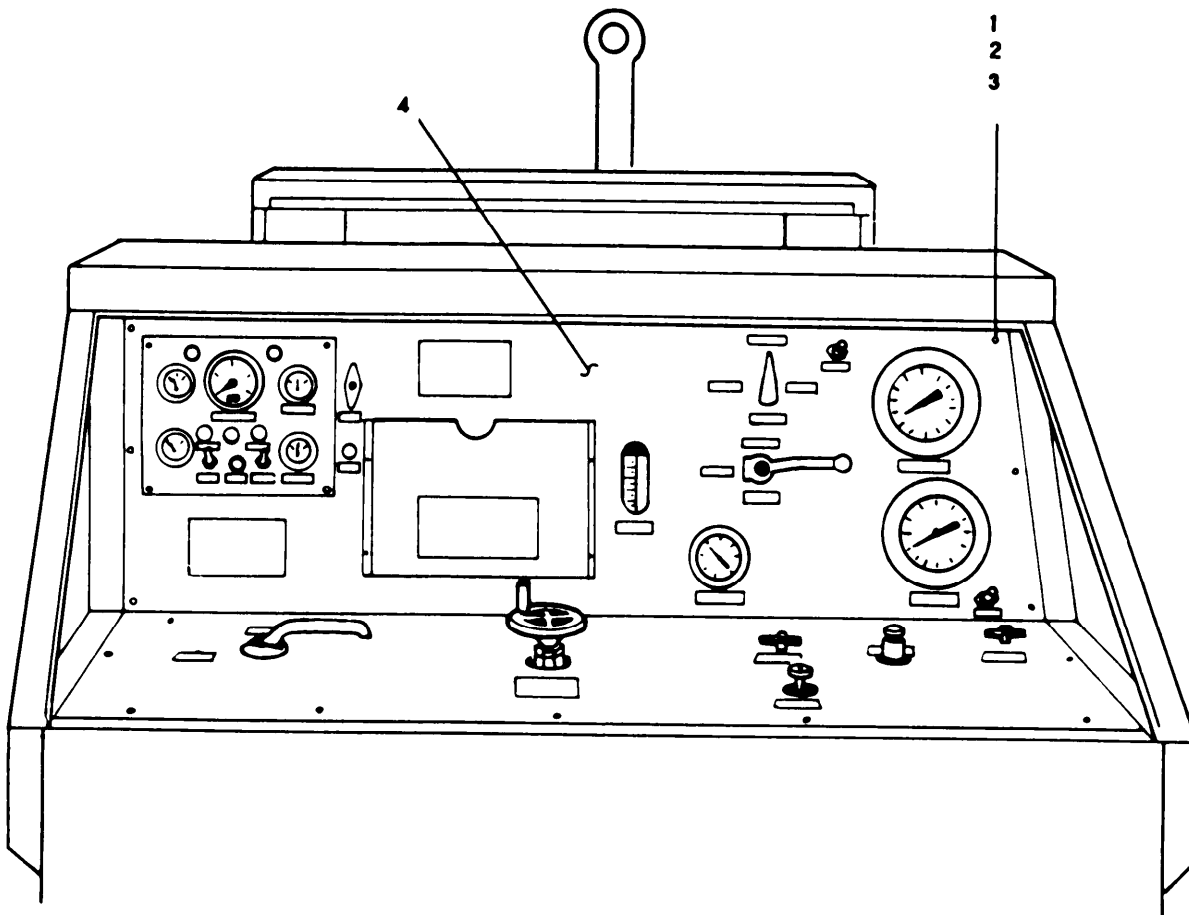


Figure C-30. Instrument Panel Assembly

SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
FIGURE C-30. INSTRUMENT PANEL ASSEMBLY					
1	PBOZZ	96906	MS35206-279	SCREW,MACHINE . . . . .	6
2	PBOZZ	96906	MS35338-44	WASHER,LOCK . . . . .	6
3	PBOZZ	96906	MS51967-2	NUT,PLAIN,HEXAGON . . . . .	6
4	XDOZZ	56529	79009-148	PANEL ASSY,CONTROL . . . . .	1

END OF FIGURE

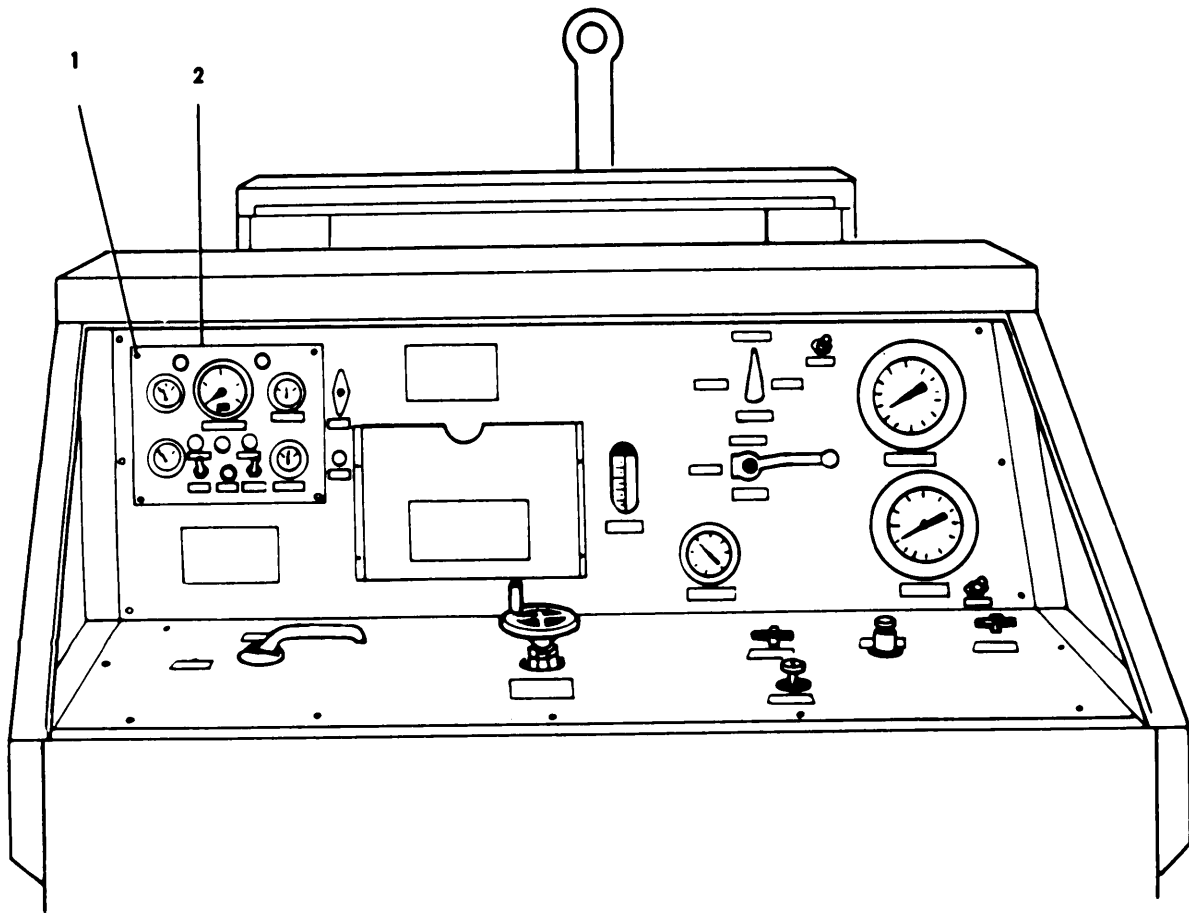


Figure C-31. Control Panel Assembly



SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
FIGURE C-31. CONTROL PANEL ASSEMBLY					
1	PBOZZ	96906	MS35207-259	SCREW,MACHINE	4
2	XDOFF	56529	79009-133-1	PANEL ASSY, INSTRUMENT	1

END OF FIGURE

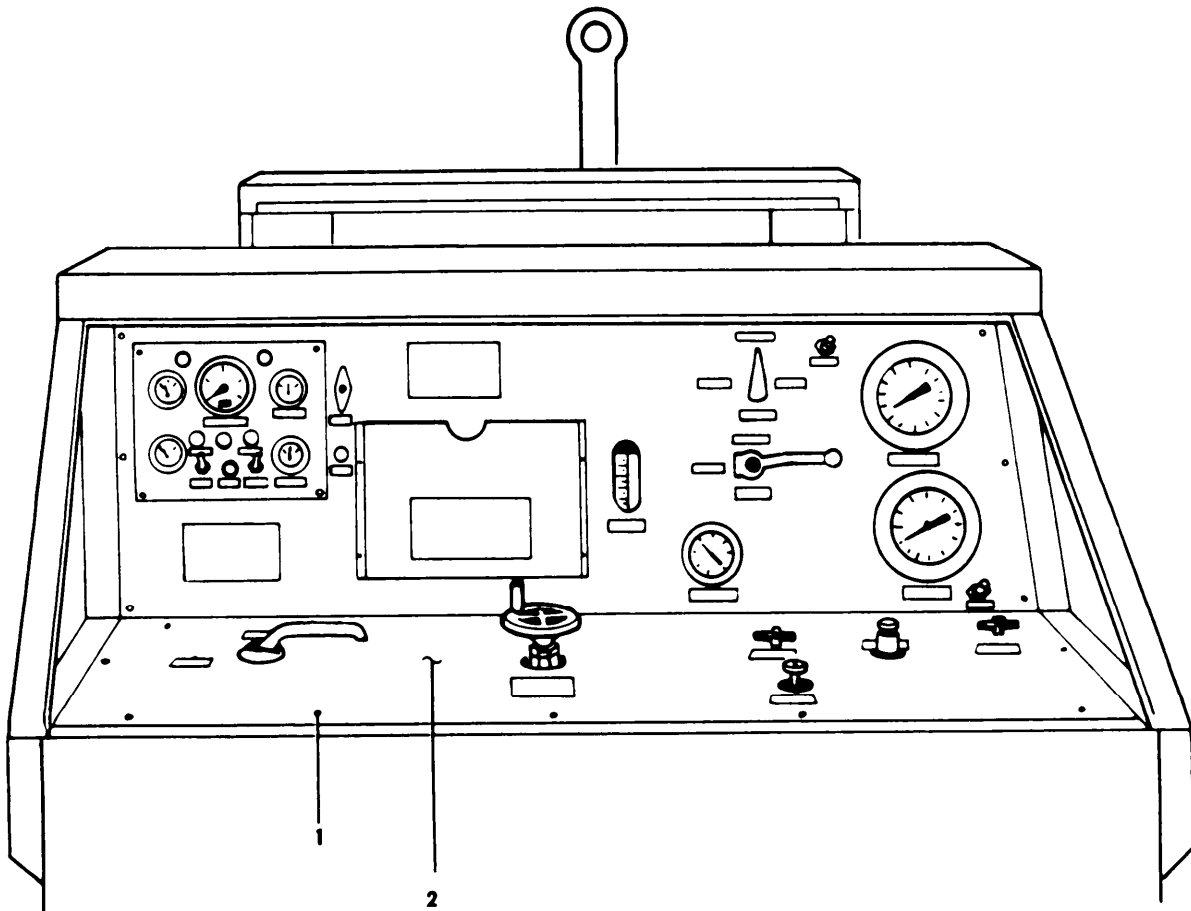


Figure C-32. Lower Panel Assembly

SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
FIGURE C-32. LOWER PANEL ASSEMBLY					
1	PBOZZ	96906	MS35206-279	SCREW,MACHINE . . . . .	12
2	XDOZZ	56529	79009-149	PANEL ASSY,LOWER . . . . .	1

END OF FIGURE

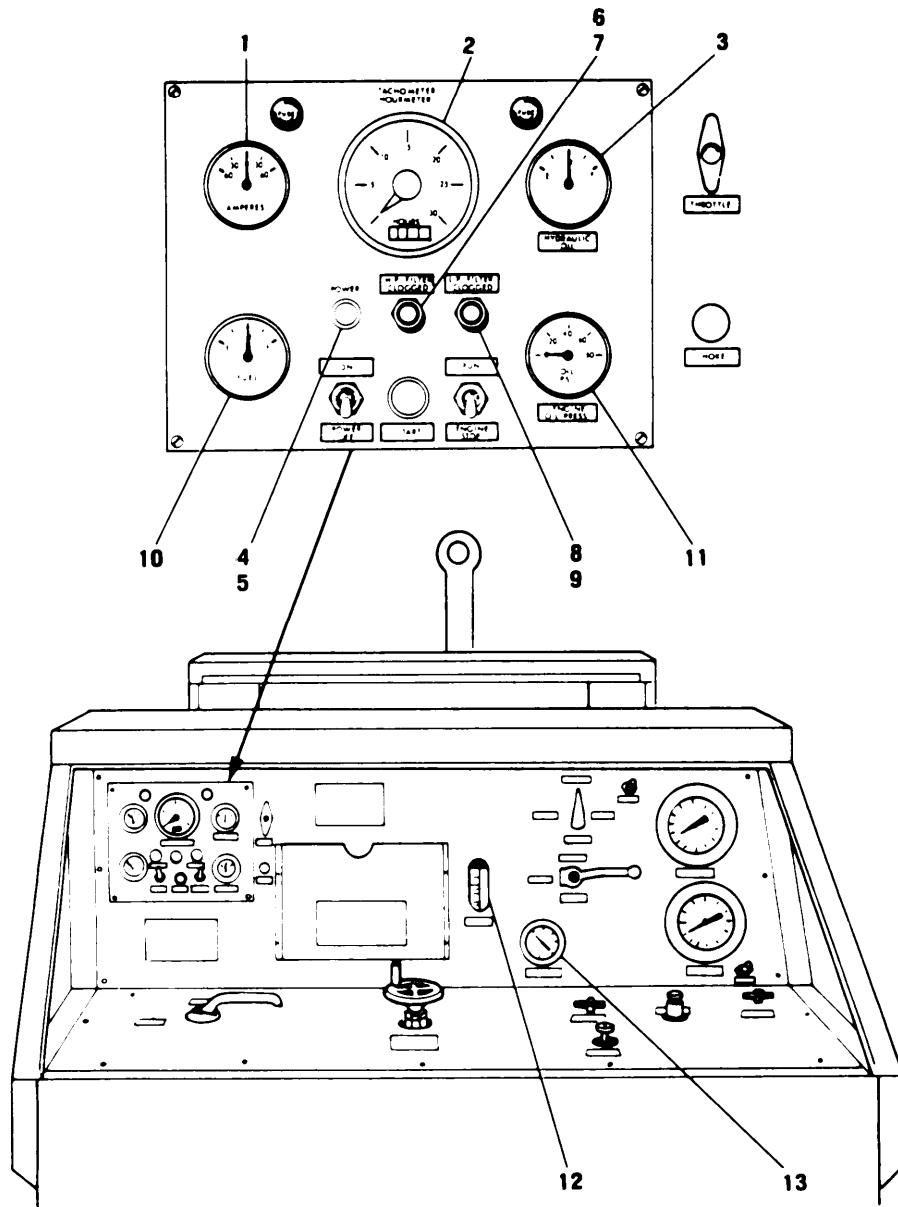


Figure C-33. Instruments

SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
FIGURE C-33. INSTRUMENTS					
1	XDOZZ	57733	284A	AMMETER.....	1
2	PBOZZ	94990	24HT3A1	TACHOMETER SPECIAL.....	1
3	XDOZZ	57733	284M	INDICATOR, LIQUID QU OIL LEVEL.....	1
4	PBOZZ	08806	1820	LAMP, INCANDESCENT INDICATOR BULB...	1
5	PBOZZ	72619	135-0410-1432-30 1	LIGHT, INDICATOR HIGH PRESSURE FILTER CLOGGED.....	1
6	PBOZZ	08806	1820	LAMP, INCANDESCENT.....	1
7	PBOZZ	96906	MS25331-6	LIGHT, INDICATOR PRESSURE FILTER CLOGGED.....	1
8	PBOZZ	08806	1820	LAMP, INCANDESCENT.....	1
9	PBOZZ	96906	MS25331-6	LIGHT, INDICATOR.....	1
10	XDOZZ	57733	284M	INDICATOR, LIQUID QU LEVEL.....	1
11	PBOZZ	57733	284AE	INDICATOR, PRESSURE OIL PRESSURE....	1
12	PBOZZ	56529	22092-100	INDICATOR, RATE OF F.....	1
13	PBOZZ	53907	1400X2 1/2	GAUGE, TEMPERATURE.....	1

END OF FIGURE

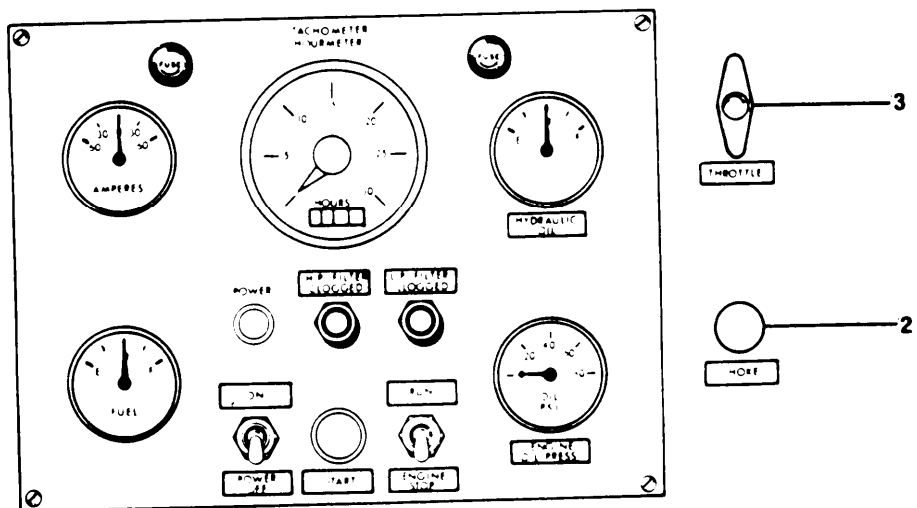
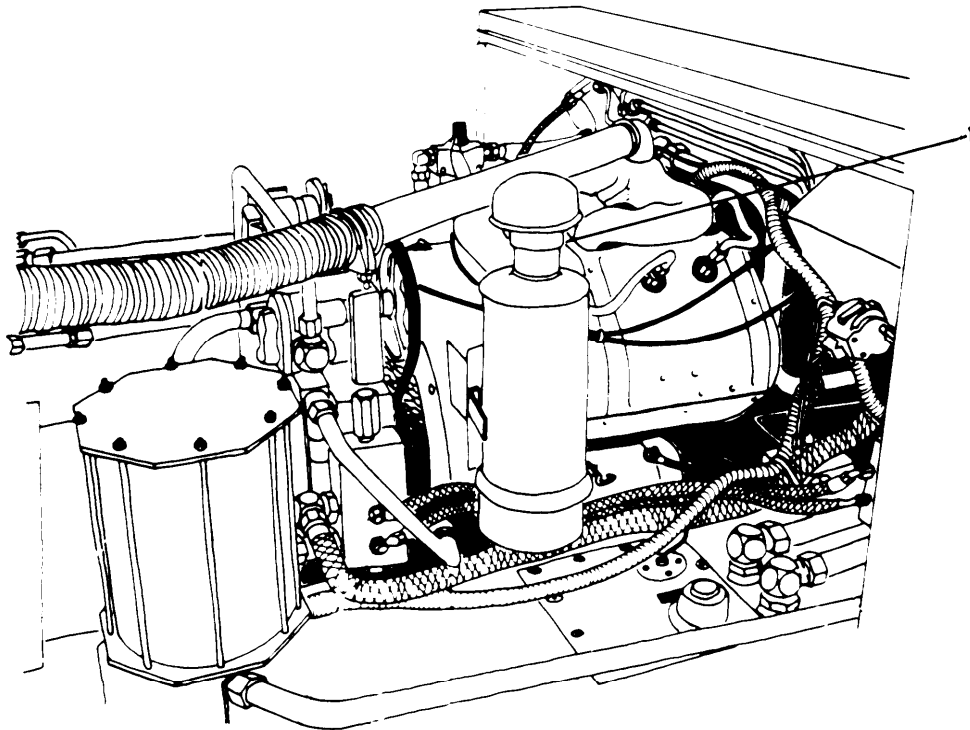


Figure C-34. Control Cable Assemblies

SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY

GROUP 06. ENGINE ASSEMBLY

FIGURE C-34. CONTROL CABLE ASSEMBLIES

1	XDFFF	66289	VG4D(SPEC.NO.418 964)	ENGINE.....	1
2	PBOZZ	66289	VE435E	CONTROL ASSEMBLY,PU.....	1
3	PBOZZ	66289	VE-527-WV	CONTROL ASSEMBLY,PU.....	1

END OF FIGURE

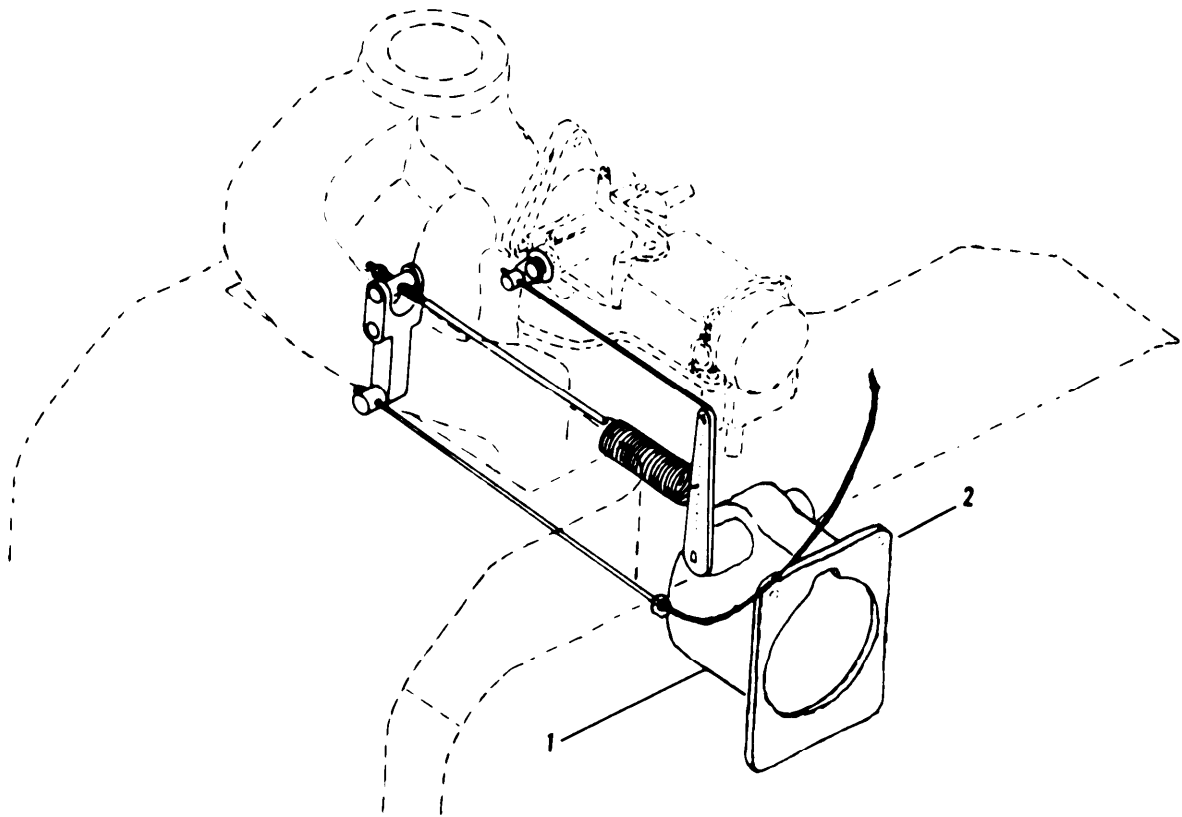


Figure C-35. Governor Assembly



SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
FIGURE C-35. GOVERNOR ASSEMBLY					
1	PBOZZ	66289	T84D1	GOVERNOR,GASOLINE E VARIABLE.....	1
2	PBOZZ	66289	QD615A	GASKET.....	1

END OF FIGURE

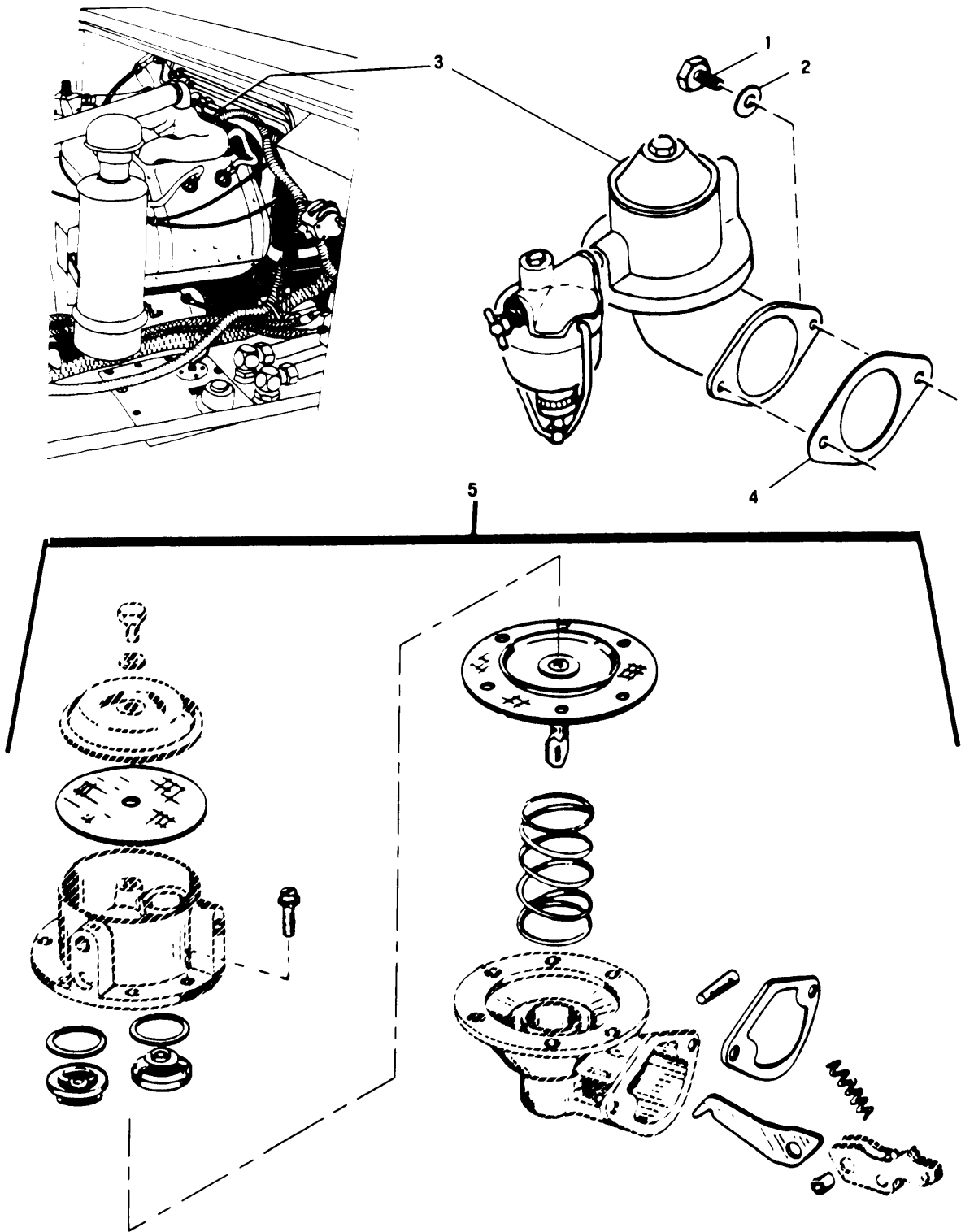


Figure C-36. Fuel Pump

SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
FIGURE C-36. FUEL PUMP					
1	PBOZZ	96906	MS90728-32	BOLT, MACHINE THRD X 3/4 IN. LG, FOR MOUNTING FUEL PUMP.....	2
2	PBOZZ	96906	MS35338-45	WASHER, LOCK SPRING LOCK, FOR MOUNTING FUEL PUMP.....	2
3	PBOZZ	70040	1537421	PUMP, FUEL, CAM ACTUA.....	1
4	PBOZZ	66289	QD-538-A	GASKET FLANGE.....	1
5	PBOZZ	66289	LQ-46	PARTS KIT, ENGINE FU PUMP.....	1

END OF FIGURE



SECTION II			TM 55-4920-426-13&P			
(1)	(2)	(3)	(4)	(5)	(6)	
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY	
FIGURE 37. CARBURETOR						
1	PBOZZ	79960	0-11532	CARBURETOR,FLOAT.....	1	
	PBOZZ	66289	LQ-37	PARTS KIT,CARBURETO CARBURETOR.....	1	
2	XDOZZ	66289	93-C131-4X2	.RETAINER,PACKING SHAFT PACKING.....	1	
3	XDOZZ	66289	93-T57-4	.WASHER,CHOKE SHAFT PACKING.....	1	
4	XDOZZ	66289	93-T52-57	.WASHER,SPECIAL SHAFT PACKING.....	2	
5	XDOZZ	66289	93-T48-9	.PACKING,PREFORMED.....	2	
6	XDOZZ	66289	93-C46-49	.NEEDLE,IDLE ADJUSTING.....	1	
7	XDOZZ	66289	93-T315S5-4	.SCREW PLATE.....	2	
8	XDOZZ	66289	93-CR37-1X1	.PLUG,CHOKE SHAFT HOLE.....	1	
9	XDOZZ	66289	93-T315S5-4	.SCREW.....	2	
10	XDOZZ	66289	93-T56-20	.WASHER,FLAT VALVE SEAT.....	1	
11	XDOZH	66289	93-C81-17-35	.PARTS KIT,CARBURETO FUEL.....	1	
12	XDOZZ	66289	93-T56-73	.WASHER,FIBER,WELL.....	1	
13	XDOZZ	66289	93-C120-18	.AXLE,FLOAT.....	1	
14	XDOZZ	66289	93-C142-55	.GASKET,BOWL TO BODY.....	1	
15	XDOZZ	66289	93-T56-24	.WASHER,FLAT JET.....	1	
16	XDOZZ	66289	93-T56-23	.WASHER,FLAT PASSAGE PLUG.....	1	
17	PBOZZ	66289	QC-12-A	.GASKET.....	3	

END OF FIGURE

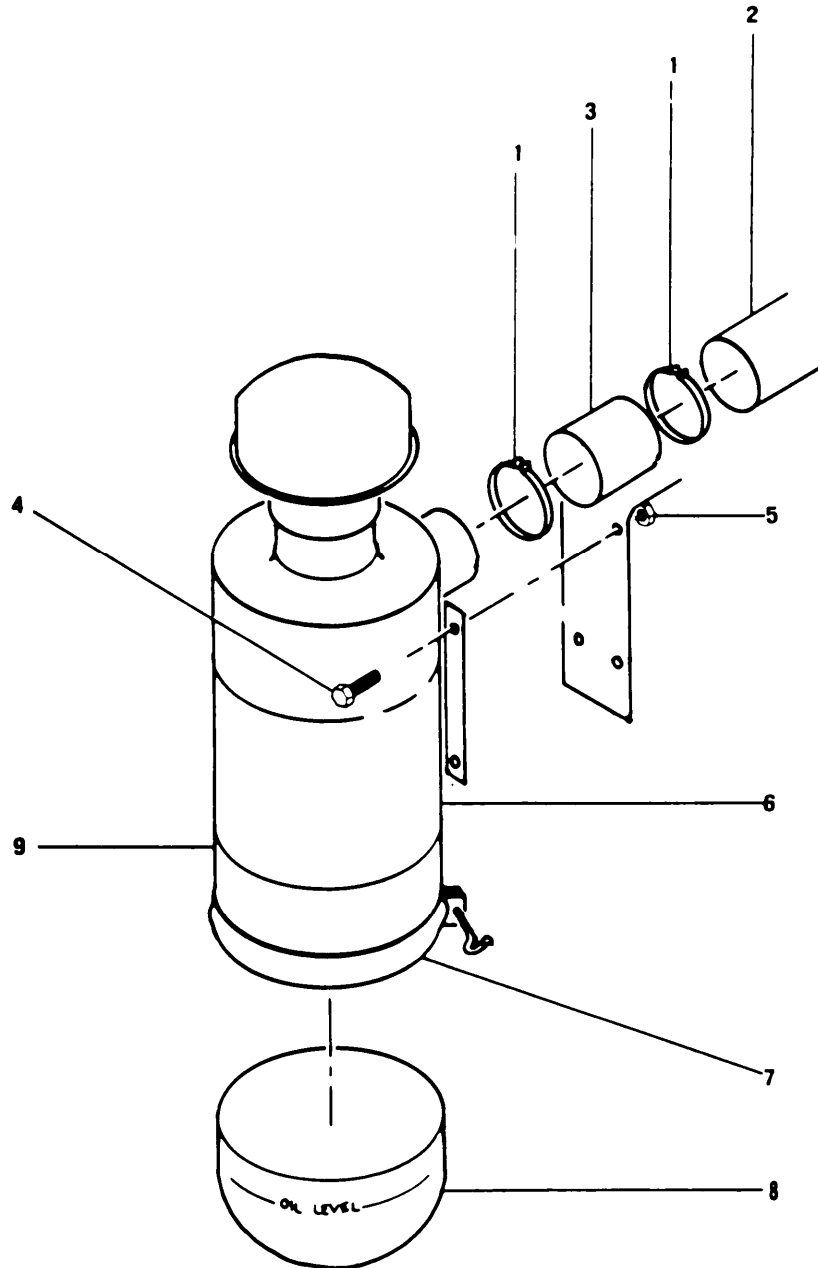


Figure C-38. Air Filter Assembly

SECTION II			TM 55-4920-426-13&P	(5)	(6)
(1)	(2)	(3)	(4)		
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
FIGURE C-38. AIR FILTER ASSEMBLY					
	XDOZZ	66289	LAA-100	AIR FILTER ASSY.....	1
1	PBOZZ	72582	111625	.CLAMP,HOSE ID,FOR AIR CLEANER CONNECTIONS.....	2
2	XDOZZ	66289	LJ-131	.TUBE,AIR CLEANER CLEANER TO CARBURETOR ELBOW.....	1
3	PBOZZ	24161	24232	.HOSE,NONMETALLIC CLEANER TUBE.....	1
4	XDOZZ	66289	XA-74	.SCREW X 2-1/4 IN.LG,RHD FOR AIR CLEANER STRAP CLAMPING.....	2
5	PBOZZ	66289	PD198	.NUT,SELF-LOCKING,HE LOCK TYPE FOR AIR CLEANER STRAP CLAMPING SCREWS...	2
6	XDOZZ	66289	PG-512	.STRAP,FOR MOUNTING AIR CLEANER...	1
7	XDOZZ	66289	22-P2706	.CLAMP ASSY,OIL CUP.....	1
8	XDOZZ	66289	22-P17244	.CUP,OIL.....	1
9	XDOZZ	66289	LO-159-S1	.AIR CLEANER,OIL BATHE.....	1

END OF FIGURE

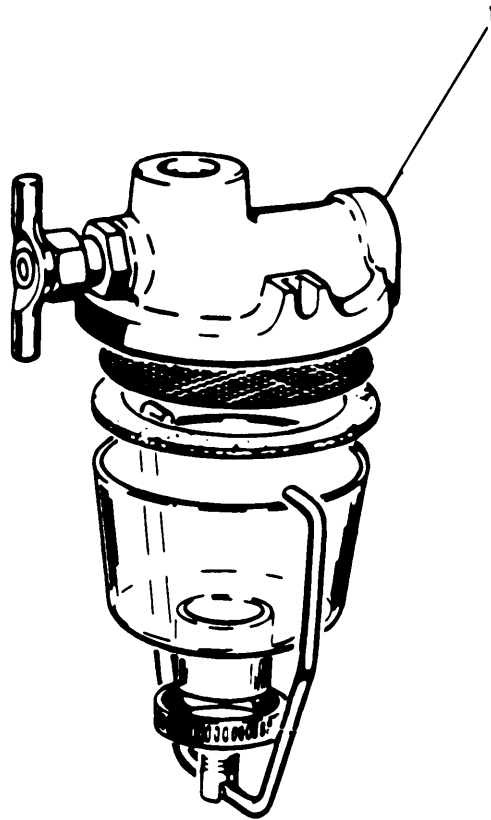


Figure C-39. Fuel Filter



SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
FIGURE C-39. FUEL FILTER					
1	PBOZZ 96906	MS51086-1		<b>STRAINER, SEDIMENT.....</b>	<b>1</b>
	PBOZZ 66289	LQ-32		<b>PARTS KIT, SEDIMENT FILTER.....</b>	<b>1</b>

END OF FIGURE

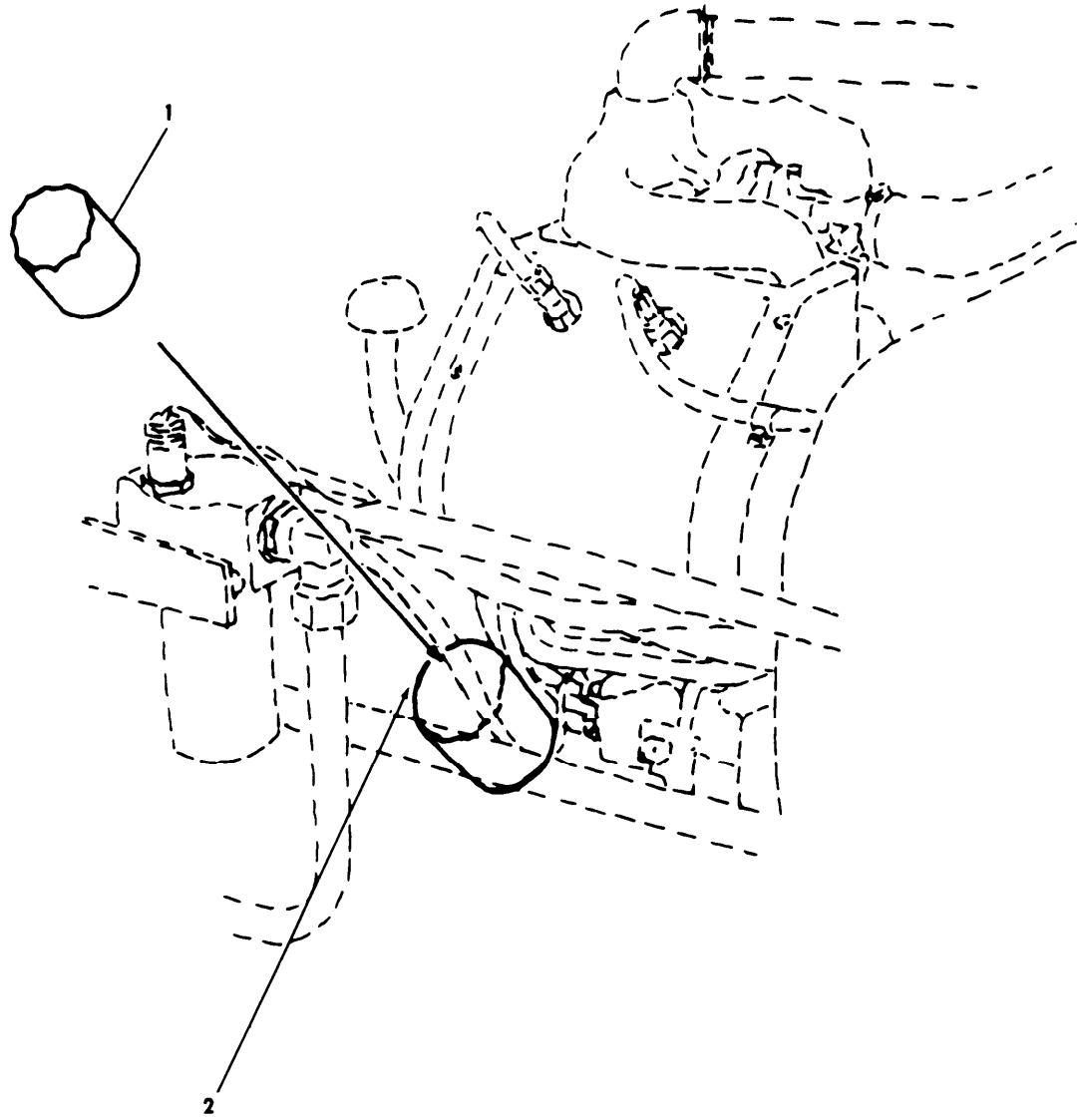


Figure C-40. Oil Filter

SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
FIGURE C-40. OIL FILTER					
1	PBOZZ	66289	RV52S4	FILTER,OIL.....	1
2	PAOZZ	57733	82504	PRESSURE SENDING.....	1

END OF FIGURE

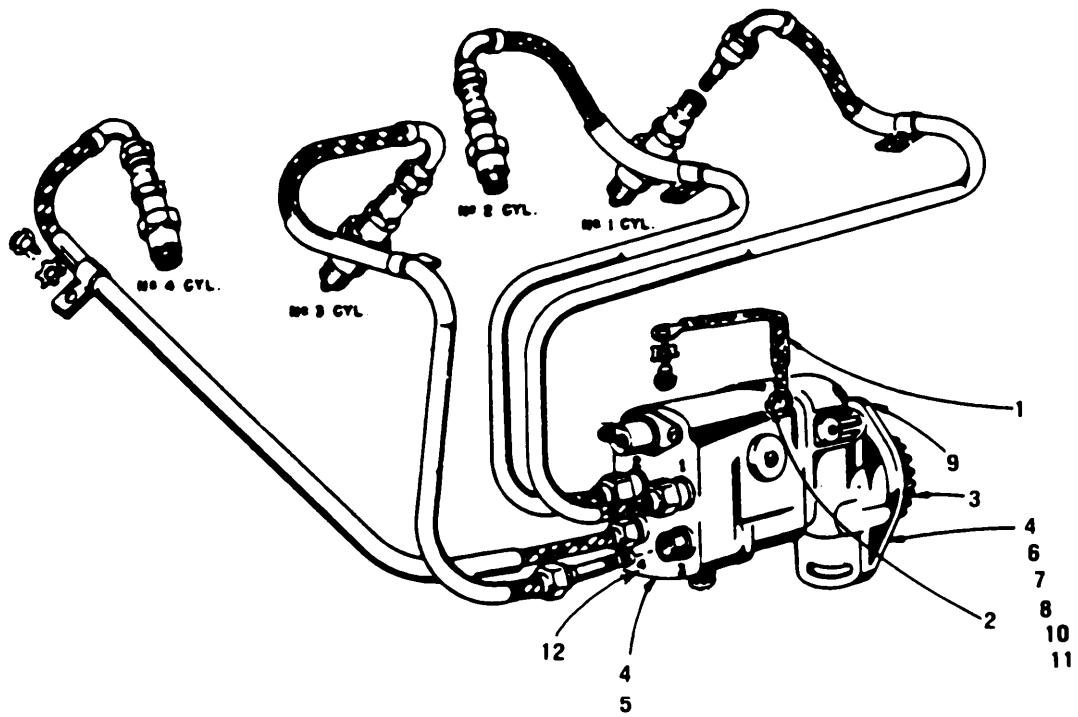


Figure C-41. Magneto Assembly

	SECTION II		TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY

FIGURE C-41. MAGNETO ASSEMBLY

1	XDOZZ	66289	YL355-5	LEAD,ELECTRICAL.....	1
2	XDOZZ	66289	PE45	WASHER.....	1
3	XDOZZ	66289	GD103-1	GEAR,HELICAL.....	1
4	XDOZZ	66289	PE56A	WASHER,LOCK.....	4
5	XDOZZ	66289	PE46A	WASHER,LOCK.....	6
6	XDOZZ	66289	XD33	SCREW,3/8-16X2-1/4.....	1
7	XDOZZ	66289	PE76A	WASHER,LOCK.....	1
8	XDOZZ	66289	PD79	NUT,3/8-16.....	1
9	XDOZZ	66289	PD11	NUT,PLAIN,HEXAGON.....	1
10	XDFZZ	66289	PC110	STUD,PLAIN.....	1
11	PBOZZ	66289	QD616	GASKET.....	1
12	PBOZZ	66289	Y98C	MAGNETO,IGNITION.....	1

END OF FIGURE

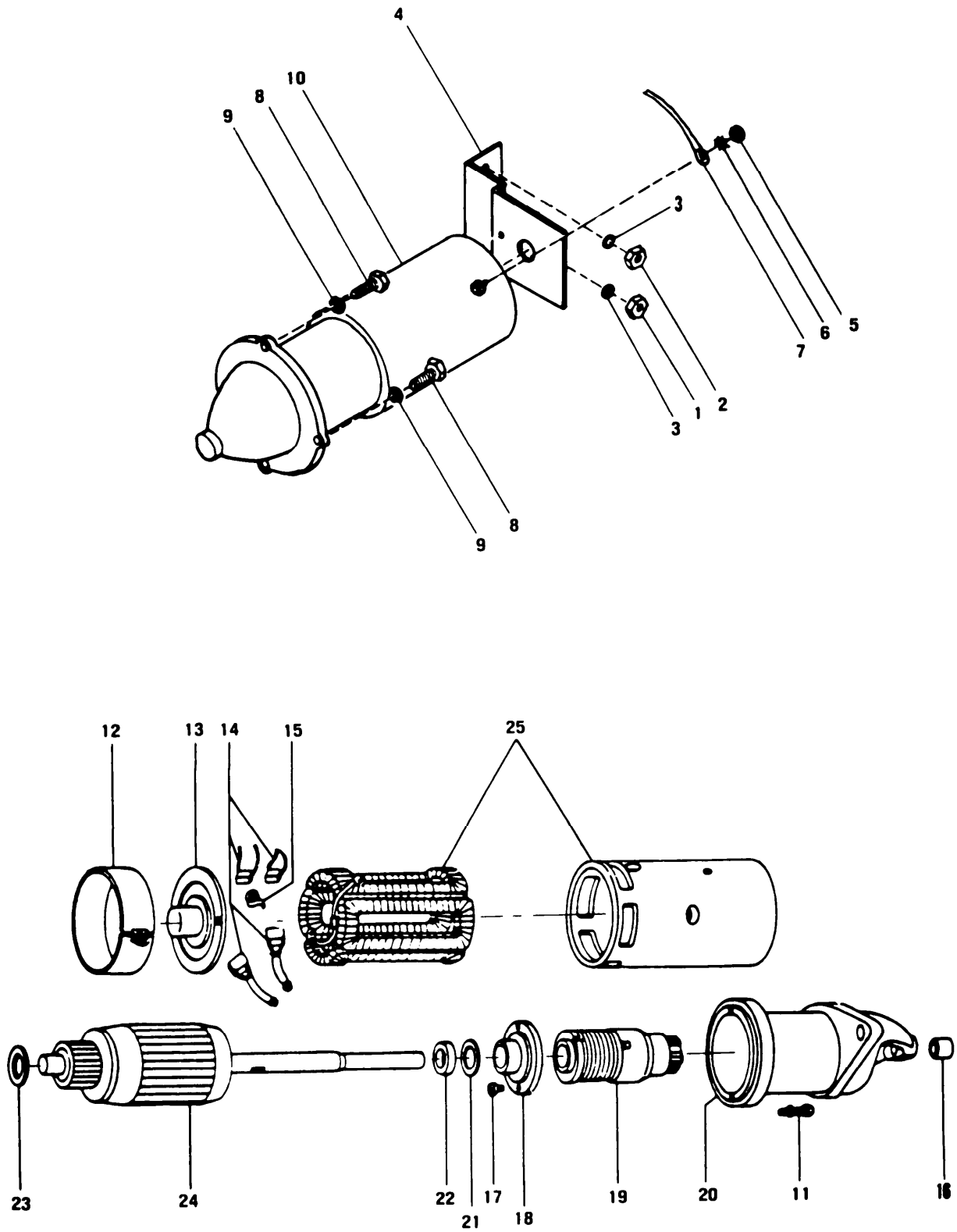


Figure C-42. Starter

SECTION II		TM 55-4920-426-13&P			(5)	(6)
(1)	(2)	(3)	(4)			
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY	
FIGURE C-42. STARTER						
1	XDOZZ	66289	66-PD	NUT.....	1	
2	XDOZZ	66289	667-PD-10	NUT.....	1	
3	XDOZZ	66289	668-PE-4	WASHER.....	2	
4	XDOZZ	66289	661-PG-515-A	BRACKET.....	1	
5	XDOZZ	96906	MS51968-5	NUT, PLAIN, HEXAGON.....	1	
6	XDOZZ	96906	MS35335-34	WASHER, LOCK.....	1	
7	XDOZZ	56529	79009-301-22	CABLE, STARTER.....	1	
8	XDOZZ	66289	666-PB-187	SWITCH, TOGGLE.....	3	
9	XDOZZ	66289	669-PE-5	SWITCH, TOGGLE.....	3	
10	PBOFZ	66289	YA56A	STARTER, ENGINE, ELEC.....	1	
11	XDFZZ	66289	28-MZ-52-8	.SCREW, HEX HD.....	4	
12	XDFZZ	66289	28-MZ-1024AD	.BAND, COVER.....	1	
13	XDFZZ	66289	28-MBP-2002B	.COMMUTATOR END HEAD.....	1	
14	PBFZZ	66289	28MBG2012DS	.BRUSH SET, ELECTRICA.....	1	
15	PBFZZ	66289	28-MZ-19CS	.SPRING, BRUSH.....	1	
16	XDFZZ	66289	28-MZ-364	.BEARING, SLEEVE.....	1	
17	XDFZZ	66289	28-890-822	.SCREW, PKG MTG.....	1	
18	XDFZZ	57733	284-A	.AMMETER.....	1	
19	PBFZZ	72850	480369	.DRIVE, ENGINE, ELECTR.....	1	
20	XDFZZ	66289	28-PS-2330AS	.HOUSING ASSY, PINION.....	1	
21	PBFZZ	66289	28-MZ-359A	.GASKET.....	1	
22	PBFZZ	66289	28XA1481	.SEAL.....	1	
23	XDFZZ	66289	28-P90-539	.WASHER ASSORTMENT.....	1	
24	XDFZZ	66289	28-MBP-3411TT	.ARMATURE ASSY.....	1	
25	XDFZZ	66289	28-MBP-20225	.FRAME&FIELD ASSY.....	1	

END OF FIGURE

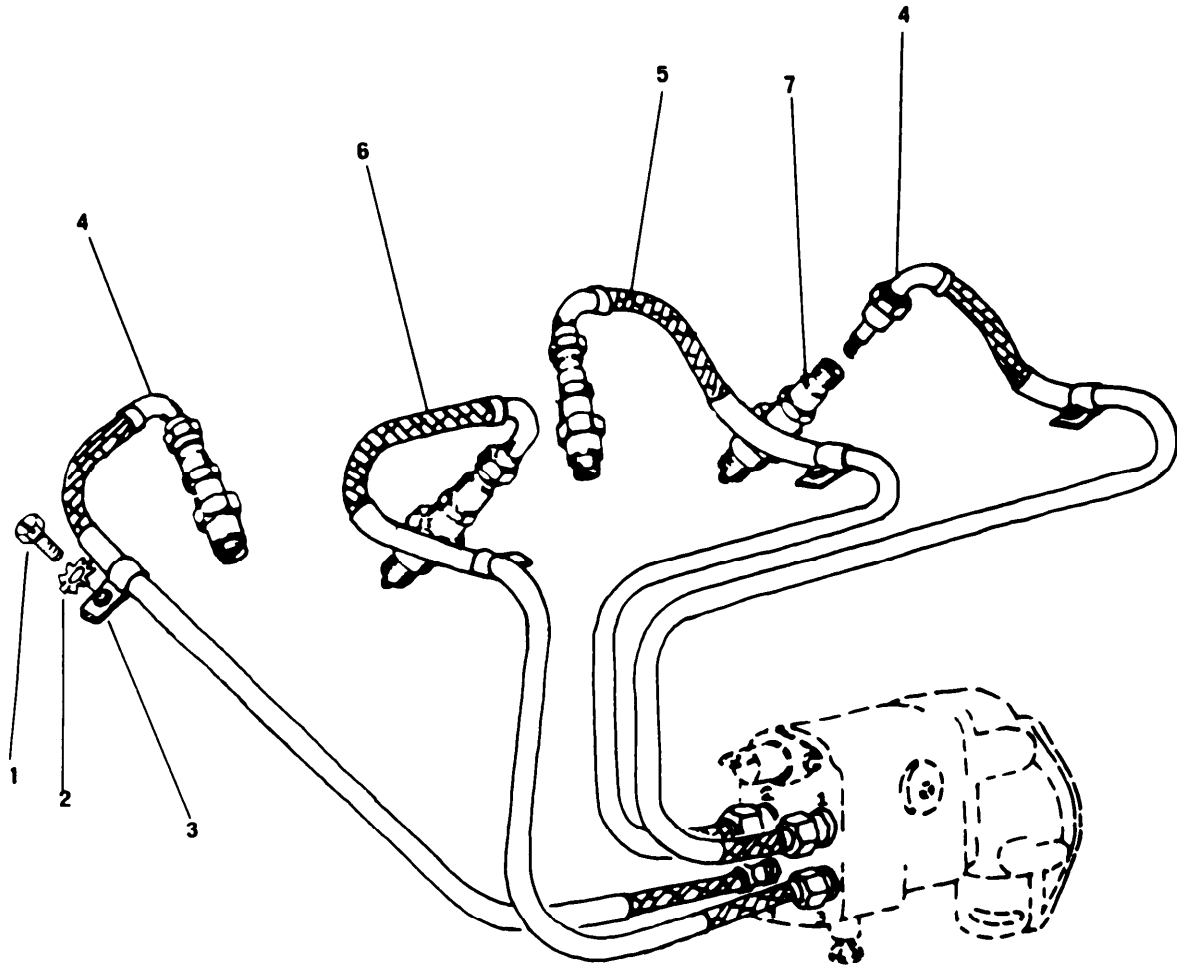


Figure C-43. Ignition Leads



SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY

FIGURE C-43. IGNITION LEADS

1	XDOZZ	66289	XA-33	SCREW.....	4
2	PBOZZ	66289	PE34A	WASHER, LOCK.....	4
3	PBOZZ	66289	PG558	CLAMP, LOOP.....	4
4	PBOZZ	66289	YD300-32	LEAD, IGNITION, ENGIN.....	2
5	PBOZZ	66289	YD300-40	LEAD, IGNITION, ENGIN.....	1
6	PBOZZ	96906	MS51011-10	LEAD, IGNITION, ENGIN.....	1
7	PBOZZ	96906	MS51009-1	SPARK PLUG.....	4

END OF FIGURE

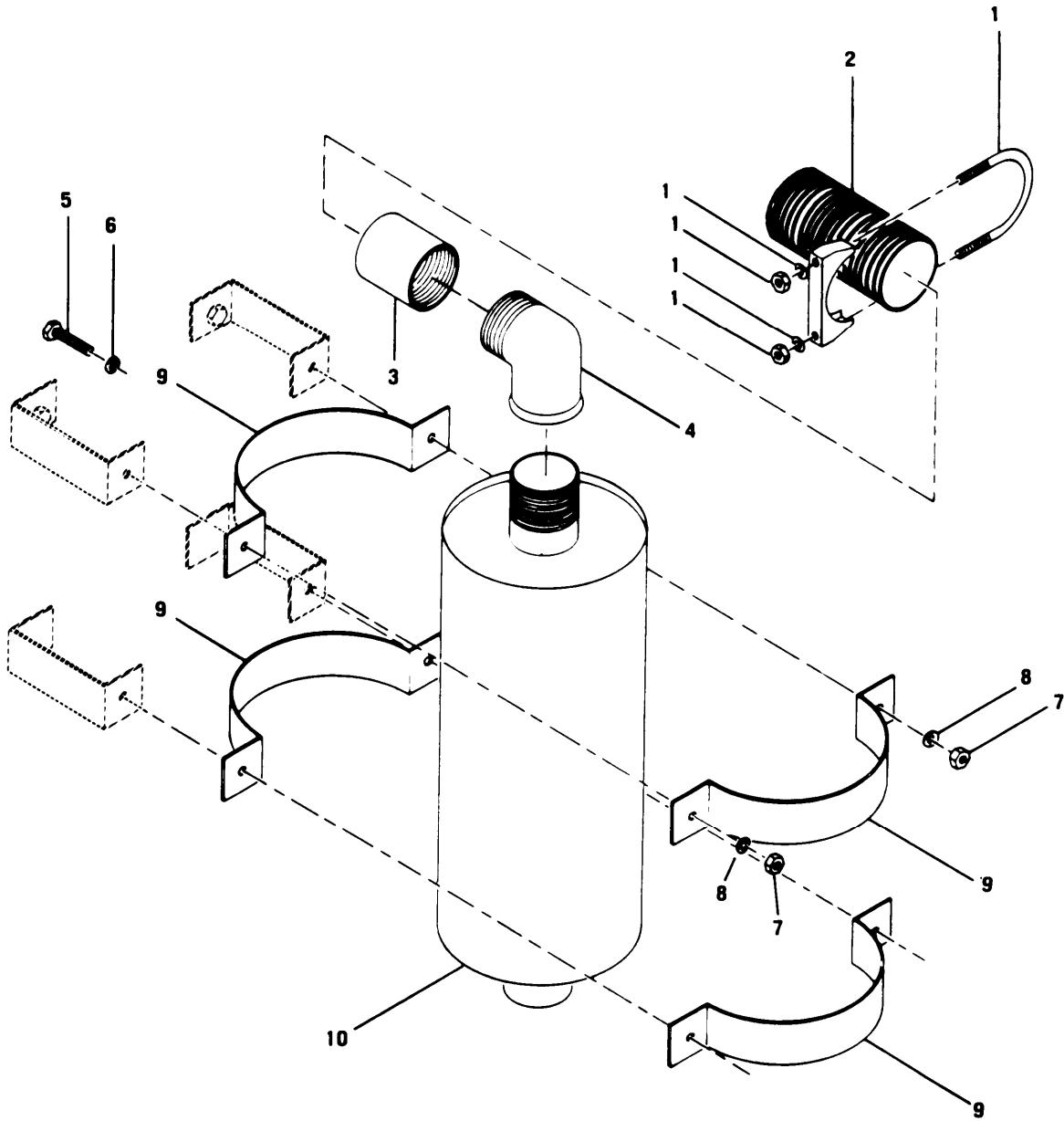


Figure C-44. Muffler

SECTION II			TM 55-4920-426-13&P			
(1)	(2)	(3)	(4)	(5)	(6)	
ITEM NO	SMR CODE	FSCM	PART NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY	
FIGURE C-44. MUFFLER						
1	PBOZZ	79260	MC212	CLAMP, LOOP.....	1	
2	PBOZZ	79260	40006	HOSE, EXHAUST, FLEX.....	1	
3	XDOZZ	56529	79009-101-40	COUPLING, FULL.....	1	
4	XDOZZ	56529	79009-101-41	ELBOW, 90 DEG.....	1	
5	PBOZZ	96906	MS90725-64	SCREW, CAP, HEXAGON H.....	4	
6	PBOZZ	96906	MS27183-14	WASHER, FLAT.....	4	
7	PBOZZ	96906	MS51967-8	NUT, PLAIN, HEXAGON.....	4	
8	PBOZZ	96906	MS35338-46	WASHER, LOCK.....	4	
9	XDOZZ	56529	79009-152-2	CLAMP.....	4	
10	PBOZZ	56529	WD90	MUFFLER, EXHAUST.....	1	

END OF FIGURE

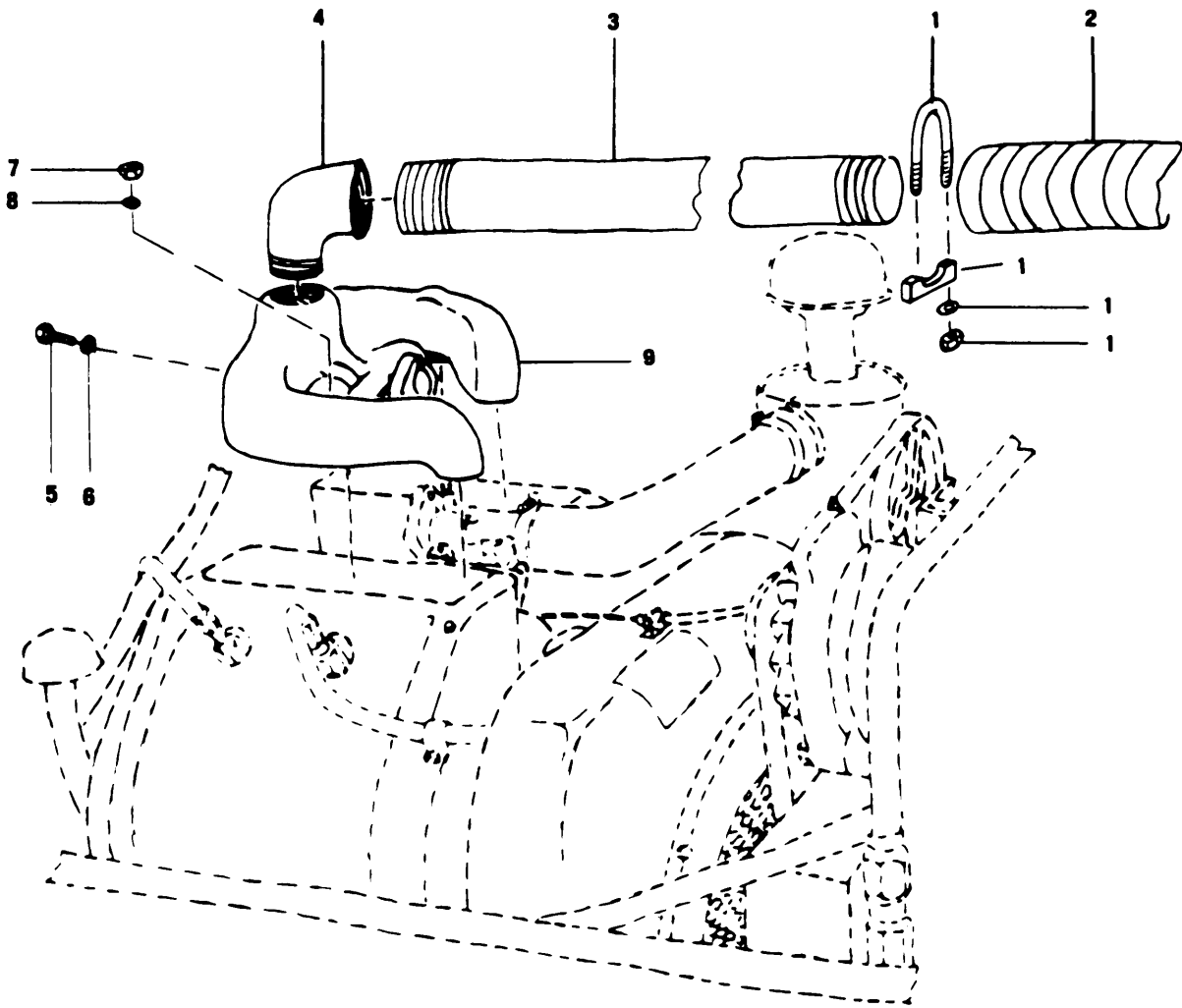


Figure C-45. Intake Manifold

SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
FIGURE C-45. INTAKE MANIFOLD					
1	PBOZZ	79260	MC212	CLAMP, LOOP.....	1
2	PBOZZ	79260	40006	HOSE, EXHAUST, FLEX.....	1
3	XDOZZ	56529	79009-112-29	PIPE, EXHAUST.....	1
4	XDOZZ	56529	79009-112-28	ELBOW, 90 DEG.....	1
5	XDOZZ	66289	XD-19	SCREW, 5/16 IN.-18 X 1 1/4 IN. LG., HEX HD	2
6	XDOZZ	66289	PE-4	WASHER, LOCK, 5/16 IN., SPRING LOCK...	2
7	XDOZZ	66289	PD-207	NUT, 7/16 IN.-20 THREAD, SEEZ-PROOF, HEXAGON STEEL, FOR MANIFOLD TO CYL. BLOCK.....	4
8	XDOZZ	66289	PH-79-A	WASHER, 7/16 I.D. X 1 3/16 IN. O.D. X 1/ 8 IN. THICK FOR MANIFOLD TO CYLINDER BLOCK.....	4
9	PBOZZ	66289	LD-240	MANIFOLD, INTAKE & EXHAUST FOR OPEN ENGINES.....	1

END OF FIGURE

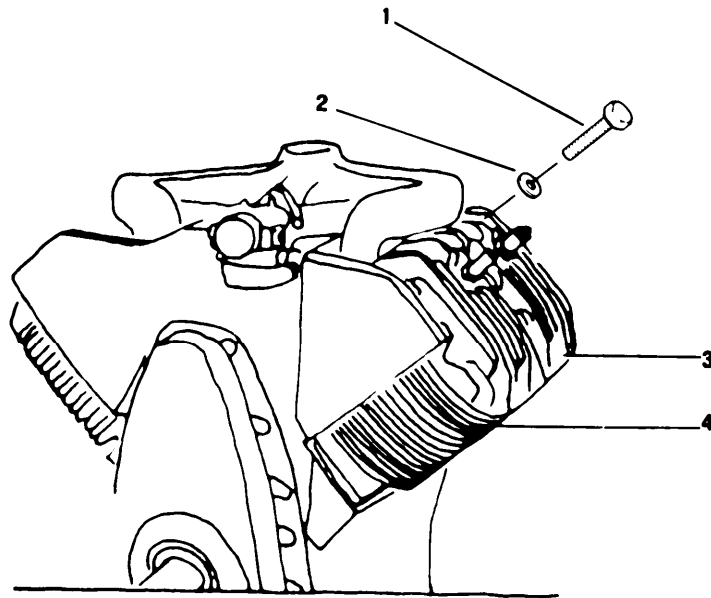


Figure C-46. Cylinder Head

SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
FIGURE C-46. CYLINDER HEAD					
1	XDFZZ	66289	XD-30	SCREW, 3/8 IN. -16 THREAD X 1-1/2 IN. LONG, HEX HEAD (SPECIAL HARDNESS).	34
2	XDFZZ	66289	PH-22	WASHER, 3/8 IN. I.D. X 1 1/16 IN. O.D., PLAIN STEEL.....	34
3	XDFZZ	66289	AB-111	HEAD, CYLINDER.....	2
4	XDFZZ	66289	QD-631	GASKET, CYLINDER HEAD.....	2

END OF FIGURE

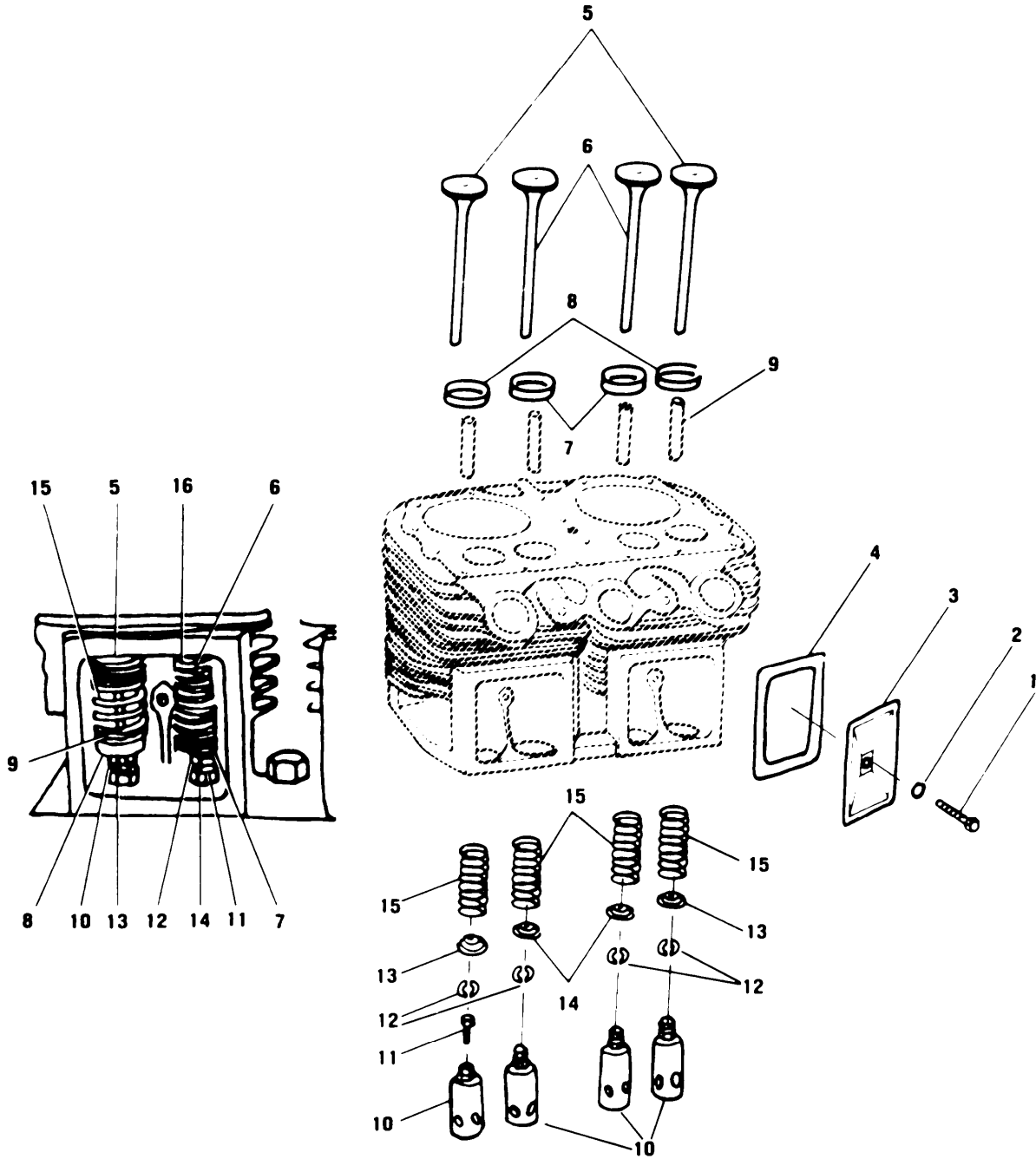


Figure C-47. Valves, Guides and Springs



SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
FIGURE C-47. VALVES, GUIDES AND SPRINGS					
1	XDFZZ	66289	XD-23	SCREW, 5/16 IN. - 18 X 2 IN. LONG, HEX HD FOR VALVE INSPECTION COVER PLATE....	4
2	XDFZZ	66289	PH-14	WASHER, PLAIN, 5/16 IN. COPPER, FOR VALVE INSPECTION COVER.....	4
3	XDFZZ	66289	BH-103	PLATE, INSPECTION, VALVE TAPPET....	4
4	PBFZZ	66289	QD-482	GASKET INSPECTION COVER.....	4
5	XDFZZ	66289	AE-76-D	VALVE, EXHAUST.....	4
6	XDFZZ	66289	AE-76-E	VALVE, INLET.....	4
7	XDFZZ	66289	HG-150-A	INSERT, VALVE SEAT, INLET.....	4
8	XDFZZ	66289	HG-150-D	INSERT, VALVE SEAT, STELLITE EXHAUST	4
9	XDFZZ	66289	AD-42	GUIDE, VALVE STEM, INLET&EXHAUST....	8
10	XDFZZ	66289	F-71	TAPPET, VALVE, WITH ADJUSTING SCREW..	8
11	XDFZZ	66289	PB-169-A	SCREW, ADJUSTING, VALVE SCREW.....	8
12	XDFZZ	66289	AH-9	LOCK, VALVE SPRING R SPRING SEAT....	16
13	XDFZZ	66289	AG-31	ROTOR, ENGINE POPPET VALVE, EXHAUST..	4
14	XDFZZ	66289	AG-26	SEAT, HELICAL COMPRE INLET.....	4
15	XDFZZ	66289	AF-55	SPRING, VALVE, EXHAUST.....	4
16	XDFZZ	66289	AF-52	SPRING, VALVE, INLET.....	4

END OF FIGURE

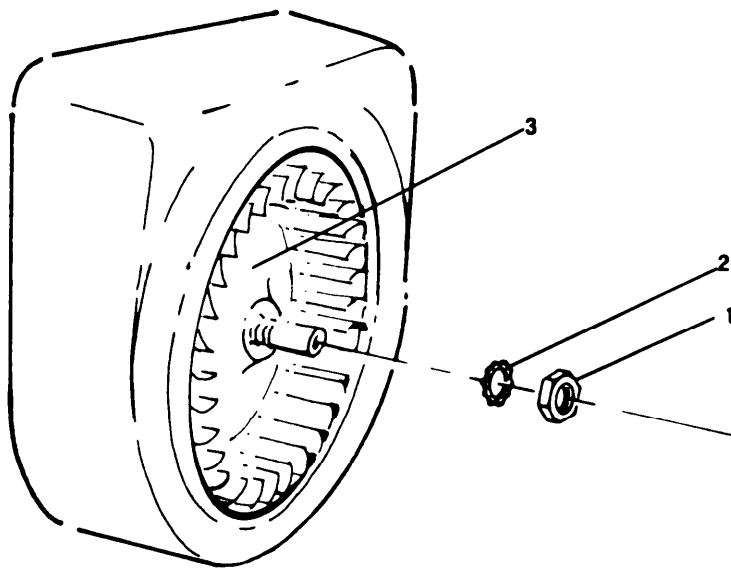


Figure C-48. Flywheel (External)

SECTION II			TM 55-4920-426-13&P		
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
FIGURE C-48. FLYWHEEL {EXTERNAL}					
1	XDFZZ	66289	PD-157	NUT, FLYWHEEL.....	1
2	XDFZZ	66289	PE-65-1	WASHER, LOCK, FLYWHEEL NUT.....	1
3	XDFZZ	66289	NC-146-H	FLYWHEEL, STANDARD.....	1

END OF FIGURE

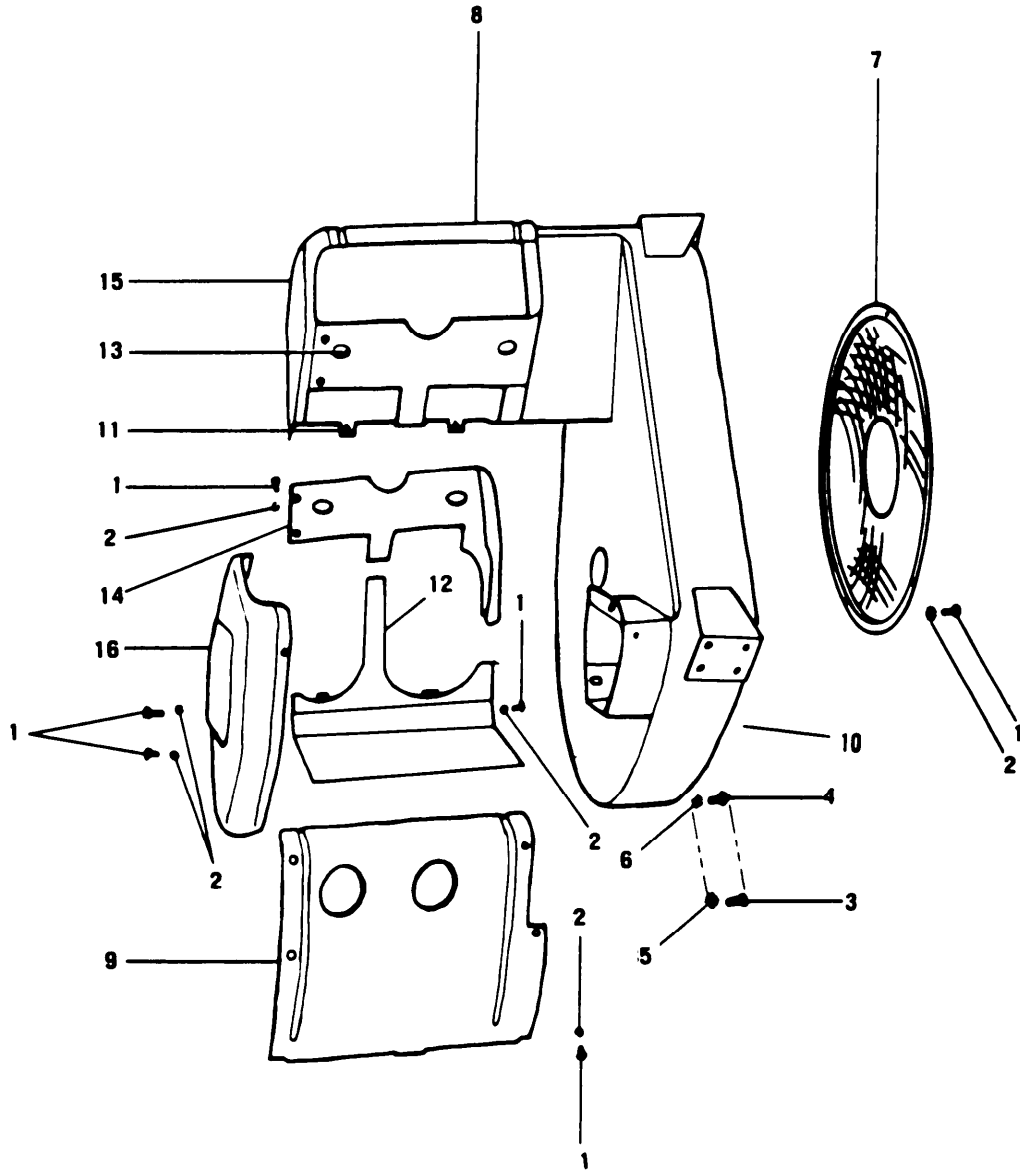


Figure C-49. Air Shrouds and Baffling.

SECTION II			TM 55-4920-426-13&P	(5)	(6)
(1)	(2)	(3)	(4)		
ITEM	SMR		PART	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
NO	CODE	FSCM	NUMBER		
FIGURE C-49. AIR SHROUDS AND BAFFLING					
1	XDOZZ 66289	XA-33		SCREW, 1/4 IN. - 20 X 3/8 IN. LG., HEX HD..	40
2	XDOZZ 66289	PE-3		WASHER, LOCK, 1/4 IN. SPRING LOCK, FOR AIR SHROUDING & FLYWHEEL SHROUD SCREEN	40
3	XDOZZ 66289	XD-171		SCREW, 3/8 IN. - 16 X 1/2 IN. LG., HEX HD, FOR FLYWHEEL SHROUD TO GEAR COVER...	2
4	XDOZZ 66289	XD-172		SCREW, SPECIAL 1/2 IN. LG., 1/8 IN. THICK HEX HD, FOR FLYWHEEL.....	4
5	XDOZZ 66289	PE-5		WASHER, LOCK SPRING LOCK, MED, FLYWHEEL SHROUD TO GEAR COVER.....	2
6	XDOZZ 66289	PE-4		WASHER, LOCK, 5/16 IN. , SPRING - LOCK, FLYWHEEL SHROUD TO GEAR COVER.....	4
7	XDOZZ 66289	SE-48		SCREEN, FLYWHEEL SHROUD.....	1
8	XDOZZ 66289	SE-127		SHROUD, CYLINDER HEAD, R.H. SIDE.....	1
9	XDOZZ 66289	SE-127-A		SHROUD, CYLINDER HEAD, L.H. SIDE.....	1
10	XDOZZ 66289	SE-124		FLYWHEEL SHROUD, FOR STANDARD ENGINE.....	1
11	XDOZZ 66289	SE-126		SHROUD, LOWER CYLINDER, R.H. SIDE....	1
12	XDOZZ 66289	SE-126-A		SHROUD, LOWER CYLINDER, L.H. SIDE....	1
13	XDOZZ 66289	SE-128-B		HEAT DEFLECTOR, R.H. SIDE.....	1
14	XDOZZ 66289	SE-128-C		HEAT DEFLECTOR, L.H. SIDE.....	1
15	XDOZZ 66289	SE-125		SHROUD, REAR COVER, R.H. SIDE.....	1
16	XDOZZ 66289	SE-125-A		SHROUD, REAR COVER, L.H. SIDE.....	1

END OF FIGURE

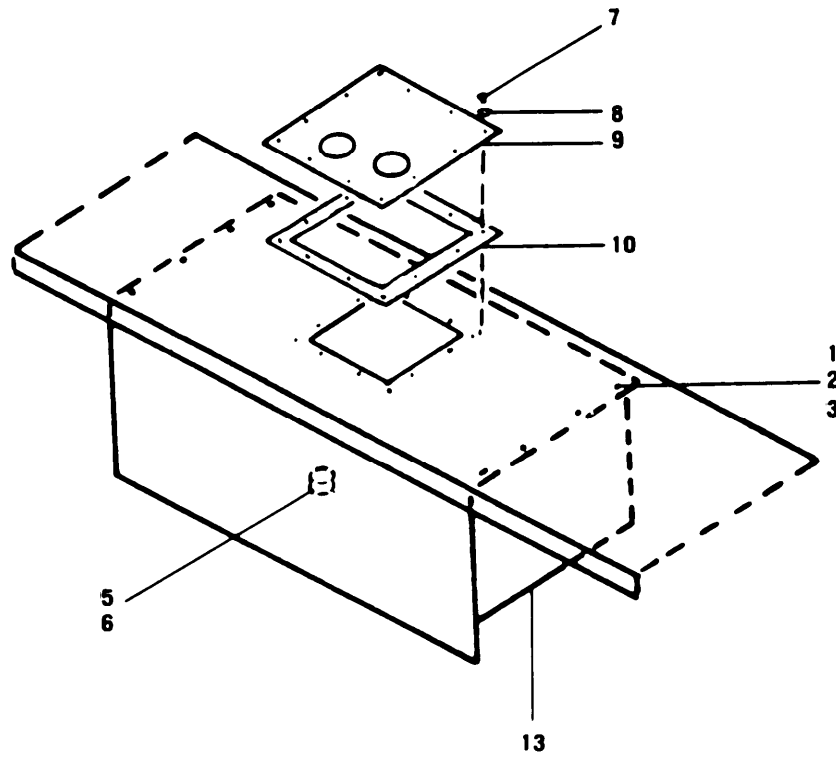
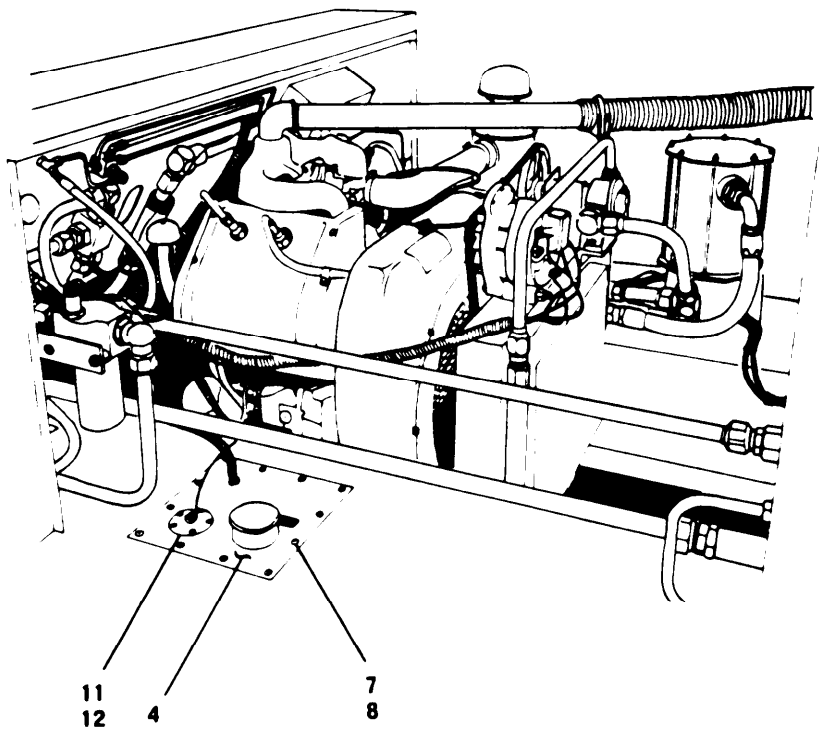


Figure C-50. Fuel Tank

(1) ITEM NO	(2) SMR CODE	II (3) FSCM	TM 55-4920-426-13&P (4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
FIGURE C-50. FUEL TANK					
1	PBOZZ	96906	MS18154-58	SCREW,CAP,HEXAGON H.....	8
2	PBOZZ	96906	MS35338-46	WASHER,LOCK.....	8
3	PBOZZ	96906	MS51967-8	NUT,PLAIN,HEXAGON.....	8
4	XDOFF	56529	79009-127	TANK ASSY,FUEL.....	1
5	XDOZZ	56529	22062-100	.PLUG,VALVE.....	1
6	PBOZZ	96906	MS29512-08	.PACKING,PREFORMED.....	1
7	PBOZZ	96906	MS35206-282	.SCREW,MACHINE.....	12
8	PBOZZ	96906	MS35335-33	.WASHER,LOCK TOOTH.....	12
9	XDOFF	56529	79009-128-3	.COVER.....	1
10	XDOZZ	56529	4508X1/2	.GASKET.....	1
11	PBOZZ	96906	MS51861-65	.SCREW,TAPPING,THREA.....	5
12	PBOZZ	57733	391A	.TRANSMITTER,LIQUID.....	1
13	XDOFF	56529	79009-125	.RESERVOIR.....	1

END OF FIGURE

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TM 55-4920-426-13&P

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5315-00-013-7214	C-8	2	5330-00-263-8033	C-23	2
2910-00-030-1505	C-36	3	5330-00-263-8034	C-19	4
4730-00-050-4208	C-4	11	5305-00-269-3214	C-44	5
6140-00-057-2553	C-10	11	5305-00-269-3240	C-5	4
5315-00-058-9812	C-4	14		C-7	4
5305-00-068-0501	C-10	1	2530-00-276-1811	C-4	8
5305-00-068-0511	C-16	1	5315-00-298-1481	C-4	24
5305-00-071-2081	C-13	7	6210-00-299-4104	C-33	7
6680-00-078-2619	C-24	11		C-33	9
	C-50	12	5935-00-315-9563	C-12	8
5310-00-080-6004	C-16	2	2990-00-353-5956	C-35	1
	C-44	6	5330-00-358-4789	C-35	2
5310-00-081-4219	C-13	3	5330-00-360-8381	C-41	11
2610-00-089-5997	C-7	9	2910-00-407-9272	C-36	5
3110-00-100-0542	C-8	11	5310-00-407-9566	C-13	2
3110-00-100-3537	C-8	10		C-36	2
3110-00-108-9168	C-13	45	2920-00-408-9310	C-42	19
5305-00-115-9526	C-24	1	4720-00-421-1282	C-38	3
	C-50	1	5310-00-424-0881	C-38	5
4730-00-116-6686	C-22	16	6680-00-432-2348	C-33	2
5365-00-133-0904	C-13	37	5305-00-432-4251	C-24	10
4730-00-142-2010	C-38	1		C-50	11
6240-00-143-3173	C-33	4	3110-00-436-7329	C-13	36
	C-33	6	5340-00-453-9127	C-43	3
	C-33	8	5935-00-482-7721	C-12	5
5330-00-146-4050	C-36	4	2920-00-533-3903	C-43	5
5330-00-147-3305	C-47	4	2920-00-533-3911	C-43	4
4730-00-163-0236	C-21	19	5935-00-543-0976	C-12	10
5310-00-176-8112	C-4	6	5340-00-543-3904	C-27	26
5310-00-177-1133	C-8	3		C-27	29
5310-00-187-2329	C-26	6	5365-00-549-6688	C-26	13
3110-00-198-2169	C-8	5	4730-00-561-1544	C-27	27
3110-00-198-2170	C-8	6		C-27	28
5310-00-208-5769	C-27	17	5330-00-579-3163	C-15	4
	C-27	22	5330-00-579-7927	C-15	5
5310-00-209-0786	C-2	3	5310-00-582-5965	C-10	2
	C-24	8		C-30	2
	C-50	8	5310-00-584-5272	C-4	2
5310-00-222-0719	C-4	3		C-5	2
	C-5	3		C-7	3
	C-8	4		C-13	6
5306-00-225-8499	C-13	1	4730-00-585-2309	C-19	1
5306-00-226-4825	C-36	1	5330-00-585-7723	C-15	2
2910-00-226-7083	C-37		4730-00-585-8770	C-27	18
2920-00-246-3297	C-11	2		C-27	23
2920-00-247-6663	C-42	10	5340-00-621-8313	C-2	5
5330-00-252-3915	C-37	17	5999-00-6Z4-9397	C-12	2
5330-00-263-8028	C-26	14	5999-00-626-3538	C-12	3
5330-00-263-8031	C-24	6	4730-00-628-0783	C-22	15
	C-50	6	5310-00-637-9541	C-16	3



## SECTION IV

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## NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NATIONAL STOCK NUMBER INDEX					
STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5310-00-637-9541	C-24	2	2910-00-905-9792	C-39	1
	C-44	8	2925-00-927-1460	C-13	30
	C-50	2	4730-00-930-5392	C-19	15
4730-00-710-5571	C-23	3		C-22	17
3020-00-722-0273	C-13	13	5310-00-950-0039	C-5	6
5310-00-732-0558	C-16	4		C-7	6
	C-24	3	5305-00-959-2682	C-28	1
	C-44	7		C-28	3
	C-50	3	2910-00-961-6200	C-37	1
5310-00-732-0560	C-4	1	5305-00-988-1723	C-1	1
	C-5	1		C-2	2
	C-7	2		C-30	1
5365-00-754-1083	C-16	10		C-32	1
5935-00-760-4964	C-12	11	5305-00-988-1726	C-24	7
5310-00-761-6882	C-2	4		C-50	7
	C-10	3	5305-00-993-1849	C-31	1
	C-30	3	4730-01-007-5232	C-17	22
4820-00-786-7485	C-21		4730-01-011-7736	C-23	1
5930-00-797-1818	C-11	3	5935-01-012-1273	C-12	4
5365-00-803-7305	C-16	8	5365-01-017-2652	C-26	5
4330-00-804-1541	C-26	10	2920-01-019-4705	C-13	10
5330-00-804-5694	C-19	14	5935-01-020-4094	C-12	6
5330-00-804-5695	C-17	25	5340-01-022-4071	C-2	8
4730-00-804-9310	C-27	16	5340-01-023-1194	C-2	7
	C-27	21	4330-01-023-7686	C-25	6
5330-00-805-2966	C-17	23	4730-01-026-0447	C-19	17
	C-19	2	5905-01-044-9112	C-12	13
5330-00-808-0794	C-25	5	5935-01-053-1955	C-12	7
5310-00-809-4058	C-26	2	5310-01-070-2105	C-13	5
5310-00-809-5998	C-6	2	5365-01-081-8266	C-17	24
	C-13	8	5360-01-086-3457	C-9	7
2920-00-810-7082	C-43	7	6685-01-099-4045	C-33	11
2990-00-816-5714	C-34	2	5330-01-100-2073	C-13	39
5330-00-818-4591	C-25	3	5330-01-107-7027	C-8	9
5330-00-819-5111	C-21	18	5330-01-111-4266	C-42	22
2910-00-821-2603	C-39		5360-01-135-4286	C-4	22
4730-00-827-5856	C-19	16	5977-01-151-8742	C-42	14
5330-00-829-6482	C-42	21	4920-01-162-5055	C-27	41
5315-00-839-5822	C-4	17	5210-01-167-5298	C-28	2
5330-00-842-8342	C-25	4	3030-01-169-9690	C-13	9
5315-00-845-7787	C-4	5	492001-172-8773	C-15	1
3110-00-850-4813	C-16	9	6620-01-177-5158	C-23	4
2530-00-872-9338	C-4	7		C-33	12
5310-00-877-5795	C-6	1	2940-01-186-0415	C-40	1
5310-00-877-5796	C-26	1	5310-01-192-1035	C-4	19
2920-00-880-3428	C-41	12	2530-01-192-2347	C-4	18
5310-00-880-7744	C-10	5	4820-01-193-7276	C-28	5
2920-00-887-1289	C-43	6	5310-01-193-8610	C-4	9
5920-00-892-9311	C-14	2	2530-01-194-2373	C-4	12
5315-00-899-1663	C-4	21	5306-01-197-0622	C-8	7

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5940-01-200-3367	C-12	1			
5940-01-200-3368	C-12	16			
6140-01-200-7934	C-10	9			
6140-01-200-7935	C-10	10			
4320-01-201-7527	C-16	15			
3040-01-201-8292	C-34	3			
4820-01-201-8882	C-18				
3040-01-202-0291	C-9	10			
5930-01-202-5959	C-11	5			
	C-25	1			
5310-01-202-6777	C-4	13			
5310-01-202-6785	C-43	2			
5340-01-202-7642	C-44	1			
	C-45	1			
4820-01-202-7733	C-19				
4820-01-202-7734	C-20				
4820-01-202-7859	C-22	1			
2990-01-202-9329	C-44	10			
2530-01-202-9788	C-4	10			
5340-01-202-9972	C-12	18			
5340-01-203-0088	C-10	7			
4720-01-203-0098	C-44	2			
	C-45	2			
5306-01-203-2820	C-10	6			
5330-01-204-5489	C-26	8			
5330-01-204-5490	C-26	12			
4010-01-205-3198	C-27	20			
	C-27	25			
5930-01-205-7375	C-11	1			
5330-01-207-0264	C-15	3			
4820-01-211-3372	C-10	12			
2990-01-211-3393	C-45	9			
6210-01-211-6892	C-33	5			
6685-01-212-5553	C-28	4			
6685-01-212-5554	C-33	13			
6105-01-230-5311	C-11	6			
5310-01-231-1699	C-5	5			
	C-7	5			
	C-8	8			
5940-01-233-0035	C-12	15			
5940-01-233-0036	C-12	14			
4820-01-238-7023	C-17				

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## NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
66289	AB-111		C-46	3
06816	AC-9020-12DR		C-25	7
06816	AC-9020-12D11		C-25	2
01414	AC-9497F-12H	4330-01-023-7686	C-25	6
66289	AD-42		C-47	9
66289	AE-76-D		C-47	5
66289	AE-76-E		C-47	6
66289	AF-52		C-47	16
66289	AF-55		C-47	15
66289	AG-26		C-47	14
66289	AG-31		C-47	13
66289	AH-9		C-47	12
06816	AH9998A12RWL		C-25	
71176	AK74H		C-16	6
88044	AN320-15	5310-00-177-1133	C-8	3
88044	AN320-8	5310-00-176-8112	C-4	6
81352	AN6236-3	4330-00-804-1541	C-26	10
88044	AN924-10		C-19	6
88044	AN924-4	5310-00-208-5769	C-27	17
			C-27	22
88044	AN929A4	4730-00-585-8770	C-27	18
			C-27	23
88044	AN960-2116	5310-00-187-2329	C-26	6
66289	BH-103		C-47	3
92830	CR0420-063-175	5360-01-135-4286	C-4	22
23040	CIUZ3A131A	2530-00-872-9338	C-4	7
20604	EPD1S-BB40		C-11	4
81285	ES416R	2530-00-276-1811	C-4	8
66289	F-71		C-47	10
66289	GD103-1		C-41	3
71176	H-5/8		C-16	5
66289	HG-150-A		C-47	7
66289	HG-150-D		C-47	8
71400	HKP	5920-00-892-9311	C-14	2
58905	JCM-15284-001	4820-01-193-7276	C-28	5
66289	LAA-100		C-38	
66289	LD-240	2990-01-211-3393	C-45	9
66289	LJ-131		C-38	2
66289	LO-159-S1		C-38	9
75665	LO75		C-16	12
75665	LO75-5/8		C-16	11
66289	LQ-32	2910-00-821-2603	C-39	
66289	LQ-37	2910-00-226-7083	C-37	
66289	LQ-46	2910-00-407-9272	C-36	5
79260	MC212	5340-01-202-7642	C-44	1
			C-45	1
96906	MS15003-1	4730-00-050-4208	C-4	11
96906	MS16562-255	5315-00-058-9812	C-4	14
96906	MS16624-1062	5365-00-803-7305	C-16	8
96906	MS16625-1137	5365-00-754-1083	C-16	10
96906	MS171719	5315-00-899-1663	C-4	21

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NATIONAL STOCK NUMBER AND PART NUMBER INDEX

PART NUMBER INDEX

FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS18154-58	5305-00-115-9526	C-24	1
96906	MS21044N4	5310-00-877-5796	C-50	1
96906	MS21044N6	5310-00-950-0039	C-26	1
			C-5	6
96906	MS21044N8	5310-00-877-5795	C-7	6
96906	MS21258-16	5310-00-222-0719	C-6	1
			C-4	3
			C-5	3
96906	MS24325-1		C-8	4
96906	MS24390-4	4730-00-804-9310	C-7	7
			C-27	16
96906	MS24399028		C-27	21
96906	MS24665-289	5315-00-845-7787	C-21	17
96906	MS24665-353	5315-00-839-5822	C-4	5
96906	MS24665-357	5315-00-298-1481	C-4	17
96906	MS24665-359	5315-00-013-7214	C-4	24
96906	MS25331-6	6210-00-299-4104	C-8	2
			C-33	7
96906	MS27183-10	5310-00-809-4058	C-33	9
96906	MS27183-12	5310-00-081-4219	C-26	2
96906	MS27183-14	5310-00-080-6004	C-13	3
			C-16	2
96906	MS27183-18	5310-00-809-5998	C-44	6
96906	MS28774-120		C-6	2
			C-13	8
96906	MS28774-136	5330-00-842-8342	C-19	11
96906	MS28775-020	5330-00-585-7723	C-25	4
96906	MS28775-120		C-15	2
96906	MS28775-136	5330-00-818-4591	C-19	10
96906	MS28775-204	5330-01-207-0264	C-25	3
96906	MS28775-214	5330-00-579-3163	C-15	3
96906	MS28775-2251	5330-00-579-7927	C-15	4
96906	MS28778-16	5330-00-804-5694	C-15	5
96906	MS28778-24	5330-00-819-5111	C-19	14
96906	MS28778-4	5330-00-805-2966	C-21	18
			C-17	23
96906	MS28778-6	5330-00-804-5695	C-19	2
96906	MS28778-8	5330-00-808-0794	C-17	25
96906	MS29512-04	5330-00-263-8028	C-25	5
96906	MS29512-08	5330-00-263-8031	C-26	14
			C-24	6
96906	MS29512-12	5330-00-263-8033	C-50	6
96906	MS29512-16	5330-00-263-8034	C-23	2
96906	MS35000-1	6140-00-057-2553	C-19	4
96906	MS35190-284	5305-00-959-2682	C-10	11
			C-28	1
96906	MS35206-279	5305-00-988-1723	C-28	3
			C-1	1
			C-2	2
			C-30	1
96906	MS35206-282	5305-00-988-1726	C-32	1
			C-24	7

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NATIONAL STOCK NUMBER AND PART NUMBER INDEX

FSCM	PART NUMBER	PART NUMBER INDEX		FIG.	ITEM
			STOCK NUMBER		
<b>96906</b>	MS35206-282		5305-00-988-1726	<b>C-50</b>	<b>7</b>
<b>96906</b>	MS35207-259		5305-00-993-1849	<b>C-31</b>	<b>1</b>
<b>96906</b>	MS35335-33		5310-00-209-0786	<b>C-2</b>	<b>3</b>
				<b>C-24</b>	<b>8</b>
				<b>C-50</b>	<b>8</b>
<b>96906</b>	MS35335-34			<b>C-42</b>	<b>6</b>
<b>96906</b>	MS35338-44		5310-00-582-5965	<b>C-10</b>	<b>2</b>
				<b>C-30</b>	<b>2</b>
<b>96906</b>	MS35338-45		5310-00-407-9566	<b>C-13</b>	<b>2</b>
				<b>C-36</b>	<b>2</b>
<b>96906</b>	MS35338-46		5310-00-637-9541	<b>C-16</b>	<b>3</b>
				<b>C-24</b>	<b>2</b>
				<b>C-44</b>	<b>8</b>
				<b>C-50</b>	<b>2</b>
<b>96906</b>	MS35338-48		5310-00-584-5272	<b>C-4</b>	<b>2</b>
				<b>C-5</b>	<b>2</b>
				<b>C-7</b>	<b>3</b>
				<b>C-13</b>	<b>6</b>
<b>96906</b>	MS35659-3385			<b>C-7</b>	<b>1</b>
<b>96906</b>	MS35826-16D			<b>C-2</b>	<b>1</b>
<b>96906</b>	MS51009-1		2920-00-810-7082	<b>C-43</b>	<b>7</b>
<b>96906</b>	MS51011-10		2920-00-887-1289	<b>C-43</b>	<b>6</b>
<b>96906</b>	MS51086-1		2910-00-905-9792	<b>C-39</b>	<b>1</b>
<b>96906</b>	MS51521A16		4730-00-163-0236	<b>C-21</b>	<b>19</b>
<b>96906</b>	MS51525-A12		4730-00-710-5571	<b>C-23</b>	<b>3</b>
<b>96906</b>	MS51525A12S			<b>C-22</b>	<b>18</b>
<b>96906</b>	MS51525A4		4730-01-007-5232	<b>C-17</b>	<b>22</b>
<b>96906</b>	MS51525B16		4730-00-930-5392	<b>C-19</b>	<b>15</b>
				<b>C-22</b>	<b>17</b>
<b>96906</b>	MS51527A12		4730-01-011-7736	<b>C-23</b>	<b>1</b>
<b>96906</b>	MS51527A4		4730-00-585-2309	<b>C-19</b>	<b>1</b>
<b>96906</b>	MS51529A4		4730-00-116-6686	<b>C-22</b>	<b>16</b>
<b>96906</b>	MS51530A16		4730-00-827-5856	<b>C-19</b>	<b>16</b>
<b>96906</b>	MS51530B4		4730-00-628-0783	<b>C-22</b>	<b>15</b>
<b>96906</b>	MS51840-23		5365-00-549-6688	<b>C-26</b>	<b>13</b>
<b>96906</b>	MS51840-28		5365-01-081-8266	<b>C-17</b>	<b>24</b>
<b>96906</b>	MS51840-30		5365-01-017-2652	<b>C-26</b>	<b>5</b>
<b>96906</b>	MS51861-65		5305-00-432-4251	<b>C-24</b>	<b>10</b>
				<b>C-50</b>	<b>11</b>
<b>96906</b>	MS51891-10			<b>C-19</b>	<b>3</b>
<b>96906</b>	MS51967-14		5310-01-070-2105	<b>C-13</b>	<b>5</b>
<b>96906</b>	MS51967-2		5310-00-761-6882	<b>C-2</b>	<b>4</b>
				<b>C-10</b>	<b>3</b>
				<b>C-30</b>	<b>3</b>
<b>96906</b>	MS51967-5		5310-00-880-7744	<b>C-10</b>	<b>5</b>
<b>96906</b>	MS51967-8		5310-00-732-0558	<b>C-16</b>	<b>4</b>
				<b>C-24</b>	<b>3</b>
				<b>C-44</b>	<b>7</b>
				<b>C-50</b>	<b>3</b>
<b>96906</b>	MS51968-14		5310-00-732-0560	<b>C-4</b>	<b>1</b>
				<b>C-5</b>	<b>1</b>

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96906	MS51968-14	5310-00-732-0560	C-7	2
96906	MS51968-5		C-42	5
96906	MS90725-34	5306-00-225-8499	C-13	1
96906	MS90725-5	5305-00-068-0501	C-10	1
96906	MS90725-64	5305-00-269-3214	C-44	5
96906	MS90727-64	5305-00-269-3240	C-5	4
			C-7	4
96906	MS90728-125	5305-00-071-2081	C-13	7
96906	MS90728-32	5306-00-226-4825	C-36	1
96906	MS90728-62	5305-00-068-0511	C-16	1
66289	NC-146-H		C-48	3
30485	NO.5SS	4010-01-205-3198	C-27	20
			C-27	25
30485	NO.6SS		C-27	19
			C-27	24
66289	PB-169-A		C-47	11
66289	PC110		C-41	10
66289	PD-157		C-48	1
66289	PD-207		C-45	7
66289	PD11		C-41	9
66289	PD198	5310-00-424-0881	C-38	5
66289	PD79		C-41	8
66289	PE-3		C-49	2
66289	PE-4		C-45	6
			C-49	6
66289	PE-5		C-49	5
66289	PE-65-1		C-48	2
66289	PE34A	5310-01-202-6785	C-43	2
66289	PE45		C-41	2
66289	PE46A		C-41	5
66289	PE56A		C-41	4
66289	PE76A		C-41	7
66289	PG-512		C-38	6
66289	PG558	5340-00-453-9127	C-43	3
66289	PH-14		C-47	2
66289	PH-22		C-46	2
66289	PH-79-A		C-45	8
66289	QC-12-A	5330-00-252-3915	C-37	17
66289	QD-482	5330-00-147-3305	C-47	4
66289	QD-538-A	5330-00-146-4050	C-36	4
66289	QD-631		C-46	4
66289	QD615A	5330-00-358-4789	C-35	2
66289	QD616	5330-00-360-8381	C-41	11
78357	RAV50-H12S-50A	4820-01-202-7859	C-22	1
06816	RC991CZ097H	5930-01-202-5959	C-11	5
			C-25	1
66289	RV52S4	2940-01-186-0415	C-40	1
38443	R10ZZ	3110-00-850-4813	C-16	9
16954	R4S03-515-12A	4820-01-238-7023	C-17	
14726	R8002B		C-12	17
66289	SE-124		C-49	10

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FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
66289	SE-125		C-49	15
66289	SE-125-A		C-49	16
66289	SE-126		C-49	11
66289	SE-126-A		C-49	12
66289	SE-127		C-49	8
66289	SE-127-A		C-49	9
66289	SE-128-B		C-49	13
66289	SE-128-C		C-49	14
66289	SE-48		C-49	7
05693	SSP54		C-2	6
16954	S16-09768		C-17	6
16954	S16-39148		C-17	2
			C-29	6
16954	S16-63129		C-17	21
16327	TEEL1P775	4320-01-201-7527	C-16	15
72794	TL100-A	5340-01-022-4071	C-2	8
72794	TL100-5	5340-01-023-1194	C-2	7
66289	T84D1	2990-00-353-5956	C-35	1
66289	VE-527-WV	3040-01-201-8292	C-34	3
66289	VE435E	2990-00-816-5714	C-34	2
66289	VG4D(SPEC.NO.418 964)		C-34	1
56529	WD90	2990-01-202-9329	C-44	10
66289	XA-33		C-43	1
			C-49	1
66289	XA-74		C-38	4
66289	XD-171		C-49	3
66289	XD-172		C-49	4
66289	XD-19		C-45	5
66289	XD-23		C-47	1
66289	XD-30		C-46	1
66289	XD33		C-41	6
66289	YA56A	2920-00-247-6663	C-42	10
66289	YD300-32	2920-00-533-3911	C-43	4
66289	YD300-40	2920-00-533-3903	C-43	5
66289	YL355-5		C-41	1
66289	Y98C	2920-00-880-3428	C-41	12
81348	ZZ-T-410A/GP1/6. 00/6.90-9/C/PLRB		C-7	8
79960	0-11532	2910-00-961-6200	C-37	1
27264	02-09-1103	5999-00-624-9397	C-12	2
27264	02-09-2103	5999-00-626-3538	C-12	3
92867	02182600		C-9	
27264	03-09-1022	5935-01-012-1273	C-12	4
27264	03-09-1032	5935-01-020-4094	C-12	6
27264	03-09-1042	593500-315-9563	C-12	8
27264	03-09-1126	5935-00-543-0976	C-12	10
27264	03-09-2022	5935-00-482-7721	C-12	5
27264	03-09-2032	5935-01-053-1955	C-12	7
27264	03-09-2042		C-12	9
27264	03-09-2121	5935-00-760-6964	C-12	11

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FSCM	PART NUMBER		FIG.	ITEM
16954	036-12289		C-17	5
16954	036-12819		C-17	20
16954	036-21767		C-17	4
16954	036-25528		C-17	19
16954	036-27548		C-17	8
16954	036-38444		C-17	17
16954	036-38448		C-17	15
16954	036-38464		C-17	18
16954	036-38563		C-17	10
16954	036-38910		C-17	7
14892	0611804		C-8	1
56529	0616063	5306-01-197-0622	C-8	7
15801	08-810211-XXX	6105-01-230-5311	C-11	6
31211	1-10		C-13	42
31211	1-11		C-13	43
31211	1-24		C-13	23
31211	10-111	2920-01-019-4705	C-13	10
50184	10724S1	4920-01-162-5055	C-27	41
31211	11-21	3110-00-436-7329	C-13	36
31211	11-23	3110-00-108-9168	C-13	45
31211	11-25	5330-01-100-2073	C-13	39
31211	11-3	5365-00-133-0904	C-13	37
72582	111625	4730-00-142-2010	C-38	1
31211	12-6		C-13	46
31211	13-5		C-13	44
72619	135-0410-1432-30	6210-01-211-6892	C-33	5
	1			
31211	14-1		C-13	47
94222	14-10-11-11	5340-00-621-8313	C-2	5
31211	14-5		C-13	32
59730	14RB-38X	5940-01-233-0035	C-12	15
59730	14RB8FLX	5940-01-233-0036	C-12	14
53907	L400X2 1/2	6685-01-212-5554	C-33	13
31211	15-1		C-13	40
31211	15-2		C-13	24
31211	15-3		C-13	26
31211	15-4		C-13	22
71400	15AMP		C-14	1
60038	15123	3110-00-198-2169	C-8	5
60038	15245	3110-00-198-2170	C-8	6
70040	1537421	2910-00-030-1505	C-36	3
00624	155S7-12D	4730-00-561-1544	C-27	27
			C-27	28
31211	16-42		C-13	31
08806	1820	6240-00-143-3173	C-33	4
			C-33	6
			C-33	8
71437	186NSX1/2		C-29	2
31211	20-136		C-13	11
31211	20-146		C-13	20
31211	20-2		C-13	18



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FSCM	PART NUMBER	PART NUMBER INDEX		FIG.	ITEM
			STOCK NUMBER		
31211	20-223			C-13	15
31211	20-234			C-13	16
31211	20-25			C-13	41
31211	20-3			C-13	34
31211	20-32			C-13	27
31211	20-33			C-13	19
31211	20-34			C-13	25
31211	20-5			C-13	12
31211	20-62			C-13	21
31211	20-7			C-13	38
31211	20-92			C-13	35
31211	20-99			C-13	14
56529	20050-6			C-19	9
56529	20050-8			C-6	4
03773	206SFAS30-0-150	5210-01-167-5298		C-28	2
01276	2062-16-12S	4730-01-026-0447		C-19	17
80201	21208	5330-01-107-7027		C-8	9
66289	22-P17244			C-38	8
66289	22-P2706			C-38	7
56529	22025-100	4820-01-202-7733		C-19	
56529	22026-1			C-19	12
56529	22027-1			C-19	13
56529	22028-1			C-19	8
56529	22029-1			C-19	5
56529	22039-1			C-19	7
56529	22045-1			C-8	12
56529	22046-100			C-4	15
56529	22046-200			C-4	16
56529	22048-1			C-4	26
56529	22049-2			C-4	23
56529	22052-1			C-26	4
56529	22062-100			C-24	5
				C-50	5
56529	22066-200			C-26	
56529	22068-100			C-26	16
56529	22069-2			C-26	3
56529	22070-1			C-26	9
56529	22070-2			C-26	11
56529	22070-3			C-26	7
56529	22073-1			C-26	15
56529	22074-1	5330-01-204-5490		C-26	12
56529	22074-2	5330-01-204-5489		C-26	8
56529	22092-100	6620-01-177-5158		C-23	4
				C-33	12
56529	23001-100			C-4	27
56529	23003-1	2530-01-194-2373		C-4	12
56529	23003-100	2530-01-192-2347		C-4	18
56529	23003-2			C-4	25
56529	23004-100			C-5	11
56529	23006-1			C-6	5
56529	23008-1	2530-01-202-9788		C-4	10

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FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
<b>56529</b>	23013-100		C-4	20
<b>20076</b>	23015-1	<b>5310-01-231-1699</b>	C-5	5
			C-7	5
			C-8	8
<b>56529</b>	23015-2	<b>5310-01-202-6777</b>	C-4	13
<b>56529</b>	23015-3	<b>5310-01-192-1035</b>	C-4	19
<b>56529</b>	23015-5	<b>5310-01-193-8610</b>	C-4	9
<b>56529</b>	23016-100		C-4	4
			C-8	
<b>56529</b>	23016-200		C-5	7
<b>56529</b>	23017-100		C-4	
<b>56529</b>	23018-100		C-5	
<b>56529</b>	23020-3		C-9	
<b>56529</b>	23020-4		C-6	3
<b>56529</b>	23020-6		C-9	
<b>94990</b>	24HT3A1	<b>6680-00-432-2348</b>	C-33	2
<b>24161</b>	24232	<b>4720-00-421-1282</b>	C-38	3
<b>60038</b>	24720	<b>3110-00-100-0542</b>	C-8	11
<b>60038</b>	24780	<b>3110-00-100-3537</b>	C-8	10
<b>66289</b>	28-090-822		C-42	17
<b>66289</b>	28-MBP-20028		C-42	13
<b>66289</b>	28-MBP-20225		C-42	25
<b>66289</b>	28-MBP-3411TT		C-42	24
<b>66289</b>	28-MZ-1024AD		C-42	12
<b>66289</b>	28-MZ-19CS		C-42	15
<b>66289</b>	28-MZ-359A	<b>5330-00-829-6482</b>	C-42	21
<b>66289</b>	28-MZ-364		C-42	16
<b>66289</b>	28-MZ-52-B		C-42	11
<b>66289</b>	28-PS-2330AS		C-42	20
<b>66289</b>	28-P90-539		C-42	23
<b>66289</b>	28MBG2012DS	<b>5977-01-151-8742</b>	C-42	14
<b>66289</b>	28XA1481	<b>5330-01-111-4266</b>	C-42	22
<b>57733</b>	284-A		C-42	18
<b>57733</b>	284A		C-33	1
<b>57733</b>	284AE	<b>6685-01-099-4045</b>	C-33	11
<b>57733</b>	284H		C-33	3
			C-33	10
<b>00779</b>	29249	<b>5940-01-200-3368</b>	C-12	16
<b>31211</b>	3-13		C-13	29
<b>31211</b>	3-2	<b>2925-00-927-1460</b>	C-13	30
<b>31211</b>	3-5		C-13	28
<b>14892</b>	310775-33/8BC		C-5	10
			C-9	1
<b>14892</b>	310959		C-9	8
<b>14892</b>	310963		C-9	5
<b>16954</b>	312-23104		C-17	9
<b>14892</b>	312853		C-9	9
<b>14892</b>	317968		C-5	9
<b>14892</b>	3206471	<b>3040-01-202-0291</b>	C-9	10
<b>14892</b>	324378		C-9	11
<b>16954</b>	359-15220		C-17	1

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57733	391A	6680-00-078-2619	C-24	11
			C-50	12
79260	40006	4720-01-203-0098	C-44	2
			C-45	2
14892	4150098	5360-01-086-3457	C-9	7
16954	431-90204		C-17	11
38056	45-1377RT-SXPFD -02B-6000	6685-01-212-5553	C-28	4
56529	4508X1/2		C-24	13
			C-50	10
86768	458-12S-6	4820-01-201-8882	C-18	
86768	458-12S-6-1		C-18	1
86768	458-12S-6-2		C-18	2
86768	458-12S-6-3		C-18	3
86768	458-12S-6-4		C-18	4
86768	458-12S-6-5		C-18	5
86768	458-12S-6-6		C-18	6
72850	480369	2920-00-408-9310	C-42	19
16954	488-35001		C-17	14
31211	5-182		C-13	17
16327	5X425	5940-01-200-3367	C-12	1
13445	551800	5930-00-797-1818	C-11	3
13445	551805	5930-01-205-7375	C-11	1
75037	560		C-12	12
97576	57XL40		C-24	12
73808	6-00X9	2610-00-089-5997	C-7	9
93072	622262		C-5	8
			C-9	6
66289	66-PD		C-42	1
66289	661-PG-515-A		C-42	4
66289	666-PB-187		C-42	8
66289	667-PD-10		C-42	2
66289	668-PE-4		C-42	3
66289	669-PE-5		C-42	9
16954	671-00012		C-17	3
16954	691-00013		C-17	12
16954	691-00018		C-17	16
16954	691-00022		C-17	13
31211	7-10	3020-00-722-0273	C-13	13
31211	7-8		C-13	33
86768	744-24D2	4820-00-786-7485	C-21	
56529	79009-101-40		C-44	3
56529	79009-101-41		C-44	4
56529	79009-112-28		C-45	4
56529	79009-112-29		C-45	3
56529	79009-116-1		C-3	1
56529	79009-118-1		C-1	2
56529	79009-121	4820-01-211-3372	C-10	12
56529	79009-122-1		C-10	4
56529	79009-123-1	5340-01-203-0088	C-10	7

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FSCM	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
56529	79009-123-2	5306-01-203-2820	C-10	6
56529	79009-124		C-24	14
56529	79009-125		C-50	13
56529	79009-126		C-24	4
56529	79009-127		C-50	4
56529	79009-128-1		C-24	9
56529	79009-128-3		C-50	9
56529	79009-130-3		C-13	4
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56529	79009-202-4		C-16	19
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56529	79009-202-6		C-16	21
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56529	79009-202-8		C-16	23
56529	79009-202-9		C-16	24
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56529	79009-203-11		C-20	9
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SECTION IV

TM 55-4920-426-13&P

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56529	79009-205-9			C-22	13
56529	79009-206-1			C-21	1
56529	79009-206-10			C-21	14
56529	79009-206-11			C-21	13
56529	79009-206-12			C-21	12
56529	79009-206-13			C-21	11
56529	79009-206-14			C-21	10
56529	79009-206-15			C-21	9
56529	79009-206-16			C-21	8
56529	79009-206-2			C-21	2
56529	79009-206-3			C-21	3
56529	79009-206-4			C-21	4
56529	79009-206-5			C-21	5
56529	79009-206-6			C-21	6
56529	79009-206-7			C-21	7
56529	79009-206-8			C-21	16
56529	79009-206-9			C-21	15
56529	79009-210			C-27	30
56529	79009-211			C-27	31
56529	79009-212			C-27	32
56529	79009-213			C-27	33
56529	79009-214			C-27	34
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56529	79009-216-17			C-29	1
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56529	79009-219			C-27	38
56529	79009-221			C-27	1
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56529	79009-225			C-27	4
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56529	79009-229			C-27	8
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56529	79009-233			C-27	12
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56529	79009-235			C-27	14
56529	79009-236			C-27	15
56529	79009-237			C-27	39
56529	79009-238			C-27	40
56529	79009-300-1			C-12	19
56529	79009-301-1			C-10	8
56529	79009-301-2	6140-01-200-7934		C-10	9
56529	79009-301-22			C-42	7
56529	79009-301-3	6140-01-200-7935		C-10	10
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56529	79009-403			C-29	4

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

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56529	79009-404			C-29	5
				C-29	8
57733	82504			C-40	2
57733	829525-2		5905-01-044-9112	C-12	13
16956	8432		5340-01-202-9972	C-12	18
27005	844088		4920-01-172-8773	C-15	1
24161	8560		3030-01-169-9690	C-13	9
13445	90030		2920-00-246-3297	C-11	2
14892	900542			C-9	4
14892	901050			C-9	3
14892	901626			C-9	2
18876	9081170		5340-00-543-3904	C-27	26
				C-27	29
66289	93-CR37-1X1			C-37	8
66209	93-C120-18			C-37	13
66289	93-C131-4x2			C-37	2
66289	93-C142-55			C-37	14
66289	93-C46-49			C-37	6
66289	93-C81-17-35			C-37	11
66289	93-T315S5-4			C-37	7
				C-37	9
66289	93-T48-9			C-37	5
66289	93-T52-57			C-37	4
66289	93-T56-20			C-37	10
66289	93-156-23			C-37	16
66289	93-T56-24			C-37	15
66289	93-T56-73			C-37	12
66289	93-T57-4			C-37	3

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**APPENDIX D**


---

**EXPENDABLE SUPPLIES AND MATERIALS LIST**


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**D-1 SCOPE**
**D-1**

This appendix lists expendable supplies and materials you will need to operate and maintain the Hydraulic Test Stand, Model D5-D. 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**
**D-2**

- a. Column (1) – Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., “Use cleaning compound, item 5, App. D”).
- b. Column (2) – Level. This column identifies the lowest level of maintenance that requires the listed item.
  - C — Operator/Crew
  - O — Organizational Maintenance
  - F — Direct Support Maintenance
  - H — General Support Maintenance
- c. Column (3) – National Stock Number. This is the National Stock Number assigned to the item. Use it to request or requisition the item.
- d. Column (4) – Description. Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the Federal Supply Code for Manufacturer (FSCM) in parentheses followed by the part number.
- e. Column (5) – Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea. in. pr.). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

Explanation of Columns - continued

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
1	o	9150-00-186-6681	Engine Oil: SAE 30, MIL-L-2104	QT
	o	9150-00-186-6668	SAE 10, MIL-L-2104	GL
	o	9150-00-402-4478	SAE 5, MIL-L-46167	QT
2	0		Lubrication oil, 2190	QT
3	o	9150-00-252-6383	Hydraulic Fluid: MIL-H-5606	QT
	o	9150-00-149-7431	MIL-H-83282	QT
4	0	8010-00-286-7758	Paint, TTE-489E, Type 1, Class A, air dry enamel, color yellow. Fed-std-595, 13538	QT
5	0		High pressure filter P/N AC-9497-12H(06816)	EA
6	0		Low pressure filter P/N AN 6236-3 (88044)	EA
7	0	6850-00-285-8011	Cleaning solvent, PD-680	GL
8	0		GAA Grease	PT



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21-2	step 1C	21-2	

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"B" Ready Relay K11 is shown with two #9 contacts. That contact which is wired to pin 8 of relay K16 should be changed to contact #10.

Reads: Multimeter B indicates 600 K ohms to 9000 K ohms.

Change to read: Multimeter B indicates 600 K ohms minimum.

Reason: Circuit being checked could measure infinity. Multimeter can read above 9000 K ohms and still be correct.

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Commander  
US Army Aviation Systems Command  
ATTN: AMSAV-MC  
4300 Goodfellow Boulevard  
St. Louis, MO 63120-1798

TEAR ALONG PERFORATED LINE

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS



**SOMETHING WRONG WITH THIS PUBLICATION?**

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FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER  
TM 55-4920-426-13&P

PUBLICATION DATE  
24 June 1988

PUBLICATION TITLE  
Gasoline Engine Driven Hydraulic Systems Test Stand.

BE EXACT PIN-POINT WHERE IT IS

PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

PRINTED NAME, GRADE OR TITLE AND TELEPHONE NUMBER

SIGN HERE

DA FORM 1 JUL 79 2028-2

PREVIOUS EDITIONS ARE OBSOLETE.  
DRSTS-M Overprint 2, 1 Nov 80.

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TEAR ALONG PERFORATED LINE

FILL IN YOUR  
UNIT'S ADDRESS

FOLD BACK

DEPARTMENT OF THE ARMY

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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 = 3,280.8 feet

## Weights

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

## Liquid Measure

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

## Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch  
 1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches  
 1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet  
 1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet  
 1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres  
 1 sq. kilometer = 100 sq. hectometers = .386 sq. mile -

## Cubic Measure

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

## Approximate Conversion Factors

<i>To change</i>	<i>To</i>	<i>Multiply by</i>	<i>To change</i>	<i>To</i>	<i>Multiply by</i>
inches	centimeters	2.540	ounce-inches	newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29.573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	newton-meters	1.356	metric tons	short tons	1.102
pound-inches	newton-meters	.11296			

## Temperature (Exact)

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