This copy is a reprint which includes current pages from Change 1.

TM 55-2835-205-23

TECHNICAL MANUAL

AVIATION UNIT AND INTERMEDIATE MAINTENANCE

GAS TURBINE ENGINE
(AUXILIARY POWER UNIT – APU)
MODEL T-62T-2B
PART NUMBER 160150-100
NSN 2835-01-092-2037

HEADQUARTERS, DEPARTMENT OF THE ARMY
14 MARCH 1983

CHANGE

NO. 2

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 10 February 1997

AVIATION UNIT AND INTERMEDIATE MAINTENANCE

GAS TURBINE ENGINE
(AUXILIARY POWER UNIT - APU)
MODEL T-62T-2B
PART NUMBER 160150-100
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TM 55-2835-205-23, 14 March 1983, is changed as follows:

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

Remove pages	Insert pages
i and ii	i and ii
1-15 and 1-16	1-15 and 1-16
2-55 and 2-56	2-55 and 2-56
C-1 and C-2	C-1 and C-2

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

By Order of the Secretary of the Army:

DENNIS J. REIMER
General, United States Army
Chief of Staff

Official:

JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army
03384

DISTRIBUTION:

To be distributed in accordance with DA Form 12-31-E, block no. 1176, AVUM and AVIM maintenance requirements for TM 55-2835-205-23.

CHANGE NO. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 31 March 1992

AVIATION UNIT AND INTERMEDIATE MAINTENANCE

GAS TURBINE ENGINE
(AUXILIARY POWER UNIT -APU)

MODEL T-62T-2B
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1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

Remove pages	Insert pages
2-51 through 2-56	2-51 through 2-56
2-147 and 2-148	2-147 and 2-148

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

By Order of the Secretary of the Army:

GORDON R.SULLIVAN
General,United States Army
Chief of Staff

Official:

Administrative Assistant to the
Secretary of the Army
01236

DISTRIBUTION:
To be distributed in accordance with DA Form 12-31-E, block no. 1176, AVUM and AVIM maintenance requirements for TM 55–2835-205–23.

WARNING

TOXIC AND FLAMMABLE FUELS

Turbine fuels are flammable. They cause drying and irritation of skin or eyes.

- Handle only in well-ventilated areas away from heat and open flame.
- Store in approved metal safety containers.
- Avoid prolonged or repeated contact with skin.
- DO NOT take internally.
- Wash contacted areas of skin after handling.
- GET IMMEDIATE MEDICAL ATTENTION FOR EYES AND IRRITATED SKIN.

WARNING

COMPRESSED AIR

Compressed air is dangerous when directed toward yourself or another person. The airstream or material blown by the airstream can cause injury, particularly to the eyes or face.

- Use goggles to protect eyes and face.
- DO NOT exceed 30 psig.
- DO NOT direct airstream toward yourself or another person.

WARNING

HIGH VOLTAGE

High voltage may be stored in the ignition system after operation of the APU. This high voltage can cause injury or death.

- Allow at least five minutes after operation of the ignition system before disconnecting or removing ignition system components.
- Observe instructions for grounding the power cable to discharge high voltage.
- FOR ARTIFICIAL RESPIRATION, REFER TO FM 21-11.

WARNING

POISONOUS LEAD OXIDE

Poisonous lead oxide is a byproduct of fuels containing tetraethyl lead. Death or injury can result if this lead oxide is taken into the body through cuts or other external openings, or if inhaled.

- Wear gloves and goggles when handling contaminated parts.
- If accidental exposure occurs, drench affected areas with large amounts of clear water.
- OBTAIN IMMEDIATE MEDICAL ATTENTION.

WARNING

TOXIC AND FLAMMABLE SOLVENTS

Solvents used for cleaning are toxic and flammable, They irritate skin and cause burns. Fire can result from use near heat or open flame.

- Use only in a well-ventilated area.
- Wear rubber gloves.
- In case of contact, immediately flush skin or eyes with water for at least 15 minutes.
- GET IMMEDIATE MEDICAL ATTENTION FOR EYES.

WARNING

LUBRICATING OILS HAZARDOUS

Lubricating oils MIL-L-7808 and MIL-L-23699 contain materials hazardous to health. They can cause paralysis if swallowed. Prolonged contact with skin can cause irritation. Fire can result if exposed to heat or flames.

- Use only in areas with adequate ventilation.
- Wash hands thoroughly after handling.

CAUTION

Handle tube assemblies carefully during removal and installation. Tubes are easily bent or kinked and threads can be damaged.

TECHNICAL MANUAL

NO. 55-2835-205-23

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 14 March 1983

AVIATION UNIT AND INTERMEDIATE MAINTENANCE

GAS TURBINE ENGINE (AUXILIARY POWER UNIT - APU)

MODEL T-62T-2B
PART NUMBER 160150-100
NSN 2835-01-092-2037

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 these procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual directly to: Commander, US Army Aviation and Troop Command, ATTN: AMSAT-I-MP, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. You may also submit your recommended changes by E-mail directly to <mpmt@dmhl.stl.army.mil>. A reply will be furnished directly to you. Instructions for sending an electronic 2028 may be found at the back of this manual immediately preceding the hard copy 2028.

TABLE OF CONTENTS

Page

CHAPTER 2 MAINTENANCE (Continued)

Page

CHAPTER 2 MAINTENANCE (Continued

Page

How to Use This Manual

1. Description of Manual. This manual has two chapters and five appendices. Each chapter is divided into sections. Each section in Chapter 1 is divided into paragraphs. The paragraphs have specific information you will need to know. Chapter 2 is divided into tasks. The tasks tell you what you need and how to do any job. The appendices have general information you will need to know. They list references, maintenance allocation chart, expendable supplies and materials, wiring diagrams, and manufactured items,

a. Paragraph/Tasks. Paragraphs make up sections in Chapter 1. They contain specific information about the APU. Tasks make up Chapter 2. It is the tasks that have the information you need to do any job. All paragraphs and tasks are numbered. This helps you find what you need when you need it. USE THE TABLE OF CONTENTS or THE INDEX TO FIND THE PARAGRAPH OR TASK YOU NEED. Tasks and tables are identified by the number of the chapter in which it appears, followed by a dash and a number indicating the sequence in which it appears in the chapter.

Examples: Table 1-2 is the second table in Chapter 1.
Task 2-11 is the eleventh task in Chapter 2.

b. Initial Setup. Initial setup is the first part of every task in the manual. It lists what tools, materials, and parts you will need before you can do the task. The following headings are used when they apply.

(1) Task Title. The task title after the paragraph number describes the job to be done in the task.

(2) Tools. Tools, tool kits, or shop sets needed to do the task are listed here. If tools from your repairman's tool kit are needed, the kit is listed. Tools you need that are not in the kit or set, are listed by name, type, and size. Special tools and test and support equipment are listed by a T-number. Find these items in Table 1-2.

(3) Materials. Expendable items and support materials are listed under this heading. These are things like solvent, rags, grease, safety wire, etc. They are listed by an E-number;

Example: Grease (E14)

Find these items in Appendix C.

(4) Parts. All mandatory replacement parts are listed. These are things like gaskets, packings, cotter pins, lockwashers, etc. They are listed by the Repair Parts and Special Tools List (RPSTL) name.

(5) Personnel Required. The people needed to do the task are listed under this heading. They are identified by their MOS. When more than one of any MOS is needed, the number needed is shown in parentheses. The text will tell you when a helper is needed.

(6) References. Related tasks and TM's you will need to do the task are listed under this heading, The task steps tell you when these tasks and TM's are needed.

(7) Equipment Condition. All the things to be done before you start the task are listed under this heading. To help, the number of the task tells you how to do them is given when applicable.

NOTE

All tasks covered in this manual are off helicopter tasks. If a task is other than an off helicopter task, it will be brought to your attention under “Equipment Condition”. Example: “Off APU Task”.

(8) General Safety Instructions. Safety precautions that must be observed when you are doing the job are described under this heading. Warnings also include immediate first aid instructions.

c. Locator Illustrations. When needed (for removal, installation and other procedures) a locator illustration is included in initial setup. They show you the area of the APU to be worked on. Parts involved in the task are called out.

d. Procedures. Step-by-step procedures tell you how to do the task. They are arranged in logical sequence to help you get the task done efficiently.

2. How To Prepare For a Task. Read the initial setup carefully before starting. It tells you what you will need and what you have to know to start the task. DO NOT START A TASK UNTIL:

You know what is needed

You have the things you need

You understand what to do

a. If a tool has a T-code after it, go to the Special Tools and Test and Support Equipment List in Table 1-2. Read down the far left-hand column to your T-code. This is the tool you need for your task.

b. If an expendable material has an E-number after it, go to the Expendable Supplies and Materials List in Appendix C. Read down the Item Number column to your E-number. This is the expendable you need for your task.

c. If parts are listed, they can be drawn from tech supply. Before you start the task, check and make sure you can get the needed parts; National Stock Numbers (NSN) and part numbers are listed in TM 55-2835-205-23P.

d. Check for personnel required,

e. If preliminary procedures are listed under “Equipment Conditions”, BE SURE THE LISTED TASKS ARE DONE; then do this task.

3. How To Do The Task. Before starting, read the entire task. Familiarize yourself with the entire procedure before you begin the task. As you read, remember the following:

a. PAY ATTENTION TO WARNINGS, CAUTIONS AND NOTES:

b. When values are underlined or followed by the word INSPECT, an inspector must OK the completed step.

c. Major steps and key words are printed in bold type for experienced repairers.

d. A GLOSSARY is provided, It lists the special words and unusual terms used in this manual and gives their meaning. Check it out. It may help you understand the instructions.

e. The following are considered standard maintenance practices. Instructions about these practices will not normally be included in task steps. Task steps will tell you when standard maintenance practices do not apply.

(1) Lines will be tagged before they are disconnected. Tubes and parts will be capped or plugged when they are disconnected.

(2) Used preformed packings, retainers, gaskets, cotter pins, Iockwashers, etc. are discarded. New parts shall be installed.

(3) Packings are coated before installation in accordance with the following:

(a) Petrolatum (E1) for fuel system packings.

(b) Lubricating Oil (E24) for lubricating system packings.

(4) Tubes and related parts will be tied out of the way with twine, not Iockwire.

(5) In disassembly tasks, components are removed and wires disconnected.

(6) Disassembly procedures reflect disassembly needed to support total authorized repair. You may not need to disassemble a part as far as described in the task. Follow the steps to disassemble as far as needed to repair/replace worn or damaged parts.

(7) Before a component or the disassembled parts of a component are inspected, they are cleaned as required.

(8) Components and mating surface area will be inspected for serviceable condition before installation.

(9) Guide lines will be used when any item is hoisted overhead.

(10) When a nut is tightened or loosened on a bolt, the bolt head will be held with a wrench.

(11) A special torque will be cited when the words TORQUE TO are used. A standard torque is required when word install is used.

(12) When torquing hardware, observe compliance with drag torque as required, To determine drag torque, thread nut onto screw or bolt until at least two threads protrude. The nut shall not contact the mating part. The torque necessary to begin turning the nut is the drag torque.

(13) A table in Chapter I provides standard torque limits for general type screws, nuts, bolts, fittings, and coupling nuts. These standard torque values apply only when special torque values are not specified in procedures. Included in the torque tables are the applicable torque wrenches.

(14) If additional setup tools are required such as crowfoot wrenches, they will be listed in the task INITIAL SETUP.

(15) When cotter pin is required, cotter pin holes will be aligned within allowable torque range.

(16) Following installation, paint will be touched up as required.

(17) Following maintenance, inspect for foreign objects.

f. General maintenance procedures (e.g., “replace studs and inserts”) are not included in the maintenance instructions. A reference is made to General Aircraft Maintenance Manual (TM 55-1500-204-25/1) for these procedures.

4. Appendices.

a. Appendix A - References. This appendix lists all referenced publications needed to perform the maintenance procedures in this manual.

b. Appendix B - Maintenance Allocation Chart (MAC). This appendix consists of four sections as follows:

Section I – Introduction. This section is a summary of what is in the MAC.

Section II. This section is the MAC. The MAC assigns maintenance functions in accordance with the Three Levels of Maintenance concept for Army Aviation. The MAC has six columns, containing the following information:

Columns 1 and 2 – Functional Groups. These columns identify maintenance significant components, assemblies, subassemblies, and modules.

Column 3 – Maintenance Function. This column lists the maintenance functions to be performed on the items listed in column 2.

Column 4 – Maintenance Categories. The maintenance categories (levels) AVUM, AVIM, and DEPOT are listed with individual columns. These columns identify the maintenance level at which each maintenance function is to be performed. Numbers in parenthesis identify the corresponding numbered remarks in Section IV.

Column 5 – Tools and Equipment. This column lists the reference code identifying the tool or test equipment required, as listed in Section III.

Column 6 – Remarks. Remarks identified by analphabet code, where applicable, are listed in Section IV and identified in column 6.

Section III - Tool and Test Equipment Requirements. This section consists of five columns, containing the following information:

Tool or Test Equipment Reference Code. This column lists the reference code listed in Column 5 - Tools and Equipment in the MAC.

Maintenance Category. This column lists the maintenance category (level) authorized to use the tool or test equipment.

Nomenclature. This column lists the. nomenclature of theof the tool and test equipment.

National/Nato Stock Number. This column lists the stock number applicable to each tool or test equipment.

Tool Number. The tool number is listed to aid in identifying the tool or test equipment.

Section IV – Remarks. This section has two columns, containing the following information.

Reference Code. This column contains alphabetical codes or numbers in parentheses corresponding to the codes appearing in the applicable columns in the MAC.

Remarks/Notes. This column contains the actual notes as referenced by the reference codes to the MAC.

c. Appendix C - Expendable Supplies and Materials List. This appendix consists of two sections as follows:

Section I – Introduction. This section is a summary of what is in the Expendable Supplies and Materials List.

Section II – This Section is the Expendable Supplies and Materials List and has four columns, containing the following information:

Column 1 – Item Number. This is the-E-number assigned to the expendable item. It is referred to in the detail procedures.

Example: "Use lockwire (E16)."

Column 2 – National Stock Number. This is the National Stock Number (NSN) assigned to item. Use it to request or requisition the item.

Column 3 – Description. This column lists the name and, if required, a description to identify the item. The last line for each item shows the part number followed by the Federal Supply Code for Manufacturer (FSCM) in parentheses, if there is no NSN in Column (2).

Column 4 – U/M. This column lists the measure used in performing the maintenance function, expressed as a two-character alphabetical abbreviation (e.g., ea, in, pr).

d. Appendix D – Wiring Diagrams. This appendix contains the APU wiring diagram. Use this appendix to help you understand the description of the APU electrical system.

e. Appendix E – Manufactured Items List. This appendix lists and illustrates any parts you may have to locally manufacture to do a task.

5. Glossary. Definitions of abbreviations and unusual terms you find in the manual are listed here to help you.

6. Index. This appears at the end of the manual. It lists all subjects in the manual by alphabetical order and the entries are in everyday language of the user. This index contains many possible ways of locating the subject, i.e., pressure fluid filter; fuel inlet filter; filter, fuel; filter, pressure fluid. This is necessary since the official nomenclature is not always readily recognized by the user.

CHAPTER 1

INTRODUCTION AND GENERAL

Section I. GENERAL INFORMATION

1-1. SCOPE

Type of Manual:	Aviation Unit and Intermediate Maintenance
Model Number and Equipment Name:	T-62T-2B Gas Turbine Engine (Auxiliary Power Unit – APU)
Purpose of Equipment:	Supplies hydraulic and electrical power to a CH-47D helicopter during preflight, starting, and post flight periods

1-2. MAINTENANCE FORMS, RECORDS, AND REPORTS

Department of the Army forms, records, and reporting procedures used for equipment maintenance will be those prescribed by TM 38-750, The Army Maintenance Management System (TAMMS).

1-3. DESTRUCTION OF ARMY MATERIELTO PREVENT ENEMY USE

NOTE

Decision to destroy an APU shall be made by appropriate authority.

Destroy APU to prevent use by enemy when evacuation to safety is not possible. Refer to TM 43-0002-1.

1-4. QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

Refer to FM 55-411.

1-5. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If your gas turbine engine (APU) needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you" don't like about your equipment Let us know why you do. not like the design. Put in on an SF368, Quality Deficiency Report (QDR). Mail it to us at:

Commander
USATSARCOM
ATTN: DRSTS-MPSD
4300 Goodfellow Blvd
St. Louis, MO 63120

We will send you a reply.

Section II. EQUIPMENT DESCRIPTION AND DATA

1-6. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

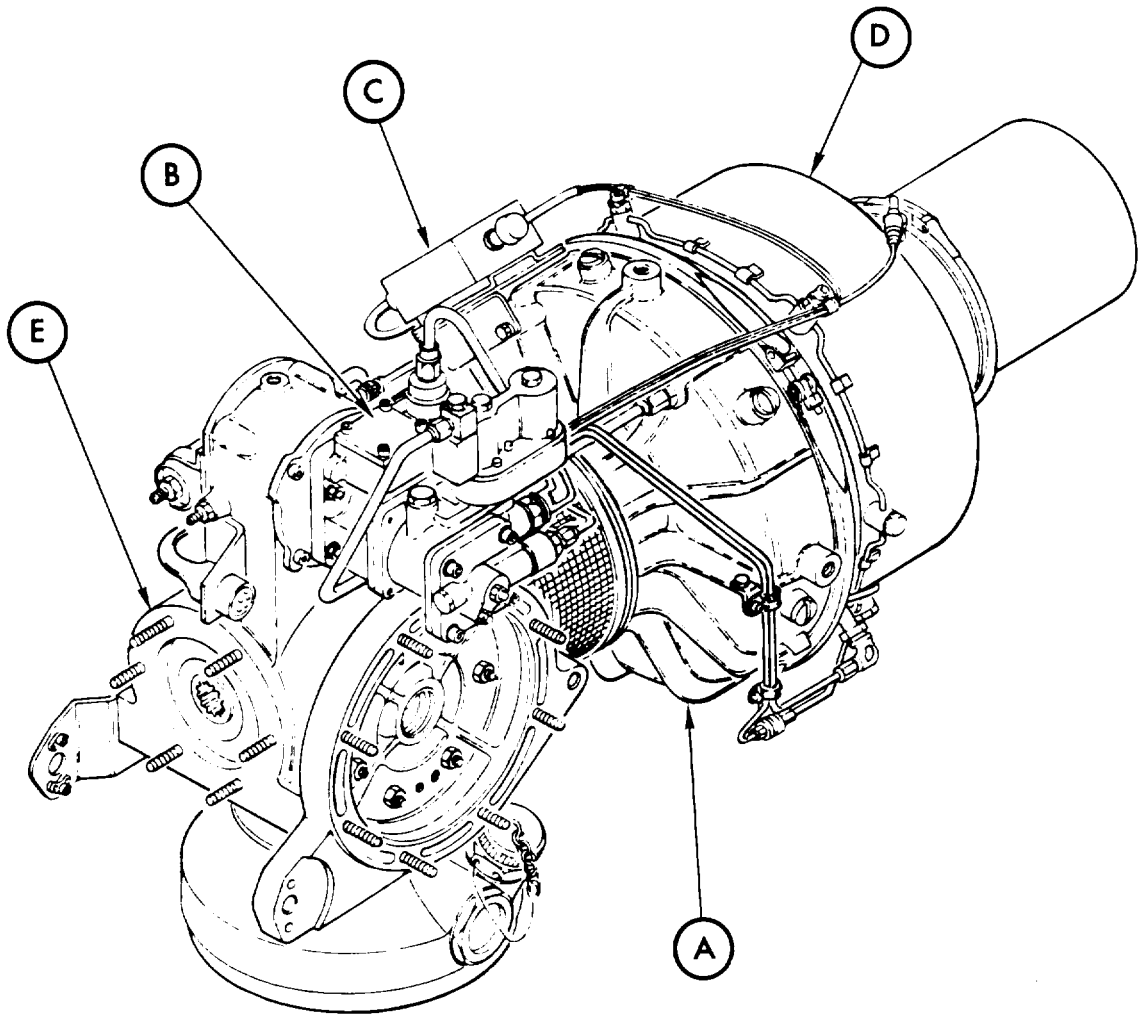
CHARACTERISTICS

- Supplies rotary power for driving a generator and a hydraulic motor/pump
- Gas turbine engine

CABILITIES AND FEATURES

- Rotational speed is 58,228 rpm
- Output speed at axial pad is 8216 rpm
- Output speed at right angle pad is 8000 rpm
- Output speed at acessory pad is 4242 rpm

1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS



(A) TURBINE ASSEMBLY: Air enters air inlet assembly through air inlet screen. Air is compressed by compressor rotor and supplied to combustor assembly. Diffuser directs exhaust gas to turbine wheel to generate rotational power.

(B) FUEL CONTROL ASSEMBLY: Supplies and controls flow of fuel to combustor assembly.

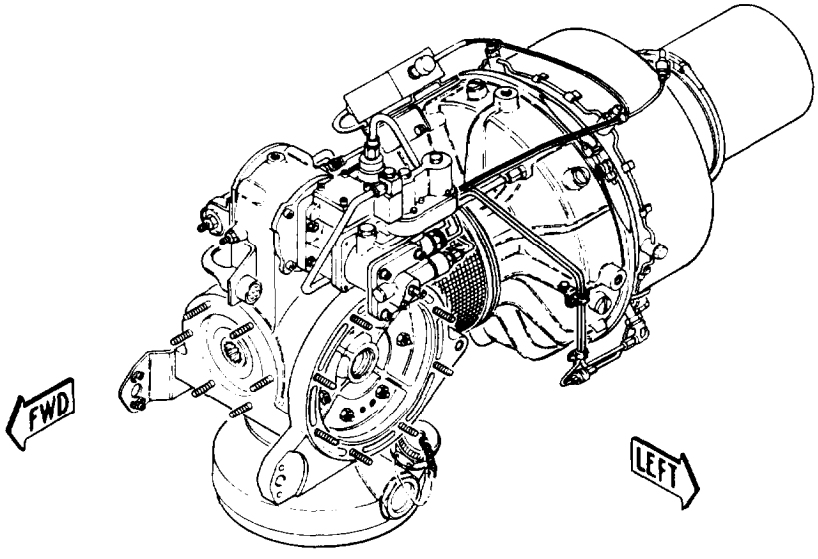
(C) IGNITION EXCITER: Provides high voltage to spark plug.

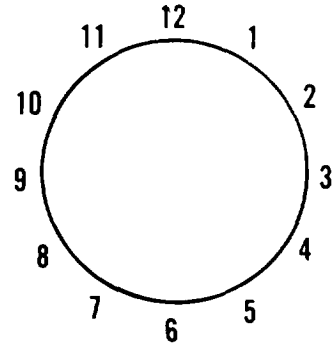
(D) COMBUSTOR ASSEMBLY: Area where fuel and compressed air are burned to drive turbine wheel in turbine assembly.

(E) REDUCTION DRIVE ASSEMBLY: Driven by turbine assembly. Reduces turbine speed to drive axial pad, right-angle pad, and accessory pad.

1-8. DIRECTIONAL REFERENCES

The directions forward, aft, left, and right are established by standing at exhaust end of engine and looking forward toward the reduction drive assembly.





CLOCK POSITIONS
(LOOKING FWD)

1-9. EQUIPMENT DATA

Weight (including residual fluids)	74.8 lb(16.5 kg)
Length	33 in. (82 cm)
Width	14 in. (36 cm)
Height	24 in. (60 cm)
Lubricating Oils	MIL-L-23699 (preferred for general use) MIL-L-7808 (preferred for artic use)
Oil Sump Capacity (max)	3 US quart (2.8 l)

1-10. SAFETY, CARE, AND HANDLING

Observe all general precautions and safety regulations when handling the APU.

1-11. STANDARD TORQUES

Use standard torques specified in table 1-1, whenever specific torques are not given in the tasks.

1. Torques apply to clean dry threads, that are free of nicks or burrs. If threads are lubricated, reduce torque limits by 30 percent.

2. Inspect all nuts, screws, and bolts after torquing to insure they are fully seated. If not seated, remove and inspect for thread damage.

3. Replace self-locking nuts that do not meet minimum drag torque requirements.

4. Use torque wrenches listed in the table.

Table 1-1. Standard Torques

TORQUE VALUES FOR BOLTS, SCREWS, AND NUTS	
Thread Size	Torque Value
3-48	5-7 inch-pounds
6-32	11-13 inch-pounds
8-32	13-16 inch-pounds
10-32	24-27 inch-pounds
1/4-28	55-70 inch-pounds
9/16-18	480-600 inch-pounds

MINIMUM DRAG TORQUE FOR SELF-LOCKING NUTS	
Thread Size	Torque Value
10-32	2.0 inch-pounds
1/4-28	3.5 inch-pounds
3/8-24	9.5 inch-pounds

TORQUE VALUES FOR PLUGS, UNIONS, ELBOWS, AND NIPPLES		
Size	Thread Size	Torque Value
4	7/16-20	135-150 inch-pounds
6	9/16-18	180-200 inch-pounds

TORQUE VALUES FOR FLARED TUBE COUPLING NUTS	
Tube Size	Torque Value
4	135-150 inch-pounds
6	270-300 inch-pounds

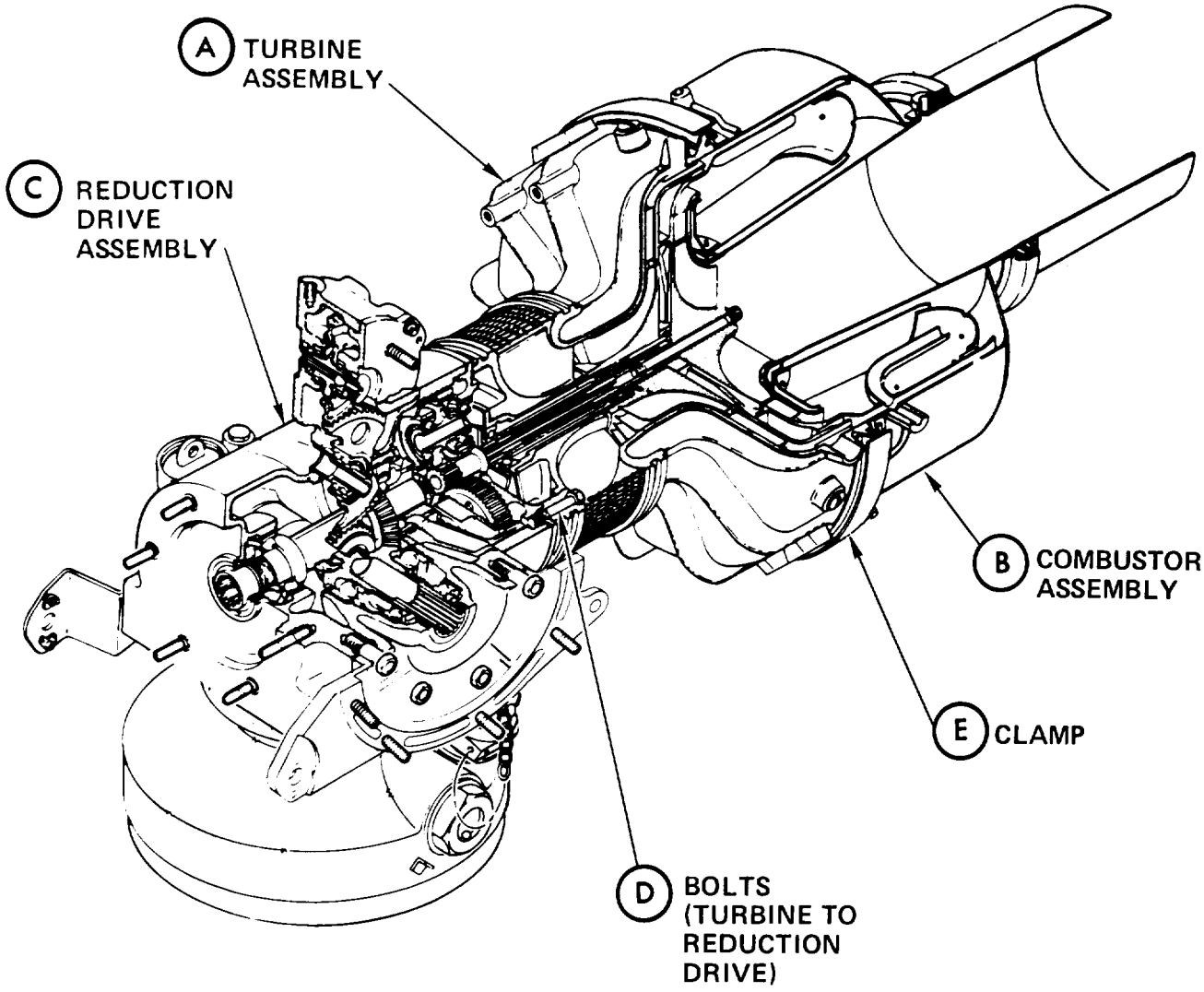
TORQUE VALUES FOR FLARELESS TUBE COUPLING NUTS	
Tube Size	Torque Value
2	75-85 inch-pounds
4	135-145 inch-pounds

Torque Wrench, 0-30 inch-pounds
NSN 5120-00-117-4832
Torque Wrench, 30-150 inch-pounds
NSN 5120-00-542-4489
Torque Wrench, 150-750 inch-pounds
NSN 5120-00-821-3441

Section III. PRINCIPLES OF OPERATION

1-12. POWERPLANT ASSEMBLY

a. The powerplant assembly consists of a turbine assembly (A), combustor assembly (B), and reduction drive assembly (C). The forward end of the air inlet portion of the turbine assembly is secured by bolts (D) to the reduction drive assembly. The combustor assembly is secured by clamp (E) to a flange on the aft end of the air inlet housing.

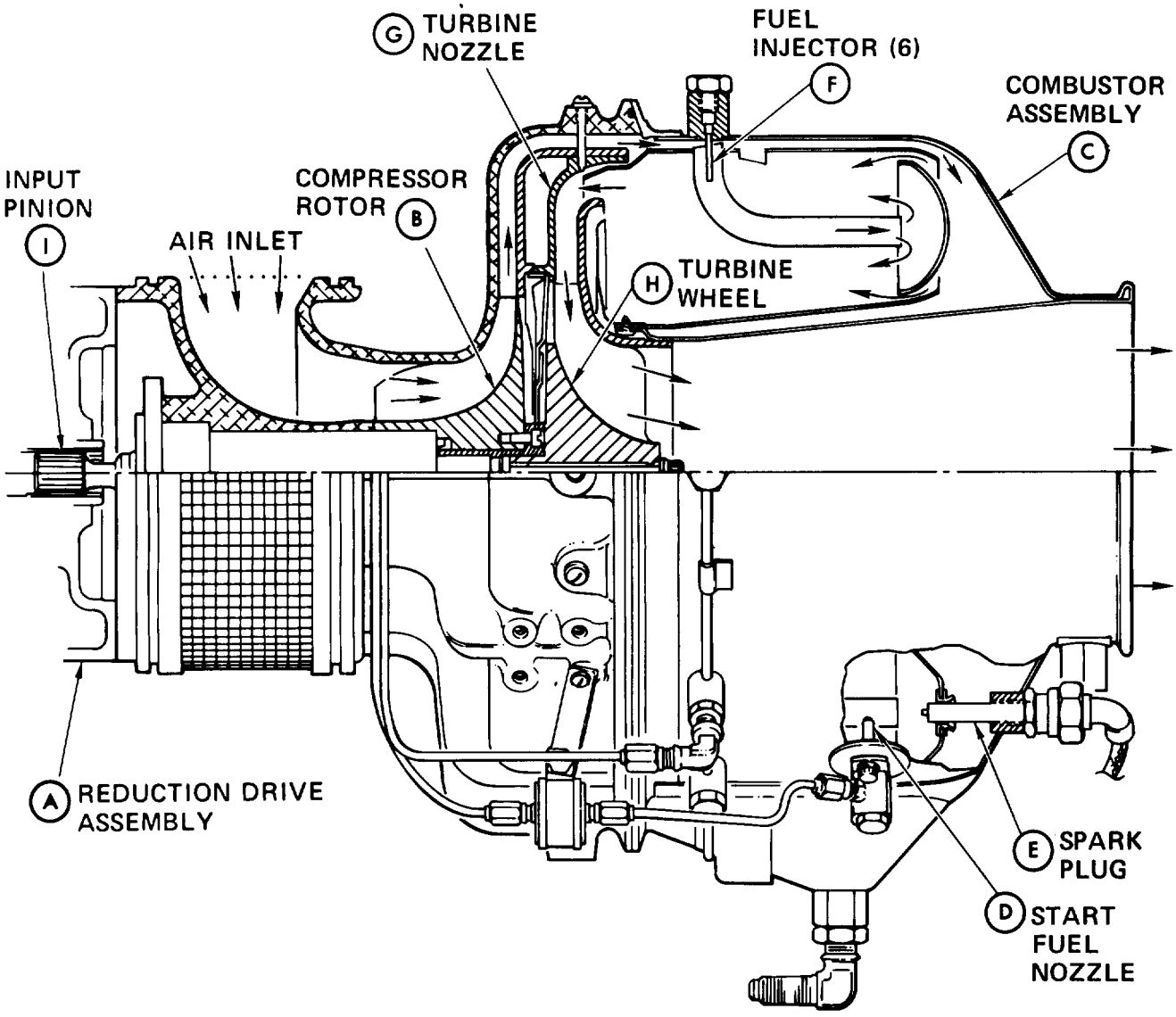


1-13. TURBINE ASSEMBLY

a. Starting of the turbine assembly is initiated by energizing a hydraulic motor mounted on the axial drive pad of the reduction drive assembly (A). During cranking, air is drawn by the compressor rotor (B) into the compressor portion of the turbine assembly where the air is compressed and then directed into the combustor assembly (C). Fuel entering the combustor assembly from a single start fuel nozzle (D) is mixed with compressed air and ignited by a spark plug (E).

b. At a predetermined speed, six main fuel injectors (F) acid fuel, resulting in additional hot gas mass flow. The hot gases flow through the turbine nozzle (G) and impact the blades of the turbine wheel (H). The rotation of the turbine rotor shaft provides the power to drive the compressor and input pinion (1) of the turbine assembly.

c. The compressor rotor (B), mounted on the same shaft as the turbine wheel (H), continues to draw air into the compressor. Ignition and start fuel are cut off at a predetermined point. All fuel is then supplied through the six main fuel injectors (F). Combustion is self-sustaining. A continuous cycle of intake, compression, combustion, and exhaust is maintained within the engine.

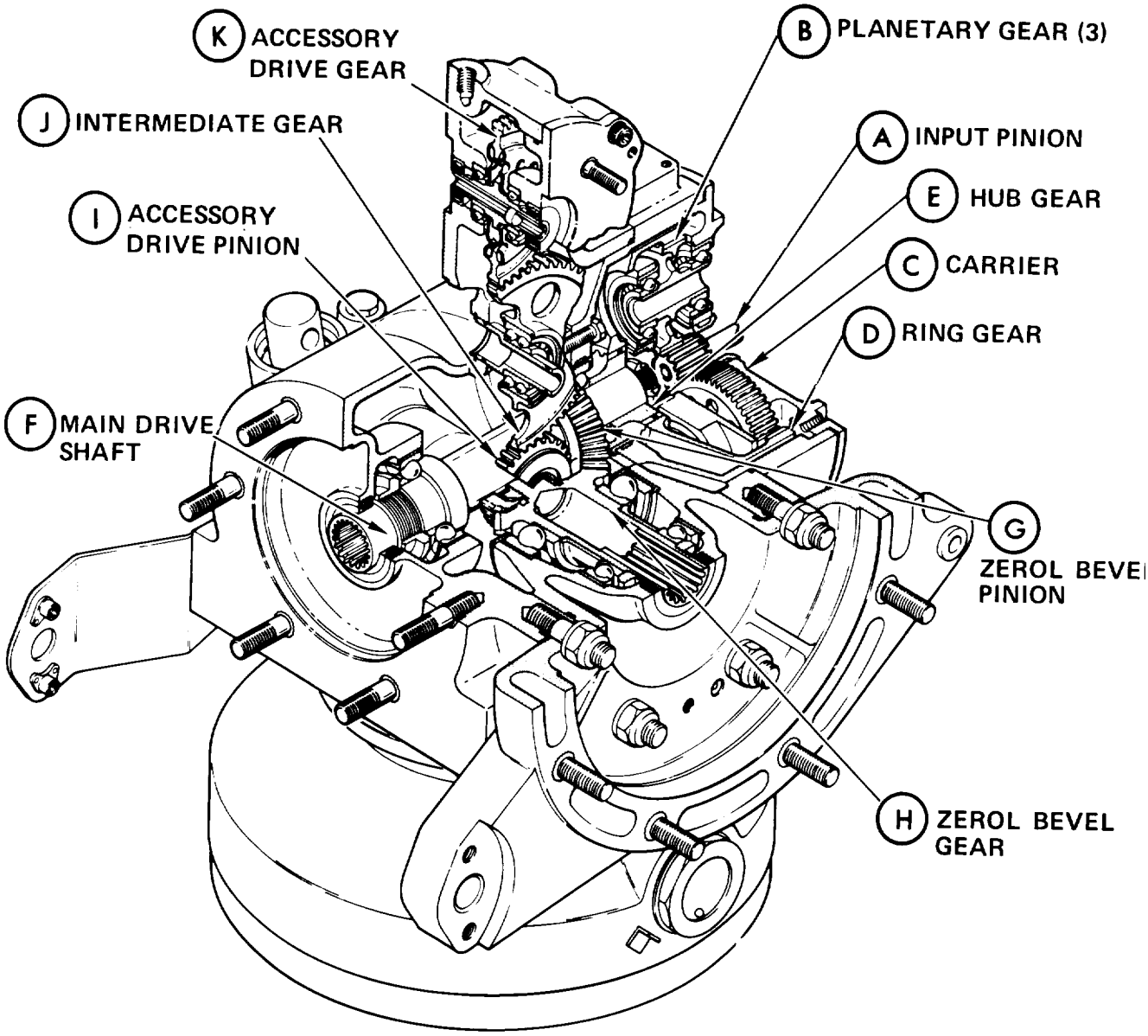


1-14. REDUCTION DRIVE ASSEMBLY

a. The reduction drive assembly reduces the output rotational speed (58,228 rpm) of the turbine assembly to the speeds necessary to drive the engine accessories and engine-driven equipment. The input pinion (A) of the turbine assembly, splined to the rotor shaft, drives three planetary gears (B) that are mounted in a stationary carrier (C).

b. The planetary gears (B) drive an internally splined ring gear (D). The ring gear is centrally splined to a short hub gear (E) which is keyed onto the aft end of the main drive shaft (F). A Zerol bevel pinion (G) on the main drive shaft meshes with a Zerol bevel gear (H) to which is secured the accessory drive pinion (I). The Zerol bevel gear (H) drives the side pad component.

c. The accessory drive pinion (I) drives the oil pump drive gear and the intermediate gear (J) which, in turn, drives the accessory drive gear (K).



1-15. FUEL SYSTEM

(A) PRESSURE FLUID FILTER. Fuel from the aircraft fuel system is connected to the inlet of a disposable 10-micron pressure fluid filter.

(B) FUEL PUMP. The fuel pump is a positive-displacement, gear-type pump. A wire-mesh, 25-micron filter is installed in the top of the pump housing,

(C) ACCELERATION CONTROL ASSEMBLY. The acceleration control assembly is mounted on, and shaft-coupled to the fuel pump. The fuel pump and acceleration control assembly combined make up the fuel control. The acceleration control assembly controls the amount of fuel supplied to the start nozzle assembly and fuel injectors.

(D) PCD TUBE ASSEMBLY. Compressor discharge pressure (PCD) is connected to the differential pressure regulating valve of the acceleration control assembly. PCD increases as the speed of the APU increases. As the PCD increases, it forces the fuel metering valve in the acceleration control open, resulting in unusual fuel flow to the turbine assembly.

(E) START FUEL VALVE ASSEMBLY. The start fuel valve assembly is a solenoid valve. The valve is normally closed. When energized by a signal from the electronic sequence unit, the valve opens to allow fuel flow to the start nozzle assembly.

(F) RESTRICTOR. The restrictor controls the amount of fuel to the start nozzle assembly.

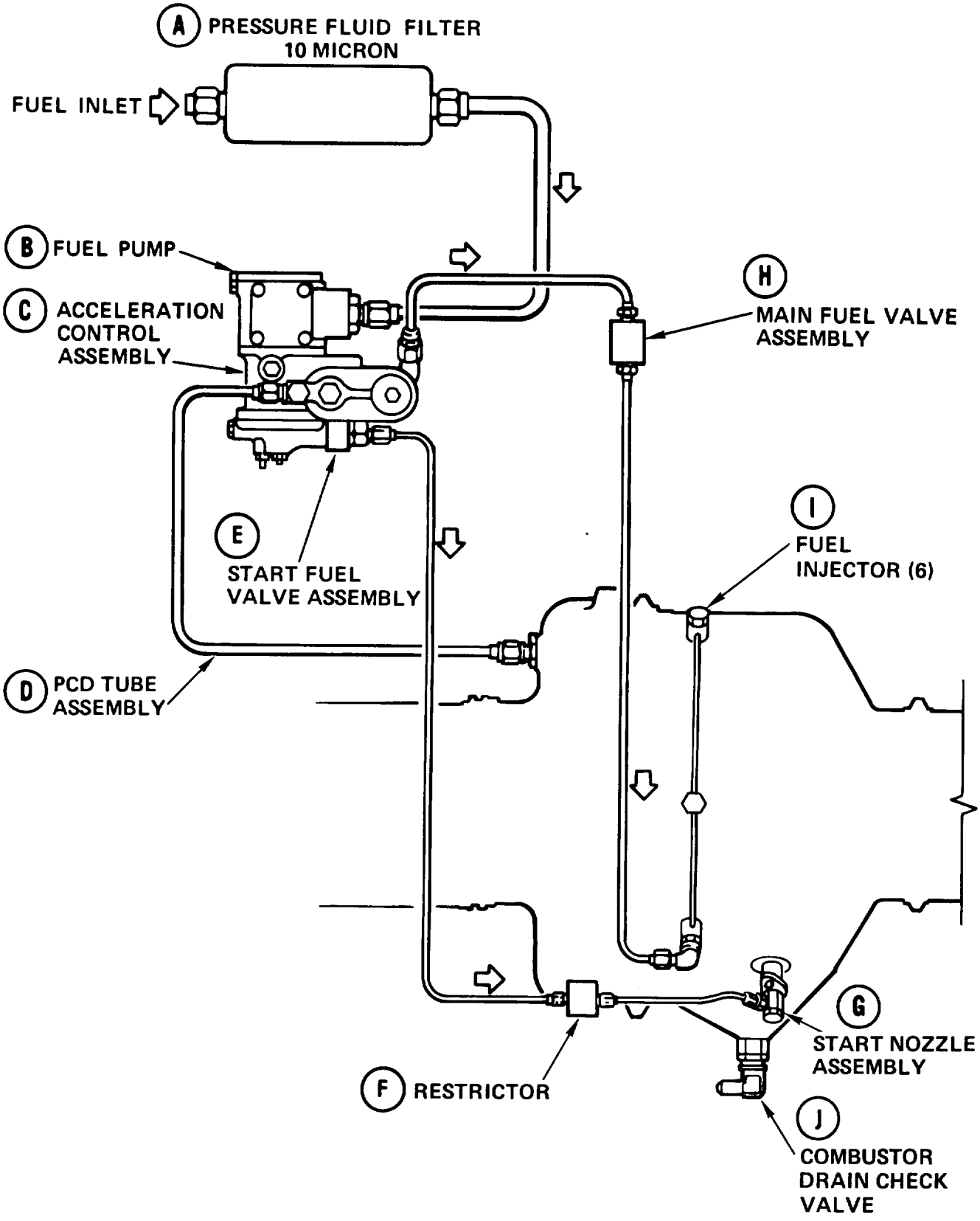
(G) START NOZZLE ASSEMBLY, Fuel is sprayed into the combustor assembly and is ignited by a spark plug.

(H) MAIN FUEL VALVE ASSEMBLY. The main fuel valve assembly is a solenoid valve. The valve is normally closed, When energized by a signal from the electronic sequence unit, the valve opens to allow fuel flow to the six fuel injectors.

(I) FUEL INJECTORS. The six fuel injectors are mounted in injector bosses on the combustor assembly. The bosses are connected by tubes to form a fuel manifold.

(J) COMBUSTOR DRAIN CHECK VALVE. The check valve opens when the APU is shut down and drains unburned fuel from the combustor assembly.

1-15. FUEL SYSTEM (Continued)



1-16. LUBRICATION SYSTEM

(A) OIL SUMP. The oil sump is fastened to the bottom of the reduction drive housing by a V-clamp. The sump has a sight-glass oil level gage. The oil filler cap assembly is at the top of the sump. A magnetic drain plug is located at the bottom of the sump.

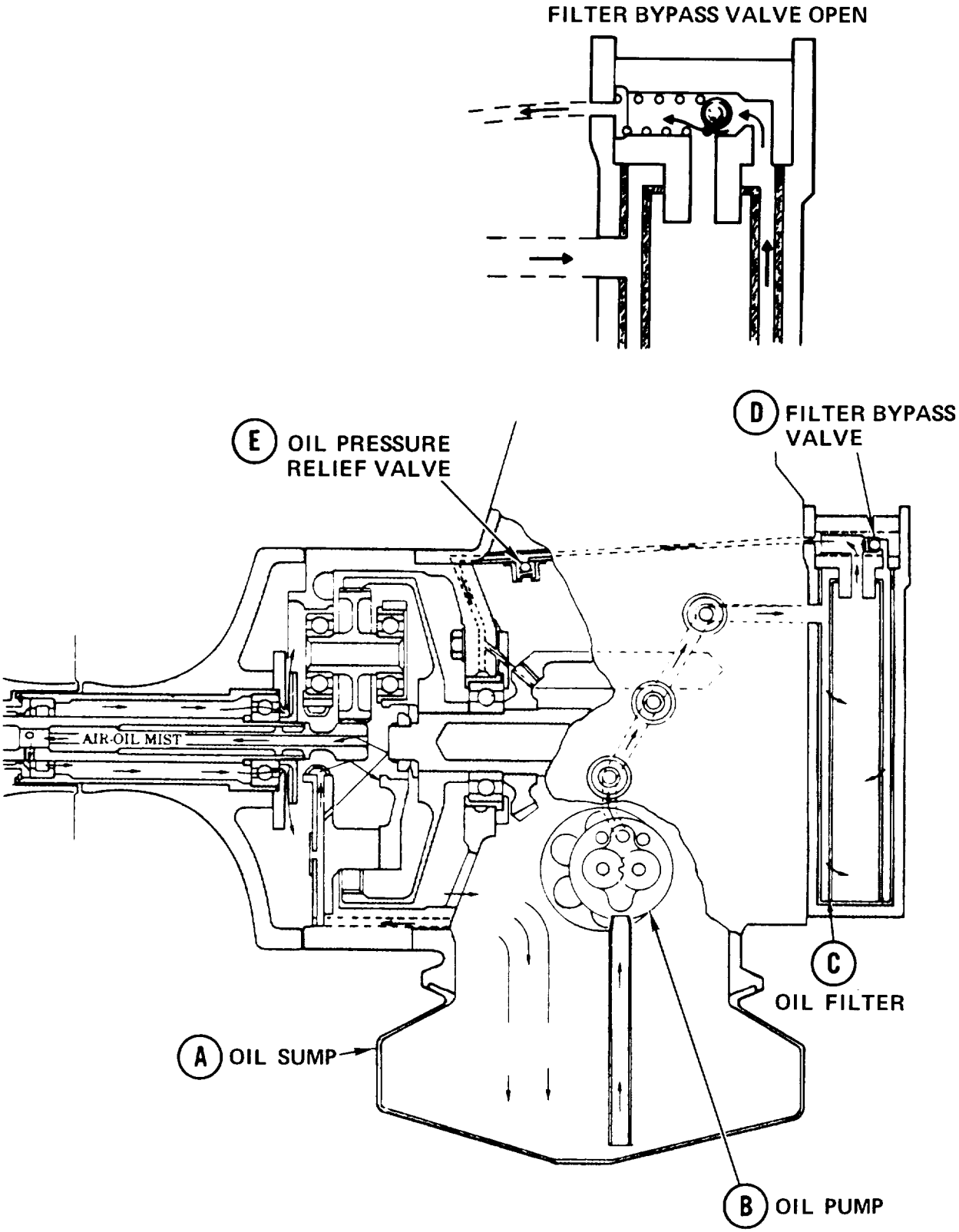
(B) OIL PUMP. The gear-type oil pump is part of the reduction drive assembly, The pump draws oil from the oil sump and pumps the oil through drilled passages to the oil filter.

(C) OIL FILTER. The oil filter is a disposable, 10-micron filter element contained in a filter cavity in the reduction drive assembly.

(D) FILTER BYPASS VALVE. The filter bypass valve consists of a spring-loaded ball in a housing above the oil filter. The housing serves as a cap for the filter. The bypass valve opens to allow oil to bypass the oil filter if it becomes clogged.

(E) OIL PRESSURE RELIEF VALVE. This valve is located in the main oil gallery. The valve regulates system oil pressure at 15 to 40 psig.

I 1-16. LUBRICATION SYSTEM (Continued) I



1-17. ELECTRICAL SYSTEM

(A) MAGNETIC PICKUP. The magnetic pickup provides speed signals to the electronic sequence unit (ESU) in the aircraft.

(B) ELECTRICAL HARNESS. A single electrical harness connects all electrical components of the APU to the main electrical connector. Connection to the aircraft electrical system is through this main electrical connector of the harness.

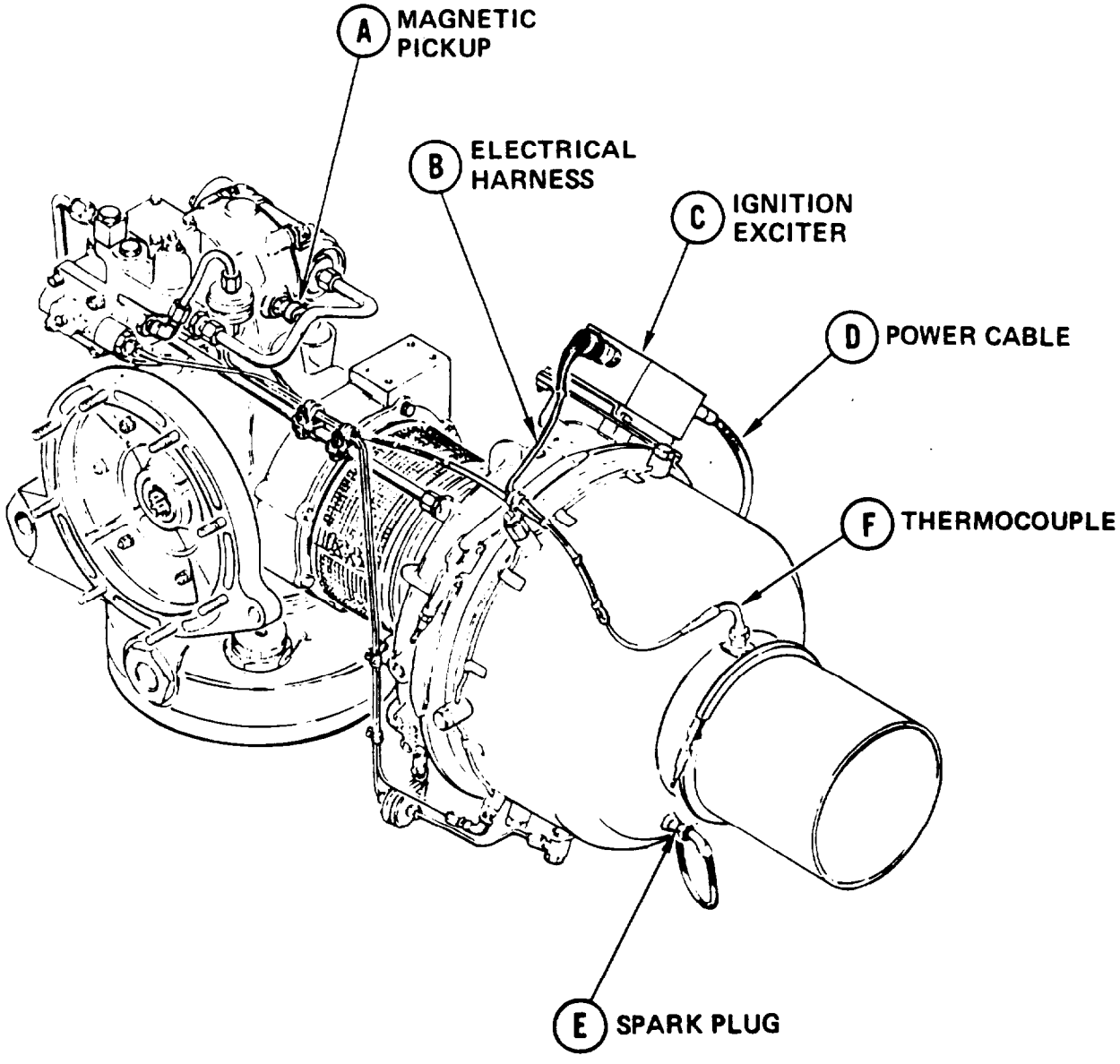
(C) IGNITION EXCITER. The ignition exciter is a capacitor-discharge type, The exciter converts direct-current input to a high-energy alternating current for ignition,

(D) POWER CABLE, The power cable connects the ignition exciter to the spark plug.

(E) SPARK PLUG. A shunted-gap type spark plug provides the spark for initial ignition of fuel during start of the APU.

(F) THERMOCOUPLE. A single-element, chromel/alumel thermocouple is part of the electrical harness. The thermocouple senses exhaust gas temperature (EGT) and provides the signal to the ESU. The output signal is used by the ESU for overtemperature protection, shutting down the APU if EGT exceeds safe limits.

1-17. ELECTRICAL SYSTEM (Continued)



Section IV. REPAIR PARTS; SPECIAL TOOLS; TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT

1-18. COMMON TOOLS AND EQUIPMENT

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

1-19. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

Refer to TM 55-2835-205-23P; Appendix B, Maintenance Allocation: Chart; and Table 1-2 for special tools, TMDE, and support equipment. Tools to be fabricated are listed and shown in the illustrated list of manufactured items (Appendix E).

Table 1-2. Special Tools, TMDE, and Support Equipment

TOOL OR TEST EQUIPMENT REFERENCE T CODE	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
1	Lifting Fixture	4920-01- 135-5987	ST-93929
2	Assembly Fixture		ST-71188
3	Wire Gage Set		ST-60880
4	Support Fixture	4920-00-136-9082	ST-91717
5	Combustor Puller	5120-00-919-2379	ST-90658
6	Seal Puller	5120-00-435-5707	ST-91017
7	Seal Driver	2835-00-620-9876	ST-90889-01
8	Seal Driver	5120-00-942-1605	ST-70273

1-20. REPAIR PARTS

Repair parts are listed and illustrated in the Repair Parts and Special Tools List (RPSTL) TM 55-2835-205-23P covering Aviation Unit and Intermediate Maintenance (including Depot Maintenance RPSTL) for this equipment.

Section V. SERVICE UPON RECEIPT

1-21 INSPECT REUSABLE SHIPPING CONTAINER

INITIAL SETUP

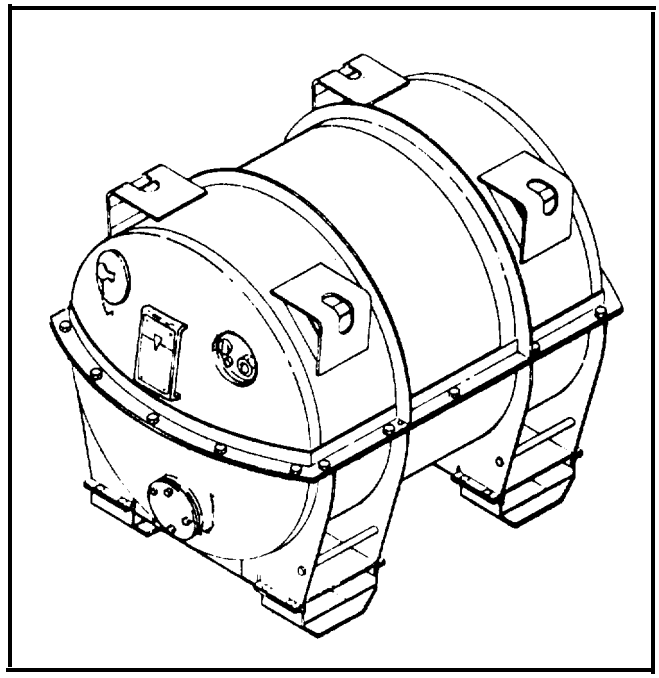
Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Hoist
Head Sling (2)
NSN 1730-00-099-8099

Materials:
None

Personnel Required:
68B1O Aircraft Powerplant Repairer (2)
68B30 Powerplant Inspector

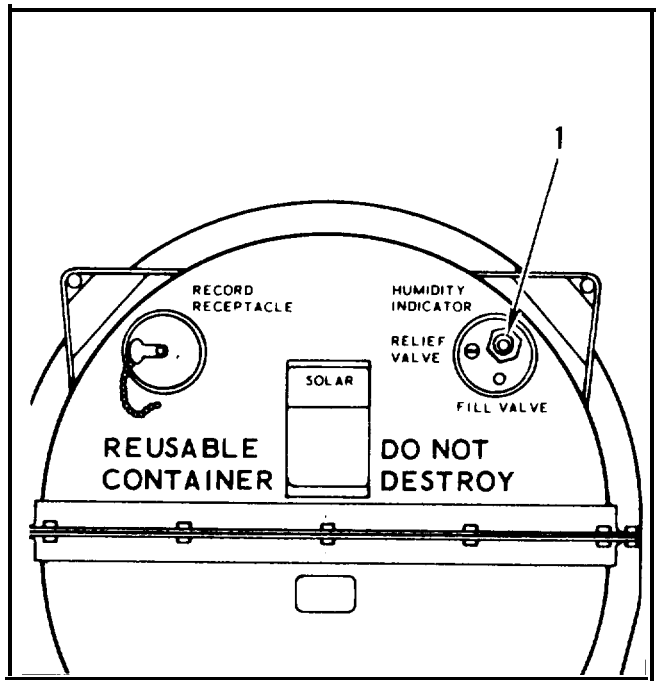
References:
TB 55-8100-200-24



NOTE

Inspect container as follows, upon receipt and every 90 days thereafter.

1. Refer to **TB 55-8100-200-24. Check humidity indicator (l).** If indicator is blue it indicates humidity is within limits and no further maintenance is required. If indicator is pink, inspection of the APU is necessary; proceed as follows:



GO TO NEXT PA GE

1-21 INSPECT REUSABLE SHIPPING CONTAINER (Continued) 1-21

2. Remove twenty nuts (2), washers (3) and bolts (4).

3. Hook head slings (5) and hoist (6) to container top section (7).

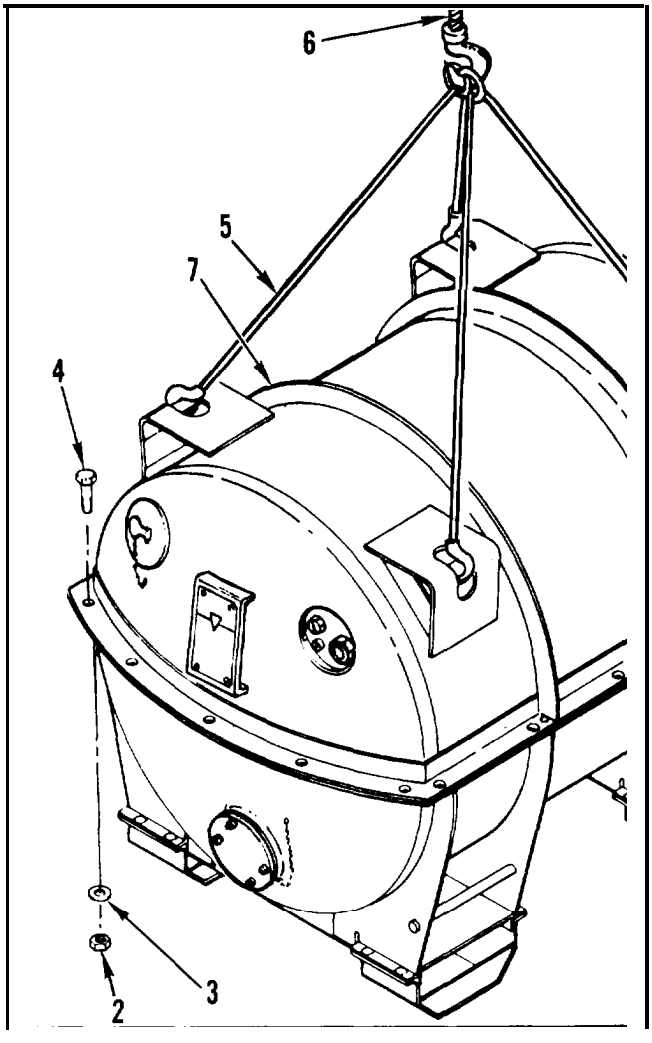
CAUTION

Be careful not to damage seal. Seal is reusable if in good condition.

4. With helper guiding container top section (7), Lift top section with hoist (6).

5. Lower top section (7) and unhook hoist (6).

6. Inspect APU for external corrosion.

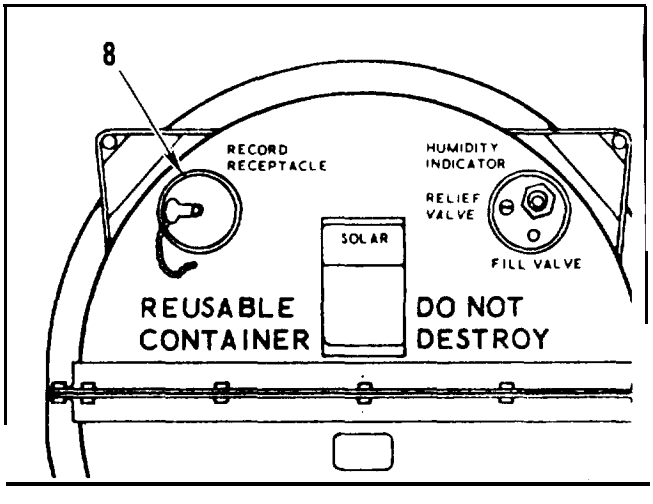


INSPECT

7. If APU is found to be serviceable, it may be placed in service or storage.

8. If APU is found to be unserviceable, complete the installation in container (Task 1-26, steps 12 thru 29) for storage of or shipment.

9. Remove cover from record recepacle (8) and make appropriate entry in APU History Records. Replace cover.



FOLLOW-ON MAINTENANCE:
None

END OF TASK

1-22 REMOVE APU FROM REUSABLE SHIPPING CONTAINER

INITIAL SETUP

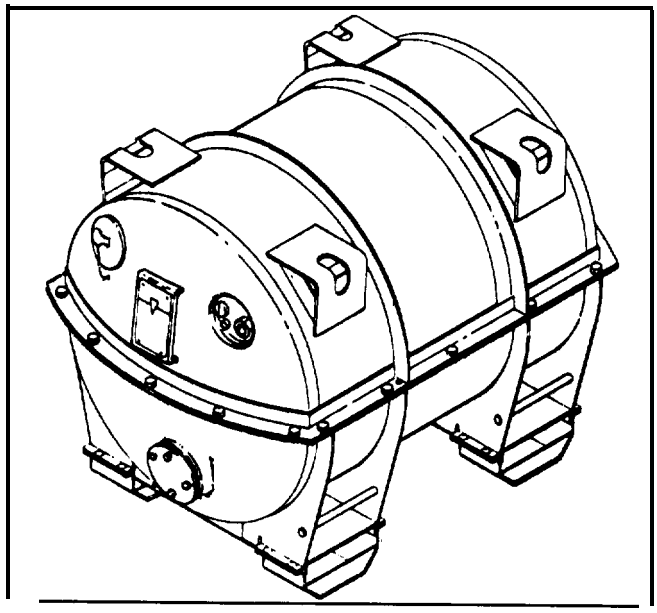
Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Lifting Fixture (T1)
Hoist
Head Sling (2)
NSN 1730-00-099-8099

Materials:
None

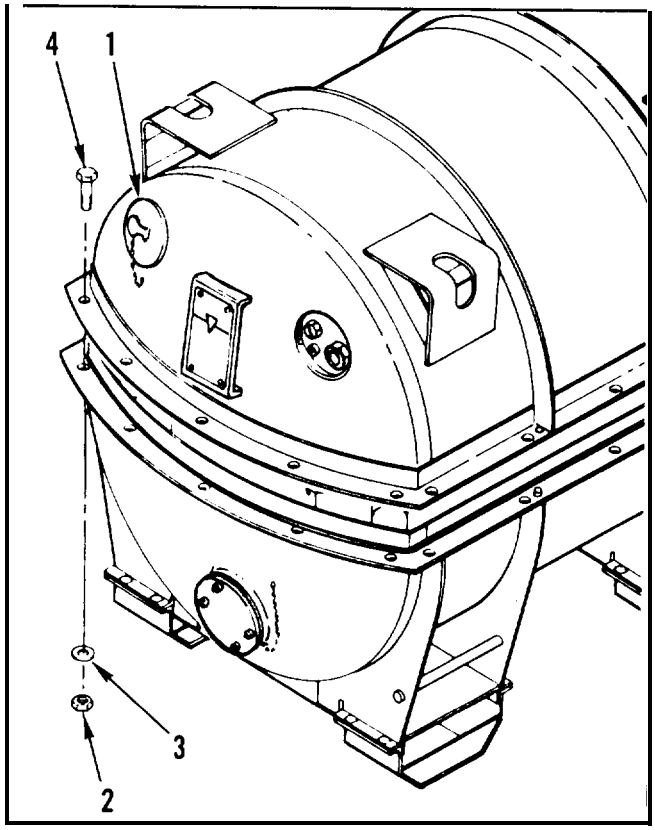
Personnel Required:
68B10 Aircraft Powerplant Repairer (2)

References:
TB 55-8100-200-24



1. Remove cover from record receptacle (1). **Remove APU history record.** Replace cover.

2. Remove twenty nuts (2), washers (3), and bolts **(4).**



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1-22 REMOVE APU FROM REUSABLE SHIPPING CONTAINER (Continued) 1-22

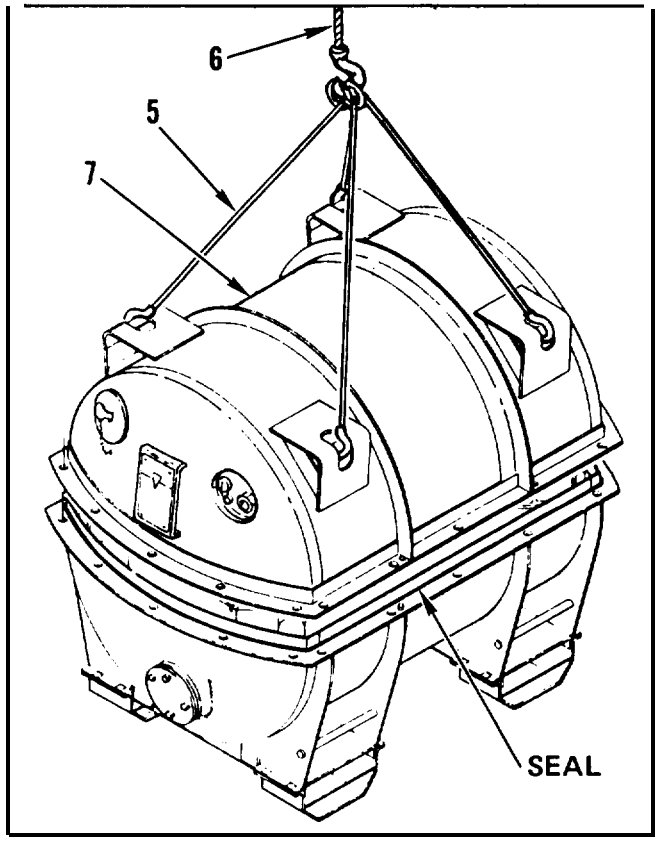
3. Hook head slings (5) and hoist (6) to container top section (7).

CAUTION

Be careful not to damage seal.
Seal is reusable if in good condition.

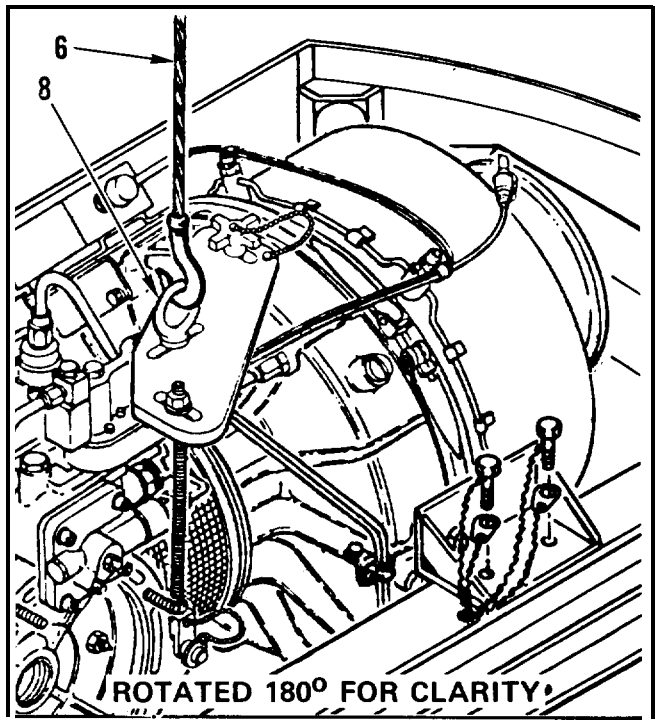
4. With helper guiding container top section (7), **lift top section with hoist (6).**

5. Lower top section (7) and unhook hoist (6).



6. **Install lifting fixture (TI)** (8) on APU (Task **1-24).**

7. Hook hoist (6) to lifting fixture (8),



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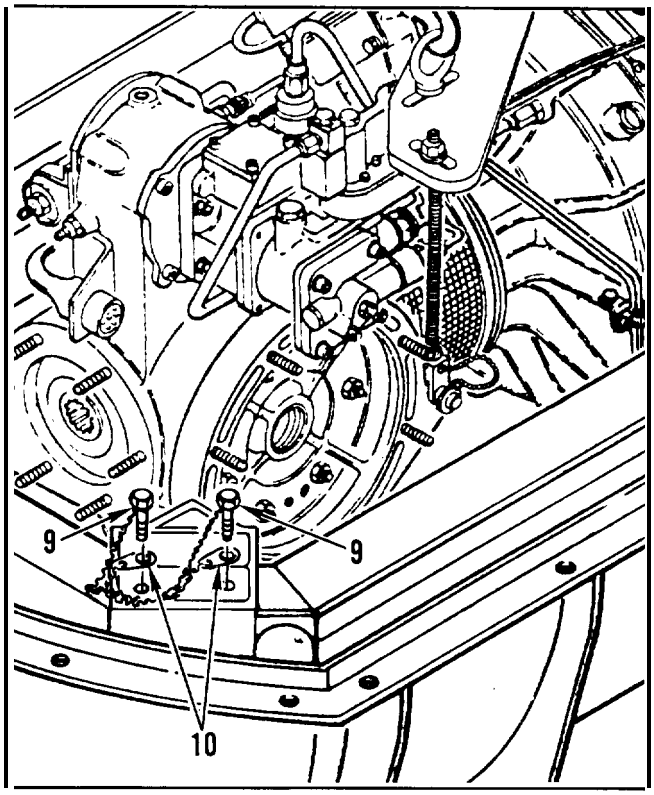
1-22 REMOVE APU FROM REUSABLE SHIPPING CONTAINER (Continued)

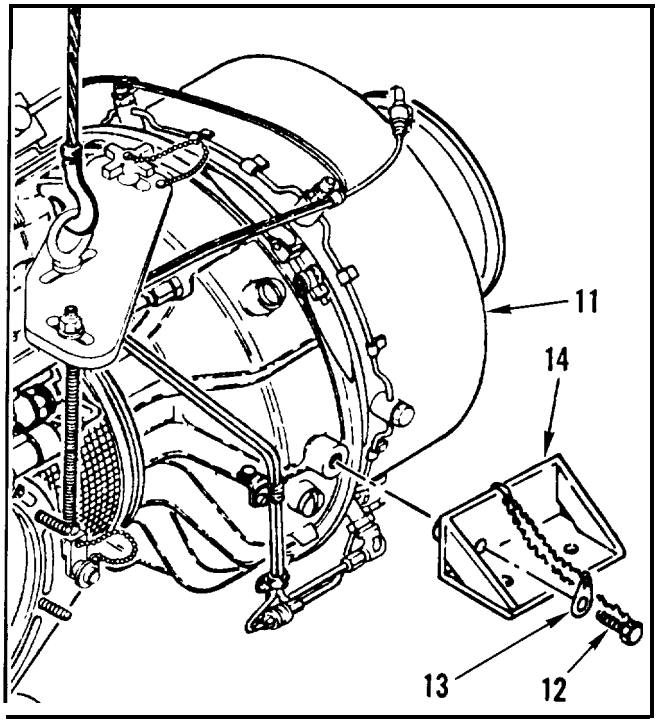
8. **Remove** eight chained **bolts (9)** and washers (10).



9. With helper guiding APU (11), **hoist APU** from **container.**

10. **Remove** six chained bolts (12), and washers (13), and four brackets **(14),**

11. Put four brackets (14) with chained bolts (12) and washers (13) inside container,



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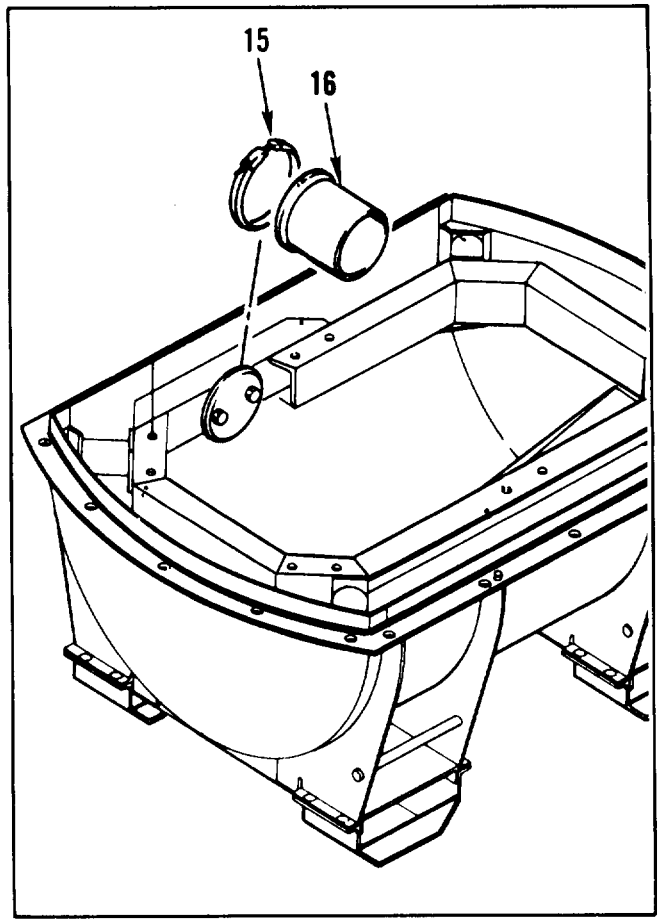
1-22 REMOVE APU FROM REUSABLE SHIPPING CONTAINER (Continued) 1-22

12. Remove clamp (15) and exhaust duct (16).



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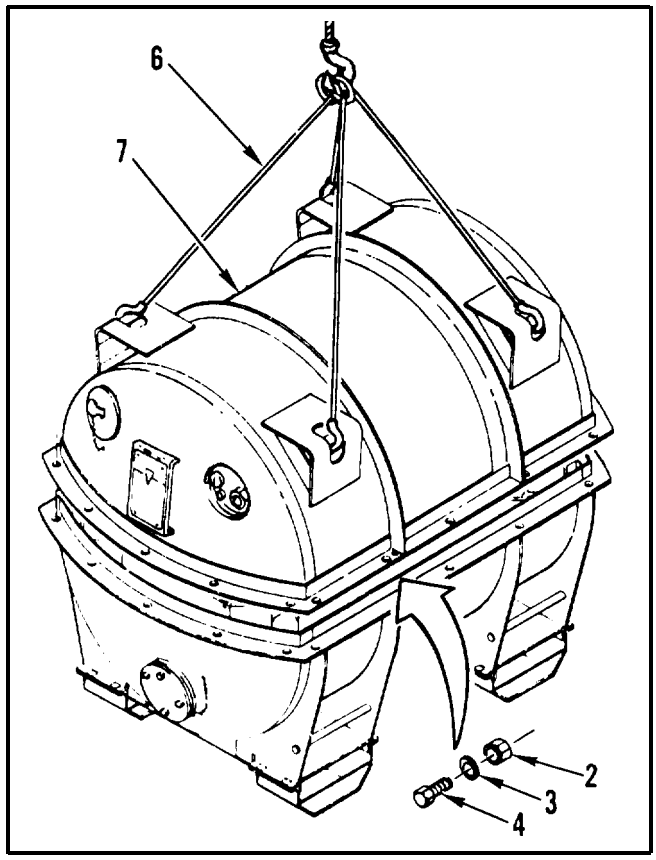
13. Put all but four nuts (2), washers (3), and bolts (4) inside container.

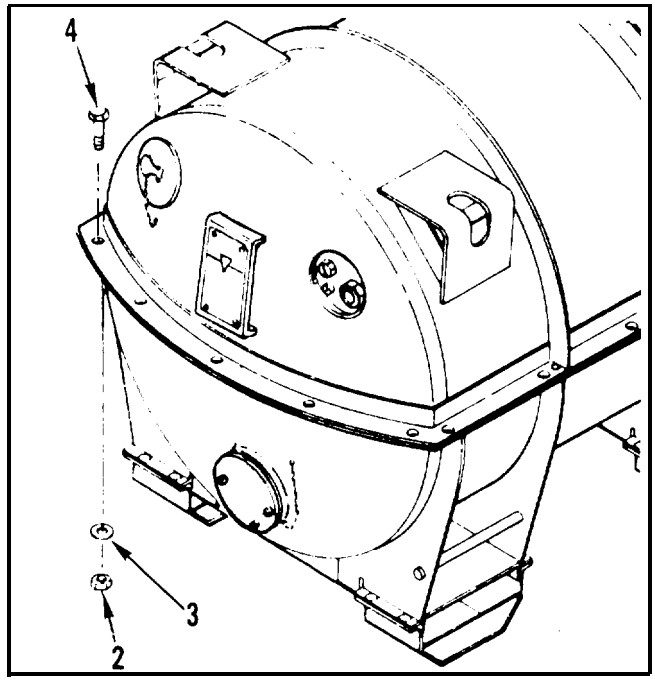
14, Using hoist (6), install container top section (7).



15. Install one bolt (4), washer (3), and nut (2) in each corner, finger tight.

16. Remove hoist.

FOLLOW-ON MAINTENANCE:
Service oil sump (Task 2-84).
Install APU in assembly fixture (Task 1-23).



END OF TASK

1-23 INSTALL APU IN ASSEMBLY FIXTURE

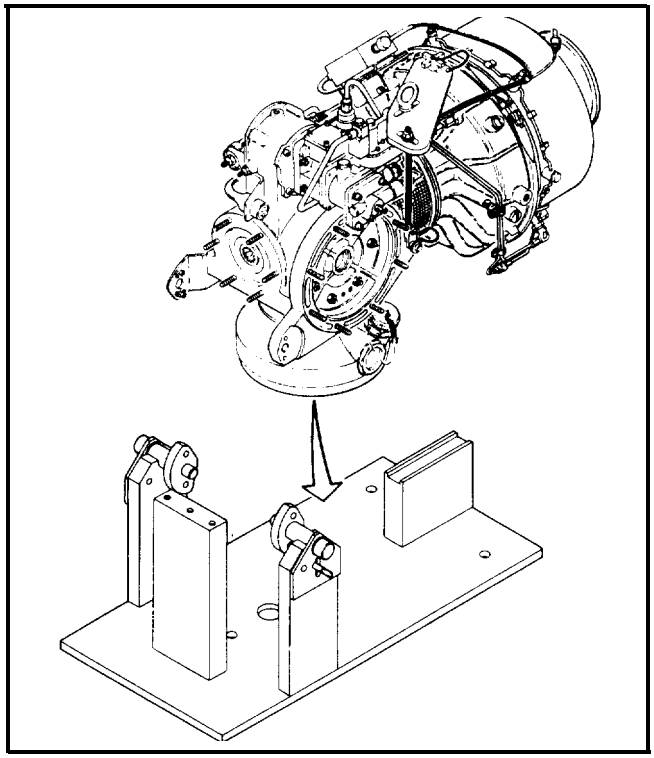
INITIAL SETUP

Applicable Configurations:
All

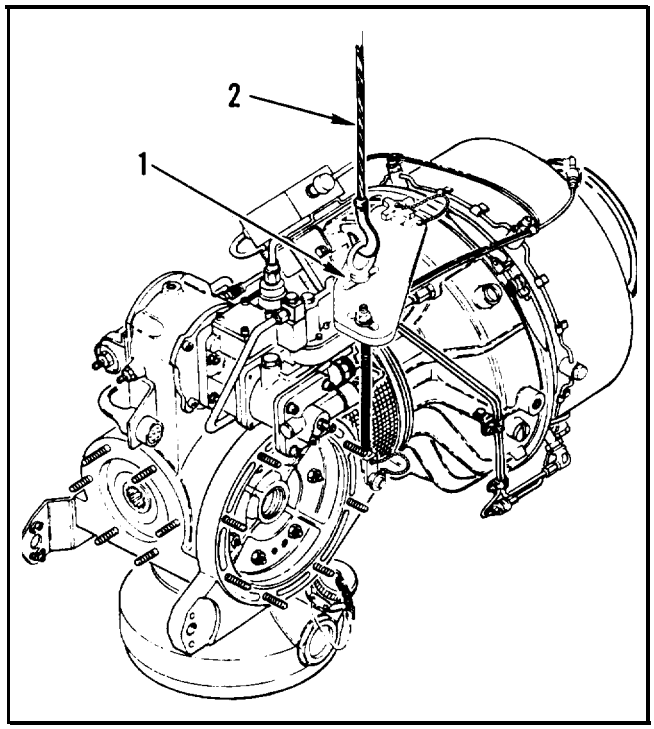
Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Assembly Fixture *(T2)*
Hoist

Materials:
Bolt (E25)
Bolt (E26)

Personnel Required:
68B10 Aircraft Powerplant Repairer (2)



1. Install lifting fixture (1) and connect hoist (2) (Task 1-24).



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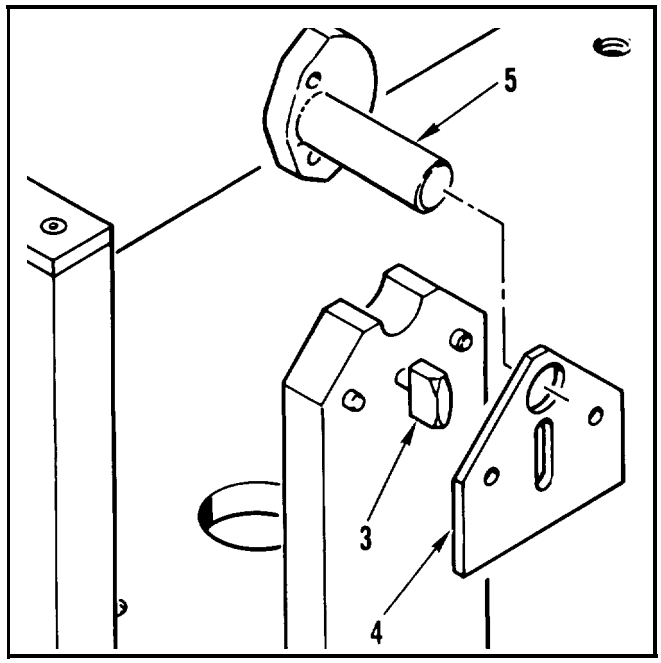
1-23 INSTALL APU IN ASSEMBLY FIXTURE (Continued) 1-23

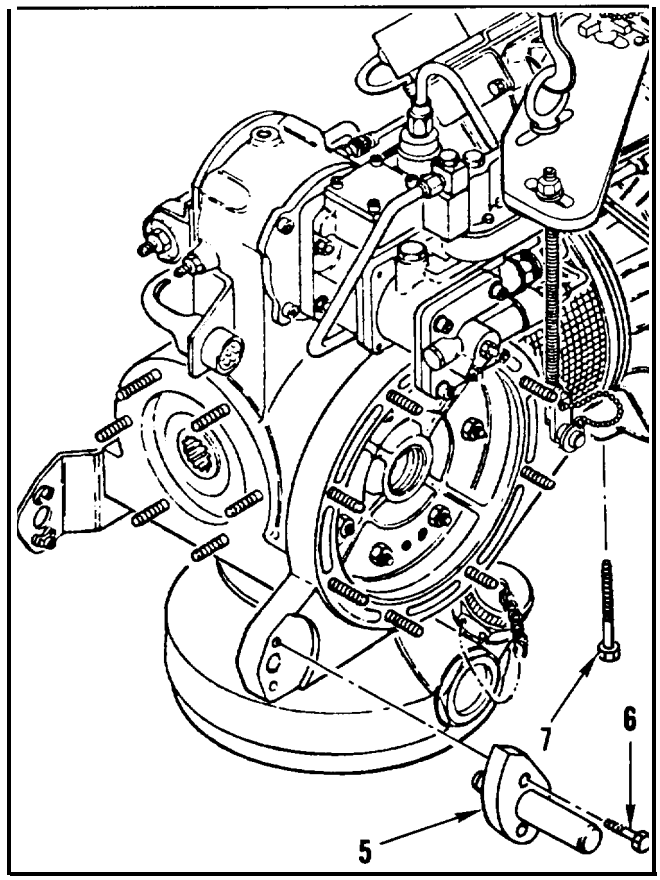
2. Turn quarter turn screws (3) and **remove trunnion plates (4)** from both sides of assembly fixture (T2).

3. Remove trunnions (5).



4. **Install** two **trunnions (5)** on forward APU mounts with four bolts (E25)(6).

5. Install bolt **(E26)(7)** into threaded boss at bottom of air inlet housing.



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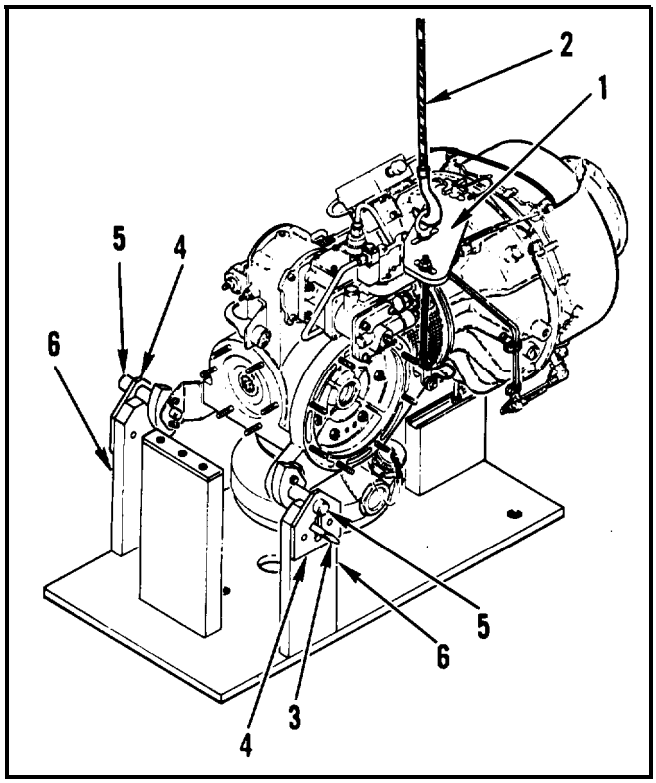
1-23 INSTALL APU IN ASSEMBLY FIXTURE (Continued) 1-23

6. With aid of helper, **lower APU into assembly fixture** so that trunnions (5) rest on trunnion supports (6).

7. **Install trunnion plates (4)** and turn quarter turn screws (3) to lock trunnion plates,

8. Remove hoist (2) and lifting fixture (1),

FOLLOW-ON MAINTENANCE:
None



END OF TASK

Section VI. HOISTING

1-24 HOIST APU

1-24

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Lifting Fixture (T1)
Hoist

Materials:
None

Personnel:
68B10 Aircraft Powerplant Repairer (2)

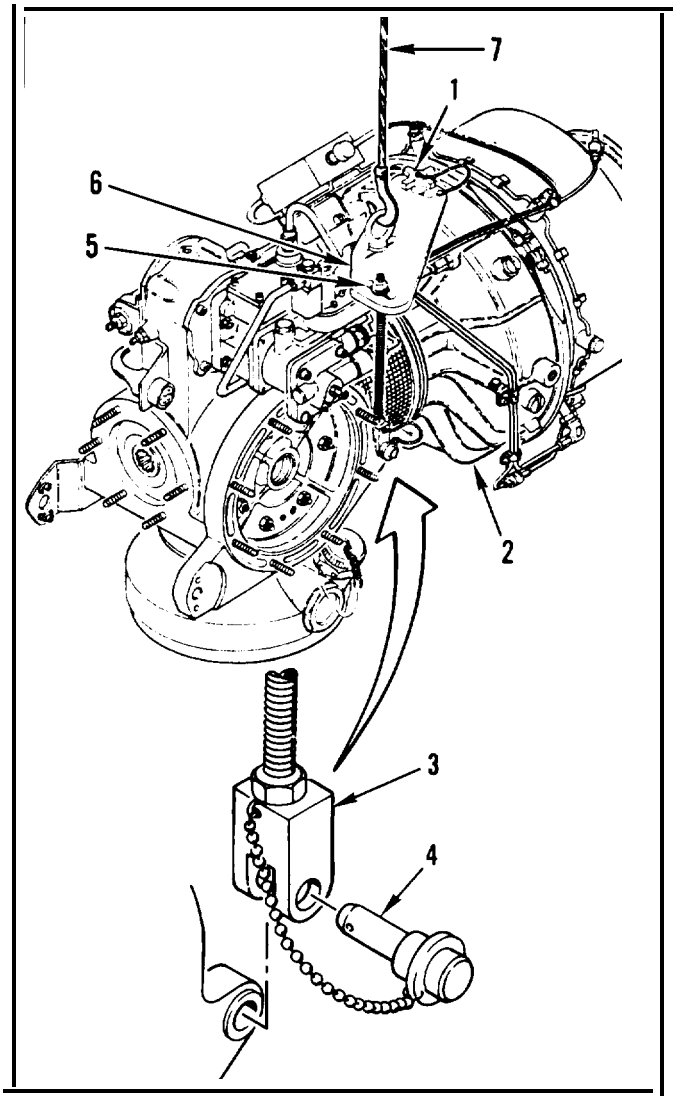
1. Place lifting fixture (T1) over APU and install screw with hand knob (1) into threaded boss at top of air inlet housing (2), Do not tighten,

2. Place yoke (3) over lifting eye on APU and install ball lock pin (4).

3. Adjust nut (5) if necessary to level plate (6),

4. Tighten screw with hand knob (1).

5, With aid of helper, **lift APU with hoist (7),**



FOLLOW-ON MAINTENANCE:
None

END OF TASK

Section VII. PREPARATION FOR STORAGE OR SHIPMENT

1-25 REMOVE APU FROM ASSEMBLY FIXTURE

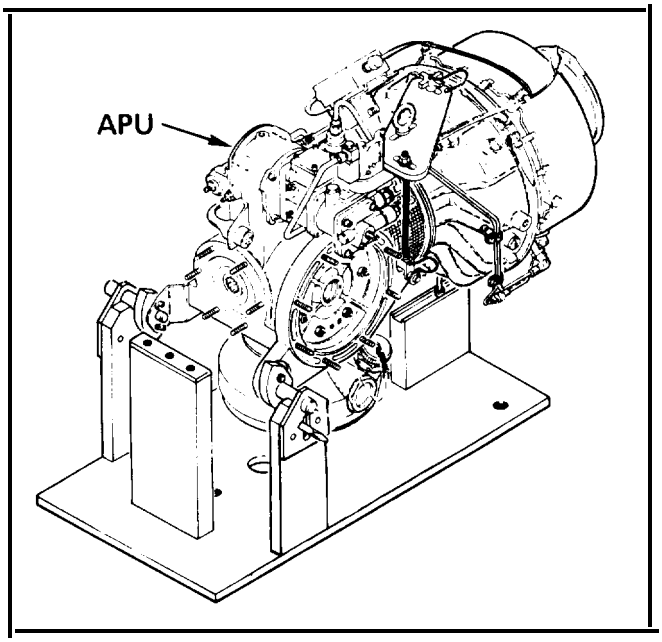
INITIAL SETUP

Applicable Configurations:
All

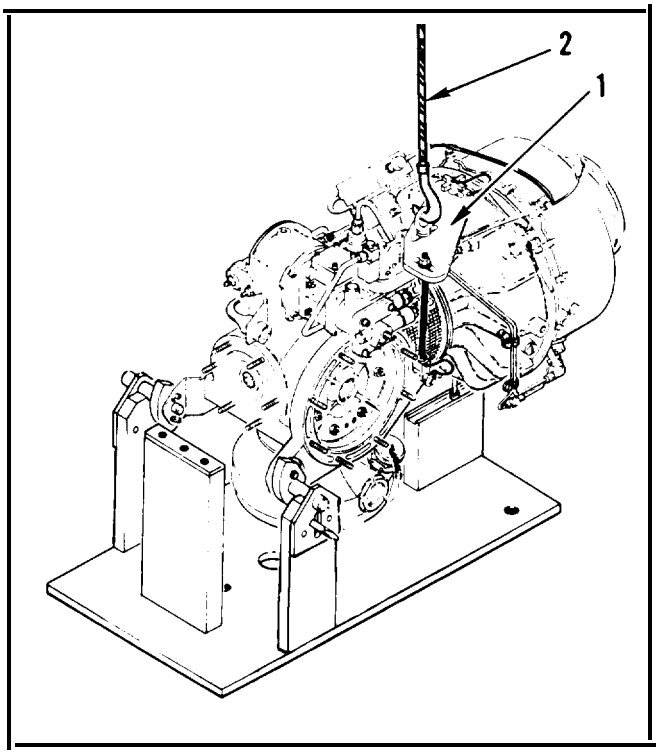
Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Hoist

Materials:
None

Personnel Required:
68B10 Aircraft Powerplant Repairer (2)



1. Install lifting fixture (1) and connect hoist (2) (Task 1-24).



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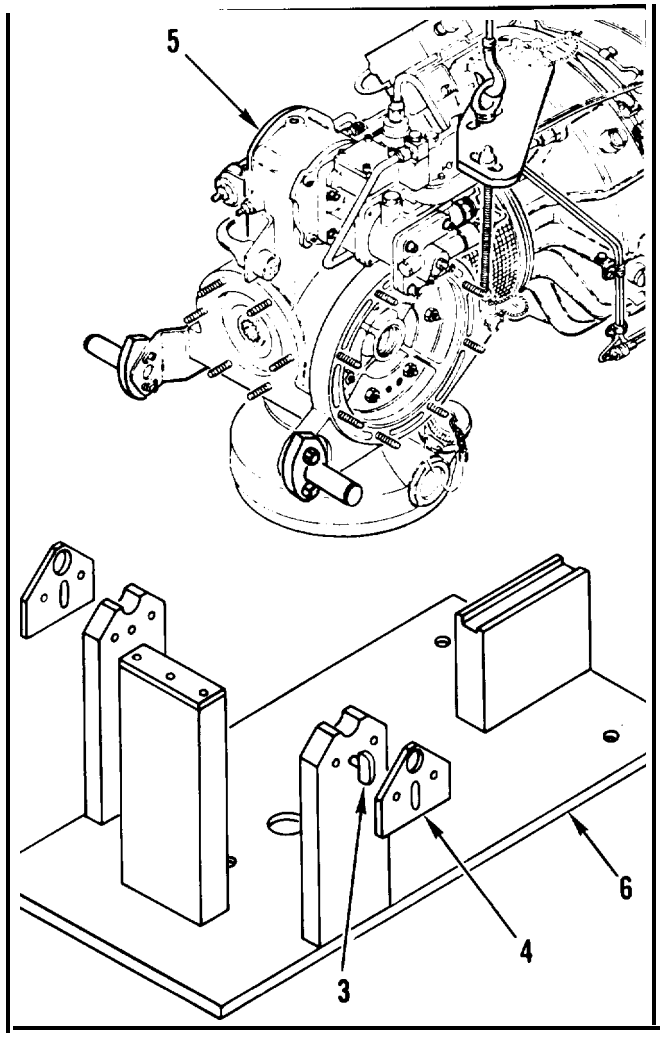
1-25 REMOVE APU FROM ASSEMBLY FIXTURE (Continued)

2. Turn quarter turn screws (3) and **remove trunnion plates (4).**

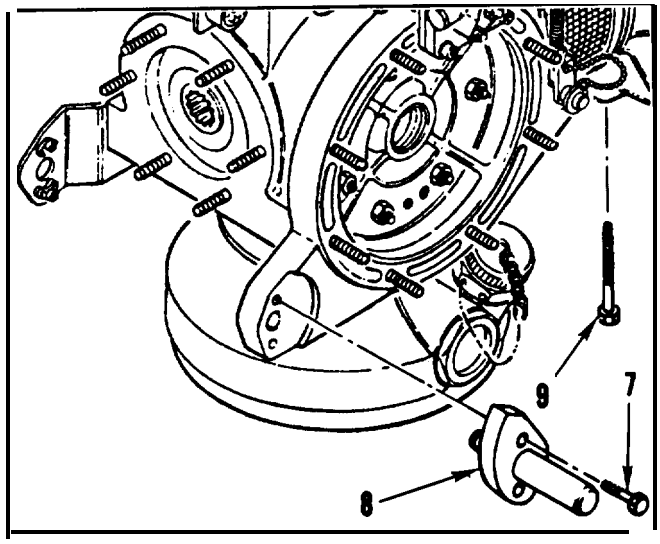
3. With aid of helper, **hoist APU (5)** clear of assembly fixture (6).



4. Remove four cap screws (7) and two **trunnions (8).**

5. **Remove** machine **screw (9).**

FOLLOW-ON MAINTENANCE:
Install APU in reusable shipping container (Task 1-26).



END OF TASK

1-26 INSTALL APU IN REUSABLE SHIPPING CONTAINER

INITIAL SETUP

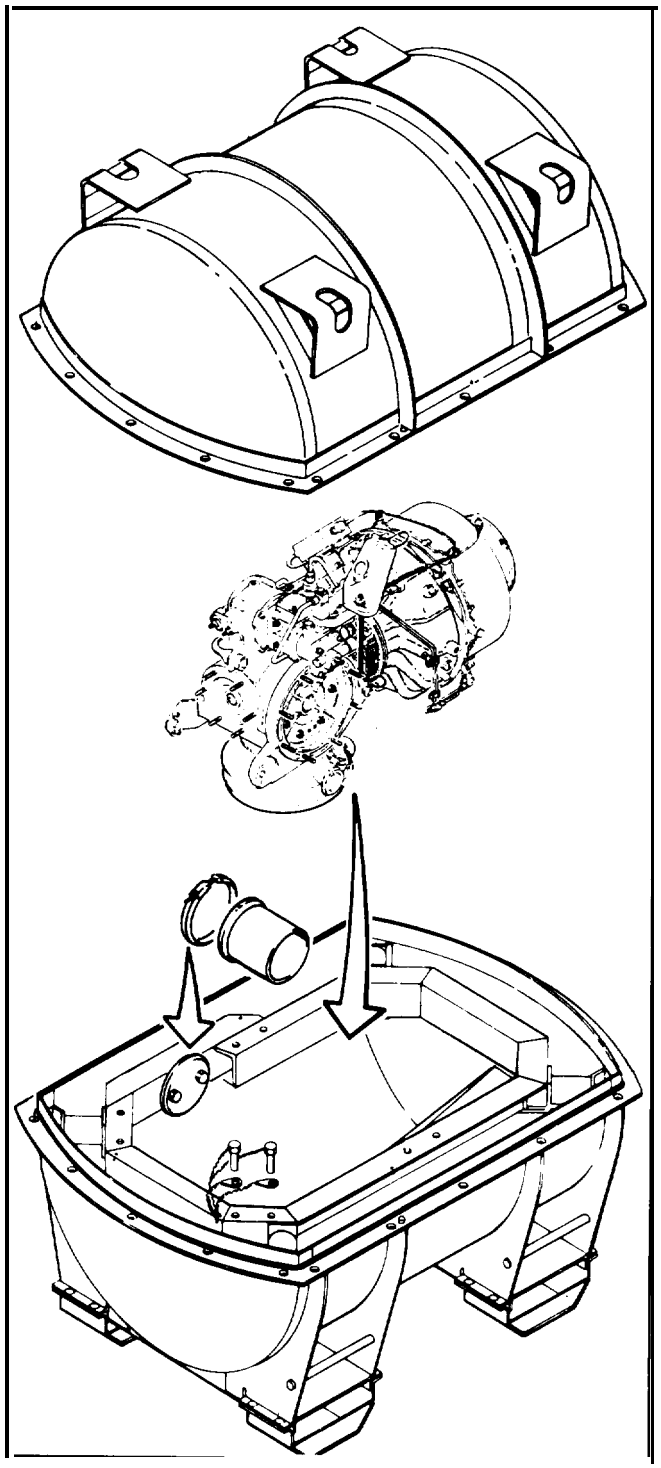
Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Hoist
Nitrogen Pressurizing System
Torque Wrench, 30 to 150 inch-pounds
NSN 5120-00-542-4489
Head Sling (2)
NSN 1730-00-099-8099
Tube Assembly
NSN 4730-00-447-1423

Materials:
Petrolatum (El)
Grease (E2)
Nitrogen (E3)
Soap (E4)
Desiccant (E5)
Humidity Indicator (E6)

Personnel Required:
68B10 Aircraft Powerplant Repairer (2)

References:
TB 55-8100-200-24



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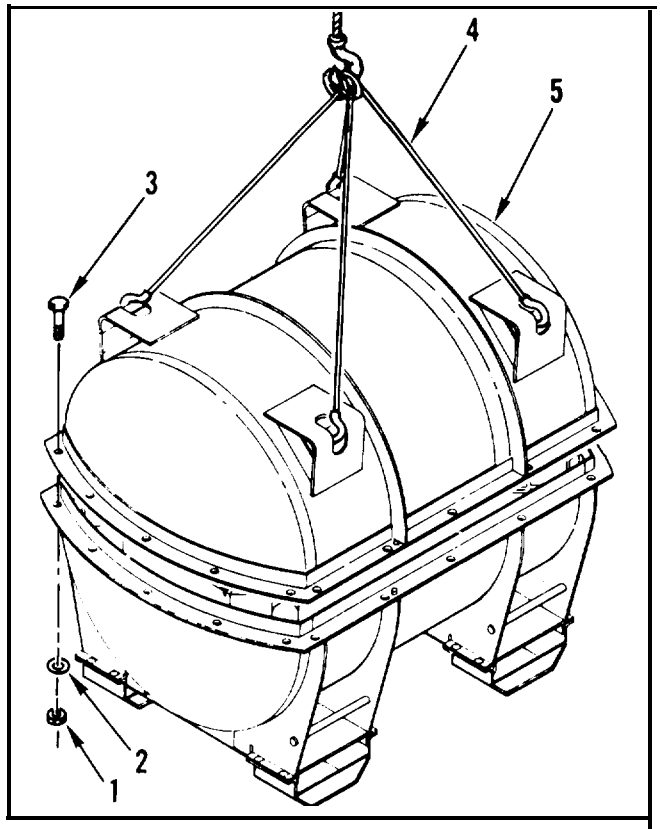
1-26 INSTALL APU IN REUSABLE SHIPPING CONTAINER (Continued)

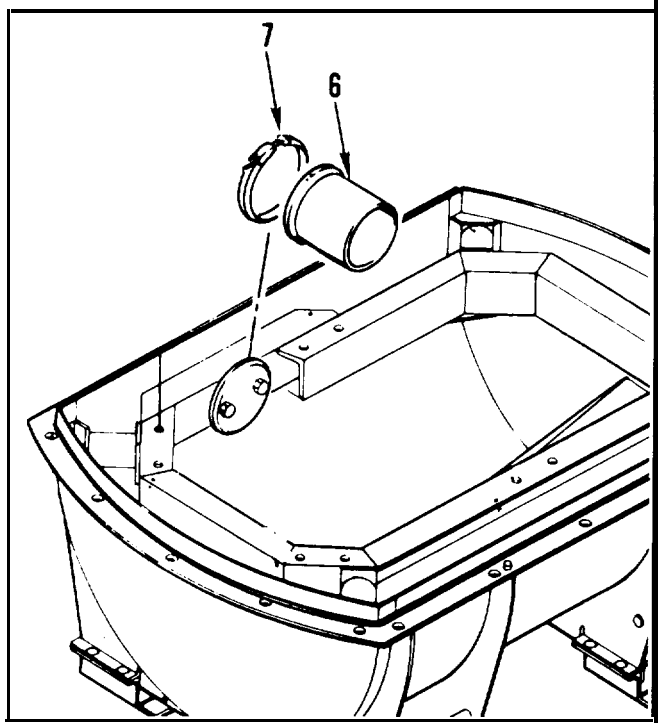
1. Remove nut (l), washer (2), and bolt (3) from each corner.

2. Install head slings (4) and hoist. **Remove container top section (5).**

3. Set top section aside.



4. Install exhaust duct **(6)** with clamp (7),



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1-26 INSTALL APU IN REUSABLE SHIPPING CONTAINER (Continued)

5. Hoist APU (Task 1-24).

NOTE

Be sure chained bolt (9) is installed through forward hole in bracket (8). Hole is marked "T62T-2B".

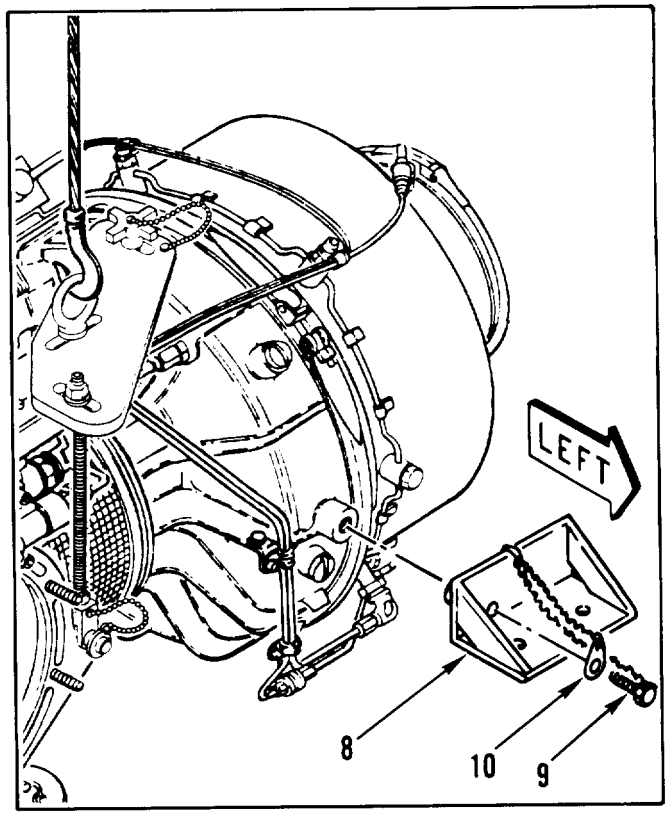
NOTE

RH rear bracket is installed in same manner as LH.

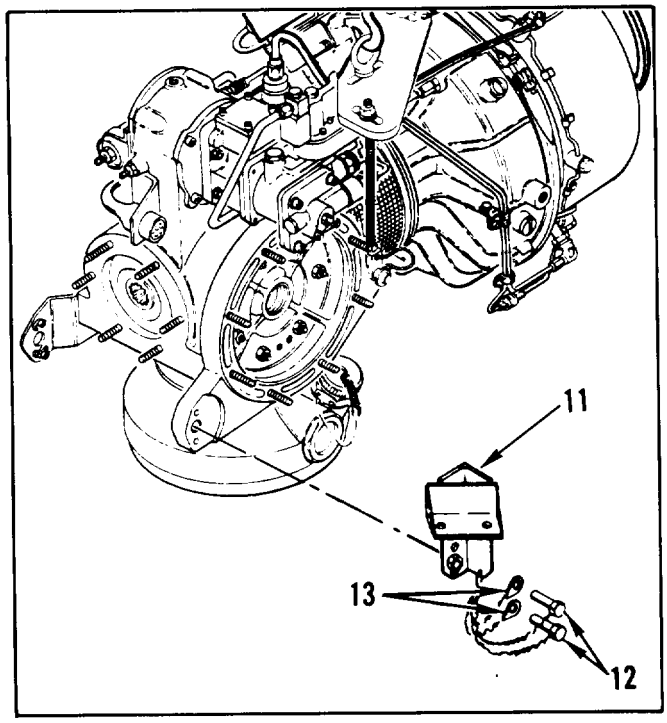
6. Remove LH rear bracket (8) from container and install bracket on APU with chained bolt (9) and washer (10).

NOTE

RH front bracket is installed in same manner as LH.



7. Remove LH front bracket (11) from container and **install bracket** on APU with two chained bolts (12) and washers (13).



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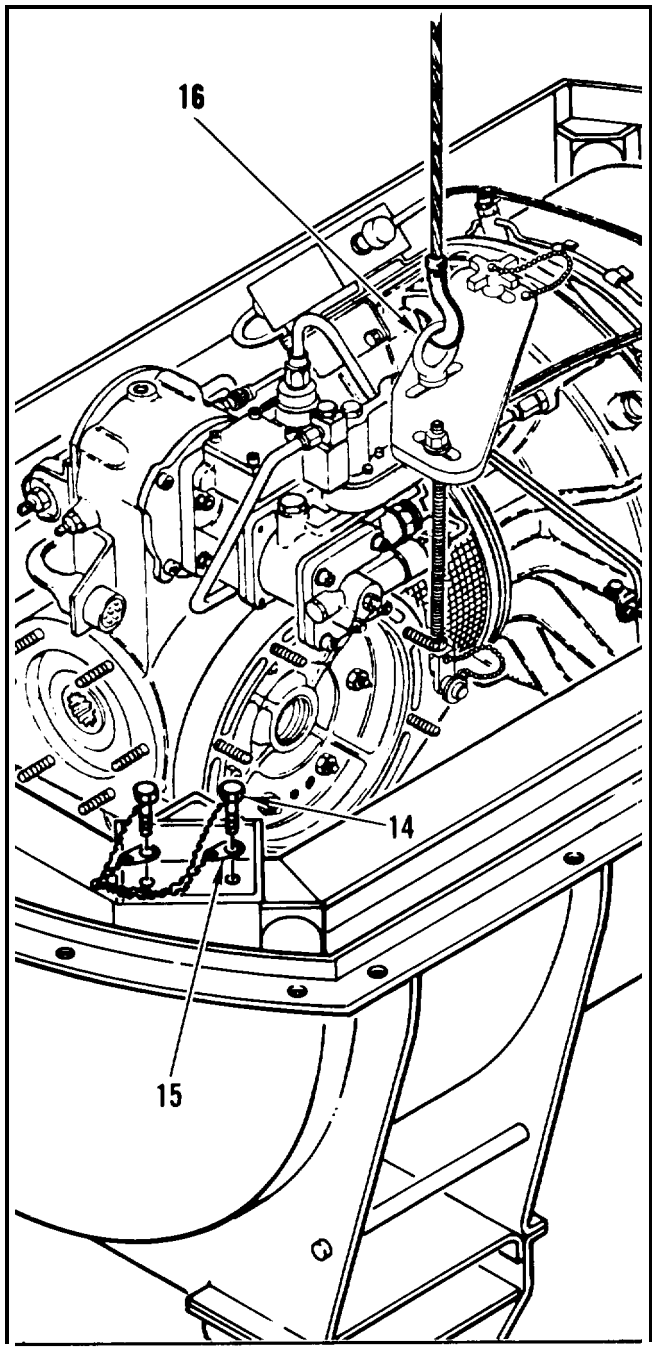
1-26 INSTALL APU IN REUSABLE SHIPPING CONTAINER (Continued) 1-26

8. Remove cover bolts, washers, and nuts from container.

9. With helper guiding APU, **hoist APU into container,** aligning holes for eight chained bolts (14).

10. **Install** eight chained **bolts (14)** and washers (15). Torque bolts to 130-inch-pounds.

11. Remove hoist and lifting fixture (16).



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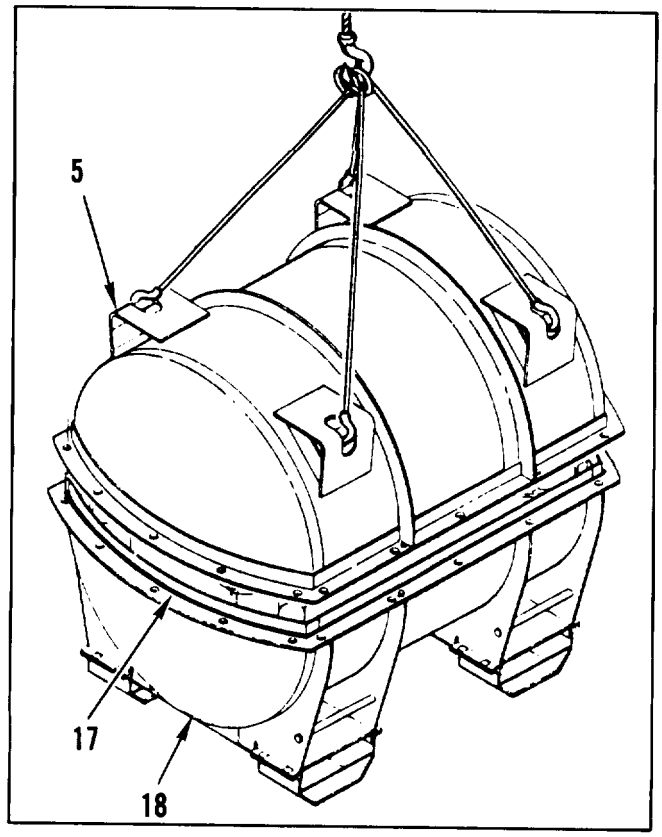
1-26 INSTALL APU IN REUSABLE SHIPPING CONTAINER (Continued)

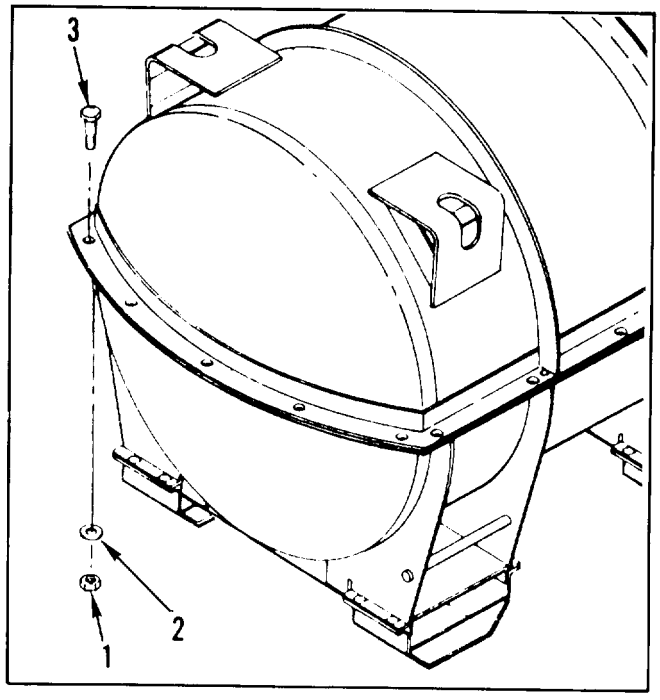
12. Coat seal (17) with a thin even coat of petro. Iatum (El).

13. **Hoist container top section (5) onto bottom section (18).** Remove hoist and sling.



14. Coat threads of bolts (3) with grease (E2).

15. **Install twenty bolts (1),** washers (2), and nuts (3), finger tight.



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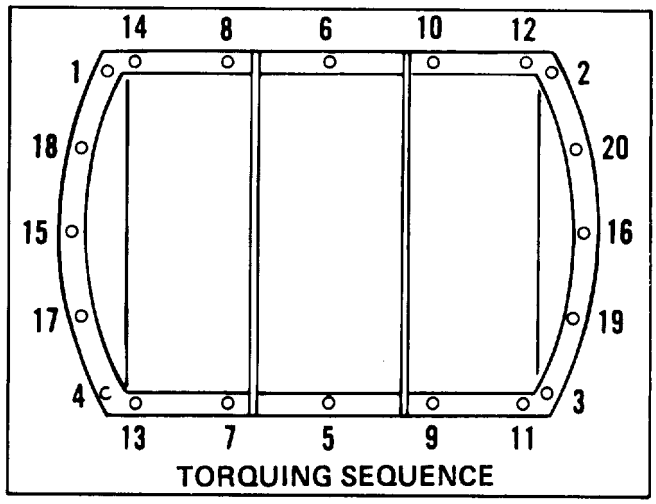
1-26 INSTALL APU IN REUSABLE SHIPPING CONTAINER (Continued)

16. Torque all twenty bolts in sequence shown to 40 inch-pounds.

17. Torque bolts to 80 inch-pounds in sequence shown, except skip bolts 1, 2, 3, and 4. Start with bolt 5.

18. Torque all twenty bolts to 100 inch-pounds in sequence shown.



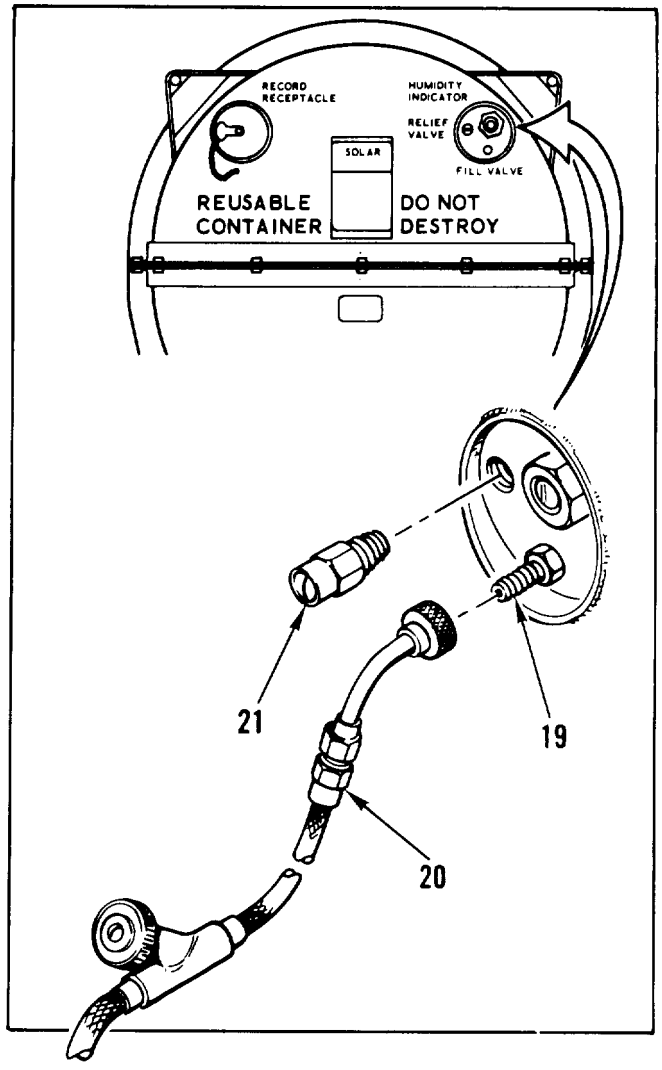
TORQUING SEQUENCE

19. Connect nitrogen pressuring system to fill valve (19) using tube assembly (20).

20. Remove relief valve (21).

21. Verify that nitrogen pressurizing system relief valve is set at 8 ± 2 psig. Purge container with nitrogen (E3) at 5 ± 0.5 psig for two minutes.

22. Install relief valve (21). Pressurize container with nitrogen pressurizing system to 5±5 psig.



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1-26 INSTALL APU IN REUSABLE SHIPPING CONTAINER (Continued) 1-26

23. Brush solution of soap (E4) over all seams and closures and observe leaks indicated by air bubbles. If there is a leak, refer to TB 55-8100-200-24.

24. Disconnect nitrogen pressurizing system.

25. Repressurize container to atmospheric pressure.

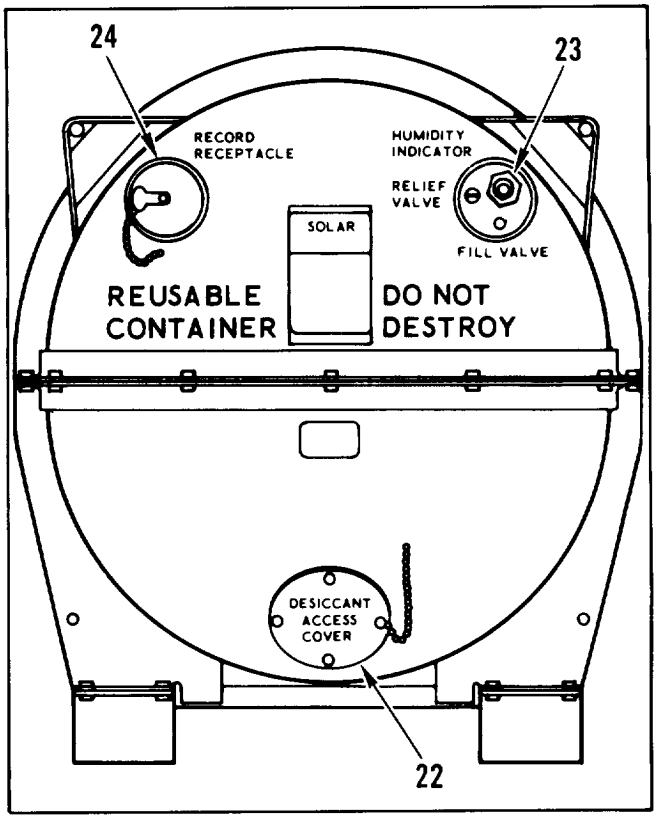
26. Remove desiccant cover (22).

27. Remove old desiccant and install 24 units of fresh desiccant (E5).

28. Replace desiccant cover (22).

29. Install new humidity indicator (E6) (23).

30. Remove cover from record receptacle (24) and place APU history records in receptacle. Replace cover.



FOLLOW-ON MAINTENANCE:
None

END OF TASK

CHAPTER 2

MAINTENANCE
(AVUM/AVIM TASKS)

2-1 REMOVE AIR SCREEN ASSEMBLY

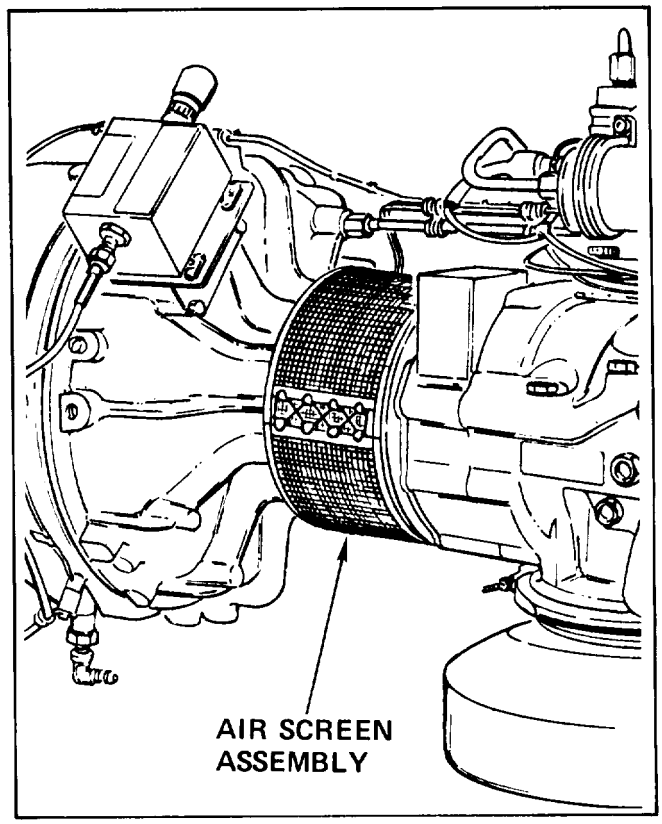
INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

Materials:
Barrier Material (E7)
Masking Tape (E8)

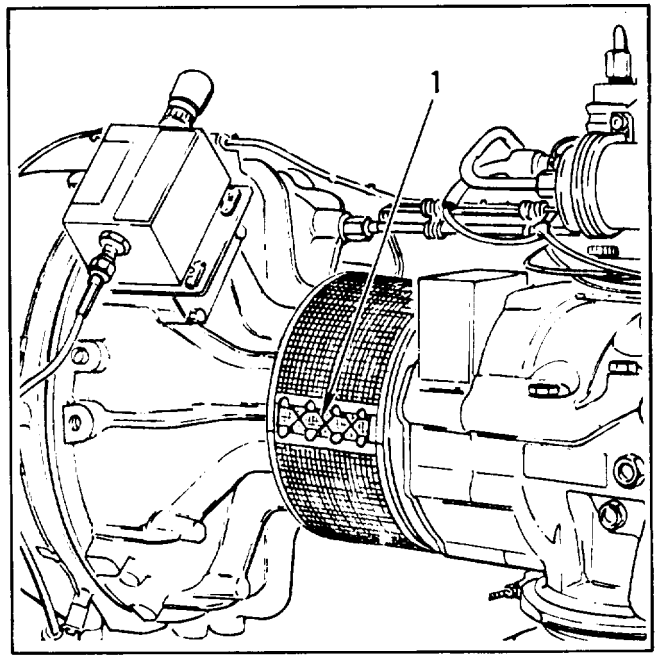
Personnel Required:
68B10 Aircraft Powerplant Repairer



CAUTION

Make sure that pieces of lockwire or broken screen do not fall into air inlet. Foreign material can damage APU.

1. Remove lockwire (1).



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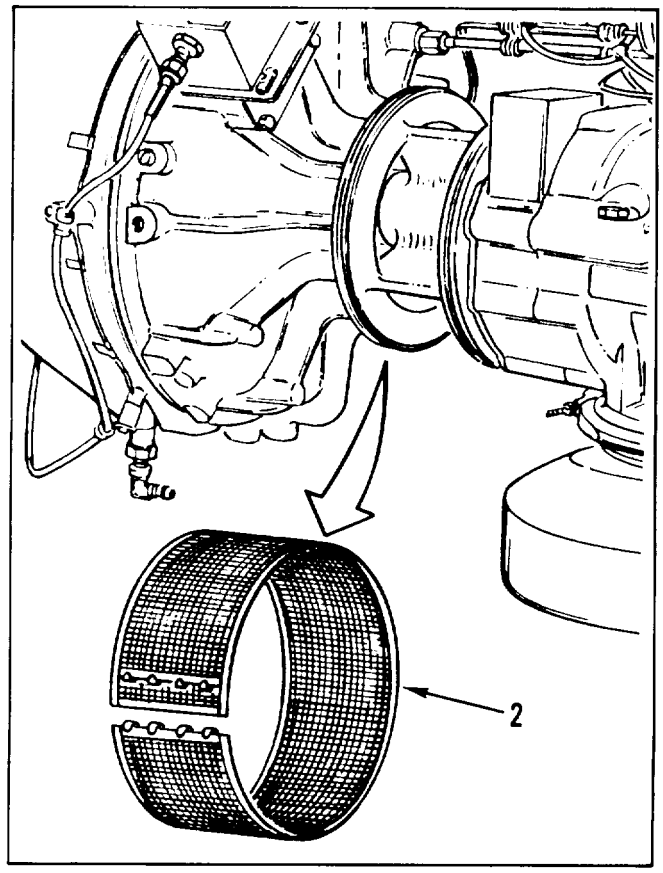
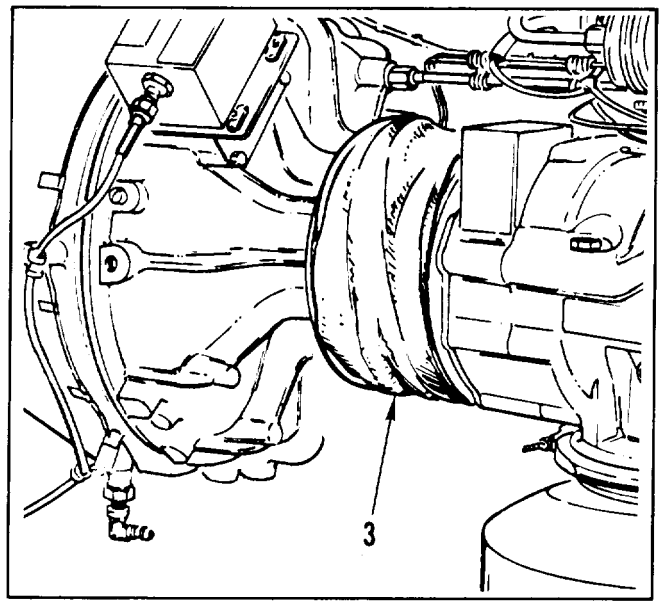
2-1 REMOVE AIR SCREEN ASSEMBLY (Continued)

2. Remove air screen assembly (2).



3. Cover air inlet with barrier material (E7) (3). Secure with masking tape (E8).



FOLLOW-ON MAINTENANCE
None

END OF TASK

2-2 CLEAN AND INSPECT AIR SCREEN ASSEMBLY 2-2

INITIALSETUP

Applicable Configurations:
All

Tools:
Rubber Gloves
NSN 8415-00-266-8677
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Container

Materials:
Methyl-Ethyl-Ketone (MEK) (E9)
Stiff Fiber Brush (E10)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

Equipment Condition:
Off APU Task

WARNING

MEK is flammable and toxic. It can irritate skin and cause burns. Use only in well-ventilated area, away from heat and open flame. Wear gloves. In case of contact, immediately flush skin or eyes with water for at least 15 minutes. Get medical attention for eyes.

1. Wearing gloves, degrease using MEK (E9).

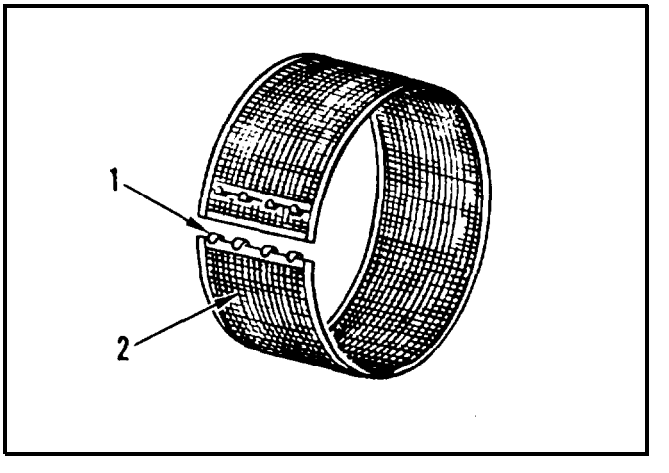
NOTE

Use a stiff fiber brush (E10) to remove deposits.

2. Inspect for loose, missing, or cracked lacing hooks (1). There shall be no loose, cracked or missing lacing hooks (1). If loose, repair (Task 2-3). If missing or cracked, replace air screen assembly.

3. Inspect for dents in screen wire (2). There shall be no dents. If dents are found, repair (Task 2-3).

4. Inspect for breaks in screen wire (2). There shall be no breaks. If breaks are found, replace screen assembly.



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-3 REPAIR AIR SCREEN ASSEMBLY (AVIM) 2-3

INITIAL SETUP

Applicable Configurations:
All

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

Materials:
Brazing Alloy (E11)
Brazing Flux (E11)

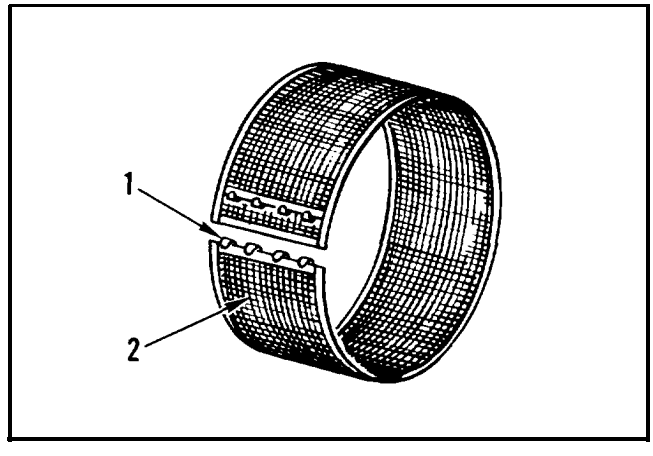
Personnel Required:
44E 10 Welder
68B30 Powerplant Inspector

References:
TM 55-1500-204-25/1

Equipment Condition:
Off APU Task

1. Repair loose lacing hooks (1) by brazing in accordance with TM 55-1500-204-25/1. Use brazing alloy (E11) and brazing flux (E12).

2. Reform screen wire (2) to smooth out dents.



INSPECT

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-4 INSTALL AIR SCREEN ASSEMBLY

INITIAL SETUP

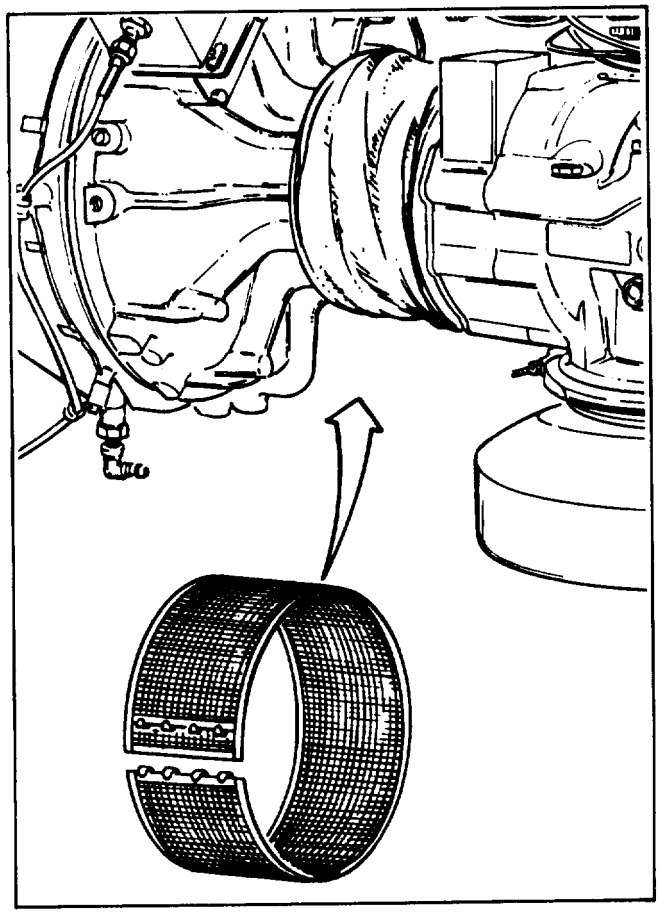
Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

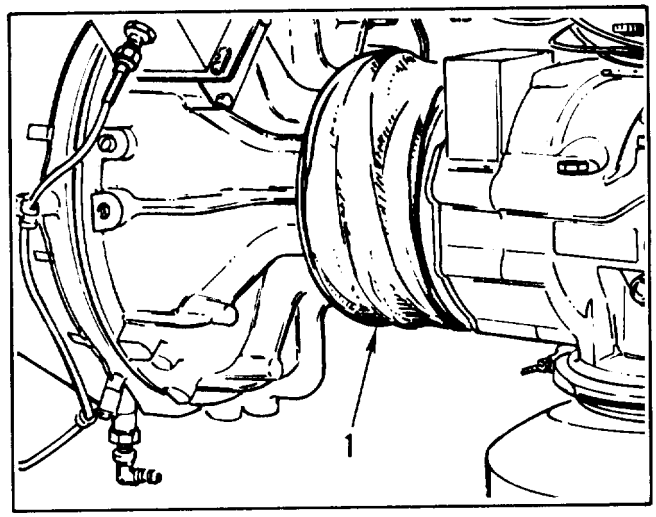
Materials:
Lockwire (E16)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

References:
TM 55-2835-205-23P



1, Remove barrier material (E7) (1).



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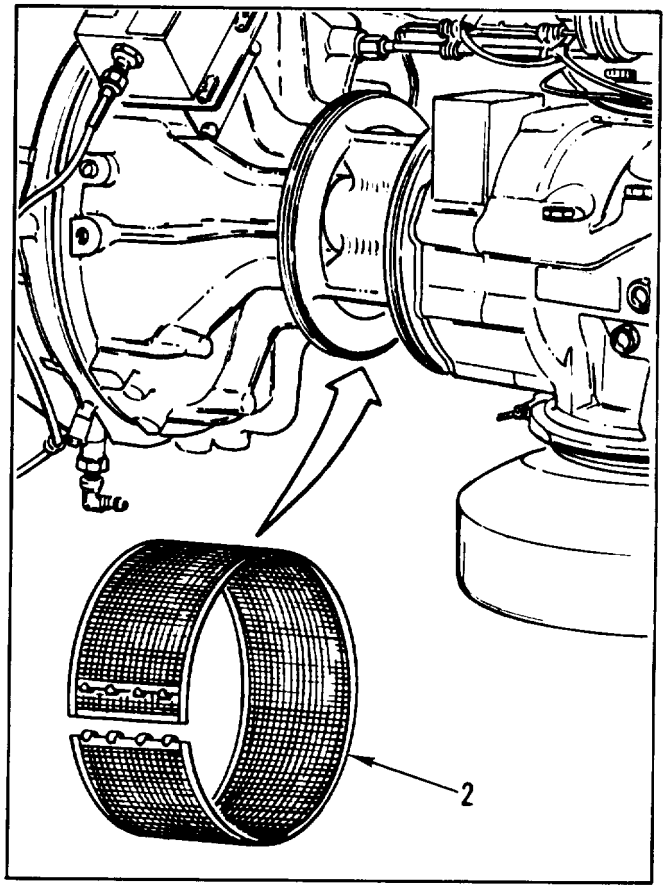
2-4 INSTALL AIR SCREEN ASSEMBLY (Continued)

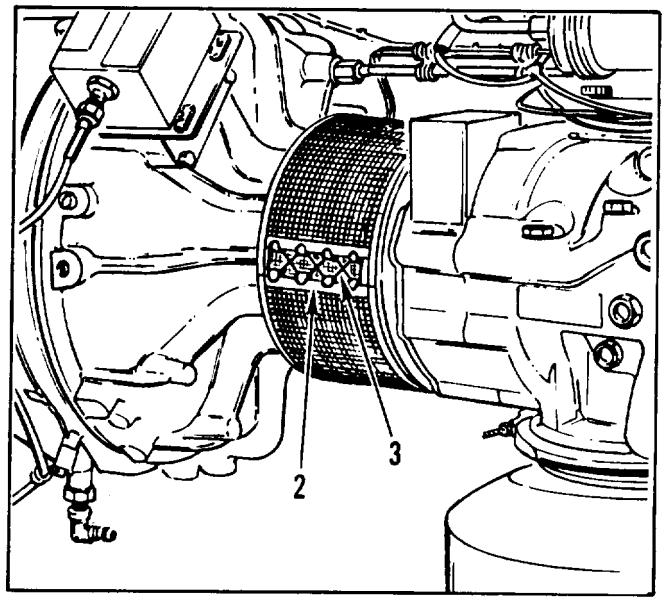
2. Install air screen assembly (2).



CAUTION

Make sure pieces of lockwire do not fall into air inlet. Foreign material can damage APU.

3. Join mating edges of air screen assembly (2) and lockwire using lockwire (E16) (3).



INSPECT

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-5 INSPECT COMPRESSOR ROTOR

INITIAL SETUP

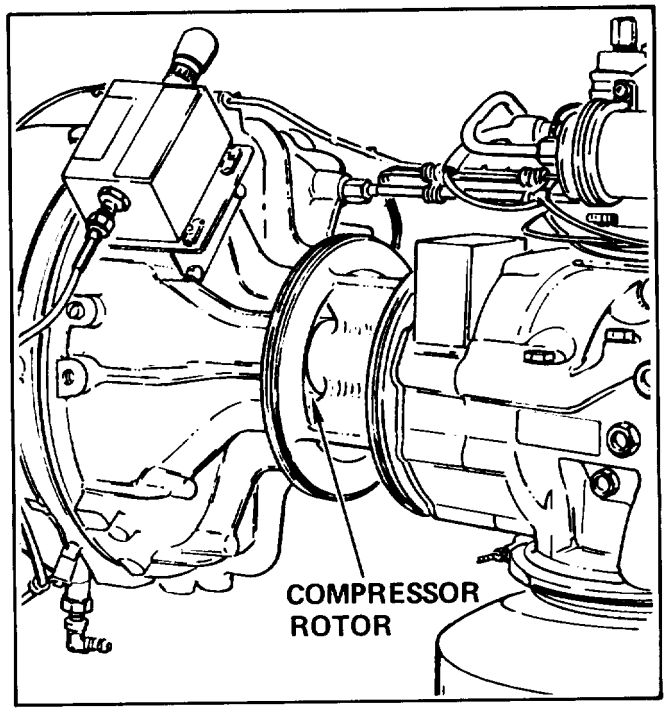
Applicable Configurations:
All

Tools:
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Wire Gage Set (T3)

Materials:
None

Personnel Required:
68B30 Powerplant Inspector

Equipment Condition:
Remove Air Screen Assembly (Task 2-1)

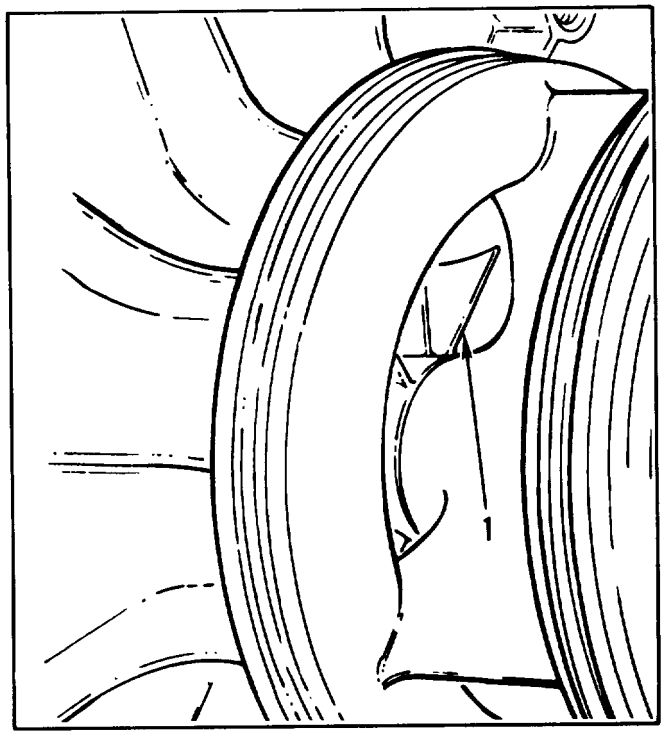


1. Reach through combustor assembly and turn rotor so that all vanes can be inspected. Listen for noise or rubbing sound while turning rotor.

NOTE

Barrier material must be temporarily removed from air inlet to perform this task.

2. Looking through air inlet, inspect compressor rotor (1) for cracks, broken vanes, and marks indicating that rotor has bean rubbing on air inlet housing. There shall be no cracked or broken vanes. There shall be no marks or noise indicating rotor rub.



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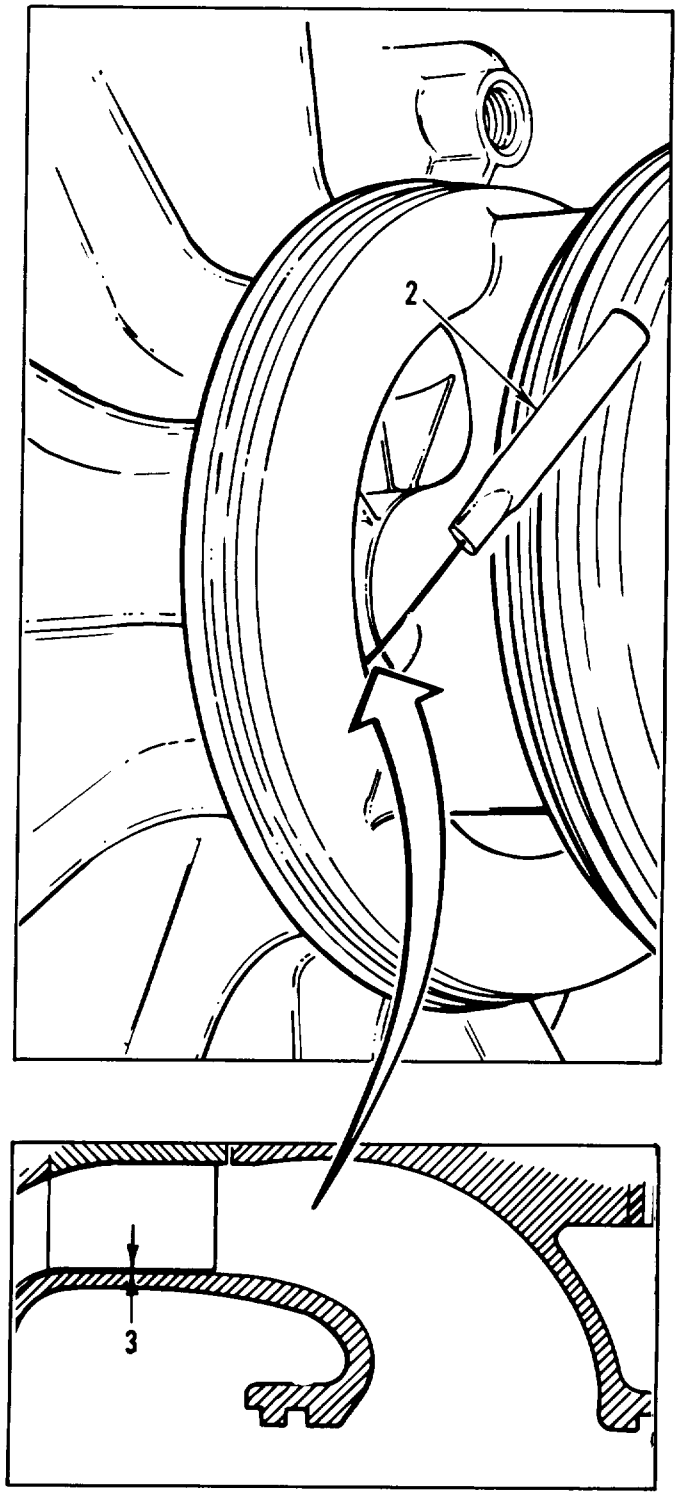
2-5 INSPECT COMPRESSOR ROTOR (Continued)

3. Reach through combustor assembly and turn rotor so that all vanes can be checked.

4. Select wire gage (2) from wire gage set (T3) and check compressor rotor to air inlet housing clearance (3) at six positions: 2, 4, 6, 8, 10. and 12 o'clock, Clearance shall be 0.019 to 0.036 inch. If clearance of any vane is not 0.019 to 0.036 inch, depot maintenance is required.



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-6 INSPECT COMBUSTOR ASSEMBLY

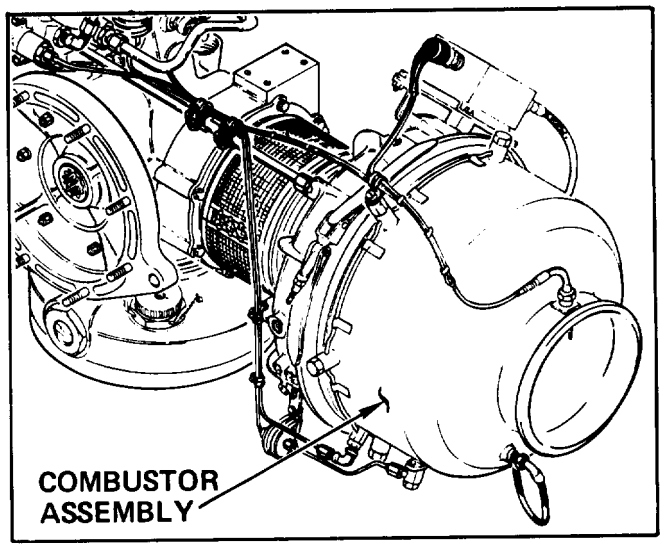
INITIAL SETUP

Applicable Configurations:
All

Tools:
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

Materials:
None

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector



NOTE

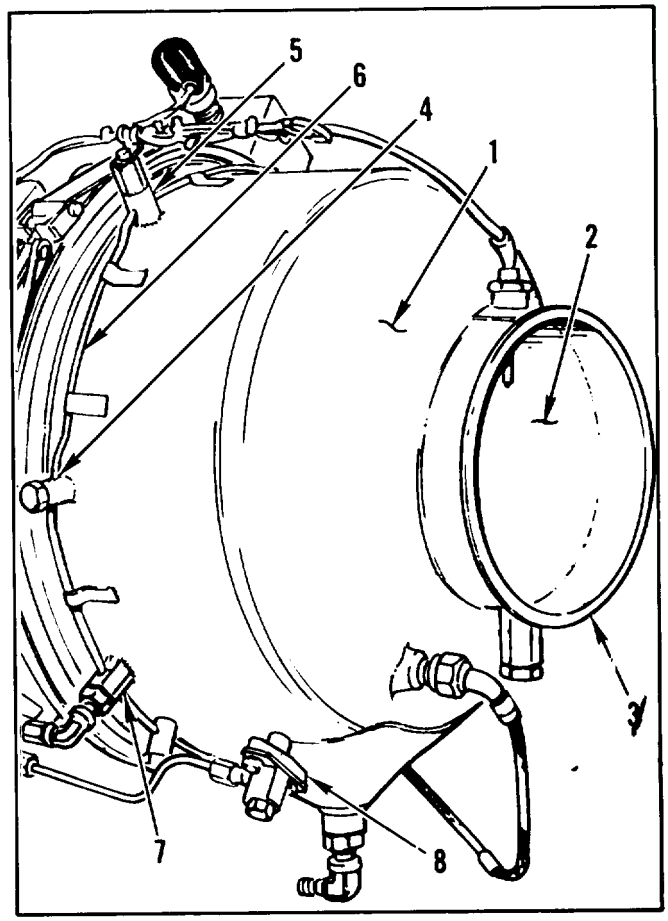
If repairable defects are found, remove combustor assembly (Task 2-7), disassemble (Task 2-8), and work order to AVIM.

1. Inspect combustion chamber case (1), exit diffuser (2), and exhaust flange (3) for cracks in sheet metal, welds, and brazed joints.

2. Inspect brazed joints (4) between fuel injector bosses (5) for cracks.

3. Inspect fuel lines (6) for damage. If damage is found, replace combustion chamber case.

4. Inspect fuel injector bosses (5), fuel inlet boss (7), and start fuel injector boss (8) for cracks in brazed joints.



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-7 REMOVE COMBUSTOR ASSEMBLY

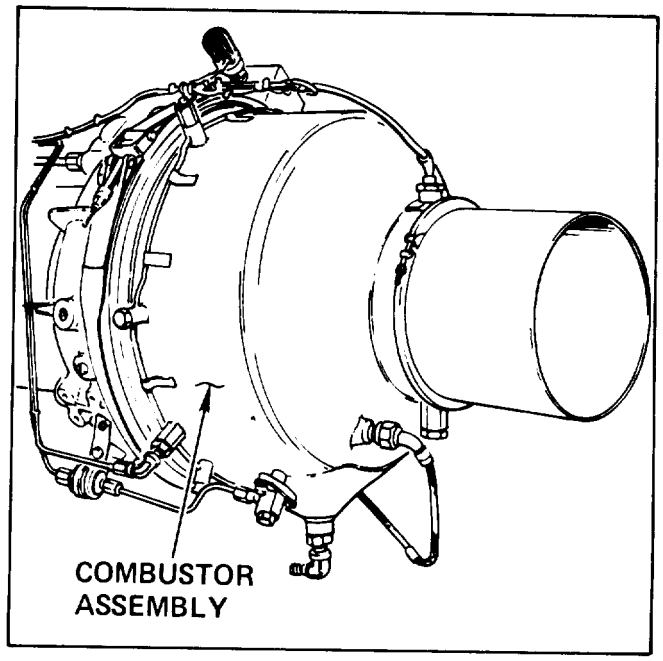
INITIAL SETUP

Applicable Configurations:
All

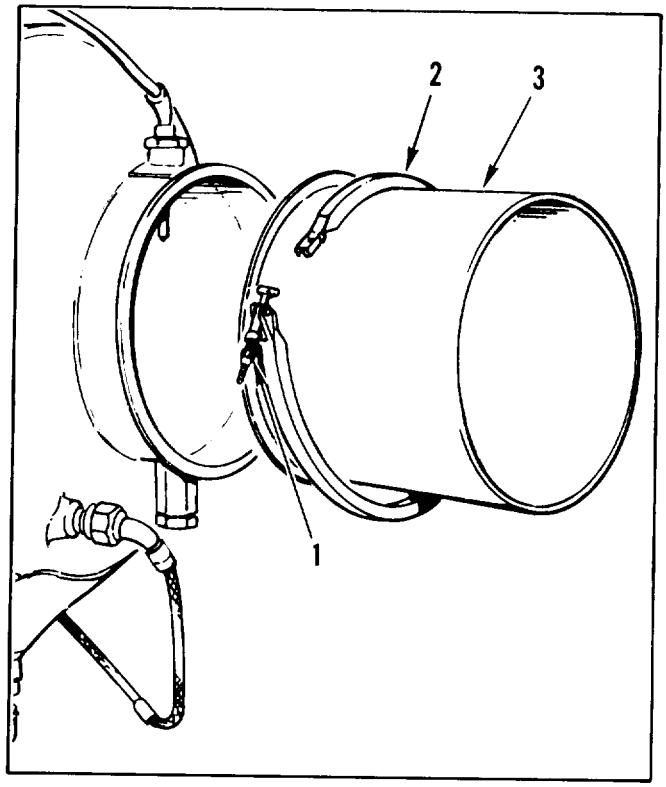
Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Combustor Puller (T5)

Materials:
Lint-free Cloth (E13)
Colorbrite Pencil (E14)

Personnel Required:
68B10 Aircraft Powerplant Repairer



1. Loosen nut (1) on clamp (2).
2. Remove clamp (2) and exhaust duct (3).



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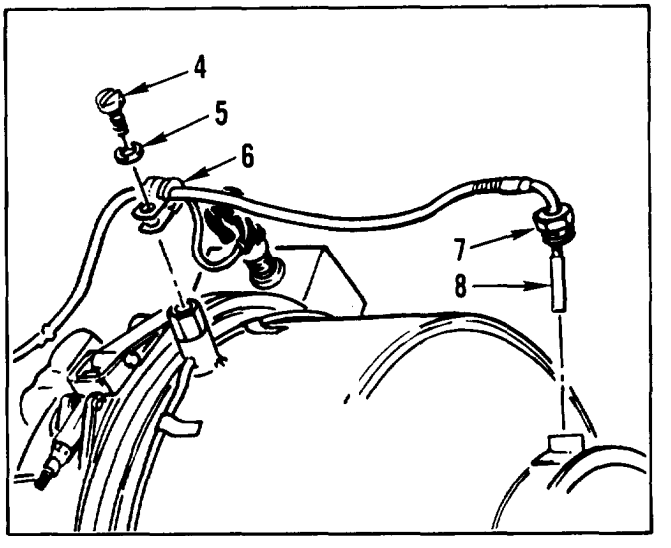
2-7 REMOVE COMBUSTOR ASSEMBLY (Continued)

3. Remove lockwire and three screws (4), washers (5) and clamps (6).



NOTE

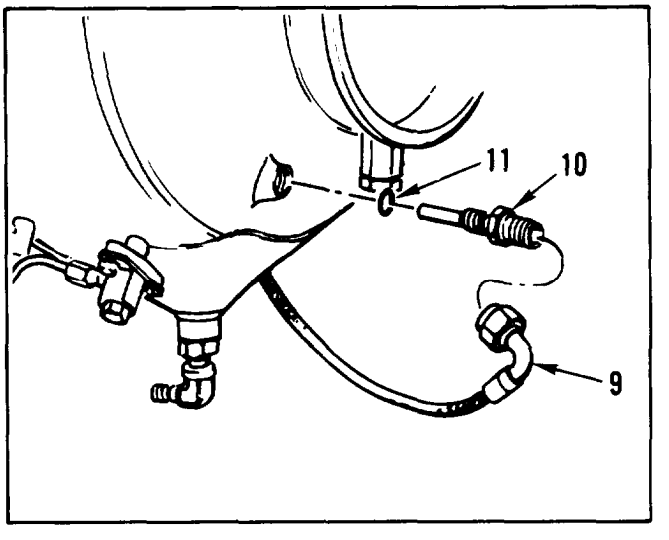
Thermocouple will remain attached to engine electrical harness.

4. Remove lockwire and loosen B-nut (7) and remove thermocouple (8).

WARNING

Allow at least <u>five minutes</u> after operation of the ignition system before disconnecting or removing components. Failure to allow the high voltage to dissipate can result in injury or death.

5. Remove lockwire and disconnect power cable (9).
6. Remove spark plug (10) and gasket (11).



WARNING

Turbine fuels are very flammable. They cause drying and irritation of skin or eyes. Handle only in well-ventilated areas away from heat and open flame. Drain and store in approved metal safety containers. Avoid prolonged or repeated contact with skin, and 'do not take internally. Wash contacted areas of skin thoroughly after handling. If irritation of skin results, get medical attention. Get medical attention for eyes.

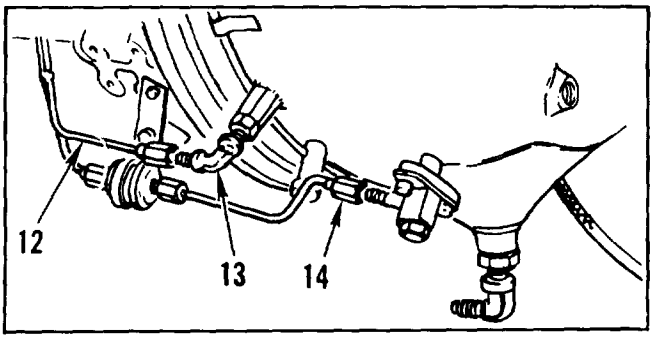
7. Place a cloth (E13) below connection to absorb dripping fuel when disconnecting tubes.

GO TO NEXTPAGE

2-7 REMOVE COMBUSTOR ASSEMBLY (Continued)

8. Disconnect tube (12) at tube elbow (13).

9. Disconnect start fuel tube (14).



10. Install combustor puller (T5) (15) with clamp (16).

11. Loosen coupling clamp (17) and remove from flanges.

CAUTION

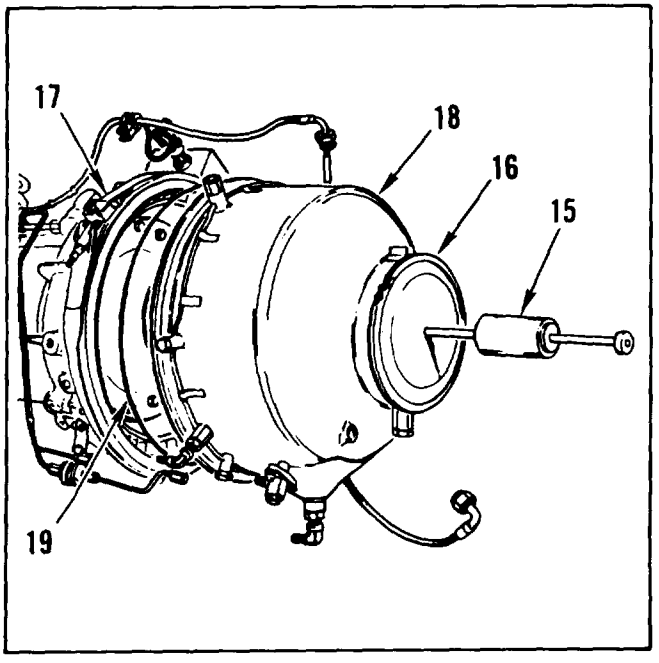
Use colorbrite pencil only. Graphite pencils and other markers can cause damage when parts are heated during operation.

12. Match mark combustor assembly and turbine assembly with colorbrite pencil (E14).

13. Operate slide hammer of combustor puller (15) to remove combustor assembly (18).

14. Remove packing (19).

15. Remove clamp (16) and combustor puller (15).



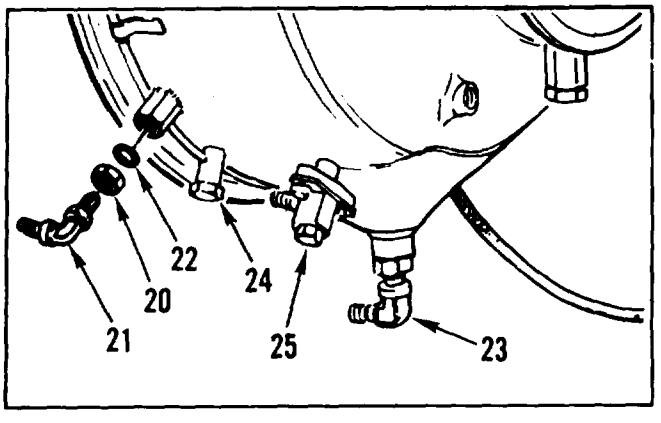
16. If combustor assembly is to be repaired or replaced:

    a. Loosen nut (20). Remove tube elbow (21) with packing (22) and nut (20).

    b, Remove combustor drain check valve (23) (Task 2-49).

    c. Remove fuel injectors (24) (Task 2-32).

    d. Remove start nozzle assembly (25) 2-35)



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-8 DISASSEMBLE COMBUSTOR ASSEMBLY 2-8

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Support Fixture (T4)
Combustor Puller (T5)

Materials:
Colorbrite Pencil (E14}

Personnel Required:
68B10 Aircraft Powerplant Repairer (2)

Equipment Condition:
Off APU Task
Remove Fuel Injectors (Task 2-32)
Remove Start Nozzle Assembly (Task 2-35)
Remove Spark Plug (Task 2-62)

General Safety Instructions:

WARNING

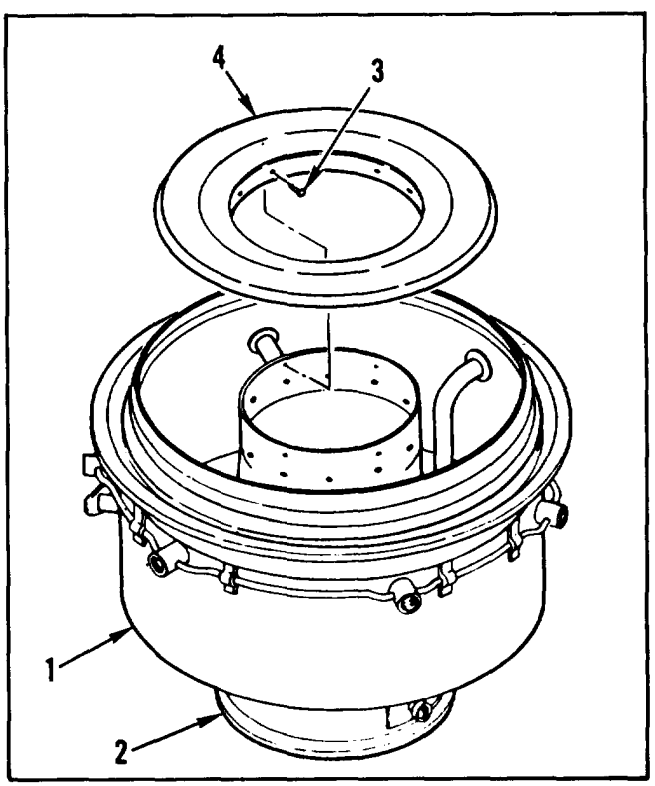
When handling combustor assembly internal parts that have been exposed to fuels containing tetra-ethyl lead, ensure that the byproduct (poisonous lead oxide) is not inhaled or taken into the body through cuts or other external openings. If accidental exposure occurs, drench affected area with large amounts of clear water, and obtain immediate medical attention. Gloves and goggles shall be worn at all times when handling contaminated parts.

1. Stand combustor assembly (1) on exhaust end (2) on work bench.

2. Remove six screws (3).

3. Remove nozzle shield (4). If nozzle shield is stuck, two persons may be required to pull it out. Pull out by hand; do not use tools.

4. Match mark case and combustion chamber with colorbrite pencil (E14).



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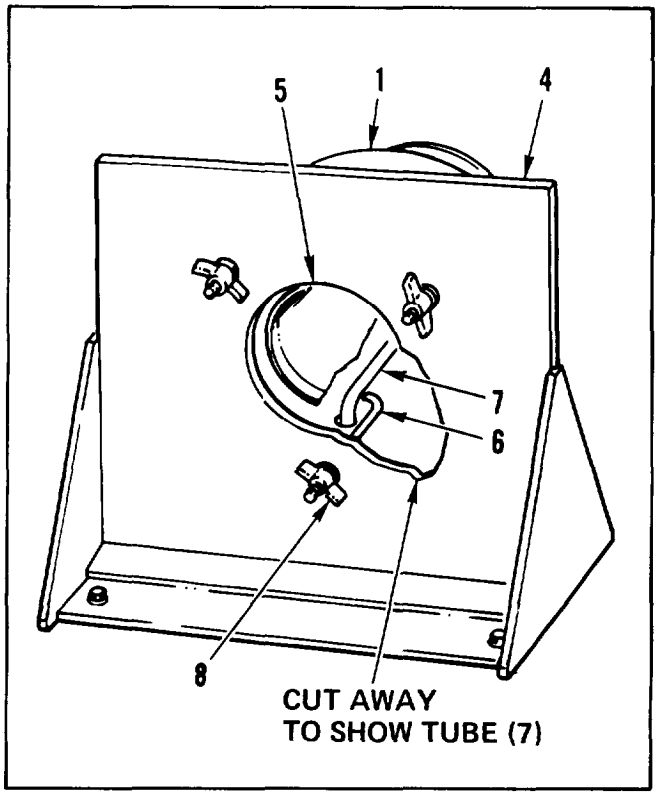
2-8 DISASSEMBLE COMBUSTOR ASSEMBLY (Continued)

5. Fasten combustor assembly (1) to support fixture (T4) (4) as follows:

   a. Have helper hold combustor assembly (1) against support fixture (T4) (4).

   b. Reach through hole (5) in fixture and hook three rods (6) around vaporizer tubes (7). Tighten three knobs (8) hand tight,

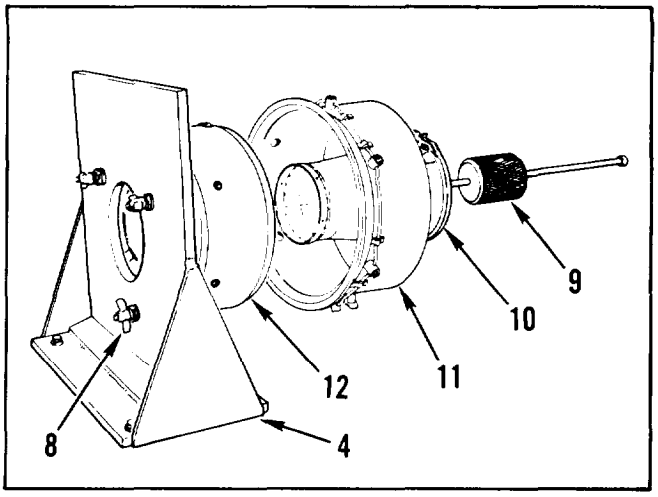


6. Install combustor puller (T5) (9) with clamp (10).

7. Operate slide hammer of combustor puller (9) to pull case (11) from combustion chamber (12).

8. Remove clamp (10) and combustor puller (9) from case (11).

9. Loosen three knobs (8), unhook three rods, and remove combustion chamber case (12) from support fixture (4).



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-9 ASSEMBLE COMBSTOR ASSEMBLY 2-9

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

Materials:
Anti-Seize Compound (E15)

Parts:
Screw

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

References:
TM 55-2835-205-23P

Equipment Condition:
Off APU Task

1. Stand case (1) on work bench with exhaust end down.

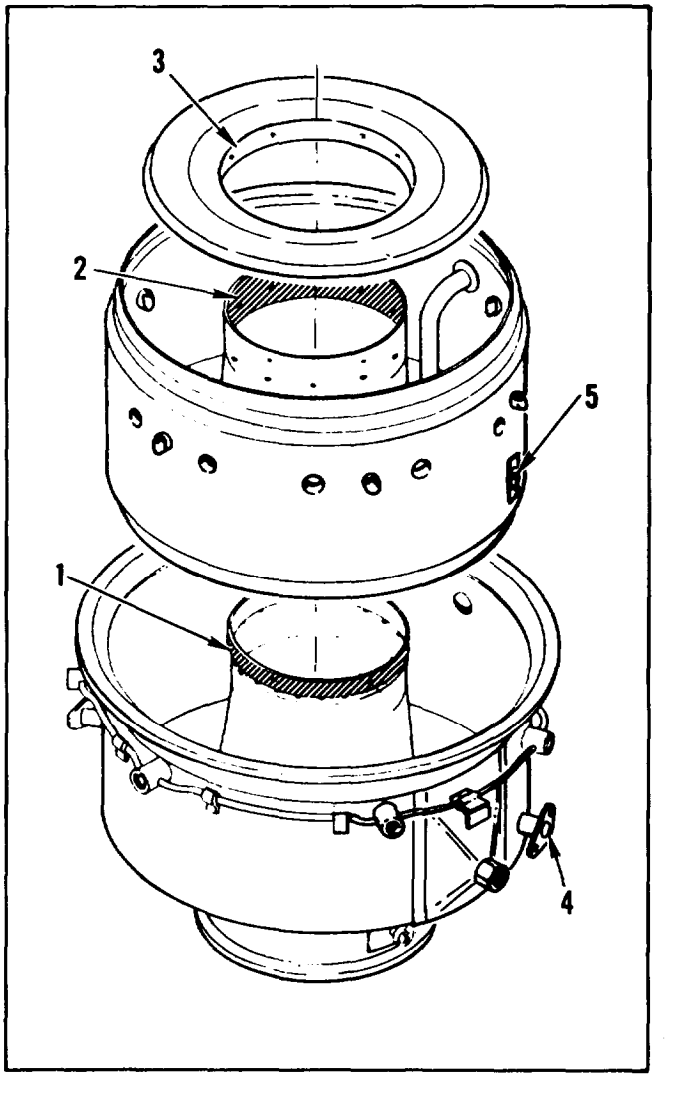
2. Coat mating surfaces of case (1), combustion chamber (2), and shield (3) with anti-seize compound (E15).

3. Install combustion chamber (2) aligning match marks made during disassembly. If there are no match marks, align hole (4) in start fuel nozzle boss with start fuel nozzle hole (5).

4. Install nozzle shield (3), aligning screw holes.

NOTE

If a screw hole in shield (3) is stripped, rotate shield to next hole.



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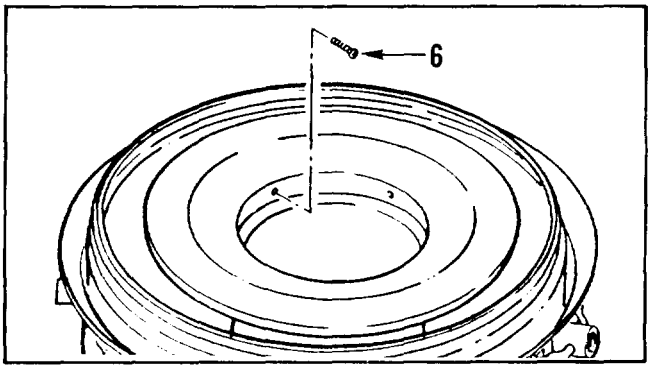
2-9 ASSEMBLE COMBUSTOR ASSEMBLY (Continued)

5. Install six screws (6).

6. Tighten screws (6) until flush, then loosen 1/8 turn.



INSPECT

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-10 INSTALL COMBUSTOR ASSEMBLY

INITIAL SETUP

Applicable Configurations:
All

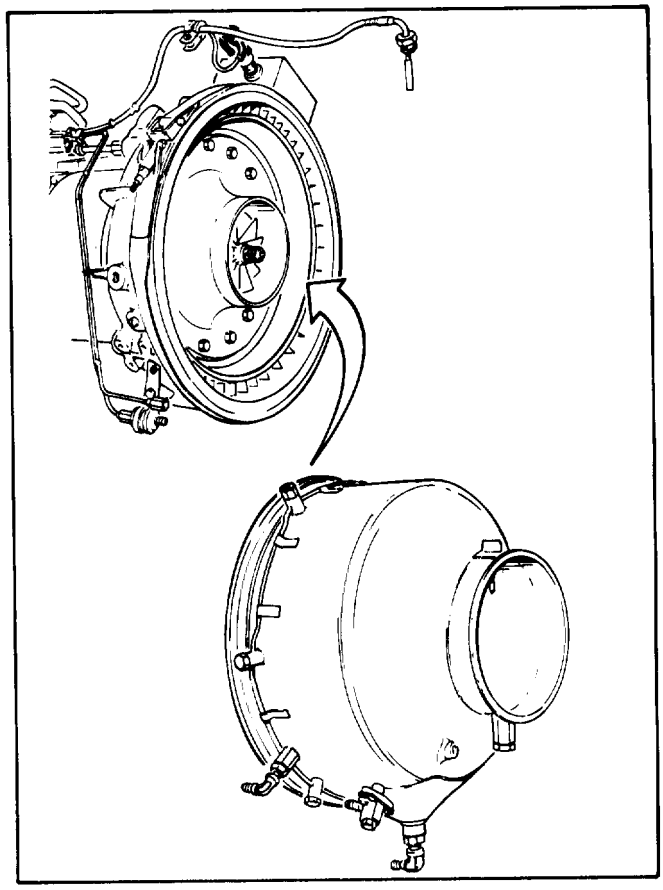
Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Combustor Puller (T5)
Torque Wrench, 0 to 30 inch-pounds
NSN 5120-00-117-4832
Torque Wrench, 30 to 150 inch-pounds
NSN 5120-00-542-4489

Materials:
Lockwire (E16)

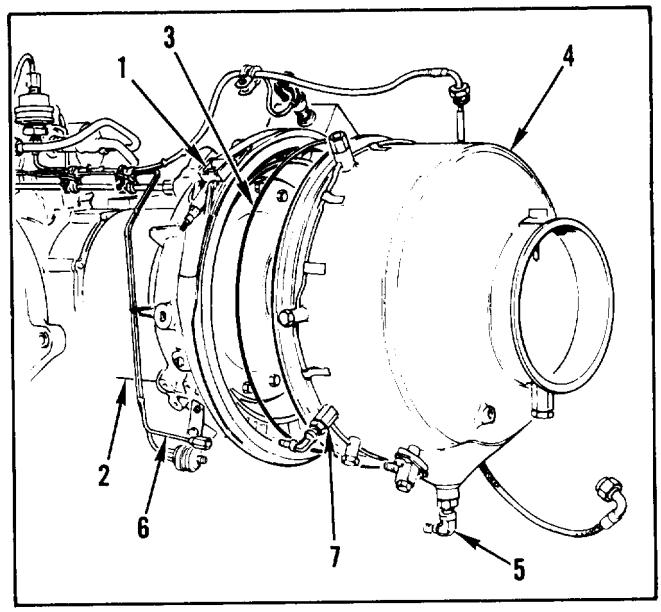
Parts:
Packing

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

References:
TM 55-2835-205-23P



1. Install clamp (1) over aft end of turbine assembly (2).
2. Install packing (3) in groove of flange on turbine assembly (2).
3. Align matchmarks made during removal and install combustor assembly (4), If not match marked, install combustor assembly with check valve (5) at bottom and tube assembly (6) aligned with boss (7).
4. Slide clamp (1) over mating flanges and tighten clamp nut.



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2-10 INSTALL COMBUSTOR ASSEMBLY (Continued)

5. Install combustor puller (T5) (8) with clamp (9).

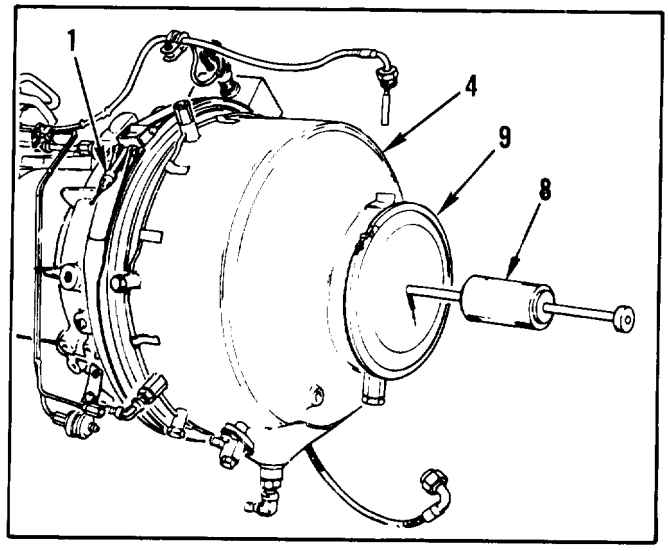
6. Sharply tap combustor (4) twice with puller to seat.

NOTE

Tap outer edge of clamp with rubber mallet while torquing to ensure proper seating,

7, Torque nut of clamp (1) to 55 inch-pounds.

8. Remove clamp (9) and combustor puller (T5) (8).



9. If following parts have been removed:

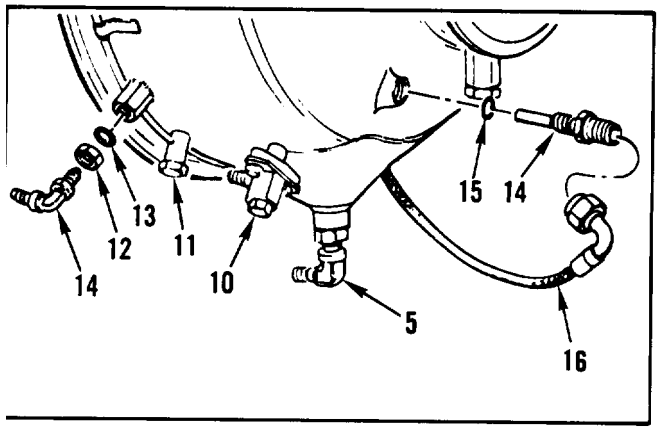
   a. Install combustor drain check valve (5) (Task 2-51).

   b. Install start nozzle assembly (10) (Task 2-39).

   c. Install fuel injectors (11) (Task 2-34).

   d. Install nut (12) and packing (13) on tube elbow (14). Install tube elbow. Do not not tighten nut (12).

   e. Install spark plug (14) and gasket (15) (Task 2-64).



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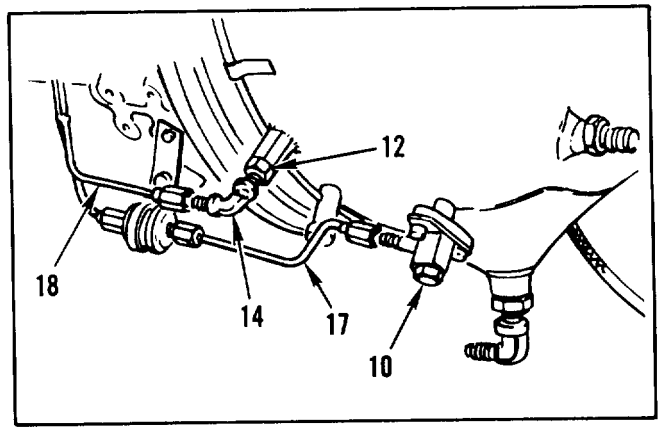
2-10 INSTALL COMBUSTOR ASSEMBLY (Continued)

10. Connect start fuel tube (17) to start fuel nozzle (10).

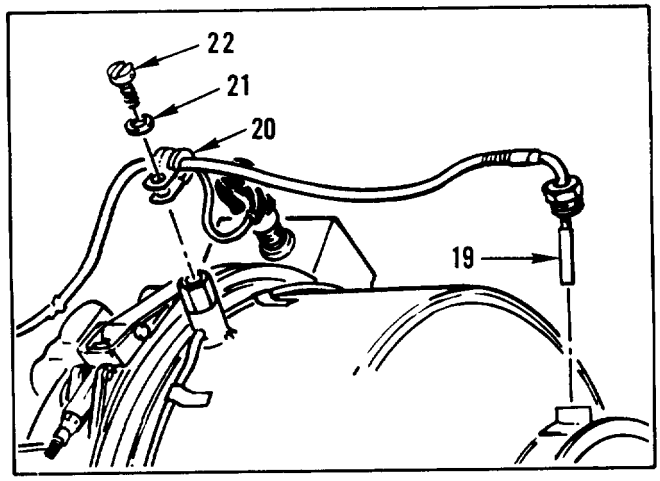
11. Connect tube (18) to tube elbow (14).

12. Tighten nut (12).



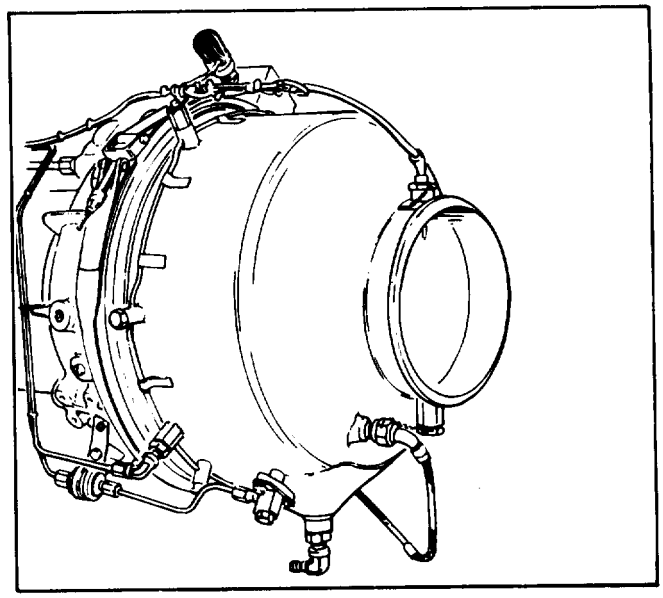
13. Install thermocouple (19). Torque to 28 inch-pounds. Lockwire thermocouple nut to tab using lockwire (E16).

14. Install three clamps, washers (21), and screws (22) securing electrical harness (19) and power cable. Lockwire screws (22) with lockwire (E16).



INSPECT

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-11 REMOVE EXHAUST DUCT

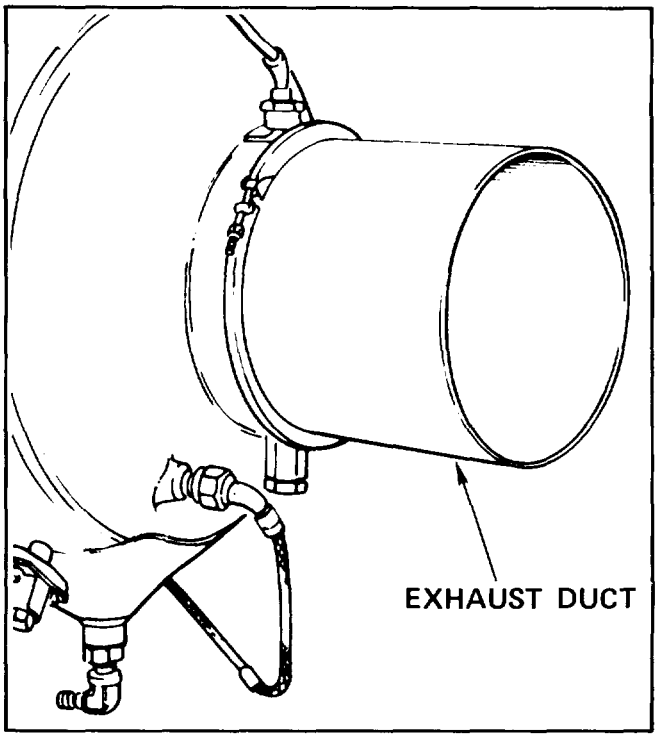
INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

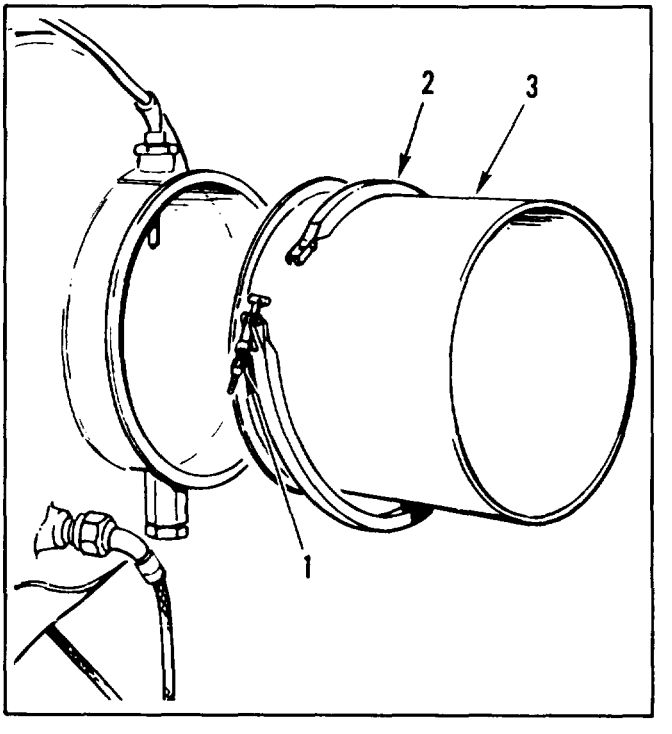
Materials:
None

Personnel Required:
68B10 Aircraft Powerplant Repairer



1. Loosen nut (1) on clamp (2).

2. Remove clamp (2) and exhaust duct (3).



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-12 CLEAN AND INSPECT EXHAUST DUCT

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Torque Wrench, 0 to 30 inch-pounds
NSN 5120-00-117-4832
Rubber Gloves
NSN 8415-00-266-8677
Stainless Steel Wire Brush
NSN 7920-00-269-1259
Container

Materials:
Methyl-Ethyl-Ketone (MEK) (E9)
Lint-Free Cloth (E13)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

Equipment Condition:
Off APU Task

WARNING

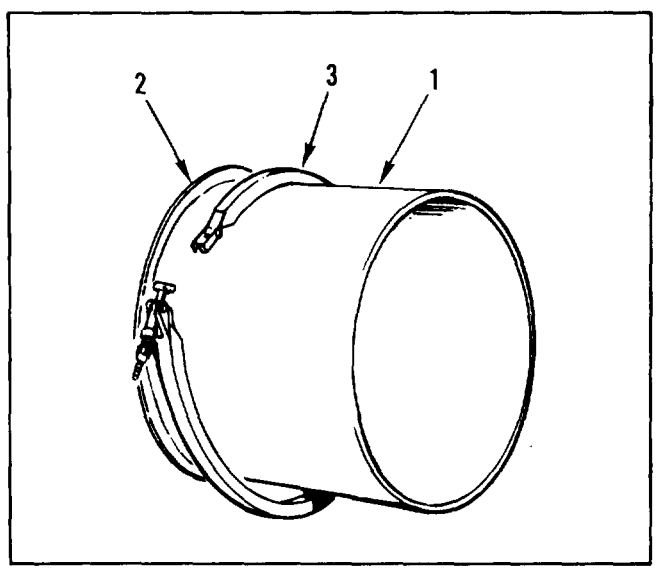
MEK (E9) is flammable and toxic. It can irritate and cause burns. Use only in well-ventilated areas, away from heat or open flame. Wear gloves. In case of contact, immediately flush skin or eyes with water for at least 15 minutes. Get medical attention for eyes.

1. Immerse exhaust duct in container of MEK (E9). Scrub with stainless steel wire brush.

2. Remove from container and dry with lint-free cloth (E13).

3. Inspect exhaust duct (1) and flange (2) for cracks, dents, or bends. Inspect flange (2) for warping. There shall be no damage.

4. Inspect clamp (3) for cracks or distortion. There shall be no damage. Check nut for minimum drag torque of 2 inch-pounds.



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-13 INSTALL EXHAUST DUCT

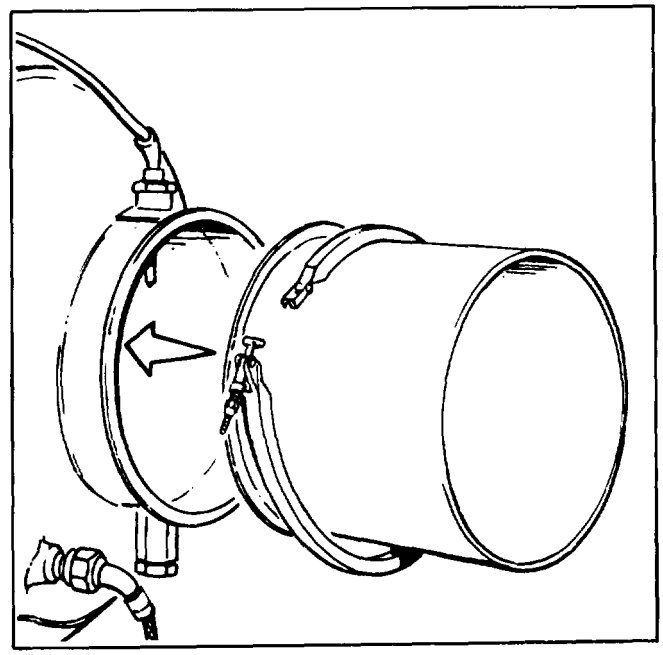
INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Torque Wrench, 0 to 30 inch-pounds
NSN 5120-00-117-4832

Materials:
None

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

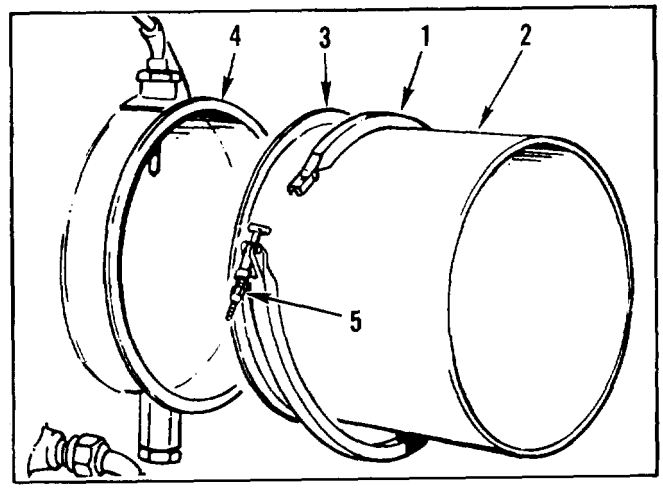


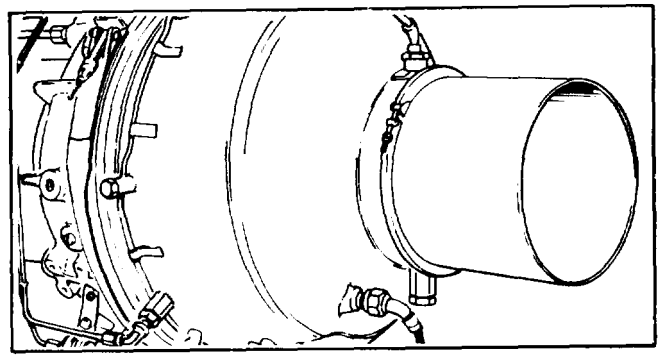
1. Place clamp (1) on exhaust duct (2).
2. Mate flange (3) with flange (4) and install clamp (1) over both flanges.
3. Tighten nut (5) until clamp (1) is snug.

NOTE

Tap outer edge of clamp with rubber mallet while torquing to ensure proper seating.

4. Torque nut (5) to 25 inch-pounds.





INSPECT

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-14 CLEAN AND INSPECT COMBUSTION CHAMBER CASE 2-14

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Rubber Gloves
NSN 8415-00-266-8677
Stainless Steel Wire Brush
NSN 7920-00-269- 1259
Container

Materials:
Methyl-Ethyl-Ketone MEK) (E9)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

Equipment Condition:
Off APU Task
Disassemble Combustor Assembly (Task 2-8)

General Safety Instructions:

WARNING

When handling combustion chamber internal parts that have been exposed to fuels containing tetraethyl lead, ensure that the byproduct (poisonous lead oxide) is not inhaled or taken into the body through cuts or other external openings. If accidental exposure occurs, drench affected area with large amounts of clear water, and obtain immediate medical attention. Gloves and goggles shall be worn at all times when handling contaminated parts.

WARNING

MEK (E9) is flammable and toxic. It can irritate and cause burns. Use only in well-ventilated areas, away from heat or open flame. Wear gloves. In case of contact, immediately flush skin or eyes with water for at least 15 minutes. Get medical attention for eyes.

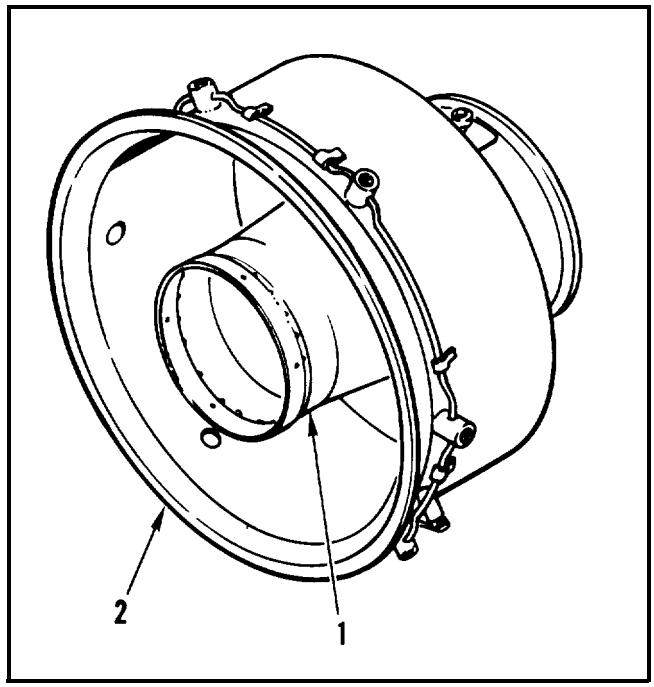
1. Wearing gloves and goggles, immerse combustion chamber case in container of MEK (E9). Scrub with stainless steel wire brush.

2. Remove from MEK and allow to air dry.

GO TO NEXT PAGE

2-14 CLEAN AND INSPECT COMBUSTION CHAMBER CASE (Continued) **2-14**

3. Visually inspect exit diffuser (1) and flange (2) for cracks in sheet metal, welds, and brazed joints. If cracks are found, work order to AVIM.



NOTE

External inspection of combustion chamber case is performed in Task 2-6.

FOLLOW-ONMAINTENANCE

None

END OF TASK

2-15 REPAIR COMBUSTION CHAMBER CASE (AVIM) 2-15

INITIAL SETUP

Applicable Configurations:
All

Tools:
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
AVIM Welding Shopset
NSN 4920-00-163-5093

Materials:
Methyl-Ethyl-Ketone (MEK) (E9)
Brazing Flux (E12)
Welding Flux (E17)
Brazing Alloy (E11)
Welding Rod (E18)

Personnel Required:
44E10 Welder
68B30 Powerplant Inspector

References:
TM 55-1500-204-25/1

Equipment Condition:
Off APU Task
Disassemble Combustor Assembly (Task 2-8)

1. Repair cracks (1) in parent metal (not at welds) as follows:

   a. Stop-drill a 0.0625-inch hole, 0.125 inch beyond ends of crack.

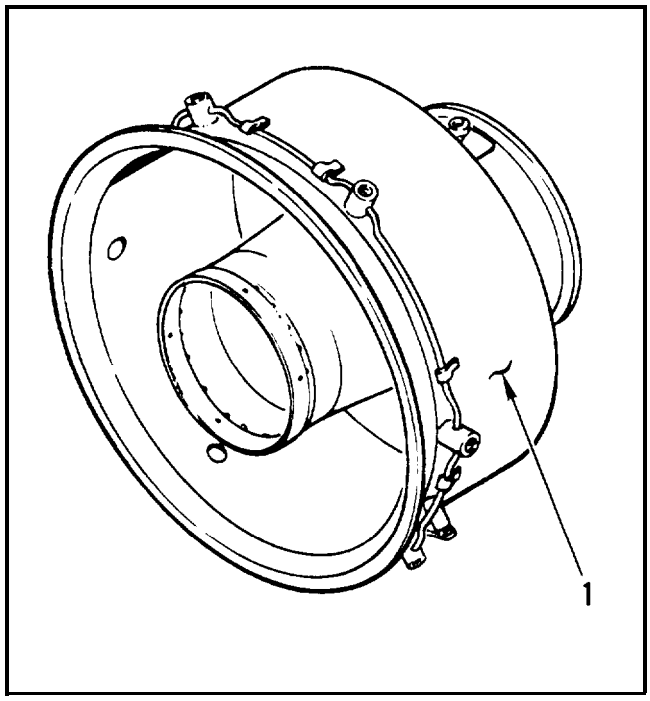
   b. Prior to welding, coat underside of crack with welding flux (E17).

   c. Back up with inert gas.

NOTE

If crack is longer than one inch, level edges and tack weld every 0.5 inch.

   d. Weld crack using welding rod (E18) by inert gas shielded arc method (TM 55-1500-204-25/1). Start welding from ends of crack and work toward center. Keep welds flat or slightly convex on welded side.



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2-15 REPAIR COMBUSTION CHAMBER CASE (AVIM) (Continued)

2. Repair cracks in brazed joints (2) as follows:

   a. Wire brush or buff repair area until bright and clean.

   b. Apply brazing flux (E12) generously to repair area.

CAUTION

Use care when brazing fuel manifold line to prevent burning through wall of tube.

   c. Heat area evenly with neutral flame from gas torch while applying small fillet of brazing alloy (E11).

   d. Remove flux residue with hot water,

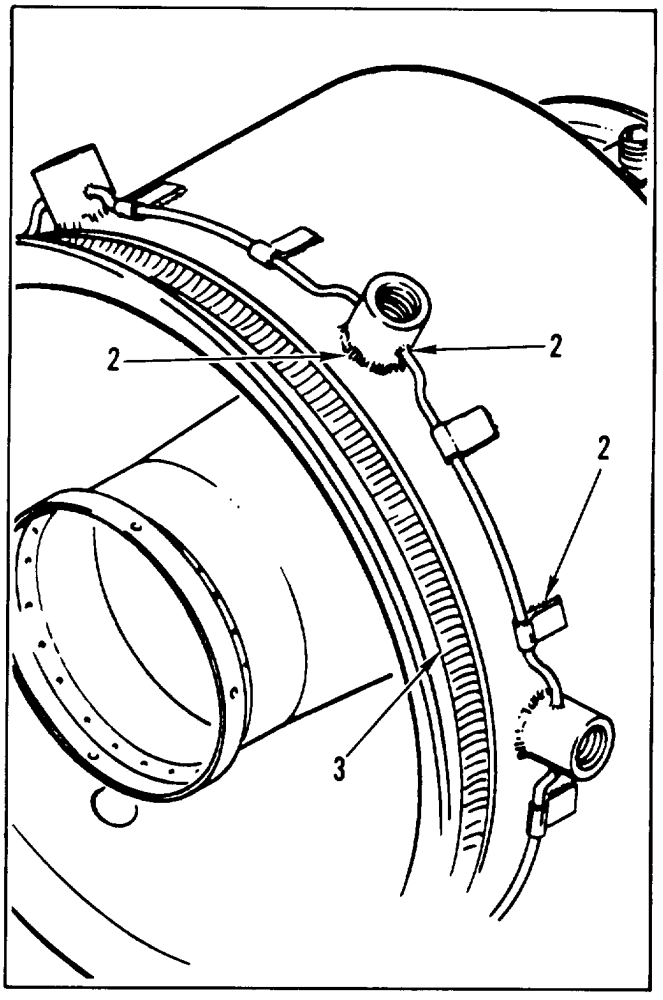
3. Repair cracks in resistance welds (3) as follows:

   a. Stop-drill 0.0625-inch holes, 0.125 inch beyond ends of crack.

NOTE

If crack is longer than one inch, level edges and tack weld every 0.5 inch.

   b. Weld crack using welding rod (E18), by inert gas shielded arc method in accordance with TM 55-1500-204-25/1. Start welding from ends of crack and work toward center. keep welds flat or slightly convex on welded side.



INSPECT

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-16 CLEAN AND INSPECT TURBINE NOZZLE SHIELD 2-16

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Rubber Gloves
NSN 8415-00-266-8677
Stainless Steel Wire Brush
NSN 7920-00-269-1259
Container

Materials:
Methyl-Ethyl-Ketone (MEK) (E9)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

Equipment Condition:
Off APU Task
Remove Turbine Nozzle Shield from Combustor Assembly (Task 2-8)

WARNING

MEK (E9) is flammable and toxic. It can irritate and cause burns. Use only in well-ventilated areas away from heat or open flame. Wear gloves and goggles. In case of contact, immediately flush skin or eyes with water for at least 15 minutes. Get medical attention for eyes.

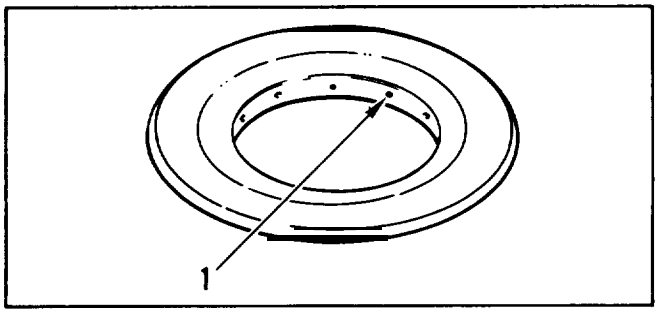
1. Wearing gloves and goggles, clean turbine nozzle shield in MEK (E9). Scrub with wire brush.

2. Allow to air dry.

3. Inspect all surfaces for cracks. There shall be no cracks.

4. Lay on a flat surface and check for warping. There shall be no warping.

5. Inspect six screw holes (1) for enlargement. Holes are for thread tapping screws. No two adjacent holes shall be enlarged.



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-17 CLEAN AND INSPECT COMBUSTION CHAMBER 2-17

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Stainless Steel Wire Brush
NSN 7920-00-269-1259
Rubber Gloves
NSN 8415-00-266-8677
Container

Materials:
Methyl-Ethyl-Ketone (MEK) (E9)
Penetrating Oil (E19)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

Equipment Condition:
Off APU Task
Disassemble Combustor Assembly (Task 2-8)

General Safety instructions:

WARNING

When handling combustion chamber that has been exposed to fuels containing tetra-ethyl lead, ensure that the by-product (poisonous lead oxide) is not inhaled or taken into the body through cuts or other external openings. If accidental exposure occurs, drench affected area with large amounts of clear water, and obtain immediate medical attention. Gloves and goggles shall be worn at all times when handling contaminated parts.

WARNING

MEK (E9) is flammable and toxic. It can irritate and cause burns. Use only in well-ventilated areas, away from heat or open flame. Wear gloves and goggles. In case of contact, immediately flush skin or eyes with water for at least 15 minutes. Get medical attention for eyes.

1. Wearing gloves and goggles, clean combustion chamber in container of MEK (E9). Scrub with stainless steel wire brush.

2. Allow to air dry.

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2-17 CLEAN AND INSPECT COMBUSTION CHAMBER (Continued) 2-17

3. Inspect twenty three spacers (1) for wear grooves by baffle (2). There shall be no wear groove.

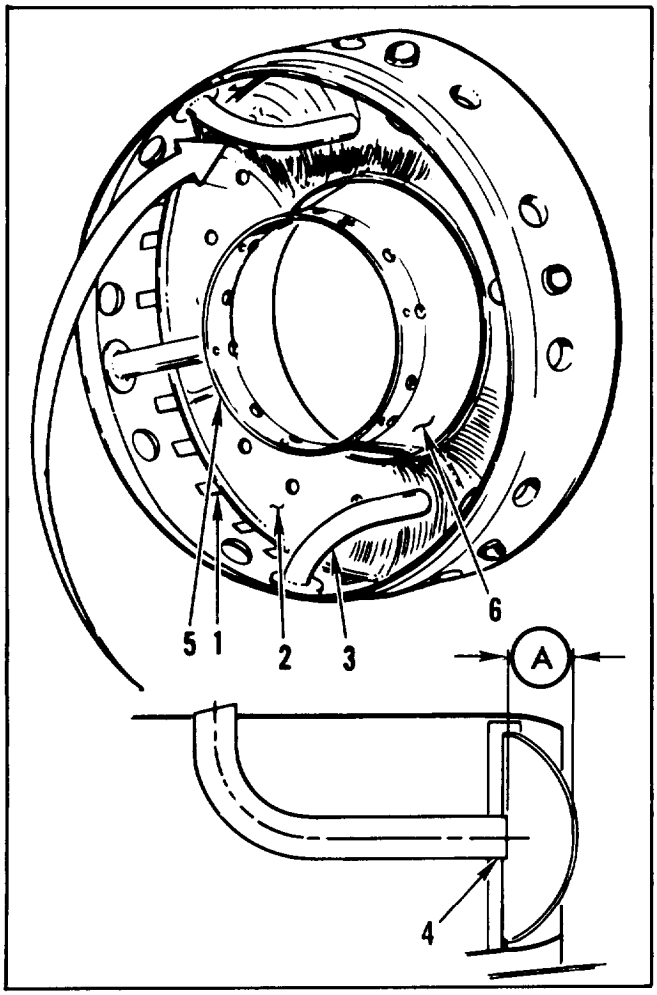
4. Inspect inside of baffle (2) and around vaporizer tubes (3) for carbon deposits. If carbon deposits are found, clean.

5. Inspect ends (4) of vaporizer tubes for erosion. Dimension (A) shall not exceed 1 inch.

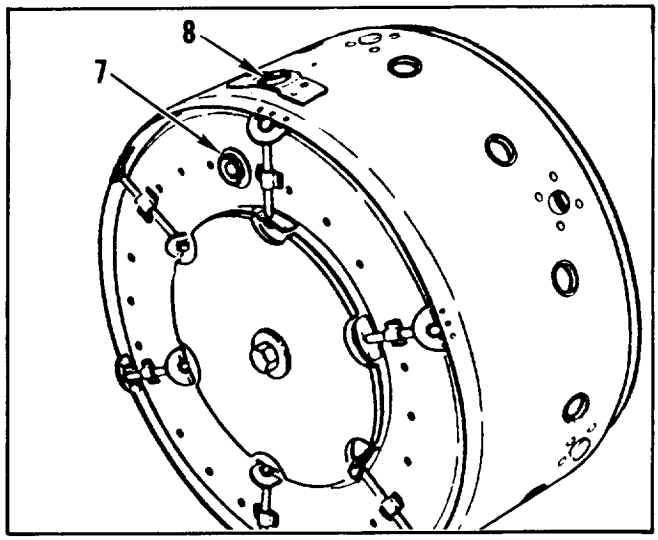
6. Inspect vaporizer tubes (3) for holes and cracks. There shall be no holes or cracks.

7. Inspect for warped areas due to local overheating, Slip fit end (5) of inner liner(6) must not be distorted.

8. Inspect for cracks. There shall be no cracks.



9. Inspect spark plug grommet (7) and start fuel nozzle grommet (8) for damage. There shall be no damage. Check for free play. Apply a few drops of penetrating oil (E19) to free grommets (7 and 8).



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-18 INSPECT TURBINE WHEEL 2-18

INITIAL SETUP

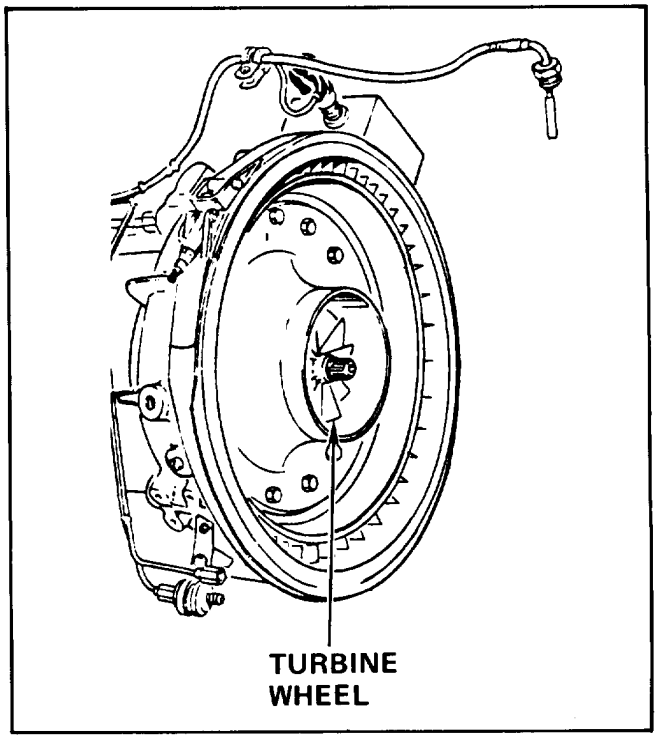
Applicable Configurations:
All

Tools:
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Wire Gage Set (T3)

Materials:
None

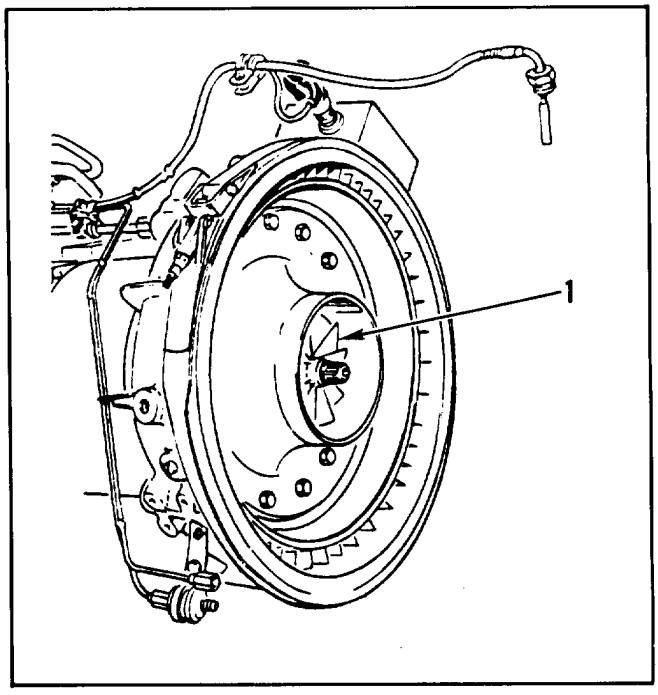
Personnel Required:
68B30 Powerplant Inspector

Equipment Condition:
Remove Combustor Assembly (Task 2-7)



1. Inspect turbine wheel (1) for cracks and broken vanes. There shall be no cracks or broken vanes. If found, APU requires depot repair.

2. Inspect for marks indicating turbine wheel has been rubbing on turbine nozzle. Rotate turbine wheel and listen for rubbing sound. There shall be no rubbing sound. If found, APU requires depot repair.



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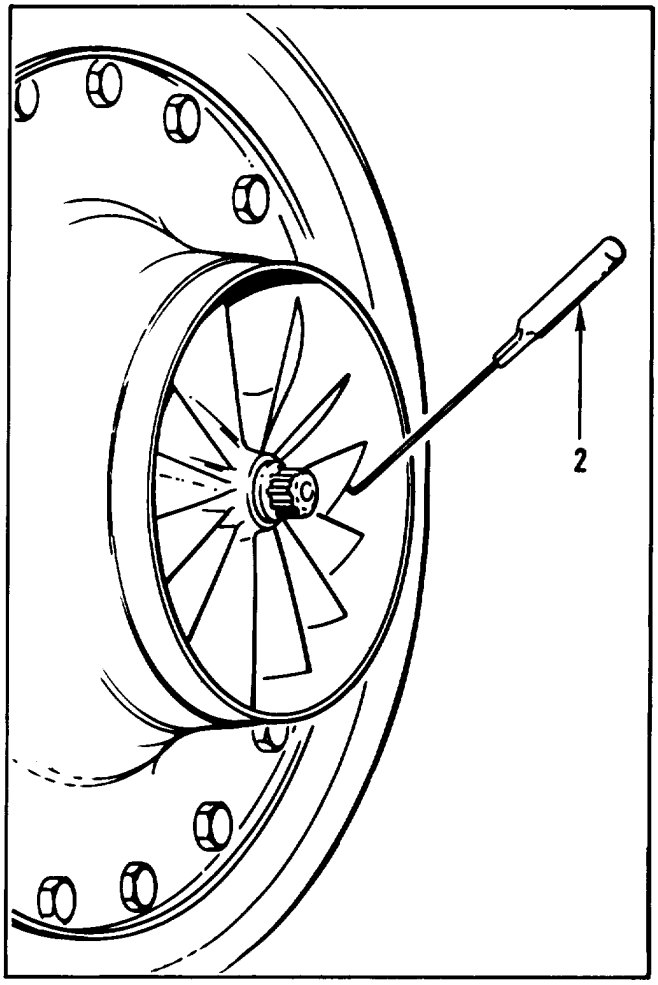
2-18 INSPECT TURBINE WHEEL (Continued) 2-18

3. Select wire gage (2) from wire gage set (T3) and check turbine wheel to turbine nozzle clearance. Clearance shall be 0.019 to 0.032 inch. Check clearance for all vanes at 2,4,6, 8, 10, and 12 o'clock positions while rotating turbine wheel.

4. If clearance is not 0.019 to 0.032 inch, APU requires depot repair.



FOLLOW-ON MAINTENANCE:
Install combustor assembly (Task 2-10).

END OF TASK

2-19 CLEAN AND INSPECT AIR INLET HOUSING

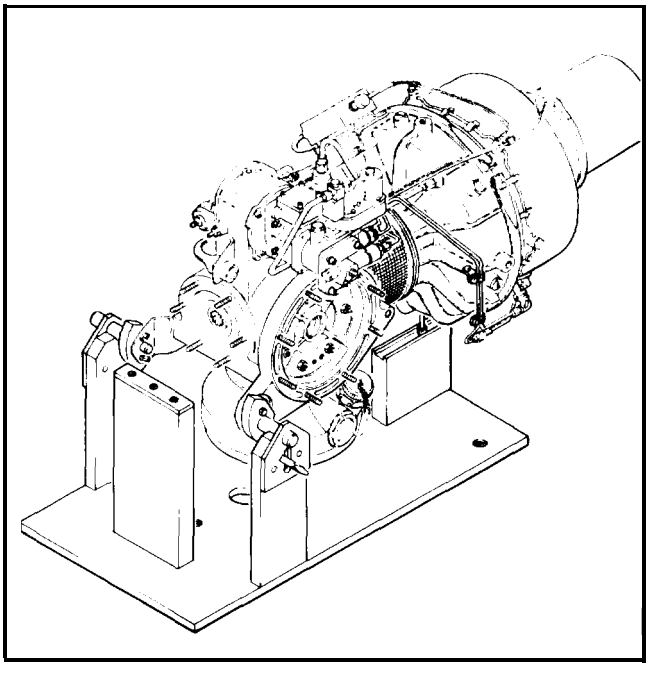
INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Rubber Gloves
NSN 8415-00-266-8677
Container

Materials:
Dry-Cleaning Solvent (E20)
Lint-Free Cloth (E13)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector



WARNING

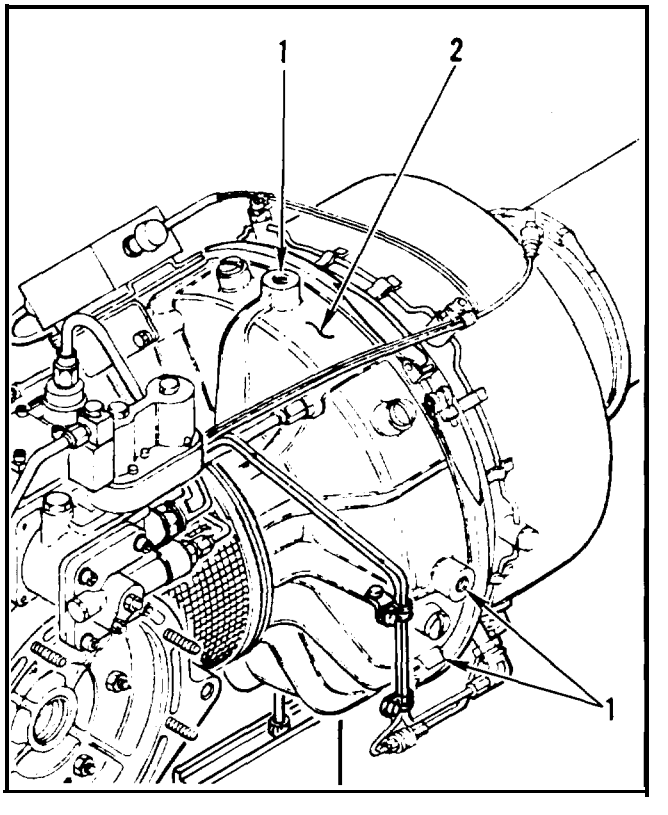
Dry cleaning solvent (E20) is flammable and toxic. It can irritate skin and cause burns. Use only in well-ventilated area away from heat and open flame. Wear gloves. In case of contact, immediately flush skin or eyes with water for at least 15 minutes. Get medical attention for eyes.

1. Clean air inlet housing with bristle brush and dry-cleaning solvent (E20).

2. Wipe dry with lint-free cloth (E13).

3. Inspect inserts (1) for looseness or damage. If loose or damaged, work order to AVIM.

4. inspect housing (2) for cracks. If a crack is found found, depot repair is required.



FOLLOW-ON MAINTENANCE:
None
END OF TASK

2-20 REPAIR AIR INLET HOUSING (AVIM) 2-20

INITIAL SETUP

Applicable Configurations:
All

Tools:
Machine Shop Set
NSN 4920-00-405-9279
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

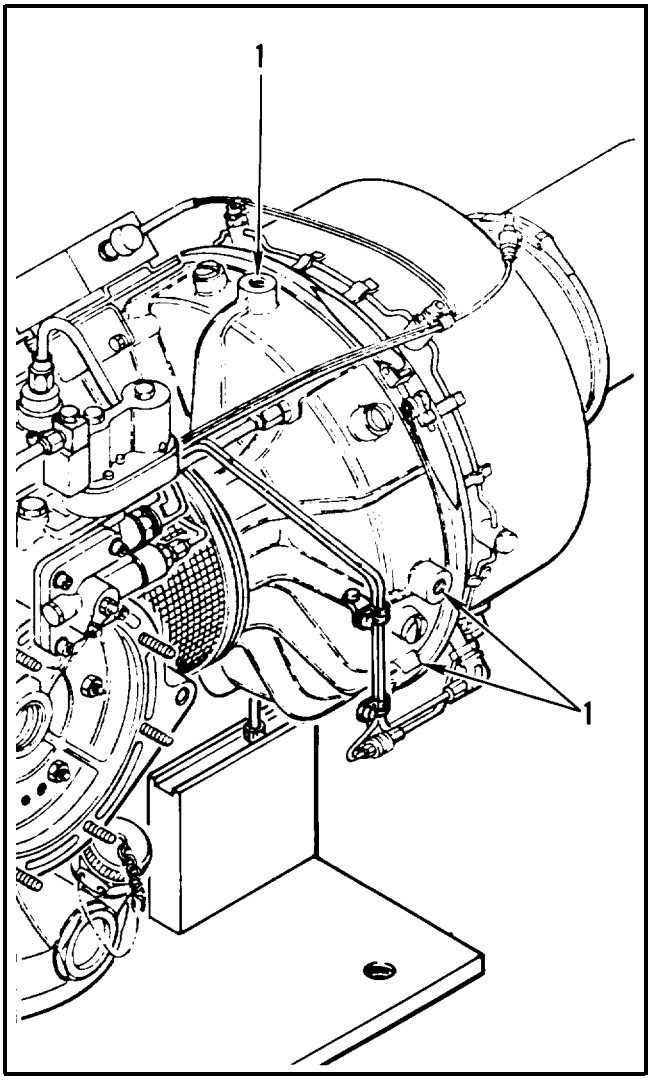
Materials:
None

Parts:
Lock Ring
Screw Thread Insert

Personnel Required:
44E20 Machinist
68B30 Powerplant Inspector

References:
TM 55-2835-205-23P
TM 55-1500-204-25/1

1. Replace loose or damaged inserts (1) in accordance with TM 55-1500-204-25/1.



INSPECT

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-21 INSPECT FUEL CONTROL

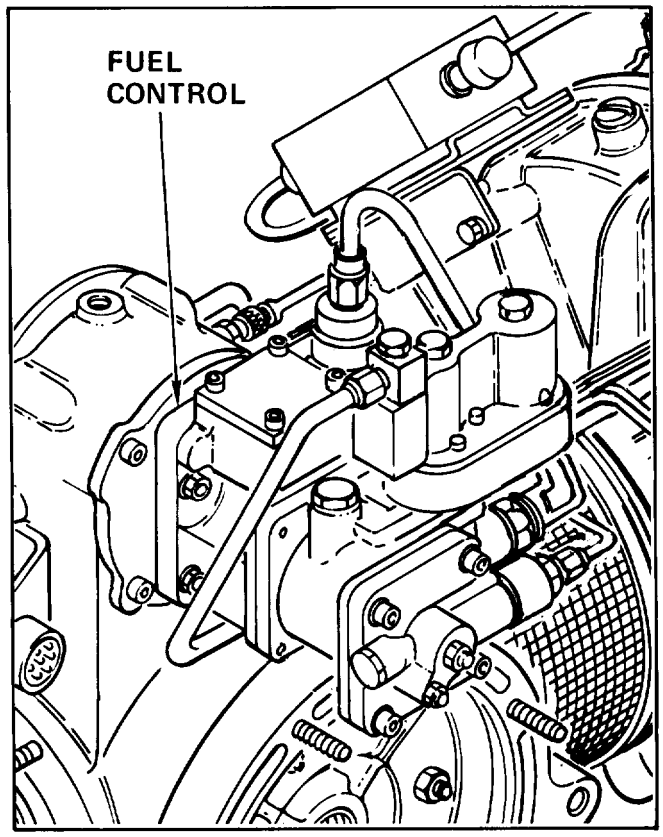
INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

Materials:
None

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

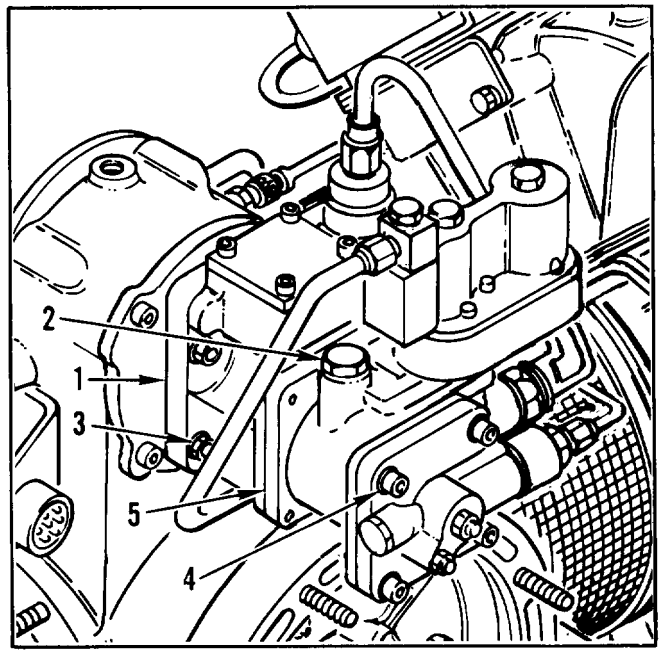


1. Inspect for leakage in area (1) where fuel control mounts on drive pad. If leakage is found, remove fuel control (Task 2-22) and replace gasket (task 2-25).

2. Check all plugs (2) for tightness. If loose, tighten.

3. Check all nuts (3) and screws (4) for tightness. If loose, tighten.

4. Check for signs of fuel leaks at seam (5) between fuel pump and acceleration control assembly. If leakage is found, remove fuel control (Task 2-22), disassemble (Task 2-23), and assemble (Task 2-24) with new packings. Install (Task 2-25),



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-22 REMOVE FUEL CONTROL

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

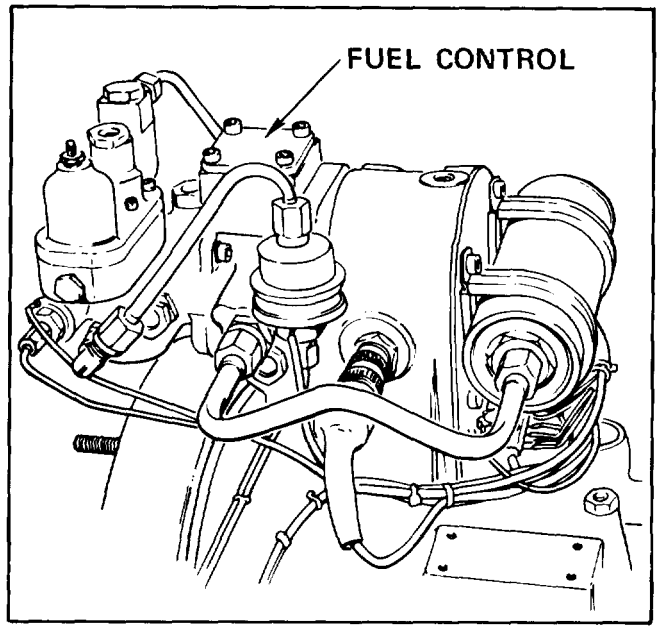
Materials:
Lint-Free Cloth (E13)

Personnel Required:
68B10 Aircraft Powerplant Repairer

General Safety instructions:

WARNING

Turbine fuels are very flammable. They cause drying and irritation of skin or eyes. Handle only in well. ventilated areas away from heat and open flame. Drain and store in approved metal safety containers. Avoid prolonged or repeated contact with skin, and do not take intern-all y. Wash contacted areas of skin thoroughly after handling. If irri-tation of skin results, get medical attention. Get medical attention for eyes.



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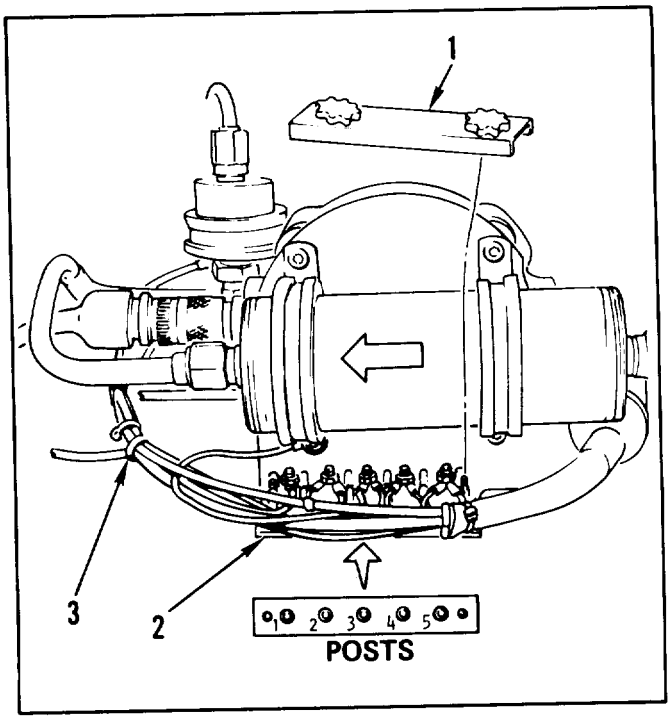
2-22 REMOVE FUEL CONTROL (Continued)

1. Remove terminal board cover (1).
2. Disconnect two start fuel valve assembly leads at posts 3 and 5 of terminal board (2).
3. Remove tie down straps (3) as needed to separate leads from harness assembly.

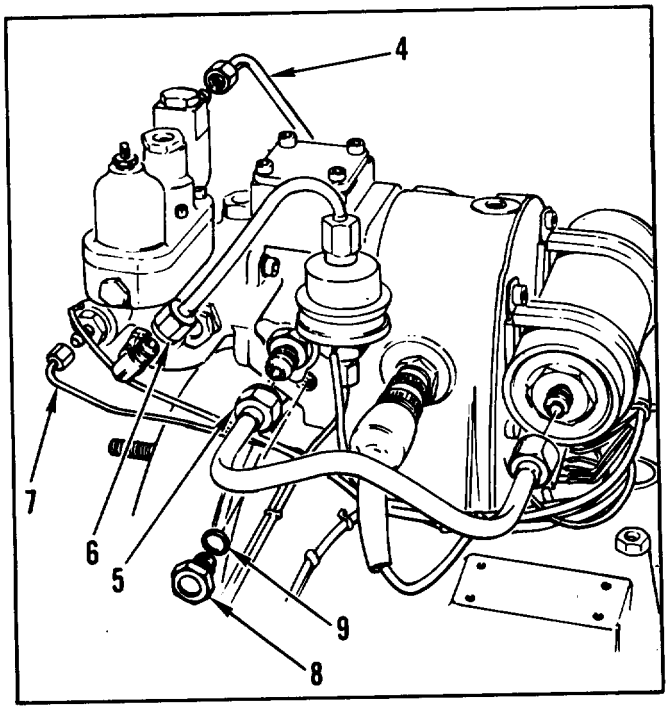


4. Place a cloth (E13) below connections to absorb dripping fuel when disconnecting tubes.

CAUTION

Handle tubes carefully when disconnecting. Tubes are easily bent or kinked.

5. Disconnect PCD tube assembly (4).
6. Remove inlet tube assembly (5).
7. Disconnect main fuel tube assembly (6).
8. Disconnect tube assembly (7).
9. Remove plug (8) and packing (9).



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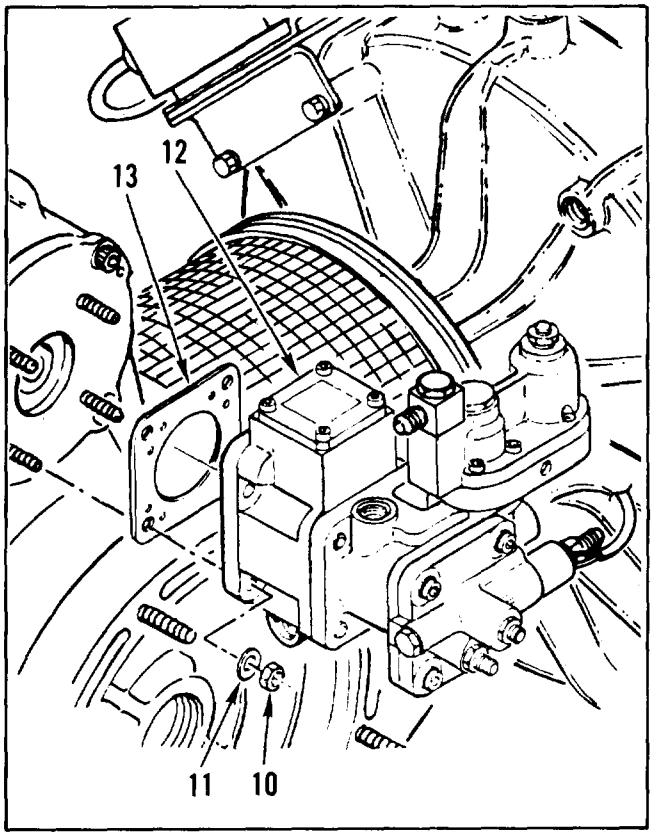
2-22 REMOVE FUEL CONTROL (Continued) 2-22

10. Remove four nuts (10) and washers (11) using crow foot as required.

CAUTION

Do not strike drive shaft when removing fuel control. The carbon seal around fuel pump drive shaft may break and cause fuel leakage.

11. Remove fuel control (12) and gasket (13).



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-23 DISASSEMBLE FUEL CONTROL

INITIAL SETUP

Applicable Configurations:
All

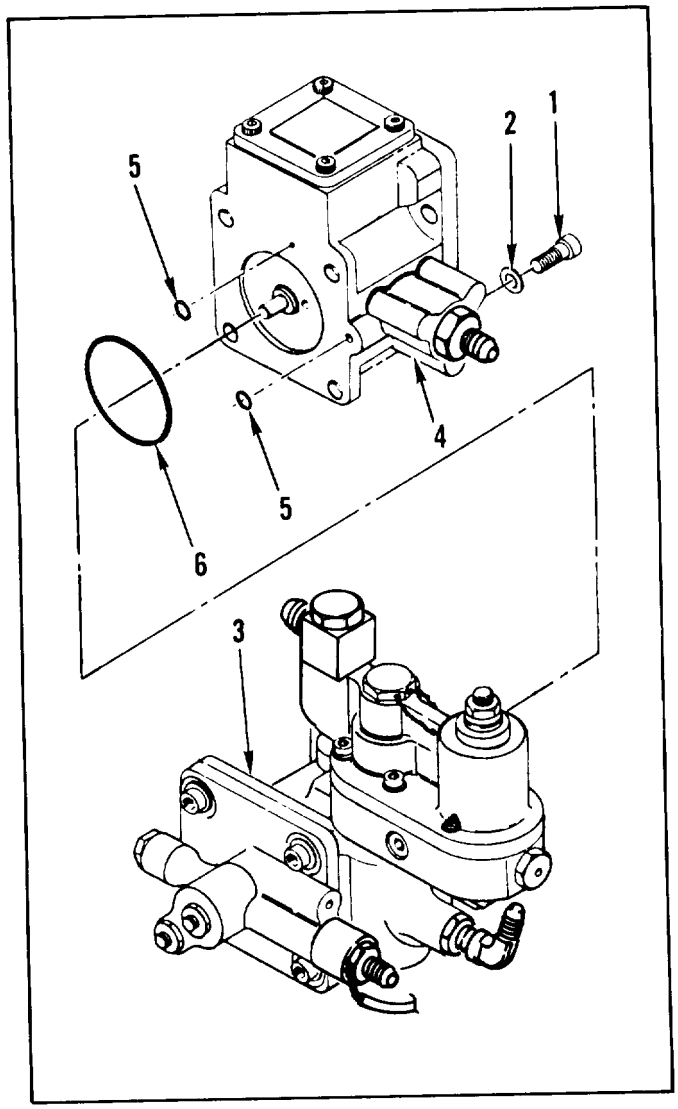
Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Strap Wrench
NSN 5120-00-242-3249

Materials:
None

Personnel Required:
68B10 Aircraft Powerplant Repairer

Equipment Condition:
Off APU Task

1. Remove four screws (1) and washers (2).
2. Separate acceleration control assembly (3) and fuel pump (4).
3. Remove two packings (5) and packing (6)



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2-23 DISASSEMBLE FUEL CONTROL

INITIAL SETUP

Applicable Configurations:
All

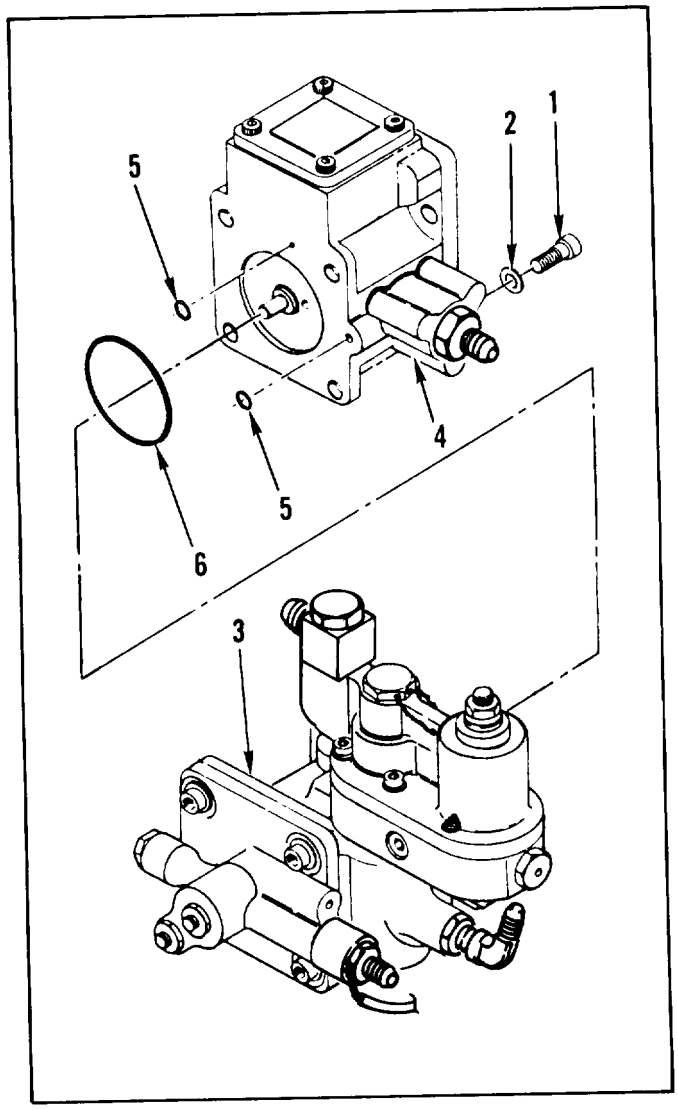
Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Strap Wrench
NSN 5120-00-242-3249

Materials:
None

Personnel Required:
68B10 Aircraft Powerplant Repairer

Equipment Condition:
Off APU Task

1. Remove four screws (1) and washers (2).
2. Separate acceleration control assembly (3) and fuel pump (4).
3. Remove two packings (5) and packing (6)



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2-24 ASSEMBLE FUEL CONTROL

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Torque Wrench, 0 to 30 inch-pounds
NSN 5120-00-117-4832
Strap Wrench
NSN 5120-00-242-3249

Materials:
None

Parts:
Packings
Banj-O-Seal

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

References:
TM 55-2835-205-23P

Equipment Condition:
Off APU Task

1. If acceleration control assembly was replaced, install the following:

   a. Install Banj-O-Seal (1) on universal bolt (2).

   b. Install universal bolt (2) through universal elbow (3).

   c. Install packing (4) on universal bolt (2).

   d. Install universal bolt (2). Do not tighten until after fuel control is installed (Task 2-25).

   e. Install packing (5) on start fuel valve assembly (6).

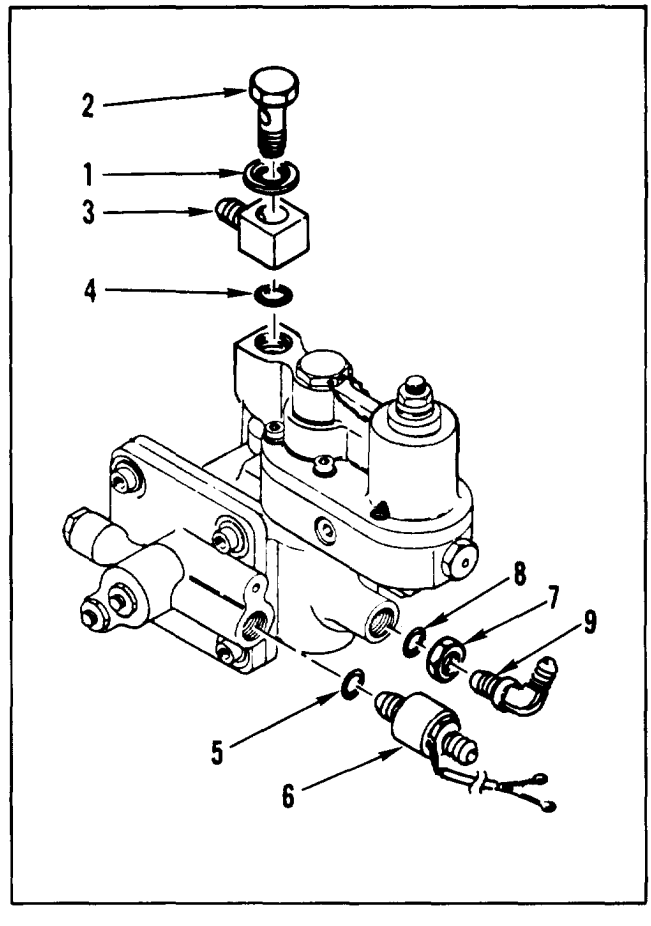
CAUTION

Do not use wrench on wrench flats of start fuel valve assembly as internal damage can result.

   f. Using strap wrench, install start fuel valve assembly (6) with packing (5).

   g. Install nut (7) and packing (8) on elbow (9).

   h. Install elbow (9). Do not tighten nut (7) until fuel control is installed (Task 2-25).



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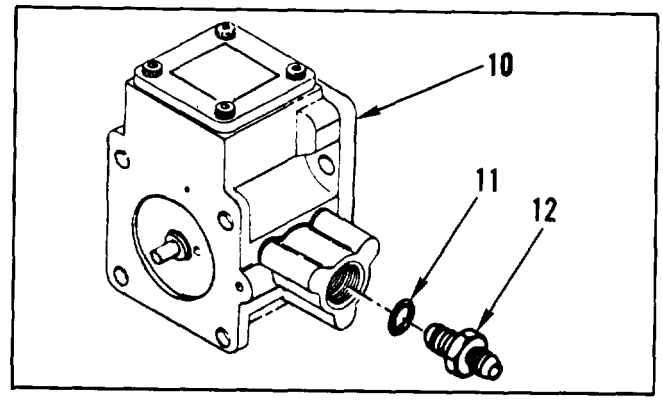
2-24 ASSEMBLE FUEL CONTROL (Continued)

2. If fuel pump (10) is replaced, install the following:

   a. Install packing (11) on union (12).

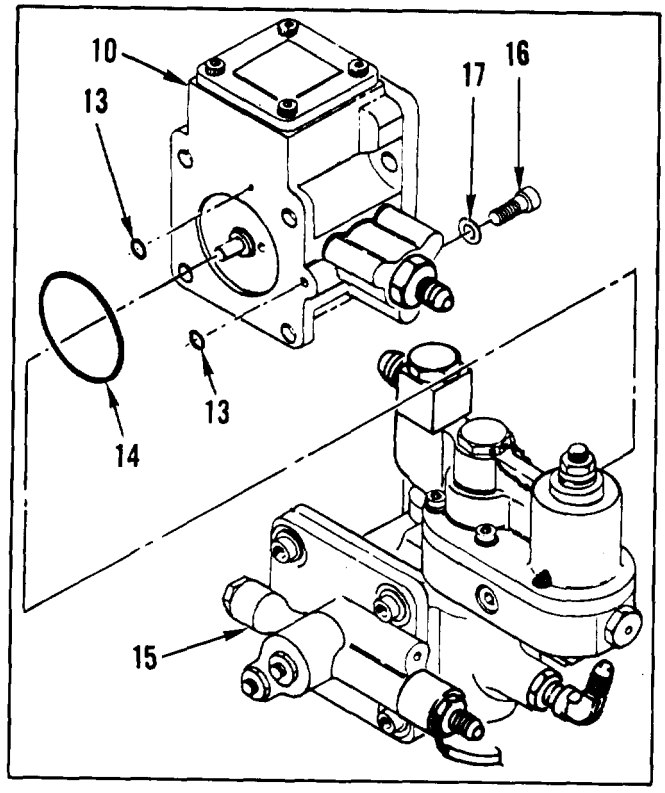
   b. Install union (12).



3. Install two small packings (13) and larger packing (14) in packing grooves of acceleration control assembly (15).

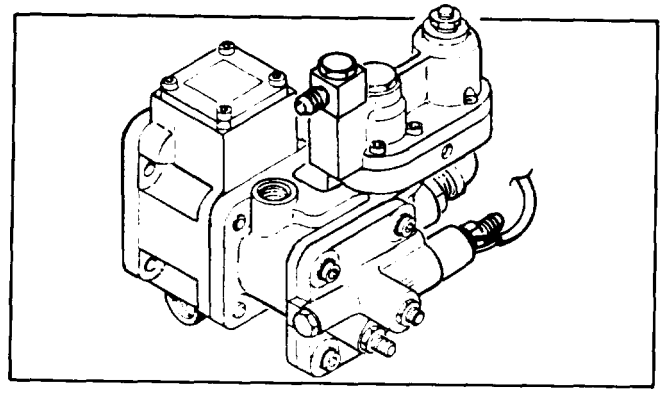
4. Assemble acceleration control assembly (15) and fuel pump (10) and install four screws (16) and washers (17).

5. Torque screws (16) to 23 inch-pounds.



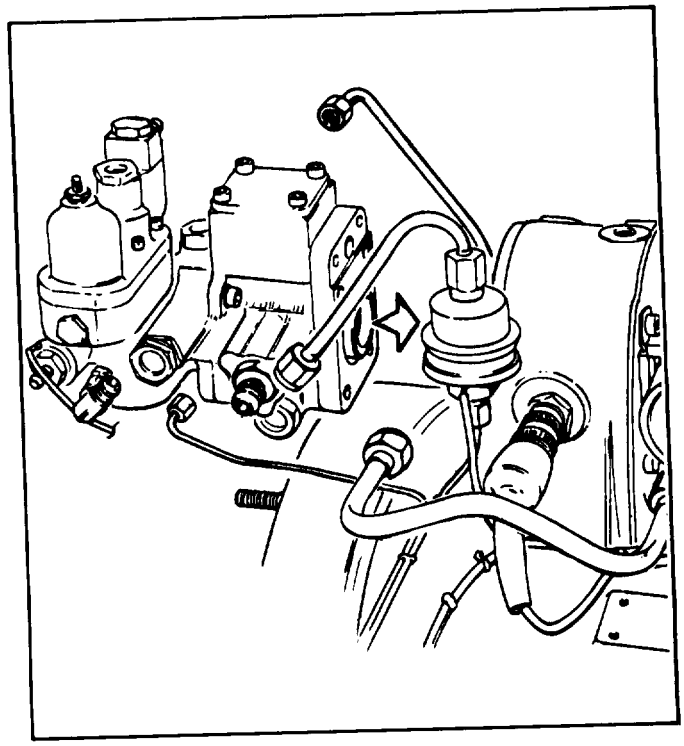
INSPECT

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-25 INSTALL FUEL CONTROL



INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

Materials:
Tiedown Straps (E21)

Parts:
Nut
Gasket
Packing

Personnel:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

References:
TM 55-2835-205-23P

NOTE

Be sure mating surfaces are clean before installing gasket.

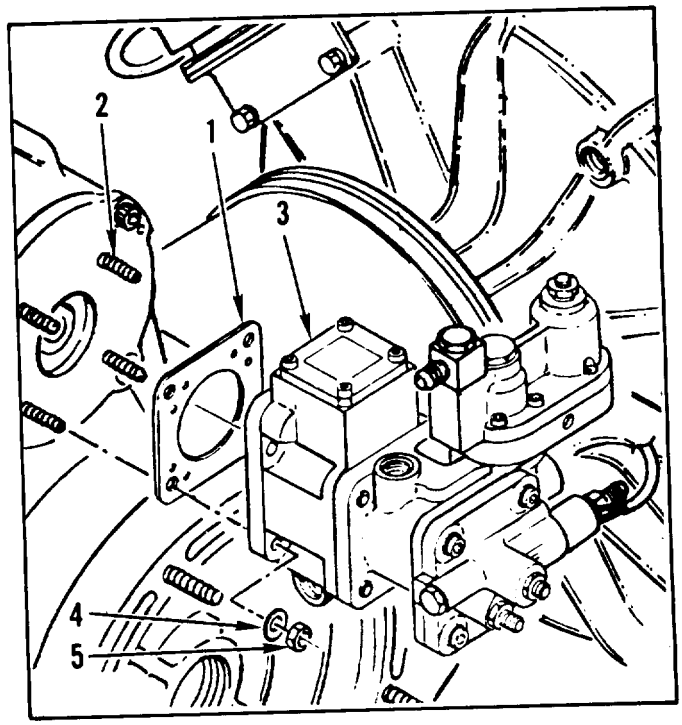
1. Install gasket (1) on studs (2).

CAUTION

Do not strike drive shaft when installing fuel control. The carbon seal around fuel pump drive shaft may break and cause fuel leakage.

2. Install fuel control (3).

3. Install four washers (4) and nuts (5). Tighten nuts evenly, using crow foot as required.



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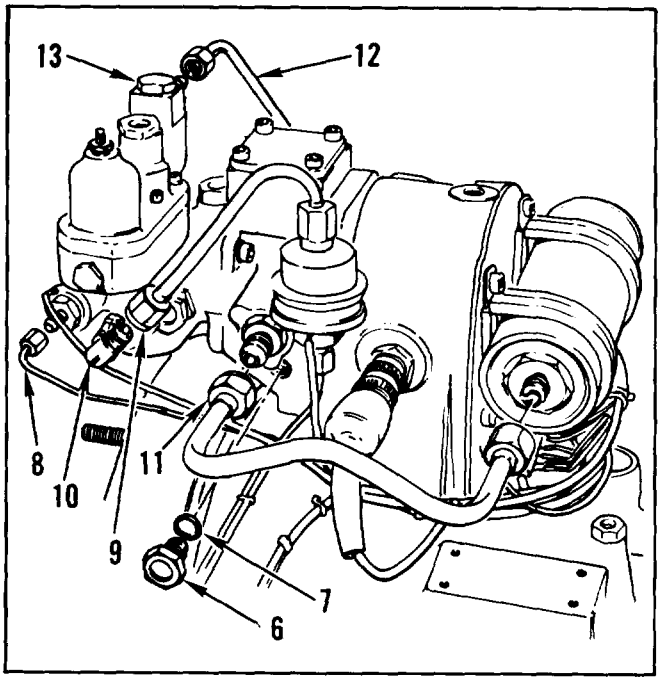
2-25 INSTALL FUEL CONTROL (Continued)

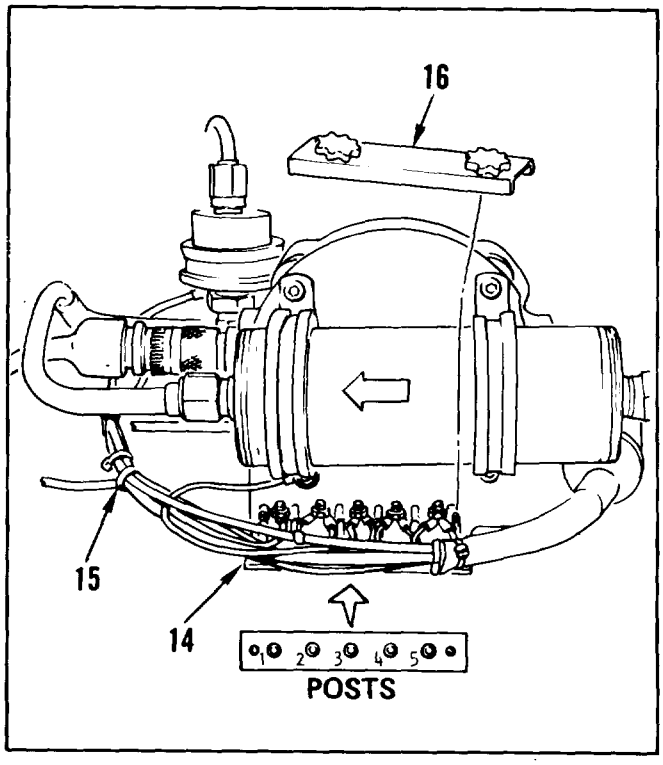
4. Install plug (6) with packing (7).
5. Connect tube assembly (8).
6. Connect main fuel tube assembly (9). Tighten nut on elbow (10).
7. Install inlet tube assembly (11).
8. Connect PCD tube assembly (12). Tighten universal bolt (13).



9. Connect two start fuel valve assembly leads to posts 3 and 5 of terminal board (14).
10. Install tiedown straps (E21) (15) as needed to secure leads to harness assembly.
11. Install terminal board cover (16) and hand tighten nuts.

INSPECT

FOLLOW-ON MAINTENANCE:
None



END Of- TASK

2-26 CLEAN AND INSPECT ACCELERATION CONTROL ASSEMBLY 2-26

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Rubber Gloves
NSN 8145-00-266-8677
Container

Materials:
Dry-Cleaning Solvent (E20)
Lint-Free Cloth (E13)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

Equipment Condition:
Off APU Task
Disassemble Fuel Control (Task 2-23)

WARNING

Dry-cleaning solvent (E20) is flammable and toxic. It can irritate skin and cause burns. Use only in well-ventilated area, away from heat and open flame. Wear gloves. In case of contact, immediately flush skin or eyes with water for at least 15 minutes. Get medical attention for eyes.

1. Using gloves, wipe external surfaces with lint-free cloth (E1) moistened with dry-cleaning solvent (E20). Use bristle brush to remove caked sediment.

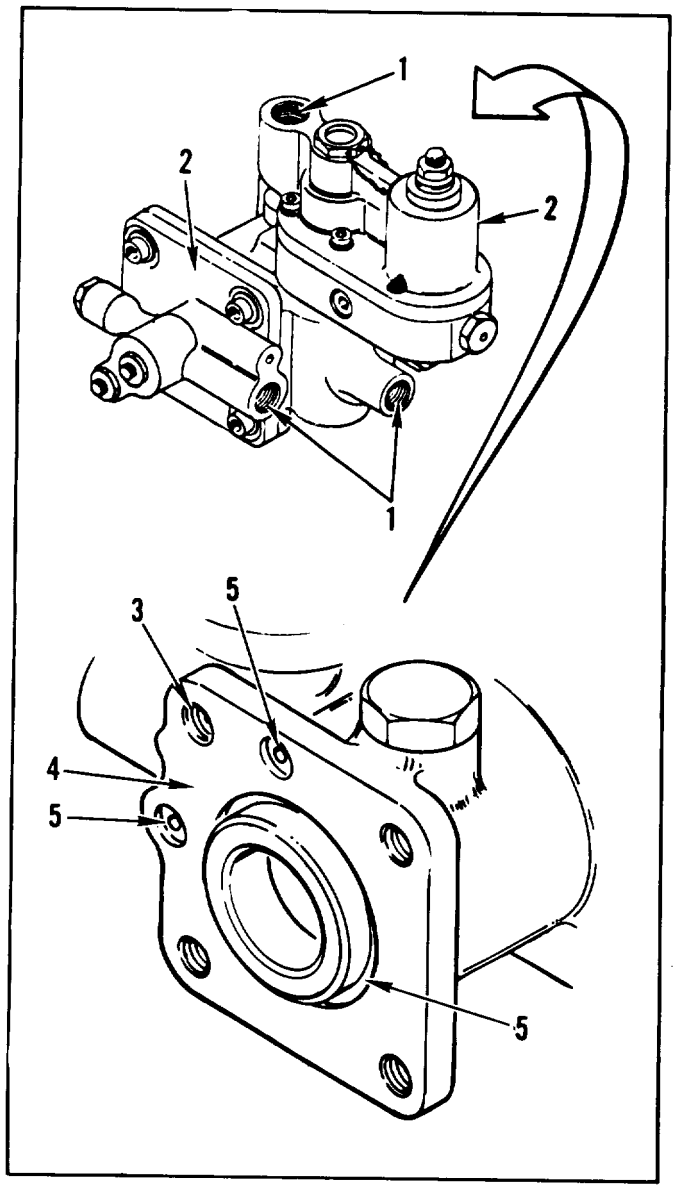
2. Dry with clean lint-free cloth (E13).

GO TO NEXT PAGE

2-26 CLEAN AND INSPECT ACCELERATION CONTROL ASSEMBLY (Continued)

3. Inspect ports (1) for damaged threads. There shall be no damage.

4. Inspect housing (2) for cracks. There shall be no cracks.



5. Inspect screw thread inserts (3) for damage, inspect fuel pump mounting surface (4) for damage. There shall be no damage.

6. Inspect packing recesses (5) for caked sediment. If sediment is found, clean per steps 1 and 2.

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-27 SERVICE FUEL PUMP FILTER

INITIAL SETUP

Applicable Configurations:
AH

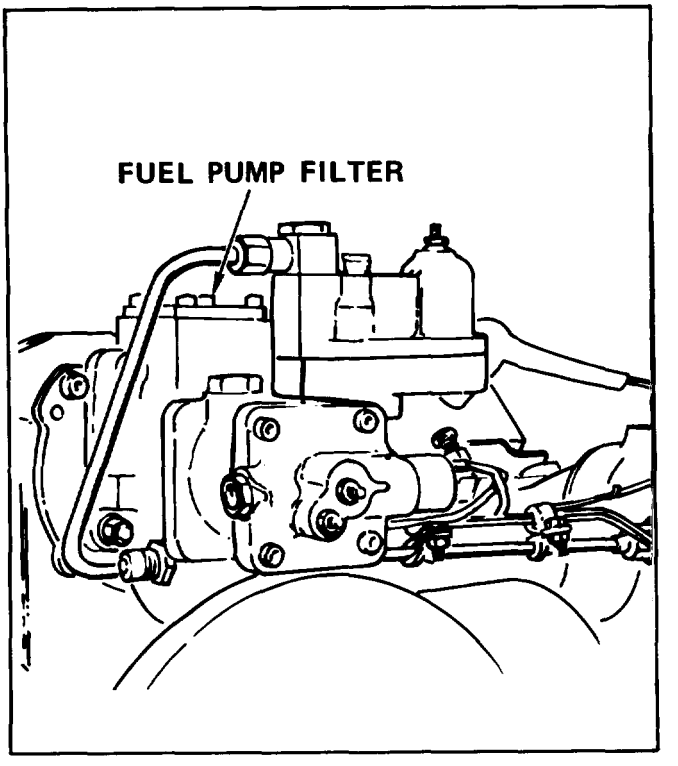
Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Rubber Gloves
NSN 8415-00-266-8677
Container
Source of Low Pressure Compressed Air

Materials:
Dry-Cleaning Solvent (E20)

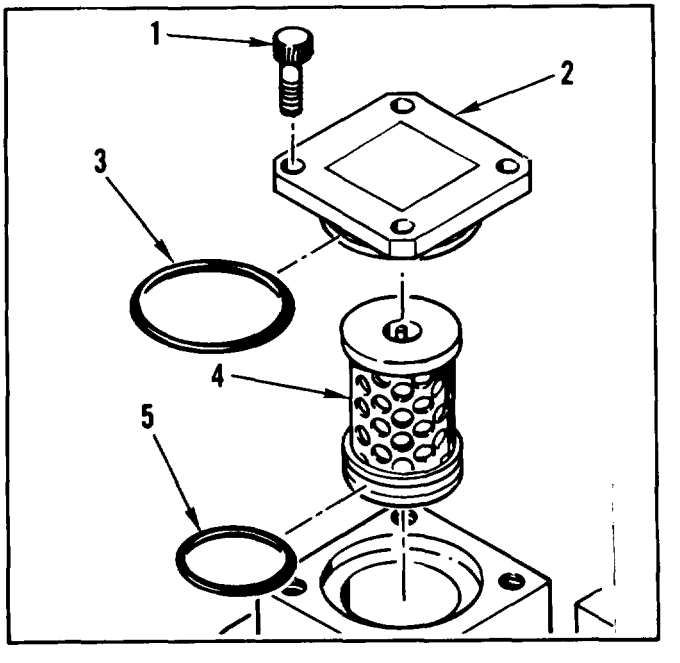
Parts:
Packings

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

References:
TM 55-2835-205-23P



1. Remove four screws (1).
2. Remove filter cover (2) with packing (3).
3. Remove packing (3) from filter cover (2).
4. Remove filter element (4).
5. Remove packing (5) from filter element (4).



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2-27 SERVICE FUEL PUMP FILTER (Continued)

WARNING

Dry-cleaning solvent (E20) is flammable and toxic. It can irritate skin and cause burns. Use only in well-ventilated area, away from heat and open flame. Wear gloves. In case of contact, immediately flush skin or eyes with water for at least 15 minutes. Get medical attention for eyes.

6. Soak filter element in dry-cleaning solvent (E20) for five minutes.

WARNING

Use goggles to protect eyes and face when using compressed air. Do not exceed 30 psig. Do not direct airstream towards yourself or another person. Failure to comply may result in injury to personnel.

7. Remove from solvent and dry with low pressure compressed air at 30 psig maximum.

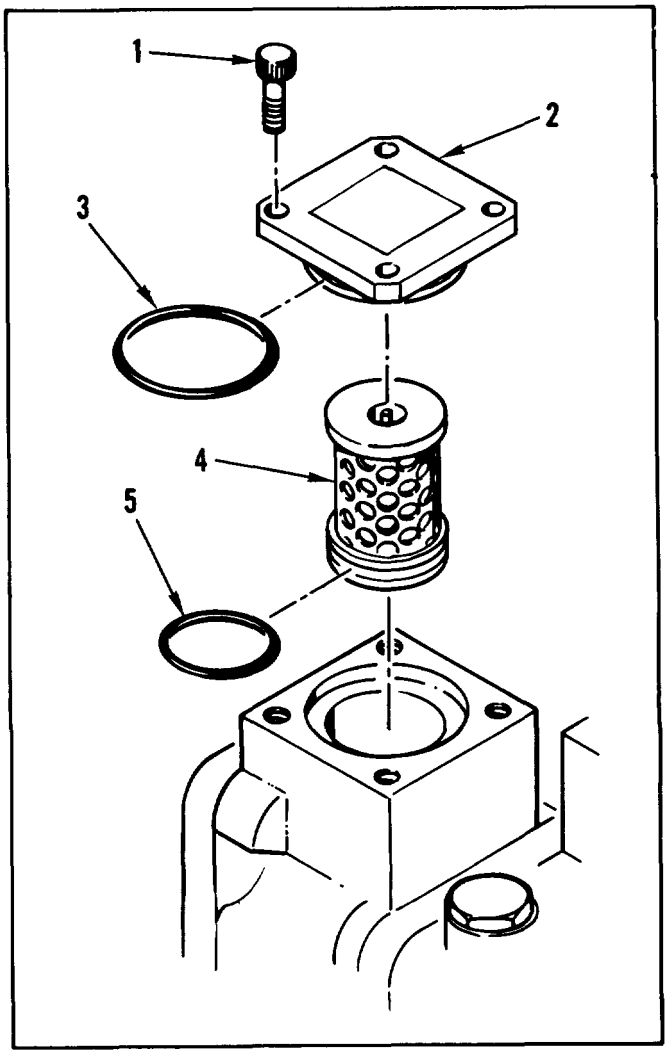
8. Check that filter element is free of foreign particles. Replace filter element if it is not clean.

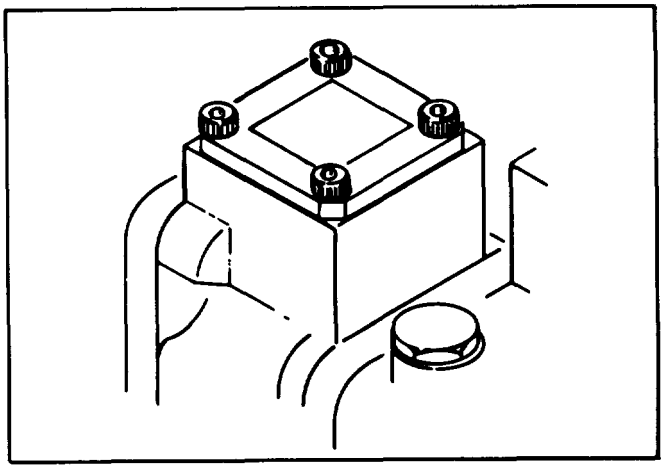
9. Install packing (5) on fuel filter element (4).

10. Install filter element (4).

11. Install packing (3) on filter cover (2).

12. Install filter cover (2) and secure with four screws (1).





INSPECT

FOLLOW-ON MAINTENANCE
None

END OF TASK

2-28 CLEAN AND INSPECT FUEL PUMP 2-28

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Rubber Gloves
NSN 8415-00-266-8677
Container

Materials:
Dry Cleaning Solvent (E20)
Lint-Free Cloth (E13)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

Equipment Condition:
Off APU Task
Disassemble Fuel Control (Task 2-23)

WARNING

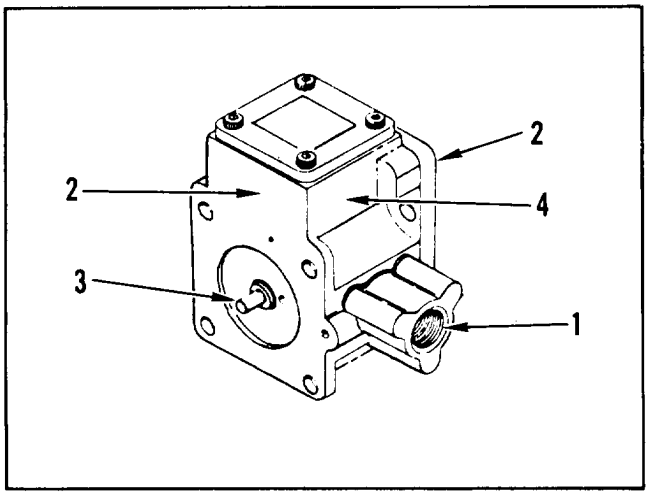
Dry-cleaning solvent (E20) is flammable and toxic. It can irritate skin and cause burns. Use only in well-ventilated area, away from heat and open flame. Wear gloves. In case of contact, immediately flush skin or eyes with water for at least 15 minutes. Get medical attention for eyes.

1. Using gloves, wipe external surfaces with lint-free cloth (E13) moistened with dry-cleaning solvent (E20). Use bristle brush to remove caked sediment.

2. Dry with clean lint-free cloth (E13).

3. Inspect port (1) for damaged threads. Inspect mounting surfaces (2) for damage. Inspect shaft splines (3) for damage. There shall be no damage.

4. Inspect housing (4) for cracks. There shall be no cracks.



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-29 CLEAN AND INSPECT PRESSURE FLUID FILTER

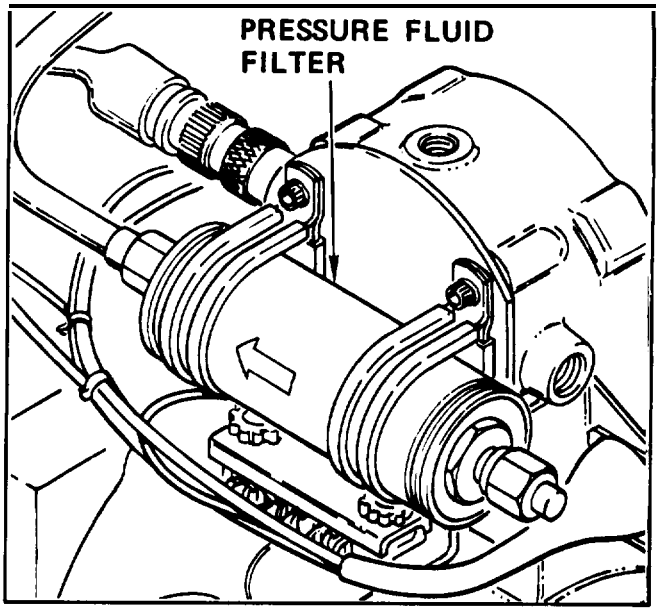
INITIAL SETUP

Applicable Configurations:
All

Tools:
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Rubber Gloves
NSN 8415-00-266-8677
Container

Materials:
Dry-Cleaning Solvent (E20)
Lint-Free Cloth (E13)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector



1. Inspect pressure fluid filter for dents or punctures. Inspect for signs of leakage. There shall be no dents, punctures, or leaks.

WARNING

Dry-cleaning solvent (E20) is flammable and toxic. It can irritate skin and and cause burns. Use only in well-ventilated area away from heat and open flame. Wear gloves. In case of contact, immediately flush skin or eyes with water for at least 15 minutes. Get medical attention for eyes.

2. Wipe pressure fluid filter with a clean cloth (E13) dampened with dry-cleaning solvent (E20). Wipe dry with a dry cloth (E13).

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-30 REMOVE PRESSURE FLUID FILTER 2-30

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

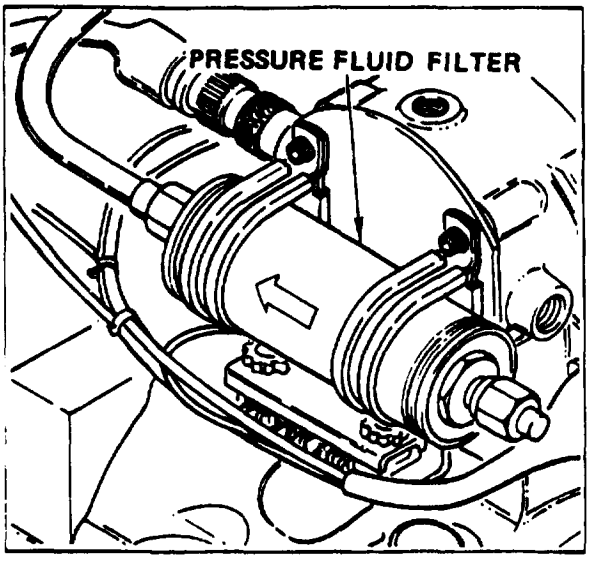
Materials:
Lint-Free Cloth (E13)

Personnel Required:
68B 10 Aircaft Powerplant Repairer

General Safety Instructions:

WARNING

Turbine fuels are very flammable. They cause drying and irritation of skin or eyes. Handle only in well-ventilated areas away from heat and open flame. Drain and store in approved metal safety containers. Avoid prolonged or repeated contact with skin, and do not take internally. Wash contacted areas of skin thoroughly after handling. If irritation of skin results, get medical attention. Get medical attention for eyes.



WARNING

Avoid applying torque across the filter body. Spiral torqued applied across the pressure fluid filter can and does cause cracks at the welds at the ends of the pressure fluid filter.

GO TO NEXT PAGE

2-30 REMOVE PRESSURE FLUID FILTER (Continued)

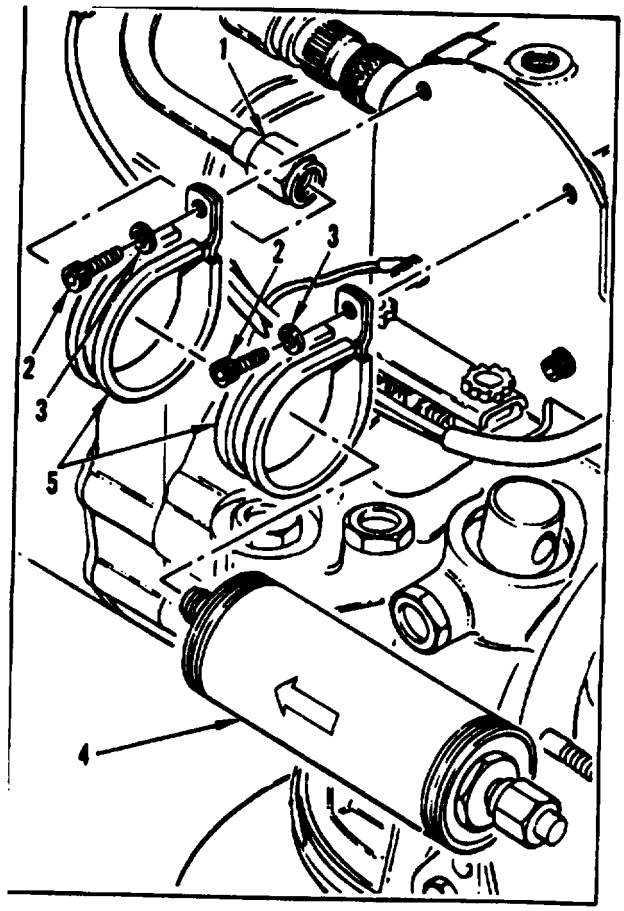
1. Place a cloth (E13) below connection to absorb dripping fuel when disconnecting inlet tube assembly (1).

CAUTION
Put wrench on flats at end of the pressure fluid filter closest to tube assembly (1) to prevent damage to fuel filter.

2. Disconnect inlet tube assembly (1).

3. Remove two screws (2) and washers (3) and remove pressure fluid falter (4) with two clamps (5).

4. Slide pressure fluid falter (4) from clamps (5).



FOLLOW-ON MAINTENANCE
None

END OF TASK

2-31 INSTALL PRESSURE FLUID FILTER

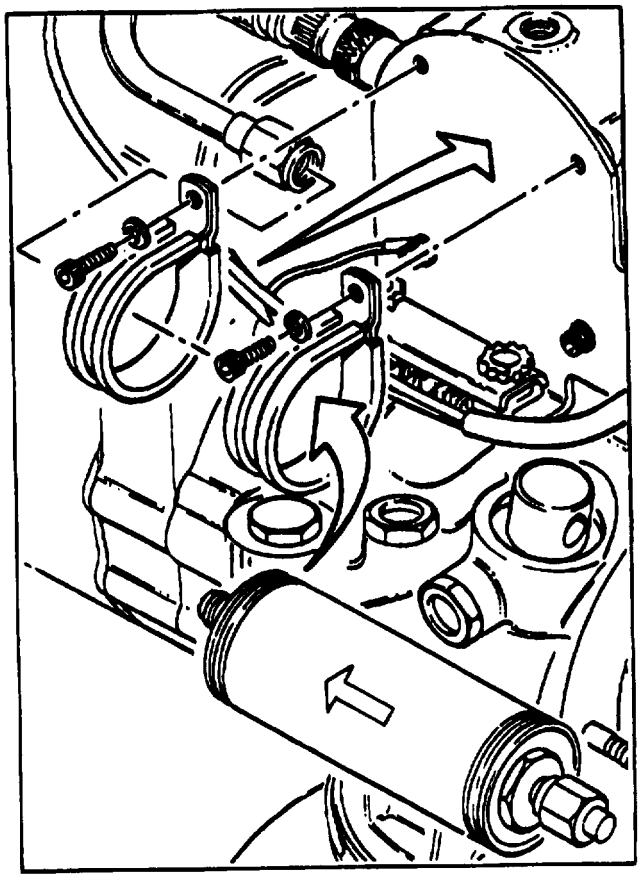
INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repaiman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

Materials:
None

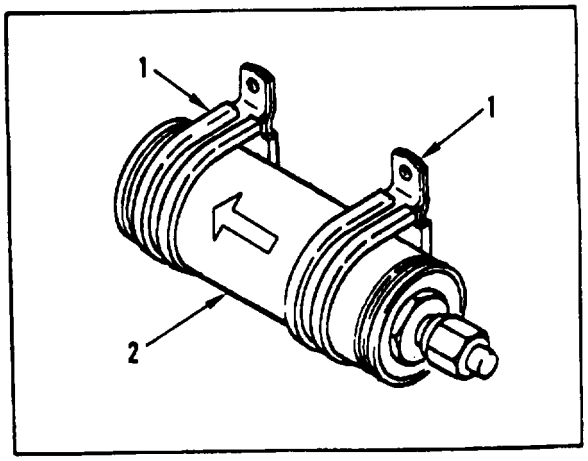
Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector.



WARNING

Avoid applying torque across the filter body. Spiral torque applied across the pressure fluid filter can, and does crack the welds at the ends of the pressure fluid filter.

1. Install clamps (1) on pressure fluid filter (2)



GO TO NEXT PAGE

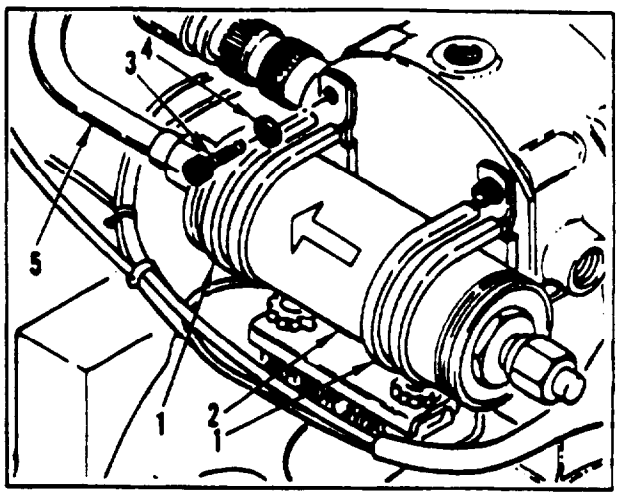
2-31 INSTALL PRESSURE FLUID FILTER (Continued) 2-31

2. Install clamps (1) and pressure fluid filter (2) with screws (3) and washers (4). Leave screws loose.

CAUTION
Put wrench on flats at edge of the pressure fluid filter closest to tube assembly (5) to prevent damage to pressure fluid filter.

3. Adjust position of pressure fluid filter (2) in clamps (1) and connect inlet tube assembly. Torque to 80 in. lbs. (Refer. to warning Page 2-54)

4. Tighten two screws (3).



INSPECT

FOLLOW-ON MAINTENANCE
None

END OF TASK

2.32 REMOVE FUEL INJECTORS

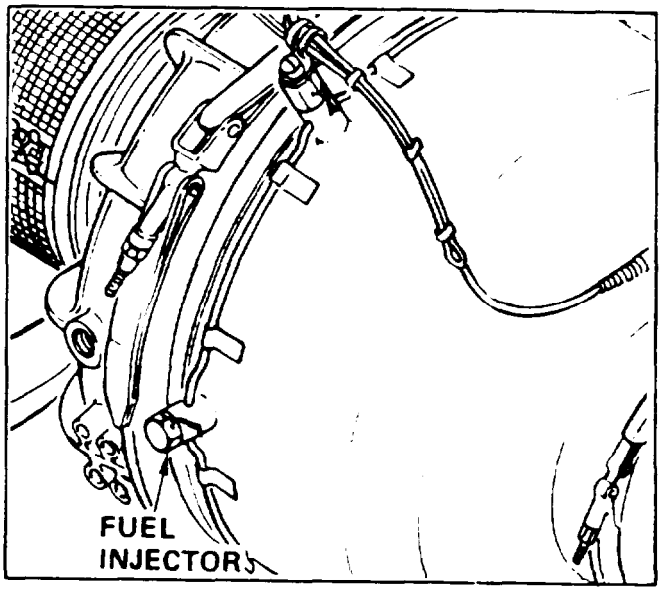
INITIAL SETUP

Applicable Configurations.
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

Materials:
None

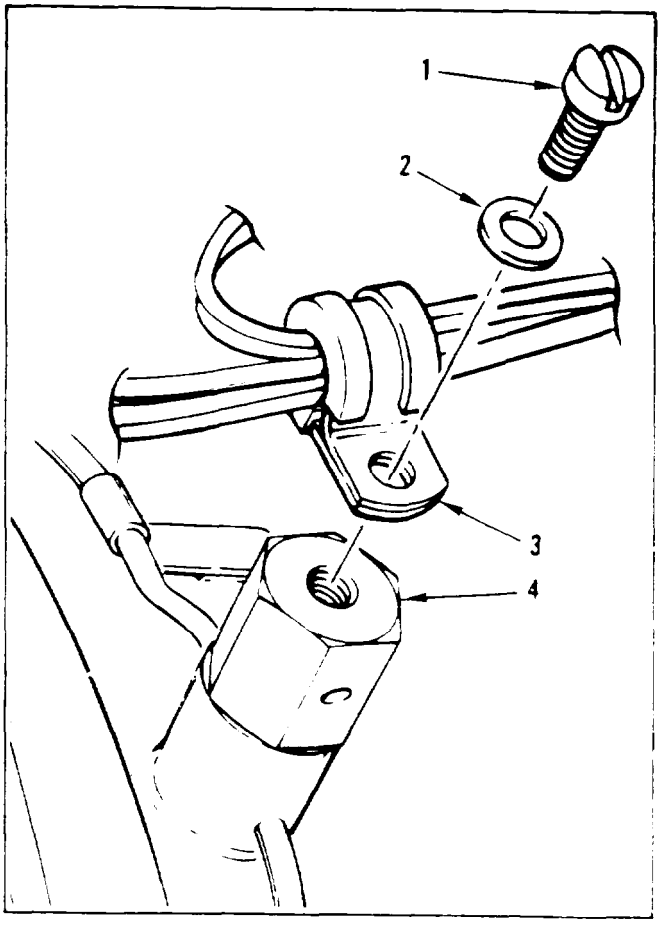
Personnel Required:
68B10 Aircraft Powerplant Repairer



1. Remove lockwire from screws (1). **Remove three screws (1)** and washers (2) holding clamps (3) to plugs (4).

NOTE

Three plugs 14) have threaded holes for screws (1). The other three plugs, located where no clamps are required, have no threaded screw holes.



GO TO NEXT PAGE

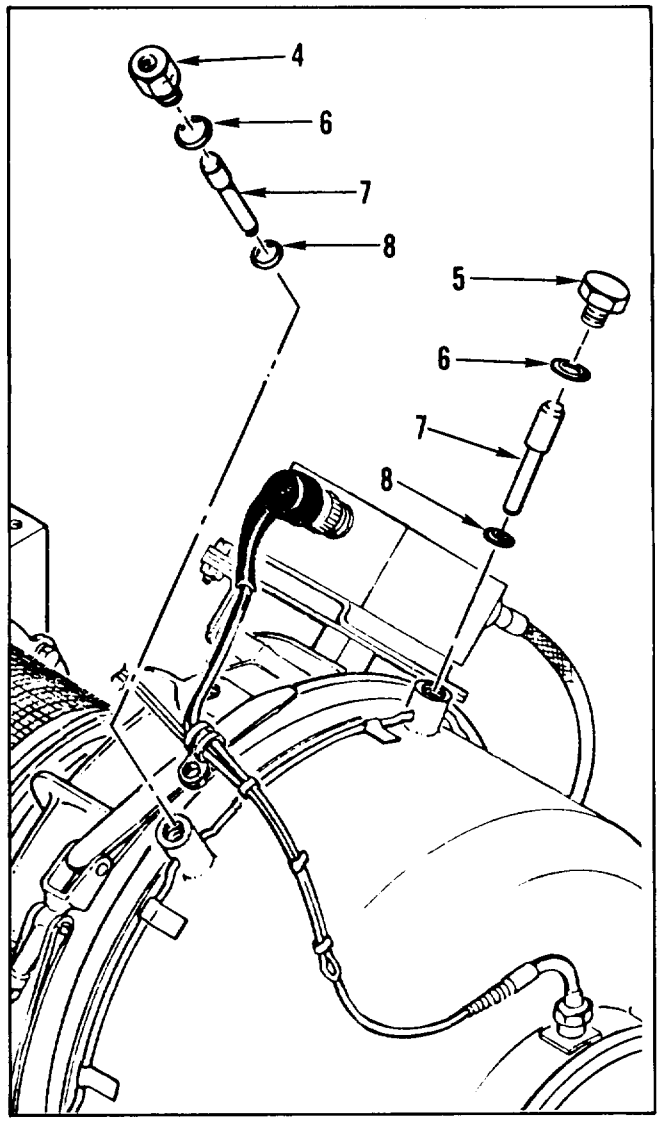
2-32 REMOVE FUEL INJECTORS (Continued) 2-32

2. Remove lockwire. Remove three plugs (4), three plugs (5), and six packings (6).

3. Removing packings (6) from plugs (4 and 5).

4. Remove six fuel injectors (7) and packings (8).

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-33 INSPECT FUEL INJECTORS

INITIAL SETUP

Applicable Configurations:
All

Tools:
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

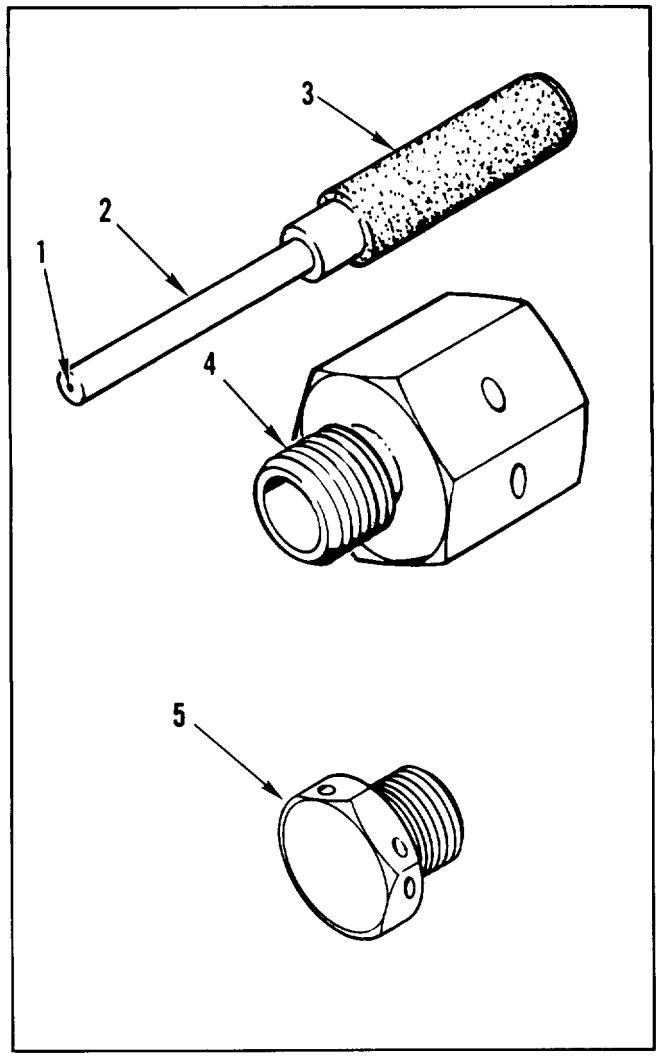
Materials:
None

Personnel Required:
68B30 Powerplant Inspector

Equipment Condition:
Off APU Task

1. Inspect orifice (1) for clogging. There shall be no clogging.
2. Inspect tube (2) and filter element (3) for damage. There shall be no damage.
3. Inspect plugs (4 and 5) for damaged threads. Threads shall not be damaged.

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-34 INSTALL FUEL INJECTORS

INITIAL SETUP

Applicable Configurations:
All

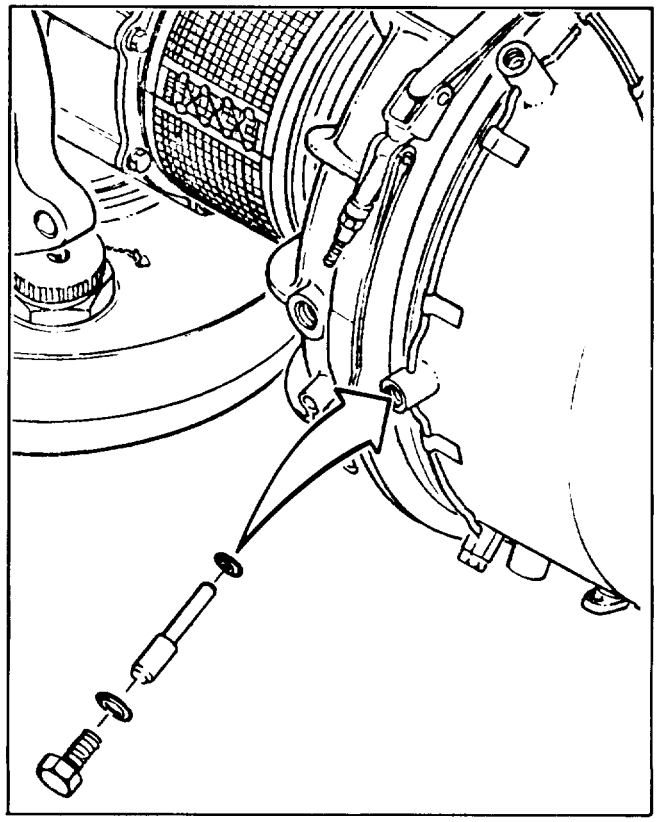
Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Torque Wrench, 30 to 150 inch-pounds
NSN 5120-00-542-4489

Materials:
Lockwire (E16)

Parts:
Packing

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

References:
TM 55-2835-205-23P

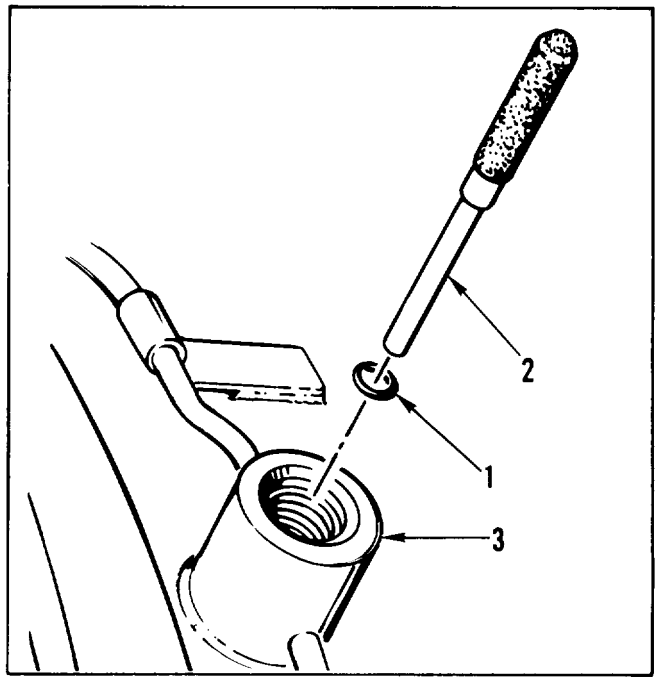


CAUTION

Be sure packings and fuel injectors are kept clean during installation. Insert fuel injectors carefully to avoid pinching packings. If fuel injector becomes clogged or packing leaks, a hot spot may result.

1. Install packing (1) onto fuel injector (2).

2. Insert fuel injector (2) into boss (3).



GO TO NEXT PAGE

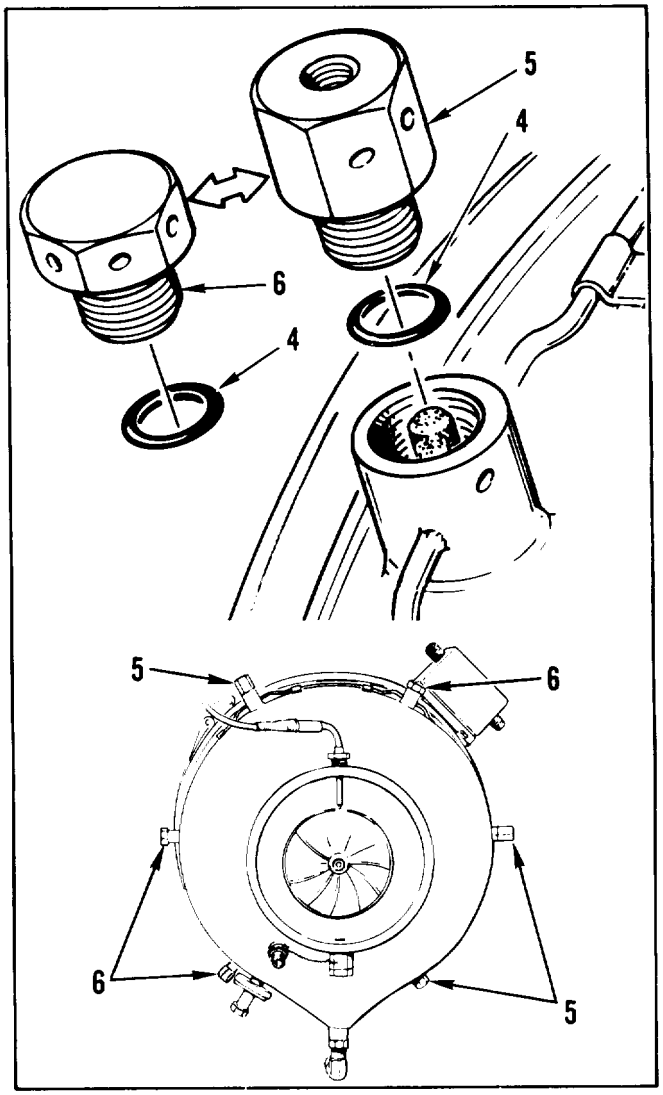
2-34 INSTALL FUEL INJECTORS (Continued)

3. Install packing (4) on plug (5 or 6).

NOTE

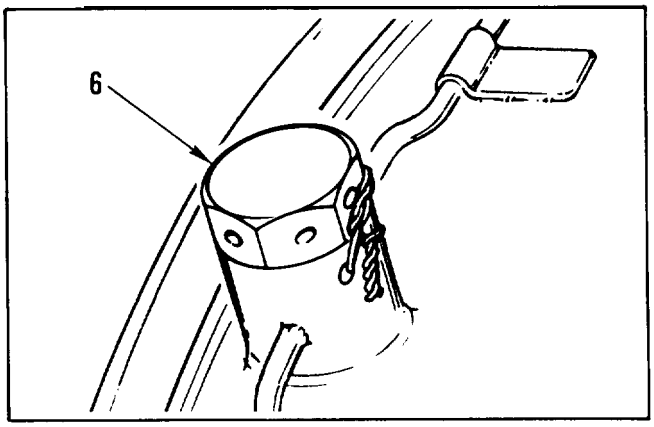
Plug (5) has a threaded screw hole for attachment of a clamp to secure the wire harness or power cable. Plug (6) has no threaded screw hole. There are three plugs (5) and three plugs (6).

4. Install plug (5 or 6). Torque to 38 inch-pounds.



5. Lockwire plug (6) using lockwire (E16).

6. Repeat steps 1 through 5 for other five fuel injectors.



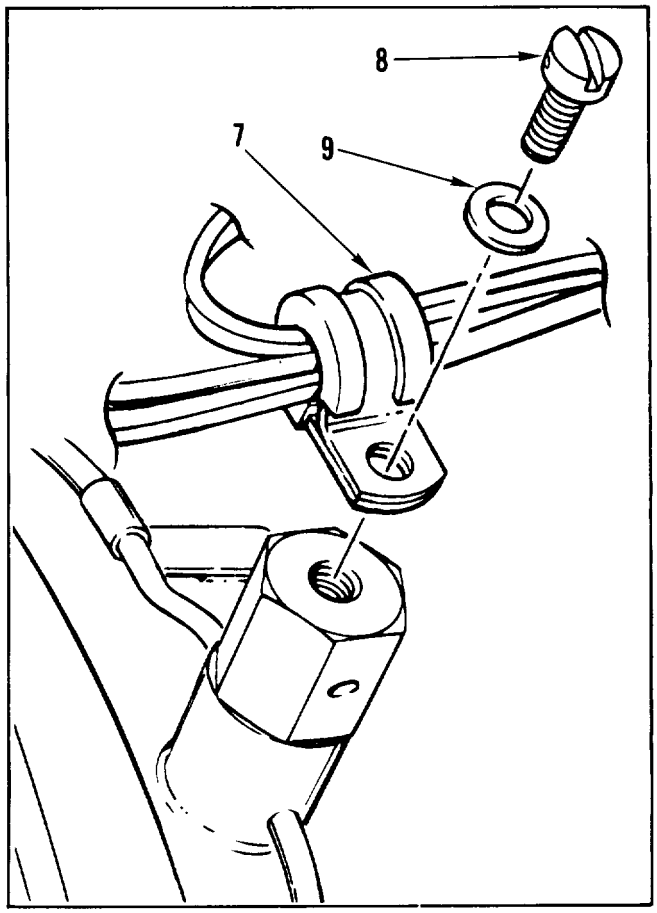
GO TO NEXT PAGE

2-34 INSTALL FUEL INJECTORS (Continued)

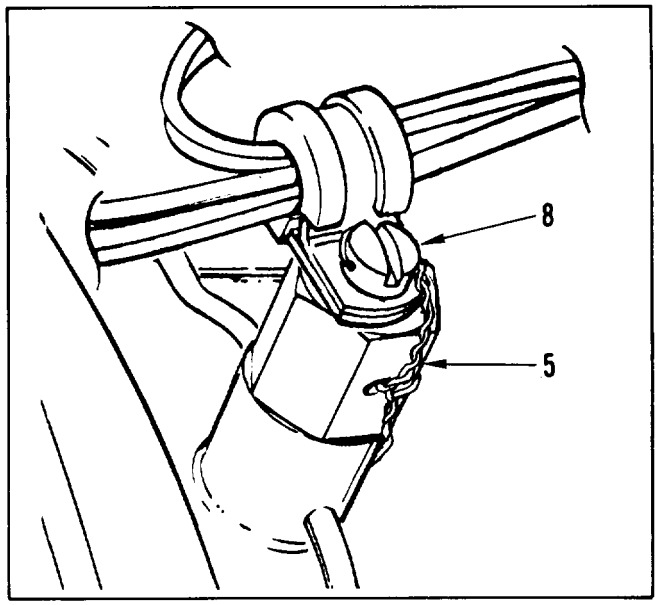
NOTE

Three clamps (7) are required. One to secure the wire harness and two to secure the power cable between the ignition exciter and spark plug.

7. Install three clamps (7) with screws (8) and washers (9).



8. Lockwire screw (8) and plug (5), using lockwire (E16).



INSPECT

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-35 REMOVE START NOZZLE ASSEMBLY

INITIAL SETUP

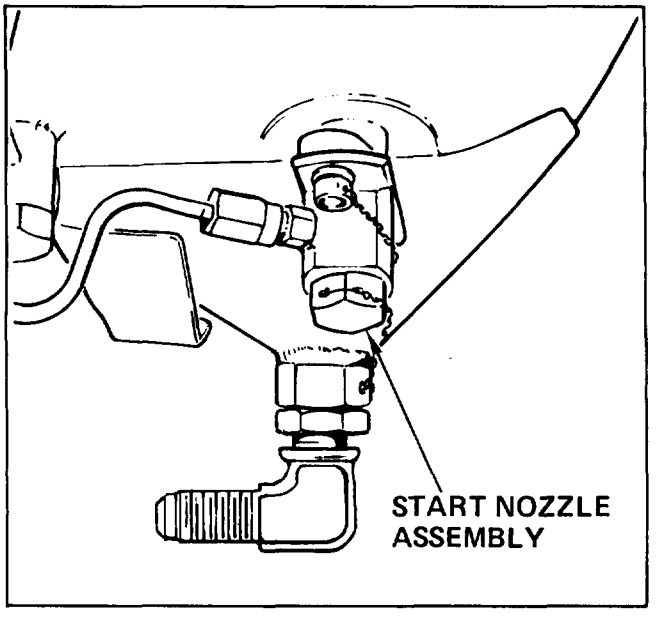
Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

Materials:
Lint-Free Cloth (E13)

Personnel Required:
68B 10 Aircraft Powerplant Repairer

General Safety Instructions:



WARNING

Turbine fuels are very flammable. They cause drying and irritation of skin or eyes. Handle only in well-ventilated areas away from heat and open flame. Drain and store in approved metal safety containers. Avoid prolonged or repeated contact with skin, and do not take internally. Wash contacted areas of skin thoroughly after handling. If irritation of skin results, get medical attention. Get medical attention for eyes.

GO TO NEXT PAGE

2-35 REMOVE START NOZZLE ASSEMBLY (Continued) 2-35

1. Place a cloth (E13) below connection to absorb dripping fuel when disconnecting start fuel tube assembly (1).

CAUTION

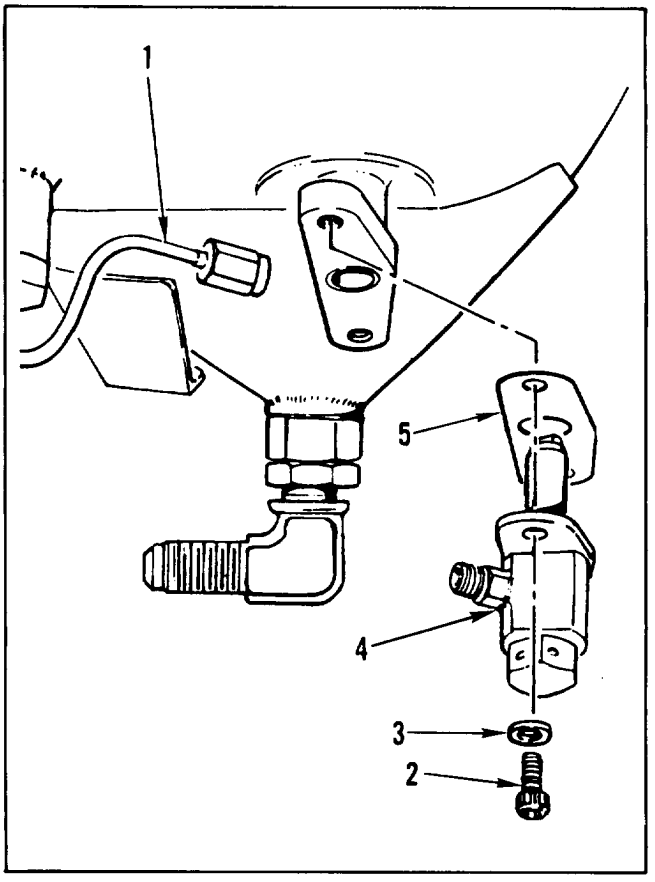
Handle tube assembly carefully when disconnecting. Tube assemblies are easily bent or kinked.

2. Disconnect start fuel tube assembly (1).

3. Remove Iockwire.

4. Remove two screws (2), washers (3), start nozzle assembly (4), and gasket (5).

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-36 DISASSEMBLE START NOZZLE ASSEMBLY

INITIAL SETUP

Applicable Configurations:
All

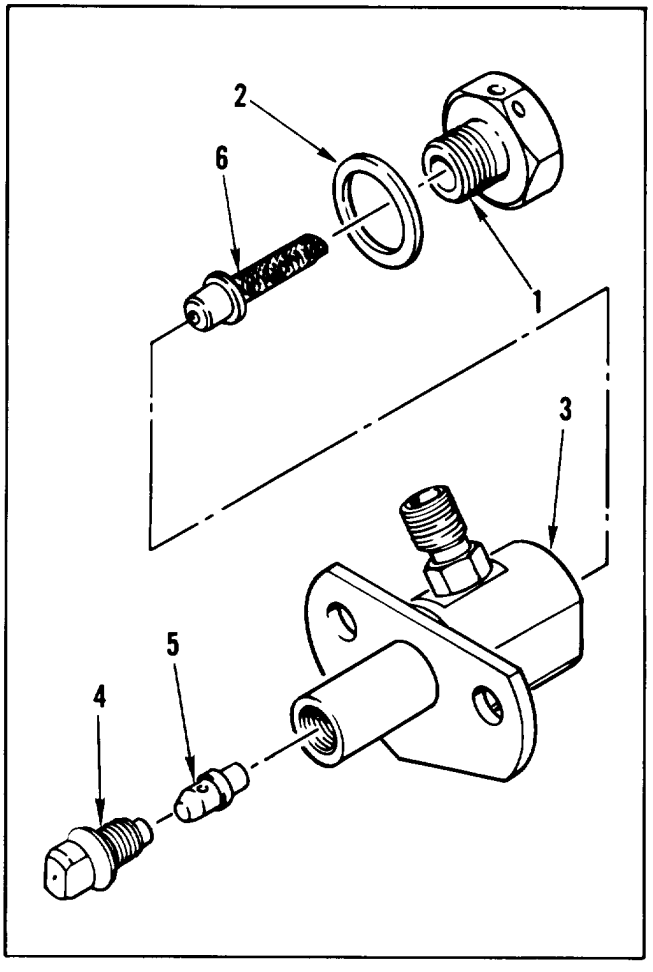
Tools:
Engine Repairman's Tool Kit
NSN *5180-00-323-4944*
Electrical Repairman's Tool Kit
NSN 5180-00-323-4915

Materials:
None

Personnel Required:
68B10 Aircraft Powerplant Repairer

Equipment Condition:
Off APU Task

1. Remove plug (1) and gasket (2) from housing (3).
2. Remove nozzle (4) and swirl pin (5).
3. Using jeweler's screwdriver, remove swirl pin (5) from nozzle (4).
4. Remove filter assembly (6).



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-37 CLEAN AND INSPECT START NOZZLE ASSEMBLY

INITIAL SETUP

Applicable Con figurations:
All

Tools:
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Face Shield
NSN 4240-00-202-943
Source of Low Pressure Compressed Air Container

Materials:
Methyl-Ethyl Ketone (MEK) (E9)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

Equipment Condition:
Off APU Task
Disassemble Start Nozzle Assembly (Task 2-36)

WARNING

MEK (E9) is flammable and toxic. It can irritate skin and cause burns. Use only in well-ventilated area, away from heat and open flame. Wear surgical gloves. In case of contact, immediately flush skin or eyes with water for at least 15 minutes. Get medical attention for eyes.

1. **Soak in MEK (E9) for approximately 5 minutes.**

WARNING

Use face shield to protect eyes and face when using compressed air. Do note exceed 30 psig. Do not direct airstream towards yourself or another person. Failure to comply may result in injury to personnel.

2. **Remove from MEK. Wearing face shield, dry with low pressure compressed air at 30 psig maximum.**

GO TO NEXT PAGE

2-37 CLEAN AND INSPECT START NOZZLE ASSEMBLY (Continued) 2-37

3. Inspect filter assembly (1) for tears or dents in screen. Check for separation of screen from body (6). The screen shall be undamaged and tight in body.

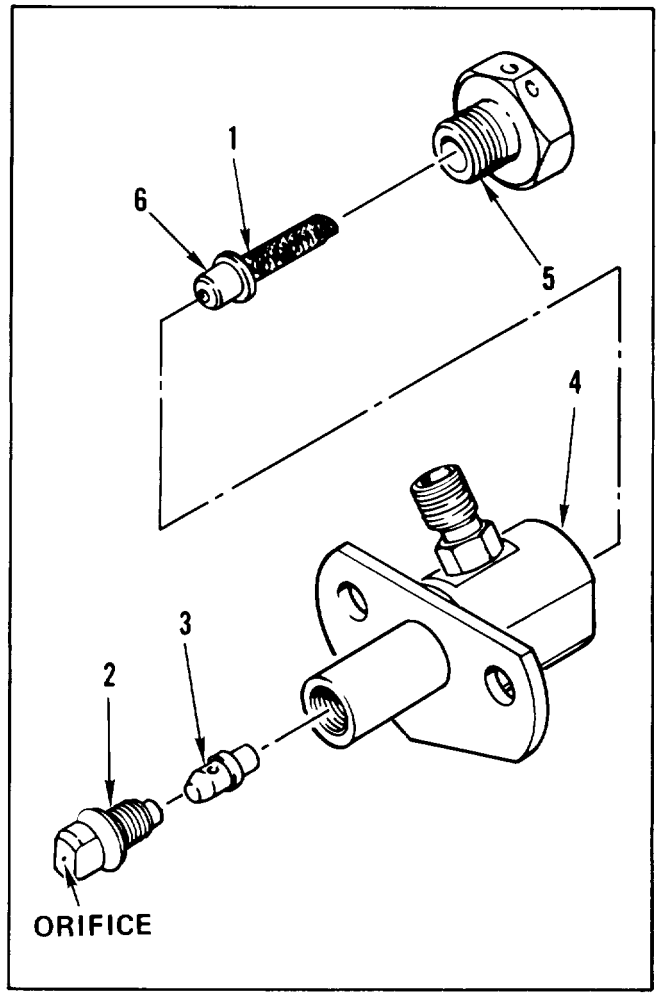
4. Inspect nozzle (2) for carbon deposits in orifice. There shall be no carbon deposits. If found, repeat steps 1 and 2.

5. Inspect slots in swirl pin (3) for clogging. There shall be no clogging. If clogged, repeat steps 1 and 2.

6. Inspect housing (4) for cracks and damaged threads. There shall be no damage. If damaged, replace start nozzle assembly.

7. Inspect nozzle (2) and plug (5) for damaged threads. Threads shall be undamaged. If damaged, replace.

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-38 ASSEMBLE START NOZZLE ASSEMBLY

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Electrical Repairman's Tool Kit
NSN 5180-00-323-4915

Materials:
None

Parts:
Gasket

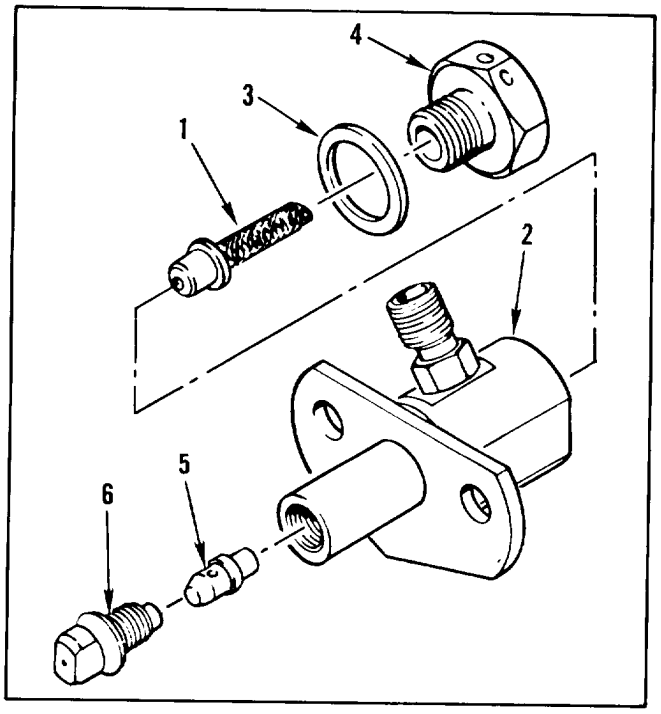
Personnel Required:
68B10 Aircraft Powerplant Repairer

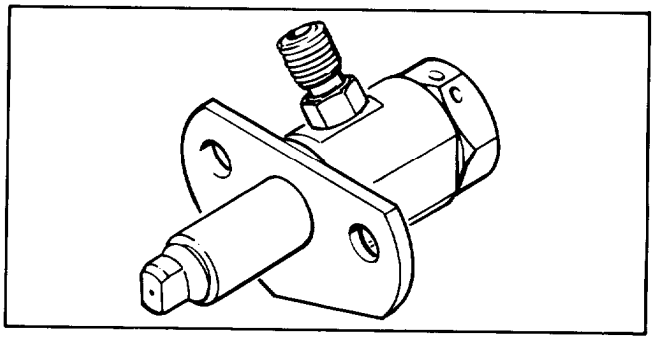
References:
TM 55-2835-205-23P

Equipment Condition:
Off APU Task

1. Install filter assembly (1) in housing (2).
2. Install gasket (3) on plug (4) and install plug.
3. Using jeweler's screwdriver, install swirl pin (5) hand tight in nozzle (6).
4. Install nozzle (6).

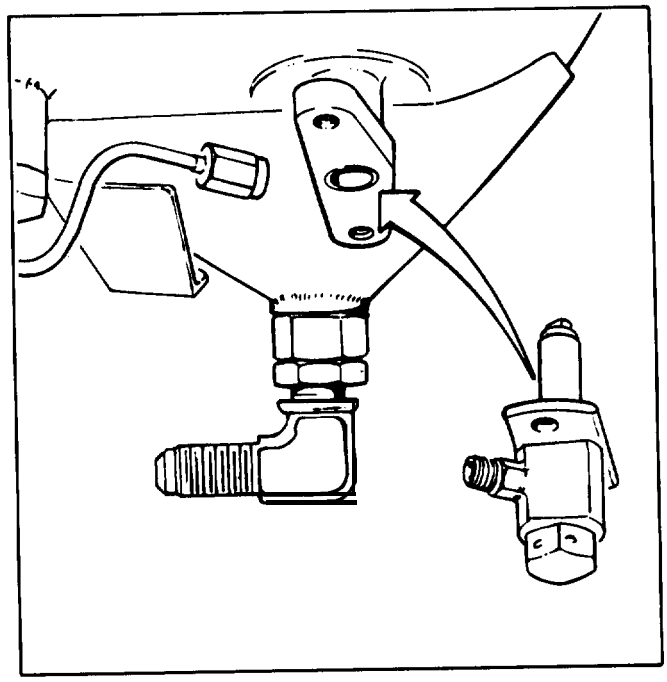
FOLLOW-ON MAINTENANCE:
None





END OF TASK

2-39 INSTALL START NOZZLE ASSEMBLY



INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

Materials:
Lockwire (E16)

Parts:
Gasket

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

References:
TM 55-2835-205-23P

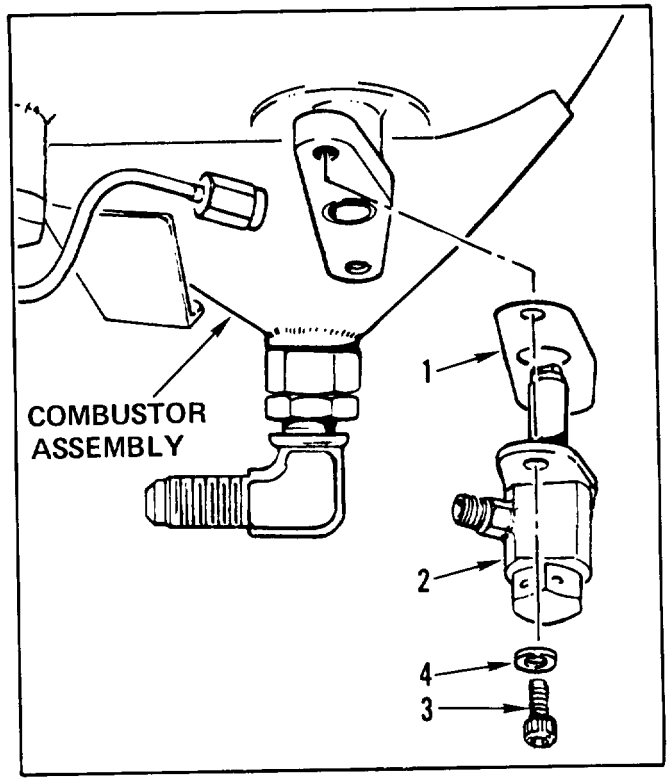
NOTE

Be sure mating surface of both flanges are clean before installing gasket.

1. Install gasket (1) on start nozzle assembly (2).

CAUTION

Be sure guide on combustor liner and combustor housing boss are aligned when start nozzle assembly is is being installed. If not aligned, damage to combustor liner or partial blocking of nozzle tip can result.



2. Insert start nozzle assembly (2) into combustor assembly.

3. Install two screws (3) and washers (4).

GO TO NEXT PAGE

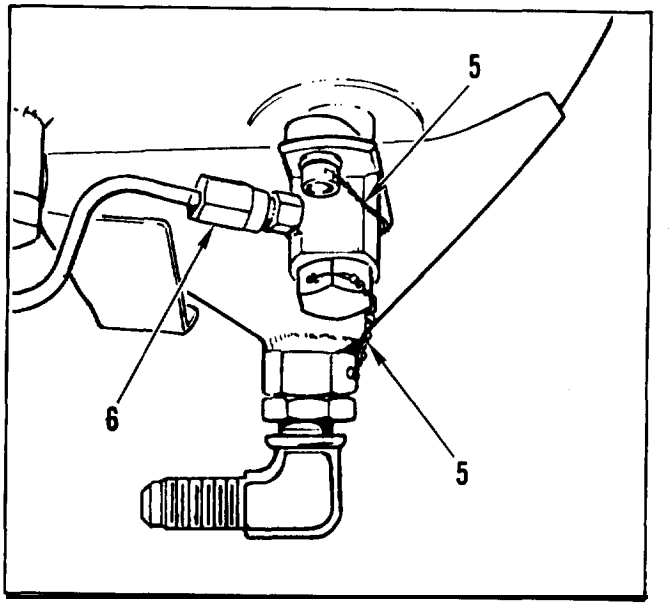
2-39 INSTALL START NOZZLE ASSEMBLY (Continued)

4. Install lockwire (E16) (5) two places.

5. Connect start fuel tube assembly (6).

INSPECT

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-40 REMOVE RESTRICTOR

INITIAL SETUP

Applicable Con figurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

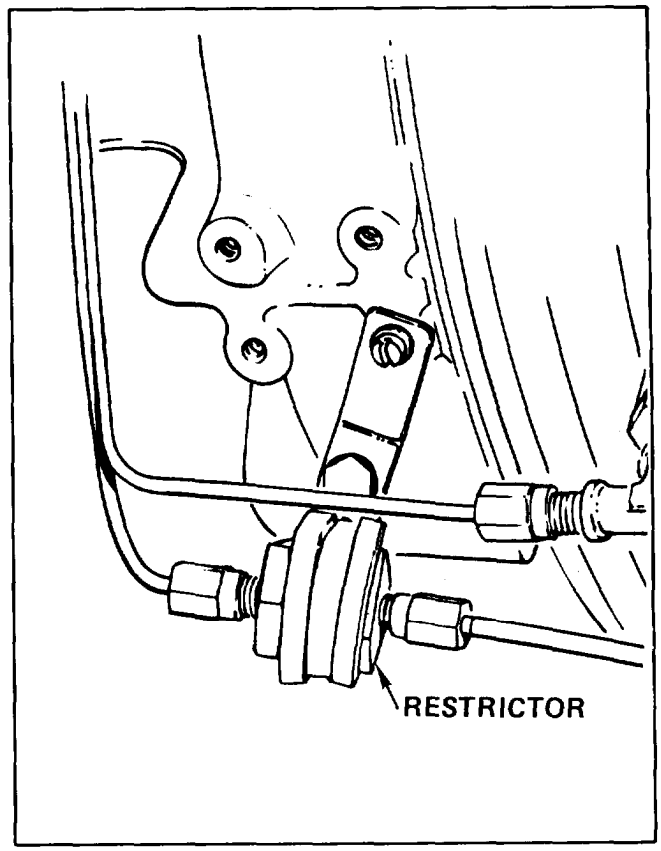
Materials:
Lint-Free Cloth (E13)

Personnel Required:
68B10 Aircraft Powerplant Repairer

General Safety Instructions:

WARNING

Turbine fuels are very flammable. They cause drying and irritation of skin or eyes. Handle only in well-ventilated areas away from heat and open flame. Drain and store in approved metal safety containers. Avoid prolonged or repeated contact with skin, and do not take internally. Wash contacted areas of skin thoroughly after handling. If irritation of skin results, get medical attention. Get medical attention for eyes.



GO TO NEXT PAGE

2-40 REMOVE RESTRICTOR (Continued)

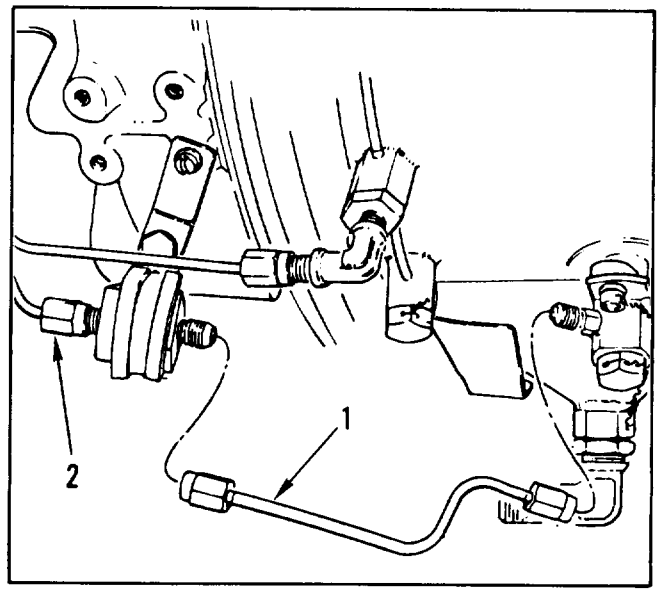
1. Place a cloth (E13) below connections to absorb dripping fuel when disconnecting tubes.

CAUTION

Handle tubes carefully during removal. Tubes are easily bent or kinked.

2. Disconnect and remove start fuel tube assembly (1).

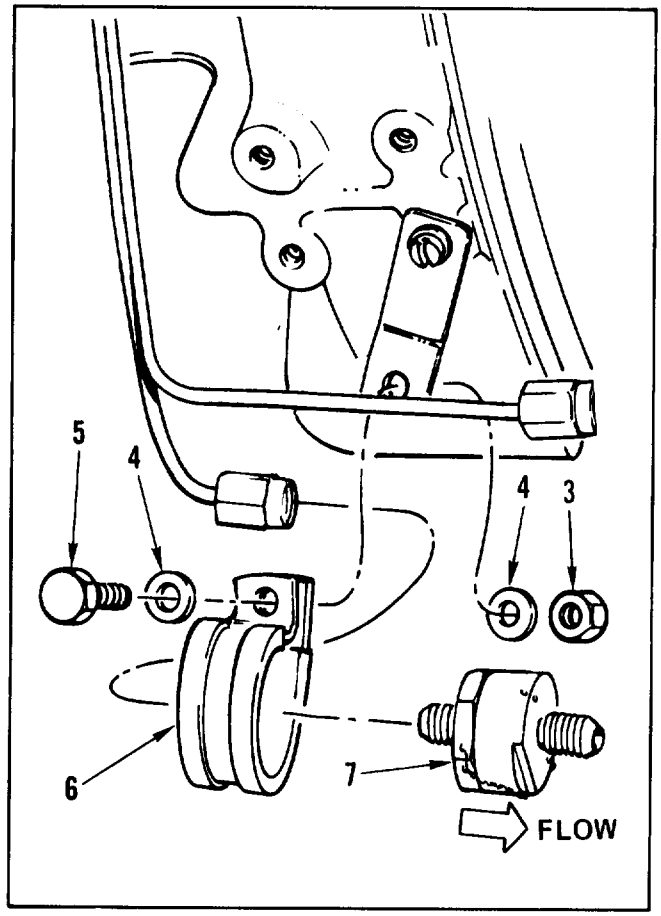
3. Unscrew coupling nut (2).



4. Remove nut (3), two washers (4), bolt (5), and clamp (6) with restrictor (7).

5. Remove restrictor (7) from clamp (6).

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-27 SERVICE FUEL PUMP FILTER (Continued)

WARNING

Dry-cleaning solvent (E20) is flammable and toxic. It can irritate skin and cause burns. Use only in well-ventilated area, away from heat and open flame. Wear gloves. In case of contact, immediately flush skin or eyes with water for at least 15 minutes. Get medical attention for eyes.

6. Soak filter element in dry-cleaning solvent (E20) for five minutes.

WARNING

Use goggles to protect eyes and face when using compressed air. Do not exceed 30 psig. Do not direct airstream towards yourself or another person. Failure to comply may result in injury to personnel.

7. Remove from solvent and dry with low pressure compressed air at 30 psig maximum.

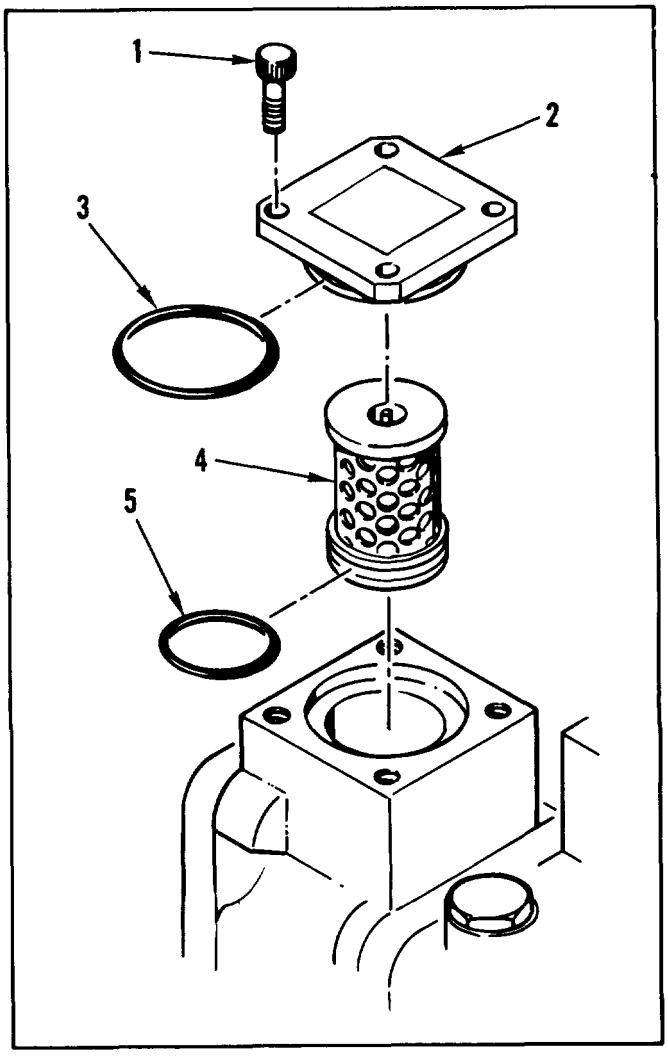
8. Check that filter element is free of foreign particles. Replace filter element if it is not clean.

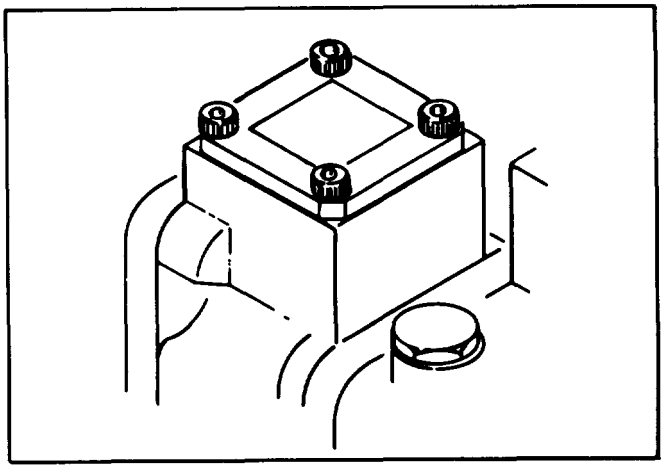
9. Install packing (5) on fuel filter element (4).

10. Install filter element (4).

11. Install packing (3) on filter cover (2).

12. Install filter cover (2) and secure with four screws (1).





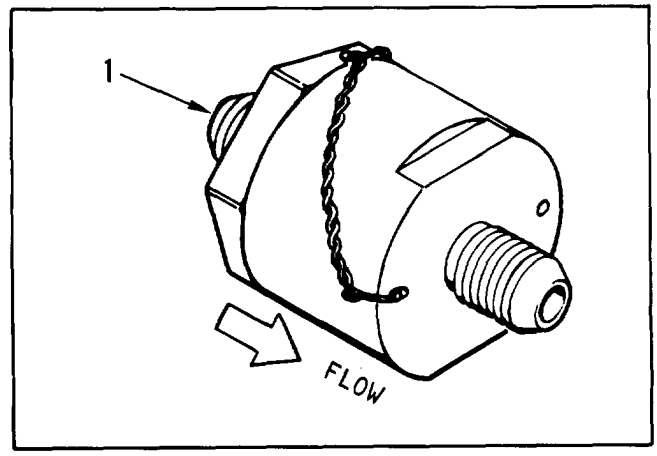
INSPECT

FOLLOW-ON MAINTENANCE
None

END OF TASK

2-41 CLEAN AND INSPECT RESTRICTOR (Continued)

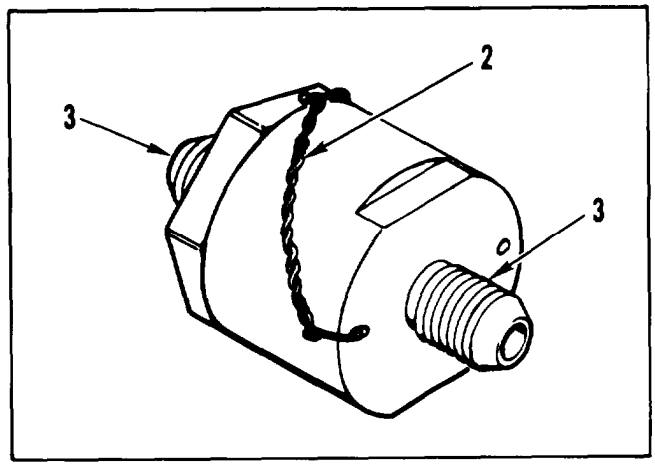
3. Direct air through port (1) in direction of air flow to check that air flows through opposite port. Replace restrictor if clogged.



CAUTION

Do not disassemble restrictor. It is not repairable and is difficult to reassemble.

4, Check for broken or missing lockwire (2) indicating that restrictor may have been disassembled. Check threads (3) for damage. Replace restrictor if lockwire is broken or missing. There shall be no damage.



5. Replace lockwire if broken during maintenance. Use lockwire (E16).

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-42 INSTALL RESTRICTOR

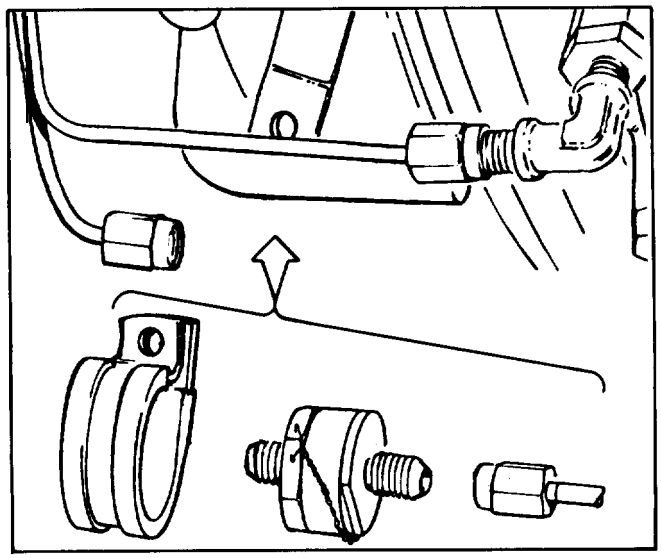
INITIAL SETUP

Applicable Configurations:
All

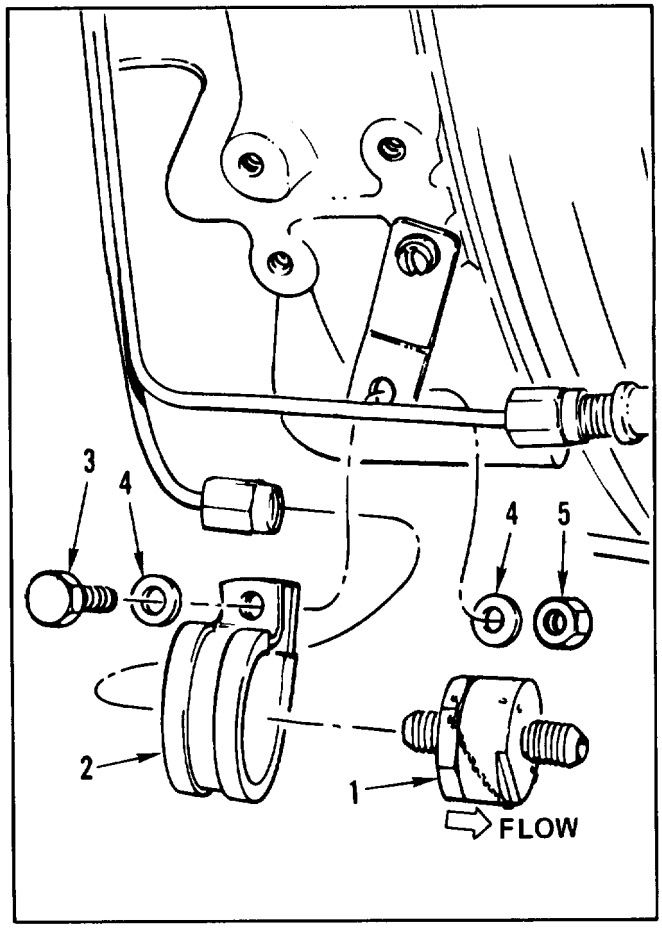
Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

Materials:
None

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector



1. Install restrictor (1) in clamp (2).
2. Install restrictor (1) and clamp (2) with bolt (3), two washers (4), and nut (5).



GO TO NEXT PAGE

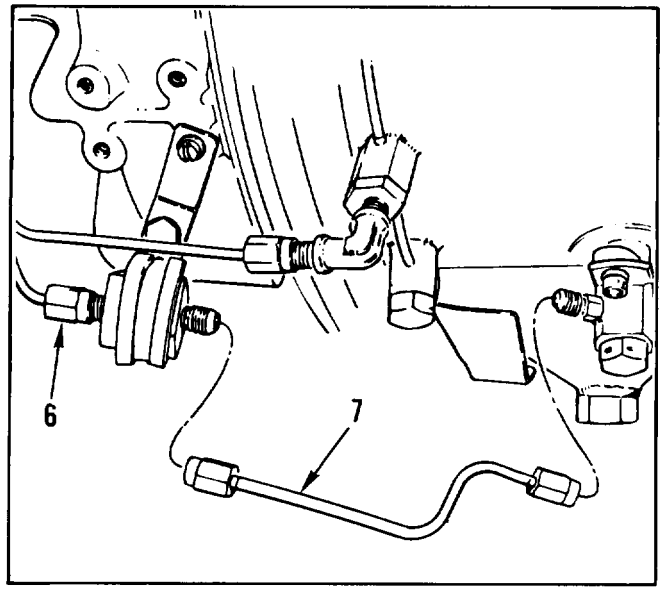
2-42 INSTALL RESTRICTOR (Continued)

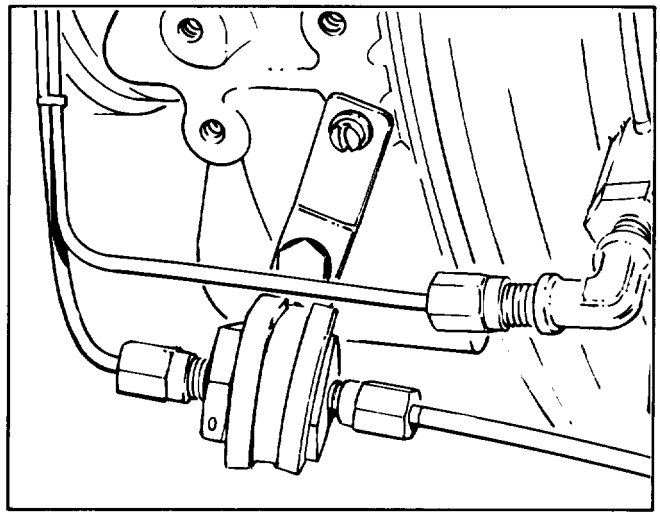
3. Connect coupling nut (6).

4. Install start fuel tube assembly (7).

INSPECT

FOLLOW-ON MAINTENANCE:
None





END OF TASK

2-43 REMOVE MAIN FUEL VALVE ASSEMBLY 2-43

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

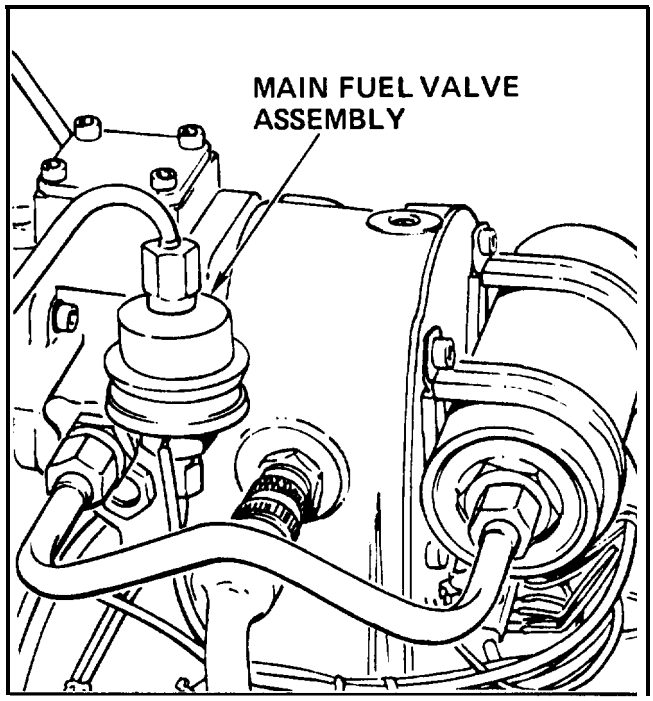
Materials:
Lint-Free Cloth (E13)

Personnel Required:
68B *10* Aircraft Powerplant Repairer

General Safety Instructions:

WARNING

Turbine fuels are very flammable. They cause drying and irritation of skin or eyes. Handle only in well-ventilated areas away from heat and open flame. Drain and store in approved metal safety containers. Avoid prolonged or repeated contact with skin, and do not take internally. Wash contacted areas of skin thoroughly after handling. If irritation of skin results, get medical attention. Get medical attention for eyes.



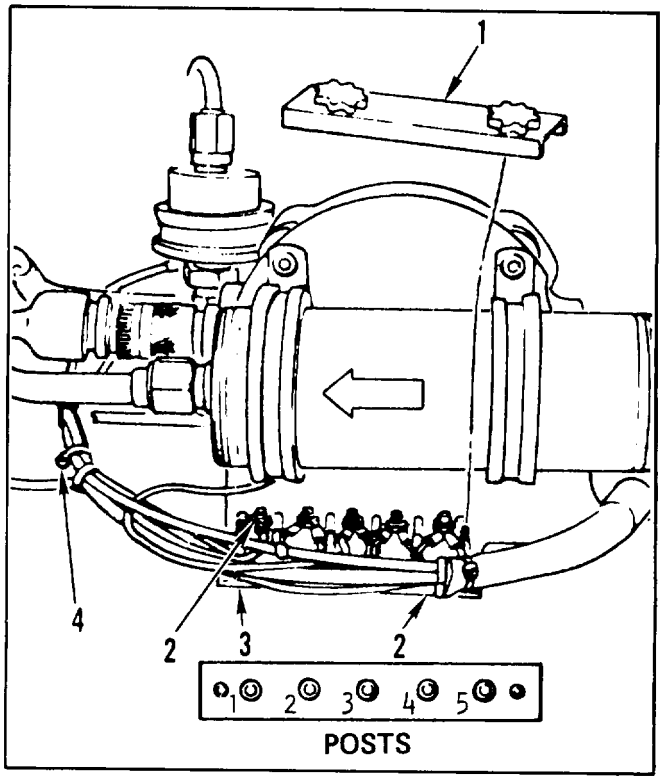
GO TO NEXT PAGE

2-43 REMOVE MAIN FUEL VALVE ASSEMBLY (Continued)

1, Remove terminal board cover (1).

2. Disconnect two main fuel valve assembly leads (2) at posts 1 and 4 of terminal board (3).

3. Remove tie down straps (4) as needed to separate leads (2) from harness assembly.



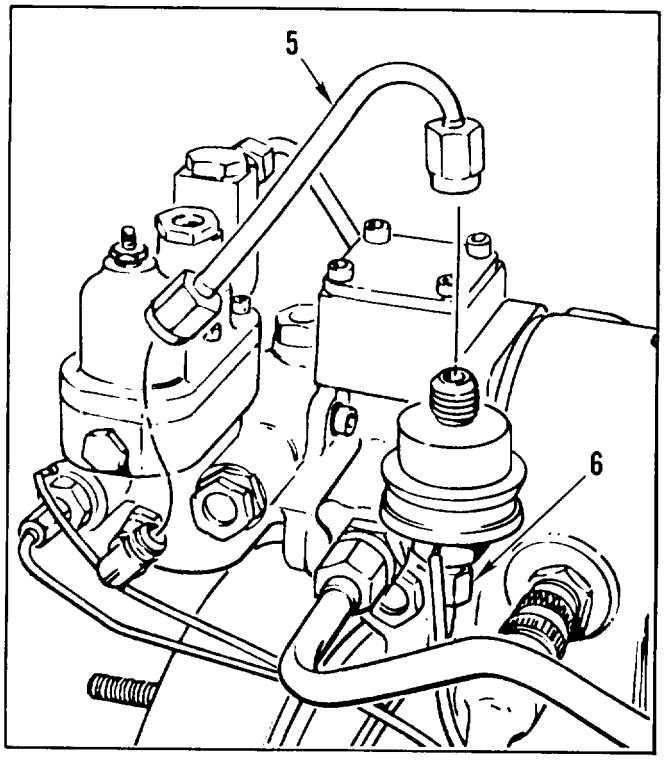
4. Place a cloth (E13) below connections to absorb dripping fuel when disconnecting tubes.

CAUTION

Handle tubes carefully during removal. Tubes are easily bent or kinked.

5. Disconnect and remove main fuel tube assembly (5).

6. Disconnect coupling nut (6).



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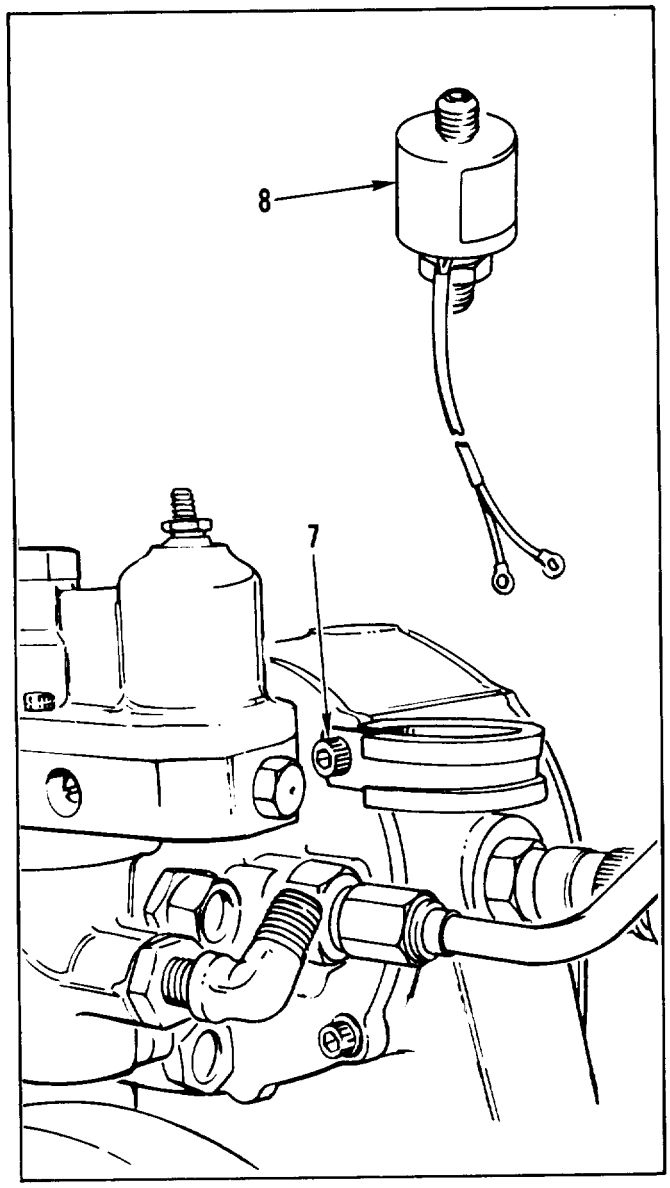
2-43 REMOVE MAIN FUEL VALVE ASSEMBLY (Continued)

7. Loosen screw (7). Remove main fuel valve assembly (8).

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-44 CLEAN AND INSPECT MAIN FUEL VALVE ASSEMBLY 2-44

INITIAL SETUP

Applicable Configurations
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Rubber Gloves
NSN 8415-00-266-8677
Container

Materials:
Dry-Cleaning Solvent (E20)
Lint-Free Cloth (E13)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

Equipment Condition:
Off APU Task

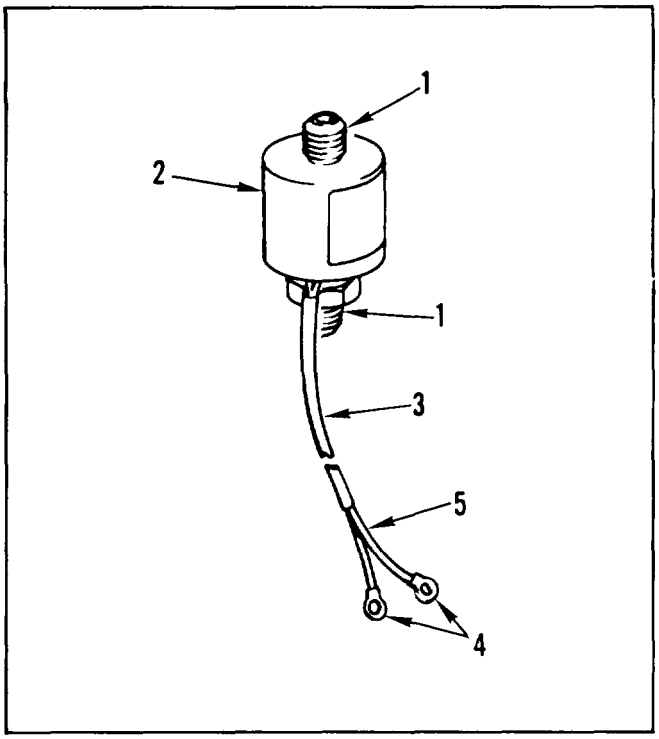
WARNING

Dry-cleaning solvent (E20) is flammable and toxic. It can irritate skin and cause burns. Use only in well-ventilated area, away from heat and open flame. Wear gloves. In case of contact, immediately flush skin or eyes with water for at least 15 minutes. Get medical attention for eyes.

1. Wearing gloves, wipe main fuel valve assembly with clean cloth (E13) dampened with dry-cleaning solvent (E20). Use a bristle brush to clean threads.

2. Dry main fuel valve assembly with clean dry cloth (E13).

3. Inspect main fuel valve assembly for damaged threads (1), dents or cracks in valve body (2), damaged sleeving (3), loose or damaged terminals (4), or broken leads (5). There shall be no damage.



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-45 INSTALL MAIN FUEL VALVE ASSEMBLY

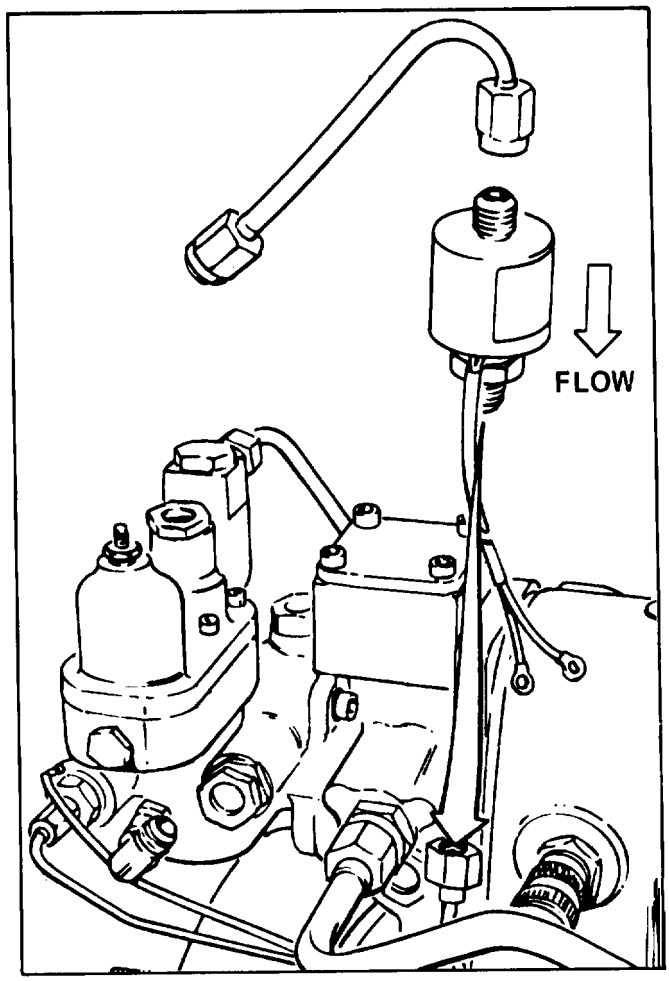
INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

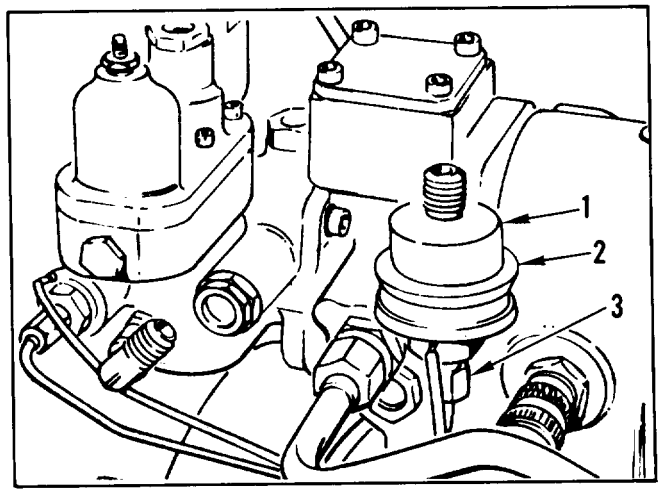
Materials:
Tiedown Straps (E21)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector



1. Push main fuel valve assembly (1) into clamp (2).

2. Connect and tighten coupling nut (3).

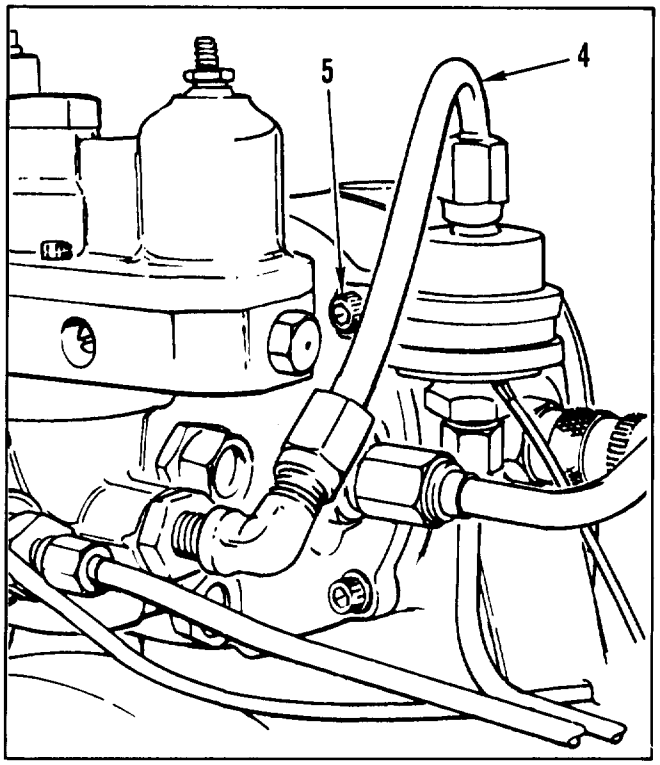


GO TO NEXT PAGE

2-45 INSTALL MAIN FUEL VALVE ASSEMBLY (Continued)

3. Install main fuel tube assembly (4). Tighten coupling nuts.

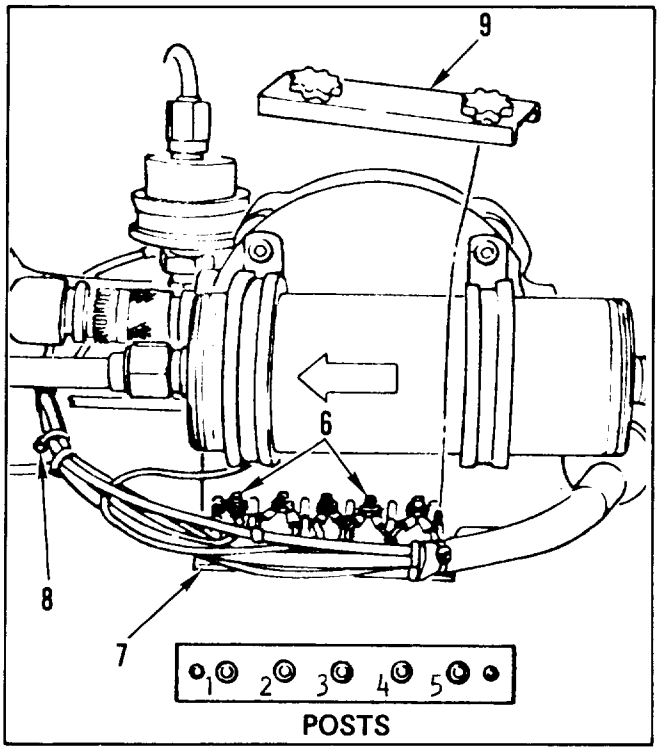
4. Tighten screw (5).



5. Connect two main fuel valve assembly leads (6) to posts 1 and 4 of terminal board (7).

6. Install tiedown straps (E21) (8) to secure leads to harness assembly as needed.

7. Install terminal board cover (9) and hand tighten nuts.



INSPECT

FOLLOW-ON MAINTENANCE
None

END OF TASK

2-46 REMOVE START FUEL VALVE ASSEMBLY

INITIAL SETUP

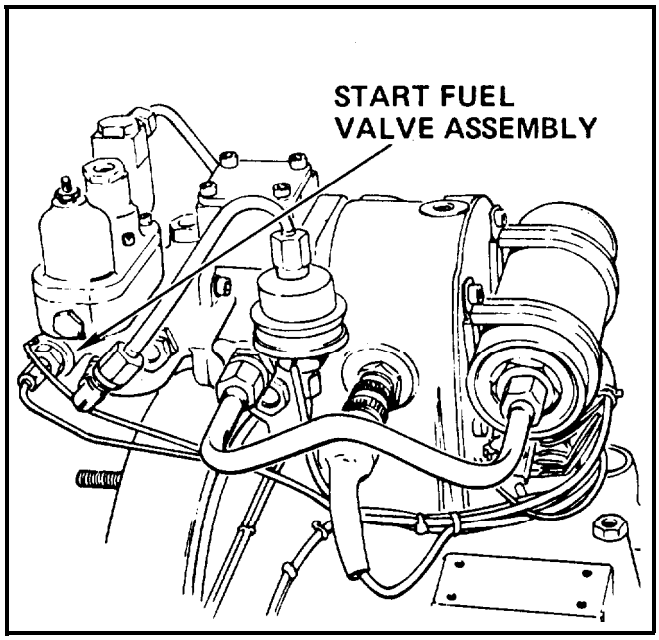
Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Strap Wrench
NSN 5120-00-242-3249

Materials:
Lint-Free Cloth (E13)

Personnel Required:
68B10 Aircraft Powerplant Repairer

General Safety Instructions:



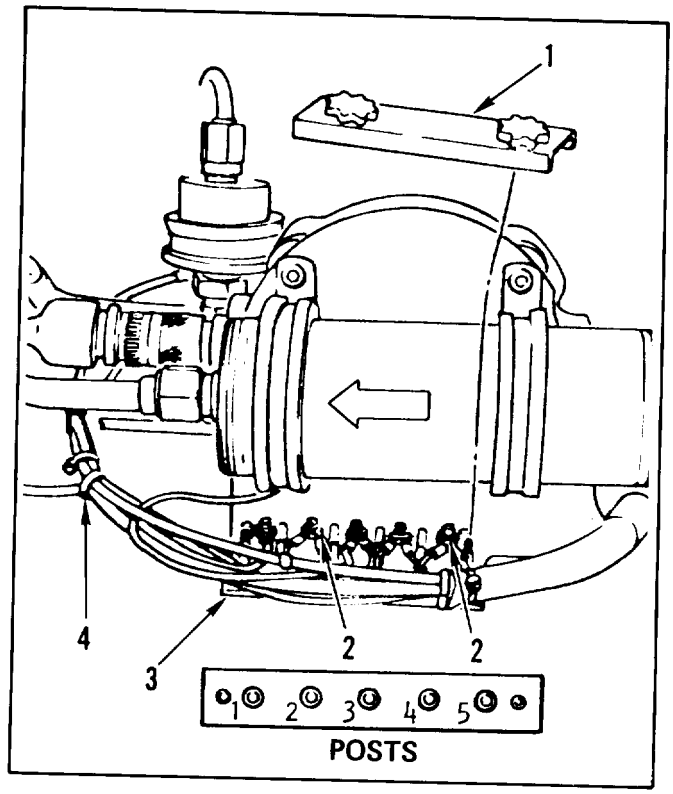
WARNING

Turbine fuels are very flammable. They cause drying and irritation of skin or eyes. Handle only in well-ventilated areas away from heat and open flame. Drain and store in approved metal safety containers. Avoid prolonged or repeated contact with skin, and do not take internally. Wash contacted areas of skin thoroughly after handling. If irritation of skin results get medical attention. Get medical attention for eyes.

GO TO NEXT PAGE

2-46 REMOVE START FUEL VALVE ASSEMBLY (Continued)

1. Remove terminal board cover (1).
2. Disconnect two start fuel valve assembly leads (2) at posts 3 and 5 of terminal board (3).
3. Remove tiedown straps (4) as needed to separate leads (2) from harness assembly.

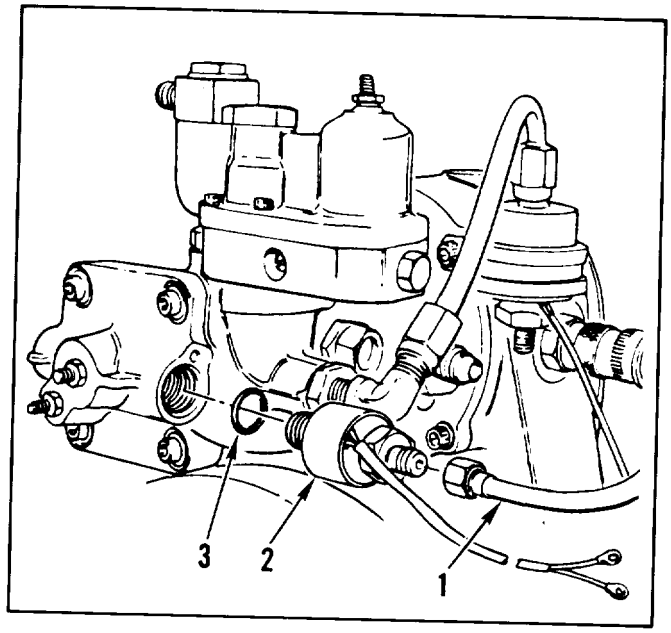


4. Place a cloth (E13) below connection to absorb dripping fuel when disconnecting tube.
5. Disconnect tube assembly (1).

CAUTION

Do not use wrench on wrench flats of start fuel valve assembly as internal damage can result. Use strap wrench.

6. Using a strap wrench, remove start fuel valve assembly (2) and packing (3).



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-47 CLEAN AND INSPECT START FUEL VALVE ASSEMBLY 2-47

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Rubber Gloves
NSN 8415-00-266-8677
Container

Materials:
Dry-Cleaning Solvent (E20)
Lint-Free Cloth (E13)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

Equipment Condition:
Off APU Task

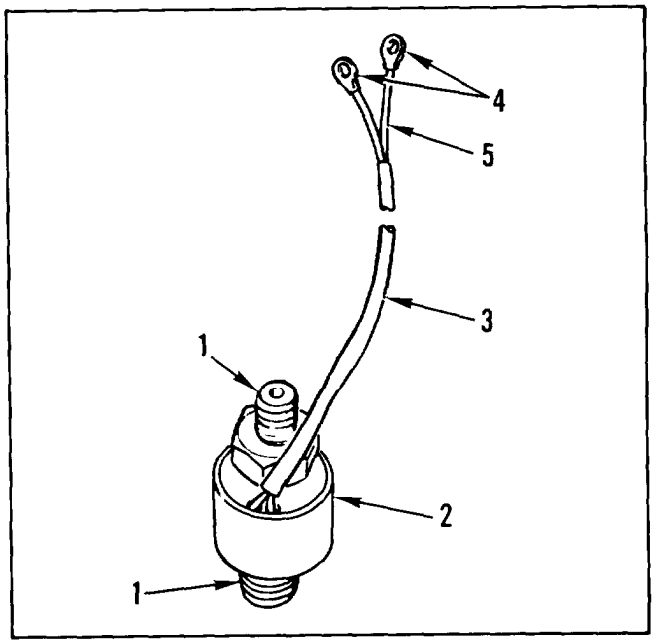
WARNING

Dry-cleaning solvent (E20) is flammable and toxic. It can irritate skin and cause burns. Use only in well-ventilated area, away from heat and open flame. Wear gloves. In case of contact, immediately flush skin or eyes with water for at least 15 minutes. Get medical attention for eyes.

1. Using gloves, wipe start fuel valve assembly with clean cloth (E13) dampened with dry-cleaning solvent (E20). Use a bristle brush to clean threads.

2. Dry the start fuel valve assembly with clean dry cloth (E13).

3. Inspect start fuel valve assembly for damaged threads (1), dents or cracks in valve body (2), damaged sleeving (3), loose or damaged terminals (4), or broken leads (5). There shall be no damage.



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-48 INSTALL START FUEL VALVE ASSEMBLY

INITIAL SETUP

Applicable Configurations:
All

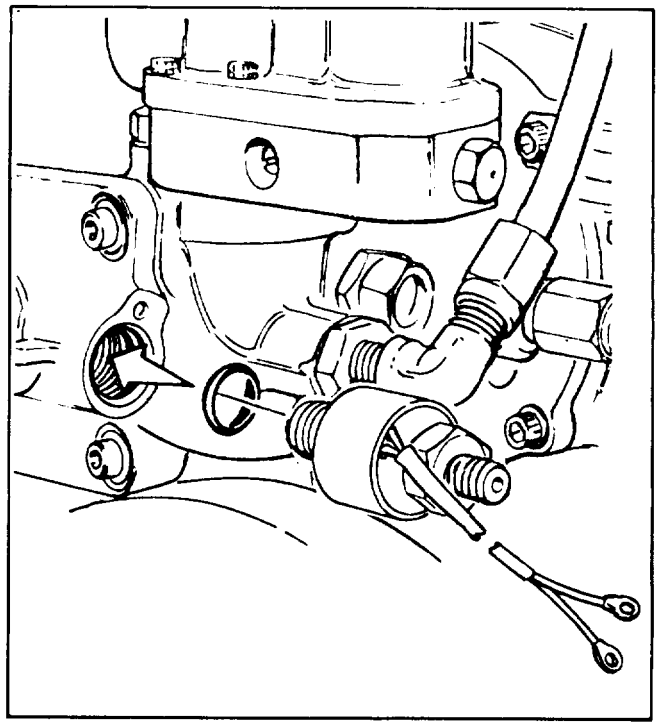
Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Strap Wrench
NSN 5120-00-242-3249

Materials:
Tiedown Straps E21)

Parts:
Packing

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

References:
TM 55-2835-205-23P



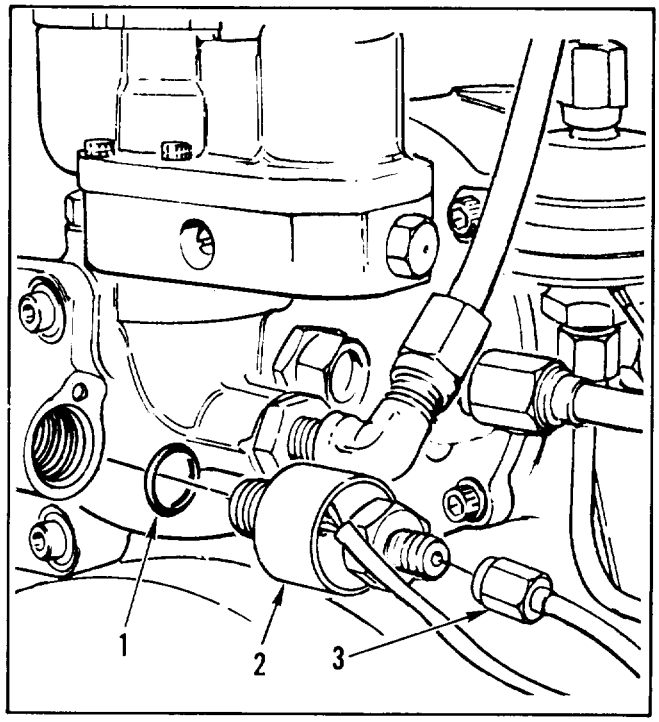
1. Install packing (1) on start fuel valve assembly (2).

CAUTION

Do not use wrench on wrench flats of start fuel valve assembly as internal damage can result. Use strap wrench.

2. Using strap wrench, install start fuel valve assembly (2) with packing (l).

3. Connect tube assembly (3).



GO TO NEXT PAGE

2-48 INSTALL START FUEL VALVE ASSEMBLY (Continued)

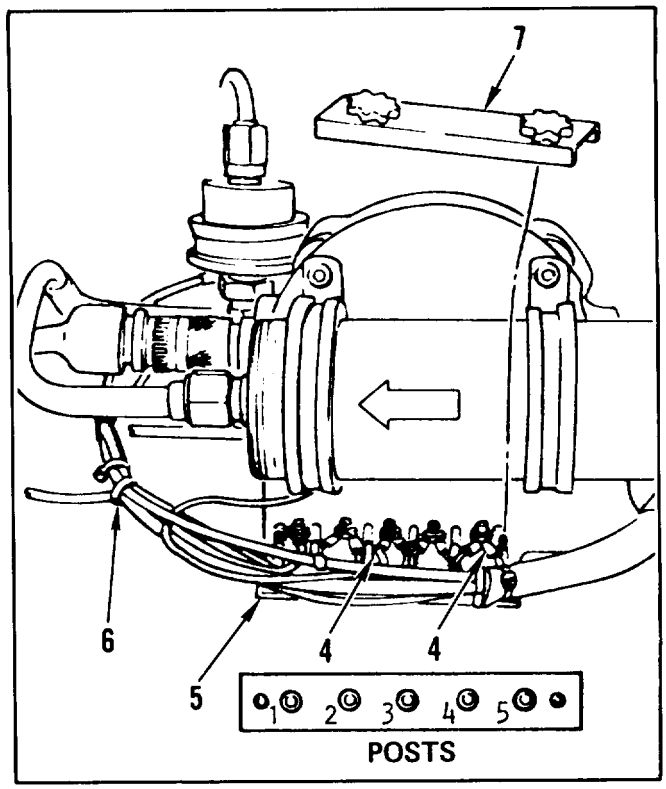
4. Connect two start fuel valve assembly leads (4) to posts 3 and 5 of terminal board (5).

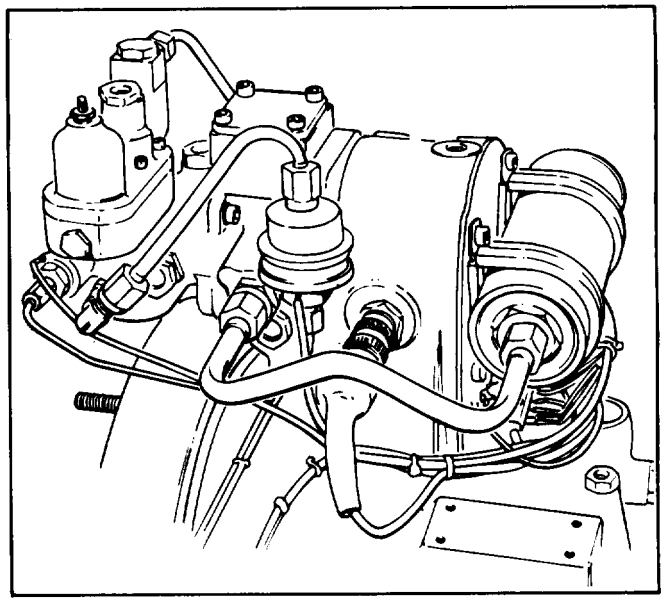
5. Install tiedown straps (E21) (6) as needed to secure leads to harness assembly.

6. Install terminal board cover (7) and hand tighten nuts.

INSPECT

FOLLOW-ON MAINTENANCE:
None





END OF TASK

2-49 REMOVE COMBUSTOR DRAIN CHECK VALVE 2-49

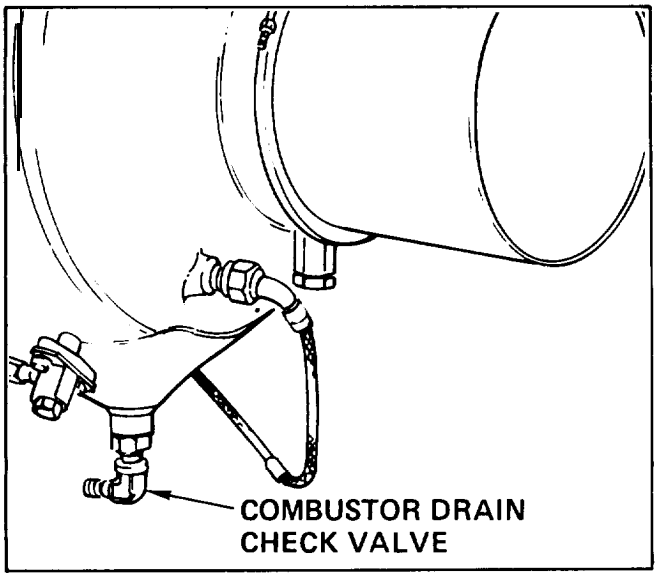
INITIAL SETUP

Applicable Con figurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

Materials:
None

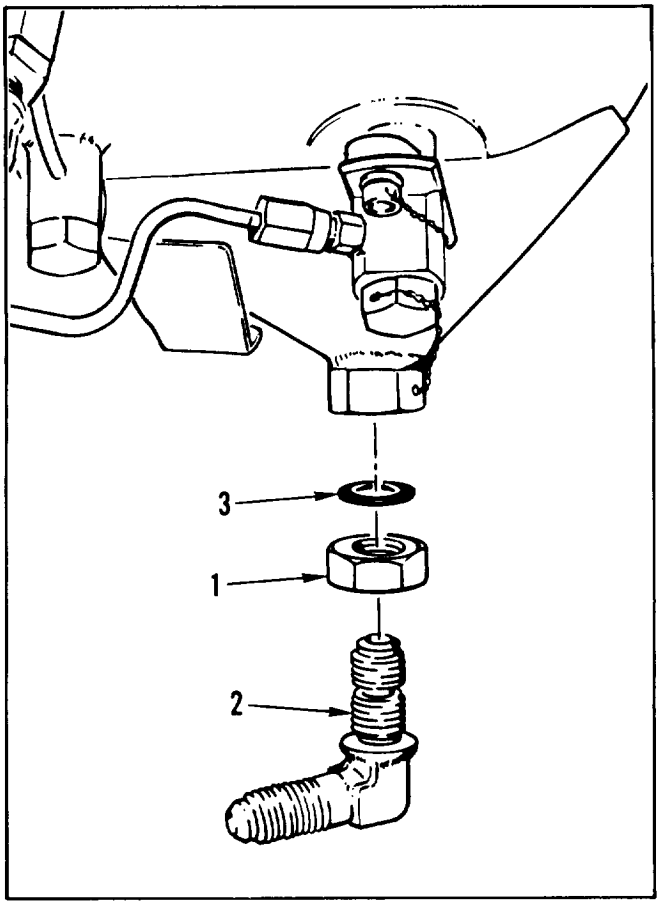
Personnel Required:
68B10 Aircraft Powerplant Repairer



1. Loosen nut (1) on combustor drain check valve (2).

2. Remove combustor drain check valve (2) with nut (1) and packing (3).

3. Remove packing (3) and nut (1) from combustor drain check valve (2).



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-50 CLEAN AND INSPECT COMBUSTOR DRAIN CHECK VALVE 2-50

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Rubber Gloves
NSN 8415-00-266-8677
Container
Source of Low Pressure Compressed Air

Materials:
Dry-Cleaning Solvent (E20)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

Equipment Condition:
Off APU Task

WARNING

Dry-cleaning solvent (E20) is flammable and toxic. It can irritate skin and cause burns. Use only in well-ventilated area, away from heat and open flame. Wear gloves. In case of contact, immediately flush skin or eyes with water for at least 15 minutes. Get medical attention for eyes.

1. Wearing gloves, flush combustor drain check valve with dry-cleaning solvent (E20).

WARNING

Use goggles to protect eyes and face when using compressed air. Do not exceed 30 psig. Do not direct airstream towards yourself or another person. Failure to comply may result in injury to personnel.

2. Dry with low pressure compressed air at 30 psig maximum pressure.

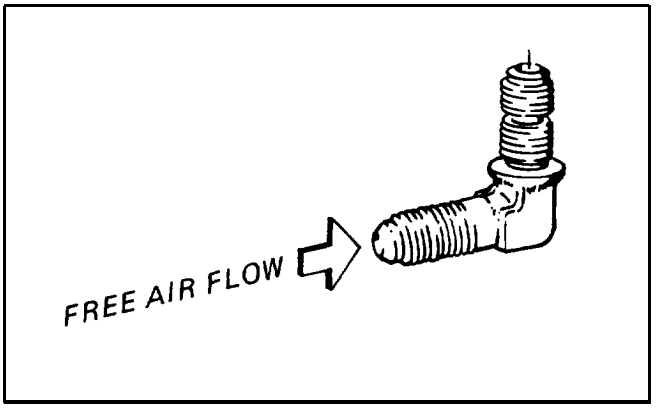
GO *TO NEXT PAGE*

2-50 CLEAN AND INSPECT COMBUSTOR DRAIN CHECK VALVE (Continued) 2-50

3. Direct compressed air at 10 psig maximum into combustor drain check valve in direction of free air flow. Air shall flow freely.

4. Inspect combustor drain check valve for cracks or damaged threads. There shall be no defects.

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-51 INSTALL COMBUSTOR DRAIN CHECK VALVE

INITIAL SETUP

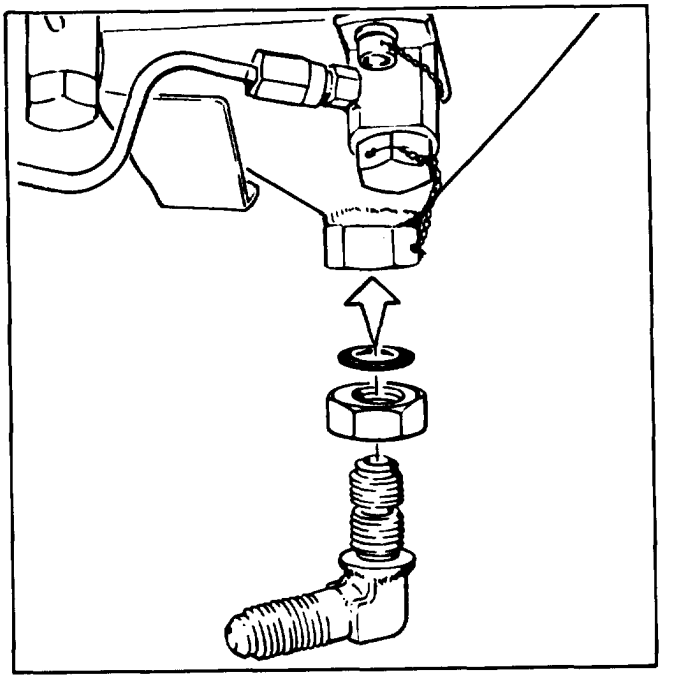
Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

Materials:
Packing

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

Reference:
TM 55-2835-205-23P



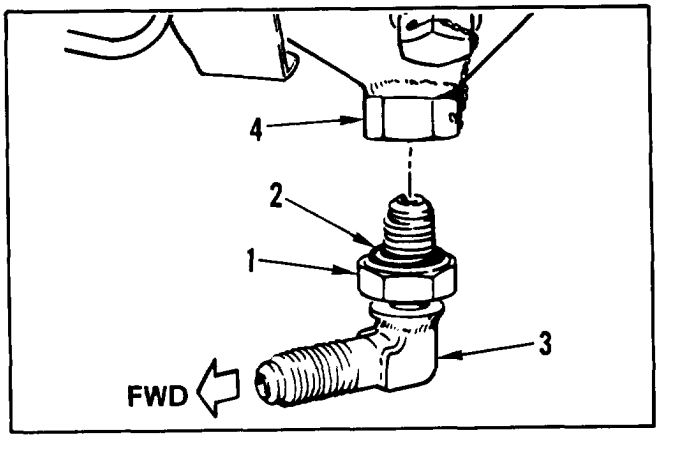
1. Install nut (1) and packing (2) on combustor drain check valve (3).

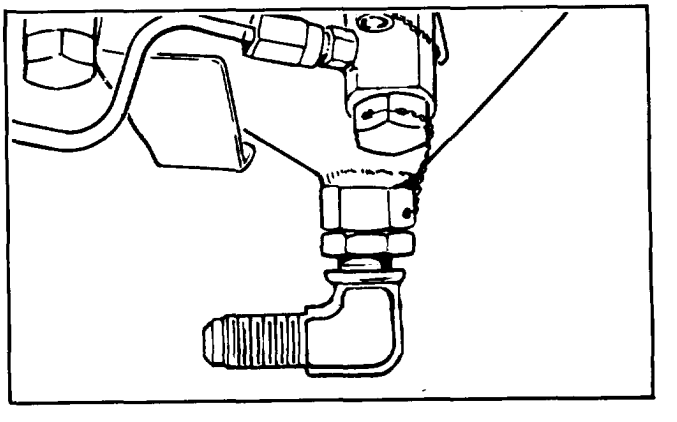
NOTE

Packing (2) should be in groove between threads.

2. Install combustor drain check valve (3) with nut (1) and packing (2) in oil sump (4). Screw in until packing seats on boss and combustor drain check valve is facing forward.

3. Tighten nut (1).





INSPECT

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-52 CLEAN AND INSPECT EXTERNAL LINES AND FITTINGS

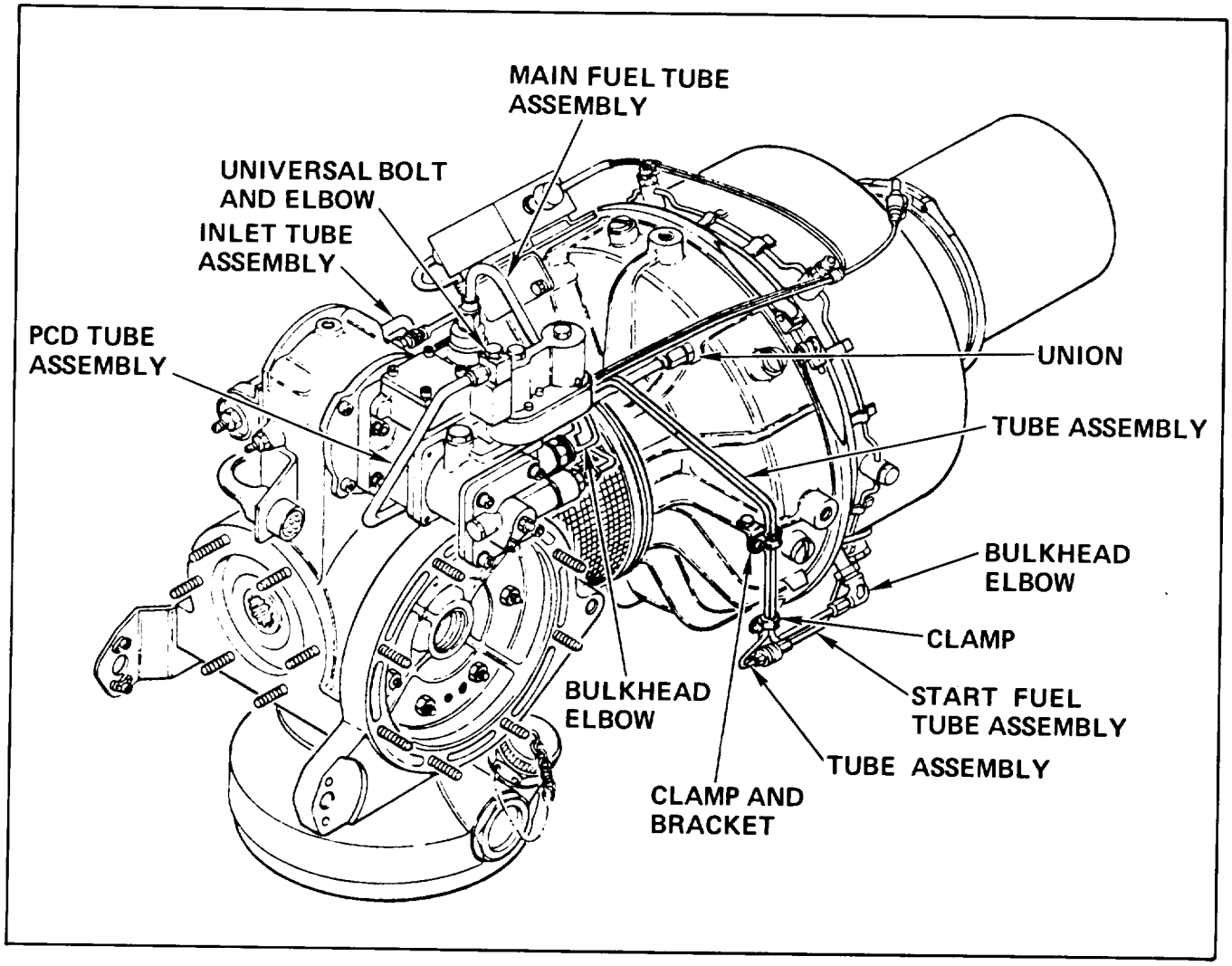
INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Rubber Gloves
NSN 8415-00-266-8677

Materials:
Dry-Cleaning Solvent (E20)
Lint-Free Cloth (E13)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector



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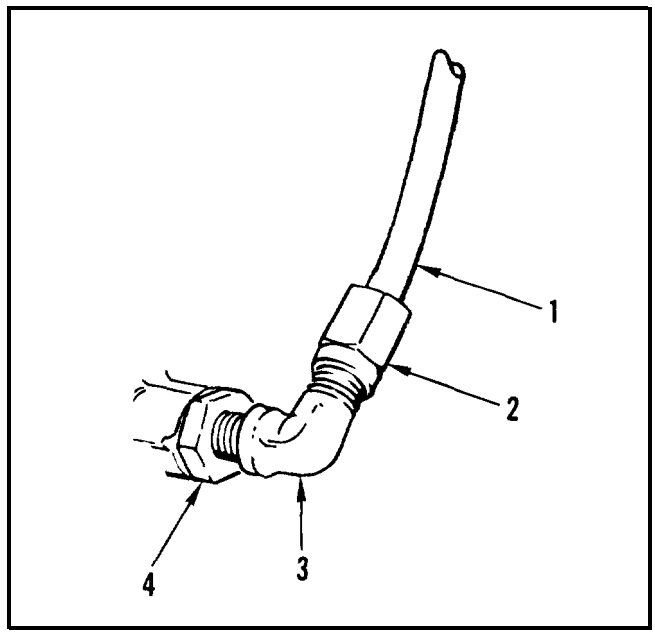
2-52 CLEAN AND INSPECT EXTERNAL LINES AND FITTINGS (Continued) 2-52

NOTE

If disassembly is required to further inspect for cause of leakage, refer to Task 2-53. Reinstall in accordance with Task 2-54.

1. Inspect for sign of fuel leakage around coupling nuts (2). If there is a sign of leakage, check coupling nut (2) for tightness. Tighten if loose.



WARNING

Dry-cleaning solvent (E20) is flammable and toxic. It can irritate skin and cause burns. Use only in well-ventilated area, away from heat and open flame. Wear gloves. In case of contact, immediately flush skin or eyes with water for at least 15 minutes. Get medical attention for eyes.

2. Wearing gloves, wipe external lines and fittings with a clean cloth (E13) moistened with dry-cleaning solvent (E20).

3. Inspect all tube assemblies (1) for dents, kinks, or cracks. There shall be no damage.

4. If there is a fuel leak around coupling nut (2) and coupling nut is tight, remove tube assembly. Inspect tube assembly and fitting (3) for damage. There shall be no damage,

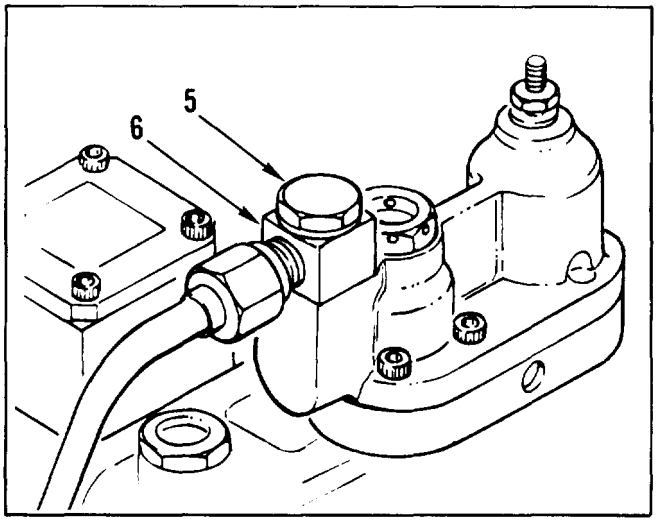
5. Inspect nuts (4) on bulkhead fittings for tightness. If loose, tighten.

6. Inspect for signs of leakage around fittings in fuel control and turbine assembly. If there is sign of leakage, remove fitting and replace packings. Inspect fitting for damage. There shall be no damage.

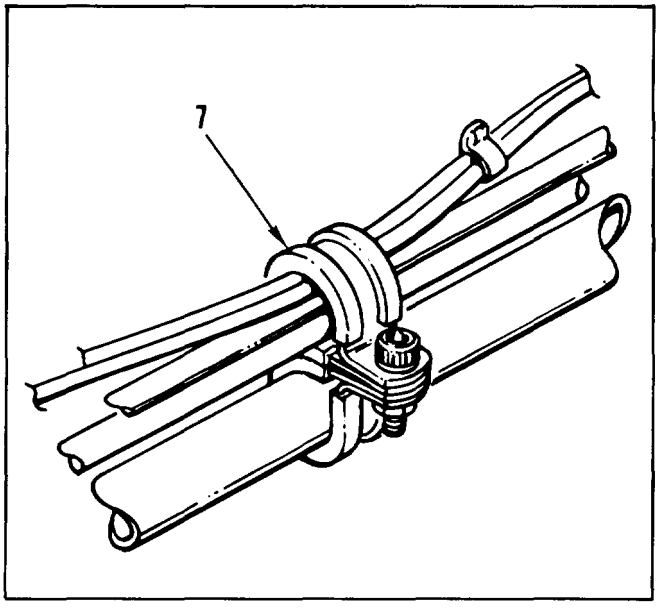
GO TO NEXT PAGE

2-52 CLEAN AND INSPECT EXTERNAL LINES AND FITTINGS (Continued) 2-52

7. Inspect universal bolt (5) and universal elbow (6) for signs of leakage. If there are signs of leakage, remove universal bolt and universal elbow and replace packing and Banj-O-Seal. Inspect bolt and elbow for damage. There shall be no damage.



8. Inspect all clamps (7) and brackets for condition and security. If loose, tighten. There shall be no damage.



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-53 REMOVE EXTERNAL LINES AND FITTINGS

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

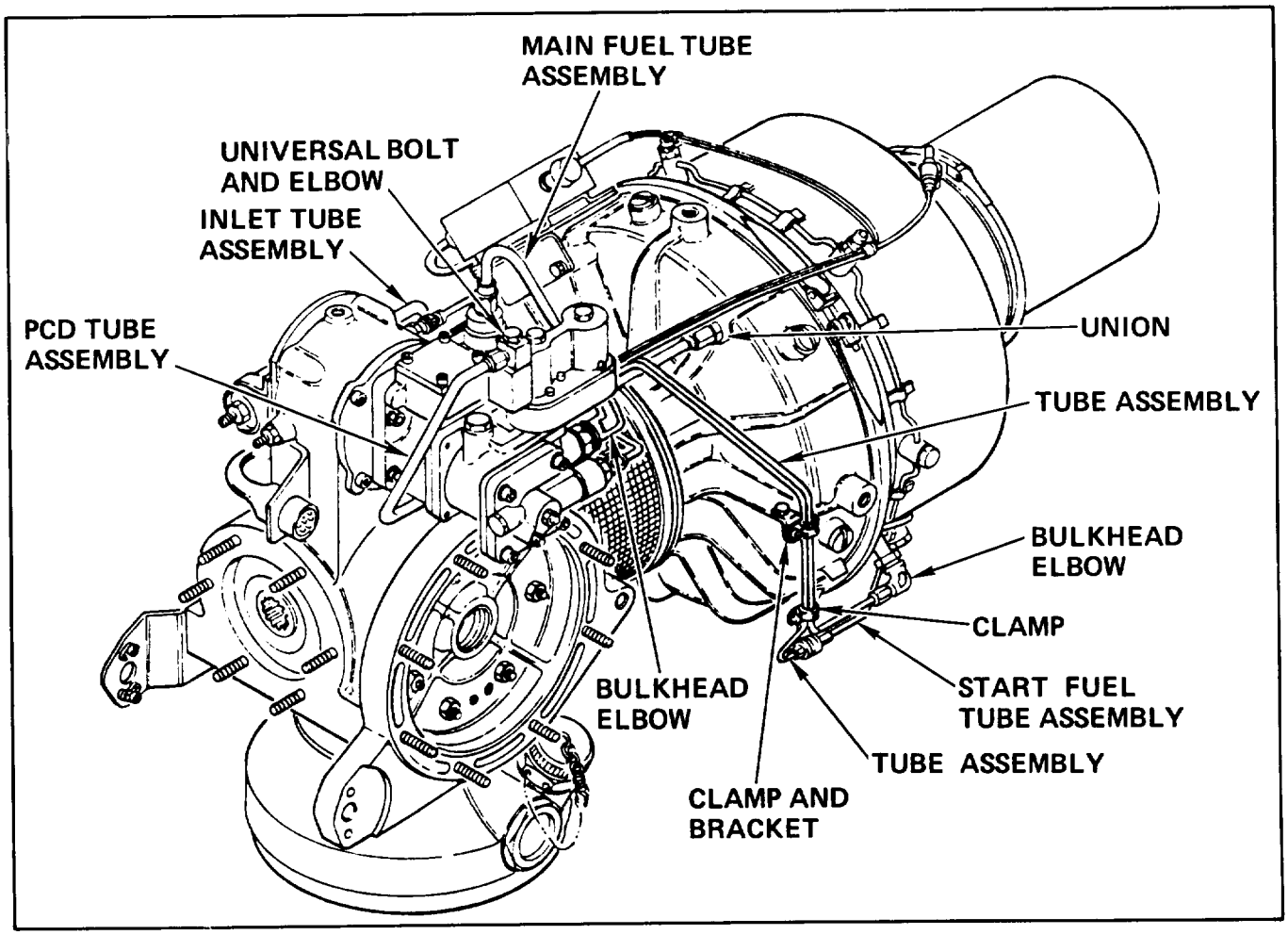
Materials:
Lint-Free Cloth (E13)

Personnel Required:
68B10 Aircraft Powerplant Repairer

General Safety Precautions:

WARNING

Turbine fuels are very flammable. They cause drying and irritation of skin or eyes. Handle only in well-ventilated areas away from heat and open flame. Drain and store in approved metal safety containers. Avoid prolonged or repeated contact with skin, and do not take internally. Wash contacted areas of skin thoroughly after handling. If irritation of skin results, get medical attention. Get medical attention for eyes.



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2-53 REMOVE EXTERNAL LINES AND FITTINGS (Continued)

NOTE

This task describes typical procedures for removing external lines and fittings.

1. Place a cloth (E13) below fuel connections to absorb dripping fuel when disconnecting tubes.

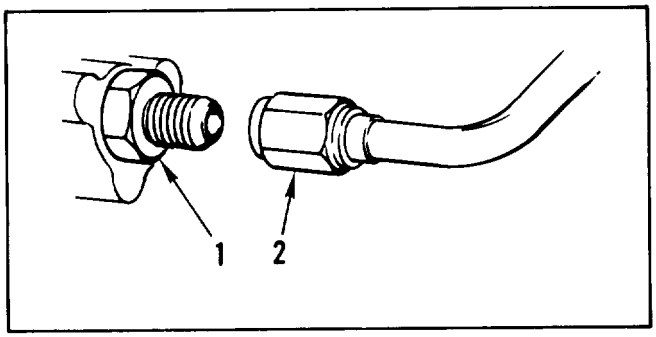
CAUTION

Handle tubes carefully during removal. Tubes are easily bent or kinked.

2. Disconnect external lines as follows:

   a. Hold fitting (1) with an open end wrench to keep it from turning.

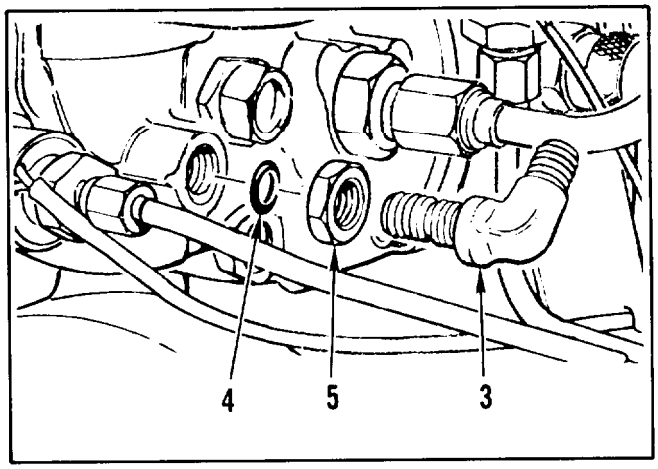
   b. Loosen coupling nut (2). Disconnect tube assembly.



3. Remove bulkhead elbows as follows:

   a. Remove bulkhead elbow (3) with packing (4) and nut (5).

   b. Remove packing (4) and nut (5) from bulkhead elbow (4).



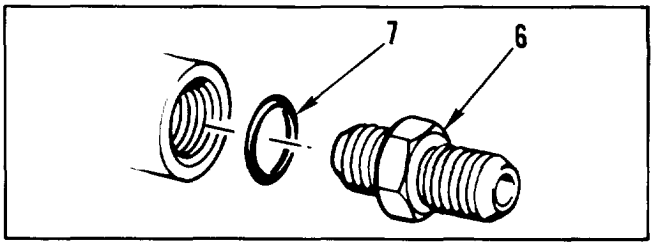
GO TO NEXT PAGE

2-53 REMOVE EXTERNAL LINES AND FITTINGS (Continued) 2-53

4. Remove unions as follows:

   a. Remove union (6).

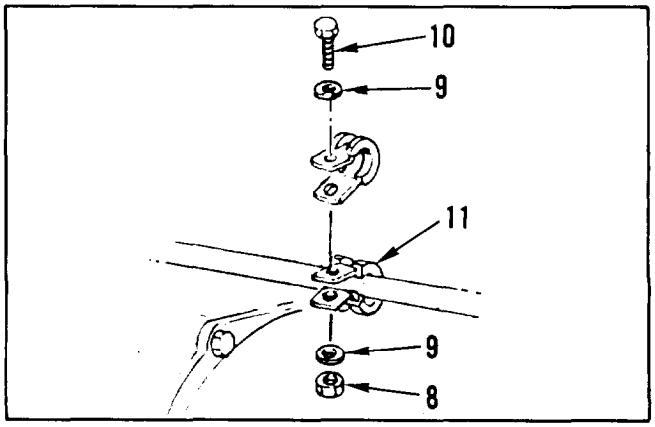
   b. Remove packing (7) from union.



5. Remove clamps as follows:

   a. Remove nut (8), washers (9), and screw (10).

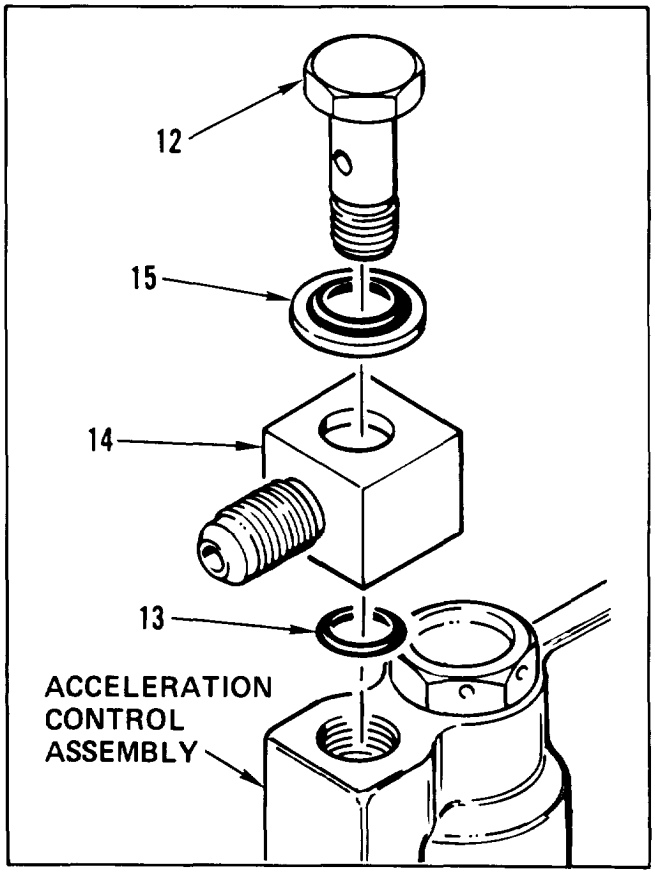
   b. Remove clamp (11) from tube assembly.



6. Remove universal bolt and elbow as follows:

   a. Remove universal bolt (12).

   b, Remove packing (13), universal elbow (14), and Banj-O-Seal (15) from universal bolt (12).



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-54 INSTALL EXTERNAL LINES AND FITTINGS

INITIAL SETUP

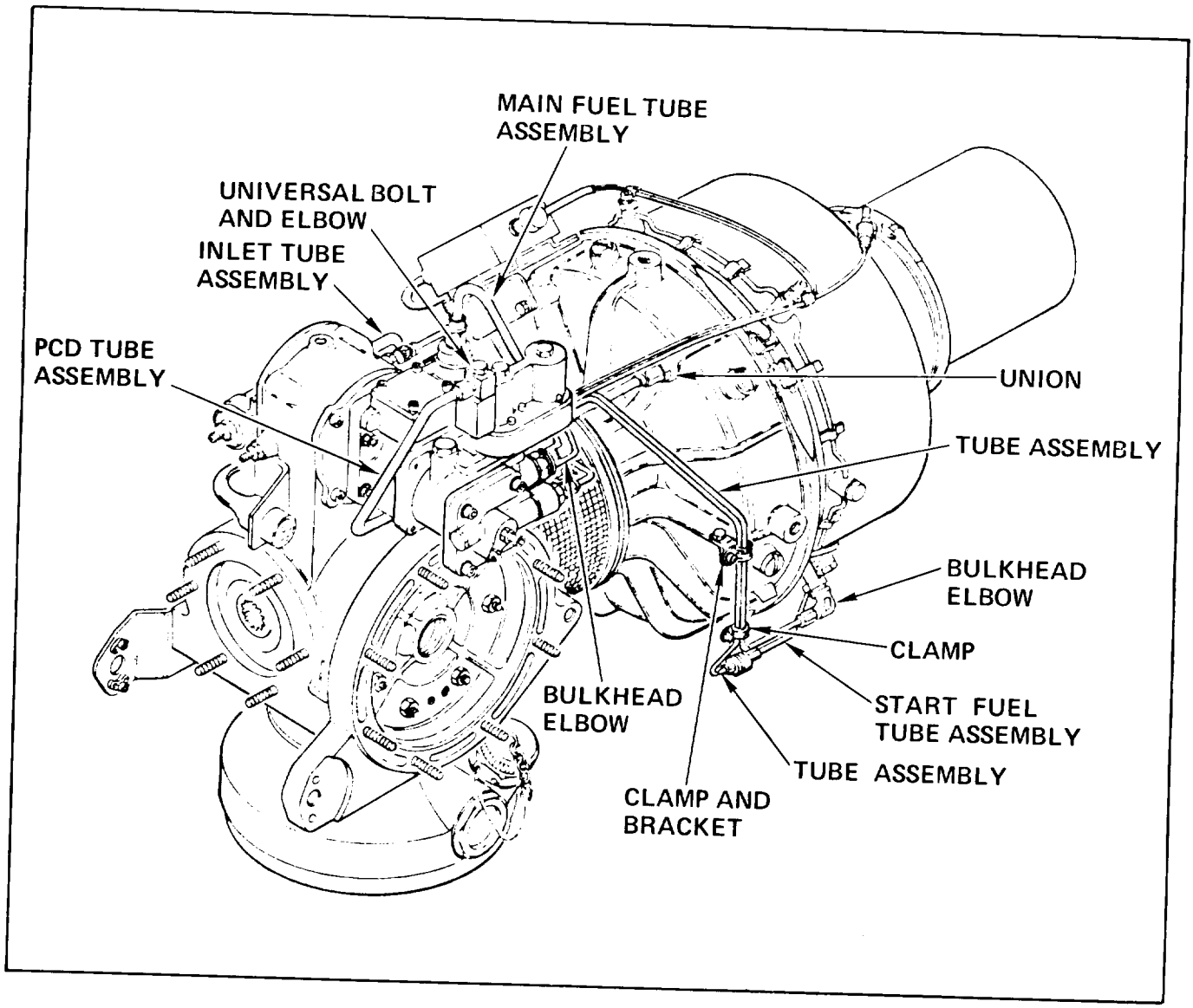
Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

Materials:
None

Parts:
Packings
Banj-O-Seal

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector



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2-54 INSTALL EXTERNAL LINES AND FITTINGS (Continued)

NOTE

This task describes typical procedures for installing external lines and fittings.

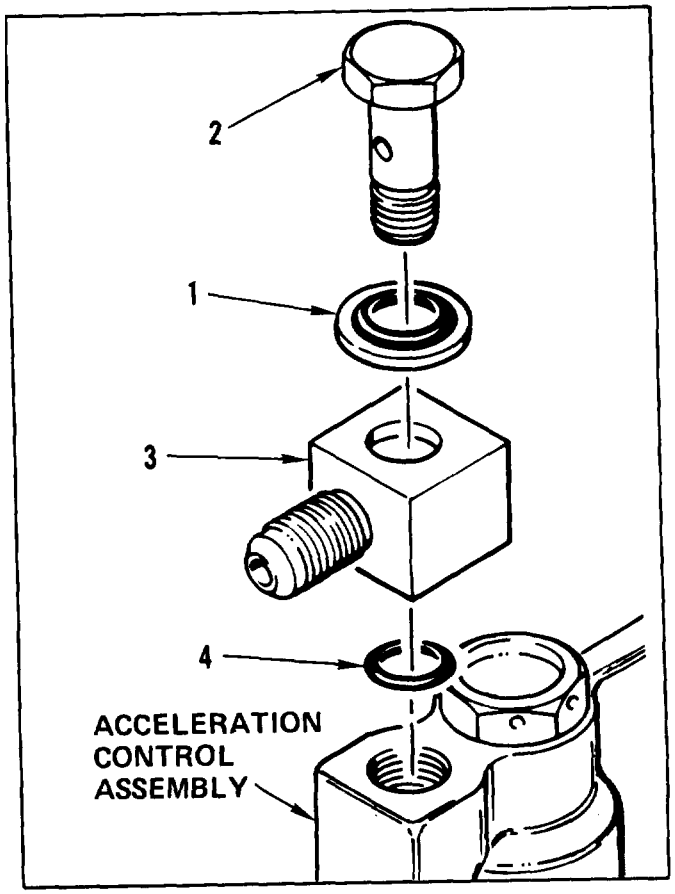
1. Install universal bolt and elbow as follows:

   a. Install Banj-O-Seal (1) on universal bolt (2).

   b. Install universal bolt (2) through universal elbow (3).

   c. Install packing (4) on universal bolt (2).

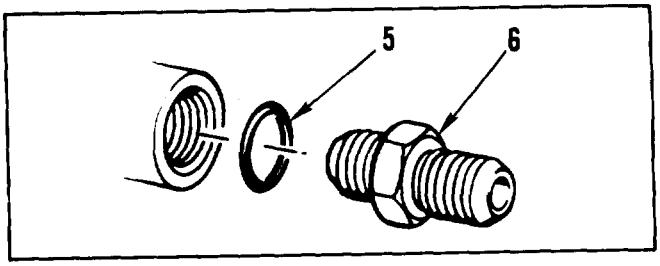
   d. Install universal bolt (2) into acceleration control assembly; do not tighten. Align universal elbow (3) with PCD tube assembly, then tighten universal bolt.



2. Install unions as follows:

   a. Install packing (5) on union (6).

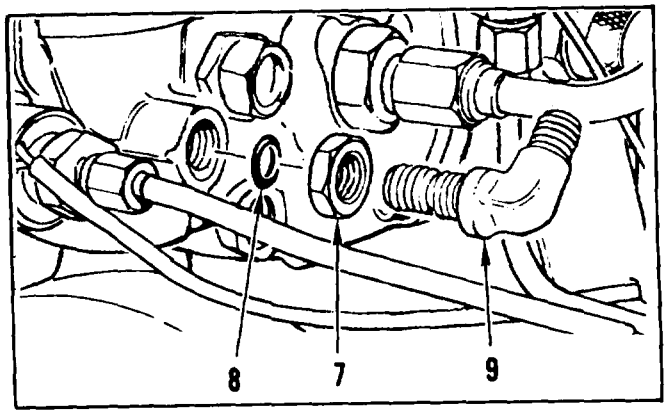
   b. Install union (6).



3. Install bulkhead elbows as follows:

   a. Install nut (7) and packing (8) on bulkhead elbow (9).

   b. Install bulkhead elbow (9); do not tighten. Align bulkhead elbow (9) with connecting tube assembly. Tighten nut (7).



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2-54 INSTALL EXTERNAL LINES AND FITTINGS (Continued)

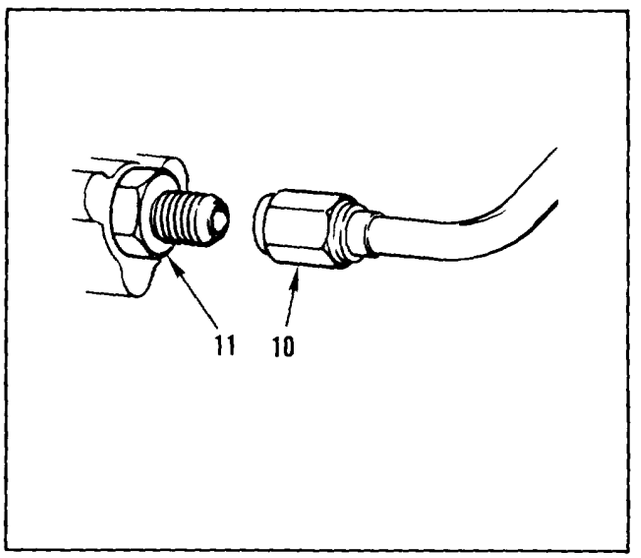
CAUTION

Handle tubes carefully during installation. Tubes are easily bent or kinked. Threads can be damaged.

4. Connect external lines as follows:

   a. Screw coupling nut (10) on fitting (11) hand tight.

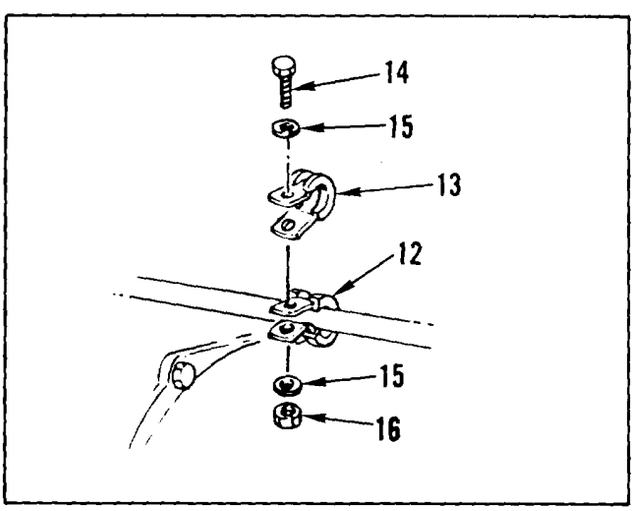
   b. Hold fitting (11) with an open end wrench if required to keep it from turning and tighten nut (10).



5. Install clamps as follows:

   a. Install clamp (12) on tube assembly.

   b. Secure clamp (12) to other clamp (13) or bracket, if used, with screw (14), two washers (15), and nut (16). Tighten nut.



INSPECT

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-55 REMOVE IGNITION EXCITER

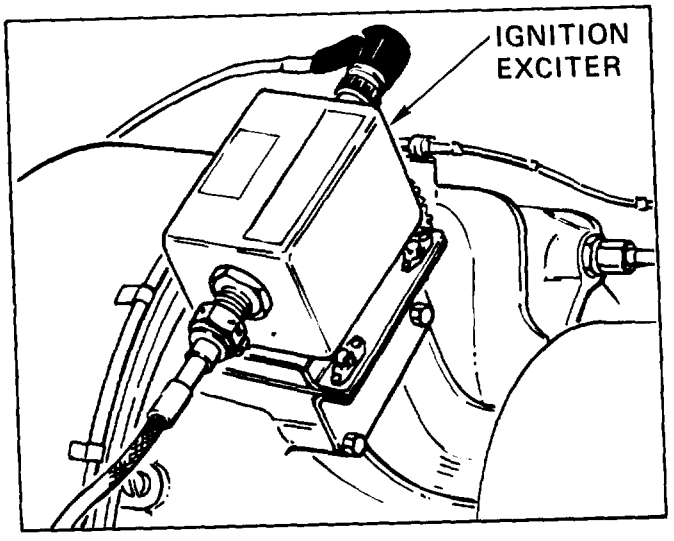
INITIAL SETUP

Applicable Configurations;
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

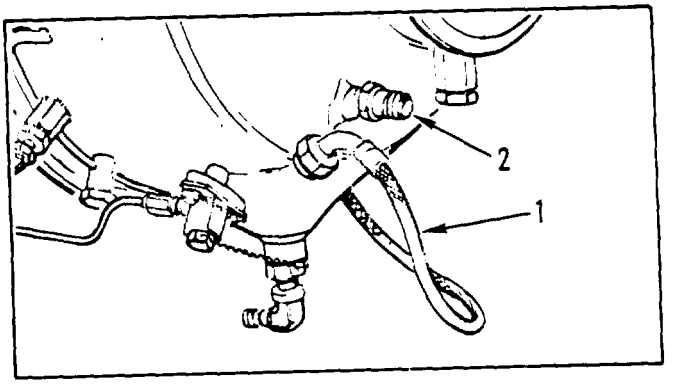
Materials:
None

Personnel Required:
68B1O Aircraft Powerplant Repairer

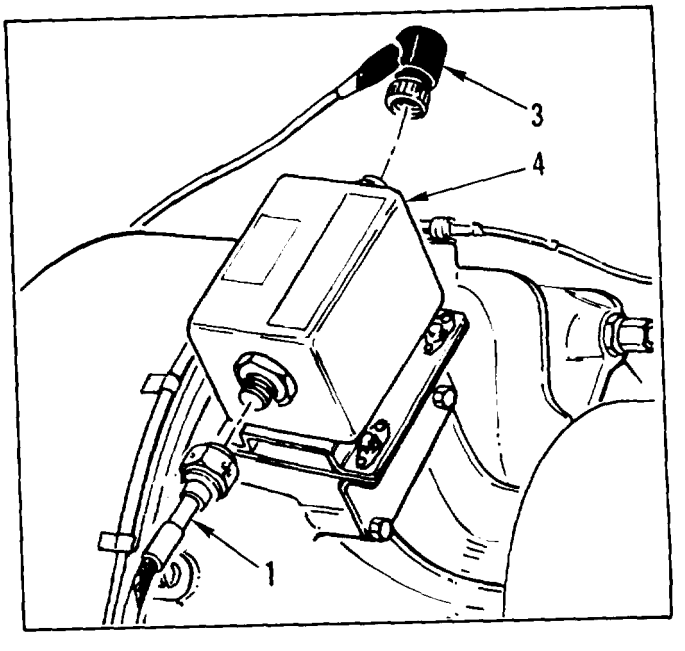


WARNING

Allow at least five minutes after operation of the ignition system before disconnecting or removing components. Failure to allow the high voltage to dissipate can result in injury or death.



1. Remove lockwire and disconnect power cable assembly (1) from spark plug (2).
2. Ground conductor of power cable assembly (1) to discharge ignition exciter.
3. Remove lockwire.
4. Disconnect connector (3) from exciter (4).
5. Disconnect power cable assembly (1).



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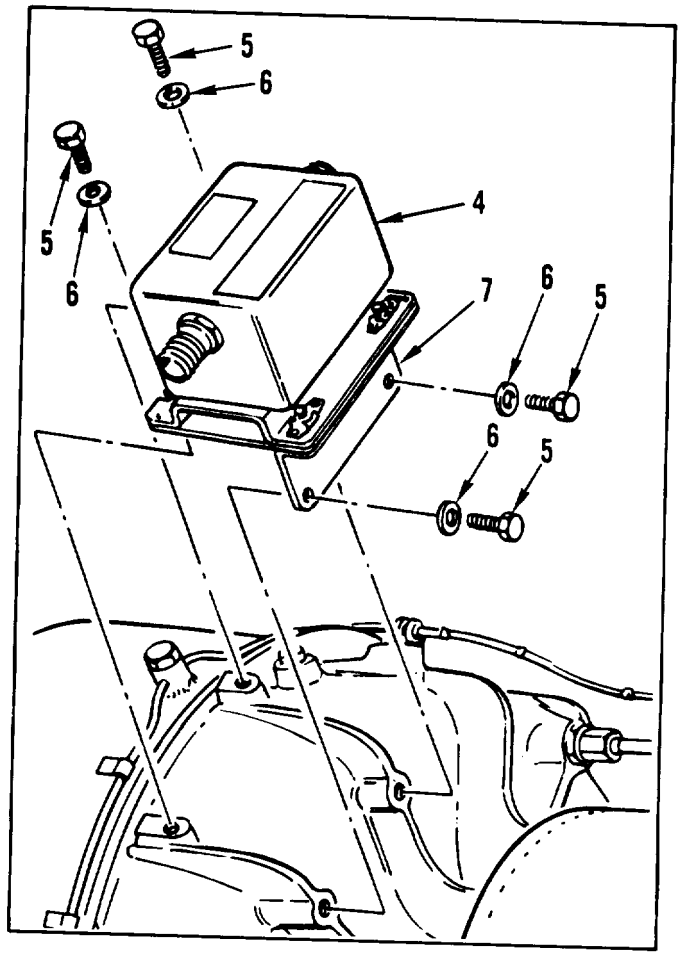
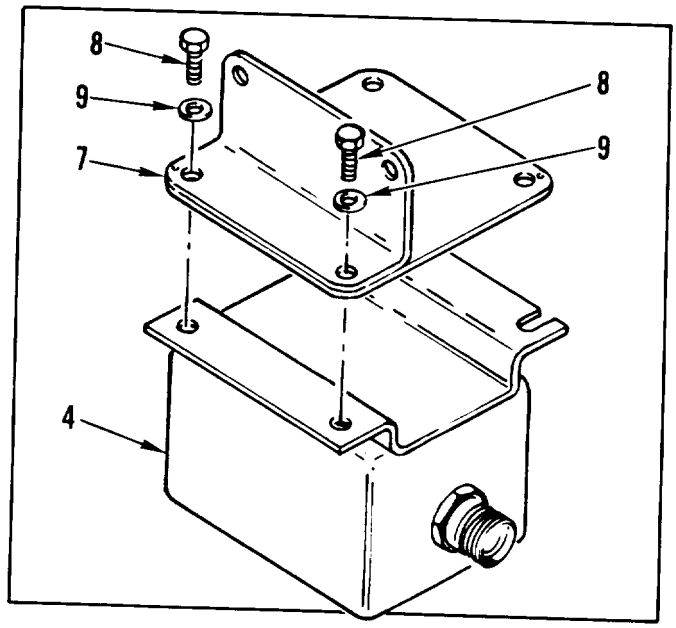
2-55 REMOVE IGNITION EXCITER (Continued)

6. Remove four bolts (5) and washers (6) and remove ignition exciter (4) with exciter bracket (7).



REMOVE EXCITER BRACKET

7. Remove two bolts (8) and washers (9) and separate ignition exciter (4) and exciter bracket (7).



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-56 CLEAN AND INSPECT IGNITION EXCITER

INITIAL SETUP

Applicable Configurations:
All

Tools:
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

Materials:
Lint-Free Cloth (E13)
Stiff Fiber Brush (E10)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

Equipment Condition:
Off APU Task

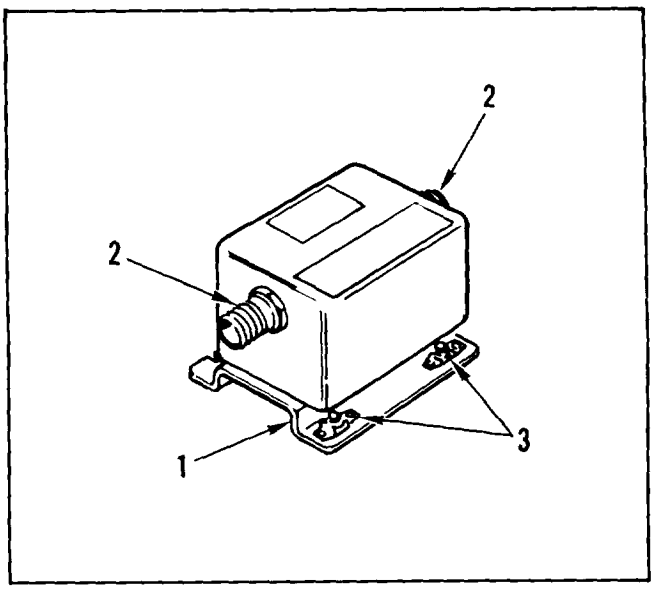
CAUTION

Do not use cleaning solvent to clean exciter. Use of solvent can result in failure of the exciter to operate.

1. Wipe external surfaces of ignition exciter and exciter bracket with clean, dry cloth (E13). Use stiff fiber brush (E10) to clean threads of connectors.

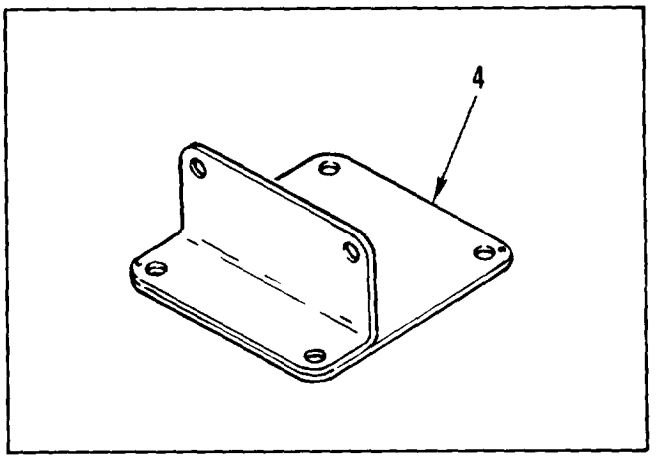
2. Inspect ignition exciter for dents, cracks, loose mount (1), or damaged connectors (2). There shall be no damage.

3. Inspect nut plates (3) for damage. If damaged, repair ignition exciter (Task 2-57).



INSPECT EXCITER BRACKET

4. Inspect exciter bracket (4) for broken spot welds, dents, cracks, or distortion. There shall be no damage.



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-57 REPAIR IGNITION EXCITER

INITIAL SETUP

Applicable Configurations:
All

Tools:
AVUM Tool Set No. 2
NSN 4920-00-569-0476

Materials:
None

Parts:
Nut Plate
Rivets

Personnel Required:
68G10 Airframe Structural Repairman

References:
TM 55-2835-205-23P

Equipment Condition:
Off APU Task

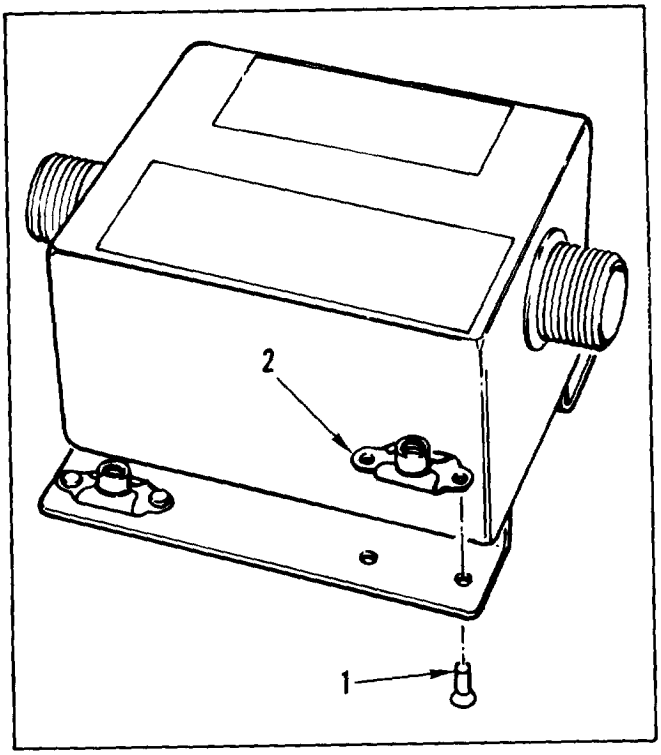
NOTE

Replace damaged nut plates as required.

1. Drill out rivets (1) and remove nut plate (2).

2. Install nut plate (2) with rivets (1). Use hand yoke riveter, or equivalent, to upset rivets.

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-58 INSTALL IGNITION EXCITER

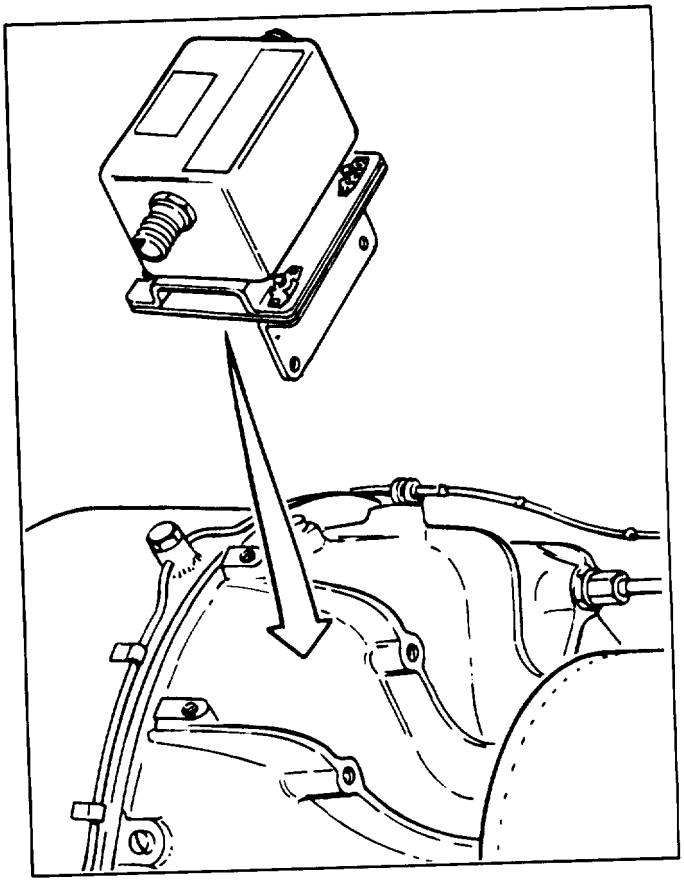
INITIAL SETUP

Applicable Configurations:
All

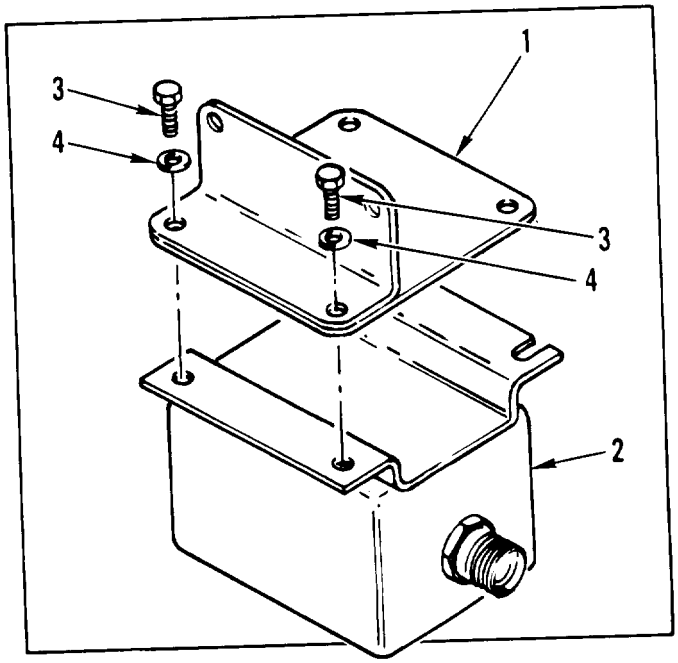
Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

Materials:
Lockwire (E16)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector



1. Install exciter bracket (1) on ignition exciter (2) with two bolts (3) and washers (4).



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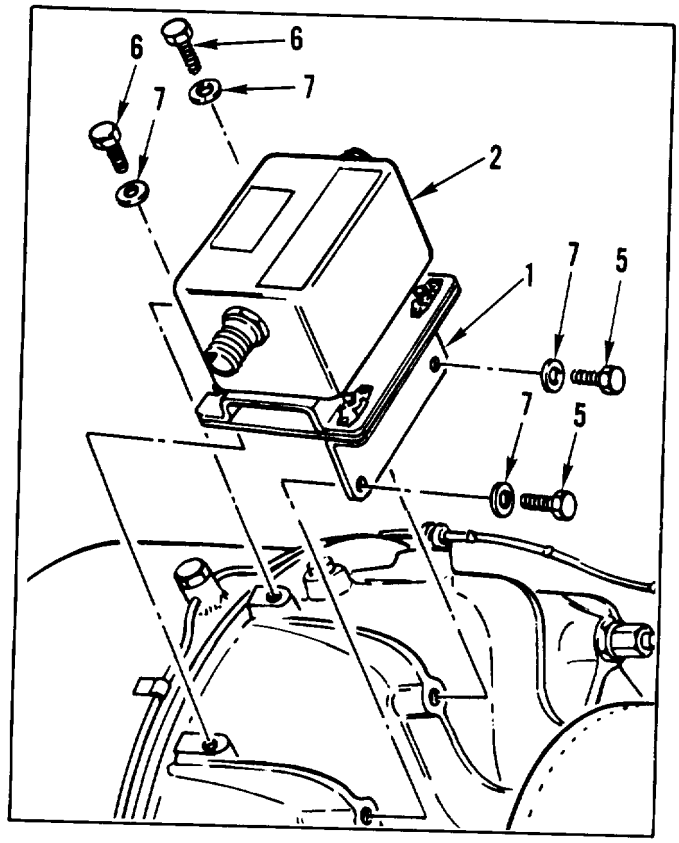
2-58 INSTALL IGNITION EXCITER (Continued)

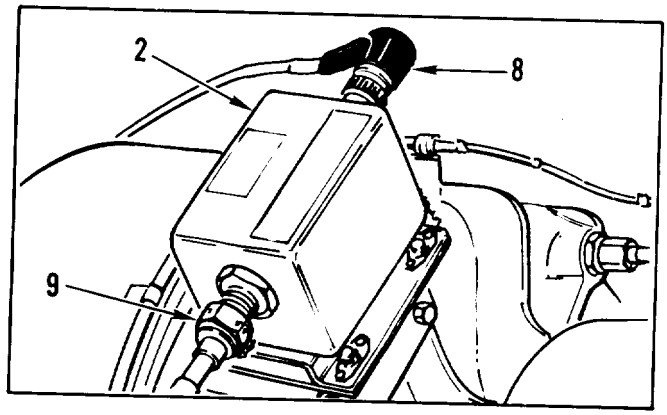
2. Install assembled exciter bracket (1) and ignition exciter (2) with two bolts (5), two longer bolts (6), and four washers (7).



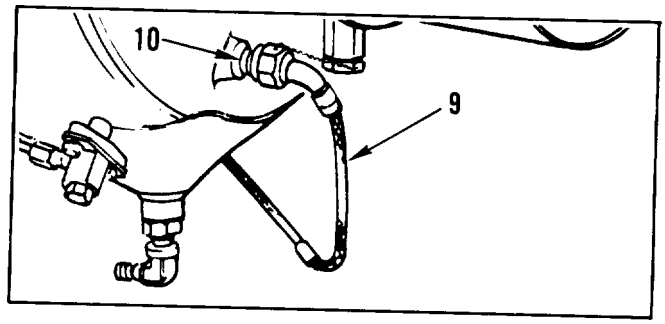
3. Install connector (8) on exciter (2).

4. Connect power cable assembly (9) to exciter (2).

5. Lockwire connectors using lockwire (E16).



6. Connect power cable assembly (9) to spark plug (10) and lockwire using lockwire (E16).



INSPECT

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-59 REMOVE POWER CABLE ASSEMBLY

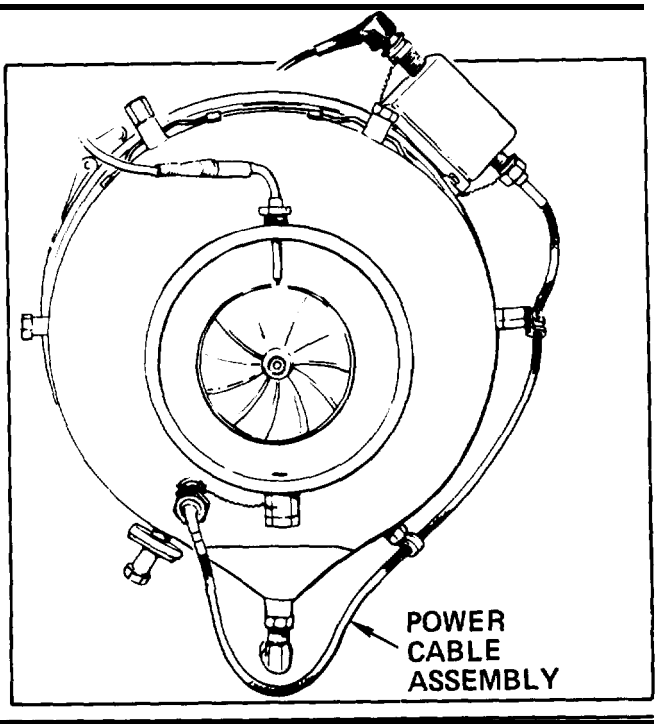
INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

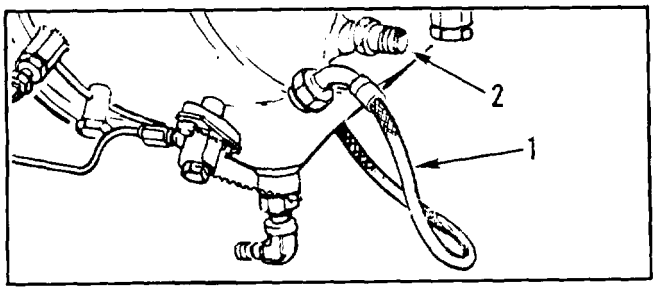
Materials:
None

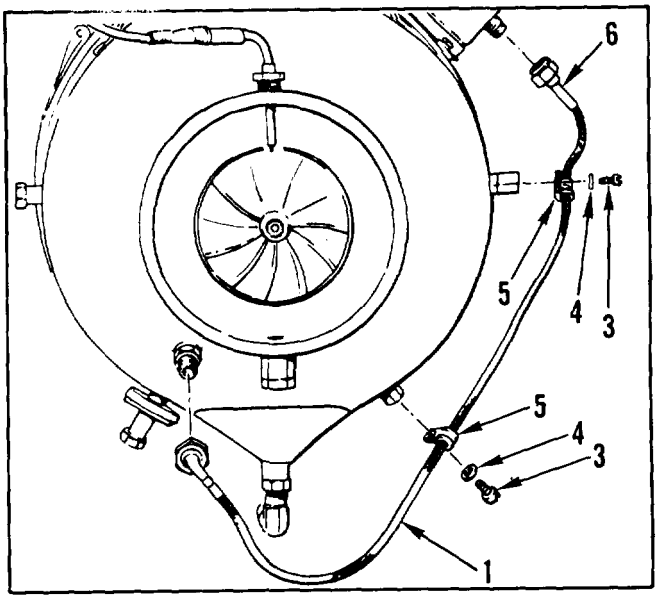
Personnel Required:
68B10 Aircraft Powerplant Repairer



WARNING

Allow at least five minutes after operation of the ignition system before disconnecting or removing components. Failure to allow the high voltage to dissipate can result in injury or death.





1. Remove lockwire and disconnect power cable assembly (1) from spark plug (2).

2. Ground conductor of power cable assembly (1) to discharge ignition exciter.

3. Remove lockwire and two screws (3), washers (4), and clamps (5).

4. Remove lockwire and disconnect connector (6). Remove power cable assembly (1).

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-60 CLEAN AND INSPECT POWER CABLE ASSEMBLY

INITIAL SETUP

Applicable Configurations:
All

Tools:
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

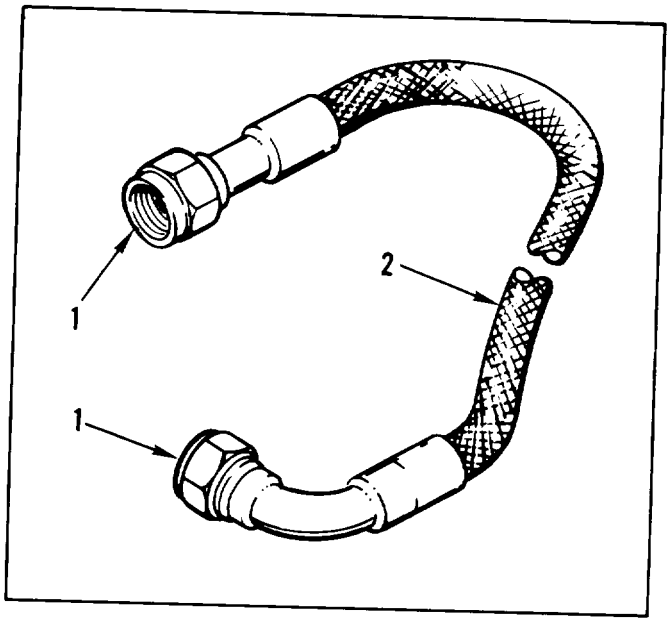
Materials:
Lint-Free Cloth (E13)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

Equipment Condition:
Off APU Task

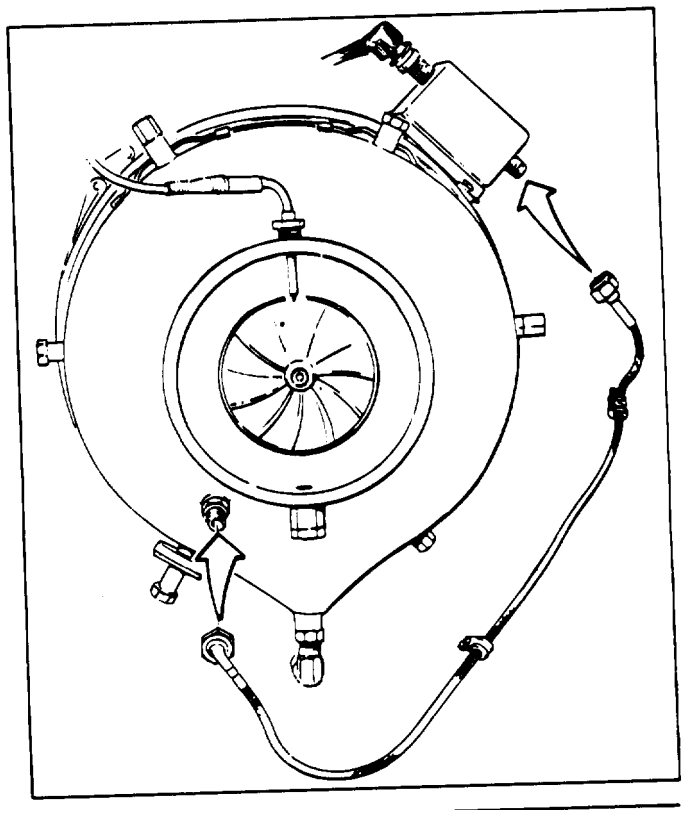
1. Wipe power cable assembly with clean lint-free cloth (E13).
2. inspect connectors (1) for damage to threads and terminals. There shall be no damage.
3. Inspect braid (2) for fraying. There shall be no fraying.

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-61 INSTALL POWER CABLE ASSEMBLY



INITIAL SETUP

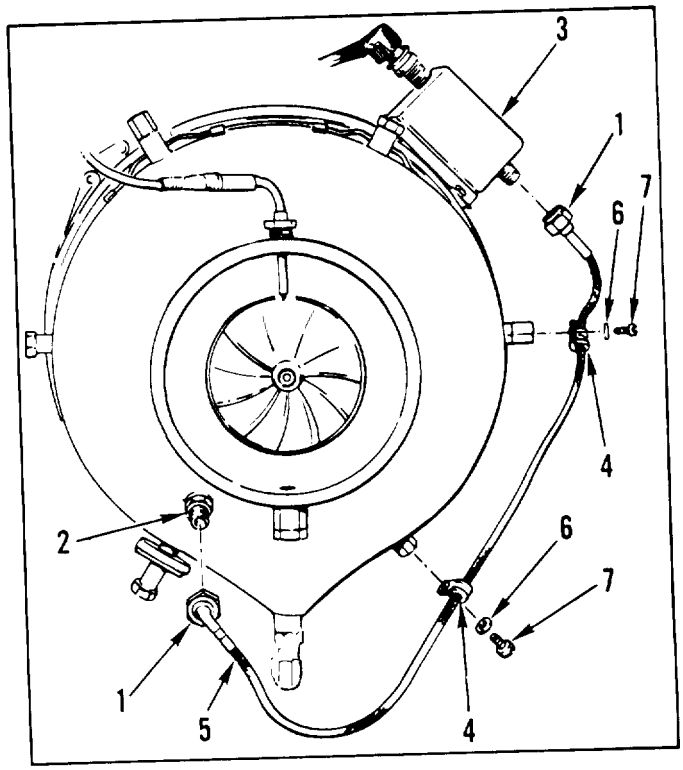
Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

Materials:
Lockwire (E16)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

1. Connect power cable assembly connectors (1) to spark plug (2) and ignition exciter (3).
2. Install two clamps (4) on power cable assembly (5) with washers (6) and screws (7).



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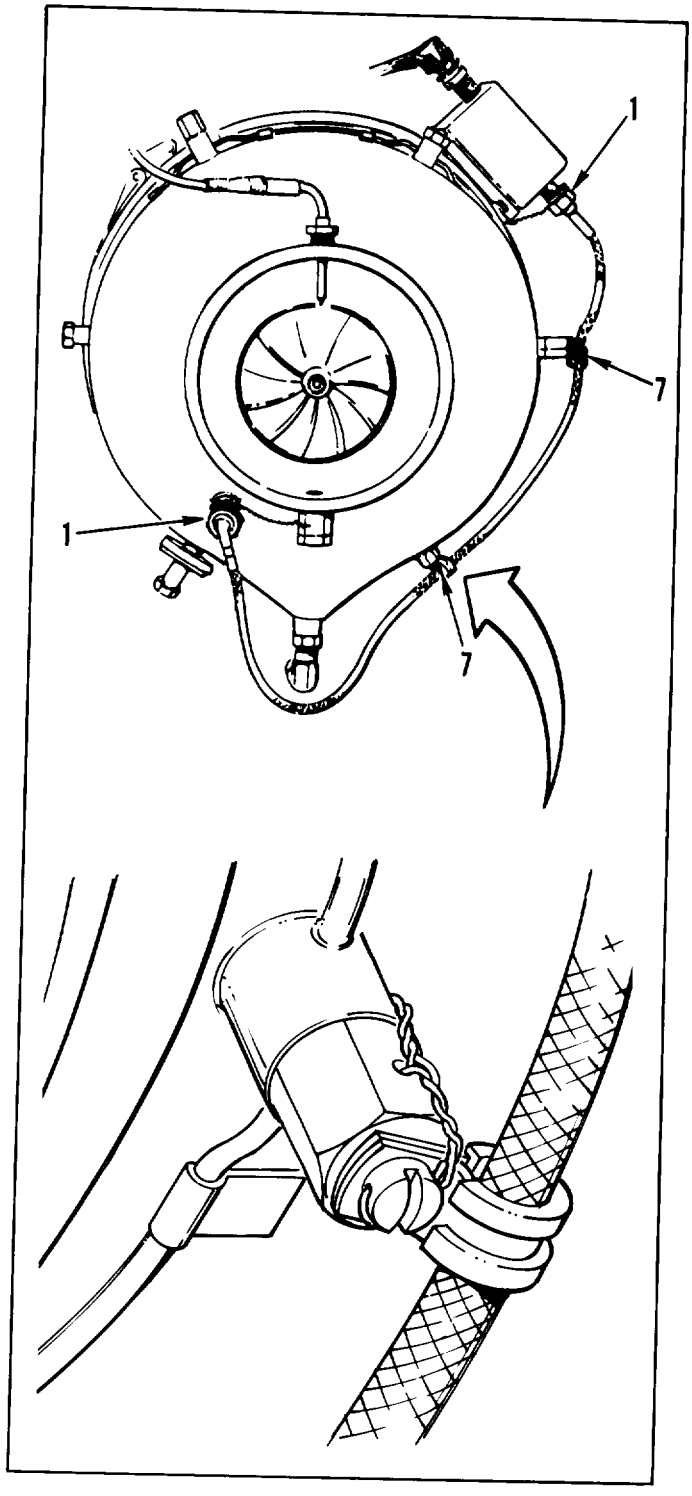
2-61 INSTALL POWER CABLE ASSEMBLY (Continued)

3. Lockwire connectors (1) and screws (7) using lockwire (E16).

INSPECT

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-62 REMOVE SPARK PLUG 2-62

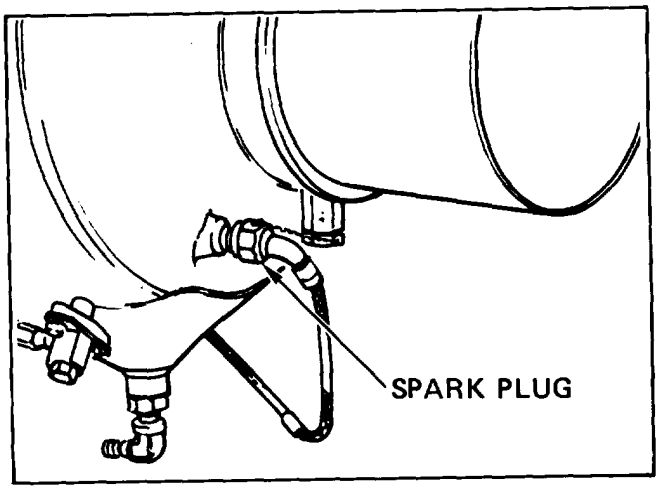
INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

Materials:
None

Personnel Required:
68B10 Aircraft Powerplant Repairer

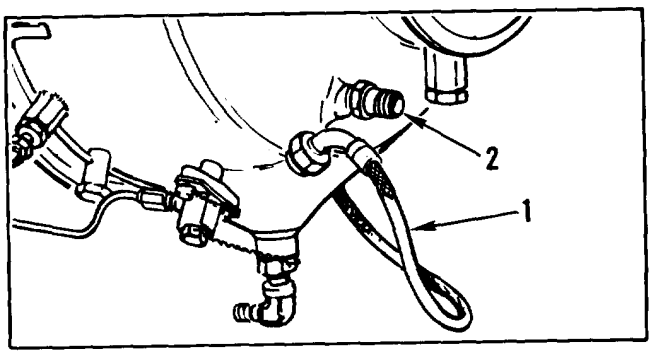


WARNING

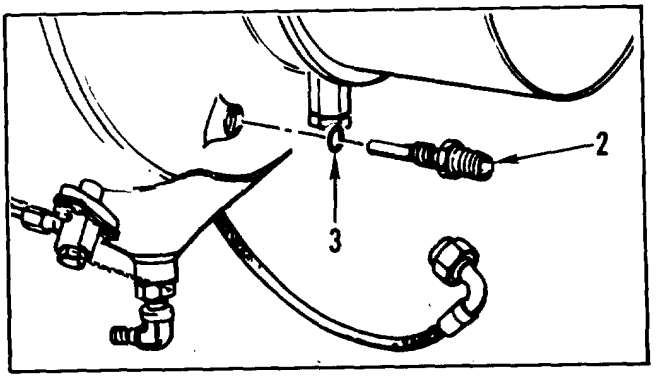
Allow at least five minutes after operation of the ignition system before disconnecting or removing components. Failure to allow the high voltage to dissipate can result in injury or death.

1. Remove lockwire and disconnect power cable assembly (1) from spark plug (2).

2. Ground conductor of power cable assembly (1) to discharge ignition exciter.



3. Remove spark plug (2) and gasket (3).



END OF TASK

2-63 CLEAN AND INSPECT SPARK PLUG

INITIAL SETUP

Applicable Configurations:
All

Tools:
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

Materials:
Lint-Free Cloth (E13)
Stiff Fiber Brush (E10)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

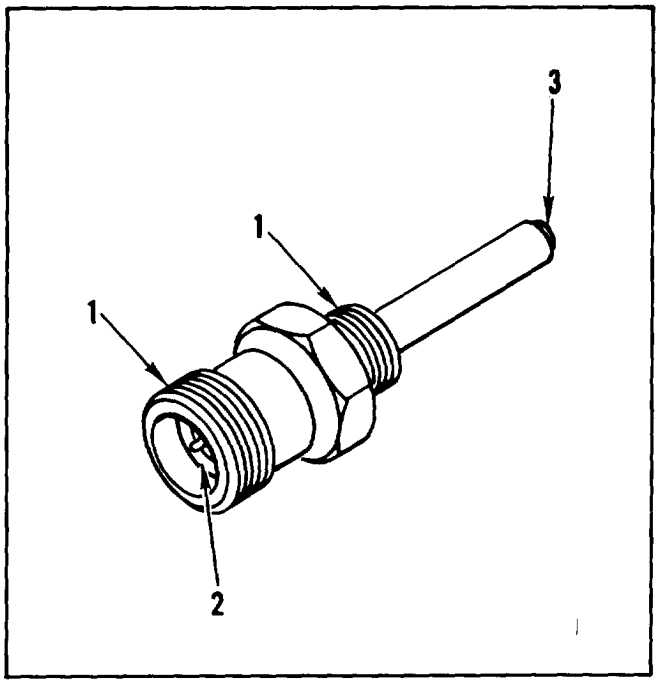
Equipment Condition:
Off APU Task

CAUTION

Do not use solvent to clean spark plug. Solvent can foul plug and cause plug not to operate.

1. Clean carbon deposits with stiff fiber brush (E10).
2. Wipe clean with cloth (E13).
3. Inspect for damaged threads (1). cracked insulator (2), or eroded electrode (3). There shall be no defects.

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-64 INSTALL SPARK PLUG

INITIAL SETUP

Applicable Configurations:
All

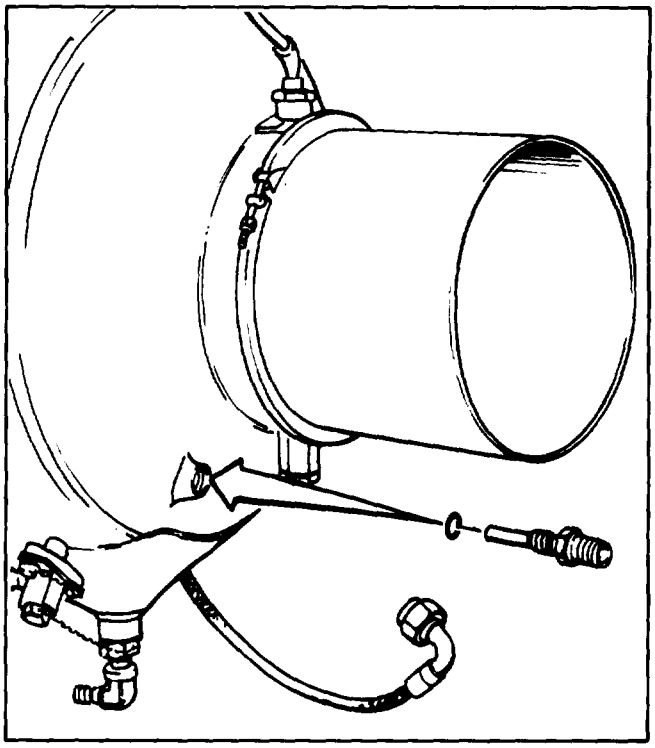
Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft inspector's Tool Kit
NSN 5180-00-323-5114
Torque Wrench, 30 to 150 inch-pounds

Materials:
Lockwire (E16)

Parts:
Gasket

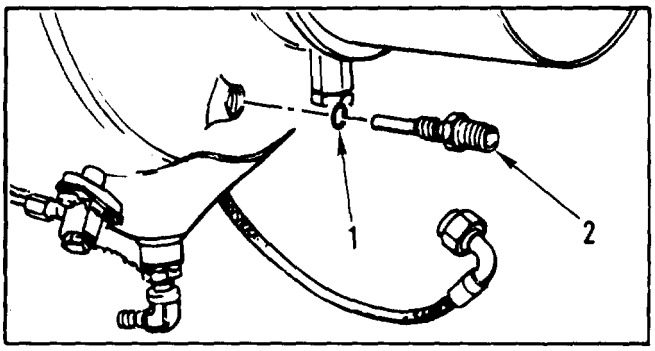
Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

References:
TM 55-2835-205-23P

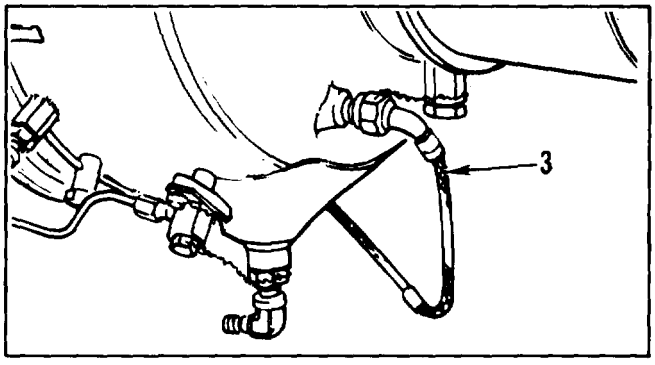


CAUTION

Look through spark plug boss to insure floating grommet is aligned before installing spark plug. Damage to spark plug or combustion chamber can result if floating grommet is not aligned.



1. Place gasket (1) on spark plug (2).
2. Install spark plug (2) with gasket (1). Insure that spark plug seats easily. Torque to 120 inch-pounds
3. Connect power cable assembly (3) and lockwire. Use lockwire (E16).



INSPECT

FOLLOW-ON MAINTENANCE:
None
END OF TASK

2-65 INSPECT ELECTRICAL HARNESS

INITIAL SETUP

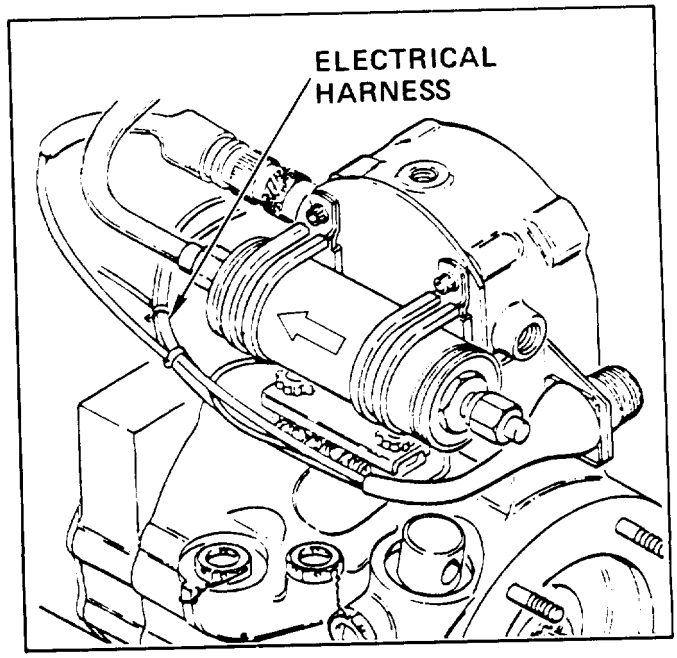
Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

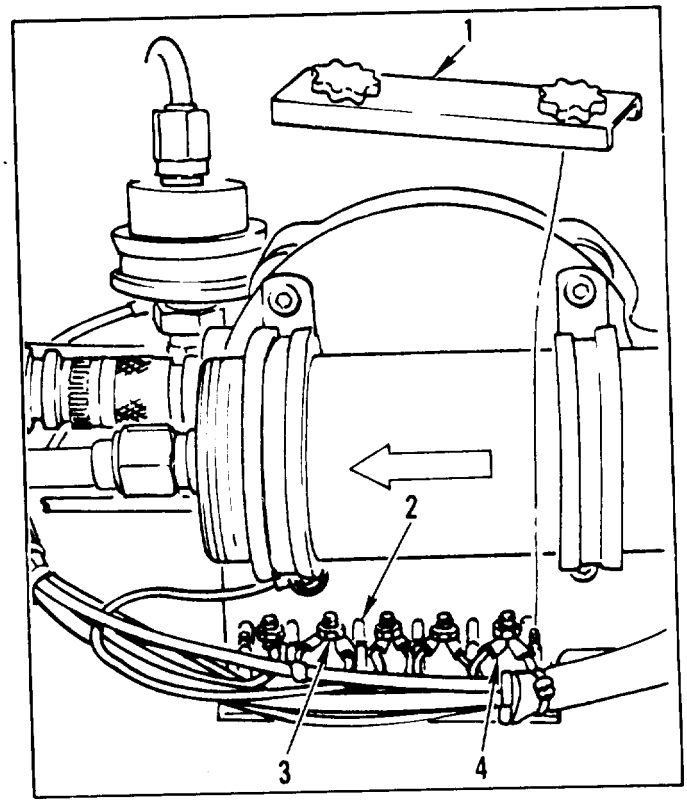
Materials:
None

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

References:
Appendix D



1. Remove terminal board cover (1).
2. Inspect terminal board (2) for damage. There shall be no damage.
3. Check nuts (3) on terminal board for tightness. If nuts are loose, tighten.
4. Inspect terminal lugs (4) for secure attachment to wires. There shall be no loose terminal lugs.
5. Install terminal board cover (1).



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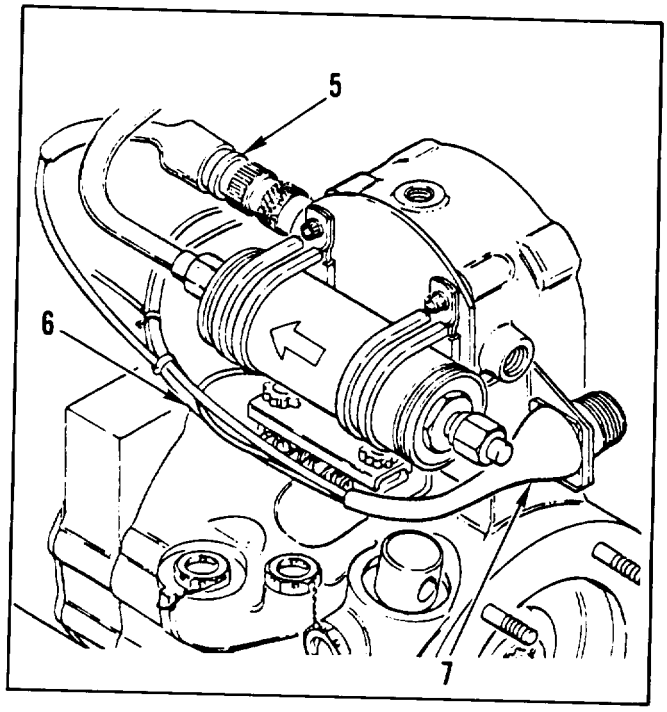
TM 55-2835-205-23

2-65 INSPECT ELECTRICAL HARNESS (Continued)

6. Inspect connector (5) for damage. There shall be no damage.

7, Inspect wires and sleeving (6) for cuts, breaks, or deterioration. There shall be no cuts, breaks, or deterioration.

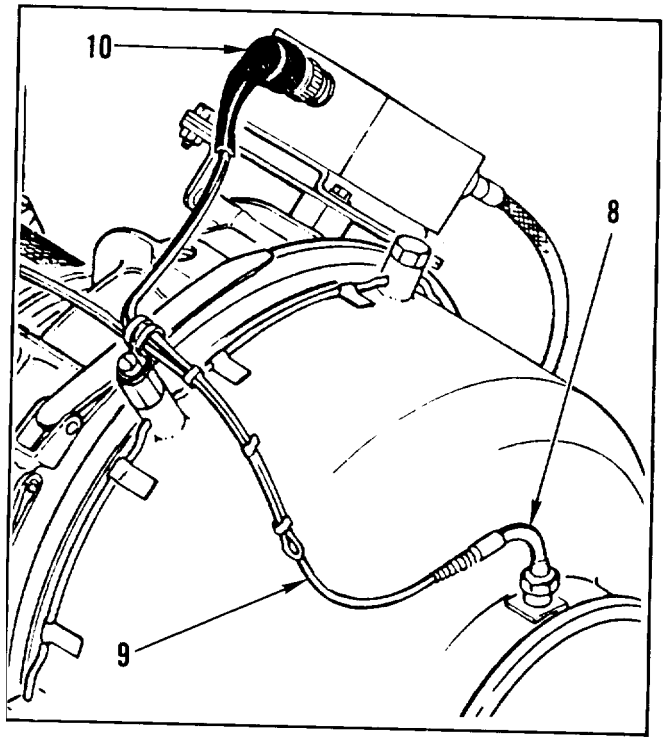
8. Inspect main electrical connector (7) for damage. Check for broken or bent pins. There shall be no damage.



9. Inspect thermocouple (8) and thermocouple lead (9) for damage. There shall be no damage.

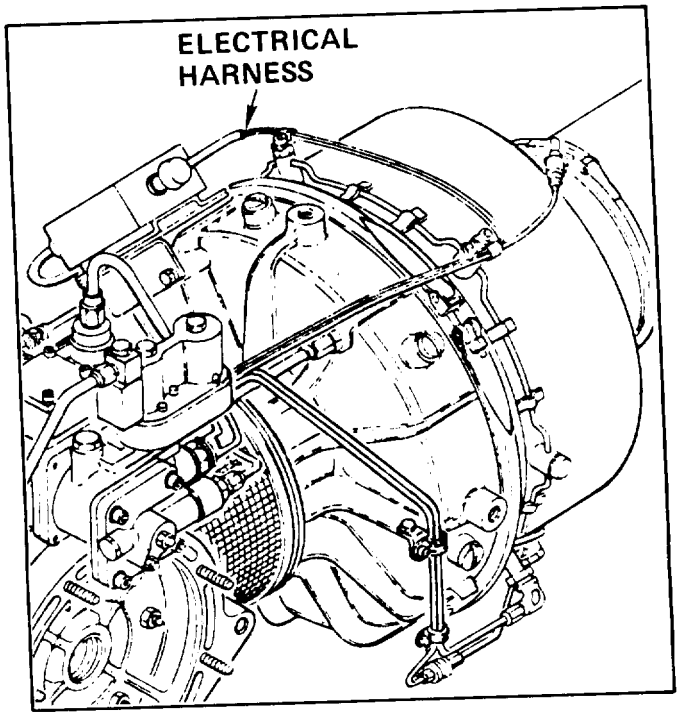
10. Inspect connector (10) for damage. There shall be no damage.

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-66 REMOVE ELECTRICAL HARNESS



INITIAL SETUP

Applicable Configurations:
All

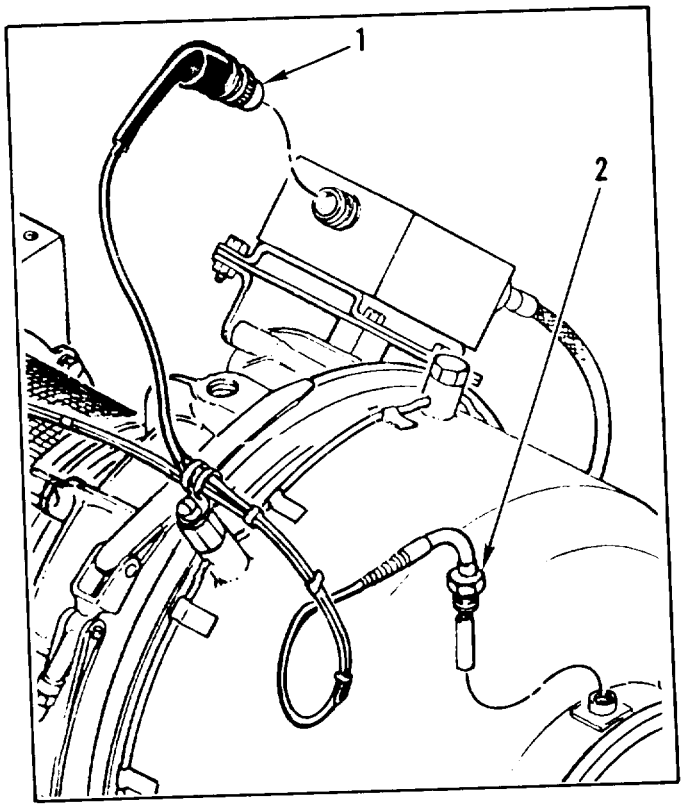
Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

Materials:
None

Personnel Required:
68B10 Aircraft Powerplant Repairer

Equipment Condition:
Remove Pressure Fluid
Filter (Task 2-30)

1. Remove lockwire.
2. Disconnect plug connector (1).
3. Remove thermocouple (2).



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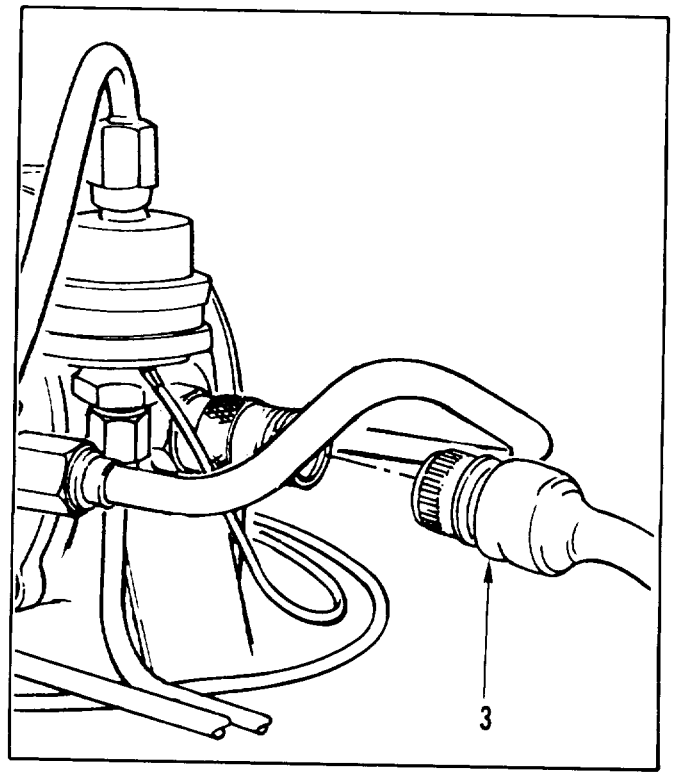
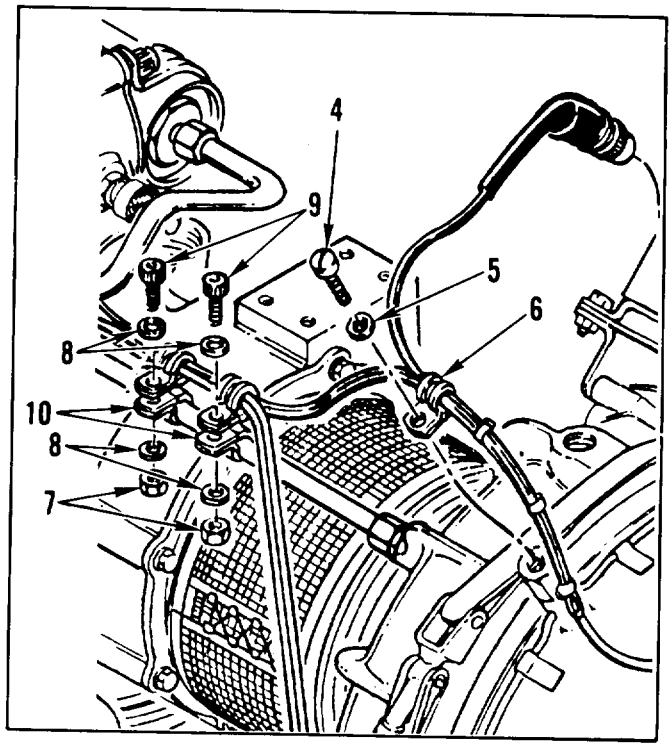
2-66 REMOVE ELECTRICAL HARNESS (Continued)

4. Remove lockwire. Disconnect plug (3) from magnetic pickup.



5. Remove lockwire and screw (4), washer (5), and clamp (6).

6. Remove two nuts (7), four washers (8), two screws (9), and two clamps (10).



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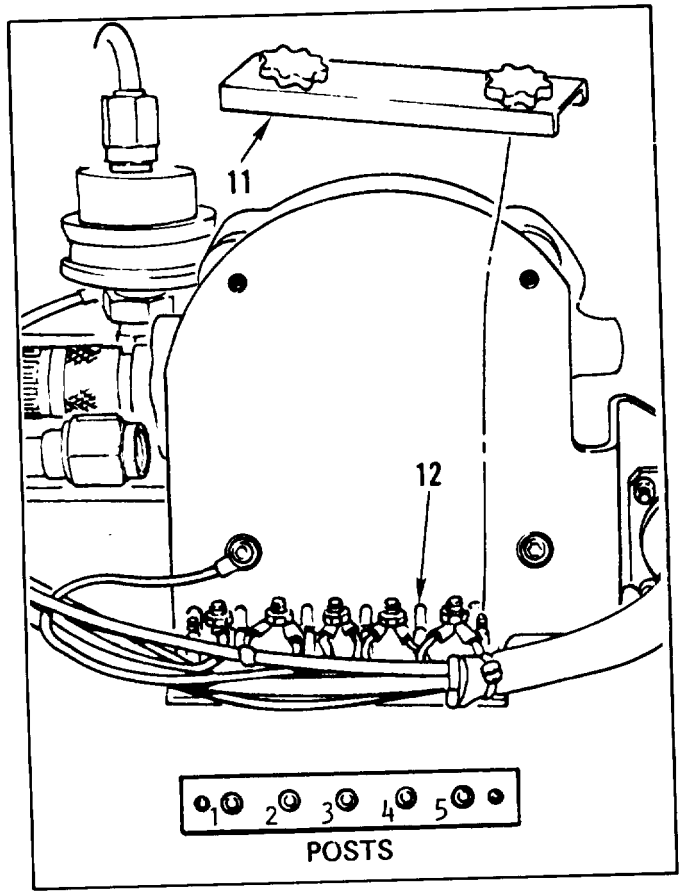
2-66 REMOVE ELECTRICAL HARNESS (Continued)

7. Remove terminal board cover (11).

8. Disconnect two blue main fuel valve leads at posts 1 and 4 of terminal board (12).

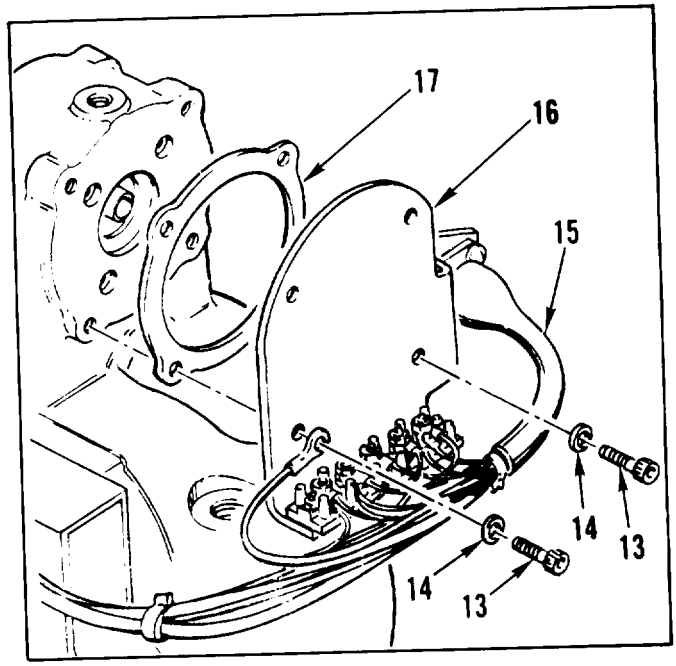
9. Disconnect two blue start fuel valve assembly leads at posts 3 and 5.



10. Remove two screws (13) and washers (14).

11. Remove electrical harness (15) and fuel filter bracket (16).

12. Remove gasket (17).



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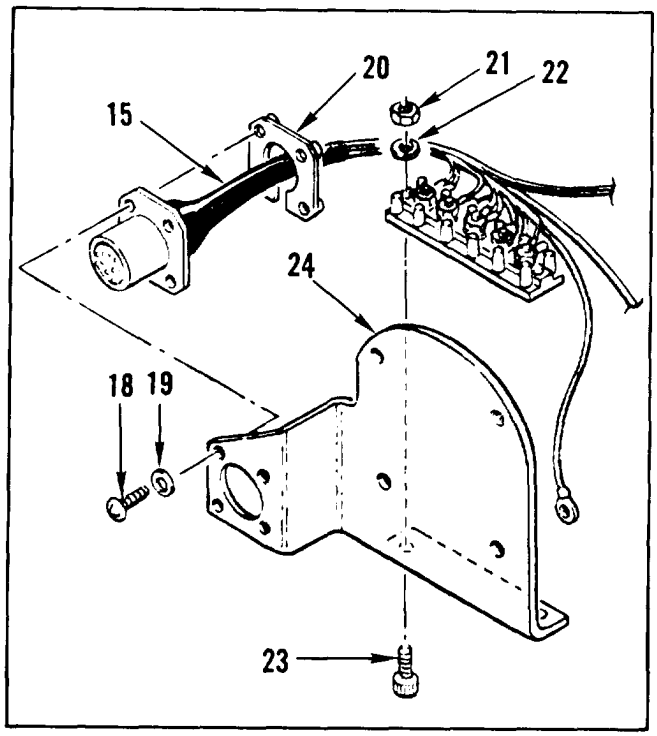
2-66 REMOVE ELECTRICAL HARNESS (Continued)

13. Remove four screws (18), washers (19), and ring nut (20).

14. Remove two nuts (21), washers (22), and screws (23) to separate electrical harness (15) from fuel filter bracket (24).

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-67 INSTALL ELECTRICAL HARNESS

INITIAL SETUP

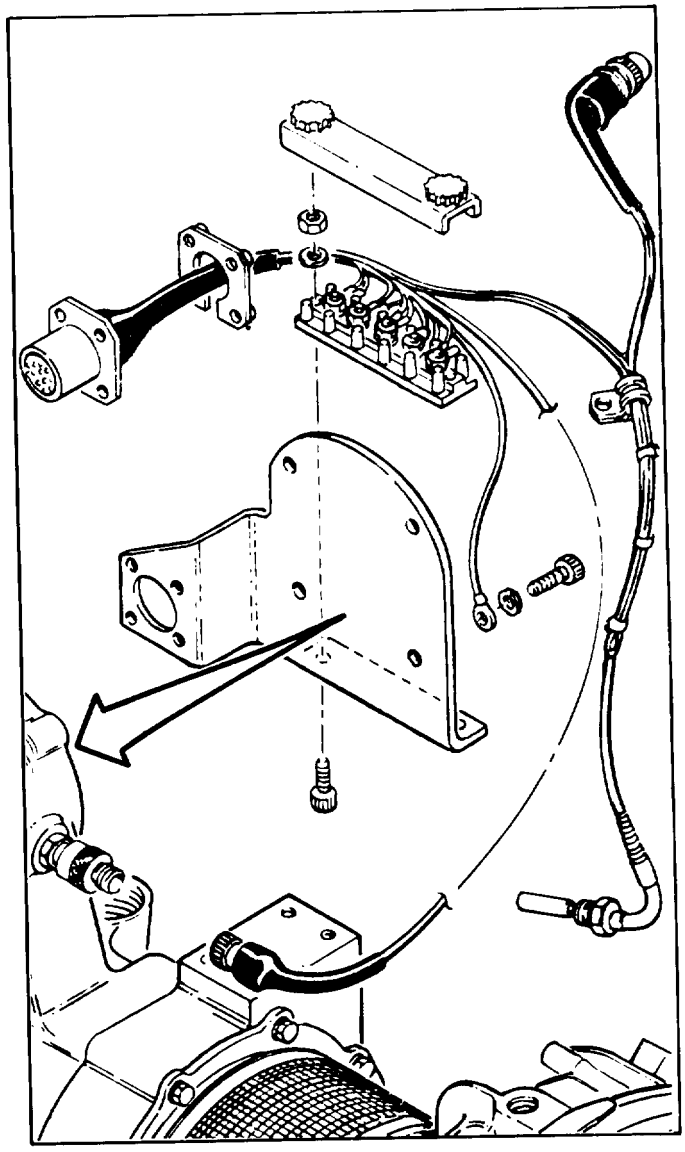
Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Torque Wrench, 0 to 30 inch-pounds
NSN 5120-00-117-4832

Materials:
Lockwire (E16)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

References:
Appendix D



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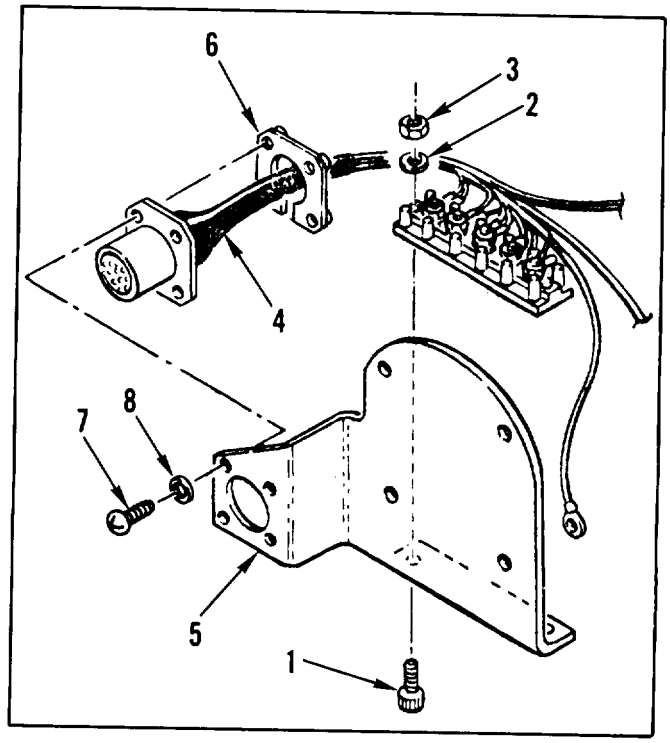
2-67 INSTALL ELECTRICAL HARNESS (Continued)

1. Install two screws (1), washers (2), and nuts (3) to attach terminal board of electrical harness (4) to fuel filter bracket (5).

NOTE

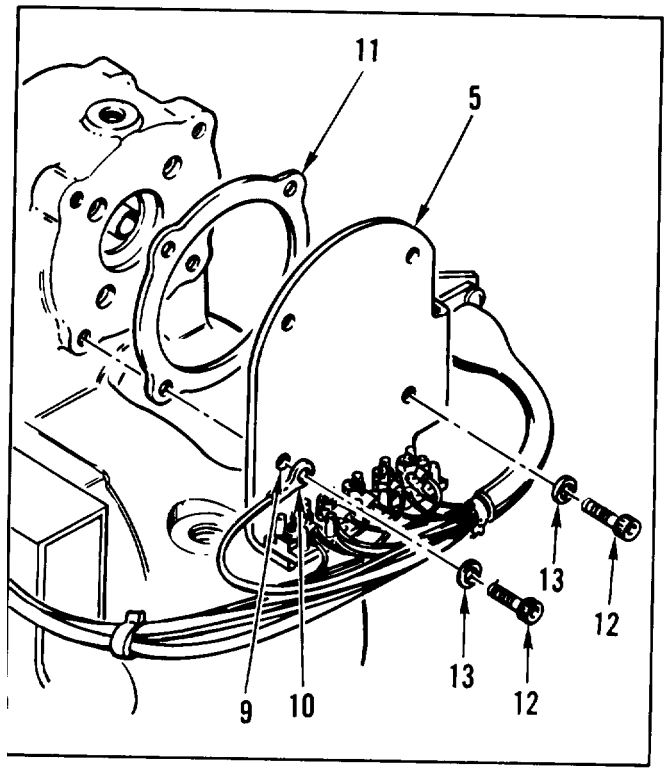
Large key of electrical connector shall be at top.

2. Install ring nut (6), four screws (7), and washers (8).



3. Clean surface around hole (9) to provide good electrical contact for ground terminal (10).

4. Install gasket (11) and fuel filter bracket (5) with screws (12) and washers (13).



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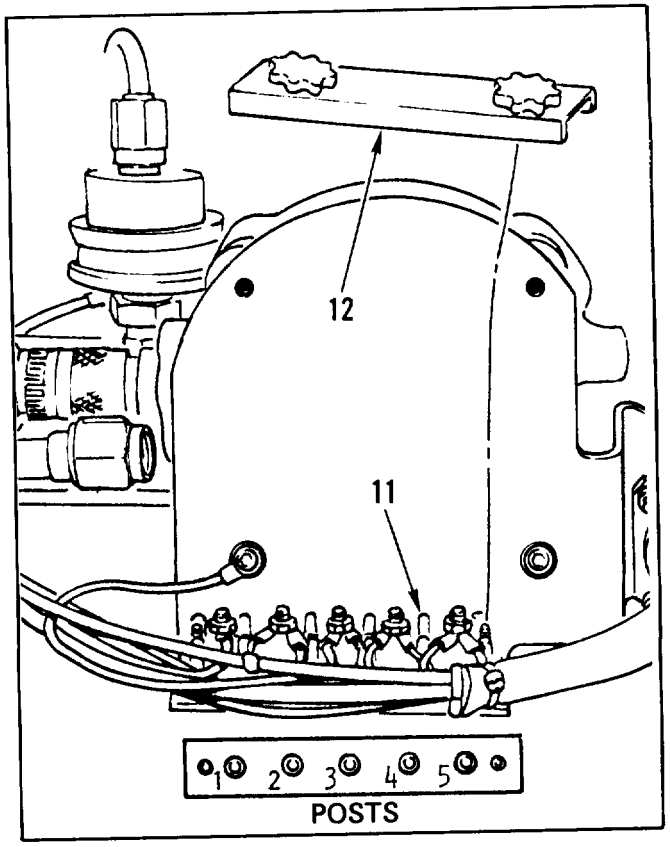
2-67 INSTALL ELECTRICAL HARNESS (Continued)

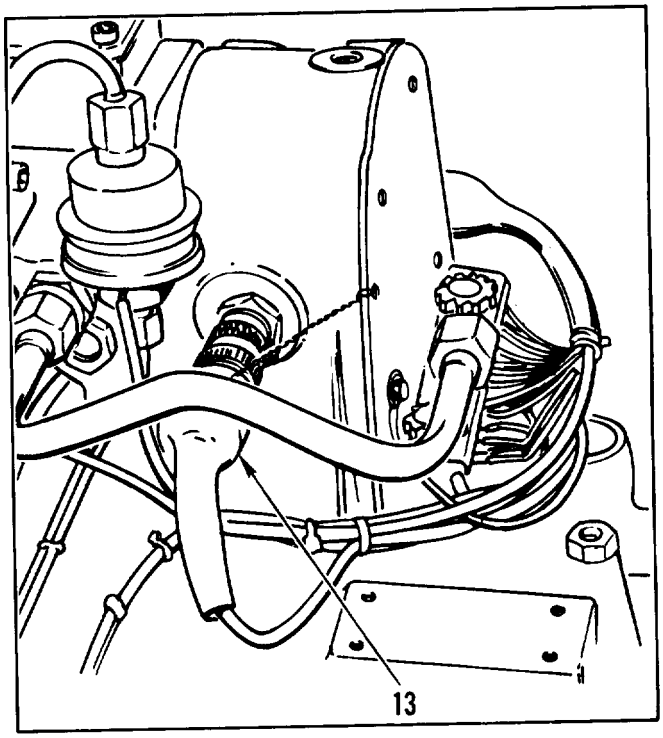
5. Connect two blue start fuel valve assembly leads to posts 3 and 5 of terminal board (11).

6. Connect two blue main fuel valve leads to posts 1 and 4 of terminal board (11).

7. Install terminal board cover (12) and hand tighten nuts.



8. Install connector (13). Lockwire connector using lockwire (E16).



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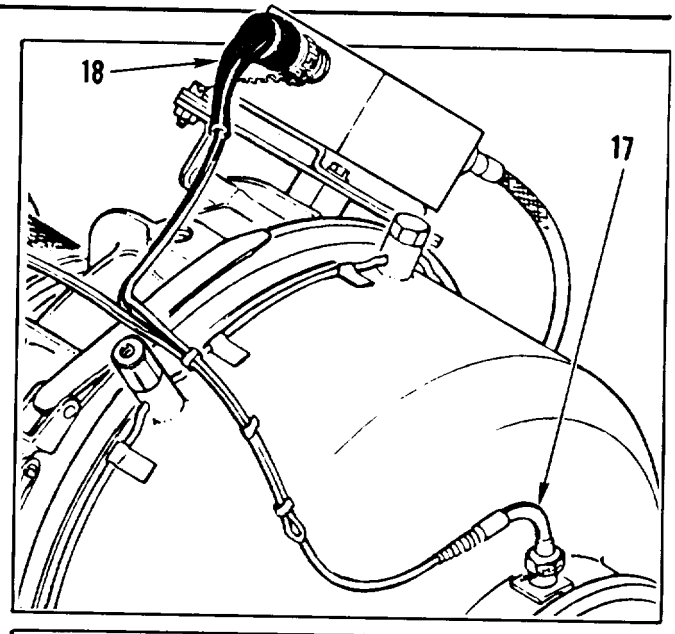
2-67 INSTALL ELECTRICAL HARNESS (Continued)

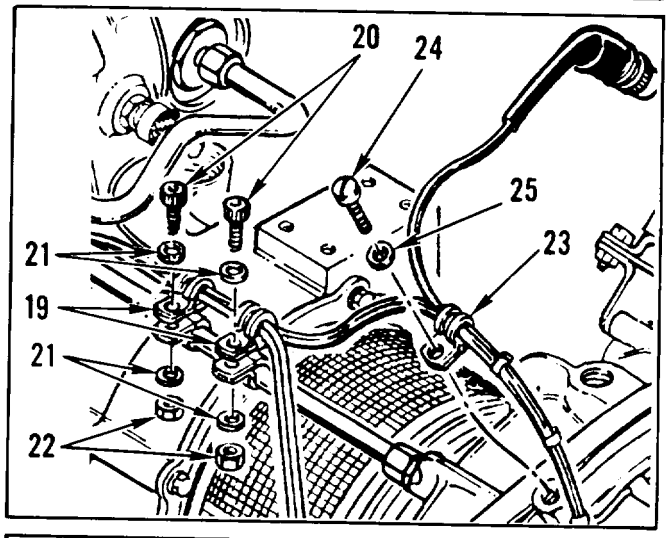
9. Install thermocouple (17). Torque to 30 inch-pounds. Lockwire using lockwire (E16).

10. Connect plug connector (18). Lockwire using lockwire (E16).



11. Install two clamps (19), two screws (20), four washers (21), and two nuts (22).

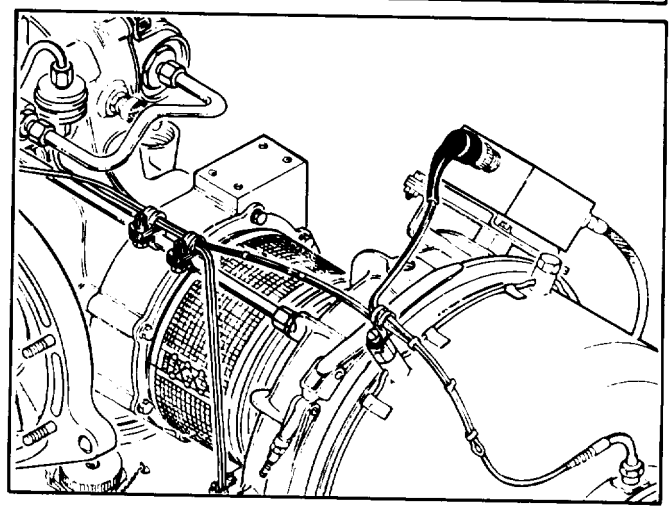
12. Install clamp (23), screw (24), and washer (25). Lockwire screw using lockwire (E16).



INSPECT

FOLLOW-ON MAINTENANCE:
Install Pressure Fluid Filter (Task 2-31).

END OF TASK



END OF TASK

2-68 REMOVE MAGNETIC PICKUP

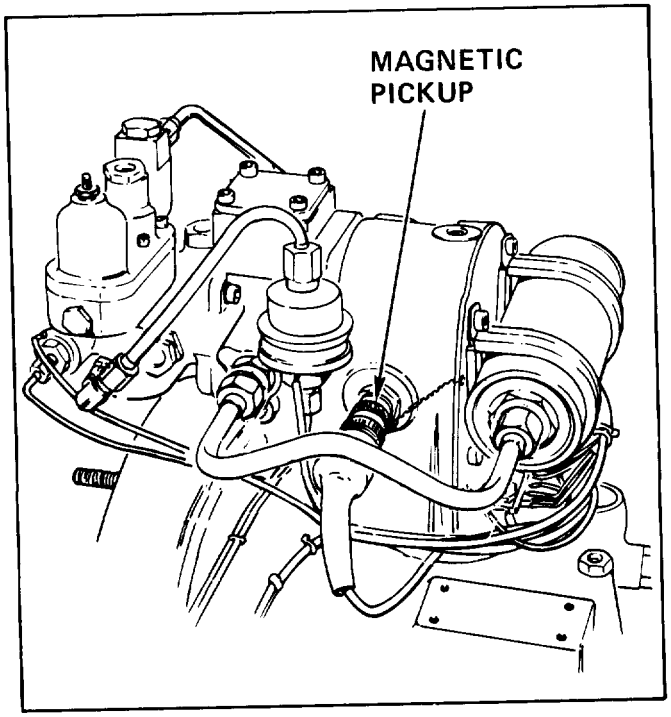
INITIAL SETUP

Applicable Configurations:
All

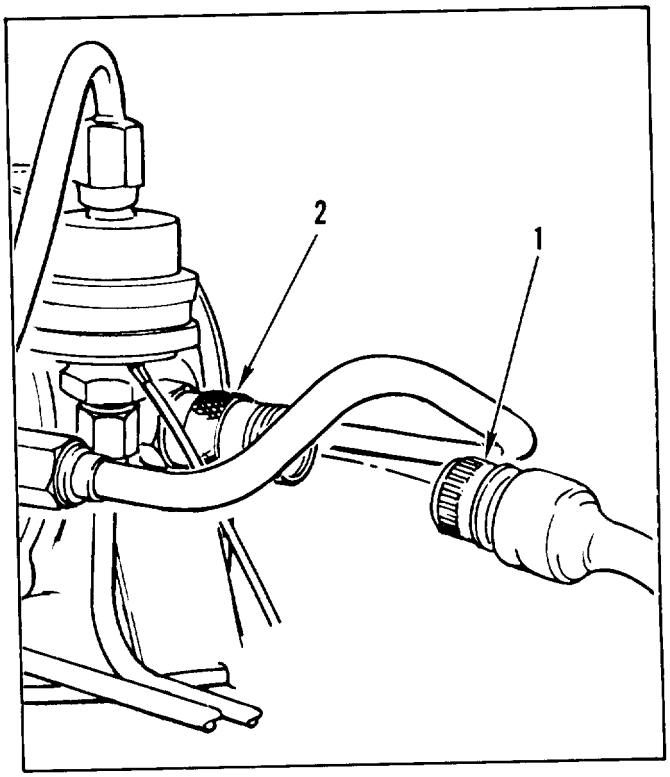
Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

Materials:
None

Personnel Required:
68B10 Aircraft Powerplant Repairer



1. Remove lockwire. Disconnect connector (1) from magnetic pickup (2).



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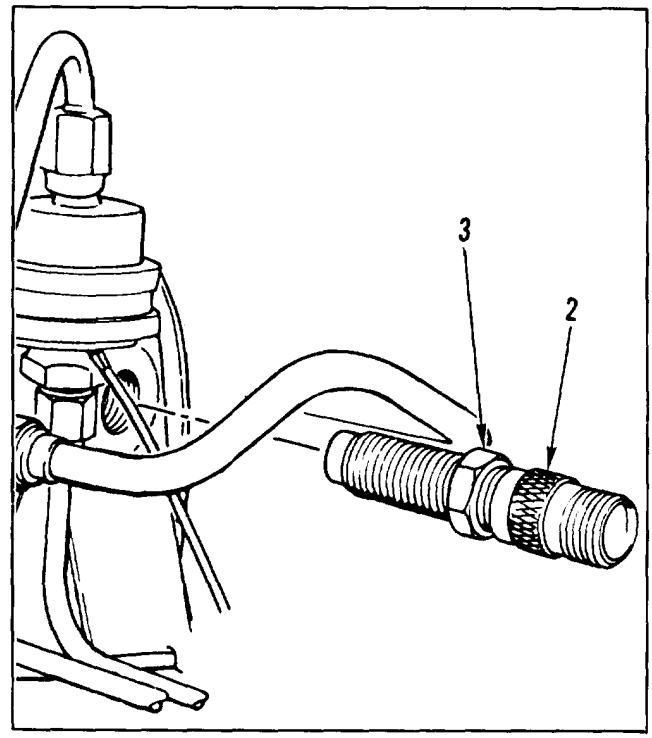
2-68 REMOVE MAGNETIC PICKUP (Continued)

2. Loosen locknut (3) and remove magnetic pickup (2).



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-69 CLEAN AND INSPECT MAGNETIC PICKUP

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Rubber Gloves
NSN 8415-00-266-8677
Container

Materials:
Dry-Cleaning Solvent (E20)
Lint-Free Cloth (E13)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

Equipment Condition:
Off APU Task

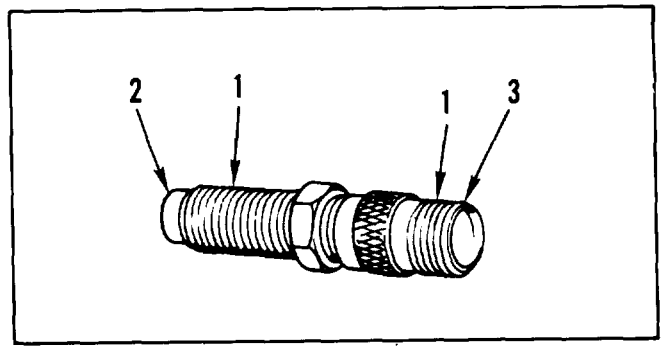
WARNING

Dry-cleaning solvent (E20) is flammable and toxic. It can irritate skin and cause burns. Use only in well-ventilated area, away from heat and open flame. Wear gloves. In case of contact, immediately flush skin or eyes with water for at least 15 minutes. Get medical attention for eyes.

1. Wearing gloves, wipe magnetic pickup with clean cloth (E13) dampened with dry-cleaning solvent (E20). Use a bristle brush to clean threads.

2. Dry magnetic pickup with clean dry cloth (E13).

3. Inspect magnetic pickup for damage threads (1) and damaged tip and shaft (2). Inspect electrical connector (3) for bent or broken pins. There shall be no damage.



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-70 INSTALL MAGNETIC PICKUP

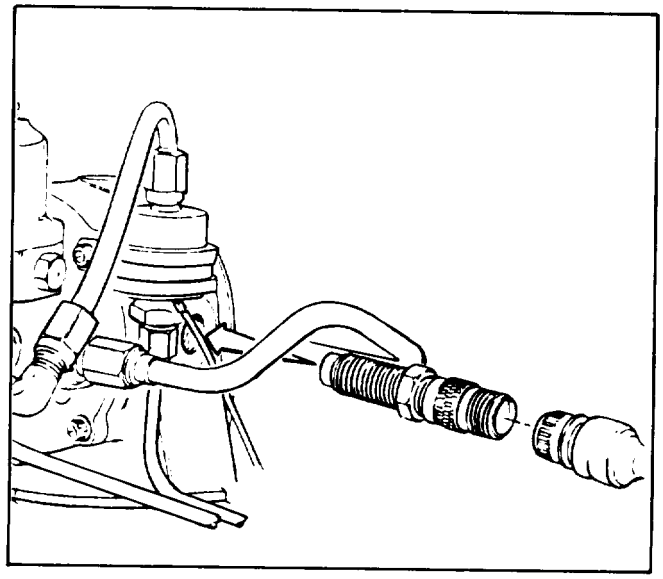
INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

Materials:
Lockwire (E16)
Screw Lock (E22)

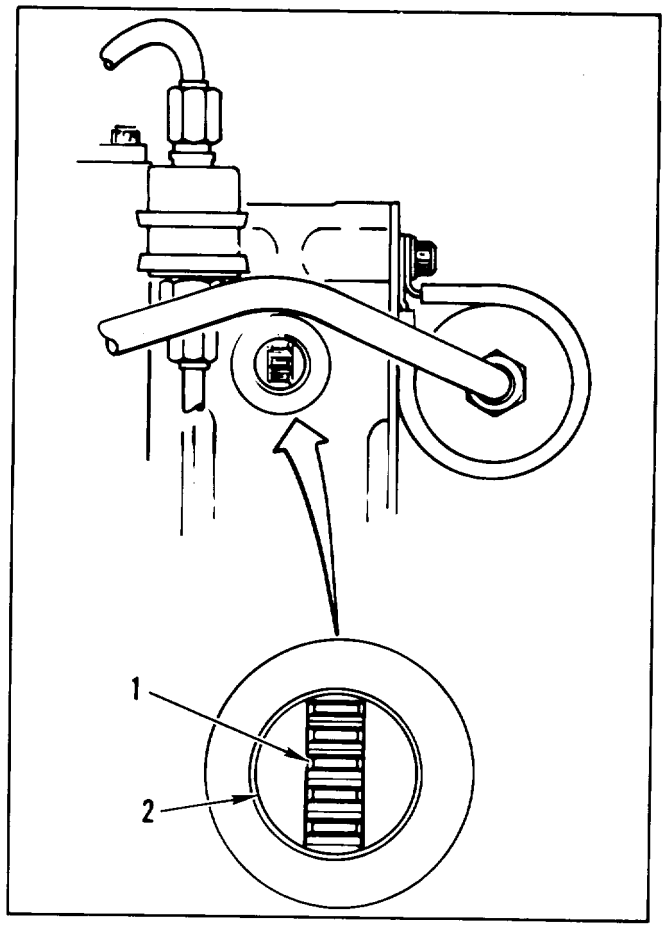
Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector



NOTE

Reduction drive gear train can be rotated by reaching through combustor assembly and turning turbine wheel.

1. Rotate reduction drive gear train until a tooth (1) of accessory drive gear is located in line with center of hole (2) for magnetic pickup.



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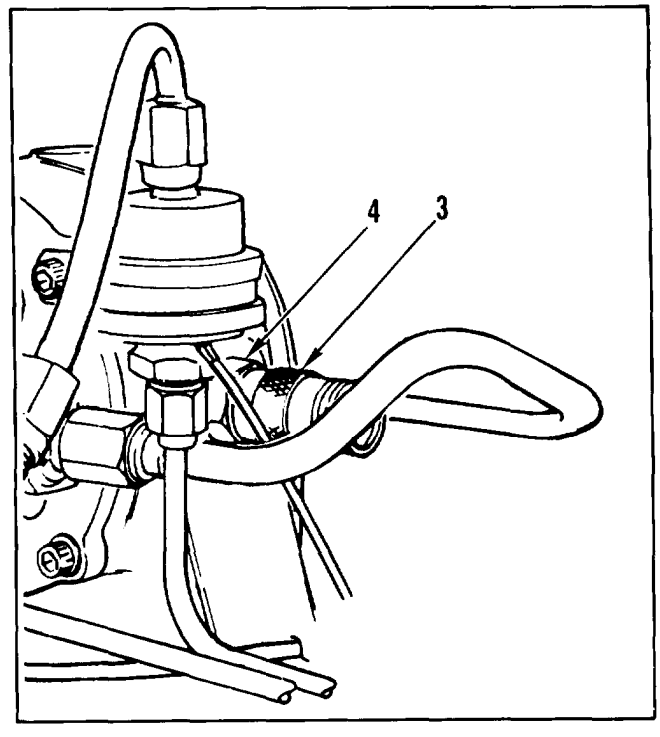
2-70 INSTALL MAGNETIC PICKUP (Continued) 2-70

2. Apply screw lock (E22) to threads of magnetic pickup (3).



CAUTION

Do not continue to screw in magnetic pickup after contact with gear tooth is felt. Damage to magnetic pickup or gear can result.

3. Slowly screw magnetic pickup (3) into hole until contact with gear tooth is felt.

4. Back out magnetic pickup (3) 1/4 turn.

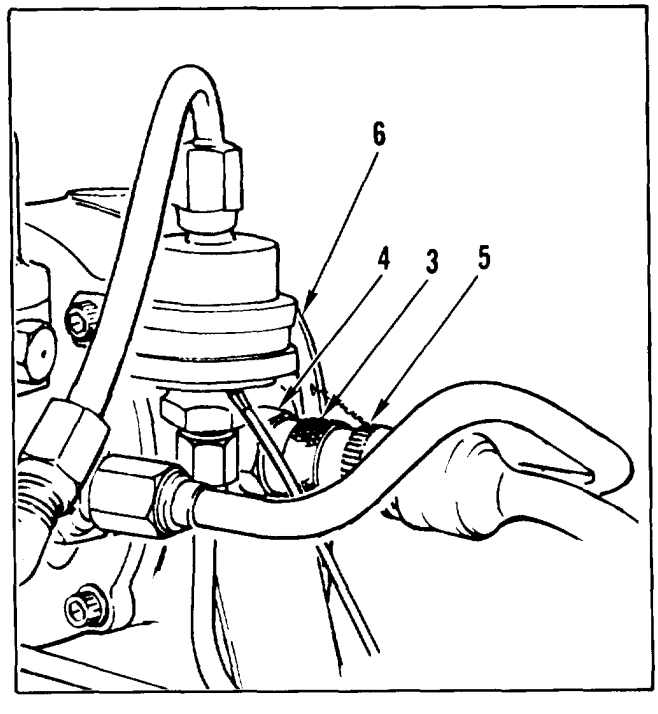
NOTE

Reduction drive gear train can be rotated by reaching through combustor assembly and turning turbine wheel.

5. Rotate reduction drive gear train to be sure there is clearance between magnetic pickup (3) and the accessory drive gear.

NOTE

Be sure magnetic pickup does not turn when tightening locknut.



6. Tighten locknut (4).

7. Connect connector (5) to magnetic pickup (3).

8. Lockwire connector (5) to fuel filter bracket (6) using lockwire (E16).

INSPECT

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-71 REMOVE OIL FILLER CAP ASSEMBLY

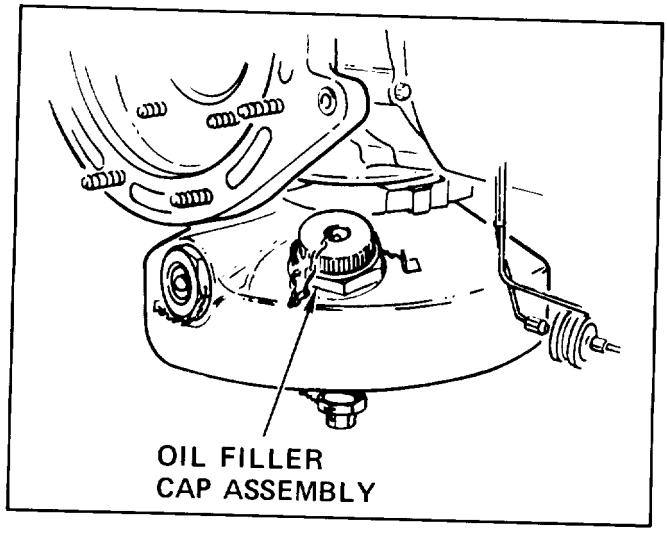
INITIAL SETUP

Applicable Con figurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

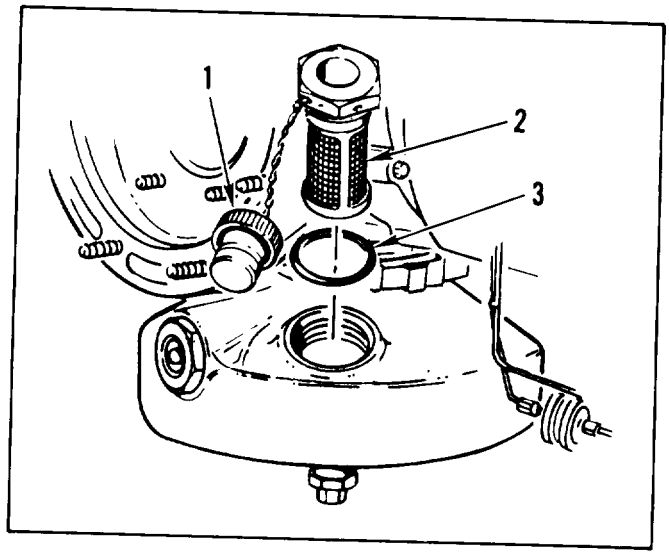
Materials:
None

Personnel Required:
68B10 Aircraft Powerplant Repairer



1. Press down on filler cap (1), rotate 1/4 turn counterclockwise, and remove.
2. Remove lockwire.
3. Remove oil filler cap body (2) and packing (3).

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-72 CLEAN AND INSPECT OIL FILLER CAP ASSEMBLY 2-72

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Rubber Gloves
NSN 8415-00-266-8677
Source of Low Pressure Compressed Air Container

Materials:
***Dry-Cleaning* Solvent (E20)**

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

Equipment Condition:
Off APU Task

WARNING

Dry-cleaning solvent (E20) is flammable and toxic. It can irritate skin and cause burns. Use only in well-ventilated area, away from heat and open flame. Wear gloves. In case of contact, immediately flush skin or eves with water for at least 15 minutes. Get medical attention for eyes.

1. Wearing gloves, flush oil filler cap assembly with dry-cleaning solvent (E20). Use bristle brush to clean threads and screen.

WARNING

Use goggles to protect eyes and face when using compressed air. Do not exceed 30 psig. Do not direct air-stream towards yourself or another person. Failure to comply may result in injury to personnel.

2. Dry with low pressure compressed air at 30 psig maximum.

GO TO NEXT PAGE

2-72 CLEAN AND INSPECT OIL FILLER CAP ASSEMBLY (Continued) 2-72

3. Inspect screen (1) for broken or deformed wire mesh. There shall be no damage.

4. Inspect packing (2) for cuts or nicks. There shall be no damage. If damaged, replace packing.

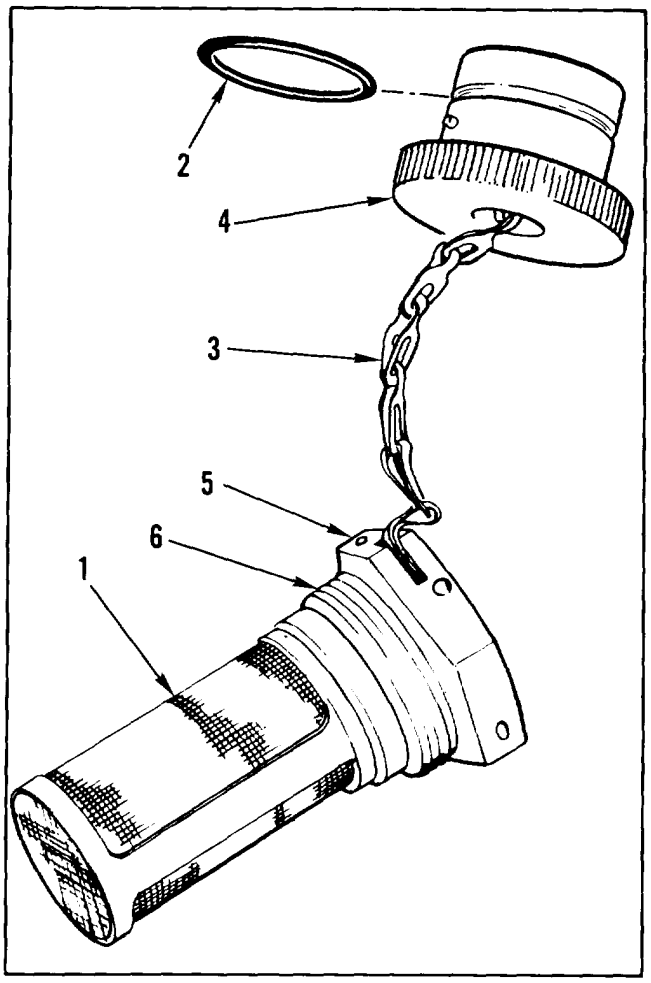
5. Inspect chain (3) for broken links or loose attachment. Chain shall be secure and have no broken links.

6. Install filler cap (4) on body (5) and check for loose fit. Filler cap shall fit tightly.

7. Inspect body (5) for cracks. There shall be no cracks.

8. Inspect threads (6) for damage. Threads shall not be damaged.

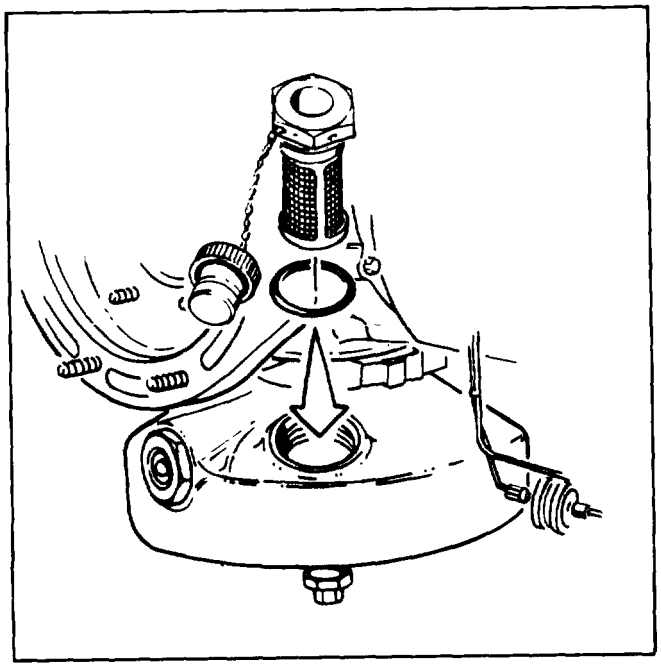
FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-73 INSTALL OIL FILLER CAP ASSEMBLY

INITIAL SETUP



Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-325-5114

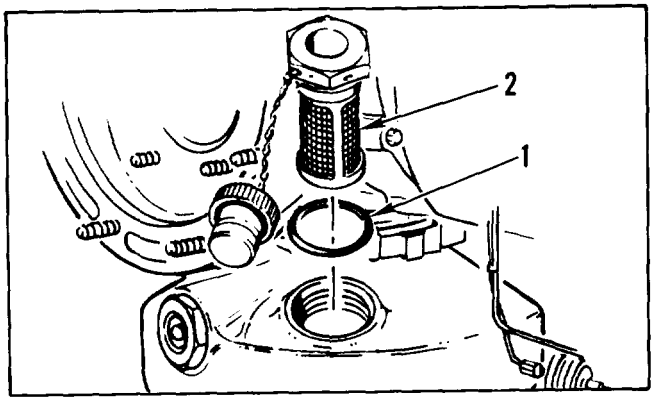
Materials:
Lockwire (E 16)

Parts:
Packing

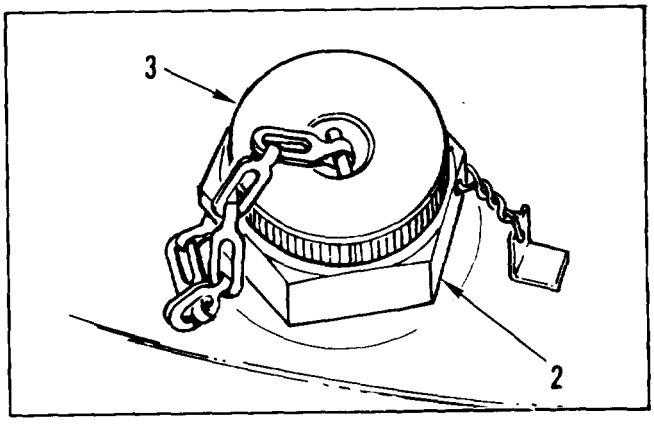
Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

References:
TM 55-2835-205-23P

1. Install packing (1) on oil filler cap body (2).
2. Install filler cap body (2).



3. Install filler cap (3).
4. Lockwire body (2). Use lockwire (E16).



INSPECT

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-74 REMOVE OIL FILTER AND BYPASS VALVE

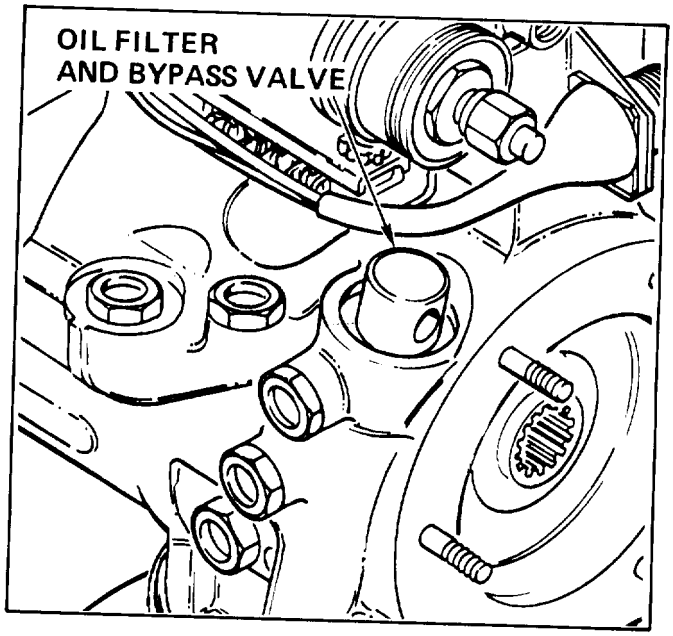
INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

Materials:
None

Personnel Required:
68B10 Aircraft Powerplant Repairer



1. Remove retaining ring (1).

NOTE

Filter bypass valve (2) must be separated from oil filter (4) before oil filter can be completely removed.

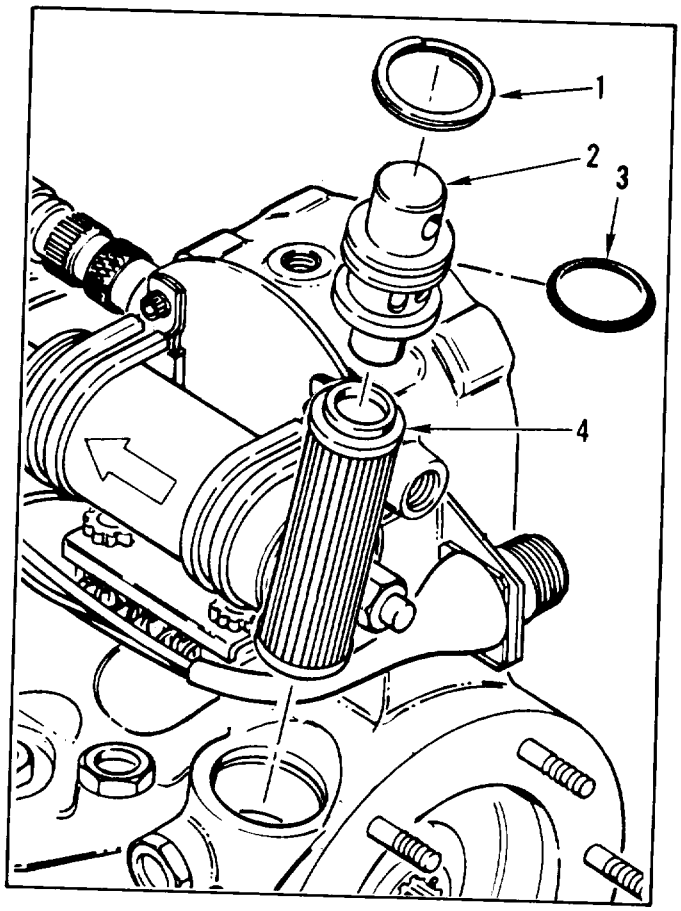
2. Remove filter bypass valve (2) with packing (3) and oil filter (4).

NOTE

Do not disassemble filter bypass valve.

3. Remove oil filter (4) from filter bypass valve (2).

4. Remove packing (3) from filter bypass valve (2).



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-75 CLEAN AND INSPECT FILTER BYPASS VALVE

INITIAL SETUP

Applicable Configurations:
All

Tools:
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Rubber Gloves
NSN 8415-00-266-8677
Source of Low Pressure Compressed Air

Materials:
Dry-Cleaning Solvent (E20)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

Equipment Condition:
Off APU Task

WARNING

Dry-cleaning solvent (E20) is flammable and toxic. It can irritate skin and cause burns. Use only in well-ventilated area, away from heat and open flame. Wear gloves. In case of contact, immediately flush skin or eyes with water for at least 15- minutes. Get medical attention for eyes.

1. Wearing gloves, clean filter bypass valve with dry-cleaning solvent (E20).

WARNING

Use goggles to protect eyes and face when using compressed air. Do not exceed 30 psig. Do not direct airstream towards yourself or another person. Failure to comply may result in injury to personnel.

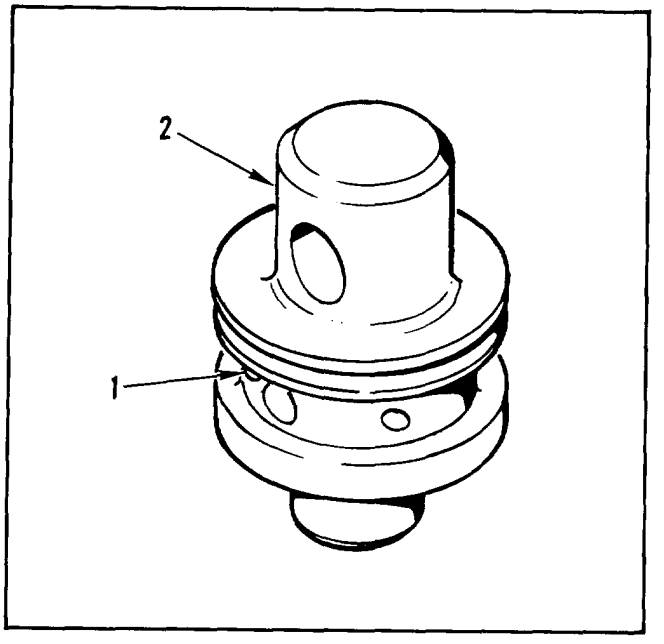
2. Dry with low pressure compressed air at 30 psig maximum.

GO TO NEXT PAGE

2-75 CLEAN AND INSPECT FILTER BYPASS VALVE (Continued) 2-75

3. Inspect bypass passage (1) for clogging. If clogged, re-clean.

4. Inspect housing (2) for breaks and cracks. If damaged, assemble new filter bypass valve (Task 2-76):



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-76 ASSEMBLE FILTER BYPASS VALVE

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

Materials:
None

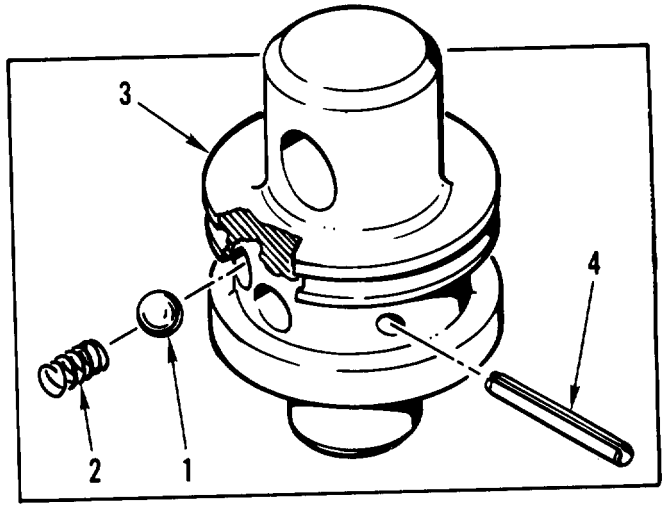
Parts:
Ball
Spring
Spring Pin
Valve Housing

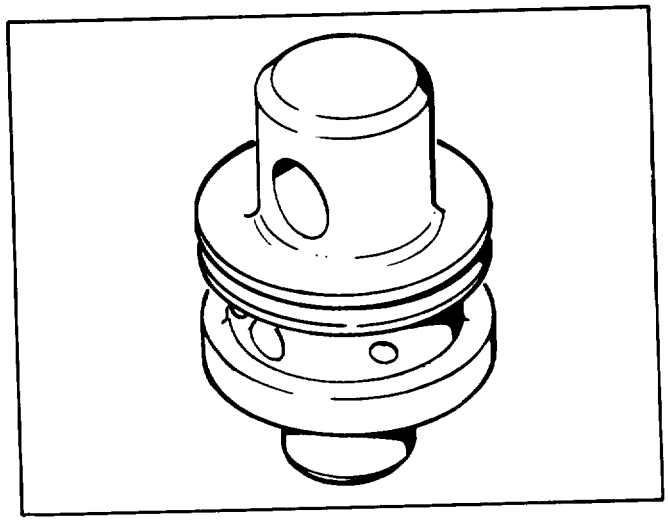
Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

References:
TM 55-2835-205-23P

Equipment Condition:
off APU Task

1. Insert ball (1) and spring (2) in valve housing (3).
2. Hold spring (2) compressed with small screwdriver and insert spring pin (4), making sure that spring (2) is behind spring pin (4).





INSPECT

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-77 INSTALL OIL FILTER AND BYPASS VALVE

INITIAL SETUP

Applicable Configurations:
All

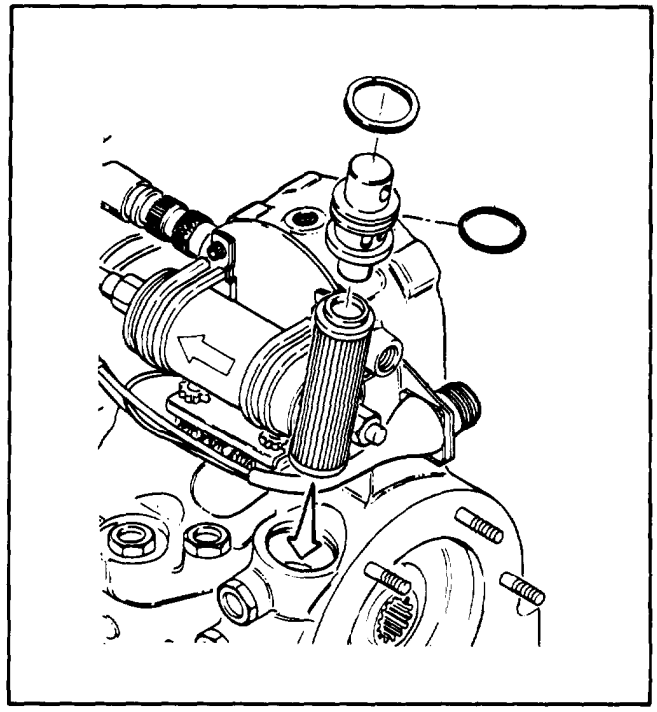
Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

Materials:
None

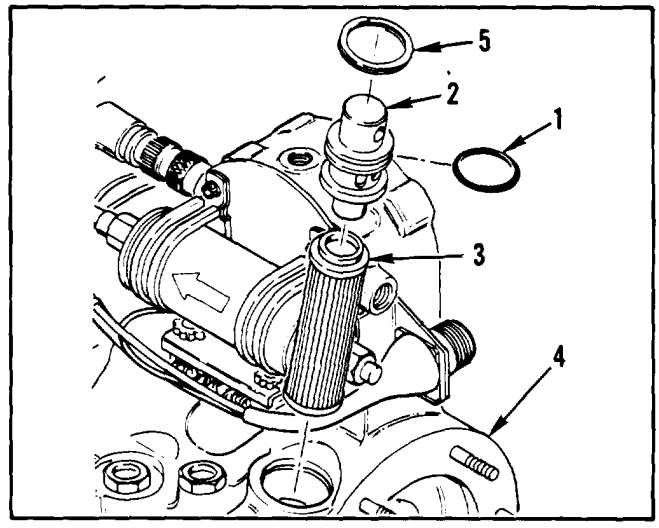
Parts:
Packing
Oil Filter

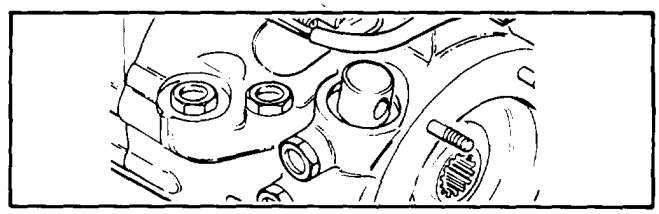
Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

References:
TM 55-2835-205-23P



1. Install packing (1) on housing (2).
2. Insert oil filter (3) part way into reduction drive assembly (4).
3. Hold top of oil filter (3) and install housing (2) on oil filter (3).
4. Insert housing (2) with packing (1) and oil filter (3) the rest of the way into reduction drive assembly.
5. Install retaining ring (5).





INSPECT

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-78 REMOVE OIL LEVEL GAGE 2-78

INITIAL SETUP

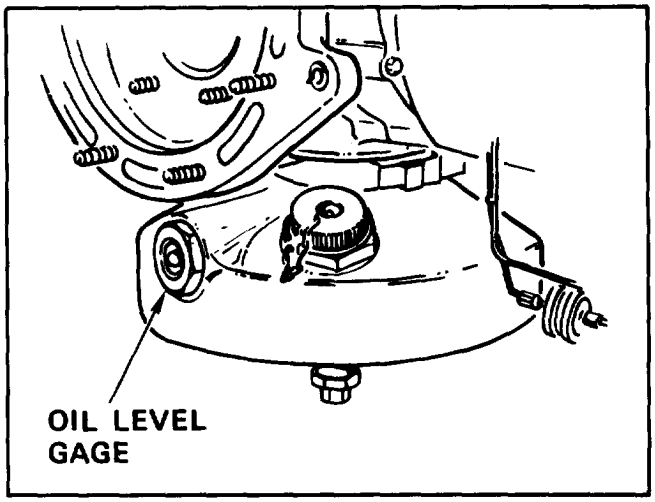
Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

Materials:
None

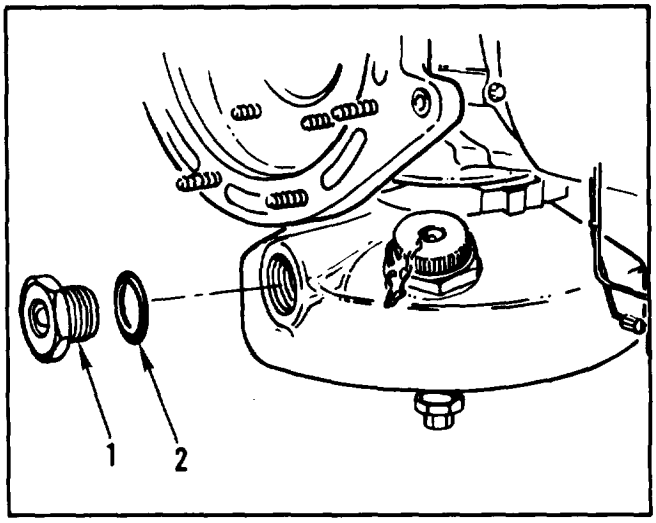
Personnel Required:
68B10 Aircraft Powerplant Repairer

Equipment Condition:
Drain Oil Sump (Task 2-85)



1. Remove lockwire. Remove oil level gage (1) and packing (2).

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-79 CLEAN AND INSPECT OIL LEVEL GAGE

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft inspector's Tool Kit
NSN 5180-00-323-5114
Rubber Gloves
NSN 8415-00-266-8677

Materials:
Dry-Cleaning Solvent (E20)
Lint-Free Cloth (E13)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

Equipment Condition:
Off APU Task

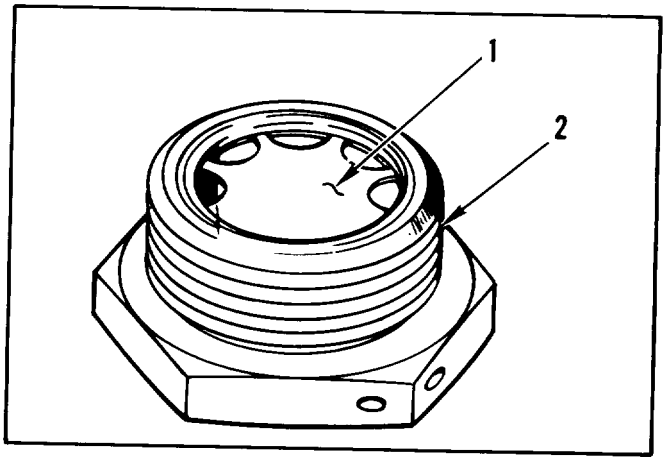
WARNING

Dry-cleaning solvent (E20) is flammable and toxic. It can irritate skin and cause burns, Use only in well-ventilated area, away from heat and open flames, Wear gloves. In case of contact, immediately flush skin or eyes with water for at least 15 minutes. Get medical attention for eyes.

1. Wearing gloves, flush oil level gage in dry-cleaning solvent (E20). Use bristle brush to clean threads,

2. Allow to drain dry, then wipe clean with cloth (E13).

3. Check ball retainer (1) for tightness in body. Inspect threads (2) for damage. Inspect for loose, broken, or clouded glass. Check ball for freedom. There shall be no defects.



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-80 INSTALL OIL LEVEL GAGE

INITIAL SETUP

Applicable Configurations:
All

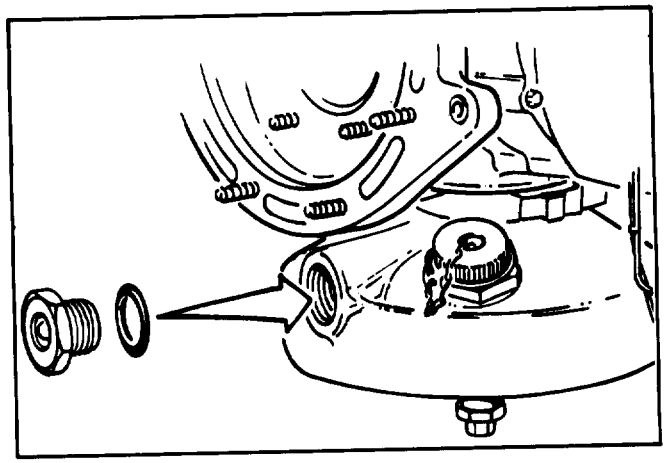
Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

Materials:
Lockwire (E16)

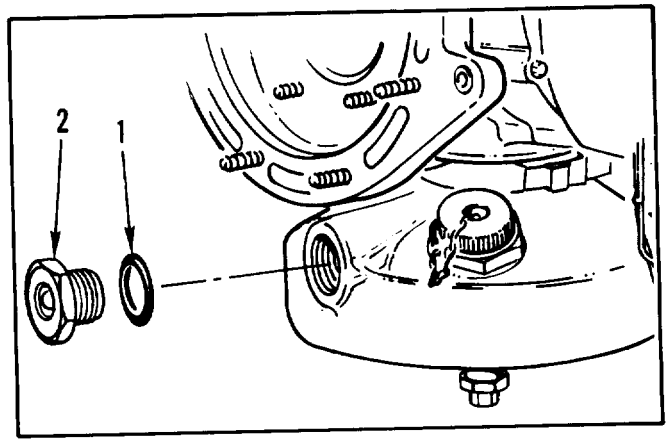
Parts:
Packing

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

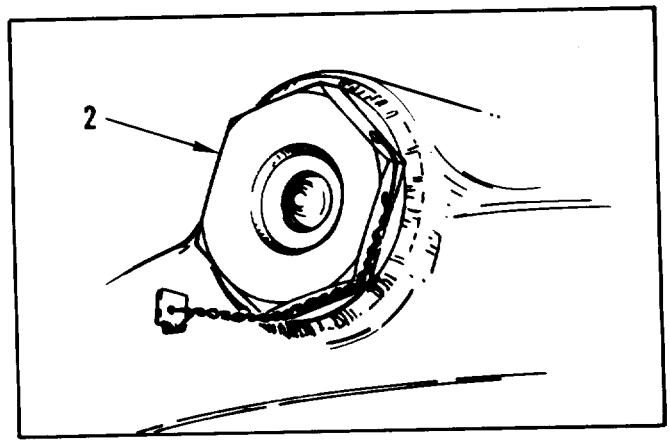
References:
TM 55-2835-205-23P



1. Install packing (1) on oil level gage (2).
2. Install oil level gage (2).



3. Lockwire oil level gage (2) using lockwire (E16).



INSPECT

FOLLOW-ON MAINTENANCE:
Install Magnetic Plug (Task 2-87).
Service Oil Sump (Task 2-84).

END OF TASK

2-81 REMOVE OIL SUMP AND BAFFLE PLATE

INITIAL SETUP

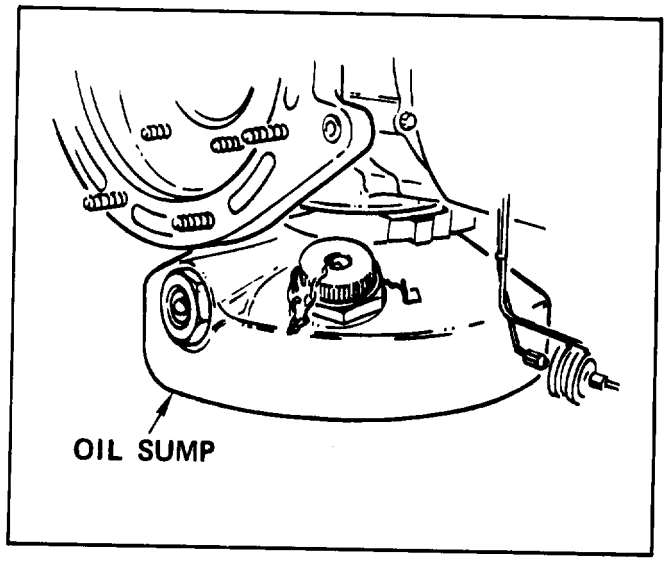
Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

Materials:
None

Personnel Required:
68B10 Aircraft Powerplant Repairer

Equipment Condition:
Drain Oil Sump (Task 2-85)



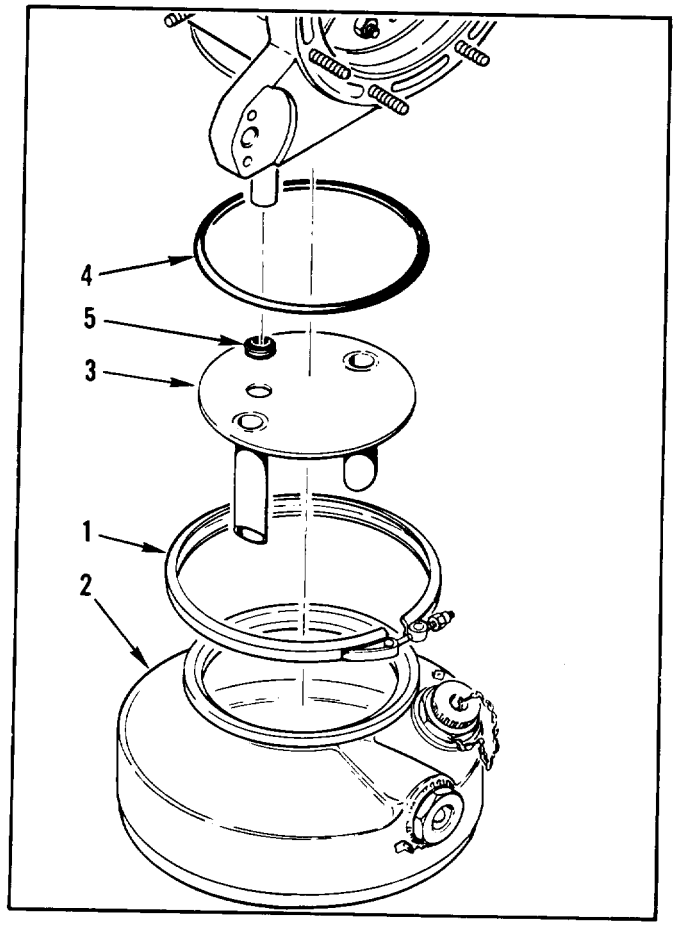
WARNING

Lubricating oil MI L-L-7808 and MI L-L-23699 contains materials hazardous to health, It produces paralysis if swallowed, Prolonged contact may irritate the skin, Wash hands thoroughly after handling. It may burn if exposed to heat and flames. Use only with adequate ventilation.

1. Loosen clamp (1).
2. Remove oil sump (2) and clamp (1).
3. Remove clamp (1) from oil sump (2).
4. Remove baffle plate (3) and packing (4).
5 Remove grommet (5).

FOLLOW-ON MAINTENANCE:
None

END OF TASK



2-82 CLEAN AND INSPECT OIL SUMP AND BAFFLE PLATE 2-82

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Torque Wrench, 0 to 30 inch-pounds
NSN 5120-00-117-4832
Rubber Gloves
NSN 8415-00-266-8677

Materials:
Dry-Cleaning Solvent (E20)
Lint-Free Cloth (E13)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

Equipment Condition:
Remove Oil Filler Cap Assembly (Task 2-71)
Remove Oil Level Gage (Task 2-78)
Off APU Task

WARNING

Dry-cleaning solvent (E20) is flammable and toxic. It can irritate skin and cause burns. Use only in well-ventilated area, away from heat and open flame. Wear gloves. In case of contact, immediately flush skin or eyes with water for at least 15 minutes. Get medical attention for eyes.

1. Wearing gloves, clean oil sump and baffle plate inside and outside with dry-cleaning solvent (E20). Use bristle brush to clean threads.

2. Allow solvent to drain. Dry oil sump and baffle plate with clean dry cloth (E13).

GO TO NEXT PAGE

2-82 CLEAN AND INSPECT OIL SUMP AND BAFFLE PLATE (Continued) 2-82

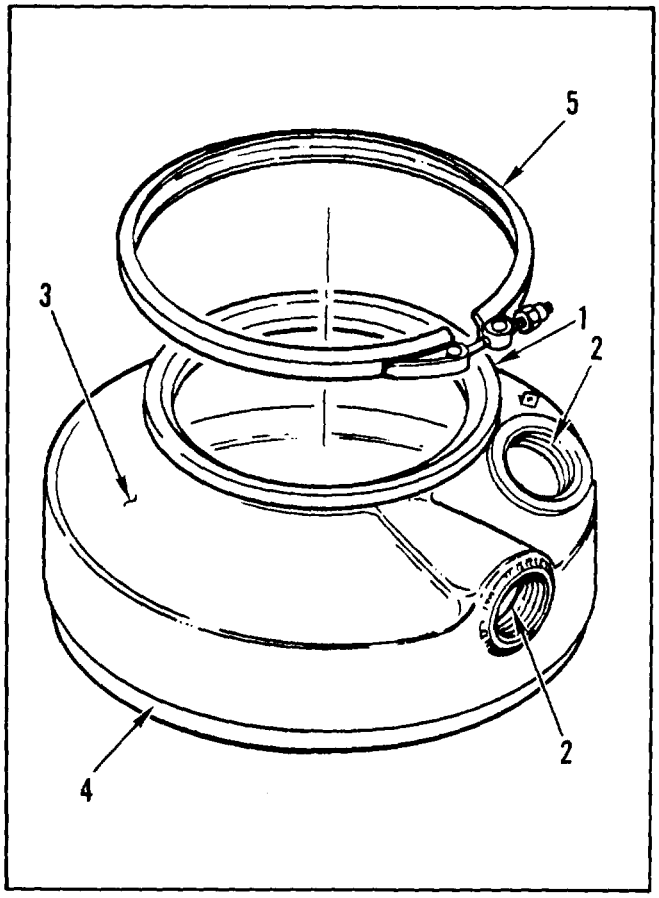
3. Inspect mounting ring (1) for dents and cracks. There shall be no dents or cracks.

4. Inspect threads (2) for damage. There shall be no damage.

5. Inspect sides, top, and bottom of oil sump (3) for cracks, or punctures. There shall be no cracks or punctures.

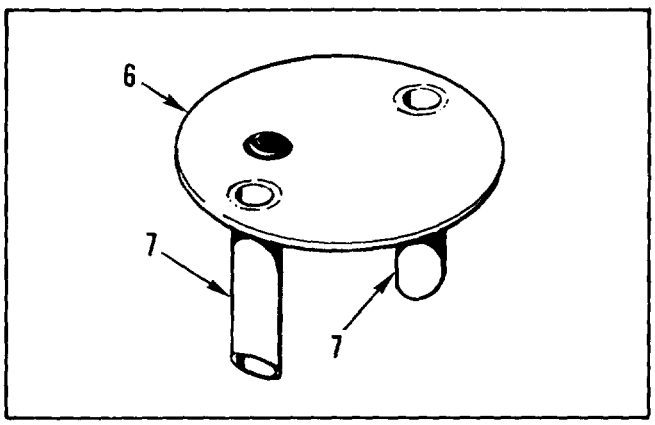
6. Inspect welded seam (4) for cracks. There shall be no cracks.

7. Inspect clamp (5) for cracks and distortion. There shall be no cracks or distortion. Check drag torque of nut. If drag torque is less than 2 inch-pounds, replace nut.



8. Inspect baffle plate (6) for cracks and bent tubes (7). There shall be no damage.

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-83 INSTALL OIL SUMP AND BAFFLE PLATE

INITIAL SETUP

Applicable Configurations:
All

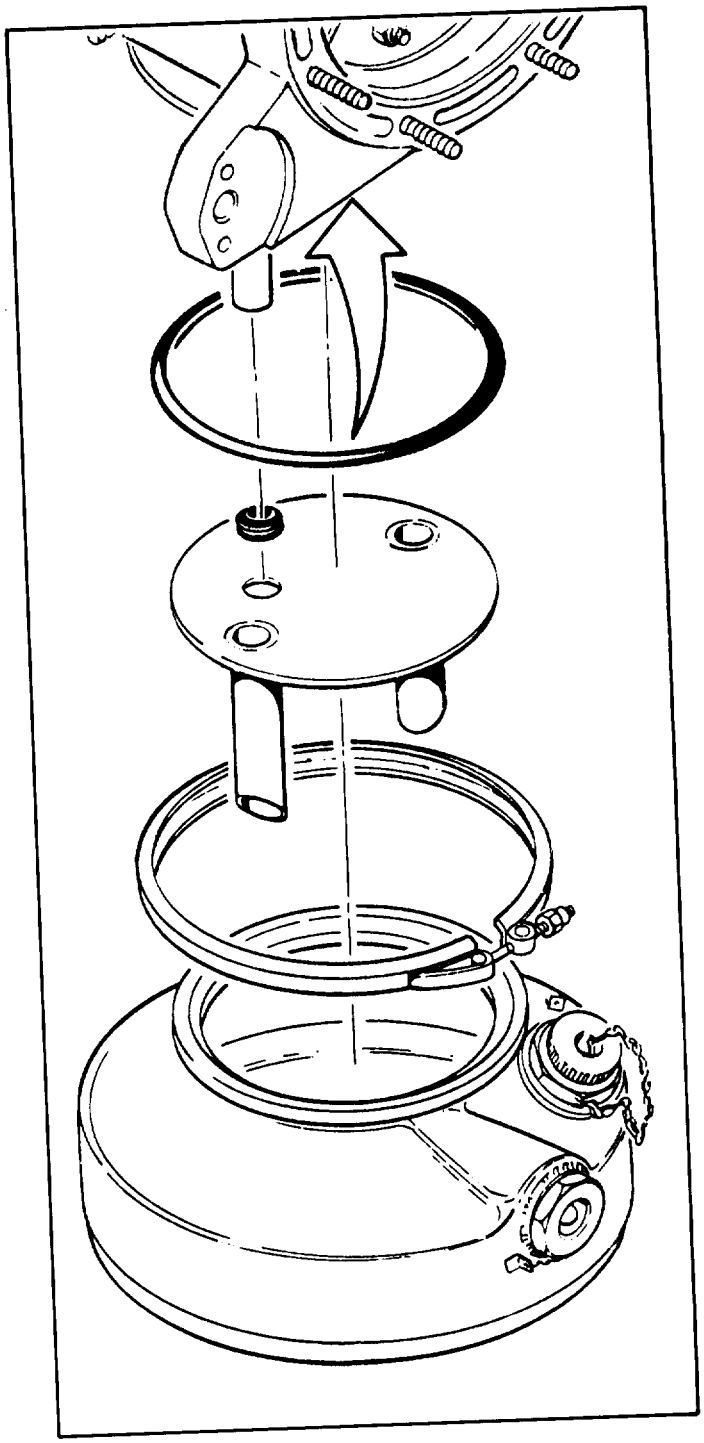
Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Torque Wrench, 0 to 30 inch-pounds
NSN 5120-00-117-4832

Materials:
None

Parts:
Packing
Grommet

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

References:
TM 55-2835-205-23P



GO TO NEXT PAGE

2-83 INSTALL OIL SUMP AND BAFFLE PLATE (Continued)

1. Install packing (1) in groove at bottom of reduction drive assembly (2).
2. Install grommet (3) in baffle plate (4).
3. Install baffle plate (4) over oil suction tube (5).
4. Install clamp (6) loosely on oil sump (7).

NOTE

Install oil sump with oil level gage facing right as shown.

5. Install oil sump (7) and tighten nut (8) until clamp is snug.

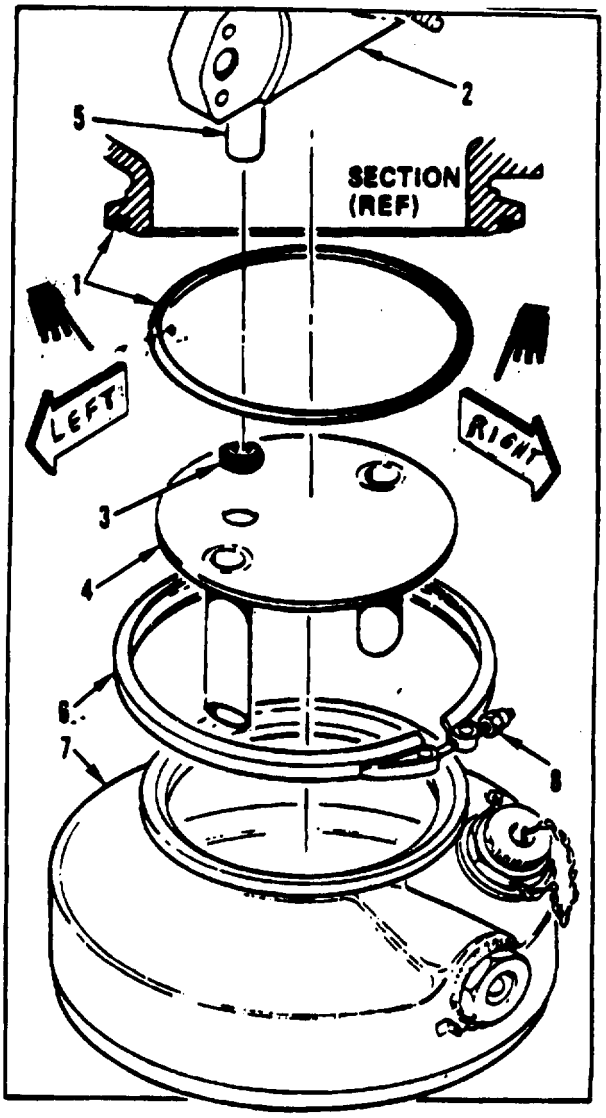
NOTE

Tap outer edge of clamp with rubber mallet while torquing to insure proper seating.

6. Torque nut (8) to 25 inch pounds.

INSPECT

FOLLOW-ON MAINTENANCE:
Service oil sump (Task 2-84).



END OF TASK

2-84 SERVICE OIL SUMP

INITIAL SETUP

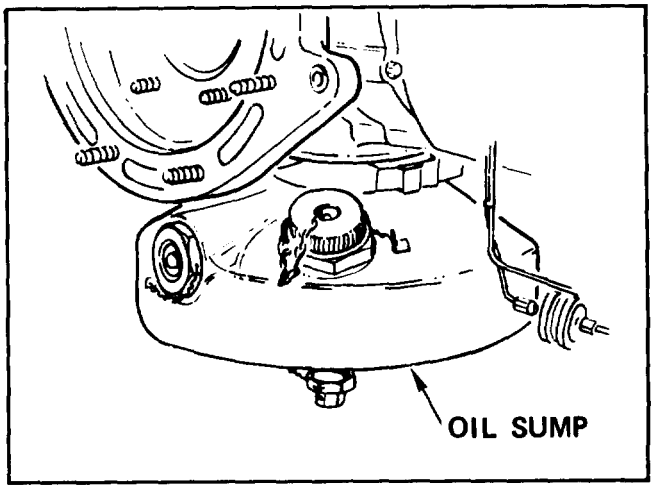
Applicable Configurations:
All

Tools:
Funnel
NSN 7240-00165-6924

Materials:
Oil (E23 or E24)

Personnel Required:
68610 Aircraft Powerplant Repairer

Equipment Condition:
Install Magnetic Plug (Task 2-87)

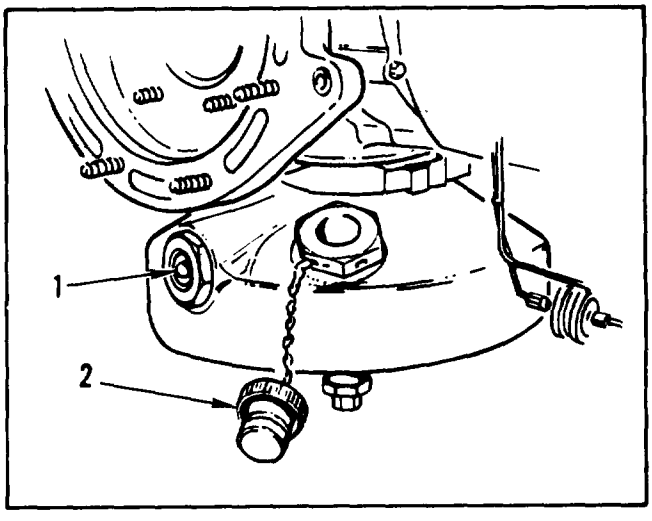


1. Check oil level sight gage (1).

NOTE

One pint of oil is required if oil is at low mark. Three quarts if oil sump has been drained. Oil (E24) is preferred for general use. Oil (E23) is preferred for artic use.

2. If oil is to be added, press down on filler cap (2), rotate 1/4 turn counterclock wise, and remove.



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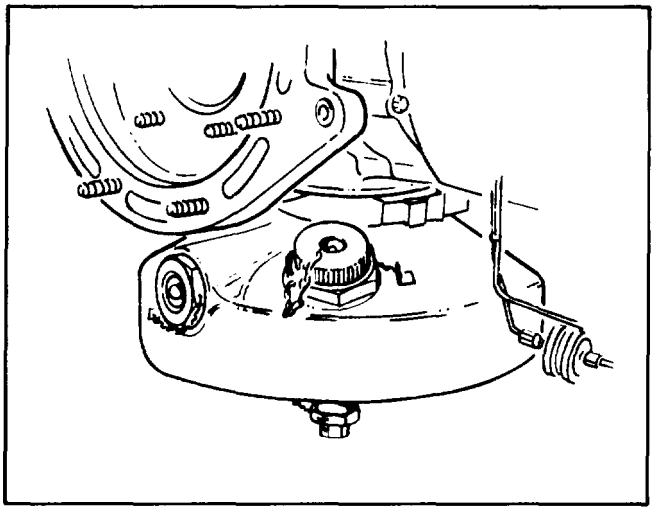


WARNING

Lubricating oil MIL-L-7808 and MIL-L-23699 contains materials hazardous to health. It produces paralysis if swallowed. Prolonged contact may irritate the skin. Wash hands thoroughly after handling. It may burn if exposed to heat or flames. Use only with adequate ventilation.

CAUTION

Do not overfill oil sump. Damage to APU can result.

CAUTION

Do not mix lubricating oils. If type oil is being changed, the oil sump must be drained (Task 2-85).

3. Add oil (E23 or E24).

4. Install filler cap (2).

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-85 DRAIN OIL SUMP

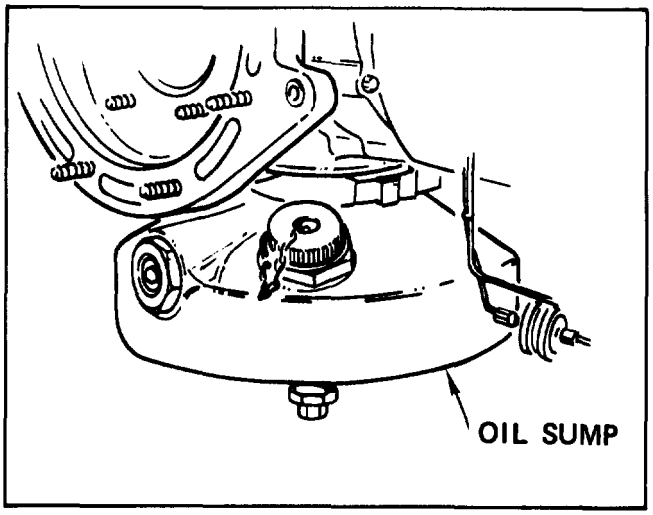
INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Container, 4 Quart Capacity

Materials:
None

Personnel Required:
68B10 Aircraft Powerplant Repairer

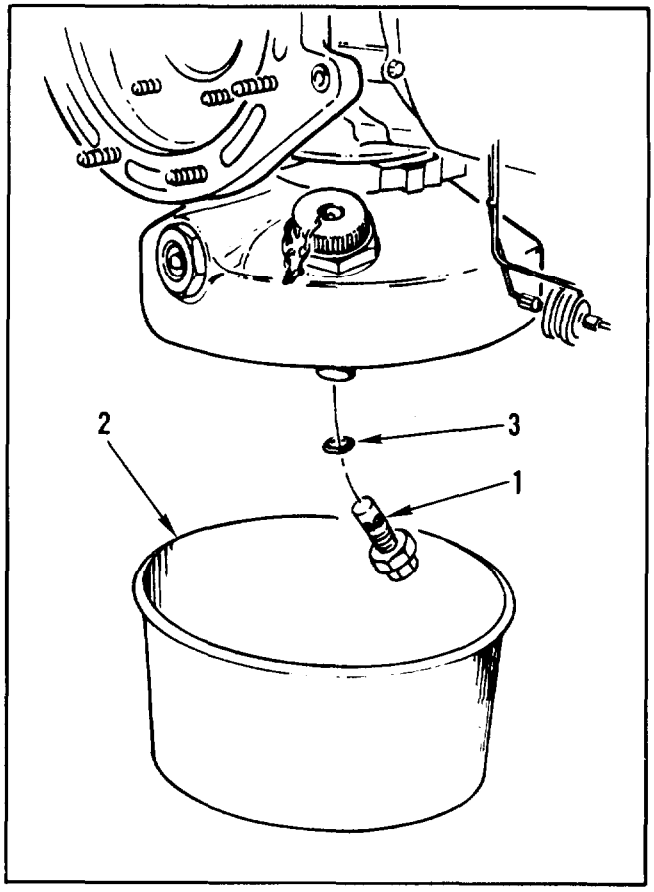


1. Remove lockwire from magnetic plug (1).
2. Place container (2) under oil sump.

WARNING

Lubricating oil MIL-L-7808 and MIL-L-23699 contains materials hazardous to health. It produces paralysis if swallowed. Prolonged contact may irritate the skin. Wash hands thoroughly after handling. It may burn if exposed to heat or flames. Use only with adequate ventilation.

3. Remove magnetic plug (1) and packing (3). Let oil drain into container until dripping stops.
4. Dispose of drained oil in authorized manner.



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-86 CLEAN AND INSPECT MAGNETIC PLUG 2-86

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Rubber Gloves
NSN 8415-00-266-8677
Container

Materials:
Dry-Cleaning Solvent (E20)
Lint-Free Cloth (E13)

Parts:
Packing

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

References:
TM 55-2835-205-23P

Equipment Condition:
Off APU Task

1. Remove magnetic plug (1) and packing (2) from self-closing valve (3).

2. Inspect magnetic plug (1) for metal particles. If metal particles are found, call inspector.

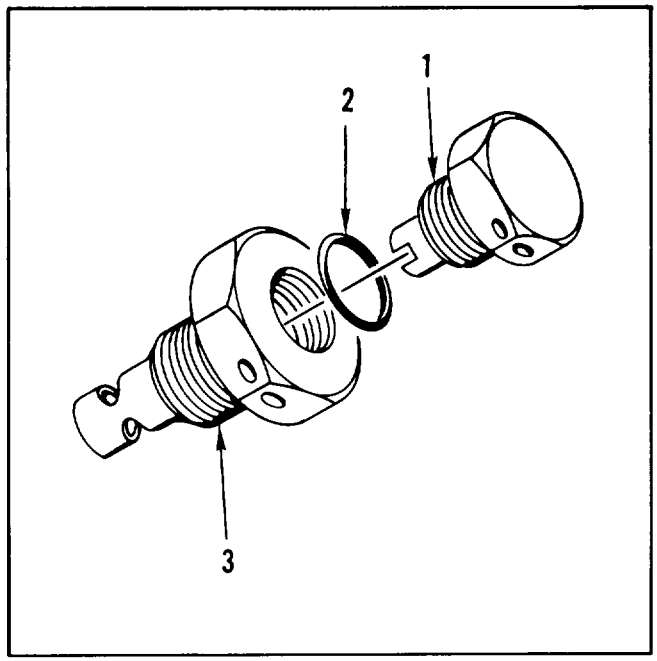
WARNING

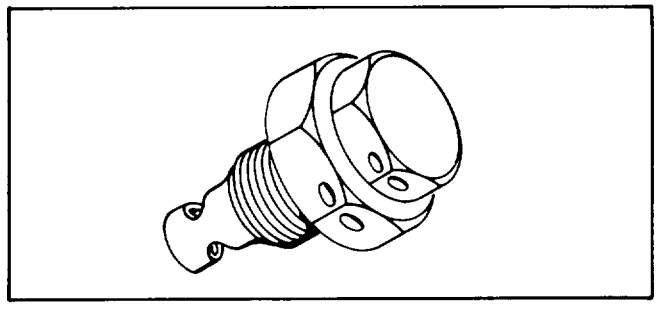
Dry-cleaning solvent (E20) is flammable and toxic. It can irritate skin and cause burns. Use only in well-ventilated area, away from heat and open flame. Wear gloves. In case of contact, immediately flush skin or eyes with water for at least 15 minutes. Get medical attention for eyes.

3. Wearing gloves, clean magnetic plug (1) and self-closing valve (3) with dry-cleaning solvent (E20). Dry with cloth (E13).

4. Check that magnetic plug (1) will hold its own weight when magnetically attached to a steel surface. Replace if weak,

5. Install packing (2) on magnetic plug. Install magnetic plug.





FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-87 INSTALL MAGNETIC PLUG 2-87

INITIAL SETUP

Applicable Configurations:
All

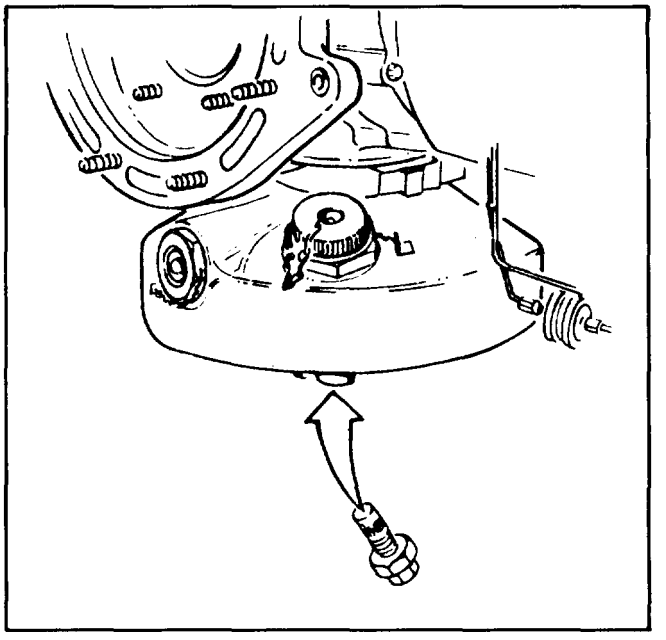
Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

Materials:
Lockwire (E16)

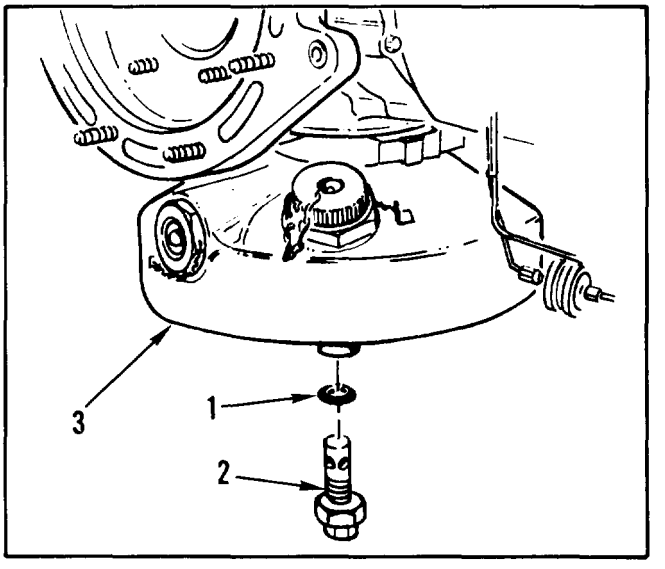
Parts:
Packing

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

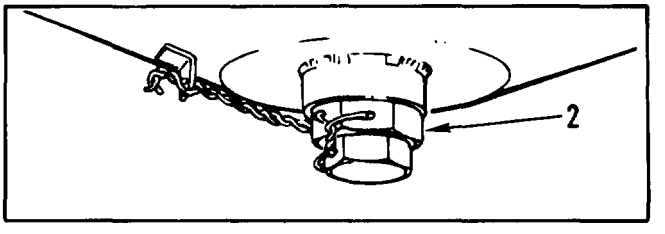
References:
TM 55-2835-205-23P



1. Install packing (1) on magnetic plug (2).
2. Install magnetic plug (2) in oil sump 3).



3. Lockwire magnetic plug (2), two places, using lockwire (E16).



INSPECT

FOLLOW-ON MAINTENANCE:
Service oil sump (Task 2-84).

END OF TASK

2-88 REMOVE REDUCTION DRIVE ASSEMBLY (AVIM)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

Materials:
Colorbrite Pencil (E14)

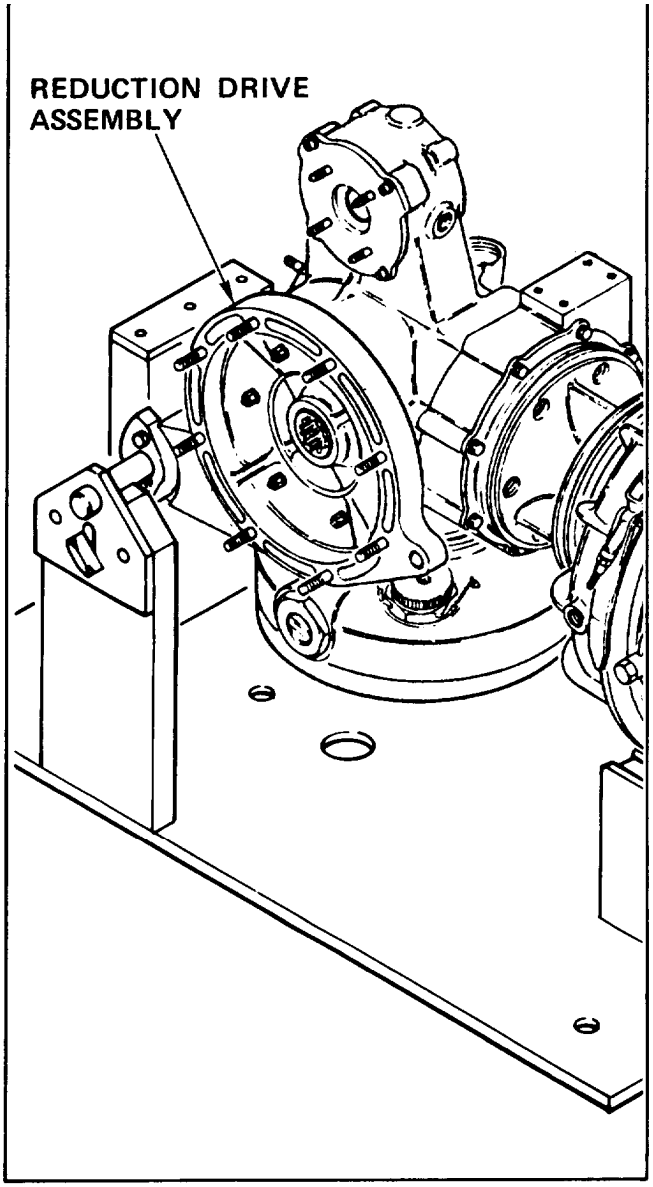
Personnel Required:
68B10 Aircraft Powerplant Repairer (2)

Equipment Condition:
Drain Oil Sump (Task 2-85)
Remove EIectrical Harness (Task 2-66)
Remove Pressure Fluid Filter (Task 2-30)
Remove Magnetic Pickup (Task 2-68)
Remove Main Fuel Valve Assembly (Task 2-43)
Remove Fuel Control (Task 2-22)
Remove Air Screen Assembly (Task 2-1)
Remove External Lines and Fittings (Task 2-54)

General Safety Precautions:

WARNING

Lubricating oil MIL-L-7808 and MIL-L-23699 contains materials hazardous to health. It produces paralysis if swallowed. Prolonged contact may irritate the skin. Wash hands thoroughly after handling. It may burn if exposed to heat or flames. Use only with adequate ventilation.



GO TO NEXT PAGE

2-88 REMOVE REDUCTION DRIVE ASSEMBLY (Continued)

1. Turn APU to vertical position.

CAUTION

Do not use pencil or scribes. Damage to equipment will result.

NOTE

Barrier material must be temporarily removed from air inlet to perform this task

2. Matchmark turbine assembly (1) and reduction drive assembly (2) with colorbrite pencil (E14).

3. Remove six bolts (3) and packings with retainer (4).

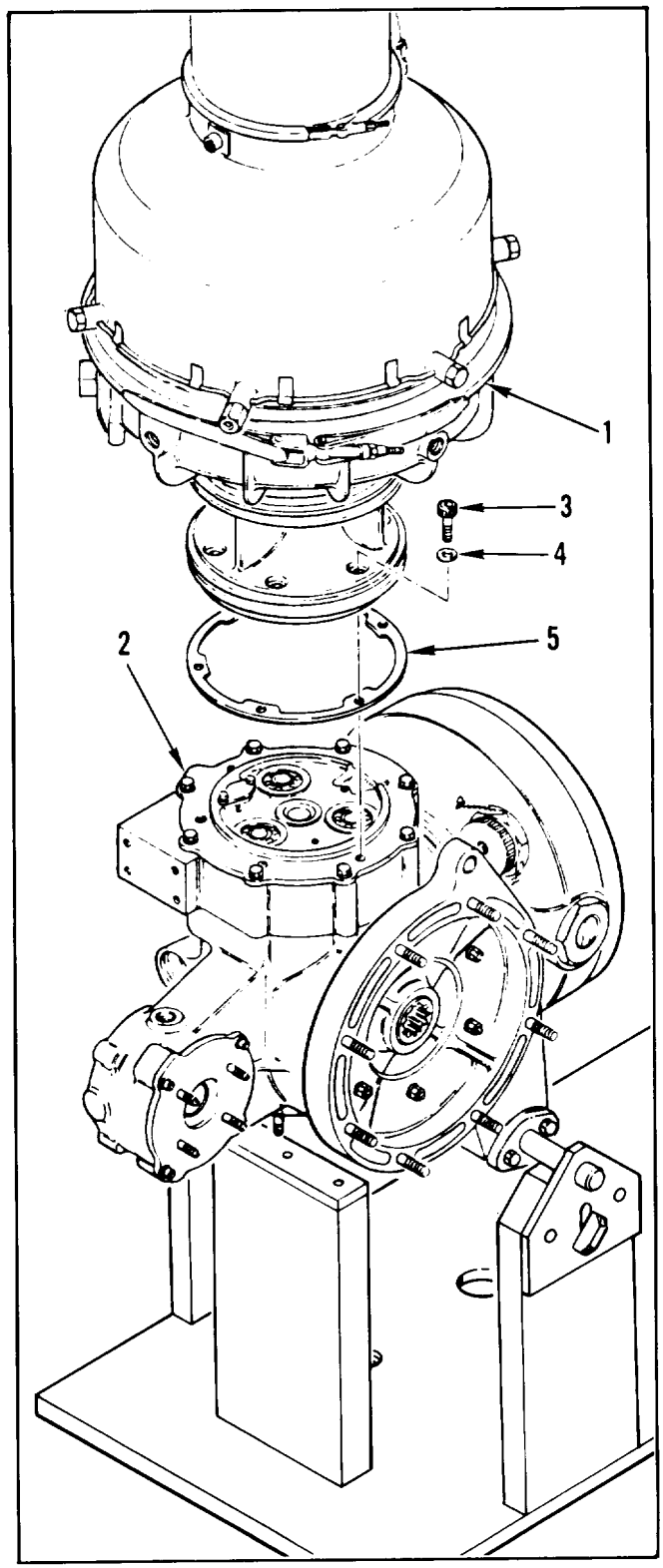
4, With helper, carefully lift turbine assembly (1) from reduction drive assembly (2).

5, Place turbine assembly (1) on workbench.

6. Remove gasket (5).

NOTE

Replacement of the reduction drive assembly requires that the APU identification plate be transferred to the serviceable reduction drive assembly.

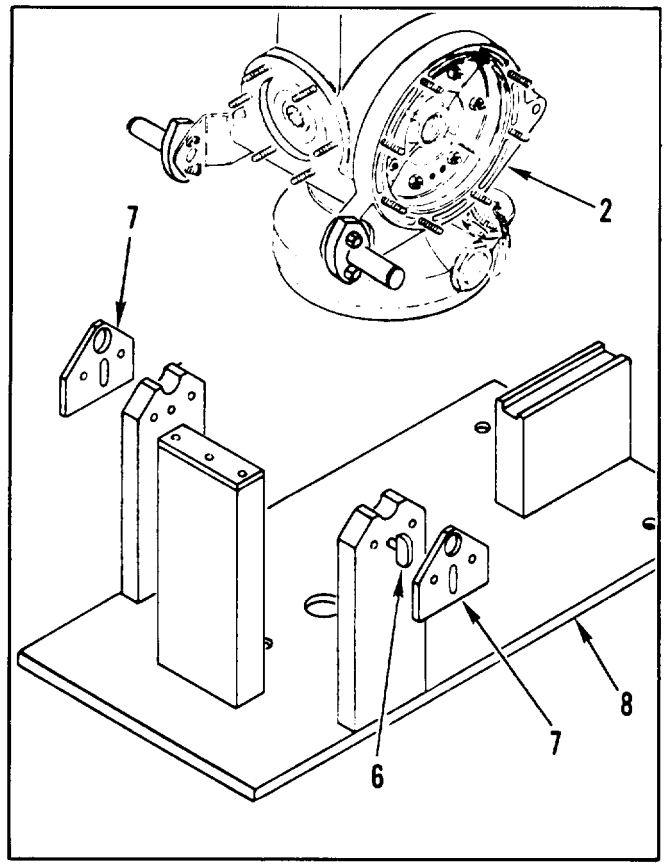


GO TO NEXT PAGE

2-88 REMOVE REDUCTION DRIVE ASSEMBLY (AVIM) (Continued) 2-88

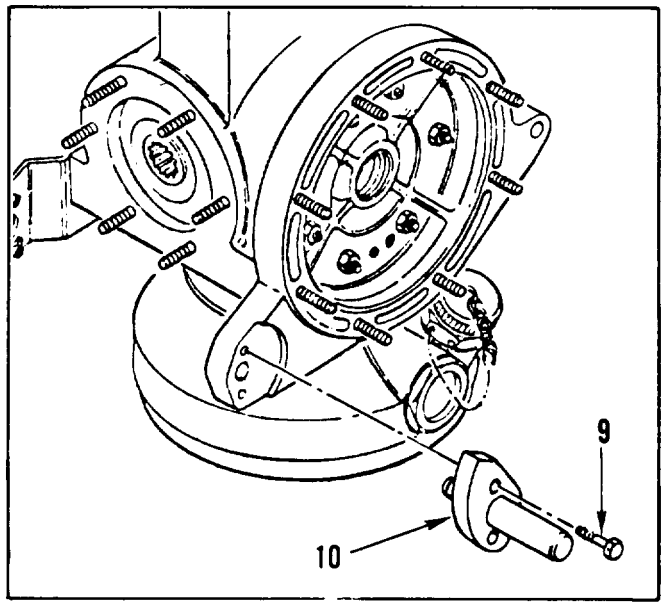
7. Turn quarter turn screws (6) and remove trunnion plates (7).

8. Lift reduction drive assembly (2) from assembly fixture (8).



9. Remove four cap screws (9) and two trunnions (10).

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-89 CLEAN AND INSPECT REDUCTION DRIVE ASSEMBLY 2-89

INITIAL SETUP

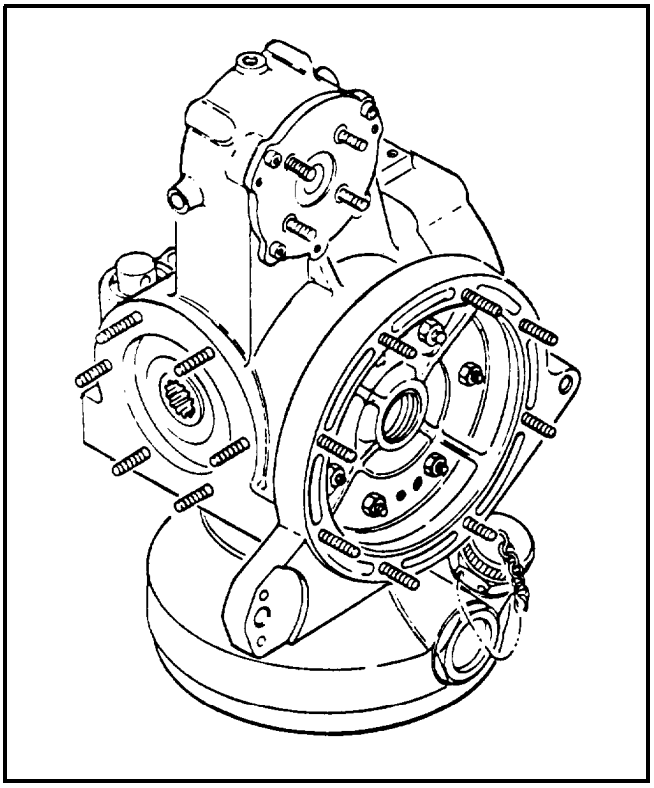
Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Rubber Gloves
NSN 8415-00-266-8677
Container

Materials:
Dry-Cleaning Solvent (E20)
Lint-Free Cloth (E13)

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

Equipment Condition:
Remove Reduction Drive Assembly (Task 2-88)



WARNING

Dry-cleaning solvent (E20) is flammable and toxic. It can irritate skin and cause burns. Use only in well-ventilated area away from heat and open flame, Wear gloves. In case of contact, immediately flush skin or eyes with water for at least 15 minutes. Get medical attention for eyes.

1. Wearing gloves, clean reduction drive assembly with bristle brush and dry-cleaning solvent (E20).

2. Wipe dry with lint-free cloth (E13).

GO TO NEXT PAGE

2-89 CLEAN AND INSPECT REDUCTION DRIVE ASSEMBLY (Continued)

3. Inspect studs (1) for stripped threads. Check for broken or loose studs. If stud is stripped, broken, or loose, work order to AVIM.

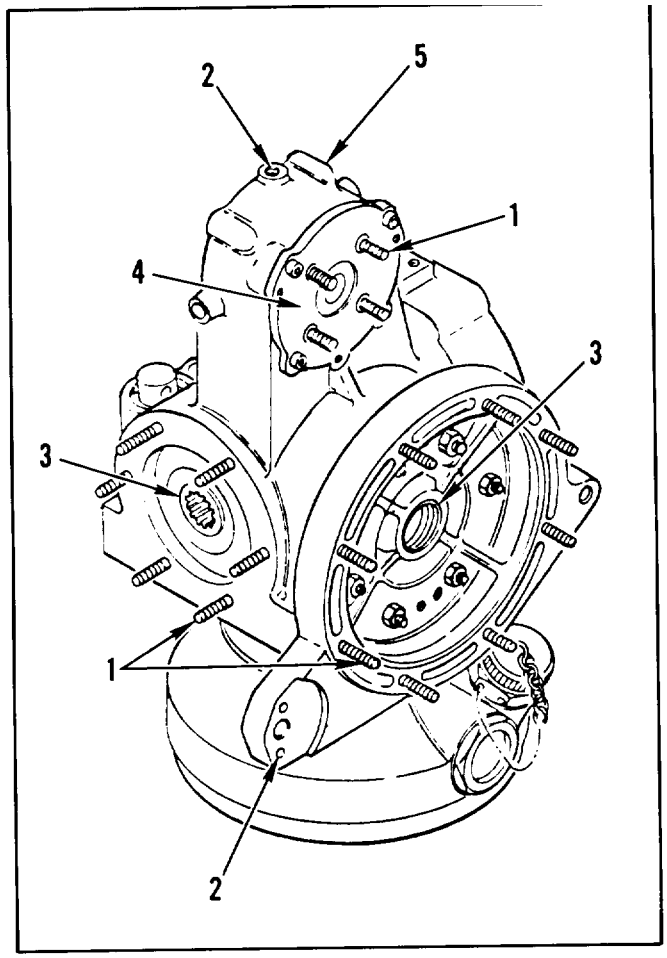
4. Inspect screw thread inserts (2) for looseness or damage. If loose or damaged, work order to AVIM.

5. Inspect shaft seals (3) for oil leakage. If seal is leaking, work order to AVIM.

6. Inspect for oil leakage at mounting face (4) of fuel control. If oil leakage is found, work order to AVIM.

7. Insect housing (5) for cracks. If a crack is found, work order to AVIM.

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-90 REMOVE RH SUPPORT

INITIAL SETUP

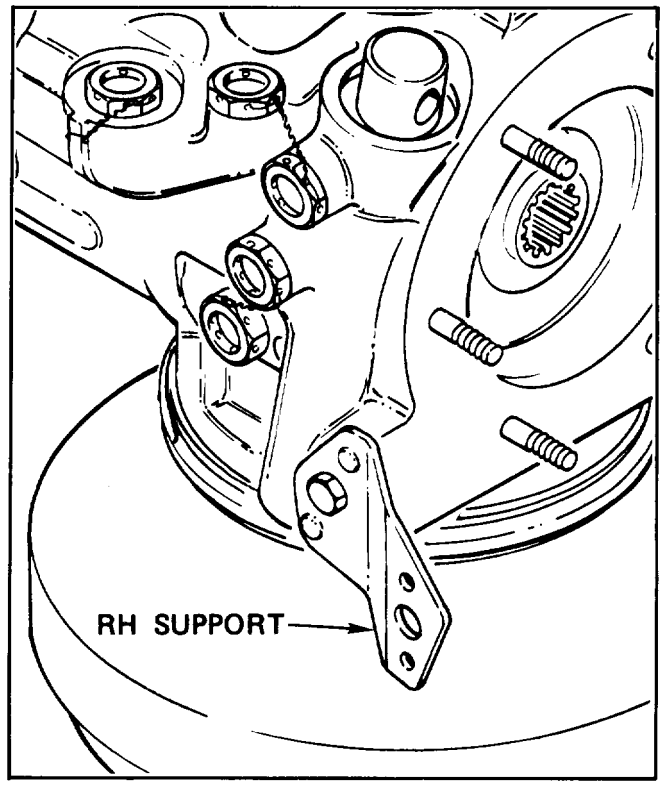
Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

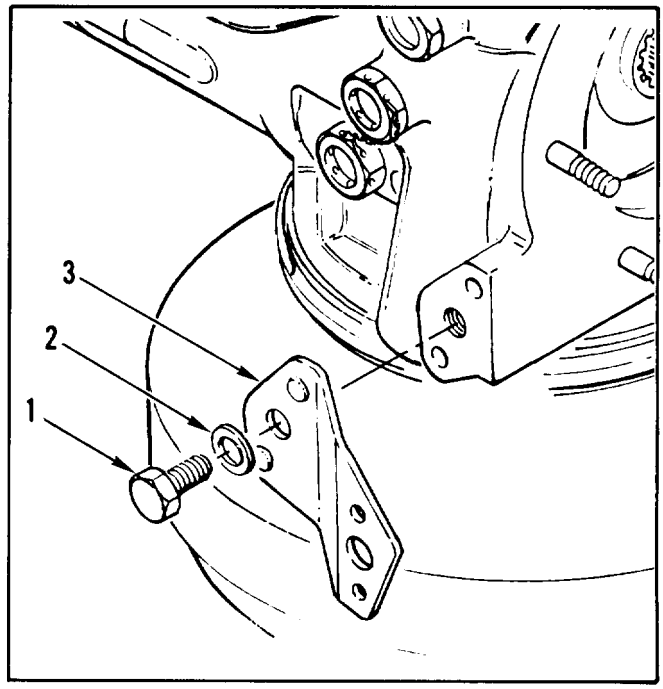
Materials:
None

Personnel Required:
68B10 Aircraft Powerplant Repairer

Equipment Condition:
Hoist APU (Task (1-24)



1. Remove bolt (1), washer (2), and RH support (3).



FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-91 INSTALL RH SUPPORT

INITIAL SETUP

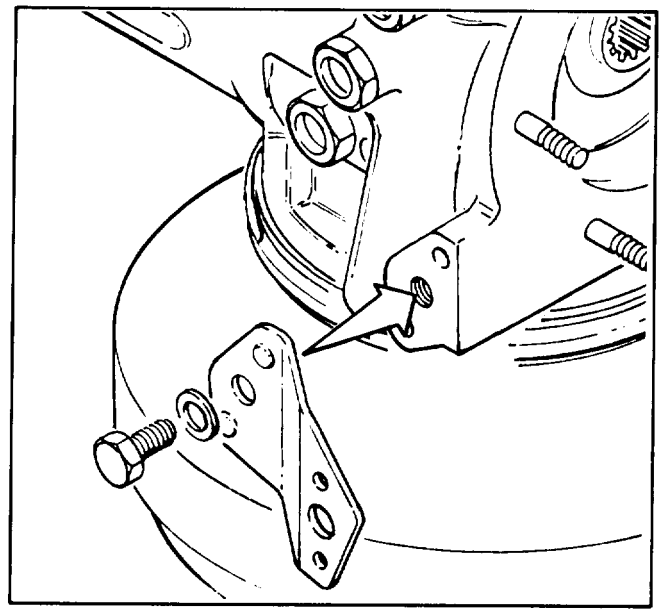
Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114

Materials:
None

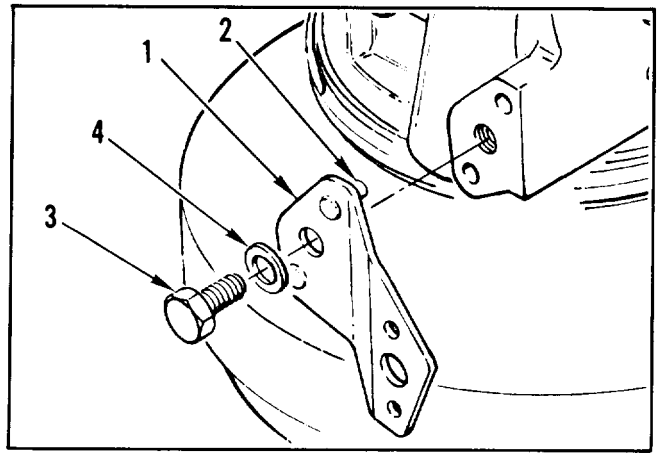
Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

Equipment Condition:
Hoist APU (Task 1-24)



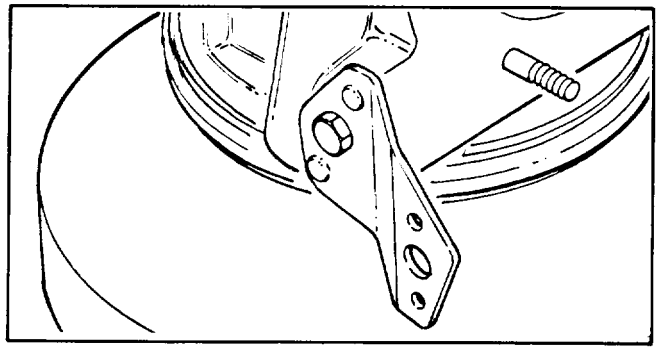
1. Install RH support (1), inserting two locator pins (2) in reduction drive assembly.

2. Install bolt (3) and washer (4).



INSPECT

FOLLOW-ON MAINTENANCE:
None



END OF TASK

2-92 REMOVE OIL PLUGS

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944

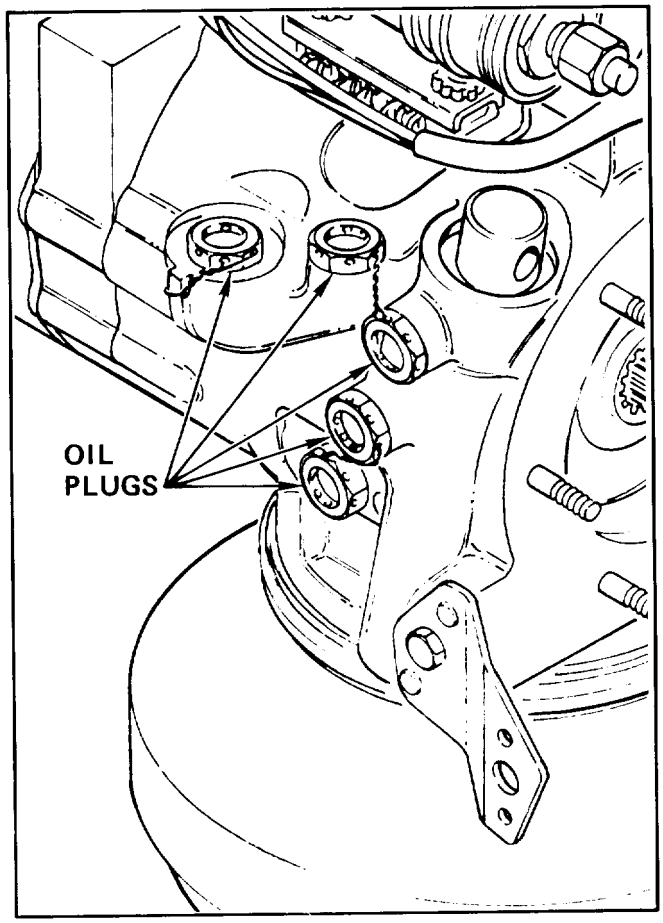
Materials:
Lint-Free Cloth (E13)

Personnel Required:
68B10 Aircraft Powerplant Repairer

General Safety Precautions:

WARNING

Lubricating oil MIL-L-7808 and MIL-L-23699 contains materials hazardous to health. It produces paralysis if swallowed. Prolonged contact may irritate the skin. Wash hands thoroughly after handling. It may burn if exposed to heat or flames. Use only with adequate ventilation.



1. Remove lockwire.
2. Remove oil plugs (1) and packings (2), as required.
3. Remove spilled oil with cloth (E13).

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-93 INSTALL OIL PLUGS

INITIAL SETUP

Applicable Configurations:
All

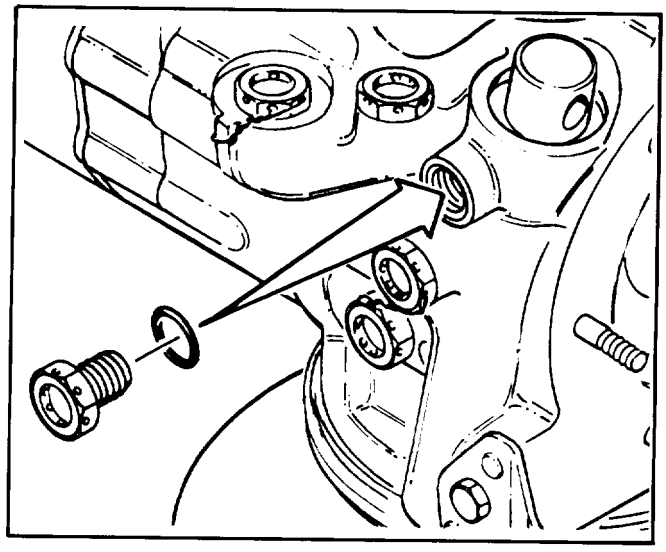
Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-325-5114

Materials:
Lockwire (E16)

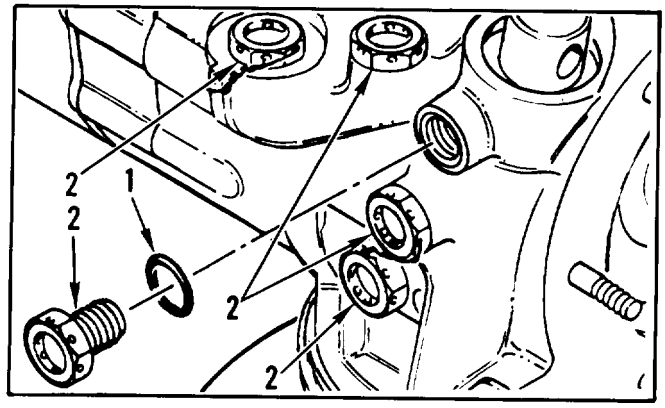
Parts:
Packings

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

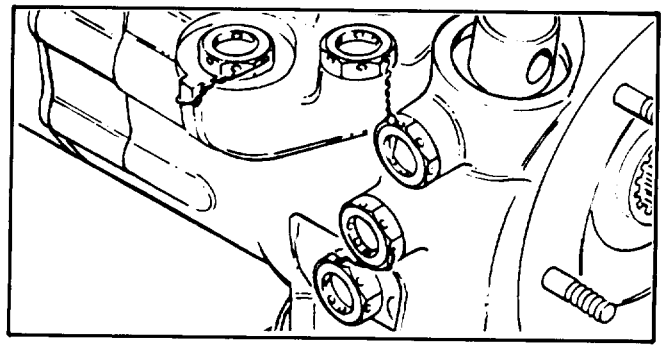
References:
TM 55-2835-205-23P



1. Install packing (1) on oil plug (2).
2. Install oil plug (2).



3. Lockwire using lockwire (E16).



INSPECT

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-94 REPLACE STUDS AND INSERTS (AVIM)

INITIAL SETUP

Applicable Configurations:
All

Tools:
AVIM Machine Shop Set
NSN 4920-00-405-9279
Aircraft Inspector's Tool Kit
NSN 5180-00-325-5114

Materials:
None

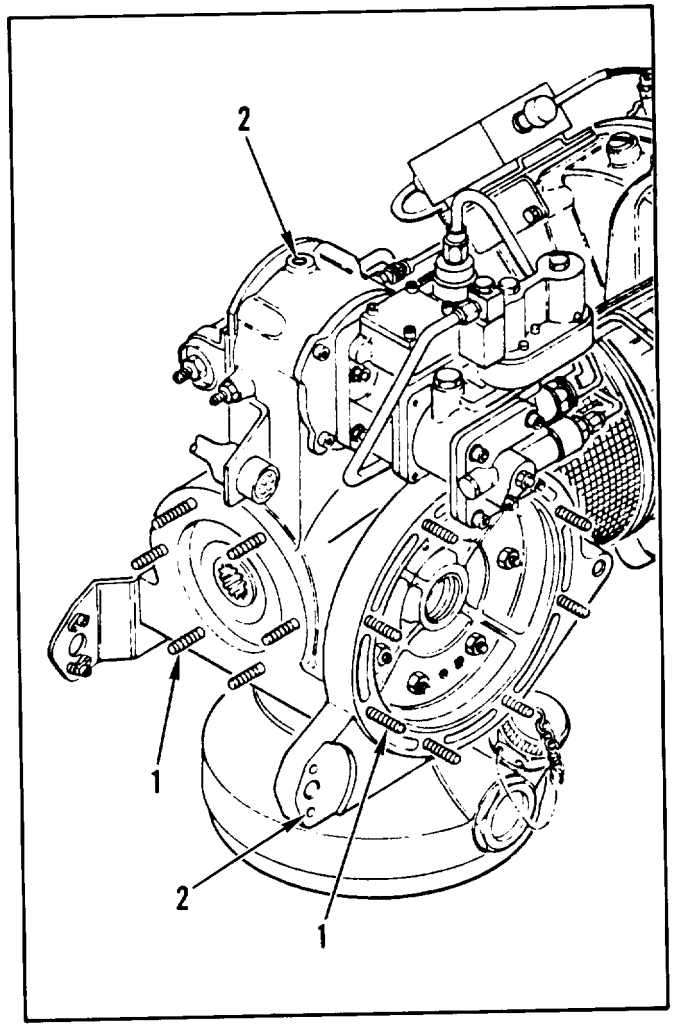
Parts:
Lock Ring
Stud
Screw Thread Insert

Personnel Required:
44E20 Machinist
68B30 Powerplant Inspector

References:
TM 55-2835-205-23P
TM 55-1500-204-25/1

1. Replace stripped, broken or loose studs (1) in accordance with TM 55-1500-205-25/1.

2. Replace loose or damaged inserts (2) in accordance with TM 55-1500-204-25/1.



INSPECT

FOLLOW-ON MAINTENANCE:
None

END OF TASK

2-95 REPLACE OIL SEALS (AVIM)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
AVUM Tool Set No. 2
NSN 4920-00-569-0476
Seal Puller (T6)
Seal Driver (T7)
Seal Driver (T8)

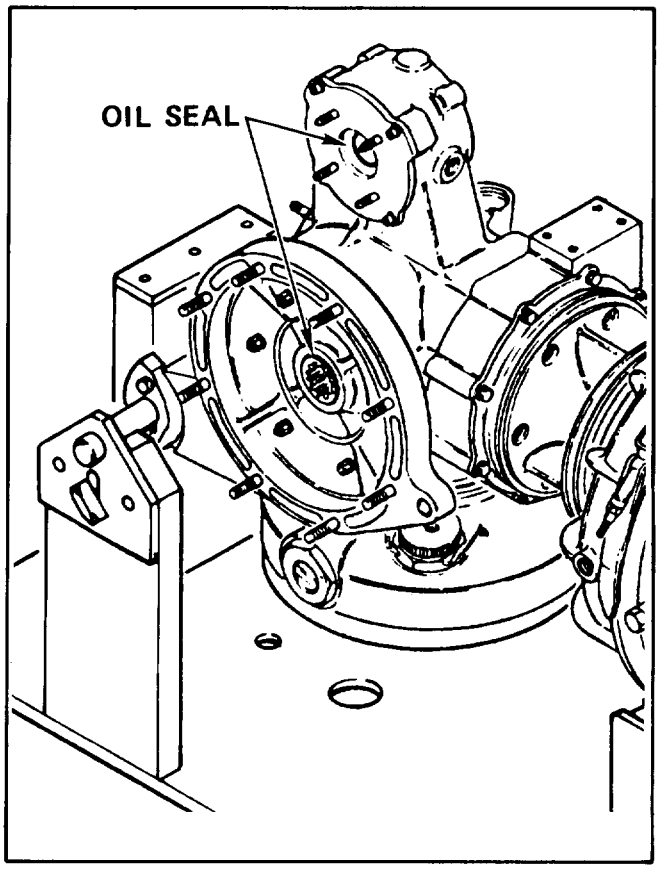
Materials:
None

Parts:
Seal

Personnel Required:
68B10 Aircraft Powerplant Repairer
68B30 Powerplant Inspector

References:
TM 55-2835-205-23P

Equipment Condition:
Remove Fuel Control (Task 2-22)

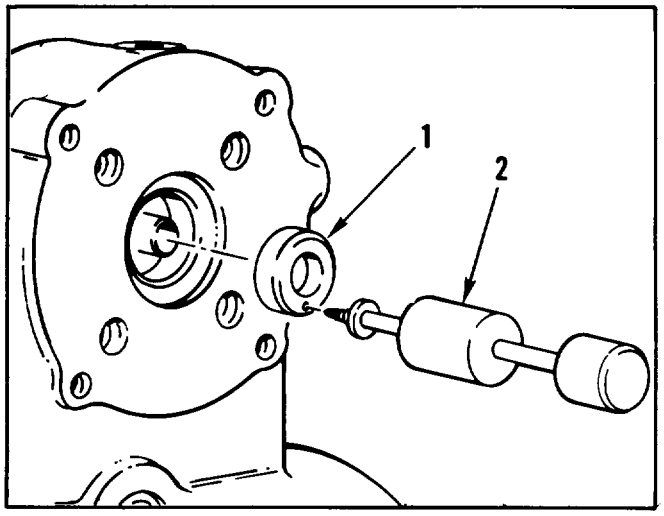


NOTE

The procedure for removing all oil seals is the same.

1. Drill 0.1250 inch diameter hole into aluminum casing of oil seal (1). Do not drill through seal.

2. Screw seal puller (T6) (2) into drilled hole. Operate slide hammer to pull out oil seal (1).



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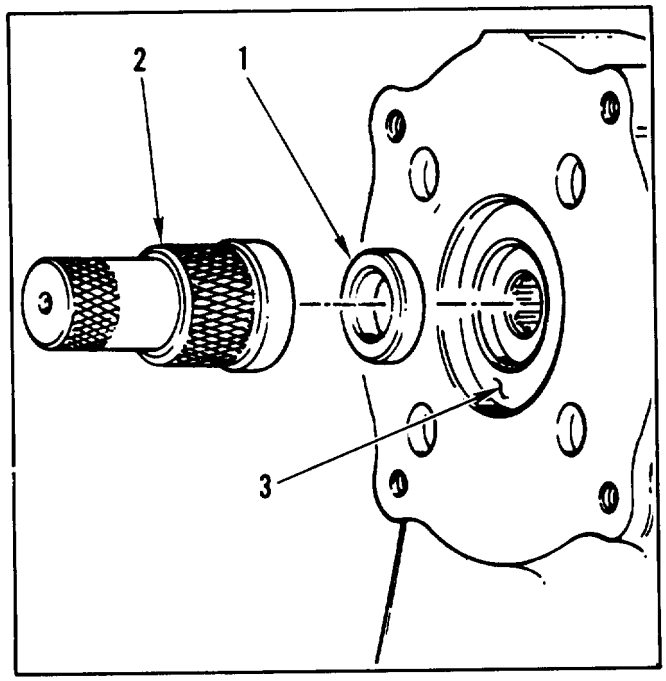
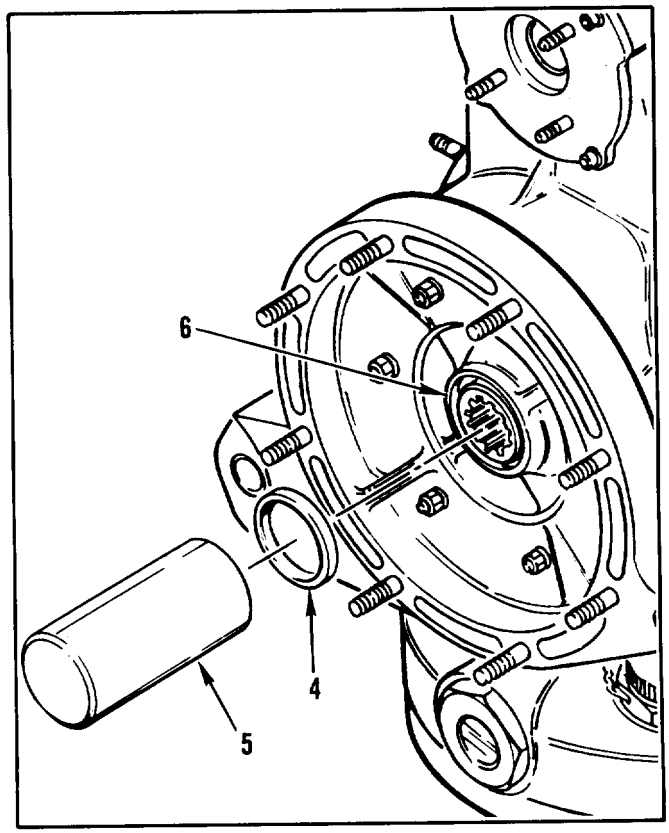
2-95 REPLACE OIL SEALS (AVIM) (Continued)

3. Position oil seal (1) over shaft. Use seal driver (T7) (2) to drive in seal until flush with face (3) of housing within 0.010 inch.



4. Position oil seal (4) over shaft. Use seal driver (T8) (5) to drive in seal until flush with face (6) of housing within 0.010 inch.



INSPECT

FOLLOW-ON MAINTENANCE:
Install Fuel Control (Task 2-25)

END OF TASK

2-96 INSTALL REDUCTION DRIVE ASSEMBLY (AVIM)

INITIAL SETUP

Applicable Configurations:
All

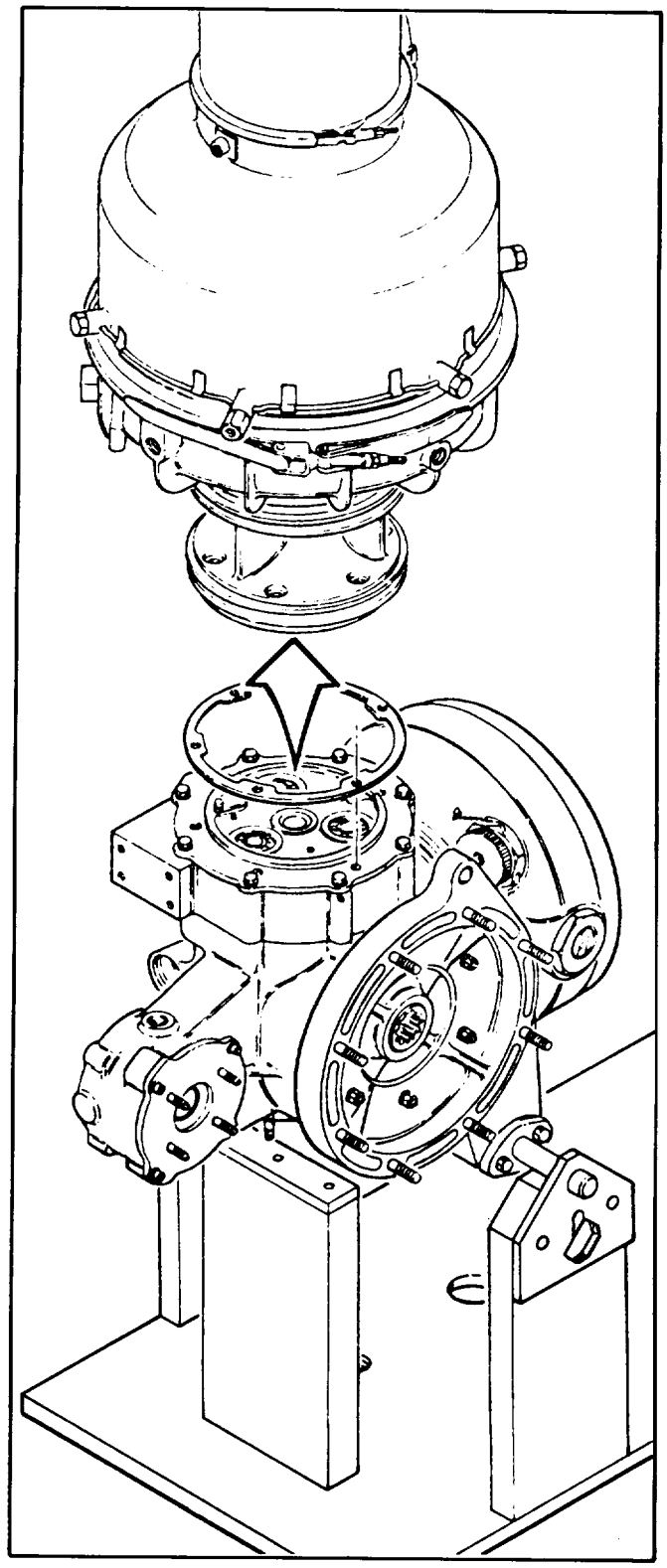
Tools:
Engine Repairman's Tool Kit
NSN 5180-00-323-4944
Aircraft Inspector's Tool Kit
NSN 5180-00-323-5114
Torque Wrench, 30 to 150 inch-pounds
NSN 5120-00-542-4489

Materials:
Bolt (E25)

Parts:
Bolts
Packings with Retainer
Gasket

Personnel Required:
68B10 Aircraft Powerplant Repairer (2)
68B30 Powerplant Inspector

References:
TM 55-2835-205-23P



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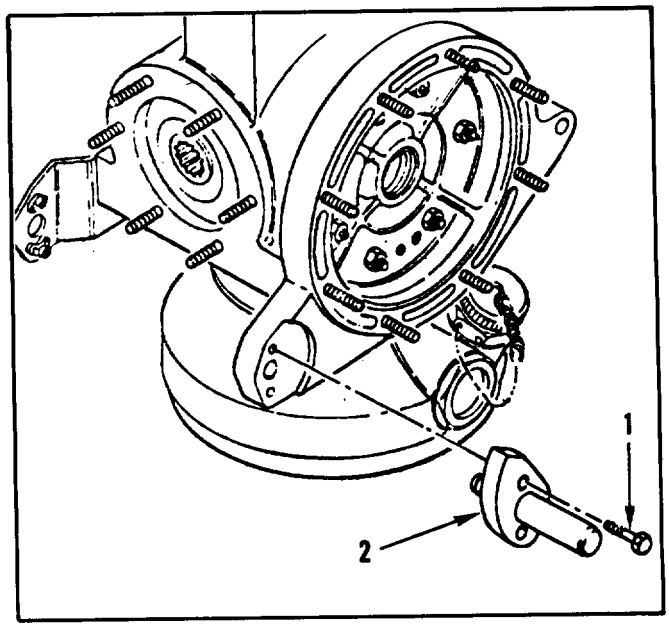
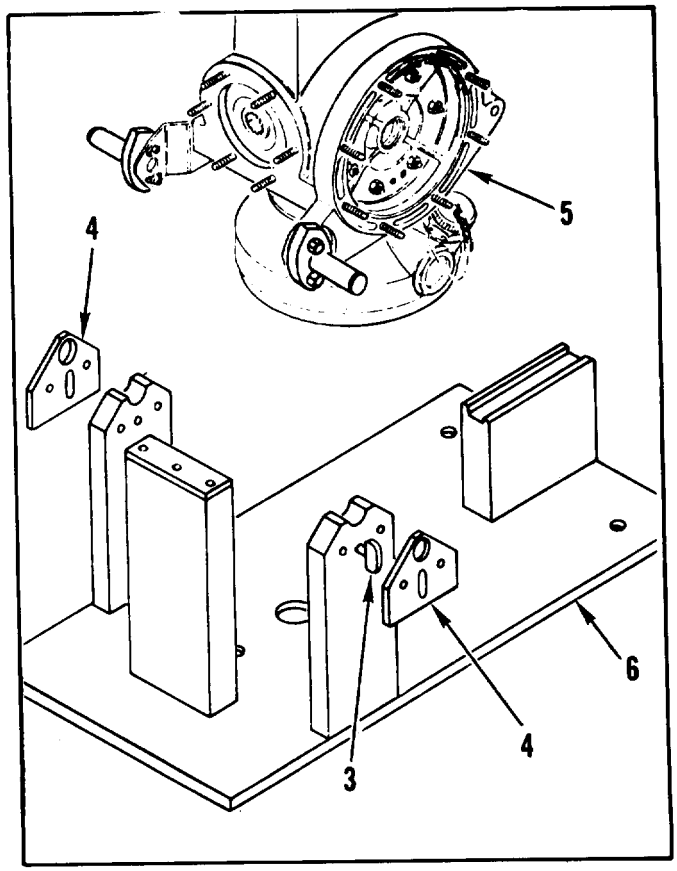
2-96 INSTALL REDUCTION DRIVE ASSEMBLY (AVIM) (Continued)

1. Install trunnions (2) and four bolts (E25).



2. Turn quarter turn screws (3) and remove trunnion plates (4).
3. Install reduction drive assembly (5) in assembly fixture (6).
4. Install trunnion plates (4) and turn quarter turn screws (3).



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2-96 INSTALL REDUCTION DRIVE ASSEMBLY (AVIM) (Continued)

5. Turn reduction drive assembly to vertical position.

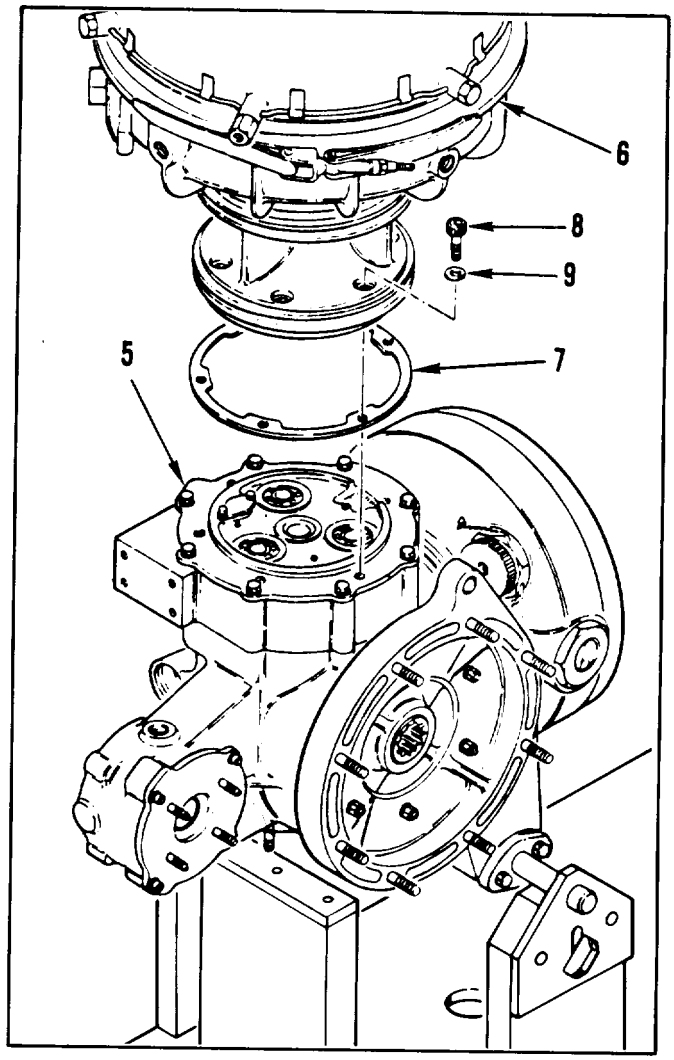
NOTE

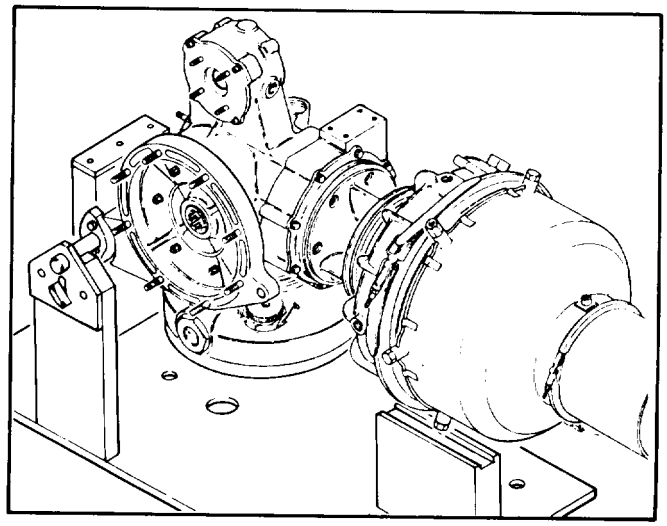
Be sure that mounting surfaces are clean.

6. Place gasket (7) on reduction drive assembly .
7. Using helper, align match marks on reduction drive assembly (5) and turbine assembly (6) and carefully install turbine assembly.
8. Install six bolts (8) and packings with retainer
9. Torque bolts (8) to 60 inch-pounds.
10. Turn APU to horizontal position.

INSPECT

FOLLOW-ON MAINTENANCE:
Install Air Screen Assembly (Task 2-4).
Install Fuel Control (Task 2-25).
Install Main Fuel Valve Assembly (Task 2-45).
Install External Lines and Fittings (Task 2-54).
Install Magnetic Pickup (Task 2-70).
Install Pressure Fluid Filter (Task 2-31).
Install Electrical Harness (Task 2-67).
Service Oil Sump (Task 2-84).





END OF TASK

APPENDIX A

REFERENCES

A-1. DA Technical Bulletins

TB 55-8100-200-24	Maintenance of Specialized Reusable Containers for Aircraft Equipment

A-2. DA Technical Manuals

TM 38-750	The Army Maintenance Management System (TAMMS)
TM 43-0002-1	Prccedure for Destruction of Air Support Delivery Equipment to Prevent Enemy Use
TM 55-1520-240-23	Aviation Unit and Intermediate Maintenance, CH-47D Helicopter
TM 55-2835-205-23P	Aviation Unit and Intermediate Maintenance Repair Parts and Special Tools List (including Depot Maintenance Repair Parts and Special Tools) for Gas Turbine Engine (Auxiliary Power Unit – APU) Model T-62T-2B

A-3. DA Field Manuals

FM 21-11	First Aid for Soldiers Maintenance
FM 55-411	Maintenance, Quality Control, and Technical Inspection Guide for Army Aircraft

A-4. Specifications and Standards

MIL-B-121	Barrier Material, Greaseproofed, Waterproofed, Flexible
MIL-B-15395	Brazing Alloy, Silver
MIL-S-23190	Strap, Cable, Adjustable, Plastic
MIL-L-23699	Lubricating Oil, Aircraft Turbine Engines, Synthetic Base
MIL-D-3464	Desiccants, Activated, Bagged, Packaging Use and Static Dehumidification

A-4. Specifications and Standards (Continued)

MIL-G-4343	Grease, Pneumatic System
MIL-C-5646	Cloth, Airplane, Cotton
MIL-F-7516	Fluxes, Welding, Corrosion and Heat Resistant Alloy
MIL-L-7808	Lubricating Oil, Aircraft Turbine Engines, Synthetic Base
H-B-00621	Brush, Stencil
O-F-499	Flux, Brazing, Silver Alloy, Low Melting Point
P-D-680	Dry Cleaning Solvent
P-S-624	Soap, Toilet, Liquid and Paste
TT-M-261	Methyl-Ethyl-Ketone
U U-T- 106	Tape, Pressure-Sensitive Adhesive, Masking, Paper
VV-P-216	Penetrating Oil
VV-P-236	Petrolatum, Technical
MS20995	Wire, Lock

APPENDIX B

MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

B-1. Maintenance Allocation Chart

a. This Maintenance Allocation Chart (MAC) assigns maintenance functions in accordance with the Three Levels of Maintenance concept for Army aviation. These maintenance levels (categories) - Aviation Unit Maintenance (AVUM), Aviation Intermediate Maintenance (AVIM), and Depot Maintenance - are depicted on the MAC as:

AVUM, which corresponds to an O Code in the Repair Parts and Special Tools List (RPSTL)

AVIM, which corresponds to an F Code in the Repair Parts and Special Tools List (RPSTL)

DEPOT, which corresponds to a D Code in the Repair Parts and Special Tools List (RPSTL)

b. The maintenance to be performed below depot and in the field is described as follows:

(1) Aviation Unit Maintenance (AVUM) activities will be staffed and equipped to perform high frequency "On-Aircraft" maintenance tasks required to retain or return aircraft systems to a serviceable condition. The maintenance capability of the AVUM will be governed by the Maintenance Allocation Chart (MAC) and limited by the amount and complexity of ground support equipment (GSE), facilities required, authorized manning strength, and critical skills available. The range and quantity of authorized spare modules/components will be consistent with the mobility requirements dictated by the air mobility concept. (Assignments of maintenance tasks to divisional company size aviation units will consider the overall maintenance capability of the division, the requirement to conserve personnel and equipment resources, and air mobility requirements.)

(a) Company Size Aviation Units: Perform those tasks which consist primarily of preventive maintenance and maintenance repair and replacement functions associated with sustaining a high level of aircraft operational readiness. Perform maintenance inspections and servicing to include preflight, daily, intermediate, periodic (or phased), and special inspections as authorized by the MAC or higher headquarters. Identify the cause of equipment/system malfunctions using applicable technical manual troubleshooting instructions, built-in test equipment (BITE), installed aircraft instruments, or test, measurement, and diagnostic equipment (TMDE). Replace worn or damaged modules/components that do not require complex adjustments or system alinement and which can be removed/installed with available skills, tools, and ground support equipment. Perform operational and continuity checks and make minor repairs to the electrical system. Inspect, service and make operational, capacity, and pressure checks to hydraulic systems. Perform servicing, functional adjustments, and minor repair/replacement to the flight control, propulsion, power train, and fuel systems. Accomplish air frame repair that does not require extensive disassembly, jigging, or alinement. The manufacture of air frame parts will be limited to those items which can be fabricated with tools and equipment found in current air mobile tool and shop sets. Evacuate unserviceable modules/components and end items beyond the repair capability of AVUM to the supporting AVIM.

(b) Less than Company Size Aviation Units: Aviation elements organic to brigade, group, battalion headquarters, and detachment size units are normally small and have less than ten aircraft assigned, Maintenance tasks performed by these units will be those which can be accomplished by the aircraft crew chief or assigned aircraft repairman and will normally be limited to preventive

maintenance, inspections, servicing, spot painting, stop drilling, application of nonstress patches, minor adjustments, module/component fault diagnosis, and replacement of selected modules/components. Repair functions will normally be accomplished by the supporting AVIM unit.

(2) Aviation Intermediate Maintenance (AVIM) provides mobile, responsive "One-Stop" maintenance support. (Maintenance functions which are not conducive to sustaining air mobility will be assigned to depot maintenance), AVIM may perform all maintenance functions authorized to be done at AVUM. Repair of equipment for return to user will emphasize support or operational readiness requirements. Authorized maintenance includes replacement and repair of modules/components and end items which can be accomplished efficiently with available skills, tools, and equipment. AVIM establishes the Direct Exchange (DX) program for AVUM units by repairing selected items for return to stock when such repairs cannot be accomplished at the AVUM level. The AVIM level inspects, troubleshoots, performs diagnostic tests, repairs, adjusts, calibrates, and alines aircraft system modules/components. AVIM units will have capability to determine the serviceability of specified modules/components removed prior to the expiration of the Time Between Overhaul (TBO) or finite life. Module/component disassembly and repair will support the DX program and will normally be limited to tasks requiring cleaning and the replacement of seals, fittings, and items of common hardware. Air frame repair and fabrication of parts will be limited to those maintenance tasks which can be performed with available tools and test equipment. Unserviceable reparable modules/components and end items which are beyond the capability of AVIM to repair will be evacuated to Depot Maintenance. AVIM will perform aircraft weight and balance inspections and other special inspections which exceed AVUM capability. Provides quick response maintenance support, including aircraft recovery and air evacuation, on-the-job training, and technical assistance through the use of mobile maintenance contact teams. Maintains authorized operational readiness float aircraft. Provides collection and classification services for serviceable/unserviceable material. Operates a cannibalization activity in accordance with AR 750-50. (The aircraft maintenance company within the maintenance battalion of a division will perform AVIM functions consistent with air mobility requirements and conservation of personnel and equipment resources. Additional intermediate maintenance support will be provided by the supporting nondivisional AVIM unit.)

B-2 Use of the Maintenance Allocation Chart (Section II)

NOTE

Nomenclatures used throughout the MAC are approved item names. Those terms/nomenclatures expressed in parentheses are generic in nature and are not to be considered as official terminology.

a. The Maintenance Allocation Chart assigns maintenance functions based on past experience and the following consideration:

(1) Skills available.

(2) Work time required.

(3) Tools and test equipment required and/or available.

b. The assigned levels of maintenance authorized to perform a maintenance function are indicated.

c. A maintenance function assigned to a maintenance category will automatically be authorized to be performed at any higher maintenance category.

d. A maintenance function that cannot be performed at the assigned category of maintenance for any reason may be evacuated to the next higher maintenance category. Higher maintenance categories will perform the maintenance functions of lower maintenance categories when required or directed by the commander that has the authority to direct such tasking.

e. The assignment of a maintenance function will not be construed as authorization to carry the related repair parts or spares in stock. Information to requisition or otherwise secure the necessary repair parts will be as specified in the associated Repair Parts and Special Tools List (RPSTL).

f. Normally there will be no deviation from the assigned level of maintenance. In cases of operational necessity, maintenance functions assigned to a maintenance level may, on a one-time basis and at the request of the lower maintenance level, be specifically authorized by the maintenance officer of the level of maintenance to which the function is assigned. The special tools, equipment, etc. required by the lower level of maintenance to perform this function will be furnished by the maintenance level to which the function is assigned. This transfer of a maintenance function to a lower maintenance level does not relieve the higher maintenance level of the responsibility for the function. The higher level of maintenance will provide technical supervision and inspection of the function being performed at the lower level.

g. Changes to the Maintenance Allocation Chart will be based on continuing evaluation and analysis by responsible technical personnel and on reports received from field activities.

B-3. Maintenance Functions

Maintenance functions will be limited to and defined as follows:

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

b. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. Service. Operations required periodically to keep an item in proper operating condition, i.e., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases.

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

e. Aline. To adjust specified variable elements of an item to bring about optimum or desired performance.

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test, measuring, and diagnostic equipments used in precision measurement. Consists of comparisons of two instruments, one of which is" a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. Remove Install. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. Replace, To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and is shown as the 3d position code of the SMR code.

i, Repair. The application of maintenance services[1], including fault location/troubleshooting[2], removal installation, and disassembly/assembly[3] procedures, and maintenance actions[4] to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

j. Overhaul, That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications (i.e., DMWR). Overhaul is normally the highest degree of maintenance performed by the Army, Overhaul does not normally return an item to like-new condition.

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

[1]Services – inspect, test, service, adjust, aline, calibrate, and/or replace.
[2]Fault locate/troubleshoot – The process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or unit under test (UUT).
[3]Disassemble/assemble – encompasses the step-by-step taking apart (or breakdown) of a spare/ functional group coded item to the level of its least componency identified as maintenance significant (i. e., assigned an SMR code) for the category of maintenance under consideration.

[4]Actions — welding, grinding, riveting, straightening, facing, remachining and/or resurfacing.

B-4. Functional Groups (Columns 1 and 2.)

The functional groupings shown in the sample below identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly.

GROUP NUMBER	DESCRIPTION
15	AUXILIARY POWER UNIT
1501	ENGINE GENERAL Servicing, handling, inspection requirements, lubrication charts, overhaul and retirement schedules. External lines & hoses. (As applicable).
1502	COMPRESSOR SECTION (COLD SECTION MODULE) Rotor, blades, vanes, impeller stators, inlet guide vanes, main frame, particle separator, bleed valve, bearings, seals external lines and hoses.
1503	COMBUSTION SECTION (HOT SECTION MODULE) Liners, nozzles, stators, rotor, seals, couplings, blades.
1504	POWER-TURBINE (POWER TURBINE MODULE) Nozzles, rotors, blades, exit guide vanes, exhaust frame, drive shaft, bearings, seals, external lines and hoses.
1506	FUEL SYSTEM Fuel control, fuel boost pump, governors, fuel filter assembly, sequence valve, fuel manifold, fuel nozzle, external lines and hoses.
1507	ELECTRICAL SYSTEM Electrical control units, exciters, thermocouples, ignition harness, electrical cables, history record, torque overspeed sensor, Np sensor, alternate stator, blowers.
1508	OIL SYSTEM Tanks, oil filter, oil cooler, lube and scavenge pumps, oil filter bypass sensor, external lines and hoses.
1509	DRIVE SYSTEM Reduction gear assembly, output shaft, seal, bearing.
1510	MISCELLANEOUS EQUIPMENT (As applicable).

B-5. Maintenance Function (Column 3). Column 3 lists the functions to be performed on the items listed in column 2.

B-6. Maintenance categories and Work Times (Column 4).

The maintenance categories (levels) AVUM, AVIM, and DEPOT are listed on the Maintenance Allocation Chart with individual columns that include 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 level to perform a specified 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. Numbers in parentheses identify the correspondingly numbered remarks in Section IV.

B-7. Tools and Test Equipment (Column 5 and Section Ill)

Common tool sets (not individual tools), special tools, test, and support equipment required to perform maintenance functions are listed in Section III with a reference number to permit cross-referencing to column 5 in the MAC. In addition, the maintenance category authorized to use the device is listed along with the item National Stock number (NSN) and, if applicable, the tool number to aid in identifying the tool/device.

B-8. Remarks (Column 6 and Section IV)

Remarks and other notes, if applicable (identified by a number in parentheses in the applicable column) are listed in Section IV to provide a ready reference to the definition of the remark/note.

MAINTENANCE ALLOCATION CHART

NOMENCLATURE OF END ITEMS

T62T-2B Auxiliary Power Unit

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY			(5) TOOLS AND EQUIPMENT	(6) REMARKS
			AVUM	AVIM	DEPOT		
150403	External Lines and Fittings	Inspect	(7) - . -			9,14	
		Remove/ Install	(6) - . -			9,14	
		Replace	- . -			9,14	
1506	Fuel System						
150601	Fuel Control Assembly	Inspect	-.-			9,14	
		Remove/ Install	- . -			9,14	
		Replace	-.-			9,14	
		Repair	- . -			9,14	
		Overhaul			-.-		
150602	Acceleration Control	Inspect	-.-			9,14	
		Remove/ Install	-.-			9,14	
		Replace	-.-			9,14	
		Overhaul			-.-		
150603	Fuel Pump	Inspect	-.-			9,14	
		Remove/ Install	-.-			9,14	
		Replace	- . -			9,14	
		Repair	-.-			9,14	
		Overhaul			- . -		
150604	Fuel Inlet Filter	Inspect	-.-			9,14	
		Remove/ Install	- . -			9,14	
		Replace	- . -			9,14	

MAINTENANCE ALLOCATION CHART

NOMENCLATURE OF END ITEMS

T62T-2B Auxiliary Power Unit

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY			(5) TOOLS AND EQUIPMENT	(6) REMARKS
			AVUM	AVIM	DEPOT		
150301	Combustor Assembly	Inspect	-.-			14	
		Remove/ Install	-.-			3,9,14	
		Replace	-.-			3,9,14	
		Repair		(4) ---		9,11,14	
150302	Exhaust Duct	Inspect	-.-			9,14	
		Remove/ Install	-.-			9,14	
		Replace	-.-			9,14	
150303	Combustor Chamber Case	Inspect	-.-			9,14	
		Remove/ Install	-.-			3,9,14	
		Replace	-.-			3,9,14	
		Repair		(4) ---		12,14	
150304	Nozzle Shield	Inspect	-.-			9,14	
		Remove/ Install	-.-			9,14	
		Replace	-.-			9,14	
150305	Combustor Liner	Inspect	-.-			9,14	
		Remove/ Install	-.-			9,11,14	
		Replace	-.-			9,11,14	
1504	Turbine Assembly (Power Turbine Assembly)	Inspect	-.-			14	
150401	Turbine Rotor	Inspect	-.-			5,14	
150402	Air Inlet Housing	Inspect	-.-			9,14	
		Repair		(5) -.-		10,14	

MAINTENANCE ALLOCATION CHART

NOMENCLATURE OF END ITEMS

T62T-2B Auxiliary Power Unit

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY			(5) TOOLS AND EQUIPMENT	(6) REMARKS
			AVUM	AVIM	DEPOT		
150403	External Lines and Fittings	Inspect	(7) - . -			9,14	
		Remove/ Install	(6) - . -			9,14	
		Replace	- . -			9,14	
1506	Fuel System						
150601	Fuel Control Assembly	Inspect	-.-			9,14	
		Remove/ Install	- . -			9,14	
		Replace	- . -			9,14	
		Repair	- . -			9,14	
		Overhaul			-.-		
150602	Acceleration Control	Inspect	-.-			9,14	
		Remove/ Install	-.-			9,14	
		Replace	-.-			9,14	
		Overhaul			-.-		
150603	Fuel Pump	Inspect	-.-			9,14	
		Remove/ Install	-.-			9,14	
		Replace	- . -			9,14	
		Repair	-.-			9,14	
		Overhaul			- . -		
150604	Fuel Inlet Filter	Inspect	-.-			9,14	
		Remove/ Install	- . -			9,14	
		Replace	- . -			9,14	

MAINTENANCE ALLOCATION CHART

NOMENCLATURE OF END ITEMS

T62T-2B Auxiliary Power Unit

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY			(5) TOOLS AND EQUIPMENT	(6) REMARKS
			AVUM	AVIM	DEPOT		
150605	Fuel Injectors	Inspect	- . -			14	
		Remove/ Install	- . -			9,14	
		Replace	- . -			9,14	
150606	Fuel Start Nozzle	Inspect	- . -			14	
		Service	- . -			9,14	
		Remove/ Install	- . -			9,14	
		Replace	- . -			9,14	
		Repa i r	- . -			8,9	
150607	Fuel Start Nozzle Restrictor	Inspect	- . -			9,14	
		Remove/ Install	- . -			9,14	
		Replace	- . -			9,14	
150608	Main and Start Fuel Solenoid Valves	Inspect	- . -			9,14	
		Remove/ Install	- . -			9,14	
		Replace	- . -			9,14	
150609	Fuel Drain Valve (Combustor)	Inspect	- . -			9,14	
		Remove/ Install	- . -			9,14	
		Replace				9,14	
150610	External Lines and Fittings	I n s p e c t	(7) - . -			9,14	
		Remove/ Install	(6) - . -			9,14	
		Replace	- . -			9,14	

MAINTENANCE ALLOCATION CHART

NOMENCLATURE OF END ITEMS

T62T-2B Auxiliary Power Unit

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY			(5) TOOLS AND EQUIPMENT	(6) REMARKS
			AVUM	AVIM	DEPOT		
1507	Electrical System						
150701	Ignition Exciter	Inspect	- . -			14	
		Remove/ Install	- . -			9,14	
		Replace	- . -			9,14	
		Repair	- . - (8)			7	
150702	Ignition Cable	Inspect	- . -			9,14	
		Remove/ Install	- . -			9,14	
		Replace	- . -			9,14	
150703	Igniter Spark Plug	Inspect	- . -			14	
		Remove/ Install	- . -			9,14	
		Replace	- . -			9,14	
150704	Engine Electrical Harness Assembly	Inspect	- . -			9,14	
		Remove/ Install	- . -			9,14	
		Replace	- . -			9,14	
150705	Magnetic Pick Up	Inspect	- . -			9,14	
		Remove/ Install	- . -			9,14	
		Replace	- . -			9,14	
1508	Oil System						
150801	Oil Filter	Inspect	- . -			9,14	
		Remove/ Install	- . -			9,14	
		Replace	- . -			9,14	

MAINTENANCE ALLOCATION CHART

NOMENCLATURE OF END ITEMS

T62T-2B Auxiliary Power Unit

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANcE FUNCTION	(4) MAINTENANCE CATEGORY			(5) TOOLS AND EQUIPMENT	(6) REMARKS
			AVUM	AVIM	DEPOT		
150802	Oil Filter and Bypass Valve	Inspect	- . -			9,14	
		Remove/ Install	- . -			9,14	
		Replace	- . -			9,14	
150803	Oil Level Gage	Inspect	- . -			9,14	
		Remove/ Install	- . -			9,14	
		Replace	- . -			9,14	
150804	Oil Filler Cap Assembly	Inspect	- . -			9,14	
		Remove/ Install	- . -			9,14	
		Replace	- . -			9,14	
150805	Oil Sump	Inspect	- . -			9,14	
		Service	- . -			9,14	
		Remove/ Install	- . -			9,14	
		Replace	- . -			9,14	
150806	Magnetic Oil Plug	Inspect	- . -			9,14	
		Remove/ Install	- . -			9,14	
		Replace	- . -			9,14	
1509	Reduction Drive Assembly	Inspect	- . -			9,14	
		Remove/ Install		- . -		9,14	
		Replace		-.-		9,14	
		Repa i r	(6) - . -	(5) - . -		2,4,9, 10,13,14	
		Overhaul			- . -		

Section III

TOOL AND TEST EQUIPMENT REQUIREMENTS

NOMENCLATURE OF END ITEMS

T62T-2B Auxiliary Power Unit

TOOL OR TEST EQUIPMENT REFERENCE CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
1	AVUM	Assembly Fixture		ST71188
2	AVIM	Driver, Seal	5120009421605	ST70273
3	AVUM	Puller, Combustor	5120009192379	ST90658
4	AVIM	Driver, Seal	2835006209876	ST90889-01
5	AVIM	Gage Set, Wire		ST60880
6	AVUM	Lifting Fixture	4920011355987	ST93929
7	AVUM	Tool Set, AVUM, Set No. 2	4920005690476	SC492099CLA92
8	AVUM	Tool Kit, Electrical Repairman	5180003234915	SC518099CLA06
9	AVUM	Tool Kit, Engine Repairman	5180003234944	SC492099CLA07
10	AVIM	Shopset, AVIM, Machine Shop	4920004059279	SC492099CLA91MAAM
11	AVUM	Support Fixture	4920009391521	ST91717
12	AVIM	Shopset, AVIM, Welding	4920001635093	SC492099CLA91WEAM
13	AVIM	Removal Tool, Seal	5120004355707	ST91017
14	AVUM	Aircraft Inspection Tool Kit	5180003235114	SC518099CLA09

Section IV

REMARKS

T62T–2B TURBINE ENGINE

REFERENCE CODE	REMARKS/NOTES
(1)	Functional Test at AVUM - Engine in Airframe
(2)	Reference TM 55-1520-240-23
(3)	Water/Solvent Wash - Engine in Airframe
(4)	Weld Repair
(5)	Replace Inserts, Helicoils and Studs
(6)	Replace Support Brackets, Plugs and Packings
(7)	Inspect for Chafing, Security of Installation, Dents, Kinks, and Cracks
(8)	Replace Nut Plates

APPENDIX C

EXPENDABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

C-1 Scope

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

C-2. Explanation of Columns

a. Column 1 - Item E Number. This number is assigned to the entry in the listing and is referenced in the maintenance Tasks to identify the material (e.g., Use lint-free cloth (E13).

b. Column 2 - National Stock Number. This is the National Stock Number assigned to the item; use it to request or requisition the item.

c. Column 3 - Description. Indicates the item name and, if required, a description to identify the item. The last line for each item indicates the part number followed by the Federal Supply Code for Manufacturer (FSCM) in parentheses, if there is no NSN in column 2.

d. Column 4 - Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr). If the unit of measure differs from the unit of issue, requisition the , lowest unit of issue that will satisfy your requirements.

Section II. EXPENDABLE SUPPLIES AND MATERIALS LIST

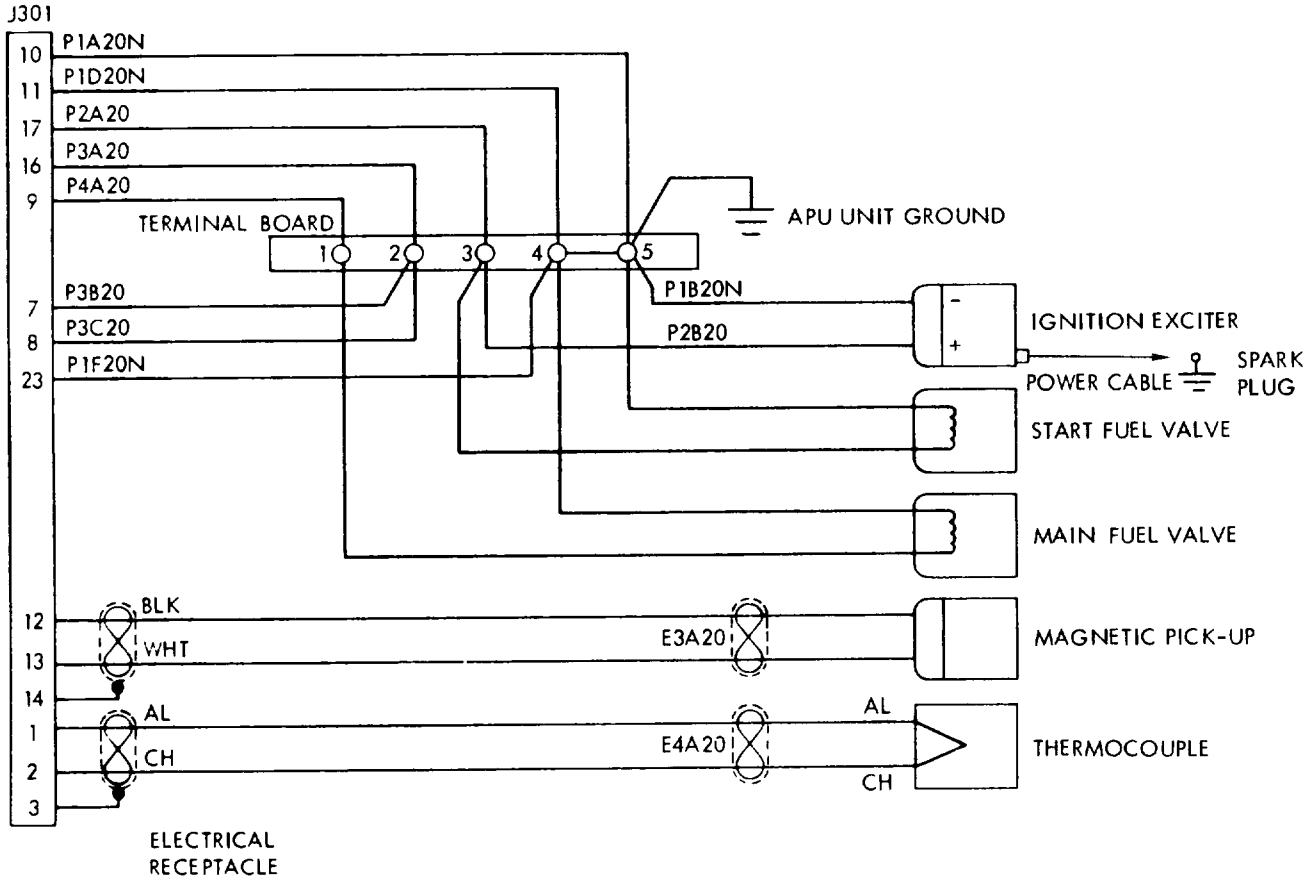
(1) Item E Number	(2) National Stock Number	(3) Description	(4) U/M
1	9150-00-250-0931	Petrolatum, Technical VV-P-236	oz
2	9150-00-269-8255	Grease, Aircraft MIL-G-4343	oz
3	6830-00-292-0131	Nitrogen, Technical BB-N-411	lb
4	6850-00-999-1094	Dessicant, Activated, Bagged MIL-D-3464	bg
5	8520-00-228-0598	Soap, Toilet P-S-624	pt
6	6685-00-833-1223	Indicator, Humidity	ea
7	8135-00-753-4661	Barrier Material, Greaseproofed, Waterproofed, Flexible MIL-B-121	ft
8	7510-00-266-6709	Tape, Pressure-Sensitive Adhesive, Masking, Paper 232 1-1/2 IN.	rl
9	6810-00-264-8983	Methyl-Ethyl-Ketone TT-M-261	pt
10	7520-00-223-7998	Brush, Stencil H-B-00621	ea
11	3439-00-052-1899	Brazing Alloy, Silver MIL-B-15395	oz
12	3434-01-089-9014	Flux, Brazing O-F-499	oz
13	8305-00-191-3977	Cloth. Airplane. Cotton MIL-C-5647	yd
14	7510-00-465-0994	Pencil Marking	ea
15	8030-00-087-8630	Compound, Anti-Seize MIL-T-83483	oz

Section II. EXPENDABLE SUPPLIES AND MATERIALS LIST (Continued)

(1) Item E Number	(2) National Stock Number	(3) Description	(4) U/M
16	9505-00-293-4208	Wire, Non-Electrical MS20995C32	rl
17	3439-00-262-4292	Flux, Welding MIL-F-7516	oz
18	3439-00-166-9584	Rod, Welding AMS5786	ea
19	9150-00-261-7899	Penetrating Oil VV-P-216	pt
20	6850-00-285-8011	Dry Cleaning Solvent P-D-680	qt
21	5975-00-074-2072	Strap Tiedown, Electrical MIL-S-23190	ea
22	5305-01-126-9460	Screw Lock, Mild Strength	oz
23	9150-00-270-4057	Lubricating Oil, Aircraft Engine, Synthetic Base MIL-L-7808	pt
24	9150-00-180-6266	Lubricating Oil, Aircraft Turbine Engines, Synthetic Base MIL-L-23699	qt
25	5306-00-760-7299	Bolt, Machine Steel, Hex Head .250-28 UNF-3A MS9519-15	ea
26		Bolt, Machine Steel, Hex Head .3125-24 UNF-3A MS9520-42	ea

APPENDIX D

WIRING DIAGRAMS



APPENDIX E

MANUFACTURED ITEMS LIST

Not Applicable

GLOSSARY

Section I. ABBREVIATIONS

bg . . . . . bag
DA . . . . . Department of the Army
ea . . . . . Each
FM . . . . . Field Manual
l . . . . . Liter
lb . . . . . Pound
max . . . . . Maximum
oz . . . . . Ounce
PCD . . . . . Compressor discharge pressure
pig, ... Pounds per square inch gage
pt . . . . . Pint
qt . . . . . Quart
rl . . . . . Roll
rpm . . . . . Revolutions per minute
TB . . . . . Technical Bulletin
TM . . . . . Technical Manual
U/M . . . . . Unit of measure
yd . . . . . Yard

Section II. DEFINITION OF UNUSUAL TERMS

Axial – Along the axis or line around which rotation occurs.
Residual – Remaining, such as fluids left after draining
Convex – Rounded like the exterior of a sphere.
Orifice – Small hole as in a nozzle
Desiccant –A drying agent.
Micron – One thousandth of a millimeter
Match Mark – Procedure for marking adjacent parts to insure realignment.

ALPHABETICAL INDEX

ALPHABETICAL INDEX (Continued)

ALPHABETICAL INDEX (Continued)

ALPHABETICAL INDEX (Continued)

ALPHABETICAL INDEX (Continued)

ALPHABETICAL INDEX (Continued)

ALPHABETICAL INDEX (Continued)

ALPHABETICAL INDEX (Continued)

ALPHABETICAL INDEX (Continued)

ALPHABETICAL INDEX (Continued)

ALPHABETICAL INDEX (Continued)

By Order of the Secretary of the Army:

E. C. MEYER
General, United States Army
Chief of Staff

Official:

ROBERT M. JOYCE
Major General, United States Army
The Adjutant General

DISTRIBUTION :
To be distributed in accordance with DA Form DA Form 12-31, Organizational Maintenance Requirements for CH-47B/C & D.

*U.S. GOVERNMENT PRINTING OFFICE : 1993 O- 342-421 (62831)

These are the instructions for sending an electronic 2028

The following format must be used if submitting an electronic 2028. The subject line must be exactly the same and all fields must be included; however only the following fields are mandatory: 1, 3, 4, 5, 6, 7, 8, 9, 10, 13, 15, 16, 17, and 27.

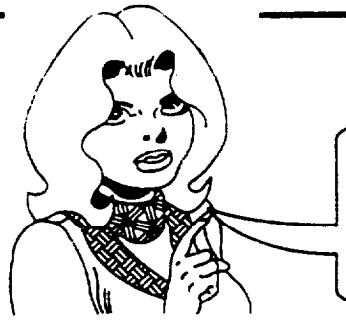
From: "Whomever" <whomever@avma27.army.mil>
To: mpmt%avma28@st-louis-emh7.army.mil

Subject: DA Form 2028

1. ***From:*** *Joe Smith*
2. *Unit home*
3. ***Address:*** 4300 Park
4. ***City:*** Hometown
5. ***St: MO***
6. ***ZIP:*** 77777
7. ***Date Sent:*** 19-OCT-93
8. ***Pub no:*** 55-2840-229-23
9. ***Pub Title:*** TM
10. ***Publication Date:*** 04-JUL-85
11. *Change Number 7*
12. *Submitter Rank: MSG*
13. ***Submitter FName:*** Joe
14. *Submitter MName:* T
15. ***Submitter LName:*** Smith
16. ***Submitter Phone:*** 123-123-1234
17. ***Problem:*** *1*
18. *Page: 2*
19. *Paragraph: 3*
20. *Line: 4*
21. *NSN: 5*
22. *Reference: 6*
23. *Figure: 7*
24. *Table: 8*
25. *Item: 9*
26. *Total: 123*
27. **Text:**

This is the text for the problem below line 27.

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS



THEN . .JOT DOWN THE DOPE ABOUT IT ON THIS FORM,CAREFULLYTEAR IT OUT. FOLD IT AND DROP IT IN THE MAIL!

SOMETHING WRONG WITH THIS PUBLICATION?

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)
PFC John DOE
CO A 3rd Engineer Bn
Ft. Leonardwood, MO 63108

DATE SENT
22 August 1992

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 1-1520-250-10	15 June 1992	Operator's manual MH60K Helicopter

BE EXACT PIN-POINT WHERE IT IS

PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO
6	2-1 a		
B1		4-3	

IN THIS SPACE, TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

In line 6 of paragraph 2-1a the manual states the engine has 6 cylinders. The engine on my set only has 4 cylinders. Change the manual to show 4 cylinders.

Callout 16 on figure 4-3 is pointed at a bolt. In key to figure 4-3, item 16 is calle a shim. Please correct one or the other

EXAMPLE

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

JOHN DOE, PFC (268) 317-7111

SIGN HERE

JOHN DOE John Doe

DA FORM 1 JUL 79 2028-2

PREVIOUS EDITIONS ARE OBSOLETE.

DRSTS-M verprint2, 1 Nov 80

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

REVERSE OF DA FORM 2028-2 Reverse of DRSTS-M Overprint 2, 1 Nov 80

TEAR ALONG PERFORATED LINE

FILL IN YOUR UNITS ADDRESS

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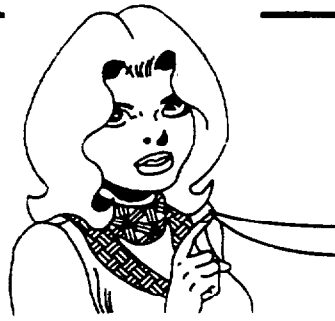
ST. LOUIS, MO 63120-1798

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS



SOMETHING WRONG WITH THIS PUBLICATION?

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 55-2835-205-23	10 February 1997	Gas Turbine Engine (Auxiliary Power Unit - APU)

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 verprint2 1 Nov 80

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

REVERSE OF DA FORM 2028-2 Reverse of DRSTS-M Overprint 2, 1 Nov 80

TEAR ALONG PERFORATED LINE

FILL IN YOUR UNITS ADDRESS

FOLD BACK

DEPARTMENT OF THE ARMY

OFFICIAL BUSINESS

COMMANDER
U.S. ARMY AVIATION AND TROOP COMMAND
ATTN: AMSAT-I-MP
4300 GOODFELLOW BOULEVARD
ST. LOUIS, MO 63120-1798

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

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

Temperature (Exact)

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