TM 5-4310-270-15

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR AND ORGANIZATIONAL
DIRECT AND GENERAL SUPPORT AND DEPOT
MAINTENANCE MANUAL
COMPRESSOR, ROTARY, POWER DRIVEN, AIR,
TWO IMPELLER, WHEELBARROW
FRAME MOUNTED, TWO PNEUMATIC TIRES,
GASOLINE ENGINE 60 CFM, 6.5 P.S.I.
(FULLER MODEL 2MSWB)
FSN 4310-906-8994

HEADQUARTERS, DEPARTMENT OF THE ARMY

SEPTEMBER 1967

SAFETY PRECAUTIONS

BEFORE OPERATION

When handling gasoline, always provide a metal-to-metal contact between the container and tank. This will prevent a spark from being generated as gasoline flows over the metallic surface.

Never attempt to service any of the air compressor components until the unit is relieved of all air pressure.

Do not operate the air compressor in an inclosed area unless the exhaust gases are piped to the outside. The exhaust gases contain carbon monoxide, which is a colorless, odorless, and poisonous gas.

DURING OPERATION

Never attempt to service any of the air compressor components until the unit is relieved of all pressure.

AFTER OPERATION

When handling gasoline, always provide a metal-to-metal contact between the container and tank. This will prevent a spark from being generated as gasoline flows over the metallic surfaces.

Never attempt to service any of the air compressor components until the unit is relieved of all air pressure.

Be extremely careful when using a carbon tetrachloride fire extinguisher in an enclosed area. A poisonous gas is generated by the contact of carbon tetrachloride with a heated metallic surface. Provide adequate ventilation before entering an inclosed area where carbon tetrachloride has been used.

Changes in force: C 1 and C 2

TM 5-4310-270-15
C 2

Change No. 2

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC 28 August 1974

Operator, Organizational, Direct and General Support, and Depot Maintenance Manual

COMPRESSOR, ROTARY, AIR; POWER DRIVEN; TWO IMPELLER; WHEELBARROW FRAME MOUNTED; TWO PNEUMATIC TIRES; GASOLINE ENGINE; 60 CFM, 6.5 PSI (FULLER MODEL 2MSWB) FSN 4310-906-8994

TM 54310-270-15, 11 September 1967, is changed as follows:

Reverse of cover page. Add to Safety Precautions:

WARNING

This compressor is NOT SUITABLE for the supply of air for charging cylinders with BREATHABLE AIR.

WARNING

Operation of this equipment presents a NOISE HAZARD to presonnel in the area. The noise level exceeds the allowable limits for unprotected personnel. Wear ear plugs or ear muffs which were fitted by a trained professional.

WARNING

Cleaning solvent, PD-680, is POTENTIALLY DANGEROUS chemical. Do not use near open flame.

Page 2-3. Paragraph *2-5e* is added.

e. Noise Hazard Warning Signs. Signs conforming to provisions of AR 385-30 will be erected in the area to provide notification of NOISE HAZARD in accordance with TB MED-251. The signs should read:

WARNING

NOISE HAZARD EQUIPMENT. HEARING PROTECTION REQUIRED.

Page 2-7. Paragraph 2-13, add:

WARNING

Operation of this equipment presents a NOISE HAZARD to personnel in the area. Wear ear muffs or ear plugs which were fitted by a trained professional.

WARNING

This compressor is NOT SUITABLE for the supply of air for charging cylinders with BREATHABLE AIR.

Page 3-1. Paragraph *3-4b,* add:

WARNING

Cleaning solvent, PD-680, used for cleaning is POTENTIALLY DANGEROUS CHEMICAL. Do not use near open flame. Flash point of solvent is 100- 138F°. (38-59° C.).

By Order of the Secretary of the Army:

CREIGHTON W. ABRAMS
General, United States Army
Chief of Staff

Official:
VERNE L. BOWERS
Major *General, United States Army*
The Adjutant General

Distribution:
To be distributed in accordance with DA Form 12-25A (qty rqr block No. 30) Organizational Maintenance requirements for Air Compressors, 60 CFM.

PIN : 670911-002

TM 5-4310-270-15
C 1

Change No. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D.C., *31 August 1973*

Operator and Organizational, Direct and General Support and Depot Maintenance Manual COMPRESSOR, ROTARY, POWER DRIVEN, AIR, TWO IMPELLER, WHEELBARROW, FRAME MOUNTED, TWO PNEUMATIC TIRES, GASOLINE ENGINE, 60 C.F.M., 6.5 P.S.I. (FULLER MODEL 2MSWB) FSN 4310-906-8994

TM 5-4310-270-15, 11 September 1967, is changed as follows:

Page 1-1. Paragraph 1-1*b* is superseded as follows:

b. Appendix A contains a list of publications applicable to this manual. Appendix B contains a list of basic issue items authorized the operator of this equipment. Appendix C contains the maintenance allocation chart. Organizational, direct and general support, and depot maintenance repair parts and special tools are listed in TM 5-4310-270-25P.

Page 1-1. Paragraph 1-1*d* is superseded as follows:

d. You can improve this manual by calling attention to errors and by recommending improvements, using DA Form 2028 (Recommended Changes to Publications), or by letter, and mail directly to the Commander, U. S. Army Troop Support Command,ATTN: AMSTS-MPP, 4300 Goodfellow Blvd., St. Louis, MO 63120. A reply will be furnished directly to you.

Page 2-1. Paragraph 2-3*1* is added as follows:

1. The maintenance and operating supplies required for the initial eight hours of operation for the compressor are contained in Table 2-1.

Table 2-1. Maintenance and Operating Supplies

(1) Component application	(2) Federal stock number	(3) Description	(4) Quantity required f/initial operation	(5) Quantity required f/8 hrs operation	(6) Notes
		Oil, Lubricating: 1 qt. sealed can as follows:			(1) Includes quantity of oil to fill engine oil system as follows:
01–Engine	9150-265-9433 (2)	OE-30	5/8 qt.	(3)	5/8 qt–crankcase
0101–Crankcase	9150-265-9425 (2)	OE-10			(2) See C9100-IL for additional data and requisitioning procedure.
	9150-242-7062 (2)	OES			
03–Fuel System		Fuel, gasoline: 5 gal. can as follows:			(3) See current LO for grade application and replenishment intervals
	9130-160-1817	Gasoline, automotive combat	2.5 gal (4)	2.28 gal (4)	(4) Tank capacity.
					(5) Average fuel consumption is .285 gal per hour of continuous operation.
50–Pneumatic Equipment		Oil, Lubricating: 5 gal drum as follows:			
5001–Crankcase Block. Cylinder					(6) Includes quantity of oil to fill compressor oil system as follows:
Crankcase	9150-231-6639	Grade 2190		(6)	approximately 1/2 pt. in crankcase.
	9150-985-7232	Grade 2075TH			
	9150-985-7234	Grade 211TH			

Page B-1. Appendix B is supersed as follows:

APPENDIX B
BASIC ISSUE ITEM LIST AND ITEMS TROOP INSTALLED OR AUTHORIZED

Section I. INTRODUCTION

B-1. Scope

This appendix lists basic issue items, items troop installed or authorized which accompany the air compressor and are required by the crew/operator for operation, installation, or operator's maintenance.

B-2. General

This basic issue items, items troop installed or authorized list is divided into the following sections:

a. Basic Issue Items List—Section II. Not applicable.

b. Items Troop Installed or Authorized List—Section III. A list in alphabetical sequence of items which at the discretion of the unit commander may accompany the end item, but are NOT subject to be turned in with the end item.

B-3. Explanation of Columns

The following provides an explanation of columns in the tabular list of Basic Issue Items List, Section II, and Items Troop Installed or Authorized, Section III.

a. Source, Maintenance, and Recoverability Code(s) (SMR): Not applicable.

b. Federal Stock Number. This column indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.

c. Description. This column indicates the Federal item name and any additional description of the item required.

d. Unit of Measure (U/M). A 2 character alphabetic abbreviation indicating the amount or quantity of the item upon which the allowances are based, e.g., ft, ea, pr, etc.

e. Quantity Authorized (Items Troop Installed or Authorized Only). This column indicates the quantity of the item authorized to be used with the equipment.

Section III. ITEMS TROOP INSTALLED OR AUTHORIZED LIST

(1) SMR code	(2) Federal stock No.	(3) Description Ref. No. & Mfr code / Usable on code	(4) Unit of meas	(5) Qty auth
	7520-559-9618	CASE, MAINTENANCE AND OPERATION MANUAL	EA	1
	4310-889-2221	EXTINGUISHER, FIRE: Dry type charges; 2 1/2 lb.	EA	1

By Order of the Secretary of the Army:

CREIGHTON W. ABRAMS
General, United States Army
Chief of Staff

Official:
VERNE L. BOWERS
Major General, United States Army
The Adjutant General

Distribution:
To be distributed in accordance with DA Form 12-25A (qty rqr block no. 30), Organizational maintenance requirements for Air Compressors: 60 CFM.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1988 201-421/71309

PIN : 670911-001

TECHNICAL MANUAL
No. 5-4310-270-15

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D. C., 11 *September 1967*

Operator And Organizational Direct And General Support And Depot Maintenance Manual

COMPRESSOR ROTARY, POWER DRIVEN, AIR, TWO IMPELLER, WHEELBARROW FRAME MOUNTED, TWO PNEUMATIC TIRES, GASOLINE ENGINE 60 CFM, 6.5 P.S.I. (FULLER MODEL 2MSWB) FSN 4310-906-8994

CHAPTER 1
INTRODUCTION

Section I. GENERAL

1-1. Scope

a. These instruction are published for use by personnel to wom rotary compressor is issued. Chapters 1 through 3 provide information on operation, preventive maintenance services, and organizational maintenance of equipment, accessories, components, and attach. ments. Chapter 4 provides information for direct and general support and depot maintenance. Also included are descriptions of main units and their functions in relationship to other components.

b. Appendix A contains a list of publications applicable to this manual. Appendix B contains the list of basic issue items authorized, the operator of this equipment and the list of maintenance and operating supplies required for initial operation. Appendix C contains the maintenance allocation chart. Organizational, direct and general support and depot maintenance repair parts and special tools are listed in TM 5-4310-270-25P.

c. Numbers in parentheses following nomenclature callouts on illustrations indicate quantity; numbers preceding nomenclature callouts indicated preferred sequence,

d. Direct reporting of errors, omissions and recommendations for improving this equipment manual by the individual user is authorized and encouraged. Prepare DA Form 2028 (Recommended Changes to DA Publications) for this purpose, using pencil, pen or typewriter, and forward direct to Commanding General, U.S. Army Mobility Equipment Command, ATTN: AMSME-MP 4300 Goodfellow Blvd., St. Louis, Missouri 63120.

1-2. Record and Report Forms

a. DA Form 2258 (Depreservation Guide for Vehicles and Equipment).

b. For other record and report forms applicable to operator, crew, and organizational maintenance, refer to TM 38-750.

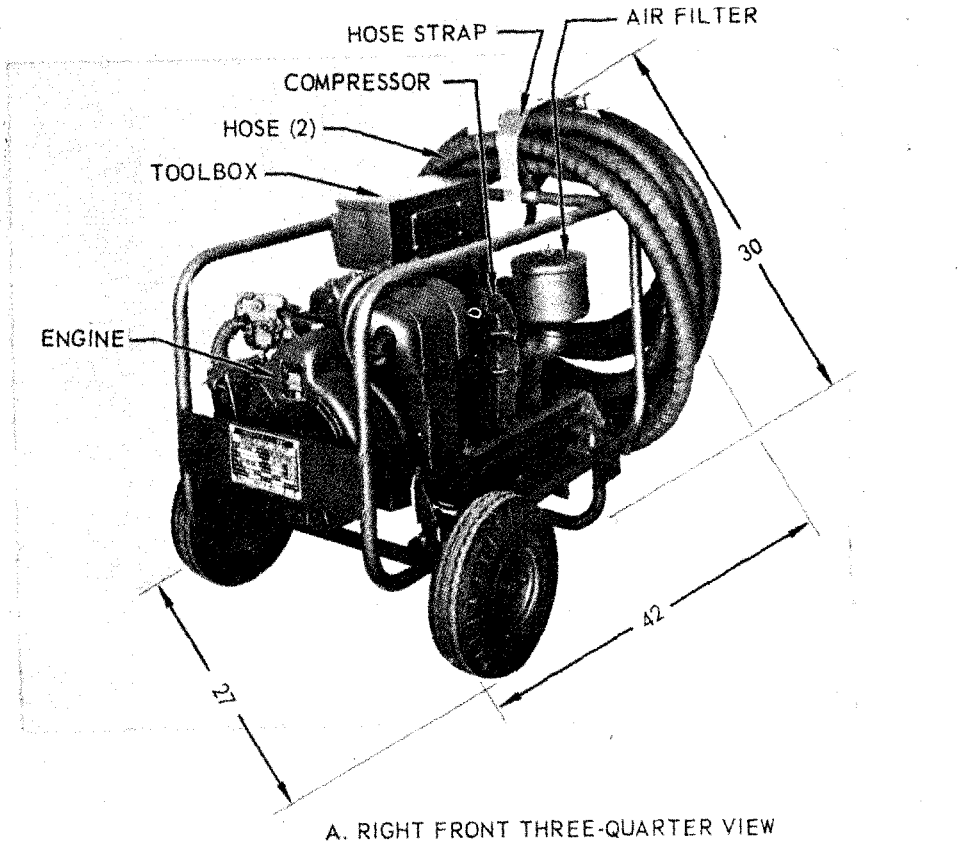
Note. Applicable forms, excluding Standard Form 46, (United States Government Motor Vehicles Operators Identification Card) which is carried by the operator, shall be kept in a canvas bag mounted on equipment.

Section II. DESCRIPTION AND TABULATED DATA

1-3. Description

a. General. The Fuller Model 2MSWB Rotary Compressor (fig. 1-1) is directly driven by a Military Standard Engine and is mounted on a wheelbarrow-type frame for convenient movement. The rotary compressor pumps 60 cubic feet of air per minute for inflating pontoons.

b. *Engine*. A description of the Military Standard Engine Model 2A016-III (fig. 1-1) is contained in TM 5-2805-208-14.



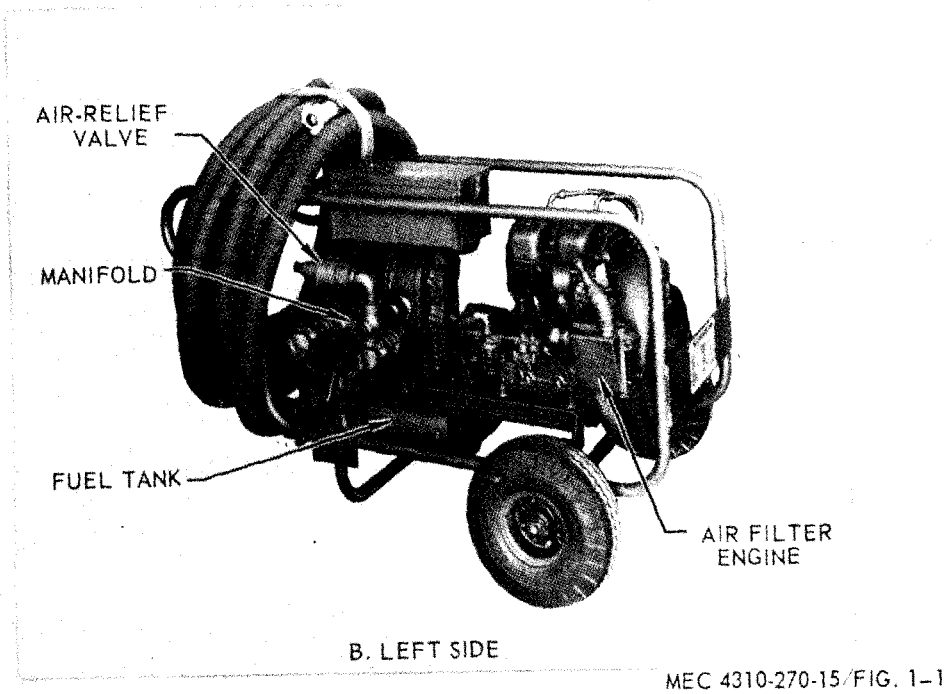


Figure 1-1. Rotary compressor, right front three- quarter view, and left side, with shipping dimensions.

c. Air Compressor. The Fuller Blower Type 2 and 3 Air Compressor (fig. 1-1) is a rotary, positive displacement type air pump and is lubricated from the rear.

d. Frame. The tubular, wheelbarrow-type frame (fig. 1-1) has a toolbox mounted for storage of tools and couplings. Two tube-type pneumatic tires are provided at the front of the frame for ease of movement.

1-4. Identification and Tabulated Data

a. The rotary compressor has two major identification plates. The information contained on the plates is listed below.

(1) Engine plate
- Manufacture . . . . . Continental Motors Corp.
- Cylinders 2
- Cycle 4
- Valve . . . . Overhead
- Displacement . . . . . 16 cu. in.
- Stock number 2805-072-4871
- Serial number . . . . . .
- Military model 2A016-111
- Maintenance manual . TM-5-2805-208-14
- Date manufactured . .
- Purchase order number . . . . . .

(2) Nomenclature . . . . . Compressor: Air Rotary, 60 CFM (cubic feet per minute) at 6.5 PSI (pounds per square inch at 3,600 rpm (revolutions per minute).
- Stock number 4310-906-8994
- Manufacture . . . . . Fuller Company
- Model 2MSWB
- Serial number . . . . . .
- Data manufactured . .
- Contract number . . . . DA-23-195-AMC-00963(T)
- Length . . . . . 42 inches
- Width . . . .27 inches
- Height . . . .26 inches
- Shipping weight . ...364 pounds
- cube . . . .17.5 feet
- Engine manufacture . Military Standard
- Model . . . .2A016 III
- Engine serial number . . . . . .

b. Tabulated Data

(1) Compressor, Rotary air, 60 CFM, 6.5 PSI
- Manufacture . . . . . Fuller Company GATX
- Model 2MSWB
- Type . . . . Portable gasoline driven
- Serial numbers ....49513 thru 49572 and 50251 thru 50574 A45599 and 45600

(2) Blower
- Manufacture . . . . . Fuller Company
- Type . . . . . Positive displacement
- Model . . . . . California series
- Size . . . . . .2 and 3
- Cubic feet per minute 60
- Pounds per square inch 6.5
- Revolutions per minute 3,600

(3) Engine (ref. TM 5-2805-208-14)
- Make . . . . . Military Standard Engine
- Model . . . . . .2A016 - III
- Type . . . . . .4-cycle, gasoline, overhead valve, air-cooled
- Number Cylinders . . 2
- Bore . . . . . .2.250 in.
- Stroke . . . . 2 in.
- Piston Displacement . . . . . 16 cu. in.
- Compression Ratio ..6:1
- Horsepower at 3,600 rpm 3

(4) Engine accessories

a. Carburetor
- Make . . . . . Military Design Engines 1A08-III and 2A016-III.
- Model . . . . ERF 4730
- Type . . . . Float

b. Fuel Pump
- Make . . . . Military Design
- Model 9786E18A
- Type . . . . Diaphragm

c. Air Cleaner
- Make . . . . Military Design
- Model 9786E20A3
- Type . . . . . Dry

d. Spark Plug
- Make . . . . . Military Standard
- Model MS51009-1
- Type . . . . Shielded

e. Governor
- Make . . . . . Military Standard
- Model . . . . . .
  - Model 1A08-III. 9876E75
  - Model 2A016-III 9787E40A2
- Type . . . . . centrifugal-flyweight

f. Fuel Filter
- Make . . . . Military Design
- Model 13206E1480
- Type . . . . Element

(5) Compressor accessories

a. Air Relief Valve

MFR ..... Kunkle Mfg. Co.
Model 86-C
Type ..... Spring loaded disc

b. Air Filter (Compressor)

MFR ..... Universal silencer
Model 14-129
Type ..... Replacement Element

c. Shaft Coupling

MFR ..... Browning
Model JS5H
Type .....JAW

d. Tire

MFR .....General tire and rubber
Size .....10 by 3.50 - 4 4.10/3.50-4
Ply 2
Air Pressure ...40 PSI

e. Shock Mount

MFR .....Korfund
Model F-B-470-RED
Type .....Elastomer

f. Air Hose

MFR .....Raybestos Manhattan Inc.
Type ZZ-H-496
Size ..... 11/4 I.D. by 25 ft.

(6) Capacities

Fuel tank .....2.5 gal.
Engine crankcase . ..5/8 qt.
Blower gearcase . ...2 oz.

(7) Nut and bolt torque data

Headplate .....20 lbs.
Gearcase .....10 lbs.
Bearing plate . . . ...10 lbs.
Engine bracket . . ...10 lbs.
Blower mounting ...10 lbs.
Engine and blower frame .....10 lbs.
Fuel tank straps . ...5 lbs.
Shock mounts . . . ...5 lbs.
Engine mounting . ..10 lbs.

(3) Dimensions and weight (fig. 1-1)

Length .....42 inches
Width .....27 inches
Height .....26 inches
Weight ....163 lbs. (Without Ace.)
Volume .....17 cubic feet
Shipping weight . ...364 lbs.

1-5. Differences in Models

This manual covers only the Fuller Company Model 2MSWB Rotary Compressor. No known differences exist for the model covered by this manual.

CHAPTER 2
INSTALLATION AND OPERATING INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF EQUIPMENT

2-1. Unloading of Equipment

Unload rotary compressor from carrier using manpower or a forklift truck.

2-2. Unpacking New Equipment

Unpack equipment as close to installation site as possible. Open the wooden crate that equipment is shipped in. Remove overpack kit and air hoses from crate. Remove equipment from crate. Check equipment against packing list and report any discrepancies to field maintenance.

2-3. Inspection and Servicing Equipment

a. Make a complete visual inspection of the rotary compressor for any loss or damage that may have occurred during shipment. Prior to inspection or operation of the rotary compressor, accomplish depreservation of blower and engine as outlined on DA form 2258.

b. Inspect the identification plates for positive identification of the equipment.

c. Inspect the engine for loose or missing mounting hardware, exhaust port and carburator intake port free of preservative tape.

d. Inspect the blower for loose mounting bolts, cracks, breaks and other defects. All air vent holes must be free of preservative tape.

e. Inspect the coupling for misalignment.

f. Turn the engine with the starting rope to make sure all moving parts are free of restrictions.

g. Check the contents of the crate against the packing list to make sure that no items are missing.

h. Correct all deficiencies or report them to the proper authority.

i. Service rotary compressor as directed in figure 3-2.

(1) Lubricate blower as directed in current lubrication order (fig. 3-1).

(2) Lubricate engine as directed in TM 5-2805-208-14.

j. Fuel System: Refer to appendix II, Maintenance and Operating Supplies. Fill fuel tank with the proper grade of gasoline and inspect for leaks.

Warning: **When handling gasoline, always provide a metal to metal contact between the container and the tank. This will prevent a spark from being generated as fuel flows over the metallic surfaces.**

k. Cold Weather Operation

(1) Keep fuel tank full to avoid condensation.

(2) Clean the sediment bowl more frequently than usual.

(3) Clean snow and ice from lubrication points before lubricating. Lubricate engine as described in the current lubrication order.

2-4. Installation of Separate Packed Components

a. The rotary compressor is delivered with two air hoses, two inflating valves, two nozzles, hose strap and engine starting rope. These items, except the hose, are packed in the tool box.

b. The hose, inflating valve and nozzle are installed as shown in figure 2-1.

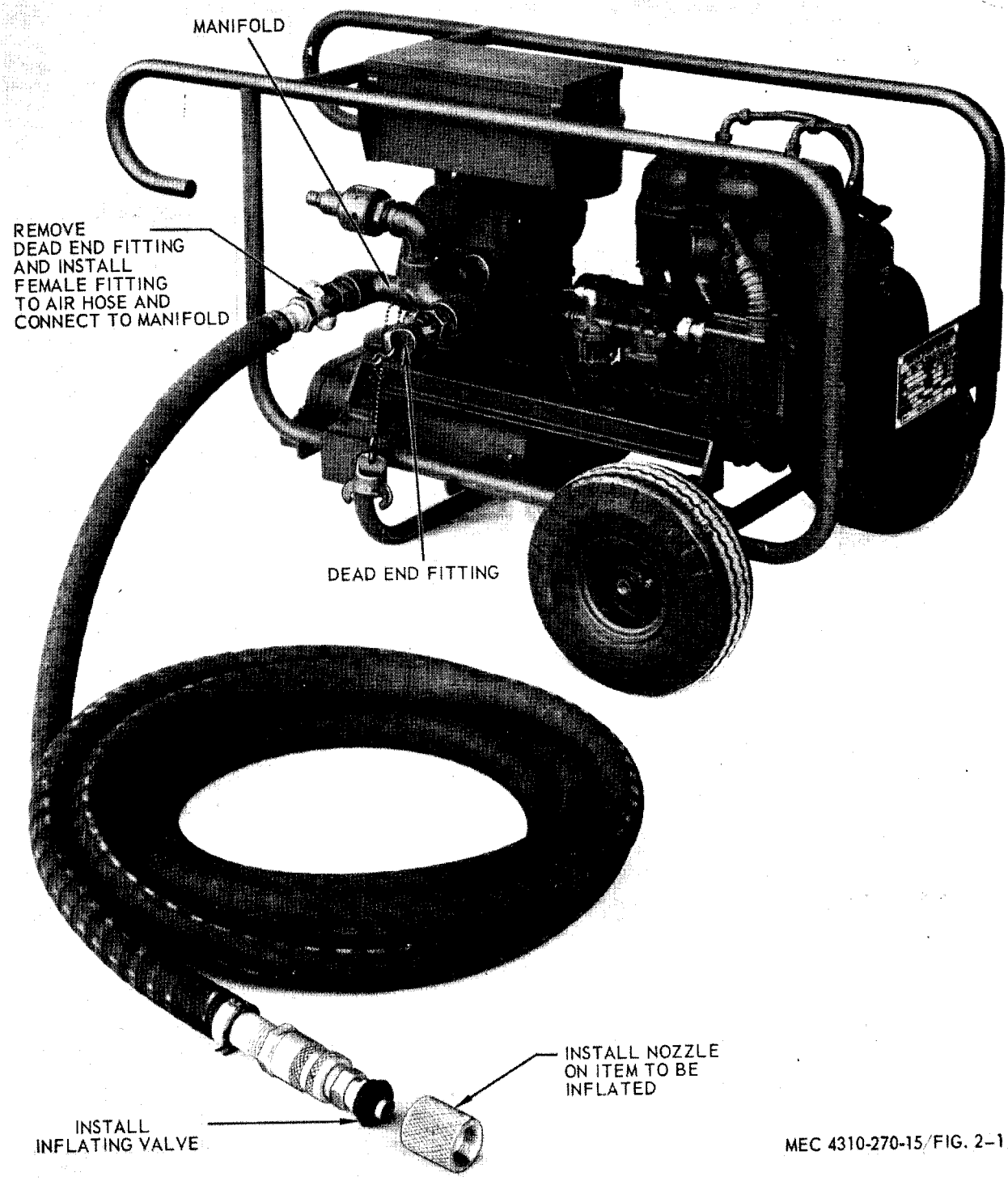


Figure 2-1. Air hose, nozzle, inflator and fitting installation and removal.

c. The engine starting rope is used as described in figure 2-3.

d. The hose strap is used as illustrated in figure 1-1.

2-5. Installation or Setting-up Instructions

a. General. This rotary compressor is a portable, self-contained unit designed to operate under severe conditions.

b. Outdoor Installation. Set up rotary compressor as level as possible. If a hard surface is used, the wheels must be chocked.

Caution: **The rotary compressor should never be operated more than 15 degrees off level.**

c. Assemble the hose, inflating valve and connect to male fitting on the manifold. Install nozzle on item to be inflated, (fig. 2-1).

d. Indoor Installation. Provide for at least two feet of excess space on all sides of the unit. Make sure the enclosure is well ventilated. Install gas-tight exhaust pipe extensions to carry exhaust fumes to the outside. Wrap the exhaust pipes with asbestos if there is danger of any one touching them.

Warning: **Do not operate rotary compressor in an enclosed area unless exhaust gases are piped to the outside. Inhalation of exhaust fumes will result in serious illness or death.**

Section II. MOVEMENT TO NEW WORK SITE

2-6. Dismantling for Movement

a. Shut down and disconnect inflating valve from nozzle.

b. Disconnect nozzle from system being inflated.

c. Disconnect air hose from manifold and coil around frame, secure with hose strap as shown in figure 1-1.

d. Store inflating valves, and nozzle in tool box.

e. The rotary compressor is a portable unit and can be readily moved by manpower from one site to another,

2-7. Re-installation After Movement

Set up the rotary compressor for operation in accordance with instructions in paragraph 2-5.

Section III. CONTROLS AND INSTRUMENTS

2-8. General

This section describes, locates, illustrates and furnishes operator, crew or organization maintenance personnel sufficient information about various controls and instruments for proper operation of the rotary compressor.

2-9. Controls

The purpose of controls and their normal positions are illustrated in figure 2-2 and engine TM 5-2805-208-14, figure 6.

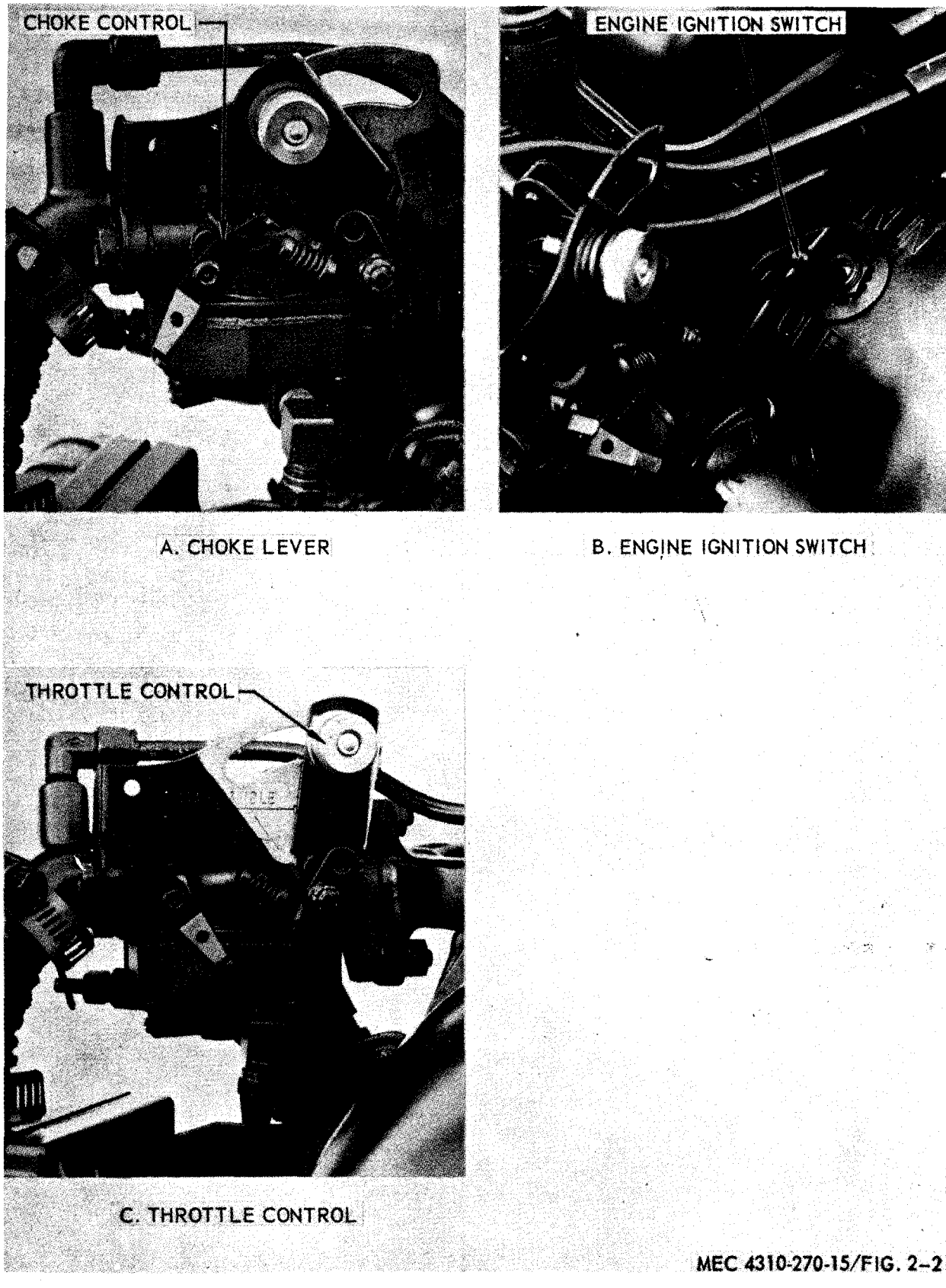


Figure 2-2. Controls.

2-10. General

a. Instructions in this section are published for information of the rotary compressor.

b. The operator must know how to perform every operation of which the rotary compressor is capable. This section gives instructions on starting and stopping the rotary compressor, basic motions of the rotary compressor, and on coordinating basic motions to perform specific tasks for which the equipment is designed. Since nearly every job presents a different problem, the operator may have to vary given procedures to fit the individual job.

2-11. Starting

a. Preparation For Starting:

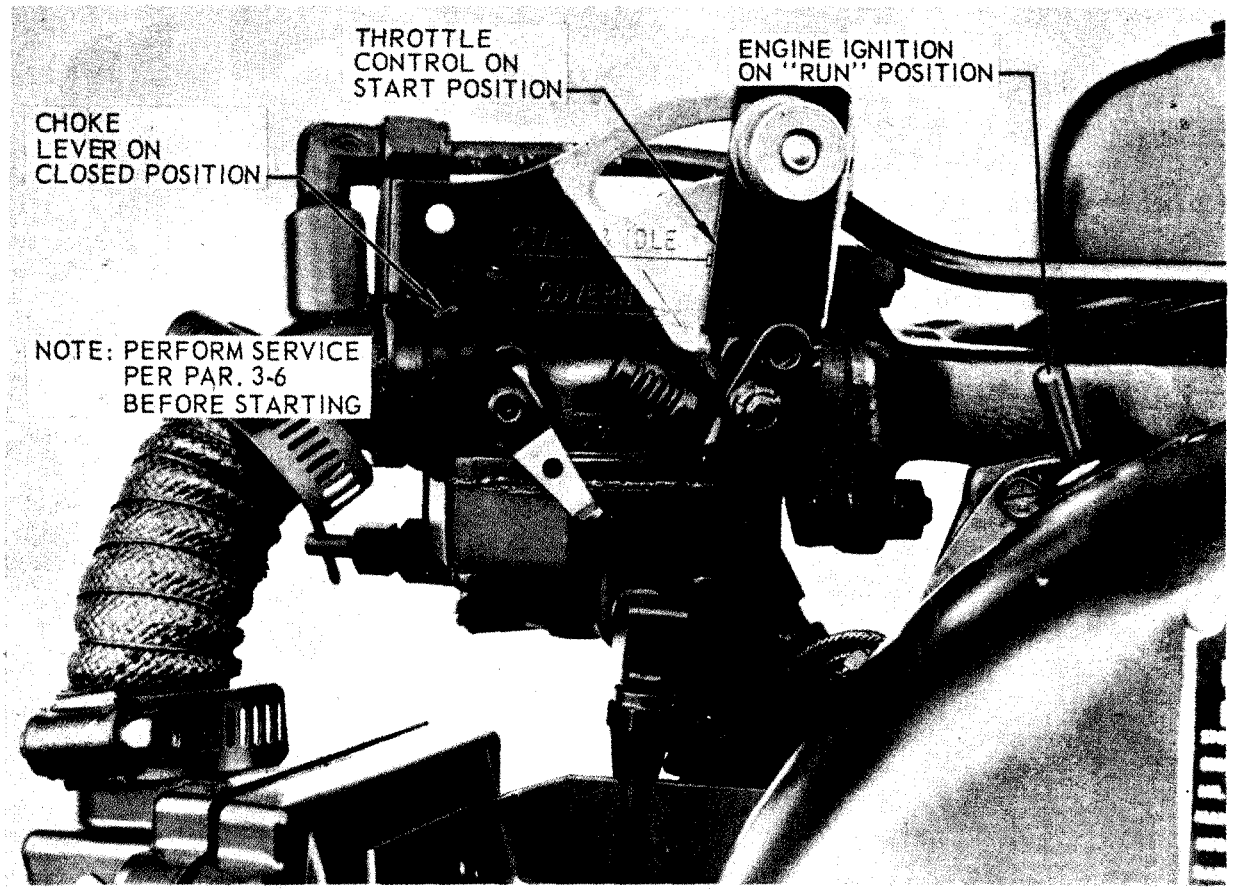
(1) Perform the daily preventive maintenance services, (para 3-6).

(2) Lubricate the rotary compressor in accordance with the current lubrication order.

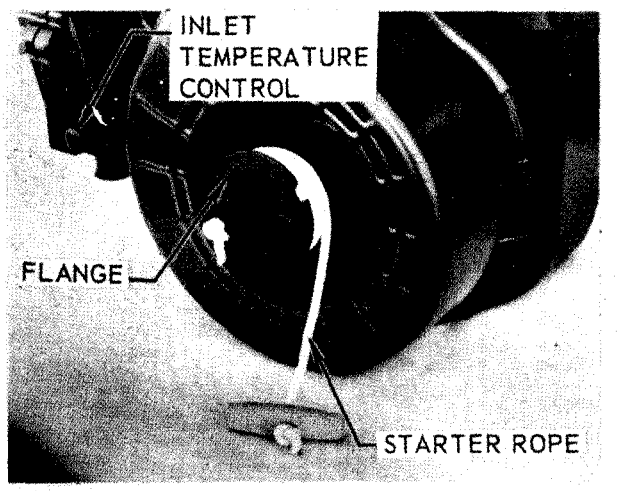
(3) Lubricate engine in accordance with LO 5-2805-208-14.

(4) If the engine is new or rebuilt or if the fuel filter has been serviced, remove fuel filter sediment bowl, fill with gasoline and replace. This will save repeated cranking of engine required to pump gasoline from the fuel tank to the sediment bowl.

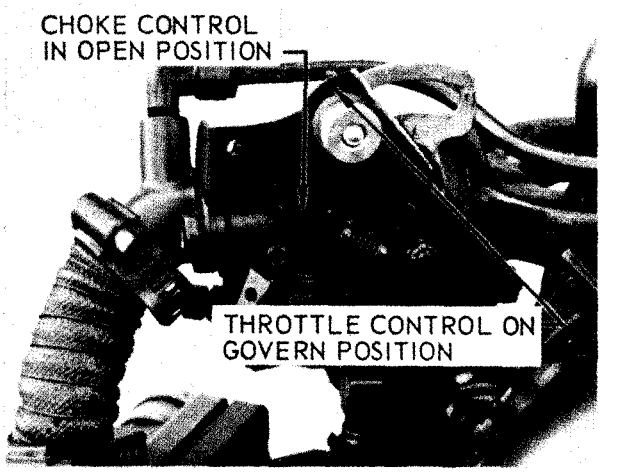
b. Starting: Refer to figure 2-3 and start the rotary compressor.



STEP 1. CONTROL POSITION



STEP 2. WRAP STARTER ROPE AROUND FLANGE AND PULL



STEP 3. GRADUALLY OPEN CHOKE CONTROL LEVER AS ENGINE WARMS UP. SET THROTTLE CONTROL TO GOVERN POSITION

MEC 4310-270-15/FIG. 2-3

Figure 2-3. Engine starting procedure.

c. When engine warms up pull inlet temperature control handle out for temperatures above 50 degrees F. Push handle in for temperatures below 25 degrees F. Place handle halfway in for temperatures between 25 degrees F and 50 degrees F.

2-12. Stopping

a. Refer to figure 2-4 and stop the rotary compressor.

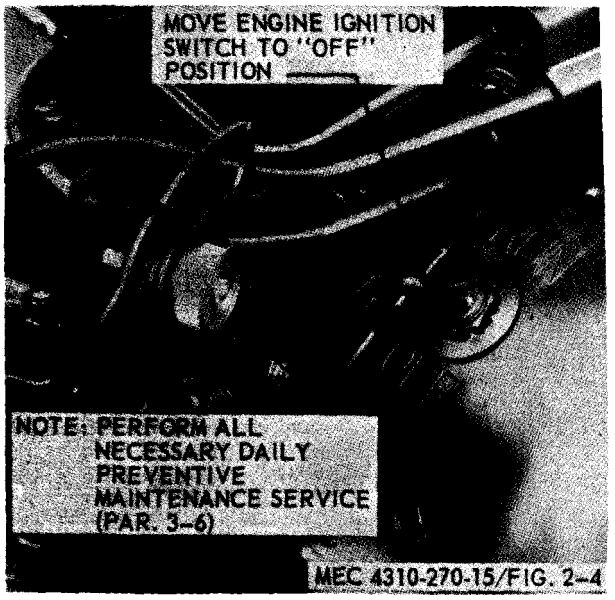


Figure 2-4. Stoppage Engine.

b. Perform the necessary daily preventive maintenance service.

2-13. Operation Under Usual Conditions

a. It is essential that the operator know how to perform every operation of which the rotary compressor is capable. Perform the daily preventive maintenance services, (para 3-6).

b. Start the rotary compressor as described in figure 2-3.

c. Stop rotary compressor as described in figure 2-4.

d. When the engine is operating, the air blower is directly driven at a preset pressure and no further operations need be performed other than the desired connection of either 1 or 2 hoses. The air hose and fittings may be connected and disconnected when the rotary compressor is operating.

2-13. Operation in Extreme Cold (Below 0° F)

a. Refer to current lubrication order for proper grade of lubrication.

b. Keep the fuel tank as full as possible and refill after operation to prevent condensation from forming within the tank.

c. Clean the fuel filter sediment bowl more frequently than usual.

d. Clean snow and ice from lubrication points before lubricating.

e. Inlet temperature handle must be pushed all the way in for temperatures below 25 degrees F.

2-14. Operation in Extreme Heat

a. Refer to current lubrication order for the proper grade of lubricants. Lubricate engine as described in LO 5-2805-208-14.

b. Check the air shrouds of the engine for insufficient ventilation of the engine. Clean air shrouds at regular intervals.

c. Inlet temperature handle must be pulled all the way out for temperatures above 50 degrees F.

d. The blower air filter must be kept clean or replaced more frequently.

2-15. Operation in Dusty or Sandy Areas

a. Lubricate unit in accordance with the current lubrication order and LO 5-2805-208-14. Keep lubricants free of dust and sand. Keep lubrication points, and lubrication equipment clean.

b. Service engine air cleaner, sediment bowl, and blower air filter more frequently than during normal operation.

c. Provide adequate protection to keep sand and dirt from entering fuel tank when filling. Service fuel filter as often as necessary to keep it free of foreign matter.

d. Protect rotary compressor from dust and sand by locating it near natural barriers and by wetting down the surrounding terrain if water is plentiful.

e. Clean the unit at frequent intervals with an approved cleaning solvent or compressed air.

f. Cover the unit when not in operation.

2-16. Operation Under Rainy or Humid Conditions

a. Protect the unit with a shelter of some kind. Keep the sides open for ventilation.

b. Make sure all surfaces requiring lubrication are clean and dry before applying lubrication. Lubricate in accordance with current lubrication order.

c. Frequently wipe dry all exposed areas.

d. Keep fuel tank full, to prevent condensation.

e. Keep the air hose clean and dry. Inspect frequently for cracks and deterioration.

f. Cover the unit when not in operation.

2-17. Operation in Salt Water Areas

a. Wash unit frequently with clean, fresh water. Be careful not to contaminate fuel system.

b. Coat exposed metal surfaces with rust proofing material. Remove any rust immediately and apply paint or oil as applicable.

c. Lubricate in accordance with current lubrication order, and LO 5-2805-208-14.

2-18. Operation in High Altitudes

a. The rotary compressor is designed to operate efficiently at elevations up to 5,000 feet. There will be a reduction in efficiency because of the rarified air at this level. This is a normal condition that can not be prevented.

b. Keep the air filters clean and unobstructed.

c. Maintain the engine at maximum efficiency, check with engine manual TM 5-2805-208-14 for engine service.

CHAPTER 3
OPERATOR AND ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

Section I. OPERATOR AND ORGANIZATIONAL MAINTENANCE TOOLS AND EQUIPMENT

3-1. Special Tools and Equipment

No special tools or equipment are required by operator or organizational maintenance personnel for maintenance of the rotary compressor.

3-2. Basic Issue Equipment

Equipment with, or authorized for use with, the rotary compressor is listed in the basic issue items list, appendix B of this manual.

Section II. LUBRICATION

3-3. General Lubrication Information

a. This section contains a reproduction of the lubrication order and lubrication instructions which are supplemental to, and not specifically covered in, the lubrication order.

b. The lubrication order shown in figure 3-1 is an exact reproduction of the approved lubrication order for the rotary compressor. For the current lubrication order, refer to DA pamphlet 310-4.

3-4. Detailed Lubrication Information

a. *General*. Keep all lubricants (grease and oil) in closed containers and stored in a clean, dry place away from heat. Allow no dirt, dust, water, or foreign material to mix with the lubricant at any time. Keep all lubrication equipment clean and ready for use.

b. *Cleaning*. Keep all external parts not requiring lubrication clean of lubricants. Before lubricating the equipment, wipe all lubrication points free of dirt and grease. Clean all lubrication points after lubrication to prevent accumulation of foreign matter.

c. *Points of Application*. Detailed lubrication instructions for the engine are contained in TM 5-2805-208-14. Follow the detailed lubrication instructions given beneath each illustrated lubrication point indicated in the current lubrication order, figure 3-1.

LUBRICATION CHART

COMPRESSOR, ROTARY: WHEELBARROW FRAME MOUNTED, 2 PNEUMATIC TIRES; GASOLINE ENGINE; 60 CFM; 6.5 PSI; (FULLER MODEL 2MSWB) LESS MIL STD ENGINE

REFERENCE: TM5-2805-208-14, LO5-2805-208-14

Intervals are based on normal operations. Reduce to compensate for abnormal operation and severe conditions. During inactive periods sufficient lubrication must be performed for adequate preservation.

Clean fittings before lubricating.

Relubricate after washing.

Clean parts with SOLVENT, dry-cleaning, or with OIL, fuel, Diesel. Dry before lubricating.

Drain gearcase only when hot after operation; replenish and check level when cool.

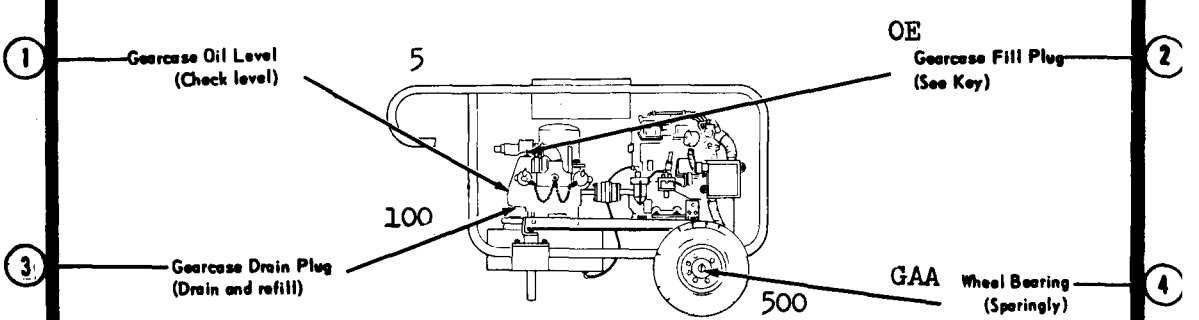
Lubricate points indicated by dotted arrow shafts on both sides of the equipment.

— KEY —

LUBRICANTS	CAPACITY	EXPECTED TEMPERATURES			INTERVALS
		Above +32° F	+40°F to -10°F	0°F to -65°F	
OE -OIL, Engine, Heavy Duty	5/8 QT	OE 30	OE 10	OES	Intervals given are in hours of normal operation.
Compressor Gearcase	2 OZ				
OES -OIL, Engine, Subzero					
GAA -GREASE, Automotive and Artillery		All Temperatures			

LUBRICANT • INTERVAL

INTERVAL • LUBRICANT



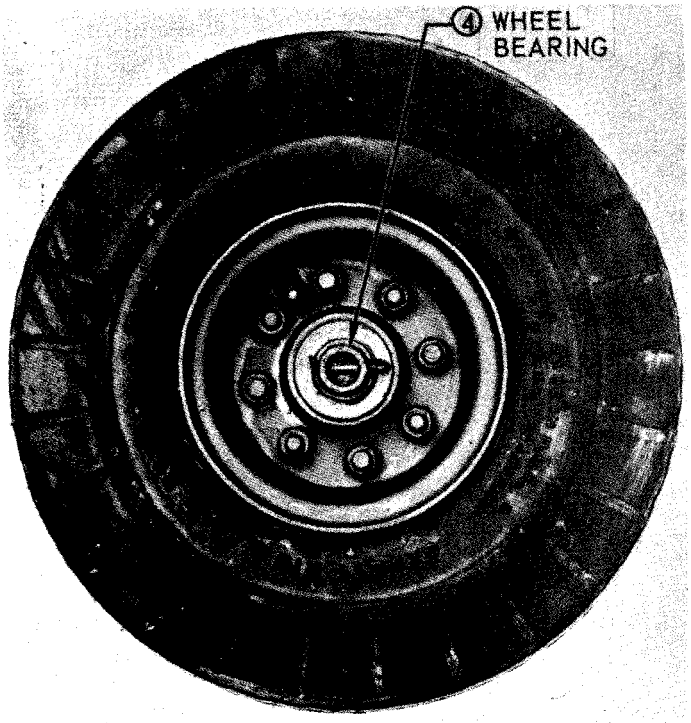
NOTES:

FOR OPERATION OF EQUIPMENT IN PROTRACTED COLD TEMPERATURES BELOW -10°F. Remove lubricants prescribed in the key for temperatures above -10°F. Clean parts with SOLVENT, dry-cleaning. Relubricate with lubricant specified in the key for temperatures below -10°F.

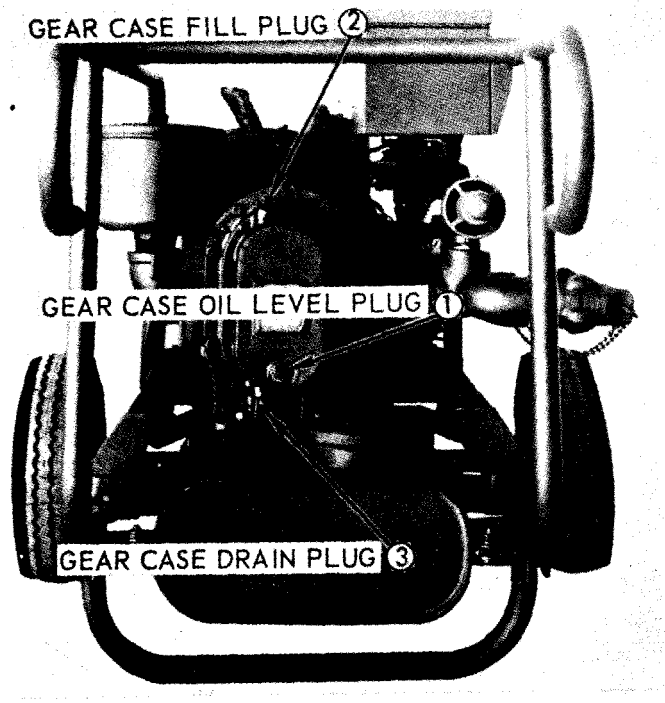
Copy of this Lubrication Order will remain with equipment at all times; instructions contained herein are mandatory.

MEC 4310-270-15/FIG. 3-1 (1)

Figure 3-1. Lubrication order.



REFERENCE POINT 4



REFERENCE POINTS 1, 2 AND 3

MEC-270-15/FIG. 3–1 ②

d. Operation After Lubrication. Operate unit for five minutes after lubrication. Inspect for leaks and check oil level in crankcase. Step unit, wait five minutes, and check oil level again. Add oil if necessary.

e. *OES Oil.*

(1) Crankcase oil level must be checked frequently as oil consumption may increase.

(2) Oil may require changing more frequently than usual because contamination by dilution and sludge formation will increase under cold weather operation conditions.

Section III. PREVENTIVE MAINTENANCE SERVICE

3-5. General

To insure that the rotary compressor is ready for operation at all times, it must be inspected systematically so that defects may be discovered and corrected before they result in serious damage or failure. The necessary preventive maintenance services to be performed are listed and described in paragraphs 3-6 and 3-7. Item numbers indicate the sequence of minimum inspection requirements. Defects discovered during operation of the unit shall be noted for future correction, to be made as soon as operation has ceased. Stop operation immediately if a deficiency is noticed which would damage the equipment if operation were continued. All deficiencies and shortcomings will be recorded together with the corrective action taken on DA Form 2404 (Equipment Inspection and Maintenance Worksheet) at the earliest possible opportunity.

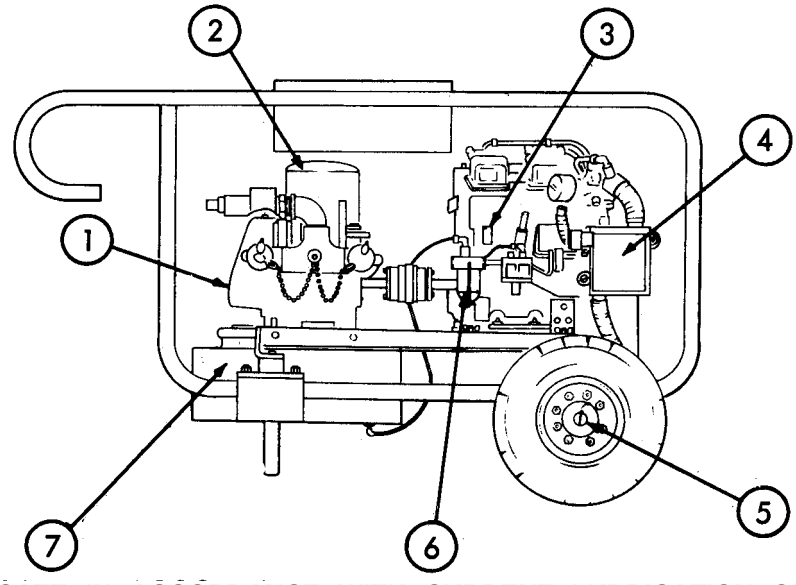
3-6. Daily Preventive Maintenance Service

This paragraph contains an illustrated tabulated listing of preventive maintenance services which must be performed by the operator. The item numbers are listed consecutively and indicate the sequence of minimum requirements. Refer to figure 3-2 for the daily preventive maintenance services.

PREVENTIVE MAINTENANCE SERVICES

DAILY

TM 5-4310-270-15 **FULLER MODEL 2MSWB** **COMPRESSOR, ROTARY AIR**



ITEM	LUBRICATE IN ACCORDANCE WITH CURRENT LUBRICATION ORDER	PAR REF
1.	**BLOWER GEAR CASE.** Check oil level, add oil A/R.	3-14
2.	**BLOWER AIR CLEANER.** Service as required (weekly).	3-15
3.	**ENGINE CRANKCASE.** Check oil level, add oil A/R.	3-9
4.	**ENGINE AIR CLEANER INDICATOR.** Check for red warning signal.	3-9
5.	**TIRES.** Check tire pressure (maximum air pressure 40 lbs) (weekly).	
6.	**ENGINE FUEL FILTER.** Service as required (weekly).	3-10
7.	**FUEL TANK.** Added fuel as required.	

MEC 431 O-270-15/FIG. 3-2

Figure 3-2. Daily preventive maintenance.

3-7. Quarterly Preventive Maintenance Service

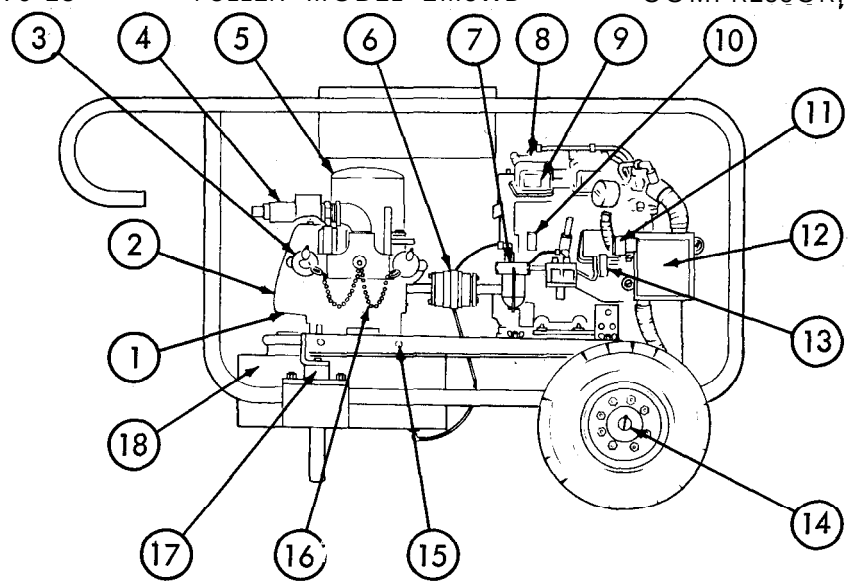
a. This paragraph contains an illustrated tabulated listing of preventive maintenance services which must be performed by organizational maintenance personnel at quarterly intervals. A quarterly interval is equal to three calendar months, or 250 hours of operation, whichever occurs first.

b. The item numbers are listed consecutively and indicate the sequence of minimum requirements. Refer to figure 3-3 for the quarterly preventive maintenance services.

PREVENTIVE MAINTENANCE SERVICES

Quarterly

TM 5-4310-270-15 FULLER MODEL 2MSWB COMPRESSOR, ROTARY AIR



ITEM	LUBRICATE IN ACCORDANCE WITH CURRENT LUBRICATION ORDER	PAR REF
1.	GEARCASE OIL DRAIN. Drain after first 500 hr, then every 1500 hrs.	
2.	OIL LEVEL CHECK. Add oil as required.	3-14
3.	RUBBER WASHER. Check for proper sealing.	3-32
4.	AIR RELIEF VALVE. Check for loose parts, adjust when required.	3-31
5.	BLOWER AIR FILTER. Service when required every 250 hrs.	3-15 3-29
6.	COUPLING. Check rubber insert, replace if necessary.	5-12
7.	ENGINE FUEL FILTER. Service as required.	3-10 3-37

MEC 4310-270-15/FIG. 3-3 (1)

Figure 3-3. Quartly preventive maintenance.

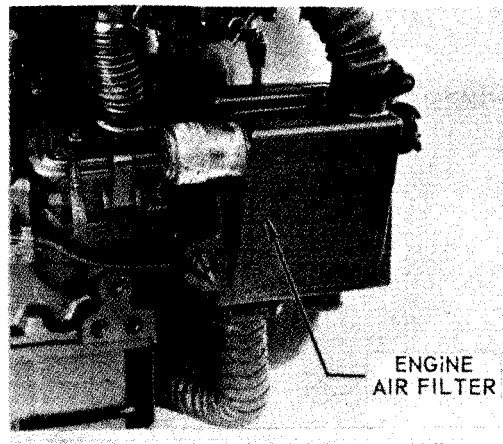
ITEM		PAR REF
8.	ENGINE SPARK PLUGS. Clean and adjust 0.028 to 0.033 in.	
9.	ENGINE VALVE TAPPETS, Check clearance, adjust to 0.014 in.	3-44
10.	ENGINE OIL DIP STICK. Add oil as required.	3-11
11.	AIR CLEANER INDICATOR. Check for red warning signal.	
12.	ENGINE AIR CLEARNER. Service as required.	3-9
13.	ENGINE CONTACT ASSEMBLIES. Adjust point gap to 0.018 in.	3-44
14.	TIRE. Check tire pressure (maximum 40 lbs.).	
15.	MOUNTING HARDWARE. Check for loose nut and bolts.	
16.	SECURING CHAIN. Check for damage links and mounting.	
17.	SHOCK MOUNT. Check for crack and loose hardware.	3-42
18.	FUEL TANK. Service strainer, check for loose mounting straps.	

MEC 4310-270-15/FIG. 3-3 (2)

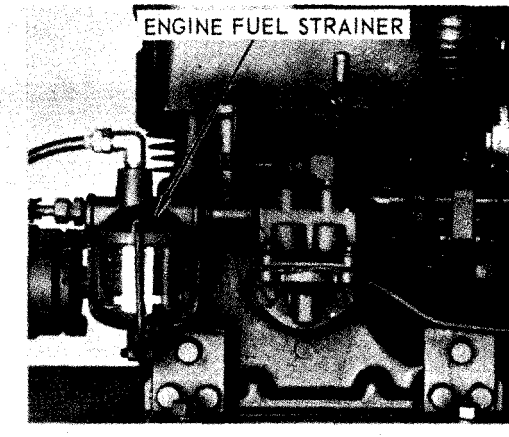
Section iV. OPERATOR MAINTENANCE

3-8. General

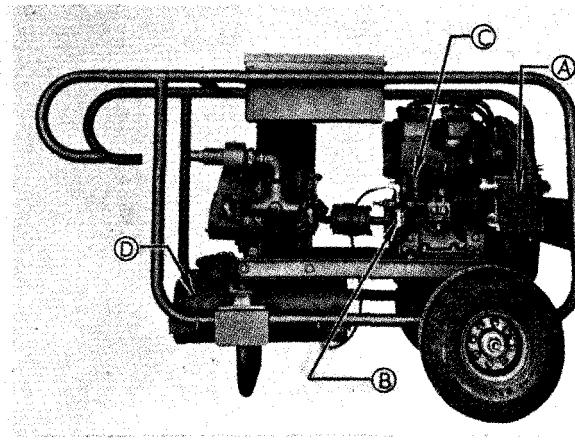
Instructions in this section are published for the information and guidance of the operator to maintain the rotary compressor.



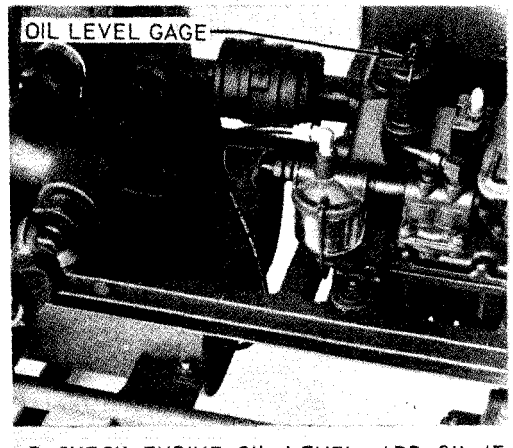
A. INSPECT AIR FILTER FOR DIRT AND DAMAGE. CLEAN IF NECESSARY.



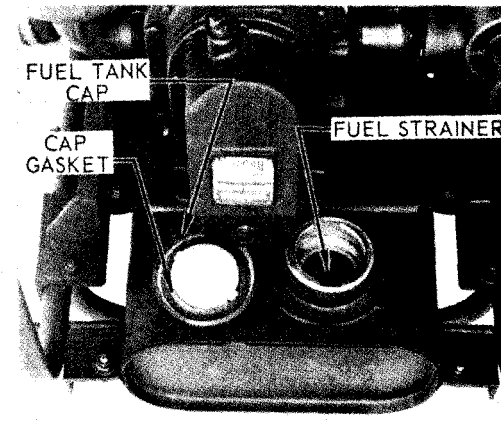
B. INSPECT FUEL STRAINER FOR LEAKS, DIRT AND DAMAGE. CLEAN IF NECESSARY.



CORRECT OR REPORT ALL DEFECTS TO ORGANIZATIONAL MAINTENANCE.



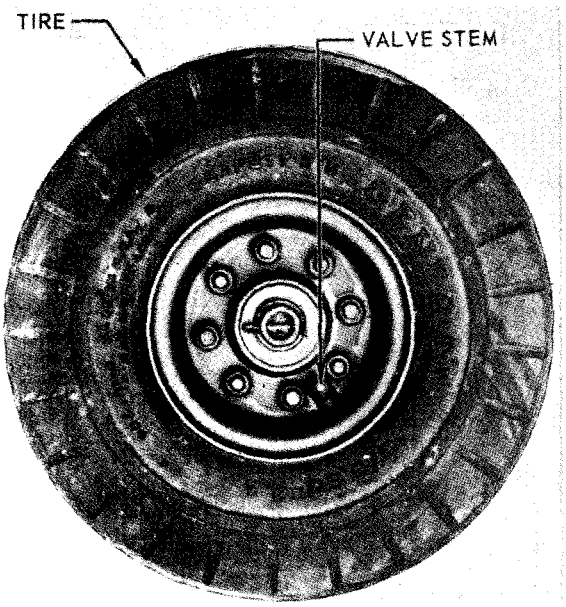
C. CHECK ENGINE OIL LEVEL. ADD OIL IF NECESSARY. REFER TO CURRENT LUBRICATION ORDER.



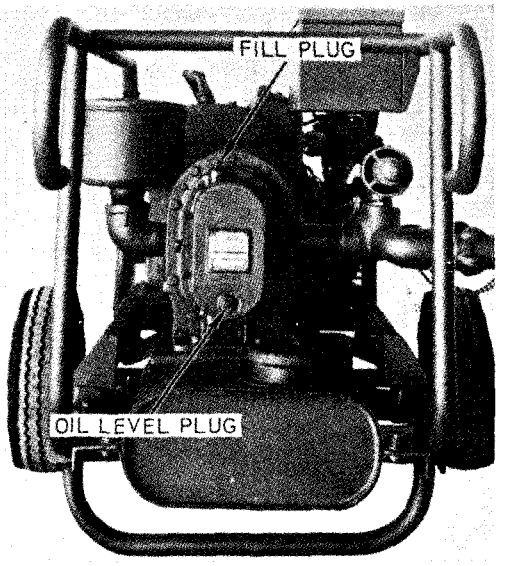
D. INSPECT FUEL TANK CAP FOR DEFECTIVE GASKET OR PLUGED AIR VENT. INSPECT FUEL STRAINER FOR DIRT AND DAMAGE. CLEAN FUEL STRAINER IF NECESSARY. CHECK FUEL SUPPLY, ADD FUEL IF NECESSARY.

MEC 4310-270-15/FIG. 3-4 ①

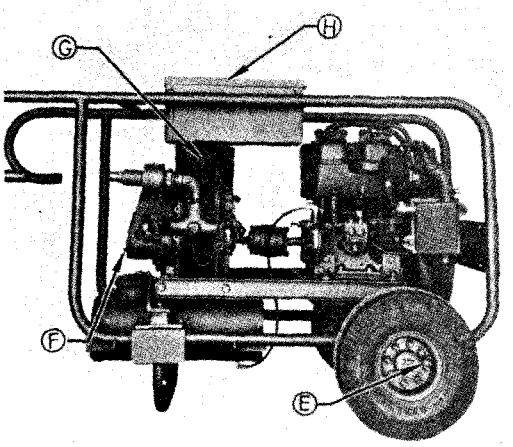
Figure 3-4. Operator maintenace.



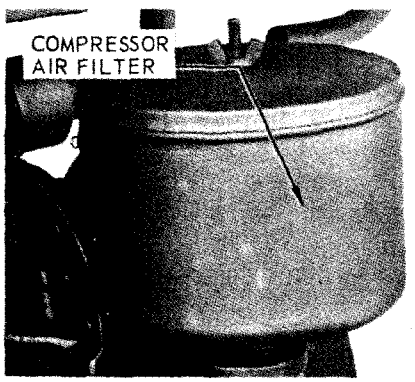
E. INSPECT TIRE FOR DAMAGE. CHECK FOR IMPROPER INFLATION. INFLATE TIRES TO 40 PSI. REPLACE VALVE STEM CAP AFTER CHECKING TIRE PRESSURE.



F. CHECK OIL LEVEL: REMOVE OIL LEVEL PLUG. IF OIL DRIPS OUT REPLACE PLUG IMMEDIATELY. IF NO OIL DRIPS OUT REMOVE FILL PLUG AND FILL GEAR CASE UNTIL OIL DRIPS OUT OF THE OIL LEVEL HOLE. IMPORTANT DO NOT OVERFILL.

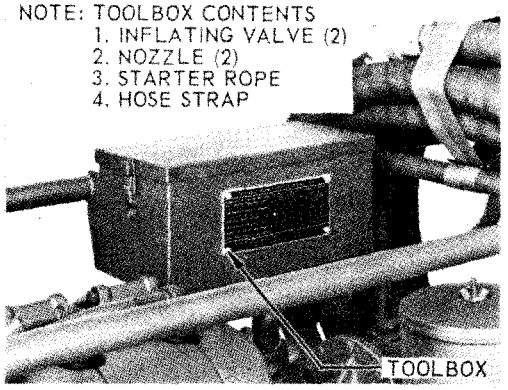


CORRECT OR REPORT ALL DEFECTS TO ORGANIZATIONAL MAINTENANCE.



G. INSPECT AIF FILTER FOR DAMAGE. REMOVE WEATHER HOOD AND INSPECT ELEMENT FOR DIRT. REPLACE IF NECESSARY.

NOTE: TOOLBOX CONTENTS
1. INFLATING VALVE (2)
2. NOZZLE (2)
3. STARTER ROPE
4. HOSE STRAP



H. INSPECT TOOLBOX FOR INSECURE MOUNTING AND DAMAGE. INSPECT CONTENTS FOR DAMAGE.

MEC 4310-270-15/FIG. 3-4 ②

3-9. Engine Air Cleaner Service

Refer to figure A, 3-4, and engine TM 5-2805-208-14.

3-10. Engine Fuel Filter Service

Refer to figure B, 3-4, and engine TM 5-2805-208-14.

3-11. Engine Oil level

Refer to figure C, 3-4, and current lubrication order.

3-12. Fuel Tank Service

Service fuel tank as illustrated in figure D, 3-4.

3-13. Wheel Assembly

Service tire as illustrated in figure E, 3-4.

3-14. Blower Assembly

Maintain proper lubrication at all times. Refer to current lubrication order and figure F, 3-4.

3-15. Air Intake Filter

The air filter element must be replaced after 250 hours of normal operation and 150 hours under severe operating conditions, (ref fig. G, 3-4).

3-16. Tool Box

Inspect tool box as illustrated in figure H, 3-4.

Section V. TROUBLESHOOTING

3-17. General

This section provides information useful in diagnosing and correcting unsatisfactory operation or failure of the rotary compressor and its components. Each trouble symptom stated is followed by a list of probable causes. The possible remedy recommended is described opposite the probable cause. Any trouble beyond the scope of organizational maintenance shall be reported to direct support maintenance. Refer to TM 5-2805-208-14 for engine troubleshooting.

3-18. Engine Fails to Get Fuel

Probable Cause	*Possible Remedy*
Fuel line clogged or damaged.	Clean or replace fuel line, para 3-35.
Fuel tank cap air vent closed.	Clean fuel tank cap air vent.
Fuel low in tank.	Fill fuel tank with gasoline

3-19. Air Compressor Output Pressure Inadequate

Probable Cause	*Possible Remedy*
Air hoses and coupling halves.	Tighten loose air hose connections. Replace defective air hoses and coupling halves, para 3-33.
Air filter element dirty.	Replace or clean air filter element, para 3-30.
Air-relief valve defective.	Replace air-relief valve, para 3-31.
Air compressor defective.	Replace air compressor, para 5-14.
Coupling defective.	Repair or replace coupling, para 5-12.
Engine speed below 3,600 RPM.	Adjust engine governor; refer to TM 5-2805-208-14.

3-20. Air Compressor Knocks

Probable Cause	*Possible Remedy*
Air compressor oil level low.	Fill compressor gearcase, para 3-14.
Coupling defective.	Repair or replace coupling, para 5-12.
Air Compressor defective.	Replace air compressor, para 5-14.

3-21. Air Compressor Overheats

Probable Cause	*Possible Remedy*
Compressor air filter element.	Replace compressor air filter element, para 3-15.
Air hoses restricted.	Remove restriction.

3-22. Air Compressor Air Contains Oil

Probable Cause	*Possible Remedy*
Air compressor oil level too high.	Drain oil from compressor gearcase to prescribed level.
Air compressor bearings defective.	Replace air compressor, para 5-14.

3-23. Air Compresor Vibrates Excessively

Probable Cause	*Possible Remedy*	*Probable Cause*	*Possible Remedy*
Coupling damaged or defective.	Repair or replace coupling, para 5-12.	Shock mounts are loose or defective.	Tighten shock mounts, para 3-41.

Section VI. RADIO INTERFERENCE SUPPRESSION

3-24. Definitions

a. Interference. The term "interference" as used herein applies to electrical disturbances in the radio frequency range which are generated by the rotary compressor and which may interfere with the proper operation of radio receivers or other electronic equipment, or enable the enemy to locate the equipment.

b. Interference Suppression. The term "interference suppression" as used herein applies to the methods used to eliminate or effectively reduce radio interference generated by the rotary compressor.

3-25. General Methods Used to Attain Proper Suppression

Essentially, suppression, is attained by providing a low resistance path to ground stray currents. Methods used include shielding the ignition and high-frequency wire, grounding the frame with bonding straps, and using capacitors and resistors.

3-26. Interference Suppression Components

a. Primary Suppression Components. The primary suppression components are those whose primary function is to suppress radio interference. These components are described and located in the engine technical manual, TM 5-2805-208-14.

b. Secondary Suppression *Components.* These components have radio interference suppression functions which are incidental and/or secondary to their primary function, (ref fig. 3-5).

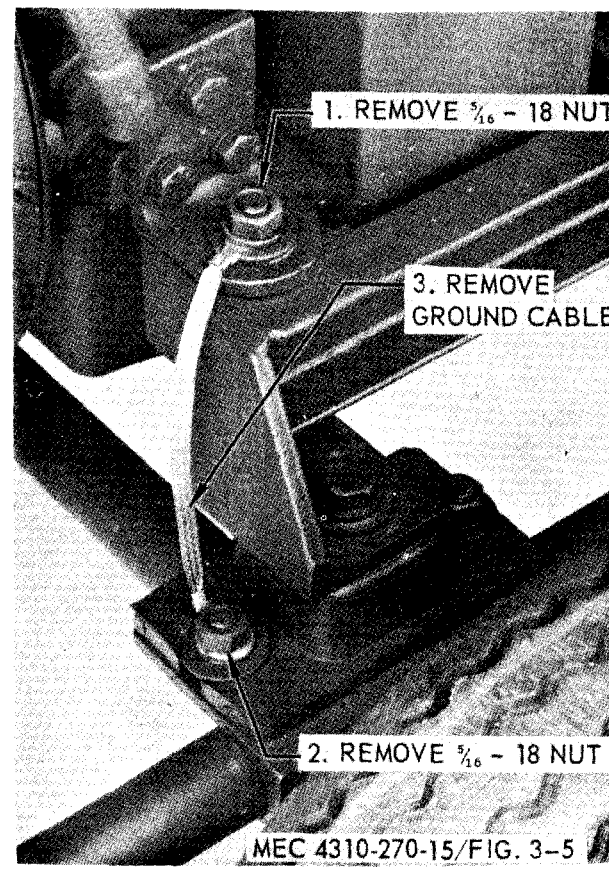


Figure 3-5. Radio interference suppression component.

3-27. Replacement of Suppression Components

a. Refer to engine TM 5-2805-208-14.

b. Replace ground cable as illustrated in figure 3-5.

3-28. Testing of Radio Interference Suppression Components

Test the capacitors for leaks and shorts on a capacitor tester; replace defective capacitors. If test equipment is not available and interference is indicated, isolate cause by the trial-and-error method of replacing each capacitor in turn until the cause of interference is located and eliminated.

3-29. General

The air intake system of the rotary compressor consists of a blower air filter mounted on the right side of the air blower. The air discharge system is comprised of a manifold and air relief valve. Connected to the manifold are two air hoses used for inflating. The air relief valve is preset to discharge air whenever pressure in the air compressor rises above 6.8 psi.

3-30. Blower Air Filter

a. Removal.

(1) Remove the weather hood and element as illustrated in figure 3-6.

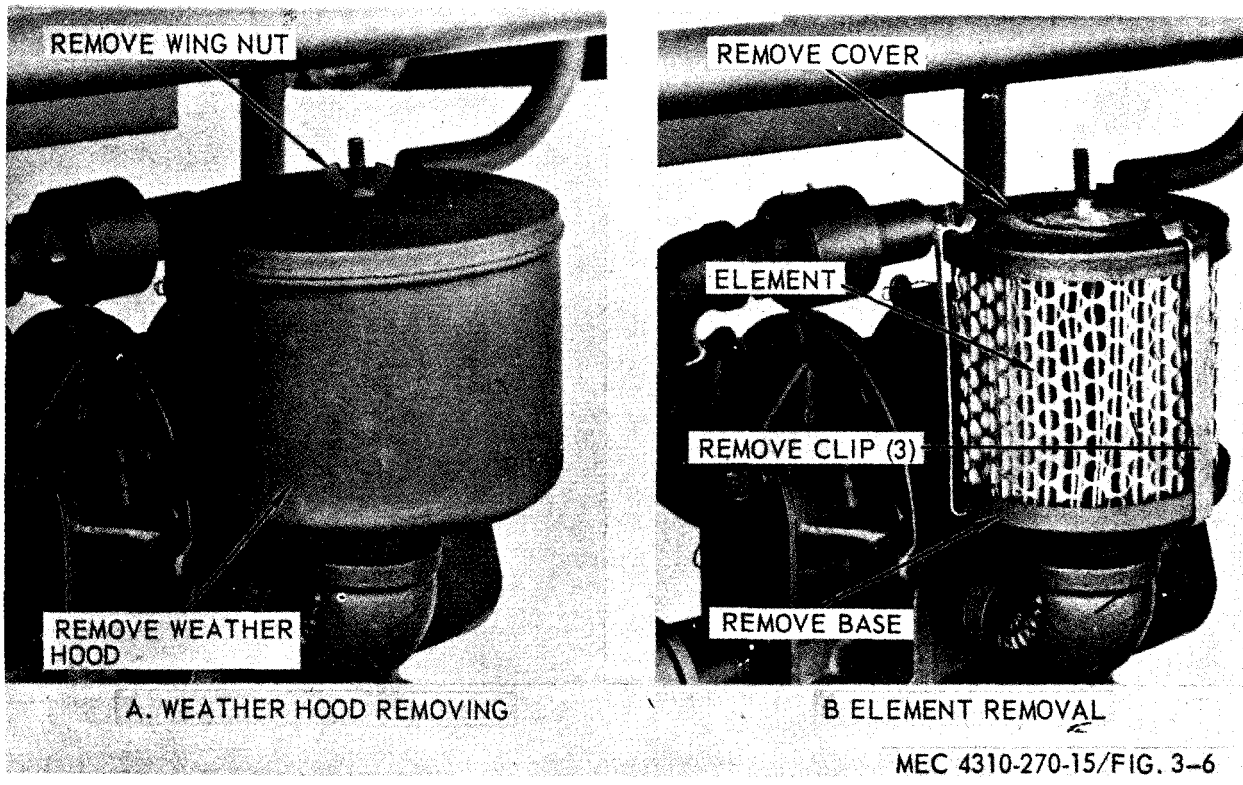


Figure 3-6. Blower air filter removal and installation.

(2) If required, remove filter base.

b. Cleaning. Clean and inspect, replace element as required.

c. *Installation.* Install the air filter as illustrated in figure 3-6.

3-31. Air Relief Valve

a. Removal. Remove air relief valve from 90 degree elbow, (ref fig. 3-7).

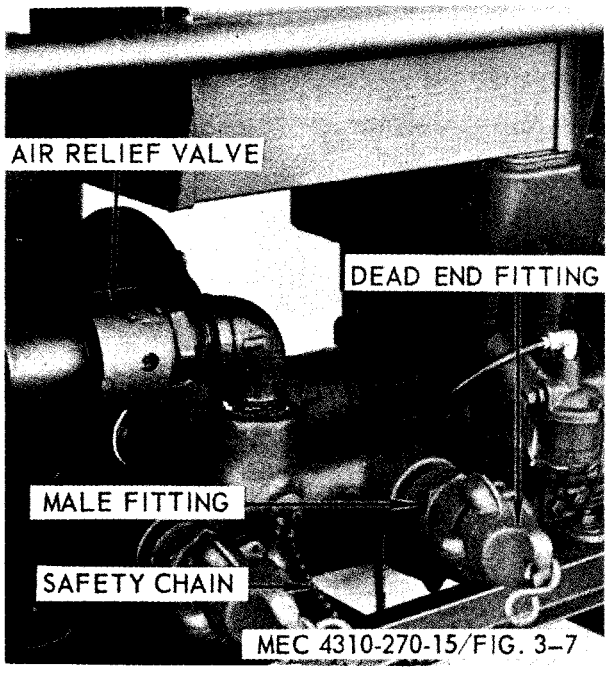


Figure 3-7. Air relief valve and quick disconnect fitting removal and installation.

b. Cleaning and Inspection.

(1) Clean air relief valve with an approved solvent.

(2) Inspect for damaged threads, cracks, and other damage.

c. Installation. Install the air relief valve as illustrated in figure 3-7.

3-32. Quick Disconnect Fittings

a. Removal.

(1) Remove dead-end fitting, remove safety chain if required, figure 3-7.

(2) Remove male fitting from the manifold, figure 3-7.

(3) Remove rubber washer from both dead-end and male fittings.

b. Cleaning and Inspection.

(1) Clean both dead-end and male fittings with an approved solvent.

(2) Clean rubber washers with an approved solvent.

(3) Inspect both dead-end and male fittings for excess wear on the locking lugs, cracks, and damaged threads.

(4) Inspect the rubber washers for cracks and excess wear.

c. Installation.

(1) Insert the rubber washers into the fittings.

(2) Thread the male fitting into the manifold.

(3) Twist and lock dead-end fitting into the male fitting. If the dead-end fitting will not lock and is loose, replace rubber washers.

(4) Secure safety chain to manifold.

3-33. Hose Assembly

a. Removal.

(1) Remove female fitting.

(2) Remove hose clamps.

(3) Remove hose adapters.

b. Cleaning and Inspection.

(1) Clean all metal components with an approved solvent.

(2) Clean the air hose with an approved detergent.

(3) Inspect all components for rust, cracks, and other damage. Check rubber washer for excess wear.

c. Installation.

(1) Insert adapter into ends of hose.

(2) Secure adapter with hose clamps.

(3) Thread female fitting into one end of each hose.

Section VIII. FUEL SYSTEM

3-34. General

The rotary compressor is equipped with a 2 1/2 gallon fuel tank made of 18-gage terneplate. A removable wire mesh strainer is located at the neck of the tank. The fuel tank cap is vented and attached to the tank with a safety chain. A 1/4 inch nylon fuel line is attached to the fuel tank outlet and to the engine fuel filter, (fig. 3-8).

3-35. Fuel line

a. Removal. Refer to figure 3-8 for removal of the fuel line.

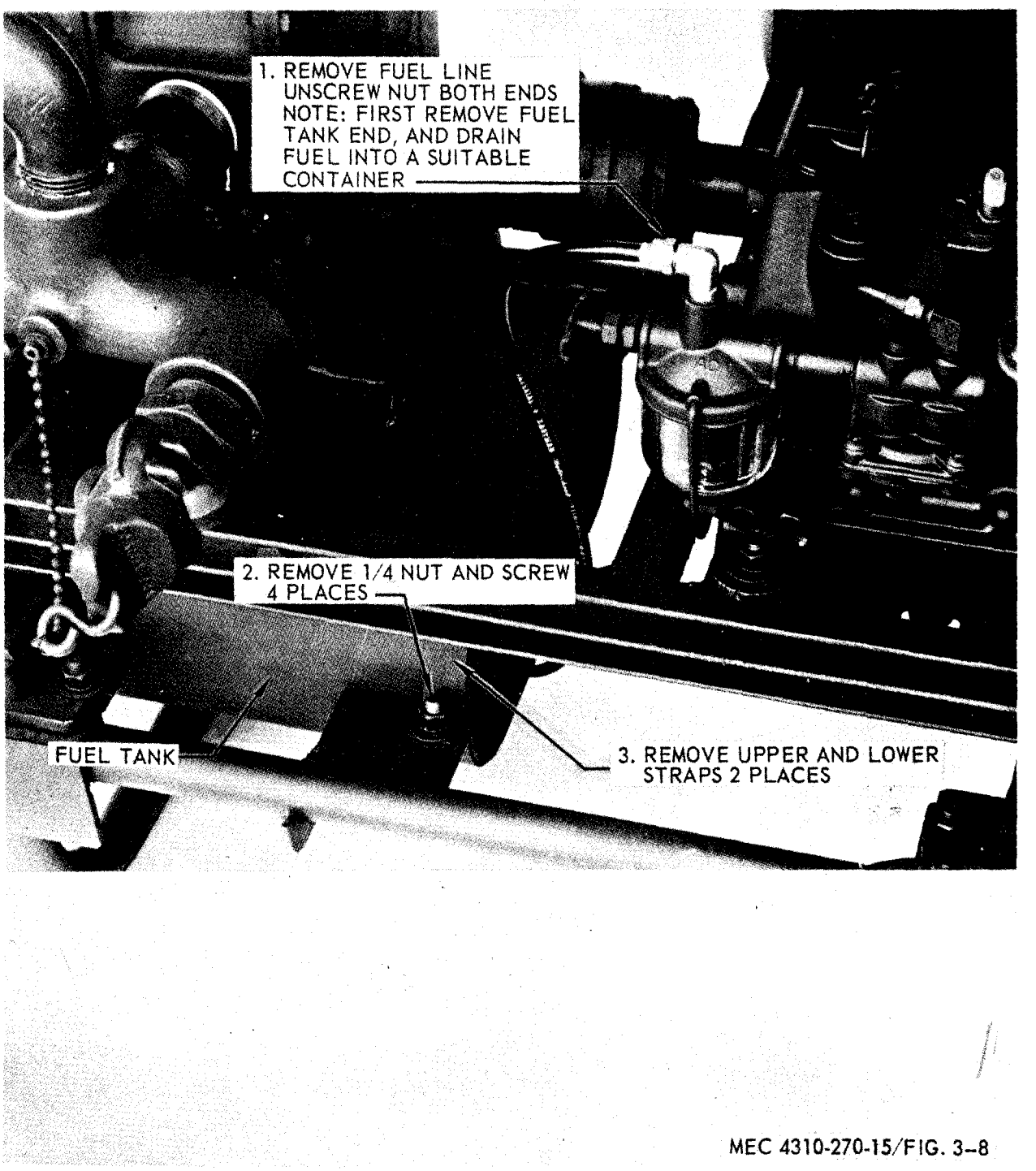


Figure 3-8. Fuel line removal and installation.

b. Cleaning and Inspection.

(1) Clean fuel line and fitting with an approved solvent.

(2) Inspect fuel line for cracks and deterioration.

c. *Repair.* As a field expedient repair, in the event the fuel line becomes cut or broken, pressure-sensitive tape may be wound around the break in the fuel line.

d. Installation. Install fuel line as shown in figure 3-8.

3-36. Fuel Tank

a. Removal.

(1) Remove fuel line at tank end and drain into suitable container.

(2) Remove 1/4-20 nuts and screws as shown in figure 3-8.

(3) Remove strainer and cap gasket as shown in figure A, 3-9.

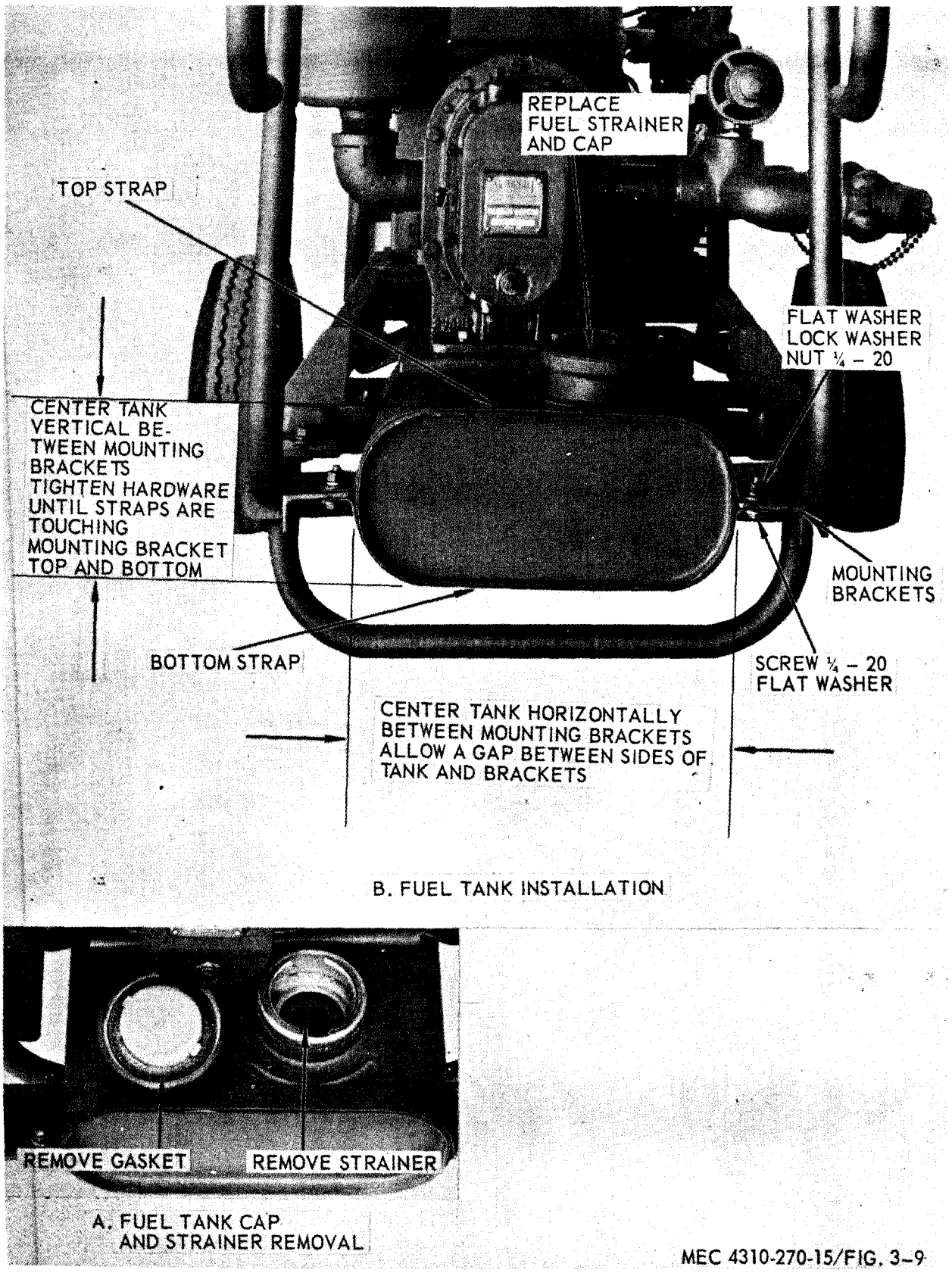


Figure 3-9. *Fuel tank removal and installation.*

b. Cleaning and Inspection.

(1) Clean fuel tank with an approved solvent. Fill tank and check for leaks.

(2) Clean tank strap with an approved solvent. Do not soak tank strap in solvent. Avoid solvent contact on strap felt. If felt becomes deteriorated, replace.

(3) Clean strainer with an approved solvent. Inspect the wire mesh for obstructions, cracks, and deterioration.

(4) Clean and inspect fuel tank cap. Replace gasket if deteriorated, (fig. A, 3-9).

c. Installation.

(1) Replace fuel strainer and cap on tank.

(2) Position fuel tank straps, top and bottom, at the fuel outlet end. From the bottom side insert 1/4-20 screw through a 14 flat washer, bottom strap, mounting bracket, top strap, flat washer, and lock washer. Screw 1/4-20 nut only a few turns, (fig. B, 3-9) .

(3) Insert the fuel outlet end of the fuel tank through the top and bottom mounting straps. Finger tighten hardware, (fig. B, 3-9).

(4) Level fuel tank and mount top and bottom mounting straps at the inlet end. Assemble the hardware as previously stated and finger tighten, (fig. B, 3-9).

(5) Position fuel tank as illustrated in figure B, 3-9, and tighten hardware, making certain that a gap is maintained between the sides of the fuel tank and the inside edge of all four mounting brackets.

3-37. Engine Fuel Filter

a. Removal. Remove as shown in figure 3-10.

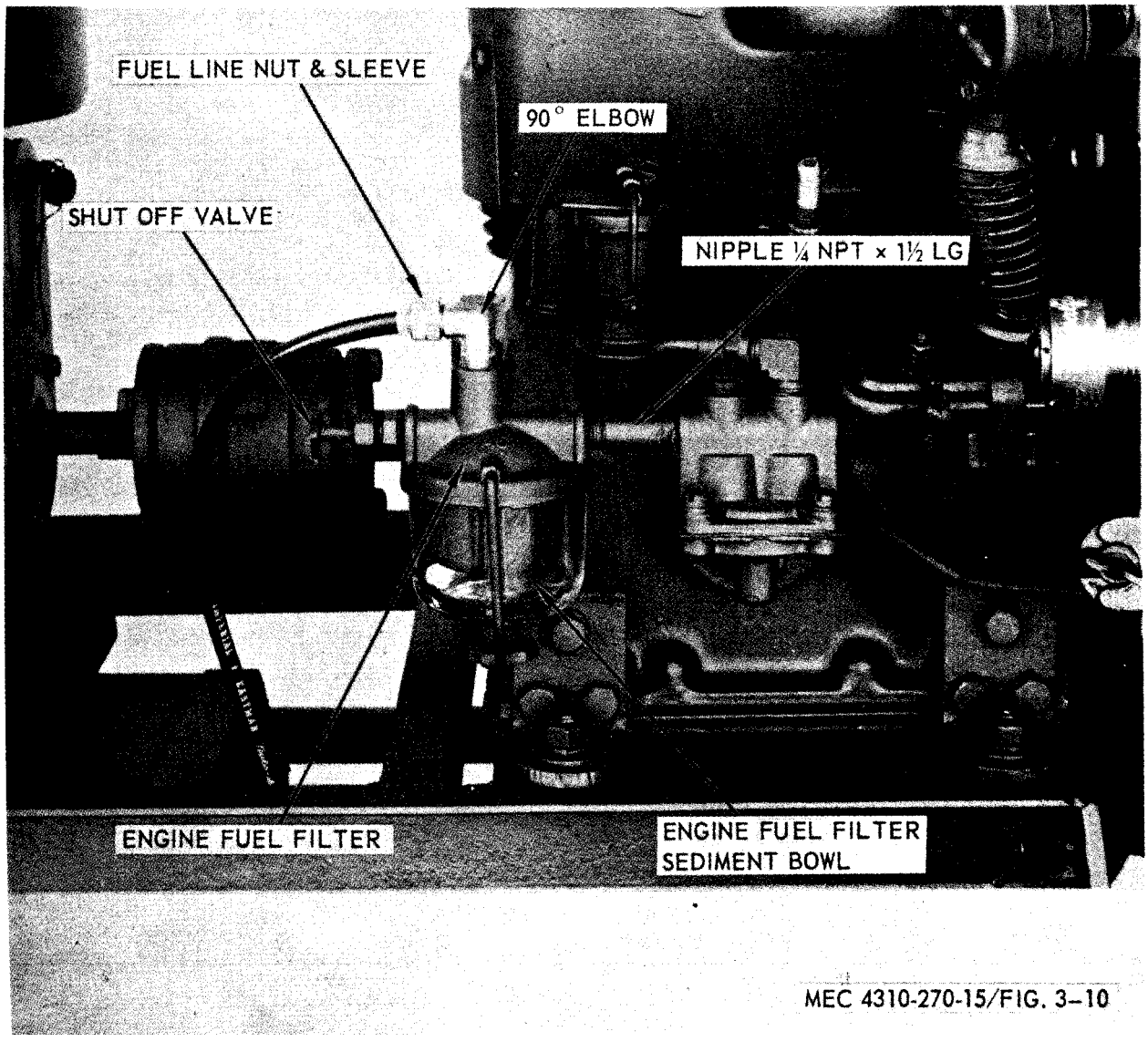


Figure 3-10. *Engine fuel filter removal and installation.*

(1) Remove fuel line nut and sleeve.
(2) Remove 90 degree elbow.
(3) Remove sediment bowl.
(4) Remove engine fuel filter, making certain the 1/4 NPT by 1 1/2 LG nipple is retained on the engine fuel pump.

b. Cleaning and Inspection. Refer to engine TM 5-2805-208-14.

c. Installation

(1) Screw fuel filter into 1/4 NPT by 1-1/2 LG nipple.
(2) Replace sediment bowl.
(3) Replace 90 degree elbow.
(4) Replace fuel line nut and sleeve.

3-38. Engine Fuel Pump

Refer to engine TM 5-2805-208-14.

3-39. General

The rotary compressor is equipped with two pneumatic tube-type tires mounted on 3/4 inch diameter spindles. The wheels are equipped with ball bearings which are lubricated through grease fittings located on the inner wheel half.

3-40. Wheel Assembly

a. Removal.

(1) Remove wheel from axle spindle as shown in figure 3-11.

(2) Disassemble wheel as illustrated in figure 3-12.

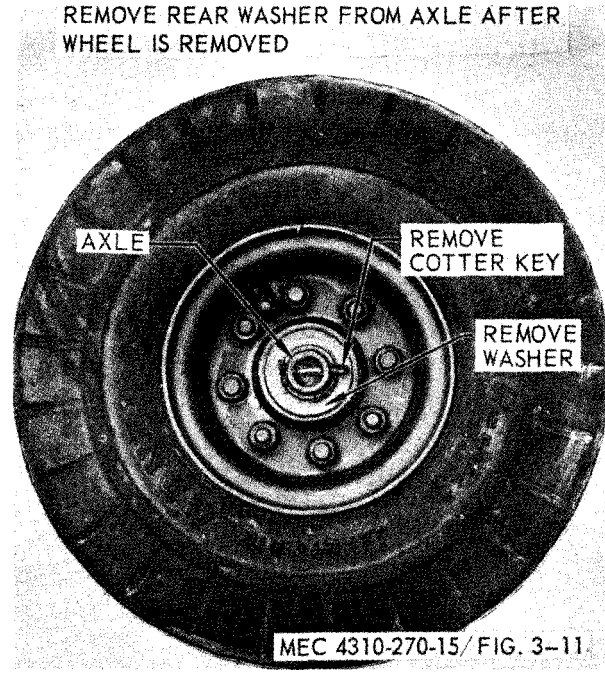


Figure 3.11. *Wheel removal and installation.*

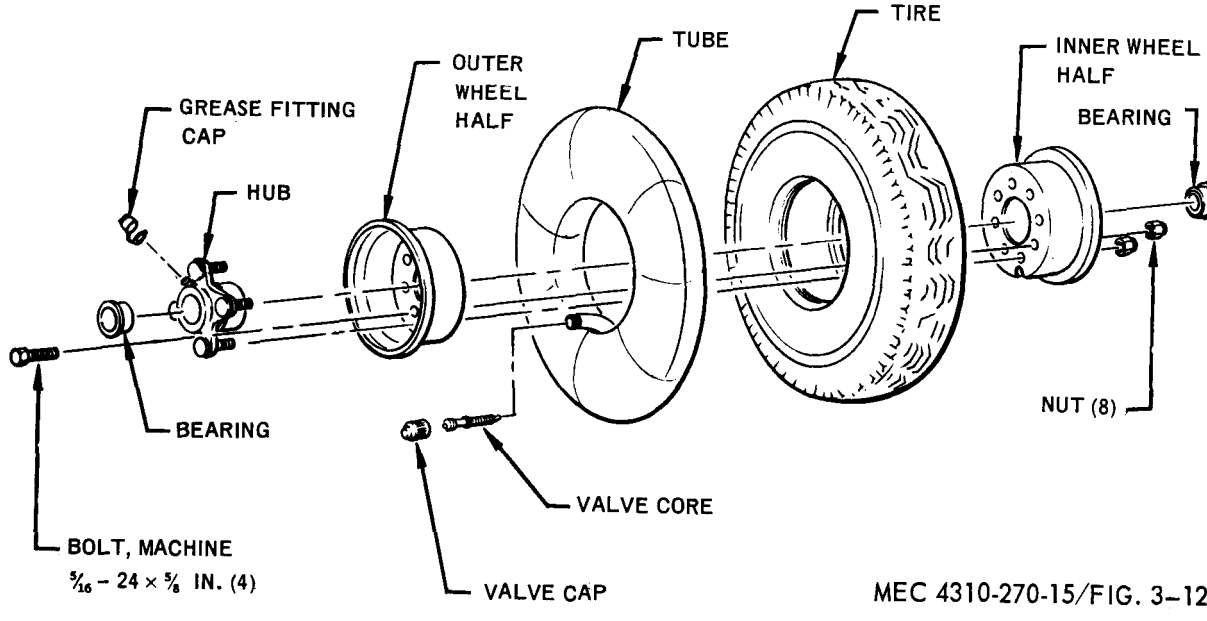


Figure* 3-12. *Wheel, tire and tube disassembly and reassembly.

b. Cleaning and Inspection.

(1) Clean inner and outer wheel halves, bearings and hardware in an approved solvent. Inspect parts for cracks, corrosion, and other damage.

(2) Clean tires and inspect for cracks,

excess wear and deterioration.

(3) Clean tube; inflate and inspect for leaks. Repair or replace tube as required.

c. Installation.

(1) Reassemble wheels, tire, and tube as illustrated in figure 3-12.

(2) Install on rotary compressor is illustrated in figure 3-14.

Section X. VIBRATION AND SHOCK INSULATION

3-41. General

The engine and blower frame are mounted on four elastomer shock mounts. These shock mounts are fastened to the rotary compressor frame and provide protection against shock loads imposed on the unit and reduce engine vibration to a minimum.

3-42. Shock Mounts

a. Removal. Remove shock mounts as illustrated in figure 3-13.

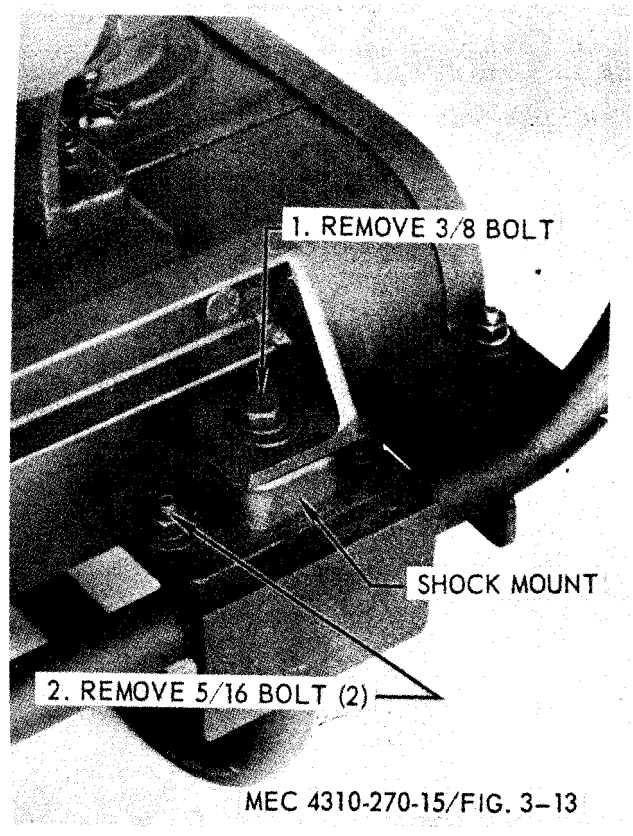


Figure 3-13. *Shock mounts removal and installation.*

b. Cleaning and Inspection. Clean and inspect shock mounts for cracks and deterioration.

c. Installation. Install shock mounts as illustrated in figure 3-13.

Section XI. FRAME

3-43. General

The frame is of an all-welded construction and fabricated of steel tubing. The structure is braced and provision is made for shockproof mounting of the engine and blower frame assembly.

a. Removal.

(1) Remove blower, paragraph 5-14.

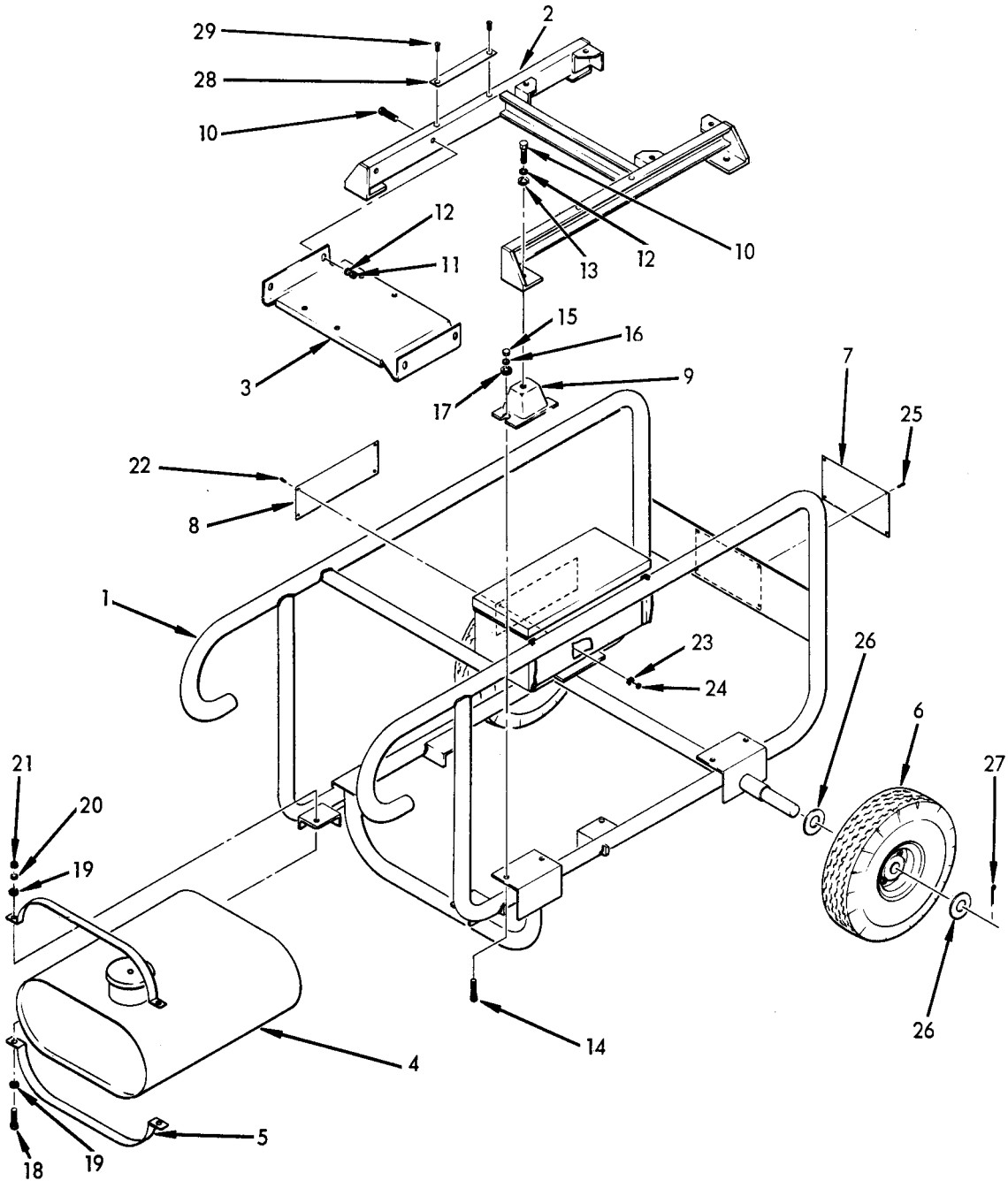
(2) Remove engine, paragraph 5-13.

(3) Remove blower and engine frame, figure 3-14.

(4) Remove shock mounts, paragraph 3-42.

(5) Remove fuel tank, paragraph 3-36.

(6) Remove wheels, paragraph 3-40.



1. FRAME ASSEMBLY 2. ENGINE AND BLOWER FRAME 3. BLOWER MOUNTING PLATE 4. FUEL TANK 5. FUEL TANK STRAPS (4 REQ'D) 6. WHEEL ASSEMBLY (2 REQ'D) 7. IDENTIFICATION PLATE 8. SERVICE INSTRUCTION PLATE 9. SHOCK MOUNT (4 REQ'D) 10. SCREW HEX HD $\frac{3}{8}$ – 16 x $\frac{3}{4}$ LG. (4 REQ'D) 11. NUT HEX $\frac{3}{8}$ – 16 (4 REQ'D) 12. WASHER, LOCK $\frac{3}{8}$ (4 REQ'D) 13. WASHER, FLAT $\frac{3}{8}$ (4 REQ'D) 14. SCREW HEX HD $\frac{5}{16}$ – 18 x 1'' LG. (8 REQ'D) 15. NUT HEX $\frac{5}{16}$ – 18 (8 REQ'D) 16. WASHER, LOCK $\frac{5}{16}$ (8 REQ'D) 17. WASHER, FLAT $\frac{5}{16}$ (8 REQ'D) 18. SCREW HEX HD $\frac{1}{4}$ – 20 x 1'' LG. (4 REQ'D) 19. WASHER, FLAT $\frac{1}{4}$ (8 REQ'D) 20. WASHER, LOCK $\frac{1}{4}$ (4 REQ'D) 21. NUT HEX $\frac{1}{4}$ – 20 (4 REQ'D) 22. SCREW PAN HD 8 – 32 x $\frac{1}{4}$ LG. (4 REQ'D) 23. WASHER, STAR LOCK 8 – 32 (4 REQ'D) 24. NUT HEX 8 – 32 (4 REQ'D) 25. SCREW SELF TAPPING 8 – 32 x $\frac{1}{4}$ LG. (4 REQ'D) 26. WASHER, FLAT $\frac{1}{4}$ (4 REQ'D) 27. COTTER PIN (2 REQ'D) 28. WARNING NAME PLATE (2 REQ'D) 29. SCREW SELF TAPPING 6 – 32 x $\frac{1}{4}$ LG. (2 REQ'D)

MEC 4310-270-15/FIG. 3–14

Figure 3-14. Frame disassembly and reassembly.

c. Cleaning and Inspection.

(1) Clean frame with an approved solvent.

(2) Inspect for cracks, rust and misalignment, Remove rust and repaint if required.

d. Reassembly.

(1) Assemble wheels, figure 3-14.

(2) Assemble shock mounts, figure 3-14.

(3) Assemble blower and engine frame, figure 3-14.

(4) Mount blower, paragraph 5-14.

(5) Mount engine, paragraph 5-13.

(6) Align coupling, paragraph 5-12.

(7) Mount fuel tank, paragraph 3-36.

(8) Assemble fuel line, paragraph 3-35.

Section XII. POWER PLANT

3-44. General

The military engine used on the rotary compresser is a 4-stroke cycle, overhead valve, air-cooled engine. This engine is fully radio interference suppressed and fungus-proofed. The engine will develop 3 HP at 3600 RPM. For all Operator and Organizational Maintenance Instruction, refer to Engine Technical Manual TM 5-2805-208-14.

CHAPTER 4

DIRECT AND GENERAL SUPPORT AND DEPOT MAINTENANCE INSTRUCTIONS

Section I. GENERAL

4-1. Scope

These instructions are published for the use of direct and general support and depot maintenance personnel maintaining the Fuller model 2MSWB compressor, rotary air. They provide information on the maintenance of the equipment, which is beyond the scope of tools, equipment, personnel, or supplies normally available to using organizations.

4-2. Records and Report Forms

For record and report forms applicable to direct and general support and depot maintenance, refer to TM 38-750.

Note. Applicable forms, excluding Standard Form 46, which is carried by the operator, shall be kept in a canvas bag mounted on equipment.

Section II. DESCRIPTION AND TABULATED DATA

4-3. Description

For a complete description of the compressor, rotary air, 60 CFM, 5.6 P. S. I., see paragraph 1-3.

4-4. Tabulated Data

a. General. This paragraph contains all the overhaul data pertinent to direct and general support and depot maintenance personnel.

b. Overhaul Data. For all overhaul data pertinent to direct and general support of the engine at this level, refer to TM 5-2805-208-14.

c. Compressor repair and replacement standards. Refer to table 4-1.

Table 4-1. *Compressor Repair and Replacement Standards*

Component	Manufacturer's dimensions and tolerances in inches		Desired clearances		Maximum allowable wear and clearance
	Minimum	Maximum	Minimum	Maximum	
Cylinder Bores					
Inside diameter	4.250	4.252			
Cylinder to impeller clearance			0.003	0.004	
IMPELLERS					
Length tip-to-tip	2.996	2.995			
Impeller diameter	2.244	4.243			
Clearance between impellers			0.005	0.011	
Total clearance between imp. hub and end cover			0.003	0.005	
SPUR GEARS					
Backlash			0.0015	0.0050	.005

CHAPTER 5

GENERAL MAINTENANCE INSTRUCTIONS

Section I. SPECIAL TOOLS AND EQUIPMENT

5-1. Special Tools and Equipment

No special tools or equipment are required by direct and general support and depot maintenance personnel for performing maintenance on the rotary compressor.

5-2. Specially Designed Tools and Equipment

No specially designed tools or equipment are required by direct and general support and depot maintenance for performing maintenance on the rotary compressor.

Section II. TROUBLE SHOOTING

5-3. General

This section provides information useful in the diagnosing and correcting unsatisfactory operation or failure of the rotary compressor or any of its components. Each trouble symptom stated is followed by a list of probable causes. The possible remedy recommended is described opposite the probable cause. For engine field and depot maintenance troubleshooting, refer to TM 5-2805-208-14.

5-4. Air Compressor Output Pressure Inadequate

Probable Cause	*Possible Remedy*
Air-relief valve defective or out of adjustment.	Adjust or replace air-relief valve, para 5-10.
Defective hose fitting gasket.	Replace hose fitting gasket.

5-5. Air Compressor Knocks

Probable Cause	*Possible Remedy*
Impellers are damaged.	Replace impellers, para 6-6.
Spur gears are damaged.	Replace spur gears, para 6-4.
Impeller bearings are damaged.	Replace impeller bearings, para 6-5.

5-6. Air Compressor Air Contains Oil

Probable Cause	*Possible Remedy*
Air compressor bearing seals leaking.	Replace air compressor bearings, para 6-5.
Gear case air vent plugged.	Clean vent.

Section III. RADIO INTERFERENCE SUPPRESSION

5-7. General

Refer to TM 11-483 for definitions, purposes, source and methods used to obtain proper suppression.

5-8. Interference Suppression Components

Refer to engine TM 5-2805-208-14.

Section IV. REMOVAL AND INSTALLATION OF MAJOR COMPONENTS

5-9. General

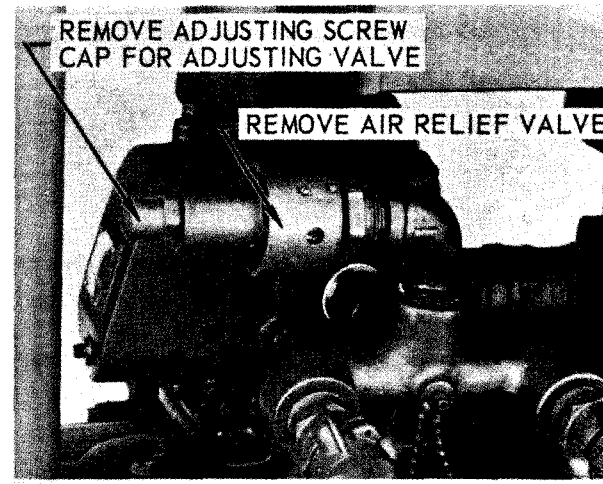
The rotary compressor consists of several major components; the air blower, engine, shaft coupling, and air relief valve.

5-10. Air Relief Valve

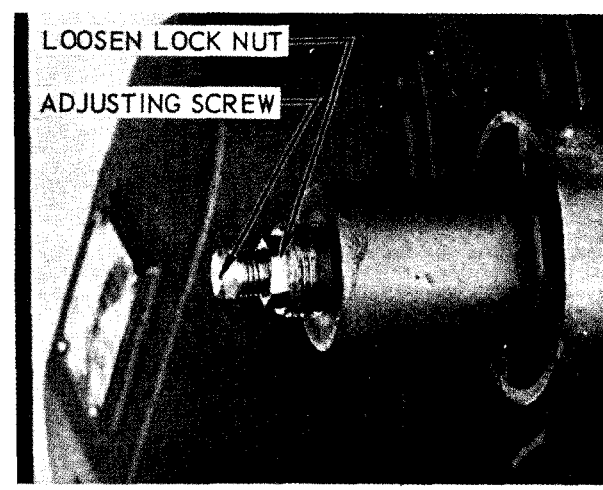
a. Maintenance and service beyond adjustment is not recommended. Should the air-relief valve not function properly after the best possible service and adjustment, replace the valve.

b. Adjustment.

(1) To adjust air-relief valve, remove 90 degree elbow.
(2) Install a one inch tee with the use of a close nipple.
(3) Install the air-relief valve at one port and a pressure gauge at the other.
(4) Install both deadend fittings to the manifold.
(5) Start Engine. The pressure gauge should indicate 7.5 P.S.I. and the air-relief valve should be fully opened.
(6) Remove the deadend fittings on the manifold; the pressure gauge should indicate 6.5 P.S.I. with no leakage from the air-relief valve.
(7) To adjust the air-relief valve, remove the hood and loosen the lock nut and turn the adjusting screw counter-clockwise until operational pressure is 6.5 P.S.I. and the relief pressure is 7.5 P.S.I. as shown by figure 5-1.



A. AIR-RELIEF VALVE REMOVAL



B. AIR-RELIEF VALVE ADJUSTMENT

MEC 4310-270-15/FIG. 5–1

Figure 5-1. *Air relief valve adjustment.*

5-11. Manifold

a. Removal

(1) Remove components as illustrated in figure 5-2.

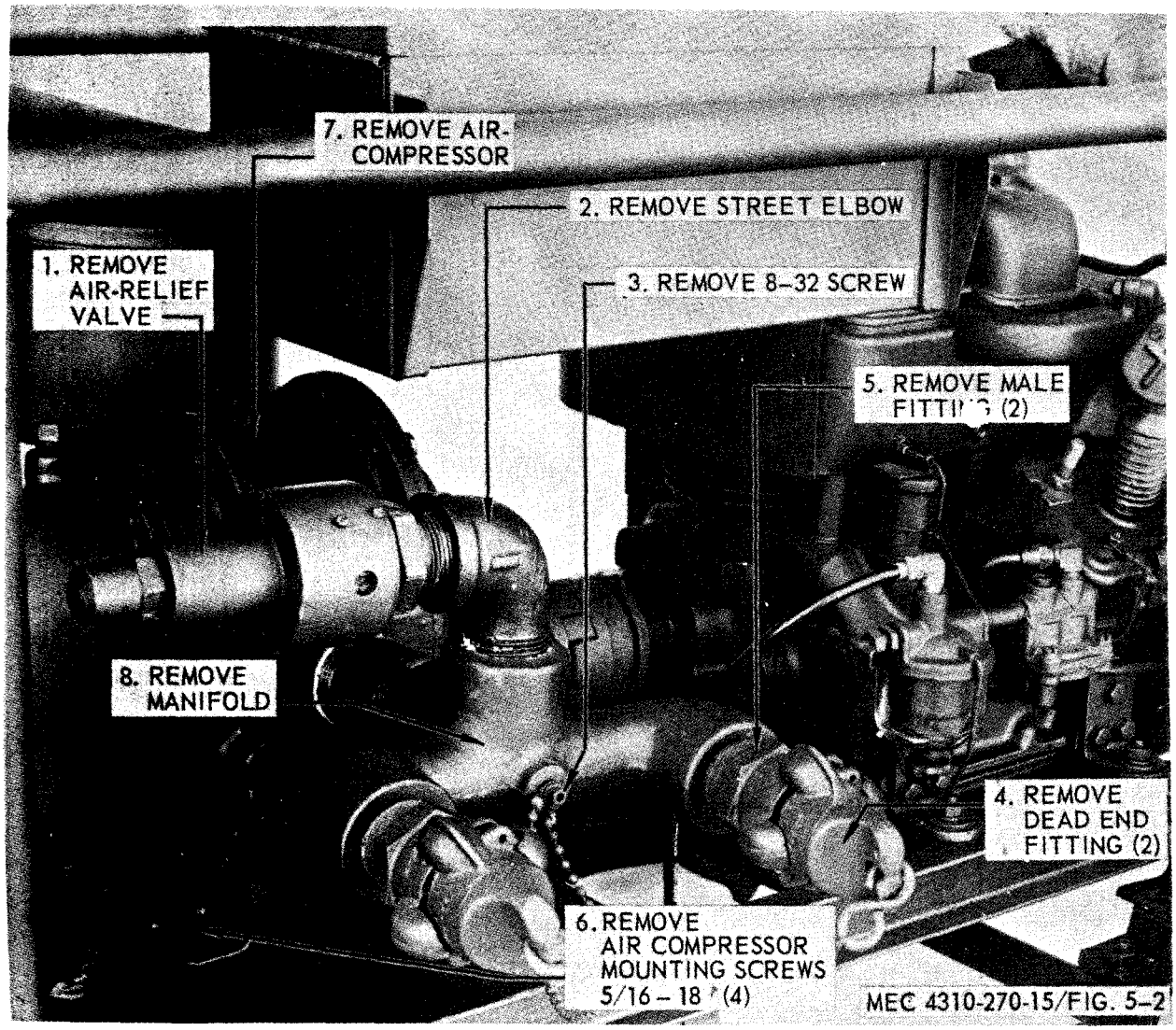


Figure 5-2. *Manifold removal and installation.*

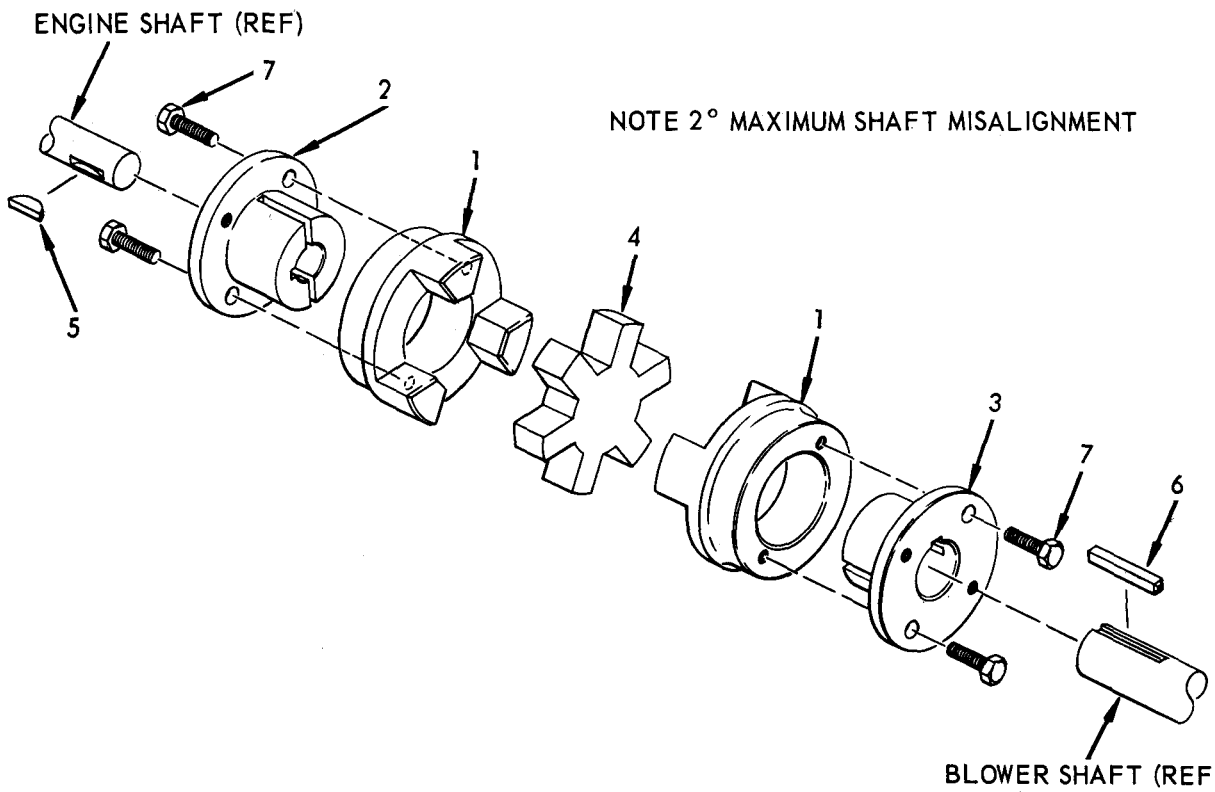
b. Installation

(1) Install manifold on compressor.
(2) Position compressor on the mounting plate, assemble and align coupling, figure 5-3.
(3) Secure compressor.
(4) Install components as illustrated in figure 5-2.

5-12. Coupling

a. Removal

(1) Disconnect ground cable, figure 3-5.
(2) Disconnect components as illustrated in figure 5-4.
(3) Disassemble coupling as shown in figure 5-3.



1. JAW (2 REQ'D) 2. BUSHING ¾ 3. BUSHING ⅝ 4. INSERT 5. WOODRUF KEY #61³⁄₁₆ x ⅝ 6. SQUARE KEY ³⁄₁₆ x 1" 7. SCREW HEX HD ¼ – 20 x ¾ LG. (4 REQ'D)

MEC 4310-270-15/FIG. 5–3

Figure 5-3. *Coupling disassembly and reassembly.*

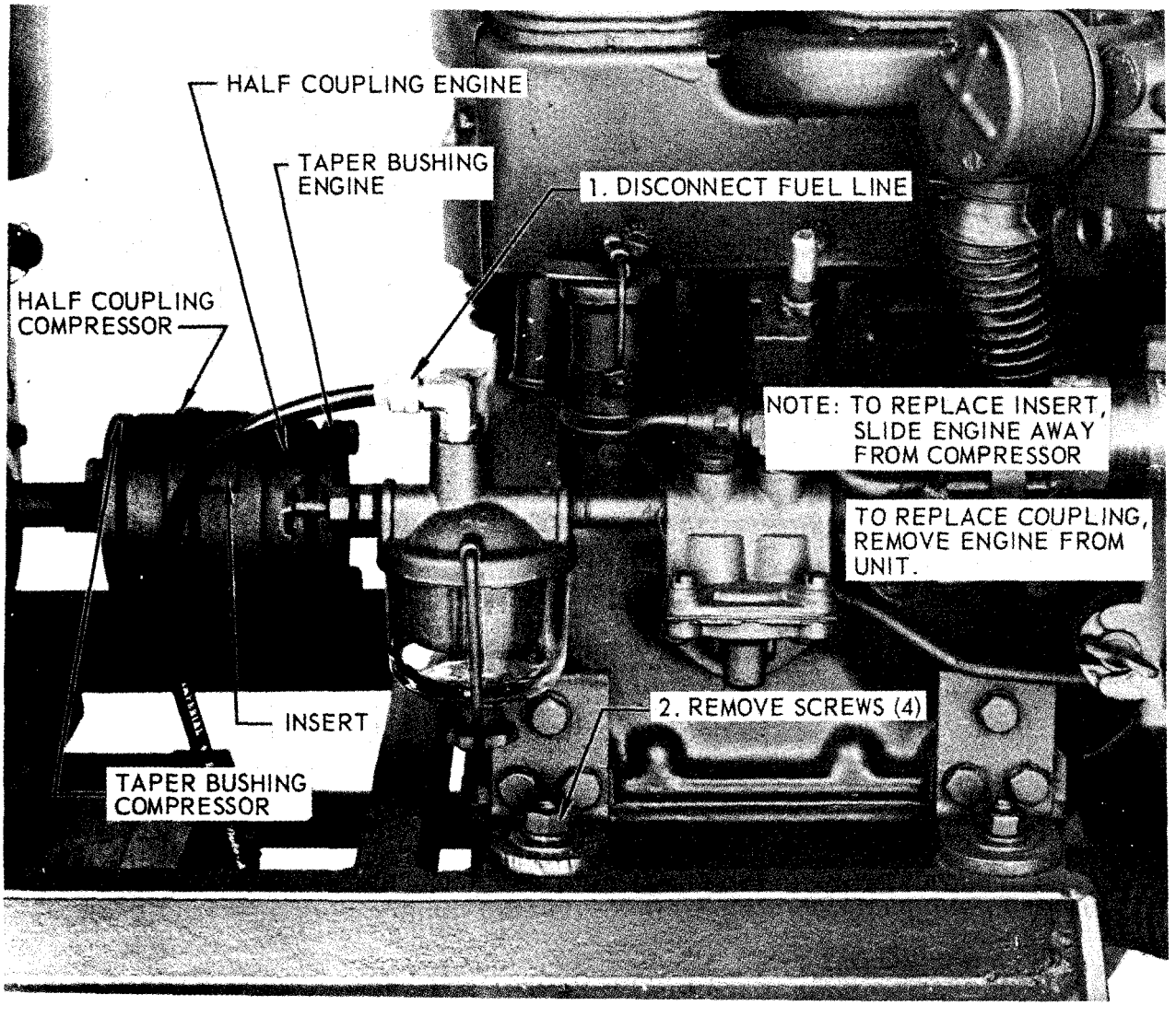


Figure 5-4. *Coupling removal and installation.*

b. Installation.

(1) Install 5/8 bushing and half coupling to compressor shaft.
(2) Install 3/4 bushing and half coupling to engine shaft.
(3) Install rubber insert on air compressor side.
(4) Position engine and partly secure hardware.
(5) Align coupling, figure 5-3, allowing no more than 2 degree misalignment.
(6) Secure engine.
(7) Assemble components as illustrated in figure 5-4 and figure 5-5.

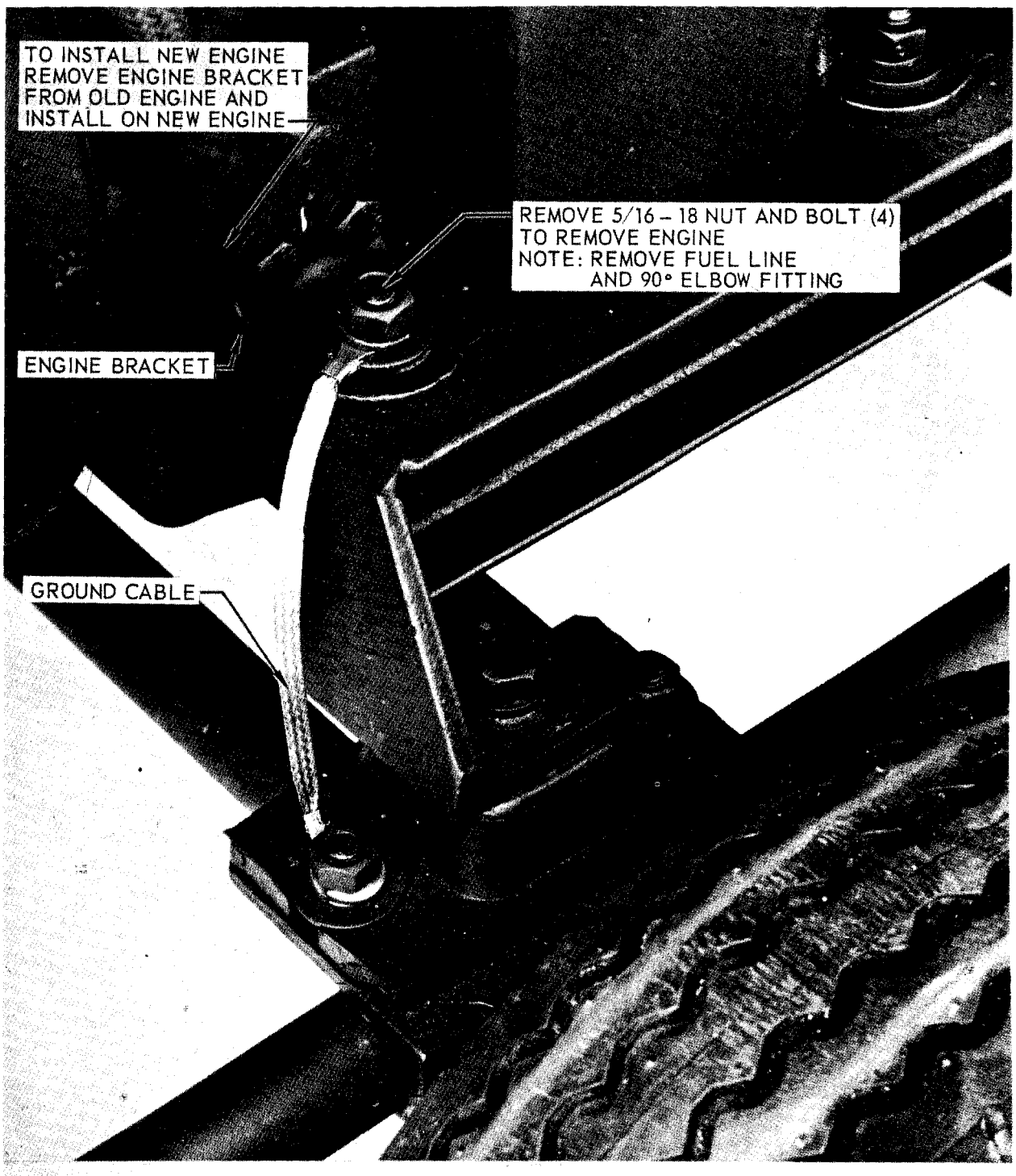


Figure 5-5. Engine removal and installation.

5-13. Engine

a. Remove and install engine as described in paragraph 5-12, figure 5-4.

b. Refer to engine technical manual for removal of all engine major components (TM 5-2805-208-14).

5-14. Air Compressor

Remove and install air compressor as described in paragraph 5-11.

CHAPTER 6

COMPRESSOR REPAIR INSTRUCTIONS

6-1. General

The air compressor has two figure eight impellers rotating in opposite directions. As each lobe of an impeller passes the blower inlet, it traps a quantity of air equal to exactly one-fourth the displacement of the compressor. This entrapment occurs four times per revolution, moving the entrained air around the case to the blower outlet. Timing gears accurately position the impellers in relation to each other, maintaining the minute clearances so vital to the high volumetric efficiency of the rotary positive blower.

6-2. Determining Proper Impeller Clearances

a. The clearances between impellers are measured at points 0-0 and c-c when the impellers are in the position shown in figure 6-1. The impellers are viewed from the drive end of the blower; always face the drive shaft when determining clearances.

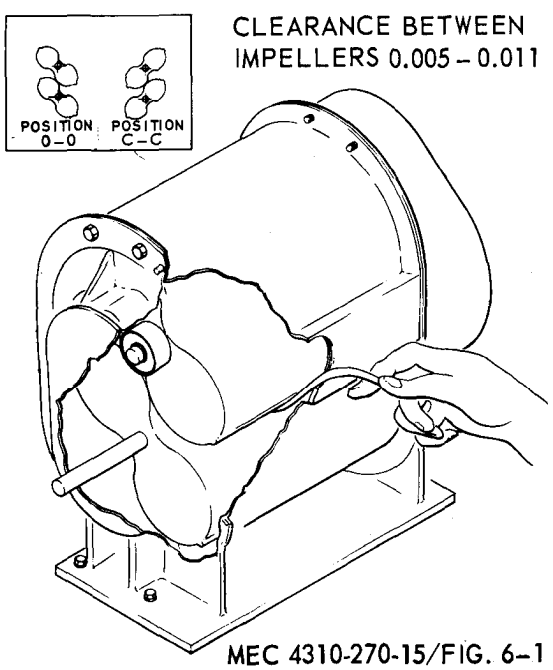


Figure 6-1. *Determining proper impeller clearance.*

b. To Determine Total Clearance.

(1) Place the impellers in the 0-0 position, figure 6-1.

(2) Measure the distance between 0-0 with a feeler gauge, figure 6-1.

(3) Rotate the impellers 90 degrees to position c-c and measure distance between c-c.

(4) Add measurements 0-0 and c-c for total clearance. Desired clearance .005-.011.

c. To Determine Correct Clearance. Divide the total clearance evenly between points 0-0 and c-c.

6-3. Resetting Impeller Clearance

a. Impellers are held in time by taper pins which secure the shaft and timing gears. To re-time, it is necessary to remove only one taper pin, (fig. 6-2).

(1) Insert a short length of pipe over the shaft, clearing the taper pin, and drive the timing gear further into the shaft. This will loosen the taper pin, (fig. 6-3).

(2) Remove the taper pin, (fig. 6-4).

(3) With a gear puller, pull the gear away from the blower so that the front face of the gear is 1/16 of an inch past the front face of the mating gear, figure 6-5.

(4) Determine the correct clearance, paragraph 6-2.

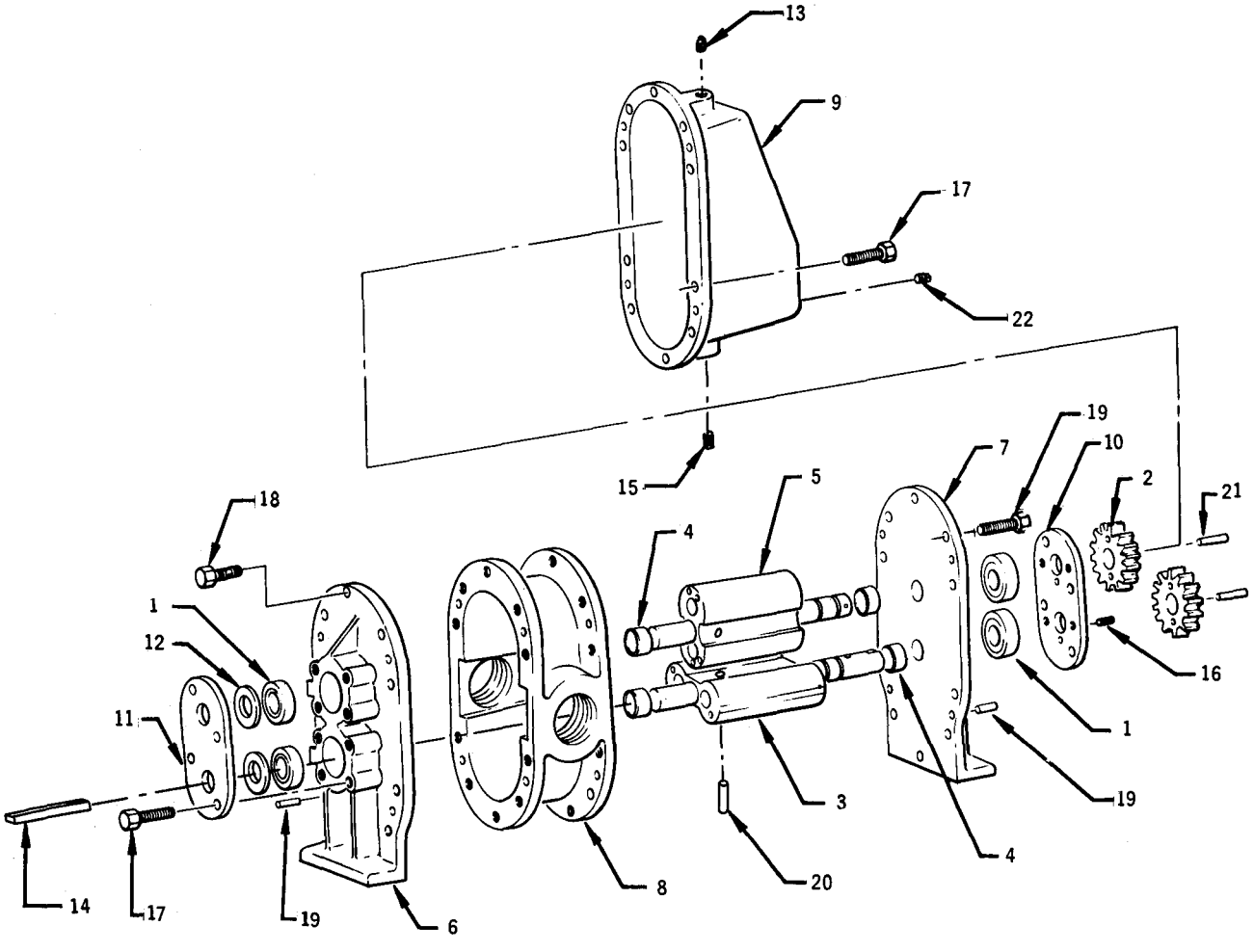
(5) Insert shim stock of proper thickness between the impellers (because the unit is out of time, it will probably be necessary to wedge the shim stock into position by rotating the impellers).

(6) Place a short length against the unpinned gear and strike the pipe a quick blow. This will drive the gear further into the shaft, causing it to turn relative to the shaft because of the torque set up by the shim stock, figure 6-3.

(7) Check clearances, figure 6-1.

(8) Repeat procedure until proper clearance is distributed between the impellers.

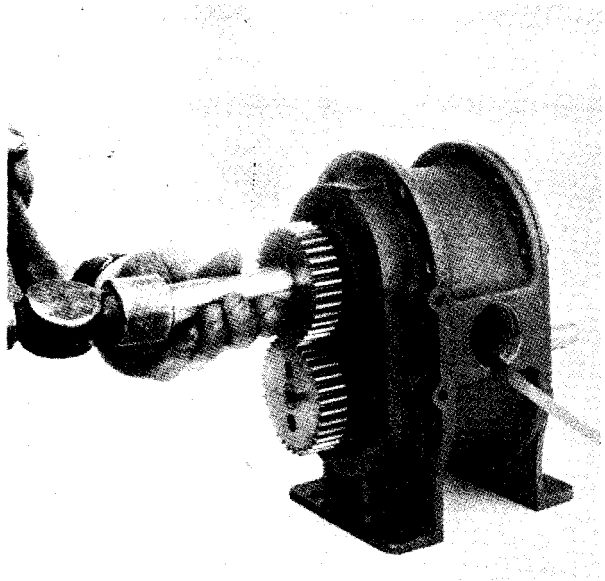
Note. It is not necessar that gear faces line up precisely at the conclusion of this operation.



1. MAIN BEARING (4 REQ'D) 2. TIMING GEAR (2 REQ'D) 3. LONG SHAFT ASSY. 4. SLEEVE (4 REQ'D) 5. SHORT SHAFT ASSY. 6. DRIVE HEADPLATE 7. GEAR HEADPLATE 8. IMPELLER CASE 9. GEAR CASE 10. BEARING RETAINER 11. SPRING RETAINER 12. WAVY SPRING WASHER (2 REQ'D) 13. SQUARE HEAD PIPE PLUG 14. DRIVE KEY 15. MAGNETIC PIPE PLUG 16. SOCKET SET SCREW FLAT PT. 10-32 UNF-2A × 5/16 LG. (4 REQ'D) 17. SOC. HEAD CAP SCREW 10-24 UNC-2A × 5/8 LG. (18 REQ'D) 18. HEX HEAD CAP SCREW 1/4-20 UNC-2A × 5/8 LG. (19 REQ'D) 19. DOWEL PIN 1/4 DIA. × 3/4 LG. (8 REQ'D) 20. GROOVE PIN NO. 3 3/16 DIA. 1 3/16 LG. (2 REQ'D) 21. TAPER PIN NO. 2 × 1" LG. (4 REQ'D) 22. SQUARE HEAD PIPE PLUG 1/8 N.P.T.

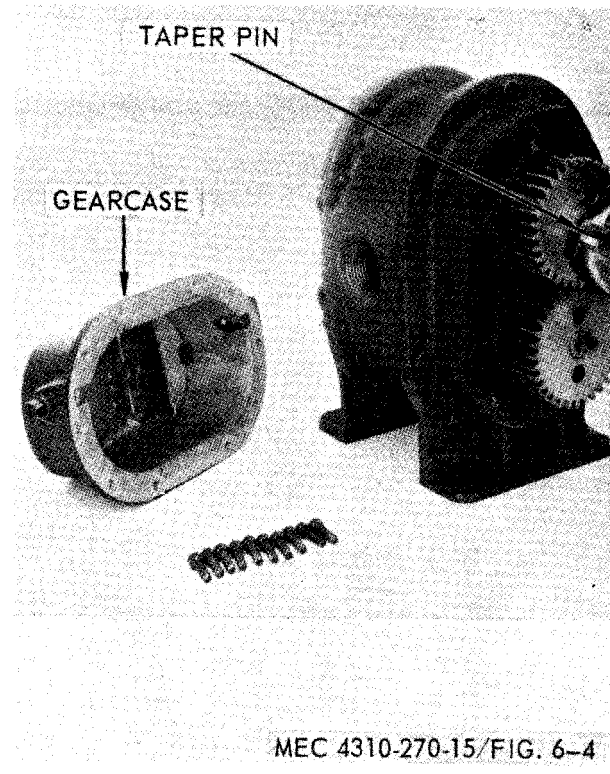
MEC 4310-270-15/FIG. 6-2

Figure 6-2. *Air compressor exploded.*



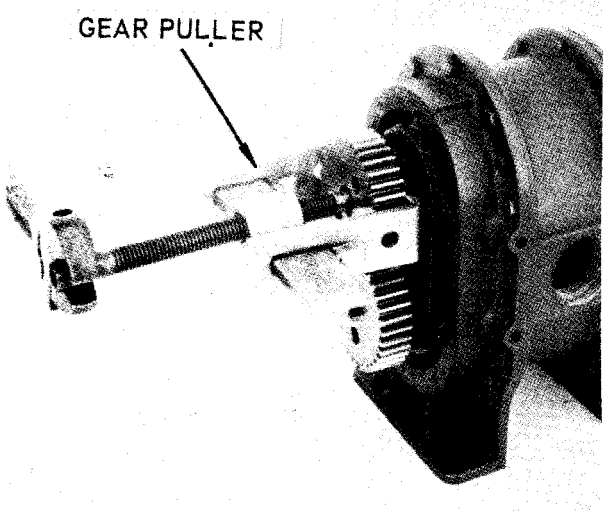
MEC 4310-270-15/FIG. 6–3

Figure 6-3. *Driving tinting gear further into the shaft.*



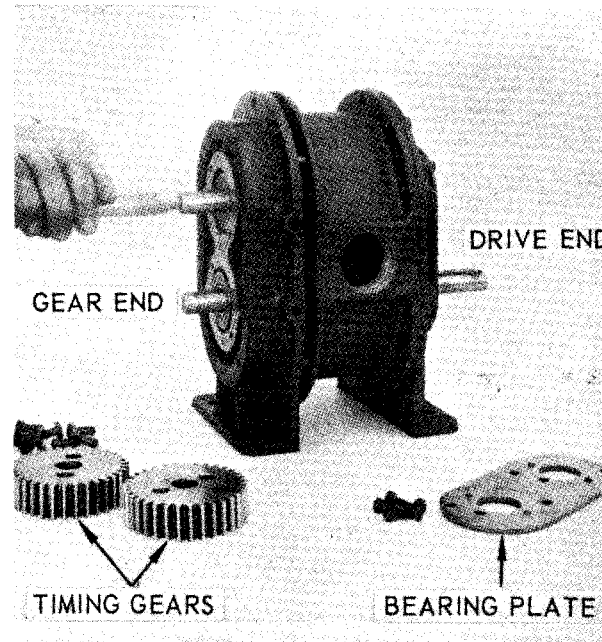
MEC 4310-270-15/FIG. 6–4

Figure 6-4. *Taper pin removal.*



MEC 4310-270-15/FIG. 6–5

***Figure* 6-5.** *Timing gear removal.*



MEC 4310-270-15/FIG. 6–6

Figure 6-6. *Bearing and headplate removal gear end.*

b. Reassembly.

(1) Install taper pin by re-reaming the original hold if the movement between the shaft and gear was negligable. If re-reaming fails to eliminate edges set up by retiming, the hole must be re-drilled and reamed for the next larger size taper pin.
(2) Recheck to be sure impeller clearances were maintained after taper pin replacement.
(3) Replace gear case.
(4) Relubricate (refer to current lubrication order).

6-4. Timing Gears

a. Removal.

(1) Drain gear case of lubricant.
(2) Remove gear case.
(3) Remove taper pins by placing a short length of pipe over the shaft, clearing the taper pin, and drive the timing gear further into the shaft. This action will loosen taper pins, figure 6-3.
(4) Remove taper pins, figure 6-4.
(5) Remove timing gears with a gear puller, figure 6-5.

b. Cleaning and inspection.

(1) Clean gear with an approved solvent.
(2) inspect gear for cracked and broken teeth and excess wear.

c. Reassemble.

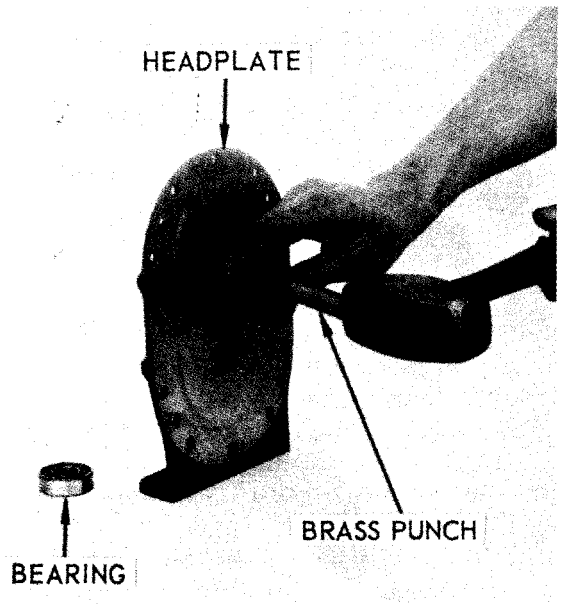
(1) Install gears to their original position. Longitudinal taper pin holes must be aligned.
(2) Install taper pin in one gear only.
(3) Retime the impeller as described in paragraph 6-3.
(4) Install second taper pin.
(5) Replace gear case.
(6) Lubricate, refer to current lubrication order.

Note. To facilitate positioning, factory replacement gears are not drilled. These holes must be drilled after the gears are in proper position and the unit has been retimed.

6-5. Bearings

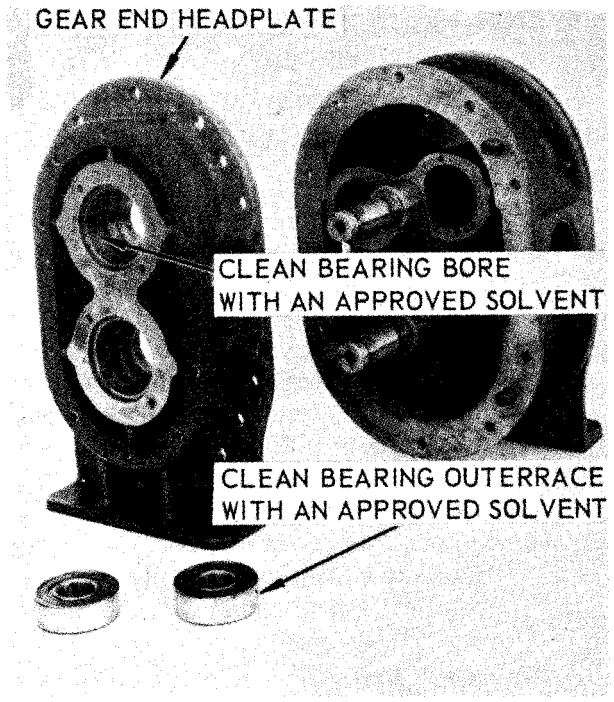
a. Removal.

(1) Remove compressor from unit, (para 5-14).
(2) Drain gear case.
(3) Secure compressor on work bench.
(4) Remove gear case.
(5) Remove timing gears, (para 6-4).
(6) Remove bearing plate, figure 6-6.
(7) Remove 1/4-20 hex head screw on gear end headplate.
(8) Remove the gear end headplate by striking the impeller shafts alternately with a brass punch as shown in figure 6-6. The gearend head plate will separate from the impeller case.
(9) Remove both bearings as shown in figure 6-7.



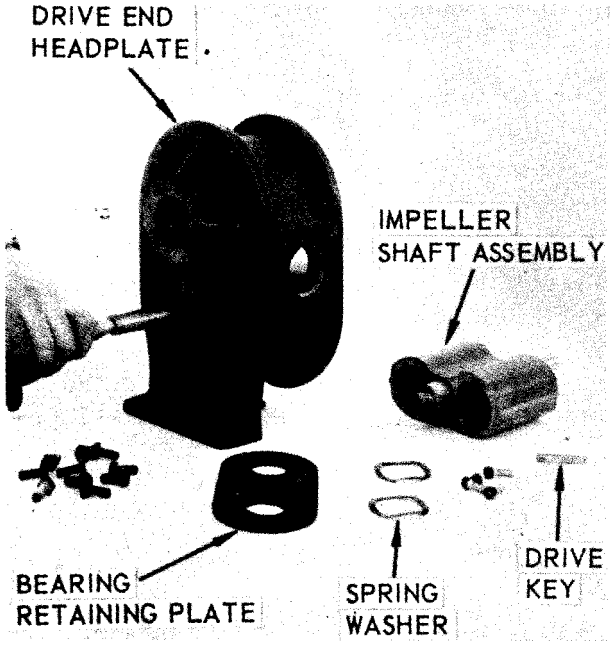
MEC 4310-270-15/FIG. 6–7

Figure 6-7. *Bearing removal drive end.*



MEC 4310-270-15/FIG. 6–8

Figure 6-8. *Bearing installation.*



MEC 4310-270-15/FIG. 6–9

Figure 6-9. *Impeller shaft assembly removal.*

b. Inspect bearing for excess radial and end play. Replace if required.

Caution: **DO NOT CLEAN BEARINGS IN SOLVENT. WIPE CLEAN WITH A CLEAN CLOTH.**

c. Installation

(1) Clean the bearing bore in the head plate with an approved solvent (fig. 6-8).

(2) Clean the outer race of the bearing with an approved solvent, but do not submerge the bearing in the solvent, (fig 6-8).

(3) Re-assemble headplate to impeller

(4) Spread a thin coat of Lot-tight bearing mount on the bearing bore in the gear end headplate and on the outer race of the bearing.

(5) Insert the bearings in the shaft and press fit into position, using a short length of pipe as the driving tool. The inner race of the bearings must make contact with the sleeves, (fig. 6-2).

(6) Replace spring washers if applicable, figure 6-2.

(7) Replace bearing plate.

(8) Replace timing gears if applicable, (para 6-4).

(9) Check timing and retime if required, refer to paragraph 6-3.

(10) Replace gear case if applicable.

(11) Lubricate in accordance with the current lubrication order.

6-6. Impeller Shaft Assembly

a. Removal

(1) Drain gear case.

(2) Remove gear case.

(3) Remove timing gears, (para 6-4).

(4) Remove bearing plate.

(5) Remove gear-end bearings, (para 6-5).

(6) Secure drive-end headplate to work bench.

(7) Remove bearing plate and spring washer.

(8) Remove impeller shaft assembly by striking the impeller shaft with a hammer and brass punch as illustrate ed in figure 6-9.

b. Inspect the impellers excessive erosion and other damage.

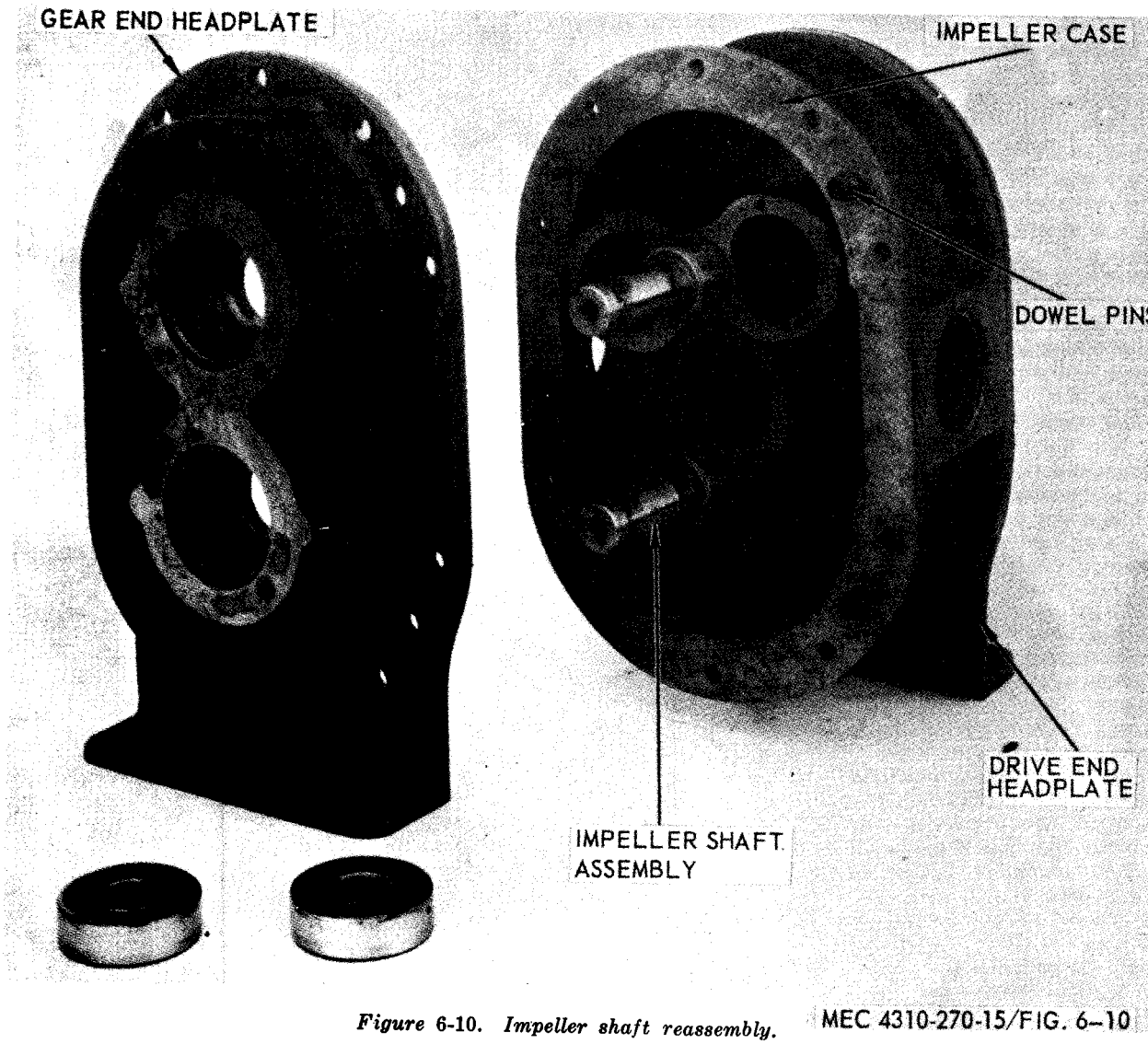


Figure 6-10. *Impeller shaft reassembly.*

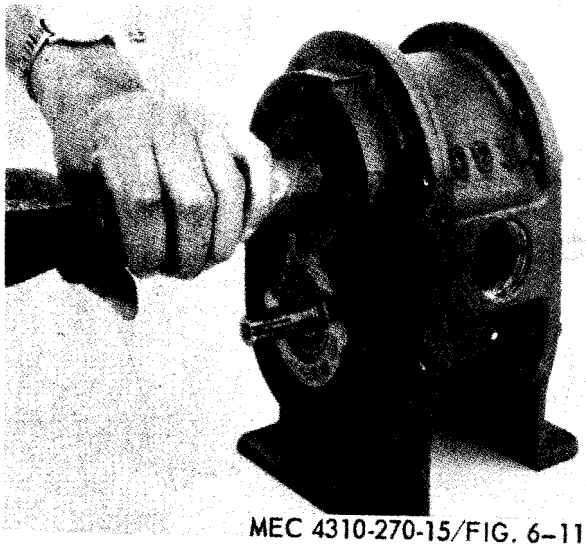


Figure 6-11. *Bearing installation.*

c. Reassembly

(1) Assemble drive-end headplate to impeller case, insert dowel pins and fasten headplate with 4 screws only, do not tighten bolts down completely,

(2) Insert both impeller shaft assemblies, figure 6-10.

(3) Assemble gear-end headplate and insert dowel pins.

(4) Insert bearings on both ends, (fig 6-11).

(5) Fasten gear-end headplate to impeller case with four (4) screws only, do not tighten completely.

(6) Assemble bearing plate to gear-end and drive end.

(7) Assemble timing gears.

(8) Fasten all headplate bolts and torque to 20 ft. lbs.

(9) Time impellers, refer to paragraph 6-2.

(10) Assemble gear case.

(11) Lubricate in accordance with current lubrication order.

APPENDIX A

REFERENCES

A-1. Lubrication

LO 5-4310-270-15	Lubrication Order.
LO 5-2805-208-14	Lubrication Order.
C 9100-IL	Petroleum, Petroleum-Base products and Related Materials.

A-2. Painting

TM 9-213	Painting Instructions for Field Use.

A-3. Preventive Maintenance

TM 38-750	Army Equipment Record Procedures.
AR 750-5	Maintenance Responsibilities and Shop Operations.

A-4. Publication Indexes

DA Pam 310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (Types 7, 8, and 9), Supply Bulletins, Lubrication Orders, and Modification Work Orders.

A-5. Maintenance

TM 5-2805-208-14	Organizational DS and GS Maintenance Manual: (including Repair Parts and Special Tool Lists).
TM 5-4310-270-25P	Organizational, DS, GS and Depot Maintenance Repair Parts and Special Tool Lists.

A-6. Radio Interference Suppression

TM 11-483	Radio Interference Suppression.

APPENDIX B

BASIC ISSUE ITEMS LIST

Section I. INTRODUCTION

B-1. Scope

This appendix lists items which accompany the compressor or are required for installation, operation, or operator's maintenance.

B-2. General

This bask issue items list is divided into the following sections:

a. Basic Issue Items-Section II. This section is a listing of accessories, repair parts, tools, and publications required for operator's maintenance and operation, initially issued with, or authorized for the

b . Maintenance and Operating Supplies-Section III. This section is a listing of maintenance and operating supplies required for initial operation.

B-3. Explanation of Columns

The following provides an explanation of columns in the tabular list of basic issue items, section II:

a. Source, Maintenance, and Recoverability Codes (SMR), Column 1:

(1) Source Code indicates the selection status and source for the listed item. Source codes are:

Code	*Explanation*
P	Applied to repair parts which are stocked in or supplied from GSA/DSA Army supply system, and authorized for use at indicated maintenance categories.
M	Applied to repair parts which are not procured or ticked but are to be manufactured at indicated maintenance categories.
A	Applied to assemblies which are not procured or stocked as such, but made up of two or more units, each of which carry individual stock numbers and descriptions and are procured and stocked and can be assembled by units at indicated maintenance categories.
X	Applied to parts and assemblies which are not procured or stocked, the mortality of which is normally below that of the applicable end item, and the failure of which should result in retirement of the end item from the supply system.
X1	Applied to repair parts which are not procured or stocked, the requirement for which will be supplied by use of the next higher assembly or components.
X2	Applied to repair parts which are not stocked. The indicated maintenance category requiring such repair parts will attempt to obtain them through cannibalization; if not obtainable through cannibalization, such repair parts will be requisitioned with supporting justification through normal supply channels.
C	Applied to repair parts authorized for local procurements. If not obtainable from local procurement, such repair parts will be requisitioned through normal supply channels with a supporting statement of nonavailability from local procurement.
G	Applied to major assemblies that are procured with PEMA (Procurement Equipment Missile Army) funds for initial issue only to be used as exchange assemblies at DSU and GSU level or returned to depot supply level.

Note. Source code is not shown on common hardware items known to be readily available in Army supply channels and through local procurement.

(2) Maintenance Code indicates the lowest category of maintenance authorized to install the listed item. The maintenance level codes are:

Code	*Explanation*
C	Operator/crew.
O	Organizational Maintenance.

(3) Recoverability Code indicates whether unserviceable items should be returned for recovery or salvage. Items not coded are expendable. Recoverability codes are:

Code	*Explanation*
R	Applied to repair parts and assemblies which are economically reparable at DSU and

Code	Explanation
	GSU activities and are normally furnished by supply on an exchange basis.
T	Applied to high dollar value recoverable repair parts which are subject to special handling and are issued on an exchange basis. Such repair parts are normally repaired or overhauled at depot maintenance activities.
u	Applied to repair parts specifically selected for salvage by reclamation units because of precious metal content, critical materials, high dollar value reusable casings and castings.

b. Federal Stock Number, Column 2. This column indicates the federal stock number for the item.

c. Description, Column 3. This column indicates the federal item name and any additional description required. A five-digit manufacturer's or other service code is shown in parentheses followed by the manufacturer's part number. Repair parts quantities included in kits, sets, and assemblies that differ from the actual quantity used in the specific item, are listed in parentheses following the repair part name.

d. Unit of Issue, Column 4. This column indicates the unit used as a basis of issue, e.g., ea, pr, ft, yd, etc.

e. Quantity Incorporated in Unit Pack, Column 5. This column indicates the actual quantity contained in the unit pack.

f. Quantity Incorporated in Unit, Column 6. This column indicates the quantity of the item used in the equipment.

g. Quantity Furnished With Equipment, Column 7. This column indicates the quantity of an item furnished with the equipment in excess of the quantity incorporated in the unit.

h. Quantity Authorized, Column 8. This column indicates the quantity of an item authorized the operator/crew to have on hand or to obtain as required. As required items are indicated with an asterisk.

i. Illustration, Column 9. This column is divided as follows:

(1) Figure number, column 9a, indicates the figure number of the illustration in which the item is shown.

(2) Item number, column 9b, indicates the callout number used to reference the item in the illustration.

B-4. Explanation of Columns in the Tabular List of Maintenance and Operating Supplies–Section III.

a. Item, Column 1. This column contains numerical sequence item numbers assigned to each component application to facilitate reference.

b. Component Application, Column 2. This column identifies the component application of each maintenance or operating supply item.

c. Federal Stock Number, Column 3. This column indicates, the federal stock number for the item and will be used for requisitioning purposes.

d. Description, Column 4. This column indicates the item and a brief description.

e. Quantity Required for Initial Operation, Column 5. This column indicates the quantity of each maintenance or operating supply item required for initial operation of the equipment.

f. Quantity Required for 8 *Hours Operation, Column* 6. This column indicates the estimated quantities required for an average eight hours of operation,

g. *Notes, Column* 7. This column indicates informative notes keyed to data appearing in a preceding column.

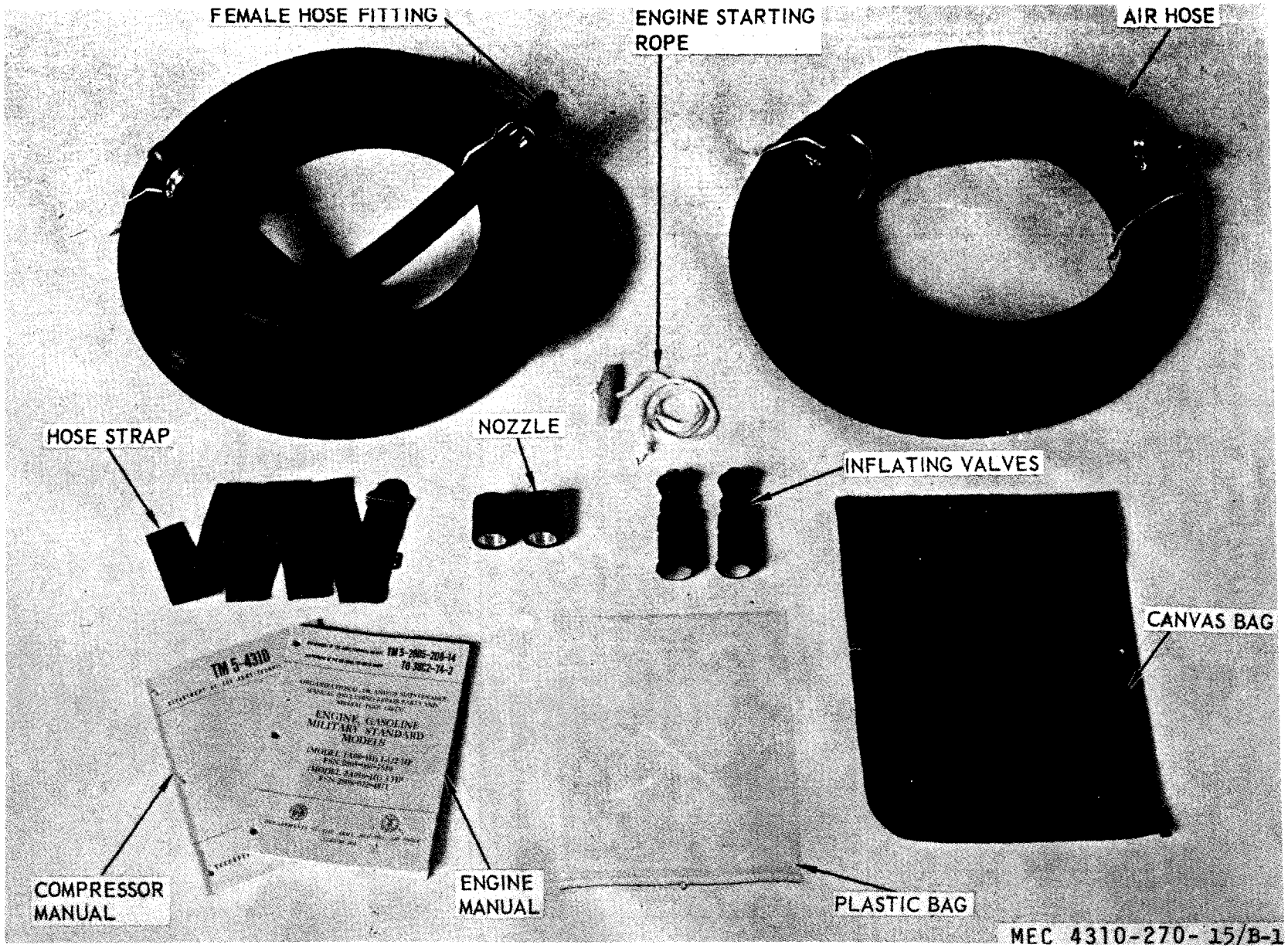


Figure B-1. Basic issue items.

Section II.
BASIC ISSUE ITEMS LIST

(1) Source, Maint, and Recov Code (A) S	(B) M	(C) R	(2) Federal stock number	(3) Description	(4) Unit of issue	(5) Qty inc in unit pack	(6) Qty inc in unit	(7) Qty furn w/equip	(8) Qty auth.	(9) Illustration (A) Figure No.	(B) Item No.
				GROUP 31-BASIC ISSUE ITEMS MANUFACTURER INSTALLED							
				3100—BASIC ISSUE ITEMS							
				Manufacturer or Depot installed							
P	O		7520-559-9618	Case, maintenance and operational manuals: Cotton duck, water repel lant, mildew resistant			1		1		
				Manufacturer's manual operation, or ganizational, DS, GS, and depot main tenance manual, TM 5-4310-270-15			1		1		
				Department of the Army operation, or ganizational, direct and general sup port maintenance manual, TM 5-2805 208-14			1		1		
P	O			Hose Assembly Air 1 1/4 x 25 ft (58626) 913-66-3-0773-79			2		2		
P	O		4310-690-3486	Valve, Inflator (53477) 9927			2		2		
P	O			Nozzle, Air (58626) B-7703-1			2		2		
X2	O			Hose Strap (01344) BN-2468			1		1		
P	O		2990-972-7950	Starter, Assembly Rope (97403) 9786E121			1		1		
				3200—BASIC ISSUE ITEMS							
				Troop installed or authorized							
P	O		5120-499-8083	Wrench, open end adjustable, single head 0 to 1.135 in Jaw opening 1 in. long			*		1		
P	O		4310-889-2221	Extinguisher, fire: dry type charges 2 1/2 lb.			1		1		

Section III

MAINTENANCE AND OPERATING SUPPLIES

(1) Item	(2) Component application	(3) Federal stock number	(4) Description	(5) Qty rod f/initial oper.	(6) Qty rod f/8 hrs oper.	(7) Notes
			Oil Lubricating: 1 qt. sealed can as follows:			(1) Includes qty of oil to fill engine oil system as follows: 5/8 qt crankcase
1	01 Engine 0101 Crankcase	9150-265-9433(2) 9150-265-9425(2) 9150-242-7062(2)	OE30 OE10 OES	5/8 qt	(3)	(2) See C9100-1L for additional data and requisitioning procedure.
2	03 Fuel Sys 0306 Tank		Fuel, gasoline 5 gal. can as follows:			(3) See current LO for grade application and replenishment intervals
		9130-160-1817	Gasoline, automotive combat	2.5 gals (4)	2.28 gals (4)	(4) Tank capacity
	50 Pneumatic equip.		Oil lubricating: 5 gal drum as follows:			(5) Average fuel consumption is .285 gals per hour of continuous operation.
3	5001 Crankcase Block, Cylinder Crankcase	9150-231-6639 9150-985-7232 9150-985-7234	Grade 2190 Grade 2075TH Grade 211TH		(6)	(6) Includes quantity of oil to fill compressor oil system as follows: approximately 1/2 pt. in crankcase.

APPENDIX C

MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

C-1. General

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

b. Section II designates overall responsibility for the performance of maintenance operations on the identified end item or component. The implementation of the maintenance tasks upon the end item or component will be consistant with the assigned maintenance operations.

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

d. Section IV contains supplemental instructions, explanatory notes and/or illustrations required for a particular maintenance function.

C-2. Explanation of Columns in Section II

a. Functional Group Number. The function. al group is a numerical group set up on a functional basis. The applicable functional grouping indexes (obtained from TB 750-93-1, Functional Grouping Codes) are listed on the Maintenance Assignment in the appropriate numerical sequence. These indexes are normally set up in accordance with their function and proximity to each other.

b. Component Assembly Nomenclature. This column contains a brief description of the components of each functional group.

c. Maintenance Functions and Maintenance Categories. This column lists the various maintenance functions (A through K) and indicates the lowest maintenance category authorized to perform these operations. The symbol designations for the various maintenance categories are as follows:

C-Operator or crew
O-Organizational maintenance
F-Direct support maintenance
H-General support maintenance
D-Depot maintenance

The maintenance functions are defined as follows :

A-INSPECT : Verify serviceability and detect incipient electrical or mechanical failure by close visual examination.

B-TEST: Verify serviceability and detect incipient electrical or mechanical failure by measuring the mechanical or electrical characteristics with authorized standards. Tests will be made commensurate with test procedures and with calibrate tools and/or teat equipment referenced in the Maintenance Assignment.

C-SERVICE : Operations required periodically to keep the item in proper operating condition, i.e., to clean, preserve, drain, paint, and replenish fuel, lubricant, hydraulic, and deicing fluids, or compressed air supplies.

D-ADJUST : Regulate periodically to prevent malfunction. Adjustments will be made commensurate with adjustment. procedures and associated equipment adjustment specifications.

E-ALINE : Adjust two or more components of an electrical or mechanical sys tam so that their functions are properly synchronized or adjusted.

F-CALIBRATE : Determine, check, or rectify the graduation of an instrument, weapon, or weapons system or component of a weapons system.

G-INSTALL : Remove and install the same item for service or when required for the performance of other maintenance operations.

H-REPLACE : Substitute serviceable components, assemblies and sub-assemblies for unserviceable counterparts.

I-REPAIR : Restore to a serviceable condition by replacing unserviceable parts or by any other action required using available tools, equipment and skills, including welding,

grinding, riveting, straightening, adjusting and facing.

J-OVERHAUL: Restore an item to a completely serviceable condition (as prescribed by serviceability standards developed and published by the commodity commands) by employing techniques of "Inspect and Repair Only as Necessary" (IROAN). Maximum use of diagnostic and test equipment is combined with minimum disassembly during overhaul. "Overhaul" may be assigned to any level of maintenance except organizational, provided the time, tools, equipment, repair parts authorizational, and technical skills are available at that level. Normally, overhaul as applied to end items is limited to depot maintenance level.

K-REBUILD: Restore to a condition comparably to new by disassembling to determine the condition of each component part and reassembling using serviceable, rebuilt, or new assemblies, subassemblies, and parts.

d. Reference Note. This column, subdivided into columns L and M, is provided for referencing the special tool and test equipment requirements (sec. III) and remarks (sec. IV) that may be associated with maintenance. functions (sec. II).

C-3. Explanation of Columns in Section III

a. Reference Code. This column consists of a number and a letter separated by a dash. The number references the T and TE requirements column on the Maintenance Assignment. The letter represents the specific maintenance function the item is to be used with. The letter is representative of columns A through K on the Maintenance Assignment.

b. Maintenance Category. This column shows the lowest level of maintenance authorized to use the special tool or test equipment.

c. Nomenclature. This column lists the name or identification of the tool or test equipment.

d. Tool Number. This column lists the manufacturer's code and part number, or federal stock number of tools and test equipment.

C-5. Explanation of Columns in Section IV

a. Reference Code. This column consists of two letters separated by a dash, both of which are references to section II. The first letter references column M and the second letter references a maintenance operation, columns A through K.

b. Remarks. This column lists information pertinent to the maintenance operation being performed, indicated on the Maintenance Assignment section II.

Section II. MAINTENANCE ASSIGNMENT

Functional group number	Component assembly nomenclature	Maintenance functions A	B	C	D	E	F	G	H				Note reference L	M
		Inspect						Install	Replace				rods and equipment	Remarks
01	ENGINE													
0100	Engine Assembly:													
	Engine, gasoline	C	0	C	..	..		..	F		[		....	A
0102	Crankshaft:													
	Pulley, crankshaft	..	.	..	..	..	.	..	0					
03	FUEL SYSTEM													
0306	Tank, Lines, Fittings:													
	Tank assembly, fuel	C	0	C	..	..	..	..	0					
	Line assembly, fuel	..	0											
	Strainer assembly, tank	..	0	C										
06	ELECTRICAL SYSTEM													
0615	Radio Interference Suppression:													
	Strap, ground	..	0											
13	WHEELS AND TRACKS													
1311	Wheel Assembly	..	0	C	..	..	..	..	..					
15	FRAME													
1501	Frame Assembly	..	..	..	..	..	..	..	F					
22	ACCESSORY ITEMS													
2202	Accessory Items:													
	Hose, air													
	Inflator, air	..	F	..	..	..	..	..	0					
50	PNEUMATIC EQUIPMENT													
5000	Air Compressor Assembly	0	0	C	..	..	..	..	F		[			
5007	Compressor Drive Coupling	..	.	..	..	..	..	..	F					
5008	Air Intake Filter Assembly, Air	..	..	C	..	..	..	..	0					
5014	Air Receiver Valve Assembly, Relief	..	0	..	0	..	..	..	0					
76	FIRE FIGHTING EQUIPMENT COMPONENTS													
7603	Fire Extinguishers:													
	Extinguisher, fire	C	—	..	..	..	..	..	0					

Section III. SPECIAL TOOL AND SPECIAL TEST EQUIPMENT REQUIREMENTS

Reference code	Maintenance level	Nomenclature	Tool number
		No special tools required	

Section IV. REMARKS

Reference code	Remarks
A	See TM 5-2805-208-14 for remarks.

INDEX

By Order of the Secretary of the Army:

HAROLD K. JOHNSON,
General, United States Army,
Chief of Staff.

Official:

KENNETH G. WICKHAM,
Major General, ***United States Army,***
The Adjutant General.

Distribution:

Active Army:

USASA (2)
ACSI (1)
DCSLOG (1)
CNGB (1)
TSG (1)
CofEngrs (3)
CC-E (1)
Dir of Trans (1)
CofSptS (1)
USAMB (1)
USA Arty Bd (2)
USA Armor Bd (2)
USAIB (2)
USARADBD (2)
USAAESWBD (2)
USAAVNTBD (2)
USCONARC (3)
OS Maj Cored (5) except
USARJ (1)
USASETAF (2)
USAMC (1)
USACDCEC (10)
USAMECOM (46)
MDW (1)
Armies (2)
corps (2)
USAC (1)
Div (2)
Engr Bde (1)
USMA (2)
Svc Colleges (2)
Br Svc Sch (2) except
USAES (3)
Gen Dep (10)
Engr Dep (10)
Army Dep (2) except
TOAD (3)
USA Tml Cored (2)
Army Tml (1)
Div Engr (2)
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Mil Man (1)
AMS (3)
MAAG (1)
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Engr FLDMS (2)
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USA Engr R&D Lab (3)
Fld Cored, DASA (8)
USAREUR Engr Proc Cen (2)
USAREUR Engr SUP Con Agcy (10)
Units org under fol TOE :-2 ea. UNOINDC
5-15
5-16
5-48
5-64
6-97
5-145
5-148
5-155
5-237 (5)
5-262 (5)
5-267 (1)
5-278 (5)
5-279
5-500(EA, EB, HN)
7
29-1
29-11
29-15
29-16
29-17
29-21
29-25
29-26
29-27
29-35
29-37
37
39-51
39-61

NG: None.

USAR: Same as Active Army except allowance is one (1) copy for each unit.

For explanation of abbreviations used, see AR 320-50,

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