TM 5-4310-278-15

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL, DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE MANUAL

COMPRESSOR, ROTARY: AIR; FRAME MOUNTED 2 WHEEL PNEUMATIC TIRED, GASOLINE ENGINE 60 CFM, 6.5 PSI (HARRIS MODEL 4MV) FSN 4310-935-5345

This copy is a reprint which includes current pages from Changes 2 and 3.

HEADQUARTERS, DEPARTMENT OF THE ARMY

AUGUST 1968

SAFETY PRECAUTIONS

BEFORE OPERATION

Do not operate the engine in an inclosed area unless the exhaust is piped to an open area. The exhaust contains carbon monoxide, a colorless, odorless, deadly poisonous gas.

When filling the fuel tank, always maintain metal-to-metal contact between filling apparatus and fuel tank to prevent a spark from being caused by static electricity.

DURING OPERATION

Do not fill fuel tank while engine is running.

Do not attempt to change a load connection or perform maintenance on the Air Compressor while it is in operation.

AFTER OPERATION

When filling the fuel tank, always maintain metal-to-metal contact between filling apparatus and fuel tank to prevent spark being caused by static electricity.

Changes in force: C2 and C3

TM 5-4310-278-15
C3

CHANGE NO. 3

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *20 August 1974*

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

COMPRESSOR, ROTARY, AIR; POWER DRIVEN; WHEELBARROW FRAME MOUNTED, 2-WHEEL PNEUMATIC-TIRED; GASOLINE ENGINE; 60 CEM, 6.5 PSI (HARRIS MODEL 4MV) FSN 4310-935-5345

TM 5-4310-278-15, 27 August 1968, 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 BREATHABE AIR.

WARNING

Operation of this equipment presents a NOISE HAZARD to personnel in the area. The noise level exceeds the allowable limits for unprotected personnel. Wear ear 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 2-1, paragraph *2-4c* add:

c. 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 2-4, paragraph 2-9, add:

WARNING

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

WARNING

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

TM 5-4310-278-15
C3

***Page 3-1,* paragraph 3-5b, add:**

WARNING

Cleaning solvent, PD-680, used for cleaning is POTENTIALLY DANGEROUS CHEMICAL. Do not use near open flame. Flash point of solvent is 100-138°F. (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.) Oganizational Maintenance requirements for Air Compressors, 60 CEM.

GPO 910-698

* TM 5-4310-278-15
C 2

CHANGE
NO. 2

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 20 July 1973

Operator, Organizational, Direct Support, General Support and Depot Maintenance Manual COMPRESSOR, ROTARY: AIR; FRAME MOUNTED 2 WHEEL PNEUMATIC TIRED, GASOLINE ENGINE, 60 CFM, 6.5 PSI (HARRIS MODEL 4MV) FSN 4310-935-5345

TM 5-4310-278-15, 27 August 1968, is changed as follows:

Page i. In the table of contents, APPENDIX B is superseded as follows:

APPENDIX B BASIC ISSUE ITEM LIST AND ITEMS TROOP INSTALLED OR AUTHORIZED LIST
Section I. INTRODUCTION
II. Basic issue item list (Not applicable)
III. Items troop installed or authorized list

Page 1-1 Paragraph 1-2 is superseded as follows:

1-1. Scope

a. This manual is for use in operating and maintaining the compressor. It provides information on the operation, lubrication, preventive maintenance checks and services, and maintenance of the equipment, its accessories, and components.

b. Numbers in parenthesis on illustrations indicate quantity. Numbers preceding nomenclature callouts on illustrations indicate the preferred maintenance sequence.

Page 1-1 Paragraph 1-2 is superseded as follows:

1-2. Maintenance Forms and Records

Maintenance forms and records that are required are explained in TM 38-750.

Page 1-1. Paragraph 1-2.1 is added after paragraph 1-2.

1-2.1 Reporting of Equipment Publication Improvements

The reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications) and forwarded direct to: Commander U.S. Army Troop Support Command, ATTN: AMSTS-MP, 4300 Goodfellow Blvd., St. Louis, Mo. 63120.

Page 1-3. In subparagraph 1-3*b* "TM 5-2805-208-14" is changed to read "TM 5-2805-257-14."

Page 2-1. Paragraph 2-2.1 is added after paragraph 2-2.

2-2.1 Maintenance and Operating Supplies

The maintenance and operating supplies required for the initial 8 hours of operation of the compressor are contained in table 2-1.

Page 2-1. In subparagraph 2-3*c*, "TM 5-2805-208-14" is changed to read "TM 5-2805-257-14."

Page 2-5. In subparagraph 2-13*e*, "TM 5-2805-208-14" is changed to read "TM 5-2805-257-14."

Page 2-5. Immediately after subparagraph 2-13*e*, the following is added.

NOTE

If engine will not start at low temperatures, the use of starting aids is permissable.

Page 2-6. All references to "TM 5-2805-208-14" are changed to read "TM 5-2805-257-14."

Page 2-7. All reference to "TM 5-2805-208-14" are changed to read "TM 5-2805-257-14."

Page 3-1. In paragraph 3-1, "TM 5-2805-208-14" is changed to read "TM 5-2805-257-14."

Page 3-1. In paragraph 3-3, "TM 5-2805-208-14" is changed to read "TM 5-2805-257-24P."

Page 3-1. In subparagraph 3-5*e*, "TM 5-2805-208-14" is changed to read "TM 5-2805-257-14."

Page 3-3. In paragraph 3-7, "TM 5-2805-208-14" is changed to read "TM 5-2805-257-14."

Page 3-10. All references to "TM 5-2805-08-14"

*This change supersedes Change No. 1, 26 June 1969

Table 2-1. Maintenance and Operating Supplies

(1) Component application	(2) Federal stock number	(3) Description	(4) Quantity required for initial operation	(5) Quantity required for 8 hrs operation	(6) Notes
0101—ENGINE CRANKCASE	9150-186-6681-(2)	OIL, LUBRICATING: 1-qt can as follows:			(1) Includes quantity of oil to fill engine oil system as follows: 5/8 qt crankcase.
		OE/HD030	5/8 qt	(3)	
	9150-189-6727(2)	OE/HD010	5/8 qt	(3)	
	9150-242-7602(2)	OES	5/8 qt	(3)	(2) See C9100-IL for additional data and requisitioning procedure.
0306—FUEL SYSTEM TANK		FUEL, GASOLINE: 5-gal can as follows:			
	9150-160-1817(2)	AUTOMOTIVE COMBAT 91A	3 gal(4)	2.28 gal (5)	(3) See current LO for grade application and replenishment intervals.
5001—PN PNEUMATIC EQUIPMENT CRANKCASE		OIL, LUBRICATING: 5-gal drum as follows:			
	9150-235-9061(2)	2190-TEP	1 pt (6)	(3)	(4) Tank capacity
	9150-985-7234(2)	2110-TH	1 pt (6)	(3)	(5) Average fuel consumption/is .285 gals per hour of continuous operation
	9150-985-7232(2)	2075-TH	1 pt (6)	(3)	
GREASE POINTS		GREASE, AUTOMOTIVE AND ARTILLERY: 1-lb can as follows:			(6) Includes quantity of oil to fill the compressor oil system as follows: 1/2 pt each end of compressor
	9150-190-0904	GAA	1 lb	(3)	

are changed to read "TM 5-2805-257-14."

Page 3-18. In paragraph 3-29, "TM 5-2805-208-14" is changed to read "TM 5-2805-257-14."

Page 4-1. In subparagraph 4-4*b*, "TM 5-2805-208-14" is changed to read "TM 5-2805-257-14."

Page 6-9. In item 33, "Compressor (1)" is changed to read "Compressor base (1)."

Page A-1. Appendix A is superseded as follows:

APPENDIX A
REFERENCES

A-1. Fire Protection

TB 5-4200-200-10	Hand Portable Fire Extinguishers for Army Users.

A-2. Lubrication

C9100-IL	Identification List for Fuels, Lubricants, Oils and Waxes
LO 5-2805-257-12	Engine, Gasoline, 3 HP, Military Standard Models (Model 2A016-1) (Model 2A016-2) (Model 2A016-3).
LO 5-4310-278-12	Compressor, Rotary: Air; Frame Mounted, 2 Wheel Pneumatic Tired, Gasoline Engine; 60 CFM, 6.5 PSI (Harris Model 4MV).

A-3. Painting

TM 9-213	Painting Instructions for Field Use

A-4. Radio Suppression

TM 11-483	Radio Interference Suppression

A-5. Maintenance

TM 5-2805-257-14	Operator, Organizational, Direct Support, and General Support Maintenance Manual: Engine, Gasoline 3 HP, Military Standard Models (Model 2A016-1, FSN 2805-601-5127) Model 2A016-2, FSN 2805-714-8553) Model 2A016-3, FSN 2805-072-4871)
TM 9-2610-200-20	Care, Organizational Maintenance, and Repair of Pneumatic Tires and Inner Tubes.
TM 38-750	Army Maintenance Management System

A-6. Shipment and Storage

TB 740-97-2	Preservation of USAMECOM Mechanical Equipment for Shipment and Storage.
TM 740-90-1	Administrative Storage of Equipment

Page C-1. Appendix C is superseded as follows:

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

Section I. INTRODUCTION

C-1. Scope

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

C-2. General.

This basic issue items, items troop installed or authorized list 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.

C-3. Explanation of Columns

The following provides an explanation of columns in the tabular list of 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 which 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 item upon which the allowances are based; e.g.; ft, ea, pr; etc.

e. Quantity Authorized. 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 number	(3) Description	(4) Unit of meas	(5) Qty auth
	4210-555-8837	EXTINGUISHER, FIRE	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.

TECHNICAL MANUAL
NO. 5-4310-278-15

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *27 August 1968*

OPERATOR, ORGANIZATIONAL, DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE MANUAL

COMPRESSOR, ROTARY: AIR: FRAME MOUNTED; 2 WHEEL PNEUMATIC TIRED, GASOLINE ENGINE; 60 CFM; 6.5 PSI; (HARRIS MODEL 4MV) FSN 4310-935-5345

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CHAPTER 1

INTRODUCTION

Section I GENERAL

1-1. Scope

a. These instructions are published for the use of the personnel to whom the compressor, rotary, Harris Model 4MV is issued. They protide information on the operation and organizational maintenance of the equipment. 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 maintenance allocation chart. Appendix C 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. The organizational maintenance repair parts are listed in TM 5-4310-278-25P, (when printed).

c. Numbers in parentheses on illustrations indicate quantity. Numbers preceding nomenclature callouts on illustrations indicate the preferred maintenance sequence.

d. Report of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to DA Publications) and forwarded direct to Commanding General, U.S. Army Mobility Equipment Command, ATTN: AMSME-MPP, 4300 Goodfellow Boulevard, St. Louis, Mo. 63120.

e. Report all equipment improvement recommendations as prescribed by TM 38-750.

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 Vehicle Operator's Identification Card) which is carried by the operator, shall be kept in a canvas bag mounted on the equipment.

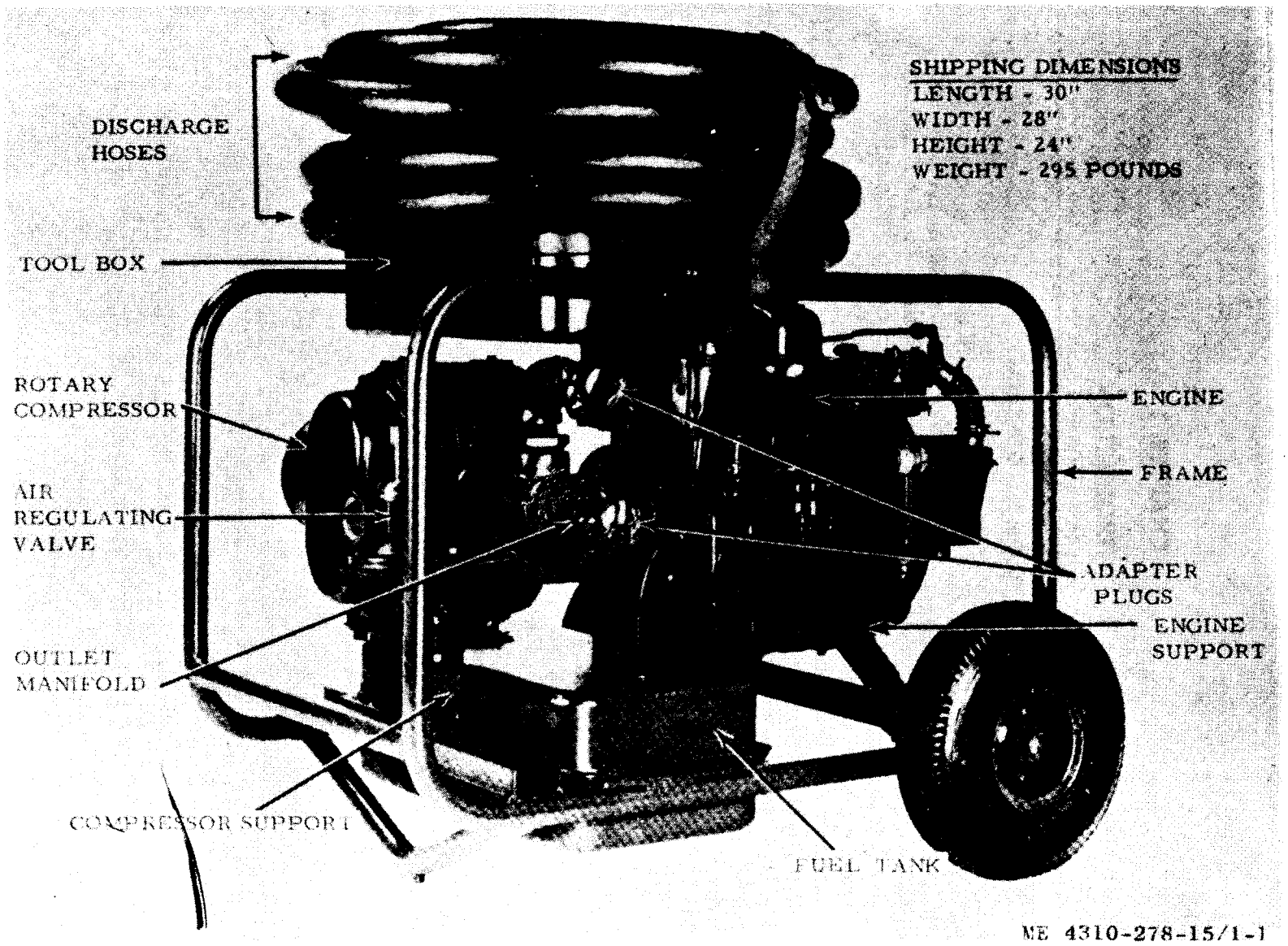


Figure 1-1. Rotary air compressor, left three-quarter view.

Section II. DESCRIPTION AND DATA

1-3. Description

a. General. The engine-driven, rotary air compressor (figs. 1-1 and 1-2) is a portable, two wheel, frame-mounted unit. The two-cylinder Military Standard engine drives the rotary compressor through a flexible coupling.

b. Engine. The unit uses a Model 2-A016-III gasoline-driven engine. Refer to TM 5-2805-208-14 for a description of this engine.

c. Rotary Compressor. The rotary comppressor is positive displacement unit that uses two matched, close tolerance rotors. The rotors are ball bearing mounted in side frames and are encased in a close tolerance rotor housing. Air is drawn into one side of the compressor through a filter and is discharged into a manifold at the opposite side of the compressor. Under sea level conditions, and with an ambient temperature of 75° F., the compressor provides a minimum of 60 cfm (cubic feet per minute) of free air at 6.5 psig (pounds per square inch gage) when driven at 3,600 rpm (revolutions per minute).

1-4. Identification and Tabulated Data

a. Identification. The rotary compressor has one identiftion plate, the Corps of Engineer's plate A. It contains the following information:

Nomenclature	Compressor, air, rotary 60 cfm, 6.5 psig
Stock No.	4310-935-5345
Serial Nos.	2001 thru 2553
Reg. No.	Not applicable
Mfg.	Harris Equipment Corp.
Contract No.	DAAK01-67-C-B337
Model No.	4MV
Date manufactured	Varies, start 1967
Length	80"
Width	28"
Height, without hose	24"
Heght, with hose, approx.	32"
Shipping weight, gross	295#
	18.5 ft³

Engine:

Manufacturer	Mil Std.
Model No.	2A016-III
Type	4 cycle, gasoline, overhead valve, air cooled
No. cylinders	2
Bore	2.250 in.
Stroke	2.0 in.
Piston displacement	16 cu. in.
Compression ratio	6.1 to 1
Horsepower at 3,600 rpm	3.5

b. Tabulated Data.

(1) Rotary compressor.

Manufacturer	Harris Equipment Corp.
Model No.	4MV-50
Serial No.	2001 thru 2553

(2) Engine. Refer to TM 5-2805-208-14.

(3) Fuel tank capacity, 3 gallons.

(4) Dimensions and weight.

Length	30"
Width	28"
Height	24"
Weight	148# less hose

(5) Nut and bolt torque data.

Compressor to base angle mounting	10 ft-lb (foot-pound)
Engine base angle to frame mounts	5 ft-lb
Engine to base angle mounts	5 ft-lb
Transition plate screws, to engine	16 ft-lb
Transition plate screws, to compressor	16 ft-lb
Coupling internal screws	7 ft-lb

1-5. Difference in Models

This manual covers only the Harris Model 4MV rotary air compressor. No known unit differences exist for the model covered by this manual.

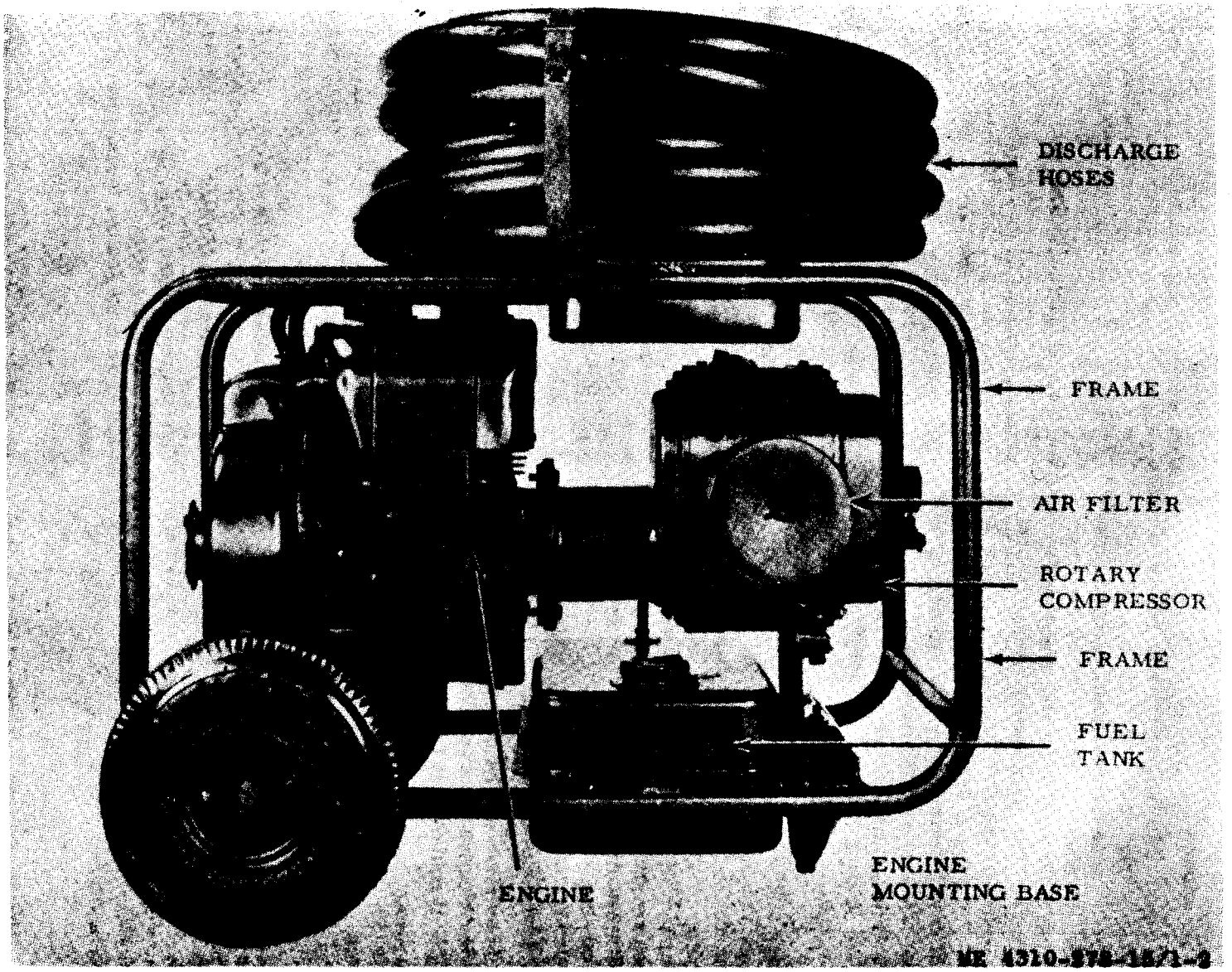


Figure 1-2. Rotary air compressor, right side view.

CHAPTER 2

INSTALLATION AND OPERATING INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF EQUIPMENT

2-1. Unloading the Equipment

The total weight of the notary compressor is 296 pounds. A handtruck, forklift, or manpower may be used to unload the crated unit. The crate must be kept in an upright position as indicated on the crate while unloading.

2-2. Unpacking the Equipment

a. General. For domestic shipping, the rotary compressor is packed in a wooden box nailed to a pallet to which the compressor is secured.

b. Unpacking. Remove wooden box. Remove rotary compressor from its pallet.

Caution: Exercise great care while uncrating to avoid damaging equipment.

c. Removal of *protective Materials and Preservatives.* Remove protective tape from inlet of the air cleaner. Prepare engine for inspection and operation as outlined on DA Form 2258, "Depreservation Guide".

2-3 Inspecting and Servicing Equipment

a. Check identification plate against packing bill for positive identification of equipment.

b. Visually inspect equipment for any damage which may have occured during shipment. Make certain that all nuts and bolts are in Place and secure.

c. For inspection and servicing of a new or used engine, refer to TM 5-2805-208-14.

d. Perform daily preventive maintenance services listed in paragraph 3-7.

2-4. Installation or Setting-Up instructions

a. General. The rotary compressor is shipped assembled for operation.

b. Installation.

(1) Place rotary compressor on a base that is solid and strong enough to support weight of unit. Refer to figure 1-1 for dimensions.

(2) Select a site where there will be sufficient space on all sides for servicing and operation of unlit.

(3) Connect hoses to outlet adapters. If necessary, remove the inflator valve from the tool box and install on the end of the hose.

(4) If rotary compressor is to be operated within enclosed area, make certain that there is proper ventilation and exhaust gases are piped outside.

Warning: Never operate rotary compressor in enclosed area unless exhaust gases are piped outside. Exhaust gases contain carbon monoxide, a colorless, odorless, and poisonous gas which can cause serious illness or death.

(5) Set rotary compressor on as level an area as possible during operation.

Section II. MOVEMENT TO A NEW WORKSITE

2-5. Dismantling for Movement

a. General. The rotary compressor is completely self-contained and can be moved over short distances manually by lifting at the end and rolling it on its wheels. If the rotary com-

pressor is to be transported by carrier, block or tie it to the carrier to prevent it from shifting while being transported.

Caution: **When tying rotary compressor to carrier, install bands through frame. Do not secure by banding across channels.**

b. Preparation for Movement.

(1) Disconnect outlet hoses from outlet adapters, Stow hoses as shown in figure 1-1. Disconnect and stow inflator valves in tool box.

(2) Disconnect exhaust pipe extension if used.

(3) Remove plug from bottom of fuel tank and drain fuel into suitable container.

(4) Cover opening of outlet adapters with adapter plugs (fig. 1-1) to protect adapters and prevent foreign matter from entering rotary compressor.

2-6. Reinstallation After Movement

Refer to paragraph 2-4 for installation and setting-up procedures.

Section III. CONTROLS

2-7. General

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

2-8. Controls

The purpose of controls and their normal and maximum reading are illustrated in figure 2-1.

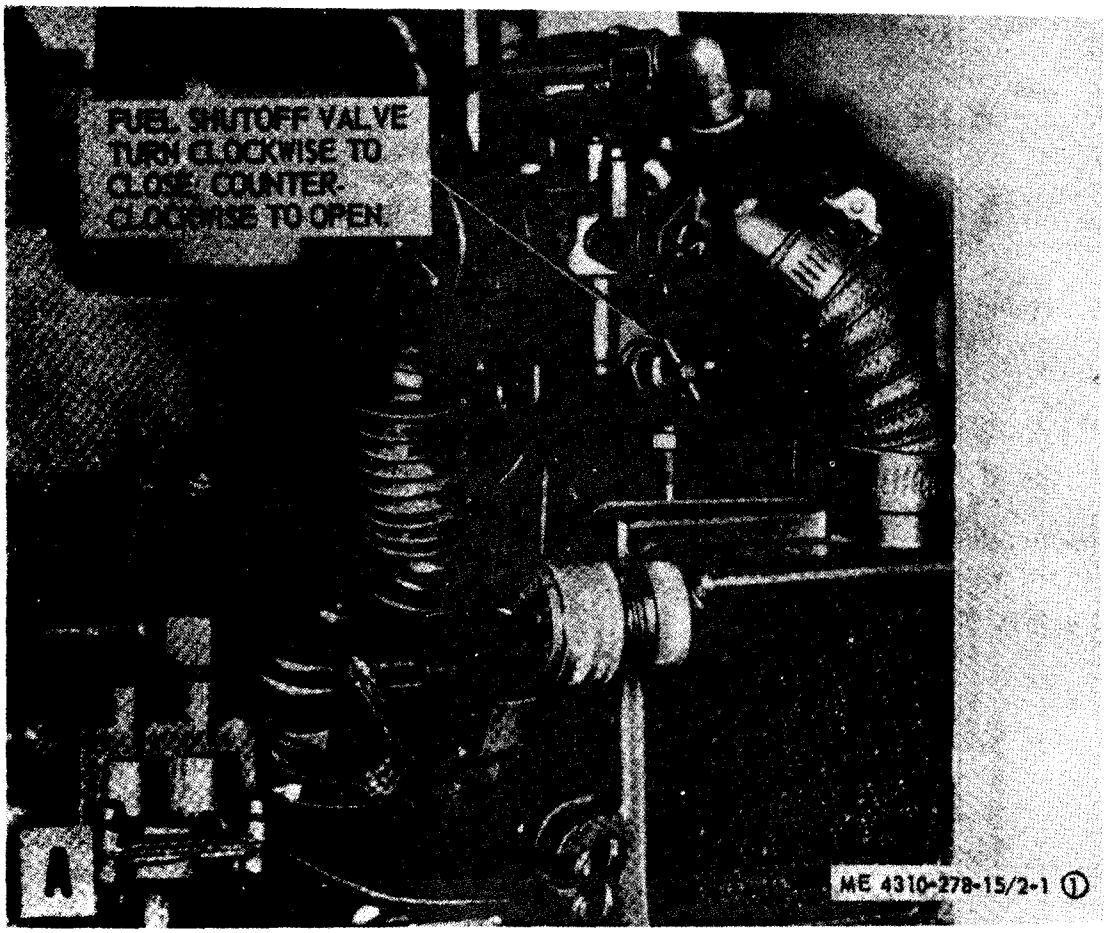


Figure 2-1 (1). Controls.

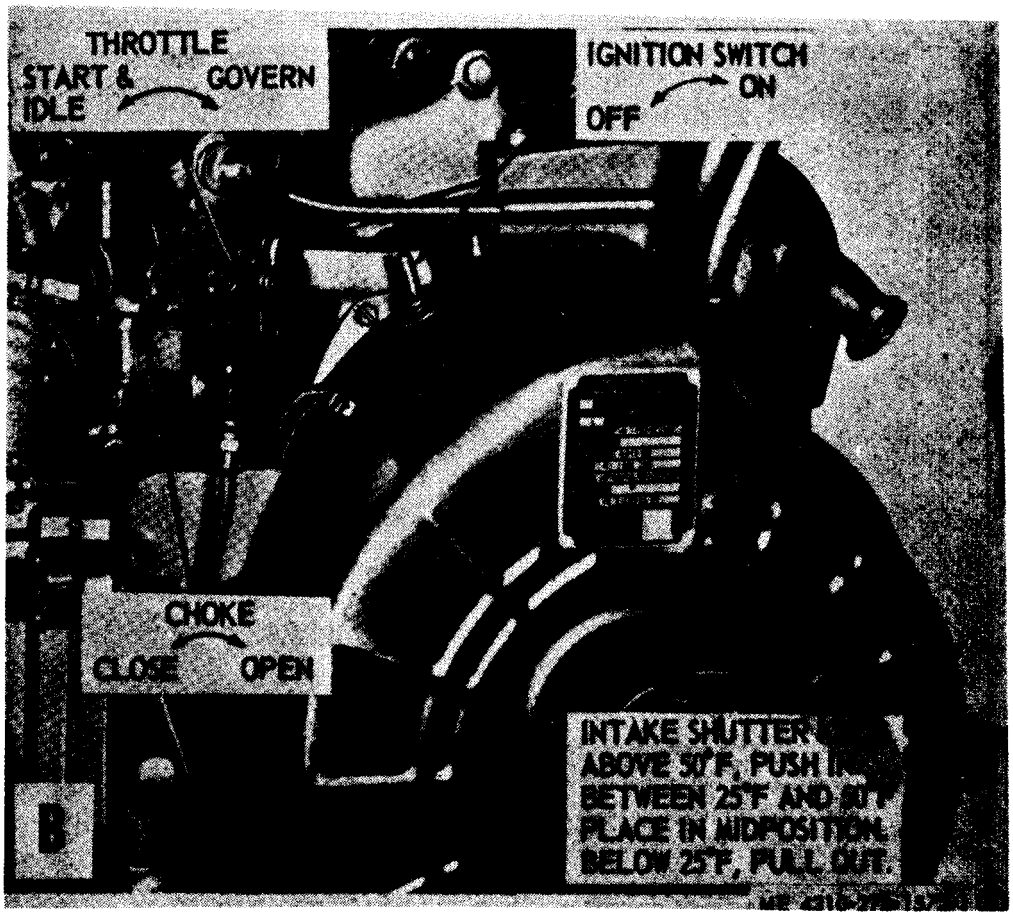


Figure 2-1 (2) - **Continued.**

Section IV. OPERATION OF EQUIPMENT

2-9. General

a. This section describes, locates, illustrates, and furnishes operator, crew, or organizational maintenance personnel sufficient information about various controls and instruments for proper operation of the rotary air 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 the basic motions to perform the 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.

Warning: **Never direct compressed air at personnel. Do not use compressed air to blow dirt from clothing. When it is not used properly, compressed air can be dangerous. Do not play with compressed air.**

2-10. Starting the Equipment

a. Preparation for Starting. Perform necessary daily preventive maintenance services (pars 3-7). Fill fuel tank.

Caution: **Remove adapter plugs from the outlet manifold before starting the engine. Failure to do so may seriously damage the equipment.**

b. Starting. Start rotary compressor as shown in figure 2-2.

2-11. Stopping the Equipment

a. Refer to figure 2-3 and stop rotary compressor.

b. Perform necessay daily preventive maintenance services (para 3-7).

2-12. Operation Under Usual Conditions

a. Start the rotary compressor (para 2-10),

b. Refer to figure 2-4 to operate the rotary compressor.

c. Stop rotary compressor (para 2-11).

Warning: **Due to the temperature rise of the air during compression, outlet manifold parts may get hot enough to cause burns**

2-13. Operation in Extreme Cold

a. Keep fuel tank full to prevent condensation. Drain and service fuel filter more frequently than under normal conditions (para 3-10).

b. Before starting engine, remove any accumulated ice or snow from spark plugs and wiring.

c. Make sure air intake shutter knob on engine is pulled out fully for winter operation.

d. Run engine at low speed to warm to operating temperature before applying full load.

e. Lubricate engine in accordance with TM 5-2805-208-14.

2-14. Operation in Extreme Heat

a. Make sure air intake shutter knob is pushed fully in for summer operation.

b. Keep rotary compressor clean and free of dust. If compressor is operated indoors, allow sufficient room around unit for air circulation.

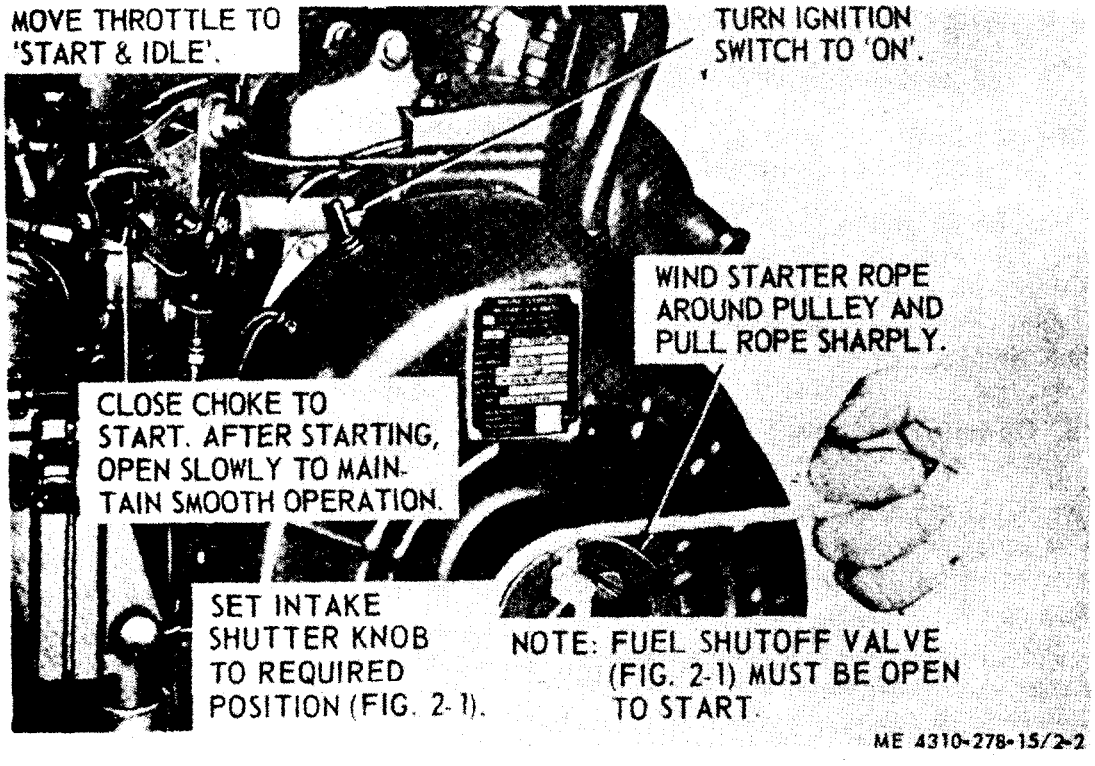


Figure 2-2. Starting the compressor.

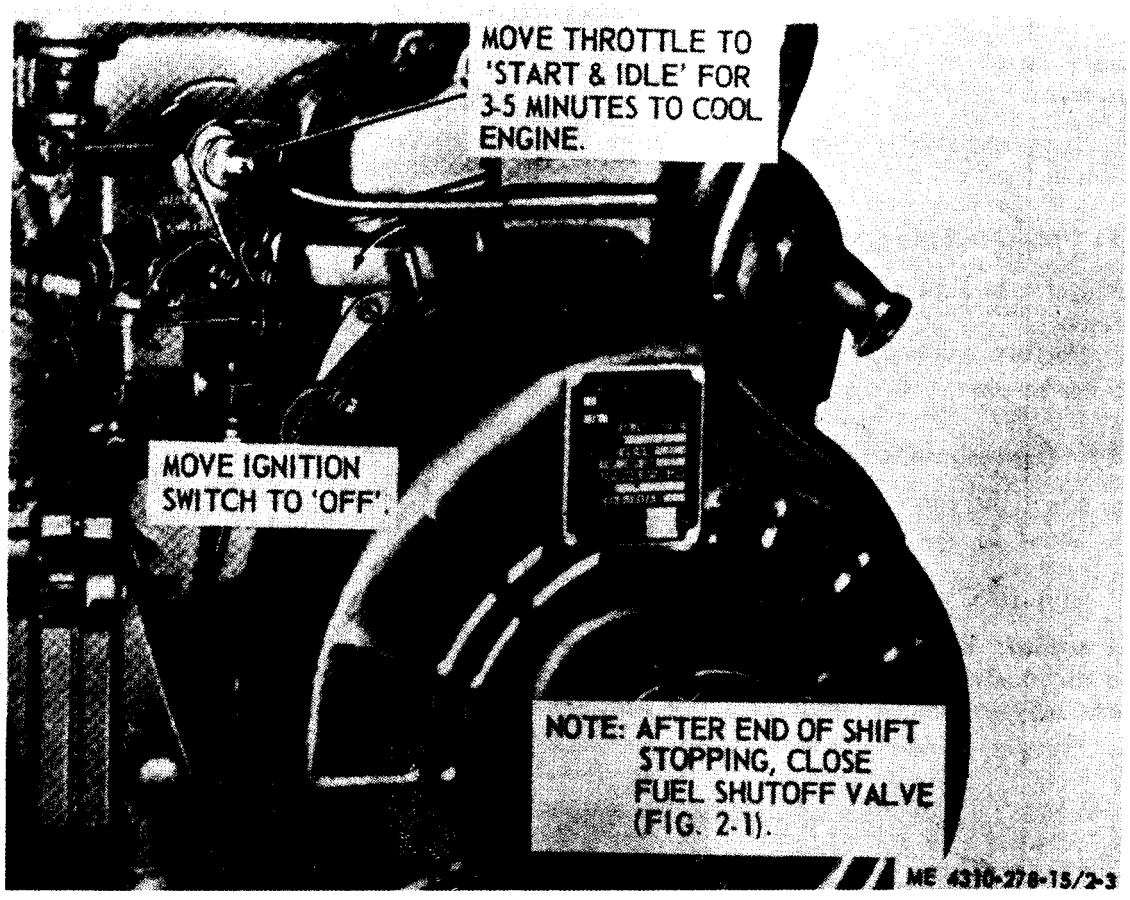


Figure 2-3. Stopping the compressor.

c. Inspect shrouding and cooling fins of engine for dust or foreign matter which might impede flow of air.

d. Lubricate engine in accordance with TM 5-2805-208-14.

2-15. Operation in Dusty or Sandy Areas

a. If installation is permanent, erect protective shield for rotary compressor. If installation is temporary, take advantage of natural barrier which offer protection from dust and sand.

b. Service air cleaner daily to keep fuel system free from sand and dirt (TM 5-2805-208-14).

c. Service the rotary compressor air filter to keep it free of sand and dirt (para 3-11).

d. Strain all fuel before adding to fuel tank. Drain and service fuel filter more frequently than under normal conditions (para 3-10).

e. Clean rotary compressor frequently. Wipe it with a cloth dampened in approved cleaning solvent.

f. Lubricate engine in accordance with TM 5–2805–208–14.

2-16. Operation Under Rainy or Humid Conditions

a. If unit is outside and not operating, cover unit with canvas or other waterproof material during damp, rainy weather. Remove cover during dry weather to allow unit to dry out.

b. Keep fuel tank full at all times to prevent condensation. Drain and service fuel filter frequently (para 3-10).

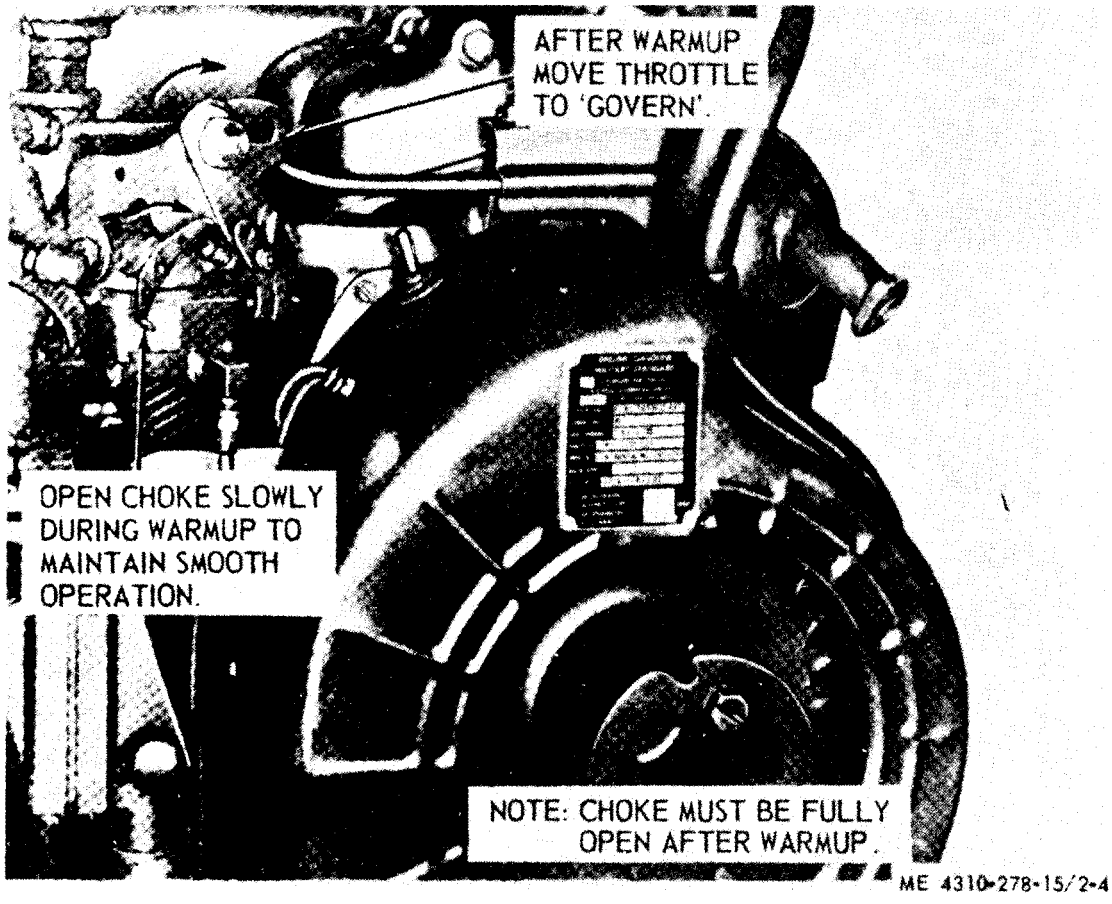


Figure 2-4. Operating the rotary compressor.

c. Humid conditions can cause corrosion and deterioration of electrical components. Keep electrical components clean and dry.

d. Lubricate engine in accordance with TM 5-2805-208-14.

2-17. Operation in Salt Water Areas

a. salt water causes corrosive action on metal. Care must be taken to avoid contact with salt water. After contact with salt water, wash unit with clean, fresh Walter.

b. Coat exposed metal with rustproofing material.

2-18. Operation at High Altitudes

Because of thinner air at higher altitudes, the carburetor may require an adjustment providing a leaner mixture. If this condition exists, refer to TM 5-2805-208-14.

CHAPTER 3

OPERATOR AND ORGANIZATIONAL MAINTENCE INSTRUCTIONS

Section I. OPERATOR AND ORGANIZATIONAL MAINTENANCE TOOLS AND EQUIPMENT

3-1. Special Tools and Equipment

The special tools required to perform organizational maintenance on the rotary compressor engine are listed in TM 5-2805-208-14. Reference to a paragraph and the use of these tools are listed in the table. No special equipment is required by organizational maintenance for performing maintenance of the rotary compressor.

3-2. Basic Issue Tools and Equipment

Tools and repair parts issued with or authorized for the rotary compressor are listed in the basic issue items list, appendix C of this manual.

3-3. Organizational Maintenance Repair Parts

Organizational maintenance repair pars for the rotary compressor are listed and illustrated in TM 5-4310-278-25P, (when printed). Repair parts for the engine are listed in TM 5-2805-208-14.

Section II. LUBRICATION

3-4. General lubrication Information

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

b. The lubrication order is a reproduction of the approved lubrication order for the rotary compressor. For the current lubrication order, Refer to DA Pamphlet 310-4.

3-5. Detailed Lubrication Information

a. General. Keep all lubricants in closed containers and store in a clean, dry place away from external heat. Allow no dirt, dust, or other foreign material to mix with the lubricants. Keep all lubrication equipment clean and ready for use.

b. Cleaning. Keep all external parts not requiring lubrication free 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 Lubrication. Service the lubrication points as illustrated in figure 3-1.

d. Rotary Compressor Lubrication. Maintain oil to midpoint level of sight gages on rotary compressor. To change oil in rotary compressor, remove drain plugs and drain. Install drain plugs and remove breathers. Pour oil into breather port until oil is level with the midpoint of the sight level gages on the compressor. Install breathers. Refer to lubrication order for lubrication interval and type of oil required.

e. Refer to TM 5-2805-208-14 for engine lubrication instructions.

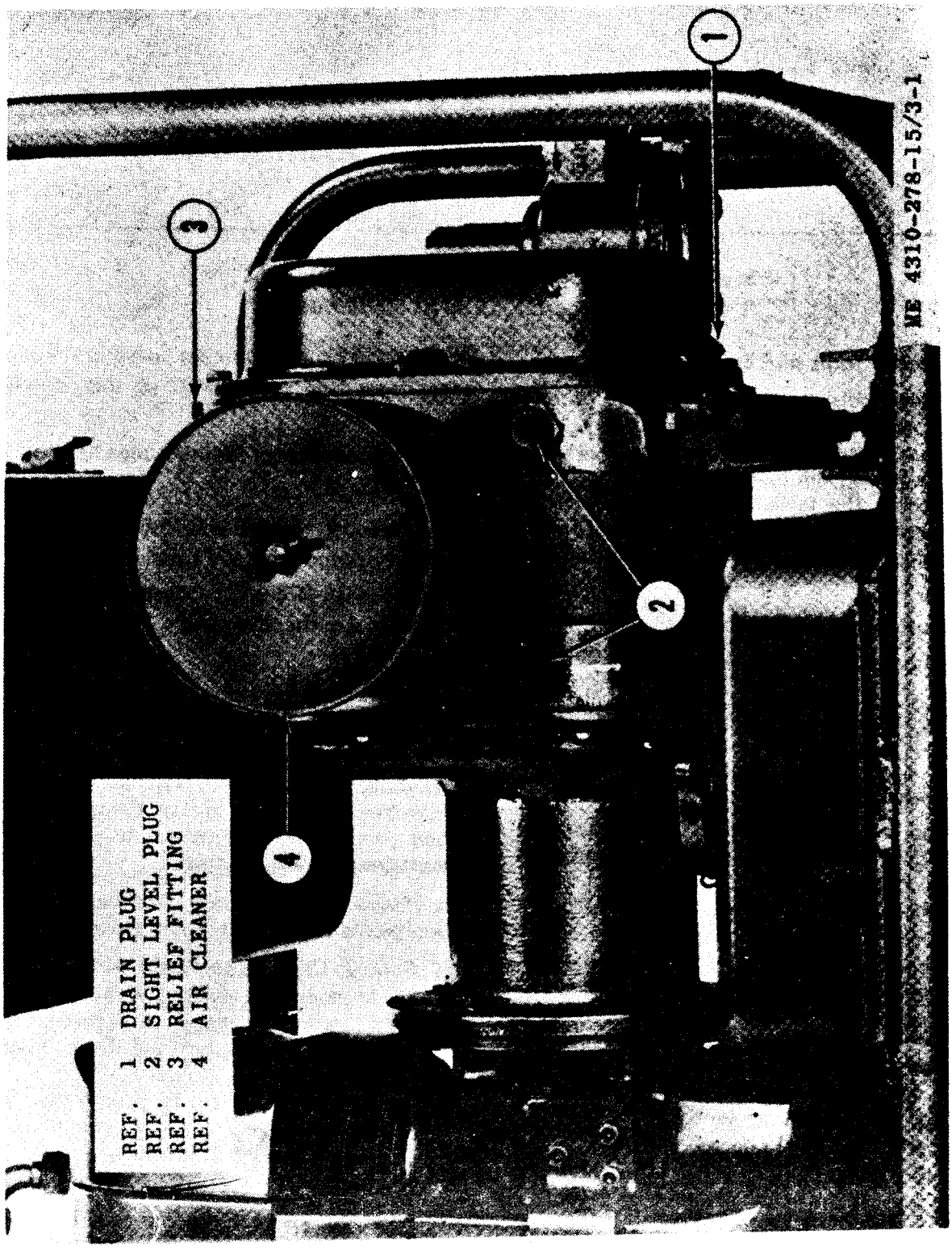


Figure 3-1. Air compressor service points.

Section III. PREVENTIVE MAINTENANCE SERVICES

3-6. General

To insure tha 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 maintence services to be performed are listed and described in paragraphs 3-7 and 3-8. The 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 during operation 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 Maintence Worksheet) at the earliest opportunity.

3-7. Daily Preventive Maintenance Services

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. Refer to TM 5-2805-208-14 for engine preventive maintenance service.

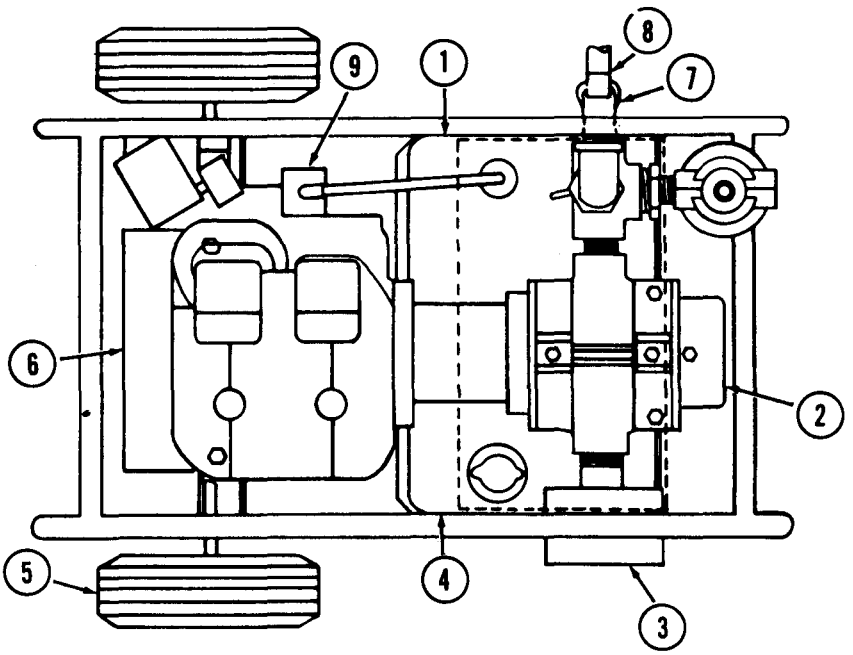
3-8. Quartrly Preventive Maintenance Services

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 3 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 quarter ly preventive maintenance services.

PREVENTIVE MAINTENANCE SERVICES
DAILY

TM 5-4310-278-15 HARRIS EQUIPMENT CORP. MODEL 4MV ROTARY COMPRESSOR



ITEM	LUBRICATE IN ACCORDANCE WITH CURRENT LUBRICATION ORDER	Par. Ref.
1	FUEL TANK. Check fuel tank for leaks, secure mounting, and low fuel supply. Add fuel as required.	3-20
2	ROTARY COMPRESSOR. Inspect for cracks, proper oil level, secure mounting, oil level and cleanliness.	3-28
3	AIR FILTER. Remove cover and inspect air cleaner element. Clean or replace as required	3-23
4	TOOL BOX. Inspect for cracks, rusted hinges, and secure mounting.	3-34
5	TIRES . Check tires for cuts, punctures, and bruises. Inflate to 18 psi if necessary.	3-32
6	ENGINE , Check for secure mounting and for smooth, quiet operation. Check oil level, service as required, reference current LO	
7	COUPLINGS AND ADAPTERS. Inspect for cleanliness and serviceability; clean or replace as required	3-25

ME 4310-278-15/3-2

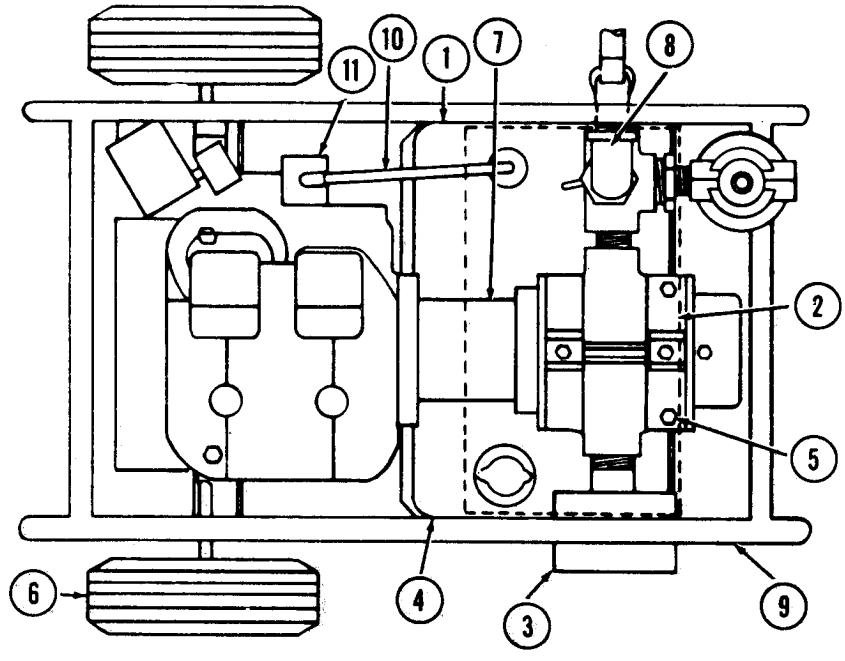
Figure 3-2 (1). Daily preventive maintenance service.

TM5-4310-278-15		
ITEM		Par Ref
8	HOSES. Check for leaks, tears, bruises, etc. Remove any obstructions.	3-24
9	FUEL FILTER. Inspect for leaks, water, dirt or damage. Service if necessary	3-21
	NOTE : OPERATIONAL CHECK. During operation, check for any unusual noise or vibration.	

PREVENTIVE MAINTENANCE SERVICES

–QUARTERLY

TM5-4310-278-15 HARRIS EQUIPMENT CORP. MODEL 4MV ROTARY COMPRESSOR



ITEM	LUBRICATE IN ACCORDANCE WITH CURRENT LUBRICATION ORDER	Par. Ref.
1	FUEL TANK. Inspect for leaks and for secure mounting. Inspect fuel cap, gasket, and strainer. Repair or replace as required.	3-20
2	ROTARY COMPRESSOR. Inspect for leaks, proper oil level, cleanliness, or damage.	3-28
3	AIR FILTER. Remove cover and inspect air filter element. Clean or replace as necessary.	3-23
4	TOOL BOX. Check for cracks, secure mounting, rust or damage. Repair or replace as necessary.	3-34
5	SHOCK MOUNTS. Inspect shock mounts for serviceability, secure mounting, or oil damage Replace if required.	3-34
6	WHEEL AND TIRE. Check wheels for free rotation. Check tires for cuts, bruises, and punctures Inflate to 18 psi.	3-32
7	COUPLING. Inspect flexible coupling for looseness or backlash. Tighten, repair, or replace as required.	3-26

ME 4310-278-15/3-3

Figure 3-3. (1). Quarterly preventive maintenance service.

TM 5-4310-278-15

ITEM		Par Ref
8	ADAPTERS AND PIPING. Inspect adapters and piping for leaks, damaged threads, or damage. Tighten or replace as required.	3-24
9	FRAME. Inspect frame for cracks, breaks, dents, or other damage. Repair and repaint as necessary.	3-34
10	FUEL LINES. Inspect for kinks, leaks, beads, and loose connections. Repair or replace as required.	3-21
11	FUEL FILTER. Inspect for cracks, leaks, dirt, and water. Remove and clean or replace.	3-21
	NOTE: OPERATIONAL CHECK. During operation, check for any unusual noise or vibration.	

ME 4310-278-15/3-3

Section IV. OPERATOR'S MAINTENCE

3-9. General

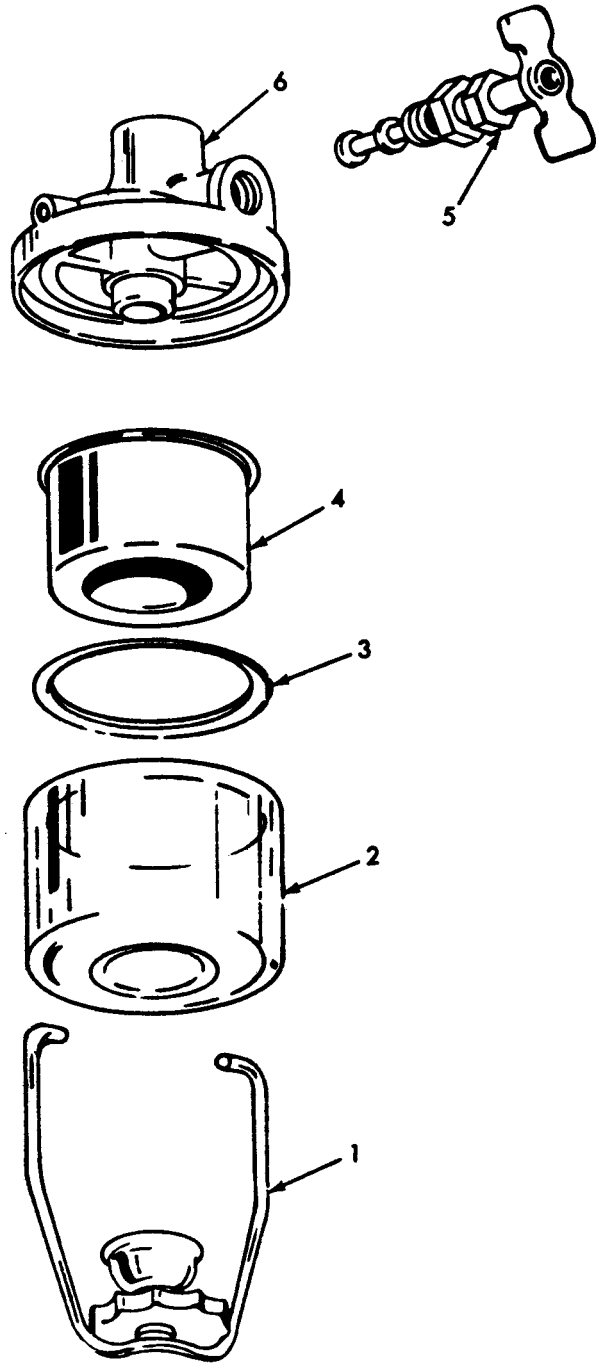
The instructions in this section are published for the information and guidance of the operator to maintain the rotary compressor.

3-10. Fuel Filter Service

Service fuel filter as illustrated in figure 3-4.

3-11 Compressor Air Filter

Service air filter as illustrated in figure 3-5.



ME 4310-278-15/3-4

1 Bail assembly
2 Bowl
3 Gasket
4 Strainer
5 Shut off valve
6 Fuel strainer valve

Figure 3-4. Fuel filter service.

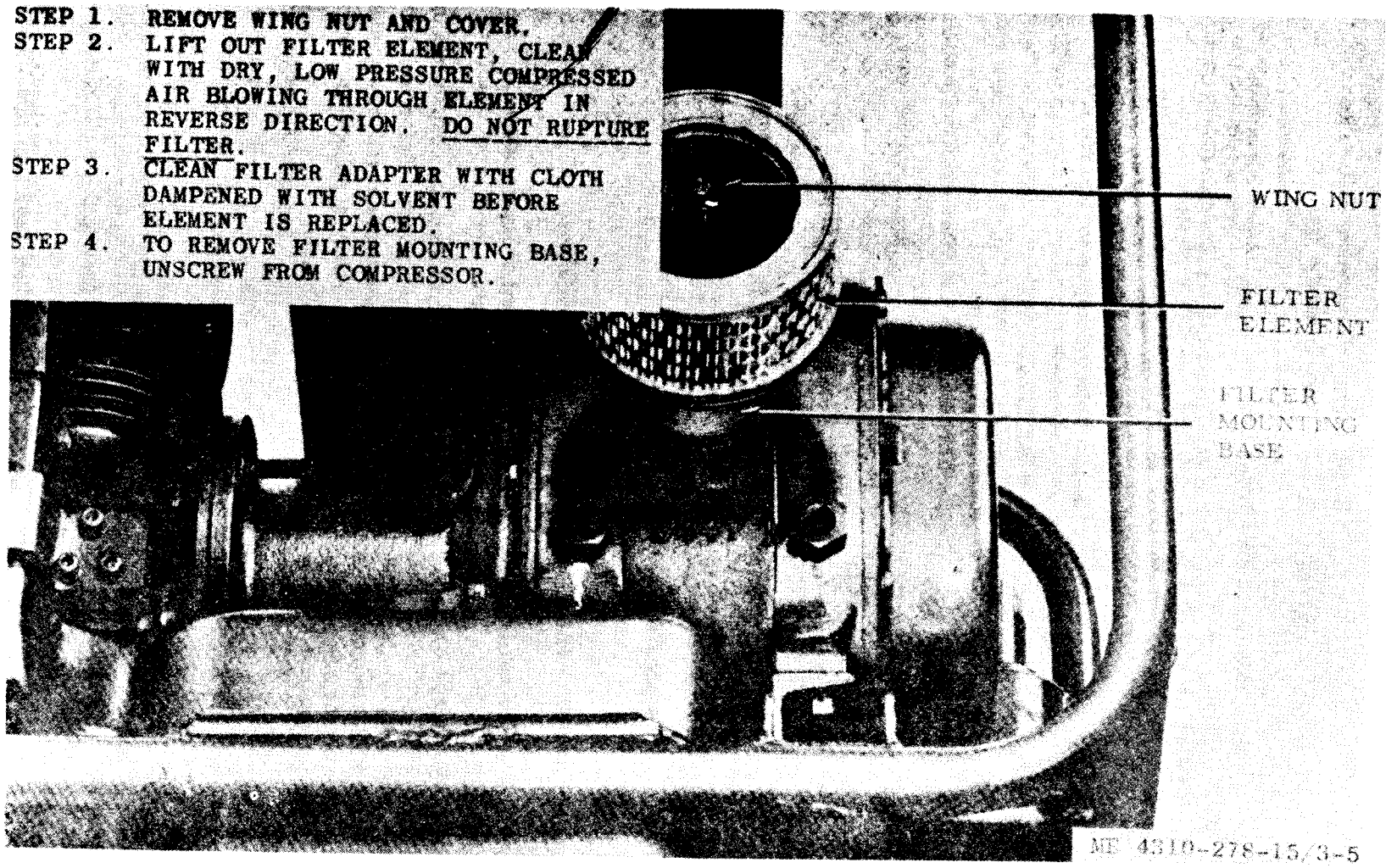


Figure 3-5. Compressor air filter service.

Section V. TROUBLE SHOOTING

3-12. General

This section provides information useful in diagnosing and correcting unsatisfactory operaction or failure of the rotary compressor and its components. Each trouble system stated is followed by a list of probable causes of the trouble. 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 6-2805-208-14 for engine troubleshooting.

3-13. Engine Fails to Start

Probable Cause	Possible Remedy
Engine not choked	Choke engine when starting.
Engine flooded	Open choke and attempt to start.
Fuel system clogged	Clean fuel lines and filter (para 3–10).
Wrong fuel	Drain system and replenish with proper grade of fuel.
Carburetion, ignition, or mechanical engine troubles	Refer to TM 5–2805–208–14.

3-14. Rotary Compressor Fails to Reach Rated Capacity

Probable Cause	Possible Remedy
Engine speed low	Adjust engine speed (TM 5–2805–208–14)
Air filter clogged	Clean air filter (para 3–23).
Air system clogged	Clean out air lines.
Air lines leaking	Tighten air connections.

3-15. Rotary Compressor Has No Air Output

Probable Cause	Possible Remedy
Relief valve stuck	Replace valve (para 3–24).
Air filter clogged	Clean air filter (para 3–23).
Coupling slipping on shaft.	Repair coupling (para 3–26).

3-16. Rotary Compressor Noisy

Probable Cause	Possible Remedy
Compressor mounting hardware loose	Tighten mounting hardware.
Oil supply low	Add oil to proper level.
Shock mounts loose	Tighten shock mounts.
Coupling damaged or loose	Replace coupling (para 3–26).

Section VI. RADIO INTERFERENCE SUPPRESSION

3-17. General Methods Used to Attain Proper Suppression

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

3-18. Replacement of Suppression Components

Radio interference suppression components are provided on the engine only. Refer to TM 5-2805-208-14 for description and replacement procedures. Bond strap supplied on frame grounds engine to frame.

Section VII. FUEL SYSTEM

3-19. General

This section contains the maintenance instructions for the engine fuel system components which are not described in TM 5-2805-208-14. It includes coverage of the fuel tank, fuel filter, and fuel lines and fittings.

3-20. Fuel Tank

a. Removal

(1) Remove fuel tank as illustrated in figure 3-6.

(2) Remove fuel tank cap and strainer.

b. Cleaning and inspection.

(1) Thoroughly steam clean fuel tank.

(2) Clean fuel strainer and cap with approved cleaning solvent; shake dry.

(3) Inspect for cracks, breaks, or other damage.

(4) Repair cracks and breaks, using approved arc welding methods.

Warning: **Make sure all gasoline fumes are removed from tank before starting welding operations. Fumes in tank can cause a severe explosion if ignited.**

c. Installation. Refer to figure 3-6 to install fual tank.

3-21. Fuel Line and Filter

a. Removal.

(1) Remove fuel line and filter as illustrated in figure 3-4.

(2) Disassemble fuel filter as illustrated in figure 3-4.

b. Cleaning and Inspection.

(1) Clean fuel filter and bowl assembly and fuel lines with approved cleaning solvent and dry thoroughly.

(2) Inspect fuel filter, connector threads, bowl, and bowl gasket for cracks, breaks, and other damage.

(3) Inspect fuel lines for cracks, distortion, or other damage.

(4) Replace all damaged or defective parts.

c. Installation. Refer to figure 3-4 to assemble and install fuel filter.

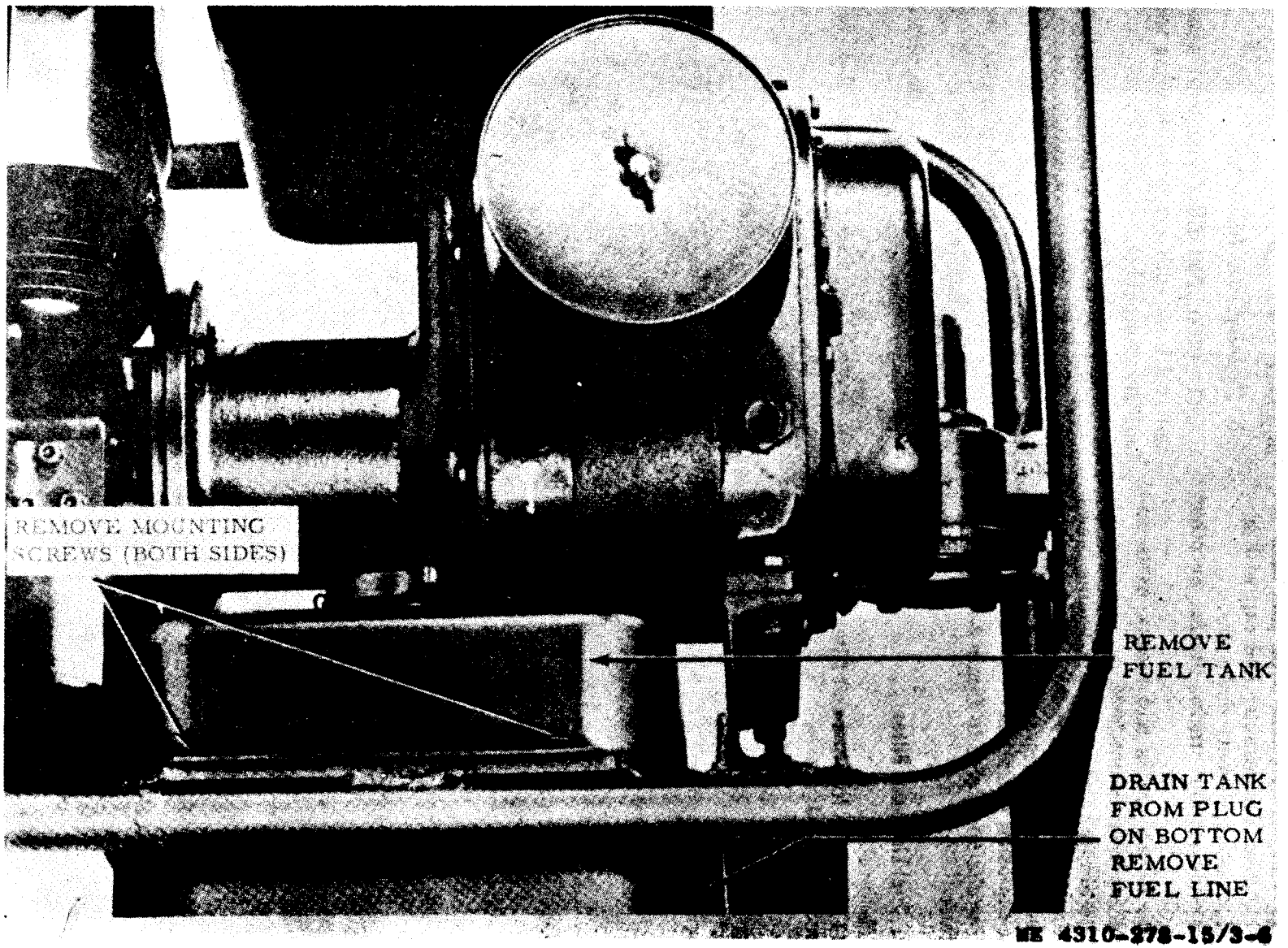


Figure 3-6. Fuel tank, removal and installation.

Section VIII. AIR INTAKE AND DISCHARGE SYSTEM

3-22. General

Intake and discharge parts are located on opposite sides of the rotary compressor. The intake port is provided with an air filter to prevent the entry of dust, dirt, and foreign material The discharge port is equipped with a pressure rallied valve, piping, and two adapters for installaion of two air hoses. Adapter pluge are provided to prevent entry of dirt when hoses are disconnected and to seal an adapter when only the alternate adapter is being used.

3-23. Air Filter

a. Removal and Disassembly. Refer to figure 3-5 for removal and disassembly of air filter.

b. Cleaning and Inspection.

(1) Clean the filter element with a stream of clean, dry, low presure compressed air directed from the inside of the element to the outside. Take care not to rupture the element.

(2) Clean all other parts with an approved cleaning solvent; dry thoroughly.

(3) inspect the filter element for cracks, holes, ruptures, oil saturation, distortion, or other damage; replace a damaged filter.

(4) Inspect the air filter cover for cracks, distortion, or other damage; replace a damaged cover.

(5) Inspect the air filter mounting base for cracks, distortion, damaged threads, or other damage: replace a damaged mounting base.

c. Reassembly and Installation. Refer to figure 3-5 for reassembly and installation of the air filter.

3-24. Relief Valve, Discharge Fittings and Hoses

a. Removal.

(1) Remove the pressure relief valve only for replacement or for removal of the rotary compressor. The adjusting screw is sealed and requires no field adjustment. Refer to figure 3-7 for removal.

(2) Refer to figure 3-7 for replacement of discharge hoses and fittings.

b. Cleaning and Inspection.

(1) Clean the relief valve with a cloth dampened with an approved cleaning solvent. Dry thoroughly.

(2) Wipe the exterior of the hoses. with a cloth dampened with water. If necessary, clean the insides of hoses with an approved cleaning solvent that will not attack rubber.

(3) Inspect the relief valve for cracks, dis tortion, or other damage; replace a damaged relief valve.

(4) Inspect pipe fittings for cracks and for damaged threads; replace defective parts.

(5) Inspect hoses for cracks, leasks, or deterioration: replace damaged hoses.

c. *Installation.* Refer to figure 3-7 for installation of the relief valve and discharge fittings and hoses.

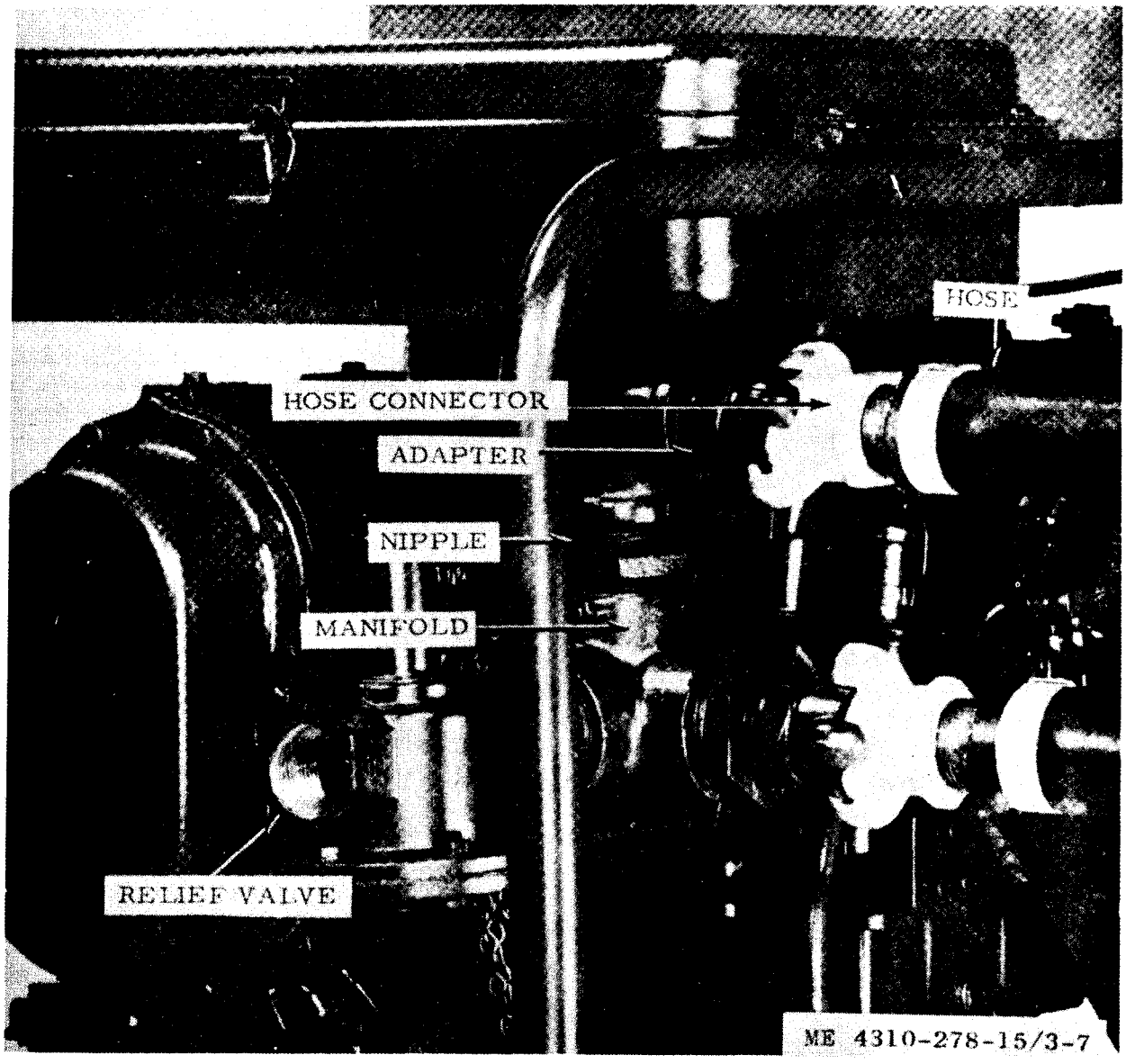
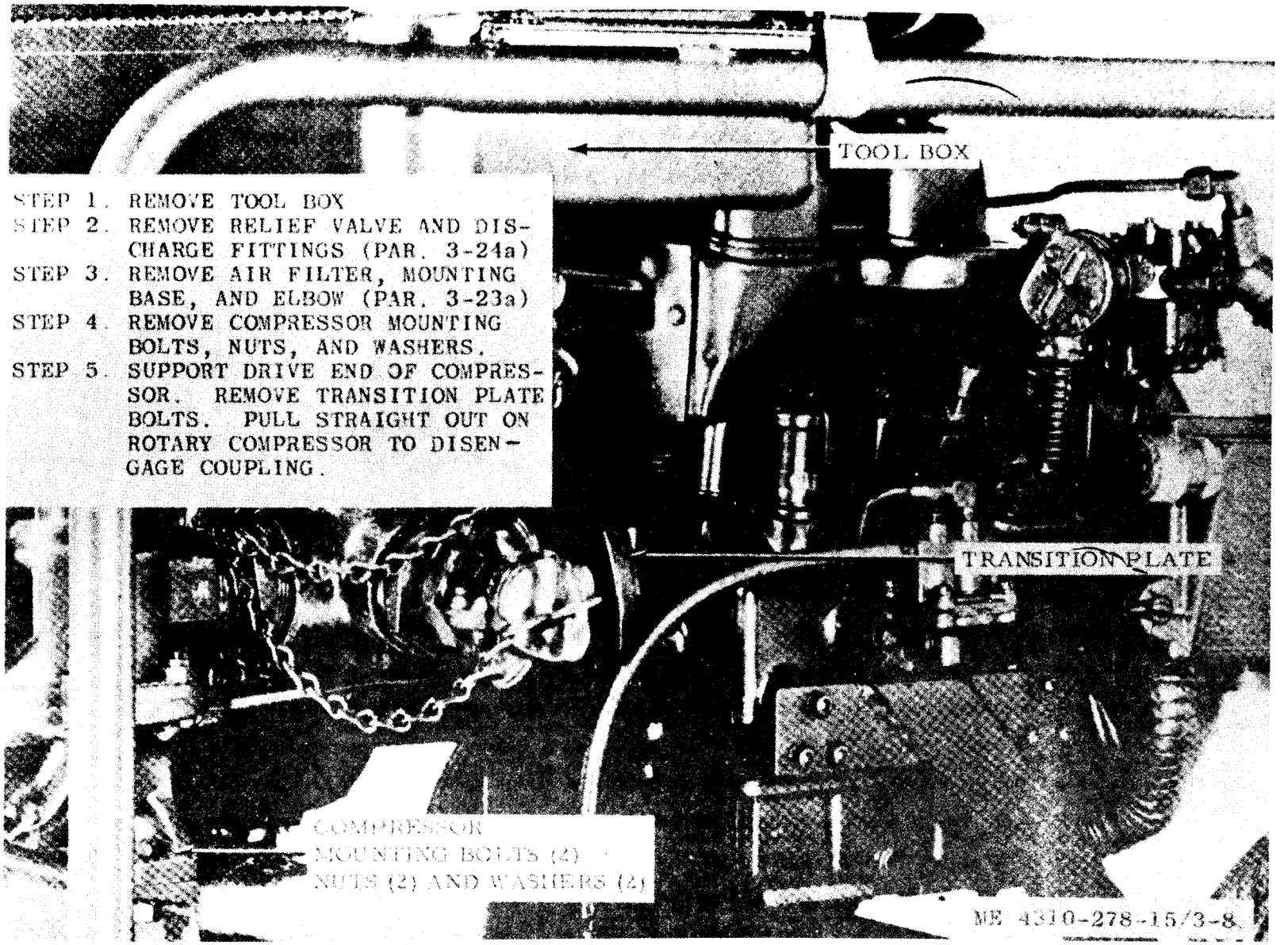


Figure 3-7. Relief valve, discharge fittings and hoses removal and installation.

Section IX. COUPLING

3-25. General

The rotational force of the engine is transferred to the rotary compressor through a flexible coupling which joins the engine flywheel and the compressor shaft, The coupling consist of a driving half which is keyed to the engine crankshaft, a driven half which is keyed to the compressor shaft, and a resilient spider through which the torque is transferred. The resilience of the spider permits a free transfer to torque even though slight misalignment may exist between the driving parts,



STEP 1. REMOVE TOOL BOX
STEP 2. REMOVE RELIEF VALVE AND DISCHARGE FITTINGS (PAR. 3-24a)
STEP 3. REMOVE AIR FILTER, MOUNTING BASE, AND ELBOW (PAR. 3-23a)
STEP 4. REMOVE COMPRESSOR MOUNTING BOLTS, NUTS, AND WASHERS.
STEP 5. SUPPORT DRIVE END OF COMPRESSOR. REMOVE TRANSITION PLATE BOLTS. PULL STRAIGHT OUT ON ROTARY COMPRESSOR TO DISENGAGE COUPLING.

3-26. Coupling

a. Removal and Disassembly.

(1) Remove rotary compressor (para 3-28a).

(2) Remove and disassemble coupling parts as shown in figure 3-8.

b. Cleaning and Inspection.

(1) Clean all metallic parts with approved cleaning solvent; dry thoroughly.

(2) Wipe spider with clean cloth.

(3) Inspect all metallic parts for cracks, distortion, worn mounting surfaces, damaged keyways, and other damage.

(4) Inspect spider for cracks, wear, deterioration or other damage.

(5) Replace all damaged parts.

c. Installation.

(1) Refer to figure 3-8 and install coupling.

(2) Install rotary compressor (para 3-28c).

Note. Keep the setscrews on the driven half of the flexible coupling loose when the bearing housing is bolted to the engine flywheel housing. Then adjust the driven half of the coupling, and tighten the setscrews.

Section X. ROTARY COMPRESSOR

3-27. General

The rotary compressor is secured to a cross channel of the engine base and to the transition plate on the engine. It is driven by the engine through a flexible coupling, one part of which is secured to the compressor shaft, while the other is secured to the engine crankshaft. Torque is transferred from the drive portion to the driven portion by a resilient spider.

3-28. Rotary Compressor

a. Removal

(1) Refer to figure 3-9 to remove rotary compressor,

(2) Remove flexible coupling parts from rotary compressor (para 3-26a).

b. Cleaning and Inspection.

(1) Clean the exterior of the rotary compressor with a clean cloth dampened with an approved cleaning solvent; dry thoroughly.

(2) Inspect the rotary compressor for any external damage. Any trouble beyond the scope of organizational maintenance shall be reported to direct support maintenance.

c. Installation.

(1) Install coupling parts on rotary compressor drive shaft (para 3-26c).

(2) Refer to figure 3-9 to install compressor.

STEP 1. CLOSE FUEL SHUTOFF VALVE AT FUEL FILTER. DISCONNECT FUEL LINE FROM ENGINE.

STEP 2. BLOCK UP UNDER DRIVE END OF ROTARY COMPRESSOR. REMOVE TRANSITION PLATE BOLTS.

STEP 3. REMOVE ENGINE MOUNTING BOLTS. PULL ENGINE STRAIGHT AWAY FROM ROTARY COMPRESSOR TO DISENGAGE COUPLING. REMOVE ENGINE. COMPRESSOR NOW AVAILABLE FOR COMPLETE REMOVAL FROM FRAME BY MEANS OF UNBOLTING COMPRESSOR FROM FRAME.

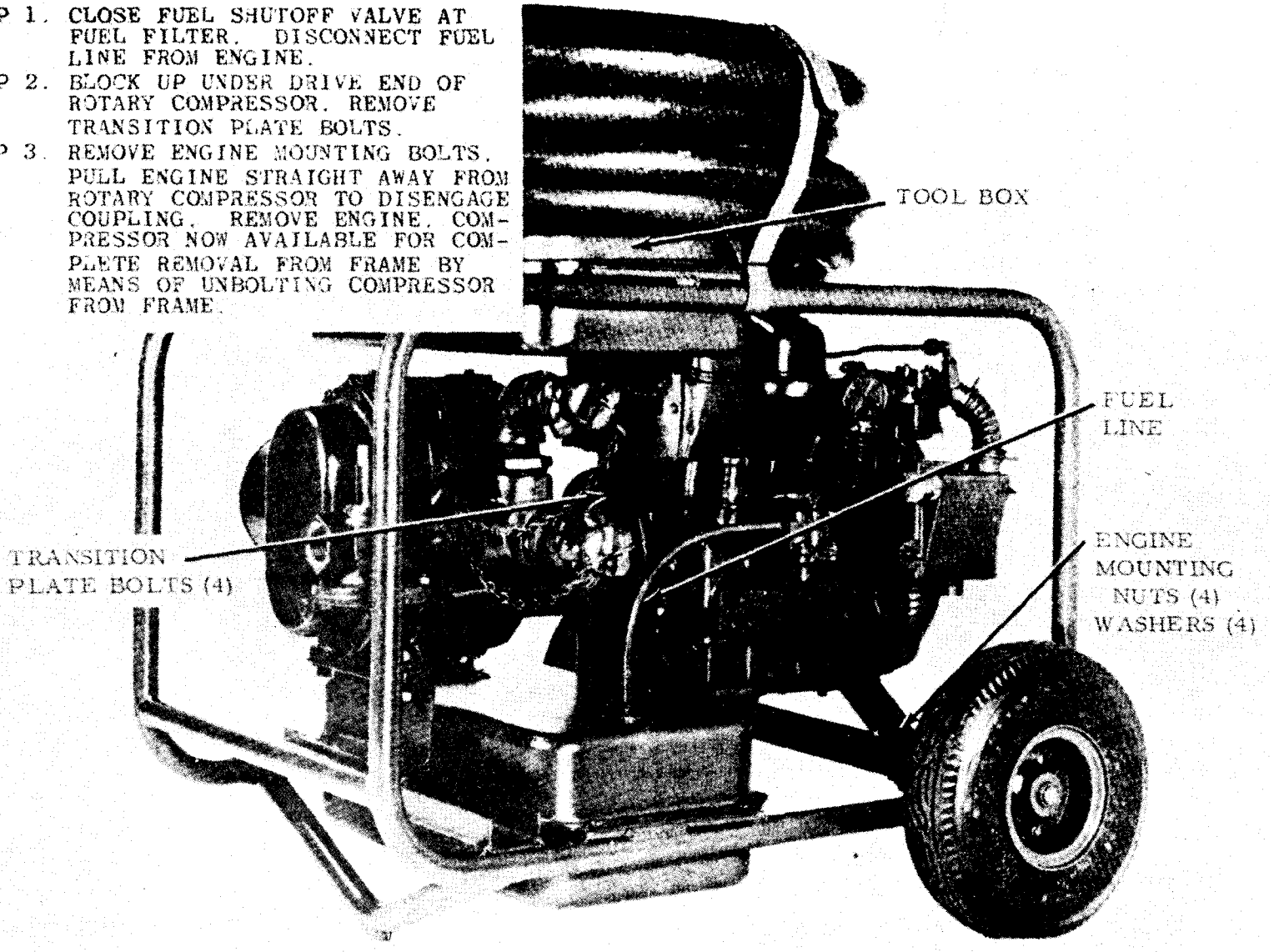


Figure 3-9. Rotary compressor, removal and installation.

Section XI. ENGINE

3-29. General

This section contains the engine removal procedures. All engine maintenance procedures and instructions are described and illustrated in TM 5-2805-208-14.

3-30. Engine

a. Removal.

(1) Refer to figure 3-10 to remove engine.

(2) Remove coupling parts from engine (para 3-26a).

b. Cleaning and inspection.

(1) Clean exterior of engine with approved cleaning solvent and dry thoroughly.

(2) Inspect engine for any external damage. Any trouble beyond the scope of organizational maintenance shall be reported to direct support maintenance.

c. Installation

(1) Install coupling parts on engine (para 3-26c),

(2) Refer to figure 3-10 to install engine.

Section XII. WHEELS AND TIRES

3-31. General

The tube-type tires are mounted on one-piece wheels which bolt to the wheel bearings. The wheel bearings are mounted on the axle shaft and are secured to the shaft with wheel retaining rings.

3-32. Wheels and Tires

a. Disassembly.

(1) Hoist rotary compressor frame far enough to insert blocking so that wheel clears floor.

Warning: Deflate tube before attempting to remove tire.

(2) Refer to figure 3-11 for disassembly of wheels and tires.

b. Cleaning and Inspection.

(1) Wash tires and tubes with water.

(2) Clean wheel bearings by immersing in an approved cleaning solvent. Remove all hardened and caked grease from bearings. Oil bearings lightly with engine oil.

(3) Clean all other parts with an approved cleaning solvent; dry thoroughly.

(4) Inspect tires for cracks, punctures, cuts, or other damage.

(6) Inspect tubes for punctures and for deterioration.

(6) Inspect wheels for distortion, cracks, and other damage. Straighten a slightly bent wheel.

(7) Inspect bearings for cracks, rough or catching movement, excessive looseness, binding, or other damage; replace a damaged bearing or other parts which cannot be repaired.

c. Reassembly,

(1) Refer to figure 3-11 for wheel and tire reassembly.

(2) Inflate tire and remove blocking from under frame.

(9) Grease wheel bearings (refer to current lubrication order).

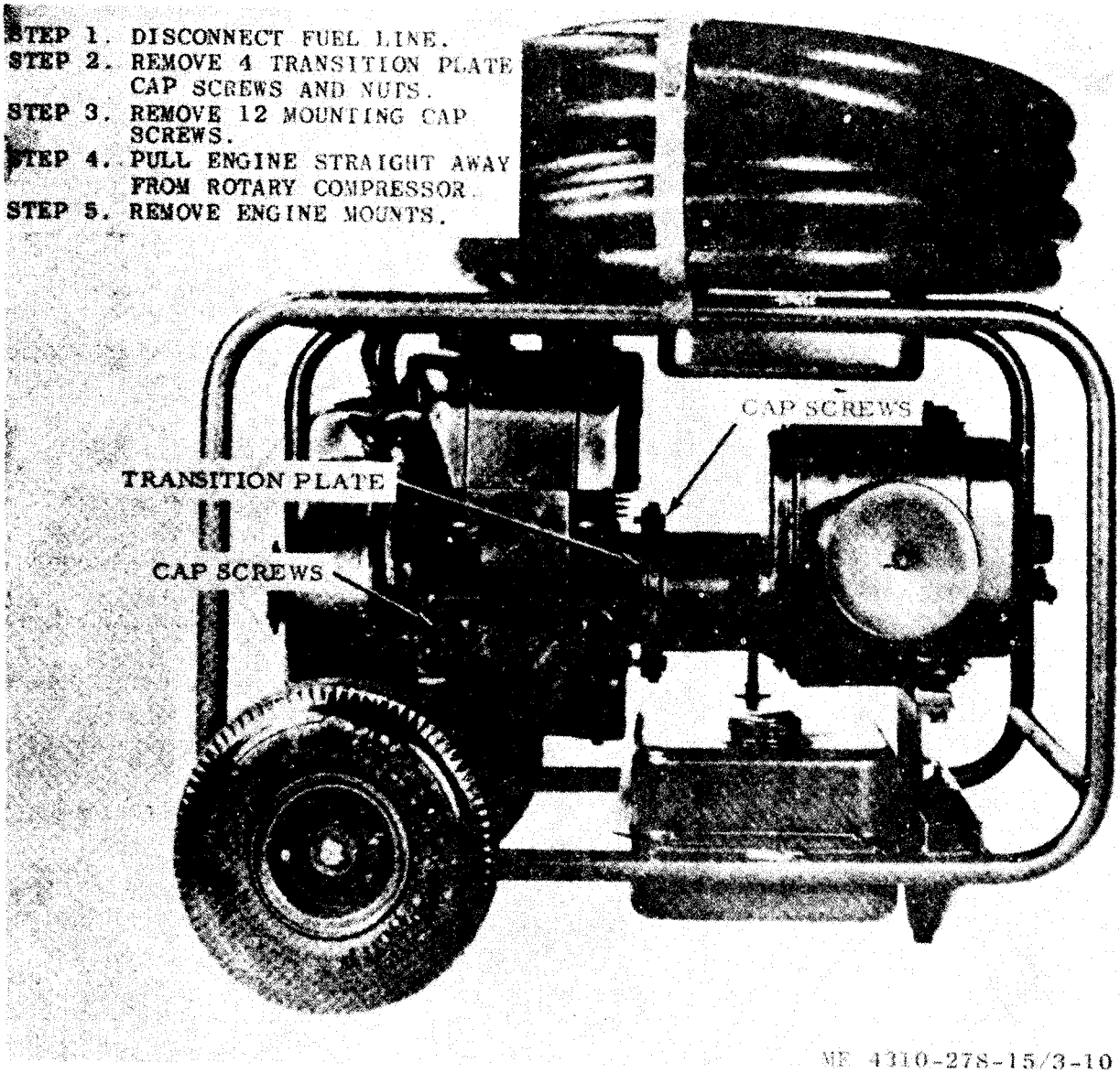


Figure 3-10. Engine, removal and installation.

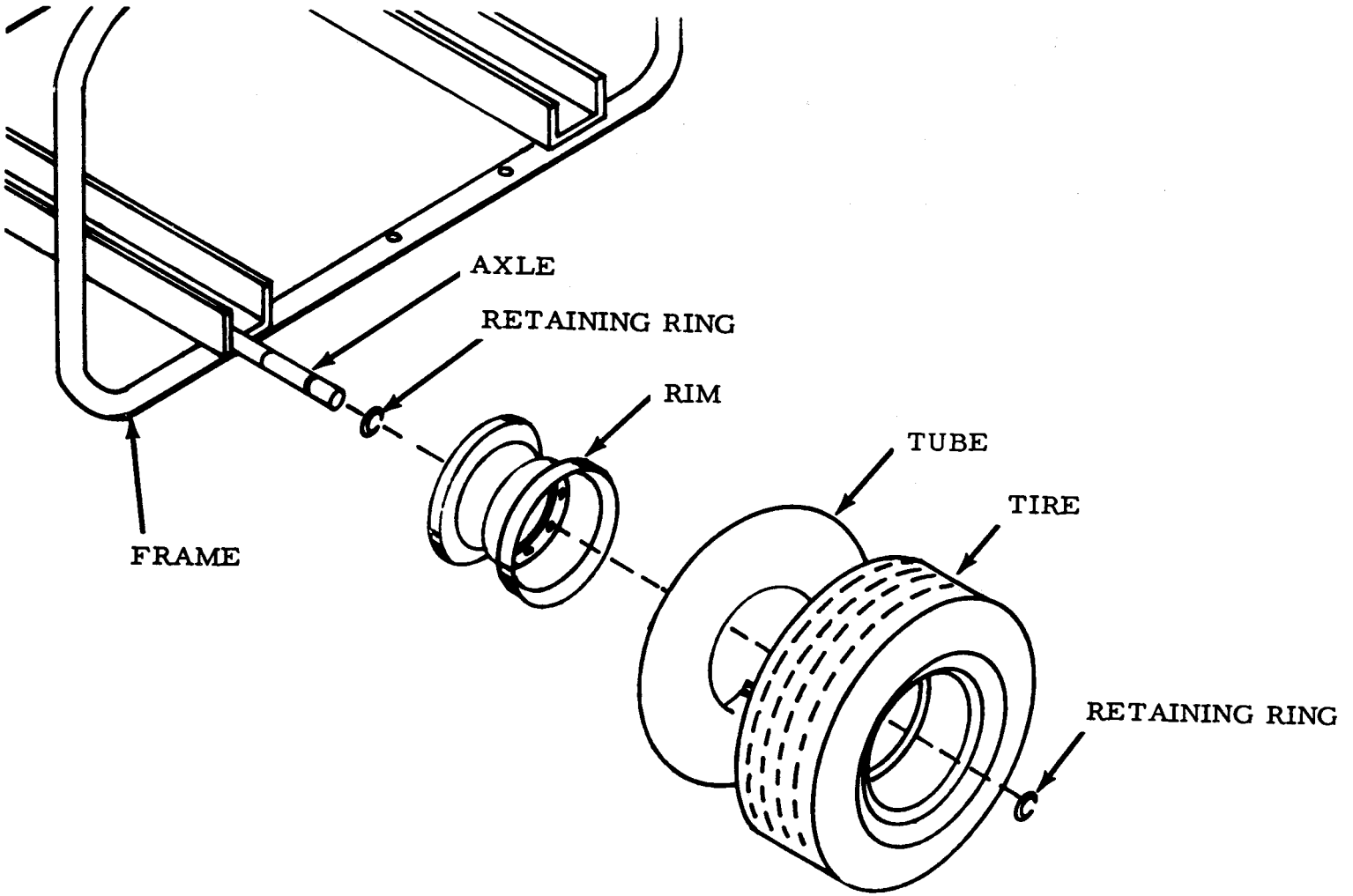


Figure 3-11. Wheels and tires, disassembly and reassembly. ME 4310-278-15/3-11

Section XIII. ENGINE BASE, FRAME, AND TOOL BOX

3-33. General

The engine base is shock mounted to the tubular frame crossmembers. The axle is welded to the tubular frame. The tool box is bolted to angles welded between the tops of tubular crossmembers of the frame.

3-34. Engine Base, Frame, and Tool Box

a. Disassembly.

(1) Remove rotary compressor (para 3-28a).

(2) Remove engine (para 3-30a).

(3) Remove wheels and wheel bearings (para 3-22a).

(4) Refer to figure 3-12 for disassembly of engine base and tool box from frame.

b. Cleaning and Inspection.

(1) Clean all parts with an approved cleaning solvent; dry thoroughly.

(2) Inspect tool box for cracks, distortion, damaged or rusted hinges, or other damage.

(3) Inspect shock mounts for cracks, loss of resilience, or deterioration.

(4) Inspect engine base for cracks, broken weldments, distortion or other damage.

(5) Inspect tubular frame for cracks, misalignment, cracked weldments, damaged axle threads, and other damage. Straighten all bent parts. Replace parts damaged beyond repair.

c. Reassembly.

(1) Refer to figure 3-12 for reassembly of engine base and tool box on tubular frame.

(2) Install wheels and bearings (para 3-32c).

(3) Install engine (para 3-30c).

(4) Install rotary compressor (para 3-28c).

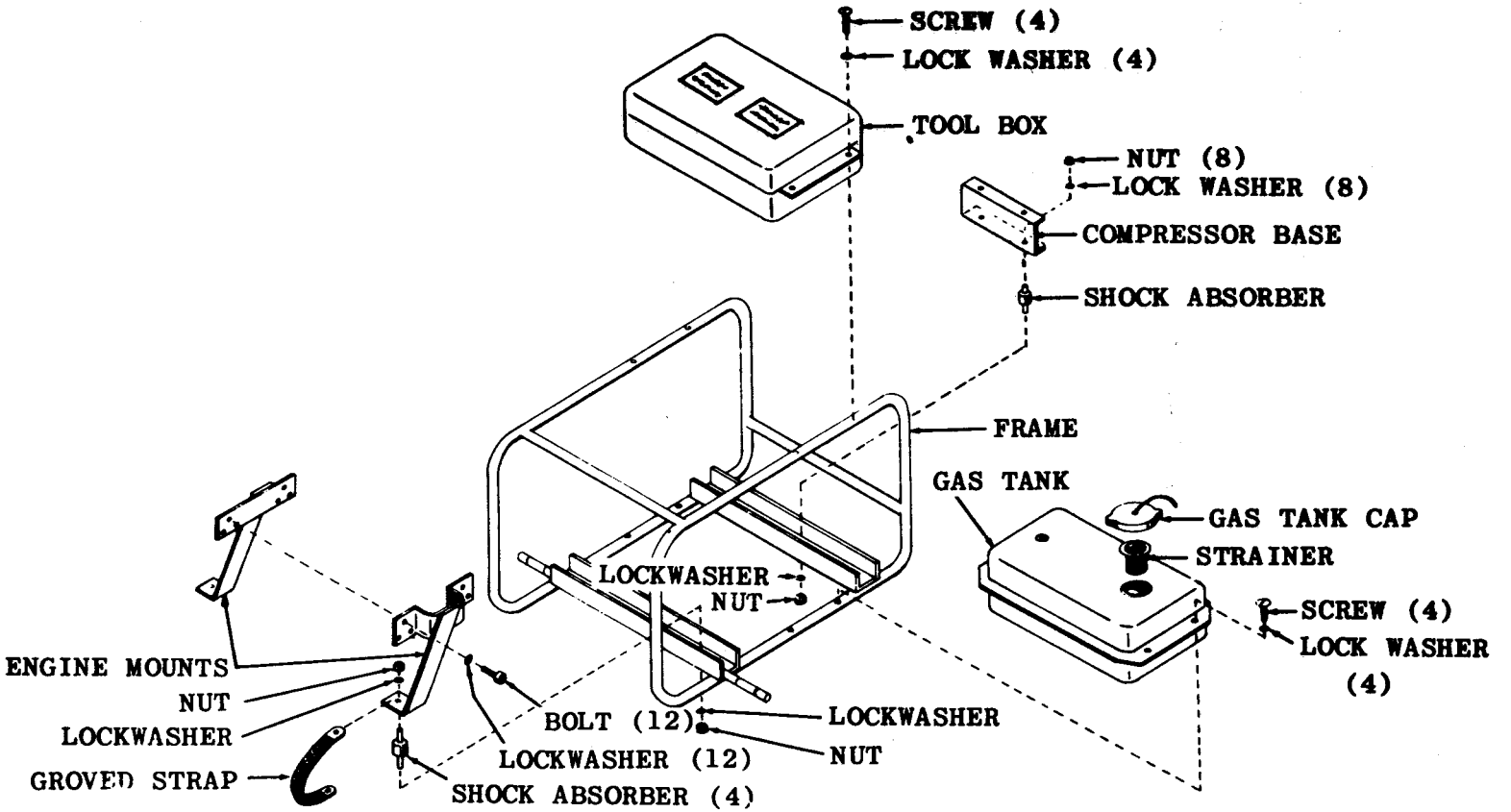


Figure 3-12. Engine base, frame, and tool box, disassembly and reassembly.

CHAPTER 4

DIRECT AND GENERAL SUPPORT AND DEPOT MAINTENANCE INSTRUCTIONS

Section I. GENERAL

4-1. Scope

a. These instructions are published for the use of direct and general support and depot maintenance personnel maintaining the Harris Equipment Model 4MV rotary compressor. 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.

b. Report all equipment improvements recommendations as prescribed by TM 38-750.

4-2 Record 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 DATA

4-3. Description

For a complete description of the Harris Equipment Model 4MV rotary compressor, see paragraph 1-3, figures 1-1, and 1-2.

4-4. Tabulated Data

a. General. This paragraph contains all the overhaul maintenance personnel.

b. Engine. For maintenance data on the 2A016 III engine, refer to TM 5-2805-208-14.

c. Rotary Compressor.

Ratings	60 cfm (cubic feed per minute) at 6.5 psig (pounds per square inch gage). 75° F (24° C), dry air, 29.92 in. Hg. atmospheric pressure.
Operating speed	3600 rpm (revolutions per minute).
Max. power requirement	3.5 (horse power).
Max. temperature rise	115° F (46° C).
Lubrication	Wet sump and slinger

d. Nut and Bolt Torque Data.

End cover attaching screws.	7 ft-lb (foot-pound)
Bearing retainer screws	3 ft-lb
Rotor shaft washer screws.	3 ft-lb
Drain plugs	7 ft-lb
Oil level pipe plugs	5 ft-lb
Relief fitting	5 ft-lb
Transition plate screws	16 ft-lb
Drive end mounting screw	16 ft-lb
Coupling internal screws	7 ft-lb

e. Repair and Replacement Standards. Table 1 lists manufacturer's sizes, tolerances, desired clearances, and maximum allowable wear and clearance.

Table 1. Repair and Replacement Standards

Component	Mfgr's dimensions & tolerances in inches		Desired clearances		Minimum Allowable wear and clearance
	Minimum	Maximum	Minimum	Maximum	
ROTARY COMPRESSOR					
Rotor to end plate					
Gear end	0.003	0.004	0.003	0.004	
Drive end	0.005	0.008	0.005	0.008	
Rotor shaft	0.7873	0.7877			0.004
Bearing seat	0.937	0.938			
Rotor lobe to housing:					
inlet	0.006	0.008	0.006	0.008	
Outlet	0.002	0.004	0.002	0.004	
Rotor lobe clearance:					
Leading edge	0.007	0.009	0.007	0.009	
Trailing edge	0.005	0.007	0.005	0.007	
Timing gear backlash		0.0015			0.0015
Timing gear bore	0.7870	0.7873			0.0003

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. Direct and General Support and Depot Maintenance Repair Parts

Direct and general support and depot maintenance repair parts are listed and illustrated in appendix D.

5-3. Specially Designed Tools and Equipment

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

Section II. TROUBLESHOOTING

5-4. General

This section provides information useful in diagnosing and correcting unsatisfactory operation or failure of the rotary compressor or any of its components. Each symptom is followed by a list of probable causes of trouble. The possible remedy recommended is described opposite the probable cause.

5-5. Rotary Compressor Fails to Provide Rated Output at Required Speed

Probable Cause	Possible Remedy
Rotors worn	Replace rotors.
Excessive rotor to body clearance.	Disassemble and determine parts which are worn beyond serviceable limits and replace.

5-6. Rotary Compressor Makes Excessive Noise

Probable Cause	Possible Remedy
Rotors rubbing against inside of body.	Disassemble and determine cause of improper performance.
Gears worn or damaged	Replace gears.
Bearing worn or damaged	Replace bearings.
Rotors nicked, burred, or distorted.	Disassemble; repair or replace rotors.
Improper rotor clearance	Correct to proper clearance.
Rotary compressor gears damaged.	Replace damaged gears.

5-7. Drive Shaft or Rotary Compressor Locked or Turns With Difficulty

Probable Cause	Possible Remedy
Gears damaged	Replace gears.
Bearings damaged	Replace bearings.
Rotors distorted	Replace rotors.

CHAPTER 6

ROTARY COMPRESSOR REPAIR INSTRUCTIONS

6-1. General

a. The rotary compressor is a close tolerance unit which consists of two matched, three-lobed rotors that operate within a closely fitted housing. One of the rotors is driven by the engine. Opposite the drive end of this rotor is mounted a gear that engages the mating gear on the driven rotor and imparts rotation to the driven rotor so that both rotors rotate in synchronism. As they rotate, air is trapped between the rotor lobes and the housing and moves with the rotors from the intake side of the compressor to the discharge side of the compressor (fig. 6-1). At the discharge side of the compressor, the lobe of one rotor engages the open area between lobes of the other rotor and forces the air out of it so that the air must pass through the discharge port.

b. The rotors ride in ball bearings mounted in the side frames. Covers are provided to retain oil for the bearings and the gears. An oil slinger is provided on the drive end of the drive rotor to provide oil splash for lubrication. At the gear end, the lower gear rides in the oil and provides splashing to lubricate both gears and bearings. Oil seals are used to prevent oil from seeping into the air compression area.

6-2. Rotary Compressor

a. Removal and Disassembly.

(1) Remove the rotary compressor (para 3-28a).

(2) Refer to figur 6-2 to disassemble the rotary compressor. Observe the special procedures described below.

(3) Match mark the drive end plate (35) and cover (5), the rotor housing (28), and the gear end plate (21) and cover (12) to insure correct positioning during reassembly. Mark the drive gear (17) for identification purposes.

(4) To remove rotors (26 and 27) from drive end bearing (31) and housing (28), screw four 1/4-20 x 4 inch long cap screws through the gear end plate (21) and into the housing (28) to provide support for the housing. Using an arbor press, simultaneously press both rotors out of drive end bearings and rotor housing. Separate drive end plate (35) and housing (28).

(5) To remove rotors (26 and 27) from gear end plate (21) and bearings (24), replace rotors and gear end plate assembly on the rotor housing. Screw the ¼-20 x 4 inch cap screws into the opposite end of the rotor housing. Place unit in press and press drive rotor out first; press out driven rotor.

b. Cleaning and Inspection.

(1) Discard and replace all seals and gaskets.

(2) Ball bearings are normally replaced at overhaul. If it is necessary to reuse the bearings, place them in a wire basket and immerse them in a container of fresh approved cleaning solvent. Agitate the basket in the solvent to thoroughly flush bearings. Dry with compressed air, taking care not to spin the bearings. Dip bearings in clean engine oil and wrap in paper to prevent entry of dirt.

(3) Clean all other metallic parts with an approved cleaning solvent; dry thoroughly.

(4) Inspect rotors for cracks, distortions, burrs, damaged bearing seats, scoring or other damage. Remove burrs or light scoring with a fine stone or crocus cloth.

(5) Inspect the rotor housing for cracks, distortion, burrs, scoring, and other damage.

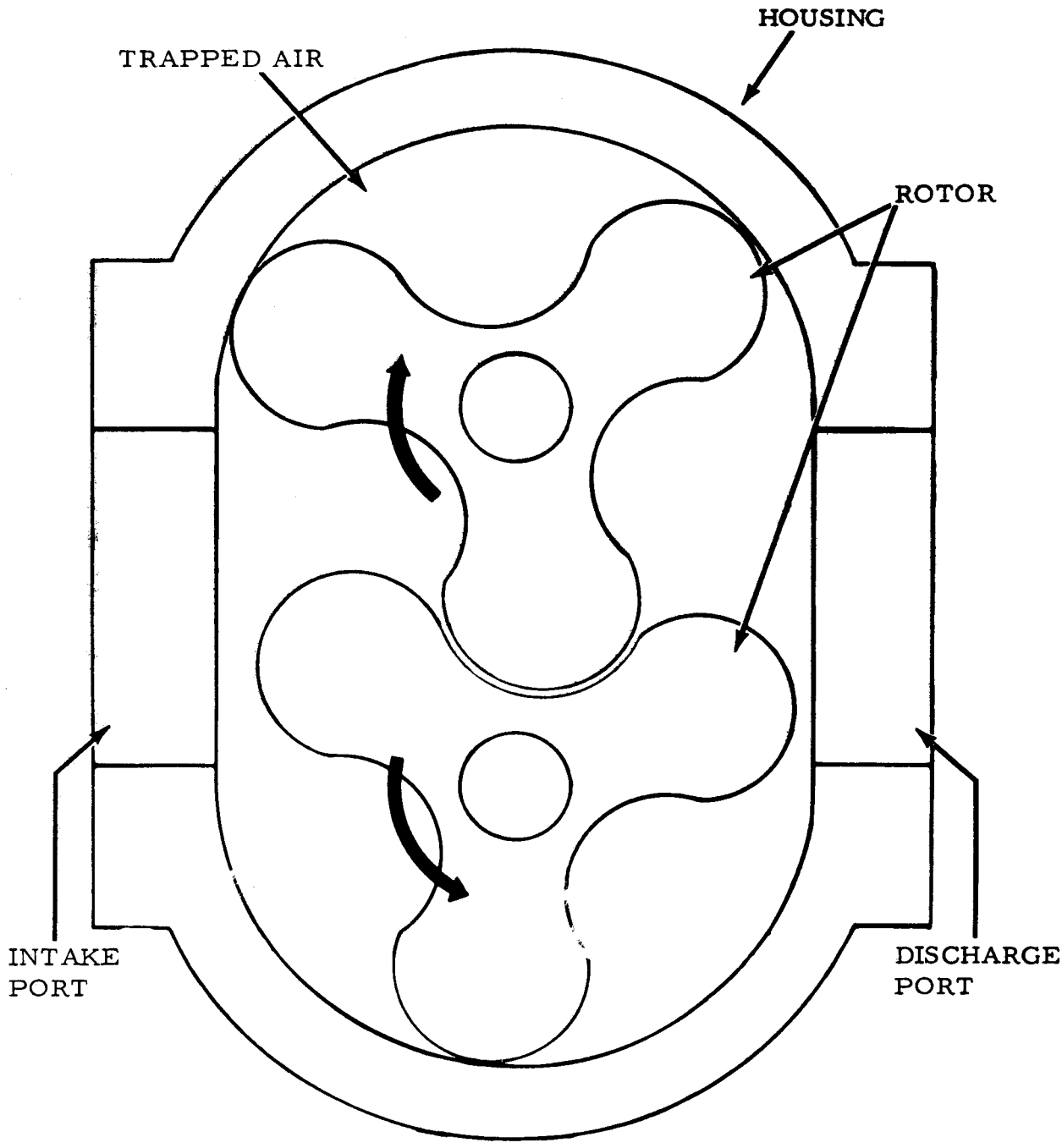
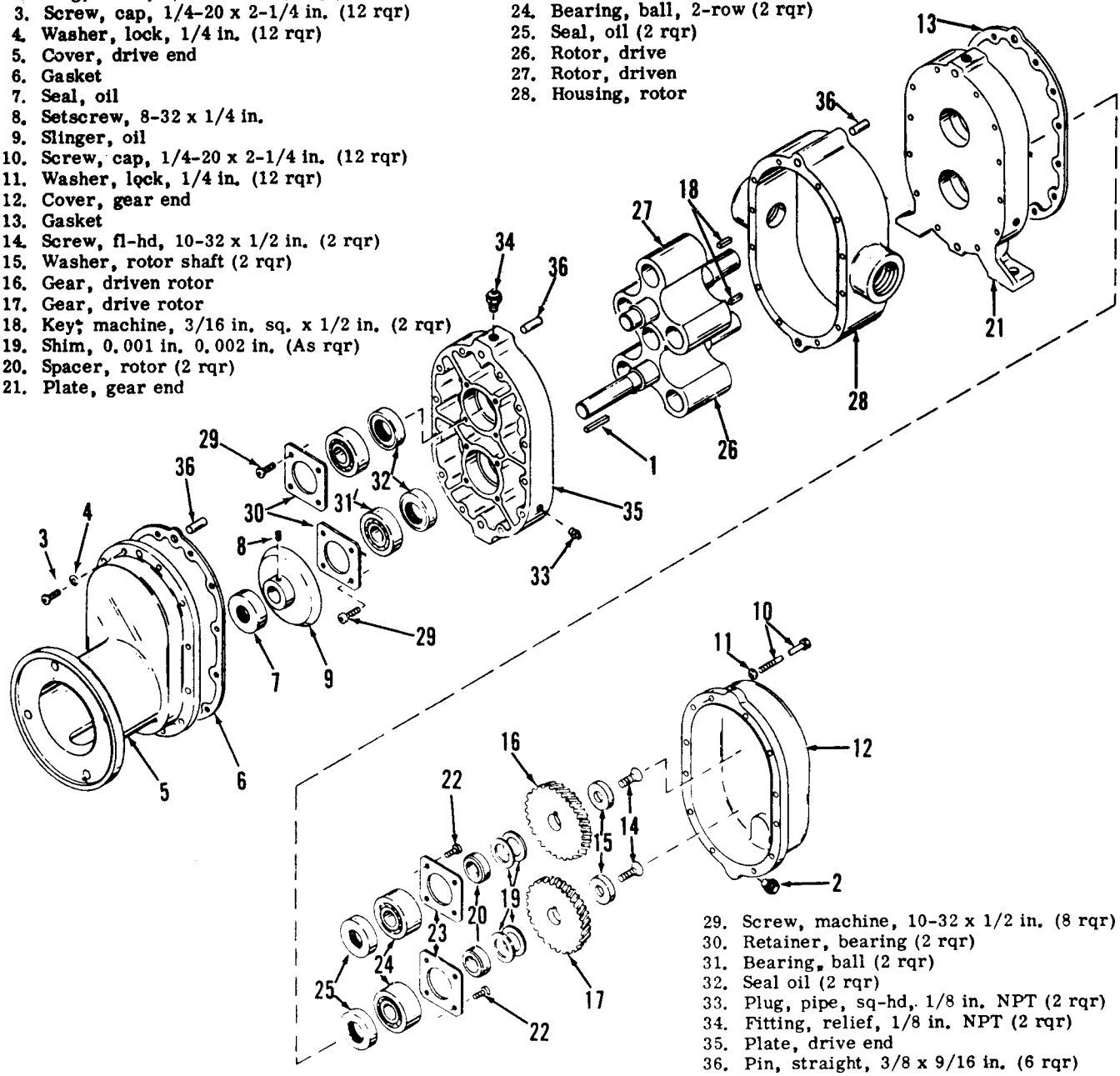


Figure 6-1. Rotary compressor, schematic diagram.

1. Key, machine, 3/16 in. sq. x 7/8 in.
2. Plug, drain, 1/8 in. NPT (2 rqr)
3. Screw, cap, 1/4-20 x 2-1/4 in. (12 rqr)
4. Washer, lock, 1/4 in. (12 rqr)
5. Cover, drive end
6. Gasket
7. Seal, oil
8. Setscrew, 8-32 x 1/4 in.
9. Slinger, oil
10. Screw, cap, 1/4-20 x 2-1/4 in. (12 rqr)
11. Washer, lock, 1/4 in. (12 rqr)
12. Cover, gear end
13. Gasket
14. Screw, fl-hd, 10-32 x 1/2 in. (2 rqr)
15. Washer, rotor shaft (2 rqr)
16. Gear, driven rotor
17. Gear, drive rotor
18. Key, machine, 3/16 in. sq. x 1/2 in. (2 rqr)
19. Shim, 0.001 in. 0.002 in. (As rqr)
20. Spacer, rotor (2 rqr)
21. Plate, gear end
22. Screw, machine, 10-23 x 1/2 in. (8 rqr)
23. Retainer, bearing (2 rqr)
24. Bearing, ball, 2-row (2 rqr)
25. Seal, oil (2 rqr)
26. Rotor, drive
27. Rotor, driven
28. Housing, rotor



29. Screw, machine, 10-32 x 1/2 in. (8 rqr)
30. Retainer, bearing (2 rqr)
31. Bearing, ball (2 rqr)
32. Seal oil (2 rqr)
33. Plug, pipe, sq-hd, 1/8 in. NPT (2 rqr)
34. Fitting, relief, 1/8 in. NPT (2 rqr)
35. Plate, drive end
36. Pin, straight, 3/8 x 9/16 in. (6 rqr)

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Figure 6-2. Rotary compressor, disassembly and reassembly.

(9) Inspect all other parts for cracks, worn or damaged threads, distortion, and other damage, Replace all worn or damaged parts.

c. Reassembly and Installation.

(1) Refer to figure 6-2 to reassemble rotary compressor.

(2) Install seals (25 and 32) in drive end and end plates. Apply a thin, even coat of sealant on the leading edge of seal shell at installation. Press seals into end frames with lips toward ball bearing bores.

(3) Stake rotors on drive ends in arbor press. Make sure keyways are in line and pointed in same direction. Place gear end plate, with seals installed, on rotors. Make sure rotors are in original position. Press gear end ball bearings onto rotor shaft and into bearing bores of end plate with flush side of bearings toward seals. Install bearing retainers (23).

(4) Install spacers (20) and shims (19) on ends of rotor shafts. Install keys (18) and press drive gear (17) on end of shaft. To install driven gear, locate timing arrow as shown in figure 6-3 to prevent rotor jamming as gear is pressed onto shaft. Secure gears with rotor shaft washer (15) and flat head screws (14). Tighten screws to 3 foot-pounds.

(5) Check clearance between gear end plate and lobes. It must be 0.0003 to 0.0004 inch, If it is not, check for proper seating of bearings in bores or on the shaft.

(6) Temporarily install housing (28) on gear end plate (21); secure with four cap screws. Aline match marks to assure that discharge port is in the required position.

Caution: **Rotary compressor will be damaged if housing is installed with intake and discharge ends reversed.**

(7) Temporarily install drive end plate (35) with four cap screws (3). Press bearings (31) on rotor shafts and into bearing bores of drive end plate, Make sure they are tightly seated against shoulders. Install bearing retainers (30); secure with screws (29) torqued to 3 foot-pounds.

(8) Before installing gear end cover (12), check interlobe clearance with long feeler gage inserted through intake and discharge ports as shown in figure 6-3. Leading edge clearance is measured through intake port. Trailing edge clearance is measured through discharge port. Leading edge clearance must be 0.007 to 0.009 inch. Trailing edge clearance must be 0.005 to 0.007 inch. Adjust clearance by adding or removing shims (19) as required. Since the gears are helical, changing the axial position of the gears changes the relative rotation of the rotors.

(9) After completion of assembly, check that compressor shafts rotate freely, without binding or catching. Lubricate in accordance with current Lubrication order.

(10) Install the rotary compressor (para 3-28c) .

6-3. Coupling

a. Removal and Disassembly. Remove and disassemble compressor and parts as shown in figure 3-8. Coupling is accessible and can be disassembled as shown in figure 6-6.

b. Cleaning and Inspection.

(1) Clean all metallic parts with approved cleaning solvent; dry thoroughly.

(2) Wipe spider with clean cloth.

(3) Inspect all metallic parts for cracks, distortion, worn mounting surfaces, damaged keyways, and other damage.

(4) Inspect spider for cracks, wear, deterioration or other damage.

(5) Replace all damaged parts.

c. Installation,

(1) Refer to figures 3-8 and 6-6 and install coupling.

(2) Install rotary compressor (para 3-28c).

Note. Keep the setscrews on the driven half of the flexible coupling loose when the bearing housing is bolted to the engine flywheel housing. Then adjust the driven half of the coupling, and tighten the setscrews.

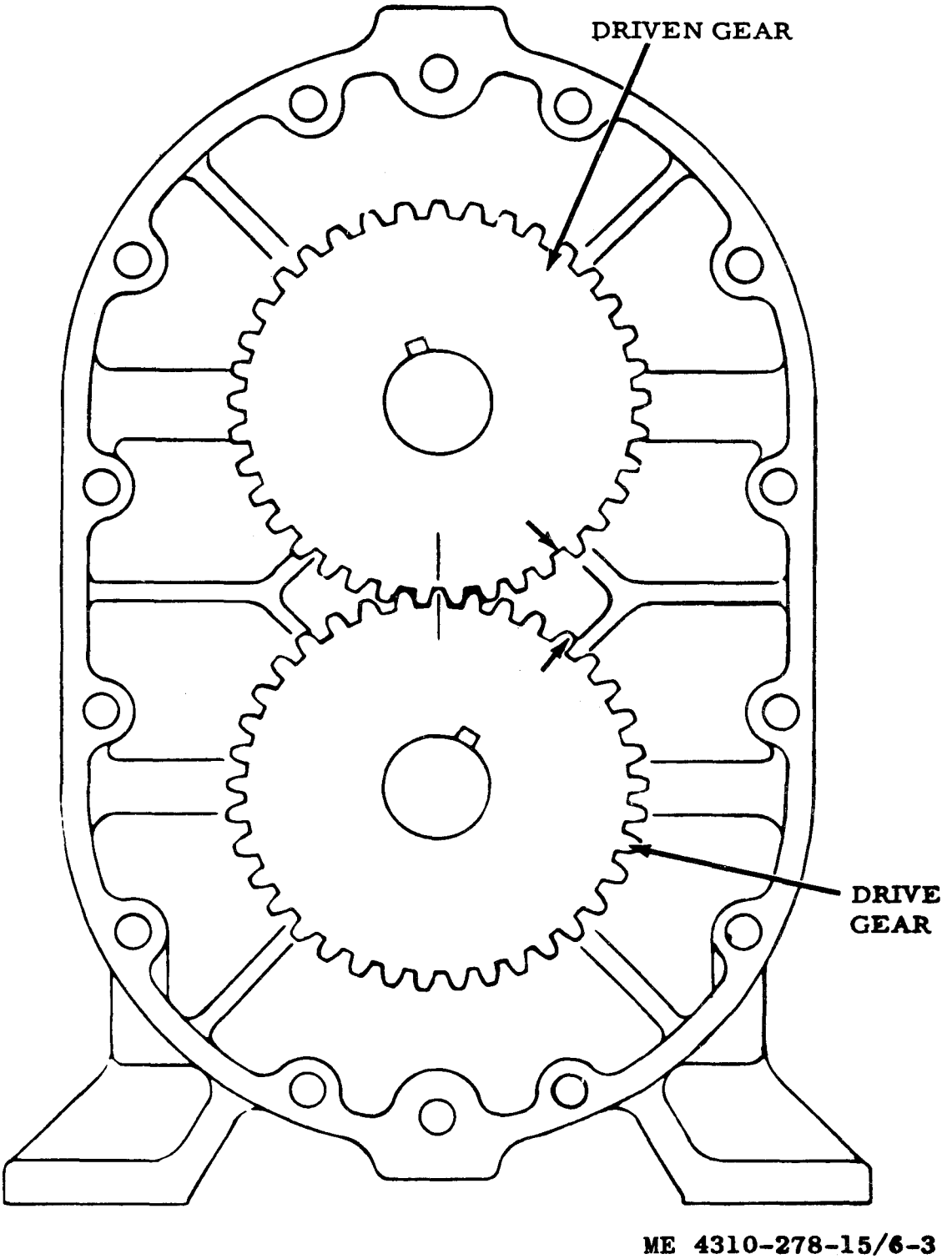


Figure 6-3. Timing mark position for installing driven gear.

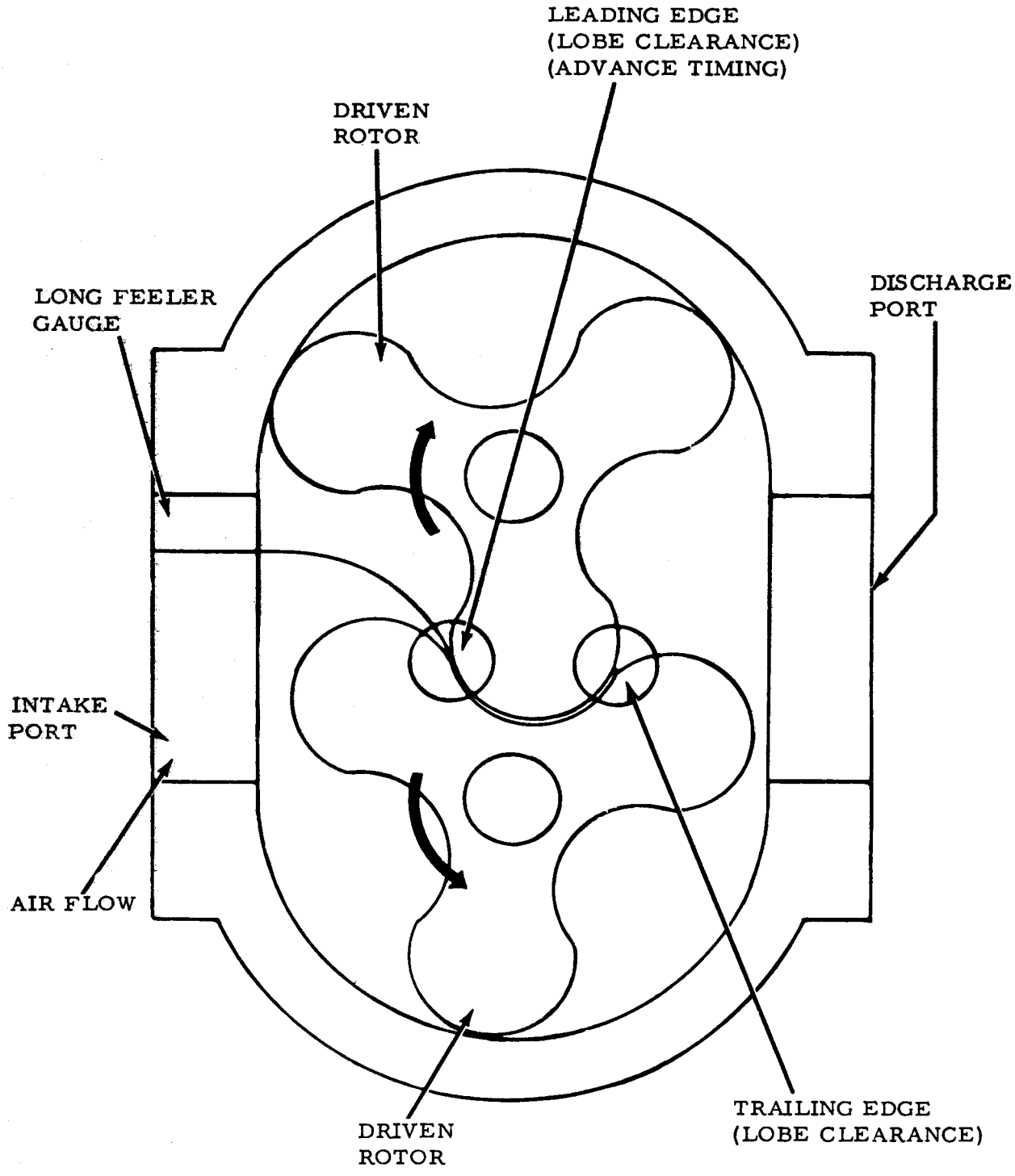


Figure 6-4. Checking rotor clearance.

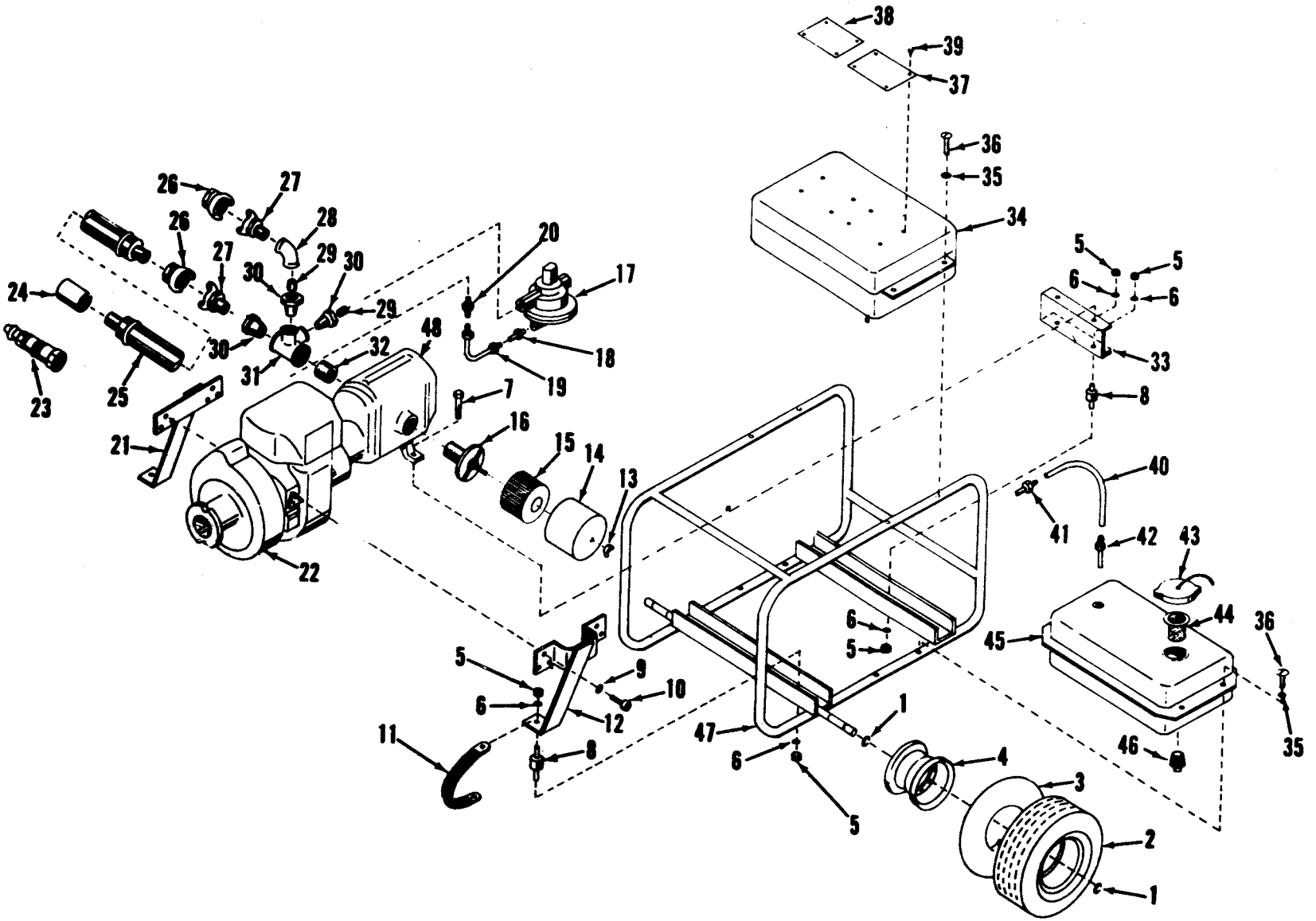
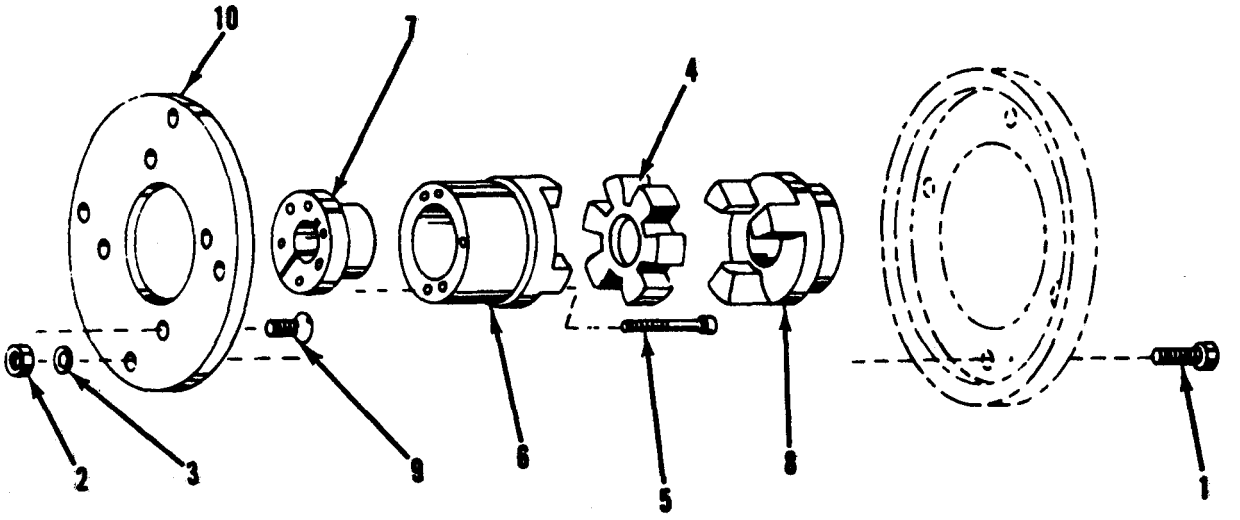


Figure 6-5. Rotary compressor, exploded view.

1 Retaining ring (4)
2 Tire (2)
3 Tube (2)
4 Hub (2)
5 Nut (10)
6 Lock washer (10)
7 Bolt (2)
8 Shock mount (4)
9 Lock washer (12)
10 Screw (12)
11 Ground strap (1)
12 Bracket right side (1)
13 Wing nut (1)
14 Bonnet, filter (1)
15 Filter, element (1)
16 Body filter (1)
17 Pressure regulator relief (1)
18 Tubing adapter-IN (1)
19 Tubing (1)
20 Tubing adapter-OUT (1)
21 Bracket, left side (1)
22 Engine (1)
23 Inflator (2)
24 Hose adapter (2)
25 Hose (2)
26 Quick change coupling, female (2)
27 Quick change coupling, male (2)
28 One foot pipe elbow (1)
29 One inch pipe nipple (2)
30 1 1/2 x 1 pipe reducing bushing (3)
31 Manifold (1)
32 1 1/2 foot pipe nipple (1)
33 Compressor (1)
34 Tool box (1)
35 Lock washer 1/4 inch IET (8)
36 Bolt RH 1/4-18 x 1/2 (8)
37 Instruction plate (1)
38 Transportation plate (1)
39 Screw (8)
40 Fuel line (1)
41 Fuel line adapter-IN (1)
42 Fuel line adapter-OUT (1)
43 Gas tank cap (1)
44 Gas tank filter (1)
45 Gas tank (1)
46 Drain plug (1)
47 Frame (1)
48 Compressor (1)
49 Wheel bearing

Figure 6-5—Continued.



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1 Bolt (4)
2 Nut (4)
3 Lock washer (4)
4 Spider (1)
5 Bolt (2)
6 Coupling body engine side (1)
7 Bushing (1)
8 Coupling body comp. side (1)
9 Screw (4)
10 Transition plate (adapter) (1)

Figure 6-6. Coupling, exploded view.

APPENDIX A

REFERENCES

A-1. Fire Protection

TB 5-4200-200-10	Hand Portable Fire Extinguishers Approved for Army Users.

A-2. Lubrication

C9100IL	Fuels, Lubricants Oils and Waxes
LO 5-4310-278-12	Lubrication Order for Air Compressor
LO 5-2805-208-14	Lubrication Order for Military Standard Engine.

A-3. Painting

TM 9-213	Painting Instructios for Field Use

A-4. Radio Suppression

TM 11-483	Radio Interference Suppression

A-5. Maintenance

TM 9-1870-1	Care and Maintenance of Pneumatic Tires
TM 38-750	Army Equipment Record Procedures
TM 5-4310-278-25P	Organizational, Direct Support, General Support and Depot Maintenace, Repair Parts and Special Tool List
TM 5-2805-208-14	Operator, Organizational; Direct and General Support Maintenance Manual Including Repair Parts and Special Tool Lists Engine, Gasoline: Military Standard Models (model 1A08-III) 1 1/2 HP, FSN 2805-068-7510, (model 2A016-III) 3 HP FSN 2805-072-4871

A-6. Shipment and Storage

TB 740-93-2	Preservation of USAMEC Mechanical Equipment for Shipment and Storage
TB 740-93-3	Administrative Storage of USAMEC Mechanical Equipment

APPENDIX B

MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

B-1. General

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

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

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

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

B-2. Explanation of Columns in Section II

a. Group Number, Column (1). The functional 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 MAC (Maintenance Allocation Chart) in the appropriate numerical sequence. These indexes are normally set up in accordance with their function and proximity to each other.

b. Functional Group, Column (2). This column contains a brief description of the components of each functional group.

c. Maintenance Functions, Column (3). This column lists the various maintenance functions (A through K) and indicates the lowest maintenance category authorized to perform these functions. The symbol designations for the various maintenance categories are as follows:

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

The maintenance functions are defined as follows:

A-Inspect: To determine serviceability of an item by comparing its physical, mechanical, and electrical characteristics with established standards.

B-Test: To verify serviceability and to detect electrical or mechanical failure by use of test equipment.

C-Service: To clean, to preserve, to charge, to paint, and to add fuel, lubricants, cooling agents, and air.

D-Adjust: To rectify to the extent necessary to bring into proper operating range.

E-Aline: To adjust specified variable elements of an item to bring to optimum performance.

F-Calibrate: To determine the corrections to be made in the readings of instruments or test equipment used in precise measurement. Consists of the comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared with the certified standard.

G-Install: To set up for use in operational environment such as an emplacement, site or vehicle.

H-Replace: To replace unserviceable items with serviceable assemblies, subassemblies, or parts.

I-Repair: To restore an item to serviceable condition. This includes, but is not limited to, inspection, cleaning, preserving, adjusting, replacing, welding, riveting, and strengthening.

J-Overhaul: To restore an item to a completely serviceable condition as prescribed by maintenance serviceability standards using the Inspect and Repair Only as Necessary (IROAN) technique.

K-Rebuild: To restore an item to a standard as nearly as possible to original or new condition in appearance, performance, and life expectancy. This is accomplished through complete disassembly of the item, inspection of all parts or components, repair or replacement of worn or unserviceable elements (items) using original manufacturing tolerances and specifications, and subsequent reassembly of the item.

d. Took and Equipment, Column (4). This column is provided for referencing by code the special tools and test equipment, (sec. III) required to perform the maintenance functions (sec. II).

e. Remarks, Column (5). This column is provided for referencing by code the remarks (sec. IV) pertinent to the maintenance functions.

B-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 MAC. 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 MAC.

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.

B-4. 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 5 and the second letter references a maintenance function, column 3, A through K.

b. Remarks. This column lists information pertinent to the maintenance function being performed, as indicated on the MAC, section II.

Section II. MAINTENANCE ALLOCATION CHART

(1) Group No.	(2) Functional group	(3) Maintenance functions A Inspect	B Test	C Service	D Adjust	E Align	F Calibrate	G Install	H Replace	I Repair	J Overhaul	K Rebuild	(4) Tools and equipment	(5) Remarks
01	ENGINE													
0100	Engine Assembly: Engine, gasoline	C	O	C	--	--	--	--	O	F	H	--	1	A
03	FUEL SYSTEM AND COMPONENTS													
0306	Tanks, Lines and Fittings: Tank, lines and fittings	C	O	C	--	--	--	--	O	O				
06	ELECTRICAL SYSTEM													
0615	Radio Interference Suppression: Ground, strap	C	--	--	--	--	--	--	O	O				

(1) Group No.	(2) Functional group	(3) Maintenance functions A Inspect	B Test	C Service	D Adjust	E Aline	F Calibrate	G Install	H Replace	I Repair	J Overhaul	K Rebuild	(4) Tools and equipment	(5) Remarks
13	WHEELS													
1311	Wheel Assembly:													
	Wheel assembly	--	--	C	--	--	--	--	--	O				
	Wheel bearing	O	--	--	--	--	--	--	O					
1313	Tires, Tubes:													
	Tire and tube	C	--	C	--	--	--	--	O	O				
15	FRAME													
1501	Frame Assembly:													
	Frame	--	--	--	--	--	--	--	O	F				
	Shock, mounts	C	--	--	--	--	--	--	O					
18	BODY, CAB, HOOD AND HULL													
1808	Stowage Boxes:													
	Tool box	C	--	--	--	--	--	--	O					
22	ACCESSORY ITEMS													
2202	Accessory Items:													
	Hose, couplings, clamps, washers and Inflator	C	--	-	--	--	--	--	O	O				
50	PNEUMATIC EQUIPMENT													
5000	Air Compressor Assembly													
	Air compressor assembly	O	F	C	--	--	--	--	O	F	H			
5001	Crankcase-Block:													
	Housing rotor	F	--	--	--	--	--	--	F	F				
5004	Rotors and Bearings:													
	Bearings, Rotors, rotors and end plates	F	--	--	--	--	--	--	F	F				
5005	Gear Rotor Timing:													
	Gears, timing	F	--	--	--	--	--	--	F	F				
5006	Lubrication System:													
	Seals, rotor	F	--	--	--	--	--	--	F					
	Slinger, oil	F	--	--	--	--	--	--	F	F				
	Drain and filler plugs	C	--	C	--	--	--	--	C					
5007	Compressor Drive:													
	Coupling drive and coupling insert	O	--	--	--	--	--	--	O	F				
5008	Air Intake:													
	Filter assembly air	--	--	C	--	--	--	--	O					
5009	Unloader Systems:													
	Pressure regulator	--	--	O	O	--	--	--	O					
5015	Air Discharge System:													
	Manifold, discharge dead end coupling and chain	C	--	--	--	--	--	--	O	O				

Section III. SPECIAL TOOL AND SPECIAL TEST EQUIPMENT REQUIREMENTS

Reference code	Maintenance level	Nomenclature	Tool No.
A		No Special Tools Required	

Section IV. REMARKS

Reference Code	Remarks
A - I	For repair and maintenance of engine Model 2A016-11 see TM 5-2805-208-14

APPENDIX C

BASIC ISSUE ITEMS LIST

Section I. INTRODUCTION

C-1. Scope

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

C-2. General

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

a. Basic Issue Items-Section II. A list of items which accompany the air compressor or are required for the installation, operation, or operator's maintenance.

b. Maintenance and Operationg Supplies-Section III. A listing of maintenance and operating supplies required for initial operation.

C-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).*

Note, Common hardware items known to be readily available in Army supply will be assigned maintenance codes only. Source coded, recoverability codes, and quantity authorized will not be assigned to this category of items.

(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 or Army supply system, and authorized for use at indicated maintenance categories.
M	Applied to repair parts which are not procured or stocked but are to be manufactured at indicated maintenance categories.
A	Applied to assemblies which are not procured or stocked as such, but are made up of two or more units, each of which carry individual stock numbers and descriptions and are procured and stocked and can be assemblied 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 requirements 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.

(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.

Code	Explanation
R	Applied to repair parts and assemblies which are economically repairable at DSU and 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 mally 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 of the item required. A part number or other reference number is followed by the applicable five-digit Federal supply code for manufacturers in parentheses. Repair parts quantities included in kits, sets, and assemblies are shown in front of the repair part name.

d. Unit of Issue, Column (4). This column indicates the unit used as a basis for 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, Colunm (6). This column indicates the quantity of the item used in the functional group.

g. Quantity Furnished With Equipment, Column (7). This column indicates the quantity of an item furnished with the equipment.

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 (9) (a).* Indicates the figure number of the illustration in which the item is shown.

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

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

a. Component Application, Column (1). This column identifies the component application of each maintenance or operating supply item.

b. Federal Stock Number, Column (2). This column indicates the Federal stock number for the item and will be used for requisitioning purposes.

c. Description, Column (3). This column indicates the item and brief description.

d. Quantity Required for Initial Operation, Column (4). This column indicates the quantity of each maintenance or operating supply item required for initial operation of the equipment.

e. Quantity Required for 8 Hours Operation, *Column (5).* This column indicates the estimated quantities required for an average eight hours of operation.

f. Notes, Column (6). This column indicates informative notes keyed to data appearing in a preceding column.

Section II. BASIC ISSUE ITEMS

	(2) Federal stock number	(3) Description	(4) Unit of issue	(5) Qty inc in unit pack	(6) Qty inc in unit	(7) Qty furn with equip	(8) Qty auth	(9) Illustration (a) Figure No.	(9) Illustration (b) Item No.
		Group 31-Basic Issue Items, Manufacturer Installed.							
		3100-Basic Issue Items, Manufacturer							
	1520-559-9618	Case, Maintenance and Operational Manuals: Cotton Duck, Water repellant, mildew resistant.			1		1		
		Organizational, DS, GS, and Depot Maintenance Manual, TM 5-4310-278-15 (when printed).			1		1		
		Department of the Army Organizational, DS, GS, and Depot Maintenance Manual; (including repair part and special tool list) TM 5-2805-208-14.			1		1		
		3200-Basic Issue Items, Troop Installed or Authorized.							
PO	4210-555-8831	Extinguisher, Fire: Monobromotrifluoromethane: Charged: hand; penetrating seal valve; stored pressure; w/bracket; 2.75 lb, MIL SPEC E-52031.			1		1		

Section III. 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
01 ENGINE		OIL, LUBRICATING: 1 qt (1) can as follows:			(1) Includes quantity of oil to fill engine oil system as follows: 5/8 qt crankcase.
0101 CRANKCASE	9150-265-9433(2)	OE 30	5/8 qt	(3)	(2) See C9100-IL for additional data and requisitioning procedure.
	9150-265-9425(2)	OE 10	5/8 qt	(3)	(3) See current LO for grade application and replenishment intervals.
	9150-242-7602(2)	OES	5/8 qt	(3)	(4) Tank capacity.
03 FUEL SYSTEM		FUEL, GASOLINE: 5 gal can as follows:			(5) Average fuel consumption is .285 gals per hour of continuous operation.
0306 TANK	9150-160-1817(2)	Automotive combat 91A	3 gal (4)	2.28 gal (5)	(6) Includes quantity of oil to fill compressor oil system as follows: 1/2 pt each end of compressor.
50 PNEUMATIC EQUIPMENT		OIL, LUBRICATING: 5 gal Drum as follows:			
5001 CRANKCASE	9150-235-9061(2)	2190-TEP	1 pt (6)	(3)	
	9150-985-7234(2)	2110-TH	1 pt (6)	(3)	
	9150-985-7232(2)	2075-TH	1 pt (6)	(3)	
GREASE POINTS		GREASE, AUTOMOTIVE AND ARTILLERY: 1 lb can as follows:			
	9150-190-0904(2)	GAA	1 lb	(3)	

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By Order of the Secretary of the Army:

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The Adjutant General.

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