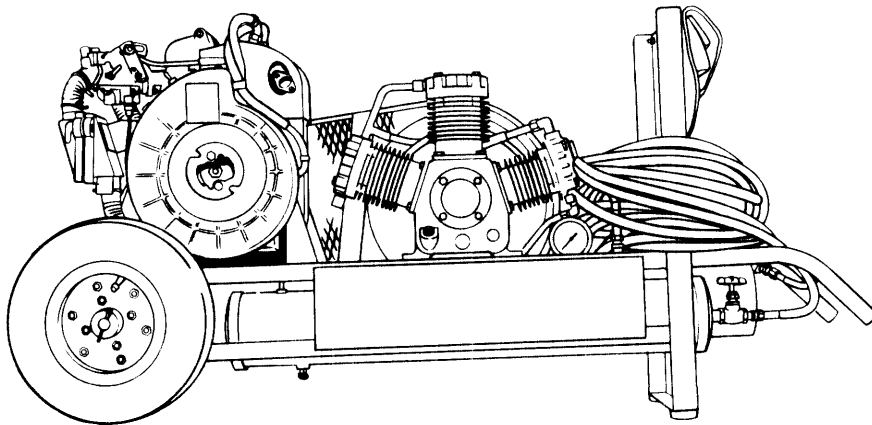


TM 5-4310-367-14

TECHNICAL MANUAL
OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT AND
GENERAL SUPPORT MAINTENANCE MANUAL



COMPRESSOR, RECIPROCATING: AIR
HANDTRUCK MOUNTED, GASOLINE
ENGINE DRIVEN, 8 CFM, 175 PSI
(C & H DISTRIBUTORS MODEL 20-905)
NSN 4310-01-079-8878

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**OPERATING
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**OPERATORS'
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**ORGANIZATIONAL
MAINTENANCE
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**DIRECT SUPPORT
MAINTENANCE
PAGE 5-1**

**GENERAL SUPPORT
MAINTENANCE
PAGE 6-1**

CHANGE }
No. 1 }

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C., 14 August 1981

Operator's Organizational, Direct Support
and General Support Maintenance Manual

COMPRESSOR, RECIPROCATING: AIR,
HANDTRUCK MOUNTED, GASOLINE ENGINE DRIVEN
(C & H DISTRIBUTORS MODEL 20-905, 8 CFM, 175 PSI)
NSN 4310-01-079-8878
(C & H DISTRIBUTORS MODEL 20-910, 5 CFM, 175 PSI)
NSN 4310-01-105-5794

TM 5-4310-367-14, 10 June 1980, is changed as follows:

1. Title is changed as shown above.
2. Remove and insert pages as indicated below:

	Remove pages	Insert pages
Table of Contents	i and ii	i and ii
Chapter 1	1-1 and 1-2 1-5 and 1-6	1-1 and 1-2 1-5 and 1-6
Chapter 3	3-1 and 3-2	3-1 and 3-2
Chapter 4	4-1 and 4-2 4-5 thru 4-10 4-31 thru 4-34 4-43 thru 4-46	3-4.1 and 3-4.2 4-1 and 4-2 4-5 thru 4-10 4-31 thru 4-34 4-43 thru 4-46
Chapter 6	6-1/6-2	6-1/6-2
Appendix A	A-1/A-2	A-1/A-2
Appendix B	B-1 and B-2	B-1 and B-2
Appendix C	C-3 and C-4	C-3 and C-4
Appendix D	D-1/D-2	D-1/D-2

3. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

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

By Order of the Secretary of the Army:

E.C.MEYER
General, United States Army
Chief of Staff

Official:

ROBERT M. JOYCE
Brigadier General, United States Army
The Adjutant General

DISTRIBUTION :

To be distributed in accordance with DA Form 12-25A, Operator Maintenance requirements for Air Compressors: 8 CFM.

WARNING: Before starting engine or operating any of the components ensure that no loose bars, tools, or parts are lying in or on any part of the equipment, as they could cause serious damage to equipment or bodily injury to personnel.

WARNING: Never wear loose clothing, or hanging appendages from person or clothing, while inspecting running engine, moving shafts, or like machinery.

WARNING: Disconnect the spark plug cables prior to engine maintenance to prevent accidental starting and severe shock.

WARNING: Do not touch the ignition system harness during starting or while in operation. Severe shocks or burns could result, and personnel may be seriously injured.

WARNING: 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.

WARNING: Before refueling, ensure that adequate fire fighting equipment is serviceable and is standing by for immediate use in event of fire or explosion.

WARNING: During operation, proper fire fighting equipment should be serviceable and kept near in the event that fire is developed by electrostatic spark or detonation of the gas fumes. Do not smoke or use an open flame in vicinity of these gasoline vapor hazards.

WARNING: Do not refuel while engine is in operation,

WARNING: Never touch engine or engine accessories with bare hands during operation, or before they have cooled sufficiently. Severe burns can be caused through carelessness.

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

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

WARNING: Do not weld repair air receiver tank.

WARNING: Do not operate the air compressor with the belt guard removed.

WARNING: Do not operate air compressor in a tilted position.

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 personnel in the area. The noise level exceeds the allowable limits for unprotected personnel. Wear ear muffs or earplugs which were fitted by a trained professional.

WARNING: Make certain any lifting device used has a capacity equal to the weight being lifted. Failure to observe this precaution could result in injury or death to personnel and damage to equipment.

WARNING: Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact by wearing rubber or solvent impermeable gloves when handling the solvent or material wet with drycleaning solvent. Wash hands immediately after exposure with soap and water and use a lanolin based skin cream to prevent skin drying. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C). Ensure that ventilation adequate to reduce solvent vapor concentrations below acceptable threshold limit values is provided.

WARNING: When using compressed air for blowing, air hose pressure must not exceed 30 psig, and individuals must wear eye protective equipment.

TECHNICAL MANUAL }
 No. 5-4310-367-14 }

HEADQUARTERS
 DEPARTMENT OF THE ARMY

Washington, D.C. **10 June 1980**

Operator's, Organizational, Direct Support, and General Support Maintenance Manual

**COMPRESSOR, RECIPROCATING: AIR, HANDTRUCK
 MOUNTED, GASOLINE ENGINE DRIVEN
 (C& H DISTRIBUTORS MODEL 20-905, 8 CFM, 175 PSI)
 NSN 4310-01-079-8878
 (C&H DISTRIBUTORS MODEL 20-910, 5 CFM, 175 PSI)
 NSN 4310-01-105-5794**

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of any way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), Or DA Form 2028-2 located in the back of this manual direct to: Commander, U.S. Army Troop Support & Aviation Materiel Readiness Command, ATTN: DRSTS-MTT, 4300 Goodfellow Boulevard, St. Louis, MO 63120. A reply will be furnished directly to you.

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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. SCOPE. This manual is for your use in operating and maintaining the Models 20-905 and 20-910 Reciprocating Air Compressor, Chapters 2 and 3 provide information on operation, preventive maintenance services, and operator's maintenance of equipment, accessories, components and attachments. Chapters 4 through 6 provide maintenance information for the organizational, DS and GS levels. Maintenance for each major functional group is covered in a separate chapter. Also included are descriptions of main units and their functions in relationship to other components.

1-2. MAINTENANCE FORMS AND RECORDS.

- a. Equipment maintenance forms and procedures for their use are contained in TM 38-750, The Army Maintenance Management System (TAMMS).
- b. Hand receipts for the End Item/Components of End Item (COEI), Basic Issue Items (BII), and Additional Authorization List (AAL) items are published in a Hand Receipt Manual. The Hand Receipt Manual numerical designation is the same as the related Technical Manual with the letters HR added to the number. These manuals are published to aid in property accountability and are

available through: Commander, US Army Adjutant General Publication Center, ATTN: AGDL-OD, 1655 Woodson Road, St. Louis, MO 63114.

1-3. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR'S). EIR can and must be submitted by anyone who is aware of an unsatisfactory condition with the equipment design or use. It is not necessary to show a new design or list a better way to perform a procedure, just simply tell why the design is unfavorable or why a procedure is difficult. EIR may be submitted on SF 368 (Quality Deficiency Report). Instructions for preparing EIR's are provided in TM 38-750, The Army Maintenance Managements System. Mail directly to Commander Headquarters, U.S. Army Troop Support and Aviation Materiel Readiness Command, ATTN: DRSTS-MEM, 4300 Goodfellow Blvd., St. Louis, MO 63120. A reply will be furnished directly to you.

1-4. WARRANTY INFORMATION. All components of the Reciprocating Air Compressor with the exception of the engine are warranted by C & H Distributors Inc. for a period of 17 months. The warranty starts on the date found in block 23, DA Form 2408-9, in the logbook. Report all defects in material or workmanship to your supervisor, who will take appropriate action through your organizational maintenance shop.

Section II. EQUIPMENT DESCRIPTION

1-5. PURPOSE OF THE AIR COMPRESSOR. A portable, handtruck mounted air compressor for inflating tires and running pneumatic equipment in the field.

1-6. CAPABILITIES AND FEATURES.

- Model 20-905 delivers 8 cfm of air at 175 psi
- Model 20-910 delivers 5 cfm of air at 175 psi
- Handtruck mounted
- Gasoline engine driven
- Incorporates air hose and inflator gage
- All weather operational
- Highly portable

1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS ENGINE (1).

- a. Model 20-905- Two cylinder, 4 cycle, air cooled 3 hp gasoline engine. Refer to TM 5-2805-257-14 for detailed description.
- b. Model 20-910- One cylinder, 4 cycle, 1-1/2 hp, air cooled gasoline engine. Refer to TM 5-2805-256-14 for detailed description.

AIR CLEANER (2). Dry type. Element may be removed and cleaned.

COMPRESSOR (3).

- a. Model 20-905 - Two stage design, 8 cfm, 175 psi output.
- b. Model 20-910 - Two stage design, 5 cfm, 175 psi output.

HANDTRUCK (4).

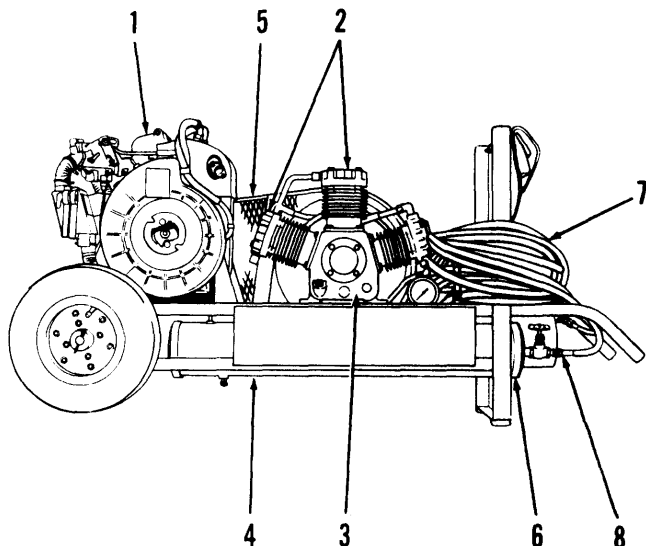
- a. Model 20-905 - Welded aluminum frame with pneumatic tires.
- b. Model 20-910 - Welded steel frame with pneumatic tires.

COMPRESSOR DRIVE AND BELT GUARD (5). Two matched V-belts transmit power. Belt guard protects operator as well as pulleys and flywheels.

AIR TANK (6). Welded construction tank with pressure gage, drain cock, shutoff valve, and unloader valve.

AIR HOSE AND INFLATOR GAGE (7). Fifty-foot rubber hose. Inflator gage equipped with regular and jumbo size air chucks.

FUEL TANK (8). Welded construction with strainer type fill opening.



1-8. DIFFERENCES BETWEEN MODELS. This manual covers models 20-905 and 20-910 air compressors manufactured by C and H distributors. See paragraph 1-9 for performance data and differences.

1-9. PERFORMANCE DATA.

a. Air compressor unit.

Manufacturer C & H Distributors, Inc.
Models 20-905 and 20-910
Operating Pressure 175 psi
output (20-905)8 CFM
(20-910)5 CFM
Type Gas Engine Driven handtruck, mtd

b. Engine.

Make Military Standard
Model (20-905) 2A016-3
(20-910) 1A08-3
Type 4 cycle, gasoline, overhead valve,
air cooled
No. of cylinders (20-905). 2
(20-910). 1
Bore 2250 cu. in. (5.715 cm)
Stroke 2 in. (5.08 cm)
Piston displacement8 cu. in. (131 cc)
Compression ratio 6:1
Horsepower @ 3600 rpm (20-905) 3
(20-910) 1-1/2

c. Air compressor.

Manufacturer (20-905) Champion Co.
(20-910) C & H Distributors
Model (20-905) CAW-1
(20-910) 86-131 (modified Champion
Model CAW-1)
Type 3 cylinder, 2 stage

1-10. MAINTENANCE DATA.

a. Compressor.

(1) Air hose.

Length 50 feet (15.2m)
Diameter, inside 5/16" (7.9 mm)
Maximum pressure200 psi (14 kg/sq cm)

(2) Compressor dimensions and weight.

Length 54-1/2" (138.5 cm)
Width 22" (56cm)
Height 25" (63.5 cm)
Weight, net 165.75 lb. (75 kg.)
Shipping weight 315.75 lb. (143 kg.)

b. Engine.

1. Model 2A016-3 – See TM 5-2805-257-14 for detailed specifications.
2. Model 1A08-3 – See TM 5-2805-256-14 for detailed specifications.

1-11. COMPRESSOR REPAIR AND REPLACEMENT STANDARDS. Table 1-1 lists the manufacturer's sizes, tolerances, desired clearances and maximum allowable wear for the Air Compressor, Model CAW 1.

NOTE

The manufacturer's dimensions and tolerances are given in inches and centimeters. Centimeters are enclosed in parentheses.

Table 1-1. Compressor Repair and Replacement Standards

Components	Mfr's Dimensions and Tolerances in Inches (cm)		Desired Clearance in Inches (cm)		Maximum Allowable Wear and Clearance in Inches (cm)
	Minimum	Maximum	Minimum	Maximum	
Cylinders:					
Bore, low pressure	2.625 (6.668)	2.630 (6.680)	0.0158 (0.040)	0.0417 (0.106)	2.650 (6.731)
Bore, high pressure	1.750 (4.445)	1.760 (4.470)	0.0169 (0.043)	0.0427 (0.108)	1.775 (4.508)
Bores, out-of-round					0.0010 (0.0030)
Crankshaft:					
Journal (rod) size	0.9990 (2.537)	0.9995 (2.539)	0.0008 (0.0020)	0.0028 (0.0071)	
Taper					0.0010 (0.0030)
Out-of-round					0.0010 (0.003)
End play			0.000	0.007 (0.018)	0.007 (0.018)
Piston to Cylinder:					
Low pressure, skirt	2.620 (6.655)	2.6205 (6.6561)	0.0158 (0.0401)	0.0417 (0.1059)	2.605 (6.617)
High pressure, skirt	1.740 (4.420)	1.745 (4.432)	0.0169 (0.0429)	0.0427 (0.1084)	1.720 (4.369)
Piston Ring Gap:					
Low pressure					
Compression	0.005 (0.013)	0.013 (0.033)	0.005 (0.013)	0.013 (0.033)	0.018 (0.046)
Oil	0.015 (0.038)	0.055 (0.140)	0.015 (0.038)	0.055 (0.140)	0.062 (0.157)
High pressure					
Compression	0.005 (0.013)	0.013 (0.033)	0.005 (0.013)	0.013 (0.033)	0.018 (0.046)
Oil	0.015 (0.038)	0.055 (0.140)	0.015 (0.038)	0.055 (0.140)	0.062 (0.157)

Table 1-1. Compressor Repair and Replacement Standards – continued

Components	Mfr's Dimensions and Tolerances in Inches (cm)		Desired Clearance in Inches (cm)		Maximum Allowable Wear and Clearance in Inches (cm)
	Minimum	Maximum	Minimum	Maximum	
Piston Pin in Rod:					
Low pressure	0.5624 (1.4284)	0.5628 (1.4295)	0.0005 (0.001 3)	0.0015 (0.0038)	0.5622 (0.4280)
High pressure	0.5624 (1.4284)	0.5630 (1 .4300)	0.0005 (0.001 3)	0.0015 (0.0038)	0.5622 (1.4280)
Piston Pin Boss:					
Low pressure	0.5622 (1.4280)	0.5625 (1.4288)	0.0000	0.0000	0.5627 (1.4292)
High pressure	0.5622 (1.4280)	0.5625 (1.4288)	0.0000	0.0000	0.5627 (1,4292)
Connecting Rod Bore:					
Piston pin end	0.5628 (1.4295)	0.5635 (1.4313)	0.0005 (0.001 3)	0.0015 (0.0038)	0,5638 (1.4320)
Crankcase end	0.9998 (2.5395)	1.0010 (2.54251)	0.0011 (0.0028)	0.0019 (0.0048)	1.0015 (2,5438)

Section III. TECHNICAL PRINCIPLES OF OPERATION

1-12. SECTION OVERVIEW. This section contains a description of how the air compressor works.

Paragraph 1-1 3 describes the operation of the whole system. Paragraph 1-14 describes the operation of the individual components.

1-13. AIR COMPRESSOR SET FUNCTION.

A. GASOLINE ENGINE. Provides 1-1/2 horsepower or 3 horsepower to run the air compressor (C).

B. COMPRESSOR DRIVE. Transmits power from the engine to the air compressor (C) by means of two matched V-belts. A belt guard protects the operator from injury.

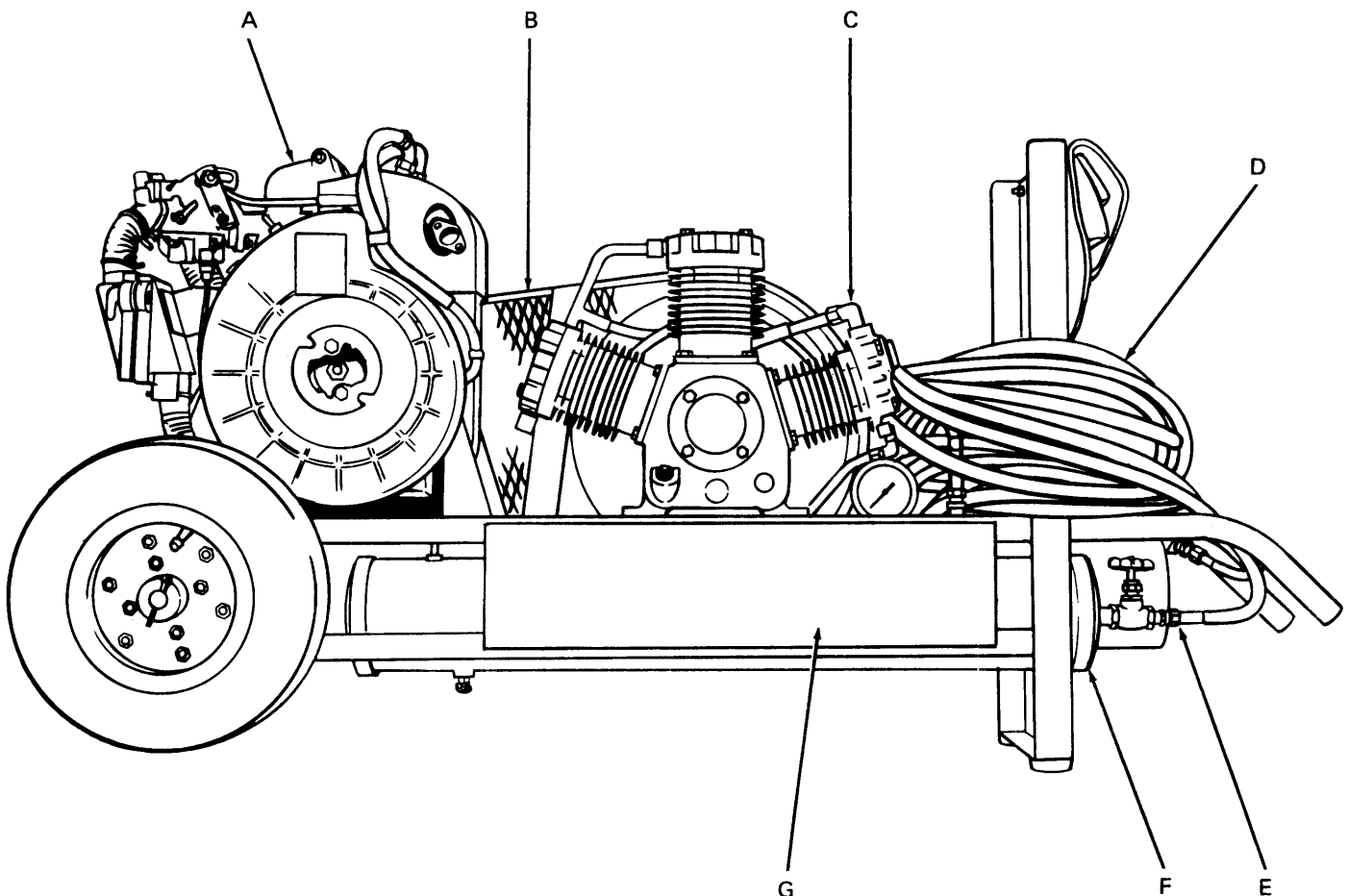
C. AIR COMPRESSOR. Compresses air in two stages to put out 5 cfm at 175 psi or 8 cfm at 175 psi.

D. AIR DISCHARGE SYSTEM. Controls the discharge of air from the air receiver (F). A 50 ft air hose is equipped with an inflator gage which is used to inflate tires and to read tire pressure.

E. FUEL SYSTEM. Stores gasoline for use by the engine (A). It is equipped with a fill cap and a strainer to keep solid particles out of the fuel tank.

F. AIR RECEIVER. Stores air compressed by the air compressor. It is equipped with a gage to measure air pressure.

G. HANDTRUCK ASSEMBLY. Gives the air compressor mobility. It is equipped with two pneumatic rubber tires to provide a soft ride.



1-14. AIR COMPRESSOR. The picture below shows the general operation of the air compressor. The air compressor has two low pressure cylinders which both feed into the high pressure cylinder. Only one low pressure cylinder is shown here.

The compression cycle starts with the low pressure pistons A at the top of stroke.

When the pistons move down, they draw air through the air filters B and inlet valve C into the cylinders. The air filters keep dirt out of the compressor.

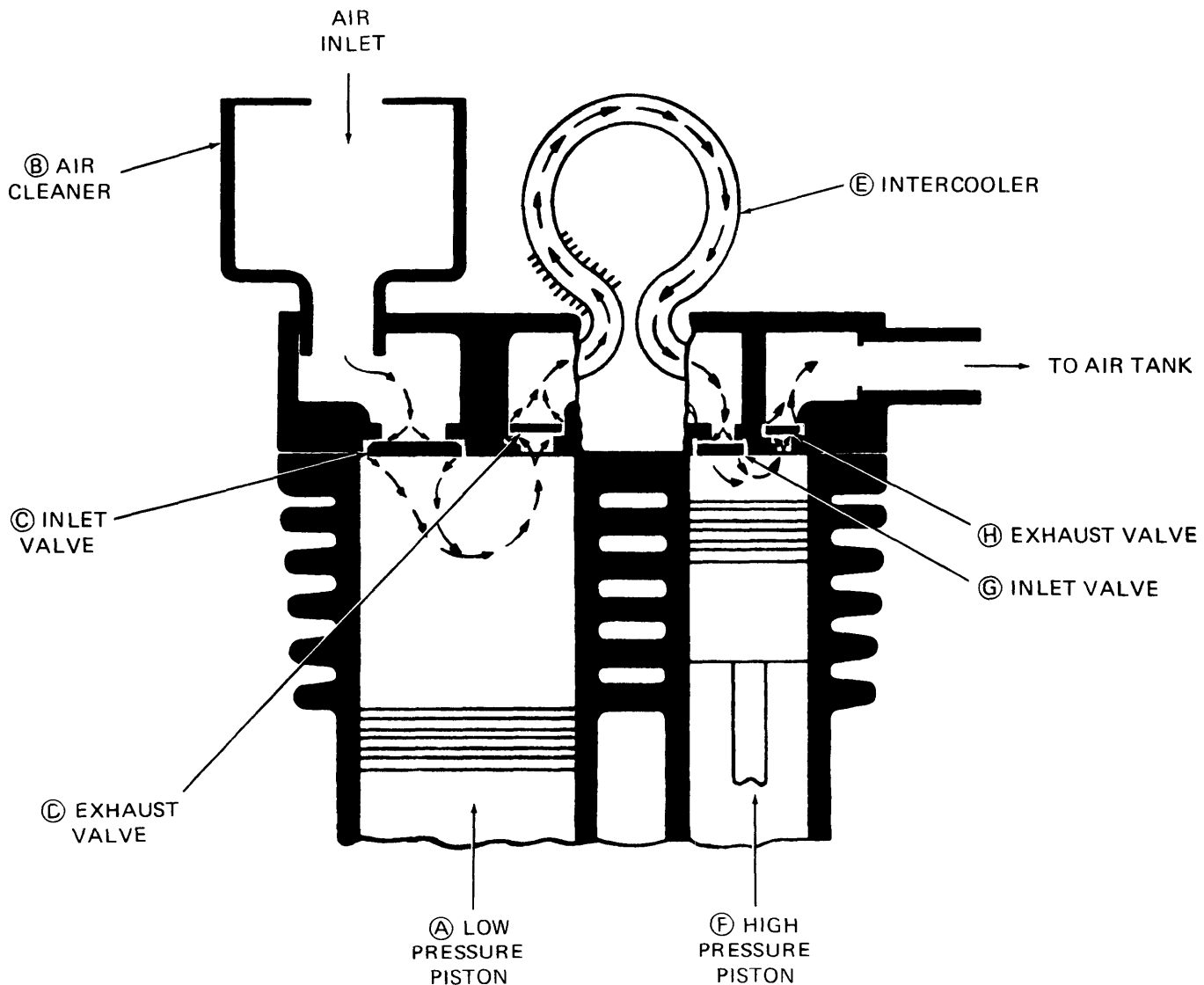
On the upstroke, inlet valve C closes and the pistons A push air out into the intercooler E through the exhaust valve D.

Compressing the air heats it up. The intercooler E gets rid of some of that heat before passing the air on to the high pressure stage.

The high pressure stage works the same as the low pressure stage except that the high pressure piston goes up when the low pressure pistons go down. This way, the low pressure pistons are drawing air in while the high pressure is pushing air out.

Compressed air from the high pressure stage goes to the air tank through the aftercooler. The aftercooler gets rid of some more heat.

1-15. ENGINE. The air compressor is driven by one of two military standard model gasoline engines, either model 1A08-3 (20-910) or 2A016-3 (20-905). For a description of engine model 1A08-3 refer to TM 5-2805-256-14. For a description of engine model 2A016-3 refer to TM 5-2805-257-14.



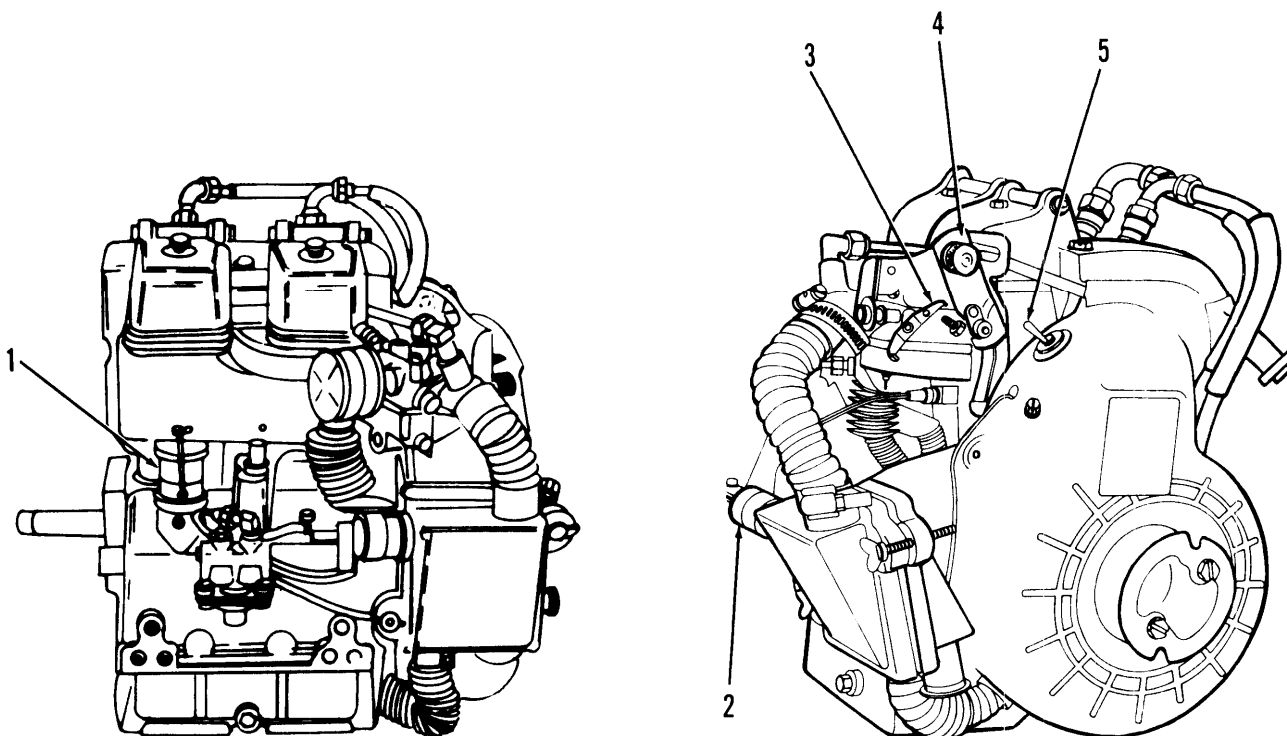
CHAPTER 2

OPERATING INSTRUCTIONS

Section 1. DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS

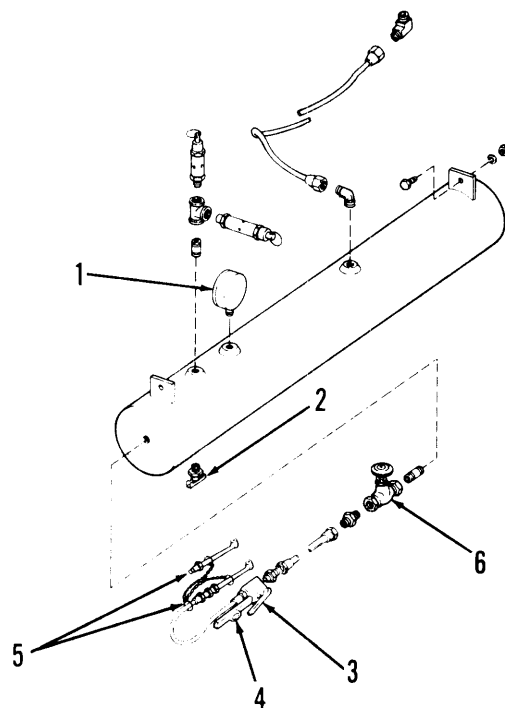
2-1. GENERAL. The following paragraphs will show you the controls and indicators you will need to operate the air compressor.

a. Engine,



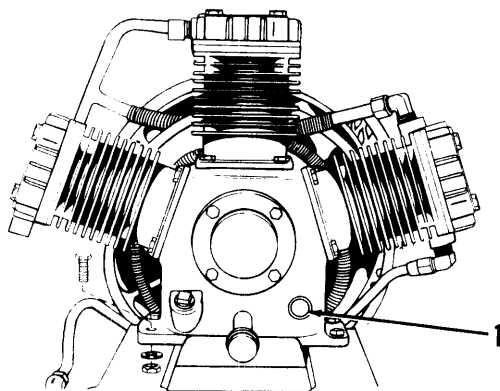
Key	Control or Indicator	Function
1	Oil Level Indicator	Indicates oil level in engine crankcase
2	Filter Service Indicator	Shows red when air filter needs replacement
3	Choke	Set ON to enrich fuel mixture for cold starting
4	Speed Control	Set to IDLE for warmup and FULL SPEED for normal operation
5	Ignition Switch	Switch to RUN for operation and OFF for stopping the engine

b. Air Receiver System and Air Inflator Gage.



Key	Control or Indicator	Function
1	Pressure Gage	Indicates pressure in the air tank
2	Drain Cock	Used to bleed water and air from the air tank
3	Hand Lever	Releases air from the inflator gage when depressed
4	Pressure Gage	Reads air pressure in the system being pressurized
5	Air Chucks	Used to inflate tires. Two different sizes supplied for different valves
6	Globe Valve	Controls flow of air between the air tank and inflator gage

c. Air Compressor.



1	Oil Level Gage	Indicates oil level in the crankcase
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Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

2-2. GENERAL. To ensure that the compressor is ready for operation at all times, it must be inspected systematically so that the defects may be discovered and corrected before they result in serious damage or failure. Defects discovered during operation of the unit shall be noted for future corrections, to be made as soon as an operation has ceased. Stop operation which would damage the equipment if operation were to continue. All deficiencies and shortcomings shall be recorded together with the corrective action taken on DA Form 2404, Equipment Inspection and Maintenance Worksheet, at the earliest opportunity. When performing your Before Operation (B) and During Operation (D) PMCS, always keep in mind the CAUTIONS and WARNINGS. After operation, be sure to perform your (A) PMCS. If your equipment fails to operate, troubleshoot with proper equipment. Report any deficiencies using the proper forms, see TM 38-750.

2-3. OPERATOR/CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES. Refer to table 2-1 for Preventive Maintenance Checks and Services.

- a. **Item Number Column.** Checks and services are numbered in chronological order regardless of interval. This column will be used as a source of item numbers for the "TM Item Number" column on DA Form 2404 in recording results of PMCS.

- b. **Interval Columns.** The columns headed B, D, A, W and M, will contain a dot (.) opposite the appropriate check indicating it is to be performed Before, During, After, Weekly, or Monthly.
- c. **Item to be Inspected Column.** The items listed in this column are divided into groups and identifies the items to be inspected.
- d. **Procedures Column.** This column contains a brief description of the procedure by which the check is to be performed.
- e. **For Readiness Reporting, Equipment is Not Ready/Available If: Column.** This column will contain the criteria which will cause the equipment to be classified as not Ready/Available because of inability to perform its primary mission.

NOTE

If the equipment must be kept in continuous operation, check and service only those items that can be checked and serviced without disturbing operation. Make the complete checks and services when the equipment can be shut down.

Table 2-1. Preventive Maintenance Checks and Services

NOTE

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

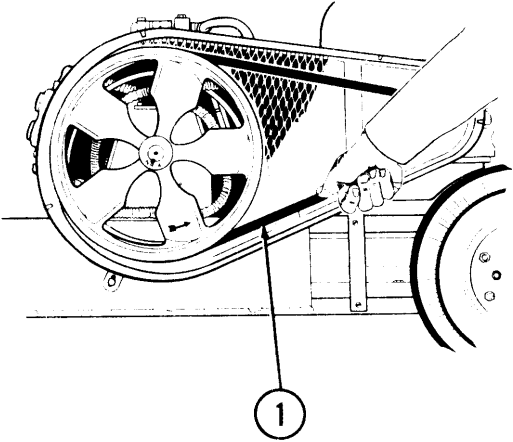
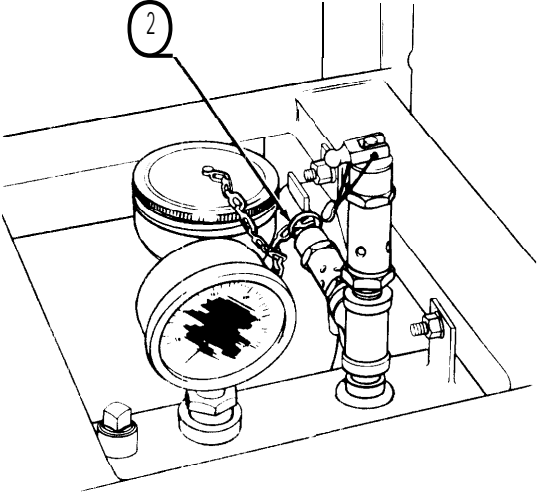
Item No.	Interval					Item To Be Inspected	Procedures	Equipment Will Be Reported Not Ready/ Available If:
	B	D	A	W	M			
1	•		•	•		Drive Belts (1)	Inspect for proper tension. [deflection is 3/4 to 1 inch midway between pulleys. Inspect for cracks or cuts.	Belts are cracked or cut.
								
2	•		•			Safety Release Valve (2)	Inspect for proper operation Pull ring to check for freedom of movement.	Release valve leaks air.
								

Table 2-1. Preventive Maintenance Checks and Services – continued

NOTE

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

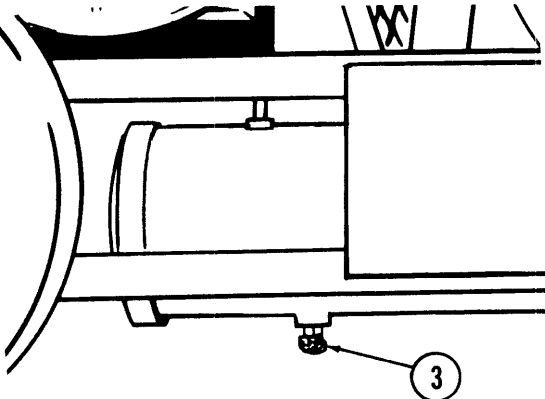
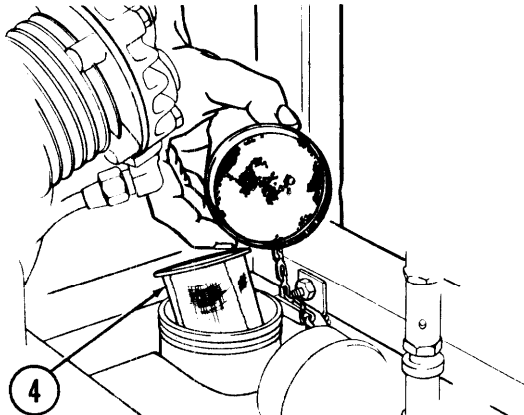
B—Before		D—During		A—After		W—Weekly		M—Monthly	
Item No.	Interval					Item To Be Inspected	Procedures	Reported Not Ready/ Available If:	
	B	D	A	W	M				
3	•	•	•			Controls and Instruments	Inspect for damage and insecure mounting. With the unit operating, inspect for proper operation. Normal operating pressure is 140.175 psi (9.8 -12.3 kg/sq cm).	Controls are damaged or loose.	
4	•		•			Air Receiver Draincock (3)	Open draincock to drain water from the tank.		
									
5	•		•			Fuel Tank	Check fuel level and fuel strainer sediment bowl (4).		
									

Table 2-1. Preventive Maintenance Checks and Services – continued

NOTE

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

B—Before			D—During			A—After	W—Weekly	M—Monthly
Item No.	Interval					Item To Be Inspected	Procedures	Equipment Will Be Reported Not Ready/ Available If:
	B	D	A	W	M			
6	●		●			Air Compressor Crankcase	Check oil level. Add oil to level on indicator.	Oil level is low.
7	●		●			Engine	Check oil level. Add oil as indicated by gage.	Oil level is low.
8		●				Compressor	During operation observe for any unusual noise or vibration.	Compressor runs noisy.
9				●		Tires and Tubes	Check air pressure. Proper pressure is 25 psi (1.8 kg/sq cm),	

Section III. OPERATION UNDER USUAL CONDITIONS

2-4. OPERATING PROCEDURE.

- a. General. The operator must know how to perform every operation of which the air compressor is capable. This section gives instructions on starting and stopping the air compressor, basic motions of the air 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.

WARNING

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

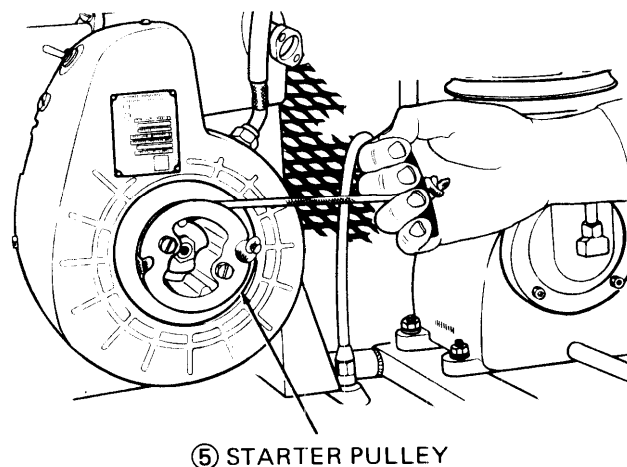
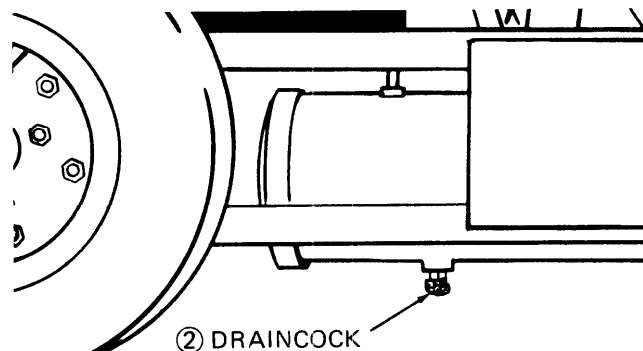
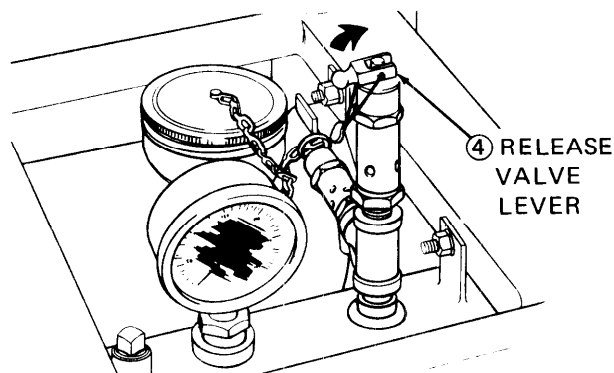
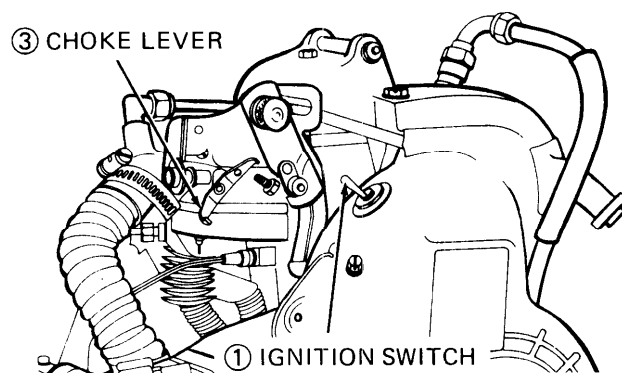
WARNING

Do not use this compressor for charging cylinders that require breathable air.

- b. Preparation for Starting. perform the necessary Before Operation Preventive Services as indicated in table 2-1.

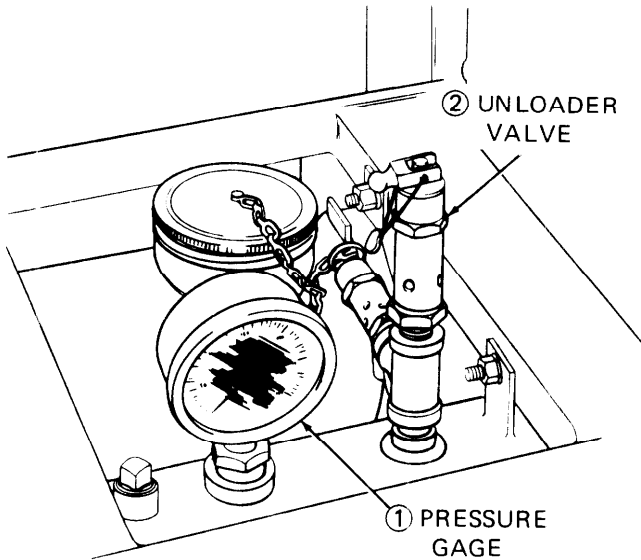
c. Starting.

1. Turn ignition switch (1) on.
2. Open draincock (2).
3. Close choke lever (3).
4. Raise the release valve lever (4) to unload compressor.
5. Wind starter rope clockwise around starter pulley (5).
6. With a quick, steady pull, start the engine.
7. When engine starts, gradually open choke lever (3).
8. Place release valve lever (4) in down position.
9. Close draincock (2).
10. Perform the necessary During Operation Preventive Services as indicated in table 2-1.
11. Watch for any unusual noise or vibration.



d. Operation.

1. Perform starting steps 1 through 11.
2. Check pressure gage (1) reading. It should read between 140 to 175 psi (9.8 to 12.3 kg/sq cm).



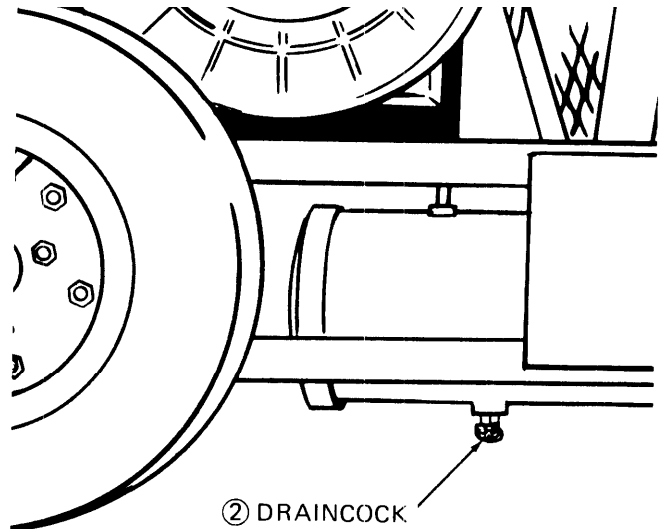
3. Unloader valve (2) is set to unload at 175 psi (12.3 kg/sq cm). Replace valve if valve does not unload between 170 and 180 psi.

NOTE

Air compressor will continue to cycle as long as fuel is fed to the engine.

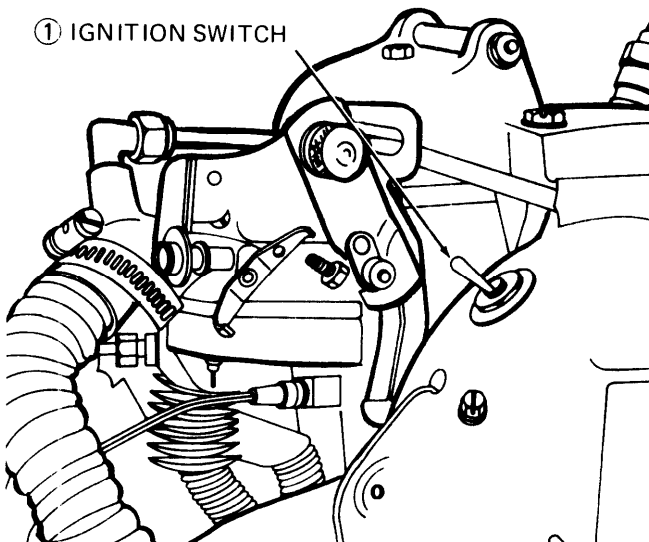
e. Stopping.

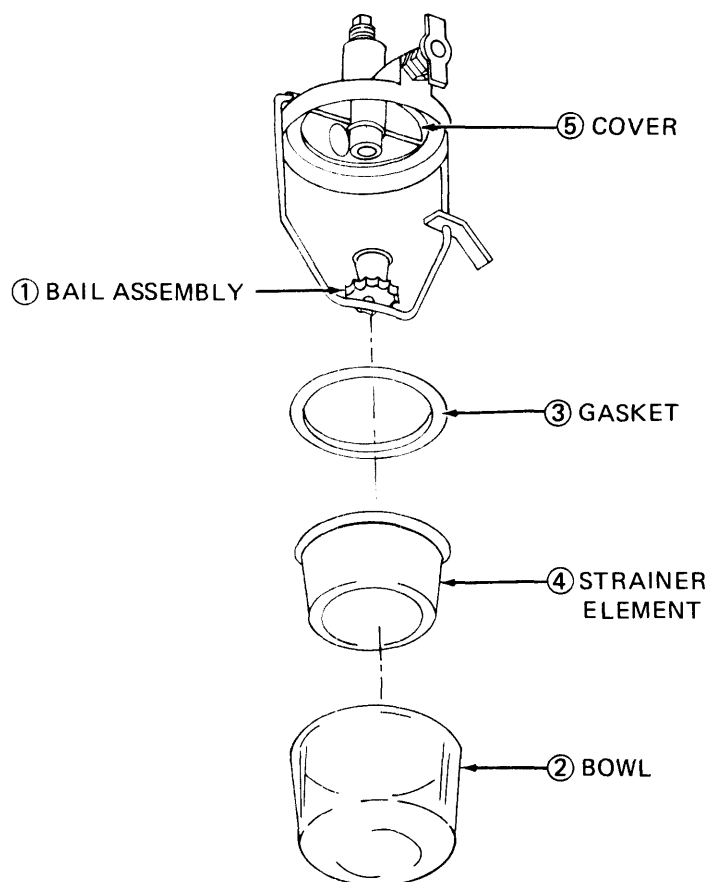
1. Turn ignition switch (1) off.
2. Open draincock (2) to blow air and condensate from tank.
3. Close draincock.
4. Perform the necessary After operation Preventive Services as indicated in table 2-1.



2-5. PREPARATION FOR MOVEMENT.

- a. Operate the compressor and allow the pressure in the air receiver tank to build to approximately 100 psi (7.03 kg/sq cm).
- b. Stop the engine. Open the draincock and blow the condensate from air tank. Close the draincock.
- c. Drain Fuel Strainer.
 1. Loosen the nut at the base of the fuel strainer bowl retaining bail assembly (1).
 2. Swing the bail to one side and carefully lower the bowl (2) together with gasket (3) and strainer (4). Empty the bowl and discard gasket.
 3. Position strainer (4) in recess of cover (5) then place new gasket (3) and bowl (2) over strainer.
 4. Swing cup of bail assembly (1) beneath bowl and secure with nut at base.





d. Drain fuel tank into a suitable container.

e. Remove the air hose assembly from the air receiver tank. Cover the hose connector in the air receiver tank.

f. Lift the air compressor and accessories on a suitable carrier and block and tie it down.

g. Move the air compressor to a new worksite.

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

2-6. OPERATION IN EXTREME COLD (BELOW 0° F (-18°C)).

- a. Locate the air compressor in a shed or building whenever possible. If the unit is operated outdoors, protect it from prevailing winds and cover it with a tarpaulin when not in use.
- b. Lubricate the air compressor in accordance with figure 3-1.
- c. Avoid excessive handling, kinking, and sharp bending of the air hose, which will become brittle at low temperature.

- d. Keep all fuel tanks and storage containers filled with fuel to prevent formation of ice crystals from the freezing of condensate. Such crystals will clog fuel lines and carburetor jets. Use filter paper, chamois, or other type strainer when filling the fuel tank or transferring fuel from one container to another.

WARNING

Always provide a metallic contact between the fuel container and the fuel tank. This will prevent a spark from being generated as the gasoline flows over metallic surfaces.

- e. Allow engine to reach normal operating temperature before applying load.
- f. For additional information on operation in extreme cold conditions refer to FM 9-207.

2-7. OPERATION IN EXTREME HEAT.

- a. Lubricate the air compressor in accordance with figure 3-1,
- b. Check the drive-belt tension frequently, Improper drive-belt tension often results in over-heating.
- c. Locate the air compressor in an operating area that is well ventilated or provide intake and exhaust fans to ventilate in closed areas.
- d. Fill the fuel tank at the end of each day's operation, especially in areas where the temperature drops sharply at night. This will prevent condensation from forming in the fuel tank.
- e. Keep the engine clean. Service the engine air cleaner as often as necessary.

2-8. OPERATION IN DUSTY OR SANDY AREAS.

- a. Lubricate the air compressor in accordance with figure 3-1, making sure that all lubrication points are free from dirt and sand before applying lubricant. Keep all lubricant containers clean and tightly closed. Do not lubricate excessively as dirt and sand will adhere to excess lubricant and may work into moving parts. Wipe off all lubrication points after lubricating.
- b. Protect the air compressor from dust with screens, shelters, built from tarpaulin, or other dustproof material. Keep the unit covered when not in use.
- c. Clean the compressor air cleaner more often than when operating under normal conditions.

- d. Take adequate precautions to prevent sand and dirt from entering the fuel tank. Service the fuel strainer as often as necessary to keep the bowl free from dirt or sand. Clean the engine air cleaner more often than usual.

2-9. OPERATION UNDER RAINY OR HUMID CONDITIONS.

- a. Protect the unit with a shelter, keeping the sides open for ventilation.
- b. Make sure all surfaces requiring lubrication are clean and dry before applying lubricant. Lubricate the unit in accordance with figure 3-1.
- c. Coat exposed polished or machined metal surfaces with a suitable rustproof material after first removing any accumulations of rust.
- d. Open the draincock frequently to blow condensate from the air receiver tank.
- e. Service the engine air cleaner more frequently.

2-10. OPERATION IN SALTWATER AREAS.

- a. Wipe the unit dry at frequent intervals, with particular emphasis on the engine.
- b. If the unit becomes encrusted with salt, wash it with fresh water, taking care not to damage the electrical system with water.
- c. Make sure all surfaces requiring lubrication are clean and dry before applying lubricant. Lubricate the unit in accordance with figure 3-1.
- d. Coat exposed polished or machined metal surfaces with a suitable rustproof material after first removing any accumulation of rust.

2-11. OPERATION AT HIGH ALTITUDES<

The air 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 cannot be prevented.

CHAPTER 3

OPERATOR'S MAINTENANCE INSTRUCTIONS

Section 1. LUBRICATION INSTRUCTIONS

3-1. GENERAL LUBRICATION INFORMATION. This section contains lubricating instructions for the air compressor. It also contains a reproduction of the L. O. chart for engine model 2A01 6-3 (LO 5-2805-257-12), figure 3-2 and engine model 1 A08-3 (LO 5-2805-256-12), figure 3-3.

3-2. AIR COMPRESSOR LUBRICATION.

- a. Refer to figure 3-1 for lubrication points and lubricant specifications.
- b. Intervals and related task-hour times are based on normal hours of operation. The task-hour time specified is the time you need to do all the services prescribed for a particular interval. Change the interval if your lubricants are contaminated or if you are operating the equipment under adverse operating conditions, including longer-than-usual operating hours. You may extend the interval during periods of low activity, but you must take adequate preservation precautions.

WARNING

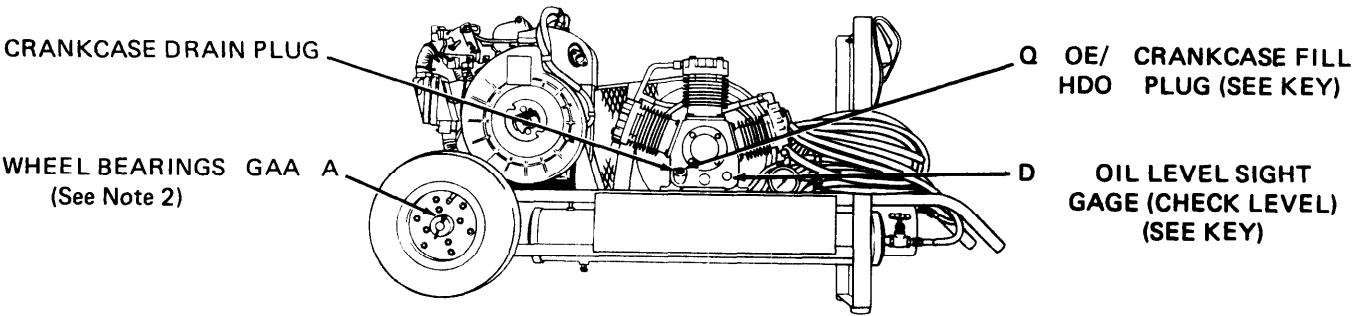
Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact by wearing rubber or solvent impermeable gloves when handling the solvent or material wet with drycleaning solvent. Wash hands immediately after exposure with soap and water and use a lanolin based skin cream to prevent skin drying. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C). Ensure that ventilation adequate to reduce solvent vapor concentrations below acceptable threshold limit values is provided.

- c. Clean fittings before lubricating. Relubricate all areas exposed to water after amphibious operation. Lubricate points indicated by dotted arrow shaft on both sides of equipment. Clean parts with SOLVENT, dry cleaning, or with OIL, fuel, diesel. Dry before lubricating. Drain crankcases when HOT. Fill and check level.

3-3. ENGINE LUBRICATION. Refer to figure 3-2 or 3-3 for lubrication procedures.

LUBRICANT • INTERVAL

INTERVAL • LUBRICANT



*TOTAL TASK HOURS		*TOTAL TASK HOURS	
INTERVAL	TASK-HOURS	INTERVAL	TASK-HOURS
D	0.5	Q	0.5
W	0.5	A	1.5

- KEY -

LUBRICANTS	CAPACITY	EXPECTED TEMPERATURES			FOR ARCTIC OPERATION Refer to TM 9-207	INTERVALS
		Above +32°F Above 0°C	+40°F to -10°F + 5°C to -23°C	0°F to -65°F -18°C to -50°C		
OE/HDO OIL, Engines, Heavy Duty	1 qt. .946 liters	OE/HDO 30	OE/APG-PD-	OEA/APG-PG.		D 10 Hours or Daily W 50 Hours Q 250 Hours or Quarterly A 1000 Hours or Annually
(MIL-L-2104C) Crankcase						
OEA/APG-PD-1 Oil Engine						
Sub Zero						
SD2 Solvent						
CP-D-680 dry cleaning						

NOTES:

- FOR OPERATION OF EQUIPMENT IN PROTRACTED COLD TEMPERATURES BELOW -10°F -23°C. Remove lubricants prescribed in the key for temperatures above -10° F -23°C. Clean parts with SOLVENT dry-cleaning (P-D-680). Relubricate with lubricants specified in the key for temperatures below -10°F -23°C.
- WHEEL BEARINGS.** Every 1000 hours remove wheels, clean and inspect all parts, replace damaged or worn parts, repack bearings, and reassemble.

Figure 3-1. Compressor lubrication.

LUBRICATION ORDER

LC 38G2-103-2

LO 5-2805-257-12

30 JUNE 1978 (Supersedes LO 5-2805-257-12, 11 March 1977)

ENGINE, GASOLINE, 3 HP MILITARY STANDARD MODELS

(MODEL 2A016-1) (MODEL 2A016-2) (MODEL 2A016-3)

Reference: TM 5-2805-257-14 and C9100.1 L

Intervals and related task-hour times are based on normal hours of operation. The task-hour time specified is the time you need to do all the services prescribed for a particular interval. Change the interval if your lubricants are contaminated or if you are operating the equipment under adverse operating conditions, including longer-than-usual operating hours. You may extend the interval during periods of low activity, but you must take adequate preservation precautions.

● The time specified is the time required to perform all services at the particular interval.

Clean fittings before lubricating. Clean parts with SOLVENT,

dry cleaning, or with OIL, fuel, diesel. Dry before lubricating. Drain crankcase when HOT Fill and check level. The lowest level of maintenance authorized to lubricate a point is indicated by one of the following (C) Operator/crew, or (O) Organizational Maintenance.

You can help improve this publication if you find any mistake or if you know of a way to improve the procedures, please let us know. Your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) should be mailed directly to Commander, U S. Army Troop Support & Aviation Materiel Readiness Command, ATTN: DRSTS-MTPS, 4300 Goodfellow Blvd. St Louis, MO 63120. A reply will be furnished to you

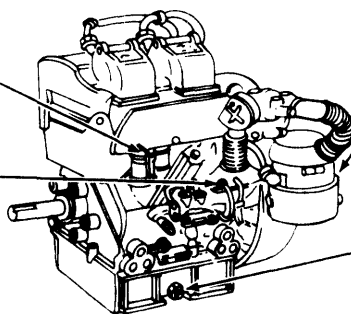
● TOTAL TASK-HR		TOTAL TASK-HR	
INTERVAL	TASK-HR	INTERVAL	TASK-HR
8	0.5	500	0,3
50	1.5		

LUBRICANT ● INTERVAL

INTERVAL ● LUBRICANT

Crankcase Fill and Level OE/ 8
(Check level) (See key) HDO
CAUTION: When OES
Oil is used the level
will be checked more
(C) often.

Ignition Cam Wick OE/ 500
(O)(Sparingly) HDO



8 OE/ Air Cleaner
HDO (Refill 011 reservoir)
to level mark; every
50 hours disassemble
entire unit clean, re-
oil and reassemble)
(See key.) (O)

50 OE/ Crankcase Drain
HDO (Drain and refill) (O)

Models 2A016-1 and 2A016-2

CARD 1 OF 2

Figure 3-2. Lubrication order, engine (Card 1 of 2)

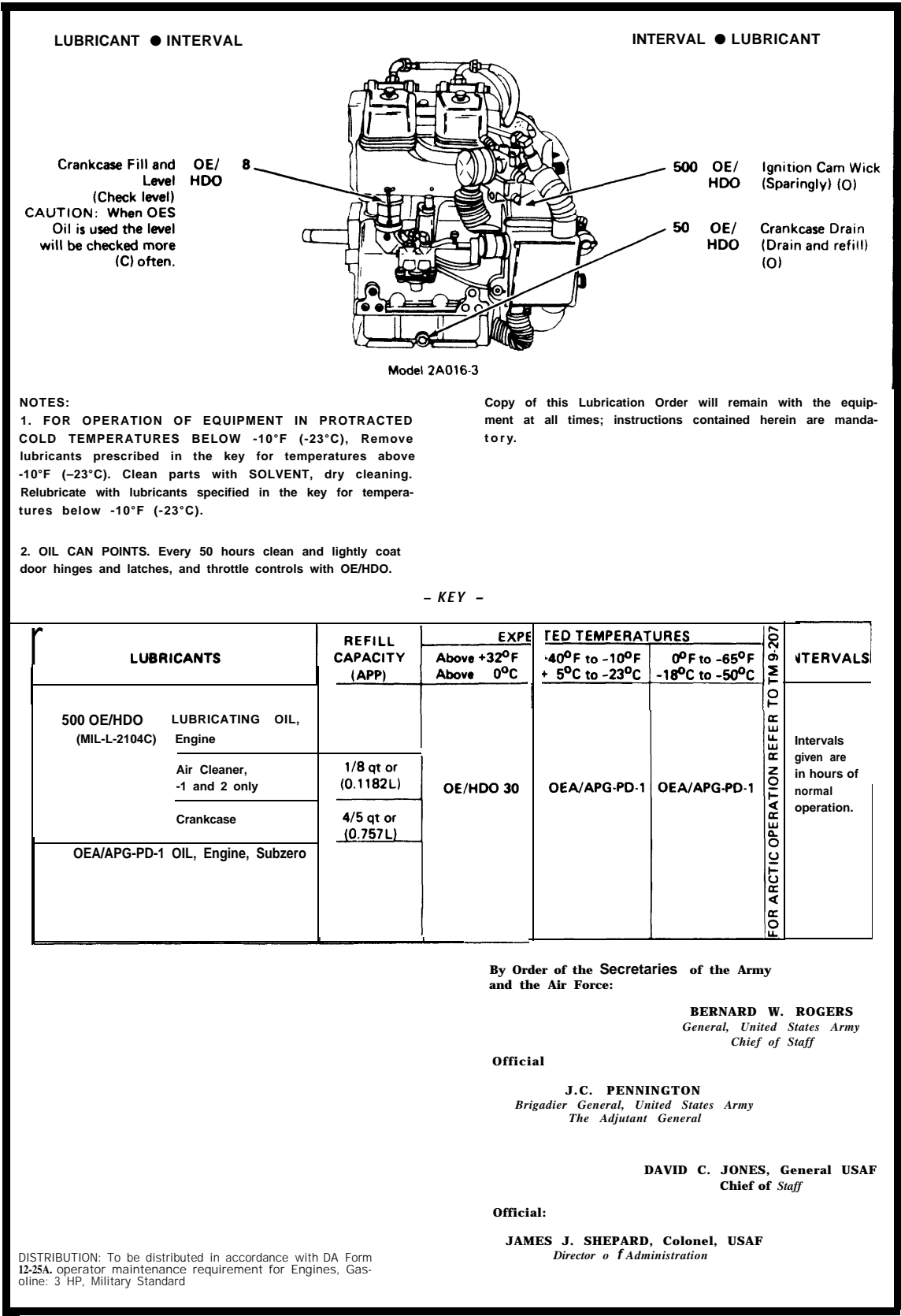


Figure 3-2. Lubrication order, engine (Card 2 of 2)

LUBRICATION ORDER

TO 38G2-102-2LC-1

L05-2805-256-12
27 JULY 1978 (Supersedes L05-2805-256-12,21 February 1977)

ENGINE, GASOLINE, 1-1/2 HP, MILITARY STANDARD MODELS
(MODEL 1A08-1) (MODEL 1A08-2) (MODEL 1A08-3)

Reference: TM 5-2806-256-14 and C9100-1 L

intervals and related task-hour times are based on normal hours of operation. The task-hour time specified is the time you need to do all the services prescribed for a particular interval. Change the interval if your lubricants are contaminated or if you are operating the equipment under adverse operating conditions, including longer-than-usual operating hours. You may extend the interval during periods of low activity, but you must take adequate preservation precautions.

*The time specified is the time required to perform all services at the particular interval.

Clean fittings before lubricating. Clean parts with SOLVENT

dry cleaning, or with OI L, fuel, diesel. Dry before lubricating. Drain crankcase when HOT. Fill and check level. The lowest level of maintenance authorized to lubricate a point is indicated by one of the following: (C) Operator/crew; or (O) Organizational Maintenance.

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● TOTAL TASK-HR		● TOTAL TASK-HR	
INTERVAL	TASK-HR	INTERVAL	TASK-HR
8	0.5	500	0.3
50	1.5		

LUBRICANT ● INTERVAL

INTERVAL ● LUBRICANT

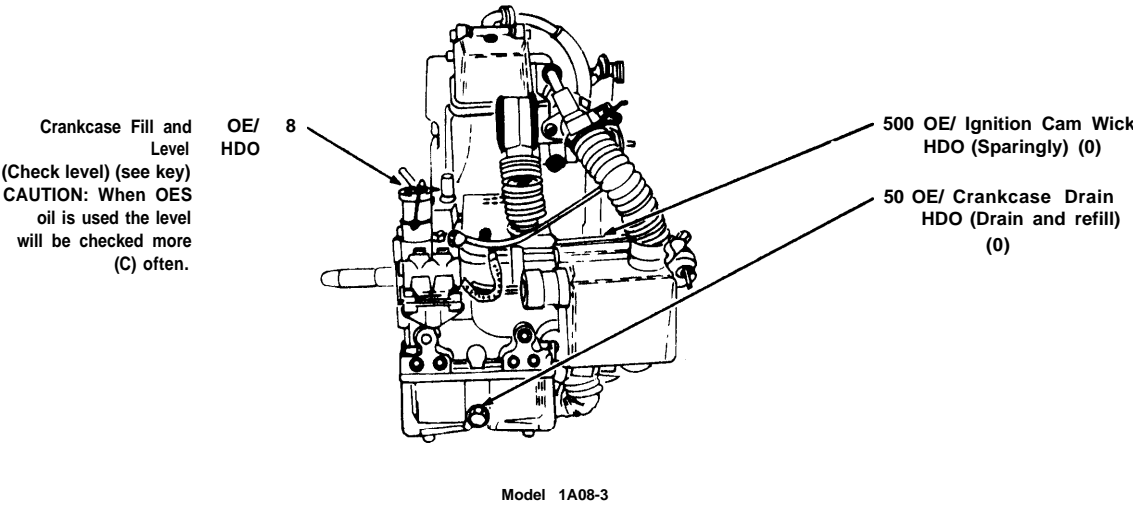
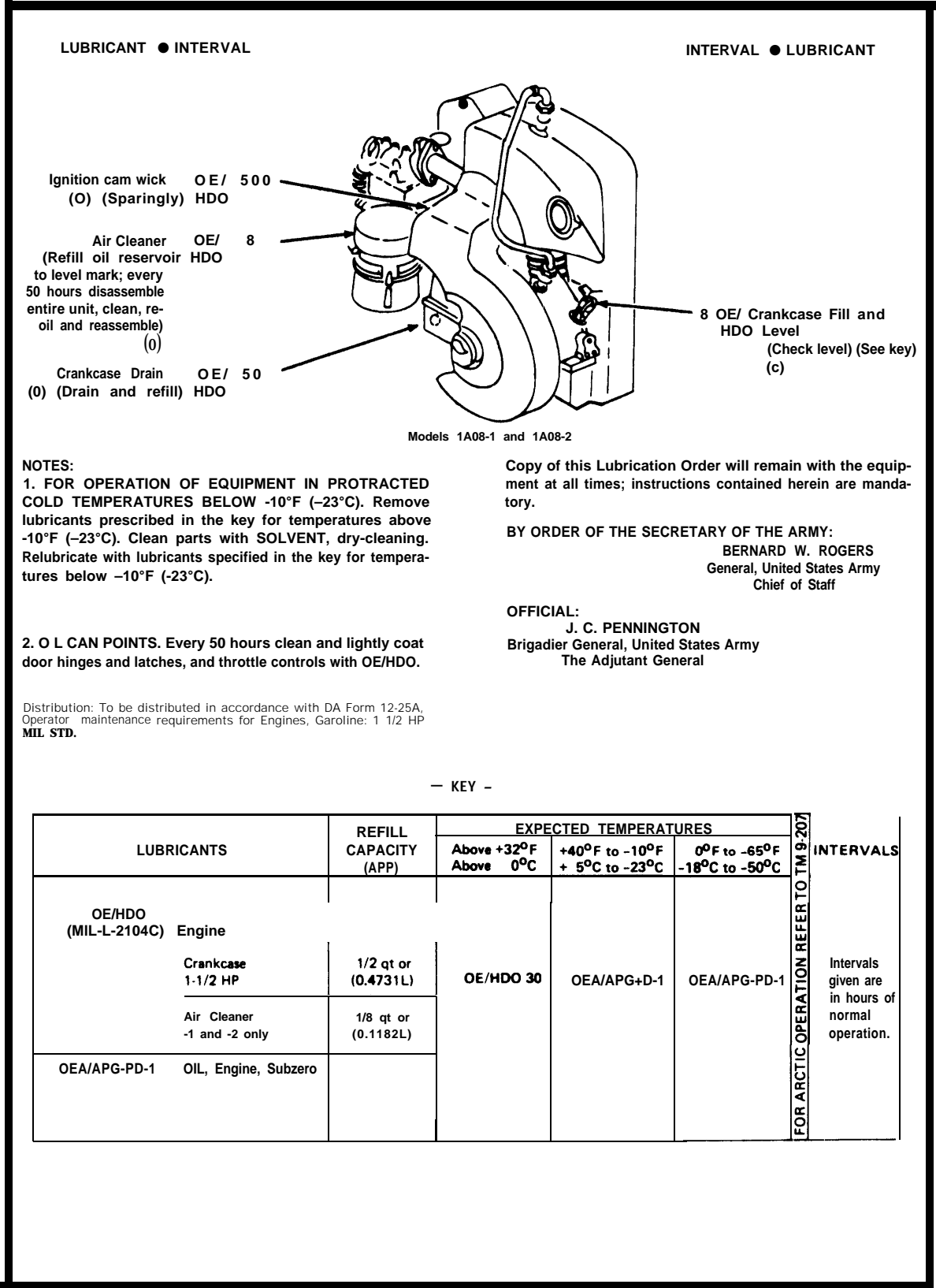


Figure 3-3. Lubrication order, engine (card 1 of 2)



Section II. TROUBLESHOOTING

3-4. GENERAL.

a. This section contains troubleshooting information for locating and correcting most of the operating troubles which may develop in the air compressor. Each malfunction for an individual component, unit, or system is followed by a list of tests or inspections which will help you to determine corrective actions to take. You should perform the tests/inspections and corrective actions in the order listed.

b. This manual cannot list all malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed or is not corrected by listed corrective actions, notify your supervisor.

3-5. OPERATOR TROUBLESHOOTING. Perform troubleshooting functions in accordance with table 3-1.

Table 3-1. Troubleshooting

Malfunction	Test or Inspection	Corrective Action
-------------	--------------------	-------------------

ENGINE

1. ENGINE FAILS TO START.

Step 1. Inspect for lack of fuel in fuel tank.

Fill fuel tank.

Step 2. Check that engine ignition switch is switched to on.

Turn ignition switch on.

Step 3. Inspect fuel tank strainer for signs of dirt or grime which could pass into fuel lines.

- a. Unscrew fuel tank cap and remove cap and gasket (1).
- b. Lift out tank strainer (2) taking care that any particles in the strainer are not dislodged and allowed to fall into the tank. Service fuel tank strainer.

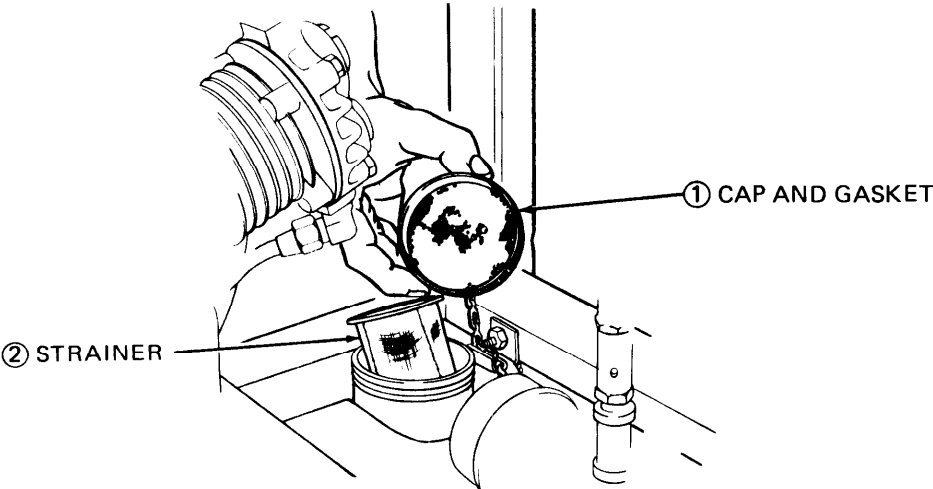


Table 3-1. Troubleshooting – continued

Malfunction	Test or Inspection	Corrective Action
ENGINE -- continued		

1. ENGINE FAILS TO START – continued.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact by wearing rubber or solvent impermeable gloves when handling the solvent or material wet with drycleaning solvent. Wash hands immediately after exposure with soap and water and use a lanolin based skin cream to prevent skin drying. Do not use near open flame or excessive heat, Flash point of solvent is 100°F (38°F). Ensure that ventilation adequate to reduce solvent vapor concentrations below acceptable threshold limit values is provided.

1. Clean the tank strainer (2) with dry cleaning solvent, P-D-680. Dry thoroughly.
2. Position strainer in fuel tank filler aperture.
3. Install fuel tank cap and gasket (I).

2. ENGINE MISSES OR OPERATES ERRATICALLY.

Step 1. Inspect fuel tank cap vent for blockage.

Clean cap vent.

3. ENGINE OVERHEATS.

Step 1. Inspect belt guard screen for obstruction

With the engine stopped, clear obstruction from screen.

Step 2. Restricted cylinder cooling fins.

Clean cylinder cooling fins.

4. ENGINE STOPS.

Step 1. Inspect for lack of fuel in fuel tank.

Fill fuel tank.

Table 3-1. Troubleshooting—continued

Malfunction

Test or Inspection

Corrective Action

PNEUMATIC EQUIPMENT

1. COMPRESSOR PUMPS TOO SLOWLY OR PROVIDES INSUFFICIENT PRESSURE.

Step 1. Inspect compressor air filters for blockage.

Clean filters.

Step 2. Check for leaks from air receiver tank fittings with soapy water.

Secure fittings as necessary.

2. EXCESSIVE COMPRESSOR OIL CONSUMPTION.

Step 1. Check for incorrect or inferior grade of compressor oil.

Replace compressor crankcase oil.

- a. Position suitable container beneath compressor crankcase drain pipe and remove cap (1) from pipe.
- b. Install drain cap (1) when oil is completely drained.
- c. Remove oil filler plug (3).

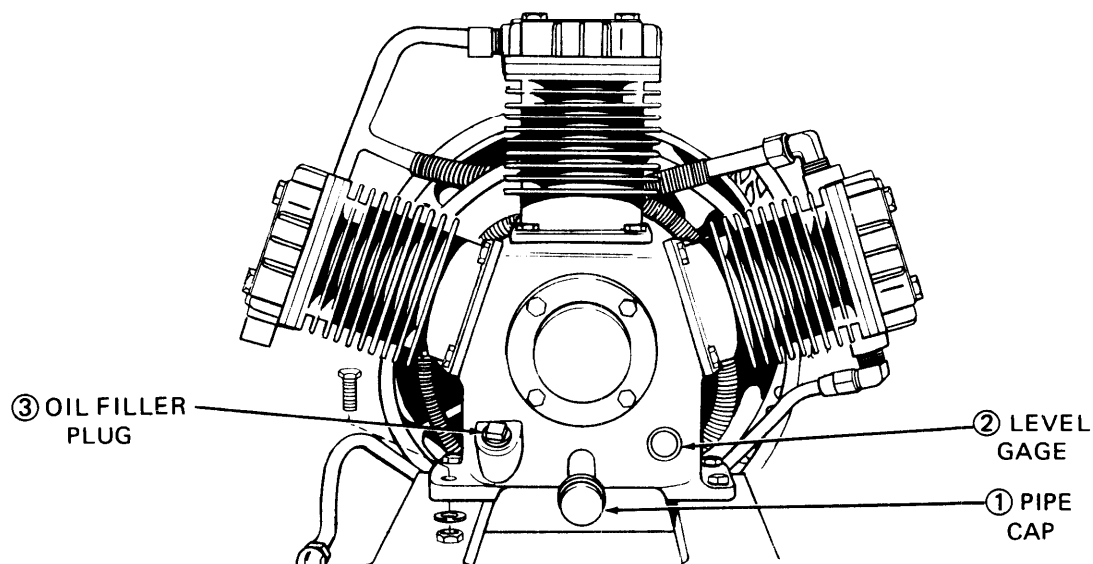


Table 3-1. Troubleshooting – continued

Malfunction	Test or Inspection	Corrective Action
-------------	--------------------	-------------------

PNEUMATIC EQUIPMENT– continued

2. EXCESSIVE COMPRESSOR OIL CONSUMPTION – continued.

Step 1. Check for incorrect or inferior grade of compressor oil – continued.

d. Fill crankcase with 1 quart (0.94 liters) of correct type of oil as follows:

Expected Temperature	Oil Type
Above 32°F (0°C)	OE 10
+40°F (4.5°C) to -10°F (-23°C).	OE30
0°F(-18°C) to -65°F (-54°C)OES

e. Install oil filler plug.

Step 2. Inspect for signs of leaks from oil drain cap or pipe.

Tighten oil drain cap or pipe.

3. COMPRESSOR OVERHEATING.

Step 1. Inspect for dirt in cooling coils and cylinder fins.

Blow out any dirt with compressed air.

Step 2. Check for poor ventilation and high room temperature.

If possible, move compressor to a more adequately ventilated area or check the possibility of piping air intake from a cooler location.

4. NOISY COMPRESSOR OPERATION.

Step 1. Check compressor for insufficient oil.

Fill compressor crankcase with correct oil as follows:

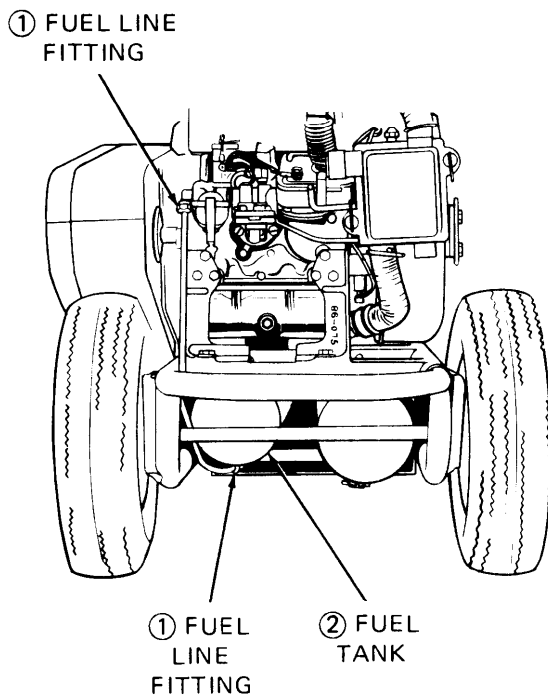
Expected Temperature	Oil Type
Above 32°F (0°C)	OE 10
+40°F (4.5°C) to -10°F (-23°C)OE30
0°F (-18°C) to -65°F (-54°C)OES

Section III. MAINTENANCE PROCEDURES

3-6. **GENERAL.** Instructions in this section are published for the information and guidance of the operator to maintain the air compressor.

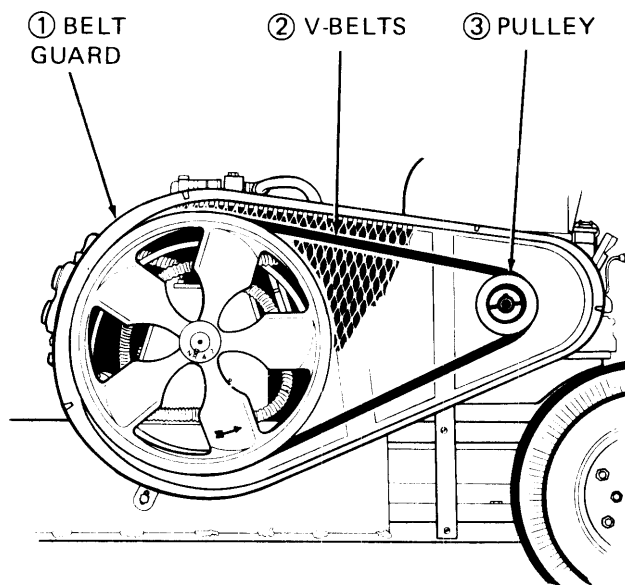
3-7. FUEL TANK, LINES AND FITTINGS.

- a. Check all fittings (1) for leaks and tighten if necessary.
- b. Check cover gasket for leaks and replace if necessary.
- c. If leak is found in fuel tank (2), report to higher authority.
- d. Clean fuel tank strainer.



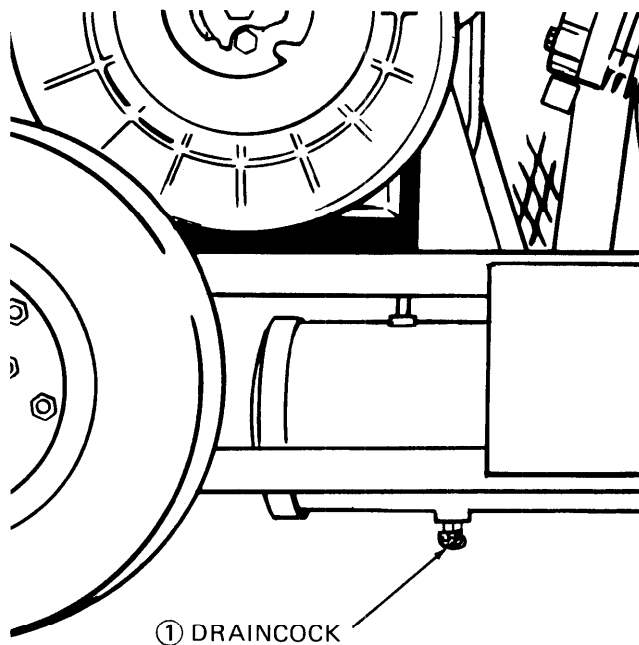
3-8. BELT GUARD, V-BELTS AND PULLEY

- a. Inspect the belt guard (1) for dents, cracks, or other damage. Straighten minor dents and bends in the guard.
- b. Inspect all attaching hardware for damaged threads.
- c. Inspect the V-belts (2) for cuts, fraying and wear.
- d. Inspect the pulley (3) for cracks or looseness.



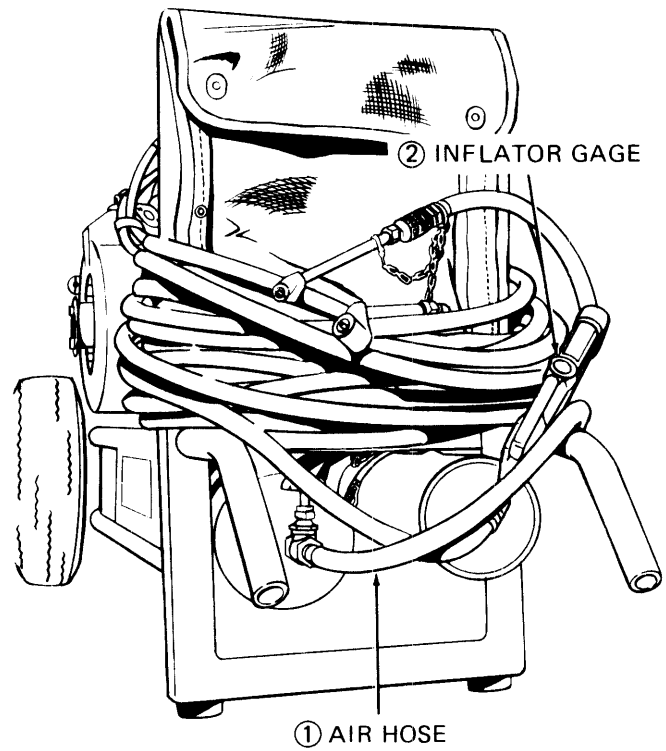
3-9. AIR RECEIVER TANK.

- a. Open drain cock (1) daily to remove moisture from the air receiver tank.
- b. Keep all fittings connected to the air receiver tank tight. Check for leaks with soapy water with pressure in air receiver. Check welds on air receiver tank with soapy water.



3-10. AIR DISCHARGE SYSTEM.

- a. Examine fittings for defective threads.
- b. Examine hoses (1) for cracks or leaks.
- c. Examine inflator gage (2) for cracked dial glass, stripped threads, leaks, and defective handle.



CHAPTER 4

COMPRESSOR UNIT MAINTENANCE INSTRUCTIONS

4-1. CHAPTER OVERVIEW. This chapter contains maintenance information applicable to the compressor unit as a whole.

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

4-2. COMMON TOOLS AND EQUIPMENT. For authorized common tools and equipment refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

4-3. SPECIAL TOOLS. No special tools are required to service or repair the air compressor.

4-4. SPARES AND REPAIR PARTS. Spares and repair parts are listed and illustrated in the repair parts and special tools list covering organizational DS and GS maintenance for this equipment (TM 5-4310-367-24P)..

Section II. SERVICE UPON RECEIPT

4-5. SITE AND SHELTER REQUIREMENTS. The air compressor unit is designed for mobile use in the field.

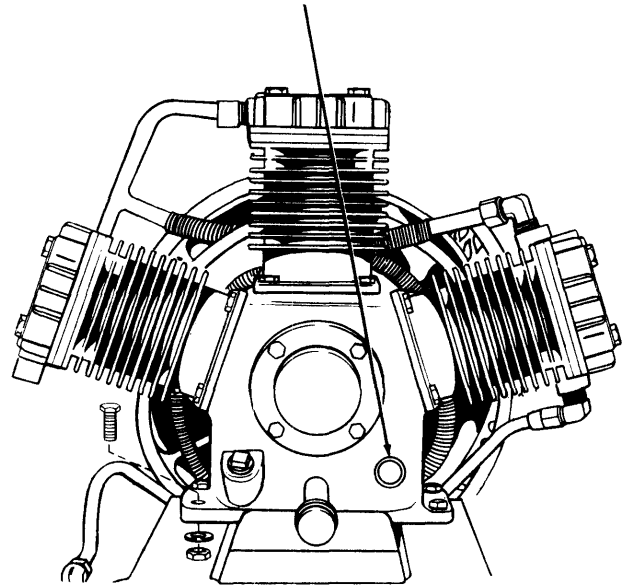
Protect the compressor from water, excessive dirt and corrosive atmospheres.

Run the compressor in an area that receives adequate ventilation to prevent it from overheating.

4-6. SERVICE UPON RECEIPT. The compressor is shipped without oil in the crankcase. Before start-up, fill the crankcase with 1 pint (.51) of oil or up to the full mark on the level gage.

Air Temperature	Oil Type
Above 32°F (0°C)	OE/HDO 30
0°F to 40°F (-18°C to 4°C)	OE/HDO 10

ADD OIL UNTIL LEVEL
COMES UP TO FULL MARK ON GAGE

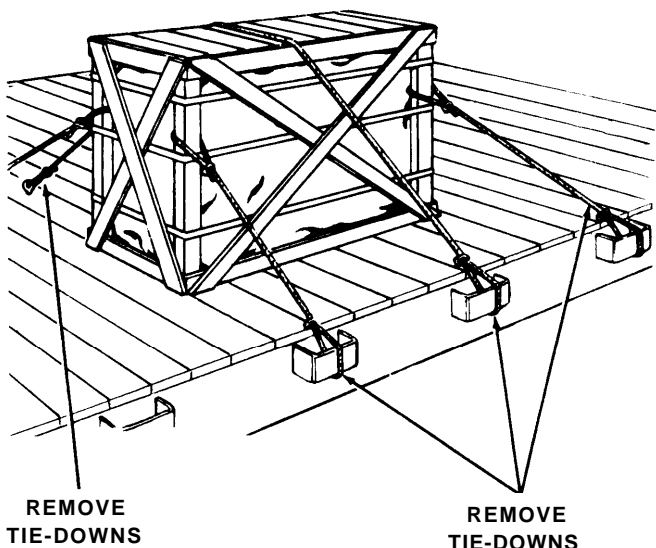


Before start-up, turn the flywheel over a few revolutions by hand to make sure that there aren't any obstructions anywhere in the unit.

4-7. ASSEMBLY AND PREPARATION FOR USE.

a. Unloading.

1. Remove all tiedowns or blocking that secure the crate to the carrier.



WARNING

Make certain any lifting device used has a capacity equal to or greater than the weight being lifted. Failure to observe this precaution could result in injury or death to personnel and damage to equipment.

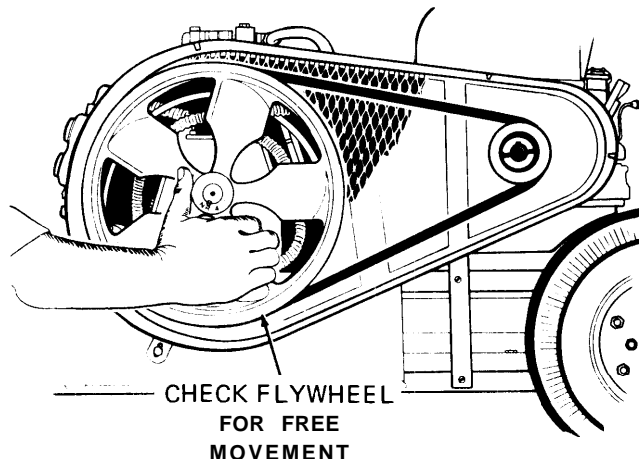
2. A forklift truck, pipe rollers, or a suitable hoist must be used when removing the air compressor from the carrier.

b. Unpacking.

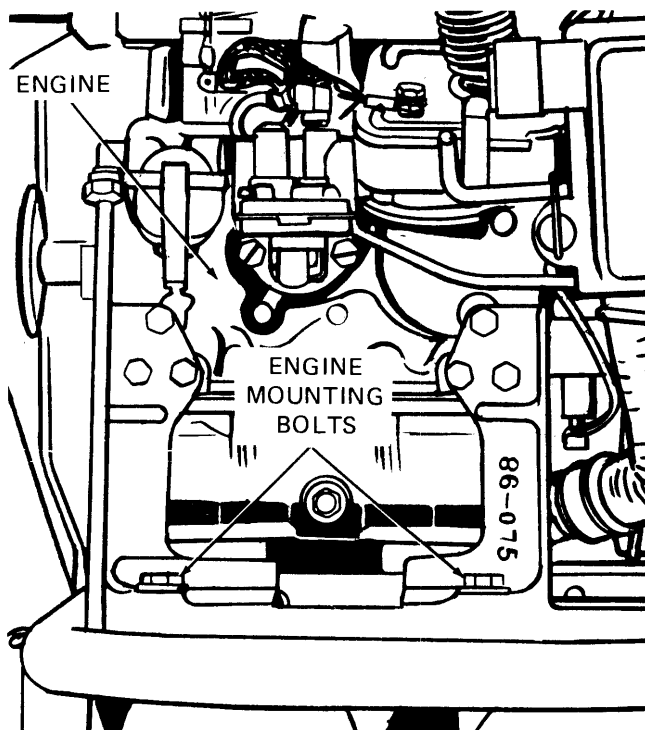
1. Place the air compressor as close to the point of use as possible. Remove the box containing the air hose assembly and inflation device from the inside of the crate.
2. Prepare the air compressor for inspection and servicing as outlined on DA Form 2258, Depreservation Guide, attached on or near the operational controls.
3. Remove the nuts and lockwasher that secure the air compressor to the bottom of the crate and remove the air compressor.

c. Inspection and Service.

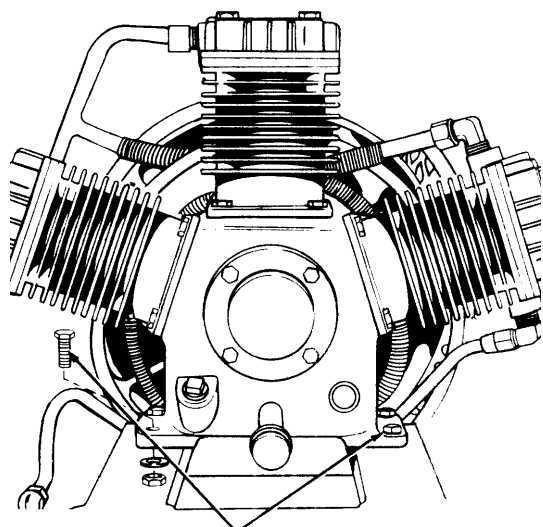
1. Make a complete visual inspection of the air compressor for any loss or damage that may have occurred during shipment. See that fly-wheel pulley turns freely by hand. If shipping crate has been damaged, pay particular attention to the compressor areas adjacent to damage areas of the crate.



2. Inspect the engine for loose connections, and insecure mounting.

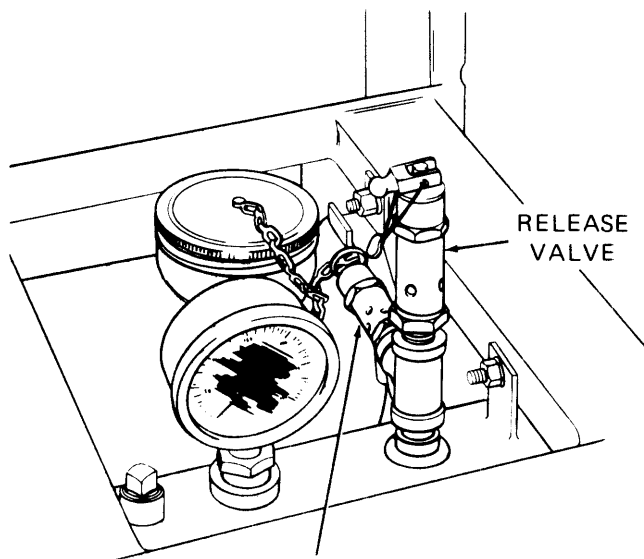


3. Inspect the air compressor for loose mounting bolts, cracks, breaks and other defects.



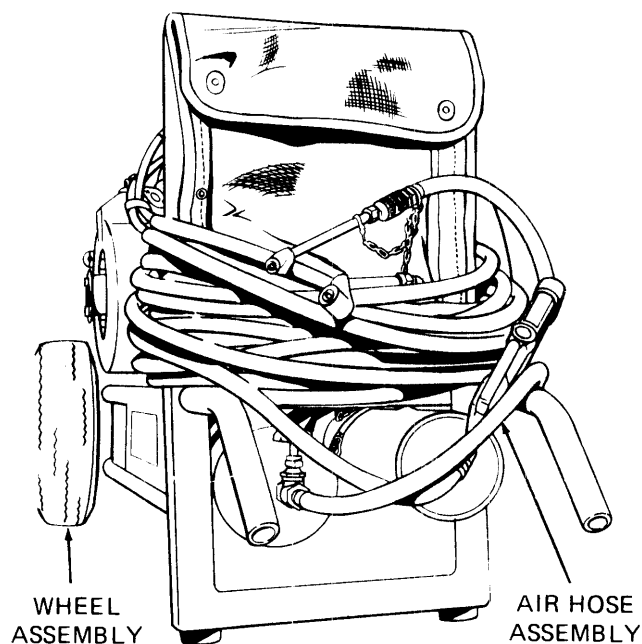
MOUNTING BOLTS

4. Inspect the release and safety valve for loose mounting.



SAFETY VALVE

5. Inspect the handtruck assembly for cracks, breaks and other damage.
6. Inspect the wheel assemblies for cracks, breaks, insecure mounting and alignment.



WHEEL ASSEMBLY

AIR HOSE ASSEMBLY

7. Check the contents of the crate against the packing list to make sure no items are missing.
 8. Correct all deficiencies or report them to the proper authority,
- d. Installation. The portable air compressor is delivered with an air hose assembly and gage inflator. The air hose assembly is installed directly in the end of the air receiver tank.
 - e. Outdoor Installation. Avoid muddy, sandy or dusty locations as a site for operation as dirt and moisture shorten the life of all moving parts.
 - f. Indoor Installation. If the compressor is to be operated within a building or vehicle, pipe the engine exhaust to the outside. Use as few bends as possible in the exhaust line and make sure all connections are tight.
 - g. Noise Hazard and Warning Signs. Signs conforming to provisions of A R 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

Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

4-8. INTRODUCTION. The preventive maintenance checks and services listed in the PMCS table 4-1 cover procedures to be performed by organizational maintenance personnel.

4-9. PMCS TABLE. Explanation of the columns:

- Item Number. Checks and services are numbered in sequence. This column shall be used as source of item numbers for the TM Number Column on DA Form 2404, Equipment Inspection and Maintenance Worksheet, in recording results of PMCS.
- Item To Be Inspected. This column gives the name of the item to be inspected or serviced.
- Procedures. This column lists inspection procedures.
- Equipment Will Be Reported Not Ready/Available If: This column contains the criteria which will cause the equipment to be classified as not ready or not available because of inability to perform its primary mission.

Table 4-1. Preventive Maintenance Checks and Services

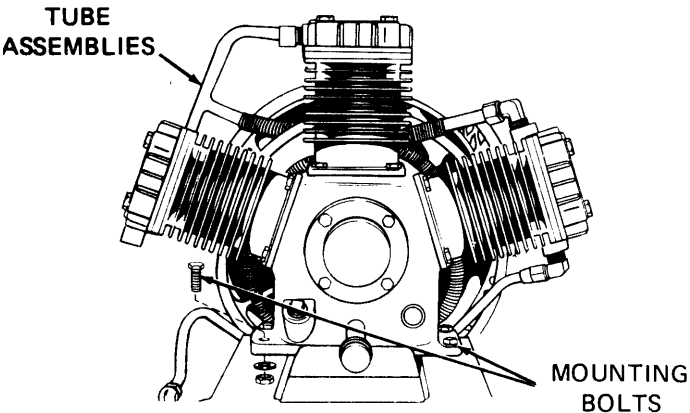
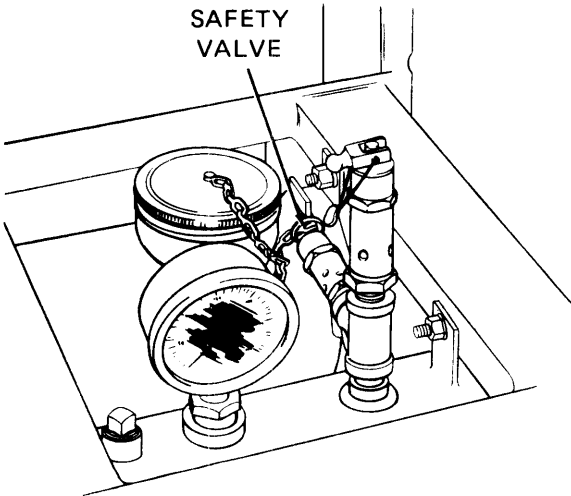
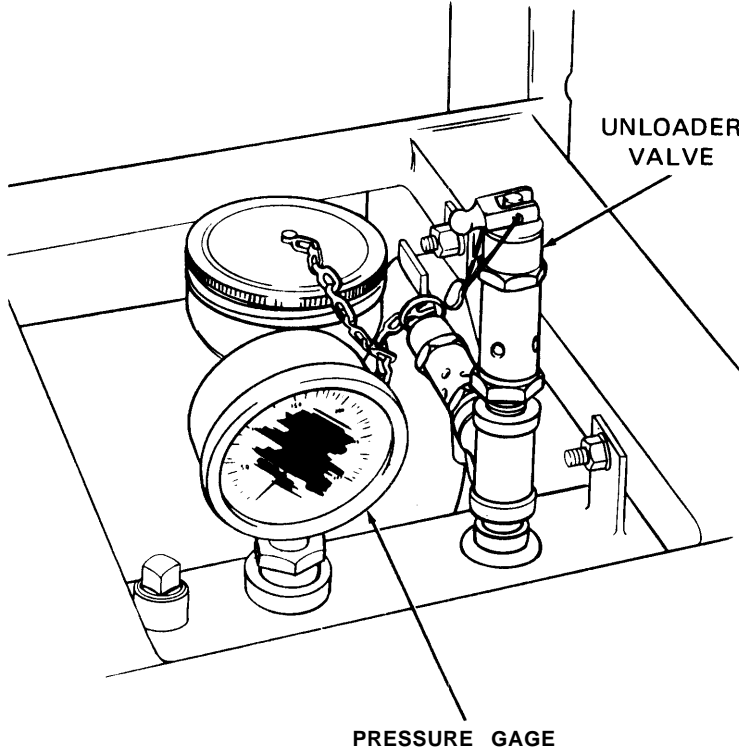
Legend				Item To Be Inspected	Procedures	Equipment Will Be Reported Not Ready/ Available If:
Item No.	W	M	Q			
1	●			Compressor Assembly	Check 4 mounting bolts for tightness.	
 <p>The diagram shows a compressor assembly with two large cooling fins on either side of a central cylinder. Labels with leader lines point to the 'TUBE ASSEMBLIES' on the left and 'MOUNTING BOLTS' at the base of the right fin.</p>						
2	●			Flywheel	Check for tightness of mounting.	
3	●			Tube Assemblies	Check tube fittings for tightness.	
4	●			Intercooler	Check for dirt in fins.	
5	●			Engine Assembly	Refer to engine TM 5-2805-257-14 (model 2A01 6-3) or engine TM 5-2805-256-14 (model 1A08-3).	
6	●			Tires	Check air pressure 25 psi (1 .75 kg/sq cm).	
7	●			Wheels	Check mounting bolts for tightness	
8	●			Safety Valve	Pull ring to see that valve reseats.	Valve does not reseat.
 <p>The diagram shows a safety valve assembly mounted on a base. A label 'SAFETY VALVE' with a leader line points to the top of the valve mechanism, which includes a pressure gauge and a pull ring.</p>						

Table4-1. Preventive MAINTENANCE Checks and Services — continued

Legend						
W-Weekly				M-Monthly		Q-Quarterly
Item No.	Interval			Item To Be Inspected	Procedures	Equipment Will Be Reported Not Ready/ Available If:
	w	M	Q			
9	●			Unloader Valve	Check for leaks.	Valve leaks.
10		●		Globe Valve	Inspect for leaks.	
11		●		Pressure Gage	a. Check for leaks. b. Check for cracked glass.	
12		●		Drain Cock	Check for leaks.	
						

Section IV. TROUBLESHOOTING

4-10. INTRODUCTION. The troubleshooting procedures are to be performed by organizational personnel.

4-11. GENERAL. To aid in troubleshooting, the following general information is listed:

- a. Dirt and water are the major enemies of the fuel system. If you regularly clean the strainer at the outlet of the fuel line you can stop the dirt and water from getting into the carburetor where they can do some real harm.
- b. The compressor drive is a fairly simple system. The main problems are improper belt tension, bad alinement and loose parts.
- c. The intake and exhaust valves are the most critical parts of the compressor. Loss of pumping efficiency can most often be traced back to the valves. However, problems with getting enough air aren't always caused by the compressor. Leaky fittings or an improperly adjusted pressure switch may also be a fault.
- d. The engine provides the power to run the compressor. Bad engine performance will result in reduced air output. Troubleshooting for internal engine problems is covered in TM 5-2805-257-14 (model 2A016-3 and TM 5-2805-256-14 (model 1A08-3).
- e. The main problem with the air receiver and discharge system is air leakage. You can find leaks by putting soap solution in the area of the suspected leak. If the leak can't be removed by tightening fittings, replace the part. Use sealing tape on pipe

fittings to get a good seal, Do not use sealing tape on hose fittings which are self-sealing.

- f. The handtruck is a welded assembly which supports the compressor and engine. The only thing that can go wrong with the handtruck is for the frame to crack. If it happens you will be able to see it and no troubleshooting will be required.
- g. Very little goes wrong with the wheel assemblies since they are not used very often. The main problem with the wheels will be all leaks. If a tire loses air, find the air leak by using a soap solution.

4-12. TROUBLESHOOTING CHART

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

Table 4-2. Troubleshooting

Malfunction	Test or Inspection	Corrective Action
<hr/>		
1, ENGINE WON'T RUN.		
	Step 1. Check for empty fuel tank.	
	Add fuel.	
	Step 2. Check if shutoff valve on the fuel strainer is closed.	
	Open shutoff valve.	
	Step 3. Check if fuel line is clogged with dirt	
	Clean out fuel line.	
	Step 4. Refer to engine TM 5-2805-257-14 (model 2A016-3) or engine TM 5-2805-256-14 (model 1A08-3).	

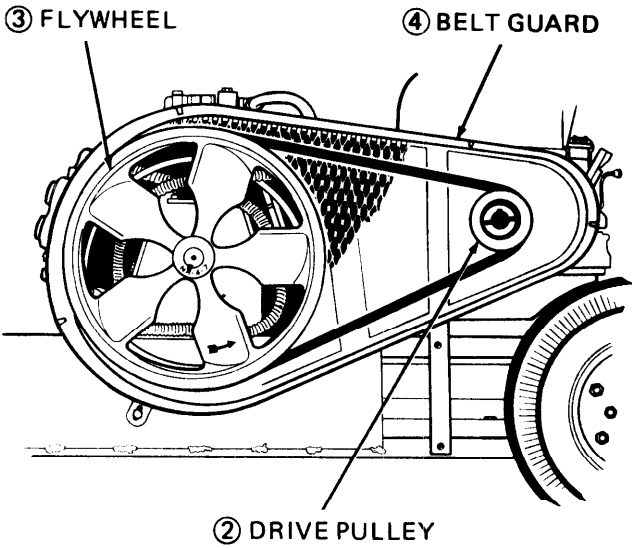
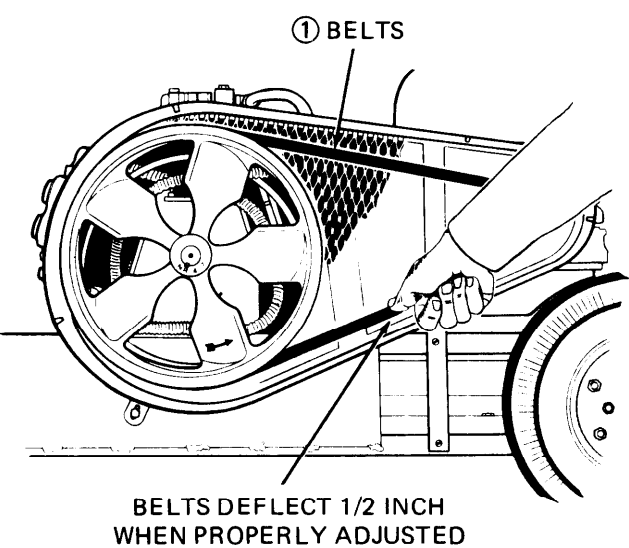
Table 4-2. Troubleshooting--continued

Malfunction	
Test or Inspection	Corrective Action

2. COMPRESSOR DOES NOT PUT OUT ENOUGH AIR.

Step 1. Check if belts (1) are loose.

Tighten belts (4-20).



3. BELTS WEAR TOO FAST.

Step 1. Check if belts (1) are loose.

Tighten belts (4-20).

Step 2. Check if drive pulley (2) and flywheel (3) are out of alinement.

Aline.

4. COMPRESSOR RUNS NOISY.

Step 1. Check if belt guard (4) is loose.

Tighten mounting screws.

Step 2. Check if drive pulley (2) is loose.

Tighten mounting screws.

Table 4-2. Troubleshooting – continued

Malfunction**Test or Inspection****Corrective Action****5. SLOW PUMPING OR INSUFFICIENT PRESSURE.**

Step 1. Check for leaks in air lines and fittings.

Tighten fittings or replace leaking parts.

Step 2. Check for overloading of the compressor.

a. Reduce air use to less than 8 cfm on model 20-905.

b. Reduce air to less than 5 cfm on model 20-910.

Step 3. Check for loose drive belts.

Tighten belts.

Step 4. Check for low oil level.

Add oil.

Step 5. Check for clogged air filters.

Clean air filters.

Step 6. Check for bad intake or exhaust valves.

Clean or replace valves.

6. COMPRESSOR RUNS NOISY.

Step 1. Check for loose mounting bolts or flywheel.

Tighten.

Step 2. Check for low oil level.

Add oil.

7. COMPRESSOR OVERHEATS.

Step 1. Check for low oil level.

Add oil.

Step 2. Check for dirt in intercooler or cylinder fins

Remove dirt.

Step 3. Check if compressor is getting poor ventilation.

Move compressor to a site where air can circulate.

Table 4-2. Troubleshooting--continued

Malfunction	Test or Inspection	Corrective Action
7. COMPRESSOR OVERHEATS – continued.		
	Step 4. Check for clogged air intake filters.	Clean intake filters.
	Step 5. Check intake and exhaust valves.	Clean or replace valves.
8. COMPRESSOR RUNS NOISY.		
	Step 1. Check for loose engine mounting bolts.	Tighten mounting bolts.
9. DRIVE BELTS WEAR TOO FAST.		
	Step 1. Check engine-compressor alinement.	
	a. Loosen engine mounting bolts.	
	b. Move the engine so the drive pulley is in line with the flywheel.	
	c. Tighten engine mounting bolts.	
10. AIR RECEIVER LOSES PRESSURE.		
	Step 1. Check for air leaks with soap solution.	
	a. Tighten loose fittings.	
	b. Replace leaky parts.	

Section V. FUEL SYSTEM MAINTENANCE

4-13. MAINTENANCE SUMMARY. This task covers:

- a. Disassembly.
- b. Cleaning.
- c. Inspection.
- d. Repair.
- e. Assembly.

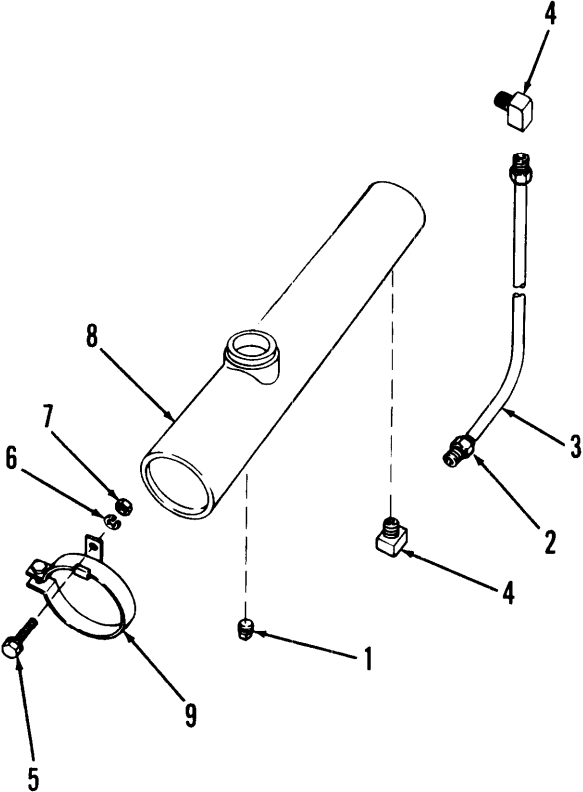
INITIAL SETUP

Personnel Required	General Safety Instructions
1	Gasoline is highly flammable. Do not smoke or use open flames or strike sparks while working on the fuel system.

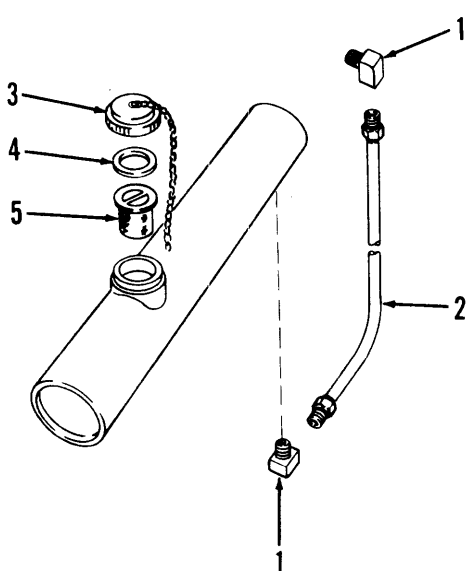
TASK SUMMARY

NO.	TASK	REFERENCE	REMARKS
1	Drain fuel tank.	4-14	
2	Disconnect fuel line.	4-14	
3	Disconnect tank bracket.	4-14	
4	Remove tank.	4 1 4	
5	Clean, inspect and replace fuel system components as required.	4-15	
6	Install tank and tank bracket.	4 1 6	
7	Install fuel line.	4-16	

FUEL SYSTEM

LOCATION/ITEM	ACTION	REMARKS
4-14. DISASSEMBLY.		
1. Plug (1)	a. Remove. b. Drain fuel into 5 gallon container.	 <p>The diagram shows an exploded view of a fuel tank assembly. A central cylindrical tank (8) is shown with various components around it. At the top left, a plug (1) is shown being removed from the tank. Below it, two screws (5) and washers (6) are shown being removed from a bracket (9) that supports the tank. To the right, a fuel line (3) is shown with two elbows (4) and two tubing nuts (2). A dashed line indicates the fuel line's path from the tank to the elbows. A small component (7) is also shown near the tank's top.</p>
2. 2 tubing nuts (2)	Unscrew.	
3. Fuel line (3)	Remove.	
4. Elbows (4)	Remove.	
5. 2 screws (5), washers (6) and nuts	Remove.	
6. Tank (8) with two brackets (9)	Remove.	

FUEL SYSTEM – continued

LOCATION/ITEM	ACTION	REMARKS
4-15. CLEANING, INSPECTION AND REPAIR		
1. Elbows (1)	a. Inspect for thread damage. b. Replace if damaged.	
2. Tubing (2)	a. Inspect for cuts or breaks. b. Replace if cut or broken. WARNING When using compressed air for blowing, air hose pressure must not exceed 30 psig, and individuals must wear eye protective equipment.	
3. Cap (3)	a. Clean off dirt with a rag. b. Inspect threads for damage. c. Replace if damaged.	
4. Gasket (4)	a. Inspect for cracks or crumbling. b. Replace if damaged. WARNING Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact by wearing rubber or solvent impermeable gloves when handling the solvent or material wet with drycleaning solvent. Wash hands immediately after exposure with soap and water and use a lanolin based skin cream to prevent skin drying. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C). Ensure that ventilation adequate to reduce solvent vapor concentrations below acceptable threshold limit values is provided.	

FUEL SYSTEM – continued

LOCATION/ITEM	ACTION	REMARKS
4-15. CLEANING, INSPECTION AND REPAIR – continued.		
5. Strainer (5)	<p>a. Clean with drycleaning solvent, P-D-680.</p> <p>b. Inspect screen for cuts or large holes which would allow dirt to get into the tank.</p> <p>c. Replace if damaged.</p>	
4-16. ASSEMBLY.		
1. 2 brackets (1)	Install on both ends of tank (2).	
2. Strainer (3), gasket (4) and cap (5)	Install on fill opening of tank (2).	
3. Tank (2)	Install on handtruck with two screws (6), washers (7) and nuts (8).	
4. Elbow (9)	Install in bottom of tank (2).	
5. Elbow (10)	Install in the inlet to the fuel strainer on the engine.	
6. Tube(n)	Install between elbows (9) and (10).	
7. Plug (12)	Install in bottom of tank (2).	

Section VI. COMPRESSOR DRIVE MAINTENANCE

4-17. MAINTENANCE SUMMARY. This task covers:

a. Removal.

b. Cleaning.

c. Inspection.

d. Repair.

e. Installation.

f. Adjustment.

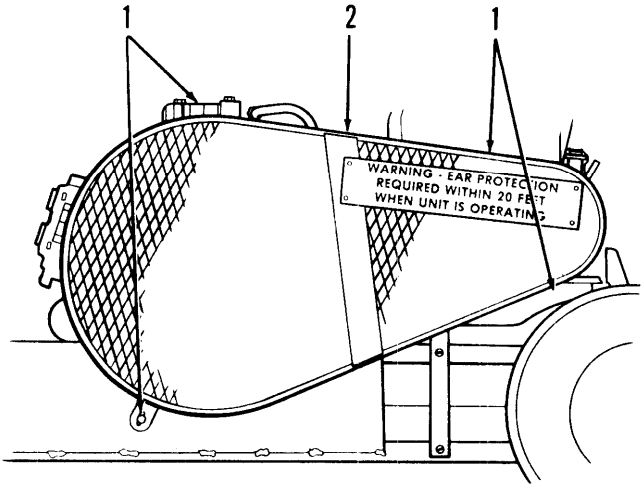
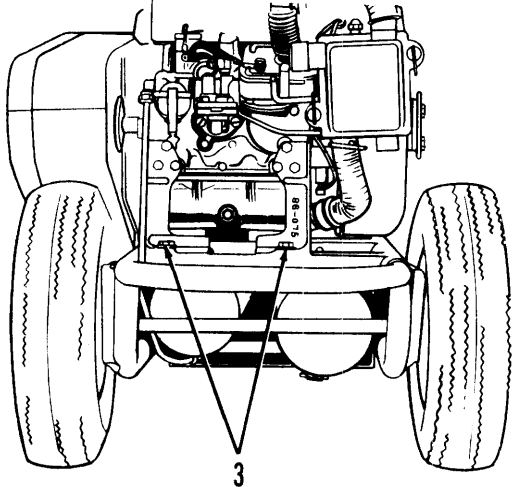
INITIAL SETUP

Personnel Required	
1	

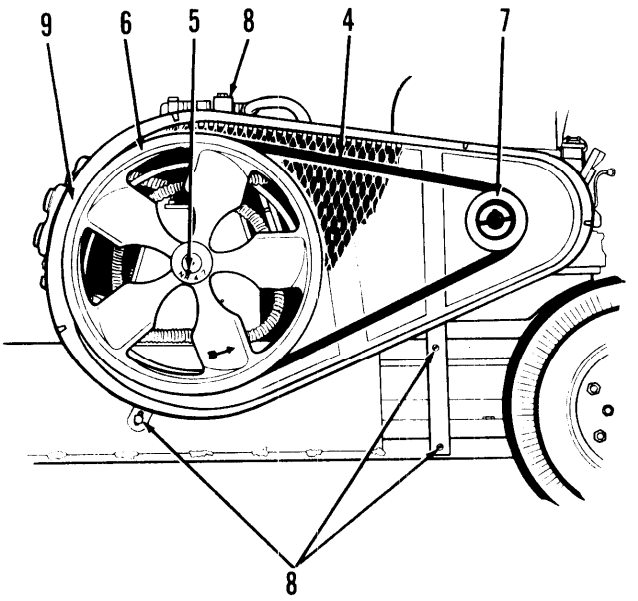
TASK SUMMARY

NO.	TASK	REFERENCE	REMARKS
1	Remove belt guard cover.	4-18	
2	Remove drive belts.	4-18	
3	Remove flywheel.	4-18	
4	Remove pulley.	4-18	
5	Remove belt guard body.	4-18	
6	Clean, inspect and repair.	4-19	
7	Install belt guard body.	4-20	
8	Install flywheel.	4-20	
9	Install pulley.	4-20	
10	Install belts.	4-20	
11	Adjust belt tension.	4-20	
12	Install belt guard cover.	4-20	

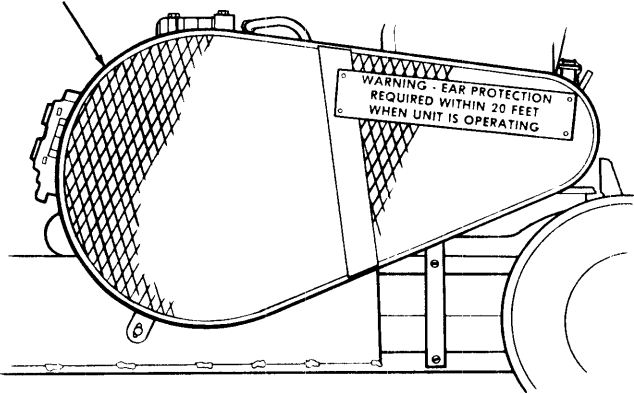
COMPRESSOR DRIVE

LOCATION/ITEM	ACTION	REMARKS
4-18. REMOVAL.		
1. 4 machine screws (1) on belt cover	Remove.	
2. Belt guard cover (2)	Remove.	
		
3. 4 engine mounting screws (3)	Loosen to take tension off drive belts.	Belts may be cut or damaged if removed under full tension.

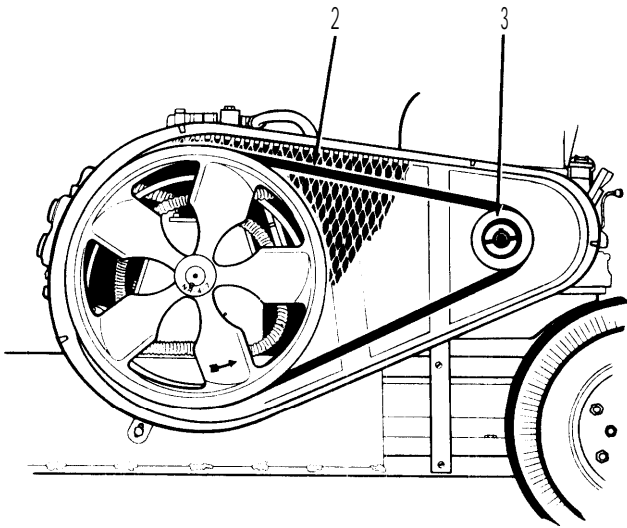
COMPRESSOR DRIVE – continued

LOCATION/ITEM	ACTION	
4-18. REMOVAL – continued.		
4. 2 drive belts (4)	Remove.	
5. Flywheel attaching screw (5)	Loosen.	
6. Flywheel (6)	Remove.	
7. Drive pulley (7)	Remove.	
8. Belt guard body mounting screws (8) (three on the bottom, one on top)	Remove.	
9. Belt guard body (9)	Remove.	

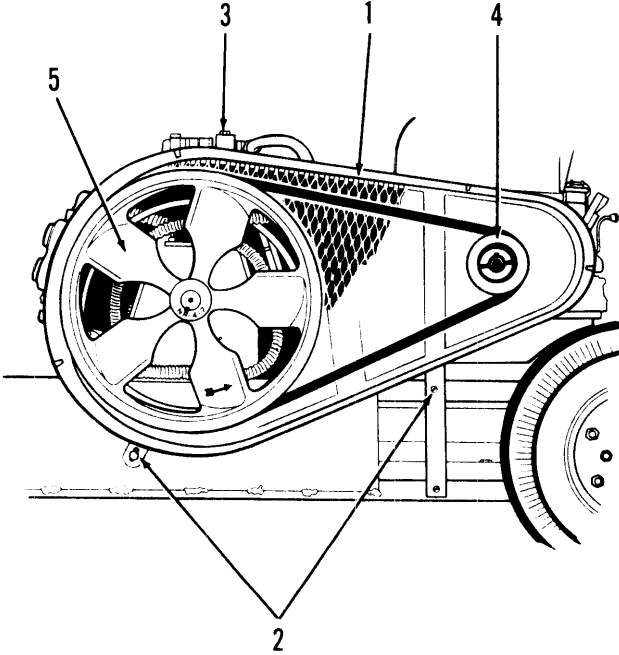
4-19. CLEANING, INSPECTION AND REPAIR.

1. Belt guard (1)	Clean with stiff brush.	
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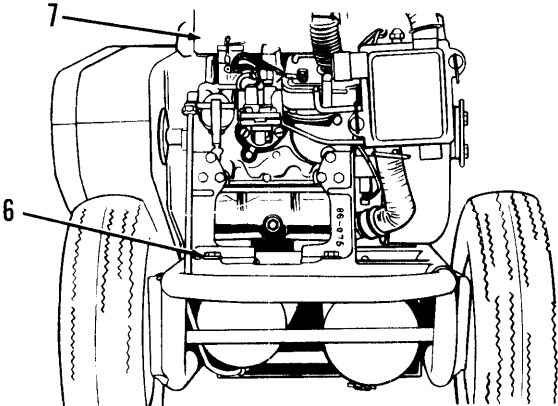
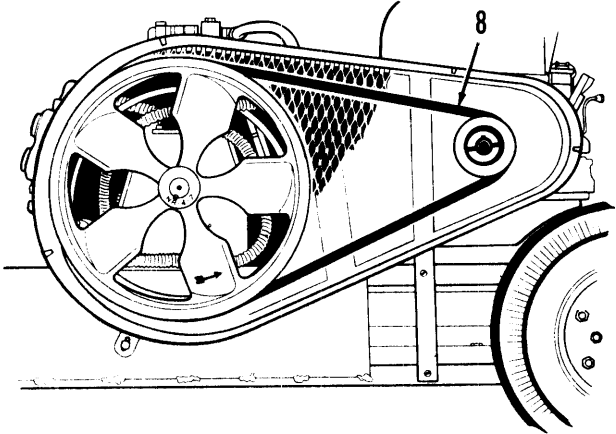
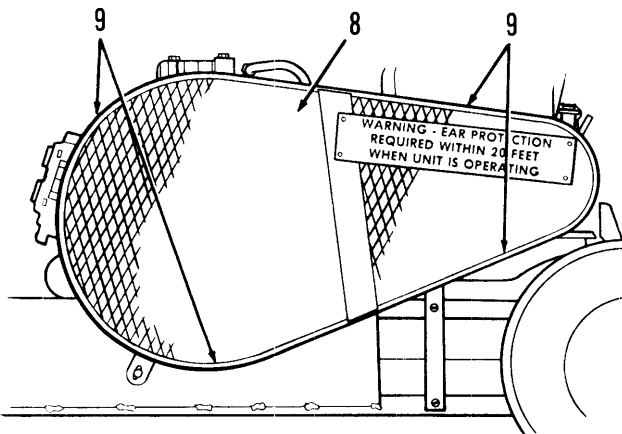
COMPRESSOR DRIVE – continued

LOCATION/ITEM	ACTION	REMARKS
4-19. CLEANING, INSPECTION AND REPAIR – continued.		
2. Belts 2)	a. Inspect for wear and cracks. b. Replace if worn or cracked	
3. Pulley (3)	a. Inspect for cracks. b. Replace if cracked.	

420. INSTALLATION AND ADJUSTMENT.

1. Belt guard (1)	a. Attach to base with screws (2), nuts and lock washers. b. Attach to compressor cylinder head (3) with existing cylinder head screw.	
2. Pulley (4)	Install	
3. Flywheel (5)	Install.	

COMPRESSOR DRIVE – continued

LOCATION/ITEM	ACTION	REMARKS
4-20. INSTALLATION AND ADJUSTMENT – continued.		
4. 4 engine mounting screws (6)	Loosen.	<p>To allow belts to be mounted on pulley.</p> 
5. Engine (7)	Slide in direction of air compressor.	
6. 2 belts (8)	Install.	
7. Motor (7)	Adjust position for proper belt tension.	<p>Belt tension is right when belts move 1/2 inch when pushed on half way between pulley and flywheel.</p> 
	<p>CAUTION</p> <p>Too little belt tension causes belts to overheat and wear out prematurely. Too much tension causes bearing wear in motor and compressor.</p>	
8. Engine mounting screws (6)	Tighten when proper belt tension is achieved.	 <p>WARNING - EAR PROTECTION REQUIRED WITHIN 20 FEET WHEN UNIT IS OPERATING</p>
9. Cover (8)	Install with four screws (9).	

Section VII. CYLINDER HEAD, CYLINDER AND VALVE MAINTENANCE

421. MAINTENANCE SUMMARY. This task covers:

- a. Removal.
- b. Disassembly.
- c. Cleaning.

- d. Inspection.
- e. Repair.
- f. Assembly.
- g. Installation.

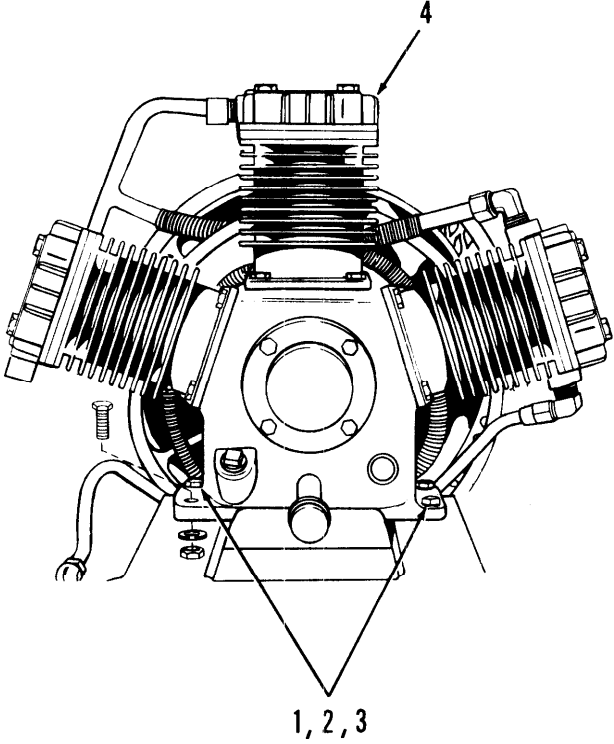
INITIAL SETUP

Personnel Required	Special Tools	Initial Conditions	
		Paragraph	Condition
1	None	4-18	Belt guard removed
		4-18	Flywheel removed
		4-32	Aftercooler removed

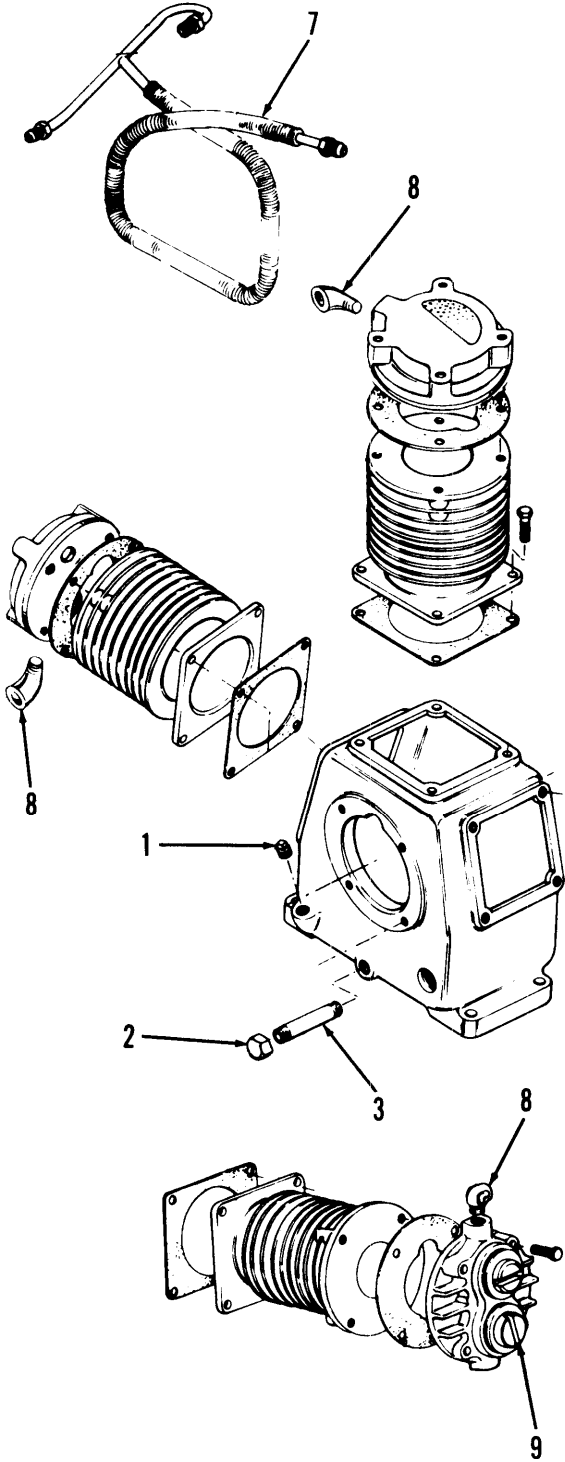
TASK SUMMARY

NO.	TASK	REFERENCE	REMARKS
1	Remove air compressor from handtruck.	4-22	
2	Drain oil.	4-23	
3	Remove intercooler.	4-23	
4	Remove high pressure valves.	4-23	
5	Remove high pressure cylinder head.	4-23	
6	Remove low pressure cylinder heads.	4-23	
7	Remove cylinders.	4-23	
8	Cleaning, inspection and repair.	4-24	
9	Install cylinders.	4-25	
10	Install cylinder heads.	4-25	
11	Install valves.	4-25	
12	Install intercooler	4-25	
13	Fill compressor with oil.	4-25	
14	Install compressor.	4-26	

CYLINDER HEAD, CYLINDER AND VALVE

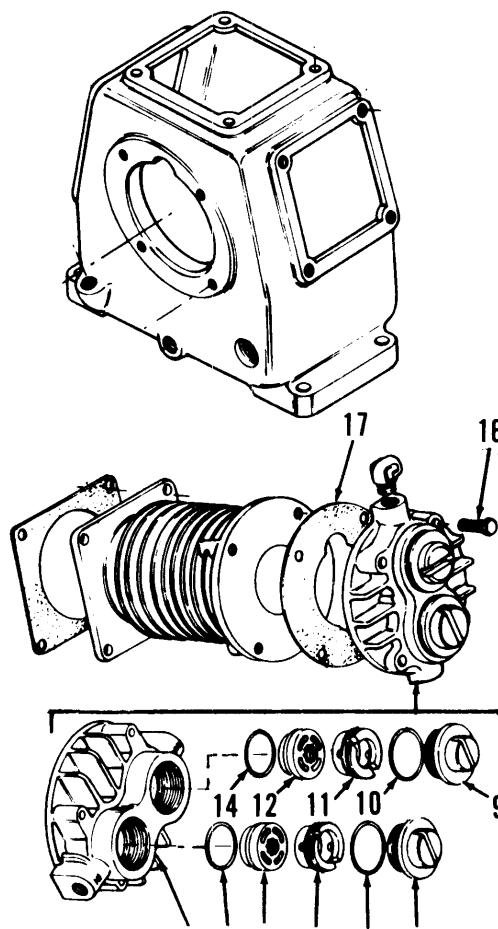
LOCATION/ITEM	ACTION	REMARKS
4-22. REMOVAL.		
1. 4 screws (1), lock washers (2) and nuts (3)	Remove.	 <p>The diagram shows a mechanical assembly, likely an air compressor, with a central cylindrical body and two side-mounted pistons. Callout '4' points to the top head assembly. Callouts '1, 2, 3' are grouped and point to the base mounting area, specifically the screws, lock washers, and nuts mentioned in the text.</p>
2. Air compressor (4)	Lift from undercarriage.	

CYLINDER HEAD, CYLINDER AND VALVE – continued

LOCATION/ITEM	ACTION	REMARKS
4-23. DISASSEMBLY.		
1. Oil fill plug (1)	Remove.	
2. Drain cap (2)	a. Remove. b. Drain oil into 1 quart container.	
3. Pipe nipple (3)	Unscrew.	
4. Intercooler (7)	Remove.	
5. 3 elbows (8)	Unscrew.	
6. 2 valve chamber caps (9)	Unscrew.	

CYLINDER HEAD, CYLINDER AND VALVE – continued

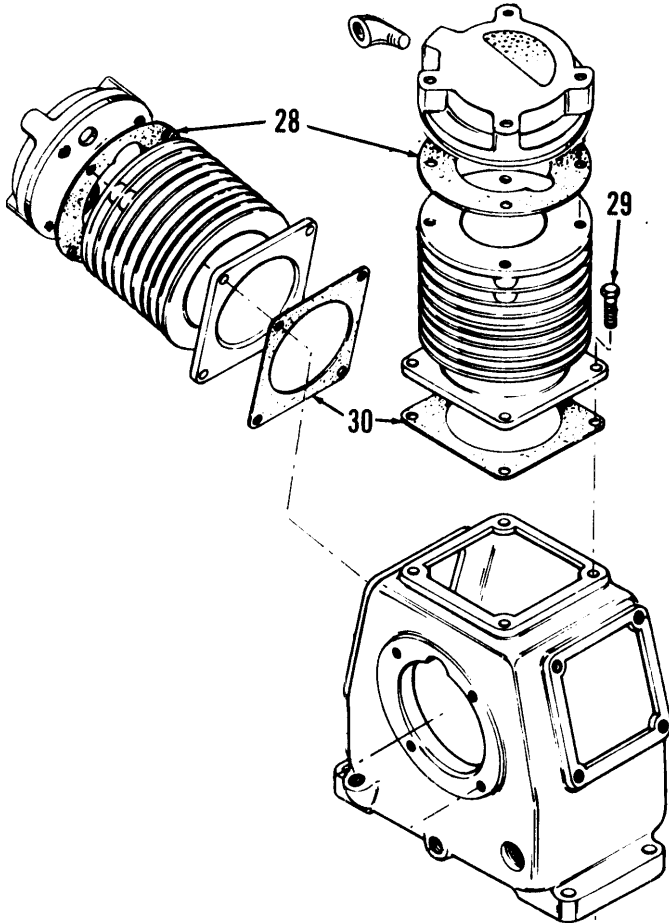
LOCATION/ITEM	ACTION	REMARKS
4-23. DISASSEMBLY – continued.		
7. 2 gaskets (10)	Remove.	
8. 2 valve retainers (11)	Unscrew.	
9. Intake valve (12)	Remove.	Mark intake and exhaust valves so you don't confuse them.
10. Exhaust valve (13)	Remove.	
11. 2 gaskets (14)	Remove.	
12. 4 screws (16)	Remove.	
13. High pressure cylinder head (15)	Remove.	
14. Head gasket (17)	Discard.	Used gasket won't hold pressure.



CYLINDER HEAD, CYLINDER AND VALVE – continued

LOCATION/ITEM	ACTION	REMARKS
4-23. DISASSEMBLY – continued.		
15. Filter (18)	Pinch with two fingers and pull out.	<p>Steps 15 through 21 apply to both low pressure cylinders.</p>
16. Filter silencer (19)	Pinch with two fingers and pull out.	
17. 4 screws (21)	Remove,	
18. Low pressure cylinder head (20)	Remove.	
19. Gasket (22)	Discard.	Used gasket won't seal.
20. Valve plate (23) with reed valve (24)	Remove,	Leave valve assembled until inspection.
21. Gasket (26)	Discard.	Used gasket won't seal.
22. 4 high pressure cylinder screws (29)	Remove.	

CYLINDER HEAD, CYLINDER AND VALVE – continued

LOCATION/I TEM	ACTION	REMARKS
4-23. DISASSEMBLY – continued.		
23. High pressure cylinder (27)	Remove.	
24. Gasket (30)	Discard,	Used gaskets won't seal.
25. 8 low pressure cylinder retaining screws (29)	Remove.	
26. 2 low pressure pressure cylinders (28)	Remove.	
27. 2 cylinder gaskets (30)	Discard.	

CYLINDER HEAD, CYLINDER AND VALVE – continued

LOCATION/ITEM	ACTION	REMARKS
4-24. CLEANING, INSPECTION AND REPAIR.		
1. Air filter	<p>Wash with detergent solution.</p> <p>WARNING</p> <p>Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact by wearing rubber or solvent impermeable gloves when handling the solvent or material wet with drycleaning solvent. Wash hands immediately after exposure with soap and water and use a lanolin based skin cream to prevent skin drying. Do not use near open flame or excessive heat, Flash point of solvent is 100°F (38°C). Ensure that ventilation adequate to reduce solvent vapor concentrations below acceptable threshold limit values is provided.</p>	
2. All parts	Clean with drycleaning solvent P-D-680.	Do not use solvent on air filters.
3. Low pressure reed valve	<p>a. Inspect for flatness and absence of nicks.</p> <p>b. If bent or nicked, replace.</p>	

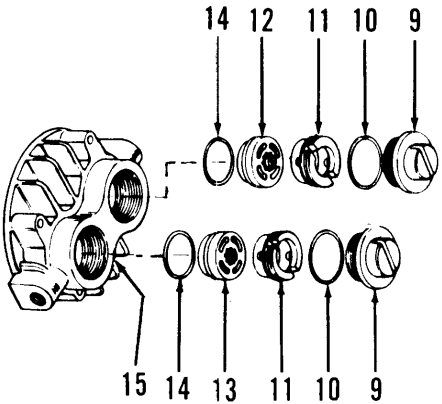
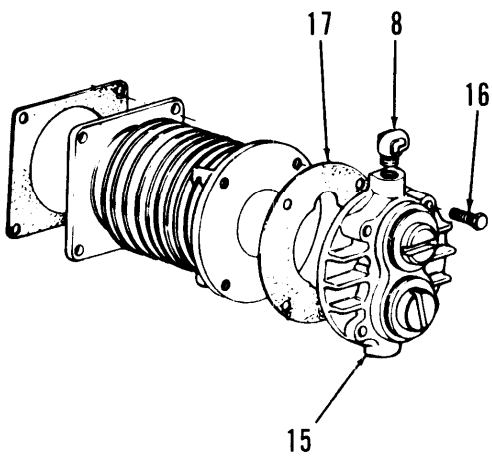
CYLINDER HEAD, CYLINDER AND VALVE – continued

LOCATION/ITEM	ACTION	REMARKS
4-24. CLEANING, INSPECTION AND REPAIR – continued.		
4. High pressure inlet and outlet valves	a. Inspect for wear. b. Replace if worn.	
5. High pressure and low pressure cylinders	a. Inspect for cracks. b. Replace if cracked.	
6. Low pressure cylinder heads	a. Inspect for cracks. b. Replace if cracked.	
7. High pressure cylinder heads	a. Inspect for cracks or thread damage. b. Replace if cracked. c. Clean up threads if damaged. d. Replace head if thread damage can't be repaired.	

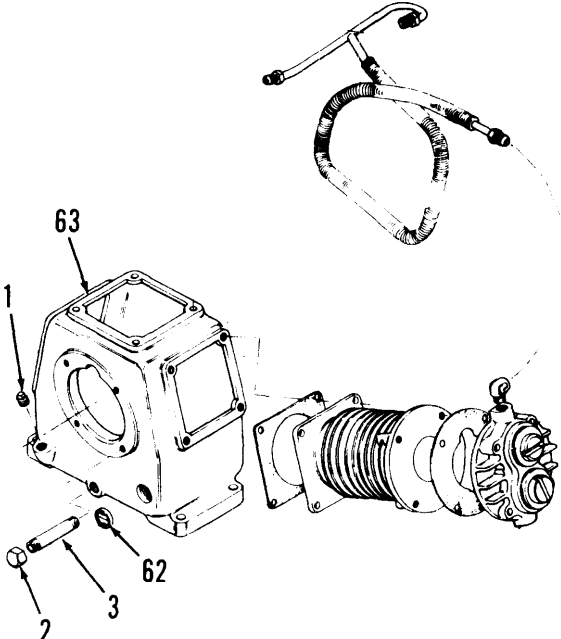
CYLINDER HEAD, CYLINDER AND VALVE – continued

LOCATION/ITEM	ACTION	REMARKS
4-25. ASSEMBLY.		
1. 2 low pressure cylinders (28)	Assemble with two gaskets (30) and attach to crankcase (63) with four screws (29).	Use new gaskets.
2. High pressure cylinders (27)	Assemble with gasket (30) and attach to crankcase (63) with four screws (29).	
3, Valve plate (23)	a. Assemble with gasket (22) and head (20). b. Attach to cylinder with four screws (21).	Steps 3 and 4 apply to both LP cylinders.
4. Filter (18) and silencer (19)	Install in low pressure head (20).	

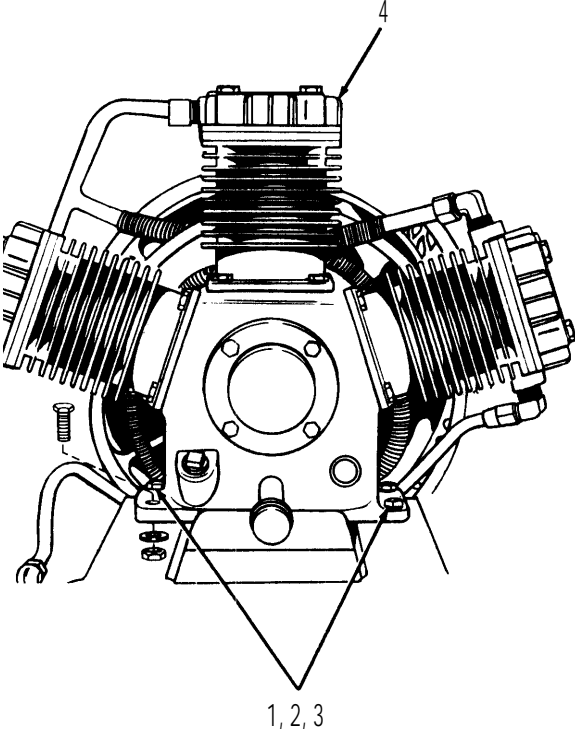
CYLINDER HEAD, CYLINDER AND VALVE - continued

LOCATION/ITEM	ACTION	REMARKS
4-25. ASSEMBLY – continued.		
5. 2 gaskets (14)	<p>Install in high pressure head (15).</p> <p>CAUTION</p> <p>Exhaust valve must go in valve chamber of head adjacent to the tubing connector of the aftercooler. Intake valve must go in valve chamber adjacent to inter-cooler tubing connector. Reversal can damage pump by creating excessive pressure in the cooler.</p>	
6. Intake valve (12) and exhaust valve (13)	Install in high pressure head (15).	
7. 1 valve retainer (11), 2 gaskets (10) and 2 caps (9)	Install in high pressure head (15).	
8. High pressure head (15)	<p>a. Assemble with gasket (17).</p> <p>b. Install with 4 screws (16).</p>	
9. 3 elbows (8)	Install in cylinder heads.	

CYLINDER HEAD, CYLINDER AND VALVE – continued

LOCATION/ITEM	ACTION	REMARKS										
4-25. ASSEMBLY – continued												
10. Intercooler	Install between low pressure and high pressure heads.											
11. Pipe nipple (3)	Install in crankcase (63)/											
12. Pipe cap (2)	Install on nipple (3).											
13. Crankcase	Fill with oil to mark on sight glass (62)											
		Use oil shown in chart.										
<table><tr><th colspan="3">EXPECTED TEMPERATURES</th><th rowspan="3">FOR ARCTIC OPERATION Refer to TM 9-207</th></tr><tr><td>Above +32°F Above 0°C</td><td>+40°F to -10°F + 5°C to -23°C</td><td>0°F to -65°F -18°C to -50°C</td></tr><tr><td>OE/HDO 30</td><td>OE/APG-PD-1</td><td>OEA/APG-PG-1</td></tr></table>			EXPECTED TEMPERATURES			FOR ARCTIC OPERATION Refer to TM 9-207	Above +32°F Above 0°C	+40°F to -10°F + 5°C to -23°C	0°F to -65°F -18°C to -50°C	OE/HDO 30	OE/APG-PD-1	OEA/APG-PG-1
EXPECTED TEMPERATURES			FOR ARCTIC OPERATION Refer to TM 9-207									
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OE/HDO 30	OE/APG-PD-1	OEA/APG-PG-1										
14. Oil fill plug (1)	Install.											

CYLINDER HEAD, CYLINDER AND VALVE – continued

LOCATION/ITEM	ACTION	REMARKS
4-26. INSTALLATION		
1. Air compressor (1)	Install with 4 screws (2), washers (3) and nuts (4).	

Section VIII. ENGINE MAINTENANCE

- 4-27. MAINTENANCE SUMMARY. This task covers:
- a. Removal.

b. Cleaning.

c. Installation.

NOTE

Maintenance of the engine is covered in TM 5-2805-257-14 and TM 5-2805-256-14.

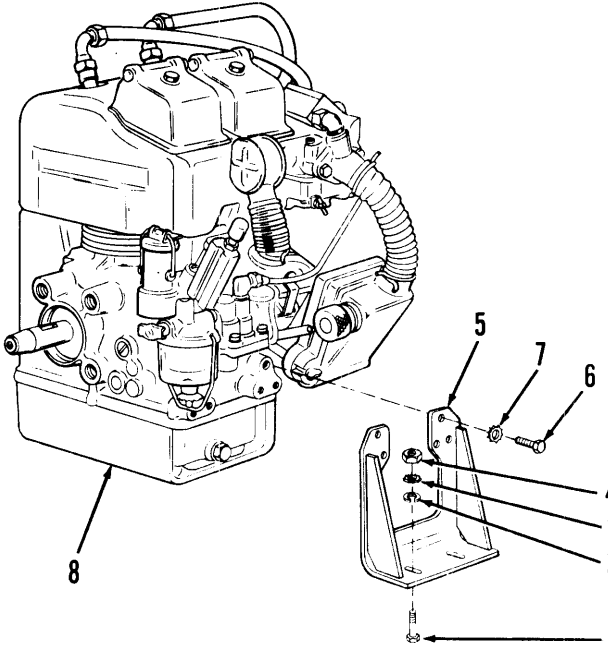
INITIAL SETUP

Personnel Required	Equipment Condition	
1	Paragraph	Condition
		Belt guard
	4-18	Cover removed
	4-18	Belts removed
	4-14	Fuel line removed

TASK SUMMARY

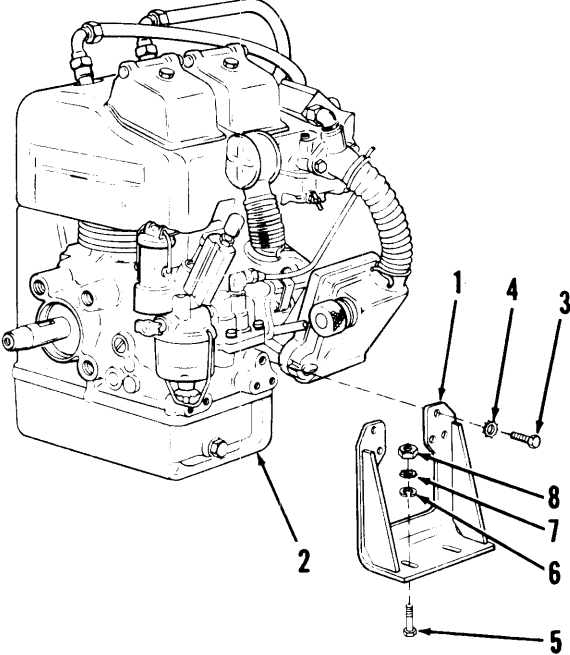
NO	TASK	REFERENCE	REMARKS
1	Remove engine and brackets.	4-28	
2	Remove brackets from engine.	4-28	
3	Clean and inspect brackets.	4-29	
4	Install brackets.	4 3 0	
5	Install engine.	4-30	

ENGINE

LOCATION/ITEM	ACTION	REMARKS
4-28. REMOVAL.		
1. 4 screws (1), washers (2), lockwashers (3) and nuts (4)	Remove	
2. Engine (8, and 2 brackets (5)	Remove.	
3. 12 screws (6) and lockwashers (7)	Remove while supporting engine with wooden blocks.	
4. 2 brackets (5)	Remove.	

ENGINE – continued		
LOCATION/ITEM	ACTION	REMARKS
4-29. CLEANING AND INSPECTION.		
1. Engine mounting brackets	<div>a. Clean with a rag.</div> <div>b. Inspect for cracks.</div> <div>c. Replace if cracked.</div>	
2. Engine	Refer to TM 5-2805-257-14 (model 2A016-3) and TM 5-2805-256-14 (model 1A08-3) for inspection procedures.	

ENGINE – continued

LOCATION/ITEM	ACTION	REMARKS
4-30. INSTALLATION.		
1. 2 brackets (1)	Attach to engine (2) with 12 screws (3) and lockwashers (4).	 <p>The diagram illustrates the installation of two brackets (1) onto an engine (2). The engine is shown with various components like the carburetor, fuel tank, and cooling fan. The brackets (1) are L-shaped and are attached to the engine using 12 screws (3) and lockwashers (4). A detailed view of the bracket assembly shows the internal components: screws (5), washers (6), lockwashers (7), and nuts (8).</p>
2. Engine (2) and brackets (1)	Attach to handtruck with 4 screws (5), washers (6), lockwashers (7) and nuts (8).	

Section IX. AIR RECEIVER AND AIR DISCHARGE SYSTEM MAINTENANCE

- 4-31. MAINTENANCE SUMMARY. This task covers:
- a. Removal.
 - b. Cleaning.
 - c. Inspection.
 - d. Repair.
 - e. Installation.

INITIAL SETUP

Personnel Required	Special Tools	General Safety Conditions
1	None	Bleed air from system before starting on maintenance.

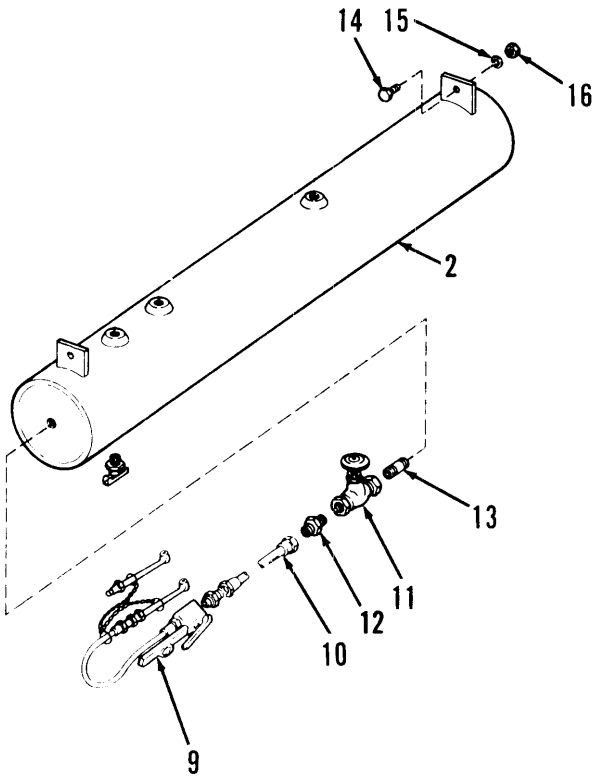
TASK SUMMARY

NO.	TASK		REMARKS
1	Remove unloader.	4-32	
2	Remove safety valve.	4-32	
3	Remove aftercooler.	4-32	
4	Remove pressure gage.	4-32	
5	Remove inflator gage.	4-32	
6	Remove air hose.	4-32	
7	Remove globe valve.	4-32	
8	Clean, inspect and repair.	4-33	
9	Install globe valve.	4-34	
10	Install air hose.	4-34	
11	Install inflator gage.	4-34	
12	Install aftercooler.	4-34	
13	Install pressure gage,	4-34	
14	Install safety valve.	4-34	
15	Install unloader valve.	4-34	

AIR RECEIVER AND AIR DISCHARGE SYSTEM

LOCATION/ITEM	ACTION	REMARKS
4-32. DISASSEMBLY.		
1. Drain cock 1)	Open to release air, then unscrew from tank (2).	Air in tank must be discharged before system can be disassembled.
2. Unloader valve 3)	Unscrew.	
3. Safety valve (4)	Unscrew.	
4. Pipe nipple (5) and tee (6)	Unscrew.	
5. Aftercooler (7)	Remove.	
6. Gage (8)	Unscrew.	

AIR RECEIVER AND AIR DISCHARGE SYSTEM – continued

LOCATION/ITEM	ACTION	REMARKS
4-32. DISASSEMBLY – continued.		
7. Inflator gage (9)	Unscrew from hose (10).	
8. Hose (10)	Unwind and unscrew from globe valve (11) and adapter (12).	
9. Globe valve (11)	Unscrew.	
10. Nipple (13)	Unscrew.	
11. 2 screws (14), lock-washers (15) and nuts (16)	Remove.	
12. Tank (2)	Remove.	

AIR RECEIVER AND AIR DISCHARGE SYSTEM – continued

LOCATION/ITEM	ACTION	REMARKS
4-33. CLEANING, INSPECTION AND REPAIR.		
1. Air hose	<p>a. Inspect for:</p> <p>(1) cuts.</p> <p>(2) Damaged threads on fittings causing air leakage.</p> <p>b. Replace hose if it shows any of these defects.</p>	
2. Inflator gage	<p>a. Inspect for:</p> <p>(1) Cut hose whip.</p> <p>(2) Cracked gage glass.</p> <p>(3) Unreadable gage.</p> <p>(4) Conditions which would cause leaks.</p> <p>(5) Damaged threads.</p> <p>b. Replace inflator gage if it shows any of these defects.</p>	

AIR RECEIVER AND AIR DISCHARGE SYSTEM – continued

LOCATION/ITEM	ACTION	REMARKS
4-33. CLEANING, INSPECTION AND REPAIR – continued,		
3. Globe valve	a. Inspect for: (1) Resistance to turning of hand wheel. (2) Damaged threads. b. Replace valve if it shows either of these defects.	
4. Pressure gage	a. Inspect for: (1) Cracked glass. (2) Bent need le. (3) Unreadable scale. (4) Fluid leak. b. Replace gage if it shows any of these defects.	Indication that factory adjustment has been changed.
5. Safety valve and un-loader valve	a. Inspect for: (1) Corrosion of internal parts. (2) Damaged threads. (3) Missing lead and wire seal. b. Replace valve if conditions (1), (2) or (3) are found.	

AIR RECEIVER AND AIR DISCHARGE SYSTEM – continued

LOCATION/ITEM	ACTION	REMARKS
4-33 CLEANING, INSPECTION AND REPAIR – continued.		
6. Drain cock	a. Inspect for: (1) Damaged threads. (2) Corrosion. b. Replace if either of these defects are found. c. Clean up minor corrosion with wire brush.	
7. Air tank	a. Inspect for corrosion and peeling paint. b. Remove corrosion and loose paint with wire brush. c. Prime and repaint affected areas.	

AIR RECEIVER AND AIR DISCHARGE SYSTEM – continued

LOCATION/ITEM	ACTION	REMARKS
4-34. INSTALLATION.		
1. Pipe nipple (1)	Screw into tank (14).	Use sealing tape on pipe threads. Do not use tape on Hose Couplings.
2. Globe valve (2)	Screw onto nipple (1).	
3. Adapter (3)	Screw into globe valve (2).	
4. Hose (4)	Screw onto adapter (3).	
5. Adapter (5)	Screw into hose (4).	
6. Inflator gage (6)	Screw onto adapter (5).	
7. Nipple (7)	Screw into tank.	
8. Tee (8)	Screw onto nipple (7).	
9. Safety valve (9)	Screw into tee (8).	
10. Unloader valve (10)	Screw into tee (8),	
11. Pressure gage (11).	Screw into tank (14),	
12. Aftercooler (12)	Screw into tank (14).	
13. Drain cock (13)	Screw into tank (14).	
14. Tank (14)	Attach to handtruck with 2 crews (15), lockwashers 16) and nuts (17).	

Section X. HANDTRUCK ASSEMBLY MAINTENANCE

4-35. MAINTENANCE SUMMARY. This task covers:

a. Disassembly.

b. Cleaning.

c. Inspection.

d. Repair.

e. Assembly.

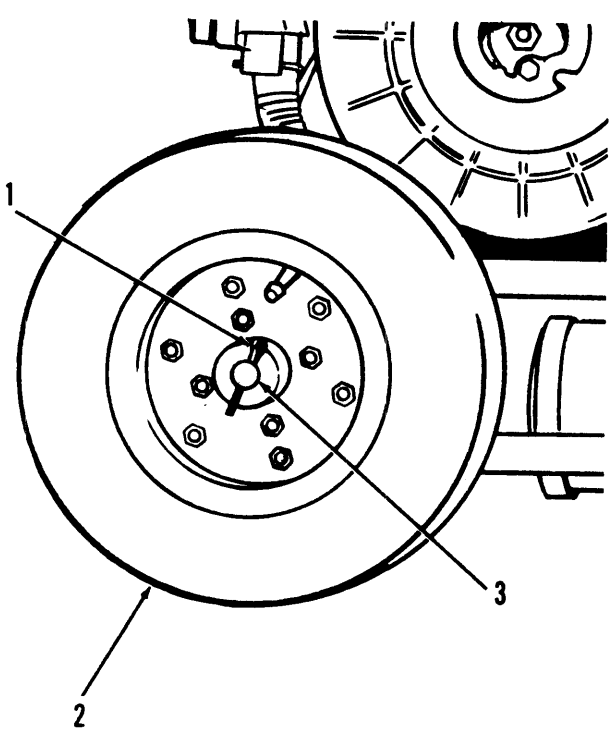
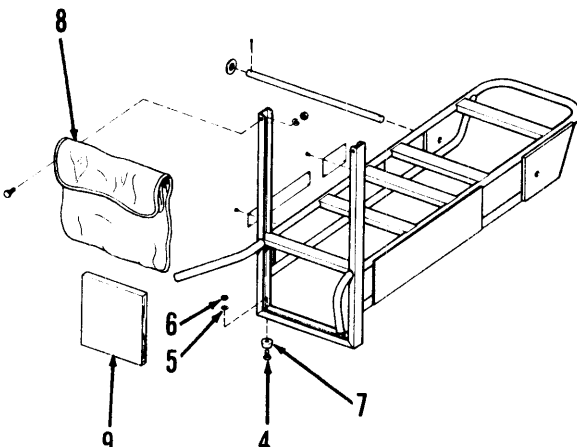
INITIAL SETUP

Personnel Required	Special Tools	Preliminary Conditions	
		Paragraph	Condition
1	None	4-14	Fuel tank removed
		4-18	Compressor drive removed
		4-22	Compressor removed
		4-28	Engine removed
		4-32	Air receiver removed

TASK SUMMARY

NO.	TASK	REFERENCE	REMARKS
1	Remove wheels.	4-36	
2	Remove axle.	4-36	
3	Remove rubber bumpers.	4-36	
4	Remove logbook case.	4-36	
5	Cleaning, inspection and repair.	437	
6	Install logbook case.	4-38	
7	Install rubber bumpers.	4-38	
8	Install axle.	438	
9	Install wheels.	4-38	

HANDTRUCK ASSEMBLY

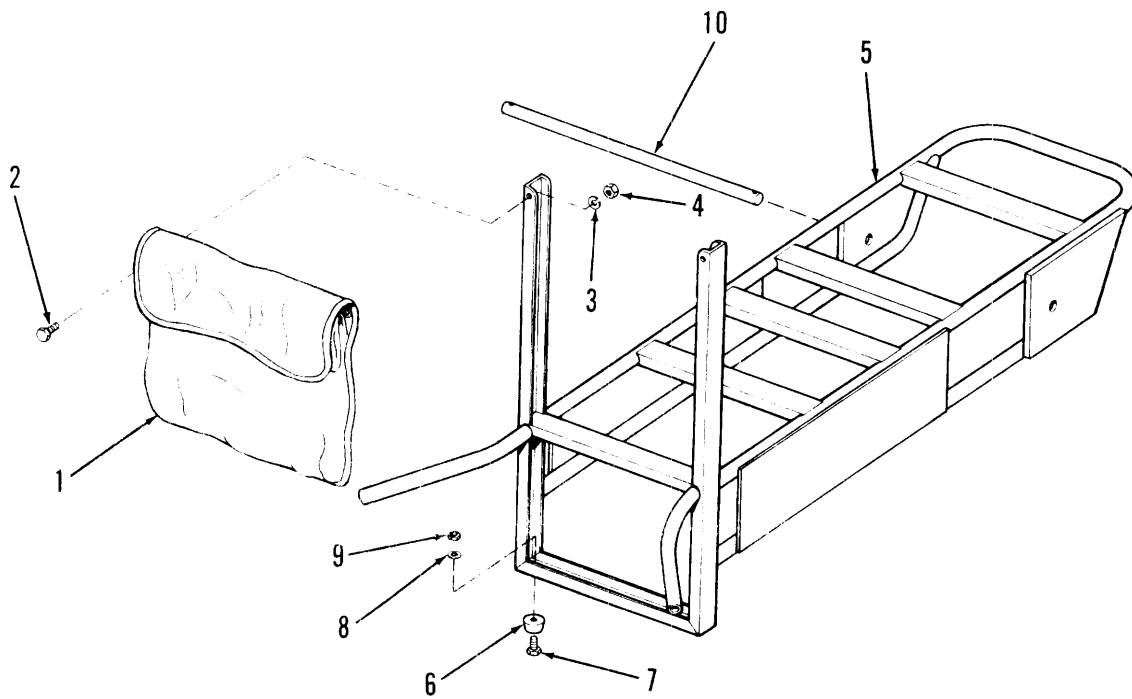
LOCATION/ITEM	ACTION	REMARKS
4-36. DISASSEMBLY.		
1. 2 cotter pins(1)	Pull.	
2. 2 wheels (2)	Remove.	
3. Axle (3) (model 20-905 only)	Remove.	
4. 2 screws (4), lock-washers (5) and nuts (6)	Remove.	
5. 2 rubber bumpers (7)	Remove.	
6. Logbook case (8) with logbook cover (9)	Remove.	

HANDTRUCK ASSEMBLY – continued

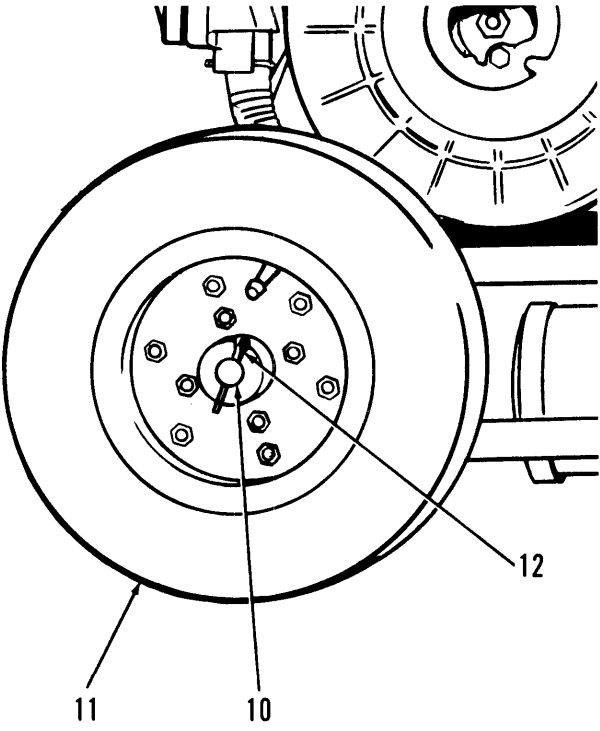
LOCATION/ITEM	ACTION	REMARKS
4-37. CLEANING, INSPECTION AND REPAIR.		
1. Frame	<ul style="list-style-type: none"> a. Inspect for missing paint. b. Touch up base metal areas. c. Inspect for cracks or bad warping. d. Replace if cracked or badly warped. 	
2. Logbook case	<ul style="list-style-type: none"> a. Clean with stiff bristle brush. b. Inspect for cuts or tears. c. Replace if cut or torn. 	
3. Nameplate and warning plate	<ul style="list-style-type: none"> a. Clean with damp cloth. b. Check readability. c. Replace if not readable. 	
4. Rubber bumpers	<ul style="list-style-type: none"> a. Check for cracks or deterioration. b. Replace if cracked or deteriorated. 	

HANDTRUCK ASSEMBLY -- continued

LOCATION /ITEM	ACTION	REMARKS
4-38. ASSEMBLY.		
1. Logbook case (1)	Attach to handtruck (5) with 2 screws (2), lockwashers (3) and nuts (4).	
2. 2 rubber bumpers (6)	Attach to handtruck (5) with 2 screws (7), lockwashers (8) and nuts (9).	
3. Axle (10) (model 20-905 only)	Intall in handtruck (5).	



HANDTRUCK ASSEMBLY – continued

LOCATION/ITEM	ACTION	REMARKS
4-38. ASSEMBLY – continued		
4. 2 wheels (11)	Install on axle (10).	
5. 2 cotter pins (12)	a. Install on axle (10) to retain wheels (11). b. Bend over ends.	

Section XI. WHEEL ASSEMBLY MAINTENANCE

4-39. MAINTENANCE SUMMARY. This task covers:

a. Disassembly.

b. Cleaning.

c. Inspection.

d. Repair.

e. Assembly.

INITIAL SETUP

Personnel Required	Special Tools	Materials Required
1	None	Grease GAA (MIL-G-12924)

TASK SUMMARY

NO.	TASK	REFERENCE	REMARKS
1	Remove hub,	4-40	For service only.
2	Remove bearings.	4-40	
3	Remove tire and inner tubes	4-40	
4	Clean, inspect and repair wheel assembly.	4-41	
5	Assemble tire and inner tube on wheel discs.	4-42	
6	Install bearing in hub.	4-43	
7	Assemble hub and wheel discs.	4-44	

WHEEL ASSEMBLY

LOCATION/ITEM	ACTION	REMARKS
4-40. DISASSEMBLY.		
1. 4 screws (1), lock-washers (2) and nuts (3)	Remove.	
2. Hub assembly (4)	Separate from wheel.	
3. 2 end caps (5) and oil seals (6)	Drive out of hub (7) with brass rod.	
4. Bearing (8)	Remove.	
5. Inner tube (9)	Deflate.	
6. 6 screws (10), lock-washers (11) and nuts (12)	Remove.	
7. Wheel discs (13)	Separate from tire (14) and inner tube (9).	
		Remove end caps and seals only if bearing needs servicing.

WHEEL ASSEMBLY – continued

LOCATION/ITEM	ACTION	REMARKS
4-41. CLEANING, INSPECTION AND REPAIR.		
1. Bearing	<p style="text-align: center;">WARNING</p> <p>Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact by wearing rubber or solvent impermeable gloves when handling the solvent or material wet with drycleaning solvent. Wash hands immediately after exposure with soap and water and use a lanolin based skin cream to prevent skin drying. Do not use near open flame or excessive heat, Flash point of solvent is 100°F (38°C). Ensure that ventilation adequate to reduce solvent vapor concentrations below acceptable threshold limit values is provided.</p>	
	<p>a. Wipe off excess grease.</p> <p>b. Clean with drycleaning solvent P-D-680.</p> <p>c. Air dry.</p> <p>d. Inspect for wear,</p> <p>e. Replace if badly worn or damaged.</p>	

WHEEL ASSEMBLY – continued

LOCATION/ITEM	ACTION	REMARKS
4-41. CLEANING, INSPECTION AND REPAIR – continued.		
2. Oil seals	<ul style="list-style-type: none"> a. Wipe off excess grease. b. Inspect sealing surfaces for cuts or wear. c. Replace if cut or worn. 	
3. Tires	<ul style="list-style-type: none"> a. Inspect for cuts. b. Replace if cuts are one inch or longer. 	
4. Inner tube	<ul style="list-style-type: none"> a. Inspect for leaks. b. Patch leaks. c. If leak can't be patched or damage is too great, replace inner tube. 	

WHEEL ASSEMBLY – continued

LOCATION/ITEM	ACTION	REMARKS
4-42. ASSEMBLY.		
1. Inner tube (1)	Install in tire (2).	
2. 2 wheel discs (3)	a. Assemble with tire. b. Line up mounting holes. c. Screw together with 6 screws (4), lockwashers (5) and nuts (6).	
3. Bearing (7)	a. Pack with grease GAA (MIL-G-12924). b. Install in hub (8).	
4. Oil seals (9) and end caps (10)	Install in hub (8).	
5. Hub (8)	Install on wheel disc (3) with 4 screws (11), lockwashers (12) and nuts (13).	

CHAPTER 5

DIRECT SUPPORT MAINTENANCE INSTRUCTIONS

5-1. CHAPTER OVERVIEW. This chapter contains maintenance information applicable to the compressor unit as a whole.

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

5-2. COMMON TOOLS AND EQUIPMENT. For authorized common tools and equipment refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

5-3. SPECIAL TOOLS. No special tools are required to service or repair the air compressor.

5-4. SPARES AND REPAIR PARTS. Spares and repair parts are listed and illustrated in the repair parts and special tools list covering organizational DS and GS maintenance for this equipment (TM 5-4310-36724P)

Section II. GENERAL MAINTENANCE

5-5. MAINTENANCE SUMMARY. This task covers:

- a. Disassembly.
- b. Cleaning.
- c. Inspection.
- d. Repair.
- e. Assembly.

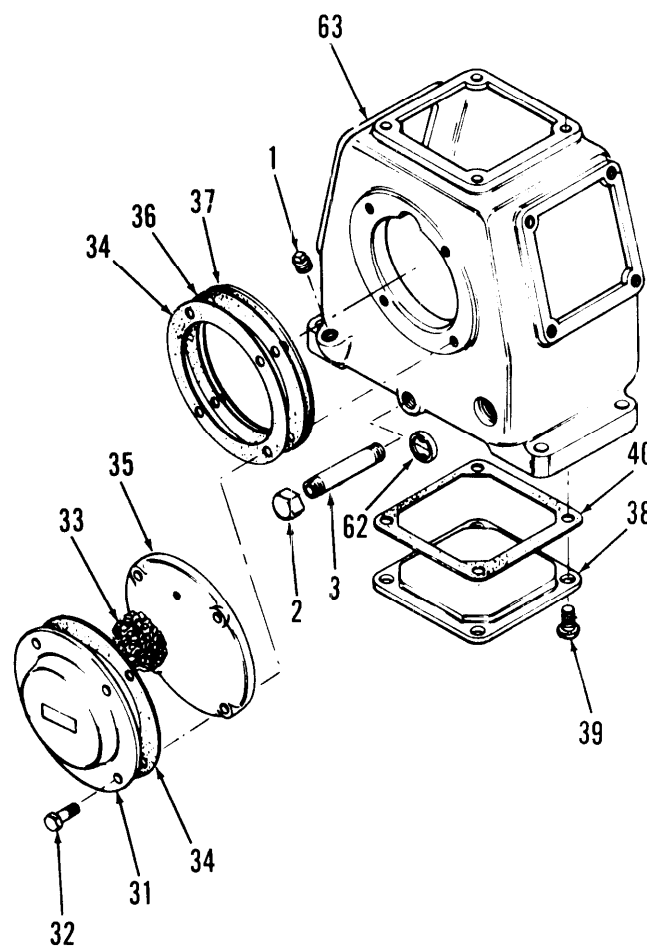
INITIAL SETUP

Personnel Required	Special Tools	Initial Conditions	
		Paragraph	Condition
1	None	4-22	Air compressor removed
		4-23	Cylinders removed

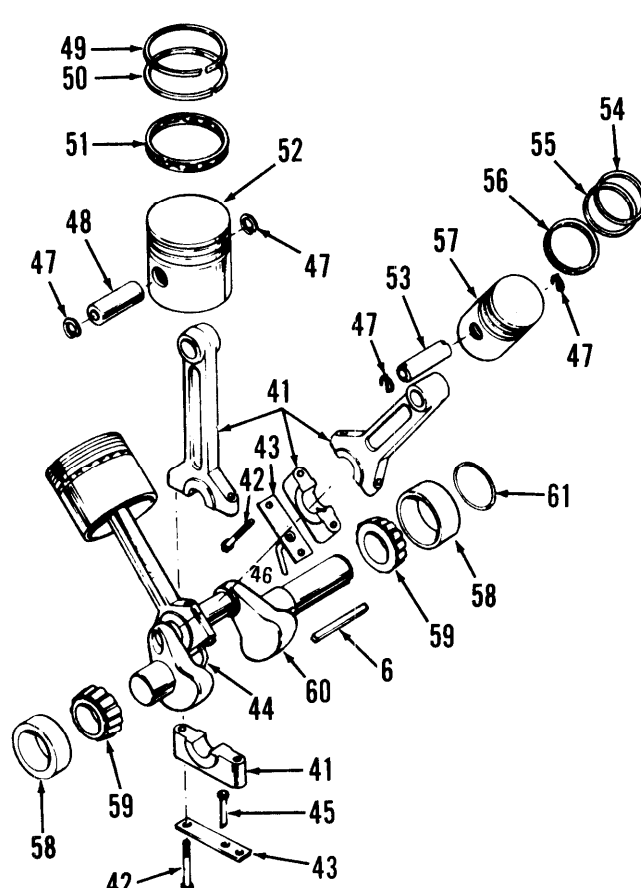
TASK SUMMARY

NO.	TASK	REFERENCE	REMARKS
1	Remove crankcase cover.	5-6	
2	Remove handhole cover.	5-6	
3	Remove pistons.	5-6	
4	Remove piston rings.	5-6	
5	Remove crankshaft.	5-6	
6	Cleaning, inspection and repair.	5-7	
7	Install crankshaft.	5-8	
8	Install crankcase cover.	5-8	
9	Install piston rings.	5-8	
10	Install pistons and connecting rods on crankshaft.	5-8	
11	Install handhole cover.	5-8	

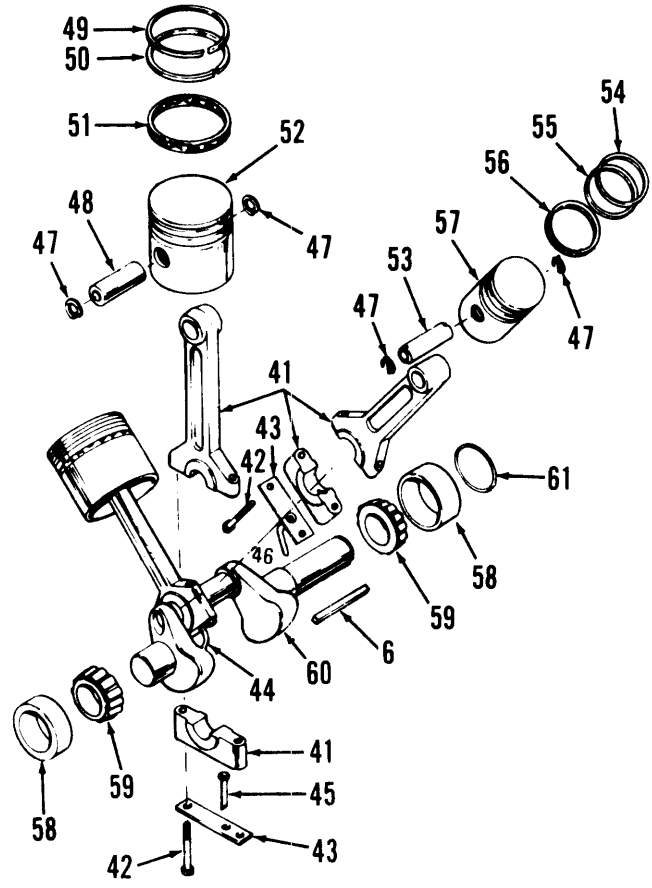
GENERAL

LOCATION/ITEM	ACTION	REMARKS
5-6. DISASSEMBLY.		
1. 4 screws (32)	Remove.	
2. Breather chamber (31)	Remove.	
3. Gaskets (34)	Remove.	
4. Breather element (33)	Remove.	
5. Crankcase cover (35)	Remove.	
6. 3 gaskets (34, 36 and 37)	Remove.	
7. 4 screws (39)	Remove,	
8. Handhole plate (38)	Remove.	
9. Gasket (40)	Discard.	
		Used gaskets won't seal.

GENERAL - continued

LOCATION/ITEM	ACTION	REMARKS
5-6. DISASSEMBLY - continued.		
10. 2 cap bolts (42) per piston	Remove.	
11. Oil scoop retainer (43), oil scoop (45) and cap (41).	Remove.	Keep each cap with its connecting rod. Caps and connecting rods are matched and must not be interchanged.
12. Pistons and connecting rods (41)	Remove through top of case (63).	
13. Connecting rods and caps (41)	Matchmark with a file.	Matchmarks will let you match each rod with its cap at assembly time.

GENERAL – continued

LOCATION/ITEM	ACTION	REMARKS
5-6. DISASSEMBLY – continued,		
14. Piston rings (49, 50, 51, 54, 55 and 56)	Remove,	
15. 3 piston pin retainers (47)	Remove.	
16. Piston pins (48 and 53)	Remove.	
17. Pistons (52 and 57)	Remove from connecting rods (41).	
18. Crankshaft (60)	Pull from crankcase (63).	
19. Oil seal (61)	Pull from crankcase (63) and discard.	Leave bearings on crankshaft until after inspection.
		Used seal won't seal.

GENERAL – continued

LOCATION/ITEM	ACTION	REMARKS
5-7. CLEANING, INSPECTION AND REPAIR.		
	<p>WARNING</p> <p>Drycleaning solvent P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact by wearing rubber or solvent impermeable gloves when handling the solvent or material wet with drycleaning solvent. Wash hands immediately after exposure with soap and water and use a lanolin based skin cream to prevent skin drying. Do not use near open flame or excessive heat. Flash point of solvent is 100° F (38°C). Ensure that ventilation adequate to reduce solvent vapor concentrations below acceptable threshold limit values is provided.</p>	
1. All parts	Clean with drycleaning solvent P-D-680.	
2. Crankshaft bearings	<p>a. Inspect for pitting, galling or signs of wear.</p> <p>b. Replace both bearings and bearing cups if bearings are bad.</p>	
3. Crankshaft	<p>a. Inspect for cracks, scoring and excessive wear.</p> <p>b. Replace if cracked, scored, or excessively worn.</p> <p>c. Check crankshaft journals for out-of-round.</p> <p>d. If journals measure more than 0.0004 in. out-of-round, replace crankshaft.</p>	

GENERAL – continued

LOCATION/ITEM	ACTION	REMARKS
5-7. CLEANING, INSPECTION AND REPAIR – continued.		
4. Crankcase	a. Remove all gasket material. b. Inspect for cracks. c. Replace if cracked, d. Inspect sealing surfaces for nicks and gouges. e. Remove nicks and gouges with file. f. Replace crankcase if nicks can't be repaired.	
5. Piston rings	a. Place in cylinder bore about 1/2 in. from the top. b. Measure gap. c. Gap must fall within limits shown below.	

 PISTON RING GAP
 inches (mm)

	Comp. Rings	Oil Rings
Min.	0.005 (0.1270)	0.015 (0.3810)
Max.	0.015 (0.3819)	0.055 (1.3970)

- d. If ring gap is greater than shown, replace entire set of rings for one piston.
- e. If replacing rings, set gap to minimum dimension shown above.

GENERAL - continued

LOCATION/ITEM	ACTION	REMARKS
---------------	--------	---------

5-7. CLEANING, INSPECTION AND REPAIR – continued.

6. Piston ring grooves

- a. Measure ring groove clearance with rings installed.
- b. If clearance doesn't fall within limits shown below, replace piston.

PISTON RING GROOVE
CLEARANCE
inches (mm)

	H.P. Comp.	L.P. Comp.	H.P. & L.P. Oil
Min.	0.002 (0.0508)	0.0015 (0.3810)	0.000 (0.0000)
Max.	0.004 (0.1016)	0.0035 (0.8890)	0.006 (0.1524)

7. Piston pin bore

- a. Measure clearance of the piston pin to the piston pin bore.
- b. Replace piston if clearance falls outside limits shown below.

PISTON PIN CLEARANCE

	H.P.	L.P.
Min.	0.0169	0.0158
Max.	0.0427	0.0417

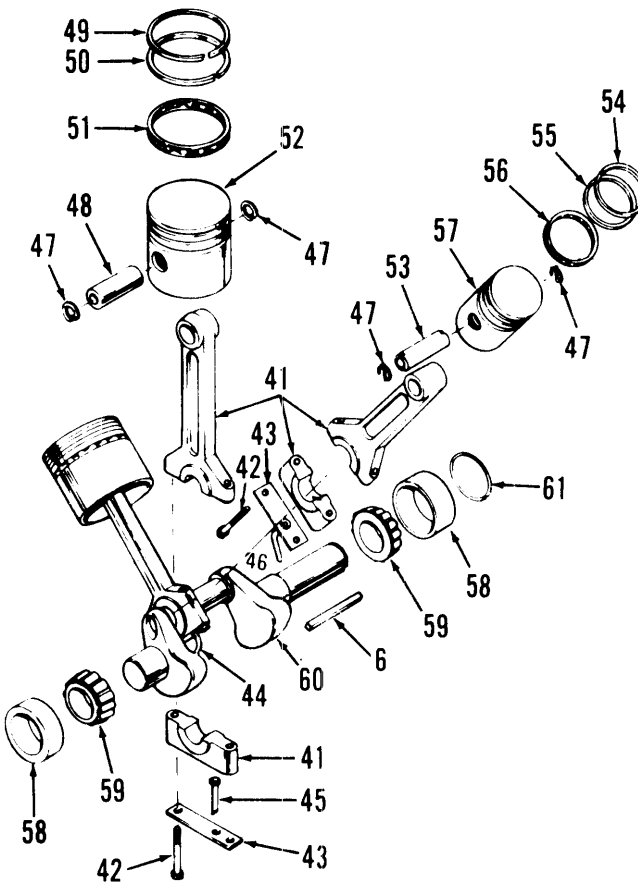
8. Connecting rod bearings

- a. Check clearance of connecting rod bearings to the crankshaft and piston pin.
- b. If clearance falls outside limits shown below, replace connecting rod.

CONN. ROD BEARING
CLEARANCE

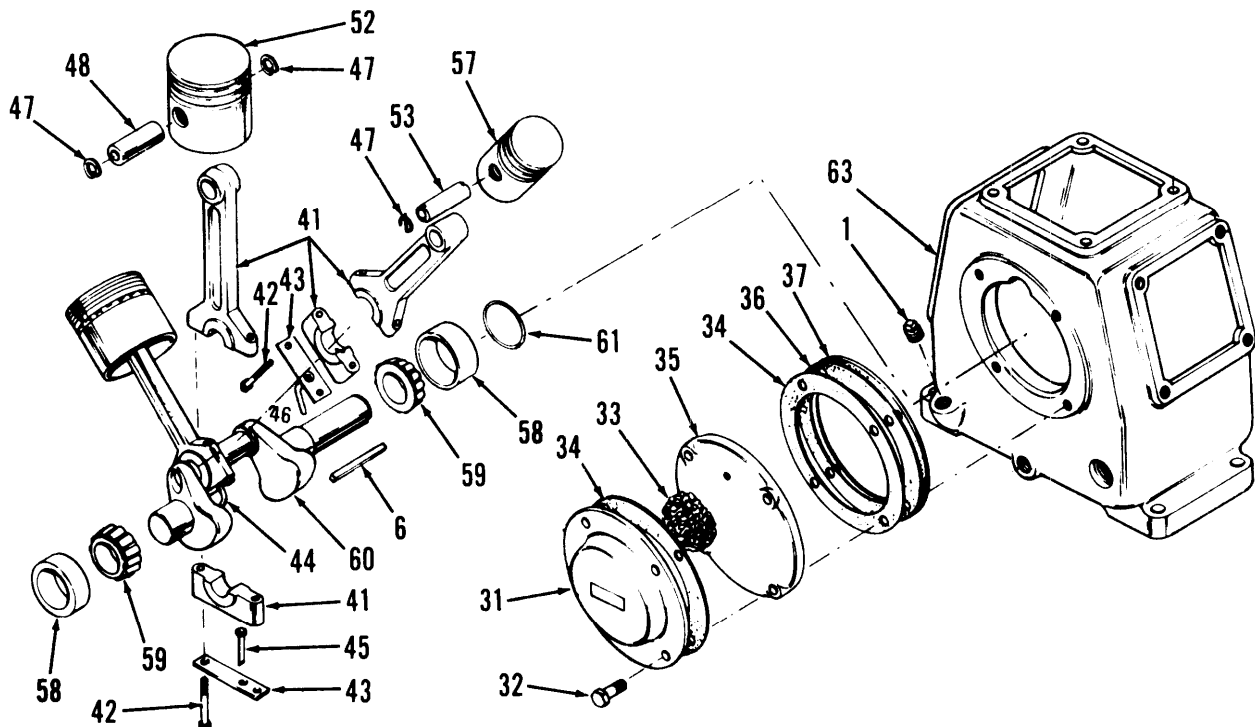
	Crankshaft	Wrist Pin
Min.	0.0008	0.0007
Max.	0.0028	0.0022

GENERAL-continued

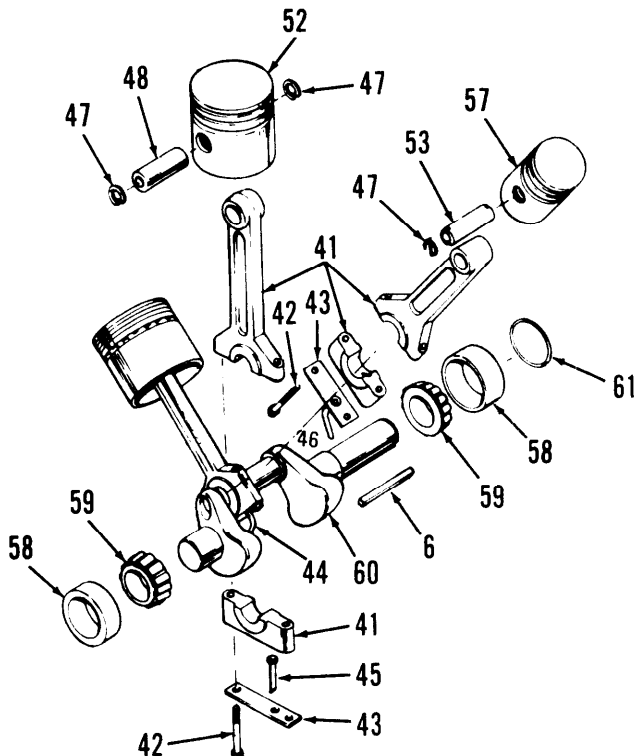
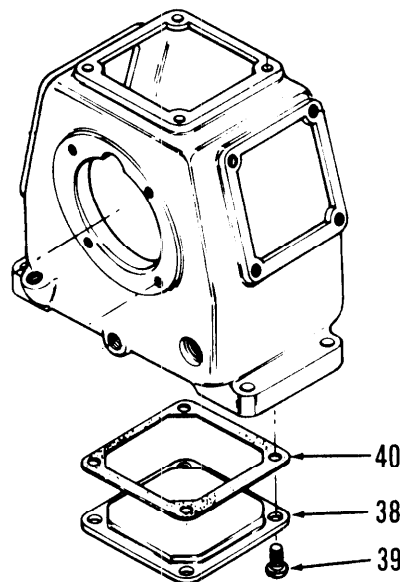
LOCATION/ITEM	ACTION	REMARKS
5-8. ASSEMBLY.		
	<p style="text-align: center;">CAUTION</p> <p>Piston rings may break if expanded too far during installation.</p>	 <p>The diagram is an exploded view of an engine's internal components. At the top, three piston rings (49, 50, 51) are shown. Below them are two pistons (52 and 57) with their respective pins (47) and retainers (48). To the right, two more piston rings (54, 55) and a piston (56) are shown. In the center, three connecting rods (41) are shown with their pins (43) and retainers (42). At the bottom, two bearing cups (58) are shown. Various other components like washers (6), nuts (59), and caps (60, 61) are also labeled. The components are arranged in a way that shows their relative positions and how they fit together.</p>
1. Piston rings (49, 50, 51, 54, 55 and 56)	<p>a. Install on pistons (52) and (57).</p> <p>b. Stagger ring gaps with alternating gaps on opposite sides of the piston.</p> <p>c. Lubricate pistons and rings with OE/HDO 30.</p>	
2. 3 connecting rods (41)	<p>a. Install in pistons with piston pins (53) and retaining rings (47).</p> <p>b. Lubricate connecting rods and piston pins with OE/HDO 30.</p>	
3. 2 bearing cups (58)	Press into bearing housings if removed after inspection.	

GENERAL – continued

LOCATION/ITEM	ACTION	REMARKS
5-8. ASSEMBLY – continued.		
4. 2 bearings (59)	Install on crankshaft (60) if removed after inspection.	
5. Oil seal (61)	Install in crankcase (63).	
6. Crankshaft (60)	Slide into crankcase (63).	
7. Gaskets (34, 36 and 37), crankcase cover (35), breaker element (33) and breaker chamber (31)	Install with 4 screws (32).	Select shims (36) and (37) so the crankshaft turns freely with end play of 0.007 inches. Shim (36) is 0.005 in. and shim (37) is 0.010 in. thick.



GENERAL – continued

LOCATION/ITEM	ACTION	REMARKS
5-8. ASSEMBLY – continued.		
8. Connecting rods (41)	Assemble with bearing caps on crankshaft (60).	Make sure you match each connecting rod with its bearing cap using the match marks you made during disassembly as a guide.
 		
9. Oil scoops (44 and 45)	<p>a. Install on bearing caps with retainers (43) and 2 bolts (42).</p> <p>b. Torque connecting rod bolts to 10 ft. lbs.</p>	
10. Handhole cover (38)	<p>a. Assemble with gasket (40).</p> <p>b. Install with 4 screws (39).</p>	

CHAPTER 6

GENERAL SUPPORT MAINTENANCE INSTRUCTIONS

6-1. CHAPTER OVERVIEW. This chapter contains maintenance information applicable to the compressor unit as a whole.

Section 1. REPAIR OF PNEUMATIC EQUIPMENT

6-2. OVERHAUL. For overhaul of pneumatic equipment, replace and repair in accordance with Chapters 4 and 5 of this manual.

Section II. ENGINE

6-3. 3 HP, TWO CYLINDER ENGINE. For engine work refer to engine TM 5-2805-257-14 and TM 5-2805-257-24P.

6-4. 1-1/2 HP, ONE CYLINDER ENGINE. For engine work refer to engine TM 5-2805-256-14 and TM 5-2805-256-24P.

APPENDIX A

REFERENCES

A-1. SCOPE.

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

A-2. FORMS.

Equipment Inspection and
Maintenance Work Sheet DA Form 2404
Quality Deficiency Report SF 368
Recommended Changes to
DA Publications DA Form 2028

A-3 TECHNICAL MANUALS.

Operator, Organizational, DS and GS
Maintenance Manual, Engine, Gasoline,
3 HP Military Standard TM 5-2805-257-14
Operator, Organizational, DS and GS
Maintenance Manual, Engine, Gasoline,
1-1 /2 HP Military Standard TM 5-2805-256-14

Organizational, DS and GS and Depot
Maintenance Repair Parts and Special
Tools Lists, Engine, Gasoline, 3 HP
Military Standard TM 5-2805-257-24P
Organizational, DS and GS Maintenance
Repair Parts and Special Tools List,
Compressor, Reciprocating Air,
Handtruck Mounted, Gas Engine
Driven, 5 and 8 CFM, 175 PSI TM 5-4310-367-24P
The Army Maintenance Management
System (TAMMS) TM 38-750

A-4. MISCELLANEOUS PUBLICATIONS.

Lubrication Order, Engine
Gasoline LO 5-2805-257-12
Lubrication Order, Engine
Gasoline LO 5-2805-256-12

APPENDIX B
COMPONENTS OF END ITEMS LIST

Section I. INTRODUCTION

B-1. SCOPE. This appendix lists Integral Components of and Basic Issue Items (BII) for the Air Compressor to help you inventory items required for safe and efficient operation.

B-2. GENERAL. The components of end item list are divided into the following sections:

- a. Section II. Integral Components of the End Item. These items, when assembled, comprise the Air Compressor and must accompany it whenever it is transferred or turned in. These illustrations will help you identify these items.
- b. Section III. Basic Issue Items. These are minimum essential items required to place the Air Compressor in operation, to operate it and to perform emergency repairs. Although shipped separately packed, they must accompany the Compressor during operation and whenever it is transferred between accountable officers. The illustrations will assist you with hard-to-identify items. This manual is your authority to requisition replacement B II based on Table(s) of Organization and Equipment (TOE)/Modification Table of Organization and Equipment (MTOE) authorization of the end item.

B-3. EXPLANATION OF COLUMNS.

- a. Illustration. This column is divided as follows:
 - 1. Figure Number. Indicates the figure number of the illustration on which the item is shown (if applicable).
 - 2. Item Number. The number used to identify item called out in the illustration.

- b. National Stock Number (NSN). Indicates the national stock number assigned to the end item which will be used for requisitioning.
- c. Part Number (P/N). Indicates the primary number used by the manufacturer which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards and inspection requirements to identify an item or range of items.
- d. Description. Indicates the federal item name and, if required, a minimum description to identify the item.
- e. Location. The physical location of each item listed is given in this column. The lists are designed to inventory all items in one area of the major item before moving on to an adjacent area.
- f. Usable on Code. "Usable On" codes are included to help you identify which component items are used on the different models. Identification of the codes used in this list are:

Code	Used On
MAA	Model 20-905 Model 20-910

- g. Quantity Required (Qty Req'd). This column lists the quantity of each item required for a complete major item.
- h. Quantity. This column is left blank for use during inventory. Under the received column, list the quantity you actually receive on your major item. The date columns are for use when you inventory the major item at a later date, such as for shipment to another site.

Section II. INTEGRAL COMPONENTS OF END ITEM

(1) ILLUSTRATION		(2) NATIONAL STOCK NO.	(3) PART NO. & FSCM	(4) DESCRIPTION	(5) LOCATION	(6) USABLE ON CODE	(7) QTY REQD	(8) QUANTITY RCVD DATE DATE DATE
(a) FIGURE NO.	(b) ITEM NO.							
		4720-00-874-3179	Z538A (11568)	Hose Assy., Air		MAA	1	
		4910-00-030-2365	61J21506 (94894)	Gauge Assy., Inflator		MAA	1	

Section III. BASIC ISSUE ITEMS

(1) ILLUSTRATION		(2) NATIONAL STOCK NO.	(3) PART NO. & FSCM	(4) DESCRIPTION	(5) LOCATION	(6) USABLE ON CODE	(7) QTY REQD	(8) QUANTITY RCVD DATE DATE DATE
(a) FIGURE NO.	(b) ITEM NO.							
			TM 5-4310-367-14	Technical Manual			1	

APPENDIX C

MAINTENANCE ALLOCATION CHART

Section 1. INTRODUCTION

C-1. GENERAL.

- a. This section provides a general explanation of all maintenance and repair functions authorized at various maintenance levels.
- b. The Maintenance Allocation Chart (MAC) in Section II designates overall responsibility for the performance of maintenance functions on the identified end item or component. The implementation of the maintenance functions upon the end item or component will be consistent with the assigned maintenance functions.
- c. Section III lists the special tools and test equipment required for each maintenance function as referenced from Section II.
- d. Section IV contains supplemental instructions on explanatory notes for a particular maintenance function.
- f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test measuring and diagnostic equipments used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.
- g. Install. The act of emplacing, seating, or fixing into position an item, part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.
- h. Replace. The act of substituting a serviceable like type part, subassembly, or module (component or assembly) for an unserviceable counterpart.
- i. Repair. The application of maintenance services (inspect, test, service, adjust, align, calibrate or replace) or other maintenance actions (welding, grinding, riveting, straightening, facing, remachining or resurfacing) to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

C-2. MAINTENANCE FUNCTIONS.

- a. Inspect. To determine the serviceability of an item by comparing its physical, mechanical and/or electrical characteristics with established standards through examination.
- b. Test. To verify serviceability and detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.
- c. Service. Operations required periodically to keep an item in proper operating condition, i.e., to clean (decontaminate), to preserve, to drain, to paint, or to replenish fuel, lubricants, hydraulic fluids, or compressed air supplies.
- d. Adjust. To maintain, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.
- e. Align. To adjust specified variable elements of an item to bring about optimum or desired performance.
- j. Overhaul. That maintenance effort (services/actions) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (i.e., DMWR) in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army, Overhaul does not normally return an item to like new condition.
- k. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc.) considered in classifying Army equipments/components.

C-3. COLUMN ENTRIES USED IN THE MAC.

- a. Column 1, Group Number. Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next higher assembly.
- b. Column 2, Component/Assembly. Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.
- c. Column 3, Maintenance Functions. Column 3 lists the functions to be performed on the item listed in Column 2. (For detailed explanation of these functions, see paragraph D-2).
- d. Column 4, Maintenance Level. Column 4 specifies, by the listing of a "work time" figure in the appropriate subcolumn(s) the lowest level of maintenance authorized to perform the function listed in Column 3. This figure represents the active time required to perform the maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance levels, appropriate work time figures will be shown for each level. The number of man-hours specified by the work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time, troubleshooting time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. The symbol designations for the various maintenance levels are as follows:

- C Operator or crew
- O Organizational maintenance
- F Direct support maintenance
- H General support maintenance
- D Depot maintenance
- e. Column 5, Tools and Equipment. Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, test, and support equipment required to perform the designated function.
 - f. Column 6, Remarks. This column contains a letter code in alphabetic order which is keyed to the remarks contained in Section IV,

C-4. COLUMN ENTRIES USED IN TOOL AND TEST EQUIPMENT REQUIREMENTS.

- a. Column 1, Tool or Test Equipment Reference Code. The tool and test equipment reference code correlates with a maintenance function on the identified end item or component.
- b. Column 2, Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.
- c. Column 3, Nomenclature. Name or identification of the tool or test equipment.
- d. Column 4 National/NATO Stock Number. The National or NATO stock number of the tool or test equipment.
- e. Column 5, Tool Number. The manufacturer's part number.

Section II. MAINTENANCE ALLOCATION CHART

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Equipment	(6) Remarks
			C	O	F	H	D		
01	FUEL SYSTEM (TANK, LINES, AND FILTER)								
0101	Tank Assembly, Fuel	Inspect Replace Repair Service	0.1	0.2 0.3				T1 T1, T4	
0102	Lines and Fittings	Inspect Replace	0.1	0.2				T1	
02	COMPRESSOR DRIVE								
0201	Guard Assembly, Belt	Inspect Replace Repair	0.1	0.2 0.2				T1 T1, T4	
0202	Belts, V, Matched Set	Inspect Replace	0.1	0.2				T1	
0203	Pulley, Drive	Inspect Replace	0.1	0.2				T1, T4	
03	COMPRESSOR ASSEMBLY	Inspect Replace Repair Overhaul		0.2 0.8	1.0	4.0		T1 T1 T1, T T1, T	
0301	Air Cleaner	Inspect Replace	0.1 0.2					T1	
0302	Oil Filler, Cap, and Plugs	Inspect Replace	0.1 0.2					T1	
0303	Flywheel	Inspect Replace		0.2 0.3				T1 T1, T	
0304	Intercooler	Inspect Replace		0.1 0.3				T1 T1	
0305	Cylinder Head, Intake and Exhaust Valves	Inspect Replace Repair		0.2 0.3 0.6				T1, T4 T1, T4 T1, T4	
0306	Pistons, Connecting Rods and Cylinder Block	Inspect Replace Repair			0.3 0.5 2.0			T1, T2 T1, T2 T1, T2	
0307	Crankshaft, Bearings, Oil Seals and Crankcase	Inspect Replace Repair			0.4 0.6 2.5			T1, T2 T1, T2 T1, T2	

Section II. MAINTENANCE ALLOCATION CHART – continued

(1) Group Number	(2) Component/Assemnbly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Equipment	(6) Remarks
			C	O	F	H	D		
04	ENGINE ASSEMBLY	Inspect Service Test Replace Repair Overhaul		0.1 0.2 0.3 0.8				T1 T1 T1 T1 T1, T2 T1, T3	For model 1A08-3 refer to TM 5-2805- 256-14 and TM5-2805-256-24P For model 2A01 6-3 refer to engine TM 5-2805-257-14 and TM5-2805-257-24P
05	AIR RECEIVER SYSTEM								
0501	Safety Valve	Inspect Replace		0.1 0.2				T1 T1	
0502	Pressure Gage	Inspect Replace		0.1 0.2				T1 T1	
0503	Drain Cock	Inspect Replace		0.1 0.1				T1 T1	
0504	Globe Valve	Inspect Replace		0.1 0.2				T1 T1	
0505	Air Tank	Inspect Replace	0.1					T1	
0506	Aftercooler	Inspect Replace		0.1 0.2				T1 T1	
06	AIR DISCHARGE SYSTEM								
0601	Hoses	Inspect Replace	0.1					T1	
0602	Inflator Gage	Inspect Replace	0.1					T1	
07	HANDTRUCK ASSEMBLY								
0701	Frame	Inspect Replace Repair		0.1 0.4 0.4				T1 T1 T1	
0702	Axle	Inspect Replace		0.1 0.2				T1 T1	
0703	Wheels	Inspect Replace		0.2 0.3				T1 T1	
0704	Tires and Tubes	Inspect Service Replace Repair		0.1 0.1 0.2 0.4				T1 T1 T1 T1	

Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS

(1) Reference Code	(2) Maintenance Level	(3) Nomenclature	(4) National / NATO Stock Number	(5) Tool Number
T1	C, O, F, H	Tool Kit, General Mechanic, Automotive	5180-00-177-7033	
T2	F	Shop Set, Automotive Repair, Field Maintenance, Basic	4910-00-754-0705	
T3	H	Shop Set, Machine: Field Maintenance, Heavy	3470-00-754-0738	
T4	O	Shop Equipment Automotive Maintenance and Repair: Organization, Common No. 1	4910-00-754-0654	

Section 1. INTRODUCTION

D-1. SCOPE. This appendix lists additional items you are authorized for the support of the Air Compressor.

D-3. EXPLANATION OF LISTING. National stock number, descriptions, and quantities are provided to help you identify and request the additional items you require to support this equipment. "USABLE ON" codes are identified as follows:

Used On

Model 20-905
Model 20-910

[illegible]

APPENDIX E

EXPENDABLE SUPPLIES AND MATERIALS LIST

Section 1. INTRODUCTION

E-1. SCOPE, This appendix lists expendable supplies and materials you will need to operate and maintain the Air Compressor.

These items are authorized to you by CTA 50-970, Expendable Items (except Medical, Class V, Repair Parts, and Heraldic Items).

E-2. EXPLANATION OF COLUMNS.

a. Column 1 – Item Number. This number is assigned to the entry in the listing.

b. Column 2 – Level. This column identifies the lowest level of maintenance that requires the listed item.

C Operator/Crew

0 Organizational Maintenance

F Direct Support Maintenance

H General Support Maintenance

c. Column 3 – National Stock Number. This is the National stock number assigned to the item; use it to request or requisition the item.

d. Column 4 – Description. Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the part number followed by the Federal Supply Code for Manufacturer (FSCM) in parentheses, if applicable.

e. Column 5 – Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in., pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

Expendable Supplies and Materials List

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
	0	6850-00-274-5421	Drycleaning Solvent, P-D-680	gal.

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Paragraph,
Figure, Table,
Number

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By Order of the Secretary of the Army:

E. C. MEYER
General, United States Army
Chief of Staff

Official:

J. C. PENNINGTON
Major General, United States Army
The Adjutant General

DISTRIBUTION:

To be distributed in accordance with DA Form 12-25A, Operator's Maintenance requirements for Air Compressors, 8 CFM.



SOMETHING WRONG WITH THIS MANUAL?

THEN...JOT DOWN THE DOPE ABOUT IT ON THIS FORM, TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL!

FROM: (YOUR UNIT'S COMPLETE ADDRESS)

PFC JOHN DOE

COA, 3^d ENGINEER BN

FT. LEONARD WOOD MO 63108

DATE

PUBLICATION NUMBER

TM 5-4310-367-14

DATE

10 Jun 80

TITLE

Compressor, Reciprocating:
air Handtruck mounted

BE EXACT...PIN-POINT WHERE IT IS

IN THIS SPACE TELL WHAT IS WRONG
AND WHAT SHOULD BE DONE ABOUT IT:

PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.
----------	------------	------------	-----------

6

2-1
a

In line 6 of paragraph 2-1a the manual states the engine has 6 cylinders. The engine on my set only has 4 cylinders. Change the manual to show 4 cylinders.

81

4-3

Callout 16 on figure 4-3 is pointing at a bolt. In the key to fig. 4-3, item 16 is called a skim. Please correct one or the other.

125 line 20

~~SAMPLE~~

Ordered a gasket, item 19 on figure B-16 by NSN 2910-00-762-3001. I got a gasket but it doesn't fit. Supply says I got what I ordered, so the NSN is wrong. Please give me a good NSN.

TYPED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

JOHN DOE, PFC (268) 317-7111

SIGN HERE:

John Doe

DA FORM 2028-2
1 AUG 74

P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR MANUAL "FIND," MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.
DRSTS-M Overprint 1, 1 Nov 78

TEAR ALONG DOTTED LINE

FILL IN YOUR
UNIT'S ADDRESS

FOLD BACK

DEPARTMENT OF THE ARMY

POSTAGE AND FEES PAID
DEPARTMENT OF THE ARMY
DOD-314

OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE, \$300

Commander:
U.S. Army Support and Aviation
Material Readiness Command
ATTN: DRSTS-MTPS
4300 Goodfellow Boulevard
St. Louis, Mo. 63120

KEEP ALONG DOTTED LINE

FOLD BACK

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL MANUALS



SOMETHING WRONG WITH THIS MANUAL?

THEN...JOT DOWN THE DOPE ABOUT IT ON THIS FORM, TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL!

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DATE

PUBLICATION NUMBER

DATE

TITLE

TM 5-4310-367-14

10 Jun 80

Compressor, Reciprocating: Air

Handtruck Mounted, Gasoline Engine

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IN THIS SPACE TELL WHAT IS WRONG Driven, 8 CFM, 175PSI
AND WHAT SHOULD BE DONE ABOUT IT:

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PARA-
GRAPH

FIGURE
NO.

TABLE
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RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL MANUALS



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FOLD BACK

The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
 1 decimeter = 10 centimeters = 3.94 inches
 1 meter = 10 decimeters = 39.37 inches
 1 dekameter = 10 meters = 32.8 feet
 1 hectometer = 10 dekameters = 328.08 feet
 1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
 1 decigram = 10 centigrams = 1.54 grains
 1 gram = 10 decigrams = .035 ounce
 1 dekagram = 10 grams = .35 ounce
 1 hectogram = 10 dekagrams = 3.52 ounces
 1 kilogram = 10 hectograms = 2.2 pounds
 1 quintal = 100 kilograms = 220.46 pounds
 1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliliters = .34 fl. ounce
 1 deciliter = 10 centiliters = 3.38 fl. ounces
 1 liter = 10 deciliters = 33.81 fl. ounces
 1 dekaliter = 10 liters = 2.64 gallons
 1 hectoliter = 10 dekaliters = 26.42 gallons
 1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
 1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
 1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
 1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
 1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
 1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

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

Approximate Conversion Factors

<i>To change</i>	<i>To</i>	<i>Multiply by</i>	<i>To change</i>	<i>To</i>	<i>Multiply by</i>
inches	centimeters	2.540	ounce-inches	newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29.573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	newton-meters	1.356	metric tons	short tons	1.102
pound-inches	newton-meters	.11296			

Temperature (Exact)

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