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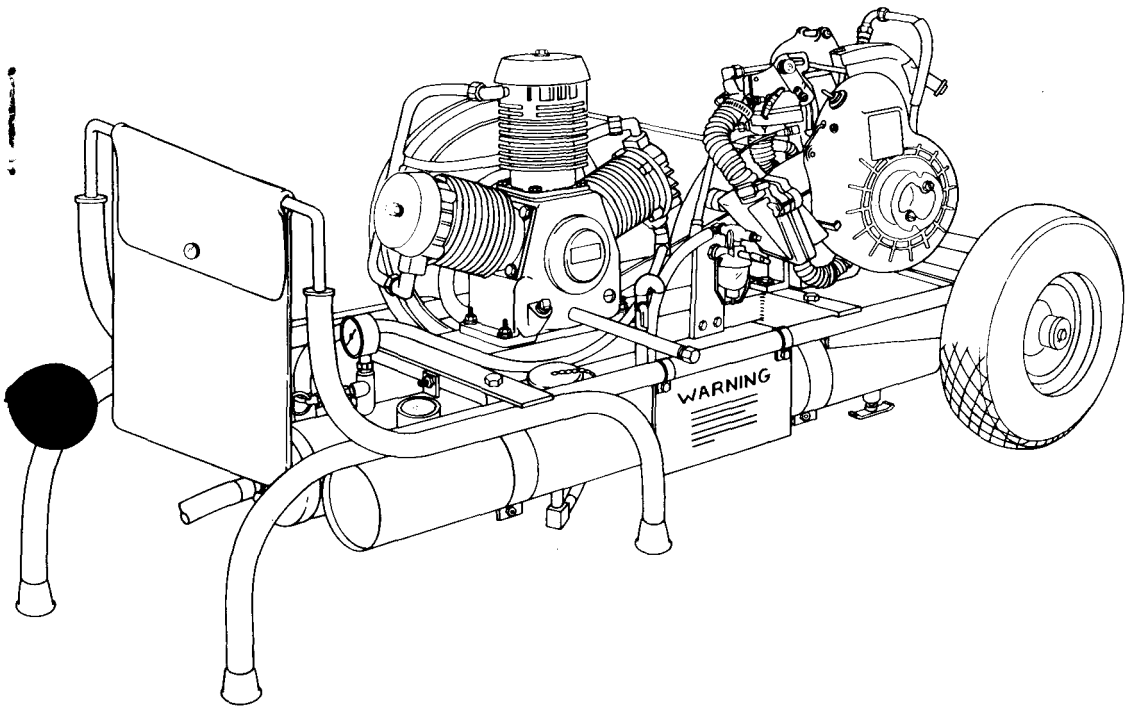
OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL



COMPRESSOR, RECIPROCATING: AIR: HANDTRUCK MOUNTED, GASOLINE ENGINE DRIVEN 5CFM, 175 PSI MELLEY ENERGY SYSTEMS, INC. MODEL IS-7.95-5CFM, NSN 4310-01-080-5754

HEADQUARTERS, DEPARTMENT OF THE ARMY

19 SEPTEMBER 1980

CHANGE NO. 2

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 8 May 1987

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

COMPRESSOR, RECIPROCATING: AIR: HANDTRUCK
MOUNTED, GASOLINE ENGINE DRIVEN 5 CFM, 175 PSI
MELLEY ENERGY SYSTEMS, INC. MODEL IS-7.95-5CFM,
NSN 4310-01-080-5754

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To be distributed in accordance with DA Form 12-25A, Operator, Unit, Direct Support and General Support Maintenance Requirements for Compressor, Reciprocating, Air, Gas, Hand Truck Mounted, 5 CFM, 175 PSI (IS-7.95-5CFM).

CHANGE
No. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 27 August 1986

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

COMPRESSOR, RECIPROCATING: AIR: HANDTRUCK
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i through iii/iv	i through iii/iv
1-1 and 1-2	1-1 and 1-2
2-9 and 2-10	2-9 and 2-10
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3-3 and 3-4	3-4
4-17 and 4-18	4-17 and 4-18
A-1/A-2	A-1/A-2

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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 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. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38° C).

WARNING

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

TECHNICAL MANUAL

NO. 5-4310-369-14

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 19 September 1980

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

COMPRESSOR, RECIPROCATING: AIR: HANDTRUCK MOUNTED, GASOLINE ENGINE DRIVEN 5CFM, 175 PSI MELLEY ENERGY SYSTEMS, INC. MODEL IS-7.95-5CFM, NSN 4310-01-080-5754

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistake or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, U.S. Army Troop Support Command, ATTN: AMSTR-MCTS, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798. A reply will be furnished directly to you.

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CHAPTER 1
INTRODUCTION

Section I. GENERAL

1-1. Scope

1-2. This manual is for your use in operating and maintaining the Model IS-7.95-5CFM Reciprocating Air Compressor. Chapters 2 and 3 provide information on operation, preventative maintenance services, and operator's maintenance of equipment, accessories, components and attachments. Chapter 4 provides information for organizational maintenance. Chapters 5 and 6 provide information for direct and general support maintenance. Also included are descriptions of main units and their functions in relationship to other components.

1-3. Maintenance Forms and Records

1-4. Equipment maintenance forms and procedures for their use are contained in DA PAM 738-750, The Army Maintenance Management System (TAMMS).

1-5. Reporting Equipment Improvement Recommendations (EIR's)

1-6. 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 DA PAM 738-750, The Army Maintenance Management System. Mail directly to Commander Headquarters, U.S. Army Troop Support Command, ATTN: AMSTR-QX, 4300 Goodfellow Blvd. , St. Louis, Missouri 63120-1798. A reply will be furnished directly to you.

1-7. Warranty Information

1-8. All components of the Reciprocating Air Compressor with the exception of the engine are warranted by MelIey Energy Systems, for a period of 12 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.

1-9. Hand Receipt

1-10. Hand receipts for Components of End Item (COEI), Basic Issue Items (BII), and Additional Authorization List (AAL) items are published in a Hand Receipt manual, TM 5-4310-369-HR. This manual is published to aid in property accountability and is available through: Commander, US Army Adjutant General Publication Center, ATTN: AGDL-OD, 1655 Woodson Road, St. Louis, MO 63114.

Section II. EQUIPMENT DESCRIPTION

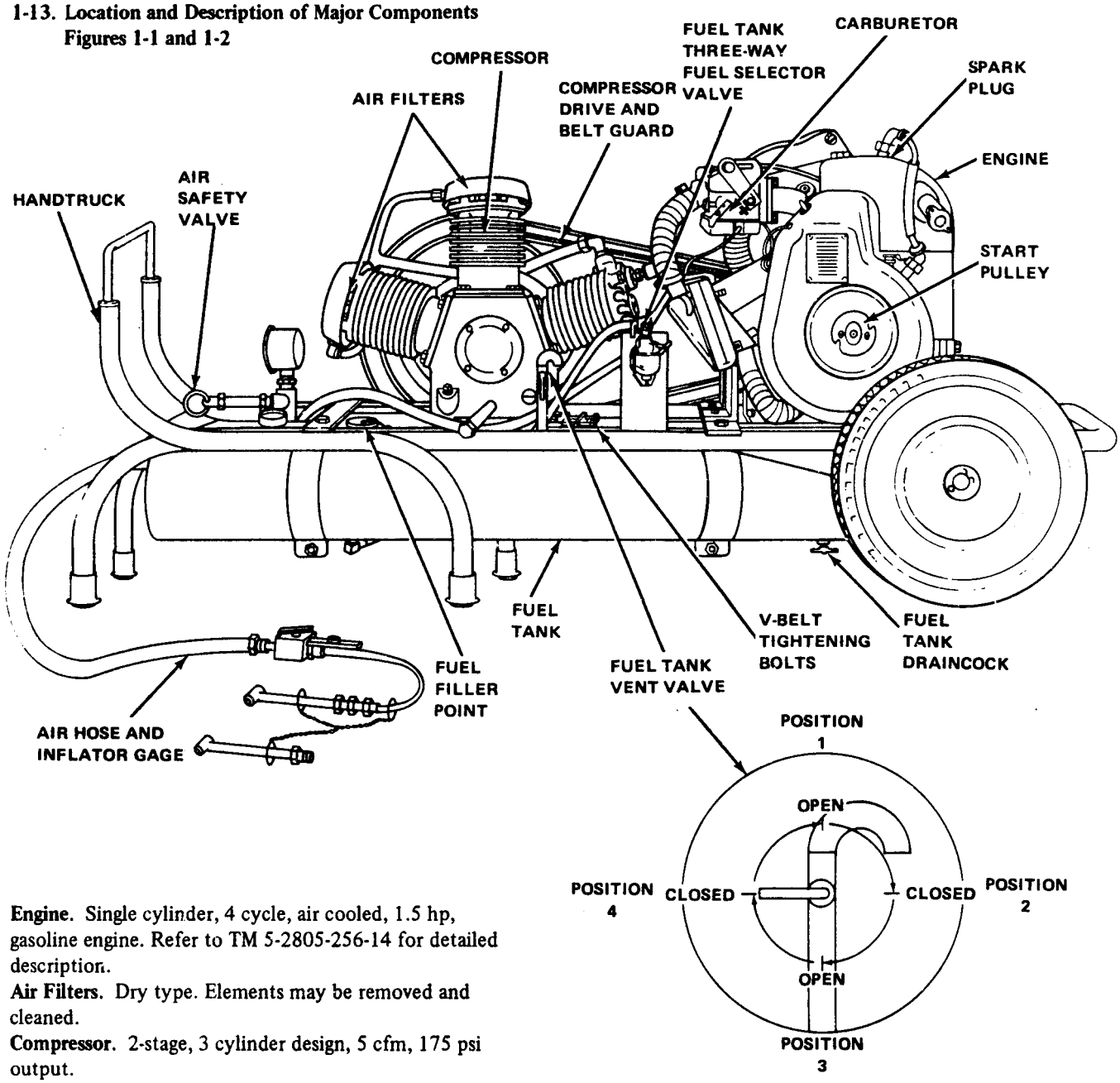
1-11. Purpose of the Air Compressor

A portable, handtruck mounted air compressor for inflating tires and running pneumatic equipment in the field.

1-12. Capabilities and Features

a. Delivers 5 cfm of air at 175 psi
b. Handtruck mounted
c. Gasoline engine driven
d. Incorporates air hose and inflator gage
e. All weather operational
f. Highly portable

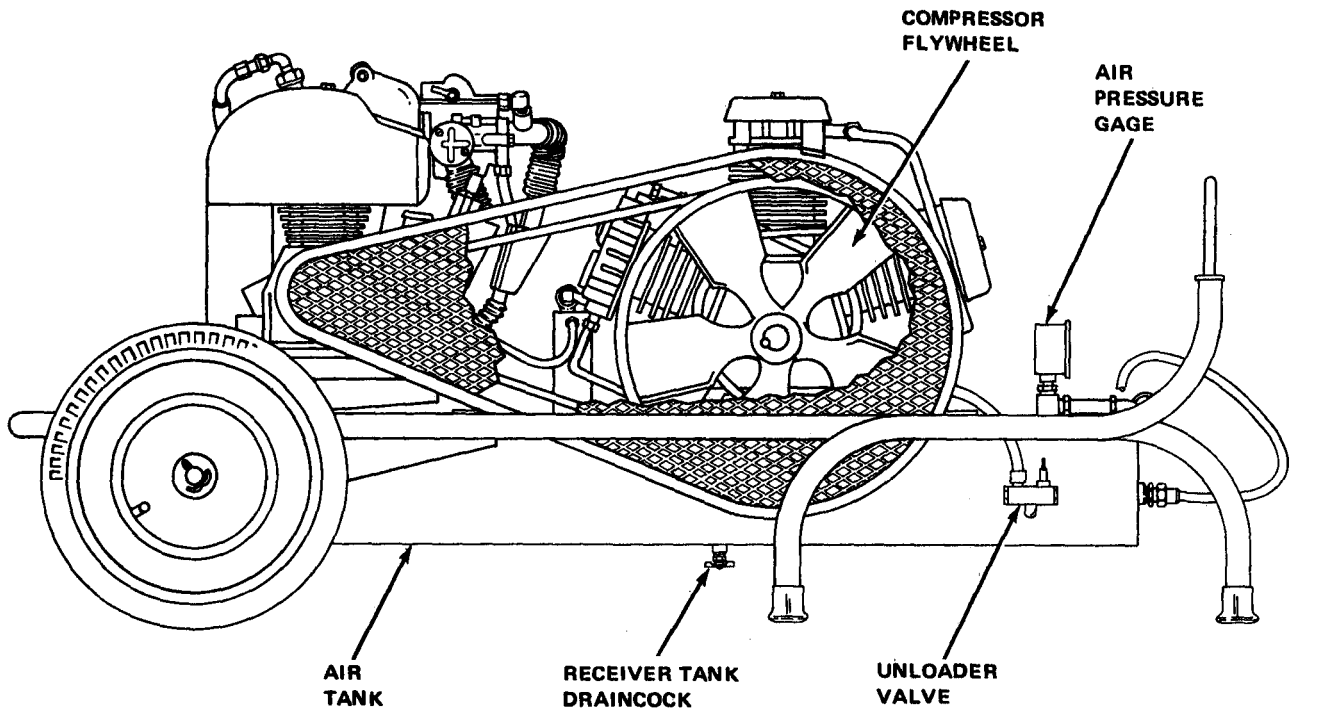
1-13. Location and Description of Major Components
Figures 1-1 and 1-2



Engine. Single cylinder, 4 cycle, air cooled, 1.5 hp, gasoline engine. Refer to TM 5-2805-256-14 for detailed description.
Air Filters. Dry type. Elements may be removed and cleaned.
Compressor. 2-stage, 3 cylinder design, 5 cfm, 175 psi output.
Handtruck. Welded aluminum frame with pneumatic tires.
Compressor Drive and Belt Guard. Two matched V belts transmit power. Belt guard protects operator as well as pulley and flywheel.
Air Hose and Inflator Gage. 50 ft rubber hose. Inflator gage equipped with regular and jumbo size air chucks.
Fuel Tank. Welded steel construction with strainer type fill opening.
Spark Plug. Standard military spark plug.
Air Safety Valve. Preset at 200 psi.
Start Pulley. Pull-cord starting.

Carburetor. Fuel control.
Fuel Tank Three-Way Fuel Selector Valve.
Position 1 – Fuel ON
Position 2 – Fuel OFF
Position 3 – Fuel ON (Auxiliary Tank)
Position 4 – Fuel OFF
V-Belt Tightening Bolts. Controls tension of V-belts.
Fuel Filler Point. Opening to fuel tank.
Fuel Tank Draincock.
Fuel Tank Vent Valve.

Figure 1-1. Compressor Model IS-7.95-5CFM



Air Tank. Steel tank with pressure gage, draincock, shutoff valve, and unloader valve.
Receiver Tank Draincock. Use to drain water from air tank.
Compressor Flywheel.
Air Pressure Gage.
Unloader Valve.

Figure 1-2. Compressor, Left Side

1-14. Differences Between Models

This manual covers only the Melley Energy Systems, Inc. Model IS-7.95-5CFM Air Compressor. No unit differences exist for the model covered by this manual.

1-15. Performance Data

a. Model IS-7.95-5CFM air compressor.

Manufacturer	Melley Energy Systems, Inc.
output	5 cfm at 175 psi (.142 cum at 12.3 kg sq cm)
Type	Gas engine driven, hand-truck mounted.
Serial Numbers	5439 through 6110,6188 through 6404 and 6408 through 6542.

b. Engine.

Make	Military Standard Engine
Model	1A08-3
Type	4-Cycle, gasoline, over-head valve, air cooled
Number of cylinders.	1
Bore	2.250 in. (5.715 cm)
Stroke	2 in. (5.08 cm)
Piston Displacement.	8 cu. in. (131 QCC)
Compression Ratio	6:1
Horsepower at 3,600 rpm	1.5 hp
Cylinder Compression minimum	90 psi (6.3 kg/sq cm)

c. Air compressor.

Manufacturer	Champion Pneumatic Machinery Co.
Model	CAW1
Type	2 Stage, 3 cylinder
Correct rpm	615 ± 25 rpm
Bore and stroke	
Low pressure	2-5/8 in. x 2 in. (6.6675 cm x 5.08 cm)
High pressure	1-3/4 in. x 2 in. (4.445 cm x 5.08 cm)

d. Compressor air filter.

Manufacturer	Champion
Type	Dry type-cleanable

e. Capacities.

Compressor crankcase	1 quart (.946 liters)
Air receiver tank	2 gallons (7.6 liters)
Fuel tank	1.9 gallons (7.2 liters)

1-16. Organizational Maintenance Data

a. Compressor.

(1) Air hose.

Length	50 ft (15.25m)
Diameter	5/16 ID (7.9 mm)
Maximum pressure	200 psi (14 kg/sq cm)

(2) Dimensions and weight.

Length	50in. (127cm)
Width	26 in. (66.04 cm)
Height	24-1/2 in. (62.23 cm)
Weight, net.	150 lbs (68.1 kg)
Shipping weight	300 lbs (136.1 kg)
Volume	18.59 cu. ft. (.527 cum)

b. Engine

(1) Carburetor

Make	Military design

(2) Fuel pump

Make	Military design
Type	Diaphragm
Fuel pump outlet pressure	3.0 to 4.5 psi (0.21 to 0.32 kg/sq cm)

(3) Air cleaner

Make	Military design
Type:	
Model 1A08-3	Dry

(4) Spark plug

Make	18 millimeter Military Standard
Type	Shielded

(5) Governor

Make	Military design

(6) *Fuel* filter

Make	Military design

(7) Adjustments

Spark plug gap	0.028-0.033 in. (0.071-0.084 cm)
Contact point gap	0.016-0.020 in. (.0406-.050 cm)
Valve Tappet clearance (intake and exhaust).	0.007 in. to 0.009 in. (.0178 to .023 cm) cold

(8) Oil capacities

Model 1A08-3	1/2 qt. (0.47 liter)

(9) Dimensions and weights (Model 1A08-3)

Length	17-3/4 in. (45.08 cm)
Width	17-3/4 in. (45.08 cm)
Height	14-1/4 in. (36.19 cm)
Weight	29lbs(13.15 kg)

Section III. TECHNICAL PRINCIPLES OF OPERATION

1-17. Compressor

The compressor is a three-cylinder, two-stage, air cooled unit. It will deliver 5 cfm of air at 175 psi to the air receiver tank when belt-driven by the gasoline engine running at a speed of 3,600 rpm (revolutions per minute). Filtered air as shown in figure 1-3 is drawn into the low pressure cylinders at atmospheric pressure as the pistons move down. Air is compressed when the pistons are moving upward; this action closes the inlet valves and opens the outlet valves, through which the air is forced into the intercooler. As the air flows through the intercooler much of the heat of compression is dissipated. The second stage is similar to the first. The compressed air from the low pressure cylinder enters the high pressure cylinder and is recompressed to higher pressure.

1-18. Engine

The Air Compressor is driven by a Military Standard Model 1A08-111, 1.5 HP gasoline engine. Refer to TM 5-2805-256-14 for a description of the engine.

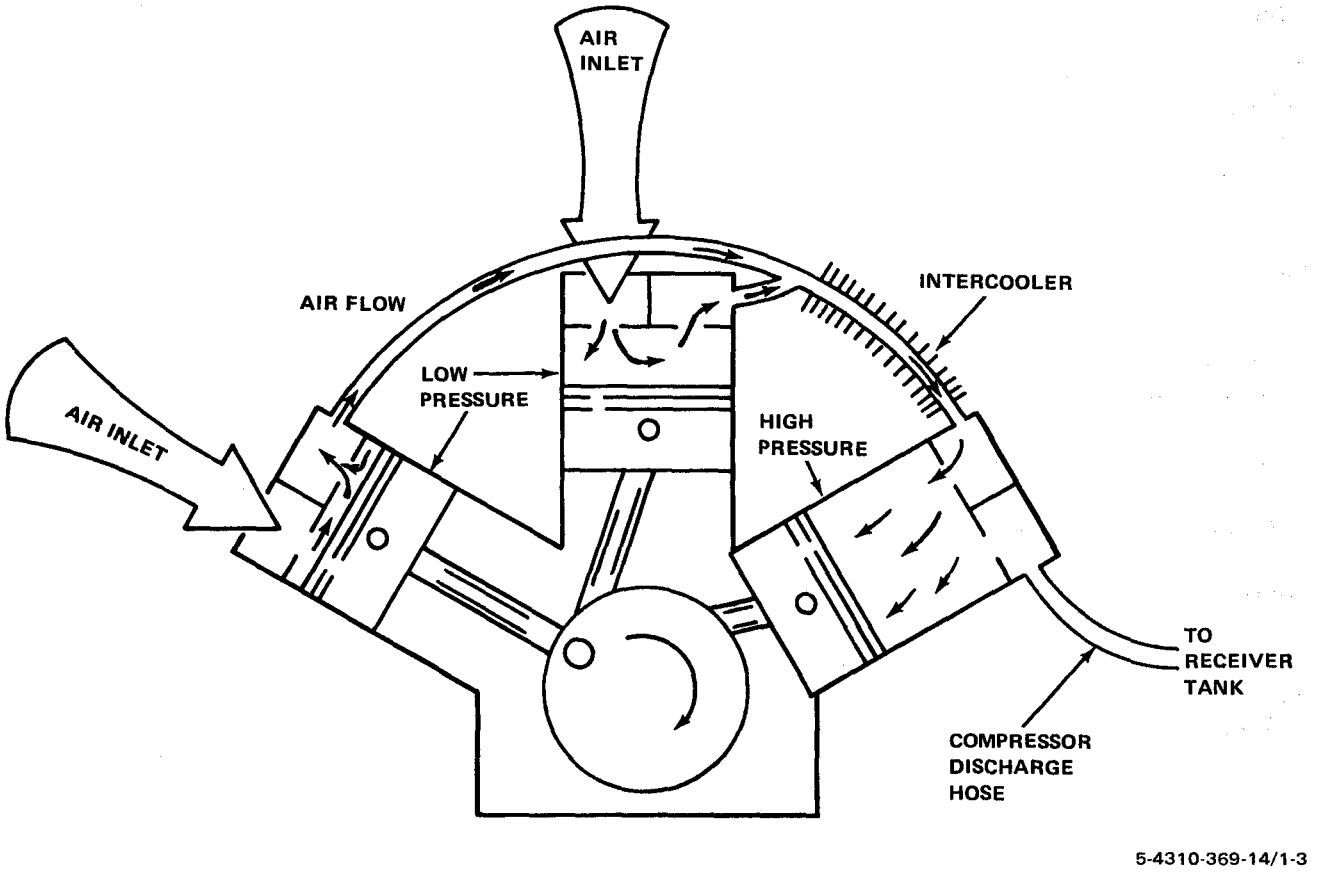


Figure 1-3. Typical Two-Stage Compressor

CHAPTER 2
OPERATING INSTRUCTIONS

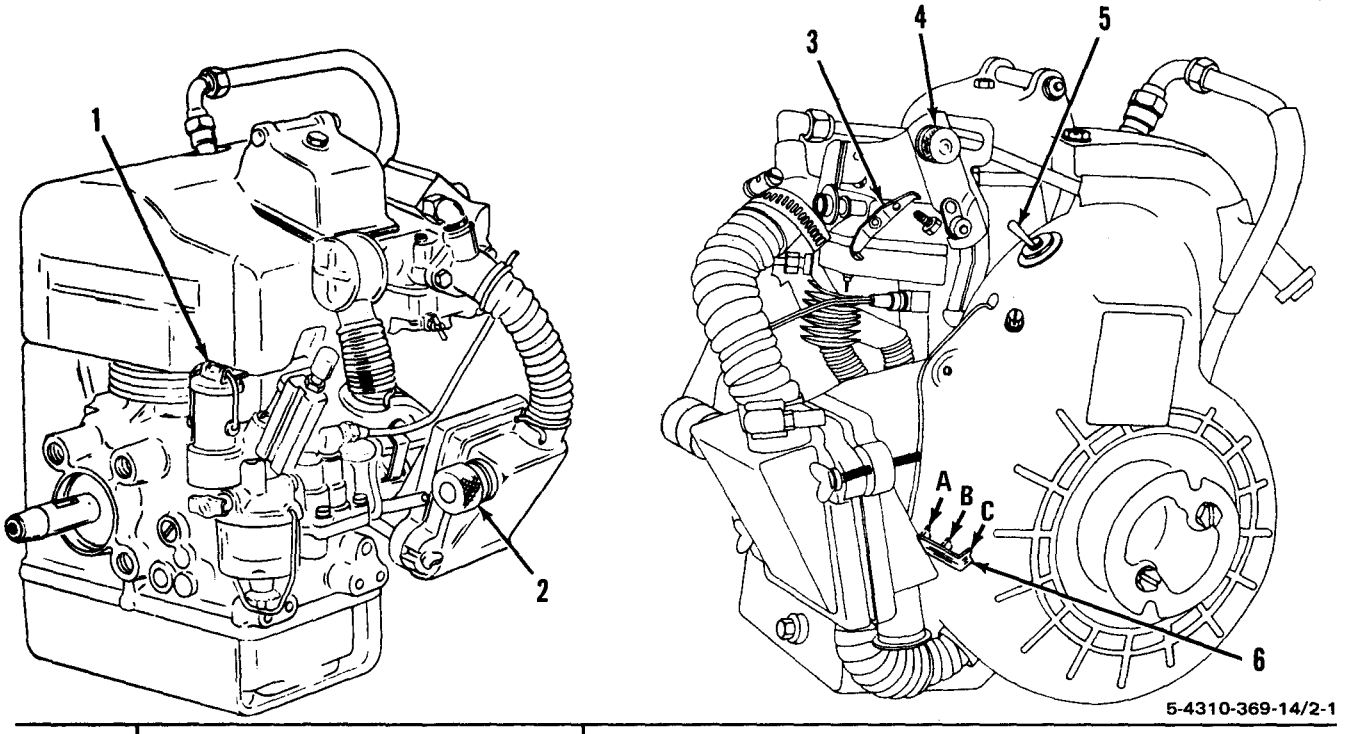
Section I. DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS

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

a. Engine. Figure 2-1. Engine Model 1A08-3.

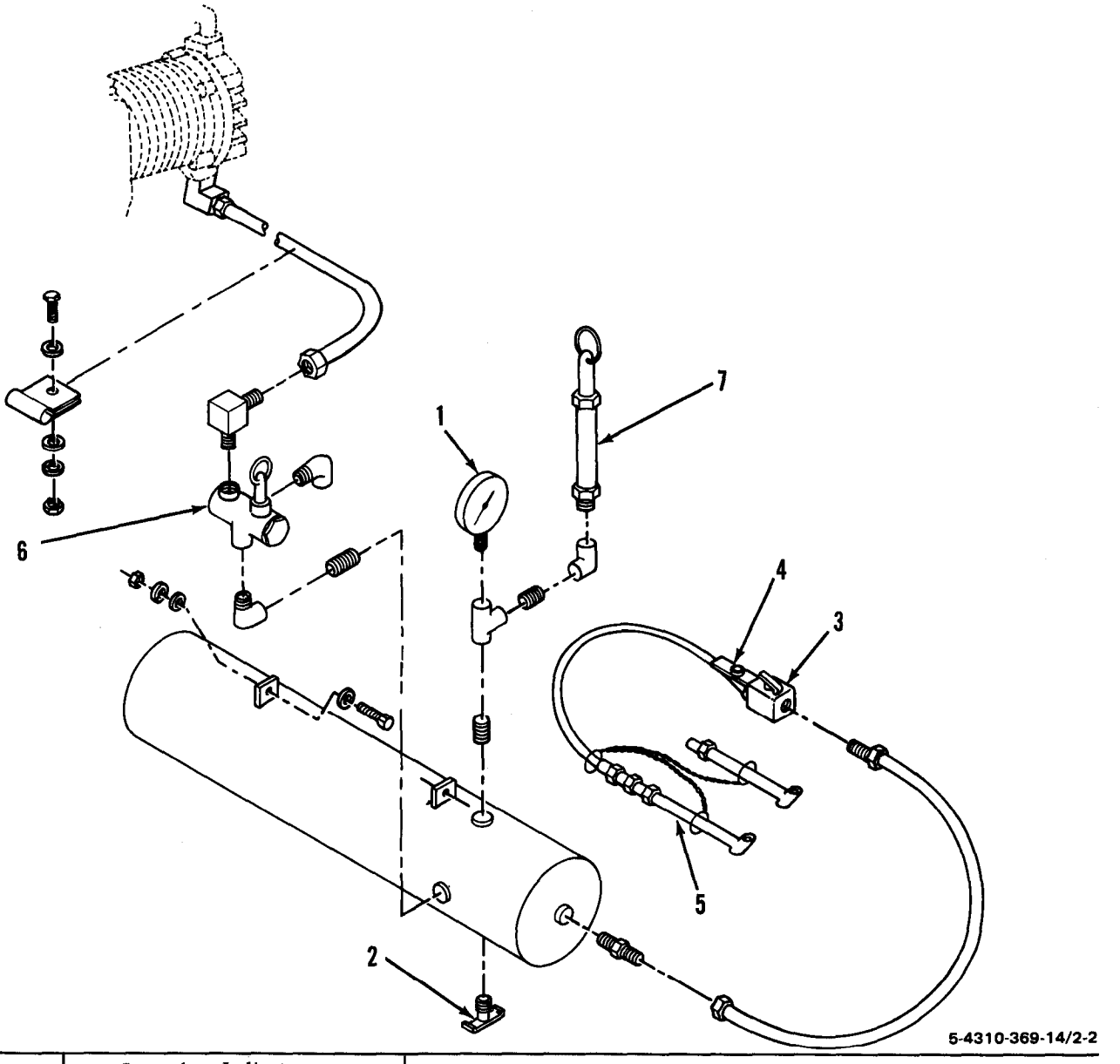
b. Air Receiver System and Air Inflator Gage. Figure 2-2. Receiver Tank.

c. Air Compressor. Figure 2-3. Compressor Pump.



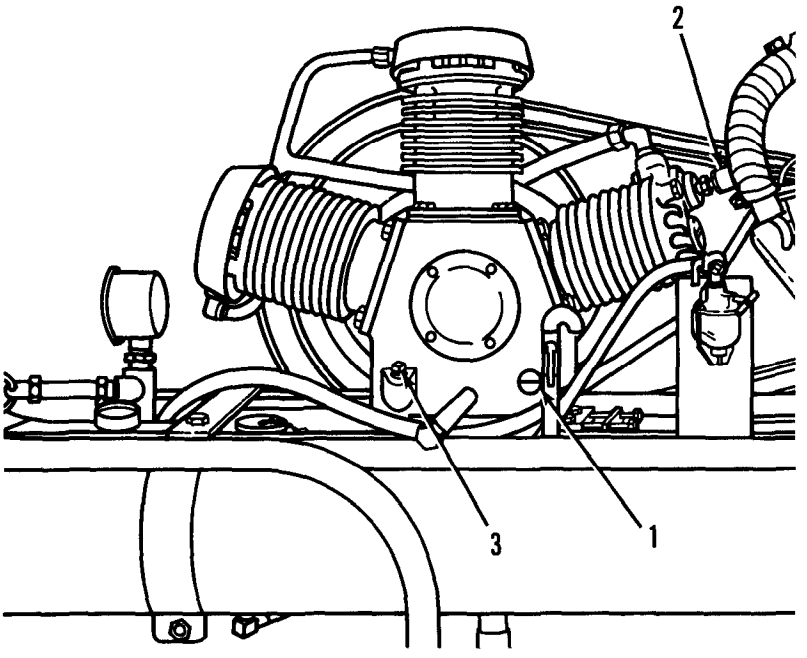
Key	Control or Indicator	Function
1	Oil Dip Stick	Indicates oil level in engine crankcase.
2	Filter Service Indicator	Shows red when air filter needs to be replaced or cleaned (equipped with reset button).
3	Choke	Set ON to enrich fuel mixture for cold starting.
4	Speed Control	Set to IDLE for warmup and FULL SPEED for normal operation.
5	Ignition Switch	Switch to RUN for operation and OFF for stopping the engine.
6	Inlet Temperature Control	Controls temperature of air being fed to engine. Position A – temperature above 50°F Position B – temperature between 25° and 50°F Position C – temperature below 25°F

Figure 2-1. Engine Model 1A08-3



Key	Control or Indicator	Function
1	Pressure Gage	Indicates pressure in the air tank.
2	Draincock	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 Chuck	Used to inflate tires. Two different sizes supplied for different valves.
6	Unloader Valve	Controls loading of air compressor (pressure operated).
7	Safety Valve	Releases air pressure in excess of 200 psi.

Figure 2-2. Receiver Tank



NOTE: Do not remove oil fill plug when unit is operating.

Capacity 1-2/3 pints of oil.

5-4310-369-14/2-3

Key	Control or Indicator	Function
1	Oil Level Sight Gage	Indicates oil level in the crankcase.
2	Interstage Relief Valve	Limits interstage air pressure to 60 psi.
3	Oil Fill Plug	Remove plug to add oil to compressor.

Figure 2-3. Compressor Pump

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 periodically so that any 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 on PMCS.

b. Interval Columns. The columns headed B, D, A, and W, will contain a dot (•) opposite the appropriate check indicating it is to be performed Before, During, After, or Weekly.

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: 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.

B–Before **D–During** **A-After** w–weekly

Item No.	Interval B	D	A	W	Item to be Inspected	Procedures Check for and have Repaired or Adjusted as Necessary	For Readiness Reporting, Equipment is Not Ready/Available If
1	•		•	•	Drive Belts (1) & Tension Adjustment (1a)	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

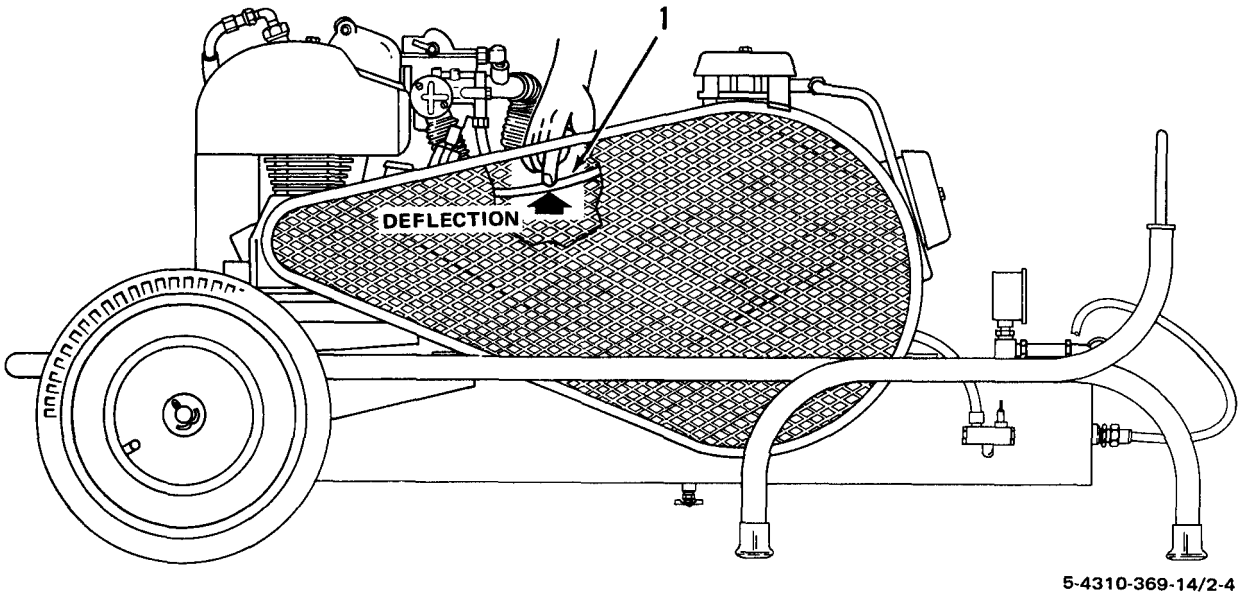


Figure 2-4. V-Belt

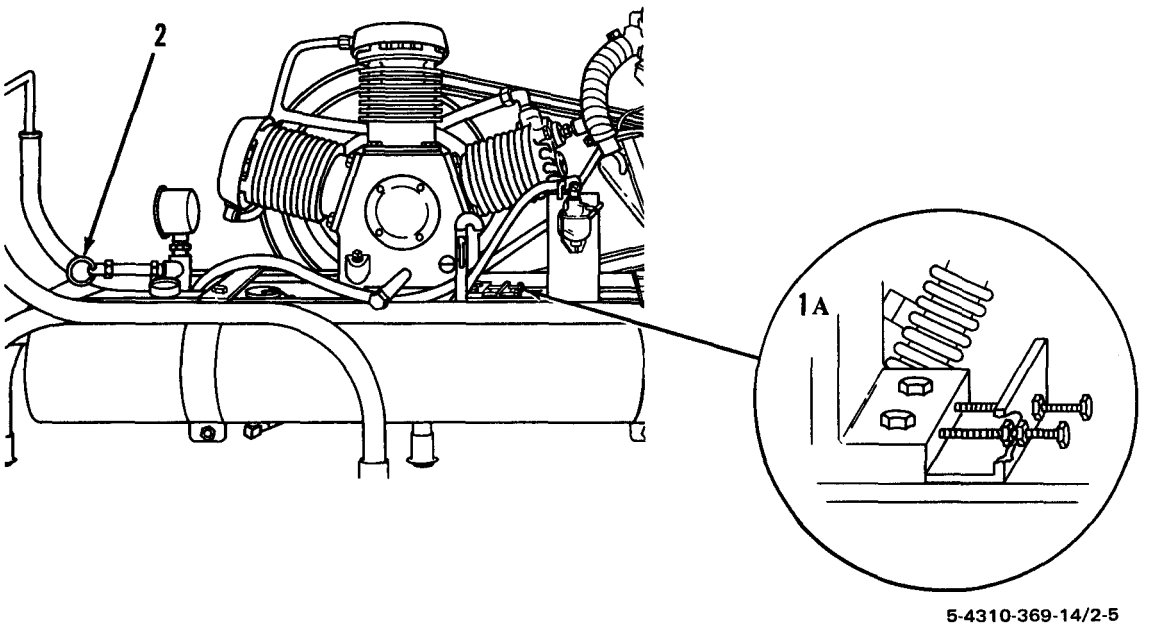


Figure 2-5. Safety Valve and Belt Tightening Adjust

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

Item No.	Interval B	D	A	W	Item to be Inspected	Procedure Check for and have Repaired or Adjusted as Necessary	For Readiness Reporting, Equipment is Not Ready/Available If:
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. After water is drained, close draincock.	
5	•				Fuel Strainer	Should be checked with unit shut down.	**NOTE** By keeping fuel tank full, condensation can be held to a minimum. This simple preventive maintenance step (taken at the end of each day) will greatly reduce water build-up in fuel tank.
6	•		•		Fuel Tank	Check fuel level and fuel strainer. (5)	

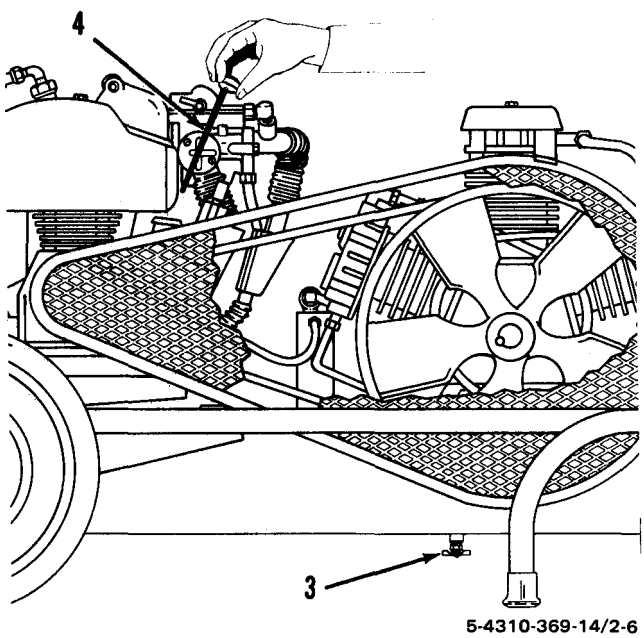


Figure 2-6. Engine Oil Dipstick

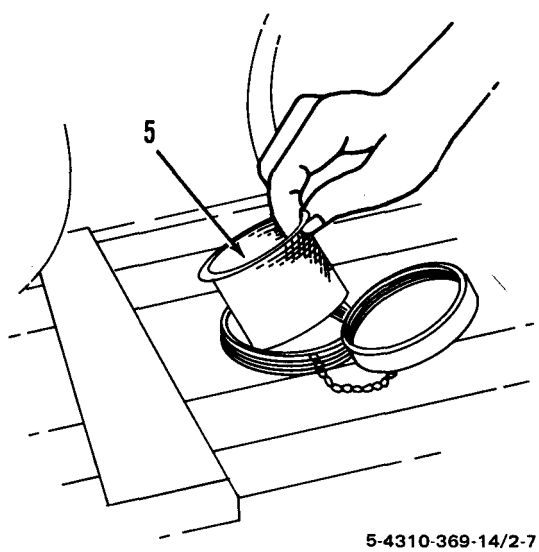


Figure 2-7. Fuel Strainer

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

Item No.	Interval B	D	A	W	Item to be Inspected	Procedures Check for and have Repaired or Adjusted as Necessary	For Readiness Reporting, Equipment is Not Ready/Available If
7	•		•		Air Compressor Crankcase	Check oil level. Service as required. See figure 2-3.	Oil level is low.
8	•		•		Engine	Check oil level. Add oil as indicated by dipstick. See figure 2-6.	Oil level is low.
9		•			Compressor	During operation, observe for any unusual noise or vibration.	Compressor runs noisy.
10				•	Air Filters (6)	Inspect for insecure mounting and internal obstructions. Service. See paragraph 3-9.	Air filter elements are clogged.
11				•	Air Cleaner (7)	Inspect for security mounting and internal obstructions.	Air cleaner element is clogged.
12				•	Tires and Tubes	Check air pressure. Proper pressure is 25 psi (1.8 kg/sq cm).	

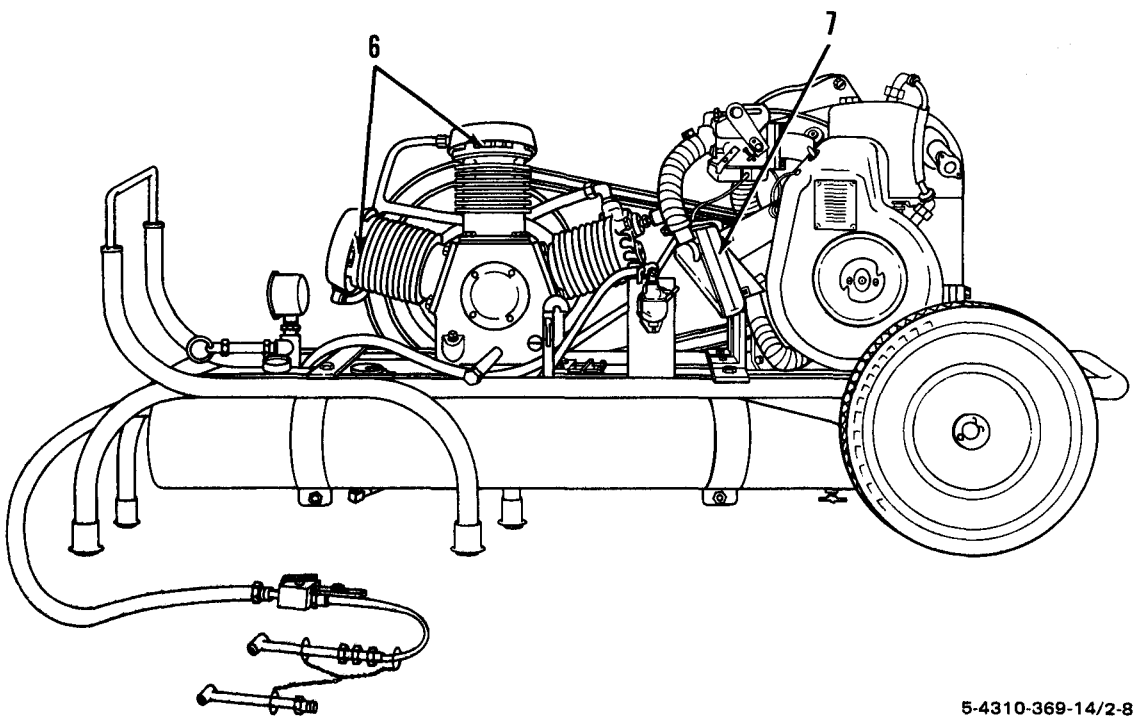


Figure 2-8. Air Filters and Cleaners

Section III. OPERATION UNDER NORMAL 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.

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

b. Preparation for Starting. Perform the Preventive Maintenance Checks and Services as indicated in table 2-1.

c. Startng.

(1) Turn fuel shut-off valve (1) on and position 3-way fuel tank selector valve to unit tank or auxiliary tank.

(2) Open fuel tank vent valve (2).

(3) Turn ignition switch (3) on.

(4) Open draincock (4), air.

(5) Close choke lever (5), figure 2-10.

(6) Depress handle on airhose inflator assembly to unload compressor.

NOTE

The compressor is unloaded when the tank air pressure gage reads 0 psi.

(7) Wind starter rope clockwise around starter pulley **(6).**

(8) With a quick, steady pull, start the engine.

(9) When engine starts, gradually open choke lever **(5).**

(10). Place release valve lever (7) in closed position.

(11) Close draincock (4).

(12) Perform the necessary During Operation Preventive Service as indicated in table 2-1.

(13) Watch for any unusual noise or vibration.

d. Operation.

(1) Perform starting steps 1 through 12.

(2) Check pressure gage (8) reading. It should read between 140 to 175 psi (9.8 to 12.3 kg/sq cm).

(3) Unloader valve (7) is set to unload at 175 psi (12.3 kg/sq cm). Check adjustment and replace valve if valve does not unload at between 170 and 180 psi. Initial adjustment will be necessary when installing a new valve. Refer to paragraph 4-17.

e. Stopping.

(1) Turn ignition switch (3) off.

(2) Depress handle on airhose inflation assembly until air pressure gage on tank reads 30 psi or less.

(3) Open draincock (4) to blow remaining air and condensate from tank.

(4) Close draincock.

(5) Turn fuel shut-off valve off (1).

(6) Close fuel tank vent valve.

(7) Perform the necessary After Operation Preventive Services as indicated in table 2-1.

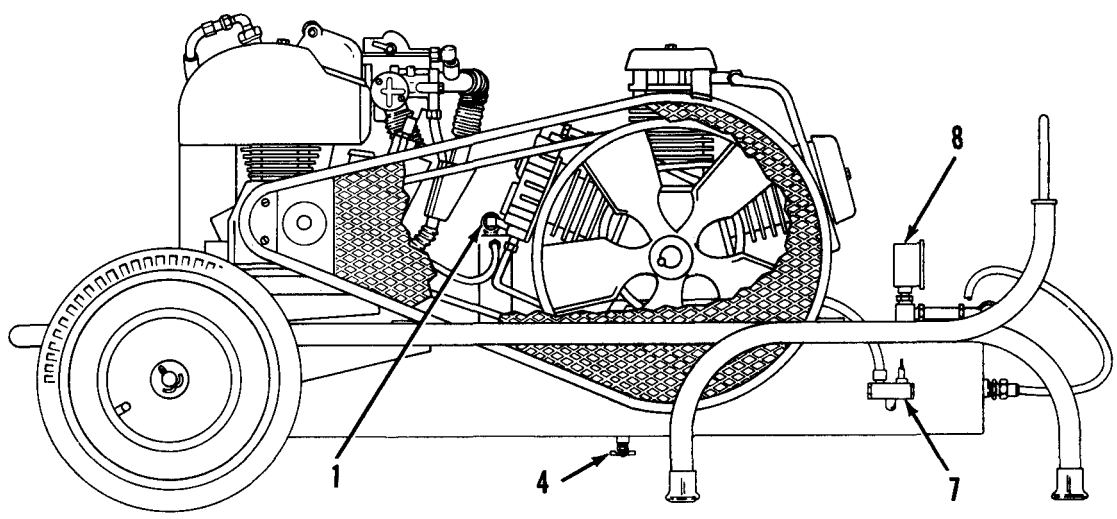


Figure 2-9. Compressor, Left-hand Side

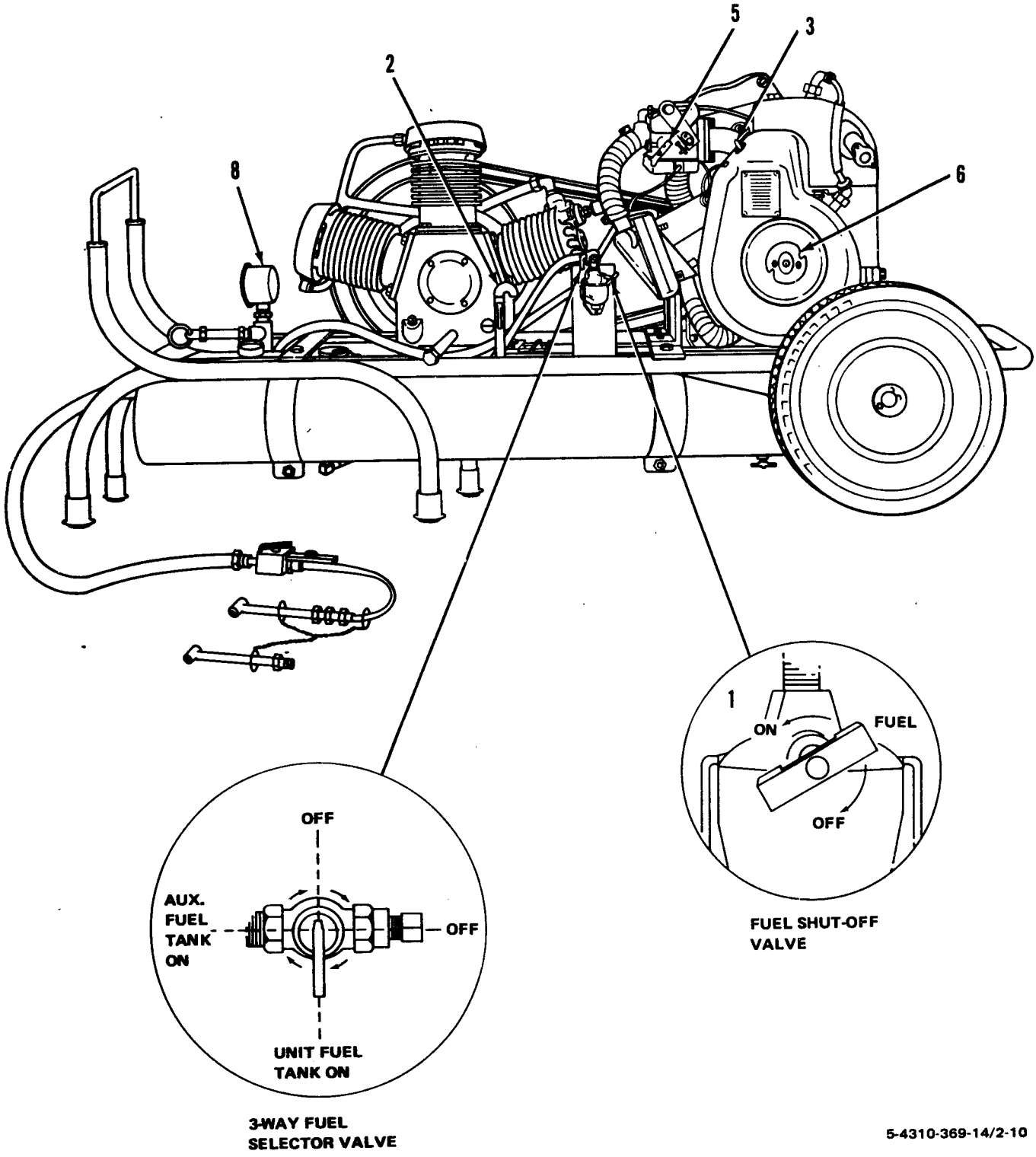


Figure 2-10. Compressor, Right-hand Side

Section IV, OPERATION UNDER UNUSUAL CONDITIONS

2-5. 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. The interstage relief (safety) valve is fitted with a manual override feature to assist in starting the unit in extreme cold. To operate the override, refer to figure 4-7 item 30, and follow procedures listed below.

(1) Grasp pull ring and pull until ring is clear of slotted collar.

(2) Hold collar and twist pull ring 90° so ring rests on top of collar, perpendicular to slot.

(3) After engine has warmed-up, close relief valve by pulling ring and turning 90°, resetting ring into slot in collar.

c. Lubricate the air compressor in accordance with table 3-1.

d. Avoid excessive handling, kinking, and sharp bending of the air hose, which will become brittle at low temperature.

e. 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.

f. Allow engine to reach normal operating temperature before applying load.

g. For additional information on operation in extreme cold conditions, refer to FM 9-207.

2-6. Operation in Extreme Heat

a. Lubricate the air compressor in accordance with table 3-1.

b. Check the drive-belt tension frequently. Improper drive-belt tension often results in overheating.

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.

f . Service all air cleaners as often as necessary.

2-7. Operation in Dusty or Sandy Areas

a. **Lubricate the air compressor in accordance with LO 5-2305-256-12, 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. It is necessary to clean all air cleaners more often in dusty and sandy areas.

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 normal.

2-8. 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 LO 5-2805-256-12.**

c. Coat exposed polished or machined metal surfaces with a suitable rustproof material after first removing any accumulations of rust.

d. Depress handle on airhose inflator assembly until air receiver gage reads 30 psi or less.

e. Open the draincock frequently to blow condensate from the air receiver tank making sure air receiver tank gage reads not more than 30 psi each time.

f. Service all air cleaners more frequently.

2-9. Operation in Salt Water 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 or air intake filters with water.

c. **Make sure all surfaces requiring lubrication are clean and dry before applying lubricant. Lubricate the unit in accordance with LO 5-2805-256-12.**

d. Coat exposed polished or machined metal surfaces with a suitable rustproof material after first removing any accumulation of rust.

2-10. 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 above this level.

CHAPTER 3
OPERATOR'S MAINTENANCE INSTRUCTIONS

Section I. LUBRICATION INSTRUCTIONS

3-1. General Lubrication Information

Refer to LO 5-2805-256-12.

3-2. Air Compressor Lubrication

a. Refer to figure 3-1 for lubrication points and table 3-1 for 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. Shorten the interval if your lubricants are contaminated or if you are operating the equipment under adverse operating conditions.

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 arrow shaft on both sides of equipment. Clean parts with drycleaning solvent, PD-680, or with oil, or diesel. Dry before lubricating. Drain crankcase, fill and check level.

3-3. Engine Lubrication

Refer to LO 5-2805-256-12.

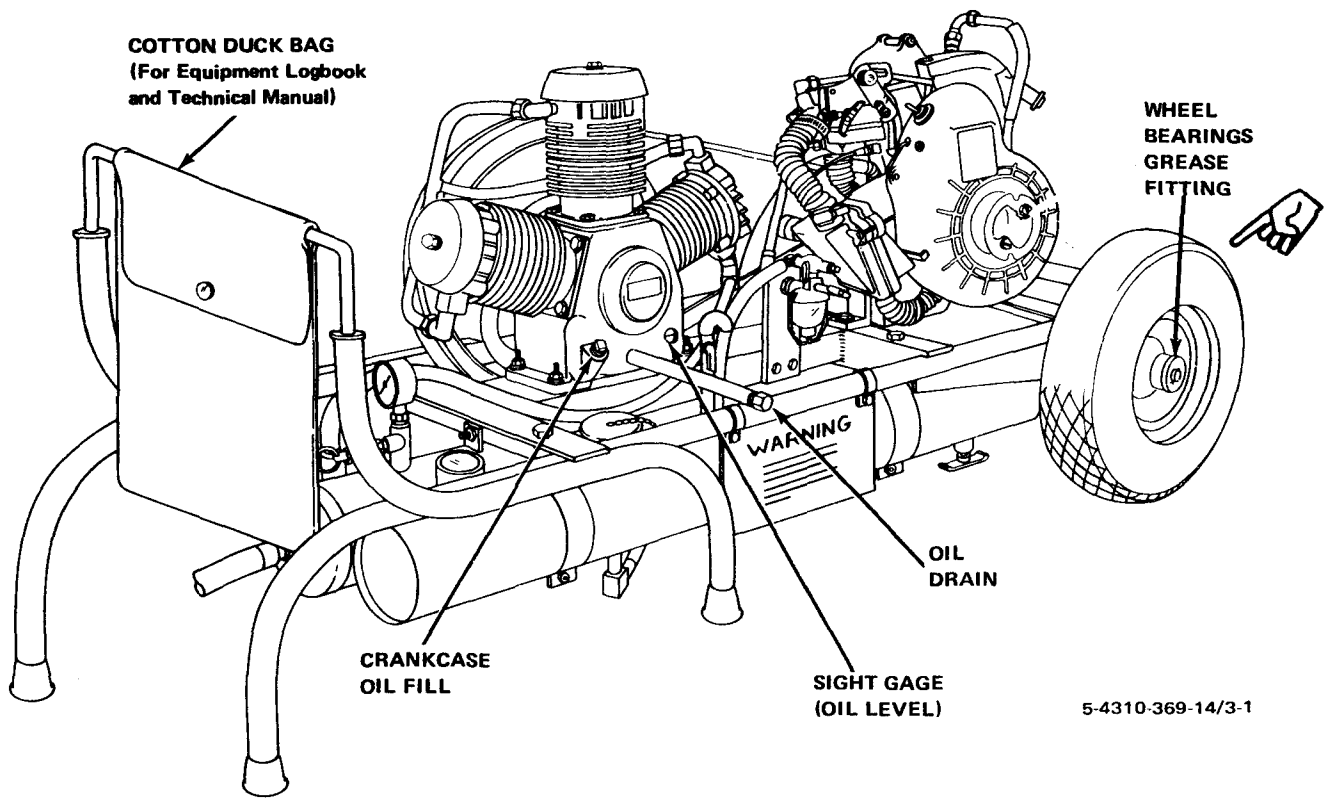


Figure 3-1. Compressor Lubrication

All data on page 3-2 and 3-3 including fig. 3-2. deleted.

Table 3-1. Deleted

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 of 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 3-2.

Table 3-2. 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. Fuel control valve **ON.**

Step 4. Check 3-position fuel selector valve for proper position.

Step 5. Inspect fuel line strainer for signs of dirt or water which could pass into fuel lines (figure 3-3).
a. Unscrew bail nut and push bail out of way.
b. Remove glass bowl, strainer and gasket.

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.

(1) Clean strainer with dry cleaning solvent, P-D-60. Dry thoroughly.
(2) Replace strainer, glass bowl and gasket.
(3) Replace bail and tighten bail nut.

NOTE

Water in the strainer is an indication of water in fuel tank. If water is found in fuel line strainer, the fuel tank should also be serviced to eliminate water.

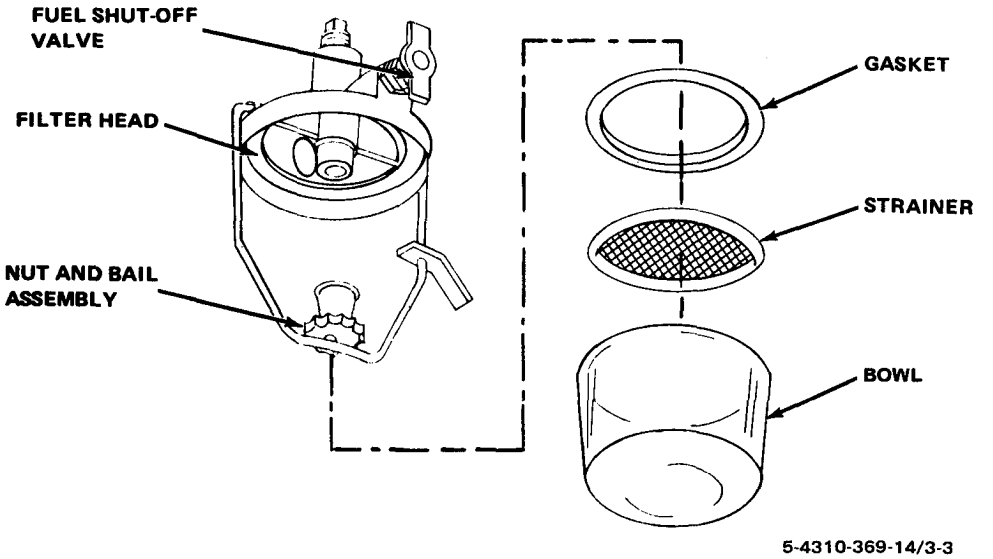


Figure 3-3. Fuel Line Strainer

Table 3-2. Troubleshooting - Continued

Malfunction Teat or Inspection Corrective Action

2. ENGINE MISSES OR OPERATES ERRATICALLY.

Step 1. Inspect fuel tank vent valve – open or blocked.

***Step** 2.* Check for water in fuel line strainer – remove water.

3. ENGINE OVERHEATS.

Step 1. Restricted cylinder cooling fins.

Clean cylinder cooling fins.

4. ENGINE STOPS.

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

Fill fuel tank.

Step 2. Check fuel vent valve open.

Open vent valve.

Step 3. Check fuel line strainer for water or dirt.

Clean strainer.

PNEUMATIC EQUIPMENT

1. COMPRESSOR PUMPS TOO SLOWLY OR PROVIDES INSUFFICIENT PRESSURE.

Step 1. Inspect compressor air filter for blockage.

a. Position ignition switch to OFF to stop engine.

b. Remove air filter rain caps (4) from cylinder heads by removing bolts securing rain caps to cylinder heads.

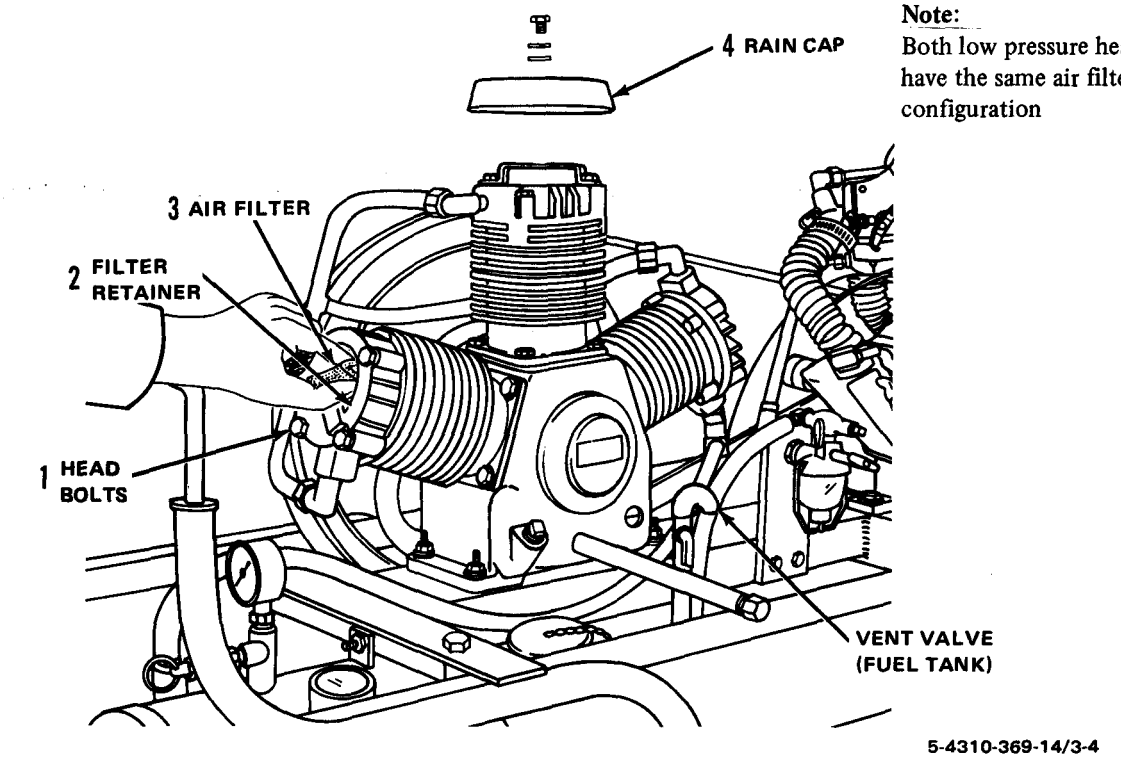


Figure 3-4. Compressor Air Filter Location

Table 3-2. Troubleshooting - Continued

Malfunction Test or Inspection Corrective Action

c. Lift out air filter elements (3) and check for dirt. Service the air filter elements.

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.

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

(1) Clean the air filter with cleaning solvent, P-D-680, and dry thoroughly.
(2) Clean filter by washing with cleaning solvent, P-D-680, and blowing out with air.
(3) Replace defective filter elements.
(4) Reinstall filter elements.
(5) Reinstall air filter rain caps to cylinder heads with bolts.

***Step* 2.** Check for leaks from air receiver tank fittings.
***Step* 3.** Check compressor unloader for correct operation. Paragraph 2-4d (3).

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.

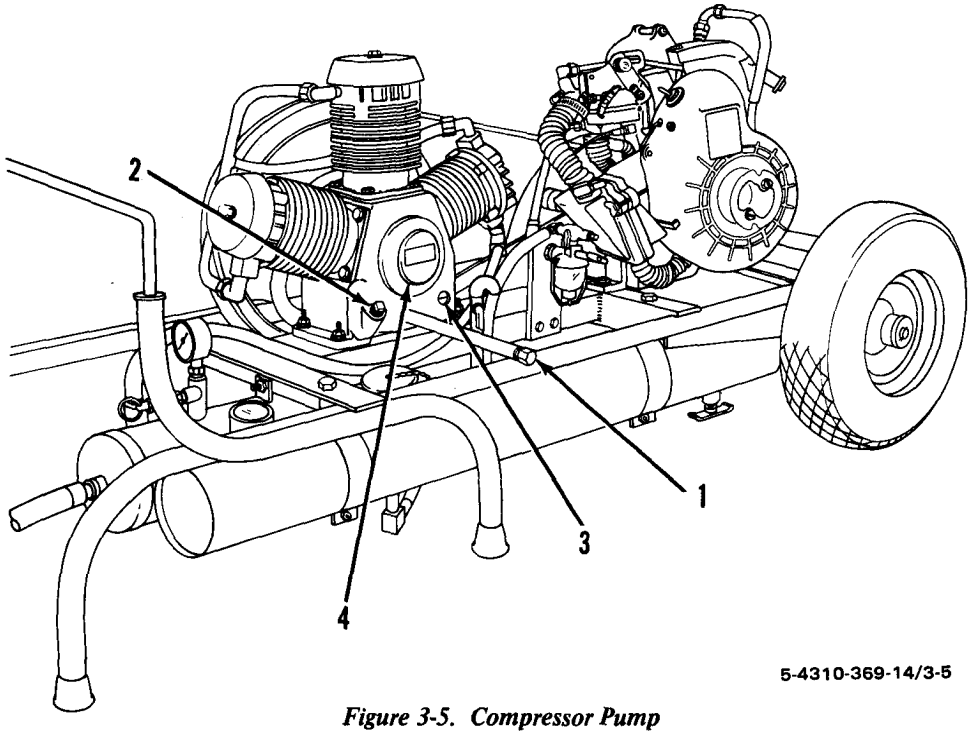


Figure 3-5. Compressor Pump

Table 3-2. Troubleshooting - Continued

Malfunction Teat or Inspection Corrective Action

b. Install drain cap (1) when oil is completely drained.
c. Remove oil filter plug (2).
d. Fill crankcase with approximately (1 quart [0.94 liters]) of correct type of oil as follows:

Expected Temperature	Oil Type
Above 32°F (0°C)	OE 30
+40°F (4.5°C) to -10°F (-23°C)	OE 10
O°F (-18°C) to -65°F (-54°C)	OEA

e. Replace fill plug after checking oil level at sight gage (3).

Step 2. Inspect for signs of oil leaks from crankcase bolts and plates.

Secure bolts and plates.

NOTE

Crankcase breather will show oil vapor – do not plug vent hole (4).

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. Maintain a 12 inch distance from walls, etc.

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 30
+40°F (4.5°C) to -10°F (-23°C)	OE 10
0°F (-18°C) to -65°F (-54°C)	OEA

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 for leaks.

b. Check fuel tank cap gasket for leaks and replace if necessary.

c. If leak is found in fuel tank (2), report to next higher echelon for maintenance.

d. Clean fuel tank strainer (6).

e. Check fuel tank draincock closed (3).

f. Check fuel tank vent valve (4) for security and proper operation.

g. Check fuel tank fuel level gage (5) for free operation and gasket for leaking.

h. Check fuel line strainer (7) for water or dirt, clean if contaminated.

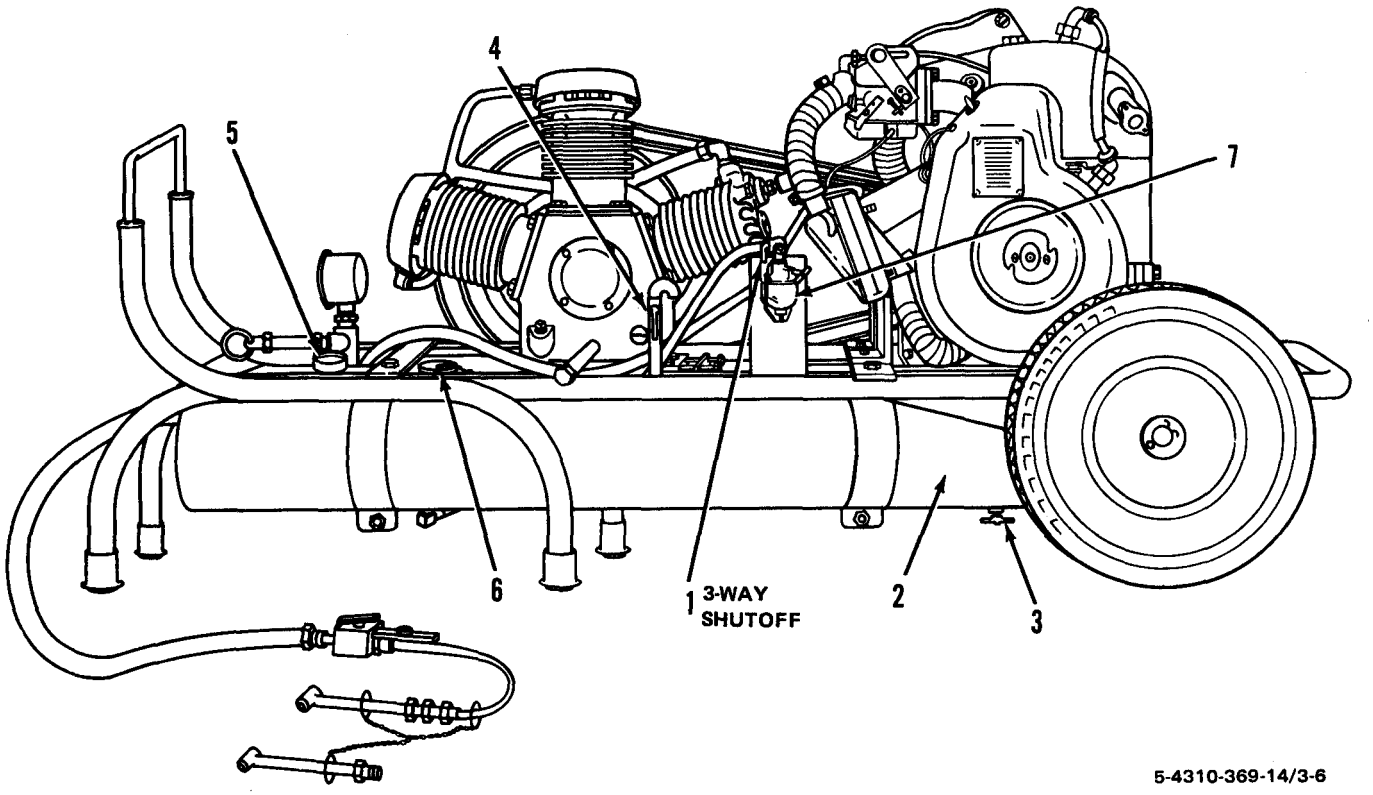


Figure 3-6. Compressor, Right-hand Side

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. Insepct the V-belts (2) for cuts, fraying and wear.

d. Inspect the pulley (3) for cracks or looseness and alignment.

3-9. Air Filters

a. Removal.

(1) Stop the engine.

(2) Remove air filter rain caps (1, figure 3-8) from cylinder heads by removing bolts securing rain caps to cylinder heads.

(3) Lift out filter elements (2).

b. Cleaning and Inspection.

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 drycleating 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 10O°F (38°C). Ensure that ventilation adequate to reduce solvent vapor concentrations below acceptable threshold limit values is provided.

When using compressed air for blowing, air hose pressure must not exceed 20 psi, and individuals must wear eye protective equipment.

(1) Clean filter element (2) by washing with cleaning solvent P-D-680, blow out with air, and dry thoroughly.

(2) Replace filter elements if defective.

c. Installation.

(1) Install filter elements into filter housings on heads.

(2) Reinstall air filter rain caps to cylinder heads with bolts.

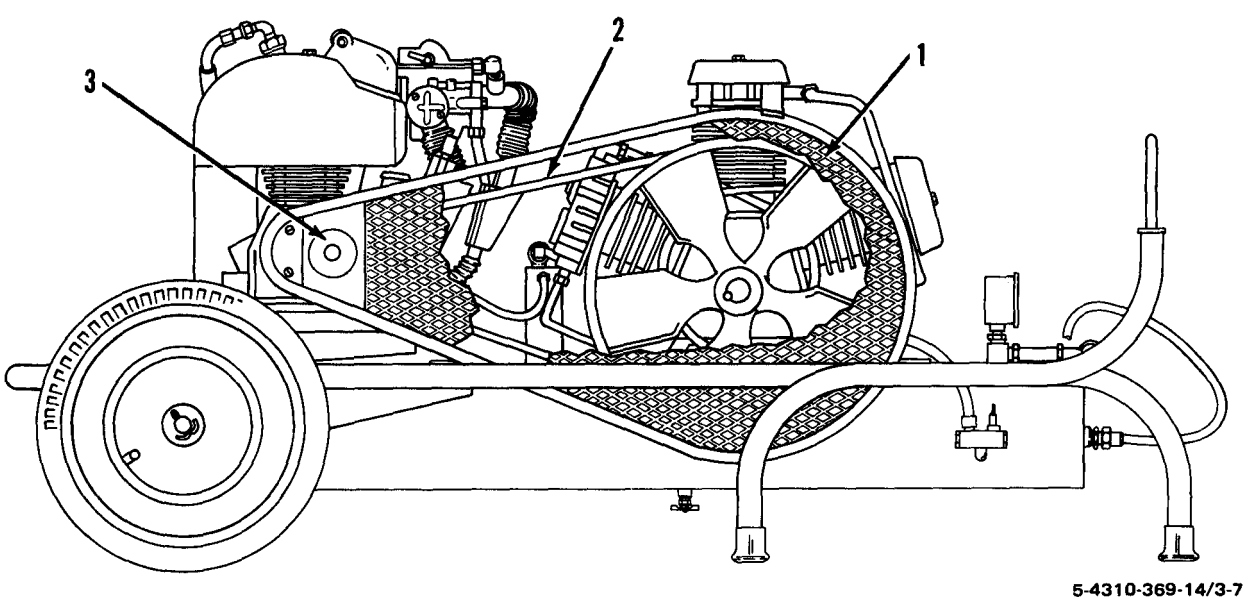


Figure 3-7. *"V"-Belts and Guard*

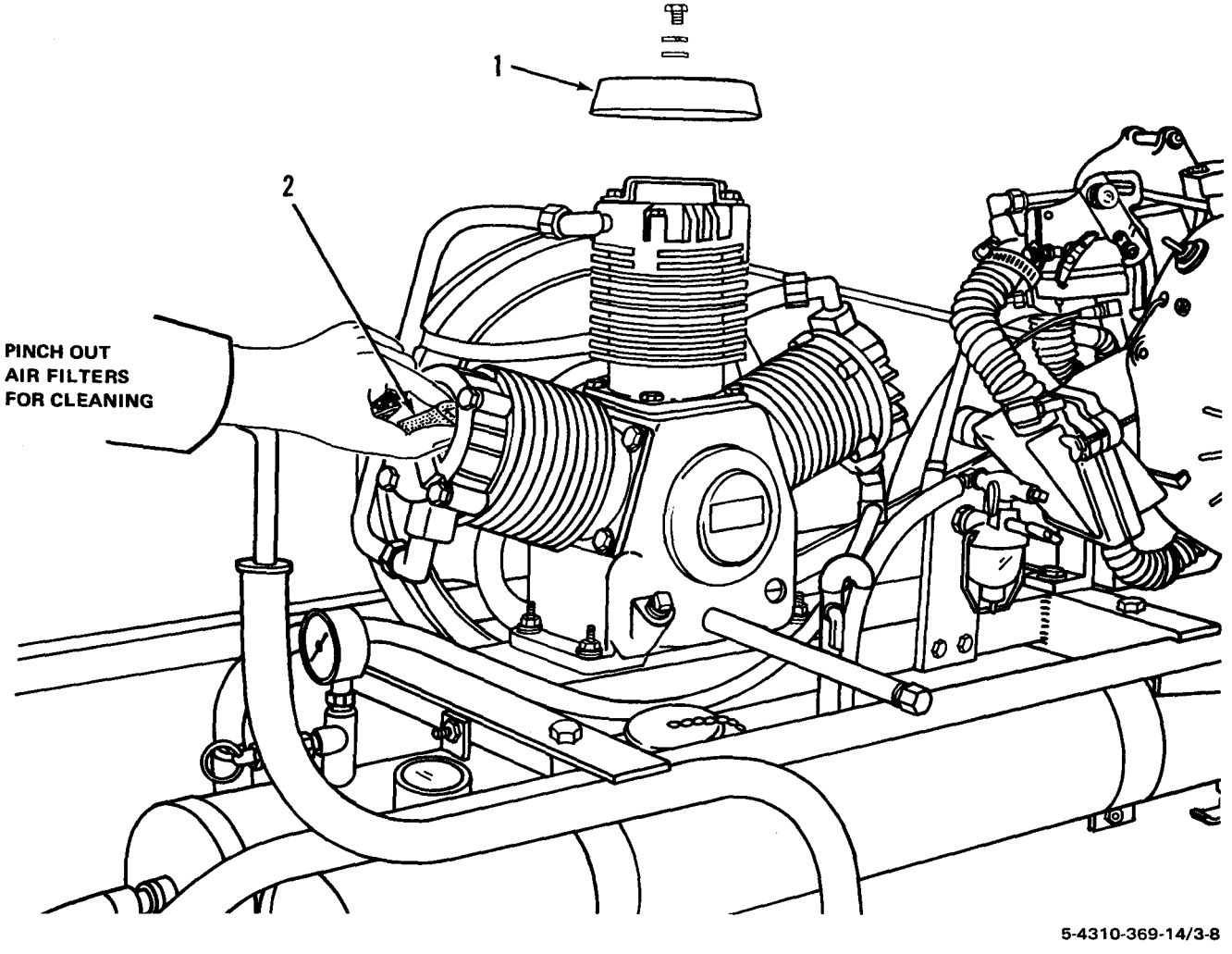


Figure 3-8. Compressor Air Filter Removal

3-10. Air Receiver Tank

a. Open draincock (1) before and after operation to remove moisture from the air receiver tank insuring that air tank gage does not read more than **30** psi.

b. Keep all fittings connected to the air receiver tank tight. Check for leaks with pressure in air receiver. Check welds on air receiver tank.

c. Check air receiver tank attaching bolts for security.

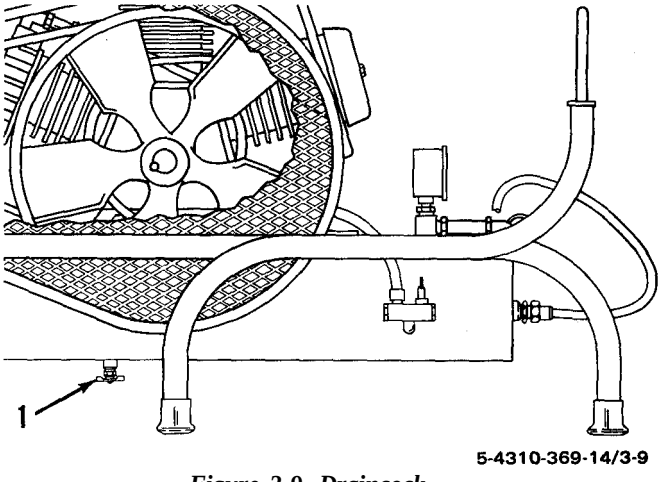


Figure 3-9. Draincock

3-11. Air Cleaner (Engine)

a. Disassembly.

(1) Remove wing bolts (1).

(2) Remove element (2).

b. Cleaning and Inspection.

(1) Use air or water and detergent to clean.

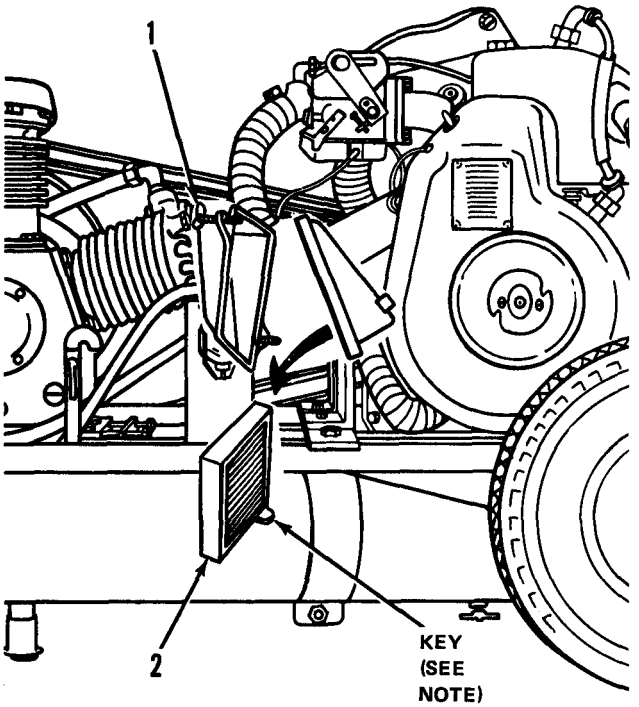
(2) Do not clean with gasoline or other solvents.

c. Reassembly and Installation.

(1) Install element (2).

(2) Replace wing bolts (1).

(3) Tighten wing bolts evenly. (Do not use wrench!)



NOTE

Air filter element is keyed to prevent error in installation.

5-4310-369-14/3-10

Figure 3-10. Air Cleaner Element

3-12. Air Discharge System

a. Examine fittings for security and leaks.

b. Examine hoses (1) for cracks or leaks.

c. Examine inflator gage (2) for cracked dial glass, leaks, and defective handle.

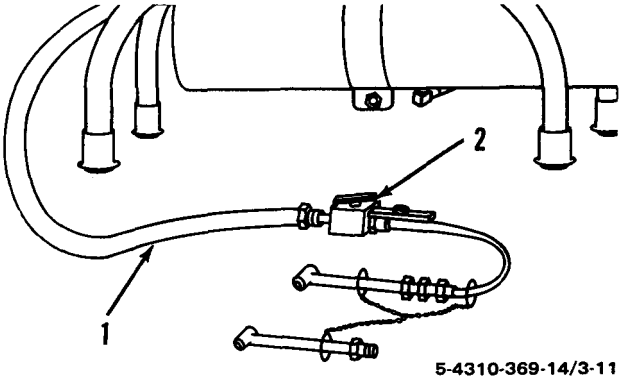


Figure 3-11. Air Discharge System

CHAPTER 4
ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

Section I. REPAIR PARTS, SPECIAL TOOLS AND EQUIPMENT

4-1. Special Tools and Equipment

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

4-2. Repair Parts

Repair parts are listed and illustrated in the repair parts and special tools list covering organizational maintenance for this equipment, TM 5-4310-369-24P.

Section II. SERVICE UPON RECEIPT OF MATERIAL AND PREPARATION FOR MOVEMENT

4-3. Impeding and Servicing the Equipment

a. Unloading.

(1) Remove all tiedowns or blocking that secure the crate to the carrier, as illustrated in figure 4-1.

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

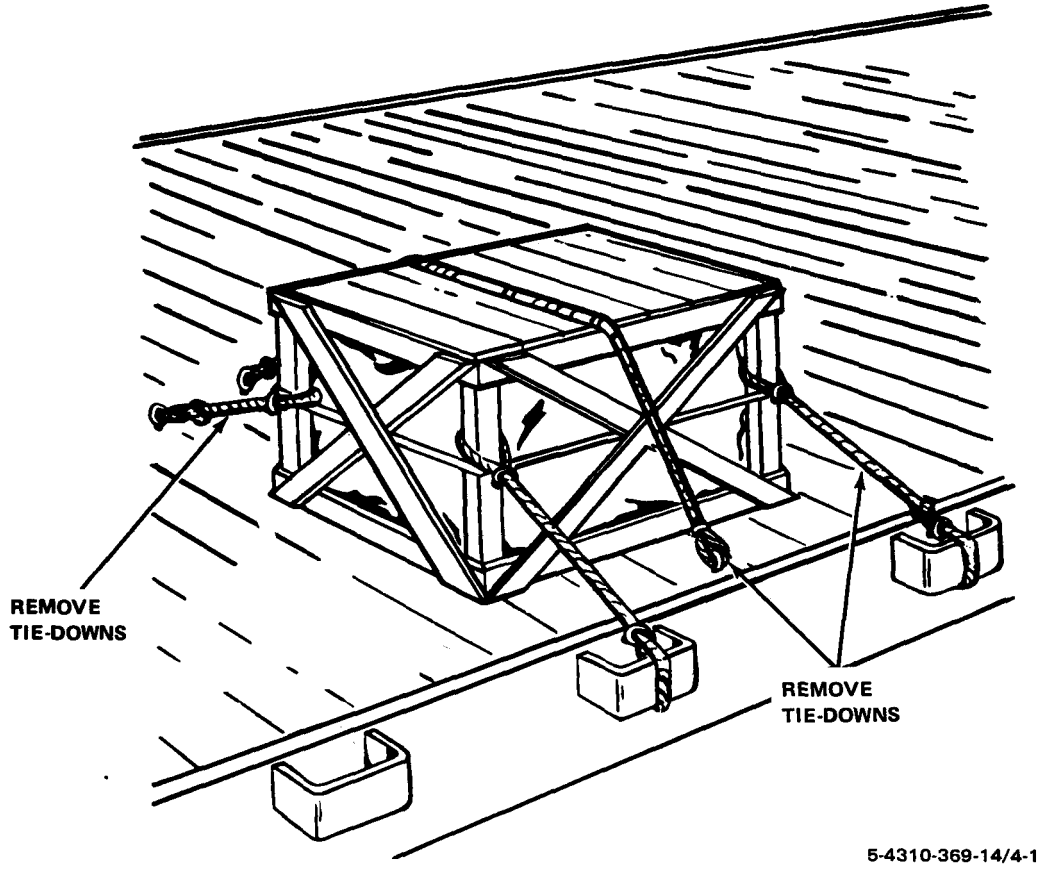


Figure 4-1. Shipping Tiedowns

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.

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 flywheel pulley turns freely by hand. If shipping crate has been damaged, pay particular attention to the compressor areas adjacent to damaged areas of the crate.

(2) Inspect the engine for loose connections, and insecure mounting (figure 4-2).

(3) Inspect the air compressor for loose mounting bolts, cracks, breaks and other defects (figure 4-2).

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

(5) Inspect the handtruck assembly for cracks, breaks and other damage.

(6) Inspect the wheel assemblies for cracks, breaks, insecure mounting and alignment.

(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.

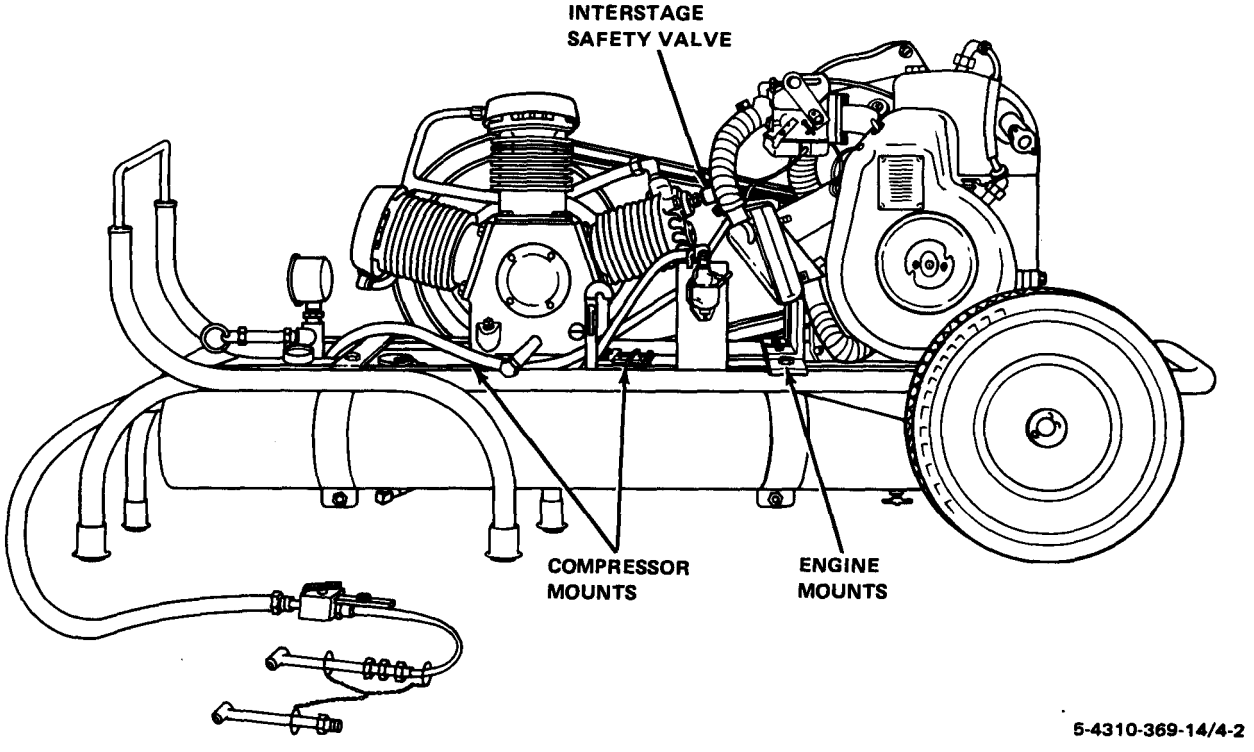


Figure 4-2. Compressor and Engine Mounts

4-4. Installation

a. General. The portable air compressor which requires no base 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.

b. Outdoor Installation. Avoid muddy, sandy or dusty locations as a site for operation as dirt and moisture shorten the life of all moving parts.

c. 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. Maintain a minimum distance of 12 inches from walls, etc.

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

WARNING

NOISE HAZARD EQUIPMENT
HEARING PROTECTION
REQUIRED

4-5. Preparation for Movement

a. Operate the compressor and allow the pressure in the air receiver tank to build up 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 in recess of cover then place new gasket in falter head (5) and install bowl over strainer.

(4) Swing cup and bail assembly beneath bowl and secure with nut at base.

d. Drain fuel tank into a suitable container (1).

e. Remove the air hose assembly (2) 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 III. OPERATIONAL CHECKS

4-6. Operation

a. Refer to Chapter 2 (paragraph 2-4) for basic operation instructions.

b. Engine Operational Check. The engine governor must adjust the fuel input into the engine to control engine RPM (speed) during light and heavy loads on the engine.

By alternately loading the engine (using air) and unload unloading the engine (not using air) the operation of the governor can be observed. If trouble exists, refer to troubleshooting table 4-2.

c. Compressor Checks.

(1) The air compressor is designed to deliver 5 cubic feet of air per minute (CFM) at a pressure of 175 pounds per square inch (PSI) (.142 cum at 12.3 kg/sq cm). This can be checked by loading the compressor (using air operated equipment) and checking for a pressure drop on the air gage. If trouble exists, refer to troubleshooting table 4-2.

NOTE

The amount of air in CFM and the pressure in PSI necessary to operate pneumatic equipment can be determined by checking equipment data plates or technical manuals. This air compressor should not be used to operate equipment that requires more than 5 CFM of air supply.

(2) The operation of the unloader valve can be determined by starting the compressor and observing the air pressure gage. Upon starting, the air pressure gage should indicate 0 psi and the engine should be running at full throttle (3600 rpm). When air pressure builds to 175 psi, the unloader valve will unload the compressor (let air escape).

Further operation of the unloader valve can be determined by bleeding air from the tank (using air) and observing the air gage. As the air pressure drops to 140 psi (9.8 kg/sq cm), the unloader valve will load the compressor (stop air from escaping) and deliver air to the receiver. If trouble exists, refer to troubleshooting table 4-2.

Section IV. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

4-7. General

To ensure that the air compressor is ready for operation at all times, it must be inspected systematically so that defects may be discovered and corrected before they will result in serious damage or failure. Defects discovered during operation of the units shall be noted for future correction, to be made as soon as operation has ceased. Stop operation immediately if a deficiency is noticed which would damage the equipment if operation were continued. All deficiencies and shortcomings will be recorded together with the corrective action taken on DA Form 2404 (Equipment Inspection and Maintenance Worksheet) at the earliest possible opportunity.

4-8. Preventive Maintenance Checks and Services

a. This paragraph contains a tabulated listing of preventive maintenance services which must be performed by organizational maintenance personnel at quarterly intervals. A quarterly interval is equal to 3 calendar months, or 250 hours of operation, whichever occurs first.

b. The item numbers are listed consecutively and indicate the frequency of minimum requirements. Refer to table 4-1 for the quarterly preventive maintenance services. It should be noted that the item number column is used as a source of item numbers for the TM number column on DA Form 2404 Equipment Inspection and Maintenance Worksheet, in recording results of Preventive Maintenance Checks and Services.

Table 4-1. Organizational Preventive Maintenance Checks and Services Quarterly Schedule

Item No.	Item To Be Inspected	Procedures Check For And Have Repaired, Replaced, Adjusted As Necessary	For Readiness Reporting, Equipment Is Not Ready/Available If
1	Drive Belts	Inspect for improper tension, excessive wear and cracked or frayed condition. Refer to paragraph 4-14 for adjustment or replacement of drive belts.	Belts are cracked.
2	Aftercooler and Intercooler	Inspect for leaks, damage, and loose connections. Replace a defective tube. Refer to paragraph 4-20.	
3	Relief Valve	Inspect for improper operation and insecure mounting. Refer to paragraph 4-18.	Valve leaks.
4	Constrols and Instruments	Inspect for damage and insecure mounting. With the unit operating, check for improper operation.	Controls are damaged or missing.
5	Air Receiver Tank	Inspect for leaks and damage. Refer to paragraph 4-21.	Tank leaks.
6	Fuel Tank	Check fuel level. Inspect for leaks, loose and missing hardware. Refer to paragraph 4-11.	Tank leaks.
7	Compressor Crankcase Oil Level	Check oil level. Add oil as indicated on sight glass. See table 3-1 for proper type of oil to use.	Oil level is low.
8	Tires, Tubes and Wheels	Inspect for cuts, foreign objects and damage. Check air pressure. Proper pressure is 25 psi (1 .75 kg/sq cm). Refer to paragraph 4-24.	
9	Engine Oil Level	Check oil level. Add oil as indicated on oil gage. See figure 3-2 for proper type of oil to use.	Oil level is low.

Section V. TROUBLESHOOTING

4-9. General

This section provides useful information for diagnosing and correcting unsatisfactory operation or failure of the air compressor and its components. Each malfunction stated is followed by a list of tests and inspections. Any trouble beyond the scope of organizational maintenance shall be reported to direct support maintenance.

4-10. Organizational Maintenance Troubleshooting

Perform troubleshooting functions in accordance with table 4-2.

Table 4-2. Troubleshooting

Malfunction Teat or Inspection Corrective Action

ENGINE

Refer to engine maintenance manual TM 5-2805-256-14 for maintenance procedures.

PNEUMATIC SYSTEM

1. SLOW PUMPING OR INSUFFICIENT PRESSURE.

Step 1. Inspect for clogged compressor air filters.

Clean elements (figure 3-8).

a. Removal.

(1) Stop engine.

(2) Remove air filter rain caps (1) from cylinder heads by removing bolts securing rain caps to cylinder heads.

(3) Remove air filter elements (2) as indicated.

b. Cleaning.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C).

(1) Clean the air filter with cleaning solvent, item 5, App. D, and dry thoroughly.

(2) Clean filter element by washing with an approved cleaning solvent and blowing out with air.

c. Installation.

(1) Reinstall filter elements in heads (figure 3-8).

(2) Reinstall air filter rain caps to cylinder heads with bolts.

Step 2. Check for leaks in air lines, valves, fittings, etc.

Locate leaks and tighten or replace threaded parts.

a. Build up air pressure in compressor.

b. Using soapy water, check for leaks at all valves, fittings, etc.

c. Tighten threaded parts or, if necessary, replace damaged parts, after releasing pressure.

Step 3. Determine if compressor is too small for equipment being operated. Check the air pressure requirements of the equipment being serviced. If it is greater than the output of this compressor, obtain a compressor unit of a large enough capacity to perform the required job.

Table 4-2. Troubleshooting-Continued

Malfunction Test or Inspection Corrective Action

Step 4. Check to determine if engine is at correct speed.

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.

Adjust the engine speed governor control to obtain correct speed. Refer to engine maintenance manual TM 5-2805-256-14 for procedure.

2. EXCESSIVE OIL CONSUMPTION.

Step 1. Check for "wrong type" or "inferior grade" of oil.

Step 2. Check compressor for oil leaks and oil weeping at bolts, nuts and gasket areas. Secure bolts and nuts to correct torque. Gaskets that leak should be replaced if leaking continues after fastenings are tightened.

Step 3. Check crankcase breather for correct operation. Figure 3-5. Vent hole must be free and clear.

3. NOISY OPERATION.

Step 1. Check for loose external parts.

Examine compressor carefully, tightening any loose bolts, screws, nuts, or other threaded parts that might be generating noise.

Step 2. Check for pulley striking intercooler coil.

a. Bend the coils toward base so they clear pulley.

b. If pulley still strikes coil, proceed as follows.

(1) Refer to figure 4-3 for removal of belt guard.

(2) Loosen setscrew on hub of flywheel and slide flywheel outward on compressor crankshaft until it clears coils. Tighten setscrew.

(3) Refer to paragraph 4, step 2, table 4-2, for belt alignment.

(4) Install guard.

Step 3. Check for insufficient oil.

Check oil at oil level sight gage.

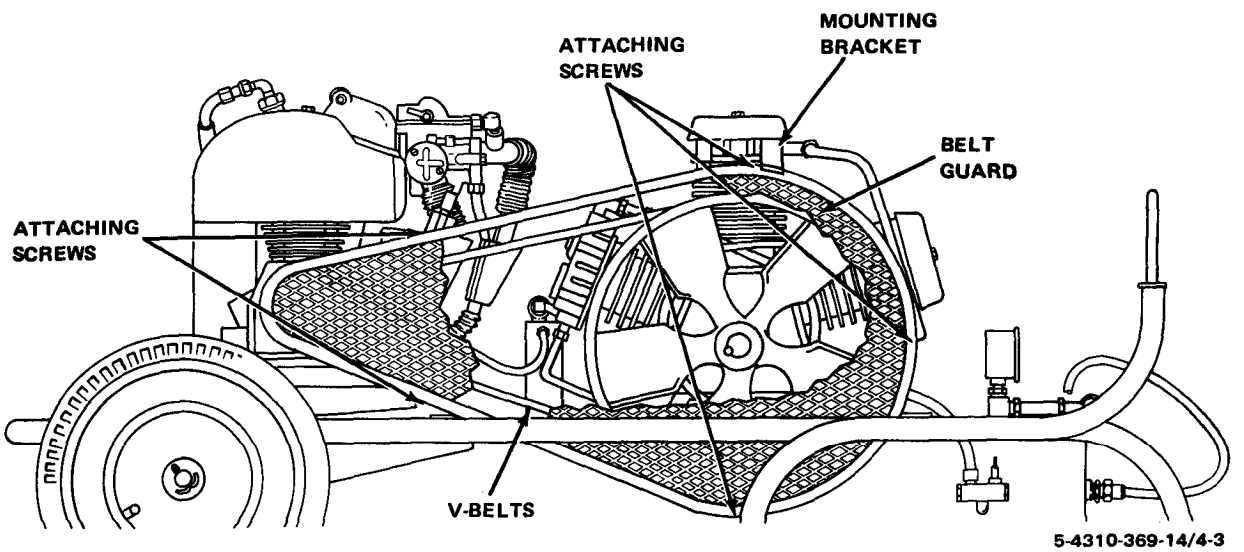


Figure 4-3. Compressor Belt Guard, Removal and Installation

Table 4-2. Troubleshooting - Continued

Malfunction Teat or Inspection Corrective Action

4. EXCESSIVE VIBRATION.

Step 1. Check for loose compressor or engine mounts.

Tighten all the bolts holding the engine and compressor to the handtruck frame.

Step 2. Check if belts are out of alignment.

Realign belts.

a. Refer to paragraph 4-13 for removal of belt guard.

b. Loosen set screw of compressor flywheel and adjust flywheel on shaft until belts align between pulleys. Tighten setscrew.

CAUTION

Refer to paragraph 3 of Pneumatic Systems, step 2, Flywheel Striking Interstage Tubing.

c. Install guard by attaching screw to engine and nuts to handtruck frame.

5. COMPRESSOR OVERHEATING.

Step 1. Check for dirt in intercooler coil and cylinder fins.

Using air hose, blow dirt from cooling coils and fins.

WARNING

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

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

If compressor cannot be moved, check possibility of piping intake to cooler location. Keep a distance of 12 inches between compressor unit and walls, etc.

6. INTAKE AIR FILTER NOT FILTERING PROPERLY.

Inspect the compressor air filters (located in the head of each low pressure cylinder) for the presence of moisture or dirt.

Replace defective filter elements if required.

***a.* Removal. Remove air filter rain caps, (1, figure 3-8) from cylinder heads by removing bolts securing rain caps to cylinder heads.**

***b.* Remove air filters from cylinder heads by pinching and lifting out.**

***c.* Cleaning and inspection.**

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C).

(1) Clean the elements with cleaning solvent, item 5, App. D, and dry thoroughly.

(2) Replace damaged elements.

d. Installation.

(1) Reinstall filter elements in cylinder heads.

(2) Reinstall air filter rain caps on cylinder heads with bolts.

Table 4-2. Troubleshooting - Continued

Malfunction
Test or Inspection
Corrective Action

7. AIR LEAKAGE.

Step 1. Check for leaking interstage relief valve.

Replace a leaking valve.

a. Removal.

(1) Shut down compressor unit.

(2) Remove the interstage safety valve from the compressor high pressure cylinder head by turning the valve counterclockwise.

b. Cleaning and inspection.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C).

Wash the interstage safety valve with cleaning solvent, item 5, App. D. Inspect for cracks in the body of the valve. Inspect the threads for wear or damage. Replace a defective interstage safety valve.

NOTE

This valve is preset at 75 psi (5.3 kg/sq cm). A defective valve should be replaced rather than repaired.

c. Installation.

(1) Install the interstage safety valve in the compressor cylinder head by turning the valve clockwise.

(2) Restart unit and check for air leaks.

Step 2. Check if air receiver tank drain valve is loose.

The air tank drain valve is underneath the tank and if found to be loose, tighten. If it is found to be defective in any way, replace.

Step 3. Check if air hose or fittings are leaking.

Tighten loose fittings and replace leaking air hose.

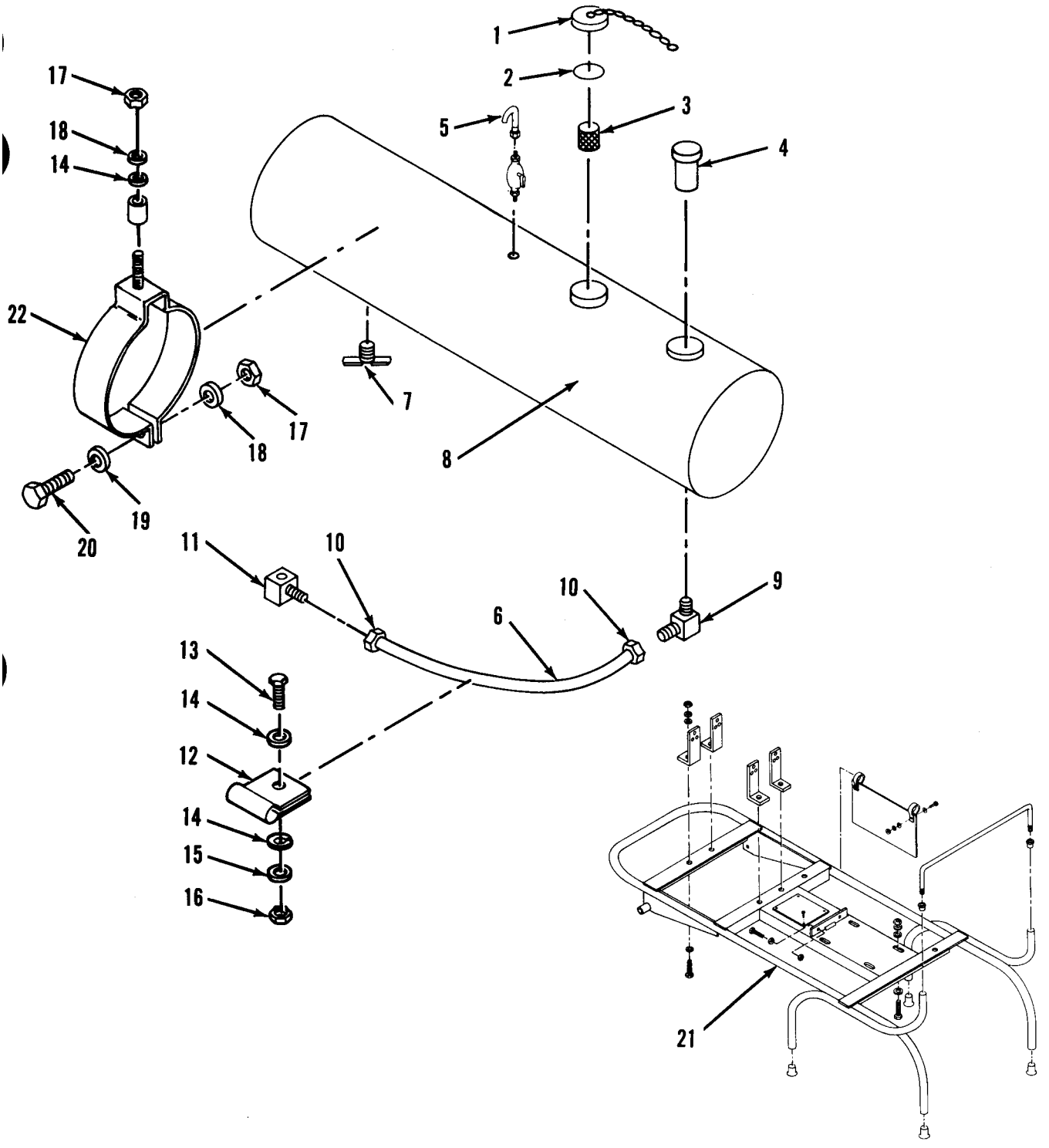
Section VI. MAINTENANCE OF FUEL SYSTEM

4-11. Fuel Line Assembly

a. Removal.

(1) Open draincock (7, figure 4-4) and drain the fuel tank into a suitable container.

(2) Disconnect the fuel line (6) from elbow (11) and elbow (9) and remove.



1. Cap and Chain
2. Gasket
3. Strainer
4. Fuel Gage
5. Vent
6. Hose, Fuel
7. Draincock
8. Tank
9. Elbow, street
10. Hose End, Female Swivel
11. Elbow
12. Clamp
13. Bolt
14. Washer, Flat
15. Washer, Lock
16. Nut
17. Nut (4)
18. Washer, Lock (4)
19. Washer, Flat (2)
20. Bolt
21. Handtruck
22. Clamp (2)

5-4310-369-14/4-4

Figure 4-4. Fuel Tank, Removal and Installation

b. Cleaning and Inspection

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38° C).

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

(1) Clean the fuel line by blowing compressed air through the line. If the line contains a gummy deposit, soak the line in cleaning solvent, item 5, App. D, and dry thoroughly.

(2) Inspect the fuel line for cracks, split or frayed ends. Replace the fuel line if it is defective.

c. Installation.

(1) Assemble fuel line (6) to elbow (11) and elbow (9).

(2) Shut off draincock (7).

(3) Service the fuel tank.

4-12. Fuel Tank Assembly

a. Removal

(1) Open draincock (7, figure 4-4) and drain the fuel tank into a suitable container.

(2) Disconnect the fuel line (6) from the fuel tank (8).

(3) Remove nuts (17) and washers (14 and 18) from handtruck assembly (21). Remove fuel tank.

(4) Remove cap and chain (1), gasket (2) and strainer (3) from fuel tank.

b. Cleaning and Inspection

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100° F (38° C).

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

(2) Inspect all parts for dents or breaks.

(3) Inspect the nuts and bolts for stripped threads and worn heads.

(4) Replace any defective part.

c. Repairing. If tank leaks at threaded connections, remove plug and/or fuel line elbow from bottom of tank and run 1/8 inch NPT pipe tap into threads to correct cross-threading or damaged threads. Do not tap too deep as oversize hole will result. Reassemble plug and elbow and check for leaks. If leak still persists, replace fuel tank. Fuel tank ends and seam are welded and leaks developing can be repaired by welding at leak point.

WARNING

Explosive fumes are present and produce a hazardous situation for repairmen. Fuel tank must be purged before work proceeds.

d. Installation

(1) Install strainer (3, figure 4-4), gasket (2), and cap and chain (1) in fuel tank (8).

(2) Attach fuel tank to handtruck (21) with lockwashers (14 and 18) and nuts (17).

(3) Attach fuel line (6) to fuel tank.

(4) Shut off draincock (7).

(5) Service the fuel tank.

Section VII. MAINTENANCE OF ENGINE ASSEMBLY

Refer to engine maintenance manual TM 5-2805-256-14 for maintenance procedures.

Section VIII. MAINTENANCE OF PNEUMATIC EQUIPMENT

4-13. Air Compressor Assembly

a. Removal

(1) Release air from the compressor by depressing handle on air hose inflation assembly until air tank gage reads 30 psi or less.

WARNING

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

(2) Remove front belt guard (figure 4-3).

(3) Remove rear belt guard bracket (1) between top low pressure cylinder head and rear belt guard.

(4) Remove mounting nut, washers and bolt (6).

(5) Remove mounting bolts (7) from engine.

(6) Loosen compressor mounting bolts (3, figure 4-6) and V-belt tension bolts (figure 2-5) to release tension on V-belts. Remove V-belts (2, figure 4-5).

(7) Loosen setscrew (3, figure 4-5) and remove flywheel pulley (4) and key (5).

(8) Remove rear belt guard.

(9) Loosen tube nut (2, figure 4-6) and remove compressor discharge hose to unloader valve.

(10) Remove mounting bolts (3, figure 4-6) and lift compressor from handtruck.

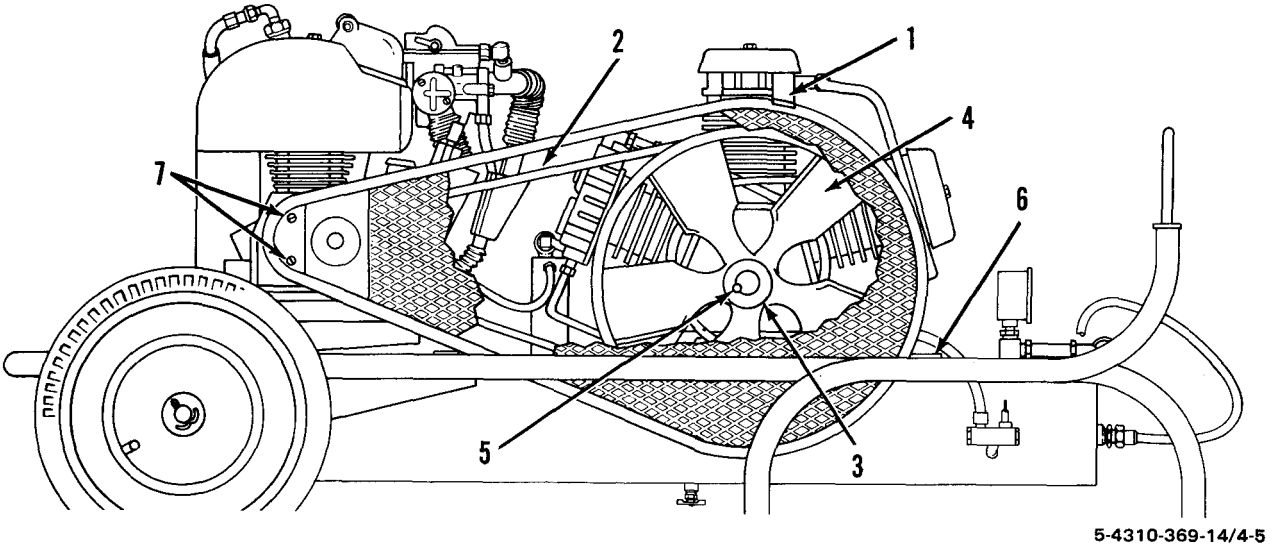


Figure 4-5. V-Belts and Flywheel

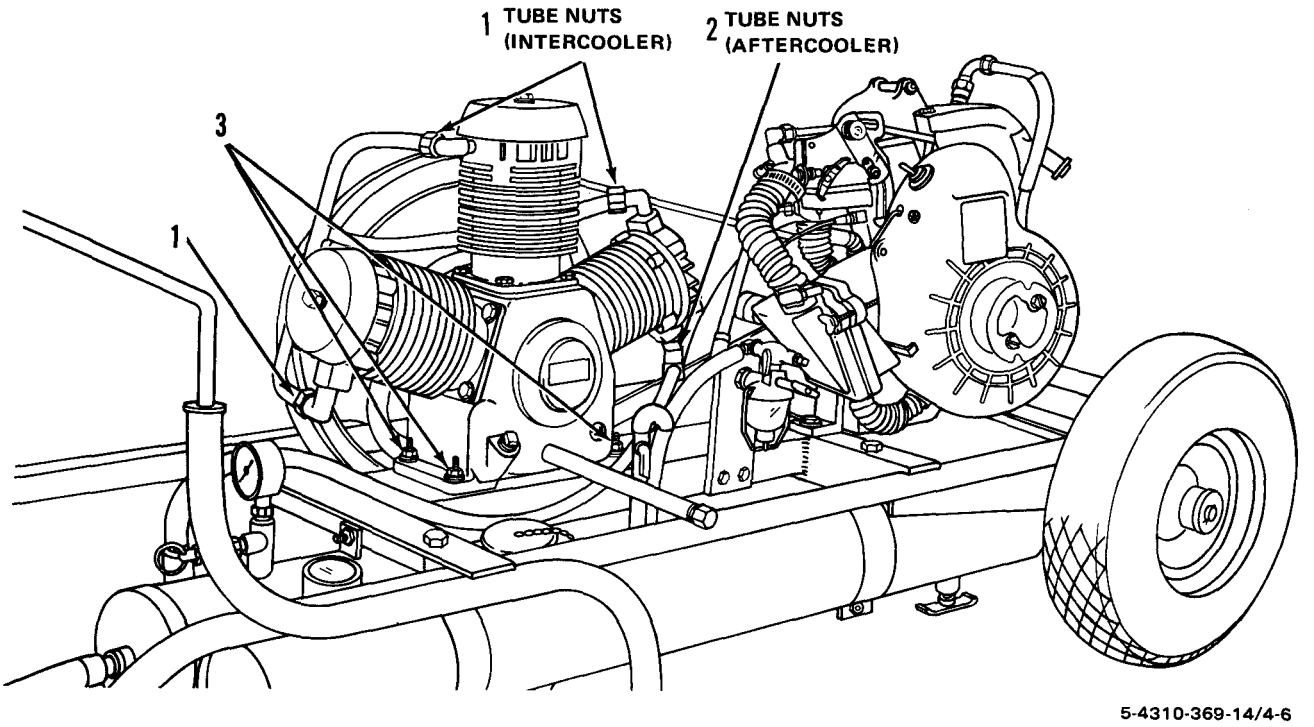


Figure 4-6. Intercooler, Aftercooler and Compressor

b. Cleaning and Inspection.

(1) Clean the V-belts with a clean dry cloth, taking care to remove all dirt, grease and oil.

(2) Inspect the V-belts for cuts, fraying and wear.

(3) Replace worn or damaged V-belts.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C).

(4) Clean all other parts with cleaning solvent, item 5, App. D.

(5) Inspect the flywheel pulley for chips and cracks.

(6) Inspect the key for chips, burrs and snug fit.

(7) Replace any defective parts.

(8) Inspect the V-belt guard and mounting brackets for dents, cracks or other damage. Straighten minor dents and bends in the guard and brackets.

(9) Inspect all attaching hardware for damaged threads. Replace damaged attaching hardware and replace an unserviceable guard, bracket or other defective part.

(10) Blow out all grease and dirt collected inside the tubes.

WARNING

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

(11) Inspect the tubes for dents, holes and cracks. Replace a defective tube.

c. Installation.

(1) Place compressor on handtruck and install nuts (3, figure 4-6). Attach compressor discharge hose tube nut (2).

(2) Install rear belt guard.

(3) Install flywheel pulley (4, figure 4-5) and key (5). Tighten setscrew (3).

(4) Install V-belts (2) and adjust tension to obtain belt deflection of 3/4 to 1 inch midway between pulleys. Tighten compressor mounting bolts (1).

(5) Attach front belt guard (figure 4-3).

(6) Service compressor crankcase.

4-14. Drive Belts

a. Removal.

WARNING

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

(1) Remove front belt guard (figure 4-3) by removing screws.

(2) Loosen compressor mounting bolts and V-belt tension bolts to release tension on V-belts. Remove V-belts (2).

b. Cleaning and Inspection.

(1) Clean the V-belts with a clean dry cloth, taking care to remove all dirt, grease and oil.

(2) Inspect the V-belts for cuts, fraying and wear.

(3) Replace worn or damaged V-belts.

NOTE

Always replace the V-belts in matched set of two.

c. Installation and Adjustment.

(1) Install V-belts and adjust tension bolts to obtain belt deflection of 3/4 to 1 inch midway between pulleys. Tighten compressor mounting bolts.

(2) Attach front belt guard (figure 4-3) with screws.

4-15. Flywheel Pulley

a. Removal.

WARNING

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

(1) Remove front belt guard (figure 4-3) by removing screws.

(2) Loosen compressor mounting bolts and V-belt tension bolts to release tension on belts. Remove belts (2).

(3) Loosen setscrew (3) and remove flywheel pulley (4) and key (5).

b. Cleaning and Inspection.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C).

(1) Clean all parts with cleaning solvent, item 5, App. D.

(2) Inspect the flywheel pulley for chips and cracks.

(3) Inspect the key for chips, burrs and snug fit.

(4) Replace any defective parts.

c. Installation.

(1) Install flywheel pulley (4, figure 4-5) and key (5). Tighten setscrew (3).

(2) Install V-belts (2) and adjust tension bolts to obtain belt deflection of 3/4 to 1 inch midway between pulleys. Tighten compressor mounting bolts (1).

(3) Attach front belt guard (figure 4-3) with screws.

(2) Remove front belt guard (figure 4-3).

(3) Remove rear belt guard bracket (1) between top low pressure cylinder head and rear belt guard.

(4) Remove mounting nut, washers and bolt (6).

(5) Remove mounting bolts (7) from engine.

(6) Loosen compressor mounting bolts (3, figure 4-6) and V-belt tension bolts (figure 2-5) to release tension on V-belts. Remove V-belts (2, figure 4-5).

(7) Loosen setscrew (3, figure 4-5) and remove flywheel pulley (4) and key (5).

(8) Remove rear belt guard.

(9) Loosen tube nut (2, figure 4-6) and remove compressor discharge hose to unloader valve.

(10) Remove mounting bolts (3, figure 4-6) and lift compressor from handtruck.

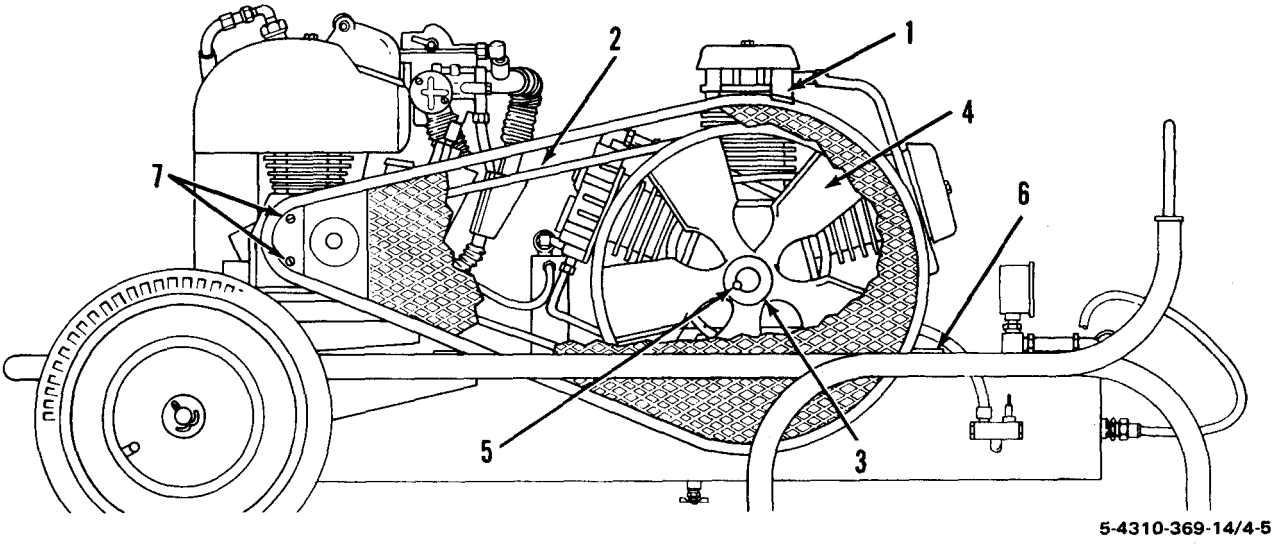


Figure 4-5. V-Belts and Flywheel

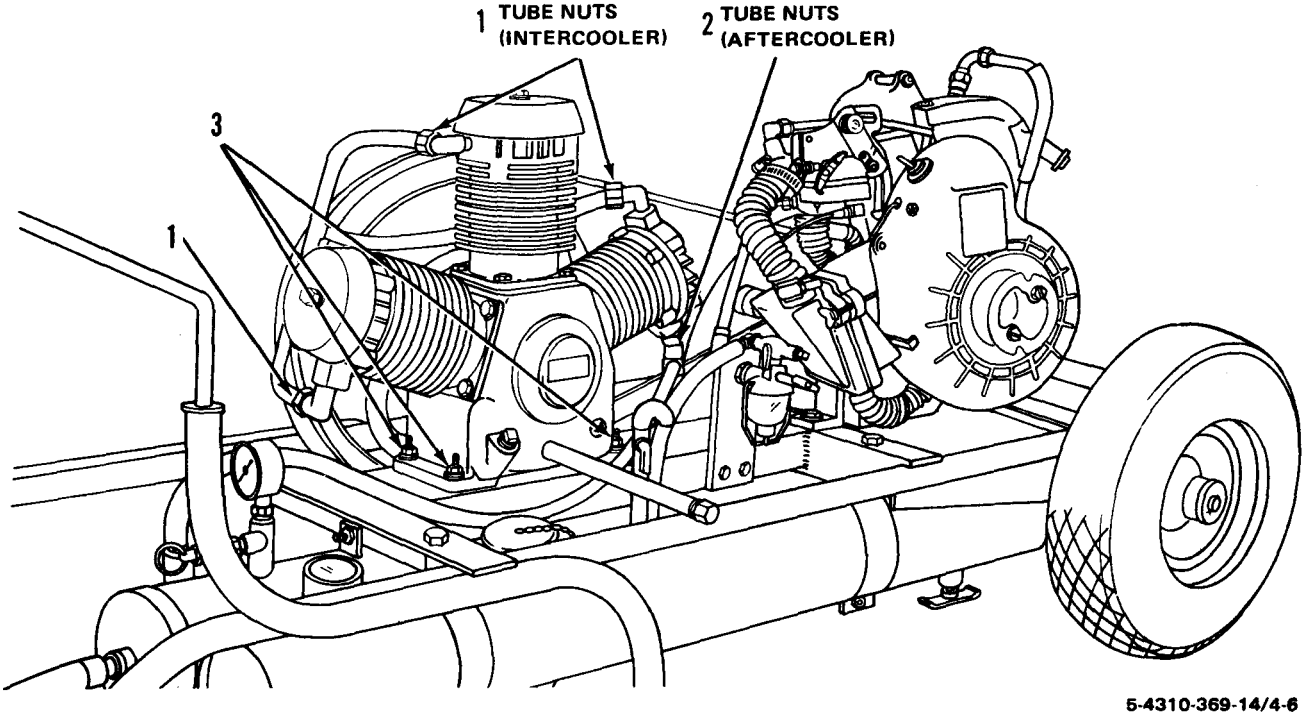


Figure 4-6. Intercooler, Aftercooler and Compressor

b. Cleaning and Inspection.

(1) Clean the V-belts with a clean dry cloth, taking care to remove all dirt, grease and oil.

(2) Inspect the V-belts for cuts, fraying and wear.

(3) Replace worn or damaged V-belts.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C).

(4) Clean all other parts with cleaning solvent, item 5, App. D.

(5) Inspect the flywheel pulley for chips and cracks.

(6) Inspect the key for chips, burrs and snug fit.

(7) Replace any defective parts.

(8) Inspect the V-belt guard and mounting brackets for dents, cracks or other damage. Straighten minor dents and bends in the guard and brackets.

(9) Inspect all attaching hardware for damaged threads. Replace damaged attaching hardware and replace an unserviceable guard, bracket or other defective part.

(10) Blowout all grease and dirt collected inside the tubes.

WARNING

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

(11) Inspect the tubes for dents, holes and cracks. Replace a defective tube.

c. Installation.

(1) Place compressor on handtruck and install nuts (3, figure 4-6). Attach compressor discharge hose tube nut (2).

(2) Install rear belt guard.

(3) Install flywheel pulley (4, figure 4-5) and key (5). Tighten setscrew (3).

(4) Install V-belts (2) and adjust tension to obtain belt deflection of 3/4 to 1 inch midway between pulleys. Tighten compressor mounting bolts (1).

(5) Attach front belt guard (figure 4-3).

(6) Service compressor crankcase.

4-14. Drive Belts

a. Removal.

WARNING

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

(1) Remove front belt guard (figure 4-3) by removing screws.

(2) Loosen compressor mounting bolts and V-belt tension bolts to release tension on V-belts. Remove V-belts (2).

b. Cleaning and Inspection.

(1) Clean the V-belts with a clean dry cloth, taking care to remove all dirt, grease and oil.

(2) Inspect the V-belts for cuts, fraying and wear.

(3) Replace worn or damaged V-belts.

NOTE

Always replace the V-belts in matched set of two.

c. Installation and Adjustment.

(1) Lubricate beneath compressor pump base with clean, thin layer of general-purpose grease.

(2) Install V-belts, and insert prying tool between compressor pump housing and adjusting belt plate.

(3) Adjust bolts to obtain deflection of 3/4-inch to 1-inch midway between pulleys.

(4) Tighten adjustment bolts to maintain belt tension, and tighten compressor mounting bolts.

(5) Attach front belt guard (figure 4-3) using screws.

4-15. Flywheel Pulley

a. Removal.

WARNING

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

(1) Remove front belt guard (figure 4-3) by removing screws.

(2) Loosen compressor mounting bolts and V-belt tension bolts to release tension on belts. Remove belts (2).

(3) Loosen setscrew (3) and remove flywheel pulley (4) and key (5).

b. Cleaning and Inspection.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C).

(1) Clean all parts with cleaning solvent, item 5, App. D.

(2) Inspect the flywheel pulley for chips and cracks.

(3) Inspect the key for chips, burrs and snug fit.

(4) Replace any defective parts.

c. Installation.

(1) Install flywheel pulley (4, figure 4-5) and key (5). Tighten setscrew (3).

(2) Install V-belts (2) and adjust tension bolts to obtain belt deflection of 3/4 to 1 inch midway between pulleys. Tighten compressor mounting bolts (1).

(3) Attach front belt guard (figure 4-3) with screws.

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4-16. Belt and Pulley Guard

WARNING

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

a. Removal. Remove front belt guard (figure 4-3) by removing screws.

b. Cleaning and Inspection.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100° (38°C).

(1) Clean all parts with cleaning solvent, item 5, App. D.

(2) Inspect the V-belt guard and mounting brackets for dents, cracks or other damage. Straighten minor dents and bends in the guard and brackets.

(3) Inspect all attaching hardware for damaged threads. Replace damaged attaching hardware and replace an unserviceable guard, bracket or other defective part.

c. Installation. Attach front belt guard (figure 4-3) with screws.

4-17. Unloader Valve

a. General. When the air compressor is raised to a predetermined setting (approximately 175 psi [12.3 kg/sq cm]), air is released to the unloader valve. When air pressure drops to a predetermined setting (approximately 140 psi [9.8 kg/sq cm]) the unloader valve closes.

b. Removal.

(1) Release the air from the air receiver tank by depressing handle on airhose inflator assembly until air tank gage reads 30 psi or less. (Figure 4-7).

(2) Remove the unloader valve (2) from the air receiver tank.

c. Cleaning and Inspection.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C).

(1) Clean unloader assembly with cleaning solvent, item 5, App. D. and dry thoroughly.

(2) Examine mounting threads for defective threads or cracks.

(3) Replace defective unloader.

d. Installation. Install the unloader valve (2) in the air receiver tank (1).

e. Adjustment of Unloader Valve. (Figure 4-8)

(1) Start compressor unit and allow air pressure to build up.

(2) Unloader valve should unload compressor at 175 psi and reload compressor at 140 psi. If the above air pressures are not achieved, adjust unloader valve.

(a) Loosen jam nuts (5 and 8).

(b) The unloading pressure can be adjusted by nut (3). Turn clockwise to increase and counterclockwise to decrease.

(c) The differential (difference between cut in and cut out pressure) is obtained by adjusting screw (6). Turning clockwise will widen the differential and counterclockwise will narrow the differential.

(d) Repeat items b and c until desired settings are obtained.

(e) After adjustments are made, tighten nuts (5 and 8).

4-18. Safety and Relief Valve

a. Removal.

(1) Release air from the air receiver tank by depressing handle on air hose inflator assembly until air tank gage reads 0 psi.

(2) Remove the safety valve (4) from the air receiver tank.

b. Cleaning and Inspection.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C).

(1) Clean all parts in cleaning solvent, item 5, App. D, and dry thoroughly.

(2) Inspect all parts for breaks, cracks and other damage. Replace a defective part.

NOTE

This valve is preset at 200 psi (14.16 kg/sq cm). The internal parts of the safety valve cannot be repaired. Replace valve if defective.

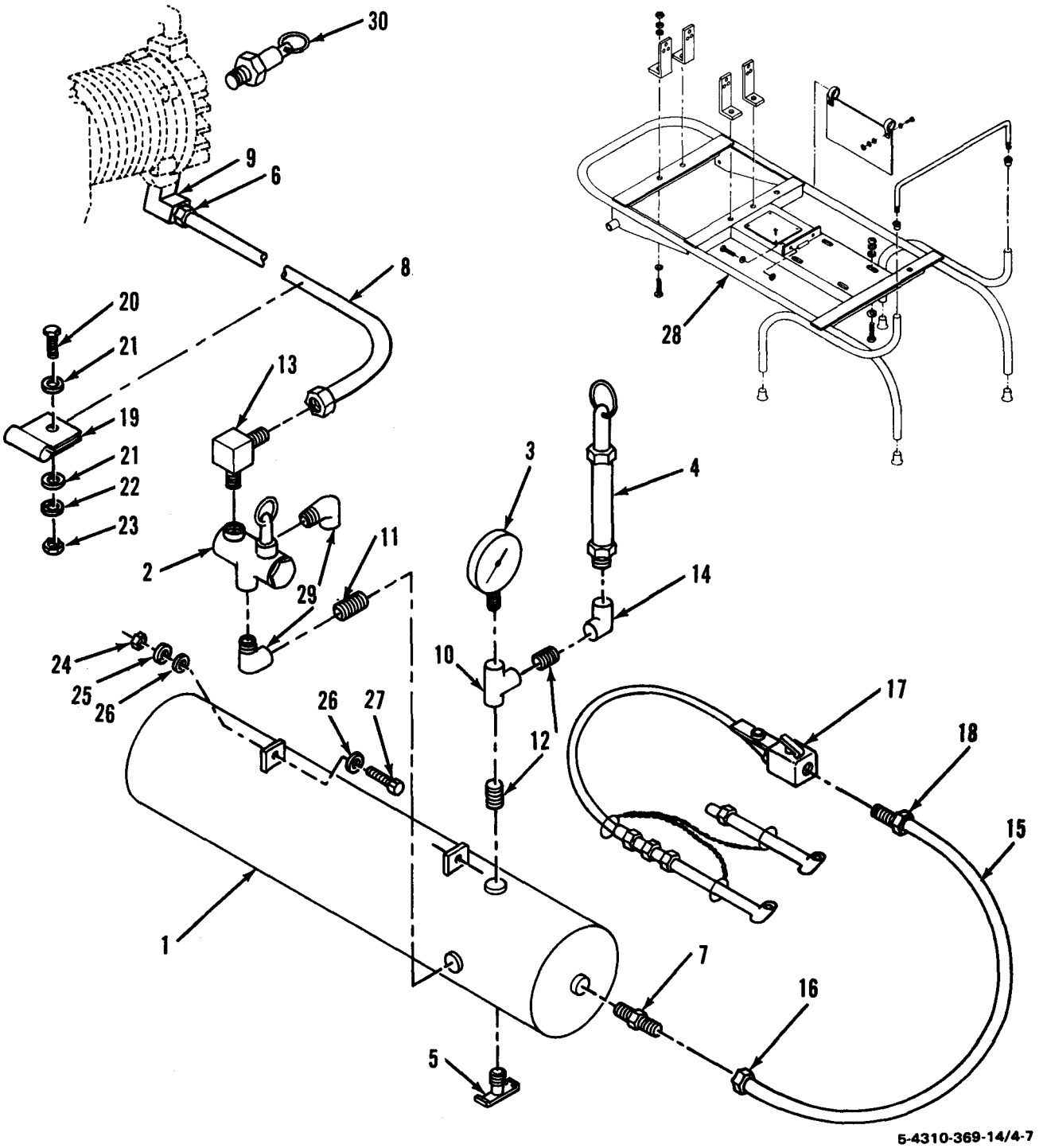
c. Installation.

(1) Install the safety valve (4) in the fitting (14) on air receiver tank (1).

(2) Close draincock (5).

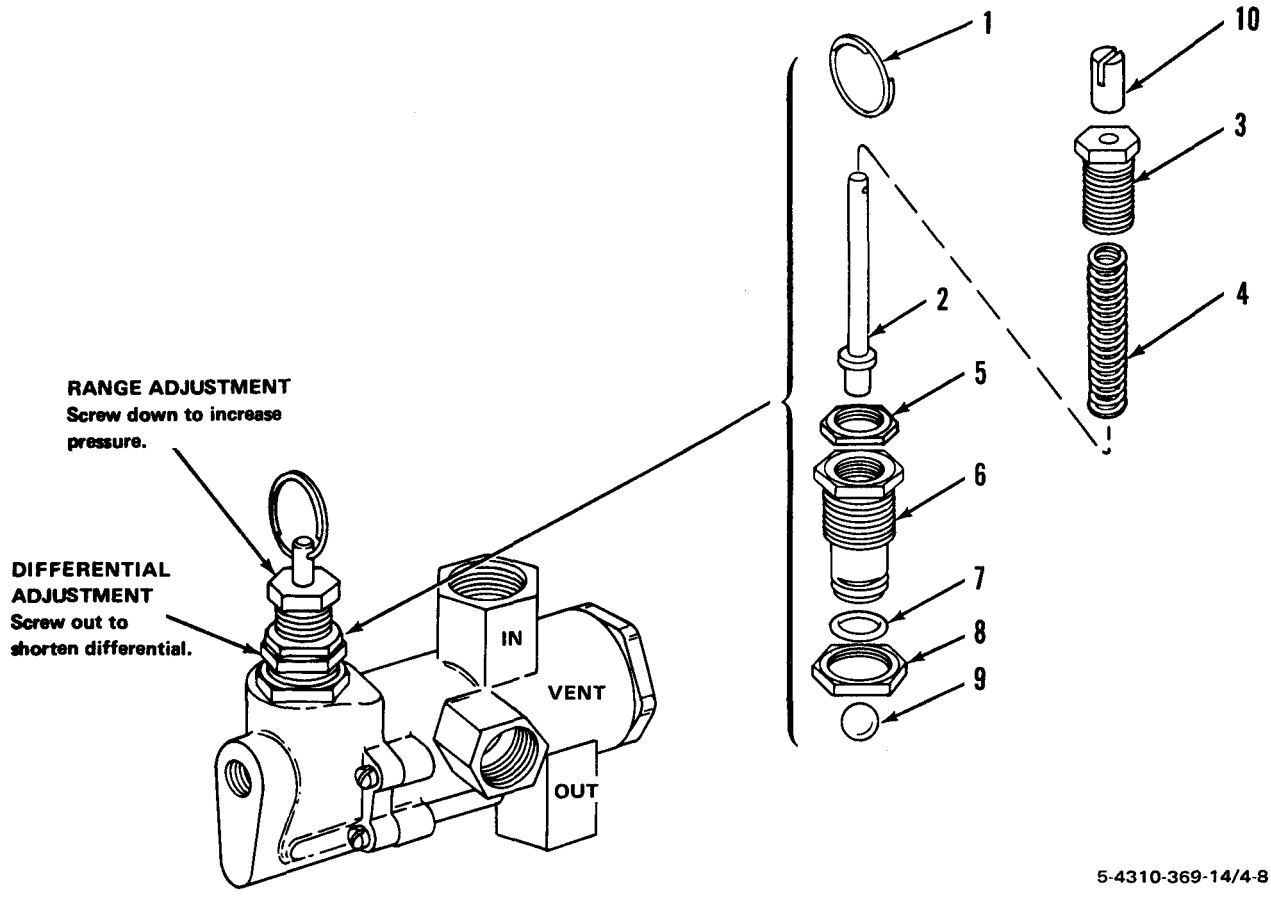
4-19. Interstage Safety Valve.

a. Removal. Remove the interstage safety valve (30) from the compressor high pressure cylinder head by turning the valve counterclockwise.



1. Air Tank
2. Unloader Valve
3. Air Pressure Gage
4. Safety Valve
5. Draincock
6. Nut
7. Adapter, Male
8. Comp. Discharge Hose
9. Elbow
10. Tee
11. Nipple
12. Nipple
13. Elbow
14. Elbow
15. Hose, Air
16. Hose End, Female
17. Inflator W/Gage
18. Hose End, Male
19. Clamp, Hose
20. Bolt
21. Washer, Flat
22. Washer, Lock
23. Nut
24. Nut
25. Washer, Lock
26. Washer, Flat
27. Bolt
28. Handtruck
29. Elbow
30. Interstage Safety Valve

Figure 4-7. Air Receiver Tank, Removal and Installation



1. Pull Ring
2. Pressure Rod
3. Spring Housing
4. High Pressure Regulator Spring
5. Upper Jam Nut
6. Differential Screw
7. O Ring
8. Lower Jam Nut
9. Ball
10. Unlocking Sleeve

Figure 4-8. Unloader Valve

b. Cleaning and Inspection.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C).

(1) Wash the interstage safety valve with cleaning solvent, item 5, App. D.

(2) Inspect for cracks in the body of the valve.

(3) Inspect the threads for wear or damage.

(4) Replace a defective interstage safety valve.

NOTE

This valve is preset at 60 psi (4.22 kg/sq cm). A defective valve should be replaced rather than repaired.

c. Installation. Install the interstage safety valve in the compressor cylinder head by turning the valve clockwise.

4-20. Intercooler Tube and Compressor Discharge Hose

a. Removal.

(1) Release all air from the compressor by depressing handle on air hose inflator assembly until air tank gage reads 0 psi.

(2) Remove front belt guard (figure 4-3) by removing screws.

WARNING

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

(3) Loosen compressor mounting bolts and V-belt tension bolts to release tension on V-belts. Remove V-belts (2).

(4) Loosen setscrew (3, figure 4-5) and remove flywheel and key.

(5) Remove rear belt guard.

(6) Loosen tube nuts (1, figure 4-6) and remove intercooler tube. Loosen hose nut (2) and remove compressor discharge hose.

b. Cleaning and Inspection.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C).

(1) Clean all parts with cleaning solvent, item 5, App. D, and dry thoroughly. Blow out all grease and dirt collected inside the tubes and hose.

WARNING

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

c. Installation.

(1) Attach intercooler tube nuts (1, figure 4-6) and compressor discharge hose nut (2).

(2) Install rear belt guard.

(3) Install flywheel (4, figure 4-5) and key (5). Tighten setscrew (3).

(4) Install V-belts (2) and adjust tension bolts to obtain belt deflection of 3/4 to 1 inch midway between pulleys. Check pulley alignment and tighten compressor mounting bolts (1).

(5) Attach front belt guard (figure 4-3) with nuts and capscrew.

Section IX. MAINTENANCE OF AIR RECEIVER SYSTEM

4-21. Air Receiver Tank Assembly

a. Removal.

(1) Release air from the air receiver tank (1, figure 4-7) by depressing handle on airhose inflator assembly until air tank gage reads 0 psi.

(2) Remove compressor discharge hose from unloader valve.

(3) Remove the safety valve (4) from the air receiver tank.

(4) Remove the air pressure gage (3), tee joint (10) and nipples (12).

(5) Remove the unloader valve (2).

(6) Remove the draincock (5).

(7) Remove the air receiver tank (1) from the handtruck (28) by removing bolts.

b. Cleaning and Inspection.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C).

(1) Clean all metal parts with cleaning solvent, item 5, App. D, and dry thoroughly. Clean the glass on the gage with solvent and dry with a lint-free cloth.

(2) Clean the interior of the air tank with live steam, if available, or with an approved cleaning solvent. Dry thoroughly.

(3) Inspect metal parts for cracks, rust or damaged threads.

(4) Inspect the interior and exterior of the tank for cracks, broken welds, dents or corrosion. Check threaded surfaces for damaged threads.

(5) Replace defective tank.

c. Installation.

(1) Attach the air receiver tank (1, figure 4-7) to the handtruck with bolts.

(2) Install the draincock (5).

(3) Install the unloader valve (2).

(4) Install the air pressure gage (3), tee (10) and fittings (12)

(5) Install the safety valve (4).

(6) Install compressor discharge hose (8).

Section X. MAINTENANCE OF AIR DISCHARGE SYSTEM

4-22. Air Discharge Assembly

a. Removal.

(1) Release all air from air receiver tank (1, figure 4-7) by depressing handle on airhose inflator assembly until air tank gage reads 0 psi.

(2) Remove inflator gage (17), air hose (15) and adapter (7).

b. Cleaning and Inspection.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C).

(1) Clean hose fittings with cleaning solvent, item 5, App. D, and dry thoroughly.

(2) Examine fittings for defective threads.

(3) Examine hose for cracks or leaks.

(4) Replace defective hose assembly.

c. Installation.

(1) Install adapter (7), figure 4-7, air hose (15) and inflator gage (17).

(2) Close draincock (5).

Section XI. MAINTENANCE OF HANDTRUCK ASSEMBLY

4-23. General

The compressor handtruck assembly is constructed of welded aluminum tubing and structural angle aluminum cross members. The handtruck serves as a frame for the compressor and engine. The handtruck is equipped with wheels and inflatable tires for ease of movement.

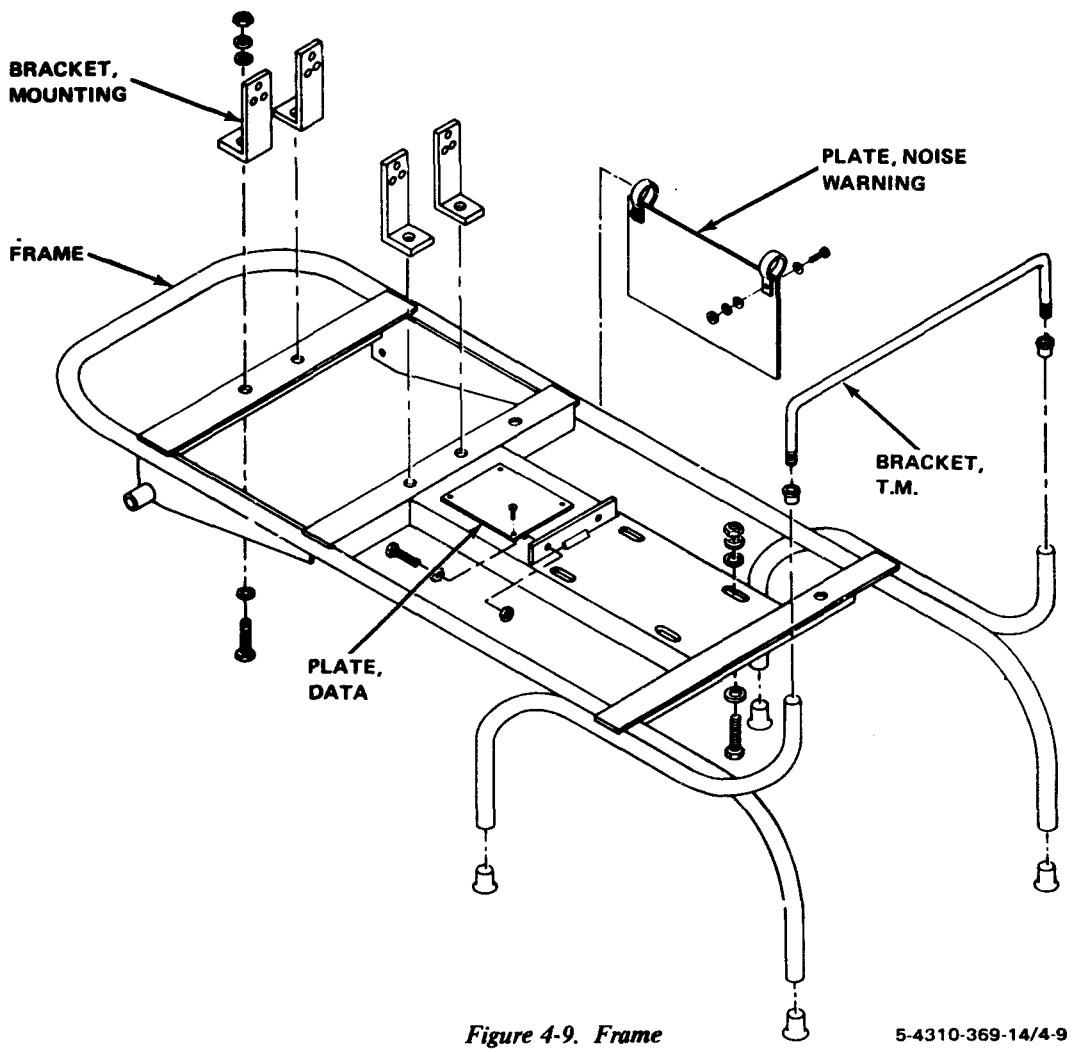


Figure 4-9. Frame

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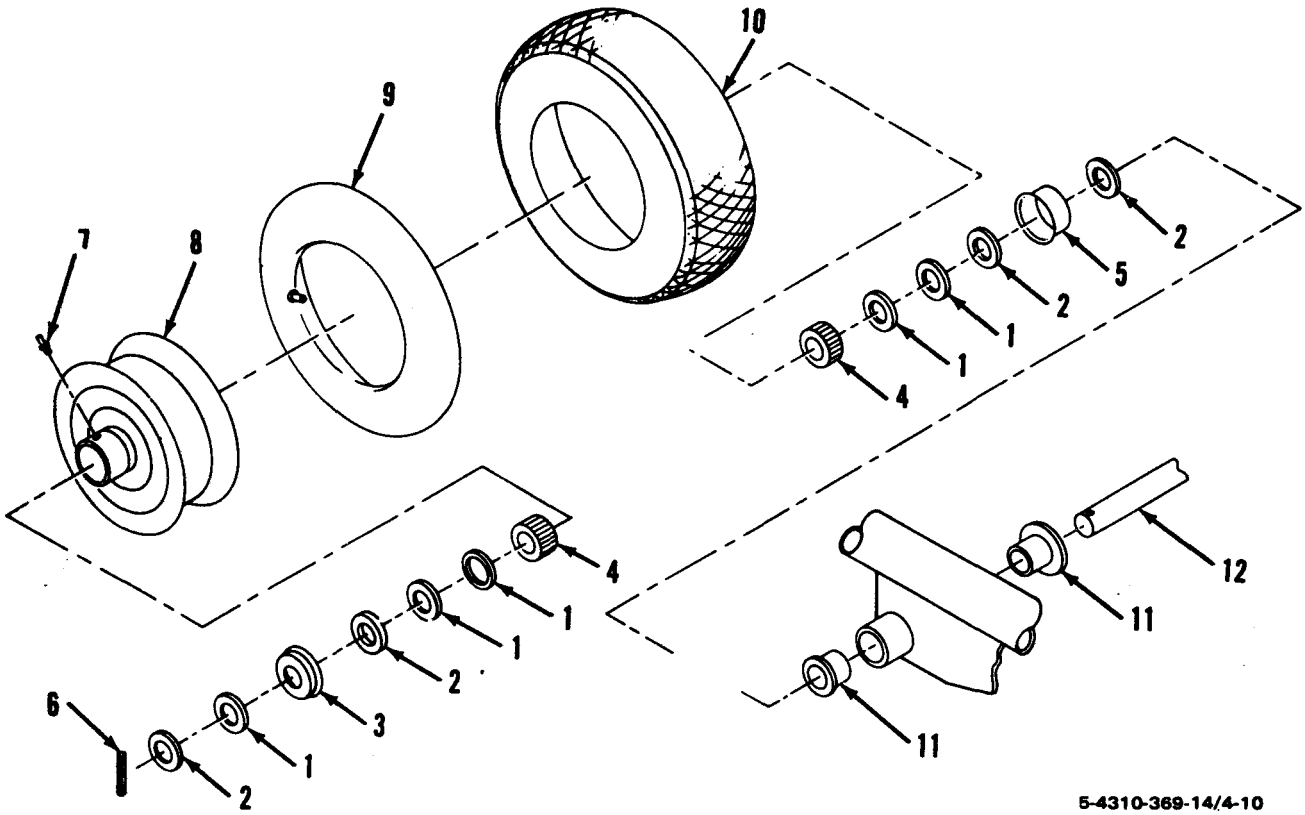


1. Washer, Thrust
2. Washer, Felt
3. Cap, Outer
4. Bearing
5. Cap, Inner
6. Pin, Roll
7. Zert Fitting
8. Hub Assembly
9. Tube, Inner
10. Tire
11. Bushing
12. Axle

Figure 4-10. Hub Assembly

4-24. Axle and Wheels

The axle is a cylindrical steel rod used to attach the wheel assemblies to the handtruck assembly.

a. Removal.

(1) Jack up the axle end of the handtruck and block securely under the bumper or rails.

(2) Remove roll pins (6, figure 4-10), and washers (1 and 2). Pull wheels from axle.

(3) Remove bushing (11).

(4) Disassemble end caps (3), felt washer (2), thrust washers, roller bearings (4) and hubs (8).

(5) Remove axle (12).

(6) Inspect axle for cracks or bends. Replace axle if damaged beyond usage.

(7) Check nylon bushing (11) for wear.

(8) Clean all parts with dry cleaner.

b. Installation.

(1) Install axle on handtruck with nylon bushings (11).

NOTE

Refer to LO 5-2805-256-12.

(2) Assemble hubs (8), bearings (4), thrust washers (1), felt washers (2) and end caps (3).

(3) Install wheel on axle. Install washers (1 and 2) and roll pin (6).

(4) Service the tires to 25 psi (1.766 kg/sq cm).

(5) Remove the blocking and lower the jack.

4-25. Wheels and Tires

The compressor assembly is mounted on a handtruck, equipped with two rubber tire wheels with roller bearings mounted on the truck axle hub.

a. Removal.

(1) Jack up the axle end of the compressor assembly and block securely.

(2) Remove roll pin (6, figure 4-10) and washers (1 and 2) to remove wheel.

b. Cleaning and Inspection

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C),

(1) Wash all parts with cleaning solvent, item 5, App. D, and dry thoroughly.

(2) Inspect bearings, seals and retainers for breaks or excessive wear. Service bearings or replace if necessary.

(3) Inspect tires and tubes for cuts, breaks or holes.

c. Repair.

(1) Replace defective tires.

(2) Replace defective tube if beyond repair.

(3) If tube is repairable, proceed as follows:

(a) Rasp area around hole to rough up surface and remove any film.

(b) Apply layer of tube cement to area around puncture. Allow to dry.

(c) Peel protective film from patch and apply patch to cemented area.

(d) Roll or press edges of patch to assure proper adhesion.

d. Installation.

(1) Assemble tire and tube onto wheel.

(2) Assemble hub (8, figure 4-10), roller bearings (4), felt washers (2) and end caps (3) onto axle. See table 3-1 for lubrication.

(3) Attach washers (1 and 2) and roll pin (6).

(4) Inflate tires to 25 psi (1.766 kg/sq cm).

(5) Remove blocking and jacks.

4-26. Disassembly

a. Removal.

(1) Remove compressor (see paragraph 4-13).

(2) Remove engine assembly from handtruck (see paragraph 4-12).

(3) Remove nuts holding air receiver tank and remove air tank (see paragraph 4-21).

(4) Remove fuel tank (see paragraph 4-12),

(5) Remove engine fuel filter assembly (see TM 5-2805-256-14).

(6) Remove wheels and axle (see paragraph 4-24).

b. Cleaning and Inspection.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged contact with skin. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C).

(1) Wash all parts with cleaning solvent and dry thoroughly.

(2) Inspect all parts for cracks, breaks or bends.

(3) Inspect all hardware for damaged threads.

(4) Repair or replace all defective parts.

4-27. Reassembly

a. Installation.

NOTE

See lubrication table 3-1.

(1) Attach wheels and axle (see paragraph 4-24).

(2) Attach engine fuel falter assembly (see TM 5-2805-256-14).

(3) Attach fuel tank (see paragraph 4-12).

(4) Attach air receiver tank with bolts (see paragraph 4-21).

(5) Attach engine assembly to handtruck.

(6) Attach compressor (see paragraph 4-13).

CHAPTER 5
GENERAL SUPPORT MAINTENANCE INSTRUCTIONS

Section I. REPAIR PARTS, SPECIAL TOOLS AND EQUIPMENT

5-1. Special Tools and Equipment

No special tools are required to perform direct and general support maintenance on the compressor.

5-2. Repair Parts

Repair parts are listed and illustrated in the repair parts and special tools list TM 5-4310-369-24P, and TM 5-2805-256-24P (Engine).

5-3. Fabricated Tools and Equipment

No specially fabricated tools and equipment are required by direct and general support maintenance personnel to perform maintenance on the compressor.

Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

5-4. 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).

5-5. Operator/Crew Preventive Maintenance Checks and Services

Refer to table 5-1 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, and W will contain a dot (•) opposite the appropriate check indicating it is to be performed Before, During, After, or Weekly.

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 5-1. Preventive Maintenance Checks and Services

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

B–Before D–During A–After W–Weekly

Item No.	Interval B	D	A	W	Item to be Inspected	Procedures Check for and have Repaired or Adjusted as Necessary	For Readiness Reporting, Equipment is Not Ready/Available If
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.
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. After water is drained, close draincock.	
5	•		•		Engine Oil (4)	Check oil level in engine crankcase with dipstick.	
6	•	•	•		Fuel Tank	Check fuel level and fuel strainer (5).	

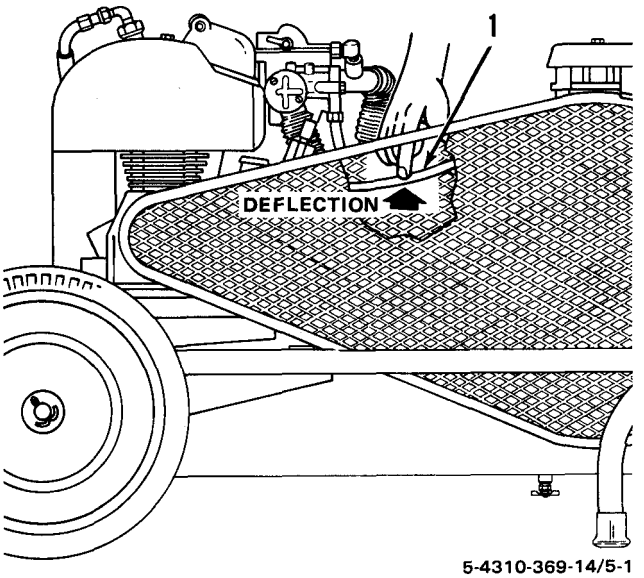


Figure 5-1. V-Belt Adjustment

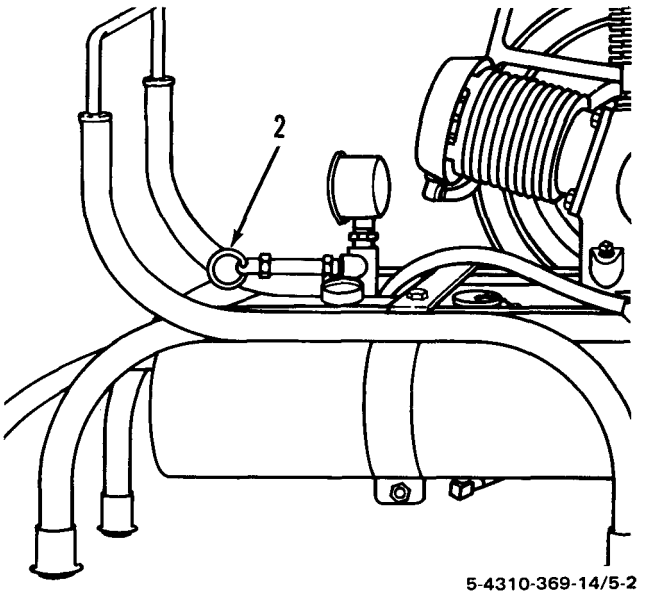


Figure 5-2. Safety Valve

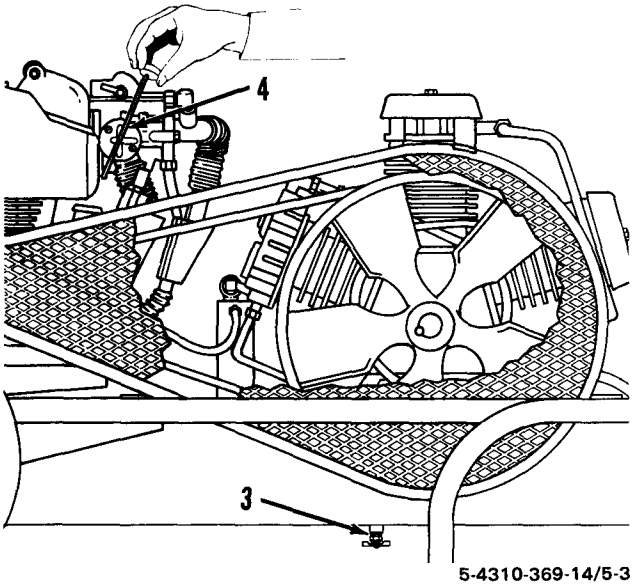


Figure 5-3. Engine Service

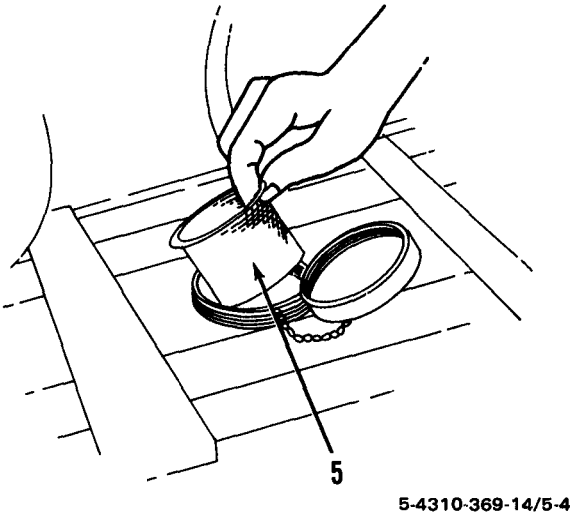


Figure 5-4. Fuel Strainer

Table 5-1. Preventive Maintenance Checks and Services - Continued

Item No.	Interval B	D	A	W	Item to be Inspected	Procedures Check for and have Repaired or Adjusted as Necessary	For Readiness Reporting, Equipment is Not Ready/Available If
7	•		•		Air Compressor Crankcase	Check oil level. Service as required. See figure 2-3.	Oil level is low.
8	•		•		Engine	Check oil level. Add oil as indicated by gage. See figure 2-6.	Oil level is low.
9		•		•	Compressor	During operation, observe for any unusual noise or vibration.	Compressor runs noisy.
10				•	Air Filters (5) (see figure 2-8)	Inspect for insecure mounting and internal obstructions. Service. See paragraph 3-9.	Air filter elements are clogged.
11				•	Tires and Tubes	Check air pressure. Proper pressure is 25 psi (1.8 kg/sq cm).	

Section III. TROUBLESHOOTING

5-6. General

a. This section contains troubleshooting information for locating and correcting most of the operating troubles which may develop in the 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.

NOTE

Before you use this table, be sure you have performed all applicable operating checks.

Table 5-2. Troubleshooting

Malfunction Test or Inspection Corrective Action
PNEUMATIC EQUIPMENT
1. COMPRESSOR FAILS TO PUMP TO PRESSURE.
Step 1. Check to see if belts are improperly adjusted.
Adjust or replace belts. Refer to paragraph 4-13.
Step 2. Check for broken valve or valve spring in high pressure head.
Remove cylinder head and replace defective parts. Refer to paragraph 5-10.
Step 3. Check for broken reed valve in low pressure heads.
Remove cylinder heads and replace defective parts.
2. COMPRESSOR KNOCKS.
Step 1. Check for loose flywheel pulley.
Tighten flywheel setscrew. Refer to paragraph 4-15.
Step 2. Check for broken valve or valve spring in high pressure head.
Remove cylinder head and replace defective parts. Refer to paragraph 5-10.
Step 3. Check for broken reed valve in low pressure heads.
Remove heads and replace defective parts.
Step 4. Check for connecting rod bearings worn or rod bolts loose.
Tighten connecting rod bolts or replace connecting rod. Refer to paragraph 5-11.
3. COMPRESSED AIR CONTAINS OIL.
Step 1. Check for worn piston or piston rings.
Replace piston or piston rings. Refer to paragraph 5-11.
Step 2. Check for worn or scored cylinder bore.
Replace cylinder. Refer to paragraph 5-11.

Section IV. MAINTENANCE OF FUEL SYSTEM

5-7. General

Refer to Chapter 4 for maintenance of fuel system.

Section V. MAINTENANCE OF THE ENGINE ASSEMBLY

Refer to TM 5-2805-256-14 for Engine maintenance procedures.

Section VI. MAINTENANCE OF PNEUMATIC EQUIPMENT

5-8. General

The compressor is a two-stage, three-cylinder, air cooled unit. There are two low-pressure cylinders and one high-pressure cylinder operating on a common crankshaft. The major repair instructions are those covering replacement of the cylinder heads, valves, pistons and rings, connecting rods, crankshaft, cylinders and crankcase.

5-9. Cylinder Heads (Low Pressure)

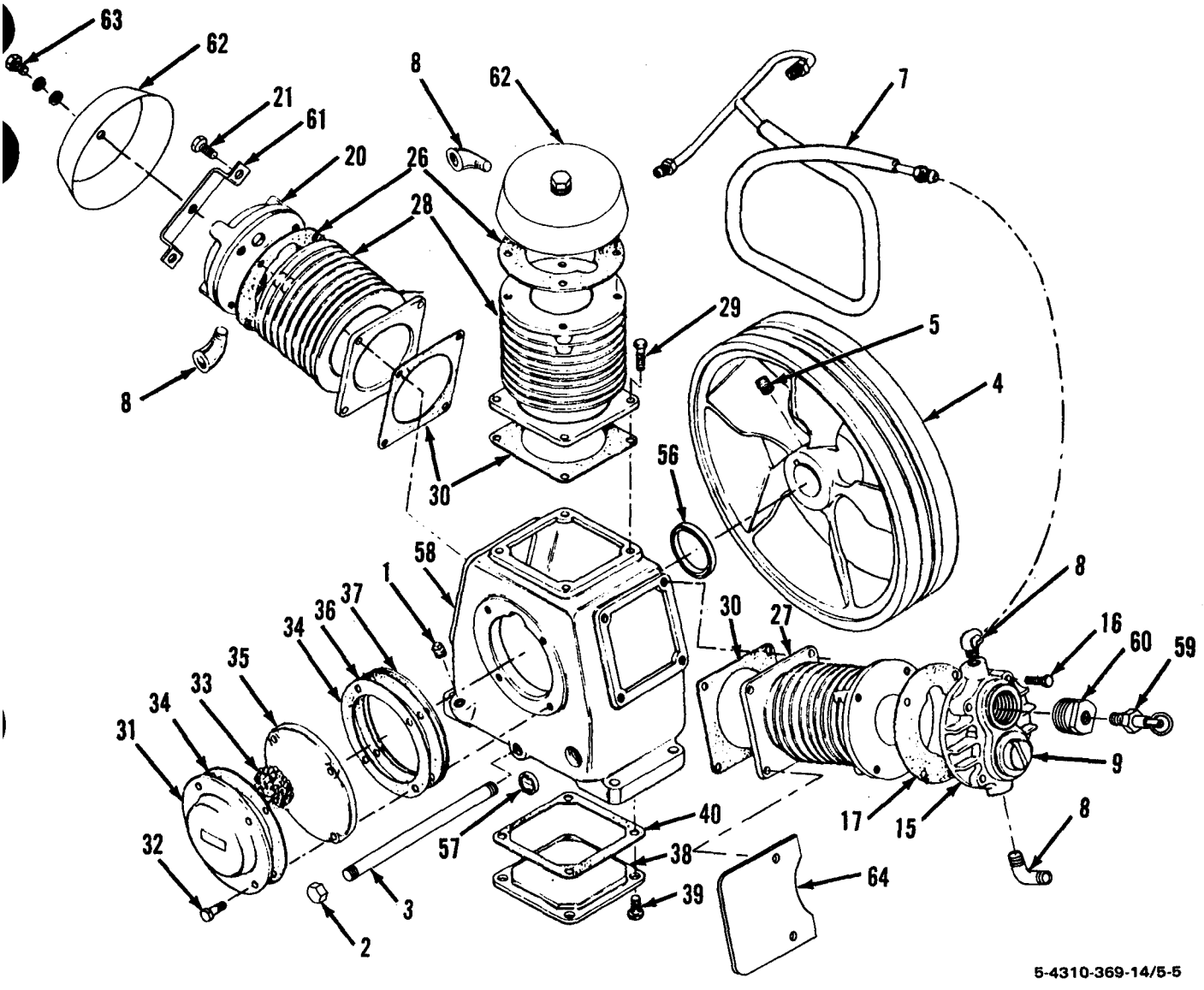
a. Removal.

(1) Remove intercooler tube (7).

(2) Remove filter rain caps.

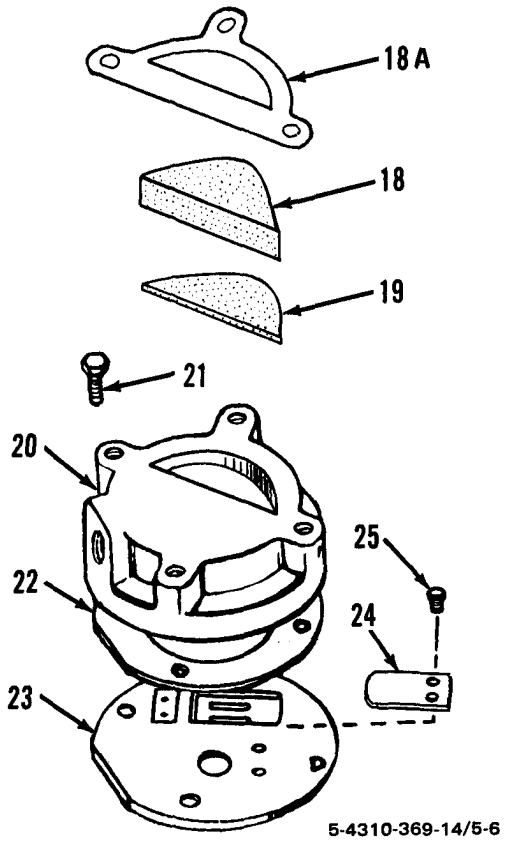
(3) Remove cylinder head bolts (21).

(4) Remove filter element retainer (18A, figure 5-6) and air filters (18, 19).



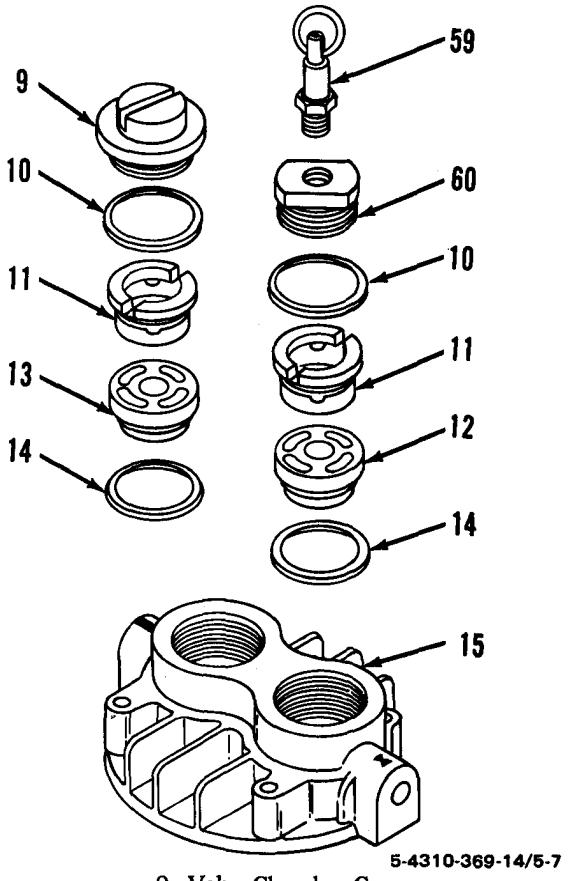
1. Oil Fill Plug
2. Oil Drain Cap
3. Oil Drain Nipple
4. Flywheel
5. Setscrew
7. Intercooler Tube
8. Compression Fitting
9. Valve Chamber Cap
15. Cylinder Head High Pressure
16. Head Bolt
17. Gasket
20. Reed Valve Head
21. Head Bolt
26. Gasket
27. Cylinder, High Pressure
28. Cylinder, Low Pressure
29. Cylinder Bolt
30. Gasket
31. Breather Assembly
32. Cap Screw
33. Breather Element
34. Gasket
35. Crankcase Cover
36. .005 inch Shim
37. .010 inch Shim
38. Hand Pole Plate
39. Cap Screw
40. Gasket
56. Oil Seal
57. Oil Sight Gage
58. Crankcase
59. Interstage Safety Valve
60. Valve Chamber Cap
61. Bracket
62. Rain Cap
63. Bolt
64. Name Plate

Figure 5-5. Cylinder, Cylinder Head, Tubing and Connections



18. Filter Element
18A. Element Retainer
19. Filter Silencer
20. Reed Valve Head
22. Gasket
23. Valve Plate
24. Reed Valve
25. Thread Rolling Screw

Figure 5-6. Reed Valve Head



9. Valve Chamber Cap
10. Gasket
11. Valve Retainer
12. Intake Valve
13. Exhaust Valve
14. Gasket
15. Head, High Pressure
59. Interstage Safety Valve
60. Valve Chamber Cap

Figure 5-7. High Pressure Head

(5) Lift off head (20), valve plate (23) and valve plate gasket (22).

(6) Remove cylinder head gasket (26).

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C).

c. Installation.

(1) Install new cylinder head gasket (26).
(2) Install valve plate (23).
(3) Install new valve plate gasket (22).
(4) Install cylinder heads (20).
(5) Install air falters (18, 19) and retainer.
(6) Install filter rain caps.
(7) Attach intercooler tube (7).

5-10. Cylinder Head (High Pressure)

a. Removal. (Figure 5-5)

(1) Remove intercooler tube (7).
(2) Remove compressor discharge hose from high pressure head (15).
(3) Remove interstage safety valve (59).
(4) Remove intake valve assembly (60) (figure 5-7).
(5) Remove exhaust valve assembly (9) (figure 5-7).
(6) Remove cylinder head bolts (16).
(7) Remove cylinder head (15).
(8) Remove cylinder head gasket (17).

b. Cleaning and Inspection.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C).

(1) Clean all parts with cleaning solvent, item 5, App. D, and dry thoroughly.

(2) Inspect all parts for cracks, breaks, and other damage. Replace a defective part.

(3) Discard and replace cylinder head gasket.

c. Installation. (Figure 5-5).

(1) Install new cylinder head gasket (17).

(2) Install cylinder head (15).

(3) Install cylinder head bolts (16).

(4) Install exhaust valve assembly (9) (figure 5-7).

(5) Install intake valve assembly (60) (figure 5-7).

(6) Install interstage safety valve (59).

(7) Install compressor discharge hose to high pressure head.

(8) Attach intercooler tube (7).

5-11. Pistons, Rings, Connecting Rods, Cylinders, Crankshaft and Crankcase

a. Disassembly (figure 5-5).

NOTE

Scribe reference marks on cylinder head/cylinders and on cylinders/block.

(1) Remove compressor from hand truck (paragraph 4-12a), place on suitable workbench and drain oil. Remove nipple (3) from compressor.

(2) Remove low pressure reed heads (paragraph 5-9).

NOTE

Keep parts together as an assembly.

(3) Remove high pressure head:

(a) Disconnect intercooler tube.

(b) Disconnect compressor discharge hose from high pressure head.

(c) Remove head bolts.

(d) Lift-off head and head gasket.

(4) Mark the top of each piston (with cylinder number and position within cylinder) so that each piston can be reinstalled in the right cylinder and in the same position within the cylinder.

(5) Remove hand hole plate (bottom of crankcase) (38).

(a) Remove bolts (39).

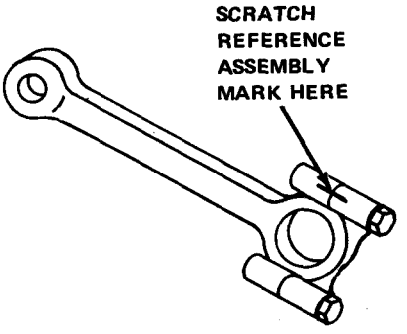
(b) Remove plate (38).

(c) Remove gasket (40).

(6) Remove pistons.

NOTE

Each connecting rod and associated rod end-cap must be kept together and in the same relationship as when removed. (See figure 5-9).



5-4310-369-14/5-9

Figure 5-9. Reference Markings, Rods

(a) Turn crankshaft to expose rod end-caps at bottom of crankcase.

(b) Remove high pressure cylinder rod end-cap first by removing bolts (42).

(c) Remove bolts (29) from cylinder and remove cylinder piston assembly from crankcase.

(d) Pull piston from cylinder.

NOTE

Immediately replace rod end-cap on connecting rod using assembly marks (figure 5-9).

(e) Remove the two low pressure pistons from the compressor by repeating steps (a) and (b).

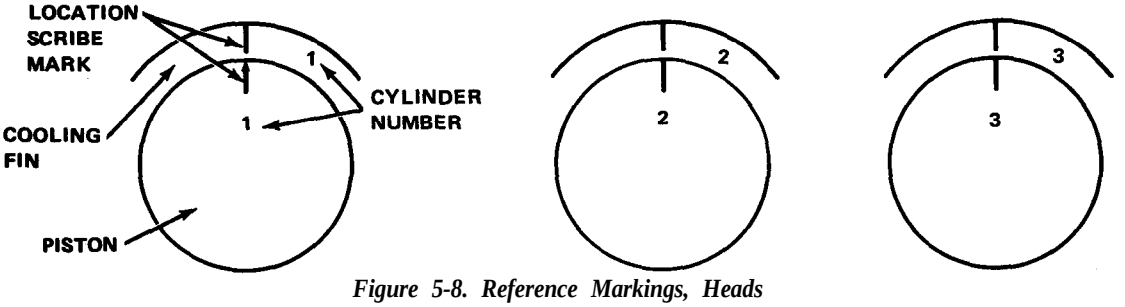


Figure 5-8. Reference Markings, Heads

(7) Remove crankshaft (figures 5-5 and 5-10).

(a) Remove (as an assembly) the crankcase cover (35) and items 31,34,36, and 37 by removing bolts (32).

(b) Remove free-end bearings and cup (54, figure 5-10).

NOTE

Do not remove bearing cup unless it is to be replaced with new bearing set.

Do not remove bearing from crankshaft unless it is to be replaced with new bearing.

(c) Pull crankshaft.

NOTE

Use caution in removing crankshaft so that oil seal (56, figure 5-5) is not damaged.

Do not remove bearing from crankshaft or the bearing cup from the crankcase unless they are to be replaced with a new bearing set.

(d) Remove oil seal only if it is going to be replaced with new seal.

b. Cleaning, Inspection and Repair.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C).

(1) Clean all parts with cleaning solvent, item 5, App. D, and dry thoroughly.

(2) Examine cylinder bores for wear, scoring, pitting, cracks or other damage. Replace cylinders that have damaged bores.

(3) Measure the clearance between small end of connecting rod and wrist pin. Also measure the clearance between large end of connecting rod and crankshaft. Refer to table 6-2 for allowable clearances.

(4) Examine crankshaft and pistons for wear, scuffing, scoring, etc., and replace parts damaged. If parts exceed clearance listed in table 6-2, replace them.

(5) Inspect tapered roller bearing for rough, pitted, or scored surfaces. Replace a defective bearing.

c. Reassembly.

(1) Crankshaft-crankcase. Before assembling, the crankshaft must be fitted to the crankcase.

NOTE

If any bearing part is replaced, the entire bearing assembly must be replaced.

Before reassembling unit, insure that all reference markings are in place.

(a) Install bearing cup in crankcase.

(b) Install bearing on driven end of crankshaft.

(c) Install oil seal (56).

(d) Install free-end bearing on crankshaft.

(e) Install crankshaft in crankcase.

NOTE

Use caution, do not damage oil seal.

(f) Assemble items 31,34,33,45,36,37 (see figure 5-5) and 35 (crankcase cover) with bearing cup.

(g) Install crankcase cover assembly on crankcase with bolts (32). Torque bolts.

NOTE

CHECK FIT, the crankshaft should turn freely in the crankcase.

If crankshaft is too tight, additional shims (items 36 or 37) must be used to adjust fit.

If crankshaft has end play, shims (items 36 or 37) must be removed to eliminate end play.

(2) Piston-cylinder. Check fit before assembling pistons to connecting rods. Piston without rings must slide through the cylinder by their own weight and holding the skirt of the piston with the two thumbs, there should be no appreciable side motion at any point of piston travel. Refer to table 6-2 for allowable clearance.

(3) Wrist Pin-Piston.

(a) Low Pressure Piston. Wrist pins (48) and (51) (figure 5-10) must be a tap fit with a soft hammer in piston bores at ambient temperature. Be sure that a piston pin retaining ring is at each end of the wrist pins before assembling to cylinders.

(b) High Pressure Piston. Assemble bushing (69) into piston. Press bushing (68) into upper end of connecting rod. Place connecting rod in piston. Press wrist pin (51) into piston. Install retaining ring (47) into piston. Install lockscrews (46) into pistons.

NOTE

Insure lockscrew hole alignment is maintained between bushing (69) and piston.

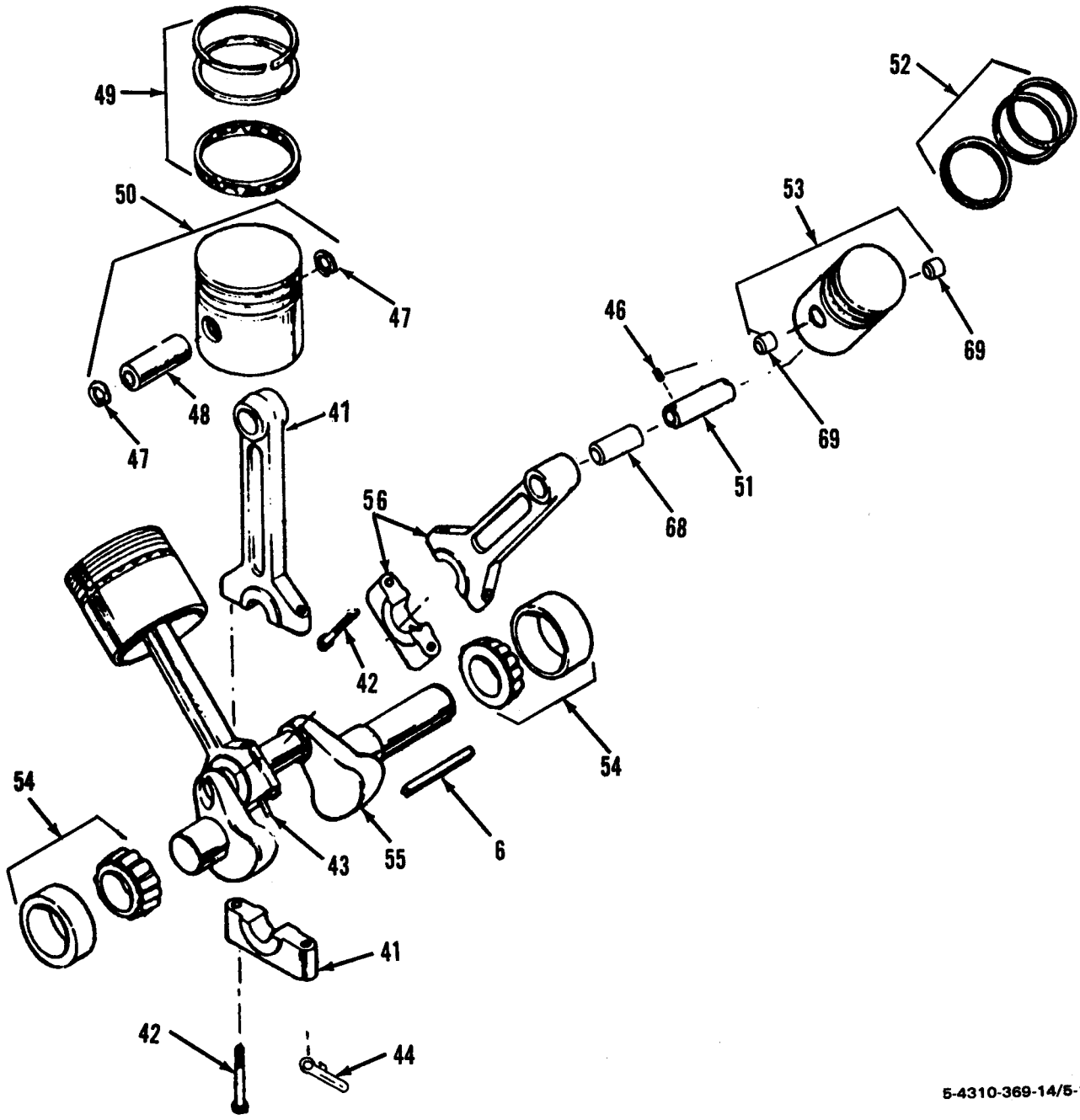
(c) Assemble piston rings (49 and 52) to pistons (figure 5-10). Top two rings are compression rings and dot stamped on one side of ring indicates top of ring. Oil rings cannot be installed upside down as either position is correct.

CAUTION

Do not hammer piston assembly into cylinder. Use finger only to compress rings.

NOTE

Stagger piston ring gaps 120°.



6. Key
41. Connecting Rod, Low Pressure
42. Cap Screw
43. Oil Scoop
44. Oil Scoop
46. Setscrew
47. Retaining Ring
48. Piston Pin, Low Pressure
49. Ring Set, Low Pressure
50. Piston, Low Pressure
51. Piston Pin, High Pressure
52. Ring Set, High Pressure
53. Piston, High Pressure
54. Bearing and Cup Set
55. Crankshaft
56. Connecting Rod, High Pressure
68. Connecting Rod Bushing
69. Piston Bushing

Figure 5-10. Piston Assembly, Exploded View

(4) Cylinder-crankcase. Coat bottom end of cylinder bores and piston rings with oil and assembly cylinders over pistons. The bottom of the cylinder bores are chambered and and rings will compress into piston grooves by pressing cylinder downward and twisting slightly from side to side.

(5) Low Pressure Cylinder and Piston.

NOTE

Align connecting rod with crankshaft bearing during installation.

(a) Attach lower low pressure cylinder (with piston in cylinder) and gasket (30) to crankcase with bolts (29). Torque to 24 ft. lbs.

(b) Attach connecting rod to crankshaft.

NOTE

Be sure to use reference marks (figure 5-8) during assembly.

Install rod end-caps (figure 5-10) and secure with locking device. Tap end-cap lightly to make sure bearing is making contact and tighten rod bolts. The combined piston and connecting rod should turn on the crankshaft freely if bearing adjustment is correct. If tight, cut paper shims and install between cap and rod. If loose, file cap until fit is sufficiently tight. Correct clearance between connecting rod and crankshaft journal can be found in table 6-2.

(6) High pressure Cylinder and Piston.

(a) Attach high pressure cylinder (with piston in cylinder) and gasket (30) to crankcase with bolts (29). Torque to 24 ft.

(b) Attach connecting rod to crankshaft.

(7) Center Low Pressure Cylinder Piston.

(a) Attach center low pressure cylinder (with piston in cylinder) and gasket (30) to crankcase with bolts (29). Torque to 24 ft. lbs.

NOTE

Crankshaft should turn freely in compressor at this time.

(8) Hand Hole Plate.

(a) Install hand hole plate and gasket with bolts (39).

(b) Torque to 12 ft. lbs.

(9) Low Pressure Heads.

(a) Install head gasket (26).

(b) Install valve plate (23).

(c) Install valve plate gasket (22).

(d) Install head (20), element retainer (18A), filters (18 and 19) with head bolts (21). Torque to 24 ft. lbs.

(e) Install filter elements and filter rain caps.

(10) High Pressure Head.

(a) Install gasket (17).

(b) Install head (15) with bolts (16). Torque to 24 ft. lbs.

(11) Intercooler tube (7) (figure 5-5).

(a) Attach to low pressure heads.

(b) Attach to high pressure head.

(12) Attach oil drain nipple (3).

(13) Mount compressor on handtruck (paragraph 4-13).

(14) Attach compressor discharge hose to high pressure cylinder.

5-12. Proficiency Teat.

After compressor assembly is completely reassembled and all connections are checked for leaks, the compressor should pump up to rated capacity.

5-13. Air Receiver Tank Test

The air receiver tank is of a welded construction and is mounted under the two wheel, pneumatic tired handtruck.

a. Removal.

(1) Release all air from the air receiver tank by depressing handle on airhose inflator assembly.

(2) Remove air receiver draincock.

(3) Remove the safety and relief valve (4) and unloader valve (2).

(4) Remove the air pressure gage (3), tee (10) and fittings (12).

(5) Remove the inflator gage (17), hose (15) and hose connectors (16 and 18).

(6) Remove the tank by removing bolts (27) and nuts (24).

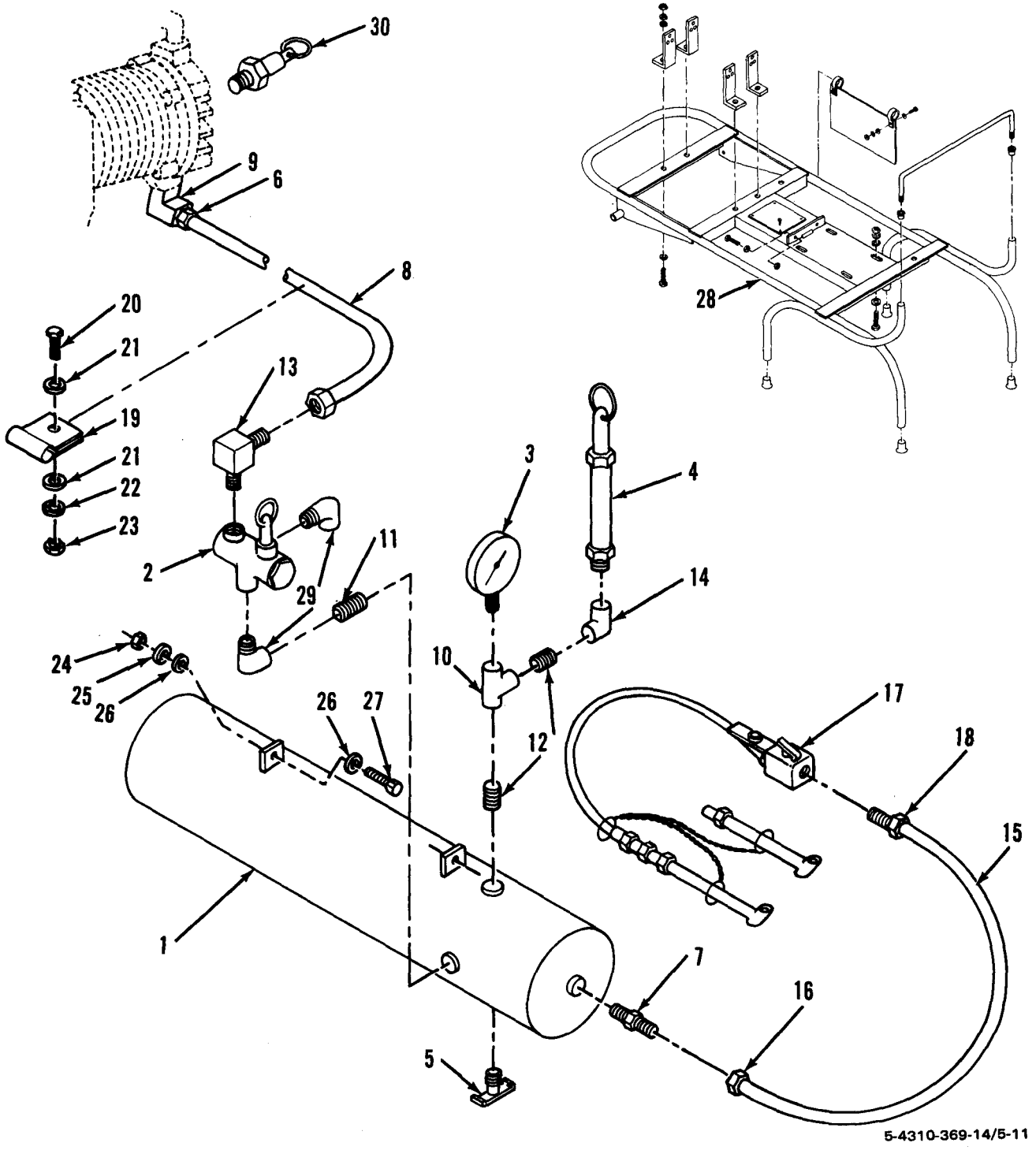
b. Cleaning and Inspection.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100°F (38°C).

(1) Clean the interior of the air tank with live steam, if available, or with cleaning solvent, item 5, App. D. Dry thoroughly.

(2) Inspect the interior and exterior of the tank for cracks, broken welds, dents or corrosion. Check threaded surfaces for damaged threads.



1. Air Tank
2. Unloader Valve
3. Air Pressure Gage
4. Safety Valve
5. Draincock
6. Nut
7. Adapter, Male
8. Comp. Discharge Hose
9. Elbow
10. Tee
11. Nipple
12. Nipple
13. Elbow
14. Elbow
15. Hose, Air
16. Hose End, Female
17. Inflator W/Gage
18. Hose End, Male
19. Clamp, Hose
20. Bolt
21. Washer, Flat
22. Washer, Lock
23. Nut
24. Nut
25. Washer, Lock
26. Washer, Flat
27. Bolt
28. Handtruck
29. Elbow
30. Interstage Safety Valve

Figure 5-11. Air Receiver Tank, Removal and Installation

c. Testing. To test air receiver for leaks, pressurize to 100 psi (7.03 kg/sq cm) with compressed air and check all joints and welds with soapy water or submerge complete tank in water. To test damaged tank it is necessary to test with hydrostatic pressure making sure all air has been removed from air receiver. Test to a pressure of 300 psi (21.1 kg/sq cm). If any leaks appear, replace tank.

WARNING

Do not weld repair air receiver tank.

d. Installation.

(1) Attach tank (1, figure 5-1 1) to handtruck by installing bolts (27) and nuts (24).

(2) Install hose connectors (16 and 18), hose (16) and inflator gage (17).

(3) Attach fittings (12), tee (10) and air pressure gage (3).

(4) Attach unloader valve (2) and safety and relief valve (4).

(5) Install draincock (5).

Section VII. MAINTENANCE OF AIR RECEIVER SYSTEM

5-14. Refer to Chapter 4.

Section VIII. MAINTENANCE OF AIR DISCHARGE SYSTEM

5-15. Refer to Chapter 4.

Section IX. MAINTENANCE OF THE HANDTRUCK ASSEMBLY

5-16. Refer to Chapter 4.

CHAPTER 6
DIRECT SUPPORT MAINTENANCE INSTRUCTIONS

Section I. REPAIR PARTS, SPECIAL TOOLS AND EQUIPMENT

6-1. Special Tools and Equipment

No special tools are required to perform direct and general support maintenance on the compressor.

6-2. Repair Parts

Repair parts are listed and illustrated in the repair parts and special tools list TM 5-4310-369-24P and TM 5-2805-256-24P (Engine).

6-3. Fabricated Tools and Equipment

No specially fabricated tools and equipment are required by direct and general support maintenance personnel to perform maintenance on the compressor.

Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES

6-4. Refer to Chapter 5 for preventive maintenance checks and services.

Section III. TROUBLESHOOTING

6-5. Refer to Chapters 4 and 5 for troubleshooting tables.

Section IV. MAINTENANCE OF ENGINE ASSEMBLY

6-6. Engine

For complete overhaul information, see TM 5-2805-256-14.

Section V. MAINTENANCE OF PNEUMATIC EQUIPMENT

6-7. Description

For a complete description of the air compressor, see paragraph 4-13.

6-8. Tabulated Data

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

b. Nut and Bolt Torque Data for Compressor (Dry Threads)

Torque	Ft-Lbs (Dry)
Cylinder head bolts	24
Cylinder to base bolts	24
Hand hole plate	12
Flywheel setscrew	44
Connecting rod bolts	14
Hand hold plate bolts	12

Table 6-1. Compressor Dimensions

Component	Dimensions		Clearance	
	Minimum	**Maximum**	**Minimum**	**Maximum**
Cylinders:				
Bore, Low Pressure	2.6245 (6.43 cm)	2.6255 (6.4324 cm)	.0035 (.008575 cm)	.0065 (.015925 cm)
Bore, High Pressure	1.745 (4.2753 cm)	1.755 (4.2998 cm)	–	–
Crankshaft:				
Crank Pin	.9988 (2.4470 cm)	.9998 (2.4495 cm)	.0015 (.003675 cm)	.0035 (.008575 cm)
Journal Drive-End	1.060 (2.5970 cm)	1.062 (2.6019 cm)	–	–
Journal Free-End	1.0635 (2.6055 cm)	1.0645 (2.6080 cm)	–	–
Piston:				
Low Pressure, Skirt	2.619 (6.4165 cm)	2.621 (6.4214 cm)	.0035 (.008575 cm)	.0065 (.015925 cm)
High Pressure, Skirt	Pass through gages Go/No-Go check only Goat 1.748 (piston passes through) No-Go at 1.745 (piston will not pass through)			
Piston Ring Gap:				
Low Pressure	.005 (.01225 cm)	.013 (.03185 cm)	–	–
High Pressure	.002 (.0049 cm)	.010 (.0245 cm)	–	–
Piston Pins	.5625 (1.3781 cm)	.5630 (1.3793 cm)	–	–
Piston Pin Bore:				
Low Pressure	.5628 (1.3788 cm)	.5638 (1.3813 cm)	.0000	.0013 (.003185 cm)
High Pressure	.5628 (1.3788 cm)	.5633 (1.3800 cm)	–	.0008 (.00196 cm)
Connecting Rods:				
Piston End	.5637 (1.3810 cm)	.5647 (1.3835 cm)	.0007 (.001715 cm)	.0022 (.00539 cm)
Crankcase End	1.0013 (2.4532 cm)	1.0023 (2.4556 cm)	.0015 (.003675 cm)	.0035 (.008575 cm)

APPENDIX A
REFERENCES

A-1. Fire Protection

TM 5-400-200-10	Hand Portable Fire Extinguishers for Army Users

A-2. Lubrication

C9100IL	Petroleum, Petroleum-Base Products and Related Material
LO 5-2805-256-12	Engine, Gasoline, 1-1/2 H.P. Military Standard Models (Model 1A08-1) (Model 1A08-2) (Model 1A08-3)

A-3. Preventive Maintenance

DA PAM 738-750	The Army Maintenance Management System
TM 9-1870-1	Care and Maintenance of Pneumatic Tires
TM 5-2805-256-14	Operator, Organizational, Intermediate (Field) (Direct Support and General Support) and Depot Maintenance Manual. Engine, Gasoline, 1-1/2 H.P., Military Standard Models (Model 1A08-1, NSN 2805 -00-601-5 181) (Model 1A08-2, NSN 2805-00-714-8552) (Model 1A08-3, NSN 2805-00-068-7510)
TM 5-4310-369-24P	Organizational, Direct Support, General Support, and Depot Maintenance Repair Parts and Special Tools List. Compressor, Reciprocating; Air, Handtruck Mounted, Gasoline Engine, 5 CFM, 175 PSI (Melley Energy Systems, Inc. Model IS-7.95-5CFM)

A-4. Painting

TM 9-213	Painting Instructions for Field Use

A-5. Radio Interference Suppression

TM 11-483	Radio Interference Suppression

A-6. Shipment and Limited Storage

TB 740-93-2	Preservation of USAMEC Mechanical Equipment for Shipment and Storage
TB 740-93-3	Administrative Storage of USAMEC Mechanical Equipment
TM 740-90-1	Administrative Storage of Equipment

A-7. Destruction of Equipment

TM 750-244-3	Procedures for Destruction of Equipment to Prevent Enemy Use

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APPENDIX B
ADDITIONAL AUTHORIZATION LIST

Section I. INTRODUCTION

B-1. Scope

The appendix lists additional items that are authorized for the support of the air compressor.

B-2. Explanation of Listing

National stock numbers, descriptions and quantities are provided to help you identify and request the additional items you require to support this equipment.

Section II. ADDITIONAL AUTHORIZATION LIST

(1) National Stock Number	Part Number and FSCM	(2) Description	Usable On Code	(3) U/M	(4) Qty. Auth.
4210-00-55		Extinguisher, Fire		EA	1

APPENDIX C
MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

C-1. General

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

b. 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.

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.

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.

j. Overhaul. That maintenance effort (services/actions) necessary to restore an item to a completely serviceable/ operational condition as prescribed by maintenance standards (i.e., DMWR) in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

k. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of material maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc.) considered in classifying Army equipments/components.

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 explanations 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, the 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 alphabetical 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.

C-5. Explanation of Columns in Section IV.

a. Reference Code. The code scheme recorded in Column 6, Section II.

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

Section II. MAINTENANCE ALLOCATION CHART

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level C	O	F	H	D	(5) Tools and Equipment	(6) Remarks
01	FUEL SYSTEM (TANK, LINES, AND FILTER)								
0101	Tank Assembly, Fuel	Inspect	0.1						
		Replace		0.2				T1	
		Repair		0.3				T1, T4	
		Service	0.1						
0102	Lines and Fittings	Inspect	0.1						
		Replace		0.2				T1	
		Repair		0.2					
02	COMPRESSOR DRIVE								
0201	Guard Assembly, Belt	Inspect	0.1						
		Replace		0.2				T1	
		Repair		0.2				T1, T4	
0202	Belts, V, Matched Set	Inspect	0.1						
		Adjust		0.2					
		Replace		0.2				T1	
0203	Pulley, Drive	Inspect	0.1						
		Replace		0.2				T1, T4	
03	COMPRESSOR ASSEMBLY	Inspect		0.2				T1	
		Replace		0.8				T1	
		Repair			1.0			T1, T	
		Service		0.5					
		Overhaul				4.0		T1, T	
0301	Air Cleaner	Inspect	0.1						
		Service	0.2						
		Replace	0.2					T1	
0302	Oil Filler, Cap, and Plugs	Inspect	0.1						
		Replace	0.2					T1	
0303	Flywheel	Inspect		0.2				T1	
		Replace		0.3				T1, T	
0304	Tube and Hose Assemblies	Inspect		0.2				T1	
		Replace		0.3				T1	
		Repair			1.0				
0305	Interstage Safety Valve	Inspect		0.1				T1	
		Replace		0.2				T1	
0306	Cylinder Head, Intake and Exhaust Valves	Inspect		0.2				T1, T4	
		Replace		0.3				T1, T4	
		Repair		0.6				T1, T4	
0307	Pistons, Connecting Rods and Cylinder Block	Inspect			0.3			T1, T2	
		Replace			0.5			T1, T2	
		Repair			2.0			T1, T2	
0308	Crankshaft, Bearings, Oil Seals and Crankcase	Inspect			0.4			T1, T2	
		Replace			0.6			T1, T2	
		Repair			2.5			T1, T2	
0309	Compressor Discharge Hose	Inspect		0.1				T1	
		Replace		0.2				T1	

Section II. MAINTENANCE ALLOCATION CHART – Continued

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level C	O	F	H	D	(5) Tools and Equipment	(6) Remarks
04	ENGINE ASSEMBLY	Inspect		0.1				T1	TM 5-2805-256-
		Service		0.2				T1	14/2 – Refer to
		Test		0.3				T1	engine
		Replace		0.8				T1	
		Repair			1.0			T1, T2	TM 5-256-14-24P
		Overhaul				4.0		T1, T3	
05	AIR RECEIVER SYSTEM								
0501	Safety Valve	Inspect		0.1				T1	
		Replace		0.2				TI	
0502	Pressure Gage	Inspect		0.1				T1	
		Replace		0.2				T1	
0503	Draincock	Inspect		0.1				T1	
		Replace		0.1				T1	
0504	Unloader Valve	Inspect		0.1				T1	
		Replace		0.2				T1	
0505	Air Tank	Inspect	0.1						
		Replace		0.4				T1	
		Repair			1.0				
06	AIR DISCHARGE SYSTEM								
0601	Hoses	Inspect	0.1						
		Replace		0.2				T1	
0602	Inflator Gage	Inspect	0.1						
		Replace		0.2				T1	
07	HANDTRUCK ASSEMBLY								
0701	Frame	Inspect		0.1				T1	
		Replace		0.4				T1	
		Repair		0.4				T1	
0702	Axle	Inspect		0.1				T1	
		Replace		0.2				T1	
0703	Wheels	Inspect		0.2				T1	
		Replace		0.3				T1	
0704	Tires and Tubes	Inspect		0.1				TI	
		Service		0.1				TI	
		Replace		0.2				T1	
		Repair		0.4				TI	

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	49	
T3	H	Shop Set, Machine: Field Maintenance, Heavy	3470-00-754-0738	
T4	O	Shop Equipment Automotive Maintenance and Repair: Organization, Common NO1	4910-00-754-0654	

APPENDIX D
EXPENDABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

D-1. Scope

This appendix lists expendable supplies and materials needed to operate and maintain the air compressor. These items are authorized by CTA 50-970. Expendable items (Except Medical, Class V, Repair Parts, and Heraldic Items).

D-2. Explanation of Columns

a. Column 1- Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., "Use cleaning compound, item 5, App. D.").

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

C. . . . . Operator/Crew
O. . . . . Organizational Maintenance
F. . . . . Direct Support Maintenance
H. . . . . General Support Maintenance

c. Column 3- National Stock Number. This is the National stock number assigned to the item; use it to 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.

Section II. EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
1	C	9130-00-160-1817	Gasoline, Automotive, Combat, 91A, 5 gal can	ga
2	C	9150-00-265-9425	Oil, Lubricating, OE 10	qt
3	C	9150-00-265-9433	Oil, Lubricating, OE 30	qt
4	C	9150-00-242-7602	Oil, Lubricating, OEA	qt
5	C		Solvent, Dry cleaning, P-D-680	ga
6	C		Wheel Bearing Grease MIL-G-23827	lb

APPENDIX E
COMPONENTS OF END ITEMS LIST

Section I. INTRODUCTION

E-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.

E-2. General

The components of end 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 Air 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 BII based on Table(s) of Organization and Equipment (TOE)/Modification Table of Organization and Equipment (MTOE) authorization of the end item.

E-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 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. (Not Used.)

g. Quantity Required (Qty Reqd). 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)	(3)	(4)	(5)	(6)	(7)	(8) Quantity			
(a) Figure No.	(b) Item No.	National Stock No.	Part No. and FSCM	Description	Location	Usable On Code	Qty Reqd	RCVD	DATE	DATE	DATE
2-2	15	4720-00-874-3179		Hose Assembly	Air Tank		1				
2-2	17	4910-00-030-2365		Inflator Assembly	End of Hose Assembly		1				
Not Illustrated		7510-00-889-3494		Logbook Binder			1				
3-1		7520-00-559-9618		Cotton Duck Case			1				

Section III. BASIC ISSUE ITEMS (BII)

(1) Illustration		(2)	(3)	(4)	(5)	(6)	(7)	(8)			
(a) Figure No.	(b) Item No.	National Stock No.	Part No. and FSCM	Description	Location	Usable On Code	Qty Reqd	Quantity RCVD	DATE	DATE	DATE
				TM 5-4310-369-14			1				

APPENDIX F
ADDITIONAL AUTHORIZATION LIST

Section I. INTRODUCTION

F-1. Scope

This appendix lists additional items you are authorized for the support of the compressor.

F-2. General

This list identifies items that do not have to accompany the compressor and that do not have to be turned in with it. These items are authorized to you by CTA, MTOE, or JTA.

F-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: (Not used).

Section II. ADDITIONAL AUTHORIZATION LIST (AAL)

(1)	(2)		(3)	(4)
National Stock Number	Description Part Number and FSCM	Usable On Code	U/M	Qty Auth
4210-00-555-8837	Extinguisher, Fire		EA	1

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To be distributed in accordance with DA Form 12-25A, Operator maintenance requirements for Air Compressors, 5 CFM.

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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 shim. Please correct one or the other.
125	line 20			I 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.

SAMPLE

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The Metric System and Equivalents

Linear Measure

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

Weights

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

Liquid Measure

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

Square Measure

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

Cubic Measure

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

Approximate Conversion Factors

To change	*To*	*Multiply by*	*To change*	*To*	*Multiply by*
inches	centimeters	2.540	ounce-inches	newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29,573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	newton-meters	1.365	metric tons	short tons	1.102
pound-inches	mewton-meters	.11375			

Temperature (Exact)

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