

General Operation and Parts Instructions for Gasoline Compressor Outfits

MODEL NO. DACE-7161-2

| | |
|--------------------------------------|-----------------|
| ENGINE HORSE POWER | 11HP |
| COMPRESSOR BORE | 1.96/4.3 |
| COMPRESSOR STROKE | 2.17 |
| AIR TANK CAPACITY | 30 GAL. |
| APPROXIMATE UNLOADER PRESSURE | 175 PSIG |
| SCFM @ 100 psig | 12.5 |
| SCFM @ 175 Psig | 12.0 |

WARNING

Read Owner's Manual. Do not operate equipment until you have read Owners Manual for Safety, Operation, and Maintenance Instructions.

- **This product is not equipped with a spark arresting muffler.** If the product will be used around flammable materials, or on land covered with materials such as agricultural crops, forest, brush, grass, or other similar items, then an approved spark arrester must be installed and is legally required in the state of California. It is a violation of California statutes section 130050 and/or sections 4442 and 4443 of the California Public Resources Code, unless the engine is equipped with a spark arrester, as defined in section 4442, and maintained in effective working order. Spark arresters are also required on some U. S. Forest service land and may also be legally required under other statutes and ordinances.
- Engine exhaust from this product contains chemicals known, in certain quantities, to cause cancer, birth defects or other reproductive harm.

 **DeVILBISS AIR POWER COMPANY**
213 Industrial Dr. • Jackson, TN 38301

TABLE OF CONTENTS

| | Page No. |
|--------------------------------------------------------------|-----------------|
| SAFETY PRECAUTIONS | 3-5 |
| GENERAL INFORMATION | 6 |
| COMPRESSOR DIAGRAM | 7 |
| DESCRIPTION OF OPERATION | 6 |
| INSTALLATION | 8-10 |
| Pre-Installation Inspection | 8 |
| Vibration Mounting Kit (Stationary Compressor Outfits) | 8 |
| Location of the Compressor Outfit | 8-9 |
| Air Line Piping (Stationary Compressor Outfits) | 9-10 |
| OPERATION | 11-14 |
| Operator Controls | 11-12 |
| Daily Startup Procedures | 13-14 |
| Break-In Procedures | 13 |
| MAINTENANCE | 14-17 |
| Routine Maintenance Schedule | 14 |
| Cleaning the Air Compressor Outfit | 15 |
| Checking and Changing Oil | 15 |
| Checking and Changing Air Intake Filter | 16 |
| Draining Water from Air Tank | 16 |
| Checking and Adjusting Belt Tension | 17 |
| SERVICE INSTRUCTIONS | 17-19 |
| Replacing Drive Belt | 17-18 |
| Engine Pulley and Flywheel Alignment | 18 |
| Check Valve Inspection and Cleaning | 18-19 |
| Servicing Intake and Exhaust Valves | 19 |
| TROUBLESHOOTING GUIDE | 20-24 |
| Air Compressor Diagram & Parts List | 26-27 |
| Compressor Pump Diagram & Parts List | 28-29 |
| WARRANTY | 30 |
| SERVICE NOTES | 31 |
| ORDERING REPAIR PARTS | 32 |

SAFETY GUIDELINES - DEFINITIONS

This manual contains information that is important for you to know and understand. This information relates to protecting **YOUR SAFETY** and **PREVENTING EQUIPMENT PROBLEMS**. To help you recognize this information, we use the symbols to the right. Please read the manual and pay attention to these sections.

▲ DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, **will** result in **death or serious injury**.

▲ WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, **could** result in **death or serious injury**.

▲ CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, **may** result in **minor or moderate injury**.

CAUTION

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, **may** result in **property damage**.

IMPORTANT SAFETY INSTRUCTIONS




• SAVE THESE INSTRUCTIONS •


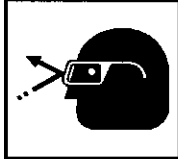

▲ WARNING






IMPROPER OPERATION OR MAINTENANCE OF THIS PRODUCT COULD RESULT IN SERIOUS INJURY AND PROPERTY DAMAGE. READ AND UNDERSTAND ALL WARNINGS AND OPERATING INSTRUCTIONS BEFORE USING THIS EQUIPMENT.



| HAZARD | WHAT CAN HAPPEN | HOW TO PREVENT IT |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p style="text-align: center;">RISK OF EXPLOSION OR FIRE</p> <div style="text-align: center;">   </div> | <p>GASOLINE AND GASOLINE VAPORS CAN BECOME IGNITED BY COMING INTO CONTACT WITH HOT COMPONENTS SUCH AS THE MUFFLER, FROM ENGINE EXHAUST GASES, OR FROM AN ELECTRICAL SPARK.</p> <p>COMBUSTIBLE MATERIALS WHICH COME INTO CONTACT WITH HOT ENGINE PARTS CAN BECOME IGNITED.</p> <p>UNATTENDED OPERATION OF THIS PRODUCT COULD RESULT IN PERSONAL INJURY OR PROPERTY DAMAGE.</p> | <p>TURN ENGINE OFF AND ALLOW IT TO COOL BEFORE ADDING FUEL TO THE TANK. EQUIP AREA OF OPERATION WITH A FIRE EXTINGUISHER CERTIFIED TO HANDLE GASOLINE OR FUEL FIRES.</p> <p>ADD FUEL OUTDOORS OR IN A WELL VENTILATED AREA. MAKE SURE THERE ARE NO SOURCES OF IGNITION, SUCH AS CIGARETTES NEAR REFUELING LOCATION.</p> <p>OPERATE COMPRESSOR IN AN OPEN AREA AWAY FROM DRY BRUSH, WEEDS OR OTHER COMBUSTIBLE MATERIALS.</p> <p>STORE FUEL IN A SECURE LOCATION AWAY FROM COMPRESSOR.</p> <p>ALWAYS REMAIN IN ATTENDANCE WITH THE PRODUCT WHEN IT IS OPERATING.</p> |
| <p style="text-align: center;">RISK OF BURSTING</p> <div style="text-align: center;">  </div> | <p>AIR TANK</p> <p>THE FOLLOWING CONDITIONS COULD LEAD TO A WEAKENING OF THE TANK, AND RESULT IN A VIOLENT TANK EXPLOSION:</p> <ol style="list-style-type: none"> 1. FAILURE TO PROPERLY DRAIN CONDENSED WATER FROM THE TANK, CAUSING RUST AND THINNING OF THE STEEL TANK. 2. MODIFICATIONS OR ATTEMPTED REPAIRS TO THE TANK. | <p>DRAIN TANK DAILY OR AFTER EACH USE. IF TANK DEVELOPS A LEAK, REPLACE IT IMMEDIATELY WITH A NEW TANK OR NEW COMPRESSOR OUTFIT.</p> <p>NEVER DRILL INTO, WELD, OR MAKE ANY MODIFICATIONS TO THE TANK OR ITS ATTACHMENTS.</p> |

| HAZARD | WHAT CAN HAPPEN | HOW TO PREVENT IT |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>RISK OF BURSTING (cont'd)</p>  | <p>AIR TANK</p> <p>3. <u>UNAUTHORIZED MODIFICATIONS TO THE UNLOADER VALVE, SAFETY VALVE, OR ANY OTHER COMPONENTS WHICH CONTROL TANK PRESSURE.</u></p> <p>4. <u>EXCESSIVE VIBRATION CAN WEAKEN THE AIR TANK AND CAUSE RUPTURE OR EXPLOSION. EXCESSIVE VIBRATION WILL OCCUR IF THE COMPRESSOR IS NOT PROPERLY MOUNTED OR IF THE ENGINE OPERATES ABOVE RECOMMENDED RPM.</u></p> <p>ATTACHMENTS & ACCESSORIES</p> <p><u>EXCEEDING THE PRESSURE RATING OF AIR TOOLS, SPRAY GUNS, AIR OPERATED ACCESSORIES, TIRES AND OTHER INFLATABLES CAN CAUSE THEM TO EXPLODE OR FLY APART, AND COULD RESULT IN SERIOUS INJURY.</u></p> | <p>THE TANK IS DESIGNED TO WITHSTAND SPECIFIC OPERATING PRESSURES. <u>NEVER MAKE ADJUSTMENTS OR PARTS SUBSTITUTIONS TO ALTER THE FACTORY SET OPERATING PRESSURES.</u></p> <p>DO NOT REMOVE THE STIFFENER BAR CONNECTING THE COMPRESSOR PUMP TO THE ENGINE, EXCEPT TO ADJUST BELT TENSION, THEN SECURELY TIGHTEN THE STIFFENER BAR NUTS. THIS BAR CONTROLS OUTFIT VIBRATION.</p> <p>FOR ESSENTIAL CONTROL OF AIR PRESSURE, YOU MUST <u>INSTALL A PRESSURE REGULATOR AND PRESSURE GAUGE TO THE AIR OUTLET</u> OF YOUR COMPRESSOR. FOLLOW THE EQUIPMENT MANUFACTURERS RECOMMENDATION AND NEVER EXCEED THE MAXIMUM ALLOWABLE PRESSURE RATING OF ATTACHMENTS. <u>NEVER USE COMPRESSOR TO INFLATE SMALL LOW-PRESSURE OBJECTS SUCH AS CHILDREN'S TOYS, FOOTBALLS, BASKETBALLS, ETC.</u></p> |
| <p>RISK FROM FLYING OBJECTS</p>  | <p><u>THE COMPRESSED AIR STREAM CAN CAUSE SOFT TISSUE DAMAGE TO EXPOSED SKIN AND CAN PROPEL DIRT, CHIPS, LOOSE PARTICLES AND SMALL OBJECTS AT HIGH SPEED, RESULTING IN PROPERTY DAMAGE OR PERSONAL INJURY.</u></p> | <p>ALWAYS WEAR ANSI Z87.1 APPROVED SAFETY GLASSES WITH SIDE SHIELDS WHEN USING THE COMPRESSOR.</p> <p>NEVER POINT ANY NOZZLE OR SPRAYER TOWARD ANY PART OF THE BODY OR AT OTHER PEOPLE OR ANIMALS.</p> <p>ALWAYS TURN THE COMPRESSOR OFF AND BLEED PRESSURE FROM THE AIR HOSE AND TANK BEFORE ATTEMPTING MAINTENANCE, ATTACHING TOOLS OR ACCESSORIES.</p> |
| <p>RISK TO BREATHING</p>  | <p><u>BREATHING EXHAUST FUMES FROM ENGINE WILL CAUSE SERIOUS INJURY OR DEATH.</u></p> <p>THE <u>COMPRESSED AIR</u> FROM YOUR COMPRESSOR IS NOT SAFE FOR BREATHING! THE AIR STREAM MAY CONTAIN CARBON MONOXIDE, TOXIC VAPORS OR SOLID PARTICLES FROM THE TANK.</p> <p>SPRAYED MATERIALS SUCH AS PAINT, PAINT SOLVENTS, PAINT REMOVER, INSECTICIDES, WEED KILLERS, ETC.. CONTAIN HARMFUL VAPORS AND POISONS.</p> | <p>ALWAYS OPERATE AIR COMPRESSOR IN A CLEAN, WELL VENTILATED AREA. AVOID ENCLOSED AREAS SUCH AS GARAGES, BASEMENTS, STORAGE SHEDS, ETC., WHICH LACK A STEADY EXCHANGE OF AIR. NEVER OPERATE UNIT IN ENCLOSED LOCATIONS OCCUPIED BY HUMANS OR ANIMALS. KEEP CHILDREN, PETS AND OTHERS AWAY FROM AREA OF OPERATION.</p> <p>NEVER INHALE AIR FROM THE COMPRESSOR EITHER DIRECTLY OR FROM A BREATHING DEVICE CONNECTED TO THE COMPRESSOR.</p> <p>WORK IN AN AREA WITH GOOD CROSS-VENTILATION. READ AND FOLLOW THE SAFETY INSTRUCTIONS PROVIDE ON THE LABEL OR SAFETY DATA SHEETS FOR THE MATERIAL YOU ARE SPRAYING. USE A NIOSH/MSHA APPROVED RESPIRATOR DESIGNED FOR USE WITH YOUR SPECIFIC APPLICATION.</p> |

| HAZARD | WHAT CAN HAPPEN | HOW TO PREVENT IT |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p data-bbox="272 218 474 273">RISK FROM MOVING PARTS</p>   | <p data-bbox="542 218 997 315">THE ENGINE CAN START ACCIDENTALLY IF THE FLYWHEEL IS TURNED BY HAND OR MOVED BY PULLING ON THE STARTER ROPE.</p> <p data-bbox="542 344 997 441">MOVING PARTS SUCH AS THE PULLEY, FLYWHEEL AND BELT CAN CAUSE SERIOUS INJURY IF THEY COME INTO CONTACT WITH YOU OR YOUR CLOTHING.</p> <p data-bbox="542 470 997 638">ATTEMPTING TO OPERATE COMPRESSOR WITH DAMAGED OR MISSING PARTS OR ATTEMPTING TO REPAIR COMPRESSOR WITH PROTECTIVE SHROUDS REMOVED CAN EXPOSE YOU TO MOVING PARTS AND CAN RESULT IN SERIOUS INJURY.</p> | <p data-bbox="1029 218 1446 315">ALWAYS DISCONNECT THE SPARK PLUG AND BLEED PRESSURE FROM THE TANK BEFORE PERFORMING MAINTENANCE.</p> <p data-bbox="1029 365 1446 441">NEVER OPERATE THE COMPRESSOR WITH GUARDS OR COVERS WHICH ARE DAMAGED OR REMOVED.</p> <p data-bbox="1029 491 1446 583">ANY REPAIRS REQUIRED ON THIS PRODUCT SHOULD BE PERFORMED BY AUTHORIZED SERVICE CENTER PERSONNEL.</p> |
| <p data-bbox="272 701 474 730">RISK OF BURNS</p>  | <p data-bbox="542 701 997 827">TOUCHING EXPOSED METAL SUCH AS THE COMPRESSOR HEAD OR OUTLET TUBES OR CONTACT WITH HOT ENGINE PARTS SUCH AS THE MUFFLER CAN RESULT IN SERIOUS BURNS.</p> <p data-bbox="542 877 997 974">THE GASOLINE ENGINE , THE ENGINE MUFFLER, THE COMPRESSOR HEAD AND TUBING BECOME VERY HOT DURING OPERATION.</p> | <p data-bbox="1029 701 1446 856">NEVER TOUCH ANY EXPOSED METAL PARTS ON ENGINE OR COMPRESSOR DURING OR IMMEDIATELY AFTER OPERATION. ENGINE AND COMPRESSOR WILL REMAIN HOT FOR SEVERAL MINUTES AFTER OPERATION.</p> <p data-bbox="1029 886 1446 961">DO NOT REACH AROUND PROTECTIVE SHROUDS OR ATTEMPT MAINTENANCE UNTIL UNIT HAS BEEN ALLOWED TO COOL.</p> |

GENERAL INFORMATION

You have purchased a complete compressor outfit consisting of an air compressor, ASME approved air tank, gasoline engine, and associated controls and instruments. The compressor outfit you have selected is a two stage stationary outfit.

Your new compressor can be used for operating paint sprayers, air tools, grease guns, air brushes, caulking guns, and sand blasters, spraying weed killer and insecticides, etc. An air pressure regulator may be necessary for some of these

applications. Refer to Figure 1 for a photograph of the compressor and to identify the major components of the compressor.

A regularly scheduled program of preventive maintenance is necessary to insure the long life that has been designed into your DeVilbiss compressor outfit. This instruction manual, along with regular maintenance will maintain your compressor outfit in good working order. Before operating or performing any maintenance on your outfit, refer to these publications.

DESCRIPTION OF OPERATION

The gasoline engine uses a pulley and drive belt to drive the compressor flywheel. The flywheel turns the compressor crankshaft causing the up and down movement of the pistons in the cylinder; this up and down movement draws and compresses the air.

On the down stroke of the piston, air is drawn in through the air intake. The exhaust valves remain closed. On the up stroke of the piston, both the valves are closed and air is compressed in the cylinder. As pressure builds in the cylinder the exhaust valve opens and the compressed air is forced out of the cylinder through the check valve and into the air tank. This process continues until the air pressure reaches maximum tank pressure.

Working air pressure becomes available when the compressor has raised the tank pressure above that required at the air discharge valve. The air intake must be kept clear of all obstructions which could interfere with air delivery to the compressor.

All gasoline compressor outfits are continuously running outfits controlled by tank pressure. At maximum

tank pressure the unloader valve exhausts air to atmosphere (blowoff); tank pressure closes the check valve retaining air pressure inside the tank. When tank pressure drops to a pre-determined pressure, the unloader valve closes, and air pressure opens the check valve allowing compressed air into the tank. As maximum tank pressure is reached, if the unloader valve malfunctions and compressed air is not exhausted at or near its blowoff setting, the air tank safety valve will protect the air tank against high pressure by popping at its factory set pressure. The safety valve popping pressure is slightly higher than the unloader valve blowoff pressure.

This compressor outfit is equipped with a gas saving throttle control device. When maximum tank pressure is reached and the unloader valve opens the throttle control is also activated. The throttle control holds the engine at a factory set idling speed until air pressure in the tank drops to reset or minimum tank pressure. At reset pressure when the unloader valve closes the throttle control is reactivated and the engine accelerates to full throttle.

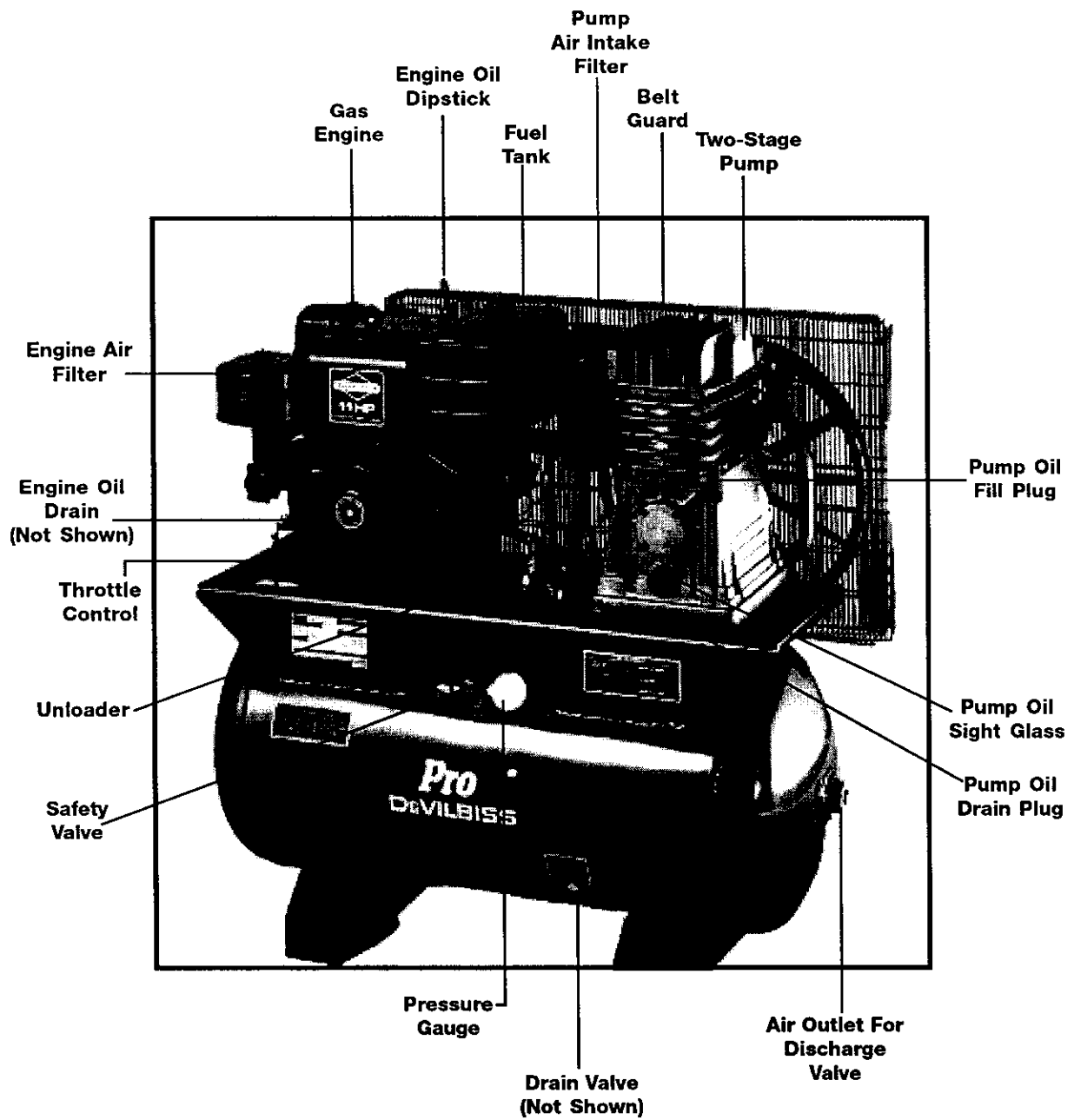


Figure 1 - Typical Gasoline Compressor Outfit

INSTALLATION

PRE-INSTALLATION INSPECTION

NOTE

Each air compressor outfit is carefully checked before shipment. With improper handling, damage may result in transit and cause problems in compressor operation; a bent crankshaft, etc.

Immediately on equipment arrival, check for both concealed and visible damages to avoid expenses being incurred to correct such problems. This should be done regardless of any visible signs of damage to the shipping container. Report any damages to carrier and arrange for inspection of goods immediately.

VIBRATION MOUNTING KIT (Stationary Compressor Outfits)

⚠ WARNING

Bolting legs to a stiff surface can cause tank rupture resulting in serious injury or damage. Do not permanently mount compressor to any surface without using the vibration mount kit.

Portable compressor outfits may be permanently mounted in one location such as a truck bed, if desired. A vibration mount kit is included with the outfit for this purpose.

1. In order to maintain adequate ventilation for compressor cooling and to avoid contact with pick-up truck bed, always mount the outfit at least 8 inches from any vertical wall. Using the holes in the air tank support legs as a guide, mark and drill four 5/16 inch diameter holes in the mounting surface.

⚠ WARNING

To prevent excessive vibration which may cause tank rupture or explosion, never remove the engine stiffener bar or increase the engine RPM. Make sure the engine bolts and stiffener bar nuts are tight. Do not operate the outfit if the rubber feet are not attached.

2. Insert the vibration mounts in the mounting holes. Place a flat washer under the mounting surface and secure each mount with a lockwasher and nut. See Figure 3.

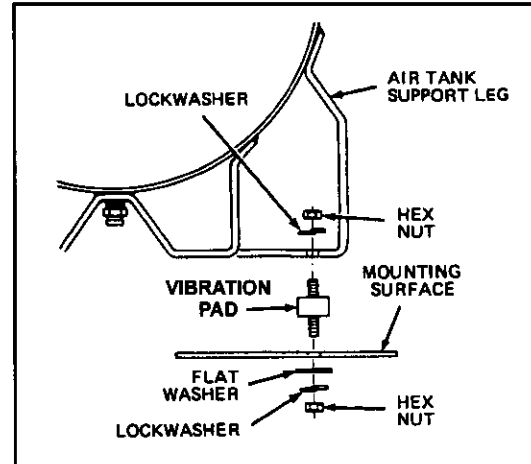


Figure 3 - Installation of Vibration Mounting Kit

3. Set the outfit on top of the vibration mounts (the exposed threaded ends) and secure each mount to the air tank legs with lock washer and nut.

LOCATION OF THE COMPRESSOR OUTFIT

⚠ WARNING

Engine exhaust contains toxic carbon monoxide. Operate the engine in a well ventilated area only. If inhaled, it can cause dizziness, unconsciousness and possibly death.

The air compressor outfit should be located as close as possible to the point where the compressed air is to be used. The area selected should be dry, clean, cool, and well ventilated. Make certain that the outfit is mounted level on a solid foundation so no strain is imposed on the support feet or base. Keep the outfit away from areas which have dirt, vapor, and volatile fumes in the atmosphere which may clog and gum the intake filter and valves causing inefficient operation. Where this not practical a remote air intake is recommended.

NOTE

Where a remote air intake is used, enlarge the side of the air intake piping by one pipe size for each 10 feet of length.

Stationary outfits must be bolted or lagged to the floor to prevent movement. When lagging down, leave a minimum of 1/8 inch between the bolt and support feet. The use of vibration pads at each support foot is required to eliminate the possibility of tank rupture.

The flywheel side of the outfit should be placed toward the wall and protected with a totally enclosed belt guard. In no case should the flywheel be closer than 12 to 18 inches from the wall or other obstruction that will interfere with the flow of air through the fan blade flywheel. See Table 1 for recommended distances. The area should allow space on all sides for air circulation and for ease of normal maintenance.

⚠ CAUTION

The compressor outfit must not be operated in any confined area where heat from the outfit can not readily escape. Damage to the outfit may result.

The compressor crankcase and head are designed with fins which allow for proper cooling. Clean or blow off the fins and any other parts of the compressor outfit that collect dust or dirt. A clean compressor runs cooler and provides longer service. Do not place rags, containers, or other material in or against the belt guard which will obstruct ventilation openings necessary for proper compressor operating temperatures.

**AIR LINE PIPING
(STATIONARY COMPRESSOR OUTFITS)**

⚠ WARNING

The use of plastic pipe, soldered joint, or failure to insure system capability of flex joints and flexible hose can result in mechanical failure, property damage, and serious injury.

Plastic or PVC pipe is not designed for use with compressed air. Regardless of its indicated pressure rating, plastic pipe can burst from air pressure. Use only metal pipe for air distribution lines.

A typical compressed air distribution system as shown in Figure 4, page 10 should be of sufficient pipe size to keep the pressure drop between the supply and point of use to a minimum. All pipes and fittings used must be certified safe for the pressures involved.

Pipe thread sealant must be used on all threads, and all joints are to be made up tight, since small leaks in the piping system are the largest single cause of high operating costs.

All piping should be sloped to an accessible drain point and all outlets should be taken from the top of the main distribution air line so that moisture cannot enter the outlet.

The main distribution air line should not be smaller than the compressor air discharge valve outlet. A smaller line will restrict the flow of air. For long air lines, refer to Table 2, Pipe Sizes for Compressed Air Lines, for recommended pipe sizes. It is recommended that a flexible coupling be installed between the air discharge valve outlet and main air distribution line to allow for vibration.

To remove entrained dirt, oil and water, install separator in the main distribution line, a sufficient distance from the compressor. This will allow the air to cool to room temperature before passing through the separator.

Additional separators or filter may be used depending on the application.

NOTE

For underground installation, bury air lines below the frost line and avoid pockets where condensation can gather and freeze. Apply pressure before underground lines are covered to make sure all pipe joints are free from leaks.

Table 2 Pipe Sizes for Compressed Air Lines

| AIR cfm | LENGTH OF PIPE LINES IN FEET | | | | | | | |
|------------|------------------------------|-------|-------|-------|-------|-------|-------|-------|
| | 25 | 50 | 75 | 100 | 150 | 200 | 250 | 300 |
| 1 - 5 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 |
| 10 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 |
| 15 | 1/2 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 |
| 20 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 |
| 25 | 3/4 | 3/4 | 3/4 | 3/4 | 1 | 1 | 1 | 1 |
| 30 | 3/4 | 3/4 | 3/4 | 1 | 1 | 1 | 1 | 1 |
| 35 | 3/4 | 3/4 | 1 | 1 | 1 | 1 | 1 | 1 |
| 40 | 3/4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 50 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 60-70 | 1 | 1 | 1 | 1 | 1-1/4 | 1-1/4 | 1-1/4 | 1-1/4 |
| 80-100 | 1-1/4 | 1-1/4 | 1-1/4 | 1-1/4 | 1-1/2 | 1-1/2 | 1-1/2 | 1-1/2 |

Pipe sizes are in inches

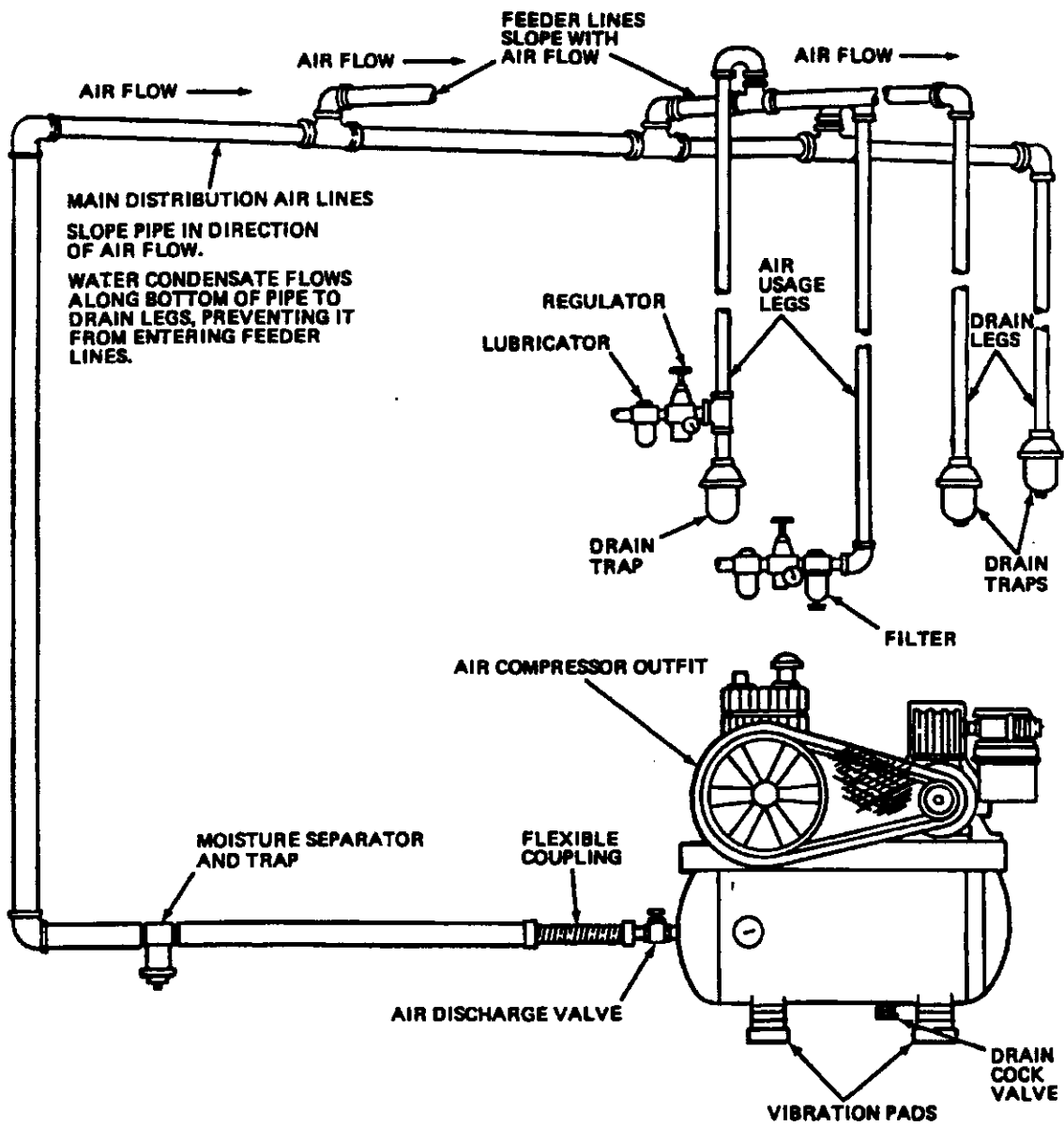


Figure 4. Typical Compressed Air Distribution System

OPERATION

Operator Controls

The unloader valve for the operation of the gasoline compressor outfit is located between the compressor pump and gasoline engine. The air discharge valve can be located on the end of the air tank. The safety valve and pressure gauge are attached to the tank below the unloader. See page 7.

Unloader Valve

⚠ WARNING

Pressure loads beyond the design limits may cause tank rupture or explosion. Do not attempt to adjust, remove, or defeat the unloader valve, or change and modify any pressure control device. If replacement is necessary, the same rated valve must be used.

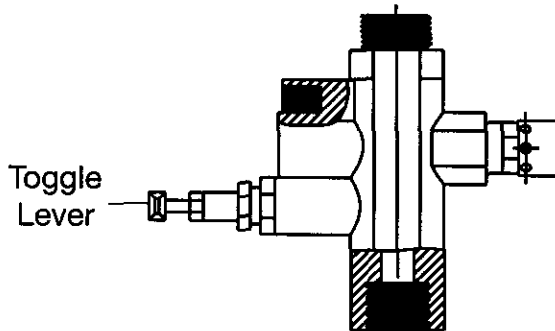


Figure 6. Unloader Valve

The unloader valve, Figure 6, is controlled by tank pressure. Compressors with unloaders run continuously and maintain air pressure within set limits. At maximum tank pressure the unloader valve opens and the compressed air is exhausted to atmosphere. This prevents the compressor from continually building more pressure if air is not needed. When the tank pressure drops to a predetermined minimum pressure, the unloader valve closes and the compressor again builds up the tank pressure. Pressure continues to build until maximum tank pressure is achieved. The cycle then repeats itself.

The unloader is used because frequent start-ups and stops are impractical with a gasoline engine. The unloader valve is preset at the factory. **Never attempt to make adjustments to the unloader valve.**

The toggle lever on the front of the unloader valve should be pulled out or in the horizontal position when starting up the compressor. This prevents the compressor from starting under load. Once the engine has reached full throttle, the lever should be pushed to the side, returning it to its original position to allow the compressor pump to build pressure in the air tank.

⚠ WARNING

Over-pressurization of the air tank may cause tank rupture or explosion. The air tank is protected from over-pressurization by a safety valve. Do not eliminate, make adjustments or substitutions to this device. Occasionally pull the ring on the safety valve to make sure it operates freely. If it doesn't, the safety valve must be replaced. Innercooler safety valves used on two stage outfits must be similarly checked.

The safety valve, Figure 7, is set at the factory to be pressure approximately 15 pounds higher than the rated pressure of the outfit. If the unloader valve malfunctions and does not exhaust compressed air automatically at maximum tank pressure the safety valve will protect the air tank against excessive air pressure by popping off at its preset pressure.

Two stage compressors with unloader controls will have a safety valve on the intercooler, set 50 to 55 pounds. The purpose of this safety valve is to prevent the full tank pressure building up in the large, low pressure cylinder or intercooler.

THROTTLE CONTROL

A gas saving throttle control has been incorporated on some compressor outfits. During normal operation, as maximum tank pressure is obtained, the unloader exhausts compressed air and activates the throttle control of the engine. The throttle control holds the engine at a factory set idling speed until air pressure in the tank drops to reset or minimum tank pressure.

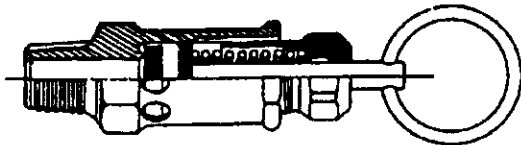


Figure 7. Safety Valve

The unloader then reactivates the throttle control and accelerates the engine to full throttle.

ADDITIONAL REGULATORS AND CONTROLS

Since the air tank pressure is usually greater than that which is needed, a separate regulator is usually employed to control the air pressure ahead of any individual air driven device.

⚠ CAUTION

The gasoline engine and air compressor pumps on all compressor outfits are shipped without oil. Do not attempt to operate for any reason without first adding oil to the engine and compressor pump crankcase. Serious damage can result from even very limited operation unless filled with oil and broken in correctly. Make sure to closely follow the initial startup procedures.

NOTE

The compressor outfit should be placed on a level surface in a dry, clean, well ventilated, area. Do not place any material on or against the belt guard. This blocks ventilator openings necessary for proper compressor cooling.

1. Remove the oil fill plugs on the gasoline engine and air compressor pump and slowly add oil until the units are full. Refer to the "Gasoline Engine Owners Manual" for recommended oils and fill capacities for the engine. The compressor pump holds approximately 60 fluid oz..

TWO STAGE COMPRESSOR UNITS

Viscosity Chart

| Recommended Oil (API SG/CD Heavy Duty) | Room or Ambient Temperature |
|---------------------------------------------------|----------------------------------------|
| SAE20 | Below 20°F |
| SAE30 | Above 32°F |

Crankcase capacity equals approximately 60 fluid ounces.

2. The air compressor outfit is ready for use.

3. Periodically check the compressor outfit during the first few days of operation to make sure the compressor outfit is running smoothly and all controls are operating properly.

NOTE

After the compressor has been in operation for 2 to 3 hours, tighten the compressor head bolts.

Torque two stage compressor head bolts to 35 foot-pounds using a criss-cross pattern when tightening.

BREAK-IN PROCEDURES

Perform steps 1-8 of the Daily Startup Procedures. Open the air discharge valve.

DAILY STARTUP PROCEDURES

Perform the following checks before starting the compressor outfit.

1. Ensure that nothing is blocking the belt guard air openings.
2. Pull the ring on the safety valve to make sure the valve moves freely and smoothly.
3. Check the engine and compressor oil levels. Add oil if necessary.

▲ WARNING

Gasoline is extremely flammable and explosive. Refuel in a well ventilated area with engine stopped. Allow engine to cool before refueling.

Do not smoke or allow flames or sparks in the area where the engine is refueled or where gasoline is stored.

Do not overfill the tank and make sure the filler cap is securely closed after refueling. Be careful not to spill fuel when refueling. Fuel vapor or spilled fuel may ignite. If any fuel is spilled, make sure the area is dry before starting the engine.

4. Check the engine fuel tank level. Add fuel if necessary.

Before starting the compressor outfit, check the following:

5. Close the air discharge valve.
6. Set the toggle lever of the unloader valve in the vertical position to relieve compressor head pressure.
7. Move the control lever or choke lever to the **CHOKE** position.
8. Turn the engine lever or key switch to the **ON** position.

NOTE

If the engine is warm or the air temperature is high, move the control lever or choke lever away from the CHOKE position as soon as the engine starts.

9. Start the compressor outfit by pulling the starter handle or by depressing the starter button. Return the toggle lever on the unloader valve to the horizontal position and allow outfit run for 10 minutes without building any pressure. Check that the unloader exhausts air at maximum tank pressure.

▲ CAUTION

If these break-in procedures are not followed, premature pump failure may result and void your warranty.

10. Check the following:

- a. Make sure all controls are operating correctly. Refer to the "Operator Controls" section of this manual. A separate gasoline engine instruction manual is provided detailing engine operation.
- b. Check all air lines, fittings and pipes for leaks. Even minor leaks can cause the compressor to overwork resulting in premature breakdown or unsatisfactory performance.

- c. Check for excessive vibration and noise. Correct any defects found.
- d. Check for oil leaks. Correct any leaks found.

SHUT DOWN PROCEDURES

To stop the engine in an emergency, turn the engine ON/OFF lever or key switch to the OFF position. Under normal conditions, use the following procedures.

1. Allow the tank pressure to build to maximum and the engine to throttle down to idle speed.

2. Turn the engine lever or key switch to the OFF position.
3. Close the air discharge valve.
4. Remove air tool or accessory.
5. Open outlet valve or regulator to allow air to slowly bleed from the tank. Close the outlet valve or regulator when the tank pressure is approximately 20 psig.
6. Drain water from tank.

MAINTENANCE

To ensure efficient operation and longer life of the air compressor outfit a routine maintenance schedule should be prepared and followed. The following routine maintenance schedule is geared to an outfit in a normal working environment operating on a daily basis. If necessary, the schedule should be modified to suit the conditions found with your compressor outfit. The modifications will depend upon the hours of operation and the working environment. Compressor outfits in an extremely dirty and/or hostile environment will require a greater frequency of all maintenance checks. The maintenance label mounted on the air tank also lists the required maintenance checks.

For additional maintenance instructions, recommended oil and fuel on the gasoline engine, refer to "Gasoline Engine Owners Manual".

ROUTINE MAINTENANCE SCHEDULE

DAILY

1. Check the gasoline engine and air compressor pump oil levels; add if necessary.

NOTE

Drain and refill the compressor pump crankcase after the first 100 hours of operation. Add approximately 60 oz. to pump.

Drain and refill the gasoline engine crankcase after the first 20 hours of operation. See "Gasoline Engine Owners Manual" for engine crankcase capacity.

2. Drain water from the air tank and any moisture separators or transformers.
 3. Check for any unusual noise and/or vibration.
 4. Manually check the safety valve to make sure it is operating properly.
 5. Check the condition of the air cleaner on the gasoline engine. Clean and/or replace as necessary.
 6. Check the gasoline engine's fuel level. Add fuel if necessary.
 7. Inspect for oil leaks and repair any leaks found.
-

WEEKLY

1. Clean and inspect the compressor air intake filter; replace if necessary.
2. Inspect condition of drive belt; replace if necessary.
3. Clean outside parts of the compressor as well as the engine in order to maintain efficient cooling.

MONTHLY

1. Check the alignment of the engine pulley to the flywheel if necessary, align to within 1/16 inch.
2. Inspect for and correct any oil leaks.
3. Check drive belt tension adjust if necessary.
4. Inspect air lines and fittings for leaks; correct as necessary.

EVERY 50 HOURS OF OPERATION

1. Clean the gasoline engine air cleaner.

EVERY 100 HOURS OF OPERATION

1. Drain and refill the gasoline engine crankcase with clean oil.
2. Clean and set gap or replace spark plug.
3. Clean fuel sediment cup.

EVERY 500 HOURS OF OPERATION

1. Drain and refill compressor crankcase with clean oil.

EVERY 2000 HOURS OF OPERATION, OR IF A PROBLEM IS SUSPECTED

1. Check condition of compressor pump intake and exhaust valves. Replace if damaged or worn out.

CLEANING THE AIR COMPRESSOR OUTFIT

The external components of the compressor outfit should be cleaned at least once a week. The air compressor crankcase and head are designed with fins which allow for proper cooling. Clean or blow off fins and any other parts of the outfit that collect dirt or dust. A clean compressor runs cooler and provides longer service.

CHECKING AND CHANGING OIL**CAUTION**

Overfilling with oil will cause premature air compressor failure. Do not overfill.

1. Check oil level in compressor crankcase before each use.

For two stage compressors the oil level should be to the middle of the oil sight glass.

NOTE

The compressor pump oil must be changed after the first 100 hours of operation.

Changing Oil:

1. Remove the oil fill and drain plugs. Collect the oil in a suitable container.
2. Replace the oil drain plug and refill the crankcase with recommended oil. Refer to page 14 of this manual for recommended compressor oil.

NOTE

It is important to maintain the proper oil level. A low oil level reduces proper cylinder wall lubrication and increases ring wear.

3. Replace the oil fill plug.
4. Start the engine and run the compressor outfit for several minutes. Shut the compressor down and check the oil level. If necessary add more oil.

CHECKING AND CHANGING AIR INTAKE FILTER

NOTE

Keep the air filter clean at all times. Do not operate compressor outfit when the filters are removed.

The condition of the air intake filter should be checked once a week. A dirty air intake filter will not allow the compressor to operate at full capacity and will increase oil usage.

When the air filter becomes dirty, oily, or covered with paint overspray it must be replaced. To check and/or replace the air intake filter, remove the screw securing the filter assembly to the air compressor pump. Remove the filter. Inspect condition of filter; replace if necessary.

NOTE

Felt and foam intake filters can be washed in non-explosive solvent. Allow to dry and reinstall. **DO NOT OIL INTAKE FILTERS.**

DRAINING WATER FROM AIR TANK

WARNING

Water will condense in the air tank. If not drained, the water will corrode and weaken the air tank. A weakened tank may explode or rupture causing personal injury. Drain the tank as instructed below.

Water should be drained from the air tank daily. If humidity is high the tank should be drained at regular intervals during the day. Operate the compressor outfit to allow 15 to 20 psi air pressure in the tank.

Open the drain valve. Continue operating outfit until all moisture is removed from the tank. Close the drain valve tightly.

NOTE

If the draincock is clogged, release the air pressure in the tank. Remove the drain valve and clean or replace. Apply sealant to the threads before reinstalling the drain valve.

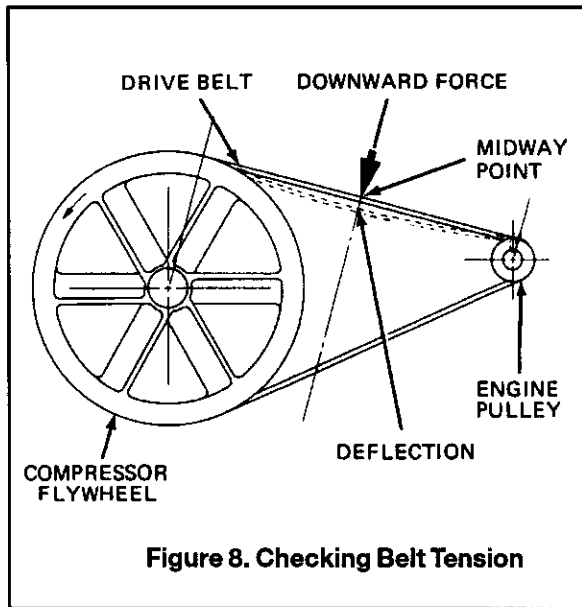
CHECKING AND ADJUSTING BELT TENSION

WARNING

Serious injury or damage may occur if parts of the body or loose items get caught in moving parts. Never operate the compressor outfit with the belt guard removed. The belt guard should only be removed after the spark plug wire has been disconnected.

The drive belt should be kept in proper tension as a loose belt will slip and wear faster. An over tightened belt will place an excessive load on the engine and compressor pump bearings causing premature failure. The belt tension should be checked as follows:

1. Disconnect the spark plug wire and drain all air pressure from the air tank.
2. Remove the belt guard.
3. Loosen all engine mounting hardware and slide the engine either toward or away from the compressor until correct belt tension is achieved.



On compressors equipped with standard V-belts, each belt should deflect 1/4" at the midway point between the engine pulley and flywheel when a downward force of 4 pounds, or equivalent finger pressure, is applied at the midway point. Refer to Figure 8.

4. Hold the belt tension until the engine mounting hardware can be tightened.
5. Ensure that the belts are centered on the engine pulley and compressor flywheel.

NOTE

Once the engine has been moved from its factory set location the engine pulley must align to within 1/16 inch to the compressor flywheel.

6. Torque engine mounting bolts to 20 +3 foot pounds.
7. Reinstall the belt guard.
8. Connect the spark plug wire.

SERVICE INSTRUCTIONS

⚠ WARNING

Moving parts, unexpected engine start-up and compressed air can cause serious injury. Always disconnect the spark plug wire and relieve pressure from the air tank before performing any of these service procedures. Never operate the air compressor with the belt guard removed.

REPLACING DRIVE BELT

The gasoline engine is mounted to the tank assembly saddle. By loosening engine mounting hardware, the engine can be moved to allow for easy removal of the belt. Replace the drive belt as follows:

1. Disconnect the spark plug wire and drain all air pressure from the tank.
2. Remove the belt guard.
3. Loosen the engine mounting hardware and slide the engine toward the compressor.

4. Remove the belt and replace with a new one. On compressor outfits with matched V-belts, both belts must be replaced at the same time.

NOTE

The belts should be centered on the flywheel and engine pulley. Once the engine has been moved from its factory set location, the engine pulley must align to within 1/16 inch of the flywheel.

REPLACING DRIVE BELT (cont'd)

5. Slide the engine back into its original position and adjust the belt tension, Figure 8.

For compressors equipped with standard V-belts, the proper tension for each belt is approximately 1/4 inch belt deflection measured midway between the engine pulley and flywheel when a 4 pound downward force, or equivalent finger pressure, is applied at that point.

6. Hold the belt tension until the engine mounting hardware can be tightened.
7. Torque engine mounting bolts to 20 +3 foot-pounds.
8. Reinstall the belt guard.
9. Connect the spark plug wire.

ENGINE PULLEY AND FLYWHEEL ALIGNMENT

The engine pulley and flywheel must be aligned to prevent excessive wear of the drive belt and to keep the belt from coming out of the pulley and flywheel grooves. Align the belts as follows:

WARNING

Serious injury or damage may occur if parts of the body or loose items get caught in moving parts. Never operate the compressor outfit with belt guard removed. Remove belt guard only after the spark plug had been disconnected.

1. Disconnect the spark plug wire and drain all pressure from the air tank.
2. Remove the belt guard.
3. Loosen all engine mounting hardware and slide the engine toward the compressor. Remove the drive belt.
4. Loosen the engine pulley set screw and move the pulley toward or away from the engine until the pulley aligns with the flywheel within 1/116 inch.
5. Torque the engine pulley set screw to 75 +5 inch-pounds.

6. Reinstall the drive belt. Make sure the belt is centered on the engine pulley and flywheel.
7. Slide the engine back into its original position and adjust the belt tension, Figure 8.

For compressors equipped with poly-V-belts, the proper tension is approximately 1/4 inch belt deflection measured midway between the engine pulley and flywheel when a 3 pound downward force, or equivalent finger pressure, is applied at that point.

For compressors equipped with standard V-belts the proper tension for each belt is approximately 1/4 inch belt deflection measured midway between the engine pulley and flywheel when a 4 pound downward force, or equivalent finger pressure, is applied at that point.

8. Hold the belt tension until the engine mounting hardware can be tightened.
9. Torque the engine mounting bolts to 20 +3 foot-pounds.
10. Reinstall the belt guard.
11. Connect the spark plug wire.

CHECK VALVE INSPECTION AND CLEANING

Remove and inspect the check valve at least once a year and more often if the compressor is heavily used. Moisture and other contaminants in the hot compressed air will cause an accumulation of carbon-like residue on the working parts. If the valve has heavy carbon build-up, it should be replaced. Use the following procedure to inspect, clean, or replace the check valve:

1. Disconnect the spark plug wire and release all air pressure from the air tank.
2. Loosen the top and bottom tube nuts and remove the outlet tube.
3. Unscrew the check valve (counterclockwise) from the air tank using a socket wrench.
4. Check that the valve and disc moves freely inside the check valve and that the spring holds the disc in the upper closed position. The check valve may be cleaned with a solvent.
5. Apply pipe sealant to the check valve threads.

6. Reinstall the check valve. **DO NOT OVERTIGHTEN.**

SERVICING INTAKE AND EXHAUST VALVES

The intake and exhaust valves as well as the valve plates and cylinder head will, over a period of time accumulate residue of carbon-like material on their surfaces. The material will decrease the efficiency of the compressor. These components should be inspected, whenever a problem is suspected, and cleaned or replaced with new parts. Use the following procedure to inspect the parts.

⚠ WARNING

During service or repair activities always disconnect the spark plug wire before attempting repair maintenance on compressor outfit. Make sure the pressure is released from the air tank.

1. Disconnect the spark plug wire and drain all air pressure from the air tank.
2. Service two stage compressor valves as follows:
 - a. Remove the screws securing the intercooler to the cylinder head and remove the intercooler.
 - b. Disconnect the outlet line from the aftercooler.
 - c. Remove the screws securing the aftercooler to the cylinder head and remove the aftercooler.
 - d. Remove the hardware securing the cylinder head and remove the cylinder head and valve plate.

⚠ WARNING

Many solvents are highly flammable and a health hazard if inhaled. Always observe the solvent manufacturers safety instructions and warning.

- e. Clean carbon deposits in head cavities and valves plates with lacquer thinner or other suitable solvent.
- f. Remove the intake and exhaust valve assemblies from the valve plate. Clean and inspect the valves, and valve retainers. Replace any defective components as necessary.
- g. Reassemble the intake and exhaust valves.

NOTE

Do not use gasket cement on any gasket surface as this may clog the compressor valve cavities and flow areas.

- h. Reinstall the valve plate. Use a new valve plate gasket.
 - i. Install the cylinder head. Use a new head gasket. Snug the mounting screws tight then torque to 35 foot-pounds using a criss cross pattern when torquing.
 - j. Install a new after cooler gasket. Secure the aftercooler with the mounting screws removed.
 - k. Connect the outlet line to the aftercooler.
 - l. Install new intercooler gaskets and secure the intercooler with the mounting screws removed.
4. Connect the spark plug wire.

TROUBLESHOOTING GUIDE

⚠ WARNING

Performing service checks or repairs may expose moving parts, or compressed air sources. Personal injuries may occur. Prior to attempting any service check or repairs, remove the spark plug wire and bleed off all air pressure. Never operate the outfit with the belt guard removed. Repairs should be preformed by an Authorized Service Center personnel only.

TROUBLESHOOTING CHART

| PROBLEM | CAUSE | CORRECTION |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Gasoline Engine will not run. (Consult the "Gasoline Engine Owners Manual" for Manufacturer's Service Centers for warranty, repairs and service parts.)</p> | <p>The gasoline tank is empty.</p> <p>The choke is not set properly.</p> <p>Improper fuel mixture.</p> <p>The unloader valve toggle lever is in a horizontal position.</p> <p>No spark from the spark plug.</p> <p>Spark plug disconnected.</p> | <p>Fill the tank with gas.</p> <p>Reset the choke. Remember, a warm engine requires less choking than a cold engine.</p> <p>Adjust the fuel mixture.</p> <p>Place unloading valve toggle lever in a vertical position.</p> <div style="text-align: center; background-color: black; color: white; padding: 5px; margin: 10px 0;"> ⚠ WARNING </div> <p>If any fuel is spilled, make sure the area is dry before testing the engine. Fuel vapor or spilled fuel may may ignite.</p> <p>Remove the spark plug, clean and adjust gap or replace.</p> <p>Connect spark plug.</p> |

TROUBLESHOOTING CHART (Continued)

| PROBLEM | CAUSE | CORRECTION |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rough Operation of Gasoline Engine. (Consult the "Gasoline Engine Owners Manual" for Manufacturer's Service Center for warranty, repairs and service parts.) | Clogged fuel line. | Clean. |
| | Water in fuel. | Be sure outfit is adequately protected from the elements so as to prevent water seeping into system. |
| | Faulty choke control. | Adjust. See engine manufacturer's instructions included with engine. |
| | Improper fuel mixture. | Use only fuel recommended by engine manufacturer. See manufacturer's instructions. |
| | Loose ignition system connections. | Check all connections to insure tightness. |
| | Air leaks in carburetor or manifold connections. | Check to be sure all connections are tight. |
| Insufficient air and too much compressor "ON" time. | Restricted air intake | Clean filter or properly size pipe to the remote intake. |
| | Air leaks in system. | Check for source of leak and correct. |
| | Undersized unit for air requirement. | Replace with larger unit or purchase a second outfit. |
| | Worn or carbonized valves. | Replace. |
| Flywheel wobbles. | Set screw or bolt not tight enough. | Tighten. |
| Air leaks. | Tube fittings loose. | Tighten fittings with audible leak and check fittings under pressure with soapy water solution. |
| | Leak at welds | Replace air tank. <div style="text-align: center;">▲ WARNING</div> <p>Do not drill into, weld or otherwise modify air tank or tank will be weakened. Tank must be replaced.</p> <p>If safety valve or unloader valve replacement is necessary, a part with the same rating must be used.</p> |

TROUBLESHOOTING CHART (Continued)

| PROBLEM | CAUSE | CORRECTION |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Air leaks (cont) | <p>Air leak in safety valve.</p> <p>Defective check valve. (Unloader valve)</p> | <p>Operate safety valve manually by pulling on ring. If valve still leaks, it should be replaced.</p> <p>A defective check valve results in a constant air leak, back through the unloader valve when there is pressure in the air tank and the compressor is not running. Turn the engine off; move the unloader valve toggle lever to the vertical position. If air leaks out of the tank through the unloader valve, clean or replace the check valve. (DO NOT OVERTIGHTEN).</p> |
| Low Discharge Pressure | <p>Prolonged excessive use of air.</p> <p>Restricted check valve.</p> <p>Restricted air intake filter.</p> <p>Air leaks.</p> <p>Hole in hose or air piping.</p> <p>Faulty pump.</p> | <p>Decrease amount of air usage.</p> <p>Remove and clean, or replace.</p> <p>Clean or replace air intake filter.</p> <p>Tighten fittings.</p> <p>Check and replace if required.</p> <p>Repair or replace.</p> |
| Knocking | <p>Loose pulley.</p> <p>Low oil level (compressor pump and/or gasoline engine).</p> <p>Restricted check valve.</p> <p>Wrong oil used.</p> <p>Compressor and/or engine bolts loose.</p> <p>Excessive carbon deposits in head.</p> | <p>Tighten pulley set screw.</p> <p>Check oil level and maintain at prescribed level.</p> <p>Remove and clean or replace.</p> <p>Follow oil recommendations listed in the "Gasoline Engine Owners Manual".</p> <p>Check all bolts and tighten as required.</p> <p>Remove the head and valve plate. Clean top of piston and bottom of valve plate. Reassemble using new gasket and torque screws to 35 foot-pounds.</p> |

TROUBLESHOOTING CHART (Continued)

| PROBLEM | CAUSE | CORRECTION |
|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Knocking (cont'd) | Flywheel loose. | Make sure flywheel is tight by tightening screw. Torque screw to 20 +5 -0 foot-pounds. |
| | Loose belt. | Tighten belt. |
| Excessive Oil Consumption | Restricted air intake. | Replace. |
| | Compressor overworked. | Reduce air consumption or add additional air compressor to take up load. |
| | Poor quality or automotive multiviscosity oil used. | Drain pump and replace with new oil. |
| | Excessive engine or compressor shaft end play. | Check pulley and/or flywheel for lateral movements. Contact engine manufacturer for repair, or DeVilbiss if a compressor problem exists. |
| Compressor Over heating | Compressor overworked. | Reduce air consumption or add additional air compressor to take up load. |
| | Check valve restricted. | Clean. |
| | Dirty compressor. | Clean. |
| | High ambient temperature. | Use remote air intake. |
| | Worn or carbonized valves. | Replace. |
| | Compressor too close to wall. | Relocate. |
| | Air leaks in system. | Check for source or leaks and correct. |
| | Under sized unit for air requirement. | Replace with a larger unit. |
| | Unloader not operating. | Replace. |
| | Remote air intake pipe to small or restricted. | Replace remote air intake piping. |
| Insufficient "OFF" time. Compressor is running almost continuously. | Compressor should not exceed 50% run time, which is maximum 30 min/hr. Check for source of leaks and correct, or replace with larger compressor. | |

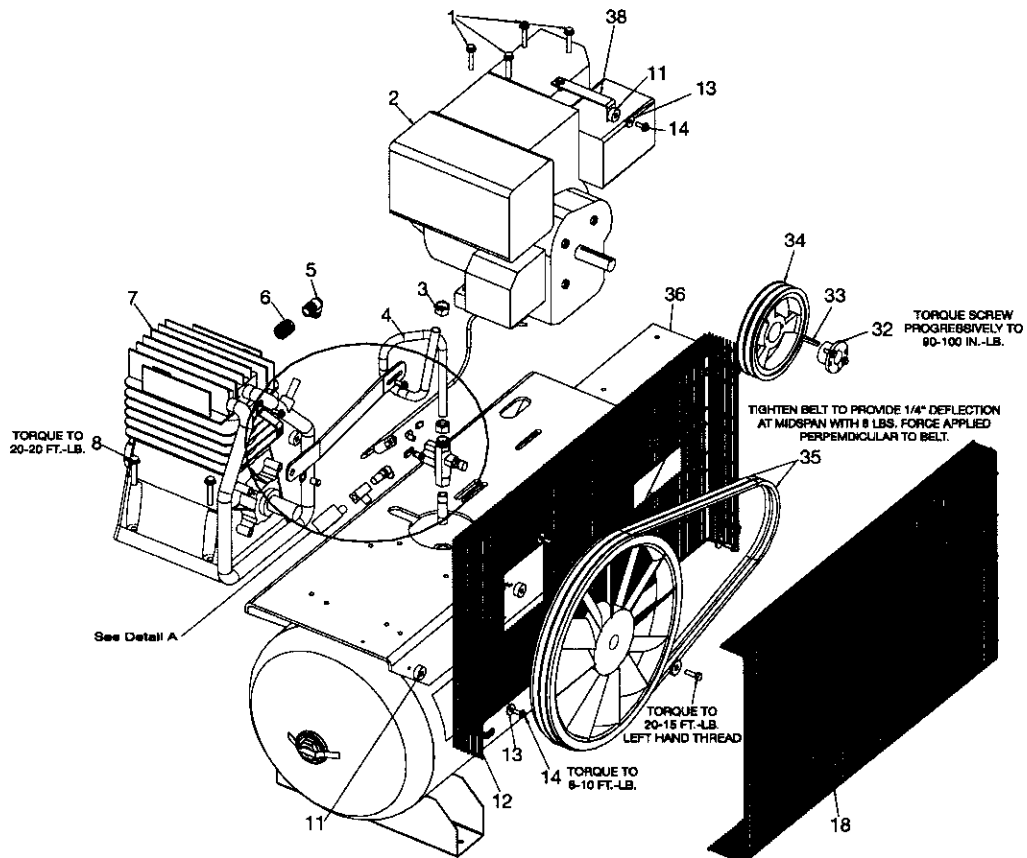
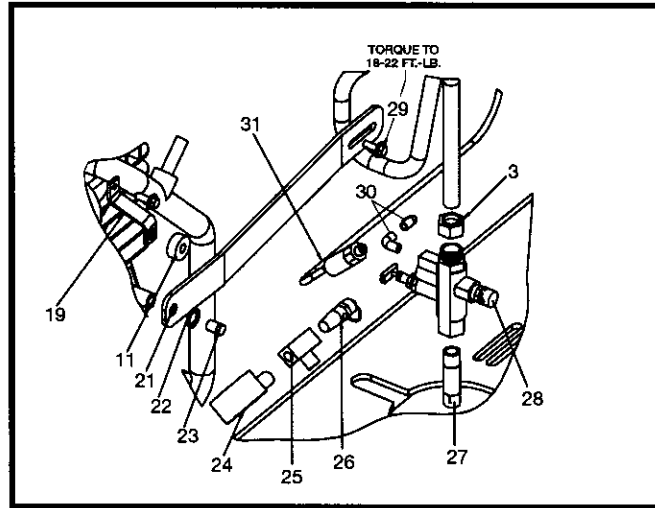
TROUBLESHOOTING CHART (Continued)

| PROBLEM | CAUSE | CORRECTION |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Compressor Overheating (Cont) | <p>Restricted air intake.</p> <p>Improper level and/or grade of oil used.</p> <p>Damaged valves (intake and/or exhaust).</p> | <p>Remove and clean or replace air filter.</p> <p>Check for proper oil levels and recommended oil usage.</p> <p>Repair or replace as necessary.</p> |
| Excessive Belt Wear | <p>Loose belt.</p> <p>Pulley misalignment.</p> <p>Loose pulley.</p> | <p>Adjust belt tension.</p> <p>Align pulley to within 1/16 inch of the flywheel.</p> <p>Check for worn key or pulley bore. Also check for bent engine shaft. Replace or repair as necessary.</p> <p>Tighten pulley set screw or bolt.</p> |
| Reduced Air Delivery | <p>Compressor valves leaking, sticking or carboned up.</p> <p>Worn rings.</p> <p>Head gasket leaking.</p> <p>Restricted air intake.</p> <p>Loose drive belt.</p> | <p>Replace.</p> <p>Replace.</p> <p>Tighten or replace gasket.</p> <p>Clean or replace.</p> <p>Tighten but don't overtighten.</p> |
| Water in Crankcase; oil appears milky in color. | <p>Unit not reaching proper operating temperature because the compressor runs frequently and is oversized for the air requirement.</p> <p>Humid operating conditions.</p> | <p>Consult with factory or dealer.</p> <p>Relocate compressor outfit. Change oil frequently. Avoid cylinder rusting and ring wear.</p> |
| Excessive Water in Air Receiver Tank. | <p>Condensation in the air receiver.</p> | <p>This is a normal result of compressing air and not due to faulty equipment. This condition can be corrected by draining the air receiver daily.</p> |

**COMPRESSOR/PUMP DIAGRAM
AND
PARTS LIST**

Air Compressor Diagram

Detail A

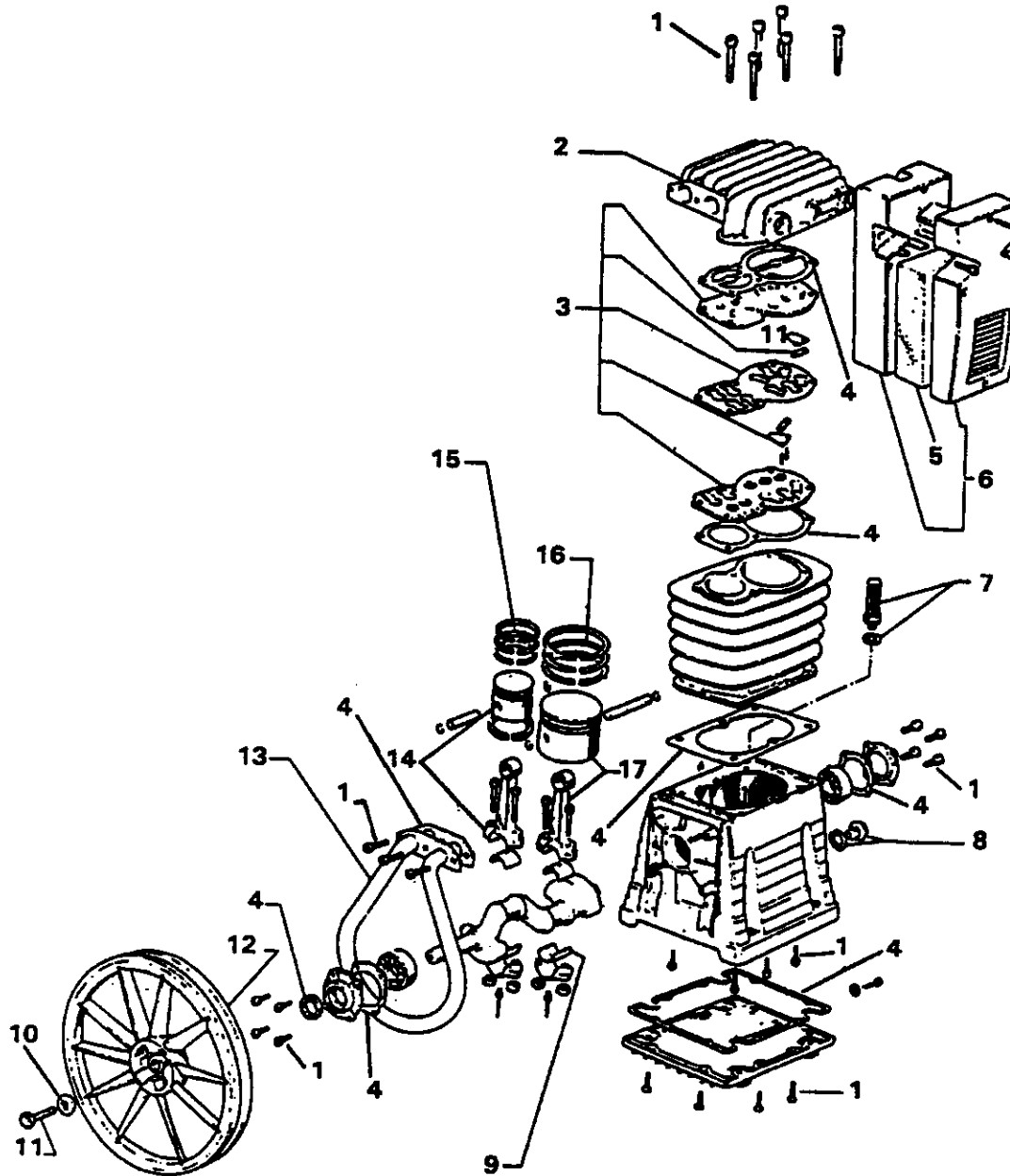


Parts List

| KEY NO. | <u>PART NUMBER</u> | <u>DESCRIPTION</u> |
|--------------------|---------------------------|-----------------------------|
| 1 | SSF-3121-ZN | Engine bolt (4 used) |
| *2 | ----- | 11 HP Gas Engine |
| 3 | SSP-7824 | Nut/Sleeve 5/8" (2 used) |
| 4 | AC-0606-1 | Outlet Tube |
| 5 | SSP-6461 | Elbow |
| 6 | SSP-1144 | Bushing |
| 7 | ABP-4592 | Two-Stage Compressor Pump |
| 8 | SSF-3159 | Pump bolt (4 used) |
| 11 | CAC-1011 | Elastomer Bushing (5 used) |
| 12 | CAC-1334-1 | Belt Guard Inside |
| 13 | SSN-51 | Washer (5 used) |
| 14 | 91895680 | Screw (6 used) |
| 18 | CAC-1335 | Belt Guard Outside |
| 19 | DAC-306 | Strap, Pump |
| 21 | CAC-1343-1 | Strap |
| 22 | ABP-9134350 | Washer |
| 23 | SSF-3161 | Screw |
| 24 | GA-359 | Gauge |
| 25 | SSP-6820 | Tee |
| 26 | TIA-4200 | Safety Valve |
| 27 | SSP-454 | Nipple |
| 28 | AC-0509 | Unloader Valve |
| 29 | SSF-551-ZN | Screw |
| 30 | SSP-535 | Elbow (2 used) 1/8" NPT |
| 31 | AC-0510 | Throttle Control Assembly |
| 32 | CAC-1341 | Bushing (includes 3 screws) |
| 33 | SST-106 | Key |
| 34 | C-PU-2886 | Pulley |
| 35 | BT-301 | Belt (2 used) |
| 36 | CAC-1346-1 | Stiffener Plate |
| 38 | CAC-1337 | Engine Strap |
| | <u>Not Shown</u> | |
| | SSF-8131 | Beltguard nut (4 used) |
| | SSF-953-ZN | Beltguard screw (4 used) |
| | SS-2707 | Drain Valve |

**See Engine Manual for Engine Information.*

Compressor Pump Diagram



Parts List

| KEY NO. | <u>PARTS NUMBER</u> | <u>DESCRIPTION</u> |
|--------------------|----------------------------|----------------------------|
| 1 | ABP-8226501 | Hardware Kit |
| 2 | ABP-5961405 | Head |
| 3 | ABP-5940055 | Valve Plate Kit |
| 4 | ABP-5950057 | Gasket Kit |
| 5 | ABP-5281100 | Filter |
| 6 | ABP-5981000 | Filter Assy. (Includes #5) |
| 7 | ABP-9024011 | Oil Filter Plug |
| 8 | ABP-9022003 | Sight Glass |
| 9 | ABP-9013013 | Split Bearings |
| 10 | ABP-9004009 | Flywheel Washer |
| 11 | ABP-9110022 | Flywheel Screw |
| 12 | ABP-5000101 | Flywheel |
| 13 | ABP-5962020 | Intercooler |
| •14 | ABP-8226502 | HP Running Gear Kit |
| 15 | ABP-8227093 | HP Ring Kit |
| 16 | ABP-8227092 | LP Ring Kit |
| •17 | ABP-8226503 | LP Running Gear Kit |
| | <u>NOT SHOWN</u> | |
| | ABP-9049020 | Intercooler Safety Valve |

•Includes rings, piston pin, snap rings, rods, oil dipper and split bearings.

LIMITED WARRANTY ONE YEAR FROM DATE OF PURCHASE

All merchandise manufactured by DeVilbiss Air Power Company/ExCell Manufacturing is warranted to be free of defects in workmanship and material which occur during the first year from the date of purchase by the original purchaser (initial user). Products covered under this warranty include: air compressors, *air tools, accessories, service parts, pressure washers, and generators used in consumer applications (i.e., personal residential household usage only).

Air compressors, *air tools, accessories, service parts, pressure washers, and generators used in commercial applications (income producing) are covered by a 90 day warranty.

DeVilbiss Air Power/ExCell Manufacturing will repair or replace, at DeVilbiss/ExCell's option, products or components which have failed within the warranty period. Repair or replacement, and service calls on 60 and 80 gallon air compressors, will be handled by Authorized Warranty Service Centers and will be scheduled and serviced according to the normal work flow and business hours at the service center location, and depending on the availability of replacement parts.

All decisions of DeVilbiss Air Power Company/ExCell Manufacturing with regard to this policy shall be final.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

RESPONSIBILITY OF ORIGINAL PURCHASER (Initial User):

- Retain original cash register sales receipt as proof of purchase for warranty work.
- Use reasonable care in the operation and maintenance of the product as described in the Owners Manual(s).
- Deliver or ship the product to the nearest DeVilbiss Air Power/ExCell Manufacturing Authorized Warranty Service Center. Freight costs, if any, must be paid by the purchaser.
- Air compressors with 60 and 80 gallon tanks only will be inspected at the site of installation. Contact the nearest Authorized Warranty Service Center, that provides on-site service calls, for service call arrangement.
- If the purchaser does not receive satisfactory results from the Authorized Warranty Service Center, the purchaser should contact DeVilbiss Air Power Company/ExCell Manufacturing.

THIS WARRANTY DOES NOT COVER:

- Merchandise sold as reconditioned, floor models and/or display models. Any damaged or incomplete equipment sold "as is".
- Merchandise used as "rental" equipment.
- Merchandise that has become inoperative because of ordinary wear, misuse, freeze damage, use of improper chemicals, negligence, accident, improper and/or unauthorized repair or alterations including failure to operate the product in accordance with the instructions provided in the Owners Manual (s) supplied with the product. *Air Tools: O-Rings and driver blades are considered ordinary wear parts, therefore, they are warranted for a period of 45 days from the date of purchase.
- An air compressor that pumps air more than 50% during a one hour period is considered misuse because the air compressor is undersized for the required air demand. Maximum compressor pumping time per hour is 30 minutes.
- Merchandise sold by DeVilbiss Air Power/ExCell Manufacturing which has been manufactured by and identified as the product of another company. The product manufacturer's warranty will apply.
- Repair and transportation costs of merchandise determined not to be defective.
- Cost associated with assembly, required oil, adjustments or other installation and start-up cost.
- ANY INCIDENTAL, INDIRECT OR CONSEQUENTIAL LOSS, DAMAGE, OR EXPENSE THAT MAY RESULT FROM ANY DEFECT, FAILURE OR MALFUNCTION OF THE PRODUCT.** Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.
- IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO ONE YEAR FROM THE DATE OF ORIGINAL PURCHASE.** Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.



Service Notes

GENERAL OPERATION AND PARTS FOR GASOLINE COMPRESSOR OUTFITS

**MODEL NO.
DACE-7161-2**

Call our *Toll Free Number 1-800-888-2468, Ext 2, then 1*, to obtain the location of the nearest Authorized Service Center for ordering repair parts and for warranty repairs.

When ordering repair parts from your local Authorized Service Center, always give the following information:

- Model number of your product
- Part number and description of the item you wish to purchase

WARRANTY

This product is covered by the DeVilbiss one year limited warranty. The warranty can be found in the General Manual or is available upon request.

Attach Sales Receipt Here.

Retain Original Sales Receipt as Proof of Purchase for Warranty Repair Work.