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## PRODUCT MANUAL

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# ***BA440 PISTON***

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## Hydraulic Air Compressor



This manual must be read carefully before using your Boss Industries, LLC BA440 PISTON. Store in a safe and convenient location for future reference.



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# Welcome

## General Information

Thank you for choosing the Boss Industries, LLC BA440 PISTON Hydraulic Air Compressor. Before operating, carefully read this manual and become well acquainted with your new machine. Doing this will increase your safety and maximize the life of the machine.

While this manual is written to be as accurate as possible, Boss Industries, LLC strives to continually improve the efficiency and performance of its machines. As a result, sometimes there may be slight differences between a given version of the manual and the machine.


<b>PRODUCT MANUAL</b>
<b><i>BOSS COMPRESSOR</i></b>
<p>Boss Industries Air Compressor</p>   <p><small>This manual must be read carefully before using your Boss Industries, LLC BOSS COMPRESSOR. Store in a safe and convenient location for future reference.</small></p>

# Safety

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## General Safety Overview

### IMPORTANT: READ BEFORE OPERATING EQUIPMENT

Remember, safety is basically common sense. While there are standard safety rules, each situation has its own peculiarities that cannot be covered by rules. Therefore with your experience and common sense, you are in a position to ensure the safety of yourself and those around you. Lack of attention to safety can result in: accidents, personal injury, reduction in efficiency, and worst of all - Loss of Life. Watch for safety hazards and correct them promptly.

Understanding the proper operation of this equipment is critical to its safe operation. The owner, lessor, or operator of this equipment is hereby notified and forewarned that any failure to observe the safety and operating guidelines may result in injury and/or

damage. Boss Industries, LLC expressly disclaims responsibility or liability for an injury or damage caused by failure to observe the specified precautions or by failure to exercise the ordinary caution and due care required while operating or handling this equipment, even though not expressly specified.

In addition to following these safety guidelines, the operator should follow any company specific guidelines and procedures. Consult your immediate supervisor for specific company safety guidelines and/or procedures.

The following safety symbols are used throughout the manual to draw attention to important information. If the information is not carefully read and the instructions are not followed, severe injury, death, and/or damage to property and equipment may occur.



Indicate[s] an imminently hazardous situation, which, if not avoided, will result in death or serious injury.



Indicate[s] a potentially hazardous situation, which, if not avoided, could result in death or serious injury.



Indicate[s] a potentially hazardous situation, which, if not avoided, could result in minor or moderate injury.



Indicate[s] a potentially unsafe situation or practice, which, if not avoided, can result in property and/or equipment damage only



# Safety

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## Safety Precautions

The following safety precautions are a general guide to safe operation of the equipment.

### DANGER

Pressurized System. Do not attempt to remove any compressor parts without first completely relieving entire system of pressure. Do not attempt to service any part of the equipment while in operation. Never attempt to repair or modify any pressure vessel or device.

### DANGER

System contains hot oil. The compressor system must be shut off prior to servicing. Open the service valve to ensure complete relief of system air pressure and stored energy. Then permit system to cool down prior to adding compressor oil or servicing the unit.

### DANGER

Do not use air from this compressor for breathing or food processing. Air from this compressor will cause severe injury if used for breathing or food processing.

### DANGER

The compressor is designed to compress air only. Do not attempt to compress other gases. Compression of other gases may create a situation where an explosion or fire may occur.

### DANGER

Do not use flammable solvents for cleaning compressor parts as this can cause the unit to ignite or explode during operation. Keep combustibles out of and away from compressor inlet, and any associated enclosures.

### DANGER

Never disable, override, or remove safeties, either temporarily or permanently.

### DANGER

Connect air hoses only in full compliance with OSHA Standard 29 CFR 1926.302 (b) (7). The required safety devices (velocity fuse) should be tested in accordance with their manufacturer's recommendations to verify that they reduce pressure in case of hose failure and will not nuisance trip with the hose and tool combinations in use. Failure to comply could result in personal injury or death and/or damage to equipment and property.

### DANGER

Do not modify system to operate equipment at a higher pressure than specified in this manual.

### DANGER

Never leave the machine running unattended or leave a tool connected to an air hose when not using. Relieve system of all stored air pressure after use.

### WARNING

Read and understand the operations manual and all other safety instructions before using this equipment. Failure to follow operating instructions and/or failure to follow maintenance procedures and intervals could result in personal injury, death, and/or damage to equipment and property.

# Safety

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## Safety Precautions (continued)

### **WARNING**

Read and understand the operations manual and all other safety instructions before using this equipment. Failure to follow operating instructions and/or failure to follow maintenance procedures and intervals could result in personal injury, death, and/or damage to equipment and property.

### **CAUTION**

Mount the compressor in a stable location capable of supporting the weight of the machine. Slight vibration may occur during operation and the machine may move if not securely mounted.

### **CAUTION**

When using tools, maintain secure footing at all times. Do not overreach or awkwardly use air tools.

### **CAUTION**

Never place machine on a grade more than 15 degrees.

### **NOTICE**

Use only Boss Industries, LLC approved replacement parts or equivalent.

### **NOTICE**

Prior to moving vehicle drain the air tank. To prevent collection of water in the tank, drain daily.

# Specifications

## Specification Sheet

COMPRESSOR SPECIFICATIONS				
Model	BA440 PISTON			
Type	Hydraulic Air Compressor			
	Output	Compressor RPM	Hyd Flow	Hyd Pressure
Delivery	40 CFM @ 100 PSI	1650	12.18 GPM	2100 PSIG
	35 CFM @ 100 PSI	1400	10.16 GPM	2100 PSIG
	30 CFM @ 100 PSI	1150	8.35 GPM	2100 PSIG
Operating Pressure Range	90 - 150 PSIG			
Ambient Operating Temperature Range	-20° - 100°F			
Oil Capacity (Compressor)	1 1/3 quarts			
Air Service Connection	1/2" NPT			
Overall Dimensions	26.50" L X 23 " W X 19.75" H			
Weight	180 lbs.			

\*CALCULATIONS PERFORMED @ 85% EFFICIENCY MECHANICAL AND 96% EFFICIENCY VOLUMETRIC.

*SPECIFICATIONS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE*

- BA440 system is to run intermittently.
- When the BA440 is installed with other hydraulic drive equipment it will require a dedicated flow line.
- If other hydraulics are required, the reservoir size should be at least 20 GAL for the BA440 plus all the other manufacturer's requirements.
- Cooling air intake must not see air temperatures above ambient.
- Cooling air discharge must have 10" clearance from any obstructions.
- 20° maximum operating slope.



# Installation & Operation

## System Installation Overview

This machine should be installed only by those who have been trained and delegated to do so and who have read and understand the manual. Failure to follow the instructions, procedures, and safety precautions in this manual may result in accidents and injuries.

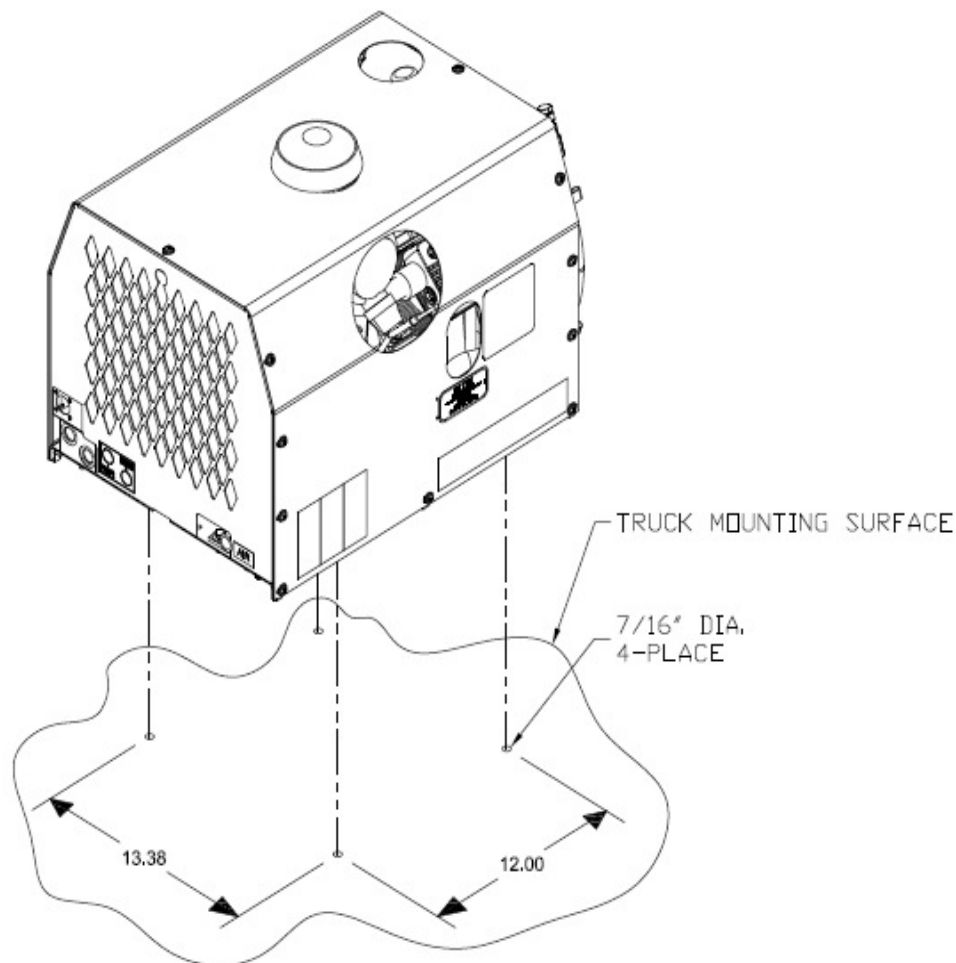
Install, use, and operate this machine only in full compliance with all pertinent OSHA, Federal, State, and Local codes or requirements in addition to any company regulations.

Do not modify this machine except with written factory approval.

For example, if your vehicle is equipped with a crane, you must make sure the compressor will not interfere with the swing of the crane. In addition, the compressor should be installed in an area that permits cool ambient air to enter the air filter and the hot air to exhaust without recirculating into the machine. A minimum of 10" of clearance is needed for the hot discharge air from the cooler. Cool ambient air is drawn in from under the frame. One last consideration in the mounting should be the routing of hydraulic hoses. Be sure these can be safely run to the hydraulic manifold on the machine. The unit should be secured to the vehicle with four 3/8" grade 8 bolts, flat washers, and loc washers. Ensure that you have a sub structure that will support the weight of the compressor. Be sure to follow all National Vehicle Safety Standards.

## Mounting the Compressor

When mounting the compressor, care should be taken to ensure that its location does not impede the operation of other components on the vehicle.



# Installation & Operation

## Installation of Wiring

This unit is shipped from the factory with all necessary internal wiring installed. The only remaining wiring necessary is the wiring needed to interface your vehicle/power source with the Boss compressor. The unit is shipped with 1 end of a 5 pin connector. They need to be connected as follows:

Pin A (Yellow) - 12VDC power supply

(24VDC if equipped)

Pin B (Red) - Battery (Positive Terminal)

Pin C (Green) - PTO Ground

Pin D(Orange) - 12VDC output signal

(24VDC if equipped)

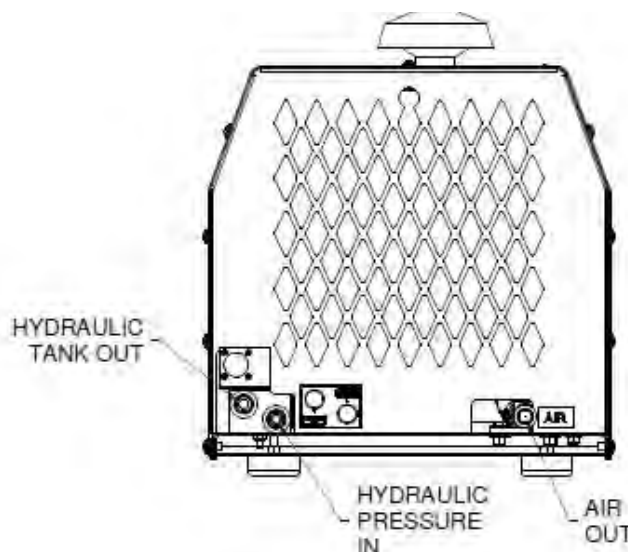
Pin E (Black) - Battery (Negative Terminal)

## Connecting the Hydraulic Hoses

The hydraulic hoses to the compressor should be connected directly to the hydraulic manifold with appropriately sized fittings. The input line should be made from a good quality high pressure (min. 3000 PSI) hydraulic hose 1/2" or 3/4" i.d. The return line can be made from a medium pressure (min 1000 psi) hydraulic hose 3/4" i.d. Care should be taken to see that the hoses are not installed with kinks or bends that inhibit flow of the hydraulic oil. Lack of flow could result in damage to the motor and compressor. Lastly, check to make sure hoses are not in contact with sharp objects or edges that may fray, chafe, or cut them over time. Secure all hoses with tie down straps or clamps.

## Connecting the Air Hoses

The air discharge hose should be connected directly to the "AIR" port. The fitting is a 1/2" female NPT. The air line should be made from a good quality (min 200 Psi) hydraulic hose 1/2" or 3/4" i.d. Care should be taken to see that the hose is not installed with kinks. When adding an air hose, ensure OSHA Regulation 1910.169 is followed.



A compressor service valve should be located at the hose reel inlet or the customer's air connection port when a hose reel is not used. Typical plumbing from the machines's air outlet port occurs in the following order:

1. Air Tank
2. OSHA valve
3. Service valve
4. Moisture trap/gauge/oiler combination(when used)
5. Hose reel (when used)

# ***Installation & Operation***

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## **Pre-Start-up Inspection Checks**

This inspection should be done prior to the compressor test.

- I. Check all assemblies, clamps, fittings, hose connections, nuts, and bolts to ensure they are properly tied and secured to the vehicle. This is a very critical area of inspection. The vehicle should not be moved until this inspection has been completed.
- II. Remove all tools, rags, and installation equipment from the area.
- III. Check all valves to ensure they are in correct operating position.
- IV. Vacuum all areas that have metal or plastic shavings. Wipe all fingerprints off unit and vehicle.

## **Check All Fluid Levels**

Position the unit on a level surface so that proper amount of fluids can be added.

- I. Fuel to provide three hours of operation
- II. Hydraulic fluid levels may have to be topped off after test.
- III. Compressor
  - A. Add oil if needed.
  - B. Additional oil may need to be added after test.
  - C. Top off oil level to the “FULL” line on the dipstick when finished with test.
- II. Any other applicable fluids
- III. Transmission fluid and PTO box.

## **Machine Documentation**

Record all serial numbers for this installation.

A. Vehicle V.I.N.

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B. Hydraulic Pump Data

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C. Compressor Serial Number

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D. BOSS Serial Number

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E. Air Tank Serial Number

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F. Note any special applications relating to specific installations.

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# ***Installation & Operation***

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## **Operating Procedure**

- I. Read this manual carefully before proceeding.
- II. Start power source and allow for warm-up.
- III. Verify the compressor is disengaged.
- IV. Engage hydraulic system per company policy.
- V. Engage compressor

## **Shutdown Procedure**

- I. Disengage compressor circuit.
- II. Relieve system of stored air.

## **Operating Conditions**

The following conditions should exist for maximum performance of the compressor:

- The machine should be as close to level as possible when operating.
- Ambient temperature for operation should be below 100°F (38°C). The machine may experience high temperature shutdown above this level.

# Maintenance

## Maintenance Overview

This section contains instructions for performing the inspection, lubrication, and maintenance procedures required to maintain the machine in proper operating condition. The importance of performing the maintenance described herein cannot be overemphasized.

The periodic maintenance procedures to be performed on the equipment covered by this manual are listed on the following page. It should be understood that the intervals between inspections specified are maximum intervals. More frequent inspections should be made if the unit is operating in a dusty environment, in high ambient temperature, or in other unusual conditions. A planned program of periodic inspection and maintenance will help avoid premature failure and costly repairs. Daily visual inspections should become a routine.



Compressor must be shut down and completely relieved of pressure prior to checking fluid levels. Open service valve to ensure relief of system air pressure. Relieve all stored air pressure energy prior to starting machine. Failure to comply with this warning will cause damage to property and serious bodily harm.

## Lifetime Warranty Information

In order to maintain the lifetime warranty status on your BA440 PISTON, the required maintenance intervals listed on the following page must be obeyed.

## Recommended Spare Parts List

PART NUMBER	DESCRIPTION
80279	Kit, Repair Reed Valve
300854	Element, Air Filter
301267	Spider, Curved Jaw
302936	Kit, Repair HYD Motor Seal
310610-2Q	Lubricant, ShieldWorks 2Q

## How To Order Parts

Phone: (800) 635-6587 (USA)

Phone: (219) 324-7776 (Outside of USA)

Fax: (877) 254-4249 (USA)

Email: [parts@bossair.com](mailto:parts@bossair.com)

Website: <http://www.bossair.com>



# Maintenance

## Maintenance Chart

The MAINTENANCE CHART lists serviceable items on this compressor package. The items are listed according to their frequency of maintenance.

INTERVAL	REQUIRED MAINTENANCE
DAILY	1. Check crankcase oil level.
	2. Drain Condensation from air receiver.
WEEKLY	1. Inspect the air intake.
	2. Check the cylinder head stud torque (See NOTE 2)
	3. Check the operation of the receiver safety valves.
EVERY 3 MONTHS	1. Change the crankcase oil (See NOTE 1)
	2. Check cooler fins for dirt and obstructions. Clean if needed.
EVERY 6 MONTHS	1. Inspect the drive coupling for wear.
	2. Change the air cleaner.

### NOTE 1.

Under normal operating conditions, oil changes are required every 3 months. When operating in a dirty environment, change the oil and air filter more frequently as your particular operating conditions dictate. Compressor oil capacity is 1- 1/3 quarts.

### NOTE 2.

Cylinder head stud torque **MUST** be checked after the initial day of operation. The compressor must be cold (room temperature) before re-torquing of studs. Torque studs to 240 in-lbs plus or minus 10 in-lbs.

# Maintenance

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## Compressor Oil

### **CAUTION**

It is important that the compressor oil be of a recommended type, and inspected and replaced as stated in this manual.

### **WARNING**

The combination of a coalescer element loaded with dirt and oxidized oil products together with increased air velocity as a result of this clogged condition may produce a critical point while the machine is in operation where ignition can take place and could cause a fire in the separator tank.

The following are general characteristics for a rotary screw lubricant. Due to the impossibility of establishing limits on all physical and chemical properties of lubricants which can affect their performance in the compressor over a broad range of environmental influences, the responsibility for recommending and consistently furnishing a suitable heavy duty lubricant must rest with the individual supplier if they choose not to use the recommended Boss Industries, LLC ShieldWorks rotary screw lubricant. The lubricant supplier's recommendation must, therefore, be based upon not only the following general characteristics, but also upon his or her own knowledge of the suitability of the recommended lubricant in helical screw type air compressors operating in the particular environment involved.

### **NOTICE**

The Lifetime Warranty is initiated with the factory fill of the machine with Boss Industries, LLC ShieldWorks lubricant. To maintain lifetime warranty status on the airend, the lifetime warranty registration must be completed and required maintenance schedules must be followed.

Recommended Compressor Lubricant: BOSS ShieldWorks

1. Specifications
  1. Flash point 496°F minimum.
  2. Pour point -40°F.
  3. Contains rust and corrosion inhibitors.
  4. Contains foam suppressors.
  5. Contains oxidation stabilizer.

### **NOTICE**

Due to environmental factors, the useful life of all "extended life" lubricants may be shorter than quoted by the lubricant supplier. Boss Industries, LLC encourages the user to closely monitor the lubricant condition and to participate in an oil analysis program with the supplier.

### **NOTICE**

No lubricant, however good and/or expensive, can replace proper maintenance and attention. Select and use it wisely.

# Maintenance

## Compressor Oil Fill, Level, and Drain

Before adding or changing compressor oil, make sure that the compressor is completely relieved of pressure. Oil is added at the fill cap on a pipe on the rear of the crankcase. A drain line is located on the rear panel of the machine. Proper oil level is to the "FULL" line on the dipstick, when the unit is shut down and has had time to settle. The machine must be level when checking the oil. **DO NOT OVERFILL.** The oil capacity is given in "Compressor Specifications".



Do not attempt to drain condensate, remove the oil level fill cap, or break any connection in the air oil system without shutting off the compressor and relieving the system of all stored air pressure.

## Changing the Air Intake Filter

The air intake filter is a heavy-duty dry type high efficiency filter designed to protect the compressor from dust and foreign objects.

Frequency of maintenance of the filter depends on dust conditions at the operating site. The filter element must be serviced when clogged. A clogged air filter element will reduce compressor performance and cause premature wear of components.



Do not substitute element. Use only a Boss Industries, LLC approved replacement element. Use of any non-approved element may be hazardous and could impair the performance and reliability of the compressor, possibly voiding the warranty and/or resulting in damage to property and serious bodily harm.

## Changing the Hydraulic Oil Cooler

The interior of the oil cooler should be cleaned when the pressure drop across it at full flow exceeds 25 PSI. First, remove the cooler. Then, circulate a suitable solvent to dissolve and remove varnish and sludge. Then flush the cooler generously with hydraulic oil. Reinstall the cooler. Once the cooler is reinstalled, fill the hydraulic system with the proper fluid to their appropriate levels.

## Piston Ring Replacement

Shut down the machine and allow to cool for approximately 10 minutes. Next, verify entire system pressure is relieved before proceeding. Then, disconnect air inlet system tubes. Now disconnect 3/4" discharge jumper hose and 3/4" discharge hose. Unscrew the head nuts and remove the heads.



A rubber faced mallet will help remove the head. Tap the sides of the head carefully until the head is loose. Lift off the heads.

Remove the cylinder bolts and tap the sides of the cylinder several times to break it loose from the gasket. Next, rock the cylinder back and forth and lift until it is free. Lift it off of the pistons. To remove the old gasket material, just a single edged razor blade or putty knife.



Do not allow the gasket material to fall into the crankcase. Do not nick the head, cylinder, or crankcase mating faces while removing the old gasket. Remove all of the old gasket material to provide a smooth clean surface for the new gasket. Failure to follow this procedure may result in the need to reseal the unit later.



# Maintenance

Now hone the cylinder to break the glaze and remove the buildup at the top of the cylinders. Measure the inside diameter of the cylinder for roundness and excessive wear. The bore should be 2.625" (0.0025" tolerance). If the bore is oversized, the cylinder must be replaced. Next, with a ring expander, remove the compression and oil rings. After the old rings have been removed, with the ring expander, install the new ring kit. Make certain that the oil ring is on the bottom and the beveled edge of the compression ring is toward the top of the piston. Now position the cylinder base gasket on the crankcase, using a few drops of oil to hold it in position. Install the cylinder block spacer and gasket on the crankcase. Next you will rotate the rings so that the gaps of the three rings are 120 degrees apart. Lightly lubricate the inside of the cylinder and rotate the crankshaft so that a piston is at the top of the stroke. Compress the rings with a ring compressor and slide the cylinder over the piston. Repeat this step for the other piston.

## NOTICE

Do not lubricate the rings. Use a light lubricant, such as WD-40, only on cylinder walls. Oiling rings will prevent them from seating and cause excessive oil consumption.

Now slide the cylinder down until it mates with the crankcase. Start all cylinder mounting bolts until they are snug, then torque the bolts to 180 in-lbs in the sequence shown below. Do not torque the full 180 in-lbs all at once, but in 25 - 50 in-lbs increments.



Position the gaskets and valve plate on top of the cylinder. Then position the head on the cylinder and turn bolts finger tight. After tightening with hands, torque the studs/nuts to 240 in-lbs in 25 - 50 in-lb increments in the sequence shown below.



Now reconnect the 3/4" discharge hose and discharge jumper hose. Next, install the compressor and connect the wiring and test the machine.

## NOTICE

If pressure fails to build and the compressor is excessively noisy, check the valve plate. It may have been installed upside down.

# Maintenance

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## Oil Pump Replacement

First, shut down the machine and allow it to cool for at least 10 minutes. Verify that the entire system is pressure relived before proceeding. Next, remove the bolts and lift off the pump cover. Use a single edged razor blade or putty knife to remove the old gasket material, but make sure not to damage the machined surfaces.

### NOTICE

Do not allow the gasket material to fall into the crankcase. Do not nick the head, cylinder, or crankcase mating faces while removing the old gasket. Remove all of the old gasket material to provide a smooth clean surface for the new gasket. Failure to follow this procedure may result in the need to reseat the unit later.

Lift the pump out of the cavity and position a new gasket on the rear bearing housing. Next, insert the pump into the cavity and position it slightly to one side using a common screwdriver. Wedge the pump into the piston so that it partially compresses the spring. Note that the driver pin and slot in pump must be in line. Next place the pump cover into position and start two bolts. Strike the pump cover with a rubber mallet to jar the pump loose. When the tension spring can be felt against the pump cover, the pump is loose. Now you can insert the two remaining bolts and torque to 180 in-lbs. The bolts should be torqued in a diagonal pattern. Finally, install the air compressor in the vehicle and connect air lines and wiring.

## Crankshaft and Bearing Replacement

If it is necessary to replace the crankshaft, related components must also be replaced. Replace both bearings, both races, the key, pump collar, and pump drive pin.

### NOTICE

Depending on the condition of the crankshaft, bearing may be replaced without replacing the crankshaft. Replace the bearing races whenever the bearings are replaced.

First, shut down the machine and allow it to cool for at least 10 minutes. Verify that the entire system is pressure relived before proceeding. Remove both heads, cylinders, and pistons (See Piston Ring Replacement on pg. 16). Next, remove the bolts on the connecting rods and lift them out. Reassemble the connecting rods to be certain that the matched parts remain together on the same crankshaft journals. Now remove the pump cover, oil pump, sleeve, spring, and rear bearing housing. Next remove the drive hub and the front bearing housing. Next pull the crankshaft from the crankcase and remove all gasket material with a razor blade or putty knife.

### NOTICE

Do not allow the gasket material to fall into the crankcase. Do not nick the head, cylinder, or crankcase mating faces while removing the old gasket. Remove all of the old gasket material to provide a smooth clean surface for the new gasket. Failure to follow this procedure may result in the need to reseat the unit later.

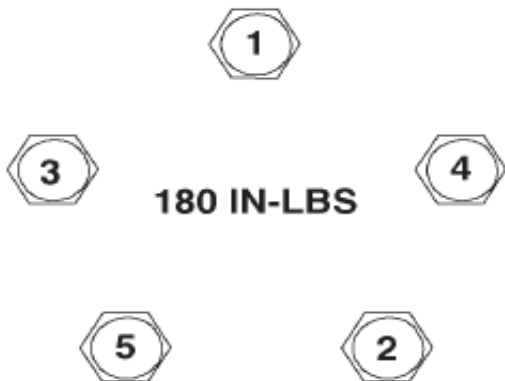


# Maintenance

## NOTICE

Do not gouge the machined surfaces when removing the gaskets, This may cause leaks

Next, press the bearing races out of the bearing housing. Only push the tapered roller bearings off the crankshaft if they're being replaced. If you're replacing the crankshaft, discard the whole assembly. Now press new bearings into the piston and generously oil the front bearing race and install the front bearing housing with gasket. Torque the bolts to 180 in-lbs as shown below.



## NOTICE

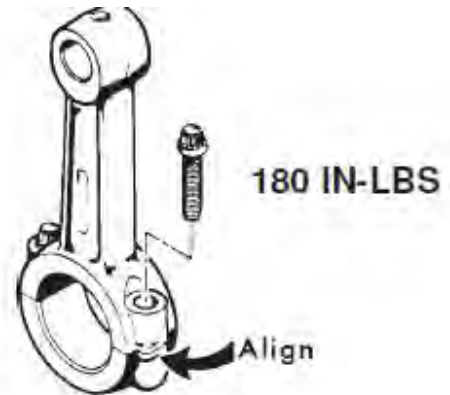
The crankshaft should have new bearings installed. If not, press the new bearings into position on the crankshaft..

Slide the crankshaft into the crankcase and generously lubricate the bearing race and install rear bearing housing and gaskets.

## NOTICE

Gasket kits are supplied with two each of 0.006, 0.010, and 0.020 gaskets. Use these rear bearing gaskets in any combination and quantity to limit all play front to rear, but still allow the crankshaft to turn freely.

Next install the oil pump and then the connecting rods. Thoroughly oil the crankshaft rods before installing them. When installing the rods, make certain that the tabs are aligned on the same side of the rod as shown below. Finally, install the pistons, rings, and heads (See Piston Ring Replacement on pg. 16)



# ***Troubleshooting***

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## **Troubleshooting Overview**

This section contains instructions for troubleshooting the equipment following a malfunction. The troubleshooting procedures to be performed on the equipment are listed below. Each symptom of trouble for a component or system is followed by a list of probable causes of the trouble and suggested procedures to be followed to eliminate the cause.

In general, the procedures listed should be performed in the order in which they are listed, although the order may be varied if the need is indicated by conditions under which the trouble occurred. In any event, the procedures that can be performed in the least amount of time and with the least amount of removal, disassembly, or parts should be performed first.

## **Low Oil Pressure**

If the oil pressure is too low, check the following:

- I. Oil level in machine
- II. Loose pipe plug on oil pump cover
- III. Worn or defective oil pump
- IV. Crack or scratch on oil pump cover

## **No Oil Pressure**

If the oil pressure is nonexistent, check the following:

- I. Defective oil pump
- II. Blocked oil passage
- III. Damaged oil pump drive pin

## **Compressor Will Not Engage**

If the compressor will not start, check the following:

- I. No power supplied to compressor
- II. Internal circuit breaker tripped
- III. Hydraulic system not engaged
- IV. Defective pressure switch

## **Compressor Engages But Will Not Pressurize Tank**

If the compressor starts but the tank does not become pressurized, check the following:

- I. Air leak in plumbing
- II. Worn piston rings or valve plates

## **Compressor Does Not Recover Pressure as Fast as it Should**

If the compressor is not recovering pressure at normal speeds, check the following:

- I. Dirty filter
- II. Air leak in plumbing
- III. Worn valve plates or piston rings

## **Contacting Boss Industries, LLC**

If you need assistance with any of the preceding steps, or cannot find the solution to your problem, call the Boss Industries, LLC Service Department.

Phone: (800)635-6587 (USA)

Phone: (219)324-7776 (Outside USA)

Fax: (877)254-4249

Email: [service@bossair.com](mailto:service@bossair.com)

Website: <http://www.bossair.com>

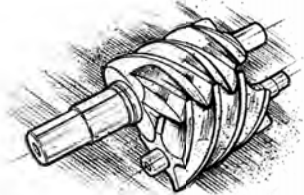
When calling for technical support, have the following information available:

Machine Serial Number

Description of the problem



# WARRANTY STATEMENT



This limited warranty provided by Boss Industries, LLC ("BOSS") is subject to the expressed terms and conditions described herein. BOSS warrants to the machine's original buyer ("BUYER") that this compressor unit conforms to applicable drawings and specifications approved in writing by BOSS. The machine will be free from defects in material and workmanship for the period of time listed in the chart below while the machine is owned by BUYER.

Component	Warranty Period
Rotary Screw Airend with Continuation of ShieldWorks Maintenance Plan	Lifetime*
Rotary Screw Airend	30 Months
Piston Pump	18 Months
PTO Factory Installation	12 Months
All Other Parts	Manufacturer's Warranty

\*Every BOSS rotary screw airend comes prefilled with BOSS ShieldWorks, and the BUYER initiates the lifetime warranty program with completion of the lifetime warranty registration card. To continue the lifetime warranty coverage, this product must be registered and maintained according to the proper schedule. After purchase, BOSS ShieldWorks lubricant and oil filter must be replaced at fifty (50) hours of use. At one (1) year or five hundred (500) hours, whichever comes first, a complete service must be performed to maintain the warranty status, along with providing maintenance records to BOSS. After the initial year, the maintenance schedule should be followed per your provided manual, with record retention.

This warranty covers net cost of the part only. Labor, mileage, and travel time, including diagnostic calls to analyze the problem, are not covered by this or any other warranty. In the event of a warranty claim by an end-user, an authorized BOSS distributor shall be responsible for the initial investigation and warranty claim. The remedy of repair or replacement parts shall be carried out by BOSS or an authorized distributor.

This warranty is not transferable. The total responsibility of BOSS for claims, losses, liabilities, or damages, whether in contract or tort, related to its products shall not exceed the purchase price. In no event shall BOSS be liable for any special, indirect, incidental, or consequential damages including, but not limited to, loss of use of facilities or equipment, loss of profits, property damage, or lost production, whether suffered by BUYER or any third party. Warranty will be void if product is altered without written approval by BOSS. BOSS shall have no responsibility for any cost or expense incurred by BUYER if damage results from accident, misuse, neglect, improper installation, or the use of replacement parts or fluids not of BOSS manufacture. Wear caused by chemicals, abrasions, or excessive heat is not considered a defect and is not covered by this warranty. Maintenance and wear items such as lubricants, belts, seals, and filters are not warrantable items.

BUYER must provide written notice of each occurrence of an alleged defect in material or workmanship. If the machine is within the specified warranty period and has been registered and maintained according to the proper schedule, BOSS will provide return shipping instructions. Upon return of the item FOB BOSS original shipping point, BOSS will repair or replace the item or issue credit for replacement, provided it is found to be defective. Defective material must be returned within thirty (30) days of receiving return instructions from BOSS. Failure to do so within specified time will result in forfeiture of claim.

Failure to follow procedures as laid out in this warranty statement may cause forfeiture of claim. Excess freight charges from failure to follow shipping instructions will be deducted from credit. Distributors or end-users automatically deducting the value of a warranty claim from outstanding balances due prior to receiving written notification of BOSS approval of the warranty claim may be subject to forfeiture of the entire claim.

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