PRODUCT MANUAL

BULLET 80

Engine Driven Air Compressor

This manual must be read carefully before using your Boss Industries, LLC BULLET 80. Store in a safe and convenient location for future reference.

http://www.bossair.com

311316
9/5/2017 CRH

Contents

Welcome

General Information

Thank you for choosing the Boss Industries, LLC BULLET 80 Engine Driven 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.

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 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 Precautions (continued)

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.

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.

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

Never place machine on a grade more than 15 degrees.

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

Using a compressor in an enclosed area WILL KILL YOU. Engine exhaust contains carbon monoxide. This is a poison you cannot see or smell. Contact manufacturer for body mounting recommendations.

Check engine's operator manual for required service and maintenance intervals.

Specifications

Specification Sheet

COMPRESSOR SPECIFICATIONS	
Model	BULLET 80
Type	Engine Driven Air Compressor
Delivery	80 CFM @ 100 PSI
Operating Pressure Range	80 - 115 PSIG
Ambient Operating Temperature Range	0° - 100°F
Oil Capacity	2 gallons
Air Service Connection	3/4” NPT

ENGINE SPECIFICATIONS		
Model	3TNM74F	
Type	Yanmar Water Cooled Diesel	
	Output	RPM
Power	23.8 HP	3600
Displacement	60.5 cubic inches	
Bore and Stroke	2.91” X 3.03”	
Oil Capacity	2.9 quarts	
Battery	12V - 580 CCA @ 0º F	
Fuel Tank Capacity	18 gallons	
Altitude Range	0-6000 feet *	

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

GENERAL SPECIFICATIONS	
Overall Dimensions	48” L X 22” W X 45.50” H
Overall Dimensions (W/O Fuel Tank)	48” L X 22” W X 37” H
Weight	881 lbs (Dry)

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE

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.

Connecting the System Fuel Supply

Connect the fuel supply line to the 1/4" tube port on the fuel/water separator. Connect the fuel return line to the 5/16" tube port on top of the fuel filter. Both tubes need to be SAE 30R7 rated fuel lines.

⚠CAUTION

Due to the precise tolerance of diesel injection systems, it is extremely important that the fuel be kept clean and free from dirt or water. Dirt or water in the system can cause severe damage to both the injection pump and the injection nozzle.

⚠CAUTION

Use ASTM No. 2D fuel with a minimum cetane number of 40. No. 2 diesel fuel gives the best economy and performance under most operating conditions. See engine manufacturers operators/instruction manual for the proper engine fuel for the brand engine in your Boss Industries, LLC Air Compressor.

⚠WARNING

Do not mix gasoline or alcohol with diesel fuel. This mixture can cause an explosion.

Fuel Specifications

High Altitude and Low Temperature Fuels

Fuel with cetane numbers higher than 40 may be needed in high altitudes or extremely low ambient temperatures to prevent misfires and excessive smoke.

Cold Weather Fuel

- At operating temperatures below 32 degrees F, use a blend of No. 1D and No. 2D fuels, also known as "Winterized" No. 2D.
- Use a low sulfur content fuel having a cloud point that is at least 10 degrees below the lowest accepted fuel temperature.
- The viscosity of the fuel must be kept above 1.3 centistroke to provide adequate fuel system lubrication.

NOTICE

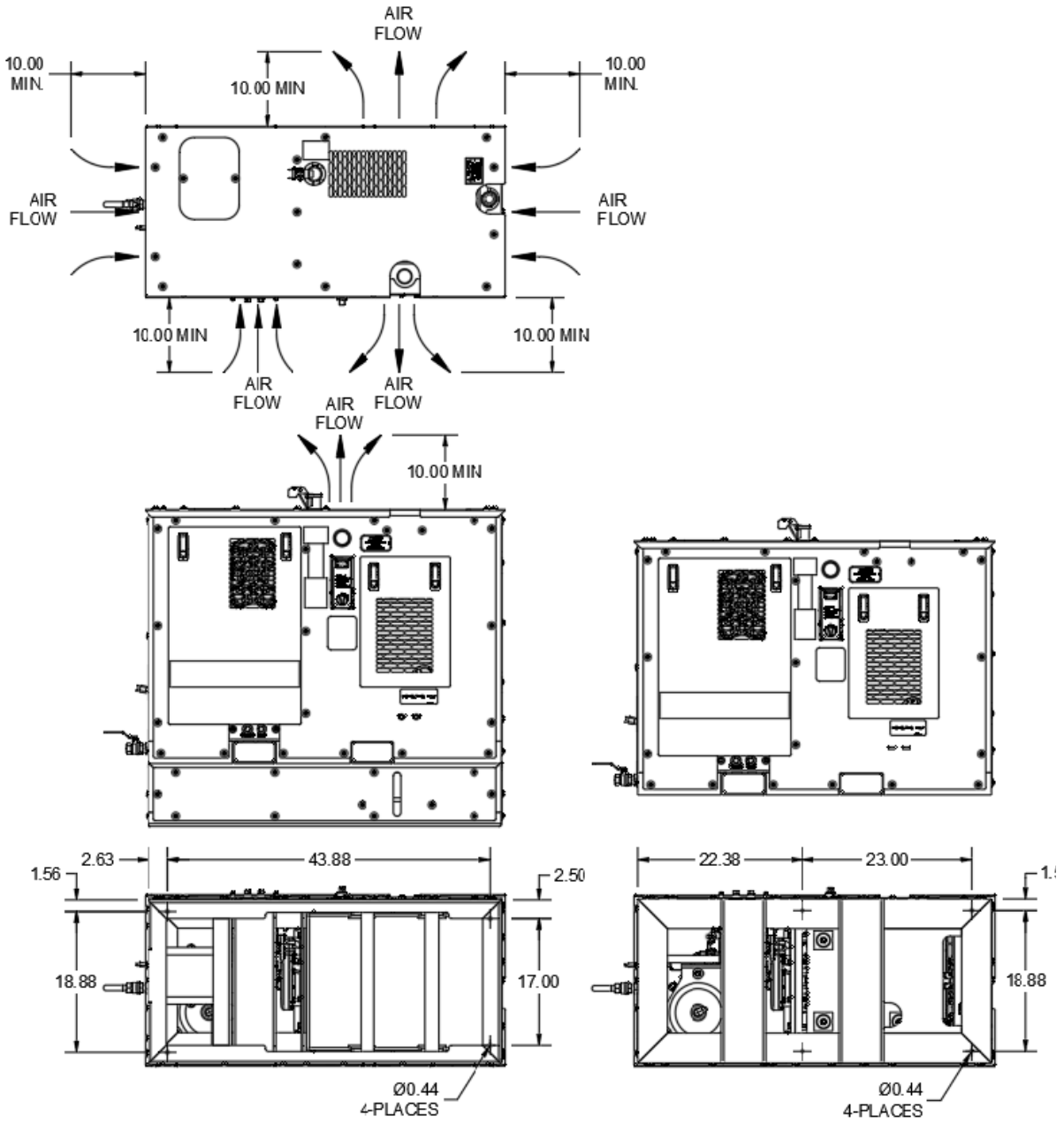
No. 1D fuel can be used. However, fuel economy will suffer.

Connecting Air Discharge Line

Connect the customer supplied air discharge line, designed to handle a minimum of 250 PSI continuously, to the 3/4" MNPT air discharge port.

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. 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. A minimum of 10" of clearance is required from the rear and front of the compressor to allow for proper air intake. Cool ambient air is drawn in from the rear, front, and side of 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.



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 compressor oil level and 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.

1. Separator Tank Oil Level
   - Halfway on Sightglass
2. Engine Radiator Coolant Level
   - Bottom of the radiator fill neck
3. Engine Coolant Recovery Bottle
   - Fill to the cold line
4. Engine Crankcase Oil Level
   - Full on the dipstick

Initial Startup Preparation

1. Reconnect battery terminals. Ensure the red cable is connected to the battery's positive terminal and the black cable is connected to the battery's negative terminal.
2. Check the system for fuel, oil, and/or coolant leaks.

Machine Documentation

Record all serial numbers for this installation.

A. Boss Industries, LLC Serial Number

_____

B. Engine Serial Number

_____

C. Compressor Serial Number

_____

D. Separator Tank Serial Number

_____

Lifetime Warranty Registration

Every Boss Industries, LLC BULLET 80 machine comes standard with a lifetime warranty on the airend. In order to activate the lifetime coverage, the customer must register the machine on the following website: www.bossair.com.

Operating Procedure

I. Read this manual carefully before proceeding.

II. Verify the service valve is closed.

III. Turn the key to "PRE-HEAT" until the "GLOW PLUG" light turns off. If the engine is cold or the ambient temperature is low, the light will stay on longer.

IV. Turn the key switch to the "CRANK" position. Do not operate the electric starter continuously for more than 5 seconds. If the engine fails to start set the key switch to "RUN" and wait 10 seconds before retrying.

V. Allow 3-5 minutes for engine to warm up

VI. Open service valve

Shutdown Procedure

I. Close service valve

II. Allow 3-5 minutes for engine to run at low speed

III. Turn switch key off

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 BULLET 80, the required maintenance intervals listed on the following page must be obeyed.

Recommended Spare Parts List

PART NUMBER	DESCRIPTION
311142	Air Filter Element
307092	SCA8G Shaft Seal Repair Kit
80455	50-Hour Maintenance Kit
80456	1-Year or 500-Hour Maintenance Kit

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

Website: http://www.bossair.com

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
EVERY 10 HOURS OR DAILY	1. Check separator tank oil level.
	2. Check engine coolant level in coolant recovery bottle.
	3. Check for fuel, oil, and air leaks.
	4. Check compressor/engine air filter maintenance indicator.
	5. Check battery hold down for security.
EVERY 50 HOURS OR WEEKLY	1. Drain water from separator tank. More frequent draining may be required under high humidity conditions.
	2. Inspect lifting frame.
	*3. After first 50 hours install Boss P/N 80455 50-Hour Maintenance Kit. Steps include changing oil and oil filter element. Then follow yearly maintenance schedule.
EVERY 500 HOURS OR 6 MONTHS	1. Clean battery terminals.
	2. Check battery hold-down and cables for wear.
	3. Check compressor/engine air filter connections, fittings, and clamps.
	4. Check radiator hoses and clamps.
	5. Check integrity of engine mounts.
	6. Clean cooler fins on all coolers.
	7. Check separator tank pressure relief valve.
EVERY 1000 HOURS OR 1 YEAR	1. Install Boss P/N 80456 1-Year or 500-Hour Maintenance Kit. Steps include changing oil, oil filter element, air/oil coalescing element, and air filter element.
	2. Check all door gaskets, hinges, and latches.
	3. Clean and flush engine cooling system.
	4. Check separator tank pressure relief valve.
	5. Install new fuel filter.

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.

Compressor Oil Fill, Level, and Drain

Before adding or changing compressor oil, make sure that the compressor is completely relieved of pressure. The drain is located inside the service door on the bottom of the sump tank. To drain the oil, remove the cap from the oil drain hose and rotate the valve to the open position to release all of the oil from the compressor sump. When oil has been drained, rotate the valve to the closed position and reinstall the cap on the end of the hose.

Oil is added at the fill cap on the side of the machine. The proper oil level is in the middle of the oil sightglass when the unit is shut down and has had time to settle. The machine must be level when checking the oil. The fill neck is designed to prevent overfilling; however, care must still be taken to ensure the proper oil level. DO NOT OVERFILL. The oil capacity is given in "Compressor Specifications".

⚠DANGER

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 and engine 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 and engine performance and cause premature wear of components.

⚠WARNING

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.

Air / Oil Coalescer

This is a single piece unit that requires replacement when it fails to remove the oil from the discharge air.

To replace element, P/N 311074, proceed as follows:

1. Shutdown compressor and wait for complete blow down (zero pressure).
2. Turn element counterclockwise for removal.
3. Install new rubber seal in head and supply a film of fluid directly on the seal.
4. Rotate element clockwise by hand until element contact seal (as viewed from top).
5. Rotate element at edge of can one more turn clockwise with band wrench.
6. Run system and check for leaks.

Engine Coolant

Specifications

This diesel engine requires a balanced coolant mixture of water and ethylene glycol base antifreeze. This protects the engine cooling system from corrosion as well as freezing damage. The Bullet 80 Air Compressor is shipped from the factory with a 50/50 mixture of water and ethylene glycol. In tropical climates where freeze protection is not required, glycol engine coolant should still be used to help prevent corrosion and pitting of cylinder liners.

Mixtures

- A mixture of 50% antifreeze and 50% water is required for temperatures above -34° F.
- A mixture of 60% antifreeze and 40% water is required for temperatures below -34° F. This provides protection to -65° F.
- Never exceed a 60% overall antifreeze mix.

Coolant Level

Before each start-up, when radiator is cold, the coolant level should be checked. When needed, refill with a 50/50 solution of water and ethylene glycol, DO NOT use 100% anti-freeze. The proper level for coolant in the system is to the bottom of the radiator fill neck and to the cold line of the recovery bottle.

Check the coolant level only when the engine is stopped and temperature is below 160°F. Failure to do so can cause personal injury from heated coolant spray,

Engine Radiator

Radiator Core

Any sign of leakage from the engine radiator may justify a pressure test to assure its integrity. Radiator leaks should only be repaired by qualified service technicians. Dirt that clogs the cooling fins of the radiator should be removed. The use of an air stream or high pressure steam cleaner should be done with caution so as to not damage the delicate fins. Bent cooling fins will reduce the cooling capacity of the radiator.

Radiator Pressure Cap

If coolant continually spills from radiator through the overflow, the radiator cap should be tested and/or replaced with a 14 PSI rated cap. Be sure to tighten to the proper secure position.

Engine Fan

Check the engine fan for cracks, loose bolts, and bent or damaged blades. Replace damaged fans immediately. Do not run system if any of the conditions exist. Make sure the hex head bolts mounting the fan to the water pump pulley are properly torqued to 29 ft-lbs.

Never use the fan to rotate the engine. The blade(s) can be damaged causing a fan failure, which can result in personal injury or property damage.

Engine V-Belt

Visually inspect the engine v-belt. Replace belt if cracked or frayed. Check engine manual for proper belt tension.

Maintenance

Battery

The battery supplied with the Bullet 80 Air Compressor has been selected to have ample cold cranking amperes for quick starts in cold weather. Keep the battery fully charged and if replacement is necessary, the new battery must be of equal or greater capacity.

⚠WARNING

Battery gas can explode causing acid burn to skin and blindness. Do not overcharge or jump battery incorrectly.

Standby Pressure Adjustment

1. Close all service valves.
2. Start the machine.
3. Allow the engine to warm up.
4. The air pressure will build to 125 PSIG.
5. If the air pressure is less than 125 PSIG
   A. Adjust the discharge pressure regulator down by loosening the locknut.
   B. Turn the adjusting screw clockwise.
6. If the air pressure is greater than 125 PSIG
   A. Adjust the discharge pressure regulator up by loosening the locknut.
   B. Turn the adjusting screw counter-clockwise.
7. After the air pressure is set, tighten the locknut.

NOTICE

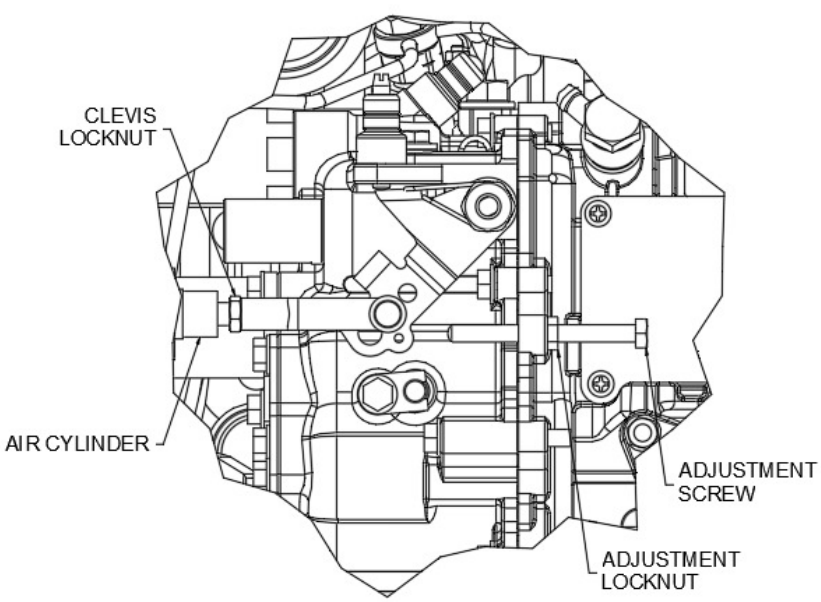
If your unit is rated at a higher pressure, add 20 PSI to the working pressure for unload pressure: 160 PSI working =180 PSI standby

Idle Speed Adjustment

If engine speed is below 2200 RPM, contact Boss Industries, LLC's service department for further Assistance.

Rated Speed Adjustment

1. Turn the ignition switch to the "CRANK" position. If the engine fails to start, DO NOT attempt to restart until cranking motor stops rotating and the separator tank has blown down.
2. When the engine starts, release the ignition Switch.
3. Open the air service valve until the discharge pressure gauge reads the desired working pressure. Verify that air is not bleeding out of the bottom of the discharge pressure regulator. If air is bleeding out, the standby pressure is set too high.
4. Loosen the adjustment locknut on the adjustment screw towards the front of the engine.
5. Turn the adjustment screw clockwise to increase the speed and counter-clockwise to decrease the speed.
6. If the proper speed cannot be obtained with the adjustment screw, it may require loosening the locknut on the air cylinder shaft and adjusting the clevis.
7. By turning the clevis onto the shaft, engine speed increases and vice versa.
8. After proper speed is set, tighten all locknuts.
9. Close service valve and allow compressor to unload and the engine to return to idle.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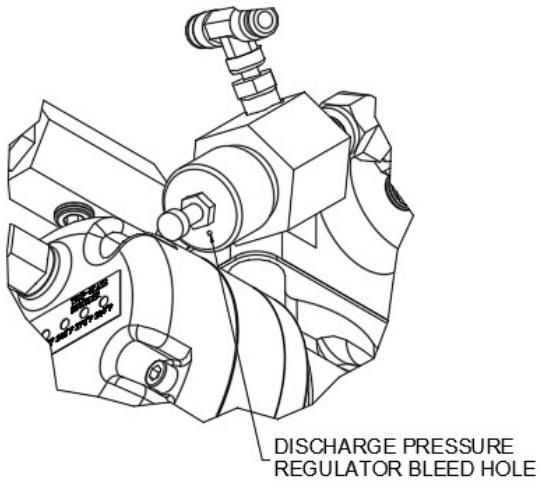

DISCHARGE PRESSURE
REGULATOR BLEED HOLE

Troubleshooting

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.

Machine Will Not Start

If the machine will not start, check the following:

I. Fuel level

II. Plugged fuel filter

III. Low battery voltage

IV. Loose battery cables

V. Plugged air filter

VI. Engine problems may have developed, refer to your engine manual

VII. Defective engine oil pressure switch, check continuity

VIII. Bad compressor high discharge temperature switch. This switch is normally open. Check for continuity across both terminals.

Unplanned Shutdown

If the machine shuts down unexpectedly, check the following:

I. Check to determine if compressor oil is at proper level

II. Check oil cooler for dirt, slush, ice on the fins, or any other obstructions to cooling airflow

III. Make a thorough external check for any cause of shutdown such as broken hoses, oil lines, wires, etc.

IV. Check compressor high discharge temperature switch; it should normally be open. The switch is located in piping on the bottom of sump tank.

V. Check electric fan motor and wiring.

Sump Pressure Does Not Blow Down

If after the compressor is shutdown, pressure does not automatically blow down (this process should take about 1 minute), check for:

I. Automatic blow down valve may be inoperative.

II. Blockage in air line from blow down valve to coalescer head.

III. Orifice at blow down clogged.

Engine Overheating

If the engine is overheating, check the following:

I. Check oil level. Add oil if required.

II. Air blockage into engine from fan side.

III. Air blockage from exhaust side of engine.

IV. Dirty oil in engine.

Improper Discharge Pressure

If discharge pressure is too low, check the following:

I. Too much air demand. (Air tools required more air than the compressor can produce, air tools are free wheeling without resistance.)

II. Service valve is wide open to atmosphere.

III. Leaks in service line.

IV. Restricted compressor inlet air filter.

V. Faulty control system operation (i.e. regulator is sending a signal to close the inlet valve at all times).

VI. Low engine speed

VII. Worn, damaged, or improperly tensioned belts.

If discharge pressure is too high or the safety valve blows, check the following:

I. Oil separator plugged or blocked.

II. Faulty safety valve.

III. Faulty regulator or set too high

IV. Inlet valve leaking or partially open. Loss of pressure signal to inlet valve from regulator causing inlet valve to stay open.

Coalescer Plugging

If the coalescer element has to be replaced frequently because it is plugging, it is an indication that foreign material may be entering the compressor inlet or the compressor oil is breaking down.

Compressor oil can break down prematurely for a number of reasons:

I. Extreme operating temperature.

II. Negligence in draining condensate from oil sump.

III. Using the improper type of oil or dirty oil.

Oil Consumption

Abnormal oil consumption or oil in service line can be caused by the following:

I. Overfilling of oil sump.

II. Leaking oil lines or oil cooler.

III. Plugged return line

IV. Defective separator element

V. Compressor shaft seal leakage.

VI. Discharge pressure below 55 PSI

Relieving pressure too quickly after shutdown will cause the oil to foam and spill out of the blow down valve.

High Compressor Discharge Temperature

If the compressor shuts down on high temperature, check the following:

I. Check compressor oil level. Add oil if required.

II. Check electric fan and switch.

III. Clean outside of oil cooler.

IV. Clean oil system (cooler) internally.

V. Plugged compressor oil filter.

VI. Plugged return line.

Troubleshooting

Machine Will Not Crank

If the machine will not crank, check for the following:

1. Faulty battery connections
2. Low battery voltage
3. Faulty ignition switch
4. Starter solenoid connections are loose or corroded
5. Faulty starter solenoid or starter

Machine Cranks But Will Not Start

If the machine cranks but it will not start, check for the following:

1. No fuel
2. Air in the fuel system
3. Fuel solenoid inoperative

High Fuel Consumption

If the machine is consuming high levels of fuel, check the following:

1. Leaks in the fuel system
2. Engine not at correct operating speed
3. Pressure regulator valve set too high
4. Engine air intake is restricted
5. Incorrect injection timing

Insufficient Air Supply

If the machine doesn't have adequate air supply, check for the following:

1. Compressor undersized for the air equipment
2. Engine speed low
3. Air intake restricted
4. Faulty drive coupling

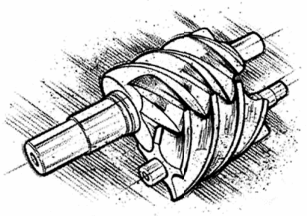
Contacting Boss Industries, LLC

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
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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