

Installation
Manual

BOSS 8060 UBI
PTO Air Compressor

This manual is for installation personnel only.



This manual must be read carefully BEFORE installing, operating, servicing and/or maintaining your Boss Industries Air Compressor.

Store in a safe and convenient location for future reference.

For technical support:

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Safety

Safety Disclaimer

The owner, lessor, and/or operator of the Boss Industries, Inc. 8060 UBI PTO compressor system are hereby notified and forewarned that any failure to adhere to the following safety precautions may result in property damage and/or personal injury or death.

Boss Industries, Inc. expressly disclaims responsibility or liability for any injury or damage caused by the failure to observe the following specified precautions or by failure to exercise the ordinary caution and due care required when operating or handling the Boss Industries, Inc. 8060 UBI PTO compressor system, even though not expressly specified.

NOTICE

Call Boss Industries, Inc. if there are any discrepancies with the listed safety precautions and your company policies and procedures.

Safety Overview

⚠ WARNING

This equipment is to be installed, operated, maintained, and serviced only by trained personnel who have fully read and understand this manual and all associated documentation for the Boss 8060 UBI PTO compressor system. Failure to adhere to this warning could result in death or serious injury, damage to property and equipment or both.

The Boss 8060 UBI PTO compressor system is industrial equipment. This equipment is to be installed, operated, maintained, and serviced only by trained personnel who have fully read and understand this manual and all associated manuals. Just as you would not operate a bulldozer or excavator without training, you should never operate a Boss compressor without training.

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

⚠ DANGER

Indicates a hazardous situation which, if not avoided, **will** result in death or serious injury.

⚠ WARNING

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

⚠ CAUTION

Indicates a hazardous situation which, if not avoided, **could** result in minor or moderate injury.

NOTICE

Indicates a practice which, if not avoided, **could** result in property and/or equipment damage only.

Safety Warnings

The following safety warnings and precautions must be observed at all times for the Boss 8060 UBI PTO compressor system:



WARNING

Fully read and understand this manual and all other associated documents before installing, operating, maintaining, and/or servicing this equipment. Failure to comply could result in personal injury or death and/or damage to equipment and property.



WARNING

The Boss 8060 UBI PTO compressor system is to be installed, operated, maintained, and serviced only by trained personnel. An untrained individual could suffer personal injury or death and/or damage to equipment and property.



WARNING

The Boss 8060 UBI PTO compressor system contains hot oil that is circulated through this system during operation. Do not touch any compressor system components until the system has been shut off and allowed to cool to ambient temperature. Failure to follow warning could result in personal injury or death and/or damage to equipment and property.



WARNING

Do not direct compressed air discharged from the system at any person, including yourself. Failure to follow warning could result in personal injury or death and/or damage to equipment and property.



DANGER

Do not disable, override, or remove system safeties or controls, either temporarily or permanently. Overriding safeties will result in serious injury, death, and/or damage to equipment.



WARNING

Proper attire is required at all times when installing, operating, maintaining, and/or servicing the Boss 8060 UBI PTO air compressor system. This includes, but is not limited to, safety glasses, work gloves, and steel toe footwear. Company policies and procedures must be followed.



NOTICE

Do not discard this manual. This manual should be kept in a location that can be easily accessed at all times.

Safety Warnings (cont.)



⚠ DANGER

Do not install a shut-off valve in any oil lines throughout the Boss 8060 UBI PTO compressor system. Failure to comply will result in serious injury, death, and/or damage to equipment.



⚠ WARNING

Prior to every use check all safety devices for proper operation. Failure to comply could result in personal injury or death and/or damage to equipment and property.



⚠ WARNING

Never adjust the pressure regulator to increase the system pressure above 125 PSIG. If pressure requirements are higher, contact Boss Industries, Inc. for necessary component changes. Failure to comply could result in personal injury or death and/or damage to equipment and property.



⚠ DANGER

Do not use air from this compressor system for breathing or food processing. Air discharged from this compressor system contains small particles of oil that must not be ingested. This will result in serious injury, death, and/or damage to equipment.



⚠ DANGER

This 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. This will result in serious injury, death, and/or damage to equipment.



⚠ WARNING

Do not use flammable solvents for cleaning compressor parts as this can cause the unit to ignite and/or explode during operation. Failure to comply could result in personal injury or death and/or damage to equipment and property.

Safety Warnings (cont.)



WARNING

Connect air hoses only in full compliance with OSHA Standard 29 CFR 1926:302(b)(7). The required safety devices (velocity fuses) 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.



WARNING

Never leave the machine running unattended or leave a tool connected to an air hose when not in use. Failure to comply could result in personal injury or death and/or damage to equipment and property.



WARNING

Relieve Boss 8060 UBI PTO compressor system of all stored air pressure after every use. Failure to comply could result in personal injury or death and/or damage to equipment and property.



DANGER

The Boss 8060 UBI PTO compressor is a pressurized system. Do not attempt to remove any compressor system part without first completely relieving entire system of pressure. Failure to comply will result in serious injury, death, and/or damage to equipment.



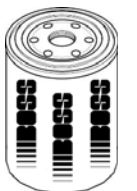
WARNING

Do not attempt to service or maintain any part of the compressor system while the vehicle is running. Failure to comply could result in personal injury or death and/or damage to equipment and property.



WARNING

The Boss 8060 UBI PTO compressor system contains ASME certified pressure vessels. Never attempt to repair or modify any pressure vessel. Failure to comply could result in personal injury or death and/or damage to equipment and property.



WARNING

Use only Boss Industries, Inc. approved replacement parts. Not all components have the same specifications. Only Boss approved replacement parts are safe to use when servicing a Boss 8060 UBI PTO compressor system. Failure to comply could result in personal injury or death and/or damage to equipment and property.

Safety Warnings (cont.)



⚠ DANGER

Hot oil under pressure will cause severe personal injury or death. Do not remove valves, caps, plugs, or piping when compressor is running or pressurized. Shut down compressor and relieve system of all pressure before removing valves, caps, plugs, or piping. Failure to comply will result in serious injury, death, and/or damage to equipment.



⚠ WARNING

Do not operate compressor without the fan guard in place. Failure to comply could result in personal injury or death and/or damage to equipment and property.



⚠ WARNING

The driveline rotates. Switch off engine and disconnect battery or electrical supply before attempting to work or perform maintenance on the compressor package. Failure to comply could result in personal injury or death and/or damage to equipment and property.



⚠ WARNING

Read the operators manual before starting this unit. Failure to adhere to instructions can result in severe personal injury. Replacement manuals can be purchased from Boss Industries, Inc.



NOTICE

The B-CAN is not a touch screen unit. To operate, use the buttons below the screen.



⚠ WARNING

Operators must not tamper with engine governed speed. High operating speeds are dangerous and increase the risk of personal injury or damage to equipment.



NOTICE

Never weld to truck chassis, as this will cause damage to many electrical or electronic components grounded to vehicle's chassis.



⚠ WARNING

Gasoline and natural gas are highly flammable, and their vapors are explosive. Do not permit smoking, open flames, sparks, or heat in the vicinity while exposed to these gases.

Safety Warnings (cont.)**⚠ DANGER**

This compressor is designed for outdoor use only. Do not use this compressor inside any building or enclosure.

Deadly carbon monoxide gas may cause fatal injuries. In addition a fire or an explosion may occur. No user-performed modifications, including venting of exhaust and/or cooling ventilation, will eliminate the danger.

**NOTICE**

The Boss 8060 UBI PTO compressor system requires an adequate flow of cooling air for its continued operation. Never operate the unit inside any room or enclosure where the free flow of cooling air into and out of the unit might be obstructed. Without sufficient cooling air flow, the compressor quickly overheats, damaging the unit and nearby property. Maximum compressor capacity may be reduced where ambient temperatures exceed 100°F.

**⚠ WARNING**

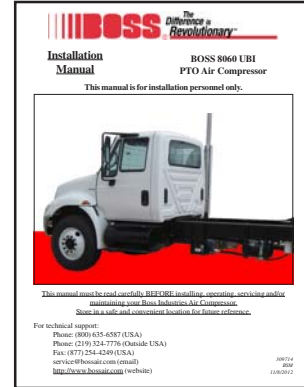
Do not pressure wash or apply excessive force to the face of the B-CAN module. Doing so may break the water resistant seal, causing failure to the B-CAN panel. Failure to comply could result in personal injury or death and/or damage to equipment and property.

Welcome

General Information

Thank you for choosing the Boss 8060 UBI PTO Air Compressor System. Before installing, servicing, maintaining, or operating this compressor, read over this manual and become well acquainted with this system. Doing this will increase your safety and maximize the life of the compressor system.

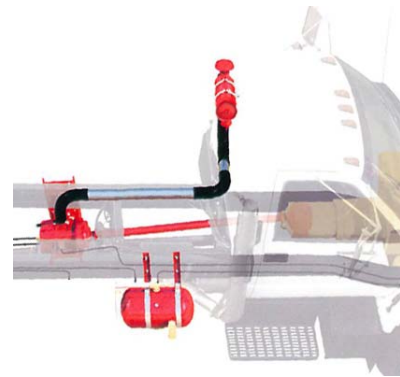
While this manual is written to be as accurate as possible, Boss strives to continually improve the efficiency and performance of its products. As a result, sometimes there may be slight differences between a given version of the manual and the system.



System Overview

The Boss 8060 UBI PTO air compressor package is comprised of unique subsystems that are independently mounted to fit a wide range of vehicles. This subsystem design allows components to be mounted in the location that works best for your specific vehicle.

The 8060 UBI PTO air compressor system is controlled by the Boss B-CAN. The B-CAN is the most advanced, user friendly, digital compressor controller available for the PTO compressor market. The dynamic on-screen display will simplify the operation, service, and maintenance processes.



System Specifications[†]

Delivery @ 110 PSIG	CFM	60	85	100	125	160	185
Input Speed RPM to Compressor (3.05:1)	RPM	750	1010	1200	1450	1875	2160
Input GPM @ 2200 PSI for 8060-UHBI**	GPM	15.2	20.5	24.4	29.4	38.0	43.8
Input Speed RPM to Compressor (2.50:1)	RPM	915	1250	1475	1775	2350	X
Input Speed RPM to Compressor (1.96:1)	RPM	1100	1575	1860	2300	X	X
Input Speed RPM to Compressor (RSC9)	RPM	X	X	2000	2500	X	X
Input Speed RPM to Compressor (14D)	RPM	X	X	X	X	2225	2500
Fluid Capacity		4.75 Gallons					
Weight (Dry)		423 lbs.					

** Hydraulic calculations include 85% mechanical efficiency and 96% volumetric efficiency.

† Specifications subject to change without prior notice.

Description of Components

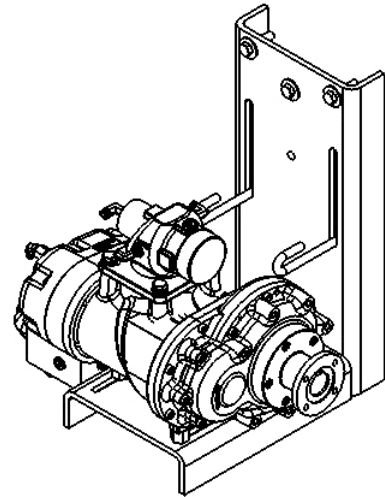
Subsystems

The Boss 8060 UBI PTO air compressor system is a group of subsystems that are shipped loose to be mounted in open spaces on the vehicle's frame and body. The subsystems are connected using hoses and tubing that are also shipped in the kit. Not all vehicles are capable of being equipped with a Boss 8060 UBI PTO air compressor system. Please contact your local distributor to verify your vehicle is capable of supporting the Boss 8060 UBI PTO air compressor system.

The images shown below are for reference only and may not match your exact system.

Compressor Assembly

The heart of the Boss 8060 UBI PTO air compressor system is the rotary screw airend. The rotary screw is a positive displacement, oil flooded device employing one stage of compression to achieve the desired pressure. In operation, two helically grooved rotors mesh to compress air. Intake air is trapped as the male lobes roll down the female grooves, pushing trapped air along, compressing it until it reaches the discharge port in the end of the stator. This delivers smooth-flowing, pulse-free air to the sump tank.



The oil in a rotary screw airend serves three purposes:

- Lubricates the rotating parts and bearings.
- Serves as a cooling agent to remove the heat from compression.
- Seals the running clearances.

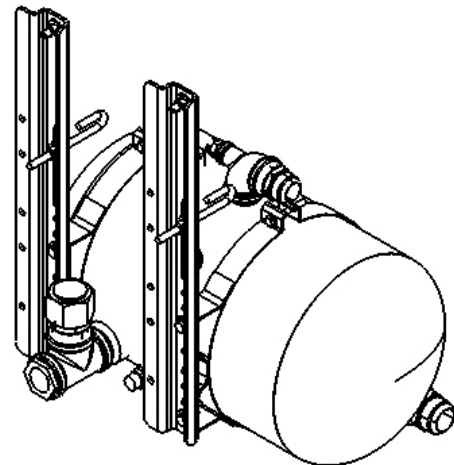
Mounted to the airend is a companion flange, intake valve, and mounting bracket.

Sump Tank Assembly

The air oil mixture leaving the compressor assembly flows into the sump tank assembly. The sump tank is the first stage of oil separation in the 8060 UBI PTO compressor system. The sump tank also acts as an oil reservoir to ensure there is plenty of oil capacity to handle continuous air compressor operation.

The tank safety relief valve is located at the top of the sump tank. This valve acts as a backup to protect the system from excessive pressure buildup as a result of a system malfunction.

Also in the tank assembly is the oil fill cap and oil level sightglass.



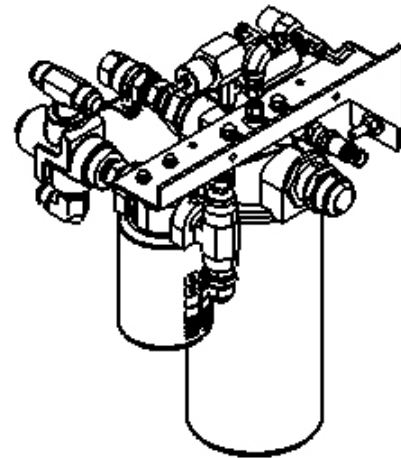
Subsystems (cont.)

Air Oil Manifold

The air oil manifold is a common point for senders and switches along with filters and control valves. The air oil manifold is divided into two sides: air and oil.

The air side contains the following:

- Spin-On Coalescer
- Pressure Transducer
- Regulator Valve
- Blowdown Valve
- Minimum Pressure Orifice



The spin-on coalescer is the second and final stage of oil separation in the Boss 8060 UBI PTO compressor system. As the oil laden air passes through the filter media, oil gathers on the walls and collects at the bottom of the element. The oil that is separated is then returned to the rear of the compressor assembly.

On the upstream side of the coalescer is the pressure transducer. This transducer provides precise feedback to the B-CAN on the status of the compressor system.

On the downstream side of the coalescer is the regulator valve. The regulator valve is a proportional control valve that sends a signal to close the intake valve when the system pressure has reached the correct level.

Also mounted downstream of the coalescer is the blowdown valve. The blowdown valve's function is to relieve the system of air pressure when the 8060 UBI PTO compressor system is shut off. This valve is piloted by a signal from the intake valve and vents the system pressure to atmosphere.

The most overlooked component in the Boss 8060 UBI PTO compressor system is the minimum pressure orifice. This orifice is designed to maintain adequate pressure in the system to ensure proper oil circulation.

The oil side of the manifold contains the following:

- Spin-On Oil Filter
- Temperature Sender
- Thermal Valve

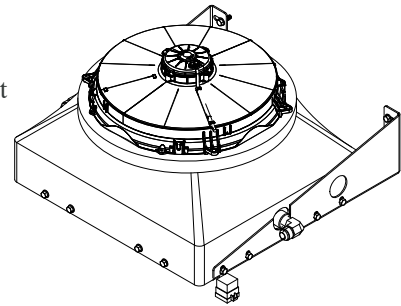
As oil is pushed out the bottom of the sump tank, it is directed to the spin-on oil filter. After the filter is the thermal valve. The thermal valve bypasses the cooler at start-up to minimize the time to elevate the system to proper operating temperature.

Lastly, on the oil side is the temperature sender. This sender provides feedback to the B-CAN on the status of the compressor system.

Subsystems (cont.)

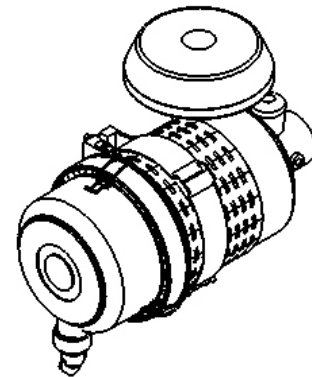
Cooler Assembly

The cooler assembly is an aerodynamically designed cooling package that utilizes an electric fan that cycles on and off based on oil temperature to ensure the temperature stays in the correct range.



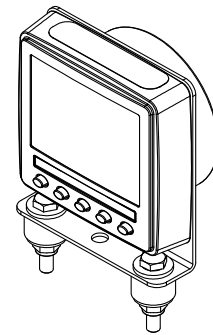
Air Filter Assembly

The air filter assembly is the entrance for ambient air to the Boss 8060 UBI PTO compressor system. Air is drawn through this assembly and into the intake valve on the compressor assembly. The air filter assembly is a two stage system that is capable of handling medium to high dust environments. The system incorporates an acoustical rain cap and corrosion resistant housing. The air filter assembly also includes a service indicator that shows the life of the filter even when the compressor system is off.



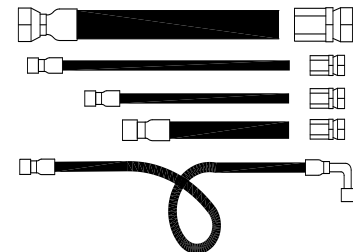
B-CAN Assembly and Harnesses

The B-CAN controller is the brain behind the Boss 8060 UBI PTO air compressor system. The B-CAN is a compact, durable, and convenient controller. It allows all system components, including a compressor, generator, and hydraulic pump, to be controlled from one location with the touch of a button. This controller receives feedback from the compressor system to ensure proper performance. Utilizing the vehicle's on-board Controller Area Network (CAN), the B-CAN communicates with the vehicle and PTO compressor systems. Along with the B-CAN controller are simple plug and play harnesses to greatly reduce installation time.



Hoses and Tubing

The 8060 UBI PTO compressor system is shipped with all the hoses and tubing required for standard installations. The hoses and tubes are rated at the pressures and temperatures required for safe operation. All hoses are single wire braid hose with 37° JIC ends. The color and size differentiated tubing uses push-on connections.



Installation

WARNING

This equipment is to be installed only by trained personnel who have fully read and understand this manual and all associated documentation for the Boss 8060 UBI PTO compressor system. Failure to adhere to this warning could result in death or serious injury.

General Overview

The 8060 UBI PTO air compressor should only be installed by personnel who have been trained and have taken the time to read and understand this manual and all associated documentation. Failure to follow the listed instructions, procedures, and safety precautions in this manual may result in serious accidents and injuries.

Installation of this air compressor must fully comply with Federal Motor Vehicle Safety Standards (FMVSS), Occupational Safety & Health Administration (OSHA), State and Local codes, vehicle body builder's guidelines, and Boss Industries, Inc. instructions. Adhere to all company policies and procedures throughout the installation process.

Never modify any component in the 8060 UBI PTO compressor system.

WARNING

Proper attire is required at all times when installing the Boss 8060 UBI PTO air compressor system. This includes, but is not limited to, safety glasses, work gloves, and steel toe footwear.

Installation Steps

Before beginning the installation of your Boss 8060 UBI PTO compressor you should first read this entire installation process so you are familiar with all the steps. This will save you valuable time as you will understand how the current step affects the upcoming instructions. The sequence for installing the Boss 8060 UBI PTO compressor system is:

1. Road Test Vehicle
2. Verify Application Data Sheet
3. Verify All Components
4. Layout the Installation
5. Mount the PTO Gearbox
6. Mount the Compressor Assembly
7. Measure and Order Driveline
8. Mount the Sump Tank Assembly
9. Mount the Air Oil Manifold
10. Mount the Cooler Assembly
11. Mount the Air Filter Assembly
12. Mount the B-CAN Assembly
13. Mount Additional Components
14. Install Hoses and Tubing
15. Install the Wiring Harnesses
16. Fill the System with Fluids
17. Install the Driveline
18. Install the Decals
19. Initial Setup
20. Final Test

Installation Steps (cont.)

1. Road Test Vehicle

The first step of installing a Boss 8060 UBI PTO compressor system is making sure your vehicle is ready. Be sure to road test all trucks prior to starting the installation of the compressor system. If your vehicle has any check engine lights on the dash or does not appear to be operating properly, DO NOT continue with the installation of the 8060 UBI PTO compressor system. During the road test fill out the Pre-Installation Vehicle Inspection. This will provide a basis to compare against the final inspection after installation of the compressor. Once the vehicle has been repaired and road tests properly, you can continue on to the next step.



Before performing the road test the vehicle must be road ready and conform to all safety laws. The driver of the vehicle must have the valid and necessary driver's license required for the vehicle.

Pre-Installation Vehicle Inspection

Date _____ Model _____ Serial Number _____

I. Check All Fluids	Good	Low	N/A
a. Transmission	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Brake Fluid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Power Steering Fluid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Engine Oil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Antifreeze	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Window Washer Fluid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
II. Check Gauges	Working	Not Working	
a. Speedometer	<input type="checkbox"/>	<input type="checkbox"/>	
b. Temp Gauge	<input type="checkbox"/>	<input type="checkbox"/>	
c. Break Pressure Gauge	<input type="checkbox"/>	<input type="checkbox"/>	
d. Volt/Amp Meter	_____	(Reading)	
e. Oil PSI	_____	(Reading)	
f. Tachometer @ Idle	_____	(Reading)	

III. Test Drive Vehicle and Note any Problems or Concerns

- a. Vibration Notes: _____
- b. Transmission Shifting: _____
- c. Normal RPM: _____
- d. Normal Temp Reading: _____
- e. Other: _____

Installation Steps (cont.)

2. Verify Application Data Sheet

Boss 8060 UBI PTO compressor systems are built specific to the vehicle information provided during the original order. These systems must be installed on the exact vehicle as provided during the order process. If there is any difference between the original order details and the vehicle on which you are preparing to install the compressor system, stop immediately and contact Boss Industries, Inc. The Application Data Sheet can be found on the back page of the manual.

3. Verify All Components

Before beginning to mount any components, you should first verify you have all the necessary parts to perform the installation. The following list shows all the components needed to perform a standard installation. Refer to the Description of Components section of this manual for help identifying the components.

- Compressor Assembly
- Sump Tank Assembly
- Air Oil Manifold
- Cooler Assembly
- Air Filter Assembly
- B-CAN Assembly and Harnesses
- Hoses and Tubing
- Decals
- PTO (supplied by installer if not purchased from Boss Industries, Inc.)
- Driveline (supplied by installer if not purchased from Boss Industries, Inc.)

If any components are missing, contact Boss Industries, Inc. for assistance. Once everything is identified, continue to the next step.

4. Layout the Installation

A successful 8060 UBI PTO compressor system installation is about determining the optimum location to mount the Compressor Assembly on the vehicle. Carefully consider the location of the Compressor Assembly as certain locations could cause longer installation times. There may be other vehicle components in the way such as air tanks, brake modules, air dryers, and exhaust systems. With the current emissions standards that are in place, most exhaust modifications are no longer allowed.

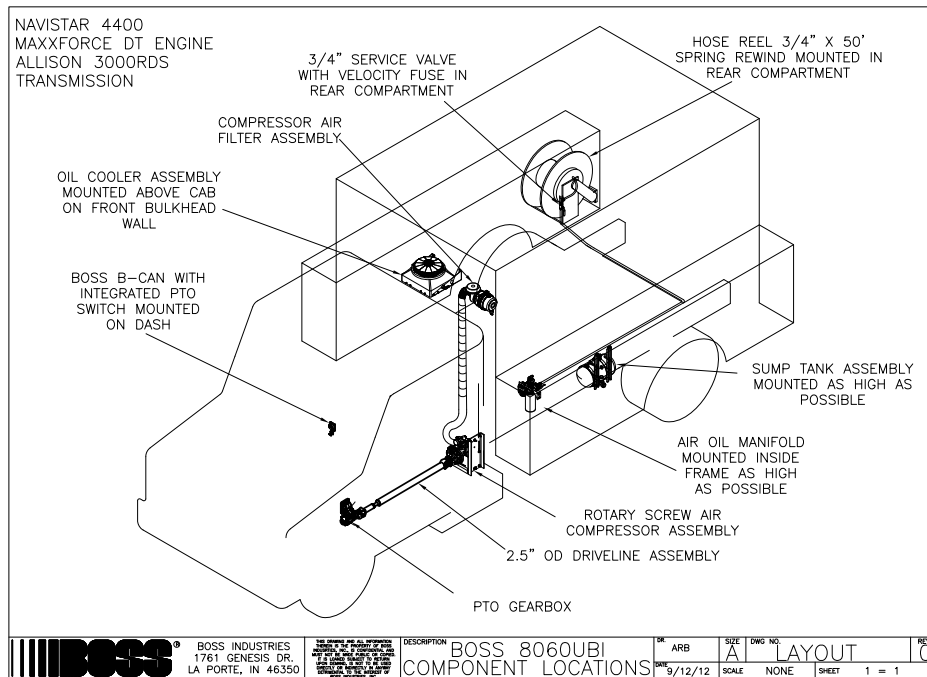
A general guideline for where to mount the compressor assembly is on the frame rail 2 to 5 feet behind the PTO opening of the transmission. If the vehicle has an open space in that area and has a clear path to the transmission PTO opening, then that is the best location for mounting the compressor assembly. If there is no open space on the frame rail to mount the compressor assembly, you will have to relocate chassis components as necessary, per your vehicle's body builder guidelines, to create an open area for mounting.

Once the compressor assembly and PTO gearbox locations are confirmed, the rest of the components should be added to the layout. Be sure to follow the guidelines for each component listed in the following steps for proper installation.

Once your layout is finished you should have a page similar to the following:

Installation Steps (cont.)

4. Layout the Installation (cont.)



5. Mount the PTO Gearbox

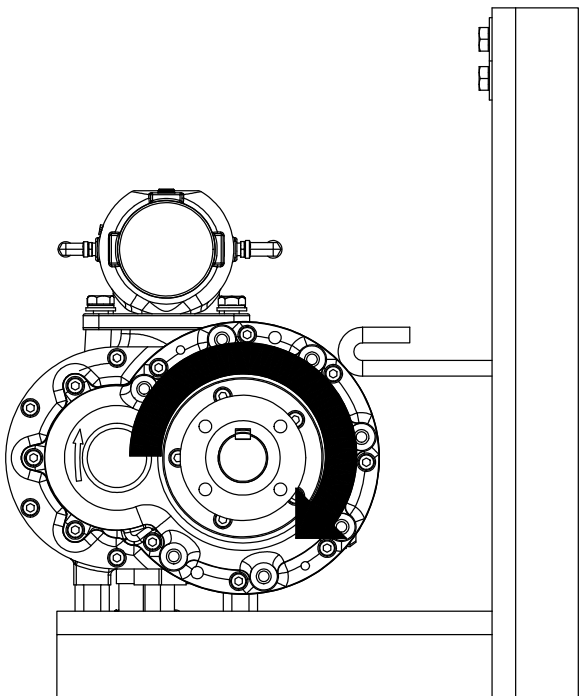


The compressor direction of rotation is extremely important. Allowing the compressor to rotate in the wrong direction will cause extreme damage to the equipment, and may injure personnel.

Verify your PTO application data to determine the PTO's direction of rotation. In some cases an adapter gear may be required to reverse the PTO output rotation. Refer to the drawings on the following pages to identify your system's required direction of rotation. All drawings show the direction of rotation while looking at the input shaft of the compressor system. All drawings also show driver-side mounting; however, the same direction of rotation applies for passenger-side mounting.

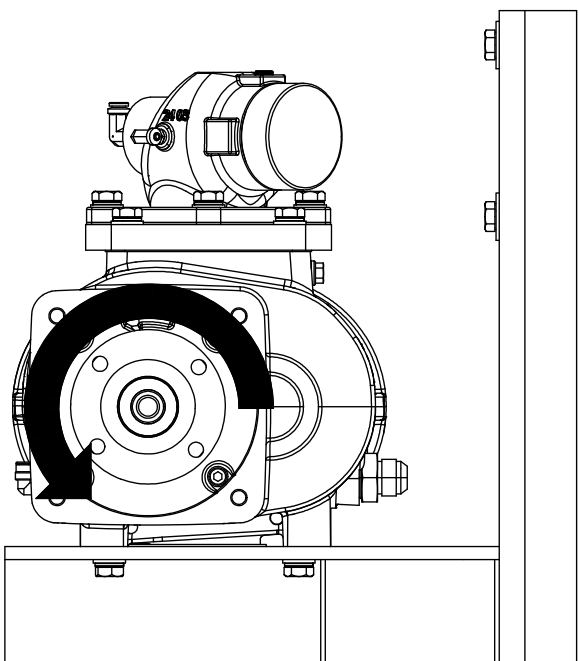
Installation Steps (cont.)

5. Mount the PTO Gearbox (cont.)



T10G

The Boss T10G is a gear-driven air end and requires clockwise rotation when looking at the compressor input shaft. This typically will be termed engine rotation or crank rotation in a PTO application book.

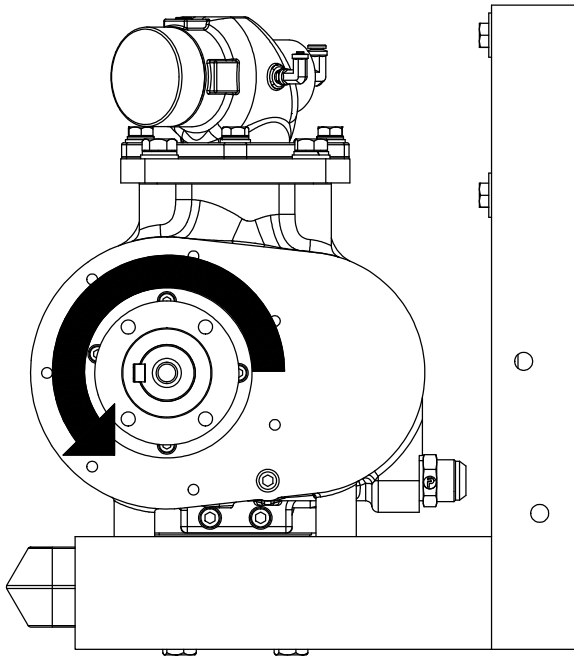


RSC9

The Boss RSC9 is a direct-drive air end and requires counter-clockwise rotation when looking at the compressor input shaft. This typically will be termed opposite engine rotation in a PTO application book.

Installation Steps (cont.)

5. Mount the PTO Gearbox (cont.)



T14D

The Boss T14D is a direct-drive and airend requires counter-clockwise rotation when looking at the compressor input shaft. This typically will be termed opposite engine rotation in a PTO application book.

WARNING

Before mounting the PTO Gearbox be sure to chock wheels and follow company safety regulations.

Now that your layout is finished, the next step is mounting the PTO gearbox. Since each PTO gearbox is unique to the transmission and PTO gearbox manufacturer, you should refer to the manual supplied with your PTO gearbox for specific installation instructions.

WARNING

Use caution when draining the transmission oil as the oil may be extremely hot.

1. Unpack the PTO gearbox and layout all components on a work bench.
2. Under the vehicle, remove any obstacles that are in the way of installing the PTO gearbox.
3. Install the PTO gearbox per manufacturer's instructions.

NOTICE

Perform only the mechanical portion of the PTO installation as the electrical wiring will be covered later when you install the wiring harnesses.

Installation Steps (cont.)

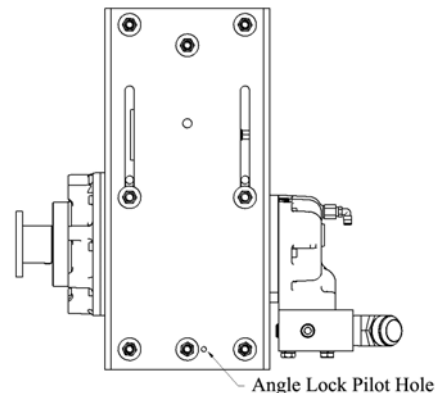
6. Mount the Compressor Assembly

NOTICE

Failing to install the compressor assembly in a location that produces safe driveline parameters will require remounting the compressor assembly. To save installation time, your best attempt should be made to calculate the driveline angles and lengths prior to mounting the compressor assembly.

The first step in mounting the compressor assembly is knowing the PTO angle. Place an angle finder on the face of the shaft of the PTO and record the angle. Once you have that information, you will need to determine the best location for mounting your compressor assembly on the frame rail. The compressor assembly must be within the safe driveline lengths. It also must allow the proper driveline operating angles. There needs to be a path for running the driveline from the PTO to the input shaft of the compressor. The other factor that needs to be determined is the minimum ground clearance required. The compressor assembly should be mounted as high as possible within the safe driveline parameters. Effort should be made to keep the driveline length under 60" (for additional information see step 7: Measure and Order Driveline). Once the location is determined, continue on to the mounting steps.

1. Begin by assembling the vertical portion of the mounting bracket to the bottom portion of the mounting bracket attached to the compressor assembly using (3) 1/2" x 2" bolts, (6) 1/2" washers, and (3) 1/2" nyloc nuts.
 - 1a. If installing an RSC9 or 14D compressor assembly, the vertical portion of the mounting bracket is welded on and does not need to be bolted together.
2. Adjust the angle of the compressor assembly so that the compressor input shaft matches the previously recorded angle of the PTO output shaft.
3. Once the angle has been set properly, mark the necessary holes on the frame rail.
4. Remove the compressor assembly and drill the marked holes.
5. Lift compressor assembly back into place and install with the supplied hardware. If using J-bolts, be careful not to over tighten them. They should be tightened to 32 ft-lbs.
6. Verify compressor input shaft angle matches the PTO output shaft angle. If they do not match, slightly loosen the bottom 3 bolts that connect the two parts of the mounting bracket. This will allow the compressor angle to be adjusted. Once the angle is matched, retighten the 3 bolts.
7. Drill a 5/16" hole through the bottom mounting bracket using the hole in the vertical bracket as a guide. This will ensure the angle on the compressor does not change over time due to vibration. Install the 1/4" x 1 1/4" bolt and 1/4" nyloc nut.



NOTICE

Failure to install the compressor assembly at the proper angle will cause premature driveline failure. Excessive noise, vibration, and transmission wear could also result.

Installation Steps (cont.)

7. Measure and Order Driveline

If you have purchased your driveline from somewhere other than Boss Industries, Inc., please consult the vendor for safe driveline design. The standard Boss Industries, Inc. driveline is a Dana/Spicer 1310 Series. When designing a driveline, the main areas of concern are the maximum driveline length and u-joint operating angles. Use an anglemaster or a bubble protractor to assist in finding the operating angles.

Maximum Length

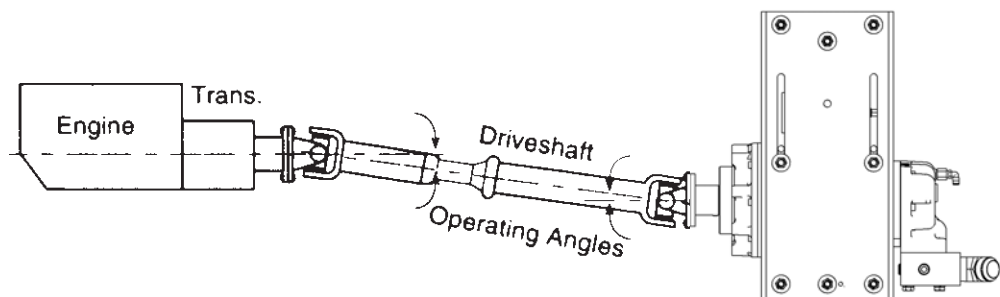
The first step to driveline design is verifying the driveline length is under the maximum limit. A critical speed calculation can be performed on the driveline at <http://www2.dana.com/Expert/>. Driveline lengths must be limited according to the chart below. The driveline length is measured from u-joint to u-joint.

1310 Series Driveline	
Driveshaft Diameter	Maximum Driveline Length
2.5"	60"
3.0"	66"

If your driveline length is longer than the safe limits, the first step is to evaluate the possibility of relocating the compressor assembly. If this is not possible, then you will need to use a 2-piece driveline system. Please contact your driveline supplier on how to set up a 2-piece driveline.

Operating Angles

Once the driveline length is confirmed, the next step is calculating the u-joint operating angles. A u-joint operating angle is the angle that occurs at each end of the driveline when the output shaft of the PTO, driveline, and compressor input shaft are not in line.



Installation Steps (cont.)

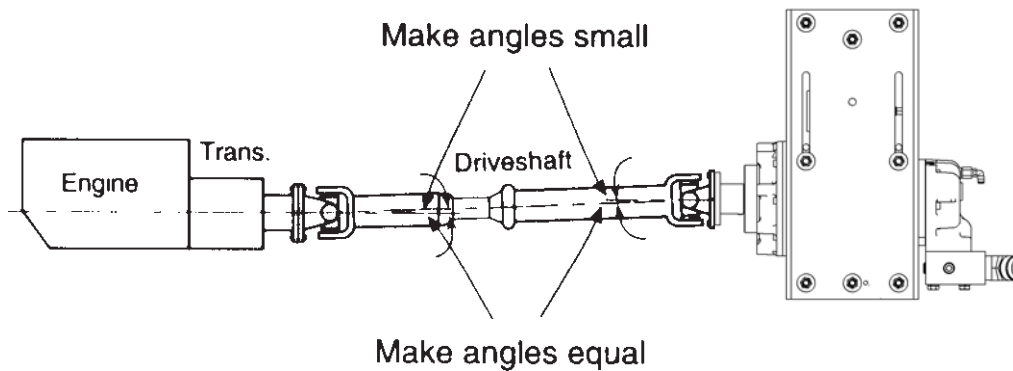
7. Measure and Order Driveline (cont.)

Operating Angles (cont.)

There are three basic rules that apply to u-joint operating angles in regard to installation.

- U-joint operating angles at each end of a shaft should always be at least 1° .
- U-joint operating angles on each end of a driveline should always be equal to within 1° of each other.
- U-joint operating angles should not be larger than 3° . If more than 3° , make sure they do not exceed the maximum recommended angles for the RPM at which they will be operating.

The connecting driveline operates with an angle at each u-joint. It is that angle that creates a vibration. To reduce the amount of vibration, the angles on each end of a driveline should always be SMALL. To cancel an angle vibration, the u-joint operating angles need to be EQUAL to within 1° at each end of a shaft. See figure.



The last piece of information you need to know about operating angles is how to calculate them. There are two types of u-joint operating angles: single plane and compound.

Single Plane Angle

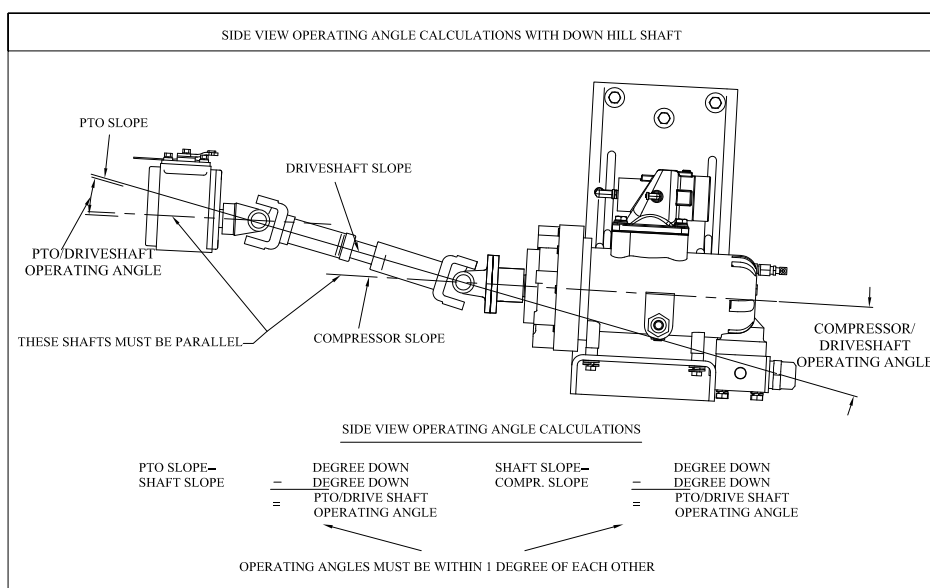
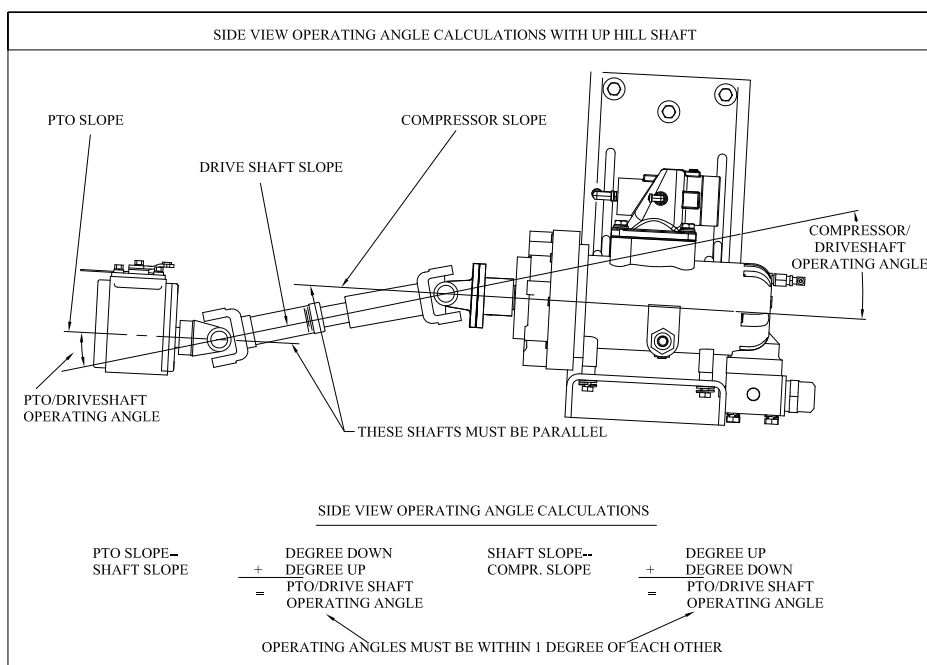
Single plane angles occur when the PTO shaft and compressor shaft are in line when viewed from either the top or side, but not both. To determine the u-joint operating angle in an application where the components are in line when viewed from the top, but not in line when viewed from the side, is as simple as measuring the slope of the components in the side view and adding or subtracting those slopes to determine the angle. Two examples are shown: one with the shaft running uphill to the compressor, and the other running downhill.

Installation Steps (cont.)

7. Measure and Order Driveline (cont.)

Operating Angles (cont.)

Single Plane Angle (cont.)



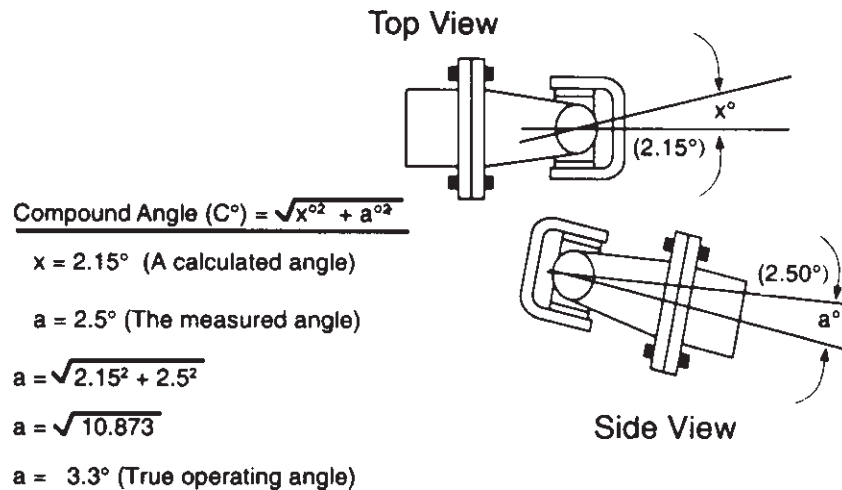
Installation Steps (cont.)

7. Measure and Order Driveline (cont.)

Operating Angles (cont.)

Compound Angles

Compound u-joint operating angles occur when the PTO shaft and compressor shaft are not in line when viewed from both the side and the top. The center lines must be parallel in both views. To determine this, you will need to calculate both the side view angle and the top view angle and combine them using the formula below to come up with the true u-joint operating angle.



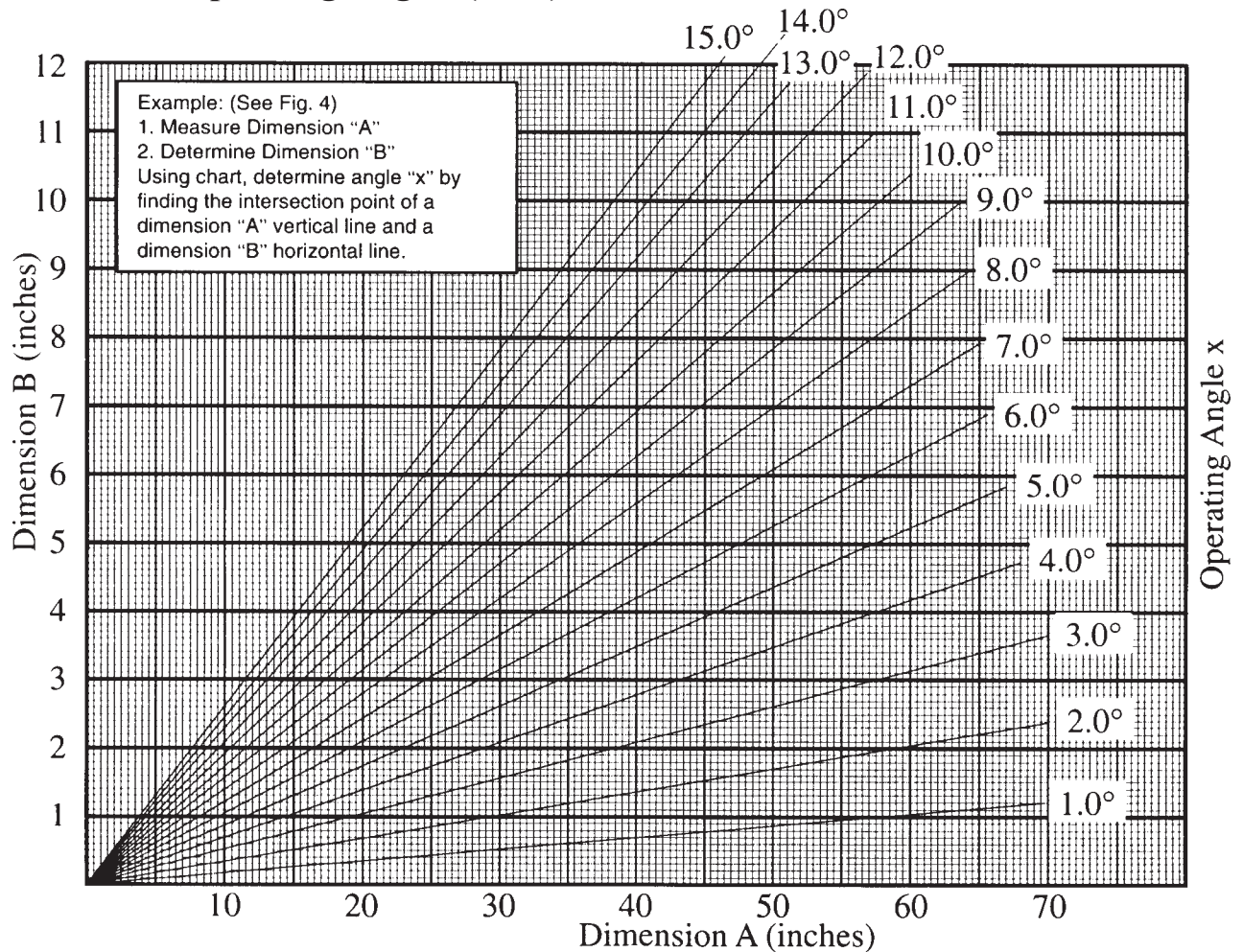
Now that you understand operating angles and how to calculate them, it is time to calculate the angles for this vehicle.

1. Begin by determining whether this truck needs a simple or compound angle calculation.
2. The next step is determining the slope of the driveline. The simplest way to calculate the slope is to measure the difference between the PTO shaft and compressor shaft from a common point. For example, to calculate the side view slope of a driveline, measure from the centerline of the compressor shaft to the ground. Then measure from the centerline of the PTO shaft to the ground. The difference between the two dimensions can be plugged into the following chart as Dimension B. The other piece of information you will need is the distance between the two shafts, which is Dimension A. With those two numbers you can find the slope of the driveline quite easily.

Installation Steps (cont.)

7. Measure and Order Driveline (cont.)

Operating Angles (cont.)



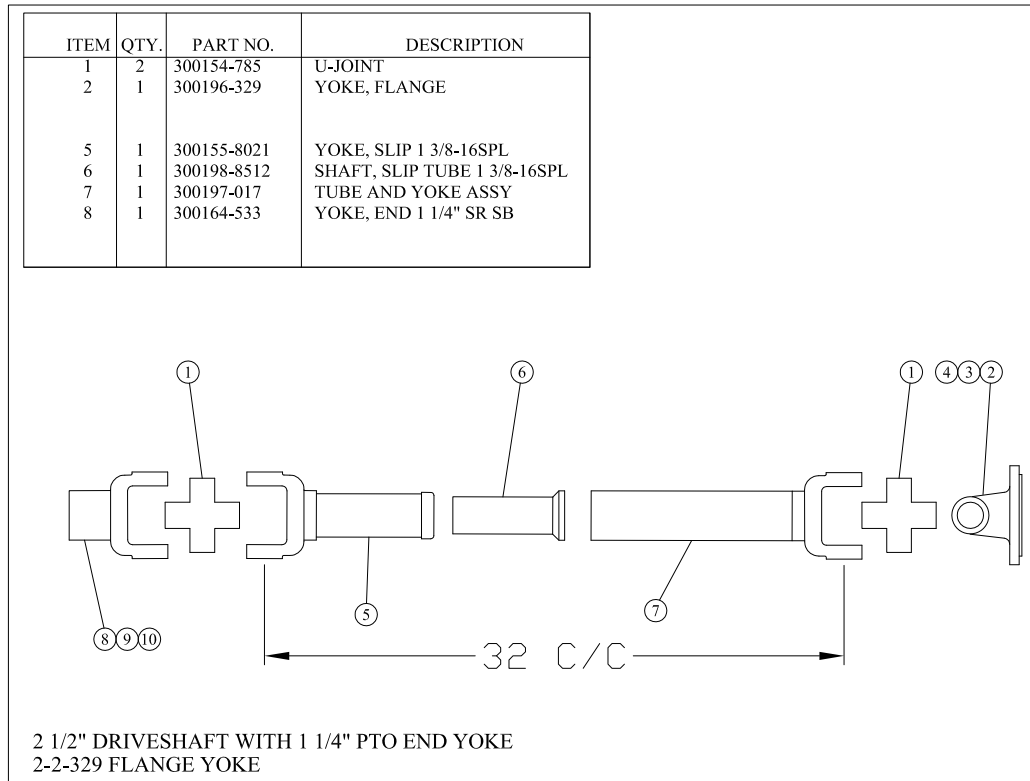
3. Now that you have the slope, you can factor in the PTO shaft angle to determine the operating angle.
4. If your operating angle is 7° or less, then you can continue ordering the driveline. If you are not in the range, you will need to remount the compressor assembly until you have a safe operating angle.

Installation Steps (cont.)

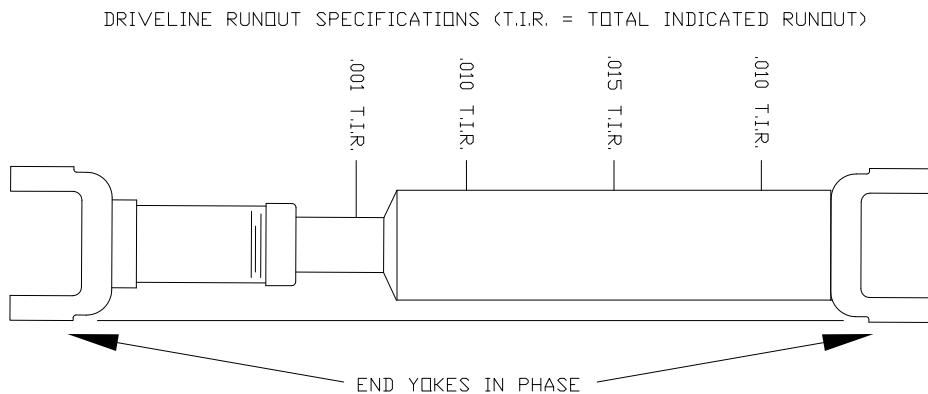
7. Measure and Order Driveline (cont.)

Ordering the Driveline

The next step is ordering the driveline from your local driveline shop. Most driveline shops will want to know the center to center distance at mid-slip. Shown below is a typical drawing provided to a driveline shop.



If you fabricate drivelines in house, the following chart shows the maximum allowable runout.



Installation Steps (cont.)

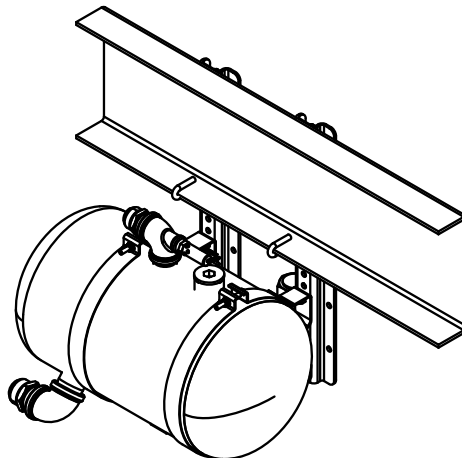
8. Mount the Sump Tank Assembly

The first step in mounting the sump tank is to determine the proper location on the frame rail. The sump tank can be mounted inside or outside the rails, but must be mounted horizontally with the relief valve out of sight while allowing easy access to the oil fill and sightglass. Once the location is determined, continue to the steps below:

WARNING

When mounting the sump tank the relief valve must be out of sight, shielded from public or user, in the event a high pressure release occurs.

1. The hose fitting hardware is hand tightened to the tank and will need to be removed and repositioned. Determine the proper direction of the top air outlet reducing tee, the bottom oil outlet tee, and the inlet elbow.
2. One at a time, remove each of the loose fittings, apply pipe sealant, and install on sump tank making sure that the fitting is in the proper position for the hose attachments.
3. The sump tank assembly comes with two EZ-mounting brackets. Position the first bracket in the proper location flush to the frame and mark where to drill the first 7/16" hole. The second 7/16" hole should then be marked 13.5" from the first hole, and they must be aligned horizontally.
4. Drill out both holes and attach the EZ-mounting brackets using the provided 3/8" x 1 1/4" bolt, (2) 3/8" flat washers, and 3/8" nyloc nut in each of the top holes. Then secure to the frame using the (2) 3/8" J-bolts, (2) 3/8" flat washer, and (2) 3/8" nyloc nuts. Be careful not to overtighten the J-bolts. They should be tightened to 13 ft-lbs.
5. Now place the two bands around the sump tank. Before tightening the bands, position the oil fill sightglass so that it will sit level to the ground once the sump tank is attached to frame.
6. Secure the bands to the EZ-mounting brackets in the highest available holes using the provided (4) 3/8" x 1" hex bolts, (4) 3/8" loc washers, and (4) 3/8" flat washers.
7. Finally, check to make sure the oil fill sightglass is level to ground. If it is not level, loosen the clamps on the bands and move the sump tank until the sightglass is level.



NOTICE

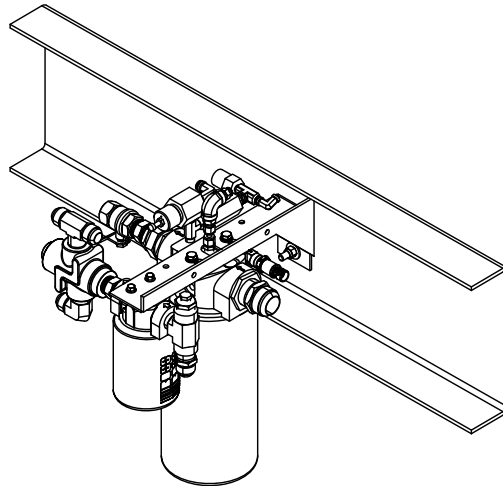
It is extremely important that the sightglass on the sump tank is level. An un-level mounting will create improper reading of fluid level in the sightglass.

Installation Steps (cont.)

9. Mount the Air Oil Manifold

To begin the air oil manifold installation, start by determining the proper location on the frame rail. The AOM needs to be mounted so the oil filter and coalescer canisters will remain vertical and easily accessible for replacement, but also be out of sight from public or user access. Also, make sure there is enough space to connect all hoses and tubes. The most common location is on the inside of the frame rail.

1. Once the best location for the AOM is determined, it can be secured to the frame using the attached bracket. Hold the bracket flush to the frame and mark the location of each hole.
2. Drill the two 7/16" holes into the frame.
3. Attach the bracket to the frame using the (2) 3/8" x 1 1/2" hex bolts, (4) 3/8" flat washers, and the (2) 3/8" nyloc nuts provided.
4. Check to make sure the oil filter and coalescer are vertical. If they are not vertical, loosen the hardware, straighten the canisters, and then retighten.



10. Mount the Cooler Assembly

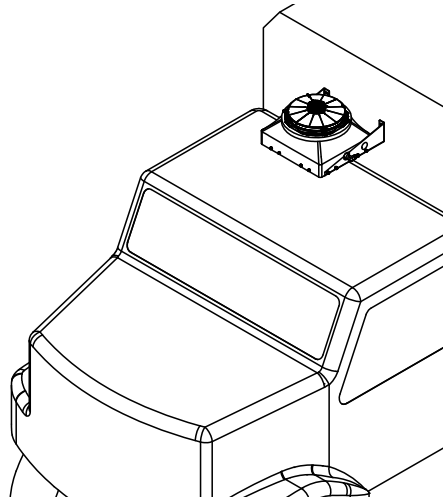
Finding the best location for the cooler assembly is extremely important. It must be located where it will draw ambient air through the cooler core, and so the hot exhausted air will not recirculate. There must be a minimum of 6" between the mounting surface and cooler core to prevent intake restriction. There must be a minimum of 12" between the fan and other surfaces to prevent recirculation. The fan is designed to pull air through the cooler core and across the fan blades. The best location for the cooler is cantilevered off the front bulkhead of the body above the cab. This location allows ambient air to the cooler and the air discharge to blow straight up to prevent recirculation. When determining the location make sure you consider hose routing to and from cooler, room to make connections, and consideration for securing hoses in place. The wire harness route should also be considered.

1. Once the best location has been determined, determine the correct sides of the cooler for installing the mounting brackets.
2. Remove the (4) bolts on the side of the cooler assembly. Place the mounting bracket in position and install with the (4) bolts that were just removed.

Installation Steps (cont.)

10. Mount the Cooler Assembly (cont.)

3. Repeat the process on the opposite side, except on one of the bolts install the weatherproof fan relay. Make sure the relay connection points down to prevent moisture from damaging the relay.
4. Place the cooling assembly into position and mark the holes.
5. Remove the cooling package and drill (4) 3/8" holes where marked.
6. Install the cooling package using the (4) 5/16" x 1" whiz bolts and (4) 5/16" whiz nuts.
7. Install the (2) 3/4" JIC elbows on each port of the cooler.



NOTICE

When installing the fan, the ground wire must be connected to a good chassis ground separate from other Boss component grounds.

11. Mount the Air Filter Assembly

The next step is determining the location of the air filter assembly. The air filter assembly must also be exposed to ambient air only. The best locations are the front bulkhead or on top of a body cabinet. Mounted on the air filter is a service indicator that will need to be checked ever 25 hours. It is very important to put this in an easy to access location for viewing and maintenance. When determining location make sure you consider hose routing from the air filter to the airend along with connecting and securing the intake hose. The kit is shipped standard with a 10' piece of intake hose. Anything longer than that will need to be ordered. A single piece of hose must be used; do not attempt to couple 2 or more pieces of hose together.

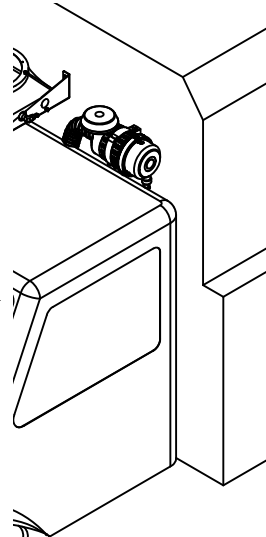
NOTICE

Ensure the intake air filter is mounted away from the engine exhaust or any area that may ingest combustible fumes or vapors and any other potential heat sources.

Installation Steps (cont.)

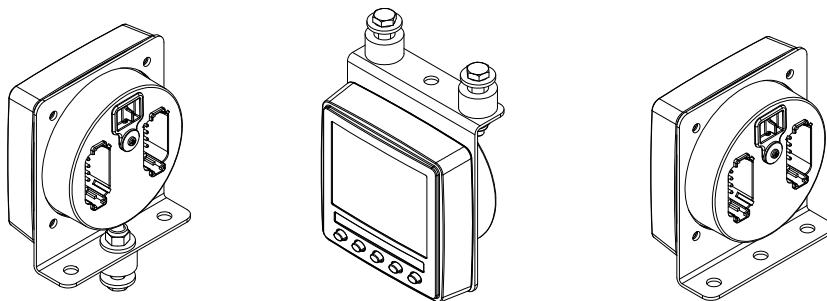
11. Mount the Air Filter Assembly (cont.)

1. Once the location has been determined, install the rain cap and mounting band onto the air filter.
2. Place the air filter assembly into position and mark the holes.
3. Drill (2) 3/8" holes.
4. Install the air filter assembly using the (2) 5/16" x 1 1/2" bolts, (4) 5/16" flat washers, and (2) 5/16" nyloc nuts.
7. Install one side of the k-flex intake hose to the air filter. Be sure to put clamp on hose prior to placing on filter, otherwise you will have to feed the clamp all the way down the hose.
8. Tighten clamp and route hose to the compressor assembly intake. Take care to keep k-flex hose away from any heat source.
9. Measure the amount of k-flex hose required and cut to length.
10. The k-flex will attach after the compressor intake valve has been primed.



12. Mount the B-CAN Assembly

It is very important to choose the proper location of the B-CAN assembly. Since the B-CAN monitors and controls the compressor and auxiliary systems, it is important that the B-CAN is easily accessible. Also, on the back of the B-CAN is a USB port for updating the unit. The unit is shipped with a rotatable angle bracket and mounting spacers. Preferred location of the B-CAN is inside the cab of the vehicle. Shown below are just a few ways the B-CAN can be mounted.



1. The first step is installing the mounting bracket you have chosen to the B-CAN. (If mounting into the dash, the mounting bracket can be used as template for cutting the holes.)
2. Mark and drill the hole(s) required for mounting.
3. Install and tighten the mounting hardware.

NOTICE

When considering the location and mounting of the B-CAN, the wire harness routing and interfaces to the vehicle diagnostic connector should be planned.

Installation Steps (cont.)

13. Mount Additional Components

At this point in the installation, additional components should be considered. Here, the installer is responsible for deciding which items need to be installed. This includes, but is not limited to, hose reels, service valves, OSHA valves, moisture traps, FLRs, deicers, and/or additional components.

 **WARNING**

A check valve must be installed after the minimum pressure orifice if installing sandblasting equipment, deicers, lubricators, or any other system involving mixing a substance with compressed air. This valve prevents back flow into the Boss compressor system at shutdown or interrupted compressor operation. The check valve should have a maximum pressure drop of 2 PSIG while operating and a capacity equal to the compressor assembly desired output. Follow additional instructions supplied by the auxiliary equipment manufacturers. Failure to do so may cause personal injury, death, or damage to equipment and products.

- If installing a hose reel, the plumbing must be in the following order:
 1. Minimum pressure orifice (integrated in AOM)
 2. OSHA valve (optional)
 3. Service valve (included)
 4. FLRs (optional)
 5. Hose reel (optional)

14. Install Hoses and Tubing

The standard hose and tubing kit supplied with the 8060 UBI PTO compressor system consists of a generous amount of bulk hose and tubing in various sizes, colors, and end fittings. The fittings were selected for ease of assembly in the field. If the hose or tube lengths provided are not long enough, please contact Boss Industries, Inc. for additional hose and tubing. When installing the hoses and tubing, follow these guidelines:

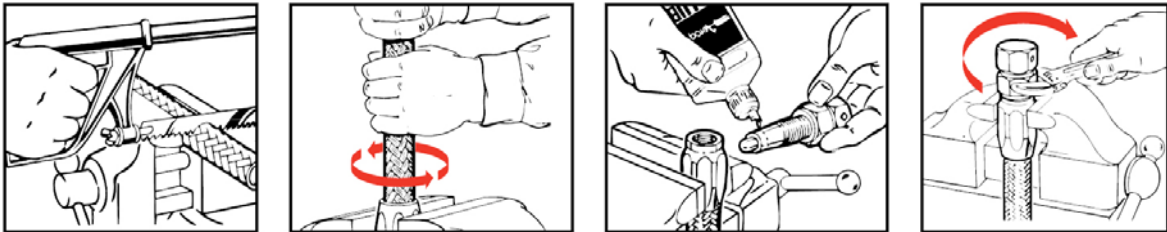
1. Be sure to route all hoses and tubing so that they do not restrict flow in any manner or kink.
2. Avoid contact to exhaust systems and any other hot surface.
3. Secure hoses and tubing with tie downs or clamps.
4. Install a protective sleeve in any area where chaffing or rubbing may occur.
5. Never run hoses or tubing around moving parts.
6. Check that all hose and tubing connections are tight and secure.
7. Route hoses to shield users and the public in the unlikely event of failure.

Installation Steps (cont.)

14. Install Hoses and Tubing (cont.)

To simplify installation, several of the hoses already have crimped hose connectors installed for your convenience. The hoses will need to have reusable ends installed on the opposite end once the hose is cut to length. Below is a simple procedure on how to prepare the hoses for installation.

1. Determine the necessary hose length and mark the hose.
2. Place the hose in a vice just tight enough to prevent it from turning. Cut hose square with fine tooth hacksaw or cutoff wheel and clean hose with compressed air.
3. Screw socket counterclockwise onto hose until it bottoms.
4. Lubricate fitting threads and screw clockwise into socket and hose, leaving 1/32" to 1/16" clearance between nipple box and socket.
5. Clean assembly by blowing with compressed air.

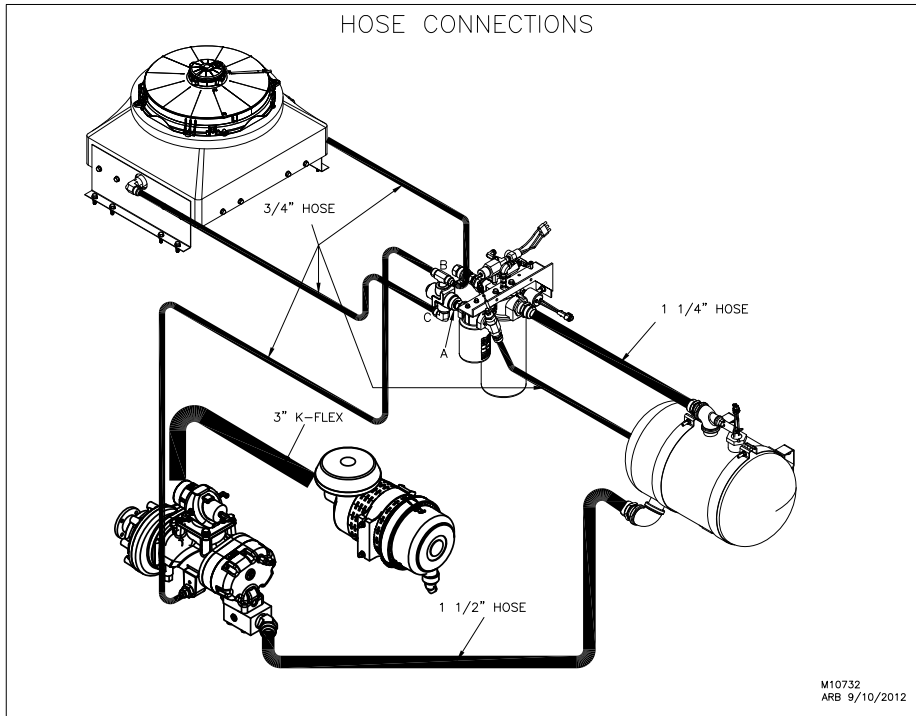


Now that you understand how to run the hoses and tubing and install the reusable ends, you are ready to start the installation.

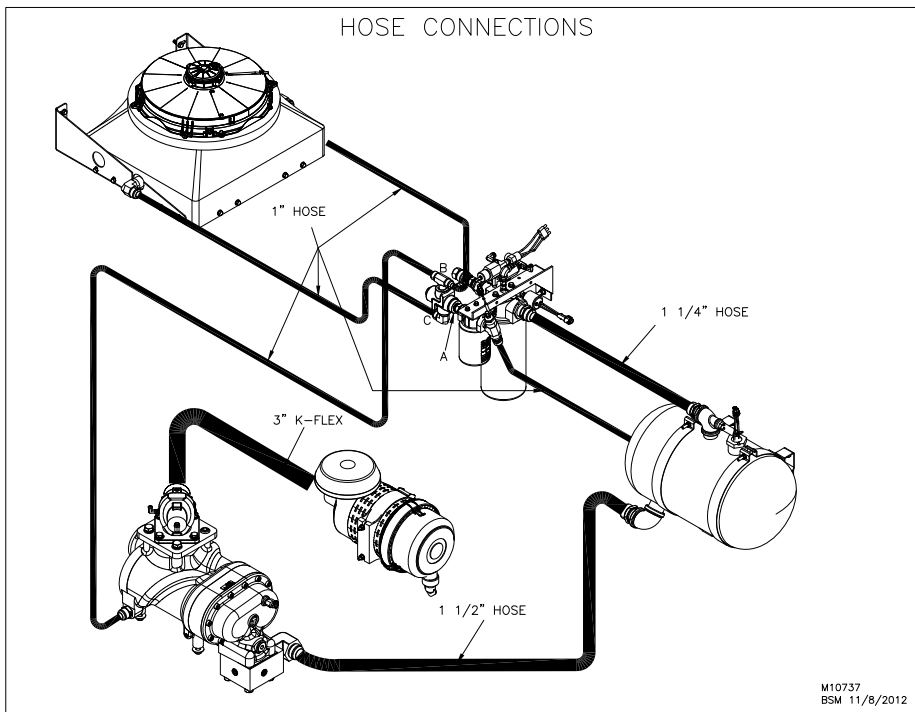
On the following 3 pages, you will find instruction for installing the hoses and tubing for the 8060UBI T10G, RSC9, and T14D. The T10G and RSC9 have identical hose kits, but the T14D is a larger airend and requires more oil flow. For this reason, some of the hoses are larger to allow the proper amount of oil to flow through them. Please verify which kit you have before continuing the installation. The T14D hose kit will include 1" hose for the oil lines, while the T10G and RSC9 will include 3/4" hose for these lines.

Installation Steps (cont.)

T10G/RSC9



T14D



Installation Steps (cont.)

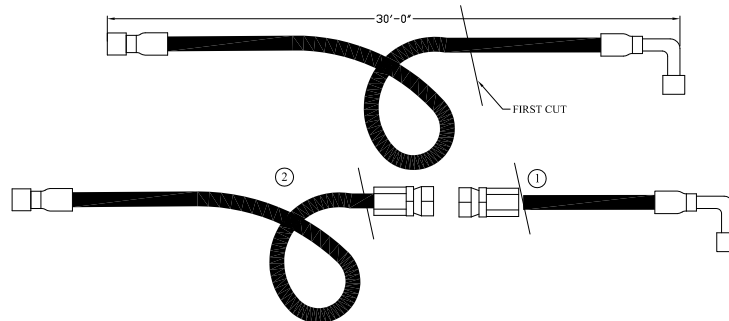
14. Install Hoses and Tubing (cont.)

T10G/RSC9

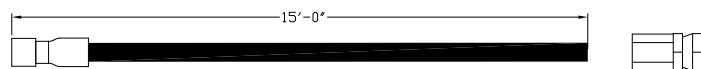
1. Locate the 1 1/2" hose with a straight fitting crimped on one end. This line runs from the compressor discharge block to sump tank inlet. Cut hose to length and install 1 1/2" reusable end. Install the finished hose.



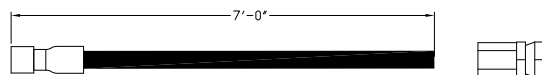
2. Locate the 3/4" hose with a straight fitting crimped on one end and an elbow fitting crimped on the other end. This hose will be cut and used for 2 hoses, so measure carefully. The hose labeled #1 below will have the reusable end connected to the tee fitting on the 'B' port of the thermal valve and the crimp elbow connected to the female injection port on the side of the compressor. The hose labeled #2 will connect the tee fitting on the 'B' port of the thermal valve to one side of the cooler assembly.



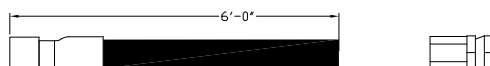
3. Locate the 3/4" hose 15' long with a straight fitting crimped on one end. This hose runs from the elbow on the 'C' port of the thermal valve to the other side of the cooler assembly.



4. Locate the last 3/4" hose 7' long with a straight fitting crimped on one end. This hose runs from the tee on the bottom of the sump tank to the inlet of the oil filter.



5. Locate the 1 1/4" hose with a straight crimp fitting on one end. This hose runs from the fitting on the top of the sump tank to the inlet of the coalescer.



Installation Steps (cont.)

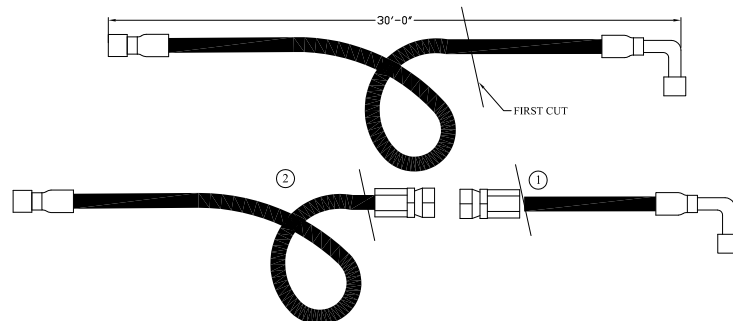
14. Install Hoses and Tubing (cont.)

T14D

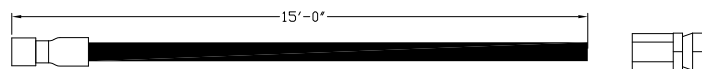
1. Locate the 1 1/2" hose with a straight fitting crimped on one end. This line runs from the compressor discharge block to sump tank inlet. Cut hose to length and install 1 1/2" reusable end. Install the finished hose.



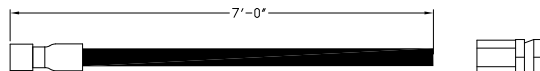
2. Locate the 1" hose with a straight fitting crimped on one end and an elbow fitting crimped on the other end. This hose will be cut and used for 2 hoses, so measure carefully. The hose labeled #1 below will have the reusable end connected to the tee fitting on the 'B' port of the thermal valve and the crimp elbow connected to the female injection port on the side of the compressor. The hose labeled #2 will connect the tee fitting on the 'B' port of the thermal valve to one side of the cooler assembly.



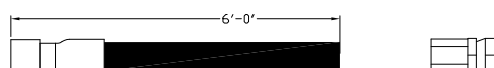
3. Locate the 1" hose 15' long with a straight fitting crimped on one end. This hose runs from the elbow on the 'C' port of the thermal valve to the other side of the cooler assembly.



4. Locate the last 1" hose 7' long with a straight fitting crimped on one end. This hose runs from the tee on the bottom of the sump tank to the inlet of the oil filter.



5. Locate the 1 1/4" hose with a straight crimp fitting on one end. This hose runs from the fitting on the top of the sump tank to the inlet of the coalescer.



Installation Steps (cont.)

14. Install Hoses and Tubing (cont.)

These are all the hoses supplied in the standard 8060 UBI PTO air compressor system. Install any additional hoses now for the additional components you have added.



Before installing any additional hoses onto the compressor system ensure they meet SAE standards. Hoses should be exceeding SAE 100R2 with an operating temperature of at least 300° F.

When installing the tubing follow these guidelines:

1. Be sure to route all tubing so that they do not restrict the flow in any manner or kink.
2. Avoid contact to exhaust systems and any other hot surfaces.
3. Secure tubing with tie downs or clamps where needed.
4. Install a protective sleeve in any area where chaffing or rubbing may occur.
5. Never run tubing around moving parts.
6. Check that all tubing connections are tight and secure.
7. Route tubing to shield users and the public in the unlikely event of failure.

The procedure for installing tubing is as follows:

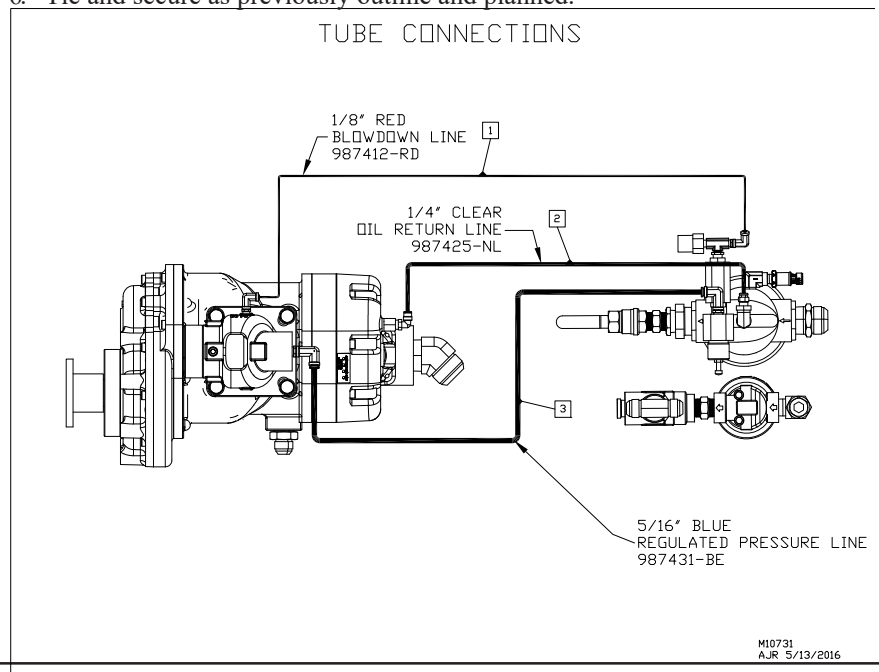
1. Determine the necessary length and mark the tube.
2. Cut the tube using a razor edged plastic tubing cutter. When placing the cut edge of the cut tube on a flat surface, the cut edge should be perpendicular to the flat surface.
3. Route the tube as previously planned and push the tube into the push-connect fitting. Push with enough force to fully insert the hose into the fitting.
4. Slightly pull on the tube in a reverse motion checking to see that it is locked into place.
5. Complete for all tubes indicated in the illustration.
6. Tie and secure as previously outline and planned.



Straight Cut End



Angle Cut End



Installation Steps (cont.)

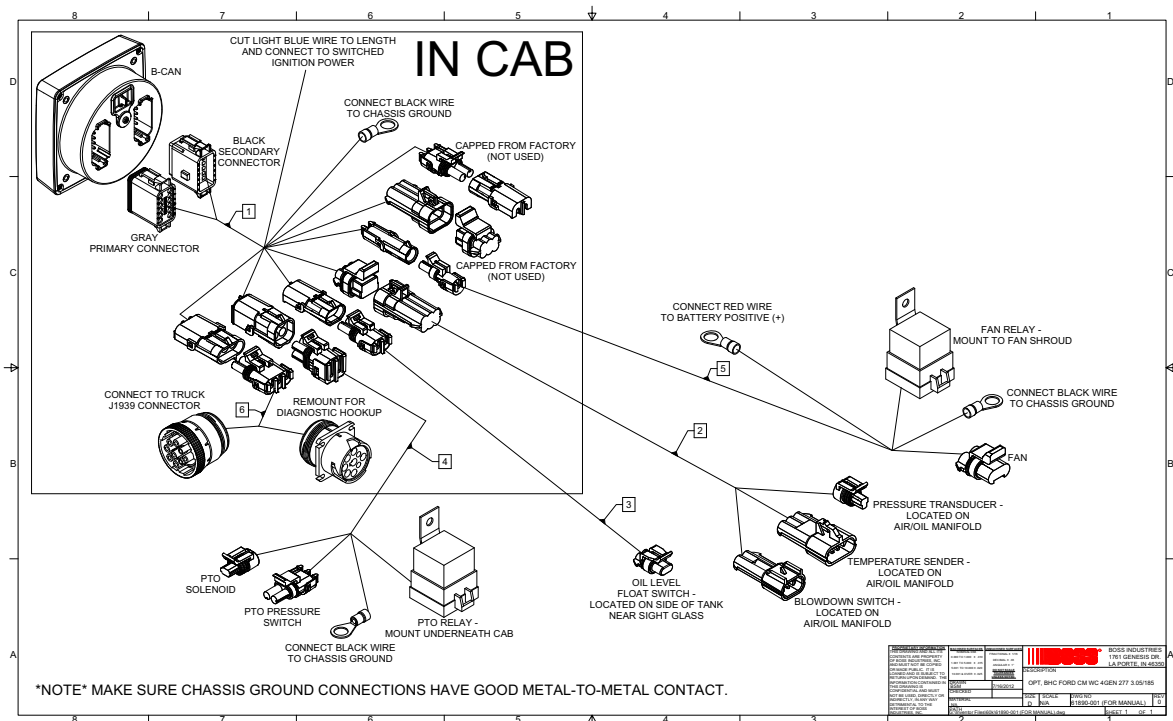
14. Install Hoses and Tubing (cont.)

Once complete, you will need to install the tubing.

1. A 1/4" opaque (white) tube starts at the top of the coalescer element pick up tube and runs to the oil return line port on the rear of the compressor.
2. A 5/16" blue tube starts at the regulator valve and runs to the elbow opposite the k-flex hose on the compressor intake valve.
3. A 1/8" red tube starts at the blowdown valve and runs to the fitting 90° from the k-flex hose on one side of the compressor intake valve.

15. Install the Wiring Harnesses

Once all the hoses and tubing are installed, you can now install the wiring harnesses. These harnesses are designed for your exact system. A diagram is included in the back of this manual for your specific vehicle. Harness ends will only plug in to their correct location, allowing for less complications and confusion during installation. We have included a sample drawing for reference:



Installation Steps (cont.)

15. Install the Wiring Harnesses (cont.)

As with all other hose and tubing, route wires away from sharp edges that may chaff or cut the wires. Keep wire harnesses away from hot surfaces and moving parts.

1. Locate the Main Trunk harness. Install the (2) 12-pin connectors in the back of the B-CAN. Connect the ring terminal to a good chassis ground (must be bare metal). Connect the Light Blue wire to switched ignition power capable of handling 10 amps.
2. Identify the Sender Connector harness. Plug in the connectors to the blowdown switch, temperature sender, and pressure transducer on the Air Oil Manifold. Route the harness down the frame rail to the 6-pin mating connector on the Main Trunk harness and connect.
3. Identify the PTO harness. Plug in the PTO pressure switch and PTO solenoid. Connect the ring terminal to a good chassis ground. Mount the weatherproof relay with the wires pointing down. Run the harness to the mating 4-pin connector on the Main Trunk harness and connect.
4. Identify the Fan harness. Plug the mating connector into the fan motor. Mount the weatherproof relay with the wires pointing down. Ground the black wire to a good chassis ground separate from other Boss component grounds. Do not extend this ground wire. Run the large red wire with the circuit breaker to battery positive. Lastly run the 1-pin connector to the Main Trunk harness and connect.
5. Locate the CAN harness. Unmount the 9-pin diagnostic connector on the chassis. Plug the vehicle connector into our mating end and mount our diagnostic connector in its place. Route the harness to the mating 3-pin connector on the Main Trunk harness.
6. Seal and grommet any openings you may have made in the cab and body.
7. Use wire ties and clamps to secure harnesses once routed and all connections have been made.

16. Fill the System with Fluids

Boss Industries, Inc. recommends Boss Shieldworks Compressor Oil for filling the system. The most important part of filling the compressor system is ensuring you are using the proper lubricant.

If you choose not to use the Boss Industries, Inc. recommended lubricant, the following are general minimum characteristics for a rotary screw lubricant:

PROPERTIES

	Test Method	BOSS ShieldWorks
Color		Colorless
Clarity		Clear
ISO Viscosity Grade	ISO 3448	50
Viscosity @ 40°C	ASTM D445	50.0 cSt
Viscosity @ 100°C	ASTM D445	7.55 cSt
Viscosity Index	ASTM D2270	114
Pour Point	ASTM D5950	-39°C (-38°F)
Density @ 25°C	ASTM D1298	0.86 g/cm ³
Flash Point	ASTM D92	258°C (496°F)
Fire Point	ASTM D92	286°C (547°F)
Total Acid Number	ASTM D664	0.4 mgKOH/g
Rust Prevention (24h)	ASTM D665B	Pass
Copper Strip Corrosion	ASTM D130	Shiny 1B
Oxidation Stability by OPV	ASTM D2272	1419 min
Hydrolytic Stability	ASTM D2619	
Weight Change of Cu		-0.025 mg/cm ²
%ΔViscosity @ 40°C (D445)		-0.19%
%ΔTAN (D974)		-0.12 mgKOH/g
Total Acidity of Water layer		5.23 mgKOH
% Insolubles		0.001%

Installation Steps (cont.)

16. Fill the System with Fluids (cont.)

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 you choose not to use the recommended Boss Shieldworks Compressor Oil . The lubricant supplier's recommendation must, therefore, be based upon not only the previously shown general characteristics, but also upon his or her own knowledge of the suitability of the recommended lubricant in PTO helical screw type air compressors operating in the particular environment involved.

CAUTION

Never mix different types or brands of lubricants due to the possibility of dilution of the additives or a reaction between additives of different types.

DANGER

Since the system has not been run, it should not be pressurized. If for some reason the unit has been started prior make sure no pressure is in the system and all components have cooled to ambient temperature before continuing.

1. Remove the fill cap on the sump tank.
2. Pour lubricant into the sump tank until it just fills the sightglass. This level will drop after the compressor system has run, due to the volume that will stay in other parts of the system.
3. Replace the fill cap and tighten.
4. Remove the blue cap on the intake valve, push the intake poppet in, and pour 1 quart of lubricant into the valve. This will prime the system to ensure proper lubrication during initial startup. Dispose of the blue plastic cap and install k-flex hose on intake valve when finished.

17. Install the Driveline

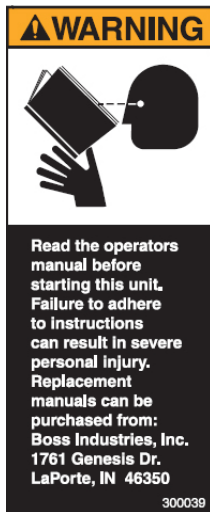
Once the system has been filled with fluids, it is now time to install the compressor driveline.

1. Begin by checking the finished driveline to verify it is made to the correct dimensions and the end yokes are in phase.
2. Push the driveline together until you are at the driveline's minimum length. Apply a film of non-seizing compound to the PTO shaft. Attach the end yoke to the PTO shaft using the screw and wire provided. Feed wire through hole in set screw and tightly wrap wire once around end yoke. Twist ends together and cut off excess wire. Tighten the set screw to 26 ft-lbs.
3. Extend the driveline until the flange yoke meets up with the compressor flange on the input shaft. Secure flanges together with the (4) 3/8" fine thread bolts and (4) 3/8" nyloc nuts, tightened to 47 ft-lbs.

Installation Steps (cont.)

18. Install the Decals

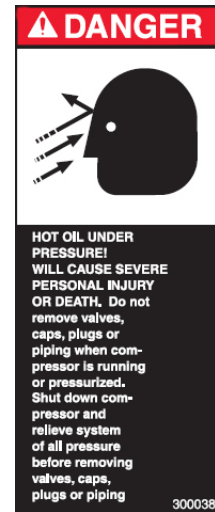
A full complement of warning decals are supplied with each 8060 UBI PTO compressor system. These decals must be affixed to the vehicle after it has been painted, trimmed, and undercoated. The decals shall be placed to be clearly visible to the operator and service personnel. They must be attached prior to placing the vehicle into service. The following are pictures and recommended locations of the included decals.



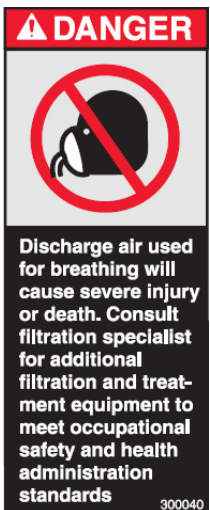
To be placed on visor or dash near B-CAN.
(PN 300039)



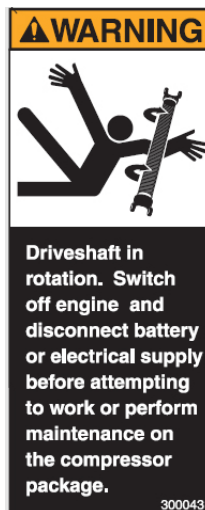
To be placed near cooler assembly fan.
(PN 300041)



To be placed near sump tank fill cap.
(PN 300038)



To be placed near air service valves.
(PN 300040)



To be placed on body near compressor assembly.
(PN 300043)



To be placed near air service valves.
(PN 300042)

Installation Steps (cont.)**18. Install the Decals (cont.)**

To be placed on body near sump tank fill cap.
(PN 310699)



To be placed on inside of driver's side door frame.
(PN 305761)



To be placed on or near B-CAN, so it is seen on every start up. (PN 310071)

19. Initial Setup

Your 8060 UBI PTO compressor system installation is almost complete. These are the final steps before starting your system. These steps should be done prior to removing the vehicle from the bay. You will be directed to move your vehicle soon.

1. Fill out System Information and Pre-test Inspection sections on the 8060 UBI Install Test Report located near the end of the Installation Section.
2. Check to verify that all the compressor related items originally ordered have been installed or are ready to ship with the vehicle.
3. Vacuum inside of vehicle and all areas (including framework and under hood) that have metal or plastic shavings and wipe all fingerprints off vehicle.
4. Check all assemblies, clamps, fittings, drivelines, nuts, and bolts to ensure they are properly tightened and secured to the vehicle. This is a very critical area of inspection and the vehicle should not be moved until this inspection is complete.
5. Check to make sure all wires are loomed and tied up and out of the way.
6. Check to make sure all service valves are closed.
7. Check vehicle fluids to ensure 2-3 hours of operation.

Once you have finished the above steps, it is now time to move your vehicle to a safe location for running your system. Follow your company procedure on the proper testing location. Your vehicle will need to be running for the following steps.



WARNING

Before continuing be sure to follow all company policies and procedures, and Boss procedures for running the compressor including chocking the wheels, setting the park brake, and putting the truck in park or neutral.

Installation Steps (cont.)

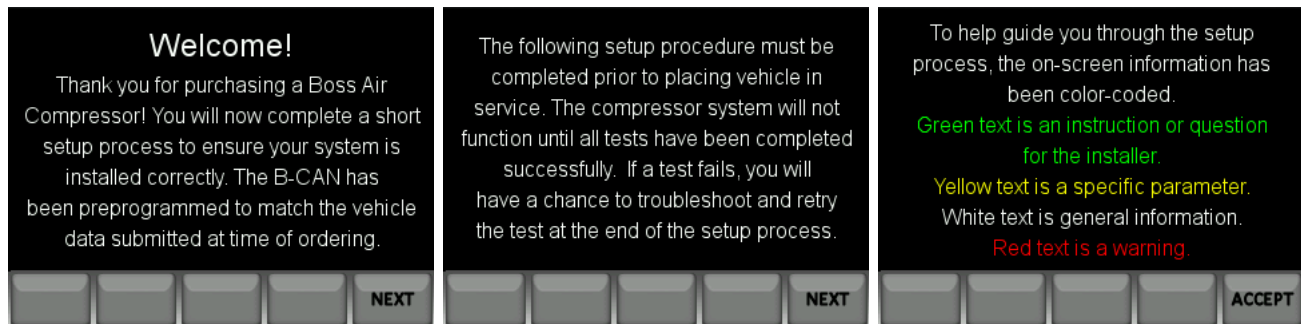
19. Initial Setup (cont.)

- Once the vehicle is in the proper location, start the vehicle and follow the B-CAN's on-screen display that will guide you through the rest of the setup. The following steps are for reference only and may not be applicable in your exact setup.

NOTICE

The B-CAN is not a touch screen unit. To operate, use the buttons below the screen.

- The first screens that you will see are the Welcome Screens. They will give you a quick overview of the system and the setup process. It is important to note the setup process is color coded.
 - Green Text = Instruction or question for the installer
 - Yellow Text = Specific parameter
 - White Text = General information
 - Red Text = Warnings



- The next screen after the Welcome Screens is the Service Sign-in Screen. Using the Up, Down, Left, and Right arrow buttons, enter your code. The Up arrow toggles upwards through the numbers, while the Down arrow toggles downward through the numbers. Once you have chosen the number the Right arrow moves right to the number space, while the Left arrow will move you back to the previous number space. Once you have entered the code the right arrow will change to ACCEPT. Your department manager will have your service code. If unavailable, call Boss Industries, Inc. Press the ACCEPT button when finished. If the Sign-in Confirmation Screen is correct, press YES to continue. If it is incorrect, press NO and re-enter your code.



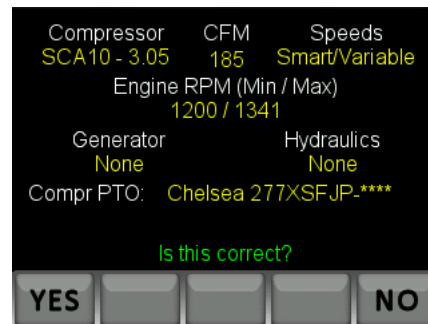
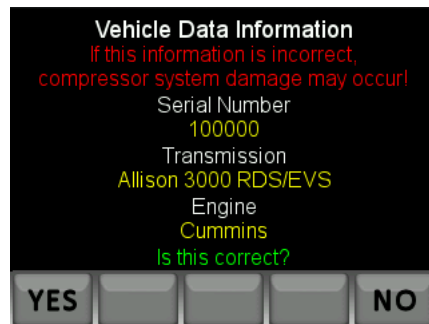
Installation Steps (cont.)

19. Initial Setup (cont.)

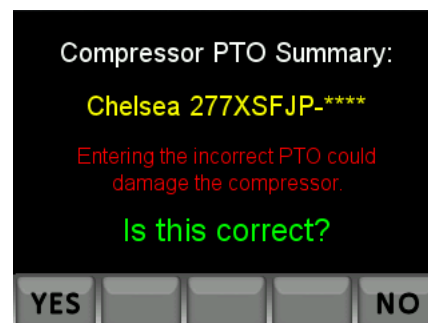
- Once signed in, the next step is to verify the vehicle and system data shown is correct. If incorrect information is shown, press the NO button and contact Boss Industries, Inc. using the contact information provided on the screen. If you are sure everything is correct, press the YES button.

⚠ WARNING

Wrong information may cause the 8060 UBI PTO compressor system to operate in an unsafe manner. If any information is not correct, contact Boss Industries, Inc. and do not continue with the setup.



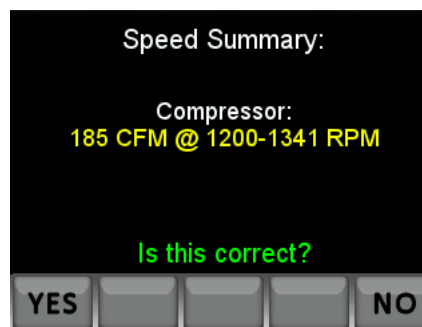
- If the PTO was provided by Boss Industries, Inc. this step will not be shown, and you can skip to the next step. If you provided the PTO yourself, you will need to select the option matching the exact model number of the PTO. Navigate through the on-screen display using the arrow buttons and choose the PTO Manufacturer and PTO Model Number. You will then come to the confirmation screen, if confirmation screen is correct push the YES button. Pressing the NO button will restart this step.



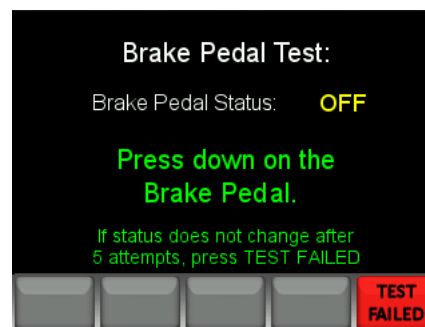
Installation Steps (cont.)

19. Initial Setup (cont.)

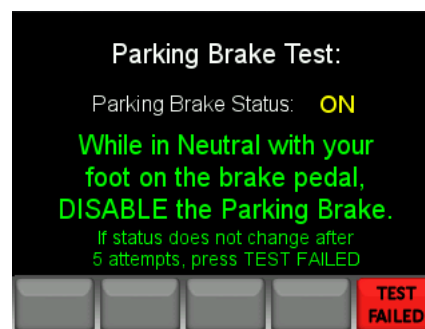
13. Once the PTO is known, the next step is selecting the desired CFM output. This number can be toggled by the CFM or by the Engine RPM. You will only be able to select a setting that is within safe operating parameters. Use Right and Left arrow keys to select either CFM or RPM. The selection will flash on the screen, and you can then use the Up and Down arrow buttons to select the parameter. For example, if you want to select 160 CFM use the Left or Right arrow buttons to get CFM to start flashing. Once flashing use the Up and Down arrow buttons until you toggle to 160 CFM. Then press NEXT button to continue and you will see a confirmation screen. If correct press the NEXT button.



14. All of the programming parameters are finished now. Next the B-CAN will conduct system tests. The first test that will be performed is to ensure the B-CAN recognizes the vehicle's brake pedal. Following the on-screen display, press and release the brake pedal. If the "Brake Pedal Status" does not change or does not function, press TEST FAILED button. If everything works properly a confirmation screen comes up and you will need to press the NEXT button to continue.



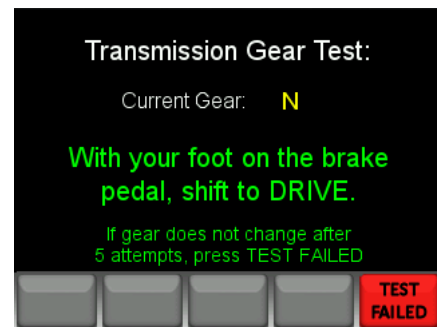
15. The next test is to ensure the B-CAN recognizes the vehicle's parking brake. Following the on-screen display, while in Neutral or Park and your foot on the Brake Pedal, disable the parking brake. If the "Parking Brake Status" does not change or does not function, press TEST FAILED button. If everything works properly, a confirmation screen comes up asking you to engage the parking brake. Once engaged, the B-CAN will ask you to press the NEXT button to continue.



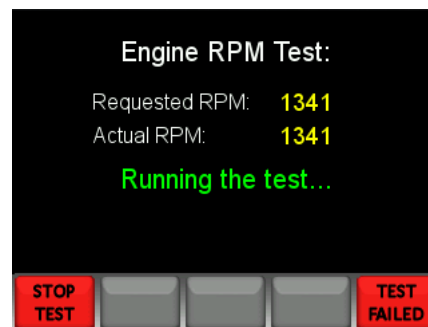
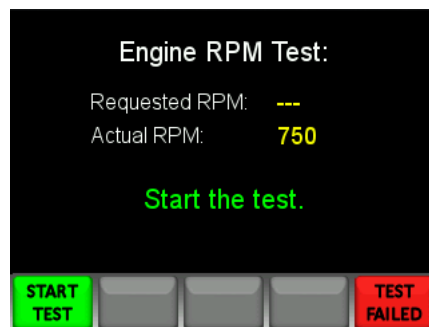
Installation Steps (cont.)

19. Initial Setup (cont.)

16. Once that test is complete, the B-CAN must verify it can read the transmission current gear. Following the on-screen display, with your foot on the brake pedal, shift the vehicle to Drive. If the “Current Gear” does not change or does not function, press TEST FAILED button. If everything works properly, a confirmation screen comes up asking you to shift back to Park or Neutral. Once the B-CAN recognizes you have shifted back, you will need to press the NEXT button to continue.



17. The next test ensures the B-CAN can control your engine speed. Leave vehicle in neutral or park as indicated and make sure parking brake is engaged. Press the green START TEST button and your engine speed will automatically elevate for 15 to 20 seconds. If the “Actual RPM” does not change or does not function, press TEST FAILED button. If everything works properly, the test will finish on its own and ask you to press the NEXT button to continue.



Installation Steps (cont.)

19. Initial Setup (cont.)

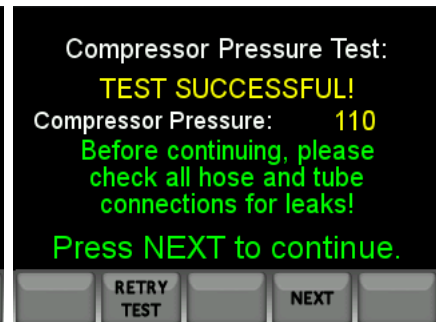
18. The next test after the engine speed test is the compressor fan test. Following the on-screen display, press the START TEST button, and check to see if the compressor cooler assembly fan is running. If the fan does not function, press the NO button. If fan operates properly, press the YES button. The B-CAN will ask you to press the NEXT button to continue.



19. The last test is to check the operating pressure of the system. The compressor will engage during this step and build to full system pressure. Be sure that the compressor oil is filled to the proper level. Ensure all service valves are closed. Press the START TEST button. Once maximum system pressure is determined, the system will shutdown. Check for leaks under the vehicle before continuing. Once complete, press the NEXT button to continue.



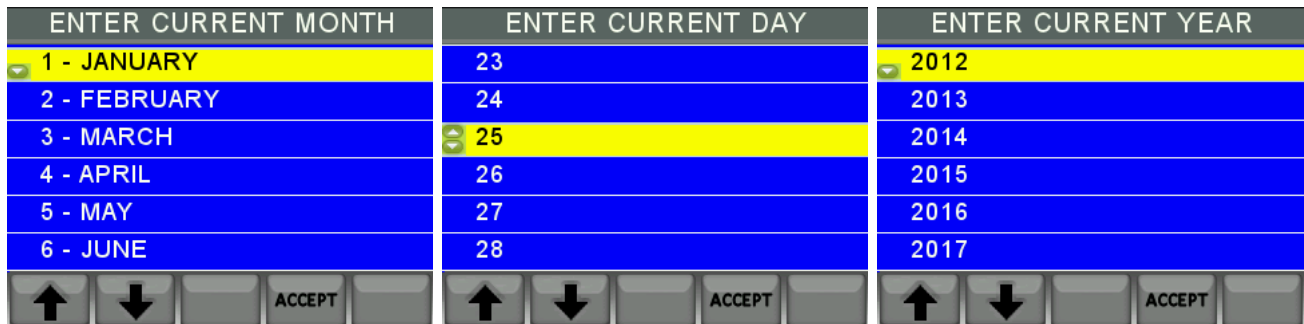
WARNING The 8060 UBI PTO compressor system will engage to ensure proper operation. Be sure all tools and personnel are out of the way and the system has been properly filled with fluids prior to starting the Operating Pressure Test.



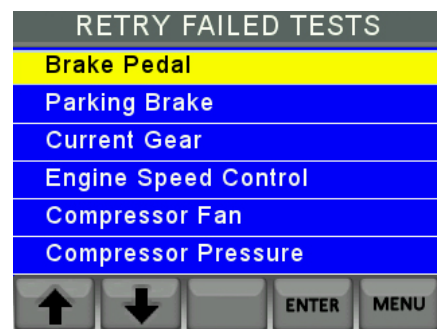
Installation Steps (cont.)

19. Initial Setup (cont.)

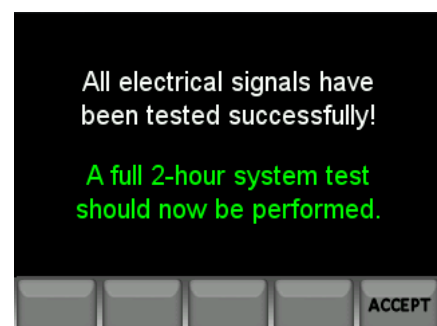
20. Now that all the system tests are complete, please enter today's date. You will be asked to select the Month, Day, and Year followed by a confirmation screen.



21. If for any reason a test was failed during the walkthrough process, a list of the failed tests will appear at this point. The 8060 UBI PTO compressor system will not operate until all of the tests have been completed successfully.



22. The last screen you should see is this success screen. At this point, the electrical signals have been verified, and you have passed the initial setup. The system is ready for its full 2 hour system test.



Installation Steps (cont.)

20. Final Test

Now that your system has passed the initial setup phase, it is very important the system runs through a final test. The recommended final testing time is 2 hours. This allows the system to reach full operating temperature. Verify your compressor lubricant level in the sump tank and ensure your vehicle has enough fuel for the full 2 hours of testing. Be sure to read the Operation section of this manual before continuing. Attached are the 8060 UBI Install Test Report and the Quality Check-off Sheet for 8060 UBI Installations. The two sheets should be filled out as part of the final testing.

8060 UBI Install Test Report

System Information

Sales Order # _____
Customer _____
Vehicle Model # _____
8060 UBI Serial # _____
Compressor Unit Serial # _____
Engine Serial # _____
Receiver Tank Serial # _____

Pre-Test Inspection

Visual Inspection

___ Interior cleaned
___ All metal shavings removed
___ Decals on and in proper location
___ Paint in good condition
___ Wiring tight and tie wrapped
___ Engine Oil Level
___ Compressor Oil Level

Mechanical Inspection

___ Hoses and control lines tight
___ Fan, guard, and radiator hoses tight
___ All fluids at proper level
___ Isolators checked and tight before and after test

Run Inspection

___ All hoses and fittings checked for leaks
___ All gauges working

Installation Steps (cont.)

20. Final Test (cont.)

Testing

Compressor Time (hr)	Compressor Pressure	Compressor RPM	Engine RPM	Volts (At Battery)	CFM@ 100 psi on Flow Meter
0					
0.5					
1					
1.5					
2					
Post Run Machine Off					

Quality check-off sheet for 8060 UBI Installations

Install PTO per Manufacturer Specification	High/Low Shaft
Backlash (if manual transmission)	
Adapter Gear Used (if manual transmission)	
Install Compressor and Mounting Foot	Y/N
Input Shaft Angle _____	
Install Drive Shaft	Y/N
Diameter _____	
Length _____	
Angle _____	
Installation of Remote Cooler	
Air Recirculation	Y/N
Cooler Guard Installed	Y/N
Cooler Does Not Rub or Chaff Other Components	Y/N
Oil Sump Tank	
Oil Fill Accessible	Y/N
Tank level with frame	Y/N
Oil Fill Extended	Y/N
Coalescer and Head	
Head Remotely Mounted	Y/N
Regulator Valve Accessible Once Body Installed	Y/N
Switches and Valves Accessible for Replacement	Y/N
Secured Inside Frame and Not Visible	Y/N
Oil Filter	
Mounted with Thermal Valve	Y/N
Room to Change Filter Element	Y/N
Secured Inside Frame and Not Visible	Y/N
Air Filter	
Installed	Y/N
Shipped Loose	Y/N
If shipped loose inlet hose, cap, brackets, and other mounting accessories in cab	Y/N
Hose and Tubing Installation	
Routed Away From Areas of Abrasion, Chaffing, Cutting, Hot Areas	Y/N
Hoses and Tubing Tie Wrapped or Clamped to Prevent Snagging	Y/N
Wiring Installation	
B-CAN Wired and Operating per Engineering Specifications	Y/N
Remote Fan Packages Wired and Functional	Y/N

Installation Steps (cont.)

20. Final Test (cont.)

1. Observe all company policies and procedures.
2. Start the vehicle.
3. Ensure all service valves are closed.
4. Engage the compressor and let system build to regulated pressure.
5. Open the service valve until the system pressure drops to 90 PSI.
6. Let system run for 30 minutes. During this time continue to check for leaks and verify the compressor cooler fan is running.
7. Close the service valve and let system run at regulated pressure for 30 minutes. During this time continue to check for leaks.
8. Open the service valve until the system pressure drops to 90 PSI and let system run for another 30 minutes. During this time continue to check for leaks and verify the compressor cooler fan is running.
9. Close the service valve and let system run at regulated pressure for the last 30 minutes. During this time continue to check for leaks.
10. Shut off the compressor and turn off the vehicle.
11. Once the system has cooled to ambient temperature, fully inspect the vehicle. Be sure to check all assemblies, clamps, fittings, drivelines, nuts, and bolts to ensure they are properly tightened and secured to the vehicle.
12. Installation of the Boss 8060 UBI PTO compressor system is now complete. Be sure to keep this version of the manual and only pass along the Operator's Manual to the Operator. This should be placed in the glove box or other accessible location.

Operation

Compressor General Overview

Operation of the 8060 UBI PTO compressor system should only be performed by trained operators. Carefully read the entire Operation section of this manual before attempting to operate the system. Be sure to follow all company policies and procedures.

Operation of the compressor is controlled with the first button on the B-CAN. The color and text of the button changes with the current state of operation. The possible states are:



A green ENGAGE COMPR button indicates all safeties have been met. Press this button to engage the compressor.



A yellow COMPR button indicates not all safeties have been met. Press this button to display the reason(s) engagement cannot occur.



A red STOP COMPR button indicates the compressor is currently engaged. Press this button to disengage the compressor.



A dark grey COMPR LOCKED button indicates the compressor is locked and service is required. Press this button to display the service that is needed.



NOTICE

If the system has a generator (GEN) or hydraulic pump (HYD) installed, the 5th button will be used to control it. Engagement is the same as for the compressor.

Inspection Prior to Moving Vehicle

At the start of your shift, before taking the vehicle to the job site in the morning, the following inspections should be performed. This simple one-minute check will help to ensure you don't drive to the job site with an inoperable compressor.

1. With vehicle on a level surface check to ensure the oil level is at least halfway on the sightglass. If not, see maintenance section for proper filling procedure.



**FILL OIL TO THIS
LEVEL IN
SIGHTGLASS**

Inspection Prior to Moving Vehicle (cont.)

2. Check air filter indicator to verify service is not required.
3. Locate the dust evacuator on the end of the air filter. Pinch the evacuator to make sure it is clear.
4. Check the system for oil and air leaks.
5. Start your vehicle and check B-CAN for any warnings (third button will be flashing). Notify service personnel if any warnings exist. The warnings must be corrected or the compressor will do a self lockout making it inoperable. See maintenance manual for correcting B-CAN warning indicators. Follow all associated safety procedures.
6. Make sure your vehicle has enough fuel to get to and from work site, including fuel for operation of compressor and any other engine powered equipment.

Job Site Considerations

When using the compressor all company policies and procedures should be followed along with all Boss Industries, Inc. safety procedures. The following are guidelines that should be followed when choosing the best location for running the compressor.

1. The vehicle should be parked on as level of a surface as possible. The compressor must not be operated at an angle that is more than 15°.
2. The vehicle's wheels should be chocked following company procedure.
3. Do not park the vehicle over high weeds or grass, flammable material, piles of debris, or anything that may impede operation of compressor or restrict air flow to compressor components.
4. Give considerations to traffic safety with respect to access of air compressor service valves, control hoses, and compressor equipment.

Starting the Compressor System

The following steps are for the routine start-up of the 8060 UBI PTO compressor system. This process does not supercede any company policies and procedures.

1. Read manual before operation.
2. Ensure all service valves are closed.
3. Set brakes per company procedure and chock wheels.
4. Ensure compressor button (button #1) is green and says ENGAGE COMPR. If button is yellow, press the button to see the reasons why the compressor is not ready to engage.
** NOTE - If vehicle is a Ford SuperDuty, a green button does not always mean compressor is ready to engage. Additional safety checks will be done when attempting to engage the compressor.*
5. Press the green ENGAGE COMPR button to start the compressor.
6. Verify engine speed elevates and compressor reaches normal operating pressure.
7. Service valves can now be opened for normal operation.



Stopping the Compressor System

The following steps are for the routine shutdown of the 8060 UBI PTO compressor system. This process is in addition to any company policies and procedures.

1. Ensure all service valves are closed.
2. Press the red STOP COMPR button and the compressor system will disengage. The compressor will begin blowing down (releasing pressure). It will take approximately 30-60 seconds until the compressor can be reengaged.
3. Check B-CAN for any warnings (third button label will be flashing) and alert service personnel if any exist.



Operating Multiple Components (if equipped)

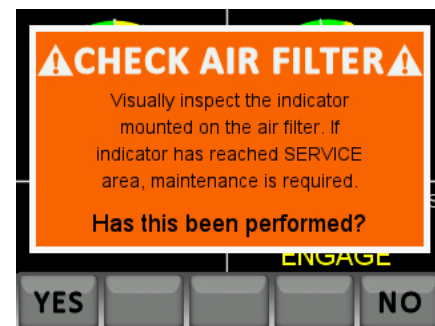
Operation of additional components is very similar to that of the compressor. The second component will use the fifth button for control. If a third component is installed, it will use the fourth button. The colors used for the button will be the same as for the compressor. If the additional component is gearbox or belt driven, the compressor must be engaged before the additional component will engage. If it has a separate PTO drive, it can be run separately from the compressor. Follow on-screen instructions for starting ancillary equipment controlled by the B-CAN.



Checking the Air Filter

Because the life of the Air Filter is dependent on the operating environment, the B-CAN requires the operator to visually inspect the air filter service indicator. After every 25 hours of compressor operation, the B-CAN will prompt you to check the air filter indicator. If you are unable to locate the air filter indicator, consult your service personnel for instructions on performing this check. The procedure for checking the air filter is listed below:

1. Locate the air filter and check the indicator to see if the yellow indicator section has reached the red SERVICE area.
2. If it has reached the red SERVICE area, notify your service personnel for filter replacement.
3. After checking the indicator, select the YES button on the B-CAN to hide the notification for another 25 hours.
4. Since the air filter element will have a service life that is heavily based on the environment, the B-CAN notification is simply a reminder to check the filter indicator. For this reason, the decision to replace the air filter element should be based on the filter indicator, not on the B-CAN notification.



Shutdowns

There are two compressor parameters that are constantly being monitored and are logged in an event history. If the compressor system reaches a point outside of the monitored parameters, the compressor will shutdown. The two compressor shutdowns are:

- Compressor High Temp
- Compressor High Pressure

The system will shutdown if any of these safeties are outside of the acceptable range during operation. If a shutdown occurs the B-CAN will force you to acknowledge it by entering a random 4 digit code using buttons 1 through 4. The system will permit you to reengage up to three times in one hour once parameters return to normal. This is intended to provide some flexibility in wrapping up current compressor functions until a replacement compressor arrives. The compressor should not be re-engaged until the cause of the shutdown has been determined and fixed.



⚠ DANGER

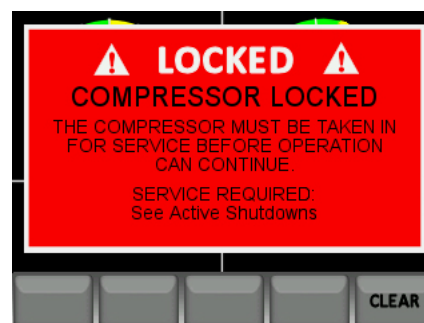
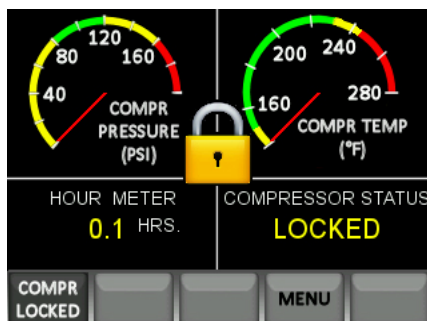
Continued operation of compressor system after shutdown will present conditions that will cause injuries, death, and/or damage to property.

NOTICE

If three shutdowns occur within an hour of compressor operation, the compressor operation will be locked out and must be serviced before operation can continue.

Compressor Lockout

If any combination of three shutdowns occur within one hour of compressor operation, the compressor will lock and must be taken in for service before operation can continue. If a second PTO component is installed, it can still be used normally providing it is not driven by the compressor system and has its own dedicated PTO gearbox.



System Safeties

Numerous safeties must be met before and during system operation. If you are unable to satisfy all necessary safeties by performing the suggested fix, the vehicle should be taken in for service. The following 2 charts list these safeties with a description of what is wrong and possible ways to fix them.

B-CAN Safety Messages	Diagnosis
Shutdown Occurred	A high temperature, high pressure, or low oil shutdown has recently occurred. Enter four digit code, and do not use the compressor until cause of shutdown has been serviced.
Compressor Locked	Compressor is locked and must be taken in for service.
Compressor is Above Shutdown Temp	The compressor temperature is above 245° F. The compressor can be re-engaged once the temperature has dropped.
Compressor is Blowing Down	The system is still in the process of relieving air pressure and should be ready to re-engage shortly.
Blowdown Switch is Open	The blowdown switch is open. If it does not close within a couple of minutes, the system must be taken in for service.
System Not Below 20 PSI	The air pressure in the system is still above 20 PSI. System must be taken in for service if it does not fully blowdown.
Compr Temp Sender Fault	The connection with the compressor temperature sender was lost or the sender is faulty. If the problem continues, the vehicle must be taken in for service.
Compr Press Sender Fault	The connection with the compressor pressure sender was lost or the sender is faulty. If the problem continues, the vehicle must be taken in for service.
PTO Pressure Switch Error	The PTO pressure switch feedback was lost. If problem continues, the vehicle must be taken in for service.
Ford Safety Circuit / PTO Pressure Switch Error	The Ford Safety Circuit did not send consent or the PTO pressure switch feedback was not received. Retry, and if this persists, take in for service.
Compr Not Building Pressure	The compressor has been engaged but is not building pressure. Ensure service valves are closed while engaging. If the problem continues, the vehicle will need to be taken in for service.
Accelerator Pedal Pressed	Shutdown occurred because the accelerator pedal was pressed. You are not permitted to depress the accelerator pedal during B-CAN operation.
No Allison PTO Enable Consent	The B-CAN did not get consent from the Allison PTO Enable Circuit. Retry, and if the problem persists, the vehicle will need to be taken in for service.
Park Brake Not Set	The vehicle's parking brake must be engaged during operation.
Transmission Not in Park/Neutral	The vehicle must be in neutral or park while running the system.
Engine Speed Too High	The vehicle engine speed is not at base idle. Engine speed must be below 900 RPM before starting the system.
Engine Speed Too Low	The vehicle is turned off. Start vehicle and make sure the engine speed is over 500 RPM before starting the system.
Brake Pedal Engaged	The vehicle's brake pedal cannot be pressed while running the system.

System Safeties (cont.)

Optional Safeties	Diagnosis
Gen RPM Above Max Compr RPM	The compressor and generator cannot be run simultaneously.
Hyd RPM Above Max Compr RPM	The compressor and hydraulic pump cannot be run simultaneously.
Hyd RPM Below Min Compr RPM	The compressor and hydraulic pump cannot be run simultaneously.
Must Engage Compr Before Gen	The compressor must be engaged before the generator.

B-CAN

B-CAN Overview

The Boss B-CAN is a compact, durable, and convenient 8060 UBI PTO compressor controller. It allows all system components, including a compressor, generator, and hydraulic pump, to be controlled from one location with the touch of a button. The B-CAN communicates with the vehicle using on-board CAN to check all of the safeties and to control the engine speed.

B-CAN Basic Display

The Boss B-CAN is designed to emulate the analog gauge systems of the past while improving the ease of operation. The B-CAN provides only the information required for the operator to use the unit. Whenever the vehicle is running, the B-CAN system is active. The screen is divided into four quadrants with button labels across the bottom as shown in the figure below.



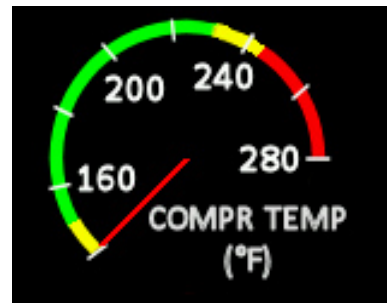
Compressor Pressure Gauge

The Compressor Pressure Gauge indicates the current air pressure in the system. This gauge is color coded to alert operators if the pressure is outside of the designed range. The gauge should be in the “green area” during normal operation. If the reading is in the “yellow area”, the system pressure is outside of the expected range. Should the pressure reach the “red area”, the unit will shutdown.



Compressor Temperature Gauge

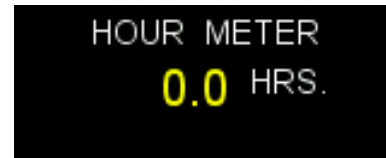
The Compressor Temperature Gauge indicates the current oil temperature in the system. This gauge is also color coded to alert operators if the temperature is outside of the designed range. The gauge should be in the “green area” during normal operation. If the reading is in the “yellow area”, the system temperature is outside of the expected range. Should the temperature reach the “red area”, the unit will shutdown.



B-CAN Basic Display (cont.)

Hour Meter

The Hour Meter records and displays the total number of hours the compressor has been engaged. The hour meter will flash when the system is running, signifying increasing hours.



Compressor Status

The Compressor Status display gives vital information about the current state of the compressor system. There are four standard states that will be displayed:



- NOT READY - The compressor is not ready to engage for one or more reasons.
- READY TO ENGAGE - Safety interlocks are met and the compressor is ready for engagement.
- ENGAGING - The compressor is starting and waiting for system air pressure to increase.
- RUNNING - The compressor is running.

Button Labels

The button labels show the current function of each of the five buttons. The possible functions for each of the buttons are listed below:



Button #1 - This button will always attempt to toggle the state of the compressor.



Button #2 - This button label will be blank.

Button #3 - This button will flash an orange triangle with an exclamation point inside whenever there are active warnings. Pressing the button will toggle the display of the warnings. If no warnings are active, this button will be blank and have no function.



Button #4 - This button will either display MENU or will be blank. If the button shows MENU, pressing it will access the menu if the system is off.

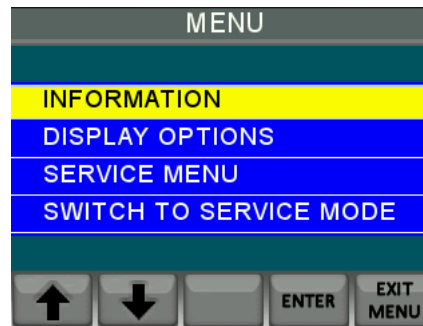


Button #4 & #5 - The function of these buttons will depend on how the system is configured. Possible functions are controlling the generator, hydraulics, and/or toggling between high and low pressure if the system is setup for dual pressure.



B-CAN Basic Menu

The Boss B-CAN also incorporates an easy-to-navigate menu. Within the menu is system information, display options, and diagnostic features. The basic menu shows only information that an operator may need. Navigating the menu is as simple as using the Up and Down arrow buttons to highlight the item you would like to view. Press the ENTER button to select that line. The 5th button labeled EXIT MENU simply returns to the B-CAN Basic display.



Accessing the Menu

The Menu cannot be entered while the compressor is running. Ensure the system is turned off prior to proceeding. To enter the menu, press and release the “MENU” button.



Information Screen

If Information is selected from the main menu, this will display the System Information tab. This screen will display the following:

- Boss Serial Number - This is used for quick access to the serial number.
- Last Service Access By - This will tell you who worked on the compressor last and how to contact them for service and maintenance.
- Oil Filter - The date the oil filter was last changed and the life remaining.
- Coalescer - The date the coalescer was last changed and the life remaining.
- Air Filter - The time until the next maintenance check.
- Panel Software and Firmware versions.

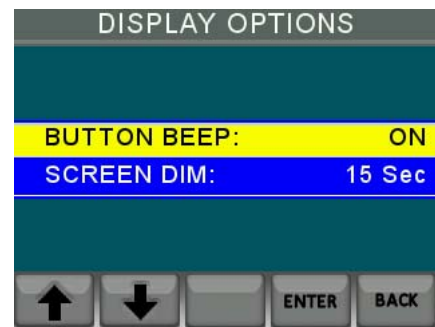


B-CAN Basic Menu (cont.)

Display Options

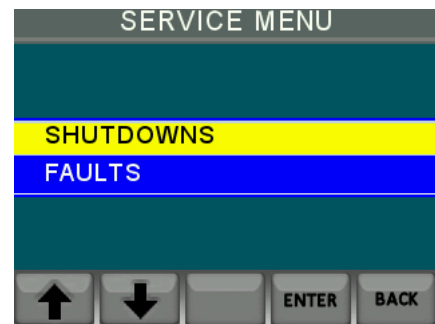
The Display Options selection will take you to a new menu that allows you to change the following:

- Button Beep - Indicates whether or not the B-CAN beeps every time a button is pressed. Available options are ON (default) and OFF.
- Screen Dim - This is the duration that the vehicle must be out of park or neutral before the panel will dim. If turned off, the B-CAN will never dim. Available options are 5 Sec, 15 Sec (default), 1 Min, and OFF.



Service Menu

The Service Menu selection will take you to a new menu that allows you to view shutdowns and faults. Shutdowns are recorded for high compressor temperature and high compressor pressure. Faults are recorded for invalid temperature and pressure connections. Here you will be able to view active shutdowns and faults and a summary of incidents for both.



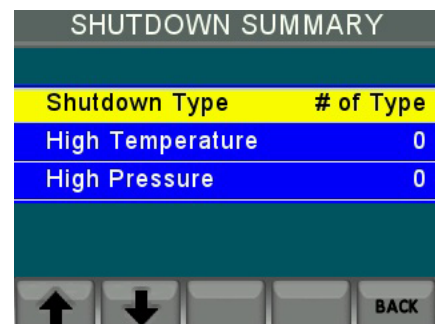
Active Shutdowns

All active shutdowns are listed here. The up and down arrow buttons can be used to scroll if the list does not fit on one screen.



Shutdown Summary

The shutdown summary will list the total count of each type of shutdown.



B-CAN Basic Menu (cont.)

Service Menu (cont.)

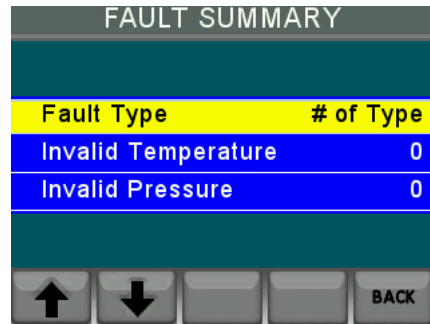
Active Faults

All active faults are listed here. The fault will automatically be removed from this list when the problem has been fixed.



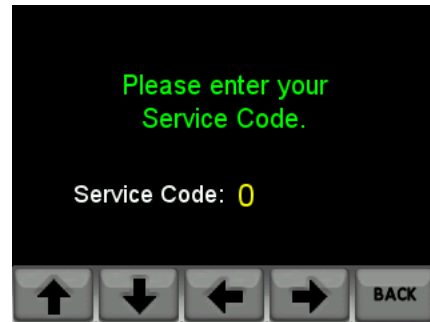
Fault Summary

The fault summary will list the total count of each type of fault. A fault will only register in the summary if the compressor system was running when the fault occurred.



Switch to Service Mode

This is where trained service personnel will sign in to perform maintenance and view additional service information. Pressing the BACK button will return to the previous screen.



Maintenance

Overview

This section contains instructions for performing the inspection, lubrication, and maintenance procedures required to keep the compressor in proper operating condition. The importance of performing the maintenance described herein cannot be over emphasized.

The 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 shutdown 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 and possibly death.

Recommended Spare Parts List

Part Number	Description
309410	Air Filter Element
80387	50-Hour Maintenance Kit
80386	1-Year Or 500-Hour Maintenance Kit

How To Locate a Distributor

Service and maintenance must be performed by your local distributor. For a listing of distributors in your area contact Boss Industries, Inc.

Phone: (800) 635-6587 (USA)
Phone: (219) 324-7776 (Outside USA)
Local Fax: (877) 254-4249
service@bossair.com (email)
<http://www.bossair.com> (website)

Maintenance Schedule†

The Maintenance Schedule lists serviceable items in the compressor system. The items are listed according to their frequency of maintenance, followed by those items which need only “As Required” maintenance.

Service Interval	Maintenance Operation
Periodically During Operation	1. Observe gauge readings. Note any change from normal readings and determine the cause. Have necessary repairs made. (NOTE: Readings are considered normal when they fall in the green area of the gauge.)
Every 10 Hours or Daily	<ol style="list-style-type: none"> 1. Check the compressor oil level. 2. Check for oil and air leaks. 3. Clear dust evacuator. 4. Reset air filter indicator.
Every 25 Hours or Monthly	<ol style="list-style-type: none"> 1. Drain moisture from the system.
Every 100 Hours or 6 Months	<ol style="list-style-type: none"> 1. Grease the driveline. 2. Clean the exterior of the cooler core.
Every 500 Hours or 1 Year	<ol style="list-style-type: none"> 1. Check compressor shaft seal for leakage. 2. Check air filter piping, fittings, and clamps. 3. Check compressor mounting hardware. 4. Change the compressor air filter. (Shorter interval may be necessary under dusty conditions.) 5. Verify sump tank safety relief valve is functional. 6. Change compressor oil and oil filter. 7. Change coalescer.
Periodically or as Required	<ol style="list-style-type: none"> 1. Inspect and clean compressor air filter.

†Maintenance must be performed by trained service personnel.

NOTICE

Compressor oil and filter must be changed after the first 50 hours of operation. After this, normal intervals are to be followed.

⚠ WARNING

Failure to follow the recommended maintenance intervals could result in damage to the system and serious bodily harm or even death.

Compressor Lubrication Recommendation

CAUTION

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

Review safety section prior to performing any compressor service. Boss recommends BOSS ShieldWorks. Choose your rotary screw lubricant carefully. 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 ShieldWorks 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 PTO helical screw type air compressors operating in the particular environment involved.

PROPERTIES

	Test Method	BOSS ShieldWorks
Color		Colorless
Clarity		Clear
ISO Viscosity Grade	ISO 3448	50
Viscosity @ 40°C	ASTM D445	50.0 cSt
Viscosity @ 100°C	ASTM D445	7.55 cSt
Viscosity Index	ASTM D2270	114
Pour Point	ASTM D5950	-39°C (-38°F)
Density @ 25°C	ASTM D1298	0.86 g/cm ³
Flash Point	ASTM D92	258°C (496°F)
Fire Point	ASTM D92	286°C (547°F)
Total Acid Number	ASTM D664	0.4 mgKOH/g
Rust Prevention (24h)	ASTM D665B	Pass
Copper Strip Corrosion	ASTM D130	Shiny 1B
Oxidation Stability by OPV	ASTM D2272	1419 min
Hydrolytic Stability	ASTM D2619	
Weight Change of Cu		-0.025 mg/cm ²
%ΔViscosity @ 40°C (D445)		-0.19%
%ΔTAN (D974)		-0.12 mgKOH/g
Total Acidity of Water layer		5.23 mgKOH
% Insolubles		0.001%

NOTICE

Mixing different types or brands of lubricants is not recommended due to the possibility of a dilution of the additives or a reaction between additives of different types.

NOTICE

Due to environmental factors, the useful life of all "extended life" lubricants may be shorter than quoted by the lubricant supplier. Boss Industries, Inc. 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.

Proper Compressor Oil Level (Daily)

Review safety section prior to performing any compressor service. Checking and maintaining the proper compressor oil level will extend the life of the system and minimize down time.

1. Turn the vehicle off and ensure the system is relieved of all air pressure.
2. Locate the sightglass on the side of the sump tank. Make sure the vehicle is on level ground. The oil level should be midway in the sightglass but not above the specified line. Visually check oil condition. Dirty oil or oil contaminated with moisture should be completely drained and replaced.
3. If oil needs to be added to the system, remove the oil fill cap on the side of the sump tank.
4. Pour oil in and fill until the desired level is reached on the sightglass.
5. Reinstall and secure the oil fill cap.



The oil fill cap supplied with the unit is specially designed for this system and cannot be replaced with a standard cap.



It is important that the compressor oil be of a recommended type and that this oil as well as the coalescer elements be inspected and replaced as stated in this manual. 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 system. Failure to comply with this will cause damage to property and serious bodily harm or even death.

Draining Moisture from the System (25 hours or monthly)

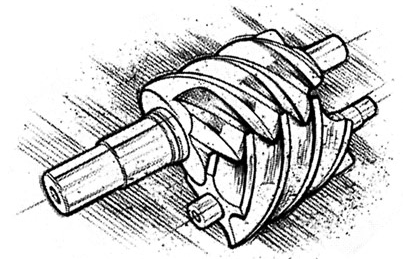
Review safety section prior to performing any compressor service. When the compressor system is running it brings in ambient air to the system to compress. Along with the air it also brings in the humidity. If the system is not running at the proper temperature or is not permitted to run long enough to reach proper temperature, the water will not vaporize and pass down stream as it should. The water will remain in the system and mix with the compressor oil. When using BOSS ShieldWorks, the normally clear yellow oil begins to turn cloudy when there is too much moisture in the system. This moisture will need to be drained to ensure proper lubrication.

1. Turn off the vehicle and let the vehicle sit for 24 hours to separate the oil from the water in the sump tank. Water is heavier than oil and will settle to the bottom.
2. Locate the drain plug in the tee on the bottom of the sump tank.
3. Slowly loosen the drain plug until water begins to drain from the sump tank. Catch fluid waste in a drain pan.
4. Drain water and heavy oil/water mixture from sump tank until you start to see solid oil coming out and then retighten the drain plug. Dispose of drained fluid properly.
5. Check the oil level and, if necessary, refill to proper level.

Warranty



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 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 after initial fifty (50) hours of use. Then, 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.

*BOSS INDUSTRIES, LLC
1761 GENESIS DRIVE
LA PORTE, IN 46350
(800) 635-6587*

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.