BOSS MODEL INFINITY
PTO AIR COMPRESSOR
OPERATORS, MAINTENANCE
AND PARTS MANUAL

P/N: 307200
06/19/2014 KWB

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Operation & Maintenance Section

Warranty Section

SPECIFICATIONS

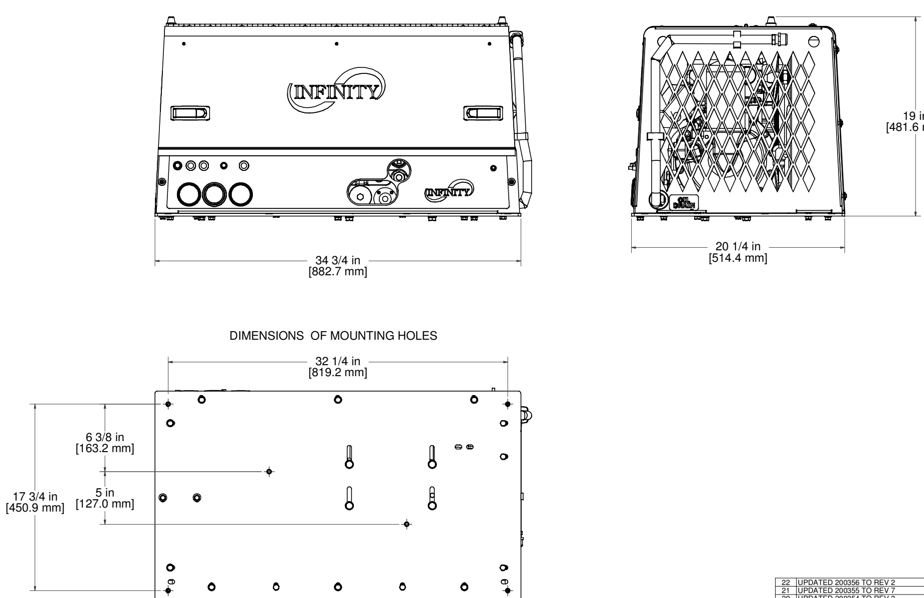
DELIVERY	CFM	45@ 150PSI	60@ 150PSI	65@ 110PSI
Input Speed to Compressor	RPM GPM	1500 10.9 @ 2900PSI	1951 14.2 @ 2900 PSI	2100 15.2 @ 2500 PSI
Fluid Capacity-Compressor (not hydraulic)	1.0 Gallons System .75 Compressor Sump			
Components - Compressor System	(Overall Dimensions) see below			
Weight (dry)	300 lbs.			

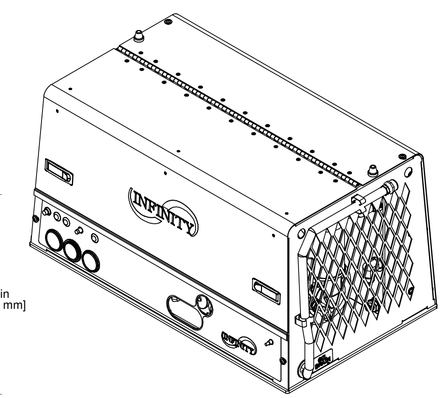
*CALCULATIONS PERFORMED @ 85% EFFICIENCY MECHANICAL AND 96% EFFICIENCY VOLUMETRIC.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE

Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	200353	COMPR & MTG SYS, INFINITY 45/60/150 SCI8G
2	1	200355	ELEC SYS, INFINITY 45-60-150 SCI8G
3	1	200356	OIL/AIR/HYD CLNG SYS, INFINITY SCI8G
4	1	200354	CANOPY SYS, INFINITY 45-60-150 SCI8G
5	1	61285	OPT, INFINITY SHIPPING MATERIALS
6	1	80099	KIT, HOSE INFINITY





REV	DESCRIPTION	DATE	ENG
22	UPDATED 200356 TO REV 2	06/19/2014	KWB
21	UPDATED 200355 TO REV 7	10/26/2012	ARB
20	UPDATED 200354 TO REV 3	6/6/2012	ARB
19	UPDATED 200355 TO REV 6	5/30/2012	ARB
17	UPDATED 200353 TO REV 10.	1/11/2012	DCL
16	UPDATED 200356 TO REV 1.	7/8/2011	DCL
15	UPDATED 200353 TO REV 9.	3/10/2011	MCM

REVISION HISTORY

PROPRIETARY INFORMATION
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MACHINED SURFACES NOMINAL DIM.
0.000 TO 1.000 ± .010
1.001 TO 5.000 ± .015
5.001 TO 10.000 ± .020
10.001 & OVER ± .025

UNMACHINED SURFACES
FRACTIONAL ± 1/16
DECIMAL ± .03
ANGULAR ± 1°
DO NOT SCALE TOLERANCES UNLESS NOTED

DRAWN DCL 12/3/2007
CHECKED NDD 12/3/2007
MATERIAL N/A
PATH G:\Engineering Documents\Inventor Files\20k\20054-001.dwg

BOSS INDUSTRIES
1761 GENESIS DR.
LA PORTE, IN 46350

DESCRIPTION
INFINITY 45-60 SCI8G

SIZE D SCALE 1=4 DWG NO 20054-001 REV 22
SHEET 1 OF 1

307200

SAFETY

WARNING

ALL UNITS ARE SHIPPED WITH A DETAILED OPERATORS AND PARTS MANUAL. THIS MANUAL CONTAINS VITAL INFORMATION FOR THE SAFE USE AND EFFICIENT OPERATION OF THIS UNIT. CAREFULLY READ THE OPERATORS MANUAL BEFORE STARTING THE UNIT. FAILURE TO ADHERE TO THE INSTRUCTIONS COULD RESULT IN SERIOUS BODILY INJURY OR PROPERTY DAMAGE.

AIR COMPRESSOR SAFETY PRECAUTIONS

Safety is basically common sense. While there are standard safety rules, each situation has its own peculiarities that cannot always be covered by rules. Therefore with your experience and common sense, you are in a position to ensure your safety. Lack of attention to safety can result in: accidents, personal injury, reduction of efficiency and worst of all - Loss of Life. Watch for safety hazards. Correct them promptly. Use the following safety precautions as a general guide to safe operation:

Do not attempt to remove any compressor parts without first relieving the entire system of pressure.

Do not attempt to service any part while machine is operating.

DANGER

CHECK THE COMPRESSOR SUMP OIL LEVEL ONLY WHEN THE COMPRESSOR IS NOT OPERATING AND SYSTEM IS COMPLETELY RELIEVED OF PRESSURE. OPEN SERVICE VALVE TO ENSURE RELIEF OF SYSTEM AIR PRESSURE WHEN PERFORMING MAINTENANCE ON COMPRESSOR AIR/OIL SYSTEM. FAILURE TO COMPLY WITH THIS WARNING MAY CAUSE DAMAGE TO PROPERTY AND SERIOUS BODILY HARM.

Do not operate the compressor at pressure(s) or speed in excess of its rating as indicated in "Compressor Specifications".

Periodically check all safety devices for proper operation.

Do not play with compressed air. Pressurized air can cause serious injury to personnel.

Exercise cleanliness during maintenance and when making repairs by covering parts and exposed openings.

Do not install a shut-off valve between the compressor and compressor oil sump.

DANGER

DO NOT USE BOSS INDUSTRIES COMPRESSOR SYSTEMS TO PROVIDE BREATHING AIR. SUCH USAGE, WHETHER SUPPLIED IMMEDIATELY FROM THE COMPRESSOR SOURCE, OR SUPPLIED TO BREATHING TANKS FOR SUBSEQUENT USE, CAN CAUSE SERIOUS BODILY INJURY.

BOSS INDUSTRIES, INC. DISCLAIMS ANY AND ALL LIABILITIES FOR DAMAGE FOR LOSS DUE TO PERSONAL INJURIES, INCLUDING DEATH, AND/OR PROPERTY DAMAGE INCLUDING CONSEQUENTIAL DAMAGES ARISING OUT OF ANY BOSS INDUSTRIES, INC. COMPRESSORS USED TO SUPPLY BREATHING AIR.

Do not disconnect or bypass safety circuit system.

Do not install safety devices other than authorized BOSS INDUSTRIES, INC. replacement devices.

Close all openings and replace all covers and guards before operating compressor unit.

Tools, rags, or loose parts must not be left on the compressor or drive parts.

Do not use flammable solvents for cleaning parts. This can cause the unit to ignite during operation.

Keep combustibles out of and away from the Compressor/Inlet and any associated enclosures.

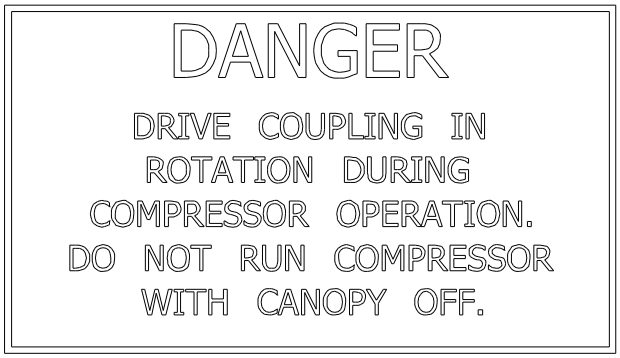
Rotary screw compressor systems provide continuous volume and pressure output. Therefore, the use of an air storage tank is not necessary in a Boss Industries Inc. rotary screw compressor system. In the rare event air usage is required without operating the vehicle, follow all state and federal DOT regulations regarding air storage tank usage.

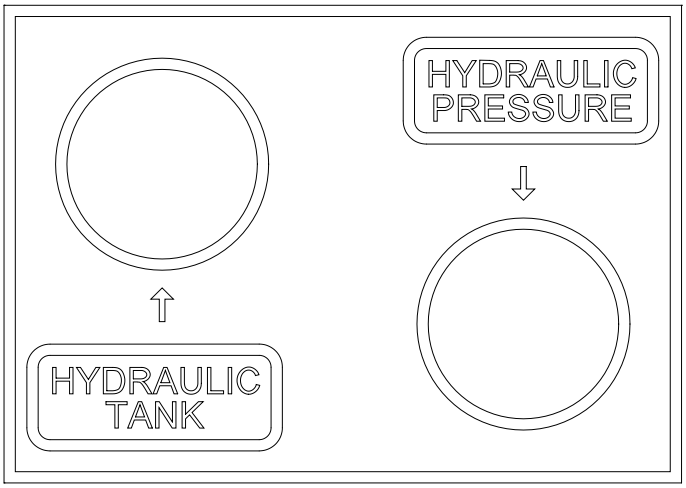
The owner, lessor, or operator of the Compressor are hereby notified and forewarned that any failure to observe these safety precautions may result in damage or injury.

BOSS INDUSTRIES, INC. expressly disclaims responsibility or liability for any injury or damage caused by failure to observe these specified precautions or by failure to exercise that ordinary caution and due care required when operating or handling the Compressor, even though not expressly specified above.

SAFETY

A compliment of warning decals is supplied with each unit. These decals must be affixed to the comressor package in the locations noted in this manual. If for any reason a safety decal is removed it is the owners responsibility to make sure it is replaced.




HYDRAULIC PRESSURE
HYDRAULIC TANK


AIR
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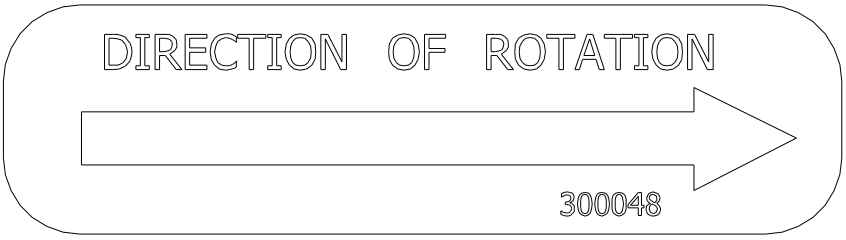
DIRECTION OF ROTATION
300048


BOSS
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SERIAL NO.
305761

COMPRESSOR TERMINOLOGY

AIR/OIL COALESCER - Performs second stage separation of oil from compressed air feeding air tools. Sometimes referred to as the separator element.

CFM - Refers to the volume of compressed air being produced, expressed as cubic feet of air per minute.

COMPRESSOR LUBRICANT - DEXRON III ATF.

GPM - Refers to the amount of gallons per minute of hydraulic fluid flowing through the pump**.**

OIL SUMP - The first stage of oil separation from compressed air. Also serves as reservoir area for compressor lubricant and sometimes referred to as the receiver tank.

PSI - Refers to the operating pressure the system is set up at, expressed as pounds per square inch.

SAFETY VALVE - A valve located on the oil sump which opens in case of excessive pressure. Sometimes referred to as the pop-off or pressure relief valve.

DESCRIPTION OF COMPONENTS

COMPRESSOR ASSEMBLY

The BOSS INDUSTRIES hydraulic drive compressor assembly is a positive displacement, oil flooded, rotary screw type unit employing one stage of compression to achieve the desired pressure. Components include a housing (stator), two screws (rotors), bearings, and bearing supports. Power from the hydraulic motor shaft is transferred to the male rotor through a drive coupling. The female rotor is driven by the male rotor. There are five lobes on the male rotor while the female rotor has six roots.

PRINCIPLES OF OPERATION

In operation, two helical grooved rotors mesh to compress air. Inlet 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 and delivers smooth-flowing, pulse-free air to the receiver.

During the compression cycle, oil is injected into the compressor and serves these purposes:

1. Lubricates the rotating parts and bearings.
2. Serves as a cooling agent for the compressed air.
3. Seals the running clearances.

LUBRICATION SYSTEM

Oil from the compressor at discharge pressure, is directed into its integral housing, through the thermal valve and filter, and then out of the integral housing to the oil cooling system, and then back to the side of the compressor stator, where it is injected into the compressor. At the same time oil is directed internally to the bearings and shaft seal of the compressor.

OIL SUMP

Compressed, oil-laden air enters the sump from the compressor. As the oil-laden air enters the sump, most of the oil is separated from the air as it passes through a series of baffles and diffusion plates. The oil accumulates at the bottom of the sump for recirculation. However, some small droplets of oil remain suspended in the air and are passed on to the Coalescer.

DESCRIPTION OF COMPONENTS

SAFETY VALVE

The pop safety valve is set at 200 PSI and is located at the top of the air/oil sump. This valve acts as a backup to protect the system from excessive pressure that might result from a malfunction.

AIR/OIL COALESCER

The coalescer is self-contained within a spin-on housing. When air is demanded at the service line, it passes through the coalescer which efficiently provides the final stage of oil separation.

OIL RETURN LINE

The oil that is removed by the coalescer accumulates and is returned through an internal oil return line leading to the compressor.

MINIMUM PRESSURE VALVE

The minimum pressure valve is located at the outlet of the coalescer head and serves to maintain a minimum discharge pressure of 30 PSIG in operation, which is required to assure adequate compressor lubrication pressure.

OIL FILTER

The compressor oil filter is a removable and cleanable screen built into the side of the compressor housing. Screen replacement may be necessary after several cleanings.

COMPRESSOR OIL AND HYDRAULIC OIL COOLING SYSTEMS

The compressor cooling system consists of a combination hydraulic cooler and compressor cooler mounted on the common frame. Compressor oil temperature is controlled by a thermal valve located down stream of the oil filter. The thermal valve maintains the compressor oil temperature at 185ºF. Cool air is drawn through the vented end panel and across the combo cooler. The air is heated by the coolers and the hot air exits out the back vented panel . Allow for adequate clearance (12”) for the air to exit. Also, the package location should not be subjected to above ambient air temperatures.

DESCRIPTION OF COMPONENTS

INSTRUMENTATION

The BOSS INDUSTRIES hydraulic drive compressor unit incorporates a gauge panel that monitors temperature, pressure and hours of operation.

HOURMETER

The hourmeter records the total number of operating hours. It serves as a guide in following the recommended inspection and maintenance schedule. The hourmeter will only run when there is pressure in the system.

COMPRESSOR DISCHARGE AIR/OIL TEMPERATURE SWITCHGAUGE

This switchgauge indicates compressor air discharge temperature. The switchgauge ensures safety shutdown in case of excessive operating temperatures, preventing compressor damage, by stopping hydraulic flow to the compressor motor.

ELECTRICAL AND SAFETY SYSTEM

The BOSS INDUSTRIES compressor's standard electrical system consists of:

- -Gauge panel with a temperature switchgauge, hourmeter and discharge pressure switchgauge.
- -Compressor and hydraulic oil cooler fan assembly and relay.
- -Compressor after cooler/oil cooler fan assembly and relay.
- -3-way pressure switch and relay to control hourmeter and blowdown.
- -12VDC N.O. hydraulic solenoid and relay.
- -Switch relay for customer equipment interface during compressor operation.
- -Differential pressure switch for air filter maintenance.
- -Optical oil level switch and relay.

DESCRIPTION OF COMPONENTS

CONTROL SYSTEM

The prime component of the compressor control system is the compressor inlet valve. The control system is designed to match air supply to air demand and to prevent excessive discharge pressure when compressor is at idle. Control of air delivery is accomplished by the inlet valve regulation and modulation as directed by the discharge pressure regulator.

NORMALLY OPEN REGULATOR SOLENOID

A closed Furnas air pressure switch will energize the normally open regulator solenoid, thus closing it. When the normally open regulator solenoid is closed, air pressure will rise. When it is open air pressure falls only in the compressor sump.

NOTE: Most air tools operating pressure range is between 90 and 125 psi. Operating above the tools recommended pressures will decrease the life of the tool. Higher operating pressure can also over torque nuts and bolts fatiguing the fastener and mating parts. Strictly adhere to tool operating pressures and torque standards set forth by the tool manufacturer and the specifications of the equipment that work is being performed on.

FURNAS SWITCH DESCRIPTION

The Furnas switch is a N.C. electrical switch set to open at 150 PSI and set to close at 115 PSI. The Furnas switch controls the N.O. regulator solenoid. If service air pressure is under 150 PSI, the Furnas switch will not trip keeping the N.O. inlet valve open and the compressor making air. If the service valve is closed or the tool using the air is off, service line pressure will rise over 150 PSI. This will trip the Furnas switch to open. The regulator solenoid will open and send air pressure to the inlet valve to close. With the inlet valve closed, the compressor will stop making air. If the tool is turned on or the service valve is opened, the service line pressure will drop. When the pressure falls to 115 PSI the Furnas switch will close energizing the N.O. regulator solenoid closing off the air supply to the inlet valve. This will allow the inlet valve to open, and the compressor will start making air to meet the demand.

INLET VALVE

The compressor inlet valve is a piston operated disc valve that regulates the inlet opening to control capacity and serves as a check valve at shutdown.

INSPECTION, LUBRICATION, AND MAINTENANCE

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

The periodic maintenance procedures to be performed on the equipment covered by this manual are listed below. It should be understood that the intervals between inspections specified are maximum interval. 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.

The LUBRICATION AND MAINTENANCE CHART lists serviceable items on this compressor package. The items are listed according to their frequency of maintenance, followed by those items which need only "As Required" maintenance.

The maintenance time intervals are expressed in hours. The hourmeter shows the total number of hours your compressor has run. Use the hourmeter readings for determining your maintenance schedules. Perform the maintenance at multiple intervals of the hours shown. For example, when the hourmeter shows "100" on the dial, all items listed under "EVERY 10 HOURS" should be serviced for the tenth time, and all items under "EVERY 50 HOURS" should be serviced for the second time, and so on.

DANGER

COMPRESSOR MUST BE SHUT DOWN AND COMPLETELY RELIEVED OF PRESSURE PRIOR TO CHECKING FLUID LEVELS. OPEN SERVICE VALVE TO ENSURE RELIEF OF SYSTEM AIR PRESSURE. FAILURE TO COMPLY WITH THIS WARNING MAY CAUSE DAMAGE TO PROPERTY AND SERIOUS BODILY HARM.

LUBRICATION AND MAINTENANCE CHART

INTERVAL	ACTION
PERIODICALLY DURING OPERATION	1. Observe all gauge readings. Note any change from the normal readings and determine the cause. Have necessary repairs made. (NOTE: "NORMAL" is the usual gauge reading when operating at similar conditions on a day to day basis.)
DAILY	1. Check the compressor oil level. 2. Check air filter. Pressure drop indicator while compressor is operating. 3. Check for oil and air leaks. 4. Check safety circuit switches.
EVERY 25 HOURS OR MONTHLY	1. Drain water from compressor oil.
EVERY 500 HOURS OR 6 MONTHS	1. Change compressor oil and replace screen 2. Check compressor shaft seal for leakage. 3. Check air filter piping, fittings and clamps. 4. Check compressor supports. 5. Install new air filter element. (Shorter interval may be necessary under dusty conditions.) 6. Check sump safety valve.
EVERY 1000 HOURS OR 1 YEAR	1. Change coalescing element.
PERIODICALLY OR AS REQUIRED	1. Inspect and clean air filter element. 2. Inspect and replace spin-on coalescer element if necessary. 3. Inspect and clean oil cooler fins.

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

LUBRICANT RECOMMENDATIONS

WARNING

IT IS IMPORTANT THAT THE COMPRESSOR OIL BE OF A RECOMMENDED TYPE AND THAT THIS OIL AS WELL AS THE AIR FILTER, OIL FILTER, AND 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 OIL SUMP.

FAILURE TO COMPLY WITH THIS WARNING MAY CAUSE DAMAGE TO PROPERTY AND SERIOUS BODILY HARM.

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

CAUTION

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.

LUBRICANT RECOMMENDATIONS

LUBRICANT CHARACTERISTICS

1. Flash point 400°F minimum.
2. Pour point -40°F.
3. Contains rust and corrosion inhibitors.
4. Contains foam suppressors.
5. Contains oxidation stabilizer.

NOTE

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.

NOTE

NO LUBRICANT, HOWEVER GOOD AND/OR EXPENSIVE, CAN REPLACE PROPER MAINTENANCE AND ATTENTION. SELECT AND USE IT WISELY.

MAINTENANCE

If some of the maintenance intervals in the schedule outlined in this manual seem to be rather short, it should be considered that one hour's operation of a compressor is equal to about 40 road miles on an engine. Thus, eight hours operation is equal to 320 road miles, 250 hours is equal to 10,000 road miles, etc.

COMPRESSOR OIL SUMP FILL, LEVEL, AND DRAIN

Before adding or changing compressor oil make sure that the compressor is completely relieved of pressure. Oil is added at the fill cap on the side of the compressor body. A drain valve/hose assembly is provided at the bottom of the compressor body. The proper oil level is between the top and the midpoint of the oil sightglass, when the unit is shut down and has had time to settle. The truck must be level when checking the oil. DO NOT OVERFILL. The oil sump capacity is given in "Compressor Specifications".

DANGER

DO NOT ATTEMPT TO DRAIN CONDENSATE, REMOVE THE OIL LEVEL FILL PLUG, OR BREAK ANY CONNECTION IN THE AIR OR OIL SYSTEM WITHOUT SHUTTING OFF COMPRESSOR AND MANUALLY RELIEVING PRESSURE FROM THE SUMP. FAILURE TO COMPLY WITH THIS WARNING MAY CAUSE DAMAGE TO PROPERTY AND SERIOUS BODILY HARM.

AIR INTAKE FILTER

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

Optional filter is equipped with an evacuator cup for continuous dust ejection while operating and when stopped.

Frequency of maintenance of the filter depends on dust conditions at the operating site. The filter element must be serviced when clogged (maximum pressure drop for proper operation is 15" of water). The filter is equipped with a pressure drop indicator, and the element should be changed based on its reading first and then by the maintenance intervals outlined.

MAINTENANCE

AIR/OIL COALESCER

The air/oil coalescer employs an element permanently housed within a spin-on canister. This is a single piece unit that requires replacement when it fails to remove the oil from the discharge air, or pressure drop across it exceeds 15 PSI. Dirty oil clogs the element and increases the pressure drop across it.

To replace element proceed as follows:

1. Shutdown compressor and wait for complete blow down (zero pressure).
2. Turn element counterclockwise for removal (viewing element from bottom).
3. Apply a film of fluid directly to seal on the new element.
4. Rotate element clockwise by hand until element contacts seal (viewing element from bottom).
5. Rotate element approximately one more turn clockwise with band wrench near the top of element.
6. Run system and check for leaks.

WARNING

DO NOT SUBSTITUTE ELEMENT. USE ONLY A GENUINE BOSS INDUSTRIES REPLACEMENT ELEMENT. THIS ELEMENT IS RATED AT 200 PSI WORKING PRESSURE. USE OF ANY OTHER ELEMENT MAY BE HAZARDOUS AND COULD IMPAIR THE PERFORMANCE AND RELIABILITY OF THE COMPRESSOR, POSSIBLY VOIDING THE WARRANTY AND/OR RESULTING IN DAMAGE TO PROPERTY AND SERIOUS BODILY HARM.

COALESCER OIL RETURN

This originates at the bottom of the air/oil coalescer and flows through a special recovery pipe and venturi nozzle. If the coalescer starts to fill with oil there is a good chance the venturi or pipe has been plugged. Consult factory for cleaning instructions.

MAINTENANCE

OIL FILTER

The compressor oil filter is a throwaway type cartridge. It is designed with a built-in bypass so that if there is a large restriction, due to cold oil or clogged element, the compressor will still be lubricated.

To replace filter proceed as follows:

1. Make sure system pressure is relieved.
2. Unscrew with 14mm allen wrench.
3. Remove oil filter from housing.
4. Replace the oil filter screen element.
5. Reinsert oil filter screen into housing and tighten with 14mm allen wrench.
6. Add oil (total system takes one gallon), re-tighten filler cap.
7. Check for leaks in operation.

WARNING

DO NOT SUBSTITUTE ELEMENT. USE ONLY A GENUINE BOSS INDUSTRIES REPLACEMENT ELEMENT. USE OF ANY OTHER ELEMENT MAY BE HAZARDOUS AND COULD IMPAIR THE PERFORMANCE AND RELIABILITY OF THE COMPRESSOR, POSSIBLY VOIDING THE WARRANTY AND/OR RESULTING IN DAMAGE TO PROPERTY AND SERIOUS BODILY HARM.

HYDRAULIC OIL COOLER AND COMPRESSOR OIL COOLER COMBINATION

The interior of the oil cooler should be cleaned when the pressure drop across it at full flow exceeds 25 PSI. The following procedure has been recommended by the vendor who supplies the cooler:

1. Remove cooler.
2. Circulate a suitable solvent to dissolve and remove varnish and sludge.
3. Flush generously with compressor lubricant (compressor oil cooler section only, use hydraulic oil to flush the hydraulic cooler portion on the combo cooler).
4. Once the coolers are reinstalled, fill the compressor and hydraulic systems with the proper fluids to their appropriate levels.

SHAFT SEAL

SHAFT SEAL INSTALLATION INSTRUCTIONS:

1. Remove hydraulic motor, drive coupling and adapter housing from face of compressor.
2. Remove coupling hub from compressor shaft.
3. Remove 4 screws from shaft seal cover and press seal out.
4. Pull seal wear sleeve off shaft with puller.
5. Clean shaft surface removing all burrs from shaft where the wear sleeve gets installed.
6. Press new wear sleeve on to shaft. Oil heating new wear sleeve to 212°F approximately aids in the installation of this ring.
7. Press new seal into housing with seal assembly tool, until contact with snapring.
8. Temporarily install new seal installation cone over shaft to protect seal during reinstallation.
9. Reinstall cover.
10. Reinstall coupling hub to compressor shaft.
11. Reinstall adapter housing, drive coupling, and hydraulic motor to face of compressor.

TROUBLESHOOTING

This section contains instructions for troubleshooting the equipment following a malfunction.

The troubleshooting procedures to be performed on the equipment are listed below. Each symptom of trouble for a component or system is followed by a list of probable causes of the trouble and suggested procedures to be followed to identify the cause.

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

UNPLANNED SHUTDOWN

When the operation of the machine has been interrupted by an unexplained shutdown, check the following:

1. Check the fuel level and truck dash gauges and indications for possible engine problems.
2. Check the compressor discharge temperature/switchgauge. If the latching relay circuit is tripped the 12VDC solenoid will lose power and divert hydraulic oil back to the reservoir. The compressor blowdown pressure switch and the temperature switchgauge will not allow power to the hydraulic solenoid until the air has blown down and the temperature has dropped into its normal operating range and the push button has been reset. Take compressor in for service once a high temperature shutdown has occurred. Failure to do so will void your warranty.
3. Check that the compressor oil is at proper level.
4. Check oil cooler for dirt, slush, ice on the fins, or any other obstructions to the cooling air flow.
5. Make a thorough external check for any cause of shutdown such as broken hose, broken oil lines, loose or broken wire, etc.

TROUBLESHOOTING

IMPROPER DISCHARGE PRESSURE

1. If discharge pressure is too low, check the following:
    A. Too much air demand. (Air tools require more air than what the compressor can produce, air tools are free wheeling without resistance.)
    B. Service valve wide open to atmosphere.
    C. Leaks in service line.
    D. Restricted compressor inlet air filter.
    E. Faulty control system operation (i.e.N.0. regulated air solenoid is allowing air through all the time.)
    F. Furnas Switch is not closing at 115 psi.
    G. Low compressor oil level.
2. If discharge pressure is too high, safety valve blows, or system shuts down on high pressure, check the following:
    A. Faulty discharge pressure switchgauge.
    B. Coalescer plugged up.
    C. Faulty safety valve.
    D. N.O. regulated air solenoid is not opening.
    E. Furnas switch is not opening at 150 psi.
3. Sump relief valve activates:
    A. Inlet valve leaking or open.
    B. Faulty relief valve.
    C. Faulty Furnas switch, or N.O. regulated air solenoid, or pressure switchgauge.

SUMP PRESSURE DOES NOT BLOW DOWN

If after the compressor is shutdown, pressure does not automatically blow down, check for:

1. Normally open regulated air solenoid may be stuck closed.
2. Blockage in air line from downstream of the coalescer to the inlet valve.
3. Inlet valve orifice is clogged.

OIL CONSUMPTION

Abnormal oil consumption or oil in service line, check for the following:

1. Over filling of oil sump.
2. Leaking oil lines or oil cooler.
3. Plugged oil return line: check nozzle beneath the sightglass.
4. Defective coalescer element.
5. Compressor shaft seal leakage.

TROUBLESHOOTING

COALESCER PLUGGING

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

Compressor oil can break down prematurely for a number or reasons.
(1) Extreme operating temperature, (2) negligence in draining condensate from oil sump, (3) using the improper type of oil, (4) dirty oil, (5) oil return nozzle plugged.

The complete air inlet system should be checked for leaks.

HIGH COMPRESSOR DISCHARGE TEMPERATURE

1. Check compressor oil level. Add oil if required (see Section for oil specifications).
2. Check thermal valve operation.
3. Clean outside of oil cooler.
4. Clean oil system (cooler) internally.
5. Check fan relay harness.

COMPRESSOR OPERATION

Before starting the compressor, read this section thoroughly. Familiarize yourself with the controls and indicators, their purpose, location, and use.

CONTROL OR INDICATOR	PURPOSE
TEMPERATURE SWITCHGAUGE	Monitors the temperature of the air/fluid mixture leaving the compressor. The normal reading should be approximately 175 to 210 degrees F. Sends signal to relay when the compressor reaches 240 degrees temperature and the compressor will shut down.
PRESSURE SWITCHGAUGE	Monitors the pressure inside the sump tank. When the pressure reaches 165 PSI the compressor will shut down
HOURMETER	Indicator accumulated hours of actual compressor operation.
FLUID LEVEL SIGHTGLASS	Indicates fluid level in the sump. Proper level should be between midpoint and top of the sightglass. Check this level when the compressor is disengaged and the vehicle is parked on level ground.
PRESSURE RELIEF VALVE	Vents sump pressure to the atmosphere if the pressure inside the sump exceeds 175 PSI.
COMPRESSOR INLET CONTROL VALVE	Regulates the amount of air intake in accordance with the amount of compressed air being used. Isolates fluid in compressor unit on shutdown.
FURNAS SWITCH	Senses air pressure from sump to provide automatic control of the N.O.regulated air solenoid.
N.O. REGULATED AIR SOLENOID	Sends air pressure to intake valve for automatic regulation.
MINIMUM PRESSURE VALVE	Restricts air flow to balance sump and service air pressure. Assures a minimum of 65 PSI to maintain compressor lubrication.

COMPRESSOR OPERATION

OPERATING CONDITIONS

The following conditions should exist for maximum performance of the compressor. The truck should be as close to level as possible when operating. The compressor will operate on a 15 degree sideward and lengthwise tilt without any adverse problems. Operation in ambient temperatures above 100°F (38°C) may experience high temperature shutdown.

NOTE

IF THE COMPRESSOR IS BEING USED TO POWER SANDBLASTING EQUIPMENT, OR AN AIR STORAGE TANK, USE A CHECK VALVE DIRECTLY AFTER THE MINIMUM PRESSURE VALVE TO PREVENT BACKFLOW INTO THE SUMP. THIS CHECK VALVE SHOULD HAVE A MAXIMUM PRESSURE DROP RATING OF 2 PSIG (13.78kPa) OPERATING AND A CAPACITY RATING EQUAL TO THE COMPRESSOR.

NOTE

A COMPRESSOR SERVICE VALVE SHOULD BE LOCATED TO THE HOSE REEL INLET OR THE CUSTOMERS AIR CONNECTION PORT WHEN A HOSE REEL IS NOT USED. TYPICAL PLUMBING FROM THE MACHINE'S AIR OUTLET PORT OCCURS IN THE FOLLOWING ORDER:

1. **MINIMUM PRESSURE VALVE.**
2. **CHECK VALVE.**
3. **AIR TANK (WHEN USED)**
4. **OSHA VALVE.**
5. **SERVICE VALVE**
6. **MOISTURE TRAP/GAUGE/OILER COMBINATION (WHEN USED).**
7. **HOSE REEL (WHEN USED).**

20054-001 INFINITY Cold Weather Operating Procedures

Rotary Screw Compressors rely greatly on the quality of lubricant used in the system. One of the biggest threats to compressor lubrication systems is water. When the compressor brings in humidity from the ambient air it compresses, water will collect in the system unless proper operating temperatures are reached. This is most dangerous in cold weather applications. Whenever the system is below freezing, the moisture that is in the system will solidify and could possibly block or impede proper oil flow. The compressor system should not be operated if the ambient temperature is below –40 degrees Fahrenheit. Please follow the procedures if temperatures are below 40 degrees Fahrenheit to help ensure proper compressor operation.

Cold Weather Start-up Procedure

1. Check compressor oil level while system is on a level surface. Add if necessary.
2. Prior to activating compressor, allow hydraulic system to operate on bypass until hydraulic fluid is heated to operating temperature.
3. Activate compressor with service valve closed. If air pressure does not begin to build within 20 seconds, immediately turn off the compressor and refer to the troubleshooting section of the manual.
4. Allow system to run at Stand-by pressure until compressor oil reaches 100 degrees Fahrenheit.
5. Compressor service valve can now be opened and air can be utilized.

Cold Weather Shutdown Procedure

1. Prior to stopping the compressor, the system must be run at operating temperature of 170 degrees Fahrenheit or higher for a minimum of 20 minutes while utilizing the air.
2. Close compressor service valve.
3. Allow system to run at standby pressure for at least 5 minutes.
4. Compressor can now be turned off.
5. After 6 hours, drain any separated moisture from the oil. This is a very important step to prevent any water from freezing in the system.

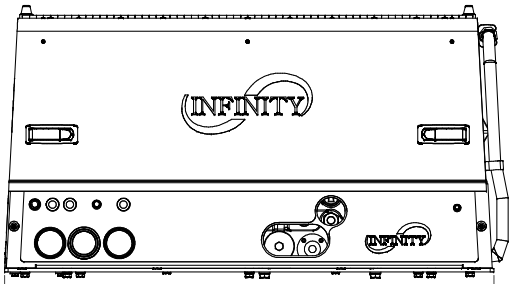
PARTS AND

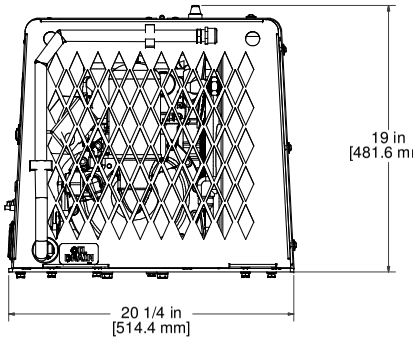
ILLUSTRATION

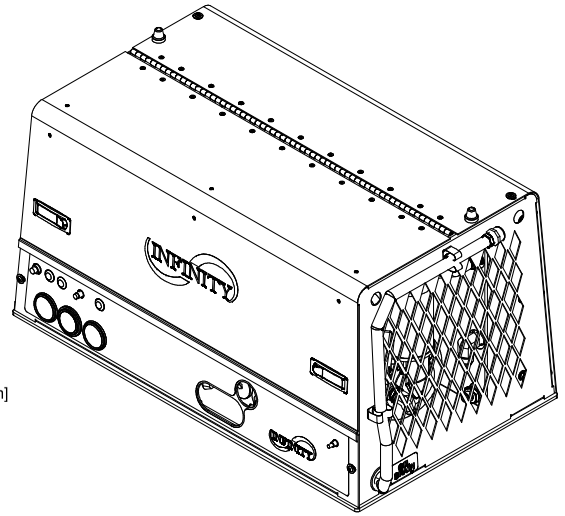
SECTION

Parts List

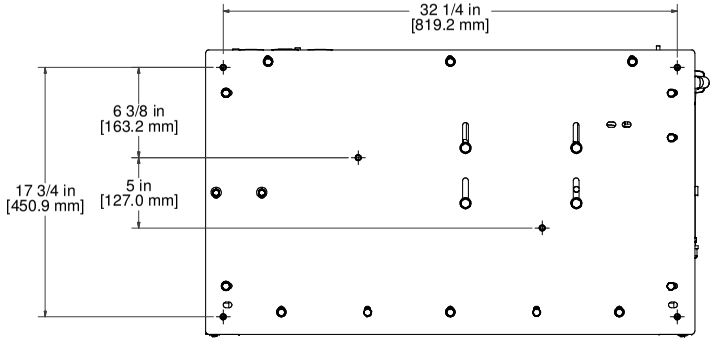
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	200353	COMPR & MTG SYS, INFINITY 45/60/150 SCI8G
2	1	200355	ELEC SYS, INFINITY 45-60-150 SCI8G
3	1	200356	OIL/AIR/HYD CLNG SYS, INFINITY SCI8G
4	1	200354	CANOPY SYS, INFINITY 45-60-150 SCI8G
5	1	61285	OPT, INFINITY SHIPPING MATERIALS
6	1	80099	KIT, HOSE INFINITY







DIMENSIONS OF MOUNTING HOLES



REV	DESCRIPTION	DATE	ENG
	REVISION HISTORY		
22	UPDATED 200356 TO REV 2	06/19/2014	KWB
21	UPDATED 200355 TO REV 7	10/26/2012	ARB
20	UPDATED 200354 TO REV 3	6/6/2012	ARB
19	UPDATED 200355 TO REV 6	5/30/2012	ARB
17	UPDATED 200353 TO REV 10.	1/11/2012	DCL
16	UPDATED 200356 TO REV 1.	7/8/2011	DCL
15	UPDATED 200353 TO REV 9.	3/10/2011	MCM

UNLESS OTHERWISE SPECIFIED
MACHINED SURFACES
ROUNDS AND CHAMFERS
0.000 TO 1.000 ± .010
1.001 TO 5.000 ± .015
5.001 TO 10.000 ± .030
10.001 & OVER ± .060
FRACTIONAL ± 1/16
DECIMAL ± .03
ANGULAR ± 1°
REMOVE ALL BURRS AND SHARP EDGES
DRAWN
DCL
12/3/2007
CHECKED
MCM
12/3/2007
MATERIAL
N/A
PATH
K:\Engineering Documents\Inventor Files\20k\20054-001.dwg

BOSS INDUSTRIES
1761 GENESIS DR.
LA PORTE, IN 46350

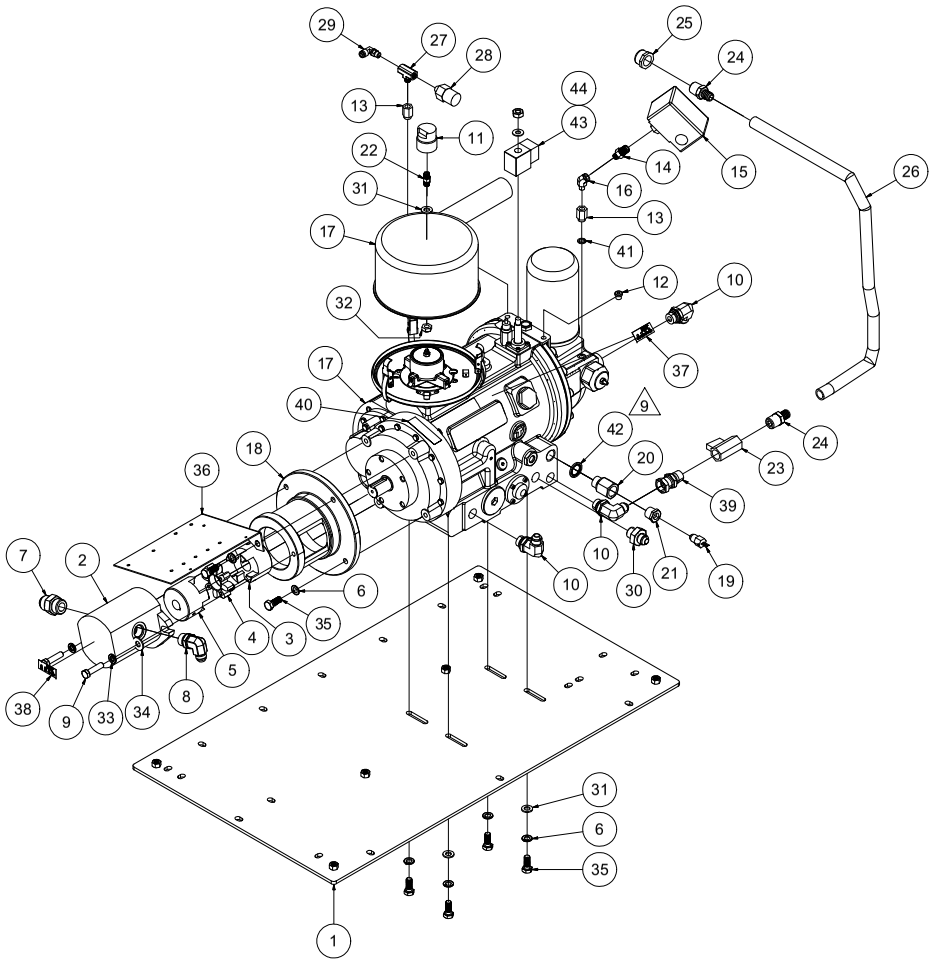
DESCRIPTION
INFINITY 45-60 SCI8G

SIZE	SCALE	DWG NO	REV
D	1=4	20054-001	22

SHEET 1 OF 1

32

307200



Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	302391	BASE, FRAME INFINITY
2	1	301665	MOTOR, HYD 1.61 A 3/4-RD SP CCW
3	1	302101	HUB, COUPLING 25MMX8X7 KYWYR28-02STL
4	1	302103	SPIDER, COUPLING R28-02 98SHR RED
5	1	302455	HUB, COUPLING 3/4 ROUND W 3/16 KYWY R28-03STL
6	8	938810-220	WASHER, LOC 10MM
7	1	970512-106	CONNECTOR, 3/4 MJIC X -12 MSAE
8	1	970408-088	ELBOW, HYD 1/2 MJIC X -10 MSAE
9	2	929806-150	BOLT, HEX GR8 3/8-16 X 1 1/2
10	3	970608-050	ELBOW, HYD 1/2 MBSPP X 1/2 MJIC
11	1	302428	INDICATOR, AIR FLTR SRV 15H2O
12	1	305624	PLUG, PIPE 1/8 BSPP HEX DRIVE
13	2	970802-012	ADAPTER, 1/8 MBSPP X 1/8 FNPT
14	1	961604-012	NIPPLE, HYD HEX RED 1/4 X 1/8
15	1	300904	SWITCH, PRESSURE FURNAS
16	1	960802-012	ELBOW, PIPE 45° STREET 1/8
17	1	40035	ASSY, AIREND SCI8G INTEGRATED
18	1	302309	ADAPTER, HYD MTR TO COMPR SCI8&8G
19	1	307189	SWITCH, OPTIC LIQUID LEVEL 12VDC WET 1/4NPT
20	1	970808-050	ADAPTER, 1/2 MBSPP X 1/2 FNPT
21	1	907602-010	BUSHING, RED 1/2 X 1/4 GAL
22	1	960402-012	NIPPLE, HYD HEX 1/8
23	1	302633	VALVE, MINI BALL 1/2 NPT
24	2	307440	FITTING, 1/2 FLEX-LOC PUSH-ON BARB X 1/2 MNPT
25	1	307439	CAP, PLASTIC 1/2 NPT
26	1	302636	HOSE, 1/2 OIL DRAIN GRAY
27	1	961902-012	TEE, MB 1/8 F X 1/8 F X 1/8 M
28	1	307198	SWITCH, PRESS 3-WAY NO-NC 5PSI
29	1	980704-012	ELBOW, 1/4 TUBE SWVL X 1/8 MNPT
30	1	970708-050	CONNECTOR, 1/2 MJIC X 1/2 MBSPP
31	5	938910-200	WASHER, FLAT 10MM
32	1	300233	NUT, COALESCER
33	2	937806-094	WASHER, LOC GR8 3/8
34	2	938206-071	WASHER, FLAT GR8 3/8
35	8	929210-250	BOLT, HEX GR10.9 10MM X 25MM
36	1	302608	BRACKET, RELAY MTG
37	1	301594	DECAL, TEMP. COMPR.- 250 F
38	1	301593	DECAL, TEMP. HYD.-140 F30
39	1	307201	ADAPTER, 1/2 MNPT X 1/2 FJIC
40	1	300048	DECAL, DIRECTION OF ROTATION
41	1	307203	WASHER, BRASS .585OD X .405ID X .070 THK
42	1	308525	SEAL, WASHER 1/2 MBSPP
43	1	307145	COIL, SOLENOID 12VDC SCI8
44	1	307146	CONNECTOR, WIRE 12VDC COIL SCI8
NS	1 FT	301701-090	SLEEVE, ABRASION 0.90" ID
NS	3.083 FT	301960-025	TUBE, PARAFLEX 1/4 OD X .040 WALL X FT NYLON NATURAL

REV	DESCRIPTION	DATE	ENG
11	REMOVED 302277 (-1) AND 302278 (-1)	1/15/2013	ARB
10	ADDED 307145 AND 307146	1/1/1/12	DCL
9	ADDED 308525	3/10/2011	MCM
8	ADDED 301701-090	1/28/2011	MCM

REVISION HISTORY

MACHINED SURFACES ROUGHNESS
0.000"TO 1.000" ± .015
1.001"TO 5.000" ± .030
5.001" TO 10.000" ± .030
10.001" & OVER ± .060

MACHINE DUPLICATES
FRACTIONAL ± 1/16
DECIMAL ± .03
ANGULAR ± 1°
DO NOT SCALE THIS DRAWING UNLESS STATED

DRAWN NDD 11/19/2007
CHECKED
MATERIAL N/A
PATH G:\Inventor Files\200k\200353.dwg

BOSS INDUSTRIES
1761 GENESIS DR.
LA PORTE, IN 46350

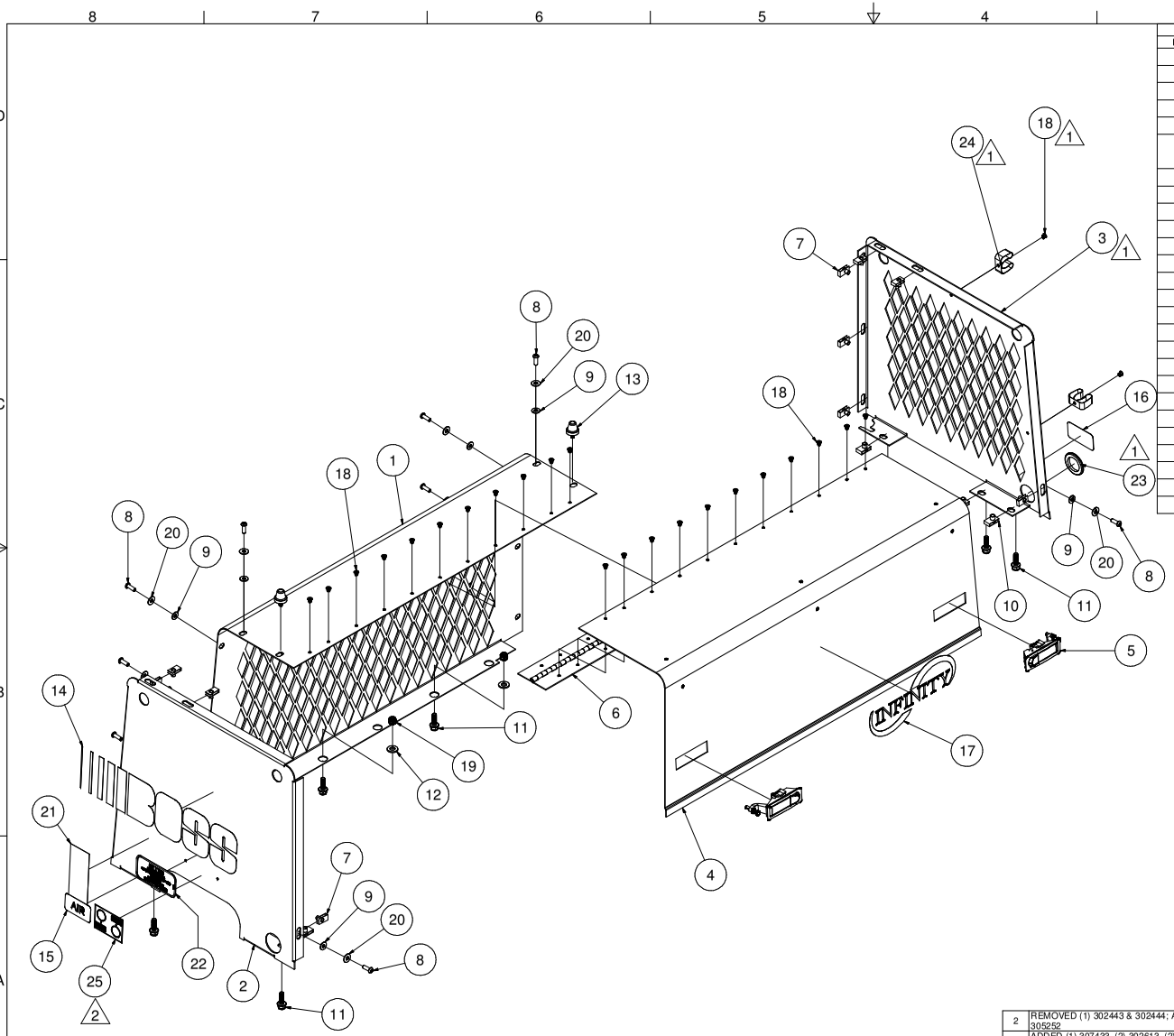
DESCRIPTION
COMPR & MTG SYS, INFINITY 45/60/150 SCI8G

SIZE	SCALE	DWG NO	REV
D	1=8	200353	11

SHEET 1 OF 1

33

307200



Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	302392	PANEL, CANOPY BACK-END INFINITY
2	1	302395	PANEL, CANOPY HYD END INFINITY
3	1	302396	PANEL, CANOPY AIR END INFINITY
4	1	302394	DOOR, CANOPY INFINITY
5	2	301383	LATCH, BULLET
6	1	302442	HINGE, INFINITY ALUM 3.0" OPEN FACE .18PIN 1/2 KNUCKLE
7	12	961504-090	NUT, TINNERMAN 1/4-20
8	10	983904-075	BOLT, BTNHD SS STAR-DRIVE 1/4-20 X 3/4
9	10	977004-062	WASHER, NYLON 1/4 X .06 X .62
10	5	961505-140	NUT, TINNERMAN 5/16-18
11	7	929705-100	BOLT, WHIZLOCK GR5 5/16-18 X 1
12	2	938206-071	WASHER, FLAT GR8 3/8
13	2	302639	BUMPER, DOOR STOP INFINITY
14	1	300649	DECAL, BOSS
15	1	302445	DECAL, AIR LEXAN
16	1	300913	DECAL, OIL DRAIN
17	1	302323	DECAL, INFINITY
18	24	943103-025	RIVET, POP 3/16 X 1/2 ALUMINUM
19	2	924305-166	NUT, NYLOC GR5 5/16-18
20	10	984004-071	WASHER, FLAT WIDE 1/4 SS
21	1	300042	DECAL, WARNING CONNECT AIR
22	1	305761	DECAL, SERIAL TAG BOSS
23	1	307433	GROMMET, 1 7/8 OD X 1 1/4 ID X 1/16 THK
24	2	302613	CLIP, 1/2" HYD HOSE HOLDER
25	1	305252	DECAL, VALVE BLOCK 80061-12
26	8 FT	300444	TAPE, 1/16 X 1/2 CLOSED CELLO

REV	DESCRIPTION	DATE	ENG
REVISION HISTORY			
2	REMOVED (1) 302443 & 302444; ADDED (1) 305252	3/22/2010	CRH
1	ADDED (1) 307433, (2) 302613, (2) 943103-025. UPDATED 302396 TO REV 4.	5/23/2008	MCM

MACHINED SURFACES
NOMINAL DIM
0.000 TO 1.000 ± .010
1.001 TO 5.000 ± .015
5.001 TO 10.000 ± .020
10.000 & OVER ± .030

UNMACHINED SURFACES
FRACTIONAL ± 1/16
DECIMAL ± .03
ANGULAR ± 1°
DO NOT SCALE DRAWING UNLESS REQUIRED

DRAWN	DCL	12/3/2007
CHECKED	NDD	12/3/2007
MATERIAL	N/A	
PATH	G:\Inventor Files\200k\200354.dwg	

BOSS INDUSTRIES
1761 GENESIS DR
LA PORTE, IN 46350

DESCRIPTION
CANOPY SYS, INFINITY 45-60-150 SCIBG

SIZE	SCALE	DWG NO	REV
D	1=4	200354	2

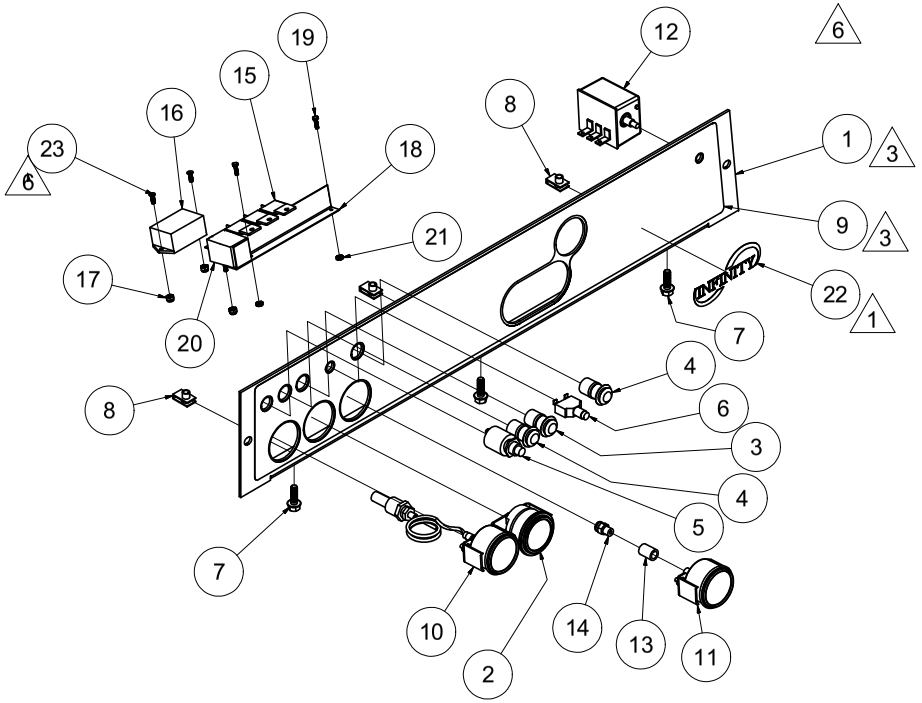
SHEET 1 OF 1

Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	307192	PANEL, GAUGE & LIGHTS INFINITY 08
2	1	300074	GAUGE, HOURMETER
3	1	302449	LIGHT, INDICATING GREEN
4	2	302450	LIGHT, INDICATING RED
5	1	302592	SWITCH, N O MOMENTARY SPST
6	1	302486	BREAKER, PANEL MTG RESET
7	3	929705-100	BOLT, WHIZLOCK GR5 5/16-18 X 1
8	3	961505-140	NUT, TINNERMAN 5/16-18
9	1	307191	DECAL, INFINITY GAUGE PANEL
10	1	300076-004	SWITCHGAUGE, TMP 4 ft - 250
11	1	300075	SWITCHGAUGE, PRESS 2" 0-200 PSI
12	1	302591	SWITCH, SHUTDOWN 117LF WITHOUT FUSE

Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
13	1	901215-005	COUPLING, PIPE 1/8 GAL 150PSI
14	1	980604-012	CONNECTOR, TUBE 1/4 PAR X 1/8 NPT
15	3	300211	RELAY, POWER
16	1	307196	ENCLOSURE, COMPACT RELAY
17	4	924301-156	NUT, NYLOC GR5 #8-32
18	1	302678	BRACKET, RELAY HOLDER INFINITY
19	2	929102-050	BOLT, HEX GR5 #6-32 X 1/2
20	1	302780	TIMER, RELAY 12V 30 SEC N.C.
21	2	924200-114	NUT, MACH #6-32
22	1	307221	DECAL, INFINITY LOGO
23	4	931201-050	SCREW, MACH FL HD #8-32 X 1/2
NS	1	307190	RELAY, COMPACT 12VDC 30MA
NS	1	307193	HARNESS, WIRING INFINITY 08
NS	1	309463	BOOT, BREAKER DUST



REV	DESCRIPTION	DATE	ENG
REVISION HISTORY			
6	UPDATED 931201-050 TO REV 2; ADDED 309463	5/31/2012	ARB
3	UPDATED 307191 TO REV 1 & 307192 TO REV 1	9/14/2009	MCM
2	QTY (1) OF 307190 WAS (.083)	4/16/2009	MCM
1	ADDED (1) 307221	12/22/2008	MCM

MACHINED SURFACES NOMINAL DIM
0.000 TO 1.000 ± .010
1.001 TO 5.000 ± .015
5.001 TO 10.000 ± .020
10.001 & OVER ± .025

UNMACHINED SURFACES
FRACTIONAL ± 1/16
DECIMAL ± .03
ANGULAR ± 1°
DO NOT SCALE TOLERANCES UNLESS NOTED

DRAWN	DCL	12/3/2007
CHECKED	NDD	12/4/2007
MATERIAL	N/A	
PATH	G:\Inventor Files\200k\200355.dwg	

BOSS INDUSTRIES
1761 GENESIS DR.
LA PORTE, IN 46350

DESCRIPTION
ELEC SYS, INFINITY 45/60/150 SCI8G

SIZE	SCALE	DWG NO	REV
C	1=4	200355	6

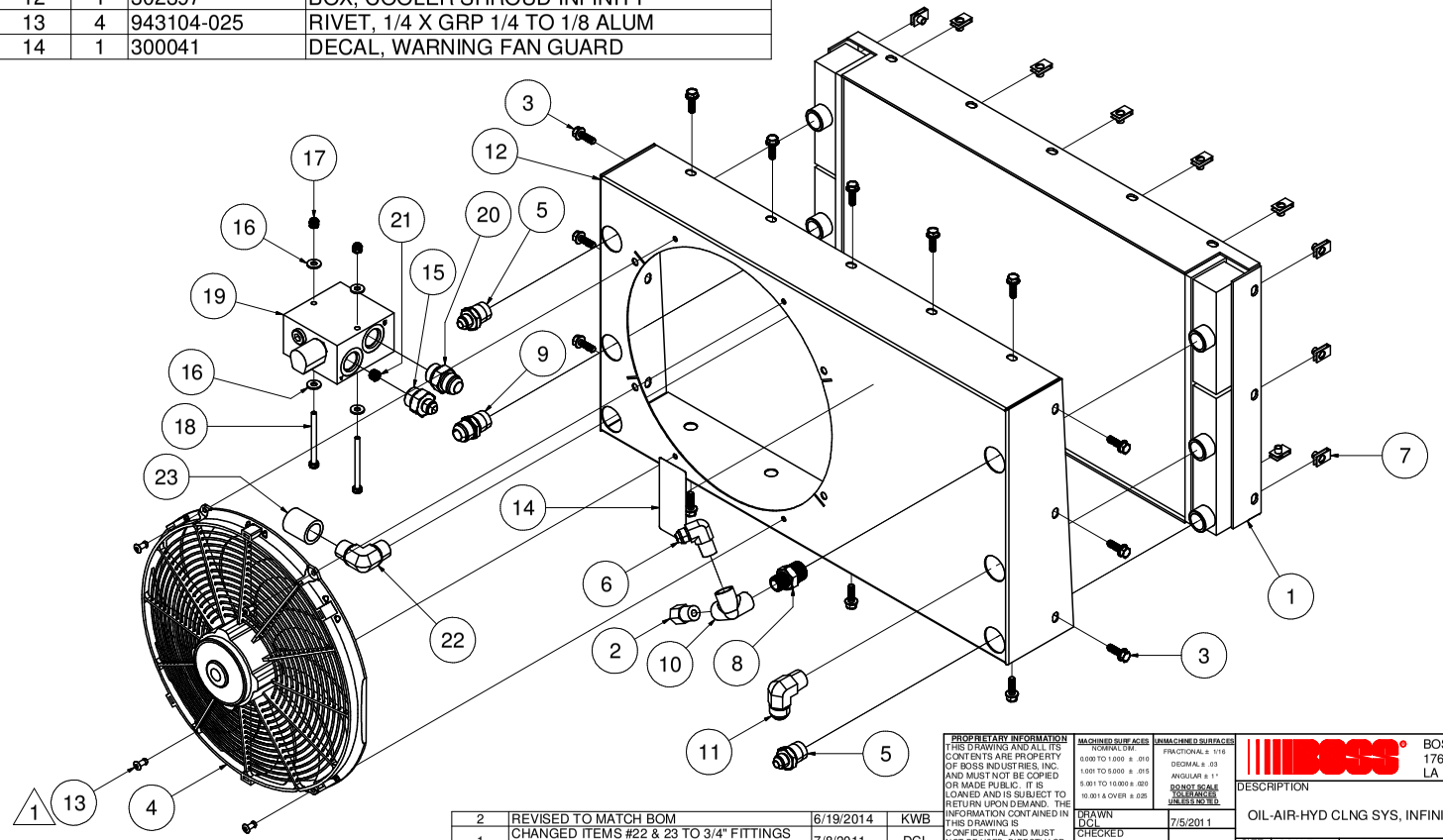
SHEET 1 OF 1

Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	302570	COOLER, COMPR/HYD/AIR 30 X 16
2	1	302087	BULBWELL, 5/8 UNF X 1/2 NPT
3	14	929705-100	BOLT, WHIZLOCK GR5 5/16-18 X 1
4	1	302622	FAN ASSY, B16S 12V 2030CFM
5	2	960108-075	CONNECTOR, 1/2 MJIC X 3/4 MNPT
6	1	960208-050	ELBOW, 1/2 JIC X 1/2 MNPT
7	14	961505-140	NUT, TINNERMAN 5/16-18
8	1	961612-050	NIPPLE, HYD HEX RED 3/4 X 1/2
9	1	960112-075	CONNECTOR, 3/4 MJIC X 3/4 MNPT
10	1	902615-020	ELBOW, PIPE SIDE OUT 1/2 GAL 150PSI
11	1	960212-075	ELBOW, HYD 3/4 MJIC X 3/4 MNPT
12	1	302397	BOX, COOLER SHROUD INFINITY
13	4	943104-025	RIVET, 1/4 X GRP 1/4 TO 1/8 ALUM
14	1	300041	DECAL, WARNING FAN GUARD

Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
15	1	970508-106	CONNECTOR, 1/2 MJIC X -12 MSAE
16	4	938604-071	WASHER, FLAT GR5 1/4
17	2	924304-145	NUT, NYLOC GR5 1/4-20
18	2	929104-325	BOLT, HEX GR5 1/4-20 X 3 1/4
19	1	80056-13-12	KIT, HYD VALVE BLOCK 13GPM FLOW CONTROL
20	1	304700	VALVE, CHECK -12JIC M X -12SAE M FLOW JIC TO SAE
21	1	306812-282	ORIFICE, BLACK .282 FOR HYD BLOCK
22	1	984109-075	ELBOW, HYD 3/4 MNPT X 3/4 MNPT
23	1	901215-030	COUPLING, PIPE 3/4 GAL 150PSI



REV	DESCRIPTION	DATE	ENG
2	REVISED TO MATCH BOM	6/19/2014	KWB
1	CHANGED ITEMS #22 & 23 TO 3/4" FITTINGS FROM 1/2" FITTINGS	7/8/2011	DCL

REVISION HISTORY

MACHINED SURFACES
NOMINAL DIM.
0.000 TO 1.000 ± .010
1.001 TO 5.000 ± .015
5.001 TO 10.000 ± .020
10.001 & OVER ± .025
DO NOT SCALE TOLERANCES UNLESS NOTED

UNMACHINED SURFACES
FRACTIONAL ± 1/16
DECIMAL ± .03
ANGULAR ± 1°

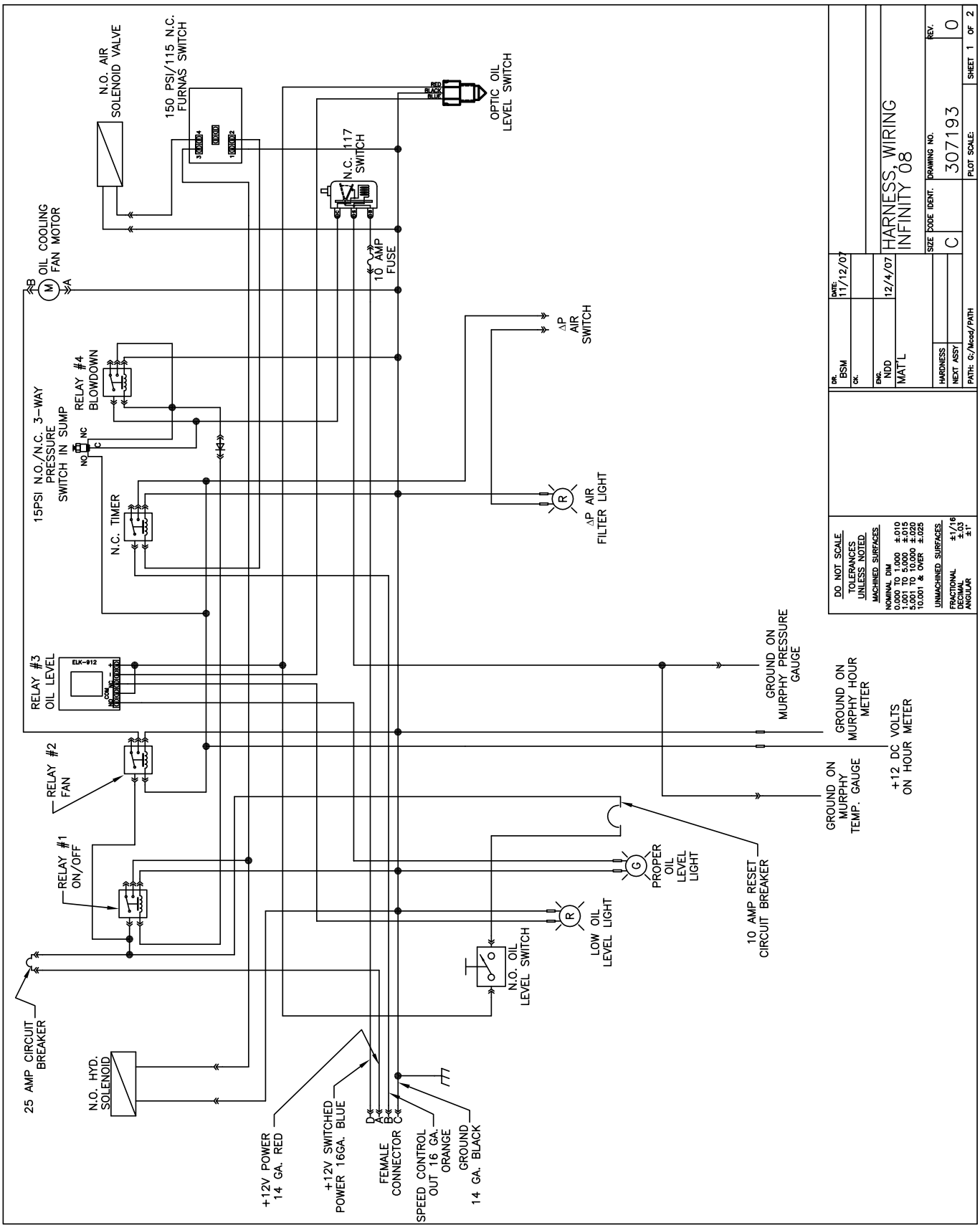
DRAWN DCL 7/5/2011
CHECKED
MATERIAL N/A
PATH G:\Engineering Documents\Inventor Files\200k\200356.dwg

BOSS INDUSTRIES
1761 GENESIS DR.
LA PORTE, IN 46350

DESCRIPTION
OIL-AIR-HYD CLNG SYS, INFINITY SCI8G

SIZE C | SCALE 1=4 | DWG NO 200356 | REV 2

SHEET 1 OF 1


N.O. AIR SOLENOID VALVE
150 PSI/115 N.C. FURNAS SWITCH
OPTIC OIL LEVEL SWITCH
N.C. 117 SWITCH
OIL COOLING FAN MOTOR
10 AMP FUSE
ΔP AIR SWITCH
15PSI N.O./N.C. 3-WAY PRESSURE SWITCH IN SUMP
RELAY #4 BLOWDOWN
N.C. TIMER
ΔP AIR FILTER LIGHT
RELAY #3 OIL LEVEL
RELAY #2 FAN
RELAY #1 ON/OFF
GROUND ON MURPHY PRESSURE GAUGE
GROUND ON MURPHY HOUR METER
+12 DC VOLTS ON HOUR METER
GROUND ON MURPHY TEMP. GAUGE
PROPER OIL LEVEL LIGHT
LOW OIL LEVEL LIGHT
N.O. OIL LEVEL SWITCH
10 AMP RESET CIRCUIT BREAKER
25 AMP CIRCUIT BREAKER
N.O. HYD. SOLENOID
+12V POWER 14 GA. RED
+12V SWITCHED POWER 16GA. BLUE
FEMALE CONNECTOR
SPEED CONTROL OUT 16 GA. ORANGE
GROUND 14 GA. BLACK
DO NOT SCALE
TOLERANCES UNLESS NOTED
MACHINED SURFACES
UNMACHINED SURFACES
DR. BSM
CK:
ENG. NDD
MAT'L
DATE: 11/12/07
12/4/07
HARNESS, WIRING INFINITY 08
HARDNESS
NEXT ASSY
SIZE C
CODE IDENT.
DRAWING NO. 307193
REV. 0
PATH: G:/Mead/PATH
PLOT SCALE:
SHEET 1 OF 2

307200

RECOMMENDED SPARE PARTS

PART NUMBER	DESCRIPTION
302601	ELEMENT, OIL FILTER SCI8
307152	ELEMENT, AIR FILTER SCI7/8
302600	COALESCER, SPIN-ON SCI8/NK40
307092	KIT, SHAFT SEAL REPAIR SCI8G
302103	SPIDER COUPLING
302936	KIT, HYD MOTOR SHAFT SEAL REPAIR

SERVICE QUESTIONNAIRE

DATE:_____

1. Information given by:_____
2. Information received by:_____
3. Has anyone helped you: Yes_____ No_____
4. Distributor:_____
5. End-User:_____
6. Phone Number:_____
7. Make and Model for PTO:_____
8. BOSS INDUSTRIES Serial #:_____
9. Make and Model of Engine:_____
10. Engine:_____
11. Transmission:_____
12. Nature of Problem:_____

_____

_____

_____

_____

13. Engine RPM:_____
14. Compressor RPM:_____
15. Action Taken:_____

_____

_____

_____

_____

Additional Comments:_____

_____

_____

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Instructional Procedures for Installation of BOSS INFINITY Geared Rotary Screw Air Compressor

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

Install, use, and operate this air compressor only in full compliance with all pertinent O.S.H.A. requirements and all pertinent Federal, State, and Local codes or requirements and with BOSS INDUSTRIES, Inc. instructions.

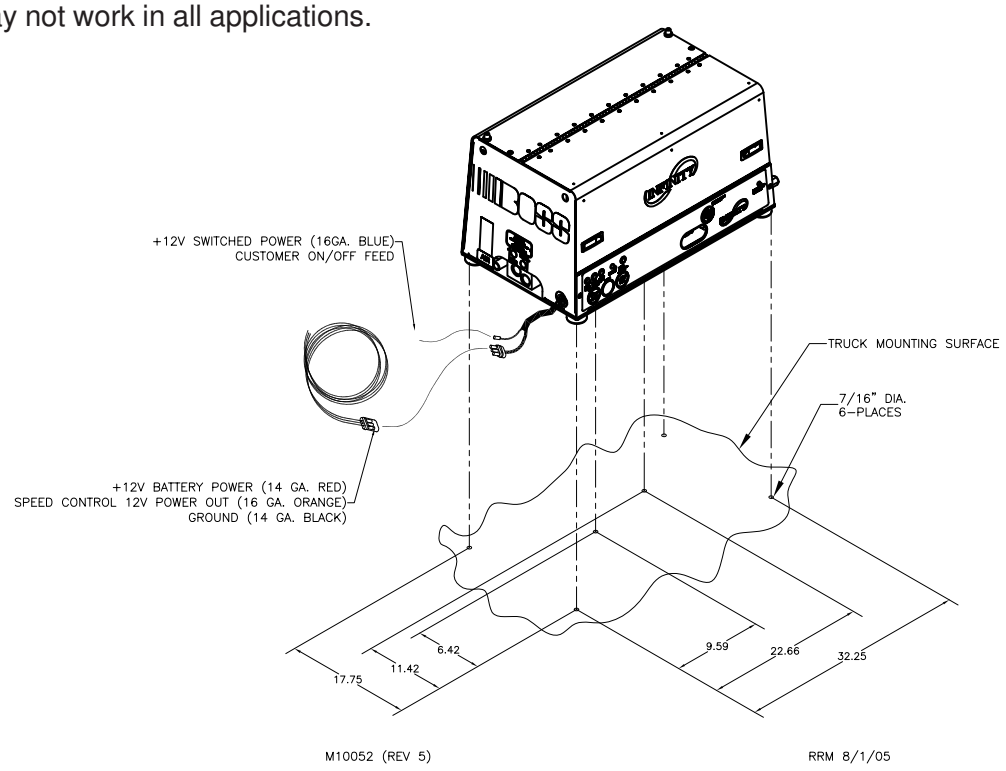
Do not modify this compressor except with written factory approval.

WARNING

TO AVOID ANY POTENTIAL OVERHEATING ISSUES, ENSURE CLEARANCE OF ATLEAST 10" AROUND ALL CANOPY OPENINGS.

1. MOUNTING COMPRESSOR

When mounting the compressor care should be taken to ensure that its location does not impede the operation of other components on the vehicle. For example, if your vehicle is equipped with a crane, you must make sure the compressor will not interfere with the swing of the crane. In addition, the compressor should be installed in an area that permits cool ambient air to enter the air filter and the hot air from the cooler to exhaust without recirculating into the air filter. One last consideration in the mounting should be the routing of hoses and electrical wires. The frame mounting holes are shown below and the unit should be secured to the vehicle with 3/8 inch grade 8 bolts, washers should be used on the mounting surface. Hardware supplied with unit, may not work in all applications.



2. INSTALLATION OF AIR STORAGE TANKS

This Rotary screw air compressor system is designed to provide continuous volume and constant pressure without the use of an air storage tank. Within a few seconds of engagement, the compressor will produce full volume and pressure needed to run corresponding air operated equipment without waiting for air tanks to fill.

Air storage tanks are not utilized as standard equipment on vehicle mounted rotary screw compressors. The installation of air storage tanks, if not done properly, will hinder the performance of the rotary screw compressor. Boss Industries Inc. strongly discourages the use of an air storage tank as standard equipment for vehicle mounted rotary screw air compressors.

In the rare event air usage is required without operating the vehicle, an air storage tank can be added to your system. When adding an air storage tank, be sure to follow all state and federal DOT regulation, regarding air storage tank usage.

3. INSTALLING THE WIRING

This unit is shipped from the factory with all necessary internal wiring installed. The only remaining wiring necessary is the wiring needed to interface your vehicle/power source with the BOSS INDUSTRIES compressor. (Please refer to drawing 307193 on page 35) The unit is shipped with 4 loose wires, they need to be connected as follows:

1. Connect red wire to switched 12 VDC power. (or 24 VDC if you have this option)
2. The blue wire should be spliced into the 12 VDC switched feed for the on/off switch per the end-users location.(or 24 VDC if you have this option)
3. Connect black wire to ground.
4. The orange wire is used to activate an electronic speed control circuit if required. Please contact the factory with engine specific information for further assistance.

4. HYDRAULIC REQUIREMENTS

The following are the minimum requirements for the hydraulic components supplied by the end user of this compressor unit.

I. The hydraulic pressure hose must be a minimum 3/4" i.d. hose rated at 3000 psi.

II. The hydraulic return hose must be a minumum 1" i.d. hose rated at 150 psi.

III. The reservoir tank must be sized to a capacity 2-3 times the highest gpm of the hydraulic system. If multiple hydraulic systems run simultaneously, size the reservoir 2-3 times the accumulative gpm of all of the hydraulic systems.

IV. An additional hydraulic cooler must be added to the system if the operating ambient temperature exceeds 90° F.

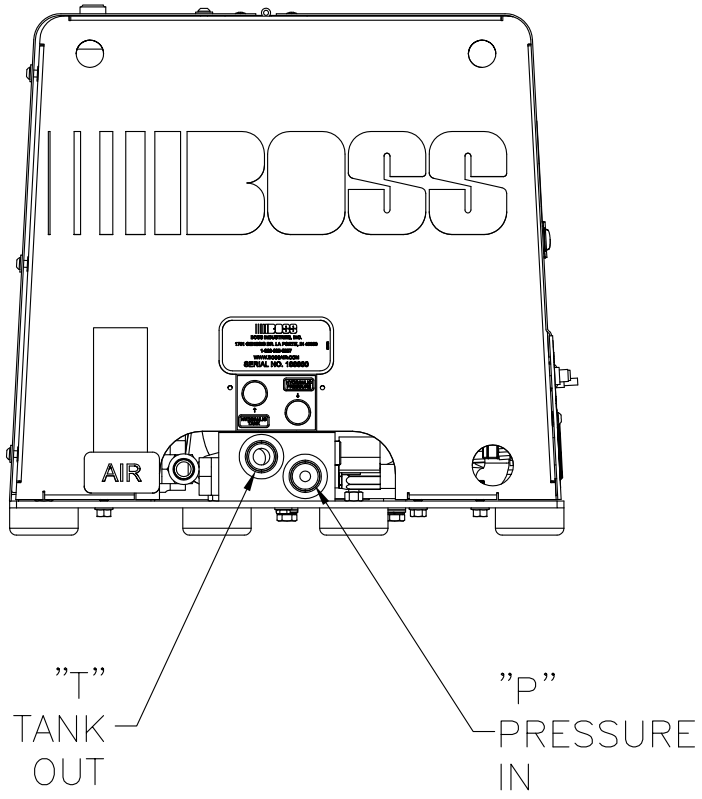
5. CONNECTING THE HOSES

I. The hydraulic hoses to the compressor should be connected directly to the hydraulic control block. The pressure “P” input line should be made from a good quality high pressure (min. 3000 PSI) hydraulic hose 3/4” i.d. The return line to tank “T” can be made from a medium pressure (min. 150 PSI) hydraulic hose 1” i.d. Care should be taken to see that the hoses are not installed with kinks or bends that inhibit flow of the hydraulic oil. Lack of flow could result in damage to the motor and compressor. Lastly check to make sure hoses are not in contact with sharp objects or edges that may fray, chafe or cut them over time. Secure all hoses with tie down straps or clamps.

II The air hose should be connected to the 3/4” air port located next to the hydraulic block. The air hose should be made from good quality air hose (min. 250 PSI) 3/4” i.d. If using a hose reel, install an OSHA valve between the compressor and the hose reel.

WARNING

OSHA Regulation 1926.302 (b) (7):
All hoses exceeding 1/2 inch inside diameter **shall** have a safety device at the source of supply or branch line to reduce pressure in case of hose failure. An OSHA valve will automatically shut off air flow to hose(s), to avoid injury.



6. PRE-START-UP INSPECTION CHECKS

This inspection should be done prior to removing truck from bay. Final testing of the system, including checking for leaks, is to be done outside.

ALL TRUCKS SHOULD BE ROAD TESTED PRIOR TO STARTING INSTALLATION TO ISOLATE ANY PREVIOUS TRUCK PROBLEMS.

I. Check sales order to verify that all compressor related items originally ordered have been installed or are ready to ship with the truck. This would include any special filters, oils, hoses, options, etc.

II. Vacuum all areas that have metal or plastic shavings. Wipe all fingerprints off unit and vehicle.

III. Apply decals to proper location. Make sure that the area is cleaned prior to applying decals. All decals should have a professional appearance upon application.

IV. Check all assemblies, clamps, fittings, drivelines, angles, nuts, and bolts to ensure they are properly tied and secured to the vehicle. This is a very critical area of inspection. The vehicle should not be moved until this inspection has been completed.

V. Record all serial numbers for this installation.
- A. Vehicle V.I.N.
- B. Hydraulic Pump Data
- C. Air-End Serial Number
- D. BOSS INDUSTRIES Serial Number
- E. Receiver Tank Serial Number
- F. Note any special applications relating to specific installations.

VI. Check all fluid levels (position the unit on a level surface so that proper amount of fluids can be added).
- A. Fuel to provide for three hours of operation.
- B. Transmission fluid and PTO box.
- C. Compressor.

  Check the compressor oil sump level (see lubricant section of the operator and parts section for type of lubricant to use). 1. Add oil if needed. 2. Additional oil may need to be added after test. 3. Top off oil level to half the sightglass when finished with the test.
- D. Any other applicable fluids.

7. INITIAL START-UP AND TEST

A. Start power source and allow for warm-up.
B. Read the operation section in the operator and parts manual carefully before proceeding onto the initial start-up.

C. Engage hydraulic system. A direction of rotation arrow is attached to the compressor package above the hydraulic coupling. The coupling/hub must be rotating in the direction the arrow is pointing. If for any reason this arrow has been removed the correct compressor rotation is clockwise when looking directly at the compressor shaft. Check the direction of rotation by quickly engaging and then disengaging the compressor.

CAUTION
DO NOT RUN THE COMPRESSOR IN A REVERSE ROTATION FOR PERIODS LONGER THAN 5 SECONDS. CONTINUED OPERATION IN THIS MANNER WILL RESULT IN EXTENSIVE COMPRESSOR UNIT DAMAGE.

The safety shutdown switch should be wired in series with the solenoid that opens the flow of the hydraulic oil to the compressor drive motor. In cases of high temperature and/or pressure, the closing of the valve will stop the compressor operation.

Safety circuit testing for INFINITY

Safety circuit testing can be done in the following manner. Start the truck. Engage the compressor. Take a screwdriver and touch the 1/16” allen head screw on the face of the temperature gauge and simultaneously touch the outside ring on the face of the gauge. This should shut off the power to the solenoid of the hydraulics. Push the button in on the shutdown switch to reset. Repeat the test with the pressure gauge if solenoid does not stop flow to compressor, check wiring.

WARRANTY SECTION

WARRANTY INFORMATION

BOSS Industries, Inc. warrants that this Rotary Screw Compressor unit conforms to applicable drawings and specifications approved in writing by BOSS. The unit assembly will be free from defects in material and workmanship for a period of two (2) years from the date of initial operation or thirty (30) months from the date of shipment, whichever period first expires. All other components and parts of BOSS manufacture, will be free from defects in material and workmanship for a period of one (1) year from the date of initial operation or eighteen (18) months from the date of shipment, whichever period first expires. If within such period BOSS receives from the Buyer written notice of and alleged defect in or nonconformance of the unit, all other components and parts of BOSS manufacture and if in the judgment of BOSS these items do not conform or are found to be defective in material of workmanship, BOSS will at its option either, (a) furnish a Service Representative to correct defective workmanship, or (b) upon return of the item F.O.B. BOSS original shipping point, repair or replace the item or issue credit for the replacement item ordered by Buyer, (Defective material must be returned within thirty (30) days of return shipping instructions from BOSS. Failure to do so within specified time will result in forfeiture of claim), or (c) refund the full purchase price for the item without interest. Factory installed units will also include warranty on installation for a period of one (1) year. This warranty does not cover damage caused by accident, misuse or negligence. If the compressor unit is disassembled the warranty is void. BOSS's sole responsibility and Buyer's exclusive remedy hereunder is limited to such repair, replacement, or repayment of the purchase price. Parts not of BOSS manufacture are warranted only to the extent that they are warranted by the original manufacture. BOSS shall have no responsibility for any cost or expense incurred by Buyer from inability of BOSS to repair under said warranty when such inability is beyond the control of BOSS or caused solely by Buyer.

There are no other warranties, express, statutory or implied, including those of merchantability and of fitness of purpose; nor any affirmation of fact or representation which extends beyond the description of the face hereof.

This warranty shall be void and BOSS shall have no responsibility to repair, replace, or repay the purchase price of defective or damaged parts or components resulting directly or indirectly from the use of repair or replacement parts not of BOSS manufacture or approved by BOSS or from Buyer's failure to store, install, maintain, and operate the compressor according to the recommendations contained in the Operating and Parts Manual and good engineering practice. The total responsibility of BOSS for claims, losses, liabilities or damages, whether in contract or tort, arising out of or 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 of any charter, including, but not limited to, loss of use of productive facilities or equipment, loss of profits, property damage, expenses incurred in reliance on the performance of BOSS, or lost production, whether suffered by Buyer or any third party.

BOSS Industries, Inc.

1761 Genesis Drive

LaPorte, IN 46350

SUMMARY OF MAIN WARRANTY PROVISIONS

As claims, policies and procedure are governed by the terms of the BOSS Industries, Inc. warranty, it is necessary to outline some of the more important provisions.

The BOSS warranty applies only to new and unused products which, after shipment from the factory, have not been altered, changed, repaired or mistreated in any manner whatsoever. Normal maintenance items such as lubricants and filters are not warrantable items.

Parts not of BOSS manufacture are warranted only to the extent they are warranted by the original manufacturer.

Damage resulting from abuse, neglect, misapplication or overloading of a machine, accessory or part is not covered under warranty.

Deterioration or wear occasioned by chemical and/or abrasive action or excessive heat shall not constitute defects.

Parts replacement and/or correction of defective workmanship will normally be handled by BOSS or their authorized distributor.

Failure to file a detailed warranty claim/service report for each occurrence of material defect of defective workmanship will cause warranty claim to be rejected.

Defective material must be returned within 30 days of receipt of shipping instructions. Failure to do so within specified time will result in forfeiture of claim.

The distributor is responsible for the initial investigation and write up of the warranty claim.

Distributor shall be allowed no more than 30 days from date of repair to file a warranty claim/service report.

Warranty for failure of BOSS replacement parts covers the net cost of the party only, not labor and mileage.

The BOSS warranty does not cover diagnostic calls and travel. That is time spent traveling to the machine to analyze the problem and returning with the proper tools and parts to correct the problem.

BOSS will deduct from allowable credits for excess freight caused by sender failing to follow return shipping instructions.

Distributors or end-users automatically deducting the value of a warranty claim from outstanding balances due and payable to BOSS prior to receiving written notification of BOSS approval of the warranty claim may be subject to forfeiture of the entire claim.

WARRANTY/RETURN GOODS INSTRUCTIONS

The warranty/return procedure outlined below is provided to give the claimant the information necessary to file a warranty/return claim, and enable BOSS INDUSTRIES the ability to best serve its' customers.

Please see the following instructions to initiate a return:

Contact BOSS INDUSTRIES Returns Department by telephone at 219.324.7776 or via email at service@bossair.com. You may also send a fax at 219.324.7470.

WARRANTY CLAIMS – PREPARATION OF PART RETURN

Parts returned to the factory must be properly packaged to prevent damage during shipment. Damage to a part as a result of improper handling or packing could be cause for denial. When addressing the package for shipment, the following information must be on the outside of, or tagged clearly, to the package.

1. Return Goods Authorization #.
2. Distributor or end-users return address.
3. Correct factory address.
4. Number of packages pertaining to each claim.

NOTE: Our warranty requires that all defective parts be returned to BOSS INDUSTRIES freight prepaid. Items sent without RGA number will not be accepted. Unauthorized Returns Will Immediately Be Refused At Dock.

RETURN OR WARRANTY CLAIMS – FILING PROCEDURES

1. Initiate through a purchase order for warranty part or request for credit.
2. RGA will accompany replacement part.
3. BOSS INDUSTRIES will confirm disposition of failed part within 30 days of receipt and or request additional information.
4. Claim denial will result in issuance of a letter of denial.
5. BOSS INDUSTRIES will consider each claim on its' own merit and reserves the right to accept or reject claim request. In case of air-ends, these will be returned to the manufacturer for their analysis/input.
6. Send Warranty Claim to:
   BOSS INDUSTRIES, INC.
   1761 Genesis Drive
   LaPorte, IN 46350
   Attn: Returns Dept.

GENERAL

An approved claim depends on the following provision:

1. An RGA # must be issued by BOSS INDUSTRIES. (See filing procedures.)
2. Failed part must be returned within 30 days of original invoice date, freight prepaid, with RGA #.
3. Part is determined to be defective.
4. Workmanship is determined to be defective.
5. Machine is within warranty period.
6. Machine has been operated within design conditions.

Claims made through distributors must be verified by distributor prior to contacting BOSS INDUSTRIES.

DAMAGE IN TRANSIT

Do not return damaged merchandise to BOSS INDUSTRIES, please follow claim procedure.

1. Loss in transit:
   The merchandise in our kit or provided in our factory installations has been thoroughly inspected or carefully installed and tested before leaving our plant. However, regardless of the care taken at the factory, there is a possibility that damage may occur in shipment. For this reason, it is recommended that the unit be carefully inspected for evidence of possible damage or malfunction during the first few hours of operation. Responsibility for the safe delivery of the kit or factory installed unit was assumed by the carrier at the time of shipment. Therefore, claims for loss or damage to the contents of the kit or factory installed unit should be made upon the carrier.

2. Concealed loss or damage:
   Concealed loss or damage means loss or damage, which does not become apparent until the kit is unpacked or the factory-installed unit is run by the end-user. The contents of the kit or factory installed unit may be damaged due to rough handling while in route to its destination, even thought the kit or factory installed unit shows no external damage. When the damage is discovered upon unpacking, make a written request for inspection by the carrier agent within fifteen days of delivery date. Then file a claim with the carrier since such damage is the carrier's responsibility.

By following these instructions carefully, we guarantee our full support of your claims, to protect you against loss from concealed damage.

3. Visible Loss or Damage
   Any external evidence of loss or damage must be noted on the Freight Bill or Express Receipt, and signed by the carrier's agent. Failure to adequately describe such external evidence of loss, or damage may result in the carrier refusing to honor a damage claim. The carrier will supply the form required to file such a claim.

SCREW COMPRESSOR AIR-END EXCHANGE PROGRAM

Replacement air-ends are available from the factory. For current prices and availability, contact BOSS INDUSTRIES, Inc. or an authorized BOSS INDUSTRIES distributor. Prices are F.O.B. shipping point. Prices do not include labor for removal or installation.