ATLAS AIR COMPRESSOR
OPERATING INSTRUCTIONS

PLEASE READ THIS MANUAL BEFORE USING YOUR AIR COMPRESSOR. KEEP THIS MANUAL FOR FUTURE REFERENCE AS TO THE PROPER OPERATION AND MAINTENANCE OF YOUR AIR COMPRESSOR.

COMPRESSOR IDENTIFICATION

Please record information in the spaces below. This information will help the GSES service technicians furnish you with the correct parts and service information.

UNIT MODEL NUMBER: _____
(Located on Base of Air Receiver or Air Receiver – Silver Label)

UNIT SERIAL (MFG.) NUMBER: _____
(Located on Base of Air Receiver or Air Receiver – Silver Label)

MOTOR SPECIFICATIONS: _____
(Located on Nameplate of Motor)

GREG SMITH LOCATION PURCHASED _____

SAFETY PRECAUTIONS

Please review the following information before you begin to use your new Atlas air compressor. This information needs to be understood by the operator BEFORE the air compressor is operated. Failure to understand this manual and follow these simple instructions may result in serious personal injury or death. Failure to operate the air compressor in accordance to the guidelines provided may result in damage to the air compressor.

ELECTRICAL HAZARD

The air compressor must be connected to a properly grounded electrical outlet. The outlet connection must be a in a dry and non-explosive environment. The compressor must be located a minimum of 20 feet (6.1 meters) from any source of potentially explosive vapors. Electrical service must be consistent with motor voltage. All power must be disconnected BEFORE any repairs or maintenance may be performed on the air compressor.

TANK SAFETY VALVE

The safety valve (pop-off) is a factory installed pressure relief device designed to prevent too much air pressure from accumulating in the air receiver. If there is a malfunction of the pressure switch, and air pressure reaches an unsafe pressure inside the vessel, the pressure relief valve "opens' to allow the excess pressure to escape. Never adjust or tamper with the tank safety valve. Serious injury or death may result from adjusting or tampering with the tank safety valve.

PRESSURE SWITCH

The Atlas air compressor pressure switch is preset at the factory. The pressure settings are properly adjusted to ensure the safety of the operator and produce the optimal performance of your Atlas air compressor. Never bypass or remove this switch. Serious personal injury or equipment damage may occur. Compressed air is dangerous. Make sure that your Atlas air compressor delivers ONLY the recommended amount of air pressure.

MOTOR AND COMPRESSOR PUMP

The air compressor motor and pump are both attached to moving parts. Always disconnect the air compressor from the electrical service to prevent injury from the moving parts before performing service or maintenance. Both the air compressor pump and the electric motor get hot during the normal course of an air compressor's operation. Never touch the hot pump or electrical motor. Allow all parts to "cool down" before performing any service work. The discharge tubing connected to the tank and pump may also become hot during normal operation. (Or stay hot after the air compressor has reached the desired air pressure).
Remember: The compressor automatically turns on and turns off when connected to the proper electrical service. Shut off all power to the unit before attempting to repair or maintain the compressor. Never operate the compressor with the belt guard removed.

COMPRESSED AIR CAUTION

Compressed air from the unit may contain poisonous/noxious vapors which are not suitable for human inhalation. These gases may be harmful to your health. Never directly inhale compressed air produced by the compressor. Always use proper filtration. If you are breathing compressed air, make sure your air filtration breathing devices meet NIOSH and OSHA requirements.

AIR RECEIVER

Over pressurizing the air receiver (compressor air tank) could cause an explosion or rupture of the vessel. The safety valve is provided (factory installed) to "pop-off" if the air pressure in the vessel exceeds factory specifications. The valve needs to be tested each month to ensure it is working properly. Never weld, drill, or modify the structure of the air receiver in any way. Any modification may reduce the integrity of the vessel and cause serious injury or death. Structural modifications will void the warranty.

GENERAL DESCRIPTION OF AIR COMPRESSOR

The piston in the cylinder of the air compressor pump moves up and down (just like in a car's engine). During the down-stroke, atmospheric air is drawn into the cylinder through the inlet valve. The discharge valve (on the cylinder) remains closed. During the up-stroke of the piston, the air in the cylinder becomes compressed. The inlet valve closes and the compressed air is forced out through the discharge valve, into the discharge tube and into the air receiver. The check valve (located at the receiver end of the discharge tube does not allow the compressed air to flow"back into the discharge tube" once the air has been delivered to the air receiver tank. "Working air or proper CFM delivered air" is not available until the compressor has delivered the correct air pressure to the receiver. The air pressure in the receiver must be equal to or greater than the amount of air pressure demanded by the air tool or air powered equipment.

INSPECTION OF AIR COMPRESSOR

Each ATLAS Air Compressor is factory tested and inspected before shipment. Every attempt is made to ensure that the Atlas products arrive undamaged. However, freight damage may occur during shipment. All ATLAS products become the property of the consignee when the products are shipped from our facility. (See freight information on our Freight Information page)

It is the customer's responsibility to inspect the product after unloading. There may be concealed damage. If there is damage (either concealed or apparent), then the customer must note this on the bill of lading receipt. All shortages should also be noted. Greg Smith Equipment will assist our customers with the paperwork needed to file a damage claim, but it is the customer's ultimate responsibility to file the claim. Do not discard any of the products or packaging, as they may be required by the carrier for inspection.

GENERAL REQUIREMENTS

As the owner of a new ATLAS Air Compressor Unit, it is your responsibility to make sure the compressor is installed correctly. You will also need to maintain and service the Atlas air compressor as outlined in the manual. It is important that you read and understand this information. Please keep this information in a safe place for easy access and future reference.

INSTALLATION – MECHANICAL

Locate the Atlas air compressor in a clean, dry and well-ventilated area. The Atlas air compressor should be located 12 to 18 inches away from walls or other obstructions that may interfere with the air flow through and around the pump flywheel. If possible, the air compressor should be located in a separate room or area with an air intake or fan positioned on an outside wall for maximum airflow and cooling. The air compressor has heat dissipation fins around the copper lines. These fins help to cool the air line (and the air inside) to prevent condensation from occurring in the air receiver. Please make sure that the fins are not damaged and are kept clean. A clean ATLAS air compressor runs cooler and provides longer service. Allow plenty of room around the ATLAS air compressor when installing. The operator must have enough room to maneuver around the compressor to perform service and maintenance work.

For permanent installation, the ATLAS air compressor may be bolted to the floor.
BE CAREFUL NOT TO BOLT DOWN ALL THE LEGS TOO TIGHTLY!
Shims or vibration pads must be used to level the compressor before bolting it to the floor. When an air compressor "starts", the entire unit begins to "vibrate". This movement is normal. If all the legs are bolted tightly to the floor, the "vibration" of the air compressor (either starting or stopping) may damage a "bolted down" leg. Greg Smith Equipment recommends the use of vibration dampener pads to be placed between the bottom of the foot and the concrete floor. These vibration pads allow the air compressor to "shake" during the start up and run time without causing any damage to the receiver feet. Some compressor may be operated on while mounted to their shipping skid. Make sure the skid is constructed well. (not falling apart)

Do not attempt to operate the air compressor unit without first checking the oil level in the pump. Add oil as required. Serious damage may result from use with too little oil.

ATLAS air compressors may be equipped with several options designed to enhance their performance. Ask your ATLAS air compressor distributor about wire flexed hoses, automatic tank drains, low oil monitors, refrigerated air dryers, and other Atlas air compressor accessories. ATLAS is committed to provide reliable clean dry compressed air at the most competitive price. Ask your local ATLAS distributor for details on all our accessories.

INSTALLATION – ELECTRICAL

It is your responsibility to ensure that your Atlas Air Compressor Unit is professionally wired. Any electrical work should be carried out by a competent electrician and installed to meet all applicable local and National codes and regulations.

Failure to properly connect the electrical system may result in serious personal injury or extensive damage to the equipment.

Please note: under normal operating conditions, the air compressor will operate intermittently. Starting and stopping are perfectly normal for a compressor operating in a normal business environment. Should it be necessary to service the air compressor, make sure the power source has been removed. This must be done to prevent personal injury or damage to the unit.

Do not attempt to operate the air compressor unit without first checking the oil level in the pumps. Add oil as required. Serious damage may result from use without oil.

MOTORS

Motors used on all Atlas air compressors are clearly marked as to the correct voltage and amp requirement. It is the customer's responsibility to make sure that the motor on the ATLAS air compressor is wired properly. Motors require supplied voltage to be +/- 10% of the stated motor volt rating on the motor plate. Failure to provide the correct voltage to your Atlas air compressor motor will result in premature motor failure. Motor warranty is provided by the original motor manufacturer. In the event of a motor failure contact your ATLAS Distributor or Service Center for the location of the nearest Authorized Motor Service Center.

PRESSURE SWITCHES

The pressure switch (cut in/cut out) limits have been preset at the factory. Do not adjust settings. Consult your local distributor or service centers should the switch not be operating properly.

PUMP ROTATION

The rotation of the pump's flywheel should be in the direction that causes air to be blown over the surface of the pump. This allows the pump to cool properly while in operation.
The correct direction is normally marked with an arrow on the flywheel.

COMPRESSOR LUBRICATION

Check the oil level before operating the compressor. Make sure the oil level is correct. Do not add or change oil while the compressor is in operation. Use only 30 weight Non-Detergent Compressor Oil or Synthetic Compressor Oil.

FILLING THE OIL

Shut off the compressor. Remove the oil filler plug and slowly pour the proper oil into the pump crankcase. DO NOT OVERFILL! Always keep the oil level between the marks "H" and "L" on the oil stick or on the red circle on the sight glass.

CHANGING THE OIL

CHANGE OIL AFTER THE FIRST 8 HOURS OF COMPRESSOR OPERATION. THEN CHANGE THE OIL AFTER EVERY 300 WORKING HOURS; OR EVERY 3 MONTHS. WHICHEVER COMES FIRST.

Shut off the compressor. Remove the oil drain plug. Allow oil to drain completely into a container. Replace the oil drain plug. The use of a sealing compound or Teflon tape to the plug threads is recommended. Refill with 30 weight non-Detergent Compressor Oil to the proper level. DO NOT OVERFILL! Dispose of the used oil in an environmentally correct manner.

INITIAL START-UP PROCEDURE

MAKE SURE COMPRESSOR PUMP HAS THE PROPER AMOUNT OF OIL. Add oil as required. Serious compressor pump damage may result from lack of compressor oil. See page 4 for proper compressor lubrication.

1. Check to see that nuts and bolts are all properly tightened. Some fasteners may have become loose in transit.
2. Check to see if the belt is properly installed to the correct tension. Proper belt tension can be determined by applying pressure to the center of the belt. Correct belt tightness would allow only ½" slack in the middle of the belt.
3. Check that level oil is correct. See page 4 for proper compressor lubrication.
4. Check that the compressor is mounted on a solid surface that will allow some compressor vibration. The compressor should be anchored just enough to not let it "walk".
5. Check that oil breather is clean.
6. Check that air filter(s) is clean.
7. Do not place any materials on or against the belt guard, or the compressor unit itself. Placing materials around the belt guard area may result in reduced air flow to the compressor. The air compressor needs a constant flow of clear air to maintain a lower pump temperature.
8. Turn on the compressor. Make sure the flywheel is turning in the correct position. "PUMP ROTATION" (Page 4). On compressors with three-phase power, adjust the wiring at the motor terminals if the rotation is incorrect. Refer to the wiring diagram on or in the motor terminal box.
9. Open the air receiver outlet ball valve (located on the side of the tank) and start the unit. Make sure that compressed air is escaping to atmosphere. Allow the unit to operate for a minimum of twenty minutes in this no-load condition. The pump is actually blowing compressed air back into the atmosphere. This "no-load" pumping condition helps to lubricate bearings and pistons and acts as a "break-in" period for the compressor.
10. After running the compressor unit for twenty minutes, close the ball valve, and allow the unit to reach maximum operating pressure. Check to make sure that the compressor shuts down at the pre-set maximum pressure. Cylinder head pressure should be released through either the pressure switch or the CPR on the front of the pump.
11. Check the air compressor and piping systems for air leaks, and correct as required.
12. Shut off all power to the air compressor before attempting any repair or maintenance.
13. After you have determined that your Atlas air compressor is working properly, check the oil level in the crankcase. Add oil as required. Page 4
14. Your compressor is now ready for use.

PREVENTATIVE MAINTENANCE

Before doing any maintenance or adjustments to your air compressor, the following safety precaution should be taken.

1. **DISCONNECT ELECTRICAL POWER.**
2. **DRAIN AIR RECEIVER OF AIR PRESSURE.**

DAILY CHECK LIST

1. Check Oil Level.
2. Drain Condensation(Water) from Air Receiver
3. Check for Any Unusual Noise or Vibration.
4. Be Sure All Nuts and Bolts are Tight.

WEEKLY CHECK LIST

1. Clean Air Filter by Opening Air Filter Cap. Replace Filter if Necessary.
2. Check Oil Level and Top Up if Necessary.

QUARTERLY OR 300 HOUR CHECK LIST

1. Change Oil and Filter Element.
2. Check Condition and Alignment of Belt, Flywheel and Motor Pulley. Adjust Belt Tension if Necessary or Replace Belt If Worn.
3. Check Safety Valve.
4. Check Pressure Switch Unloader to Ensure Compressor Head Unloads Whenever Motor Shuts Downs.
5. Clean and Blow Off Pump Fins and Motors.
6. Inspect Air System for Leaks by Applying Soapy Water to All Joints. Tighten joints if needed.

TROUBLE SHOOTING GUIDE

CONDITION	CAUSE	CORRECTIVE ACTION
Compressor Will Not Start.	1. Fuse blown or circuit breaker tripped. 2. Loose electrical connections 3. Overheated motor.	1. Check for cause of blown fuse or breaker and replace or reset. 2. Check wiring Connections 3. Presses reset button or wait for automatic reset. Check belt tension.
Low Pressure	1. Air leak in safety valve. 2. Loose tube of fittings. 3. Restricted/dirty air filter. 4. V-Belt is loose. 5. Defective check Valve.	1. Check valve manually by pulling upward on ring. if condition persists replace valve. 2. Tighten fittings. 3. Clean or replace. 4. Adjust belt tension. 5. Replace check valve.
Safety Valve Releasing On Air Receiver	1. Defective Pressure Switch or improper Adjustment. 2. Defective Safety Valve.	1. Check for proper adjustment and if problem persists replace pressure switch. 2. Replace safety valve.
Inter-cooler Safety Valve	1. Dirty or defective High pressure intake or exhaust Valves. 2. Inter-cooler clogged with carbon. 3. Defective safety valve.	1. Clean, repair or replace Valves as required. 2. Clean or replace. 3. Replace safety valve.
Oil Discharge and Excessive Carbon Formation or Appearance of Water and Oil in the AirLines.	1. Improper oil viscosity 2. Overfilling the crankcase with oil. 3. Restricted air filter. 4. Carbon exhaust valves. 5. Worn Valves. 6. Worn piston rings. 7. High ambient temperature and/or humidity. 8. High percentage of running time. (80% to 100%)	1. Replace oil with 30 wt., non-detergent compressor oil. 2. Drain oil and fill to proper level. 3 Clean or replace filter. 4 Clean or replace as required. 5 Replace valve assemblies. 6. Replace piston rings. 7. Install a moisture separator and/or dryer followed by an oil filter 8. Check for air leaks. If no leaks are found; you may require an additional compressor unit. Your air demand exceeds present air compressor's capibilities.

TROUBLE SHOOTING GUIDE

CONDITION	CAUSE	CORRECTIVE ACTION
Excessive Noise	1. Loose flywheel or pulley. 2. Loose valve. 3. Noisy only during startup, check for loose belts. 4. Vibrating belt guard, piping or loose belts. 5. Unit not installed level. 6. Improper grade of oil in crankcase. 7. Carbon or foreign material on piston. 8. Worn bearings	1. Tighten as Required. 2. Inspect valve for damage. Replace as required. 3. Adjust for proper tension. 4. Tighten as required. 5. Ensure that unit is securely mounted to a level surface. 6. Replace oil with 30 wt. Non-detergent compressor oil or Synthetic compressor oil. 7. Clean piston. Check cylinder walls for scoring. 8. Replace main bearings.
Reduced Air Delivery or Insufficient Air	1. Restricted air filter. 2. Loose V-belt. 3. Pump valves or tank check valve leaking, sticking or carbon build up 4. Air leaks in the system. 5. Undersized unit for air requirements.	1. Clean or replace filter. 2. Adjust to proper tension. 3. Clean, repair or replace. 4. Fix leaks. 5. Contact ATLAS Compressor Distributor.
Compressor Over-Heating	1. Undersized unit for air requirements. 2. Compressor location 3. Pump rotating the wrong way. 4. Air leaks in the system. 5. Restricted air filter. 6. Improper grade or level of oil. 7. Worn, damaged, or carbon build up on valves. 8. Carbon build up at after-cooler tube or check valve.	1. Contact ATLAS Compressor distributor 2. See installation-Mechanical Section (Pg.3) 3. See Pump Rotation section (pg.4) 4. Fix leaks. 5. Clean or replace filter. 6. Replace with 30 wt. non-detergent compressor oil 7. Clean, repair or replace valves. 8. Clean or replace.

TROUBLE SHOOTING GUIDE

CONDITION	CAUSE	CORRECTIVE ACTION
V-Belts Roll Off the Flywheel or Motor Pulley	1. Flywheel and motor pulley not aligned properly. 2. Belts do not match flywheel groove. 3. A nick or tear on the edge of the belt. 4. Not a matched set. (If two or more belts are used.)	1. Align using a straight edge. 2. Purchase new set has matched belts. 3. Purchase new set has matched belts. 4. Purchase new set has matched belts.
Flywheel or Motor Pulley Wobbles or Comes Loose	1. Bolt not tight enough on flywheels. 2. Set screw on motor pulley not tight enough.	1. Tighten as required. 2. Replace set screw with lock-tite coating or replaces motor pulley.
Pressure Switch Unloaded Does Not Function or Leaks Air When Units is Operating.	1. Pressure switch unloaded may be dirty or faculty.	1. Clean, repair or replace Pressure switch.
Pressure Switch Unloaded Leaks Air When Unit Is Not Operating.	1. Check valve may be dirty or faulty.	1. Clean, repair or replace Check Valve.
Water in Air Receiver	1. Condensation in the air receiver.	1. Drain daily or install an automatic drain.
Compressor LOCK-UP Flywheel Will Not Turn Freely.	1. Started without oil 2. Ran low on oil. 3. Worn rod bearing inserts. 4. Piston and pin assembly seized. 5. Worn crankshaft bearing.	1. Pump will require an overhaul. Contact ATLAS Compressor Service Center.
Oil Leaks or Appearance of Oil on the Compressor	1. Spillage of oil when filling. 2. Overfilling the crankcase. 3. Improper grade of oil. 4. Leak at oil filler plug. 5. Oil leak at gaskets, cap screws, head, cylinder or crankcase. 6. Loose valve plugs. 7. Loose side or end plates. 8. Oil seal leak. 9. Scratch or burr on the crankshaft.	1. Wipe unit clean. 2. Drain oil and fill to proper level. 3. Replace with proper 30wt.non-detergent compressor oil. 4. Tighten or replace oil filler plug and/or “O” ring. 5. Replace gasket as required. Use pipe dope or gasket compound on all caps screw threads. 6. Tighten valve plugs. 7. Tighten plates. 8. Replace oil seal. 9. File or sand with emery cloth.

ATLAS AIR FORCE ONE YEAR LIMITED WARRANTY

Greg Smith Equipment Sales warrants this equipment to the original purchaser against defects in material or workmanship under normal use for a period of one year from the date of purchase. This Limited Warranty shall be limited to the repair or replacement of materials found defective upon examination by a representative of Greg Smith Equipment Sales. In the event of a defect in material or workmanship within the period of this Limited Warranty, Greg Smith Equipment Sales will repair or replace the defective part. We stock all the necessary parts and accessories in our Indianapolis Warehouse. Greg Smith Equipment will make every effort to resolve issues, so that the air compressor can be put in working order as quickly as possible. The Limited One Year parts warranty requires that the alleged defective part be returned (freight ppd.) to Greg Smith Equipment Sales for evaluation. The part may then be repaired or replaced at the discretion of Greg Smith Equipment Sales. In many instances, we can waive the necessity of having small parts returned if the customer provides Greg Smith Equipment with digital photos of the defective part.

Motor and engines are warranted to the extent of the original manufacturer's warranty. These warranties and authorized service centers are available upon request.

Failure of this equipment caused by accident, misuse or abuse of the equipment including, but not limited to, damages or defects resulting from improper packaging of returned equipment or improper repairs made by others, is not covered by this Limited Warranty. The effects of corrosion, erosion and normal wear and tear are specifically excluded from this warranty. Greg Smith Equipment reserves the right to determine whether the defect is covered by this Limited Warranty. If Greg Smith Equipment Sales determines that the returned equipment or the merchandise at the Purchaser's site is not covered by this Limited Warranty, then at the Purchaser's option, such equipment shall be either:

1. Returned to the Purchaser freight collect.
2. Repaired or replaced subject to regular repair, replacement or reconditioning charges.

This Limited Warranty is in lieu of all other warranties, expressed or implied, including all implied warranties of merchantability and fitness for a particular use and purpose. The Purchaser agrees that the sole and exclusive remedy against the manufacturer shall be limited to the repair or replacement of defective parts. The Purchaser further agrees that no other remedy, including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss, shall be available to it. In any event, the liability of Greg Smith Equipment for any damages shall be limited to and shall not exceed the purchase price of the equipment.

This warranty constitutes the entire agreement between Greg Smith Equipment and the Original Purchaser; and no representative or agent is authorized to alter the terms of same without expressed written consent of Greg Smith Equipment.