VANIMAN
MANUFACTURING CO.

PORTABLE AIR COMPRESSOR
OWNER'S MANUAL

MODEL: VT20ST

SERIAL NUMBER: _____

If after reading this manual you have any questions whatsoever on the proper installation, operation, or maintenance of your air compressor please feel free to contact our Customer Service Department at 1-800-826-4626

We would love to hear from you!

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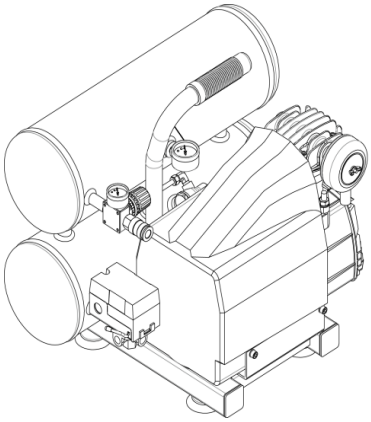

To order replacement parts:

1. **Give compressor model number**
2. **Give compressor serial number**
3. **Name of part**
4. **Part number**
5. **Quantity required**

RECORD OF PERTINENT INFORMATION

Make a permanent record of the model and serial number of your new air compressor here. You'll save time and expense by including this reference information when requesting service or replacement parts.

Place & Date of Purchase		Volts
Model		HZ
Serial #		HP

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INTRODUCTION

This manual was compiled for the benefit of the operator. Do not use or allow anyone else to use your air compressor until this manual is read and all safety/operating instructions are understood. By reading and following the instructions contained in this manual, you can achieve years of trouble free service from your new air compressor. If you have any additional safety or operating questions after reading this manual, please contact your distributor or our customer service department. Do not remove or paint over any of the warning decals attached to the compressor.

Definitions – Safety Warnings

Safety symbols are used throughout this manual to alert you to imminently hazardous and potentially hazardous situations. The following definitions describe the level of severity for each signal word.

DANGER: Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.

WARNING: Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.

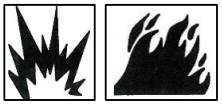
CAUTION: Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury or damage to the air compressor, or other property.

⚠**WARNING:** Do not start, operate, or service this machine until you read and fully understand owner's manual. Failure to do so could result in death or serious injury.

⚠**WARNING: CONTAINS LEAD.** May be harmful if eaten or chewed. May generate dust containing lead. Wash hands after use. Keep out of reach of children.

⚠**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SAVE THESE INSTRUCTIONS!



⚠**DANGER: RISK OF EXPLOSION OR FIRE**

WHAT CAN HAPPEN	HOW TO AVOID IT
• Electrical components within the motor and pressure switch will spark. This is normal. If electrical sparks from the compressor come into contact with flammable vapors, they may ignite, causing fire or explosion.	• Always operate the compressor in a well-ventilated area away from any flammable vapors, liquid, paint, gasoline, or any other combustible material. • Always locate compressor at least 20 ft. (6.1m) away from work area if spraying flammable materials. • Store flammable materials in a secure location away from the compressor.
• Inadequate ventilation, or restrictions to any of the compressor's ventilation openings, will cause serious overheating and could cause a fire.	• Never place objects against or on top of an air compressor. • Always operate air compressor at least 18" away from any wall or obstruction. • Always operate in a clean, dry, and well-ventilated area.
• Unattended compressors with leaks in the unit or air system could start unexpectedly and repeatedly and could result in overheating, fire, and personal injury or property damage.	• Always remain in attendance with the compressor when it is operating. • Always turn off and unplug the compressor when it is not in use.
• A fire can occur if spilled gas or vapors come into contact with hot engine parts, lit cigarettes, or other sources of ignition.	• Never attempt to fill the gas tank while the engine is hot or running. • Add fuel outdoors and in a well-ventilated area. • Do not fill gas tank near lit cigarettes or near other sources of ignition.

⚠**DANGER: RISK TO BREATHING (ASPHYXIATION)**

WHAT CAN HAPPEN	HOW TO AVOID IT
• Air from your compressor is not safe for breathing and may contain carbon monoxide, toxic vapors, or solid particles. Serious injury or death may occur from inhaling the compressed air from your air compressor.	• Never inhale compressed air directly from the pump, tank, receiver, or breathing device connected to the air compressor. • The compressor is not equipped with suitable filters and in-line safety equipment for human consumption. Do not use discharge air for breathing.
• Sprayed materials such as paint, stucco, insecticides, solvents, etc. may contain harmful vapors and poisons.	• Operate compressor and perform work only in a well-ventilated area. Read and follow the safety instructions provided on the label or safety data sheets for the materials you are spraying. Always use certified safety equipment designed for your specific application.
• For gas-powered compressors, engine exhaust fumes contain poisonous carbon monoxide which is odorless and colorless. Inhaling those fumes could lead to serious injury or death.	• Operate compressors only in well-ventilated areas. Avoid inhaling engine exhaust fumes, and never run a small gas-powered engine in a closed building or confined area without adequate ventilation.

⚠**WARNING: RISK OF BURSTING**

AIR TANK: Air tanks do not have an infinite life and should be inspected once every year to ensure they are still safe for use. To find your state pressure vessels inspector, look under the Division of Labor and Industries in the government section of a phone book.

The following conditions could lead to a weakening of the air tank, and result in a violent air tank explosion:

WHAT CAN HAPPEN	HOW TO AVOID IT
• Failure to properly and regularly drain condensed water from the air tanks will lead to rust and thinning of the steel air tank can lead to a violent air tank explosion.	• Drain tanks daily or after every 4 hours of use. If a tank develops a leak, replace it immediately with a new air tank, or new complete compressor.
• Modifications, alterations, or attempted repairs made to the air tank can lead to a violent air tank explosion.	• Never drill into, dent, weld, patch, or modify the air tank, or its attachments in any way. If you are in possession of a tank in which it appears any of those conditions exist or were attempted, discontinue use and replace air tank immediately. • Never attempt to repair a damaged or leaking air tank. Replace with a new tank immediately.
• Unauthorized modifications to the safety valve, pressure switch, pilot unloader valve, or any other component which controls air tank pressure can lead to a violent air tank explosion.	• The air compressor is designed to safely operate and withstand specific factory set pressure. Never make adjustments or parts substitutions to components that control air tank pressure or factory set operating pressures. • Do not make alterations to the factory operating pressure settings. • Before starting, and with air tank pressure at zero, pull the ring on the safety valve to make sure it moves freely. • Never operate without a factory approved safety valve.
Attachments & Accessories:	
• Exceeding the pressure rating of air tools, spray guns, accessories, tires, or any other inflatables can cause them to explode or fly apart.	• Do not use air tools or attachments before reading the owner's manual to determine the safe maximum pressure rating. • Never exceed the manufacturer's maximum allowable pressure ratings. • Never use the compressor to inflate small low pressure objects such as children's toys, balls, etc.

⚠DANGER: RISK OF INJURY OR PROPERTY DAMAGE WHEN TRANSPORTING OR STORING

WHAT CAN HAPPEN	HOW TO AVOID IT
• Oil from the compressor can leak or spill and could result in fire or breathing hazard; serious injury or death can result. Oil leaks will damage carpets, paint, or any other surfaces.	• Always keep compressor level and never lay on its side. When transporting, always place compressor on a protective mat to prevent against damage from leaks. Always remove compressor from vehicle immediately upon arrival at your destination. If an oil leak is found, follow all local safety codes for cleanup of hazardous materials.

⚠WARNING: RISK OF ELECTRICAL SHOCK

WHAT CAN HAPPEN	HOW TO AVOID IT
• **Electrical Grounding:** Failure to provide adequate grounding to the compressor could result in serious injury or death from electrocution.	• Always make certain that the electrical circuit to which the compressor is connected provides proper electrical grounding, correct voltage, and adequate fuse protection. If you are unsure, or have any questions about proper electrical grounding, correct voltage, or adequate fuse protection please call us.
• Your air compressor is powered by electricity. Like any electrically powered device, if it is not used properly it may cause electric shock.	• Never operate the compressor outdoors when it is raining, snowing, or in wet conditions. • Never let your electrical cord lay in water. • Never operate the compressor with a damaged power cord, or with protective covers damaged or removed. • Never touch plug with wet hands. • Never pull on electric cord to disconnect from the outlet.
• Serious injury or death can occur if repairs are attempted by unauthorized personnel.	• Any electrical repairs or wiring performed on this compressor should only be performed by authorized service personnel and in accordance with all national and local electrical codes.

⚠WARNING: RISK FROM FLYING OBJECTS

WHAT CAN HAPPEN	HOW TO AVOID IT
• Serious injury and property damage can occur from loose debris being propelled at high speeds from the compressed air stream.	• Always wear certified safety equipment: ANSI Z87.1 eye protection (CAN/CSA Z94.3) with side shields when using the compressor. • Never direct the air stream, nozzle, or sprayer towards any part of your body, other people, or animals. • Always turn off the compressor and drain tank pressure completely before attempting maintenance or attaching air hose or tools.

⚠WARNING: RISK OF HOT SURFACES

WHAT CAN HAPPEN	HOW TO AVOID IT
• Serious burn injuries can result from touching exposed metal parts such as the engine or motor, pump, or any part of the copper/braided discharge lines and components. These parts will become hot during operation and stay hot for an extended period of time even after the compressor is shut down.	• Never touch any of the exposed metal parts during operation and for an extended period of time after shut down. • Do not reach around shrouds or attempt any maintenance until the unit has been allowed to completely cool.

⚠WARNING: RISK FROM MOVING PARTS

WHAT CAN HAPPEN	HOW TO AVOID IT
• Serious injury or death can occur if moving parts such as belts, flywheels, pulleys, or fans come into contact with you or your clothing.	• Prior to operation, always make sure all protective guards and covers are in good condition, and never operate the compressor if any guard or cover has been removed or damaged. • Always keep your hair, jewelry, clothing, and gloves away from moving parts as they can be caught. • It is common for air vents to cover moving parts, so they should be avoided as well.
• An electric air compressor can restart at any time when plugged in, and an unexpected startup can result in serious injury, death, or property damage.	• Always unplug the compressor when not in use. • Always drain air tank pressure completely before attempting any repairs or maintenance. • Never allow children or adolescents to operate the air compressor.
• Attempting to operate the compressor with any damaged or missing parts, protective guards, shrouds, or covers will expose you to moving parts and can result in serious injury or death.	• Any repairs to the air compressor must only be made by factory authorized personnel.

⚠WARNING: RISK FROM LIFTING

WHAT CAN HAPPEN	HOW TO AVOID IT
• Serious injury can result from attempting to lift an object that is too heavy.	• Always obtain assistance from others before attempting to lift any object that is too heavy for you.

⚠WARNING: RISK OF FALLING

WHAT CAN HAPPEN	HOW TO AVOID IT
• A compressor may vibrate and move during the course of normal operation resulting in a fall from a table, workbench, roof, or other platform causing damage to the compressor, property damage, and could result in serious injury or death to anyone nearby.	• Always operate air compressor in a stable and secure position to prevent accidental movement of the unit. Never operate compressor on a roof or other elevated position. Use air hose to reach high locations.

⚠WARNING: RISK FROM NOISE

WHAT CAN HAPPEN	HOW TO AVOID IT
• Under some conditions and duration of use, noise from this product may contribute to hearing loss.	• Always wear certified safety equipment: ANSI S12.6 (S3.19) hearing protection.

⚠WARNING: RISK OF UNSAFE OPERATION

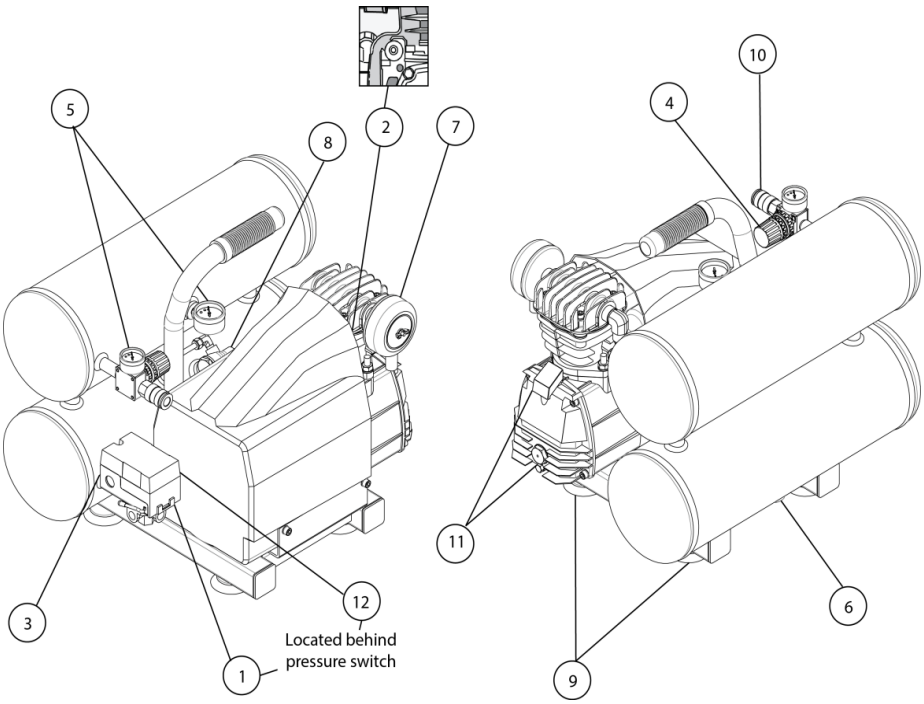
WHAT CAN HAPPEN	HOW TO AVOID IT
• Serious injury or death can occur to you or others if air compressor is used in an unsafe manner.	• Review and understand all instructions in your owner's manual. • Know how to stop the air compressor at all times. • Do not operate until you are thoroughly familiar with all of the controls. • Do not operate the compressor if you are fatigued, under the influence of alcohol or drugs, or in any other state which might impair judgment. • Stay alert while operating the compressor and pay close attention to the task at hand.

⚠CAUTION: RISK OF DAMAGE TO AIR COMPRESSOR OR PROPERTY

WHAT CAN HAPPEN	HOW TO AVOID IT
• Failure to transport or operate the compressor properly may result in major repair expenses.	• Check oil levels daily and maintain proper oil levels. • Always operate compressor in a secure and level position. • Do not operate without an air filter or in a corrosive environment.

FOR GAS ENGINE POWERED AIR COMPRESSORS – Please note that your gas powered air compressor may not be equipped with a spark arresting muffler. If the compressor is operated around flammable materials or agricultural crops, brush, forests, and grasslands, an approved spark arrestor must be installed, maintained and in good working order. An approved spark arrestor is legally required in the state of California under sections 4442 and 4443 of the California Public Resources Code Statute section 130050. Check your local and state regulations to determine if a spark arrestor is needed for your area of operation.

SYSTEM CONTROLS



(1) SAFETY-RELIEF VALVE Every air compressor is equipped with a safety-relief valve which is designed to discharge tank pressure at a predetermined setting when a systems failure occurs. Check the safety valve daily by pulling on the ring only when the tank pressure is completely drained. The spring loaded valve should move freely within the safety valve body. An inoperable safety valve could allow an excessive amount of tank pressure to build causing the air tank to violently rupture or explode.

Do not tamper with or attempt to eliminate the safety relief valve.

(2) MANUAL OVERLOAD / MOTOR RESET Every electric air compressor is built with manual overload protection. If the motor overheats, the overload sensor will *trip* the reset button to protect the motor. If this occurs, please allow the motor to cool for approximately five minutes. Locate and push in the reset button. The use of an undersized or excessive length of extension cord may be the cause of overheating. Re-evaluate the power source and gauge/length of extension cord being used. (Refer to chart on page 10)

(3) PRESSURE SWITCH Most electric air compressors are operated by the use of a pressure switch. Always make sure the lever is in the "Off" position before plugging in the power cord. By moving the lever to the "On/Auto" position, the compressor will start and stop automatically within the settings of the pressure switch which are typically 95 – 125 PSI. Do not attempt to stop the compressor by unplugging the power cord. To stop, simply move the lever to the "Off" position. The lever operates a relief valve that dumps off head pressure and allows the compressor to restart without load the next time it is used.

(4) REGULATOR – WORKING PRESSURE To adjust the output/line pressure, simply lift up on the regulator adjustment knob and rotate clockwise to increase working pressure or counterclockwise to decrease. Push adjustment knob back down to lock in setting. Never exceed the manufacturer's maximum allowable pressure rating of the tool being used or item being inflated.

(5) PRESSURE GAUGE(S) Typically, most compressors are designed with a gauge to measure tank or storage pressure and another gauge attached to the regulator that indicates output or working pressure.

(6) DRAIN VALVE(S) One or more drain valves are installed to allow moisture to be drained on a daily basis from the compressor storage tank(s). Open drains carefully and slowly to prevent scale, rust, or debris from becoming expelled at a high rate of speed.

(7) AIR INTAKE FILTER Air intake filters are installed to prevent foreign matter from entering the engine or compressor pump. Check intake elements on a regular basis and either clean or replace as needed. Warm soapy water or low compressed air may be used to clean the elements. Check intake canisters or elbow components for cracks or broken seals and replace if structural problems are found.

SYSTEM CONTROLS (continued)

(8) CHECK VALVE Every air compressor is built with a check valve to seal off and maintain tank pressure after the top end pressure setting of pilot valve or pressure switch is reached. The check valve works in conjunction with the pressure switch relief valve to provide a loadless start for the compressor system. A quick burst of air escaping from the pressure switch relief valve after an electric unit reaches top end indicates the check valve is working properly. If the compressor has a mysterious leak after stopping that cannot be traced elsewhere, the check valve may require servicing/replacing.

(9) VIBRATION DAMPENER(S) The rubber pads installed beneath every portable tank assembly are very important to the proper operation of the air compressor. They provide protection from vibration that left unchecked could cause damage to many system components.

(10) QUICK DISCONNECT A universal or 3-way quick disconnect is installed on your air compressor . Simply push a 1/4" male plug into coupler to snap hose fitting into coupler. Always relieve pressure from coupler before installing or removing hose. See instructions for regulator (#4 above). Pull back on collar to remove air hose after pressure is relieved

(11) BREATHER/OIL FILL PLUG All reciprocating air compressor pumps are built with a crankcase vent to relieve the pressure that is created by the downward movement of the piston in the pump cylinder. Our direct-drive air compressors vent the crankcase pressure through special ports in the dipstick. Our belt-drive units vent through the oil-fill plug. Never operate the air compressor without the dipstick or oil-fill plug.

(12) PRESSURE SWITCH RELIEF VALVE Most electric air compressors set up to operate start/stop are equipped with a pressure switch relief valve. This valve works in conjunction with the tank check valve to bleed off the compressed air trapped between the pump and check valve after each cycle, allowing for easier restarts. A brief, audible hiss of air at the end of each cycle signifies the valve is working properly. A continuous leak at the relief valve at the end of a cycle would indicate a problem with the check valve. An improperly functioning relief valve/check valve could lead to premature gasket and/or motor failures.

PRE-START CHECKLIST

Read the owner's manual thoroughly. Make sure that you completely understand all of the safety warnings, system controls and instructions provided before attempting to operate this air compressor. Every effort has been made to provide you with the information needed to obtain many years of reliable and trouble-free service out of your new air compressor. It is your responsibility to operate the air compressor properly. To obtain the longest possible service life from your air compressor you must always keep the following instructions in mind.

1. **ALWAYS OPERATE THE COMPRESSOR IN A LEVEL POSITION**
   All splash-lubricated pumps have a dipper on the bottom of the connecting rod that must remain submerged in the oil bath. Operation at more than a 10 degree angle will cause the pump to seize and void the product warranty

2. **OPERATE IN A CLEAN, DRY AND WELL VENTILATED AREA**
   Do not operate in the rain or in areas of standing water. Never operate in an area where other gases, fumes or vapors are present which may become explosive when compressed. Do not operate compressor in an enclosed area.

3. **CHECK OIL LEVEL DAILY AND CHANGE AT REGULAR INTERVALS**
   Refer to the maintenance section of this owner's manual for the correct type/weight of oil to use and how often the oil should be changed. Check oil levels daily.

4. **INSPECT/CLEAN/CHANGE INTAKE ELEMENTS ON A REGULAR BASIS**
   The ingestion of dirt into the pump and engine is the primary cause of premature wear. Pay special attention to the intake filters. Check intake filters daily.

PRE-START CHECKLIST (continued)

5. USE LONGER, PROPERLY SIZED AIR HOSE RATHER THAN EXTENSION CORDS

If an extension cord must be used, please refer to the chart below for the proper gauge and maximum length that can be used. The use of inadequately sized air hose will also lead to frictional pressure drops that could affect the proper performance of your air tools.

ELECTRIC EXTENSION CORD TABLE		
Minimum Wire Size		
Extension Cord Length	Motor 1/2 and 3/4 HP	Motor 1, 1-1/2, and 2 HP
Up to 25 ft.	14 Ga.	12 Ga.
25 – 50 ft.	12 Ga.	10 Ga.
50 – 100 ft.	10 Ga.	8 Ga.

6. DO NOT USE A GENERATOR AS THE POWER SOURCE

Air compressors use inductive motors that require 3-5 times the full-load amp draw to properly start. Most generators will not provide the wattage needed to properly start this type of electric motor.

7. CHECK TENSION OF BOLTS AND HARDWARE ON A REGULAR BASIS

Operation of any equipment with loose bolts and/or fittings will lead to excessive vibration and the premature failure of the compressor system control components.

8. MAINTAIN RUBBER VIBRATION PADS

Excessive vibration is a major cause of premature compressor failure. Always maintain the rubber vibration pads located beneath tank assembly. Operation without them will void your warranty.

9. DRAIN MOISTURE FROM AIR TANKS DAILY

Water is a natural byproduct of compressed air. Drain air tank(s) after each use to combat internal tank corrosion. Keep drain valve(s) closed if storing compressor for any length of time.

SPECIFICATIONS

VT20ST			
Horsepower	2 HP	Tank Capacity	4.2 Gallon
Voltage	120 V	Pump-Up Time (0-125 PSI)	1:23
Hertz	60 hZ	Recovery Time (95-125 PSI)	:20
Phase	Single	CFM Displacement	5.5
Motor RPM	1700	Cu. Ft. Delivered @ 40 PSI	4.8
Stages	Single	Cu. Ft. Delivered @ 90 PSI	4.2
Amperage	13.5	Dimensions (LxWxH in)	19x16x17
Thermal Protection	Manual	Weight	62 lbs
Factory Settings	95-125 PSI	Noise Level	74 dBA
Oil Fill Amount	10 oz	Duty Cycle	Continuous

OPERATION

WARNING – Your safety and the wellbeing of others during the operation of every compressor is our main concern. Do not operate or permit anyone else to operate your air compressor until the information contained in this manual is read and completely understood. Please contact your distributor or our customer service department if you have any questions on the proper use of your air compressor.

WET CONDITIONS: Do not operate your compressor in damp or wet conditions, or after it has been exposed to rain/sleet/ice/snow or moisture of any kind. Failure to follow this warning could lead to electric shock and/or rust and ice forming on critical components, making the compressor dangerous to operate. Always operate and/or store compressor in a clean, dry location with good ventilation.

OPERATION (continued)

DIRECT-DRIVE ELECTRIC

Establish that the air compressor is ready to operate by reviewing the topics and information provided in the "Pre-Start Checklist" section of this manual. Slowly open tank drain to remove any condensate that has accumulated and keep drain open for a few seconds after starting to warm up motor/pump assembly. Make sure the pressure switch lever is in the "Off" position before plugging power cord into a properly grounded outlet. Move pressure switch lever to the "On/Auto" position to build and automatically maintain top end tank pressure setting. Rotate regulator adjustment knob counterclockwise until the gauge attached reads 0 PSI before attaching air hose and accessory. Set working pressure by rotating regulator adjustment knob clockwise and lock in working pressure according to specifications provided by the tool manufacturer. Always use the pressure switch "On(Auto)/Off" lever to start or stop the air compressor. **Never** stop the compressor by unplugging it from the power source. Store compressor in a warm/dry location and perform maintenance as indicated in manual.

DUTY CYCLE:

Several direct-drive machines, Models FC1500HBP2, FC1500HS3 and JC10, are rated for 70% duty cycle. If subjected to continuous operation the internal overload will shut down the motor and only restart when sufficient cooling has occurred.

FREEZING TEMPERATURES:

Proper fluid maintenance and warm up procedures are mandatory before attempting to start or operate an air compressor in freezing temperatures. Water, a natural byproduct of compressed air, could turn into ice and potentially block air flow into, though, and/or out of the pump, air tank(s), and air line(s). Drain air tanks/ lines after every use and leave drain valves open when not in use.

If all, or part, of the compressor may be frozen, you must completely thaw the compressor before attempting to start. Gradually increase the temperature above freezing and then drain moisture from the air tanks, intercoolers, and water traps.

Cold Weather Best Practices:

- Do not attempt to start a frozen compressor. Thaw completely first.
- Store your air compressor in a clean, dry area that stays consistently above freezing temperatures.
- Change the oil in the pump and engine to winter grade (check owner's manual).
- Prior to starting, open the tank drain(s) and allow the compressor to run for 45-60 seconds with the tank drain(s) open before closing to build tank pressure.
- Using a lubricator with de-icing fluid may also be needed to keep your air lines from freezing up/blocked by ice.

HIGH-ALTITUDE OPERATION:

Due to a decrease in atmospheric pressure air compressor pumps produce less CFM at higher elevations. As a rule of thumb the output will decrease approximately three percent per 1000 feet of elevation. Also, because air at higher elevations is less dense and does not cool as well, electric motors cannot be subjected to the full nameplate service factor amp rating and may need to be upgraded to avoid repeated overheating.

Direct drive or hand-carry compressors built with cold-start valves may need to be modified when operated in higher elevations. Contact our factory Customer Service Department if your normally reliable air compressor fails to operate correctly at higher elevations.

MAINTENANCE

Your new air compressor represents the finest engineering and construction available. Even the best machinery requires periodic maintenance. Please stick to the maintenance schedule and consider the suggestions that follow to keep your compressor in peak condition.

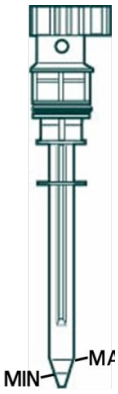
NOTE: Always unplug or shut down your compressor and drain the air tanks completely before attempting any type of maintenance. Wait for compressor to cool before servicing.

IMPORTANT: Replace the oil after the first 50 hours of operation.

MAINTENANCE HINTS:

1) Use a soap/water solution to check for air leaks.
2) Never clean filters with a flammable solvent.
3) Retorque head bolts only after pump has cooled.
4) Never weld on air tank(s).
5) Use heat to loosen Loctite seal on drain valves, engine pulleys, and flywheels before attempting to remove.

MAINTENANCE (continued)



LUBRICATION

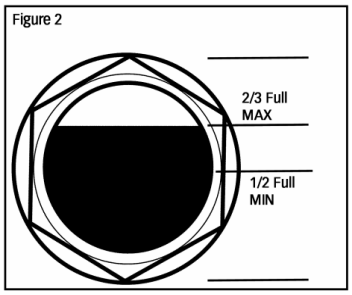
Prior to each use, make a habit of checking the pump oil level. Most direct-drive air compressors have a dipstick with casting marks that indicate the minimum and maximum acceptable levels of oil. Always maintain the oil level at the maximum mark on the dipstick or to 2/3 full in the sight gauge

Do not operate the pump with an inadequate or excessive amount of oil. The cost of failures which occur due to incorrect oil levels will not be covered under warranty.

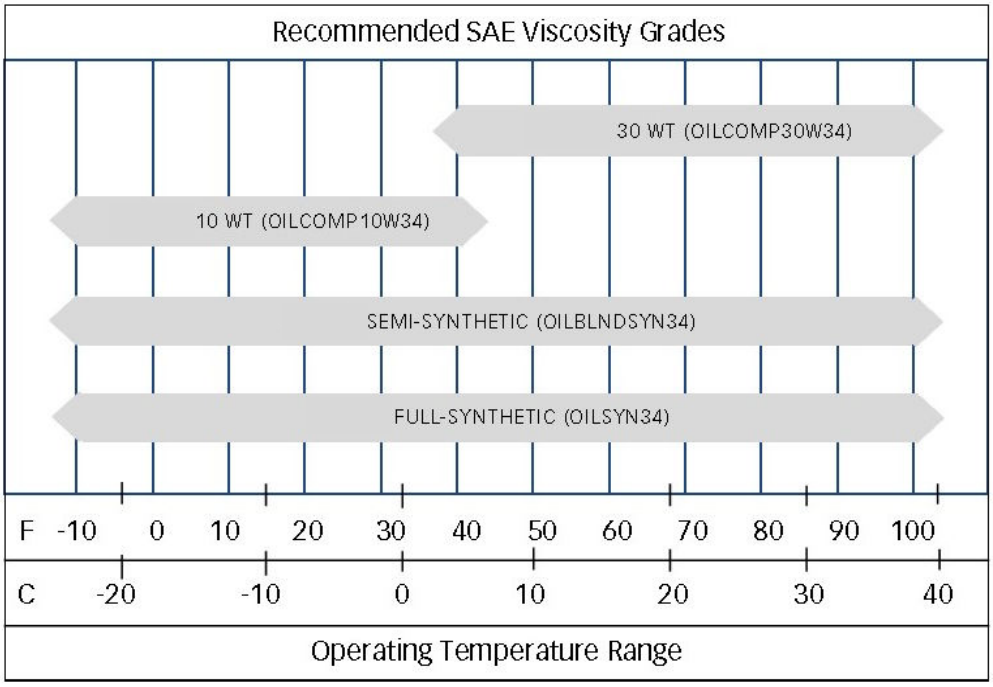
DO NOT USE A DETERGENT OIL!

NOTE: Unit must be level when in operation

Figure 2



OIL CHART



- Standard 10 WT or 30 WT Should be changed every 200-400 hours after the break-in
- Semi-synthetic should be changed every 1,000 - 2,000 hours
- Full-synthetic should be changed every 2,000 - 4,000 hours

MAINTENANCE (continued)

MAINTENANCE SCHEDULE

Recommendation	Daily	Weekly	Monthly	Quarterly	Annually
Check Oil Level	X				
Drain Moisture from Tank(s)	X				
Inspect Air Filter(s)	X				
Check for Unusual Noise or Vibration	X				
Inspect Belt Guard	X				
Check for Air or Oil Leaks	X				
Clean Exterior of Air Compressor		X			
Check Condition of Vibration Pads		X			
Tighten/Retorque Bolts		X			
Check Belt Tension		X			
Check Operation of Safety Valve		X			
Change Compressor Oil			X		
Clean/Change Air Filter			X		
Perform Pump Up Time Test			X		
Check Operation of System Controls				X	
Check Air Tanks for Dents/Leaks				X	
Tank Inspection by Certified Inspector					X

TORQUE CHART (INCH/LB)

Pump Type	Direct Drive
Head Bolts	96
Cylinder Bolts	120

TROUBLESHOOTING

WARNING - Make sure you completely understand all of the safety warnings and operation of each system control component before attempting any maintenance or repair. Always drain the tank pressure completely, make sure the power cord is unplugged, and unit has time to cool before performing any maintenance or service operations.

PROBLEM	CAUSE	SOLUTION
Pump is slow to build pressure	Excessive leaks in system	Correct air leaks
	Blown gasket	Replace head gaskets
	Broken reed valve	Replace reed valves
	Obstructed intake filter	Clean or replace intake element
	Leaking regulator	Replace regulator
Excessive oil consumption	Too much oil in crankcase	Drain to proper level
	Improper weight of oil	Replace with proper oil
	Obstructed crankcase vent	Replace dipstick or oil fill plug/crankcase vent
	Dirty/plugged intake filter	Clean/replace intake filter
	Worn piston rings	Take unit in for service
	Scored cylinder	Take unit in for service
Knocking Noise	Internal pump problem	Take unit in for service
Overheating compressor	Poor ventilation	Relocate compressor
	Internal pump problem	Take unit in for service
Electric motor dead, will not even hum	Thermal overload tripped	Locate and push reset button
	Reset physically broken	Replace overload/reset
	Loose motor leads or electrical connection	Locate and correct loose electrical connection(s)
	Short in power cord	Replace power cord
Motor trips overload/reset button	Motor is starting/stopping excessively	Install constant speed or dual control kit
	Overload is defective/weak	Replace overload
	Improper gauge of extension cord	Use longer lengths of air hose or heavier cord
	Stripped or poorly tightened motor thru bolts	Retighten or replace stripped thru bolts
	Cracks in end bell or housing	Take unit in for service