KING INDUSTRIAL

HIGH OUTPUT STATIONARY 7.5 PEAK HP 80 GALLON AIR COMPRESSOR

MODEL: KC-7180V3-MS

INSTRUCTION MANUAL

WARRANTY INFORMATION

1-YEAR LIMITED WARRANTY FOR THIS 80 GALLON AIR COMPRESSOR	**KING CANADA TOOLS OFFERS A 1-YEAR LIMITED WARRANTY FOR INDUSTRIAL USE.**

PROOF OF PURCHASE

Please keep your dated proof of purchase for warranty and servicing purposes.

REPLACEMENT PARTS

Replacement parts for this product are available at our authorized King Canada service centers across Canada. Please use the 10 digit part numbers listed in this manual for all part orders where applicable.

LIMITED TOOL WARRANTY

King Canada makes every effort to ensure that this product meets high quality and durability standards. King Canada warrants to the original retail consumer a 1-year limited warranty as of the date the product was purchased at retail and that each product is free from defects in materials. Warranty does not apply to defects due directly or indirectly to misuse, abuse, normal wear and tear, negligence or accidents, repairs done by an unauthorized service center, alterations and lack of maintenance. King Canada shall in no event be liable for death, injuries to persons or property or for incidental, special or consequential damages arising from the use of our products.

To take advantage of this limited warranty, return the product at your expense together with your dated proof of purchase to an authorized King Canada service center. Contact your retailer or visit our web site at www.kingcanada.com for an updated listing of our authorized service centers. In cooperation with our authorized service center, King Canada will either repair or replace the product if any part or parts covered under this warranty which examination proves to be defective in workmanship or material during the warranty period.

NOTE TO USER

This instruction manual is meant to serve as a guide only. Specifications and references are subject to change without prior notice.

KING CANADA INC. DORVAL, QUÉBEC, CANADA H9P 2Y4

www.kingcanada.com

IMPORTANT SAFETY INSTRUCTIONS

RISK OF EXPLOSION OR FIRE
WHAT CAN HAPPEN

It is normal for electrical contacts within the motor and pressure switch to spark.

If electrical sparks from the compressor come in contact with flammable vapors, they may ignite, causing fire or explosion. Restricting any of the compressor ventilation openings will cause serious overheating and could cause fire.

RISK OF BURSTING
WHAT CAN HAPPEN

1. Failure to properly drain condensed water from the tank, causing rust and thinning of the steel tank.
2. Modifications or attempted repairs to the tank.
3. Unauthorized modifications to the unloader valve, safety valve or any other components which control tank pressure.
4. Excessive vibration can weaken the air tank and cause rupture or explosion.

RISK OF BURNS
WHAT CAN HAPPEN

Touching exposed metal such as the compressor head or outlet tubes, can result in serious burns.

RISK OF PROPERTY DAMAGE WHEN TRANSPORTING COMPRESSOR
WHAT CAN HAPPEN

Oil can leak or spill and could result in fire or breathing hazard, serious injury or death can result. Oil leaks will damage carpet, paint or other surfaces in vehicles or trailers.

HOW TO PREVENT IT

Always operate the compressor in a well ventilated area free of combustible materials, gasoline or solvent vapors. If spraying flammable materials, spray material at least 20 feet away from the compressor. An additional length of hose may be required. Store flammable materials in a secure location away from the compressor.
Never place objects against or on top of the compressor. Operate compressor in an open area at least 18 inches away from any wall or obstruction that would restrict the flow of fresh air to the ventilation openings.
Operate compressor in a clean, dry and well ventilated area.

HOW TO PREVENT IT

Drain tank daily or after every use. If the tank develops a leak, replace tank or get a new air compressor. Never drill into, weld or make any modifications to the tank or its attachments.

The tank is designed to withstand specific operating pressures. Never make adjustments or parts substitutions to alter the factory set operating pressures.

For essential control of air pressure, you must install a pressure regulator and pressure gauge to the air supply system.

HOW TO PREVENT IT

Never touch any exposed metal parts on compressor during or immediately after operation. The compressor will remain hot several minutes after use. Do not reach around protective shrouds or attempt maintenance until the compressor has cooled down completely.

HOW TO PREVENT IT

Always place compressor on a protective mat when transporting to protect against damage to vehicle from leaks. Remove compressor from vehicle immediately upon arrival.

This air compressor and other components used make up a high pressure system, the following safety rules and guidelines should be followed when using, cleaning or servicing.

1) Read and understand instruction manual before attempting to install and use compressor. Be thoroughly familiar with the operational controls and proper use.
2) All electrical and safety codes must be followed to ensure operator safety.
3) Applications requiring air free of oil or water should have the appropriate filters/water traps installed in the pressure system.
4) Wear safety glasses.
5) Do not operate if any part is damaged during shipping, handling or use, have the part replaced or repaired before attempting to use.
6) Never operate the compressor with the belt guard removed, this compressor can start automatically without warning. Personal injury or property damage could occur from contact with moving parts.
7) Never attempt to modify or adjust the ASME safety valve. The safety valve must be kept clean and free from paint or any other type of accumulation.
8) Never attempt to repair or modify air tank. Welding, drilling or any other modification will weaken the air tank resulting in damage from rupture or explosion.
9) Drain water from tank on a regular basis. Tanks rust from moisture build-up which weakens the air tank.

SPECIFICATIONS & ELECTRICAL INFORMATION

SPECIFICATIONS

Model	KC-7180V3-MS
Voltage	240V
Horsepower	7.5 Peak HP
Amperage	33A
RPM (no load speed)	1,800
Phase	1
Hertz	60Hz
Operating pressure	95-175 PSI (Tank max. 200 PSI)
CFM @ 40 PSI	43
CFM @ 100 PSI	28
Tank size	80 Gallon

ELECTRICAL INFORMATION

WARNING!
ALL ELECTRICAL WIRING OF THIS COMPRESSOR MUST BE DONE BY A QUALIFIED ELECTRICIAN.
FAILURE TO COMPLY MAY RESULT IN SERIOUS INJURY! ALL ADJUSTMENTS OR REPAIRS MUST BE DONE WITH THE ELECTRICAL PANEL CIRCUIT BREAKER IN THE OFF POSITION (IF HARD WIRED) OR WITH THE POWER CORD DISCONNECTED (IF POWER CORD IS INSTALLED) FROM THE POWER SOURCE. FAILURE TO COMPLY MAY RESULT IN SERIOUS INJURY!

FIGURE 1

ELECTRICAL INSTALLATION

Hard Wiring from Electrical Source

This compressor does not have a factory installed power cord, normally stationary compressors are permanently hard wired directly from the electrical source to the magnetic switch (A) Fig.1 by a qualified electrician. This compressor must be grounded, the green conductor of the cord used must be connected to the grounding screw inside the magnetic switch. See grounding information below.

Warning! Do not attempt to hard wire this compressor yourself unless you are a qualified electrician. Overheating, short circuiting and fire damage will result from inadequate wiring.

Electrical wiring codes, local or provincial may differ from area to area. Source wiring, plug and protector must be rated for at least the amperage and voltage indicated on the main technical nameplate. Use a slow blow fuse type D or a circuit breaker.

Installing 240V Power Cord

A properly sized 240V 3 wire power cord (2 lines, 1 ground) having a ground conductor and plug may also be installed to the magnetic switch, the green conductor must be connected to the grounding screw in the magnetic switch. It is recommended to have the power cord installed by a qualified electrician. Refer to Fig.2 for power cord wiring diagram.

GROUNDING

This compressor must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current, to reduce the risk of electric shock.

WARNING: IF NOT PROPERLY GROUNDED, THIS MACHINE CAN CAUSE ELECTRICAL SHOCK, PARTICULARLY WHEN OPERATED IN DAMP LOCATIONS. TO AVOID SHOCK OR FIRE, IF THE CORD IS WORN OR DAMAGED IN ANY WAY, HAVE IT REPLACED IMMEDIATELY.

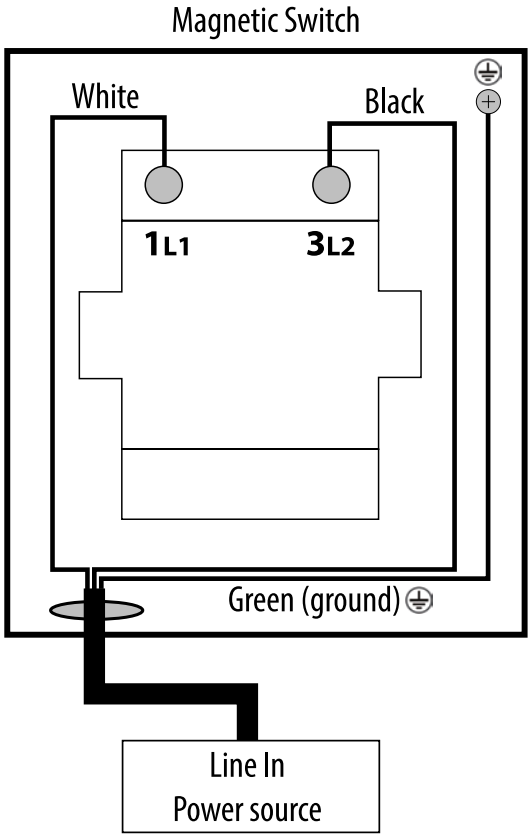

FIGURE 2

MOUNTING AND BREAK-IN PROCEDURES

MOUNTING

Warning! This compressor is not intended for outdoor installation. Never use the transport skid for mounting purposes.

Make sure you mount the air compressor in a clean, well ventilated area where the surrounding air temperature will not exceed 40^0 Celsius. Position the air compressor about 18 inches away from any wall. Make sure there is sufficient space to access the tank drain cock.

Floor mounting

This air compressor is extremely top heavy. Before operating, the air compressor feet (3) MUST be bolted to a flat, even, concrete floor. It is recommended to purchase rubber pads (not included) to absorb vibrations. A flexible coupling (not included) should be installed between the ball valve and piping.

IMPORTANT BREAK-IN PROCEDURES

NOTE: SERIOUS DAMAGE MAY RESULT IF THE FOLLOWING BREAK-IN INSTRUCTIONS ARE NOT CLOSELY FOLLOWED. THESE PROCEDURES ARE REQUIRED BEFORE THE AIR COMPRESSOR CAN BE PUT INTO SERVICE, AFTER REPLACING THE CHECK VALVE, AND WHEN A PISTON OR A CYLINDER SLEEVE ARE REPLACED.

1) Make sure the pressure switch lever (A) Fig.3 is in the “OFF” position.
2) Make sure the compressor is properly wired to electrical source and grounded, if a power cord was installed, plug the power cord into a grounded 240V branch circuit receptacle.
3) Make sure the oil level in the crankcase reaches the centre dot of the oil sight glass (A) Fig.4, refer to maintenance section for instructions on fill the crankcase with oil.
4) Open the drain valve (A) Fig.5, turn it counterclockwise, this will prevent air pressure build-up in the tank.
5) Move the pressure switch lever (A) Fig.6 to “ON/AUTO”. The compressor will start.
6) Run the compressor for 15 minutes. Make sure the drain valve is open and there is no tank pressure build-up (tank pressure gauge at zero).
7) After 15 minutes, close the drain valve by turning it clockwise. The air receiver will fill tank to cut-out pressure and the motor then will stop. The air compressor is now ready for use. Proceed to the following “Piping” instructions.

PIPING

Warning! Never use plastic (PVC) pipe for compressed air. Serious injury or death could result.

Any tube, pipe, or hose used must have a pressure rating higher than 150 PSI. Minimum recommended pipe size, keep in mind that a larger diameter pipe is always better:

Up to 50 feet long use 1/2”.
Greater than 50 feet use 3/4”.

The pipe gets installed to the 1/2” ball valve (B) Fig.6.

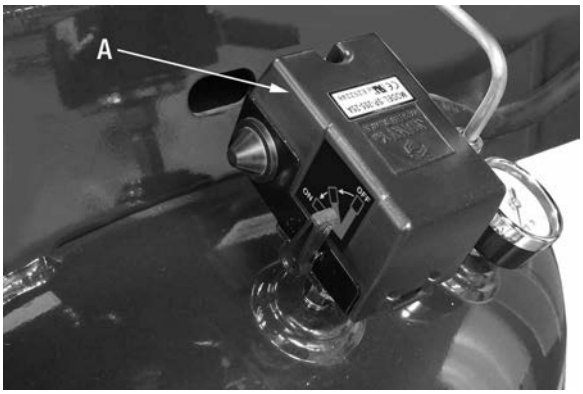

FIGURE 3

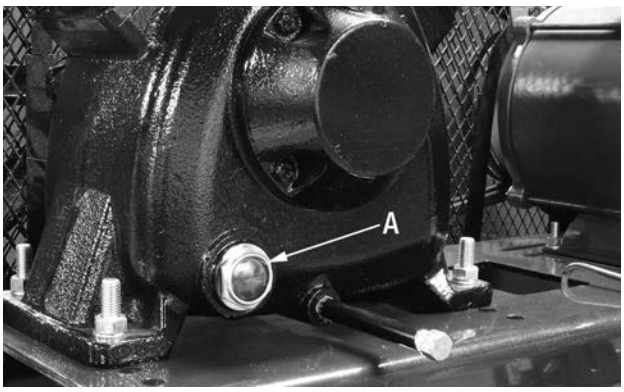

FIGURE 4

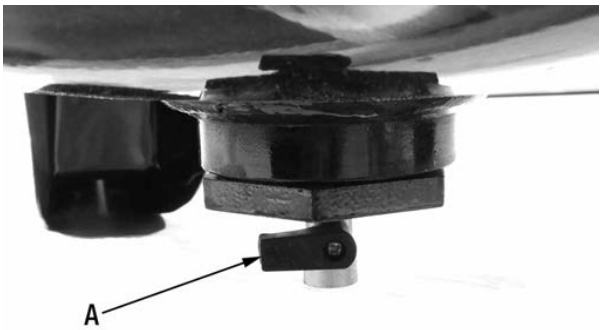

FIGURE 5

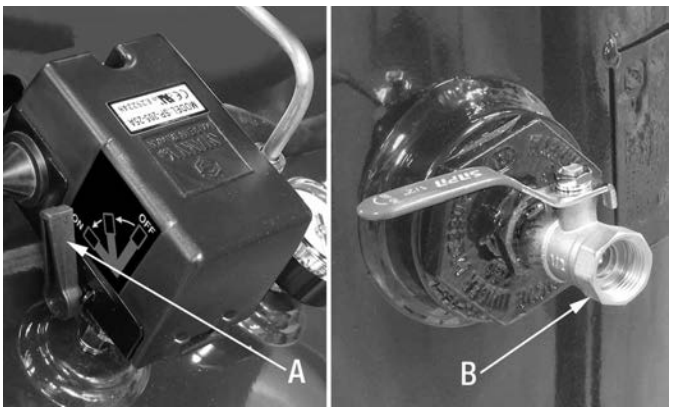

FIGURE 6

ADDITIONAL REGULATORS AND CONTROLS

Since the air tank pressure is usually greater than that which is needed, an air pressure regulator should be employed to control the air pressure ahead of any individual driven device. An air control unit which combines the function of air regulation, moisture and dirt removal should be used.

OPERATION CONTROLS

CHECK VALVE (A) FIG.7. When the air compressor is operating, the check valve is “open”, allowing compressed air to enter the air tank. When the air compressor reaches its “Cut-Out” pressure, the check valve “closes”, allowing air pressure to remain inside the air tank.

TANK PRESSURE GAUGE (A) FIG. 8. The tank pressure gauge indicates the reserve air pressure in the tank.

ON/AUTO-OFF SWITCH (B) FIG.8. Turn this switch ON to provide power to the automatic pressure switch and OFF to remove power at the end of each use.

PRESSURE SWITCH (C) FIG.8. The pressure switch automatically starts the motor when the tank pressure drops below the factory set “Cut-In” pressure. It also stops the motor when the air tank pressure reaches the factory set “Cut-Out” pressure.

ASME SAFETY VALVE (A) FIG. 9. If the pressure switch does not shut off the air compressor at its cutout pressure setting, the safety valve will protect against high pressure by “popping out” at its factory set pressure (slightly higher than the pressure switch cut-out setting).

WARNING!: If the safety valve does not work properly, over pressurization may occur, causing air tank rupture or an explosion. Daily pull the ring on the safety valve to make sure that the safety valve operates freely. If the valve is stuck or does not operate smoothly, it must be replaced with the same ASME type of valve.

BALL VALVE OUTLET PRESSURE LEVER (B) FIG. 9. This lever controls the amount of pressurized air in the air delivery piping system.

DRAIN VALVE (A) FIG.10. The drain valve is located at the base of the air tank and is used to drain condensation at the end of each use. Turn drain valve counterclockwise to open (no pressure build-up) or clockwise to close it (permits pressure build-up).

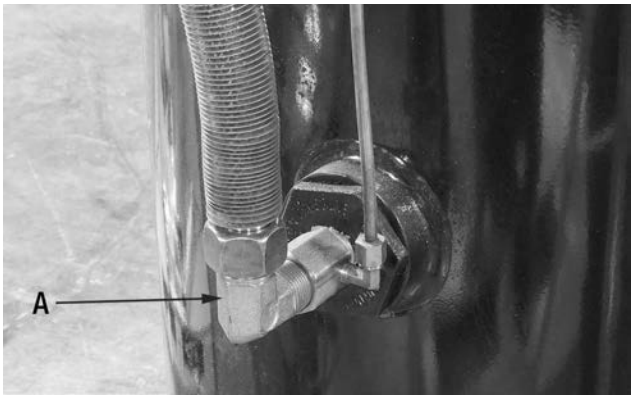

FIGURE 7

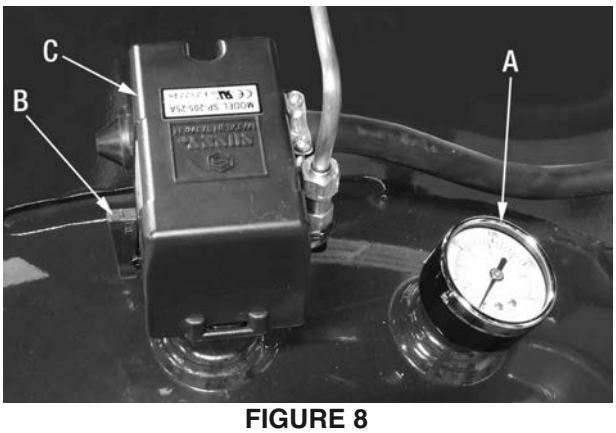

FIGURE 8

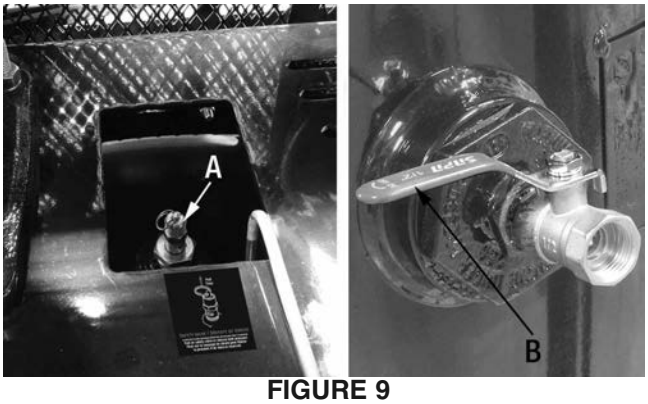

FIGURE 9

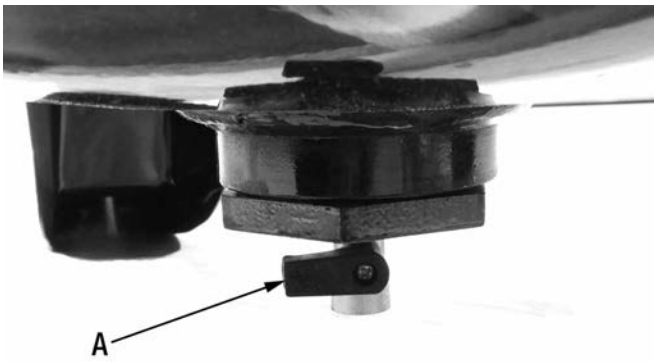

FIGURE 10

OPERATIONAL GUIDELINES & MAINTENANCE

OPERATIONAL GUIDELINES

Moisture in compressed air

When humidity is high or when the compressor is in continuous use for an extended period of time, this moisture will collect in the air tank. When using a spray gun or sandblast gun, this water will be carried from the tank through the hose and out of the gun as droplets mixed with the spray material. This will cause water spots in a paint job, especially when spraying other than water based paint. If sandblasting, it will cause the material to cake and clog the gun, rendering it ineffective. An optional air control unit with dirt and moisture removal should be used to prevent these undesirable results.

MAINTENANCE

Before doing any maintenance or adjustments to your air compressor, the following safety precautions should be taken:
- Turn power off (turn circuit breaker off or unplug power cord), drain air tank of pressure.

After Use:

1) Set the “On/Off” lever to the “OFF” position.
2) Pull ring on safety valve (A) Fig.9, allowing air to bleed from the tank until tank pressure is approximately 20 PSI. Release safety valve ring.
3) Drain water from air tank. Open drain valve (A) Fig.10, turn it counterclockwise to open.

WARNING!: Water will condense in the air tank. If not drained water will corrode and weaken the air tank causing a risk of air tank rupture.

NOTE: If drain valve is plugged, pull ring on safety valve (A) Fig.9, and hold until all air pressure has been released. The valve can then be removed, cleaned, and reinstalled.

4) After the water has been completely drained, turn drain valve clockwise to close.

Daily or before each use

1) Check oil level. Oil level must be in the centre of the red dot of oil sight glass.
2) Drain condensation from tank.
3) Check for any unusual noise or vibration.
4) Be sure all nuts and bolts are tight.

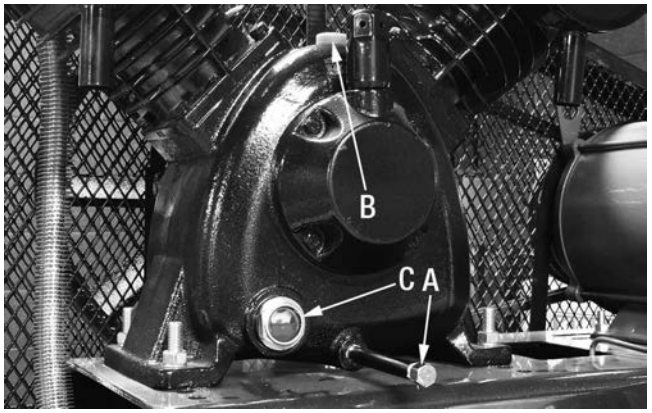

FIGURE 11

Monthly

1) Inspect air system for leaks by applying soapy water to all joints. Tighten those joints if leakage is observed.

Initial oil change must be done after the first 100 hours

1) Once initial oil change is done after 100 hours of operation, change oil every 300 hours or 3 months, which ever comes first. See changing oil instructions.
2) Replace oil more often if used near paint spraying operations or in dusty environments.

CHANGING OIL (ORIGINALLY FILLED WITH SAE 20W OIL (ISO 68)

To change oil, oil must be drained from the crankcase by removing oil drain bolt (A) Fig.11. Drain oil and replace oil drain bolt. To fill the crankcase with oil, first unscrew and remove oil fill cap (B), pour air compressor oil (approx. 1.2 litres of SAE 30 weight non-detergent oil) into oil opening until the oil level reaches the red dot at the centre of the oil sight glass (C). Reinstall the fill cap (B).

KEEP COMPRESSOR CLEAN

Periodically blow out all air passages with dry compressed air. Clean all parts with a soft damp cloth. **CAUTION**: Wear safety glasses while using compressed air.

REPLACING/TENSIONING DRIVE BELT

If the drive belt needs tensioning, the belt should be adjusted so when pressure is applied in the centre, there is approximately 1/2” slack. See Fig.12.

1) To install a new belt, remove the outer belt guard by removing the 3 hex. bolts that secure it. Loosen motor mount bolts and slide motor towards the pump, remove belt.

2) Install proper replacement belt, slide motor away from pump to provide recommended tension, align pulleys and fasten motor mount bolts.

3) Reinstall belt guard. Belt tension should be checked after 20 hours of operation. Check belt tension monthly thereafter.

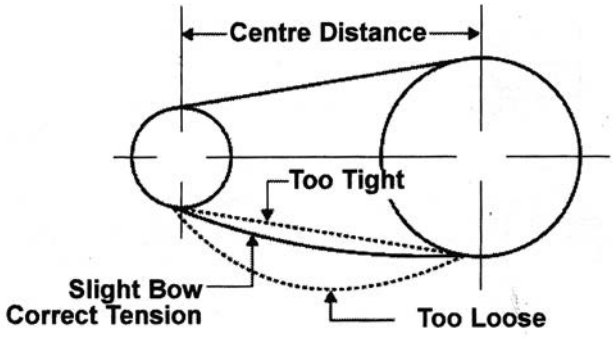

FIGURE 12

TROUBLESHOOTING

TROUBLE	POSSIBLE CAUSE	CORRECTIVE ACTION
No start condition	Fuse blown or circuit breaker tripped Loose electrical connections Overheated motor Tank is at full pressure	Check voltage or eliminate extension cord or reset Check wiring connections Wait for motor to cool, then press the reset button, restart Drain tank of air pressure
Low pressure	Air leak in safety valve Drain cock open Restricted air filter Defective check valve	Check valve manually by pulling. If condition persists, replace. Close drain cock Clean or replace as necessary Replace check valve
Safety valve releasing	Defective pressure switch or improper adjustment	Check for proper adjustment and if problem persists, replace pressure switch
Oil discharge in air	Improper oil viscosity Too much oil in crankcase Compressor overheated Restricted air filter	Replace oil with SAE 30 non-detergent oil Drain crankcase and fill to proper level Air pressure regulated too high Replace filter
Insufficient output, low discharge pressure	Restricted air filter Leaks in air lines, air valves, fittings... Drive belt slipping Drain valve open Defective pressure gauge Leaking head gasket Worn piston, worn out rings Defective check valve	Replace filter Replace worn components Tension V-belt Close drain valve Replace pressure gauge Replace head gasket Replace worn parts Clean check valve or replace
Motor stalls or blows circuit breaker	Defective check valve Valves incorrectly installed Drive belt too tight Defective pressure switch Defective motor	Clean check valve or replace Install valves correctly Tension V-belt correctly Replace pressure switch Replace motor
Excessive vibration/ compressor knocks	Loose compressor, motor or guard Compressor not level Over tightened feet bolts Wrong oil being used Compressor valves loose or broken Check valve knocks at low pressure	Tighten components Level compressor Loosen feet bolts Drain and replace with proper oil Check and replace worn or damaged valves Remove and clean check valve
Compressor uses too much oil	Restricted air filter Wrong oil viscosity Oil level too high Crankcase breather valve malfunction Worn piston rings Piston rings not seated.	Replace filter Drain and replace oil Fill with oil to proper level Replace crankcase breather Replace piston rings Allow 100 hours of normal operation for new rings to seat

PARTS DIAGRAM & PARTS LISTS

Refer to the Parts section of the King Canada web site for the most updated parts diagram and parts list.