



# KING KING CANADA

## OIL-FREE AIR COMPRESSOR KIT



MODEL: 8438

# INSTRUCTION MANUAL

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# WARRANTY INFORMATION

**2-YEAR  
LIMITED WARRANTY  
FOR THIS OIL-FREE AIR COMPRESSOR**

**KING CANADA TOOLS  
OFFERS A 2-YEAR LIMITED WARRANTY  
FOR NON-COMMERCIAL 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 2-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](http://www.kingcanada.com) for an updated listing of our authorized service centers. In cooperation with our authorized serviced 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.

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# 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.

Unattended operation of this compressor could result in personal injury or property damage.



## **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.

Attachments & Accessories; Exceeding the operating pressure of air tools can cause them to explode.



## **RISK OF BURNS** **WHAT CAN HAPPEN**

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

## **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, locate the compressor at least 20 feet away from the spray area. 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 12 inches away from any wall or obstruction that would restrict the flow or fresh air to the ventilation openings.

Operate compressor in a clean, dry and well ventilated area. Do not operate compressor indoors in a confined area.

Always remain in attendance with the compressor when it is operating.

## **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 outlet.

## **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.

# SPECIFICATIONS & ELECTRICAL INFORMATION

## SPECIFICATIONS

Model .....	8438
Voltage .....	120V
Amperage.....	.5A
RPM (no load speed).....	4,700
Phase .....	1
Hertz.....	60Hz
Maximum operating pressure .....	100 PSI
CFM @ 40 PSI.....	1.0
CFM @ 90 PSI.....	0.60
Tank size .....	3 US Gallons

### WARNING

ALL ELECTRICAL CONNECTIONS MUST BE DONE BY A QUALIFIED ELECTRICIAN. FAILURE TO COMPLY MAY RESULT IN SERIOUS INJURY! ALL ADJUSTMENTS OR REPAIRS MUST BE DONE WITH THE COMPRESSOR DISCONNECTED FROM THE POWER SOURCE. FAILURE TO COMPLY MAY RESULT IN SERIOUS INJURY!

## POWER SUPPLY

**WARNING:** YOUR COMPRESSOR MUST BE CONNECTED TO A 120V OUTLET, USING A 15-AMP TIME DELAY FUSE OR CIRCUIT BREAKER. FAILURE TO CONNECT IN THIS WAY CAN RESULT IN INJURY FROM SHOCK OR FIRE.

## GROUNDING

Your compressor must be properly grounded. Not all outlets are properly grounded. If you are not sure if your outlet is properly grounded, have it checked by a qualified electrician.

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

If this compressor should malfunction or breakdown, grounding provides a path of least resistance for electric current, to reduce the risk of electric shock. This compressor is equipped with a cord having an equipment-grounding conductor and grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

**WARNING:** TO MAINTAIN PROPER GROUNDING, DO NOT REMOVE OR ALTER THE GROUNDING PRONG IN ANY MANNER.

## 120V OPERATION

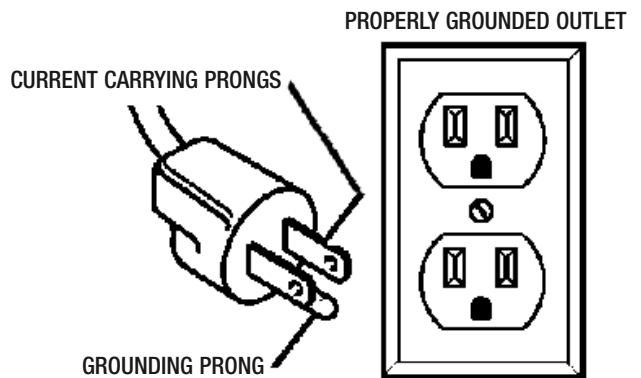
As received from the factory, your compressor is ready to run for 120V operation. This machine is intended for use on a circuit that has an outlet and a plug which looks like the one illustrated in Fig.1.

**WARNING:** DO NOT USE A TWO-PRONG ADAPTOR FOR THEY ARE NOT IN ACCORDANCE WITH LOCAL CODES AND ORDINANCES. NEVER USE IN CANADA.

## EXTENSION CORDS

The use of any extension cord will cause some loss of power. IT IS RECOMMENDED TO USE A LONGER AIR HOSE INSTEAD OF AN EXTENSION CORD. Use the chart below in Fig.2 to determine the recommended minimum wire size (A.W.G-American Wire Gauge) extension cord. Use only 3-wire extension cords which have 3-prong grounding type plugs and 3-hole receptacles which accept the tool's plug.

For circuits that are further away from the electrical circuit box, the wire size must be increased proportionately in order to deliver ample voltage to the motor. Refer to Fig.2 for wire length and size.



**FIGURE 1**

<u>LENGTH OF CONDUCTOR</u>	<u>WIRE SIZES REQUIRED (AMERICAN WIRE GAUGE)</u>
	<u>120V LINES</u>
0-25 FEET	NO. 16
26-50 FEET	NO. 16
51-100 FEET	NO. 14

**FIGURE 2**

# OPERATION CONTROLS

## CHECK VALVE

When the air compressor is operating, the check valve is “open”, allowing compressed air to enter the air tank. When the air compressor reaches “Cut-Out” pressure, the check valve “closes”, allowing air pressure to remain inside the air tank.

## ON/OFF SWITCH (A) FIG.3

Turn this switch ON to provide power to the automatic pressure switch and OFF to remove power at the end of each use.

## RESET (B) FIG.3

This compressor is equipped with a thermal overload. If the motor overheats the rest will trip and turn the compressor off. Wait 5 minutes to allow for cooling and press the rest button before attempting to restart the motor.

## PRESSURE SWITCH

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.

## REGULATOR (A) FIG.4

The air pressure coming from the air tank is controlled by the regulator. Turn the regulator knob clockwise to increase pressure and counterclockwise to decrease pressure. To avoid minor readjustment after making a change in the pressure setting, always approach the desired pressure from a lower pressure. When reducing from a higher to a lower setting, first reduce the pressure less than that desired, then bring it up to the desired pressure. Depending on the air requirements of each particular accessory, the outlet regulated air pressure may have to be adjusted while operating the accessory.

## OUTLET PRESSURE GAUGE (B) FIG.4

The outlet pressure gauge indicates the air pressure available at the outlet side of the regulator. The pressure is controlled by the regulator and is always less than or equal to the tank pressure.

## TANK PRESSURE GAUGE (C) FIG. 4

The tank pressure gauge indicates the reserve air pressure in the tank.

## “ONE TOUCH” 1/4” QUICK RELEASE COUPLER (D) FIG. 4

Connect the coil hose with a 1/4” male fitting and connect it this female quick release coupler.

## DRAIN VALVE (A) FIG. 5

The drain valve is located at the base of the air tank and is used to drain condensation at the end of each use.

## SAFETY PRESSURE RELEASE VALVE (A) FIG.6

If the pressure switch does not shut off the air compressor at its cutout pressure setting and the air pressure keeps rising, the safety valve will protect against high pressure by “popping out” above factory set pressure (slightly higher than the pressure switch cut-out setting).

**WARNING!:** If the safety pressure release valve does not work properly, over pressurization may occur, causing air tank rupture or an explosion. Pull the ring on the safety valve daily 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 type of valve.

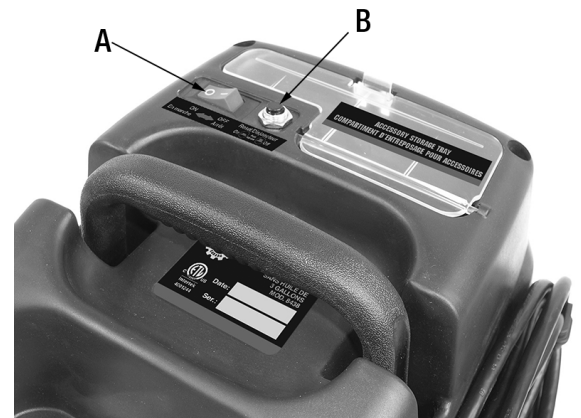


FIGURE 3



FIGURE 4

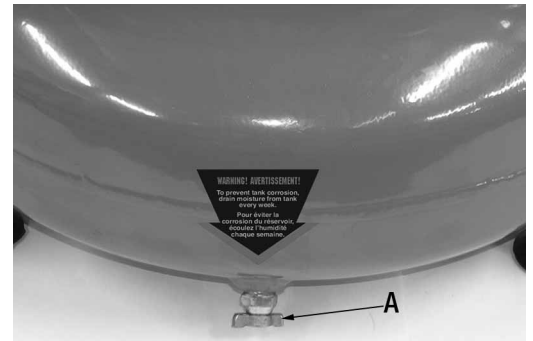


FIGURE 5

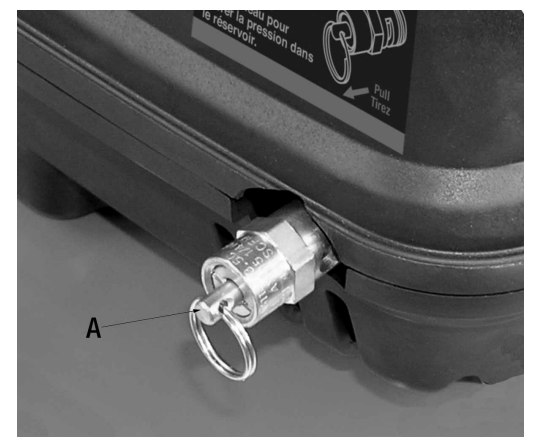


FIGURE 6

# SET-UP, OPERATION & STORING

## SETTING UP YOUR AIR COMPRESSOR

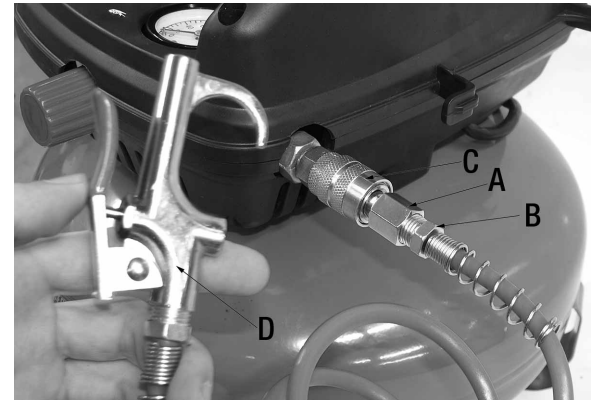
Operate the air compressor in a dry, clean, cool, well ventilated area. Clean or blow off dust or dirt that collects on the air compressor. A clean air compressor runs cooler and provides longer service. The ventilation openings on your air compressor are necessary to maintain proper operating temperature. Do not place rags or other containers on or near these openings.

## ADDITIONAL REGULATORS AND CONTROLS

Since the air tank pressure is usually greater than that which is needed, a regulator is employed to control the air pressure ahead of any individual driven device. Separate air transformers which combine the function of air regulation, moisture and dirt removal should be used where applicable.

### Preparation for use:

1. Before attaching air hose or accessories, make sure the On/Off switch is set to "OFF" and the air regulator is closed (completely turned counterclockwise).
2. Attach the 1/4" male fitting (A) Fig.7 to one end of coil hose (B), then connect the male fitting (A) into the quick connect outlet (C), then attach the any of the supplied accessories (D) to the other end of the coil hose. To prevent air leaks, it is recommended to install Teflon Tape (not supplied) on the threads at both ends of the coil hose.



**FIGURE 7**

**WARNING:** Too much air pressure causes a hazardous risk of bursting. Check the manufacturer's maximum pressure rating for air tools and accessories. The regulator outlet pressure must never exceed the maximum pressure rating of the tool being used.

3. Turn the switch to the On position and allow tank pressure to build. Motor will stop when tank pressure reaches "cut-out" pressure.
4. Open the regulator by turning it clockwise. Adjust the regulator to the correct pressure setting. The compressor is ready for use.

### After Use:

1. Set the switch to Off.
2. Turn the regulator counterclockwise to set the outlet pressure to zero.
3. Disconnect the air tool or accessory.
4. Pull ring on safety valve (A) Fig. 6, allowing air to bleed from the tank until tank pressure is approximately 20 psi. Release safety valve ring.
5. Drain water from air tank. Turn drain valve (A) Fig. 5, 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. 6, and hold until all air pressure has been released. The drain valve can then be removed, cleaned, and reinstalled.

6. After the water has been completely drained, turn drain valve to close. The air compressor can now be stored.

# MAINTENANCE & TROUBLESHOOTING

## MAINTENANCE

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

- Disconnect electrical power.
- Release air tank pressure.

### Daily or before each use:

1. Drain condensation from tank.
2. Check for any unusual noise or vibration.
3. Be sure all nuts and bolts are tight.

## KEEP TOOL CLEAN

Periodically blow out all air passages with dry compressed air. Clean all plastic parts with a soft damp cloth. NEVER use solvents to clean plastic parts. They could possibly dissolve or otherwise damage the material.

**CAUTION:** Wear safety glasses while using compressed air.

## FAILURE TO START

Should your compressor fail to start, check to make sure the prongs on the cord plug are making good contact in the outlet. Also, check compressor fuse or tripped circuit breakers in the line.

## TROUBLE SHOOTING

TROUBLE	POSSIBLE CAUSE	CORRECTIVE ACTION
No start condition	Fuse blown or circuit breaker tripped Loose electrical connections Overheated motor	Check for cause of blown fuse/breaker and replace Check wiring connections Turn compressor off, wait until total cool-down before restarting
Low pressure	Air leak in safety valve Defective check valve	Check valve manually by pulling upwards on ring. If condition persists replace valve Replace check valve
Safety valve releasing	Defective pressure switch or improper adjustment	Check for proper adjustment and if problem persists, replace pressure switch
Tank pressure drops when compressor shuts off	Loose drain valve Loose connections at regulator or pressure switch	Tighten drain valve Check connections for leaks, seal with Teflon tape
Excessive moisture coming out of air hose	Excessive water in the tank Humidity too high	Drain tank through drain valve Move compressor to area of less humidity. Risk of electric shock!

## PARTS DIAGRAM & PARTS LISTS

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