



Quality built... *because quality lasts.*

# OWNER'S MANUAL

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MODEL

SERIAL #

MFG. #

Make a permanent record of the Model and Serial Number of your compressor by filling in the fields above.  
You'll save time and expense by including this reference identification on replacement part orders.

## **INTRODUCTION**

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The compressor you have purchased is a combination of nearly 100 different components, all of which have been carefully designed, engineered, and assembled to ensure a long, dependable, trouble free life. The product has been fully tested at the factory and has gone through quality control inspection prior to shipping.

Like any mechanical piece of equipment, it is necessary to fully understand the proper use of its operation and application. Misuse of this valuable and helpful air power source may shorten its expected life as well as possibly void the warranty of the entire unit. We ask you to take the time to read the following manual to ensure the dependable service you can expect from this air compressor.

Please take special notice of the safety precautions and safety information contained in this manual. Compressed air, like electricity, is very helpful and necessary tool today. However, compressed air can be extremely dangerous and harmful when it is not understood or misused.

If you have any questions or require any information regarding this unit you may write or call the following:

**26549 FALLBROOK AVENUE  
WYOMING, MN. 55092  
651.462.3440 ■ 800.762.2247  
sales@caireinc.net**

## **SAFETY NOTICE**

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- Never assume a compressor is safe to work on simply because it is not running. Ensure power has been turned off.
- Drain air pressure from tank before replacing parts
- Allow unit to cool before performing service. Some surface temperatures may reach 375°F during operation.
- Thermal Overload Protector – Your compressor is equipped with a thermal overload protector to prevent motor burn out due to improper installation or voltage. If the motor overheats and stops, let it cool for approximately 15 minutes. To restart, press the reset button located on the motor or starter. If the problem continues, consult with a qualified electrician concerning a possible voltage problem.
- Please read this manual and follow these precautions when using our air compressors. Failure to do so may result in serious injury or death.

## **OPERATION INSTRUCTIONS**

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WHEN OPERATING THE COMPRESSOR FOR THE FIRST TIME, ENSURE THE FOLLOWING:

- **OIL LEVEL:** Check oil level before each start up. The oil level should be maintained to the center of the sight glass unless there is an oil level mark on the sight glass to indicate otherwise. Note, oil may turn black before first oil change due to the packaging oil in all new pumps.
- **MOVING PARTS INSPECTION:** Perform a thorough inspection of the compressor to ensure there are no obstructions that might interfere with moving parts.
- **PRESSURE SWITCH TO “OFF”:** As applicable, move the knob or level of pressure switch to the “off” position before plugging in the unit or turning power on via circuit breaker.
- **START:** Move pressure switch to the “on” position. There is no need to “break-in” your compressor. It has been tested at the factory by qualified personnel.

## **MAINTENANCE**

### ■ **DAILY MAINTENANCE:**

- Drain moisture from your air compressor's tank on a daily basis. (We recommend installing an automatic tank drain valve (EL CRDV-177K) to ensure that your tank is properly drained.) Bleed most of the air pressure from the tank before opening the drain valves, allowing all moisture to drain from the tanks. This reduces the moisture in your air lines and also helps reduce the risk of rust developing inside the tank.
- Check oil level in sight glass.
- Listen for any unusual noise, vibration, or permanent leaks out of the unloader valve.

### ■ **BIANNUAL MAINTENANCE:**

- Change air intake filter(s).
- Inspect belt tension and wear.
- Check to make sure all bolts are tight.
- Check and tighten all electrical connections. (Make sure power is off!)

### ■ **ANNUAL MAINTENANCE:**

- Change Oil. Your compressor has been shipped with C-Aire ISO 46 Compressor Oil. C-Aire recommends using C-Aire Synthetic - PAO ISO 46 and changing oil annually, or C-Aire ISO 68 and changing oil semi-annually.

## **COMMON CAUSES FOR FAILURE**

- **CHECK VALVE WILL NOT SEAL PROPERLY:** The check valve holds the air in the tank where the pump discharge pipe connects to the air tank. If the check valve becomes clogged or for some reason is unable to close completely, pressurized air will leak back into the compressor pump, and out the unloader valve.
  - Symptom: you will hear a constant hissing noise as the air leaking out the unloader valve at the pressure switch.
  - Problem: upon restart, the motor will strain to start the pump with high pressured cylinders, SEVERELY REDUCING MOTOR LIFE TO JUST A FEW HOURS OR DAYS.
  - Solution: Immediately replace the check valve. (DRAIN ALL AIR FROM TANK BEFORE REMOVING CHECK VALVE.)
- **IMPROPER MOUNTING:** Be sure you do not force the legs to an uneven surface by over-tightening bolts and without shimming. Also, use anti-vibration/mounting pads.
- **WIRING:** Units mounted a significant distance from the electrical source may need the next larger gage wire than normal. Failure to do so will cause an insufficient supply of voltage, resulting in loss of power, overheating and premature motor failure.

## **PUMP PARTS LIST / TORQUE INSTRUCTIONS**

- Pump parts diagram included in plastic bag with owner's manual.

# **WARRANTY**

C-Aire Inc. warrants its compressors to be free from defects in material and workmanship subject to the following provisions:

**STANDARD WARRANTY DURATION:** 12 months from date of purchase.

**EXTENDED WARRANTY DURATION:** Three year Extended Warranties are available for the C-Aire A050, A075, A100, A130 and A150 series compressors, which extend the warranty from 12 months to 36 months from date of purchase. To obtain an Extended Warranty, purchase an extended warranty kit the same day as your compressor, register your extended warranty with C-Aire within 10 days of purchase, and perform the recommended maintenance on schedule.

**REGISTERING YOUR EXTENDED WARRANTY:** Your extended warranty may be registered using the instructions in your extended warranty kit any of these three ways:

- A) Online at [www.c-aireinc.com](http://www.c-aireinc.com)
- B) Call 1-800-762-2247 or 651-462-3440
- C) Fax us at 651-462-1232

**WHAT THE WARRANTY COVERS DURING THE WARRANTY DURATION:** All components on the compressor except for those items listed in the section titled "What is excluded from warranty coverage".

**WHAT IS EXCLUDED FROM THE WARRANTY COVERAGE:**

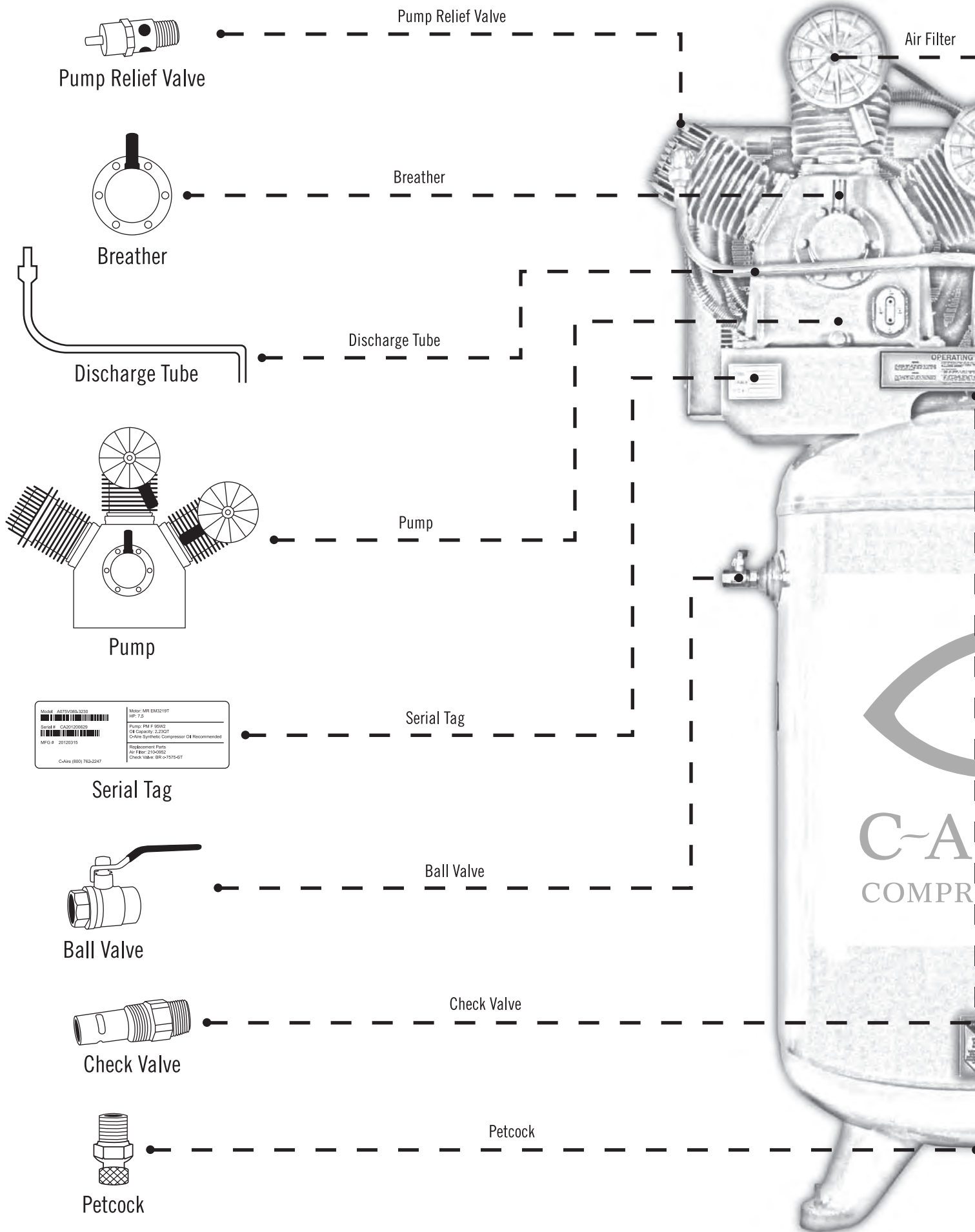
- A) Air intake filters and compressor oil, which are maintenance items.
- B) Failure due to improper installation, including absence of mounting pads, and insufficient power.
- C) Oil leaks will be covered under warranty for a period of 60 days from purchase.
- D) Freight damaged items. (REJECT THE SHIPMENT or note damage on Bill of Lading)
- E) Any labor, freight or transportation charges that are not pre-approved by C-Aire.
- F) Labor charges incidental to the installation, electrical connections, repair, service, adjustment, removal, or replacement.
- G) Misuse or abuse.
- H) **C-AIRE HAS NO OBLIGATION UNDER THESE WARRANTIES OR OTHERWISE (REGARDLESS OF THE FORM OF ACTION) FOR SPECIAL, INDIRECT, CONSEQUENTIAL OR INCIDENTAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOSS OF USE, LOST PROFITS, LOST INCOME, WHETHER SUFFERED BY THE BUYER OR A THIRD PARTY.**

**C-AIRE'S OBLIGATIONS:** C-Aire will repair or replace, at C-Aire's option, defective parts, pay reasonable labor costs of replacing or repairing the defective part, and pay ground freight for the return of defective parts and shipment of the replacement part(s). ALL LABOR AND FREIGHT MUST BE PRE-APPROVED AND ARRANGED BY C-AIRE.

**PURCHASER'S OBLIGATION:**

- 1) Properly install and start up the compressor using the checklist located at the back of this Owner's Manual.  
(Keep "Installation Checklist" for future reference.)
- 2) Ensure the compressor is sized properly for the application.  
(the compressor should run no more than 6 out of 10 minutes on average.)
- 3) Maintain proof of purchase and Installation Checklist.
- 4) Register your Extended Warranty (if applicable).

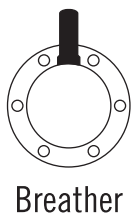
**WARRANTY CLAIMS:** Please contact C-Aire at 1-800-762-2247 or 651-462-3440. Please have your completed Installation Checklist available.



Pump Relief Valve

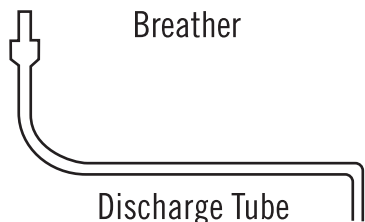
Pump Relief Valve

Air Filter



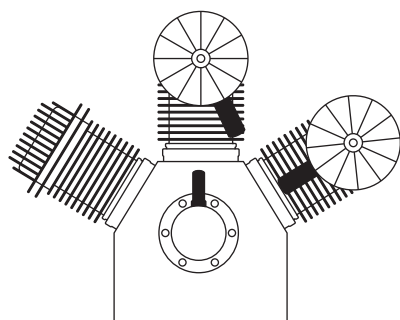
Breather

Breather



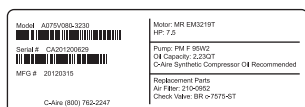
Discharge Tube

Discharge Tube



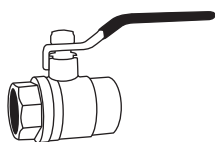
Pump

Pump



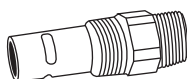
Serial Tag

Serial Tag



Ball Valve

Ball Valve



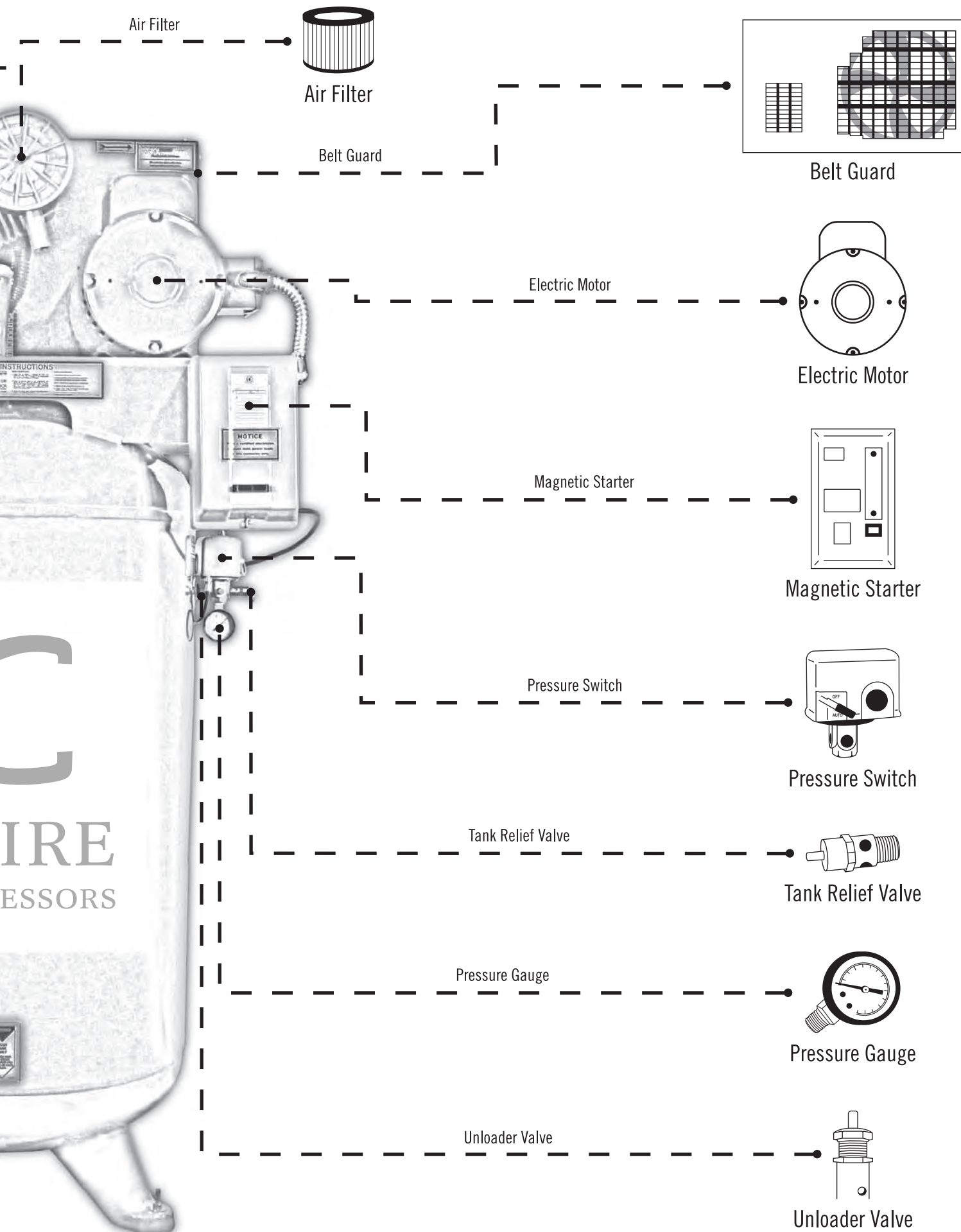
Check Valve

Check Valve



Petcock

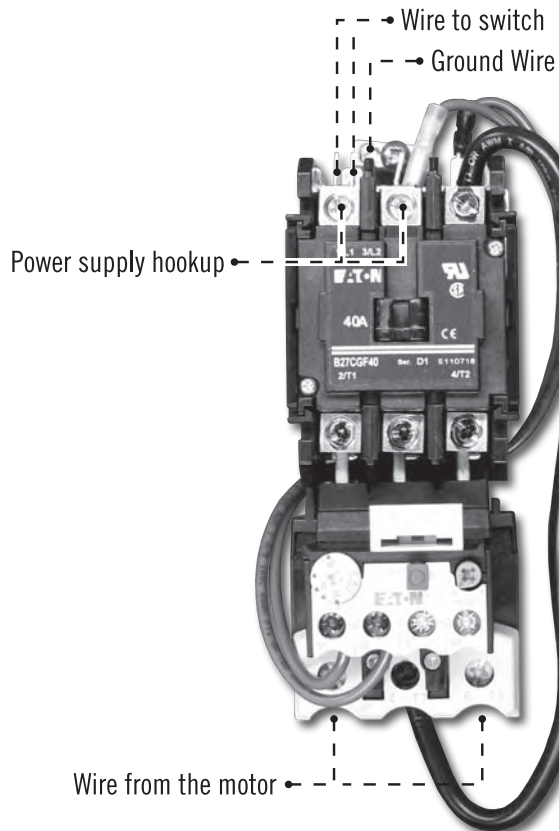
Petcock



# WIRING DIAGRAMS

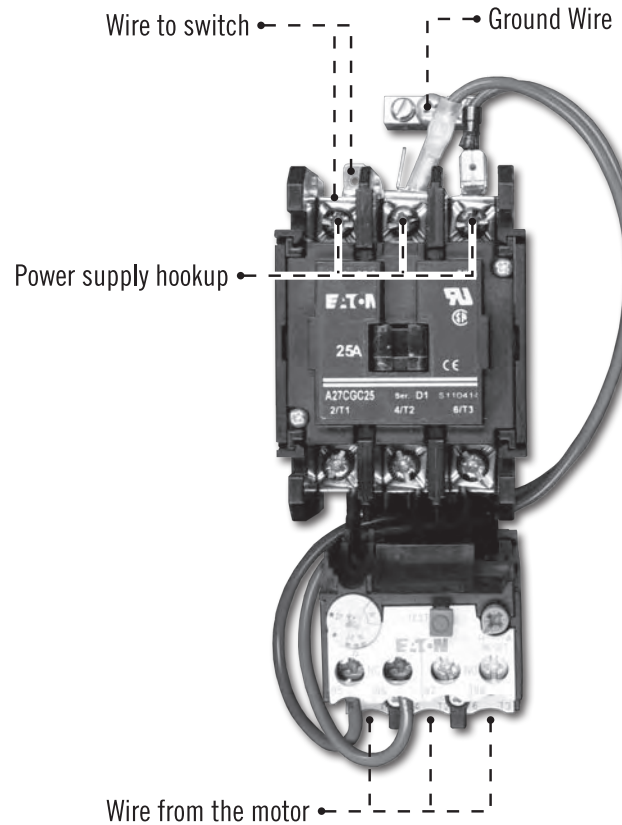
(For units with Magnetic Starters)

## SINGLE PHASE

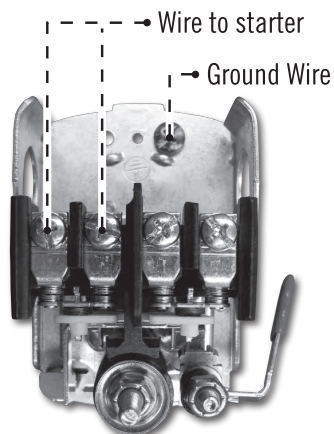


STARTER BOX

## THREE PHASE



STARTER BOX



PRESSURE SWITCH

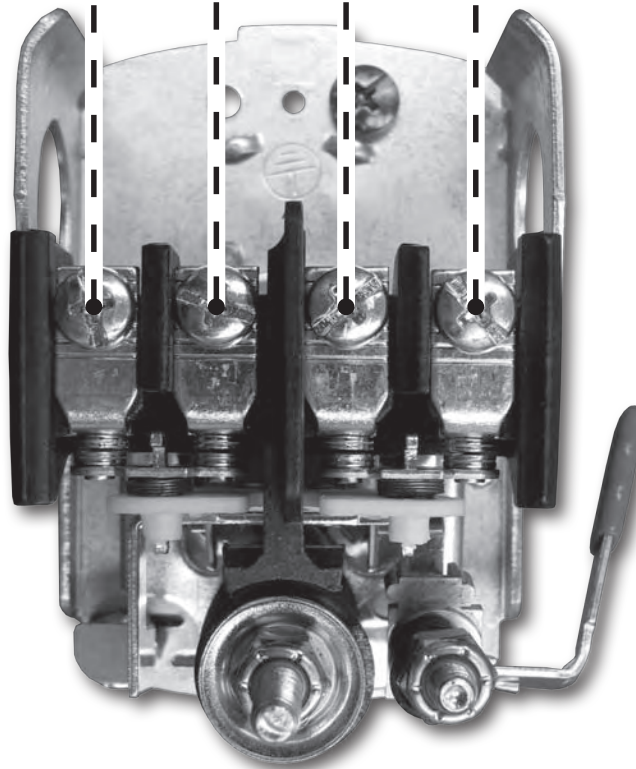
# WIRING DIAGRAMS

(For units without Magnetic Starters)

Wire to power source

Wire to power source

Wire to motor



## PRESSURE SWITCH

# TROUBLESHOOTING

- Compressor will not operate	<ul style="list-style-type: none"> <li>- No electrical power</li> <li>- Loose wire connections</li> <li>- Pressure switch not making contact</li> <li>- Overload/stripped</li> </ul>	<ul style="list-style-type: none"> <li>- Turn on power</li> <li>- Tighten connection</li> <li>- See pressure switch adjustment</li> <li>- Reset overload</li> </ul>
- Knock occurs while compressor is loading	<ul style="list-style-type: none"> <li>- Connection rod bearings</li> <li>- Wrist pins, wrist pin bearings</li> <li>- Loose connecting rod nut</li> <li>- Valves</li> </ul>	<ul style="list-style-type: none"> <li>- Replace rod</li> <li>- Replace complete piston assembly</li> <li>- Tighten</li> <li>- Replace Valves</li> </ul>
- Compressor vibrates	<ul style="list-style-type: none"> <li>- Mounting bolts loose</li> <li>- Compressor not mounted properly</li> <li>- Pulley and Flywheel misaligned</li> <li>- Belt loose</li> <li>- Bent Crankshaft</li> </ul>	<ul style="list-style-type: none"> <li>- Tighten</li> <li>- Level or shim compressor so all feet touch the floor before tightening down</li> <li>- Realign</li> <li>- Tighten belts</li> <li>- Replace Crankshaft</li> </ul>
- Air is blowing out of inlet	- Broken first stage valve	- Replace valves
- Tank does not hold pressure when compressor is turned off	<ul style="list-style-type: none"> <li>- Check all fittings</li> <li>- Make sure Petcock is closed</li> <li>- Faulty Check Valve</li> </ul>	<ul style="list-style-type: none"> <li>- <b>WARNING:</b> Bleed tank. Disassemble Check Valve assembly, clean or replace faulty parts.</li> <li>- <b>DANGER:</b> Do not disassemble Check Valve with air in tank</li> </ul>
- Tank pressure builds up slowly	<ul style="list-style-type: none"> <li>- Dirty air filter</li> <li>- Blown cylinder head gasket</li> <li>- Worn or broken valves</li> <li>- Air leaks</li> <li>- Loose belts</li> </ul>	<ul style="list-style-type: none"> <li>- Clean or replace filter element</li> <li>- Install new gasket</li> <li>- Install new valve</li> <li>- Tighten joints</li> <li>- Tighten belts</li> </ul>
- Fuses or breaker trip	<ul style="list-style-type: none"> <li>- Wrong size fuses or breaker</li> <li>- Wrong size wire</li> <li>- Motor starting under load</li> <li>- Loose wires</li> <li>- Compressor is being overworked</li> <li>- Variable overload on compressor started needs adjusting</li> </ul>	<ul style="list-style-type: none"> <li>- Check fuse/breaker size</li> <li>- Check volts/Amps</li> <li>- Make sure pump is unloading when compressor shuts off</li> <li>- Check electrical connections</li> <li>- Compressor should not run more than 6 out of 10 minutes on average</li> <li>- Call C-Aire</li> </ul>
- Reset mechanism cuts out repeatedly. Fuses of proper size blow.	<ul style="list-style-type: none"> <li>- Motor overload</li> <li>- Malfunctioning or improperly adjusted pressure switch or pilot valve</li> <li>- High ambient temperature</li> </ul>	<ul style="list-style-type: none"> <li>- Shut down immediately to avoid damage</li> <li>- Adjust or replace</li> <li>- Provide ventilation</li> </ul>

# TROUBLESHOOTING

- Excessive oil consumption	<ul style="list-style-type: none"> <li>- Too much oil in Crankcase</li> <li>- Improper weight of oil</li> <li>- Obstructed Crankcase vent</li> <li>- Dirty/plugged intake filter</li> <li>- Worn piston rings</li> <li>- Scored cylinder</li> </ul>	<ul style="list-style-type: none"> <li>- Drain to proper level</li> <li>- Replace with proper oil</li> <li>- Replace dipstick or oil fill plug or Crankcase vent</li> <li>- Clean/replace intake filter</li> <li>- Have unit serviced</li> <li>- Have unit serviced</li> </ul>
- Overheating compressor	<ul style="list-style-type: none"> <li>- Poor ventilation</li> <li>- Improper pump rotation</li> <li>- Internal pump problem</li> </ul>	<ul style="list-style-type: none"> <li>- Relocate compressor</li> <li>- Rewire for correct rotation</li> <li>- Have unit serviced</li> </ul>
- Water in air receiver	- Condensation in the air receiver	- Drain daily or install an Automatic Tank Drain



# INSTALLATION CHECKLIST

*In order to validate the warranty on your compressor, C-Aire requires this checklist be completed and kept for reference.*

## INSPECT FOR DAMAGE

- ☐ Carefully inspect the unit for damage that may have occurred during shipping. If damage has occurred, it should be noted on the freight carrier's bill of lading. (The manufacturer of this product is in no way responsible for damage or losses resulting from damage during shipping. All claims must be filed through the carrier's claim department.)

## LOCATION AND INSTALLATION OF COMPRESSOR

- ☐ Compressor is installed over 18" from any wall
- ☐ There is more than 12" from the top of the compressor pump to the ceiling
- ☐ The compressor is located in a well ventilated area
- ☐ For workshops under jurisdiction of OSHA; OSHA requires compressors to be anchored to the floor.
  - 3 Leg bolts are hand tightened to the floor
  - 1 Leg bolt left loose
  - Use a level and shims to ensure the compressor top plate is perfectly level
- ☐ Mount compressor on anti-vibration/mounting pads. Failure to do so will cause premature tank leaks and void warranty.

## ELECTRICAL

- ☐ Electrical connections must be made by licensed electrician
- ☐ Use the wiring instructions to make electrical connections
- ☐ Ensure the correct gauge wire is used based on the Amp draw and distance to the circuit breaker box
  - Distance to circuit box: \_\_\_\_\_
  - Gauge wire used from box to compressor: \_\_\_\_\_
  - Amp rating for circuit breaker: \_\_\_\_\_
- ☐ Check Volts before compressor is started up:
  - Single Phase: \_\_\_\_\_
  - Three Phase: L1:L2 \_\_\_\_\_ L1:L3 \_\_\_\_\_ L2:L3 \_\_\_\_\_
- ☐ Check Amps and Volts at start up:
  - Single Phase Volts: \_\_\_\_\_
  - Single Phase Amps: \_\_\_\_\_
  - Three Phase Volts: L1:L2 \_\_\_\_\_ L1:L3 \_\_\_\_\_ L2:L3 \_\_\_\_\_
  - Three Phase Amps: L1:L2 \_\_\_\_\_ L1:L3 \_\_\_\_\_ L2:L3 \_\_\_\_\_
- ☐ Check Amps and Volts at maximum pressure before the compressor shuts off:
  - Single Phase Volts: \_\_\_\_\_
  - Single Phase Amps: \_\_\_\_\_
  - Three Phase Volts: L1:L2 \_\_\_\_\_ L1:L3 \_\_\_\_\_ L2:L3 \_\_\_\_\_
  - Three Phase Amps: L1:L2 \_\_\_\_\_ L1:L3 \_\_\_\_\_ L2:L3 \_\_\_\_\_

## COMPONENT FUNCTION

- ☐ Be sure the pump unloads pressure, either at shut down if it is a Mechanical Unloader or immediately at start up if it is an Electronic Head Unloader.

## THREE PHASE UNITS ONLY

- ☐ Check rotation of the flywheel. Be sure its rotation matches the direction of the arrow which refers to the top loop of the belt(s).