

TROUBLESHOOTING

If the unit will not crank when a "START" is attempted, DO NOT jump-start without first considering the following:

- If there is obvious battery damage such as a cracked or broken case, replace battery.
 - Check for loose battery cables, tighten if necessary.
 - Check terminals for corrosion, clean if necessary.
 - After above checks, follow steps below.
1. Connect the first jumper cable from positive "+" (red) terminal of the discharged battery to the positive "+" (red) terminal on the booster battery. NEVER connect "+" (red) to "-" (black). DO NOT PERMIT vehicles to touch each other as this could establish a ground connection and counteract the benefits of this procedure.
 2. Connect one end of second jumper cable to the ground negative "-" (black) terminal of the booster battery. Connect the other end of this jumper cable to a solid, stationary metallic point on the compressor with the discharged battery but at a point AWAY from the battery (at least 18 inches or more) if possible. DO NOT connect directly to the negative post of the discharged battery.
 3. Disconnect positive battery terminal whenever using a high rate charge. Start the compressor in accordance with normal procedure. When the engine is operating smoothly disconnect the jumper cable end at the engine block before disconnecting the jumper cables from the other position.

Your Smith Air Compressor has safety switches that protect the engine and compressor from permanent damage. The safety switches are as follows:

1. Engine Oil Pressure: This is a normally open switch that closes with 15 PSI of engine oil pressure.
2. Engine Coolant Temperature: This is a normally closed switch that opens at 220° F.
3. Compressor Oil Temperature: This is a normally closed switch that opens at 245° F.

All above switches are in series with the power feed to the engine fuel solenoid. If any of the switches open, power to the solenoid is lost and the engine shuts down.

TROUBLESHOOTING

MACHINE WILL NOT CRANK

- Faulty battery connections.
 - check the battery terminals for tightness and corrosion.
- Low battery voltage.
 - check voltage and charge or replace the battery.
 - unit may be jump-started.
- Faulty ignition switch.
 - replace the switch.
- Starter solenoid connections are loose or corroded.
 - clean and tighten connections.
- Faulty starter solenoid or starter.
 - repair or replace the faulty components.

MACHINE CRANKS BUT WILL NOT START

- No fuel.
 - check fuel level and add if necessary
 - if the unit has run out of fuel it may be necessary to prime the fuel system.
- Air in the fuel system.
 - check the fuel line connections and tighten or repair.
 - prime the fuel system.
- Defective safety bypass switch.
 - replace switch.
- Fuel solenoid inoperative.
 - with ignition and safety bypass on – check for voltage at the solenoid.
 - check safety switches.

TROUBLESHOOTING

MACHINE SHUTS DOWN WITH AIR DEMAND PRESENT

- No fuel.
 - check fuel level and add fuel if necessary.
- Fuel filter restricted.
 - change fuel filter.
- Safety shutdown switches activated.
 - engine coolant level low – add coolant.
 - compressor oil and radiator flow restricted – clean coolers.
 - fan belts slipping or broken – repair or replace.
 - compressor oil low – add oil.
 - engine oil low – add oil.
 - compressor oil filter restricted – change the filter.
 - engine oil filter restricted – change the filter.
- Defective safety shutdown switch.
 - check the shutdown switches.
- Thermostatic valve malfunctioning.
 - clean or replace the thermostatic element.

MACHINE WILL NOT BUILD UP PRESSURE

- Defective gauge.
 - replace the gauge.
- Air demand too great.
 - check service lines for leaks or open valves.
- Blowdown valve open.
 - check to see if the blowdown valve is getting a pilot signal.
 - repair or service valve.
- Faulty coupling
 - replace the coupling

WITH NO DEMAND THE COMPRESSOR BUILDS EXCESSIVE PRESSURE

- Defective gauge.
 - replace the gauge.
- Air cylinder not fully extending.
 - check for restrictions in the control lines.
 - repair or replace control air cylinder.
 - check that the inlet valve is closing.
- Pressure regulator not properly adjusted or faulty.
 - adjust the regulator.
 - repair or replace the regulator

TROUBLESHOOTING

INSUFFICIENT AIR DELIVERY

- Compressor undersized for the air equipment.
 - o recheck maximum air requirement.
- Engine speed low.
 - o check speed and adjust as necessary.
- Air intake restricted.
 - o check air filter for dirt and make sure the indicator is working.
 - o look for obstructions in the filter and inlet piping.
 - o check that the inlet valve is opening fully.
- Faulty drive coupling.
 - o replace the coupling.

EXCESSIVE COMPRESSOR OIL CONSUMPTION

- Oil reserve over filled
 - o drain to the proper level.
- Leak in the compressor oil system.
 - o check all piping lines and connections – repair as necessary.
- Oil scavenge line not removing the oil from the separator.
 - o check scavenge line and its check valve for restrictions – clear as necessary.
 - o make sure that the scavenge line reaches the bottom of the separator.
- Separator element damaged.
 - o replace the element.
- Compressor undersized for the air requirement.
 - o operating at low pressures increases the oil carry over – recheck the load requirements.

TROUBLESHOOTING

COMPRESSOR OVERHEATING

- Unit being operated in an area with limited fresh air.
 - o reposition the unit or open up the confinement.
- Fan belts are loose or broken.
 - o tighten or replace.
- Dirt build up on the coolers.
 - o clean the cooler thoroughly – be careful not to damage the fins.
- Compressor oil level low.
 - o check and fill to proper level.
- Compressor oil filter dirty.
 - o replace the filter.
- Thermostatic valve malfunctioning.
 - o clean or replace the element.
- Restriction in the compressor oil lines.
 - o clean or replace the lines.
- Restriction inside the oil cooler.
 - o clean internal tubes of the cooler.
- Operating the compressor with the hood open.
 - o close the hood.
- Coolant level low.
 - o add coolant to the proper level.

HIGH FUEL CONSUMPTION

- Leaks in the fuel system.
 - o check all the fuel lines and connections; repair or replace as necessary.
- Engine not at correct operating speed.
 - o adjust the engine to its proper speed
- Pressure to regulator set too high.
 - o adjust regulator to correct pressure from the unit.
- Engine air intake is restricted.
 - o inspect the air intake system checking for any restriction – clean, repair or replace as necessary.
- Incorrect injection timing.
 - o adjust to specifications in the engine manual.