

# SECTION 6: TROUBLESHOOTING

## 6.1 GENERAL INFORMATION

This section contains symptoms and usual causes for the most common types of problems that may occur. All available data concerning the trouble should be systematically analyzed before undertaking any repairs or component replacement.

The information contained in the Troubleshooting chart has been compiled from field report data and factory experience. It contains symptoms and usual causes for the described problems. However, **DO NOT** assume that these are the only problems that may occur. All available data concerning the trouble should be systematically analyzed before undertaking any repairs or component replacement procedures.

A visual inspection is worth performing for almost all problems and may avoid unnecessary additional damage to the machine. Always remember to:

- Check for loose wiring.
- Check for damaged piping.
- Check for parts damaged by heat or an electrical short circuit, usually noticeable by discoloration or a burnt odor.

The procedures which can be performed in the least amount of time and with the least amount of removal or disassembly of parts should be performed first.

### **WARNING**

**Before starting, performing maintenance, or replacing parts, relieve the entire system pressure by opening a service valve, which will vent all pressure to the atmosphere.**

Although Vanair<sup>®</sup> strives to anticipate situations that may occur during the operation life of the machine package, the Troubleshooting Guide may not cover all possible situations. Be aware that additional troubleshooting information may be found in other sources. Should the situation remain unresolved after exhausting available

sources, contact Vanair<sup>®</sup> (below):

### **Vanair<sup>®</sup> Manufacturing, Inc.**

**10896 West 300 North**

**Michigan City, IN 46360**

**Telephone (toll free): (800) 526-8817**

**Service (toll free): (844) VAN-SERV**

**(844) 826-7378**

**Telephone: (219) 879-5100**

**Service Fax: (219) 879-5335**

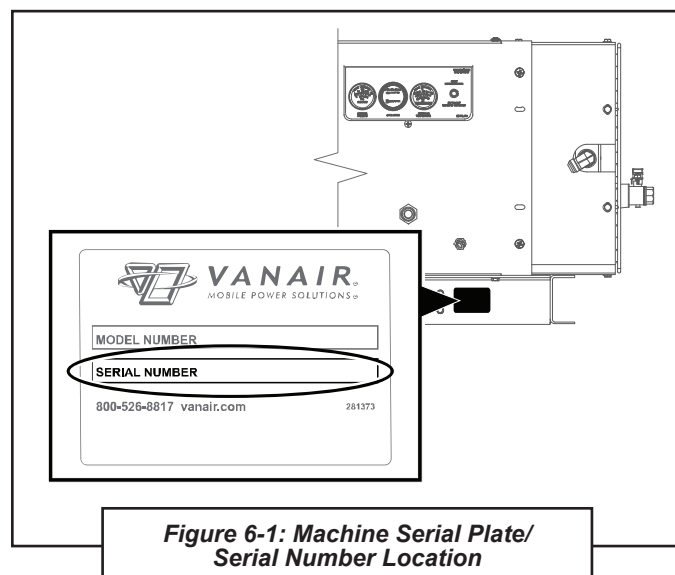
**Parts Fax: (219) 879-5340**

**Sales Fax: (219) 879-5800**

**vanair.com**

### **NOTE**

**When contacting the Vanair<sup>®</sup> Service Department, please have machine serial number on hand to quickly expedite service. Serial number can be located on the serial plate, as shown in Figure 6-1.**



**Figure 6-1: Machine Serial Plate/  
Serial Number Location**

## 6.2 TROUBLESHOOTING GUIDE

| SYMPTOM                                              | PROBABLE CAUSE                                         | REMEDY                                                                                                                                                                                                     |
|------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPRESSOR SHUTS DOWN WITH AIR DEMAND PRESENT        | Compressor Discharge Temperature Switch is Open        | Cooling air flow is insufficient; clean cooler and check for proper ventilation.                                                                                                                           |
|                                                      |                                                        | Low fluid sump level; add fluid.                                                                                                                                                                           |
|                                                      |                                                        | Dirty compressor fluid filter; change element.                                                                                                                                                             |
|                                                      |                                                        | Electric fan is not functioning.                                                                                                                                                                           |
|                                                      |                                                        | Defective discharge temperature switch; check for a short or open circuit to the engine fuel solenoid. Should this check out normal, it could be possible that the temperature switch itself is defective. |
|                                                      | Circuit Breaker Tripped on Instrument Panel            | Reset circuit breaker and check for cause of overload.                                                                                                                                                     |
|                                                      | Loss of Hydraulics                                     | Restore hydraulic supply.                                                                                                                                                                                  |
| COMPRESSOR WILL NOT BUILD UP FULL DISCHARGE PRESSURE | Air Demand is Too Great                                | Check service lines for leaks or open valves.                                                                                                                                                              |
|                                                      | Dirty Air Filter                                       | Check the filter and change element if required.                                                                                                                                                           |
|                                                      | Pressure Regulator Out of Adjustment                   | Adjust regulator according to control adjustment instructions in the Maintenance section.                                                                                                                  |
|                                                      | Defective Pressure Regulator                           | Check diaphragm and replace if necessary.                                                                                                                                                                  |
|                                                      | Incorrect Compressor Speed                             | Check & adjust to proper speed.                                                                                                                                                                            |
| RELIEF VALVE OPENS                                   | Pressure Regulating Valve is Set Too High              | Readjust.                                                                                                                                                                                                  |
|                                                      | Leak in Control System Causing Loss of Pressure Signal | Check control lines.                                                                                                                                                                                       |
|                                                      | Defective Pressure Regulating Valve                    | Repair valve.                                                                                                                                                                                              |
|                                                      | Inlet Valve Stuck Open                                 | Free or replace valve.                                                                                                                                                                                     |
|                                                      | Defective Pressure Relief Valve                        | Replace pressure relief valve.                                                                                                                                                                             |
| INSUFFICIENT AIR DELIVERY                            | Dirty Air Filter                                       | Replace.                                                                                                                                                                                                   |
|                                                      | Plugged Air/Fluid Separator                            | Replace separator element and also change compressor fluid and fluid filter at this time.                                                                                                                  |
|                                                      | Defective Minimum Pressure Valve                       | Replace.                                                                                                                                                                                                   |
|                                                      | Defective Pressure Regulator                           | Adjust or repair.                                                                                                                                                                                          |
|                                                      | Check Compressor R.P.M.                                | Adjust hydraulic flow to unit.                                                                                                                                                                             |
| EXCESSIVE COMPRESSOR FLUID CONSUMPTION               | Clogged Return Line                                    | Clear orifice.                                                                                                                                                                                             |
|                                                      | Defective Shutdown Blowdown Valve Diaphragm            | Replace diaphragm.                                                                                                                                                                                         |
|                                                      | Leak in the Lubrication System                         | Check all pipes, connections and components.                                                                                                                                                               |
|                                                      | Separator Element Damaged or Not Functioning Properly  | Change separator element.                                                                                                                                                                                  |

*Continued on next page*

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| SYMPTOM                                                  | PROBABLE CAUSE                              | REMEDY                                                                |
|----------------------------------------------------------|---------------------------------------------|-----------------------------------------------------------------------|
| EXCESSIVE COMPRESSOR<br>FLUID CONSUMPTION<br>(continued) | Fluid Sump Overfilled                       | Drain to proper level.                                                |
| COMPRESSOR OVERHEATING                                   | Dirty Fluid Cooler Core                     | Clean core thoroughly.                                                |
|                                                          | Plugged Fluid Cooler Tube (Internal)        | Clean tube thoroughly.                                                |
|                                                          | Low Sump Fluid Level                        | Fill.                                                                 |
|                                                          | Plugged Compressor Fluid Filter             | Change element.                                                       |
|                                                          | Electric Fan is Not Functioning             | Check wires, fan motor, & fan switch for fault & replace faulty part. |
|                                                          | Faulty Thermal Valve                        | Replace.                                                              |
|                                                          | Faulty Fan Motor                            | Replace.                                                              |
|                                                          | Faulty or Incorrectly-Adjusted Flow Control | Re-adjust or replace if necessary.                                    |
|                                                          | Incorrect Compressor / Drive Speeds         | Adjust flow.                                                          |

## 6.3 EXTREME CONDITION OPERATION

Refer to **Section 4.2.1, High Moisture Condition: Emulsification of Oil in Rotary Screw Compressor Systems** for steps to take to prevent moisture build-up within the compressor unit during operation.