SECTION 6: TROUBLESHOOTING

6.1 GENERAL INFORMATION

The information contained in this section has been compiled from years' worth of information gathered from the field. It 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.

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

Although Vanair® 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, such as the Engine Operation Manual. Should the situation remain unresolved after exhausting available sources, contact the Vanair Service Department at:

Toll Free: (800) 526-8817
Phone: (219) 879-5100
Service: (844) VAN-SERV
(844) 826-7378
Service Fax: (219) 879-5335

⚠ WARNING

DO NOT operate any of the Pro Series functions if there is a known unsafe condition. Disable the equipment by disconnecting it from its power source. Install a lock-out tag to identify the equipment as inoperable to other personnel to prevent accidental application.

⚠ WARNING

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

NOTE

When contacting the Vanair Service Department, please have machine serial number on hand to quickly expedite service. See *Figure 6-1* for machine serial plate location.

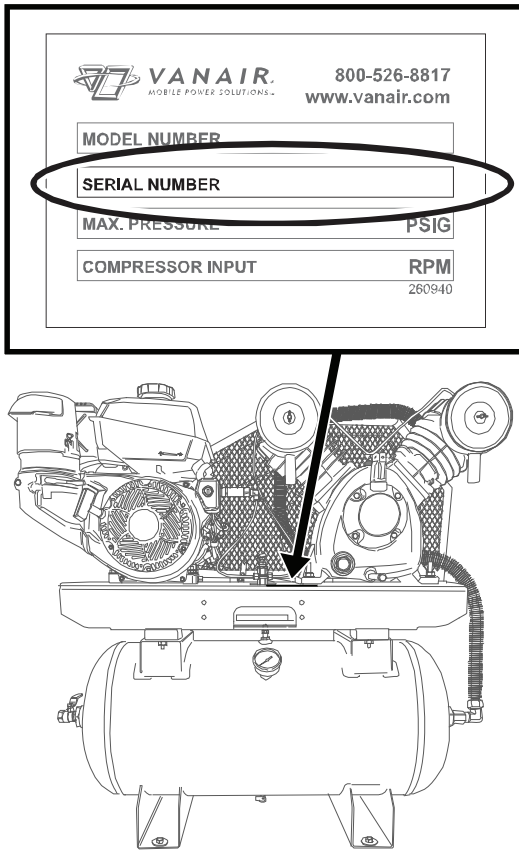

Figure 6-1: Machine Serial Plate / Serial Number Location

6.2 TROUBLESHOOTING GUIDE

MALFUNCTION/FAULT	POSSIBLE CAUSE	CORRECTIVE ACTION
Compressor will not start	Please refer to Manufacturer's manual (included)	Please refer to engine manual (included)
Low pressure	Safety valve leaks	Replace safety valve
	Drain cock open	Close drain cock
	Loose tubes or fittings	Tighten fittings
	Dirty or plugged air filter	Clean or replace, as necessary
	Defective unloader valve	Replace unloader valve
Compressor overheats	Clogged inlet filter	Clean or replace, as necessary
	Dirty compressor, head, cylinder, or intercooler	Clean with compressed air
	Operating pressure too high	Reduce operating pressure
	Low oil or incorrect oil being used	Drain and replace
	Compressor cycle too long - proper cycle is 50-60% on Stop/Start operation and 75-80% on continuous operation	Allow for longer rest between cycles
Compressor loads and unloads or stops and starts excessively	Leaks in air system	Replace worn components as necessary
	Worn or loose drive belts	Tighten V-belts or replace
	Pilot valve or pressure switch differential adjusted too close	Make necessary adjustments
	Defective compressor valves	Replace valves
	Compressor too small for intended use	
Insufficient output Low discharge pressure	Clogged inlet filter	Clean or replace, as necessary
	Leaks in air lines, air valves, fittings, etc.	Replace worn components as necessary
	Drive belts slipping	Tension V-belts
	Drain valve left open	Close drain valve
	Defective pressure gauge	Replace pressure gauge
	Compressor incorrectly sized	
	Leaking head gasket	Replace head gasket
	Dirty or plugged inter cooler tubes	Remove and clean inter cooler tubes
	Unloader pilot or pressure switch adjusted too low, or defective	Make necessary adjustments
	Worn or defective compressor valves	Replace worn parts
	Worn piston, worn out rings	Replace worn parts
	Restrictive check valve	Clean check valve and replace if necessary
Motor stalls	Compressor over pressure	Clogged fuel filter; replace filter.
	Faulty fuel pump (if applicable)	Replace pump
	Worn or faulty spark plug	Replace spark plug

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6.2 TROUBLESHOOTING GUIDE

MALFUNCTION/FAULT	POSSIBLE CAUSE	CORRECTIVE ACTION
Water in crankcase Oil Breaking up Oil gets dirty Rusty valves or cylinder	Cycle too short; compressor does not operate long enough to vaporize condensed moisture during compression	Allow for a longer operating cycle
	Inlet filter not protected against weather	Provide adequate protection against extreme weather conditions
	System pressure leaking back through check valve when compressor is stopped	Check / replace check valve if necessary
	Wrong oil being used	Drain and replace with proper oil
Excessive vibration	Loose compressor or engine mounts	Tighten components
	Wrong oil being used	Drain and replace with proper oil
	Loose flywheel, drive pulley or drive belts	Tighten loose components and check belts
	Worn rods, wrist pin or main bearings	Check and replace worn parts
Compressor knocks	Compressor valves loose or broken	Check and replace worn or broken valves
	Inspect check valve; it may knock at low pressures	Remove and clean check valve
	Worn rods, wrist pin or main bearings	Check and replace worn parts
Compressor uses too much oil	Clogged inlet filter	Clean inlet filter or replace if necessary
	Wrong oil being used; wrong viscosity	Drain and replace oil
	Oil level too high	Fill compressor with oil to proper level
	Crankcase breather valve malfunction	Replace crankcase breather
	Compressor runs unloaded too long	Increase load or stop compressor when not needed (check for air/leaks)
	Worn piston rings	Replace piston rings
	Piston rings not seated	See instruction below [1]
Compressor over pressure	Faulty unloader	Replace
	Leak in control system	Check control lines; replace as necessary
	Defective or improper installation of valves	Replace or re-install

[1] Allow 100 hours of normal operation for new rings to seat. Drain oil and refill with non-detergent ISO 68 oil or other approved oils