

SECTION 6: TROUBLESHOOTING

6.1 GENERAL INFORMATION

This troubleshooting guide has been compiled from operational and test data. It lists malfunctions/fault conditions, possible causes, and suggested corrective actions for the most common types of problems that may occur. 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. While it is intended to be comprehensive, operators and maintainers can encounter malfunctions or problems not listed in this table.

A detailed 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. Always remember to:

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

Should the problem persist after making the recommended check, consult your nearest Vanair® representative or the Vanair Mfg., Inc. Service Department.

⚠ WARNING

Install, operate, and maintain this equipment in full compliance with all applicable OSHA, other Federal, state, local codes, standards, and regulations.

⚠ WARNING

Before performing maintenance:

Shut down machine, relieve all system pressure and lock out all power, as per the Safety Section of this manual.

NOTE THAT THE SYSTEM CAN BE STARTED REMOTELY:

Always clearly tag the start-up instrumentation against accidental system start-ups during maintenance.

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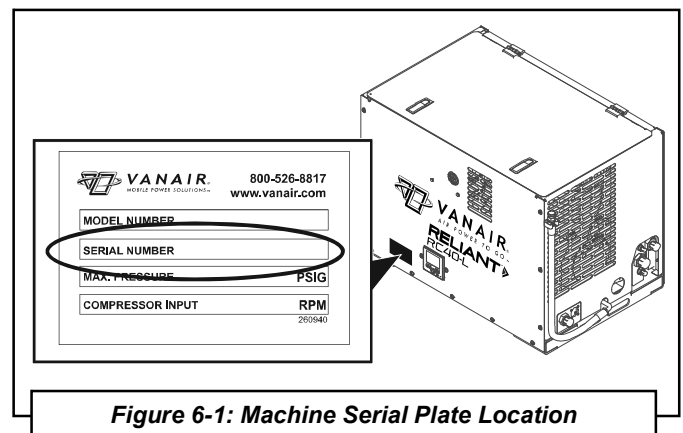


Figure 6-1: Machine Serial Plate Location

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MALFUNCTION/FAULT	POSSIBLE CAUSE	CORRECTIVE ACTION
Compressor will not start	PTO/hydraulics not engaged	Ensure hydraulics engaged.
	Compressor switch OFF	Turn switch ON.
	Fuse or fuses blown	Check and replace fuse if necessary (Section 5.5).
	Compressor pressure switch stuck	Replace; consult Service Department for reset instructions.
	Host vehicle diverter valve not operating	Check power and ground/replace valve.
	Hydraulic motor stalled	Switch OFF and attempt to turn the motor by hand to restart—replace if this fails.
	No hydraulic GPM or pressure	Check hydraulic circuit.
	Hydraulic relief valve set too low	Check with pressure gauge and reset.
	Power unit speed is too low	Check and correct.
	Hydraulic line obstructed	Check hoses for kinks, crimping, or damage.
	Low hydraulic oil level	Check and refill.
Faulty relay [‡]	Check for presence of power - if present, replace relay.	
Compressor runs slow	Hose/connection leaks	Check for leaks or damage/repair (Section 7.15 through Section 7.20 , and the electrical wiring diagrams, Section 7.22 and 7.23).
	Low hydraulic flow/pressure	Check and reset. Refer to Sections 7.11 and 7.12 for flow regulator location and replacement information.
	Hydraulic motor or pump worn	Replace.
	Low hydraulic oil level	Check and refill.
	Hydraulic relief valve set too low	Check and reset.
	Hydraulic oil line restriction	Check for blockages, kinks, or other obstructions.
Compressor runs hot	Cooling fan not operating	Check/power ground to fan motor (electrical and wiring diagrams Section 7.22 and 7.23)
	Insufficient ventilation	Relocate unit for better ventilation/circulation.
	Low compressor oil level	Refill to correct level (Section 5.4.3).
	Soiled compressor cylinder cooling fins	Clean.
	Soiled air intake filters	Replace air filter element (Section 5.4.4).
	Faulty compressor valves	Inspect and replace.
Low output air	Air filters soiled or plugged	Replace air filter element (Section 5.4.4).
	Air line leak	Inspect and replace hose or tighten connections.
	Discharge valve stuck	Remove and clean, or replace.
	Faulty compressor valves	Inspect and replace.
	Compressor RPM too slow	Check hydraulic circuit.
	Safety/relief valve leak	Replace valve.
[‡] Compressor will not turn on if fan relay is not functioning/tripped. A restart should reset, but if not, the component (fuse or relay) that may need to be replaced. Refer to Sections 7.7 and 7.8 for relay location and part confirmations,		
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MALFUNCTION/FAULT	POSSIBLE CAUSE	CORRECTIVE ACTION
Low air pressure	Air filters soiled/plugged	Replace air filter element (Section 5.4.4).
	Pressure switch setting too low	May need to be replaced or reset; consult Service Department for reset instructions.
	Air line leak	Inspect and replace hose or tighten connections.
	Air consumption exceeds capacity	Check applied demand on supply air.
	Faulty compressor valves	Inspect and replace.
	Defective air pressure switch / transducer	Refer to Figure 2-1 , Section 5.4.2 , and Section 7.7 or Section 7.8 . Replace if necessary.
	Discharge valve soiled or stuck	Remove and clear, or replace.
	Blown head gasket	Replace.
Abnormal pressure fluctuations	Air line leak	Inspect and replace hose or tighten connections.
	Pressure switch incorrectly set	May need to be replaced or reset; consult Service Department for reset instructions.
	Pressure switch or transducer faulty	Replace; consult Service Department for reset instructions.
	Hydraulic supply problems	Refer to <i>Compressor runs slow</i> section of this table.
Pressure relief valve(s) open continuously	Defective air pressure gauge	Refer to Section 5.4.2 and Section 7.5 . Replace if necessary.
	Damaged, worn, or leaking valve	Replace valve.
	Pressure switch set too high	May need to be replaced or reset; consult Service Department for reset instructions.
Compressor cycles too frequently	Air line leak	Inspect and replace hose or tighten connections.
	Pressure switch differential setting is too small	May need to be replaced or reset; consult Service Department for reset instructions.
	Pressure switch or transducer faulty	Replace; consult Service Department for reset instructions.
	Excessive moisture in receiver tank	Drain tank; check/drain on more frequent interval to prevent moisture build-up.
	Discharge air valve leaking	Replace.
	Pressure switch faulty (if hydraulic solenoid stays engaged)	Replace; consult Service Department for reset instructions.
Compressor will not shut OFF or unload	Hydraulic solenoid valve does not operate (no power to solenoid valve)	Replace solenoid valve; refer to Sections 7.10 , 7.11 or Section 7.12 .
	Air line leak	Inspect and replace hose or tighten connections.
Oil in discharge air	Air intake restricted	Replace air filter element (Section 5.4.4).
	Compressor crankshaft overfilled	Drain to correct level.
	Compressor crankcase has oil with the wrong viscosity	Drain crankcase and refill with the correct oil (Section 5.4.3.2).
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MALFUNCTION/FAULT	POSSIBLE CAUSE	CORRECTIVE ACTION
Oil in discharge air (continued)	Restricted crankcase breather	Clean or replace breather.
	Worn piston rings	Replace rings.
	Piston rings incorrectly installed	Reinstall.
	Worn or scored cylinder	Replace cylinder and rings.
Knocking sound from compressor	Crankcase oil level low	Check; refill to correct level (Section 5.4.3).
	Worn main bearing	Replace bearings and/or shaft.
	Worn connecting rod	Replace connecting rod.
	Excessive crank case end movement	Replace crank shaft bearings.
	Piston contacting piston plate	Inspect, repair, replace valves and piston.
	Worn piston wrist pin	Replace piston and pin.