

SECTION 4: TROUBLESHOOTING

4.1 GENERAL

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

It is good maintenance practice to apply the simplest solutions first after a problem has been identified. This can save time and extra disassembly work. Careful visual inspections of the equipment can also be useful in this regard.

 **WARNING**

DO NOT operate the compressor or any of its systems 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.

 **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.

4.2 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
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4.2 TROUBLESHOOTING GUIDE (CONTINUED)

MALFUNCTION/FAULT	POSSIBLE CAUSE	CORRECTIVE ACTION
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

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4.2 TROUBLESHOOTING GUIDE (CONTINUED)		
MALFUNCTION/FAULT	POSSIBLE CAUSE	CORRECTIVE ACTION
Motor stalls	Faulty unloader/check valve	Replace unloader or check valve
	Valves incorrectly installed	Install valves correctly
	Drive belts too tight	Tension V-belts
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
	Compressor operating outside in cold conditions or 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, motor, engine or guard	Tighten components
	Excessive discharge pressure	Reduce operating pressure
	Compressor not level	Level compressor
	Leg bolts tightened too tightly to floor	Loosen leg bolts
	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
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
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4.2 TROUBLESHOOTING GUIDE (CONTINUED)		
MALFUNCTION/FAULT	POSSIBLE CAUSE	CORRECTIVE ACTION
Compressor uses too much oil (continued)	Crankcase breather valve malfunction	Replace crankcase breather
	Compressor runs unloaded too long	Increase load or stop compressor when not needed (check for air/leaks)
	Compressor operating outside in cold conditions or inlet filter not protected against weather	Provide adequate protection against extreme weather conditions
	Worn piston rings	Replace piston rings
	Piston rings not seated	See instruction below
Piston rings not seated		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