

Compressor Fails to Start

No control panel display	<ul style="list-style-type: none"> • Check power to control panel • Refer to control system troubleshooting
No START permissive	<ul style="list-style-type: none"> • Refer to control system troubleshooting
Existing alarm or trip condition	<ul style="list-style-type: none"> • Refer to troubleshooting items for that alarm or trip and correct the problem.
START permissive exists but compressor will not start	<ul style="list-style-type: none"> • Emergency stop button depressed: pull out • Incorrect starting sequence logic • Motor starter malfunction. Check overload relay or high temperature condition • Blown overload fuse in the starter • Other starter problem • Loose or broken control wiring between current transformer, motor starter and compressor control panel
	<ul style="list-style-type: none"> •

Drive Motor Troubleshooting

Motor overheats	<ul style="list-style-type: none"> • Improper starter, motor or compressor setpoints • Incorrect voltage being applied to motor. Refer to nameplate • Motor overload controls not working. Check motor amps when compressor is fully loaded. • Motor bearings improperly lubricated. See motor instruction manual • Shorted motor windings. See motor instruction manual • Motor seized. Check for free shaft movement. BE SURE POWER IS OFF!
Unusual motor noise	<ul style="list-style-type: none"> • Motor bearings not lubricated. See motor manual

	<ul style="list-style-type: none"> • Dirty motor. Windings fouled such that the rotor and stator have contacted. Consult motor repair facility • Drive Coupling damaged. May require repair or replacement
Unusual motor vibration	<ul style="list-style-type: none"> • Motor hold down bolts loose • Motor bearings damaged. See motor manual • Drive coupling worn. May require replacement

Oil Leaks

Oil lines leak	<ul style="list-style-type: none"> • Loose connections in piping. Tighten connections
Oil pump leaks	<ul style="list-style-type: none"> • Pipe connections are loose. Tighten
Oil filter leaks	<ul style="list-style-type: none"> • Filter housing requires tightening. • Filter O-Ring damaged
Oil leaks at compressor gearbox area	<ul style="list-style-type: none"> • Lack of required gearbox / oil sump vacuum • Check amount of vacuum and troubleshooting air ejector system if vacuum is low.
Air ejector malfunction	<ul style="list-style-type: none"> • Check for proper air supply (clean and dry) and condition of return tubing (correct length and oil charge)
Bullgear or pinion oil seal leaks	<ul style="list-style-type: none"> • Air ejector malfunction. See air ejector troubleshooting. • Seal incorrect or damaged. Contact trained service professional
Gearbox leaking at splitline	<ul style="list-style-type: none"> • Insufficient torque on splitline bolts. Retorque • Splitline improperly sealed • Air ejector malfunction. See air ejector troubleshooting

High Inlet Air Temperature

Excessive ambient temperature	<ul style="list-style-type: none">• Improve ventilation if possible
Improper coolant supply and/or temperature	<ul style="list-style-type: none">• Open throttle or block valves completely• Verify proper coolant supply pressure• Verify proper coolant supply flow• Verify proper coolant supply temperature
RTD Malfunction	<ul style="list-style-type: none">• Bench test RTD. Replace if necessary• Faulty RTD wiring to control panel• Incorrect supply voltage to RTD circuit
Substandard intercooler performance	<ul style="list-style-type: none">• Record intercooler data with compressor in the loaded condition to identify tube or fin problem• Remove intercooler bundles and inspect• Refer to Operator's manual for tube and fin cleaning instructions• Straighten all bent fins, and replace all gaskets and sealing strips

Low Oil Pressure

Dirty oil filter element	<ul style="list-style-type: none">• Remove & replace
Pressure regulator not set properly or malfunctioning	<ul style="list-style-type: none">• Adjust regulator; verify with gauge if necessary• Inspect regulator and repair or replace as required
Low oil level	<ul style="list-style-type: none">• Fill reservoir to proper level (do not overfill). Correct any leaks
Faulty pressure transducer	<ul style="list-style-type: none">• Check voltages, wiring and range. Inspect and replace if required
Incorrect oil	<ul style="list-style-type: none">• Shut down compressor immediately and replace with required oil
Restriction in oil line	<ul style="list-style-type: none">• Drain tank, remove pump suction line and inspect

Problem with oil pump or pump motor	<ul style="list-style-type: none"> • Incorrect oil pump motor rotation • Oil pump motor starter overload heaters tripped or defective • Broke, loose, or faulty wiring to pump motor or starter • Oil pump coupling damaged. Inspect and replace as necessary • Pump or motor will not turn freely. Inspect coupling, pump and motor. Repair or replace as needed
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High Oil Pressure

Pressure regulator not set properly or malfunctioning	<ul style="list-style-type: none"> • Adjust regulator; verify with gauge if necessary • Inspect regulator and repair or replace as needed
Faulty pressure transducer	<ul style="list-style-type: none"> • Check voltages, wiring and range. Inspect and replace if required
Incorrect oil	<ul style="list-style-type: none"> • Shut down compressor immediately and replace with required oil

High / Low Oil Temperature

Improper coolant supply	<ul style="list-style-type: none"> • Check for proper flow, temperature and glycol mix (if applicable)
Faulty oil temperature RTD	<ul style="list-style-type: none"> • Check voltages, wiring and range. Inspect and replace if required.
Fouled oil cooler	<ul style="list-style-type: none"> • Remove cooler water headers and clean tubes. Verify correct orientation of cooler headers
Faulty thermal mixing valve	<ul style="list-style-type: none"> • Test element by immersing in hot liquid. Thermostat should be fully open at 120° F. Replace if necessary
Faulty oil heater	<ul style="list-style-type: none"> • Check thermostat for proper setting. • Recalibrate thermostat or replace heater

High Vibration

General	<ul style="list-style-type: none">• Many compressor shutdowns due to high vibration indication are caused by a fault in the vibration measurement system. However, the compressor should not be routinely restarted after a vibration trip. It is very important to perform basic troubleshooting steps to provide assurance that it is safe to restart the unit.
High Vibration Shutdown	<ul style="list-style-type: none">• Review operating data to see if this was a sudden increase or a gradual increase in vibration levels. If it was sudden, inspect the vibration measuring system for faults. If the vibration increase was gradual, contact a service professional for assistance before restarting the compressor• Check drive motor starter, drive motor and main drive coupling.• Check all control settings and verify that the compressor was not being operated in surge or in an unstable condition.• Check lubrication system to verify that the required oil is being used and that the oil pressure and temperature are within tolerances.• If required have impeller and or gearing inspected by a service professional.• CAUTION: Verify that the compressor drive shaft can be turned freely by hand before attempting a restart after any vibration shutdown.
High Vibration Alarm	<ul style="list-style-type: none">• Verify that the compressor is being operated properly, including the lubrication system.• Have a vibration frequency analysis performed by a service professional.

Poor Compressor Aerodynamic Performance

<p>Low Discharge Air Pressure</p> <p>Or</p> <p>Low Compressor Flow</p> <p>Or</p> <p>Improper Power Consumption</p>	<ul style="list-style-type: none">• Incorrect control system setpoints or scale factors• Malfunction or incorrect location of control setpoint instrumentation• Inlet air filter dirty or restriction in the inlet piping to compressor• Air system demand is beyond compressor rating• Excessive air temperatures to compressor stages. Refer to cooling system troubleshooting• Dirty impellers, worn inlets, and/or diffusers. Contact service professional for assistance• Intercooler condensate carryover. Inspect, adjust and repair as required• Inlet valve malfunction. Inspect, adjust or repair as required• Bypass valve malfunction. Inspect, adjust or repair as required.
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Compressor Surge

<p>High or Low Surge Pressure</p> <p>Or</p> <p>High or Low Surge Flow</p> <p>Or</p> <p>High or Low Surge Amps</p>	<ul style="list-style-type: none">• Jobsite conditions above or below compressor design parameters• Control system setpoints and/or scale factors incorrect• Compressor inlet and/or discharge valve tuning parameters incorrect• Malfunction or incorrect location of control system instrumentation• Inlet air filter dirty or restriction in inlet piping to compressor• High compressor air temperatures.• Malfunction of compressor inlet and/or discharge valve
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	<ul style="list-style-type: none"> Compressor discharge check valve problem. Incorrect location or size: worn or sticking
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Control Troubleshooting

No Panel Display	<ul style="list-style-type: none"> Turn on power switch (if applicable) Open panel and check for power inside. If panel is powered, inspect power connection to the display or check backlight adjustment
Improper Control of Compressor	<ul style="list-style-type: none"> Verify that all control panel configuration / initialization items are correct Verify that all monitoring point scale factors are correct in particular the motor amp and air pressure sensors Verify that all control setpoints are correct Check all control tuning parameters and optimize where required Check for fault indications on all control panel sensors. If more than one is found, check for wiring errors or incorrect power supply or grounding
Improper Compressor Control After Verification of Control Operation	<ul style="list-style-type: none"> Verify that all control valves are sized and located as required Inspect compressor inlet valve and verify proper open and closed positioning Inspect compressor discharge valve and repair if required Inspect the discharge check valve Contact service professional for assistance