Troubleshooting Guide for New Installations

SYMPTOM	CAUSE	SOLUTION
Unit fails to start - Motor makes no noise	Insufficient power to compressor	Source electric to the compressor is either the incorrect voltage, insufficient wire size to carry the load, the fuse box or breaker box is not sufficient to carry the load requirements to the compressor.
	Unit wired incorrectly	Any wiring other than what is stated in the manual could cause a malfunction (see Wiring Section).
	Wrong voltage supplied to unit	Make sure voltage is correct with the motor wiring (see Wiring Section).
	Loose electrical connections	The entire electrical system should be checked by a certified electrician. The incoming wires and the compressor electrical connections should be checked. Loose connections will cause malfunctions.
	Wrong size wiring	Check that wire size is rated for the current of the compressor. State and local codes vary widely and need to be checked before installation.
	Blown fuse and/or tripped breaker	The breaker and fuses required for this unit must be time delay. A tripped breaker or blown fuse may result from a direct short to ground, high current draw, improper wiring, incorrect fuse or breaker size and/or type. This needs to be evaluated by a service center or certified electrician.
	Starter overload tripped	Check and reset if necessary. If the overload trips after the initial reset, refer to the section of the manual that covers this issue.
	Low oil level	Units equipped with a Low Oil Guard must have proper oil level to operate. If oil level is low, add more oil. Unplug the compressor to reset the relay for the low oil switch (see Lubrication section).
Unit fails to start - Motor hums	Unit wired incorrectly	Any wiring other than what is stated in the manual could cause a malfunction (see Wiring Section).
	Wrong voltage	Make sure voltage is correct with the motor wiring (see Wiring Section).
	Loose electrical connections	The entire electrical system should be checked by a certified electrician. The incoming wires and the compressor electrical connections should be checked. Loose connections will cause malfunctions.
Motor reset button trips or reset trips on starter	Unit wired incorrectly	Check voltage, wire size, etc. This problem needs to be evaluated and corrected (see Wiring Section).
	Wrong voltage	Make sure voltage is correct with the motor wiring (see Wiring Section).
	Wrong size wiring	Check to make sure wire size is rated for the current of the compressor. Check that wire size is rated for the current of the compressor. State and local codes vary widely and need to be checked before installation.
Unit starts but does not get to full speed	Insufficient power to compressor	Source electric to the compressor is either the incorrect voltage, insufficient wire size to carry the load, the fuse box or breaker box is not sufficient to carry the load requirements to the compressor.
	Loose electrical connections	The entire electrical system should be checked by a certified electrician. The incoming wires and the compressor electrical connections should be checked. Loose connections will cause malfunctions.
Unit does not make any or very little air	Drain valve open	Make sure the drain valve at the bottom of the tank is closed.
	Air leak	Check the entire system for leaks, including the compressor unit and any piping attached to the compressor
	Restricted or blocked intake	Make sure that the air intake of the compressor is not blocked in any way.

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Troubleshooting Guide for New Installations (Continued)

SYMPTOM	CAUSE	SOLUTION
Unit runs very noisy	Damage to the compressor	Check to make sure the compressor has not been damaged in the shipping or installation. Make sure the belt guard was not damaged. Belt guard should not be making contact with flywheel or pulley.
	Loose fasteners	Check all bolts and nuts to assure they did not loosen during shipping.
	Loose flywheel or pulley	Check to assure pulley and flywheel are correctly tightened.
	Improper installation	If unit is left on skid it may cause excessive vibration. Remove unit from skid and mount loosely to floor with vibration pads and anchor bolts. Do not tighten bolts tight. Leave nut loose approximately 1/8 inch from compressor foot.
Oil in discharge air or out crankcase breather	Break in period	Some oil in the exhaust air is normal during the break-in period and during heavy usage after the break-in period. Oil discharge should reduce as hours are accumulated on the unit.
	Wrong type of oil	Do not use SAE-30 automotive type oil. Using the wrong oil can cause problems with the pump and will void the warranty. Only use the oils that the operating manual recommends (see Lubrication section).
	Improper environment	Unit should not be installed in a poorly vented area or exposed to extreme cold or hot conditions. Normal operating range should be between 32°F and 100°F.
Compressor seems to run hot	Rotation incorrect	Check to make sure the compressor is running the direction of the flywheel arrow. Air flow should be so that the flywheel directs air across the head of the pump. Standing in front of the compressor (non-belt guard side) air should flow back to front.

Troubleshooting Guide for Units in Service for a Period of Time

SYMPTOM	CAUSE	SOLUTION
Motor does not run	Loose electrical connections	The entire electrical system should be checked by a certified electrician. The incoming wires and the compressor electrical connections should be checked. Loose connections will cause malfunctions.
	Blown fuse and/or tripped breaker	The breaker and fuses required for this unit must be time delay. A tripped breaker or blown fuse may result from a direct short to ground, high current draw, improper wiring, incorrect fuse or breaker size and/or type. This needs to be evaluated by a service center or certified electrician.
	Starter overload tripped	Check and reset if necessary. If the overload trips after the initial reset, refer to the section of the manual that covers this issue.
	Defective capacitor	Check and replace (if necessary) defective capacitor.
	Defective magnetic starter	First check for any loose wiring and tighten if loose. Check and replace (if necessary) defective magnetic starter.
Motor hums; motor draws high amps, trips overload, trips breaker, or blows fuse on start up	Defective pressure switch unloader	Drain the tank of all pressure. Restart compressor under no load. If compressor is able to start, then the unloader needs to be checked. If this problem is not corrected it will fail the motor and / or other electrical components.
	Defective check valve - constant loss of tank pressure	Determine if the check valve is working properly - pressure switch unloader should quit hissing after the compressor shuts off. If the hissing continues and if there is a constant loss of tank pressure, then the check valve is not working properly. Replace check valve.
	Loose electrical connections	The entire electrical system should be checked by a certified electrician. The incoming wires and the compressor electrical connections should be checked. Loose connections will cause malfunctions.
	Defective capacitor	Check and replace (if necessary) defective capacitor.
	Valve problem or blown gasket	Check gasket and replace as needed. Other symptoms occur when a valve is not sealing or a gasket is blown such as higher than normal amp draw which may trip out the overload or breaker.
Compressor runs but builds pressure slowly	Air leak	Check the entire system for leaks, including the compressor unit and any piping attached to the compressor
	Dirty air filter	Air filters need to be changed regularly based on usage and environment. A dirty filter may appear to be clean. Change filters often.
	Valve problem or blown gasket	Check gasket and replace as needed. Other symptoms occur when a valve is not sealing or a gasket is blown such as higher than normal amp draw which may trip out the overload or breaker.
	Tank cracked	Replace the tank. **The unit should not be run under any conditions.** Tanks cannot be welded or patched.
Interstage safety valve pops off when the unit is running	Malfunctioning interstage safety valve	Valve problem or blown gasket. High pressure air backflows into the low pressure side of the pump. This is caused by valve leakage or blown gasket.
	Low head bolt torque	Check and retighten head bolts to specified torque.
	Defective interstage safety valve	Replace interstage safety valve. Under no circumstances plug the safety valve port
Oil out breather	Worn rings or scored cylinder	Replace rings and/or replace cylinder.
	Compressor running hot	Make sure compressor is running the correct rotation. Compressor should be clean and in a well ventilated area. Oil should be changed on regular intervals according to the specifications listed in the manual. Air filter must be changed as it gets dirty.

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Troubleshooting Guide for Units in Service for a Period of Time (Continued)

SYMPTOM	CAUSE	SOLUTION
Milky oil in crankcase	Low usage of compressor - water is condesing in the crankcase	Run the compressor continuously for 1 hour. The heat generated during this running period will evaporate the moisture out of the oil.
	Wrong type of oil	Do not use SAE-30 automotive type oil. Using the wrong oil can cause various problems with the pump and will void the warranty. Only use the oils that the operating manual recommends.
	Improper environment	Unit should not be installed in a poorly vented area or exposed to extreme cold or hot conditions. Normal operating range should be between 32°F and 100°F.
	Rotation incorrect	Check to make sure the compressor is running the direction of the flywheel arrow. Air flow should be so that the flywheel directs air across the head of the pump. Standing in front of the compressor (non-belt guard side) air should flow back to front.
	Slight leakage of tank check valve	Air cools and condensates, then leaks back into the pump. Draining tank of air after use will normally take care of this situation.
Pressure switch continually blows air out the unloader valve	Defective check valve	Replace check valve.
Pressure switch does not release air when the compressor shuts off.	Pressure switch unloader not working properly	Drain the tank of all pressure. Restart compressor under no load. If compressor is able to start, then the unloader needs to be checked. If this problem is not corrected it will fail the motor and / or other electrical components.
Compressor will not shut off	Defective pressure switch	Setting too high. If adjusting the setting does not work, replace pressure switch.
	Defective safety valve	Make sure tank pressure gauge is reading correctly and if necessary replace tank safety valve
Unit vibrates excessively	Loose fasteners	This includes mounting bolts for the pump, motor, belt guard, mag. starter, etc. Check for loose fasteners as part of a routine maintenance schedule. Tighten any loose fasteners.
	Loose pulley, loose belt or misalignment or pulleys	The pulley and belt may need to be tightened over time. The pulleys may need to be realigned to assure proper belt wear and lower vibration. These should be checked as part of regular maintenance.
	Defective pump	A defective pump includes knocking or making noises not normal to the pump design. Severe oil out the breather usually indicates ring or cylinder wear. Low pump performance could indicate valve problems. There are numerous symptoms associated with a defective pump. The pump will need to be evaluated.
Water in discharge air	Hot humid weather	During hot and humid weather it is normal to accumulate water in the compressor tank. This is normal and requires frequent draining of tank. We recommend use of an automatic drain along with filters and dryers if this is a problem.
	Water accumulated in the tank	Drain tank of water to prevent tank corrosion and air tool wear. It is recommended use of an automatic drain along with filters and dryer to prevent water into exhaust air of the compressor.

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Troubleshooting Guide for Units in Service for a Period of Time (Continued)

SYMPTOM	CAUSE	SOLUTION
Oil in discharge air	Restricted intake filter	The filter should be changed frequently to avoid possible problems and to make the compressor operation efficient. There is a vacuum created in the intake of the compressor, which causes high oil consumption by pulling oil through the rings. There is also a chance of the intake filter media being destroyed, allowing contaminants to enter the intake and cause wear problems.
	Wrong type of oil	Do not use SAE-30 automotive type oil. Using the wrong oil can cause various problems with the pump and will void the warranty. Only use the oils that the operating manual recommends.
	Worn rings or scored cylinder	Replace rings and/or replace cylinder.
	Compressor running hot	Make sure compressor is running the correct rotation. Compressor should be clean and in a well ventilated area. Oil should be changed on regular intervals according to the specifications listed in the manual. Air filter must be changed as it gets dirty.