

Subject
Premature Clutch Failure

System or Parts affected

- All Belt Drive Compressors

Trouble shooting:

Electrical

- Bad Ground/Poor Connections:
 - Confirm a good quality ground on the Green Wire from the white 4 pin connector, and the Black Wire at Park Brake switch. Measuring resistance between ground point and battery ground. This should be less than 1 Ohm.
 - Check connection from Red Wire to key switched 12V.
 - Disconnect and reconnect connections. Do not use “butt” or “Scotch” style connectors, use solder and shrink tube.
- Intermittent voltage to clutch:
 - Re-solder Park Brake ground connection and key switched 12V connection (if not already done in previous step).
- Ensure there are no other components being fed off of the key switched 12V supply as this could cause the voltage to drop lower than 12V.
- After confirming 12V entering the Control box via the Red wire check the voltage on the White Clutch wire. If this is less than 12V confirm there are no devices that could be robbing voltage. If not, then control box is faulty.
- Failed (or failing) alternator. Confirm alternator is outputting 12V. The clutch will slip if it does not receive 12V.
- Other electrical items demanding voltage/current:
 - Running auxiliary lighting, electric tail gates, winches, cranes, etc. at the same time as the VMAC compressor may cause a voltage drop below 12V. The VMAC compressor needs to be electrically isolated from potential voltage draw.

Mechanical

- Faulty blow down valve.
 - Older systems did not have a blow down valves. These vales dump all the air pressure in the VMAC within 20 seconds of turning off the system. This is so that the clutch is not started with residual pressure in the system, causing clutch to slip and shorten life dramatically.
- Muffler plugged (blow down cap). If blow down takes a few minutes rather than a few seconds it should be replaced.
- Internal valve seized (blow down cap). Not blowing down.
- Hydraulic lock:
 - If the discharge hose is higher than the compressor it will cause compressor oil to run back into the compressor head. When the system is started, this will cause the clutch to slip and shorten its life.
- Turning the system on under pressure. Same result as above, clutch can't turn compressor with pressure in it.
- Compressor failure. Failing Compressor bearing adding load. The center of the clutch should turn smoothly with no grinding, by the palm of your hand.

Document	Version	Department	Revision Details	Revised by	Tech	Engineering	Implemented
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