

Trouble shooting E109-F101 (EV valve)

Phenomenon:




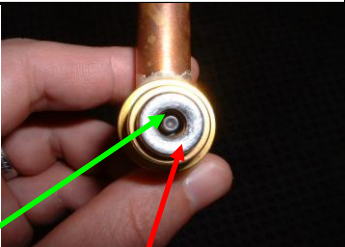



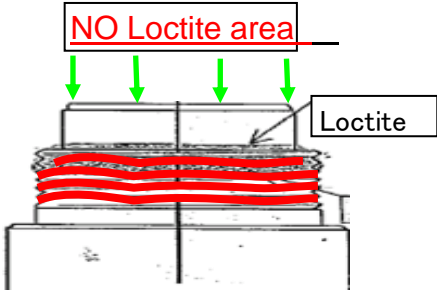
E109 > Low pressure failure > Compressor running in deep vacuum at the suction side.
F101 > High pressure failure > Reefer shutdown because of high discharge pressure.
Other possible alarm codes can be E107 or E203.




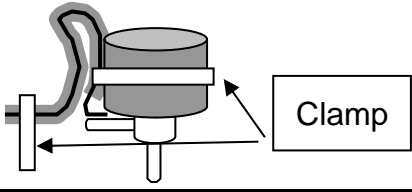

Cause:

A possibility of this problem can be the Expansion Valve (EV).
Some reefers get some moisture in de body of the EV (air side, not refrigerant side!!)
This is because the gasket of the EV coil is not sealing the coil from the body completely and the silicon seal around the coil and body is not good enough.
Moisture is coming into the body because the body gets very cold, Atracted moisture gets frozen and the pin inside the body is stuck.
Then the EV is not controlling anymore > E109 / F101.

Please note circuit breaker must turn off or no power supply during all this work to be correct initialization

Expansion valve coil replacement

Step	Photo	Procedure	Note
1		On the picture you see where the EV is located.	Please note circuit breaker must turn off during all this work to be correct initialization of EV coil.
2		Remove all the silicon seal underneath the EV coil, where you can find the lock-nut of EV coil.	
3		Remove the EV coil by unscrewing the lock-nut (No refrigerant leak).	
4		Blow out all moisture inside EV valve body with compressed air or Nitrogen. Dry the body very carefully with a hair dryer. Check if the body is clean inside with a mirror.	Blow off this part. Do not use flame because solder of valve body may melt which cause refrigerant leakage.
5		Blow out moisture inside the connector with compressed air or Nitrogen.	
6			Apply the loctite on the seal surface. Don't apply too much lock-tight. Check the behind condition with a mirror.

7		Re-installed the (new) EV coil.	If you have new EV coil (in stock/onboard kit), please replace.
8		Seal the lock-nut with silicon sealant carefully.	Clean around lock-nut. Bring silicon sealant <u>around</u> the lock-nut. <u>Check the behind condition</u> with a mirror.
9		The cable shall be clamped at two positions.	
10		Close the plate or temperature recorder box .	