

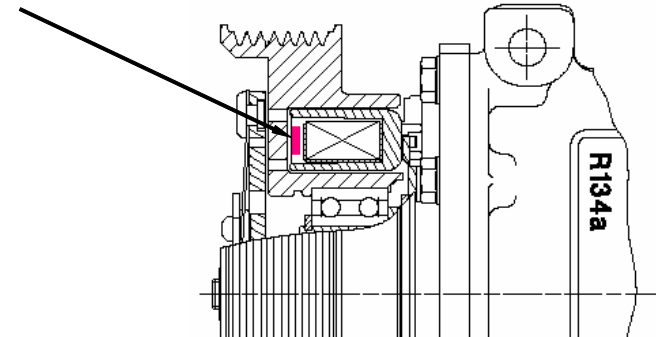
# SHD Compressor – New Design Features – Thermal Fuse



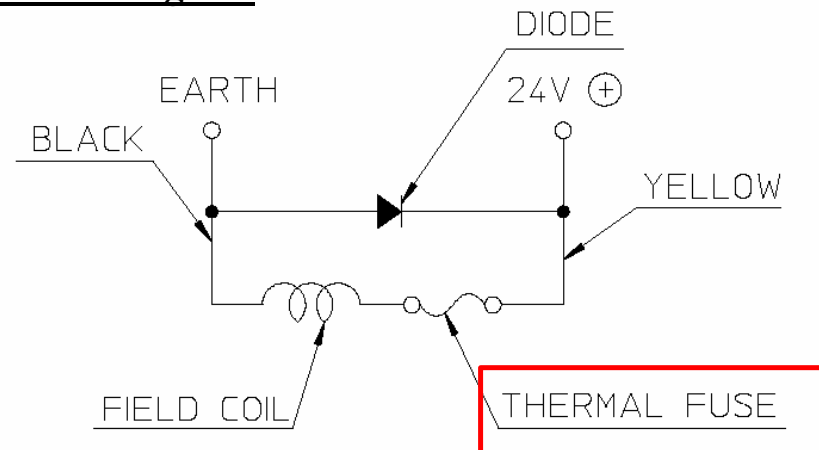
## • Thermal Fuse:

- Placed inside the clutch coil
- Principal of operation:
  - Fuse senses heat from clutch slip
  - Fuse opens, cutting current flow through clutch
  - Clutch disengages, allowing pulley to continue to spin
  - Prevents loss of accessory belt
- Included on all SHD and many SD7E compressors
- Fuse cannot be reset
  - Clutch must be replaced after fuse opens

## Position of thermal fuse



## Circuit diagram



# SHD Compressor – New Design Features – Diode



- During clutch disengagement, the clutch magnetic field rapidly collapses, sending a large voltage spike (400+ Volts are possible, depending on the speed at which the circuit is broken) back into the vehicle wiring
- To prevent this spike from damaging sensitive electronics, many Sanden compressors use a diode located in the clutch lead wires
- **Cautionary Notes:**
  - *If exposed to reversed polarity, the diode will usually fail “closed”, meaning that the clutch will not engage and the coil assembly must be replaced*
  - *The diode can be damaged as a result of rough handling*

## Clutch Diodes

Figure 1: Sanden Clutch Coil With Diode Wiring Diagram

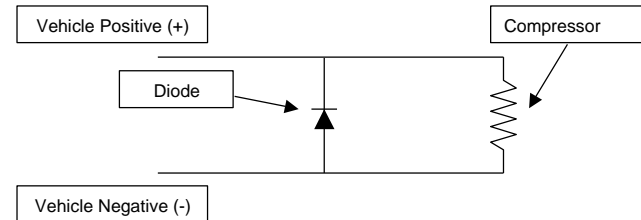


Figure #2 - Voltage Transient During Clutch Disengagement

