

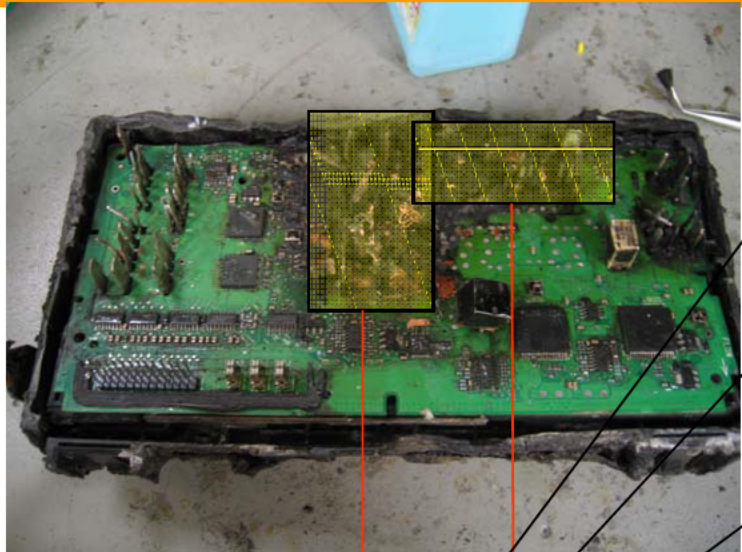




TIPM Heat Return Teardown Analysis

Rev 3

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- ▶ VIN: 
 - ▶ Date Module Built: 1/18/08
 - ▶ Medium Board Serial Number: TM1000QFK0
 - ▶ Date Medium Board Built: 11/23/2007
 - ▶ Passed all testing on first pass
 - ▶ Serviceable Area Teardown: The serviceable area was very hard to distinguish. The plastic cover had melted over onto the fuses and relays. It was noticed that the Rear HVAC blower area seemed like it the was the hottest. The coil winding of relay was visible. This area is right above the brown connector.
 - ▶ Medium Board Teardown: The damage on the medium board was around the BDPW2 connector and FLPW connector. PTPW pin 17 (GND) was missing. Rad Fan High Side Driver was in the damage area. The driver had come off the board. Same was true for the Rad Fan Serviceable relay coil low side driver. In this area there are 2 BATT Bypass caps. PCB relays K22 (Front Wiper Select and Driver Door Unlock), K23 (Rear Washer and Front Wiper On/Off), K19 (Horns), and K24 (Fuel Pump) had fallen off the medium board. K20 (Rear Wiper and Pass Door Unlock) was about to fall off the board. It was soldered on one side only. All the PCB relays were opened to investigate for damage or overcurrent markings. The relays looked good.

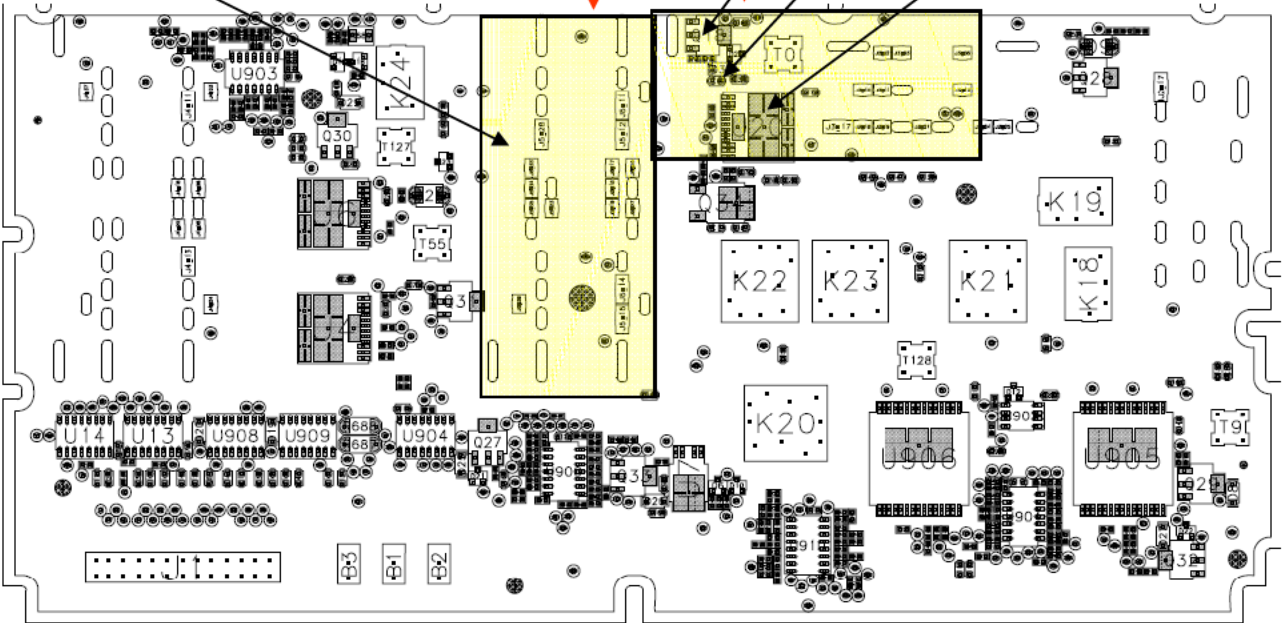


Serviceable RAD FAN low side relay driver

BATT Bypass Caps

Rad Fan Driver (Unused)

No Electrical Components



▶ VIN: [REDACTED]

▶ Date Module Built: 11/05/07

▶ Medium Board Serial Number: TM1000LKKR

▶ Date Medium Board Built: 10/14/2007

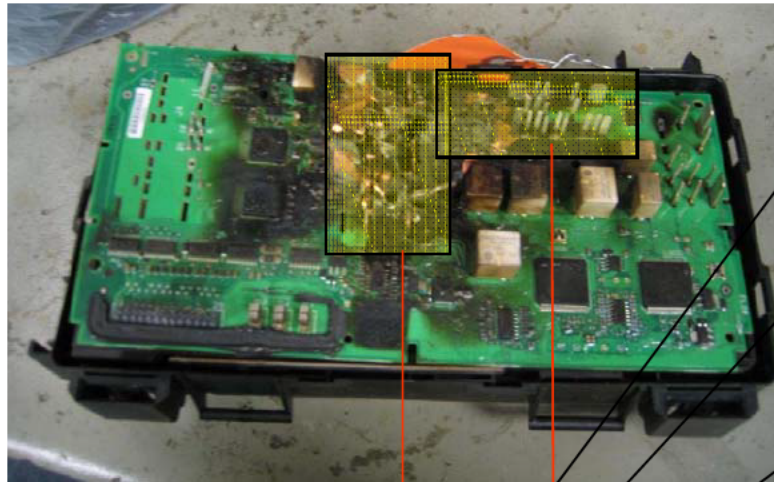
▶ Passed all testing on first pass

▶ Serviceable Area Teardown: There were signs of hot spot near the following relay and fuses: Rear HVAC blower Relay, M25 (Fuel Pump Output), M24 (Rear Wiper) and J15 (Rear HVAC Blower).

▶ Medium Board Teardown: The damage on the medium board was around the BDPW2 connector and FLPW connector. PTPW pin 17 (GND) was missing. Rad Fan High Side Driver was in the damage area. The driver had come off the board. Same was true for the Rad Fan Serviceable relay coil low side driver. In this area there are 2 BATT Bypass caps. All the PCB relays were still on the board.



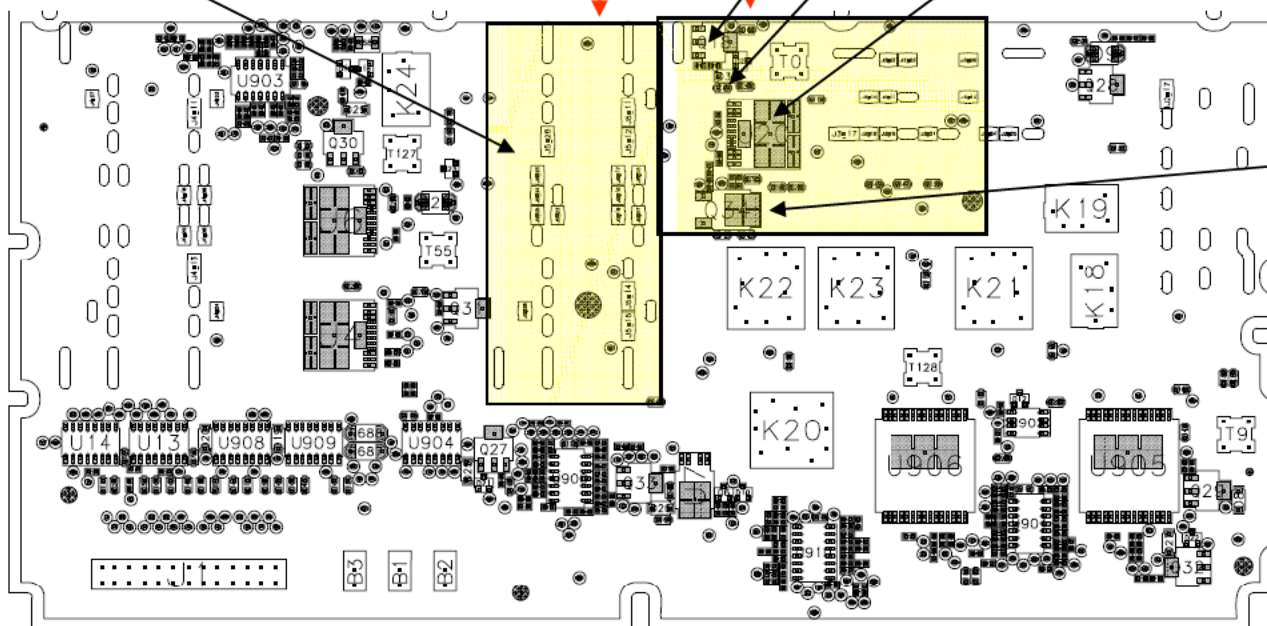
No Electrical Components





Serviceable RAD FAN low side relay driver

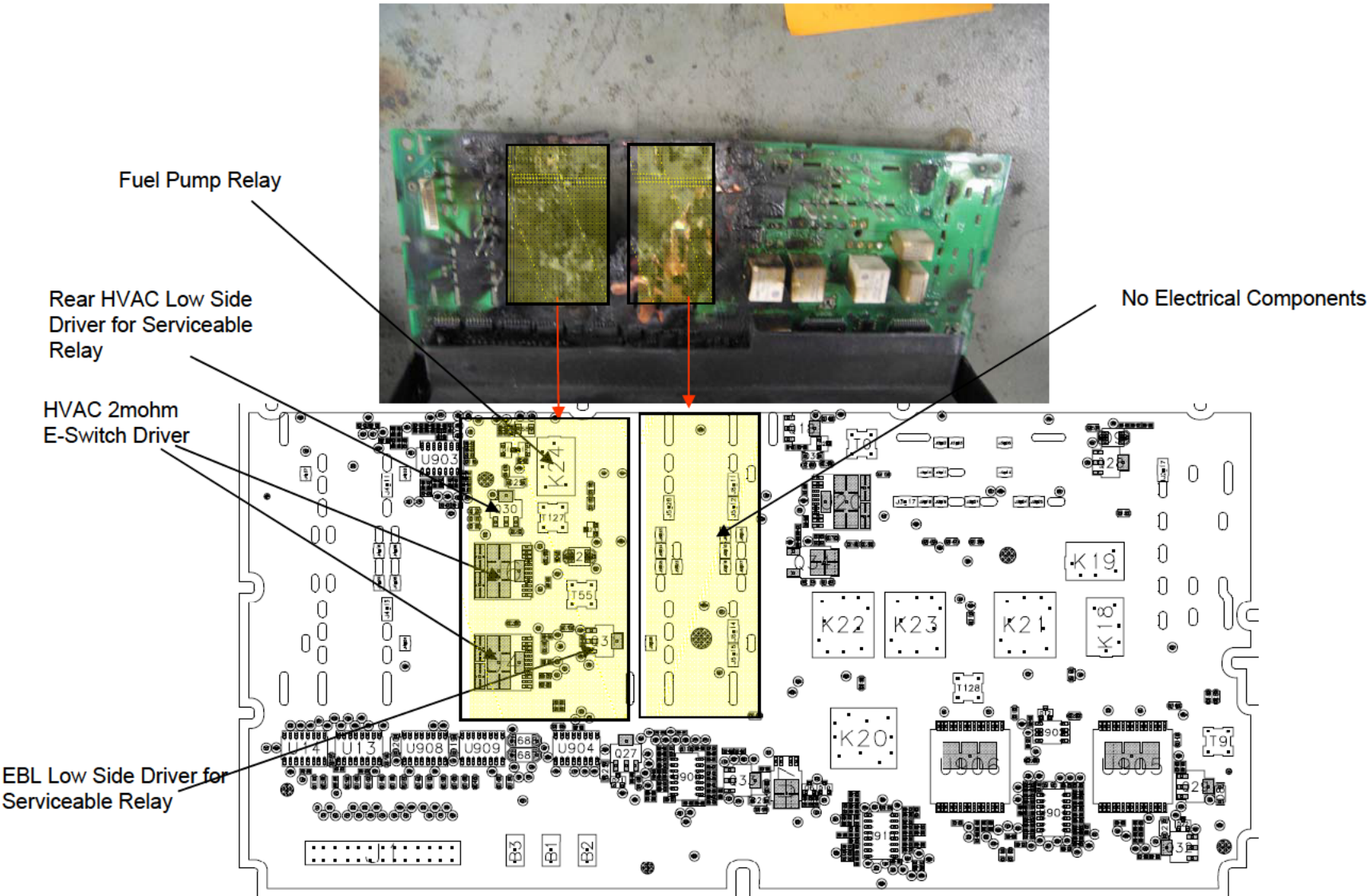
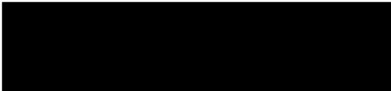
BATT Bypass Caps


Rad Fan Driver (Unused)



Front Wiper FET

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- ▶ VIN: 
 - ▶ Date Module Built: 11/21/07
 - ▶ Medium Board Serial Number: TM1000M57Z
 - ▶ Date Medium Board Built: 10/22/2007
 - ▶ Passed all testing on first pass
 - ▶ Serviceable Area Teardown: TBD
 - ▶ Medium Board Teardown: The damage on the medium board was around the BDPW2 connector. PTPW pin 17 (GND) was missing. The 2 E-Switch 2mohm drivers that drive the Front HVAC came off the board. Fuel Pump PCB relay was off the board also. EBL low side coil drivers was off the board.



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- ▶ VIN: TBD
 - ▶ Date Module Built: 09/14/07
 - ▶ Medium Board Serial Number: TM1000CC6L
 - ▶ Date Medium Board Built: 07/23/2007
 - ▶ Passed all testing on first pass
 - ▶ Serviceable Area Teardown: There were signs of minor heat damage near the following fuses: M25 (Fuel Pump Output), M24 (Rear Wiper) and J15 (Rear HVAC Blower).
 - ▶ Medium Board Teardown: The damage on the medium board was around the BDPW2 connector. PTPW pin 17 (GND) was missing. Everything else pretty much intact, except for the Fuel Pump relay which came off the board.

