No Crank

Symptoms: No Crank

General Information

The CCFT fuel system will prevent cranking if the fuel system determines it is not safe for either the truck to start or to drive away, but it will also prevent cranking if the fuel delivery system (FDS) ecu is not powered up. The conditions the fuel system will prevent cranking are:

- Any fill receptacle on the vehicle is uncovered such that a fueling hose could be connected. This includes the fueling door on the FMM, side mount, or back of cab systems, as well as any bumper fill, side fill, or rear fill caps.
- The engine has died without the ignition key being turned off.
- The engine is broadcasting an emergency shutdown fault.
- The engine is broadcasting that the fuel inlet pressure at the engine is extremely high.
- On a Heil CNG tailgate system, if the FDS ECU is not communicating with the engine ECM at key on

Each fuel door sensor and bumper fill cap has a dedicated input to the fuel system ECU and will be read by the ecu independently from each other. Once the ECU determines it is safe to crank, it provides the low side ground to the Start Relay, it provides the low side ground to the chassis on the Lockout Indicator wire and broadcasts a parameter for the fuel door status on the SAE J1939 vehicle data bus.

The actual preventing of the cranking is accomplished differently depending on the chassis make and model.

- Peterbilt and Kenworth
  - Peterbilt and Kenworth start wiring will utilize the CCFT Start Relay.
  - The CCFT Start Interrupt wires will connect into the OEM Start Interrupt connectors that are near the primary key switch, and run from the key switch, through the relay, and then back to the OEM crank circuit.
- Freightliner Cascadia
  - CCFT wiring will not utilize the CCFT Start Relay
  - The CCFT Lockout Indicator wire will connect to the OEM 8 pin CNG Interface connector I the chassis harness on Pin F. Note this requires an additional adapter harness other than the standard CCFT Chassis Interface Harness
  - Freightliner will control the actual cranking. If Pin F is not grounded, the OEM will not allow cranking and will illuminate the Fuel Cap Missing icon in the dash.
  - If pin F is grounded, the OEM will allow cranking and will turn off the Fuel Cap Missing Message in the dash.
- Freightliner SSD
  - The start wiring will utilize the CCFT Start Relay
  - The installer will cut the crank wire from the key switch approximately 6-12” from the key switch and install metripack 150 connectors.
  - The CCFT Start Interrupt wires will plug into these connectors.
  - The crank circuit will go from the key switch, through the CCFT Start Relay, and then back to the OEM starting circuit.
  - The Fuel Cap Missing light will be disabled.
- Volvo and Mack Conventional

  - CCFT wiring will not utilize the CCFT Start Relay
  - The CCFT Lockout Indicator wire will connect to the OEM 8 pin CNG Interface connector I the chassis harness on Pin E
  - The OEM will control the actual cranking. If Pin E is not grounded, the OEM will not allow cranking and will illuminate the Fuel Cap Missing icon in the dash.
  - If pin E is grounded, the OEM will allow cranking and will turn off the Fuel Cap Missing Message in the dash.
- Mack Cabovers
  - The start wiring will utilize the CCFT Start Relay
  - The installer will cut the crank wire from the key switch approximately 6-12” from the key switch and install metripack 150 connectors.
  - The CCFT Start Interrupt wires will plug into these connectors.
  - The crank circuit will go from the key switch, through the CCFT Start Relay, and then back to the OEM starting circuit.
  - There is not a Fuel Cap Missing message in the dash.
- Autocar
  - CCFT wiring will not utilize the Start Relay
  - The CCFT Lockout Indicator wire will connector to the OEM FMM connector Pin J.
  - The OEM will control the actual cranking. If the Pin J is grounded the OEM will allow cranking, if it is not grounded the OEM will not allow cranking.

On vehicles with a CCFT digital fuel dash gauge, the status of the digital gauge can provide clues as to what could be the issue.

Verification

Condition

- Vehicle batteries are charged.
- Key ON
- Turn key to crank

Action

- Check the digital fuel gauge and verify that Pressure, Miles to Empty, and Fuel Level are reading values and are not all dashes (----).
- Check for message on the dash FUEL DOOR OPEN.
- Check that all the fuel doors are closed.
- Check all the auxiliary fuel receptacle caps are installed.
- Check for voltage to ECU.

Specification

- Check for voltage to ECU disconnect ECU connector check voltage between PIN 11 Fuel Door Switch (1) and PIN 15 Bumper Fill Cap voltage should be close to battier voltage.
- If digital fuel gauge is all (----) then proceed to Linked Solutions Section.
- If message on dash is FUEL DOOR OPEN close all fuel doors and install Auxiliary Fuel Receptacle caps
- If all fuel doors are closed proceed to Linked Solutions Section.

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- If all Auxiliary Fuel Receptacle Caps are installed proceed to Linked Solutions Section.
- If digital gauge is reading Pressure, Miles to Empty, and Fuel Level and all fuel doors are closed, and Auxiliary Fuel Receptacle caps are installed proceed to Linked Solution Section.

Linked Solutions

- Electronic Control Unit (ECU) (042-029)
- Auxiliary Fuel Receptacle (042-034)
- Proximity Switch (042-035)

Repair

- Replace components that were found to be out of specification.

Validation

- Vehicle will crank.