

Roadside Emergency Guidelines

Involved in an Accident

1. Turn off the ignition switch.
2. Eliminate all sources of ignition.
3. If safe to do so, turn off Manual Shut Off Valve.
4. If safe to do so turn off all cylinder valves.
5. If there is a leak in the fuel system. Fire fighters should be summoned, just as if gasoline were spilled.

CNG Vehicle Fire

1. Turn off the ignition switch.
2. Call 911 report a CNG vehicle fire.
3. Establish a safety perimeter of 80-ft to 100-ft.
4. Notify all emergency responders that the vehicle is powered by CNG.
5. Point out the vent system.
6. Inform fire department of the status of the fuel system, i.e., how much fuel is in cylinder, valve positions, and key position.
7. If fuel system is in contact with the fire DO NOT approach the vehicle and DO NOT put water, or any other extinguishing agent on the fuel system. This could prevent the PRDs from activating.
8. If a PRD activates the result is often a jet fire, which could go out and re-ignite several times.

Towing CNG Vehicle

1. Notify Tow Truck Operator that the vehicle has a CNG fuel system, and any known damage to fuel system.
2. NEVER attached any recovery chain, strap, or rope to CNG Fuel System.
3. Never lift vehicle with any part of the CNG Fuel System.
4. Stay clear of CNG components on the bumpers and frame rails. Example Front Bumper Fill, and CNG Tubing on frame rails.
5. Shut all fuel cylinder valves before towing, if safe to do so.
6. If towing backwards watch fuel cabinet covers and doors to ensure they stay closed.

Fueling Guidelines

Fuel Station Guidelines

1. Turn off vehicle, stop smoking, locate emergency shutoffs, locate fire extinguishers, follow safety instructions.
2. Read and follow all fuel station instructions before fueling.
3. Attach fuel nozzle to fuel receptacle, pull back on fuel nozzle to ensure its locked on.
4. In the event of an emergency, close the manual shut off valve on the dispenser, turn the ¼ valve to the off position, and press one of the ESD (Emergency Shutdown Device) at the fuel island.
5. Evacuate the area on foot, leave vehicle.
6. PAY ATTENTION Keeping your eyes, ears, and nose open while at the station can help prevent accidents and injury. If you see, hear, or smell gas, be sure to use the emergency shutoff and call 911. Even minor leaks can cause major damage if left untreated.

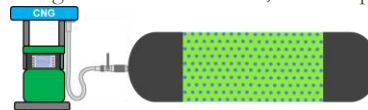
Fueling Temperature Pressure

CNG fueling system pressure is 3,600 psi. Some systems in the U.S. and many systems overseas are rated at 3,000 psi. These fill pressures are based on a 70°F ambient temperature.

The cylinders are designed to hold up to 125% of their operating pressure. So, a 3,000-psi tank can be filled to 3,750 psi and a 3,600 tank can be filled to 4,500 psi. This makes it possible to fill a tank to a higher pressure on hot days when the gas is expanding, as well as compensate for the heat of compression.

A good rule of thumb is that for every 1°F plus or minus 70°F, the pressure will change by 16 psi.

Note: If the vehicle is not getting the fuel range for the size DGE system, verify that all the cylinder valves are open. Range is all about volume, and not pressure



Operators CCFT CNG Fuel System Quick Reference Guide



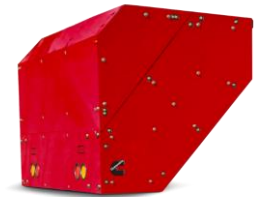
Side Mount



Back Of Cab



Roof Mount



Tailgate Mount



Fuel Management Module (FMM)

Pre-Trip

- ✓ Check external gas detection system, if equipped.
- ✓ Check for damage to fuel system housing.
- ✓ Check fuel system tubing and hoses on the chassis frame.
- ✓ Listen, smell and check for any leaks.
- ✓ Open access panels/doors to view fuel gauges.
- ✓ Check all fuel gauges.



Red labeled gauge is PRD gauge indicates the cylinder pressure regardless of the valve position.



Yellow labeled gauge is Supply pressure gauge indicates cylinder pressure if the cylinder valve(s) are open.



Orange labeled gauge is Regulated pressure gauge indicates the fuel pressure sent to the engine. When the regulator is working properly and the key is on, the pressure reading should read approximately 80 psi.

- ✓ Check cylinder shut off valve position, all valves should open.
- ✓ Check Manual Shut Off Valve position, valve should be open.
- ✓ Check bumper fill cap is installed.
- ✓ Check fuel door is closed.
- ✓ Drain low pressure fuel filter in the engine compartment.
- ✓ Check internal gas detection system, if equipped
- ✓ Start vehicle following OEM starting instructions.
- ✓ Check digital fuel gauge for proper operations on the three menu screens.

Engine Does Not Crank

The first item to check is that all the fuel doors are closed, and all the kill caps are installed. Even if the chassis does not have a front fill, the parameter is turned on in the ECU and there needs to a jumper installed in the FRT KILL CAP connector. If any of the fuel doors or kill caps are not installed, many truck models will have a message on the dash that reads FUEL DOOR OPEN. This is a sign that the CCFT Fuel System in preventing the cranking.

Check the digital fuel gauge and verify that Pressure, Miles to Empty, and Fuel Level are reading values and are not all dashes (----). If the parameters on the digital fuel gauge are all dashes, then the ECU is not getting power or ground because the ECU is probably not broadcasting the parameters and preventing from cranking.



Note: If the engine dies without the key being shut off, such as idle shutdown or an accident, the key must be cycled off and then back on to re-enable the cranking operation

Cummins Clean Fuel Technologies

1-817-767-6020

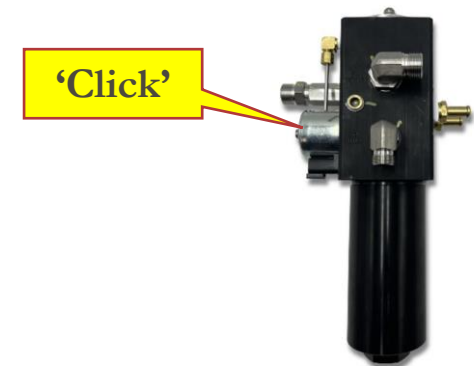
1-844-CNG-TANK

<https://www.cumminscleantech.com/>

Crank But Does Not Start

The CCFT fuel system's only job to allow the engine to run is to provide fuel within the operating pressure range of the engine. If the fuel system is providing the correct fuel pressure, which can be verified by looking at the Regulated Pressure Gauge on the CCFT fuel system, then it is not a fuel system issue, and the engine needs troubleshooting per Cummins Quickservice Symptom Based Troubleshooting "Crank But No Start" for the appropriate engine model. The Regulated Pressure should be 70-150 psi for 6.7 or 9L engines and 60-100 psi for 12L engines.

The fuel system supplies power to the CCFT Fuel Solenoid Valve on the regulator through the Fuel Relay. Fuel solenoid coil operates on 12 Volts and consist of two components, the solenoid coil and the plunger. When the key is turned "ON" there should be a "CLICK" sound.



If NO sound, check voltage by unplugging the solenoid coil and check the plug for 12 volts at the connector (listed below in the order of probability)

- CCFT Fuel Relay bad
- CCFT Fuel Solenoid Coil bad