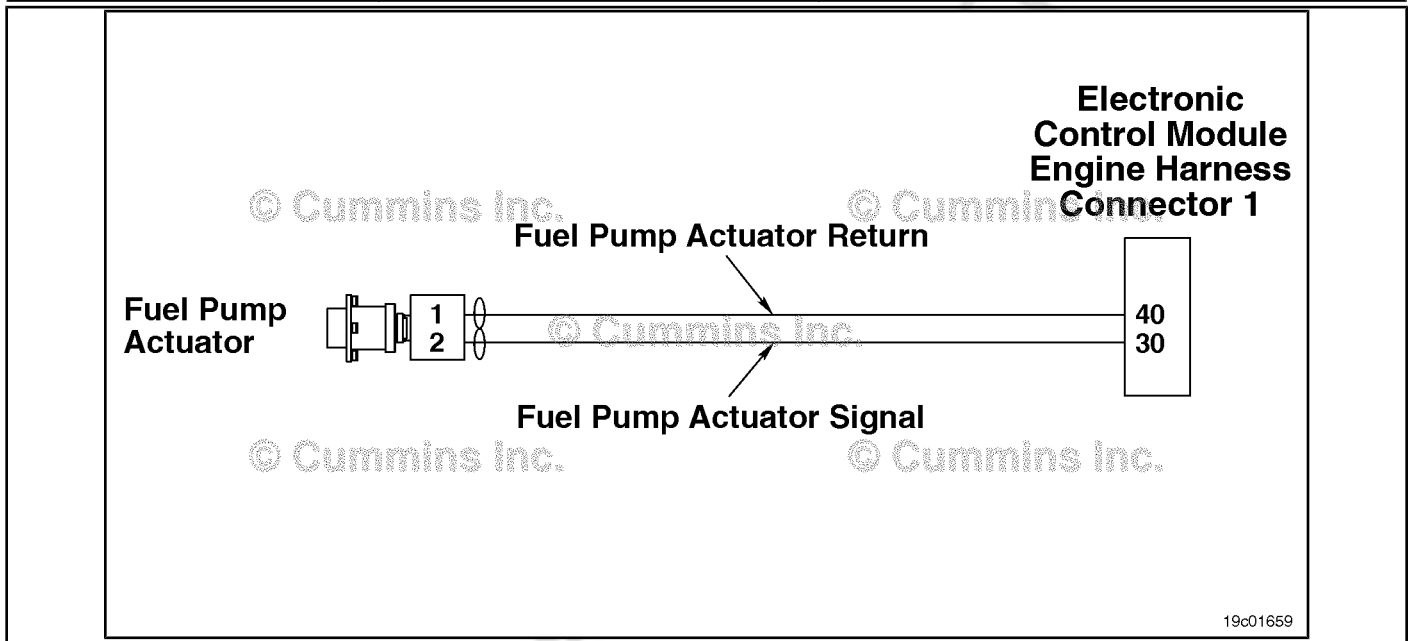


Fault Code 271

Engine Fuel Pump Pressurizing Assembly 1 Circuit - Voltage Below Normal or Shorted to Low Source

CODES	REASON	EFFECT
Fault Code: 271 PID(P), SID(S): SPN: 1347 FMI: 4 Lamp: Amber SRT:	Engine Fuel Pump Pressurizing Assembly 1 Circuit - Voltage Below Normal or Shorted to Low Source. Low signal voltage is detected at the fuel pump actuator circuit.	Engine will run poorly at idle. Engine will have low power.



QSB4.5 CM2250 EC - Fuel Pump Actuator Circuit

Circuit Description:

The circuit is a pulse-width modulated (PWM) driver in the electronic control module (ECM) that controls the electronic fuel pump actuator. The actuator is grounded in the ECM. The actuator is normally open. The PWM duty cycle to the electronic fuel pump actuator depends on the difference between desired rail pressure and sensed rail pressure.

Component Location:

The fuel pump actuator is located on the engine-mounted fuel pump. The engine wiring harness and the ECM are other components in the circuit that can cause this fault code.

Conditions for Running the Diagnostics:

This diagnostic runs continuously when the keyswitch is in the ON position.

Conditions for Setting the Fault Codes:

The ECM has detected a short circuit to ground in the fuel pump actuator signal or return circuit.

Action Taken When the Fault Code is Active:

- The ECM illuminates the amber CHECK ENGINE lamp and/or the Malfunction Indicator Lamp (MIL) immediately when the diagnostic runs and fails.
- Sensed fuel rail pressure will **not** follow commanded rail pressure.
- Active and stationary regeneration of the diesel particulate filter will be disabled.
- The EGR valve will be closed.
- Engine torque will be reduced if the engine is operated for an extended period of time with this fault active.

Conditions for Clearing the Fault Code:

- To validate the repair, perform a key cycle, and then start the engine and let it idle for 1 minute.
- The fault code status displayed by INSITE™ electronic service tool will change to INACTIVE immediately after the diagnostic runs and passes.
- The ECM will turn off the amber CHECK ENGINE lamp after the diagnostic runs and passes.
- For On-Board Diagnostic (OBD) engines, the ECM will turn off the MIL after three consecutive trips where the diagnostic runs and passes.
- The Reset All Faults command in INSITE™ electronic service tool can be used to clear active and inactive faults, as well as extinguish the MIL for OBD engines.

Shop Talk:

This fault becomes active when the ECM detects a short circuit in the electronic fuel pump actuator circuit. Causes for this fault code are short circuit to ground or low resistance (fuel pump actuator coil is shorted internally) in the circuit for the fuel pump actuator. When excessive current or a short circuit is detected, the ECM driver to the fuel pump actuator is turned off to protect the circuit. It is necessary to cycle the keyswitch OFF and then back ON before the ECM will test again for the cause of the fault code. The ECM driver is enabled at key ON; if the cause is no longer present, the fault code will become inactive and can be cleared. If the fault code is intermittent, look for causes of an intermittent short to ground in the wiring harness or connectors.

Fault Code 2311 can have high counts if the short circuit condition is or was intermittent.

Refer to Troubleshooting Fault Code t05-271.

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