

SS 763 - WST DEF Pump Wiring for Cummins CM2450 Engine Controller

Applicable Vehicles

Western Star vehicles with a Cummins diesel engine (B6.7, L9, X12, X15) that is equipped with the Cummins CM2450 engine controller.

Symptoms

Issues with regeneration of the aftertreatment system, coupled with one of the following Cummins engine controller fault codes:

1. Code 3558 (Aftertreatment 1 DEF Dosing Unit-Voltage Above Normal or Shorted To High Source)
2. Code 5865 (DEF Pump Command Circuit - Voltage Below Normal)

Issue

There is a known wiring error with the aftertreatment system wiring. According to Cummins wiring diagrams:

1. The DEF pump is supposed to be connected to a chassis ground;
2. The DEF pump relay is supposed to be connected to pin 54 of the ECM;
3. If equipped, the solenoid for the fan driver is also supposed to be connected to pin 54 of the ECM.

On affected vehicles, the DEF pump ground is connected to pin 54 of the ECM; the relay coil ground is connected to a cab or chassis ground; and the fan solenoid is also connected to a chassis ground.

The wiring of the DEF pump ground results in the above fault codes. If these codes are ignored, possible emission-related derate or shutdown, with associated driver warnings, may occur as designed.

Solution

The ground connection can be modified to address these fault codes. Per discussion with Cummins, *only* the DEF pump ground needs to be revised.

Verify the circuit number using wiring diagrams from modules 286 and/or 28F for the wiring to the DEF pump. Newer models have used circuit 532D2.

Cut the DEF pump ground circuit near the inline connector to the aftertreatment system. Location of this inline connector varies by vehicle platform; wiring diagrams are usually contained in modules 286 or 28F.

- a. Splice a length of primary wire to the portion of the ground circuit leading to the DEF pump.
- b. Route this primary wire to a chassis ground. Use the MGJB if equipped on the vehicle.
- c. Wrap the added circuit in appropriate convolute tubing, protective covering, and/or and tape.

Labels :

4700

47X

4800

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