

SS 3144 - FTL DEF Pump Wiring for Cummins CM2450 Engine Controller

Applicable Vehicles

M2, M2 Plus, and New Cascadia 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 either 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)

Ignoring these codes will prevent DPF regeneration from occurring. The engine will follow its normal derate and inducement strategy.

Issue

There is a known wiring error with the aftertreatment system wiring. Cummins' wiring diagrams show the following connections:

1. The DEF pump ground should be connected to a chassis ground
2. The DEF pump relay coil ground should be connected to pin 54 of the CM2450 ECM
3. The fan solenoid (if the engine is equipped with an on-off fan drive) should also be connected to pin 54 of the CM2450 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 DEF pump ground should be modified to use a chassis ground source.

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