TECH TIP

Group:	0-GENERAL
Bulletin No:	TT-16-014
Issue Date:	10-19-2016
Reference:	HMM-161018-J1

DTC P20B2 COOLANT CUTOFF VALVE DIAGNOSTIC TIP

SUBJECT VEHICLES: 11MY-17MY Conventional Trucks or 13MY-17MY Cab Over Engine (COE) Trucks

Note: This tech tip is provided as technical information and is not authorization for a warrantable repair.

DESCRIPTION OF CONDITION

Most SCR (selective catalyst reduction) coolant cutoff valves received through warranty return do not reveal any faults when tested. Please follow the checks outlined below before replacing the coolant cutoff valve:

When testing the cutoff valve function with the DXII (Diagnostic Explorer 2), the valve may not click if SCR related DTC's are present in the engine ECU or DCU. Also, if the valve is unplugged any time while the ignition is on, the DCU will disable test function of the cutoff valve. In order to enable the cutoff valve operation, ensure the valve is plugged in and perform the **UREA SCR System Memory Reset**. From the Engine ECU Data Monitor and Active Test menu, select Active Test Setting> UREA SCR Related Memory Reset> then follow the prompts to complete the reset. After performing the SCR reset, clear DTC P204F from the engine ECU, and cycle the ignition off for 60 seconds. Turn the ignition on, and then read out DTC's in the Engine ECU and DCU. If no DTC's are present, the cutoff valve function test can now be performed. If the cutoff valve clicks when performing step 8 of the current diagnostic procedure in the Workshop Manual, it is **NOT** likely that the cutoff valve is faulty.

When testing power or ground to the cutoff valve, the valve must be plugged in or the DCU will not apply power to the cutoff valve when an open load is detected. Once an open load is detected, a UREA SCR System Memory Reset is required, as mentioned above. If necessary, power and ground to the valve can be tested by back-probing the terminals with the connector plugged in.

DTC (Diagnostic Trouble Code) P20B2 may falsely set in the DCU (Dosing Control Unit) due to an inaccurate temperature input from the DEF sensor unit's temperature sensor. If DTC's P205B, P205C, P205D, or U02A2 have set, diagnose these DTC's before suspecting an issue with the cutoff valve.

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If DTC P20B2 is the only DTC set, use the Hino DXII (Diagnostic Explorer 2) to access the DCU data monitor parameters for the DEF tank temperature sensor, DEF pump temperature sensor, and the engine coolant temperature sensor when the engine is cold (at ambient temperature). These three parameters should be within 14 degrees Fahrenheit (8 degrees Celsius) of each other. If one of the temperature inputs appear incorrect at ambient temperature, diagnose the issue with that temperature sensor input first before suspecting a faulty cutoff valve.

Example of Normal Temperature Readings- Engine at Ambient Temperature