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GROUP: Vehicle Performance

DATE: November 21, 2015

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SUBJECT:

P20EE SCR NOX Catalyst Efficiency Below Threshold Bank 1

OVERVIEW:

This bulletin involves verifying the proper operation of the Diesel Exhaust Fluid (DEF) system and, if necessary, replacing the Selective Catalyst Reduction (SCR) Catalyst assembly.

MODELS:

2013 - 2014	(DD)	Ram 3500 Cab Chassis
2013 - 2014	(DP)	Ram 4500\5500 Cab Chassis

NOTE: This bulletin applies to vehicles equipped with a 6.7L diesel engine (sales code ETK).

SYMPTOM/CONDITION:

Customers may experience a Malfunction Indicator Lamp (MIL) illumination. Upon further investigation the Technician may find Diagnostic Trouble Code (DTC) P20EE SCR NOX Catalyst Efficiency Below Threshold Bank 1 set in the Powertrain Control Module (PCM) memory.

DIAGNOSIS:

Using a Scan Tool (wiTECH) with the appropriate Diagnostic Procedures available in TechCONNECT, verify all vehicle systems are functioning as designed. If DTCs other than the ones listed above are present record them on the repair order and repair as necessary before proceeding further with this bulletin.

If the customer describes the symptom/condition listed above or if the technician finds the DTC, perform the Repair Procedure.

PARTS REQUIRED:

Qty.	Part No.	Description
1 (AR)	68288930AA	Converter, SCR Catalyst
1 (AR)	68288935AA	Converter, SCR Catalyst
1 (AR)	04627714AA	Gasket, Injector
1 (AR)	68065844AB	Gasket, Flange
1 (AR)	04778570	Wiring Sleeve Kit

REPAIR PROCEDURE:

NOTE: The PCM must be at the latest calibration level after completing the repair procedure.

1. Raise the vehicle on a suitable hoist and inspect all DEF hoses and hose connections for leaks or restrictions.

NOTE: Diesel exhaust fluid will form white deposits around leaky fittings.

2. Was any exhaust fluid leaks found?
 - a. Yes >>> This bulletin does not apply. Repair the fluid leak, using normal repair procedure in TechConnect and follow current warranty guidelines.
 - b. No >>> Proceed to [Step #3](#).
3. Test the flow of the DEF injector by performing the following steps:
 - a. Remove the DEF Injector from the decomposition tube, leaving the electrical connector plugged in and injector connected to the supply hose.
 - b. Place the injector into a suitable container to capture the fluid that is sprayed during the injector quantity test.
 - c. Using the wiTECH, perform the "DEF Reductant Doser Pump Override" test located in the PCM "System Tests".
 - d. Measure the amount of fluid sprayed after the test times out.

NOTE: This Test will run for six minutes before timing out. The amount of flow may fluctuate throughout the test, therefore the test must be allowed to run completely in order for the results to be accurate. The fluid should spray out as a mist. There should be no dripping from the holes in the DEF Injector at any time during the duration of the test procedure.

NOTE: Also, an injector may have white deposits on the tip that would appear to block the holes. These deposits are dry urea, they do not impact the injector performance and will wash off as soon as the injector is actuated. DO NOT replace the injector without running the bucket test first.

NOTE: During testing some residual fluid may collect on the DEF Injector. Do not replace an Injector for that reason alone. Run the entire volume flow test to determine a course of action.

4. Was the amount of fluid captured between 85 ml and 115 ml (2.87 oz and 3.88 oz)?
 - a. Yes >>> Proceed to [Step #5](#).
 - b. No >>> This bulletin does not apply. Further diagnosis of the DEF system is required.
5. Test and inspect the DEF fluid for signs of contamination. Refer to detailed service procedures available in DealerCONNECT/TechCONNECT, Service Info Section 25 - Emissions Control> Diesel Exhaust Fluid Emissions> Diagnosis And Testing> DIAGNOSIS AND TESTING - DIESEL EXHAUST FLUID. If found, repair as necessary following normal warranty repair guidelines.

NOTE: DEF fluid dilution or contamination is not covered under normal warranty.

6. Were there any signs of DEF fluid contamination found?
 - a. Yes >>> This bulletin does not apply. Repair the source of the contamination as needed per current warranty repair guidelines.
 - b. No >>> Proceed to [Step #7](#).

NOTE: The New SCR catalyst doesn't use the Ammonia sensor, remove and discard the sensor.

7. Remove Ammonia sensor module. Refer to detailed service procedures available in DealerCONNECT/TechCONNECT 08 - Electrical/8E - Electronic Control Modules/MODULE, Ammonia Sensor/Removal.
8. The four wire connector for the Ammonia module needs to be removed.
9. Cut all four wire at the module connector and discard.
10. Use the wire sleeve kit and seal all four cut wires.
11. Secure (tape/ziptie) remaining wires to the main harness.
12. Replace the SCR catalyst. Refer to detailed service procedures available in DealerCONNECT/TechCONNECT, Service Info Section 11- Exhaust System> Catalyst, Selective Catalytic Reduction (SCR)> Removal/Installation.
13. Following all applicable published service bulletins, verify the PCM software is up to date.

NOTE: The PCM must be at the latest calibration level after completing the repair procedure. Be sure to program the PCM with the correct calibration marked for vehicles with ammonia sensor delete.

POLICY:

Reimbursable within the provisions of the warranty.

TIME ALLOWANCE:

Labor Operation No:	Description	Skill Category	Amount
11-50-01-9L	Test DEF System Only (2 - Skilled)	10 - Diesel	0.6 Hrs.
11-50-01-9M	Test DEF System And Replace SCR Catalyst and Remove Ammonia Sensor (2 - Skilled)	10 - Diesel	1.6 Hrs.
11-50-01-9S	Test DEF System And Replace SCR Catalyst and Remove Ammonia Sensor (With Transfer Case Skid Plate, Sales Code XEF) (2 - Skilled)	10 - Diesel	1.9 Hrs.

FAILURE CODE:

ZZ	Service Action
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