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GROUP: 25 - Emissions Control

DATE: August 31, 2018

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THIS SERVICE BULLETIN IS ALSO BEING RELEASED AS RAPID RESPONSE TRANSMITTAL (RRT) 18-087. ALL APPLICABLE SOLD AND UN-SOLD RRT VIN's HAVE BEEN LOADED. TO VERIFY THAT THIS RRT SERVICE ACTION IS APPLICABLE TO THE VEHICLE, USE VIP OR PERFORM A VIN SEARCH IN TECHCONNECT. ALL REPAIRS ARE REIMBURSABLE WITHIN THE PROVISIONS OF WARRANTY.

SUBJECT:

Internal Catalytic Converter Damage

OVERVIEW:

This bulletin involves reprogramming the Powertrain Control Module (PCM) with the latest available software and if necessary replacing the catalytic converters and Oxygen Sensors (O2).

MODELS:

2017 - 2018 (RU) Chrysler Pacifica (PHEV)

NOTE: This bulletin applies to vehicles within the following markets/countries: NAFTA and APAC.

NOTE: This bulletin applies to vehicles equipped with 3.6L V6 Hybrid Engine (Sales Code EH3) and Speed Control (Sales Code NHM) or Adaptive Cruise Control With Stop & Go (Sales Code NHZ).

SYMPTOM/CONDITION:

Some customers may experience a Malfunction Indicator Lamp (MIL) illumination. Upon further investigation the technician may find one or more of the following DTCs:

- P0420 - Catalyst System Efficiency Below Threshold Bank 1.
- P0430 - Catalyst System Efficiency Below Threshold Bank 2.

DIAGNOSIS:

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

If P0420 or P0430 DTCs are present do not perform the inspection procedure below, proceed to [Step 1](#) of the Repair Procedure.

If no P0420 or P0430 DTCs were present, proceed to [Step 1](#) of the Inspection Procedure.

If a customer's VIN is listed in VIP or your RRT VIN list, perform the repair. **This RRT only applies to vehicles on the RRT VIN list.**

INSPECTION PROCEDURE WITH NO DTCs:

If the inspection doesn't show any codes, perform a catalyst converter internal borescope inspection and inspect the surrounding components for signs of thermal distress. If catalyst brick damage is found, catalysts and O2 sensors will need to be replaced and PCM flash must be performed.

WARNING! On vehicles equipped with the high voltage system, disconnecting the 12-volt battery negative cable alone will not power down the 12-volt system. You must perform the 12-volt Power Down procedure before proceeding. Failure to follow these instructions may result in possible serious or fatal injury.

1. Perform the 12 volt power down procedure. Refer to the detailed service procedures available in DealerCONNECT> TechCONNECT under: Service Info>08 - Electrical/Standard Procedure 12-Volt Power Down.
2. Remove the forward belly pan for access under the vehicle. Refer to the detailed service procedures available in DealerCONNECT> TechCONNECT under: Service Info>13 - Frame and Bumpers/Under Body Protection/Belly Pan, Engine/Removal and Installation.
3. Perform a visual inspection of the surrounding components for thermal distress (Wiring, O2 sensor wiring, half shaft boots, A/C or coolant lines rubber grommets etc), if any component not listed in the parts section of this bulletin is damaged follow normal repair procedure for warranty and Lops.
4. Remove the air box assembly to allow more access space ([Fig. 1](#)) . Refer to the detailed service procedures available in DealerCONNECT> TechCONNECT under: Service Info>09 - Engine, 3.6L/Air Intake System/Body, Air Cleaner/Removal and Installation.



Fig. 1
Air Box

5. Starting with the front catalytic converter, unplug and then remove the two O2 sensors (Fig. 2) . Refer to the detailed service procedures available in DealerCONNECT> TechCONNECT under: Service Info>14 - Fuel System/Fuel Injection, Gas/Sensor, Oxygen/Removal and Installation> Upstream.

NOTE: Number one O2 Sensor has a black plug, Number two O2 Sensor has a white plug. They must be replaced in the same hole they were removed from.

6. Remove the rear O2 sensors. Refer to the detailed service procedures available in DealerCONNECT> TechCONNECT under: Service Info>14 - Fuel System/Fuel Injection, Gas/Sensor, Oxygen/Removal and Installation>Downstream.

NOTE: Removal of some of the spark plug coils may be helpful to gain enough space to remove the rear number two O2 sensor. Refer to the detailed service procedures available in DealerCONNECT> TechCONNECT under: Service Info>08 - Electrical/8I - Ignition Control/Coil, Ignition/Removal and Installation.



Fig. 2
Front Catalyst and Oxygen Sensors

7. The internal inspection involves removal of the two O2 sensors on each of the front and rear catalytic converters (Fig. 3) , and the use of a borescope inserted into the O2 sensor holes to capture images of the condition of the catalytic substrates (catalyst bricks) in multiple places including the condition of the interface of the substrate to the surrounding insulated mat.



Fig. 3
Front and Rear Catalytic converters

- 1 - Front converter
2 - O2 Sensor Hole 1
3- O2 Sensor Hole 2
4- Rear converter
5 - O2 Sensor Hole 2
6 - O2 Sensor Hole 1

- a. Start by inspecting the front converter first.
- b. Insert the borescope into the hole that is closest to the cylinder head outlet (O2 Sensor Hole one).
- c. Look at the condition of the substrate face (capture images when looking at an angle onto the substrate, not straight in line with the substrate holes, to allow for minor events such as chipping to be visible) (Fig. 4) and (Fig. 5) .
- d. Look for signs of discoloration, melting, chipping, degradation, or any other anomaly. Inspect the entire face. If there is evidence of over-heating, the converters will need to be replaced, proceed to [Step 1](#) of the Repair Procedure.
- e. Look at the surrounding insulated mat (material at perimeter of substrate along catalyst wall). Mat should be in place between the catalyst brick and catalyst wall. It should not have holes or dropped lower than the catalyst brick material.
- f. Looks for signs of degradation, shifting (change of position; under the right conditions, it is possible for the upper catalyst substrate to be pushed down). If there is evidence of over-heating, the converters will need to be replaced, proceed to [Step 1](#) of the Repair Procedure.
- g. Insert the borescope in the O2 sensor hole near the middle of the catalytic converter body. This location will allow access to view the exit side of the first substrate, as well as the entry side for the second substrate.
- h. Up to this point all three accessible faces of the front catalytic converter should have been inspected. Re-install the O2 sensors, ensuring they are placed back into the exact hole they were removed from. Ensure the O2 sensors are torqued to the proper specification 43 N·m (32 ft.lbs.).

- i. Repeat from step [Step b](#) down for the rear converter inspection.

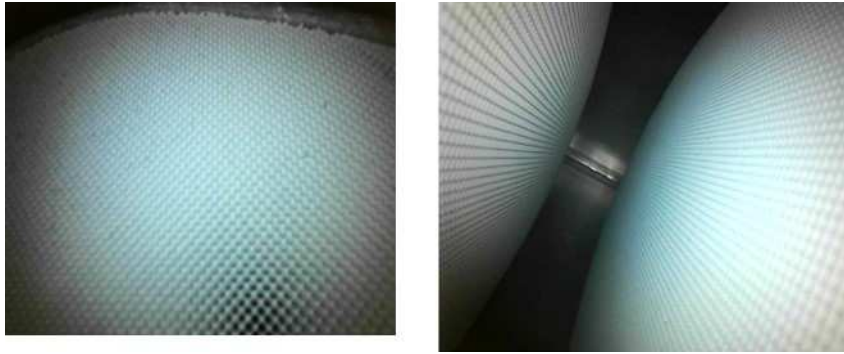


Fig. 4
Normal Substrate



Fig. 5
Extreme Damaged Substrate

NOTE: The damaged substrate will show primarily heavy damage (missing material/large holes). Lighter damage to the substrate will consist of broken matrix walls but may not have progressed to large sections of missing material /holes. If “chains” of broken cell walls are found, the catalysts & O2 sensors need to be replaced. This may be present from viewing at either O2 sensor location.

8. If there is no DTCs or signs of the catalytic converters having been overheated then perform the following:
- Reinstall the O2 sensors. Refer to the detailed service procedures available in DealerCONNECT> TechCONNECT under: Service Info>14 - Fuel System/Fuel Injection, Gas/Sensor, Oxygen/Removal and Installation> Upstream>Downstream.
 - Install the forward belly pan under the vehicle. Refer to the detailed service procedures available in DealerCONNECT> TechCONNECT under: Service Info>13 - Frame and Bumpers/Under Body Protection/Belly Pan, Engine/Removal and Installation.
 - Install the air box assembly. Refer to the detailed service procedures available in DealerCONNECT> TechCONNECT under: Service Info>09 - Engine, 3.6L/Air Intake System/Body, Air Cleaner/Removal and Installation.
 - Reprogram the PCM. Proceed to [Step 3](#) of the Repair Procedure.

PARTS REQUIRED:

Qty.	Part No.	Description
2 (AR)	68093232AA	Exhaust Gasket
1 (AR)	68271967AA	Gasket, Catalytic Converter to Cross-Under Pipe
1 (AR)	68235531AG	Catalytic Converter, Right
1 (AR)	68235532AD	Catalytic Converter, Left
2 (AR)	05149171AA	Upstream O2 Sensor
2 (AR)	05149180AA	Downstream O2 Sensor
1 (AR)	06509298AA	Half-Shaft Hub Nut, Right
1 (AR)	06512105AA	Lower Ball Joint Pinch Bolt, Right

REPAIR PROCEDURE:

1. Remove and replace catalytic converters as needed. Refer to the detailed service procedures available in DealerCONNECT> TechCONNECT under: Service Info>11 - Exhaust System/Converter, Catalytic/Removal and Installation>Right>Left.
2. Remove and replace oxygen sensors (O2) as needed. Refer to the detailed service procedures available in DealerCONNECT> TechCONNECT under: Service Info>14 - Fuel System/Fuel Injection, Gas/Sensor, Oxygen/Removal and Installation> Upstream>Downstream.
3. Power up the 12 volt system. Refer to the detailed service procedures available in DealerCONNECT> TechCONNECT under: Service Info>08 - Electrical/Standard Procedure 12 Volt Power Up.

NOTE: Install a battery charger to ensure battery voltage does not drop below 13.2 volts. Do not allow the charging voltage to climb above 13.5 volts during the flash process.

NOTE: If this flash process is interrupted/aborted, the flash should be restarted.

4. Reprogram the PCM with the latest software. Detailed instructions for flashing control modules using the wiTECH Diagnostic Application are available by selecting the application's "HELP" tab.
5. Clear all DTCs that may have been set in any module due to reprogramming. The wiTECH application will automatically present all DTCs after the flash and allow them to be cleared.

POLICY:

Reimbursable within the provisions of the warranty.

TIME ALLOWANCE:

Labor Operation No:	Description	Skill Category	Amount
11-50-01-9V	Inspect Fault Codes (No Codes Present), Borescope Left and Right Catalyst, and Reprogram Powertrain Control Module (2 - Skilled)	1 - Engine Repair and Performance	1.6 Hrs.
11-50-01-9X	Inspect Fault Codes (No Codes Present), Borescope and Replace Left and Right Catalyst, and Reprogram Powertrain Control Module (2 - Skilled)	1 - Engine Repair and Performance	3.3 Hrs.
11-50-01-9W	Inspect Fault Codes (Active), Replace Left and Right Catalyst, and Reprogram Powertrain Control Module (2 - Skilled)	1 - Engine Repair and Performance	3.0 Hrs.

FAILURE CODE:

ZZ	Service Action
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