SERVICE BULLETIN

NUMBER: 25-002-14

GROUP: Emissions Control

DATE: August 01, 2014

THIS SERVICE BULLETIN IS ALSO BEING RELEASED AS RAPID RESPONSE TRANSMITTAL (RRT) 13-014. 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.

THIS BULLETIN SUPERSEDES SERVICE BULLETIN 25-003-13, DATED MARCH 01, 2013 AND 25-004-13, DATED AUGUST 15, 2013, WHICH SHOULD BE REMOVED FROM YOUR FILES. THIS IS A COMPLETE REVISION AND NO ASTERISKS WILL BE INCLUDED.

SUBJECT:

Malfunction Indicator Lamp Illumination Due To Oxygen Sensor

OVERVIEW:

This bulletin involves the installation of an Oxygen (O2) Sensor Overlay Harness for any Oxygen Sensor related DTC(s). The Overlay Harness will consist of twelve 18 AWG wires (six from each Oxygen Sensor) that run to a new Oxygen Sensor Module connector. Four wires will be removed from the original vehicle O2 Module connector and installed in the new overlay harness O2 Module connector.

Do NOT replace any parts prior to performing this bulletin and the Verifications test below.

MODELS:

2010 - 2012	(DJ)	Ram Pick Up (2500)
2010 - 2012	(D2)	Ram Pick Up (3500)

NOTE: This Bulletin applies to vehicles equipped with a Cummins 6.7L engine (sales code ETJ)

SYMPTOM/CONDITION:

If the vehicle has any of the following DTC's for O2 Sensors, Stored, Pending or Active, perform the Repair Procedure.

- P013A O2 Sensor 1/2 Slow Response - Rich To Lean (Soot related code, see note)*
- P013B O2 Sensor 1/2 Slow Response - Lean To Rich (Soot related code, see note)*
- P014C O2 Sensor 1/1 Slow Response - Rich To Lean (Soot related code, see note)*
- P014D O2 Sensor 1/1 Slow Response - Lean To Rich (Soot related code, see note)*
- P0030 O2 Sensor 1/1 Heater Circuit
- P0031 O2 Sensor 1/1 Heater Circuit Low
- P0032 O2 Sensor 1/1 Heater Circuit High
- P0036 O2 Sensor 1/2 Heater Circuit Malfunction
- P0037 O2 Sensor Heater Circuit Low 1/2
- P0038 O2 Sensor Heater Circuit High 1/2
- P0053 O2 Sensor Heater 1/1 Resistance
- P0054 O2 Sensor Heater 1/2 Resistance
- P064D Internal Control Module 02 Sensors Processor Performance - Bank 1
- P0131 1/1 02 Sensor Shorted To Ground
- P0132 1/1 02 Sensor Shorted To Voltage
- P0135 O2 Sensor 1/1 Heater Performance
- P0137 1/2 02 Sensor Shorted To Ground
- P0138 1/2 02 Sensor Shorted To Voltage
- P0141 O2 Sensor 1/2 Heater Performance
- P113C O2 Sensor Power Supply Circuit Performance
- P2195 O2 Sensor 1/1 Out Of Range High
- P2196 O2 Sensor 1/1 Out Of Range Low
- P22AB O2 Sensor Positive Current Control Circuit/Open - Bank 1 Sensor 2
- P22AE O2 Sensor Reference Voltage Circuit/Open - Bank 1 Sensor 2
- P22B2 O2 Sensor Negative Current Control Circuit/Open - Bank 1
- P22B5 O2 Sensor 1/2 Pump Cell Current Trim Circuit Open
- P2237 O2 Sensor 1/1 Pump Cell Current Circuit Low
- P2243 O2 Sensor 1/1 Reference Voltage Circuit Open
- P2251 O2 Sensor 1/1 Negative Current Control Circuit/Open
- P2270 O2 Sensor 1/2 Out Of Range High
- P2271 O2 Sensor 1/2 Out Of Range Low
- P241A O2 Sensor 1/1 And 1/2 Oxygen Concentration Mismatch
- P2626 O2 Sensor 1/1 Pump Cell Current Trim Circuit/Open
- P2A00 O2 Sensor 1/1 Circuit Performance
- P2A01 O2 Sensor 1/2 Circuit Performance
- U011A Lost Communication With Exhaust Gas Sensor Module

NOTE: Soot related codes noted above with an asterisk (*) may be the result of other system(s) and must be validated as described on the Diesel Diagnostic Worksheet, Section 4D. Vehicles that DO NOT pass the Validation Test require further diagnosis to determine the cause of excess soot build up.

DIAGNOSIS:
Vehicles that exhibit any DTC's should always have a Scan report generated and saved. Vehicles that exhibit any DTC's listed above required you to complete a Diesel Diagnostic Worksheet per instructions in Service Bulletin 18-016-14 Dated March 12, 2014 and U. S. Warranty Bulletin D-11-55 Dated May 10, 2012. All DTC's need to be recorded on the WRO and DTC's other than the ones listed above may require additional diagnosis and repair after completing this Bulletin.

Vehicles that exhibit **ANY DTC('s)** (Stored or Active), pertaining to Oxygen Sensors or Oxygen Sensor related components must have this Repair Procedure completed **BEFORE** any parts are replaced.

SPECIAL TOOLS / EQUIPMENT REQUIRED:

NPN	Soldering Iron
NPN	Electrical Tape
NPN	Wire Stripper / Cutter
NPN	Narrow Blade, Flat Screwdriver (3mm Wide Max)
1 (AR)	Molex Terminal Release Tool. MX 150-MX150L / 63813-1500 (Molex) **OR**
1 (AR)	A 1 mm Drill Bit (CHAMFERED ON THE NON-CUTTING END) and Handle From Miller Tool #8351 Which is Part of Kit 8283 or 8529)
1 (AR)	05019912AA Mopar (Miller Tool # 10042)
(AR)	Rosin Core Solder
1 (AR)	Heat Gun / Compact Torch

PARTS REQUIRED:

Qty.	Part No.	Description
1	68250763AA	Harness, Oxygen Sensor Overlay

NOTE: Prior to replacing any parts, (Oxygen Sensors, Oxygen Sensor Module, Transmission Wiring Harness or PCM) perform the Repair Procedure below and also perform an Oxygen Sensor Verification test drive also described below.

NOTE: Vehicles experiencing P013A, P013B, P014C or P014D DTC's must have the Aftertreatment Validation Test (Section 4D of the Diesel Diagnostic Worksheet) performed to ensure excess soot is not causing the DTC(s). IF excess soot is found during Aftertreatment Validation Test, perform appropriate repairs to eliminate soot accumulation. The repair procedure below should be performed regardless of outcome or repairs performed for other issues.

REPAIR PROCEDURE:

The Oxygen Sensor harness, (connecting the Oxygen Sensor Module to both of the Oxygen Sensors) will now be serviced with an over-lay harness.

Please read through the entire REPAIR PROCEDURE before performing the repair.

1. Open hood.
2. Disconnect and isolate both negative battery cables.
3. Raise and support vehicle on a suitable hoist.
4. Position the overlay harness, p/n 68250763AA starting at the **rear** Oxygen Sensor (tagged #2 on the overlay harness) following the existing harness loosely securing with wire ties, (included). Pay close attention to the location designation of the Oxygen Sensor connectors on the overlay harness. Do not secure too close to the Sensor or the Module at this time. Extra length of the overlay harness can be taken up as a loop between components.
5. Disconnect and cut the wires on the original vehicle harness at the vehicle side of the connector near the **rear** Oxygen sensor.
6. Tape up the cut end of the convolute tubing and secure.
7. Clean (with shop air) the **rear** Oxygen Sensor connector and secure to the Overlay Harness Oxygen Sensor connector ensuring lock tab snaps into place.
8. Disconnect and cut the wires on the original vehicle harness at the vehicle side of the at the connector near the **front** Oxygen sensor.
9. Tape up the cut end of the convolute tubing and secure.
10. Clean (with shop air) the **front** Oxygen Sensor connector and secure to the Overlay Harness Oxygen Sensor connector ensuring lock tab snaps into place.

NOTE: In the following steps, four of the terminals will be removed from the original Oxygen Sensor Module connector and installed in the 68250763AA overlay harness Oxygen Sensor Module connector. Of those four terminals, some MY11 trucks were built with tin terminals and should have been gold plating. Three of the four terminals, (if required, determined below) will need to be replaced with the gold plated terminals supplied in the 68250763AA kit.

NOTE: Do NOT cut the original Oxygen Sensor Module connector wiring until instructed to do so.

11. Disconnect the original **Oxygen Sensor Module Connector** and remove the protective tape and plastic shield on the connector.
12. Carefully cut the tape securing the convolute tubing to the wiring near the new Oxygen Sensor Module connector and pull convolute tubing off wire bundle about 8” (203 MM) from connector.
13. The four terminals that need to be removed from the original vehicle O2 Sensor Module connector and installed in the overlay O2 Sensor Module connector are terminals 3, 9, 10 and 11 as shown in (Fig. 1). Terminal 10 will always be gold plated. Terminals 3, 9 and 11 will need to be inspected on MY 2011 vehicles for plating to determine if new terminals are required.

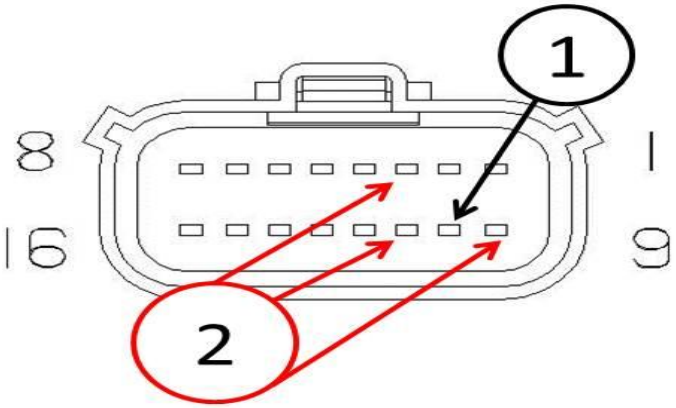

Fig. 1 FOUR WIRES FROM TRUCK MUST BE TRANSFERED TO OVERLAY HARNESS

1 - Terminal 10 - Always a Gold Plated Terminal

2 - Terminals 3, 9 and 11- Must be Inspected on Model Year 2011 For Gold Plating

---

14. To release the terminals from the original Oxygen Sensor Module connector; use a narrow blade, flat screwdriver (3 mm wide max), and pry the white TPA (white cover seen when looking in connector). Notice the travel of white TPA is only .2” (5 mm) or until a “click” is heard. This is the release point of the TPA. The TPA is a device that locks the release finger so that when seated, terminal will not and cannot be disengaged, (Fig. 2) and (Fig. 3). Do not extend the TPA past .2” (5 mm) or the TPA may be damaged.

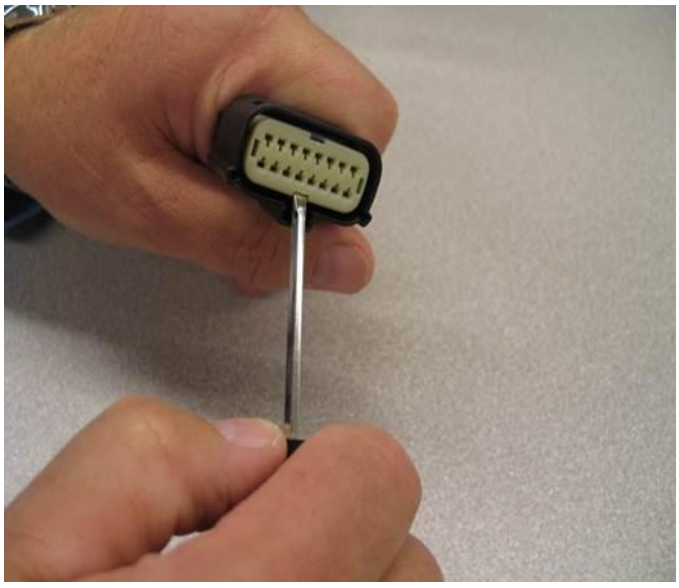

Fig. 2 LIFT TPA 5MM

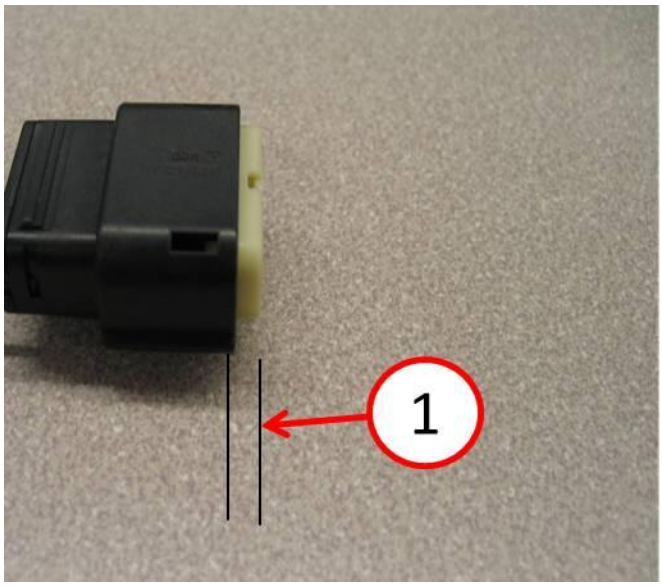

Fig. 3 PROPER EXTENSION OF TPA

1 - TPA Extended .2" (5MM)

NOTE: Terminal #10 is ALWAYS gold plated and is not required to be changed ON ANY APPLICATION. Inspect terminal #10 to see what the gold terminals look like for a reference when inspecting terminals #3, 9 & 11 in the following steps.

15. Starting with terminal #10 (Fig. 4), push the wire into the connector from the back, and while keeping the tool or drill at 90° angle to the face of the TPA, push the tool or drill in until it releases the lock finger in the connector as shown in (Fig. 5). At this point the wire should pull out the back. As the terminal is removed; note the orientation of the terminal in the connector for ease of installation later.

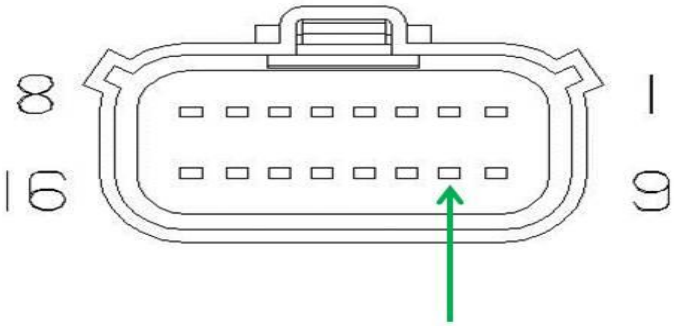

Fig. 4 TERMINAL 10 IS A GOLD TERMINAL

Remove Terminal 10

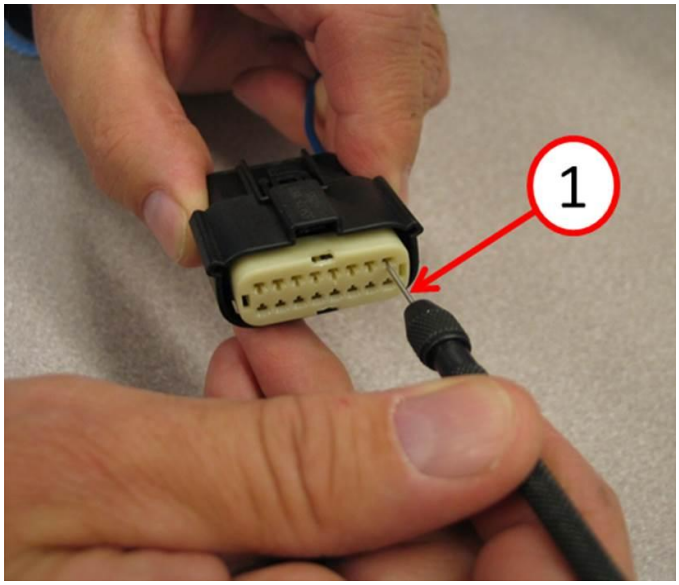

Fig. 5 INSERT TOOL IN SERVICE PORT ADJACENT TO THE TERMINAL TO BE REPLACED

1 - 1MM Drill Bit Used as Service Tool

NOTE: Do NOT cut the original Module connector wiring until instructed to do so. (Not all wires will be cut).

NOTE: If necessary to do any splicing in the following steps, use ONLY the brass, Mopar splice band 05073034AA (included in 68250763AA) and always CRIMP AND SOLDER, per instructions below.

16. Remove the other three terminals (one at a time) to be replaced (connector terminal numbers 3, 9 and 11), start with #3.
    a. Insert either J-38125-217 (Kent Moore number) OR MX 150-MX150L / 63813-1500 (Molex) OR a fabricated tool, (consisting of a chamfered 1mm drill bit installed with the cutting end of the drill in the handle of Miller Tool #8351), into TPA (module side of connector) into the desired "service port" until resistance is felt. Push the wire into the connector slightly, then push tool in to release the terminal.
    b. For Model Year 2011 only; Inspect terminal end for gold plating, (compare to terminal #10 previously inspected in Step #15). If plating of terminal is **NOT** gold, replace the terminal pigtail c with gold plated terminals supplied in the kit, p/n 68250763AA by proceeding to Step 16 (d). Repeat this for terminals in cavities 9 and 11.
    c. If terminals are gold already or the vehicle is a 2010 or 2012, proceed to Step #17.
    d. If terminals are tin; cut terminal #3 wire near the Oxygen Sensor Module connector on the overlay harness.
    e. Slide heat shrink tube on wire prior to splicing. Strip insulation on each wire and crimp together using **BRASS** band clamp **BEFORE SOLDERING** using Mopar splice band tool, p/n 05019912AA (or equivalent) then solder the crimped connection and heat shrink each wire individually.
17. Working with the Overlay Harness Oxygen Sensor Module connector; use a narrow blade, flat screwdriver (3 mm wide max), and pry the white TPA (white cover seen when looking in connector). Notice the travel of white TPA is only 5 mm or until a "click" is heard. This is the release point of the TPA. The TPA is a device that locks the release finger so that when seated, terminal will not and cannot be disengaged,(Fig. 2) and (Fig. 3) above.
18. Install the terminals into the connector through the insulator noting proper orientation of terminal as noted in Step #15 above.
19. Repeat Steps 16d and 16e for the remaining two terminals (#9 & #11) making splices in a staggered manner, to eliminate bulk in the harness.
20. Clean (with shop air) Oxygen Sensor Module connector and secure connector to the module.
21. Cut the other remaining 12 wires from the original Module connector about 8" (203 MM) from connector.
22. Tape the wire bundle toward the connector, then Install and tape the plastic connector shield to the connector body and install the removed convolute tubing adjacent to the connector body with a continuous tape wrap joining the four wires from the vehicle harness forming a "Y".
23. Tape wires together then install and tape the removed convolute tubing adjacent to the connector body.
24. Inspect and clean (with shop air) Oxygen Sensor Module connector terminals and secure connector to the vehicle harness.
25. Secure all wiring with additional wire ties as necessary and tighten up loosely installed wire ties and trim wire tie tails.
26. Lower vehicle, reconnect batteries.
27. Perform Verification below.

Verification:

Verification will ensure Oxygen Sensors are properly “relearned” and functioning as desired.

1. Ensure PCM software is current. If software is not current, please update software using appropriate Service Bulletin.
2. Connect WiTECH to vehicle if not already connected.
3. Operate the vehicle until warm and then drive the vehicle at 50 MPH. Perform a zero fueling event (deceleration condition for 10 seconds, with foot off of accelerator pedal). Repeat 3-5 times.
4. Monitor Oxygen Sensor percent in WiTECH, Data Display; percent should not vary more than 4.0% from each other during any of the drive events. Variance of greater than 4% will result in MIL illumination.
5. Further diagnosis will be required if variance is exceeded. Refer to TechCONNECT for DTC(s) set during verification.

POLICY:
Reimbursable within the provisions of the warranty.

TIME ALLOWANCE:

Labor Operation No:	Description	Amount
08-90-24-94	MY 10 and 12 Only, Wiring Harness, Oxygen Sensor Overlay Install - Includes Verification Road Test (2 - Skilled)	1.0Hrs.
08-90-24-95	MY 11 Only - Wiring Harness, Oxygen Sensor Overlay and Gold Terminals Install - Includes Verification Road Test (2 - Skilled)	1.1Hrs.

FAILURE CODE:

ZZ	Service Action