THIS BULLETIN SUPERSEDES SERVICE BULLETIN 18-023-15 REV. B, DATED MAY 28, 2015, WHICH SHOULD BE REMOVED FROM YOUR FILES. ALL REVISIONS ARE HIGHLIGHTED WITH **ASTERISKS** AND INCLUDE ADDITIONAL SYMPTOM ENHANCEMENTS, REPAIR STEPS, PARTS REQUIRED AND REVISED LABOR OPS.

THIS SERVICE BULLETIN IS ALSO BEING RELEASED AS RAPID RESPONSE TRANSMITTAL (RRT) **15-098**. 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.

HELP USING THE wiTECH DIAGNOSTIC APPLICATION FOR FLASHING AN ECU IS AVAILABLE BY SELECTING "HELP" THEN "HELP CONTENTS" AT THE TOP OF THE wiTECH DIAGNOSTIC APPLICATION WINDOW.

THE wiTECH SOFTWARE IS REQUIRED TO BE AT THE LATEST RELEASE BEFORE PERFORMING THIS PROCEDURE.

SUBJECT:
Flash: 3.0 L MIL Illumination Diagnostic and System Improvements

OVERVIEW:
This bulletin involves reprogramming the Powertrain Control Module (PCM) with the latest available software. **It also involves the cleaning or replacement of the Exhaust Gas Temperature (EGT) Sensor 1/2 and/or Catalyst Temperature Sensor if necessary depending on Diagnostic Trouble Codes (DTCs) that may have set.**

MODELS:

2014	(WK)	Jeep Grand Cherokee

NOTE: This bulletin applies to vehicles equipped with a 3.0L diesel engine (sales code EXF).

SYMPTOM/CONDITION:

A small number of customers may experience a Malfunction Indicator Lamp (MIL) illumination. Upon further investigation the Technician may find one or more of the following Diagnostic Trouble Code(s) may have been set:

- **P20C2-00 - Reductant Heater 3 Control Circuit Performance.
- P204F-00 - Reductant System Performance.
- P20E9-00 - Reductant Pressure Too High.
- P249C-00 - Excessive Time To Enter Closed Loop Reductant Injection Timing Control.
- P1288-00 - NOX Sensor 1/2 Zero Offset Too High.
- P2002-00 - Diesel Particulate Filter Efficiency Below Threshold.
- P2299-00 - Brake Pedal Position / Accelerator Pedal Position Incompatible.
- P241D-00 - Scr Inducement - Forced Engine Shutdown.
- P0420-00 - Catalyst Efficiency (Bank 1).
- P1297-00 - EGR Slow Response - Decreasing Flow.
- P208B-00 - Reductant Pump 1 Control Performance.**
- P0087-00 - Fuel Rail Pressure Too Low.
- P20EE-00 - SCR NOX Catalyst Efficiency Below Threshold Bank 1.
- P225C-00 - NOX Sensor Performance - Signal Stuck High Bank 1 Sensor 1.
- P225D-00 - NOX Sensor 1/1 Performance - Signal Stuck Low.
- P1289-00 - NOX Sensor 1/2 Zero Offset Too Low.
- P1296-00 - EGR Slow Response - Increasing Flow.
- P2BA9-00 - NOX Exceedence - Insufficient Reagent Quality.
- P2080-00 - Exhaust Gas Temperature Sensor Circuit Performance.
- P2084-00 - Exhaust Gas Temperature Sensor Circuit Performance-Bank 1 Sensor 2.
- P0426-00 - Catalyst Temperature Sensor Circuit Performance Bank 1 Sensor 1.
- P242B-00 - Exhaust Gas Temperature Sensor Circuit Performance-Bank 1 Sensor 3.
- P062B-00 - Internal Control Module Fuel Injector Control Circuit Performance.
- P0088-00 - Fuel Rail Pressure Too High.
- P016F-00 - Closed Loop fuel Pressure Control At Limit - Pressure Too Low.
- P009A-00 - Intake Air Temperature / Ambient Air Temperature Correlation.
- P0234-00 - Turbocharger Overboost Condition.
- P050E-00 - Cold Start Engine Exhaust Temperature Too Low.
- P05F8-00 - Reductant Heater Control Module Performance.
- P061B-00 - Internal Control Module Torque Calculation Performance.
- P0128-00 - Thermostat Rationality.
- P1D30-00 - Oil Viscosity Too Low.
- P200A-00 - Intake Manifold Runner Performance - Bank 1.
- P200B-00 - Intake Manifold Runner Performance - Bank 2.
- P202E-00 - Reductant Injection Valve Circuit Performance.
- P203E-00 - Reductant Level Sensor 1 Circuit Intermittent / Erratic.
- P20BA-00 - Reductant Heater 1 Control Circuit Performance.
- P20BE-00 - Reductant Pressure Line Heater Control Circuit Performance.
- P225D-00 - NOX Sensor 1/1 Performance - Signal Stuck Low.
- P2463-00 - Diesel Particulate Filter - Soot Accumulation.
- P24C2-00 - Exhaust Gas Temperature Measurement System - Multiple Sensor Correlation Bank 1.
- P24F2-00 - EGR Temperature / Charge Air Cooler Temperature Correlation.
- U029D-00 - Lost Communication With NOX Sensor Module "A".
- U029E-00 - Lost Communication With NOX Sensor Module "B".

- U12A3-00 - Lost Communication with PM Sensor

In addition to the DTCs listed above, customers may also experience one or more of the following conditions:

- Remote Start will not start the vehicle in cold 14° F (-10° C) ambient temperatures.
- Oil Life Monitor shows faster then expected oil life deterioration.

The following enhancements are also included in this software update.

- ** DTC P0171-00 System Too Lean (Bank 1) has now changed to P026C-00 Fuel Injection Quantity Lower Than Expected.
- DTC P0172-00 System Too Rich (Bank 1) has now changed to P026D-00 Fuel Injection Quantity Higher Than Expected.**
- Enhancements to improve A/C compressor relay duty cycle operation to prevent ignition off battery draw.
- Powertrain system improvements to enable EGR cleaning routine.

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 a customer's VIN is listed in VIP or your RRT VIN list, perform the repair. For all other customers that describe the symptom/condition, perform the Repair Procedure.

PARTS REQUIRED:

**Qty.	Part No.	Description
1 (AR)	5146662AB	Catalyst Temperature Sensor
1 (AR)	5146661AB	EGT sensor 1/2

NOTE: The parts listed above may be needed to complete the repair, they are not required to be changed.**

REPAIR PROCEDURE:
1. Using wiTECH, check for any codes setting in the PCM and record them on the repair order. If necessary, perform a vehicle scan report and save it for your records.
2. Using wiTECH, Check the PCM calibration and see if it is up to date. Does the PCM software need to be updated?
   a. Yes>>> Proceed to Step #3.
   b. No>>> Proceed to Step #7.

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.

CAUTION: Do not interrupt the software update process in any way once it has begun. It may cause permanent damage to the PCM which will require replacement.

3. Reprogram the PCM with the latest available software. Detailed instructions for flashing control modules using the wiTECH Diagnostic Application are available by selecting the "HELP" tab on the upper portion of the wiTECH window, then "HELP CONTENTS." This will open the Welcome to wiTECH Help screen where help topics can be selected.

NOTE: After PCM reprogramming, the following must be performed:

4. 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.
5. Under the PCM "System Tests" perform the "SCR DEF Tank Fluid Level Reset" procedure.
6. Turn the ignition off for 35 seconds to complete the flash.
7. With the ignition key off, test for voltage on fuse F62 (10 amp red) located in the under hood Power Distribution Center (PDC) using a volt meter connected to ground. Was 12 volts measured at the fuse with the ignition off?
   a. Yes>>>Further diagnosis and repair is required. Refer to all applicable published TSBs or service information in DealerCONNECT/TechCONNECT regarding ignition off battery draw. Proceed to .
   b. No>>> Proceed to Step #8.
8. **Refer back to the vehicle scan report recorded in Step #1. Is DTC P0420-00 - Catalyst Efficiency (Bank 1), found setting active or stored in the PCM memory?
   a. Yes>>> Proceed to Step #9.
   b. No>>> Proceed to Step #16.
9. Remove the EGT Sensor 1/2 located in the inlet of the Diesel Particulate Filter (DPF)/Diesel Oxidation Catalyst (DOC) assembly. Refer to detailed removal procedures available in DealerCONNECT> TechCONNECT> Service Info Section 11 - Exhaust System> Sensor, Exhaust Temperature> Removal> Exhaust Gas Temperature Sensor 1/2.
10. Remove the Catalyst Temperature Sensor located in the middle of the Diesel Particulate Filter (DPF)/Diesel Oxidation Catalyst (DOC) assembly. Refer to detailed removal procedures available in DealerCONNECT> TechCONNECT> Service Info Section 11 - Exhaust System> Sensor, Exhaust Temperature> Removal> Catalyst Exhaust Temperature Sensor.

11. Inspect the sensor body and probe for any signs of damage or excessive soot. See (Fig. 1).
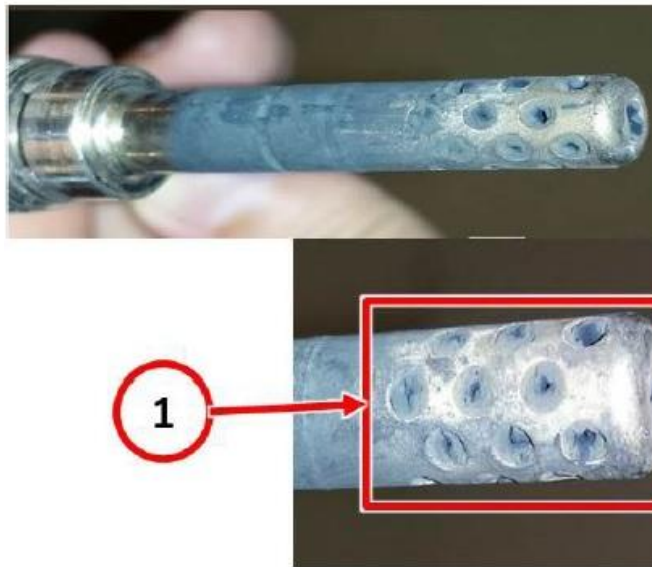

Fig. 1 EGT Sensor Bank 1 Sensor 1

1 - Excessive soot blocking sensor ports

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12. Was excessive soot found on the sensor?
    a. Yes>>> Proceed to Step #13.
    b. No>>> Proceed to Step #14.
13. Using shop air set to a maximum of 80 psi, clean all excessive soot from the sensor probe.
14. Using a suitable multi-meter with appropriate test probes, test the resistance between the sensor connector terminals 1 and 2. With the sensor at room temperature, 65-75 °F (18-25 °C), the resistance should measure between 200 and 240 ohms.
15. Is the temperature sensor resistance within specifications?
    a. Yes>>> Install the original EGT sensor 1/2 and/or Catalyst Temperature Sensor. Refer to detailed installation procedures available in DealerCONNECT> TechCONNECT> Service Info Section 11 - Exhaust System> Sensor, Exhaust Temperature> Installation> Exhaust Gas Temperature Sensor 1/2.
    b. No>>> Install a new EGT sensor 1/2 and/or Catalyst Temperature Sensor. Refer to detailed installation procedures available in DealerCONNECT> TechCONNECT> Service Info Section 11 - Exhaust System> Sensor, Exhaust Temperature> Installation> Exhaust Gas Temperature Sensor 1/2.

16. Refer back to the vehicle scan report recorded in Step #1. Were DTCs P0171-00 System Too Lean (Bank 1), P0172-00 System Too Rich (Bank 1), P026C-00 Fuel Injection Quantity Lower Than Expected, and/or P026D-00 Fuel Injection Quantity Higher Than Expected, P20EE- SCR NOX Catalyst Efficiency Below Threshold Bank 1 or P2BA9-00 - NOX Exceedence - Insufficient Reductant Quality found setting in the PCM memory?

    a. Yes>>> Further diagnosis and repair is required. Refer to all applicable published TSBs or service information in DealerCONNECT/TechCONNECT regarding these DTCs. The bulletin is now complete.

    b. No>>> The bulletin is now complete. No further action is required. If the PCM software was already up to date, use labor op 18-19-04-CY to close out the RRT portion of this service bulletin.**

POLICY:
Reimbursable within the provisions of the warranty.

TIME ALLOWANCE:

Labor Operation No:	Description	Skill Category	Amount
** 18-19-04-CY	Module, Engine Control (ECM) - Inspect Software Level Only (Includes voltage Verification) (1 - Semi-Skilled)	10 - Diesel	0.2 Hrs
18-19-04-CZ	Module, Engine Control (ECM) - Reprogram (Includes voltage Verification) (1 - Semi-Skilled)	10 - Diesel	0.4 Hrs.
18-19-04-DA	Module, Engine Control (ECM) - Reprogram and Clean or Replace EGT Sensors (Includes voltage Verification) (1 - Semi-Skilled)	10 - Diesel	0.9 Hrs.**

NOTE: The expected completion time for the flash download portion of this procedure is approximately 7 minutes. Actual flash download times may be affected by vehicle connection and network capabilities.

FAILURE CODE:
The dealer must choose which failure code to use. If the customer came in with an issue and the dealer found updated software to correct that issue, use failure code CC, for all other use failure code RF.

- If the customer's concern matches the SYMPTOM/CONDITION identified in the Service Bulletin, than failure code CC is to be used.
- If an available flash is completed while addressing a different customer concern, failure code RF is to be used.

CC	Customer Concern
RF	Routine Flash
ZZ	Service Action