TECHNICAL SERVICE BULLETIN

NUMBER: 18-101-22 REV. A

GROUP: 18 - Vehicle Performance

DATE: August 10, 2022

This bulletin supersedes Technical Service Bulletin (TSB) 18-101-22, date of issue May 24, 2022, which should be removed from your files. All revisions are highlighted with **asterisks and includes new Diagnostic Trouble Codes (DTCs), symptoms/conditions, software enhancements and LOP.**

This Technical Service Bulletin (TSB) has also been released as a Rapid Service Update (RSU) 21-028, date of issue March 05, 2021. All applicable Sold and Un-Sold RSU VINs have been loaded. To verify this RSU service action is applicable to the vehicle, use VIP or perform a VIN search in DealerCONNECT/Service Library. All repairs are reimbursable within the provisions of warranty. This RSU will expire 18 months after the date of issue.

NOTE: This calibration update is only for vehicles that have had the updated CP3.3 design High-Pressure Fuel Injection Pump installed. All other calibrations to support the CP4 design pump have been deactivated. DO NOT perform this calibration update unless recall Y78 has been performed first.

SUBJECT:

Flash: Powertrain Control Module (PCM) Updates

OVERVIEW:

This bulletin involves reprogramming the Engine Control Module (ECM) / Powertrain Control Module (PCM) with the latest available software.

MODELS:

2019	(DJ)	RAM 2500 Pickup
2019	(D2)	RAM 3500 Pickup

NOTE: This bulletin applies to vehicles within the following markets/countries: North America.

NOTE: This bulletin applies to vehicles equipped with a 6.7L I6 Cummins Turbo Diesel Engine (Sales Code ETL) or 6.7L I6 Cummins HO Turbo Diesel Engine (Sales Code ETM).

SYMPTOM/CONDITION:

Customers may experience a Malfunction Indicator Lamp (MIL) illumination. Upon further investigation the technician may find that one or more of the following DTCs have been set:

- **P0506 - Idle Control System RPM - Lower Than Expected.
- P0299-00 - Turbocharger Underboost.
- P20EE - NOx Catalyst Efficiency Below Threshold.
- P1451-00 - Diesel Particulate Filter System Performance.
- P242F-00 - Diesel Particulate Filter Restriction - Ash Accumulation.
- P2463-00 - Diesel Particulate Filter Restriction - Soot Accumulation Bank 1.
- P026B - Injection Timing Performance. **

- P0607-00 - ECU Internal Performance.
- P20E8-00 - Reductant Pressure Too Low.
- P0301-00 - Cylinder 1 Misfire.
- P0302-00 - Cylinder 2 Misfire.
- P0303-00 - Cylinder 3 Misfire.
- P0304-00 - Cylinder 4 Misfire.
- P0305-00 - Cylinder 5 Misfire.
- P0306-00 - Cylinder 6 Misfire.
- P1C54-00 - SCR NOx Catalyst Missing.
- P2706-00 - MS Solenoid Circuit (68RFE Only).
- P1D73-00 - AGS Performance.
- P0421-00 - Catalyst 1 Efficiency Below Threshold Bank 1.
- P24A5-00 - EGR Cooler Bypass Bank 1 Control Stuck.
- P21C4-00 - Reductant Line Heater Relay Control Circuit High.
- P2560-00 - Engine Coolant Level Low.
- P2201-00 - Aftertreatment NOX Sensor Circuit Performance - Bank 1 Sensor 1.
- P0604-00 - Internal Control Module Ram.
- P0607-00 - ECU Internal Performance.
- P0868-00 - Line Pressure Low (Module, Powertrain Control (PCM), **(68RFE Only).**
- P0740-00 - TCC Out Of Range.
- P218F-00 - Reductant No Flow Detected.
- P226C - Turbocharger Boost Control “A” Slow Response (In extreme cold ambient temperatures).
- P061A - Level 2 Torque Performance.
- P061B - Internal Control Module Torque Calculation Performance.
- P061E - Internal Control Module Brake Signal Performance.
- P062C - Etc Level 2 Mph Performance.
- P203F - (Diesel Exhaust Fluid) Reductant Level Too Low.
- P0420 - Catalyst System Efficiency Bank 1.
- U02A3 - Lost of Communication with PM Sensor.
- P1507 - Crankcase Filter Restriction.
- P0116 - Engine Coolant Temperature Sensor Performance.
- P0106 - Manifold Absolute Pressure Sensor Performance (In extreme cold ambient temperatures).
- U3017 - Control Module Timer/Clock Performance.
- P0870 - Hydraulic Pressure Test **(68RFE Only).**
- U0101 - Lost Communication with TCM.
- P2579 - Turbocharger Speed Sensor Circuit.

The customer may also notice one or more of the following:

- **Idle Instability.**
- Harsh downshift clunk during exhaust brake deceleration.
- DEF gauge erratic when DEF level is low.
- Stall when putting in reverse in cold ambient temps.
- Engine stumble during engine warm up.
- Unstable idle when AC compressor cycles.
- Engine surge felt while driving **(D2 with ETM Sales Code).**
- Idle Fluctuation.
- Tachometer bouncing at idle with no change in RPM.
- Speed Control/Adaptive Cruise Control icon remains on in cluster after function has been canceled.

- Stumble on acceleration in higher altitudes **(D2 High Output Only).**
- Cruise Control Resume Function will not go to last set speed after cruise control was turned off.
- Rough idle.
- Oil life monitor resets after PCM flash.
- Diesel exhaust fluid (DEF) level gauge inaccurate.
- Excessive DEF consumption
- Poor idle quality at times when engaging cab heat feature.

In addition the following enhancements are included:

- **Adaptive Cruise improvements at high altitude.
- Ambient Air Pressure displayed correctly in wiTECH.**
- Oil pressure switch modification.
- Cold Start improvements.
- Oil change monitor improvement for severe duty operation.
- Engine Warm up Protection Improvement to help promote better oil delivery to engine bearings during cold starts.
- Transmission Overall Shift Schedule Improvements.
- wiTECH “Fuel Injector Cutoff Test” fix.
- wiTECH Mass Air Flow (MAF) Sensor data display additional fix.
- Enabling wiTECH Particulate Matter (PM) Sensor Regeneration Test in PCM “Misc Functions”.
- Hydrocarbon Desorption (HCD) Mode operational improvement. HCD mode resumes after key cycle.
- Enabling message in dash alerting operator when in “Exhaust Brake - Cab Warm Up” mode.
- System Improvement for “Exhaust Brake - Cab Warm Up” mode.
- Transmission upshift quality enhancements **(68RFE Only).**
- wiTECH “Fuel Pressure Override” test improvement.
- wiTECH Mass Air Flow (MAF) data parameter improvement (displaying raw value instead of estimated).
- wiTECH fuel system run-up test improvement.
- wiTECH fan actuation test improvement.
- Smart Exhaust Brake operation improvement.
- Engine warm up protection system improvement. Max engine speed limit change from 1,200 RPM to 1,000 RPM during initial startup in extreme cold ambient temperatures.
- Improved shift quality and engine performance when in 4LO.
- Idle Shutdown Timer System improvement.

DIAGNOSIS:

Using a Scan Tool (wiTECH) with the appropriate Diagnostic Procedures available in DealerCONNECT/Service Library, verify all related systems are functioning as designed. If 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 a customer’s VIN is listed in VIP or your RSU VIN list, perform the repair. If any vehicle not on the VIN list exhibits the symptom/condition or DTC, perform the repair.

INSPECTION:

NOTE: The only calibration available will be for the updated CP3.3 design High-Pressure Fuel Injection Pump (Fig. 1) . Please ensure that recall Y78 has been completed first before proceeding with this update.

1. Inspect the High-Pressure Fuel Injection Pump to see which pump is currently installed on the vehicle (Fig. 1) . Also review the vehicle VIP report to see if campaign Y78 has been performed.

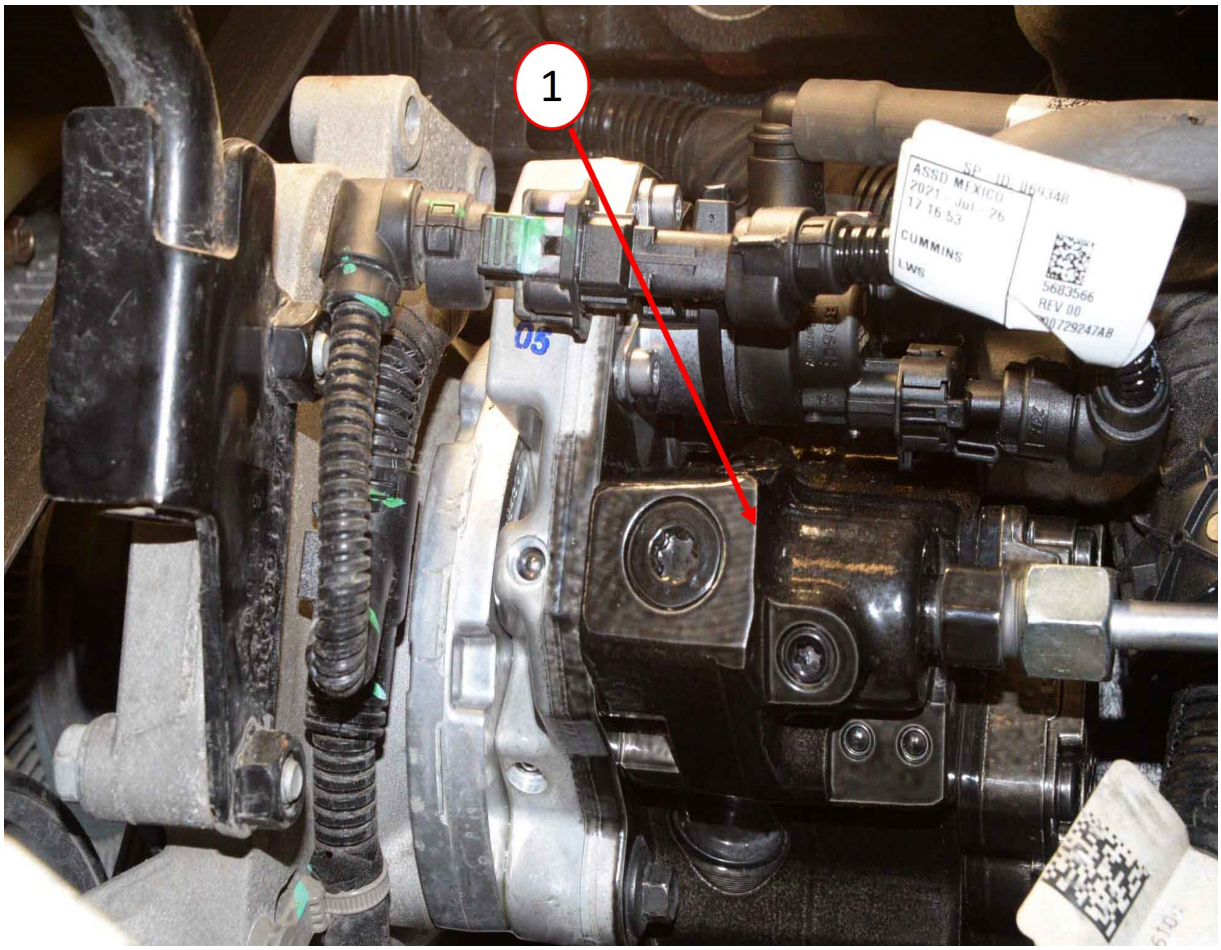

Fig. 1
CP3.3 Design Pump

1 - CP3.3 Design Pump From Top View.

2. Does the VIP report indicate that Y78 has been performed, and is the vehicle equipped with the new design fuel injection pump released under the campaign?
   - YES>>> Proceed to Step 1.
   - NO>>> Perform the Y78 campaign first. Once the campaign is performed, new pump installed and PCM updated, the PCM will have all of the updates listed in this document. This Bulletin does not apply.

REPAIR PROCEDURE:

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.

1. Is the vehicle on the RSU VIN list?
   - YES >>> Proceed to Step 2 of the Repair Procedure.
   - NO>>> Proceed to Step 3 of the Repair Procedure.
2. Does the PCM have the latest software already installed?
   - YES >>> This bulletin has been completed, use inspect LOP (18-19-04-A9) to close the active RSU.
   - NO >>> Proceed to Step 3 of the Repair Procedure.
3. Reprogram the PCM/ECM with the latest software. Detailed instructions for flashing control modules using the wiTECH Diagnostic Application are available by selecting the application's "HELP" tab.
4. Is this vehicle equipped with the 68RFE automatic transmission?
   - YES>>> Proceed to Step 5 of the repair procedure.
   - NO>>> Proceed to Step 6 of the repair procedure.
5. Perform the transmission "Quicklearn" procedure. Follow the detailed service procedures available in DealerCONNECT/Service Library, Service Info Section 08 - Electrical > 8E - Electronic Control Modules > Module, Transmission Control > Standard Procedure > Quicklearn.
6. 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.
7. Using wiTECH, perform the ″Oil Life Restore″ procedure located in the ECM ″Misc Functions".

POLICY:

Reimbursable within the provisions of the warranty.

TIME ALLOWANCE:

Labor Operation No:	Description	Skill Category	Amount
18-19-04-A9	Module, Engine Control (ECM) - Inspect Only (1 - Semi-Skilled)	10 - Diesel	0.2 Hrs.
**18-19-04-NS	Module, Engine Control (ECM) - Perform Quicklearn Routine (68RFE Transmission) - Inspect and Reprogram (1 - Semi-Skilled)	10 - Diesel	0.5 Hrs.
18-19-04-NT	Module, Engine Control (ECM) - (Aisin Transmission) - Inspect and Reprogram (1 - Semi-Skilled)	10 - Diesel	0.4 Hrs.**

NOTE: The expected completion time for the flash download portion of this procedure is approximately 10 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 depending on if this is a Rapid Service Update (RSU) or Technical Service Bulletin.

- The “RF” failure code is required for essential module flash/reprogramming and can only be used after confirmation that the VIN is included on the RSU.
- The failure code “RF” (Required Flash) can no longer be used on Technical Service Bulletin flashes. **The “RF” failure code must be used on an RSU.**
- If the customer’s concern matches the SYMPTOM/CONDITION identified in the Technical Service Bulletin, failure code CC is to be used. When utilizing this failure code, the 3C’s must be supplied.

RF	Required Flash - RSU
CC	Customer Concern