



**NUMBER:** 18-056-22

**GROUP:** 18 - Vehicle Performance

**DATE:** March 19, 2022

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**This bulletin supersedes Technical Service Bulletin (TSB) 18-011-21 REV. A, date of issue August 12, 2021, which should be removed from your files. All revisions are highlighted with **\*\*asterisks\*\*** and include additional Diagnostic Trouble Code (DTC), symptom/condition and LOP.**

**NOTE: Symptoms/Conditions that are related to this Technical Service Bulletin (TSB) are included within the W57 Recall. Please perform the W57 recall if the vehicle is on the W57 recall VIN list, for all other vehicles perform the Repair Procedure below.**

**SUBJECT:**

Flash: Powertrain Control Module (PCM) Updates

**OVERVIEW:**

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

**MODELS:**

2019	(DD)	RAM 3500 Cab Chassis
2019	(DP)	RAM 4500/5500 Cab Chassis

**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 ETN).**

**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:

- **\*\*P0506-00 - Idle Control System Rpm - Lower Than Expected.\*\***
- P0607-00 - ECU Internal Performance.
- P20E8-00 - Reductant Pressure Too Low.
- P0301-00 - Cylinder 1 Misfire (**Sym Cam only**).
- P0302-00 - Cylinder 2 Misfire (**Sym Cam only**).
- P0303-00 - Cylinder 3 Misfire (**Sym Cam only**).
- P0304-00 - Cylinder 4 Misfire (**Sym Cam only**).
- P0305-00 - Cylinder 5 Misfire (**Sym Cam only**).
- P0306-00 - Cylinder 6 Misfire (**Sym Cam only**).
- P0299-00 - Turbocharger Underboost.
- P1D73-00 - AGS Performance.
- P0626 - Generator Field Control Circuit High.
- P218F - Reductant No Flow Detected.
- P2002 - Diesel Particulate Filter Efficiency Below Threshold.
- P24A5 - EGR Cooler Bypass Bank 1 Control Stuck.

- P0191 - Fuel Rail Pressure Sensor Circuit Performance.
- P0461 - Fuel Level Sensor 1 Performance.
- P0401 - EGR System Performance.
- P20EE - NOx Catalyst Efficiency Below Threshold.
- 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.
- P0106 - Manifold Absolute Pressure Sensor Performance (In extreme cold ambient temperatures).
- P0116 - Engine Coolant Temperature Sensor Performance.
- P0420 - Catalyst System Efficiency Bank 1.
- P1507 - Crankcase Filter Restriction.
- P20E8 - (Diesel Exhaust Fluid) Reductant Pressure Too Low.
- P203F - (Diesel Exhaust Fluid) Reductant Level Too Low.
- P226C - Turbocharger Boost Control "A" Slow Response (In extreme cold ambient temperatures).
- P2579 - Turbocharger Speed Sensor Circuit.
- U0101 - Lost Communication with TCM.
- U02A3 - Lost of Communication with PM Sensor.
- U3017 - Control Module Timer/Clock Performance.

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

- \*\*PTO Allows E-Stop to work in any gear.
- PTO that is remote started may prevent PTO cancellation in cab from disabling remote start.\*\*
- Harsh downshift clunk during exhaust brake deceleration.
- Diesel Exhaust Fluid (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.
- Oil life monitor resets after PCM flash.
- DEF level gauge inaccurate.
- Message "Regen in progress will take up to 70 Minutes" remains in Electronic Vehicle Information Center (EVIC) when aborting manual regeneration process.
- Excessive DEF consumption.
- Poor idle at times when engaging cab heat feature.

In addition, the following enhancements are included:

- Engine oil pressure switch modification.
- Cold Start improvements (**Sym Cam only**).
- 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.
- Power Take Off (PTO) intermittently turns off with no DTCs.
- Transmission Overall Shift Schedule Improvements.
- wiTECH Fuel Injector Cutoff test fix.
- wiTECH Mass Air Flow (MAF) data parameter improvement.
- Enabling wiTECH Particulate Matter (PM) Sensor Regeneration Test in PCM "Misc Functions".
- wiTECH Fuel System Run-Up Test Improvement.
- wiTECH Fan Actuation Test Improvement.
- Smart exhaust brake operation improvement.

- 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 are present, record the issues on the repair order and repair as necessary before proceeding further with this bulletin.

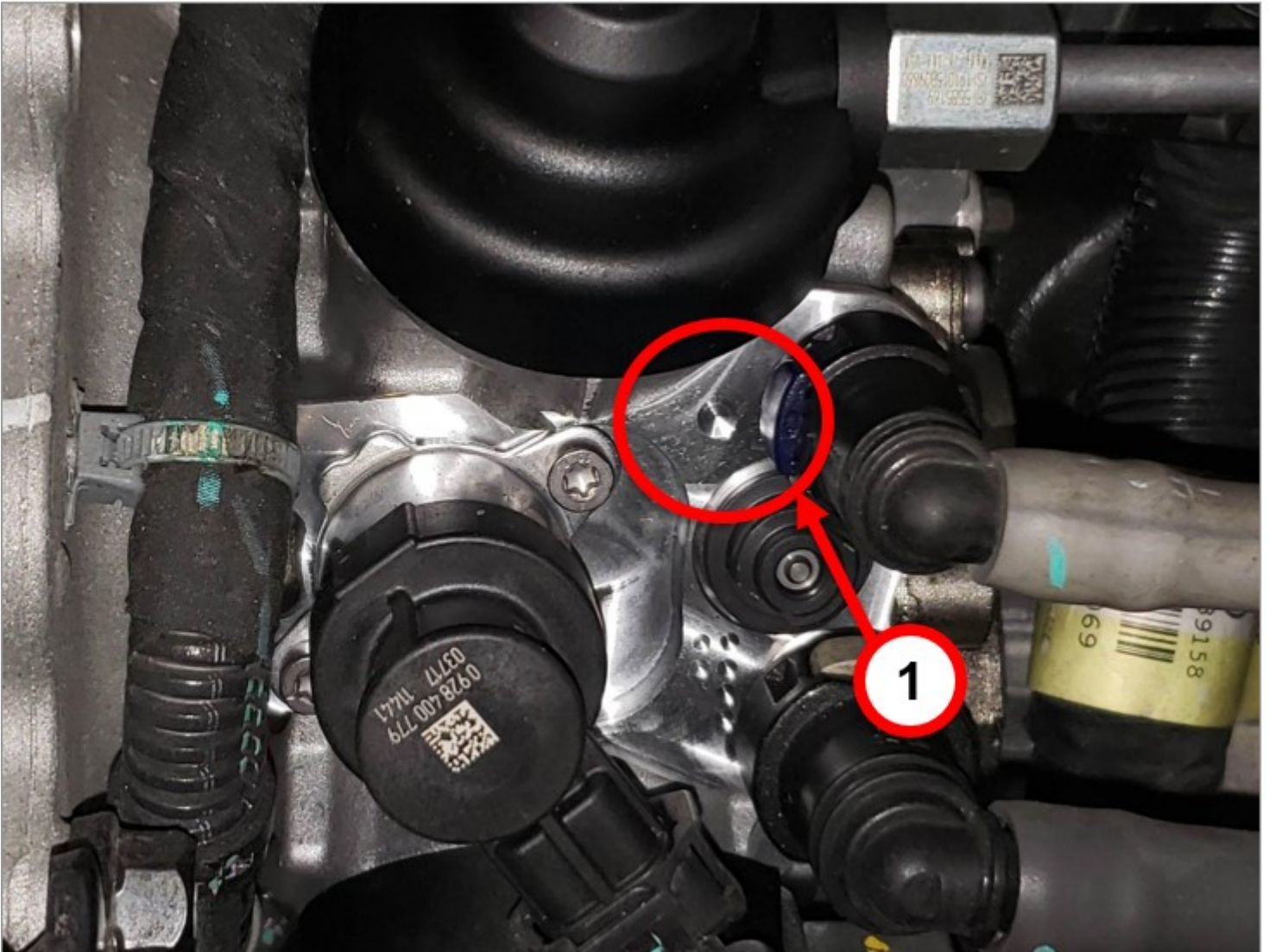
If the customer describes the symptom/conditions listed above or if the technician finds the DTCs, perform the Inspection Procedure.

***INSPECTION:***

**NOTE: You may be presented with two calibration choices when flashing the ECM. Please follow the inspection steps in this service bulletin closely to avoid choosing the incorrect calibration. Choosing the incorrect calibration will result in an undesirable noise from the High Pressure Fuel Pump, requiring the ECM to be flashed again with the correct calibration.**

The fuel injection pump must be inspected to determine which design pump is installed on the vehicle. Older design pumps have an Asymmetrical design internal cam. The newer design pumps have a Symmetrical design internal cam. The design of the pump will determine which calibration will need to be programmed into the ECM. From outward appearance both pumps look identical, with the exception of specific identification marks machined into the body of the pump.

1. Inspect the fuel injection pump to see which pump the vehicle has:
  - Vehicles with the new style Symmetrical Cam design pump will have one large single dot embossed in the pump housing (Fig. 1) .
  - For vehicles equipped with a Symmetrical Cam pump, choose the calibration labeled Symmetric Cam, or Sym Cam.



**Fig. 1**  
**New Style Symmetrical Cam Design Pump**

1 - One large Single Dot on Housing.

- Vehicles with the old style Asymmetrical Cam design will have multiple small dots or no dots embossed in the pump housing (Fig. 2) .
- For vehicles with an Asymmetrical Cam pump, choose the calibration labeled Asymmetric Cam or Asym Cam.

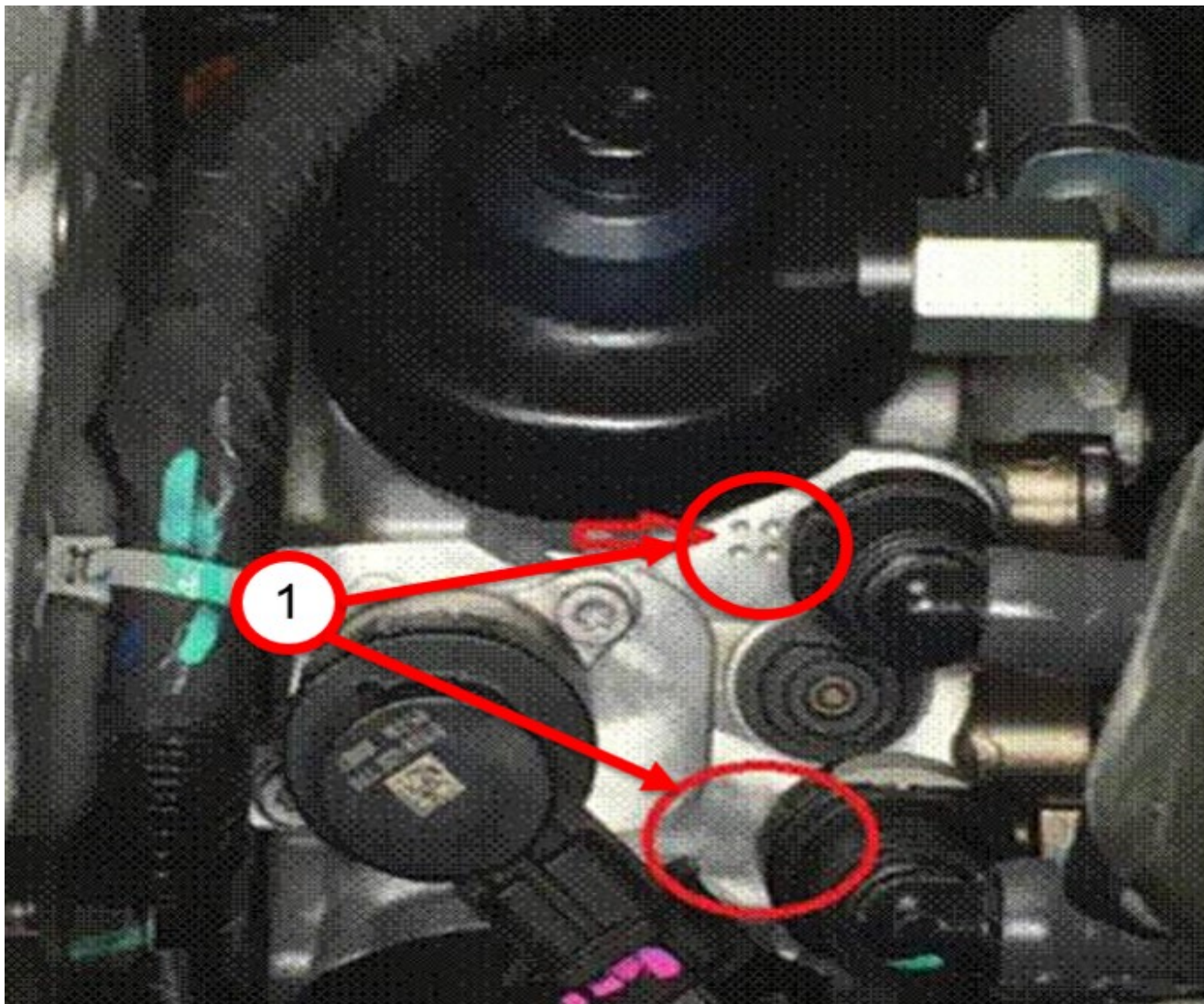


Fig. 2

Old Style Asymmetrical Cam Design Pump

1 - Multiple Small Dots or No Dots Embossed In The Pump Housing.

**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. 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.
2. 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.
3. 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-NF	Module, Engine Control (ECM) - Reprogram (0 - Introduction)	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 use failure code CC with this Technical Service Bulletin.**

- 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 (customer's concern, cause and correction) must be provided for processing Technical Service Bulletin flash/reprogramming conditions.

CC	Customer Concern
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