

Technical Service Bulletin (TSB)
Flash: Powertrain Control Module (PCM) Updates

REFERENCE:	TSB: 18-011-25 GROUP: 18 - Vehicle Performance	Date:	March 8, 2025	REVISION:	–
VEHICLES AFFECTED:	2024 (JL) Jeep Wrangler This bulletin applies to vehicles built on and before January 30, 2024 (MDH 0130XX) equipped with a 2.0L I4 DOHC DI Turbo Engine W/ESS (Sales Code EC1).			MARKET APPLICABILITY: <div><input checked="" type="checkbox"/> NA<input type="checkbox"/> MEA <input type="checkbox"/> SA<input type="checkbox"/> IAP <input type="checkbox"/> EE<input type="checkbox"/> CH</div>	
CUSTOMER SYMPTOM:	Customers must experience a Malfunction Indicator Lamp (MIL) illumination and the vehicle must exhibit/set one or more of the following Diagnostic Trouble Codes (DTCs): <ul style="list-style-type: none">P0420 - Catalyst System Efficiency Below Threshold Bank 1.P0017 - Crankshaft/camshaft Timing Misalignment - Bank 1 Sensor 2.P000A - Bank 1 Camshaft 1 Position Slow Response.P219A - Bank 1 Air-fuel Ratio Imbalance. Customers may also experience the following: <ul style="list-style-type: none">A no crank/no start condition. In addition, the following software enhancement is available: <ul style="list-style-type: none">Smart Charge change: Battery life improvements.				
CAUSE:	PCM software				

REPAIR SUMMARY:

This bulletin involves possibly replacing the Oil control valves (OCV)s, and/or the Catalytic Converter and also reprogramming the PCM with the latest available software.

CLAIMS DATA:

Labor Operation No:	Labor Description	Skill Category	Labor Time
09-05-37-91	Inspect and Replace Both OCVs (Oil Control Valves) (1 - Semi Skilled)	1 - Engine Repair and Performance	2.7 Hrs.
11-50-01-90	Inspect Catalytic Converter (1 - Semi Skilled)	1 - Engine Repair and Performance	0.3 Hrs.
11-50-01-91	Inspect Catalytic Converter And Replace (1 - Semi Skilled)	1 - Engine Repair and Performance	1.7 Hrs.
26-99-00-10	Perform oil and filter change (1 - Semi Skilled)	1 - Engine Repair and Performance	0.4 Hrs.
18-19-06-EF	Module, Powertrain Control (PCM) - Inspect	1 - Engine Repair and Performance	0.3 Hrs.

Labor Operation No:	Labor Description	Skill Category	Labor Time
	Software Level and Reprogram (1 - Semi Skilled)		
Failure Code	CC	Customer Concern	

The dealer must use failure code CC with this Technical Service Bulletin.

- If the customer's concern matches the SYMPTOM 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.

SPARE PARTS:

Qty	Part No.	Description	Notes
2 (AR)	05048148AE	Valve, Oil Control	Intake/Exhaust
1 (AR)	68629623AA	Converter, Catalytic - Front	
1 (AR)	68381406AC	Gasket, Turbocharger To Catalytic Converter	Mica Ring Gasket
1 (AR)	04892339BE	Filter, Engine Oil	
5 (AR)	05166241PA	Oil, Engine	
1 (AR)	05048234AB	Gasket - Cylinder Head Cover	
1 (AR)	68153921AA	Coolant	
1 (AR)	68377814AA	Sealer-RTV Gray	25KG RTV Container
1 (AR)	68409465AA	Sealer-RTV Gray	310ML RTV Container

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 the customer describes any of the symptoms listed above in the customer symptom section, perform the Repair Procedure.

SPECIAL TOOLS/EQUIPMENT:

Description	Ref. No.	Notes
wiTECH or Equivalent	—	—
Borescope	—	—
Wrench, Camshaft Holding	2050800090	—

REPAIR PROCEDURE:

1. Scan the PCM for DTC(s) then follow the steps below for any of the DTCs that vehicle has:
 - **P0017/P000A:** Proceed to [Step 2](#).
 - **P219A:** Proceed to [Step 7](#).
 - **P0420:** Proceed to [Step 8](#).
2. Check if engine oil is contaminated by metallic debris.
3. Is the engine oil contaminated by metallic debris?
 - YES>>> Replace the engine oil and filter. Refer to the detailed service procedures listed in DealerCONNECT>Service Library>Service Info>under: 09 - Engine, 2.0L / Lubrication / Standard Procedure Engine oil and filter change. Proceed to [Step 4](#).
 - NO>>> Proceed to [Step 4](#).
4. Remove and inspect both OCV(s) for torn screens [Fig. 1](#) and [Fig. 2](#). Refer to the detailed service procedures listed in DealerCONNECT>Service Library>Service Info>under: 09 - Engine, 2.0L / Valve Timing / Phaser, Camshaft / Removal and Installation.



Fig. 1
OCV Filter OK



Fig. 2
OCV Filter Torn

5. Are the OCV filter screen(s) torn?

- YES>>> Replace the OCV(s) and change the engine oil and filter. Refer to the detailed service procedures listed in DealerCONNECT>Service Library>Service Info>under: 09 - Engine, 2.0L / Lubrication / Standard Procedure Engine oil and filter change. Use LOPs (09-05-37-91) and (26-99-00-10). Proceed to [Step 11](#).
- NO>>> Proceed to [Step 6](#).

6. Does the PCM have the latest software level?

- YES>>> Follow diagnostic procedures referring to DealerCONNECT>Service Library> Service info>28 - DTC-Based Diagnostics / Module, Powertrain Control (PCM), 2.0L>P000A-Bank 1 camshaft 1 position slow response and/or P0017-Crankshaft/camshaft Timing Misalignment - bank 1 sensor 2.
- NO>>> Proceed to [Step 11](#).

7. Does the PCM have the latest software level?

- YES>>> Follow diagnostic procedures referring to DealerCONNECT>Service Library> Service info>28 - DTC-Based Diagnostics / Module, Powertrain Control (PCM), 2.0L>P219A-Bank 1 Air-Fuel Ratio Imbalance.
- NO>>> Proceed to [Step 11](#).

8. Check for any other Oxygen Sensor (02) DTCs.

9. Are there any other 02 DTCs?

- YES>>> Perform diagnostic procedures referring to DealerCONNECT>Service Library> Service info>28 - DTC-Based Diagnostics / Module, Powertrain Control (PCM), 2.0L for each specific DTC that has been set.
- NO>>> Follow diagnostic procedures referring to DealerCONNECT>Service Library> Service info>28 - DTC-Based Diagnostics / Module, Powertrain Control (PCM), 2.0L>P0420-Catalyst System Efficiency Below Threshold Bank 1. Remove the Upstream Oxygen Sensor and using a borescope, is the catalytic converter internally melted/cracked or brain pattern [Fig. 3](#) and [Fig. 4](#)?



Fig. 3
Melted Catalyst



Fig. 4
Brain Pattern

10. ● YES>>> Replace the catalytic converter. Refer to the detailed service procedures listed in DealerCONNECT>Service Library>Service Info>under: 11 - Exhaust System / Converter, Catalytic / Removal and Installation. Use LOP (11-50-01-91). Proceed to [Step 11](#).
- NO>>> Use Inspect LOP (11-50-01-90). Proceed to [Step 11](#).

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.

11. Reprogram the PCM with the latest software. If issues arise when flashing a module using the wiTECH Diagnostic Application, please submit a ticket to the Helpdesk. The helpdesk can be found within the Help menu.
12. Clear any DTCs that may have been set in any modules due to reprogramming. The wiTECH application will automatically present all DTCs after the flash and allow them to be cleared.
13. Test drive vehicle and make sure the DTC SET conditions in Service information are met to verify the DTCs don't set again.
14. Did P0017, P000A, P219A and/or P0420 DTCs return?

- YES>>> Perform diagnostic procedures referring to DealerCONNECT>Service Library> Service info>28
- DTC-Based Diagnostics / Module, Powertrain Control (PCM), 2.0L for each specific DTC that has been set.
- NO>>> This bulletin is complete.

POLICY:

Reimbursable within the provisions of the warranty.

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