



**NUMBER:** 08-054-22 REV. B

**GROUP:** 08 - Electrical

**DATE:** August 3, 2022

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**This bulletin supersedes Technical Service Bulletin (TSB) 08-054-22 REV. A, date of issue March 13, 2022, which should be removed from your files. All revisions are highlighted with **\*\*asterisks\*\*** and include an additional Diagnostic Trouble Codes (DTCs) and LOP.**

**This Technical Service Bulletin (TSB) has also been released as a Rapid Service Update (RSU) 21-123, date of issue August 26, 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.**

**SUBJECT:**

Flash: Battery Pack Control Module (BPCM) Diagnostic and System Updates

**OVERVIEW:**

This bulletin involves updating the BPCM with the latest available software.

**MODELS:**

2021 (JL) Jeep Wrangler

**NOTE: This bulletin applies to vehicles within the following markets/countries: North America, APAC and EMEA.**

**NOTE: This bulletin applies to vehicles equipped with the 2.0L I4 DOHC DI Turbo PHEV Engine (Sales Code ECX).**

**SYMPTOM/CONDITION:**

Customers may experience a false Malfunction Indicator Lamp (MIL) illumination related to PHEV battery:

- **\*\*P1A21-00** - HV Battery Contactor Control Sequence Incorrect.
- P0B3E-00 - Hybrid/EV Battery Voltage Sense 1 Circuit High.
- P0607-00 - ECU Internal Performance.
- P1E1B-00 - Hybrid/EV Battery Side Voltage System Isolation.
- P0AA4-00 - Hybrid Battery Negative Contactor Circuit Stuck Closed.\*\*
- P1C00-00 - Hybrid/EV Battery Voltage Sense 1 Out Of Range Low.
- P1C01-00 - Hybrid/EV Battery Voltage Sense 1 Out Of Range High.
- P1A9B-00 - Hybrid/EV Battery Temperature Sensor 1 Out Of Range High.
- P0BBD-00 - Hybrid Battery Pack Voltage Variation Exceeded Limit.
- P167B-00 - Controlled System Shutdown.
- U1885-00 - Battery Energy Control Module Lost Communication With HCP.
- P0EDD-00 - Hybrid/EV Battery Pack B Deterioration.
- U0111 - Lost Communication With Hybrid Battery Pack Sensor Module.
- P0CA7-00 - Hybrid/EV Battery Discharging Current High.
- P1A0C-00 - Battery Energy Control Module System Voltage Low.

**NOTE:** Additional module flashes are required for this update to be effective, the following modules are all to be updated along with this BPCM update:

- Hybrid Control Processor (HCP), Auxiliary Hybrid Control Processor (AHCP) also known as the Power Inverter Module (PIM).
- Transmission Control Module (TCM).
- Powertrain Control Module (PCM).
- Integrated Dual Charging Module (IDCM).

**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 Diagnostic Trouble Codes (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.

**REPAIR PROCEDURE:**

**NOTE:** The HCP, AHCP, TCM, PCM and IDCM must be updated to the latest available software at the conclusion of this repair procedure. Refer to all applicable published technical service bulletins for detailed repair procedures and labor times regarding updating the HCP, AHCP, TCM, PCM and IDCM software.

**NOTE:** Install a battery charger to maintain a 12 volt system voltage.

**NOTE:** If this flash process is interrupted/aborted, the flash should be restarted.

**WARNING!**

- Before performing the software reprogramming, it is necessary to make the vehicle safe.
- When performing repairs that directly involve or imply possible contact with live high voltage components/systems, the technician must ensure that the power supply of the high-voltage system is disconnected throughout the operation.
- Only specifically trained technicians qualified to perform repairs on vehicles with high voltage systems under current national laws/regulations are authorized to work on the vehicle.
- Before performing any diagnostic repair work on the vehicle, carefully read and comply with the general instructions for working safely on hybrid/electric vehicles and use suitable general equipment and Personal Protective Equipment (PPE).

1. Is the vehicle on the RSU VIN list?

- YES>>> Proceed to [Step 2](#).
- NO>>> Proceed to [Step 3](#).

2. Does the BPCM have the latest software already installed?

- YES>>> This bulletin has been completed, use inspect LOP (18-19-87-9K) to close the active RSU.
- NO>>> Proceed to [Step 3](#).

3. Perform the vehicle "High-Voltage Power Down" procedure. Refer to the detailed service procedures available in DealerCONNECT/Service Library under: Service Info> 08 –Electrical/Standard Procedure/High-Voltage Power Down.

4. Reconnect the 12 volt battery.

5. Reprogram the BPCM with the latest software. Detailed instructions for flashing control modules using the wiTECH Diagnostic Application are available by selecting the application's "HELP" tab.
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. Verify the HCP, AHCP, TCM, PCM and IDCM are also programmed with the latest available software. Refer to all applicable published service bulletins for detailed repair procedures and labor times regarding updating the HCP, AHCP, TCM, PCM and IDCM software.
8. Perform the vehicle "High-Voltage Power Up" procedure. Refer to the detailed service procedures available in DealerCONNECT/Service Library under: Service Info>08 - Electrical /Standard Procedure> 08 – Electrical/Standard Procedure/High-Voltage Power Up.

**POLICY:**

Reimbursable within the provisions of the warranty.

**TIME ALLOWANCE:**

Labor Operation No:	Description	Skill Category	Amount
18-19-87-9K	Battery Pack Control Module (BPCM), Inspect (0 - Introduction)	6 - Electrical and Body Systems	0.2 Hrs.
**18-19-87-9R	Battery Pack Control Module (BPCM), Inspect and Reprogram (0 - Introduction)	6 - Electrical and Body Systems	0.3 Hrs.**

**NOTE: The expected completion time for the flash download portion of this procedure is approximately 6 minutes. Actual flash download times may be affected by vehicle connection and network capabilities.**

**RELATED TIME ALLOWANCE:**

Labor Operation No:	Description	Skill Category	Amount
08-08-11-50	High Voltage Power Down and UP Procedures (0 - Introduction)	6 - Electrical and Body Systems	0.7 Hrs.

**NOTE: The related LOP for high voltage power down and up can only be claimed one time when updating these additional modules:**

- Hybrid Control Processor (HCP), Auxiliary Hybrid Control Processor (AHCP) also known as the Power Inverter Module (PIM).
- Transmission Control Module (TCM).
- Powertrain Control Module (PCM).
- Integrated Dual Charging Module (IDCM).

**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