



**NUMBER:** 08-048-16

**GROUP:** Electrical

**DATE:** April 22, 2016

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**THIS SERVICE BULLETIN IS ALSO BEING RELEASED AS RAPID RESPONSE TRANSMITTAL (RRT) 16-031 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.**

**FOR HELP WITH USING wiTECH FOR ECU FLASH REPROGRAMMING, CLICK ON THE APPLICATION'S "HELP" TAB.**

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

***SUBJECT:***

FLASH: Electric Vehicle Control Unit (EVCU) System Enhancements

***OVERVIEW:***

This bulletin involves updating the software in the EVCU.

***MODELS:***

2013 - 2016            (FF)                            Fiat 500e

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

**NOTE: This bulletin applies to vehicles built on or before May 11, 2016 (MDH 0511XX) and equipped with the 83 kW Electric Motor (Sales Code E99).**

***SYMPTOM/CONDITION:***

A small number of customers may experience a Malfunction Indicator Lamp (MIL) illumination. Upon further investigation, the technician may find the following Diagnostic Trouble Code (DTC) set in the EVCU memory:

- P1A21-00 - HV Battery Contactor Control Sequence Incorrect.

In addition the customer may notice one of the following conditions:

- When an Electric Vehicle Supply Equipment (EVSE) is plugged in approximately 17 seconds after key off, the vehicle will not charge and will not power down. This could lead to potential 12V battery drain after prolonged period of time.
- When the battery temperature is below -30°C (-22°F) and above 50°C (122°F), the thermal system does not function.
- When a Level 1 EVSE is plugged in, the displayed charge time estimation for Level 2 is over estimated.

The following improvements/enhancements are also included in this software release:

- Improved shift strategy involving shift lever position.

***DIAGNOSIS:***

Using a Scan Tool (wiTECH) with the appropriate Diagnostic Procedures available in TechCONNECT, verify if any Diagnostic Trouble Codes (DTCs) are set. If DTCs are present other than the ones listed above, record them on the repair order and repair as necessary before proceeding further with this bulletin.

***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 EVCU with the latest software. Detailed instructions for flashing control modules using the wiTECH Diagnostic Application are available by selecting the application's "HELP" tab.

**NOTE: If the EVCU already has the latest software, use LOP 18-19-85-91 to close the RRT portion of this service action.**

2. Clear any 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 the tech to clear them.

**POLICY:**

Reimbursable within the provisions of the warranty.

**TIME ALLOWANCE:**

| Labor Operation No: | Description   | Skill Category                  | Amount   |
|---------------------|---|---------------------------------|----------|
| 18-19-85-91         | Module, Electric Vehicle Control Unit (EVCU) - Inspect (1 - Semi-Skilled)               | 6 - Electrical and Body Systems | 0.2 Hrs. |
| 18-19-85-92         | Module, Electric Vehicle Control Unit (EVCU) - Inspect and Reprogram (1 - Semi-Skilled) | 6 - Electrical and Body Systems | 0.2 Hrs. |

**NOTE: The expected completion time for the flash download portion of this procedure is approximately 4 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 if the dealer finds a software update 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, 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    |