



GROUP  
ELE

MODEL  
2017MY  
Soul EV (PSEV)

NUMBER  
140 (Rev 1, 06/01/2018)

DATE  
August 2017

## TECHNICAL SERVICE BULLETIN

SUBJECT: SERVICE ACTION: BATTERY MANAGEMENT SYSTEM  
(BMS) LOGIC IMPROVEMENT (SA302)

### \* NOTICE

This bulletin has been revised to include additional information. New/revised sections of this bulletin are indicated by a black bar in the margin area.

This bulletin provides information related to the Battery Management System (BMS) software upgrade to improve the battery monitoring logic on some 2017MY Soul EV (PS EV) vehicles, produced from July 11, 2016 through June 21, 2017. For confirmation that the latest reflash has been applied to a vehicle you are working on, verify the ROM ID using the table on page 3. Before conducting the procedure, verify that the vehicle is included in the list of affected VINs.



Kia Diagnostic System (KDS)

### \* NOTICE

A Service Action is a repair program without customer notification that is performed during the warranty period. Any dealer requesting to perform this repair outside the warranty period will require DPSM approval.

Repair status for a VIN is provided on WebDCS (Service → Warranty Coverage → Warranty Coverage Inquiry → Campaign Information). Not completed Recall / Service Action reports are available on WebDCS (Consumer Affairs → Not Completed Recall → Recall VIN → Select Report), which includes a list of affected vehicles.

This issue number is SA302.

File Under: <Electrical>

Circulate To:  General Manager  Service Manager  Parts Manager  
 Service Advisors  Technicians  Body Shop Manager  Fleet Repair

SUBJECT:

## SERVICE ACTION: BATTERY MANAGEMENT SYSTEM (BMS) LOGIC IMPROVEMENT (SA302)

### ★ NOTICE

Inform the customer that the BMS update will reset the adaptive learning values to default conditions. As a result, the displayed range/DTE (Distance to Empty) and charge times may be temporarily increased. It does not affect the actual range or battery charging time. These displayed values will gradually be relearned to reflect the actual battery condition with multiple drive and charge cycles performed above 50°F (10°C) from less than 20% SOC to more than 90% SOC.

**Important:** If the customer has any range concerns, please see PS548 and capture all BMS data **BEFORE** applying the update.

### ECU Upgrade Procedure:


To correct this condition, the ECU should be reprogrammed using the KDS download, as described in this bulletin.

Upgrade Event Name
346.PSEV BMS LOGIC IMPROVEMENT

### ★ NOTICE

- A fully charged battery is necessary before ECU upgrade can take place. It is recommended that the Midtronics GR8-1299 system be used in ECU mode during charging. **DO NOT** connect any other battery charger to the vehicle during ECU upgrade.
- All ECU upgrades must be done with the ignition key in the 'ON' position.
- Be careful not to disconnect the VCI-II connected to the vehicle during the ECU upgrade procedure.
- **DO NOT** start the engine during ECU upgrade.
- **DO NOT** turn the ignition key 'OFF' or interrupt the power supply during ECU upgrade.
- When the ECU upgrade is completed, turn the ignition 'OFF' and wait 10 seconds before starting the engine.
- **ONLY** use approved ECU upgrade software designated for the correct model, year.

### ★ NOTICE

Before attempting an ECU upgrade on any Kia model, make sure to first determine whether the particular model is equipped with an immobilizer security system. Failure to follow proper procedures may cause the PCM to become inoperative after the upgrade and any claims associated with this repair may be subject to chargeback. 

SUBJECT:

## SERVICE ACTION: BATTERY MANAGEMENT SYSTEM (BMS) LOGIC IMPROVEMENT (SA302)

### ROM ID INFORMATION TABLE:

#### Upgrade Event #346

Model	System	ECU P/No.	ROM ID	
			Previous	New
PSEV	BMS	37513 E4050	5300, 5400	5500
		37513 E4000	5302, 5402	5502

*To verify the vehicle is affected, be sure to check the Calibration Identification of the vehicle's ECM ROM ID and reference the Information Table as necessary.*

### \* NOTICE

Prior to performing the ECU upgrade, be sure to check that the KDS is fully charged.

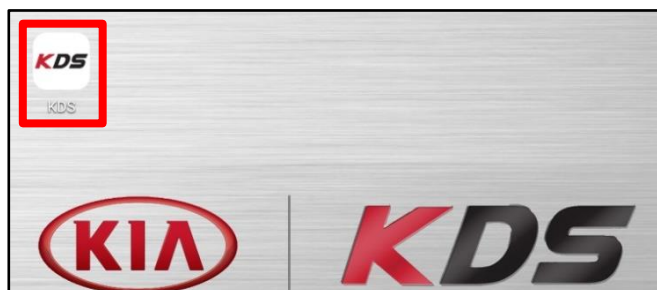
1. Connect the VCI-II to the OBD-II connector, located under the driver's side of the instrument panel.

### \* NOTICE

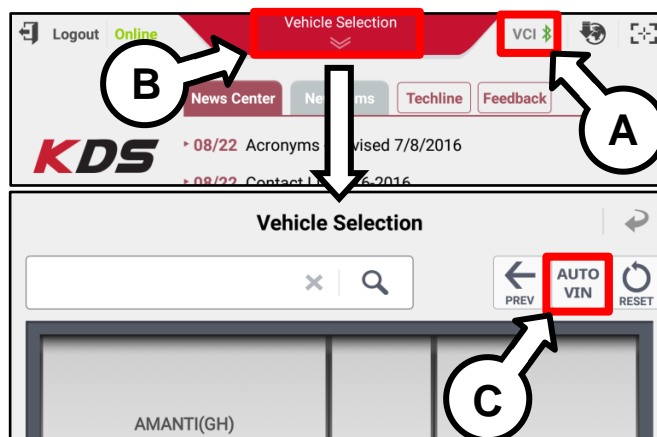
The ECU upgrade function on KDS operates wirelessly. It is not necessary to perform the upgrade via USB cable.



2. With the ignition ON, turn ON the KDS tablet. Select **KDS** from the home screen.

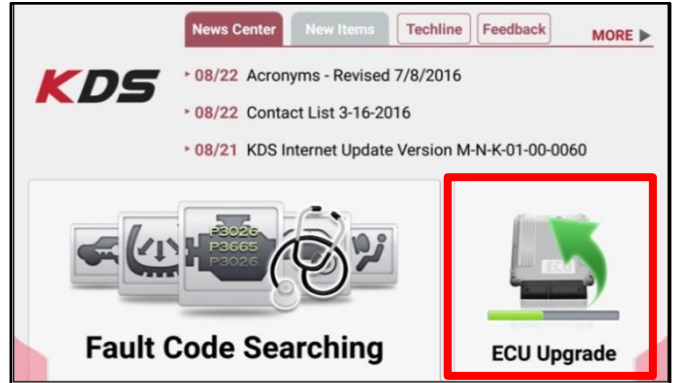


3. Confirm communication with VCI (A) and then configure the vehicle (B) using the **AUTO VIN** (C) feature.



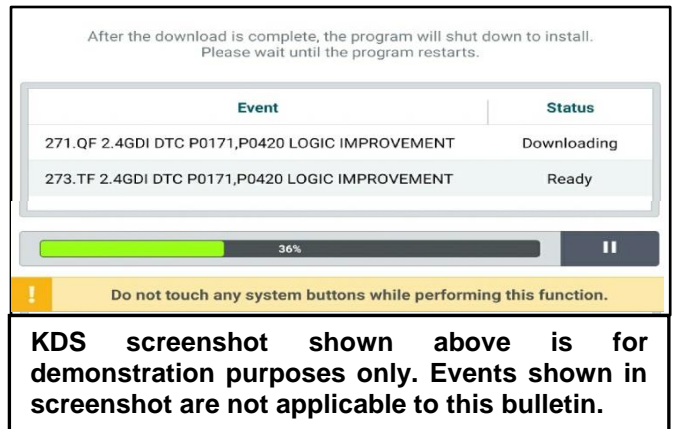
**SUBJECT: SERVICE ACTION: BATTERY MANAGEMENT SYSTEM (BMS) LOGIC IMPROVEMENT (SA302)**

4. Select **ECU Upgrade**.



5. The KDS will check the server for recently uploaded Events and then automatically download **Upgrade Event #346**.

**\* NOTICE**  
The vehicle must be identified in Vehicle Selection to download an Event for that vehicle.



KDS screenshot shown above is for demonstration purposes only. Events shown in screenshot are not applicable to this bulletin.

6. Select **Auto Mode**.

**CAUTION**  
Do NOT attempt to perform a Manual Mode upgrade UNLESS Auto Mode fails. Always follow the instructions given on the KDS in either Auto or Manual mode.

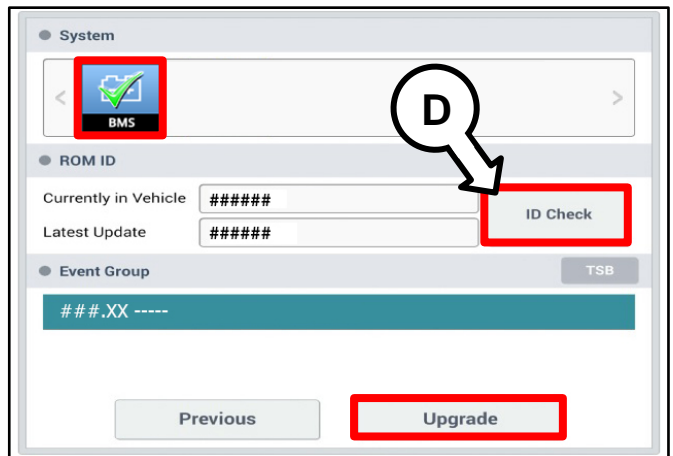


7. Select the **BMS** system under the System selection menu.

Touch **ID Check (D)** and confirm that the latest update is available.

Select **Upgrade Event #346** and select **Upgrade** to continue.

**\* NOTICE**  
Verify that the vehicle is "ON" and not in "READY" mode before proceeding with the update.



SUBJECT:

## SERVICE ACTION: BATTERY MANAGEMENT SYSTEM (BMS) LOGIC IMPROVEMENT (SA302)

8. The ECU upgrade will begin and the progress of the upgrade will appear on the bar graph. Upgrade part (1/2) (E) will download the upgrade event to the VCI-II. Upgrade part (2/2) (F) will upgrade the ECU.



### CAUTION

**Do not touch the system buttons (like 'Back', 'Home', 'etc.') while performing ECU Upgrade.**

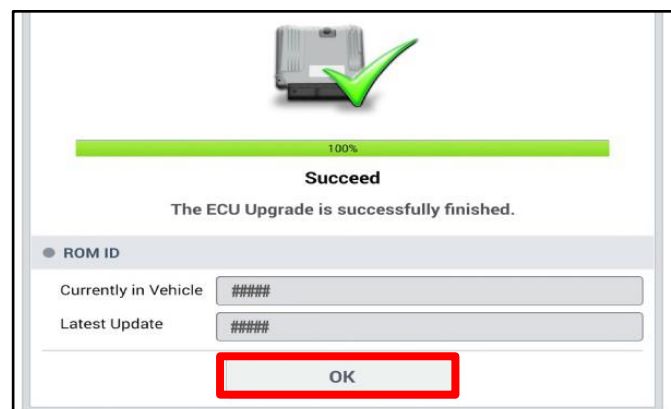
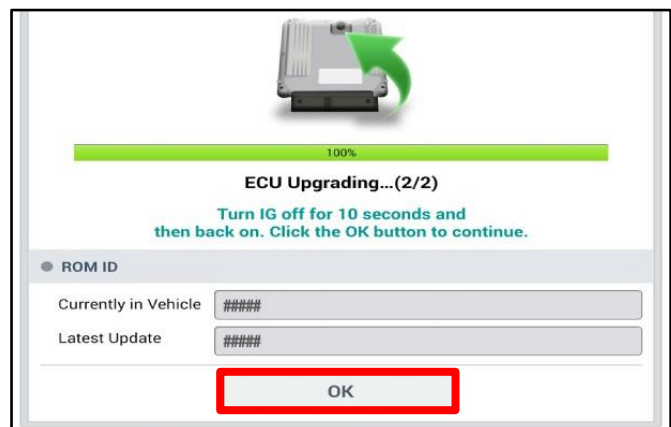
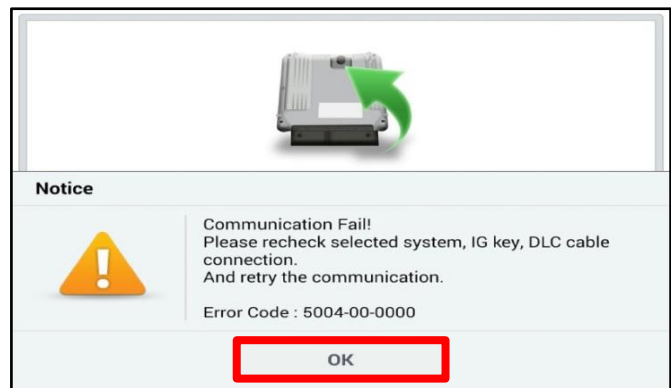
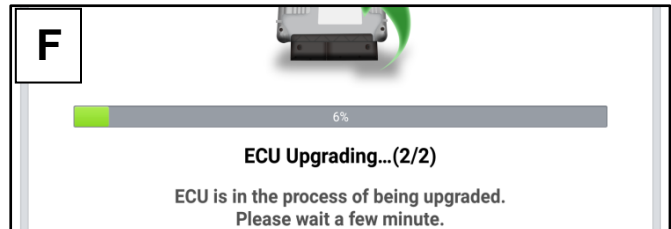
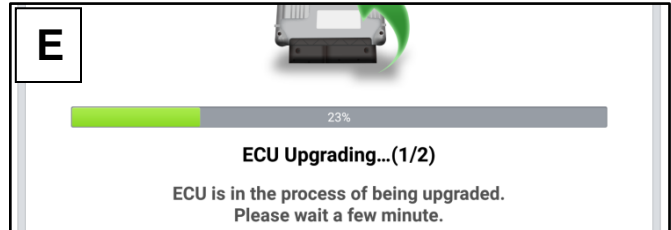
9. If a "Communication Fail" screen appears, verify that the VCI-II and KDS are communicating properly. Touch **OK** and restart the procedure from step 4.

### ★ NOTICE

**If an error notice continues to appear or if the upgrade cannot be performed, contact Techline or GIT America Help Desk.**

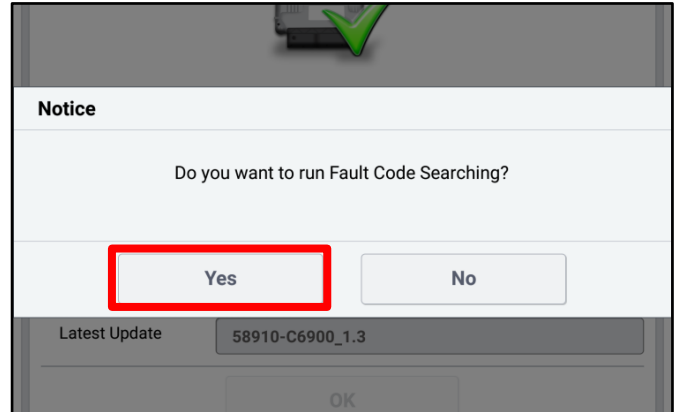
10. When instructed on the KDS, turn the ignition **OFF** for ten (10) seconds then back on. Touch **OK** to continue.

11. Once the upgrade is complete, touch **OK** to finalize the procedure.



**SUBJECT: SERVICE ACTION: BATTERY MANAGEMENT SYSTEM (BMS) LOGIC IMPROVEMENT (SA302)**

12. When prompted, select **YES** to check for Diagnostic Trouble Codes (DTC) and erase any DTCs stored such as EPS, ESC, and TPMS that may have been set during the upgrade.



13. Start the engine to confirm proper operation of the vehicle.

**Manual Upgrade Procedure:**

**\* NOTICE**

The manual upgrade should **ONLY** be performed if the automatic upgrade fails.

If the automatic upgrade fails, turn the ignition **OFF** for about **10** seconds then place it back in the **ON** position to reset the control unit **BEFORE** performing manual upgrade.

See table below for **Manual Mode** passwords.

**Manual Mode ECU Upgrade Passwords**

Menu	Password
PS EV BMS : 37513-E4050	4050
PS EV BMS : 37513-E4000	4000

1. Within the ECU Upgrade screen displayed, select **Manual Mode**.

SUBJECT:

**SERVICE ACTION: BATTERY MANAGEMENT SYSTEM  
(BMS) LOGIC IMPROVEMENT (SA302)**

2. Select the **BMS** system under the System selection menu. Select **Upgrade Event #346** and select **Upgrade** to continue.
3. Select the appropriate control unit part number with reference to the ROM ID Information Table on page 3 and select **OK**.
4. Enter the appropriate password from the Manual Mode password table above and select **OK**.
5. The upgrade will begin and the progress of the upgrade will appear on the bar graph.
6. When instructed on the KDS, turn the ignition **OFF** for ten (10) seconds then back on. Touch **OK** to continue.
7. Once the upgrade is complete, touch **OK** to finalize the procedure.
8. When prompted, select **YES** to check for Diagnostic Trouble Codes (DTC) and erase any DTCs stored such as EPS, ESC, and TPMS that may have been set during the upgrade.
9. Start the engine to confirm proper operation of the vehicle.

SUBJECT:

**SERVICE ACTION: BATTERY MANAGEMENT SYSTEM  
(BMS) LOGIC IMPROVEMENT (SA302)**

AFFECTED VEHICLE RANGE:

Model	Production Date Range
Soul (PSEV)	July 11, 2016 through June 21, 2017

WARRANTY INFORMATION:

**N Code: I11 C Code: ZZ3**

Claim Type	Causal P/N	Qty.	Repair Description	Labor Op Code	Op Time	Replacement P/N	Qty.
V	37513 E4050	0	(SA302) BMS Logic Improvement	170074R0	0.3 M/H	N/A	0

**\* NOTICE**

**VIN inquiry data for this repair is provided for tracking purposes only. Kia retailers should reference SA302 when accessing the WebDCS system.**