



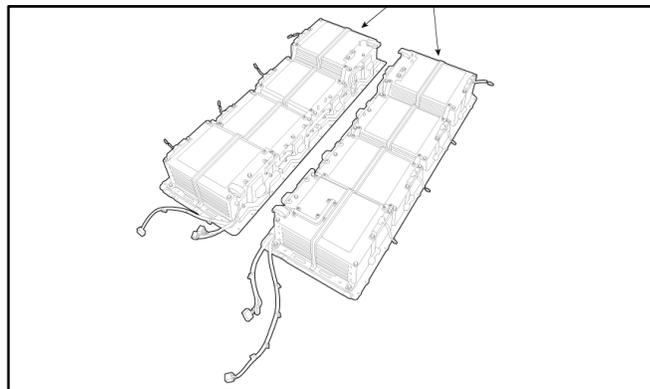
GROUP	MODEL
ELE	2015-2017MY Soul EV (PS EV)
NUMBER	DATE
310	October 2023

TECHNICAL SERVICE BULLETIN

HIGH-VOLTAGE BATTERY PACK AND BATTERY MANAGEMENT SYSTEM

SUBJECT:

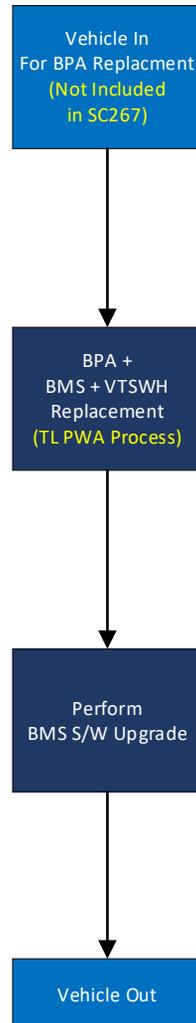
This bulletin provides information regarding the replacement of the High-Voltage Battery Pack Assembly (HV BPA) on some 2015-2017MY SOUL EV (PS EV) produced from July 15, 2014 through June 30, 2017 which were not included in SC267 Safety Recall Campaign. The Battery Management System (BMS) and Voltage & Temperature Sensor Wiring Harness (VTSWH) will need to be replaced along with the 'new' HV BPA, when replacing an 'originally' equipped HV BPA on the applicable vehicles. In addition, the BMS Software will also need to be upgraded to complete the repair. Follow the procedure outlined in this publication to replace the BPA, BMS, VTSWH and upgrade the BMS software on the applicable vehicle.



NOTICE

A Technical Service Bulletin is a field fix repair program without customer notification that may be performed during the warranty period. Any dealer requesting to perform this repair outside the warranty period will require DPSM approval.

Flowchart:

**❗ IMPORTANT**

The new BPA is equipped with an “old” type harness. Be sure to install the “new” type harness. Techline PWA is required for HV BPA replacement. Dealer should follow the process included in TSB ELE044 and obtain TL PWA . Claim submission concerns WILL occur if the dealer does not obtain TL PWA for HV BPA replacement.

Operation Descriptions:

- BMS Software (BMS S/W)
- High Voltage Battery Pack Assembly (HV BPA)
- Voltage & Temperature Sensor Wiring Harness (VTSWH)
- Battery Management System (BMS)

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WARNING

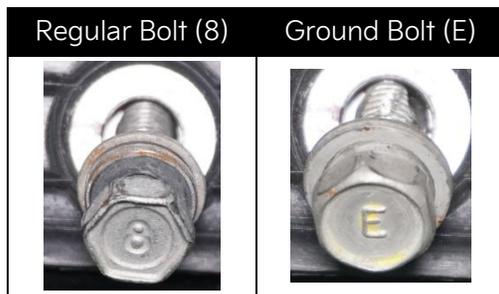
Be sure to read and follow the 'General Safety Information and Caution', the 'High Voltage Shut-Off Procedures' and 'High Voltage Battery Handling Guide' instructions outlined on KGIS before doing any work related with the high voltage system. Failure to follow the safety instructions may result in serious electrical injuries.

BMS ECU Replacement Procedure:

1. Remove the BPA upper case (A) by referring to "EV Battery System → High Voltage Battery System → Case → Repair procedures (Removal)" in the applicable Shop Manual on KGIS. Refer to KGIS for bolt/nut torque specs.

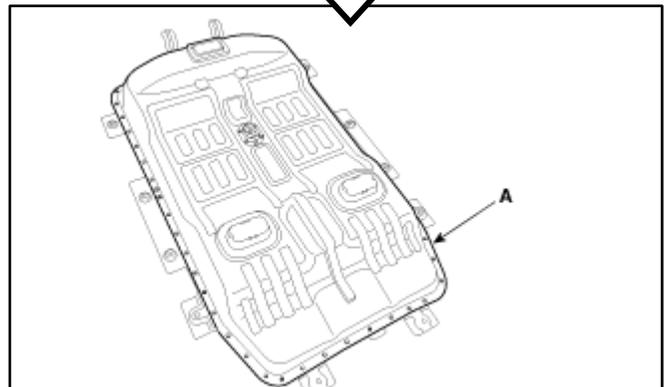
**TECH TIP**

Mark the six (6) 'ground' bolts and their location to prevent mixing with regular bolt prior to reassembly.



Ground Bolt (E): 6 ea.

Regular Bolt (8): 35 ea.



2. Replace the BMS ECU by referring to "EV Battery System → High Voltage Battery Control System → Battery Management System (BMS) ECU → Repair procedures (Removal)" in the applicable Shop Manual on KGIS.
3. Proceed to the 'BPA and Voltage & Temperature Sensor Wiring Harness (VTSWH) Replacement Procedure' on page 10.



⚠ WARNING

Be sure to read and follow the 'General Safety Information and Caution', the 'High Voltage Shut-Off Procedures' and 'High Voltage Battery Handling Guide' instructions outlined on KGIS before doing any work related with the high voltage system. Failure to follow the safety instructions may result in serious electrical injuries.

BPA and VTSWH Replacement Procedure:

1. Remove the HV BPA by referring to "EV Battery System → High Voltage Battery System → Battery Pack Assembly → Repair procedures (Removal)" in the applicable Shop Manual on KGIS.

ⓘ IMPORTANT

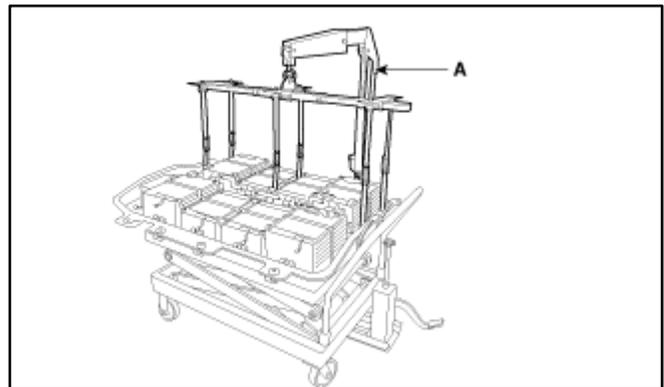
15-17MY ONLY new BPA is equipped with an "old" type harness. Be sure to install the "new" type harness.



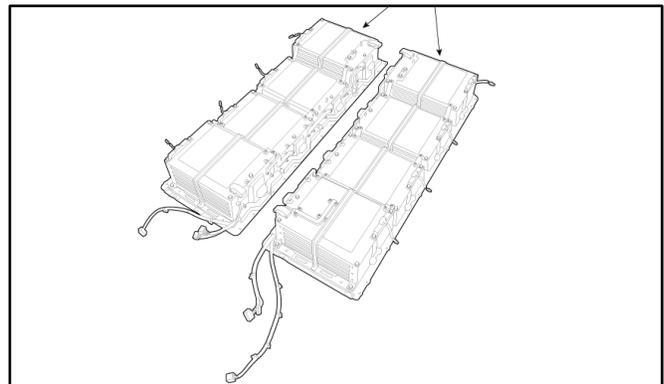
Note: SST OK375 E4300 BPA lifting jig and crane jack (A) are required.

📄 NOTICE

Place the removed BPA on a clean flat surface. Dealer should follow the process included in TSB ELE044 and obtain TL PWA.



Note: The battery pack assembly (BPA) consists of two (2) (left and right) battery packs.



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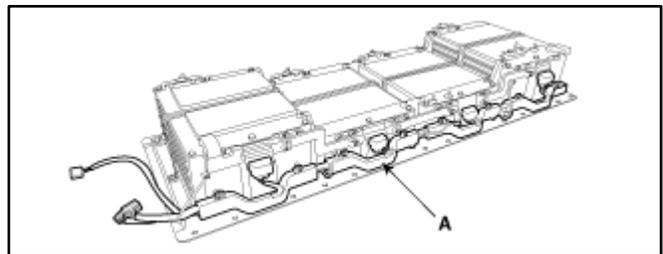
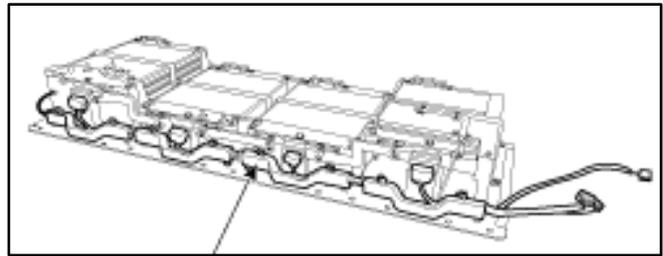
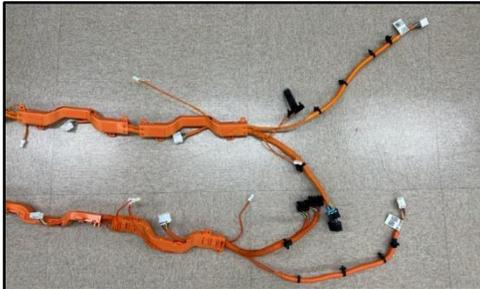
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- Remove the existing voltage and temperature sensor wiring harness (VTSWH) retaining screws for both (left and right) on the 'new' battery packs assemblies.



- Replace the two voltage temperature sensor wire harnesses (VTSWH) with the 'new' parts.

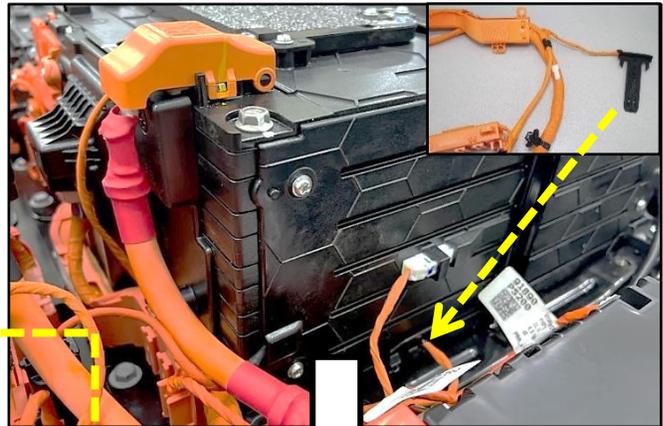
Note: The new harness is different for the removed harness when compared side by side.



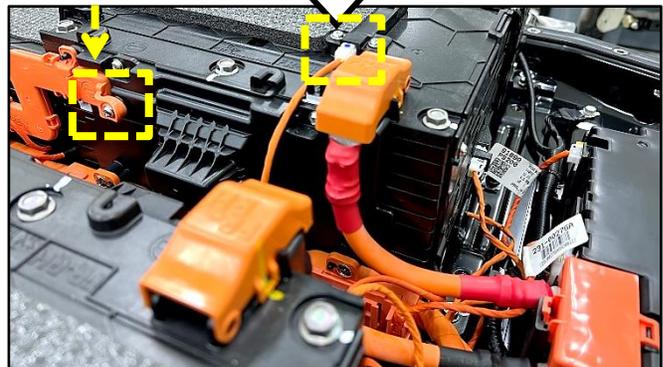
- During re-assembly, insert the battery temperature sensor into the battery pack lower side area shown.

Connect the outside temperature sensor connector where shown.

Note: Some vehicles may have a remaining temperature sensor connector hole. If so, disregard, no need to connect to it.



- Reinstall all removed parts in the reverse order of removal.
- Perform the BCM Software Upgrade as outlined on page 6, in 'Manual Mode' only.
- Confirm normal vehicle operation.



ECU Upgrade Procedure:

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

Upgrade Event Name
*696. 15-17MY PS EV BMS Diagnostic Logic Enhancement Touch

***Note:** Event #696 for 15-17MY PS EV will not appear in the upgrade events list as it needs to be performed in 'Manual Mode' only.

NOTICE

- Confirm a fully charged battery (12.3 volts or higher is necessary) is used or utilize a fully charged jump starter box connected to the battery.
- **Ensure the KDS GDS is sufficiently charged at 60% or higher prior to reflash.**
- All ECU upgrades must be performed with the ignition set to the 'ON' position unless otherwise stated.
- **Damaged VCI II units should not be used and promptly replaced.**
- 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 application.**

IMPORTANT

It is recommended to ALWAYS check the Electronic Parts Catalog (EPC) to locate the ECU Part Number respective to Auto/Manual Mode ROM IDs. DO NOT reference the parts label affixed to the ECU.

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NOTICE

Before attempting an ECU upgrade on any Kia model, make sure to first determine whether the applicable 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.

ROM ID INFORMATION TABLE:

Upgrade Event #696 (15-17MY)

Model	SYSTEM	IMMO 	ECU P/No.	ROM ID	
				Previous	New
PS EV 15-17MY*	BMS	Yes	37513 E4251	4604	4704*
			37513 E4201	4606	4706*

Note: *Perform Event #696 in 'Manual Mode' only.

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.

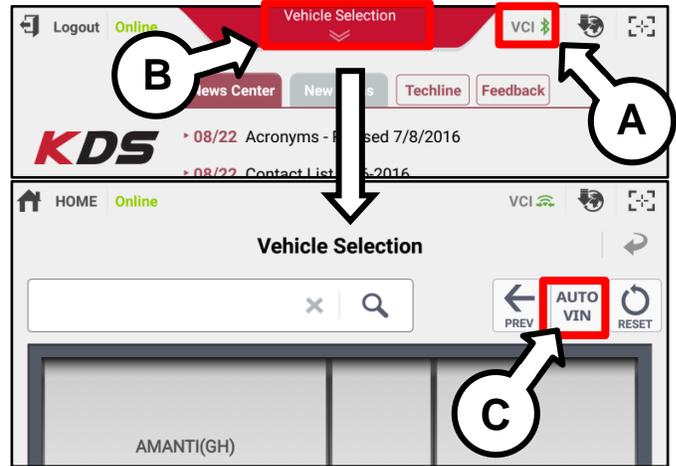


2. With the ignition ON, turn ON the KDS tablet. Select 'KDS' from the home screen.

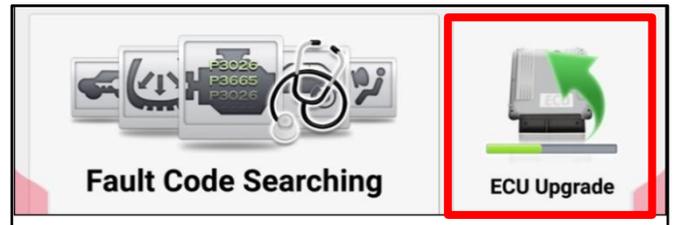


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3. Confirm communication with VCI (A) and then configure the vehicle (B) using the 'AUTO VIN' (C) feature.



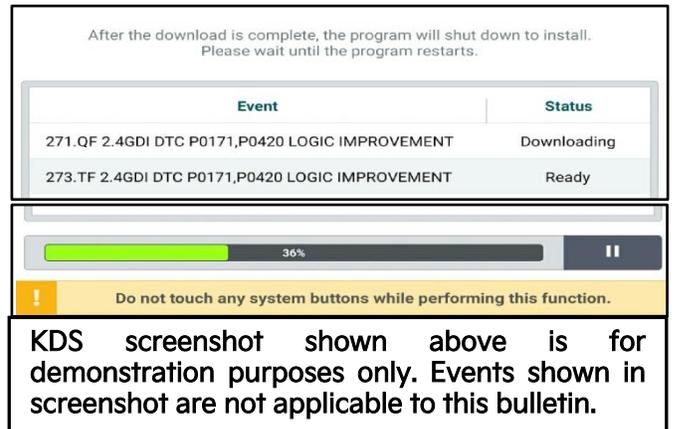
4. Select 'ECU Upgrade'.



5. The KDS will check the server for recently uploaded Events and then automatically download Upgrade Event #697.

NOTICE

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



6. Select 'Manual Mode'

Refer to page 11 for instructions.

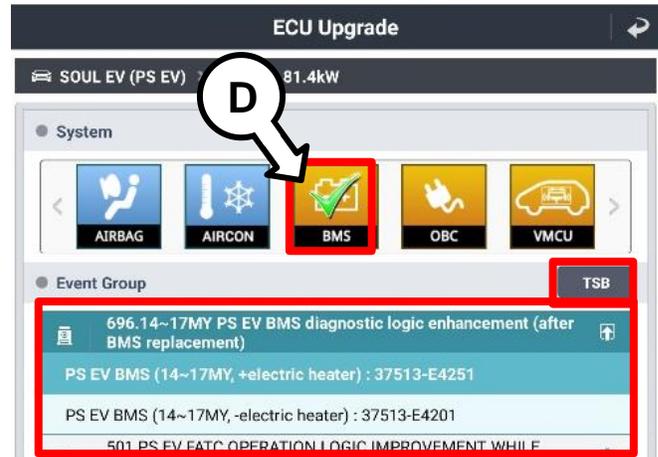


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7. Select 'BMS' system and confirm the applicable Event #696.

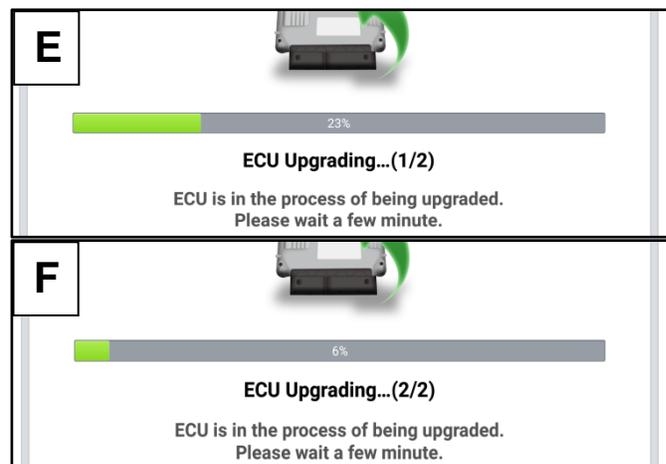
Note: Event #696 for 15-17MY PS EV will not appear in the upgrade events list as it needs to be performed in 'Manual Mode' only.



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

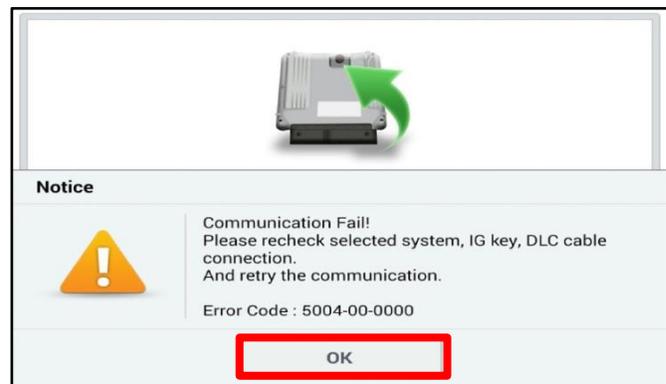
Do not touch the system buttons (like 'Back', 'Home', 'etc.') while performing ECU Upgrade.



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

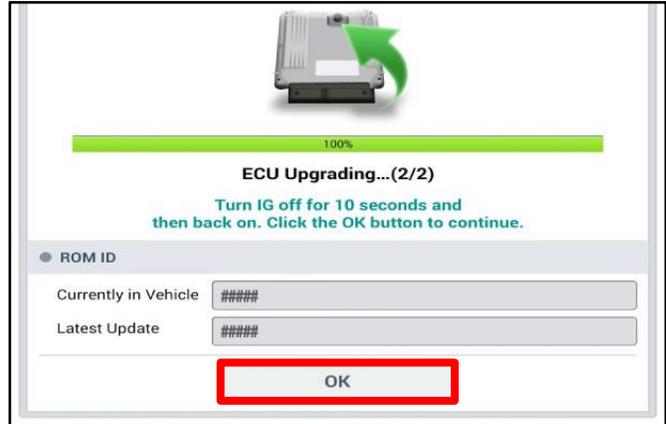
NOTICE

If an error notice continues to appear or if the upgrade cannot be performed, DO NOT disconnect the KDS/VCI-II. Contact GIT America Help Desk at (888) 542-4371 or Techline.



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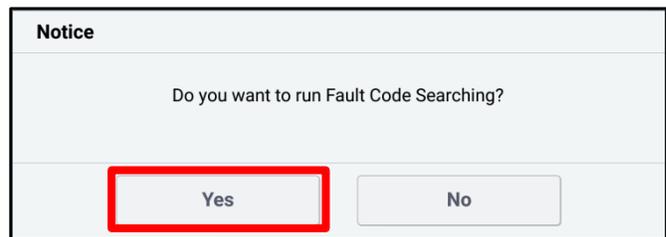
- When instructed on the KDS, turn the ignition **OFF** for ten (10) seconds then back on. Select **'OK'** to continue.



- Once the upgrade is complete, select **'OK'** to finalize the procedure.



- 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.



- Start the engine to confirm normal 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 (15~17MY, +electric heater): 37513-E4251	1524
PS EV BMS (15~17MY, -electric heater): 37513-E4201	3751

Note: *Perform Event #696 in 'Manual Mode' only.

1. Within the ECU Upgrade screen displayed, select **Manual Mode**.
2. Select the '**BMS**' system under the System selection menu. Select **Upgrade Event #696** 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. Select **OK**.
7. Once the upgrade is complete, select **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.

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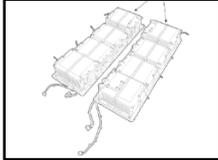
HV BATTERY PACK AND BATTERY MANAGEMENT SYSTEM**AFFECTED VEHICLE RANGE:**

Model	Production Date Range
15-17MY Soul EV (PS EV)	July 15, 2014 to June 30, 2017

REQUIRED TOOL:

Tool Name	Part Number	Figure	Comments
BPA Lifting Jig	OK375 E4300		To be used along with an engine crane/hoist.

REQUIRED PART:

Part Name	Part Number	Figure	Qty.	Comment
Volt. & Temp. Sensor Wire Harness (VTSWH) <i>(New for 15-17MY only)</i>	37561 E4210FFF		1	Left Side
	37561 E4220FFF		1	Right Side
Battery Management System (BMS) <i>(15-17MY only)</i>	37513 E4201FFF		1	Non-Heated
	37513 E4251FFF			Heated
Battery Pack Assembly (BPA)* <i>(15-17MY only are equipped with an original/old VTSWH)</i>	37510 E4202R*		1	Non-heated
	37510 E4252R*			Heated

***Note:** The replacement part numbers will require a VIN entry for parts ordering. DO NOT order these parts for stocking purposes, related to this Campaign. Supply is very limited. Until supply stabilizes, please confirm part availability before scheduling customers.

IMPORTANT: The parts listed below DO NOT required replacement unless damaged or lost during removal.

Case Gasket (15-19MY)	37528 E4000FFF	N/A	1	Replace <u>only</u> if damaged
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SUBJECT:

HV BATTERY PACK AND BATTERY MANAGEMENT SYSTEM**WARRANTY INFORMATION:****N Code: W11 C Code: ZZ4**

MY	Claim Type	Causal P/N	Qty.	Repair Description	Labor Op Code	Op Time	Replacement P/N	Qty.
15-17MY	W	37510 E4000	0	BPA+BMS Replacement +VTSWH Swap + BMS S/W Upgrade	37510F05	3.3 M/H	37561 E4210FFF	1
							37561 E4220FFF	1
							37510 E4202R or 37510 E4252R	1
							37513 E4201FFF or 37513 E4251FFF	1
							37528 E4000FFF*	1

Note: Techline PWA is required for HV BPA replacement. Dealer should follow the process included in TSB ELE044 and obtain TL PWA . Claim submission concerns WILL occur if the dealer does not obtain TL PWA for HV BPA replacement.

