HYUNDAI
Technical Service Bulletin

GROUP **CAMPAIGN**	NUMBER **21-01-008H**
DATE **February 2021**	MODEL(S) **Kona Electric (OS EV)**

SUBJECT: KONA EV INSPECTION AND BMS UPDATE FOR REVISED MONITORING LOGIC APPLICATION (SERVICE CAMPAIGN T5V)

★ IMPORTANT

*****Dealer Stock and Retail Vehicles*****

Dealers must perform this Campaign on all affected vehicles prior to customer retail delivery and whenever an affected vehicle is in the shop for any maintenance or repair.

When a vehicle arrives at the Service Department, access Hyundai Motor America's "Vehicle Information Screen (VIS)" screen via WEBDCS to identify open Campaigns.

Description:

This bulletin provides information related to inspection of KONA Electric (OS EV) vehicles and to perform a BMS (Battery Management System) software update to latest revised level.

★ IMPORTANT

****SPECIAL PROCEDURE****

Carefully follow all steps exactly as provided by the inspection procedures since the BMS update method will depend on the inspection result.

- Check for DTC P1AA600 prior to BMS update as it will require battery replacement.
- Inspect whether the appropriate BMS ROM ID had been installed in the past by Recall 196.
- The result of inspection of the past BMS Update's ROM ID determines what type of GDS ECU Upgrade method is to be used, Auto versus Manual for the BMS Update method.
- When available, you can view the associated training for this campaign in the "My Learning Assignment" window on your home page of the Learning Portal.

Applicable Vehicle:
- 2019-2021 Kona Electric (OS EV)

Warranty Information: (BSA = Battery System Assembly, BMS=Battery Management System)

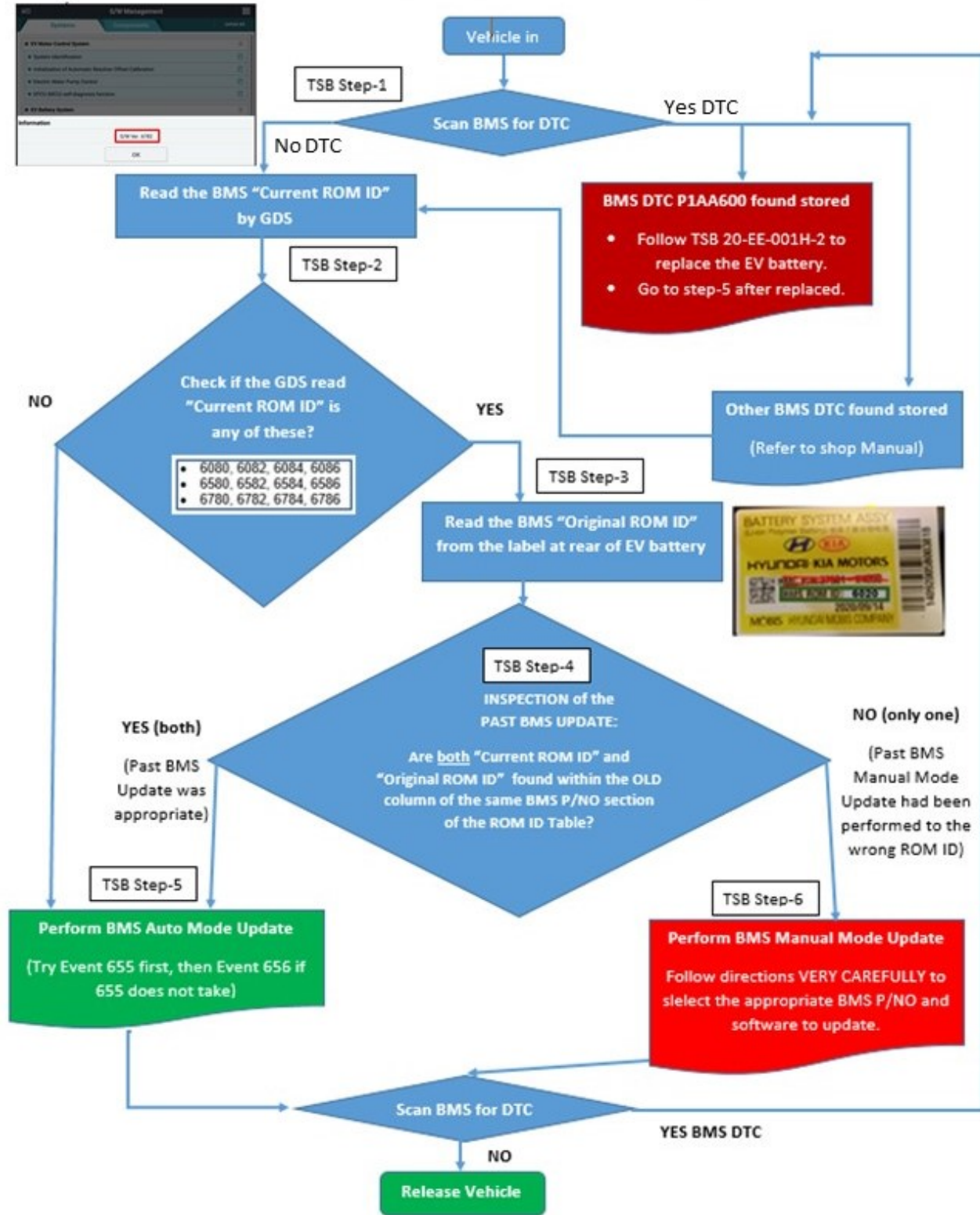| Op Code	Operation	Op Time	Causal Part	Nature Code	Causal Code
00D118RA	Logic upgrade (BMS)	0.3 M/H	37501-K4000QQH	I11	ZZ3
00D118RB	ROM Check + Logic upgrade (BMS)	0.4 M/H	37501-K4000QQH		
00D118RC	ROM Check + BSA Replacement	3.4 M/H	37501-K4000QQH		
00D118RD	ROM Check + BSA Replacement+ Logic upgrade(BMS)	3.7 M/H	37501-K4000QQH		

NOTE 1: Submit Claim on Campaign Claim Entry Screen

NOTE 2: If a part is found in need of replacement while performing Service Campaign T5V, and the affected part is still under warranty, submit a separate claim using the same Repair Order. If the affected part is out of warranty submit a Prior Approval Request for goodwill consideration prior to performing the work.
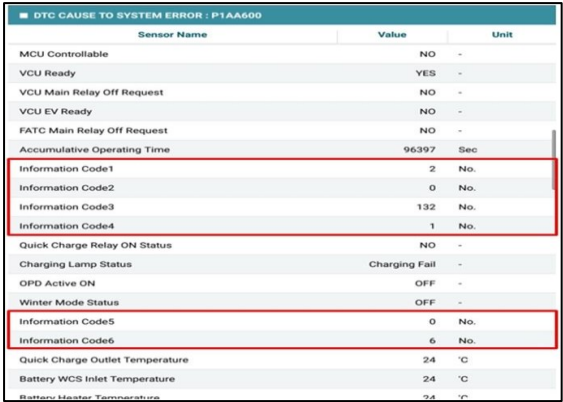

Circulate To: Service Manager, Warranty Manager, Service Advisors, Technicians, Fleet Repair

Service Procedure:

TSB Procedure Summary Flow Chart

(NOTE: Carefully refer to the individual TSB Steps for detailed instructions)

Vehicle in

TSB Step-1

Scan BMS for DTC

No DTC → Yes DTC

BMS DTC P1AA600 found stored
- Follow TSB 20-EE-001H-2 to replace the EV battery.
- Go to step-5 after replaced.

Read the BMS "Current ROM ID" by GDS

TSB Step-2

Check if the GDS read "Current ROM ID" is any of these?
- 6080, 6082, 6084, 6086
- 6580, 6582, 6584, 6586
- 6780, 6782, 6784, 6786

NO → YES

Other BMS DTC found stored
(Refer to shop Manual)

TSB Step-3

Read the BMS "Original ROM ID" from the label at rear of EV battery

TSB Step-4

INSPECTION of the PAST BMS UPDATE:

Are both "Current ROM ID" and "Original ROM ID" found within the OLD column of the same BMS P/NO section of the ROM ID Table?

YES (both)
(Past BMS Update was appropriate)

NO (only one)
(Past BMS Manual Mode Update had been performed to the wrong ROM ID)

TSB Step-5

Perform BMS Auto Mode Update
(Try Event 655 first, then Event 656 if 655 does not take)

TSB Step-6

Perform BMS Manual Mode Update
Follow directions VERY CAREFULLY to slelect the appropriate BMS P/NO and software to update.

Scan BMS for DTC

NO → YES BMS DTC

Release Vehicle

1.	Using GDS scan for DTC found stored in the BMS system. (***NOTE: Do NOT clear BMS DTC***)

BMS DTC Inspection Result:	Next Action:
• **No DTC found**	• Go to next Step-2
• DTC P1AA600	• Collect DTC screen, P1AA600 Freeze Frame Data with Information Codes 1-6 (example shown) and BMS Data Analysis screens. • Follow TSB 20-EE-001-2H or latest revision for EV Battery Replacement procedures. • Proceed to Step-5 to update the BMS in Auto Mode after the battery is replaced.
• Other DTC	• Refer to shop manual for service procedures, then continue to Step-2.

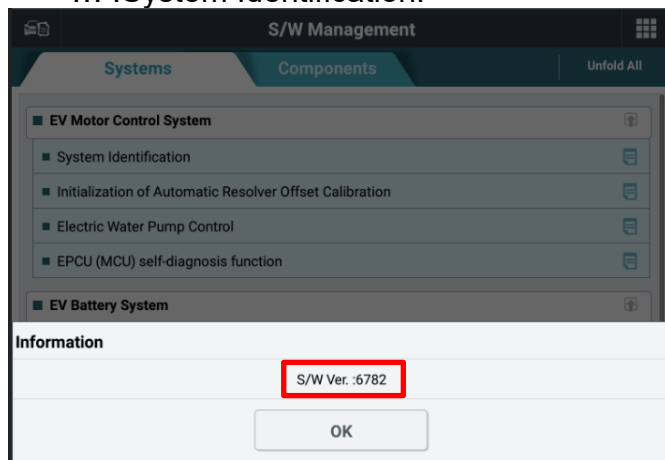| 2.	**Check if the Recall 196 BMS Update was DONE in the past**: Use GDS as shown to check the BMS ROM ID currently in the vehicle. Make a note of it as the "**Current ROM ID**". Result is **Recall 196 was DONE in the past** if the **Current ROM ID** is <u>any</u> of these**:** • 6080, 6082, 6084, 6086 • 6580, 6582, 6584, 6586 • 6780, 6782, 6784, 6786 For any other **Current ROM ID** value that is not in the list above, assume the result is **Recall 196 was NOT performed.**	With GDS select: ..S/W Management …EV Battery System … .System Identification:

Recall 196 Check Result:	Next Action:
• Recall 196 was DONE in the past	• Go to next Step-3
• Recall 196 was NOT performed	• Skip to Step-5 **BMS Auto Mode Update** (Further inspection not required).

3.	**Check the Battery's Original BMS ROM ID:**	Lift-up the vehicle and check the **BMS ROM ID** of the label located at the left-upper rear side of the battery:

Check the Battery's Original BMS ROM ID:

Check the label on the rear of the battery for the BMS ROM ID as shown in the example of the red box and make a note of it as the "**Original ROM ID**".

★ **NOTE**

Ignore the HMC part number above the BMS ROM ID. It is the Battery System Assembly P/N, which is different from the BMS P/N.
Do not use it for the BMS P/NO in the next inspection step and the BMS Update step.

4.	**Inspection whether the past Recall 196 BMS Update result was made to the appropriate ROM ID:**	Example BMS P/NO section of the BMS ROM ID Table:

Inspection whether the past Recall 196 BMS Update result was made to the appropriate ROM ID:

A. Locate the GDS read "**Current ROM ID**" within the OLD column of the **Event #655 ROM ID Table** of pages 6-10.

   NOTE: It will be one of the yellow highlighted **ROM ID** for the past Recall 196.

B. Confirm if the "**Original ROM ID**" from the battery label is also found within the OLD column of the same **BMS P/NO** section of the **ROM ID Table**.

Example BMS P/NO section of the BMS ROM ID Table:

ROM ID Check Result:	Next Action:
• <u>Both</u> **"Current ROM ID"** and "**Original ROM ID**" are found in the same **BMS P/NO** section of the **ROM ID Table.**	• Recall 196 BMS Update was COMPLETED. • Proceed to next Step-5 to perform **BMS Auto Mode Update**.
• The "**Original ROM ID**" is <u>NOT</u> found together in the same BMS P/NO section as the "**Current ROM ID**".	• Recall 196 BMS Update was <u>NOT</u> performed to the appropriate ROM ID in the past. • Skip to Step-6 to perform **BMS Manual Mode Update** to change to the appropriate ROM ID.

GDS Information: (NOTE: Only one of these events will apply)

System	Event #	Description
BMS	**655**	OS EV - IMPROVED MONITORING LOGIC APPLICATION(BMS, LG BATTERY)
BMS	**656**	OS EV - IMPROVED MONITORING LOGIC APPLICATION(BMS, LG BATTERY)(SPECIFIC PRODUCTION PERIOD)

5.

BMS Auto Mode Update:
a) Select ECU Upgrade.
b) Select Auto Mode.
c) Select BMS system.
d) **Select Event #655 first, if it does not take, then try Event#656 next)**
e) Select Upgrade.
f) Follow GDS instructions to complete the ECU Update.
g) Scan for DTC. **Go back to step-1 if DTC P1AA600 was stored in BMS.**
h) Clear DTCs
   The TSB is complete.

6.

BMS Manual Mode Update:
a) **IMPORTANT: The exact BMS P/N must be determined using either method (i) or (ii):**
   i. Locate the "**Original ROM ID**" from the battery label of Step-3 within the **OLD** column of the underline **Event #655 - ROM ID Table**. Then note the applicable **BMS P/NO** found to the left.
   ii. Lookup **BMS P/N** in the Parts catalog for the vehicle's VIN.
b) Select ECU Upgrade.
c) Select Manual Mode.
d) Select BMS system.
e) **Select Event 655 at first, if it does not work to upgrade, try Event 656.**
f) **Scroll and select the BMS P/N.**
g) Select Upgrade.
h) **Enter the Password from the Password Table on the last page based on Event# and BMS P/N.**
i) Follow GDS instructions to complete the ECU Update.
j) Scan for DTC. **Go back to step-1 if DTC P1AA600 was stored in BMS.**
k) Clear DTCs.
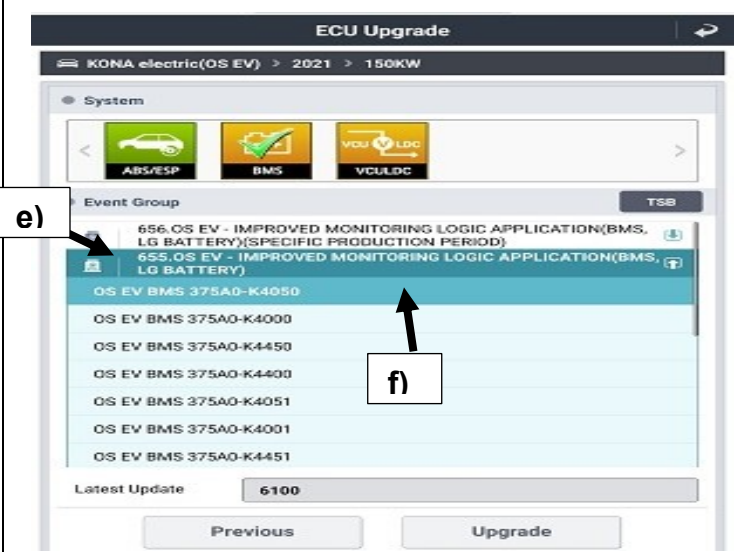   *The TSB is complete.*

BMS ROM ID Table:

1) Event #655:

NOTE: Previous Recall 196 Event shown as follows in the chart: `  6080  `

SYSTEM	P/NO	ROM ID OLD	NEW
BMS	375A0-K4050	5300	6100
		5400	
		5500	
		5700	
		5800	
		5900	
		6000	
		6020	
		6040	
		6050	
		6060	
		6070	
		6080	
		6090	
BMS	375A0-K4000	5302	6102
		5402	
		5502	
		5702	
		5802	
		5902	
		6002	
		6022	
		6042	
		6052	
		6062	
		6072	
		6082	
		6092	

BMS	375A0-K4450	5304	6104
		5404	
		5504	
		5704	
		5804	
		5904	
		6004	
		6024	
		6044	
		6054	
		6064	
		6074	
		6084	
		6094	
BMS	375A0-K4400	5306	6106
		5406	
		5506	
		5706	
		5806	
		5906	
		6006	
		6026	
		6046	
		6056	
		6066	
		6076	
		6086	
		6096	
BMS	375A0-K4051	6200	6600
		6220	
		6240	
		6540	
		6550	
		6560	
		6570	
		6580	
		6590	

BMS	375A0-K4001	6202	6602
		6222	
		6242	
		6542	
		6552	
		6562	
		6572	
		6582	
		6592	
BMS	375A0-K4451	6204	6604
		6224	
		6244	
		6524	
		6544	
		6554	
		6564	
		6574	
		6584	
		6594	
BMS	375A0-K4401	6206	6606
		6226	
		6246	
		6526	
		6546	
		6556	
		6566	
		6576	
		6586	
		6596	
BMS	375A0-K4052	6400	6800
		6500	
		6700	
		6730	
		6740	
		6770	
		6780	
		6790	

BMS	375A0-K4002	6402	6802
		6502	
		6702	
		6732	
		6742	
		6772	
		6782	
		6792	
BMS	375A0-K4452	6504	6804
		6734	
		6744	
		6774	
		6784	
		6794	
BMS	375A0-K4402	6506	6806
		6736	
		6746	
		6776	
		6786	
		6796	
BMS	375A0-K4053	6960	7020
		6980	
BMS	375A0-K4003	6962	7022
		6982	
BMS	375A0-K4453	6964	7024
		6984	
BMS	375A0-K4403	6966	7026
		6986	

2) Event #656:

SYSTEM	P/NO	ROM ID	
		OLD	**NEW**
BMS	375A0-K4052	6400	6900
		6500	
		6700	
		6730	
		6740	
		6770	
		6780	
		6790	
BMS	375A0-K4002	6402	6902
		6502	
		6702	
		6732	
		6742	
		6772	
		6782	
		6792	
BMS	375A0-K4452	6504	6904
		6734	
		6744	
		6774	
		6784	
		6794	
BMS	375A0-K4402	6506	6906
		6736	
		6746	
		6776	
		6786	
		6796	

Manual Mode Password:

Event #655

MENU	P/W
OS EV BMS 375A0-K4050	**4051**
OS EV BMS 375A0-K4000	**4001**
OS EV BMS 375A0-K4450	**4451**
OS EV BMS 375A0-K4400	**4401**
OS EV BMS 375A0-K4051	**4052**
OS EV BMS 375A0-K4001	**4002**
OS EV BMS 375A0-K4451	**4452**
OS EV BMS 375A0-K4401	**4402**
OS EV BMS 375A0-K4052	**4053**
OS EV BMS 375A0-K4002	**4003**
OS EV BMS 375A0-K4452	**4453**
OS EV BMS 375A0-K4402	**4403**

Event #656

MENU	PASSWORD
OS EV BMS 375A0-K4052	0405
OS EV BMS 375A0-K4002	0400
OS EV BMS 375A0-K4452	0445
OS EV BMS 375A0-K4402	0440