	GROUP TRA	MODEL 2013-2015MY Optima Hybrid (TF HEV)
	NUMBER 079	DATE August 2018

TECHNICAL SERVICE BULLETIN

**SUBJECT: SERVICE ACTION: HCU/TCU LOGIC IMPROVEMENT
FOR DTC P1744 (400 MESH EQUIPPED TRANS) (SA351)**

This bulletin provides the procedure to improve the logic of the Hybrid Control Unit (HCU) and the Transmission Control Unit (TCU) on some 2013-2015MY Optima Hybrid (TF HEV) vehicles, produced from September 27, 2012 through September 5, 2014, which may experience a malfunction indicator lamp illumination with DTC P1744. To correct this concern, apply the improved logic to the HCU and TCU using the KDS ECU Upgrade function as described in this bulletin. 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 2 of this bulletin.

DTC P1744 – Transmission Engine Clutch System Performance



Kia Diagnostic System (KDS)

*** NOTICE**

This TSB only applies to vehicles equipped with a 400 Mesh solenoid transmission. For additional information about identifying 400 Mesh Transmissions and/or in the case of an automatic transmission having been replaced with a 100 Mesh solenoid valve equipped unit (from 400 Mesh to 100 Mesh), refer to [TSB TRA059](#).

*** 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 [SA351](#).

File Under: <Transmission>

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

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SERVICE ACTION: HCU/TCU LOGIC IMPROVEMENT FOR DTC P1744 (400 MESH EQUIPPED TRANS) (SA351)

ECU Upgrade Procedure:


To correct this condition, the ECU(s) should be reprogrammed using the KDS ECU Upgrade function, as described in this bulletin.

Upgrade Event Name
335.TF HEV <u>HCU</u> MIL ON DTC (P1744) LOGIC IMPROVEMENT (FOR 400MESH)
336.TF HEV <u>TCU</u> MIL ON DTC (P1744) LOGIC IMPROVEMENT (FOR 400MESH)

* 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. 

ROM ID INFORMATION TABLE:

Upgrade Event 335, 336 (TF HEV)

Model	MY	SYS	IMMO	ECU P/No.	ROM ID	
					Previous	New
TF HEV	13MY	HCU	Yes 	39700-2G104 39700-2G102	GYFEDNEH HS0-C000 GYFEDNEH HS1-C000 GYFEDNEH HS2-C000 GYFEDNEH HS3-C000 GYFEDNEH HS4-C000 GYFEDNEH HS5-C000 GYFEDNEH HS6-C000 GYFEDNEH HS7-C000 GYFEDNEH HS8-C000 GYFEDNEH HS9-C000	GYFEDNEH HSA-C000
	14-15MY			39700-2G120 39700-2G103	GYFEENEH HS0-C000	GYFEENEH HS1-C000
	13MY	TCU	-	39108-2G912 39108-2G915	TTF2H24SA4 TTF2H24SA6	TTF2H24SA9
	14-15MY			39108-2GAN0	TTF2H24SA7	TTF2H24SA9

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

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★ NOTICE

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

- Prior to performing the ECU upgrade(s), verify that the vehicle is equipped with a 400 Mesh transmission by referring to page 2 of [TSB TRA059](#).
 - If the vehicle is equipped with a 400 Mesh transmission, proceed to the next step.
 - If the vehicle is NOT equipped with a 400 Mesh transmission, no further action is required.
- Connect the VCI-II to the OBD-II connector, located under the driver's side of the instrument panel.

★ NOTICE

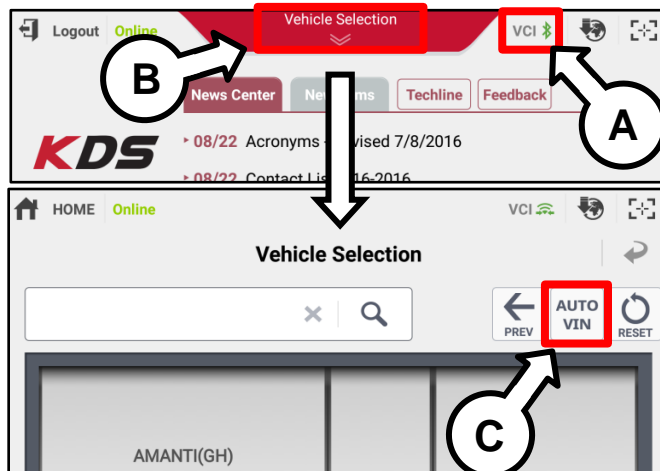
The ECU upgrade function on KDS is operating wirelessly. It is not necessary to perform the upgrade via USB cable.



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

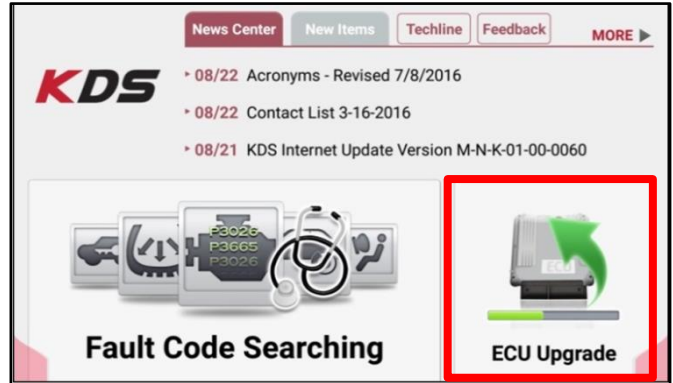


- Confirm communication with VCI (A) and then configure the vehicle (B) using the **AUTO VIN** (C) feature.



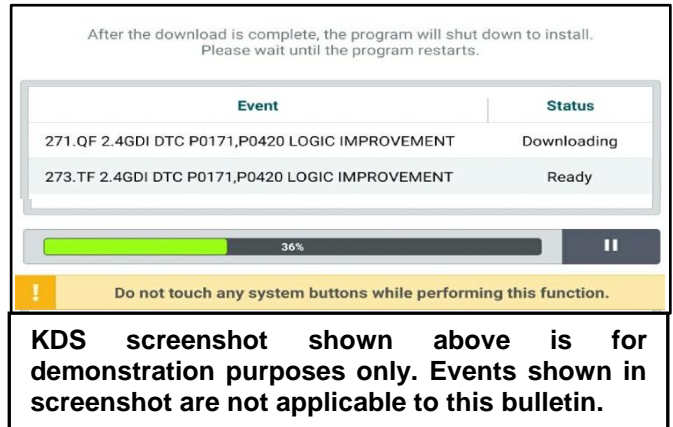
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5. Select **ECU Upgrade**.



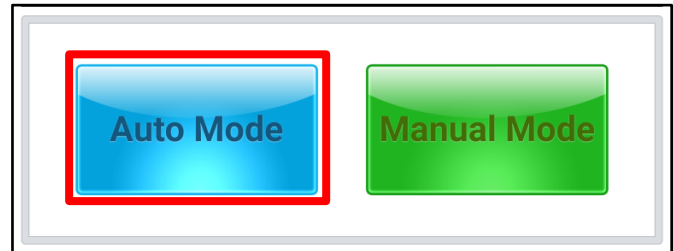
6. The KDS will check the server for recently uploaded Events and then automatically download **Upgrade Events #335 and #336**.

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



7. Select **Auto Mode**.

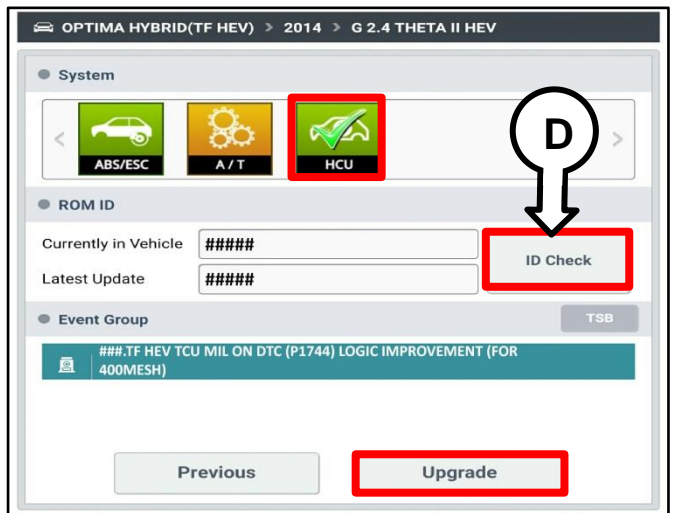
CAUTION
 Do NOT attempt to perform a Manual Mode upgrade UNLESS Auto Mode fails. Always follow the instructions given on the KDS in either Auto or Manual mode.



8. Select the **HCU** system under the System selection menu.

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

Select **Upgrade Event #335** and select **Upgrade** to continue.



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9. 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.

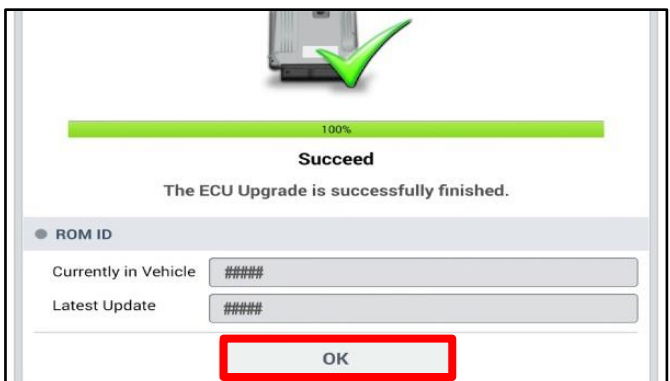
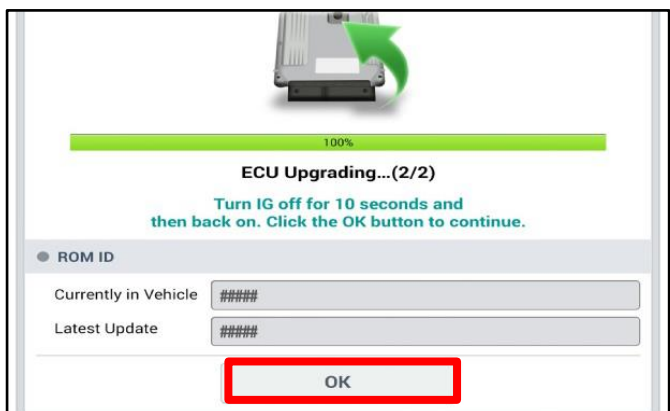
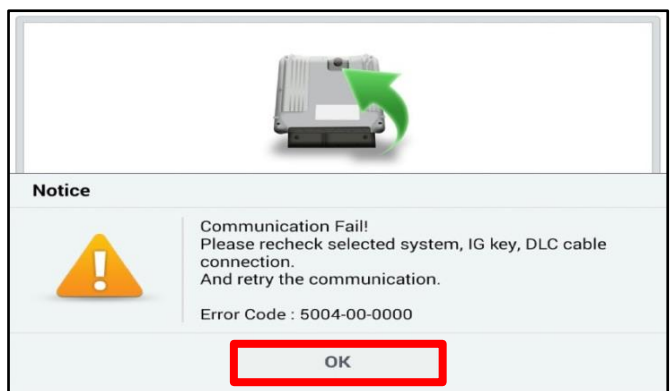
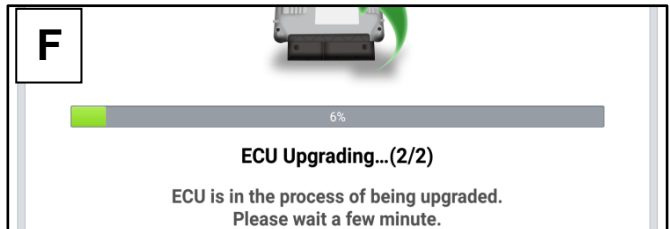
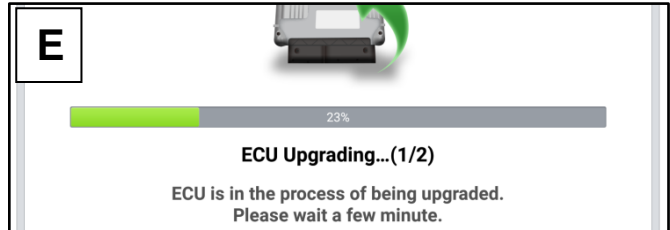
10. If a "Communication Fail" screen appears, verify that the VCI-II and KDS are communicating properly. Touch **OK** and restart the procedure from step 4.

* NOTICE

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

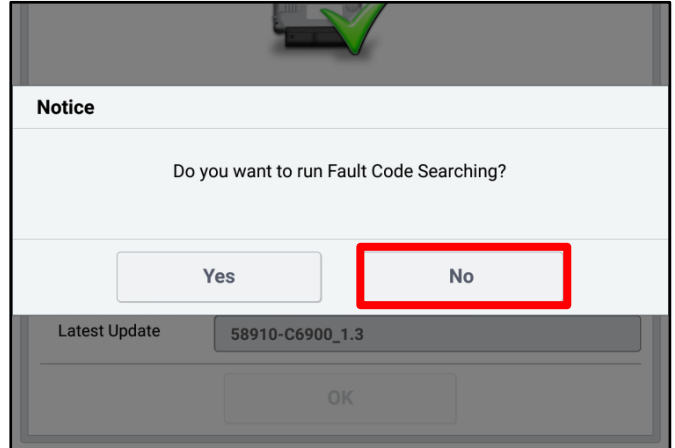
11. When instructed on the KDS, turn the ignition **OFF** for ten (10) seconds then back on. Touch **OK** to continue.

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



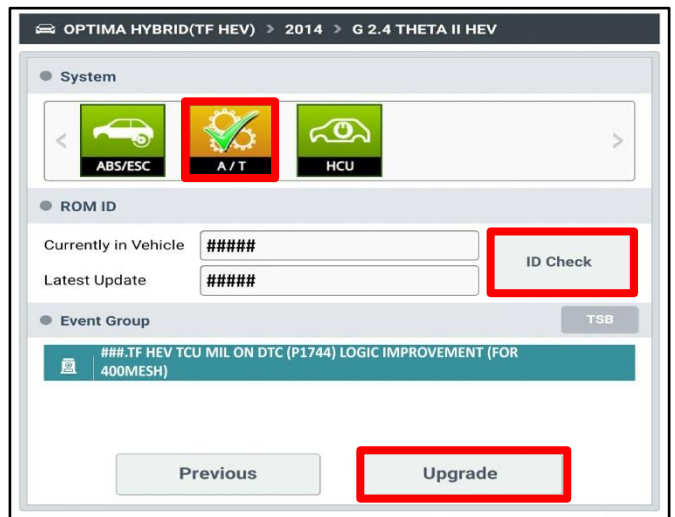
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- When prompted, select **No** for the Diagnostic Trouble Codes (DTC) check, then return to the KDS Home Page and proceed to the next step.

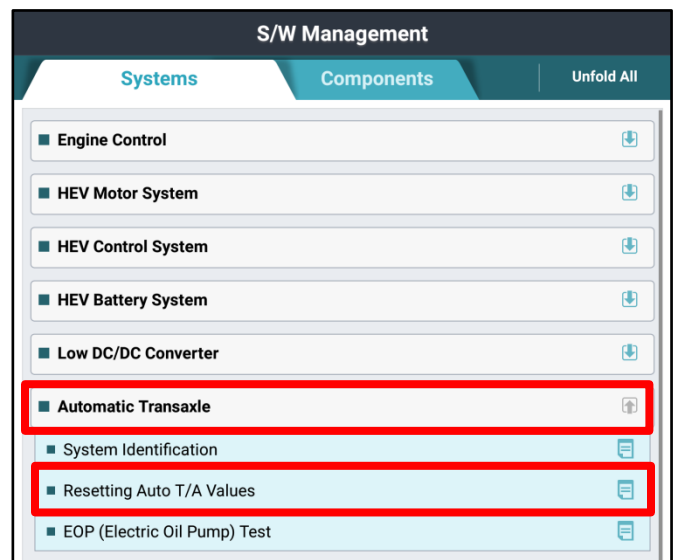


- Repeat steps 4-12 and perform **Upgrade Event #336** with the **A/T** system selected under the System selection menu.

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.



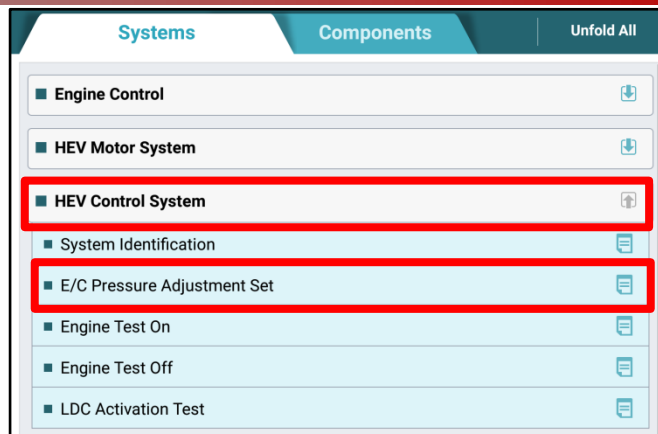
- After completion of the upgrade(s), reset the TCU adaptive values in S/W Management → Automatic Transaxle → Resetting Auto T/A Values.



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16. Perform an Electronic Clutch Fluid Pressure Calibration by returning to the KDS home screen then selecting S/W Management → HEV Control System → E/C Pressure Adjustment.



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

* NOTICE

The TCM adaptive learning drive procedure is not needed for this update.

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.

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Manual Mode ECU Upgrade Passwords

Menu	Password
TF HEV 13MY HCU +IMMO/SMK : 39700-2G104 	2104
TF HEV 14~15MY HCU +IMMO/SMK : 39700-2G120 	2120
TF HEV TCU : 39108-2G912/915/AN0	2915

1. Within the ECU Upgrade screen displayed, select **Manual Mode**.
2. Select the **HCU** system under the System selection menu. Select **Upgrade Event #335** and select **Upgrade** to continue.
3. Select the appropriate control unit part number with reference to the ROM ID Information Table on page 2, 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 **No** for the Diagnostic Trouble Codes (DTC) check, then return to the KDS Home Page and proceed to the next step.
9. Repeat steps 1-6 and perform **Upgrade Event #336** with the **A/T** system selected under the System selection menu.
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.
10. After completion of the upgrade(s), reset the TCU adaptive values in S/W Management → Automatic Transaxle → Resetting Auto T/A Values.
11. Perform an Electronic Clutch Fluid Pressure Calibration by returning to the KDS home screen then selecting S/W Management → HEV Control System → E/C Pressure Adjustment.
12. Start the engine to confirm proper operation of the vehicle.

* NOTICE

The TCM adaptive learning drive procedure is not needed for this update.

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AFFECTED VEHICLE RANGE:

Model	Production Date Range
Optima Hybrid (TF HEV)	September 27, 2012 through September 5, 2014

WARRANTY INFORMATION:

N Code: N99 C Code: C99

Claim Type	Causal P/N	Qty.	Repair Description	Labor Op Code	Op Time	Replacement P/N	Qty.
V	39108 2G912	0	(SA351) Solenoid Valve Type Inspection Only	180085R1	0.2 M/H	N/A	0
V	39108 2G912	0	(SA351) Solenoid Valve Type Inspection (400 Mesh) & HCU + TCU Logic Improvement	180085R0	0.4 M/H	N/A	0

*** NOTICE**

VIN inquiry data for this repair is provided for tracking purposes only. Kia retailers should reference SA351 when accessing the WebDCS system.