



GROUP	MODEL
TRA	2021-2023MY K5 (DL3a) and 2021-2022MY Sorento (MQ4a) w/2.5L T-GDI w/DCT
NUMBER	DATE
101 (Rev 1, 09/02/2022)	August 2022

## TECHNICAL SERVICE BULLETIN

SUBJECT: **SERVICE ACTION: 8-SPEED DUAL CLUTCH TRANSMISSION (DCT) S/W LOGIC IMPROVEMENT (SA502)**

### 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 to update the software logic of the A/T system on certain 2021-2023MY K5 (DL3a) and 2021-2022MY Sorento (MQ4a) vehicles equipped with Theta 2.5L T-GDI engine and 8-Speed DCT. The affected vehicles may exhibit an abnormal shifting condition while driving, due to the amount of clutch oil flow consumption immediately after starting. In some cases, the cluster may display a transmission error message and/or MIL ON with DTC P086800 stored. Follow the procedure outlined in this publication to apply the improved logic to the 'A/T' system 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 3 of this bulletin. Before conducting the procedure, verify that the vehicle is included in the list of affected VINs.

#### DTC Description:

**P086800 - Transmission fluid pressure low.**

Claim Type	Model	Production Date Range
SA502A (Group 1 VINs)	Sorento (MQ4a)	October 26, 2020 to August 11, 2022
	K5 (DL3a)	November 16, 2020 to August 4, 2022
SA502B (Group 2 VINs)	Sorento (MQ4a)	June 21, 2022 to August 24, 2022
	K5 (DL3a)	August 5, 2022 to August 24, 2022

### 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 SA502.**

**ECU Upgrade Procedure:**

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

Upgrade Event Name
612. MQ4a 8DCT GEAR SHIFT LOGIC IMPROVEMENT
613. DL3a 8DCT GEAR SHIFT LOGIC IMPROVEMENT

**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 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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**SERVICE ACTION: 8-SPEED DCT S/W LOGIC IMPROVEMENT (SA502)****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 #612 - Sorento (MQ4a)**

Model	EM	TM	Type	ECU P/No.	ROM ID	
					Previous	New
Sorento (MQ4a)	Theta 2.5L GDI	8SP DCT	SBC	954A0 2N180 954A1 2N180	WMQ4T25XXX700NS0 WMQ4T25XXX700NS1 WMQ4T25XXX720NS2 WMQ4T25XXX720NS3 WMQ4T25XXX720NS4 WMQ4T25XXX730NS5 WMQ4T25XXX800NS6 WMQ4T25XXX800NS7 WMQ4T25XXX800NS8 WMQ4T25XXX832NS9	WMQ4T25XXX900NSB

**Upgrade Event #613 - K5 (DL3a)**

Model	EM	TM	Type	ECU P/No.	ROM ID	
					Previous	New
K5 (DL3a)	Theta 2.5L GDI	8SP DCT	SBC	954A0 2N300 954A1 2N300 954A2 2N000	WDL3T25XXX720NS0 WDL3T25XXX720NS1 WDL3T25XXX730NS2 WDL3T25XXX800NS3 WDL3T25XXX832NS4	WDL3T25XXX900NS6

*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.**



**SUBJECT: SERVICE ACTION: 8-SPEED DCT S/W LOGIC IMPROVEMENT (SA502)**

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

**NOTICE**

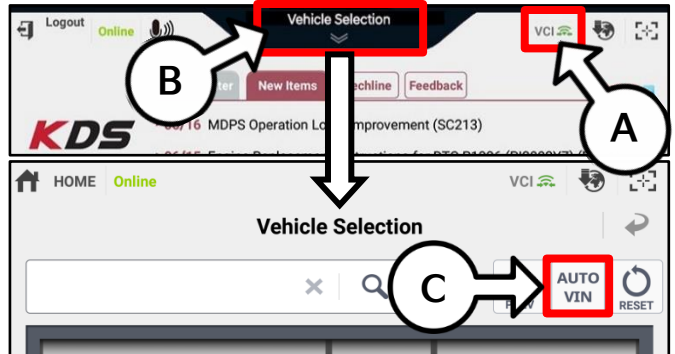
The ECU upgrade function on KDS operates wirelessly. It is not necessary to perform the upgrade via USB cable.



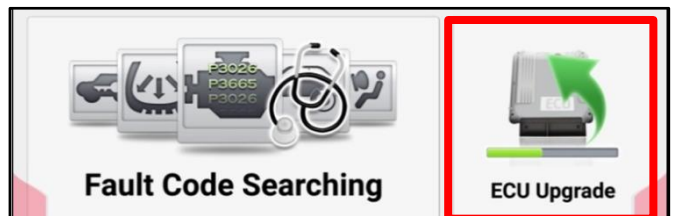
2. With the ignition ON, turn ON the KDS tablet. Select 'KDS' from the home screen.



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



4. Select 'ECU Upgrade'.



5. The KDS will check the server for recently uploaded Events and then automatically download Upgrade Event #612 (MQ4a) or #613 (DL3a).

**NOTICE**

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

After the download is complete, the program will shut down to install. Please wait until the program restarts.

Event	Status
271.QF 2.4GDI DTC P0171,P0420 LOGIC IMPROVEMENT	Downloading
273.TF 2.4GDI DTC P0171,P0420 LOGIC IMPROVEMENT	Ready



Do not touch any system buttons while performing this function.

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



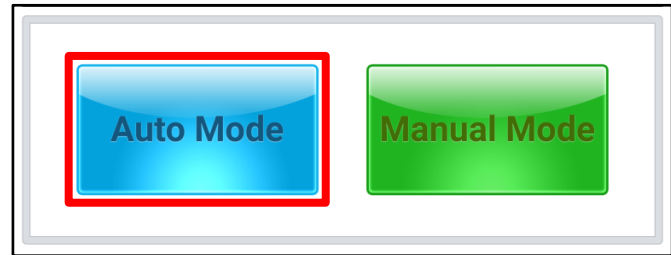
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6. Select Auto Mode.

**CAUTION**

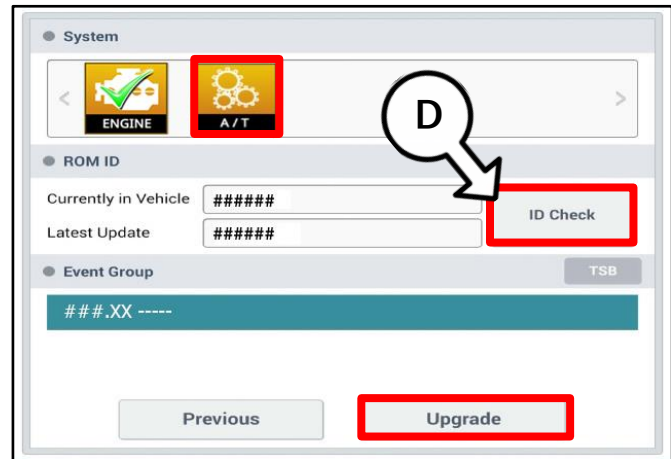
Do NOT attempt to perform a Manual Mode upgrade UNLESS Auto Mode fails. Always follow the instructions given on the KDS in either Auto or Manual mode.



7. Select the A/T system under the System selection menu.

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

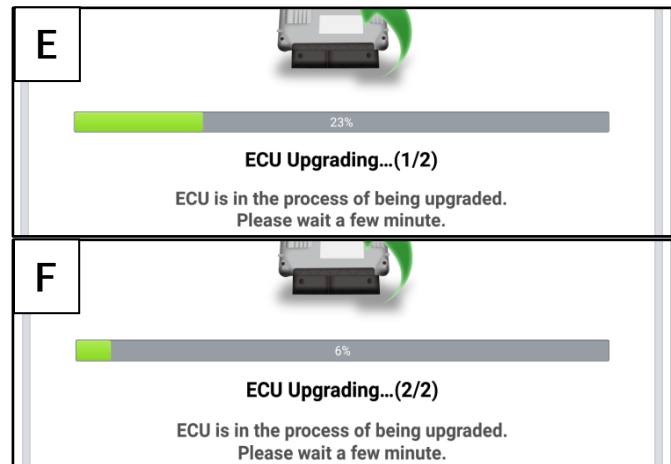
Select Upgrade Event #612 (MQ4a) or #613 (DL3a) and select Upgrade to continue.



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**

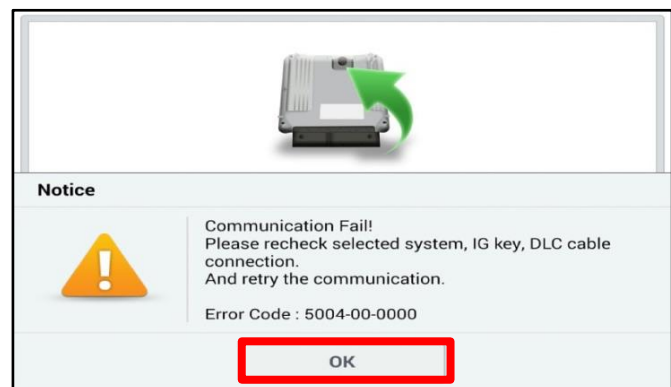
Do not touch the system buttons (like 'Back', 'Home', 'etc.') while performing ECU Upgrade.



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



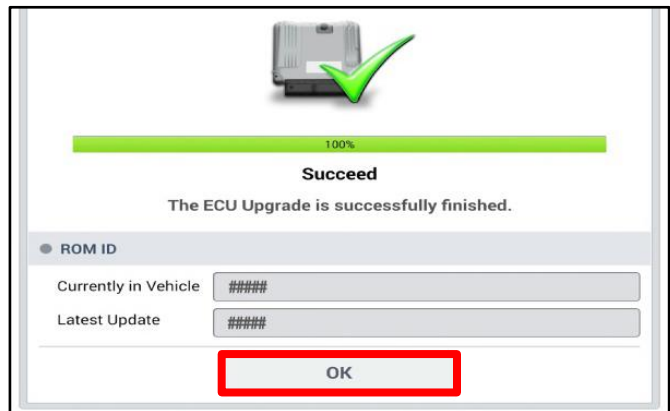
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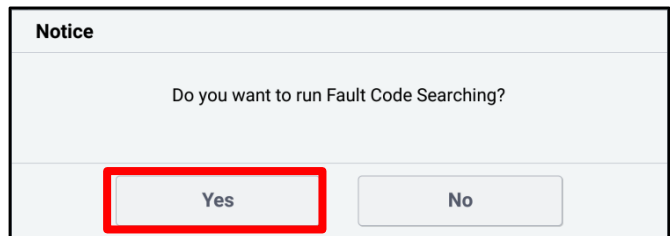
- When instructed on the KDS, turn the ignition OFF for ten (10) seconds then back on. Select 'OK' to continue.



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

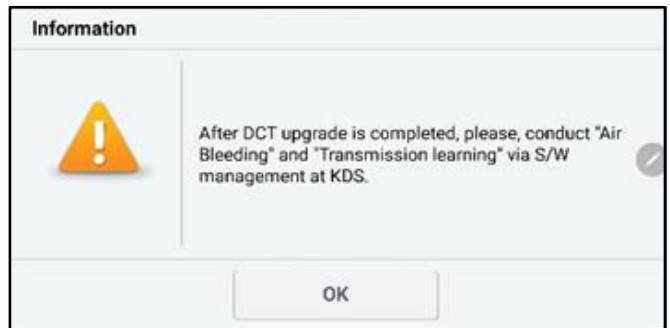


- When prompted, select 'YES' to check for Diagnostic Trouble Codes (DTC) and erase any DTCs stored such as EPS, ESC, and TPMS that may have been set during the upgrade.



- After DCT upgrade is completed, perform the following procedures outlined under 'DCT (Dual Clutch Transmission) System → Dual Clutch Transmission Control System → Repair procedures) in the applicable shop manual on KGIS:

- Air Bleeding (Section 3)
- Transmission Learning (Section 5)
- Touchpoint Curve Learning (Section 6)



- Confirm normal operation.



## Manual Upgrade Procedure:

 NOTICE

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

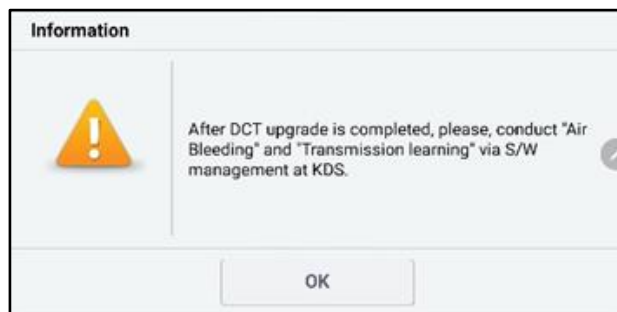
If the automatic upgrade fails, turn the ignition 'OFF' for about 10 seconds then place it back in the 'ON' position to reset the control unit BEFORE performing manual upgrade.

See table below for 'Manual Mode' passwords.

## Manual Mode ECU Upgrade Passwords

Menu	Password
MQ4a Theta 2.5T 8DCT (SBC): 954A0/A1-2N180	2180
DL3a Theta 2.5T 8DCT (SBC): 954A0/A1-2N300	2000

1. Within the ECU Upgrade screen displayed, select **Manual Mode**.
2. Select the **A/T** system under the System selection menu. Select **Upgrade Event #612 (MQ4a) or #613 (DL3a)** 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. After DCT upgrade is completed, perform the following procedures outlined under 'DCT (Dual Clutch Transmission) System → Dual Clutch Transmission Control System → Repair procedures) in the applicable shop manual on KGIS:
  - Air Bleeding (Section 3)
  - Transmission Learning (Section 5)
  - Touchpoint Curve Learning (Section 6)
10. Confirm normal operation.



SUBJECT: **SERVICE ACTION: 8-SPEED DCT S/W LOGIC IMPROVEMENT (SA502)**

**AFFECTED VEHICLE RANGE:**

Group	Model	Production Date Range
Group 1	Sorento (MQ4a)	October 26, 2020 to August 11, 2022
	K5 (DL3a)	November 16, 2020 to August 4, 2022
Group 2	Sorento (MQ4a)	June 21, 2022 to August 24, 2022
	K5 (DL3a)	August 5, 2022 to August 24, 2022

**REQUIRED TOOL:**

Tool Name	Figure	Comments
KDS		Kia Diagnostic System

**WARRANTY INFORMATION:**

**N Code: N99 C Code: C99**

Model	Claim Type	Causal P/N	Qty.	Repair Description	Labor Op Code	Op Time	Replacement P/N	Qty.
MQ4a DL3a	V	954A1 2N180	0	(SA502A) DCT Software Update Group 1 VINs	220A13R1	0.5 M/H	N/A	0
				(SA502B) DCT Software Update Group 2 VINs	220A14R1			

**Note:** Manually enter sublet code 'X2' for reimbursement of one roundtrip rideshare expense or up to three (3) days of rental expense, with supporting documentation.

**NOTICE**

VIN inquiry data for this repair is provided for tracking purposes only. Kia retailers should reference SA502 when accessing the WebDCS system.