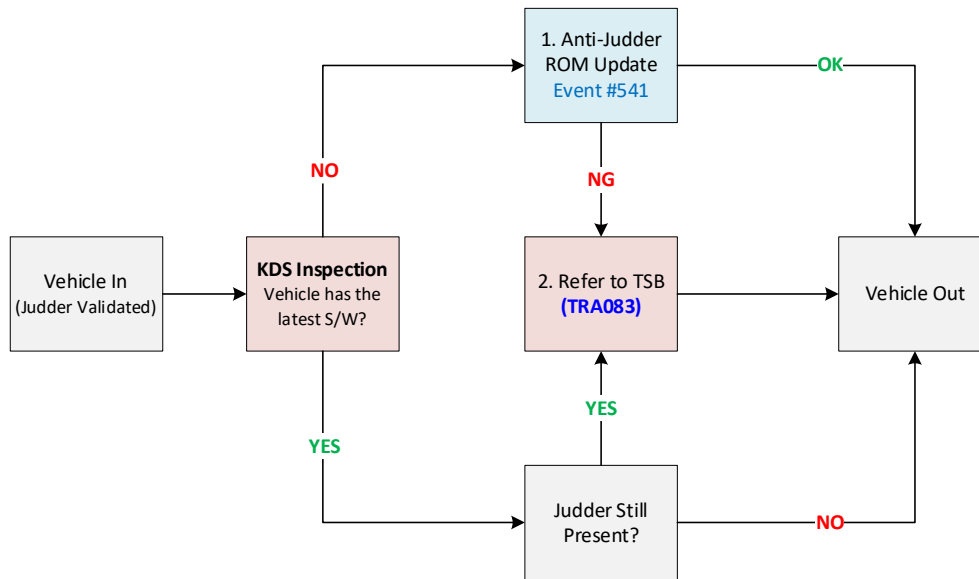|	GROUP	MODEL
	TRA	**2016-2020MY Optima (JFa) w/1.6L T-GDI and 7DCT**
	NUMBER	DATE
	098	**August 2021**

TECHNICAL SERVICE BULLETIN

SUBJECT:

7-SPEED DUAL CLUTCH TRANSMISSION (DCT) ANTI-JUDDER LOGIC IMPROVEMENT

This bulletin provides the procedure to update the software logic of the Dual Clutch Transmission (DCT) system on some 2016-2020MY Optima (JFa) vehicles produced from August 28, 2015 through June 1, 2020, equipped with Gamma 1.6L T-GDI engine and 7-speed DCT, which might exhibit clutch judder when accelerating from a stop. If the vehicle body vibrates without the steering wheel shuddering when performing creep driving test (driving the vehicle up to 3 mph), the vehicle is exhibiting clutch judder. Follow the flowchart on page 2 as needed 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.

Kia Diagnostic System (KDS)

SUBJECT: DUAL CLUTCH TRANSMISSION (DCT) ANTI-JUDDER LOGIC IMPROVEMENT

Procedure Flow Chart:

ECU Upgrade Procedure:

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

Upgrade Event Name
541. JFA GAMMA 1.6TGDI 7DCT CLUTCH ANTI JUDDER 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 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.

SUBJECT: DUAL CLUTCH TRANSMISSION (DCT) ANTI-JUDDER LOGIC IMPROVEMENT

> 📄 **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 #541

Model	Engine	TM	DCT P/No.	ECU P/No.	ECU ROM ID	
					Previous	New
JFa	Gamma 1.6L T-GDI	7DCT	41200 2D101 (F833DS)	95441 2DBE0 95440 2DBE0	DJF0T16NS0 DJF0T16NS1 DJF0T16NS2 DJF0T16NS3 DJF0T16NS4 DJF0T16NS5 DJF0T16N35	DJF0T16N75
			41200 2D200/2D200 (F850)	95441 2DBE1 95440 2DBE1	DJF0T16NS6 DJF0T16NS7 DJF0T16NS8 DJF0T16NS9 DJF0T16N36	DJF0T16N76
				95441 2DBN0 95440 2DBN0	DJF0T16NL0 DJF0T16NL1 DJF0T16N37	DJF0T16N77
				95441 2DBN1 95440 2DBN1	DJF0T16NL2 DJF0T16N38	DJF0T16N78

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.

Printed TSB copy is for reference only; information may be updated at any time. Always refer to KGIS for the latest information.

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SUBJECT: DUAL CLUTCH TRANSMISSION (DCT) ANTI-JUDDER LOGIC IMPROVEMENT

📄 **NOTICE**

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

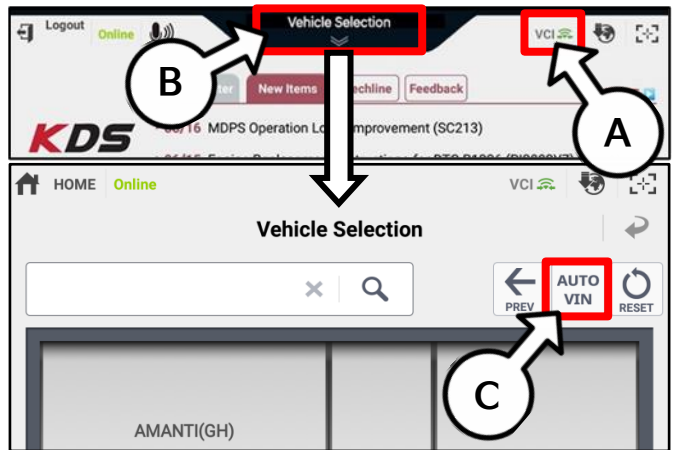1. Connect the VCI-II to the OBD-II connector, located under the driver's side of the instrument panel.

   📄 **NOTICE**

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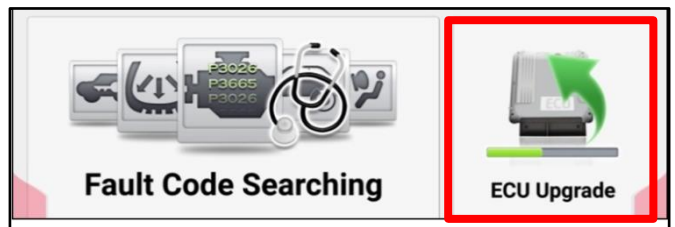

2. With the ignition **ON**, turn ON the KDS tablet. Select **'KDS'** from the home screen.

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

4. Select **'ECU Upgrade'**.

SUBJECT: DUAL CLUTCH TRANSMISSION (DCT) ANTI-JUDDER LOGIC IMPROVEMENT

5. The KDS will check the server for recently uploaded Events and then automatically download **Upgrade Event #541**.

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

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

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

36%

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.

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 #541** 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.**

E — 23%
ECU Upgrading...(1/2)
ECU is in the process of being upgraded. Please wait a few minute.

F — 6%
ECU Upgrading...(2/2)
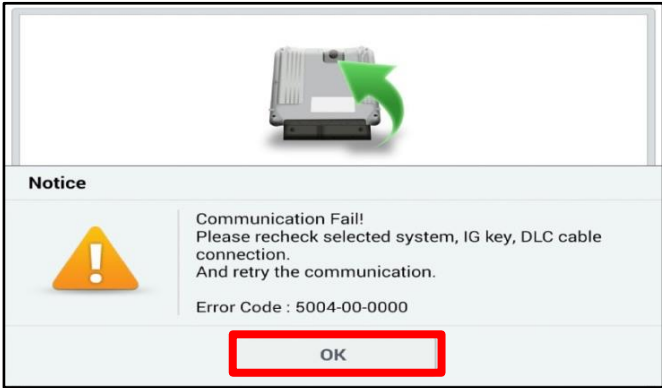ECU is in the process of being upgraded. Please wait a few minute.

Printed TSB copy is for reference only; information may be updated at any time. Always refer to KGIS for the latest information.

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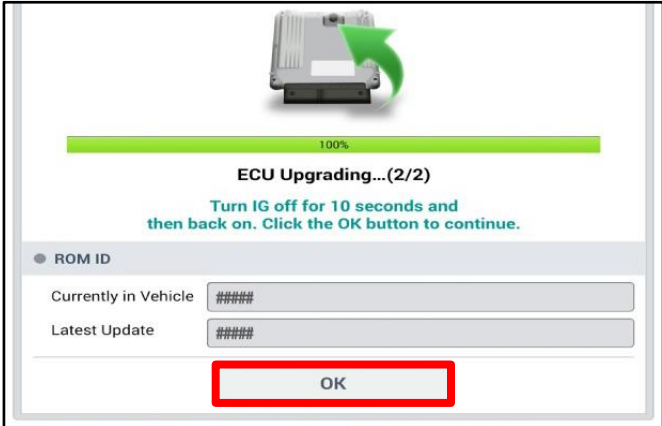**SUBJECT:** DUAL CLUTCH TRANSMISSION (DCT) ANTI-JUDDER LOGIC IMPROVEMENT

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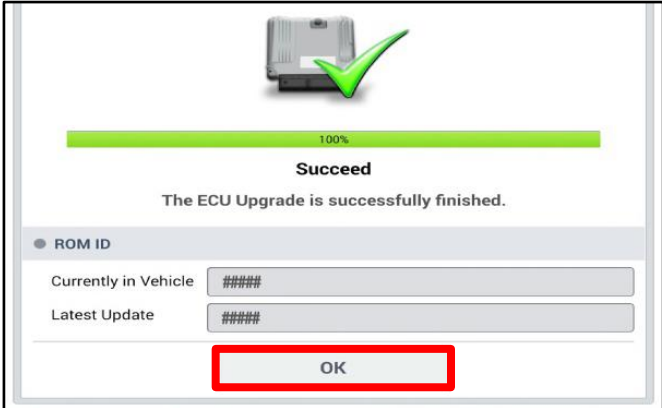
> 📄 **NOTICE**
>
> **If an error notice continues to appear or if the upgrade cannot be performed, DO NOT disconnect the KDS/VCI-II. Contact GIT America Help Desk at (888) 542-4371 or Techline.**
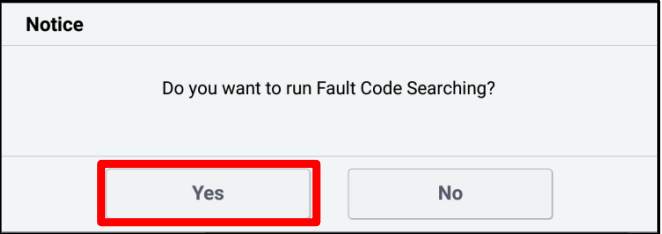

Notice

Communication Fail!
Please recheck selected system, IG key, DLC cable connection.
And retry the communication.

Error Code : 5004-00-0000

OK

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

100%

ECU Upgrading...(2/2)

Turn IG off for 10 seconds and then back on. Click the OK button to continue.

● ROM ID

Currently in Vehicle ####
Latest Update ####

OK

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

100%

Succeed

The ECU Upgrade is successfully finished.

● ROM ID

Currently in Vehicle ####
Latest Update ####

OK

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.

Notice

Do you want to run Fault Code Searching?

Yes   No

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

14. If the clutch judder still exists, follow the procedure in TSB TRA083 to replace the 7 speed dual clutch assembly.

Printed TSB copy is for reference only; information may be updated at any time. Always refer to KGIS for the latest information.

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SUBJECT: DUAL CLUTCH TRANSMISSION (DCT) ANTI-JUDDER LOGIC IMPROVEMENT

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
JFA Gamma 1.6TGDI 7DCT : 95440/1-2DBE0	0210
JFA Gamma 1.6TGDI 7DCT : 95440/1-2DBE1	1210
JFA Gamma 1.6TGDI 7DCT : 95440/1-2DBN0	0211
JFA Gamma 1.6TGDI 7DCT : 95440/1-2DBN1	1211

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

2. Select the **A/T** system under the System selection menu. Select **Upgrade Event #541** and select **Upgrade** to continue.

3. Select the appropriate control unit part number with reference to the ROM ID Information Table on page 4, 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.

10. If the clutch judder is still present after S/W upgrade, refer to TSB TRA083.

Printed TSB copy is for reference only; information may be updated at any time. Always refer to KGIS for the latest information.

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SUBJECT: **DUAL CLUTCH TRANSMISSION (DCT) ANTI-JUDDER LOGIC IMPROVEMENT**

AFFECTED VEHICLE RANGE:

Model	Production Date Range
Optima (JFa)	August 28, 2015 to June 1, 2020

REQUIRED TOOL:

Tool Name	Figure	Comments
KDS		Kia Diagnostic System

WARRANTY INFORMATION:

N Code: I14   C Code: ZZ3

Claim Type	Causal P/N	Qty.	Repair Description	Labor Op Code	Op Time	Replacement P/N	Qty.
W	Refer to EPC for applicable ECU PN	0	DCT Logic Improvement for Clutch Judder	95440F44	0.3 M/H	N/A	0