



GROUP	MODEL
Emissions Service Campaign	2016-2020MY Optima (JFa) w/Theta 2.0L T-GDI ULEV
NUMBER	DATE
SC205	August 2022

VOLUNTARY EMISSIONS SERVICE CAMPAIGN

THETA 2.0L T-GDI ULEV LOGIC IMPROVEMENT FOR EMISSIONS (SC205)

This bulletin provides the procedure to update the emissions-related logic of the Engine Control Unit (ECU) on some 2016-2020MY Optima (JFa) ULEV vehicles, equipped with 2.0L T-GDI Theta engines, produced from April 21, 2015 through May 22, 2020, in order to improve fuel quantity learning to decrease the deterioration of the rear Oxygen Sensor. To correct this condition, apply the improved logic to the Engine 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.



Kia Diagnostic System (KDS)

NOTICE

To assure complete customer satisfaction, always remember to refer to **WebDCS Warranty Coverage (validation) Inquiry Screen (Service → Warranty Coverage → Warranty Coverage Inquiry)** for a list of any additional campaigns that may need to be performed on the vehicle before returning it to the customer.

ECU Upgrade Procedure:

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

Upgrade Event Name
486. JFA THETA 2.0T GDI ULEV EMISSION 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.


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.

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ROM ID INFORMATION TABLE:

Upgrade Event #486

Model	Model Year	TM	IMMO 	ECU P/No.	ROM ID	
					Previous	New
JFa 2.0L T-GDI	2016	6AT	Yes	39108-2GTK5	JFAGNCOERB0A JFAGNCOERB0B JFAGNCOERB4A JFAGNCOERB4K JFAGNCOERB4L	JFAGNCOERB4M
			No	39108-2GTK0	JFAGNCOEMB0A JFAGNCOEMB0B JFAGNCOEMB4A JFAGNCOEMB4K JFAGNCOEMB4L	JFAGNCOEMB4M
	2017		Yes	39108-2GTK6	JFAHNCOERC3A JFAHNCOERC3B JFAHNCOERC3K JFAHNCOERC3L JFAHNCOERC3N	JFAHNCOERC3O
			No	39108-2GTK1	JFAHNCOEMC3A JFAHNCOEMC3B JFAHNCOEMC3K JFAHNCOEMC3L JFAHNCOEMC3N	JFAHNCOEMC3O
	2018		Yes	39108-2GTK7	JFAINCOERCAA JFAINCOERCAB JFAINCOERCAC JFAINCOERCAK JFAINCOERCAL JFAINCOERCAN	JFAINCOERCAO
			No	39108-2GTK2	JFAINCOEMCAA JFAINCOEMCAB JFAINCOEMCAC JFAINCOEMCAK JFAINCOEMCAL JFAINCOEMCAN	JFAINCOEMCAO
	2019		Yes	39161-2GJS0	JPAJNCOERE3A JPAJNCOERE3B JPAJNCOERE3C JPAJNCOERE6D JPAJNCOERG1E JPAJNCOERG1F JPAJNCOERG1G	JPAJNCOERG1H
			No	39161-2GJS5	JPAJNCOEME3A JPAJNCOEME3B JPAJNCOEME3C JPAJNCOEME6D JPAJNCOEMG1E JPAJNCOEMG1F JPAJNCOEMG1G	JPAJNCOEMG1H
	2020		Yes	39161-2GJS1	JPAKNCOERG11 JPAKNCOERG1A JPAKNCOERG1B JPAKNCOERG1C	JPAKNCOERG1D
			No	39161-2GJS6	JPAKNCOEMG11 JPAKNCOEMG1A JPAKNCOEMG1B JPAKNCOEMG1C	JPAKNCOEMG1D

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

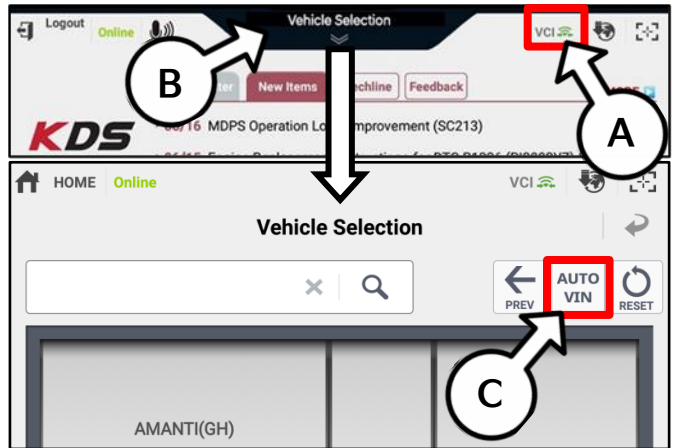
The ECU upgrade function on KDS operates wirelessly. It is not necessary to perform the upgrade via USB cable.



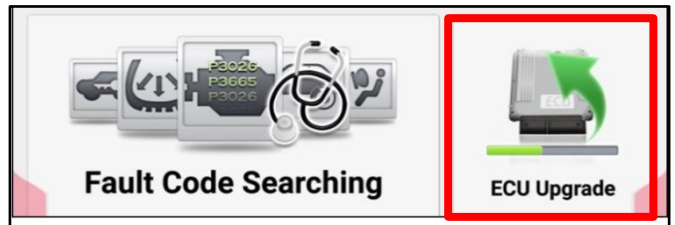
2. With the ignition ON, turn ON the KDS tablet. Select 'KDS' from the home screen.



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



4. Select 'ECU Upgrade'.

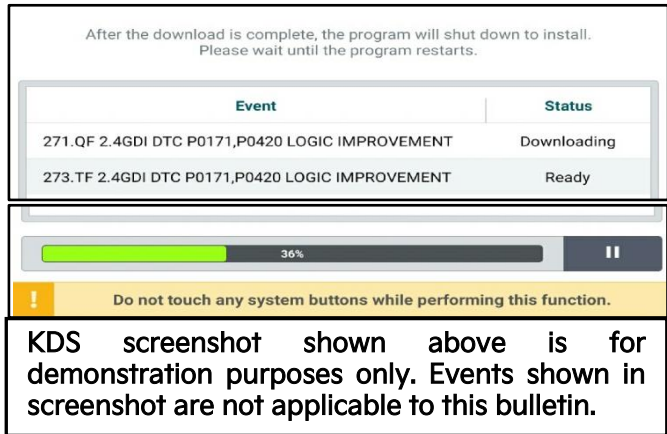


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- The KDS will check the server for recently uploaded Events and then automatically download Upgrade Event #486.

NOTICE

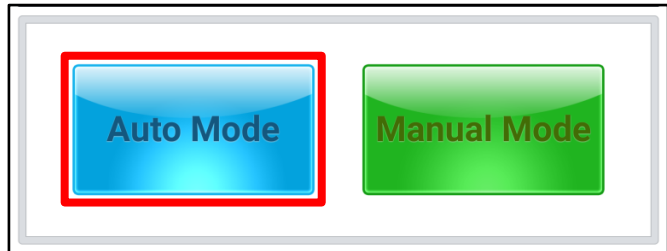
The vehicle must be identified in Vehicle Selection to download an Event for that vehicle.



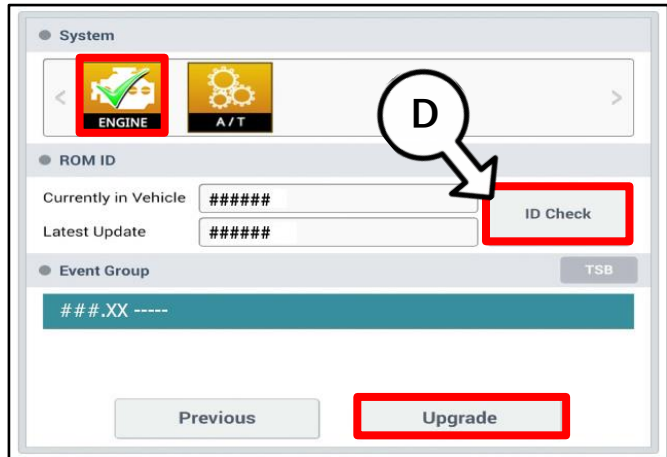
- Select Auto Mode.

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.



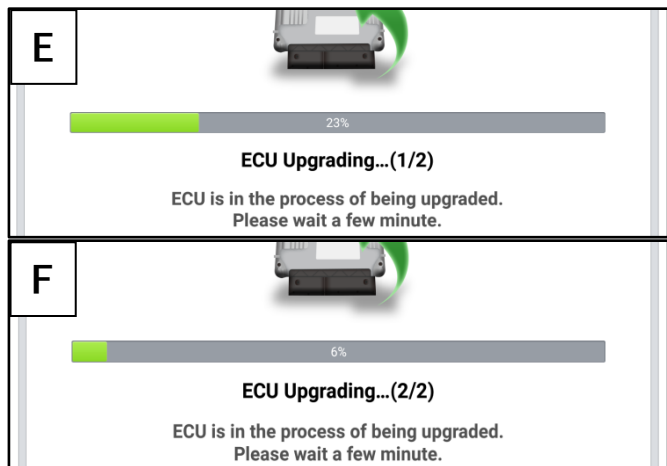
- Select the ENGINE system under the System selection menu. Touch ID Check (D) and confirm that the latest update is available. Select Upgrade Event #486 and select Upgrade to continue.



- 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

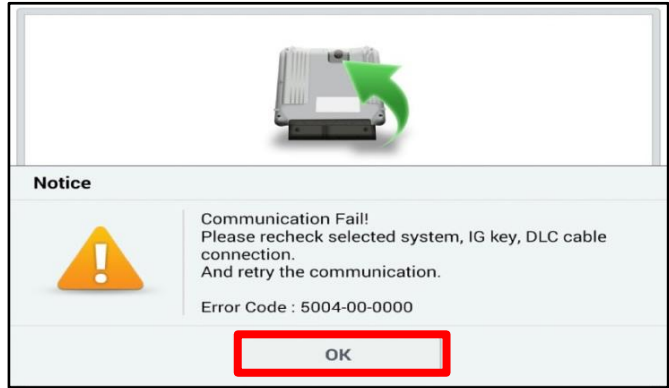
Do not touch the system buttons (like 'Back', 'Home', 'etc.') while performing ECU Upgrade.



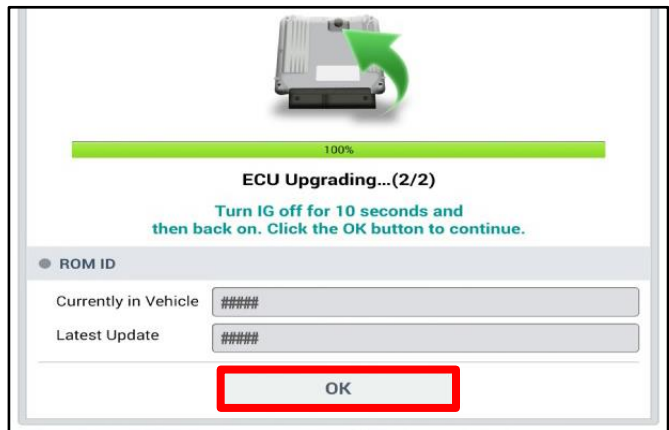
- If a "Communication Fail" screen appears, verify that the VCI-II and KDS are communicating properly. Select 'OK' and restart the procedure from step 4.

NOTICE

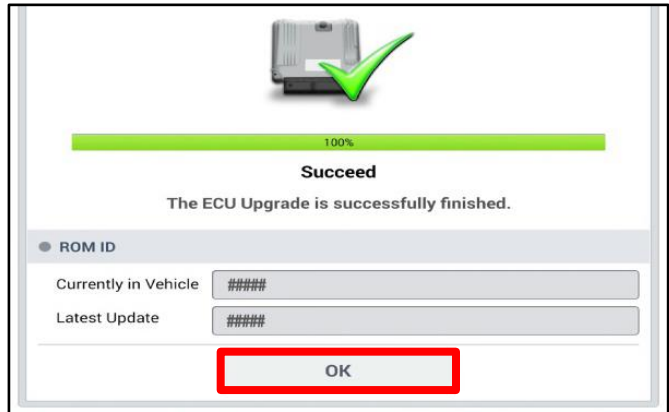
If an error notice continues to appear or if the upgrade cannot be performed, DO NOT disconnect the KDS/VCI-II. Contact GIT America Help Desk at (888) 542-4371 or Techline.



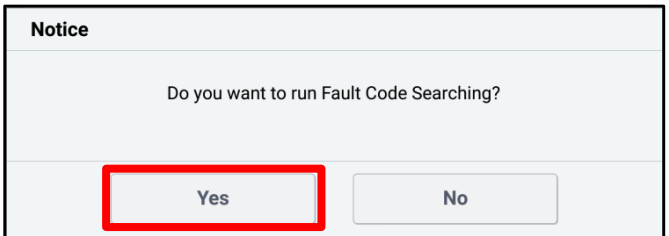
- When instructed on the KDS, turn the ignition OFF for ten (10) seconds then back on. Select 'OK' to continue.



- 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
JFa 2.0 TGDI -IMMO 6AT 16MY(ULEV): 39108-2GTK0	0280
JFa 2.0 TGDI +IMMO/SMK 6AT 16MY(ULEV): 39108-2GTK5	5280
JFa 2.0 TGDI -IMMO 6AT 17MY(ULEV): 39108-2GTK1	1280
JFa 2.0 TGDI +IMMO/SMK 6AT 17MY(ULEV): 39108-2GTK6	6280
JFa 2.0 TGDI -IMMO 6AT 18MY(ULEV): 39108-2GTK2	2280
JFa 2.0 TGDI +IMMO/SMK 6AT 18MY(ULEV): 39108-2GTK7	7280
JFa PE 2.0 TGDI -IMMO 6AT 19MY(ULEV): 39161-2GJS5	5216
JFa PE 2.0 TGDI +IMMO/SMK 6AT 19MY(ULEV): 39161-2GJS0	0216
JFa PE 2.0 TGDI -IMMO 6AT 20MY(ULEV): 39161-2GJS6	6216
JFa PE 2.0 TGDI +IMMO/SMK 6AT 20MY(ULEV): 39161-2GJS1	1216

1. Within the ECU Upgrade screen displayed, select **Manual Mode**.
2. Select the **ENGINE** system under the System selection menu. Select **Upgrade Event #486** 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.

ATTENTION: THE PROOF OF CORRECTION CARD AND CAMPAIGN COMPLETION STICKER ARE RESTRICTED ONLY TO DEALERS IN THE FOLLOWING STATES:

California, Connecticut, Delaware, Massachusetts, Maine, Maryland, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont, and Washington. See Parts Information below to order the Proof of Correction Card and Campaign Completion Label from the PDC.

VEHICLE EMISSION RECALL - PROOF OF CORRECTION CARD

A Vehicle Emission Recall - Proof of Correction card must be filled out for all vehicles registered in California, Connecticut, Delaware, Massachusetts, Maine, Maryland, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont, and Washington. Residents of these states, who own an affected vehicle, will be required to possess a Vehicle Emission Recall - Proof of Correction card as evidence of voluntary service campaign completion, when they apply for vehicle registration renewal.

WHAT TO DO WITH THE CARD:

The Vehicle Emission Recall - Proof of Correction card must be completed by the Dealership's Service Manager using a permanent ink pen. A fine point pen is recommended. When filling in the information, copy the information directly from the vehicle, not the repair order. **ALL INFORMATION MUST BE PRINTED AND NEAT.**

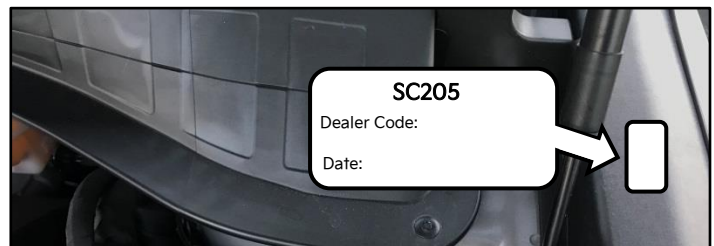
NOTE: DO NOT COMPLETE THE CARD UNLESS THE SERVICE CAMPAIGN WORK IS COMPLETED.

The copy of the card shown below indicates the areas to be filled in. Each area must be filled in. The completed card should be given to the owner of the vehicle upon completion of the Campaign and placement of the Campaign Completion Label outlined below.

FILLING OUT AND APPLYING THE CAMPAIGN COMPLETION LABEL (CA and S.177 STATES ONLY):

The dealer must fill in the Dealer Code and Date information fields on the Campaign Completion Label. Once complete, affix the campaign completion label under the hood of the vehicle, as shown below.

CA and S.177 States Only: Apply SC205 Campaign Completion Label onto the body in the area next to the shock tower, as shown. **NOTE: Be sure to clean the mounting surface to ensure proper label adhesion.**



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AFFECTED VEHICLE RANGE:

Model	Production Date Range
Optima (JFa)	April 21, 2015 to May 22, 2020

REQUIRED TOOL:

Tool Name	Figure	Comments
KDS		Kia Diagnostic System

REQUIRED PART:

Part Name	Part Number	Figure	Qty.
Campaign Completion Label	UT160 SC205*		1
Vehicle Emission Recall Proof of Correction Card	UT161 SC205*		1

*Completion Label and Proof of Correction Card only required for vehicles registered in CA, CT, DE, MA, MD, ME, NJ, NY, OR, PA, RI, VT, and WA "States" only.

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.
JFa (16-18MY)	R	39108 2GTK5	0	(SC205) ECM Logic Improvement	210A01R0	0.3 M/H	N/A	0
JFa (19-20MY)		39161 2GJS0						

 NOTICE

VIN inquiry data for this repair is provided for tracking purposes only. Kia retailers should reference SC205 when accessing the WebDCS system.