



GROUP	MODEL
Safety Recall Campaign	2018-2021MY Stinger (CK) w/2.0L T-GDI ULEV
NUMBER	DATE
SC281	December 2023

## SAFETY RECALL CAMPAIGN

# HIGH-PRESSURE FUEL PUMP INSPECTION/REPLACEMENT AND ECM SOFTWARE UPGRADE (SC281)

SUBJECT:

This bulletin provides information to inspect and, if necessary, replace the high-pressure fuel pump on 2018-2021MY Stinger (CK) vehicles equipped with a Theta 2.0L T-GDI ULEV engine manufactured from September 29, 2017 through January 20, 2021. This bulletin also provides information to upgrade the Limp-Home condition logic of the Engine Control Module (ECM) with an improved version. Misalignment of the fuel control valve plunger in the high-pressure fuel pump of the subject vehicles can result in uneven wear. Over time, this wear can cause the plunger to remain in a stuck open condition. If the plunger remains in the stuck open condition, over-pressurization of the high-pressure fuel pump can occur and may potentially result in the loss of motive power while driving at highway speeds. A loss of motive power increases the risk of a crash. This Technical Service Bulletin (TSB) will be updated with the part and warranty information as soon as it is available so the recall can be completed on vehicles that have a DTC P0088 stored. Before conducting the procedure, verify that the vehicle is included in the list of affected VINs.

### DTC Description:

P0088 - Fuel Rail/System Pressure Too High

#### NOTICE

**There is no charge to the vehicle owner for this repair. Under applicable law, you may not sell or otherwise deliver any affected vehicle until it has been repaired pursuant to the procedures set forth in this bulletin.**

#### NOTICE

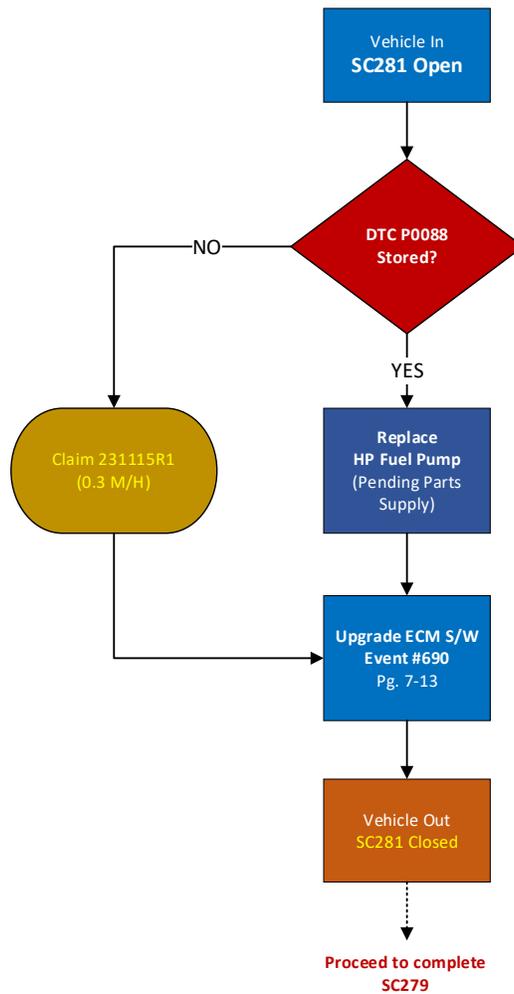
**To assure complete customer satisfaction, always remember to refer to WebDCS Warranty Coverage (validation) Inquiry Screen (Service → Warranty Coverage → Warranty Coverage Inquiry) for a list of any additional campaigns that may need to be performed on the vehicle before returning it to the customer.**

SUBJECT: **HIGH-PRESSURE FUEL PUMP INSPECTION/REPLACEMENT AND ECM SOFTWARE UPGRADE (SC281)**

Flowchart:

**ⓘ IMPORTANT**

**This Safety Recall Campaign (SC281) must be completed first and then simultaneously Voluntary Emissions Service Campaign (SC279) at the time of vehicle's dealer visit.** Follow the flowchart below to scan the vehicle for DTC P0088 before upgrading the ECM software and (if needed) replace the high-pressure fuel pump.



**ⓘ IMPORTANT**

**\*Vehicles requiring the 'High-Pressure Fuel Pump Kit Replacement' will need to be parked until this TSB is revised to include the complete Parts & Warranty Information. DO NOT attempt to complete the repair until this TSB is revised to include the missing information.**

**Note:** After closing SC281 campaign (1<sup>st</sup>) on the affected vehicle, proceed to complete the instructions outlined in SC279 (2<sup>nd</sup>) before releasing the vehicle back to the customer. The affected VIN list is the same for both SC281 & SC279 campaigns.



SUBJECT:

## HIGH-PRESSURE FUEL PUMP INSPECTION/REPLACEMENT AND ECM SOFTWARE UPGRADE (SC281)

### Inspection Procedure:

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

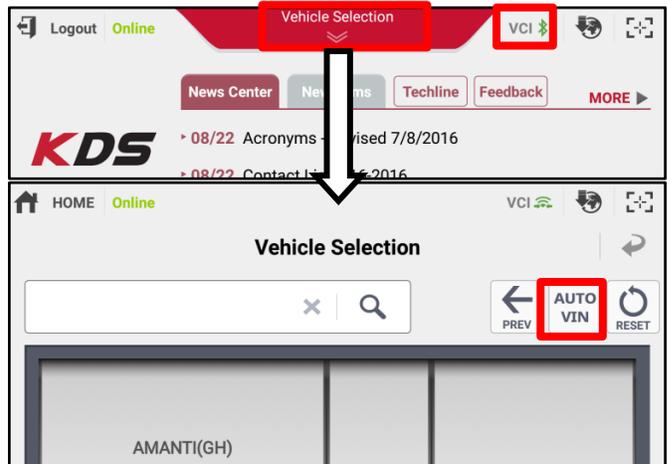


2. With the ignition **ON**, turn ON the KDS tablet. Select 'KDS' from the home screen.



3. Confirm communication with VCI and then configure the vehicle using the 'AUTO VIN' feature.

**Note:** DO NOT upgrade the ECM before completing inspection of DTC(s).



4. Select 'Fault Code Searching'.
  - If DTC P0088 is stored **(NG)**, proceed to the 'Repair Procedure' outlined on page 4.
  - If DTC P0088 is not stored **(OK)**, proceed to 'ECU Upgrade Procedure' outlined on page 6.

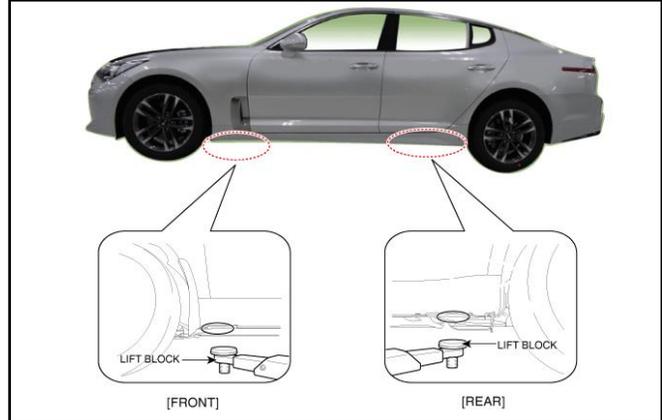


## HIGH-PRESSURE FUEL PUMP INSPECTION/REPLACEMENT AND ECM SOFTWARE UPGRADE (SC281)

### Repair Procedure:

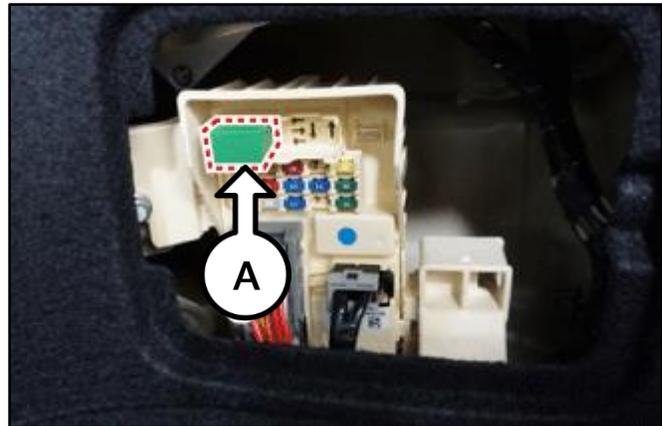
1. Place the vehicle on a hoist.

**Note:** The vehicle is required to be raised and lowered during this repair procedure as coolant will need to be drained as well as allowing access to electrical connectors and parts removal/installation.



2. Refer to "Engine Control / Fuel System → Fuel Delivery System → Release Residual Pressure in Fuel Line" in the applicable Shop Manual on KGIS.

**Note:** Removal of the fuel pump relay (A).



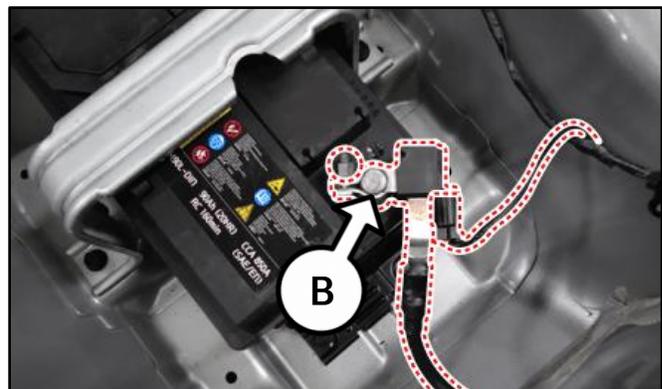
### ⚠ CAUTION

When servicing the high-pressure fuel pump, fuel pipe, and/or related parts, an injury may be caused by the release of highly pressurized fuel after any of the listed parts are removed, immediately after shutting off the engine.

3. Disconnect the battery negative (-) terminal (B) again after releasing residual pressure in fuel line.

### ⚠ CAUTION

Take caution when handling any wire harnesses in future steps, as moving them with force may damage to the connector and/or pull internal pins which can affect vehicle operation.



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## HIGH-PRESSURE FUEL PUMP INSPECTION/REPLACEMENT AND ECM SOFTWARE UPGRADE (SC281)

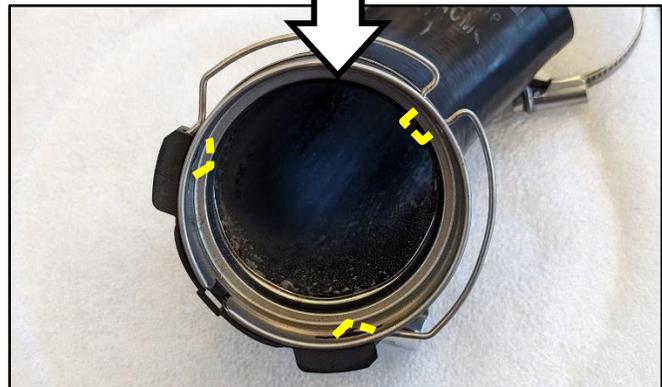
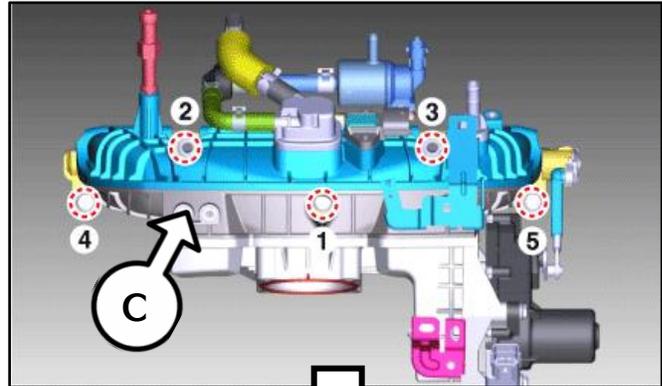
- Remove the intake manifold (C) by referring to "Engine Mechanical System → Intake and Exhaust System → Intake Manifold → Repair procedures" in the applicable Shop Manual on KGIS.

Note: Removal of the alternator assembly was not required as described on KGIS for this procedure.

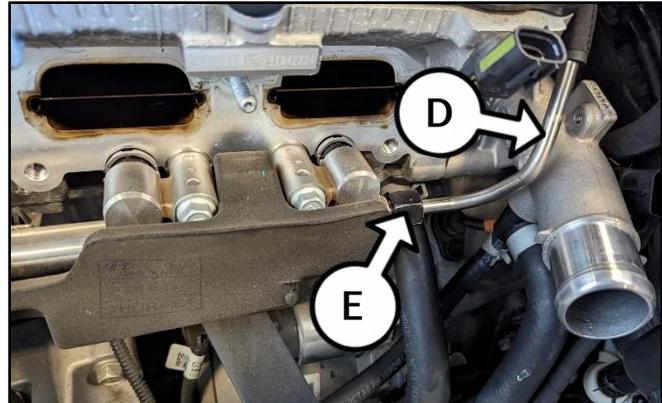
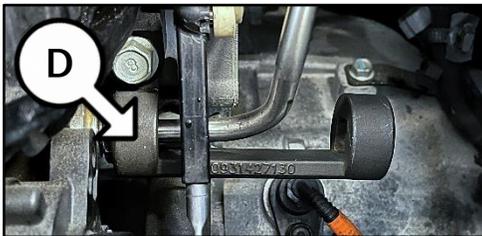


### TECH TIP

Note the location of the (3) locking tab areas. To remove the intercooler outlet hose and pipe assembly, ensure that the retaining clip is completely open as shown before attempting to disconnect the pipe downward.



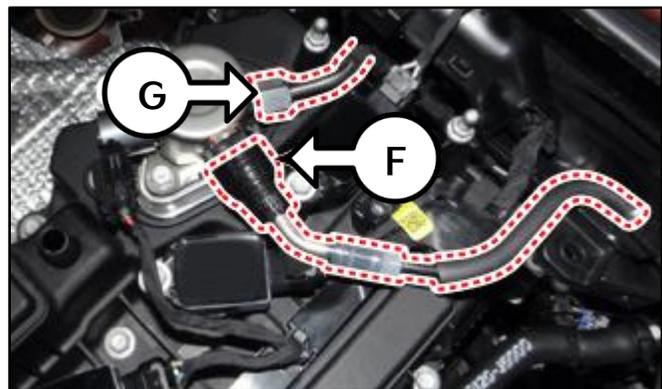
- Locate lower high-pressure fuel pipe (D) bottom flange (E) and loosen it by using SST PN: 09314 27130.



- Disconnect the low-pressure fuel hose (F).
- Loosen the upper end of the high-pressure pipe flange (G).



Tightening torque for high-pressure fuel pipe (D) flange nuts (E) & (G):  
23.9 - 26.0 lb.ft (32.4 - 35.3 N.m)



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# HIGH-PRESSURE FUEL PUMP INSPECTION/REPLACEMENT AND ECM SOFTWARE UPGRADE (SC281)

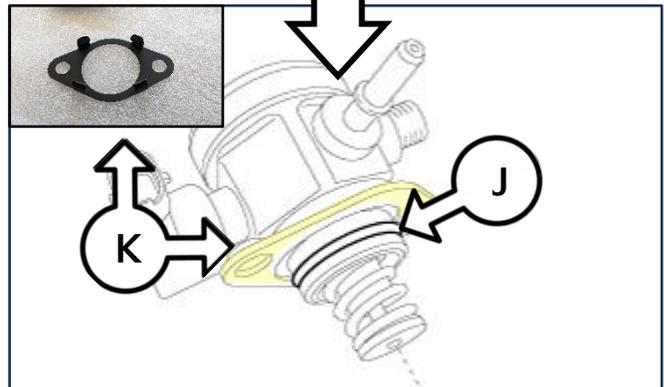
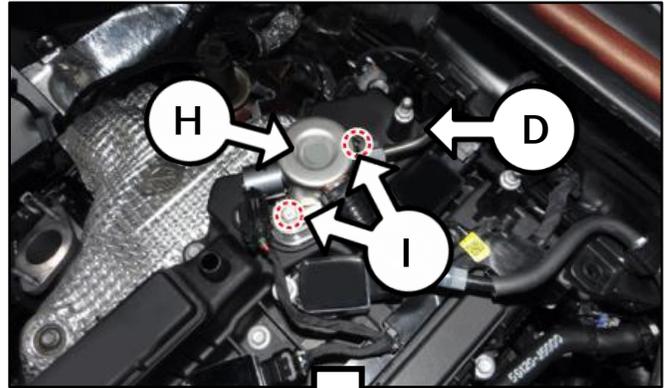
8. Replace the high-pressure pump (H) by removing the two (2) retaining bolts (I).

**Note:** DO NOT reuse the bolts (I). Install (2) new high-pressure fuel pump mounting bolts.



**! CAUTION**

Ensure that the high-pressure pump O-ring (J) and mounting gasket (K) are in place before installing the new part.

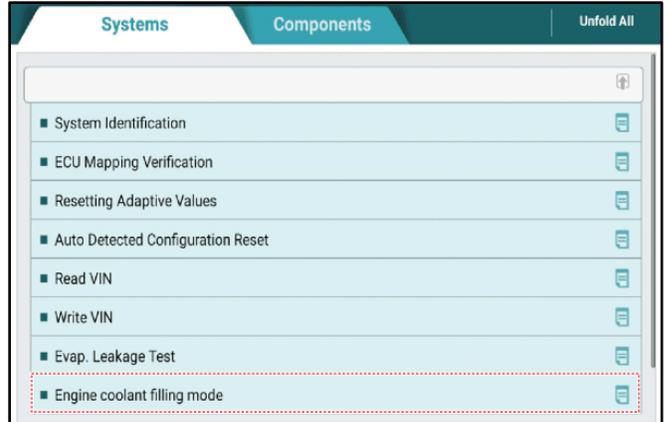


9. Install a new high-pressure fuel pump pipe (D), refer to step 7 for torque specifications.

7. Reinstall ALL other removed parts in the reverse order of removal.

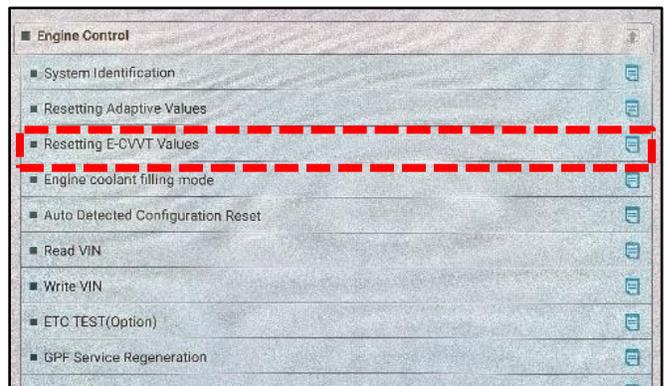
8. Reconnect the battery negative (-) terminal.

9. Refill the engine coolant and refer to the Replacement and Air Bleeding instructions under “Engine Mechanical System → Cooling System → Coolant → Repair procedures” in the applicable Shop Manual on KGIS.



10. Proceed to page 7 to follow the ‘ECU Upgrade Procedure’ and upgrade the ECM software with Event #690.

11. After the software upgrade is completed, perform “Resetting Adaptive Values” in the “KDS → S/W Management” to reset the learning values related IUVP.



12. Confirm normal vehicle operation.



SUBJECT:

## HIGH-PRESSURE FUEL PUMP INSPECTION/REPLACEMENT AND ECM SOFTWARE UPGRADE (SC281)

### ECU Upgrade Procedure:

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

#### Upgrade Event Name

690.CK Theta 2.0TGDI IUVP ECM Improvement and Safety Limp-Home Condition Update (P0088)

#### 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:

## HIGH-PRESSURE FUEL PUMP INSPECTION/REPLACEMENT AND ECM SOFTWARE UPGRADE (SC281)

### 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 #690

Model	SYSTEM	IMMO 	ECU P/No.	ROM ID	
				Previous	New
CK 18MY	ECM	Yes	39100 2CAS0	CKDINCOTSD5A CKDINCOTSDEA CKDINCOTSDEB	CKDINCOTSDEF
			39100 2CAS5	CKDINC0FSD5A CKDINC0FSDEA CKDINC0FSDEB	CKDINC0FSDEF
			39100 2CAS2	CKDINCOTSDEC	CKDINCOTSDEE
			39100 2CAS7	CKDINC0FSDEC	CKDINC0FSDEE
CK 19MY			39100 2CFR0	CKDJNCOTSE3A CKDJNCOTSE3B CKDJNCOTSE5A CKDJNCOTSF0A CKDJNCOTSF0B	CKDJNCOTSF0D
			39101 2CFR0	CKDJNCOTSG2B	CKDJNCOTSG2C
			39100 2CFR5	CKDJNC0FSE3A CKDJNC0FSE3B CKDJNC0FSE5A CKDJNC0FSF0A CKDJNC0FSF0B	CKDJNC0FSF0D
CK 20MY			39101 2CFR5	CKDJNC0FSG2B	CKDJNC0FSG2C
			39100 2CFR1	CKDKNCOTSG2A CKDKNCOTSG2B	CKDKNCOTSG2C
			39101 2CFR1	CKDKNCOTSG2G	CKDKNCOTSG2H
			39100 2CFR6	CKDKNC0FSG2A CKDKNC0FSG2B	CKDKNC0FSG2C
			39101 2CFR6	CKDKNC0FSG2G	CKDKNC0FSG2H
CK 21MY	39100 2CFR2	CKDLNCOTSG2A CKDLNCOTSG2B	CKDLNCOTSG2C		
	39101 2CFR2	CKDLNCOTSG2G CKDLNCOTSG2H	CKDLNCOTSG2J		
	39100 2CFR7	CKDLNC0FSG2A CKDLNC0FSG2B	CKDLNC0FSG2C		
	39101 2CFR7	CKDLNC0FSG2G CKDLNC0FSG2H	CKDLNC0FSG2J		

*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.*

SUBJECT:

# HIGH-PRESSURE FUEL PUMP INSPECTION/REPLACEMENT AND ECM SOFTWARE UPGRADE (SC281)

## 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

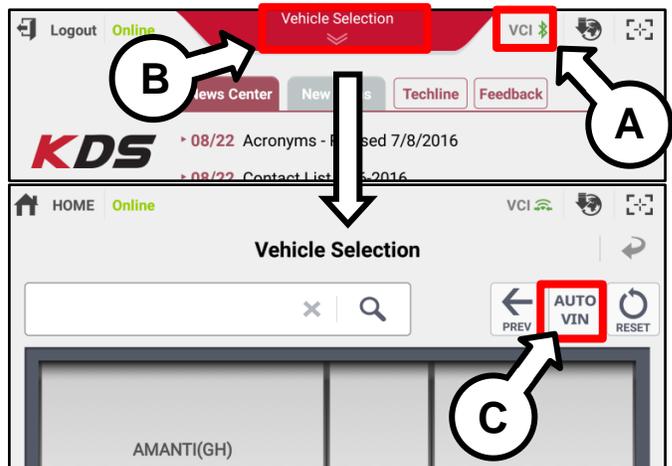
The ECU upgrade function on KDS operates wirelessly. It is not necessary to perform the upgrade via USB cable.



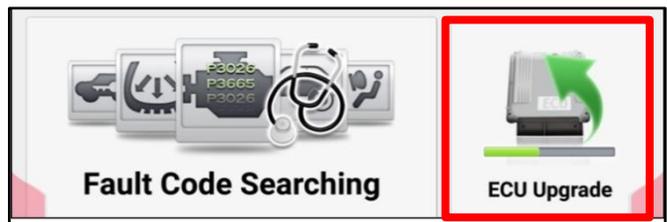
2. With the ignition ON, turn ON the KDS tablet. Select 'KDS' from the home screen.



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



4. Select 'ECU Upgrade'.

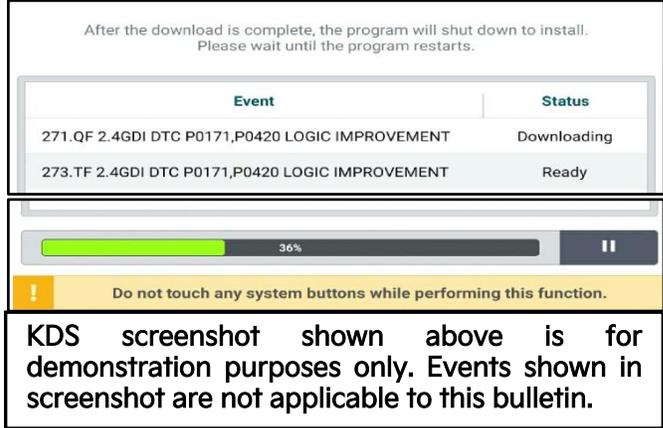


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- The KDS will check the server for recently uploaded Events and then automatically download Upgrade Event #697.

**NOTICE**

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



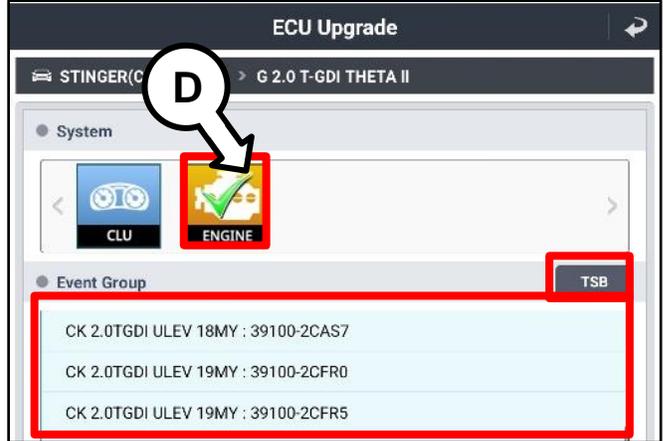
- Select 'Auto Mode'.

**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.



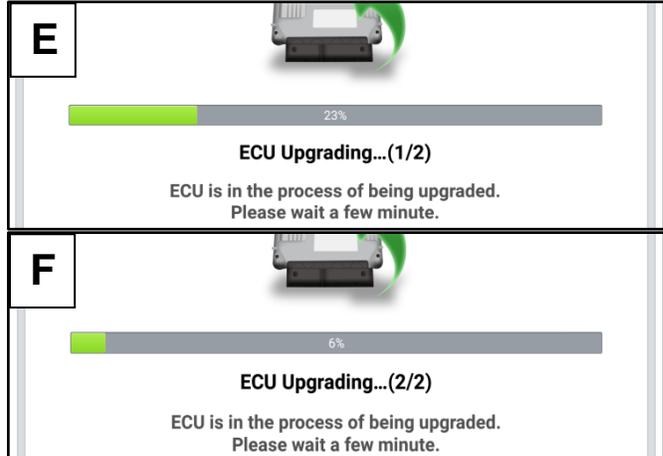
- Select 'ENGINE' system and confirm the applicable 690.CK Theta 2.0TGDI IUVP ECM Improvement and Safety Limp-Home Condition Update (P0088).



- 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.



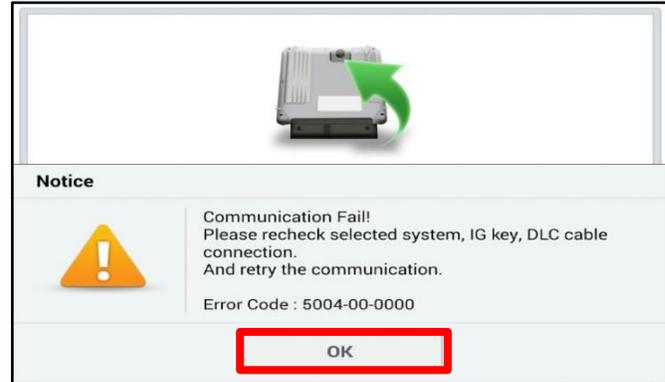
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## HIGH-PRESSURE FUEL PUMP INSPECTION/REPLACEMENT AND ECM SOFTWARE UPGRADE (SC281)

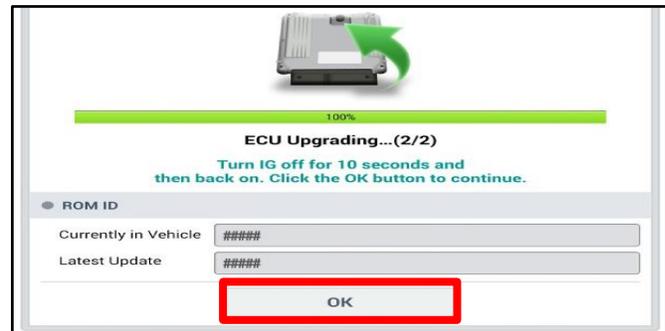
9. If a "Communication Fail" screen appears, verify that the VCI-II and KDS are communicating properly. Select 'OK' and restart the from step 4.

### NOTICE

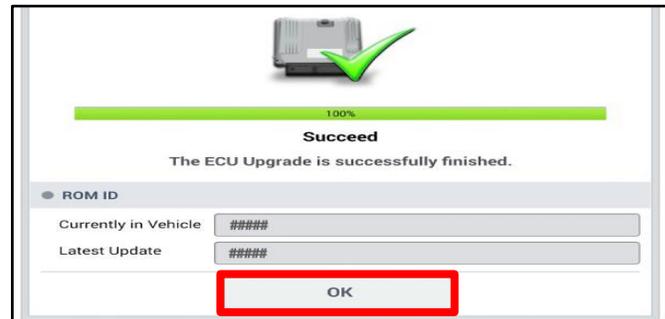
**If an error notice continues to appear or if the upgrade cannot be performed, DO NOT disconnect the KDS/VCI-II. Contact GIT America Help Desk at (888) 542-4371 or Techline.**



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



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



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.



13. After the software upgrade is complete, run "Resetting Adaptation Values" ('S/W Management' → Engine Control) using KDS to clear the learnings.



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

## HIGH-PRESSURE FUEL PUMP INSPECTION/REPLACEMENT AND ECM SOFTWARE UPGRADE (SC281)

### 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
CK 2.0TGDI ULEV 18MY: 39100-2CAS0	6977
CK 2.0TGDI ULEV 18MY: 39100-2CAS5	0469
CK 2.0TGDI ULEV 18MY: 39100-2CAS2	5690
CK 2.0TGDI ULEV 18MY: 39100-2CAS7	6905
CK 2.0TGDI ULEV 19MY: 39100-2CFR0	1071
CK 2.0TGDI ULEV 19MY: 39101-2CFR0	0860
CK 2.0TGDI ULEV 19MY: 39100-2CFR5	6869
CK 2.0TGDI ULEV 19MY: 39101-2CFR5	6970
CK 2.0TGDI ULEV 20MY: 39100-2CFR1	1416
CK 2.0TGDI ULEV 20MY: 39101-2CFR1	2200
CK 2.0TGDI ULEV 20MY: 39100-2CFR6	4922
CK 2.0TGDI ULEV 20MY: 39101-2CFR6	5502
CK 2.0TGDI ULEV 21MY: 39100-2CFR2	4122
CK 2.0TGDI ULEV 21MY: 39101-2CFR2	1622
CK 2.0TGDI ULEV 21MY: 39100-2CFR7	2436
CK 2.0TGDI ULEV 21MY: 39101-2CFR7	6569

1. Within the ECU Upgrade screen displayed, select **Manual Mode**.
2. Select the '**BMS**' system under the System selection menu. Select **Upgrade Event #690** (if Auto-Mode failed) 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.
10. **After the software upgrade is completed**, perform "Resetting Adaptive Values" in the "KDS → S/W Management" to reset the learning values related IUVP.

SUBJECT:

## HIGH-PRESSURE FUEL PUMP INSPECTION/REPLACEMENT AND ECM SOFTWARE UPGRADE (SC281)

### AFFECTED VEHICLE RANGE:

Model	Production Date Range
Stinger (CK) 2.0L T-GDI	September 29, 2017 to January 20, 2021

### REQUIRED PART:

Part Name	Part Number	Figure	Qty.
High-Pressure Fuel Pump and Line Service Kit	TBD		1
<ul style="list-style-type: none"> <li>• High Pressure Fuel Pump</li> <li>• High Pressure Fuel Pipe</li> <li>• Fuel Pump Bolt</li> <li>• Intake Manifold Gasket</li> <li>• ETC-Gasket</li> </ul>	TBD	N/A	1 1 2 1 1
Coolant	TBD	N/A	1

### REQUIRED TOOL:

Tool Name	Figure	Comments
KDS		Kia Diagnostic System

### WARRANTY INFORMATION:

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

MY	Claim Type	Causal P/N	Qty.	Repair Description	Labor Op Code	Op Time	Replacement P/N	Qty.
18-21MY	R	35320 2CTB1	0	(SC281) ECM Software Logic Improvement	231115R1	0.3 M/H	N/A	0
				(SC281) Hi-Pressure Fuel Pump Replacement + ECM Software Upgrade	TBD	N/A	TBD	

**Note:** After closing SC281 campaign (1st) on the affected vehicle, proceed to complete the instructions outlined in SC279 (2nd) before releasing the vehicle back to the customer. The affected VIN list is the same for both SC281 & SC279 campaigns. Refer to Warranty Bulletin 2023-38 for claim submission procedures. **The Technical Service Bulletin (TSB) will be updated with parts and claim information for 'High-Pressure Pump Replacement' as soon as it is available.** When necessary, manually enter sublet code 'X2' for reimbursement of one roundtrip rideshare expense or up to three (3) days of rental for high pressure fuel pump replacement claims (only). All extended rental claims due to part backorder concerns must be substantiated with supporting documentation.

#### NOTICE

VIN inquiry data for this repair is provided for tracking purposes only. Kia retailers should reference **SC281** when accessing the KDealer+ system.

