	GROUP Product Improvement	MODEL 2010-2011MY Forte/Forte Koup (TD) w/2.4L MPI
	NUMBER PI2102	DATE April 2021
PRODUCT IMPROVEMENT CAMPAIGN		
SUBJECT: THETA 2.4L MPI - KNOCK SENSOR DETECTION SYSTEM (KSDS) ECU LOGIC IMPROVEMENT (PI2102)		

This bulletin provides information related to a software update to the Engine Control Unit (ECU) to install the Knock Sensor Detection System (KSDS) in order to protect the engine from excessive connecting rod bearing damage. This update is for the 2010-2011MY Forte/Forte Koup (TD) vehicles equipped with Theta 2.4L MPI engines, produced from February 24, 2009 through May 31, 2011 (Forte) or from June 5, 2009 through May 27, 2011 (Forte Koup).

The KSDS detects vibrations indicating the onset of excessive connecting rod bearing wear. It is designed to alert the driver at an early stage of bearing wear before the occurrence of severe engine damage, including engine failure. If vibrations caused by bearing wear start to occur, the Malfunction Indicator Lamp (MIL) will blink continuously, and the vehicle will be placed in Limp Home Mode. This will reduce further damage to the engine and ensure that the vehicle occupants are not exposed to the risk of a more severe engine failure. At that time, Diagnostic Trouble Code (“DTC”) P1326, specific to the KSDS, will be recorded in the ECU. The vehicle can continue to be operated for a limited time in Limp Home Mode, but it will accelerate slowly and have a reduced maximum speed. Also, engine RPMs will be limited to approximately 1800-2000 RPM.

Kia is requesting the completion of this Product Improvement Campaign on all affected vehicles. **Before conducting the procedure, verify the vehicle is included in the list of affected VINs.** Also, please have your KDS connected to the internet regularly to get the latest software updates available.



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.

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

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

SUBJECT:

THETA 2.4MPI - KNOCK SENSOR DETECTION SYSTEM (KSDS) ECU UPGRADE (PI2102)

ECU Upgrade Procedure:

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

Upgrade Event Name

547. TD THETA 2.4MPI Knock Sensor Detection System (KSDS) ECU UPGRADE (10~11MY)


★ NOTICE

- **Confirm a fully charged battery with 12.3 volts or higher is necessary or the use of 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 done with the ignition key in the 'ON' position unless otherwise stated.
- 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.

SUBJECT:

THETA 2.4MPI - KNOCK SENSOR DETECTION SYSTEM (KSDS) ECU UPGRADE (PI2102)

ROM ID INFORMATION TABLE:

Upgrade Event #547


Model	ENG	TRA	EM	IMMO 	ECU P/No.	ROM ID	
						Previous	New
TD (10MY)	Theta 2.4L	AT	ULEV	Yes	39102 2G340 39102 2G341 39102 2G342	DAC4RH2A DAC4RJ0A DAC4RK1A DAC4RK1B DAC4RK1C DAC4RK5B	DAC4RKKA
				No	39102 2G320 39102 2G321 39102 2G322	DAC4MH2A DAC4MJ0A DAC4MK1A DAC4MK1B DAC4MK1C DAC4MK5B	DAC4MKKA
		SULEV	No	39102 2G330 39102 2G331 39102 2G332	DAS4MH2A DAS4MJ0A DAS4MK1A DAS4MK1B DAS4MK1C DAS4MK5B	DAS4MKKA	
		MT	ULEV	Yes	39112 2G130 39112 2G131 39112 2G132	DAC4RH2A DAC4RJ0A DAC4RK1A DAC4RK1B DAC4RK1C DAC4RK5B	DAC4RK1K
				No	39112 2G120 39112 2G121 39112 2G122	DAC4MH2A DAC4MJ0A DAC4MK1A DAC4MK1B DAC4MK1C DAC4MK5B	DAC4MK1K
		TD Koup (10MY)	Theta 2.4L	AT	ULEV	Yes	39152 2G290 39152 2G291
No	39152 2G270 39152 2G271					CAC4MJ0A CAC4MK1A CAC4MK1B CAC4MK1C CAC4MK5B	CAC4MKKA
SULEV	No			39152 2G280 39152 2G281	CAS4MJ0A CAS4MK1A CAS4MK1B CAS4MK1C CAS4MK5B	CAS4MKKA	
MT	ULEV			Yes	39162 2G280 39162 2G281	CAC4RJ0A CAC4RK1A CAC4RK1B CAC4RK1C CAC4RK5B	CAC4RK1K
		No	39162 2G170 39162 2G171	CAC4MJ0A CAC4MK1A CAC4MK1B CAC4MK1C CAC4MK5B	CAC4MK1K		



SUBJECT:

THETA 2.4MPI - KNOCK SENSOR DETECTION SYSTEM (KSDS) ECU UPGRADE (PI2102)

Upgrade Event #547 (Continued)

Model	ENG	TRA	EM	IMMO 	ECU P/No.	ROM ID			
						Previous	New		
TD (11MY)	Theta 2.4L	AT	ULEV	Yes	39122 2G280	DBC4RM2A DBC4RM2B DBC4RQ0A DBC4RR1A	DBC4RRKA		
				No	39122 2G270	DBC4MM2A DBC4MM2B DBC4MQ0A DBC4MR1A	DBC4MRKA		
			SULEV	Yes	39122 2G300	DBS4RM2A DBS4RM2B DBS4RQ0A DBS4RR1A	DBS4RRKA		
				No	39122 2G290	DBS4MM2A DBS4MM2B DBS4MQ0A DBS4MR1A	DBS4MRKA		
		MT	ULEV	Yes	39142 2G280	DBC4RM2A DBC4RM2B DBC4RQ0A DBC4RR1A	DBC4RR1K		
				No	39142 2G270	DBC4MM2A DBC4MM2B DBC4MQ0A DBC4MR1A	DBC4MR1K		
		TD Koup (11MY)	Theta 2.4L	AT	ULEV	Yes	39182 2G290	CBC4RM2A CBC4RM2B CBC4RQ0A CBC4RR1A	CBC4RRKA
						No	39182 2G270	CBC4MM2A CBC4MM2B CBC4MQ0A CBC4MR1A	CBC4MRKA
SULEV	Yes				39182 2G330	CBS4RM2A CBS4RM2B CBS4RQ0A CBS4RR1A	CBS4RRKA		
	No				39182 2G280	CBS4MM2A CBS4MM2B CBS4MQ0A CBS4MR1A	CBS4MRKA		
MT	ULEV			Yes	39192 2G290	CBC4RM2A CBC4RM2B CBC4RQ0A CBC4RR1A	CBC4RR1K		
				No	39192 2G270	CBC4MM2A CBC4MM2B CBC4MQ0A CBC4MR1A	CBC4MR1K		

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:

THETA 2.4MPI - KNOCK SENSOR DETECTION SYSTEM (KSDS) ECU UPGRADE (PI2102)

★ 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.

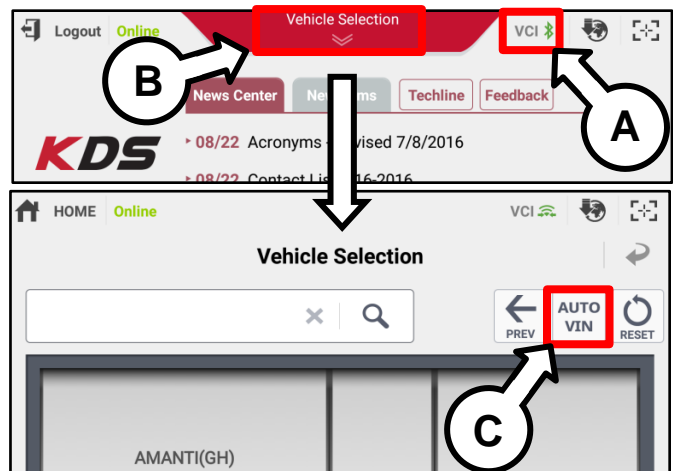
★ NOTICE

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

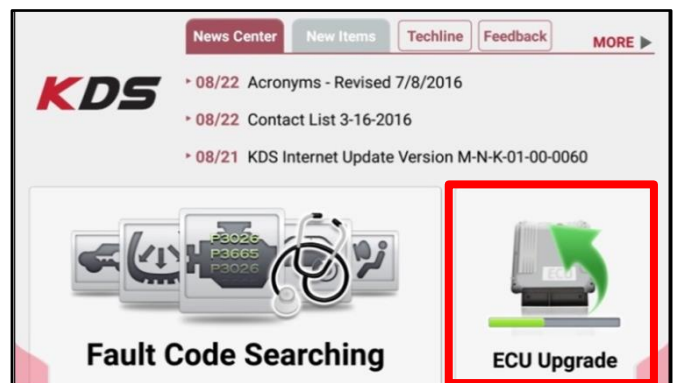
2. With the ignition ON, turn ON the KDS tablet. Select **KDS** from the home screen.



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



4. Select **ECU Upgrade**.



SUBJECT: THETA 2.4MPI - KNOCK SENSOR DETECTION SYSTEM (KSDS) ECU UPGRADE (PI2102)

- The KDS will check the server for recently uploaded Events and then automatically download **Upgrade Event #547**.

*** 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

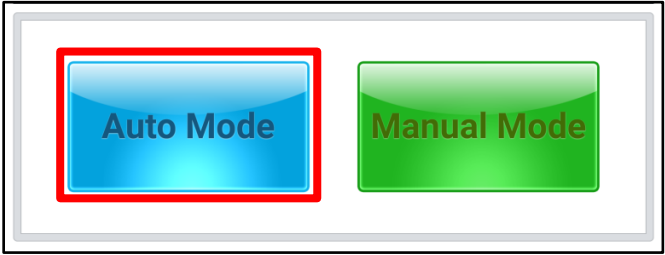
36%

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.

- 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 #547** and select **Upgrade** to continue.

System selection menu showing 'ENGINE' and 'A/T' options. The 'ENGINE' option is highlighted with a red box. Below, the 'ROM ID' section shows 'Currently in Vehicle' and 'Latest Update' fields, both containing '#####'. The 'ID Check' button is highlighted with a red box and labeled with a circled 'D'. At the bottom, the 'Upgrade' button is highlighted with a red box.

- 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.



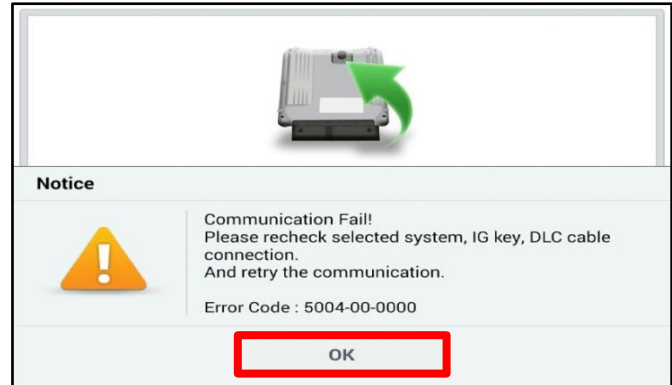
SUBJECT:

THETA 2.4MPI - KNOCK SENSOR DETECTION SYSTEM (KSDS) ECU UPGRADE (PI2102)

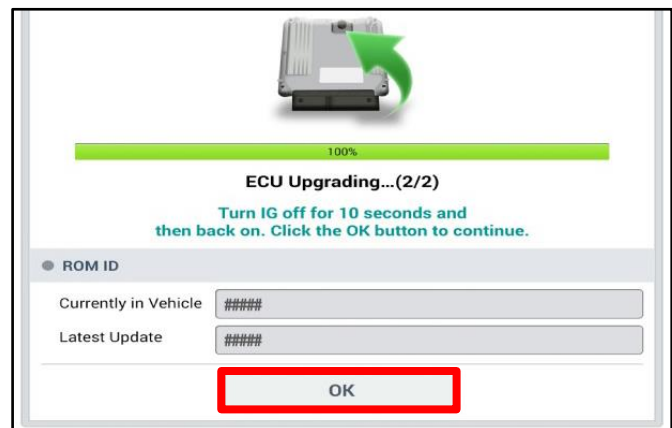
9. If a “Communication Fail” screen appears, verify that the VCI-II and KDS are communicating properly. Touch **OK** and restart the procedure from step 4.

* NOTICE

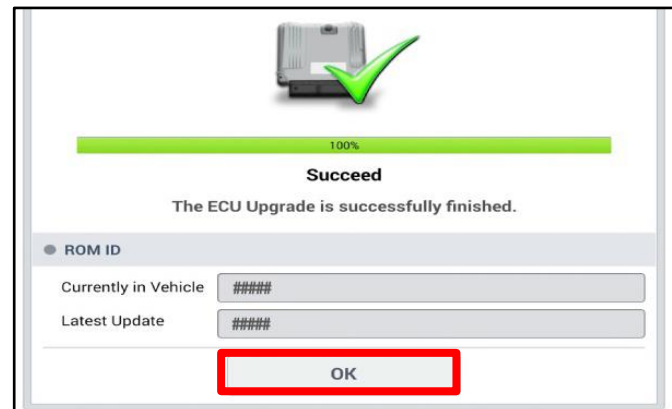
If an error notice continues to appear or if the upgrade cannot be performed, DO NOT disconnect the KDS/VCI-II. Contact GIT America Help Desk at (888) 542-4371 or Techline.



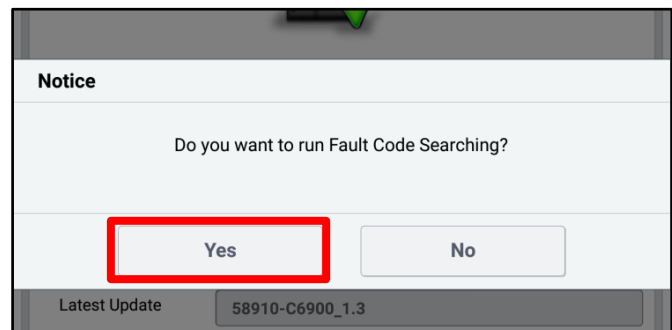
10. When instructed on the KDS, turn the ignition **OFF** for ten (10) seconds then back on. Touch **OK** to continue.



11. Once the upgrade is complete, touch **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. Start the engine to confirm proper operation of the vehicle.

SUBJECT:

THETA 2.4MPI - KNOCK SENSOR DETECTION SYSTEM (KSDS) ECU UPGRADE (PI2102)

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
TD THETA 2.4MPI AT ULEV -IMMO (10MY) : 39102-2G320/21/22	4701
TD THETA 2.4MPI AT ULEV +IMMO/SMK (10MY) : 39102-2G340/41/42	4702
TD THETA 2.4MPI AT SULEV -IMMO (10MY) : 39102-2G330/31/32	4703
TD THETA 2.4MPI MT ULEV -IMMO (10MY) : 39112-2G120/21/22	4704
TD THETA 2.4MPI MT ULEV +IMMO/SMK (10MY) : 39112-2G130/31/32	4705
TD COUPE THETA 2.4MPI AT ULEV -IMMO (10MY) : 39152-2G270/71	4706
TD COUPE THETA 2.4MPI AT ULEV +IMMO/SMK (10MY) : 39152-2G290/91	4707
TD COUPE THETA 2.4MPI AT SULEV -IMMO (10MY) : 39152-2G280/81	4708
TD COUPE THETA 2.4MPI MT ULEV -IMMO (10MY) : 39162-2G170/71	4709
TD COUPE THETA 2.4MPI MT ULEV +IMMO/SMK (10MY) : 39162-2G280/81	4710
TD THETA 2.4MPI AT ULEV -IMMO (11MY) : 39122-2G270	4711
TD THETA 2.4MPI AT ULEV +IMMO/SMK (11MY) : 39122-2G280	4712
TD THETA 2.4MPI AT SULEV -IMMO (11MY) : 39122-2G290	4713
TD THETA 2.4MPI AT SULEV +IMMO/SMK (11MY) : 39122-2G300	4714
TD THETA 2.4MPI MT ULEV -IMMO (11MY) : 39142-2G270	4715
TD THETA 2.4MPI MT ULEV +IMMO/SMK (11MY) : 39142-2G280	4716
TD COUPE THETA 2.4MPI AT ULEV -IMMO (11MY) : 39182-2G270	4717
TD COUPE THETA 2.4MPI AT ULEV +IMMO/SMK (11MY) : 39182-2G290	4718
TD COUPE THETA 2.4MPI AT SULEV -IMMO (11MY) : 39182-2G280	4719
TD COUPE THETA 2.4MPI AT SULEV +IMMO/SMK (11MY) : 39182-2G330	4720
TD COUPE THETA 2.4MPI MT ULEV -IMMO (11MY) : 39192-2G270	4721
TD COUPE THETA 2.4MPI MT ULEV +IMMO/SMK (11MY) : 39192-2G290	4722

SUBJECT:

**THETA 2.4MPI - KNOCK SENSOR DETECTION SYSTEM
(KSDS) ECU UPGRADE (PI2102)**

1. Within the ECU Upgrade screen displayed, select **Manual Mode**.
2. Select the **ENGINE** system under the System selection menu. Select **Upgrade Event #547** and select **Upgrade** to continue.
3. Select the appropriate control unit part number with reference to the ROM ID Information Table on pages 3 and 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. Touch **OK** to continue.
7. Once the upgrade is complete, touch **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.



SUBJECT:

THETA 2.4MPI - KNOCK SENSOR DETECTION SYSTEM
(KSDS) ECU UPGRADE (PI2102)

AFFECTED VEHICLE RANGE:

Model	Production Date Range
Forte (TD)	February 24, 2009 to May 31, 2011
Forte Koup (TD)	June 5, 2009 to May 27, 2011

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.
R	39102 2G090	0	(PI2102) KSDS Logic Improvement (TD)	210043R0	0.3 M/H	N/A	0

*** NOTICE**

VIN inquiry data for this repair is provided for tracking purposes only. Kia retailers should reference PI2102 when accessing the WebDCS system.