	GROUP	MODEL
KIA	**Product Improvement**	**2011-2013MY Sportage (SL) w/2.4L MPI**
	NUMBER	DATE
	PI2103	**April 2021**

PRODUCT IMPROVEMENT CAMPAIGN

SUBJECT: THETA 2.4L MPI - KNOCK SENSOR DETECTION SYSTEM (KSDS) ECU LOGIC IMPROVEMENT (PI2103)

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 certain 2011-2013MY Sportage (SL) vehicles equipped with Theta 2.4L MPI engines, produced from May 6, 2010 through October 7, 2013.

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.

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 (PI2103)

ECU Upgrade Procedure:

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

Upgrade Event Name
548. SL THETA 2.4MPI Knock Sensor Detection System (KSDS) ECU UPGRADE (11,13MY)

✱ NOTICE

- **Confirm a <u>fully charged battery</u> 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.

THETA 2.4MPI - KNOCK SENSOR DETECTION SYSTEM (KSDS) ECU UPGRADE (PI2103)

ROM ID INFORMATION TABLE:

Upgrade Event #548

Model	ENG	TRA	EM	IMMO 🔑	ECU P/No.	ROM ID Previous	ROM ID New
SL (11MY)	Theta 2.4L	AT	ULEV	Yes	39107 2G700	SBC4RL0A SBC4RL0B SBC4RM2A SBC4RM2B SBC4RM2C SBC4RQ0A SBC4RR1A	SBC4RRKA
				No	39107 2G690	SBC4ML0A SBC4ML0B SBC4MM2A SBC4MM2B SBC4MQ0A SBC4MR1A	SBC4MRKA
			SULEV	Yes	39107 2G720	SBS4RL0A SBS4RL0B SBS4RM2A SBS4RQ0A SBS4RR1A	SBS4RRKA
				No	39107 2G710	SBS4ML0A SBS4ML0B SBS4MM2A SBS4MQ0A SBS4MR1A	SBS4MRKA
		MT	ULEV	Yes	39117 2G700	SBC4RL0A SBC4RL0B SBC4RM2A SBC4RM2B SBC4RM2C SBC4RQ0A SBC4RR1A	SBC4RR1K
				No	39117 2G690	SBC4ML0A SBC4ML0B SBC4MM2A SBC4MM2B SBC4MQ0A SBC4MR1A	SBC4MR1K
SL (12MY)		AT	ULEV	Yes	39107 2G701	SCC4RP1A SCC4RP4A SCC4RQ0A SCC4RR1A	SCC4RRKA
				No	39107 2G691	SCC4MP1A SCC4MP4A SCC4MQ0A SCC4MR1A	SCC4MRKA
			SULEV	Yes	39107 2G721	SCS4RP1A SCS4RP4A SCS4RQ0A SCS4RR1A	SCS4RRKA
				No	39107 2G711	SCS4MP1A SCS4MP4A SCS4MQ0A SCS4MR1A	SCS4MRKA

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KIA

TSB: PI2103 Sportage (SL) April 2021

SUBJECT:

THETA 2.4MPI - KNOCK SENSOR DETECTION SYSTEM (KSDS) ECU UPGRADE (PI2103)

Upgrade Event #548 (Continued)

Model	ENG	TRA	EM	IMMO	🚗	ECU P/No.	ROM ID	
							Previous	New
SL (12MY)	Theta 2.4L	MT	ULEV	Yes		39117 2G701	SCC4RP1A SCC4RP4A SCC4RQ0A SCC4RR1A	SCC4RR1K
				No		39117 2G691	SCC4MP1A SCC4MP4A SCC4MQ0A SCC4MR1A	SCC4MR1K
SL (13MY)		AT	ULEV	Yes		39107 2G702	SDC4RS0A SDC4RT1A	SDC4RTKC
				No		39107 2G692	SDC4MS0A SDC4MT1A	SDC4MTKC
			SULEV	Yes		39107 2G722	SDS4RS0A SDS4RT1A	SDS4RTKC
				No		39107 2G712	SDS4MS0A SDS4MT1A	SDS4MTKC
		MT	ULEV	Yes		39117 2G702	SDC4RS0A SDC4RT1A	SDC4RT3K
				No		39117 2G692	SDC4MS0A SDC4MT1A	SDC4MT3K

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.
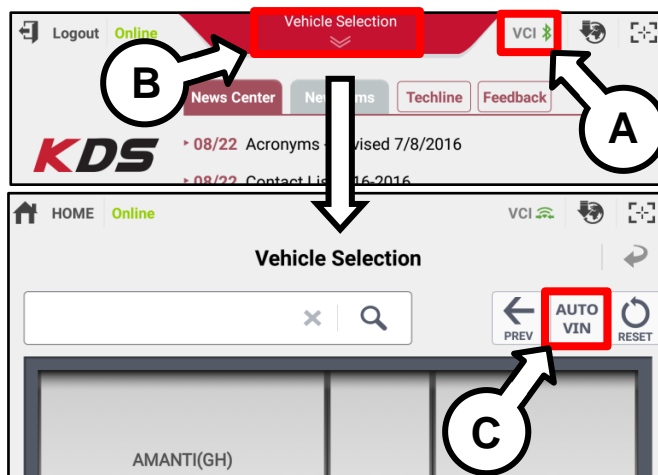
   ★ **NOTICE**

   The ECU upgrade function on KDS operates wirelessly. It is not necessary to perform the upgrade via USB cable.
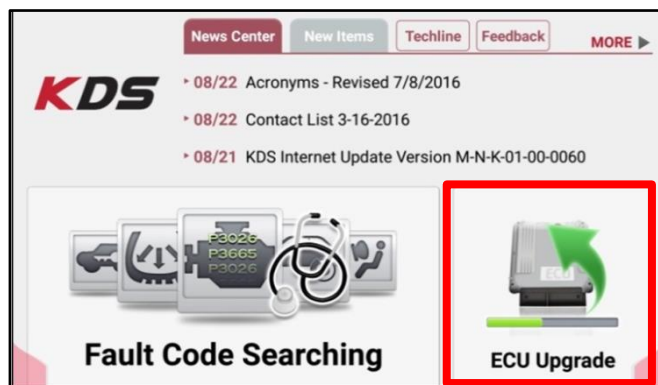
2. With the ignition ON, turn ON the KDS tablet. Select **KDS** from the home screen.

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

4. Select **ECU Upgrade**.

SUBJECT: THETA 2.4MPI - KNOCK SENSOR DETECTION SYSTEM (KSDS) ECU UPGRADE (PI2103)

5. The KDS will check the server for recently uploaded Events and then automatically download **Upgrade Event #548.**

> ✱ **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.

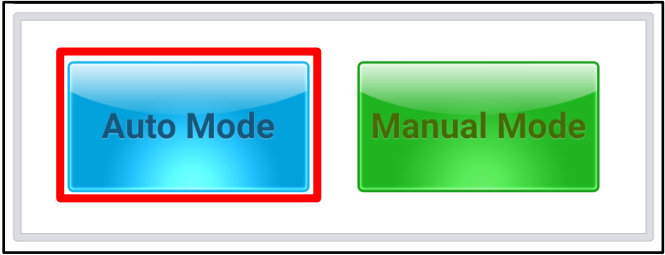| Event	Status
271.QF 2.4GDI DTC P0171,P0420 LOGIC IMPROVEMENT	Downloading
273.TF 2.4GDI DTC P0171,P0420 LOGIC IMPROVEMENT	Ready

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.

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.**

Auto Mode   Manual Mode

7. Select the **ENGINE** system under the System selection menu.

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

   Select **Upgrade Event #548** and select **Upgrade** to continue.

● System

ENGINE   A/T   **D**

● ROM ID

Currently in Vehicle   ######
Latest Update   ######   ID Check

● Event Group   TSB

###.XX -----

Previous   Upgrade

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)

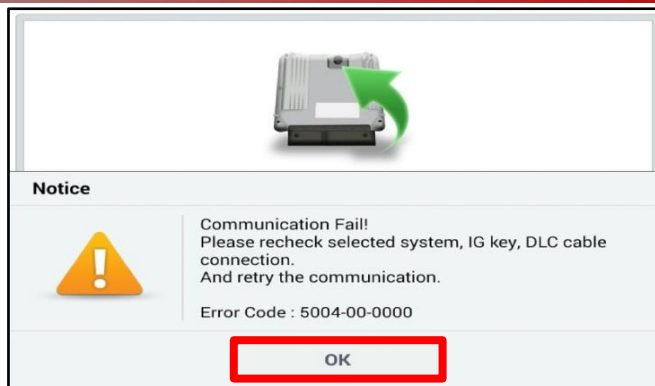ECU is in the process of being upgraded. Please wait a few minute.

SUBJECT:

THETA 2.4MPI - KNOCK SENSOR DETECTION SYSTEM
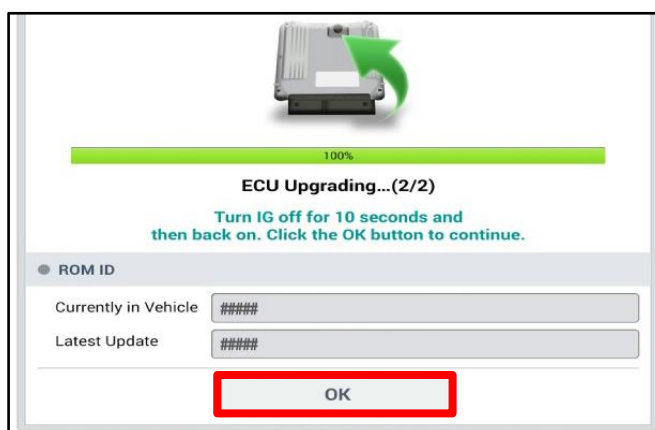(KSDS) ECU UPGRADE (PI2103)

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.
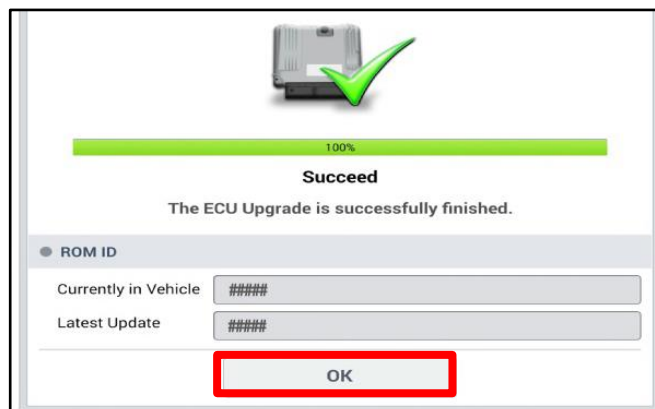
* **NOTICE**

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.
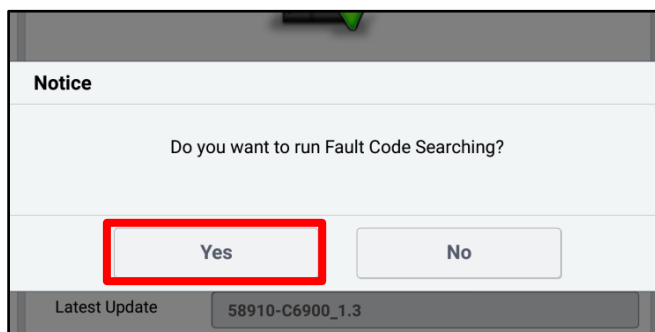

> **Notice**
> ⚠ Communication Fail!
> Please recheck selected system, IG key, DLC cable connection.
> And retry the communication.
> Error Code : 5004-00-0000
> **OK**

10. When instructed on the KDS, turn the ignition **OFF** for ten (10) seconds then back on. Touch **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, touch **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
> Latest Update   58910-C6900_1.3

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

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KIA   TSB: PI2103 Sportage (SL) April 2021

SUBJECT:	THETA 2.4MPI - KNOCK SENSOR DETECTION SYSTEM (KSDS) ECU UPGRADE (PI2103)

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
SL THETA 2.4MPI AT ULEV -IMMO (11MY) : 39107-2G690	4801
SL THETA 2.4MPI AT ULEV +IMMO/SMK (11MY) : 39107-2G700	4802
SL THETA 2.4MPI AT SULEV -IMMO (11MY) : 39107-2G710	4803
SL THETA 2.4MPI AT SULEV +IMMO/SMK (11MY) : 39107-2G720	4804
SL THETA 2.4MPI MT ULEV -IMMO (11MY) : 39117-2G690	4805
SL THETA 2.4MPI MT ULEV +IMMO/SMK (11MY) : 39117-2G700	4806
SL THETA 2.4MPI AT ULEV -IMMO (13MY) : 39107-2G692	4807
SL THETA 2.4MPI AT ULEV +IMMO/SMK (13MY) : 39107-2G702	4808
SL THETA 2.4MPI AT SULEV -IMMO (13MY) : 39107-2G712	4809
SL THETA 2.4MPI AT SULEV +IMMO/SMK (13MY) : 39107-2G722	4810
SL THETA 2.4MPI MT ULEV -IMMO (13MY) : 39117-2G692	4811
SL THETA 2.4MPI MT ULEV +IMMO/SMK (13MY) : 39117-2G702	4812

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

2. Select the **ENGINE** system under the System selection menu. Select **Upgrade Event #548** 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 (PI2103)

AFFECTED VEHICLE RANGE:

Model	Production Date Range
Sportage (SL)	May 6, 2010 to October 7, 2013

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	39107 2G690	0	(PI2103) KSDS Logic Improvement (SL)	210043R1	0.3 M/H	N/A	0

★ NOTICE

VIN inquiry data for this repair is provided for tracking purposes only. Kia retailers should reference <u>PI2103</u> when accessing the WebDCS system.

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TSB: PI2103 Sportage (SL) April 2021