



GROUP
Product Improvement

MODEL
2011MY
Sorento (XMa)
w/2.4L MPI

NUMBER
PI2101 (Rev 1, 05/28/2021)

DATE
January 2021

PRODUCT IMPROVEMENT CAMPAIGN

**SUBJECT: THETA 2.4L MPI - KNOCK SENSOR DETECTION SYSTEM
(KSDS) ECU LOGIC IMPROVEMENT (PI2101)**

* NOTICE

This bulletin has been revised to include additional information. New/revised sections of this bulletin are indicated by a black bar in the margin area.

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 2011MY Sorento (XMa) vehicles equipped with Theta 2.4L MPI engines, produced from October 24, 2009 through June 24, 2011.

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.

* 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 (PI2101)

ECU Upgrade Procedure:

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

Upgrade Event Name

512. XMA THETA 2.4MPI Knock Sensor Detection System (KSDS) ECU UPGRADE

★ NOTICE

- **A fully charged battery is necessary before the ECU upgrade can take place. It is recommended that a battery charger is used in ECU mode during the reflash or the use of a fully charged jump starter box connected to the battery.**
- **Ensure the KDS or GDS is sufficiently charged at 50% or higher prior to reflash.**
- **All ECU upgrades must be done with the ignition key in the 'ON' position.**
- **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 model and model year.**

❗ 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 (PI2101)

ROM ID INFORMATION TABLE:

Upgrade Event #512

Model	ENG	TRA	IMMO 	ECU P/No.	ROM ID	
					Previous	New
XMa (11MY) (ULEV)	Theta 2.4MPI	AT	Yes	39103 2G120	MBC4MK4A MBC4MK5A MBC4ML0A MBC4ML0B MBC4ML0C MBC4MQ0A	MBC4MQKA
			No	39103 2G130	MBC4RK4A MBC4RK5A MBC4RL0A MBC4RL0B MBC4RL0C MBC4RQ0A	MBC4RQKA
		MT	Yes	39113 2G120	MBC4MK4A MBC4MK5A MBC4ML0A MBC4ML0B MBC4ML0C MBC4MQ0A	MBC4MQ1K
			No	39113 2G130	MBC4RK4A MBC4RK5A MBC4RL0A MBC4RL0B MBC4RL0C MBC4RQ0A	MBC4RQ1K

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 (PI2101)

* 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

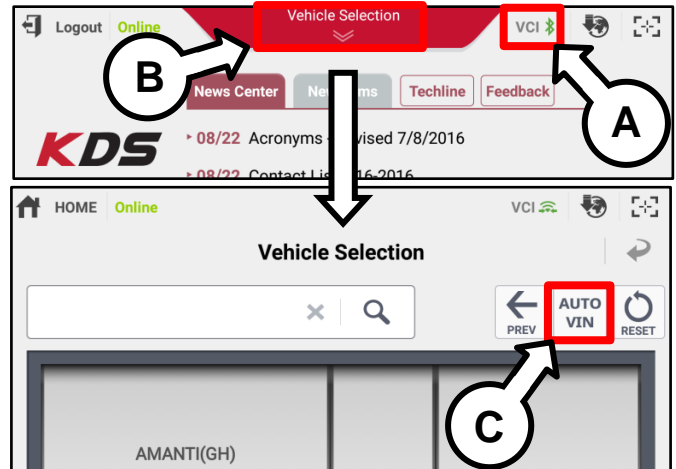
The ECU upgrade function on KDS operates wirelessly. It is not necessary to perform the upgrade via USB cable.



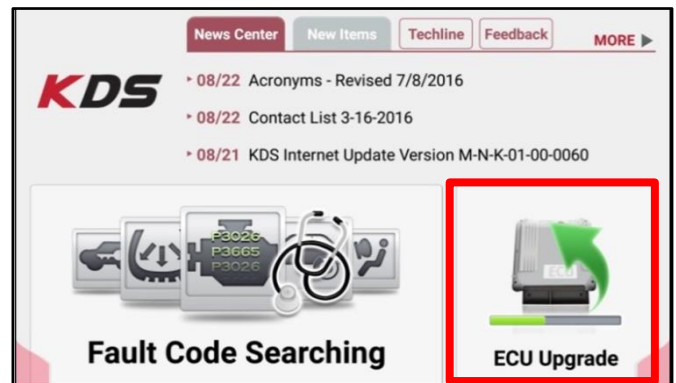
2. With the ignition ON, turn ON the KDS tablet. Select **KDS** from the home screen.



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



4. Select **ECU Upgrade**.



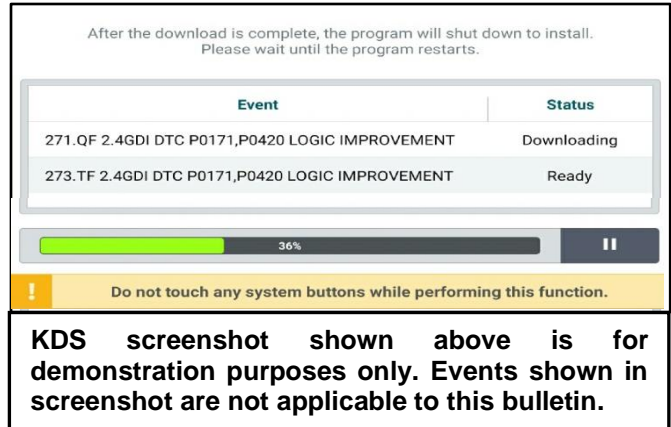
SUBJECT:

THETA 2.4MPI - KNOCK SENSOR DETECTION SYSTEM (KSDS) ECU UPGRADE (PI2101)

- The KDS will check the server for recently uploaded Events and then automatically download **Upgrade Event #512**.

* NOTICE

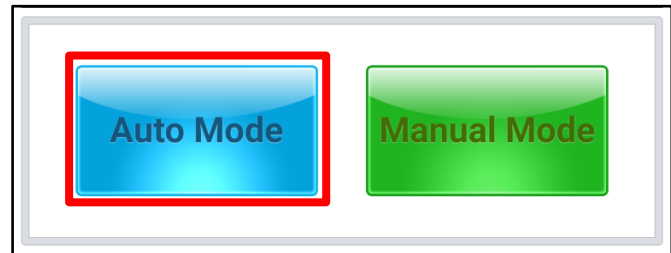
The vehicle must be identified in Vehicle Selection to download an Event for that vehicle.



- Select Auto Mode.

! CAUTION

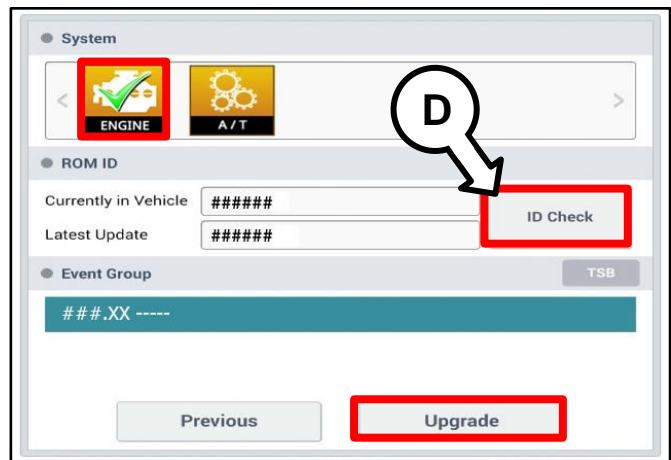
Do NOT attempt to perform a Manual Mode upgrade UNLESS Auto Mode fails. Always follow the instructions given on the KDS in either Auto or Manual mode.



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

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

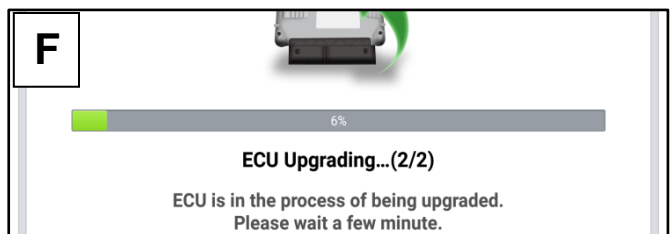
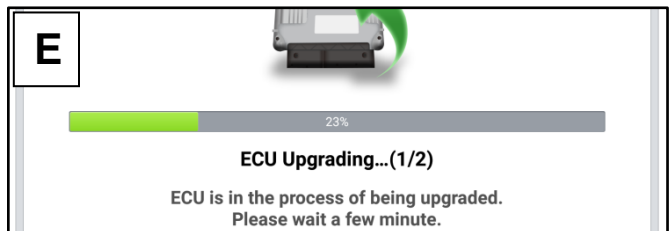
Select **Upgrade Event #512** and select **Upgrade** to continue.



- 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.



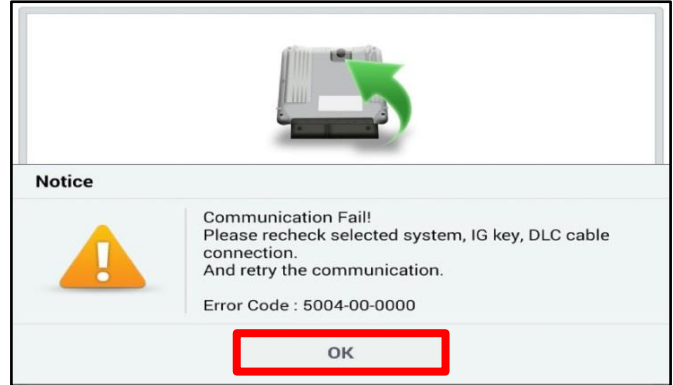
SUBJECT:

THETA 2.4MPI - KNOCK SENSOR DETECTION SYSTEM (KSDS) ECU UPGRADE (PI2101)

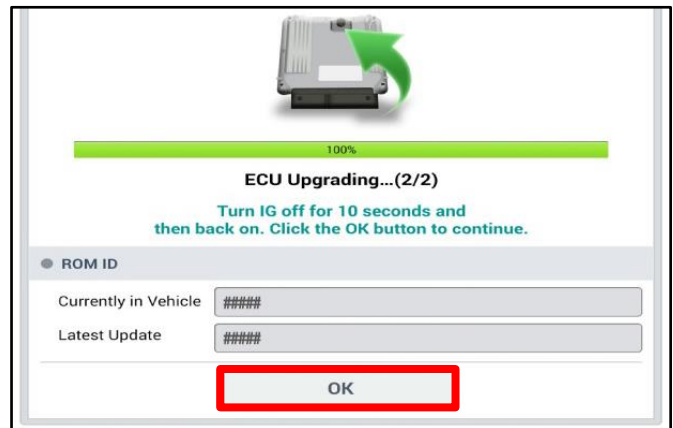
- If a “Communication Fail” screen appears, verify that the VCI-II and KDS are communicating properly. Touch **OK** and restart the procedure from step 4.

★ NOTICE

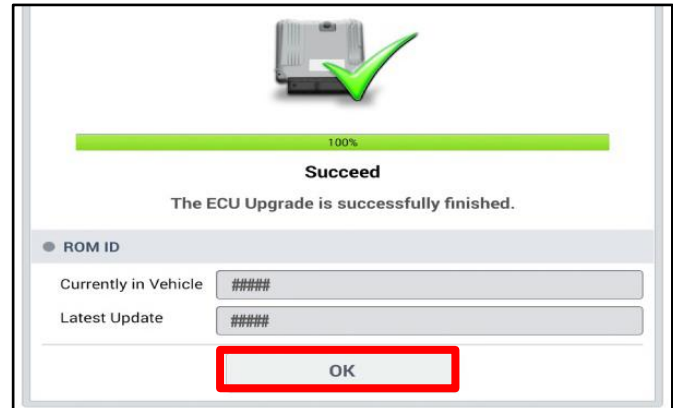
If an error notice continues to appear or if the upgrade cannot be performed, **DO NOT** disconnect the KDS/VCI-II. Contact GIT America Help Desk at (888) 542-4371 or Techline.



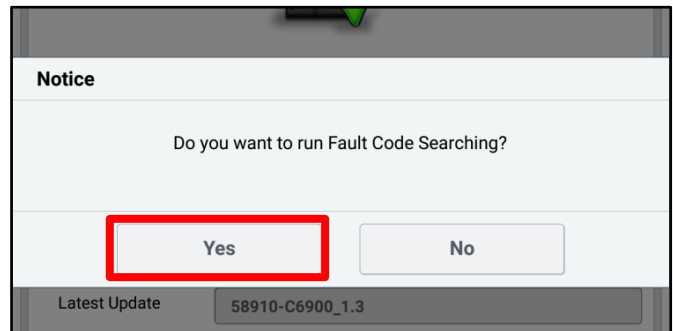
- When instructed on the KDS, turn the ignition **OFF** for ten (10) seconds then back on. Touch **OK** to continue.



- Once the upgrade is complete, touch **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 proper operation of the vehicle.

SUBJECT:

THETA 2.4MPI - KNOCK SENSOR DETECTION SYSTEM (KSDS) ECU UPGRADE (PI2101)

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
XMA THETA 2.4MPI AT ULEV -IMMO (11MY) : 39103-2G120	1201
XMA THETA 2.4MPI AT ULEV +IMMO (11MY) : 39103-2G130	1202
XMA THETA 2.4MPI MT ULEV -IMMO (11MY) : 39113-2G120	1203
XMA THETA 2.4MPI MT ULEV +IMMO (11MY) : 39113-2G130	1204

1. Within the ECU Upgrade screen displayed, select **Manual Mode**.
2. Select the **ENGINE** system under the System selection menu. Select **Upgrade Event #512** 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. 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.

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THETA 2.4MPI - KNOCK SENSOR DETECTION SYSTEM (KSDS) ECU UPGRADE (PI2101)

AFFECTED VEHICLE RANGE:

Model	Production Date Range
Sorento (XMa)	October 24, 2009 to June 24, 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	23060 2G100	0	(PI2101) KSDS Logic Improvement (XMa)	210A08R0	0.3 M/H	N/A	0

*** NOTICE**

VIN inquiry data for this repair is provided for tracking purposes only. Kia retailers should reference PI2101 when accessing the WebDCS system.