PRODUCT IMPROVEMENT CAMPAIGN

SUBJECT: KNOCK SENSOR DETECTION SYSTEM - ECU LOGIC IMPROVEMENT (PI1802)

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 all 2015MY Sorento (XMa) vehicles equipped with 2.4L GDI engines, manufactured from January 3, 2014 through December 11, 2014. 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.

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.

File Under: <Product Improvement>

Circulate To: ☒ General Manager ☒ Service Manager ☒ Parts Manager

☒ Service Advisors ☒ Technicians ☒ Body Shop Manager ☐ Fleet Repair

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ECU Upgrade Procedure:

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

Upgrade Event Name
374. XMa Theta 2.4GDI Knock Sensor Detection System (KSDS) ECU Upgrade

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∗ NOTICE

- **A fully charged battery is necessary before ECU upgrade can take place. It is recommended that the Midtronics GR8-1299 system be used in ECU mode during charging. DO NOT connect any other battery charger to the vehicle during ECU upgrade.**
- **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, year.**

⚠ CAUTION

Before attempting an ECU upgrade on any Kia model, make sure to first determine whether the particular 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 #374

Model	ENG	IMMO	ECU P/No.	ROM ID	
				Previous	**New**
XMa	2.4GDI	Yes 🔧	39113-2GBK6 39113-2GBK7 39113-2GBL6 39113-2GBL7	FFC4RH2A FFC4RHAA FFC4RHAB	FFC4RHAK
		No	39113-2GBK1 39113-2GBK2 39113-2GBL1 39113-2GBL2	FFC4MH2A FFC4MHAA FFC4MHAB	FFC4MHAK

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.

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★ NOTICE

Prior to performing the ECU upgrade, be sure to check that the KDS is fully charged.

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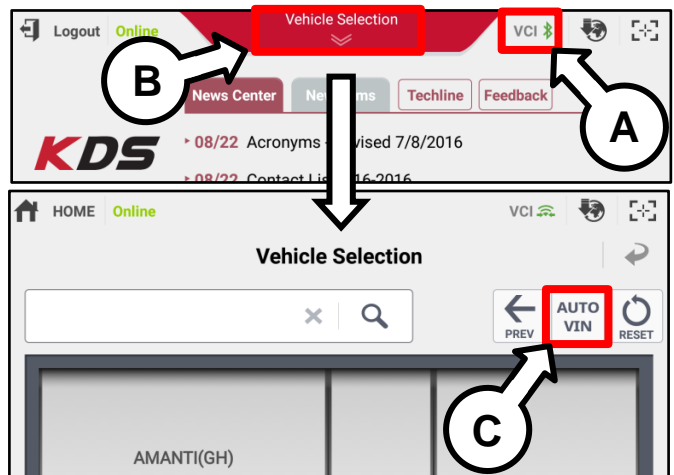
   ★ NOTICE

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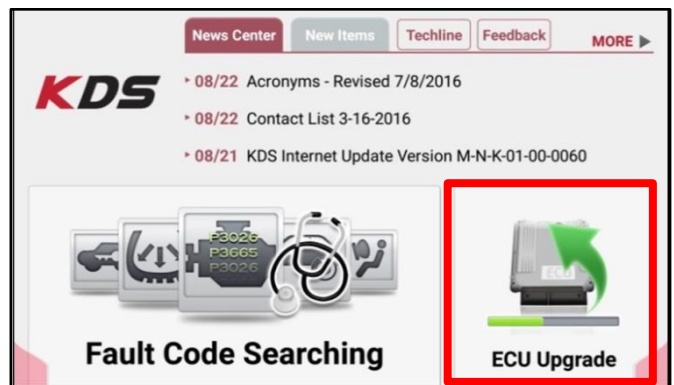
2. With the ignition ON, turn ON the KDS tablet. Select **KDS** from the home screen.

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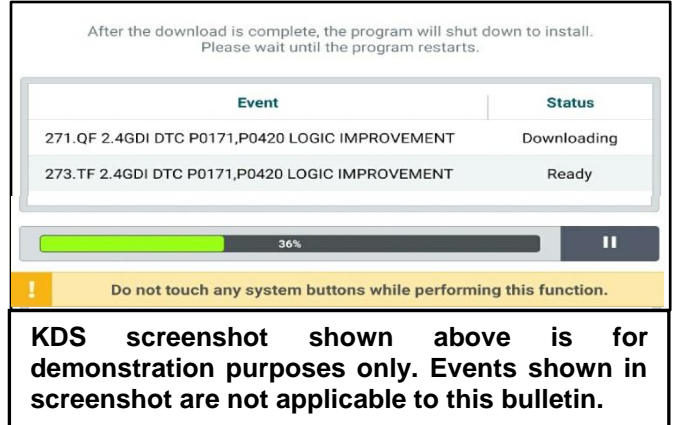
4. Select **ECU Upgrade**.

TSB: PI1802 Sorento (XMa) July 2018

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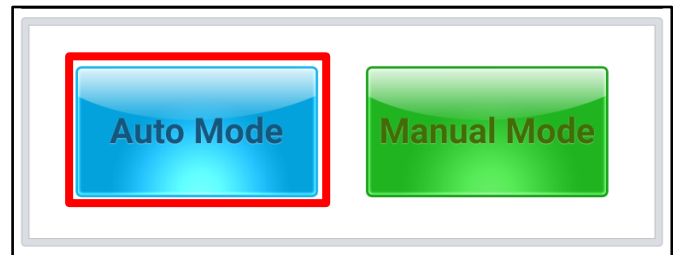5. The KDS will check the server for recently uploaded Events and then automatically download **Upgrade Event #374.**

> ⭑ **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.
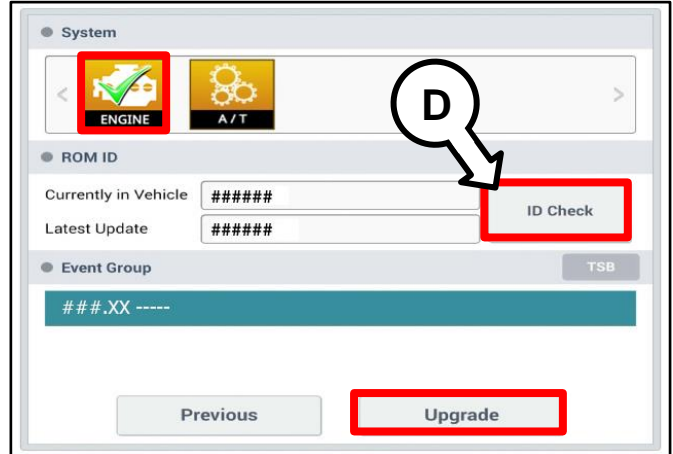
6. Select **Auto Mode**.

> ⭑ **NOTICE**
>
> **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.

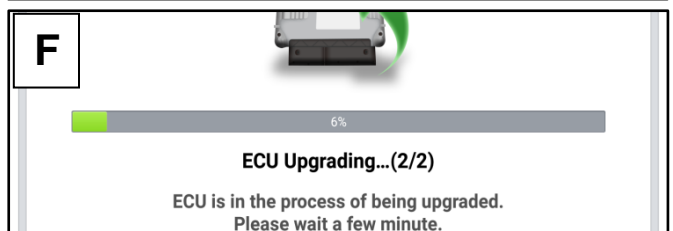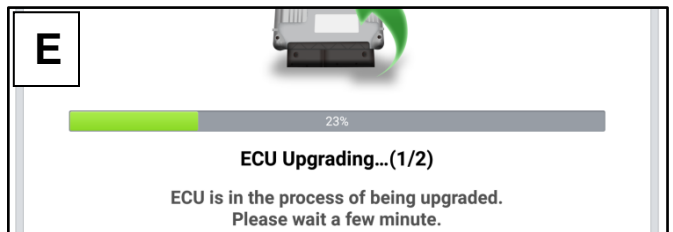   Touch **ID Check** (D) and confirm that the latest update is available.

   Select **Upgrade Event #374** 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.

> ⭑ **NOTICE**
>
> **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.
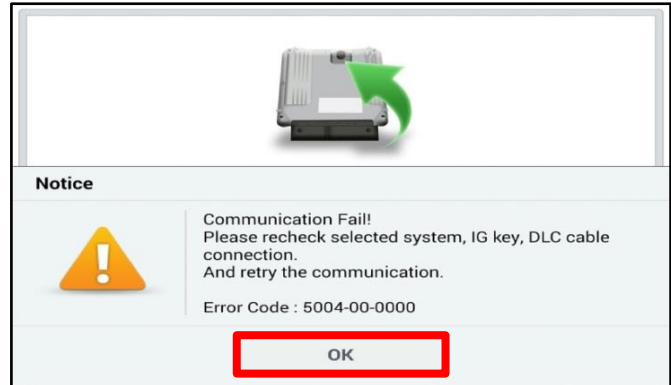
TSB: PI1802 Sorento (XMa) July 2018

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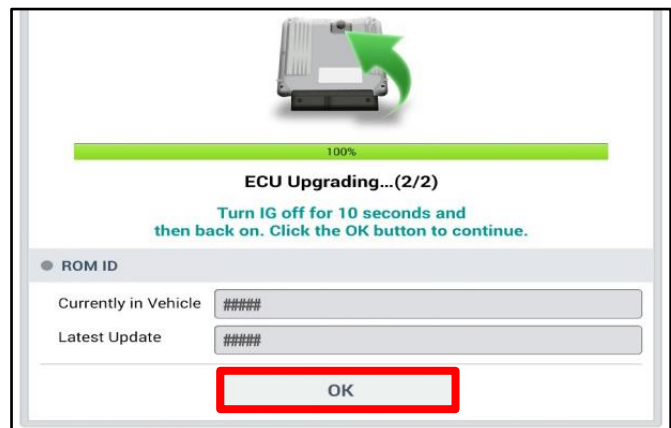
9. If a "Communication Fail" screen appears, verify that the VCI-II and KDS are communicating properly. Touch **OK** and restart the procedure from step 4.
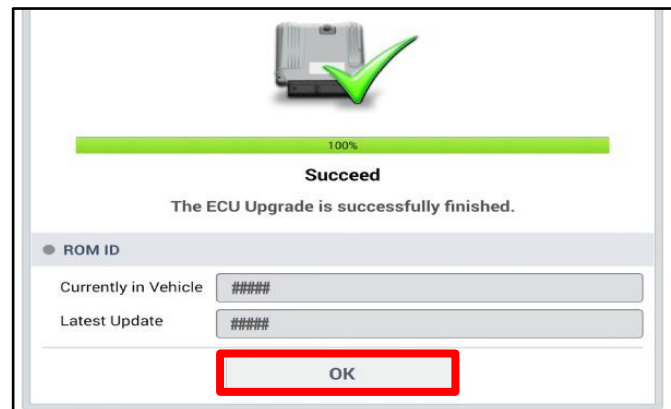
> ★ **NOTICE**
>
> **If an error notice continues to appear or if the upgrade cannot be performed, DO NOT disconnect the KDS/VCI-II. Contact GIT America Help Desk at (888) 542-4371 or Techline.**
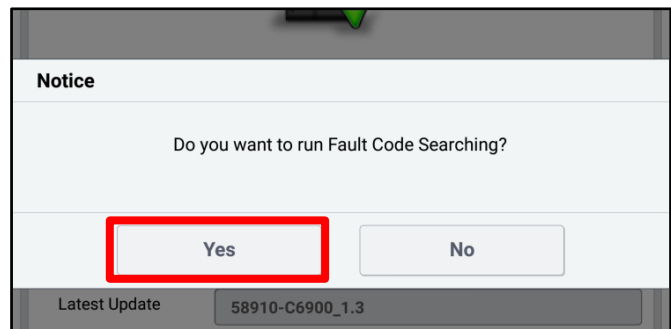

Notice

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.

SUBJECT: KNOCK SENSOR DETECTION SYSTEM – ECU
LOGIC IMPROVEMENT (PI1802)

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 2.4GDI -IMMO : 39113-2GBK1/K2/L1/L2	1322
XMA 2.4GDI +IMMO/SMK : 39113-2GBK6/K7/L6/L7	1327

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

2. Select the **ENGINE** system under the System selection menu. Select **Upgrade Event #374** and select **Upgrade** to continue.

3. Select the appropriate control unit part number with reference to the ROM ID Information Table on page 2, 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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KNOCK SENSOR DETECTION SYSTEM – ECU LOGIC IMPROVEMENT (PI1802)

AFFECTED VEHICLE RANGE:

Model	Production Date Range
Sorento (XMa)	January 3, 2014 through December 11, 2014

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.
XMa (15MY)	R	39113 2GBK1	0	(PI1802A) KSDS - ECU Logic Improvement	180A10R0	0.3 M/H	N/A	0

★ NOTICE

VIN inquiry data for this repair is provided for tracking purposes only. Kia retailers should reference PI1802 when accessing the WebDCS system.