SAFETY RECALL CAMPAIGN

SUBJECT: **KSDS SOFTWARE LOGIC IMPROVEMENT (SC200**1)**

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 (refer to applicable model table below).

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 bulletin 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.

MY	Model	Engine	Production Date Range	Publication
2012-2013	Sorento (XMa)		04/26/2011 – 01/10/2013	SC200XM1
2012	Sportage (SL)	2.4L Theta MPI	05/17/2011 – 05/24/2012	SC200SL1
2012-2013	Forte (TD)		06/01/2011 – 03/22/2013	SC200TD1
2014-2015	Soul (PS)*	2.0L Nu GDI	07/21/2013 – 05/21/2015	PI2002B

*<u>**Note:**</u> **2014-2015MY Soul (PS) are not included in this bulletin, refer to PI2002B.**

★ 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**

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 (12~13MY)
527. TD THETA 2.4MPI Knock Sensor Detection System (KSDS) ECU UPGRADE (12~13MY)
528. SL THETA 2.4MPI Knock Sensor Detection System (KSDS) ECU UPGRADE (12MY)
523. PS Nu 2.0GDI KSDS *Refer to TSB PI2002B*
XXX. TF HEV THETA 2.4MPI Knock Sensor Detection System (KSDS) ECU UPGRADE (11~13MY) *SOFTWARE UNDER DEVELOPMENT*
XXX. YD Nu 2.0GDI Knock Sensor Detection System (KSDS) ECU UPGRADE (11~13MY) *SOFTWARE UNDER DEVELOPMENT*

Note: 2011-2013 (TF HEV), 2014-2015MY Soul (PS) and Forte (YD) are not included in this bulletin.

★ NOTICE

- A <u>fully charged battery</u> between 12.3 and higher volts 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 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 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:

KSDS SOFTWARE LOGIC IMPROVEMENT (SC200**1)

ROM ID INFORMATION TABLE:

Upgrade Event #512 (XMa)

Model	EM	TM	IMMO	ECU P/No.	ROM ID Previous	ROM ID New
Sorento (XMa) 12MY	Theta 2.4L MPI	AT	Yes	39103-2G131	MCC4RP4A MCC4RQ0A MCC4RR1A	MCC4RRKA
		AT	No	39103-2G121	MCC4MP4A MCC4MQ0A MCC4MR1A	MCC4MRKA
		MT	Yes	39113-2G131	MCC4RP4A MCC4RQ0A MCC4RR1A	MCC4RR1K
		MT	No	39113-2G121	MCC4MP4A MCC4MQ0A MCC4MR1A	MCC4MR1K
Sorento (XMa) 13MY		AT	Yes	39133-2G132	MDC4RS0A	MDC4RSKC
		AT	No	39133-2G122	MDC4MS0A	MDC4MSKC
		MT	Yes	39143-2G132	MDC4RS0A	MDC4RS3K
		MT	No	39143-2G122	MDC4MS0A	MDC4MS3K

Upgrade Event #527 (TD)

Model	Engine	TM	EM	IMMO	ECU P/No.	ROM ID Previous	ROM ID New
Forte (TD) 12MY	Theta 2.4L MPI	AT	ULEV	Yes	39122-2G281	DCC4RP4A DCC4RQ0A DCC4RQ0B DCC4RR1A	DCC4RRKA
		AT	ULEV	No	39122-2G271	DCC4MP4A DCC4MQ0A DCC4MQ0B DCC4MR1A	DCC4MRKA
		AT	SULEV	Yes	39122-2G301	DCS4RP4A DCS4RQ0A DCS4RQ0B DCS4RR1A	DCS4RRKA
		AT	SULEV	No	39122-2G291	DCS4MP4A DCS4MQ0A DCS4MQ0B DCS4MR1A	DCS4MRKA
		MT	ULEV	Yes	39142-2G281	DCC4RP4A DCC4RQ0A DCC4RQ0B DCC4RR1A	DCC4RR1K
		MT	ULEV	No	39142-2G271	DCC4MP4A DCC4MQ0A DCC4MQ0B DCC4MR1A	DCC4MR1K
Forte (TD) 13MY		AT	ULEV	Yes	39122-2G282	DDC4RS0A	DDC4RSKC
		AT	ULEV	No	39122-2G272	DDC4MS0A	DDC4MSKC
		AT	SULEV	Yes	39122-2G302	DDS4RS0A	DDS4RSKC
		AT	SULEV	No	39122-2G292	DDS4MS0A	DDS4MSKC
		MT	ULEV	Yes	39142-2G282	DDC4RS0A	DDC4RS3K
		MT	ULEV	No	39142-2G272	DDC4MS0A	DDC4MS3K

Upgrade Event #527 (TD) (Continued)

Model	Engine	TM	EM	IMMO 🔑	ECU P/No.	ROM ID Previous	ROM ID New
Forte Koup (TD) Coupe 12MY	Theta 2.4L MPI	AT	ULEV	Yes	39182-2G291	CCC4RP4A CCC4RQ0A CCC4RQ0B CCC4RR1A	CCC4RRKA
				No	39182-2G271	CCC4MP4A CCC4MQ0A CCC4MQ0B CCC4MR1A	CCC4MRKA
			SULEV	Yes	39182-2G331	CCS4RP4A CCS4RQ0A CCS4RQ0B CCS4RR1A	CCS4RRKA
				No	39182-2G281	CCS4MP4A CCS4MQ0A CCS4MQ0B CCS4MR1A	CCS4MRKA
		MT	ULEV	Yes	39192-2G291	CCC4RP4A CCC4RQ0A CCC4RQ0B CCC4RR1A	CCC4RR1K
				No	39192-2G271	CCC4MP4A CCC4MQ0A CCC4MQ0B CCC4MR1A	CCC4MR1K
Forte Coupe (TD) Koup 13MY		AT	ULEV	Yes	39182-2G292	CDC4RS0A	CDC4RSKC
				No	39182-2G272	CDC4MS0A	CDC4MSKC
			SULEV	Yes	39182-2G332	CDS4RS0A	CDS4RSKC
				No	39182-2G282	CDS4MS0A	CDS4MSKC
		MT	ULEV	Yes	39192-2G292	CDC4RS0A	CDC4RS3K
				No	39192-2G272	CDC4MS0A	CDC4MS3K

Upgrade Event #528 (SL)

Model	Engine	TM	EM	IMMO 🔑	ECU P/No.	ROM ID Previous	ROM ID New
Sportage (SL) 12MY	Theta 2.4L MPI	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
		MT	ULEV	Yes	39117-2G701	SCC4RP1A SCC4RP4A SCC4RQ0A SCC4RR1A	SCC4RR1K
				No	39117-2G691	SCC4MP1A SCC4MP4A SCC4MQ0A SCC4MR1A	SCC4MR1K

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:

KSDS SOFTWARE LOGIC IMPROVEMENT (SC200**1)

★ 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.
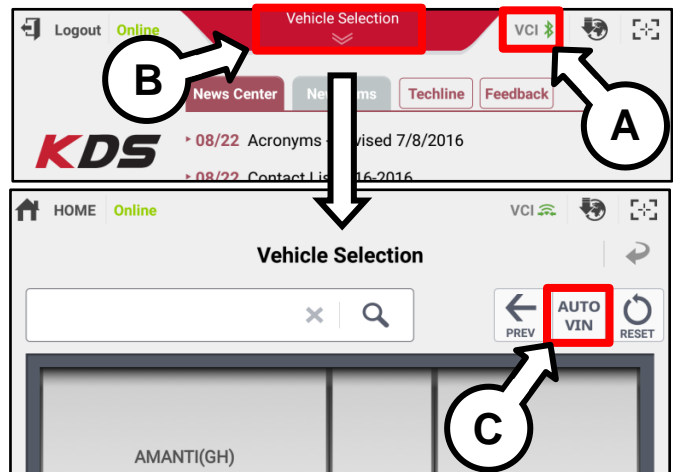
   ### ★ NOTICE

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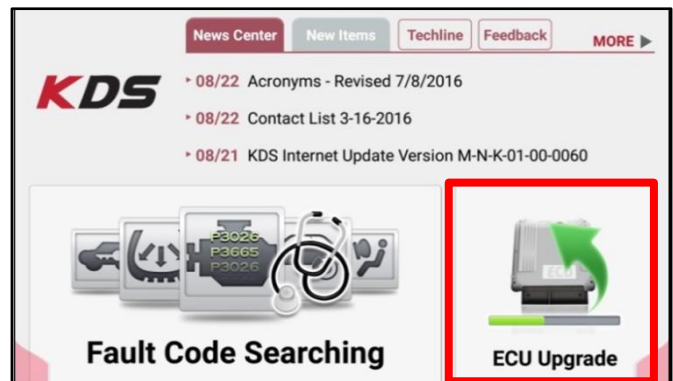

2. With the ignition ON, turn ON the KDS tablet. Select **KDS** from the home screen.

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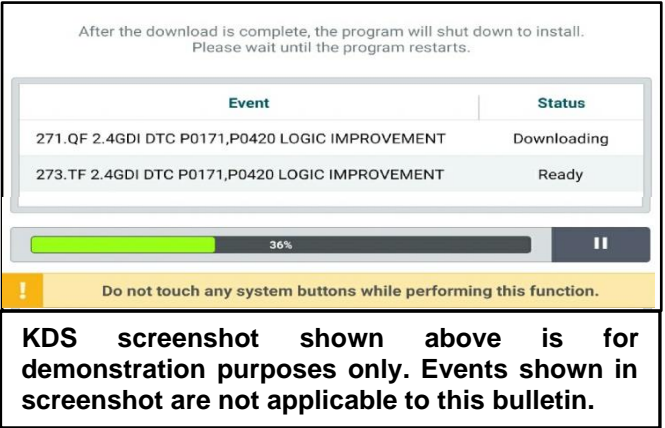

4. Select **ECU Upgrade**.

---

5. The KDS will check the server for recently uploaded Events and then automatically download **Upgrade Event #512 (XMa), #527 (TD), or #528 (SL).**
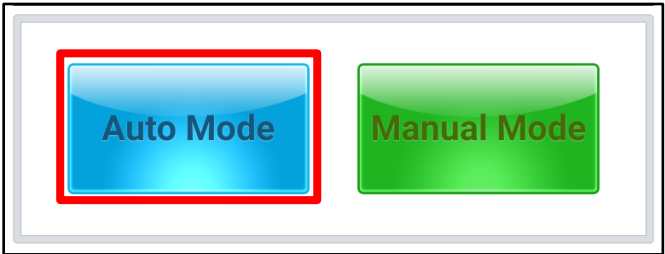   **NOTE: Refer to TSB PI2002B for PS Upgrade Event #523.**

   ┌─────────────────────────┐
   * 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.

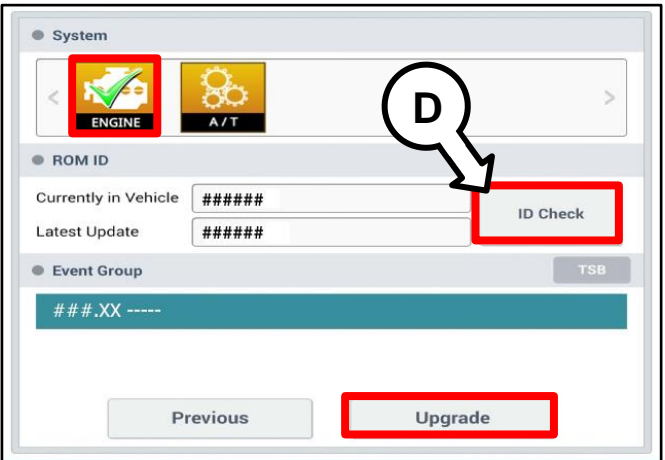
Auto Mode **Manual Mode**

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

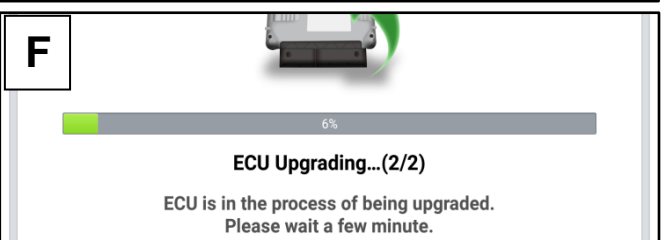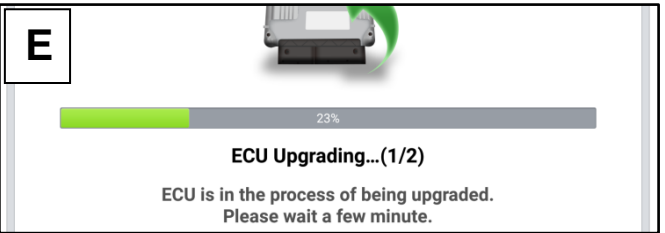   Touch **ID Check** (D) and confirm that the latest update is available.

   Select **Upgrade Event #512 (XMa), #527 (TD), or #528 (SL)** and select **Upgrade** to continue.
   NOTE: Refer to TSB PI2002B for PS Upgrade Event #523.

● 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.
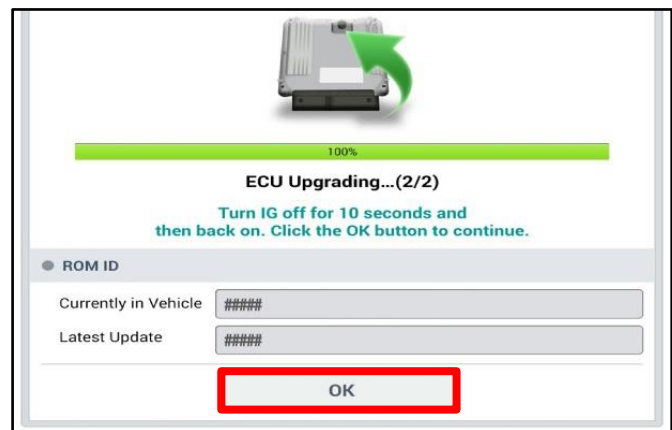
KIA

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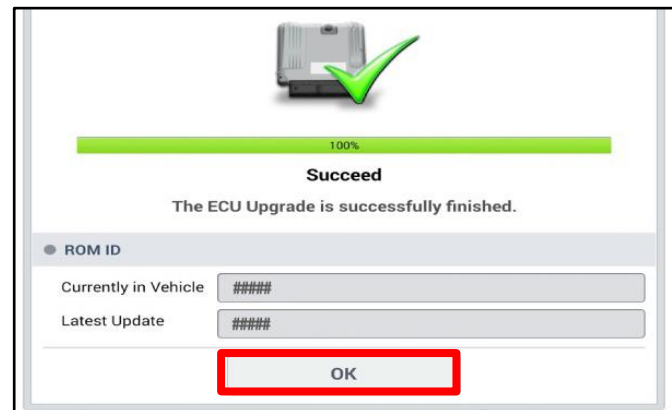
> ⭑ **NOTICE**
>
> **If an error notice continues to appear or if the upgrade cannot be performed, DO NOT disconnect the KDS/VCI-II. Contact GIT America Help Desk at (888) 542-4371 or Techline.**
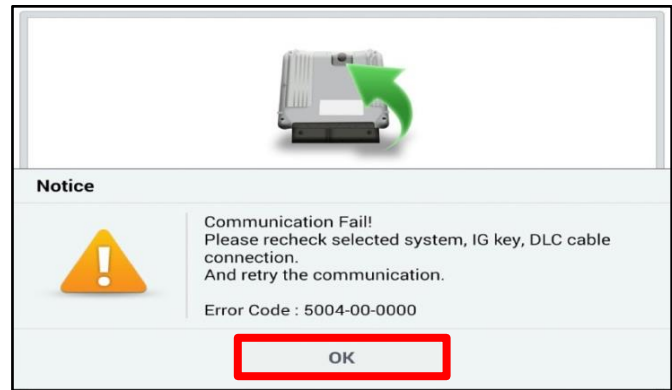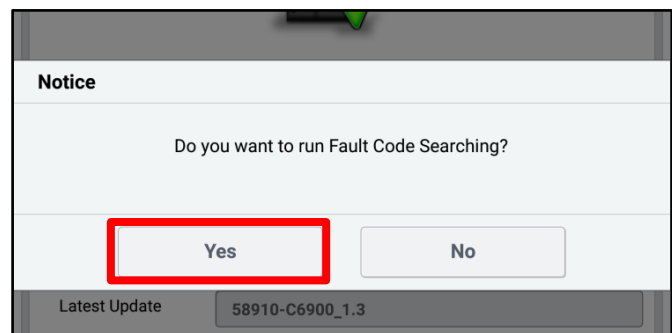
Notice

⚠️ 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:	KSDS SOFTWARE LOGIC IMPROVEMENT (SC200**1)

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

Upgrade Event	Menu	Password
512 (XMa)	XMA THETA 2.4MPI AT ULEV -IMMO(12MY) : 39103-2G121	1205
	XMA THETA 2.4MPI AT ULEV +IMMO(12MY) : 39103-2G131	1206
	XMA THETA 2.4MPI MT ULEV -IMMO(12MY) : 39113-2G121	1207
	XMA THETA 2.4MPI MT ULEV +IMMO(12MY) : 39113-2G131	1208
	XMA THETA 2.4MPI AT ULEV -IMMO(13MY) : 39133-2G122	1209
	XMA THETA 2.4MPI AT ULEV +IMMO(13MY) : 39133-2G132	1210
	XMA THETA 2.4MPI MT ULEV -IMMO(13MY) : 39143-2G122	1211
	XMA THETA 2.4MPI MT ULEV +IMMO(13MY) : 39143-2G132	1212
527 (TD)	TD THETA 2.4MPI AT ULEV -IMMO (12MY)	2701
	TD THETA 2.4MPI AT ULEV +IMMO/SMK (12MY)	2702
	TD THETA 2.4MPI AT SULEV -IMMO (12MY)	2703
	TD THETA 2.4MPI AT SULEV +IMMO/SMK (12MY)	2704
	TD THETA 2.4MPI MT ULEV -IMMO (12MY)	2705
	TD THETA 2.4MPI MT ULEV +IMMO/SMK (12MY)	2706
	TD THETA 2.4MPI AT ULEV -IMMO (13MY)	2707
	TD THETA 2.4MPI AT ULEV +IMMO/SMK (13MY)	2708
	TD THETA 2.4MPI AT SULEV -IMMO (13MY)	2709
	TD THETA 2.4MPI AT SULEV +IMMO/SMK (13MY)	2710
	TD THETA 2.4MPI MT ULEV -IMMO (13MY)	2711
	TD THETA 2.4MPI MT ULEV +IMMO/SMK (13MY)	2712
	TD COUPE THETA 2.4MPI AT ULEV -IMMO (12MY)	2713
	TD COUPE THETA 2.4MPI AT ULEV +IMMO/SMK (12MY)	2714
	TD COUPE THETA 2.4MPI AT SULEV -IMMO (12MY)	2715
	TD COUPE THETA 2.4MPI AT SULEV +IMMO/SMK (12MY)	2716
	TD COUPE THETA 2.4MPI MT ULEV -IMMO (12MY)	2717
	TD COUPE THETA 2.4MPI MT ULEV +IMMO/SMK (12MY)	2718
	TD COUPE THETA 2.4MPI AT ULEV -IMMO (13MY)	2719
	TD COUPE THETA 2.4MPI AT ULEV +IMMO/SMK (13MY)	2720
	TD COUPE THETA 2.4MPI AT SULEV -IMMO (13MY)	2721
	TD COUPE THETA 2.4MPI AT SULEV +IMMO/SMK (13MY)	2722
	TD COUPE THETA 2.4MPI MT ULEV -IMMO (13MY)	2723
	TD COUPE THETA 2.4MPI MT ULEV +IMMO/SMK (13MY)	2724

SUBJECT:

KSDS SOFTWARE LOGIC IMPROVEMENT (SC200**1)

	SL THETA 2.4MPI AT ULEV -IMMO (12MY)	2801
	SL THETA 2.4MPI AT ULEV +IMMO/SMK (12MY)	2802
528 (SL)	SL THETA 2.4MPI AT SULEV -IMMO (12MY)	2803
	SL THETA 2.4MPI AT SULEV +IMMO/SMK (12MY)	2804
	SL THETA 2.4MPI MT ULEV -IMMO (12MY)	2805
	SL THETA 2.4MPI MT ULEV +IMMO/SMK (12MY)	2806
523 (PS)	**Refer to TSB PI2002B for PS Upgrade Event #523.**	

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

2. Select the **ENGINE** system under the System selection menu. Select **Upgrade Event #512 (XMa), #527 (TD), or #528 (SL)** and select **Upgrade** to continue. **(Refer to TSB PI2002B for PS Upgrade Event #523.)**

3. Select the appropriate control unit part number with reference to the ROM ID Information Table on pages 3-4 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:	KSDS SOFTWARE LOGIC IMPROVEMENT (SC200**1)

AFFECTED VEHICLE RANGE:

Model	Production Date Range
Sorento (XMa)	April 26, 2011 – January 10, 2013
Sportage (SL)	May 17, 2011 – May 24, 2012
Forte (TD)	June 1, 2011 – March 22, 2013
Optima (TF HEV)	February 15, 2011 – December 12, 2013
Soul (PS)	July 21, 2013 – May 21, 2015
Forte (YD)	December 5, 2012 – April 8, 2015

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 (12-13MY)	W	39103 2G122	0	ECM Logic Improvement	211009R0	0.3 M/H	N/A	0
TD (12-13MY)		39122 2G271			211009R1			
SL (12MY)		39107 2G711			211009R2			

- **Note: Refer to TSB PI2002B for PS Upgrade Event #523.**
- **Note: 11-13MY (TF HEV) KSDS Software is currently under development.**
- **Note: 14-15 (YD) KSDS Software is currently under development.**

★ NOTICE

VIN inquiry data for this repair is provided for tracking purposes only. Kia retailers should reference SC2001 when accessing the WebDCS system.**