	GROUP	MODEL
KIA	**Engine**	**2011-2013MY Sorento (XM), 2011, 2012 & 2014MY Sedona (VQ)**
	NUMBER	DATE
	133 (REV 2, 11/27/2013)	**September 2013**

TECHNICAL SERVICE BULLETIN

SUBJECT: SERVICE ACTION: ECM UPGRADE – MIL ON WITH DTC P0638 AND ETC MOTOR CLEANING (SA153)

✶ 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 the ECM software upgrade for some 2011-2013MY Sorento 3.5L MPI vehicles, produced from October 25, 2009 through January 31, 2013, and 2011, 2012 & 2014MY Sedona 3.5L MPI vehicles, produced from March 03, 2010 through July 12, 2013, which may experience a Malfunction Indicator Lamp illuminated with the ECM (Electronic Control Module) system-related DTC P0638. To prevent and/or correct this condition, the ECM should be reprogrammed and the motor cleaning process performed using GDS, as described in this bulletin. For confirmation that the latest reflash has been done to the vehicle you are working on, verify ROM ID using the tables in this TSB.

- P0638 Throttle Actuator Control Range/Performance (Bank 1)

✶ NOTICE

DO NOT replace any parts related to the DTCs mentioned above unless proven to be the cause for the DTC AFTER the reflash has been performed. First perform the reflash as described in this bulletin, and verify that no DTC(s) will re-set. Should a DTC re-set after the reflash, diagnose according to KGIS. Parts replacement in conjunction with this TSB may be subject to Mandatory Parts Return and returned parts will be tested by KMA. Unnecessarily replaced parts (PNC: 28310, 28320, 29210, 29216, 35100, etc.) will be subject to chargeback.

✶ NOTICE

A Service Action is a repair program without customer notification that is performed during the warranty period. Any dealer requesting to perform this repair outside the warranty period will require DPSM approval.
Repair status for a VIN is provided on WebDCS (Service> Warranty Coverage> Warranty Coverage Inquiry> Campaign Information). Not completed Recall / Service Action reports are available on WebDCS (Consumer Affairs> Not Completed Recall> Recall VIN> Select Report), which includes a list of affected vehicles.

This issue number is SA153.

File Under: Engine

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

☒ **Service Advisor(s)** ☒ **Technician(s)** ☒ **Body Shop Manager** ☐ **Fleet Repair**

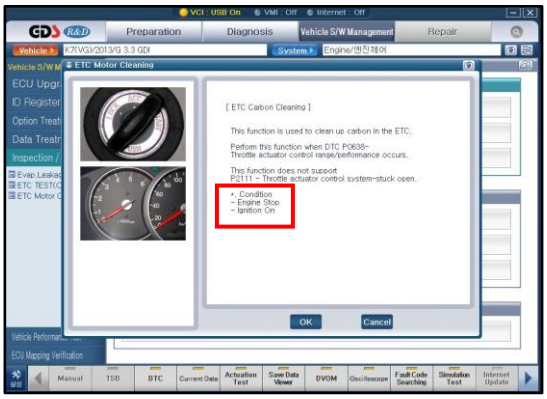
SUBJECT: SERVICE ACTION: ECM UPGRADE – MIL ON WITH DTC P0638 AND ETC MOTOR CLEANING (SA153)

ETC MOTOR CLEANING PROCEDURE:

1. Select **ENGINE** System and click the **ETC Motor Cleaning**.



2. Click **OK** on the screen with the engine **OFF** and ignition in the **ON** position.

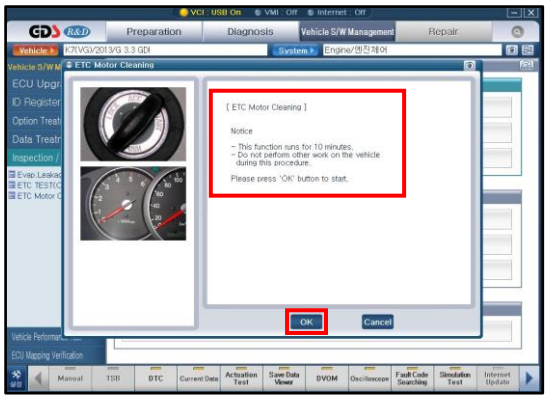


★ NOTICE

<u>The purpose of the cleaning procedure:</u>

"ETC Motor Cleaning" can be easily misunderstood and maybe assumed to be cleaning the throttle bore due to carbon build up. The cleaning procedure is designed to clean the electric motor brushes at the commutator located within the throttle body. Failure to perform this procedure may result in vehicle returning back to the dealer for the same issue and chargeback. The screen print should be attached to R/O.

3. Click **OK** after reading the on-screen notice.

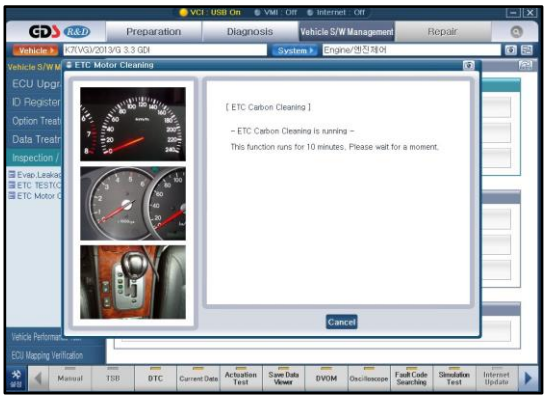


★ NOTICE

Do not attempt to start the engine while the ETC motor cleaning function is in process.

SUBJECT: SERVICE ACTION: ECM UPGRADE – MIL ON WITH DTC P0638 AND ETC MOTOR CLEANING (SA153)

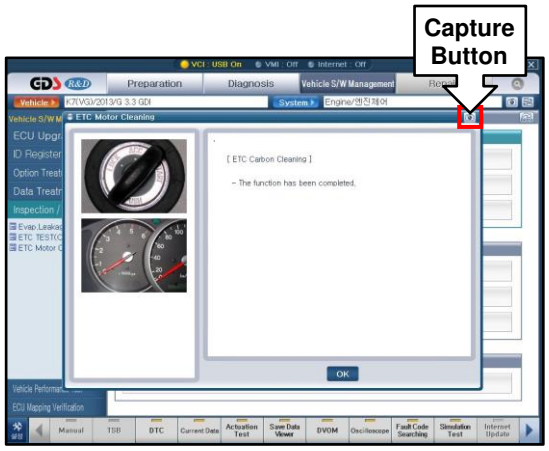
4. It will take, approximately, 10 minutes to complete the motor cleaning function.



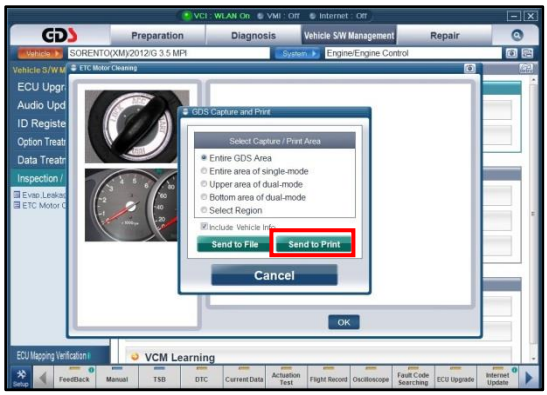
★ NOTICE

- **If DTC P2111 occurs, the motor cleaning function will not operate correctly. First, delete DTC P2111, then run the motor cleaning function.**
- **Make sure the battery is fully charged before performing the motor cleaning function.**

5. Once the motor cleaning function has been completed, click on the capture button, as shown.



6. Make sure to capture the entire GDS area and click on the “Send to Print” button.



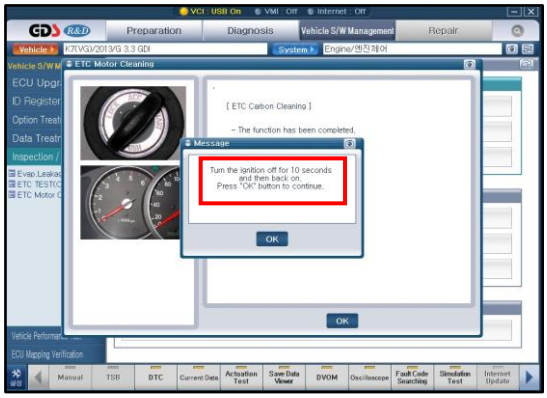
SUBJECT: SERVICE ACTION: ECM UPGRADE – MIL ON WITH DTC P0638 AND ETC MOTOR CLEANING (SA153)

✶ NOTICE

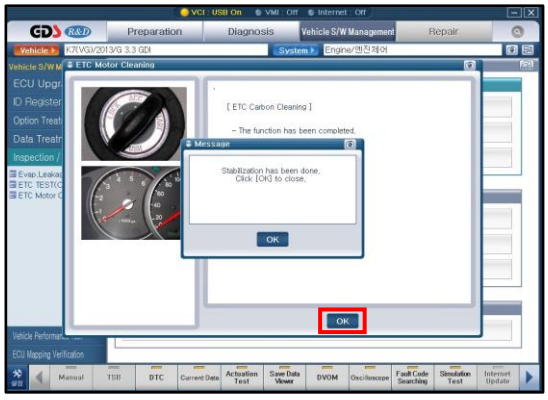
A paper copy of the screen capture MUST be attached to the R/O for verification that the procedure was completed.



7. Cycle the ignition once, as directed.



8. Click on OK to close.



9. Proceed to the ECM upgrade procedure.

SUBJECT: SERVICE ACTION: ECM UPGRADE – MIL ON WITH DTC P0638 AND ETC MOTOR CLEANING (SA153)

ECM Upgrade Procedure:

To implement these changes, the control units should be reprogrammed using the GDS download as described in this bulletin.

UPGRADE EVENT NAME
208.VQ P0638 ETC LOGIC IMPROVEMENT
209.XM P0638 ETC LOGIC IMPROVEMENT

✶ NOTICE

- **A fully charged battery is necessary before ECM/PCM upgrade can take place. It is recommended that the Midtronics GR8-1299 system be used in "ECM Mode" during charging. DO NOT connect any other battery charger to the vehicle during ECM/PCM upgrade.**
- **All ECM/PCM upgrades must be done with the ignition in the 'ON' position.**
- **Be careful not to disconnect any cables connected to the vehicle or GDS during the ECM/PCM upgrade procedure.**
- **DO NOT start the engine during ECM/PCM upgrade.**
- **DO NOT turn the ignition 'OFF' or interrupt the power supply during ECM/PCM upgrade.**
- **When the ECM/PCM upgrade is completed, turn the ignition 'OFF' and wait 20 seconds before starting the engine.**
- **ONLY use approved ECM/PCM upgrade software designated for the correct model, year.**

⚠ CAUTION

Before attempting an ECM/PCM 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.

SUBJECT: SERVICE ACTION: ECM UPGRADE – MIL ON WITH DTC P0638 AND ETC MOTOR CLEANING (SA153)

Upgrade Event #208

MODEL	IMMO	ECM P/N	ECM ROM ID	
			PREVIOUS	NEW
VQ 3.5L (11MY)	Yes (+)	39109-3C610	VQAN35*M2**AB8C* VQAN35*M2**AB8D* VQAN35*M2**AB8G* VQAN35*M2**AB8E* VQAN35*M2**AB8F*	**VQAN35*M2**AD0AS**
	No (-)	39109-3C660	VQAN35*S2**AB8C* VQAN35*S2**AB8D* VQAN35*S2**AB8E* VQAN35*S2**AB8G* VQAN35*S2**AB8F*	**VQAN35*S2**AD0AS**
VQ 3.5L (12MY)	Yes (+)	39109-3C611	VQBN35*M2**AC3A* VQBN35*M2**AC4B* VQCN35*S2**AC6A* VQBN35*M2**AC4A*	**VQBN35*M2**AD0AS**
	No (-)	39109-3C661	VQBN35*S2**AC3A* VQBN35*S2**AC4B* VQCN35*S2**AC6A* VQBN35*S2**AC4A*	**VQBN35*S2**AD0AS**
VQ 3.5L (14MY)	Yes (+)	39109-3C612	VQDN35*M2**AC6B*	**VQDN35*M2**AD0AS**
	No (-)	39109-3C662	VQDN35*S2**AC6B*	**VQDN35*S2**AD0AS**

SUBJECT: SERVICE ACTION: ECM UPGRADE – MIL ON WITH DTC P0638 AND ETC MOTOR CLEANING (SA153)

Upgrade Event #209

MODEL	IMMO	ECM P/N	ECM ROM ID	
			PREVIOUS	NEW
XM 3.5L (11MY)	Yes (+)	39108-3C010	XMAN35*M2**AB6A* XMAN35*M2**AB6B* XMAN35*M2**AB6C* XMAN35*M2**AB6D* XMAN35*M2**AB8GZ	**XMAN35*M2**AD1BS**
			XMAN35*M2**AB8B* XMAN35*M2**AB8D* XMAN35*M2**AB8E* XMAN35*M2**AB8G* XMAN35*M2**AB8F* XMAN35*M2**AD0AS	**XMAN35*M2**AD1AS**
	No (-)	39108-3C060	XMAN35*S2**AB6A* XMAN35*S2**AB6B* XMAN35*S2**AB6C* XMAN35*S2**AB6D* XMAN35*S2**AB8GZ	**XMAN35*S2**AD1BS**
			XMAN35*S2**AB8B* XMAN35*S2**AB8D* XMAN35*S2**AB8G* XMAN35*S2**AB8E* XMAN35*S2**AB8F* XMAN35*S2**AD0AS	**XMAN35*S2**AD1AS**
XM 3.5L (12MY)	Yes (+)	39108-3C011	XMBN35*M2**AC3A* XMCN35*M2**AC6B* XMBN35*M2**AC4A* XMBN35*M2**AC4B* XMBN35*M2**AD0AS	**XMBN35*M2**AD1AS**
	No (-)	39108-3C061	XMBN35*S2**AC3A* XMBN35*S2**AC4B* XMCN35*S2**AC6B* XMBN35*S2**AC4A* XMBN35*S2**AD0AS	**XMBN35*S2**AD1AS**
XM 3.5L (13MY)	Yes (+)	39108-3C012	XMCN35*M2**AC4A* XMCN35*M2**AC6A* XMCN35*M2**AD0AS	**XMCN35*M2**AD1AS**
	No (-)	39108-3C062	XMCN35*S2**AC4A* XMCN35*S2**AC6A* XMCN35*S2**AD0AS	**XMCN35*S2**AD1AS**

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.

ROM ID INFORMATION TABLE:

1. Connect the power supply cable to the GDS tool.

★ NOTICE

If attempting to perform the ECM upgrade with the power supply cable disconnected from the GDS tool, be sure to check that the GDS tool is fully charged before ECM upgrade. If the GDS tool is not fully charged, failure to perform the ECM upgrade may occur. Therefore, it is strongly recommended that the power supply connector be connected to the GDS tool.

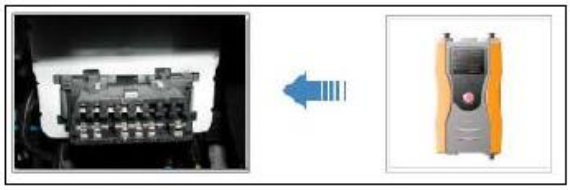
2. Connect the USB cable between the VCI and the GDS tool.

★ NOTICE

When performing the ECM upgrade using the GDS tool, wireless communication between the VCI and GDS tool is not available. Therefore, be sure to connect the USB cable between the VCI and the GDS tool.

3. Connect the Main 16-pin DLC cable (GHDM – 241000) to the VCI.

4. Connect the Main 16-pin DLC cable (GHDM – 241000) to the OBD-II connector, located under the driver's side of the instrument panel.



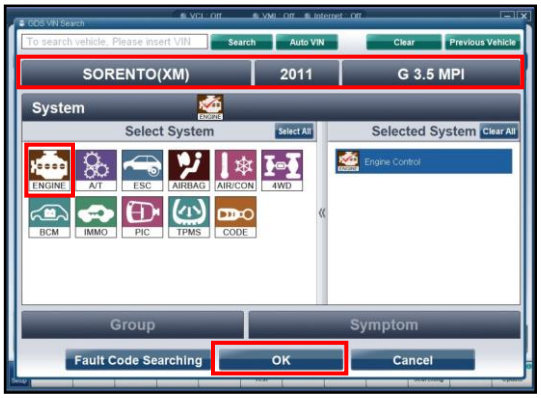
5. With the ignition **ON**, turn on the VCI and GDS tool. Access the GDS vehicle identification number (VIN) screen and configure the vehicle using the **VIN AUTO DETECT** Function.

★ NOTICE

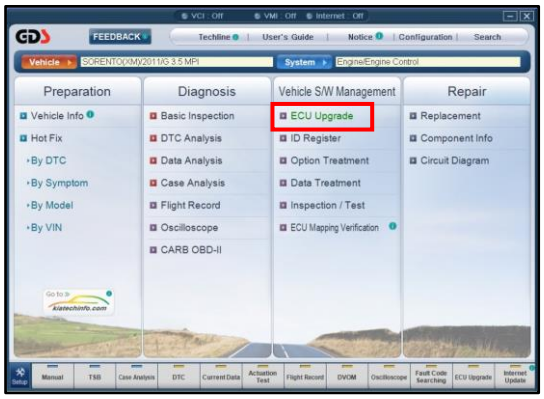
Ignition ON, (engine off) for push button start vehicles: Without depressing the brake pedal, push the start button twice.

SUBJECT: SERVICE ACTION: ECM UPGRADE – MIL ON WITH DTC P0638 AND ETC MOTOR CLEANING (SA153)

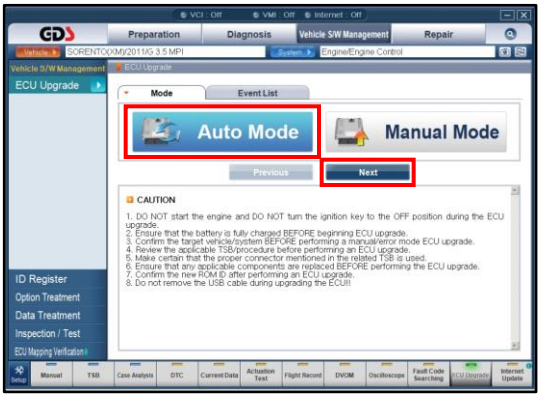
6. Select **ENGINE** system and click **OK**.



7. Select **ECU Upgrade.**

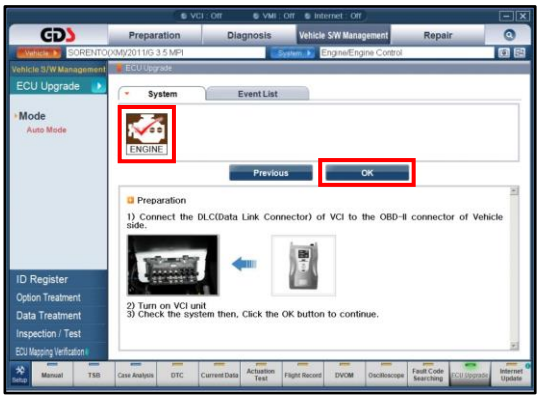


8. Select **Auto Mode**, and then **Next**.

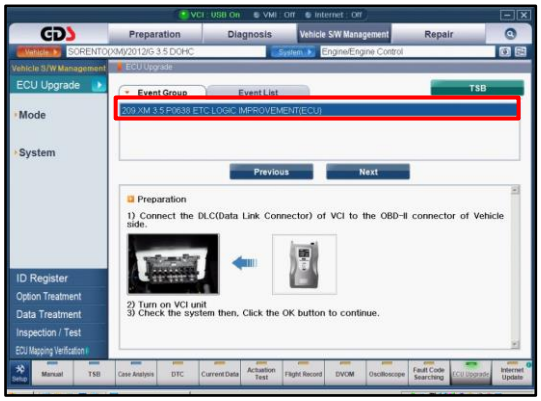


SUBJECT: SERVICE ACTION: ECM UPGRADE – MIL ON WITH DTC P0638 AND ETC MOTOR CLEANING (SA153)

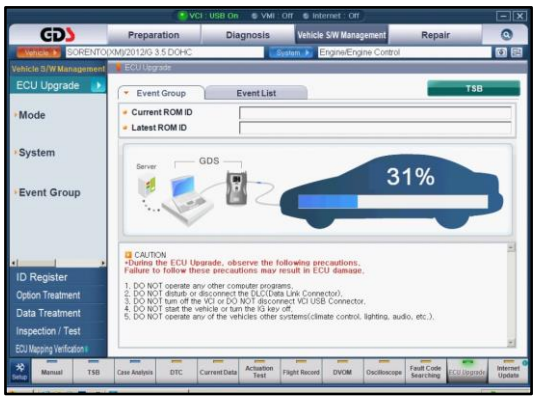
9. Select **Engine** and click **OK**.



10. Select Upgrade Event: **208.VQ 3.5 P0638 ETC LOGIC IMPROVEMENT (ECU)** or **209.XM 3.5 P0638 ETC LOGIC IMPROVEMENT(ECU)**, then click **Upgrade** button and **OK** on battery voltage check screen.

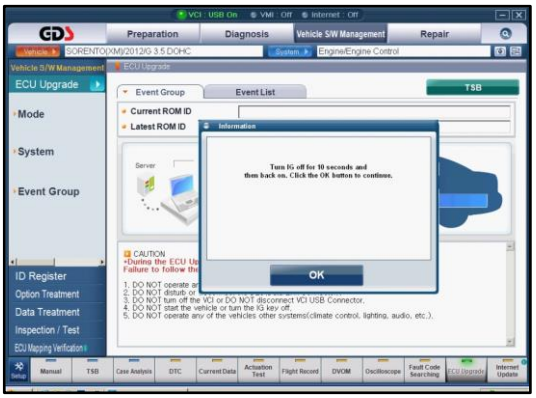


11. Upgrade will begin and the progress of the upgrade will appear on the bar graph.

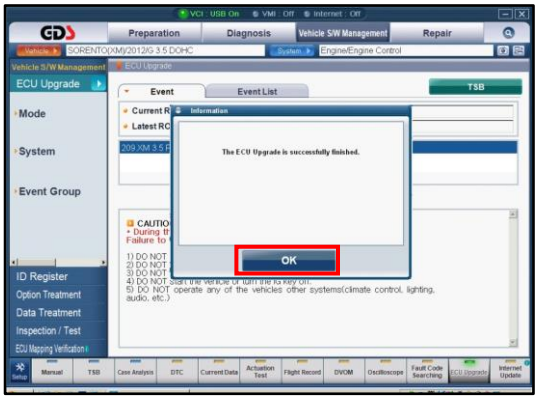


SUBJECT: SERVICE ACTION: ECM UPGRADE – MIL ON WITH DTC P0638 AND ETC MOTOR CLEANING (SA153)

12. Follow the guidelines displayed on the screen during upgrade procedure and make sure to cycle the ignition **OFF** ↔ **ON** once.



13. Click OK on the final screen. Upgrade events 208 or 209 are now complete.



14. Check if any incidental Diagnostic Trouble Codes DTC(s) have been created by the upgrade process; clear any DTC(s) that may be present.

15. Start the engine to confirm proper operation.

SUBJECT: SERVICE ACTION: ECM UPGRADE – MIL ON WITH DTC P0638 AND ETC MOTOR CLEANING (SA153)

⚠ CAUTION

Before attempting an ECM 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.

✶ NOTICE

Do NOT attempt to perform a Manual Mode upgrade unless Auto Mode fails. Always follow the instructions given on the GDS tool in either Auto or Manual mode. See table for Manual Mode passwords.

MANUAL MODE ECM UPGRADE PASSWORDS:

Upgrade Event #208

MODEL	YEAR	MENU	PASSWORD
VQ(3.5L)	11MY	VQ 3.5 11MY NAS +IMMO : 39109-3C610	3610
		VQ 3.5 11MY NAS -IMMO : 39109-3C660	3660
	12MY	VQ 3.5 12MY NAS +IMMO : 39109-3C611	3611
		VQ 3.5 12MY NAS -IMMO : 39109-3C661	3661
	14MY	VQ 3.5 13MY NAS +IMMO : 39109-3C612	3612
		VQ 3.5 13MY NAS -IMMO : 39109-3C662	3662

Upgrade Event #209

MODEL	YEAR	MENU	PASSWORD
XM(3.5L)	11MY	XM 3.5 11MY NAS +IMMO : 39108-3C010	3010
		XM 3.5 11MY NAS -IMMO : 39108-3C060	3060
	12MY	XM 3.5 12MY NAS +IMMO : 39108-3C011	3011
		XM 3.5 12MY NAS -IMMO : 39108-3C061	3061
	13MY	XM 3.5 13MY NAS +IMMO : 39108-3C012	3012
		XM 3.5 13MY NAS -IMMO : 39108-3C062	3062

1. Within the **ECM Upgrade** screen, select **Manual Mode** in the left column, select **Engine** and then select **Upgrade Event 208 or 209**. Select the appropriate control unit part number by referring to the ROM ID Information Table on Page 3 or 4 and click **OK**.

2. Enter the appropriate password from the table above, and then click **OK**.

3. Upgrade will begin and the progress of the upgrade will appear on the bar graph.

4. Following the guidelines displayed on the screen during upgrade procedure, cycle the ignition **OFF** ↔ **ON** once.

5. Review the ECM upgrade results and click **OK**.

6. Click **OK** on the final screen. Upgrade event is now complete.

7. Check if any incidental Diagnostic Trouble Codes DTC(s) have been created by the upgrade process; clear any DTC(s) that may be present.

8. Start the engine to confirm proper operation.

SUBJECT: SERVICE ACTION: ECM UPGRADE – MIL ON WITH DTC P0638 AND ETC MOTOR CLEANING (SA153)

AFFECTED VEHICLE PRODUCTION RANGE:

Model	Production Date Range
Sorento (XM)	From October 25, 2009 through January 31, 2013
Sedona (VQ)	From March 03, 2010 through July 12, 2013

SERVICE ACTION WARRANTY CLAIM INFORMATION:

Claim Type	Causal P/N	Qty	N Code	C Code	Repair Description	Labor Op Code	Time	Related Parts	Qty
V	39108 3C060	0	N69	C40	(SA 153) ECM Upgrade and ETC Actuator Cleaning (XM)	130A04R0	0.3 M/H	N/A	0
	39109 3C662				(SA 153) ECM Upgrade and ETC Actuator Cleaning (VQ)	130071R0			

★ NOTICE

- **VIN inquiry data for this repair is provided for tracking purposes only. Kia retailers should reference SA153 when accessing the WebDCS system.**
- **A screen print of ETC Motor Cleaning Procedure should be kept with the hard copy of warranty claim information. Failure to do so may result in chargeback.**