



GROUP
Engine

MODEL: **Sedona (VQ),
Amanti (GH), Borrego (HM)
w/3.8L, Optima (MG),
and Rondo (UN) w/ 2.7L**

NUMBER
061

DATE
March 2010

TECHNICAL SERVICE BULLETIN

SUBJECT:

PCM UPGRADE P0110, P0111, P0116 AND P161B

This bulletin provides information related to the ECM software upgrade of some 2006~2010MY Sedona (VQ) vehicles with 3.8L engines, 2009MY Borrego (HM) vehicles with 3.8L engines, 2007~2009MY Amanti (GH) vehicles with 3.8L engine, 2006~2010MY Optima (MG) vehicles with 2.7L engines, and 2007~2010MY Rondo (UN) vehicles with 2.7L engines which may experience a malfunction indicator lamp illuminated with the PCM (Powertrain Control Module) system-related DTC(s), P0110, P0111, P0116 and P161B.

- P0110: Intake Air Temperature sensor 1 Circuit
- P0111: Intake Air Temperature sensor 1 Circuit Range / Performance
- P0116: Engine Coolant Temperature Circuit Range / Performance
- P161B: ECM Torque Calculation Performance



Global Diagnostic System (GDS)

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

File Under: Engine

Circulate To: General Manager Service Manager Parts Manager
 Service Advisor(s) Technician(s) Body Shop Manager Fleet Repair

SUBJECT:

PCM UPGRADE P0110, P0111, P0116 AND P161B

UPGRADE EVENT NAME
105. Amanti (GH) P0110, P0111, P0116 and P161B DTC (K-Line)
106. Amanti (GH) P0110, P0111, P0116 and P161B DTC (CAN-Line)
107. Sedona (VQ) P0110, P0111, P0116 and P161B DTC (K-Line)
108. Sedona (VQ) P0110, P0111, P0116 and P161B DTC (CAN-Line)
110. Borrego (HM) P0110, P0111, P0116 and P161B DTC (CAN-Line)
112. Optima (MG) P0110, P0111, P0116 and P161B DTC (K-Line)
113. Optima (MG) P0110, P0111, P0116 and P161B DTC (CAN-Line)
114. Rondo (UN) P0110, P0111, P0116 and P161B DTC (CAN-Line)

*NOTICE

- **A fully charged battery is necessary before ECU upgrade can take place. DO NOT connect a battery charger to the vehicle during ECU upgrade. Make sure the blower motor is 'OFF' during ECU upgrade.**
- **All ECU upgrades must be done with the ignition key in the 'ON' position.**
- **Be careful not to disconnect any cables connected to the vehicle or GDS 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 key 'OFF' and wait 20 seconds before starting the engine.**
- **ONLY use approved ECU upgrade software designated for the correct model, year and engine size. Failure to do so may create other driveability issues due to the use of the incorrect ECM/PCM calibration.**

SUBJECT:

PCM UPGRADE P0110, P0111, P0116 AND P161B

ROM ID INFORMATION TABLES :**1) Sedona VQ 3.8L with K-line (06~07MY) - Upgrade event #107**

MODEL YEAR	IMMOBILIZER	ECM P/N	ROM ID	
			PREVIOUS	NEW
06MY Sedona (VQ)	With	39110-3C410	VQ5N38*M2AS5D1BA VQ5N38*M2AS5D2AA VQ5N38*M2AS5E1BB VQ5N38*M2AS5E2AA VQ5N38*M2AS5E3AA VQ5N38*M2AS660AB VQ5N38*M2AS660BB VQ5N38*M2AS671CB VQ5N38*M2AS671DB VQ5N38*M2AS683BB VQ5N38*M2AS683CB	VQ5N38*M2AS685BA
	Without	39110-3C460	VQ5N38*S2AS5D1BA VQ5N38*S2AS5D2AA VQ5N38*S2AS5E1BB VQ5N38*S2AS5E2AA VQ5N38*S2AS5E3AA VQ5N38*S2AS660AB VQ5N38*S2AS660BB VQ5N38*S2AS671CB VQ5N38*S2AS671DB VQ5N38*S2AS683BB VQ5N38*S2AS683CB	VQ5N38*S2AS685BA
07MY Sedona (VQ)	With	39110-3C415	VQ6N38*M2AS653DB VQ6N38*M2AS660AB VQ6N38*M2AS671BA VQ6N38*M2AS671DA VQ6N38*M2AS671EA VQ6N38*M2AS671FA VQ6N38*M2AS683BB VQ6N38*M2AS683CB	VQ6N38*M2AS685BA
	Without	39110-3C465	VQ6N38*S2AS653DB VQ6N38*S2AS660AB VQ6N38*S2AS671BA VQ6N38*S2AS671DA VQ6N38*S2AS671EA VQ6N38*S2AS671FA VQ6N38*S2AS683BB VQ6N38*S2AS683CB	VQ6N38*S2AS685BA

SUBJECT:**PCM UPGRADE P0110, P0111, P0116 AND P161B****2) Sedona (VQ) 3.8L with CAN (08~10MY) – Upgrade event #108**

MODEL YEAR	IMMOBILIZER	ECM P/N	ROM ID	
			PREVIOUS	NEW
08MY Sedona (VQ)	With	39110-3C416	VQ7N38*M2AS7G3BA VQ7N38*M2AS7J0AA VQ7N38*M2AS7J1AA VQ7N38*M2AS7M0AA VQ7N38*M2AS7M0CA	VQ7N38*M2AS7M6BA
	Without	39110-3C466	VQ7N38*S2AS7G3BA VQ7N38*S2AS7J0AA VQ7N38*S2AS7J1AA VQ7N38*S2AS7M0AA VQ7N38*S2AS7M0CA	VQ7N38*S2AS7M6BA
	With	39110-3C417	VQ7N38*M2AS7G3BP VQ7N38*M2AS7J0AP VQ7N38*M2AS7J1AP VQ7N38*M2AS7J2AP VQ7N38*M2AS7J2BP VQ7N38*M2AS7M0AP VQ7N38*M2AS7M0CP	VQ7N38*M2AS7M6BP
	Without	39110-3C467	VQ7N38*S2AS7G3BP VQ7N38*S2AS7J0AP VQ7N38*S2AS7J1AP VQ7N38*S2AS7J2AP VQ7N38*S2AS7J2BP VQ7N38*S2AS7M0AP VQ7N38*S2AS7M0CP	VQ7N38*S2AS7M6BP
	With	39110-3C418	VQ7N38*M2AS7K6BP VQ7N38*M2AS7K6CP VQ7N38*M2AS7M0AP VQ7N38*M2AS7M0CP	VQ7N38*M2AS7M6BP
	Without	39110-3C468	VQ7N38*S2AS7K6BP VQ7N38*S2AS7K6CP VQ7N38*S2AS7M0AP VQ7N38*S2AS7M0CP	VQ7N38*S2AS7M6BP
09MY Sedona (VQ)	With	39110-3C419	VQ8N38*M2AS8JACA VQ8N38*M2AS8JFAB VQ8N38*M2AS8JHAA VQ8N38*M2AS8JHCA	VQ8N38*M2AS8JMEA
	Without	39110-3C469	VQ8N38*S2AS8JACA VQ8N38*S2AS8JFAB VQ8N38*S2AS8JHAA VQ8N38*S2AS8JHCA	VQ8N38*S2AS8JMEA
	With	39110-3C409	VQ8N38*M2AS8JKBA VQ8N38*M2AS8JMBA	VQ8N38*M2AS8JMDA
	Without	39110-3C408	VQ8N38*S2AS8JKBA VQ8N38*S2AS8JMBA	VQ8N38*S2AS8JMDA
10MY Sedona (VQ)	With	39110-3C450	VQ9N38*M2AS8JNAA	VQ8N38*M2AS8JNCA
	Without	39110-3C455	VQ9N38*S2AS8JNAA	VQ8N38*S2AS8JNCA

SUBJECT:**PCM UPGRADE P0110, P0111, P0116 AND P161B****3) 2007 Amanti GH 3.8L with K-line (07MY) - Upgrade event #105**

MODEL YEAR	IMMOBILIZER	ECM P/N	ROM ID	
			PREVIOUS	NEW
07MY Amanti (GH)	With	39110-3C810	GH6N38*M2AS653BB GH6N38*M2AS660DC GH6N38*M2AS660DD GH6N38*M2AS671AA GH6N38*M2AS671BA GH6N38*M2AS683BA GH6N38*M2AS683CA	GH6N38*M2AS685AA

4) 2008~2009 Amanti (GH) 3.8L with CAN (08~09MY) – Upgrade event #106

MODEL YEAR	IMMOBILIZER	ECM P/N	ROM ID	
			PREVIOUS	NEW
08MY Amanti (GH)	With	39110-3C811	GH7N38*M2AS7G2BA GH7N38*M2AS7G3AA GH7N38*M2AS7G3BA GH7N38*M2AS7J0AA GH7N38*M2AS7J1AA GH7N38*M2AS7M0AA GH7N38*M2AS7M0CA	GH7N38*M2AS7M6AA
	With	39110-3C812	GH7N38*M2AS7G3BP GH7N38*M2AS7J0BP GH7N38*M2AS7J1AP GH7N38*M2AS7K6BP GH7N38*M2AS7M0AP GH7N38*M2AS7M0CP	GH7N38*M2AS7M6AP
09MY Amanti (GH)	With	39110-3C814	GH8N38*M2AS8JACA GH8N38*M2AS8JFAA GH8N38*M2AS8JHBA GH8N38*M2AS8JHEA	GH8N38*M2AS8JNAA
		39110-3C815	GH8N38*M2AS8JKBA	

5) 2009 Borrego (HM) 3.8L with CAN (09MY) – Upgrade event #110

MODEL YEAR	IMMOBILIZER	ECM P/N	ROM ID	
			PREVIOUS	NEW
09MY Borrego (HM)	With	39106-3C710	HM8N38*M2**8L2A* HM8N38*M2**8M6B* HM8N38*M2**8N2B*	HM8N38*M2**8N2D*
09MY Borrego (HM)	With	39106-3C711	HM8N38*M2**8N2C*	HM8N38*M2**8N2D*
09MY Borrego (HM)	With	39106-3C712	HM8N38*M2**8P1A*	HM8N38*M2**8P1B*

SUBJECT:

PCM UPGRADE P0110, P0111, P0116 AND P161B

6) MG 2.7L with K-line – Upgrade event #112

MODEL YEAR	IMMOBILIZER	ECM P/N	ROM ID	
			PREVIOUS	NEW
2006 Optima (MG)	Without (-)	39109-3E210	MG6N27*S2AS5E1DB MG6N27*S2AS5E1GB MG6N27*S2AS5E1HB MG6N27*S2AS5E1IC MG6N27*S2AS5E1ID MG6N27*S2AS5E3AA MG6N27*S2AS5E4AA MG6N27*S2AS683EA MG6N27*S2AS683FA	MG6N27*S2AS685AA
2007 Optima (MG)	Without (-)	39109-3E211	MG6N27*S2AS653AB MG6N27*S2AS653CC MG6N27*S2AS671BB MG6N27*S2AS672AA MG6N27*S2AS683EA MG6N27*S2AS683FA	MG6N27*S2AS685AA

7) MG 2.7L with CAN – Upgrade event #113

MODEL YEAR	IMMOBILIZER	ECM P/N	ROM ID	
			PREVIOUS	NEW
2008 Optima (MG)	Without (-)	39109-3E212	MG7N27*S2AS7G3BA MG7N27*S2AS7J0AA MG7N27*S2AS7J1AA MG7N27*S2AS7J1AA MG7N27*S2AS7M0EA MG7N27*S2AS7M2AA	MG7N27*S2AS7M6AA
		39109-3E213	MG7N27*S2AS7K6AA MG7N27*S2AS7M0AA MG7N27*S2AS7M0EA MG7N27*S2AS7M2AA	
2009 Optima (MG)	Without (-)	39129-3E210	MG8N27*S2AS8JGEA MG8N27*S2AS8JHAA MG8N27*S2AS8JIBA	MG9N27*S2AS8JPBA
		39129-3E211	MG8N27*S2AS8JIAA MG8N27*S2AS8JIBA	
2010 Optima (MG)	Without (-)	39129-3E212	MG8N27*S2AS8JNBA	MG9N27*S2AS8JPBA
		39129-3E213	MG9N27*S2AS8JPAA	

SUBJECT:

PCM UPGRADE P0110, P0111, P0116 AND P161B

8) UN 2.7L with CAN – Upgrade event #114

MODEL YEAR	IMMOBILIZER	ECM P/N	ROM ID	
			PREVIOUS	NEW
2007 Rondo (UN)	Without (-)	39109-3E631	UN7N27*S2AS7C1BB UN7N27*S2AS7D0BB UN7N27*S2AS7D0CB UN7N27*S2AS7F0BB UN6N27*S2AS7F4AA UN6N27*S2AS7F4CD (VIN writing procedure required) UN8N27*S2AS7M0EA	UN8N27*S2AS7M6AA
		39109-3E650	UN6N27*S2AS7G3XZ UN8N27*S2AS7M0FA	UN8N27*S2AS7M6BA
2008 Rondo (UN)	Without (-)	39109-3E632	UN7N27*S2AS7G3CA UN7N27*S2AS7J0AA UN7N27*S2AS7J1AA UN8N27*S2AS7M0GA	UN8N27*S2AS7M6CA
		39106-3E633	UN7N27*S2AS7K6BA UN8N27*S2AS7M0GA	UN8N27*S2AS7M6CA
2009 Rondo (UN)	Without (-)	39106-3E634	UN8N27*S2AS8JFAA UN8N27*S2AS8JHAA UN8N27*S2AS8JHBA	UN9N27*S2AS8JPDA
2010 Rondo (UN)	Without (-)	39109-3E635	UN8N27*S2AS8JPBA	UN9N27*S2AS8JPDA

To verify the vehicle is affected, be sure to check the Calibration Identification of the vehicle's PCM's ROM ID and reference the Information Table as necessary.

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

***NOTICE**

If attempting to perform the ECU upgrade with the power supply cable disconnected from the GDS tool, be sure to check that the GDS tool is fully charged before ECU upgrade. If the GDS tool is not fully charged, failure to perform the ECU 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.

SUBJECT:

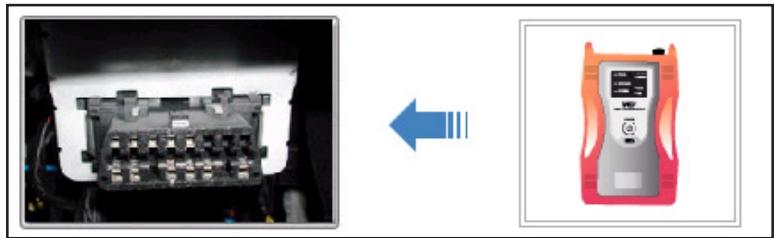
PCM UPGRADE P0110, P0111, P0116 AND P161B

***NOTICE**

When performing the ECU 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.

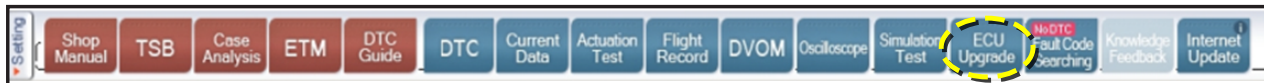
3. Connect the Main 16-pin DLC cable (GHDM – 241000) to the VCI.

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 key 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.

6. Once back at the GDS Main Screen, select ECM upgrade from the bottom right-hand corner. Next select **Auto Mode**, Engine. Perform the ECM upgrade in accordance with normal GDS tool ECM upgrade procedures.

***NOTICE**

DO NOT attempt to perform a Manual Mode ECM 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. In addition, a ECM reset is required if Auto Mode fails; refer to the table below for procedure.

SUBJECT:

PCM UPGRADE P0110, P0111, P0116 AND P161B

MANUAL MODE ECU UPGRADE PASSWORDS:

MENU	PASSWORD	COMMUNICATION TYPE	
Sedona			
VQ 3.8 IMMO : 39110-3C410	3410	K-Line	
VQ 3.8 NON IMMO : 39110-3C460	3460		
VQ 3.8 IMMO : 39110-3C415	3415		
VQ 3.8 NON IMMO : 39110-3C465	3465		
VQ 3.8 08MY IMMO : 39110-3C416	3416	CAN - Line	
VQ 3.8 08MY NON IMMO : 39110-3C466	3466		
VQ 3.8 08MY IMMO : 39110-3C417	3417		
VQ 3.8 08MY NON IMMO : 39110-3C467	3467		
VQ 3.8 08MY IMMO : 39110-3C418	3418		
VQ 3.8 08MY NON IMMO : 39110-3C468	3468		
VQ 3.8 09MY IMMO : 39110-3C419	3419		
VQ 3.8 09MY NON IMMO : 39110-3C469	3469		
VQ 3.8 09MY IMMO : 39110-3C409	3409		
VQ 3.8 09MY NON IMMO : 39110-3C408	3408		
VQ 3.8 10MY IMMO : 39110-3C450	3450		
VQ 3.8 10MY NON IMMO : 39110-3C455	3455		
Amanti			
GH 3.8 07MY IMMO : 39110-3C810	3810		K-Line
GH 3.8 08MY IMMO : 39110-3C811	3811	CAN - Line	
GH 3.8 08MY IMMO : 39110-3C812	3812		
GH 3.8 09MY IMMO : 39110-3C814/815	3815		
Borrego w/ 3.8L			
HM 3.8 IMMO : 39106-3C710/711	3711	CAN - Line	
HM 3.8 IMMO : 39106-3C712	3712		

* **Do NOT perform Manual Mode ECU upgrade unless Auto Mode fails.**

* **Do NOT force the calibration into the incorrect P/N PCM, this is subject to warranty chargeback.**

MANUAL MODE ECU UPGRADE PASSWORDS FOR OPTIMA AND RONDO ON NEXT PAGE

SUBJECT:**PCM UPGRADE P0110, P0111, P0116 AND P161B**

MENU	PASSWORD	COMMUNICATION TYPE
Optima w/ 2.7L		
MG 2.7 NON IMMO :39109-3E210/211	3211	K-Line
MG 2.7 NON IMMO : 39109-3E212/213	3213	CAN - Line
MG 2.7 NON IMMO : 39129-3E210/211/212	3212	
Rondo w/ 2.7L		
UN 2.7 NON IMMO : 39109-3E631	3631	CAN - Line
UN 2.7 NON IMMO : 39109-3E650	3650	
UN 2.7 NON IMMO : 39109-3E632/633	3633	
UN 2.7 NON IMMO : 39109-3E634/635	3635	

7. When the GDS tool reports that the ECM upgrade has been successfully completed, click OK, turn OFF the ignition key, and wait at least 10 seconds before attempting to start the engine.
8. Check for Diagnostic Trouble Codes using the GDS and erase any DTCs stored **due to CAN-Line communication during reprogramming.**

AFFECTED VEHICLES & PRODUCTION RANGE:

2006 ~ 2010 MY Sedona (VQ) vehicles

2007 ~ 2009 MY Amanti (GH) vehicles

2009 MY Borrego (HM) vehicles with 3.8L engine

2006 ~ 2010 MY Optima (MG) vehicles with 2.7L engine

2007 ~ 2010 MY Rondo (UN) vehicles with 2.7L engine

SUBJECT:

PCM UPGRADE P0110, P0111, P0116 AND P161B

WARRANTY CLAIM INFORMATION:

Claim Type	Model	Causal P/N	Qty.	N Code	C Code	Repair Description	Labor Op Code	Time	Related Parts	Qty
W	Sedona (VQ)	39110 3C410	0	N69	C40	(TSB) PCM Upgrade – K-line	39110F83	0.4 M/H	N/A	0
W	Sedona (VQ)	39110 3C416	0	N69	C40	(TSB) PCM Upgrade – CAN-line	39110F84	0.3 M/H	N/A	0
W	Amanti (GH)	39110 3C810	0	N69	C40	(TSB) PCM Upgrade – K-line	39110F83	0.4 M/H	N/A	0
W	Amanti (GH)	39110 3C811	0	N69	C40	(TSB) PCM Upgrade – CAN-line	39110F84	0.3 M/H	N/A	0
W	Borrego (HM)	39106 3C710	0	N69	C40	(TSB) PCM Upgrade – CAN-line	39110F84	0.3 M/H	N/A	0
W	Optima (MG)	39109-3E210	0	N69	C40	(TSB) PCM Upgrade – K-line	39110F83	0.4 M/H	N/A	0
W	Optima (MG)	39109-3E212	0	N69	C40	(TSB) PCM Upgrade – CAN-line	39110F84	0.3 M/H	N/A	0
W	Rondo (UN)	39109-3E631	0	N69	C40	(TSB) PCM Upgrade – CAN-line	39110F84	0.3 M/H	N/A	0