	GROUP	MODEL
	Engine	**2012-2013MY Rio (UB)** **2012-2013MY Soul (AM)**
	NUMBER	DATE
	118 (REV 2, 10/08/2013)	**May 2012**

TECHNICAL SERVICE BULLETIN

SUBJECT: COMBINED TSB/SERVICE ACTION – RIO, SOUL 1.6 GDI MIL ON WITH DTCS P0456/P0461/P050A/P2188/P2192/P0128 (SA152)

✶ 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 2012-2013MY Rio (UB) and some 2012-2013 Soul (AM) vehicles which may experience a malfunction indicator lamp (MIL) illuminated with the Electronic Control Module (ECM) system-related DTCs; P0456, P0461,P050A, P2188, P2192, P0128. To prevent and/or correct this condition, the ECM should be reprogrammed using the GDS download as described in this bulletin. **Before performing this procedure, verify the VIN falls within the production ranges by consulting the table on page 10.** For confirmation that the latest reflash has been done to a vehicle you are working on, verify ROM ID using the tables in this TSB.

For vehicles not on the Affected Vehicles list, but with a customer concern as described above, perform the following procedure outlined in this bulletin and submit a warranty claim per "customer concern" (Standard TSB) claim information on page 11.

P0456: Evaporative Emission System-Leak detected (very small leak)
P0461 Fuel Level Sensor Circuit Range/Performance
P050A: Cold Start Idle Air Control System Performance
P2188: System too rich at idle (Bank 1)
P2192: System too rich at higher load (Bank 1)
P0128: Thermostat (temperature below Thermostat Regulating Temp.)

✶ 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 SA152.

File Under: <Engine>

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

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

SUBJECT: COMBINED TSB/SERVICE ACTION – RIO, SOUL 1.6 GDI MIL ON WITH DTCS P0456/P0461/P050A/P2188/P2192/P0128 (SA152)

✶ 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 will be subject to chargeback.

ECM Upgrade Procedure:

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

UPGRADE EVENT NAME
198.UB 1.6 GDI P0456/P2188/P2192 DTC LOGIC IMPROVEMENT
199.AM 1.6 GDI P0456/P2188/P2192 DTC LOGIC IMPROVEMENT

✶ NOTICE

- **A fully charged battery is necessary before ECM 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 upgrade.**
- **All ECM 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 ECM upgrade procedure.**
- **DO NOT start the engine during ECM upgrade.**
- **DO NOT turn the ignition key 'OFF' or interrupt the power supply during ECM upgrade.**
- **When the ECM upgrade is completed, turn the ignition 'OFF' and wait 20 seconds before starting the engine.**
- **ONLY use approved ECM upgrade software designated for the correct model, year.**

⚠ 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.

SUBJECT: COMBINED TSB/SERVICE ACTION – RIO, SOUL 1.6 GDI MIL ON WITH DTCS P0456/P0461/P050A/P2188/P2192/P0128 (SA152)

ROM ID INFORMATION TABLES :

Upgrade event #198 (UB)

MODEL	MY	T/M	IMMO	ISG	ECM P/N	ROM ID	
						PREVIOUS	NEW
RIO (UB) 1.6 GDI	12MY	MT	No (-)	No (-)	39110-2BDL0	GGUB-BNU6ES00600 GGUB-BNU6ES01600 GGUB-BNU6ES02600 GGUB-BNU6ES03600 GGUB-BNU6ES04600 GGUB-BNU6ES0060A GGUB-BNU6ES016A0 GGUB-DNU6ES02600	**GGUB-DNU6ES05600**
			Yes (+)	No (-)	39110-2BDM0	GGUB-BNU6FS00600 GGUB-BNU6FS01600 GGUB-BNU6FS02600 GGUB-BNU6FS03600 GGUB-BNU6FS04600 GGUB-BNU6FS0060A GGUB-BNU6FS016A0 GGUB-DNU6FS02600	**GGUB-DNU6FS05600**
		AT	No (-)	No (-)	39110-2BDL5	GGUB-BNU6PS00C00 GGUB-BNU6PS01C00 GGUB-BNU6PS02C00 GGUB-BNU6PS03C00 GGUB-BNU6PS04C00 GGUB-BNU6PS00C0A GGUB-BNU6PS01CA0 GGUB-DNU6PS02C00	**GGUB-DNU6PS05C00**
				Yes (+)	39110-2BDL8	GIUB-BNU6PS00C00 GIUB-BNU6PS01C00 GIUB-BNU6PS02C00 GIUB-BNU6PS03C00 GIUB-BNU6PS04C00 GIUB-BNU6PS00C0A GIUB-BNU6PS01CA0 GIUB-BNU6PS02CA0 GIUB-DNU6PS03C00 GIUB-DNU6PS04C00	**GIUB-DNU6PS06C00**
			Yes (+)	No (-)	39110-2BDM5	GGUB-BNU6QS00C00 GGUB-BNU6QS01C00 GGUB-BNU6QS02C00 GGUB-BNU6QS03C00 GGUB-BNU6QS04C00 GGUB-BNU6QS00C0A GGUB-BNU6QS01CA0 GGUB-DNU6QS02C00	**GGUB-DNU6QS05C00**
			Yes (+)	Yes (+)	39110-2BDM8	GIUB-BNU6QS00C00 GIUB-BNU6QS01C00 GIUB-BNU6QS02C00 GIUB-BNU6QS03C00 GIUB-BNU6QS04C00 GIUB-BNU6QS00C0A GIUB-BNU6QS01CA0 GIUB-BNU6QS02CA0 GIUB-DNU6QS03C00 GIUB-DNU6QS04C00	**GIUB-DNU6QS06C00**

SUBJECT: COMBINED TSB/SERVICE ACTION – RIO, SOUL 1.6 GDI MIL ON WITH DTCS P0456/P0461/P050A/P2188/P2192/P0128 (SA152)

ROM ID INFORMATION TABLES (Cont'd):

MODEL	MY	T/M	IMMO	ISG	ECM P/N	ROM ID	
						PREVIOUS	NEW
RIO (UB) 1.6 GDI	13MY	MT	No (-)	No (-)	39110-2BDN0	GGUB-DNU6ES00600 GGUB-DNU6ES01600 GGUB-DNU6ES02600 GGUB-DNU6ES03600 GGUB-DNU6ES04600	**GGUB-DNU6ES05600**
			Yes (+)	No (-)	39110-2BDP0	GGUB-DNU6FS00600 GGUB-DNU6FS01600 GGUB-DNU6FS02600 GGUB-DNU6FS03600 GGUB-DNU6FS04600	**GGUB-DNU6FS05600**
		AT	No (-)	No (-)	39110-2BDA7	GGUB-DNU6PS00C00 GGUB-DNU6PS01C00 GGUB-DNU6PS02C00 GGUB-DNU6PS03C00 GGUB-DNU6PS04C00	**GGUB-DNU6PS05C00**
			No (-)	Yes (+)	39110-2BDC7	GIUB-DNU6PS00C00 GIUB-DNU6PS01C00 GIUB-DNU6PS02C00 GIUB-DNU6PS03C00 GIUB-DNU6PS04C00 GIUB-DNU6PS05C00	**GIUB-DNU6PS06C00**
			No (-)	Yes (+)	39110-2BDE7	GIUB-DNU6PSG0C00 GIUB-DNU6PSG1C00 GIUB-DNU6PSG2C00 GIUB-DNU6PSG3C00 GIUB-DNU6PSG4C00 GIUB-DNU6PSG5C00	**GIUB-DNU6PSG6C00**
			Yes (+)	No (-)	39110-2BDB7	GGUB-DNU6QS00C00 GGUB-DNU6QS01C00 GGUB-DNU6QS02C00 GGUB-DNU6QS03C00 GGUB-DNU6QS04C00	**GGUB-DNU6QS05C00**
			Yes (+)	Yes (+)	39110-2BDD7	GIUB-DNU6QS00C00 GIUB-DNU6QS01C00 GIUB-DNU6QS02C00 GIUB-DNU6QS03C00 GIUB-DNU6QS04C00 GIUB-DNU6QS05C00	**GIUB-DNU6QS06C00**
			Yes (+)	Yes (+)	39110-2BDF7	GIUB-DNU6QSG0C00 GIUB-DNU6QSG1C00 GIUB-DNU6QSG2C00 GIUB-DNU6QSG3C00 GIUB-DNU6QSG4C00 GIUB-DNU6QSG5C00	**GIUB-DNU6QSG6C00**

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: COMBINED TSB/SERVICE ACTION – RIO, SOUL 1.6 GDI MIL ON WITH DTCS P0456/P0461/P050A/P2188/P2192/P0128 (SA152)

ROM ID INFORMATION TABLES (Cont'd):

Upgrade event #199 (AM)

MODEL	MY	T/M	IMMO	ISG	ECM P/N	ROM ID	
						PREVIOUS	NEW
SOUL (AM) 1.6 GDI	12MY	MT	No (-)	No (-)	39110-2BCG0	GGAM-BNU6ES00600 GGAM-BNU6ES01600 GGAM-BNU6ES02600 GGAM-BNU6ES03600 GGAM-BNU6ES04600 GGAM-BNU6ES05600 GGAM-BNU6ES06600 GGAM-BNU6ES07600 GGAM-BNU6ES08600 GGAM-DNU6ES01600	**GGAM-DNU6ES03600**
			Yes (+)	No (-)	39110-2BCH0	GGAM-BNU6FS00600 GGAM-BNU6FS01600 GGAM-BNU6FS02600 GGAM-BNU6FS03600 GGAM-BNU6FS04600 GGAM-BNU6FS05600 GGAM-BNU6FS06600 GGAM-BNU6FS07600 GGAM-BNU6FS08600 GGAM-DNU6FS01600	**GGAM-DNU6FS03600**
		AT	No (-)	No (-)	39110-2BCG5 39110-2BCG2	GGAM-BNU6PS00C00 GGAM-BNU6PS01C00 GGAM-BNU6PS02C00 GGAM-BNU6PS03C00 GGAM-BNU6PS04C00 GGAM-BNU6PS05C00 GGAM-BNU6PS06C00 GGAM-BNU6PS07C00 GGAM-BNU6PS08C00 GGAM-DNU6PS01C00	**GGAM-DNU6PS03C00**
			Yes (+)	No (-)	39110-2BCH5 39110-2BCH2	GGAM-BNU6QS00C00 GGAM-BNU6QS01C00 GGAM-BNU6QS02C00 GGAM-BNU6QS03C00 GGAM-BNU6QS04C00 GGAM-BNU6QS05C00 GGAM-BNU6QS06C00 GGAM-BNU6QS07C00 GGAM-BNU6QS08C00 GGAM-DNU6QS01C00	**GGAM-DNU6QS03C00**
			No (-)	Yes (+)	39110-2BCG8 39110-2BCG3	GIAM-BNU6PS00C00 GIAM-BNU6PS01C00 GIAM-BNU6PS02C00 GIAM-BNU6PS03C00 GIAM-BNU6PS04C00 GIAM-BNU6PS05C00 GIAM-BNU6PS06C00 GIAM-BNU6PS07C00 GIAM-BNU6PS08C00	**GIAM-DNU6PS03C00**

SUBJECT: COMBINED TSB/SERVICE ACTION – RIO, SOUL 1.6 GDI MIL ON WITH DTCS P0456/P0461/P050A/P2188/P2192/P0128 (SA152)

			Yes (+)	Yes (+)	39110-2BCH8 39110-2BCH3	GIAM-BNU6QS00C00 GIAM-BNU6QS01C00 GIAM-BNU6QS02C00 GIAM-BNU6QS03C00 GIAM-BNU6QS04C00 GIAM-BNU6QS05C00 GIAM-BNU6QS06C00 GIAM-BNU6QS07C00 GIAM-BNU6QS08C00	**GIAM-DNU6QS03C00**

MODEL	MY	T/M	IMMO	ISG	ECM P/N	ROM ID	
						PREVIOUS	NEW
SOUL (AM) 1.6 GDI	13MY	MT	No (-)	No (-)	39110-2BCJ0	GGAM-DNU6ES00600 GGAM-DNU6ES01600 GGAM-DNU6ES02600	**GGAM-DNU6ES03600**
			Yes (+)	No (-)	39110-2BCK0	GGAM-DNU6FS00600 GGAM-DNU6FS01600 GGAM-DNU6FS02600	**GGAM-DNU6FS03600**
		AT	No (-)	No (-)	39110-2BCC1	GGAM-DNU6PS00C00 GGAM-DNU6PS01C00 GGAM-DNU6PS02C00	**GGAM-DNU6PS03C00**
			Yes (+)	No (-)	39110-2BCD1	GGAM-DNU6QS00C00 GGAM-DNU6QS01C00 GGAM-DNU6QS02C00	**GGAM-DNU6QS03C00**
			No (-)	Yes (+)	39110-2BCE1	GIAM-DNU6PS00C00 GIAM-DNU6PS01C00 GIAM-DNU6PS02C00	**GIAM-DNU6PS03C00**
			Yes (+)	Yes (+)	39110-2BCF1	GIAM-DNU6QS00C00 GIAM-DNU6QS01C00 GIAM-DNU6QS02C00	**GIAM-DNU6QS03C00**

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.

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

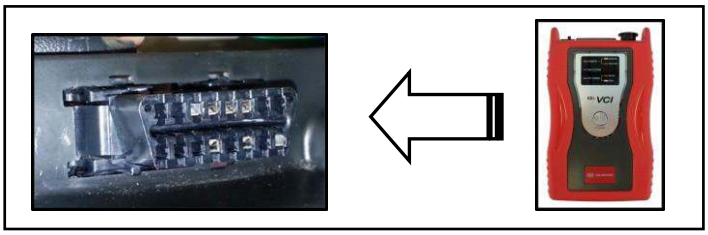
> **✶ NOTICE**
>
> **If attempting to perform the ECM upgrade with the power supply cable disconnected from the GDS tool, be sure to check that the GDS tool is fully charged before ECM upgrade. If the GDS tool is not fully charged, failure to perform the ECM upgrade may occur. Therefore, it is strongly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

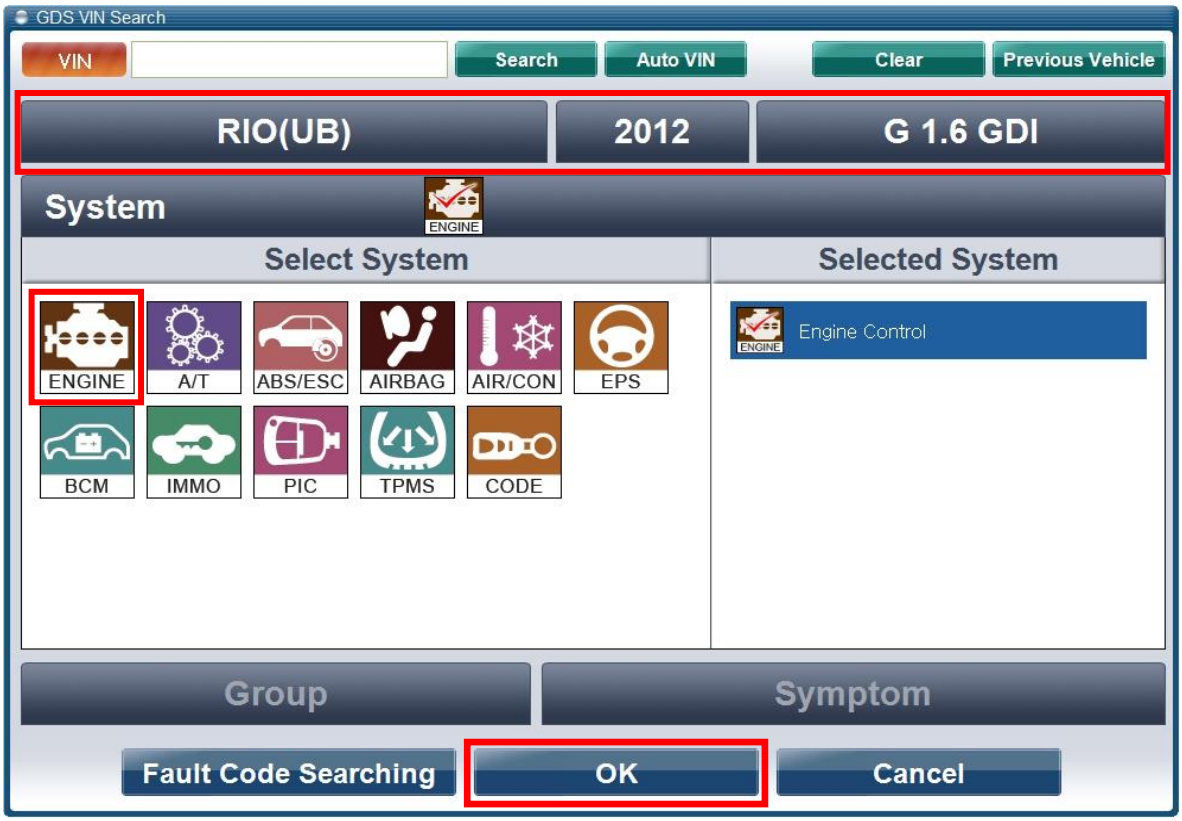
4. Connect the Main 16-pin DLC cable (GHDM – 241000) to the OBD-II connector, located under the driver's side of the instrument panel.



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

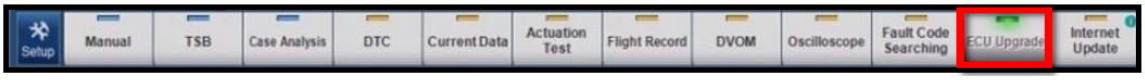
6. Select **ENGINE** system and click **OK**.

SUBJECT: COMBINED TSB/SERVICE ACTION – RIO, SOUL 1.6 GDI MIL ON WITH DTCS P0456/P0461/P050A/P2188/P2192/P0128 (SA152)



Display screen above is for demonstration purposes only and will vary depending on model.

7. Select **ECU Upgrade** from the bottom right-hand corner. Next select **Auto Mode**, and then **Engine**. Perform the ECM upgrade in accordance with normal GDS tool ECM upgrade procedures.



⚠ 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.

SUBJECT: COMBINED TSB/SERVICE ACTION – RIO, SOUL 1.6 GDI MIL ON WITH DTCS P0456/P0461/P050A/P2188/P2192/P0128 (SA152)

*** MANUAL MODE ECM UPGRADE PASSWORDS:**

*** <u>Do NOT perform Manual Mode ECM upgrade unless Auto Mode fails</u>.**

Upgrade event #198 Rio (UB)

MY	MENU	PASSWORD
12MY	UB 1.6 MT -IMMO -ISG : 39110-2BDL0	**1020**
	UB 1.6 MT +IMMO -ISG : 39110-2BDM0	**1021**
	UB 1.6 AT -IMMO -ISG : 39110-2BDL5	**1022**
	UB 1.6 AT -IMMO +ISG : 39110-2BDL8	**1023**
	UB 1.6 AT +IMMO -ISG : 39110-2BDM5	**1024**
	UB 1.6 AT +IMMO +ISG : 39110-2BDM8	**1025**
13MY	UB 1.6 MT -IMMO -ISG : 39110-2BDN0	**1026**
	UB 1.6 MT +IMMO -ISG : 39110-2BDP0	**1027**
	UB 1.6 AT -IMMO -ISG : 39110-2BDA7	**1028**
	UB 1.6 AT -IMMO +ISG : 39110-2BDC7	**1029**
	UB 1.6 AT -IMMO +ISG : 39110-2BDE7	**1030**
	UB 1.6 AT +IMMO -ISG : 39110-2BDB7	**1031**
	UB 1.6 AT +IMMO +ISG : 39110-2BDD7	**1032**
	UB 1.6 AT +IMMO +ISG : 39110-2BDF7	**1033**

Upgrade event #199 Soul (AM)

MY	MENU	PASSWORD
12MY	AM 1.6 MT -IMMO -ISG : 39110-2BCG0	**1020**
	AM 1.6 MT +IMMO -ISG : 39110-2BCH0	**1021**
	AM 1.6 AT -IMMO -ISG : 39110-2BCG5/CG2	**1022**
	AM 1.6 AT +IMMO -ISG : 39110-2BCH5/CH2	**1023**
	AM 1.6 AT -IMMO +ISG : 39110-2BCG8/CG3	**1024**
	AM 1.6 AT +IMMO +ISG : 39110-2BCH8/CH3	**1025**
13MY	AM 1.6 MT -IMMO -ISG : 39110-2BCJ0	**1026**
	AM 1.6 MT +IMMO -ISG : 39110-2BCK0	**1027**
	AM 1.6 AT -IMMO -ISG : 39110-2BCC1	**1028**
	AM 1.6 AT +IMMO -ISG : 39110-2BCD1	**1029**
	AM 1.6 AT -IMMO +ISG : 39110-2BCE1	**1030**
	AM 1.6 AT +IMMO +ISG : 39110-2BCF1	**1031**

8. 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.

9. Check for Diagnostic Trouble Codes using the GDS and erase any DTCs stored such as EPS, ESC, and TPMS that may have been set during reprogramming.

10. Start the engine to confirm proper operation of the vehicle.

AFFECTED VEHICLE PRODUCTION RANGE:

Model	MY	DTC	Production Date Range
Rio (UB)	2012~2013	P0456	From Job #1 to May 7, 2012
Soul (AM)	2012		
Rio (UB)	2012	P050A	From Job #1 to Mar 26 ,2012
Soul (AM)			
Rio (UB)	2012~2013	P2188	From Job #1 to Nov 24, 2012
Soul (AM)		P2192	From July 13,2011 to Nov 2,2012
Rio (UB)	2012	P0128	From Job #1 to Dec 31, 2012
Soul (AM)			
Rio (UB)	2012~2013	P0461	From Job #1 to Nov. 25, 2012
Soul (AM)	2012~2013	P0461	From Job #1 to Nov. 1, 2012

SERVICE ACTION WARRANTY CLAIM INFORMATION:

B Claim Type	Causal P/N	Qty	N Code	C Code	Repair Desc.	Labor Op Code	Op Time	Replacement P/N	Qty
V	39110 2BDE7 (UB)	0	N69	C40	(SA152) ECM Upgrade	130074R0	0.3 M/H	N/A	0
V	39110 2BCG0 (AM)	0	N69	C40	(SA152) ECM Upgrade	130074R1	0.3 M/H	N/A	0

NOTE: ONLY ONE LABOR OP CAN BE CLAIMED

SUBJECT: COMBINED TSB/SERVICE ACTION – RIO, SOUL 1.6 GDI MIL ON WITH DTCS P0456/P0461/P050A/P2188/P2192/P0128 (SA152)

WARRANTY CLAIM INFORMATION:

Use this information only to file a warranty claim for vehicles for which:
1. A customer complains of the same concern.
2. The VIN does not appear on the Affected Vehicles list for Service Action 152.
3. The vehicle model year and production date range are as identified in this bulletin.

Claim Type	Causal P/N	Qty	N Code	C Code	Repair Description	Labor Op Code	Time	Related Parts	Qty
W	39110 2BDE7 (UB)	0	N69	C40	(ENG118) ECM Upgrade	39110F6F	0.3	N/A	0
	39110 2BCG0 (AM)								

NOTE: ONLY ONE LABOR OP CAN BE CLAIMED

✶ NOTICE

VIN inquiry data for this repair is provided for tracking purposes only. Kia retailers should reference SA152 when accessing the WebDCS system.