MITSUBISHI MOTORS

SERVICE BULLETIN

GLOBAL AFTER SALES OFFICE, MITSUBISHI MOTORS CORPORATION

PURPOSE : CORRECTION	ISSUE NO. : MSB-11E54-504	DATE : 2011-02-20
SUBJECT : EV-ECU DIAGNOSIS PROCEDURES		<MODEL> (EUR) i-MiEV (HA3W) <M/Y> 11
GROUP : POWER UNIT		

1. Description:

Incorrect service data items have been found in the EV-ECU diagnosis procedures for codes P2122, P2123, P2127, P2128, and P2138 in the applicable Workshop Manual. This Service Bulletin contains the corrected descriptions.

2. Applicable Manual:

Manual	Pub. No.	Title (Info-ID)	Attached Sheet
2011 i-MiEV Workshop Manual CD-ROM	CHAE11E1-CD (English) CHAS11E1-CD (Spanish) CHAF11E1-CD (French) CHAG11E1-CD (German) CHAI11E1-CD (Italian)	Code No.P2122: Accelerator Pedal Position Sensor (Main) Low Input Code No.P2123: Accelerator Pedal Position Sensor (Main) High Input (M549-21-810-01500-01)	Attached sheet 1
		Code No.P2127: Accelerator Pedal Position Sensor (Sub) Low Input Code No.P2128: Accelerator Pedal Position Sensor (Sub) High Input (M549-21-830-01900-01)	Attached sheet 2
		Code No.P2138: Accelerator Pedal Position Sensor (Main/Sub) Output Error (M549-21-850-01300-01)	Attached sheet 3

There may be some attached sheets not included in this Service Bulletin because they are not applicable to your market. Their sheet numbers are not listed in the above table.

3. Corrected Specifications:

See Attached sheets 1 to 3.

Attached sheet 1

PROBABLE CAUSES

- Damaged wiring harness or connector(s)
- Malfunction of the accelerator pedal position sensor (main)
- Malfunction of the EV-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III data list

Check the service data for the accelerator pedal position sensor (main). (Refer to .)

Data list <Incorrect>

- ~~Item No. 75 : Accelerator sensor 1 power supply voltage~~

Q: Is the check result normal?

YES : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points - How to Cope with Intermittent Malfunction .)

NO : Go to Step 2.

STEP 2. Measure the voltage at B-115 accelerator pedal position sensor (main) connector.

(1) Disconnect the B-115 accelerator pedal position sensor (main) connector, and measure the voltage at the wiring harness side.
(2) Turn the electric motor switch to the "ON" position.
(3) Measure the voltage between the B-115 accelerator pedal position sensor (main) connector terminal No. 1 and the body earth.

OK: 4.9 to 5.1 V

Q: Is the check result normal?

YES : Go to Step 5.

NO : Go to Step 3.

STEP 3. Connector check: B-115 accelerator pedal position sensor (main) connector, C-108 EV-ECU connector

Q: Is the check result normal?

YES : Go to Step 4.

NO : Repair the damaged connector.

- Item No. 78: Accelerator sensor 1 voltage

<Correct>

STEP 4. Check the wiring harness between C-108 EV-ECU connector terminal No. 42 and B-115 accelerator pedal position sensor (main) connector terminal No. 1.

Check the power supply line for open circuit.

Q: Is the check result normal?

YES : Go to Step 5.

NO : Repair the wiring harness.

STEP 5. Check the wiring harness between C-108 EV-ECU connector terminal No. 48, 59 and B-115 accelerator pedal position sensor (main) connector terminal No. 2, 3.

Check the signal lines for open circuit and short circuit.

Q: Is the check result normal?

YES : Replace the accelerator pedal. (Refer to GROUP 17 – Accelerator Pedal Removal and Installation .) Then go to Step 6.

NO : Repair the wiring harness.

STEP 6. Diagnosis code recheck

Check again if the diagnosis code is set to the EV-ECU.

(1) Erase the stored diagnosis code.
(2) Set the electric motor switch from the "LOCK" (OFF) position to the "ON" position.
(3) Check if the diagnosis code is set.

Q: Is the diagnosis code set?

YES : Replace the EV-ECU. (Refer to .) Then go to Step 7.

NO : The diagnosis is complete.

STEP 7. Diagnosis code recheck

Check again if the diagnosis code is set to the EV-ECU.

(1) Erase the stored diagnosis code.
(2) Set the electric motor switch from the "LOCK" (OFF) position to the "ON" position.
(3) Check if the diagnosis code is set.

Q: Is the diagnosis code set?

YES : Return to Step 1.

NO : The diagnosis is complete.

Attached sheet 2

PROBABLE CAUSES

- Damaged wiring harness or connector(s)
- Malfunction of accelerator pedal position sensor (sub)
- Malfunction of the EV-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III data list

Check the service data for the accelerator pedal position sensor (sub). (Refer to .)

Data list <Incorrect>

- ~~Item No. 76 : Accelerator sensor 2 power supply voltage~~

Q: Is the check result normal?

YES : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points - How to Cope with Intermittent Malfunction .)

NO : Go to Step 2.

STEP 2. Measure the voltage at B-115 accelerator pedal position sensor (sub) connector.

(1) Disconnect the B-115 accelerator pedal position sensor (sub), and measure the voltage at the wiring harness side.
(2) Turn the electric motor switch to the "ON" position.
(3) Measure the voltage between the B-115 accelerator pedal position sensor (sub) connector terminal No. 4 and the body earth.

OK: 4.9 to 5.1 V

Q: Is the check result normal?

YES : Go to Step 5.

NO : Go to Step 3.

STEP 3. Connector check: B-115 accelerator pedal position sensor (sub) connector, C-108 EV-ECU connector

Q: Is the check result normal?

YES : Go to Step 4.

NO : Repair the damaged connector. <Correct>

・Item No. 79: Accelerator sensor 2 voltage

STEP 4. Check the wiring harness between C-108 EV-ECU connector terminal No. 8 and B-115 accelerator pedal position sensor (sub) connector terminal No. 4.

Check the power supply line for open circuit.

Q: Is the check result normal?

YES : Go to Step 5.

NO : Repair the wiring harness.

STEP 5. Check the wiring harness between C-108 EV-ECU connector terminal No. 23, 35 and B-115 accelerator pedal position sensor (sub) connector terminal No. 5, 6.

Check the signal lines for open circuit and short circuit.

Q: Is the check result normal?

YES : Replace the accelerator pedal. (Refer to GROUP 17 – Accelerator Pedal Removal and Installation .) Then go to Step 6.

NO : Repair the wiring harness.

STEP 6. Diagnosis code recheck

Check again if the diagnosis code is set to the EV-ECU.

(1) Erase the stored diagnosis code.
(2) Set the electric motor switch from the "LOCK" (OFF) position to the "ON" position.
(3) Check if the diagnosis code is set.

Q: Is the diagnosis code set?

YES : Replace the EV-ECU. (Refer to .) Then go to Step 7.

NO : The diagnosis is complete.

STEP 7. Diagnosis code recheck

Check again if the diagnosis code is set to the EV-ECU.

(1) Erase the stored diagnosis code.
(2) Set the electric motor switch from the "LOCK" (OFF) position to the "ON" position.
(3) Check if the diagnosis code is set.

Q: Is the diagnosis code set?

YES : Return to Step 1.

NO : The diagnosis is complete.

Code No. P2138: Accelerator pedal position sensor (main/sub) output error

OPERATION

- The accelerator pedal position sensor (main/sub) is supplied with the 5-V power from the EV-ECU, converts the accelerator pedal position sensor opening into the voltage, and outputs it to the EV-ECU.

Attached sheet 3

DIAGNOSIS CODE SET CONDITIONS

- If the fluctuation in the accelerator pedal position sensor (sub) voltage is 0.025 V or less and the difference between the doubled value of the accelerator pedal position sensor (sub) voltage and accelerator pedal position sensor (main) voltage is 0.5 V or more, the diagnosis code No. P2138 will be set.
- If the fluctuation in the accelerator pedal position sensor (sub) voltage is 0.025 V or less and the difference between the accelerator pedal position sensor (main) voltage and doubled value of the accelerator pedal position sensor (sub) voltage is 0.5 V or more, the diagnosis code No. P2138 will be set.

PROBABLE CAUSES

- Damaged wiring harness or connector(s)
- Malfunction of accelerator pedal position sensor (main, sub)
- Malfunction of the EV-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III data list

Check the service data for the accelerator pedal position sensor (main), (sub). (Refer to .)

Data list <Incorrect>

- ~~Item No. 75 : Accelerator sensor 1 power supply voltage~~
- ~~Item No. 76 : Accelerator sensor 2 power supply voltage~~

Q: Is the check result normal?

<Correct>

- Item No. 78: Accelerator sensor 1 voltage
- Item No. 79: Accelerator sensor 2 voltage

YES : Replace the accelerator pedal. (Refer to GROUP 17 – Accelerator Pedal Removal and Installation .) Then go to Step 2.

NO : Carry out troubleshooting for the accelerator pedal position sensor to which an abnormal service data value is set. (Refer to for <main> and for <sub>.)

STEP 2. Diagnosis code recheck

Check again if the diagnosis code is set to the EV-ECU.

(1) Erase the stored diagnosis code.
(2) Set the electric motor switch from the LOCK (OFF) position to the ON position.
(3) Check if the diagnosis code is set.

Q: Is the diagnosis code set?

YES : Replace the EV-ECU. (Refer to .) Then go to Step 3.

NO : The diagnosis is complete.

STEP 3. Diagnosis code recheck

Check again if the diagnosis code is set to the EV-ECU.

(1) Erase the stored diagnosis code.
(2) Set the electric motor switch from the LOCK (OFF) position to the ON position.
(3) Check if the diagnosis code is set.

Q: Is the diagnosis code set?

YES : Return to Step 1.

NO : The diagnosis is complete.