



Technical Service Bulletin

SUBJECT:		No: TSB-13-54-001	
ELECTRIC MOTOR AND BATTERY SYMPTOM DIAGNOSIS – SERVICE MANUAL REVISION		DATE: February, 2013	
		MODEL: 2012 i-MiEV	
CIRCULATE TO:	<input type="checkbox"/> GENERAL MANAGER	<input checked="" type="checkbox"/> PARTS MANAGER	<input checked="" type="checkbox"/> TECHNICIAN
<input checked="" type="checkbox"/> SERVICE ADVISOR	<input checked="" type="checkbox"/> SERVICE MANAGER	<input type="checkbox"/> WARRANTY PROCESSOR	<input type="checkbox"/> SALES MANAGER

PURPOSE

This TSB updates the Electric Motor and Battery Trouble Symptom Chart and adds Inspection Procedure 2: Vehicle Vibration, to the service manual.

AFFECTED VEHICLES

2012 i-MiEV

AFFECTED SERVICE MANUALS

2012 i-MiEV Service Manual: Group 54D – Chassis Electrical > 54D Electric Motor Unit and Traction Battery > Electric Motor Control Unit (EMCU) and Motor (Electric Motor Unit):

- Trouble Symptom Chart
- EMCU power Supply System <12MY>
- Inspection Procedure 2: Vehicle Vibration

Continued

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Make the following changes to the 2012 i-MiEV Service manual: Group 54D – Electric Motor Unit and Traction Battery > Electric Motor Control Unit (EMCU) and Motor (Electric Motor Unit) > Trouble Symptom Chart

**ELECTRIC MOTOR UNIT AND TRACTION BATTERY
 ELECTRIC MOTOR CONTROL UNIT (EMCU) AND MOTOR (ELECTRIC MOTOR UNIT)**

STEP 6. Check whether the DTC is reset.
 Check again if the DTC is set to the EMCU.
 (1) Erase the DTC.
 (2) Set the electric motor switch from the "LOCK" (OFF) position to the "ON" position.
 (3) Check if the DTC is set.
Q: Is any DTC U1920 set?
YES : Go to Step 1.
NO : The diagnosis is complete.

TROUBLE SYMPTOM CHART

Old

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Trouble symptom	Reference page
MCU power supply system	



Trouble symptom	Inspection procedure	Reference page
EMCU power supply system	1	
Vehicle vibration	2	

New

Make the following changes to the 2012 i-MiEV Service manual: Group 54D – Electric Motor Unit and Traction Battery > Electric Motor Control Unit (EMCU) and Motor (Electric Motor Unit) > EMCU power supply system <12MY>.

~~EMCU power supply system <12MY>~~

Old



Inspection Procedure 1: EMCU power supply system <12MY>

New

Add the following Inspection Procedure 2 to the 2012 i-MiEV Service Manual: Group 54D Electric Motor Unit and Traction Battery > Electric Motor Control Unit (EMCU) and Motor (Electric Motor Unit) after Inspection Procedure 1: EMCU power supply system <12MY>.

Added

ELECTRIC MOTOR UNIT AND MAIN DRIVE LITHIUM-ION BATTERY
ELECTRIC MOTOR CONTROL UNIT (EMCU) AND MOTOR (ELECTRIC MOTOR U...

Inspection Procedure 2: Vehicle vibration

COMMENTS ON TROUBLE SYMPTOM

The vehicle should be repaired when the driver feels a sense of discomfort during longitudinal repeated vibrations.

*NOTE: A slight vibration may occur in the electric motor unit.
There is no fault.*

PROBABLE CAUSES

- Improper installation of the motor mount
- Improper installation of the rear suspension
- Malfunction of the motor (electric motor unit)
- Malfunction of the EMCU

DIAGNOSIS

STEP 1. Check the trouble symptom.

- Check installation motor (electric motor unit) and transaxle assembly
- Check installation of the motor mount
- Check installation of the rear suspension

Q: Is the check result normal?

YES : Go to Step 2.

NO : Reinstall it. Then go to Step 4 .

ELECTRIC MOTOR UNIT AND MAIN DRIVE LITHIUM-ION BATTERY
ELECTRIC MOTOR CONTROL UNIT (EMCU) AND MOTOR (ELECTRIC MOTOR UNIT)

Added

STEP 2. Check the G-07 inverter (U terminal) connector, G-08 inverter (V terminal) connector and G-09 inverter (W terminal) connector for the insulation resistance.

⚠ DANGER

- *When high voltage system components are serviced, be sure to pull service plugs to shut down high voltage before serving.*
- *When pulling service plugs, wear the specified protective equipment.*

⚠ CAUTION

When the insulation resistance is measured, set the range of the special tool electric insulation tester (MB992355) to 500 volts. When the insulation resistance is measured at the range more than 500 volts, the component may be damaged.

- (1) Disconnect the connector, and measure at the wiring harness side.
- (2) Use the special tool electric insulation tester (MB992355) to set the range to 500 volts.
- (3) Insulation resistance between each connector terminal and body ground.

OK: 10 MΩ or more

Q: Is the check result normal?

YES : Go to Step 3.

NO : Check the motor (electric motor unit) for the insulation resistance or replace the motor (electric motor unit).

ELECTRIC MOTOR UNIT AND MAIN DRIVE LITHIUM-ION BATTERY
ELECTRIC MOTOR CONTROL UNIT (EMCU) AND MOTOR (ELECTRIC MOTOR U...

Added

STEP 3. Measure the resistance at G-07 inverter (U terminal) connector, G-08 inverter (V terminal) connector and G-09 inverter (W terminal) connector

⚠ DANGER

- *When high voltage system components are serviced, be sure to pull service plugs to shut down high voltage before servicing.*
- *When pulling service plugs, wear the specified protective equipment.*

- (1) Disconnect the connector, and measure at the wiring harness side.
- (2) Measure the resistance between G-08 inverter (U terminal) connector terminal and G-09 inverter (V terminal) connector terminal.
- (3) Measure the resistance between G-09 inverter (V terminal) connector terminal and G-10 inverter (W terminal) connector terminal.
- (4) Measure the resistance between G-08 inverter (U terminal) connector terminal and G-10 inverter (W terminal) connector terminal.

OK: Approximately 3 Ω or less

Q: Is the check result normal?

YES : Replace the inverter. Then go to Step 4.

NO : Replace the motor (electric motor unit).

STEP 4. Check the trouble symptom.

Check of the vehicle vibration.

Q: Is the check result normal?

YES : The diagnosis is complete.

NO : Reinvestigate the other parts.