



Technical Service Bulletin

SB-10056648-7393

SUBJECT:			No: TSB-14-54-002REV
TRACTION BATTERY ENERGY LEVEL GAUGE DIAGNOSIS – SERVICE MANUAL REVISION			DATE: September, 2014
			MODEL: 2012-14 i-MiEV
CIRCULATE TO:	<input type="checkbox"/> GENERAL MANAGER	<input 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

This bulletin supercedes TSB-14-54-002, issued January, 2014 to correct the diagnostics shown on page 4, steps 3 and 4. Revisions are indicated in red italics and indicated by ◀.

PURPOSE

This TSB adds troubleshooting steps for the Trouble Symptom “The main drive lithium-ion (traction) battery energy level gauge does not display ‘Fully charged.’”

AFFECTED VEHICLES

2012-2014 i-MiEV

AFFECTED SERVICE MANUALS

2012-14 i-MiEV Service Manual Group 54D – Electric Motor Unit and Main Drive Lithium-Ion Battery ->
EV-ECU ->

- Trouble Symptom Chart
- Inspection Procedure 6: The Main drive lithium-ion (traction) battery energy level gauge does not display “Fully charged.”

Battery Management Unit (BMU and Main Drive Lithium Ion Battery ->

- Trouble Symptom Chart

Please make the indicated changes to 2013-14 i-MiEV Service Manual Group 54D – Electric Motor Unit and Main Drive Lithium-Ion Battery > EV-ECU > Trouble Symptom Chart

**ELECTRIC MOTOR UNIT AND MAIN DRIVE LITHIUM-ION BATTERY
EV-ECU**

STEP 4. Check whether the DTC is stored again.

Recheck if the DTC is stored.

- (1) Erase the DTC.
- (2) Turn the electric motor switch from "LOCK"(OFF) position to "ON" position.
- (3) Check if the DTC is stored.

Q: Is DTC U1921 stored?

YES : Return to Step 1.

NO : The diagnosis is complete.

TROUBLE SYMPTOM CHART

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Trouble symptoms	Inspection procedure number	Reference page
EV-ECU power supply system	1	
The combination meter does not illuminate even if the electric motor switch is turned ON.	2	
The ready indicator does not illuminate even if the electric motor switch is turned to the START position.	3	
The cruising range shortened.	4	
Bad mileage	5	



The main drive lithium-ion (traction) battery energy level gauge does not display "Fully charged"	6	
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<Added>

Please add the troubleshooting procedure from page 4 where indicated below in 2013-14 i-MiEV Service Manual Group 54D – Electric Motor Unit and Main Drive Lithium-Ion Battery > EV-ECU > Symptom Procedures

**ELECTRIC MOTOR UNIT AND MAIN DRIVE LITHIUM-ION BATTERY
EV-ECU**

STEP 2. Check the tire pressure.

Check the tire pressure (Refer to GROUP 31 – On-vehicle Service, Tire Pressure Check .).

Q: Is the check result normal?

YES : Go to Step 3.

NO : Check the tire and adjust the tire pressure.

STEP 3. Brake drag force check

Check the brake drag force (Refer to GROUP 35A – On-vehicle Service, Brake Drag Force Check .).

Q: Is the check result normal?

YES : Go to Step 4.

NO : Disassemble the brake caliper assembly and check for fouling and rust on the piston sliding section and deterioration of piston seal, and check the sliding status of the guide pin and lock pin (Refer to GROUP 35A – Front Disc Brake Assembly .).

STEP 4. Wheel alignment check

Check the wheel alignment (Refer to GROUP 33 – On-vehicle Service, Front Wheel Alignment Check and Adjustment , GROUP 34 – On-vehicle Service, Rear Wheel Alignment Check .).

Q: Is the check result normal?

YES : Go to Step 5.

NO : Adjust the wheel alignment (Refer to GROUP 33 – On-vehicle Service, Front Wheel Alignment Check and Adjustment , GROUP 34 – On-vehicle Service, Rear Wheel Alignment Check .).

STEP 5. Check the trouble symptom.

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 Malfunctions .).

NO : Go to Step 1.

<Added>

From page 4

SERVICE DATA REFERENCE TABLE

DATA LIST

NOTE: VP: Indicates the brake vacuum pressure system.

Item No.	Check item	Check conditions	Normal conditions
1	Power switch signal	When the electric motor switch is in the ON position	ON
		Other than above	OFF
2	Power switch (ST) signal	When the electric motor switch is in the START position	ON
		Other than above	OFF

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<Added>

To page 3



Inspection Procedure 6: The main drive lithium-ion (traction) battery energy level gauge does not display “Fully charged.”

COMMENT ON TROUBLE SYMPTOM

Voltage fluctuates significantly among the battery cells in the main drive-lithium-ion (traction) battery.

PROBABLE CAUSES

- Malfunction of the main drive-lithium-ion (traction) battery
- Malfunction of the EV-ECU
- Malfunction of the BMU
- Malfunction of the combination meter

DIAGNOSIS

STEP 1. Check whether the diagnosis code is set

Check if the DTC is set to the EV-ECU or BMU.

Q: Is the DTC set?

YES: Carry out troubleshooting for the EV-ECU or the BMU.

NO: Go to Step 2.

STEP 2. Check the trouble symptom for combination meter

Check if the DTC is set to the EV-ECU or BMU.

Q: **Is the check result normal?**

YES: Go to step 3

NO: Carry out the symptom inspection of the combination meter (Refer to GROUP 54A – Trouble symptom chart).

STEP 3. Check the main drive lithium-ion (traction) battery energy level gauge

(1) *Connect the normal charging cable to charge the battery fully. Remove the normal charging cable when charging is complete.*

(2) Check the data list of the BMU

- Item No. 3: Battery cell maximum voltage
OK: 4.080V or more

(3) Check that the main drive lithium-ion (traction) battery energy level gauge shows F position (16th segment)

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 4.

STEP 4. Check the trouble symptom

(1) *Perform the cell voltage leveling procedure.*

- *Please refer to “Procedures for smoothing cell voltage.”*

(2) *Connect the normal charging cable to charge the battery fully. Remove the normal charging cable when charging is complete.*

(3) Check the data list of the BMU

- Item No. 3: Battery cell maximum voltage
OK: 4.080V or more

(4) Check that the main drive lithium-ion (traction) battery energy level gauge shows F position (16th segment)

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: Replace the main drive lithium-ion (traction) battery.

Please make the indicated changes to 2013-14 i-MiEV Service Manual Group 54D – Electric Motor Unit and Main Drive Lithium-Ion Battery > Battery Management Unit and Main Drive Lithium-ion Battery > Trouble Symptom Chart

**ELECTRIC MOTOR UNIT AND MAIN DRIVE LITHIUM-ION BATTERY
BATTERY MANAGEMENT UNIT (BMU) AND MAIN DRIVE LITHIUM-ION BATTERY**

STEP 2. Scan tool MB991958 other system diagnostic trouble code.

- Confirm whether the diagnostic trouble codes are set from EV-ECU.

Q: Is the diagnostic trouble code set?

YES : Perform the troubleshooting of the electric motor unit

NO : Go to Step 3.

STEP 3. Scan tool MB991958 diagnostic trouble code

Reconfirm whether the diagnostic trouble codes are set from BMU.

1. Erase the diagnostic trouble codes being set.
2. Electric motor switch: "LOCK" (OFF) → ON
3. Confirm whether the diagnostic trouble codes are set.

Q: Is the diagnostic trouble code set?

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

NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunctions).

STEP 4. Scan tool MB991958 diagnostic trouble code

Reconfirm whether the diagnostic trouble codes are set from BMU.

1. Erase the diagnostic trouble codes being set.
2. Electric motor switch: "LOCK" (OFF) → ON
3. Confirm whether the diagnostic trouble codes are set.

Q: Is the diagnostic trouble code set?

YES : Go to Step 1.

NO : Check end.

INSPECTION CHART FOR TROUBLE SYMPTOM

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Item	Trouble symptom	Inspection procedure
Communication with the scan tool MB991958	Communication between the scan tool MB991958 and the BMU is not possible.	1

TROUBLE SYMPTOM CHART

Inspection procedure	Check item	Reference page
1	Communication between the scan tool MB991958 and the BMU is not possible.	
2	BMU power supply system	

3	The main drive lithium-ion (traction) battery energy level gauge does not display "Fully charged"	Refer to EV-ECU
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