

SUBJECT:			No:	TSB-19-54-001REV
QUICK CHARC	GING WITH ABB Q	UICK CHARGER	DATE:	March 2019
STOPS DUE T	O ISOLATION ERF	ROR - REVISED	MODEL:	2016-2017 i-MiEV, 2018-2019 Outlander PHEV
CIRCULATE TO:	[] GENERAL MANAGER	[X] PARTS MANAGER	[X] TECHNICIAN
[X] SERVICE ADVISOR	[X] SERVICE MANAGER	[X] WARRANTY PROCESSO	DR [] SALES MANAGER

This bulletin supercedes TSB-19-54-001, issued February, 2019, to add i-MiEV vehicles, and instructions for reprogramming the BMU with updated software. Revisions are italicized and indicated by ◀.

PURPOSE

During quick charging of the traction battery using the **ABB quick charger**, an isolation error may be detected by the charger, causing charging to stop approximately 2 minutes after charging was started.

This TSB instructs dealers to reprogram the **BMU (i-MiEV) or sub-BMU (Outlander PHEV)** with updated software to correct the issue.

BACKGROUND

When the *BMU or* sub-BMU is in operation, the coupling condenser provided in the current leak detection circuit repeats charging and discharging and its duration is monitored by the sub-BMU to judge if current leak occurs in the high voltage circuit.

On the other hand, during the quick charging process the sub-BMU does not carry out current leak judgement as it is done by the charger side. But as charging and discharging of the coupling condenser continues even during quick charging, it is possible that the charger misjudges a current leak due to voltage fluctuation in the high voltage circuit.

AFFECTED VEHICLES

- 2016 2017 i-MiEV vehicles, and for BMU service parts produced before mid-March, 2019.
- 2018 2019 Outlander PHEV vehicles, produced **before** the following VINs:
 - U.S. And Puerto Rico: **JA4J24A50KZ036473** (January 10, 2019)
 - Canada: **JA4J24A55KZ607102** (January 10, 2019)

REQUIRED OPERATIONS

- 1. Confirm your MUT-III is updated with the latest reprogramming database.
- 2. Reprogram the *BMU or* sub-BMU with the new software. Refer to the "*BMU/*Sub-BMU Reprogramming Chart" for new software information.

IMPORTANT: If an affected vehicle has a Malfunction Indicator Lamp (MIL) illuminated <u>before</u> reprogramming, and DTCs are listed in the *BMU or* Sub-BMU memory, diagnose and repair those DTCs per the service manual <u>before</u> reprogramming. **DO NOT** reprogram the *BMU or* Sub-BMU until the reason(s) for other DTCs being set is corrected.

Copyright 2019, Mitsubishi Motors North America, Inc.

Continued

EQUIPMENT

The following equipment is needed to reprogram the *BMU or* sub-BMU.

- VCI (Vehicle Communication Interface) or VCI Lite MB991824 or MB992744V.
- MEDIC Laptop/Tablet with A/C power adapter MIT540031 or FZG1MK2. •
- MUT-III main harness 'A' (blue connector at the DLC end) MB991910V or MB992745V.
- USB 2.0 cable MB991827V or RRAR1MBR108GL.
- MEDIC 3.5/4 update at **586** or higher. •
- For Standalone MUT-III units, MUT3-SE Reprogramming Database **N190301** or higher.

Vehicle	Part Name	e Part Number Details Data Numb	Part Number Details Data Numb	Data Number	Software	e Version
venicie		Part Number	Details		Previous	New
2016-2017 i-MiEV	BMU	9479A043	-	9479A210	BE1204	BE1206
		9479A058	With Battery Heater	9479A201	BE3014 BE3015 BE3016	BE3017
2018-2019		9479A170		9479A178	BE3204	BE3205
Outlander PHEV	Sub-BMU	9479A057	Without Battery Heater	9479A200	BE3100 BE3101 BE3102	BE3103
		9479A172		9479A179	BE3403	BE3404

BMU/SUB-BMU REPROGRAMMING CHART

REPAIR PROCEDURE

SOFTWARE/MEDIC VERSION VERIFICATION

Verify that the BMU/Sub-BMU has not already been updated to the latest S/W number in the 1. table above. If the BMU/Sub-BMU is at the latest level, reprogramming is not necessary.

NOTE: Reprogramming the *BMU/*Sub-BMU with the latest database (e.g., *N190301*) includes all past and current reprogramming for TSBs of affected vehicles. It is not necessary to reprogram the BMU/Sub-BMU for each previous TSB.



For MEDIC 3.5/4 users only: (MUT-III STV users go to step 5)

2. Verify the MEDIC 3.5/4 is at version 3.5 and at update **586** or higher.

If your **<u>MEDIC 3.5/4 update is at least 586</u>**, continue with the Reprogramming Procedure.

If your **MEDIC 3.5/4 update is below 586**, update your MEDIC as follows.



Select the MEDIC 3.5/4 Admin tab and click on "Updates."

- - . IF the MEDIC update screen advises updates are available, click the "Begin" button. After all updates are complete, <u>GO TO THE REPROGRAMMING</u> <u>PROCEDURE.</u>



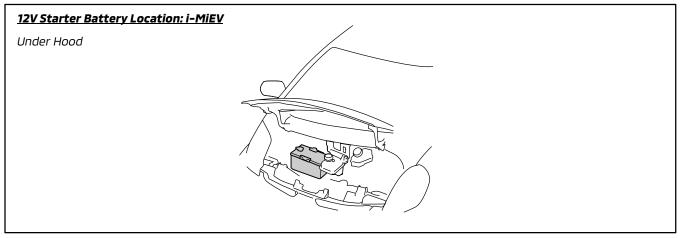
- **STANDALONE MUT-III SCAN TOOL VIEWER (STV) ONLY: (MEDIC 3.5 USERS - GO TO THE REPROGRAMMING PROCEDURE).** Verify that your MUT3-SE has the most current version of the reprogramming database: From the MUT3-SE Main Page:
 - a. Click "STV."
 - b. Click the "ECU Reprogramming" button.

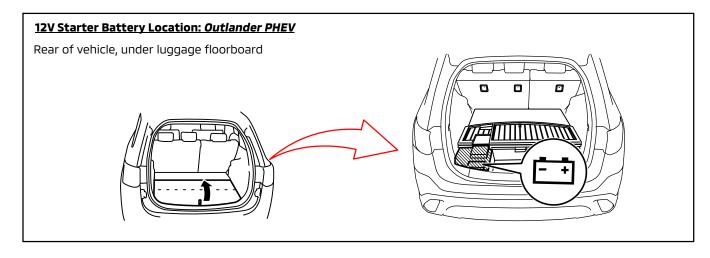
c. Click "SDB Data List."

- Confirm that the database number displayed in the upper right above the chart is *N190301* or higher.
 - If the database number displayed on your MUT3-SE is N190301 or higher, continue to the next section.
 - If the reprogramming database number displayed on your MUT3-SE is <u>lower</u> than *N190301*, then the MUT3-SE database needs to be updated.
- e. Once database number is confirmed, hit the Home button to go back to the System Select screen.

REPROGRAMMING PROCEDURE: PREPARATION

N To ensure that the vehicle battery maintains 12V during the procedure, hookup a battery charger to the 12V starter battery during the procedure.

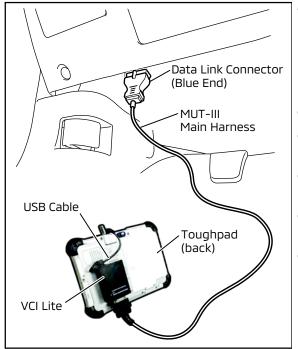




NOTE: VCI Stand-alone reprogramming is not available for this procedure. The laptop/tablet and the VCI must remain connected for the entire procedure. Page 6 of 17 TSB-19-54-001REV

1. Connect the equipment as follows:

NOTE: VCI Lite and MEDIC 4.0 Toughpad shown for illustration purposes only.



- Turn the MEDIC PC/tablet on. If the battery indicator in the lower right hand corner of the screen does not show a full charge, it is recommended that either the battery be charged prior to beginning, or be used with the A/C power adaptor connected.
- Connect the USB cable to the VCI/VCI Lite.
- When the laptop/tablet displays the MUT-III main screen, connect the USB cable to the device.
- Connect the MUT-III main harness with the blue DLC connection to the VCI/VCI Lite.
- Connect the blue connection of the MUT-III main harness to the vehicle's data link connector.
- For VCI only (p/n MB991824): Turn the VCI power switch ON. Verify that the indicator lamp in the upper right corner of the screen is green.

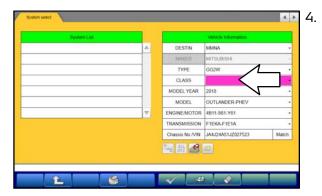
DO NOT DISTURB THE HARNESS CABLES OR CONNECTIONS DURING THE REPROGRAMMING PROCESS AS IT COULD CAUSE THE CONTROL UNIT TO LOSE DATA. IF THE USB CABLE IS DISCONNECTED DURING THIS PROCEDURE, A WARNING MESSAGE WILL DISPLAY.

2. Turn the ignition switch to the "ON" position.



3. Using MEDIC, from the main page, click the "MUT3-SE" icon at the top center of the screen to open MUT-III SE.

Click the STV button.



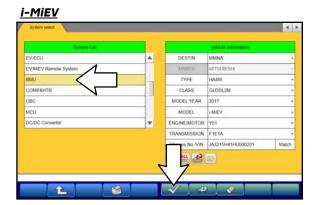
The System Select screen opens and populates with some basic information from the vehicle.

Look at the label on the passenger side B pillar to identify the appropriate class.

If necessary, select the correct class from the drop-down list.

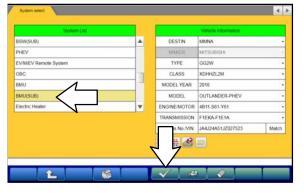
5. Verify that the BMU or Sub-BMU has not already been updated to the latest S/W number shown in the "BMU/Sub-BMU Reprogramming Chart" in this TSB.

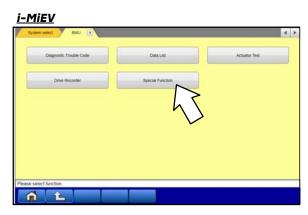
If the BMU/Sub-BMU is at the latest level, reprogramming is not necessary.



a. Select BMU" (for i-MiEV) or "BMU(SUB)" (for Outlander PHEV)" from the System List, then click on the check mark at the bottom of the screen.

Outlander PHEV

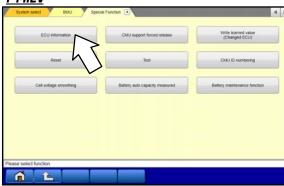




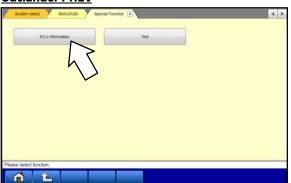
<u>Outlander PHEV</u>

System	select BMU(SUB)			4	*
	Diagnostic Trouble Code	Data List	Actuality Test		
	Drive Recorder	Special Function			
Please sele	ct function			_	
1	Ê				

<u>i-MiEV</u>



Outlander PHEV

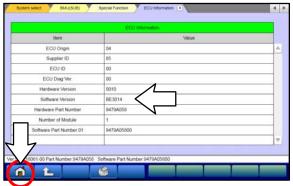


b. Select "Special Function."

c. Select "ECU Information."

	ECU Information	
item	Value	
ECU Origin	04	
Supplier ID	85	
ECU ID	00	
ECU Diag Ver.	11	
Hardware Version	0101	
Software Version	BE1204	
Hardware Part Number	9479AD43	
Number of Module	1	
Software Part Number 01	9479A04300	
-		

Outlander PHEV



 d. If the Software Version listed is not at the latest level (shown in the "BMU/Sub-BMU Reprogramming Chart" in this TSB), proceed with the next step. Click the Home button to return to the System Select screen.

If the Software Version **is** at the latest level, then reprogramming is not necessary.

6. Before reprogramming, perform an "**Erase and Read All DTCs**" to clear any DTCs that may have set.

NOTE: Screens shots from Outlander PHEV shown below for example.

System select Versice Information PHEV DESTIN CHEV DESTIN OBC MANA BMU MANA Exclusion CLASS XDPHEV CLASS Exclusion CLASS Compressor Version DESTIN MANA MADEL MISUBISH Compressor Version Store Version VVN JAAL24A51,8027523 Match	a.	On the System Select screen" click the "ALL DTC" button.
ANDTOS C Read at DTOS Exerc and Read at DTOS	b.	Select "Erase and Read All DTCs."
Select function	C.	A window will pop up asking you to confirm DTC erasing. Click the check mark in the dialog box for DTC erasing and reading to begin.
Al DTCs Erase and Read at DTCs Bystern List Select Systern Name Results V MFI V ECPS-RWS Model Name OUTLANDER-PHEV Model Year 2018 Model Code G2VXXDHHIZL2M V Meter	d. e.	The "System List" on the left side of the screen will have all selections checked. <u>Do not</u> change these selections. Click the check mark to continue.
Select checking systems.		

elect	System Name	Results		Code		Namo	Status	
2	(14) (14)					-	Charlos	
	CMU4	AI DTCs						P
1	CMU5					1		
1	CMU7	All erasing	and checks	are completed.		-	-	
2	CMU8	Execute "R	ead all DTC	s" if you confirm se the DTCs that	the			
1	CMU9	now may be	e displayed	in check result.	are enamy			
1	CMU10							
J	CMU11	\checkmark						7
a DTCs				~	X			4 Þ
	System List			Caste	Diagnor	stic trouble codes		4 Þ.
Select	System List System Name	Results		Code	Diagnor	stic trouble coder Name	s) Status	< >
	System List			Code	Diagno			< >
ielect	System List. System Name MF1	Results		Code	Diagno			
Select	System List System Name MFI ELC-AT/CVT/TC-SST	Results OK OK		Code	Diagno			
Select	System Dat System Name MFI ELC-AT/CVT/TC-SST ECPS/4WS	Results OK OK		Code	Diagno			
Select	System List System Name MFI ELC.ATICVT/TC-SST ECPS:4WS ABS/ASC/ASTCWSS	Results CK CK CK		Code	Diagno			
Select	System List System Name MFI ELCATICVT/TC-SST ECPS/4WS ABS/ASC/ASTCWSS SRS-AIR BAG	Results OK OK OK OK		Code	Ciagro			
Select	System Latt System Name MFI ELCAT/CVT/TC-SST ECPS/4WS ABS/ASC/ASTC/WSS SRS-AIR BAG Ar Conditioner	Results OK OK OK OK OK OK		Code	Diagno			
Select	System Lat. System Name MFI ELC-AT/CVT/TC-SST ECPS:WWS ABS:ASC/ASTC/WSS SRS-AIR BAG Air Conditioner ETACS	Results OK OK OK OK OK OK OK		Code				

- When DTC erasing is completed, click the check mark in the pop-up message that reads "All erasing and checks are completed."
 - a. If any DTCs return after erasing is completed, click the check mark to clear the window. Diagnose and repair per the Service Manual.
 - b. If DTCs do not return, click the check mark to clear the window, then click the Home icon in the lower left to return to the System Select menu.

REPROGRAMMING PROCEDURE: 2016 - 2017 i-MiEV

Reprogram the BMU following the steps below. 1.

System select	Versele Information	a.	On the System Sel Reprogram button.
EV-ECU EV-MEV Remote System EMU COMPARTR ORG MCU DCDC Converter	DESTIN MINNA MARCE MITSUBISE TYPE HAAW CLASS GLOD(2M MODEL YEAR 2017 MODEL YEAR 2017 MODEL YEAR 2017 MODEL YEAR 2017 HAEV ENGINE TRANS		
EU Repoysening 1		b.	Select "ECU Reprogra
	Data Lat ECU Reprogramming KLine		
er SEW10121-02			
ECU Reprogramming(SOB)	Vencia information	С.	Select " BMU " in the S check mark.
Steering Angle Sensor	TYPE HARW CLASS GLD0L2M MODEL YEAR 2017 MODEL VEAR 2017 Chasse No AVN JA3215H41H000201 Match X		
BC Y	Automatic search the reprogramming data Control the vehicle in the reprogramming data Control the vehicle in the reproduction of the selected the selected vehicle Press the return one level button change the selected vehicle in the return of the return of the selected vehicle		
		d	Verify that the corre
ECU Reprogramming (SOII)	W Part No New York No. Current WY Part Current SW Part No. New York No. New York No. New York	u.	table matches the of Reprogramming Cha
		е.	Click the check mark to initiate reprogram
Select the reprogramming data system by system and press the			
Ver SEW18121-02			

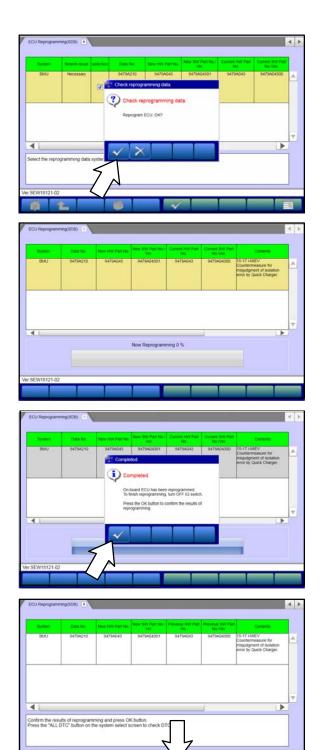
ect screen click on the

amming (SDB)."

System List, then click the

◀

- ect data file listed in the ne in the **"BMU/Sub-BMU** art."
- at the bottom of the page nming.



f. Click the check mark in the "Check reprogramming data" dialog box.

g. Once the reprogramming is initiated, the screen shown will indicate the reprogramming progress.

NOTE: Do NOT disturb the cables or turn off the ignition during reprogramming.

h. Once reprogramming is completed, click the check mark in the "Completed" dialog box.

i. Verify the correct information is listed in the table. Click the check mark at the bottom of the page, then click the Home button to return to the System Select screen.

- Perform an "Erase and Read All DTCs" again to clear any DTCs that may have set. For instructions, refer to steps 6 and 7 in the "Reprogramming Procedure: Preparation" in this TSB.
- *3.* Confirm the software version has been updated. **For instructions, refer to step 5 in the "Reprogramming Procedure: Preparation" in this TSB.**

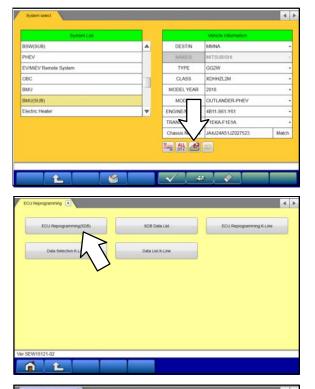
	ECU Information	
	Value	ltem
4	04	ECU Origin
	85	Supplier ID
	00	ECU ID
	11	ECU Diag Ver.
	0101	Hardware Version
	BE1206	Software Version
	9479A043	Hardware Part Number
	1	Number of Module
	9479A04301	Software Part Number 01
1		

Confirm "Software Version" now matches the NEW one shown in the **"BMU/Sub-BMU Reprogramming Chart"** in this TSB.

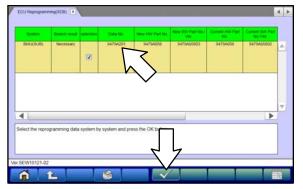
- 4. Turn off the ignition switch and disconnect the MUT-III. Turn off and disconnect the battery charger.
- 5. Test drive the vehicle to confirm proper operation.

REPROGRAMMING PROCEDURE: 2018 - 2019 Outlander PHEV

1. **Reprogram the Sub-BMU** following the steps below.



4 3 BSW(SUB) . TYPE GG2W XDHHZL2M PHEV CLASS MODEL YEAR 2018 EV/MEV Remote System OUTLANDER-PHEV 080 MODEL BMU Chassis No./VIN JA4J24A51JZ027523 Match BMU(S Electric He tomatic search the reprogramming data. ock the vehicle information and select the system then iss the OK button. iss the return one level button change the selected veh 1 A



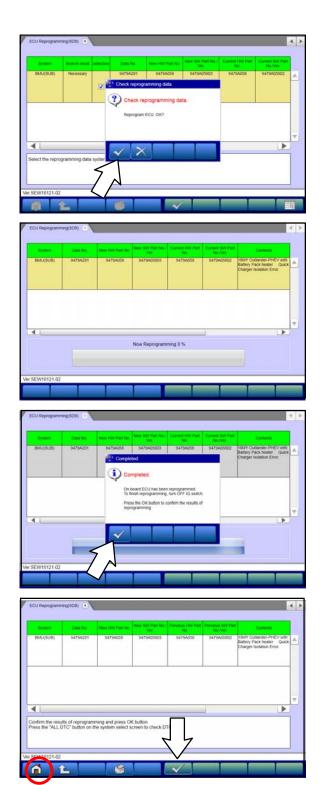
a. On the System Select page, click on the Reprogram button.

b. Select "ECU Reprogramming (SDB)."

c. Select "**BMU(SUB)**" in the System List, then click the check mark.

- d. Verify that the correct data file listed in the table matches the one in the "BMU/Sub-BMU Reprogramming Chart."
- e. Click the check mark at the bottom of the page to initiate reprogramming.

Page 16 of 17 TSB-19-54-001REV



f. Click the check mark in the "Check reprogramming data" dialog box.

g. Once the reprogramming is initiated, the screen shown will indicate the reprogramming progress.

NOTE: Do NOT disturb the cables or turn off the ignition during reprogramming.

h. Once reprogramming is completed, click the check mark in the "Completed" dialog box.

i. Verify the correct information is listed in the table. Click the check mark at the bottom of the page, then click the Home button to return to the System Select screen.

- Perform an "Erase and Read All DTCs" again to clear any DTCs that may have set.
 For instructions, refer to steps 6 and 7 in the "Reprogramming Procedure: Preparation" in this TSB.
- 3. Confirm the software version has been updated. For instructions, refer to step 5 in the "Reprogramming Procedure: Preparation" in this TSB.

ECU Information	
Value	ltern
04	ECU Origin
85	Supplier ID
00	ECU ID
00	ECU Diag Ver
0010	Hardware Version
BE3017	Software Version
9479AD58	Hardware Part Number
1	Number of Module
9479A05803	Software Part Number 01

Confirm "Software Version" now matches the NEW one shown in the **"BMU/Sub-BMU Reprogramming Chart"** in this TSB.

- 4. Turn off the ignition switch and disconnect the MUT-III. Turn off and disconnect the battery charger.
- 5. Test drive the vehicle to confirm proper operation.

WARRANTY INFORMATION

This bulletin is supplied as technical information only and is not an authorization to repair. If an affected vehicle is reported with the described condition, diagnose the condition, repair as described in this bulletin and submit a normal warranty claim using the following information.

Model	Operation	Labor Operation Code	Nature Code	Cause Code	Time Allowance
2016-2017 i-MiEV	Reprogram <i>BMU</i>				
2018-2019 Outlander PHEV	Reprogram Sub-BMU	548565VT	59D	605	0.3 hrs.

Warranty Coverage: 8 years / 80,000 miles (Canada: 8 years / 130,000 kms)