# SAFETY RECALL BULLETIN

| SUBJECT: | | | No: | **SR–14–007** |
|---|---|---|---|---|
| **i–MiEV BRAKE VACUUM PUMP – SAFETY RECALL CAMPAIGN** | | | DATE: | **October, 2014** |
| | | | MODEL: | **2010–2014 i–MiEV** |

| **CIRCULATE TO**: | [X] GENERAL MANAGER | [ ] PARTS MANAGER | [X] TECHNICIAN |
|---|---|---|---|
| [X] SERVICE ADVISOR | [X] SERVICE MANAGER | [X] WARRANTY PROCESSOR | [X] SALES MANAGER |

## PURPOSE

The brake vacuum pump equipped on certain 2010–2014 i–MiEV vehicles may become inoperable due to either of the following two reasons: 1) Improper programming of the EV–ECU, which controls the brake vacuum pump, may cause the ECU to falsely judge that the relay contact point is stuck, or 2) Due to the location of the brake vacuum pump exhaust hole, mud containing road salt could enter and adhere to it, causing the exhaust hole to be blocked from corrosion of the aluminum portion. Brake vacuum pump inoperability may result in increased stopping distances.

This campaign bulletin instructs dealers to update the EV–ECU on all affected vehicles with the latest software programming. Certain 2010–2014 i–MiEV vehicles will also have the brake vacuum pump replaced.

## AFFECTED VEHICLES

2010–2014 i–MiEV

## CUSTOMER NOTIFICATIONS

A letter will be sent to all owners of affected vehicles requesting them to bring their vehicle to a local Certified Mitsubishi i–MiEV dealer to have their vehicle remedied. A copy of the customer notification letter appears at the end of this bulletin.

## REQUIRED OPERATIONS

Before starting this campaign procedure, **CHECK THE WARRANTY SUPERSCREEN** to verify if the vehicle is an affected VIN for this campaign and this campaign procedure has not already been completed.

If the **WARRANTY SUPERSCREEN** displays **C1412E** as an open campaign, the vehicle only requires EV–ECU reprogramming. Complete the campaign claim with Campaign Labor Operation **C1412E01 and the allowed labor time of 0.3 hrs.**

If the **WARRANTY SUPERSCREEN** displays **C1413E** as an open campaign, the vehicle requires EV–ECU reprogramming and brake vacuum pump replacement. Complete the campaign claim with Campaign Labor Operation **C1413E01 and the allowed labor time of 0.5 hrs.**

Repairs must be completed by a certified i–MiEV technician. Please ensure the Main Drive battery's charge is properly maintained while the vehicle is not being serviced.

---

### IMPORTANT

**Affected new or used inventory vehicles must be repaired before the vehicle is delivered. Dealers must check their inventory vehicles' VINs on the Warranty Super Screen to verify whether the vehicle is involved in this recall campaign. It is a violation of Federal law for a dealer to deliver a new motor vehicle or any new or used item of motor vehicle equipment (including a tire) covered by the notification under a sale or lease until the defect or non-compliance is remedied.**

---

<div style="border: 2px solid red;">

## IMPORTANT

**Please ensure the Main Drive battery is fully charged prior to vehicle delivery. If the vehicle cannot be immediately remedied, the Main Drive battery should be charged while the vehicle is waiting for the update. This will limit customer inconvenience and maximize customer satisfaction.**

**Do not charge the Main Drive battery while performing this reprogramming procedure. If the Main Drive battery is being charged, please disconnect the charging cable before proceeding.**

</div>

## SPECIAL EQUIPMENT

**The following equipment is needed to reprogram the EV−ECU:**

- VCI (Vehicle Communication Interface) or VCI Lite − MB991824 or MB992744.

- MEDIC Laptop/Tablet with A/C power adapter − 520924, or FZG1MK2.

- MUT−III main harness 'A' (blue connector at the DLC end) − MB991910 or MB992745.

- USB 2.0 cable − MB991827 or MB992747.

- MEDIC update number 293
  For Stand alone MUT−III, reprogramming database N14081 or higher.

## REPROGRAMMING PROCEDURE

> **IN ORDER TO REPROGRAM THE EV−ECU, A BATTERY CHARGER (WITH A CHARGING RATE NOT TO EXCEED 10 AMPS) MUST BE CONNECTED TO THE VEHICLE'S 12V AUXILIARY BATTERY DURING THE REPROGRAMMING PROCEDURE. DO NOT ALLOW THE BATTERY CHARGER TO TIME OUT. CONNECT THE BATTERY CHARGER WHEN INSTRUCTED.**

⚠ **CAUTION**

**WHEN BATTERIES ARE BEING CHARGED, AN EXPLOSIVE GAS FORMS BENEATH THE COVER OF EACH CELL. DO NOT SMOKE NEAR BATTERIES ON CHARGE OR WHICH HAVE RECENTLY BEEN CHARGED. DO NOT BREAK LIVE CIRCUITS AT THE TERMINALS OF THE BATTERIES ON CHARGE. A SPARK WILL OCCUR WHERE THE LIVE CIRCUIT IS BROKEN. KEEP ALL OPEN FLAMES AWAY FROM THE BATTERY.**
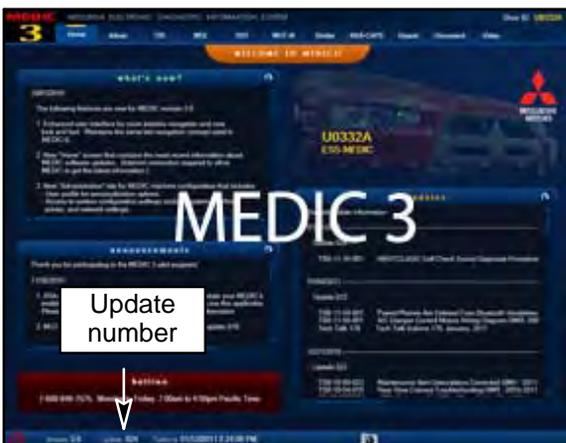


1. Verify your MEDIC is at update **293** or higher.

   If your **MEDIC update is at least 293**, continue with the **REPROGRAMMING PROCEDURE** below.

   If your **MEDIC update is below 293**, update your MEDIC 3 as follows.
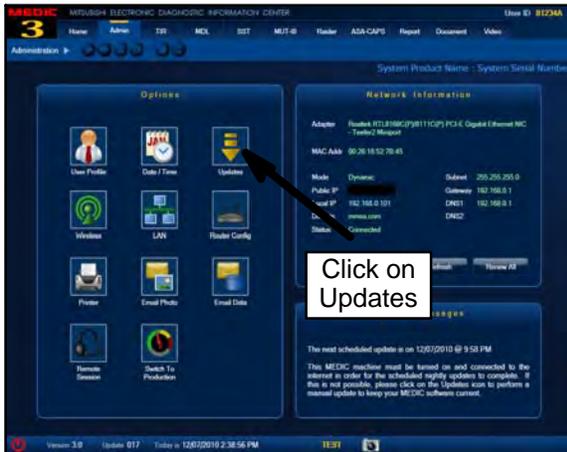
Click on Updates

2. Select the "Admin" tab.  Click on "Updates."



Click on Begin
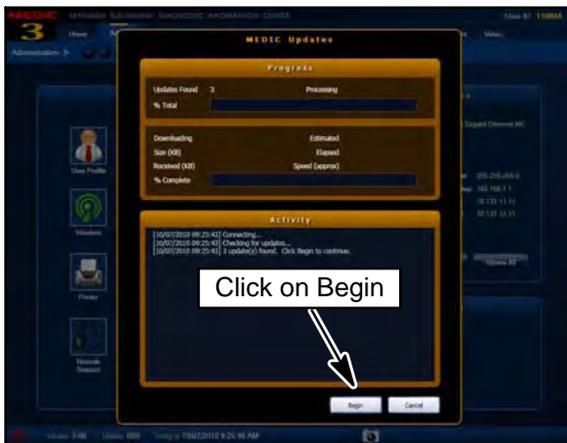
3. If the MEDIC Updates screen advises updates are available, click the "Begin" button.
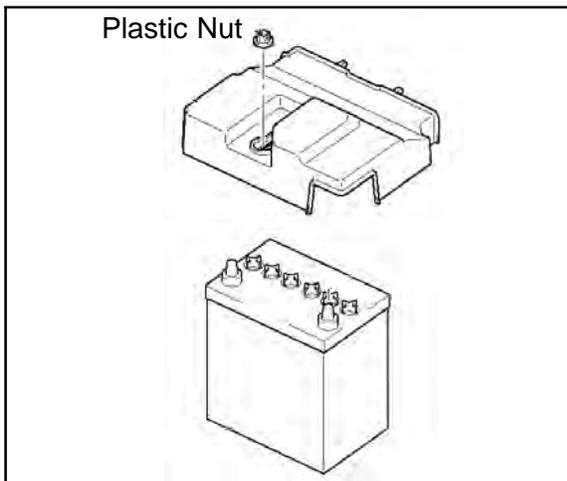


Plastic Nut

4. Set the parking brake and open the hood.

5. Remove the 12V auxiliary battery cover.  Unscrew the plastic nut (pull up while turning).
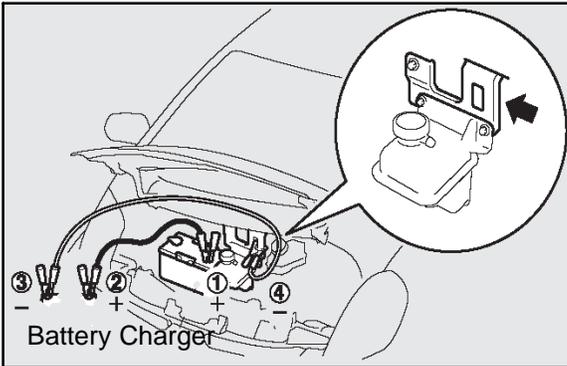
Battery Charger

6. Attach the battery charger (with a charging rate not to exceed 10 amps) to the 12V auxiliary battery.

   **NOTE:** Ensure battery charger does not time out during this procedure.

   **NOTE:** Connect the positive (+) terminal of the 12V auxiliary battery (1) to the positive (+) battery charger cable (2). Connect the negative (—) battery charger cable (3) to the designated ground location (4).

7. Connect the equipment as follows:

   ● 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 that reprogramming be completed 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.

   ● Turn the VCI power switch ON . Verify that the indicator lamp in the upper right corner of the screen is green.

   **NOTE:** VCI and MEDIC 3 Laptop shown for illustration purposes only



MEDIC−3 / MUT−III
MAIN HARNESS

USB CABLE
VCI – LAPTOP

BLUE END

VCI\VCI Lite

MEDIC 3 / MUT−III PC
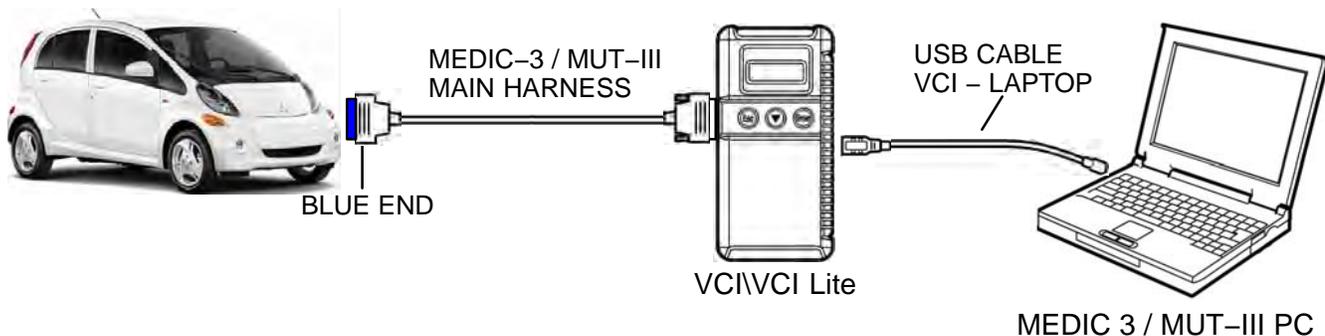
⚠ **CAUTION**

**DO NOT DISTURB THE HARNESS CABLES OR CONNECTIONS. INTERRUPTION DURING THE REPROGRAMMING PROCESS COULD CAUSE THE CONTROL UNIT TO LOSE DATA OR PREVENT FUTURE REPROGRAMMING. IF THE USB CABLE IS DISCONNECTED DURING THIS PROCEDURE, A WARNING MESSAGE WILL DISPLAY.**
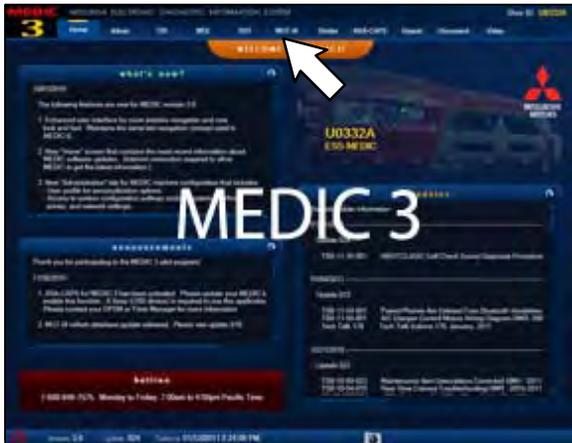
8. Turn the electric motor switch to the ON position (do not engage READY mode).

**NOTE:**
Ensure all accessories are off (e.g. lights, heating and AC system, audio/navi unit, etc…) and the Main Drive Li−on battery is not charging.

9. From the MEDIC main page,

a. Click on MUT−III
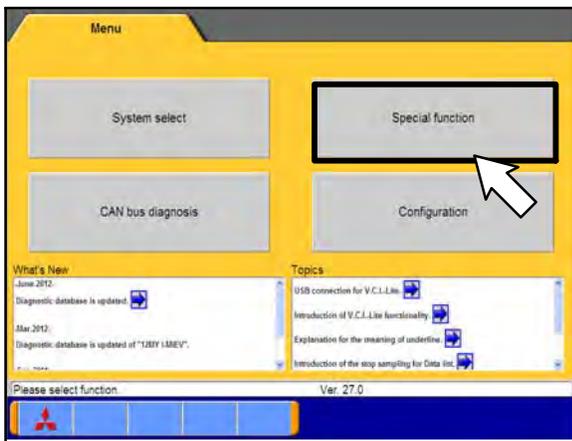


b. Select "Special Function."
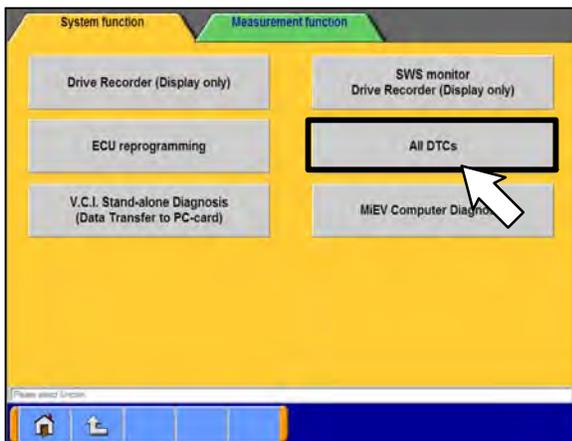


c. Select "All DTCs."

d. Select "Read all DTCs."
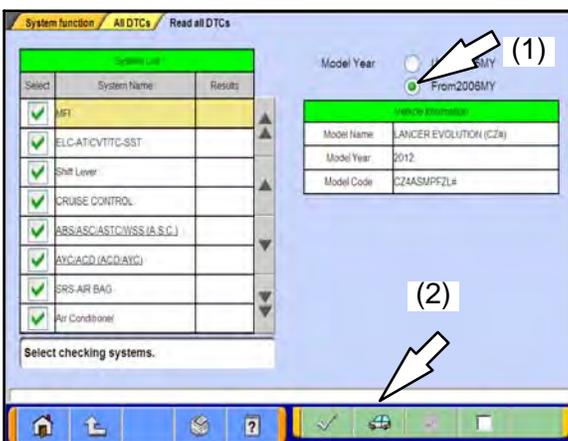


e. Make sure the "From 2006MY" field is selected (1). Click on the car icon at the bottom of the page to select your vehicle (2).
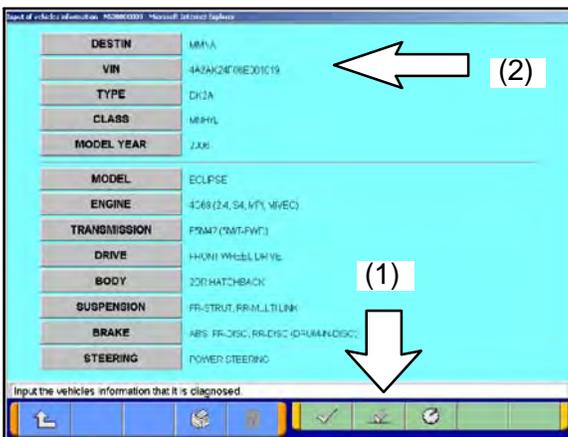


f. If the VIN listed does not match the vehicle you are working on, click on the eraser icon at the bottom of the page (1).

Click on the VIN button (2).
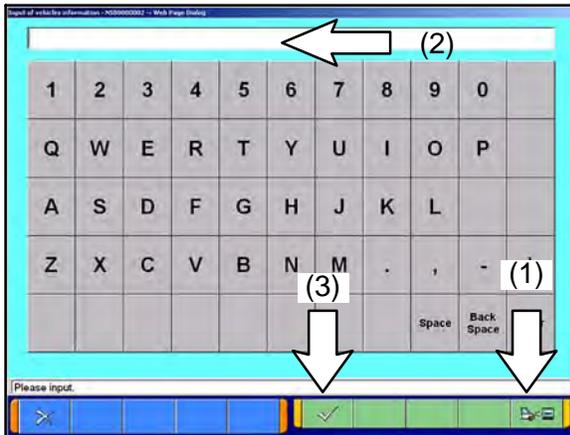
g. Click on the icon in the lower RH corner of the screen to have the MUT–III automatically read the VIN (1). If a message appears saying that the VIN cannot be read automatically, manually type the 17 digit VIN into the VIN field (2).

When the VIN is entered correctly, click on the check mark icon to continue (3).
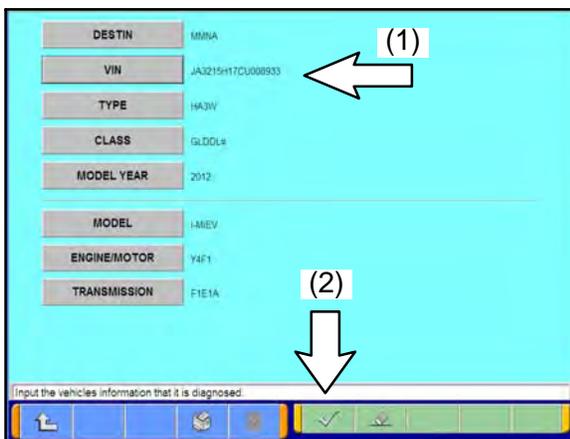
h. Ensure the VIN entered is correct (1).

Click on the check mark icon to continue (2).
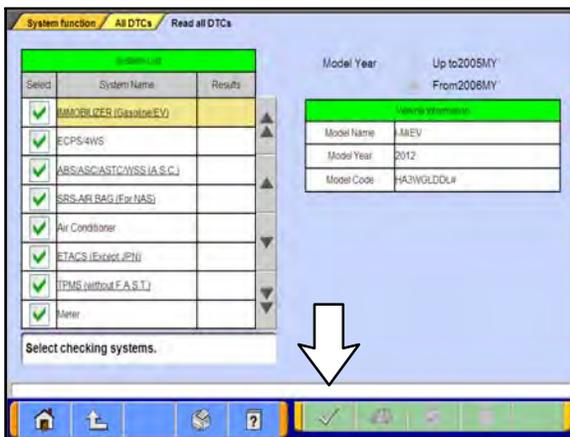
i. Click on the check mark icon at the bottom of the page to initiate DTC scan.

Confirm scanning for all DTCs by clicking on the check mark icon when prompted.
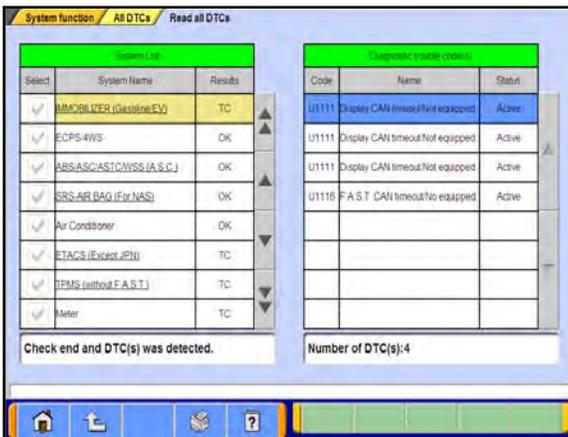
j. When the DTC scan completes, there may be **4** DTCs displayed with codes "U1111" and "U1116". This is normal. Proceed with the reprogramming procedure. If there are separate DTCs displayed, trouble shoot the DTC's according to the service manual before proceeding.
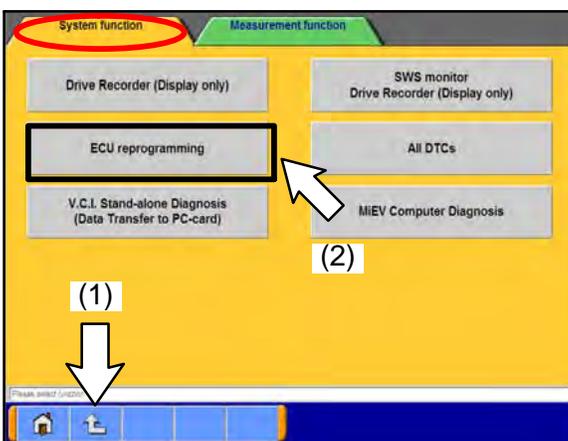
k. Click the back arrow icon (1) twice to arrive at the "System Function" screen. Select "ECU reprogramming" (2).
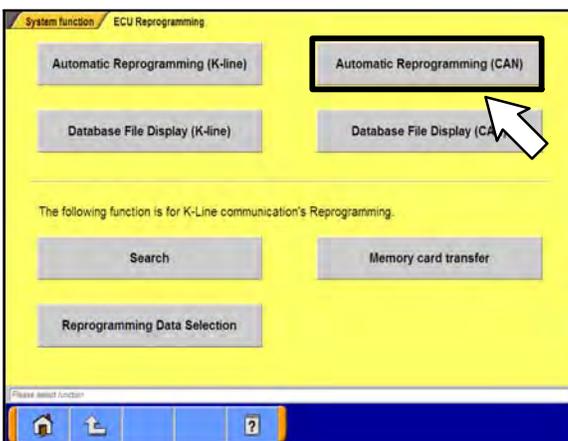
l. Select "Automatic Reprogramming (CAN)".
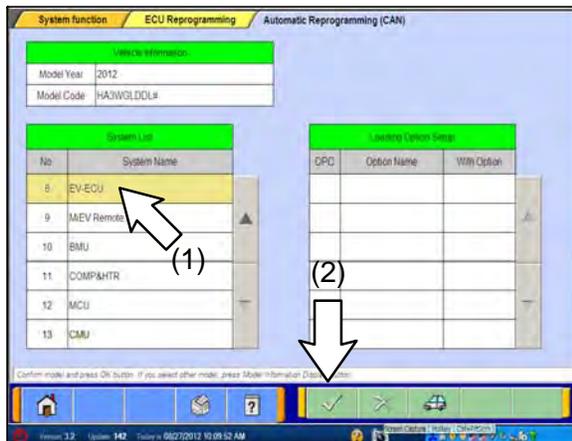
m. In the "Systems List", scroll to and select "No. 8, EV–ECU" (1). Click on the check mark icon (2) to continue.
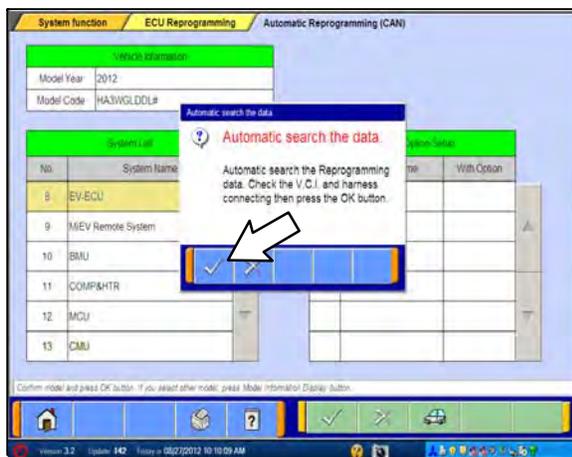
n. A message will advise that the system will "Automatic search the data."

Click on the check mark icon to search for the updated software.
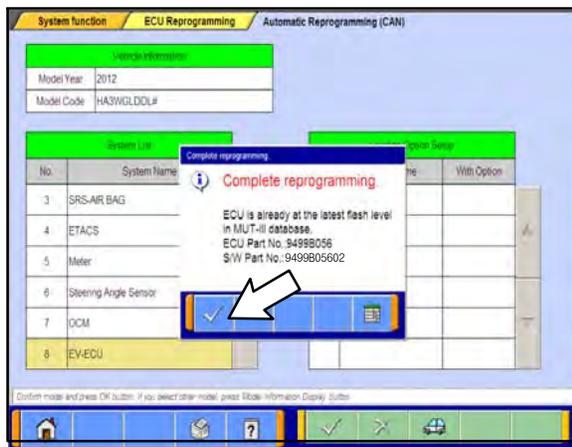
**NOTE:**
If a "Complete Reprogramming" message is displayed, the EV–ECU is already programmed for the newest level (verify Software Part No. Is 9499B05602). If this message displays, do not continue with this reprogramming procedure. Click the check mark to clear the window, then click on the Home icon at the lower left corner of the screen to return to the System Select main page. Turn the ignition to the OFF position, disconnect the MEDIC PC and the battery charger.

If a "Complete Reprogramming" message **does not** appear, continue with this procedure.
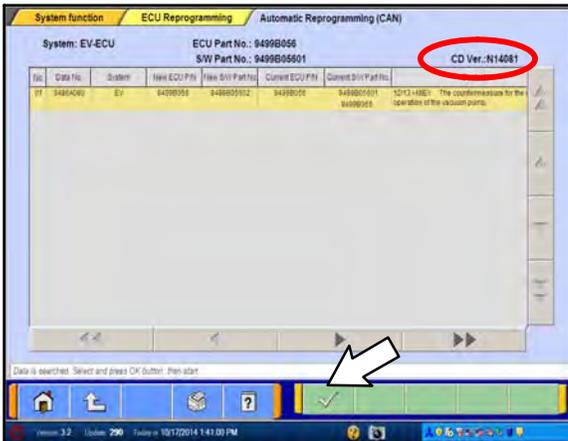
o. The "Automatic Reprogramming (CAN)" screen will display.

Confirm the database number at the top right of the table is **N14081** or higher.

Click on the check mark icon to continue.
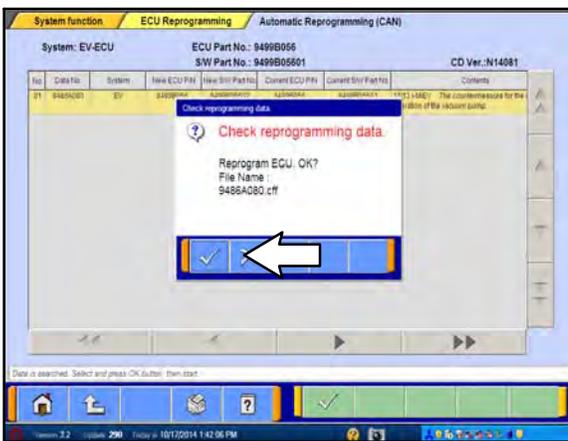


p. When the "Check reprogramming data" window appears, confirm the "Data no." matches that displayed on the "Automatic Reprogramming (CAN)" screen, then click on the check mark. It may take up to 5 minutes to complete the reprogramming.

⚠ **CAUTION**

**The condenser fan may automatically be turned on during reprogramming. Care should be taken to insure nothing gets caught in the moving blades. Select other accessories will also be turned ON or OFF and you may also hear a chime in the interior for a short period of time. These are normal conditions.**
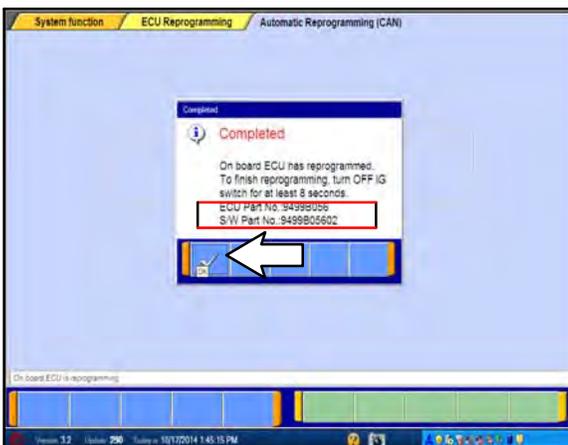


q. Once the reprogramming has completed, confirm the new software version is "9499B05602". Click on the check mark icon to continue.

10. Turn the electric motor switch to the OFF (Lock) position. Wait at least 8 seconds, and turn it back ON. Confirm the "READY" light is illuminated.

11. Turn the electric motor switch off. Disconnect the MUT−III and the battery charger.

## VACUUM PUMP REPLACEMENT PROCEDURE (2010 – 2012 models only)

**Only perform this operation if the WARRANTY SUPERSCREEN displays Campaign Number C1413E as an open campaign.**



Insulating Tape
12V Battery
Battery Cable
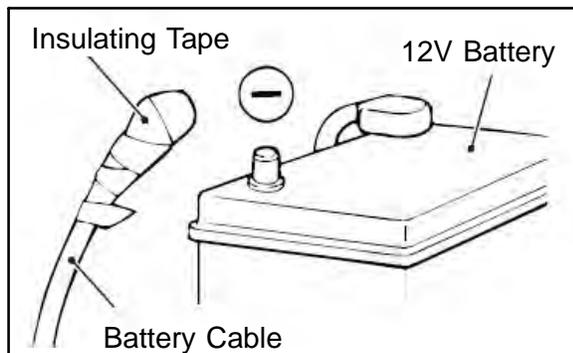
1.  **REMINDER:** If the vehicle is not equipped with the optional OEM navigation unit, please record all radio station presets and reprogram them when repairs are completed.

2.  With the electric motor switch in the "OFF" position, set the parking brake and open the hood. Remove the 12V battery cover and disconnect the negative (–) terminal of the battery. Wait at least 60 seconds. Insulate disconnected negative (–) terminal with electrical tape.

⚠ **WARNING**   **To avoid damaging the electric motor unit components, do not disconnect the 12V battery negative (—) terminal for 1 minute after turning the electric motor switch to "LOCK" (OFF).**



Wing Nuts

3.  Open the liftgate. Fold the rear seatbacks forward into the passenger compartment.

4.  Remove and store the rear access cover.

5.  Unscrew the four wing nuts from the power unit inspection lid and open the lid to gain access to the vacuum pump.

Vacuum Pump

2010−Early 12MY
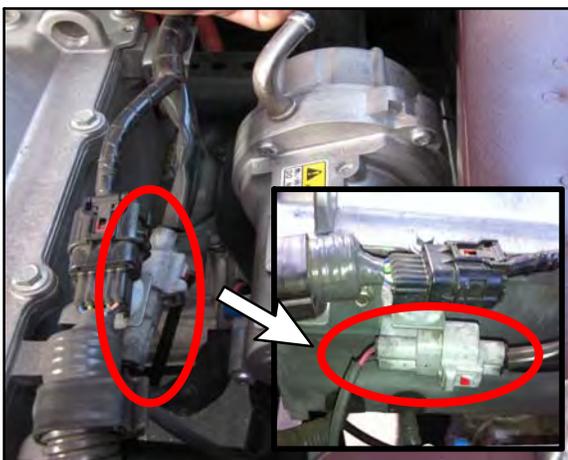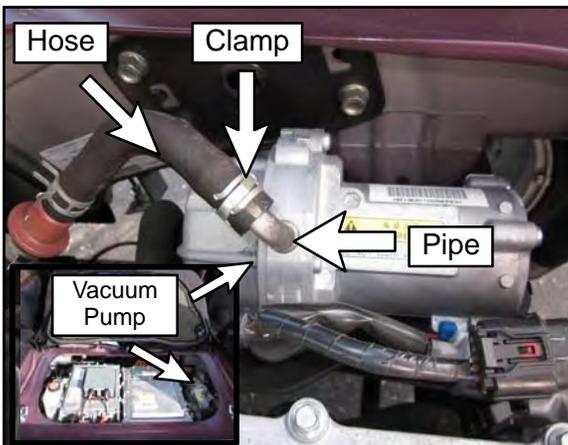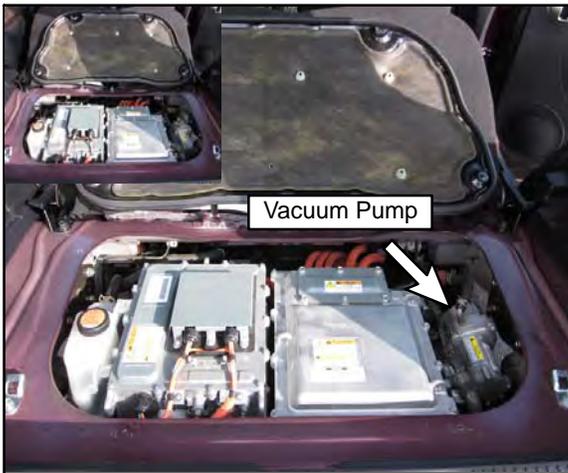
Late 2012MY

6. The vacuum pump is located on the right side of the motor compartment.

   The pump assembly fitted to 2010 – early 2012 models is all metal construction.

   For late 2012 models, the pump assembly can be all metal or have a black metal motor housing with a black plastic pump housing and cover.



Hose  Clamp

Pipe

Vacuum Pump

7. Squeeze the vacuum hose clamp and slide it to the center of the vacuum hose.
   **REMINDER: For re−installation, note the position of the vacuum hose clamp on the vacuum hose.**

8. Gently pull off the vacuum hose from the vacuum pump.
   **REMINDER: For re−installation, note position of the vacuum hose on the vacuum pump pipe.**



9. Disconnect the vacuum pump electrical connector.
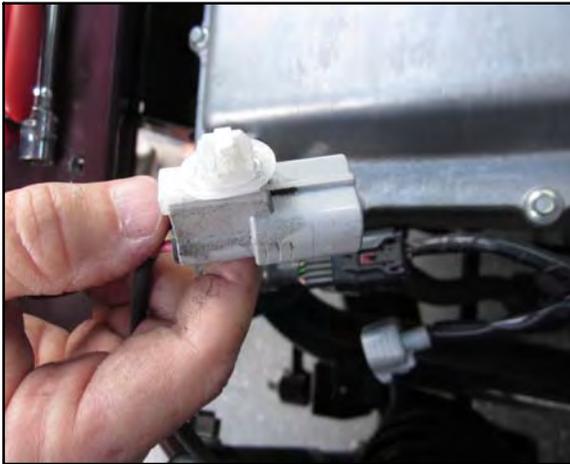
10. Unclip the vacuum pump electrical connector mount from the vehicle's body.



11. Remove three 12mm bolts to disconnect the vacuum pump assembly.

⚠️ **CAUTION**   **To prevent damage to the vacuum pump electrical connector, make sure it is disconnected from the vacuum pump prior to removal.**
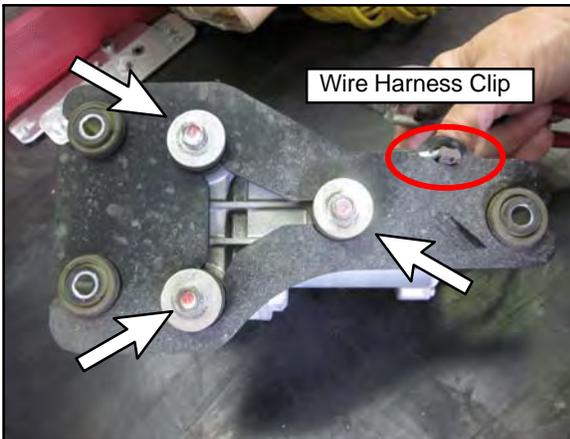


Wire Harness Clip

12. Remove three 10mm bolts and unclip the wire harness to disconnect the vacuum pump from its bracket.

13. Replace the vacuum pump with the new unit.

   **NOTE:**
   The affected vacuum pump can be all metal or have a black metal motor housing and a plastic pump housing. Replacement pumps have a black metal motor housing and a plastic pump housing.

14. Reattach the wire harness clip to the bracket first, then reinstall the three 10mm bolts. Doing so will ensure the vacuum pump is installed correctly to the bracket.

   **NOTE:** Use hand tools only. Torque specifications is 44 $\pm$ 8 in–lb (5 $\pm$ 1 N–m).

15. Secure the vacuum pump assembly to the vehicle by reinstalling the three 12mm bolts.

   **NOTE:** Use hand tools only. Torque specifications is 84 $\pm$ 30 in–lb (9.5 $\pm$ 3.5 N–m).

16. Clip the vacuum pump connector mount to the body of the vehicle.

17. Reconnect the vacuum pump connector.

18. Reinstall the vacuum hose according to the location noted in step 8.

19. Reinstall the vacuum hose clamp according the the location noted in step 7.

20. Close the power unit inspection lid and reinstall the four wing nuts. Replace the rear access cover and close the liftgate. Set the rear passenger seatbacks to their original position.

21. Remove the electrical tape and reconnect the negative (—) terminal of the 12V battery. Reinstall the battery cover.

   **NOTE:** Use hand tools only. Torque specifications for the negative (—) terminal is 44 $\pm$ 8 in–lb (5 $\pm$ 1 N–m). Torque specifications for the battery cover is 35 $\pm$ 8 in–lb (4 $\pm$ 1 N–m).

22. Turn the electric motor switch to "ON". Release the parking brake and confirm the "READY" light is on. With the gear selector in "P" (Park), fully depress the brake pedal (as you normally would when bringing a moving vehicle to a complete stop) **three times**. Refer to the chart below to verify if vacuum pump was successfully installed.

| Vacuum Pump Operation Verification | | | |
|---|---|---|---|
| | **Brake Warning Buzzer** | **Brake Warning Lamp** | **Judgement** |
| **Fully Depress Brake Pedal Successively Three Times** | Beeps Intermittently or No sound is Heard | Flashes Intermittently or Off | Normal／Pass |
| | Continuous sound | ON | Abnormal – Diagnose Per Service Manual |

23. Reinstall the 12V auxiliary battery cover and plastic nut. Close the hood.

24. Fully charge the i–MiEV Main drive lithium–ion battery. Set the clock. If not equipped with MMCS Navigation, set radio station presets previously noted before returning the vehicle to the customer.

## PARTS INFORMATION

Use the genuine Mitsubishi Part listed below:

| Description | Part Number |
|---|---|
| **Vacuum Pump, EV Brake Booster** | **4641A032** |

## WARRANTY INFORMATION

**There is only 1 repair scenario for each specific campaign number.  Involved vehicles can only be in one campaign.**

**Campaign Repair Scenario Chart**

**If involved in C1412E01**

| # | Campaign Op# | Labor Time | Repair Description | Part Number |
|---|---|---|---|---|
| **1** | **C1412E01** | **.3 hours** | **Involved vehicles only require EV–ECU reprogramming.  No other repair or re-placement is necessary.** | **No Parts** |

**If involved in C1413E01**

| # | Campaign Op# | Labor Time | Repair Description | Part Number |
|---|---|---|---|---|
| **1** | **C1413E01** | **.5 hours** | **Involved vehicles requires BOTH an EV–ECU reprogramming AND brake vacuum pump replacement.** | **4641A032** |

## WARRANTY / RECALL CAMPAIGN CLAIM INFORMATION

**Enter all claims as claim type 'C' – Recall/Campaign Claims**

**Please follow the campaign instructions when entering each claim in order to select applicable operation code that correctly matches up with the work that was actually performed.  A claim example is provided below.**

**Certain 2010−2014 i−MiEV Models**

| **Required Operation to be performed** | **Labor Operation** | **Labor Time** |
| --- | --- | --- |
| 1.  **2010−2014MY i−MiEV Brake Vacuum Pump –** | **(See Scenario Chart)** | |

**Claim Header Section:**



Enter in the first **6** characters of the applicable campaign number:  **C1412E or C1413E**.

This campaign is for repairs to the brake vacuum pump on certain 2010−2014 MY i−MiEVs.

Check the Open Campaign area of the Superscreen each time to be certain of a vehicle's eligibility and what campaign number applies.  Only i−MiEV VINs showing **C1412E** or **C1413E** as open are involved.

After entering the required customer data, vehicle information, selecting the applicable repair campaign and scenario performed (please note there is only 1 possible repair scenario for each specific campaign), and then hitting the "Save and Continue" button, the system will automatically fill–in several fields.



**Labor and Parts**:

There is only 1 possible repair scenario for each specific campaign. Involved vehicles can only be involved in one of the campaigns. The Superscreen will show if a vehicle is involved and the specific campaign. Campaign C1412E01 has no required or allowed replacement parts. Campaign C1413E01 requires a part (the brake vacuum pump) to be replaced and claimed.

**Campaign Repair Scenario Chart**

**If involved in C1412E01**

| # | Campaign Op# | Labor Time | Repair Description | Part Number |
|---|---|---|---|---|
| 1 | C1412E01 | .3 hours | Involved vehicles only require EV–ECU reprogramming. No other repair or replacement is necessary. | No Parts |

**If involved in C1413E01**

| # | Campaign Op# | Labor Time | Repair Description | Part Number |
|---|---|---|---|---|
| 1 | C1413E01 | .5 hours | Involved vehicles requires BOTH an EV–ECU reprogramming AND brake vacuum pump replacement. | 4641A032 |

**Claim Entry Sample:**



**Rental Cars:**

**If there is a need to provide the owner with a rental car, claim the applicable charges in this section of the claim on the lower portion of the labor entry screen.**



**Replaced Parts Retention:**

**Retain all replaced parts for the standard parts retention holding period of 30 days past the end of month claim statement where the claim was shown as paid.**

# IMPORTANT SAFETY RECALL

**Mitsubishi Motors North America, Inc.**

6400 Katella Avenue
Cypress, CA 90630
Telephone: 714-372-6000
www.mitsubishicars.com

This notice applies to your vehicle, _____.
This notice has been sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act.

Date: October, 2014

Dear Mitsubishi Owner,

| | |
|---|---|
| **Reason for notice:** | Mitsubishi Motors North America, Inc. (MMNA) has decided that a defect which relates to motor vehicle safety exists in certain 2010 - 2014 i-MiEV vehicles. Due to either of the following reasons, the brake vacuum pump may become inoperable: |

1) Improper programming of the EV-ECU, which controls the brake vacuum pump, may cause the ECU to falsely judge that the relay contact point is stuck.

2) Due to the location of the brake vacuum pump exhaust hole, mud containing road salt could enter and adhere to it, causing the exhaust hole to become blocked due to corrosion.

Brake vacuum pump inoperability may result in increased stopping distances, which can increase the risk of a crash. The brake warning light will illuminate and an audible warning will alert the vehicle operator in the event of brake vacuum pump inoperability.

| | |
|---|---|
| **What you should do:** | Please contact your local certified i-MiEV Mitsubishi dealer and schedule an appointment to have the recall remedy(s) performed on your vehicle. When you bring your vehicle in, please show the dealer this letter. (If you misplace this letter, the dealer will still make this inspection/repair to your vehicle, free of charge.) |
| **What your dealer will do:** | The dealership will reprogram the EV-ECU to the latest software and, if necessary, replace the brake vacuum pump. |
| **How long will it take?** | The time needed for this remedy is approximately **0.5** hr. The dealer may need your vehicle for a longer period of time due to service scheduling issues, but every effort will be made to minimize your inconvenience. |

If you experience any problem having your vehicle repaired promptly and/or at no charge, please inform us by calling the Mitsubishi Customer Relations Department at **888-648-7820**. Hours: Monday through Friday 7 a.m. to 4 p.m. (Pacific Time)

If, after contacting Mitsubishi Customer Relations, you still have a problem getting this repair made promptly and/or without charge, you may submit a complaint to the Administrator, National Highway Traffic Safety Administration, 1200 New Jersey Avenue SE, Washington, D.C. 20590, or call the toll-free Vehicle Safety Hotline at 1-888-327-4236 (TTY: 1-800-424-9153), or go to http://www.safercar.gov.

If you have already encountered a problem with the brake vacuum pump and had it replaced as a result of this specific condition and have paid for the repair, you may send your original repair order or invoice, **and** original receipt/proof of payment to the following address for reimbursement consideration:

Mitsubishi Customer Relations Department, P.O. Box 6400, Cypress, CA 90630-0064

**If you are the lessor of this vehicle**, please forward a copy of this notice to the lessee within ten days to comply with federal regulations.

We appreciate your prompt attention to this matter.

Sincerely,

Mitsubishi Motors North America, Inc.

C1412E