



# SERVICE BULLETIN

|                              |                          |                          |
|------------------------------|--------------------------|--------------------------|
| Classification:<br>EL14-031d | Reference:<br>NTB14-059d | Date:<br>January 7, 2020 |
|------------------------------|--------------------------|--------------------------|

## 2011-2016 LEAF; 24 KWH HIGH VOLTAGE REPLACEMENT BATTERY PACK

This bulletin has been amended. See **AMENDMENT HISTORY** on the last page. Please discard previous versions of this bulletin.

- APPLIED VEHICLES:** 2011-2016 LEAF® (ZE0)  
**APPLIED VINS:** 2011-2015 All  
2016 VINs starting with 1N4AZ0

### SERVICE INFORMATION

If the 24 kWh High Voltage (HV) Battery pack needs to be replaced for any reason:

#### 2013 – 2016 LEAF

- The 24 kWh HV Battery Pack listed in the Parts Information table is a direct replacement and does not require any additional parts.
- For 2016 vehicles that have a 30 kWh HV Battery Pack, VINs starting with 1N4BZ0, refer to NTB20-001.

#### NOTE:

- Refer to the applicable Electronic Service Manual (ESM) section **EVB – EV Battery System** for the procedure to replace the HV Battery Pack.
- Refer to **Service Information Overview** on page 2 for additional services required when replacing the HV Battery Pack.

#### 2011 – 2012 LEAF

- The HV Battery Pack listed in the Parts Information table can be retrofitted with the list of additional parts and the **Service Procedure** starting on page 2.

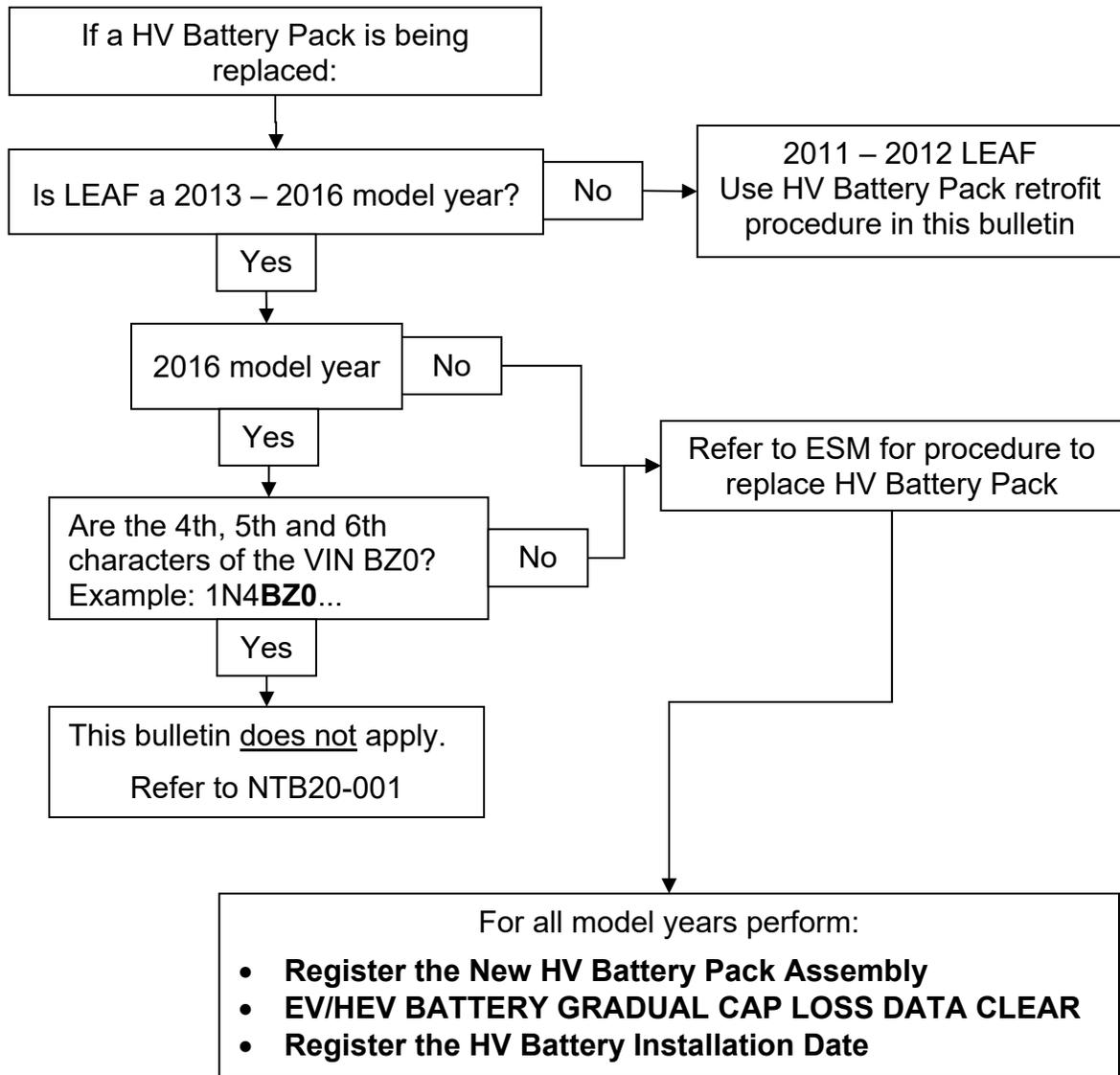
#### IMPORTANT:

**DO NOT “READ & WRITE” any Li-ion Battery Controller (LBC) data to the new HV Battery Pack assembly.**

- Writing the old HV Battery Pack LBC data to the new HV Battery Pack assembly will cause the vehicle to read only 8 bars of capacity and will require the LBC to be replaced.

Nissan Bulletins are intended for use by qualified technicians, not 'do-it-yourselfers'. Qualified technicians are properly trained individuals who have the equipment, tools, safety instruction, and know-how to do a job properly and safely. NOTE: If you believe that a described condition may apply to a particular vehicle, DO NOT assume that it does. See your Nissan dealer to determine if this applies to your vehicle.

## Service Information Overview



## SERVICE PROCEDURE

### 2013 – 2016 LEAF

Refer to the ESM for HV Battery Pack replacement.

And then proceed to page 7 and perform the following procedures in order:

- a. **Register the New HV Battery Pack Assembly**
- b. **EV/HEV BATTERY GRADUAL CAP LOSS DATA CLEAR**
- c. **Register the HV Battery Installation Date**

### 2011 – 2012 LEAF

Follow the complete procedure for **Retrofitting HV Battery Pack** starting on page 3.

## Retrofitting HV Battery Pack

These procedures are to be performed **ONLY** by a Master Technician with **current** LEAF certification.

Follow all Warning, Caution, and Danger instructions in the ESM.

### DANGER:

- Touching high voltage components without using the appropriate protective equipment will cause electrocution.
- Electric vehicles contain a high voltage battery. There is the risk of electric shock, electric leakage, or similar accidents if the high voltage components and vehicle are handled incorrectly. Be sure to follow the correct work procedures when performing this procedure.

### WARNING:

- Be sure to remove the service plug in order to disconnect the high voltage circuits before performing inspection or maintenance of high voltage system harnesses and parts.
- The removed service plug must always be carried in a pocket of the responsible worker or placed in the tool box during the procedure to prevent the plug from being connected by mistake.
- Be sure to wear insulating protective equipment consisting of gloves, shoes, a face shield and glasses before beginning work on the high voltage system.
- Never allow workers other than the responsible person to touch the vehicle containing high voltage parts. To keep others from touching the high voltage parts, these parts must be covered with an insulating sheet except when using them.
- Erect the safety barriers around the vehicle to prevent un-authorized personnel from entering high voltage work area.

### CAUTION:

- Never turn the vehicle ignition to the READY status with the service plug removed unless otherwise instructed in the ESM. A malfunction may occur if this is not observed.

1. Write down the radio settings.

| Presets | 1      | 2 | 3       | 4 | 5    | 6               |
|---------|--------|---|---------|---|------|-----------------|
| AM      |        |   |         |   |      |                 |
| FM 1    |        |   |         |   |      |                 |
| FM 2    |        |   |         |   |      |                 |
| SAT 1   |        |   |         |   |      |                 |
| SAT 2   |        |   |         |   |      |                 |
| SAT 3   |        |   |         |   |      |                 |
| Bass    | Treble |   | Balance |   | Fade | Speed Sen. Vol. |

2. **If equipped**, write down the customer preferred setting for the Automatic Air Conditioning System.
  - If needed, refer to System Settings in the HAC section of the ESM.
3. Check to see if the timer for “charging” or “climate control” is ON. If ON, turn OFF and make sure to turn back ON after the HV battery pack is replaced.
  - For charging timer on vehicles with navigation: write down which days are OFF, Timer 1 or Timer 2.
4. Remove the HV Battery Pack.
  - Use the procedures from the ESM for the following steps unless otherwise directed.  
**NOTE:** Refer to the applicable ESM, section **EVB - EV Battery System**, for the procedure to replace the HV Battery Pack.

Figure 1 shows the new and old HV Battery Packs side by side.

**NOTE:** For 2013-2016 vehicles, the new HV Battery Pack is a direct replacement and does not require this retrofitting procedure.

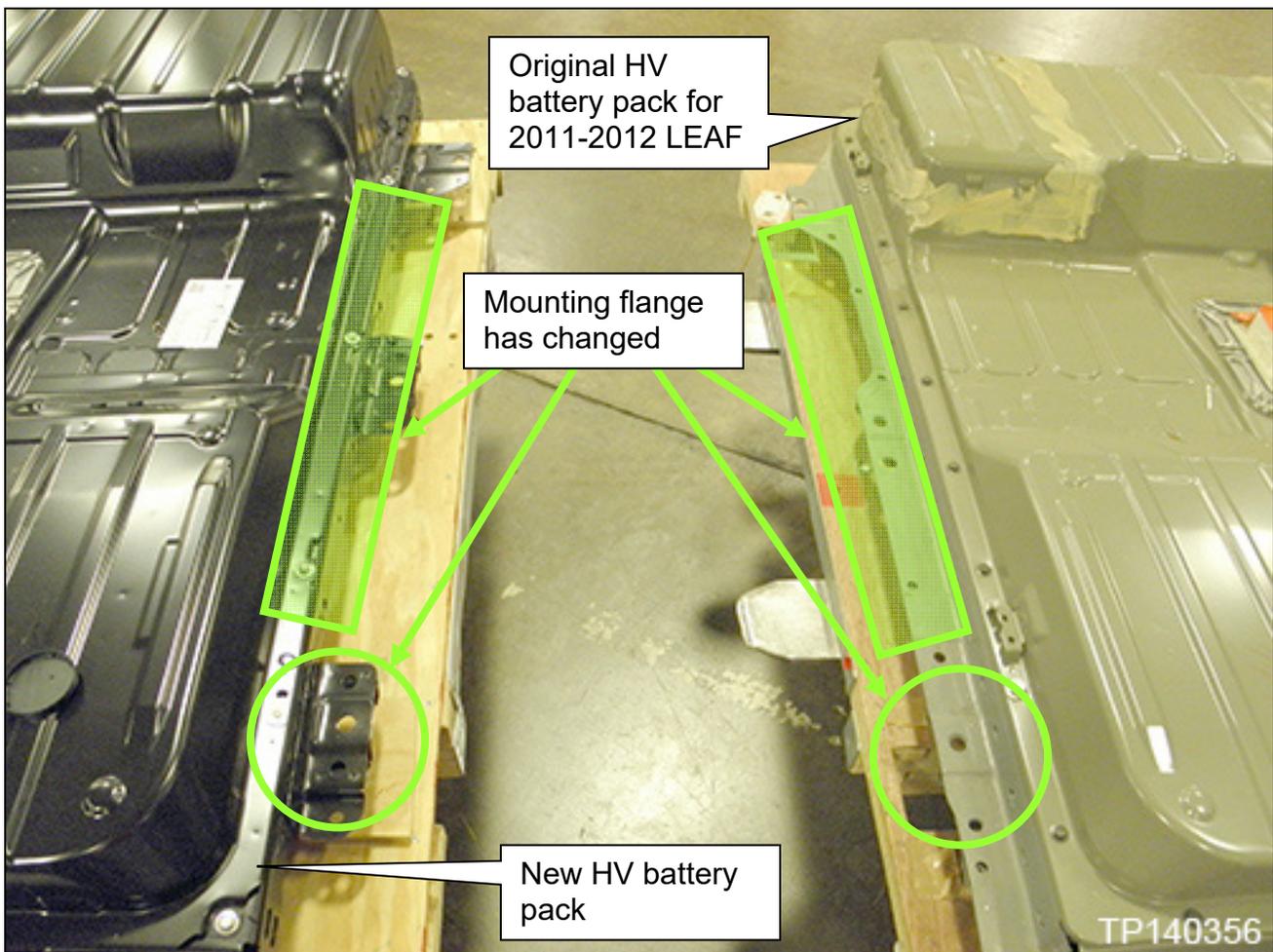


Figure 1

## Preparing the Rear Support Brackets

5. Enlarge the support bracket bolt holes:
  - a. Place the support brackets in a vise one at a time.

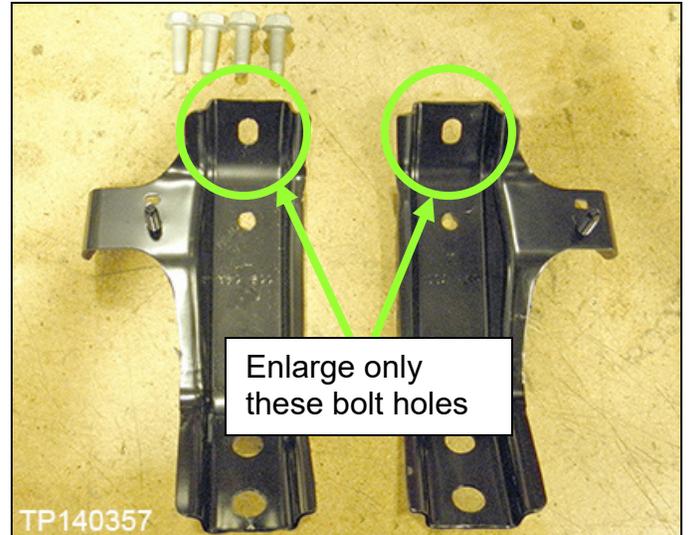


Figure 2

- b. With a 1/2" drill bit, enlarge the bolt holes indicated in Figure 2
    - c. Cover the newly exposed metal with a zinc rich paint to prevent corrosion.
      - After the paint has dried and before assembling the brackets to the new HV battery, Bitumen wax will also be applied to these areas.

**NOTE:** See page 19 for primer and Bitumen wax.

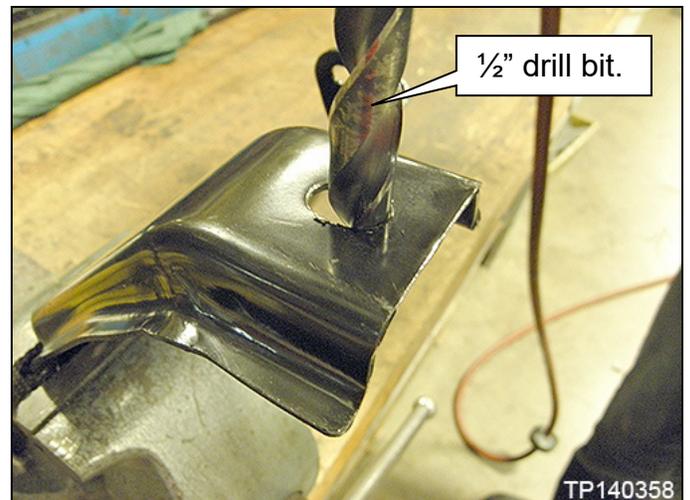


Figure 3

6. Install the new HV Battery Pack:

- a. Attach the HV Battery Pack to the vehicle.

**IMPORTANT:** Do not make any electrical connections at this time.

**NOTE:** Refer to the applicable ESM, section **EVB - EV Battery System**, for the procedure to replace the HV Battery Pack.

- b. Install only the front HV Battery Pack ground straps.

- Figure 4 and Figure 5 show the front HV Battery Pack ground straps (two total). Discard the rear HV Battery Pack ground straps.

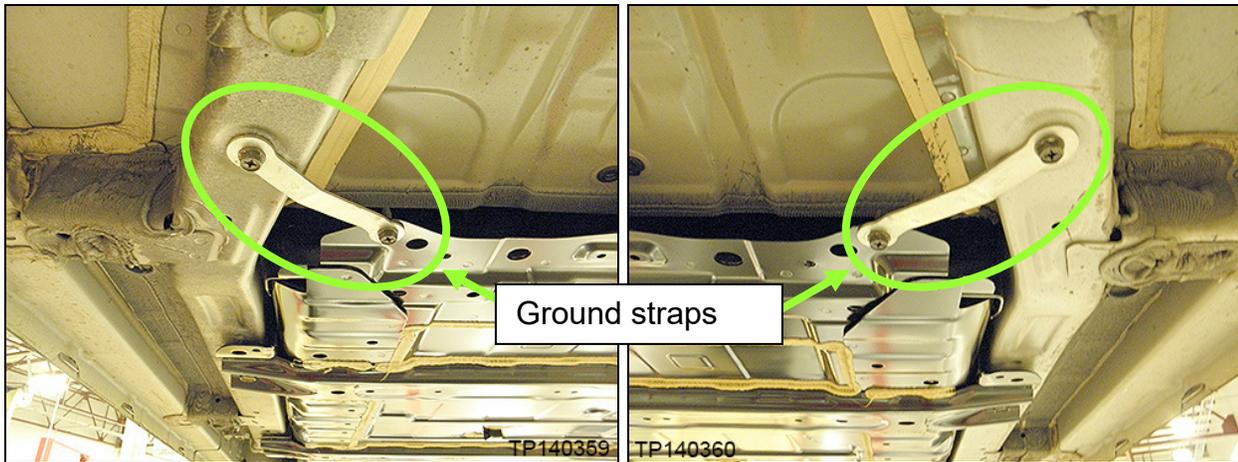


Figure 4

Figure 5

- c. Apply Bitumen wax to the brackets at the areas that were enlarged in step 5.

- d. Install the two new brackets to the HV Battery Pack with the four new bolts from the Parts Information table and to the vehicle with the two pre-existing bolts and tighten to 72 N•m (7.3 kg-m, **53 ft-lb**).

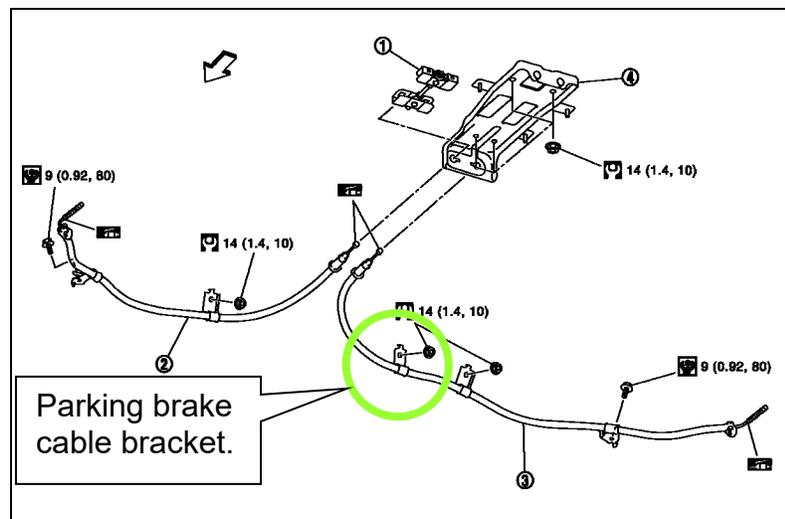


Figure 6

7. Remove the right side parking brake cable bracket (Figure 6) from the cable and discard.

- This bracket will be replaced with the standoff in the Parts Information table.

8. Install the new brake cable standoff from the Parts Information table.

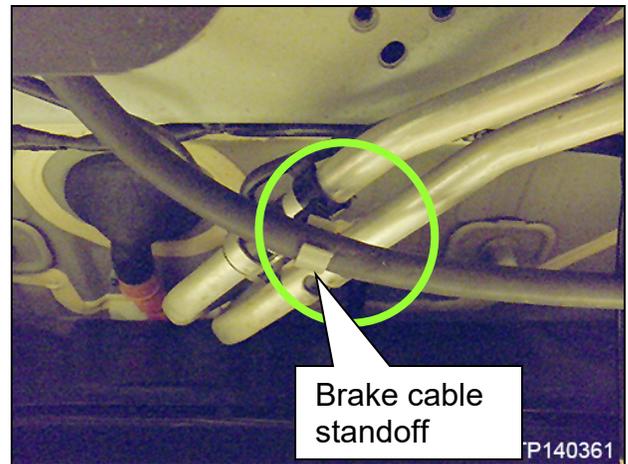


Figure 7

9. Reassemble the remaining components in the reverse order.

**NOTE:** Refer to the applicable ESM, section **EVB - EV Battery System**, for the procedure to replace the HV Battery Pack.

10. Install new undercovers A and B from the Parts Information table.

### Register the New HV Battery Pack Assembly

**NOTE:** An unregistered HV Battery Pack will set P3102 (Invalid Battery).

### CAUTION:

**DO NOT “READ & WRITE” any Li-ion Battery Controller (LBC) data to the new HV Battery Pack assembly.**

- Writing the old HV Battery Pack LBC data to the new HV Battery Pack assembly will cause the vehicle to read only 8 bars of capacity and will require the LBC to be replaced.

1. Install the HV Battery Pack registration card into the CONSULT PC.

2. Attach the CONSULT PC to the vehicle.
  - Connect the plus VI to the vehicle.
  - Connect the AC adapter to the CONSULT PC.
3. Turn ON the CONSULT PC and then open C-III plus.
4. Depress the vehicle's power ("ignition") switch twice without depressing the brake pedal.
  - The meter and gauges will illuminate.

**CAUTION:** Do Not set the vehicle in "READY to drive" mode.

**NOTE:** Make sure all accessories are turned OFF.

5. After the plus VI is recognized, select **Diagnosis (All Systems)**.

**NOTE:** Make sure all applications other than C-III plus are closed.

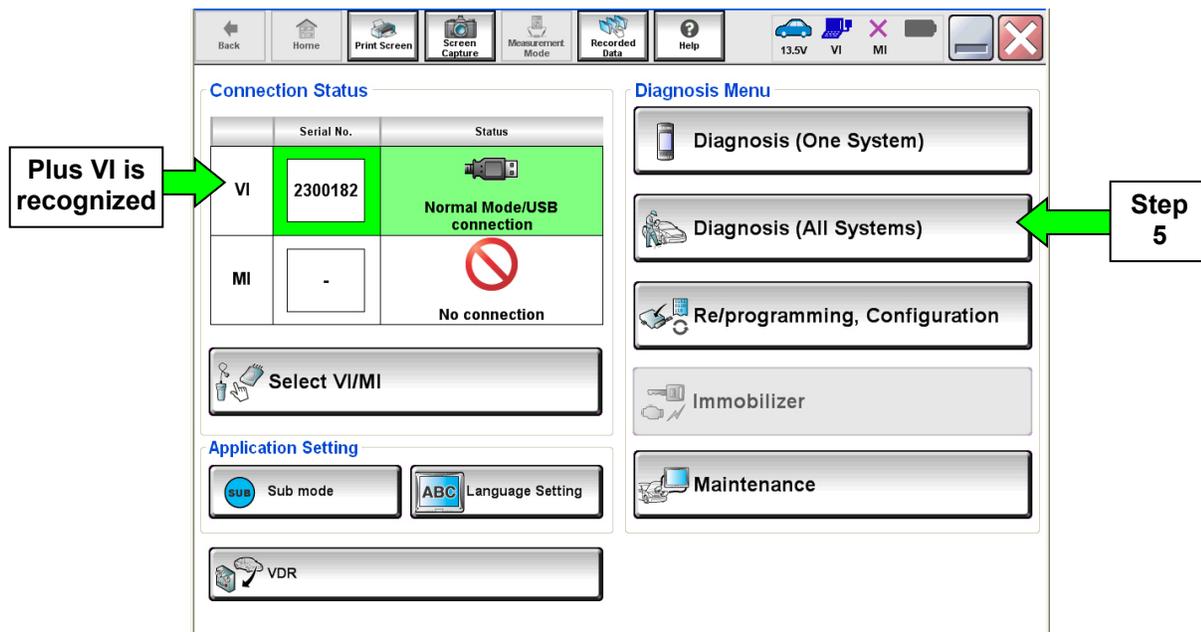


Figure 8

6. Select **LEAF** and appropriate model year or **Automatic Selection(VIN)**.

- If **Automatic Selection(VIN)** is selected, wait for the **Reading VIN** screen to complete (picture not shown).

7. Select **Select**.

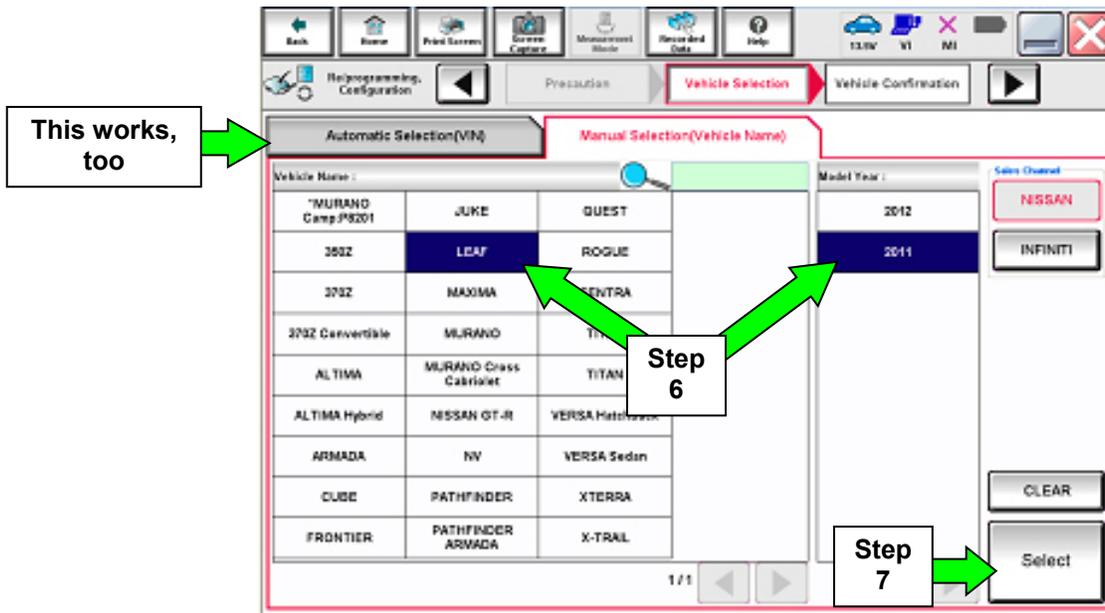


Figure 9

8. Verify the VIN in **VIN or Chassis #** matches that of the vehicle.

- If the correct VIN is displayed, select **Confirm**.

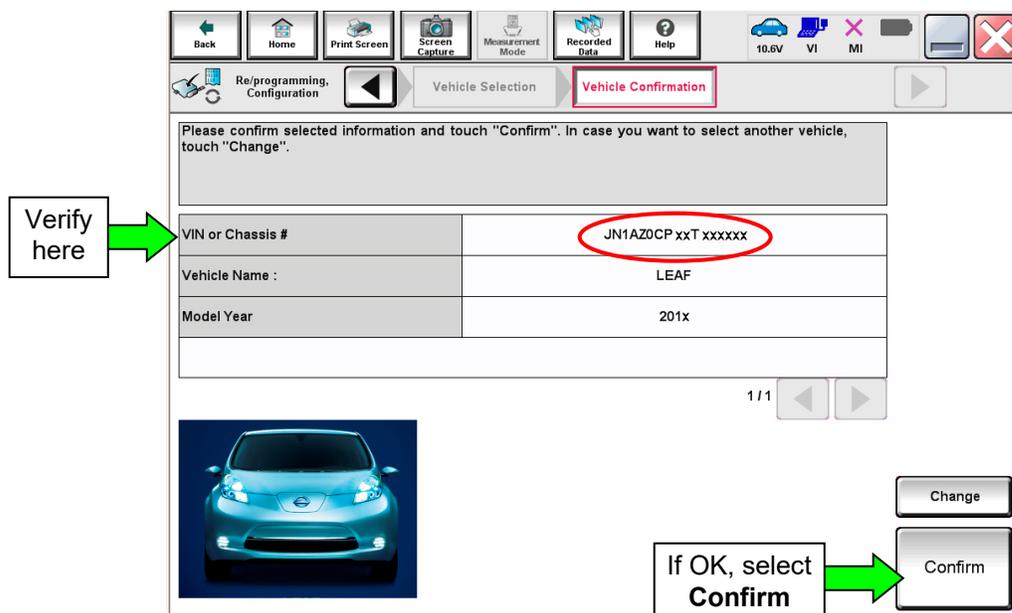


Figure 10

## 9. Select Confirm.

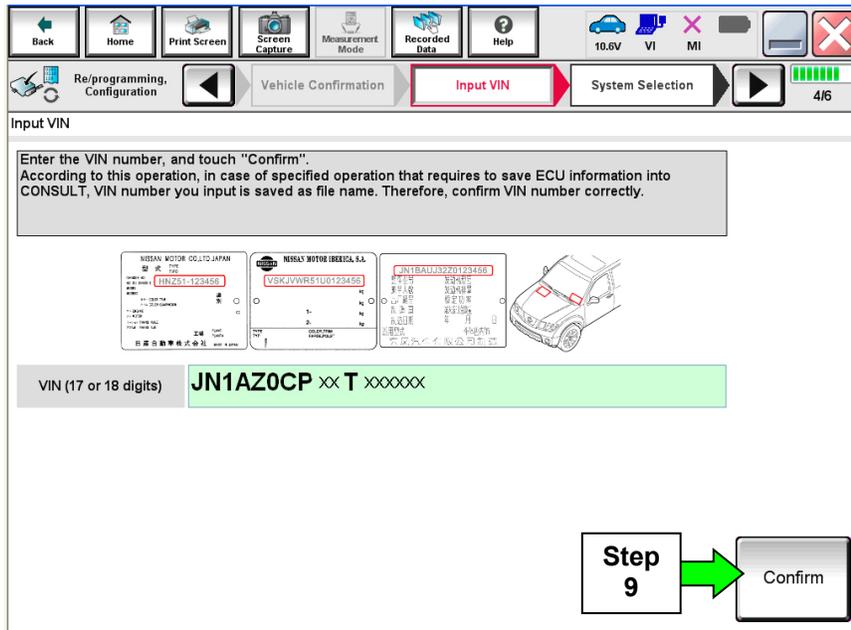


Figure 11

## 10. Select EV/HEV.

- Wait for system call to complete.

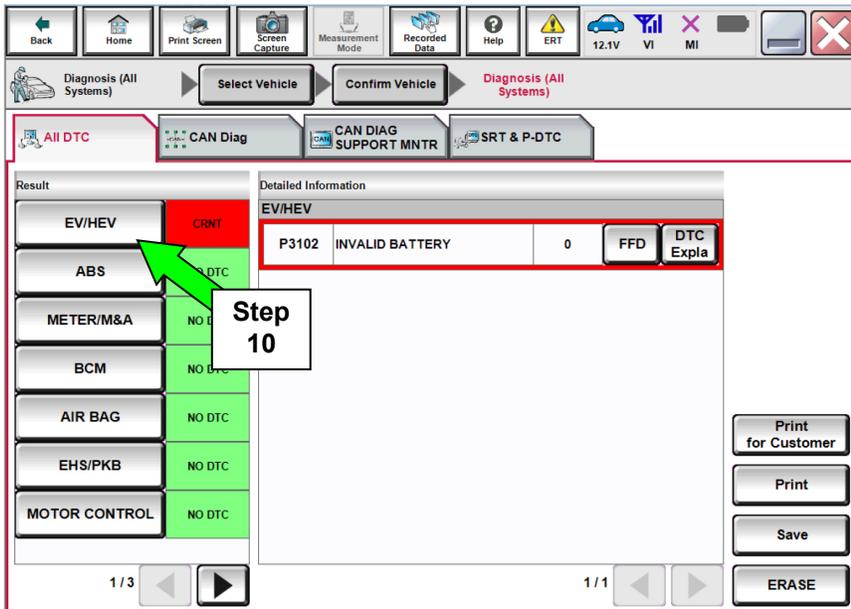


Figure 12

11. Select the “right arrow” (Figure 13).

**NOTE:** This arrow will only be available if the HV Battery registration card is installed in the CONSULT PC.

- The card must be installed before opening C-III plus.
- If the card is installed, but the arrow in Figure 13 is not available, reboot the CONSULT PC.

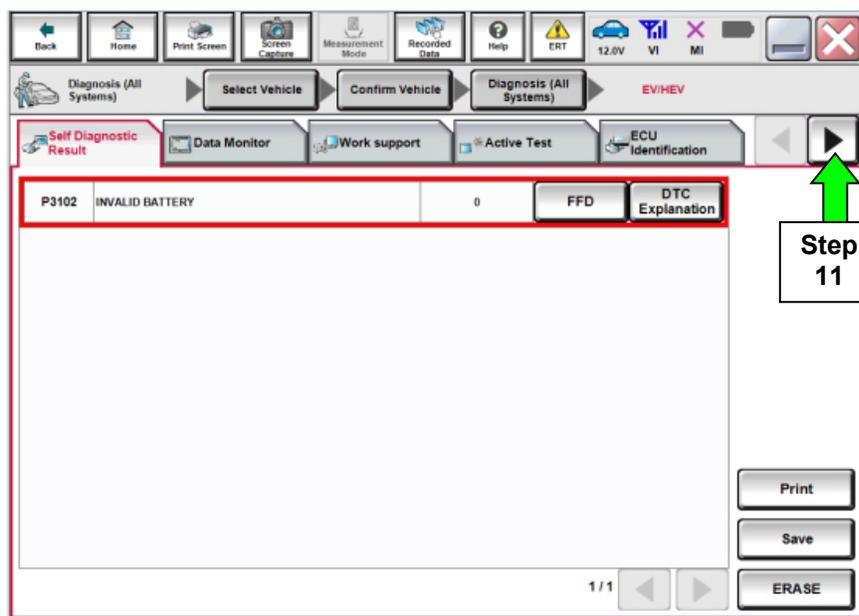


Figure 13

12. Select **LOAD BATT ID**.

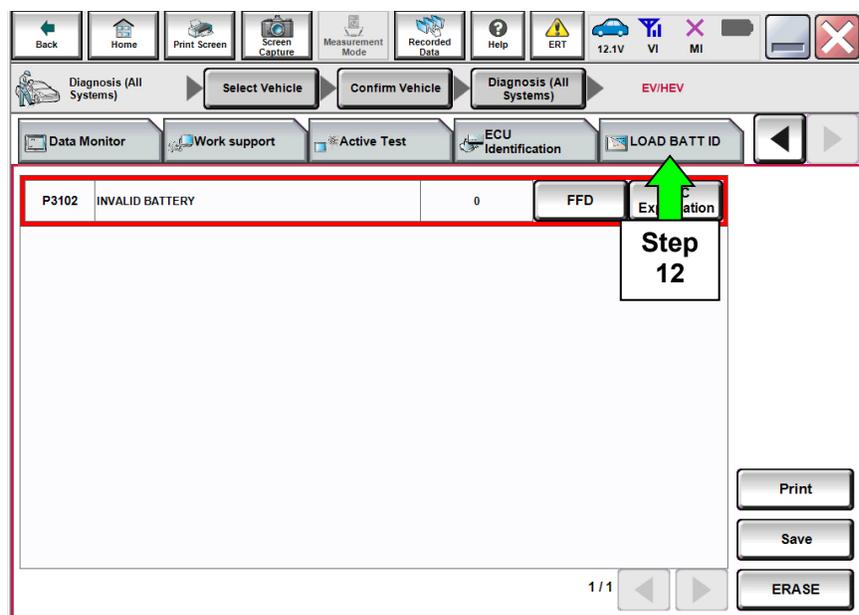


Figure 14

13. Select **Next**.

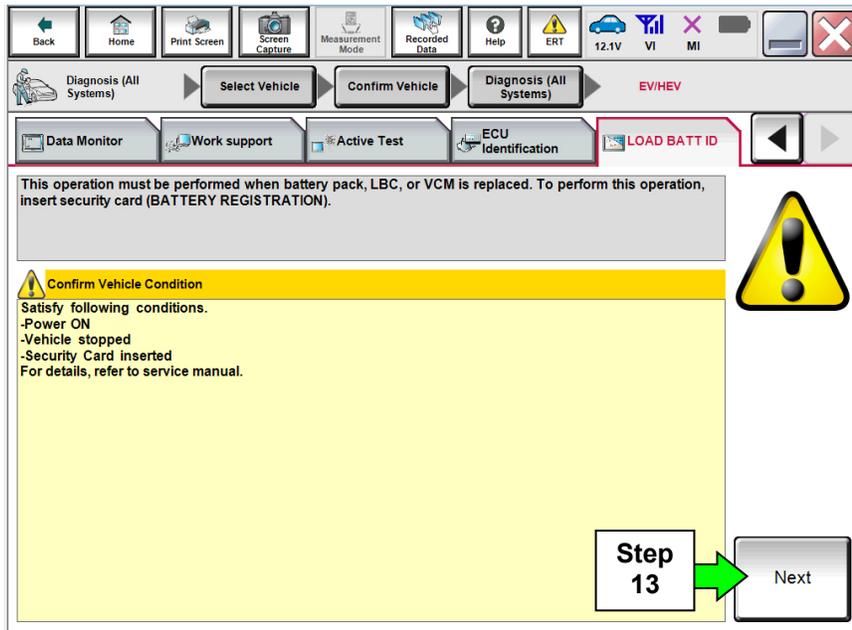


Figure 15

14. Select **Start**.

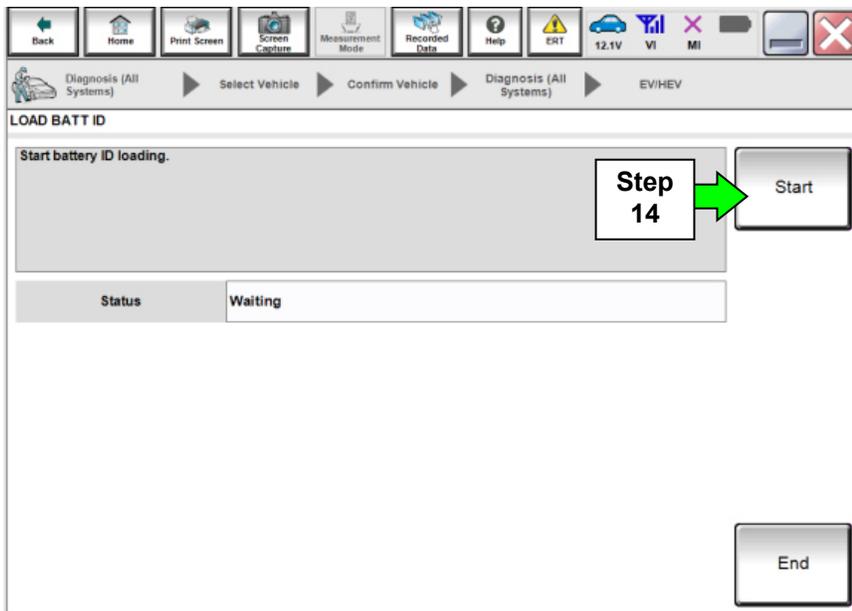


Figure 16

15. When the status displays "Complete", select **End**.

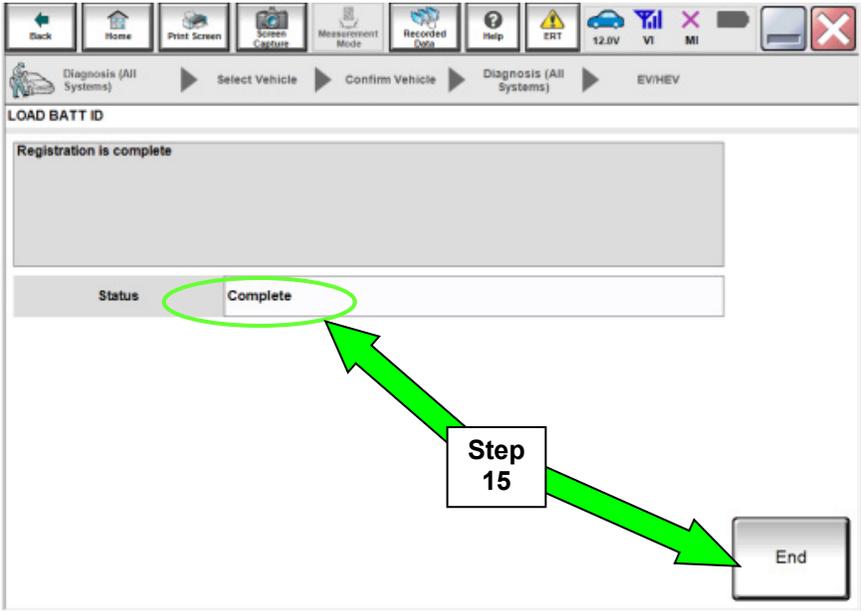


Figure 17

16. Return to the EV/HEV Self-Diagnosis screen and then erase DTC P3102.

- Proceed to "EV/HEV BATTERY GRADUAL CAP LOSS DATA CLEAR" on the next page.

## EV/HEV BATTERY GRADUAL CAP LOSS DATA CLEAR

17. Select EV/HEV **Work support**.

18. Select **BATTERY GRADUAL CAP LOSS DATA CLEAR**.

19. Select **Start**.

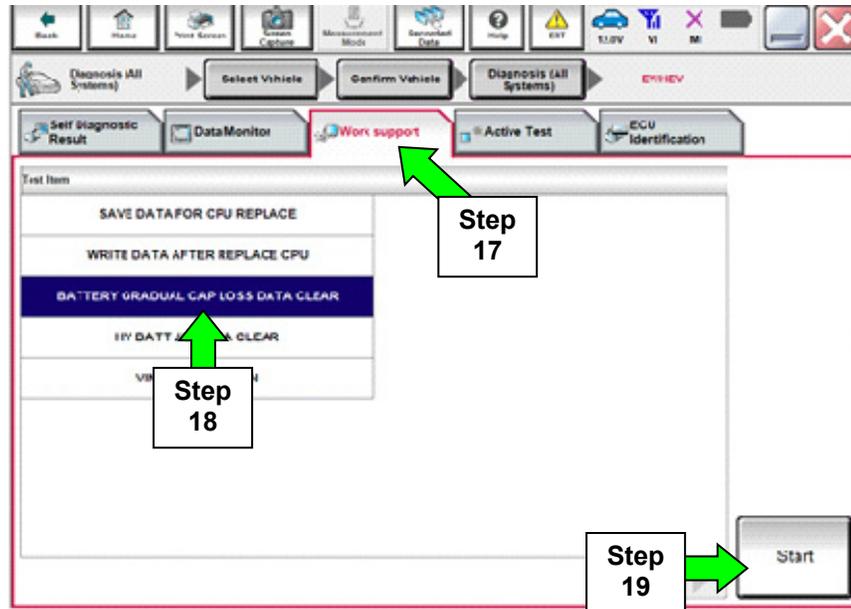


Figure 18

20. Select **Start** again.

21. When the Current status displays “Completed”, select **End** and then **Home**.

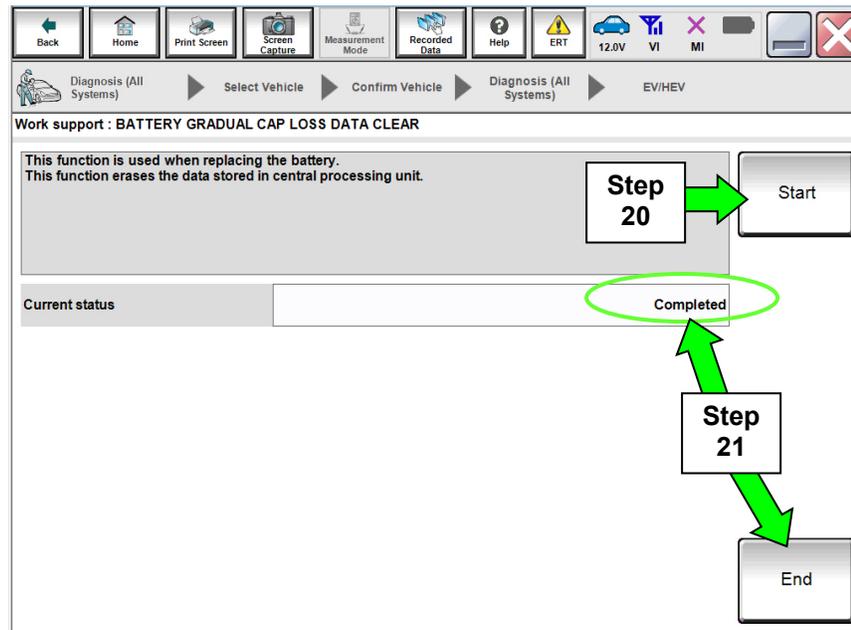


Figure 19

- Proceed to “**Register the HV Battery Installation Date**” on the next page.

## Register the HV Battery Installation Date

### 22. Select Maintenance.

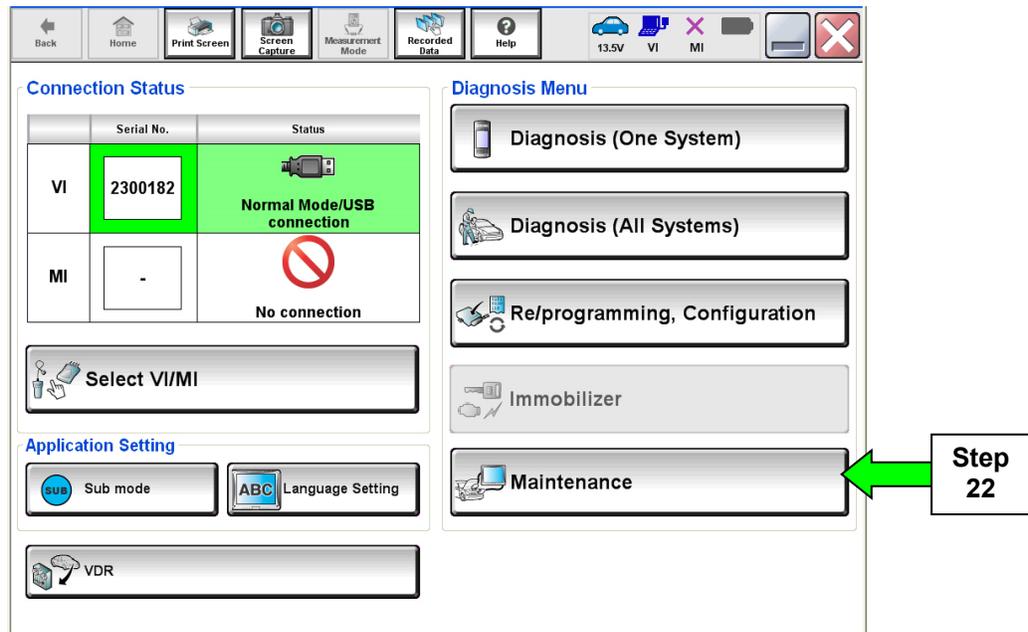


Figure 20

### 23. Select EV Battery usage report.

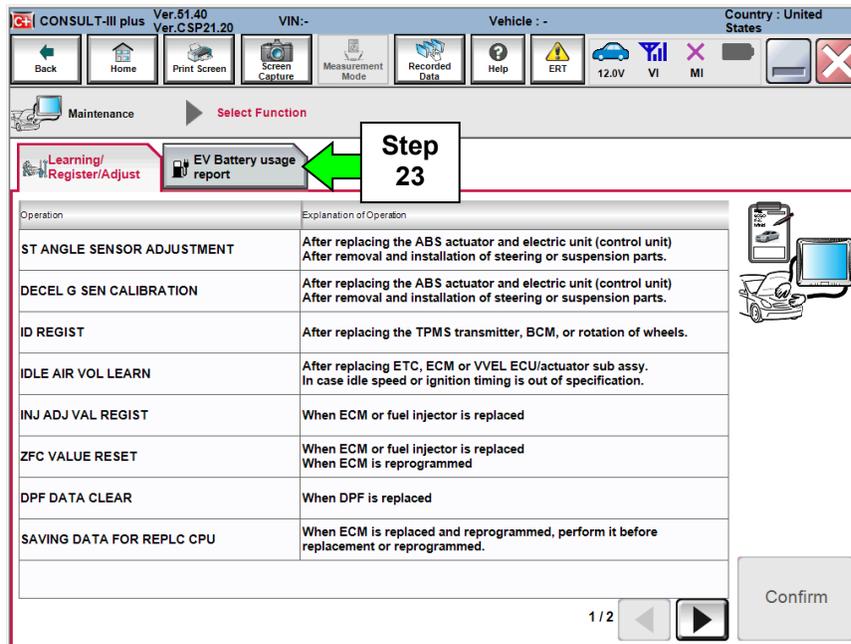


Figure 21

24. Select **Next**.

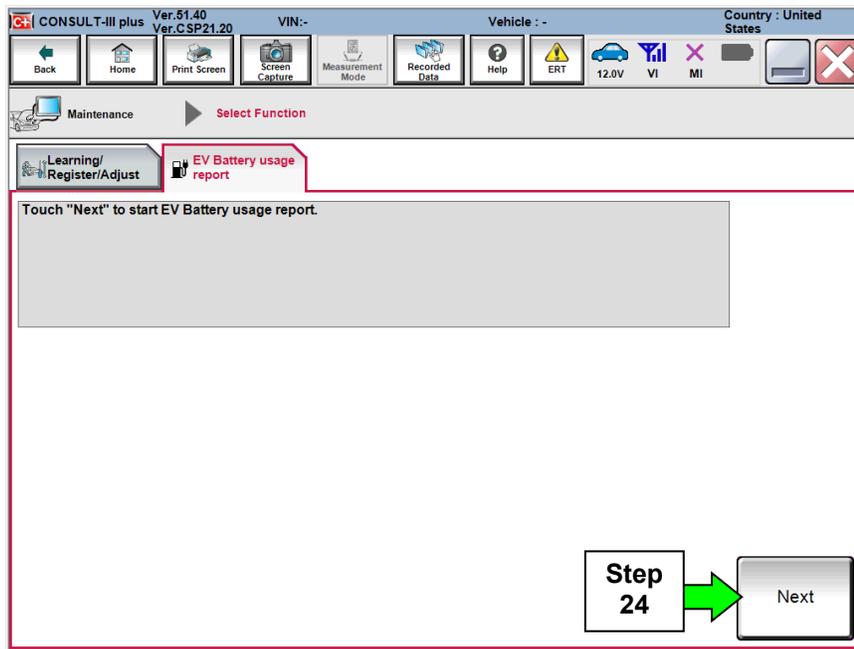


Figure 22

25. Input the correct "Battery registration date".

26. Select **Register**.

**NOTE:** If a print-out of the battery health maintenance report is needed:

- The prior calendar year must first be entered before the report is printed.
- After the report is printed, the current calendar year must be re-entered.

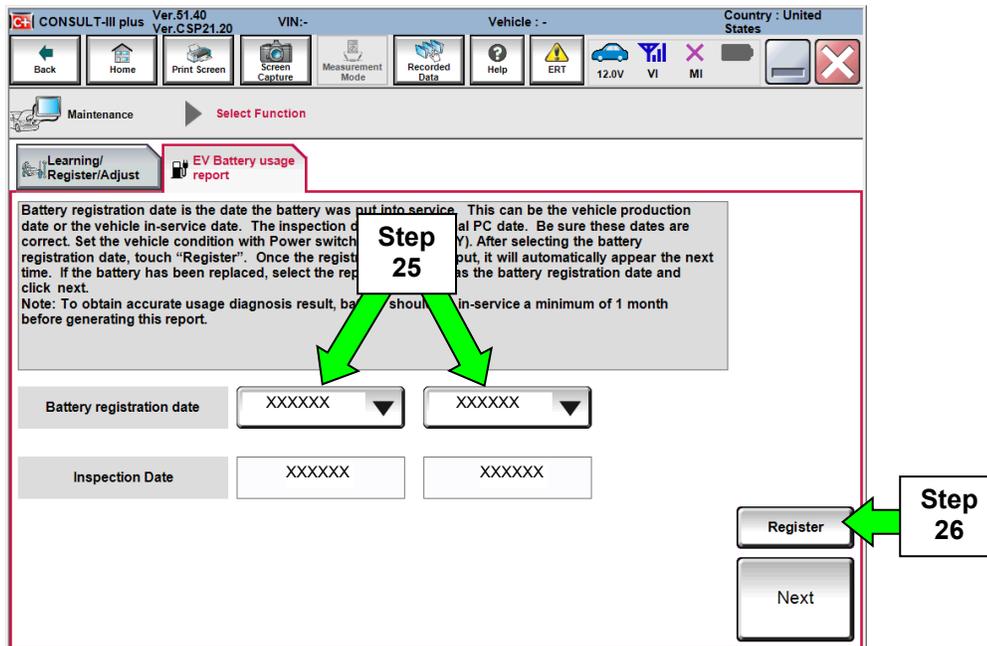


Figure 23

27. When “Registration is completed successfully” is displayed select **OK**.

28. Select **Next**.

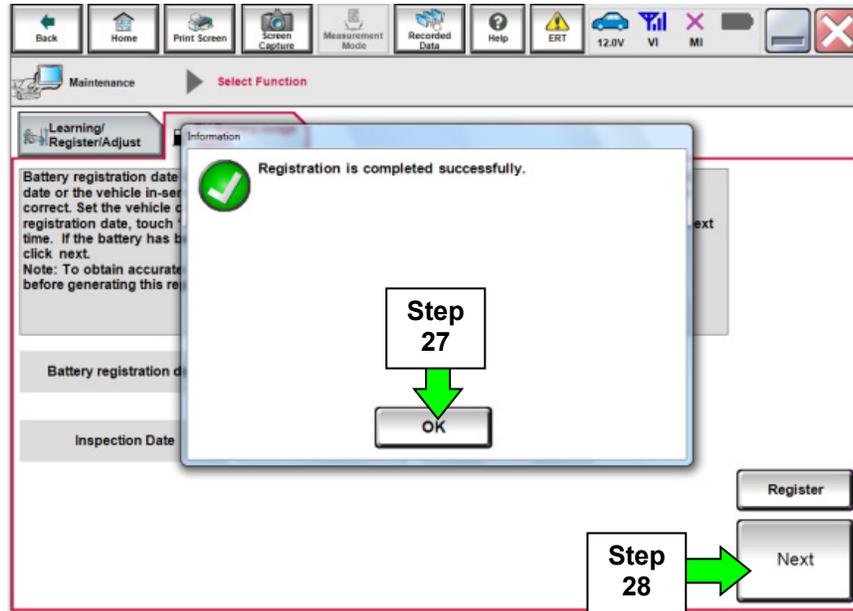


Figure 24

29. Select **Home** and close the CONSULT PC.

## Reset Customer Settings

1. Reset the clock in the combination meter.
2. Reset the radio settings.
3. **If equipped**, check/reset the clock in the navigation system.
4. **If equipped**, reset the customer preferred settings for the Automatic Air Conditioning System.
  - If needed, refer to System Settings in the HAC section of the ESM.
5. **If equipped**, turn the Charge and A/C timers back ON if they were turned OFF.
6. Inform the customer:
  - **If equipped**, some memory settings in the navigation system may need to be reset.
7. Reinitialize and check the Anti-Pinch Function for all Auto-UP power windows:

### Reinitialize

- a. Turn the ignition ON.
- b. Operate the power window switch to fully open the window (glass all the way down).
- c. Hold the window switch UP until the glass stops at the fully closed position, and then continue holding the switch UP for 2 seconds or more.
- d. Check that AUTO-UP function operates normally.

### Check Anti-Pinch Function

- a. Fully open the door window (glass all the way down).
- b. Hold a piece of wood near the fully closed position.
- c. Close the door window glass using the AUTO-UP switch. Allow the window glass to hit the wood.
- d. Check the following conditions:
  - Check that the glass lowers for approximately 150 mm (5.9 in), without pinching the wood, and stops.
  - Check that the glass does not rise when operating the power window main switch, while the window is lowering after hitting the wood.

**CAUTION:** Do not check anti-pinch function with hands or other body parts because they may be pinched.

## PARTS INFORMATION

| MODEL   | DESCRIPTION   | PART#                                     | QUANTITY  |
|---|---|---|-----------|
| 2016 S<br>4 <sup>TH</sup> character of<br>the VIN is letter "A"<br>Example: 1N4 <b>AZ</b> | HIGH VOLTAGE BATTERY PACK<br>24kWh  | 295B0-4NP8A                               | 1         |
| 2015  | HIGH VOLTAGE BATTERY PACK   | 295B0-9RB8A                               | 1         |
| 2013-2014   | HIGH VOLTAGE BATTERY PACK   | 295B0-3NF8A                               | 1         |
| 2011-2012 (Only)  | HIGH VOLTAGE BATTERY PACK<br><b>2011 Without Cold Weather Package</b>                 | 295B0-3NF9E<br>(replaces<br>295B0-3NA7A)  | 1         |
|   | HIGH VOLTAGE BATTERY PACK<br><b>2011 With Cold Weather Package</b><br><b>2012 All</b> | 295B0-9RB9D*<br>(replaces<br>295B0-3NF9D) |           |
|   | BRKT ASSY - BAT MTG (support brackets)  | 740D0-3NF1A                               | 2         |
|   | BOLT - FLG, HEX   | 01125-N0111                               | 4         |
|   | BRAKE CABLE STANDOFF  | 24220-7S020                               | 1         |
|   | SWITCH - DISCONNECT, SERVICE<br>(SDSW, <b>Figure B on the next page</b> )             | 297C1-3NF0A                               | 1         |
|   | COVER - BAT, A (undercover)   | 748N2-3NF0A                               | 1         |
|   | COVER - BAT, B (undercover)   | 748N3-3NF0A                               | 1         |
|   | Bitumen Wax (shop supply)   | 999MP-9G001P<br>(1)                       | As needed |
|   | Zinc-Rich Primer (shop supply)  | Local Source (2)                          | As needed |

\* Cold Weather Package vehicles can be identified by having heated steering wheel, heated front and rear seats, heated outside mirrors and rear HVAC duct.

### IMPORTANT: See the next page for SDSW information.

(1) Order this item through the Nissan Maintenance Advantage program: Phone: 877-NIS-NMA1 (877-647-6621). Website order via link on dealer portal [www.NNAnet.com](http://www.NNAnet.com) and click on the "Maintenance Advantage" link.

(2) Use one of the following Zinc Rich Primers or an equivalent:

- 3M™ Zinc Spray 16-501  
For help finding a local source for 3M™ products or obtaining an MSDS, contact 3M™ Automotive Aftermarket Division at 1-877-MMM-CARS.
- CRC® Zinc-It® 18412
- For help finding a local source for CRC® products or obtaining an MSDS, contact CRC® Customer Service Representative at 1- 800-272-8963.

**NOTE:** Do NOT submit a claim for the Bitumen Wax or the Zinc Rich Primer as these are considered shop supplies.

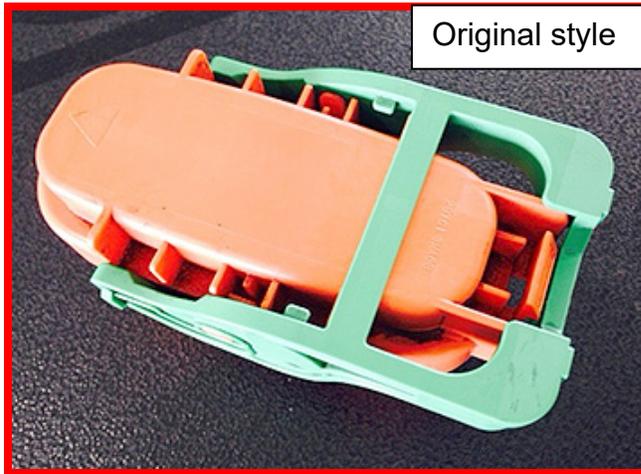


Figure A



Figure B

**IMPORTANT:** The original style SDSW (Figure A) cannot be used with any of the battery pack assemblies listed on the previous page. Figure B shows the New style SDSW that is to be used. The two styles are not interchangeable.

## CLAIMS INFORMATION

Submit a Primary Failed Part (PP) line claim using the following claims coding:

| DESCRIPTION                      | PFP | OP CODE | SYM | DIA | FRT |
|----------------------------------|-----|---------|-----|-----|-----|
| R&I OR RPL LI-ION BATTERY        | (1) | JQ01AA  | HG  | 32  | (2) |
| REGISTER HV BATTERY              |     | JX38AA  |     |     | 0.2 |
| CHECK LI-ION BATTERY CAPACITY ** |     | JQ98AA  |     |     | 0.3 |

(1) Reference the Parts Information Table and use the applicable High Voltage Battery Part Number as the Primary Failed Part.

(2) Reference the current Nissan Warranty Flat Rate Manual and use the indicated flat rate time.

\*\* Only use this operation code if the failure is due to capacity loss.

## AMENDMENT HISTORY

| PUBLISHED DATE     | REFERENCE  | DESCRIPTION  |
|--------------------|------------|--|
| June 27, 2014      | NTB14-059  | Original bulletin published  |
| September 15, 2015 | NTB14-059a | Amended to update applied vehicles and add additional procedures               |
| December 20, 2016  | NTB14-059b | Amended to update part number  |
| April 25, 2017     | NTB14-059c | Amended to revise Parts Information  |
| January 7, 2020    | NTB14-059d | Amended to remove 2017 model year, 30 kWh battery information and change title |