Technical Service Bulletin

SUBJECT:		No:	**TSB-23-54-006**
CHECK ENGINE LIGHT ILLUMINATES WITH DTC RELATED TO PARKING SENSOR SYSTEM FAULT		DATE:	**September 2023**
		MODEL:	**See below**

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

PURPOSE

This reflash is to correct the SONAR Control Unit (CU) software when the check engine illuminates while driving at low speed or upon deceleration before stopping. One of the following DTC codes may be present: B2729-97, B272A-97, B272B-97, B272C-97, B2720-97, B2721-97, B2722-97, OR B2723-97. When DTC(s) are detected, a warning light with the message "Parking Sensor System Fault See Owner's Manual" is displayed.

BACKGROUND

When rain, snow, or mud adhere to the sonar sensor surface or bumper and block the sonar detection ability, the sensor will stop operating and the check engine light will illuminate. Note that the sensor will reactivate once the blockage has been cleared (i.e. rain, snow or mud removed).

Please reprogram the SONAR CU with the countermeasure software which provides extended sonar blockage detection time, upon customer complaint.

AFFECTED VEHICLES

2022-2023 Outlander
2022-2023 Outlander Plug-in Hybrid

REPAIR PROCEDURE

- Confirm your MUT-III SE is updated with the latest reprogramming database.
- Write down all the electrical device settings such as A/C and radio before reprogramming. The settings should be restored after reprogramming.
- Turn off all electrical devices to minimize the vehicle's electrical load. Also use an external power source to ensure that the vehicle battery maintains the specified voltage during reprogramming.
- Make sure the USB cable and MUT-III SE main harness are not damaged.
- Connect the MUT-III SE to an AC power source to prevent internal battery discharge.
- Stay away from the under hood area during reprogramming. If the connection between the Engine ECU and ETACS is lost, the cooling fan operates as fail-safe.

NOTE: If an affected vehicle has a Malfunction Indicator Lamp (MIL) illuminated before reprogramming, and DTCs are listed in the **SONAR CU** memory, save the ALL-DTC results and then erase the codes prior to reprogramming. If hard codes are present that are applicable to the target **SONAR CU** and won't clear, diagnose and repair these codes first and then proceed with reprogramming.

EQUIPMENT

- The following equipment is needed to reprogram the **Sonar CU**:
- 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 3.5/4 update at **815** or higher
- For Standalone MUT III units, MUT3-SE Reprogramming Database **N230401NR** or higher

ECU REPROGRAMMING CHART

Based on the part number **reprogramming or replacement** is necessary. **When replacing the ECU the auto-configuration operation needs to be completed (reference TIN-21-00-008)**.

Model	Data No.	New HW Part No. (Aftersales Part No.)	New SW Part No.	Target HW Part No. (Aftersales Part No.)	Target SW Part No.	Remarks
Outlander/ Outlander PHEV	284S9313.3RN	284L06984R (AX000746) *1	284S93133R	284L08191R (AX000579)	284S95559R	Replace ECU
	284S9313.3RN	284L06984R (AX000746) *1	284S93133R	284L06405R (AX000304)	284S90951R	Replace ECU
	284S9313.3RN	284L06984R (AX000746) *1	284S93133R	284L02446R (AX000631)	284S94155R	Reprogram ECU

*1 Some new spare parts (AX000746) printed with target HW part number are updated and have a sticker labeled 7.4.3.8 attached.

REPAIR PROCEDURE

SOFTWARE/MEDIC VERSION VERIFICATION

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

> **NOTE:** Reprogramming the target **SONAR CU** with the latest database (e.g., **N230401NR**) includes all past and current reprogramming for TSBs of affected vehicles. It is not necessary to reprogram the SONAR CU for each previous TSB.
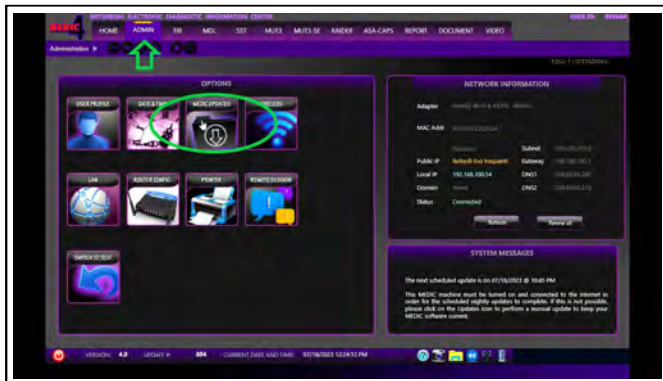
For MEDIC 3.5/4 users only: (MUT–III SE users go to step 5)

2. Verify the MEDIC 3.5/4 is at version 3.5 and at update **815** or higher.

    If your **MEDIC 3.5/4 update is at least 815**, continue with the Reprogramming Procedure. If your **MEDIC 3.5/4 update is below 815**, update your MEDIC as follows.
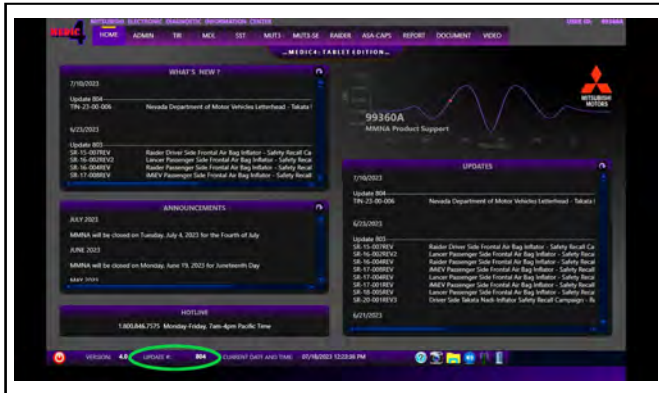
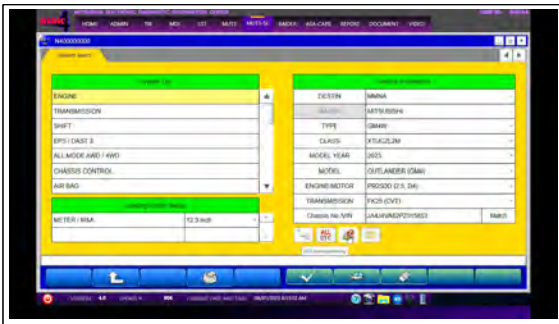3. Select the MEDIC 3.5/4 Admin tab and click on "Updates".

4. If the MEDIC update screen advises updates are available, click the "Begin" button. After all updates are complete, **GO TO THE REPROGRAMMING PROCEDURE**.
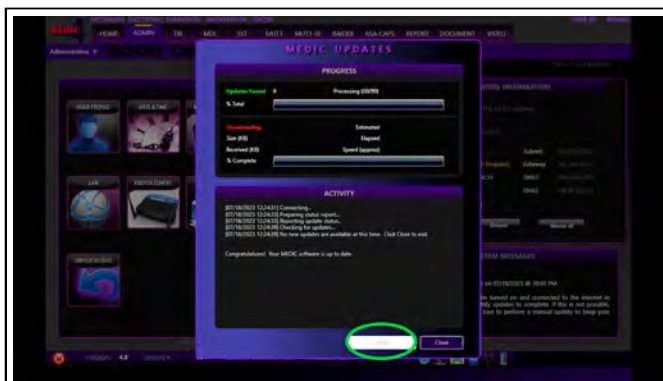
5. Click "STV".

a. Confirm the vehicle information is accurate and click the ECU reprogramming button.


b. Click "ECU Reprogramming (SDB) and press the OK button".
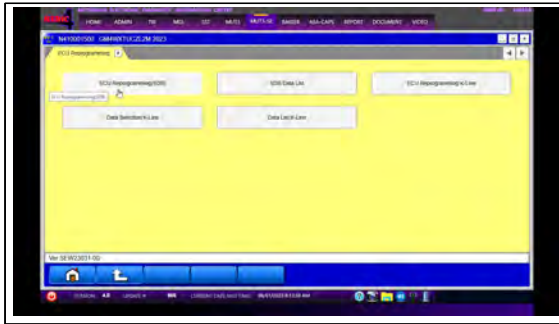
c. Select "SONAR" in the System List, choose the Loading Option Setup for METER/M&A from the drop down and press the OK button.
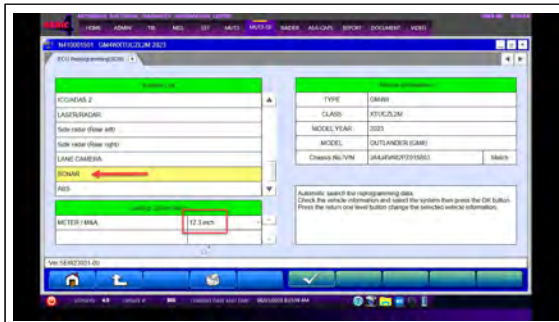
d. Confirm that the database number displayed is **N230401NR** or higher.
   i. If the database number displayed on your MUT3-SE is **N230401NR** or greater, continue to the next section.
   ii. If the reprogramming database number displayed on your MUT3-SE is lower than **N230401NR**, then the MUT3-SE database needs to be updated.

e. Confirm the New HW Part No., click in the selection box and press the OK button.
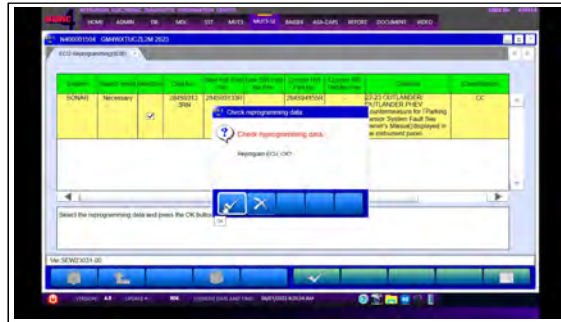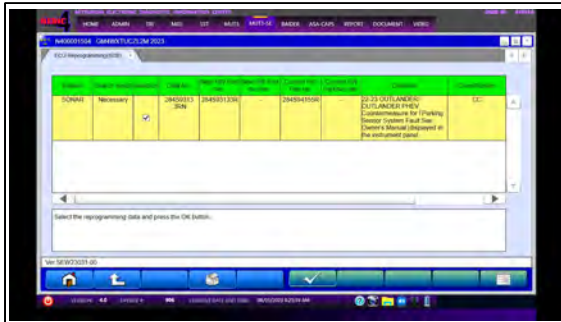
REPROGRAMMING PROCEDURE

⚠️ **CAUTION** **To ensure that the vehicle battery maintains 12V during the procedure, hook- up a battery charger to the vehicle 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.

1. Connect the equipment as follows:

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

Data Link Connector (Blue End)
MUT–III SE Main Harness
USB Cable
Toughpad (back)
VCI Lite
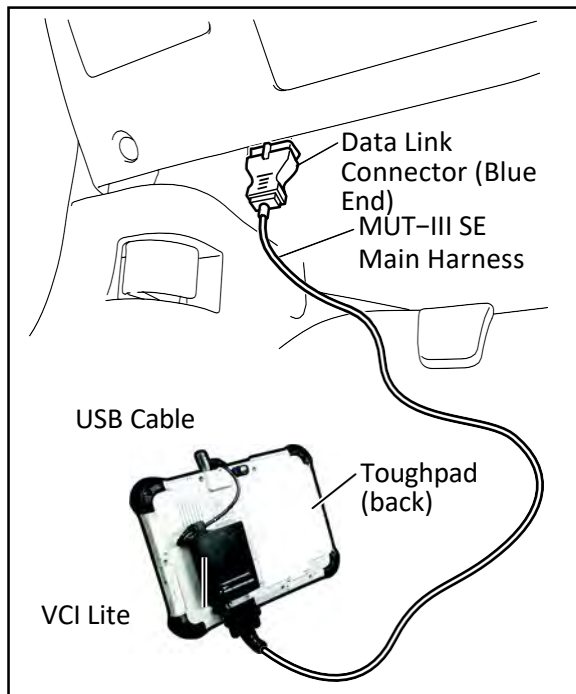
- Turn the MEDIC PC/tablet on. If the battery indicator in the lower right hand corner of the screen does not show a full charge, it is recommended that either the battery be charged prior to beginning or be used with the A/C power adaptor connected.

- Connect the USB cable to the VCI/VCI Lite. When the laptop/tablet displays the MUT-III SE main screen, connect the USB cable to the device.

- Connect the MUT-III SE main harness with the blue DLC connection to the VCI/VCI Lite. Connect the blue connection of the MUT-III SE 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.

⚠️ **CAUTION**
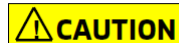
DO NOT DISTURB THE HARNESS CABLES OR CONNECTIONS DURING THE REPROGRAMMING PROCESS AS IT COULD CAUSE THE CONTROL UNIT TO LOSE DATA. IF THE USB CABLE IS DISCONNECTED DURING THIS PROCEDURE, A WARNING MESSAGE WILL DISPLAY.
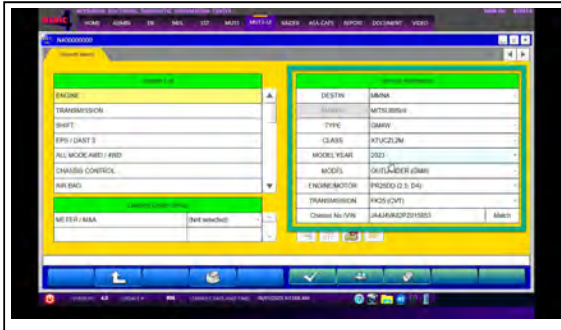
NOTE: Due to limited space it may be easiest to connect cable onto negative ground post and ground strap as shown below.
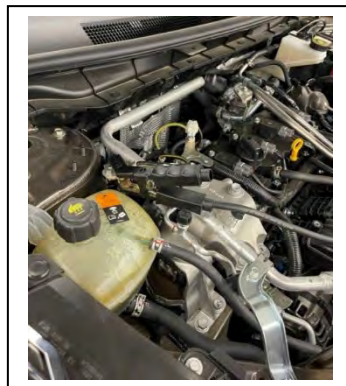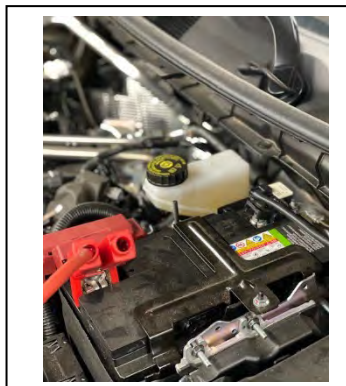

2. Turn the ignition switch to the "ON" position.

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


4. 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. (See B pillar label below; class is labeled as "model"). If necessary, select the correct class from the drop-down list.
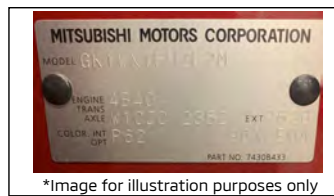

*Image for illustration purposes only

5. Verify that the ECU has not already been updated to the latest S/W number shown in the **"ECU Reprogramming Chart"** in this TSB. If the ECU is at the latest level, reprogramming **is not** necessary. If reprogramming **is** necessary, proceed with the following steps.
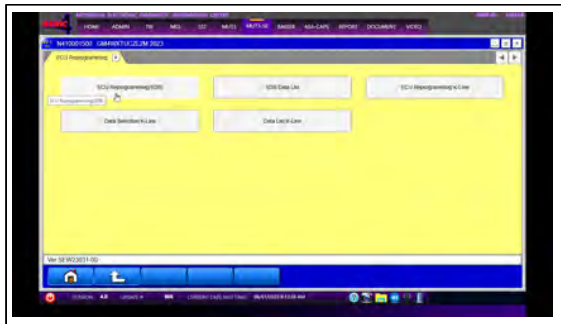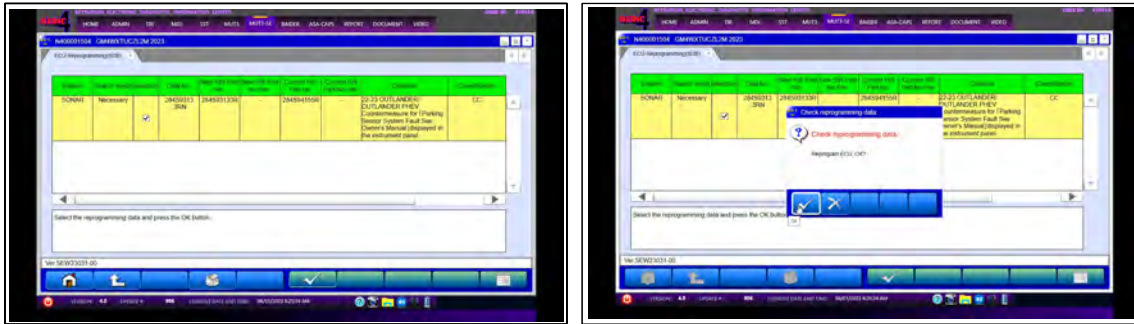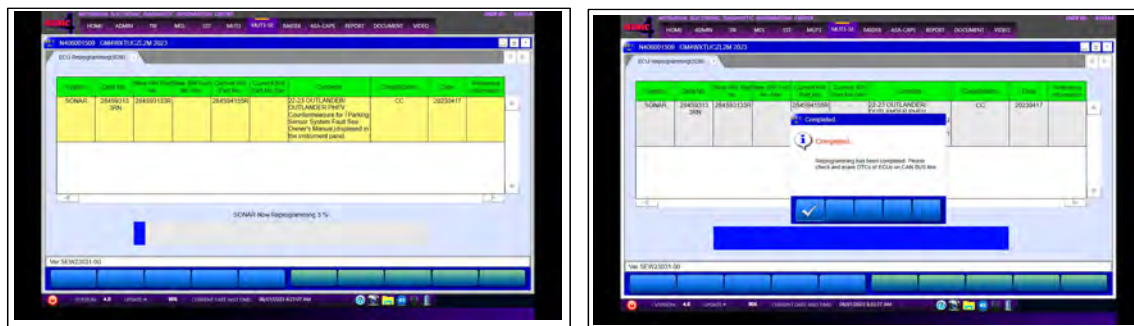

a. Select ECU Reprogramming (SDB).

b. Select "SONAR" in the System List, choose the Loading Option Setup for METER/M&A from the drop down and press the OK button.
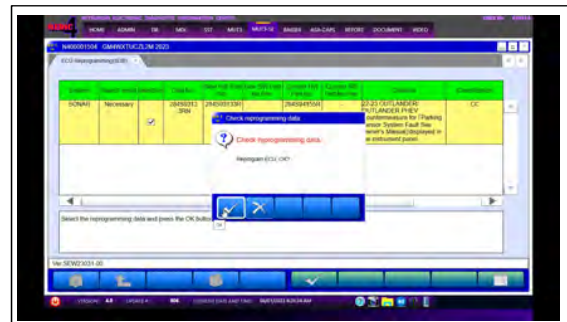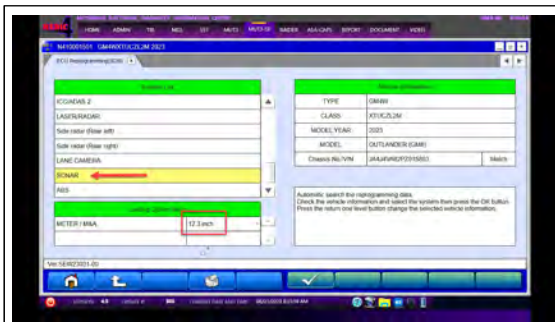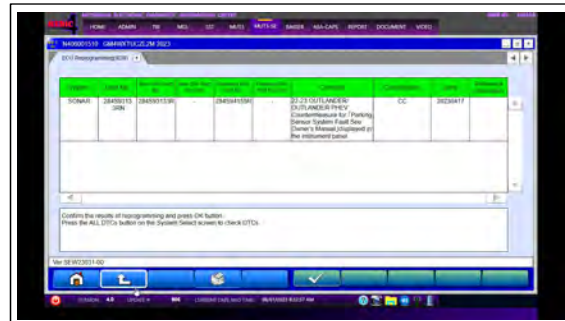
c. Click the selection box and press the OK button to begin reprogramming data.

d. Reprogramming will begin and a progress bar will appear followed by a notification upon successful completion.
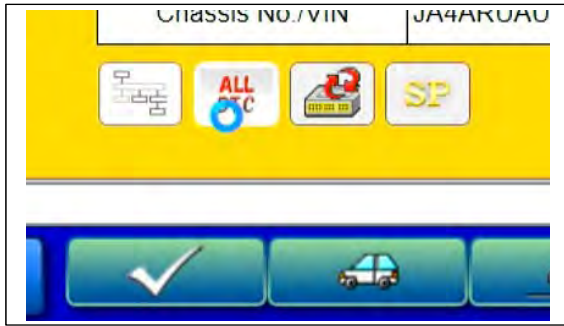

e. Confirm the reprogramming results and press the OK button.
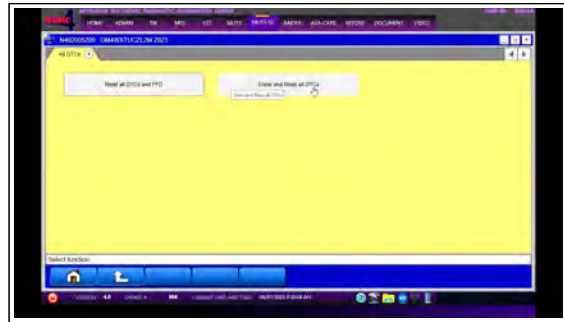

f. To verify the ECU information, click home, select the Special Function tab, then press the ECU Information button.
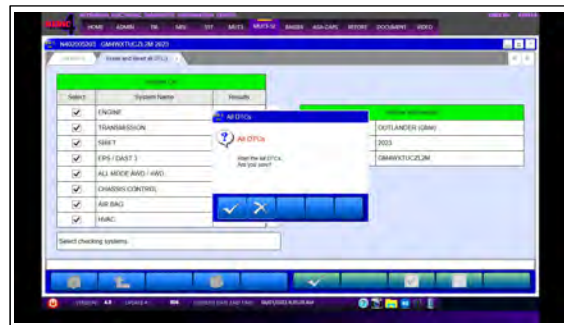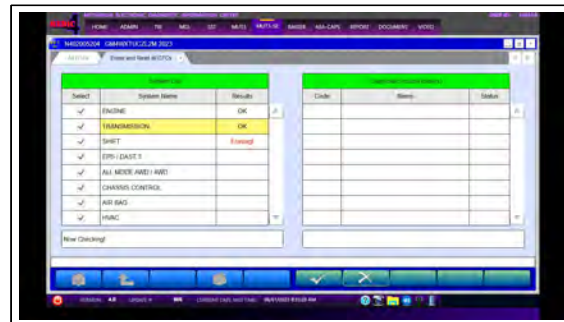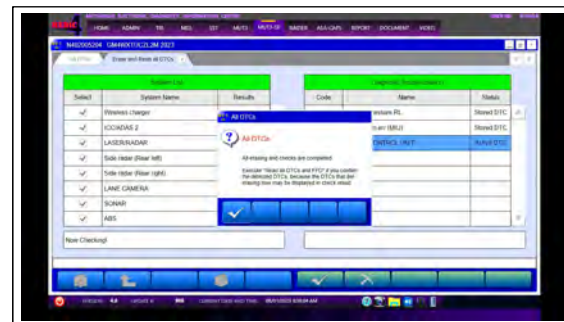
g. Select ALL DTCs.
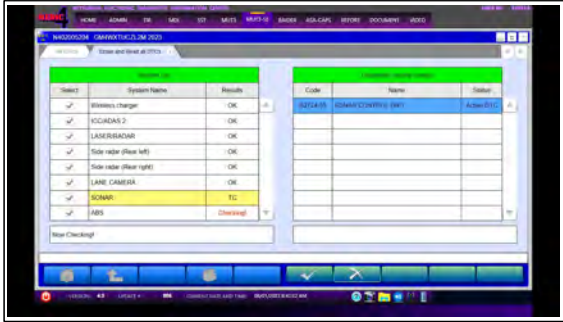

h. Select Erase and Read all DTCs.

i. Click the OK button to begin.

j. Results and a completion notification will be displayed.

k. If an active DTC is found after reprogramming, perform auto-configuration according to the Service Manual, confirm DTC is no longer active and erase DTC's in all systems.

6. Using a ball-point pen, enter the appropriate ECU part number, Software Part Number (ROM ID#), this Technical Service Bulletin number, your dealer code, and the current date on the Engine Compartment/Control Module Label (p/n MSSF024G00). The Vendor Code is not applicable. The label is available from your facing PDC.

7. Test drive the vehicle to confirm proper operation.

WARRANTY

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 information below.

Operation Code	Operation	Quantity	Work Time
548552KV	Reprogram Sonar CU （Outlander/ Outlander PHEV)	1	0.3h
548552KW	Replace Sonar C/U （Outlander)	1	1.1h
	Replace Sonar C/U （Outlander PHEV)	1	1.6h