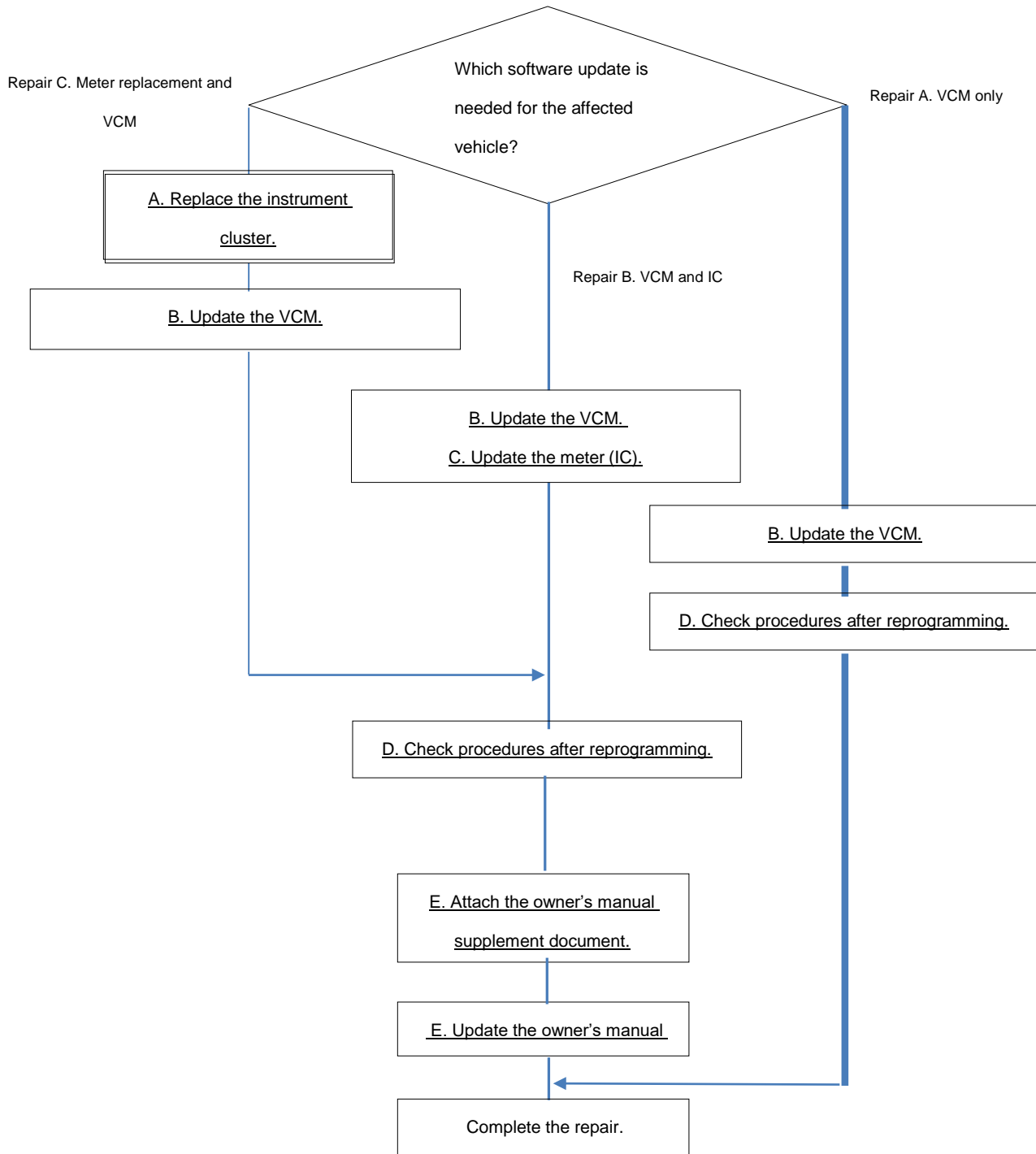


1. Flowchart - **READ SERVICE CAUTION FOR PROGRAMMING!**



Failure to follow Service Cautions may cause Module Damage!

2. VEHICLE INSPECTION PROCEDURE

Verify that the vehicle is within the following ranges:

2019-2020 Mazda3 vehicles, equipped with smart brake support (SBS)

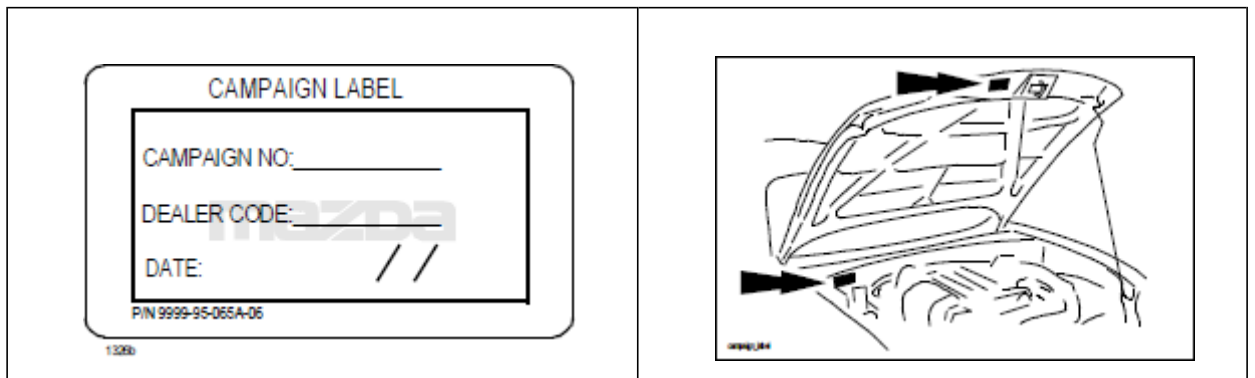
Model	Subject VIN range	Subject production date range
Mazda3 built at MC	JM1 BP**** K1 100042 - 147655 JM1 BP**** L1 147656 - 154264	From September 25, 2018 through October 19, 2019
Mazda3 built at MMVO	3MZ BP**** KM 100048 - 115055 3MZ BP**** LM 115095 - 124858	From January 15, 2019 through October 23, 2019

The asterisk symbol "*" can be any letter or number.

- If the vehicle is within the above ranges, proceed to **Repair Validation and Repair Procedure A, B or C below depending on the vehicle.**
- If the vehicle is not within the above ranges, return vehicle to the customer or inventory.

Perform a Warranty Vehicle Inquiry using your eMDCS System and inspect vehicle for Campaign Label Recall 4219L attached to the vehicle's hood or bulkhead. Refer to eMDCS System - Warranty Vehicle Inquiry Results table below.

NOTE: Be sure to verify Recall number as the vehicle may have multiple Recall labels.



eMDCS System - Warranty Vehicle Inquiry Results:

If eMDCS displays:	Campaign Label is:	Action to perform:
RECALL 4219L OPEN	Present	Email Dealer Recall Help or Contact Warranty Hotline at (877) 727-6626 option 3 to update vehicle history.
	Not present	Proceed to "REPAIR VALIDATION AND PROCEDURES".
RECALL 4219L CLOSED	Present	Return vehicle to inventory or customer.
	Not present	Proceed to "3. CAMPAIGN LABEL INSTALLATION".
RECALL 4219L IS NOT PRESENT	Does not apply	Recall does not apply to this vehicle. Return vehicle to inventory or customer.
Repair Validation - Failure to follow Service Caution may lead to module damage!		Repair Procedure - Follow Steps
<p>Repair A - Match VIN to Repair A VIN list</p> <p>Vehicle requires VCM software update ONLY.</p> <p>Repair A:</p> <p>MMVO Production LM118755 - 124858 Dates: 8/5/19 through 10/23/19</p> <p>MC Production L1150242 - 154264 Dates: 7/30/19 through 10/19/19</p>		<p>Proceed to Service Caution for Reprogramming Pages 6 - 7</p> <p>'B. Reprogram the VCM.' Page 8</p> <p>'D. Check procedures after reprogramming.' Page 18</p>
<p>Repair B - Match VIN to Repair B VIN list</p> <p>Vehicle requires Instrument Cluster software update, VCM software update, and CMU electronic owner's manual update.</p> <p>Repair B:</p> <p>MMVO Production KM100048 - 114618 Dates: 1/15/19 through 7/01/19 LM115095 - 118752</p>		<p>Proceed to Service Caution for Reprogramming Pages 6 - 7 then</p> <p>'B. Reprogram the VCM.' Page 8</p> <p>'C. Reprogram the meter (IC).' Page 13</p> <p>'D. Check procedures after reprogramming.' Page 18</p> <p>'E. Update the CMU electronic owner's manual.' Page 18</p>

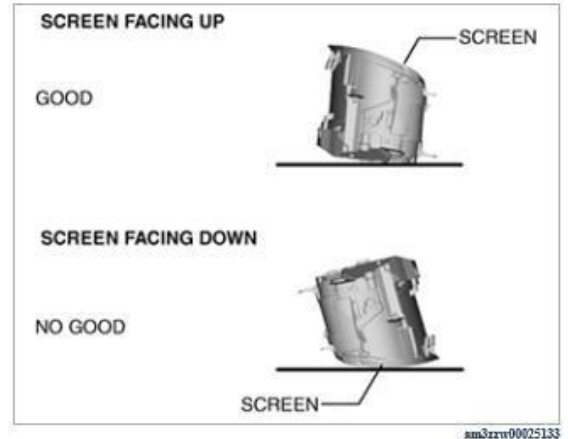
<p>Dates: 7/01/19 through 7/25/19 MC Production K1101936 - 147544 Dates: 11/5/18 through 6/28/19 L1147656 - 150225 Dates: 6/29/19 through 7/30/19</p>	<p>'F. Attach the owner's manual supplement.' Page 18</p>
<p>Repair C - Match VIN to Repair C VIN list</p> <p>Vehicle requires Instrument Cluster replacement, VCM software update, and CMU electronic owner's manual update.</p> <p>Repair C: MC Production K1100042 - 102178 Dates: 9/25/18 - 11/5/18</p>	<p>**No need to reprogram the meter (IC)**</p> <p>Proceed to Service Caution for Reprogramming Pages 6 & 7 then</p> <p>'A. Replace the IC.' Page 5 'B. Reprogram the VCM.' Page 8 'D. Check procedures after reprogramming.' Page 18 'E. Update the CMU electronic owner's manual.' Page 18 'F. Attach the owner's manual supplement.' Page 18</p>

A. Replace the instrument cluster (see [INSTRUMENT CLUSTER REMOVAL/INSTALLATION](#))

- When replacing the instrument cluster, perform the configuration to assure that the system operates correctly. (See [CONFIGURATION](#).)

Caution

- If the instrument cluster is left for a long time with its screen facing down, grease applied to the needles may spill and the needles may not operate smoothly. When storing the instrument cluster, store it with its screen facing upward.



1. Perform the following procedure.

(a) Perform manual configuration using the following procedure.

- 1) Connect MDARS to the DLC-2.
- 2) Switch the ignition ON (engine off or on).
- 3) Perform vehicle identification.
- 4) Select [Configuration] using MDARS.
- 5) Select [IC].
- 6) Perform manual configuration following the instructions on the screen.

(b) Switch the ignition OFF.

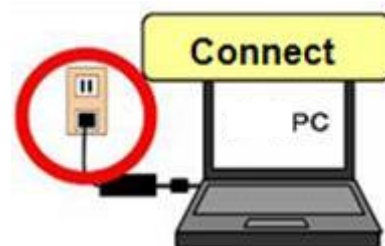
(c) Switch the ignition ON (engine off or on) to complete the instrument cluster automatic configuration.

Service Caution for Reprogramming

NOTE: Poor connection between the vehicle and MDARS and/or low voltage may result in abnormal termination and/or data corruption.

- a. Make sure that the following connections are firmly connected, and then do NOT touch the VCM and DLC cable to prevent from causing noise and poor connection.

- Between the vehicle-side connector and the DLC cable
- Between the PC-side connector and USB port of PC



- b. Connect AC adapter to the PC in order to minimize any voltage fluctuation during reprogramming

Do NOT use vehicle battery outlet as power source for the PC.

- c. During reprogramming, connect **GR8 battery charger, Manual Mode set to 14.5 volts and continuous charging** to the vehicle to minimize any voltage fluctuation. See the below screen shots to set the GR8 battery charger correctly. **DO NOT USE ANY OTHER CHARGER!**



GR8 Screenshots in order from left to right to set the correct stable charging voltage.





Before reprogramming, pay attention to the vehicle condition and PC environment.

- a. Turn off all the electrical loads, especially **pay attention to A/C (blower), audio, rear defogger and headlights.**
- b. Perform self-test and verify no DTC is stored. If any DTC is stored, fix the concern and delete the DTC.
- c. Disconnect all non-genuine aftermarket accessories.
- d. Terminate all programs other than MDARS on the PC. This may extend reprogramming, PC may freeze or it may cause other problems.
- e. Perform reprogramming under proper Internet environment. Use Ethernet cable if at all possible. If using a wireless network, make sure the signal connection is strong and fast.
- f. Be sure there is sufficient free space on the PC's hard disc. Insufficient free space (less than 1 GB) may result in PC freeze during reprogramming.

B. Reprogram the VCM (Vehicle control module)

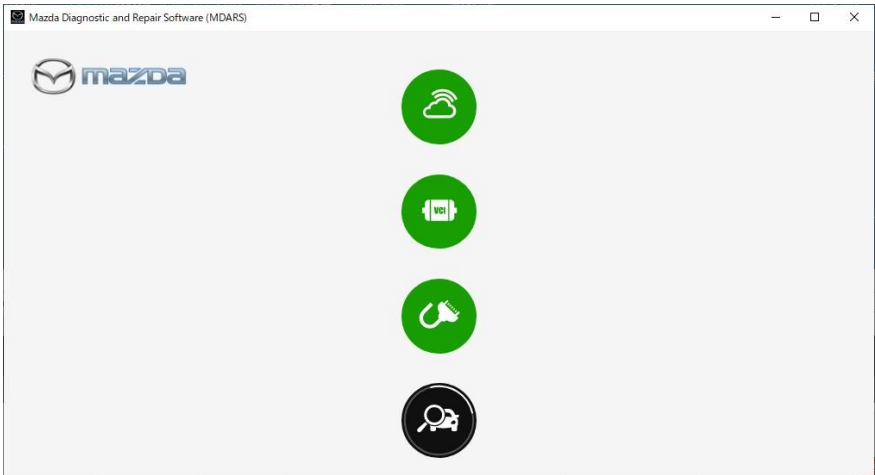
- 1. Thoroughly read the service cautions on the prior pages to avoid module damage!
- 2. Confirm VCI Settings before vehicle identification. Select 'Change VCI'
CAUTION: The Instrument Cluster (IC) could be damaged if Step 2 is not performed



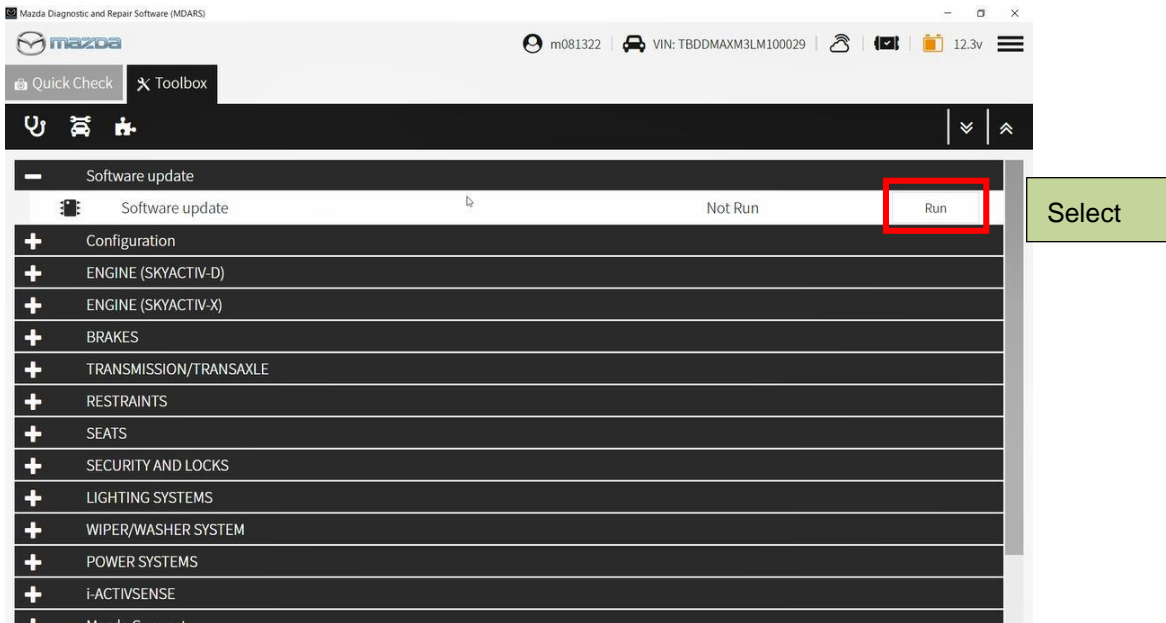
- 3. A Pop up screen will appear, click 'OK'
- 4. Ensure "D_PDU_API_Bosch_Mazda_VCM_II" is selected (highlighted green)
- 5. Under VCI Device, ensure the proper VCM serial number is shown



6. Vehicle identification begins automatically.



7. Reprogram the VCM (Vehicle control module)



Mazda Diagnostic and Repair Software (MDARS)

m081322 | VIN: TBDDMAX3LM100029 | 12.3v

Quick Check | Toolbox | Software up

ECU Reprogramming

Reprogrammable ECUs

Search for an ECU

- VCM
- DMC
- IC
- BCM
- EPS
- DASH_ESU
- PAU

Select

Mazda Diagnostic and Repair Software (MDARS)

m081322 | VIN: TBDDMAX3LM100029 | 12.3v

Quick Check | Toolbox | Software up

ECU Reprogramming

Current Software

Description	Current Version	Required Version	Size
VCM	DGH9-66S01-A	DGH9-66S01-C	1.17 MB

Next

Select

Mazda Diagnostic and Repair Software (MDARS)

m081322 | VIN: TBDDMAX3LM100029 | 12.3v

Quick Check | Toolbox | Software up

ECU Reprogramming

Downloading Vehicle Flash Files Complete

Downloading VCM DGH9-66S01-C Complete

Next

Select

Mazda Diagnostic and Repair Software (MDARS)

Software Update

Ensure the following action has been taken.

- Connect the battery charger to vehicle battery.
- Connect the power supply cable to PC.
- Make sure all electrical loads are off.
- Make sure the connections between the diagnostic tester and the vehicle are secure.
- Do not touch and move the cables connecting the diagnostic tester and the vehicle during reprogramming.

Next

Select

Mazda Diagnostic and Repair Software (MDARS)

Turn the ignition switch to the OFF position.

✓ Ignition Condition : OFF Current value : OFF

Next

Select

Mazda Diagnostic and Repair Software (MDARS)

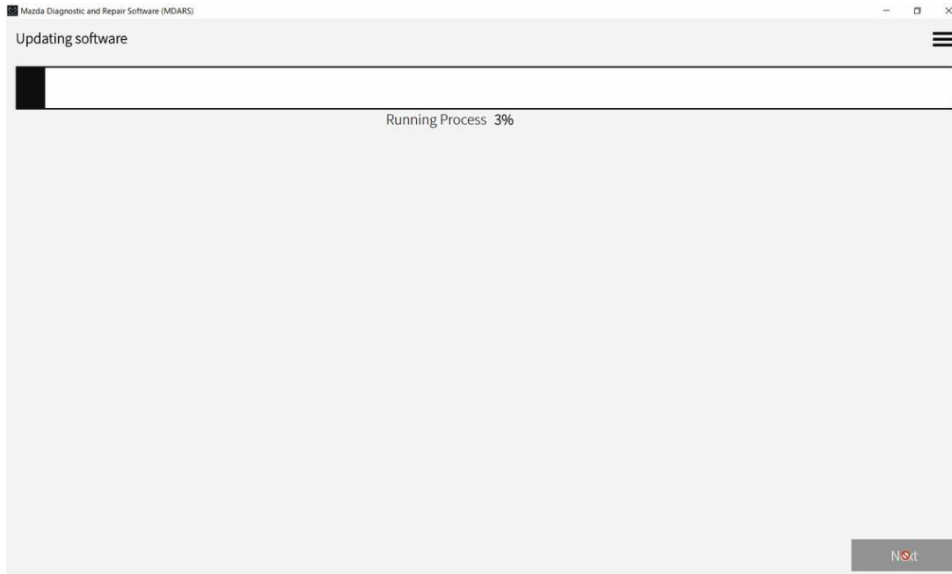
Turn the ignition switch to the ON position. (The engine should not start.)

✓ Ignition Condition : ON Current value : ON

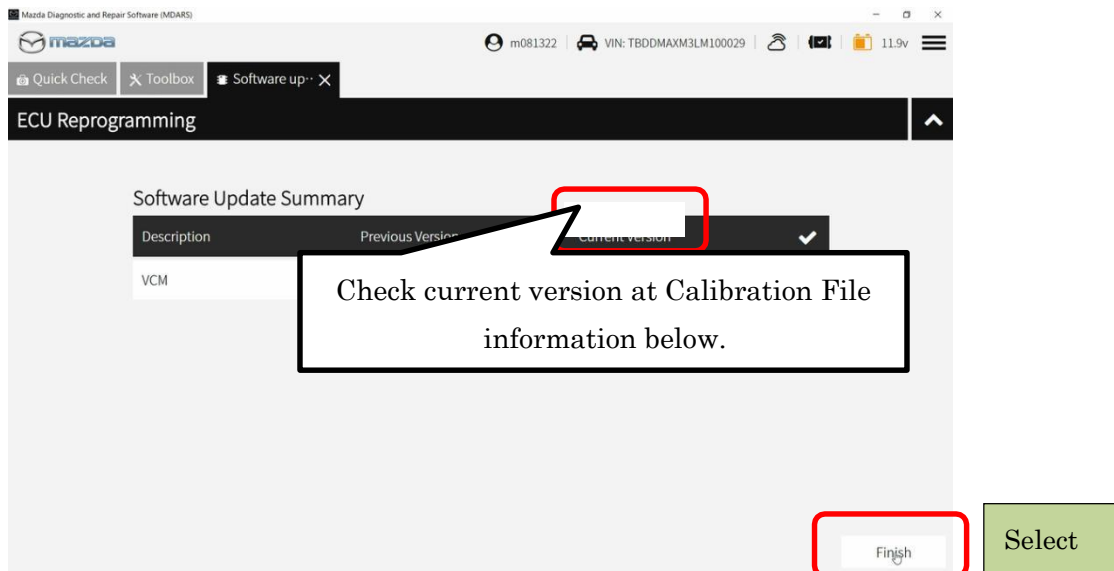
✓ Engine RPM Condition : 0 rpm Current value : 0.0 rpm

Next

Select



This takes about 3 minutes to complete the Running Process.



After VCM reprogramming, verify the calibration file name with the chart below in the screen of the (VCM) FILENAME.

Note: If VCM software update failure occurs, go to Service Alert [SA-017/20](#)

Calibration files information

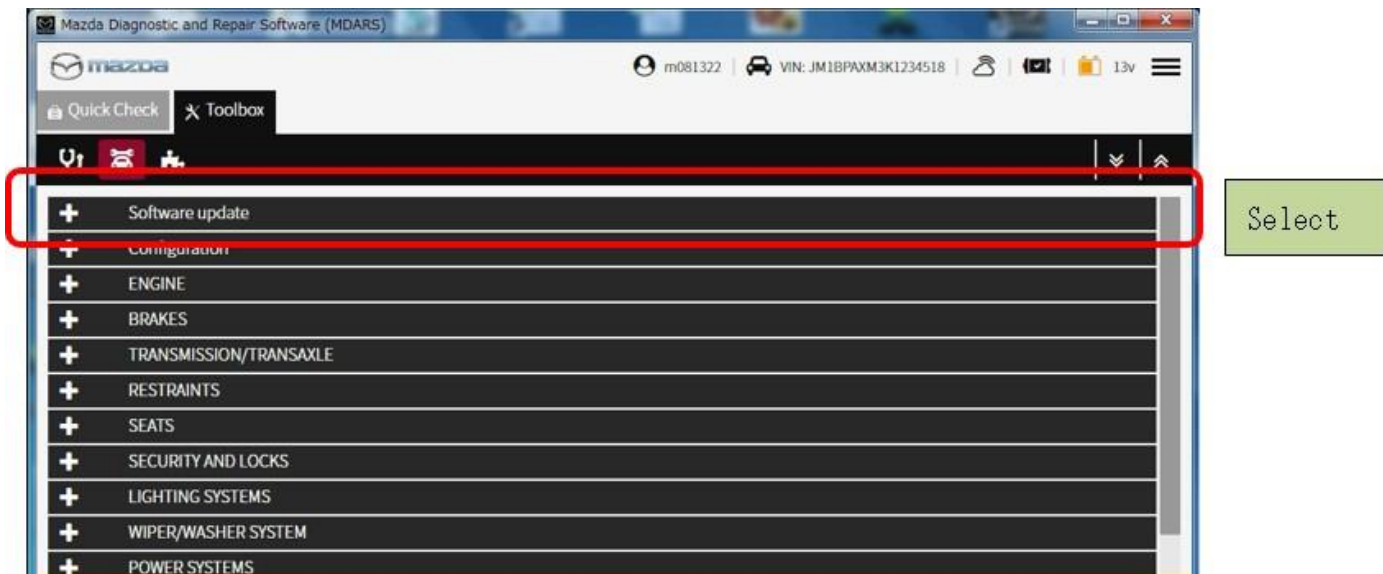
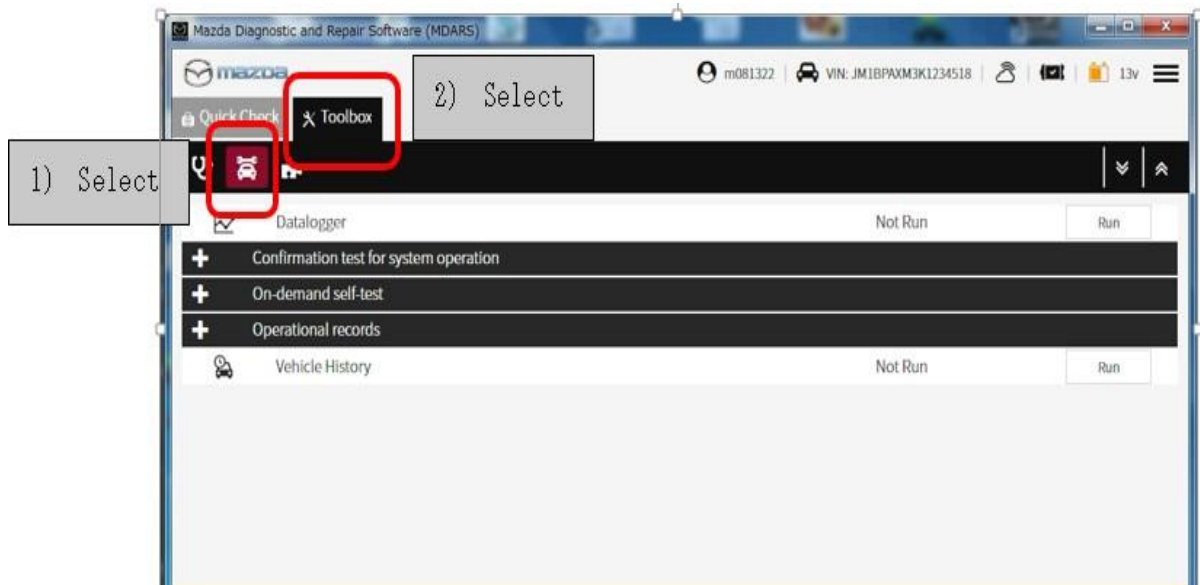
NOTE: If the calibration file is with the suffix in the table or later, the meter already has the modified calibration.

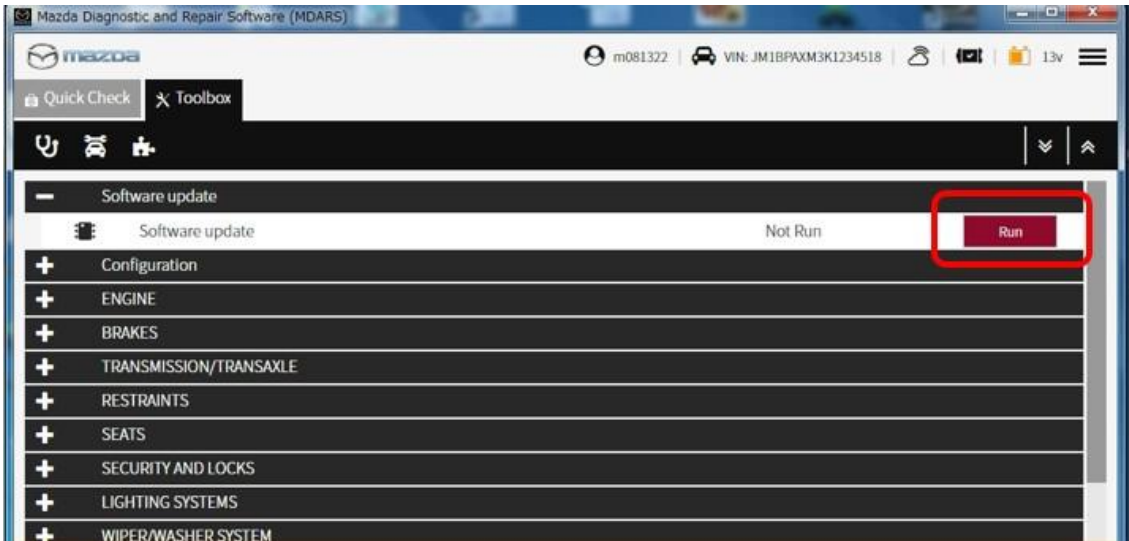
Country	Model	VCM filename after reprogramming	Specification
U.S.A/Canada	Mazda3 (BP)	BCKA-66S01-P	4SD
		BEMD-66S01-N	5HB
		BDTS-66S01-L	4SD (Mexico built)

C. Reprogram the meter (IC)

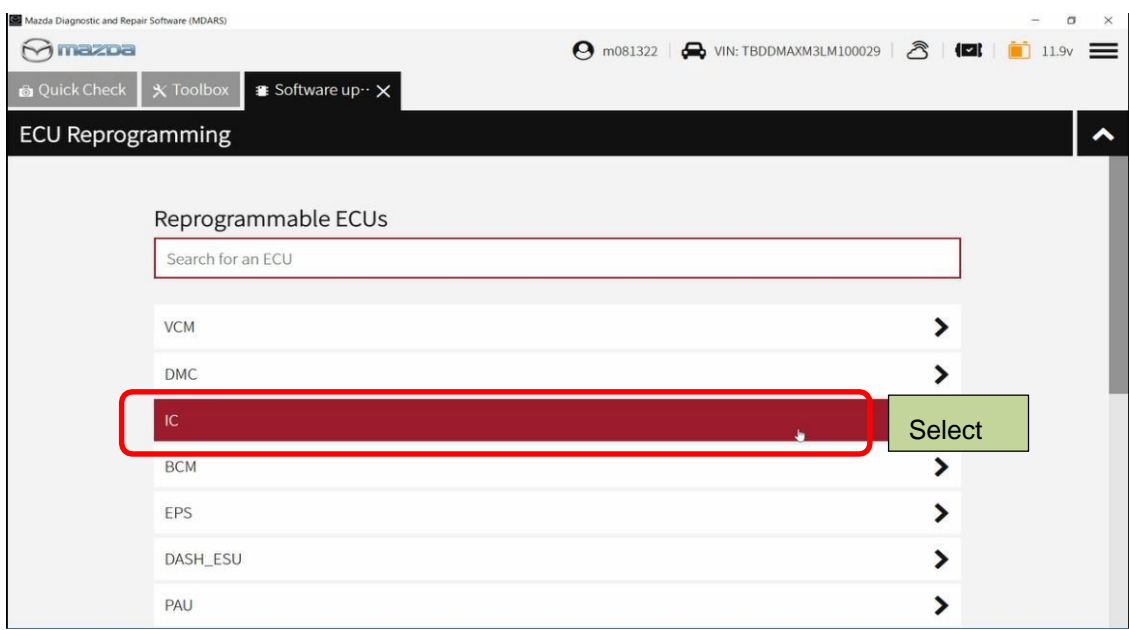
Reprogram the meter (IC) using MDARS.

NOTE: Follow the attached "Service Caution for reprogramming" on pages 5 and 6.

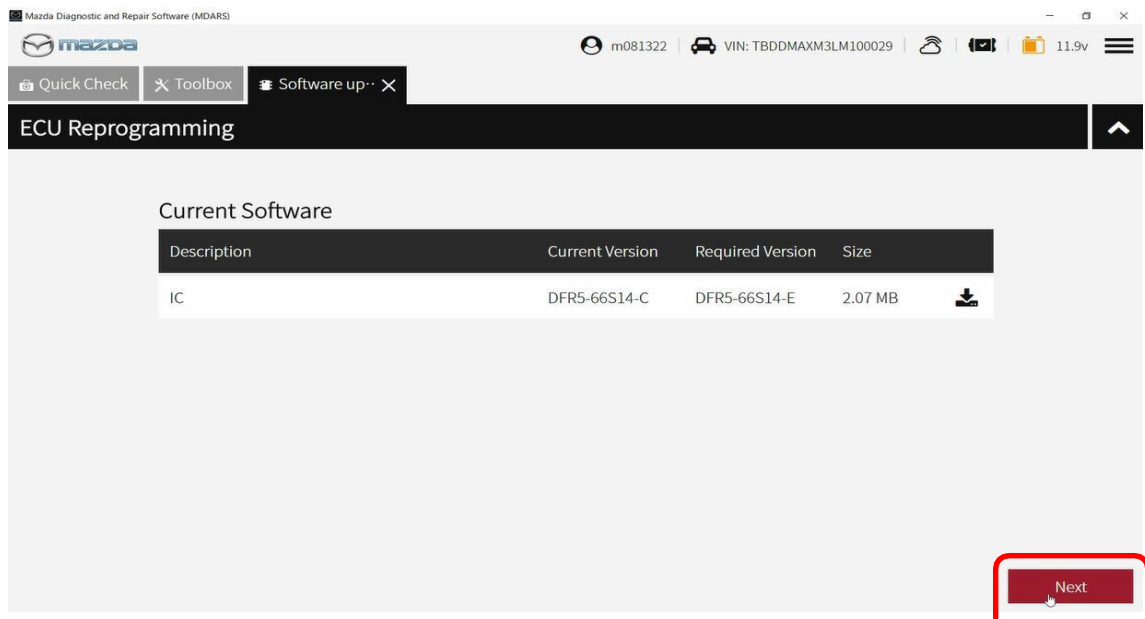




Select



Select



Select

Mazda Diagnostic and Repair Software (MDARS)

m081109 | VIN: JMZDMFWH600100057 | 12.9v

Quick Check | Toolbox | Software up...

ECU Reprogramming

Downloading Vehicle Flash Files Complete

Downloading PCM HF73-188K2-J Complete

Next

Select

Mazda Diagnostic and Repair Software (MDARS)

m081322 | VIN: TBDDMAXM3LM100029 | 11.9v

Quick Check | Toolbox | Software up...

ECU Reprogramming

Downloading Vehicle Flash Files Complete

Downloading IC DFR5-66S14-E Complete

Next

Select

Mazda Diagnostic and Repair Software (MDARS)

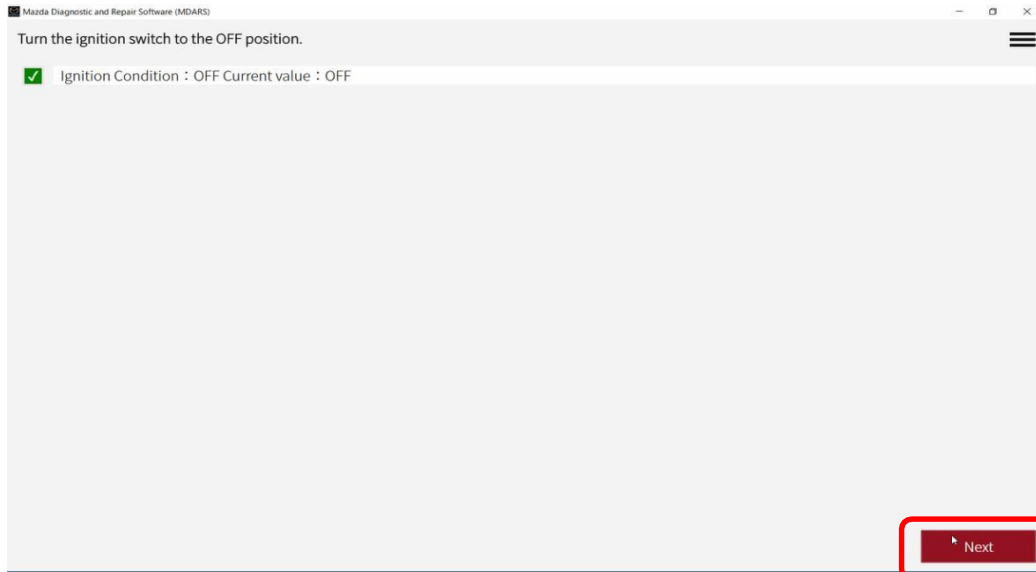
Software Update

Ensure the following action has been taken.

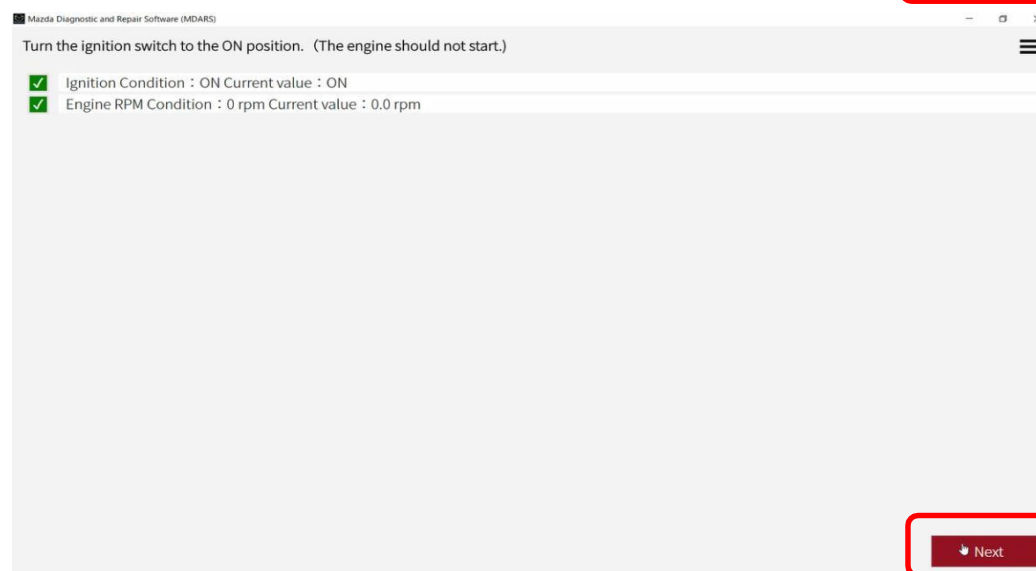
- Connect the battery charger to vehicle battery.
- Connect the power supply cable to PC.
- Make sure all electrical loads are off.
- Make sure the connections between the diagnostic tester and the vehicle are secure.
- Do not touch and move the cables connecting the diagnostic tester and the vehicle during reprogramming.

Next

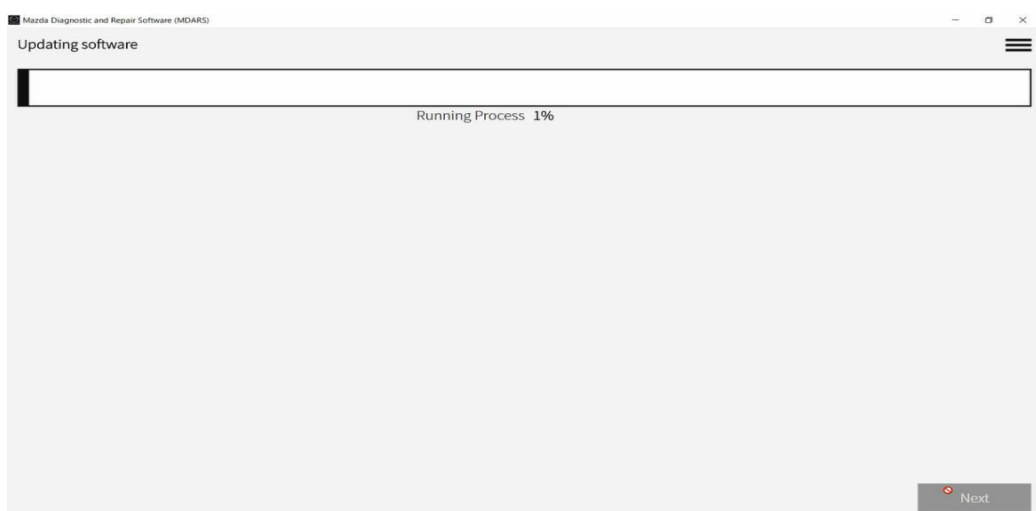
Select



Select



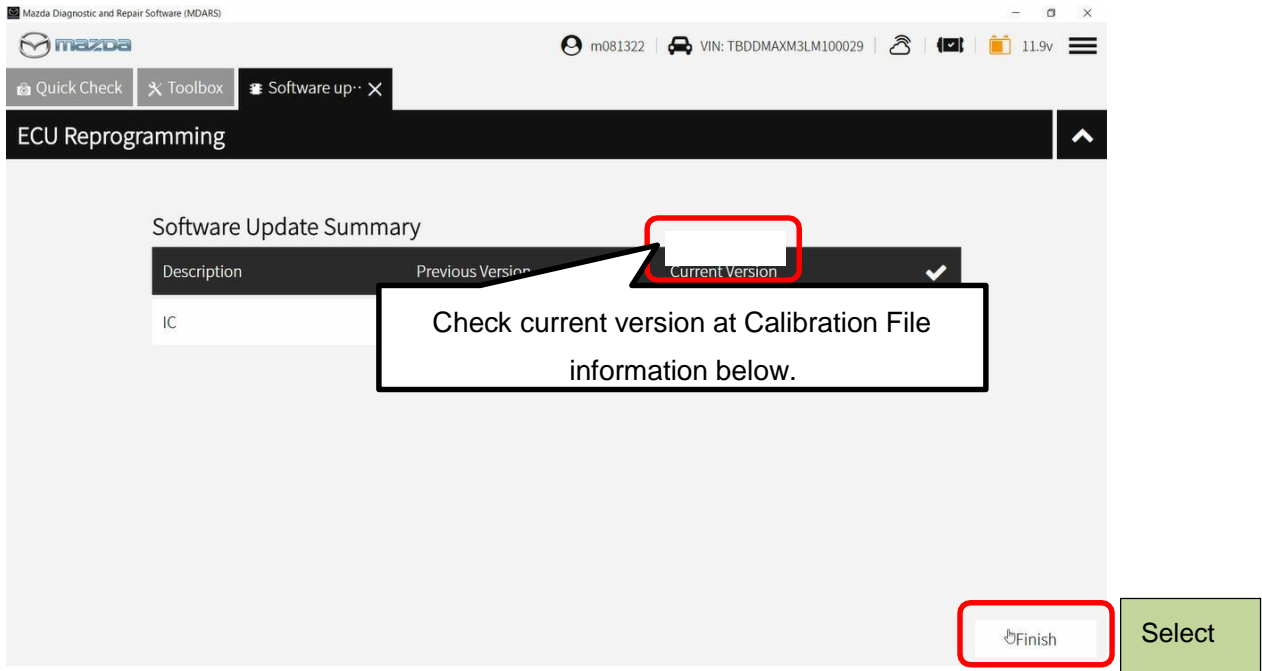
Select



It takes about 4 minutes to complete the running process. Select 'Next' when Running Process is finished.

Note: If IC software update failure occurs, go to Service Alert [SA-017/20](#).

After IC reprogramming, verify the calibration file name at current version with the chart below in the screen of the (IC) FILENAME.



Calibration files information

NOTE :

- If the calibration file is with the suffix in the table or later, the IC already has the modified calibration.

Country	Model	Meter (IC) filename after reprogramming
U.S.A/Canada	Mazda3 (BP)	BDGF-66S14-L

D. Check procedures after reprogramming

1. Check for DTC and confirm there is no stored DTC.
 - DTC P2610:00 may be stored. If so, please start the engine and clear the DTC.

NOTE: DTC U2120:00, U2030:51 or/and U2500:82 (Related DTCs of Forward sensing camera) may be stored and i-ACTIVSENSE warning light (amber) may turn on after driving. These DTCs may not be stored just after reprogramming. It may be stored after driving. To avoid stored DTC, you need to put the FSC into sleep mode.

2. Put the Forward Sensing Camera (FSC) into sleep mode as follows:
 - Disconnect MDARS
 - Turn the ignition off and get out of the car
 - Close and lock all doors
 - Allow the vehicle to sit in this condition for 10 minutes or more
3. Verify the repair by starting the engine and making sure there is no MIL illumination or abnormal warning lights present.

If any DTCs should remain after performing DTC erase, diagnose the DTCs according to the appropriate troubleshooting section of the Workshop Manual.

E. Update the owner's manual (OM) using USB - (see [ELECTRONIC OWNERS MANUAL UPDATE PROCEDURE](#))

F. Attach the Owner's Manual Supplement

1. Go to MGSS and open the updated owner's manual supplement titled: "4219L - Owners Manual Supplement.pdf" and "4219L - Customer Acknowledgement Form.pdf".
2. Print both documents at 100% size. You can cut the owner's manual supplement paper to match the owner's manual page size for a cleaner look.
3. Place the supplement in the owner's manual inside the storage pouch.
4. Give the copy of the Customer Acknowledgement Form along with the repair order to the service consultant so the customer can sign and acknowledge they have received the paper owner's manual update and keep the copy for the dealer records.
5. Proceed to step 3, Campaign Label Installation

3. CAMPAIGN LABEL INSTALLATION:

1. Fill out a blue "Campaign Label" (9999-95-065A-06) with Campaign No: "4219L", your dealer code, today's date.

CAMPAIGN LABEL

CAMPAIGN NO: _____

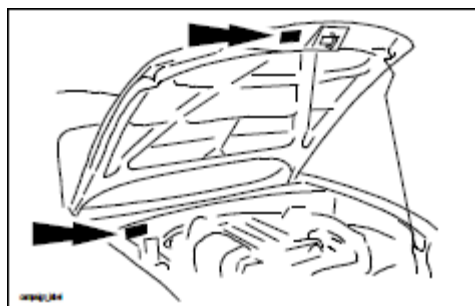
DEALER CODE: _____

DATE: ____/____/____

PIN 9999-95-065A-06

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2. Affix it to the hood or bulkhead as shown:



3. Return the vehicle to customer.