



Page 1 of 29

Table of Contents (<u>links in this document are provided for all steps below</u>) A. Vehicle Inspection Procedure and Preparation for Repair	
Section A: Flowchart	
Section B: Repair Procedure	
6223J Safety Recall – 2024 CX-90 and Mazda 3 View Monitor Camera Rear and 360 Camera View Images May Not Display4	
6323J Safety Recall – 2024 CX-90 PHEV Failsafe Logic May Cause Total Loss of Drive Power	
SSPD3 - OBD II A/C Refrigerant pressure detection concern	
SSPD4 - OBD II Water Temp Sensor Detection Concern	
<u>CX-90 I-6 Turbo</u>	
SSPD1 - Side Radar System Concern CX-90 all P/T	6
SSPD2 - OBD II Transmission Solenoid Detection Concern CX-90 all P/T	o
ODR DATA UPLOAD (critical step for all campaigns)2	6
FINAL CLEARING OF SLEEP MODE FOR RECALL 6223J AND DTCS	
A. VEHICLE INSPECTION PROCEDURE AND PREPARATION FOR REPAIR	

1. Verify that the vehicle is within the following ranges and there is a Not Launched <u>or</u> OPEN 6223J and/or 6323J recall in eMDCS:

SUBJECT VEHICLES RECALL 6223J

Model	Subject VIN range	Subject production date range
2024 CX-90 All powertrain	JM3 KK ****R1 100044-132978	From December 27, 2022 through September 5, 2023
2024 MAZDA3	JM1 BP****R1 650006 - 657565	From May 25, 2023 through August 23, 2023

SUBJECT VEHICLES RECALL 6323J

Model	Subject VIN range	Subject production date range
2024 CX-90 PHEV	JM3 KK ****R1 1000454 – 118462	From December 28, 2022 through June 20, 2023

^{*}Only the vehicles in this range and with a "Not Launched" or "Open" status in eMDCS are affected. If the vehicle is in

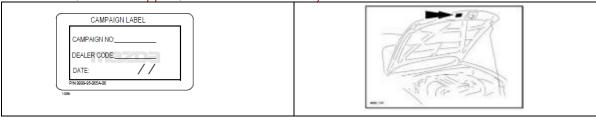


Page 2 of 29

the range above and 6223J and/or 6323J is OPEN or Not Launched in eMDCS, proceed to Step 2. If the vehicle <u>does not</u> have an OPEN or Not Launched 6223J and/or 6323J campaign, return the vehicle to the customer or inventory.

2. Perform an eMDCS Warranty Vehicle Inquiry and inspect the vehicle for a Campaign Label with 6223J and/or 6323J attached to the vehicle's hood, driver door or firewall.

NOTE: Always be sure to verify the campaign number as the vehicle may have multiple campaign labels on the hood, radiator support, firewall or driver door jamb.



eMDCS - Warranty Vehicle Inquiry Results:

If eMDCS displays:	Campaign Label is:	Action to perform:	
If no repair date is displayed on the line with CAMPAIGN 6223J, and/or 6323J or any of the SSP campaigns has not been completed	Present	Fill out Dealer Recall Help on OneMazda contact or the Mazda Warranty Department at warrantydept@mazdausa.com to review vehicle history.	
on this vehicle	Not present	Proceed to "REPAIR PROCEDURE".	
If repair date is displayed for	Present	Return vehicle to inventory or customer.	
CAMPAIGN 6223J and/or 6323J or any of the SSP campaigns is "CLOSED"	Not present	Complete a label and apply to vehicle's hood with repair date and dealer code from eMDCS Warranty Inquiry.	
CAMPAIGN 6223J and/or 6323J or any of the SSP campaigns is not displayed	See Action	The vehicle is not affected by the Recall or SSP	



Page 3 of 29

Section A: Flow Chart

CX-90 TURBO AND TURBO S CX-90 PHEV Mazda3 Vehicle affected by Recall Vehicle affected by Recall 6223J 6223J Check eMDCS for the following campaigns Check eMDCS for the following campaigns Recall 6323J, SSPD1, SSPD2, SSPD3 SSPD1, SSPD2, SSPD4 (SSPD4 is not included) (Recall 6323J and SSPD3 are not included) NOT APPLICABLE FOR MAZDA3 Complete View Monitor Camera Updates Complete View Monitor Camera Updates Complete SSPD3 as this Reprograms PCM and ECM and completes Recall 6323J Complete SSPD1, SSPD2, SSPD4 if applicable N/A Mazda3 Complete SSPD1, SSPD2, if applicable Upload ODR data* Repair complete Upload ODR data* Repair complete

*NOTE: All vehicles require the upload of ODR after the technician has completed all software updates. If ODR is not uploaded successfully, or if one or more software updates are missed, the applicable campaign(s) will remain open, the warranty claim will not accept, and your dealer will have to contact the customer to bring back the car to correct the concern.





Page 4 of 29

Section B: Repair Procedure Recall 6223J

Service caution during reprogramming for ECU(s)

During reprogramming, connect battery charger to the vehicle to stabilize voltage fluctuation. If missing, it may cause damage to ECUs due to decreasing voltage.

7th generation vehicle will control to turn on headlight forcibly during reprogramming due to change CAN communication.



NOTE: Make sure that HV charging cable is not connected to HV battery charging port.

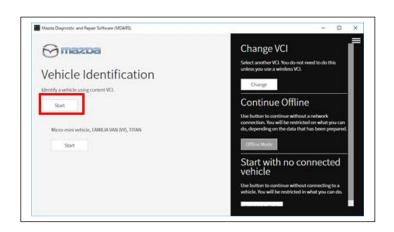
Vehicle Identification

Connect MDARS with the DLC cable and VCM-II to the vehicle, then set the ignition to the ON position.

CAUTION:

Connect the DLC cable and the VCM-II to the vehicle with the ignition OFF. The CAN bus line might detect some noise and it might cause a diagnostic error when connecting the DLC cable with the ignition ON.

1. Click the "Start" button.







Page 5 of 29

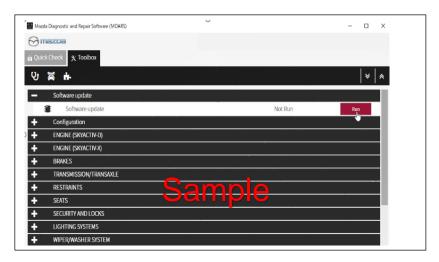
2. The Vehicle Identification process will start and automatically inspect every connection and then collect the vehicle information.



3. Verify the DTC according to the directions on the quick check screen. If any DTCs are displayed, perform troubleshooting according to the corresponding DTC inspection.



4. Reprogram VMC as below There is 'Software update' on 'Toolbox' tab. Select 'Run'.



- 5. Select required module on 'ECU Reprogramming' screen. Start Reprogramming.
 - VMC

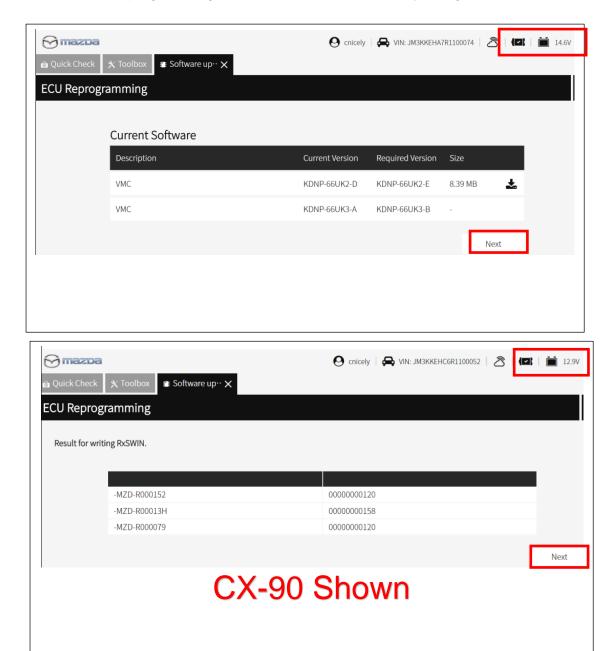
NOTE:

If software is already the latest, MDARS does not reprogram subject ECU. It is normal behavior.



Page 6 of 29

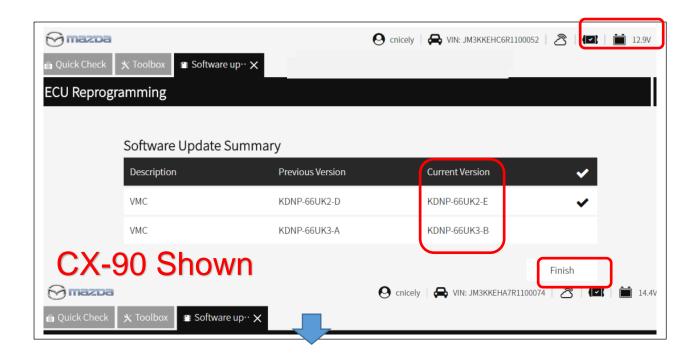
6. After completion of software update, the previous and current software version are shown. Check current version at "Calibration File information" below. Then, click on "Finish" to exit the ECU reprogramming and disconnect the 12V battery charger.







Page 7 of 29



Calibration file information

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

Modul	Target ECU (Hardware #)	Target Software file #	Reprogramming Time (min.)	Note
	KDNP-66UU0	KDNP-66UK2-E	16	CX-90
	KDNP-66000	KDNP-66UK3-B		4 Camera
	KEME-66UU0	KEME-66UK2-E		CX-90 1 Camera
VMC		KEME-66UK3-B		
VIVIC	BHSC-66UU0	BHSC-66UK2-B		Mazda3
	БПЗС-00000	BHSC-66UK3-B		4 Camera
	BHSD-66UU0	BHSD-66UK2-B		Mazda3
	B13D-66000	BHSD-66UK3-B		1 Camera



Page 8 of 29

Section B: Repair Procedure SSPD3 & Recall 6323J SSPD3 contains a later calibration of the same two modules, so this will also repair Recall 6323J. (Steps 1-4 do not need to be done if already performed Recall 6223J)

Service caution during reprogramming for ECU(s)

During reprogramming, connect battery charger to the vehicle to stabilize voltage fluctuation. If missing, it may cause damage to ECUs due to decreasing voltage.

7th generation vehicle will control to turn on headlight forcibly during reprogramming due to change CAN communication.

NOTE: Make sure that HV charging cable is not connected to HV battery charging port.

Vehicle Identification

Connect MDARS with the DLC cable and VCM-II to the vehicle, then set the ignition to the ON position.

CAUTION:

Connect the DLC cable and the VCM-II to the vehicle with the ignition OFF. The CAN bus line might detect some noise and it might cause a diagnostic error when connecting the DLC cable with the ignition ON.

1. Click the "Start" button.





Page 9 of 29

2. The Vehicle Identification process will start and automatically inspect every connection and then collect the vehicle information.



3. Verify the DTC according to the directions on the quick check screen. If any DTCs are displayed, perform troubleshooting according to the corresponding DTC inspection.

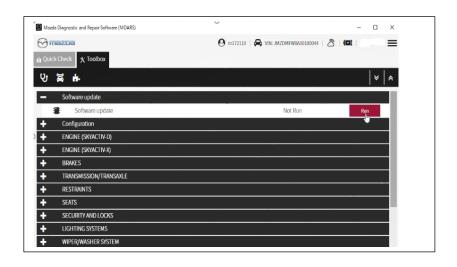


4. Reprogram PCM and ECM as below There is 'Software update' on 'Toolbox' tab. Select 'Run'.





Page 10 of 29



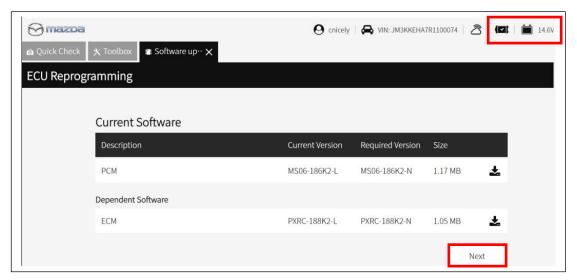
- 5. Select required module on 'ECU Reprogramming' screen. Start Reprogramming.
 - PCM
 - ECM

NOTE:

If software is already the latest, MDARS does not reprogram subject ECU. It is normal behavior.

By reprogramming either PCM or ECM, another module will be reprogrammed at the same time. Confirm PCM and ECM software are required version or later suffix at step 6.

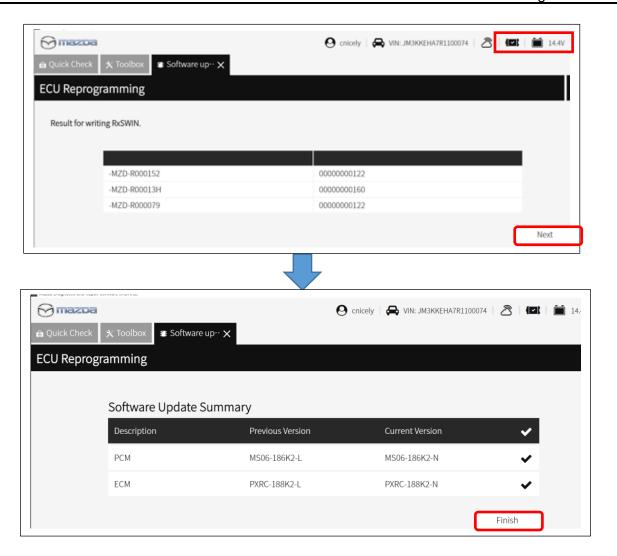
6. After completion of software update, the previous and current software version are shown. Check current version at "Calibration File information" below. Then, click on "Finish" to exit the ECU reprogramming and disconnect the 12V battery charger.







Page 11 of 29



Calibration file information

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

Module	Target ECU (Hardware #)	Target Software file #	Reprogramming Time (min.)	Note
PCM	MS01-186B1	MS05-186K2-M or greater MS06-186K2-M or greater	4	PHEV AWD 1500W PSU PHEV AWD
ECM	PXGH-18881	PXRC-188K2-M or greater	4	-

Note current file level is N





Page 12 of 29

Section B: Repair Procedure SSPD4 (Steps 1-4 do not need to be done if already performed another update)

Service caution during reprogramming for ECU(s)

During reprogramming, connect battery charger to the vehicle to stabilize voltage fluctuation. If missing, it may cause damage to ECUs due to decreasing voltage.

7th generation vehicle will control to turn on headlight forcibly during reprogramming due to change CAN communication.

Vehicle Identification

Connect MDARS with the DLC cable and VCM-II to the vehicle, then set the ignition to the ON position.

CAUTION:

Connect the DLC cable and the VCM-II to the vehicle with the ignition OFF. The CAN bus line might detect some noise and it might cause a diagnostic error when connecting the DLC cable with the ignition ON.

- 1. Click the "Start" button.
- 2. The Vehicle Identification process will start and automatically inspect every connection and then collect the vehicle information.



Page 13 of 29



3. Verify the DTC according to the directions on the quick check screen. If any DTCs are displayed, perform troubleshooting according to the corresponding DTC inspection.

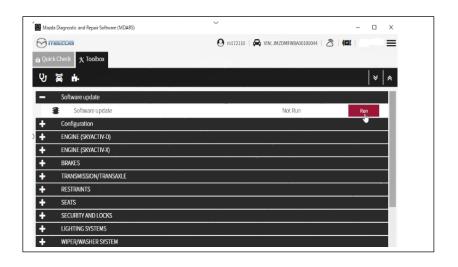


4. Reprogram PCM as below There is 'Software update' on 'Toolbox' tab. Select 'Run'.





Page 14 of 29

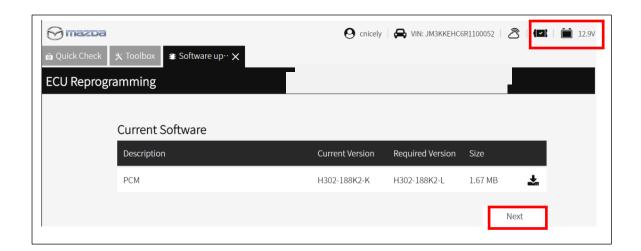


- 5. Select required module on 'ECU Reprogramming' screen. Start Reprogramming.
 - PCM

NOTE:

If software level is already at the latest calibration, MDARS does not reprogram subject ECU, which is normal behavior.

6. After completion of software update, the previous and current software version are shown. Check current version at "Calibration File information" below. Then, click on "Finish" to exit the ECU reprogramming and disconnect the 12V battery charger.



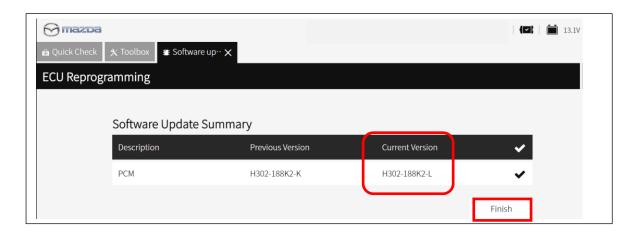




Page 15 of 29







Calibration file information

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

Module	Target ECU (Hardware #)	Target Software file #	Reprogramming Time (min.)	Note
PCM H301-18881		H301-188K2-L	_	H3T MHEV AWD Lo
	H302-188K2-L	7	H3T MHEV AWD	





Page 16 of 29

Section B : Repair Procedure SSPD1 (Steps 1-4 do not need to be done if already performed another update)

Service caution during reprogramming for ECU(s)

During reprogramming, connect battery charger to the vehicle to stabilize voltage fluctuation. If missing, it may cause damage to ECUs due to decreasing voltage.

7th generation vehicle will control to turn on headlight forcibly during reprogramming due to change CAN communication.

NOTE: Make sure that HV charging cable is not connected to HV battery charging port.

Vehicle Identification

Connect MDARS with the DLC cable and VCM-II to the vehicle, then set the ignition to the ON position.

CAUTION:

Connect the DLC cable and the VCM-II to the vehicle with the ignition OFF. The CAN bus line might detect some noise and it might cause a diagnostic error when connecting the DLC cable with the ignition ON.

1. Click the "Start" button.





Page 17 of 29

2. The Vehicle Identification process will start and automatically inspect every connection and then collect the vehicle information.



3. Verify the DTC according to the directions on the quick check screen. If any DTCs are displayed, perform troubleshooting according to the corresponding DTC inspection.

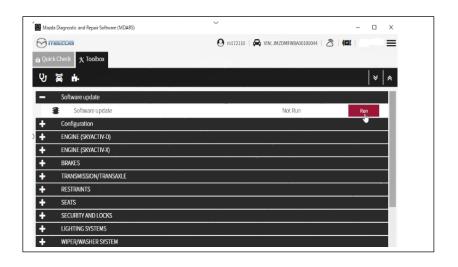


4. Reprogram Side Radar as below There is 'Software update' on 'Toolbox' tab. Select 'Run'.





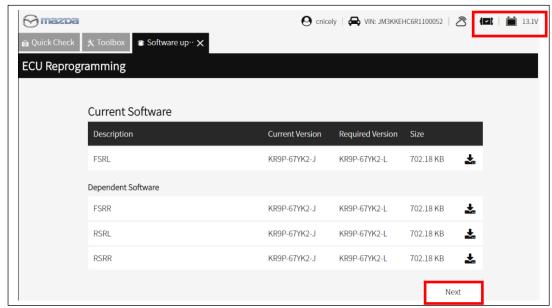
Page 18 of 29



- 5. Select required module on 'ECU Reprogramming' screen. Start Reprogramming.
 - Side Radar: FSRR, FSRL, RSRR, and RSRL NOTE:

If software is already the latest, MDARS does not reprogram subject ECU. It is normal behavior.

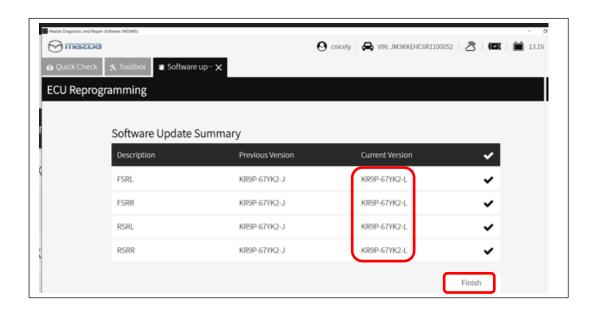
6. After completion of software update, the previous and current software version are shown. Check current version at "Calibration File information" below. Then, click on "Finish" to exit the ECU reprogramming and disconnect the 12V battery charger.







Page 19 of 29



Module	Target ECU (Hardware #)	Target Software file #	Reprogramming Time (min.)	Note
FSRR FSRL RSRR RSRL	KR9P-67Y30	KR9P-67YK2-L	16	-





Calibration file information

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





Page 20 of 29

Section B: Repair Procedure SSPD2 - (Steps 1-4 do not need to be done if already performed another update)

Service caution during reprogramming for ECU(s)

During reprogramming, connect battery charger to the vehicle to stabilize voltage fluctuation. If missing, it may cause damage to ECUs due to decreasing voltage.

7th generation vehicle will control to turn on headlight forcibly during reprogramming due to change CAN communication.

NOTE: Make sure that HV charging cable is not connected to HV battery charging port.

Vehicle Identification

Connect MDARS with the DLC cable and VCM-II to the vehicle, then set the ignition to the ON position.

CAUTION:

Connect the DLC cable and the VCM-II to the vehicle with the ignition OFF. The CAN bus line might detect some noise and it might cause a diagnostic error when connecting the DLC cable with the ignition ON.

1. Click the "Start" button.





Page 21 of 29

2. The Vehicle Identification process will start and automatically inspect every connection and then collect the vehicle information.



3. Verify the DTC according to the directions on the quick check screen. If any DTCs are displayed, perform troubleshooting according to the corresponding DTC inspection.

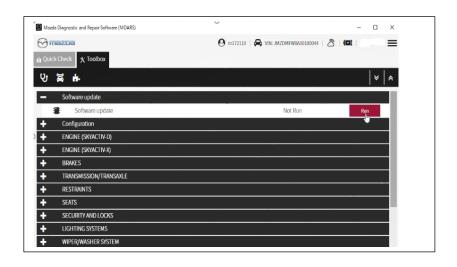


4. Reprogram TCM as below There is 'Software update' on 'Toolbox' tab. Select 'Run'.





Page 22 of 29

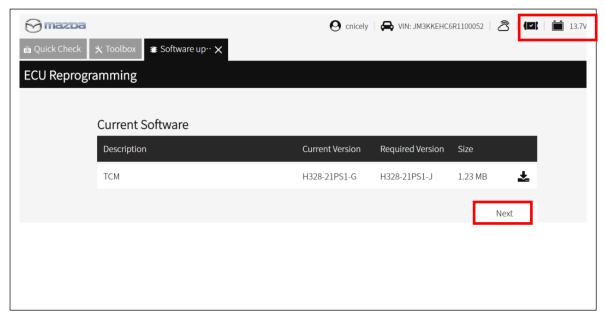


- 5. Select required module on 'ECU Reprogramming' screen. Start Reprogramming.
 - TCM

NOTE:

If software is already the latest, MDARS does not reprogram subject ECU. It is normal behavior.

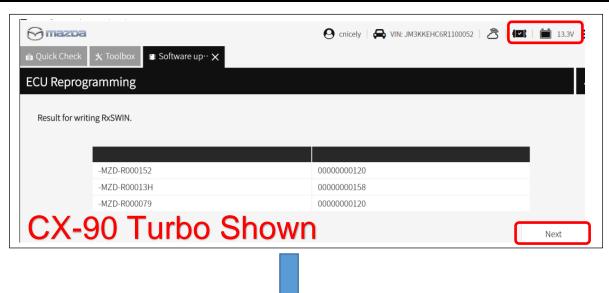
6. After completion of software update, the previous and current software version are shown. Check current version at "Calibration File information" below. Then, click on "Finish" to exit the ECU reprogramming and disconnect the 12V battery charger.



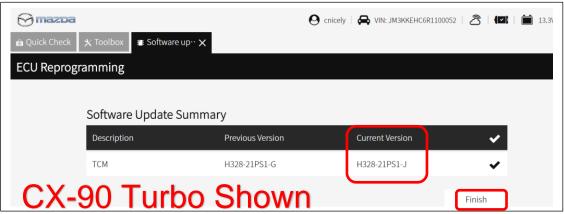




Page 23 of 29



Calibration file information



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

Module	Target ECU (Hardware #)	Target Software file #	Reprogramming Time (min.) PLUS RELEARN	Note
		H327-21PS1-J		H3T MHEV AWD HI
TCM	RZ01-219E1	H328-21PS1-J	35m H3T MHEV	H3T MHEV AWD LO
		PXPN-21PS1-G	27m PHEV	PHEV AWD



Page 24 of 29

TCM Initial Learning after reprogramming

Warning

 When performing the initial learning, apply the parking brake securely and block the front and rear wheels using wheel chocks so that the vehicle does not move. Otherwise, the vehicle may move which could lead to an accident because the gears are forcibly changed with the engine running and the shift lever in the drive position while in the initial learning.

Note:

- While the initial learning is being performed, the following phenomena may occur.
- Shift shock occurs intermittently.
- Indications such as selector lever positions differ from those displayed normally.

Preparation before servicing

- 7. Switch the ignition ON (engine on)/main power ON (READY on).
- 8. Apply the parking brake.
- 9. Shift the selector lever to P range, and set the wheel chocks for both the front and rear wheels.
- 10. The ATF temperature is 45°C to 105°C as an execution condition for AT initial learning, but after learning starts, the ATF temperature may drop to 44°C and learning may be interrupted, so learning should be started after raising the temperature to 50°C or higher.

Initial learning procedure

- 11. Connect the M-MDS to the DLC-2.
- 12. Open the engine hood. (To ensure that the engine starts. If engine hood is opened, EV mode does no work)
- 13. Switch the ignition ON (engine off).
- 14. Perform the following procedure using the M-MDS.
 - i) Press [Start] for the vehicle identification.
 - ii) Press the [Toolbox] tab.
 - iii) Press the [Work Support] icon.



- iv) Press [TRANSMISSION/TRANSAXLE].
- v) Press [Run] for Initial learning of AT.
- 15. Perform the automatic transmission initial learning.
- 16. Using the M-MDS, verify that TCM DTC P06B8:00 has not been stored. (See DTC INSPECTION.)



Page 25 of 29

- If DTC P06B8:00 is displayed, switch the ignition off/main power OFF and repeat the procedure from Step 15.
- If any other DTCs are displayed, repair or replace the malfunctioning location according to the applicable DTC troubleshooting of workshop manual.
- 17. Disconnect the M-MDS and perform following learning procedure.

PowerTrain start-up learning

- (1) Switch the ignition ON. Either "Engine run" or "READY ON (NOT Engine run)" is fine.
- (2) After holding the idling or READY ON for 5 seconds or more, turn the ignition switch OFF and hold it for 5 seconds or more.
- (3) Repeat steps (1) and (2) above for 3 times.

Shift range learning

- (1) Switch the ignition ON. Either "Engine run" or "READY ON (NOT Engine run)" is fine.
- (2) While idling or READY ON, depress the brake and perform the following steps.
 - i) Move the shift lever in "D".
 - ii) Move the shift lever from "D" to "R" and wait 5 seconds *
 - iii) Move the shift lever from "R" to "D" and wait 5 seconds *
 - * Do not stop in N range while moving the shift lever.
- (3) Repeat steps i) to iii) for 5 times.

Note:

In addition to the above learning, TCM also performs learning while driving automatically. Immediately after reprogramming and initial learning, the above driving learning will be reset. Therefore, it is important to explain the followings to customers.

Explanation to customers

To improve shift feel, the vehicle learns the timing of engaging the clutch while driving. This reprogramming will improve the shift feel and optimize by learning. However, the learning values would be reset to initial once.

Once the learning values were initialized, a slight shift shock might be felt intermittently, however by proceeding the learning by driving. It may take a few days but it will be improved.

PROCEED TO ODR COLLECTION

WARNING! FAILURE TO UPLOAD ODR DATA WILL RESULT IN CLAIM DENIAL, CAMPAIGN REMAINING IN OPEN STATUS AND VEHICLE HAVING TO COME BACK TO REDO THE DATA PUSH



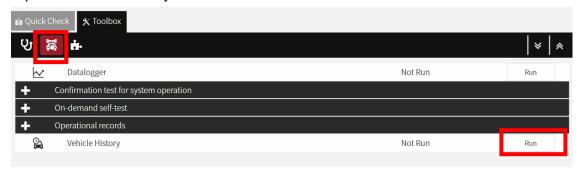


Page 26 of 29

Upload ODR Data

Check ODR collection result after reprogramming all required modules with vehicle verification.

7. Open the vehicle history on toolbox tab.

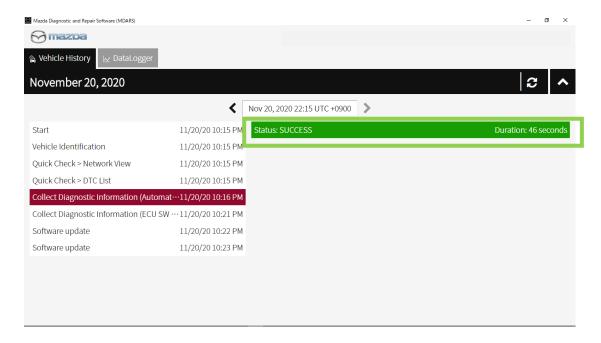


8. Click the 'Collect Diagnostic Information' and the status has 'SUCCESS' on green.

NOTE:

Verify the "Collect Diagnostic Information" after all required modules are updated. Not necessary to confirm the 'Collect Diagnostic Information' after required module reprogram

Only the latest "Collect Diagnostic Information" is the valid one and that needs to show "SUCCESS"



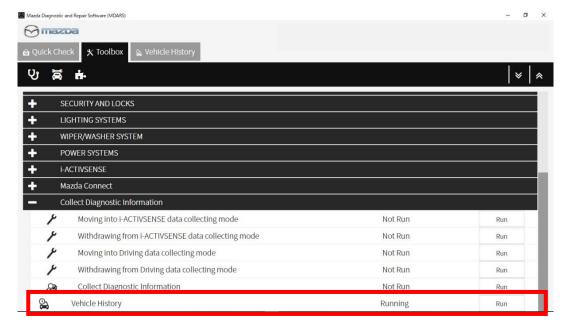
XIf the status is 'FAILURE', the ODR (latest vehicle information) has not been submitted to the server. Perform following process



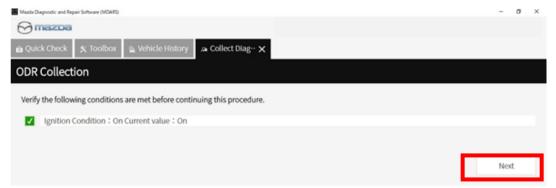
Page 27 of 29

Status: FAILURE Duration: 1 seconds

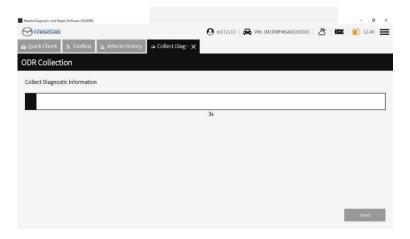
(1) 'Collect Diagnostic information' then click 'Run' at the tool box tab.



(2) Click 'Next'



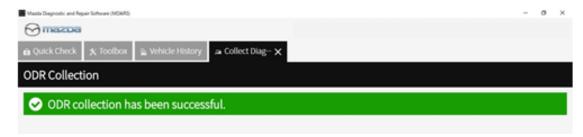
(3) It may take around 60 seconds.



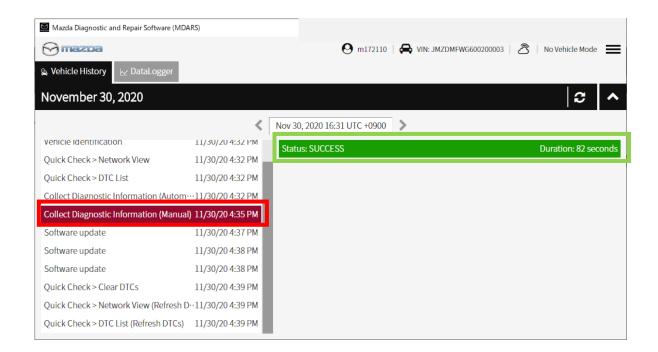


Page 28 of 29

(4) MDARS has collected ODR and sent to the server.



(5) Go back to step 7 and 8 to confirm the Collect Diagnostic Information (Manual) status shows 'SUCCESS' on green.



Proceed to clearing Sleep Mode after VMC Update (Recall 6223J) and DTC Clear

Sleep mode after reprogramming VMC

Note:

When vehicle was reprogrammed multiple times, the 360° View Monitor may stop its operation such as stop displaying camera output in the center display. Therefore, after reprogramming the VMC, put it into sleep mode to reset the reprogramming count.

Note:

Disconnect battery charger before starting "Sleep mode for CAN communication". DCDC converter and the power supply from the battery charger may be interfered and it may causes damages of the battery charger. In addition, warning light may illuminate and DTCs may be stored. (Ex. P0DAA)



Page 29 of 29

Sleep mode for CAN communication

- 9. Perform the following operation.
 - Switch the ignition off/main power OFF.
 - Remove all of the remote transmitters from the vehicle, lock all doors, and then wait for 5 min.

DTC inspection

Note:

Disconnect battery charger before starting engine at next step because the power supply from the DCDC converter and the power supply from the battery charger may interfere and damage the battery charger. then warning light comes up and DTCs are stored. (Ex. P0DAA)

10. Verify the repair by starting the engine. If subject vehicle is PHEV, proceed with following steps. Make sure there is no MIL illumination or abnormal warning lights present.



<How to start the engine in PHEV>

- (10-1) Switch to 'Sport Mode' and shift to 'D' range
- (10-2) Confirm Engine RPM is shown correctly in IC.
- (10-3) Shift to 'P' range then stop the engine. Turn ignition off.

Note:

After the reprogram, pending DTC P2610:00 [PCM] may be stored without MIL illumination. Since this DTC may turn to a current DTC depending on operations after the reprogramming, clear DTC after all repair work done.

- 11. If any DTCs should remain after performing DTC erase, diagnose the DTCs according to the appropriate troubleshooting section of the Workshop Manual.
- 12. Disconnect the MDARS from the DLC-2.

-----END OF SECTION B-----

End of Repair Procedure.