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| <u>6323J Safety Recall – 2024 CX-90 PHEV Failsafe Logic May</u> <u>Cause Total Loss of Drive Power</u> 8 |
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| SSPD1 - Side Radar System Concern CX-90 all P/T |
| <u>SSPD2 - OBD II Transmission Solenoid Detection</u> <u>Concern CX-90 all P/T</u> 20 |
| ODR DATA UPLOAD (critical step for all campaigns) |
| 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 \underline{or} 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 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.



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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 <u>warrantydept@mazdausa.com</u> 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 |

Technician level required: Certified or above.

Note: Technician repairing needs to be Certified or above and does not need to be Senior or Master as long as they have had the required training for ODR – Collection of Diagnostic Information

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Section A : Flow Chart – NOTE: You must clear any DTC's (diagnose and repair) before performing any of these campaigns. The recall or SSP repairs will NOT fix/clear a DTC issue. Once repaired, then start the repair process for campaigns.

CX-90 PHEV

CX-90 TURBO AND TURBO S Mazda3

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*NOTE: <u>All vehicles require the upload of ODR after the technician has completed all</u> 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.

-----END OF SECTION A------



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Section B : Repair Procedure Recall 6223J



NOTE:

- 1. Recall 6223J applies to vehicles with a Rear View (one camera) or a 360 Degree Camera (four cameras).
- 2. 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.
- 2. The Vehicle Identification process will start and automatically inspect every connection and then collect the vehicle information.

| Mmazba | Change VCI |
|---|---|
| Vehicle Identification | Select another VCI. You do not need to do this unless you use a wireless VCI. |
| Identify a whiche using current VCL | Change |
| Start | Continue Offline |
| Micro mini vehicle, FAMILIA VAN (VI), TITAN | Use button to continue without a network connection. You will be restricted on what you can do, depending on the data that has been prepared. |
| Stat | Officer Mode |
| | Start with no connected vehicle |
| | Use button to continue without connecting to a vehicle. You will be restricted in what you can do. |



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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

| Mazd | la Diagnostic and Repair Software (MDARS) | × |
|------------|---|--|
| 0 n | ecse | 🕑 m172110 🔗 VIN: JMZDMFW8A00100044 🗟 💷 🔤 |
| 🔒 Quic | k Check 🗙 Toolbox | |
| Ŷ | ă ii | × * |
| - | Software update | |
| - | Software update | Not Run |
| + | Configuration | |
| + | ENGINE (SKYACTIV-D) | |
| + | ENGINE (SKYACTIV-X) | |
| + | BRAKES | |
| + | TRANSMISSION/TRANSAXLE | |
| + | RESTRAINTS | |
| + | SEATS | Comple |
| + | SECURITY AND LOCKS | Sample |
| + | LIGHTING SYSTEMS | • |
| + | WIPER/WASHER SYSTEM | |

There is 'Software update' on 'Toolbox' tab. Select 'Run'.

- 5. Select required module on 'ECU Reprogramming' screen. Start Reprogramming.
 - VMC (View Monitor Camera) -

NOTE:

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

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 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.

| 💮 mazba | | | O cnicely | 🖨 VIN: ЈМЗККЕНА | 7R1100074 🕭 | 🕼 💼 14.6V |
|------------------|--|-------|--|------------------|-----------------|-------------|
| | ★ Toolbox 📲 Software u | p 🗙 | | | | |
| ECU Reprogr | amming | | | | | |
| | Current Software | | | | | |
| | Description | | Current Version | Required Version | Size | |
| | VMC | | KDNP-66UK2-D | KDNP-66UK2-E | 8.39 MB | ÷ |
| | VMC | | KDNP-66UK3-A | KDNP-66UK3-B | - | |
| | | | | | Next | |
| | | | | | NEXL | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| 💮 mazba | | | O cnicely | VIN: JM3KKEF | rC6R1100052 ڪ | S (12.9V |
| 🗟 Quick Check | X Toolbox Software | nb X | | | | |
| ECU Reprog | ramming | | | | | |
| Result for writi | ng RxSWIN. | | | | | |
| | | | | | | _ |
| | | | | | | |
| | -MZD-R000152 | | 0000000012 | | | |
| | -MZD-R000152 -MZD-R00013H -MZD-R000079 | | 0000000012 0000000015 0000000012 | 8 | | |
| | -MZD-R00013H | | 000000015 | 8 | | Next |
| | -MZD-R00013H | | 0000000015 | 8 | | Next |
| | -MZD-R00013H | CX-90 | 0000000015 | 8 | | Next |
| | -MZD-R00013H | CX-90 | 0000000015 | 8 | | Next |
| | -MZD-R00013H | CX-90 | 0000000015 | 8 | | Next |
| | -MZD-R00013H | CX-90 | 0000000015 | 8 | | Next |
| | -MZD-R00013H | CX-90 | 0000000015 | 8 | | Next |
| | -MZD-R00013H | CX-90 | 0000000015 | 8 | | Next |



MULTIPLE CAMPAIGNS REPAIR PROCEDURE AND MULTIPLE MODULE REPROGRAMMING Page 7 of 28

| Quick Check ECU Repro | | p X | 😧 cniceły 🚗 VIN: JM3KKEHC6R110 | 00052 🗟 🕶 🛅 12.9V |
|---------------------------|--------------------|----------------------------|----------------------------------|------------------------------------|
| | Software Update Su | ummary Previous Version | Current Version | ~ |
| | VMC | KDNP-66UK2-D | KDNP-66UK2-E | ~ |
| | VMC | KDNP-66UK3-A | KDNP-66UK3-B | |
| | | | 😧 cnicely 🖨 VIN: JM3KKEHA7R1 | Finish 100074 🖉 🕶 📺 14.4v |

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 | |
|--------------------|----------------------------|---------------------------|------------------------------|----------|--|
| | KDNP-66UU0 | KDNP-66UK2-E | | CX-90 | |
| | KDNP-00000 | KDNP-66UK3-B | | 4 Camera | |
| VMC | KEME-66UU0 BHSC-66UU0 | KEME-66UK2-E | 16 | CX-90 | |
| (View | | KEME-66UK3-B | | 1 Camera | |
| Monitor Camera) | | BHSC-66UK2-B | | Mazda3 | |
| Camera) | впос-00000 | BHSC-66UK3-B | | 4 Camera | |
| | BHSD-66UU0 | BHSD-66UK2-B | | Mazda3 | |
| | 60000 | BHSD-66UK3-B | | 1 Camera | |

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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)



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.



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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.

| mazpa | | | | | | | | |
|--------------|-------------|------|------|------------|------|-------|-----|---|
| - | | | | | | | | |
| Quick Check | K Toolbox | | | | | | | |
| 4 III | | | | | | | 1 | 2 |
| DLC | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| ADO | ALHUNISUNIV | œu | ONU | DASH_ISU | in . | isc | INU | |
| DOOR_LSU_D | DOOR_LSU_P | osc | US . | LSU | RSAL | RCARR | | 1 |
| | | | | | | - | | |
| ю | LOIL | LONR | υυ | POM | | | | |
| | 545 | TCM | 101 | | | | | 1 |
| ĸ | LOIL | LONR | 00 | PON | | | | ł |

4. Reprogram PCM and ECM as below

| Mazda Diagnostic and Repair Software (MDARS) | × |
|--|--|
| 🖯 mazoa | 🕑 m172110 🚔 VIN: JMZDMFW8A00100044 🗟 🕼 🔤 |
| Quick Check X Toolbox | |
| የ ጄ ዙ | × * |
| - Software update | |
| Software update | Not Run |
| + Configuration | |
| + ENGINE (SKYACTIV-D) | |
| + ENGINE (SKYACTIV-X) | |
| + BRAKES | |
| + TRANSMISSION/TRANSAXLE | |
| + RESTRAINTS | |
| + SEATS | Comple |
| + SECURITY AND LOCKS | Sample |
| + LIGHTING SYSTEMS | |
| + WIPER/WASHER SYSTEM | |

There is 'Software update' on 'Toolbox' tab. Select 'Run'.

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.

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BZDa

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.

| Quick Check ECU Reprog | X Toolbox ≇ Software up… X | O cnicely | 7 🚗 VIN: JM3KKEHA | 781100074 | 2) (14. 6V |
|-----------------------------|------------------------------|------------------|---------------------|------------------|---------------------------|
| | Current Software | | | | |
| | Description | Current Version | Required Version | Size | |
| | PCM | MS06-186K2-L | MS06-186K2-N | 1.17 MB | |
| | Den en dent Coffeene | | | | |
| | Dependent Software | DVDC 100//2 | DVDC 100V2 N | LOCARD - | |
| | ECM | PXRC-188K2-L | PXRC-188K2-N | 1.05 MB 📩 | |
| | | | | Next |] |
| Quick Check | 🗴 Toolbox 🔹 Software up 🗙 | O cnicely | R VIN: JM3KKEHA7R | 21100074 🕭 🖽 | 🗎 14.4V |
| ECU Reprog | | | | | |
| Result for writ | ing RxSWIN. | | | | |
| | | | | | 1 |
| | -MZD-R000152 | 00000000122 | | | |
| | -MZD-R00013H -MZD-R000079 | 00000000160 | | | |
| | | | | 1 | |
| | | | | | Next |
| | | | | | |
| | | O cnicely | 🖨 VIN: ЈМЗККЕНАТ | r1100074 💍 🕊 | 1 1 14.4V |
| ECU Reprogra | mming | | | | |
| | | | | | |
| | Software Update Summa | ry | | | |
| | Description | Previous Version | Current Version | ~ | |
| | PCM | MS06-186K2-L | MS06-186K2-N | ~ | |
| | ECM | PXRC-188K2-L | PXRC-188K2-N | ~ | |
| | | | | · · · | |
| | | | | Finish | J |

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azda

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 | 4 | PHEV AWD 1500W PSU |
| | | MS06-186K2-M or greater | | PHEV AWD |
| ECM | PXGH-18881 | PXRC-188K2-M or greater | 4 | - |

Note current file level is N

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



Vehicle Identification

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

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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.



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'.





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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.

| Quick Check X Toolbox # S | Software up·· 🗙 | O cnicely | 🖶 VIN: ЈМЗККЕНСС | 5R1100052 👌 | 🖅 💼 12.9 |
|---------------------------|-----------------|------------------|------------------|---------------|------------|
| ECU Reprogramming | | | | | |
| Current Soft | ware | | | | |
| Description | | Current Version | Required Version | Size | |
| PCM | | H302-188K2-K | H302-188K2-L | 1.67 MB | * |
| | | | | Next | _ |
| | | | | | |
| | | | | | |



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| | | | | | _ | |
|-----------------|------------------------------|------------------|-------------|--------------------|-----------|-------------|
| nazpa | | | O cnicely | VIN: JM3KKEHC6R110 | 00052 💍 | ✓ 13V |
| ck Check | 🗙 Toolbox 🛛 🖀 Software up ·· | × | | | | |
| Reprogra | amming | | | | | |
| | 8 | | | | | |
| sult for writin | ng RxSWIN. | | | | | |
| | | | | | | |
| | | | | | | |
| | -MZD-R000152 | | 0000000120 | | | |
| | -MZD-R00013H | | 0000000158 | | | |
| | -MZD-R000079 | | 00000000120 | | | |
| | | | | | | Next |
| | | | | | | |
| | | | | | | |
| | 2203 | | | | | 🕼 苗 13.1V |
| 💩 Quick (| Check 🗙 Toolbox 📲 Softwa | are up··· 🗙 | | | | |
| | | | | | | |
| ECU Re | eprogramming | | | | | |
| | | | | | | |
| | Software Update | e Summary | | | | |
| | Description | Previous Version | | Current Version | • | / |
| | РСМ | H302-188K2-K | | H302-188K2-L | • | / |
| | | | | \square | | _ |
| | | | | | Finish | |

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 |
|--------|----------------------------|---------------------------|------------------------------|-----------------|
| 5014 | | H301-188K2-L | _ | H3T MHEV AWD LO |
| PCM | H301-18881 | H302-188K2-L | 7 | H3T MHEV AWD HI |

Section B : Repair Procedure SSPD1 (Steps 1-5 do not need to be done if already



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performed another update)



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.



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

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3. Verify the DTC according to the directions on the quick check screen.



NOTE: This campaign will not repair existing DTC(s).

If any of the following DTC's are stored, clear the DTC(s).

- U3000:01-0B:FSRR Front side radar sensor (RH) internal malfunction.
- U3000:01-0B: RSRL Rear side radar sensor (LH) internal malfunction •
- B14F1:04 [VMC] Front side radar sensor (LH)/(RH) internal malfunction or poor installation
- B1542:00-0B:VMC Rear side radar sensor related malfunction
- B14F2:04-0B:VMC Rear side radar sensor (LH)/(RH) internal malfunction or poor installation

Did the DTC(s) clear?

- Yes Go to next step. •
 - No Does vehicle have a history of battery discharge?
 - Yes Replace the Side Radar Sensor(s) related to the DTC stored.
 - NOTE: If replacement part is not available, order part and continue with repairs (Do Not Hold Vehicle).
 - No Perform needed repair per MGSS troubleshooting.
- 4. Reprogram Side Radar as below

There is 'Software update' on 'Toolbox' tab. Select 'Run'.

| Mazda | Diagnostic and Repair Software (MDARS) | ~ × |
|----------|--|--|
| Øm | azpa | \varTheta m172110 🚑 VIN: JMZDMFW8A00100044 🗟 💷 |
| 👜 Quick | Check X Toolbox | |
| Сî Сî | ă h- | ¥ & |
| - | Software update | |
| 1 | Software update | Not Run Run |
| + | Configuration | |
| + | ENGINE (SKYACTIV-D) | |
| + | ENGINE (SKYACTIV-X) | |
| + | BRAKES | |
| + | TRANSMISSION/TRANSAXLE | |
| + | RESTRAINTS | |
| + | SEATS | |
| + | SECURITY AND LOCKS | |
| + | LIGHTING SYSTEMS | |
| + | WIPER/WASHER SYSTEM | |

5. Select required module on 'ECU Reprogramming' screen.

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MULTIPLE CAMPAIGNS REPAIR PROCEDURE AND MULTIPLE MODULE REPROGRAMMING Page 17 of 28

6. Start Reprogramming.

| mazda | O cnic | ely 🖨 VIN: JM3KKEH | HC6R1100052 👌 |
|--|-----------------|----------------------|-----------------|
| Quick Check 🗙 Toolbox 🖀 Software up… 🗙 | | | |
| J Reprogramming | | | |
| Current Software | | | |
| Description | Current Version | Required Version | Size |
| FSRL | KR9P-67YK2-J | KR9P-67YK2-L | 702.18 KB 🛃 |
| Dependent Software | | | |
| FSRR | KR9P-67YK2-J | KR9P-67YK2-L | 702.18 KB 🛃 |
| RSRL | KR9P-67YK2-J | KR9P-67YK2-L | 702.18 KB 🛃 |
| RSRR | KR9P-67YK2-J | KR9P-67YK2-L | 702.18 КВ 🛃 📩 |
| | | | Next |

| Side Radar Sensor ECU Programming | Applicable Vehicle | Not Applicable |
|---|--|--|
| NOTE: Not all trims have Front Side Radar • FSRR (Front Side Radar Right) • FSRL (Front Side Radar Left) | Standard PT • 3.3 Turbo Premium Plus High PT • 3.3 Turbo S Premium • 3.3 Turbo S Premium Plus PHEV • PHEV Premium Plus | Standard PT • 3.3 Turbo Select • 3.3 Turbo Preferred • 3.3 Turbo Preferred Plus • 3.3 Turbo Premium High PT • 3.3 Turbo S PHEV • PHEV Preferred • PHEV Premium |
| RSRR (Rear Side Radar Right) RSRL (Rear Side Radar Left) | All | N/A – All vehicles have Rear Side Radar Sensors |

NOTE:

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

7. 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.



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| Mazoa | | 😔 cnicely 😝 VIN: JM3KKEHC6R1100052 🖄 💷 📋 13.6V 🗧 |
|--------------------|-------------------------------------|--|
| 🖻 Quick Check 🖇 | K Toolbox III: Software up… X | |
| ECU Reprogra | mming | |
| | | |
| Result for writing | g RxSWIN. | |
| | | |
| | -MZD-R000152 | 0000000120 |
| | -MZD-R00013H | 0000000158 |
| | -MZD-R000079 | 0000000120 |
| | | Next |
| | | |
| | | |
| | | |
| Marda Diac | provise and Repair Software (MDARS) | - 0 |
| | nazoa | 🕑 cnicely 🚑 VIN: JM3KKEHC6R1100052 🗟 🕼 📓 13.1V |
| nta Quio | k Check 🗶 Toolbox 🔹 Software up 🗙 | |
| ECU | Reprogramming | |
| | | |
| | Software Update Summary | |

KR9P-67YK2-J

KR9P-67YK2-J

KR9P-67YK2-J

KR9P-67YK2-J

Calibration file information

FSRL

FSRR

RSRL

RSRR

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

~

~

~

~

~

Finish

KR9P-67YK2-L

KR9P-67YK2-L

KR9P-67YK2-L

KR9P-67YK2-L

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



MULTIPLE CAMPAIGNS REPAIR PROCEDURE AND MULTIPLE MODULEREPROGRAMMINGPage 19 of 28

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



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



MULTIPLE CAMPAIGNS REPAIR PROCEDURE AND MULTIPLE MODULE REPROGRAMMING Page 20 of 28

then collect the vehicle information.

| Mazda Diagnostic and Repair Software (MDARS) | - | • × |
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| | | |

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'.

| 🖾 Mazd | la Diagnostic and Repair Software (MDARS) | | | - 🗆 × |
|--------|---|---------------------------------------|---------|-------|
| Ø | ezpa | | | |
| 👜 Quic | k Check 🗙 Toolbox | | | |
| Ŷ | ă #- | | | × × |
| - | Software update | | | |
| 1 | Software update | | Not Run | Run |
| + | Configuration | | | |
| + | ENGINE (SKYACTIV-D) | | | |
| + | ENGINE (SKYACTIV-X) | | | |
| + | BRAKES | | | |
| + | TRANSMISSION/TRANSAXLE | | | |
| + | RESTRAINTS | Sample | | |
| + | SEATS | | | |
| + | SECURITY AND LOCKS | | | |
| + | LIGHTING SYSTEMS | · · · · · · · · · · · · · · · · · · · | | |
| + | WIPER/WASHER SYSTEM | | | |

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.



MULTIPLE CAMPAIGNS REPAIR PROCEDURE AND MULTIPLE MODULE REPROGRAMMING Page 21 of 28

| 😚 mazba | | O cnicely | VIN: JM3KKEHO | GGR1100052 💍 f | 21 🛅 13.7 |
|---------------|----------------------------|-----------------|------------------|--------------------|--------------------|
| 🖻 Quick Check | X Toolbox ≇ Software up… X | | | | |
| ECU Reprog | ramming | | | | |
| | | | | | |
| | Current Software | | | | |
| | Description | Current Version | Required Version | Size | |
| | | | | _ | |
| | | H328-21PS1-G | H328-21PS1-J | 1.23 MB 🛃 | |
| CX-8 | 0 Turbo Shov | vn | | Next | |
| | | | | | - |
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| | | | | | |
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| | | | | | |
| | | | 🚗 VIN: ЈМЗККЕНСС | GR1100052 者 🗖 | 13.3 V |
| ô Quick Check | ☆ Toolbox Software up… × | 0 | | | |
| | | | | | |
| ECU Repros | gramming | | | | |
| Result for wr | iting RxSWIN. | | | | |
| Result for wi | | | | | |
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| | -MZD-R000152 | 0000000120 |) | | |
| | -MZD-R00013H | 0000000158 | 3 | | |
| | -MZD-R000079 | 0000000120 |) | | |
| | | | | | Next |
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Calibration file information

| | 0 | cnicely 🛛 🚗 VIN: JM3KKEHC6R11 | 00052 🕭 💷 🛅 13.3\ |
|---------------------------------|------------------|-------------------------------|-------------------------|
| 🖻 Quick Check 🗙 Toolbox 🖀 Softw | are up·· 🗙 | | |
| ECU Reprogramming | | | |
| | | | |
| Software Update | e Summary | | |
| Description | Previous Version | Current Version | ✓ |
| ТСМ | H328-21PS1-G | H328-21PS1-J | ~ |
| CX-90 Tur | bo Shown | | Finish |



MULTIPLE CAMPAIGNS REPAIR PROCEDURE AND MULTIPLE MODULE REPROGRAMMING Page 22 of 28

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 LO |
| ТСМ | RZ01-219E1 | H328-21PS1-J | 35m H3T MHEV | H3T MHEV AWD HI |
| | | PXPN-21PS1-G | 27m PHEV | PHEV AWD |

Proceed to TCM Initial Learning after reprogramming

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

8. Switch the ignition ON (engine on)/main power ON (READY on).

- 9. Apply the parking brake.
- 10. Shift the selector lever to P range, and set the wheel chocks for both the front and rear wheels.
- 11. 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

12. Connect the M-MDS to the DLC-2.

- 13. Open the engine hood. (To ensure that the engine starts. If engine hood is opened, EV mode does no work)
- 14. Switch the ignition ON (engine off).
- 15. 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].

MULTIPLE CAMPAIGNS REPAIR PROCEDURE AND MULTIPLE MODULE REPROGRAMMING Page 23 of 28

- v) Press [Run] for Initial learning of AT.
- 16. Perform the automatic transmission initial learning.
- 17. Using the M-MDS, verify that TCM DTC P06B8:00 has not been stored. (See DTC INSPECTION.)
 - 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.
- 18. 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.
 - Move the shift lever in "D". i)
 - ii) Move the shift lever from "D" to "R" and wait 5 seconds *
 - Move the shift lever from "R" to "D" and wait 5 seconds * iii)

* 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

MULTIPLE CAMPAIGNS REPAIR PROCEDURE AND MULTIPLE MODULEREPROGRAMMINGPage 24 of 28

Upload ODR Data

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

7. Open the vehicle history on toolbox tab.

| 🖻 Quick (| Check X Toolbox | | |
|--------------------|--|---------|-------|
| ပ <mark>်</mark> န | а́ њ | | × × |
| \sim | Datalogger | Not Run | Run |
| + | Confirmation test for system operation | | |
| + | On-demand self-test | | |
| + | Operational records | - | |
| <u>©</u> . | Vehicle History | Not Run | Run |
| | | | |

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

NOTE:

Verify the "Collect Diagnostic Information' <u>after all required modules are updated</u>. Not necessary to confirm the 'Collect Diagnostic Information' after required module reprogram <u>every time</u>.

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

| Mazda Diagnostic and Repair Software (MDARS) | | | | - 0 × |
|--|--------------------------|------------------------------|---|----------------------|
| 🔂 mazoa | | | | |
| a Vehicle History 🗠 DataLogger | | | | |
| November 20, 2020 | | | | C ^ |
| | < | Nov 20, 2020 22:15 UTC +0900 | > | |
| Start | 11/20/20 10:15 PM | Status: SUCCESS | | Duration: 46 seconds |
| Vehicle Identification | 11/20/20 10:15 PM | | | |
| Quick Check > Network View | 11/20/20 10:15 PM | | | |
| Quick Check > DTC List | 11/20/20 10:15 PM | | | |
| Collect Diagnostic Information (Aut | omat…11/20/20 10:16 PM | | | |
| Collect Diagnostic Information (ECU | J SW … 11/20/20 10:21 PM | | | |
| Software update | 11/20/20 10:22 PM | | | |
| Software update | 11/20/20 10:23 PM | | | |
| | | | | |
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XIf the status is 'FAILURE', the ODR (latest vehicle information) has not been submitted to the server. Perform following process

| Status: FAILURE | |
|-----------------|--|
|-----------------|--|

Duration: 1 seconds

BZID3



MULTIPLE CAMPAIGNS REPAIR PROCEDURE AND MULTIPLE MODULE REPROGRAMMING Page 25 of 28

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

| Mazda Diagnostic | and Repair Software (MDARS) | | - 0 |
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| ∳ s | SECURITY AND LOCKS | | |
| + ι | IGHTING SYSTEMS | | |
| + v | VIPER/WASHER SYSTEM | | |
| 🕈 P | POWER SYSTEMS | | |
| 🕂 i- | ACTIVSENSE | | |
| + N | lazda Connect | | |
| — c | Collect Diagnostic Information | | |
| 4 | Moving into i-ACTIVSENSE data collecting mode | Not Run | Run |
| ۴ | Withdrawing from i-ACTIVSENSE data collecting mode | Not Run | Run |
| ۴ | Moving into Driving data collecting mode | Not Run | Run |
| ۴ | Withdrawing from Driving data collecting mode | Not Run | Run |
| | Collect Diagnostic Information | Not Run | Run |
| 2 | Vehicle History | Running | Run |

(2)Click 'Next'

| Masla Diagnostic and Repeir Software (MDARS) | - | σ | × |
|---|-----|---|---|
| ⊖ mazpa | | | |
| 👜 Quick Check 🕺 Toolbox 😒 Vehicle History 🔉 Collect Diag- 🗙 | | | |
| ODR Collection | | | |
| Verify the following conditions are met before continuing this procedure. | | | |
| Institute Condition 1 On Conservation 1 On | | | |
| Ignition Condition : On Current value : On | | | |
| | | | |
| | | | - |
| | Nex | đ | |

(3) It may take around 60 seconds.

| Aazda Diagnostic and Repair Software (MDARS) | | | - 0 |
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| Quick Check 🕺 Toolbox 👒 Vehicle Hi | story 🔉 Collect Diag… 🗙 | | |
| DR Collection | | | |
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| Collect Diagnostic Information | | | |
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| | | | Next |

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

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| 🗈 Quick Check 🦎 Toolbox 🛸 Wehicle History 🕰 Col | ect Diag 🗙 |
| ODR Collection | |

MULTIPLE CAMPAIGNS REPAIR PROCEDURE AND MULTIPLE MODULEREPROGRAMMINGPage 26 of 28

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

| Mazda Diagnostic and Repair Software | (MDARS) | | | |
|--------------------------------------|-------------------------|------------------------------|------------------------------|----------------------|
| 😚 mazoa | | O m172110 | 😝 VIN: JMZDMFWG600200003 👌 | No Vehicle Mode |
| 🔉 Vehicle History 🛛 🗠 DataLogge | r | | | |
| November 30, 2020 | | | | C 🖍 |
| | < | Nov 30, 2020 16:31 UTC +0900 | > | |
| venicle identification | 11/30/20 4:32 PM | Status: SUCCESS | | Duration: 82 seconds |
| Quick Check > Network View | 11/30/20 4:32 PM | 5000255 | | Duration. 02 Seconds |
| Quick Check > DTC List | 11/30/20 4:32 PM | | | |
| Collect Diagnostic Information (Au | tom…11/30/20 4:32 PM | | | |
| Collect Diagnostic Information (Ma | anual) 11/30/20 4:35 PM | | | |
| Software update | 11/30/20 4:37 PM | | | |
| Software update | 11/30/20 4:38 PM | | | |
| Software update | 11/30/20 4:38 PM | | | |
| Quick Check > Clear DTCs | 11/30/20 4:39 PM | | | |
| Quick Check > Network View (Refr | esh D…11/30/20 4:39 PM | | | |
| Quick Check > DTC List (Refresh D) | TCs) 11/30/20 4:39 PM | | | |

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

Sleep mode after reprogramming VMC (View Monitor Camera)

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)

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)

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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.
- 13. Move to Section C. Campaign Label(s) installation. You must install a label for all campaigns or highlight multiple campaigns on one label.

C. CAMPAIGN LABEL INSTALLATION

a. Fill out a Black "Campaign Label" (9999-95-055A-06) with Campaign #: "6223J, 6323J, SSPD1, SSPD2, SSPD3, SSPD4", your dealer code, and the repair date. It is OK to bundle multiple campaigns on one label as long as each campaign is legible. Use more than one label if necessary. For example, if you repair 6223J, 6323J and SSPD1, then have one label with 2 Safety Recall and the second label with SSPD1.

| CAMPAIGN NO; | | |
|--------------|----|--|
| DEALER CODE; | | |
| DATE: | 11 | |

b. Affix it to the hood as shown. If you cannot place the label here, the radiator support, firewall or driver door jamb are acceptable locations:



MULTIPLE CAMPAIGNS REPAIR PROCEDURE AND MULTIPLE MODULE REPROGRAMMING Page 28 of 28

End of Repair Procedure.