Service Alert

Mazda North American Operations Irvine, CA 92618-2922



| Subject: | | |
|---|------------------------------|--|
| MAZDA CONNECT SYMPTOM TROUBLESHOOTING (7TH GENERATION VEHICLES) | Service Alert No.: SA-027/21 | |
| | Last Issued : 06/24/2021 | |
| | | |

BULLETIN NOTES

This service alert supersedes the previously issued service alert listed below. The changes are noted in Red text.

| Previous Service Alert: | Date(s) Issued: |
|-------------------------|---|
| SA-027/21 | 04/07/21 |
| SA-027/20 | 10/16/20, 09/22/20, 09/11/20, 07/16/20, 06/23/20, 04/08/2 0, 03/19/2020 and 02/11/20 |
| SA-042/19 | 12/12/19 and 09/25/19 |

APPLICABLE MODEL(S)/VINS

2019-2021 Mazda3 2020-2021 CX-30 2021 CX-5 2021 CX-9

DESCRIPTION

Customers having MAZDA CONNECT concerns should have their vehicle repaired using the following repair procedure.

REPAIR PROCEDURE

NOTE: Before proceeding:

- Document the vehicle current MAZDA CONNECT CMU software version.
- Confirm that the Connectivity Master Unit (CMU) is updated to the latest software version.
 - Go to MGSS -> Infotainment -> MAZDA CONNECT Updates
 - Go to TSB 16-001/20 to view MAZDA CONNECT CMU software fix list.
- Confirm that the customers device is compatible. Go to connect.mazda.com -> Support -> Compatibility.
- Confirm that the customers device is updated to the latest software version.
- If CMU log data collection is necessary, collect the data and continue troubleshooting using this document. If no failure is found, release the vehicle to the customer and inform them that the infotainment system data is being analyzed. Hotline will contact you at a later date with the results.
- Apple Carplay/Android Auto FAQ, go to SA-001/19.

Page 1 of 15

Service Alert No.: SA-027/21 Last Issued : 06/24/2021

Index:

- No. 1 Blank Screen
- No. 2. Rear View Camera is not displayed
- No. 3 Rebooting
- No. 4 Infotainment System Has No Sound
- No. 5 Commander Switch Does Not Work
- No. 6 Bluetooth device will not pair
- No. 7 Incorrect GPS position
- No. 8 Voice Recognition Does Not Work
- No. 9 Cannot Make a Hands-Free Call
- No. 10 Cannot Play Bluetooth Audio
- No. 11 How to update the Navigation SD Card Map
- No. 12 How to Check Navi SD Card VIN Lock

Page 2 of 15

No. 1 Blank Screen

| Step | Inspection | Result | Action |
|------|---|--------|---|
| 1 | le the Dear View Comers displayed? | Yes | Go to step 2. |
| I | Is the Rear View Camera displayed? | No | Refer to No. 2. Rear View Camera is not displayed |
| 2 | Press and hold the Power Button. Is the | Yes | Normal Operation |
| 2 | screen displayed correctly? | No | Go to step 3. |
| 3 | Press the "HOME" button. Is the HOME | Yes | Normal Operation |
| 3 | screen displayed correctly? | No | Go to step 4. |
| 4 | Using M-MDS, are any infotainment | Yes | Go to MGSS for DTC diagnosis |
| 4 | system DTC's stored? | No | Go to step 5. |
| 5 | Is there a device connected to the USB | Yes | Go to step 6. |
| 5 | port? | No | Go to step 7. |
| | Disconnect the USB device. Does the | Yes | USB device is not compatible |
| 6 | display function properly after USB device is disconnected? | No | Go to step 7. |
| 7 | Is the connector for the Center Display | Yes | Go to step 8. |
| | inserted correctly | No | Insert the connector correctly. |
| 8 | Are the connectors for the CMU Yes | | Go to step 9. |
| 0 | inserted correctly? | No | Insert the connectors correctly. |
| | Is the CMU voltage out (PWR CTRL | Yes | Go to step 10. |
| 9 | OUT) at 0920-101A Terminal 1S, SB wire, of the CMU normal? | No | Go to step 11. |
| | Swap the Center Display with good | Yes | Check / Replace the Center Display. |
| 10 | known vehicle. Is the screen display normal? | No | Go to step 11. |
| | | | Check / Replace the CMU. |
| 11 | Swap the CMU with good known vehicle. Is the screen display normal? | Yes | Retrieve the data log if possible before replacing the CMU Document date and time of the condition |
| | | No | Repair / Replace wiring harness. Go to MGSS View Content -> Wiring Diagram -> Body and Accessories -> Entertainment System. |

Page 3 of 15

No. 2 Rear View Camera is not displayed

Service Alert No.: SA-027/21

| Step | Inspection | Result | Action |
|------|--|--------|---|
| 1 | Using M-MDS, are any infotainment | Yes | Go to MGSS for DTC diagnosis |
| ' | system DTC's stored? | No | Go to step 2. |
| 2 | Is the vehicle equipped with 360 | Yes | Go to step 3. |
| | View Monitor? | No | Go to step 4. |
| 3 | ls the Front Camera and Side | Yes | Check / Replace the 360 View Monitor control unit. |
| ٥ | Cameras displayed normally? | No | Go to step 4. |
| 4 | Are images other than the Rear | Yes | Go to step 5. |
| 4 | View Camera displayed? | No | Go to No. 1 Blank Screen. |
| 5 | Is the connector for the Rear View | Yes | Go to step 6. |
| 5 | Camera Inserted correctly? | No | Insert the connector correctly. |
| 6 | Is the connector for the Center | Yes | Go to step 7. |
| | Display Inserted correctly | No | Insert the connector correctly |
| 7 | Are the connectors for the CMU | Yes | Go to step 8. |
| | Inserted correctly | No | Insert the connectors correctly |
| 8 | Swap the Rear View Camera with good known vehicle. Is the screen | Yes | Check / Replace the Rear View Camera See TSB 09-021/19 |
| | display normal? | No | Go to Step 9 |
| | Swap the CMU with good known | | Check / Replace the CMU. Retrieve the data log if possible before replacing the CMU Document date and time of the condition |
| | | No | Repair / Replace wiring harness. Go to MGSS View Content -> Wiring Diagram -> Body and Accessories -> Entertainment System. |

Page 4 of 15

No. 3 Rebooting

Service Alert No.: SA-027/21

| Step | Inspection | Result | Action | |
|----------|---|-----------|---|--|
| | Is the customers device a Doro 7050, 7060 phone that is connected by bluetooth? | Yes | Update CMU software version to 7000C0A-NA01_11006 or later. | |
| 1 | | No | Go to next step | |
| 2 | Using M-MDS, are any infotainment system | Yes | Go to MGSS for DTC diagnosis | |
| | DTC's stored? | No Yes | Go to step 3. | |
| | | | Go to step 4. | |
| 3 | Does the reboot continue after removing the Navigation SD card? | No | Check / Replace the Navigation SD card. Go to SA-014/21 if applicable | |
| | 1. d | Yes | Go to step 5. | |
| 4 | Is there a device connected to the USB port? | | Go to step 6. | |
| 5 | Disconnect the USB device. Does the reboot stop | Yes | USB device is not compatible | |
| 5 | after USB device is disconnected? | | Go to step 6. | |
| | | Yes | Go to step 7. | |
| 6 | Does the reboot continue after ignition key OFF then back ON? | No | Retrieve the data log if possible before replacing the CMU Document date and time of the condition | |
| 7 | Does the reboot continue after vehicle battery disconnect? | | Retrieve the data log if possible before replacing the CMU Document date and time of the condition No repair needed. | |
| لــــــا | | No | INO TEPAII TIEEUEU. | |

Page **5** of **15**

Service Alert No.: SA-027/21 Last Issued : 06/24/2021

No. 4 Infotainment System Has No Sound

| Step | Inspection | Result | Action | | |
|----------|--|--------|--|--|--|
| 1 | Using M-MDS, are any infotainment | Yes | Go to MGSS for DTC diagnosis | | |
| ' | system DTC's stored? | No | Go to step 2. | | |
| 2 | Is sound normal other than navigation | Yes | Go to step 3. | | |
| | guidance? | No | Go to step 4. | | |
| 3 | Can you hear the voice after raising the | Yes | Normal Operation. | | |
| <u> </u> | navigation volume? | No | Go to step 5. | | |
| 4 | Can you hear sound after turning on audio | Yes | Normal Operation. | | |
| 4 | mode? | No | Go to step 6. | | |
| | | Yes | Complete | | |
| 5 | Replace the Navigation SD Card. Can you hear voice after Navigation SD Card replacement? | No | Retrieve the data log if possible before replacing the CMU Document date and time of the condition | | |
| | Can you hear sound after raising the | Yes | Normal Operation | | |
| 6 | ll , | No | Go to step 7. | | |
| 7 | << Source: USB/iPod >> Are there any problems with the media and the music files? << Source: Radio >> Are there any problems with the antenna and the reception? << Source: Bluetooth Audio >> | Yes | << Source: USB/iPod >> Check the media and the compatible files. << Source: Radio >> Check the antenna, the reception, and the Remote Tuner side. << Source: Bluetooth Audio >> Check the Bluetooth connection and the Bluetooth device. | | |
| | Are there any problems with Bluetooth? | No | Go to step 8. | | |
| 8 | Go to MGSS "DIAGNOSTIC ASSIST FUNCTION [CONNECTIVITY MASTER UNIT (US)]" Perform Functional Inspection/Adjustment -> Active Speaker Check Function -> Speaker Inspection. | Pass | Check / Replace the CMU. Retrieve Retrieve the data log if possible before replacing the CMU Document date and time of the condition | | |
| | Did the Speaker Inspection Pass? | | Go to step 9. | | |
| | Is the connector for the Speaker(s) that | Yes | Go to step 10. | | |
| | railed inserted correctly? | | Insert the connector correctly. | | |
| | Is the connector for the amplifier inserted | | Go to step 11. | | |
| | correctly? | No | Insert the connector correctly. | | |
| 1171 1 | Are the CMU connectors inserted | Yes | Go to step 12. | | |
| | correctly? | No | Insert the connectors correctly. | | |

Page 6 of 15

| 12 | | Yes | Check / Replace the speakers. | |
|----|--|-----|---|--|
| | Can you hear sound? | | Go to step 13. | |
| 13 | Swap the Amplifier from known good | | Check / Replace the Amplifier. | |
| 13 | vehicle. Can you hear sound? | No | Go to step 14. | |
| 14 | Swap the CMU from known good vehicle. Can you hear sound? | Yes | Check / Replace the CMU. Retrieve the data log if possible before replacing the CMU. Document date and time of the condition | |
| | · | No | Repair/Replace wiring harness. Go to MGSS View Content -> Wiring Diagram -> Body and Accessories -> Entertainment System. | |

No. 5 Commander Switch Does Not Work

| Step | Inspection | Result | Action | |
|----------|--|--------|---|--|
| 1 | Using M-MDS, are any infotainment system | Yes | Go to MGSS for DTC diagnosis | |
| <u> </u> | DTC's stored? | | Go to step 2. | |
| 2 | Does the Commander Switch work correctly? | Yes | Go to step 3. | |
| | Does the Commander Switch work correctly? | No | Go to step 4. | |
| 3 | Does the Steering Wheel Switch work | Yes | Normal Operation. | |
| 3 | correctly? | No | Go to step 5. | |
| 1 | Is fuse F13 missing? | Yes | Go to SA-025/19. | |
| 4 | is luse F13 illissing? | No | Go to step 8. | |
| | Go to MGSS "DIAGNOSTIC ASSIST | Pass | Go to step 6. | |
| 5 | FUNCTION [CONNECTIVITY MASTER UNIT (US)]" Perform Functional Inspection/Adjustment -> Steering SW Inspection -> Did the Steering SW Inspection Pass? | Fail | Go to MGSS STEERING SWITCH INSPECTION. | |
| 6 | Is the connector for the CMU inserted correctly? Swap the CMU from known good vehicle. Does the Steering Wheel Switch work correctly? | Yes | Go to step 7. | |
| 6 | | No | Insert the connector correctly. | |
| 7 | | Yes | Check / Replace the CMU. Retrieve the data log if possible before replacing the CMU. Document date and time of the condition | |
| | | No | Repair/Replace wiring harness. Go to MGSS View Content -> Wiring Diagram -> Body and Accessories -> Entertainment System. | |

Page **7** of **15**

| | Go to MGSS "DIAGNOSTIC ASSIST FUNCTION [CONNECTIVITY MASTER UNIT (US)]" Perform Functional Inspection/Adjustment -> Touch Pad/Commander Inspection - > Commander switch inspection. Did the Commander switch inspection Pass? | Pass | Check / Replace the CMU. Retrieve the data log if possible before replacing the CMU Document date and time of the condition | |
|---|---|------|---|--|
| | | Fail | Go to step 9. | |
| lia i | Is the connector for the Commander Switch | Yes | Go to step 10. | |
| | inserted correctly? | No | Insert the connector correctly. | |
| 10 Are the CMU connectors inserted correctly? | | Yes | Go to step 11. | |
| 10 | Are the CMU connectors inserted correctly? | No | Insert the connectors correctly. | |
| | Swap the Commander Switch with good | Yes | Check / Replace the Commander Switch. | |
| | known vehicle. Does the Commander Switch work correctly? | | Go to step 12. | |
| | Swap the CMU from known good vehicle. Does the Commander Switch work correctly? | Yes | Check / Replace the CMU. Retrieve the data log if possible before replacing the CMU. Document date and time of the condition | |
| | | No | Repair/Replace wiring harness. Go to MGSS View Content -> Wiring Diagram -> Body and Accessories -> Entertainment System. | |

Page **8** of **15**

No. 6 Bluetooth device will not pair

Service Alert No.: SA-027/21

| Step | Inspection | Result | Action |
|------|---|--------|---|
| 1 | Using M-MDS, are any infotainment | Yes | Go to MGSS for DTC diagnosis |
| 1 | system DTC's stored? | No | Go to step 2. |
| 2 | Is Bluetooth enabled on the customers | Yes | Go to step 3. |
| 2 | device? | No | Enable Bluetooth on the customers device. |
| 2 | Is the customers device paired to the | Yes | Go to step 4. |
| 3 | vehicle? | No | Pair the customers device to the vehicle. |
| | Is the customers device selected in | Yes | Go to step 5. |
| 4 | MAZDA CONNECT settings? | No | Select the customers device from Bluetooth settings. |
| | Delete the device from MAZDA CONNECT | Yes | Normal Operation |
| 5 | and then re-pair it. Does Bluetooth work correctly? | No | Go to step 6. |
| | Go to connect.mazda.com -> Support -> | Yes | Go to step 7. |
| 6 | Compatibility. Is the customers device compatible? | No | The customers device is not compatible. |
| | | Yes | Go to step 8. |
| 7 | Does the same symptom occur on another same model/year vehicle? | No | Document device model, software version and occurrence of the condition. Retrieve the data log if possible before replacing the CMU Document date and time of the condition |
| | | Yes | Vehicle operation is normal. |
| 8 | Reboot the customers device. Does Bluetooth work correctly? | No | Check / Replace the CMU. Document device model, software version and occurrence of the condition. Retrieve the data log if possible before replacing the CMU Document date and time of the condition |

Page **9** of **15**

No. 7 Incorrect GPS position

Service Alert No.: SA-027/21

| Step | Inspection | Result | Action |
|----------|--|--------|--|
| | Go to MAZDA CONNECT -> Navi menu, Travel | | Normal Operation. |
| | Information -> Where Am I? -> Settings -> GPS information -> Check Available Satellites. Or Go to MGSS "DIAGNOSTIC ASSIST FUNCTION [CONNECTIVITY MASTER UNIT (US)]" Perform Functional Inspection/Adjustment -> Navi System Inspection -> Check GPS Received Level. Does the Navi system show correct vehicle position? | No | Go to step 2. |
| | Using M-MDS, are any of the following DTC's stored? | Yes | Go to step 3. |
| 2 | B119F:13, GPS antenna signal circuit malfunction (short to power or open circuit) B119F:2B, GPS antenna signal circuit malfunction (short to ground) | No | Go to step 8. |
| 3 | Is the GPS antenna connector secured properly? | Yes | Go to step 4. |
| <u>،</u> | is the GF3 antenna connector secured property: | No | Insert the connector correctly. |
| 4 | Is the GPS wiring harness open or shorted? | | Repair / Replace GPS wiring harness. |
| | | No | Go to TSB 09-021/20. |
| 5 | Did TSB 09-021/20 resolve the concern? | Yes | Repair Complete |
| | Did 100 00 021/20 1000ive the content. | No | Go to step 6. |
| 6 | Are the CMU connectors secured properly? | Yes | Go to step 7. |
| | , the time defined designed property. | No | Insert the connectors correctly. |
| 7 | Is the CMU wiring harness open or shorted? | Yes | Repair / Replace CMU wiring harness. |
| | | No | Go to step 8. |
| | | Yes | Repair completed. |
| | Replace GPS antenna. Does the Navigation system show correct position? | No | Retrieve the data log if possible before replacing the CMU Document date and time of the condition |
| 9 | Using M-MDS, is DTC B119F:49 stored? | Yes | Go to step 10. |
| | (Communication error with GNSS) | No | Go to step 12. |

Page 10 of 15

| 10 | Are the CMU connectors secured properly? | Yes | Go to step 11. |
|--|---|---------|--|
| | | No | Insert the connectors correctly. |
| | | II Y es | Repair / Replace CMU wiring harness. |
| 11 | Is the CMU wiring harness open or shorted? | No | Retrieve the data log if possible before replacing the CMU Document date and time of the condition |
| Check / Replace the CMU. Retrieve CMU possible before replacing CMU. Did DTC B119F:49 clear? | Check / Replace the CMU. Retrieve CMU data log if | Yes | Repair completed. |
| | | No | Repair / Replace GPS antenna. |

NOTE: Remove aftermarket GPS devices that may interfere with vehicle GPS antenna. Example: Some radar detectors may emit radio waves that interfere with the vehicle GPS antenna.

No. 8 Voice Recognition Does Not Work

| Step | Inspection | Result | Action |
|------|--|---------|--|
| 1 | Using M-MDS, are any infotainment system DTC's | | Go to MGSS for DTC diagnosis |
| ' | stored? | No | Go to step 2. |
| | Go to MGSS "DIAGNOSTIC ASSIST FUNCTION | Pass | Go to step 3. |
| 2 | [CONNECTIVITY MASTER UNIT (US)]" Perform Functional Inspection/Adjustment -> Steering SW Inspection -> Did the Steering SW Inspection Pass? | ∥⊢aıı ı | Go to MGSS STEERING SWITCH INSPECTION. |
| | Go to MGSS "DIAGNOSTIC ASSIST FUNCTION [CONNECTIVITY MASTER UNIT (US)]" Perform Functional Inspection/Adjustment -> Microphone Inspection -> Did the Microphone Inspection Pass? | Pass | Retrieve the data log if possible before replacing the CMU Document date and time of the condition |
| | | | Go to MGSS MICROPHONE INSPECTION. |

Page 11 of 15

No. 9 Cannot Make a Hands-Free Call

Service Alert No.: SA-027/21

| Step | Inspection | Result | Action | | |
|------|--|--------|---|--|--|
| 1 | Using M-MDS, are any infotainment system DTC's stored? | Yes | Go to MGSS for DTC diagnosis | | |
| 1 | | No | Go to step 2. | | |
| 2 | Is Bluetooth enabled on the customers device? | Yes | Go to step 3. | | |
| 2 | | No | Enable Bluetooth on the customers device. | | |
| | Is the customers device data service strength good? | Yes | Go to step 4. | | |
| 3 | | No | Move to a location where data service strength is good and retest. | | |
| | Is the customers device paired to the vehicle? | Yes | Go to step 5. | | |
| | | No | Pair the customers device to the vehicle. | | |
| 5 | Is the customers device selected in MAZDA CONNECT settings? | Yes | Go to step 6. | | |
| 5 | | No | Select the customers device from Bluetooth settings. | | |
| | Delete the device from MAZDA | Yes | Normal Operation | | |
| 6 | CONNECT and then re-pair it. Does Bluetooth work correctly? | No | Go to step 7. | | |
| | Go to connect.mazda.com -> Support -> Compatibility. Is the customers device compatible? | Yes | Go to step 8. | | |
| 7 | | No | The customers device is not compatible. | | |
| 8 | Does the same symptom occur on another same model/year vehicle? | Yes | Go to step 9. | | |
| ° | | No | Go to step 10. | | |
| 9 | Reboot the customers device. Does Bluetooth work correctly? | Yes | Vehicle operation is normal. | | |
| 9 | | No | Go to step 10. | | |
| | Is the Bluetooth device in a place where radio waves may be blocked? (Behind or under a sheet, in a box, in a purse/bag, ext.) | Yes | Move the Bluetooth device away from hidden location. | | |
| 10 | | No | Go to step 11. | | |
| 11 | Is the Bluetooth device contacting or blocked by metal objects? | Yes | Move the Bluetooth device away from metal objects. | | |
| 11 | | No | Go to step 12. | | |
| | Is a Bluetooth device and a USB device connected at the same time? | Yes | Disconnect other USB device. | | |
| | | No | Go to step 13. | | |
| | Does the problem occur in a specific geological location only? | Yes | Move to a different location. This may be caused by electrical interference by radio stations, specific small power radio stations, or amateur radio stations for mobile identification used in industrial, scientific and medical devices. | | |
| | | No | Go to step 14. | | |

Page 12 of 15

| | Does the same symptom occur on | Yes | Go to step 15 | |
|----|--|-----|---|--|
| | another Bluetooth device? | No | The customers device is not compatible. | |
| 15 | Does the voice recognition system operate using other functions such as Bluetooth Audio? | Yes | Document device model, software version and occurrence of the condition. Retrieve the data log if possible before replacing the CMU Document date and time of the condition | |
| | | No | Go to No. 8 Voice Recognition Does Not Work | |

No. 10 Cannot Play Bluetooth Audio

| Step | Inspection | Result | Action |
|------|--|--------|--|
| 1 | Using M-MDS, are any infotainment system DTC's stored? | Yes | Go to MGSS for DTC diagnosis |
| | | No | Go to step 2. |
| 2 | ls Bluetooth enabled on the customers device? | Yes | Go to step 3. |
| | | No | Enable Bluetooth on the customers device. |
| | Is the customers device data service strength good? | Yes | Go to step 4. |
| 3 | | | Move to a location where data service strength is good and retest. |
| | Is the customers device battery strength good? | Yes | Go to step 5 |
| 4 | | No | Connect the customers device to a charger or recharge the device, then retest. |
| 5 | Is the customers device paired to the vehicle? | Yes | Go to step 6. |
| 5 | | No | Pair the customers device to the vehicle. |
| | Is the customers device selected in MAZDA CONNECT settings? | Yes | Go to step 7. |
| 6 | | No | Select the customers device from Bluetooth settings. |
| | | Yes | Normal Operation |
| 7 | and then re-pair it. Does Bluetooth work correctly? | No | Go to step 8. |
| | Go to connect.mazda.com -> Support -> Compatibility. Is the customers device compatible? | Yes | Go to step 9. |
| 8 | | No | The customers device is not compatible. |
| 9 | Does the same symptom occur on another same model/year vehicle? | Yes | Go to step 10. |
| 9 | | No | Go to step 11. |
| 10 | Reboot the customers device. Does Bluetooth work correctly? | Yes | Vehicle operation is normal. |
| | | No | Go to step 11. |
| 11 | Is the Bluetooth device in a place where | Yes | Move the Bluetooth device away from hidden |

Page 13 of 15

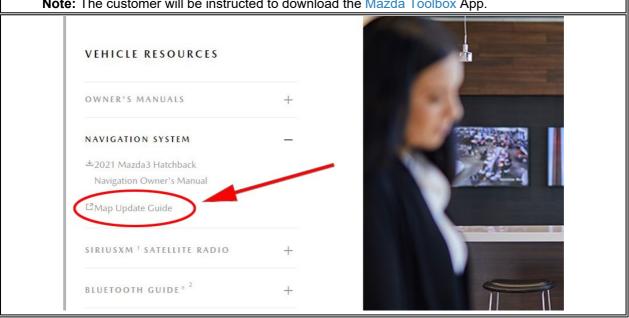
| | radio waves may be blocked? | | location. | |
|-------|--|-----|---|--|
| | (Behind or under a sheet, in a box, in a purse/bag, ext.) | | Go to step 12. | |
| | Is the Bluetooth device contacting or blocked by metal objects? | Yes | Move the Bluetooth device away from metal objects. | |
| | | No | Go to step 13. | |
| 11111 | Is a Bluetooth device and a USB device connected at the same time? | Yes | Disconnect other USB device. | |
| | | No | Check / Replace the CMU. Document device model, software version and occurrence of the condition. Retrieve the data log if possible before replacing the CMU Document date and time of the condition | |

No. 11 How to update the Navigation SD Card Map

Go to Mazdausa.com

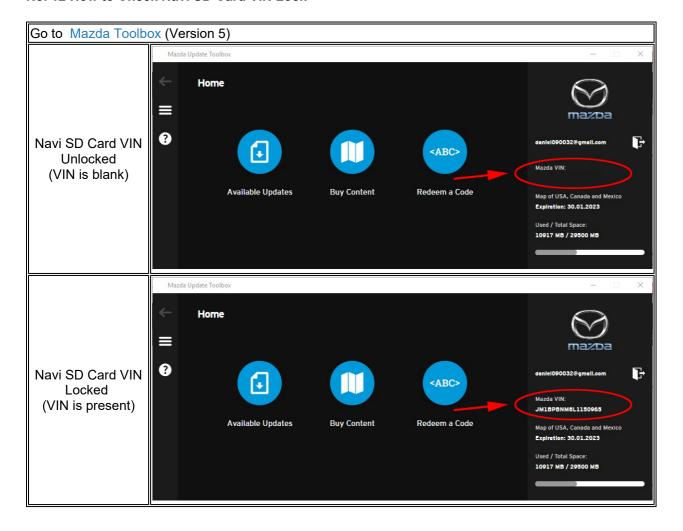
Select Owners → How to Use → Add vehicle year/model → VEHICLE RESOURCES → NAVIGATION SYSTEM → Map Update Guide

Note: The customer will be instructed to download the Mazda Toolbox App.



Page 14 of 15

No. 12 How to Check Navi SD Card VIN Lock



Page 15 of 15