# Service Alert

### Mazda North American Operations Irvine, CA 92618-2922



Subject:

MAZDA CONNECT SYMPTOM TROUBLESHOOTING (7TH
GENERATION VEHICLES)

Last Issued: 09/28/2021

### **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	06/24/21 and 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	2021 CX-5
2020-2021 CX-30	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.
- If you suspect a counterfeit Navi SD card, ask the customer for proof of purchase. It cannot be determined by visually looking at the label. If Mazda Toolbox is used and a counterfeit SD card is detected, the customer VIN may be locked-out.
- If possible, complete any one of the Microsoft Forms Questionnaires. Go to MGSS -> Infotainment -> MAZDA CONNECT Questionnaire.

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### No. 1 Blank Screen

Step	Inspection	Result	Action
1	Is the Rear View Camera displayed?	Yes	Go to step 2.
I	is the Real View Camera displayed?		Refer to No. 2. Rear View Camera is not displayed
2	Press and hold the Power Button. Is the	Yes	Normal Operation
	screen displayed correctly?	No	Go to step 3.
3	Press the "HOME" button. Is the HOME	Yes	Normal Operation
5	screen displayed correctly?	No	Go to step 4.
4	Using M-MDS, are any infotainment	Yes	Go to MGSS for DTC diagnosis
	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 inserted correctly	Yes	Go to step 8.
		No	Insert the connector correctly.
8	Are the connectors for the CMU inserted correctly?	Yes	Go to step 9.
		No	Insert the connectors correctly.
	Is the CMU voltage out (PWR CTRL		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.
11	Swap the CMU with good known vehicle. Is the screen display normal?	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.

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## No. 2 Rear View Camera is not displayed

Step	Inspection	Result	Action
1	Using M-MDS, are any infotainment	Yes	Go to MGSS for DTC diagnosis
ı	system DTC's stored?	No	Go to step 2.
	Is the vehicle equipped with 360	Yes	Go to step 3.
	View Monitor?	No	Go to step 4.
ıı ≺ ı	Is the Front Camera and Side	Yes	Check / Replace the 360 View Monitor control unit.
ر	Cameras displayed normally?	No	Go to step 4.
	Are images other than the Rear	Yes	Go to step 5.
	View Camera displayed?	No	Go to No. 1 Blank Screen.
	Is the connector for the Rear View	Yes	Go to step 6.
<u> </u>	Camera Inserted correctly?	No	Insert the connector correctly.
11 h 1	Is the connector for the Center	Yes	Go to step 7.
	Display Inserted correctly	No	Insert the connector correctly
	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 vehicle. Is the screen display normal?	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.

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# No. 3 Rebooting

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Step	Inspection		Action	
	Is the customers device a Doro 7050, 7060 phone that is connected by bluetooth?		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	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	
	- 4	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?	No	Go to step 6.	
		Yes	Go to step 7.	
6	Does the reboot continue after ignition key OFF then back ON?		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?	Yes	Check / Replace the CMU.  Retrieve the data log if possible before replacing the CMU Document date and time of the condition  No repair needed.	

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## No. 4 Infotainment System Has No Sound

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Step	Inspection	Result	Action
1	Using M-MDS, are any infotainment	Yes	Go to MGSS for DTC diagnosis
<b>'</b>	system DTC's stored?		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.
3	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
Replace the Navigation SD Card. Can you hear voice after Navigation SD Card		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	volume of audio?	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 >>		<< 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 failed inserted correctly?	Yes	Go to step 10.
=	,	No	Insert the connector correctly.
	Is the connector for the amplifier inserted	Yes	Go to step 11.
	correctly?	No	Insert the connector correctly.
1171 1	Are the CMU connectors inserted	Yes No	Go to step 12.
	correctly?		Insert the connectors correctly.

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12	Swap speakers from good known vehicle. Can you hear sound?		Check / Replace the speakers.
			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 Remote Tuner from known good vehicle. Can you hear sound?		Check / Replace the Remote Tuner Review the following for possible cause of Remote Tuner failure.  CX-30 - Review SA-035/21 and 09- 020/21  Mazda3 - Review 09-020/21  CX-5, CX-9 - Inspect Remote Tuner for external water corrosion. Repair as needed.
		No	Go to step 15
15	Swap the CMU from known good vehicle. Can you hear sound?		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
•	DTC's stored?	No	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.
correctly?	No	Go to step 5.	
4	le fuee E12 missing?	Yes	Go to SA-025/19.
4 Is fuse F13 missing?	is tuse 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?		Go to MGSS STEERING SWITCH INSPECTION.
6	Is the connector for the CMU inserted	Yes	Go to step 7.

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	correctly?	No	Insert the connector correctly.
7	Swap the CMU from known good vehicle. Does the Steering Wheel 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.
	Touch Pad/Commander Inspection - > Commander switch inspection.		Check / Replace the CMU.  Retrieve the data log if possible before replacing the CMU.  Document date and time of the condition
	Did the Commander switch inspection Pass?	Fail	Go to step 9.
9	Is the connector for the Commander Switch inserted correctly?	Yes	Go to step 10.
9		No	Insert the connector correctly.
10	Are the CMU connectors inserted correctly?	Yes	Go to step 11.
10	Are the Civio 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?	No	Go to step 12.
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
			Repair/Replace wiring harness. Go to MGSS View Content -> Wiring Diagram -> Body and Accessories -> Entertainment System.

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# No. 6 Bluetooth device will not pair

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Step	Inspection	Result	Action
1	Using M-MDS, are any infotainment	Yes	Go to MGSS for DTC diagnosis
1	system DTC's stored?		Go to step 2.
2	Is Bluetooth enabled on the customers	Yes	Go to step 3.
	device?	No	Enable Bluetooth on the customers device.
3	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 -> Compatibility. Is the customers device compatible?	Yes	Go to step 7.
6		No	The customers device is not compatible.
		Yes	Go to step 8.
7	7 Does the same symptom occur on another same model/year vehicle?		<ul> <li>Check / Replace the CMU.</li> <li>Document device model, software version and occurrence of the condition.</li> <li>Retrieve the data log if possible before replacing the CMU</li> <li>Document date and time of the condition</li> </ul>
		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

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## No. 7 Incorrect GPS position

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Step	Inspection		Action
	Go to MAZDA CONNECT -> Navi menu, Travel Information -> Where Am I? -> Settings -> GPS		Normal Operation.
1	information -> Where Am 1? -> 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 4.
2	- B119F:13, GPS antenna signal circuit malfunction		Go to step 3.
		Yes	Go to step 9.
3	Is the wheel and tire size correct according to the tire label?		Swap wheels/tires with correct size. If issue is fixed, inform the customer.
4	La than ODC antanna ann antan ann an dean ann an A	Yes	Go to step 5.
4	Is the GPS antenna connector secured properly?	No	Insert the connector correctly.
5	Is the GPS wiring harness open or shorted?		Repair / Replace GPS wiring harness.
		No	Go to TSB 09-021/20.
6	Did TSB 09-021/20 resolve the concern?	Yes	Repair Complete
		No	Go to step 7.
7	Are the CMU connectors secured properly?		Go to step 8.
	1 1 7	No	Insert the connectors correctly.
8	Is the CMU wiring harness open or shorted?		Repair / Replace CMU wiring harness.
			Go to step 9.
	Replace GPS antenna. Does the Navigation system show correct position?		Repair completed.
9			Retrieve the CMU.     Retrieve the data log if possible before replacing the CMU

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			Document date and time of the condition
10	Using M-MDS, is DTC B119F:49 stored?	Yes	Go to step 11.
10	(Communication error with GNSS)	No	Go to step 13.
11	Are the CMU connectors secured properly?		Go to step 12.
	Are the Civio connectors secured properly?	No	Insert the connectors correctly.
12			Repair / Replace CMU wiring harness.
	Is the CMU wiring harness open or shorted?	No	Check / Replace the CMU.  Retrieve the data log if possible before replacing the CMU  Document date and time of the condition
	Check / Replace the CMU. Retrieve CMU data log if possible before replacing CMU. Did DTC B119F:49 clear?		Repair completed.
			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 stored?		Go to MGSS for DTC diagnosis
			Go to step 2.
	Go to MGSS "DIAGNOSTIC ASSIST FUNCTION		Go to step 3.
2	[CONNECTIVITY MASTER UNIT (US)]" Perform Functional Inspection/Adjustment -> Steering SW Inspection -> Did the Steering SW Inspection Pass?	⊪an i	Go to MGSS STEERING SWITCH INSPECTION.
3	Go to MGSS "DIAGNOSTIC ASSIST FUNCTION [CONNECTIVITY MASTER UNIT (US)]" Perform Functional Inspection/Adjustment -> Microphone Inspection -> Did the Microphone Inspection Pass?		Retrieve the data log if possible before replacing the CMU     Document date and time of the condition
			Go to MGSS MICROPHONE INSPECTION.

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## No. 9 Cannot Make a Hands-Free Call

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Step	Inspection	Result	Action		
	Using M-MDS, are any infotainment system DTC's stored?	Yes	Go to MGSS for DTC diagnosis		
1		No	Go to step 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			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.		
		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.		
٥		No	Go to step 10.		
9	Reboot the customers device.	Yes	Vehicle operation is normal.		
	Does Bluetooth work correctly?	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.		
	or blocked by metal objects?		Move the Bluetooth device away from metal objects.		
			Go to step 12.		
	Does the problem occur in a specific geological location only?	Yes	Disconnect other USB device.		
. —			Go to step 13.		
13		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.		
14	Does the same symptom occur on	Yes	Go to step 15		

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another Bluetooth device?	No	The customers device is not compatible.
Does the voice recognition system operate using other functions such as Bluetooth Audio?		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	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
1		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		No	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.
	Delete the device from MAZDA CONNECT and then re-pair it. Does Bluetooth work correctly?	Yes	Normal Operation
7		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	Yes	Vehicle operation is normal.
10	Bluetooth work correctly?		Go to step 11.
11	Is the Bluetooth device in a place where radio waves may be blocked?		Move the Bluetooth device away from hidden location.

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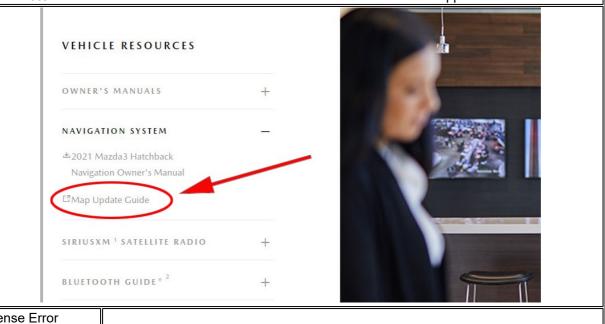
II .	(Behind or under a sheet, in a box, in a purse/bag, ext.)	No	Go to step 12.	
	Is the Bluetooth device contacting or blocked by metal objects?	Yes	Move the Bluetooth device away from metal objects.	
		No	Go to step 13.	
		Yes	Disconnect other USB device.	
13	Is a Bluetooth device and a USB device connected at the same time?	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	

## No. 11 How to update the Navigation SD Card Map

Go to Mazdausa.com

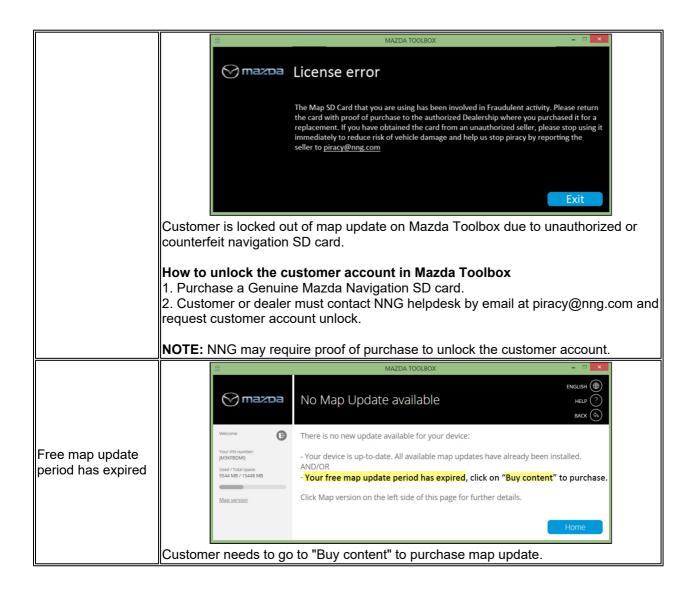
Select Owners  $\rightarrow$  How to Use  $\rightarrow$  Add vehicle year/model  $\rightarrow$  VEHICLE RESOURCES  $\rightarrow$  NAVIGATION SYSTEM  $\rightarrow$  Map Update Guide

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



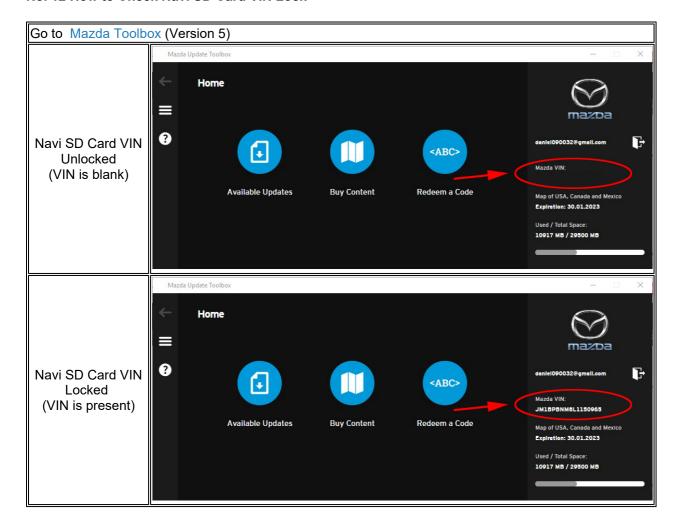
License Error message in Mazda Toolbox

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### No. 12 How to Check Navi SD Card VIN Lock



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