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## 2023 Mazda CX-30 Service and Repair Manual

[Go to manual page](#)

DTC U3000:54 [BLIND SPOT MONITORING (BSM) CONTROL MODULE]

SM2899846

id1502b501610

Description	Radar aiming is not performed or radar sensor axis is deviated (blind spot monitoring (BSM) control module)
Detection condition	• Blind spot monitoring (BSM) control module radar aiming malfunction is detected.
Fail-safe	• Blind spot monitoring (BSM) system is stopped.
Possible cause	• Blind spot monitoring (BSM) radar aiming was not performed. • Deviation of blind spot monitoring (BSM) control module radar sensor axis • Blind spot monitoring (BSM) control module malfunction
System wiring diagram	Not applicable

Diagnostic Procedure

Step	Inspection		Action
1	<b>PERFORM BLIND SPOT MONITORING (BSM) RADAR TEST</b> • Perform the blind spot monitoring (BSM) radar test. (See <b>BLIND SPOT MONITORING (BSM) RADAR TEST</b> .) • Drive the vehicle. • Retrieve the blind spot monitoring (BSM) control module DTCs using the M-MDS. (See <b>DTC INSPECTION [BLIND SPOT MONITORING (BSM) CONTROL MODULE]</b> .) • Is the same DTC displayed?	Yes	Go to the next step.
		No	Go to Step 3.
2	<b>VERIFY THAT REPAIRS HAVE BEEN COMPLETED</b> • Perform the blind spot monitoring (BSM) radar test. (See <b>BLIND SPOT MONITORING (BSM) RADAR TEST</b> .) • Drive the vehicle. • Retrieve the blind spot monitoring (BSM) control module DTCs using the M-MDS. (See <b>DTC INSPECTION [BLIND SPOT MONITORING (BSM) CONTROL MODULE]</b> .) • Is the same DTC displayed?	Yes	Replace the blind spot monitoring (BSM) control module, then go to the next step. (See <b>BLIND SPOT MONITORING (BSM) CONTROL MODULE REMOVAL/INSTALLATION</b> .)
		No	Go to the next step.
3	<b>VERIFY IF OTHER DTCs DISPLAYED</b> • Are any other DTCs displayed?	Yes	Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See <b>DTC TABLE [BLIND SPOT MONITORING (BSM) CONTROL MODULE]</b> .)
		No	DTC troubleshooting completed.

Step	Inspection		Action
6	<b>VERIFY BLIND SPOT MONITORING (BSM) CONTROL MODULE POWER SUPPLY VOLTAGE</b> <ul style="list-style-type: none"><li>• Always reconnect all disconnected connectors.</li><li>• Connect the negative battery terminal. (See <b>NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.</b>)</li><li>• Display PID VPWR_IG1 using the M-MDS. (See <b>PID/DATA MONITOR INSPECTION [BLIND SPOT MONITORING (BSM) CONTROL MODULE].</b>)</li><li>• Is the voltage B+?</li></ul>	Yes	Go to the next step.

Step	Inspection	Action
4	<b>VERIFY THAT REPAIRS HAVE BEEN COMPLETED</b> <ul style="list-style-type: none"> <li>• Clear the DTC for the blind spot monitoring (BSM) control module using the M-MDS. (See <b>CLEARING DTC [BLIND SPOT MONITORING (BSM) CONTROL MODULE].</b>)</li> <li>• Retrieve the blind spot monitoring (BSM) control module DTCs using the M-MDS. (See <b>DTC INSPECTION [BLIND SPOT MONITORING (BSM) CONTROL MODULE].</b>)</li> <li>• Is the same Pending DTC present?</li> </ul>	Yes  Repeat the inspection from Step 1. • If the malfunction recurs, replace the blind spot monitoring (BSM) control module. (See <b>BLIND SPOT MONITORING (BSM) CONTROL MODULE REMOVAL/INSTALLATION.</b> ) Go to the next step.
		No  Go to the next step.
5	<b>VERIFY IF OTHER DTCs DISPLAYED</b> <ul style="list-style-type: none"> <li>• Are any other DTCs displayed?</li> </ul>	Yes  Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See <b>DTC TABLE [BLIND SPOT MONITORING (BSM) CONTROL MODULE].</b> )
		No  DTC troubleshooting completed.

PID/DATA MONITOR TABLE [BLIND SPOT MONITORING (BSM) CONTROL MODULE]

SM2899850

id1502b502110

Note

- There are 2 types of blind spot monitoring (BSM) control modules. For the verification method, refer to [BLIND SPOT MONITORING (BSM) CONTROL MODULE REMOVAL/INSTALLATION]. (See **BLIND SPOT MONITORING (BSM) CONTROL MODULE REMOVAL/INSTALLATION.**)

Blind Spot Monitoring (BSM) Control Module (LH)

--: Not applicable

PID	Unit/Operation	Data contents	Module control terminal
A_ALGN_POS_L *1	-	Displays the corrected angle radar (LH) auto correction.	-
A_ALGN_ST_C_L	Non completion/Completion	• Non completion: Radar (LH) auto correction is not completed. • Completion: Radar (LH) auto correction is completed.	-
IL_MODE	Off/On	• Off: Blind spot monitoring (BSM) OFF indicator light is illuminated in night mode. • On: Blind spot monitoring (BSM) OFF indicator light is illuminated in daytime mode.	• C (MS-CAN_H) • D (MS-CAN_L)
OP_BRT_L *1	-	Displays the blind spot monitoring (BSM) warning indicator light (LH) output brightness.	
RCTA_BUZZER	Off/On	• Off: Blind spot monitoring (BSM) warning sound is not activated. • On: Blind spot monitoring (BSM) warning sound is activated.	• C (MS-CAN_H) • D (MS-CAN_L)
SHIFT_R	Not_R/R	• Not_R: Selector lever is in position other than R. • R: Selector lever is in R position.	• C (MS-CAN_H) • D (MS-CAN_L)
SWA_POS	° (deg)	Displays steering angle signal (estimated absolute angle) • Steering wheel in neutral position: Near 0 degrees • Steering wheel turned to left: Changes from 0 degrees to positive • Steering wheel turned to right: Changes from 0 degrees to negative	• C (MS-CAN_H) • D (MS-CAN_L)
VPWR_IG1	V	Displays blind spot monitoring (BSM) control module (LH) power supply voltage	I (Power position (IG1))
VSPD	KPH, MPH	Displays vehicle speed	• C (MS-CAN_H) • D (MS-CAN_L)
WRN_IND_L	Off/On	• Off: Blind spot monitoring (BSM) warning light (LH) is not illuminated. • On: Blind spot monitoring (BSM) warning light (LH) is illuminated.	G (Blind spot monitoring (BSM) warning light signal (LH))

\*1:Type A only

Blind Spot Monitoring (BSM) Control Module (RH)

Simulation item	Unit/Operation	Data contents	Output part name	Operation condition
RCTA_BUZZER *1	Off/On	<b>Note</b> <ul style="list-style-type: none"> <li>• Displays in the M-MDS but it does not operate.</li> </ul>		
VSPD	OFF/ON	<ul style="list-style-type: none"> <li>• OFF: Set vehicle speed to 0 km/h {0 mph}.</li> <li>• ON: Set vehicle speed to 34 km/h {21 mph}.</li> </ul>	Blind spot monitoring (BSM) control module (RH)	Ignition switched ON (engine off or on)
WRN_IND_R *1	Off/On	<ul style="list-style-type: none"> <li>• Off: Turns off blind spot monitoring (BSM) warning light (RH).</li> <li>• On: Illuminates blind spot monitoring (BSM) warning light (RH).</li> </ul>	Blind spot monitoring (BSM) warning light (RH)	Ignition switched ON (engine off or on)

\*1:Type A only

Sample

Sample



DTC U3000:55 [BLIND SPOT MONITORING (BSM) CONTROL MODULE]

SM2899860

id1502b505320

Description	Blind spot monitoring (BSM) control module (LH) and (RH) identification error
Detection condition	• A condition in which the blind spot monitoring (BSM) control module (LH) and (RH) cannot be identified is detected for 2 s or more.
Fail-safe	• Blind spot monitoring (BSM) system is stopped.
Possible cause	• Blind spot monitoring (BSM) control module malfunction
System wiring diagram	Not applicable

Diagnostic Procedure

Step	Inspection		Action
1	<b>VERIFY IF MALFUNCTIONING LOCATION IS BLIND SPOT MONITORING (BSM) CONTROL MODULE DEPENDING ON REPEATABILITY</b> <ul style="list-style-type: none"><li>• Clear the DTC for the blind spot monitoring (BSM) control module using the M-MDS. (See <b>CLEARING DTC [BLIND SPOT MONITORING (BSM) CONTROL MODULE]</b>.)</li><li>• Retrieve the blind spot monitoring (BSM) control module DTCs using the M-MDS. (See <b>DTC INSPECTION [BLIND SPOT MONITORING (BSM) CONTROL MODULE]</b>.)</li><li>• Is the same DTC displayed?</li></ul>	Yes	Replace the blind spot monitoring (BSM) control module, then go to the next step. (See <b>BLIND SPOT MONITORING (BSM) CONTROL MODULE REMOVAL/INSTALLATION</b> .)
		No	Go to the next step.
2	<b>VERIFY IF OTHER DTCs DISPLAYED</b> <ul style="list-style-type: none"><li>• Are any other DTCs displayed?</li></ul>	Yes	Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See <b>DTC TABLE [BLIND SPOT MONITORING (BSM) CONTROL MODULE]</b> .)
		No	DTC troubleshooting completed.

DTC U0513:68 [BLIND SPOT MONITORING (BSM) CONTROL MODULE]

SM3259069

id1502b510050

Description	Error signal received from DSC HU/CM
Detection condition	• Blind spot monitoring (BSM) control module receives the error signal from the DSC HU/CM for 1 s or more.
Fail-safe	• Blind spot monitoring (BSM) system is stopped.
Possible cause	• DTCs are stored in the DSC HU/CM. • DSC HU/CM malfunction • Blind spot monitoring (BSM) control module malfunction
System wiring diagram	Not applicable

Diagnostic Procedure

Step	Inspection		Action
1	<b>VERIFY DSC HU/CM DTCs</b> • Retrieve the DSC HU/CM DTCs using the M-MDS. (See <b>DTC INSPECTION [DSC HU/CM].</b> ) • Are any DTCs displayed?	Yes	Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See <b>DTC TABLE [DSC HU/CM].</b> )
		No	Go to the next step.
2	<b>VERIFY IF MALFUNCTIONING LOCATION IS DSC HU/CM DEPENDING ON REPEATABILITY</b> • Clear the DTC for the blind spot monitoring (BSM) control module using the M-MDS. (See <b>CLEARING DTC [BLIND SPOT MONITORING (BSM) CONTROL MODULE].</b> ) • Switch the ignition ON (engine off or on) and wait for 1 s or more. • Retrieve the blind spot monitoring (BSM) control module DTCs using the M-MDS. (See <b>DTC INSPECTION [BLIND SPOT MONITORING (BSM) CONTROL MODULE].</b> ) • Is the same Pending DTC present?	Yes	Replace the DSC HU/CM, then go to the next step. (See <b>DSC HU/CM REMOVAL/INSTALLATION [SKYACTIV-D 2.2].</b> ) (See <b>DSC HU/CM REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].</b> ) (See <b>DSC HU/CM REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)].</b> ) (See <b>DSC HU/CM REMOVAL/INSTALLATION [SKYACTIV-G 2.5T].</b> )
		No	Go to Step 4.