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2023 Mazda CX-9 Service and Repair Manual

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Step	Inspection		Action
1	VERIFY OTHER 360°VIEW MONITOR CONTROL MODULE DTCs - Clear the DTC for the 360°view monitor control module using the M-MDS. (See CLEARING DTC [360°VIEW MONITOR CONTROL MODULE (TYPE-A)].) - Retrieve the 360°view monitor control module DTCs using the M-MDS. (See DTC INSPECTION [360°VIEW MONITOR CONTROL MODULE (TYPE-A)].) - Is DTC U3000:41 or U3000:49 displayed?	Yes	Replace the 360°view monitor control module, then go to Step 8. (See 360°VIEW MONITOR CONTROL MODULE REMOVAL/INSTALLATION.)
		No	Go to the next step.
2	INSPECT 360°VIEW MONITOR CONTROL MODULE CONNECTOR CONDITION - Switch the ignition off. - Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) - Disconnect the 360°view monitor control module connector. - Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection. - Is the connector normal?	Yes	Go to the next step.
		No	Repair or replace the connector, then go to Step 8.
3	INSPECT SIDE CAMERA (RH) CONNECTOR CONDITION - Disconnect the side camera (RH) connector. - Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection. - Is the connector normal?	Yes	Go to the next step.
		No	Repair or replace the connector, then go to Step 8.
4	INSPECT SIDE CAMERA (RH) CIRCUIT FOR SHORT TO GROUND - Verify that the side camera (RH) and 360°view monitor control module connectors are disconnected. - Inspect for continuity between the following terminals (wiring harness-side) and body ground: — Side camera (RH) terminal F - Is there continuity?	Yes	Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals: 360°view monitor control module terminal O—Side camera (RH) terminal F If there is a common connector: - Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground. - Repair or replace the malfunctioning part. If there is no common connector: - Repair or replace the wiring harness which has a short to ground. Go to Step 8.
		No	Go to the next step.

DTC U0401:00 [360°VIEW MONITOR CONTROL MODULE (TYPE-A)]

SM2899900

id1502cm05530

Description	Error signal received from PCM
Detection condition	• The 360°view monitor control module detects a signal error from the PCM for a certain period of time or more
Fail-safe	• The 360° view monitor system displays for only 8 s on the center display when the 360° view monitor switch is pressed, and then it switches to non-display.
Possible cause	• DTCs are stored in the PCM. • PCM malfunction • 360°view monitor control module malfunction
System wiring diagram	Not applicable

Diagnostic Procedure

Step	Inspection	Action
1	VERIFY OTHER 360°VIEW MONITOR CONTROL MODULE DTCs • Clear the DTC for the 360°view monitor control module using the M-MDS. (See CLEARING DTC [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Retrieve the 360°view monitor control module DTCs using the M-MDS. (See DTC INSPECTION [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Is DTC U3000:41 or U3000:49 displayed?	Yes Replace the 360°view monitor control module, then go to Step 4. (See 360°VIEW MONITOR CONTROL MODULE REMOVAL/INSTALLATION .)
		No Go to the next step.
2	VERIFY PCM DTCs • Retrieve the PCM DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [PCM (SKYACTIV-D 2.2)] .) (See ON-BOARD DIAGNOSTIC TEST [PCM (SKYACTIV-G 2.5T)] .) (See ON-BOARD DIAGNOSTIC TEST [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))] .) (See ON-BOARD DIAGNOSTIC TEST [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))] .) • Are any DTCs displayed?	Yes Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See DTC TABLE [PCM (SKYACTIV-D 2.2)] .) (See DTC TABLE [PCM (SKYACTIV-G 2.5T)] .) (See DTC TABLE [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))] .) (See DTC TABLE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))] .)
		No Go to the next step.

DTC U045A:81 [360°VIEW MONITOR CONTROL MODULE (TYPE-A)]

SM2899906

id1502cm05590

Description	Error signal received from parking assist unit
Detection condition	• The 360°view monitor control module detects a signal error from the parking assist unit for a certain period of time or more.
Fail-safe	• Not applicable
Possible cause	• DTCs are stored in the parking assist unit. • Parking assist unit malfunction • 360°view monitor control module malfunction
System wiring diagram	Not applicable

Diagnostic Procedure

Step	Inspection	Action
1	VERIFY OTHER 360°VIEW MONITOR CONTROL MODULE DTCs • Clear the DTC for the 360°view monitor control module using the M-MDS. (See CLEARING DTC [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Retrieve the 360°view monitor control module DTCs using the M-MDS. (See DTC INSPECTION [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Is DTC U3000:41 or U3000:49 displayed?	Yes Replace the 360°view monitor control module then go to Step 4. (See 360°VIEW MONITOR CONTROL MODULE REMOVAL/INSTALLATION .)
		No Go to the next step.
2	VERIFY PARKING ASSIST UNIT DTCs • Retrieve the parking assist unit DTCs using the M-MDS. (See DTC INSPECTION [PARKING ASSIST UNIT (ULTRASONIC)] .) • Are any DTCs displayed?	Yes Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See DTC TABLE [PARKING ASSIST UNIT (ULTRASONIC)] .)
		No Go to the next step.
3	VERIFY IF MALFUNCTIONING LOCATION IS PARKING ASSIST UNIT DEPENDING ON REPEATABILITY • Clear the DTC for the 360°view monitor control module using the M-MDS. (See CLEARING DTC [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Retrieve the 360°view monitor control module DTCs using the M-MDS. (See DTC INSPECTION [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Is the same Pending DTC present?	Yes Replace the parking assist unit, then go to the next step. (See PARKING ASSIST UNIT (ULTRASONIC) REMOVAL/INSTALLATION .)
		No Go to Step 5.

DTC U0420:83 [360°VIEW MONITOR CONTROL MODULE (TYPE-A)]

SM2899903

id1502cm05560

Description	Error signal received from electric power steering (EPS) control module
Detection condition	• The 360°view monitor control module detects a signal error from the electric power steering (EPS) control module for a certain period of time or more.
Fail-safe	• Projected vehicle path is not displayed when system is starting
Possible cause	• DTCs are stored in the electric power steering (EPS) control module. • Electric power steering (EPS) control module malfunction • 360°view monitor control module malfunction
System wiring diagram	Not applicable

Diagnostic Procedure

Step	Inspection	Action
1	VERIFY OTHER 360°VIEW MONITOR CONTROL MODULE DTCs • Clear the DTC for the 360°view monitor control module using the M-MDS. (See CLEARING DTC [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Retrieve the 360°view monitor control module DTCs using the M-MDS. (See DTC INSPECTION [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Is DTC U3000:41 or U3000:49 displayed?	Yes Replace the 360°view monitor control module, then go to Step 4. (See 360°VIEW MONITOR CONTROL MODULE REMOVAL/INSTALLATION .)
		No Go to the next step.
2	VERIFY ELECTRIC POWER STEERING (EPS) CONTROL MODULE DTCs • Retrieve the electric power steering (EPS) control module DTCs using the M-MDS. (See DTC INSPECTION [ELECTRIC POWER STEERING (EPS) CONTROL MODULE] .) • Are any DTCs displayed?	Yes Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See DTC TABLE [ELECTRIC POWER STEERING (EPS) CONTROL MODULE] .)
		No Go to the next step.
3	VERIFY IF MALFUNCTIONING LOCATION IS ELECTRIC POWER STEERING (EPS) CONTROL MODULE DEPENDING ON REPEATABILITY • Clear the DTC for the 360°view monitor control module using the M-MDS. (See CLEARING DTC [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Retrieve the 360°view monitor control module DTCs using the M-MDS. (See DTC INSPECTION [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Is the same Pending DTC present?	Yes Replace the electric power steering (EPS) control module, then go to the next step. (See STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION .)
		No Go to Step 5.

DTC U0423:00 [360°VIEW MONITOR CONTROL MODULE (TYPE-A)]

SM2899905

id1502cm05580

Description	Error signal received from instrument cluster
Detection condition	• The 360°view monitor control module detects a signal error from the instrument cluster for a certain period of time or more.
Fail-safe	• 360°view monitor switch operation is disabled.
Possible cause	• DTCs are stored in the instrument cluster. • Instrument cluster malfunction • 360°view monitor control module malfunction
System wiring diagram	Not applicable

Diagnostic Procedure

Step	Inspection	Action
1	VERIFY OTHER 360°VIEW MONITOR CONTROL MODULE DTCs • Clear the DTC for the 360°view monitor control module using the M-MDS. (See CLEARING DTC [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Retrieve the 360°view monitor control module DTCs using the M-MDS. (See DTC INSPECTION [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Is DTC U3000:41 or U3000:49 displayed?	Yes Replace the 360°view monitor control module then go to Step 4. (See 360°VIEW MONITOR CONTROL MODULE REMOVAL/INSTALLATION .)
		No Go to the next step.
2	VERIFY INSTRUMENT CLUSTER DTCs • Retrieve the instrument cluster DTCs using the M-MDS. (See DTC INSPECTION [INSTRUMENT CLUSTER] .) • Are any DTCs displayed?	Yes Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See DTC TABLE [INSTRUMENT CLUSTER] .)
		No Go to the next step.
3	VERIFY IF MALFUNCTIONING LOCATION IS INSTRUMENT CLUSTER DEPENDING ON REPEATABILITY • Clear the DTC for the 360°view monitor control module using the M-MDS. (See CLEARING DTC [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Retrieve the 360°view monitor control module DTCs using the M-MDS. (See DTC INSPECTION [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Is the same Pending DTC present?	Yes Replace the instrument cluster, then go to the next step. (See INSTRUMENT CLUSTER REMOVAL/INSTALLATION .)
		No Go to Step 5.

DTC U0533:81 [360°VIEW MONITOR CONTROL MODULE (TYPE-A)]

SM2899908

id1502cm05610

Description	Error signal received from blind spot monitoring (BSM) control module (LH)
Detection condition	• The 360°view monitor control module detects a signal error from the blind spot monitoring (BSM) control module (LH) for a certain period of time or more.
Fail-safe	• Not applicable
Possible cause	• DTCs are stored in the blind spot monitoring (BSM) control module (LH). • Blind spot monitoring (BSM) control module (LH) malfunction • 360°view monitor control module malfunction
System wiring diagram	Not applicable

Diagnostic Procedure

Step	Inspection	Action
1	VERIFY OTHER 360°VIEW MONITOR CONTROL MODULE DTCs • Clear the DTC for the 360°view monitor control module using the M-MDS. (See CLEARING DTC [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Retrieve the 360°view monitor control module DTCs using the M-MDS. (See DTC INSPECTION [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Is DTC U3000:41 or U3000:49 displayed?	Yes Replace the 360°view monitor control module, then go to Step 4. (See 360°VIEW MONITOR CONTROL MODULE REMOVAL/INSTALLATION .)
		No Go to the next step.
2	VERIFY BLIND SPOT MONITORING (BSM) CONTROL MODULE (LH) DTCs • Retrieve the blind spot monitoring (BSM) control module (LH) DTCs using the M-MDS. (See DTC INSPECTION [BLIND SPOT MONITORING (BSM) CONTROL MODULE] .) • Are any DTCs displayed?	Yes Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See DTC INSPECTION [BLIND SPOT MONITORING (BSM) CONTROL MODULE] .)
		No Go to the next step.
3	VERIFY IF MALFUNCTIONING LOCATION IS BLIND SPOT MONITORING (BSM) CONTROL MODULE (LH) DEPENDING ON REPEATABILITY • Clear the DTC for the 360°view monitor control module using the M-MDS. (See CLEARING DTC [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Retrieve the 360°view monitor control module DTCs using the M-MDS. (See DTC INSPECTION [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Is the same Pending DTC present?	Yes Replace the blind spot monitoring (BSM) control module (LH), then go to the next step. (See BLIND SPOT MONITORING (BSM) CONTROL MODULE REMOVAL/INSTALLATION .)
		No Go to Step 5.

DTC U3000:41 [360°VIEW MONITOR CONTROL MODULE (TYPE-A)]

SM2899909

id1502cm05620

Description	360°view monitor control module internal malfunction
Detection condition	• Malfunction inside 360°view monitor control module detected.
Fail-safe	• Black screen displayed when system is starting
Possible cause	• 360°view monitor control module malfunction
System wiring diagram	Not applicable

Diagnostic Procedure

Step	Inspection	Action
1	VERIFY IF MALFUNCTIONING LOCATION IS 360°VIEW MONITOR CONTROL MODULE DEPENDING ON REPEATABILITY • Clear the DTC for the 360°view monitor control module using the M-MDS. (See CLEARING DTC [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Retrieve the 360°view monitor control module DTCs using the M-MDS. (See DTC INSPECTION [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Is the same Pending DTC present?	Yes Replace the 360°view monitor control module, then go to the next step. (See 360°VIEW MONITOR CONTROL MODULE REMOVAL/INSTALLATION .)
		No Go to the next step.
2	VERIFY IF OTHER DTCs DISPLAYED • Are any other DTCs displayed?	Yes Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See DTC TABLE [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .)
		No DTC troubleshooting completed.

Step	Inspection	Action	
5	INSPECT 360°VIEW MONITOR CONTROL MODULE CONNECTOR CONDITION • Switch the ignition off. • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect the 360°view monitor control module connector. • Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection. • Is the connector normal?	Yes	Go to the next step.
		No	Repair or replace the connector, then go to Step 7.

Sample

DTC U3003:17 [360°VIEW MONITOR CONTROL MODULE (TYPE-A)]

SM2899913

id1502cm05660

Description	360°view monitor control module high power supply voltage input
Detection condition	• The 360°view monitor control module detects that the power supply circuit voltage of the 360°view monitor control module is more than the specified range for a certain period of time.
Fail-safe	• Black screen displayed when system is starting
Possible cause	• DTCs are stored in the PCM. • Battery malfunction • Generator malfunction • 360°view monitor control module malfunction
System wiring diagram	Not applicable

Diagnostic Procedure

Step	Inspection	Action
1	VERIFY OTHER 360°VIEW MONITOR CONTROL MODULE DTCs • Clear the DTC for the 360°view monitor control module using the M-MDS. (See CLEARING DTC [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Retrieve the 360°view monitor control module DTCs using the M-MDS. (See DTC INSPECTION [360°VIEW MONITOR CONTROL MODULE (TYPE-A)] .) • Is DTC U3000:41 or U3000:49 displayed?	Yes Replace the 360°view monitor control module, then go to Step 5. (See 360°VIEW MONITOR CONTROL MODULE REMOVAL/INSTALLATION .)
		No Go to the next step.
2	VERIFY PCM DTCs • Retrieve the PCM DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [PCM (SKYACTIV-D 2.2)] .) (See ON-BOARD DIAGNOSTIC TEST [PCM (SKYACTIV-G 2.5T)] .) (See ON-BOARD DIAGNOSTIC TEST [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))] .) (See ON-BOARD DIAGNOSTIC TEST [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))] .) • Are any DTCs displayed?	Yes Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See DTC TABLE [PCM (SKYACTIV-D 2.2)] .) (See DTC TABLE [PCM (SKYACTIV-G 2.5T)] .) (See DTC TABLE [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))] .) (See DTC TABLE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))] .)
		No Go to the next step.