

**2008 Mazda CX-9 Grand Touring**

2008 RESTRAINTS Symptom Troubleshooting (Restraints) - Mazda CX-9

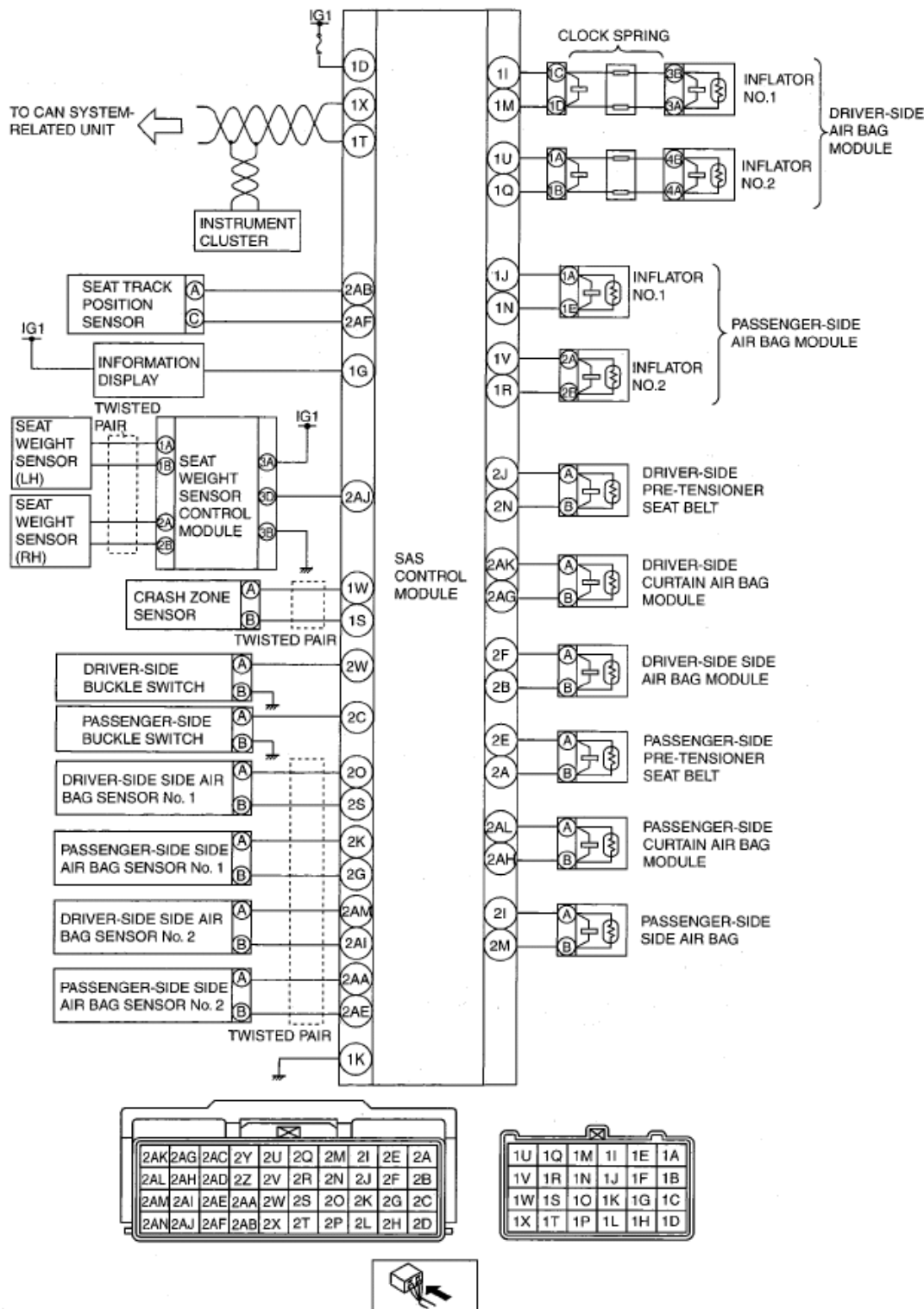
**2008 RESTRAINTS**

**Symptom Troubleshooting (Restraints) - Mazda CX-9**

**AIR BAG SYSTEM WIRING DIAGRAM (SYMPTOM TROUBLESHOOTING)**

# 2008 Mazda CX-9 Grand Touring

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**Fig. 1: Air Bag System Wiring Diagram**  
 Courtesy of MAZDA MOTORS CORP.

## TROUBLESHOOTING INDEX

- Use the chart below verify the symptoms of the trouble in order to diagnose the appropriate area.

### TROUBLESHOOTING INDEX

No.	Troubleshooting item	Description	Page
1	Air bag system warning light does not illuminate.	Malfunction in air bag system warning light circuit (short to ground).	(See <b><u>NO.1 AIR BAG SYSTEM WARNING LIGHT DOES NOT ILLUMINATE</u></b> )
2	Air bag system warning light is illuminated constantly.	Malfunction in air bag system warning light circuit (open circuit or short to power supply).	(See <b><u>NO.2 AIR BAG SYSTEM WARNING LIGHT ILLUMINATES CONSTANTLY</u></b> )

## NO.1 AIR BAG SYSTEM WARNING LIGHT DOES NOT ILLUMINATE

### AIR BAG SYSTEM WARNING LIGHT DOES NOT ILLUMINATE - DETECTION CONDITION AND POSSIBLE CAUSE CHART

<b>1</b>	<b>Air bag system warning light does not illuminate.</b>
<b>DETECTION CONDITION</b>	Malfunction in air bag system warning light circuit (short to ground)
<b>POSSIBLE CAUSE</b>	<ul style="list-style-type: none"> <li>• SAS control module malfunction</li> <li>• Instrument cluster (circuit board) malfunction</li> <li>• Short to ground circuit in wiring harness between instrument cluster and SAS control module</li> </ul>

### DIAGNOSTIC PROCEDURE

### DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
1	<b>INSPECT OTHER WARNING AND INDICATOR LIGHTS CIRCUIT IN INSTRUMENT CLUSTER</b> <ul style="list-style-type: none"> <li>• Turn the ignition switch to the ON position.</li> <li>• Do other warning and indicator lights illuminate?</li> </ul>	Yes Turn the ignition switch to the LOCK position, then go to the next step.
		No Inspect the instrument cluster power supply system and ground system, then go to Step 4.
2	<b>INSPECT DTCS IN SAS CONTROL MODULE</b> <ul style="list-style-type: none"> <li>• Inspect the DTC for the SAS control module on-board diagnostic system.</li> <li>• Have DTCs been recorded in memory?</li> </ul>	Yes Perform the applicable DTC inspection, then go to Step 5. (See <b><u>DTC TABLE</u></b> .)
		No Go to the next step.
	<b>INSPECT SAS CONTROL MODULE</b>  <b>WARNING:</b> <ul style="list-style-type: none"> <li>• Handling the air bag system components</li> </ul>	

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3	<p><b>improperly can accidentally deploy the air bag modules and pre-tensioner seat belts, which may seriously injure you. Read the air bag system service warnings and cautions before handling the air bag system components. (See <u>AIR BAG SYSTEM SERVICE WARNINGS</u> .) (See <u>AIR BAG SYSTEM SERVICE CAUTIONS</u> .)</b></p> <ul style="list-style-type: none"> <li>• Turn the ignition switch to LOCK position.</li> <li>• Disconnect the negative battery cable and wait for <b>1 min or more</b>.</li> <li>• Remove the column cover. (See <u>COLUMN COVER REMOVAL/INSTALLATION</u> .)</li> <li>• Disconnect the clock spring connector. (See <u>COMBINATION SWITCH REMOVAL/INSTALLATION</u> .)</li> <li>• Remove the glove compartment. (See <u>GLOVE COMPARTMENT REMOVAL/INSTALLATION</u> .)</li> <li>• Disconnect the passenger-side air bag module connector. (See <u>PASSENGER-SIDE AIR BAG MODULE REMOVAL/INSTALLATION</u> .)</li> <li>• Disconnect the driver and passenger-side front seat connectors. (See <u>FRONT SEAT REMOVAL/INSTALLATION</u> .)</li> <li>• Disconnect the driver and passenger-side curtain air bag module connectors. (See <u>CURTAIN AIR BAG MODULE REMOVAL/INSTALLATION</u> .)</li> <li>• Remove the B-pillar lower trim. (See <u>B-PILLAR LOWER TRIM REMOVAL/INSTALLATION</u> .)</li> <li>• Disconnect the driver and passenger-side pre-tensioner seat belt connectors. (See <u>FRONT SEAT BELT REMOVAL/INSTALLATION</u> .)</li> <li>• Disconnect the SAS control module connectors. (See <u>SAS CONTROL MODULE REMOVAL/INSTALLATION</u> .)</li> <li>• Connect the negative battery cable.</li> <li>• Turn the ignition switch to ON position.</li> <li>• Does the air bag system warning light illuminate?</li> </ul>	<p>Yes</p> <p>Replace the SAS control module, then go to Step 5. (See <u>SAS CONTROL MODULE REMOVAL/INSTALLATION</u> .)</p>	<p>No</p> <p style="text-align: center;">Go to the next step.</p>
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4	<p><b>INSPECT DTCS IN INSTRUMENT CLUSTER</b></p> <ul style="list-style-type: none"> <li>• Inspect the DTC for the instrument cluster on-board diagnostic system.</li> <li>• Have DTCs been recorded in memory?</li> </ul>	Yes	Perform the applicable DTC inspection, then go to the next step. (See <b><u>DTC TABLE [INSTRUMENT CLUSTER]</u></b> .)
		No	Inspect the instrument cluster warning lights using check code, then go to the next step. (See <b><u>INSTRUMENT CLUSTER INPUT/OUTPUT CHECK MODE</u></b> .)
5	<p><b>CONFIRM THAT MALFUNCTION SYMPTOMS DO NOT RECUR AFTER REPAIR</b></p> <ul style="list-style-type: none"> <li>• Turn the ignition switch to LOCK position.</li> <li>• Disconnect the negative battery cable and wait for <b>1 min or more</b>.</li> <li>• Connect all SAS control module connectors.</li> <li>• Connect the driver and passenger-side pretensioner seat belt connectors.</li> <li>• Connect the driver and passenger-side curtain air bag module connectors. Connect the driver and passenger-side front seat connectors.</li> <li>• Connect the passenger-side air bag module connector.</li> <li>• Connect the clock spring connector.</li> <li>• Connect the negative battery cable.</li> <li>• Turn the ignition switch to ON position.</li> <li>• Does the air bag system warning light operate properly?</li> </ul>	Yes	Complete troubleshooting, then explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if malfunction recurs.

## NO.2 AIR BAG SYSTEM WARNING LIGHT ILLUMINATES CONSTANTLY

### AIR BAG SYSTEM WARNING LIGHT ILLUMINATES CONSTANTLY - DETECTION CONDITION AND POSSIBLE CAUSE CHART

<b>2</b>	<b>Air bag system warning light is illuminated constantly.</b>
<b>DETECTION CONDITION</b>	Malfunction in air bag system warning light circuit (open circuit or short to power supply).
	<ul style="list-style-type: none"> <li>• Weak battery</li> <li>• SAS control module malfunction</li> <li>• Instrument cluster (circuit board) malfunction</li> <li>• No connection in SAS control module connector</li> <li>• Poor contact in instrument cluster connector</li> </ul>

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<b>POSSIBLE CAUSE</b>	<ul style="list-style-type: none"> <li>• Open or short to power supply circuit in wiring harness between instrument cluster and SAS control module</li> <li>• Poor contact at terminals 1D and/or 1K of SAS control module connector</li> <li>• Poor contact in wiring harness between terminal 1K of SAS control module connector and ground</li> <li>• Poor contact in wiring harness between battery and terminal 1D of SAS control module</li> </ul>
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### DIAGNOSTIC PROCEDURE

### DIAGNOSTIC PROCEDURE

STEP	INSPECTION		ACTION
1	<b>INSPECT BATTERY</b> <ul style="list-style-type: none"> <li>• Measure the voltage of battery.</li> <li>• Is the voltage <b>9 V or more</b> ?</li> </ul>	Yes	Go to the next step.
		No	Battery is weak. Inspect charge/discharge system, then go to Step 10. (See <b><u>BATTERY INSPECTION [MZI-3.7]</u></b> .)
2	<b>VERIFY THAT SAS CONTROL MODULE CONNECTOR IS CONNECTED</b> <p><b>WARNING:</b></p> <ul style="list-style-type: none"> <li>• Handling the air bag system components improperly can accidentally deploy the air bag modules and pre-tensioner seat belts, which may seriously injure you. Read the air bag system service warnings and cautions before handling the air bag system components.(See <b><u>AIR BAG SYSTEM SERVICE WARNINGS</u></b> .) (See <b><u>AIR BAG SYSTEM SERVICE CAUTIONS</u></b> .)</li> </ul> <ul style="list-style-type: none"> <li>• Turn the ignition switch to LOCK position.</li> <li>• Disconnect the negative battery cable and wait for <b>1 min or more</b>.</li> <li>• Remove the console. (See <b><u>CONSOLE REMOVAL/INSTALLATION</u></b> .)</li> <li>• Are all SAS control module connectors securely connected?</li> </ul>	Yes	Go to the next step.
		No	Reconnect the connector properly, then go to Step 10.
3	<b>INSPECT DTCS IN INSTRUMENT CLUSTER</b> <ul style="list-style-type: none"> <li>• Inspect the DTC for the instrument cluster on-board diagnostic system.</li> <li>• Has DTC U2064 been recorded in memory?</li> </ul>	Yes	Go to the next step.
		No	Inspect the instrument cluster. (See <b><u>INSTRUMENT CLUSTER INSPECTION</u></b> .)
	<b>INSPECT DTCS IN SAS CONTROL MODULE</b>		

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4	<ul style="list-style-type: none"> <li>• Inspect the DTC for the SAS control module on-board diagnostic system.</li> <li>• Have DTCs been recorded in memory?</li> </ul>	Yes	Perform the applicable DTC inspection, then go to Step 10. (See <b><u>DTC TABLE</u></b> .)
		No	Go to the next step.
5	<b>INSPECT DTCS IN INSTRUMENT CLUSTER</b> <ul style="list-style-type: none"> <li>• Inspect the DTC for the instrument cluster on-board diagnostic system.</li> <li>• Have DTCs been recorded in memory?</li> </ul>	Yes	Perform the applicable DTC inspection, then go to Step 10. (See <b><u>CLEARING DTC [INSTRUMENT CLUSTER]</u></b> .)
		No	Go to the next step.
6	<b>INSPECT INSTRUMENT CLUSTER</b> <ul style="list-style-type: none"> <li>• Inspect the instrument cluster warning lights using check code.</li> </ul> <p>(See <b><u>INSTRUMENT CLUSTER INPUT/OUTPUT CHECK MODE</u></b> .)</p> <ul style="list-style-type: none"> <li>• Are the check results okay?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the instrument cluster according to inspection results. Then go to Step 10.
7	<b>INSPECT POWER SUPPLY CIRCUIT OF SAS CONTROL MODULE (TERMINAL 1D)</b> <ul style="list-style-type: none"> <li>• Turn the ignition switch to LOCK position.</li> <li>• Disconnect the negative battery cable and wait for <b>1 min or more</b>.</li> <li>• Connect all SAS control module connectors.</li> <li>• Connect the driver and passenger-side pretensioner seat belt connectors.</li> <li>• Connect the driver and passenger-side curtain air bag module connectors. Connect the driver and passenger-side front seat connectors.</li> <li>• Connect the passenger-side air bag module connector.</li> <li>• Connect the clock spring connector.</li> <li>• Inspect the voltage for PID/DATA monitor IGN_V_2 item using M-MDS.</li> <li>• Is the voltage of at least one terminal <b>8 V - 16 V</b> ?</li> </ul>	Yes	Go to the Step 9.
		No	Go to the next step.
8	<b>INSPECT WIRING HARNESS BETWEEN BATTERY AND FUSE BLOCK</b> <ul style="list-style-type: none"> <li>• Connect the negative battery cable.</li> <li>• Turn the ignition switch to ON position.</li> <li>• Measure the voltage at instrument cluster</li> </ul>	Yes	Go to the next step.
		No	Repair the wiring harnesses, then go to

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	connector terminal 1H. • Is the voltage <b>8 V-16 V</b> ?	Step 10.
9	<p><b>VERIFY THAT SAS CONTROL MODULE CONNECTOR TERMINAL 1D IS GROUND</b></p> <ul style="list-style-type: none"> <li>• Turn the ignition switch to LOCK position.</li> <li>• Disconnect the negative battery cable and wait for <b>1 min or more</b>.</li> <li>• Remove the column cover. (See <b><u>COLUMN COVER REMOVAL/INSTALLATION</u></b> .)</li> <li>• Disconnect the clock spring connector. (See <b><u>COMBINATION SWITCH REMOVAL/INSTALLATION</u></b> .)</li> <li>• Remove the glove compartment. (See <b><u>GLOVE COMPARTMENT REMOVAL/INSTALLATION</u></b> .)</li> <li>• Disconnect the passenger-side air bag module connector. (See <b><u>PASSENGER-SIDE AIR BAG MODULE REMOVAL/INSTALLATION</u></b> .)</li> <li>• Disconnect the driver and passenger-side front seat connectors. (See <b><u>FRONT SEAT REMOVAL/INSTALLATION</u></b> .)</li> <li>• Disconnect the driver and passenger-side curtain air bag module connectors. (See <b><u>CURTAIN AIR BAG MODULE REMOVAL/INSTALLATION</u></b> .)</li> <li>• Remove the B-pillar lower trim. (See <b><u>B-PILLAR LOWER TRIM REMOVAL/INSTALLATION</u></b> .)</li> <li>• Disconnect the driver and passenger-side pretensioner seat belt connectors. (See <b><u>FRONT SEAT BELT REMOVAL/INSTALLATION</u></b> .)</li> <li>• Disconnect the SAS control module connectors. (See <b><u>SAS CONTROL MODULE REMOVAL/INSTALLATION</u></b> .)</li> <li>• Inspect the wiring harness between SAS control module connector terminal 1D and ground for the following:             <ul style="list-style-type: none"> <li>○ Short to power supply</li> <li>○ Open circuit</li> </ul> </li> <li>• Is the wiring harness normal?</li> </ul>	<p>Yes</p> <p>Replace the SAS control module, then go to the next step. (See <b><u>SAS CONTROL MODULE REMOVAL/INSTALLATION</u></b> .)</p> <hr/> <p>No</p> <p>Replace the wiring harnesses, then go to the next step.</p>
	<b>CONFIRM THAT MALFUNCTION SYMPTOMS</b>	



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10	<b>DO NOT RECUR AFTER REPAIR</b> <ul style="list-style-type: none"><li>• Turn the ignition switch to LOCK position.</li><li>• Disconnect the negative battery cable and wait for <b>1 min or more</b>.</li><li>• Connect all SAS control module connectors.</li><li>• Connect the driver and passenger-side pretensioner seat belt connectors.</li><li>• Connect the driver and passenger-side curtain air bag module connectors.</li><li>• Connect the driver and passenger-side front seat connectors.</li><li>• Connect the passenger-side air bag module connector.</li><li>• Connect the clock spring connector.</li><li>• Connect the instrument cluster connector.</li><li>• Connect the negative battery cable.</li><li>• Turn the ignition switch to ON position.</li><li>• Does the air bag system warning light operate properly?</li></ul>	Yes	Complete troubleshooting, then explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if malfunction recurs.