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2014 MAZDA MX-5 / Miata Roadster Coupe OEM Service and Repair Workshop Manual

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DTC B1126:11/B1126:12/B1126:13/B1126:19/B1126:1A [SAS CONTROL MODULE (TWO-STEP DEPLOYMENT CONTROL SYSTEM - US/CANADA/ISRAEL SPEC.)]

SM3600755

id0802c982140

Special Service Tool (SST)

49 N088 0A0
Fuel and thermometer checker



System malfunction location	• B1126:11: Driver-side side air bag module circuit short to body ground • B1126:12: Driver-side side air bag module circuit short to power supply • B1126:13: Driver-side side air bag module circuit open circuit or resistance high • B1126:19: Short circuit to driver-side side air bag module and other air bag module circuits • B1126:1A: Driver-side side air bag module circuit resistance low
Detection condition	Warning • Detection conditions are for understanding the DTC outline before performing an inspection. Performing an inspection according to only the detection conditions may cause injury due to an operating error, or damage the system. When performing an inspection, always follow the inspection procedure. • Resistance other than 0.88-10.53 ohms is detected in driver-side side air bag module circuit • Wiring harness between the driver-side side air bag module and SAS control module has a malfunction
Fail-safe function	Not applicable
Possible cause	• Driver-side side air bag module connector malfunction • Open circuit in the wiring harness between the following terminals: — SAS control module terminal 1G-driver-side side air bag module connector terminal 1A — SAS control module terminal 1C-driver-side side air bag module connector terminal 1B • Short circuit to body ground in the wiring harness between the following terminals: — SAS control module terminal 1G-driver-side side air bag module connector terminal 1A — SAS control module terminal 1C-driver-side side air bag module connector terminal 1B • Short circuit to power supply in the wiring harness between the following terminals: — SAS control module terminal 1G-driver-side side air bag module connector terminal 1A — SAS control module terminal 1C-driver-side side air bag module connector terminal 1B • Short circuit to each other in the wiring harness between the driver-side side air bag module and SAS control module • Short circuit to other air bag module circuits in the wiring harness between the driver-side side air bag module and SAS control module • Driver-side side air bag module malfunction • SAS control module malfunction

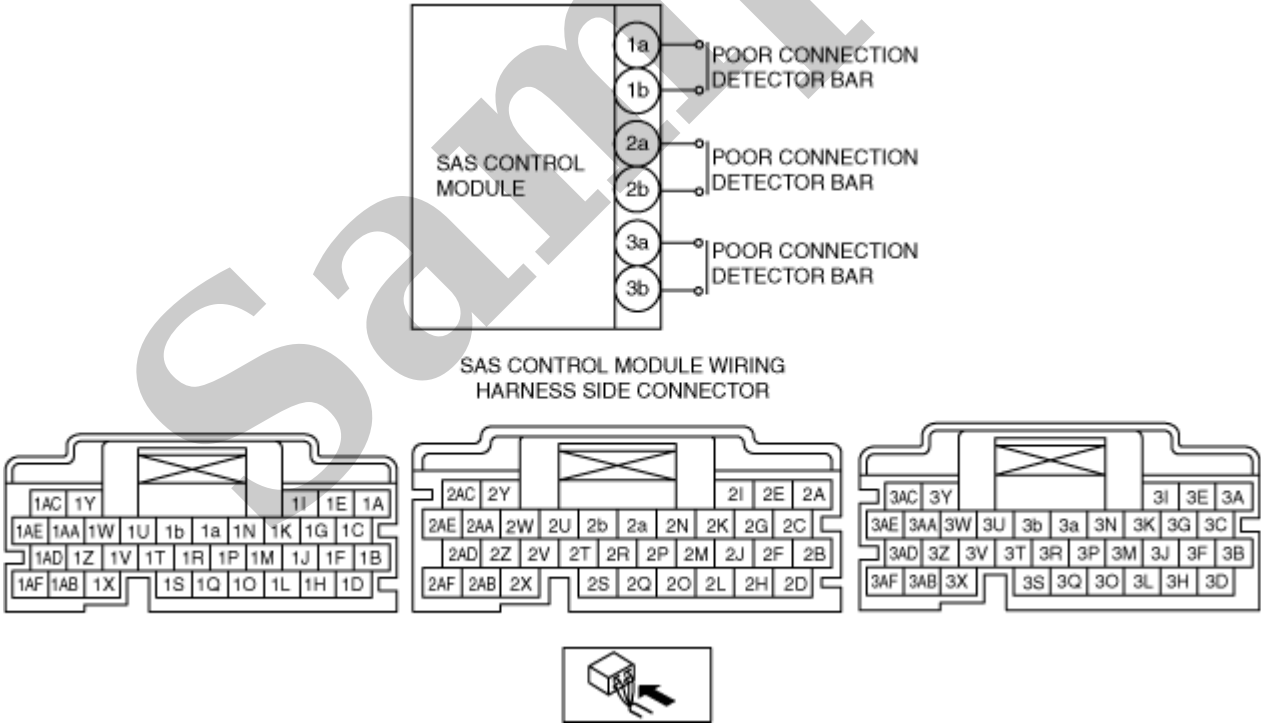
Step	Inspection	Action
3	INSPECT DRIVER-SIDE SIDE AIR BAG MODULE CIRCUIT FOR OPEN CIRCUIT • Driver-side side air bag module and SAS control module connectors are disconnected. • Inspect for continuity between the following terminals (wiring harness-side): — Driver-side front seat connector terminal 1A–SAS control module terminal 1G — Driver-side front seat connector terminal 1B–SAS control module terminal 1C Note • Inspect for continuity while shaking the wiring harness between the SAS control module and driver-side front seat connector. • Is there continuity?	Yes Go to the next step.
		No Refer to the wiring diagram and verify whether or not there is a common connector between SAS control module terminal and driver-side front seat connector terminal. 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 an open circuit. • Replace the malfunctioning part. If there is no common connector: • Replace the wiring harness which has an open circuit. Go to Step 8.
4	INSPECT DRIVER-SIDE SIDE AIR BAG MODULE CIRCUIT FOR SHORT TO EACH OTHER • Driver-side side air bag module and SAS control module connectors are disconnected. • Inspect for continuity between the following terminals (wiring harness-side): — SAS control module terminal 1G–SAS control module terminal 1C Note • Inspect for continuity while shaking the wiring harness between the SAS control module and driver-side front seat connector. • Is there continuity?	Yes Refer to the wiring diagram and verify whether or not there is a common connector between SAS control module terminal and driver-side front seat connector terminal. 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 each other. • Replace the malfunctioning part. If there is no common connector: • Replace the wiring harness which has a short to each other. Go to Step 8.
		No Go to the next step.

DTC B1011:95 [SAS CONTROL MODULE (TWO-STEP DEPLOYMENT CONTROL SYSTEM - US/CANADA/ISRAEL SPEC.)]

SM3600764

id0802c982310

System malfunction location	SAS control module connectors are poorly connected
Detection condition	Warning - Detection conditions are for understanding the DTC outline before performing an inspection. Performing an inspection according to only the detection conditions may cause injury due to an operating error, or damage the system. When performing an inspection, always follow the inspection procedure. - No continuity between poorly connected detector bar terminals of the SAS control module, or the measurement value is out of the normal range even though there is continuity
Fail-safe function	Not applicable
Possible cause	- SAS control module connectors are poorly connected - SAS control module connector cover malfunction - SAS control module connector malfunction - SAS control module malfunction



Diagnostic procedure

Warning

• Handling the component parts improperly can accidentally operate (deploy) the air bag modules, pre-tensioner seat belts and lap pre-tensioner seat belts, which may seriously injure you. Read the service warnings/cautions and the workshop manual before handling the air bag system components. (See **AIR BAG SYSTEM SERVICE WARNINGS [TWO-STEP DEPLOYMENT**

Sample

Step	Inspection		Action
2	INSPECT PCM DTC - Perform the PCM DTC inspection using the M-MDS. (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))].) (See ON-BOARD DIAGNOSTIC TEST [PCM (SKYACTIV-G 2.5T)].) (See ON-BOARD DIAGNOSTIC TEST [PCM (SKYACTIV-D 2.2)].) - Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))] .) (See DTC TABLE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))] .) (See DTC TABLE [PCM (SKYACTIV-G 2.5T)] .) (See DTC TABLE [PCM (SKYACTIV-D 2.2)] .)
		No	Go to the next step.
3	INSPECT BATTERY - Inspect the battery. (See BATTERY INSPECTION.) - Is the battery normal?	Yes	Go to the next step.
		No	Replace or charge the battery. (See BATTERY REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)] .) (See BATTERY REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)] .) (See BATTERY REMOVAL/INSTALLATION [SKYACTIV-G 2.5T] .) (See BATTERY REMOVAL/INSTALLATION [SKYACTIV-D 2.2] .) (See BATTERY RECHARGING .) Then go to Step 8.
4	INSPECT GENERATOR - Inspect the generator. (See GENERATOR INSPECTION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)].) (See GENERATOR INSPECTION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].) (See GENERATOR INSPECTION [SKYACTIV-G 2.5T].) (See GENERATOR INSPECTION [SKYACTIV-D 2.2].) - Is the generator normal?	Yes	Go to the next step.
		No	Replace the generator, then go to Step 8. (See GENERATOR REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)] .) (See GENERATOR REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)] .) (See GENERATOR REMOVAL/INSTALLATION [SKYACTIV-G 2.5T] .) (See GENERATOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2] .)

Step	Inspection	Action
		No Inspect the SRS1 7.5 A fuse and MAIN 200 A fuse. • If the fuse is blown: — Refer to the wiring diagram and verify whether or not there is a common connector between MAIN 200 A fuse and SAS control module terminal 2AD. 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. — Replace the fuse. • If the fuse is damaged: — Replace the fuse. • If the fuse is normal: — Refer to the wiring diagram and verify whether or not there is a common connector between battery positive terminal and SAS control module terminal 2AD. 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 an open circuit. • Repair or replace the malfunctioning part.

Diagnostic procedure

Warning

- Handling the component parts improperly can accidentally operate (deploy) the air bag modules, pre-tensioner seat belts and lap pre-tensioner seat belts, which may seriously injure you. Read the service warnings/cautions and the workshop manual before handling the air bag system components. (See **AIR BAG SYSTEM SERVICE WARNINGS [TWO-STEP DEPLOYMENT CONTROL SYSTEM - US/CANADA/ISRAEL SPEC.]**.) (See **AIR BAG SYSTEM SERVICE CAUTIONS [TWO-STEP DEPLOYMENT CONTROL SYSTEM - US/CANADA/ISRAEL SPEC.]**.)

Step	Inspection		Action
1	INSPECT PASSENGER-SIDE CRASH ZONE SENSOR • Switch the ignition off. • Disconnect the negative battery terminal and wait for 1 min or more. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Remove the front bumper. (See FRONT BUMPER REMOVAL/INSTALLATION.) • Verify that the passenger-side crash zone sensor is correctly installed. (See CRASH ZONE SENSOR REMOVAL/INSTALLATION [TWO-STEP DEPLOYMENT CONTROL SYSTEM - US/CANADA/ISRAEL SPEC.].) • Is the passenger-side crash zone sensor correctly installed?	Yes	Go to the next step.
		No	Correctly install the passenger-side crash zone sensor. (See CRASH ZONE SENSOR REMOVAL/INSTALLATION [TWO-STEP DEPLOYMENT CONTROL SYSTEM - US/CANADA/ISRAEL SPEC.] .) Then go to Step 7.
2	INSPECT PASSENGER-SIDE CRASH ZONE SENSOR CONNECTOR • Disconnect the passenger-side crash zone sensor connector. (See CRASH ZONE SENSOR REMOVAL/INSTALLATION [TWO-STEP DEPLOYMENT CONTROL SYSTEM - US/CANADA/ISRAEL SPEC.].) • Inspect the passenger-side crash zone sensor connector (wiring harness-side). (Corrosion, damage, and disconnected pins) • Is there any malfunction of the passenger-side crash zone sensor connector (wiring harness-side)?	Yes	Replace the malfunction part, then go to step 7.
		No	Go to the next step.

Step	Inspection	Action
6	INSPECT PASSENGER-SIDE CRASH ZONE SENSOR CIRCUIT FOR SHORT TO POWER SUPPLY • Passenger-side crash zone sensor and SAS control module connectors are disconnected. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Switch the ignition ON (engine off or on). • Measure the voltage at the following terminals (wiring harness-side): — SAS control module terminal 2L — SAS control module terminal 2H Note • Measure the voltage while shaking the wiring harness between the SAS control module and passenger-side crash zone sensor. • Is the voltage 0 V?	Yes Replace the passenger-side crash zone sensor, then go to the next step. (See CRASH ZONE SENSOR REMOVAL/INSTALLATION [TWO-STEP DEPLOYMENT CONTROL SYSTEM - US/CANADA/ISRAEL SPEC.] .)
		No Refer to the wiring diagram and verify whether or not there is a common connector between SAS control module terminal and passenger-side crash zone sensor terminal. 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 power supply. • Replace the malfunctioning part. If there is no common connector: • Replace the wiring harness which has a short to power supply. Go to the next step.
7	PERFORM SAS CONTROL MODULE DTC INSPECTION • Switch the ignition off. • Disconnect the negative battery terminal and wait for 1 min or more. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Connect the SAS control module connectors. • Reconnect all disconnected connectors. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Switch the ignition ON (engine off or on). • Clear the DTC for the SAS control module using the M-MDS. (See CLEARING DTC [SAS CONTROL MODULE (TWO-STEP DEPLOYMENT CONTROL SYSTEM - US/CANADA/ISRAEL SPEC.)].) • Perform the DTC inspection for the SAS control module using the M-MDS. (See DTC INSPECTION [SAS CONTROL MODULE (TWO-STEP DEPLOYMENT CONTROL SYSTEM - US/CANADA/ISRAEL SPEC.)].) • Are the same DTCs present?	Yes Repeat the inspection from Step 1. • If the malfunction recurs, replace the SAS control module. (See SAS CONTROL MODULE REMOVAL/INSTALLATION [TWO-STEP DEPLOYMENT CONTROL SYSTEM - US/CANADA/ISRAEL SPEC.].)
		No DTC troubleshooting completed.

Step	Inspection	Action	
2	INSPECT PASSENGER-SIDE AIR BAG MODULE (INFLATOR NO.1) CIRCUIT FOR SHORT TO GROUND • Remove the column cover. (See COLUMN COVER REMOVAL/INSTALLATION.) • Disconnect the clock spring connector. (See CLOCK SPRING REMOVAL/INSTALLATION [TWO-STEP DEPLOYMENT CONTROL SYSTEM - US/CANADA/ISRAEL SPEC.].) • Disconnect the passenger-side air bag module (inflator No.2) connector. (See PASSENGER-SIDE AIR BAG MODULE REMOVAL/INSTALLATION [TWO-STEP DEPLOYMENT CONTROL SYSTEM - US/CANADA/ISRAEL SPEC.].) • Disconnect the driver and passenger-side front seat connectors. (See FRONT SEAT REMOVAL/INSTALLATION.) • Remove the B-pillar lower trim. (See B-PILLAR LOWER TRIM REMOVAL/INSTALLATION.) • Disconnect the driver and passenger-side front pre-tensioner seat belt connectors. (See FRONT SEAT BELT REMOVAL/INSTALLATION.) • Disconnect the driver and passenger-side lap pre-tensioner seat belt connectors. (See FRONT SEAT BELT REMOVAL/INSTALLATION.) • Disconnect the driver and passenger-side rear pre-tensioner seat belt connectors. (See REAR SEAT BELT REMOVAL/INSTALLATION.) • Remove the headliner. (See HEADLINER REMOVAL/INSTALLATION.) • Disconnect the driver and passenger-side curtain air bag module connectors. (See CURTAIN AIR BAG MODULE REMOVAL/INSTALLATION [TWO-STEP DEPLOYMENT CONTROL SYSTEM - US/CANADA/ISRAEL SPEC.].) • Disconnect the all SAS control module connectors. (See SAS CONTROL MODULE REMOVAL/INSTALLATION [TWO-STEP DEPLOYMENT CONTROL SYSTEM - US/CANADA/ISRAEL SPEC.].) • Inspect for continuity between the following terminals (wiring harness-side) and body ground: — SAS control module terminal 3K — SAS control module terminal 3N Note • Inspect for continuity while shaking the wiring harness between the SAS control module and passenger-side air bag module (inflator No.1). • Is there continuity?	Yes	Refer to the wiring diagram and verify whether or not there is a common connector between SAS control module terminal and passenger-side air bag module (inflator No.1) terminal. 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. • Replace the malfunctioning part. If there is no common connector: • Replace the wiring harness which has a short to ground. Go to Step 8.
		No	Go to the next step.