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2015 MAZDA BT-50 OEM Service and Repair Workshop Manual

Go to manual page

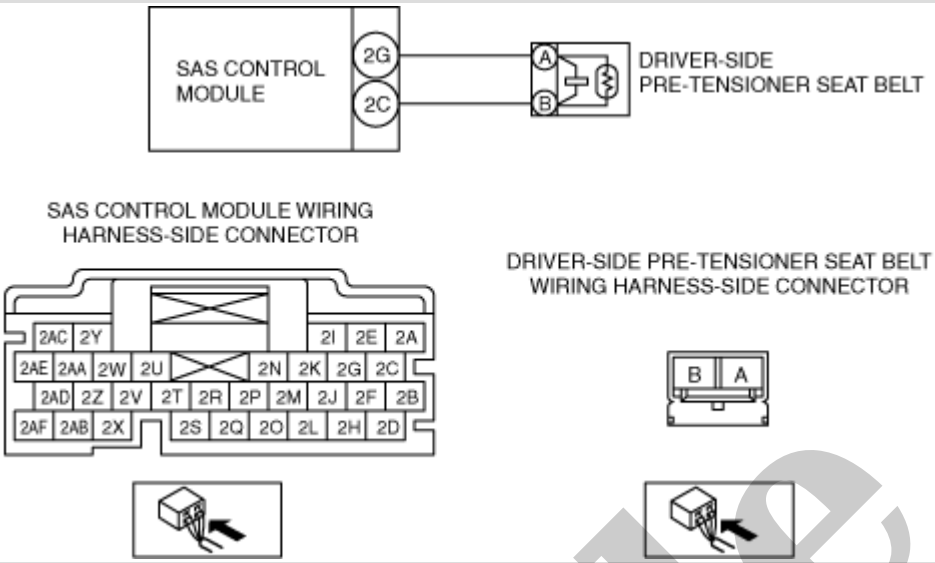
Snapshot data item	Unit		Definition	Data read/use method	Corresponding PID data monitor item
SHIFT_STATUS	P/N/ D/ R/ FAIL		Selector lever position status	• The SAS control module constantly receives the selector lever position sent via CAN signal from the instrument cluster. • If a DTC is detected, the SAS control module records the selector lever position when the DTC was detected, and it is displayed in the Mazda Modular Diagnostic System (M-MDS).	–
TOTAL_DIST	km	miles	Accumulated total traveled distance from completion of vehicle until SAS control module detects DTC (Odometer value in instrument cluster)	The total traveled distance from which the SAS control module detects DTCs to the present can be calculated by performing the following procedure. 1. Verify the odometer value in the instrument cluster. 2. Verify the snapshot data item TOTAL_DIST. 3. Subtract 2 from 1.	–
TOTAL_TIME	hh:mm:ss *1		Accumulated total elapsed time since vehicle completion until SAS control module detects a DTC *3 **Note** **• When the ROOM fuse is removed, and the ignition is switched off, the time is not included in the elapsed time.**	The elapsed time from which the SAS control module detects DTCs to the present can be calculated by performing the following procedure. 1. Verify the instrument cluster PID item TOTAL_TIME. 2. Verify the snapshot data item TOTAL_TIME. 3. Subtract 2 from 1.	TOTAL_TIME *2
VPWR	V		SAS control module power supply	–	VPWR_IGA
VSPD_STATUS	Stop/ 0-10km/h/ Over10km/h/ FAIL		Vehicle speed status	• The SAS control module constantly receives the vehicle speed sent via CAN signal from the instrument cluster. • If a DTC is detected, the SAS control module records the vehicle speed when the DTC was detected, and it is displayed in the Mazda Modular Diagnostic System (M-MDS).	SPEEDOMTR *2

***1:The seconds may be indicated after the decimal point.**

***2:Instrument cluster PID (See PID/DATA MONITOR TABLE [INSTRUMENT CLUSTER].)**

***3:The snap shot data of the number of stored malfunction detections, B+ counters, or IG ON counters is combined with the DTC detection conditions of the SAS control module, and the point-in-time data in the following table is stored.**

System malfunction location	• B1211:11: Driver-side pre-tensioner seat belt circuit short to body ground • B1211:12: Driver-side pre-tensioner seat belt circuit short to power supply • B1211:13: Driver-side pre-tensioner seat belt circuit open circuit or resistance high • B1211:19: Short circuit to driver-side pre-tensioner seat belt and other air bag module circuits • B1211:1A: Driver-side pre-tensioner seat belt circuit resistance low



Diagnostic procedure

Warning

• Handling the component parts improperly can accidentally operate (deploy) the air bag modules and 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 [STANDARD DEPLOYMENT CONTROL SYSTEM - MEXICO SPEC.].) (See AIR BAG SYSTEM SERVICE CAUTIONS [STANDARD DEPLOYMENT CONTROL SYSTEM - MEXICO SPEC.].)

Step	Inspection		Action
1	INSPECT DRIVER-SIDE PRE-TENSIONER SEAT BELT CONNECTOR • Switch the ignition off. • Disconnect the negative battery terminal and wait for 1 min or more. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Remove the driver-side B-pillar lower trim. (See B-PILLAR LOWER TRIM REMOVAL/INSTALLATION.) • Disconnect the driver-side pre-tensioner seat belt connector. (See FRONT SEAT BELT REMOVAL/INSTALLATION.) • Inspect the driver-side pre-tensioner seat belt connector (wiring harness-side). (Corrosion, damage, and disconnected pins) • Is there any malfunction of the driver-side pre-tensioner seat belt connector (wiring harness-side)?	Yes	Replace the malfunctioning part, then go to Step 8.
		No	Go to the next step.

Step	Inspection		Action
5	**INSPECT DRIVER-SIDE PRE-TENSIONER SEAT BELT CIRCUIT FOR SHORT TO OTHER AIR BAG MODULE CIRCUITS** • Driver-side pre-tensioner seat belt and SAS control module connectors are disconnected. • Other air bag module and pre-tensioner seat belt connectors are disconnected. • Refer to the wiring diagram and inspect for continuity between the driver-side pre-tensioner seat belt terminals and other air bag module / pre-tensioner seat belt terminals (wiring harness-side). **Note** **• Inspect for continuity while shaking the wiring harness between the SAS control module and driver-side pre-tensioner seat belt.** • 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 pre-tensioner seat belt 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 other air bag module or pre-tensioner seat belt circuits. • Replace the malfunctioning part. **If there is no common connector:** • Replace the wiring harness which has a short to other air bag module or pre-tensioner seat belt circuits. Go to Step 8.
		No	Go to the next step.
6	**INSPECT DRIVER-SIDE PRE-TENSIONER SEAT BELT CIRCUIT FOR SHORT TO POWER SUPPLY** • Driver-side pre-tensioner seat belt 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 2G — SAS control module terminal 2C **Note** **• Measure the voltage while shaking the wiring harness between the SAS control module and driver-side pre-tensioner seat belt.** • Is the voltage 0 V?	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 pre-tensioner seat belt 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 Step 8.

Step	Inspection		Action
3	PERFORM SAS CONTROL MODULE DTC INSPECTION • Clear the DTC for the SAS control module using the M-MDS. (See CLEARING DTC [SAS CONTROL MODULE (STANDARD DEPLOYMENT CONTROL SYSTEM - MEXICO SPEC.)].) • Perform the DTC inspection for the SAS control module using the M-MDS. (See DTC INSPECTION [SAS CONTROL MODULE (STANDARD DEPLOYMENT CONTROL SYSTEM - MEXICO 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 [STANDARD DEPLOYMENT CONTROL SYSTEM - MEXICO SPEC.].)
		No	DTC troubleshooting completed.

Step	Inspection		Action
2	**INSPECT PASSENGER-SIDE PRE-TENSIONER SEAT BELT CIRCUIT FOR SHORT TO GROUND** • Remove the column cover. (See COLUMN COVER REMOVAL/INSTALLATION.) • Disconnect the clock spring connector. (See CLOCK SPRING REMOVAL/INSTALLATION [STANDARD DEPLOYMENT CONTROL SYSTEM - MEXICO SPEC.].) • Remove the glove compartment. (See GLOVE COMPARTMENT REMOVAL/INSTALLATION.) • Disconnect the passenger-side air bag module connector. (See PASSENGER-SIDE AIR BAG MODULE REMOVAL/INSTALLATION [STANDARD DEPLOYMENT CONTROL SYSTEM - MEXICO SPEC.].) • Disconnect the driver and passenger-side front seat connectors. (See FRONT SEAT REMOVAL/INSTALLATION.) • Remove the driver-side B-pillar lower trim. (See B-PILLAR LOWER TRIM REMOVAL/INSTALLATION.) • Disconnect the driver-side pre-tensioner seat belt connector. (See FRONT 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 [STANDARD DEPLOYMENT CONTROL SYSTEM - MEXICO SPEC.].) • Disconnect the all SAS control module connectors. (See SAS CONTROL MODULE REMOVAL/INSTALLATION [STANDARD DEPLOYMENT CONTROL SYSTEM - MEXICO SPEC.].) • Inspect for continuity between the following terminals (wiring harness-side) and body ground: — SAS control module terminal 2K — SAS control module terminal 2N **Note** **• Inspect for continuity while shaking the wiring harness between the SAS control module and passenger-side pre-tensioner seat belt.** • 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 pre-tensioner seat belt 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.

Step	Inspection		Action
7	INSPECT PASSENGER-SIDE PRE-TENSIONER SEAT BELT • 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. • Except for the passenger-side pre-tensioner seat belt connector, reconnect all disconnected connectors. • Connect the SST (49 N088 0A0) or apply 2 ohms resistance to the passenger-side pre-tensioner seat belt connector (wiring harness-side) terminals A-B. • Set the SST (49 N088 0A0) to 2 ohms. • 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 (STANDARD DEPLOYMENT CONTROL SYSTEM - MEXICO SPEC.)].) • Perform the DTC inspection for the SAS control module using the M-MDS. (See DTC INSPECTION [SAS CONTROL MODULE (STANDARD DEPLOYMENT CONTROL SYSTEM - MEXICO SPEC.)].) • Are the same DTCs present?	Yes	Go to the next step.
		No	Replace the passenger-side pre-tensioner seat belt. (See FRONT SEAT BELT REMOVAL/INSTALLATION.) Then go to the next step.
8	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.) • Disconnect the SST (49 N088 0A0) or the 2 ohms resistance. • Connect the passenger-side pre-tensioner seat belt connector. • 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 (STANDARD DEPLOYMENT CONTROL SYSTEM - MEXICO SPEC.)].) • Perform the DTC inspection for the SAS control module using the M-MDS. (See DTC INSPECTION [SAS CONTROL MODULE (STANDARD DEPLOYMENT CONTROL SYSTEM - MEXICO 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 [STANDARD DEPLOYMENT CONTROL SYSTEM - MEXICO SPEC.].)
		No	DTC troubleshooting completed.

DTC TABLE [SAS CONTROL MODULE (STANDARD DEPLOYMENT CONTROL SYSTEM - MEXICO SPEC.)]

SM2898708

id0802h508070

Caution

• When DTCs not shown in the DTC table are displayed, perform the inspection for DTCs not shown in the DTC table. (See Inspection procedure for configuration and undetected component DTC.)

X: Applicable–: Not applicable

DTC		System malfunction location	Fail-safe function	Drive cycle	Self test type*1	Memory function	Page
M-MDS display	Air bag system warning light						
B0001:11	Illuminated	Driver-side air bag module circuit short to body ground	–	–	C, D	×	(See DTC B0001:11/B0001:12/B0001:13/B0001:19/B0001:1A [SAS CONTROL MODULE (STANDARD DEPLOYMENT CONTROL SYSTEM - MEXICO SPEC.)].)
B0001:12	Illuminated	Driver-side air bag module circuit short to power supply	–	–	C, D	×	
B0001:13	Illuminated	Driver-side air bag module circuit open circuit or resistance high	–	–	C, D	×	
B0001:19	Illuminated	Short circuit to driver-side air bag module and other air bag module circuits	–	–	C, D	×	
B0001:1A	Illuminated	Driver-side air bag module circuit resistance low	–	–	C, D	×	
B0001:55	Illuminated	Configuration setting error (driver-side air bag module structural malfunction)	–	–	C, D	×	(See DTC B0001:55/B0010:55 [SAS CONTROL MODULE (STANDARD DEPLOYMENT CONTROL SYSTEM - MEXICO SPEC.)].)

DTC		System malfunction location	Fail-safe function	Drive cycle	Self test type*1	Memory function	Page
M-MDS display	Air bag system warning light						
[B00A0:09]	Illuminated	Occupant classification sensor internal malfunction	–	–	C, D	×	(See Inspection procedure for configuration and undetected component DTC.)
[B00A0:28]	Illuminated	Occupant classification sensor calibration check error	–	–	D	×	
[B00A0:4A]	Illuminated	Occupant classification sensor ID mismatch	–	–	C, D	×	
[B00A0:54]	Illuminated	Occupant classification sensor calibration setting not set	–	–	C, D	×	
[B00A0:55]	Illuminated	Configuration setting error (occupant classification sensor structural malfunction)	–	–	C, D	×	
[B00A0:81]	Illuminated	Occupant classification sensor memory check sum error	–	–	C, D	×	
[B00A0:87]	Illuminated	Signal reception error from occupant classification sensor	–	–	C, D	×	
[B00A0:8F]	Illuminated	Seat weight sensor circuit open circuit or short to power supply	–	–	C, D	×	
[B00B5:11]	Illuminated	Seat track position sensor circuit short to body ground	–	–	C, D	×	(See Inspection procedure for configuration and undetected component DTC.)
[B00B5:12]	Illuminated	Seat track position sensor circuit short to power supply	–	–	C, D	×	
[B00B5:13]	Illuminated	Seat track position sensor circuit open	–	–	C, D	×	
[B00B5:1D]	Illuminated	Seat track position sensor circuit current out of range	–	–	C, D	×	
[B00B5:2B]	Illuminated	Short circuit to seat track position sensor and other air bag sensor circuits	–	–	C, D	×	

DTC		System malfunction location	Fail-safe function	Drive cycle	Self test type*1	Memory function	Page
M-MDS display	Air bag system warning light						
B10FE:11	Illuminated	Passenger-side side air bag sensor circuit short to body ground	–	–	C, D	×	(See DTC B10FE:11/B10FE:12/B10FE:29/B10FE:2B/B10FE:4A/B10FE:87/B10FE:96 [SAS CONTROL MODULE (STANDARD DEPLOYMENT CONTROL SYSTEM - MEXICO SPEC.)].)
B10FE:12	Illuminated	Passenger-side side air bag sensor circuit short to power supply	–	–	C, D	×	
B10FE:29	Illuminated	Passenger-side side air bag sensor internal malfunction	–	–	C, D	×	
B10FE:2B	Illuminated	Short circuit to passenger-side side air bag sensor and other air bag sensor circuits	–	–	C, D	×	
B10FE:4A	Illuminated	Passenger-side side air bag sensor ID error (assembly incorrect)	–	–	C, D	×	
B10FE:87	Illuminated	Signal reception error from passenger-side side air bag sensor	–	–	C, D	×	
B10FE:96	Illuminated	Passenger-side side air bag sensor internal malfunction	–	–	C, D	×	
B10FE:55	Illuminated	Configuration setting error (passenger-side side air bag sensor structural malfunction)	–	–	C, D	×	(See DTC B10FD:55/B10FE:55 [SAS CONTROL MODULE (STANDARD DEPLOYMENT CONTROL SYSTEM - MEXICO SPEC.)].)
B1126:11	Illuminated	Driver-side side air bag module circuit short to body ground	–	–	C, D	×	(See DTC B1126:11/B1126:12/B1126:13/B1126:19/B1126:1A [SAS CONTROL MODULE (STANDARD DEPLOYMENT CONTROL SYSTEM - MEXICO SPEC.)].)
B1126:12	Illuminated	Driver-side side air bag module circuit short to power supply	–	–	C, D	×	
B1126:13	Illuminated	Driver-side side air bag module circuit open circuit or resistance high	–	–	C, D	×	
B1126:19	Illuminated	Short circuit to driver-side side air bag module and other air bag module circuits	–	–	C, D	×	
B1126:1A	Illuminated	Driver-side side air bag module circuit resistance low	–	–	C, D	×	