

2012 - Mazda6 - Body and Accessories

NO.4 BSM INDICATOR LIGHT ILLUMINATES WHILE NOT UNDER LIGHT-ILLUMINATION CONDITIONS [BLIND SPOT MONITORING (BSM)]

4	BSM indicator light illuminates while not under light-illumination conditions
DESCRIPTION	• The BSM indicator light illuminates, but the conditions to illuminate the BSM indicator light are not satisfied (vehicle speed above 32 km/ h { 20 mph} or more, turn signals off, and vehicle in warning zone).
Possible Causes	• The BSM control module recognizes a vehicle as being inside the warning zone when it is actually outside of it. ▪ Radar (BSM control module integrated) is emitted outside of warning zone (deviates from warning zone) • Damage, deformity or looseness to installation bracket or vehicle frame (including moderate impacts) • Malfunction in steering angle signal (communication error between BCM and BSM control module, or steering angle sensor malfunction) • Problem with rear bumper such as soiling to radar emitting/receiving area, application of stickers (including transparent types), repairs using putty application ▪ After-market electrical parts interfere with BSM system • BSM control module does not recognize vehicle speed correctly (BSM control module mistakenly recognizes vehicle speed as being above 32 km/ h { 20 mph} or more ▪ PCM communication error with BSM control module ▪ Malfunction in ABS wheel-speed sensor related parts • Malfunction in BSM indicator light related parts ▪ Short to power supply circuit in wiring harness between BSM control module and BSM indicator light

Diagnostic Procedure

Step	Inspection	Action	
1	VERIFY DTCs - Retrieve DTCs from the BSM control module, BCM, and the PCM using the M-MDS. (See DTC INSPECTION [BLIND SPOT MONITORING (BSM)].) (See DTC INSPECTION [BCM].) (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) (See ON-BOARD DIAGNOSTIC TEST [MZI 3.7 V6].) - Are any DTCs displayed?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [BLIND SPOT MONITORING (BSM)] .) (See DTC TABLE [BCM] .) (See DTC TABLE [MZR 2.5] .) (See DTC TABLE [MZI 3.7 V6] .)
		No	Go to the next step.
2	INSPECT IF MALFUNCTION IS IN INPUT SIGNAL OR BSM CONTROL MODULE - Monitor the following PIDs on the suspected side of the BSM control module using the M-MDS. (See PID/ DATA MONITOR INSPECTION [BLIND SPOT MONITORING (BSM)].) - VSPD - SWA_POS - Are the monitoring values normal?	Yes	Go to Step 5.
		No	- If the PID_VSPD monitoring value is normal, go the next step. - If the PID_VSPD monitoring value is not normal, go the Step 4.
3	INSPECT VEHICLE SPEED SIGNAL - Monitor the PID VSS for the PCM using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) (See ON-BOARD DIAGNOSTIC TEST [MZI 3.7 V6].) - Is the monitoring value normal?	Yes	Replace the BSM control module. (See BLIND SPOT MONITORING (BSM) CONTROL MODULE REMOVAL/ INSTALLATION .)
		No	Inspect the ABS wheel speed sensor related parts. (See FRONT ABS WHEEL-SPEED SENSOR INSPECTION .) (See REAR ABS WHEEL-SPEED SENSOR INSPECTION .)
4	INSPECT STEERING ANGLE SIGNAL	Yes	Replace the BCM. BODY CONTROL MODULE (BCM)

	- Monitor the PID STEER_ANGL for the DSC HU/CM using the M-MDS. (See ON-BOARD DIAGNOSIS [DYNAMIC STABILITY CONTROL (DSC)].) - Is the monitoring value normal?		(See REMOVAL/ INSTALLATION.)
		No	- Inspect steering angle signal. (See STEERING ANGLE SENSOR INSPECTION.) - Perform steering angle sensor initialization.
5	INSPECT REAR BUMPER - Inspect the rear bumper at the BSM installation area for the following: - Installation condition - Sticker adhesion - Excessive soiling - Repairs using putty - Is the rear bumper condition normal?	Yes	Go to the next step.
		No	Repair or replace malfunctioning parts, or replace the rear bumper. (See REAR BUMPER REMOVAL/ INSTALLATION .)
6	VERIFY THE CONDITION OF THE BSM CONTROL MODULE - Remove the rear bumper. (See REAR BUMPER REMOVAL/ INSTALLATION.) - Inspect the BSM control module for the following: - Looseness - Damage or deformity to the bracket - Distortion at vehicle installation surface - Is the BSM control module installation condition normal?	Yes	Go to the next step.
		No	Repair or replace the malfunctioning part.
7	VERIFY IF CAUSE OF TROUBLE IS IN AFTER-MARKET ELECTRICAL PRODUCT OR ELSEWHERE - Remove the after-market electrical product. - Verify that the malfunction symptom recurs as stated by the customer.	Yes	Go to the next step.
		No	The after-market electrical product is causing the malfunction.

	Does the malfunction symptom recur?		
8	INSPECT BSM CONTROL MODULE (RADAR) - Inspect the BSM control module. (See BLIND SPOT MONITORING (BSM) CONTROL MODULE INSPECTION.) - Is the BSM control module normal?	Yes	- Temporary malfunction with the radar echo-back. - If the same symptom recurs repeatedly, replace the BSM control module. (See BLIND SPOT MONITORING (BSM) CONTROL MODULE REMOVAL/ INSTALLATION.)
		No	Replace the BSM control module.
			(See BLIND SPOT MONITORING (BSM) CONTROL MODULE REMOVAL/ INSTALLATION .)

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Diagnostic Procedure

Step	Inspection	Action	
1	VERIFY DTCs - Retrieve DTCs from the BSM control module, BCM, and the PCM using the M-MDS. (See DTC INSPECTION [BLIND SPOT MONITORING (BSM)].) (See DTC INSPECTION [BCM].) (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) (See ON-BOARD DIAGNOSTIC TEST [MZI 3.7 V6].) - Are any DTCs displayed?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [BLIND SPOT MONITORING (BSM)] .) (See DTC TABLE [BCM] .) (See DTC TABLE [MZR 2.5] .) (See DTC TABLE [MZI 3.7 V6] .)
		No	Go to the next step.
2	INSPECT IF MALFUNCTION IS IN INPUT SIGNAL OR BSM CONTROL MODULE - Monitor the following PIDs on the suspected side of the BSM control module using the M-MDS. (See PID/ DATA MONITOR INSPECTION [BLIND SPOT MONITORING (BSM)].) - VSPD - SWA_POS - Are the monitoring values normal?	Yes	Go to Step 5.
		No	- If the PID_VSPD monitoring value is normal, go the next step. - If the PID_VSPD monitoring value is not normal, go the Step 4.
3	INSPECT VEHICLE SPEED SIGNAL - Monitor the PID VSS for the PCM using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) (See ON-BOARD DIAGNOSTIC TEST [MZI 3.7 V6].) - Is the monitoring value normal?	Yes	Replace the BSM control module. (See BLIND SPOT MONITORING (BSM) CONTROL MODULE REMOVAL/ INSTALLATION .)
		No	Inspect the ABS wheel speed sensor related parts. (See FRONT ABS WHEEL-SPEED SENSOR INSPECTION .) (See REAR ABS WHEEL-SPEED SENSOR INSPECTION .)
4	INSPECT STEERING ANGLE SIGNAL	Yes	Replace the BCM. BODY CONTROL MODULE (BCM)

	- Monitor the PID STEER_ANGL for the DSC HU/CM using the M-MDS. (See ON-BOARD DIAGNOSIS [DYNAMIC STABILITY CONTROL (DSC)].) - Is the monitoring value normal?		(See REMOVAL/ INSTALLATION.)
		No	- Inspect steering angle signal. (See STEERING ANGLE SENSOR INSPECTION.) - Perform steering angle sensor initialization.
5	INSPECT REAR BUMPER - Inspect the rear bumper at the BSM installation area for the following: - Installation condition - Sticker adhesion - Excessive soiling - Repairs using putty - Is the rear bumper condition normal?	Yes	Go to the next step.
		No	Repair or replace malfunctioning parts, or replace the rear bumper. (See REAR BUMPER REMOVAL/ INSTALLATION .)
6	VERIFY THE CONDITION OF THE BSM CONTROL MODULE - Remove the rear bumper. (See REAR BUMPER REMOVAL/ INSTALLATION.) - Inspect the BSM control module for the following: - Looseness - Damage or deformity to the bracket - Distortion at vehicle installation surface - Is the BSM control module installation condition normal?	Yes	Go to the next step.
		No	Repair or replace the malfunctioning part.
7	VERIFY IF CAUSE OF TROUBLE IS IN AFTER-MARKET ELECTRICAL PRODUCT OR ELSEWHERE - Remove the after-market electrical product. - Verify that the malfunction symptom recurs as stated by the customer.	Yes	Go to the next step.
		No	The after-market electrical product is causing the malfunction.

	Does the malfunction symptom recur?		
8	INSPECT BSM CONTROL MODULE (RADAR) - Inspect the BSM control module. (See BLIND SPOT MONITORING (BSM) CONTROL MODULE INSPECTION.) - Is the BSM control module normal?	Yes	- Temporary malfunction with the radar echo-back. - If the same symptom recurs repeatedly, replace the BSM control module. (See BLIND SPOT MONITORING (BSM) CONTROL MODULE REMOVAL/ INSTALLATION.)
		No	Replace the BSM control module. (See BLIND SPOT MONITORING (BSM) CONTROL MODULE REMOVAL/ INSTALLATION .)