

2012 - Mazda6 - Body and Accessories

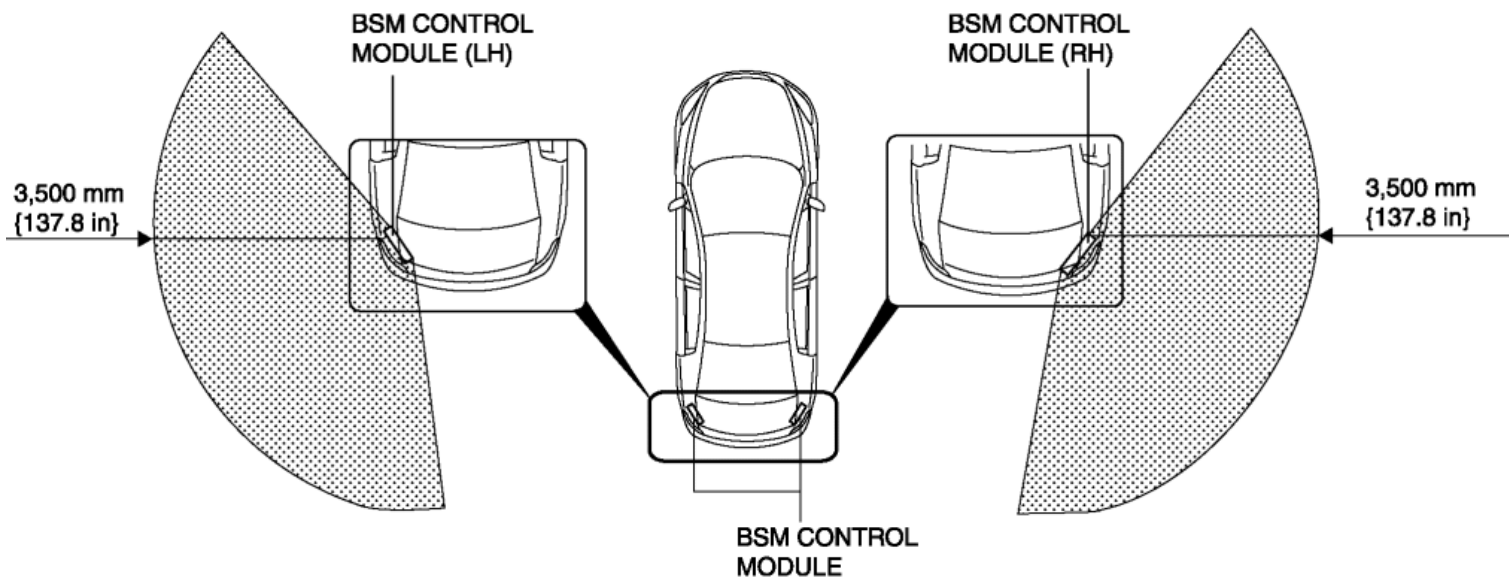
BLIND SPOT MONITORING (BSM) RADAR TEST

Introduction

- The BSM radar test examines the reflectivity from the **SST** (reflector) by forcibly emitting radar to the **SST**.
- One BSM control module is installed on the left and right sides. Perform the radar test for each of them.
- Perform the radar test on level ground. The correct test results cannot be obtained if the vehicle and reflector are set at different heights or different angles.
- A radar test cannot be performed correctly if obstructions which interfere with radar emitting adhere to the BSM control module or the rear bumper. Perform the following procedure before performing the radar test.
 - Verify that there is no water or dirt adhering to the radar emitting surface of the BSM control module and the rear bumper.
 - Verify that there is no problem with the radar emitting surface of the BSM control module and the rear bumper such as dirt, application of metallic stickers, or repairs using putty application.
- Perform the DTC inspection for the BSM using the M-MDS and verify that no DTCs are displayed.
 - If any DTCs are displayed, perform troubleshooting according to the corresponding DTC inspection. (See [DTC TABLE \[BLIND SPOT MONITORING \(BSM\)\]](#).)

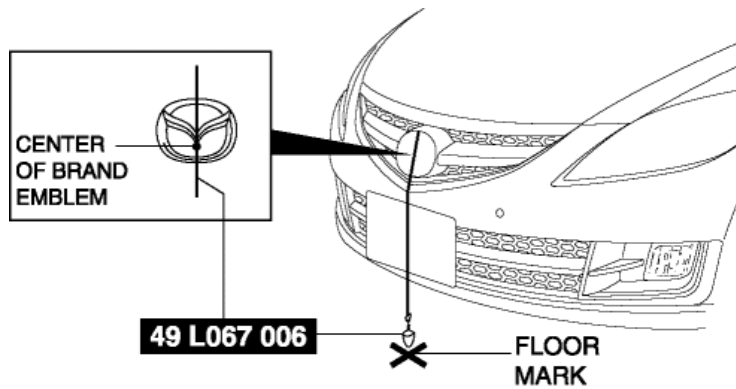
Radar Test Procedure

1. Remove any occupants and unload cargo from the cabin and trunk compartment so that the vehicle is in an unloaded condition.
2. Adjust the air pressure of each tire to the specified value.
3. Park the vehicle on a flat, level surface.
4. Verify that there is no obstruction within a **3,500 mm { 137.8 in }** radius from the BSM control module as shown in the figure.



CAUTION:

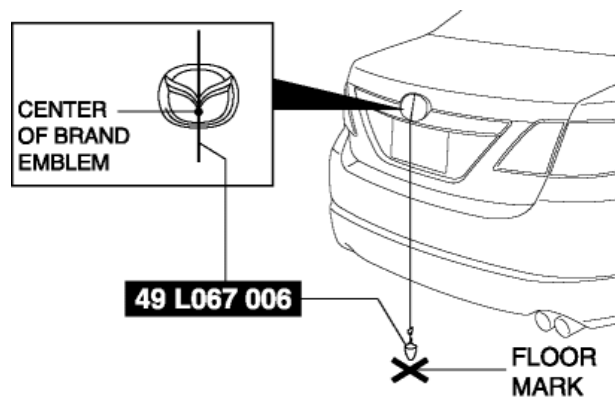
- If an obstruction such as a drain lid or a person is within a **3,500 mm { 137.8 in }** radius from the BSM control module, it will interfere with radar emitting and skew the radar test results. Remove any obstruction which is within a **3,500 mm { 137.8 in }** radius from the BSM control module.
5. Adjust the **SST** (plum-bob) so that it is aligned with the center of the brand emblem, determine the center position at the front of the vehicle, and mark the center position on the floor surface.



NOTE:

- The center of the brand emblem indicates the center position at the front of the vehicle.
- A commercially-available plum-bob (weight: **150 g { 5.29 oz }**) can be substituted for the **SST**.

6. Adjust the **SST** (plum-bob) so that it is aligned with the center of the brand emblem, determine the center position at the rear of the vehicle, and mark the center position on the floor surface.



NOTE:

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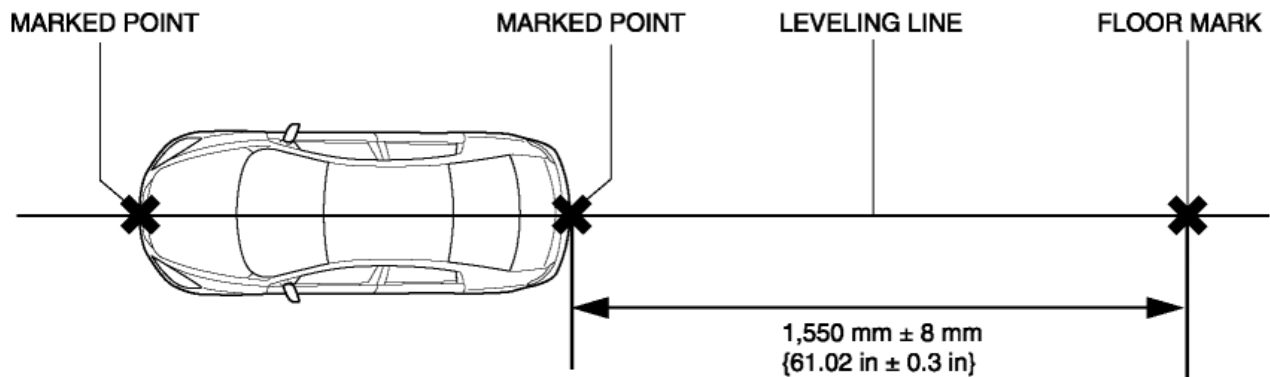
7. Position the leveling line over the marked positions at the front and rear of the vehicle, and then mark the position on the floor surface **1,550 mm $\pm$ 8 mm { 61.02 in $\pm$ 0.3 in }** from the vehicle rear.

CAUTION:

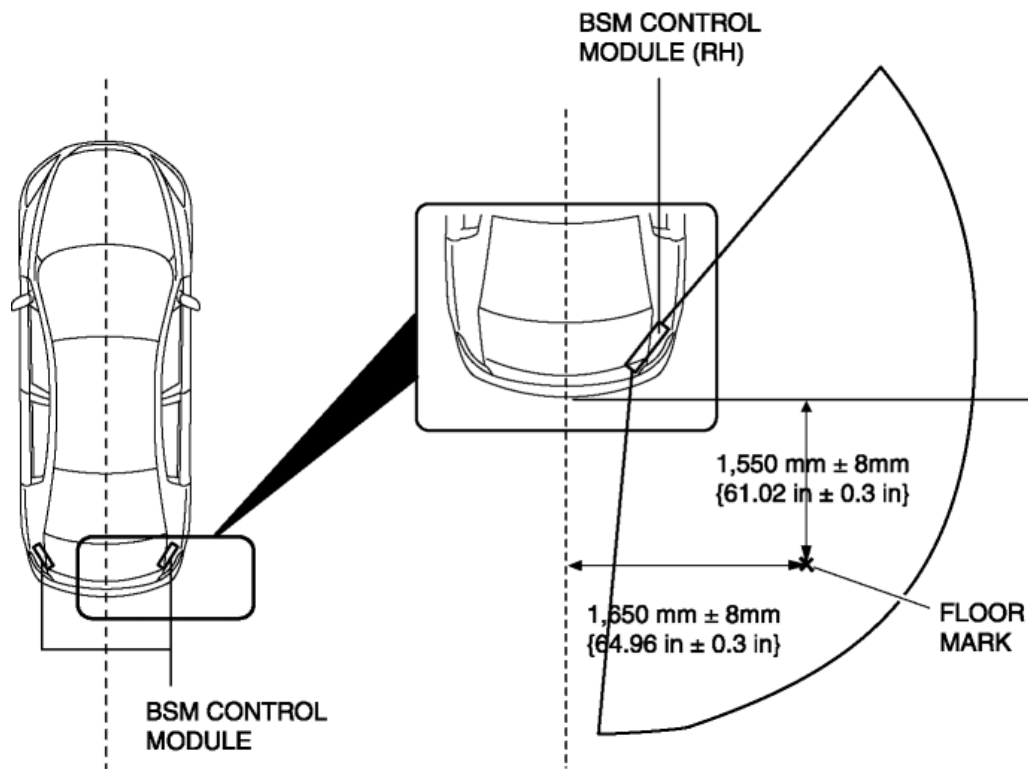
- If the center position at the vehicle rear is set first, the leveling line could be misaligned. Determine the center position at the vehicle front first, then set the center position at the vehicle rear.

NOTE:

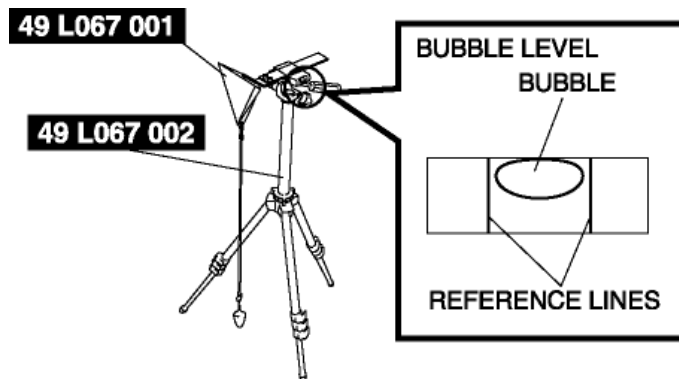
- Use a commercially-available leveling line.



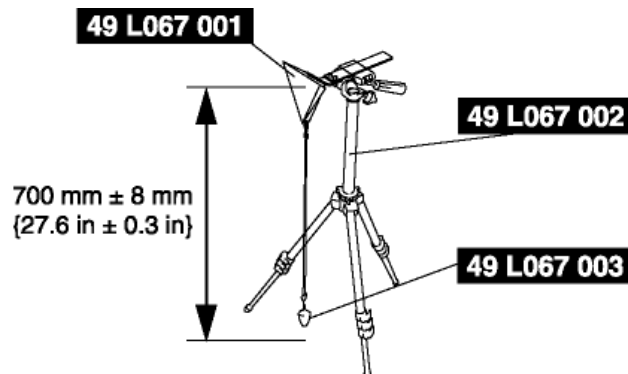
8. Mark the position on the floor where a right angle is formed by the lines which cross at the point **1,550 mm $\pm$ 8 mm { 61.02 in $\pm$ 0.3 in }** from the vehicle rear and the point **1,650 mm $\pm$ 8 mm { 64.96 in $\pm$ 0.3 in }** from the vehicle side which is perpendicular to the vehicle's center line.



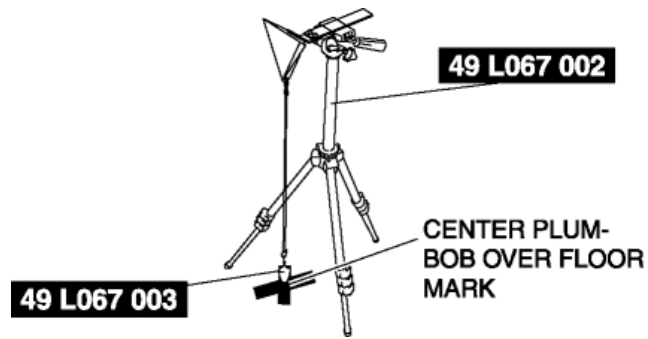
9. Set the **SST** (reflector) installation surface level using the bubble level built into the **SST** (tripod).



10. Install the **SST**s (reflector and plum-bob) to the **SST** (tripod) and adjust the height of the reflector at its center to **700 mm $\pm$ 8 mm { 27.6 in $\pm$ 0.3 in }**.

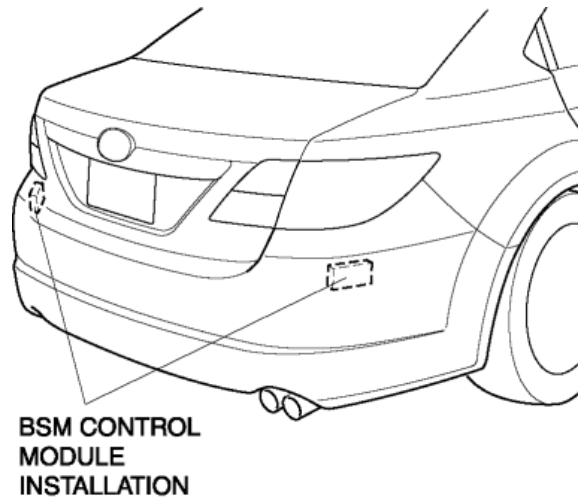


11. Verify visually that the reflecting surface of the reflector is facing the BSM control module, and position the **SST** (tripod) so that the **SST** (plum-bob) is positioned over the marked position.

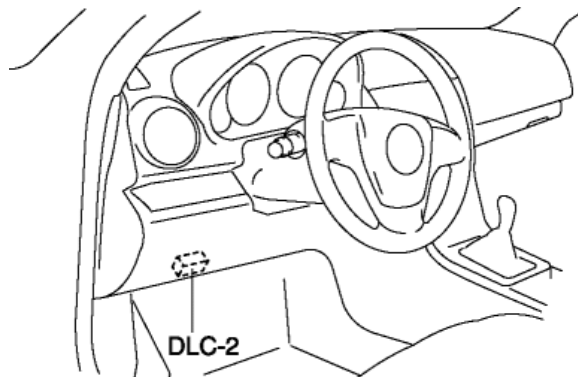


NOTE:

- The BSM control module installation position is indicated in the figure.



12. Perform the BSM radar test according to the screen instructions using the IDS.
13. Connect the M-MDS (IDS) to the DLC-2.



14. After the vehicle is identified, select the following items from the initialization screen of the IDS.
 - When using the IDS (laptop PC)
 - Select "Electrical".
15. Then, select items from the screen menu in the following order.
 - Select "BSM Radar Test".
16. Perform the radar test according to the directions on the screen.
17. Verify the M-MDS display.
 - "TEST PASSED" is displayed
 - Radar is normal.
 - "TEST FAILED" is displayed
 - Perform the inspection according to the following table.

Step	Inspection	Action
1	VERIFY REFLECTOR POSITION - Verify if the reflector is set in the correct position. (See BLIND SPOT MONITORING (BSM) RADAR TEST.) - Is the reflector set in the correct position?	Yes Go to the next step.
		No Set the reflector in the correct position and perform the BSM radar test. (See BLIND SPOT MONITORING (BSM) RADAR TEST.)
2	RE-PERFORM BSM RADAR TEST - Perform the BSM radar test. - Repeat the BSM radar test up to four times until "TEST PASSED" is displayed. (See BLIND SPOT MONITORING (BSM) RADAR TEST.) - Is "TEST PASSED" displayed?	Yes BSM radar test completed.
		No Go to the next step.
3	VERIFY EFFECT OF REAR BUMPER - Remove the rear bumper. (See REAR BUMPER REMOVAL/ INSTALLATION.) - Perform the BSM radar test. - Repeat the BSM radar test up to four times until "TEST PASSED" is displayed. (See BLIND SPOT MONITORING (BSM) RADAR TEST.) - Is "TEST PASSED" displayed?	Yes Replace the rear bumper. (See REAR BUMPER REMOVAL/ INSTALLATION.)
		No Go to the next step.
4	INSPECT BSM CONTROL MODULE FOR INCORRECT INSTALLATION AND DISTORTION AT VEHICLE INSTALLATION SURFACE - Inspect the BSM control module for incorrect installation and distortion at the vehicle installation surface. - Is the BSM control module installed correctly without distortion?	Yes Go to the next step.
		No Repair or replace the malfunctioning part, then go to the next step.
5	PERFORM BSM RADAR TEST - Perform the BSM radar test. - Repeat the BSM radar test up to four times until "TEST PASSED" is displayed. (See BLIND SPOT MONITORING (BSM) RADAR TEST.) - Is "TEST PASSED" displayed?	Yes BSM radar test completed.
		No Replace the BSM control module. (See BLIND SPOT MONITORING (BSM) CONTROL MODULE REMOVAL/ INSTALLATION.)

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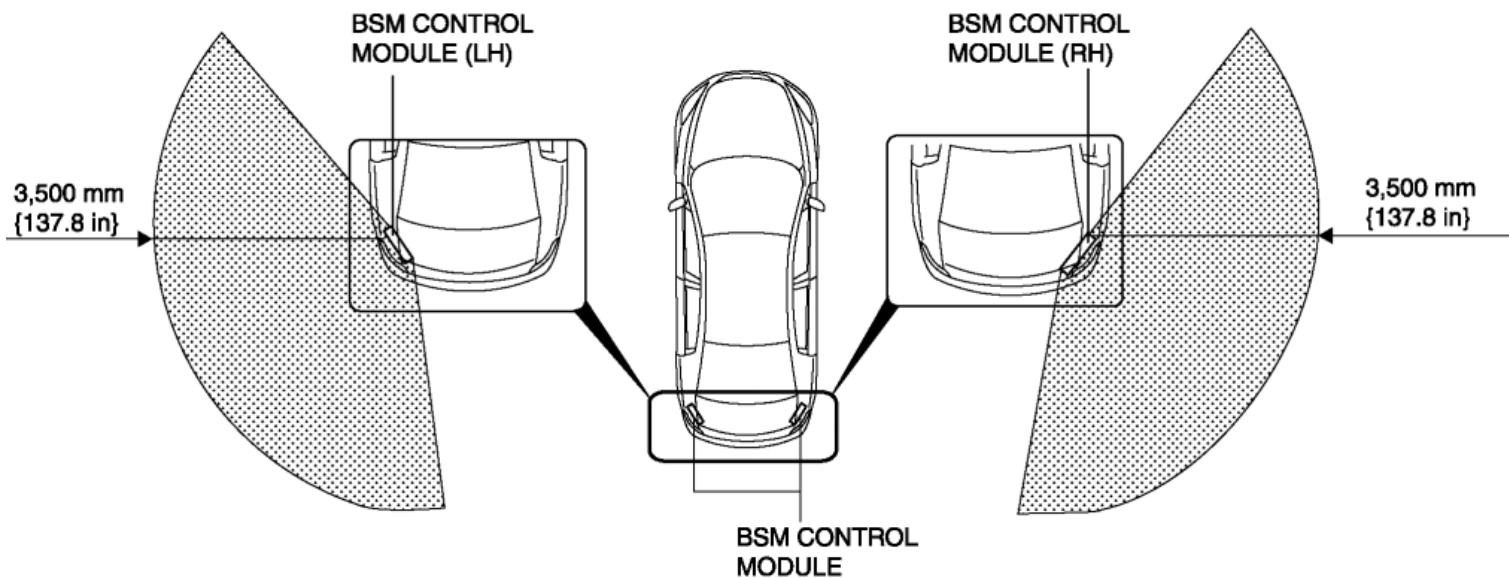
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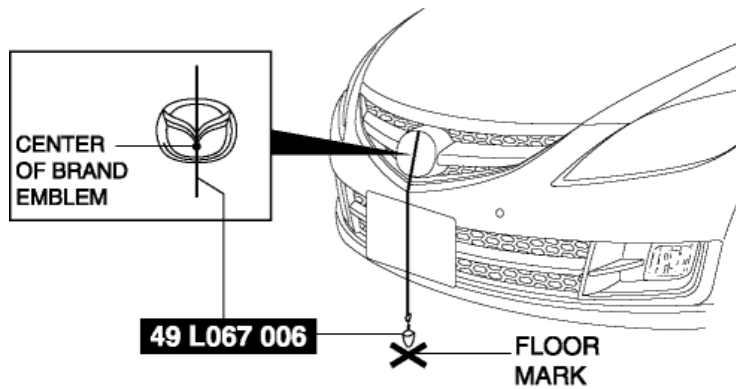
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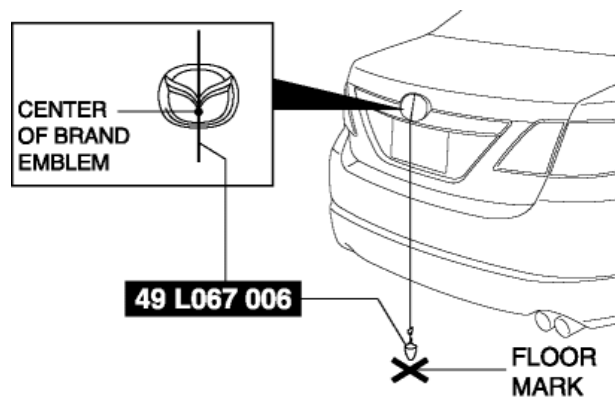
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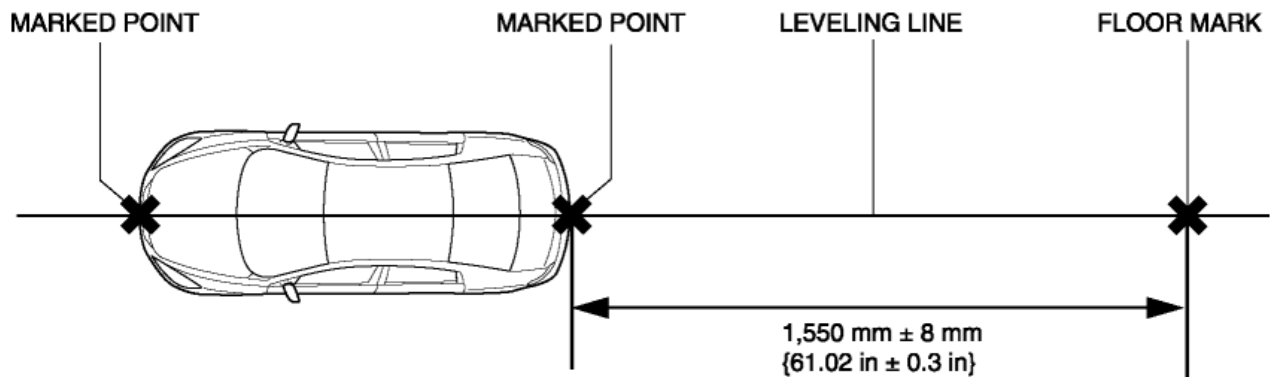
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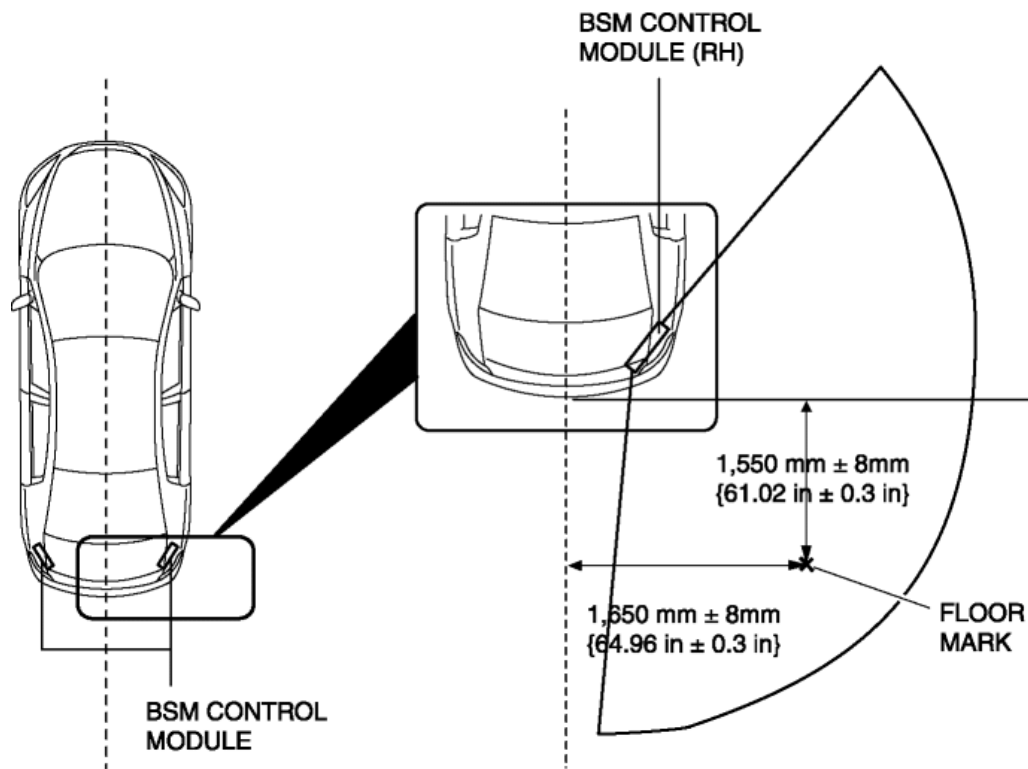
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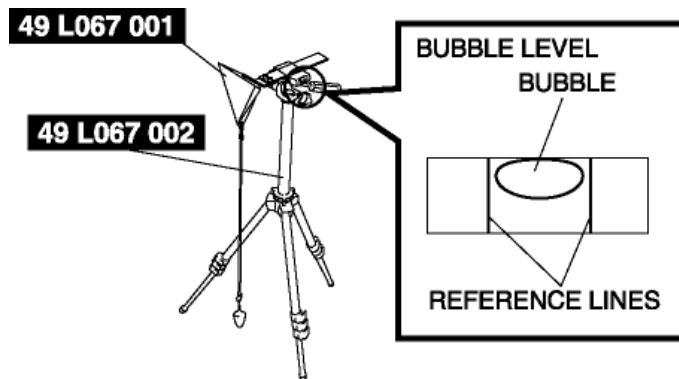
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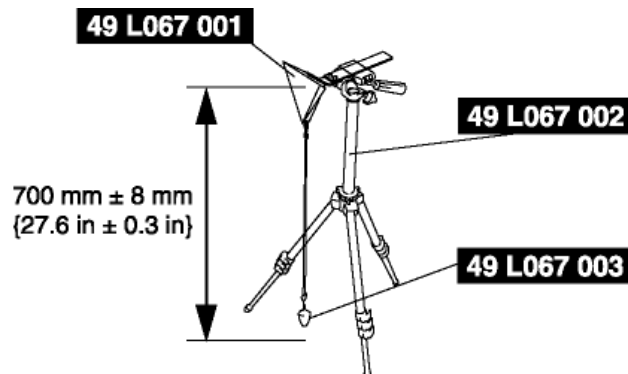
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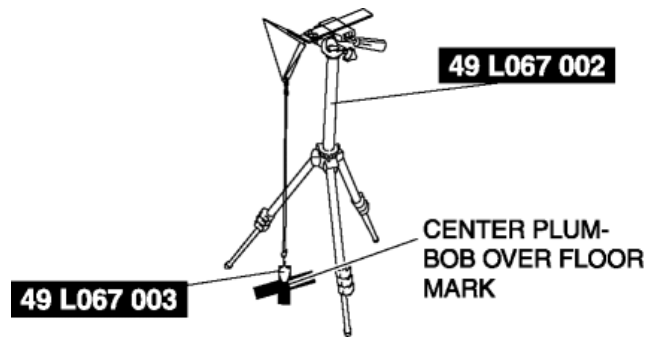
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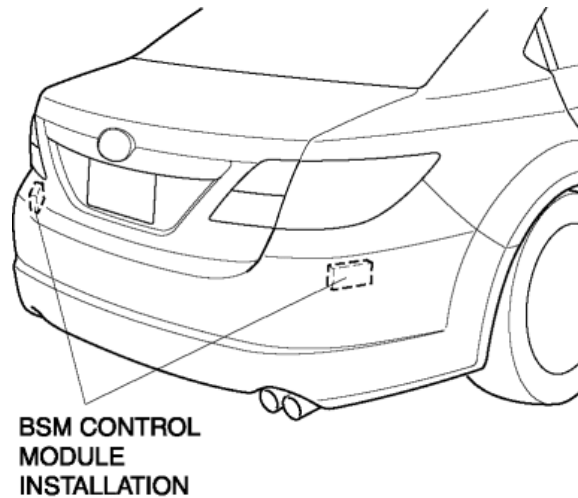


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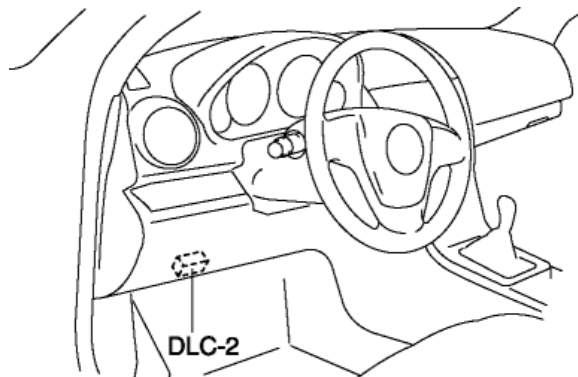


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3	VERIFY EFFECT OF REAR BUMPER - Remove the rear bumper. (See REAR BUMPER REMOVAL/ INSTALLATION.) - Perform the BSM radar test. - Repeat the BSM radar test up to four times until "TEST PASSED" is displayed. (See BLIND SPOT MONITORING (BSM) RADAR TEST.) - Is "TEST PASSED" displayed?	Yes Replace the rear bumper. (See REAR BUMPER REMOVAL/ INSTALLATION.)
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