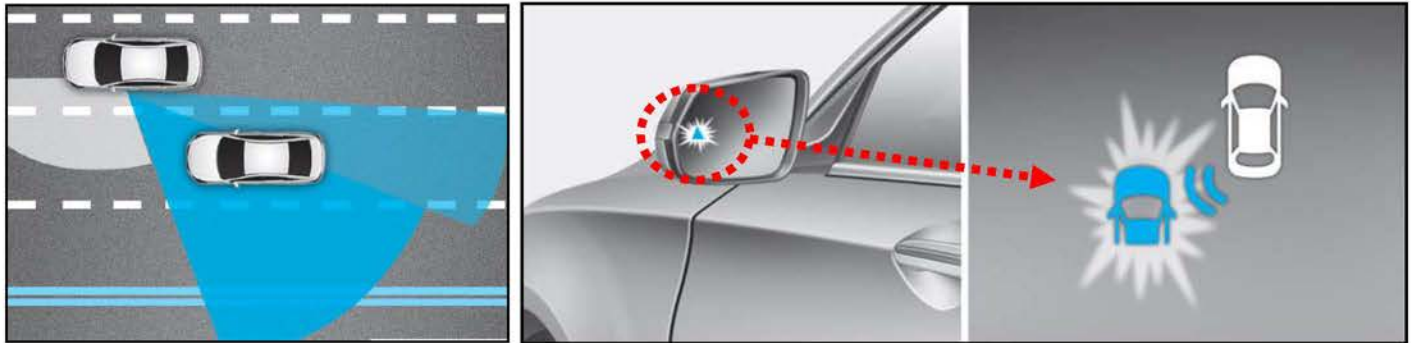
 HYUNDAI NEW THINKING. NEW POSSIBILITIES. Technical Service Bulletin	GROUP BODY ELECTRICAL	NUMBER 16-BE-009
	DATE DECEMBER 2016	MODEL(S) ALL
SUBJECT: BLIND SPOT DETECTION (BSD)		

Description: The Blind Spot Detection (BSD) is a system that measures the speed of and distance from the following vehicles by using two magnetic wave radar sensors attached in the rear bumper. The BSD detects vehicle within the blind spot zone and gives off an alarm (visual and audible). The two magnetic radar sensors provide these functions for BSD:

- Senses other vehicles in the BSD zone and turns on the BSD warning lamp for the driver. The warning lamp starts blinking when the driver turns on the turn signal lamp to enter the lane where another vehicle is driving.

This bulletin describes the general operation of the BSD, provides a radar sensor troubleshooting guide, and outlines the BSD system calibration method.



Applicable Vehicles: All Vehicles Equipped with BSD

Warranty Information:
Normal Warranty Applies.

NOTE: If the BSD sensor(s) is confirmed to be damaged by external impact of a collision accident, BSD sensor(s) replacement will not be covered under a warranty claim.

ENVIRONMENTAL FACTORS THAT MAY CAUSE THE BSD SYSTEM TO MALFUNCTION

Ⓐ BSD cancellation by itself, Ⓑ wrong target detection(false alarm) and Ⓒ missing calibration, etc



● Iron wall at the construction site



● Steel floor (subway construction site)



● Concrete barrier



● Bridge



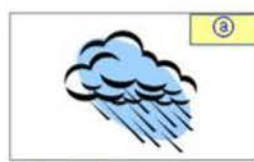
● tunnel



● Highway exit (IC)



● Mountainous area (one side is a cliff)



● Rainy/Snowy day



● Blocked sensor (bicycle holder)



● Broken/Deformed bumper (external damage)



● Driving near large size vehicles

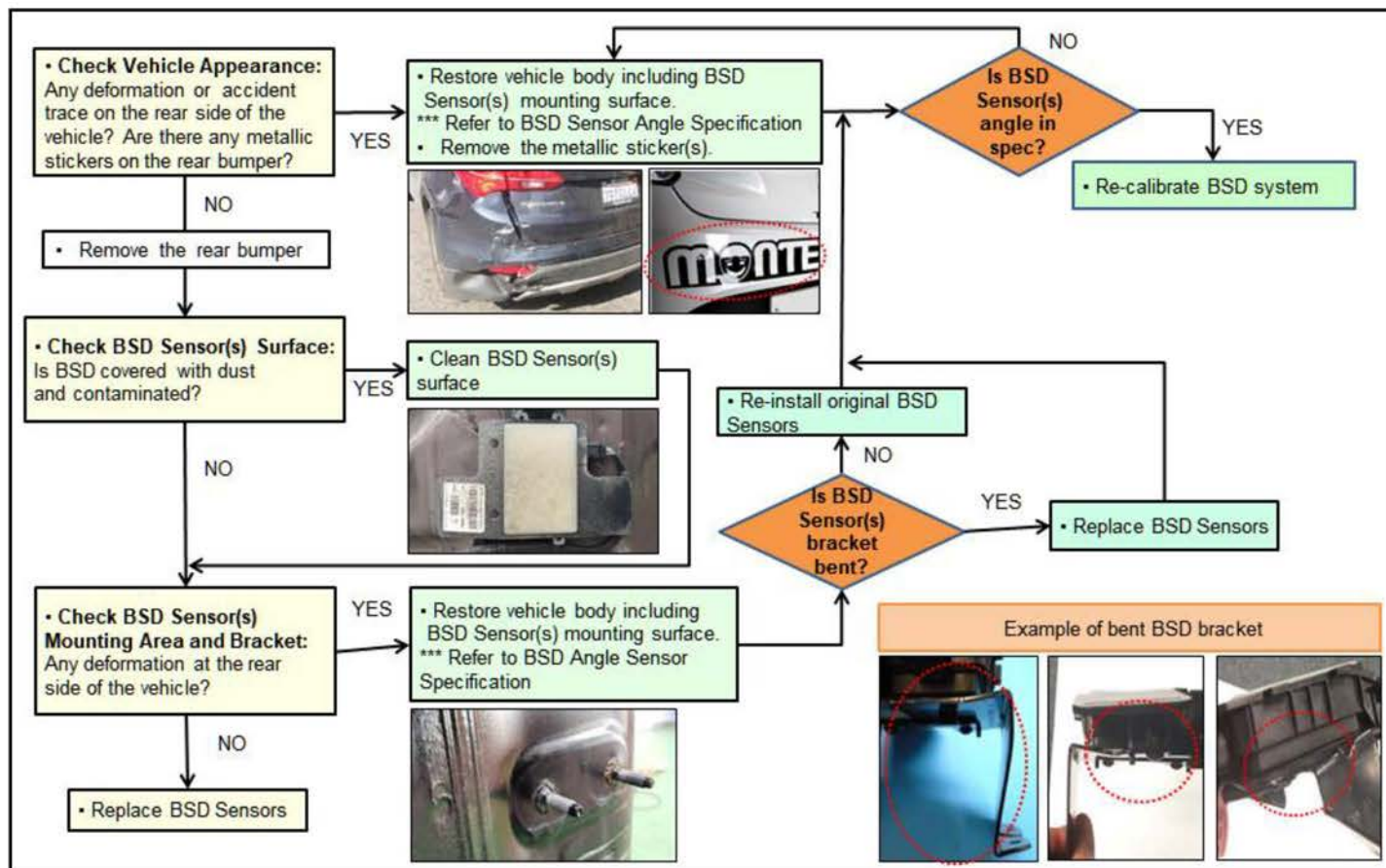


● Vehicle driving closely (at the rear)

BSD RADAR SENSOR TROUBLESHOOTING GUIDE

If a vehicle has any of the active codes from below, follow the diagram below for troubleshooting assistance:

- C270254 - Control Module Missing Calibration
- C270354 - Control Module Slave Calibration



***** BSD Sensor Angle Specification:**

Model	BSD Sensor Manufacturer	Horizontal Angle (ϕ 1, ϕ 2)	Vertical Angle
Azera (HG)	Mando	65 +- 3 degrees	87.25 +- 1 degrees
Elantra (AD)	Mando	54 +- 3 degrees	86.75 +- 1 degrees
Equus (VI)	Mando	22 +- 2 degrees	90 +- 1 degrees
Genesis G80 (DH)	Mando	68 +- 3 degrees	87.25 +- 1 degrees
Genesis G90 (HI)	Delphi	40 +- 2 degrees	92 +- 3.5 degrees
Ioniq (AE)	Mobis	37 +- 2 degrees	90 +- 1 degrees
Santa Fe Sport (AN)	Mobis	37 +- 2 degrees	90 +- 1 degrees
Santa Fe (NC)	Mobis	37 +- 2 degrees	90 +- 1 degrees
Sonata (LF)	Mobis	37 +- 2 degrees	90 +- 1 degrees
Tucson (TL)	Mobis	37 +- 2 degrees	90 +- 1 degrees

BSD RADAR SENSOR ANGLE MEASUREMENT

ILLUSTRATION OF THE BSD SENSOR HORIZONTAL ANGLE MEASUREMENT METHOD

A
Projection line parallel to the BSD Sensor surface position.

B
Line is centered using the middle of the front and rear emblem.

φ 1 (Left Side) φ 2 (Right Side)
Horizontal Angle measurement between the BSD sensor projection and the center line.

 Left Side Radar Sensor
 Right Side Radar Sensor

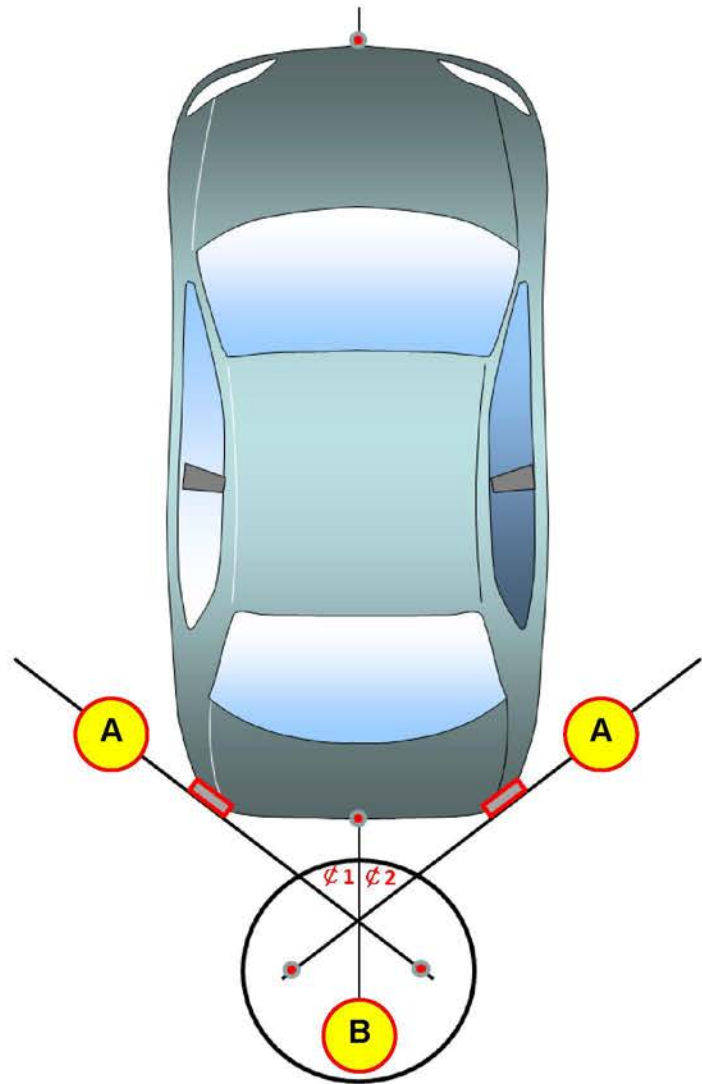
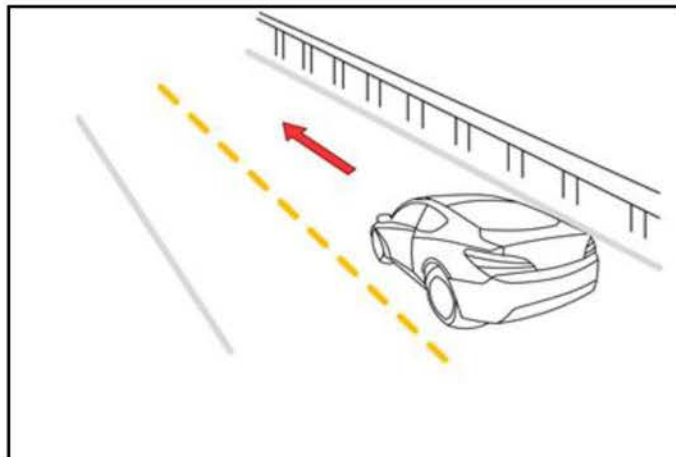


ILLUSTRATION OF THE BSD SENSOR VERTICAL ANGLE MEASUREMENT METHOD



BSD SYSTEM CALIBRATION METHOD

1. If the BSD Sensor(s) is in need of replacement, use the GDS to recalibrate the Blind Spot Detection System.



2. After completing the calibration procedure, perform a DTC scan using the GDS to confirm there are no DTC(s). If no DTC(s) were incurred, then the automatic calibration is completed.
3. Confirm BSD system is functioning normally.

NOTE: Follow the link from below for an example of BSD operation:

<https://www.youtube.com/watch?v=eA8o1melh6U&feature=youtu.be>