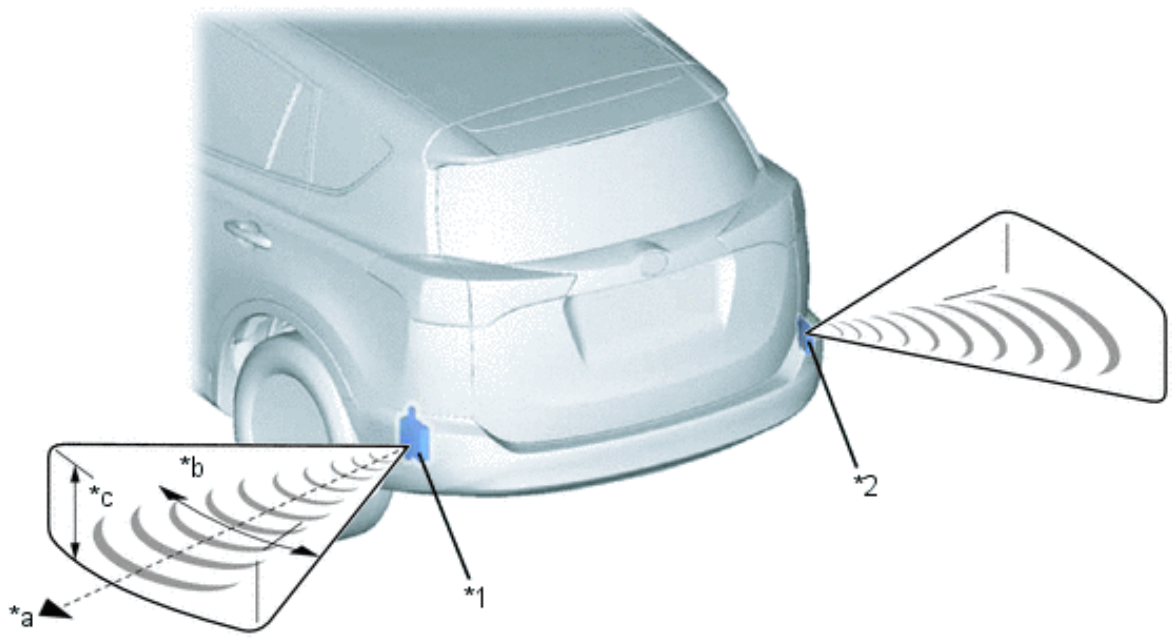
| | | |
|---|---|---|
| **Last Modified:** 03-12-2013 | 6.4 F | **Doc ID:** NM1000000005H2R |
| **Model Year:** 2013 | **Model:** RAV4 | **Prod Date Range:** [12/2012 - ] |
| **Title:** PARK ASSIST / MONITORING: BLIND SPOT MONITOR SYSTEM: BLIND SPOT MONITOR SENSOR; 2013 MY RAV4 [12/2012 - ] | | |

# BLIND SPOT MONITOR SENSOR

## 1. CONSTRUCTION

(a) The blind spot monitor sensor consists of a millimeter wave radar circuit and a signal processing circuit.

(b) The millimeter wave radar uses frequencies in the 24 GHz band.




| | | | |
|---|---|---|---|
| *1 | Blind Spot Monitor Sensor LH | *2 | Blind Spot Monitor Sensor RH |
| *a | Distance: Approximately 50 m (164 ft.) | *b | Horizontal Angle: Approximately 150° |
| *c | Vertical Angle: Approximately 20° | - | - |

(c) The distance to the object, azimuth and relative speed are calculated from the information that is provided by the reflected millimeter wave radar as described below:

| ITEM | CALCULATION METHOD |
|---|---|
| Distance | Calculated from the length of time that has elapsed from the time the waves of the millimeter wave radar have been emitted, until the reflected waves are received by the millimeter wave radar circuit. The distance is approximately 50 m (164 ft.). |
| Azimuth | Calculated from the reception angle of the millimeter wave radar reflections received. The detection angle has a horizontal range of approximately 150° and a vertical range of approximately 20°. |
| Relative Speed | Calculated by utilizing the change (Doppler effect*) that occurs in the frequency of the reflected millimeter wave radar waves. |

**HINT:**

*: The Doppler effect causes the observer to perceive the radio waves emitted by a moving object to be a higher frequency as it approaches, and to be a lower frequency as it recedes. This phenomenon is created because when an object is located far away, the radio waves are perceived at higher frequencies than those of the radio source. An SST is used if radar axis confirmation is needed. For details, refer to the Repair Manual.