

Subject		Market
Millimeter Wave Radar Sensor Floor Slope Compensation		USA
Service Category	Section	
Engine/Hybrid System	Cruise Control	
Applicability		
Lexus Models with Manually Adjusted Front Millimeter Wave Radar Sensor		

APPLICABLE VEHICLES

2006-2015	IS250	2006-2016	IS350
2010-2015	RX450H	2006	GS300
2013-2015	ES300H	2010-2015	IS250C
2008-2014	IS F	2008-2011	GS460
2008-2016	LS600H	2007-2015	ES350
2011-2017	CT200H	2007-2011, 2013-2015	GS450H
2008-2011, 2013-2015	LX570	2007-2017	LS460
2015-2017	RC350	2015-2017	RC F
2015-2017	NX200T	2006-2007	GS430
2016-2017	RC200T	2010-2012	HS250H
2010-2015	IS350C	2007-2011, 2013-2015	GS350
2010-2019	GX460	2011-2015	RX350
2016	IS200T	2015-2017	NX300H
2016-2017	RC300		

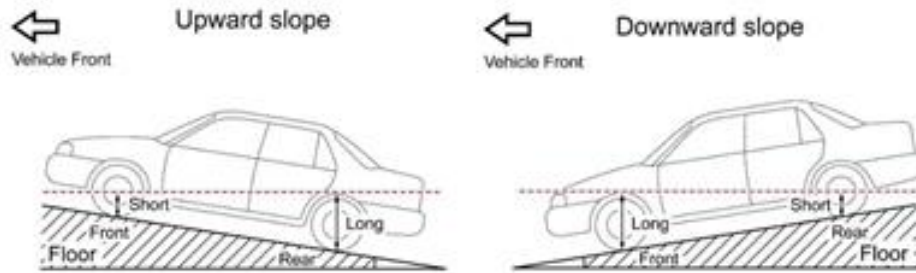
CONDITION

For proper calibration of the millimeter wave radar sensor, the vehicle must be on a level surface. If a level surface is not available, this tech tip should be used in conjunction with the repair manual to set the angle of the front millimeter wave radar sensor and reflector height before performing beam axis adjustment.

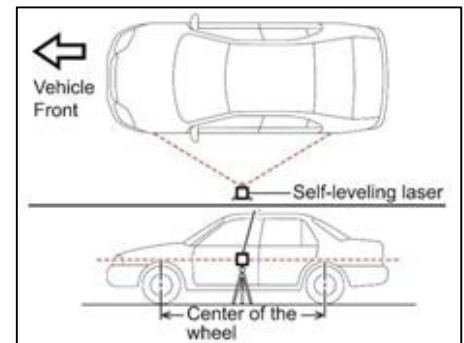
RECOMMENDATIONS
PREPARE VEHICLE FOR CALIBRATION

- REFER TO THE APPLICABLE VEHICLE'S REPAIR MANUAL FOR CALIBRATION PREPARATION

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RECOMMENDATIONS
DETERMINE FLOOR SLOPE AND SET VERTICAL ANGLE OF MILLIMETER WAVE RADAR SENSOR

[FLOOR SLOPE AND VERTICAL ANGLE CALIBRATION VIDEO](#)
1. INSTALL THE LASER LEVEL ONTO THE TRIPOD

- A. Install the tripod head attachment onto the base of the laser level.
- B. Engage the tripod head attachment onto the tripod and lock it in position.
**SST: 01816-00103 (Laser Level) [DEMO VIDEO](#)
 01816-00104 (Tri-pod)**


2. MEASURE THE FLOOR SLOPE ON BOTH SIDES OF VEHICLE

- A. Place the tripod and laser approximately 6 ft. away from the side of the vehicle.
- B. Level the tripod base and head using the built-in bubble levels.
- C. Turn on the laser and ensure that the laser switch is placed in the UNLOCKED position, so it can automatically level.
- D. Measure the distance from the floor to the laser line at the vertical center of the front wheel and record the value.
NOTE: Measure using either inches or millimeters.
- E. Measure the distance from the floor to the laser line at the vertical center of the rear wheel and record the value.
- F. Repeat steps A-E for the opposite side.



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3. CALCULATE VERTICAL ANGLE FOR MILLIMETER WAVE RADAR SENSOR

- A. Open the slope calculator link, select the appropriate vehicle from the dropdown, and enter the measured values at each wheel in the correct locations.

NOTE: Ensure the correct measurement value (inches or mm) is selected prior to calculating.

- B. Press the finalize button and then press calculate.
- C. The sheet will calculate the required vertical angle and reflector height adjustment based on the floor slope. Record these readings.

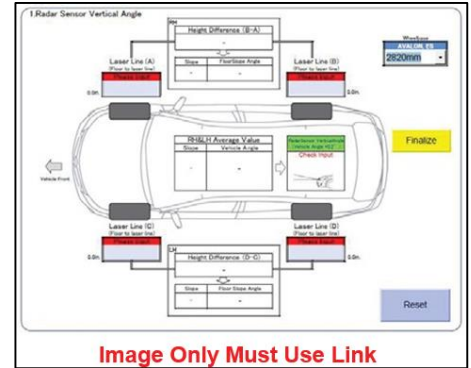


Image Only Must Use Link

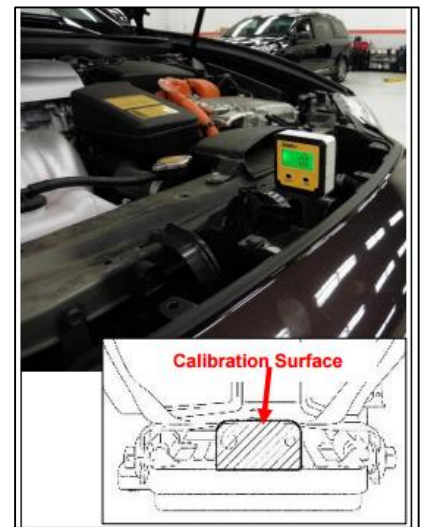
[**SLOPE CALCULATOR LINK**](#)

4. SET VERTICAL ANGLE OF MILLIMETER WAVE RADAR SENSOR

- A. Clean the top of the radar sensor surface and SST "Attachment A" mounting surfaces of any dust and debris.
- B. Place "Attachment A" (short or long depending on available clearance) on top of the radar sensor calibration surface as shown.
- C. Place the digital angle gauge on "Attachment A" with the screen facing the passenger side of the vehicle and retrieve sensor angle.

NOTE: Once the digital angle gauge has been powered on, the unit must be set to "Absolute Mode", ABS will be displayed in the upper right corner of the display.

SST: 09989-00010-01 or 09989-00010-L (Attachment A) 01815-00102 (Digital Angle Gauge) [DEMO VIDEO](#)



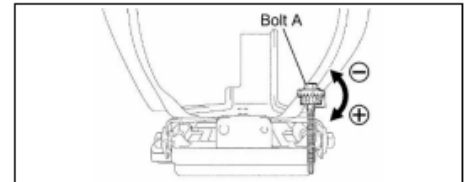
The digital angle gauge SST is directional and must be placed with the screen facing the passenger side of the vehicle for the up/down indicator to properly display the angle of the radar sensor. The tool indicates a positive or negative angle based on the right side of the tools vertical location.

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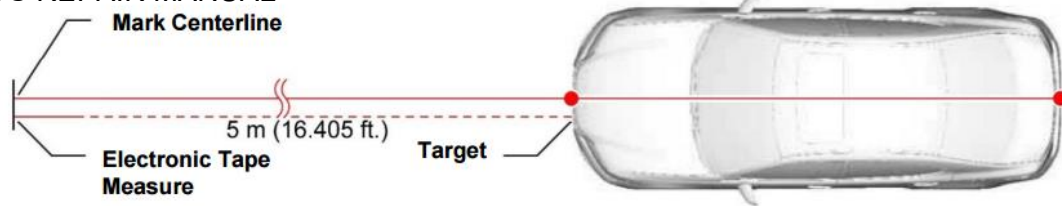
RECOMMENDATIONS

- D. Adjust the radar vertical angle to the value calculated on the slope calculation sheet.

STOP When adjusting the vertical angle ensure you pay attention to the up/down indicators on both the calculation sheet and digital angle gauge.


SET TARGET PLACEMENT AND PERFORM SENSOR CALIBRATION

1. LOCATE AND MARK THE CENTER LINE OF THE VEHICLE PER THE APPLICABLE VEHICLE'S REPAIR MANUAL

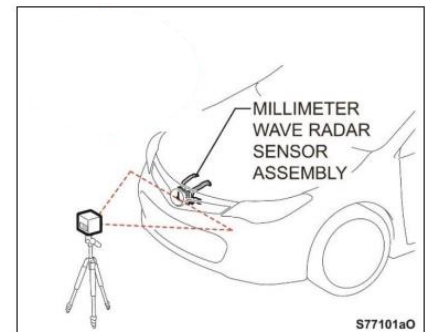


2. LOCATE THE REFLECTOR SST CALIBRATION POSITION PER THE APPLICABLE VEHICLE'S REPAIR MANUAL

3. SET REFLECTOR HEIGHT

[REFLECTOR HEIGHT ADJUSTMENT PROCEDURE VIDEO](#)

- Place the tripod and laser level in front of the vehicle.
- Level the tripod base and head using the built-in bubble levels.
- Turn on the laser level to the UNLOCKED position with both the vertical and horizontal laser lines being projected.
- Adjust the height of the tripod head and laser until the laser line crosses the center of the front emblem as shown.

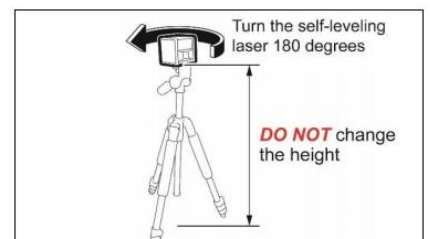


STOP

- The laser switch must be in the unlocked position so it can automatically self-level.
- If the laser light is flashing this indicates that the laser is not level or in the locked position.

- E. Turn the self-leveling laser 180 degrees and toward the reflector stand.

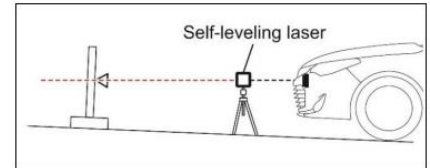
STOP Do not change the heights of the laser level or tripod when performing this step.



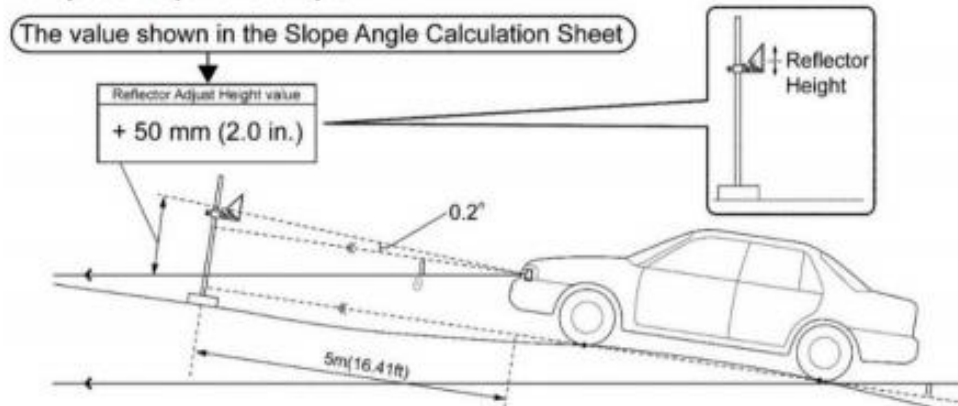
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F. Adjust the height of the reflector until the center aligns with the laser lines as shown.



G. Adjust the height of the reflector up or down in accordance with the slope calculation sheet value.

Example of Upward Slope

PERFORM BEAM AXIS ADJUSTMENT OF THE MILLIMETER WAVE RADAR SENSOR.

- REFER TO THE APPLICABLE VEHICLE'S REPAIR MANUAL FOR BEAM AXIS ADJUSTMENT INSTRUCTIONS

LINK REFERENCES

[SLOPE CALCULATOR LINK](#)

[FLOOR SLOPE AND VERTICAL ANGLE CALIBRATION VIDEO](#)

[REFLECTOR HEIGHT ADJUSTMENT PROCEDURE VIDEO](#)