STANDARD PROCEDURE - ADAPTIVE SPEED CONTROL SENSOR ALIGNMENT

The adaptive speed control sensor (also known as the Adaptive Cruise Control/ACC sensor or module, or the radar sensor or module) requires alignment whenever the ACC sensor is removed and reinstalled, whenever front end structural repairs are performed or whenever a Diagnostic Trouble Code (DTC) indicates ACC sensor adjustment is required. Sensor alignment consists of performing the mechanical vertical alignment described in the following procedure, followed by the electronic horizontal alignment that is performed with a diagnostic scan tool and the appropriate diagnostic information.

VEHICLE PREPARATION FOR SENSOR ALIGNMENT

1. Repair or replace any ineffective, worn or damaged body components. Repair any loose or cracked fascia components that might interfere with the sensor field of view. The radar dome of the sensor module should be roughly centered in the opening of the fascia.
2. Verify proper tire inflation pressures.
3. Remove any accumulations of mud, snow or ice from the vehicle underbody.
4. Verify that there is no load in the vehicle (cargo or passengers), except for the driver.

   NOTE: The vehicle MUST be placed upon a wheel alignment or frame rack to achieve the proper sensor vertical alignment results. If a wheel alignment or frame rack is not available, then a verified level surface can be used. When using the wheel alignment rack, the fore - after specifications must be within 0 (+/- 0.2) degrees.
5. Rock the vehicle side-to-side three times to allow the suspension to stabilize.
6. Jounce the front and rear suspension three times by pushing downward on the front and rear bumpers and releasing.
7. Verify correct vehicle suspension height.
SENSOR VERTICAL ALIGNMENT

NOTE: The graphic shows Special Tool No. 10243-1 installed on the adaptive speed control sensor with the front fascia removed for clarity; however, it is NOT necessary to remove the front fascia to install the special tool or to perform the following procedure.

1. The adaptive speed control sensor (4) (also known as the Adaptive Cruise Control/ACC sensor or module and the radar sensor or module) is located on a bracket (6) secured near the center of the underside of the front bumper support member of the Front End Module (FEM) behind the front fascia.

2. Unsnap and remove the molded plastic ACC fascia closeout bezel in the center of the grille texture insert of the lower air intake opening of the front fascia to gain access to the ACC adjustment screws.

3. Remove the smaller plastic bezel (mirror cover) from over the front of the sensor housing.

4. Using standard glass cleaner and a clean soft towel, remove any dirt or road salt from the convex molded dark plastic lens (radar dome) on the face of the sensor as well as from the suction cup of the vertical alignment tool (3) (Special Tool No. 10243-1).

5. Carefully slide the vertical alignment tool over the sensor housing until the suction cup rests against the lens of the sensor.

NOTE: It may take several attempts to get the suction cup of the special tool to fasten securely to the sensor. If necessary, lightly wet the suction cup with clean water to help improve adhesion.

6. Depress the plunger (1) of the vertical alignment tool to engage the suction cup and attach the special tool securely to the lens of the sensor.
7. Use the 3.5 millimeter hex nut driver (Special Tool No. 10243-2) to rotate the vertical adjustment ball stud (2) that secures the sensor (1) to the mounting bracket as necessary to center the bubble of the spirit level between the two center marks on the vial of the level located on the top of the vertical alignment tool.

8. Depress the center release button of the special tool to release the suction cup from the sensor lens and remove the special tool from the sensor.

9. Perform the ACC sensor horizontal alignment using a diagnostic scan tool and the appropriate diagnostic information.

10. Reinstall the smaller plastic bezel (mirror cover) onto the front of the sensor housing. Care must be taken to orient the bezel properly to ensure proper retention.

11. Reinstall the molded plastic ACC fascia closeout bezel into the center of the grille texture insert of the lower air intake opening of the front fascia.