08 - Electrical / 8E - Electronic Control Modules / MODULE, Adaptive Cruise Control / Standard Procedure

STANDARD PROCEDURE - ADAPTIVE SPEED CONTROL SENSOR ALIGNMENT

Special Tools: Click to display a list of tools used in this procedure

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 VERTICAL ALIGNMENT

1. Verify correct vehicle suspension height.
2. 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.
3. Verify proper tire inflation pressures.
4. Remove any accumulations of mud, snow or ice from the vehicle underbody.
5. Verify that there is no load in the vehicle (cargo or passengers), except for the driver.

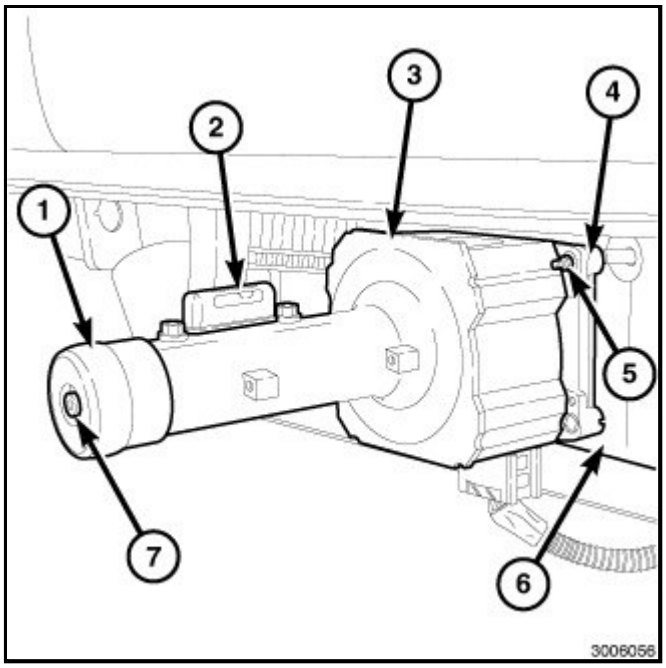
   NOTE: The vehicle MUST be placed upon a wheel alignment or frame rack to achieve the proper sensor vertical alignment results. If a wheel alignment or frame rack is not available, then a verified level surface can be used. When using the wheel alignment rack, the fore - after specifications must be within 0 (+/- 0.2) degrees.

6. Rock the vehicle side-to-side three times to allow the suspension to stabilize.
7. Jounce the front and rear suspension three times by pushing downward on the front and rear bumpers and releasing.

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, on EXPORT MARKET VEHICLES ONLY 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 right frame rail on the underside of the front bumper support member of the Front End Module (FEM) behind the front fascia.

2. For domestic market vehicles only, remove the front fascia from the vehicle. (Refer to 13 - Frame and Bumpers/Bumpers/FASCIA, Front - Removal) .

3. For domestic market vehicles only, working from behind the removed front fascia release the latch features that secure the molded plastic ACC fascia closeout bezel to the fascia and remove the bezel from the right lower air intake opening.

4. For export market vehicles only, unsnap and remove the molded plastic ACC fascia closeout bezel from the right lower air intake opening of the front fascia to gain access to the ACC adjustment screws.

5. Unsnap and remove the smaller plastic bezel (mirror cover) from over the front of the sensor housing.

6. 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).

7. 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.

8. 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.

9. 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