

The main purpose of the ride height sensors for the air suspension system is to provide the Electronic Control Unit (ECU) with information on the height position of the vehicle body. Besides supporting the air suspension system for automatic level control, ride height sensors are also used as input for the automatic headlight leveling system.

The ride height sensor body itself is attached to the chassis, the rod is linked to the wishbone or control arm. When the car is driving, or for instance when heavy cargo is added, the moving suspension results in a rotational movement of the rod.

Ride height sensors are so-called angle sensors meaning that when the sensor rod moves, an output signal (voltage) is generated that is proportional to its rotation angle. This signal is then transmitted to the ECU for further processing. A possible outcome is that the air suspension compressor is activated and additional pressure is supplied (through the valve block) to the appropriate air spring(s).



Most ride height sensors are contact-free, meaning there is no friction ensuring a wear-free operation. However, as they are mounted outside of the vehicle, they are subject to climate and weather conditions. Over time, moist could affect/harm the electronics and debris like stones from the road can damage the unit as well.

Prior to disassembling air suspension shocks or struts, the ride height sensor must be detached from the axle mounting. The rotation angle of the sensor is limited and does not allow large movements. Therefore, neglecting to do so can result in a broken sensor rod since it will simply break-off.



A sign of a malfunctioning ride height sensor can be the lack of level compensation after loading the vehicle. Nevertheless be aware that such symptoms can also be caused by a less (or non-) functioning compressor or a non-calibrated sensor. Therefore proper diagnosis is key!

Replacing a ride height sensor is a relatively easy job. The one thing to keep in mind is that after replacement, most of them need calibration. Use a diagnostic tool for this to ensure correct functioning after installation.

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