
PuMA measure

Vehicle suspension dropping over time: Electronic activation elimination

UR-V-2 65481833-01 - 9/23/20

Complaint:

The vehicles ride height drops over night or is low after being parked for a prolonged period. A Check Control Message (CCM) may also illuminate when entering the vehicle.

In most cases the cause of the complaint maybe clear (i.e.front left suspension low) or a fault code maybe stored. However in some cases there's no fault code stored and there is no obvious cause of the complaint.

Cause

Fault with component(s) on the suspension and steering systems due to damage or worn parts

An air leak in suspension system due to damage, worn component or an internal fault

Electronic Activation by the Electronic Ride Height (EHC)

Measure

Vehicle suspension drops over time, exceeding specification (25mm), a cause is not identified following fault codes, inspections and testing. It is advised to then carry out a 'Vehicle suspension dropping over time' test to eliminate electrical activation. If the vehicle level drops with the battery and charger disconnected there is likely a leak in the system.

The attachment supplied is to support technicians in:

- Basic checks of the suspension system for potential causes of dropping
- Eliminate electronic activation from the EHC control unit

For a detailed explanation of the EHC system see ISTA documentation.

<<Air Suspension System under Vehicle Management - Repair / maintenance - Product Structure - 37 Integrated Suspension Systems>>

- Functional Description (FUB) 'Two-axle ride level control' for further information for EHC electronic activation. (FUB-FUB-FB-370002-F09- Two axle ride height control)
- 37 00 . . . Notes in the event of vehicle inclination
- 37 00 . . . Notes on air spring system

-- See attached document to support the technician in checking for physical faults and eliminate electronic activation --

A brief explanation into EHC activation while the vehicle is in 'sleep' mode.

The EHC wakes up several times (wake up event) at set time intervals (3.5, 8.5, and 32.5 hours) for a specific period of time to adjust the vehicle height to give a visual appearance that the vehicle is level. The control is carried out by venting/discharging specific air supply valve only. The EHC compressor is not activated.

There are 2 different strategies for a wake up event:

- Level up: This takes place from the pressure accumulator if the ride height of a wheel drops below - 40 mm. The wheel is leveled up to LOW level (25 mm below level NORMAL) if there is sufficient pressure in the pressure accumulator (a minimum of 14 bar).

- Level down: The ride height of the lowest wheel is used as a reference value. The activation is only carried out if the lowest corner of the vehicle is more than 15 mm lower than one of the other corners. The lowest level to which a wheel can be lowered is level LOW (25 mm below NORMAL).

Carrying out the dropping over time process with the vehicle batteries and battery charger removed eliminates EHC activation, therefore a substantial drop in the vehicle height (25mm+) is likely due to a leak on the suspension system. If this is the case inspect the strut(s), pneumatic lines, air supply device etc. along that section of the air suspension system.

If a potential cause of the leak is not identified raise Technical case for support providing the completed form attached and any outcomes of investigations and diagnosis.

The technician is not required to be physically at the vehicle during the time the vehicle is left to check for dropping over time.

Validity information

Model series:	[RR5, RR4, RR6]
Engine range:	[ALL]
Body style:	[ALL]
Fault codes:	[]
Production period:	-

Repair overviews

37/20/001/26596, Air suspension, pressure accumulator / valve unit, Cannot be encoded with VFC, , Cannot be encoded with VFC, , Checking, repairing, replacing

37/10/001/27351, Front axle, air spring, Cannot be encoded with VFC, , Cannot be encoded with VFC, , Checking, repairing, replacing

31/33/001/27313, Front axle, spring, Both sides / all, , Cannot be encoded with VFC, , Checking, repairing, replacing

Attachments

Number of attachments: 1