

Replacing the Trailer ECAS ECU when the ABS system is exchanged

Last year we told you about repair kits with VCS II ECUs for the exchange of Vario C and VCS I systems.

If the old systems have been used in combination with ECAS Trailer systems, the ECAS ECU 446 055 060 0 must also be replaced by the successor 446 055 066 0 for correct mapping of the speed signal.

A replacement involves not only a recalibration but also a transfer of the old parameter set. The parameter set must also be adjusted to the new situation in option parameter 3: please make sure that Bit 1 is set to "Speed signal with extended fault detection" and Bit 3 to "Transmission of operational data on the K-line".



Why does ECAS require vehicle speed information?

The ECAS system requires information on the current vehicle speed so it can automatically adjust the ride height back to the calibrated level following a loading procedure at the ramp. Also, ECAS must discriminate between level changes due to load changes and dynamic movement: a level change caused by an uneven road surface should not be compensated in order to save air; a change in load, on the other hand, requires immediate action.

Apart from the distinction drive / standstill, the actual vehicle speed is also required for initiating actions at parameterised values, such as lowering the chassis when driving fast on a motorway.

What is the difference between old and new speed signal?

The speed is transmitted by means of what is referred to as a pulse-width modulated signal. The frequency of signals pulsed via a conductor increases in proportion to the vehicle speed. When at a standstill, there is no pulse.

In combination with previous systems the ECAS electronics was not able to discriminate between a standstill of the vehicle and an electrical fault in the connecting cable. As a consequence it was possible that, in the event of a cable defect, the ECAS system assumed a vehicle standstill even though the vehicle had been moving for some time.

For this reason, the new systems now transmit a minimal speed of 1.8 km/h even at a standstill, and this speed is also interpreted as a standstill by the ECAS ECU. When the vehicle is moving, the signal reverts to reflecting the actual situation, and the ECAS ECU will implement the corresponding system functions. When a fault occurs, ECAS will detect this as a fault.

Further information on the ECAS system is provided in the [ECAS Trailer System Description](#). If you have any questions, please contact your WABCO partner.