

Enhanced functionality of the new Trailer EBS E1 Modulator

The "E1 Update" has been incorporated into all Trailer EBS E series-production devices 480 102 06x 0 (Premium) in the 3rd quarter of 2008.

This update includes new functions for controlling the air-suspension and lifting-axle control systems (ECAS), as well as new and enhanced GIO functions. These functions can be freely configured for the specific requirements of the vehicle manufacturer.



Automatic initial braking for road finishers

When a truck/trailer combination is operated by a self-propelled road finisher, the Trailer EBS E1 enables automatic braking of the semitrailer.

The "road finisher brake" can be started via the SmartBoard.

Releasing the service brake via pushbutton and/or Smartboard

This special function is provided in car transporters for vehicle loading. With the combination parked, the brake of the trailer is released by pushing a special button or via the Smartboard. The driver can now adjust the length of the hydraulic legs to facilitate loading.

Axle relaxation function

The axle combination is subjected to distortion during loading and unloading procedures when the applied brake prevents a compression or a rebound of the axle locating rod. This can cause violent movement of the vehicle body when the brake is released. The new relaxation function prevents this jumping movement. With the vehicle parked, the individual brakes are briefly released one side after the other during this procedure. The vehicle as whole remains braked.

Steering axle control

This function permits locking a steering axle at speeds above a set limit, or when reverse driving is detected, to stabilise straightline driving.

Tilt warning

The vehicle's inclination to one side can be monitored when tipping on uneven ground. The driver is warned when the vehicle exhibits a tendency to overturn due to the tipper body being raised. This warning can be output via the SmartBoard or a connected horn or lamp.

Freely configurable functions

Enhanced freely configurable functions are available.

- Control signals can be transmitted via the SmartBoard or the CAN Bus.
- It is possible to interlink control functions so that functions are only executed when specific conditions apply.
- The output of digital or analogue signals is possible in order, for example, to transmit information via telematics.

Please contact us if you wish to configure this function. We can advise you, and together we will create a parameter set to match your requirements.

ECAS functions via pushbutton and switch

Besides lifting and lowering being controlled via the SmartBoard, it is now also possible to adjust the level by means of a pushbutton. Switches can now also be used to switch between normal level I and II, or between normal level and unloading level.

Dynamic wheelbase control

This term summarises all functions that serve, by lifting and lowering or partially relieving lifting axles, the purpose of changing the wheelbase of the semitrailer. These include: Traction help, manoeuvring aid, automatic drawbar load reduction.

- **Traction help**

During traction help, the front lifting axle of the semitrailer is lifted or pressure-relieved. This shift in weight on the fifth wheel increases the traction of the towing vehicle's driving axle and therefore improves starting in difficult terrain or conditions. This effect can also be achieved by lowering one of the rear lifting axles.

- **Manoeuvring aid**

Manoeuvring often becomes difficult when driving in tight corners such as roundabouts. With the WABCO manoeuvring aid, the automatic lifting of the rear lifting axle in tight corners, the wheelbase is reduced, thereby achieving a smaller turning clearance circle.

- **Automatic drawbar load reduction**

When a semitrailer is only loaded in the area of the fifth wheel, the towing vehicle must bear a higher load. A better load distribution is achieved between towing vehicle and trailer by lifting or pressure-relieving the rear lifting axle, and this avoids overloading the rear axle of the towing vehicle.

Actuating the request "Traction help" or "Forced lowering"

After actuation via pushbutton, the air-suspension responds with a brief but noticeable level change to signal to the user that the request has been accepted:

- 1x < 5 seconds, then the manoeuvring aid is active.
- 1x > 5 seconds, then the forced lowering function is active.

Further functions

Due to additional algorithms and plausibility criteria, the Trailer EBS E1 was able to catch up with Trailer ECAS functionality, especially with regard to air suspension. The SmartBoard was also developed further at the same time to be able to control all the new functions. This means that the combination Trailer EBS E1 and SmartBoard can now cover all standard functions.

In spring 2009 the E1 update will also be integrated in all TEBS E modulators of the type Standard (product numbers 480 102 03x 0).

You will find detailed information on the new and enhanced functions in the document "Trailer EBS E1 System Description" (index word TEBS E in our product catalogue INFORM at www.wabco-auto.com).