

Haldex S-ABA

**The Self-setting Automatic
Brake Adjuster**



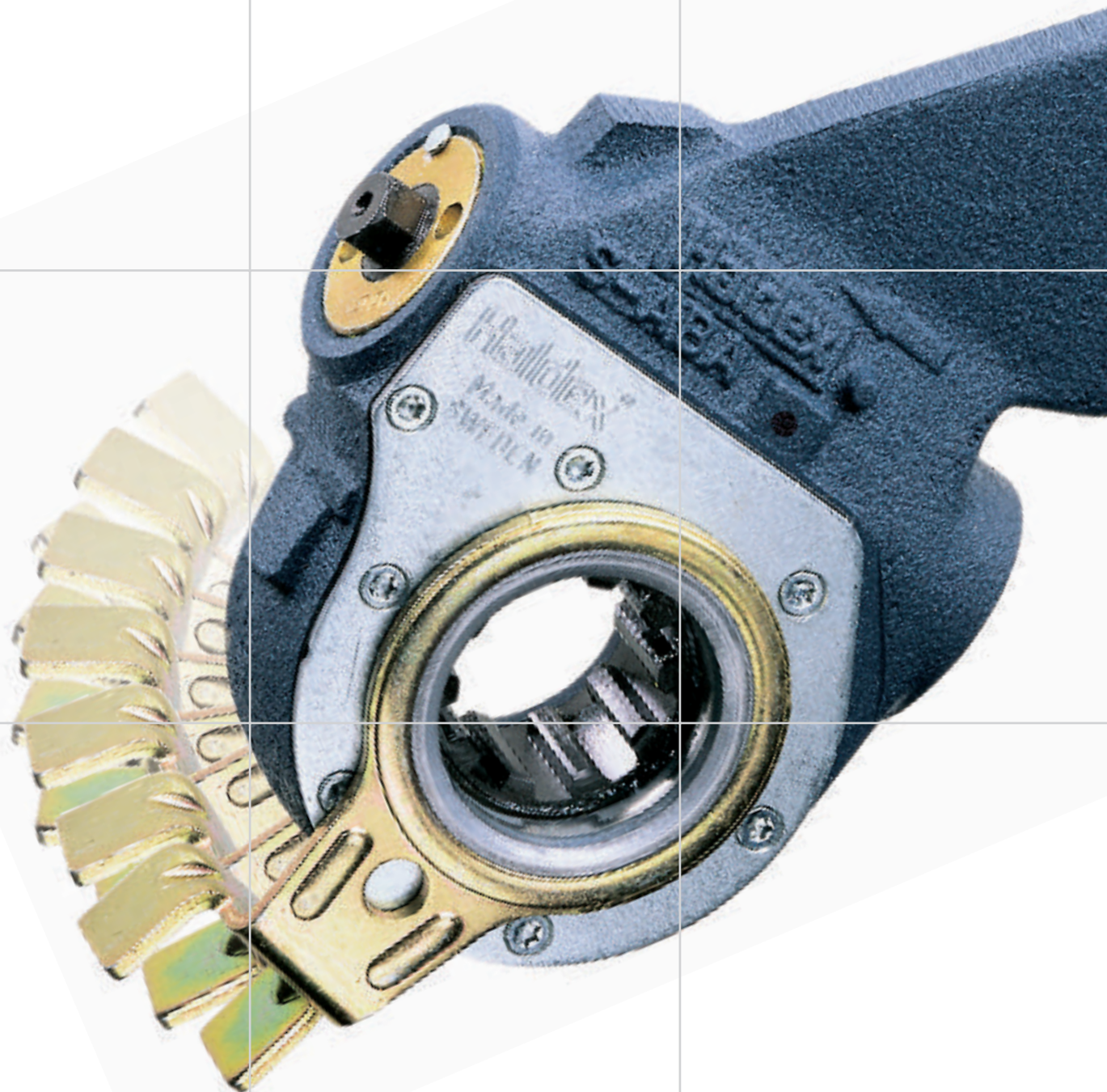


Installation Made Easy

Through its innovative selfsetting flexible design, the Haldex S-ABA Automatic Brake Adjuster offers two benefits which revolutionise brake adjuster fitting: a free selection of control arm position and error-free installation.

The new Haldex S-ABA functions correctly whatever the position of the control arm. Previously a brake adjuster could only function properly with the control arm in one predesignated position. Self-setting means no more time-consuming adjustments during installation to fix the

Self-setting Flexible Concept Offers New Benefits



control arm to achieve the correct predetermined running clearance.

The Haldex S-ABA makes brake adjuster installation faster, simpler and more efficient than ever before. And it can be error-free every time – as all positions of the control arm are right, it is virtually impossible to install the Haldex S-ABA incorrectly.

Solves Axle Configuration Problems

The self-setting Haldex S-ABA is a problem-solver in cases where a vehicle axle needs to be supplied complete with brake adjusters, but without brake cylinders.

Previously the basic setting of the brake adjuster could not be done in isolation where no brake cylinder was installed.

The new Haldex Brake Adjuster eliminates this problem as the adjuster functions at every control arm angle of installation.

Haldex Leads the Way

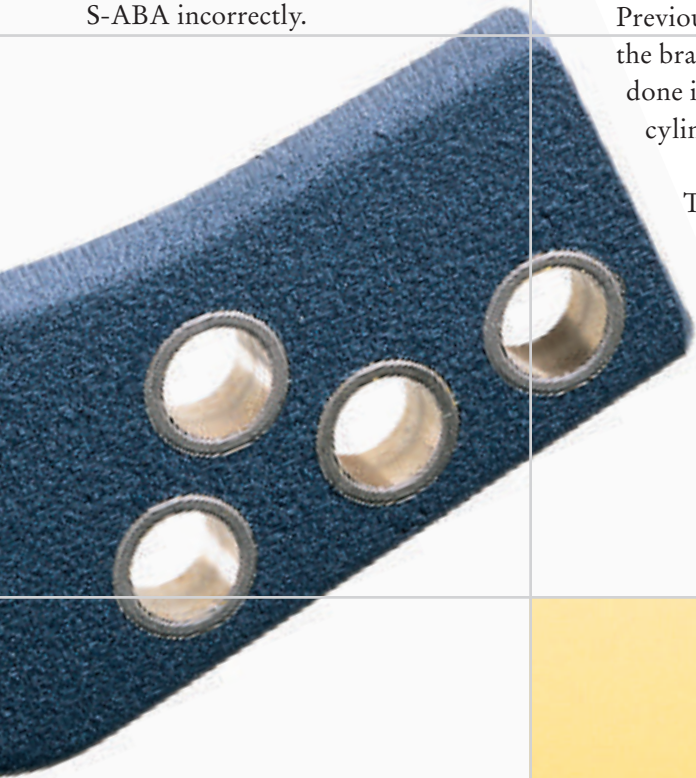
- The new Haldex S-ABA Selfsetting Automatic Brake Adjuster is the latest innovatory product from Haldex, the world's leading supplier of brake adjusters for heavy commercial vehicles.
- As the first automatic brake adjuster which is both self-setting and flexible, the Haldex S-ABA offers unrivalled ease of installation – the brake-adjuster's control arm can be set at any angle and the brake adjuster will work correctly whatever the position
- An automatic brake adjuster designed for integration with an Electronic Lining Wear Sensor is now available for the first time – with the Haldex S-ABA.

The Haldex S-ABA is a clearance-sensing adjuster. Haldex pioneered the clearance principle, now widely accepted as the world standard for brake adjusters.

Streamlined Stock-keeping

The unprecedented positional flexibility of the Haldex S-ABA means it can effectively replace several other types of brake adjusters with fixed control arm positions.

From a stock-keeping angle the benefits are significant: reduced stock levels as fewer brake adjuster variations are needed, simplified stock-handling and lower storage costs.



Maximum Compatibility

Cross-range Harmony

The Haldex S-ABA Self-setting Brake Adjuster has been designed for cross-range compatibility. This means a Haldex S-ABA can be combined successfully with another type of Haldex brake adjuster on the same vehicle axle. And, just as with the other Haldex brake adjusters, it is extremely easy to check the function of the Haldex S-ABA.

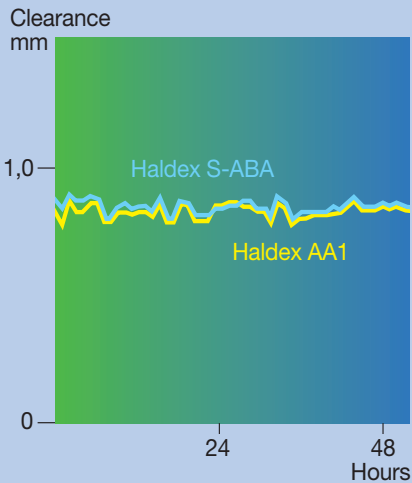
Variants for All Vehicles

The Haldex S-ABA Self-setting Automatic Brake Adjuster, like every brake adjuster in the Haldex range, can be adapted to suit virtually all customer's installation needs. In practical terms this means S-ABA Brake Adjusters can be supplied for all types of trucks, buses and trailers with S-cam brakes.

Perfect Combinations

In vehicle tests the Haldex S-ABA Self-setting Brake Adjuster was shown to work in perfect combination with other brake adjusters in the Haldex range.

A Haldex S-ABA was fitted to one side of a vehicle's axle, while an earlier version Haldex Brake Adjuster AA1 was fitted to the other side. No difference in clearance was measured during the tests which were carried out under normal operating conditions. This offers benefits from a servicing and stock-keeping perspective: only one type of brake adjuster has to be kept in stock.



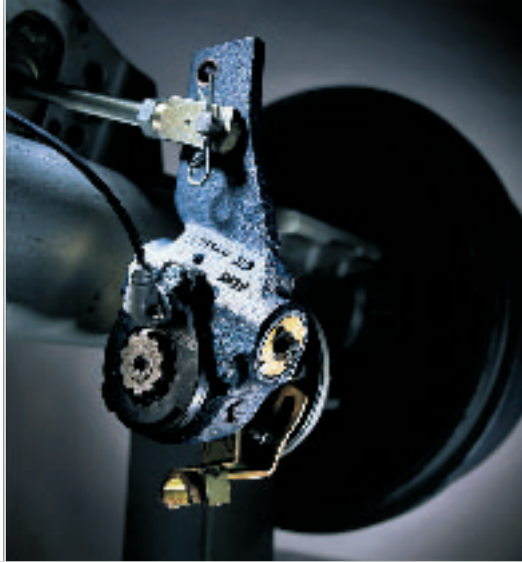
Clearance Comparison: The Haldex S-ABA and the earlier Haldex AA1 Brake Adjuster. The diagram (above) shows respective clearances between the drum brake and lining – the virtually identical graph lines show the high degree of clearance uniformity between the two brake adjusters.



Works with Wear Sensor

The standard version of the Haldex S-ABA has been designed with wear monitoring in mind. It is the market's first, and up to now, only, automatic brake adjuster which integrates with an Electronic Lining Wear Sensor.

Together, the Haldex S-ABA and Haldex Electronic Lining Wear Sensor provide continuous information on brake lining wear. Wear data is available for the entire service life of the linings – from new to the time they need replacing.



Wearwatcher: the standard version Haldex S-ABA brake adjuster is designed to integrate with the Haldex Lining Wear Sensor.

The Haldex Electronic Lining Wear Sensor is compatible with electronic braking systems (EBS) and most onboard diagnostic systems.

Haldex Adjusts to Customer's Needs

- Brake adjusters and other components for heavy commercial vehicles from Haldex are built to meet customer's high demands for performance and safety.
- Our brake adjusters, such as the Haldex S-ABA, can be supplied in one of many variants to perfectly suit customer's specific installation requirements
- Haldex pursues continuous research and development in all aspects of brake technology to keep its lead at the forefront of brake adjuster innovation. This means we are in the best position to anticipate and meet customer's future needs.
- Our investment in R&D, staff training, competence enhancement and manufacturing plants shows our commitment to quality in every link of the production chain.
- We strive to establish and develop long-term, profitable partnerships with our customers based on fulfilling and exceeding our customers' expectations in terms of reliable delivery, dependable quality and high performance products.



Improved performance

Haldex Clearance Principle Sets the Standard

The Haldex S-ABA is a clearance sensing brake adjuster operating according to the clearance principle developed by Haldex – now widely accepted as a world standard for brake adjuster operation.

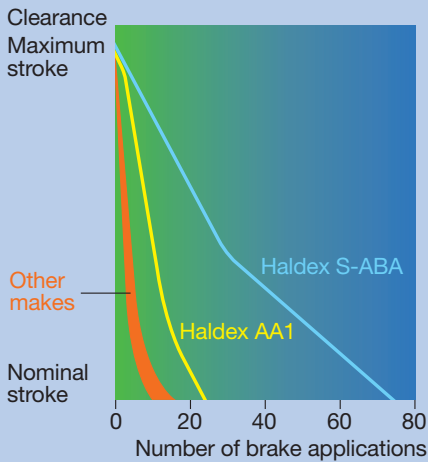
The clearance principle ensures that Haldex Automatic brake Adjusters are able to maintain a constant clearance between the brake lining and brake drum.

A constant clearance is possible because the brake adjuster only reacts to a change in the clearance between the lining and the

drum. When the lining comes into contact with the brake drum, the adjusting mechanism disengages.

Unlike stroke-sensing brake adjusters, the S-ABA’s automatic adjustment is not affected by the elasticity of the brakes or whether the driver applies his brakes hard or gently. Clearance sensing adjustment means optimal operation of the brake adjuster and reduces the risk of both insufficient clearance, which can adversely affect brake cooling, and overlong piston strokes which could put official approval of the brakes in doubt.

More Gradual by Far: Impressive gradual adjustment by the Haldex S-ABA compared with earlier Haldex Brake Adjusters and other common makes of automatic brake adjusters.



Lightweight Champion

The Haldex S-ABA is the most lightweight brake adjuster available today – up to 20% lighter than others on the market. On a regular tractor/ trailer combination this could mean a weight reduction of up to seven kilos.

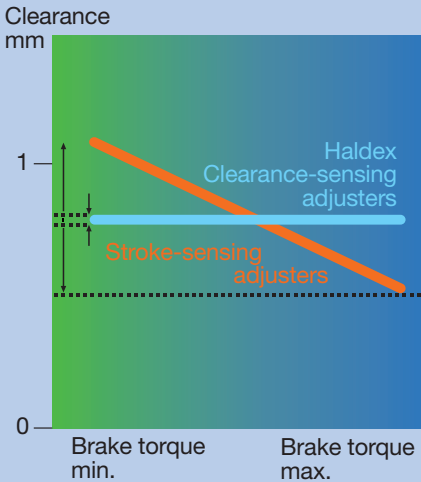
It also means that less clearance can be specified which results in a shorter piston stroke and in turn allows faster and safer brake application. A shorter stroke also enables the vehicle to use compressed air more efficiently.

Gradual Adjustment Enables Greater Precision

The Haldex S-ABA is designed to adjust gradually. Tests show it adjusts up to six times more gradually than other brake adjusters on the market.

The Haldex S-ABA requires the most number of brake applications to adjust the clearance in the brakes to a nominal degree. This characteristic minimises the risk of overadjustment during long, hard braking which can cause overheated drums.

This means less risk of overadjustment in connection with heat expansion of the brake during exceptional and prolonged braking.



A Clear Winner: the Haldex S-ABA, a clearance-sensing brake adjuster provides a uniform constant distance between brake drum and lining, unlike the strokesensing brake adjuster – its clearance fluctuates with the application force of the brakes.



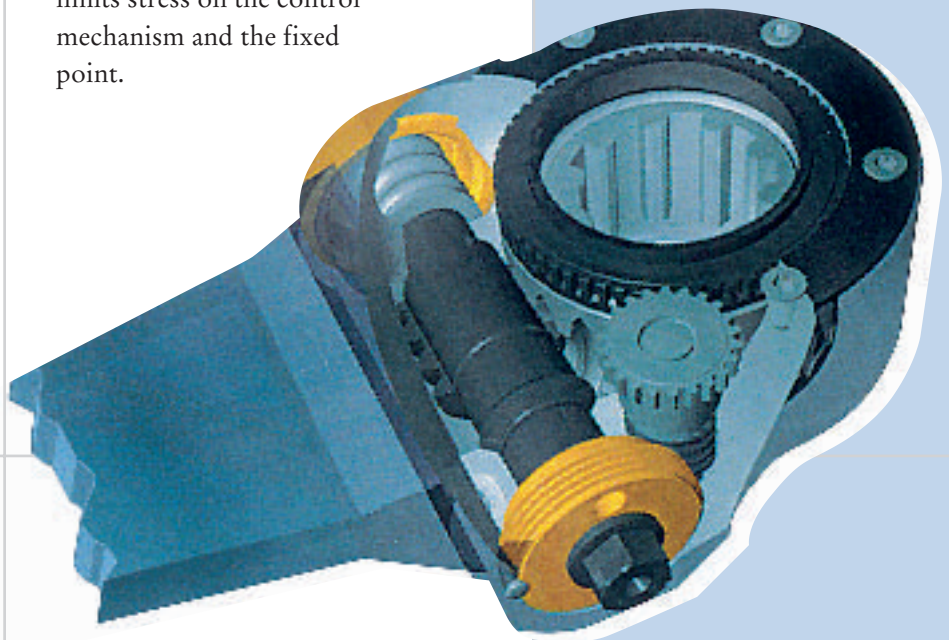
Check Out our Track Record

- No company has greater experience or knowledge of the brake adjuster field than Haldex. This helps us to apply that accumulated know-how to develop higher performance products for its customers.
- The new generation of S-ABA brake adjusters joins an already world-beating range and complements the well-established AA1 Brake Adjuster. Haldex has supplied more than 50 million brake adjusters over a 30-year period.

Improvements for Maximised Service Life

The Haldex S-ABA incorporates a number of life-extending design advances compared with earlier Haldex brake adjusters

- **New cone clutch** – larger diameter and increased teeth height.
- **Central cone clutch** – provides better protection from damp, dirt and road salt.
- **Double-adjusting gear** – limits stress on the control mechanism and the fixed point.



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Haldex is an innovator in vehicle technology and supplies proprietary products for trucks, cars and industrial vehicles on a global basis. Haldex is listed on the Stockholm Stock Exchange and has annual sales exceeding SEK 7 billion with 4.400 employees worldwide.



Innovative Vehicle Technology