

A guide to the maintenance and assessment of Automatic Slack Adjusters



Automatic Slack Adjusters (ASA's) come in two basic types:

- **Clearance Sensing** (Haldex, Knorr Bremse and ArvinMeritor/ ROR)
- **Stroke Sensing** (BPW and Wabco)

It is important to be able to recognise the type and also to know when the unit should be replaced. It is a requirement that all HGV's, Trailers & PSV's over 3.5T from 1995 are fitted with ASA's and that they are working correctly. If they only work through regular manual adjustment, they are not functioning as automatic slack adjusters and therefore are not complying with the requirement. They are subject to wear and will need regular assessment and replacement as necessary.



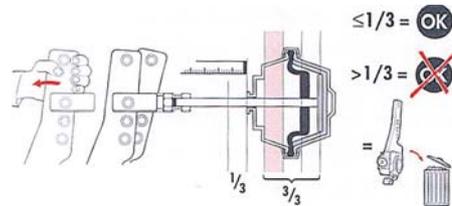
Haldex Clearance Sensing Automatic Slack Adjuster

The following is a guide to best practice, if in doubt contact the manufacturer for more information. It is particularly important to follow manufacturer's instructions on installing.

Clearance Sensing

In addition to greasing, there are some simple checks that can be carried out.

- The stroke 'Free Travel' should not be more than 1/3 of the total chamber travel but there must be some, to permit automatic adjustment.

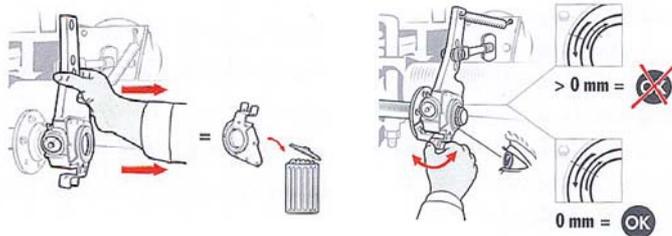


- Check the control arm bracket and yokes (if fitted) for cracks or bending as well as broken bolts. (This indicates that the adjuster has either been incorrectly fitted or the camshaft bearing is worn).

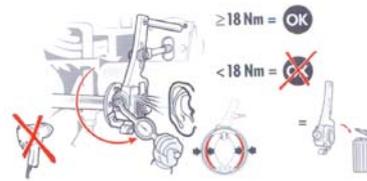


- Check also that the adjuster returns fully without any fouling.

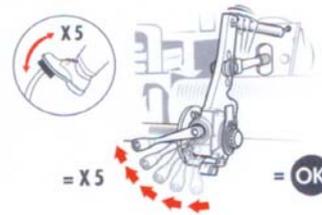
- Check for 'end float' and for cam shaft bearing wear: they should both be minimal.



- Once per year, slacken off the hexagon screw on the end with a torque wrench. If the required torque to achieve this is below 18 Nm, or no clicking is heard the unit should be replaced.



- Leave a spanner on the unit and either apply the brakes, or move the adjuster manually (x5), observe the clockwise movement of the 12mm spanner with each further stroke until no further adjustment takes place.



- The stroke should be equal on both sides of any axle. (If they require regular adjustment, they need replacing). Adjusters that 'over-stroke' should also be replaced.

Automatic Slack Adjusters should never need to be manually adjusted in service.

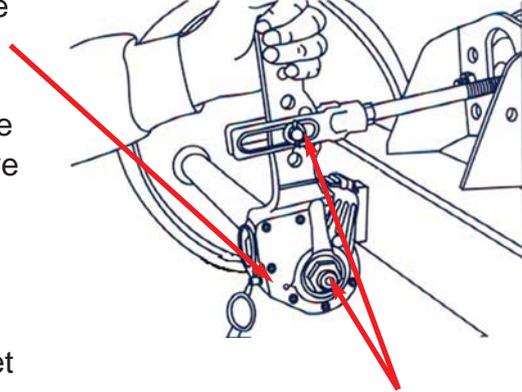


Stroke Sensing

(Mainly BPW and Wabco at present but other manufacturers have previously used this principal.)

BPW Stroke Sensing Automatic Slack Adjuster

- With brake off, check that the pin aligns with the reaction bracket pointer.
- Check that there is some free play, at least 10% of 'Effective Lever Length'.
- Check that there is no excessive movement.
- As with 'Clearance Sensed', check the control arm bracket and yokes for cracks or bending as well as the camshaft bearings for excessive wear.
- Check also that the adjuster returns fully without any fouling (there should normally be an auxiliary, external return spring fitted – not shown).
- Periodically, slack off the adjusting bolt 3/4 of a turn. This should now result in at least 50mm of free play. Manually operate the push rod and observe the adjusting bolt taking up the clearance. Reset minimum clearance to 10% of 'effective lever length'.
- Check for obvious over-stroking at full application. (i.e. pushrod strokes of 60 - 70mm).
- The stroke should be equal on both sides of any axle. (If they require regular adjustment, they need replacing). Adjusters that 'over-stroke' should also be replaced.



'Effective Lever Length'

Automatic Slack Adjusters should never need to be manually adjusted in service.

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For additional information contact: www.vosa.gov.uk

VOSA acknowledges the kind co-operation and assistance in producing this leaflet (and the provision of photographs) from the following: Haldex, Knorr Bremse, ArvinMeritor, BPW Ltd, WABCO, Crane Freuhauf Trailers, VOLVO and Dennis.

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