Slack Adjuster

Accurate brake adjustment begins with a good foundation brake and ends with the right automatic slack adjuster.

Whether you’re changing from a manual or upgrading from another brand of auto slack.

Use the auto slack that leaves the others in the dust still trying to properly adjust.

Insist on Batco’s “Accu-Matic Auto Slack” the accurate automatic slack adjuster.

What Does It Do?

The mechanism is such that the Automatic Slack Adjuster (ASA) distinguishes between the three portions of the braking stroke and, unlike stroke sensing ASA’s, only adjusts in the appropriate portion.

When brakes are applied the stroke moves through:

A. The normal pre-set running clearance “A” for which no adjustment should be made;

B. The excess clearance “B”, which develops when linings and drums wear and for which adjustment should be made;

C. The elasticity of the braking system “C” which is caused by variable brake load, drum expansion and component flexibility, and for which no adjustment should be made.

With stroke sensing ASA’s, at best the running clearance has to be wider, which reduces braking efficiency, and at worst brakes which have been over adjusted during the elasticity portion of the stroke may be left with no running clearance at all.
1. Starting Position

The Control arm 25 of the ASA is fixed to the anchor bracket in a position where the toe of the rack 19 is touching the top of the notch in the control disk 24. The depth of the notch determines the pre-set running clearance that will be maintained between brake lining and brake drum.

2. Rotation through the clearance angle “A”

The ASA rotates through angle “A” until the toe of the rack 19 touches the bottom of the notch in the control disk 24. The brake shoes are expanded but, when excess clearance exists because drums and linings are worn, the linings do not touch the brake drum.

3. Rotation through the excess clearance angle “B”

As the ASA continues to rotate, the rack 19 is prevented from moving down any further by the bottom of the notch in the control disk 24, which is anchored by the fixed control arm. The rotation of the ASA forces the pinnion 6 of the one way clutch over the teeth of the rack. The pinnion rotates freely as the one way clutch assembly slips in this direction of rotation. During this movement the camshaft expands the brake shoes until the linings touch the brake drum.

4. Rotation into the elasticity angle “C”

When the brake linings are being pressed with increasing force into the brake drum, the torque on the camshaft and the worm wheel increases rapidly. This torque, transmitted through the worm wheel 21 forces the worm screw 9 back onto the coil spring 14, which compresses, so that the cone clutch between the worm screw 9 and the cone clutch housing 4 is disengaged.

5. Rotation through elasticity angle “C”

As the ASA continues to rotate, the rack is still prevented from moving with the rotation by the control disk, which is anchored. The movement of the pinnion over the rack now causes the whole one way clutch assembly to turn as it is free to do so because the cone clutch 4 & 9 is disengaged.
6. Rotation back through elasticity angle “C”

The return springs 17 & 18 hold the toe of the rack down against the bottom of the notch in the control disk 24. The rack turns the one way clutch assembly freely because the cone clutch 4 & 9 is disengaged.

7. Rotation back into the clearance angle “A”

As the pressure of brake linings on the drum drops, so does the torque on the camshaft, worm wheel 21 and worm screw 9, allowing the coil spring 14 to reextend and push the worm screw back into the cone clutch housing 4, thus re-engaging the torque sensitive clutch.

8. Rotation back through the clearance angle “A”

As the ASA rotates back, the toe of the rack 19 is lifted from contact with the bottom of the notch in the control disk 24 to contact with the top of the notch.

9. Eliminating the slack with rotation back through the excess clearance angle “B”

As the ASA finishes the rotation back to its starting position, the rack 19 is prevented from moving with it by the toe of the rack, which is pressing against the top of the notch in the anchored control disk 24. As the ASA rotates, the teeth in the stationary rack rotate the pinnion 6 in the one-way clutch assembly and, because both clutches are now engaged, the worm screw 9 is turned with it. The worm screw turns the worm wheel 21 and the worm wheel turns the camshaft. Such rotation of the camshaft reduces the lining and brake drum.
MEI warrant the Automatic Slack Adjuster (ASA) to be free of faults arising from either imperfect material or workmanship for the period and mileage indicated in the following table:

<table>
<thead>
<tr>
<th>Application</th>
<th>Maximum Time</th>
<th>Maximum Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trailer</td>
<td>6 Years</td>
<td>750,000 Miles</td>
</tr>
<tr>
<td>On Highway - Truck, Line Haul</td>
<td>6 Years</td>
<td>750,000 Miles</td>
</tr>
<tr>
<td>Severe Service - Bus, City Delivery</td>
<td>2 Years</td>
<td>100,000 Miles</td>
</tr>
</tbody>
</table>

*Note:* The warranty period runs from the date of manufacture, as indicated on the cover plate (see illustration below) of the unit concerned.

**Please Note:** that the Automatic Slack Adjuster cannot compensate for other deficiencies within the braking system. Therefore before returning a unit CHECK...

- that it is installed correctly for binding camshafts for defective brake chambers
- for loose wheel bearings for worn or missing brake return springs for worn cam bushes and bearings

**Conditions of Warranty**

Any claim must be made within the period of the warranty.
MEI’s warranty claim form must be completed in full.
The failed unit must be returned to MEI for full inspection.
MEI will replace the failed unit free of charge if the claim is found to be valid.
MEI does not accept any liability for any consequential losses arising from the failure of a unit, except in as much as it is proved that they are guilty of gross negligence.