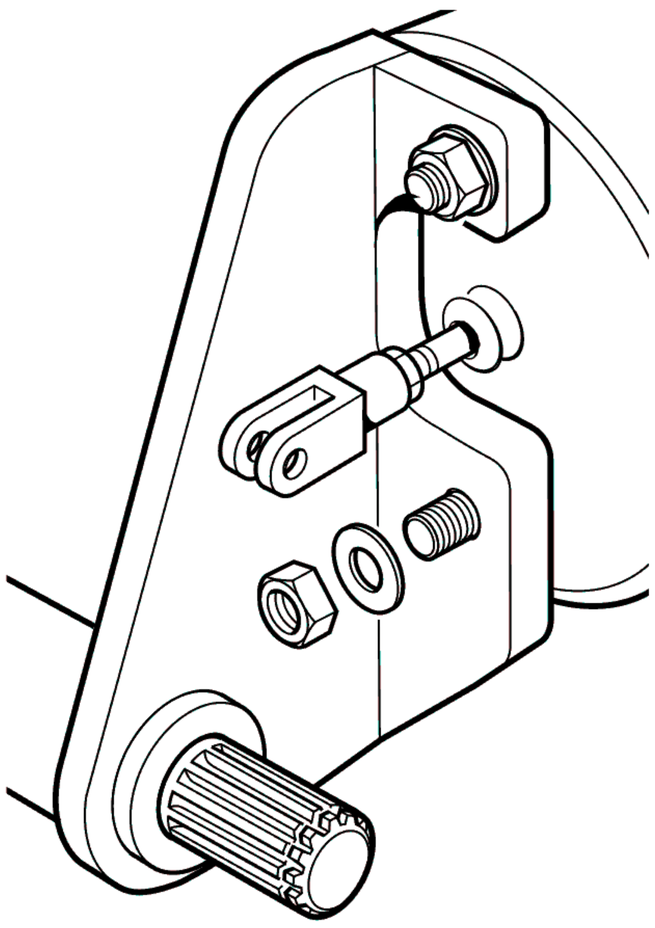
General Fitting Instruction

1

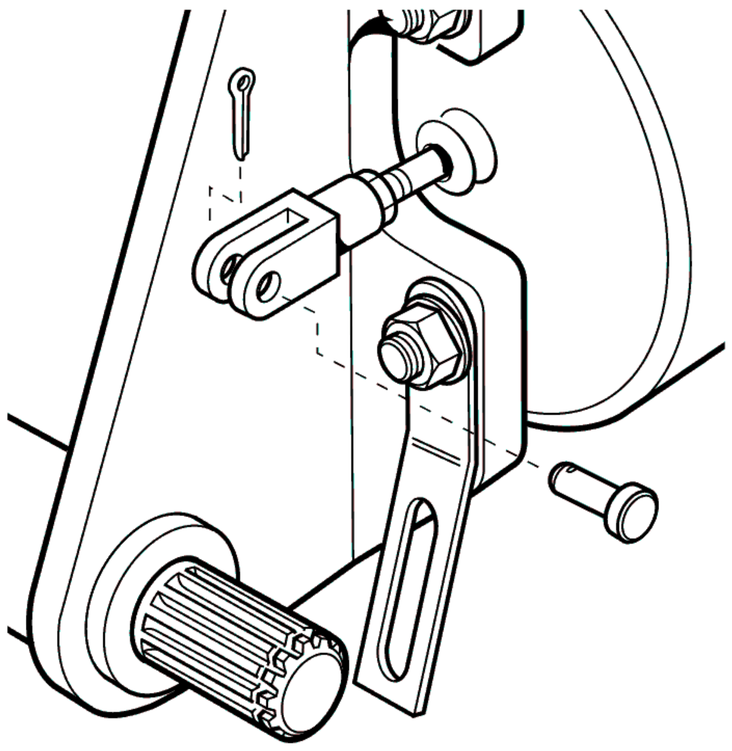


Stage 1

A. Block the vehicle wheels.

B. Check that the brake chamber push rod is in its fully released position. With spring brakes, a minimum pressure of 80 psi is required in the system to ensure that the piston is fully released.

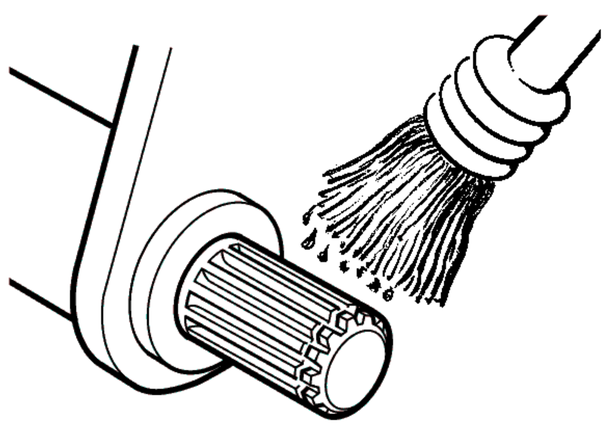
2



Stage 2

C. Mount the strap bracket to the brake chamber mounting stud. Leave nut loose.

3



Stage 3

D. Coat the camshaft splines with anti-seize lubricant.

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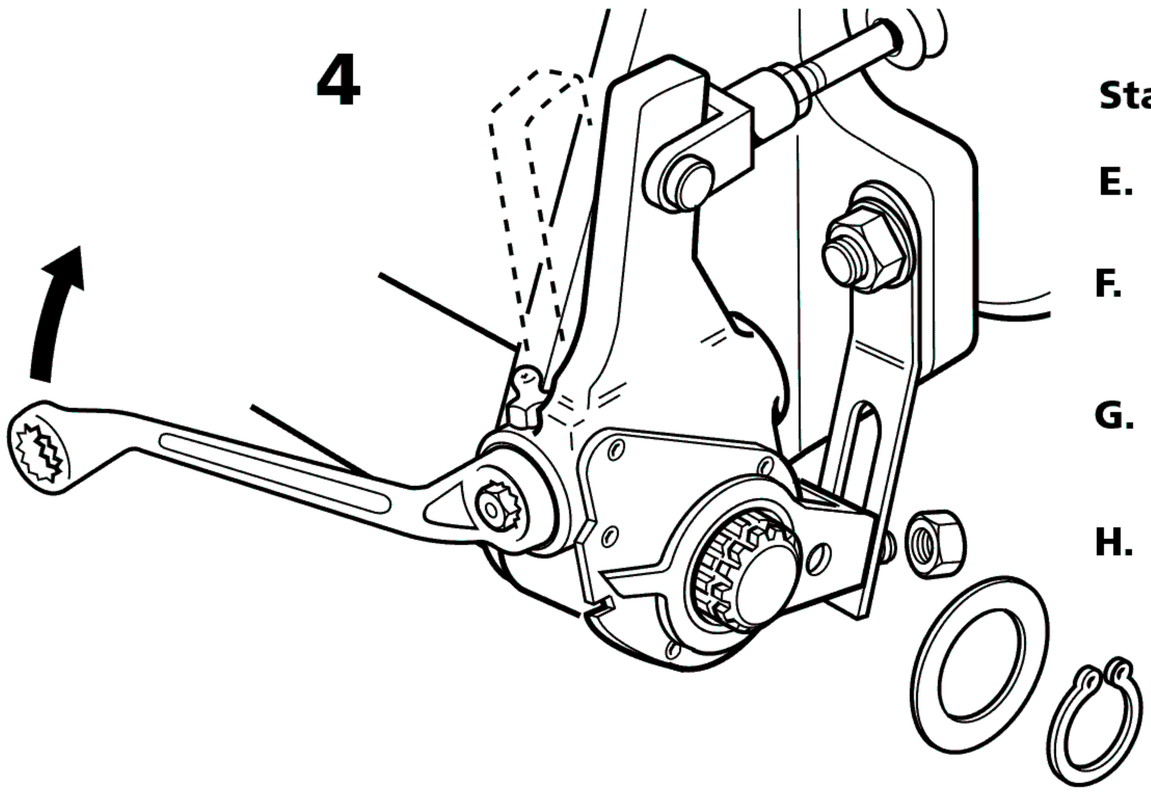


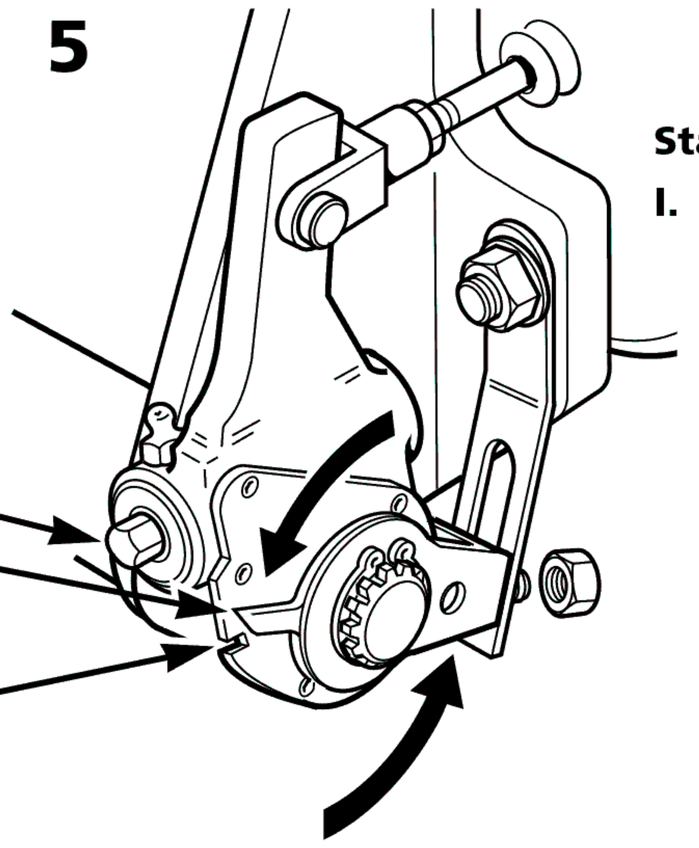
Stage 4

E. Fit the Automatic Slack Adjuster (ASA) onto the camshaft, so that the adjustment hex points away from the air chamber

F. Wind the ASA into the clevis on the brake chamber piston rod by rotating the hexagon on the ASA in a clockwise direction until the hole in the ASA coincides with the holes in the clevis.

G. Fit the clevis pin into the clevis, through the ASA and secure. The pin should rotate freely when no load is applied.

H. Secure the ASA on the camshaft, ensuring that it is not pinched or restricted. If the play is greater than 0.060 inch remove snap ring and add appropriate thickness washers



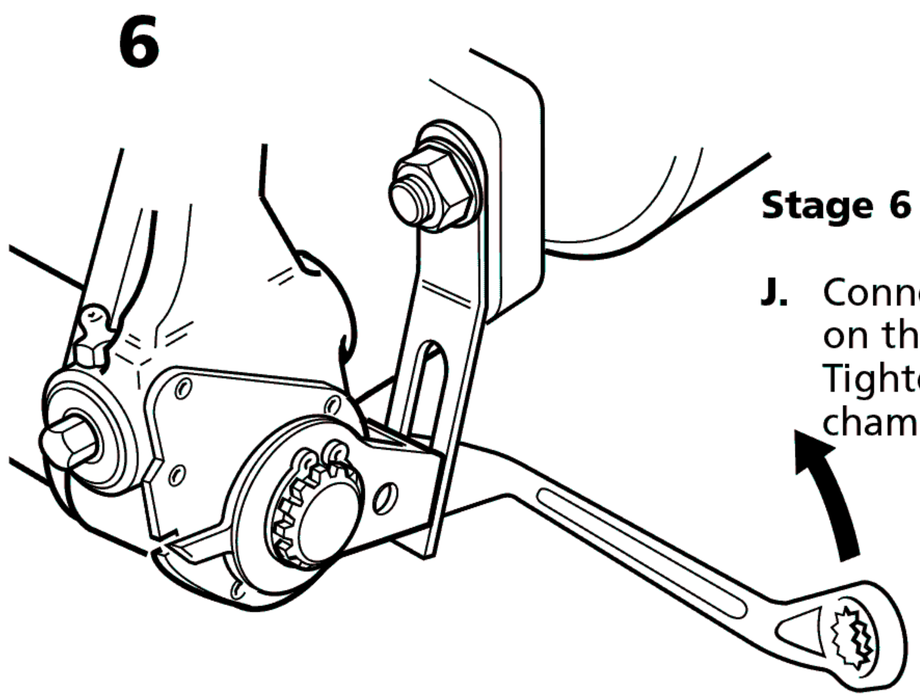
Stage 5

I. Rotate the control arm as far as possible, away from the adjustment hex **C** towards the brake chamber.

Most ASA's have an installation indicator.

The indicator **A** on the control arm should now be aligned with notch **B** in the cover plate.

If this control arm position is wrong the ASA will over adjust, resulting in tight brakes.



Stage 6

J. Connect the control arm to the strap bracket. Check that the indicator **A** on the control arm is still aligned with the notch **B** in the cover plate. Tighten the fastener without moving the control arm. Tighten the brake chamber mounting nut

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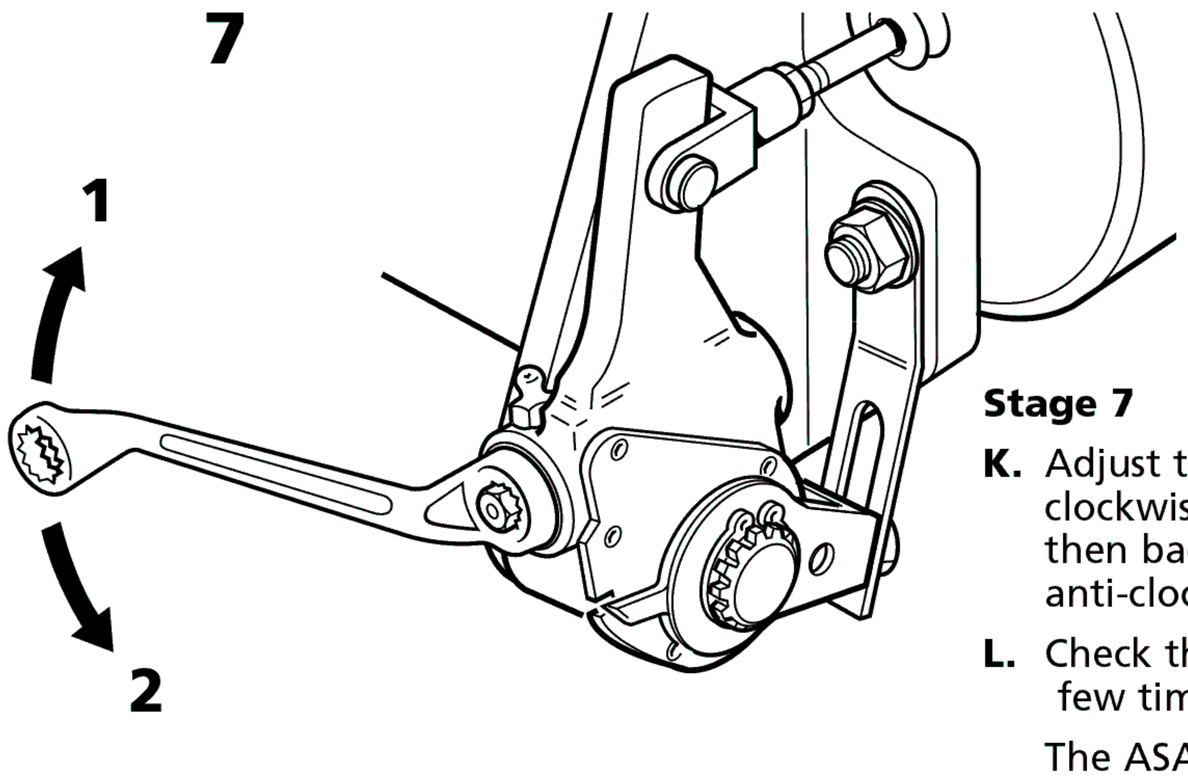

Stage 7

K. Adjust the clearance by rotating the hexagon on the ASA clockwise (**1**) until the brake lining touches the brake drum, then back-off by rotating the hexagon a 3/4 turn anti-clockwise (**2**). Backing-off produces a loud ***clicking*** noise.

L. Check that the ASA is functioning by applying the brakes a few times.

The ASA is working when the hexagon rotates clockwise on the return stroke.

OPERATIONAL CHECK

a. Block wheels to prevent vehicle from rolling.
b. Check that the pushrod is fully retracted, apply air to release brake.
c. Manually de-adjust brakes (turn adjustment hex counterclockwise) to create excessive clearance. (A ratcheting sound will occur).
d. Make a full service brake application. On release, allow sufficient time for brake to fully retract. During the brake release, observe rotation of the adjustment hex (attaching a wrench on the hex will make this rotation easier to see). This rotation indicates that an excessive clearance condition has been determined by the slack adjuster, and it is making an adjustment to compensate. On each subsequent brake release the amount of adjustment and pushrod travel will be reduced until the desired clearance is achieved and no additional adjustment is required.
e. See 'In Service Checking Procedure' for proper pushrod stroke. Final operating travel will not be obtained until vehicle has been driven and brakes heated. If new linings have been installed the stroke will decrease approximately 1/4" after linings have been burnished.

INSPECTION

1. During normal lubrication intervals, visually inspect slack adjuster and anchor bracket for damage or wear. Check that anchor bracket is tight and the control arm is in it's fully rotated position. (Refer to Stage 5 of General Fitting Instructions).
2. Measure pushrod stroke with a 90 to 100 PSI brake application, stroke should not exceed the limits set by the air chamber manufacturers, see 'In Service Checking Procedures'.
3. Maintaining proper brake adjustment and brake balance cannot be accomplished by the slack adjuster alone. The condition of foundation brake components have a direct bearing on the effectiveness of brake performance and chamber stroke. Therefore, periodic inspection of these components is necessary.

a. **BRAKE CHAMBERS** - Check that brake chamber mounting bolts are tight and proper alignment is maintained to avoid interference between chamber pushrod and chamber housing. Verify that the brake chamber pushrod length is equal on opposing brake chambers of the same axle.
b. **CAMSHAFT BUSHINGS** - Optimum brake adjustment cannot be achieved when worn bushings are used.
c. **WHEEL BEARING ADJUSTMENT** - Accurate wheel bearing pre-load is necessary to maintain proper alignment between the brake drum and brake shoes.

END PLAY

Install rear slack adjuster on camshaft with a minimum of spacers between the spider and adjuster body, to avoid contact between the drum and slack adjuster. Tighten retaining washer and bolt as shown in Fig 1. If slack adjuster is clamped (no end play), add spacing washer as shown in Fig 2.

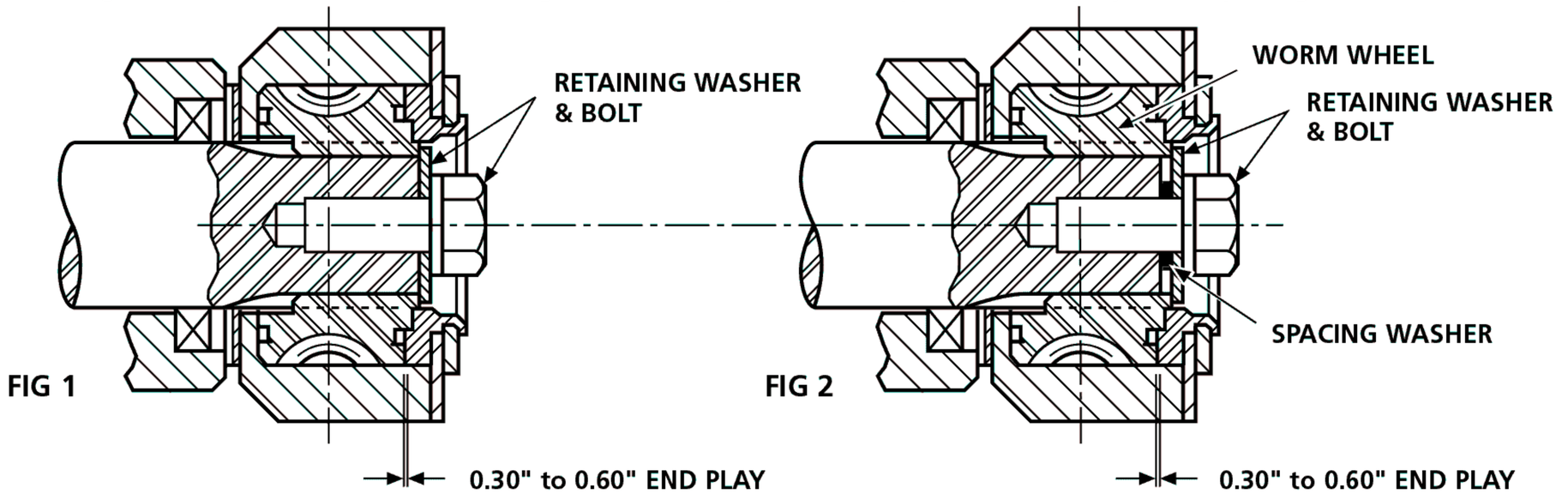

FIG 1 FIG 2

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General Fitting Instruction

LUBRICATION

The Automatic Slack Adjuster should be lubricated in conjunction with the lubrication prescribed for the vehicle chassis. The lubrication interval should not, however, exceed 6,000 miles or 3 months, whichever occurs first. No special type of grease is required, however the use of moly-disulphide loaded grease or oil is not recommended since it may lower friction capacities in the adjusting clutch parts, and decrease automatic adjustment reliability.

MAINTENANCE

During reline, check the de-adjustment torque. Place a torque wrench on the 7/16" adjusting hex. Turn the torque wrench counterclockwise and check that the clutch does not slip at the torque less than 13 ft. lbs. A ratcheting sound will occur while backing off. If clutch slips at a lower torque. the slack adjuster must be replaced.

IN SERVICE CHECKING PROCEDURES

- An Automatic Slack Adjuster should never have to be manually adjusted while in service. The only time it should be manually adjusted is during installation or at reline. By constantly manually adjusting, the internal clutch life can be shortened.
- Maximum effective pushrod travel as recommended by the air chamber manufacturers must be less than the following with a **90 to 100 PSI Service Brake Application**:

Type 12	**1 3/8"**	**Type 20**	**1 3/4"**	**Type 24L**	**2"**	**Type 30L3**	**2 1/2"**
Type 16	**1 3/4"**	**Type 20L**	**2"**	**Type 24L3**	**2 1/2"**	**Type 36**	**2 1/4"**
Type 16L	**2"**	**Type 24**	**1 3/4"**	**Type 30**	**2"**		

TROUBLESHOOTING

TIGHT OR DRAGGING BRAKES

Check Foundation Brake Components for:

- Control arm anchor bracket not positioned properly (Stage 5 General Fitting Instructions).
- Brake chamber not fully releasing:
  - Spring brake not fully releasing.
  - Pushrod binding on chamber housing.
  - Air supply not exhausting completely.
- Extreme differences in lining-to-drum clearances between shoes on same wheel
- Broken shoe return spring.
- Wheel Bearing Adjustment.

EXCESSIVE CHAMBER PUSHROD TRAVEL

Check Foundation Brake Components for:

- Loose, broken or bent control arm anchor bracket
- Worn camshaft bushings.
- Binding camshaft.
- Worn clutch assembly. (See 'Maintenance')

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