The Meritor guide to CV brake servicing

Fixed Cam, Sliding Shoe Automatic Adjust Drum Brake

(Simplex Air Cam or 'Z' Cam)

MAINTENANCE PROCEDURES

Modern brake designs have to meet exacting legislative and operational demands. To ensure that the efficiency and performance of these brakes is maintained it is essential that the following procedures and recommendations are carried out.

IMPORTANT: Initial correct setting up of the brake, after work has been carried out, particularly in ensuring a trailing shoe 'lead' when fitting new lined shoes, will dictate service reliability and driver satisfaction.

Failure to observe procedures may result in further work being necessary which otherwise would not have been required. The skilled mechanic will undoubtedly recognise the need for change and amend working practices in line with these recommendations.

Automatic Adjustment (Fig 1)

Brakes fitted with auto adjust have a hexagonal flat headed stem protruding through the rear of the torque plate. Although constantly pressing and releasing the brake treadle with the vehicle stationary will eventually achieve correct adjustment, INITIAL SETTING IS IMPORTANT.

Checking Running Clearances in Service (Fig 1)

Due to the nature of the automatic adjusters and their manufacturing tolerances, it is likely that different clearance readings will be obtained for each shoe on each brake. Providing that the readings are within the 0.25 to 1.6mm (0.010 to 0.065") band at the expander end and the camshaft lever travel is between 17 and 45mm (0.67 and 1.77") the adjuster is functioning satisfactorily.

IMPORTANT: Do not be tempted to use the override mechanism to 'standardise' these clearances.

Manual Override Mechanism (Fig 1 and 2)

If fully wound back using the override/manual adjustment, the adjuster screw and input tappet may 'lock' together and this 'locking' action must be 'broken' by winding the manual override forward one turn (Fig 1).

WARNING: Brake function may be impaired if this is not done.

To INCREASE shot to drum clearance on all brakes, regardless of which side of the vehicle they are fitted, depress and turn the manual override stem or socket in the SAME direction as FORWARD DRUM ROTATION (Fig 2). For detailed information regarding the various levels of Manual Override Stem Kits, refer to publication number XFB125.

Adjuster components (Fig 3)

The tappets, adjuster pinion and cross shaft must be kept together at all times and replaced in the same position on the same brake from which they were removed. These units will physically fit in the opposition hand brake, but this will result in the auto adjusters de-adjusting and the direction of rotation of the manual override being reversed.

Fig. 3

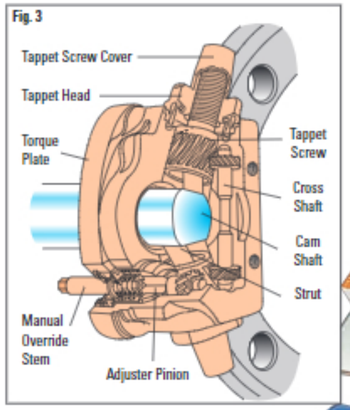


Fig. 10a

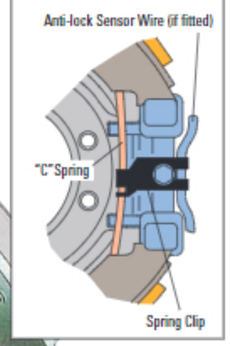
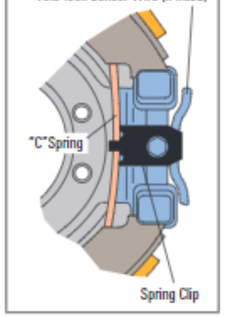


Fig. 10b



DO'S AND DON'TS

DO NOT use the Air Chamber Mounting Bracket as a vehicle jacking point.

1. Brake Shoes

1.1 DO NOT allow linings to wear below 5mm (0.20") thick (Fig 4).
1.2 DO ensure shoe to drum clearance does not exceed 1.6mm (0.065"), measured at the expander end.
1.3 DO ensure that webs and platforms are not distorted or damaged.
1.4 DO fit genuine Meritor lined shoes.
NOTE: Some service replacement linings, not of Meritor origin, may have a thickness variation. Use the Meritor Brake Shoe Setting Gauge (Part No. YCB229, Fig 5) or the Vehicle Manufacturers Gauge to correctly set-up the brake. The YCB229 tool includes comprehensive instructions.
1.5 DO ensure that the lining material is free from oil and grease.
1.6 DO apply brake grease (Part No. PFG103, 25g tube) to shoe trips.
1.7 DO replace lining inspection grommets (Fig 6).
1.8 DO inspect linings every 20,000km (12,500 miles).

2. Cam Unit

2.1 DO NOT apply the brake with the brake drums removed.
2.2 DO NOT rotate tappet heads independently (Fig 7).
2.3 DO re-set tappet heads after full overhaul, or if 2.2 has not been observed.
2.4 DO NOT dismantle the cam unit during warranty period.
2.5 DO use only the recommended grease, failure to do so will affect the efficiency and life of the unit.
2.6 DO re-set shoe to drum clearance to within 0.25 to 1.60mm (0.010 to 0.065") measured at the expander end (Fig 8).
2.7 DO check dust covers for damage.

3. Shoe Springs

3.1 Use only the 'C' Spring Expander Tool YCB244 (Fig 11) when removing and replacing shoes.
3.2 DO check distance between ends of 'C' spring (Fig 9) every lining change. If the measurement is above 250mm (9.85") max the 'C' spring must be replaced.
3.3 DO fit 'C' spring correctly (Fig 10a/10b).
3.4 Spring Clips on Fig 10a & 10b are not interchangeable.

Fig. 11 "C" Spring Expander Tool YCB244

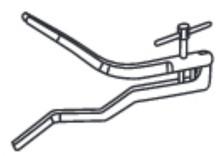


Fig. 9

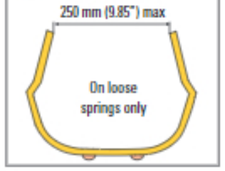


Fig. 1 Auto Adjust Override Stem

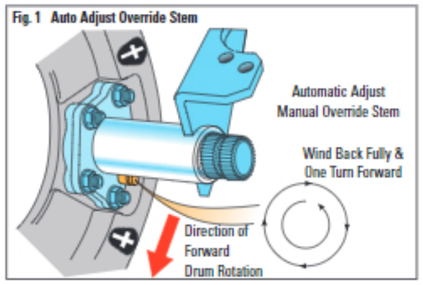


Fig. 2 De-adjusting the Brake Shoe Setting Gauge YCB229

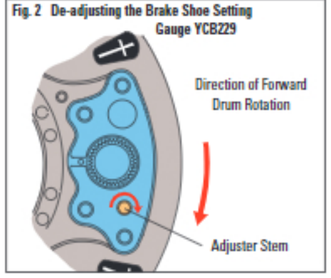


Fig. 5 Brake Shoe Setting YCB229

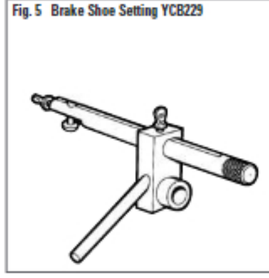


Fig. 4 Worn Linings Condition

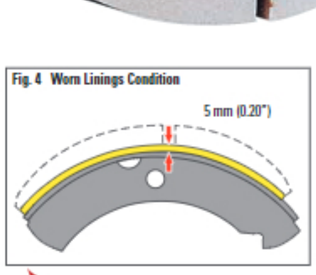


Fig. 8

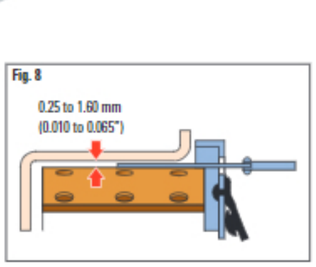


Fig. 6

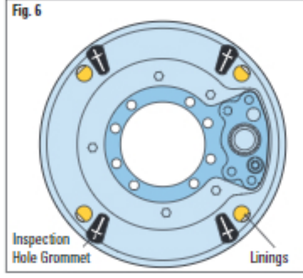
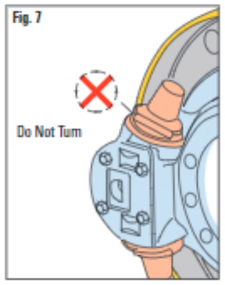


Fig. 7



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WARNING

Do not use an air line to blow dust from the drums. If inhaled any form of dust can be at best an irritant, at worst dangerous. Where possible remove dry dust with a vacuum brush. Alternatively, wipe the drums with a damp rag but never try to accelerate the drying time by using an air line.