

Brake Drum, Hub & Backplate Assembly

Important Note: If the coupling has an over centre style handbrake it is ESSENTIAL that the lever is tied down and the locking pins or stop pegs fitted as per the manufacturer's instructions, BEFORE any dismantling of the braking system is undertaken.

There are two types of hub available today - the older style drum utilising taper roller bearings and the more recent type with integral, unitised, sealed for life, non-adjustable bearings.

Whilst both types are covered here it is important to establish which type is used before proceeding as follows:

(A) Trailer - Jack up the trailer; support it on axle stands. Check for lateral bearing play by grasping wheel/tyre assembly at top and bottom and rocking. If adjustment or replacement is required, proceed to (D) below.

(B) Wheels - Remove road wheels.

(C) Brake linings - if possible check condition via inspection holes in back plate.

If OK, proceed to (N) below.

If unable to inspect via this method proceed to (D) below and remove brake drum.

(D) Grease/dust cap - remove to reveal castellated nut (taper roller) or flange nut (unitised bearing).

(E) Split pin - remove; undo castellated nut; remove thrust washer, if fitted and withdraw brake drum c/w bearings. With unitised bearings there is no split pin and the drum/bearing unit can be removed after undoing the "one shot" flange nut, which may take considerable effort.

N.B. it maybe necessary to back off the brake adjustment to facilitate easy drum removal.

(F) Front and rear bearings - remove, noting that the latter may have stayed on the stub axle when the drum was removed. If required, clean with paraffin or degreaser and examine for flats on the rollers. If OK set aside for reassembly.

N.B. If a separate inner oil seal is fitted, it may be easily damaged during removal and require renewal.

(G) Inner and outer cones - clean, examine and replace if necessary. For instructions on renewal, refer to the hub manufacturer's instructions.

(H) Unitised bearing/hub units - ignore points (F) and (G). There is no maintenance capability with these units and replacement may require specialised pressing equipment. Refer to the manufacturer's instructions.

(I) Brake drums - inspect inner, sweep surface for rust and excessive scoring and check all surfaces for cracks and other damage.

(J) Brake back plate - clean out all dust with brake cleaner.

(K) Brake springs - examine for rust and/or breakage. Replace if necessary, noting position of all parts before stripping down.

(L) Shoe carrier and expander - check that they can slide freely. If not, clean and smear with small amount of specialised brake grease (e.g. Copperslip) and reassemble. N.B. do not get grease on linings.

(M) Brake linings - inspect for thickness and irregular wear (minimum thickness 1.5mm). Replace if necessary, noting position of all parts before stripping down.

(N) Bowden cables - check that end fittings in the back plate carrier are undamaged and that inner cable moves freely. If there are any kinks, snags or fraying, replace in pairs. Most modern Bowden cables have self-lubricating linings and therefore do not require separate lubrication. If a grease nipple is fitted, care should be taken not to apply too much, because of the risk that grease will find its way into the back plate and onto the brake linings. N.B. if new cables are fitted, it is essential that the handbrake is applied firmly at least ten times after assembly to remove any initial stretch.

(O) Bearings - Re-grease bearings and cones with a good quality, high melting point grease, or a water repellent version if the hub will be immersed in water.

(P) Drum - Refit brake drum and bearings, replace thrust washer, and tighten the castellated nut until the slack has been taken out. DO NOT over tighten - check with manufacturer's instructions how much torque is required. Back the nut off to the first available slot for the split pin, ensuring that the hub can spin freely. Fit a new split pin. Smear a small amount of grease in the grease cap and refit.

(Q) Unitised bearings - lightly smear the stub axle thread with oil, refit the drum/bearing unit, fit a NEW flange nut and tighten using a torque wrench to the manufacturer's torque figure. N.B. with these units the required torque figures are very high and will require the use of a specialised torque wrench. (AL-KO: 290 Nm/214 lbs Ft ; Ifor Williams: 350 Nm/260 lbs Ft ; Avonride: 280 Nm/200 lbs Ft) The action of tightening automatically provides the correct adjustment.

(R) Repeat - on the other hub units on the trailer.

(S) Refit - road wheels and lightly tighten wheel bolts/nuts.

N.B. It is important that reference is also made to the brake and hub manufacturers' maintenance instructions.