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SERVICE SHEETS

BSA SERVICE SHEET No. 212

**A Group Models
before Engine No. ZA7-101**

Oct., 1948
Reprinted Oct., 1956

ADJUSTMENT, DISMANTLING AND RE-ASSEMBLY OF HUBS AND BRAKES

Both wheels are of the quickly detachable type and are interchangeable.

Front Wheel Removal and Replacement

Slacken the pinch bolt A, Fig. A31, at the front of the nearside fork end. Insert a tommy bar in the hole in the spindle end B and unscrew. Note that the spindle has a left hand thread, and therefore unscrews clockwise. The spindle can then be pulled right out, and the wheel should be pulled sideways toward the nearside of the machine, so as to disengage the coupling splines on the hub from the brake. As this is done, the distance bush C will slide into the fork end. The wheel can now be dropped out.

To replace the wheel the above operations are carried out in the reverse order. The action of tightening the wheel spindle restores the bush C to its correct position. **Do not forget finally to tighten the pinch bolt A.**

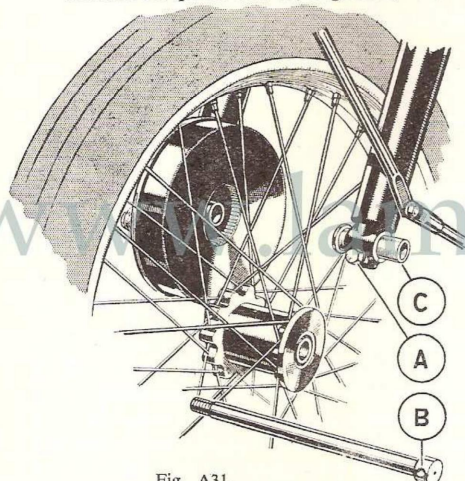


Fig. A31.

Rear Wheel Removal and Replacement

The rear wheel is removed in a somewhat similar manner. The spindle A, Fig. A32, has a right hand thread and therefore unscrews in an anti-clockwise direction. The distance bush B falls clear of the machine when the spindle is removed, or alternatively the spindle can be pulled out until it is clear of the hub and then slid backwards out of the slotted chainstay end, carrying the bush with it.

This is the most convenient way of dealing with the bush when refitting the wheel. When detaching the rear wheel, it is quite unnecessary to touch the hexagon nut C on the nearside.

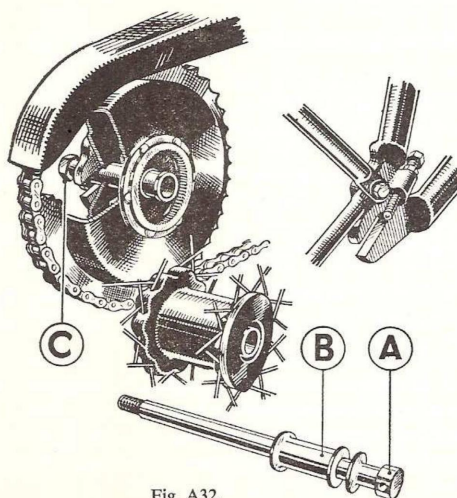


Fig. A32.

Dismantling and Re-assembly of the Hubs

The hubs are fitted with two ballraces which are a light press fit on the hollow spindle and in the hub shell. Remove the dust cap A, Fig. A33 and felt washer B. Unscrew the ballrace retaining ring C. This ring has a left hand thread and therefore unscrews in a clockwise direction.

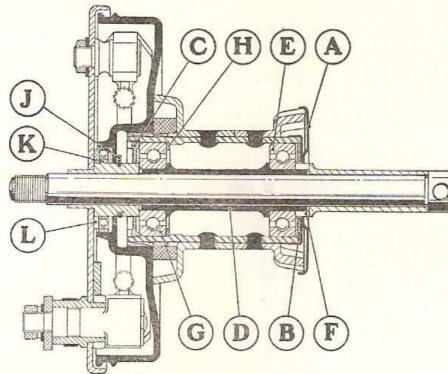


Fig. A33. Section through the front hub.

With the aid of a suitable soft drift applied to the end of the hollow spindle D, drive out the spindle and ballrace E. As the spindle comes away the distance bush F will be released. The only parts remaining in the hub are the ballrace G and the shim H, and these need not be disturbed unless the ballrace is suspected of being faulty. Wash it thoroughly in paraffin to remove all trace of grease when any play will be immediately detected. If it is decided to replace the race it can be driven from the hub shell with the aid of a soft drift.

Removal and Dismantling of the Front Brake Drum

After removal of the wheel the brake drum is held in position in the frame by means of a stud which passes through a lug on the fork leg. With the nut removed the complete drum can be withdrawn.

The brake drum cover plate can be withdrawn from the brake drum after removal of the spring circlip J, Fig. A33. The plate will be seen to carry the brake shoes together with their fulcrum pin and operating arm and a thrust race with its accompanying washers. Note that the smaller diameter washer goes next to the cover plate.

It is unlikely that the brake shoes, fulcrum pin and operating arm will require attention, although the latter should be checked for freedom of movement and greased if necessary.

To remove the brake shoes, lay the drum cover plate flat on a bench (shoes uppermost) and lever the shoes upwards. They can then be drawn over and free of the cam and fulcrum pin. To replace, attach the springs and reverse the method of removal. If the cam pads show excessive wear, new shoes should be fitted. If only the brake linings are worn, these alone need be replaced.

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If examination of the brake drum shows that the splines have become worn and the braking surface scored, a new drum must be fitted. The drum must not be machined to produce a new braking surface. To do so is only a temporary cure and further attention would be required later.

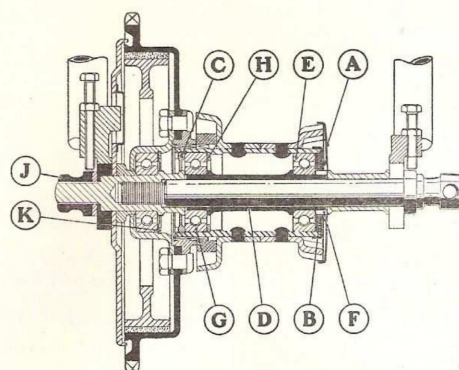


Fig. A34. Section through the rear hub.

When new linings or new shoes have been fitted, the brakes must be centralised after refitting the wheel. To do this, replace the brake cover plate, complete with shoes, fulcrum pin and cam, in the brake drum. Slacken the fulcrum pin nut, and turn the cam so as to open the brake shoes in the normal manner. The fulcrum pin will then move in its slot until both shoes are pressing equally on to the drum. Tighten the fulcrum pin nut firmly and release the brake.

Removal and Dismantling of the Rear Brake Drum

After removal of the rear wheel the brake drum is held in position in the wheel by nut J, Fig. A34. To remove the drum disconnect the chain and rear brake rod, slacken nut J, move the drum towards the offside of the machine until the lug on the frame disengages from the slot in the brake anchor plate, and then slide the drum to the rear, until it is clear of the chainstay ends.

With the brake drum removed from the frame, the brake drum cover plate, to which are attached the brake shoes, can be withdrawn, together with their fulcrum pin and operating arm. It will be seen that these are similar in construction to those of the front brake, and the instructions given for the front brake will apply.

The hub ballrace, which is totally enclosed in the brake drum, should not normally require attention. If it has been decided to replace this race, however, its housing can be removed from the brake drum by unscrewing the nuts and withdrawing the bolts that pass through the splined ring, the brake drum and the ballrace housing. Note that the nuts are locked in position by three locking strips: it is essential that these are fitted on re-assembly.

B.S.A. Service Sheet No. 212 (cont.)

The brake drum ballrace is held in position in its housing by means of a spring circlip K, which can be removed with the aid of a screwdriver. The replacement ballrace should be well greased before fitting the washer in place to prevent grease entering the brake drum. When replacing the bearing housing in the drum, make sure that its face is clean and free from burrs, as failure to do this may result in the brake drum running out of truth.

Brake Adjustment

The front brake is adjusted by means of the screwed sleeve on the cable stop, fitted to the brake cover plate.

The rear brake is adjusted by means of a knurled nut on the end of the brake rod.

Brake Re-lining

After removal of the brake shoes (see Dismantling of Brake Drums), the old lining is easily taken off by gripping the shoe in a vice, inserting a chisel under one end and shearing the rivets off in sequence. The rivet ends can then be punched out of the shoe.

New linings are die-pressed to suit the curvature of the shoes, but will require drilling and counter-boring for the rivets. Position the lining and hold it in place at one end by means of clamps. Using the holes in the shoes as guides, drill holes of the correct size ($\frac{3}{8}$ in. dia.) for the rivets adjacent to the clamp. Turn the shoe over, and counterbore the holes just drilled sufficiently deep so that the rivet heads will stand below the lining surface; this is important, since the rivets will otherwise score the brake drum.

Insert rivets into the holes and rivet them over on the inside of the shoe. This is easily accomplished by holding in a vice a short length of rod, whose diameter is equal to that of the rivet head, and using it as an anvil upon which to rest the rivet head while hammering the shank over. This will also make sure that the rivets do not stand proud of the lining.

Move the clamps to the next pair of holes, taking care that the lining is kept in firm contact with the shoe the whole time, and repeat the above procedure. When the lining is finally riveted down, bevel off the ends of the linings and file off any local high spots.

Precautions to be observed when fitting the relined shoes to the hubs are given in the chapter on 'Dismantling of the Brake Drums.'