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SERVICE SHEETS

BSA SERVICE SHEET No. 611

"M" Group Models

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FITTED WITH GIRDER TYPE FORKS

ADJUSTMENT, DISMANTLING and RE-ASSEMBLING of HUBS and BRAKES

REAR HUB (Fig. M39).

The rear wheel is of the quickly detachable type and the taper roller bearings are contained in the wheel hub. To remove the rear wheel it is only necessary to undo the three retaining bolts and withdraw the spindle from the nearside. The latter is released after the nut on its offside end is removed. **The spindle does not unscrew; it is a push fit in the hub.** Should it be too tight to be removed by hand, it may be tapped out from the offside. Remove the distance piece on the right-hand side and withdraw the hub to the right from the driving studs. The wheel itself is now free and can be taken out rearwards after the detachable portion of the mudguard is removed.

Uncouple the rear chain, the brake cover plate (at its junction with the torque arm) and the brake rod. The whole brake drum assembly can now be

and operating cam. It is unlikely that these will require attention although the latter should be checked for freedom of movement and dismantled and greased if necessary. To remove the brake shoes, lay drum cover plate flat on bench (shoes uppermost) and lever shoes upwards. They can then be drawn over and free of cam and fulcrum pin. To replace, attach springs and reverse method of removal. If the cam pads show excessive wear, new shoes should be fitted, otherwise if only the brake linings are worn these alone need be replaced.

If examination of the brake drum shows that the sprocket teeth have become hook-shaped 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.

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 when the fulcrum pin will move in its slot until both shoes are pressing equally on to the drum. Tighten the fulcrum pin nut firmly and release the brake.

RE-ASSEMBLY.

After fitting new bearings and bearing sleeve, together with the adjusting nut, in position, make certain that there is a trace of play in the bearings. If they are locked up so that no play is apparent, rapid wear will be caused. The adjustment should be such that the side play at the wheel rim is not more than 1/64 ins. after the locking plate has been replaced and locknut screwed up tight.

Replace the brake assembly in position and couple up the rear chain, cover plate and brake rod. Verify that the brake cam is against its stop and adjust the chain for tension (see Service Sheet No. 609). For this latter operation, the wheel spindle must be replaced (without the hub being in position).

Withdraw the wheel spindle and replace the wheel in position. **The wheel bolts must be screwed up tight and must be kept dead tight at all times.** Slackness will result in elongation of the stud and dowel holes in the hub flange, necessitating replacement. Method of tightening is to turn wheel until one of the three bolts can be seen between mudguard upright and saddle to hub backstay. Insert bar type box spanner 69-9068 through hole in hub and engage head of bolt. Place box spanner 66-9067 over squared shank of first spanner and tighten bolt as necessary. A full half turn is possible before spanners need to be

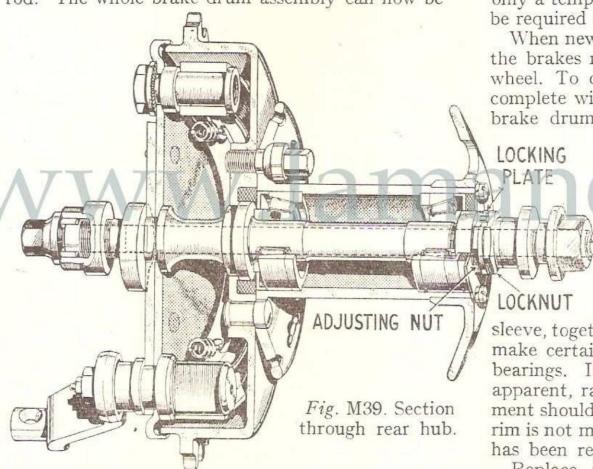


Fig. M39. Section through rear hub.

taken off, after removal of the hub nut on the nearside of the spindle.

To remove the bearings it is only necessary to take off the locknut and adjusting nut on the right-hand side of the hub, when the bearing sleeve may be drawn out from the opposite side. The outer races of the bearings are lightly pressed into the hub and will tap out easily after removal of the dust-cap. Thoroughly clean the bearings and examine carefully. If they have been run in too tight a condition, flats may have been worn on the rollers and a track formed in the outer race. Check also that the bearing sleeve and the hub spindle have not been distorted through misuse. If necessary, renew.

The brake drum cover plate can be withdrawn from the brake drum and it will be seen to carry the brake shoes together with their fulcrum pin

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re-positioned. Insert the wheel spindle, but before finally tightening the spindle nuts, the chain should be finally adjusted and the wheel aligned by means of the gauge provided in the tool kit (see Service Sheet No. 609).

FRONT HUB.

The particulars given above for the rear hub are essentially the same for the front hub. Before the wheel can be removed, however, the speedometer drive cable must be disconnected at its lower end, and also the front brake cable. After withdrawing the wheel from the forks remove the speedometer drive from the spindle, for which purpose, it is only necessary to unscrew its locknut. This will expose the bearing adjusting sleeve and locknut. When replacing the speedometer drive unit make sure that the tongues on the driving pinion engage with the slots in the hub shell.

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 wing nut on the end of the brake rod. An adjustable stop is provided to enable the pedal to be altered to suit the rider's convenience.

BRAKE RE-LINING.

After removal of the brake shoes 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 to take rivets. Position the lining and hold it in place at one end by means of clamps. Using the holes in the shoe as guides, drill holes of the correct size ($5/32$ ins. dia.) for the rivets adjacent to the clamp. Turning the shoe over, 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.

