BSA SERVICE SHEET No. 412

Reprinted March., 1960

Models C10, C11 and C11G
(With Plunger Type Rear Suspension)
ADJUSTMENT, DISMANTLING AND RE-ASSEMBLY OF REAR HUB AND BRAKE

Wheel Removal

Undo the spring link of the rear chain and allow the chain to hang down. A piece of clean paper should be placed below the machine so that the chain does not pick up grit.

Remove the brake rod adjuster D (Fig. C33) and loosen the nuts E. On three-speed models the speedometer drive cable must also be detached. The wheel can then be moved to the rear and withdrawn from the machine.

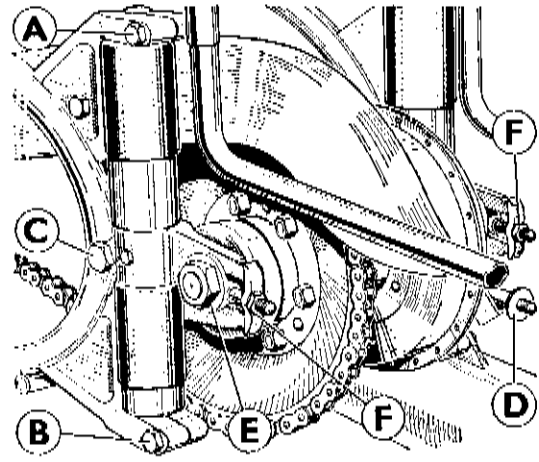

Fig. C33. Rear Wheel Removal

When replacing the rear wheel ensure that the slot in the brake torque plate is located on the extended head of the pinch bolt on the right hand rear suspension lug, and that the wheel alignment has not been disturbed.

Hub Dismantling and Re-assembly

After unscrewing its retaining nut D (Fig. C34) withdraw the brake plate complete with brake shoes.

Removal of the sleeve nut C will permit the spindle, complete with speedometer drive or dust cover, to be pulled out of the hub from the chainwheel end.

Prise off the dust cap and remove the felt oil seal from the brake drum end of the hub. Then with the aid of a suitable soft drift unscrew the bearing retaining ring A which has a left hand thread. Displace the central distance piece J in the hub and drive out the bearing E with the aid of a suitable drift. As the bearing comes away it will carry with it the oil seal, oil seal holder and oil seal retaining washer.

Remove the distance piece and drive out the other bearing. Unscrewing the nut H will permit the speedometer drive or dust cover to be withdrawn, to leave only the short distance collar F and its retaining nut G on the spindle. The chainwheel can be detached after bending back the lockwashers and undoing the retaining nuts.

Re-assembly is carried out in the reverse order to that for dismantling. Both bearings should be greased before re-assembly. Position the distance collar L in the brake drum side of the hub and insert the bearing B until it is firmly against the collar. Replace the flat oil seal washer and then screw in the bearing retaining collar A which has a left hand thread. Ensure that this collar is quite tight before replacing the felt oil seal and its retaining dust cap.

The centre distance piece J can then be replaced, followed by the chainwheel side bearing and its oil seal assembly. Pass the spindle through the two bearings and the central distance piece and lock the assembly up tight with the sleeve nut C. Replace the speedometer

drive gearbox (3-speed models) making sure that the dogs on the inside of the gearbox sleeve engage in the two notches on the end of the hub. Ensure that the washers fitted one on either side of the speedometer drive or dust cover are not omitted.

Replace the brake plate and secure with the aid of the spigot nut D. This completes the re-assembly.

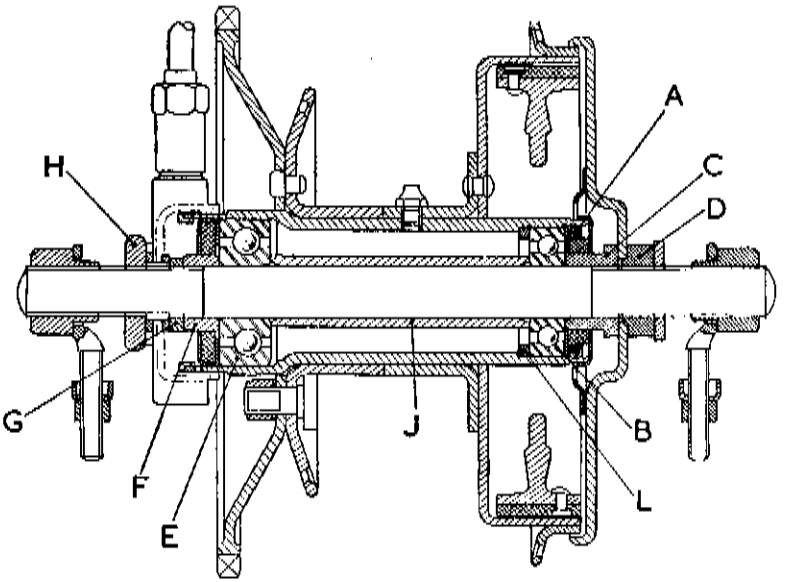

Fig. C34
Section view of the Rear Hub.

Brake Shoe Re-lining

When the brake plate is removed from the drum it should be laid on a bench, shoes uppermost. Insert two small levers under the edge of the shoes and lever them up and away from the plate. They can then be drawn over and free of the cam and fulcrum pin. The operating cam and fulcrum pin should be inspected but it is unlikely that more than greasing will be necessary. If the cam pads on the brake shoes show excessive wear then new shoes should be fitted. To replace the shoes, attach the springs and push the shoes over the cam and pivot by reversing the dismantling procedure.

For instructions on removing and replacing the brake shoe linings see Service Sheet No. 612.

Rear Chain Adjustment

First place the machine on its centre stand so that the rear wheel is clear of the ground. The wheel must be at its lowest point in the suspension when the adjustment is made. Slacken the two nuts E (Fig. C33) then draw the wheel rearwards by means of the two chain adjusters F to tighten the chain. Turn each nut by an equal number of turns so that the wheel alignment is not altered. The chain should be adjusted so that there is a total up and down movement of ½ in. at its tightest point. Tighten the nuts E and check the adjustment.

The wheel alignment can be checked by means of a taut piece of string which should be equidistant from the front and rear of each wheel. Note that the rear brake may need adjusting when the chain adjustment has been altered.

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BSA SERVICE SHEET No. 412A

Nov., 1959

C Group Models
(Except C15)

ADJUSTMENT, DISMANTLING AND RE-ASSEMBLY OF FRONT HUB AND BRAKE (7 in. Brake)

Wheel Removal and Replacement

To remove the front wheel, first disconnect the brake cable, then slacken the pinch bolt *A* (Fig. C33a). Insert a tommy bar in the hole in the head of the spindle at *B* and unscrew the spindle, noting that it has a left hand thread and therefore unscrews in a clockwise direction. Support the wheel as the spindle is withdrawn, and when it is clear the wheel can be pulled away from the right hand fork leg and removed from the machine.

After removal do not let the wheel fall on to the bush which projects from the brake drum side of the hub. Although the bush is pressed in, it may, if subjected to a sharp blow, be forced back into the hub. If this should happen the bush can be retrieved and re-positioned with the aid of the wheel spindle.

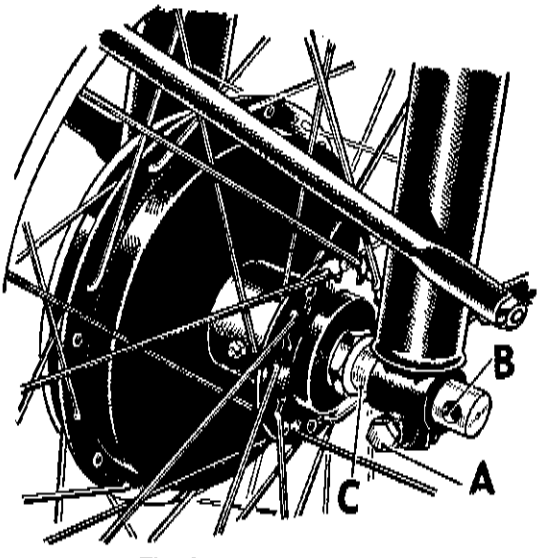

Fig. C33a. Wheel Removal

The wheel is replaced in the reverse order to that for removal. It is most important that after the spindle has been tightened and before the pinch bolt is tightened, the forks are depressed once or twice to enable the left hand fork end to position itself on the spindle shank. If this precaution is not observed, the fork leg may be clipped out of position and will not function correctly.

Dismantling and Re-assembly of the Hub

Withdraw the brake plate which is a push fit on the bush *B* (Fig. C34a). Remove the locking split pins and unscrew the bearing retaining collars *C* and *D*, which have normal right hand threads. Replace the spindle and drive out the brake side ballrace *E* together with the bush *B* by striking the end of the spindle with a hide mallet. Only the ball race *F* now remains in the hub and can be removed with a suitable soft drift.

Before commencing re-assembly make sure that the hub distance collar behind each bearing is in position. Press the bearings in as far as they will go and secure with the screwed collars.

Before replacing the bearing retaining collars ensure that the rubber oil seals in them are in good condition. The collars should be done up quite tight and if necessary fresh holes should be made for the locking split pins.

Brake Relining

To remove the brake shoes lay the drum cover plate flat on a bench and lever the shoes upwards. They can then be drawn over, and free of the cam and fulcrum pin. If the cam pads show excessive wear the brake shoes should be renewed.

When the brake shoes are removed the linings can be replaced as described in Service Sheet No. 612.

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.

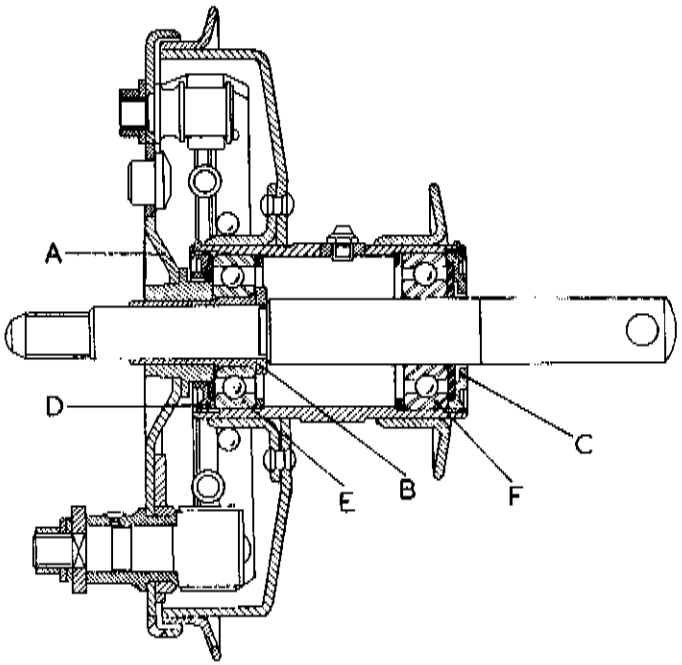

Fig. C34a. Section of Front Hub (7 in. Brake)

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C12 Model

ADJUSTMENT, DISMANTLING AND RE-ASSEMBLY OF HUBS AND BRAKES

Wheels

Both wheels are fitted with ball forward bearings which require no adjustment. The bearings are packed with grease during reassembly and should last until the machine is overhauled. The brakes are provided with knurled finger adjusters and should not be adjusted too closely as any 'rubbing' will generate heat which may distort the drum and melt the grease in the hub.

Front Wheel Removal

Place the machine on the stand with the front wheel clear of the ground. Disconnect the brake cable and slacken pinch bolt 'A' (Fig. C42), insert a tommy bar in the wheel Spindle 'B' and unscrew the spindle which has a left-hand thread. Support the wheel and withdraw the spindle. The wheel can be pulled away from the right-hand fork leg and removed from the machine.

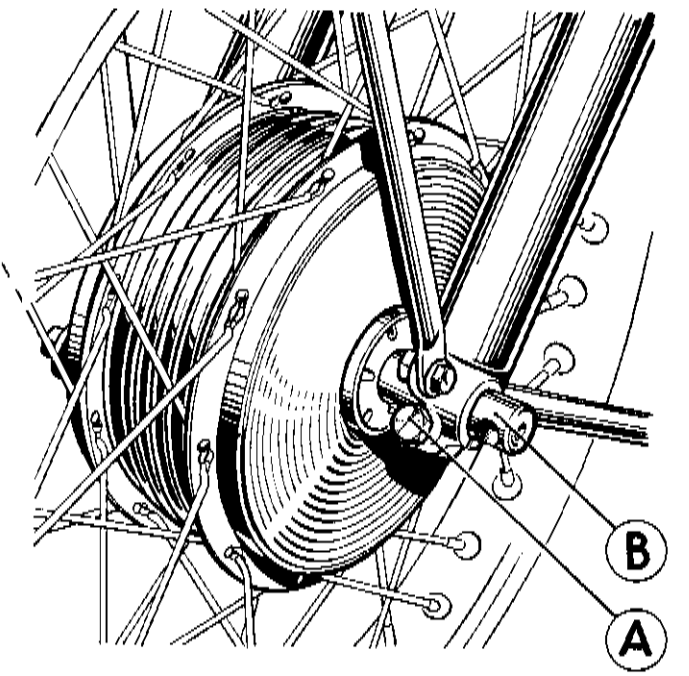

Fig. C42. Front Wheel Removal.

After removal take care that the wheel is not allowed to fall on to the bush which projects from the brake drum side of the hub or it may be forced back on to the hub. If this should happen the bush can be retrieved and repositioned with the aid of a wheel spindle.

The wheel is replaced in the reverse order. After the spindle has been tightened and *before* the pinch bolt is tightened, depress the forks several times with the wheel on the ground to enable the left-hand fork end to position itself in the spindle shank otherwise the fork leg may be clamped out of position.

Rear Wheel Removal

Place the machine on the stand and remove the rear chain. Do not allow the chain to unwind itself from the gearbox sprocket. Undo the knurled brake adjuster and slacken the two spindle nuts 'B' (Fig. C43). The wheel can now be withdrawn to the rear and removed from the machine under one side of the rear mudguard.

The wheel is replaced in the reverse order. Ensure that the slot in the brake plate is engaged on its locating peg and that the chain adjusters are up against the fork ends.

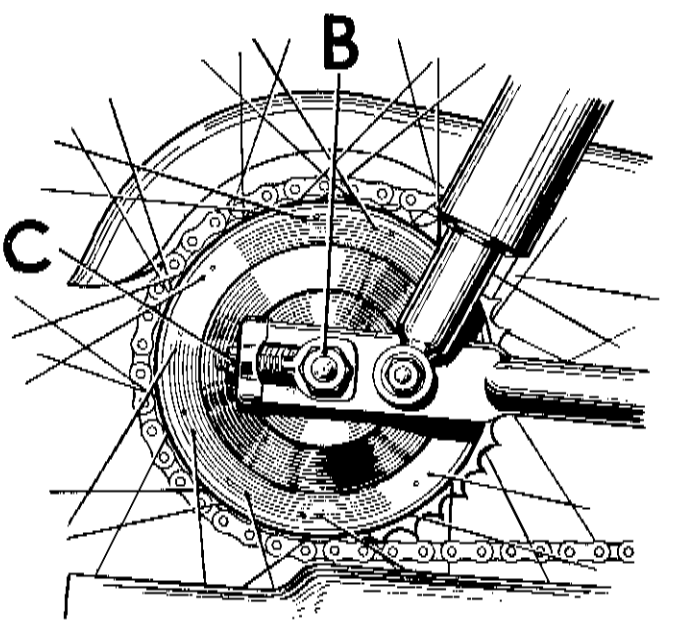

Fig. C43. Rear Wheel Removal and Chain Adjustment.

Rear Chain Adjustment

The rear chain must be adjusted when the machine is on the stand and the suspension is at its lowest point. Rotate the wheel and find the tightest point on the chain. The total up and down movement at this point should be $1\frac{1}{2}$" measured at the centre of the chain run. If it varies from this the chain must be adjusted by moving the rear wheel. Slacken the spindle nuts 'B' and screw the adjusters 'C' in or out as required. When the chain tension is correct tighten the spindle nuts and recheck. Finally, ensure that the adjusting nuts are tight.

Wheel Alignment

During chain adjustment it is important to see that the wheel alignment remains correct. If the adjusters are moved an equal amount alignment will not be disturbed assuming that it was originally corrected, but it is wise to check it occasionally by means of a long straight edge placed along the sides of the wheels. The straight edge should touch the front and rear walls of both tyres. Where different sizes of tyres are used allowance must be made.

Dismantling Front Hub

This should not be necessary unless it is intended to renew the bearings. Withdraw the brake plate, which is a push fit on the bush 'B' (Fig. C44). After removing the locking cotters unscrew the bearing retaining collars 'C' and 'D' which have right-hand threads. Replace the spindle and drive out the brake side ballrace 'E' together with bush 'B' by striking the spindle with a soft mallet. Ballrace 'F' can now be removed with a suitable drift.

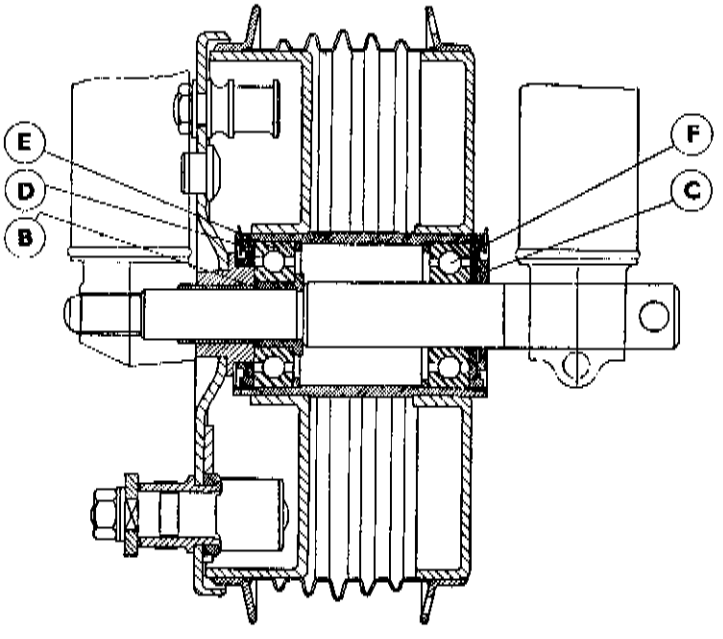

Fig. C44. Front Hub.

Re-assembly

Ensure that the hub distance collar located behind each bearing is in position. Press in the bearings until they are fully home and screw in the retaining collars making sure that the oil seals are serviceable lock the collars up tight. It may be found necessary to drill fresh holes for the split pins.

If the brakes have been relined or new shoes fitted it will be necessary to centralise the brakes. Replace the brake cover plate complete with shoes, cam and fulcrum pin into the drum. Slacken the fulcrum pin nut and turn the cam so as to operate the shoes in the normal way. The fulcrum pin will move in the slot until the shoes press equally on to the drums. The fulcrum pin should be fully tightened and the brake cam can then be released.

Dismantling Rear Hub

Remove the retaining nut 'A' (Fig. C45) and left of the brake plate and shoes. The spindle nut 'B' is now exposed, remove this and tap the spindle through until it can be withdrawn. Prise off the dust caps 'C' and felt washers 'D'. Unscrew the locking ring 'E' (Note:- this has a left-hand thread.) Drive out the ballraces using a suitable drift inserted through the hub.

Re-assemble in the reverse order. Grease the bearings thoroughly and ensure that the bearings are up against the distance collar. Tighten the locking ring fully.

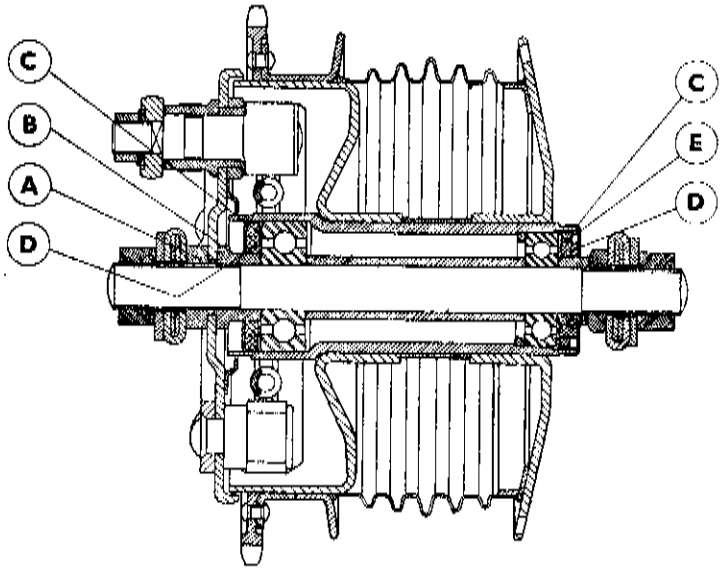

Fig. C45. Rear Hub.

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