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SERVICE SHEETS

BSA SERVICE SHEET No. 212E

September 1956

A and B Group Models

(With Full Width Hubs)

ADJUSTMENT, DISMANTLING AND RE-ASSEMBLY OF HUBS AND BRAKES

FRONT WHEEL REMOVAL AND REPLACEMENT

To remove the wheel, place the machine on both front and centre stands, take out the two bolts securing the brake anchor strap to the fork leg, and unscrew the large nut from the right-hand side of the wheel spindle. Disconnect the brake cable completely from the brake plate. If sufficient slack cannot be obtained by screwing down the cable adjuster, the outer casing may be released from its holder at the handlebar end.

Next, slacken the pinch bolt in the left-hand fork leg and draw out the spindle by inserting a tommy bar in the hole provided, and using a pulling and twisting motion. At the same time support the weight of the wheel to avoid damaging the bush which projects through the brake plate and partly enters the right-hand fork leg. Should this bush be pushed inadvertently back inside the hub, it can be re-positioned by inserting the wheel spindle from the left-hand side.

There is no distance piece fitted outside the hub, location being maintained by means of a shoulder formed on the spindle meeting the bush already referred to. Once the spindle has been removed, the wheel can be pulled away from the right-hand fork leg and withdrawn.

Refitting is carried out by reversing the procedure for removal, except that tightening the pinch bolt must be left until the machine has been taken off the stands. The forks should then be fully depressed and released several times to ensure that the left-hand leg takes up the correct position on the wheel spindle. The inner edge of the tommy bar hole should be approximately level with the outer face of the fork leg. Finally, tighten the pinch bolt and check the tightness of all other bolts and nuts which have been disturbed.

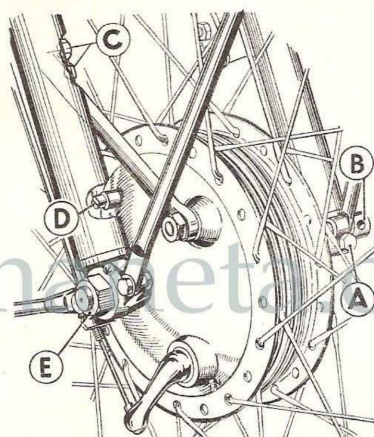


Fig. A31 (e). Front Wheel Removal.

- A. Fork Leg Pinch Bolt
- B. Wheel Spindle
- C. Anchor Strap Securing Bolts
- D. Brake Fulcrum Adjuster
- E. Wheel Spindle Nut

REAR WHEEL REMOVAL AND REPLACEMENT

Place the machine on the centre stand, and remove the right-hand silencer. Unscrew the four nuts securing the sprocket to the hub. Where the rear chain is totally enclosed, access to these nuts is gained by removing the rearmost of the two rubber plugs in the chaincase. Disconnect the brake cable completely from the brake plate. It may be necessary to disengage the ferrule of the outer casing from the frame lug, in order to obtain enough slack in the inner cable. Take off the brake anchor strap by removing the nut holding it to the brake plate, and loosening the bolt fixing the forward end to the swinging arm fork.

Next, unscrew and take out the wheel spindle from the right-hand side, and extract the distance piece. The large nut on the left-hand fork end should not be disturbed, as this holds the fixed spindle of the sprocket, which remains in position. The wheel can now be pulled away from the sprocket. By standing on the left-hand side of the machine and tilting it in that direction, the wheel can be taken out. If the rear part of the wheel is brought clear of the mudguard first, this is a simple operation.

The wheel is replaced by reversing the order of the instructions given for removal. Make sure that the four sprocket retaining nuts are fully and evenly tightened, and that the washer beneath the head of the wheel spindle has not been omitted.

REAR CHAIN ADJUSTMENT

The chain must be adjusted while the machine is on the centre stand, with the swinging arm fork at the lower limit of its travel. When a chaincase is fitted, access to the chain is gained by removing the foremost of the two rubber plugs. Rotate the wheel several times to find the position in which the chain is tightest. The total up and down movement in the centre of the top run should be $1\frac{1}{4}$ ". If the setting varies appreciably from this, the chain should be readjusted as follows:—

Slacken the wheel spindle and the fixed spindle nut. Release the two locknuts and screw the adjusting screws in or out as required. Take care that both are turned an equal amount to avoid putting the wheel out of line.

When the tension is correct, secure the locknuts, press the wheel forward in the fork ends and tighten, first the fixed spindle nut and finally the wheel spindle.

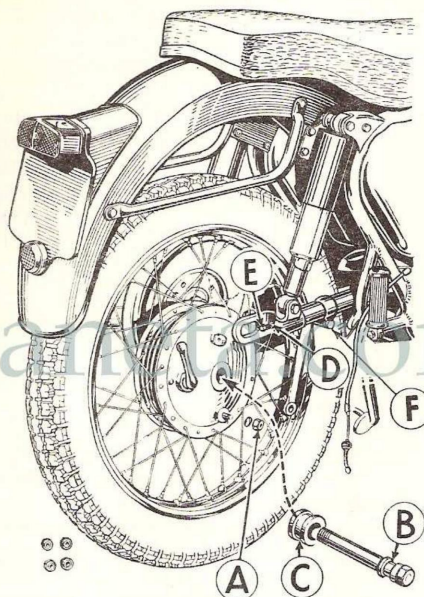


Fig. A32 (c). Rear Wheel Removal and Rear Chain Adjustment

- A. Anchor Strap Securing Nut
- B. Wheel Spindle
- C. Distance Piece
- D. Chain Adjuster Locknut
- E. Chain Adjuster Screw
- F. Anchor Strap Bolt

WHEEL ALIGNMENT

It is advisable to check the alignment of the wheels periodically, particularly after the chain has been adjusted. A long straight-edge is placed alongside and close to, the two wheels, and supported as high up from the ground as possible. The distances from the straight-edge to the rims, measured at the front and rear of each wheel, should all be equal.

Tyres are unreliable guides in checking wheel alignment, since tyres of different section will give the appearance of error when, in fact, everything is in order.

BRAKE ADJUSTMENT

A fulcrum type adjuster is provided on each brake, in addition to the usual cable adjuster. The adjusting pin should be turned in a clockwise direction until it will turn no further, then slackened off until the wheel rotates freely. The adjusters have a click action, each click representing one-twelfth of a turn.

The brake shoes must not be allowed to bind even slightly, as this may generate sufficient heat to distort the drum, or cause the grease to melt and impregnate the linings.

BRAKE SHOE RECONDITIONING

After the brake plate has been taken from the hub, the adjusting pin should be slackened right off, and the plate laid flat with the shoes uppermost. They can then be levered up at right angles to the plate, pivoting on their ends, until the tension of the springs has been relieved.

Should new linings be required, full instructions for fitting are contained in Service Sheet No. 612.

SPROCKET ASSEMBLY—REMOVING AND DISMANTLING

Before the sprocket assembly can be removed, the chaincase must first be taken off. The rear section is held by two hexagon-headed set screws, while the top and bottom sections are secured by two bolts in each, passing through lugs on the swinging arm fork. The large nut on the fixed spindle must also be loosened.

If a chainguard instead of a chaincase is fitted, the four bolts holding it to the swinging arm fork can be taken out to allow the guard to be raised sufficiently to clear the sprocket.

After parting the chain at the spring link, the large nut on the end of the fixed spindle is screwed off. The sprocket can then be dismantled and the spindle tapped out. The bearing and the grease retainer are pressed in, and may be driven out with a suitable drift.

When reassembling note that there should be a large washer between the sprocket and the fork end, and also a smaller washer between the fork end and the fixed spindle nut.

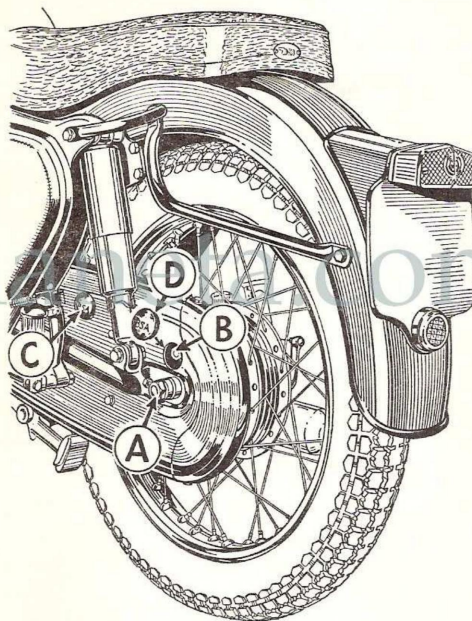


Fig. A33 (e)

- A. Fixed Spindle Nut
- B. Rear Sprocket Retaining Nut
- C. Chain Inspection Rubber Grommet
- D. Sprocket Nut Rubber Grommet

HUB DISMANTLING AND REASSEMBLY

The front hub contains two ball journal bearings which require no adjustment. They are secured by locking rings on the outside, and are located by circlips in the hub shell on the inside. Both locking rings have a right-hand thread, the one on the brake drum side being split-pinned to the hub for additional security. A special peg spanner (Part No. 61-3542), is used to unscrew the locking rings, which incorporate felt grease seals. Early models had separate seals and steel retainers, the concave sides of which should face the bearings. The bearings themselves are pressed into the hub shell, and can be tapped out with a soft metal drift, taking care not to damage the circlips.

When reassembling, make sure that the circlips are properly seated in their grooves before refitting the bearings. Do not omit the bush from the right-hand bearing, as this has a shoulder on the inner end and cannot be replaced from outside the hub. Note that the locking rings have different sized centre holes, the larger being for the right-hand side.

The rear hub carries only one bearing, on the right-hand side, which is held by a locking ring and split pin in exactly the same way as already described for the front hub. It is removed and replaced in a similar manner.

On the left-hand side is a pressed in grease retainer. There is also a loose distance piece inside the hub.

If the bearing locking rings have been renewed it will be necessary to drill fresh split pin holes.

The other rear wheel bearing is housed in the sprocket itself. All four bearings are identical, the Part No. being 89-3022. No grease nipples are provided on these hubs; the bearings are packed with grease during assembly and they should be re-packed at intervals of 10,000 to 15,000 miles.

The brake cam spindle housings have grease nipples, but these should be used sparingly to avoid forcing grease into the brakes.

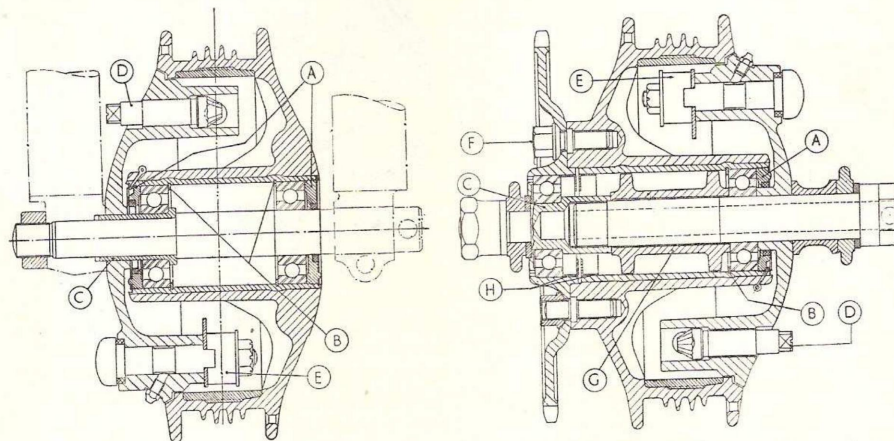


Fig. A34 (e). Front and Rear Hub Arrangement

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|------------------------------|---------------------------|
| A. Bearing Locking Ring | E. Brake Operating Cam |
| B. Bearing Locating Circlips | F. Sprocket Retaining Nut |
| C. Bearing Sleeve | G. Hub Distance Piece |
| D. Brake Fulcrum Adjuster | H. Grease Retainer |

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