



SERVICE SHEETS

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BSA SERVICE SHEET No. 905

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Dandy 70

RE-ASSEMBLING THE GEARBOX

Fit the needle roller bearing into its housing and insert the input shaft, place the ballrace over the shaft and press into position. Follow on with the oil seal ring and oil seal, and replace the circlip, then replace the clutch backplate and secure it with the nut and lockwasher. Service Tool No. 61-3553 will hold the backplate while the nut is tightened.

Press the output shaft ballrace into the steel sleeve, pass the shaft through the second gear pinion and into the bearing, making sure that the side of the pinion with which the sliding dog engages is facing outwards.

Place the gear cluster into position, line up the slot in the end of the spindle with the pin in the housing and press it home. To guard against oil leakage, the end of the spindle should be coated with jointing compound.

Next, fit the oil seal, sprocket, lockwasher and nut to the output shaft. Tighten the nut while holding the sprocket with Service Tool No. 61-3554. Always use new lockwashers and turn them up securely against the nuts after tightening. New oil seals should also be fitted when re-assembling.

Complete the clutch assembly by fitting the driving and pressure plates, and the springs, collars and cotter pins. It is preferable to use new springs if the originals have already seen a period of service.

At this stage, the gearbox can be re-fitted to the machine, not forgetting to place the driving chain around the sprocket, with the closed end of the connecting link spring facing forward on the top run. Replace the bolts and nuts shown in Figs. Z2 and Z9, (see Service Sheets Nos. 903 and 904).

Assemble the gear shifter, noting the correct positions of the springs, shown in Fig. Z11. The cranked portion of the fork faces outwards, so that the projection with which the locking arm engages is to the front of the gearbox. Place the sliding dog in the shifter fork and fit the assembly into the gearbox. The sliding dog must engage the splines on the out-put shaft and the shifter tube enter into its housing. Pass the cable through and screw in the adjuster until the anchor plate can be replaced behind the nipple. To obtain the maximum amount of slack cable, the handlebar control should be in the first gear position and the gear shifter pushed right home so that the sliding dog engages second gear.

B.S.A. Service Sheet No. 905—continued

The shifter tube on early models was without the washer brazed to the inner end which serves to centralise the tube. To fit the modified part, it may, in some cases, be necessary to ream out the housing in the gearbox shell to its full depth, using a standard 13/16in. reamer. With the modified shifter tube, later type springs should also be fitted. These are longer than the originals and are identified by a yellow paint marking.

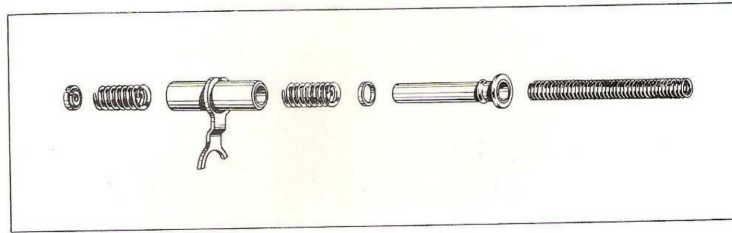


Fig. Z11. Gear Shifter Fork Assembly.

Lightly grease the long clutch pushrod and the ball bearing, and insert them into the hollow input shaft, followed by the short pushrod. The latter has an "O" ring in the middle groove to act as an oil seal; see that this is intact. Take the locking arm spindle assembly and connect the clutch cable to the withdrawal lever. At the same time, fit the two alloy bearing blocks over their studs and start the nuts. One end of the return spring should be located in a hole in the side of the clutch operating arm, while the other end bears on the underside of the top of the gearbox casing. Check that the pushrod adjusting screw is slackened off, and that the locking arm is not fouling the gear shifter. Tighten up the two nuts.

Make sure that the clutch withdrawal lever is at the bottom of its travel. If necessary, slacken the pinch screw "D," Fig. Z12, in the locking arm at the other end of the spindle to prevent the arm being held up by the gear shifter. Screw out the cable adjuster "C," until there is approximately $\frac{1}{8}$ in. free play in the cable. Turn the pushrod adjuster "B" in a clockwise direction until resistance is felt; then back off half a turn and tighten the locknut "A."

Replace the first gear assembly on the output shaft. Fit the starter quadrant and spring to the cover and re-fit the cover to the gearbox, using a new gasket and a smear of jointing compound to ensure an oil-tight joint. On early models there will sometimes be a shim inside the hollow quadrant spindle to limit the clearance at the end of the gear cluster spindle. The depth of the spigot hole in the quadrant must be approximately .010in. greater than the length of spindle protruding from the gear cluster. If the clearance at this point is too large, it is possible for the spindle to move outwards until an oil leak occurs past the slotted end.

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Set the pre-selector control to neutral and screw the cable adjuster "E" in or out as necessary to bring the gear shifter to the position shown at "N" in Fig. Z12. The measurement from the machined face of the cover to the end of the gear shifter outer tube will then be $\frac{3}{16}$ in. Tighten the pinch screw "D," making sure that there is a little clearance between the locking arm and the gear shifter. Lack of clearance may result in the clutch being held partly out of engagement, so causing clutch slip when the starting lever is operated.

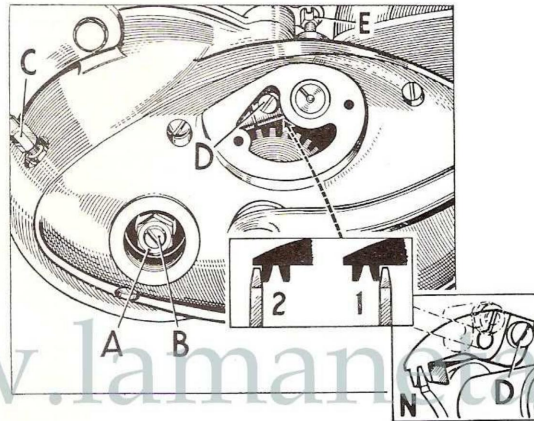


Fig. Z12. Adjusting Clutch and Pre-Selector.

Replace the rear wheel and check the engagement of both gears. It may be found necessary to alter the cable adjustment slightly either way to obtain positive selection.

Finally, refill the gearbox with $\frac{1}{2}$ pint (190 c.c.) of the correct grade of oil (40 S.A.E.). This will bring the level up to the lower edge of the hole provided for clutch pushrod adjustment. Re-fit the starting lever and tighten the pinch bolt.

B.S.A. MOTOR CYCLES LTD.,
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