BSA SERVICE SHEET No. 904

June 1957

Dandy 70

REMOVAL OF GEARBOX FROM FRAME, AND DISMANTLING

First, take out the rear wheel, as described in Service Sheet No. 906. Release the clutch and preselector cables from the handlebar controls. The clutch cable nipple is mounted in a slotted adaptor in the control lever, and can be slipped out once the outer cable is detached from the control body.

Pull off the plastic grip from the preselector control; if this proves to be a tight fit it can be eased by applying a cloth soaked in hot water. Screw in the adjuster at the rear of the gearbox until sufficient slack cable has been obtained to enable the retainer "A," Fig. Z8, to be removed from the end of the twistgrip. The cable adjuster is locked by means of a plate secured to an adjacent stud or, on early models, by a locknut.

Inside the handlebar will be found the cable stop positioning rod "B," which also serves to lock the guide screw "D." Unscrew the rod several turns and take out the guide screw. The cable stop "C" can then be pulled out by means of the rod, and the cable withdrawn from the handlebar. Before drawing the two cables down through the frame, tie a length of stout string to each so that it can be used to assist in threading the cables back again.

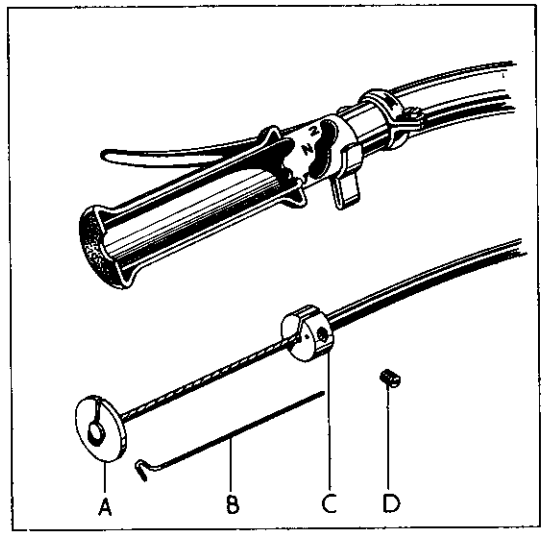

Fig. Z8. Preselector Control Assembly.

An alternative is to detach the cables from the gearbox end, and this is the best method if the intention is to dismantle the gearbox. To do this, the gearbox cover must be removed by unscrewing the five screws around the outer edge, not forgetting to place a tray underneath to catch the oil.

Select second gear and operate the clutch lever, then turn the control to the first gear position but do not touch the clutch lever again. Screw in the cable adjuster until the cable is slack enough to allow the anchor plate to be removed from the outer end of the gear shifter. The adjuster can then be completely unscrewed and the cable pulled out of the gearbox.

Next, the clutch adjuster should be screwed down, and the push-rod adjusting screw slackened right off; so that by lifting the withdrawal lever, the cable nipple may be disengaged. Note that, as soon as the clutch withdrawal lever is lifted, the gear shifter will spring outwards and may push the first gear pinion off its shaft if not held in place. If difficulty is experienced in disengaging the cable nipple due to lack of clearance behind the lever, the two nuts holding the locking arm spindle may be loosened a few turns and the whole assembly moved outwards a small amount. When the cable is free, unscrew the adjuster and take away the cable. Replace the gearbox cover temporarily to prevent the ingress of dirt and to keep the internal parts in place.

Remove the two bolts "A," Fig. Z9, from the rear fork end, and also the bolt "B," which passes through the chaincase into the mudguard valance. There are no loose distance pieces or nuts on the bolts, but there is a distance piece fixed to the mudguard valance, and the chain and chaincase must be guided clear of this as the gearbox is taken away. Unscrew the six nuts "A." (See Fig. Z2, Service Sheet No. 903.)

Pull out the three bolts, and replace them from the opposite side to support the engine. The gearbox complete with chaincase can now be removed.

Should it be desired to remove the engine and gearbox as a unit, carry out the operations described in this Sheet and those in Service Sheet No. 903. Only the two engine plate bolts "D" Fig. Z9 need to be taken out, the pivot bolt and engine plates being left in position on the frame.

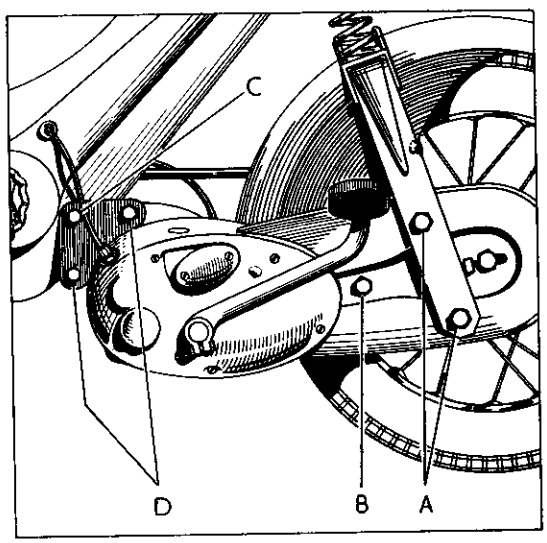

Fig. Z9 Removal of Gearbox.

DISMANTLING THE GEARBOX

Drain out the oil, if this has not already been done. Slacken the pinch bolt in the starting lever and pull the lever off the splines on the quadrant spindle. Remove the cover and withdraw the quadrant, first noting the location of the return spring. The bush may be pressed out towards the inside of the cover, after the felt oil seal and retaining collar have been prised out.

The first gear pinion and the ratchet pinion are held together by means of a spring, collar and circlip. They can be lifted off the output shaft as a unit and need not be separated unless one of the components is to be renewed. Next, the sliding dog and the gear shifter should be taken out, followed by the locking arm spindle assembly after removal of the two nuts.

The clutch is dismantled quite simply by compressing the springs by hand, one by one, and removing the cotter pins "B," Fig. Z10, the collars "A" and the springs. This releases the pressure plate and the driving plate, leaving the back plate secured by a central nut. Bend back the lock-washer and place Service Tool No. 61–3553 over the six pins in the back plate, with the holes in the arms located over two of the housing studs. Unscrew the nut and lift off the back plate.

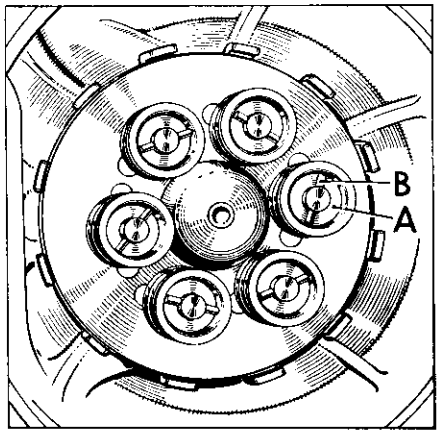

Fig. Z10. Clutch Springs.

It is not advisable to use an ordinary sprocket puller to remove the back plate, owing to the risk of distortion. If the plate is a tight fit on the splines, a sharp tap with a mallet on the end of the shaft will free it.

Behind the back plate will be seen the end of the gear cluster spindle, which is slotted and pinned to prevent rotation. Tap this spindle out, using a suitable drift, and remove the gear cluster.

Unscrew the sprocket securing nut after bending back the lock-washer, holding the sprocket with Service Tool No. 61–3554. Take off the sprocket and press the shaft through towards the inside of the gearbox. The second gear pinion can now be removed. The bearing and oil seal are housed in a steel sleeve in the gearbox casing. Prise out the oil seal and press out the bearing, again towards the inside of the gearbox.

Extract the clutch push rod from the input shaft. This is in two parts with a ball bearing between, the shorter portion having a rubber oil seal ring fitted in a groove. Remove the circlip from the clutch side of the housing and press the shaft out in that direction complete with the bearing, oil seal and oil seal ring. The needle roller bearing, which supports the other end of the shaft, can be pressed out either way.

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