

# **BSA SERVICE SHEET No. 509**

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## **Models D1, D3 and C10L (up to 1956)**

For 1956 C10L please see Service Sheet No. 706

### **REMOVAL AND DISMANTLING OF THE FRONT FORKS AND STEERING HEAD**

Remove the front wheel as described in Service Sheet No. 508.

If only attention to the sliding members and bushes is required it is not necessary to dismantle the top part of the fork assembly but the mudguard must be unbolted from the lower fork members. On early D1 models the mudguard is attached to the upper fork tubes and removal is only necessary if the forks are to be completely dismantled.

Free the top end of the telescopic gaiters from the oil seal holders B (Fig. D25) and slide the gaiters down the lower tubes. Remove the locking clips engaging in the top groove of the oil seal holders, which can then be unscrewed. On early models these clips are secured by the mudguard stay studs and later by the grease nipples which are screwed into the outer fork tube. Very early D1 models have no locking clips and the fork bushes on these models are non-detachable.

Remove the two small nuts A (Fig. D25) from the top of the two large nuts in the top yoke. On D3 and C10L models the small domed caps must first be removed. They should be levered up with the tang of a file inserted in the small hole in the edge of the dome. The sliding members complete with their springs can then be withdrawn from the bottom of the fixed tubes.

To detach the springs, hold the lower leg in a vice, as shown in Fig. D26, and using a small punch tap the spring from its thread. The spring can be removed from its upper end housing in a similar manner. Some models have a rubber tube fitted inside the spring to increase the resistance of the fork, and this can only be removed if one end of the spring is detached.

With the sliding tubes removed the lower fork bushes can be withdrawn. Removal of the grease nipples in the side of the outer legs will allow the fork bush distance piece

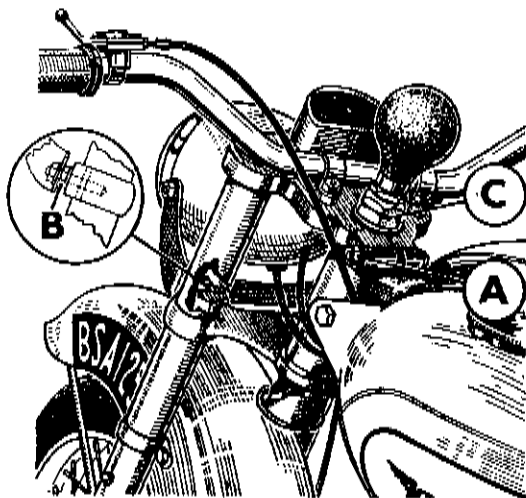


Fig. D24. Front fork and steering head.

**B.S.A. Service Sheet No. 509 (cont).**

and top bush to be pulled out of the fork outer tube with the aid of a spoke or other similar tool. On D1 models before Frame No. YD1-57331 the fork bushes are non-detachable and if they show signs of wear then the fork outer tubes complete must be replaced by the later type.

Detach the clutch cable from the handlebar lever and remove the headlamp switch handlebar lever, when fitted. Removal of the four nuts beneath the fork top yoke which retain the handlebar clips or aluminium cover plate will allow the handlebars to be lifted away from the top yoke. If a bulb type horn is fitted in the steering head this should be removed before the handlebars.

From this point onwards the dismantling procedure for the D1 fork is slightly different from that for the other models and will be described first.

Remove the two nuts D (Fig. D27) together with washers E and the two locknuts C. Remove the headlamp from its bracket and lower it to the full extent of the wiring harness. This will allow access to

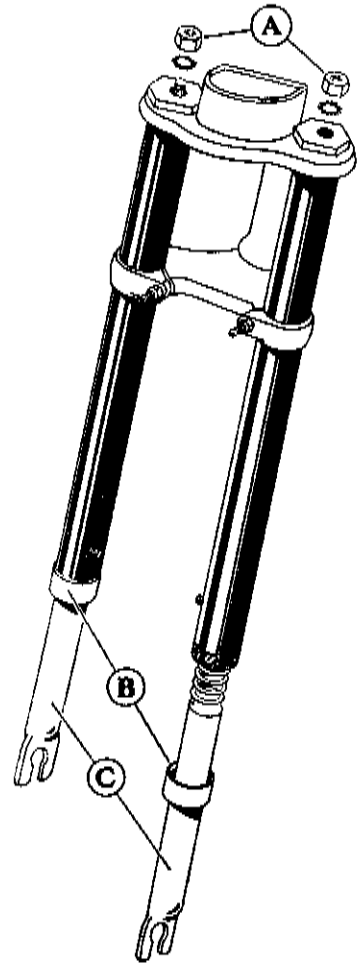


Fig. D25.

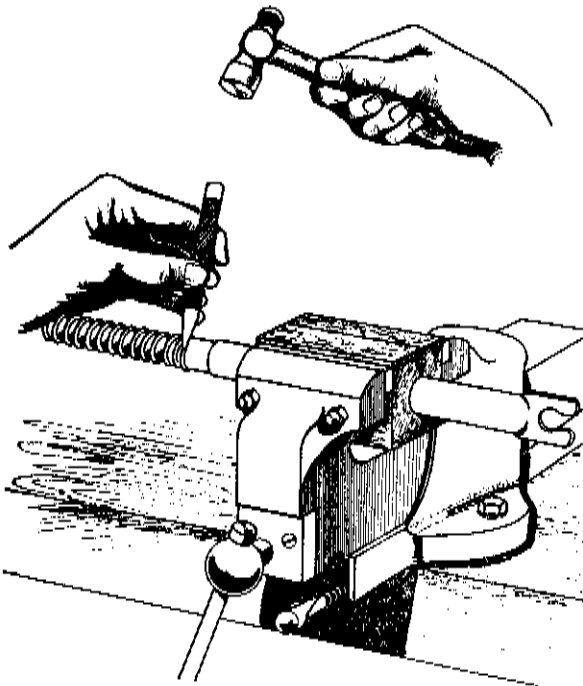


Fig. D26. Removing the front fork springs.

the underside of the top yoke so that the speedometer cables can be disconnected and the instrument removed.

Slackening off the pinch bolt at the back of the top yoke will permit the yoke to be removed and placed aside, noting that it will be necessary to hold the lower part of the fork in position to prevent the balls of the lower head bearing dropping away. Pull the headlamp cowl assembly (when fitted) off the fork outer tubes and lift the headlamp over the forks so that it is resting securely on the petrol tank. As the remainder of the

fork is withdrawn from the frame head a piece of clean rag should be held underneath the bottom yoke to catch any ball bearings which may escape.

**B.S.A. Service Sheet No. 509 (cont).**

To remove the outer fork tubes place the assembly on a bench and slacken the pinch nuts A (Fig. D28) in the bottom yoke. Expand the slots in the yoke by inserting a screwdriver as shown in Fig. D28 and draw the tubes down until they are resting on the large washers. Replace the nuts D and tap gently to remove the washers. The fork outer tubes can now be withdrawn.

The trumpet part of the horn (when fitted) can be removed by unscrewing the slotted collar B (Fig. D28).

On D3 and C10L models the outer tubes are a taper fit in the top yoke and they should be freed by undoing the pinch nuts A (Fig. D28) in the lower yoke and slackening the top nuts D (Fig. D27) by about two turns. A sharp tap on the head of the nut with a hide mallet will free the tube and dismantling can then proceed as for the D1.

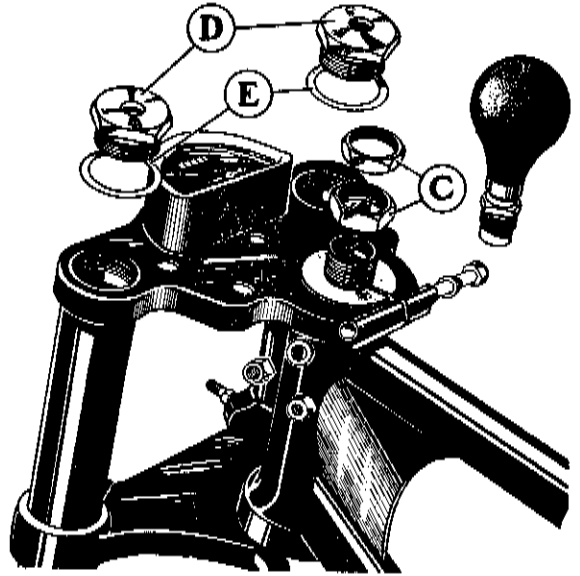


Fig. D27.

To remove the top yoke it is not necessary to undo the castellated sleeve nut on the fork stem and this will hold the lower part of the fork in position until it is ready to be removed.

When the forks have been dismantled the bearing cups can be removed from the frame head by screwing in Service Tool 61-3060 and driving them out from the opposite end with a suitable punch. Do not disturb the cups unless they are pitted or otherwise damaged.

**Re-Assembly**

New cups in the steering head should be driven in carefully and squarely to avoid damage and obtain correct alignment. This can best be done with a hide mallet. Grease the cups and place twenty-four  $\frac{3}{8}$  in. balls in each cup.

Assembly can then be carried out in the reverse order to dismantling. Do not forget the rubber washers at the bottom of the headlamp cowl tubes (when fitted), the washers on top of the main fork tubes (D1 Models), and the dust cover over the top bearing.

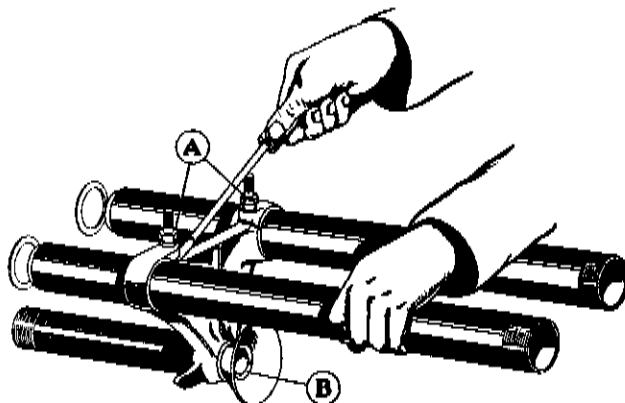


Fig. D28.

On D1 Models, when replacing the nuts C (Fig. D27) ensure that the thicker of the two nuts is at the bottom with its recess facing downwards.

### **D1. Steering Head Adjustment.**

The method of adjusting the steering head bearings on the D1 Model is different to that for the other models. The forks should be completely assembled but only the large nuts D (Fig. D27) should be tightened, after ensuring that the mudguard stay studs on the fork outer tubes are facing each other and in line. Where the mudguard is attached to the sliding tubes, the two grease nipples should be facing outwards. Tighten down the lower of the two nuts C (Fig. D24) until the forks rotate freely but have no up and down play. Secure the lower nut by means of the locknut and then check to ensure that the bearing is not over-tightened. A "lumpy" feeling as the forks are turned indicates that the adjustment is too tight. When this adjustment is completed the top yoke clamp nut A (Fig. D24) and the lower clamp nuts B should be tightened securely.

### **D3 and C10L Steering Head Adjustment.**

The fork can be completely assembled and all the nuts fully tightened before the steering head adjustment is carried out. The fork should be assembled so that the headlamp cowl tubes are held firmly between the top and bottom fork yokes, with the rubber washers at the lower end of the tubes and the steel washers on top. The fork nuts can then be fully tightened with the exception of the stem nuts and the pinch bolt at the rear of the top yoke. The castellated sleeve nut B (Fig. D29) should then be screwed down with the aid of Service Tool, Part No. 61-3002, or other similar tool until the forks rotate freely but without up and down play. Tighten the pinch bolt nut C to secure the sleeve nut and replace the top cap A. Check that the bearing adjustment is still correct and replace the handlebar assembly.

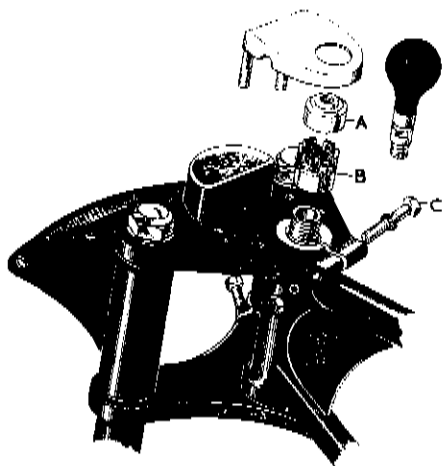


Fig. D29.

### **Sliding Tube Re-assembly. (All models).**

Place the upper bushes in the outer tubes and push them up as far as they will go with the aid of the distance tube. Line up the holes in the distance tubes with the grease nipple holes in the outer tubes and screw in the nipples. Position the telescopic gaiters on the lower tubes together with the oil seal holders and lower fork bushes. Take care that the oil seals are not damaged as they pass over the springs. Grease the springs and sliding members, then pass them up into the outer tubes. Position the lower bushes and screw up the oil seal holders. Secure the upper end of the springs in position by means of the nuts A (Fig. D25), making sure that the fork ends are correctly positioned to receive the wheel spindle, before tightening the nuts. When the oil seal holders are fully tightened they should be secured by the small locking tabs which engage in the top groove of the holders. Make sure that the curved portion of the tab engages properly in the groove before it is tightened down.