250 c.c. O.H.V. TWIN CYLINDER SCOOTER

DISMANTLING AND RE-ASSEMBLY OF THE FRONT FORK AND WHEEL

To withdraw the front fork from the steering column, sufficient clearance must be obtained at the front of the machine to allow the fork to be drawn out and downwards. This clearance can be obtained by placing the machine on a trestle with the wheel projecting over the end, or by placing blocks under the centre stand to give at least 6" clearance beneath the tyre.

If a windscreen is fitted, take off the two bolts and nuts which pass through the windscreen pillars and the handlebar cover, and remove the windscreen and the handlebar cover.

Disconnect the brake and clutch cables from both handlebar levers by pulling out the outer casing nipple and releasing the inner wire from the lever. Disconnect the front brake cable from the brake cam lever by pulling out the split pin and clevis pin, and then unscrew the brake cable adjuster from the aluminium sliding member.

Slacken off the two twist grip screws and take out the two small screws holding the dipper switch to the handlebar. Slacken the pinch bolt ' C ' (Fig. 32) in the handlebar clip.

Remove the front wheel by taking off the three wheel nuts. Now take off the two large hexagon nuts ' A ' (Fig. 32) on the top of the steering column, which have normal right-hand threads, and lift off the handlebar steering lock plate ' B ' (Fig. 31) and dust cover ' C '. Take careful note of the way in which the plate is fitted against the stop plate on the steering head tube. Carefully prise out the long key ' D ' from the column.

Now draw the fork down, at the same time holding a piece of clean rag to catch the balls which will be released from the lower race.

Complete Dismantling of the Fork

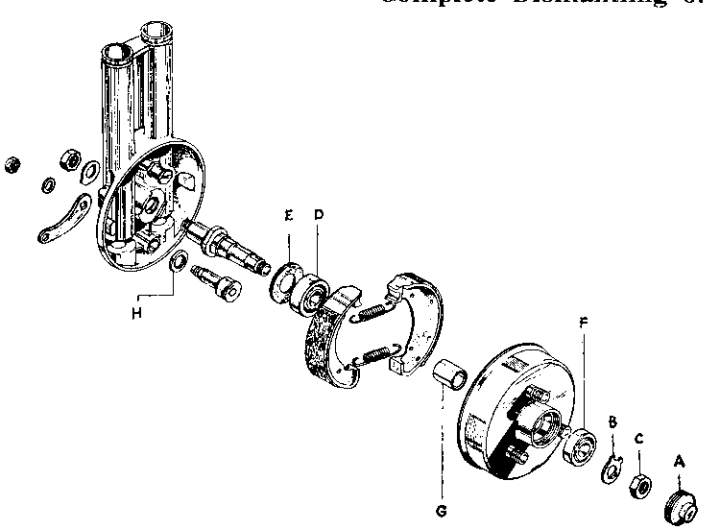

Fig. 30.
Front Hub (exploded)

Where the fork is to be completely dismantled, such as for replacement of one which has been damaged in an accident, proceed as follows.

Remove the cap 'A' (Fig. 30) on the hub; this has a left-hand thread and must therefore be unscrewed in a clockwise direction. It will be necessary to apply the brake by using a piece of tube over the brake cam lever.

The bearings are a press fit into the brake drum and on to the hub spindle, and in some cases it may be necessary to use an extractor to draw the drum and bearings off the spindle (tool No. 61-5033). Flatten the tab

washer ' B ' which will be seen under the spindle nut ' C ' and unscrew the nut in a normal anti-clockwise direction. Take off the tab washer and draw the brake drum complete with bearings off the spindle.

Examination of the drum will show that there is a large bearing ' D ' on the inner end of the shell adjacent to an oil seal ' E ' which has the lip facing towards the bearing. On the outer end of the shell is a smaller bearing ' F ' and there is a distance piece ' G ' between these two bearings.

Remove the brake shoes by prising them from the brake cam and the fulcrum pin, noting that the shoes are fitted with the narrow side towards the brake back plate and that there is a distance piece ' H ' on the cam spindle between the shoes and the back plate.

To release the lower member from the fork, unscrew the two domed nuts ' E ' (Fig. 29) at the lower end of the member. The front nut is removed with a spanner using a screwdriver to hold the slotted end of the damper rod. In the case of the rear or fork spring nut, no screwdriver will be necessary.

With the two domed nuts removed the lower member can be drawn off the two fork tubes. The two shouldered washers ' F ', one on the spring stud and the other on the damper rod, may come away with the lower member, but in any case they should be removed and kept until ready for re-assembly. The spring can be removed by unscrewing the bolt and washer at the upper or crown end of the fork; this will release the spring complete with the bottom and the top scrolls.

To take out the damper, unscrew the disc valve 'G' in the end of the tube and draw the damper out complete with washer and nut at the top.

The dust cover can be removed by taking out the centre bolt and elongated plate which locates between the two fork tubes on the fork crown.

The brake cam lever can be released by unscrewing the nut on the lever and the cam can then be drawn through the lower member. The fulcrum pin is a press fit in the lower member and should not be removed.

If the hub spindle is to be removed it will be necessary to flatten the tab washer on the outer end of the spindle, unscrew the nut and then heat the aluminium sliding member in hot water before tapping the spindle through towards the brake drum side. Note that it is located by two flats.

Hub Bearings

The larger of the two bearings is fitted from inside the drum with the oil seal between the bearing and the brake shoes, the lip of the seal being towards the bearing. The smaller bearing is fitted from the outer end of the hub shell (i.e., the locknut end) with the distance piece between the two bearings.

Head Bearings

The bottom steering head cone is a press fit on to the fork steering column and the bottom cup is a press fit on to the outside of the steering head tube, the top cup being a press fit into the tube. There are 28 steel balls in each head race. A broad rubber band is employed on the lower race as a dust excluder.

When the head races are to be renewed (this is possible without removing the head tube or legshield from the frame), the bottom cup should be removed

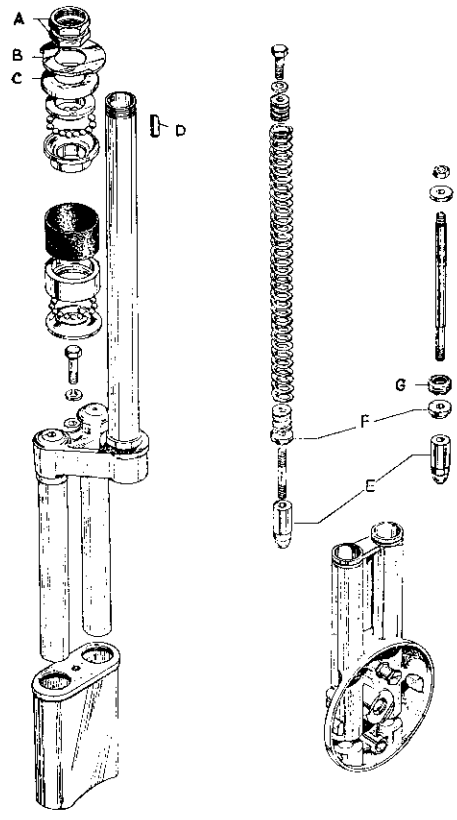

Fig. 31.
Front Fork (exploded)

from the head tube by tapping it with a suitable punch round the outside edge. The top cup can be removed by driving it from inside the tube, again using a suitable punch or drift. Replacements should be pressed on and into the tube; make sure that they are set squarely before being driven well home.

Front Fork re-assembly

Assuming that a new fork is being built into the machine, first slide the dust cover over the two fork tubes and secure with the centre bolt, washer and long steel plate. Pack the damper tube with as much " Jetlube " grease as it will hold (an old cycle pump will be found useful) slide the damper rod, nut and washer end first and screw in the disc valve at the lower end of the tube. Now slide the fork spring up the other tube, secure with the bolt and washer through the fork crown, and replace the two shouldered washers on the damper rod and spring stud so that the smaller diameters are at the bottom.

Screw service tool No. 61-5018 on to the end of the damper rod, but do not lock tightly, otherwise difficulty may be experienced in removing the tool. Guide the service tool through the lower member, at the same time guiding the fork spring through the other side. When the service tool is through, draw the damper rod and the stud on the end of the fork spring scroll through the lower member, so that the domed nuts may be fitted.

Remove the service tool from the damper rod and screw on the domed nut, holding the damper rod with the screwdriver through the nut, and then refit the other domed nut to the spring stud.

Pass the brake cam spindle through the distance piece with the chamfered side towards the head of the brake cam, place the brake lever on the outside and screw on the washer and nut. Pass the main spindle (if removed) through the lower member, having first heated the member in hot water, and locate it by means of the two flats. Replace the tab washer and screw on the locknut, turning the tab up on to the nut. Replace the brake shoes with the narrow portion of the shoe next to the aluminium lower member. This can be done by holding the shoes with the springs fitted in a V formation, then fitting them over the fulcrum pin and brake cam by pressing outwards and downwards against the lower member.

Slide the brake drum into position over the spindle, refit the tab washer and the locknut, turning the tab up on to the locknut when finally tightened.

The fork will now be ready for refitting to the steering head tube.

Grease both cups on the frame and apply 28 balls to the lower cup; make sure that the rubber dust excluder is on the bearing but high enough not to interfere with the fitting. Slide the fork column up through the bearing and then, supporting the fork, place 28 balls in the top bearing and refit the top cone and dust cover. Replace the long key in the fork column, slide the handlebar into position over the key and screw on the two top locknuts by first screwing the lower nut 'B' (Fig. 32) down until the steering head adjustment is correct ; it should be free to revolve without any appreciable up or down movement. When the adjustment is correct, tighten the top locknut ' A ' and retighten the clip ' C ' on the handlebar.

With the races assembled, draw the rubber dust cover down on to the fork crown and replace the hub cap by screwing in anti-clockwise.

Slide the twist grip over the handlebar, replace the front brake and clutch cables and refit the dipper switch and horn button by screwing in the two small screws.

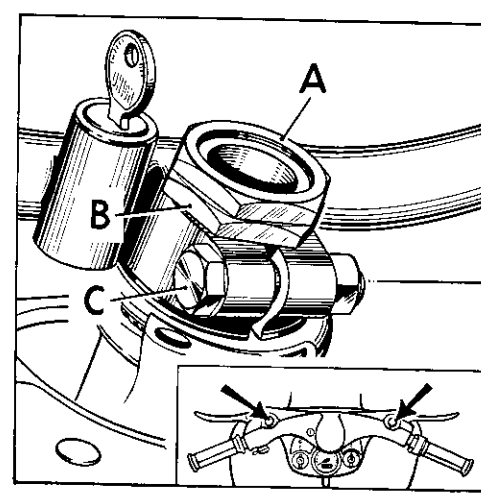

Fig. 32.
Steering Head Adjuster.

Make sure that all cables and controls pass down the front of the steering head and do not allow an acute bend above the instrument panel, as a cable in this condition may foul the stop plate. Connect the front brake by screwing the cable adjuster into the lower member and refit the clevis pin in the brake lever. Do not forget the split pin and do not omit to re-tighten the lock nut on the brake adjuster. Replace the wheel and check the wheel nuts when the tyre is on the ground.

Check that all controls are correct before replacing the handlebar cover and windscreen.