part of oil to twenty-four parts of petrol. A measure is incorporated in the filler cap. If a two-stroke mixing petrol pump is not available, this ratio represents three and a half measures of oil to a gallon of petrol. (two measures, D1, D3, D5 and D7 models).
2 If a standard (not self-mixing) oil is used, this must be of the SAE 40 grade. In this instance the mixing ratio is one part of oil to thirty-two parts of petrol - two and a half measures of oil to a gallon of petrol. When this latter type of oil is used, the petrol tank must be shaken vigorously, to make sure the oil is dispersed evenly throughout the petrol content.
3 It will be realised that the lubrication of the engine is dependent solely on the intake of the fuel mixture from the carburettor. In consequence it is inadvisable to coast the machine down a long hill whilst the throttle is closed otherwise there is risk of engine seizure through the temporary lack of lubrication.
4 The gearbox has its own supply of lubricating oil and is quite independent of the engine lubricating system. Two-stroke mixing oils must NEVER be used.
5 Do not interchange filler caps. A different model may have a different size of measure.

3 Petrol Tank - Removal and Replacement

1 It is unlikely that there will be need to remove the petrol tank completely unless the machine has been laid up and rust has formed inside or it needs reconditioning. The engine/gear unit can be removed from the frame on all models without having to detach the tank completely; in the case of the D1, D3, D5 and D7 models there is sufficient clearance without need even to raise the tank.
2 The petrol tank is secured to the frame by two short bolts at the front, one on each side, that locate with tapped holes in the steering head casting. The rear mounting consists of a long bolt that passes through a lug attached to the top frame tube (below frame tube, early models) and through lugs welded to the end of the petrol tank. When all three bolts are removed, the tank can be lifted away without draining.

4 Petrol Tap - Removal and Replacement

1 The petrol tap is threaded into an insert in the rear left-hand side of the petrol tank. The early D1 models employ a push-pull tap that has no provision for reserve. Later models use a pull-out tap, the knob of which can be rotated anti-clockwise to bring in the small reserve quantity of fuel.
2 Before the tap can be unscrewed by applying a spanner to the flats close to the petrol tank joint, the tank must first be completely drained of fuel. When the tap is removed the gauze filter will be exposed, which is an integral part of the extension of the tap body.
3 On the later models only, the petrol feed pipe is a push fit on the tube at the base of the tap. Earlier models have a screwed union joint.
4 Replace by screwing tap back into tank, checking that the fibre sealing washer is in good condition.

5 Petrol Feed Pipe - Inspection

1 On the early models fitted with a push-pull petrol tap a

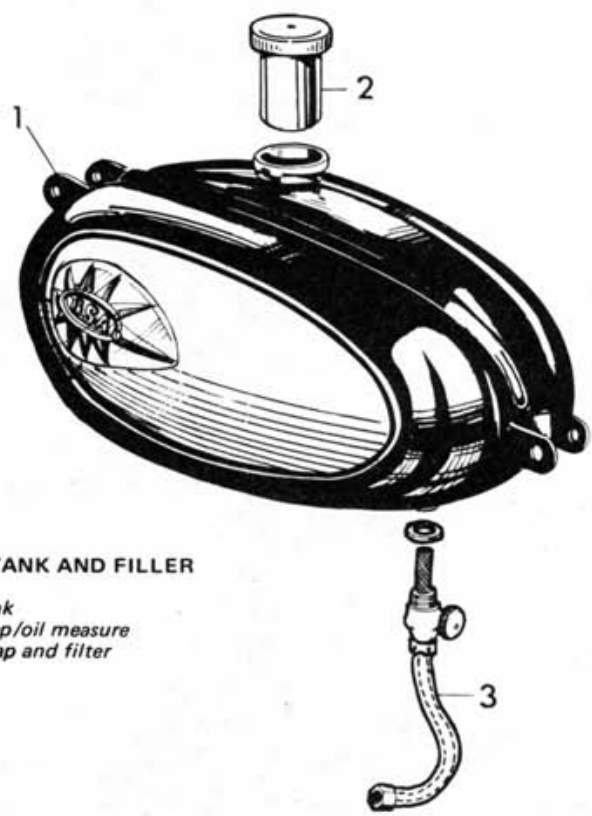


FIG.2.1. FUEL TANK AND FILLER

1 Fuel tank
2 Filler cap/oil measure
3 Petrol tap and filter

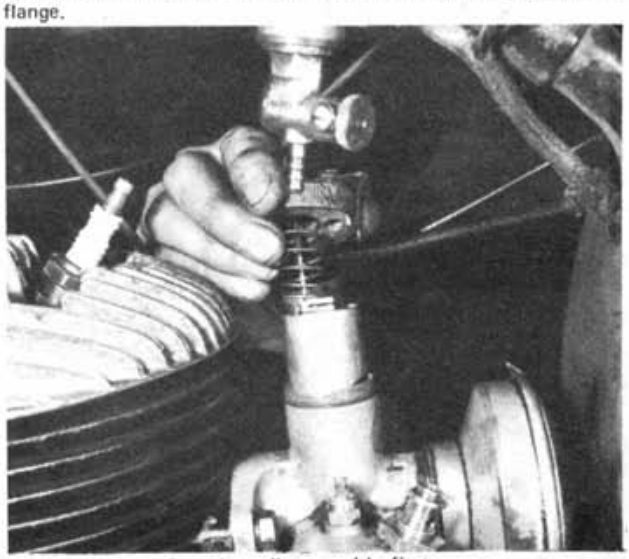
metal feed pipe was used with screwed union joints at each end. This arrangement is unlikely to give trouble unless a blockage occurs, part of the tube is kinked or if the unions come unsoldered. Replacement will be necessary in each case, unless the blockage can be cleared or the unions resoldered in position.

2 Later models use a plastic pipe that is a push fit on the end of the petrol tap outlet and has a union joint where connection is made with the carburettor float chamber. Replacement is necessary if the tube becomes hard or cracks, or if the push-on joint becomes slack.

6 Carburettor - Removal

1 Before removing the carburettor, detach the petrol feed pipe where it joins the float chamber, by unscrewing the union. Remove also the throttle slide and needle assembly by unscrewing the top of the mixing chamber and lifting it away complete with the control cable(s) and slide assembly. (Remove cross head retaining screws, "Concentric" carburettor only).

2 On the D1 and D3 models the carburettor is attached to the inlet stub of the cylinder barrel by a clip and pinch bolt arrangement. Slacken the pinch bolt and withdraw the carburettor complete. All other models have a flange joint, with two fixing bolts. If the bolts are withdrawn the carburettor will come free, complete with the 'O' ring seal in the centre of the carburettor flange.



6.1B. Remove slide and needle assembly first

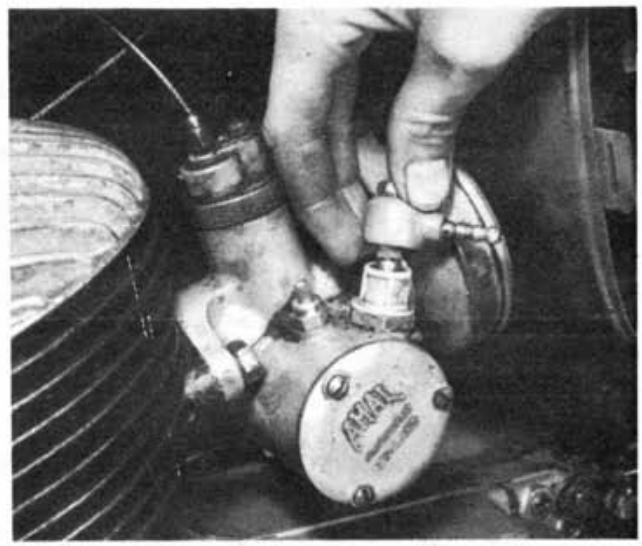
7 Carburettor - Dismantling and Inspection

1 To separate the float chamber unscrew and withdraw the large nut at the base of the carburettor mixing chamber (D1 and D3 models only). The float chamber is an integral part of the "Monobloc" carburettor fitted to the D5 and D7 models, and cannot be separated. In the case of the "Concentric" carburettor, fitted to the D10 and D14 models, the float chamber is held to the mixing chamber by two screws with spring washers, fitted from the underside.

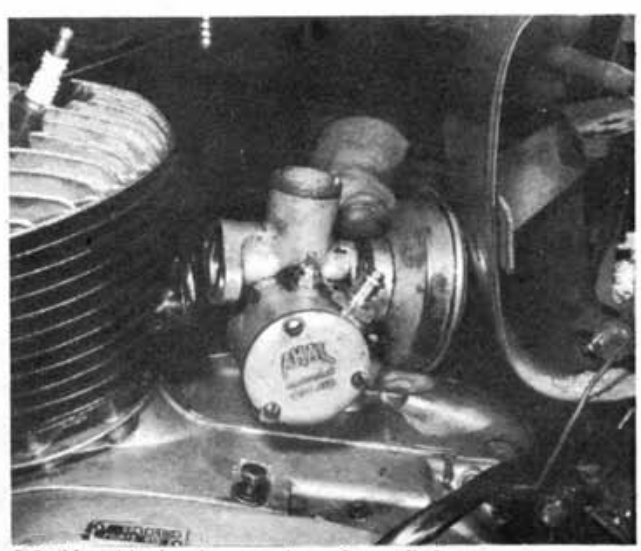
2 Because the D1 and D3 models employed a top feed to the float chamber, it is necessary to remove also the float chamber top. Unscrew by applying a spanner across the flats at the base of the petrol feed union. Although the "Monobloc" float chamber cannot be detached, access to the internals is gained by removing the two slotted head screws in the side of the float chamber and detaching the cover and gasket.

3 Check the float needle and its seating for wear and whether the needle is bent. If there is a ridge around the needle and/or its seating, replacement will be needed.

4 Check the condition of the float and whether it has become porous so that petrol will leak inwards. The earlier copper floats



6.1A. Do not overlook the nylon filter within the feed pipe union



6.2. 'Monobloc' carburettor has a flange fitting

are more prone to this type of fault. A faulty float should be replaced, for it is not practicable to effect a permanent repair.

5 Check the throttle slide for wear and make sure none of the carburettor jets are blocked. Never use wire or any other pointed instrument to clear a blocked jet, otherwise there is risk of enlarging the jet and upsetting the carburation. Either blow the jet clear or use a blast of air from a tyre pump.

6 Make sure the float chamber body is clean and free from any sediment that may have originated from the petrol. Do not forget the tiny nylon gauze that is fitted within the petrol feed union of the "Monobloc" and "Concentric" carburettor only. This must be clean.

7 To reassemble the carburettor, follow the dismantling instructions in reverse. When replacing the float of the "Monobloc" carburettor on its hinge pin, do not fail to add the metal spacer. If this is omitted, the float can foul the end cover and stick, causing flooding and poor engine performance.

8 Before inserting the slide and needle assembly in the top of the mixing chamber, make quite sure the control cable nipples are correctly seated. If a cable end becomes misplaced the throttle slide will be held open making starting difficult and allowing the engine to race when it eventually runs.

9 Make sure the 'O' ring seal is in good shape and is positively