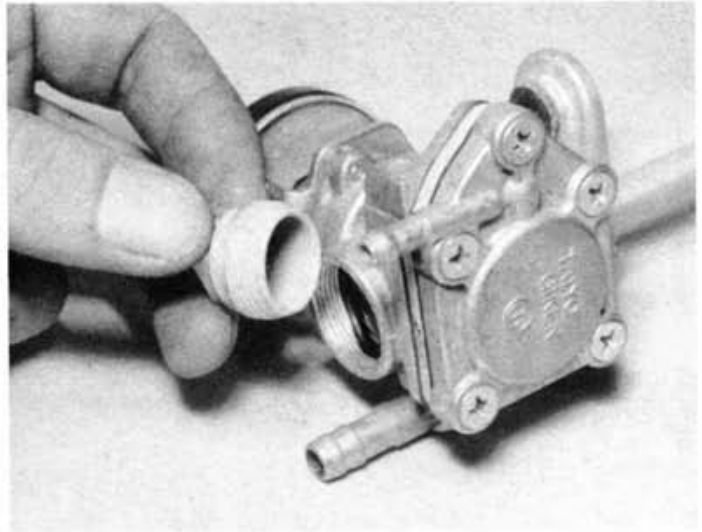


3.3b Fuel valve is on inner face of the diaphragm assembly



3.4 Sediment bowl is located on the underside of the tap body

4 Fuel and vacuum pipes: examination

1 The fuel and vacuum pipes are made of thin-walled synthetic rubber and are retained at each end by small wire clips. It is good practice to check that the pipes are sound on a regular basis. If split or if they have become hardened due to the effects of engine heat, they should be renewed. Most motorcycle dealers stock tubing of the correct size and material. On no account use natural rubber tubing or plastic tubing in place of the original type; natural rubber is attacked by petrol and will disintegrate, blocking the carburettor jets. Many types of plastic tubing will rapidly become brittle under the influence of fuel, and will soon split or leak.

5 Carburettors: removal and refitting

1 As a general rule, the carburettors should be left alone unless they are in obvious need of overhaul. Before a decision is made to remove and dismantle them, ensure that all other possible sources of trouble have been eliminated. This includes the more obvious candidates such as fouled spark plugs, a dirty air filter element or choked exhaust system baffles. If a fault has been traced back to the carburettors, proceed as follows.

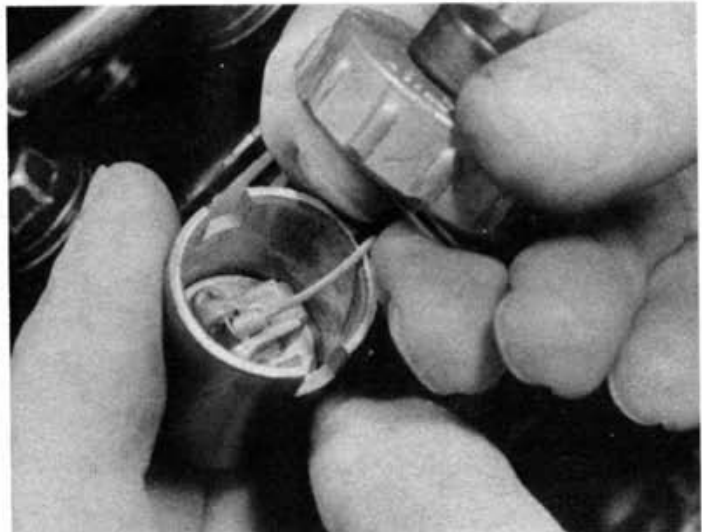
2 Make sure that the fuel tap is turned to the "ON" or "RES" position, then prise off the petrol feed pipes at the carburettor stubs. The oil delivery pipes are removed in a similar manner, noting that the small tubular clips should be displaced first. The pipes can then be eased away from their stubs with the aid of an electrical screwdriver.

3 Slacken the screws of the clips which secure each carburettor to its inlet and airbox adaptors. Each carburettor can now be twisted free of the rubber adaptors and partially removed. This affords access to the threaded carburettor tops, which should be unscrewed to allow the throttle valve assemblies to be withdrawn. It is not normally necessary to remove these from the cables, and they can be left attached and taped clear of the engine. If removal is necessary, however, proceed as follows.

4 Holding the carburettor top, compress the throttle return spring against it and hold it in position against the cap. Once out of the way the cable can be pushed down and slid out of its locating groove. The various parts can now be removed and should be placed with the instrument to which they belong. Do not allow the parts to be interchanged between the two instruments.

5 The carburettors are refitted by reversing the removal sequence. Note that it is important that the instruments are mounted vertically to ensure that the fuel level in the float bowls is correct. A locating tab provides a good guide to alignment but it is worthwhile checking this for accuracy. Once refitted, check the carburettor adjustments and synchronisation as described later in this Chapter. Note too that the oil pump delivery pipes should be bled and the pump adjustments checked after overhaul.

6 **Note:** if the carburettors are to be set up from scratch it is important to check jet and float level settings prior to installation. To this end, refer to the next two Sections before the carburettors are refitted.



5.4 Compress the return spring, then disengage the inner cable

6 Carburettors: dismantling and reassembly

1 Invert each carburettor and remove the float chamber by withdrawing the four retaining screws. The float chamber bowls will lift away,

exposing the float assembly, hinge and float needle. There is a gasket between the float chamber bowl and the carburettor body which need not be disturbed unless it is leaking.

2 With a pair of thin nose pliers, withdraw the pin that acts as the hinge for the twin floats. This will free the floats and the float needle. Check that none of the floats have punctured and that the float needle and seating are both clean and in good condition. If the needle has a ridge, it should be renewed in conjunction with its seating.

3 The two floats are made of plastic, connected by a brass bridge and pivot piece. If either float is leaking, it will produce the wrong petrol level in the float chamber, leading to flooding and an over-rich mixture. The floats cannot be repaired successfully, and renewal will be required.

4 The main jet is located in the centre of the circular mixing chamber housing. It is threaded into the base of the needle jet and can be unscrewed from the bottom of the carburettor. The needle jet lifts out from the top of the carburettor, after the main jet has been unscrewed. The pilot jet is located in a smaller projection, next to the main jet.

5 The float needle seating is also found in the underside of the carburettor, towards the bell mouth intake. It is secured by a small retainer plate and is sealed by an O-ring. If the float needle and the seating are worn, they should be replaced as a set, never separately. Wear usually takes the form of a ridge or groove, which may cause the needle to seat imperfectly.

6 The carburettor valves, return springs and needle assemblies together with the mixing chamber tops, are attached to the throttle cable. The throttle cable divides into two at a junction box located within the two top frame tubes. There is also a third cable, which is used to link the oil pump with the throttle.

7 After an extended period of service the throttle valves will wear and may produce a clicking sound within each carburettor body. Wear will be evident from inspection, usually at the base of the slide and in the locating groove. Worn slides should be replaced as soon as possible because they will give rise to air leaks which will upset the carburation.

8 The needles are suspended from the valves, where they are retained by a circlip. The needle is normally suspended from the groove specified at the front of this Chapter, but other grooves are provided as a means of adjustment so that the mixture strength can be either increased or decreased by raising or lowering the needle. Care is necessary when replacing the carburettor tops because the needles are easily bent if they do not locate with needle jets.

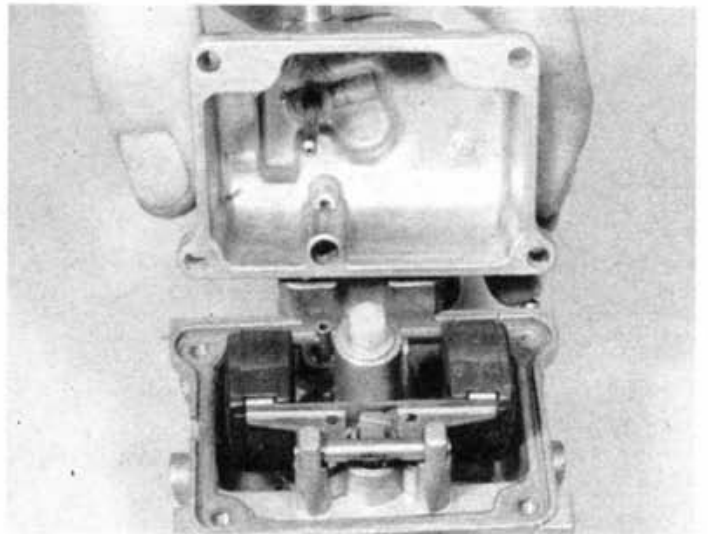
9 The manually operated choke is unlikely to require attention during the normal service life of the machine. When the plunger is depressed, fuel is drawn through a special starter jet in the left-hand carburettor by a partial vacuum that is created in the crankcase. Air from the float chamber passes through holes in the starter emulsion tube to aerate the

fuel. The fuel then mixes with air drawn in via the starter air inlet to the plunger chamber. The resultant mixture, richened for a cold start, is drawn into the engine through the starter outlet, behind the throttle valve.

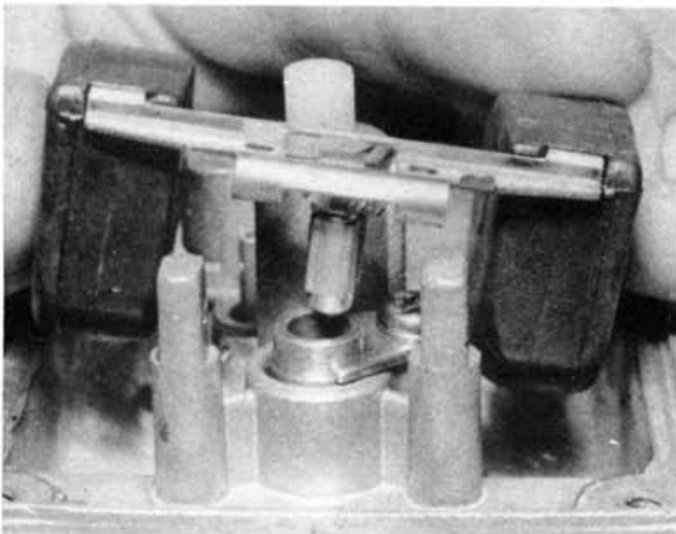
10 Before the carburettors are reassembled, using the reversed dismantling procedure, each should be cleaned out thoroughly, preferably by the use of compressed air. Avoid using a rag because there is always risk of fine particles of lint obstructing the internal air passages or the jet orifices.

11 Never use a piece of wire or sharp metal object to clear a blocked jet. It is only too easy to enlarge the jet under these circumstances and increase the rate of petrol consumption. Always use compressed air to clear a blockage; a tyre pump makes an admirable substitute when a compressed air line is not available.

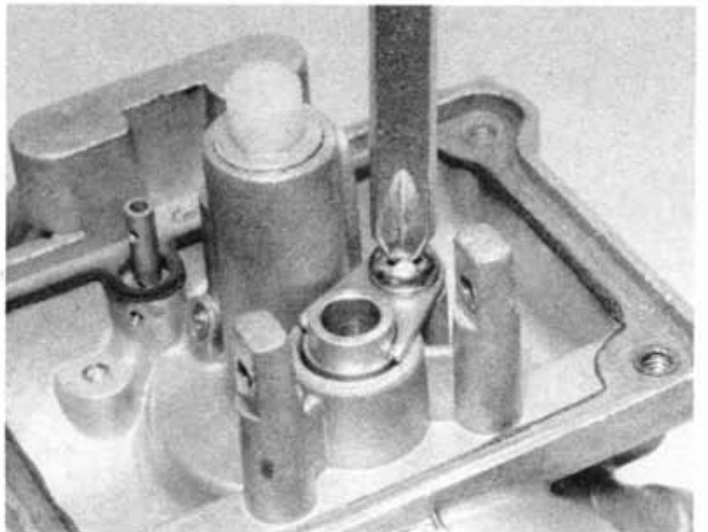
12 Do not use excessive force when reassembling the carburettors because it is quite easy to shear the small jets or some of the smaller screws. Before attaching the air cleaner hoses, check that both throttle slides rise when the throttle is opened.



6.1 Remove the four screws and lift away the float bowl



6.2a Remove the pivot pin, then lift away the float assembly



6.2b Release the single screw and retainer ...