4 Carburettors: removal

1 Remove the petrol tank as described in section 2 of this Chapter to gain access to the carburettors and then remove both frame side covers. Each side cover is a push fit at three locating points.
2 Loosen the screw clips which hold the carburettors to the inlet stubs, and the air hose unit to the twin air filter boxes and carburettor mouths. Each air filter box may be pulled from place after removing the retaining strap, which is secured at the lower end by a single bolt, and at the top by a hook arrangement. Disconnect the air hose breather tube from the breather cover union on the crankcase, after displacing the spring clip. The air hose unit can now be pulled from the carburettors and tilted backwards and downwards so that it clears the carburettors. Careful manipulation may be required as the clearance is limited.
3 Pull the carburettors back out of the inlet stubs and lift them out, towards the right-hand side of the machine as a unit. Support the carburettors and disconnect the throttle cable at the carburettor end. Lift the outer cable from the slotted abutment and displace the nipple and inner cable end from the throttle pulley.

5 Carburettors: dismantling and reassembly

1 In order to dismantle the carburettors they must first be removed from the mounting bracket to which they are each retained by two screws. The carburettors are also connected by a bracket which acts as the throttle cable holder. The bracket is retained by two of the four diaphragm cover screws on each carburettor top.
2 Commence by removing the right-hand carburettor from the mounting bracket. On carburettors which have a lever operated choke rod, remove the operating lever, which is held by a single screw. Slacken the grub screw holding each choke lifter fork and withdraw the rod to free the forks. Some carburettors have a two-position push-pull choke operating rod. The rod is located in any given position by a spring loaded steel ball in each carburettor, which locates with a series of depressions machined in the rod. To remove the rod, slacken the choke operating fork grub screws and withdraw the rod. As the rod end leaves the support lug in each carburettor, the steel ball and spring will tend to fly out. Arrangements should be made to prevent this happening, as the components are tiny and easily lost.
3 Slacken all four screws on each carburettor top, to prevent distortion, and then remove the inner four screws, to free the top bracket. Unscrew the two screws securing the right-hand carburettor to the mounting bracket and separate the two instruments at the interconnecting petrol transfer pipe. The mounting screws are often very tight and are prone to shearing. Great care should be exercised in their removal.
4 Invert each carburettor and remove the four screws that hold the float chamber to its base. Remove the hinge pin that locates the twin float assembly and lift the float from position. This will expose the float needle. The needle is very small and should be put away in a safe place so that it is not misplaced. Make sure that the float chamber gasket is in good condition. Do not disturb the gasket unless leakage has occurred or it appears damaged.
5 Check that the twin floats are in good condition and not punctured. Because they are made of brass it is possible to solder a damaged float. This form of repair should only be made in an emergency, when a set of new floats are not available. Soldering will affect the weight of the float assembly and result in a different petrol level.

XS250 and 360 models

6 The needle jet is a push fit in the base of the mixing chamber, being retained by a small 'O' ring. Check the needle jet for wear together with the jet needle. After lengthy service, these two components should be renewed together, or high petrol consumption will result.
7 The float needle will also wear after lengthy service, and should be closely examined with a magnifying glass. Wear takes the form of a ridge or groove, which will cause the float needle to seat imperfectly. The needle and seating should always be renewed as a pair. The seating is a screw fit in the mixing chamber. Note the 'O' ring and also the tiny filter gauze, which is retained by the seat.
8 The main jet and pilot jet are both housed in the float chamber, The main jet is situated below a plug, which will unscrew from outside the float chamber. Always use a close fitting screwdriver when removing jets, or damage will result.

XS400 models

9 The jet configuration on XS400 model carburettors is slightly different from the other types in that all jets are located within the float chamber roof. Remarks on inspection and wear characteristics remain the same.
10 Unscrew the main jet from the centre turret and displace the needle jet from the body towards the venturi side of the carburettor. The pilot jet is closed by a brass plug, which may be removed to allow the jet to be cleaned. **Do not** remove the jet unless it is to be renewed as the method of removal which must be adopted will almost certainly enlarge the jet orifice. To remove the jet, insert a screwdriver and unscrew the jet until it can be felt to be free. The jet must now be unscrewed through the threads normally occupied by the blanking plug. In order to engage the jet with the second series of threads, it must be pulled and turned simultaneously. To accomplish this, select a short length of stiff wire whose diameter is slightly greater than the inside diameter of the jet bore. Taper the ends of the wire so that it may be inserted into the jet bore and pushed in firmly to engage the jet. The jet may now be pulled outwards and unscrewed.
11 The starter air jet is screwed into the left-hand side of the carburettor mouth and may be removed in the usual manner.

All models

12 Remove the two remaining screws which retain the carburettor top and lift the top from position, together with the piston spring. Carefully lift the diaphragm from position, bringing with it the piston and jet needle. Carefully check the condition of the diaphragm. If it has developed cracks or holes, it must be renewed as a unit, with the piston. The jet needle is retained by a nylon plate and is secured by a small circlip. The jet needle must be renewed if worn, as described in paragraph 6.
13 Before reassembly, clean the carburettors as described in the previous Section. The manually operated choke is unlikely to require attention throughout the normal service life of the machine.
14 Before the carburettors are reassembled, using the reversed dismantling procedure, each should be cleaned out thoroughly, using compressed air. Avoid using a piece of rag since there is always a risk of particles of lint obstructing the internal passageways or the jet orifices.
15 Never use a piece of wire or any pointed 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. If compressed air is not available, a blast of air from a tyre pump will usually suffice.
16 Do not use excessive force when reassembling a carburettor because it is easy to shear a jet or some of the smaller screws. Furthermore, the carburettors are cast in zinc-based alloy, which itself does not have a high tensile strength.
17 After replacing the carburettors on the machine they should be synchronised and adjusted, as described in Section 7 of this Chapter. Before refitting the air hose unit, check the synchronisation of the throttle valve butterflies.

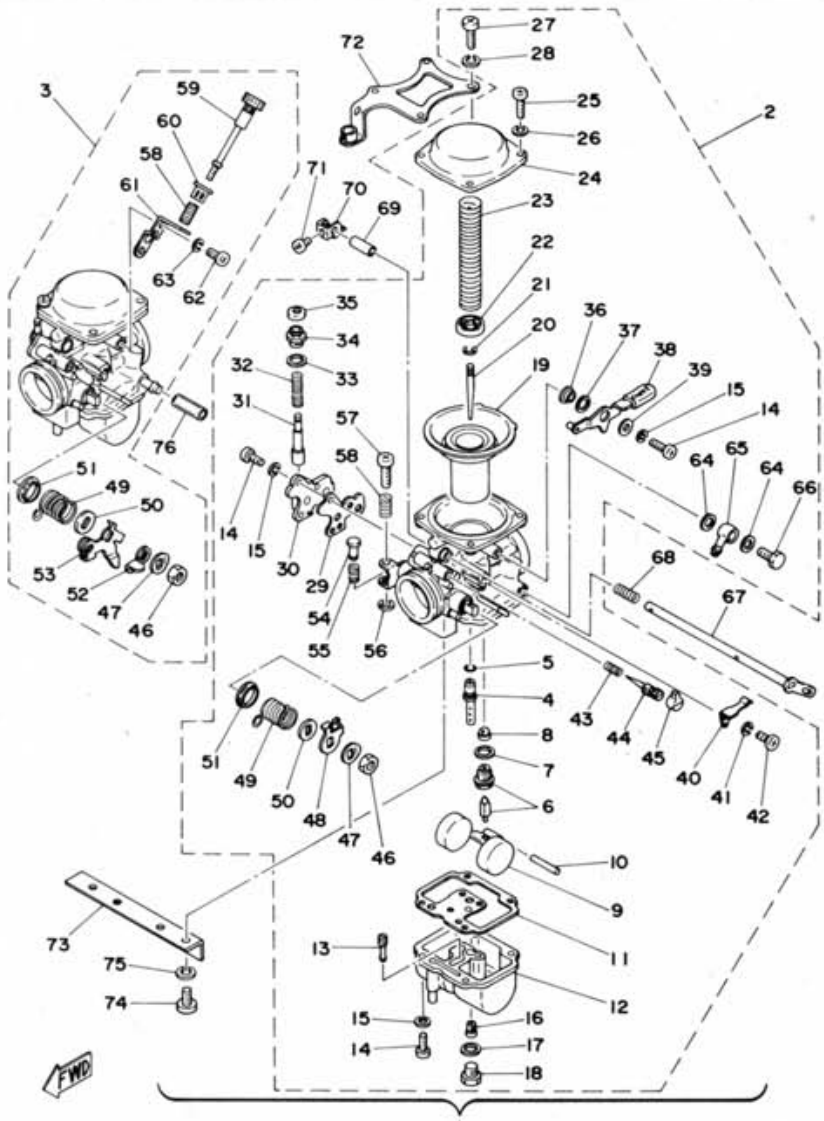

Fig. 2.1 Carburettor – lever choke type

1 *Carburettors – complete*
2 *L/H carburettor*
3 *R/H carburettor*
4 *Needle jet (main nozzle) – 2 off*
5 *'O' ring– 2 off*
6 *Needle valve assembly – 2 off*
7 *Sealing washer – 2 off*
8 *Filter screen – 2 off*
9 *Float assembly – 2 off*
10 *Float pivot pin – 2 off*
11 *Gasket – 2 off*
12 *Float bowl – 2 off*
13 *Pilot jet – 2 off*
14 *Screw – 15 off*
15 *Spring washer – 2 off*
16 *Main jet – 2 off*
17 *Sealing washer – 2 off*
18 *Drain plug – 2 off*
19 *Piston/diaphragm unit – 2 off*
20 *Needle – 2 off*
21 *Clip – 2 off*
22 *Needle seat – 2 off*
23 *Piston spring – 2 off*
24 *Carburettor top – 2 off*
25 *Screw – 4 off*
26 *Spring washer – 4 off*
27 *Screw – 4 off*
28 *Spring washer – 4 off*
29 *Choke casing gasket – 2 off*
30 *Choke body – 2 off*
31 *Choke plunger – 2 off*
32 *Choke spring – 2 off*
33 *Washer – 2 off*
34 *Housing – 2 off*
35 *Dust cap – 2 off*
36 *Collar*
37 *Washer*
38 *Choke lever*
39 *Washer*
40 *Spring plate*
41 *Spring washer*
42 *Screw*
43 *Spring – 2 off*
44 *Pilot screw – 2 off*
45 *Anti-tamper cap – 2 off*
46 *Nut – 2 off*
47 *Special washer – 2 off*
48 *Throttle arm*
49 *Throttle return spring – 2 off*
50 *Collar – 2 off*
51 *Spacer – 2 off*
52 *Throttle link arm*
53 *Throttle control arm*
54 *Plunger*
55 *Spring*
56 *'E' clip*
57 *Throttle synchronisation screw*
58 *Spring – 2 off*
59 *Remote throttle stop screw*
60 *Bush*
61 *Bracket*
62 *Screw – 2 off*
63 *Spring washer – 2 off*
64 *Sealing washer – 4 off*
65 *Banjo*
66 *Banjo bolt*
67 *Choke rod*
68 *Spring*
69 *Collar*
70 *Choke fork – 2 off*
71 *Screw – 2 off*
72 *Bracket*
73 *Mounting bar*
74 *Screw – 4 off*
75 *Spring washer – 4 off*
76 *Transter pipe*