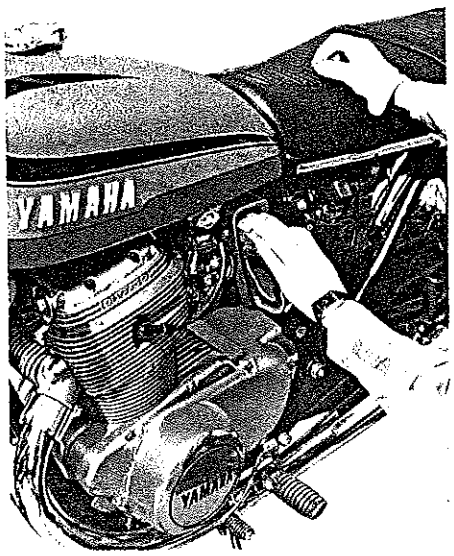
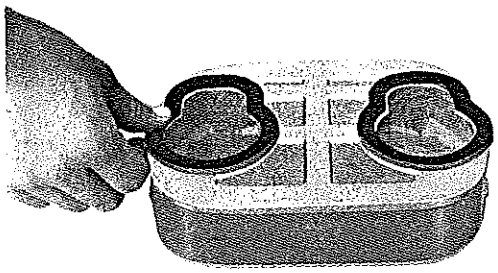
AIR FILTER

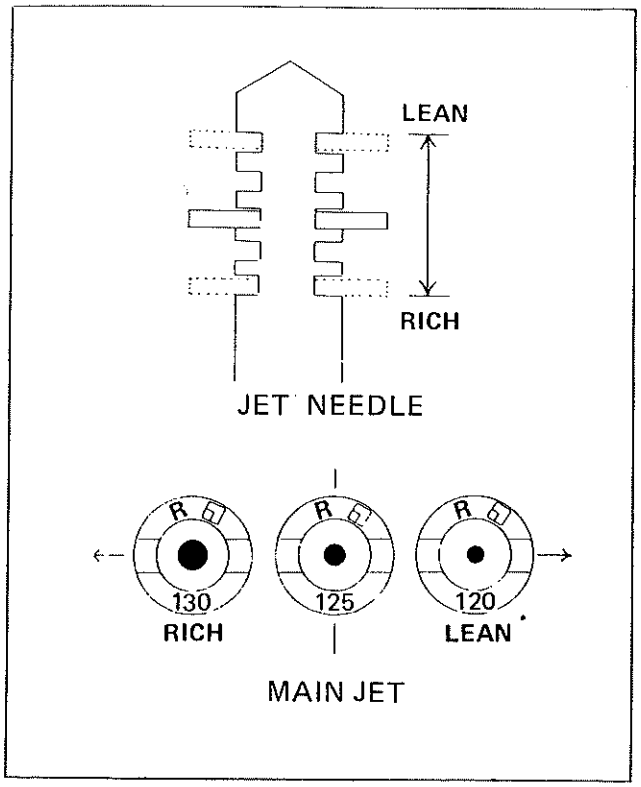
This model is equipped with a reuseable, oil impregnated, foam air filter. It must be removed and cleaned at least once a month, more often if the motorcycle is ridden mainly in the dirt (preferably each time after you spend an entire day in the dirt).



Wash the foam filter throroughly in solvent until all dirt has been removed. Squeeze all the solvent out. Pour oil onto the filter (any grade of 20 or 30wt), work it completely in, and then squeeze out the surplus oil. The filter should be completely impregnated with oil, but not "dripping" with it.

Under no circumstances should you run the motorcycle without the air filter. First, dirt and dust will be able to pass through into the cylinder. Premature engine failure will be the result. Secondly, more air will flow to the engine and there will not be enough gasoline for all the air. The lean mixture will result in higher engine temperatures and possibly severe engine damage.





4) Main jet (high speed): The carburetor comes equipped with a #125 main jet. Install a one step larger main jet (#130) to richen the high speed mixture. Install a one step smaller main jet (#120) to lean out the mixture.

5) Butterfly sunchronization: Both butterfly valves must be adjusted to open and close simultaneously. Fully close the throttle grip so that both butterfly valve actuator mechanisms rest against their throttle stop screws. Slowly twist the throttle grip and note whether both butterfly valves start to open at the same time. If this does not occur simultaneously, use the cable adjustor to lengthen or shorten one cable until correct action is achieved. In addition with the throttle fully closed, both throttle cables should bave approximately 1mm free play before both butterfly valves start to lift simultaneously.
The TX750 carburetors come equipped with a plug on the manifold side of the carbs. This plug can be removed and, using a 6mm banjo bolt and fitting, a manifold vacuum gauge can be fitted for idle synchronization.
Vacuum must be 2.3~2.5 lbs. on each side (120~130 mmHg), with idle at 900~1,000 rpm.

Note:
Idle speeds on both carburetors MUST BE SET before synchronizing butterfly operation.

Trouble-shooting

1) Fuel overflowing out of carburetor:
This condition is due to dirt holding the fuel valve open or a defective fuel float filling with gasoline and not shutting the fuel valve. Dirt can be quickly cleaned out of the fuel valve and valve seat. A punchtured float, however, must be replaced.

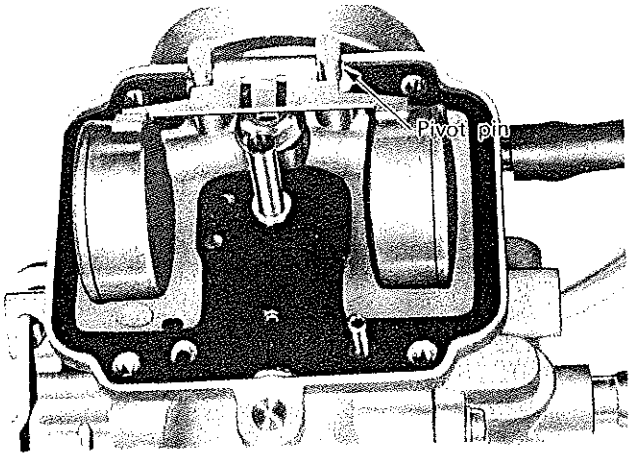
2) Vacuum slide lifting slowly or not at al:
If the throttle cable is properly opening the butterfly valve, but the vacuum slide still does not lift during engine operation, check the vacuum slide diaphragm. If this diaphragm is cracked or punctured, vacuum will not develop above the diaphragm. Replace the vacuum slide/diaphragm unit.

3) Fuel flowing to carburetor but not to engine:
First, water droplets can block up the main jet.
Secondly, an improperly adjusted float level holds the fuel level too low to be picked up by vacuum over the fuel outlet nozzle. Third, if the jet needle clip slips off, the jet needle drops down into the needle jet.
This prevents any fuel from entering the venturi.

Caution

If a passage is blocked, and high pressure air must be used to clear it, it is absolutely necessary that the float bowl be removed first. If this is not done, high pressure air can enter the float bowl and crush both floats.

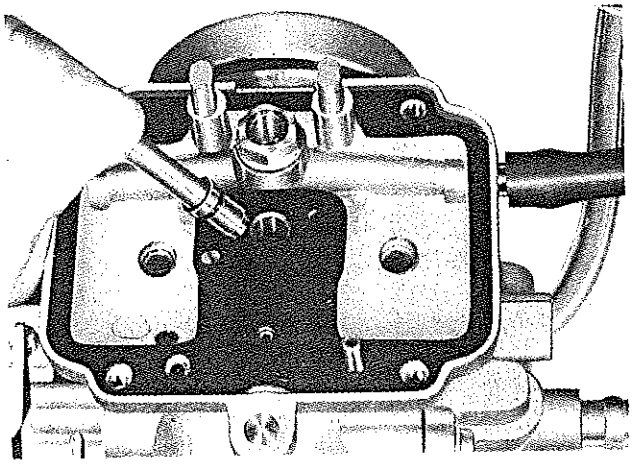
8) Turn the carburetor upside down, pull out the float pivot pin, and remove the float.



Caution

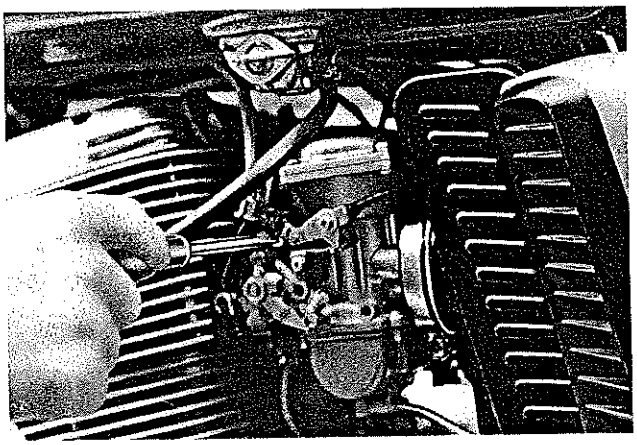
Directly beneath the float adjustment tang is the float valve. Remove this part immediately to prevent its loss.

9) The needle jet fits into the main housing from the bottom. If removal is required, pull it down and out by hand. Reverse this procedure to install the needle jet.

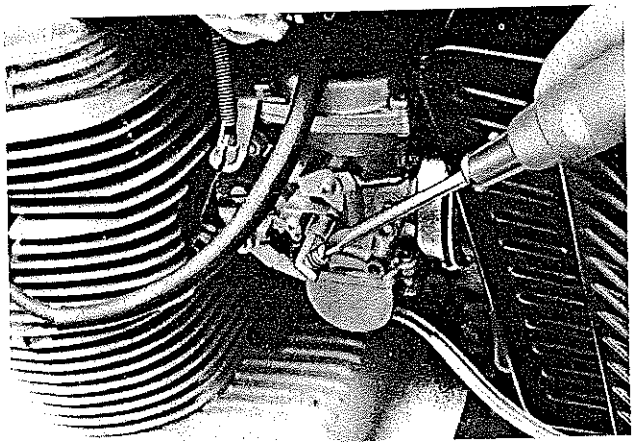


Adjustments

1) Idle mixture: turn the pilot screw in until lightly seats, then back it out 1½ turns.



2) Idle speed:
Set both idle screws so the engine idles fast. Pull off one spark plug high tension lead. Back out the idle speed screw on the running cylinder until the engine dies. Hook up the spark plug lead, start the engine, and pull off the opposite spark plug lead. Slowly back off the idle speed screw of the running cylinder until the engine dies. Attach the loose spark lead and start the engine. Both cylinders should be idling at the same speed, pulling evently. If engine rpm is too high, back off both idle speed screws an even amount until idle is 900～1,000 rpm.



3) Jet needle (mid-range): Mid-range fuel supply is controlled by the position of the needle in the needle jet. The needle clip comes standard in the 3rd groove from the top (3rd stage). To lean out the mid-range mixture, move the clip one groove higher (dropping the needle). To richen the mixture, place the clip one groove lower (raising the needle).

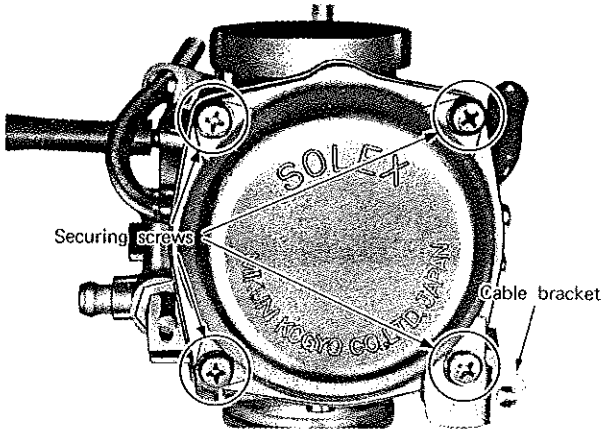
Disassembly and Assembly Procedures

(for replacement or cleaning)

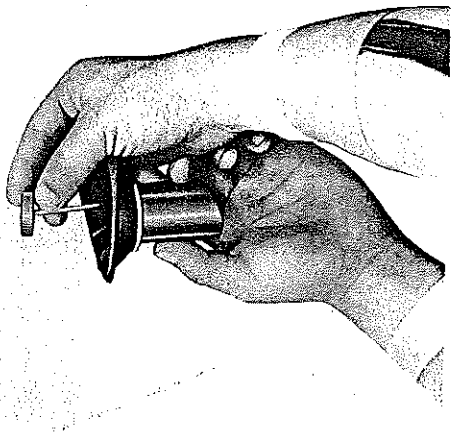
1) The vacuum chamber cover on top is held in place by four screws. Remove these screws and lift off the chamber cover.

Note:

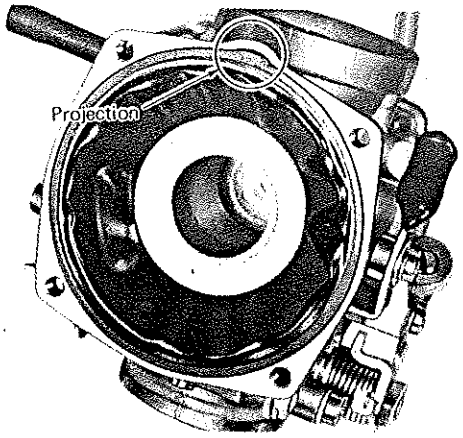
When installing the set screws, be sure to correctly position the throttle cable anchor bracket.



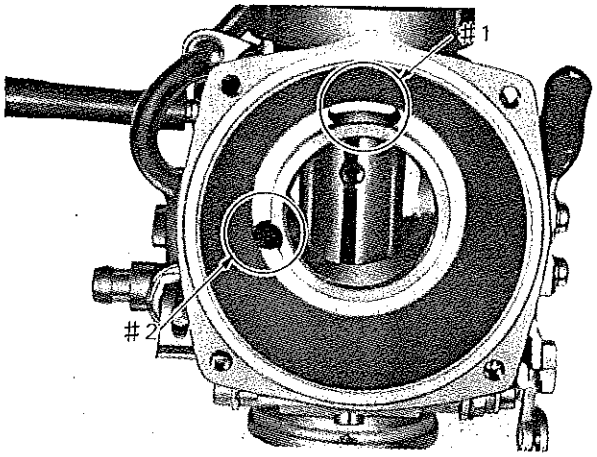
2) Once the cover has been removed, the spring, jet needle retainer, jet needle, and vacuum piston can be removed.



3) Installation of the vacuum piston is accomplished by inserting it into the carburetor body and lining up the small projection on the outer edge of the rubber diaphragm with the corresponding notch in the outer edge of the carburetor top mating surface.



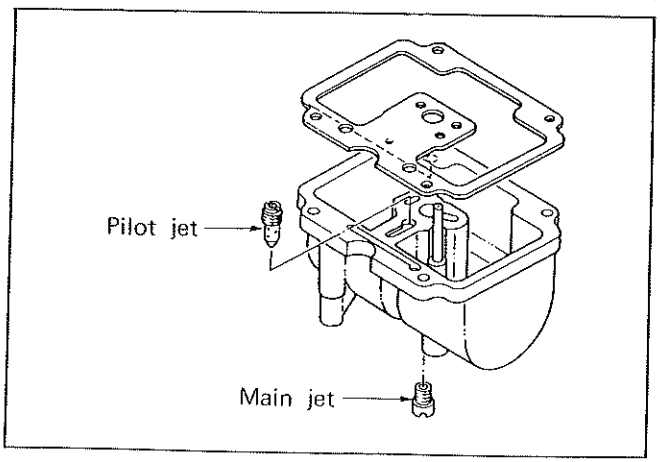
4) With the top removed, the inlet passage (#1) and air passage to the starter jet (#2) are visible.



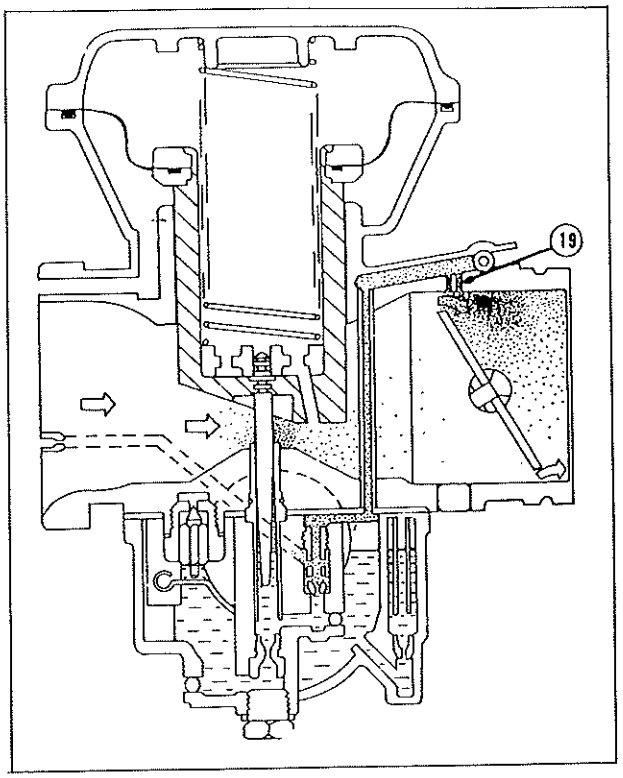
5) The starter jet housing mounts to the left side of the carburetor. It is held by three screws. A gasket fits between the starter jet housing and main housing.

6) The float bowl mounts to the bottom of the main housing. Remove the four retaining screw and then remove the float bowl.

7) Both the pilot jet and the main jet are screwed into orifices in the float bowl. The pilot jet is removed from the inside, the main jet is removed from the bottom, after first removing the cover screw.



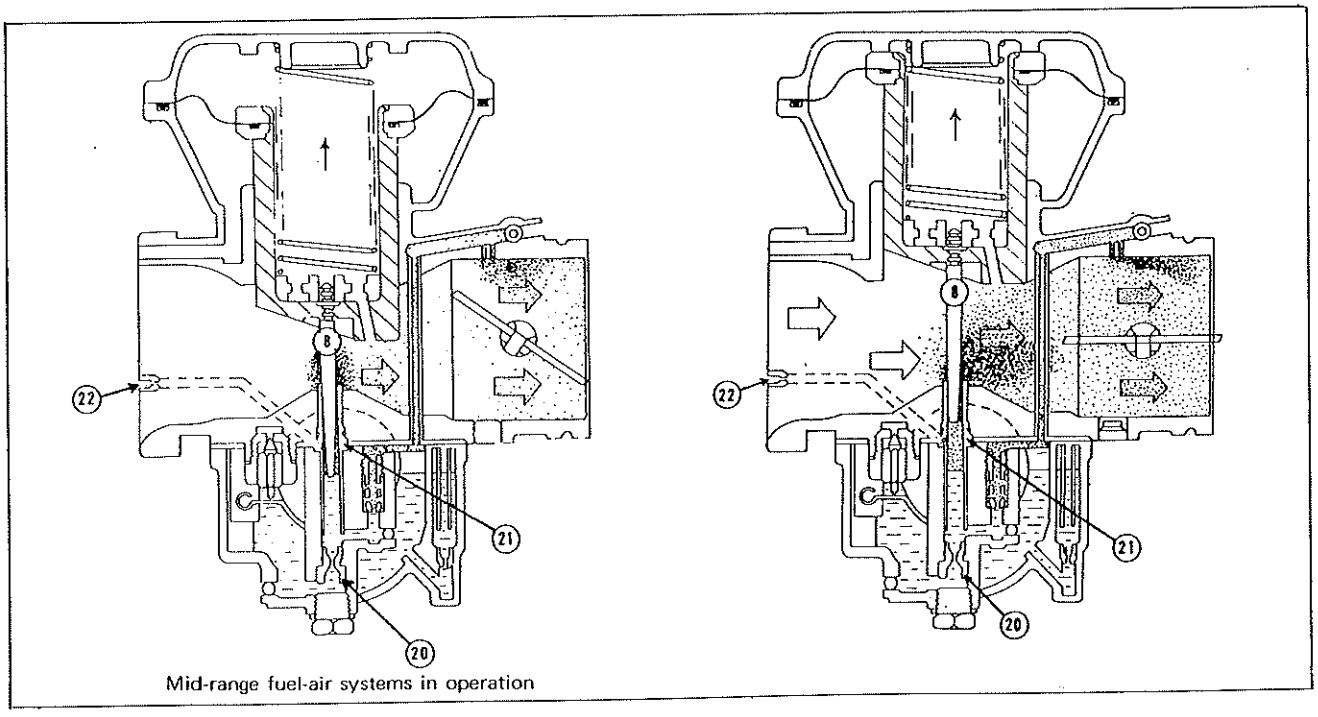
c) Fuel quantity through body bypass outlets is controlled by the diameter of the drilled passages. Both bypass outlets are drilled from the venturi straight into the pilot fuel/air mixture delivery passage.



5) Mid and High Speed System

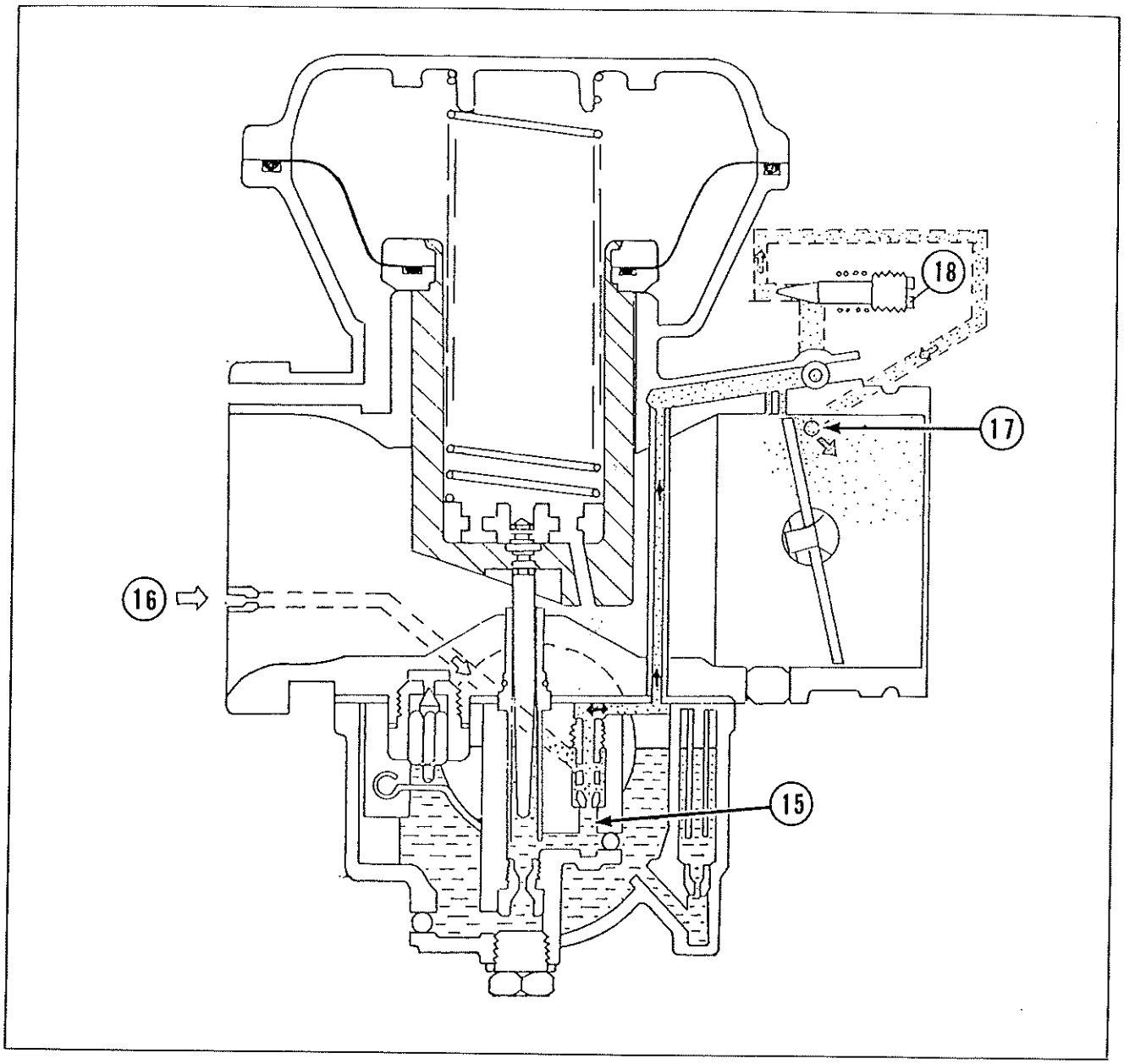
a) Fuel flow for mid-range and high speed operation comes through the main jet (#20), through the needle jet (#21), and around the jet needle (#8) into the venturi. As engine rpm increases, venturi vacuum also increases (the butterfly valve is opened further). This causes the vacuum piston to lift, which in turn lifts the tapered jet needle. More fuel flows past the needle and to the engine.

b) Air enters the primary air jet (#22) and travles down a drilled passage to the needle jet. It mixes with the fuel at this point. Final air/fuel mixing is accomplished when this primary air/fuel mixture enters the venturi and mixes with the air passing through.



Mid-range fuel-air systems in operation

4) Idle Circuit



a) At idling rpm, air pressure in the venturi is not sufficiently low enough to draw fuel flow up through the needle jet nozzle. Fuel travels up through the main jet to the pilot jet (#15). At the same time air passes through the pilot air jet (#16) down through a drilled passage to the pilot jet, where it mixes with the fuel. This mixture passes up through a drilled passage to the pilot outlet (#17) at the upper edge of the venturi, just in front of the butterfly. The amount of fuel/air mixture to the engine is controlled by the pilot screw (#18).

b) To increase engine rpm the butterfly valve is opened further. The top edge of the butterfly uncovers first one bypass outlet (#19) (next page) and then a second bypass outlet. This permits more fuel to progressively enter the venturi and to mix with the additional air that begins to flow past the partially opened butterfly valve. In addition, fuel still flows out the pilot outlet.

Caution

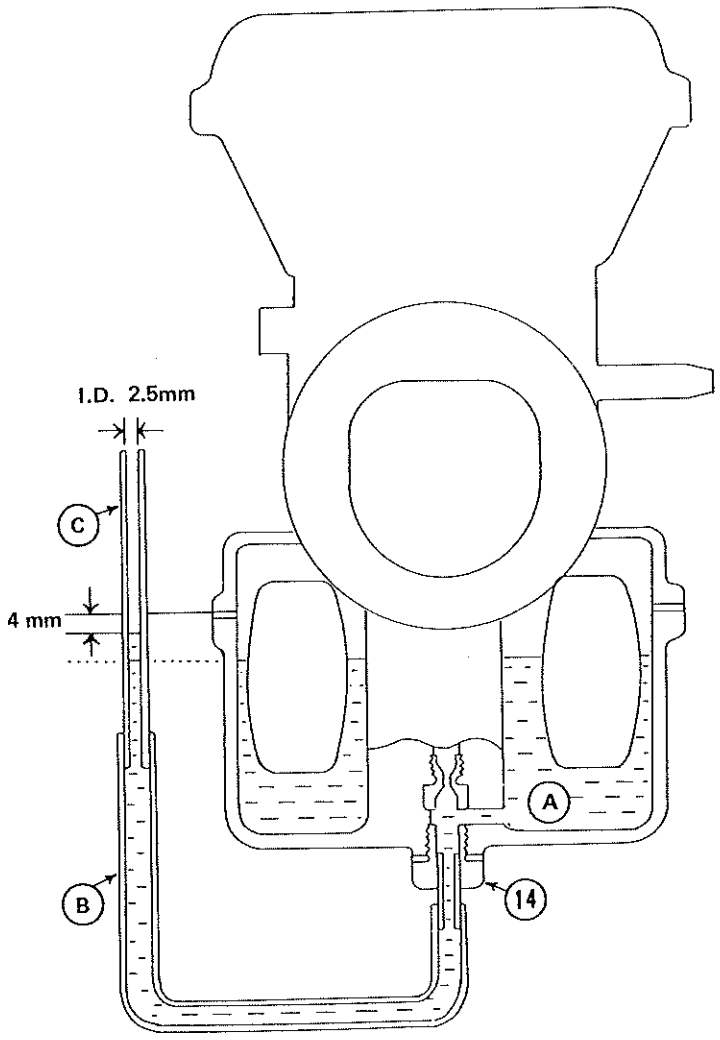
Both floats must be identical in height. If they are not, carefully bend the interconnecting bar between both floats until they have identical heights.

h) Carburetor fuel level can also be checked without removing the float bowl. Construct a special tool using a spare main jet cover nut (#14), rubber tubing (B), and a short length of clear plastic tubing (C). It must have an inside diameter of 2.5mm (0.10")

i) After constructing and installing the special tool, hold the clear tubing to the float bowl gasket surface on the main body (see drawing). The fuel level in the tubing must be 4mm (0.16") below the main body gasket surface (can be checked with the engine topped).

Note:

The carburetor must be positioned straight up (not tilted to one side, forward, or backward) to obtain an accurate reading. Also, if the clear tubing inside diameter is other than 2.5mm (0.10"), the fuel level shown will not be accurate.

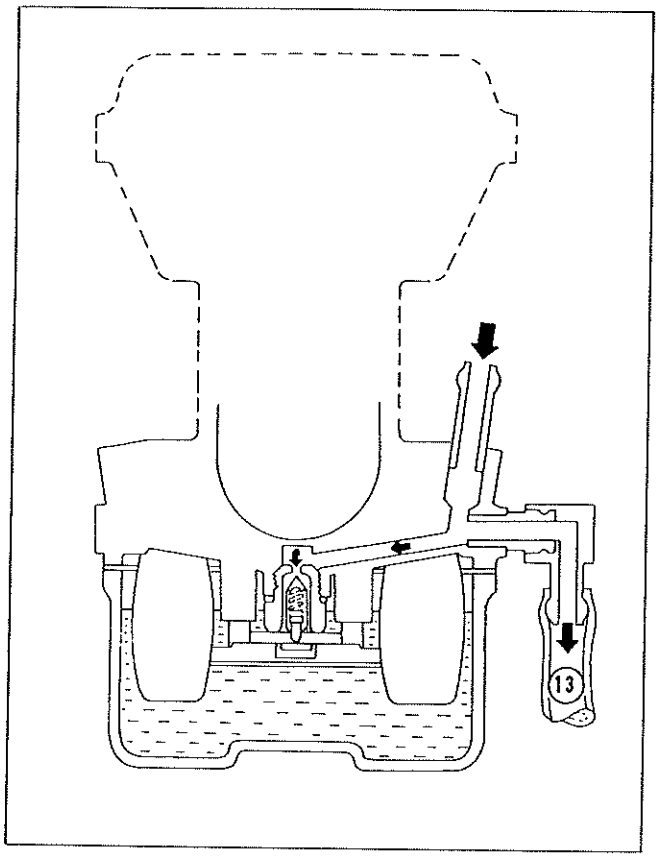


14. Adaptor A. Fuel B. Flexible tubing C. Clear plastic tubing

3) Float System

a) Proper fuel level is maintained in the float bowl via the standard method. Two interconnected floats pivot when the level of fuel rises until float/fuel level is high enough to force the inlet valve firmly atainst its seat. This shuts off the fuel supply from the gas tank.

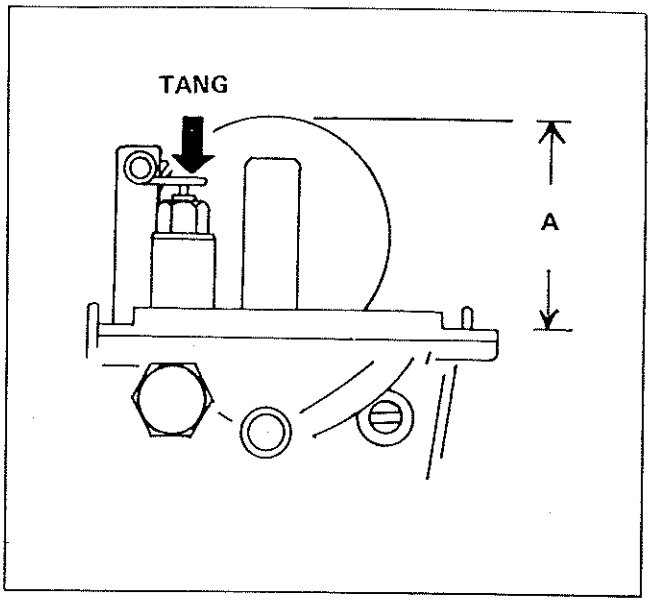
b) An interconnecting fuel equalizer tube (#13) between both carburetors permits fuel to flow between them.



c) Gas flows from the tank, through both petcocks, and then to each carburetor. If fuel should cease to flow from one petcock, due to any sort of stoppage, fuel will still continue to flow to both carburetors through the equalizer tube. This eliminates the danger of one cylinder running lean due to lack of fuel.

d) Float level adjustment

The float level may change because of a worn needle valve or a bent float arm. If the fuel level rises above a specified level, the air/fuel mixture becomes rich. If the fuel level drops, the mixture becomes lean.



e) Remove the float chamber body and float bowl gasket. Invert the mixing chamber body. Slowly lower the float with your fingers until the float just contacts the top of the float needle; do not compress the spring in the float needle.

f) Measure height "A" from the top of the float chamber gasket seat (gasket removed).

Standard measurement: 25mm (0.98in.)

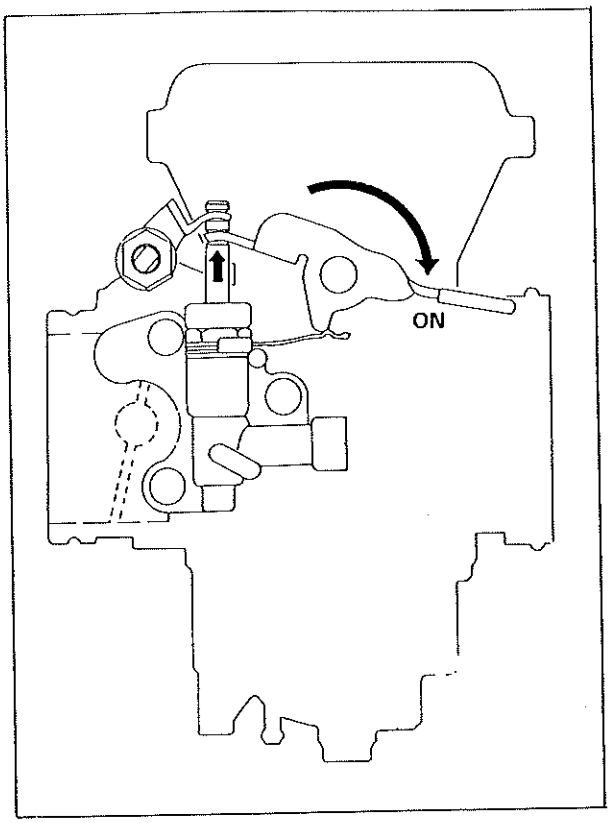
g) Bend the tang (which contacts the float needle) so that a correct measurement is obtained.

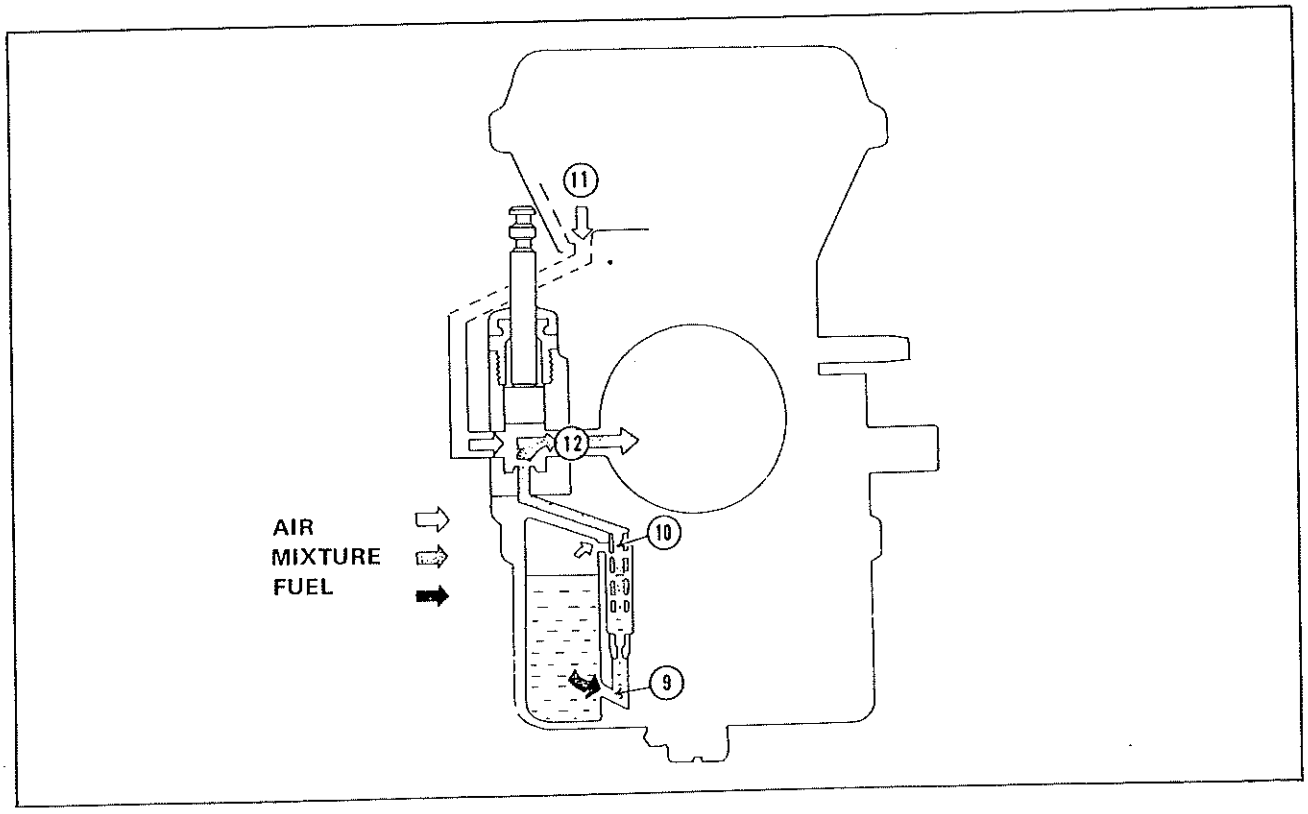
2) Starter System

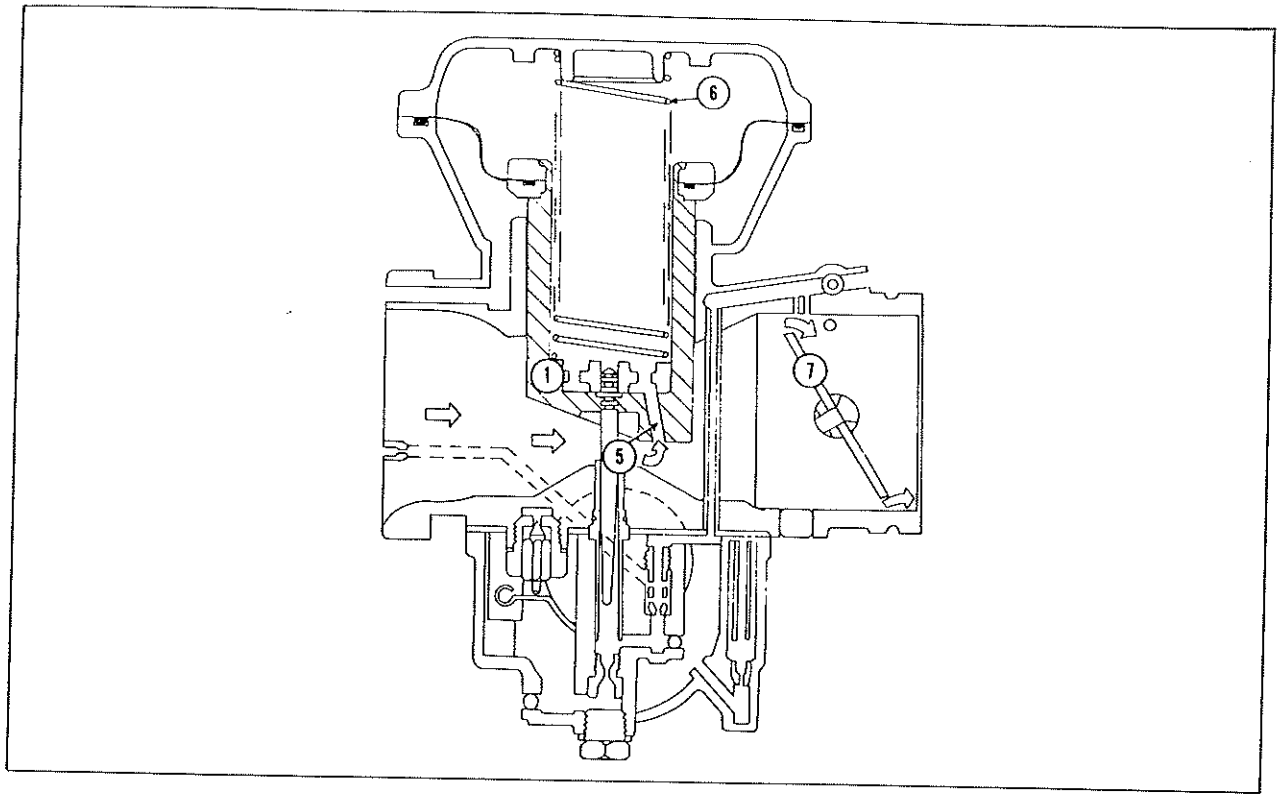
a) This system is identical to the starter system used on all our two-stroke Yamaha. It consists of a separate fuel/air circuit that enriches the fuel/air mixture for easier starting. The starter housing, however, can be removed from the main carburetor body.
When the starter lever is pushed down, a rich starting mixture ratio of approximately 9 : 1 enters the engine.

b) Fuel for this starter system comes from the float bowl, through a drilled passage through the starter jet (#9). The fuel continues up through a mixing chamber (#10) where air begins to mix with the fuel. Air for the starter system is drawn down through a passage (#11) from the atmospheric chamber below the diaphragm.

c) The fuel and air meet and mix at the starter plunger chamber and are sucked out through the outlet passage (#12) into the venturi.

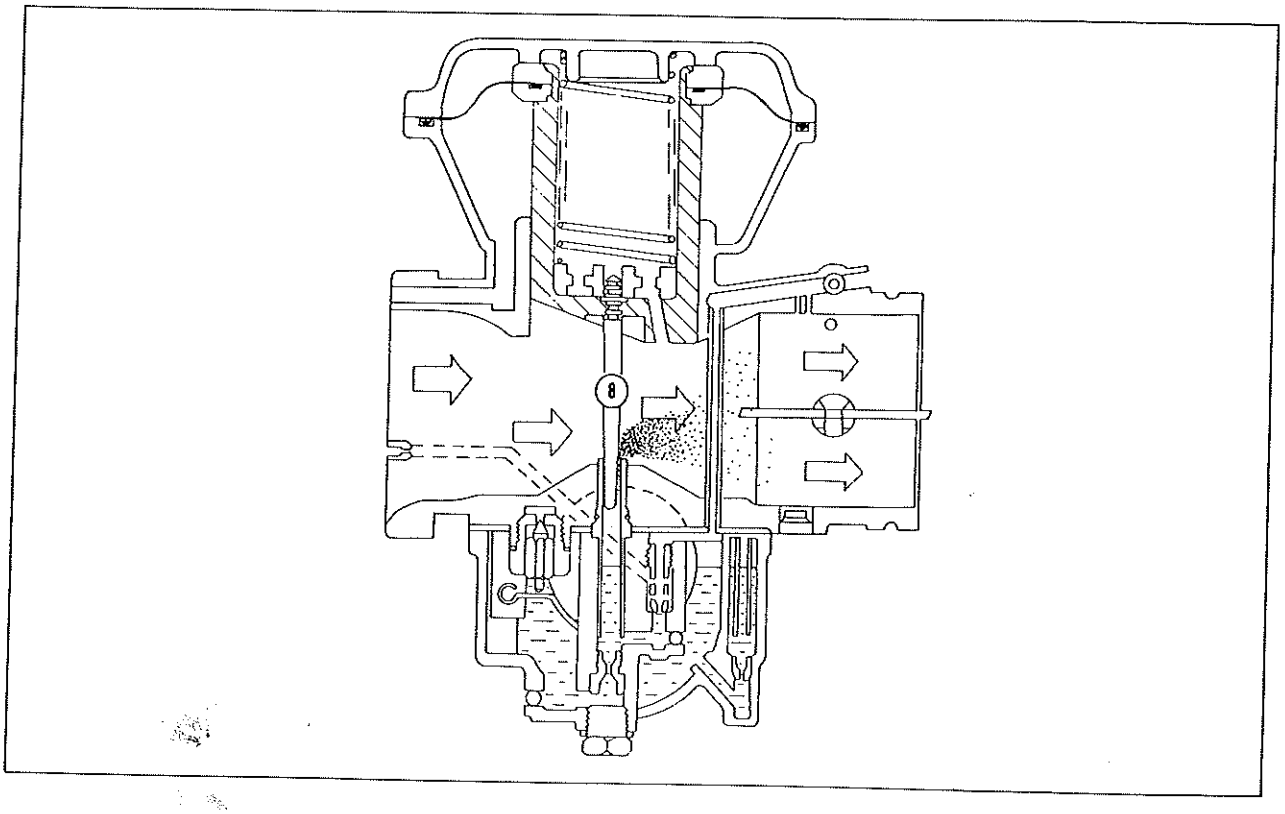






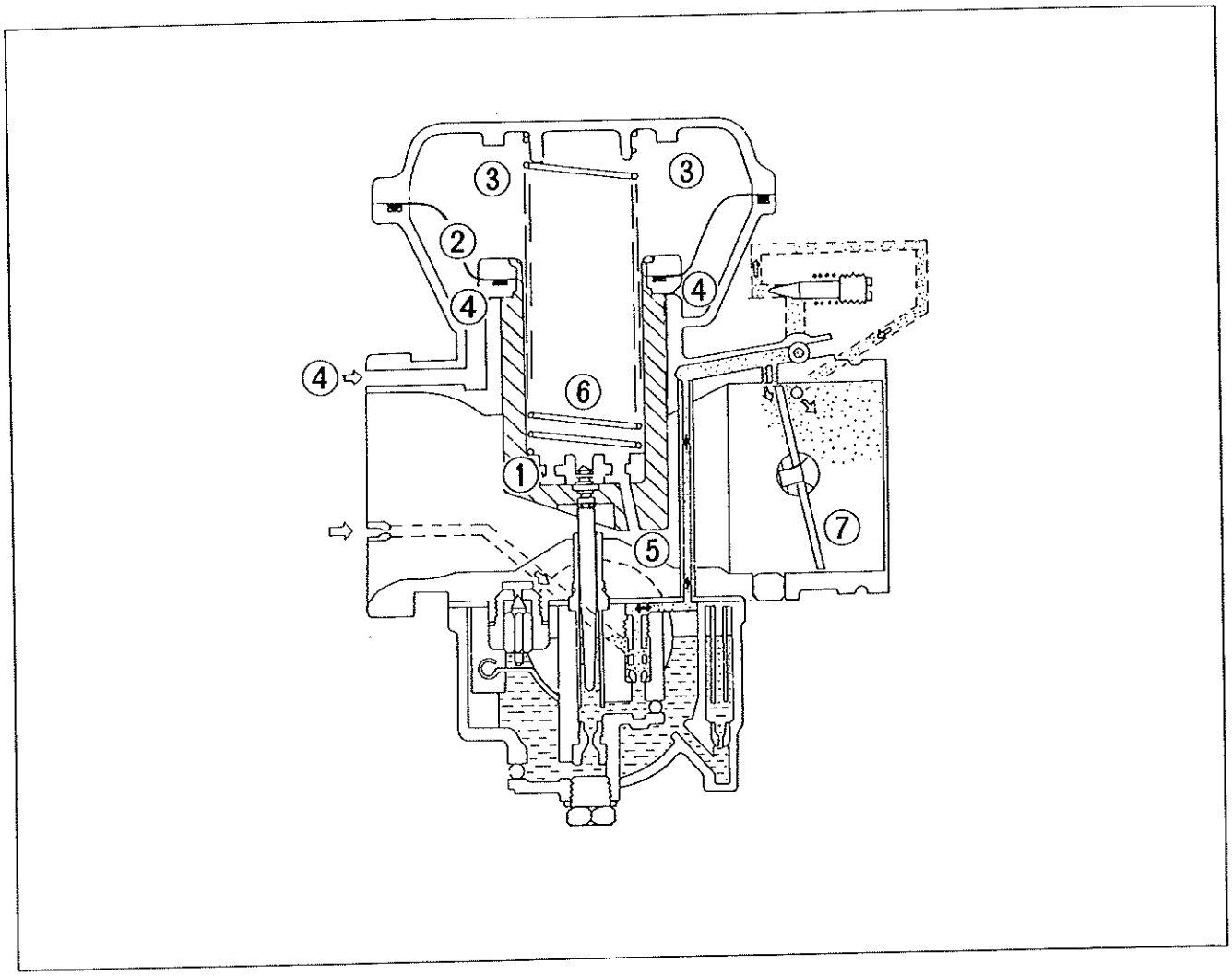
d) As the butterfly valve opens, engine vacuum sucks air through the venturi at a greater speed. Faster air speed causes a greater air pressure drop. This dropping pressure immediately occupies the vacuum chamber, lifting the vacuum piston higher. The vacuum piston will continue to lift as the butterfly is opened further.

e) When the vacuum piston lifts, it also lifts, the jet needle (#8) below. This permits additional fuel to flow up the fuel outlet nozzle and to the engine in the standard method.



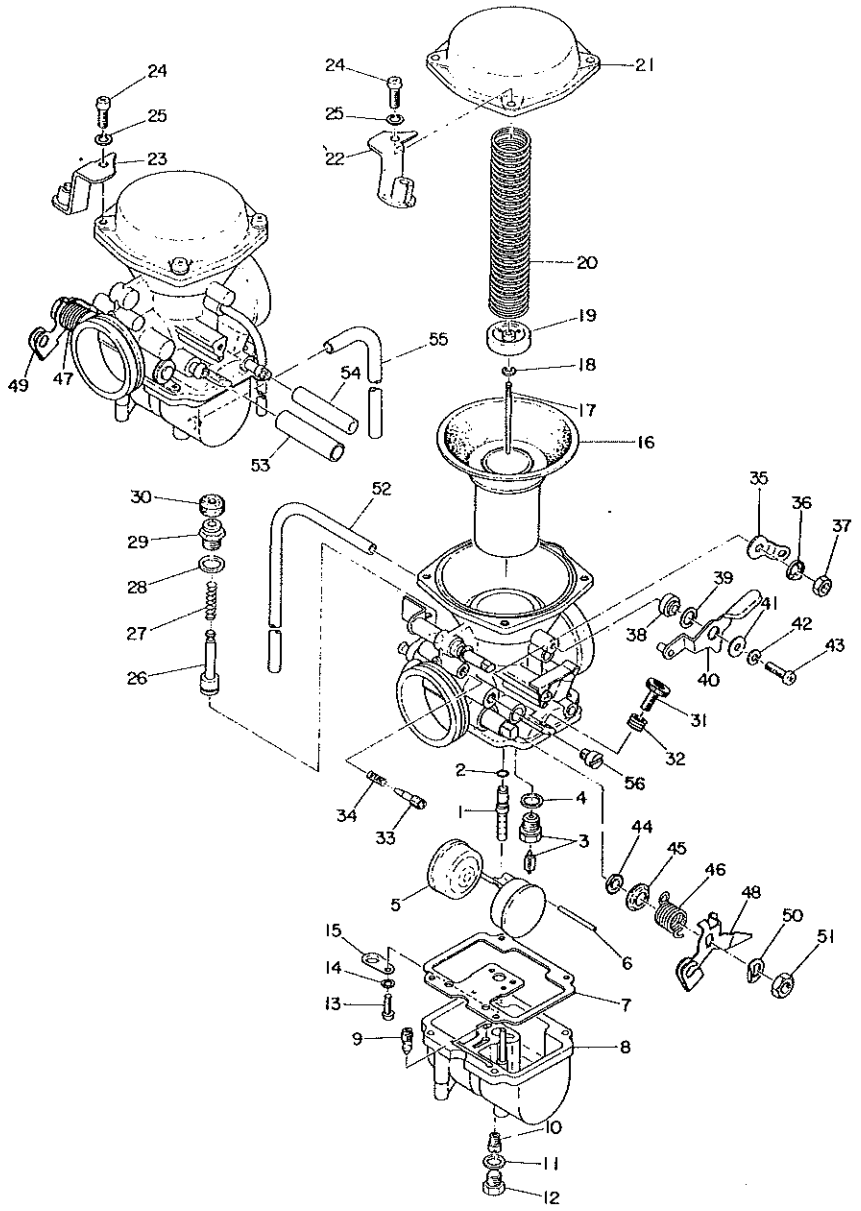
1) Method of Operation

a) Vacuum piston actuation:
The vacuum piston (#1) is lifted by engine vacuum. A flexible rubber diaphragm (#2) is attached to the piston top and to the housing. This diaphragm divides the top part of the carburetor into a vacuum chamber (#3) above the diaphragm and an atmospheric pressure chamber (#4) below the diaphragm.



b) Atmopheric air pressure (approximately 15 lbs/in^2) passes through the air passage and occupies the space below the diaphragm. A drilled hole in the vacuum piston (#5) provides an unobstructed path up to the vacuum chamber. As air is pulled past the vacuum piston by engine vacuum – creating a low pressure area at this point – the piston hole permits this low pressure to fill the vacuum chamber. Unequal air pressure exists on either side of the diaphragm.
Atmospheric pressure pushes up on the diaphragm, lifting the vacuum piston (#1) as well. The diaphragm (and piston) continue to lift until the vacuum piston return spring (#6) and the low air pressure match the pushing atmospheric pressure below.

c) Air speed through the venturi, which controls the amount of low pressure in the vacuum chamber, is controlled by a butterfly valve (#7). A cable connects the throttle grip directly to this butterfly valve. Twisting the grip opens the butterfly valve.



Carburetor Specifications

Venturi Size (38mm measured)	32.0mm (effective)
Main Jet	# 125
Jet Needle	GJ-3
Needle Jet	Z-4
Pilot Jet	# 45
Butterfly (throttle) valve	# 115
Starter Jet	0.7
Floot Level	24 ± 2.5 mm
Pilot Screw (turns out)	1½
Fuel Valve Seat	2.0

0-1 Left carburetor ass'y
0-2 Right carburetor ass'y
1 Main nozzle (Z-4)
2 O-ring
3 Valve seat ass'y (#2.0)
4 Washer
5 Float
6 Float pin
7 Float chamber packing
8 Float chamber body
9 Pilot jet (#45)
10 Main jet (#125)
11 Washer
12 Plug screw
13 Roundhead screw
14 Spring washer
15 Plate
16 Diaphragm ass'y
17 Needle (4GJ-3)
18 Clip
19 Set needle plate
20 Diaphragm spring
21 Diaphragm cover
22 Left bracket throttle ass'y
23 Right bracekt throttle ass'y
24 Roundhead screw
25 Spring washer
26 Starter plunger
27 Plunger spring
28 Washer
29 Plunger cap
30 Plunger cap cover
31 Throttle stop screw
32 Throttle stop spring
33 Pilot screw
34 Pilot screw spring
35 Starter lever
36 Washer
37 Nut
38 Ring
39 Washer
40 Lever ass'y
41 Washer
42 Spring washer
43 Roundhead screw
44 Seal
45 Cap
46 Throttle, left spring
47 Throttle, right spring
48 Throttle, left lever
49 Throttle, right lever
50 Washer
51 Nut
52 Over flow pipe
53 Hose
54 Hose
55 Hose
56 Plug

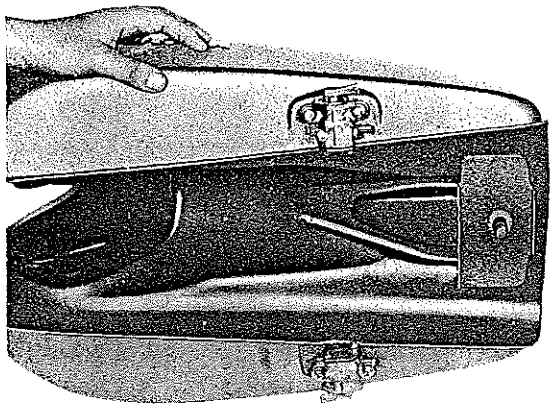
3. FUEL SYSTEM

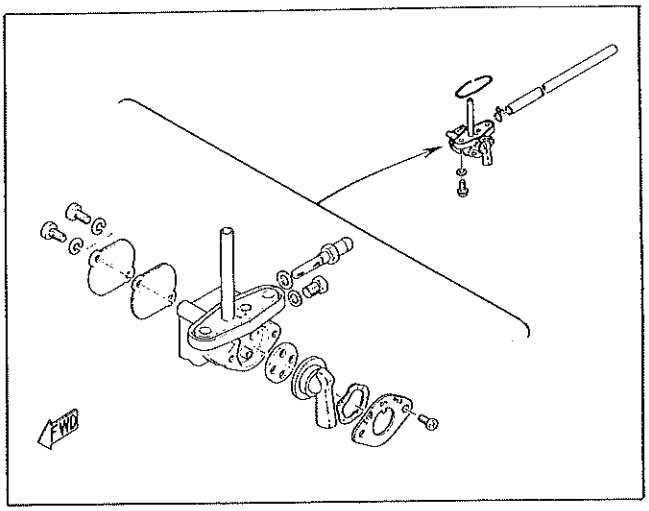
The fuel system consists of fuel tank, (petcock with integral filter), fuel delivery lines, and two constant vacuum carburetors. Each section of the fuel system should be checked for possible incorrect operation. Trace for fuel flow from the tank, through the petcock, and through the carburetor. Also check for possible air restrictions or leaks.

PETCOCK

1) Removal and Installation

a) The two petcocks are bolted to the rear under side of the fuel tank. Remove the two screws holding each petcock.



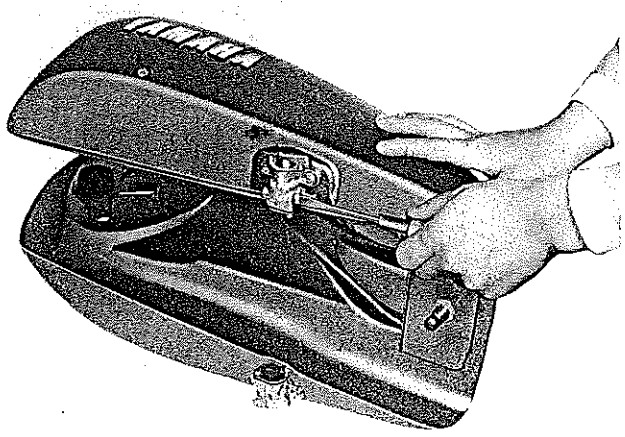


b) A neoprene O-ring fitted into a groove in the petcock mating surface seals the petcock to the fuel tank. Check the condition of this O-ring and replace if it is broken, flattened, or chipped.

c) Petcock installation is accomplished by fitting the O-ring in position and securing the petcock with the two screws.

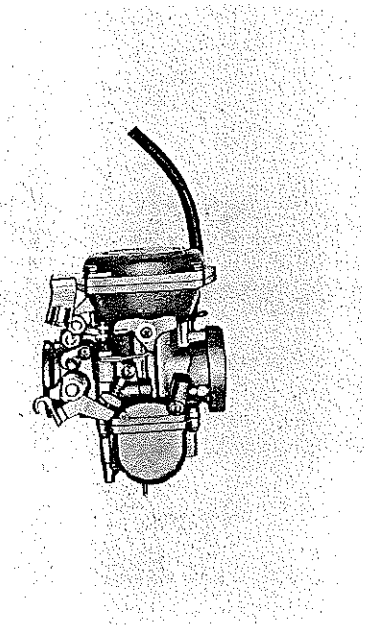
2) Cleaning

Sediment from the fuel tank (including water) can collect in the petcock chamber. A bolt beneath the fuel outlet can be removed to drain the petcock chamber. Larger obstructions can be removed by removing the screw-held plate at the opposite side of the fuel outlet.



CARBURETOR

The TX750 is equipped with two "constant vacuum" carburetors (design is similar in operation to the SU type carburetor) mounted on rubber intake manifolds. Air flow through the venturi is controlled by a throttle slide (vacuum piston). The slide is lifted and lowered by engine vacuum rather than a cable directly linked to the throttle grip.

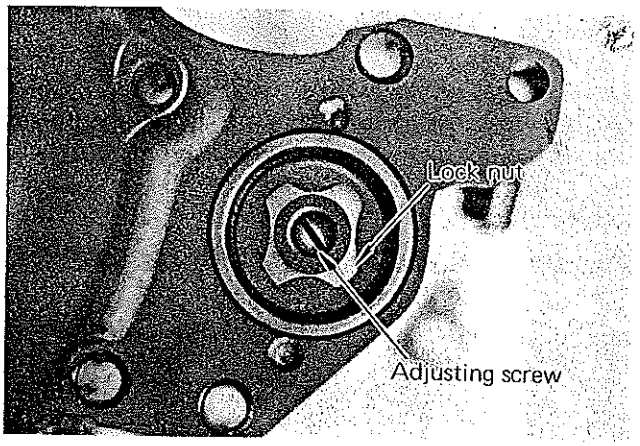


5. Clutch Adjustment

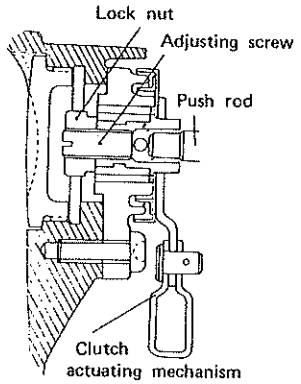
a) Two clutch adjustments are possible, depending on the action of the clutch and clutch lever. If clutch slippage or incomplete clutch disengagement occurs, adjustment is required at the clutch actuating mechanism.

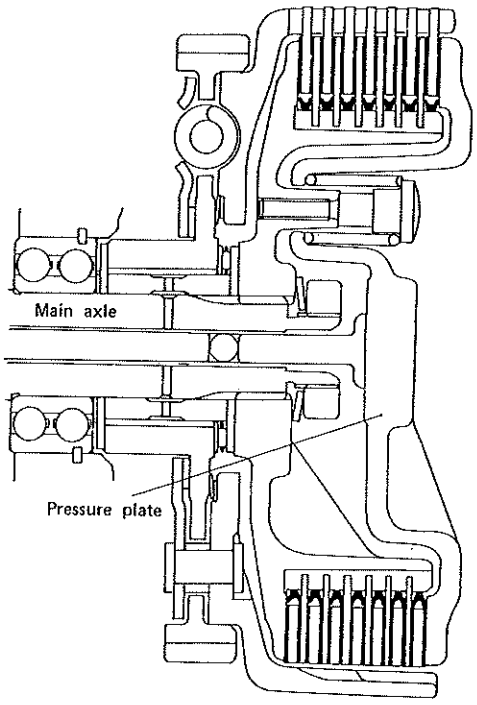
b) Loosen the clutch lever adjustor to obtain as much cable slack as possible.

c) The clutch adjustor is located on the left crankcase cover.



d) The adjustor consists of an adjustment screw and a lock nut. Loosen the lock nut. Turn the adjustment screw in until the screw lightly touches bottom. Back off 1/4 turn and tighten the lock nut.





e) Reinstall and tighten the crankcase cover.

f) The second adjustment at the clutch lever controls the amoutn of cable free play. Loosen the adjustor lock nut and turn the adjustor to obtain 2 – 3 mm (1/16" – 1/8") cable slack at the lever.