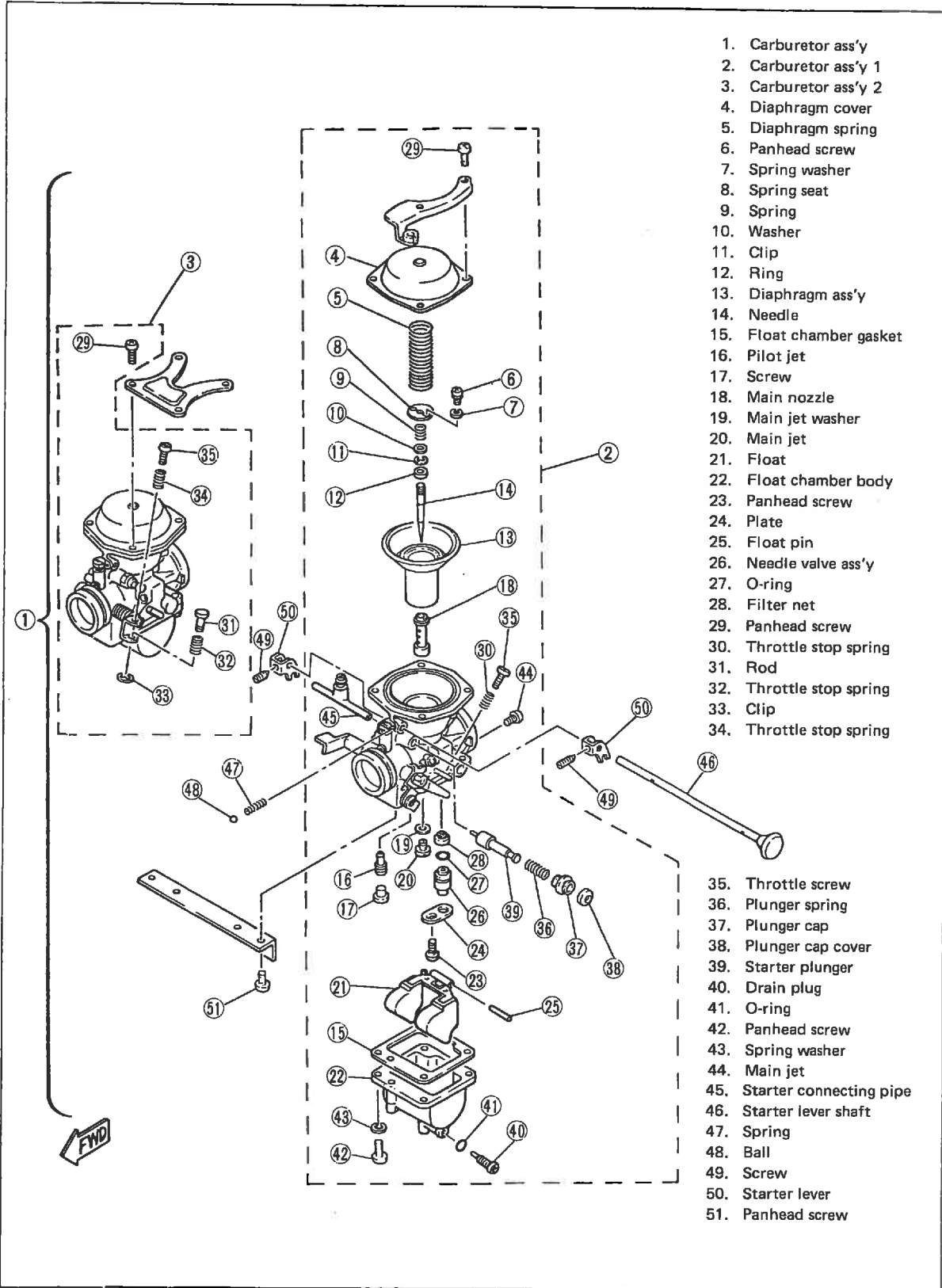


## CHAPTER 4. CARBURETION

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# CARBURETION

## CARBURETOR



## A. Section View and Operation

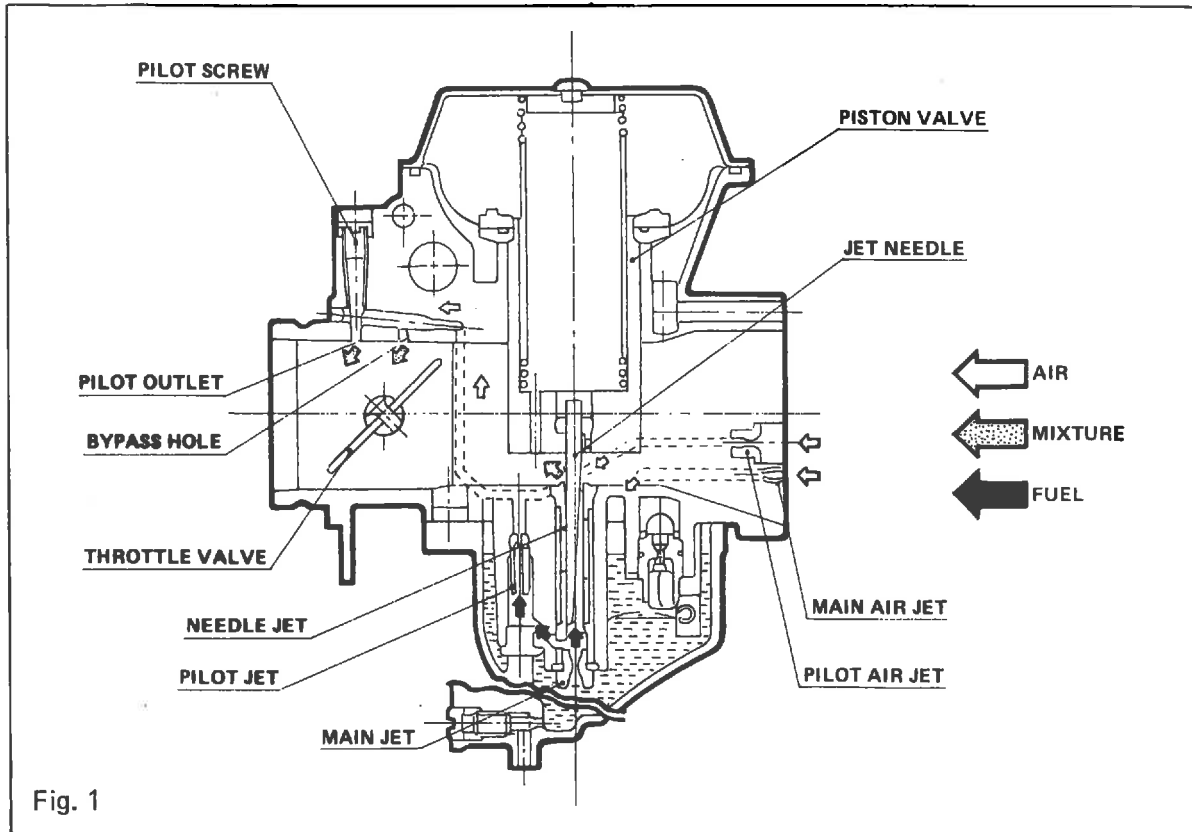


Fig. 1

## B. Specifications

Main jet	# 135
Jet needle	502-3
Starter jet	# 80
Pilot screw	Preset
Float valve seat	$\phi$ 2.0
Engine idle speed	1,200 r/min

### WARNING

The pilot screw settings are adjusted for maximum performance at the factory with special equipment. **DO NOT** attempt to change these settings. If all other engine systems are functioning correctly, any changes will decrease performance and cause increased exhaust emissions.

## C. Operation of Carburetor

The CV carburetor has a variable whose sectional area can be varied automatically by

fluctuations in the negative pressure in the engine.

Idle circuit (See Fig. 1)

1. When the engine is at idle speed, the fuel from the float chamber passes through the main jet and is metered by the pilot jet. Then the fuel is mixed with the air metered by the pilot air jet, and thereafter flows through the bypass and the pilot outlet to the engine.

Main circuit (See Fig. 1)

2. The fuel flow from the float chamber to the main circuit is metered by the main jet and supplied to the engine through the needle jet. As the engine speed increases, the diaphragm begins to act and the piston valve connected to the diaphragm is moved upward. This makes the sectional area of the venturi increase, and more air supplied to the engine. At the same time, the jet needle attached to the center of the piston valve moves up, and thus the opening of the needle jet increases. This makes the fuel flow in-

crease and optimum mixing ratio which is required for the engine is maintained.

### 3. Starter

The starter carburetor is incorporated in the main carburetor body, but it is independent of the main circuit.

Operation of two-position starter jet.  
(See Fig. 2)

Full-open:

To start a cold engine, a rich mixture is required.

To supply a rich mixture, move the starter lever all the way to the left so that the needle regulating the fuel flow is pulled up and the flow rate of incoming fuel is increased to a maximum. The fuel is mixed with the air supplied

from the diaphragm lower chamber, and thus a rich mixture is produced.

Half-open:

When warming up the engine, a slightly rich mixture is required. Move the starter lever half way back so that the fuel flow is reduced by the needle. The fuel is mixed with the air from the diaphragm lower chamber, thus a slightly rich mixture is produced.

Full-closed:

When the engine fully warms up, no mixture from the starter circuit is necessary. Move the starter lever all the way back so that the flow of incoming air is also stopped by the plunger, and thus no mixture enters the throttle bore.

### Starter System

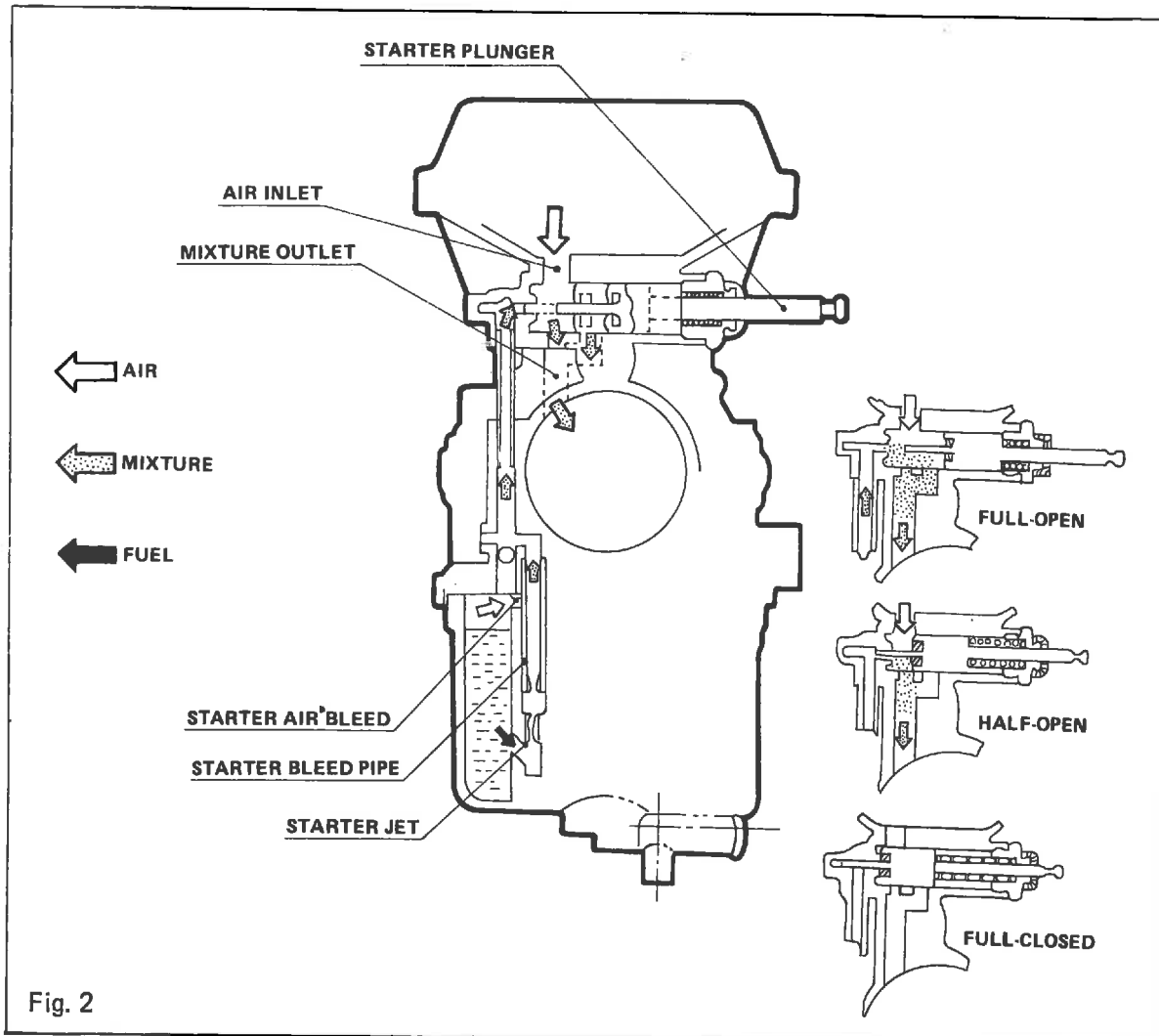
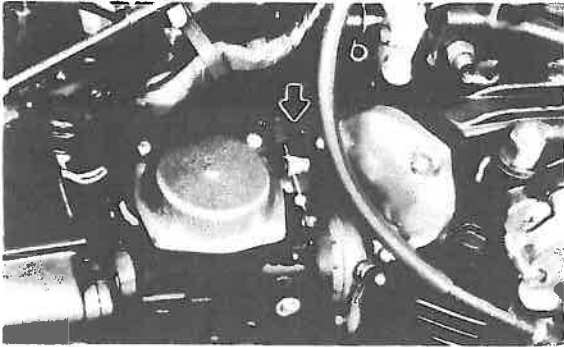


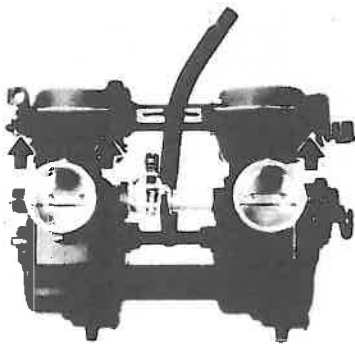
Fig. 2

#### D. Disassembly

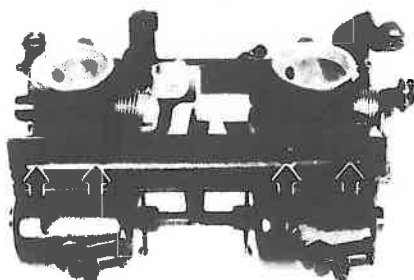
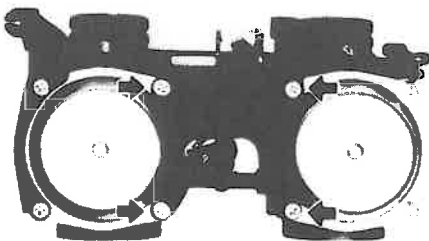
1. Remove the throttle wires bracket from each carburetor.



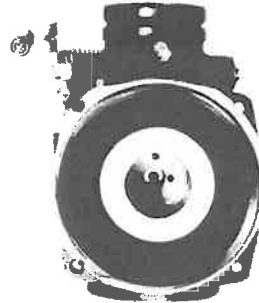
2. Remove the two joint shaft securing screws and remove the shaft from each carburetor.



3. Remove the upper and lower bracket from each carburetor.

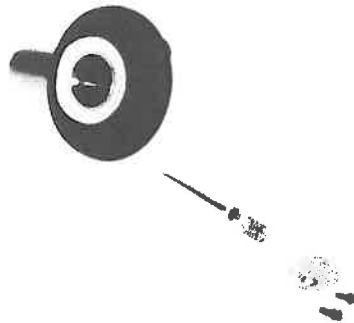


4. Remove the vacuum chamber cover, and remove the spring and diaphragm. The vacuum piston will come out with the diaphragm.

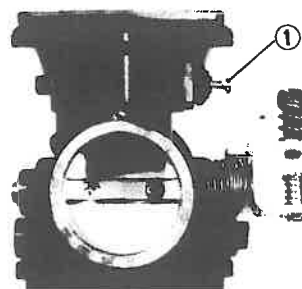


**NOTE:** \_\_\_\_\_  
Note the position of the tab on the diaphragm. This tab must be placed in the recess in the carburetor body during reassembly.

5. Remove the circlip and pull out the jet needle.

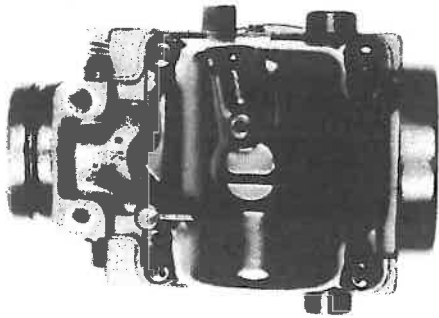


6. Remove the starter plunger from the carburetor body.

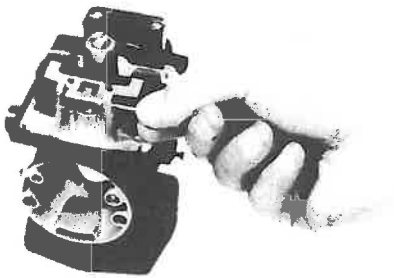


1. Starter plunger

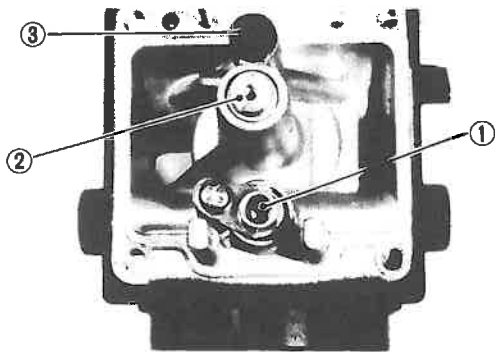
7. Remove the float chamber cover from the carburetor body. The main and pilot jets are located in the float bowl.



8. Remove the float pivot pin, and remove the float assembly. Be careful not to close the float valve which is under the float arm.



9. Remove the jets, float valve seat, and the main nozzle as necessary.

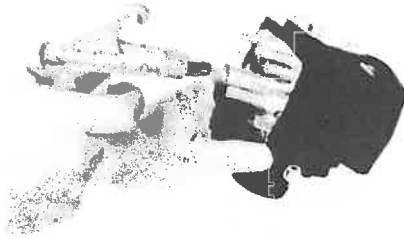


1. Float valve seat 2. Main jet 3. Pilot jet



### E. Inspection

1. Examine the carburetor body and fuel passages. If they are contaminated, wash the carburetor in a petroleum-based solvent. Do not use any caustic carburetor cleaning solutions. Blow out all passages and jets with compressed air.



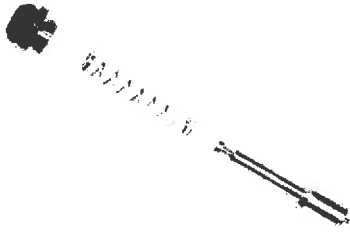
2. Examine the condition of the floats. If the floats are damaged, they should be replaced.
3. Inspect the float needle valve and seat for wear or contamination. Replace these components as a set.



4. Inspect the vacuum piston and rubber diaphragm. If the piston is scratched or the diaphragm is torn, the assembly must be replaced.
5. Inspect the jet needle for bends or wear. If the needle is bent or severely worn, replace it.



6. Inspect the starter plunger. If it is worn or damaged, replace it.



#### F. Assembly

1. To assemble the carburetors, reverse the disassembly procedures. Pay close attention to the installation of the vacuum piston diaphragm and the location of each jet.

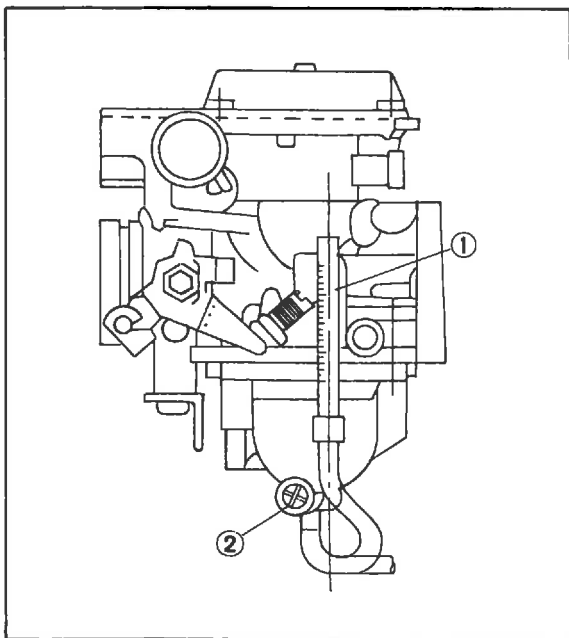
#### G. Adjustment

##### Fuel level

##### NOTE:

Before checking the fuel level, place the motorcycle on a level surface.

1. Place the motorcycle on the centerstand. Connect the fuel level gauge or a vinyl tube, 6 mm (0.24 in) inside diameter, to the float bowl nozzle on the carburetor.
2. Place the tube next to the throttle stop screw as shown in the photograph.

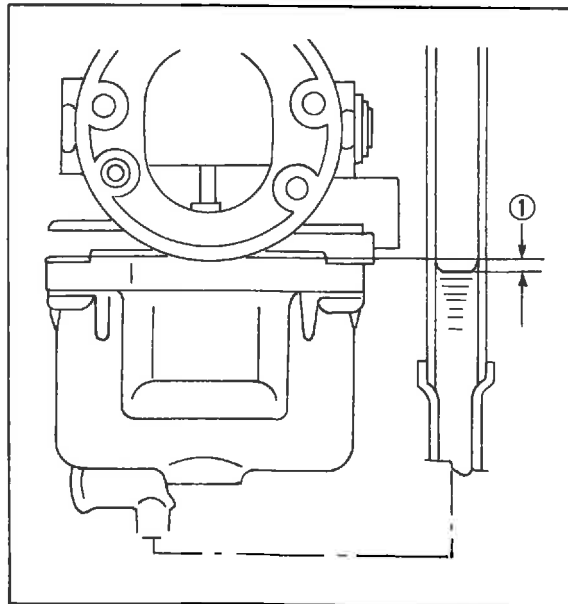
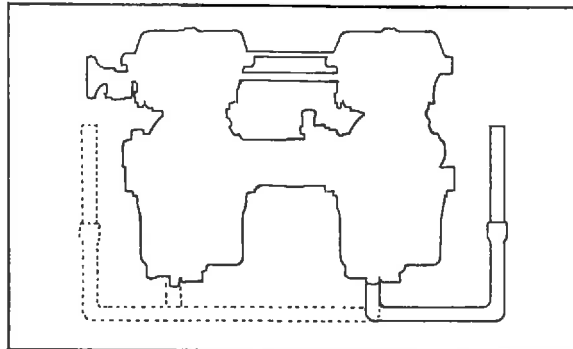


1. Level gauge 2. Drain screw

3. Set the petcock to "ON" and start the engine. Stop it after a few minutes.
4. Check the fuel level. It should be within the specified range.

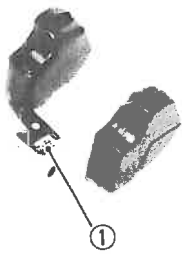
##### Fuel level:

$1.0 \pm 1.0$  mm ( $0.04 \pm 0.04$  in)  
above the carburetor body



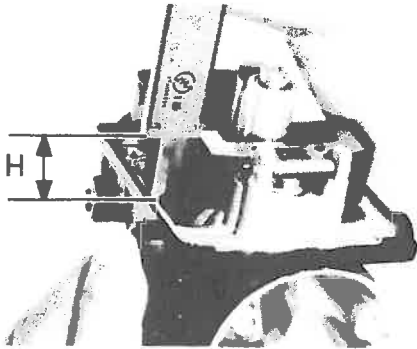
1. Fuel level

5. If the fuel level is not within specification, remove the carburetors, and check the fuel valve and float assembly.
6. If no damage is found in these parts, adjust the float level by slightly bending the tang on the float. Recheck the fuel level.



1. Tang

7. Check the float height using a vernier caliper for reference.



Float height:

$$H = 22.0 \pm 1 \text{ mm } (0.866 \pm 0.039 \text{ in})$$

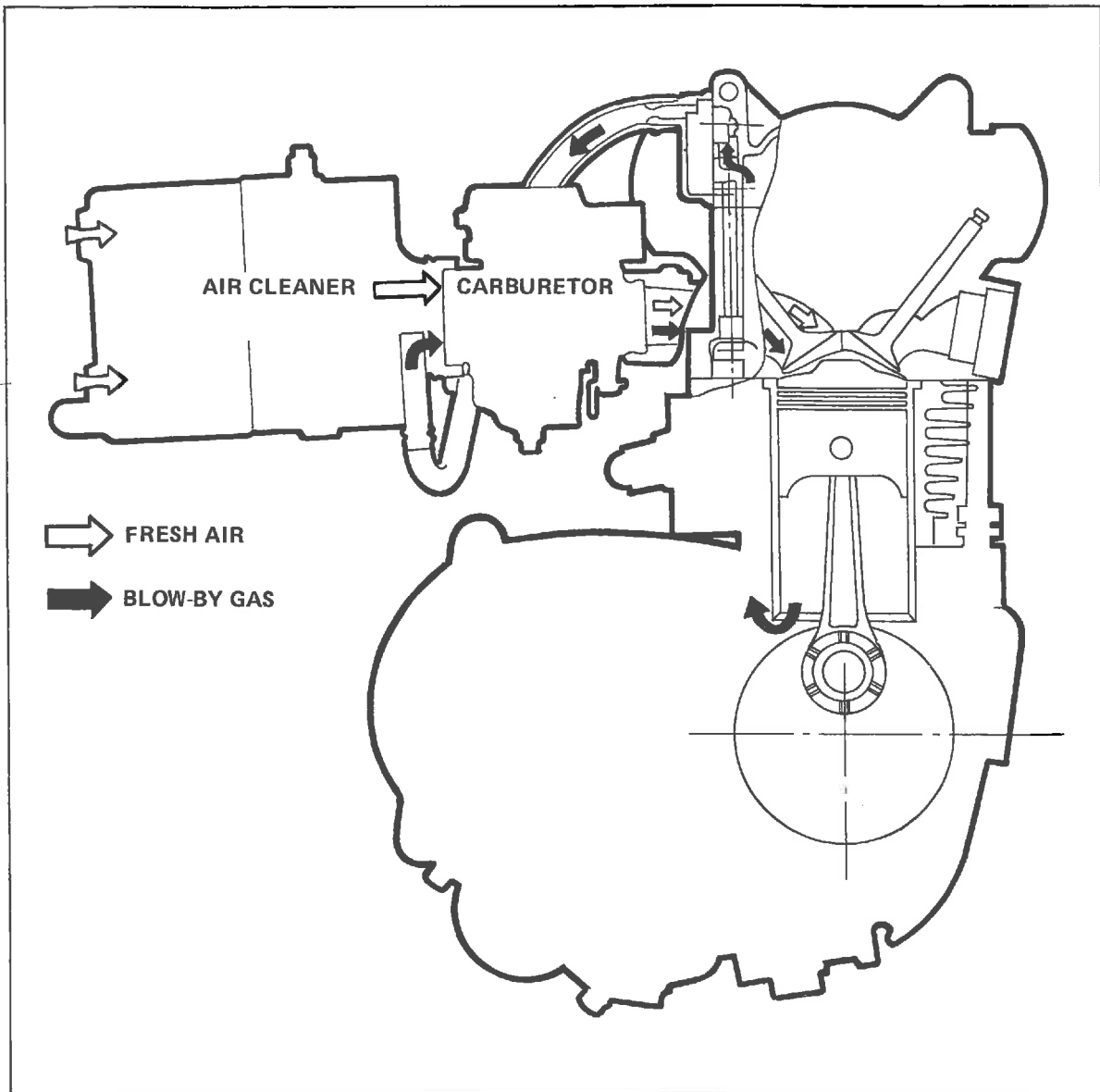
**NOTE:**

The float should be just resting on, but not depressing the spring loaded inlet needle.

8. Repeat the procedure for the other carburetor.



## AIR CLEANER AND CRANKCASE VENTILATION SYSTEM



Refer to Chapter 2 for the air cleaner maintenance.