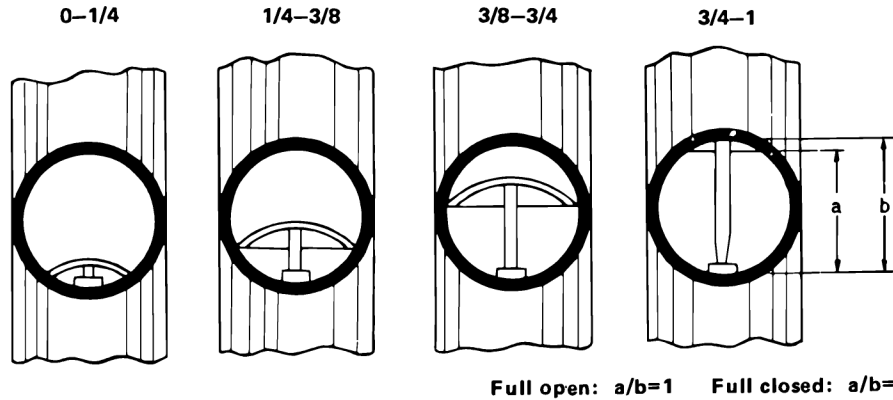


Throttle Opening

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0 - 1/4 Throttle Opening

a. 0 - 1/4 Throttle Opening

At this throttle opening, the fuel measured by the pilot jet (A) mixes with air adjusted by pilot air screw (B), producing a rich mixture output from pilot outlet (C). This rich mixture is then further blended with the small air flow in the main air flow in the main bore and fed into the engine. This pilot system is generally called the "slow system".

Pilot jet (A) is of a fixed size, and overall mixture strength is varied by increasing or decreasing air intake with the air screw (B). Therefore the most important point is to achieve correct air screw adjustment.

If the mixture is too rich, causes of this trouble might be clogging of the pilot air intake, or of the pilot jet air passage or air bleed opening. Possible causes of a lean mixture might be obstruction of the pilot jet or jet outlet. Other possible failures are included in the following table.

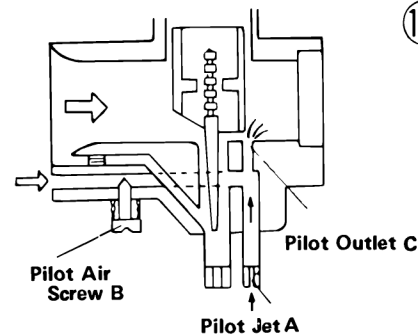
Too rich
Pilot jet mounting loose. Starter lever is not completely returned. Starter lever returned but starter plunger not fully closed.

Too lean
Throttle valve has worn and developed play. Carburetor mounting is loose, allowing air to leak in.

In the case of passage or jet clogging, clean the affected parts with pure gasoline and blow them out with compressed air. Under no circumstances should wire or other hard objects be used for cleaning. Never use compressed air to clean an assembled carburetor as this can damage the float and cause a rich fuel mixture.

Full open: $a/b=1$ Full closed: $a/b=0$

0 - 1/4 Throttle Opening



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b. 1/4 - 3/8 Throttle Opening

At this opening both the slow and main systems are being utilized. The slow system, i.e. pilot system, is as explained in the previous paragraph. In the main system, fuel is drawn up through the clearance between the jet needle (E) and the needle jet (F), the rate of flow being decided by the throttle valve cutaway (G) and the jet/needle clearance. Since fuel intake is from two systems at this throttle opening, both systems must be investigated for the source of any trouble. Check the slow system as already explained.

Dirt collecting in the main jet (H), or in the needle jet would block the fuel flow and cause a lean mixture. Sources of trouble resulting in a rich mixture might be a blocked air passage, air jet (I), or the air bleed opening of needle jet (F); or an abnormally large needle jet/jet needle clearance due to needle jet wear; or a loose needle jet (F) or main jet (H). If a blocked passage or jet is found to be the source of trouble, remove the obstruction in the same manner as explained in paragraph "a". If jet needle wear is indicated, replacement of the needle is the best remedy, although changing the groove position of the needle clip may serve as a temporary expedient.

c. 3/8 - 3/4 Throttle Opening

At 1/4 to 3/8 throttle opening the main and slow systems together regulated fuel flow.

At 3/8 to 3/4 opening, however, flow rate is determined almost completely by the main system.

Fuel is drawn up through the main jet (H) and mixed inside the needle jet (F) with air from the