INTERMEDIATE SYSTEM WITH COMBINATION SLIDE TYPE THROTTLE VALVE/VACUUM PISTON

The carburetor used in Honda SS-125 and CL-125 twin cylinder motorcycles incorporates both throttle and vacuum piston functions in a single slide valve assembly.

Construction:

Air chambers above the throttle slide/vacuum piston are divided by a diaphragm. The throttle grip at the handlebar operates a lever which limits upward movement of the throttle slide and controls the position of a plunger valve within the slide. The plunger valve vents the air chamber above the diaphragm to atmospheric pressure when the plunger is depressed, and to induction port vacuum when the plunger is released. The air chamber below the diaphragm is always vented to the atmosphere.

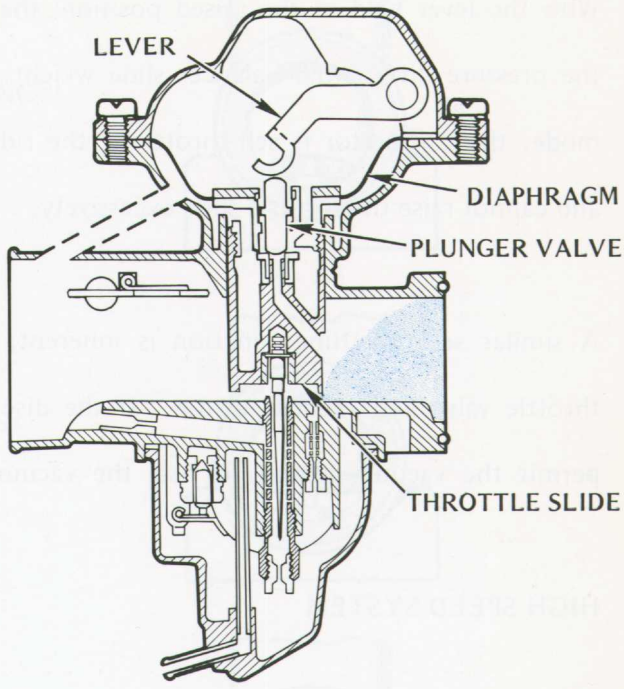

FIG. 37 Idle Position

Operation:

When the lever is fully lowered, the throttle slide is held in the idle position. The plunger valve within the slide is depressed, venting the upper air chamber to atmospheric pressure, so the slide will not resist closure (Fig. 37).

When the lever is raised, the plunger valve is released, venting the upper air chamber to induction port vacuum. The throttle slide then rises in response to differences between atmospheric pressure and vacuum in the carburetor bore. When the throttle slide rises, fuel is discharged from the needle jet (Fig. 38).

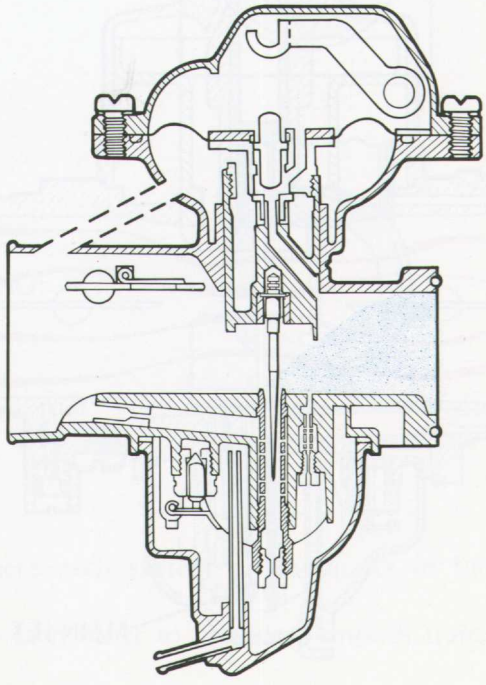

FIG. 38 Lever Fully Raised, and Throttle Valve Partially Raised

INTERMEDIATE SYSTEM WITH COMBINATION SLIDE TYPE THROTTLE VALVE/VACUUM PISTON (continued)

With the lever held in the raised position, the throttle slide will rise until it stabilizes at a height where the pressure differential balances slide weight, or until the plunger contacts the lever. In this operating mode, the carburetor is self-throttling; the rider controls only the upward *limit* of throttle slide travel and cannot raise the throttle slide excessively.

A similar self-throttling function is inherent, though less obvious, in carburetors with a separate disc throttle valve and vacuum piston. If the disc throttle valve is opened farther than pressure differences permit the vacuum piston to rise, the vacuum piston temporarily assumes the function of a throttle.

HIGH SPEED SYSTEM

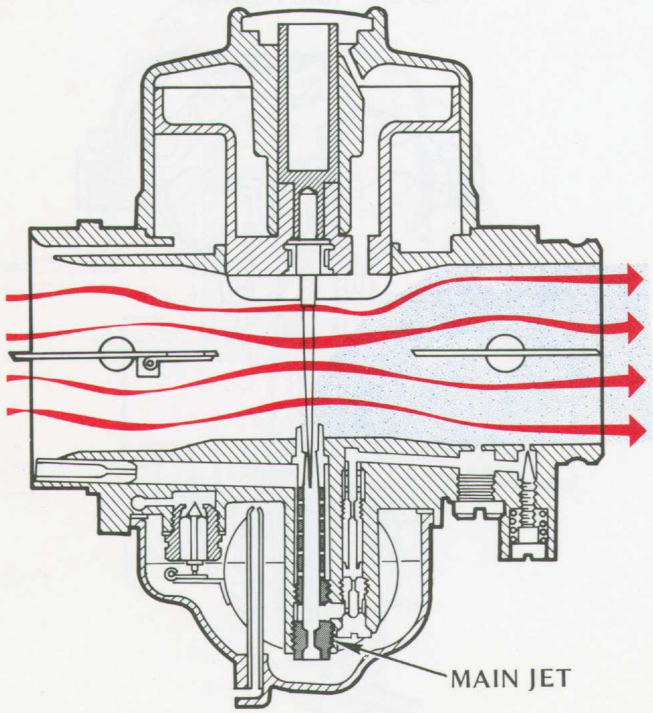

FIG. 39 High Speed System

When the throttle valve is fully open, and the vacuum piston (if so equipped) is fully raised, the carburetor functions as an elementary fixed venturi instrument. Compare the high speed system illustrated in Fig. 41 with the elementary carburetor illustrated in Fig. 2, page 4.

Fuel mixture is controlled by the size of the main jet. The fully raised jet needle does not appreciably restrict the flow of fuel at the jet needle. Fuel mixture adjustment is achieved by replacing the main jet(s) with jets of larger or smaller diameter.