

g. Air screw

The air screw regulates the amount of air mixing with the fuel in the slow speed system by controlling the amount of pilot air mixing with the fuel which had entered from the slow jet. In this way, the proper fuel air mixture is maintained. (Fig. 3-102)

Turning the air screw in will produce a rich fuel air mixture and backing off on the screw will result in a lean mixture.

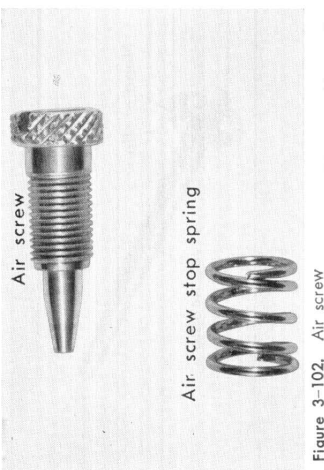


Figure 3-102. Air screw

6. ADJUSTING THE CARBURETOR

a. High speed adjustment

Whenever a higher speed can be obtained with the choke slightly closed, it is an indication that the carburetor is adjusted lean, therefore, the main jet should be progressively replaced with a jet of a larger size and retested to obtain the correct size. (Note)

The main jet number sizes below #100 are 98, 95, 92, 90, and the sizes above #100 are 110, 115 and increases at an interval of 5. (Fig. 3-103) If the speed drops when the choke valve is closed, it is an indication that the main jet is either of the correct size or too large. The determination is made by the following procedure.

○ The Correct Main Jet

After the main jet had been change to one of a smaller size, it is found that the speed decreases and upon closing the choke a small amount, the speed increases, it is an indication that the main jet which had been installed is too small in size. The main jet should be replaced again with the original main jet which can be assumed to be of the correct size.

○ Too Large a Main Jet

Replace the main jet progressively with one of a smaller size until the condition in the previous section occurs.

b. Adjusting the Intermediate Speed

The fuel mixture adjustment between the throttle opening $\frac{1}{8}$ to $\frac{3}{4}$ is accomplished mainly by selecting the steps on the needle jet and also by the cut-away on the throttle valve. However, it is not practical to adjust only the intermediate speed with the cut-away of the throttle valve since the cut-away effects the range of throttle between $\frac{1}{4}$ to $\frac{3}{8}$ opening. In the intermediate range, the jet needle should be in the lower position for good fuel economy provided that the acceleration is good:

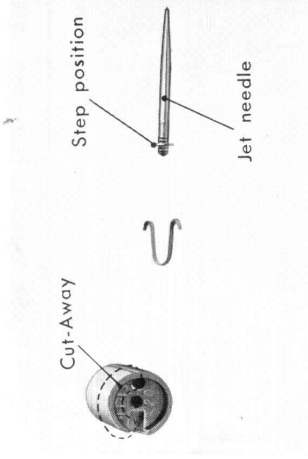


Figure 3-104. Jet needle and cut-away of the throttle valve

(1) Jet Needle

a. When excessive black exhaust smoke is evident during intermediate speed, it is an indication of too rich a fuel mixture and therefore, the jet needle should be lowered one step.

b. If during acceleration or at intermediate speed, the engine sputters, misses or does not respond, the jet needle should be raised one step.

(2) Throttle valve cut-away. (Fig. 3-104)

The larger the number stamped on the cut-away, leaner will be the fuel mixture. When making the adjustment of the throttle valve, the slow speed should also be considered together with the intermediate speed since the effective range of the throttle is very broad.

c. Adjusting the Slow Speed

The fuel mixture adjustment between idling and $\frac{1}{8}$ throttle opening is made by the air screw and the throttle valve cut-away.

(1) Air screw

The fuel mixture adjustment for idling is made by the air screw.

Turn to the right for a richer mixture. Turn to the left for a leaner mixture. The air screw not only affects the idling but also the slow speed, therefore, the fuel mixture should be adjusted with the throttle slightly opened to obtain a smooth operation.

(2) Throttle valve cut-away

There may be a case where the adjustment cannot be obtained by the air screw only, in the vicinity of $\frac{1}{8}$ throttle opening. In this case, if the fuel mixture is too rich, replace the cut-away with one of a larger number and if too lean, replace with one of a smaller number.

d. Adjusting the Idle (Fig. 3-105, 3-106)

The idling adjustment is performed by the throttle stop screw and the air screw in the following manner.

- (1) Adjust the idling speed to the standard 1200 RPM by the use of the throttle stop screw.
- (2) Next, turn the air screw slowly back and forth to the highest RPM.
- (3) Upon locating the point of highest RPM in (2) above, reset the engine speed to the standard RPM.
- (4) Rework the air screw to assure that it is set at the proper setting.
- (5) If any change exist, repeat (3) (4) above. The check should be made between $\frac{1}{8}$ to $1\frac{1}{2}$ turn of the air screw.



Figure 3-105. Idle adjustment

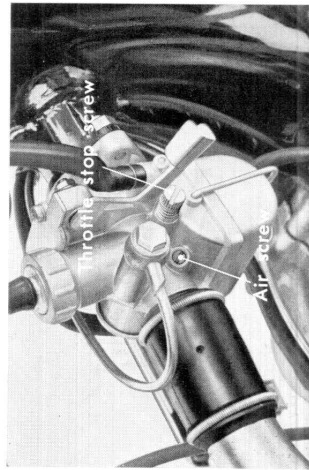


Figure 3-106. Idle adjustment (S50, S65)