well. As the load and throttle opening is increased, the fuel level in the metering well drops below a series of "A" air bleed holes in the discharge nozzle, admitting an increasing amount of air from the well air bleed. This metered addition of air to the discharge nozzle is necessary to compensate for the fact that the partial vacuum produced at the nozzle increases out of proportion with the increased velocity of air through the venturi. Were it not for this well-air-bleed compensation, the proportion of fuel to air would rapidly increase with the throttle opening, producing an extremely "rich" mixture at full throttle, full load operation.

A small additional amount of fuel is necessary to insure prompt response for engine acceleration. When the throttle is suddenly opened, the resulting rush of air through the venturi picks up this necessary extra fuel which remains above the main metering jet in the metering well during part throttle operation.

Starting System

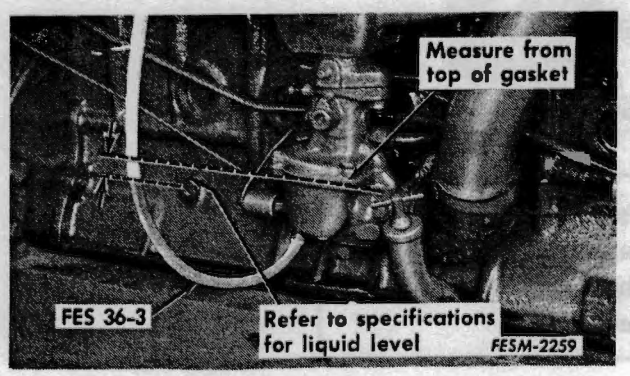
The starting system consists of a manually operated choke valve mounted in the carburetor main air intake. When the choke valve plate is turned to the closed position, it restricts the air entering the carburetor. It does not, however, restrict the main air vent passage. This upsets the balance of the carburetor, allowing the increased suction to draw strongly upon the fuel discharge openings when starting the engine.

When the outside air, manifold, and engine combustion chambers are cold, it is necessary to supply a very "rich" starting mixture. Only the "lighter-ends" or more volatile portions of the fuel can be vaporized because of the low temperature and the slow movement of air past the discharge nozzle due to low cranking speed. The necessary large quantity of fuel is supplied by closing the choke valve during the cranking period. As the engine gathers speed and warms up, the choke valve is manually opened to lean out the air-fuel ratio to a normal mixture.

An opening is provided in the bottom of the carburetor main air intake to drain off any excess unvaporized fuel which may return from the manifold. This opening is protected against the entry of dust and abrasives by a felt filler. Should this filler shrink and deteriorate from age, dirt may be drawn into the engine contributing to excessive engine wear. Should this opening be painted over or otherwise plugged, no drainage is possible and flooding with raw fuel can occur if the fuel float valve leaks.

LIQUID LEVEL CHECK
(Carburetor on Engine)

The liquid level in the carburetor can be checked with the carburetor on the engine using tool FES 36-3.



1. Close the fuel shut-off at the fuel tank.

2. Remove the drain plug at the bottom of the carburetor. Attach the tool FES 36-3 as shown.

3. Open the fuel shut-off. Fuel will flow into the tube and seek the same level as the liquid level in the carburetor.

4. Measure the distance between fuel level in the tube to the top of the fuel bowl gasket. This will be the liquid level in the carburetor. Refer to specification for specified liquid level.