

will not adhere to the inlet screen or walls or affect engine airflow or manifold pressure. This ice may enter the carburetor and gradually build up internally in the carburetor air metering passages and affect carburetor metering characteristics.

Float-Type Carburetors

A float-type carburetor consists essentially of six subsystems that control the quantity of fuel discharged in relation to the flow of air delivered to the engine cylinders. These systems work together to provide the engine with the correct fuel flow during all engine operating ranges.

The essential subsystems of a float-type carburetor are illustrated in *Figure 2-10*. These systems are:

1. Float chamber mechanism system
2. Main metering system
3. Idling system
4. Mixture control system
5. Accelerating system
6. Economizer system

Float Chamber Mechanism System

A float chamber is provided between the fuel supply and the main metering system of the carburetor. The float chamber, or bowl, serves as a reservoir for fuel in the carburetor.

[*Figure 2-11*] This chamber provides a nearly constant level of fuel to the main discharge nozzle which is usually about $\frac{1}{8}$ " below the holes in the main discharge nozzle. The fuel level must be maintained slightly below the discharge nozzle outlet holes to provide the correct amount of fuel flow and to prevent fuel leakage from the nozzle when the engine is not operating.

The level of fuel in the float chamber is kept nearly constant by means of a float-operated needle valve and a seat. The needle seat is usually made of bronze. The needle valve is constructed

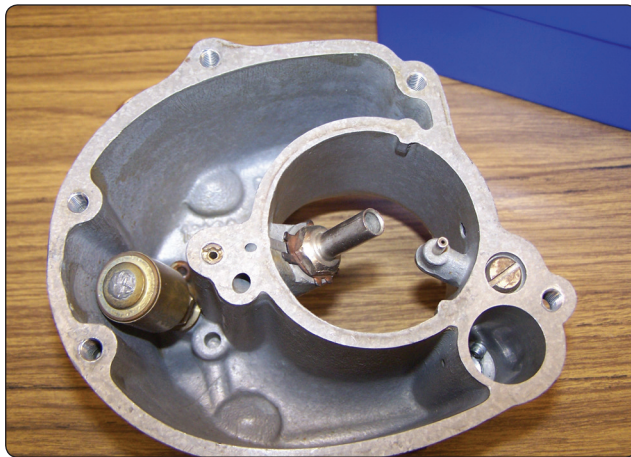


Figure 2-11. *Float chamber (bowl) with float removed.*

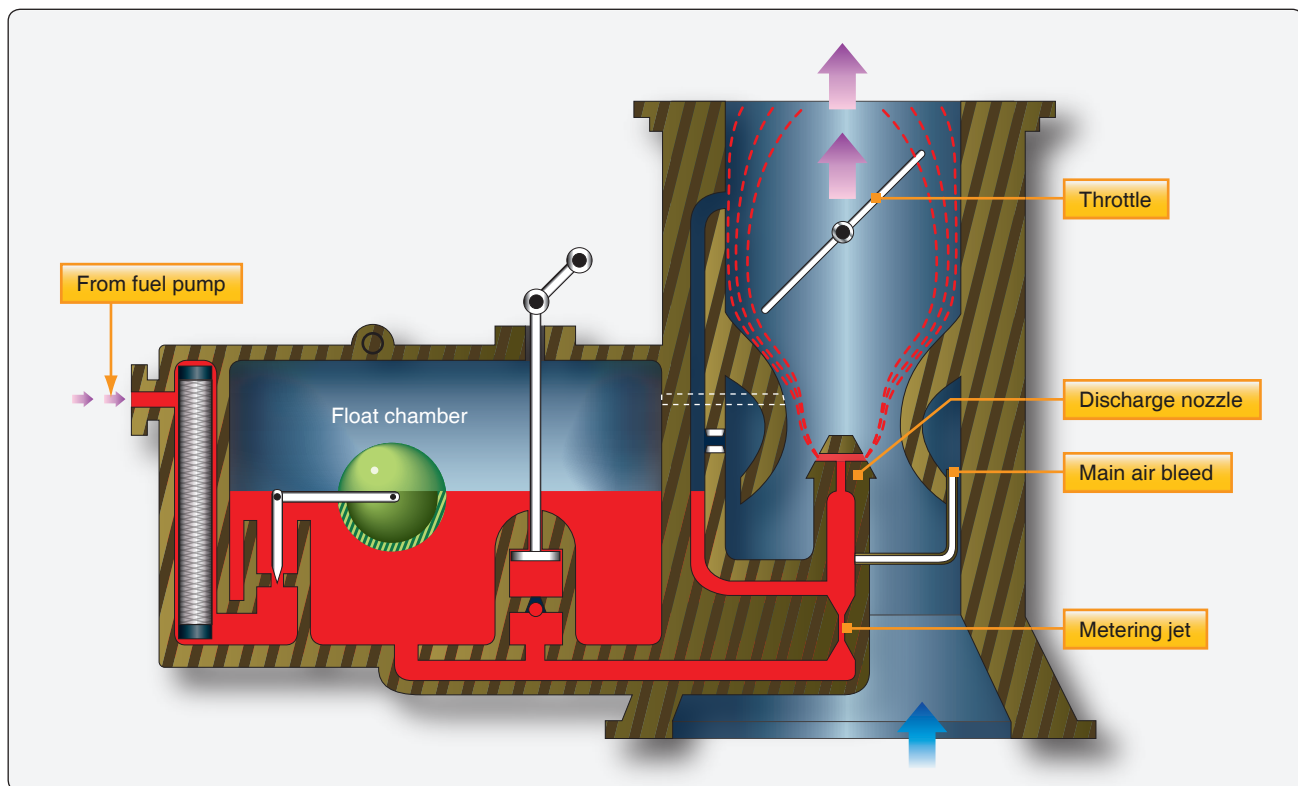


Figure 2-10. *A float-type carburetor.*