sion. Air flow needed to allow vacuum to operate the choke piston enters the choke housing through an opening at the side of the housing which is covered with a filter. The piston and housing are designed so that when the choke valve is in the wide open position, the choke piston blocks off the vacuum passage in the housing. This allows very little air flow through the inner housing when the choke is open. The constant movement of hot water through the outer chamber maintains necessary heat to the choke coil to keep it relaxed and the choke valve wide open. The filter covering the air inlet opening at the side of the choke housing does require periodic cleaning for proper operation.

MODEL 4G TRUCK
VACUUM CONTROLLED GOVERNOR

Operation (Fig. 14)(Fig. 15)

The purpose of the Model 4G truck governor carburetor is to prevent excessive engine speed under light loads by partially closing the throttle valves, but yet allow the throttle valves to be wide open when full power is required. The governor gives full advantage of engine horsepower without danger of excessive engine wear due to overspeeding.

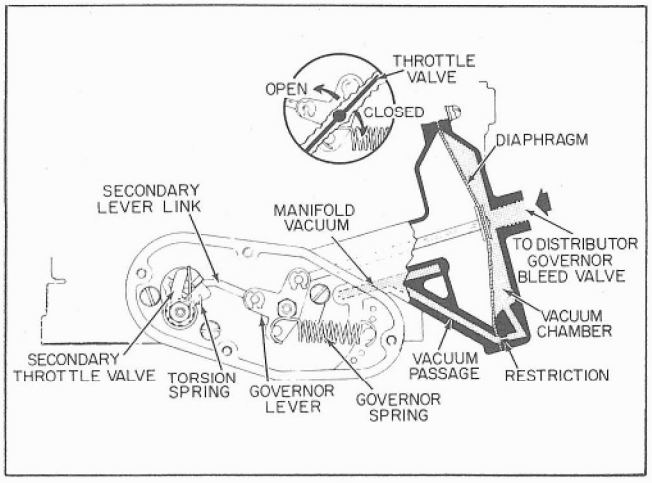

FIGURE 14

The governor consists of two basic units.

Fig. 14. A vacuum diaphragm and connecting linkage mounted on the carburetor throttle body.

Fig. 15. A centrifugal controlled vacuum bleed valve in the ignition distributor.

Both the above units are connected together by a vacuum line (Figs. 14 and 15). Fig. 14 — Vacuum applied to the vacuum diaphragm mounted in a housing on the carburetor throttle body closes the primary and secondary throttle valves through connecting linkage. A governor spring located in the governor housing opens the throttle valves and works against the vacuum diaphragm.

The throttle lever on the opposite end of the throttle shaft is not connected directly to the primary throttle shaft. When the accelerator pedal is depressed, the throttle lever moves and allows the primary throttle valves to open. This is accomplished by the governor spring which holds a tang on the opposite end of the throttle shaft against the throttle lever. Therefore, the primary throttles actually follow the rotation of the throttle lever by the governor spring tension rather than being directly forced open, as on the conventional carburetor.

The centrifugal bleed valve in the distributor (Fig. 15) is nothing more than a sliding valve which is normally held open by spring tension at low engine RPM. It closes at high engine RPM as centrifugal force of the counterweight on the end of the valve shaft moves the valve outward and covers a bleed hole.

In operation, manifold vacuum is supplied to the top side of the governor diaphragm through a passage in the housing which leads to manifold vacuum directly beneath the throttle valves. Calibrated restrictions are used in this passage to control the amount of vacuum applied to the diaphragm.

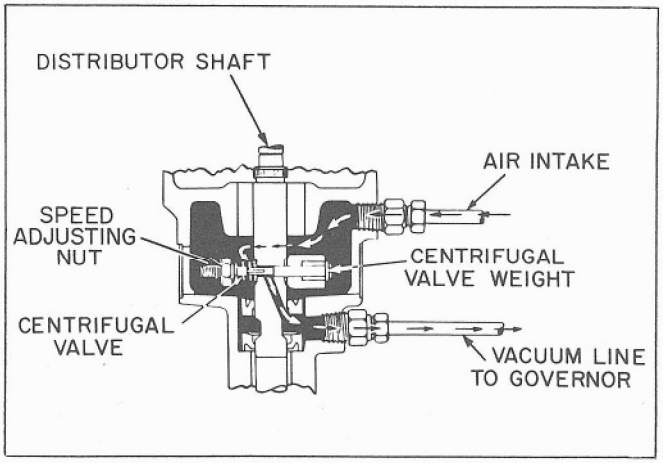

FIGURE 15

Figure 15 — At normal engine speeds the bleed valve in the distributor stays open and bleeds off the vacuum applied to the governor diaphragm, therefore, no governor action takes place. At higher engine speeds (approximately 3800 - 4000 engine RPM) where governing is needed, the centrifugal weight in the distributor closes the bleed valve and vacuum is applied directly to the governor diaphragm. The diaphragm pulls the throttle valves closed against the governor spring tension to a position where the engine will not exceed the governed engine speed.

When power is required, as engine load is increased the engine manifold vacuum will drop and allow the governor spring to open the throttle valve farther to increase engine speed.

The secondary throttle valves are operated by a link connecting the primary governor lever to a lever and collar assembly in the secondary throttle shaft. The lever and collar assembly rotates on the secondary throttle shaft and picks up the stationary lever fixed to the secondary throttle valve shaft. The secondary throttle valves do not begin to open until