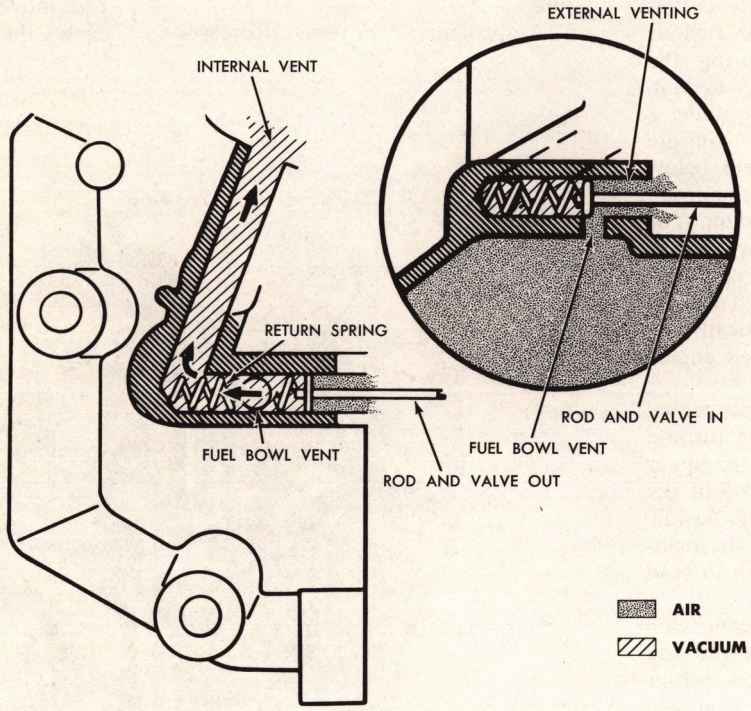


FIG. 7—Fuel Bowl Venting System (except in Econoline vehicles)

9 SPARK CONTROL VALVE SYSTEM

PASSENGER CARS

The degree of spark advance in the distributor is determined by the strength of the vacuum acting on the distributor diaphragm. Vacuum to the distributor diaphragm is a combination of venturi vacuum and manifold vacuum.

Venturi vacuum is available to the distributor through the pickup tube in the carburetor main venturi (Fig. 8). Manifold vacuum enters a hole above the throttle plate and is channeled to the spark valve. In normal operation, manifold vacuum—working against a calibrated spring in the spark valve—holds the spark valve open. With the spark valve open, manifold vacuum aids the venturi vacuum for distributor advance.

When accelerating, manifold vacuum momentarily drops below a predetermined point, and the calibrated spring closes the spark valve, shutting off manifold vacuum to the distributor, to retard the spark timing. Venturi vacuum prevents full spark retard. The spark valve opens as manifold vacuum increases, and the distributor advance is increased for more efficient engine operation.

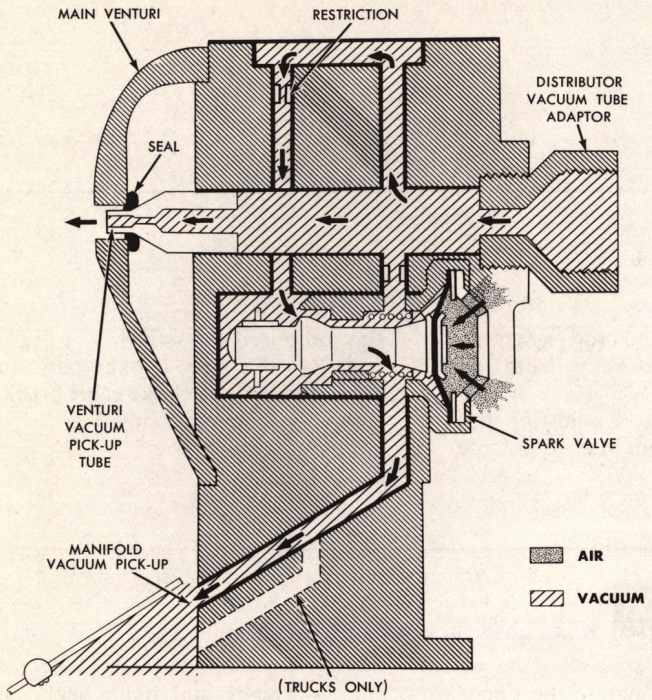
TRUCKS

On Econoline, 262 engines, and 223 parcel delivery trucks an additional passage (Fig. 8) exists that is always open to intake manifold vacuum. The purpose of this passage is to provide additional distributor spark advance during deceleration to prevent after-fire in the exhaust system.

TAXI CABS AND OTHER ECONOMY CARBURETOR EQUIPPED VEHICLES

The distributor spark advance vacuum system on these vehicles consists of parallel connected passages (Fig. 9). Vacuum is available to the distributor from either the carburetor venturi or the intake manifold. The vacuum source to be used is dependent upon throttle position and engine speed.

FIG. 8—Spark Control Valve System (passenger cars and trucks)



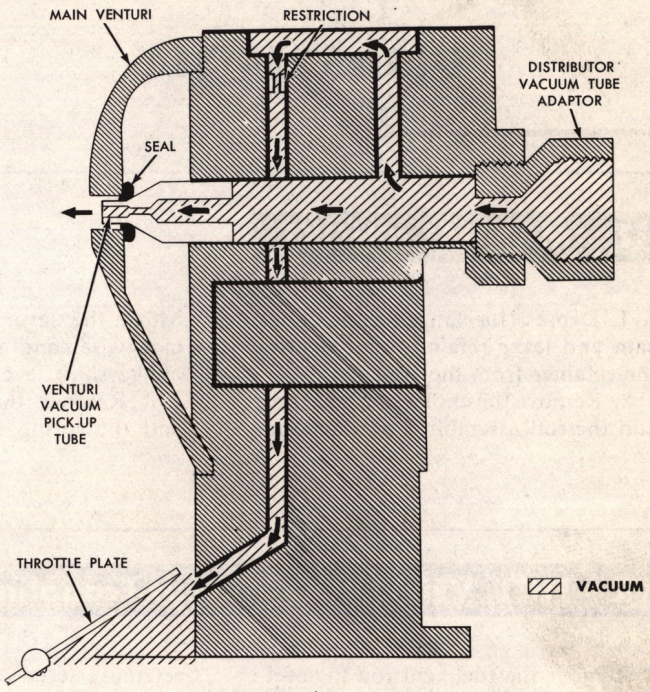


FIG. 9—Spark Control Valve System (taxicabs and other economy carburetor equipped vehicles)

10 DASHPOT SYSTEM (automatic transmissions)

The low idle rpm setting on automatic transmission equipped units requires a means of control to prevent engine stall upon sudden closing of the throttle plate. This is accomplished by hydraulic dampening of the throttle closing rate.

The dashpot (Fig. 10) located on the side of the fuel bowl, is actuated by linkage connected to the throttle shaft. When the throttle is opened, a return spring forces the diaphragm back, drawing fuel through the inlet channel. The inlet ball check opens, allowing fuel to flow into the chamber.

When the throttle plate is closed, the dashpot actuating lever and adjusting screw moves the diaphragm inward. The inward movement of the diaphragm seats the inlet ball check, closes the inlet channel, and forces fuel through a restriction into the fuel bowl. The discharge restriction limits the flow of fuel and slows the closing of the throttle plate.

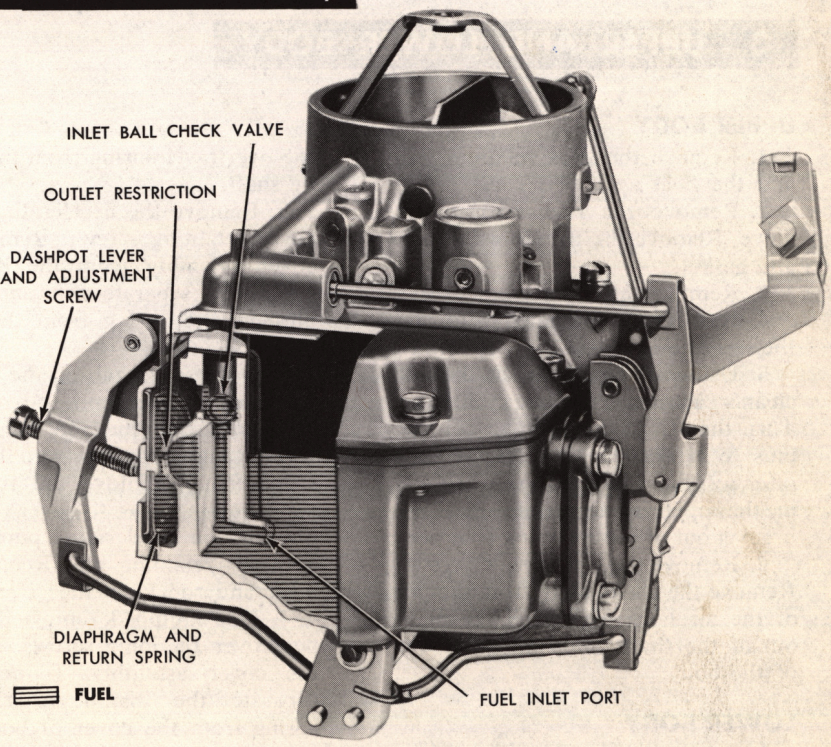


FIG. 10—Anti-Stall Dashpot System

PART 2 DISASSEMBLY

1 MANUAL CHOKE

1. Depress the tangs on the choke cam and lever retainer, and remove the retainer from the stud.
2. Remove the choke cam and lever and the rod assembly from the stud. Move the lever and rod assembly clockwise, and remove it from the choke shaft lever.
3. Remove the rod adjusting nut and the spring from the rod. Slide the rod out of the swivel.
4. Remove the choke cam and lever stud and the choke cable bracket assembly from the body.

2 FUEL VENT ROD (except Econoline)

Remove the fuel vent rod to accelerating pump actuating lever retainer. Remove the vent rod bushing, rod, and return spring.

Remove the upper to lower body retaining screws. Separate the upper body assembly, gasket, and lower body assembly.

Invert the lower body assembly, allowing the accelerating pump discharge weight and ball check, the accelerating pump inlet ball check, and the dashpot ball check to fall into hand.

3 UPPER AND LOWER BODY

UPPER BODY

1. Remove the float retaining pin and the float assembly.
2. Remove the fuel inlet needle valve. Remove the needle valve seat and gasket.
3. Remove the main jet.
4. Remove the fuel inlet fitting and the screen assembly.
5. Using pliers, remove the air cleaner bracket retaining roll pins. Turn them in a direction to coil the pins to a smaller diameter. If they offer resistance to turning, turn them in the opposite direction. Pull the bracket out of the retaining channels.
6. Remove the choke plate screws. Remove the choke plate from the top of the air horn by sliding the plate out of the shaft. Slide the shaft out of the body.

LOWER BODY

1. Remove the accelerating pump lever to throttle shaft retaining clip and washer. Remove the lever and the overtravel spring from the throttle shaft.
2. Remove the accelerating pump cover retaining screws. Remove the cover assembly from the body. If necessary, separate the pump diaphragm and spring from the cover or body.
3. Depress the tab on the accelerating pump lever and rod retaining clip, and slide the rod out of the lever. Remove the clip from the lever. If necessary, remove the fuel vent rod actuating lever to cover retaining pin and the accelerating pump lever to cover retaining pin. Remove the lever and rod from the cover.
4. If so equipped, remove the dashpot cover retaining screws. Remove the cover assembly. If necessary, separate the diaphragm and the spring from the cover or body. Depress the tap on the dashpot lever and rod retaining clip, and slide the rod out of the lever. Remove the clip from the lever. If necessary, remove the lever to cover retaining pin, and remove the lever from the cover.
5. Remove the vacuum outlet adaptor.
6. Remove the spark valve and gasket, if so equipped.
7. Remove the idle mixture adjusting screw.
8. If it is necessary to remove the throttle plate and shaft, lightly scribe the throttle plate along the throttle shaft so that it may be installed in exactly the same position.
9. Remove the throttle plate retaining screws, and slide the plate out of the shaft. The retaining screws are staked to the throttle shaft. Filing off the staked portion of the screw will facilitate its removal.
10. Remove the overtravel spring tension pin from the throttle shaft, and slide the shaft out of the body.

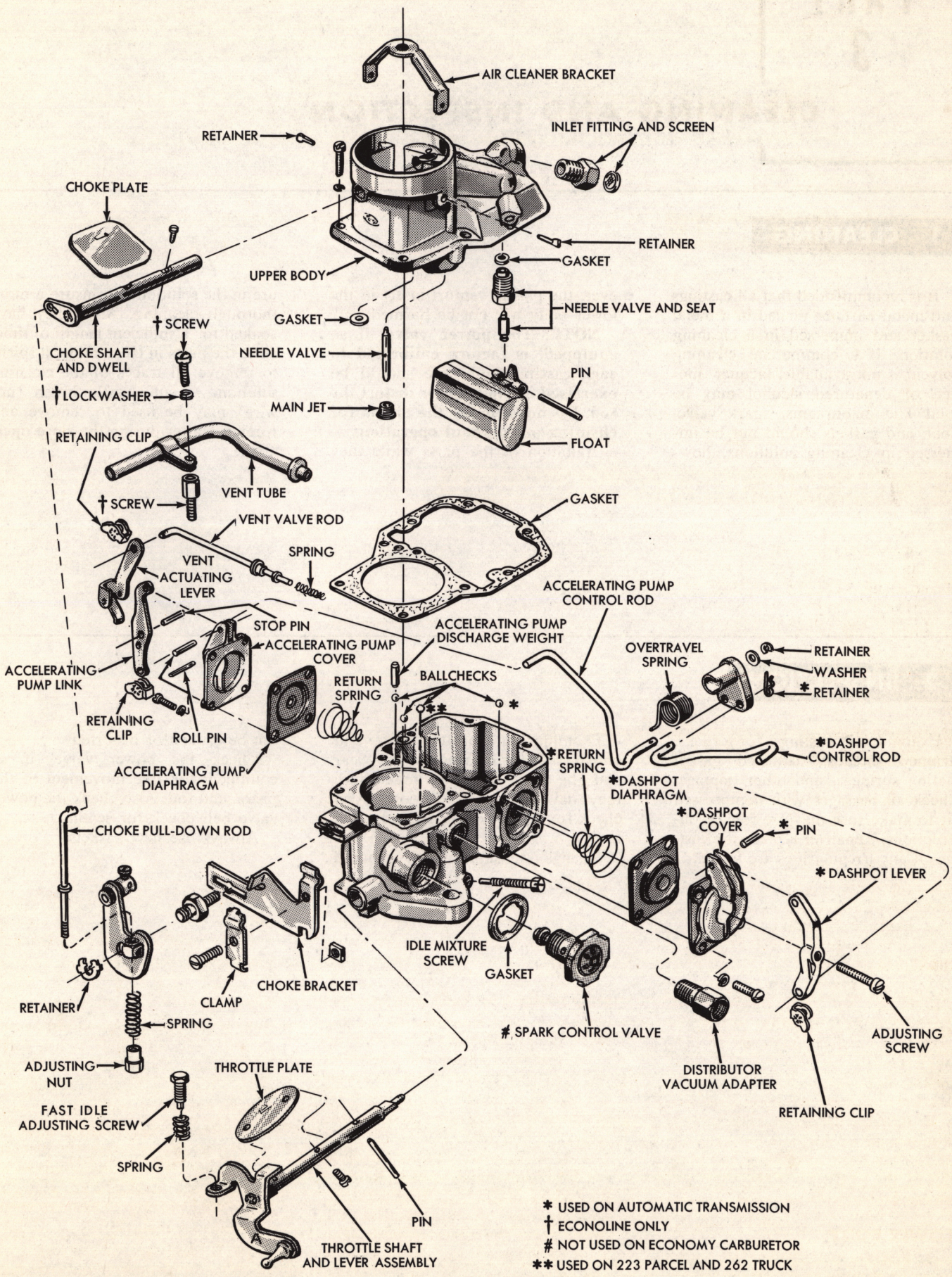


FIG. 11—Ford Single Barrel Carburetor—Disassembled

PART 3

CLEANING AND INSPECTION

1 CLEANING

It is recommended that all castings and metal parts be placed in a metal basket and immersed in a cleaning solution. If a commercial cleaning solvent is not available, lacquer thinner, or denatured alcohol may be used The diaphragms, spark valve, float, and gaskets should not be immersed in cleaning solutions; however, the plastic venturi insert in the lower body will not be harmed.

NOTE: The power valve, if so equipped, is factory calibrated to each casting, and care should be exercised not to bend or distort the rod. Do not remove the shims for cleaning or overhaul operations.

Agitation of the parts while they are in the solution will insure a more thorough cleaning. After they have soaked for a sufficient length of time, rinse the parts in clean mineral spirits to remove all traces of the cleaning solution. A stiff bristle brush (not wire) may be used to remove any foreign matter during the rinse operation.

2 INSPECTION

Examine all castings for cracks, stripped threads, damaged gasket mating surfaces, and other damage. Check all passages with compressed air to make sure they are free of obstructions. Repair or replace the castings if any irregularities are found.

Examine the throttle shaft and choke shaft for bearing surface wear and the shaft levers to make sure they have not worked loose. Also check for bent or distorted shafts and levers.

Springs – tension, or coil – should not be broken or distorted.

Check the power valve, if so equipped, for free movement of the piston and rod. Also check the power valve ball check for seating.

Always use new gaskets.

PART 4 ASSEMBLY

1 UPPER BODY

1. Insert the choke shaft assembly into the air horn with the lever side opposite the fuel bowl and the lever pointing away from the spark valve. Insert the choke plate into the slot in the shaft dimple above the shaft. Line up the holes in the shaft and plate, and install the choke plate retaining screws finger tight. Check for the proper plate fit in the air horn and free rotation of the shaft. Tighten and stake the screws.

When staking the screws, support the shaft and plate on a small block of wood or mandrel to prevent bending the shaft.

2. Install the fuel inlet adaptor and screen assembly into the fuel inlet.

3. Install the main jet in the main fuel well.

4. Install the needle valve seat gasket and the seat into the tapped seat hole.

Tighten the needle valve seat firmly. Insert the needle valve into the needle valve seat with the viton tip toward the seat.

5. Position the float assembly with the tab on the arm over the needle valve and the hinge of the arm lining up between the hinge bracket holes in the upper body casting. Insert the float hinge pin through the holes in the upper body and float assembly.

6. Check the float setting. (Refer to Adjustments Section). If necessary, bend the tab on the float arm to bring the float setting within limits to provide the proper fuel level. *DO NOT APPLY PRESSURE ON THE FUEL INLET NEEDLE.* The viton tip of the fuel inlet needle may be damaged through undue pressure exerted on it, which may cause improper fuel levels within the bowl.

7. Insert the air cleaner bracket in the channels of the air horn, and install the bracket retaining pins.

2 LOWER BODY

1. If the throttle plate and shaft were removed, slide the throttle shaft into the lower body. The lever on the throttle shaft is opposite the fuel bowl. Referring to the line scribed on the throttle plate, insert the plate through the slot in the throttle shaft with the dimple below the shaft. Install the throttle plate retaining screws snug, but not tight. Rotate the throttle shaft, lightly slapping the throttle plate in the throttle bore, and check for free rotation of the throttle shaft. Hold the main body up to the light. Little or no light should show between the throttle plate and throttle bore. Hold the throttle plate closed, and tighten and stake the retaining screws.

When staking the screws, support the shaft and plate on a small block of wood or mandrel to prevent bending the shaft.

2. Install the distributor vacuum outlet fitting.

3. If the lever and rod were removed from the accelerating pump cover, position the top hole of the lever between the top bracket holes in the cover, and install the retaining roll pin. Position the vent rod lever over the cover bracket, lining up the hole in the lever with the holes in the bracket, and install the retaining roll pin. Install the roll pin in the proper lever stop hole ("HI"-"LO"), "HI" for warmer weather, or "LO" for colder weather operation. Position the small diameter end of the diaphragm return spring into the boss in the accelerating pump chamber. Position the diaphragm assembly into the accelerating pump cover, lining up the holes. Position the cover and diaphragm over the return spring and onto the body. Install the cover retaining screws finger tight. Push the diaphragm assembly inward, and tighten the screws.

4. Position the accelerating pump actuating rod retaining clip over the hole in the accelerating lever, with the tab side of the clip toward the carburetor barrel. Depress the tab, and insert the shorter end of the rod through the lever and clip. Release the tab when the rod is inserted.

If the carburetor is equipped with a dashpot, proceed with steps 5 and 6.

5. If the lever was removed from the dashpot cover, position the hole in the lever between the holes in the bracket on the cover. Install the lever retaining roll pin. Install the adjusting screw in the lever if necessary. Position the small diameter of the diaphragm return spring into the boss in the dashpot chamber. Position the diaphragm into the dashpot cover,