

Model 2150 2-V Carburetor

**PART
24-25**

2.8L, 5.0L (302 CID) Except California, 5.8L/6.6L (351W, 351M CID, 400 CID)

SUBJECT	PAGE	SUBJECT	PAGE
DESCRIPTION	25-1	REMOVAL AND INSTALLATION (Cont'd.)	
DIAGNOSIS AND TESTING	25-5	Air Horn to Main Body Gasket	25-8
ADJUSTMENTS		Carburetor Assembly	25-7
Accelerator Pump Stroke Adjustment	25-5	Choke Pulldown Diaphragm Assembly	25-9
Choke Plate Pulldown and Fast Idle		Float, Needle Valve and Seat, Inlet	
Cam Clearance	25-5	Screen or Main Jets	25-8
Fuel Level (Float) Adjustment – Dry	25-7	MAJOR REPAIR OPERATIONS	
Fuel Level (Float) Adjustment – Wet	25-7	Disassembly	25-9
REMOVAL AND INSTALLATION		Assembly	25-11
Accelerator Pump Diaphragm and/or			
Elastomer Valve	25-8		

CV1275-2B

DESCRIPTION

GENERAL

The Motorcraft Model 2150 2-V carburetor (Figs. 1, 2 and 3) has two main assemblies; the air horn and the main body.

Some carburetors are equipped with altitude compensation, designed to provide improved high

altitude emission control and driveability (Figs. 1 and 2).

To provide improved high altitude cold engine starts, those carburetors equipped with altitude compensation are also equipped with a choke in the bypass air intake, linked to the main choke plate.

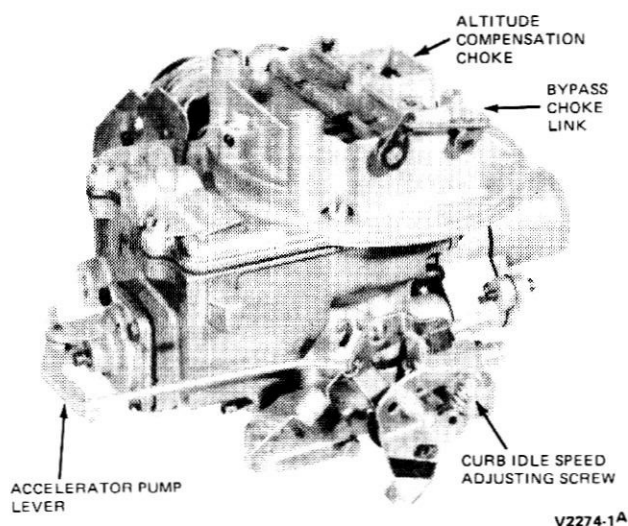


FIG. 1 Model 2150 2-V Carburetor—Left Front 3/4 View (With Altitude Compensation)

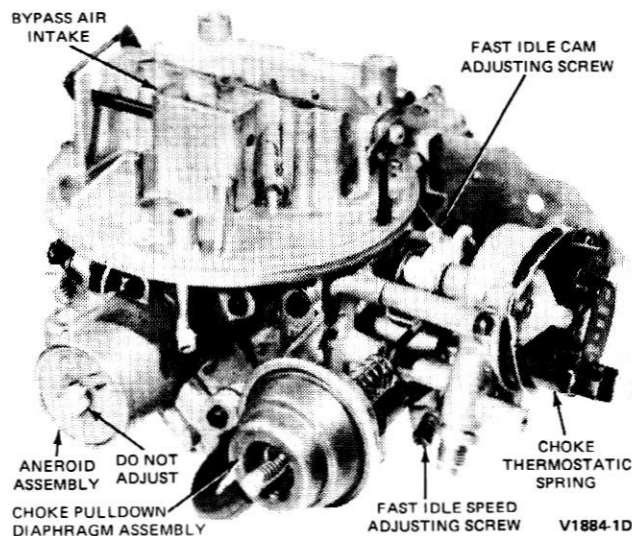


FIG. 2 Model 2150 Carburetor—Right Rear 3/4 View (With Altitude Compensation)

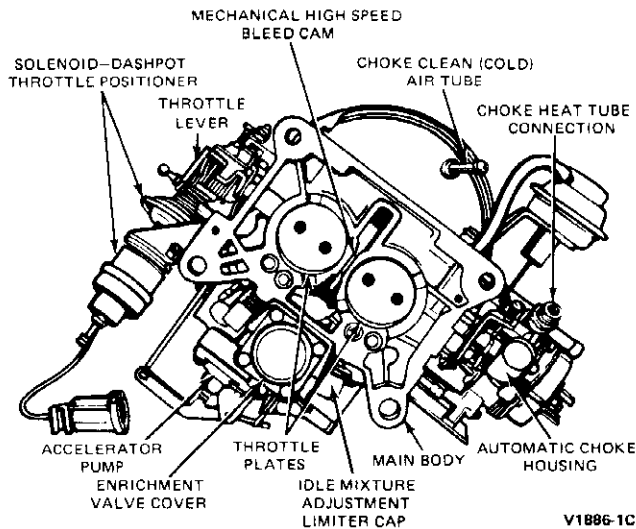


FIG. 3 Model 2150 2-V Carburetor—Bottom View (w/o Altitude Compensation)

The air horn assembly, which serves as the main body cover, contains the choke plate and the fuel bowl vent valve.

It also contains the pullover enrichment system, which provides additional fuel flow at high air flow through the air horn (Fig. 1).

Fuel is drawn through metered orifices from the fuel bowl into the air flow stream through bleeds in the air horn.

The throttle plate, the accelerator pump assembly, the enrichment valve assembly, the fuel bowl and the mechanical high speed bleed cam are in the main body. The automatic choke housing and choke pulldown diaphragm are attached to the main body.

Each bore contains a main and booster venturi, main fuel discharge, accelerator pump discharge, idle fuel discharge and throttle plate.

The booster venturi contains high speed bleed orifices, along with a mechanical variable high speed bleed control system. This system consists of a mechanical lift rod that actuates reverse-tapered "ballbat" metering rods in the high speed bleed orifices. This allows control of fuel/air mixture to the booster venturis for more precise high speed operation and improved low-speed response.

The Model 2150 2-V also uses the electric assist automatic choke system. This system consists of a choke cap, thermostatic spring, bimetallic temperature sensing disc (switch), and a ceramic heater powered from the stator tap of the alternator (Fig. 4).

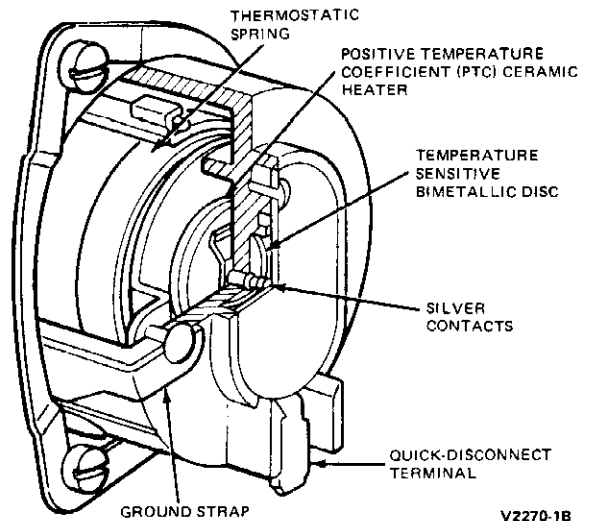


FIG. 4 Electric Assist Choke—Typical

Voltage is supplied to the temperature sensing switch when the engine is running. The system is grounded through a strip connected to the carburetor body. At temperatures above approximately 80°-110°F., the temperature sensing switch closes, and current is supplied to the heater, causing the thermostatic spring to pull the choke plate open at an increased rate.

Testing and adjustment of electric assist choke is covered in Part 29-02 of this Manual.

FUEL INLET SYSTEM

The amount of fuel entering the fuel bowl (Fig. 5) is regulated by the distance the fuel inlet needle is raised off its seat and by fuel pump pressure. Movement of the fuel inlet needle in relation to the seat is controlled by the float and lever assembly which rises and falls with the fuel level. When the fuel in the fuel bowl reaches a pre-set level, the float lowers the fuel inlet needle to a position where it restricts the flow of fuel, admitting only enough fuel to replace that being used. A retaining clip is attached to the fuel inlet needle assembly. The clip hooks over the tab on the end of the lever of the float assembly. This clip assures reaction of the fuel inlet needle to any downward movement of the float. Downward movement of the float (or float drop) is controlled by adjustment of the tab end of the float lever. A wire-type retainer prevents movement of float shaft within the guides on each side of the fuel bowl. The retainer fits into a groove on the outside of the fuel inlet needle seat. The ends of the retainer are hooked over grooves on opposite ends of the float shaft. The fuel bowl is internally vented to the air cleaner and externally vented to the carbon canister.

IDLE SYSTEM

The difference in pressure between the fuel bowl and the curb idle discharge ports forces fuel through the idle system. Fuel flows from the fuel bowl through the main jets and into the main wells as shown in Fig. 6. From the main wells the fuel flows up the idle tubes through short diagonal passages in the booster venturi assembly into the idle down channels in the main body.

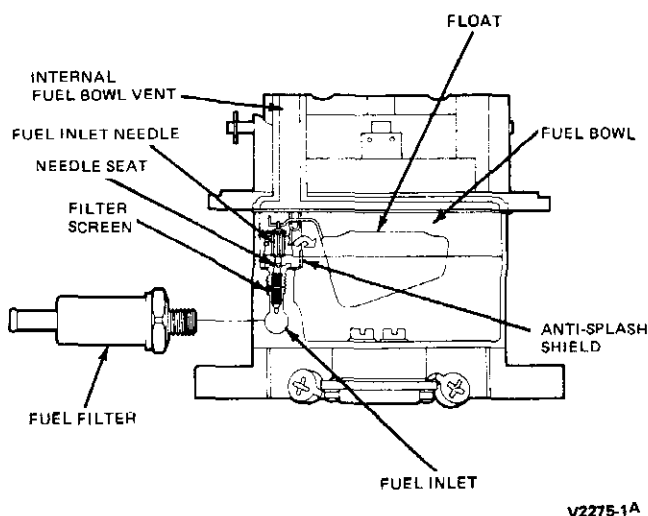


FIG. 5 Fuel Inlet System

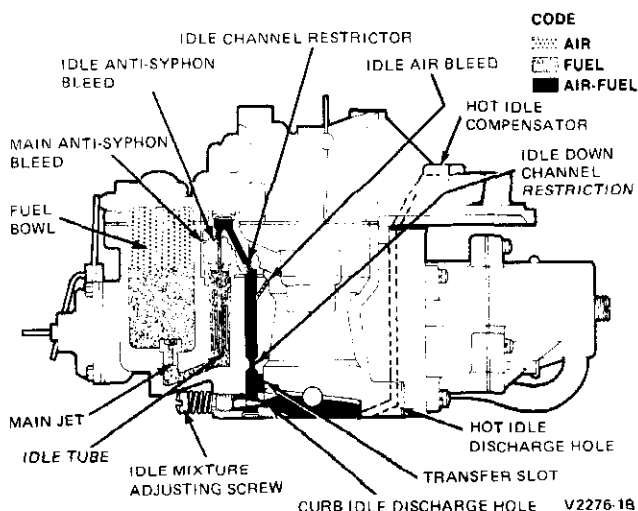


FIG. 6 Idle System

Calibrated restrictions at the lower end of the idle tubes meter the flow of fuel. Air first enters the idle system through idle anti-syphon bleeds at the upper end of the idle tubes. These air bleeds also act to prevent syphoning when the engine is stopped. Additional air enters the system through the idle air bleeds located in the main body adjacent to the booster venturi. The fuel air mixture continues through the idle down channels past the idle down channel restrictors. At curb idle additional air from the idle transfer slots mixes with the fuel just before it enters the engine through the curb idle discharge ports below the throttle plate. The amount of this mixture that enters the engine is controlled by the tapered idle mixture adjusting screws which protrude into the curb idle discharge ports and vary the effective metering area of the ports.

During off-idle when the throttle plates are moved slightly past the idle transfer slots the slots begin discharging fuel as they are exposed to manifold vacuum. These transfer slots allow a smooth transition from the idle to the main fuel metering system. As the

throttle plates are opened still wider, and the engine speed increases, the air flow through the carburetor also increases. This creates a vacuum in the booster venturi strong enough to bring the main fuel system into operation. Fuel flow from the idle system tapers off as the main fuel system begins discharging fuel.

On some model carburetors, a Hot Idle Compensator (HIC) is mounted in the air horn (Fig. 6). A bi-metal strip opens a valve to admit air below the throttle plates, to improve hot engine idle.

ACCELERATOR PUMP SYSTEM

Upon acceleration, the air flow through the carburetor responds almost immediately to the increased throttle opening. There is, however, a brief interval before the flowing fuel, which is heavier than air, can gain the required flow speed to maintain the desired balance of air and fuel.

During this interval, the accelerator system, shown in Fig. 7, supplies fuel until the other systems can once again provide the proper mixture. When the throttle is closed, the diaphragm return spring forces the diaphragm toward the cover, drawing fuel into the chamber through the inlet. The inlet has an Elastomer valve which uncovers the inlet hole to admit fuel from the fuel bowl. The valve covers the inlet hole when the accelerator pump is operated to prevent the fuel from returning to the bowl. A discharge weight and ball check prevents air from entering from the discharge nozzle when fuel is drawn into the diaphragm chamber. When the throttle is opened, the diaphragm rod is moved inward, forcing fuel from the chamber into the discharge passage. Fuel, under pressure, forces the pump discharge weight and ball off their seat, and fuel passes through the accelerator pump discharge screw and is sprayed into each main venturi through discharge ports. An air bleed in the wall of the accelerator pump fuel chamber prevents vapor entrapment and pressure build-up in the diaphragm chamber. When the pump is activated this bleed hole also allows a calibrated amount of fuel to return to the fuel bowl. The pump bleed size is a factor in determining total pump discharge capacity.

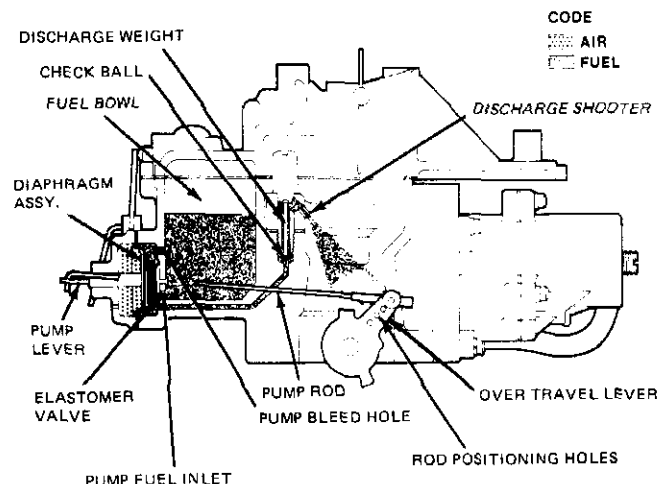


FIG. 7 Accelerator Pump System

HIGH SPEED BLEED SYSTEM

The mechanical high-speed bleed system provides close control over fuel mixture by providing a direct link between air-fuel ratio and throttle plate position. When the throttle plate is closed, the cam does not contact the lift rod. When the throttle starts to open the cam engages the lift rod which raises the metering rods in the high-speed bleed orifices. Raising the metering rods decreases air flow through the high-speed bleed orifices. This causes a richer mixture. The lift rod is factory adjusted and may not be field adjusted.

MAIN SYSTEM

As engine speed or load increases, the air passing through the booster venturi creates an increase in vacuum. This vacuum or difference in pressure between the main discharge ports in the booster venturi and the fuel bowl causes fuel to flow. Fuel travels up the main well tubes and is mixed with air from the anti-syphon and high speed bleeds which enters the fuel stream through holes in the main well tubes. The high speed bleeds meter a decreasing amount of air as the throttle plate opening and air flow through the carburetor increases maintaining the required air fuel ratio. The anti-syphon bleeds also act as vents to prevent syphoning when the engine is shut down. The mixture of fuel and air is desirable because it is lighter than raw fuel and responds to faster changes in venturi vacuum. It also atomizes more readily than raw fuel. The air fuel mixture is discharged through the main discharge nozzles in the booster venturi where it is mixed with the air flowing through the carburetor. The throttle plates control the amount of the air fuel mixture admitted to the intake manifold regulating the speed and power output of the engine.

HIGH SPEED PULLOVER SYSTEM

The high speed pullover system (Fig. 10) consists of an air bleed located in a raised boss in the front of the air horn, a connecting discharge nozzle for each venturi, and a tube with a calibrated orifice at the lower end. The tube extends from the air horn into the fuel bowl. At high speeds the air flow through the carburetor creates a vacuum at the discharge nozzles causing fuel to be pulled up the tube. The fuel is mixed with air from the air bleed and discharged into the air stream as it enters the carburetor to provide additional fuel for high speed operation.

ENRICHMENT SYSTEM

During periods of increased road loads or high speed operation, the air-fuel ratio must be increased for added power. The added fuel required during this period is supplied by the enrichment system shown in Fig. 11. The enrichment system is controlled by the intake manifold vacuum. Manifold vacuum is transmitted from an opening in the base of the main body, through a passage in the main body and enrichment valve chamber, to the enrichment valve diaphragm. The manifold vacuum, acting on the enrichment valve at idle speed or normal road load conditions, is great enough to hold the enrichment valve diaphragm down, overcoming the tension of the spring on the valve stem, and holding the valve closed. When high power

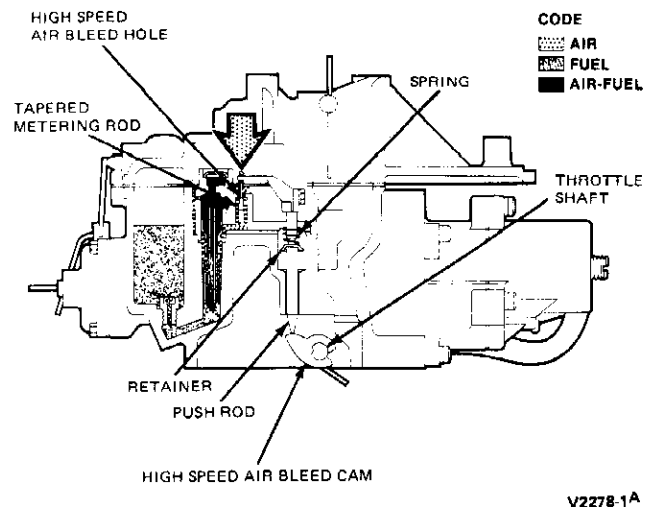


FIG. 8 High Speed Bleed System

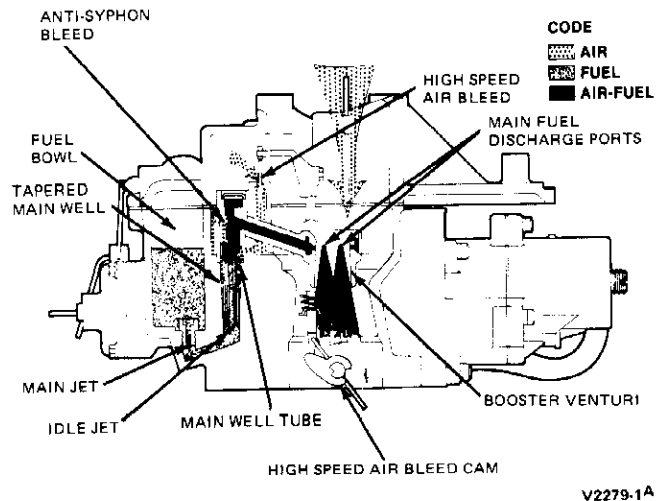


FIG. 9 Main Fuel System

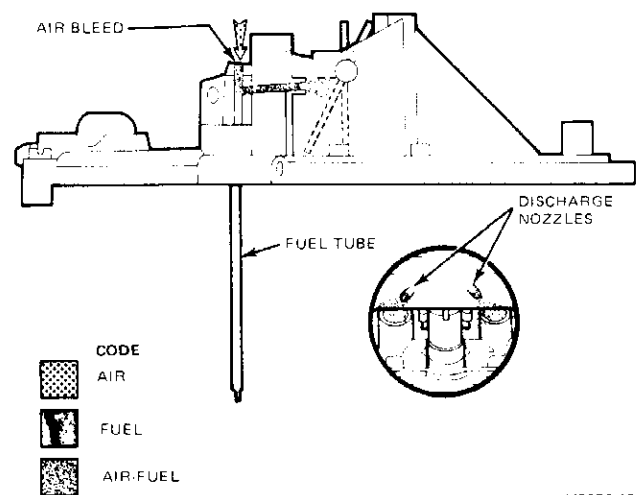


FIG. 10 High Speed Pullover System

operation places a greater load on the engine, and manifold vacuum drops below a predetermined value, the spring opens the enrichment valve. Fuel from the fuel bowl flows through the enrichment valve and into passages leading to the main fuel well. Here the additional fuel is added to the fuel from the main fuel system, enriching the mixture. As engine power demands are reduced, manifold vacuum increases. The increased vacuum overcomes the tension of the valve stem spring and closes the enrichment valve.

ALTITUDE COMPENSATOR

The model 2150-2V carburetor altitude compensator device, as shown in Fig. 12, provides automatic main

system compensation. The main system compensation discharges venturi bypass air into the throttle bores above the throttle plates, leaning out the mixture as required by altitude conditions. Air flow is controlled by a valve activated by an aneroid attached to the rear of the carburetor main body.

To provide improved high-altitude cold engine starts, the bypass intake is equipped with a choke plate linked to the choke system.

NOTE: The altitude compensator is factory set and should not be adjusted.

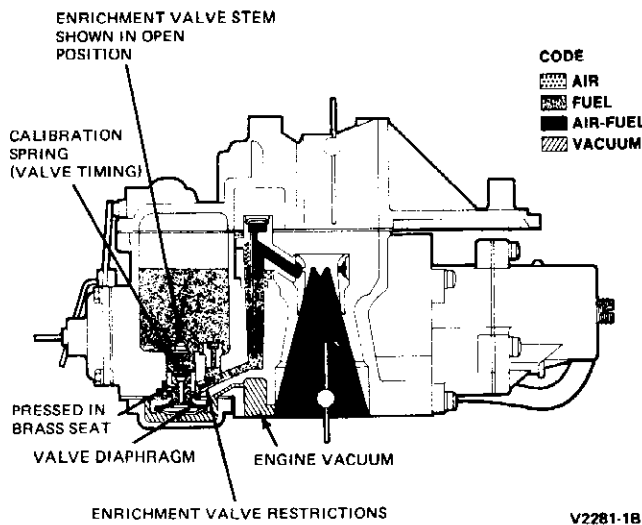


FIG. 11 Enrichment System

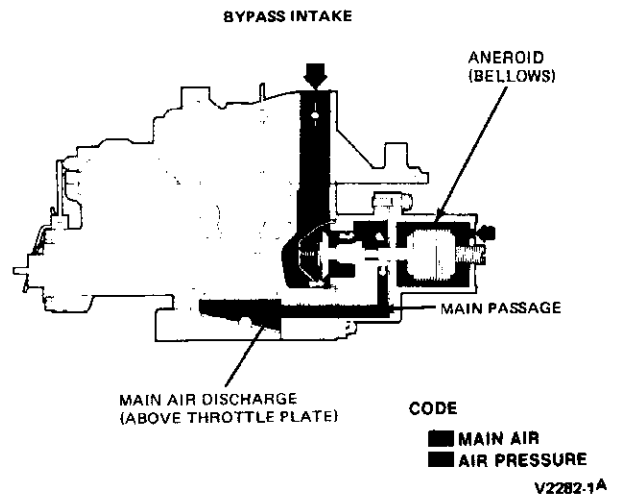


FIG. 12 Altitude Compensator

DIAGNOSIS AND TESTING

Refer to the Engine Diagnosis in Part 29-02 of this Volume for all diagnosis and testing.

ADJUSTMENTS

Most carburetor adjustments are set at assembly, based on guidelines established for reduced engine emission and acceptable driveability.

For adjustment procedures for:

Automatic Choke

Idle Speeds

Idle Fuel Mixture

Idle CO

you must refer to Group 29 or 50. Adjustment points for these items are shown in Figs. 13 through 16.

ACCELERATOR PUMP STROKE ADJUSTMENT

The accelerator pump stroke has been factory set for a particular engine application and should not be readjusted.

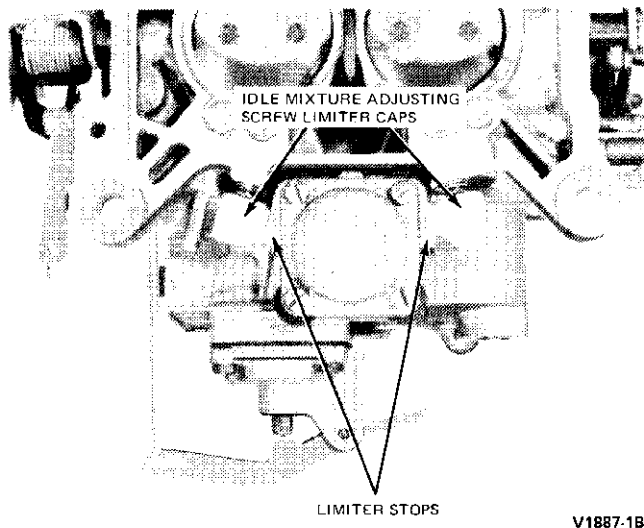
If the stroke has been changed from the specified hole, reset to specification by following these procedures (Fig. 16):

1. To release the rod from the retaining clip, lift upward on the portion of the clip that snaps over the shaft and then disengage the rod.
2. Position the clip over the specified hole in the overtravel lever and insert the operating rod through the clip and the overtravel lever. Snap the end of the clip over the rod to secure.

CHOKE PLATE PULLDOWN AND FAST IDLE CAM CLEARANCE

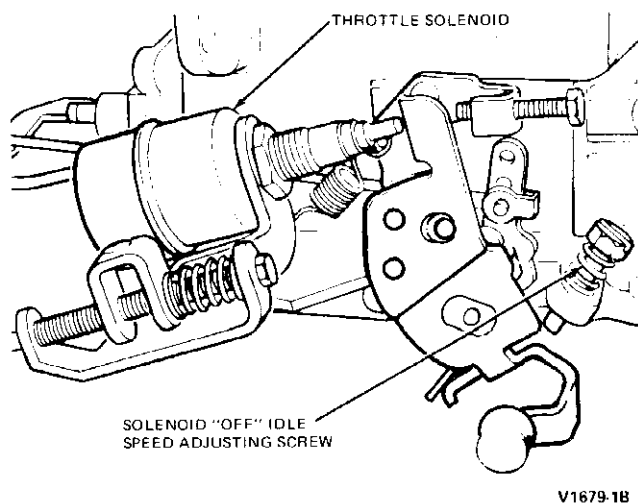
See Part 29-02 for this adjustment.

NOTE: To adjust fast idle cam clearance or other choke functions, refer to Part 50-29 or 29-02 of this Manual.



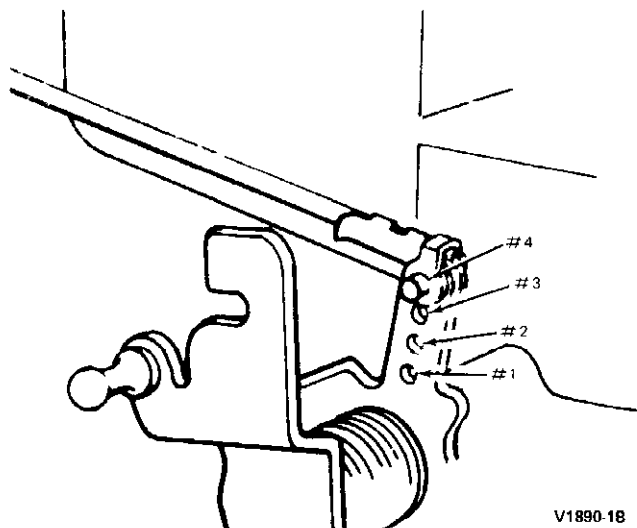
V1887-1B

FIG. 13 Idle Fuel Mixture Adjusting Screw Limiters and Stops



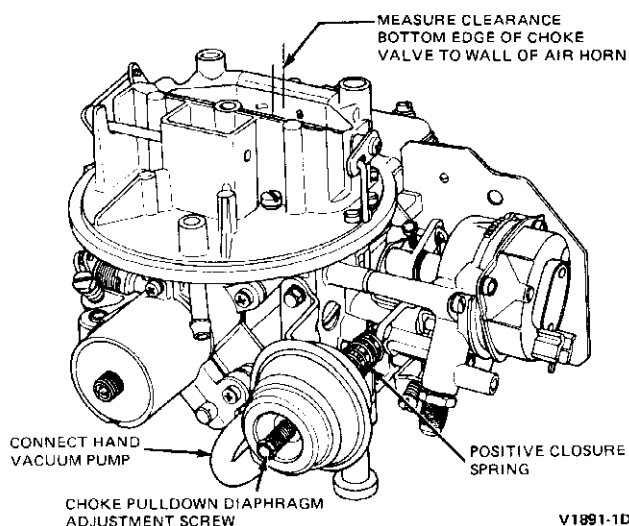
V1679-1B

FIG. 14 Curb Idle Speed Adjustment



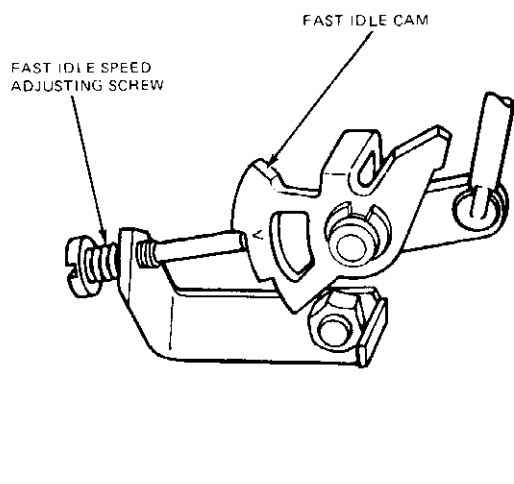
V1890-1B

FIG. 16 Accelerator Pump Stroke Adjustment



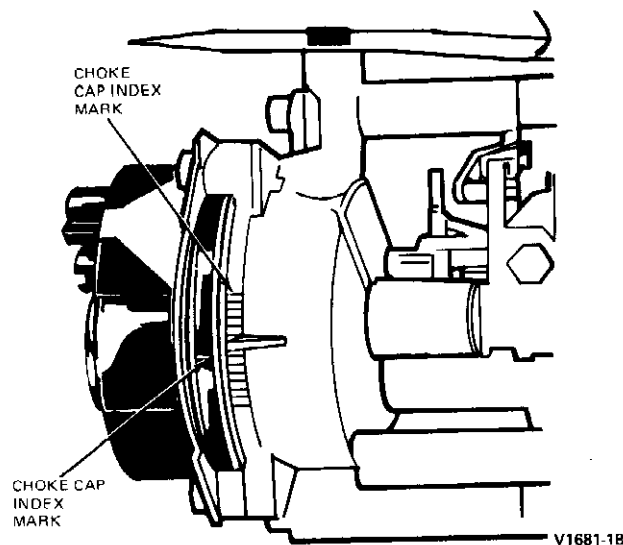
V1891-1D

FIG. 17 Adjusting Choke Plate Pulldown



V1889-1B

FIG. 15 Fast Idle Speed Adjustment



V1681-1B

FIG. 18 Automatic Choke Thermostatic Spring Housing Adjustment

FUEL LEVEL (FLOAT) ADJUSTMENT—DRY

The dry float adjustment is a preliminary fuel level adjustment only. The final adjustment (Fuel Level Float Adjustment—Wet) must be made after the carburetor is mounted on the engine.

With the air horn removed, the float raised and the fuel inlet needle seated, check the distance between the top surface of the main body (gasket removed) and the top surface of the float for conformance to specification. Depress the float tab to seat the fuel inlet needle. **CAUTION: Excessive pressure can cause damage to the Viton tip on the needle.** Take the measurement near the center of the float at a point 1/8 inch from the free end of the float.

If the cardboard float gauge is used, place the gauge in the corner of the enlarged end section of the fuel bowl (Fig. 19). The gauge should touch the float near the end, but not on the end radius.

If necessary, bend the tab on the float to bring the setting within the specified limits. This should provide the proper preliminary fuel level setting.

FUEL LEVEL (FLOAT) ADJUSTMENT—WET

1. Operate the engine to normalize engine temperatures, and place the vehicle on a flat surface as near level as possible. Stop the engine.
2. Remove the carburetor air cleaner assembly if not previously removed.
3. Remove the air horn attaching screws and the carburetor identification tag. Temporarily leave the air horn and gasket in position on the carburetor main body and start the engine. Let the engine idle for a few minutes, then remove the air horn and gasket to provide access to the float assembly.

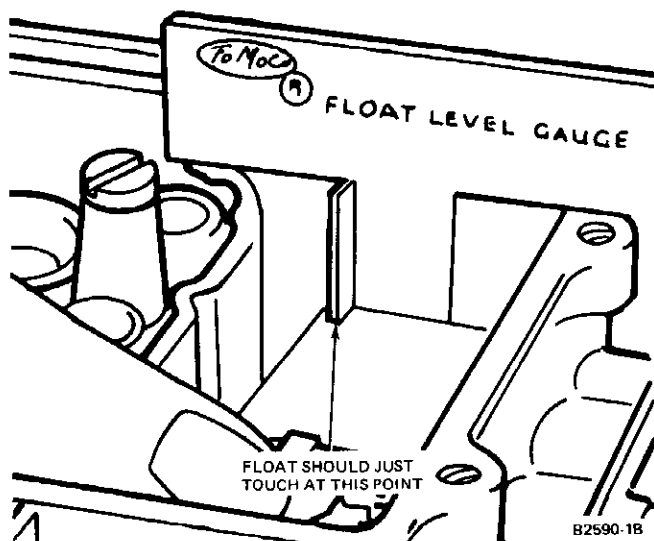


FIG. 19 Fuel Level (Float) Adjustment—Dry

4. While the engine is idling, use a standard depth scale to measure the vertical distance from the top machined surface of the carburetor main body to the level of the fuel in the fuel bowl (Fig. 20).

The measurement must be made at least 1/4 inch away from any vertical surface to assure an accurate reading, because the surface of the fuel is concave (higher at the edges than in the center). Care must be exercised to measure the fuel level at the point of contact with the gauge. Refer to the specifications for the correct fuel level (wet) setting.

5. If any adjustment is required, **stop the engine to minimize the hazard of fire due to fuel spray when the float setting is disturbed.** To adjust the fuel level, bend the float tab (contacting the fuel inlet valve) upward in relation to the original position to raise the fuel level, and downward to lower it.

Each time an adjustment is made to the float tab to alter the fuel level, the air horn must be re-installed, and the engine started and permitted to idle for a few minutes to stabilize the fuel level. Remove the air horn and gasket and check the fuel level after each adjustment until the specified level is obtained.

6. Install a new air horn gasket, the air horn assembly, carburetor identification tag and the attaching screws. Be sure the plastic dust seal on the choke operating rod is positioned correctly and does not cause the rod to bind. Tighten the screws.
7. Check the idle fuel mixture, idle speed adjustments and the carburetor throttle positioner adjustment (if so equipped). Adjust the carburetor as required.
8. Install the air cleaner.

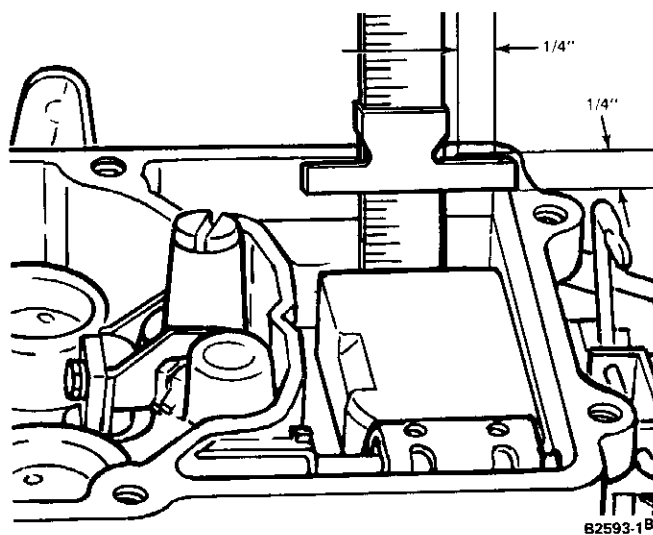


FIG. 20 Fuel Level (Float) Adjustment—Wet

REMOVAL AND INSTALLATION

CARBURETOR ASSEMBLY

Removal

Flooding, stumble on acceleration and other performance complaints are in many instances, caused by the presence of dirt, water, or other foreign matter

in the carburetor. To aid in diagnosing the cause of complaint, the carburetor should be carefully removed from the engine without removing the fuel from the bowl. The contents of the bowl may then be examined for contamination as the carburetor is disassembled.

1. Remove the air cleaner.
2. Remove the throttle cable from the throttle lever. Disconnect all vacuum lines, emission hoses, the fuel line, electrical connection and the choke heat tube at the carburetor.
3. Remove the carburetor retaining nuts; then remove the carburetor. Remove the carburetor mounting gasket, spacer (if equipped) and lower gasket from the intake manifold.

Installation

1. Clean the gasket mounting surfaces of the spacer and carburetor. Place the spacer between two new gaskets and position the spacer and gaskets on the intake manifold. Position the carburetor on the spacer and gasket. Position and connect the choke heat tube. Take care to avoid damage to the tube nut.
2. Install the spark and EGR vacuum lines (if so equipped) before bolting carburetor in place. Secure the carburetor with the attaching nuts. To prevent leakage, distortion or damage to the carburetor body flange, snug the nuts; then, alternately tighten each nut in a criss-cross pattern to the specified torque.
3. Connect the fuel line, throttle cable, and all emission lines and vacuum lines removed. Observe color coded vacuum line connections on carburetor.
4. Adjust the engine idle speeds and fuel mixture if necessary and make sure the accelerator pump rod is set in the specified hole.

AIR HORN TO MAIN BODY GASKET

Removal

1. Remove the air cleaner.
2. Disconnect the automatic choke clean air tube at the carburetor.
3. Remove the automatic choke plate operating rod to choke lever retainer.
4. Remove the air horn attaching screws and lock washers, and the carburetor identification tag. Remove the air horn gasket.

Installation

1. Install a new air horn to main body gasket. **Make sure all holes in the new gasket have been properly punched and that no foreign material has adhered to the gasket.**
2. Position the air horn on the main body and gasket so that the choke plate operating rod fits into the opening in the choke housing lever. Install the choke plate rod retainer. Be sure the plastic dust shield on the choke operating rod is properly positioned and does not cause the rod to bind.
3. Install the air horn attaching screws and lock washers and the identification tag.
4. Connect the automatic choke clean air tube to the carburetor.
5. Install the carburetor air cleaner assembly.

FLOAT, NEEDLE VALVE AND SEAT, INLET SCREEN OR MAIN JETS

Removal

1. Remove the carburetor air horn following the procedure under Air Horn to Main Body Gasket Replacement.
2. With the use of a screwdriver, pry the float shaft retainer from the fuel inlet seat. Remove the float, float shaft retainer and fuel inlet needle assembly.
3. If required, remove the fuel inlet needle seat, filter screen, baffle and main jets with a jet wrench. Be sure the correct (specified) jets are installed.

Installation

1. If required, install the fuel inlet filter in the inlet valve seat bore. Install the valve seat, baffle and gasket. Install the fuel inlet needle valve.
2. Slide the float shaft into the float lever. Position the float shaft retainer on the float shaft.
3. Insert the float assembly into the fuel bowl and hook the float lever tab under the fuel inlet needle clip. Insert the float shaft into the guides at the sides of the fuel bowl.
4. With the use of the screwdriver, position the float shaft retainer on the groove of the fuel inlet needle seat.
5. Refer to Float Adjustment—Dry, and perform a dry float fuel level adjustment on the float.
6. Install the carburetor air horn and gasket and related parts. Refer to Air Horn to Main Body Gasket Replacement.
7. Refer to Fuel Level Float Adjustment—Wet, and perform the wet fuel level adjustment procedures.

ACCELERATOR PUMP DIAPHRAGM AND/OR ELASTOMER VALVE

Removal

1. Remove the carburetor air horn to main body gasket following the procedure under Air Horn to Main Body Gasket Replacement.
2. Remove the accelerator pump operating rod retainer. To release the rod from the retaining clip, lift upward on the portion of the clip that snaps over the shaft and then disengage the rod. Remove the rod. Remove the accelerator pump cover, diaphragm assembly and spring.
3. If inspection proves it necessary to remove the Elastomer valve, remove the float, grasp the elastomer valve firmly and pull it out. **If the Elastomer valve tip broke off during removal, be sure to remove the tip from the fuel bowl. An Elastomer valve must be replaced whenever it is removed from the main body. See Fig. 19 and 22.**

Installation

1. If the Elastomer valve was removed, lightly lubricate the tip of a new valve and insert the tip into the accelerator pump cavity. Using needle-nosed pliers, reach into the fuel bowl and grasp the valve tip. Pull the valve in until it seats, and cut off the tip forward of the retainer shoulder. Remove the tip from the bowl. Install the float.

2. Position the new accelerator pump diaphragm assembly to the cover and place the cover and diaphragm assembly in position on the return spring and main body. **The large end of the spring must face the Elastomer valve.** Install the cover screws fingertight. Push the accelerator pump cover against the main body and tighten the cover screws.
3. Position the accelerator pump operating rod in the hole in the pump operating arm.
4. Adjust the accelerator pump stroke to specification by installing the accelerator pump rod in the proper hole in the overtravel lever. Position the rod retainer over the proper hole and insert the end of the rod through the hole in the retainer. Snap the end of the retainer over the rod.
5. Install the carburetor air horn and gasket. Refer to the Air Horn to Main Body Gasket Replacement.

CHOKE PULLDOWN DIAPHRAGM ASSEMBLY

Removal

1. Remove the air cleaner.
2. Remove the two (2) attaching screws from the bracket, disconnect the vacuum supply tube and remove the pulldown diaphragm.
3. Remove the attaching screws holding the diaphragm assembly on the main body. Rotate the diaphragm assembly to disengage the rod (Fig. 21).

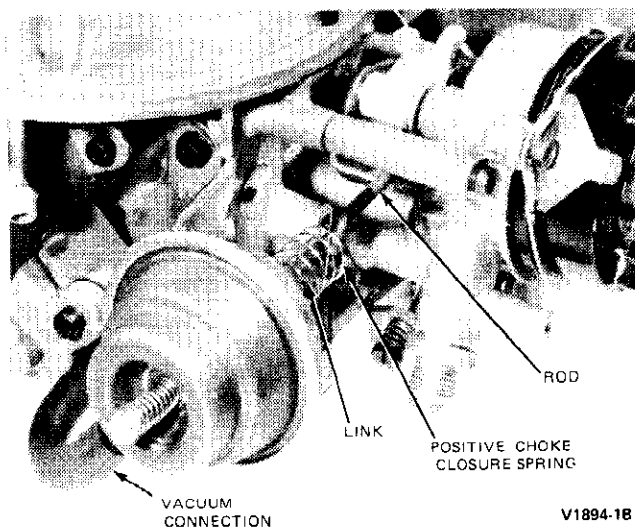


FIG. 21 Choke Pulldown Diaphragm Assembly

Installation

1. Engage rod in the diaphragm assembly link. Rotate the assembly to align the mounting bracket with the main body casting. Install the two (2) attaching screws.
2. Connect the vacuum supply tube to the correct vacuum base tube connection.
3. Perform the automatic choke pulldown and fast idle cam adjustments as described in Part 50-29 of this Manual.
4. Install the air cleaner assembly.

MAJOR REPAIR OPERATIONS

DISASSEMBLY

To facilitate working on the carburetor, and to prevent damage to the throttle plates, install carburetor legs on the base. If legs are unavailable, install four (4) bolts (about 2-1/4 inches long of the correct diameter) and eight (8) nuts on the carburetor base.

Use a separate container for the component parts of the various assemblies to facilitate cleaning, inspection and assembly.

The following is a step-by-step sequence of operations for completely overhauling the carburetor. However certain components of the carburetor may be serviced without a complete disassembly of the entire unit. For a complete carburetor overhaul, follow all of the steps. To partially overhaul a carburetor or to install a new gasket kit, follow only the applicable steps.

AIR HORN

1. Remove the air cleaner anchor screw.
2. Remove the automatic choke control rod retainer.
3. Remove the air horn attaching screws, lock washers and the carburetor identification tag. Remove the air horn and air horn gasket.
4. Remove the choke control rod by loosening the screw that secures the choke shaft lever to the

choke shaft. Remove the rod from the air horn. Slide the plastic dust seal out of the air horn.

5. If it is necessary to remove the choke plate, remove the staking marks on the choke plate attaching screws and remove the screws. Remove the choke plate by sliding it out of the shaft from the top of the air horn. Remove any burrs around screw holes prior to removing chokeshaft. If equipped with altitude compensation, rotate the main choke shaft and disconnect the connecting link. Slide the choke shaft out of the air horn.
6. Remove the staking marks on the bypass air choke plate attaching screws (if used) and remove the screws. Slide the choke shaft from the air horn.

CHOKE PULLDOWN DIAPHRAGM ASSEMBLY

Follow procedures given under Removal and Installation.

AUTOMATIC CHOKE

1. Remove the fast idle cam retainer.
2. Remove the thermostatic choke spring housing retaining screws and remove the clamp, housing and gasket.
3. Remove the choke housing assembly retaining screws. If the air horn was not previously removed, remove the choke control rod retainer. Remove the

choke housing assembly, gasket and the fast idle cam and rod from the fast idle cam lever.

4. Remove the choke lever retaining screw and washer. Disconnect the choke control rod from the choke lever. Remove the choke lever and fast idle cam lever from the choke housing.

MAIN BODY

1. With the use of a screwdriver, pry the float shaft retainer from the fuel inlet seat (Figs. 22 and 23). Remove the float, float shaft retainer and fuel inlet needle assembly. Remove the retainer and float shaft from the float lever.
2. Remove the fuel inlet needle, seat, filter screen, and the main jets with a jet wrench.
3. Remove the booster venturi screw (accelerator pump discharge), booster venturi and metering rod assembly and gasket. Invert the main body and let the accelerating pump discharge weight and ball fall into the hand.

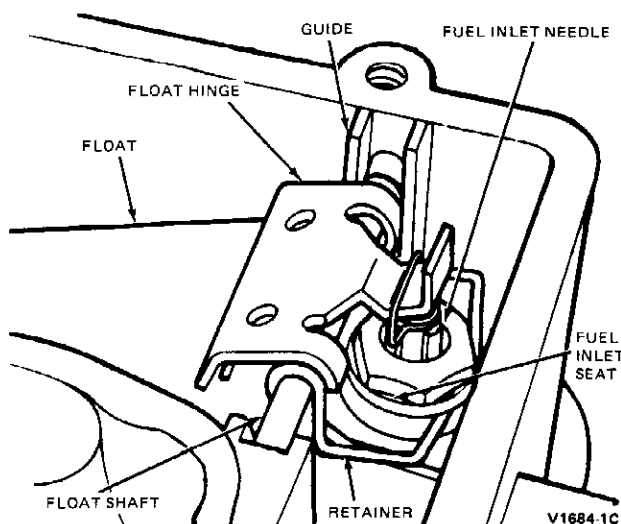


FIG. 22 Float Assembly

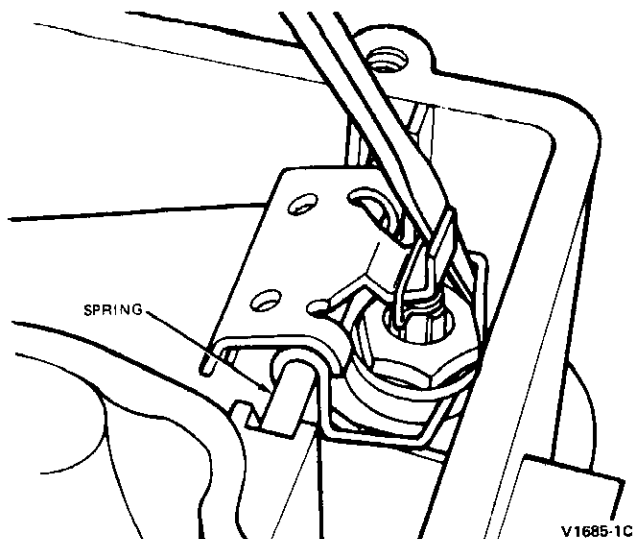


FIG. 23 Removing or Installing Float Shaft Retainer

4. Remove the accelerator pump operating rod from the overtravel lever and the retainer. To release the operating rod from the overtravel lever retainer, press upward on that part of the retainer that snaps over the rod. Disengage the rod from the retainer and from the overtravel lever. Remove the rod and retainer.
5. Remove the accelerator pump cover attaching screws. Remove the accelerator pump cover, diaphragm assembly and spring (Fig. 24).
6. If it is necessary to remove the Elastomer valve, grasp it firmly and pull it out. If the Elastomer valve tip was broken off during removal, be sure to remove the tip from the fuel bowl. An Elastomer valve must be replaced whenever it has been removed from the carburetor.
7. Invert the main body and remove the enrichment valve cover and the gasket. Remove the enrichment valve with a box wrench or socket wrench (Fig. 25). Remove the enrichment valve gasket. Discard the gasket.

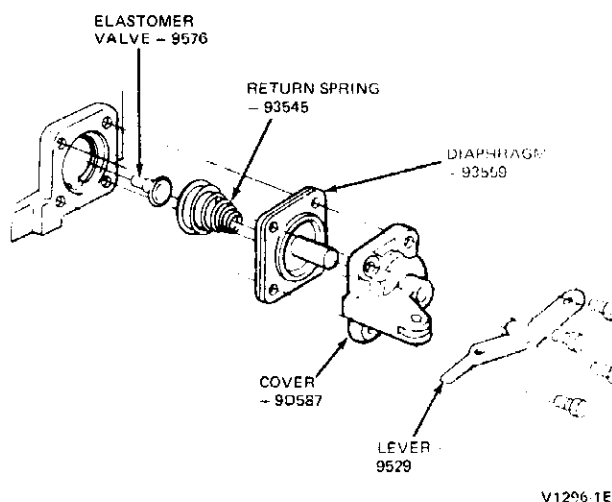


FIG. 24 Accelerator Pump Assembly

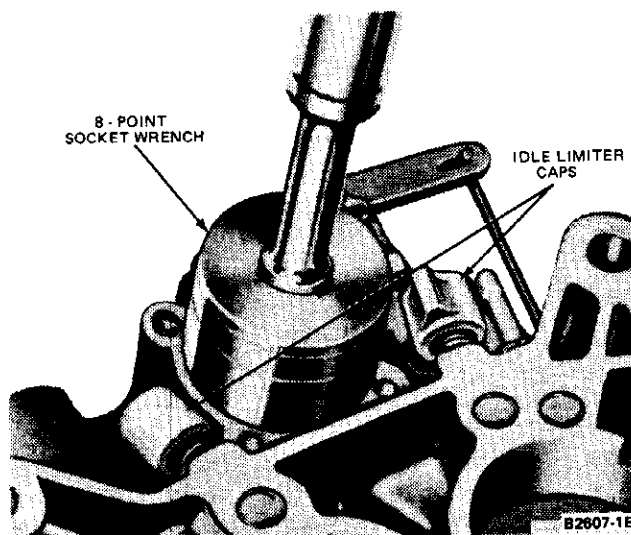


FIG. 25 Removing or Installing Enrichment Valve

8. Remove the idle fuel mixture adjusting screws (needles) and the springs. Remove the limiters from the adjusting screws.
9. If necessary, remove the nut and washer securing the fast idle adjusting lever assembly to the throttle shaft, and remove the lever assembly. If necessary, remove the idle screw and the spring from the fast idle adjusting lever.
10. Remove the four (4) screws that attach the aneroid assembly to the main body (if altitude compensated) and remove the assembly.
11. If it is necessary to remove the throttle plates, lightly scribe the throttle plates along the throttle shaft, and mark each plate and its corresponding bore with a number or letter for proper installation (Fig. 26). Remove the throttle plate attaching screws. Carefully remove any burrs caused by the screw removal to prevent scoring the throttle shaft bores as the throttle shaft is withdrawn.

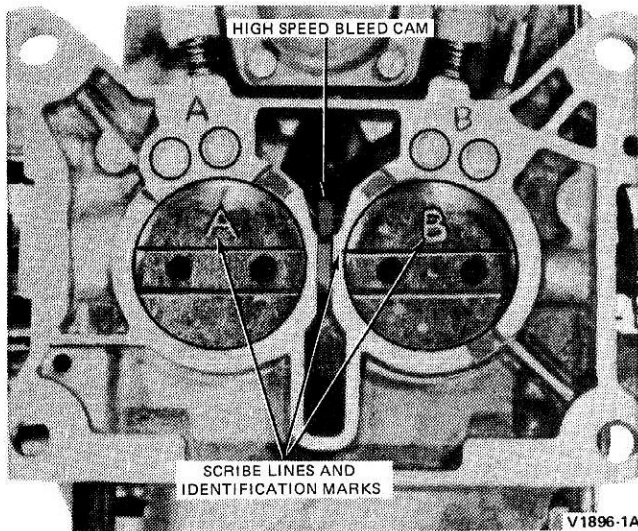


FIG. 26 Scribing Throttle Plates

12. Slide the throttle shaft out of the main body, making sure you catch the mechanical high speed bleed actuator located on the throttle shaft between the throttle plates.

Clean and inspect the carburetor component parts according to procedures outlined in Part 29-02 of this Manual.

ASSEMBLY

Make sure all holes in new gaskets have been properly punched, and that no foreign material has adhered to the gaskets. Make sure the accelerator pump diaphragm is not torn or cut. The Model 2150 2-V carburetor is shown disassembled in Fig. 27.

MAIN BODY

1. Slide the throttle shaft assembly into the main body until it begins to enter the high speed bleed cam slot in the body.
2. Holding the cam by the edge of the point, hold it in the slot and rotate the throttle shaft until it will pass through the cam. Rotate the shaft clockwise until the throttle lever clears the boss for the TSP "Off" idle speed screw. Continue inserting the

shaft into proper position, rotating as necessary to properly position cam.

3. Refer to the lines scribed on the throttle plates and install the throttle plates in their proper location with the screws snug, but not tight. Always use new screws when installing throttle plates.
4. Close the throttle plates. Invert the main body, and hold it up to the light. Little or no light should show between the throttle plates and the throttle bores. Tap the plates lightly with a screwdriver handle to seat them. Hold the throttle plates closed and tighten and stake the attaching screws. Stake hardened screws by crimping exposed threads with diagonal cutters.
5. If necessary, install the fast idle screw spring and the screw on the fast idle adjusting lever.
6. Position the aneroid assembly to the main body (if altitude compensated) and attach with four (4) screws.
7. Place the fast idle adjusting lever assembly on the throttle shaft and install the retaining washer and nut (Fig. 27).
8. If the Elastomer valve was removed, lightly lubricate the tip of a new Elastomer valve and insert the tip into the accelerator pump cavity center hole. Using a pair of needle-nosed pliers, reach into the fuel bowl and grasp the valve tip. Pull the valve in until it seats in the pump cavity wall and cut off the tip forward of the retaining shoulder. Remove the tip from the bowl.
9. Install the accelerator pump diaphragm return spring on the boss in the chamber (Fig. 18). Insert the diaphragm assembly in the cover and place the cover and diaphragm assembly into position on the main body. Install the cover screws.
10. Insert the accelerator pump operating rod into the hole in the accelerator pump actuating lever. Position the accelerator pump operating rod retainer over the specified hole in the over-travel lever. Insert the operating rod through the retainer and the hole in the overtravel lever and snap the retainer down over the rod.
11. Invert the main body. Install the enrichment valve and new gasket with a wrench (Fig. 25). Tighten the valve securely.
12. Install the idle mixture adjusting screws (needles) and springs (Fig. 27). Turn the needles in gently with the fingers until they just touch the seat, then back them off 1-1/2 turns for a preliminary idle fuel mixture adjustment. **Do not install the idle mixture limiters at this time. Install the enrichment valve cover and new gasket. The cover must be installed with the limiter stops on the cover in position to provide a positive stop for the tabs on the idle mixture adjusting screws limiters.**
13. Install the main jets and the fuel inlet seat, filter screen, baffle and new gasket. **Be sure the correct jets are installed.**
14. Install the fuel inlet needle assembly in the fuel inlet seat.
15. Slide the float shaft into the float lever (Fig. 22). Position the float shaft retainer on the float shaft.