

REMOVAL AND INSTALLATION

Removal

Flooding, stumble on acceleration and other performance complaints are in many instances caused by 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 can then be examined for contamination as the carburetor is disassembled.

1. Remove the air cleaner assembly.
2. Disconnect the throttle cable from the throttle lever. Disconnect and remove transmission kickdown linkage. Disconnect all fuel, vacuum and heat lines from the carburetor.
3. Disconnect the choke clean (cold) air pick-up connecting tube from the carburetor air horn.
4. Remove the carburetor attaching nuts and the carburetor.

5. Remove the carburetor spacer, if equipped, the carburetor and spacer gasket from the intake manifold.

Installation

1. Clean the gasket surfaces of the spacer and carburetor. Place the spacer between two new gaskets and position the spacer and gaskets on the intake manifold.
2. Position the carburetor on the spacer and gaskets and connect the choke heat tube. **BE VERY CAREFUL NOT TO CROSSTHREAD THE TUBE NUT.** Position and snug the attaching nuts and washers. Alternately torque the carburetor attaching nuts to specification, working in a criss-cross pattern.
3. Connect the throttle cable and all lines.
4. Adjust engine idle speeds, fuel mixture and throttle positioner, if equipped. Refer to Part 29-02 or 50-2 for procedures.

MAJOR REPAIR OPERATIONS

DISASSEMBLY

The mechanical portion of the fuel metering system maintains a direct relationship between the fuel flow through the main jets (metering rod and vacuum piston rod height) and throttle plate position.

This relationship is established during manufacturing and should not be changed.

To maintain the relationship during carburetor disassembly and assembly, follow this procedure:

1. Before disassembly, scribe a line on both the pump operating lever and the carburetor air horn casting, with the throttle set at fast idle position (with the fast idle screw on the top step of the fast idle cam). See Fig. 28.

DO NOT USE THE LINES ALREADY SCRIBED ON THE LEVER AND HOUSING. THEY ARE FOR MANUFACTURING REFERENCE ONLY.

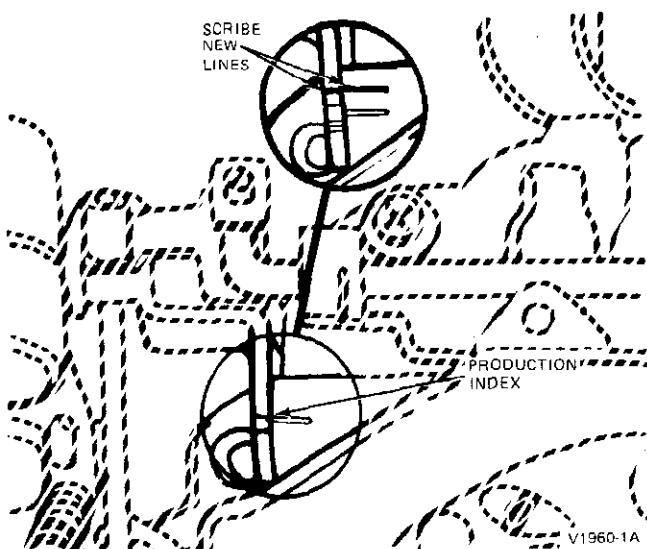


FIG. 28 Scribing New Index Line Before Removal of Air Horn Assembly

2. Now the throttle link to the vacuum piston limiter lever can be removed by unscrewing the nylon adjusting nut.

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 5/16 x 2-1/2 inch bolts and 8 nuts; install nuts on the bolts, above and below the carburetor base.

Use a separate container for the component parts of the various assemblies to facilitate cleaning, inspection, and assembly. Refer to Part 24-01 for cleaning and inspection.

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.**

Air Horn

1. Remove the fuel inlet line from the fuel filter.
2. Remove the choke clean air pick up connecting tube from the air horn.
3. Remove the choke control rod retainer from the automatic choke lever. Separate the rod from the lever.
4. Remove the air cleaner assembly anchor screw and remove the air horn to fuel bowl attaching screws.
5. Remove accelerator pump drive rod at the throttle lever.
6. Lift the air horn off the main body.
7. Invert the air horn, pull the float pivot pin and remove the float(s) and float drop limiter.
8. Using the proper tool, remove the main and auxiliary (supplemental) fuel inlet valve seats and gaskets.
9. Remove the secondary air valve lever pivot pin and the rod from the damper piston assembly and air

valve plate, then remove the air valve damper piston rod and spring.

10. If it is necessary to remove the secondary air valve plates or shaft proceed as follows: **Do not perform this operation with carburetor on engine, as parts may fall through to intake manifold.** Remove the C-clip from the secondary air valve plate link from the damper lever. Remove the link from the damper lever. Then remove the air valve plate retaining screws. Slide the shaft out of the body. **Note that there are spacers used at either end of the shaft.** Lift the air valve plate and attached metering rods out of the carburetor (Fig. 29).

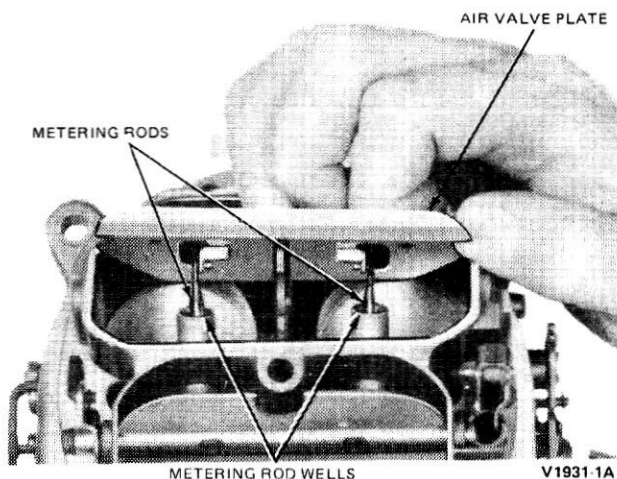


FIG. 29 Removing Air Valve Plate

11. If necessary to remove choke plate, first remove the staking marks on the choke plate attaching screws and remove the screws. If the tips of the screws are flared excessively, file the flared portion to prevent damage to the threads in the shaft. If equipped with altitude compensation, disconnect the compensation choke plate control link. Remove the choke plate, then slide the shaft and lever out of the air horn. The choke lever is attached to the shaft with a left hand thread screw.
12. Disengage the operating arm from the accelerator pump piston. Remove the clip from accelerator pump operating shaft and remove both the vacuum limiter lever and accelerator pump arm. Slide the shaft out of the air horn casting.
13. Remove the hex-head screw that attaches the mechanical fuel bowl vent valve operating rod retainer. Remove the retainer and operating rod (see Fig. 30).
14. Remove the C-clip that retains the spring on the shaft. Remove the spring and plunger assembly.

Main Body

1. Turn the main body upside down and catch the accelerator pump discharge needle and ball, (Fig. 31).
2. **Turn the body right side up again and depress the metering rod hanger and check the gap between the bottom edge of the metering rod hanger and the top of the vacuum cylinder**

(Fig. 32). **Record the dimension for reference during assembly.** With a pair of needle-nosed pliers, remove the vacuum piston stop (nylon) from the channel in the main body casting.

3. Remove the main metering vacuum piston and fuel metering rods as an assembly. **DO NOT DISTURB SETTING OF PISTON ADJUSTMENT SCREW OR METERING ROD ADJUSTMENT SCREWS.**
4. With the appropriate screwdriver, unscrew the vacuum piston cylinder and remove the cylinder, the return spring and guide pin (Fig. 32).

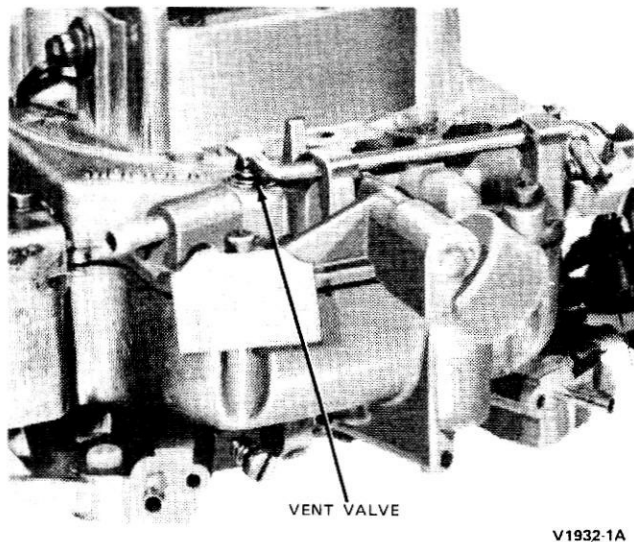


FIG. 30 Mechanical Fuel Bowl Vent Valve—Removal and Installation

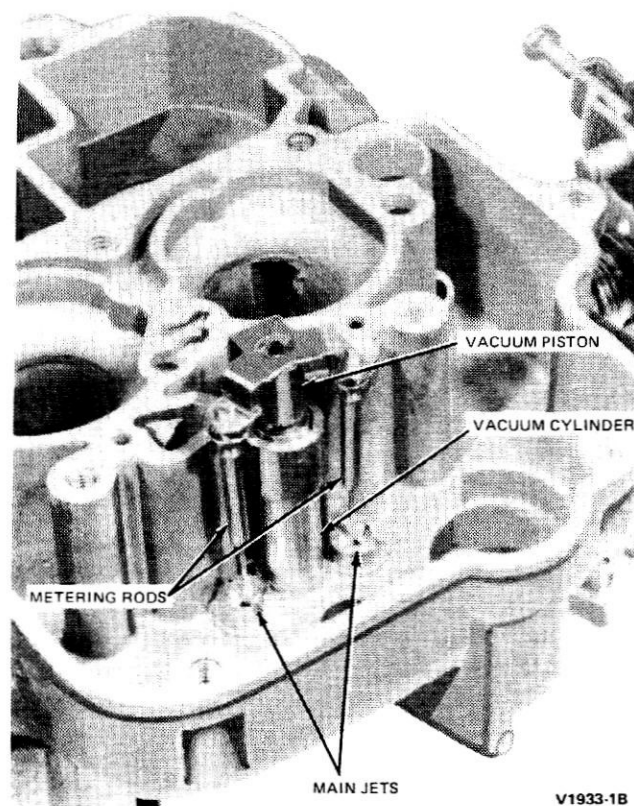


FIG. 31 Main Body Components—Air Horn Removed

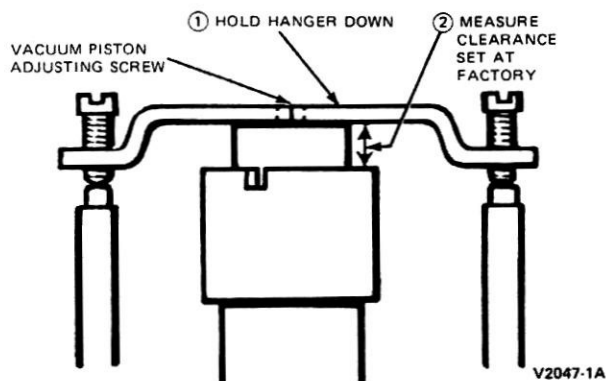


FIG. 32 Measuring Vacuum Piston Setting Before Disassembly

5. Remove the main metering jets from the fuel bowl with a jet tool.
6. Remove the four (4) altitude compensation aneroid assembly attaching screws and remove the assembly from the carburetor body.
7. If equipped with altitude compensation, you will now be able to remove the two (2) hot idle compensator attaching screws through the aneroid poppet valve hole and remove the compensator. If not equipped with altitude compensation, you must remove the cup plug that is inserted in this hole before removing the hot idle compensator mounting screws and compensator.

Throttle Body

Do not remove the idle mixture limiter caps or the mixture screws from the throttle body.

1. Remove the throttle body to main body screws from the bottom of the throttle body (Fig. 33) and separate the two castings.

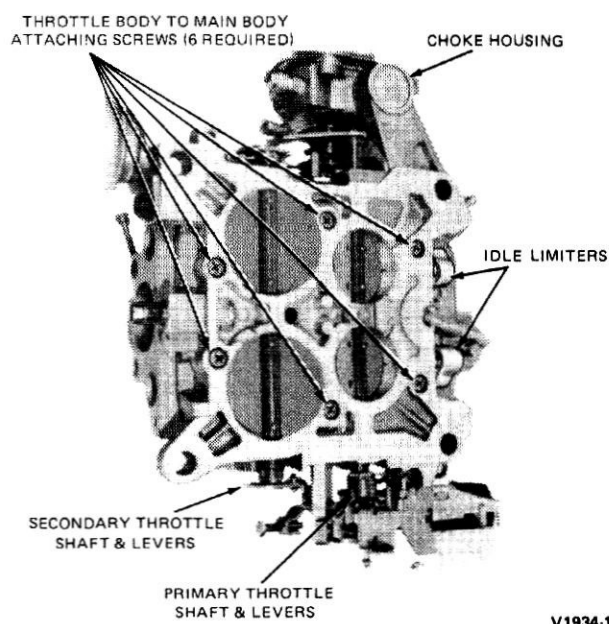


FIG. 33 Throttle Body Bottom View

2. Remove the choke housing cover screws, cover, gasket and thermostatic spring.

3. Remove the choke piston lever retaining screw, then remove the piston assembly.
4. Remove the retainers from the secondary throttle lever to primary throttle connecting link, then remove the link.
5. If it is necessary to remove the throttle plates or shafts from the throttle body, remove the staking marks on the throttle plate attaching screws. Remove the screws and the plates. **Discard the screws.**
6. The secondary throttle shaft is of two-piece design, and is removed in halves. Pull each half out of the throttle shaft bores after the plates are removed.
7. Remove the screw from the primary throttle shaft, remove the fast idle lever and adjusting screw. Slide the shaft assembly out of the primary throttle shaft bore.
8. Slide the primary return spring off the throttle shaft assembly.
9. If it is necessary to remove the fast idle cam or bushing, carefully press the bushing out of the choke housing and bushing column. **The column may bend out of alignment or break without proper support to the column during bushing removal or installation. Make sure all holes in the new gaskets have been properly punched and that no foreign material has adhered to the gaskets. Gasket surfaces must be clean and flat and free of nicks or burrs.** The carburetor assembly is shown in Fig. 34.

ASSEMBLY

Throttle Body

1. If the throttle plates and shafts have been removed, slide the primary throttle return spring on the primary throttle shaft (one-piece shaft) and slide the shaft into the primary shaft bores (mixture needles side of body).
2. Position the primary throttle plates (smaller diameter) in the primary bores with ground flat edges of the plate facing toward the idle mixture needles. Install the plate attaching screws snug but not tight.
3. Rotate the throttle shaft to the closed position and tap the plate lightly with the end of a screw driver handle or similar tool, so that the plates are properly and fully seated in the throttle bores (when viewed with a light behind the plates, little or no light should be observed). Tighten the throttle plate screws.
4. Install the secondary throttle lock out lever.
5. Install the fast idle speed lever and adjusting screw.
6. Engage the throttle plate return spring tang in the recess provided in the throttle body casting. Make sure spring operates in a closing direction.
7. Install return springs on each half of the secondary throttle plate shaft, with the hook positioned over the lever and the straight tang on the inboard end of the shaft. Insert the shafts into their bores until the tang on the return spring engages the appropriate boss. Rotate the halves of the shaft in opposite directions until the center key indexes.
8. Position the secondary throttle plates in the bores with the embossed letter "A" on the plates facing

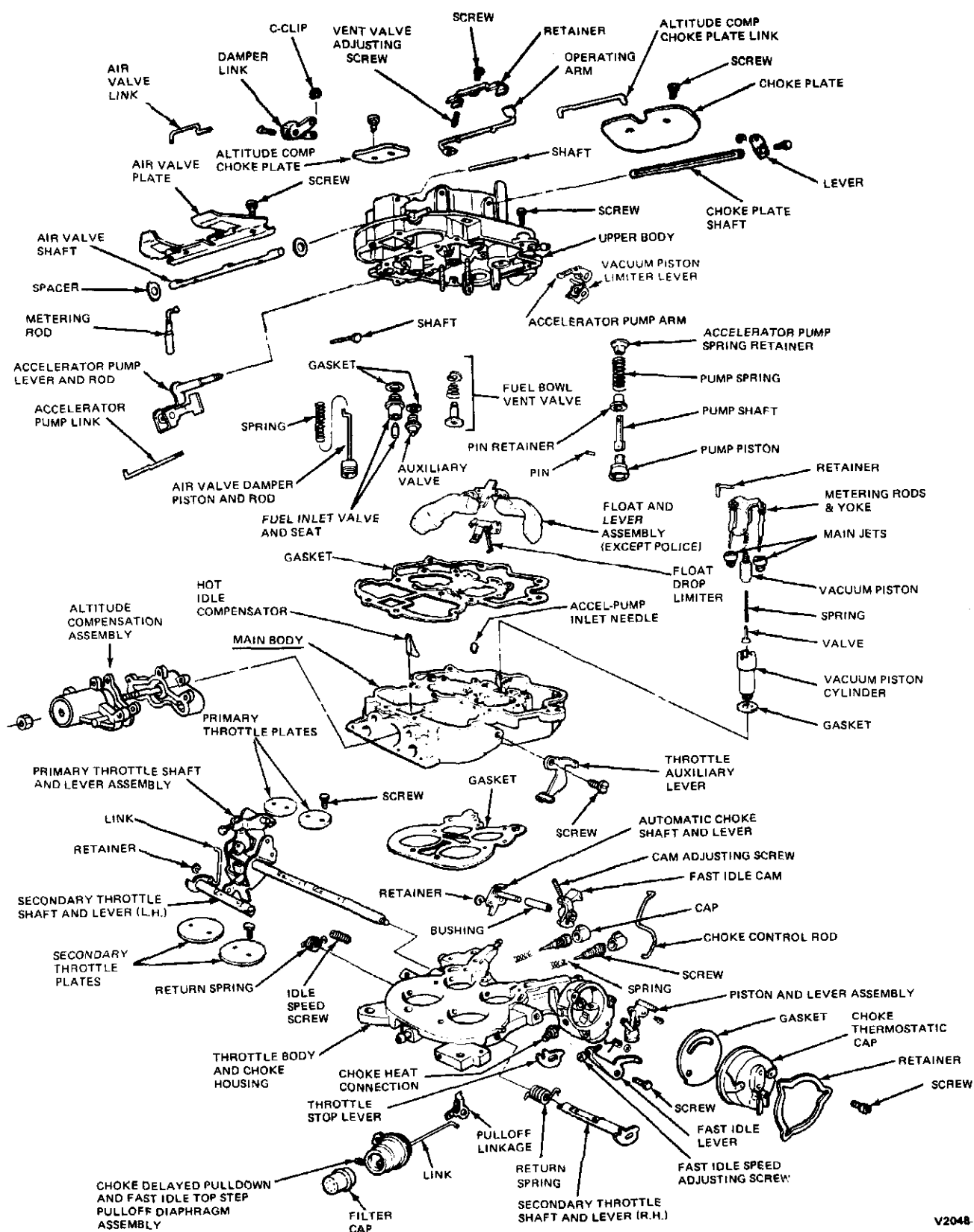


FIG. 34 Model 4350 4-V Carburetor With Altitude Compensation—Disassembled View



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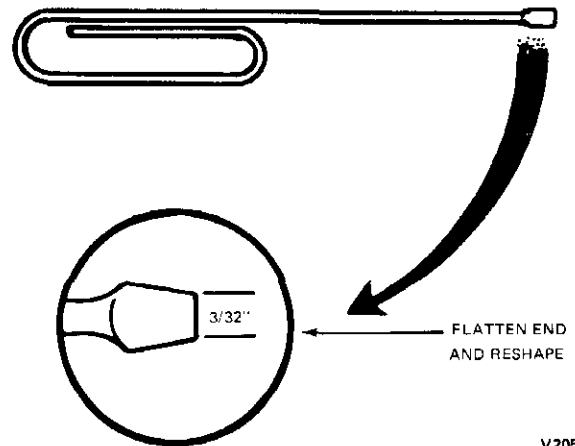
upward and toward the rear of the carburetor. Install the new attaching screws snugly but not tight. Position and check as with the primary throttle plates. Make sure return springs operate in a closed direction.

9. If the fast idle cam and bushing were removed, insert the automatic choke shaft bushing through the choke housing. Position the fast idle cam between the choke housing and bushing column. *Slide the bushing through the fast idle cam. Press the bushing in the choke housing and into the column. Clean the bushing with a 1/4-inch reamer.*
10. Insert the automatic choke shaft and lever in the bushing.
11. Position the automatic choke piston in the choke cylinder and the lever on the automatic chokeshaft. Install the attaching screw and lock washer.
12. Position the hot idle compensator into the bypass air intake and secure with two mounting screws through the altitude compensation poppet valve opening.
13. Insert the secondary throttle to primary throttle connecting rod into the throttle levers and install retainers.

Main Body To Throttle Body

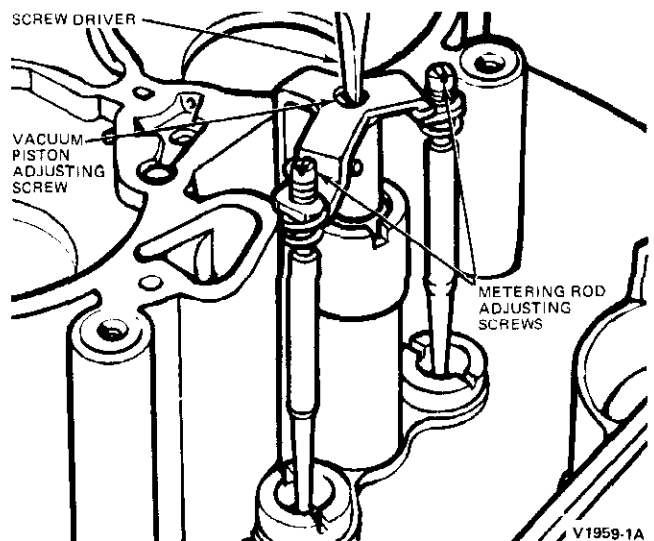
1. Position the main body on a working surface with the fuel bowl down. If equipped with altitude compensation, position gasket and aneroid assembly to main carburetor body and attach with four (4) screws. If not equipped with altitude compensation, seal the poppet valve hole in the casting with a 1-1/8 inch cup plug and an appropriate driver tool.
2. Position the main body to throttle body gasket on the main body.
3. Position the throttle body on the main body and install the attaching screws.
4. Invert the main body and the throttle body so the fuel bowl is upward.
5. With the appropriate jet wrench or screwdriver, install main jets in the fuel bowl.
6. Install the vacuum piston cylinder and gasket assembly into the main body. Place the spring over the guide pin so that it sits in the retaining groove and position the pin and spring in the bottom of the vacuum piston cylinder. Slide the vacuum piston over the spring.
7. Carefully position the metering piston and metering rods into the cylinder and main metering jets. Push the piston and metering rods to the full downward position and install the nylon piston stop in the channel in the main body casting.
8. If the metering rod adjustment has been disturbed, manually depress the metering rod hanger. Using a small screwdriver no wider than 3/32 inch, carefully turn the vacuum piston adjusting screw (Fig. 37) and the metering rod adjusting screws counterclockwise until the metering rod hanger is fully seated against the vacuum cylinder top face.

NOTE: If you do not have a suitable 3/32 inch wide screwdriver, make one by flattening a heavy paper clip and then filing to the correct dimensions (Fig. 36).



V2056-1A

FIG. 36 Fabricating Special 3/32 inch Wide Screwdriver



V1959-1A

FIG. 37 Preliminary Vacuum Piston Adjustment

9. Holding the metering rod hanger lightly in the full downward position, turn each metering rod adjusting screw clockwise until the metering rod hanger just starts to rise. (The metering rods are now set in the proper relationship with the vacuum piston.)
10. Now turn the vacuum piston adjusting screw clockwise until the clearance between the bottom of the metering rod hanger and the top edge of the vacuum piston cylinder (recorded during disassembly) is achieved (Fig. 37).
11. Install the choke-to-throttle lockout lever.
12. Place the accelerator pump discharge check ball and weight in position in the body.

Air Horn

1. Install the accelerator pump operating shaft into the bore in the upper body casting. Assemble the vacuum piston limiter lever and accelerator pump operating arm to the end of the shaft and secure with a clip (Fig. 38).

NOTE: If a new accelerator pump operating arm is being installed, refer to Adjustments for proper sequence of operations.

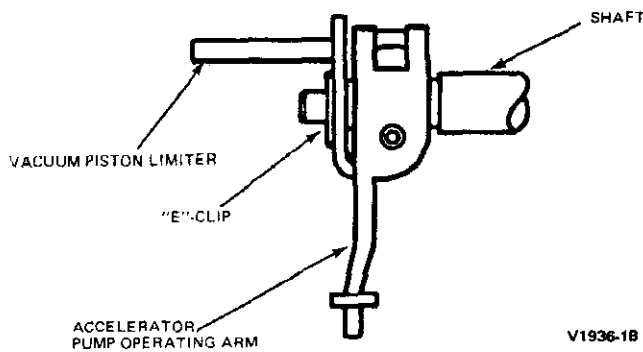


FIG. 38 Assembling Components to Vacuum Piston Limiter Lever Shaft

2. Install the accelerator pump on the arm. Install the vent valve plunger, spring and clip.
3. If the choke plate and shaft were removed, slide the choke shaft through the holes in the air horn. Install the choke shaft lever on the end of the shaft on the automatic choke side. If equipped with altitude compensation, position compensation choke plate link to compensation choke plate and main choke plate. **The lever and shaft are tapered and the attaching screw has a left hand thread. Insert the choke plate into the slot in the choke shaft and install the plate attaching screws snug but not tight.**
4. Close the choke plate and gently tap the plate with the end of a screwdriver or a similar tool to properly position the plate in the air horn.
Tighten and stake the plate attaching screws.
5. If the air valve plate and shaft were removed, slide the shaft through the holes on the secondary side of the air horn and with the slotted end of the shaft in the air valve spring chamber.
6. Install the secondary metering rods in the keyed slots on the air valve plate. **Do not attempt to remove or install the secondary air valve plate and metering rods with the carburetor installed on the engine, as the shaft spacer(s), metering rods and attaching screws can fall into the intake manifold.** Lower the air valve plate into position while guiding the metering rods into the air valve wells. Then slide the air valve shaft and spacer(s) into position and install the air valve plate to the shaft.
7. Close the air valve plate and lightly tap the plate with end of a screwdriver or similar tool to properly position it in the air horn.
Tighten and stake the plate attaching screws. Be sure the plate and shaft turns freely after assembly.
8. Install fuel inlet needle seat and gasket, using proper tool. Insert fuel inlet needle into the fuel inlet needle seat.
9. Install the supplementary fuel inlet valve and gasket.

10. Position float and lever assembly between hinge post and over fuel inlet valves.
11. Insert the float hinge pin through the post and float lever. **The pin must be inserted from the accelerator pump plunger side for self-retention.**
12. Position return spring over air valve damper rod. Insert assembly through upper body and insert cranked end of damper rod into inner arm hole in damper link.
13. Position damper link (bell crank) over post on upper body and install split pin shaft.
14. Insert cranked end of air valve link through tang on air valve plate and position other end throughout board end through remaining hole in damper link (bell crank). Install C-clip over end of air valve link.
15. Insert the accelerating pump bleed disc into the pump bleed cavity.
16. Set the float level.
17. Position the mechanical vent valve operating lever in the cast slots and install the retainer and screw.

Upper Body To Main Body

1. Position the main body to upper body gasket on the main body.
2. Carefully position the upper body assembly over the main body. Guide the accelerator pump plunger and the secondary throttle dashpot piston into their chambers as the upper body is gently lowered into position.
3. Install the other upper body attaching screws.
4. Position the throttle levers so that the fast idle screw is positioned on the high step of the fast idle cam. Insert the key end of the accelerator pump link into the keyed hole in the primary throttle lever.
5. Insert the threaded end of the accelerator pump link through the hole in the accelerator pump lever and install the nut (nylon) so that the index marks made during disassembly line up. The nut is self-locking.
6. Insert the choke control rod end into the automatic choke lever. With long nose pliers, install the retaining clip.
7. Install the choke cover gasket so that round hole lines up with the air inlet hole in the casting.
8. Install the choke thermostatic spring housing and retainer. Set the cap to the 90 degree rich position.
9. Check the fast idle cam clearance.
10. Reset the choke cap to specifications.
11. Remove the carburetor legs or bolts from the throttle body.

Note: Adjust mechanical fuel bowl vent valve after carburetor is reinstalled on vehicle. (See ADJUSTMENT.)

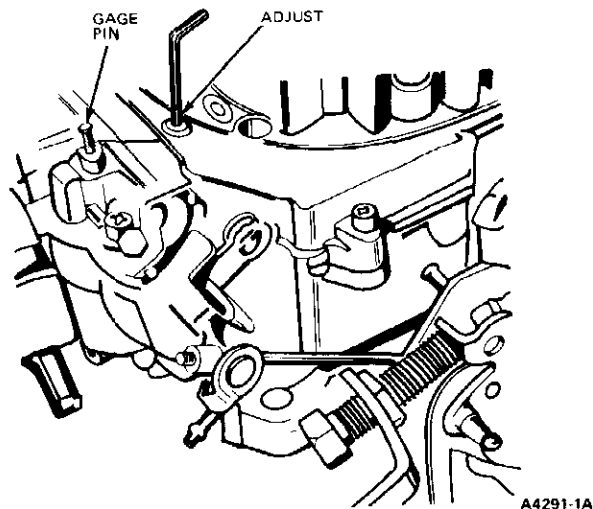


FIG. 39 Adjusting Accelerator Pump Nylon Arm

Motorcraft Model 2700 VV Carburetor

PART
24-27

Pinto, Bobcat, Mustang II, Granada, Monarch and Versailles

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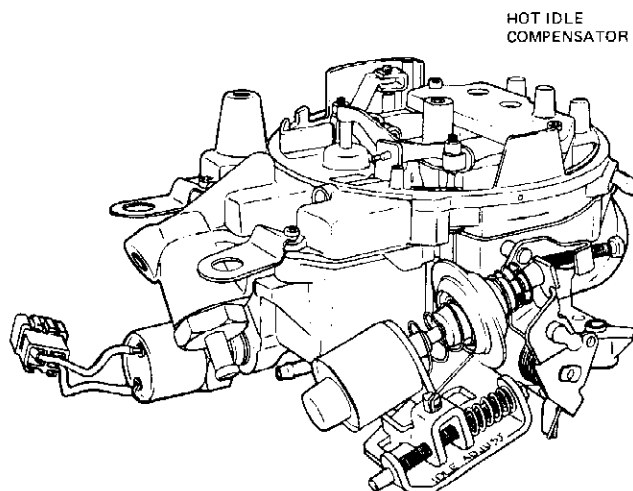
CV2059-2B

GENERAL INFORMATION

The Motorcraft Model 2700 VV (variable venturi) carburetor is able to vary the area of its venturi according to engine speed and load, making it different from all other Motorcraft carburetors, which have fixed area venturi. The 2700 VV uses a dual-element venturi valve that moves in and out of the air flowing into the two throats of the carburetor (Figs. 1 and 2).

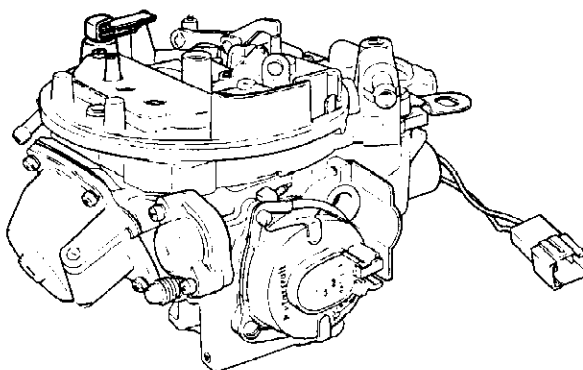
The venturi valve is controlled by engine vacuum and throttle position, and is connected to two main metering

rods which control fuel flow. In operation, air speed through the carburetor is fairly constant, making for more even air/fuel mixtures throughout the engine operating range. In a fixed venturi carburetor, air flow speed varies according to throttle opening and engine speed. In order to work with the changing flow speed, supplementary systems such as an independent idle system, enrich-valve system and choke plate are needed. In the Motorcraft 2700 VV carburetor, none of these supplementary systems are needed.



V2060-1B

**FIG. 1 Motorcraft Model 2700 VV Carburetor—
3/4 Front View**



V2061-1B

**FIG. 2 Motorcraft Model 2700 VV Carburetor—
3/4 Rear View**

OPERATION

FUEL INLET SYSTEM

The fuel inlet system has a single suspended float. All applications use an integral filter at the fuel inlet. The float and lever assembly controls fuel inlet through a single inlet valve and seat assembly (Fig. 3).

The needle valve riding on the float lever reacts to changes in fuel level, admitting enough fuel to replace that used.

MAIN METERING SYSTEM

The pressure drop caused by airflow past the fuel discharge nozzles causes solid fuel to flow from the fuel bowl, up the main well tubes, through the main metering jets and into the venturi (Fig. 4).

The fuel flow rate is controlled by tapered metering rods inserted into the main metering jets and linked to the venturi valve. Small torsion springs are used to position the metering rods against the top of the main metering jet orifices for more precise fuel flow control. A change in throttle plate opening or engine load causes a change in venturi valve and metering rod position, providing fuel flow in proportion to air flow.

CONTROL VACUUM

During normal warm-engine operation, the position of the venturi valve is controlled by two forces: a spring that acts to close the valve, and control vacuum that acts to open the valve. Both these forces are present in the control vacuum diaphragm assembly (Fig. 5).

Control vacuum is the vacuum below the venturi valve and above the throttle plates, and is routed to the control vacuum diaphragm through the upper body, main body and the diaphragm housing. The diaphragm is connected to the venturi valve.

When the engine is running, an increase in throttle plate opening will normally increase the control vacuum. When the vacuum signal increases, the control vacuum diaphragm pulls in against the spring and opens the venturi valve and the main metering jets. Since the venturi valve is not linked directly to the throttle shaft, the control vacuum and spring can select the precise fuel/air ratio for all speed and load conditions except wide open throttle (WOT).

VENTURI VALVE LIMITER

At wide open throttle, under some load conditions, the control vacuum will not be strong enough to override the venturi valve diaphragm spring pressure and open the valve fully. In this case, the valve is opened by the venturi valve limiter lever on the throttle shaft (Fig. 6).

CRANKING ENRICHMENT SYSTEM

The cranking enrichment system provides fuel for cold engine starting (below 75°F.) when the ignition key is in the START position. It consists of a normally closed solenoid valve mounted at the front of the carburetor. Fuel inlet to this valve is controlled by a bimetallic valve that is closed above 75° fuel bowl temperature (Fig. 7).

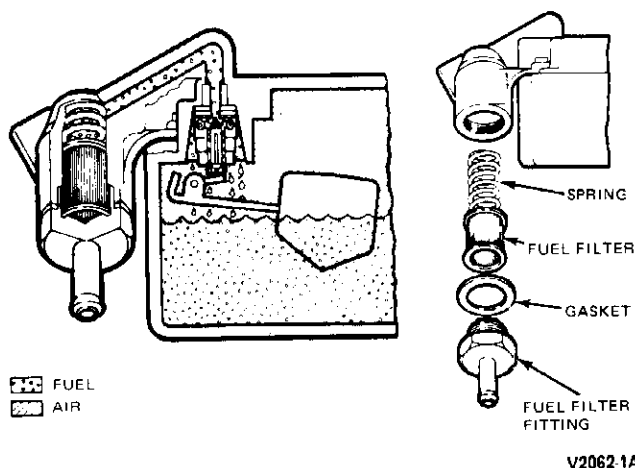


FIG. 3 Fuel Inlet System

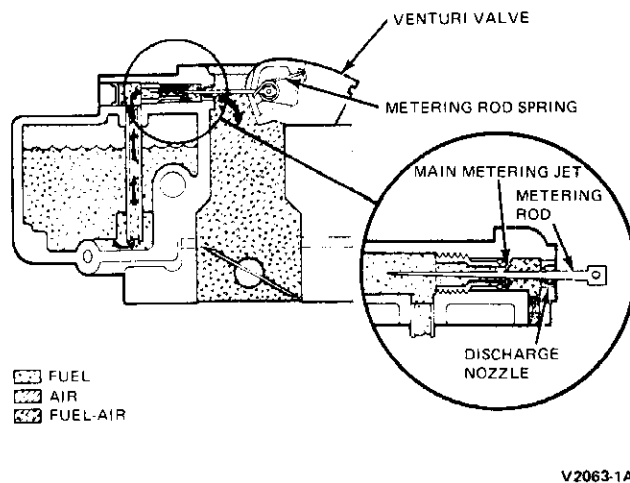


FIG. 4 Main Metering System

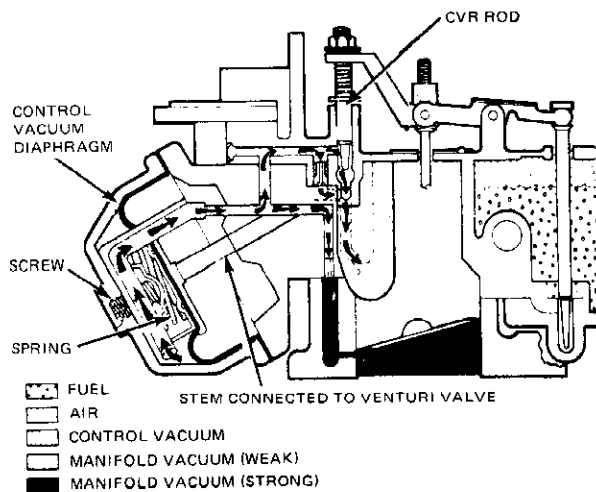


FIG. 5 Control Vacuum Circuit

The volume of fuel flowing in the system is controlled by the position of the solenoid valve and the position of the bimetallic valve. Some carburetors also have a small bypass restrictor located in the bottom of the fuel bowl which allows fuel to flow even if the bimetallic valve is closed, to aid in hot engine starting.

When the ignition switch is in the START position, the cranking enrichment solenoid is energized, allowing fuel to flow in the cranking enrichment system if the fuel bowl temperature is below 75° and the cranking fuel control valve is open. Fuel flows from the fuel bowl through the cranking fuel control valve (bimetal), through the cranking enrichment solenoid valve, to the discharge points below the venturi valve. When the engine starts, and the key is released to the RUN position, the cranking enrichment solenoid is de-energized and closes. Fuel for cold driveaway is controlled by the main metering system and the cold enrichment system.

COLD ENRICHMENT SYSTEM

The cold enrichment system utilizes a conventional exhaust heated bimetal coil type choke system to regulate the flow of fuel and the positioning of both the venturi valve and the fast idle cam for cold engine operation.

Fuel flow is metered by a metering rod suspended from the upper body through a jet located in the bottom of the fuel bowl (Fig. 8). The metering rod height is regulated by the choke bimetal and the fuel is channeled through the same passage as the cranking enrichment fuel.

After a cold start (below 95°F) the control vacuum regulator (CVR) restricts part of the normal control vacuum to the venturi valve operating diaphragm. This restriction allows manifold vacuum to override the control vacuum and determine the position of the venturi valve. Manifold vacuum applied to the diaphragm causes the venturi opening to be slightly larger than normal (hot engine) to prevent engine loading at idle due to an overrich fuel mixture.

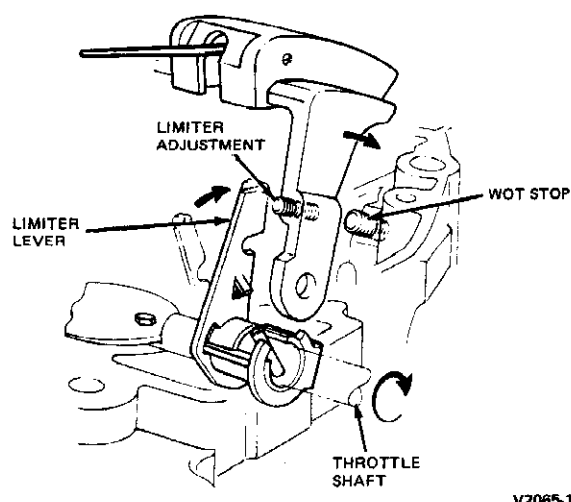
Under acceleration, the venturi valve assumes the normal position providing a richer mixture for good cold driveaway.

FAST IDLE CAM

A conventional fast idle cam controls engine speed during the cold enrichment cycle. A unique feature of the fast idle cam mechanism is a vacuum operated high cam speed positioner (HCSP). Under cold start conditions, a lever is inserted between the fast idle cam and fast idle lever to provide increased throttle plate opening for starting (Fig. 9). When the engine starts, manifold vacuum is applied to the (HCSP) diaphragm and the lever is retracted, after the first throttle movement, and remains retracted as long as the engine is running. This lowers the fast idle speed for all cold drive modes.

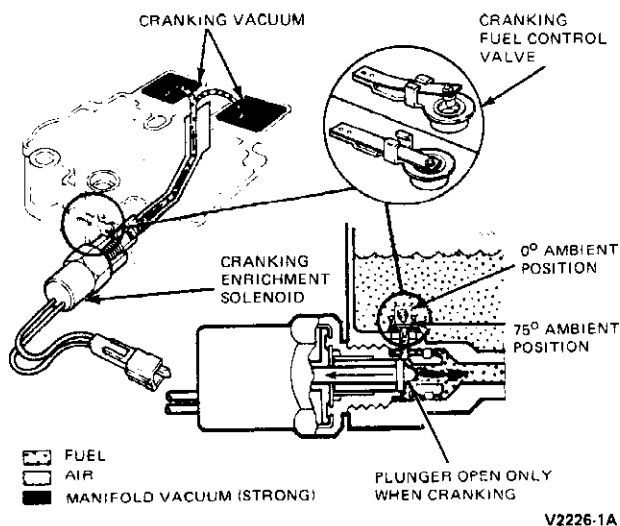
CONTROL VACUUM REGULATOR

When the engine warms up and the choke bimetal unwraps, the CVR rises, opens the restricted port in the



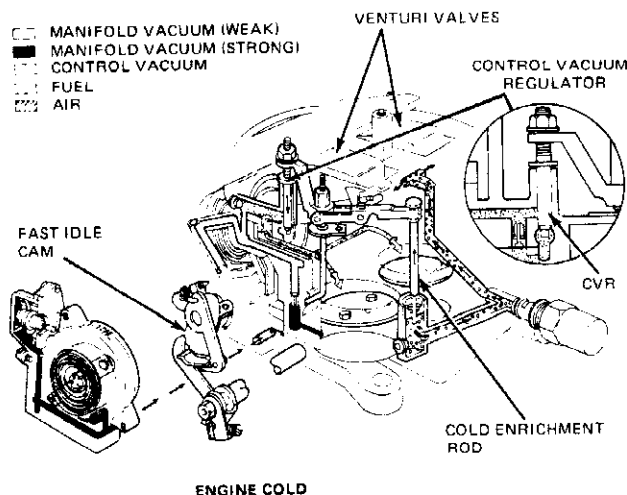
V2065-1B

FIG. 6 Venturi Valve Limiter



V2226-1A

FIG. 7 Cranking Enrichment System



V2227-1B

FIG. 8 Cold Enrichment System

control vacuum circuit and allows the control of the venturi valve to return to normal as described under main metering system (Fig. 10). As the CVR rises the cold enrichment rod is lowered until it is seated in its jet shutting off the cold enrichment fuel.

IDLE TRIM SYSTEM

This carburetor does not have a conventional idle system since the idle fuel is controlled through the main metering jets. However a system is provided to trim the fuel flow at idle (Fig. 11). The idle trim fuel is pulled, by manifold vacuum, from the main metering chamber, flows through an independent channel and is discharged through a timed port below the trailing edge of each throttle plate. The flow of this fuel is controlled by tapered screws which bypass air into the trim channels.

There is an idle fuel trim channel for each bore. **Idle trim is determined during manufacture and is not adjusted in service.**

ACCELERATOR PUMP SYSTEM

The accelerator pump system is a positive displacement, piston type. It consists of a piston assembly that is activated by an overtraveling spring system mounted on the throttle shaft (Fig. 12).

The pump cavity, located in the bottom of the fuel bowl, fills from the top and the floating cup acts as an inlet check valve.

As the throttle is opened, and the pump piston is driven downward, pressure developed in the cavity seals the cup against the piston causing the fuel to flow. An anti-syphon check ball and weight, located in the up channel are unseated and fuel is delivered through the pump discharge nozzles in the venturis. When the fuel supply in the pump channel is exhausted, the check ball and weight return to the seated position to prevent syphoning during high speed operation. When the throttle returns to the idle position, the return spring forces the piston upward and allows the pump cavity to refill.

A bypass system built into the main body allows some of the fuel to be diverted through a calibrated restrictor back into the fuel bowl. The size of this restrictor (some carburetors may not have one) is determined by the amount of fuel required for a particular engine.

Another unique feature of this carburetor is the positive seal internal vent. A rubber coated disc type valve is mounted on the accelerator pump piston and opens or closes the internal vent in response to throttle position. The internal vent is closed at the idle position with the engine off.

EXTERNAL VENT SYSTEM

The external vent system is used to relieve fuel bowl pressure caused by fuel vapor formed in the fuel bowl during hot engine conditions (Fig. 13).

When fuel vapor pressure builds up in the fuel bowl, the external vent check valve is lifted from its seat, allowing the fuel vapor to be vented to a carbon canister that is part of the vehicle's evaporative emission system. Disposing of these fuel vapors in this manner helps prevent hot engine starting problems that could arise if the vapor remained trapped in the carburetor.

HOT IDLE COMPENSATOR

A hot idle compensator is incorporated into the venturi valve cover plate to improve hot engine idle

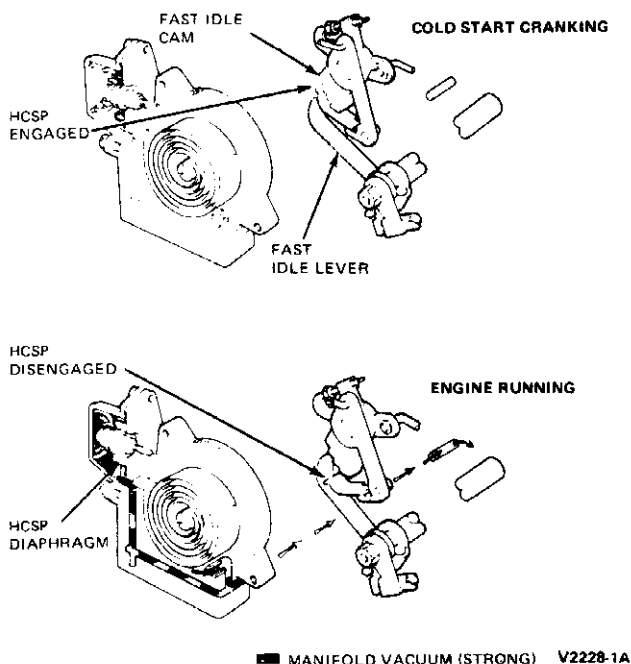


FIG. 9 Fast Idle Cam and HCSP Operation

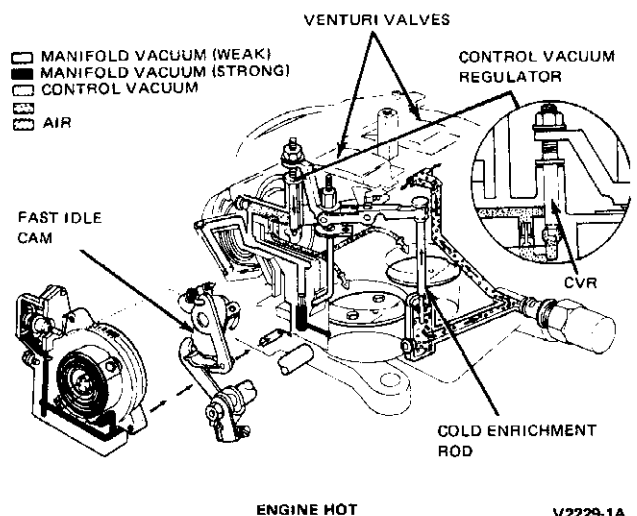


FIG. 10 Control Vacuum Regulator (CVR)

capability (Fig. 14). The normally closed bimetal valve opens at a predetermined temperature, allowing additional air to flow through a drilled passage and be discharged below the throttle plates.

AUTOMATIC ALTITUDE COMPENSATION

Some carburetors will be equipped with altitude compensation to provide improved emission control and driveability at high altitude (Fig. 15). This is accomplished by installing a self-contained bellows and Pintle valve unit. The bellows senses barometric pressure

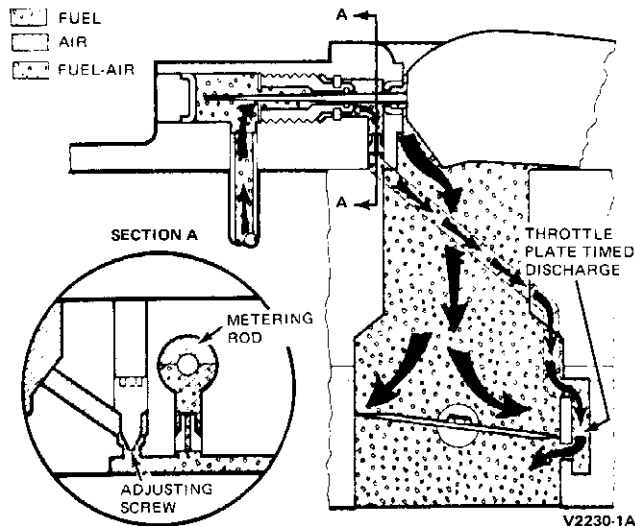


FIG. 11 Idle Trim System

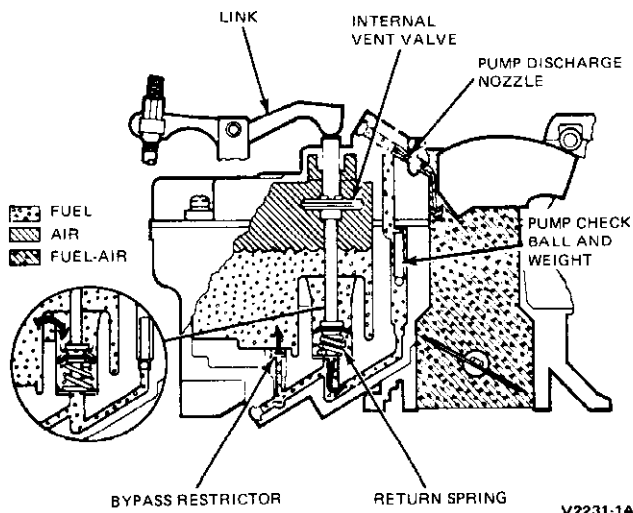


FIG. 12 Accelerator Pump System

and opens the pintle valve according to this pressure. Opening the valve allows control vacuum to lower the pressure in the fuel bowl area, causing the fuel mixture to be leaner. NOTE: The compensator assembly shown in Fig. 15 is rotated out of position for clarity. It is actually located just forward of the choke housing on the main body parallel with the throttle shaft.

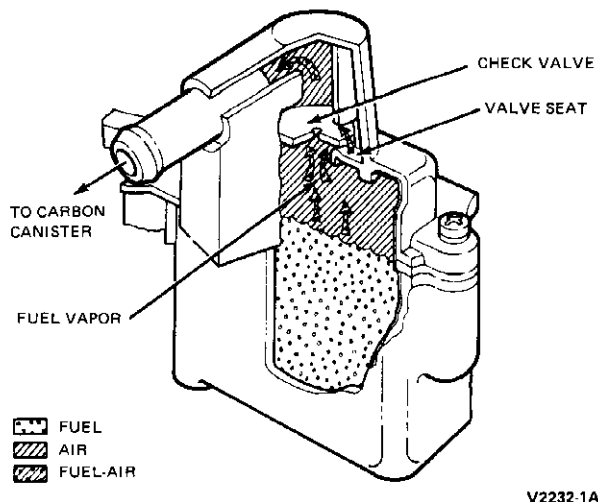


FIG. 13 External Vent System

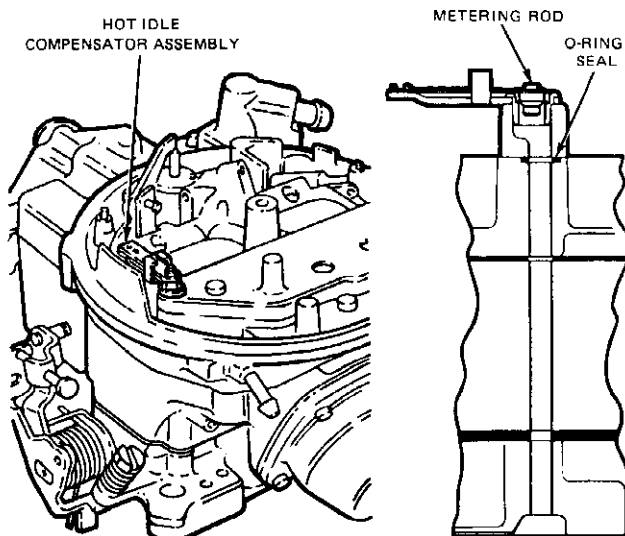
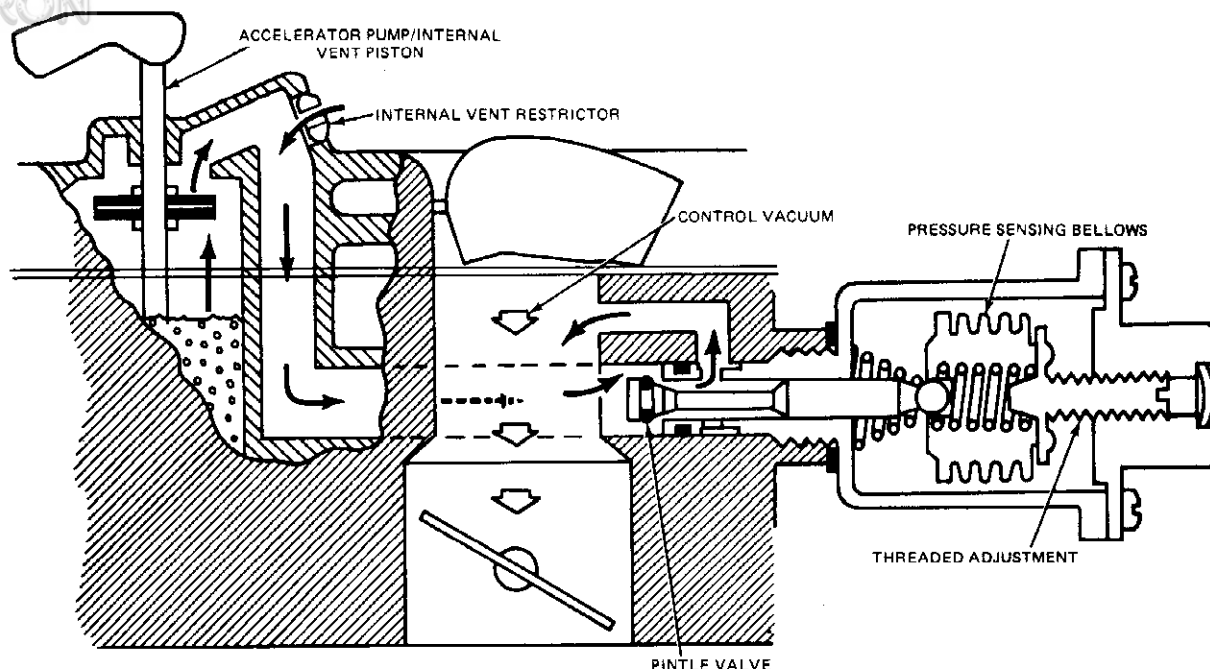


FIG. 14 Hot Idle Compensator



V2409-2A

FIG. 15 Automatic Altitude Compensation

ADJUSTMENTS

Before making any adjustments with the engine running, set the vehicle parking brake and/or block the wheels. If the vehicle has a vacuum parking brake release, disconnect the line to the parking brake control and plug the line.

Conduct all engine running tests with the engine at normal operating temperature (radiator upper hose hot to touch).

CURB IDLE SPEED

Curb idle speed is adjusted in conventional manner, depending on the throttle positioner used (Fig. 14). Refer to the engine emission control decal for curb idle speed specification. Refer to Part 29-02 for curb idle speed adjustment procedure.

COLD ENRICHMENT METERING ROD

1. Remove the choke cap.
2. Install the stator cap (Tool T77L-9848-A) as a weight to seat the cold enrichment rod (Fig. 17).
3. Install a dial indicator (Tool 4201-C) or equivalent with the tip on the top surface of the enrichment rod and adjust the dial to zero. Raise the weight slightly and release to make sure the zero repeats.
4. Remove the stator cap and reinstall it at the index position, the dial indicator should read to specification. If the rod height is not to specification turn the adjusting nut clockwise to increase or counterclockwise to decrease height.
5. If not adjusting the Control Vacuum Regulator (CVR), reinstall the choke cap at the specified setting.

INTERNAL VENT

1. Set the curb idle speed to specification.
2. Place a .010" feeler gauge between the accelerator pump stem and the pump operating link. (Fig. 18).
3. Turn the nylon adjusting nut until there is just a slight drag when the gauge is removed.

NOTE: This adjustment must be checked and/or set whenever the curb idle speed is adjusted.

FAST IDLE SPEED

1. With the engine idling at normal operating temperature, place the fast idle lever on the specified step of the fast idle cam (Fig. 19).

NOTE: (EGR disconnected and vacuum line plugged.)

2. Make sure the high cam speed positioner lever is disengaged.
3. Turn the fast idle adjusting screw clockwise to increase speed and counterclockwise to decrease speed.

FAST IDLE CAM

1. Remove the choke cap.
2. Place the fast idle lever in the corner of the specified step of the fast idle cam (counting the highest step as the first) with the high cam speed positioner retracted (Fig. 20).
3. Hold the throttle lightly closed with a rubber band to maintain cam position.

