

TSP end and a screwdriver slot on the other end, to provide for adjustment with the air cleaner assembly in position. When adjusting from the TSP end, turn the screw counterclockwise to increase idle speed. When using the screwdriver slot end, turn the screw clockwise to increase idle speed.

LOW IDLE SPEED (TSP OFF)

The low idle speed is always adjusted with the TSP off. The adjusting screw is located in the main body boss just below the fast idle cam and contacting the fast idle lever tab (Fig. 2). Turn the screw clockwise to increase the low idle speed.

FAST IDLE SPEED

A fast idle speed is provided to help prevent stalls after cold engine starts. Fig. 12 shows the proper position of the fast idle cam and the contact point of the adjusting screw for fast idle speed adjustment and fast idle cam position adjustment. Turn the adjusting screw clockwise to increase fast idle speed.

IDLE FUEL MIXTURE

The idle fuel mixture adjustment screw is located in the throttle body (Fig. 11) near the mounting stud, and is equipped with a plastic limiter cap. The limiter cap must not be removed unless the Idle Mixture Adjustment procedure in Part 29-02 of this manual is followed and a new cap installed. Turning the screw counterclockwise enriches the idle fuel mixture.

FAST IDLE CAM POSITION

Fast idle cam position adjustment is necessary to make sure the fast idle screw contacts the various steps of the fast idle cam at the proper time during engine warm-up (Fig. 12). This adjustment can be made with the carburetor on the engine (with the engine off) or with the carburetor removed from the engine.

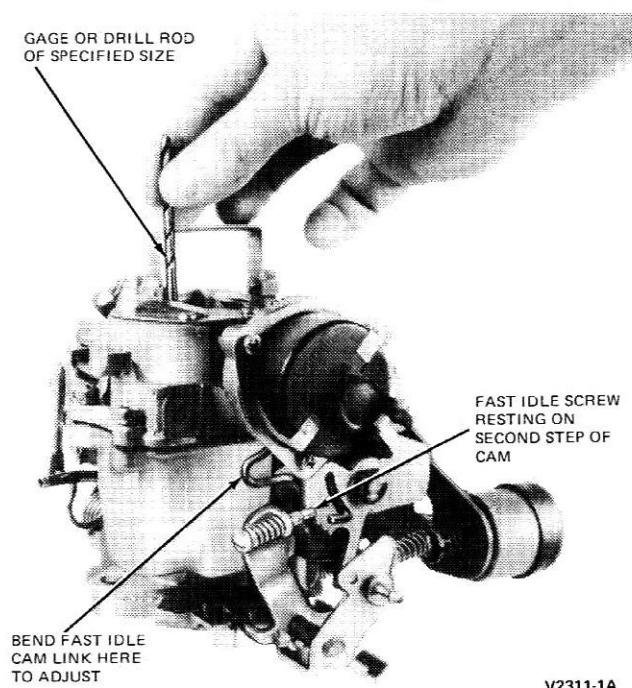


FIG. 12 Fast Idle Cam Position Adjustment

1. With the fast idle speed adjusting screw contacting the second highest step of the fast idle cam (kickdown step), move the choke plate toward the closed position with light pressure on the choke lever or choke plate.
2. Check the fast idle cam setting using the specified size gage or drill bit between the upper edge of the choke plate and the wall of the air horn (Fig. 12).
3. Bend the fast idle cam link to achieve the specified setting. NOTE: To fabricate a convenient bending tool, file a slot in the blade of a flat screwdriver just wide enough to slip over the 1/8-inch fast idle cam link. The tool can also be used in other applications where bending a similar rod for adjustment is required.

ACCELERATOR PUMP STROKE

The accelerator pump stroke is pre-set at the factory and should not be adjusted in an effort to improve driveability.

NOTE: Take care when disassembling the carburetor so that the accelerator pump operating link is not bent, and make sure it is returned to the proper slot in the throttle return spring arm.

The inner pump rod slot is identified as number one, while the outer slot is number two (Fig. 13). If the pump link is damaged or bent, check the length as shown in Fig. 13 and readjust by bending the loop provided to achieve the dimension specified in the Car Performance Specifications Book.

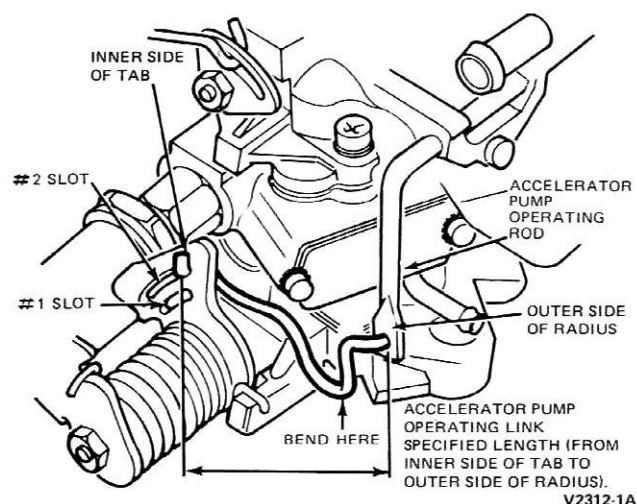


FIG. 13 Accelerator Pump Operating Link

DECHOKE

The dechoke feature provides a means of partially opening the choke plate during cold engine starts, even though the choke bimetal spring is holding it closed. By depressing the accelerator pedal fully, engines that may have become 'flooded' or that have stalled due to excessive choke action can be cleared. To adjust the dechoke clearance, proceed as follows:

1. With the engine off, hold the throttle in the wide open position (Fig. 14).

2. Insert the specified size gage or drill bit between the upper edge of the choke plate and the inner wall of the air horn.
3. With light pressure against the choke shaft lever, a slight drag should be felt as the gage or drill bit is withdrawn.
4. To adjust, bend the unloader tab of the throttle lever until the correct opening is obtained. The tab can be bent with a pair of pliers or other suitable bending tool. Bending the tab upward will increase the dechoke clearance.

CHOKE PULLDOWN

Adjust choke pulldown by bending the choke pull-down diaphragm connecting link (Fig. 15). Use a

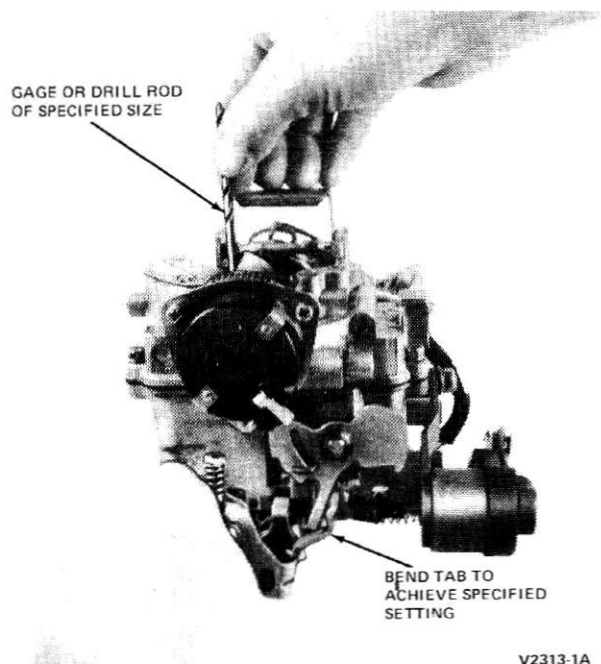


FIG. 14 Dechoke Adjustment

gage or drill bit of the specified diameter to check the clearance between the top of the choke plate and the air horn. FOLLOW THE PROCEDURE IN PART 29-02 OF THIS MANUAL.

EXTERNAL FUEL BOWL VENT

Adjust the external fuel bowl vent (Fig. 16) with the carburetor installed on the engine and the ignition OFF, after having first adjusted the low idle speed (TSP OFF).

1. Remove the air cleaner assembly.
2. Disconnect the canister vent hose from the bowl vent tube on the air horn.
3. Attach a hand operated vacuum pump (Rotunda 000-0000 or equivalent) to the bowl vent tube, using a 3/8-inch adaptor.
4. Remove the three (3) bowl vent cover screws located on the top of the air horn.
5. Remove the bowl vent cover gasket and spring.
6. Turn the vent adjusting screw (located on the nylon vent arm) clockwise until no more than 1/8-inch of the adjustment screw threads is visible above the vent arm (Fig. 16).
7. While operating the hand vacuum pump, gradually turn the adjusting screw counterclockwise 1/8 turn at a time until vacuum is indicated on the gauge, showing that the valve is closed. Release the vacuum and turn the adjusting screw 1/2 turn clockwise. Disconnect the hand vacuum pump and adaptor from the vent hose.
8. Reconnect the canister vent hose and install the air cleaner assembly.

FLOAT LEVEL

1. With the air horn removed, place a finger over the hinge pin retainer and invert the main body. Catch

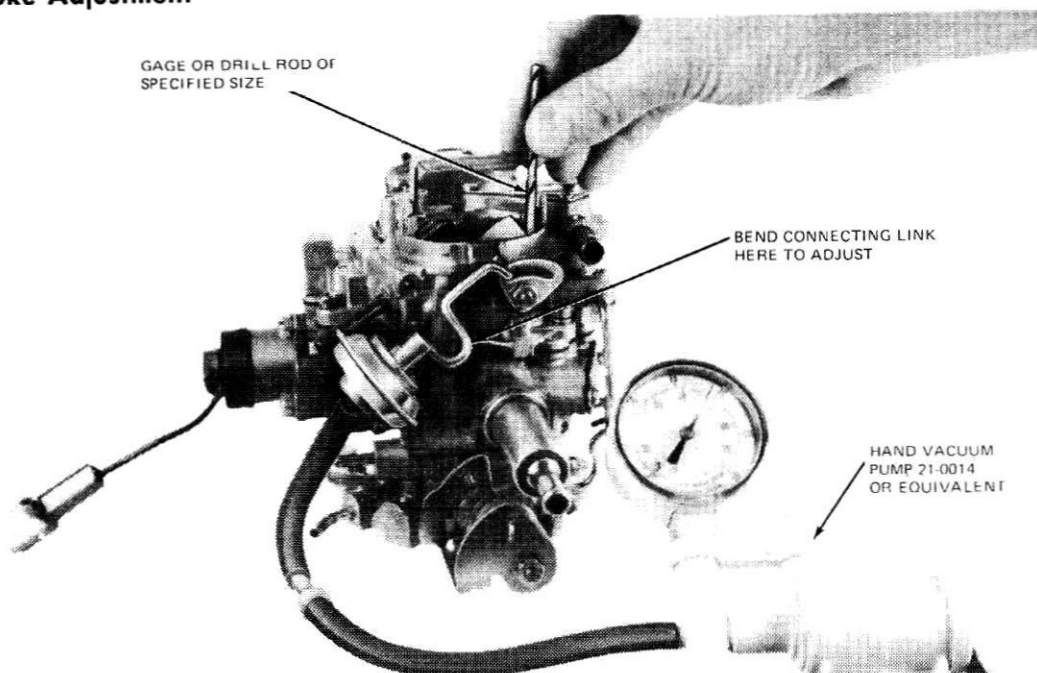
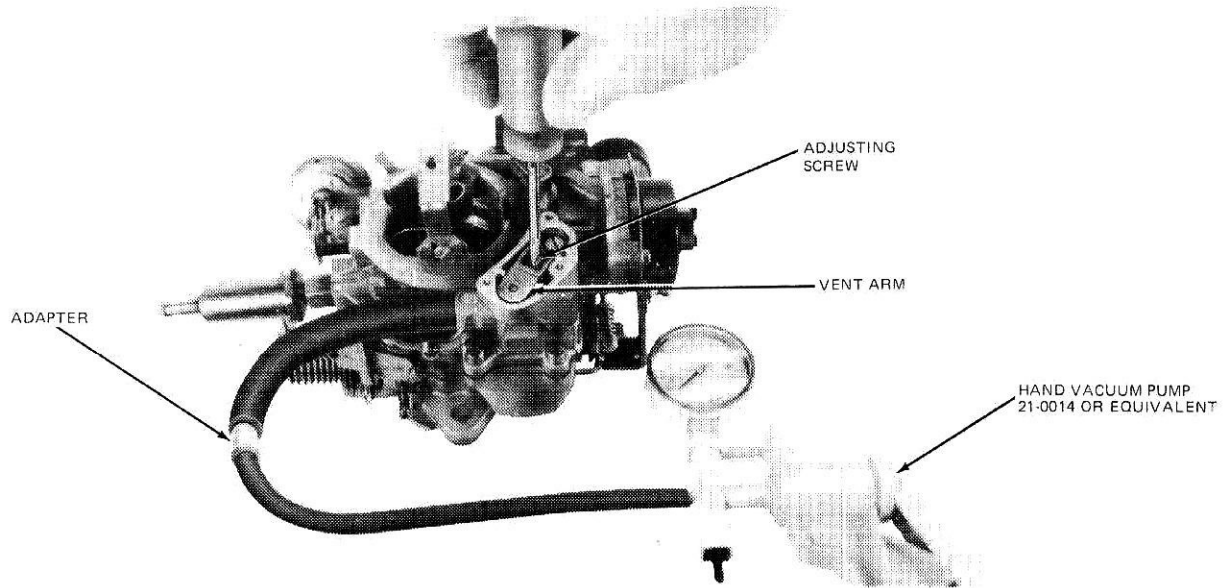


FIG. 15 Choke Pull-down Adjustment

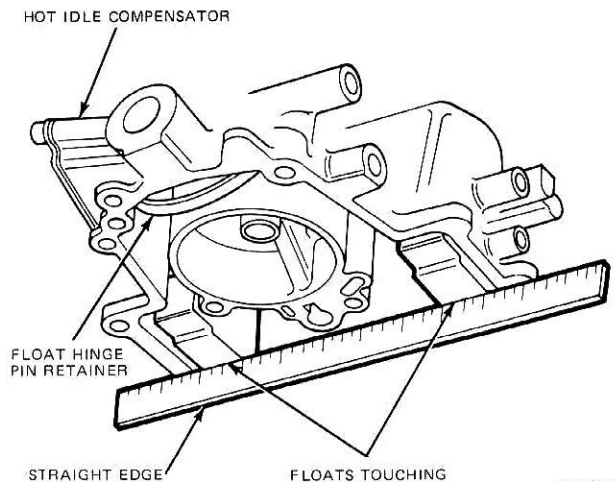


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FIG. 16 External Fuel Bowl Vent Adjustment

the accelerator pump check ball and weight as they drop from the pump channel.

- Using a straight edge (Fig. 17), check the position of the floats. The straight edge should just touch the lowest point on the floats when held as shown. If necessary, bend the float tang to obtain this position.
- When the position is correct, turn the main body right side up and check float **alignment**. The float should move freely throughout its range without touching the fuel bowl walls. If the float pontoons are misaligned, straighten by bending the float arms. Recheck the float level adjustment.



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FIG. 17 Checking Float Adjustment

REMOVAL AND INSTALLATION CARBURETOR

Removal

- Remove the air cleaner assembly.
- Disconnect the throttle cable from the throttle lever. Disconnect the distributor vacuum line, EGR vacuum line, venturi vacuum line, fuel line and choke heat tube from the carburetor.
- Disconnect the TSP electrical connection at the connector. Disconnect the choke PTC heater at the connector.
- Disconnect the choke clean air hose at the air horn.
- Remove the two (2) carburetor attaching nuts and remove the carburetor from the intake manifold.

Remove the carburetor mounting gasket, spacer (if equipped) and lower gasket from the intake manifold.

Installation

- Clean the gasket mounting surfaces of the spacer (if equipped), the intake manifold and the carburetor. Place the spacer between two new gaskets on the intake manifold. Position the carburetor on the spacer and gasket and install the attaching nuts. To prevent leakage, distortion or damage to the carburetor body flange, snug the nuts and then alternately tighten each nut to specification.

2. Connect the fuel line, throttle cable, choke heat tube, distributor vacuum line, EGR vacuum line and the venturi vacuum line.
3. Connect the choke clean air hose to the air horn. Connect the TSP electrical connection and the choke heater wire.
4. Install the air cleaner assembly.
5. Adjust the curb idle speed (TSP ON), slow idle speed (TSP OFF) and fast idle speed as necessary, following procedures in Parts 29-02 and 50-29 of this Manual.

DISASSEMBLY AND ASSEMBLY

GENERAL

To make overhaul easier, and to help prevent damage to carburetor throttle plates, use the EGR spacer (if equipped) as a holding fixture. If a spacer is not available, use a carburetor stand with appropriate mounting bolt holes.

The following procedure is for completely disassembling and reassembling the carburetor. For a carburetor overhaul, follow all the steps. To service only some of the components, follow only the applicable steps. To identify components, see Fig. 18: Disassembled View.

DISASSEMBLY

AIR HORN

1. Remove the choke cover attaching screws, retainer, gasket and bimetal cover.

CAUTION: Do not immerse the cover assembly in cleaner. Clean by wiping dirt from the cover and gently blowing out the inside with compressed air. If the assembly is corroded or damaged, it should be replaced.

2. Remove the two (2) pulldown diaphragm bracket screws, disconnect the vacuum hose from the main body and remove the pulldown diaphragm and linkage assembly.

CAUTION: Do not immerse the pulldown diaphragm assembly in cleaner, as serious damage to the diaphragm could result.

3. Remove the three (3) fuel bowl vent cover attaching screws from the top of the air horn. Remove the cover, spring and gasket from the air horn. **Note the position of the spring when removing.** Remove the bowl vent attaching screw and remove the bowl vent assembly from its seat.

CAUTION: Do not immerse the bowl vent assembly in cleaner, as serious damage could result.

4. Remove the fast idle cam retainer and fast idle cam. Remove choke control lever retaining screw.
5. Remove the throttle return spring bracket attaching nut and lock washer. Disengage the return spring from the throttle body and carefully remove the spring and bracket, **noting in which slot the accelerator pump link is located for proper reassembly.**
6. Remove the accelerator pump link.
7. Remove the seven (7) screws holding the air horn assembly to the main body and remove the air horn.

CAUTION: Do not pry the air horn from the upper body, but tap it gently from side to side

with a plastic hammer or screwdriver handle until it is loose.

Place the air horn upside down on a clean working surface.

8. Remove the air horn gasket. If any material remains on either the air horn or main body gasket surface, remove it with a suitable cleaner.

NOTE: Do not use a metal scraper to remove gasket residue, as it may damage the gasket surface. Use either a nylon scraper or other suitable hard plastic material.

9. Remove the accelerator pump operating rod attaching screw and retainer clamp.
10. Remove the accelerator pump spring retaining plate and attaching screw.
11. Rotate the pump operating rod and disconnect the pump drive spring and accelerator pump assembly.

CAUTION: Do not immerse the pump plunger and cup assembly in cleaner as damage to the cup may result.

12. Rotate the pump operating rod and remove the rod and grommet from the bowl cover.
13. **The main well tube cannot be removed but must be cleaned carefully from both inside and outside the cover with compressed air.**
14. Remove choke thermostat housing retainer screws (3), retainer, housing and gasket.

NOTE: It is not recommended that the choke plate and shaft be removed during normal disassembly unless they are damaged and are to be replaced. Use caution during handling of components so they will not be damaged. Always rest the air horn upside down so that the gasket surface, pump assembly, main well tube and enrichment valve piston will not be damaged.

Main Body

1. Turn the carburetor main body (Fig. 18) upside down and catch the accelerator pump discharge weight and ball as they fall from the channel. Retain the weight and ball for reassembly.
2. Remove the fuel inlet valve and fitting assembly and the gasket,
3. Remove the float shaft retainer, float shaft and float.
4. Remove the main metering jet with a suitable jet wrench. If a jet wrench is not available, a 3/8-inch wide screwdriver may be used. Use caution to avoid damage to the jet.
5. Remove the enrichment valve assembly using a 3/8-inch wide screwdriver which has been modified by

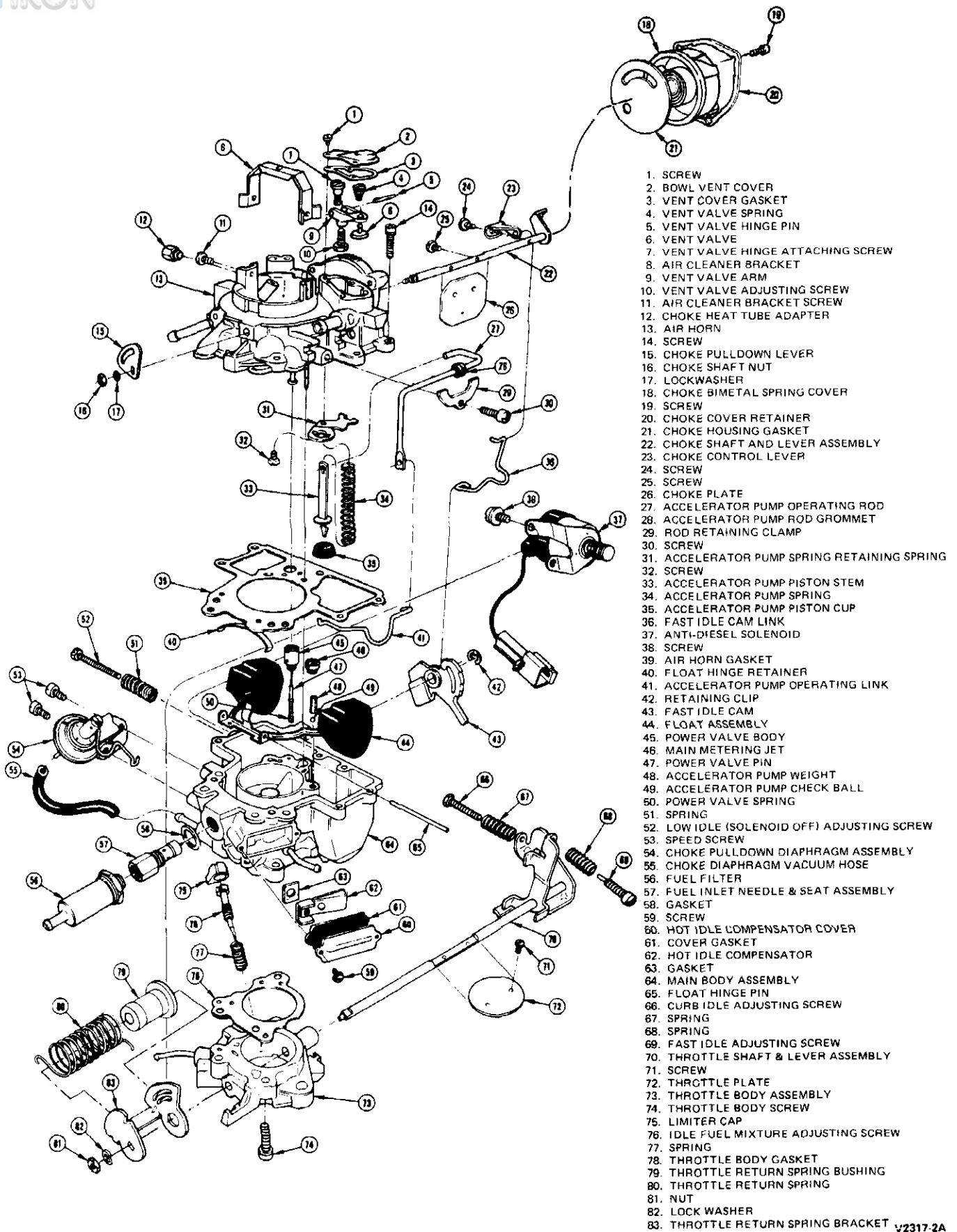


FIG. 18 Holley Model 1946 1-V Carburetor—Disassembled

cutting a 1/16-inch wide by 3/8-inch deep slot in the blade. The slot will provide clearance for the enrichment valve stem.

6. Remove the two hot idle compensator cover attaching screws, the cover, the HIC valve and gaskets from the main body.
7. Remove the three main body to throttle body attaching screws and gently tap and separate the throttle body from the main body.
8. Remove the low idle speed (TSP OFF) adjusting screw and spring.
9. Remove solenoid.

THROTTLE BODY

1. Turn the idle limiter cap on the idle mixture adjustment screw clockwise to its leanest position and remove the cap.

CAUTION: When removing idle fuel mixture limiter cap, take care not to bend screw.

2. **Note position of idle mixture adjusting screw when cap is removed.** Turn mixture screw clockwise until it lightly seats, recording the number of turns required. **The needle must be returned to this same position when the carburetor is reassembled in order to maintain proper calibration.**

CAUTION: Do not tighten the needle against its seat as damage to the needle and/or seat may result. If the needle is bent or grooved where it seats, it must be replaced.

3. Remove the curb idle speed (TSP ON) adjusting screw and spring, and the fast idle speed adjusting screw and spring.
4. Inspect the throttle plate and shaft for nicks, burrs or wear.

NOTE: Do not remove the throttle plate or shaft from the throttle body. If wear or damage is evident, the complete throttle body assembly must be replaced.

ASSEMBLY

THROTTLE BODY

1. Reassemble the fast idle speed adjusting screw (round head) and the curb idle speed adjusting screw (hex head) and springs to the throttle shaft and lever assembly.
2. Place the idle mixture adjusting needle through the spring and install in the throttle body. Lightly seat the needle (**do not tighten against seat**), then back the needle out counterclockwise the number of turns recorded during disassembly, stopping with the screw slot in the same position noted at time of removal of the limiter cap. **Final idle mixture needle adjustment must be made after the carburetor is installed on the engine, following instructions in Part 50-29 of this Manual.** Following adjustment, a new service limiter cap must be installed on the idle mixture needle.

MAIN BODY

1. Install the low idle speed (TSP OFF) adjusting screw and spring.

2. Position the throttle body and gasket on the inverted main body and install the three (3) throttle body attaching screws. Tighten securely.
3. Position the hot idle compensator valve gasket and the valve in the main body. (The valve is held in position on its seat by the cover.) Place the cover and gasket over the compensator and install the two (2) cover screws.
4. Snap the small diameter end of the enrichment valve spring over the shoulder on the large end of the pin and insert the pin into the valve body from the threaded end. Install the valve body, pin and spring in the main body. Tighten with the specially modified screwdriver described under Disassembly.
5. Install the main metering jet using a jet wrench or suitable screwdriver.
6. Install the float hinge pin in the float arm and lower the float and hinge into position in the main body. *Install the hinge retainer.*
7. Install the fuel inlet valve assembly and gasket and check the dry float setting.
8. Install the accelerator pump check ball and weight.

AIR HORN

1. Install the pump operating rod and grommet in the air horn.
2. Push the accelerator pump cup over the retaining tab on the end of the pump piston rod. Assemble the pump spring and pump spring retainer plate to the piston rod by compressing the spring enough to let the plate slip over the piston rod. The larger diameter end of the pump spring should contact the retainer plate and seat over the shoulder.
3. While holding the assembly together, connect the pump operating rod through the slotted hole in the piston rod and rotate the rod so that the plate can be positioned and the screw inserted. Tighten the plate attaching screw.
4. Install the pump operating clamp and attaching screw.
5. Position the air horn gasket over the alignment pin and carefully lower the air horn into place on the main body.

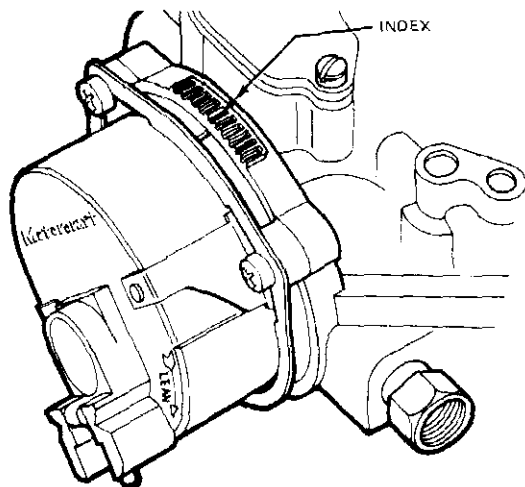
CAUTION: DO NOT FORCE. Guide the accelerator pump cup into the pump well and the main well tube into the main well. Align the air horn and lower it into place. Make sure the enrichment valve piston stem contacts the enrichment valve pin squarely.

6. Install the seven (7) air horn attaching screws.
7. Hook the accelerator pump link into the pump operating rod and into the correct slot in the throttle return spring bracket, noted during disassembly.
8. With the pump link engaged in the proper slot, slide the throttle return spring bracket assembly over the throttle shaft and align it with the shoulders on the end of the shaft.

NOTE: Depressing the pump operating rod against its spring pressure will provide sufficient clearance to permit assembly.

9. Install the attaching nut and lock washer and engage the throttle return spring over the throttle body stop.

10. Place the fast idle cam link in position so that the link engages the fast idle cam slot. Install the cam and retainer. Install the choke control lever and screw.
11. Position the bowl vent assembly and hinge pin in the housing and install the hinge pin attaching screw. Place the small diameter of the bowl vent spring over the shoulder of the vent arm. Position the cover and gasket and install the three (3) cover attaching screws.
12. Connect the choke pulldown diaphragm linkage and install the two (2) diaphragm bracket attaching screws. Reinstall the vacuum hose from the manifold vacuum tube to the diaphragm assembly.
13. Position the choke bimetal cap gasket in the choke housing. Install the choke cap, making certain that the bimetal spring tab is engaged in the slotted choke shaft lever. Install the choke cap retainer and the three (3) attaching screws. Set the choke cap to the specified setting (Fig. 19) and tighten the screws.



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FIG. 19 Choke Cap Adjustment