ROCHESTER 2GC CARBURETOR

V-8 ENGINE

Carburetor Model Number	Usage	Throttle Bore Diameter
7025062	V-326 Automatic	1-11/16"
7025071	V-326 Synchro-mesh	1-11/16"
7024178	V-389 GTO Tri-Power - Front	1-11/16"
7025175	V-389 GTO Tri-Power - Center - Synchro-mesh	1-7/16"
7025177	V-389 GTO Tri-Power - Center - Automatic	1-7/16"
7024179	V-389 GTO Tri-Power - Rear Automatic	1-11/16"
7025179	V-389 GTO Tri-Power - Rear Synchro-mesh	1-11/16"

Two basic models of 2GC carburetors are used. The first model (large) incorporates 1-11/16" throttle bores and has a choke housing located on the throttle flange. This model is used as standard equipment on all automatic and synchro-mesh transmission V-326 Tempests.

The second model (small) uses 1-7/16" throttle bores and has the choke housing attached to the bowl cover. This type is used in the tri-power installation on the V-389 GTO.

GENERAL DESCRIPTION

The following circuit descriptions and overhaul procedures apply specifically to the 7025062 carburetor and, with the exception of the choke housing relocation, apply to all other 2GC carburetors.

The cluster casting is the heart of the carburetor; it embodies the small or secondary venturi, the high speed passages, the main well tubes and nozzles, the idle tubes, and the calibrated air bleeds for both the low and high speed metering system, as well as the accelerating pump jets.

When the cluster is removed, all of these vital parts can be readily seen, cleaned and examined because the main well tubes and idle tubes are permanently installed in the cluster body by means of a precision press fit.

The cluster fits on a platform provided in the body casting of the carburetor so that the main well and idle tubes are suspended in the fuel.

A gasket is used between the cluster casting and the body platform.

This method of design and assembly serves to insulate the main well tubes and idle tubes from engine heat thus preventing heat expansion and percolation spill-over during hot idle periods of operation and during the time the hot engine is not operating.

An external idle vent valve is located on the bowl cover which vents any fuel vapors which may form in the fuel bowl during periods of "hot" idle to the atmosphere. The fuel bowl is also internally vented to give a completely balanced carburetor.

The model 2GC carburetor is of side bowl construction. It is designed, however, with fuel supply jets and passages submerged below the liquid level to provide efficient engine operation under all driving conditions.

A carburetor choke housing is located on the throttle body assembly and is connected to the choke valve through an intermediate choke rod.

A center stud mounting provides for secure attachment of the carburetor air cleaner assembly.

Six "systems" are utilized in the Rochester 2GC carburetor. They are: Float System, Idle System Part Throttle System, Power System, Pump System, and Choke System.

These systems are described and illustrated schematically in the following text.

FLOAT SYSTEM (Fig. 6B-37)

The float system controls the level of fuel in the carburetor bowl.

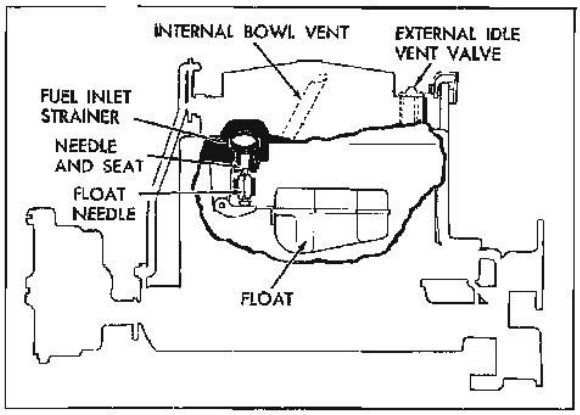

Fig. 6B-37 Float System

Entering fuel first travels through the inlet strainer to remove particles which might block jets or passages. Then the fuel passes through the needle and seat into the carburetor bowl; flow continues until the rising liquid level raises the float to a position where the valve is closed. Thus the fuel level can be regulated by setting the float to close the valve when the proper level is reached.

A tang located at the rear of the float hanger prevents the float from traveling too far downward.

The carburetor is internally vented. The vent transmits the air pressure from beneath the air cleaner to the fuel in the float bowl. The amount of fuel metered by the carburetor is dependent upon the pressure in the float bowl, causing fuel to flow. By locating the vents below the air cleaner, or internally, the carburetor automatically compensates for air cleaner restriction, since the same pressure causing air to flow will also be causing fuel to flow.

An external idle vent, located in the top of the float bowl, vents the bowl to atmosphere during idle operation. In this way any fuel vapors which may form in the bowl during hot idle or when parked will be vented to the outside. The idle vent automatically closes after the throttle valve has moved from the idle position into the part throttle range, returning the carburetor to internal balance.

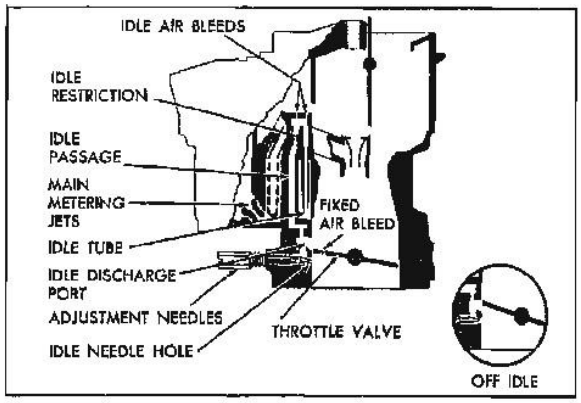

Fig. 6B-38 Idle System

IDLE SYSTEM (Fig. 6B-38)

The idle system consists of the idle tubes, idle passages, idle air bleeds, idle mixture adjustment needles, idle discharge slot and an idle air adjustment screw.

In the curb idle speed position, the throttle valves are held open by the speed adjusting screw.

In order to obtain sufficient idle air for stable idle speed adjustment, a fixed air bleed is necessary; this is accomplished by a drilled hole in each throttle valve. The fixed idle air bleeds maintain a constant idle air flow for part of the idle air requirements, while the idle speed adjustment screw regulates the remainder of the idle air. Thus, the engine idle speed can be adjusted by the idle speed adjustment screw.

The idle mixture needle hole is in the high vacuum area below the throttle valve while the fuel bowl is vented to atmospheric pressure. Vacuum can be called a lack of pressure, so a high vacuum area can be spoken of as an area of low pressure. Thus it can be said that there is considerable pressure difference between the normal atmospheric pressure on the fuel in the bowl and the low pressure (or high vacuum) at the idle mixture needle hole.

The fuel and fuel/air mixture will be forced by atmospheric pressure to occupy any low pressure area. It will flow from the fuel bowl to the manifold in the following manner:

The atmospheric pressure acting on the fuel in the bowl forces fuel through the main metering jets into the main well. It is metered by the idle fuel metering orifice at the lower tip of the idle tube and travels up the idle tube. When the fuel reaches the top of the idle tube, it mixes with air entering through the primary idle air bleed. The mixture moves through the horizontal idle passage where more air is added at a second idle air bleed and then down through a restriction in the vertical passage which serves to further break up the fuel. More air is picked up at a third idle air bleed just below the idle restriction.

The fuel/air mixture next moves down the vertical idle passage to the idle discharge slot located just above the throttle valve. Through this slot further

air is added to the mixture, which then passes through the idle mixture needle hole.

In addition to this mixture of fuel and air, there is air entering the carburetor bore through the fixed idle air bleeds. For smooth operation, the air from the idle needle hole must combine to form the correct final mixture for curb idle engine speed.

The position of the idle adjustment needle governs the amount of fuel/air mixture admitted to the carburetor bore.

Except for this variable at the idle adjustment needle, the idle system is specifically calibrated for low engine speeds.

A hot idle compensator is incorporated in all carburetors on cars equipped with automatic transmission. The function of the idle compensator is to prevent rough idle and stalling during prolonged hot idle conditions.

It consists of a bi-metal strip, a valve and mounting bracket. The idle compensator is mounted between the venturi on the large bore carburetors and on the back of the carburetor on the bowl casting on small bore carburetors. Below the compensator is a passage leading to manifold vacuum below the throttle blades.

As engine and underhood temperatures rise to a predetermined value, the bi-metal strip lifts the valve off its seat. This allows fresh air to enter the manifold below the throttle valves and offset rich mixtures due to fuel vapors that are causing the rough idle and stalling.

When underhood temperatures return to normal, the bi-metal strip will lower and the compensator valve will close and normal idle operation will resume.

NOTE: No adjustments are necessary on the idle compensator. The compensator valve must be closed while adjusting engine idle.

There is no distributor vacuum advance at idle with this carburetor installation on the Tempest V-8 with synchromesh transmission.

PART THROTTLE SYSTEM (Fig. 6B-39)

As the throttle valve is opened, there is a change in pressure differential points.

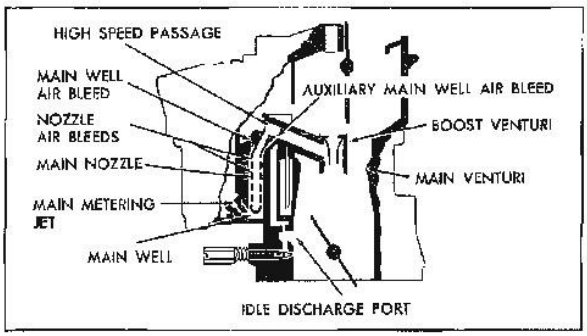

Fig. 6B-39 Part Throttle System

Opening of the valve progressively exposes the idle discharge slot to manifold vacuum and the air stream with the result that they deliver additional fuel/air mixture for fast idle engine requirements.

Further opening of the throttle valve increases the speed of the air stream passing through the venturi, thus lowering the pressure (or raising the vacuum) in the small venturi area of the carburetor bore. At the same time, the edge of the throttle valve is moved away from the wall of the bore, progressively reducing the vacuum and thus the mixture flow at the idle discharge slot.

Since the low pressure point is now in the small venturi area, fuel and fuel/air mixture will be forced from the fuel bowl through the main metering system to the venturi as follows:

The fuel passes through the main metering jet into the main well, where it rises in the main well tube. Air entering through the main well air bleeds in the cluster is mixed with the fuel through the main well tube vents. The mixture continues up the main well tube through the nozzle, where more air is added. The mixture flows through the high speed passage to the small venturi, mixes with additional air and moves on to the bore of the carburetor, through the intake manifold, and into the cylinder as a final mixture for part throttle operation.

A second high speed bleed is incorporated in the cluster of large bore 2GC carburetors only. This bleed is drilled from the main well to the high speed passage and serves two purposes. It transmits low pressure from the secondary venturi and high speed passage to the main well, thereby helping to raise fuel level. This raising of the level assists the initial feeding of fuel at low speed and also helps control the mixture during high speed operation.

As the throttle opening is increased and more fuel is drawn through the main well tubes, the fuel level in the main well drops. More holes in the main well tubes are then exposed to the air in the upper well area and become air bleeds. This maintains

the proper fuel/air mixture to the engine throughout the part throttle range.

Permanent jets and air bleeds calibrate the main metering system for efficient part throttle operation.

POWER SYSTEM (Fig. 6B-40)

As was pointed out under part throttle operation, the fuel level in the main well area drops as the throttle valves are opened. This is due to the fact that more fuel is drawn through the main well tubes, but the supply to the main well is held constant by the opening in the main metering jet. For high speed and/or heavy load conditions an additional source of fuel for the main well area is required. The power system accomplishes this purpose.

A spring-loaded power piston, controlled by vacuum, regulates the power valve to supply the additional fuel.

The power piston vacuum channel is open to manifold vacuum in the carburetor bore beneath the throttle valves; thus the vacuum in the channel rises and falls with manifold vacuum.

During idle and part throttle operation, manifold vacuum in the channel is high; therefore, air pressure in the passage beneath the power piston holds the piston in the fully raised position against the tension of the spring. As the load or speed is increased the throttle valves open wider and manifold vacuum drops. The calibrated spring forces the power piston down against the power valve to open it and allow fuel to flow through the power restrictions into the main wells. The amount of fuel is controlled by the main metering jet and the power restriction.

A two-step valve allows a gradual increase in fuel flow as the power valve is opened; at full throttle position, the power valve is fully opened to permit maximum calibrated fuel flow from the power system.

When the load is decreased the throttle valves close and manifold vacuum is increased. Therefore, air pressure below the power piston gradually overcomes the piston spring tension and forces the piston upward to its original position with the power valve fully closed.

PUMP SYSTEM (Fig. 6B-41)

Extra fuel for smooth, quick acceleration is supplied by a double spring pump plunger. A rapid opening of the throttle valves, as is the case when accelerating from low speeds, causes an immediate increase in air velocity. Since fuel is heavier than air it requires a short period of time for it to "catch" up with the air flow. To avoid a leanness during this momentary lag, the accelerator pump furnishes a quantity of liquid fuel sprayed into the air stream to mix with incoming air and maintain the proper fuel/air mixture.

The pump is operated by the combined action of two springs which are calibrated to move the plunger in such a manner that a sustained charge of fuel is delivered for smooth acceleration.

The pump is attached by linkage to the accelerator so that when the throttle valves are closed the pump

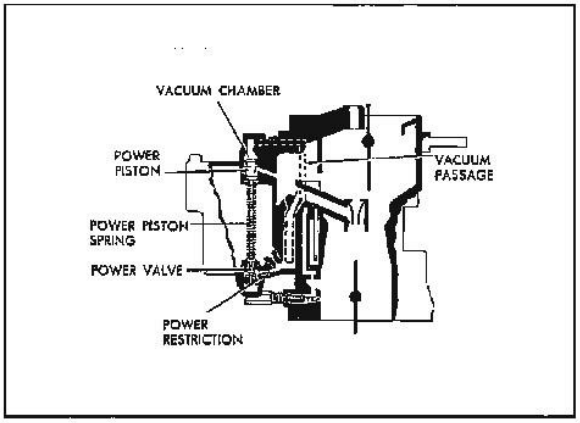

Fig. 6B-40 Power System

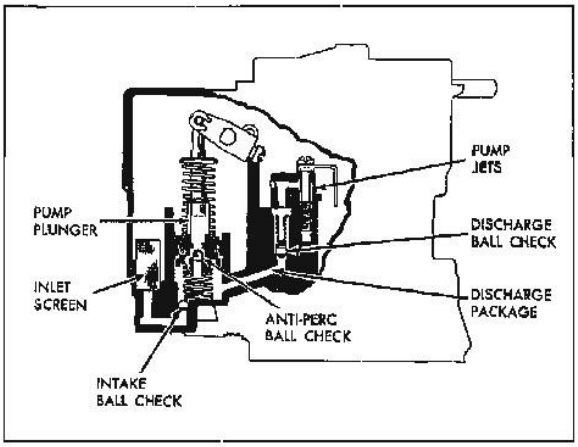

Fig. 6B-41 Pump System

plunger moves upward in its cylinder, creating a low pressure area (partial vacuum) in the cylinder below the plunger. Atmospheric pressure acting on the fuel in the bowl forces fuel into the cylinder through the intake ball check. The discharge ball is seated at this time to prevent air being forced into the cylinder.

When the plunger is moved downward for acceleration, the force of the stroke seats the intake ball check to prevent flow to the fuel bowl, and the fuel is forced up the pump discharge passage. The pressure of the fuel lifts the pump outlet ball check from its seat and the fuel passes on through the pump jets in the cluster, where it is sprayed into the venturi and delivered to the engine.

At higher speeds pump discharge is no longer necessary to insure smooth acceleration. When the throttle valves are opened, a predetermined amount the pump plunger bottoms in the cylinder, eliminating pump discharge.

An "anti-percolator" check valve, contained inside the plunger, provides relief for any vapors which might form during hot idle or when a hot engine is not operating. The ball check is designed so that it can move up and down in its passage. Throughout the above periods it is seated by gravity and vapors in the pump well rise and by-pass the ball check through small holes in the plunger head.

The "anti-perc" ball check also acts as an extra inlet during the upstroke of the pump plunger, but is seated by fuel when the plunger moves downward.

CHOKE SYSTEM (Fig. 6B-42)

The purpose of the choke system is to provide a rich mixture for cold engine operation. It is necessary to have an extra rich mixture because fuel vapor has a tendency to condense on the cold engine parts, thus decreasing the amount of combustible mixture available at the combustion chamber.

The choke system subjects all fuel outlets in the bore of the carburetor to manifold vacuum while restricting the intake of air.

The choke system includes a thermostatic coil, housing, choke piston, choke valve, and fast idle cam and linkage. It is controlled by a combination of manifold vacuum, air velocity against the offset choke valve, and tension of the thermostatic spring.

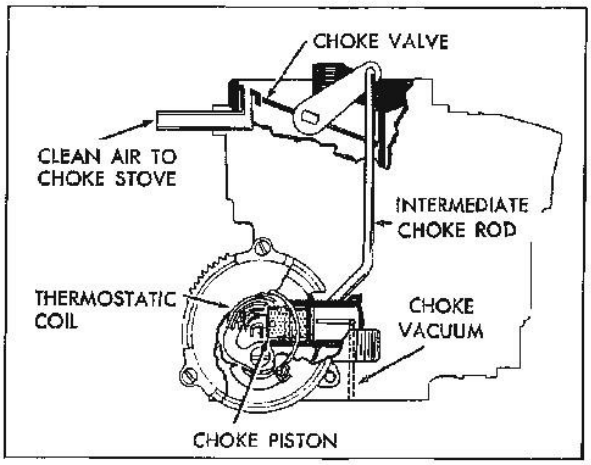

Fig. 6B-42 Choke System

When the engine is cold, tension of the thermostatic coil holds the choke valve closed. Starting the engine causes air velocity to strike the offset choke valve. This tends to open it, along with the action of intake manifold vacuum on the choke piston. After a slight opening of the choke valve, the tension of the thermostatic coil spring balances the force of air on the valve and the pull of vacuum at the piston.

As the engine warms up, manifold vacuum exists in the choke housing. Clean hot air from the choke stove is forced into this low pressure area through a passage in the side of the choke housing to heat the thermostatic coil.

The clean air is supplied to the choke stove in the manifold from the air horn, above the choke valve (just below the air cleaner). Here filtered air from the air cleaner is picked up and carried to the stove by a metal pipe.

A secondary baffle plate serves to distribute the heat from its entering point at the side of the coil throughout the choke housing, to prevent a "hot spot" in the coil center, which would cause a rapid opening of the choke valve. The choke baffle is designed in some models with a hole or holes drilled in it. These holes are used to further control heat to the choke coil and, thereby finely tailors the choke to the particular engine model. The thermostatic coil "relaxes" gradually until the choke is fully open.

If the engine is accelerated during warm-up, the corresponding drop in manifold vacuum on the choke piston allows the thermostatic coil to momentarily close the choke, providing a richer mixture.

During warm-up it is necessary to provide a fast idle to prevent engine stalling. This is accomplished by a fast idle cam connected to the choke shaft. The idle speed screw on the throttle lever contacts the

fast idle cam and prevents the throttle valves from returning to the idle position until the choke valve is fully open.

If the engine becomes flooded during the starting period, the choke valve can be partially opened manually to allow increased air flow through the carburetor. This is accomplished by depressing the accelerator pedal to the floor. The unloader projection on the throttle lever contacts the unloader lug on the fast idle cam and in turn partially opens the choke valve.

ADJUSTMENTS ON CAR

All Rochester 2GC adjustments can be performed on the car. With the exception of the idle speed and mixture adjustment all adjustments are included in the OVERHAUL AND ADJUSTMENTS procedure. Following are the idle speed and mixture adjustments.

Whenever idle speed screw is turned the throttle should be opened slightly, then closed to seat screw properly on cam.

IDLE SPEED AND MIXTURE ADJUSTMENT

With the engine at operating temperature adjust idle speed to the following specifications.

		V-389 GTO	
	V-326	4BBL	3 x 2
Auto. Trans. in Drive	480-500	480-500	580-600
Auto. Trans. A/C in Drive A/C off	540-560	540-560	640-660
Synchromesh exc A/C	580-600	580-600	580-600
Synchromesh with A/C A/C off	640-660	640-660	640-660

The idle mixture should be adjusted to give a smooth idle at the specified idle speed. Missing is a sign of too lean an idle mixture while "rolling" or "loping" indicates too rich a mixture. Turning the idle mixture screw in, leans out the mixture; one and one-half turns out from the lightly seated position may be used as a preliminary setting of the mixture screws.

NOTE: All two-barrel carburetors used on Tempest V-8 engines with automatic transmission have a hot idle compensator. During idle adjustment make sure the hot idle compensator is closed by depressing the spring-loaded button.

PERIODIC SERVICE

There are no periodic services required on the Rochester 2GC carburetor; however, choke linkage, choke valve and levers and pump linkage should be kept free of dirt and gum so that they will operate freely. DO NOT OIL CHOKE VALVE SHAFT OR ANY PART OF THE LINKAGE.

OVERHAUL AND ADJUSTMENT

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 the complaint, the carburetor should be carefully removed from the engine without draining the fuel from the bowl. The contents of the fuel bowl may then be examined for contamination as the carburetor is disassembled.

The following is a step-by-step sequence by which the Rochester 2GC carburetor may be completely disassembled and reassembled. Adjustments may be made and various parts of the carburetor may be serviced without completely disassembling the entire unit.

DISASSEMBLY OF BOWL COVER

1. Remove fuel inlet filter retainer nut and gasket and remove the filter.

2. Disconnect the pump link (Fig. 6B-44) from the pump lever by removing spring clip. Remove lower end of pump rod from throttle lever by removing clip.

3. Detach choke intermediate rod (Fig. 6B-43) at lower end by removing clip, then detach choke inter-

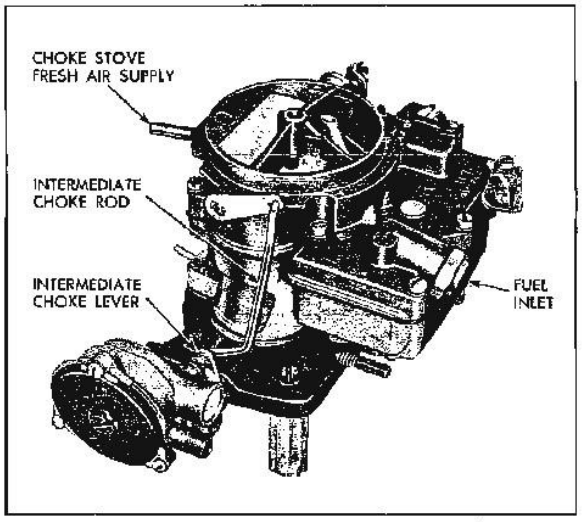

Fig. 6B-43 Rochester 2GC Carburetor

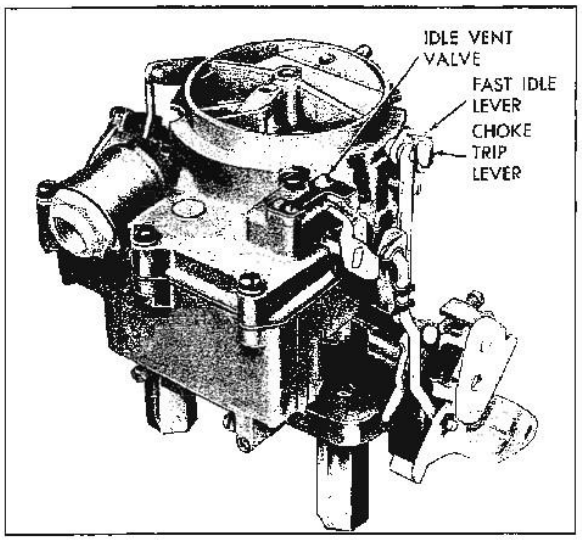

Fig. 6B-44 Rochester 2GC Carburetor

mediate rod from choke shaft by rotating until the tang on rod clears the slot in lever.

4. Remove retaining screw at the end of the choke shaft and remove choke trip lever and fast idle link and lever (Fig. 6B-44). Lever can be removed from link by turning until slot in lever will pass over tang on link. The link and fast idle cam are retained by a Truarc washer. Disassembly of these pieces will destroy the Truarc washer.

5. Remove eight cover screws (Fig. 6B-45) and lift cover from bowl (Fig. 6B-46).

6. Place upended cover on flat surface. Remove float hinge pin and lift float assembly from cover

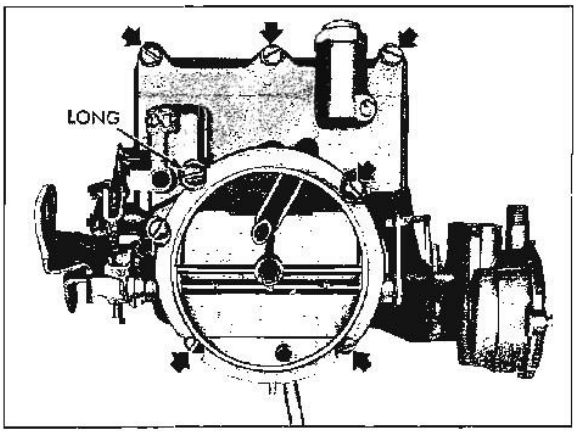

Fig. 6B-45 Location of Cover Attaching Screws

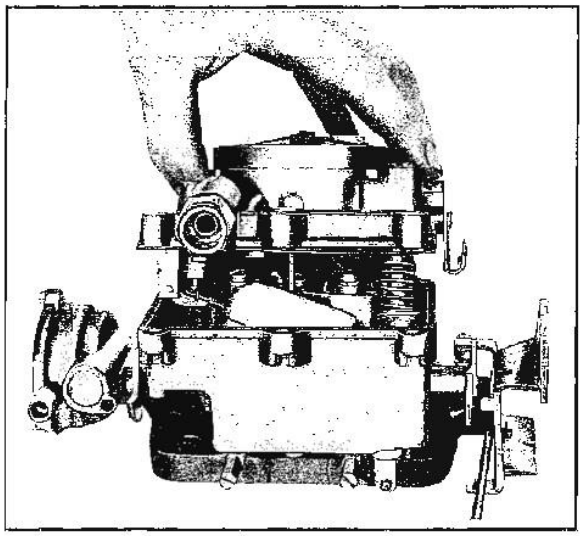

Fig. 6B-46 Removing Bowl Cover Assembly

(Fig. 6B-46). Float needle may now be removed from seat.

7. Remove float needle seat, screen (Fig. 6B-47) and gasket with wide blade screwdriver.

8. Remove power piston (Fig. 6B-47) by depressing piston stem and allowing it to snap free or by holding

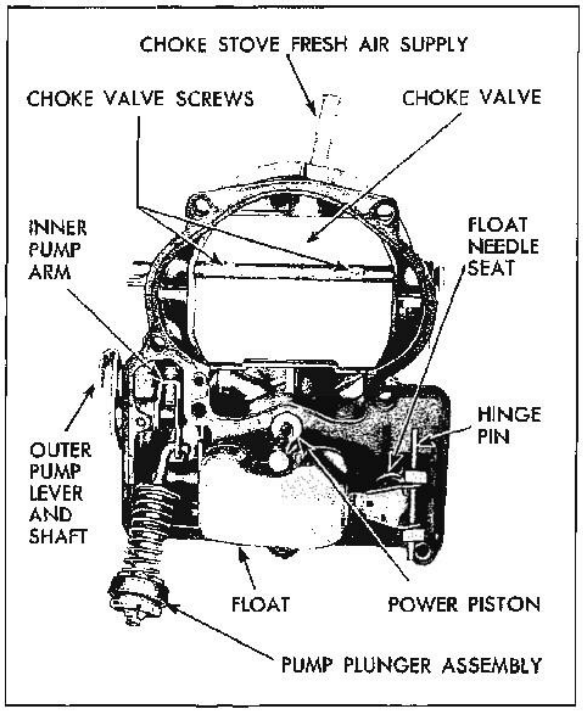

Fig. 6B-47 Bowl Cover Attaching Parts

stem and tapping lightly on air horn with a non-metallic object. Use care not to bend piston stem.

9. Remove retainer on pump plunger shaft, remove plunger assembly from pump arm (Fig. 6B-47). The pump lever and shaft may be removed by loosening set screw on inner arm and removing outer lever and shaft.

10. The cover gasket may now be removed.

11. Remove idle vent valve.

12. Remove two choke valve attaching screws, then remove choke valve.

13. Remove choke valve shaft from bowl cover.

DISASSEMBLY OF BOWL

1. Remove pump inlet filter screen and pump plunger return spring, and remove aluminum check ball from bottom pump well (Fig. 6B-48).

2. Remove main metering jets and power valve (Fig. 6B-45).

3. Remove three screws holding cluster to bowl and remove cluster and gasket. Remove deflector also (Synchromesh).

4. Using a pair of long nose pliers, remove the pump discharge spring retainer (Fig. 6B-49). Then the spring and check ball may also be removed.

5. Invert carburetor and remove three large bowl to throttle body attaching screws. Throttle body and gasket may now be removed.

6. Remove fast idle cam and fast idle link as an assembly. DO NOT disassemble.

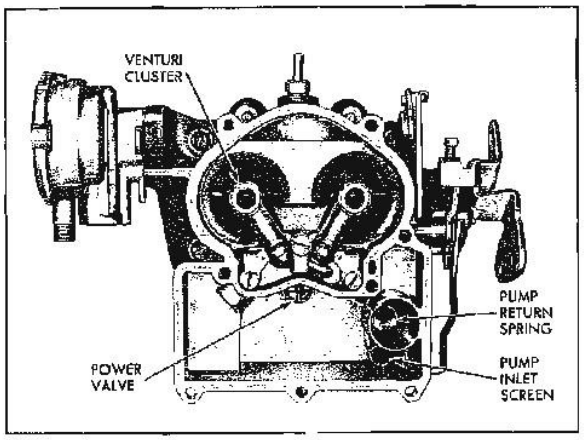

Fig. 6B-48 Carburetor Body Assembly Details

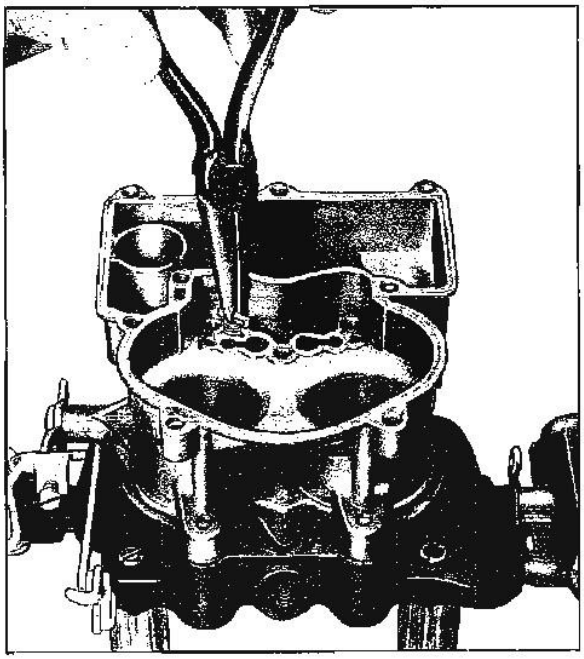

Fig. 6B-49 Removing Pump Discharge Spring Retainer

7. Remove idle compensator bracket and compensator if present.

DISASSEMBLY OF THROTTLE BODY

1. Remove idle adjusting needles and springs.

2. Remove fast idle screw from throttle lever if necessary to replace.

3. Remove the three choke cover attaching screws and retainers, then remove choke cover and coil assembly from choke housing.

4. Remove choke cover gasket and baffle plate.

5. Remove choke piston lever attaching screw (Fig. 6B-50).

6. Remove piston link and lever assembly from carburetor.

NOTE: Piston can be removed from link by dropping out piston pin.

7. Remove the two choke housing attaching screws and detach choke housing from throttle body.

8. Remove intermediate choke shaft and lever from choke housing.

CLEANING AND INSPECTION

Dirt, gum, water or carbon contamination in or on the exterior moving parts of a carburetor are often responsible for unsatisfactory performance. For this reason, efficient carburetion depends upon careful cleaning and inspection while servicing.

1. Thoroughly clean carburetor casting and metal parts in clean cleaning solvent.

CAUTION: Choke cover and coil, idle compensator, rubber vent valve, gaskets, and pump plunger should not be immersed in solvent. Clean pump plunger in clean gasoline only.

To avoid damage to gasket between choke housing and throttle body, do not soak the throttle body assembly in cleaner or solvent if choke piston housing has not been removed.

2. Blow all passages in castings (Figs. 6B-51 through 6B-55) dry with compressed air and blow off all parts until they are dry.

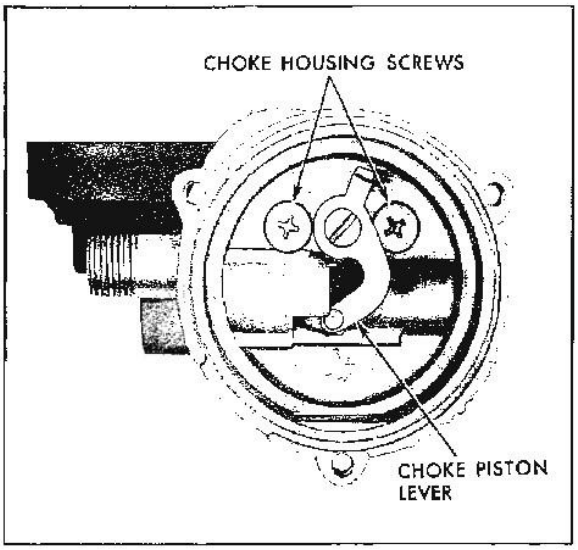

Fig. 6B-50 Choke Housing Screws

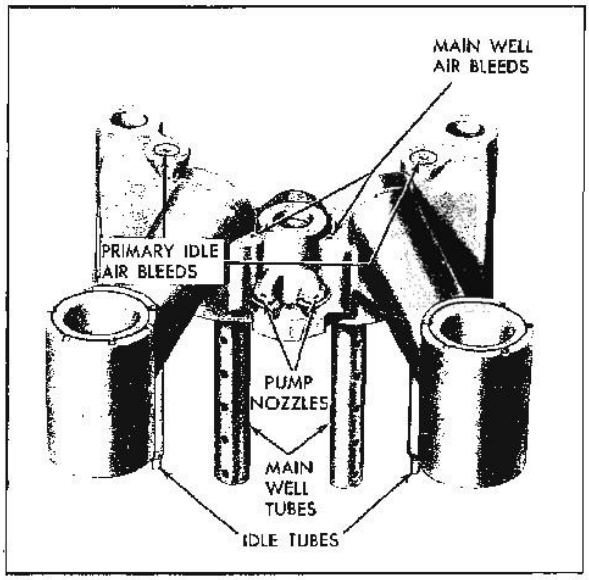

Fig. 6B-51 Passage Identification - Venturi Cluster

CAUTION: Do not pass drills or wires through calibrated jets or passages as they may enlarge orifices and seriously affect carburetor calibration.

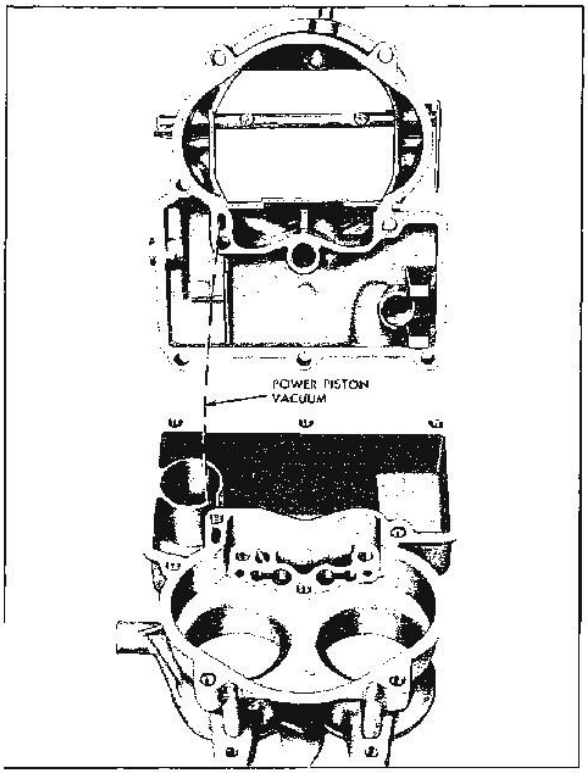

Fig. 6B-52 Passage Identification - Body to Bowl Cover

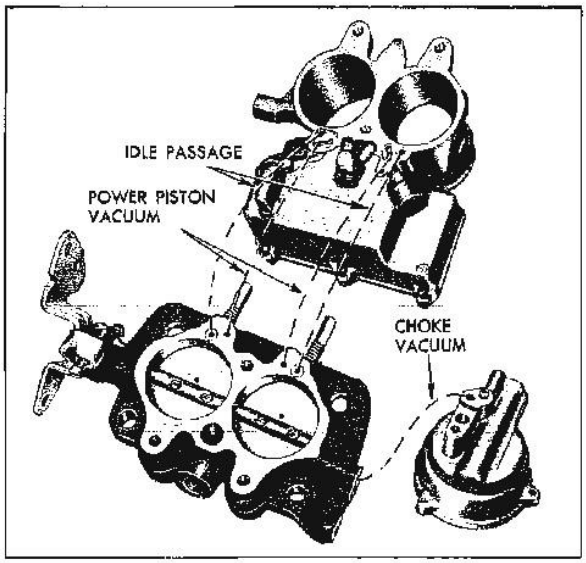

Fig. 6B-53 Passage Identification - Flange - Bowl - Choke Housing

3. Check all parts for wear. If wear is noted, defective parts must be replaced. Note especially the following:

a. Check float needle and seat for wear. If wear is noted the assembly must be replaced.

b. Check float lip for wear and float for dents. Check floats for gasoline leaks by shaking.

c. Check throttle and choke shaft bores in throttle body and cover castings for wear or out of round.

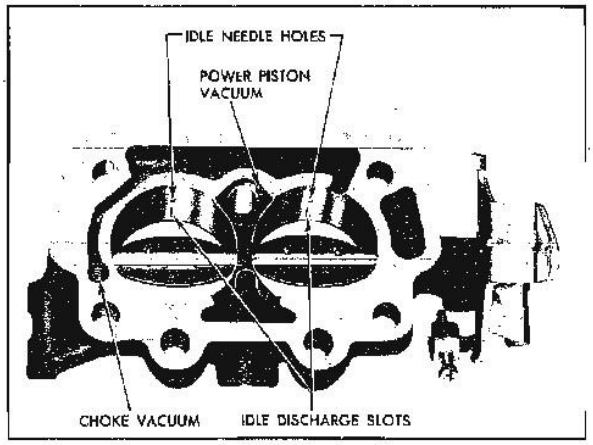

Fig. 6B-54 Passage Identification - Throttle Flange

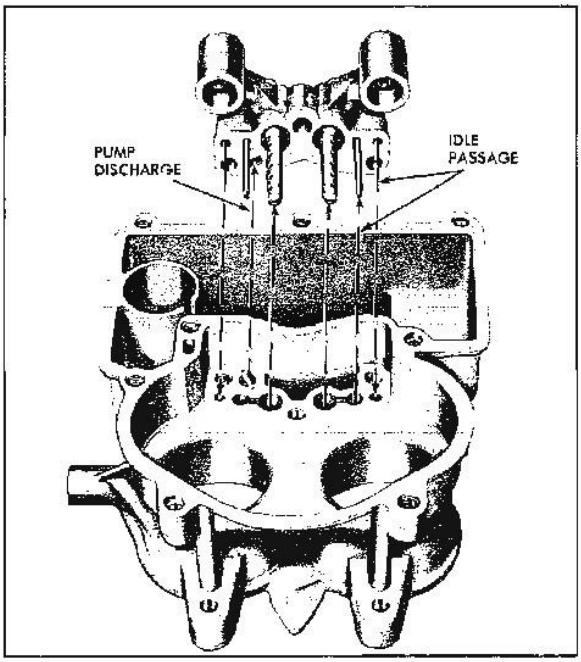

Fig. 6B-55 Passage Identification - Body to Cluster

d. Inspect idle adjusting needle for burrs or ridges. Such a condition requires replacement.

e. Inspect fast idle cam—if wear is noted on steps of cam it should be replaced as it may upset engine idle speed during the warm-up period.

f. Inspect pump plunger cup. Replace plunger if cup is damaged.

g. Inspect power piston and spring for burrs or distortion. Replace if necessary.

4. Check all filter screens for dirt or lint. Clean and if they are distorted or plugged, replace with new parts.

5. Inspect cluster casting. If any parts in castings are loose or damaged, cluster assembly must be replaced.

6. Use new gaskets in reassembly.

ASSEMBLY OF THROTTLE BODY

1. Install fast idle screw in throttle lever if removed.

2. Screw idle mixture and adjusting needles and springs into throttle body until finger tight. Back out screw 1-1/2 turns as a preliminary idle adjustment.

3. Upend bowl, place new throttle body gasket in position and attach throttle body. Tighten screws evenly and securely.

ASSEMBLY OF BOWL

1. Install hot idle compensator on bowl section between venturi.

2. Drop steel pump discharge check ball into pump discharge hole. Ball is 3/16" diameter (do not confuse with aluminum intake ball). Install pump discharge spring and retainer.

3. Replace deflector (synchromesh), cluster and gasket, tighten screws evenly and securely. Make certain center screw is fitted with gasket to prevent pump discharge leakage.

4. Replace main metering jets and power valve.

5. Drop aluminum pump intake ball check into hole in pump well. Install pump return spring, pressing with finger to center it in pump well.

6. Replace pump inlet strainer, pressing carefully into position.

ASSEMBLY OF BOWL COVER

1. Install choke shaft in air horn, then install choke valve on choke shaft, using two attaching screws. Letters RP on choke valve should face towards top of air horn (Fig. 6B-56). Center choke valve before tightening screws, by installing the fast idle lever and choke trip lever. Maintain approximately .020" clearance between the fast idle lever and air horn casting. Then tighten choke valve screws and "stake" lightly. Then install choke trip lever and fast idle lever. Choke valve should move freely in housing.

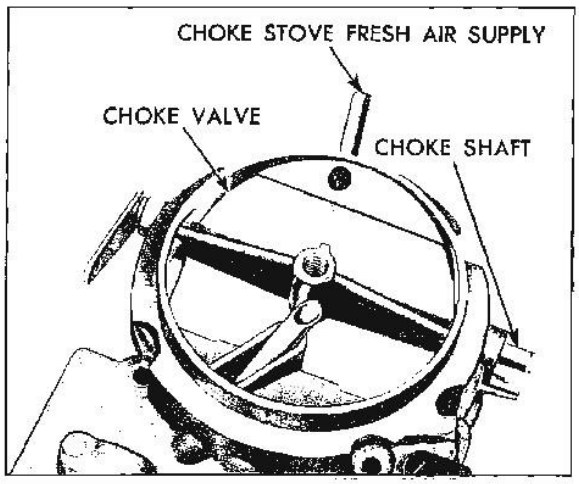

Fig. 6B-56 Choke Valve and Shaft Installed

2. Replace pump outer lever and shaft assembly and inner lever, tighten retaining screw on inner lever (Fig. 6B-57).

3. Install small fuel screen on needle seat.

4. Install float needle seat screen and gasket, using wide blade screwdriver.

5. Drop aluminum pump intake ball check into shaft end pointing inward towards center of air horn casting.

6. Install cover gasket.

7. Insert needle in seat, carefully position float and insert hinge pin.

8. Adjust float.

FLOAT LEVEL ADJUSTMENT

With air horn inverted and gasket in place and needle seated, there should be 5/8" ± 1/16" clearance between the lower edge of float seam (sharp edge) at the toe end and air horn gasket (Fig. 6B-58).

Use gauge set J-8556. To adjust, bend float arm at rear of float. Visually check float alignment after adjusting float.

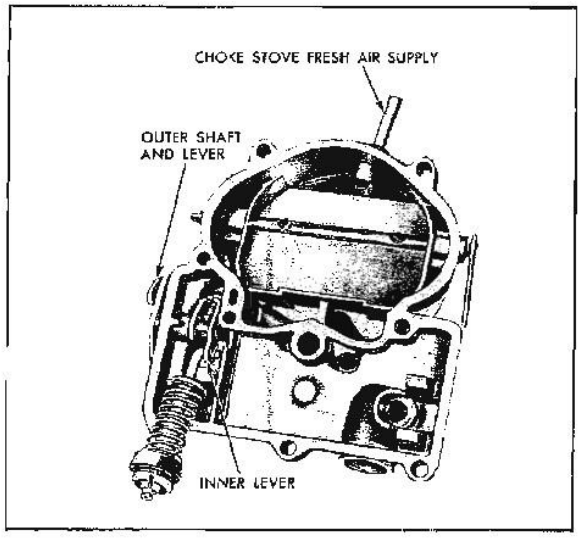

Fig. 6B-57 Pump Plunger Installed on Bowl Cover

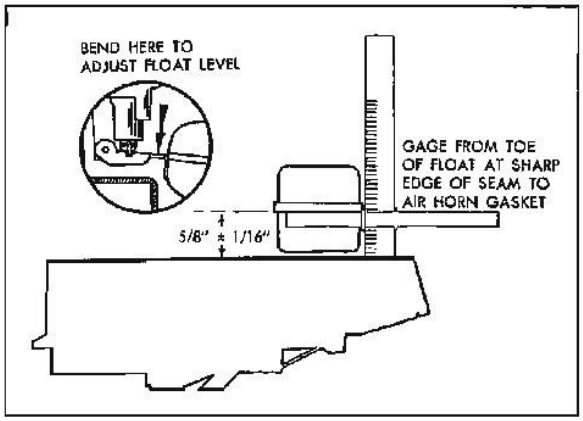

Fig. 6B-58 Float Level Adjustment

FLOAT DROP ADJUSTMENT (Fig. 6B-59)

With air horn right side up so that float can hang free, the distance from the gasket surface to the lowest point of the float should be a minimum of 1-3/4" (Fig. 6B-59). Maximum drop can be any amount that will retain needle for installation. Needle must not wedge at maximum drop. To adjust, bend tang at rear of float towards needle seat to decrease float drop and away from needle seat to increase float drop.

9. Install power piston in vacuum cavity; piston should travel freely in cavity. Stake vacuum piston retainer washer.

10. Place cover on bowl, making certain that accelerator pump plunger is correctly positioned and will move freely.

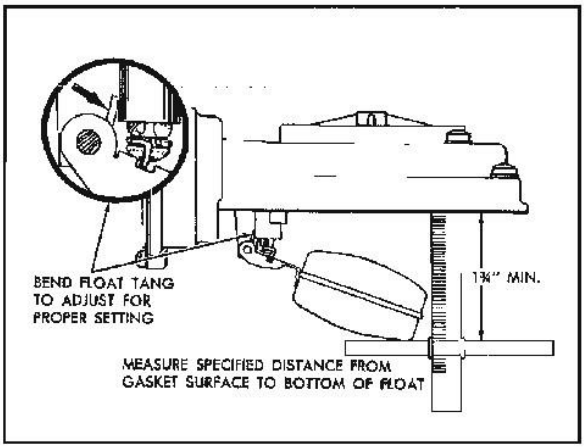

Fig. 6B-59 Float Drop Adjustment

11. Install and tighten eight cover screws evenly and securely.

12. Install filter with closed end toward air horn.

13. Install pump link and retainer.

14. Install idle vent valve.

PUMP ROD ADJUSTMENT

Place tool on top of cleaner mounting ring as shown in Fig. 6B-60. Then with throttle valves fully closed the top surface of the pump rod should just touch the end of the gauge. Measurement should be 1-11/32" ± 1/32". Bend pump rod to adjust.

16. Install fast idle link and fast idle cam as an assembly and install fast idle lever on other end of fast idle link. Place fast idle lever on choke shaft with the tank facing outward and toward the pump lever. Install trip lever so that tang of trip lever is under tang of choke lever, and install retaining screw (Figs. 6B-61 and 6B-62).

17. Assemble intermediate choke shaft and lever and new gasket to choke housing. Attach to throttle body with two attaching screws.

18. Assemble choke piston and linkage to choke housing and attach to intermediate choke shaft. Insert intermediate choke rod into lever on air horn and attach to intermediate choke lever with clip.

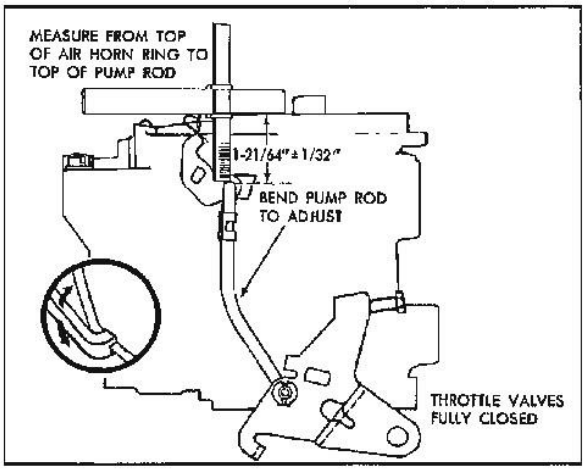

Fig. 6B-60 Pump Link Adjustment

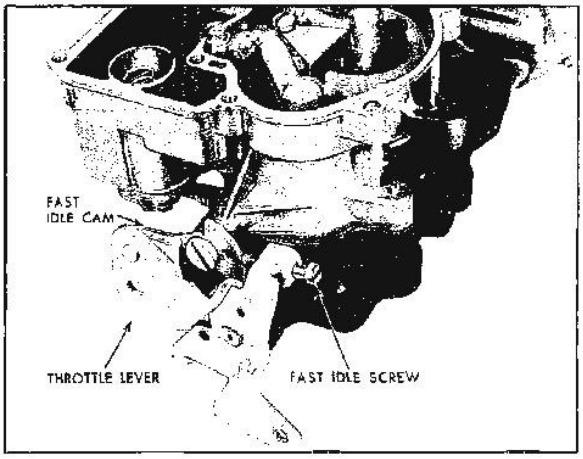

Fig. 6B-61 Fast Idle Cam Installed

19. Hold choke valve completely closed and adjust intermediate choke rod as necessary so that choke piston is .030 ±.020 out of choke housing bore.

20. Install choke baffle plate.

21. Install choke coil and cover and rotate cover counterclockwise until the index marks on cover and housing are aligned. Attach the three retainers and screws to choke housing, tighten securely.

NOTE: Choke valve should be lightly closed at room temperature (75°F.) when index marks on cover and housing are aligned.

CHOKE ROD ADJUSTMENT

1. With the thermostat cover set at index and the choke trip lever in contact with the fast idle lever,

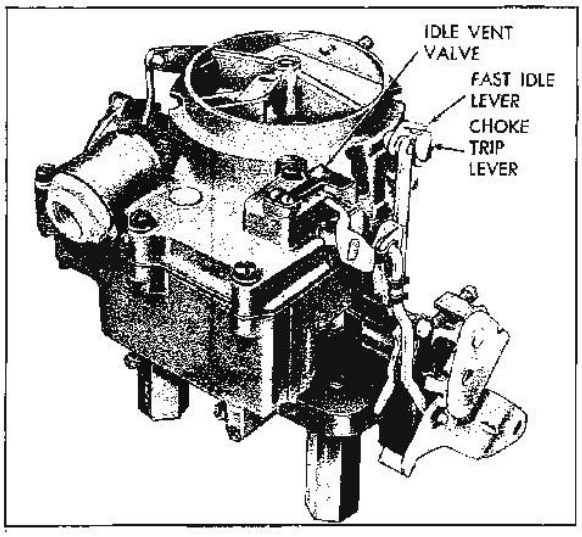

Fig. 6B-62 Carburetor Linkage Installed

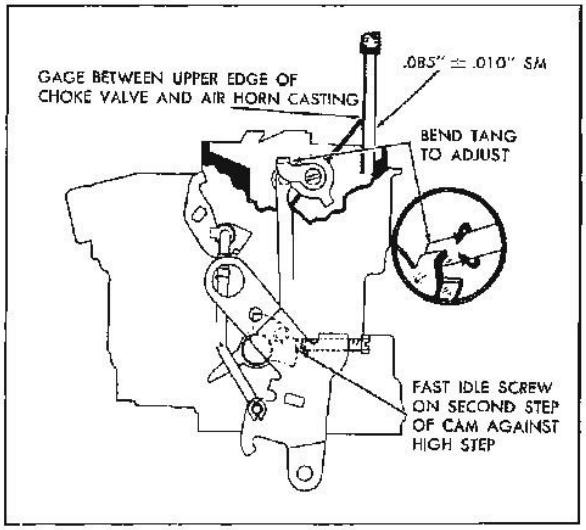

Fig. 6B-63 Choke Rod Adjustment

locate the fast idle screw on the second step of the fast idle cam, next to the shoulder of the high step.

2. Bend the tang on the fast idle lever so that the end of wire gauge or drill (.085 ± .010") just fits between the inner side of the air horn and the upper edge of the choke valve (Fig. 6B-63).

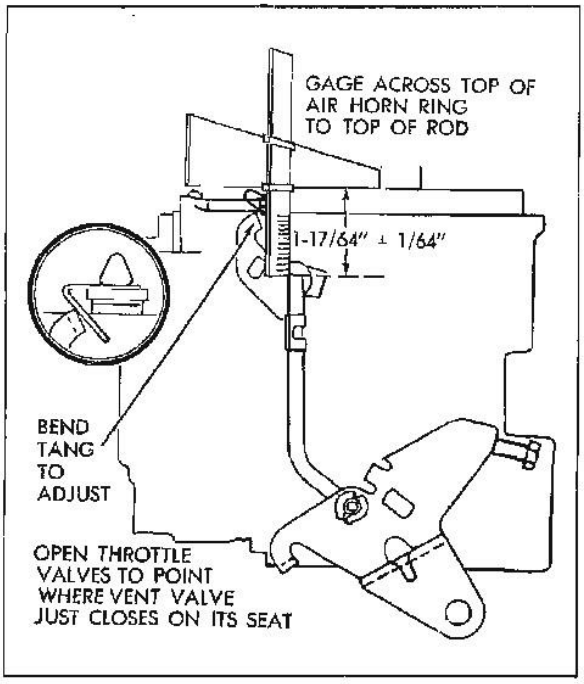

Fig. 6B-64 Idle Vent Valve Adjustment