

1970-71 CARTER AFB 4-BARREL

CHRYSLER CORP.

Carter Carburetor No.

	1970	
426" Hemi-head	Synchro-mesh	Auto. Trans.
Front	4742S	4742S
Rear	4745S	4746S
	1971	
Front	4971S	4971S
Rear	4969S	4970S

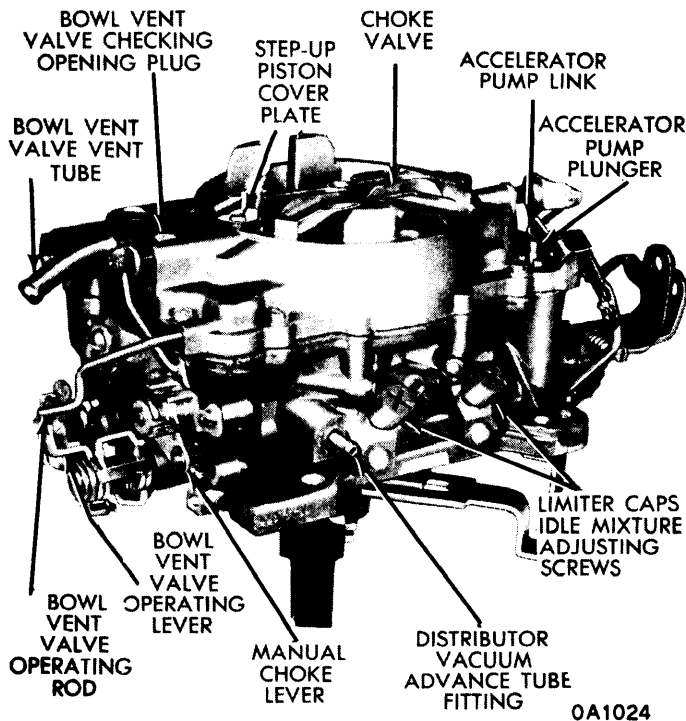
CARBURETOR IDENTIFICATION

Carter carburetor number is stamped on tag attached to carburetor by air horn screw.

DESCRIPTION

Four barrel downdraft type of same design used on previous models. Idle Limiter Caps are installed on idle mixture adjusting screws, limiting range of adjustment.

Special Features — Rear carburetor has an automatic choke (1970) or hand choke (1971). Front carburetor does not have a choke or fast idle mechanism. A hot idle compensator valve is used to relieve overrich conditions at hot idle. An idle speed solenoid is used to obtain a specified curb idle speed. When ignition is turned OFF, solenoid is de-energized and allows a lower idle speed to prevent engine "dieseling".



AFB CARBURETOR ASSEMBLY

ADJUSTMENT

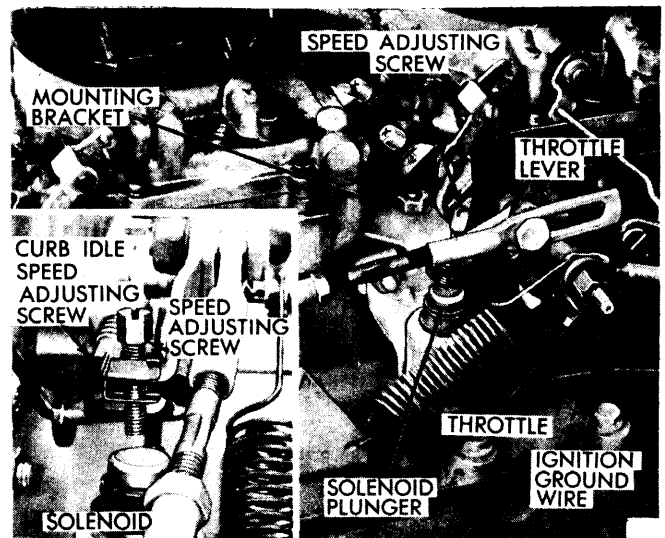
Idle Speed & Mixture

With engine at normal operating temperature, choke valve open, and transmission in neutral, connect tachometer. Proceed as follows:

- 1) Remove interconnecting rod from both carburetors, turn Speed Adjusting Screw out until carburetors are idling on their respective Curb Idle Adjusting Screw (See *Illustration*). Adjust Curb Idle Adjusting Screw on each carburetor to 950 RPM.
- 2) Adjust Idle Mixture Screw (within limits of Idle Limiter Caps) on each carburetor for maximum RPM. Repeat procedure several times alternately for each carburetor.
- 3) Before attaching rod at each carburetor, check transmission to throttle linkage adjustment so that idle position is not disturbed.
- 4) After making Idle Speed Solenoid adjustment (See *following*) adjust Curb Idle Screws until end of screw just touches stop on throttle body, then back off 1 full turn on each screw. This will result in slow curb idle speed of 650-700 RPM.

Idle Speed Solenoid Adjustment

With engine at normal operating temperature, transmission in Neutral and tachometer connected, turn solenoid idle speed adjusting screw to obtain 950 RPM (All Transmissions).



OA1023

IDLE SPEED ADJUSTING SCREW

Carburetor Interconnecting Linkage

After adjusting throttles and mixture, install connector rod assembly (linking carburetor throttles) with slotted end attached to outboard side of inboard lever on rear carburetor. Hold rear carburetor throttle valves in wide open position, loosen locknut and turn adjusting stud in connector rod so that front carburetor throttle valves are also in wide open position. Tighten locknut.

Carter Carburetors

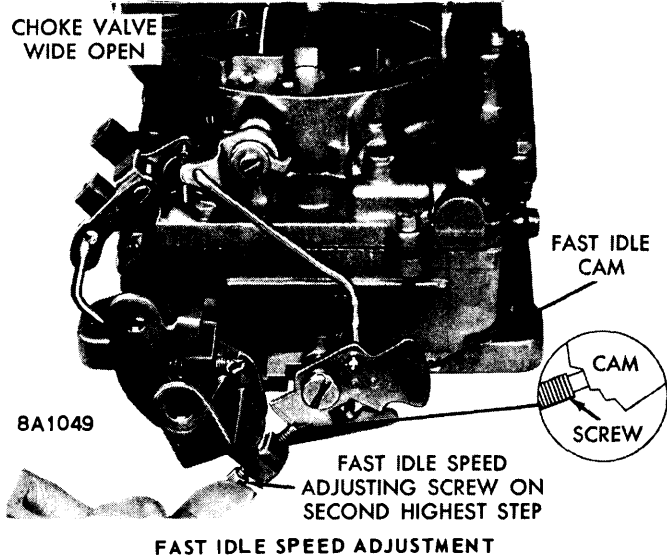
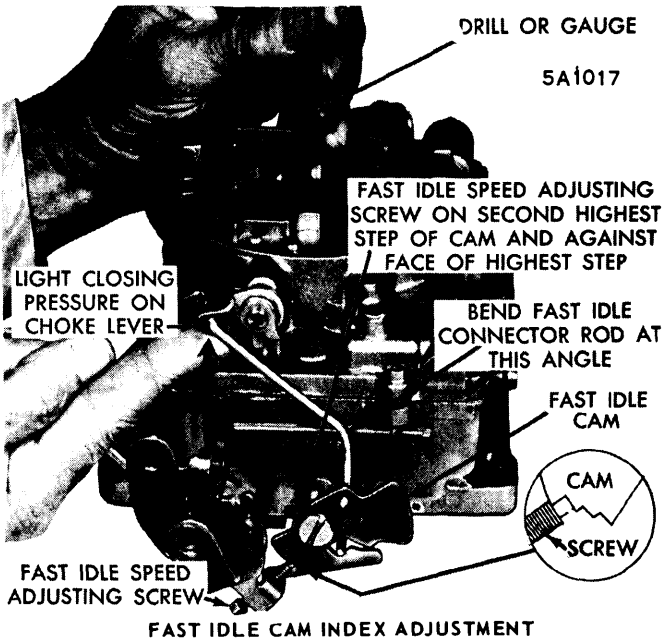
1970-71 CARTER AFB 4-BARREL (Cont.)

Fast Idle Speed (On Engine)

NOTE - Ignition timing and Distributor Control Valve adjustments must be correct before adjusting fast idle speed. With air cleaner in place and engine idling at normal operating temperature, open throttle and position fast idle screw on second step of fast idle cam (see illustration). Turn fast idle adjusting screw in or out for correct fast idle speed (see Specifications).

Fast Idle Cam Index (Off Engine)

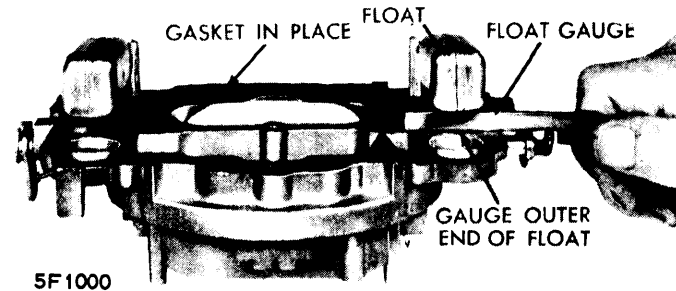
Position fast idle adjusting screw on second step of fast idle cam and against shoulder of highest step, move choke valve toward closed position with light pressure. Measure choke valve opening by inserting correct size gauge or drill rod (see Specifications) between edge of valve and air horn wall. If slight drag not noted as gauge withdrawn, adjust by bending fast idle connector rod at the angle.



Float Level

▶FLOAT SETTING CAUTION (CARBURETORS WITH RESILIENT INLET NEEDLE SEAT): When bending float lever to adjust float level, do not allow lever to contact inlet needle seat, as seat can be depressed enough to cause a false setting. Check float level with weight of float only, resting on needle.

Before making float adjustment, make sure floats are parallel to outer edge of air horn casting. Remove as much clearance as possible between arms of float lever and support lugs on air horn. Arms should be parallel to inner surfaces of supports and float arm should operate freely without excessive clearance on hinge pin. Adjust both



Bowl Vent Valve

Remove plug (immediately behind vent valve nipple) in air horn, close throttle valves to curb idle position. Insert narrow ruler through hole to rest lightly on top of bowl vent valve. Correct measurement from top of valve to top of air horn casting is 3/4". Bend valve operating lever to obtain correct reading. Install new plug in air horn.

CARBURETOR ADJUSTMENT SPECIFICATIONS								
Carter Carb. No.	Idle Speed (Engine RPM)		Fast Idle Cam Clearance ④	Float Level Setting	Float Drop Setting	Accel. Pump Travel③	Auto. Choke Setting	Unloader Setting
	Hot ①	Fast ②						
4742S	900	.....	.....	7/32"	3/4"	7/16"	.....	.....
4745S	900	2000	#50	7/32"	3/4"	7/16"	2-Rich	1/4"
4746S	900	2000	#50	7/32"	3/4"	7/16"	2-Rich	1/4"
4969S	950	2300	#50	7/32"	3/4"	31/64"	.....	.....
4970S	950	2300	#50	7/32"	3/4"	31/64"	.....	.....
4971S	950	.....	.....	7/32"	3/4"	31/64"	.....	.....

① - Transmission in Neutral.

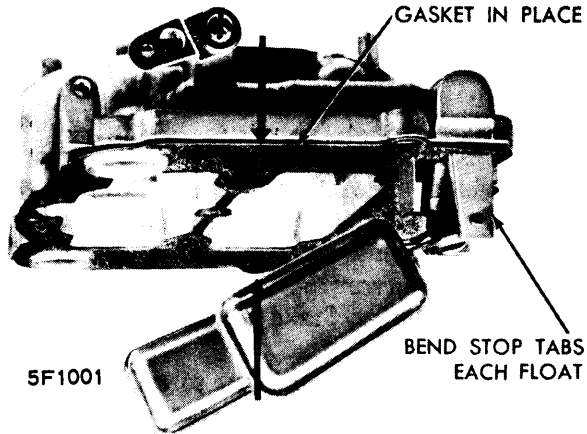
② - Fast idle screw on second step of cam.

③ - Top of plunger shaft to top of air horn, throttle valves seated.

④ - Drill Size.

1970-71 CARTER AFB 4-BARREL (Cont.)

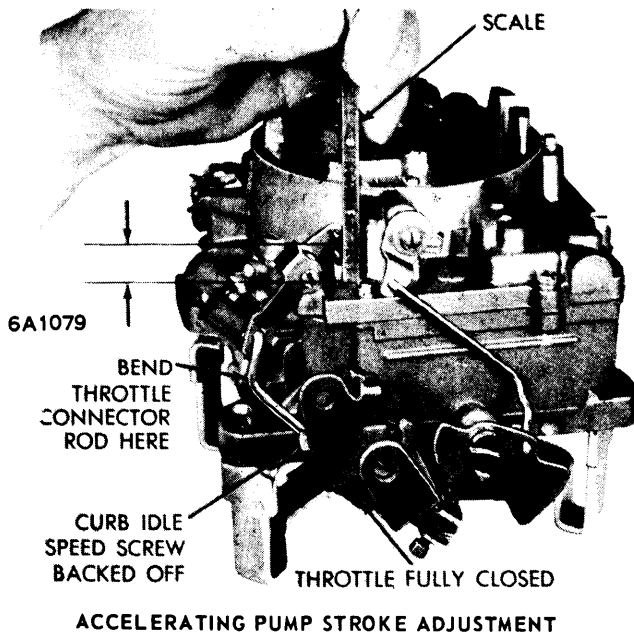
primary and secondary floats to same height. With air horn inverted, bowl cover gasket in place, and needle valve seated, measure distance from top of float at outer end to air horn gasket (see Specifications). If distance not correct, adjust by bending float arm.



FLOAT DROP SETTING (TYPICAL)

Float Drop

With bowl cover held upright so that floats hang freely at lower end of travel, measure distance from bowl cover gasket to bottom of float (or top of float as noted in specifications). If this distance not correct (see Specifications), adjust by bending float stop tab on float brackets.



ACCELERATING PUMP

Open choke valve to release fast idle cam. Back off curb idle speed adjusting screw to allow throttle valves to seat in bores. Measure distance from top of pump plunger shaft to top of air horn (see Specifications). Bend throttle connector rod at lower bend if adjustment is necessary.

Secondary Throttle Lever

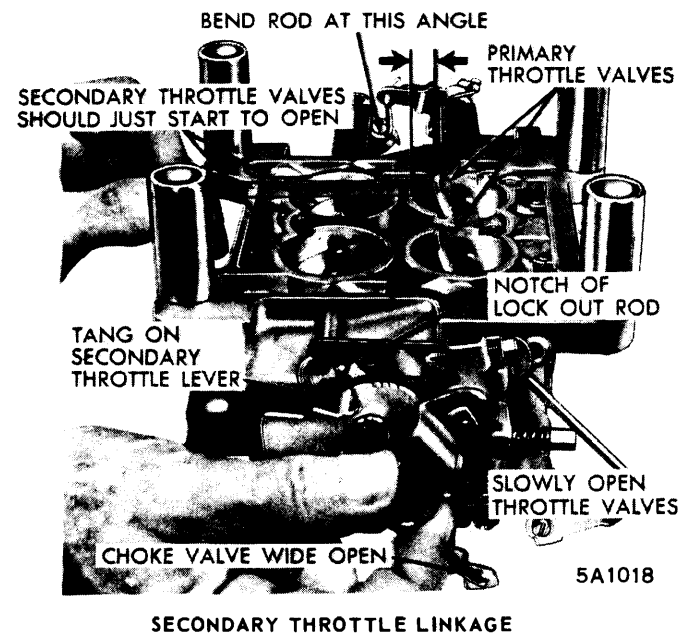
Block choke valve in wide open position. Open primary throttle valves until it is possible to measure $17/64$ " between the lower edge of primary valve and the bore. Secondary throttle valves should just start to open at this point. Adjust by bending secondary throttle operating rod.

Closing Shoe Clearance

Fully close primary and secondary throttle valves. Clearance between positive closing shoes on primary and secondary throttle levers should be $.020$ " ($.010$ -. $.030$ ") on all carburetors. To adjust, bend shoe on secondary throttle lever (all carburetors).

Secondary Throttle Lockout

Crack throttle valves and manually open and close choke valve. Tang on secondary throttle lever should freely engage notch in lockout dog. If adjustment necessary, bend tang on secondary throttle lever until engagement has been made.



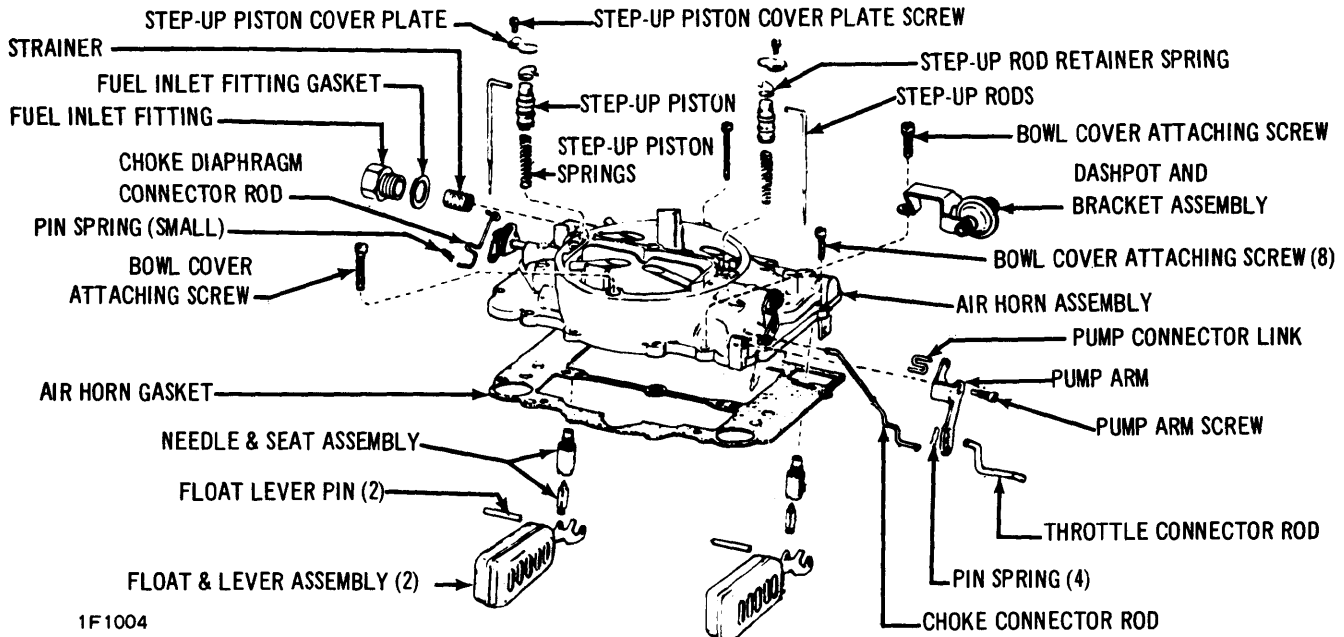
OVERHAUL

Disassembly

Remove hairpin clip attaching fast idle connector rod to choke lever, disengage rod from lever and swing rod at an arc until it can be freed from fast idle cam. Remove retainer holding throttle connector rod in center hole of accelerator pump arm. Remove hairpin clip attaching lower end of rod in primary throttle shaft lever and disengage rod from arm and lever, then remove from carburetor. Remove screws attaching step-up piston and rod cover plates, hold cover down with finger to prevent piston and rods from flying out, then lift off plates and slide step-up pistons and rods out of air horn. Remove step-up piston springs (not interchangeable). Remove (10) screws attaching air horn to main body (1 screw in hole in air horn), lift air horn straight up and away from main body. Remove accelerator pump, plunger; lower spring from pump cylinder.

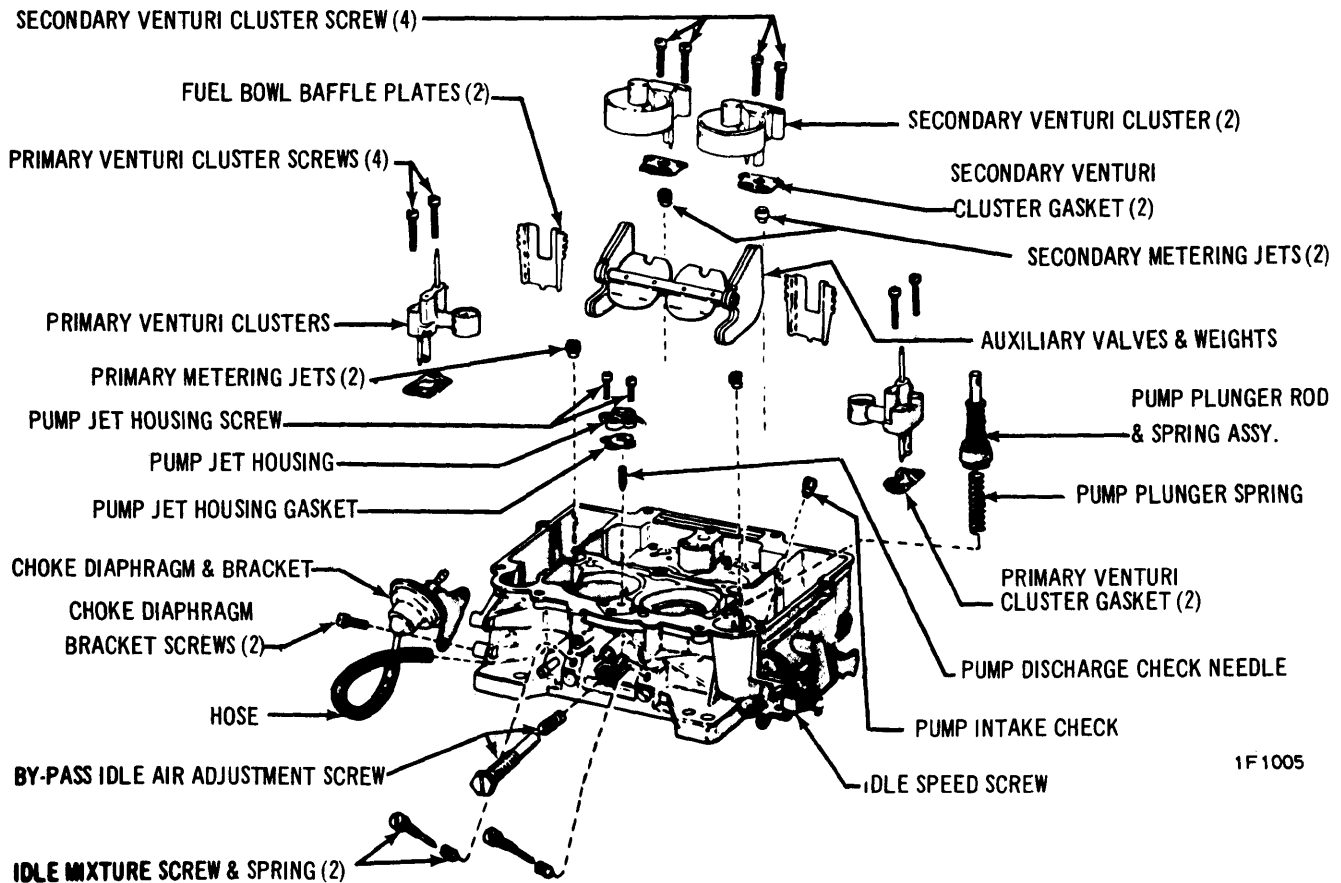
Carter Carburetors

1970-71 CARTER AFB 4-BARREL (Cont.)



1F1004

AFB 4-BARREL AIR HORN & FLOAT ASSEMBLY



1F1005

AFB 4-BARREL THROTTLE BODY ASSEMBLY

1970-71 CARTER AFB 4-BARREL (Cont.)

Air Horn – 1) With air horn inverted on bench and using a suitable tool, remove float fulcrum pins (both left and right), then lift float out of air horn (mark float removed from pump side for reassembly). Remove two needle valves from seats (mark valve removed from pump side for reassembly), then using a wide blade screwdriver, remove needle valve seats.

2) Remove spring clip holding throttle connector rod in center hole of pump arm. Remove pump arm pivot screw and lift off pump arm, and at the same time, disengage link from arm and pump stem, slide accelerator pump plunger and spring out of air horn and remove gasket. Place plunger in a jar of clean gasoline or kerosene (to keep from drying out).

Main Body – 1) Remove screws attaching accelerator pump jet housing to main body and lift out jet housing and gasket, discard gasket.

2) Invert main body and drop out discharge check needle from discharge passage. Using a suitable tool, remove main metering jets (primary side); primary and secondary metering jets are not interchangeable, therefore, it is very important they be reinstalled in their respective locations at reassembly.

3) Again, using a suitable tool, remove main metering jets (secondary side). Remove screws attaching primary venturi (choke and pump side) to main body, lift venturi straight up and away from main body, discard gaskets. Venturi assemblies are not interchangeable, therefore they must be reinstalled in their respective locations at reassembly.

4) Remove screws attaching secondary venturi (choke and pump side) to main body, lift venturi assemblies straight up and away from body, then remove velocity valves. Using a suitable screwdriver bit, remove accelerator pump intake check valve, located inside fuel bowl, adjacent to accelerator pump cylinder.

5) Remove screws attaching hot idle compensator valve to main body, remove valve and gasket. Remove plastic limiter caps from idle air mixture screws, being certain to count the number of turns to seat the screws, as this

same number of turns must be maintained at reassembly. Remove screws and springs from throttle body.

Cleaning & Inspection

Clean carburetor castings and metal parts thoroughly in carburetor cleaning solution. Do not immerse thermostatic coil assembly or pump plunger in cleaning solution. Blow out all passages with compressed air and remove all carbon deposits. Inspect all parts for wear or damage and replace as necessary.

Reassembly

Use all new gaskets and install parts in reverse order of disassembly procedure, while noting the following:

Valve Installation – Use new screws when installing valves in their respective bores. Install new screws, but do not tighten. Make sure idle speed adjusting screw is backed out, then hold valves in place with fingers placed on high side of valve. Tap valves with a screwdriver (lightly) to seat them in bores, and while holding in this position, tighten screws securely and stake in place by squeezing with pliers.

Idle Mixture Screws & Limiter Caps Installation – Install idle mixture screws and springs in body, tapered portion must be straight and smooth; if tapered portion is grooved or ridged, a new screw must be used. **Do Not use a screwdriver for installing**, turn screws lightly against their seats with fingers, back off the number of turns counted at disassembly and install new plastic limiter caps with tab against stop. *NOTE – Screws have left hand threads.*

Accelerator Pump Assembly – Check operation as follows: Pour clean gasoline into carburetor bowl (½" deep), operate plunger several times to fill cylinder and expel all air. Use a small brass rod and hold discharge check ball down on its seat. Raise plunger and press downward, no fuel should be emitted from either intake or discharge passage. Fuel emitted from either passage indicates either the presence of dirt or a damaged check ball seat.