1970-71 CARTER BBS SINGLE BARREL

CHRYSLER CORP. 198" 6 Cyl. Engine	Carter Carburetor No. Synchro-mesh	Auto. Trans.
1970 "C.A.S." Carbs.	4715S	4716S
1970 "E.C.S." Carbs.	4717S	4718S
1971 "BBS" Carbs.	4955S	4956S

►CHANGES, CAUTIONS, CORRECTIONS

"C.A.S." (Cleaner Air System) carburetors are used on all except California cars. "E.C.S." (Evaporation Control System) carburetors are used on cars sold in California. 1971 carburetors comply with requirements for both "C.A.S." and "E.C.S." Systems.

CARBURETOR IDENTIFICATION

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

DESCRIPTION

Single barrel downdraft type with separate "Well Type" automatic choke coil. Carburetors are similar to previous models with Idle Limiter Cap on idle mixture screw. Carburetors have features as follows:

Bowl Vent ("E.C.S." & 1971 Carbs.) – Special type opening into closed chamber on fuel bowl cover which has hose connection through which fuel vapor is discharged into engine crankcase.

Hot Idle Compensator("E.C.S." & 1971 Carbs.) – Bi-metal thermostatic valve assembled in recess on side of main body casting. Valve is an air bleed which relieves on over-rich mixture, condition at idle caused by excessive engine and underhood heat.

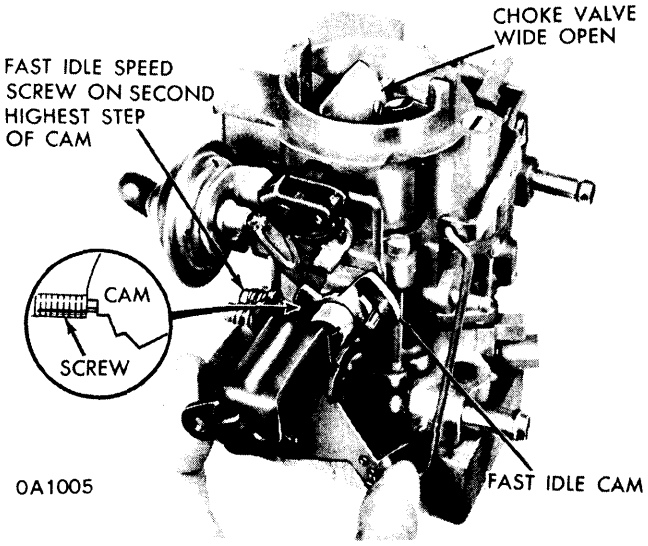
ADJUSTMENT

Idle Speed & Mixture

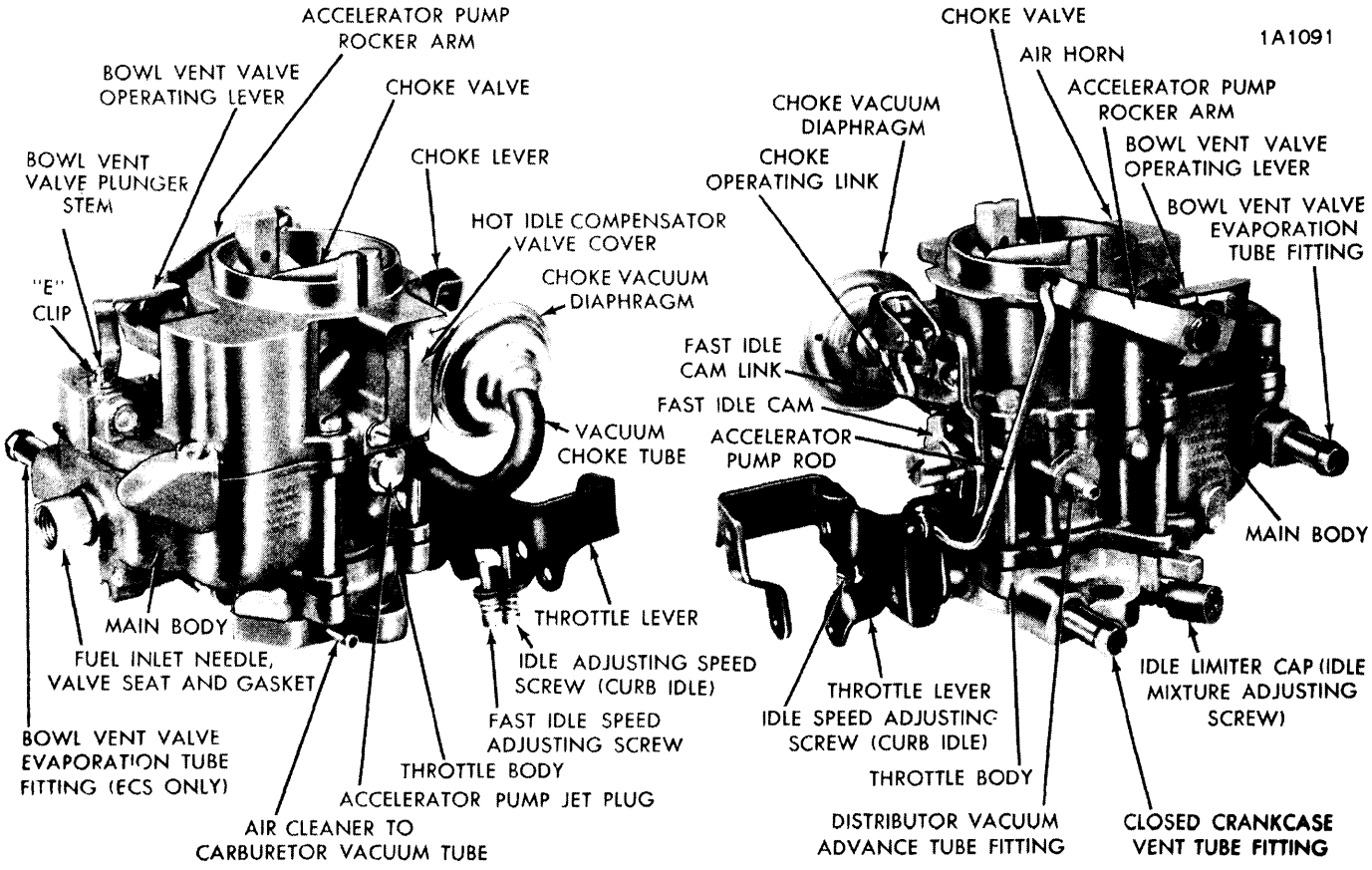
NOTE – Idle adjustments must be made with engine at normal operating temperature, automatic transmission in Neutral(not Park), A/C OFF, timing checked to specifications.

Idle Speed – Obtain specified idle RPM by adjusting carburetor throttle speed screw (see Specifications).

Idle Mixture – *Exhaust Analyser* must be used to ensure correct *air-fuel ratio.*



FAST IDLE SPEED ADJUSTMENT



BALL & BALL (CARTER) BBS CARBURETOR

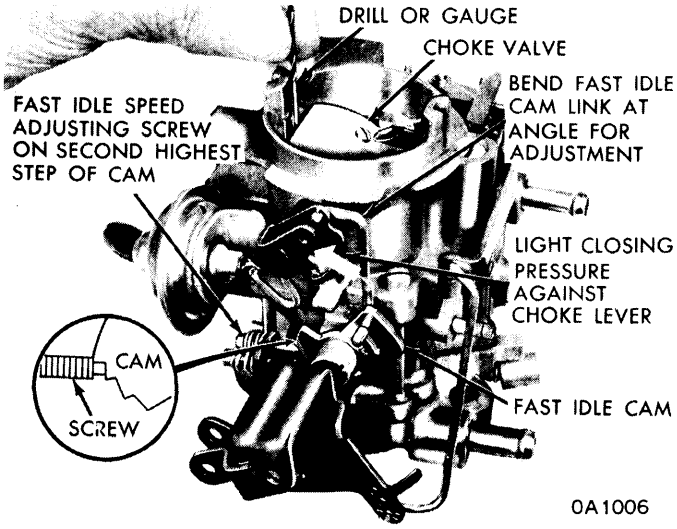
1970-71 CARTER BBS SINGLE BARREL (Cont.)

Fast Idle Speed (On Engine)

With curb idle speed correctly adjusted and engine at normal operating temperature with transmission in Neutral or Park, position fast idle screw on second highest step of fast idle cam. Turn screw in or out to obtain correct RPM (see Specifications).

Fast Idle Cam Position

Position fast idle screw on second step of fast idle cam. Check choke valve opening by inserting gauge or drill (see Specifications) between edge of choke valve and air horn wall. If slight drag not noted as gauge is withdrawn, adjust by bending fast idle connector rod at upper angle. With choke valve fully closed there should be a slight clearance between tang on choke lever and stop on air horn.



FAST IDLE CAM POSITION ADJUSTMENT

ACCELERATING PUMP & BOWL VENT ("C.A.S." CARBURETORS)

NOTE – Throttle lever has three holes for pump connector rod engagement to allow seasonal pump setting adjustment. Normal pump setting is obtained with connector rod in OUTER HOLE (long stroke).

Bowl Vent Adjustment – With throttle stopscrew backed off and throttle valve fully closed, make certain that bowl vent clip is installed in correct notch (see Pump Seasonal Setting). Check clearance between vent valve and seat on bowl cover using gauge or drill rod of correct size (see Specifications). Adjustment may be made by bending connector rod at lower angle. *NOTE – Pump travel will be correct when bowl vent is properly adjusted.*

Pump Seasonal Setting – Outer hole provides maximum pump discharge, inner hole minimum pump discharge. *NOTE – Whenever pump rod moved from one hole to another, corresponding change must be made in vent valve clip on pump stem as follows: Center hole (center groove), inner hole (upper groove), outer hole (lower groove). Recheck bowl vent clearance.*

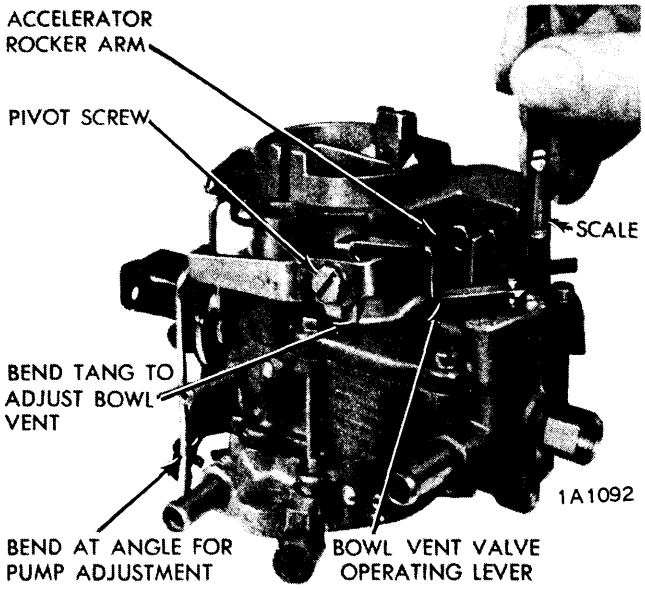
ACCELERATING PUMP & BOWL VENT ("E.C.S." & 1971 CARBURETORS)

NOTE – Pump travel must be checked and adjusted before adjusting bowl vent.

Pump Travel – With pump rod in outer hole of throttle lever and throttle valve closed to curb idle position, measure distance from straightedge placed on flat air cleaner mounting surface of air horn to top of accelerating pump plunger. If this distance not correct (see Specifications), adjust by bending pump connector rod at existing angle.

Bowl Vent (1970 Carbs.) – With pump travel correctly set and throttle valve closed to curb idle position, check adjustment by inserting drill rod of correct size (see Specifications) between underside of bowl vent valve lever and air horn. If clearance not correct, adjust by bending lower tang on bowl vent operating lever at pivot as required.

Bowl Vent (1971 Carbs.) – With pump travel correctly set and throttle valve closed to curb idle position, measure distance from top of casting to top of bowl vent valve stem. If distance not correct, adjust by bending lower tang on bowl vent operating lever at pivot.



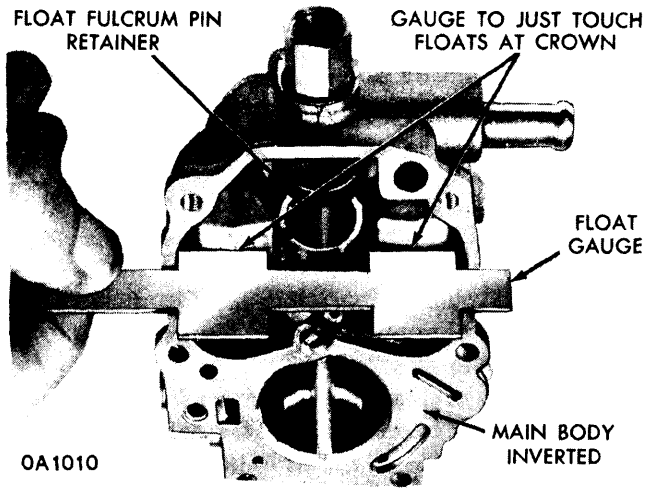
BOWL VENT ADJUSTMENT

Float Level

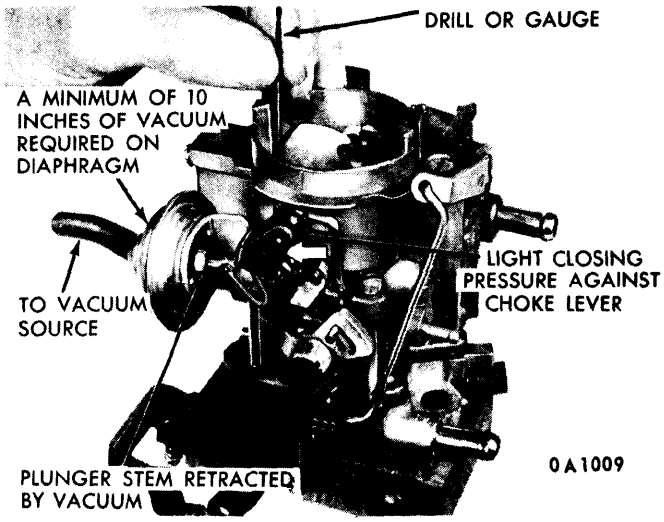
On Engine Check – Disconnect accelerating pump operating rod, remove two long air horn screws and two short screws, insert short screws in place of long screws and tighten securely to retain main body on throttle body. Remove remaining air horn screws, tilt air horn to allow fast idle cam link to be disengaged from fast idle cam, remove air horn and gasket. Make certain bowl filled with fuel so that float lever lip bears firmly against needle. Seat fulcrum pin by pressing on fulcrum pin retainer, use suitable gauge (Carter T–109–239) or "T" scale to measure distance from top surface of bowl to crowned top of each float at center (see Specifications). Adjust as directed in "On Bench" check below.

On Bench – With air horn and gasket off, invert carburetor with weight of floats only holding inlet needle against seat (hold finger on retainer to fully seat float fulcrum pin). Use gauge or "T" scale to measure from top edge of fuel bowl to crown of each float at center. If float setting not correct (see Specifications) remove float and bend float lever lip as required. *CAUTION – Do not attempt to adjust float without removing it from carburetor (inlet needle has synthetic rubber tip which may be compressed sufficiently to cause a false setting).*

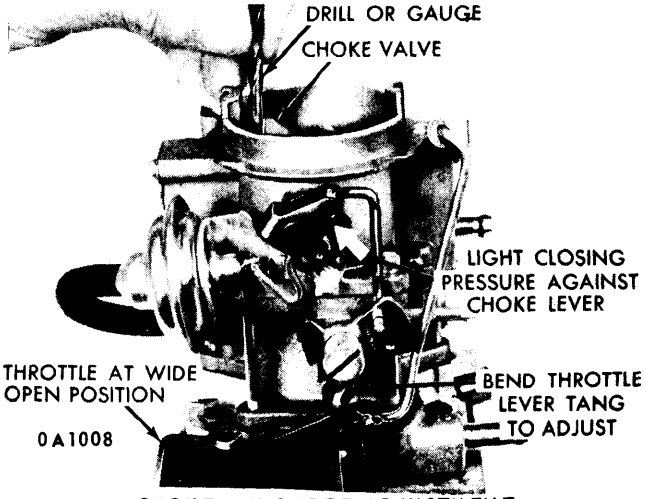
1970-71 CARTER BBS SINGLE BARREL (Cont.)



CHECKING FLOAT LEVEL



VACUUM BREAK (KICK) ADJUSTMENT



CHOKE UNLOADER ADJUSTMENT

Vacuum Break (Kick)

NOTE – Adjustment can be made with carburetor on engine and engine running to supply vacuum as follows:

1) Back off fast idle speed screw so choke can be closed to kick position with carburetor throttle at curb idle. Apply sufficient closing force on choke rod lever to provide minimum choke valve opening without distorting diaphragm link.

NOTE – Diaphragm internal spring must be fully compressed which will be noted by extension of diaphragm stem.

2) At this point, insert drill or gauge between choke valve and air horn wall (see Specifications). If slight drag not noted as drill withdrawn, adjust diaphragm link length as required. Reset fast idle speed screw.

3) Adjustment precautions: When adjusting link length by opening or closing bend, do not apply twisting or bending force to diaphragm. After adjustment, with no vacuum applied to diaphragm, check to see that choke valve moves freely from open to closed position.

Unloader

Hold throttle valve in wide open position. With correct drill or gauge (see Specifications) measure clearance between choke valve and air horn wall. If slight drag not noted as gauge withdrawn, bend unloader tang on throttle lever as required.

Automatic Choke

Carburetors have conventional choke valve in air horn actuated and controlled by remote thermostatic coil in well in manifold. Unit is serviced as an assembly and should not be adjusted. If unit has been tampered with, adjustment may be reset as follows:

1) With choke coil unit removed from well, loosen locknut and turn shaft so that index mark on disc is in alignment with correct mark (see Specifications) on frame. Retain this position while tightening locknut.

CARBURETOR ADJUSTMENT SPECIFICATIONS

Carter Carb. No.	Idle Speed (Engine RPM)		Fast Idle Cam Position	Float Level Setting	Pump Travel Setting	Bowl Vent Setting	Unloader Setting	Vacuum Break Setting	Auto Choke Setting
	Hot	Fast							
4715S	750	1800	#48	1/4"	.....	1/32"	3/16"	#35	2-Rich
4716S	750	1800	#48	1/4"	.....	1/32"	3/16"	#48	2-Rich
4717S	750	1800	#48	1/4"	5/16"	9/32"	3/16"	#35	2-Rich
4718S	750	1800	#48	1/4"	5/16"	9/32"	3/16"	#48	2-Rich
4955S	800	1900	#48	1/4"	5/16"	17/64"	3/16"	#35	2-Rich
4956S	800	1800	#48	1/4"	5/16"	17/64"	3/16"	#35	2-Rich

1970-71 CARTER BBS SINGLE BARREL (Cont.)

OVERHAUL

1) Remove hairpin clip and disengage accelerator pump operating rod, then remove vacuum hose between carburetor body and vacuum diaphragm. Remove clip from choke operating link and disengage and remove link from diaphragm plunger (stem) and choke lever.

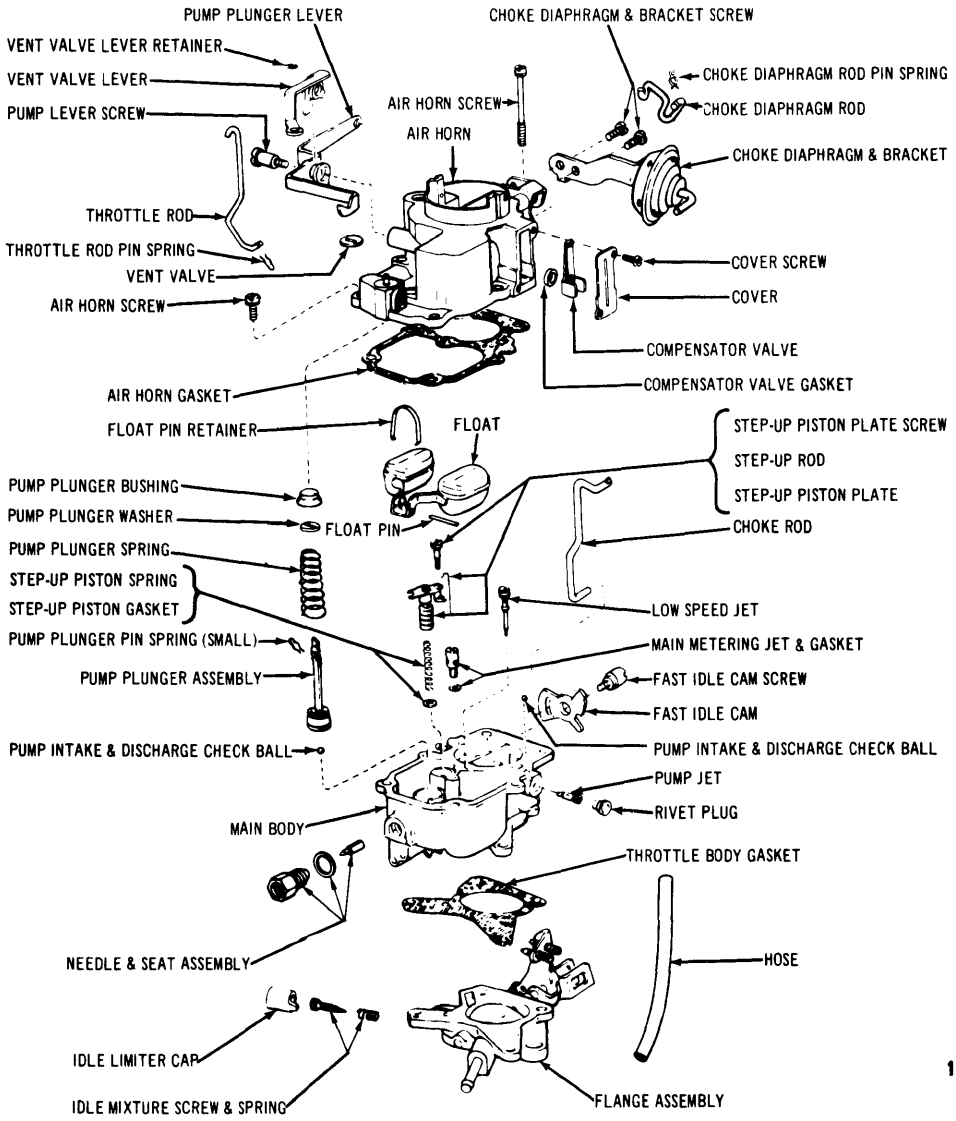
2) Remove vacuum diaphragm and bracket assembly and place to one side for cleaning. Remove air horn retaining screws and tilt air horn toward throttle lever enough to disengage fast idle cam link from cam, then lift air horn up and away from main body. Discard gaskets and separate bodies.

3) Remove "E" clip from bowl vent valve plunger to operating lever. Remove accelerator pump rocker arm pivot screw, push up on bottom of plunger and disengage from rocker arm. Remove rocker arm and bowl vent valve lever, slide plunger, spring and seat out of air horn. If plunger can be used again, place in clean gasoline to prohibit leather from drying out.

4) Remove screws attaching hot idle compensator valve cover to air horn, lift off cover and remove valve and gasket (if so equipped). Remove fuel inlet needle valve, seat and gasket from main body, lift out float fulcrum pin retainer, then lift out floats and fulcrum pin.

5) Remove step-up piston retaining screw, slide step-up piston and rod out of well, now lift out the step-up piston spring and remove step-up piston gasket from bottom of well. Remove main metering jet, unscrew and remove idle orifice tube.

6) Invert carburetor and drop out accelerator pump check balls from their seats. Using plug remover (T-109-43), remove accelerator pump jet plug, then using suitable tool, remove accelerator pump jet. Remove plastic limiter cap from idle air mixture screw (being sure to count the number of turns to seat screw, as the same number of turns must be maintained at reassembly). Remove screw and spring from throttle body.



CARTER BBS SINGLE BARREL CARBURETOR ASSEMBLY

1970-71 CARTER BBS SINGLE BARREL (Cont.)

Cleaning & Inspection

Clean all parts, except those made of plastic and choke diaphragm, in a suitable solvent (such as denatured alcohol) and blow dry with air. Blow out all passages with air. Do not use wire or drills to clean or gauge jets or passages. Do not immerse vacuum kick diaphragm in any liquid, clean external surfaces with clean cloth or soft wire brush and shake dirt from stem side of diaphragm with diaphragm depressed; do not direct air stream into vacuum diaphragm fitting. Inspect all parts for wear or damage. Check throttle shaft for excessive wear or damage, if wear is extreme, replace entire throttle body assembly rather than installing a new shaft in the old body.

Reassembly

Reverse disassembly procedure and note the following:

Idle Mixture Screw & Limiter Cap – Install idle mixture screw and spring in body, tapered portion must be straight and smooth, if tapered portion is grooved or ridged, a new idle mixture screw should be installed. Turn screw lightly against its seat (DO NOT USE SCREWDRIVER), back off the same number of turns counted at disassembly, then install new (blue) plastic cap with tab against stop.

Step-Up Piston & Rod Assembly – Before installing step-up piston, be certain step-up rod is able to move freely each side of vertical position, also be sure step-up rod is straight and smooth. Be sure step-up piston slides freely in its cylinder.

Vacuum Kick Diaphragm – Before installing, check for internal leakage by depressing diaphragm stem and placing finger over vacuum fitting to seal passage, then release stem. If stem moves more than 1/16" in 10 seconds, leakage is excessive and unit should be replaced.