

Carter Carburetors

CARTER MODEL BBS SINGLE BARREL

DODGE

Application	Man. Trans.	Auto. Trans.
1965		
170" (Except A100)	3699S	3699S
170" (A100)	3812S	3782S
225" (Except A100)	3491S	3700S
225" (A100)	3813S	3782S
1966		
225"	4177S	4178S
225" (With C.A.P.)	4175S	4176S
1967		
225"	4177S	4342S
225" (With C.A.P.)	4340S	4341S
1968		
225"	4334S	4342S
225" (With C.A.S.)	4478S	4341S
1969		
225"	4629S	4630S
225" (With C.A.S.)	4658S	4659S
1970		
225"	4838S, 4905S	4839S, 4906S
225" (Calif. Only)	4836S	4837S
1971		
225" (With A.I.R.)	6027S	N/A
225" (Calif. Only)	6025S	6026S
1972		
225"	6219S	6218S
1973		
225" (Federal)	6219S	6218S
225" (Calif.)	6395S	6396S
1974		
225"	7044S	7045S

CARBURETOR IDENTIFICATION

Carter number stamped on tag attached to carburetor by air horn screw. "S" indicates basic carburetor design. Additional letter following "S" indicates production change affecting parts replacement, jet calibration or adjustment settings.

DESCRIPTION

Single barrel downdraft type with non-adjustable vacuum controlled step-up rod. Choke is well type with vacuum unit to provide initial choke opening.

ADJUSTMENT

HOT (SLOW) IDLE RPM

See appropriate article in TUNE-UP Section.

COLD (FAST) IDLE RPM

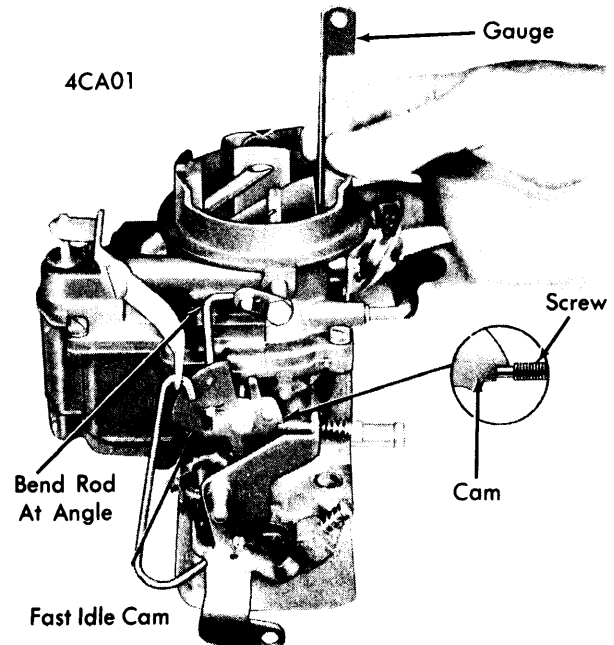
See appropriate article in TUNE-UP Section.

ACCELERATOR LINKAGE

See appropriate article in TUNE-UP Section.

FAST IDLE CAM LINKAGE

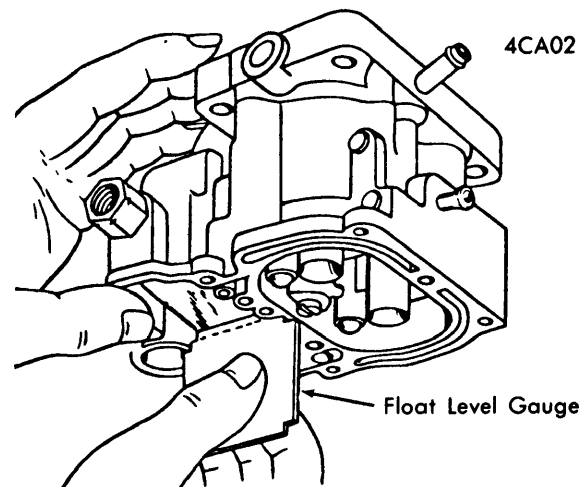
With fast idle adjusting screw on cam index (Man. Choke), or second step of cam and against shoulder of next highest step (Auto. Choke), measure clearance between top edge of choke valve plate and inner wall of air horn. Adjust to specifications by bending choke connector rod at upper angle.



FAST IDLE CAM LINKAGE ADJUSTMENT

FLOAT LEVEL

With air horn and bowl cover removed, invert carburetor so that weight of float is holding inlet needle against seat. Using suitable gauge, measure distance from top edge of fuel bowl to ridge at center of float. Adjust to specifications by removing float and bending float lever lip as necessary. **NOTE** — Do not attempt to adjust float without removing it from carburetor as inlet needle has synthetic rubber tip which could be damaged, causing a false reading.



FLOAT LEVEL ADJUSTMENT

ACCELERATOR PUMP AND BOWL VENT (W/O E.C.S.)

With throttle at hot (slow) idle, throttle connector rod in lower hole of throttle lever and plunger spring pin in bottom hole of plunger rod, measure clearance between pump plunger washer and plunger bushing. Adjust throttle connector rod to obtain specified clearance.

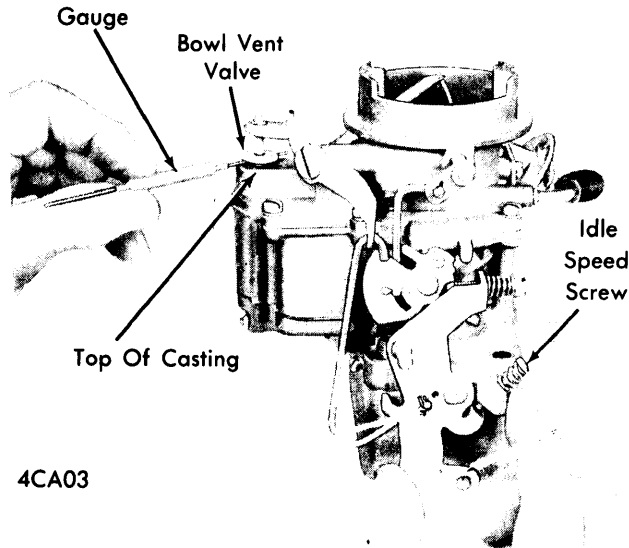
CARTER MODEL BBS SINGLE BARREL (Cont.)

ACCELERATOR PUMP (W/E.C.S.)

With throttle at hot (slow) idle and throttle connector rod in lower hole of throttle lever, measure distance between top of pump plunger shaft and shoulder of air horn. Adjust throttle connector rod to obtain specified clearance.

BOWL VENT (W/E.C.S.)

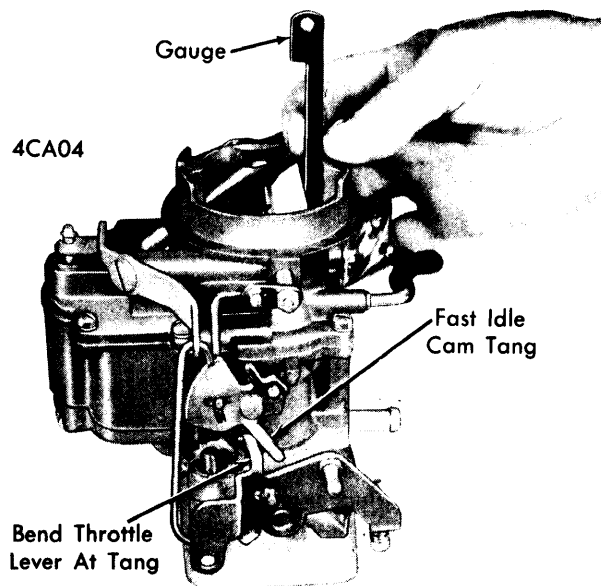
With throttle at hot (slow) idle, measure distance from bowl cover to top of vent valve shaft. Adjust to specifications by bending lower tang on vent valve operating arm.



BOWL VENT ADJUSTMENT

UNLOADER

With throttle valve in wide open position, measure clearance between choke valve and inner air horn wall. Adjust to specifications by bending unloader arm on throttle lever as required.



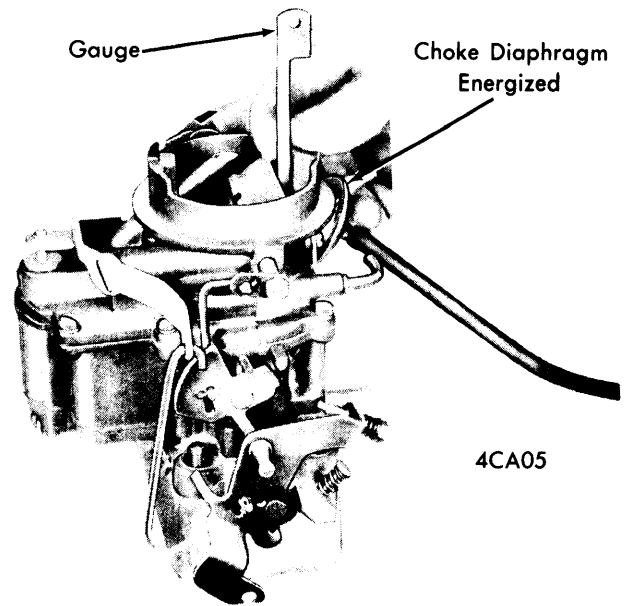
UNLOADER ADJUSTMENT

DASHPOT

With throttle lever at cold (fast) idle position, adjust dashpot so that plunger stem just contacts tang on throttle lever.

CHOKE DIAPHRAGM

With choke diaphragm plate (not stem) bottomed and choke valve closed as far as possible without forcing, measure clearance between top edge of choke valve and inner air horn wall. Bend connector rod to adjust to specifications. *NOTE* — Remove connector rod to adjust, in order to prevent damage to rod and diaphragm.



CHOKE DIAPHRAGM ADJUSTMENT

AUTOMATIC CHOKE

With choke coil removed from well, loosen lock nut and turn shaft so that index mark on disc is in alignment with specified mark on frame. Retain this position while tightening lock nut.

OVERHAUL

DISASSEMBLY

- 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 prevent leather from drying out.

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CARTER MODEL BBS SINGLE BARREL (Cont.)

CARBURETOR ADJUSTMENT SPECIFICATIONS									
Carter Carb. No.	Idle Speed (Engine RPM)		Fast Idle Cam Position	Float Level Setting	Bowl Vent Setting	Accel. Pump Setting	Unloader Setting	Choke Diaphr.	Auto. Choke Setting
	Hot ①	Fast ②							
3491S	$\frac{5}{32}$ "	$\frac{7}{32}$"	.....	$\frac{1}{16}$ "	$\frac{3}{16}$"	.....	.....
3699S	$\frac{15}{64}$ "	$\frac{5}{16}$"	.....	$\frac{1}{16}$ "	$\frac{3}{16}$ "	$\frac{5}{32}$ "	2 Rich
3700S	$\frac{3}{16}$ "	$\frac{5}{16}$"	.....	$\frac{1}{16}$ "	$\frac{3}{16}$ "	$\frac{1}{8}$ "	2 Rich
3782S	$\frac{7}{32}$ "	$\frac{7}{16}$"	.....	$\frac{1}{16}$ "	$\frac{3}{16}$ "	$\frac{1}{8}$ "	2 Rich
3812S	$\frac{15}{64}$ "	$\frac{5}{16}$"	.....	$\frac{1}{16}$ "	$\frac{3}{16}$ "	$\frac{5}{32}$ "	2 Rich
3813S	$\frac{7}{32}$ "	$\frac{5}{16}$"	.....	$\frac{1}{16}$ "	$\frac{3}{16}$ "	$\frac{5}{32}$ "	2 Rich
4175S	$\frac{5}{32}$ "	$\frac{7}{32}$"	.....	$\frac{1}{16}$"	.....	.....	.....
4176S	$\frac{5}{64}$ "	$\frac{1}{4}$"	.....	$\frac{1}{16}$ "	$\frac{3}{16}$ "	$\frac{9}{64}$ "	2 Rich
4177S	$\frac{5}{32}$ "	$\frac{1}{4}$"	.....	$\frac{1}{16}$"	.....	.....	.....
4178S	$\frac{1}{4}$"	.....	$\frac{1}{16}$ "	$\frac{3}{16}$ "	$\frac{7}{64}$ "	2 Rich
4334S	$\frac{5}{32}$ "	$\frac{1}{4}$"	.....	$\frac{1}{16}$"	.....	.....	.....
4340S	$\frac{5}{32}$ "	$\frac{7}{32}$"	.....	$\frac{1}{16}$"	.....	.....	.....
4341S	$\frac{5}{64}$ "	$\frac{1}{4}$"	.....	$\frac{1}{16}$ "	$\frac{7}{64}$ "	$\frac{7}{64}$ "	2 Rich
4342S	$\frac{5}{64}$ "	$\frac{1}{4}$"	.....	$\frac{1}{16}$ "	$\frac{3}{16}$ "	$\frac{7}{64}$ "	2 Rich
4478S	$\frac{5}{32}$ "	$\frac{1}{4}$"	.....	$\frac{1}{16}$"	.....	.....	.....
4629S	$\frac{1}{4}$"	.....	$\frac{1}{16}$"	.....	.....	.....
4630S	$\frac{1}{4}$"	.....	$\frac{1}{16}$ "	$\frac{3}{16}$"	.....	2 Rich
4658S	$\frac{1}{4}$"	.....	$\frac{1}{16}$"	.....	.....	.....
4659S	$\frac{1}{4}$"	.....	$\frac{1}{16}$ "	$\frac{3}{16}$"	.....	2 Rich
4836S	$\frac{5}{32}$ "	$\frac{1}{4}$ "	$\frac{17}{64}$ "	$\frac{5}{16}$"	.....	.....	.....
4837S	$\frac{5}{64}$ "	$\frac{1}{4}$ "	$\frac{17}{64}$ "	$\frac{5}{16}$ "	$\frac{3}{16}$"	.....	2 Rich
4838S	$\frac{5}{32}$ "	$\frac{1}{4}$ "	$\frac{1}{32}$ "	$\frac{1}{32}$"	.....	.....	.....
4839S	$\frac{5}{64}$ "	$\frac{1}{4}$ "	$\frac{1}{32}$ "	$\frac{1}{32}$ "	$\frac{3}{16}$"	.....	2 Rich
4905S	$\frac{5}{32}$ "	$\frac{1}{4}$ "	$\frac{1}{32}$ "	$\frac{1}{32}$"	.....	.....	.....
4906S	$\frac{5}{64}$ "	$\frac{1}{4}$ "	$\frac{1}{32}$ "	$\frac{1}{32}$ "	$\frac{3}{16}$"	.....	2 Rich
6025S	$\frac{5}{64}$ "	$\frac{1}{4}$ "	$\frac{17}{64}$ "	$\frac{5}{16}$ "	$\frac{3}{16}$"	.....	2 Rich
6026S	$\frac{5}{64}$ "	$\frac{1}{4}$ "	$\frac{17}{64}$ "	$\frac{5}{16}$ "	$\frac{3}{16}$"	.....	2 Rich
6027S	$\frac{5}{64}$ "	$\frac{1}{4}$ "	$\frac{1}{32}$ "	$\frac{1}{32}$ "	$\frac{3}{16}$"	.....	2 Rich
6218S	$\frac{5}{64}$ "	$\frac{1}{4}$ "	$\frac{1}{32}$ "	$\frac{1}{32}$ "	$\frac{3}{16}$"	.....	.....
6219S	$\frac{5}{64}$ "	$\frac{1}{4}$ "	$\frac{1}{32}$ "	$\frac{1}{32}$ "	$\frac{3}{16}$"	.....	.....
6395S	$\frac{5}{64}$ "	$\frac{1}{4}$ "	$\frac{17}{64}$ "	$\frac{5}{16}$ "	$\frac{3}{16}$"	.....	.....
6396S	$\frac{5}{64}$ "	$\frac{1}{4}$ "	$\frac{17}{64}$ "	$\frac{5}{16}$ "	$\frac{3}{16}$"	.....	.....
7044S	$\frac{5}{64}$ "	$\frac{1}{4}$"	.....	$\frac{5}{16}$ "	$\frac{3}{16}$"	.....	.....
7045S	$\frac{5}{64}$ "	$\frac{1}{4}$"	.....	$\frac{5}{16}$ "	$\frac{3}{16}$"	.....	.....

① - See Hot (Slow) Idle RPM in TUNE-UP Section.

② - See Cold (Fast) Idle RPM in TUNE-UP Section.

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. 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, 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.

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.

CARTER MODEL BBS SINGLE BARREL (Cont.)

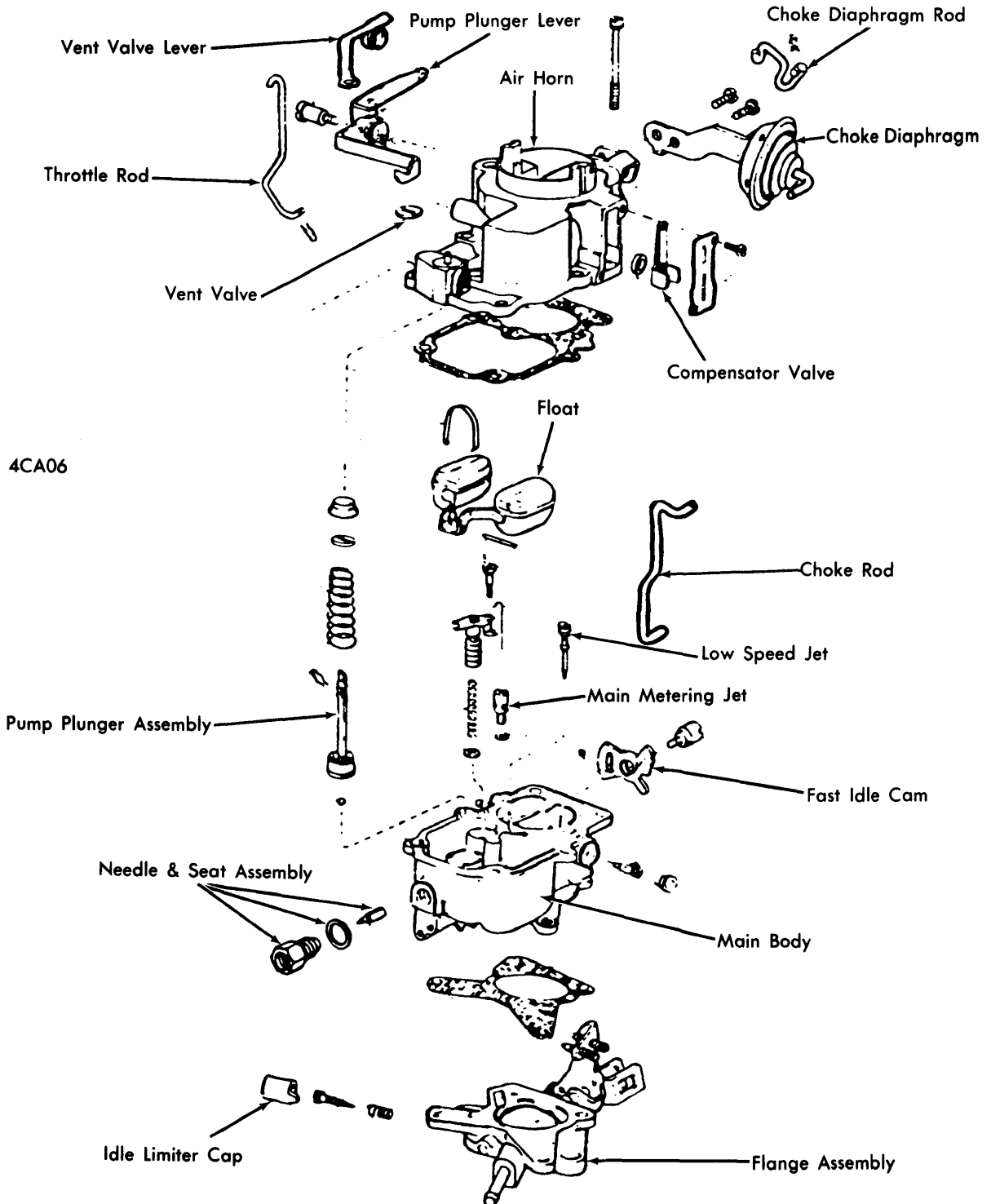
REASSEMBLY

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 to 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 $\frac{1}{16}$ " in 10 seconds, leakage is excessive and unit should be replaced.



BBS CARBURETOR ASSEMBLY (TYPICAL)