1970-72 HOLLEY 1920 1-BARREL

CHRYSLER CORP.

Holley Carburetor No.

1970

225" 6 Cyl. Engine	Synchro-mesh	Auto. Trans.
"C.A.S." Carbs	R4351A	R4352A
"E.C.S." Carbs	R4353A	R4354A
"TAXI" Carbs	R4355A	R4363A

1971

198" 6 Cyl. Engine		
Holley 1-Bbl	① R6363A	① R6364A
225" 6 Cyl. Engine		
Holley 1-Bbl	R4655A	R4656A
"TAXI" Application	R4659A	R4659A

1972

198" 6 Cyl. Engine		
Except California	R6363A	R6364A
California Only	R6365A	R6366A
225" 6 Cyl. Engine		
Except California	R6155A	R6156A
California Only	R6153A	R6154A
"TAXI" Application	R6159A	R6159A

① – May be found in place of Carter BBS carburetor.

▶ CHANGES, CAUTIONS, CORRECTIONS

▶ *1970 CARBURETORS DESIGN NOTE* – Carburetors are of two different types, either for use with "C.A.S." (Cleaner Air System), or for use where "E.C.S." (Evaporation Control System) is mandatory. Major difference in carburetors is that on carburetors without "E.C.S.", fuel bowl vapors are vented to underhood air. "E.C.S." carburetors vent this vapor to the crankcase.

▶ *1971-72 CARBURETORS BOWL VENT NOTE* – 1971-72 carburetors meet emission control standards for both "C.A.S." and "E.C.S.".

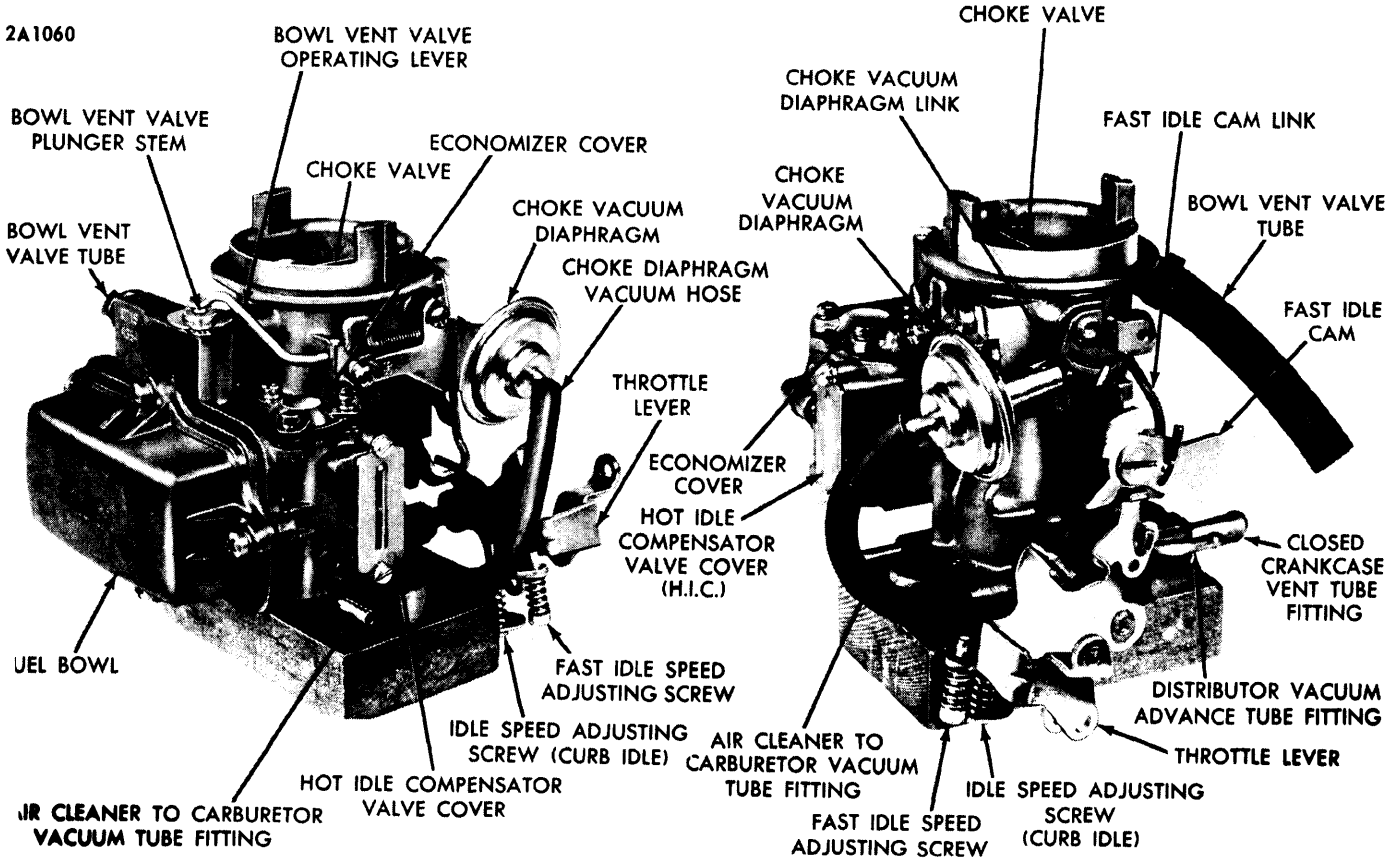
▶ *1972 FLOAT SETTING CHANGE & PROCEDURE* – Do not use wet settings. Adjust dry setting by inverting carburetor and measuring distance from top of float to the upper wall of the main body with a drill against the cast rib (approximately 2" from hinge pin). Specification is .270"±.015" (17/64" drill).

CARBURETOR IDENTIFICATION

Holley part number stamped on top side of carburetor body just behind fuel bowl cover. Prefix letter "R" indicates complete carburetor assembly. Suffix letter "A" indicates an assembly. A suffix numeral indicates modification from original specifications.

DESCRIPTION

Single barrel downdraft with conventional choke valve in air horn operated by remote thermostatic coil and choke rod. Choke "well" may be cast as an integral part of mani-



HOLLEY CARBURETOR MODEL 1920

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fold or may be a stainless steel cup fastened over a port in manifold. Acceleration pump is a spring driven diaphragm type operated by a lever connected by linkage to throttle shaft. A two stage power valve mounted in the metering block, actuated by manifold vacuum, delivers additional fuel necessary for full power and high speed operation.

Note the following features:

Stainless Steel Choke Well – Starting in 1970, a new design choke well was incorporated to permit faster opening of the choke, resulting in leaner fuel mixtures during warm-up period and less exhaust emissions. *CAUTIONS – Loosening or removing choke retainer bolts will allow exhaust gases to escape into engine compartment. DO NOT RUN ENGINE UNLESS CHOKE FIRMLY BOLTED TO MANIFOLD.*

Hot Idle Compensator Valve – Mounted on side of main body casting. Bi-metal thermostatic valve is an air bleed which relieves an overrich mixture condition at idle caused by excessive heat.

Enclosed Bowl Vent Valve (E.C.S. & 1971-72 Carburetors) – Vapor emissions through vent valve are trapped by enclosure around valve and vented into crankcase by means of hose connected to nipple on fuel pump.

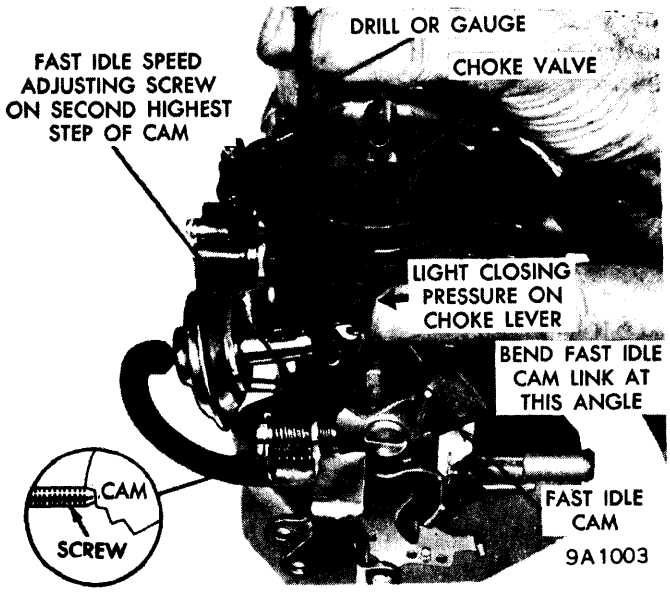
Idle Retard Dashpot (1970) – Used on carburetors R4351A and R4353A only, to retard return of throttle to idle position.

ADJUSTMENT

Idle Speed & Mixture

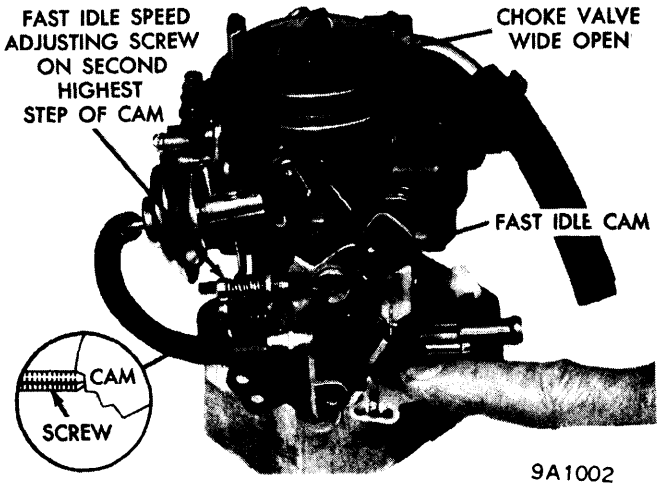
Set the following conditions before making adjustments. Engine running at normal operating temperature, automatic transmission in NEUTRAL (not PARK), air cleaner in position, timing set to specification, A/C OFF.

Idle Speed – Use idle speed stop screw to obtain specified idle RPM (see Specifications).



FAST IDLE CAM POSITION ADJUSTMENT

Idle Mixture – Mixture adjusting screw has limiter cap installed which limits range of adjustment. *Do not remove this cap.* Chrysler Corp. recommends that idle mixture be adjusted only with the aid of an exhaust analyzer.



FAST IDLE SPEED ADJUSTMENT

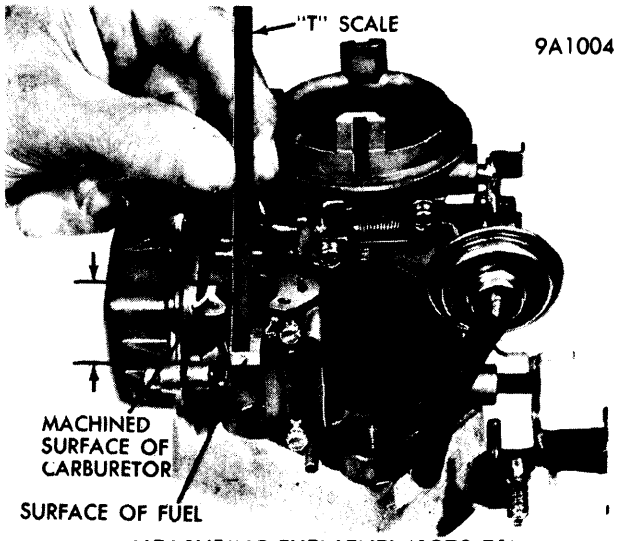
Fast Idle Cam Position

NOTE – Fast Idle Cam Position must be adjusted before adjusting fast idle speed.

Position fast idle adjusting screw on second step of fast idle cam and against shoulder of highest step (see illustration). Insert gauge or drill (see Specifications) between choke valve and air horn wall. If slight drag not felt as gauge is withdrawn, adjust by bending fast idle connector rod at lower angle.

Fast Idle Speed

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



MEASURING FUEL LEVEL (1970-71)

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FUEL LEVEL (ON CAR) (1970-71)

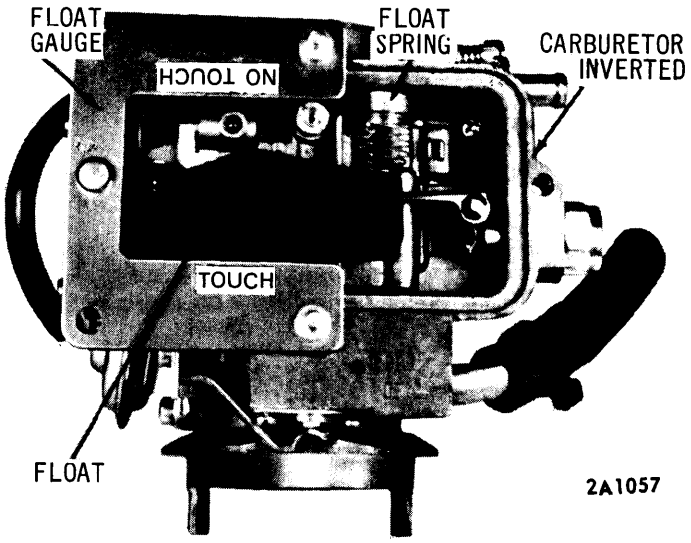
With car on level floor and engine running, remove economizer diaphragm assembly and check fuel level with a depth gauge inserted through economizer opening. If fuel level not as specified (see Specifications), float must be adjusted (see following instruction).

FLOAT LEVEL ADJUSTMENT (1970-71)

This adjustment requires a special "go-no-go" gauge (Chrysler Tool No. C-3903). With bowl cover removed, invert carburetor and install gauge (see illustration). Float should just contact "Touch" leg of gauge and just clear "No Touch" leg when gauge reversed. If adjustment required, bend float tab that contacts fuel inlet needle. *NOTE – Do not touch contact area of float tab with pliers when bending to adjust.*

FLOAT LEVEL ADJUSTMENT (1972)

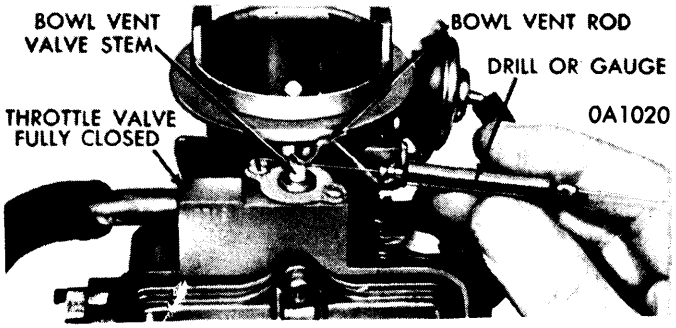
Do not use fuel level adjustment. Adjust dry setting by inverting carburetor and measuring distance from top of float to upper wall of main body with a drill against cast rib (approximately 2" from hinge pin). Specification is .270"±.015" (7/64" drill).



FLOAT LEVEL ADJUSTMENT

BOWL VENT (1970 C.A.S. CARBS.)

With throttle at curb idle speed, it should be possible to insert a 3/32" drill between bowl vent and seat. Measurement should not exceed 1/8".



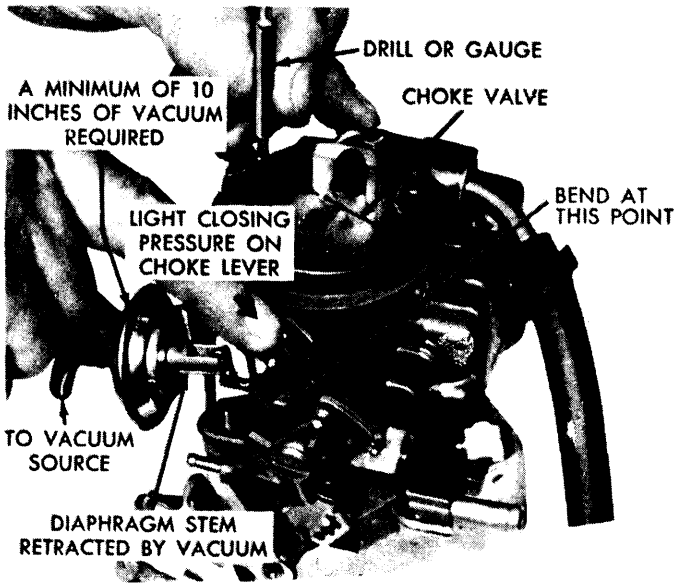
BOWL VENT ADJUSTMENT (1970-71)

BOWL VENT (1970 E.C.S. & 1971-72)

With throttle valve at curb idle position, clearance between bowl vent stem and bowl vent rod should be as specified (see Specifications). Bend vent rod at horizontal portion if adjustment required.

Vacuum Break (Kick)

NOTE – Adjustment can be made on or off car, using an auxiliary vacuum source (distributor test machine, or another vehicle), or on the car with engine running. When using auxiliary vacuum source, remove vacuum break hose from carburetor, NOT from vacuum break diaphragm.



VACUUM BREAK (KICK) ADJUSTMENT

If adjustment is made with engine running, back off fast idle screw until choke will close to kick position with engine at curb idle (note number of turns, to properly reset fast idle after adjustment). If auxiliary vacuum source is used, open throttle valve (engine not running) and move choke to closed position. Release throttle, then release choke. Apply a minimum of 10" or more of mercury. Insert drill (see Specifications) between top of choke valve and wall of air horn. Apply sufficient pressure on choke rod lever to give minimum choke valve opening without distorting diaphragm link. *NOTE – Diaphragm internal spring must be fully compressed, as will be noted by extension of diaphragm stem.* A slight drag should be felt as drill is withdrawn, if not, adjust by opening or closing U-bend in diaphragm link. *CAUTION – Do not apply twisting or bending force to diaphragm.*

Automatic Choke

Choke control unit is serviced as an assembly. DO NOT attempt to repair or change choke setting. If unit binds or does not function properly, a new unit should be installed.

CAUTION – Loosening or removing choke retainer bolts when working with the stainless steel cup type choke will allow exhaust gases to escape into engine compartment. DO NOT RUN ENGINE UNLESS CHOKE FIRMLY BOLTED TO MANIFOLD.

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CARBURETOR ADJUSTMENT SPECIFICATIONS

Holley Carb. No.	Idle Speed (Engine RPM)		Fast② Idle Cam Position	Float Level Gauge	Fuel Level Setting	Bowl Vent Setting	Vacuum Kick② Setting
	Hot ①	Fast					
R-4351A	700	1600	#52	C-3903	27/32"	3/32"	#39
R-4352A	650	1800	#52	C-3903	27/32"	3/32"	#50
R-4353A	700	1600	#52	C-3903	27/32"	1/32"	#39
R-4354A	650	1800	#52	C-3903	27/32"	1/32"	#50
R-4355A	650	1700	#52	C-3903	27/32"	3/32"	#39
R-4363A	650	1700	#52	C-3903	27/32"	1/32"	#39
R-4655A	750	1600	#52	C-3903	27/32"	1/32"	#39
R-4656A	750	1900	#52	C-3903	27/32"	1/32"	#39
R-4659A	750	1800	#52	C-3903	27/32"	1/32"	#39
R-6153A	700	2000	#52	7/64"	.....	.015"	#39
R-6154A	700	2000	#52	7/64"	.....	.015"	#39
R-6155A	750	2000	#52	7/64"	.....	.015"	#39
R-6156A	750	1900	#52	7/64"	.....	.015"	#39
R-6159A	750	1900	#52	7/64"	.....	015"	#39
R-6363A	800	2000	#52	7/64"	.....	.015"	#39
R-6364A	800	1900	#52	7/64"	.....	.015"	#39
R-6365A	800	2000	#52	7/64"	.....	.015"	#39
R-6366A	800	2000	#52	7/64"	.....	.015"	#39

① – Headlights ON, Transmission in Neutral, A/C ON.
② – Drill Number.

Choke Unloader

When correct Fast Idle Cam Position adjustment has been made, the Choke Unloader adjustment has also been obtained. No further adjustment is required.

DASHPOT (IF USED)

After idle speed and mixture adjusted, run engine with tachometer attached and open throttle to point where actuating tab on throttle lever contacts dashpot stem (stem must not be compressed) and note tachometer reading. Engine speed should be 2500 RPM. Adjust dashpot by turning it in or out of mounting bracket.

OVERHAUL

Disassembly

1) Remove choke vacuum diaphragm, link and bracket assembly. Disconnect link from slot in choke lever and place to one side for special cleaning. *NOTE – As the vacuum diaphragm bracket is being removed, the bowl vent valve rod and spring will fall out.*

2) Remove needle and seat valve. Remove economizer retaining screws and remove economizer assembly. Remove fuel bowl attaching screws and remove fuel bowl, baffle and gasket. Slide baffle out of bowl and remove float damper spring. Remove float retaining clip, then slide float off fulcrum pin.

3) Remove screws attaching metering block and remove block. Remove pump operating link and tilt pump lever on its pivot until hook on pump diaphragm stem can be released. Slide pump diaphragm and spring from fuel bowl.

4) Remove main jet from metering block. With a suitable tool, remove pump lever retaining clip. Slide lever off pivot and disengage link from throttle lever. Remove fast idle cam and at the same time, disengage fast idle cam rod.

5) Note position of idle limiter cap stop and remove plastic cap from idle mixture screw. Count the number of turns to seat the screw, as the same number of turns (from the seat) must be maintained at installation. Remove idle mixture screw and spring. Discard the cap.

6) Remove fast idle and curb idle speed screws from throttle lever. Remove bowl vent cover screws and cover and lift out valve and spring (if so equipped). Carburetor is now disassembled as far as necessary.

Cleaning & Inspection

Cleaning – Clean all metal parts in suitable solvent-type cleaning fluid. Blow out all passages and orifices with compressed air. *CAUTION – Do not pass wires or drills through jets or orifices, since they may become enlarged.* After rinsing cleaning solvent from metal parts, dry with compressed air, making sure that no traces of moisture remain in passages. It is advisable to rinse all metal parts in gasoline or kerosene as a precaution against

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moisture. *CAUTION – Plastic parts or choke diaphragm can be damaged by solvents. To clean these parts, wipe with clean dry cloths only. Loose dirt may be removed with compressed air. Do not connect air blast with vacuum diaphragm fitting.*

Inspection – Inspect throttle shaft for excessive wear in body. If wear is extreme, it is recommended that the carburetor assembly be replaced rather than installing a new shaft in an old throttle body.

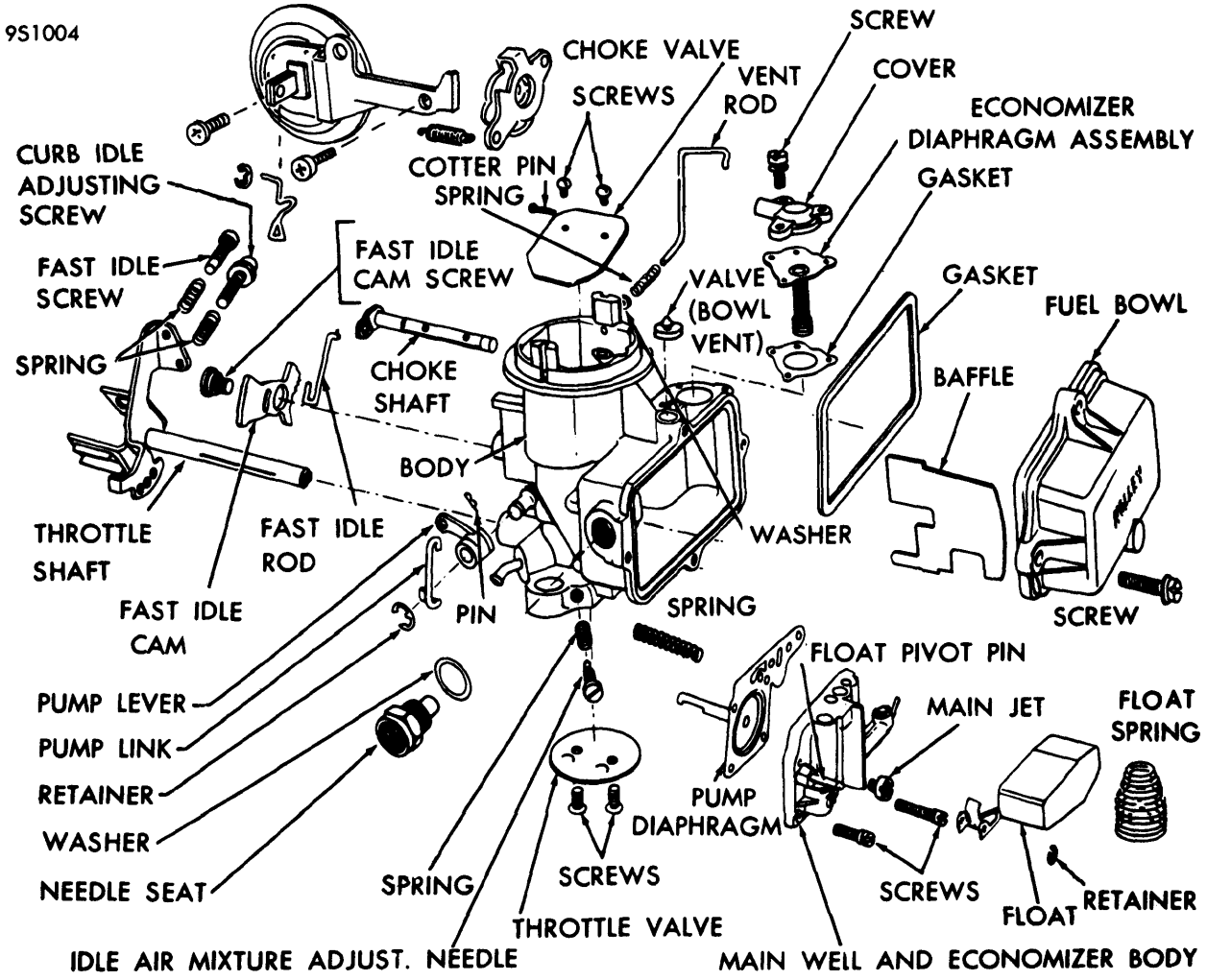
Assembly

Using all new gaskets, assemble carburetor by reversing disassembly procedure. Note the following.

1) When installing idle mixture screw and spring in body, the tapered portion must be straight and smooth. If tapered portion is grooved or ridged, install a new screw to insure having correct idle mixture control. DO NOT USE A SCREWDRIVER. Turn screw lightly (with fingers) against its seat. Then back off the number of turns counted at disassembly. Install new plastic cap (red) with tab against stop.

2) Test choke valve for binding by rotating lever through extent of its full travel. When installing pump link, make sure link is in center hole of throttle lever.

3) Before installing fuel bowl, check and adjust float setting. When installing fuel bowl, tighten attaching screws alternately, tightening only enough to compress the lock washers. Screws drawn too tightly can distort the fuel bowl and cause a leak.



HOLLEY SINGLE BARREL MODEL 1920 CARBURETOR ASSEMBLY