

## HOLLEY SINGLE BARREL MODEL 1931

### 1964-65 MODELS

RAMBLER AMERICAN & CLASSIC	Holley Carburetor No.	
	Synchro-mesh	Auto. Trans.
1964 232" 6 Cyl.....	2697A, 2697A*	2880A
1965 232" 6 Cyl.....	2697-1A	2880A
	3200A.....	3199A

### 1966 MODELS

RAMBLER AMERICAN		
199" 6 (No Air Guard).....	3251A	3250A, -1A
	3650A	3624A
(With Air Guard).....	3438A	3292A

### RAMBLER CLASSIC & MARLIN

232" 6 (No Air Guard).....	3253A	ⓐ
(With Air Guard).....	3295A	3294A

### 1967 MODELS

#### RAMBLER AMERICAN

199" 6 (No Air Guard).....	3705A	3704A
(With Air Guard).....	3709A	3706A, 3978A
232" 6 (No Engine Mod).....	3253A	ⓐ
(With Engine Mod).....	3708A, -1A	3707A, -1A

#### RAMBLER REBEL, MARLIN & AMBASSADOR

232" 6 (No Engine Mod).....	3253A	ⓐ
(With Engine Mod).....	3708A, -1A	3707A, -1A

ⓐ - Carter RBS Carburetor used on these cars.

### ► CHANGES, CAUTIONS, CORRECTIONS

- **"AIR-GUARD" CARBURETOR NOTE:** These carburetors are used on engines with "Air-Guard" exhaust emission control system and are special units with different jet calibrations and adjustment specifications.
- **"ENGINE MOD" CARBURETOR NOTE:** These carburetors are special units used with new exhaust emission control system which does not use an air pump for air injection into the engine. See *ADJUSTMENTS* for special adjustment procedure.
- **1964 SYNCHRO-MESH CARBURETOR CHANGE TO IMPROVE CHOKE ACTION & ACCELERATION PERFORMANCE (Holley 2697 Carb.):** Modified carburetor No. 2697\* used in production beginning with Engine Code No. 605L07. Carburetor has changes to improve choke performance and reduce pump capacity to eliminate acceleration harshness and can be used to replace original carburetor No. 2697 (field modification of original carburetor is not recommended). See *ADJUSTMENTS* for special settings for this carburetor.
- **1964-65 IMPROPER CHOKE OPERATION & LACK OF FAST IDLE AFTER COLD START CORRECTION:** This condition may be caused by binding choke rod due to improper adjustment. See *Choke Rod Adjustment*.
- **1965 CARBURETOR PRODUCTION CHANGE:** Later type carburetors, Holley No. 3199 (Beginning Eng. Code 702 L 09) and No. 3200 (Beginning Eng. Code 703 L 02), have revisions to simplify manufacturing, and different jet calibrations. Idle system on these carburetors is similar to previous Model 2880 with idle feed restriction hole at upper end of idle well (no idle tube with restriction used). All carburetors are adjusted and serviced similarly.
- **1966 232" ENGINE DASHPOT INSTALLATION TO ELIMINATE DRIVE LINE BACKLASH NOISE:** Noise caused by reversal of engine torque and is particularly noticeable at city driving speeds. Correct by installing Dashpot Kit,

Part No. 3207235, mounting the bracket on the existing boss adjacent to choke piston housing. Make certain dashpot stem contacts carburetor throttle lever. Adjust dashpot (see *ADJUSTMENTS*).

- **1966 RAMBLER AMERICAN 199" 6 CYL. ENGINE CONSTANT THROTTLE SURGE OR ACCELERATION STUMBLE CORRECTION (With Holley 1931 Carb. No. 3624):** Use Carburetor Kit No. 3208308 and rework carburetor as follows: Separate fuel bowl and metering block from carburetor (discard fuel bowl gasket), use #72 (.025") drill in kit to enlarge idle feed restriction in metering block as noted below (**CAUTION - Turn drill by hand**), blow out all chips. Replace main jet with new No. 57 jet (in kit), adjust dry float setting to 5/16" using Gauge J-10208. Reassemble carburetor using new fuel bowl gasket, adjust carburetor with engine running. **NOTE** - With metering block flat and pump cavity toward right, idle feed restriction hole will be at center on far side of block.

### CARBURETOR IDENTIFICATION

Holley carburetor number (and American Motors number) is stamped on top of fuel bowl adjacent to bowl vent valve. **NOTE** - Complete Holley number (Example R-3251-A) may not appear on carburetor ("R" indicates carburetor, "A" indicates assembly). A suffix number ("-1" etc.) indicates modifications in basic design or specifications.

### DESCRIPTION

Single barrel downdraft type with one-piece main body and throttle body casting. All carburetor jets are located in removable metering block mounted on carburetor within fuel bowl recess. Float assembly is mounted in fuel bowl (cover) on side of carburetor. These carburetors have design differences as follows:

**1964-65 Automatic Choke Assembly** - Choke assembly is mounted separately in heat sink on intake manifold and is linked to choke shaft lever by an adjustable rod. Choke vacuum piston (for initial choke opening) is located in cylinder on air horn and is linked directly to the choke valve.

**1966 & Later Carburetors** - Automatic choke is conventional (integral) type mounted on air horn and linked directly to choke shaft lever. Choke vacuum piston is same design as on earlier carburetors and is linked directly to the choke valve.

### ADJUSTMENT

#### Idle Speed & Mixture

Adjust with engine at normal operating temperature (choke valve wide open and fast idle not operative), air cleaner in place, all transmissions in Neutral, and Air Conditioner turned on. Connect tachometer to engine.

**Std. & Air Guard Engines** - Adjust idle speed to correct engine RPM (see Specifications). Turn idle mixture screw out until engine speed begins to drop off, then turn screw in to lean mixture until maximum engine speed is obtained and continue to turn screw in until engine speed begins to drop off due to lean mixture, finally turn screw out just enough to secure maximum engine idle speed (this will assure a "lean as possible" setting). Readjust idle speed. If necessary to change idle speed more than 50 RPM, repeat idle mixture adjustment.

**"Engine Mod" Carburetors** - Adjust idle speed to correct engine RPM (see Specifications). Turn idle mixture adjusting screw out until maximum engine idle speed is obtained, then turn screw in until a 20 RPM drop in engine

# Holley Carburetors

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speed is noted, finally turn screw out until original idle speed is just regained. If necessary to readjust idle speed, repeat idle mixture adjustment. Continue this procedure until correct idle speed is obtained without further adjustment of the idle speed adjusting screw.

### Fast Idle Speed (On Engine)

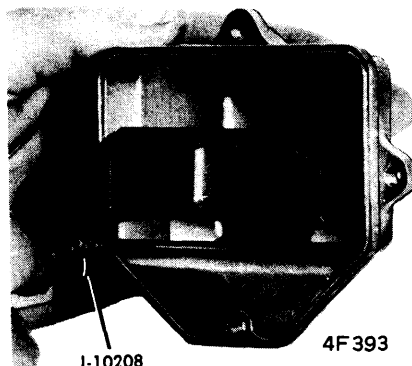
With engine at normal operating temperature, position fast idle screw on correct step of fast idle cam as listed in Specifications. Adjust fast idle screw for correct engine speed (see Specifications).

### Float Level

Remove fuel bowl from carburetor, then invert bowl and check distance between float and bowl at both ends of float (see specifications). To adjust float level, push on center of float to raise and pull on center of float to lower. **CAUTION** - When adjusting float level, do not allow float tab to contact fuel inlet needle (Viton tip may be compressed or damaged resulting in incorrect float setting or fuel leaks).

### Unloader

Hold throttle in wide open position and rotate choke valve toward closed position. Distance between top of choke



FLOAT LEVEL ADJUSTMENT

CARBURETOR ADJUSTMENT SPECIFICATIONS								
Holley Carb. No.	Idle Speed (Engine RPM)		Initial Idle Mixture	Float Level Setting	Unloader Setting	Bowl Vent Setting	Choke Piston Stop	Auto. Choke Setting
	Hot	Fast						
2697	550 ①	1800 ④	¾-1¾	5/16"	15/64"	1/16"	3/16"	Index
2697*	550 ①	1400 ②	¾-1¾	5/16"	15/64"	1/16"	3/16"	Index
2697-1	550 ①	1400 ②	¾-1¾	5/16"	15/64"	1/16"	3/16"	Index
2880	550 ①	⑤	¾-1¾	5/16"	15/64"	1/16"	3/16"	Index
3199	550 ①	1400 ②	¾-1¾	5/16"	15/64"	1/16"	3/16"	Index
3200	550 ①	1400 ②	¾-1¾	5/16"	15/64"	1/16"	9/64"	Index
3250, -1	550 ①	1600 ②	¾-1¼	5/16"	15/64"	1/16"	3/32"	Index
3251	550 ①	1500 ②	¾-1¼	5/16"	15/64"	1/16"	3/32"	1 Lean
3253	550 ①	1400 ②	¾-1¼	5/16"	15/64"	1/16"	9/64"	1 Lean
3292	575 ①	1600 ②	¾-1¼	5/16"	15/64"	1/16"	3/32"	Index
3294	575 ①	1600 ②	¾-1¼	5/16"	15/64"	1/16"	3/32"	Index
3295	575 ①	1600 ②	¾-1¼	5/16"	15/64"	1/16"	3/32"	1 Rich
3438	575 ①	1600 ②	¾-1¼	5/16"	15/64"	1/16"	7/64"	1 Rich
3624	600 ⑥	1400 ②	1-1½	5/16"	15/64"	1/16"	3/32"	Index
3650	600 ⑥	1400 ②	1-1½	5/16"	15/64"	1/16"	3/32"	Index
3704	600 ⑥	1400 ②	1-1½	5/16"	15/64"	1/16"	3/32"	Index
3705	600 ⑥	1400 ②	1-1½	5/16"	15/64"	1/16"	3/32"	Index
3706	525 ⑦	1400 ②	¾-1½	5/16"	15/64"	1/16"	7/64"	1 Rich
3707, -1	600 ⑥	1600 ②	1½-3½	5/16"	15/64"	1/16"	9/64"	Index
3708, -1	600 ⑥	1400 ②	1-1½	5/16"	15/64"	1/16"	1/8"	1 Rich
3709	600 ⑥	1400 ②	¾-1½	5/16"	15/64"	1/16"	7/64"	1 Rich
3978	525 ⑦	1550 ②	½-1½	5/16"	15/64"	1/16"	9/64"	1 Rich

① - Synchro-mesh & Auto. Trans. Cars (In Neutral).

500 RPM Air Conditioned Cars (Air Cond. ON).

② - Fast idle screw on second step of fast idle cam.

③ - Turns open from lightly seated position.

④ - Fast idle screw on high step of fast idle cam.

⑦ - Auto. Trans. Cars in DRIVE. Air Conditioner ON.

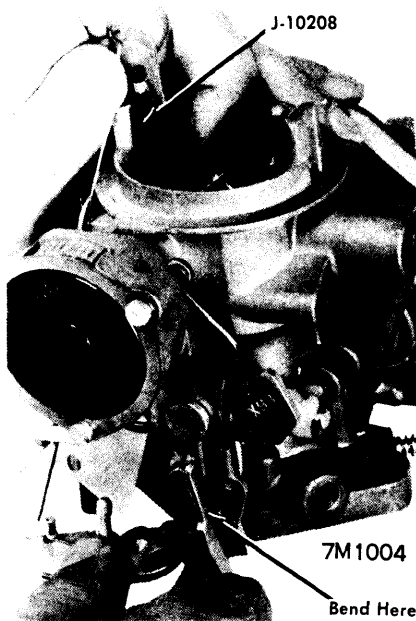
⑤ - (1964) 1800 RPM with fast idle screw on high step of fast idle cam.

(1965) 1350 RPM with fast idle screw on second step of fast idle cam.

⑥ - Synchro-mesh & Auto. Trans. Cars (In Neutral). Air conditioner ON (when used).

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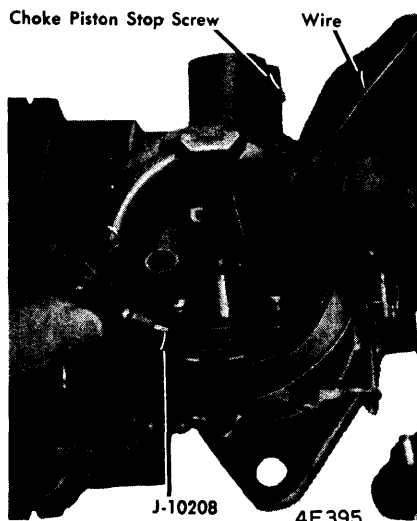
valve and flat portion of air horn should be as indicated in specifications. To adjust, bend tab on throttle lever.



UNLOADER ADJUSTMENT

### Choke Qualifying Adjustment (Choke Piston Stop)

Hold choke piston against stop screw with a wire inserted in slot above choke piston link (see illustration), move choke valve toward closed position until link is firm. Measure distance between top edge of choke valve and flat portion of air horn (see Specifications). If distance not correct, adjust by turning choke piston stop screw in or out as required.



CHOKE QUALIFYING ADJUSTMENT (CHOKE PISTON STOP)

### Bowl Vent

With throttle valve in normal idle position, clearance between vent valve and seat should be as indicated in specifications. To adjust, bend vent rod at horizontal section above fuel bowl.

### Accelerating Pump

Throttle lever has three holes for pump link engagement. Inner hole provides richer mixture, outer hole leaner mixture. For normal operating conditions, connect pump link in correct hole of throttle lever as listed below.

#### Accelerating Pump Setting

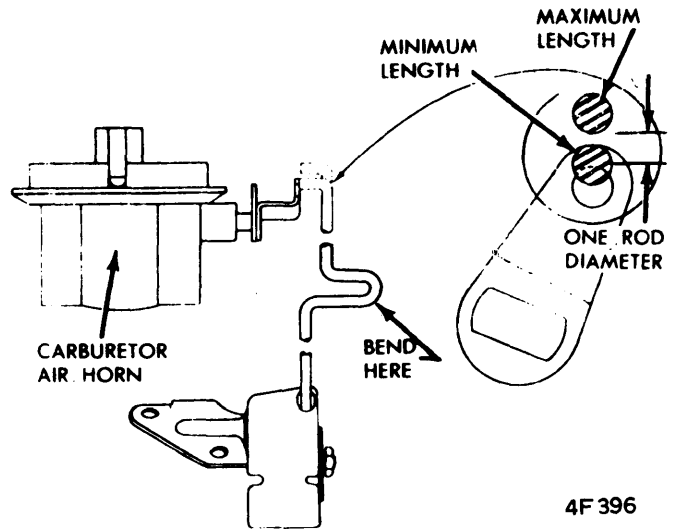
Carburetor	Throttle Lever Hole
2697, 2880, 3199 (1964-65)	Center
2697*, 2697-1, 3200 (1964-65)	Inner
All Carbs. (1966-67) except following	Center
3978	Outer

### Dashpot

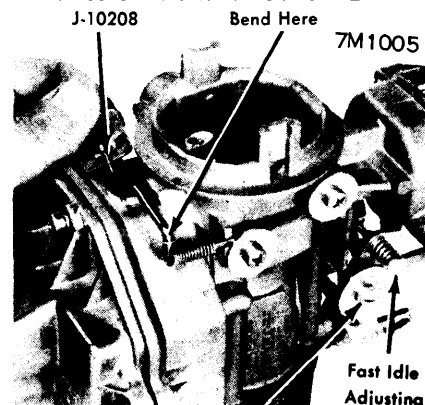
With carburetor throttle lever set for correct curb idle speed, hold dashpot stem fully depressed and adjust dashpot in bracket (loosen locknut and turn dashpot in or out of bracket) for 3/32" clearance between end of dashpot stem and throttle lever.

### Choke Rod (1964-65 Carburetors)

NOTE - This adjustment required only on carburetors with separate automatic choke mounted on intake manifold. Remove choke rod from shaft lever, then with choke valve in closed position and rod lifted to maximum height, adjust choke link rod at loop, by bending, so bottom edge of rod



### 1964-65 CHOKE ROD ADJUSTMENT



BOWL VENT ADJUSTMENT

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is located between center of the hole to one rod diameter above top of hole in shaft lever. Make sure rod does not bind in choke housing.

**CAUTION** - When adjusting choke rod length, bend rod at the loop (see illustration) using extreme care not to disturb alignment of choke rod ends which would cause the rod to bind in the choke housing and choke shaft lever. Check rod for free operation without binding after adjustment.

See specifications. To adjust choke, loosen bimetal spring shaft nut and turn shaft as necessary to align index with proper mark on bimetal cover. **NOTE** - Do not set index mark on choke more than two graduations off specified setting.

### Automatic Choke (1966 & Later Carburetors)

**NOTE** - This adjustment applies to integral automatic choke mounted on carburetor air horn.

Loosen three cover clamp retaining screws, rotate cover and thermostatic coil assembly to align reference mark on cover with correct graduation of scale on housing (see Specifications).

### Automatic Choke (1964-65 Carbs.)

**NOTE** - This adjustment applies to separate automatic choke mounted on intake manifold.

## OVERHAUL

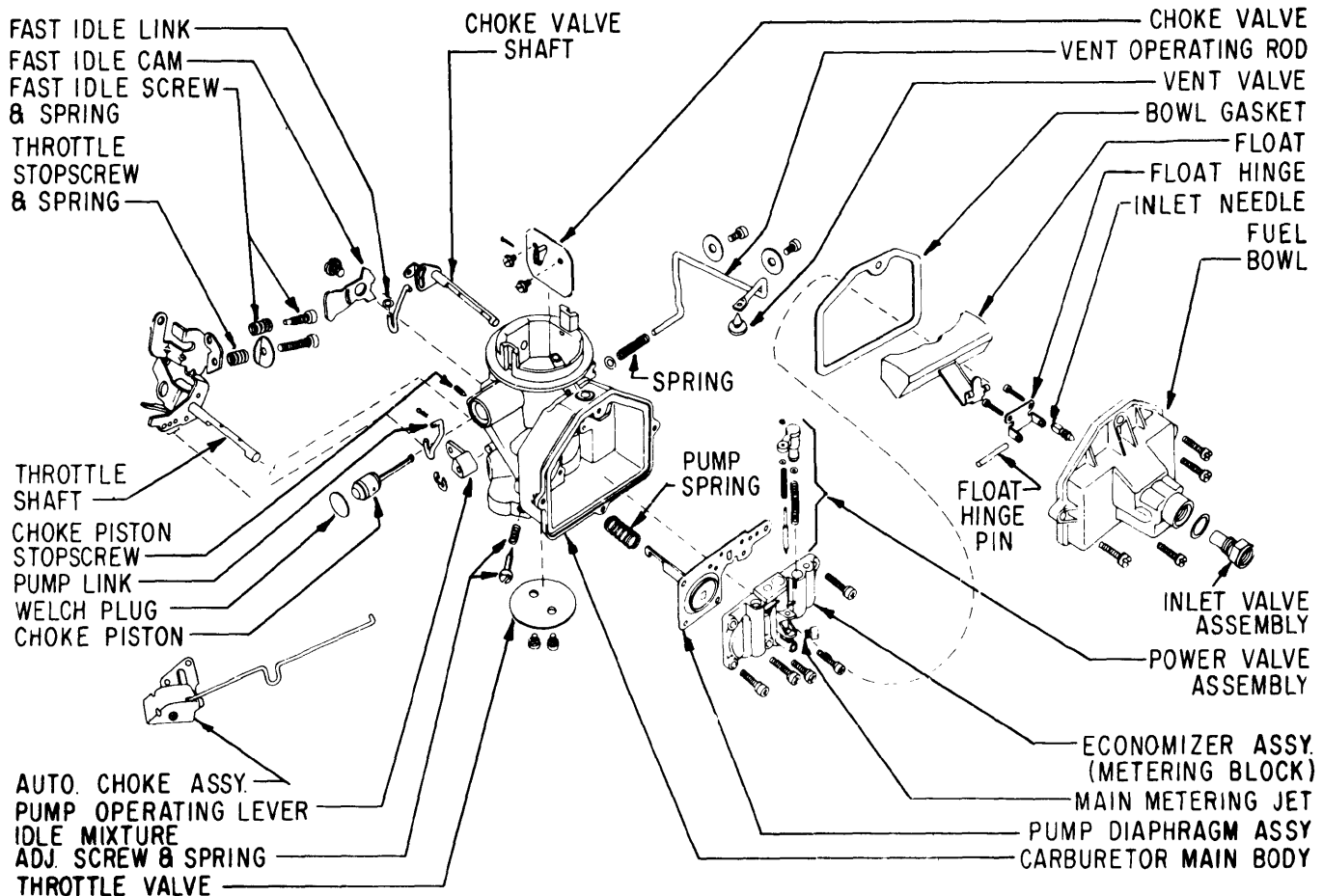
### Disassembly

1) Remove needle valve and seat assembly from float bowl, remove bowl retaining screws and separate fuel bowl from carburetor body, remove float assembly from bowl cover.  
2) Remove main well and economizer body from carburetor body (**CAUTION** - Hold power valve piston down to prevent loss of power valve spring), then remove power valve assembly and spring. Remove main jet from economizer body.

3) Remove clip and slide accelerator pump link out of pump lever, remove pump diaphragm assembly and drive spring. Depress accelerator pump stem to allow ball retainer to drop out, separate pump sleeve and spring from pump diaphragm assembly. Remove pump operating cam or lever clip, slide cam lever off pin and separate link from cam lever.

4) Remove fast idle cam, fast idle rod and washer. Remove idle mixture adjusting screw and spring, throttle stopscrew and fast idle adjusting screw and springs. Remove bowl vent rod assembly.

(Continued)



1964-65 HOLLEY MODEL 1931 CARBURETOR ASSEMBLY

5M1030

## HOLLEY SINGLE BARREL MODEL 1931 (Continued)

5) On 1966 and later carburetors, remove three choke cover retaining screws, remove retaining ring, choke cover and thermostatic coil assembly, and gasket. For normal service it will not be necessary to remove choke valve or shaft.

6) Remove cotter pin and disengage the choke piston link from choke valve bracket, take out choke valve screws and remove choke valve, slide choke shaft and lever out. **NOTE** - Do not remove choke piston unless it is sticking or binding. Remove piston through end of cylinder after removing welch plug and backing out stopscrew at least three full turns (**CAUTION** - Stopscrew must be turned in to original position when reassembling carburetor - see Adjustments).

7) Do not remove throttle valve or throttle shaft unless new parts required to correct binding or wear. If necessary to remove these parts, take out throttle valve screws, lift valve out, slide shaft out of carburetor casting.

### Cleaning & Inspection

Clean all parts in carburetor solvent, remove carbon deposits and blow out all passages with compressed air. Inspect all parts for wear, cracks, nicks, grooving, or corrosion. Discard all gaskets.

### Reassembly

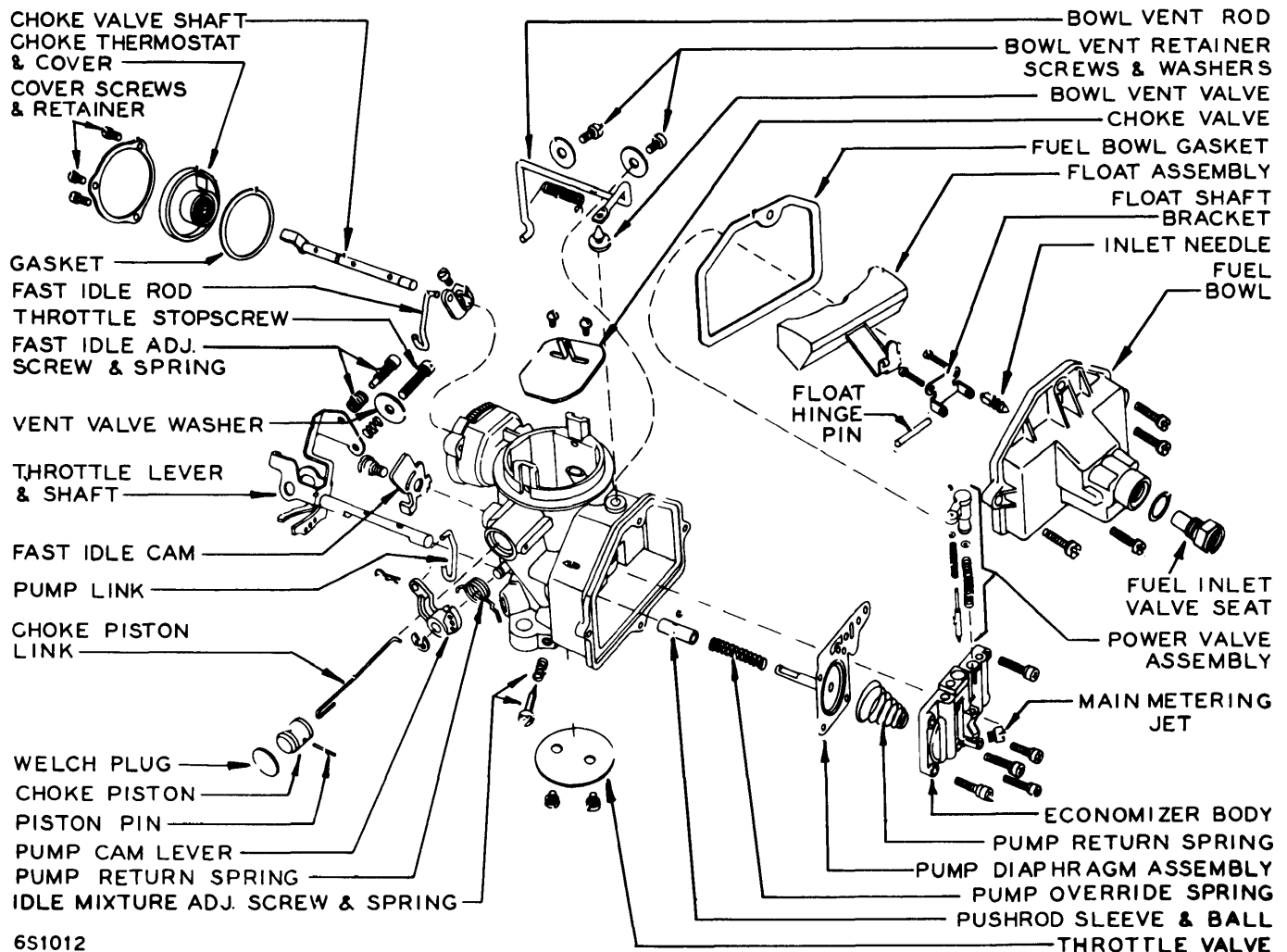
Use all new gaskets. Reassemble by reversing disassembly procedure and note the following:

**Throttle Valve Installation** - Use new throttle valve screws, install screws loosely, close throttle valve and tap valve lightly to centralize it in bore, tighten screws securely. Check throttle operation and make certain valve closes without binding.

**Choke Valve Installation** - Install choke valve attaching screws loosely, make certain choke shaft moves freely through entire travel without binding, tighten screws securely, connect choke piston link.

**Economizer Assembly** - After installing pump diaphragm assembly and spring, position economizer assembly over pump diaphragm and hold firmly in place while tightening retainer screws evenly. **CAUTION** - Upper center screw is smaller than other screws.

**Automatic Choke Assembly** - Install new choke housing gasket. Hold choke valve closed and install cover with thermostatic coil end engaging clockwise side of choke shaft lever, install retaining ring and three retaining screws, rotate cover assembly to correct setting (see Adjustments) and tighten retaining screws.



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1966 & LATER HOLLEY MODEL 1931 CARBURETOR ASSEMBLY