

# Holley Carburetors

## HOLLEY MODEL 1920 SINGLE BARREL

### JEEP

Application	Holley Part No.	
	Man. Trans.	Auto. Trans.
1965 & 1966		
230" OHC 6 Cyl. ....	2647	2651

### INTERNATIONAL HARVESTER

Application	Holley Part No.
1969	
196" 4 Cyl. ....	3993
232" 6 Cyl. ....	4405
1970 & 1971	
196" 4 Cyl.	
Man. Trans. ....	4591
Auto. Trans. ....	4487, 4591
232" 6 Cyl. ....	4542
1972	
196" 4 Cyl. ....	6319
258" 6 Cyl. ....	6266, 6286, 6442
1973	
258" 6 Cyl. ....	6266, 6286, 6442

### DODGE

Application	Holley Part No.	
	Man. Trans.	Auto Trans.
1965		
170" 6 Cyl. ....	2997	2999
225" 6 Cyl. ....	2998	2999
1966 & 1967		
170" 6 Cyl.		
W/O C.A.P. ....	3397	3399
W/C.A.P. ....	3226	3227
225" 6 Cyl.		
W/O C.A.P. ....	3398	3399
W/C.A.P. ....	3228	3229
1968		
170" 6 Cyl. ....	3982	3983
225" 6 Cyl. ....	3984	3985
1969		
170" 6 Cyl. ....	4192	4193
198" 6 Cyl. ....	4356	4358
225" 6 Cyl.		
W/O C.A.S. ....	3398	3399
W/C.A.S. ....	4195	4195
1970		
198" 6 Cyl. ....	4356	4358
225" 6 Cyl.		
"A" & "B" Models ....	4641	4642
Calif. ....	4357	4359
Federal.....	4750	4751
1971		
198" 6 Cyl. ....	4755	4756
225" 6 Cyl.		
Federal.....	4641	4642
Calif. ....	4750	4751
1972		
225" 6 Cyl.		
W/A.I.R. ....	6401	6402
W/O A.I.R. ....	6371	6372
1973		
225" 6 Cyl.		
Federal.....	6593	6594
Calif. ....	6595	6596

### CARBURETOR IDENTIFICATION

Holley Part Number is stamped on fuel bowl. The complete number (Example R-4578-A) may not appear on carburetor. Prefix "R" indicates carburetor and suffix "A" indicates assembly. A suffix with an additional digit (Example R-4578-1A) indicates modification from original specifications.

### DESCRIPTION

Single barrel downdraft type with separate "Well Type" automatic choke. Carburetor is single casting with separate fuel bowl cover enclosing float assembly. Power valve and accelerating pump are diaphragm type.

### ADJUSTMENTS

#### HOT (SLOW) IDLE RPM

See appropriate article in TUNE-UP Section.

#### COLD (FAST) IDLE RPM

See appropriate article in TUNE-UP Section.

#### ACCELERATOR & DOWNSHIFT LINKAGE ADJUSTMENT

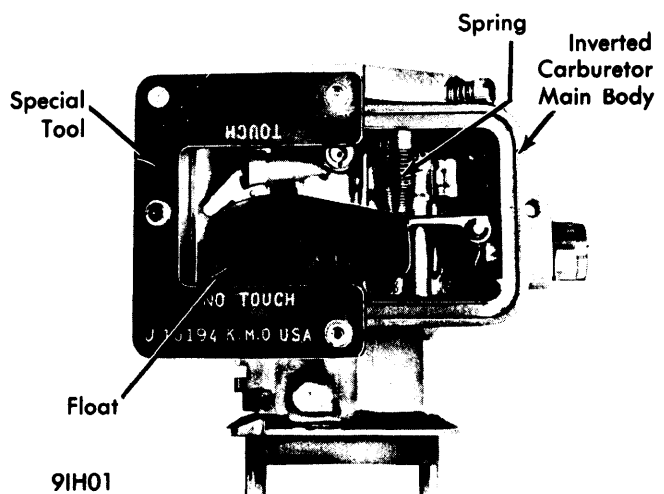
See appropriate article in TUNE-UP Section.

#### DASHPOT ADJUSTMENT

See appropriate article in TUNE-UP Section.

#### FLOAT LEVEL ADJUSTMENT

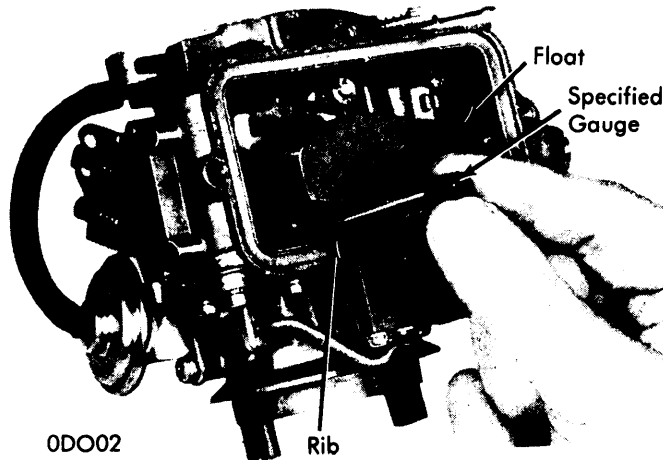
With Special Tool — With bowl cover removed, invert carburetor and install correct float level gauge (see specifications) as shown in illustration. Float should just contact "Touch" leg of gauge and should just clear "No Touch" leg when gauge is reversed. Adjust by bending float tab. **CAUTION** — Do not allow float tab to contact inlet needle while adjusting, rubber tip on needle may be compressed causing false setting.



FLOAT LEVEL ADJUSTMENT (WITH SPECIAL TOOL)

## HOLLEY MODEL 1920 SINGLE BARREL (Cont.)

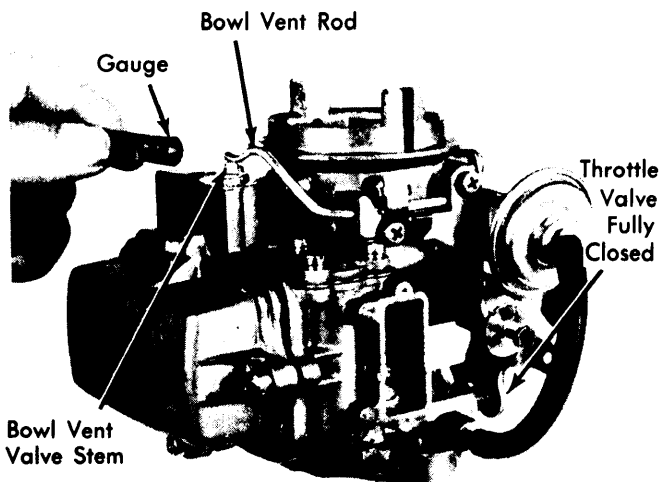
**Without Special Tool** — With carburetor inverted, measure from top of float to upper wall of main body with gauge against (not on) cast rib. Rib is approximately two inches from float hinge pin. Be sure gauge is parallel with top of float (see specifications for float setting gauge diameter). **CAUTION** — Do not allow float tab to contact float needle head during this operation as needle tip may be compressed giving a false reading. Do not touch contact area of float tab with pliers.



0DO02 **FLOAT LEVEL ADJUSTMENT (WITHOUT SPECIAL TOOL)**

### BOWL VENT

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 is required.



0DO03 **BOWL VENT ADJUSTMENT**

### FAST IDLE CAM POSITION (DODGE TRUCKS)

Fast idle engine speed adjustment should be made on vehicle; however, fast idle cam position adjustment can be made on the bench. With fast idle speed adjusting screw contacting second highest speed step on fast idle cam, move choke valve toward closed position with light pressure on choke shaft lever. Insert specified gauge between top of choke valve and wall of air horn. An adjustment will be necessary if a slight drag is not obtained as gauge is being removed. If adjustment is necessary, bend fast idle connector rod at angle until correct valve opening has been obtained.

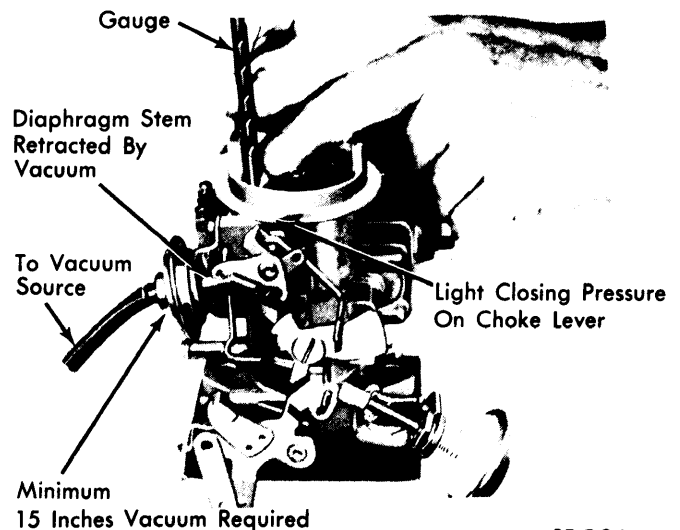
### FUEL LEVEL CHECK

With engine running and car on a level floor, fuel level can be checked through economizer diaphragm opening. Using a six inch scale with depth gauge, measure distance from machined surface of opening to exact fuel surface. Distance should be as specified. If not, adjust float to give proper level.

### VACUUM 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.

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 15" 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.



0DO04 **VACUUM KICK ADJUSTMENT**

# Holley Carburetors

## HOLLEY MODEL 1920 SINGLE BARREL (Cont.)

CARBURETOR ADJUSTMENT SPECIFICATIONS							
Holley Carb. No.	Idle Speed (Engine RPM)		Fast ② Idle Cam Position	Float Level Gauge	Fuel Level Setting	Bowl Vent ③ Setting	Vacuum Kick ③ Setting
	Hot	Fast					
2647	600	①	....	J-10238	3/4"	....	....
2651	600	2100	....	J-10238	3/4"	....	....
2997	550	700	15/64"	C-3903	27/32"	1/16"	3/16"
2998	550	700	15/64"	C-3903	27/32"	1/16"	13/64"
2999	550	700	15/64"	C-3903	27/32"	1/16"	11/64"
3226	650	1550	#41	C-3903	27/32"	3/32"	#28
3227	650	1550	#52	C-3903	27/32"	3/32"	#28
3228	650	1550	#41	C-3903	27/32"	3/32"	#28
3229	650	1550	#52	C-3903	27/32"	3/32"	#28
3397	550	700	#52	C-3903	27/32"	3/32"	#30
3398	550	700	#52	C-3903	27/32"	3/32"	#30
3399	550	700	#52	C-3903	27/32"	3/32"	#38
3982	700	1400	#41	C-3903	27/32"	3/32"	#30
3983	700	1600	#52	C-3903	27/32"	3/32"	#30
3984	700	1400	#41	C-3903	27/32"	3/32"	#30
3985	700	1600	#52	C-3903	27/32"	3/32"	#30
3993	700	....	....	SE-1772-9F	27/32"	....	....
4192	700	1400	....	10-194 ③	27/32"	....	....
4193	700	1400	....	10-194 ③	27/32"	....	....
4195	700	1400	....	10-194 ③	27/32"	....	....
4356	700	1600	#52	C-3903	27/32"	3/32"	#39
4357	700	1600	#52	C-3903	27/32"	3/32"	#39
4358	650	1800	#52	C-3903	27/32"	3/32"	#39
4359	650	1800	#52	C-3903	27/32"	3/32"	#39
4405	700 ④	....	....	SE-1772-9F	27/32"	....	....
4487	700 ④	....	....	SE-1772-9F	27/32"	....	....
4542	700 ④	....	....	SE-1772-9F	27/32"	....	....
4591	700 ④	....	....	SE-1772-9F	27/32"	....	....
4641	700	1600	#52	C-3903	27/32"	3/32"	#39
4642	650	1800	#52	C-3903	27/32"	3/32"	#39
4750	700	1600	....	10-194 ③	27/32"	....	....
4751	650	1800	....	10-194 ③	27/32"	....	....
4755	700	1600	....	10-194 ③	27/32"	....	....
4756	650	1800	....	10-194 ③	27/32"	....	....
6266	700	....	....	SE-1772-9F	27/32"	....	....
6286	700	....	....	SE-1772-9F	27/32"	....	....
6319	700	....	....	....	27/32"	....	....
6371	750	2000	#52	C-3903	27/32"	#78	#39
6372	750	1900	#52	C-3903	27/32"	#78	#39
6401	650	2200	#52	C-3903	27/32"	#78	#39
6402	650	2000	#52	C-3903	27/32"	#78	#39
6442	....	....	....	....	1/16"	....	....
6593	750	2000	.065"	.260"	....	.015"	.100"
6594	750	1700	.065"	.260"	....	.015"	.100"
6595	750	2000	.065"	.260"	....	.015"	.100"
6596	750	1700	.065"	.260"	....	.015"	.100"

① - Fast Idle speed is correctly set when Hot (Slow) Idle speed is set.

② - Drill size (Example, #41) or drill diameter (Example, .095") when on second highest step of fast idle cam.

③ - Drill size or drill diameter.

④ - Transmission in Neutral.

⑤ - Kent-Moore Gauge Number.

## HOLLEY MODEL 1920 SINGLE BARREL (Cont.)

### 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.

### 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.

## 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.

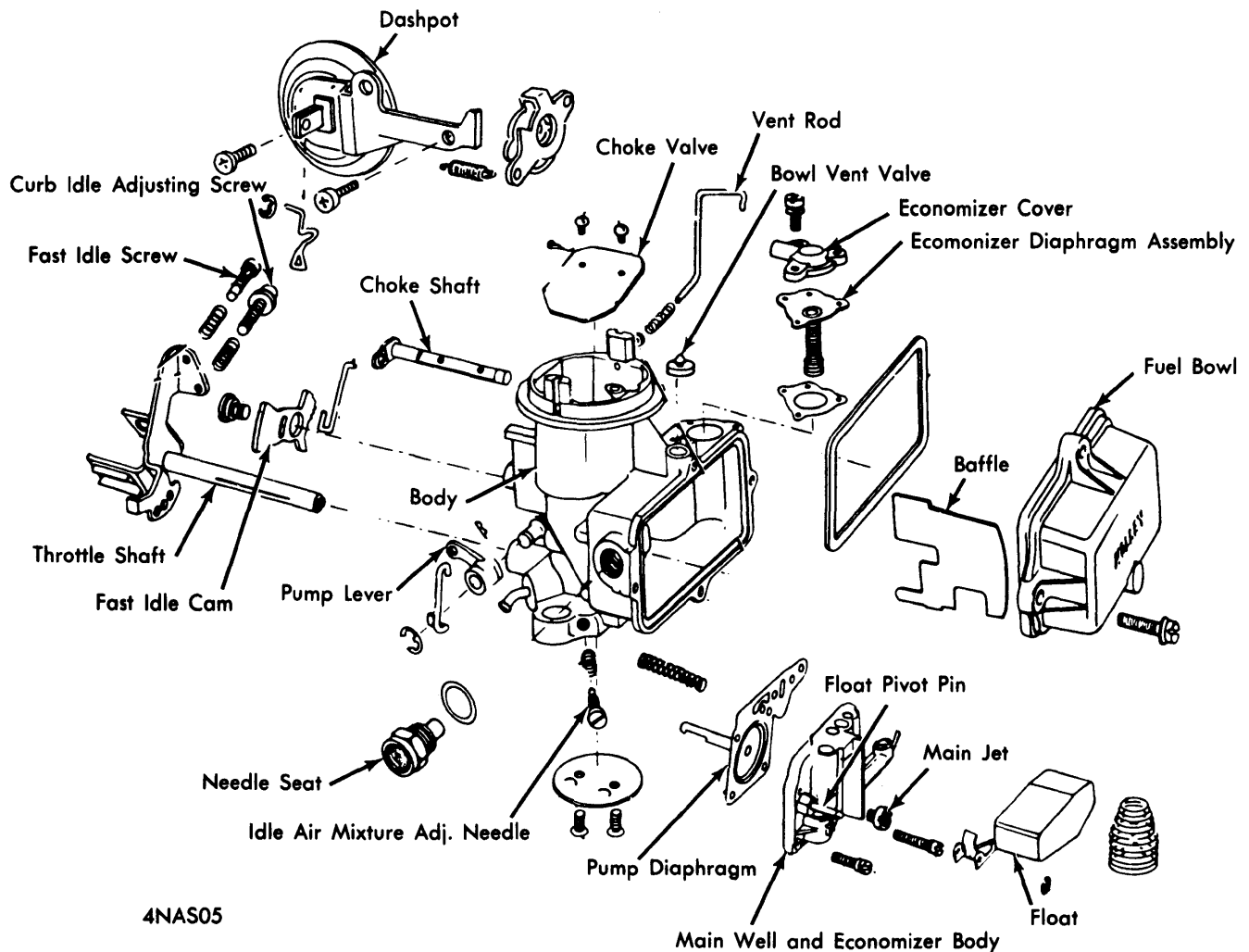
2) Remove needle and seat valve. Remove economizer retaining screws and remove economizer assembly. Remove fuel bowl attaching screws and remove fuel bowl, baffle and gasket. Slide baffle out of bowl and remove float damper spring. Remove float retaining clip, then slide float off fulcrum pin.

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.



HOLLEY SINGLE BARREL MODEL 1920 CARBURETOR ASSEMBLY

# Holley Carburetors

## HOLLEY MODEL 1920 SINGLE BARREL (Cont.)

### CLEANING & INSPECTION

**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.

**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 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.*

### REASSEMBLY

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.