

## HOLLEY MODEL 1940 SINGLE BARREL

### CARBURETOR APPLICATION

#### INTERNATIONAL HARVESTER

Application	Holley No.
196" 4-Cylinder .....	8789

### DESCRIPTION

Holley 1940 is single venturi of concentric downdraft design. Internally, fuel bowl completely surrounds venturi. Carburetor consists of three main parts; bowl cover, main body and throttle body. Carburetor includes four basic metering systems; idle and transfer, main metering system, accelerating system and power enrichment system. Other systems include the fuel inlet and electric choke systems.

### TESTING

#### ELECTRIC CHOKE

1) With ignition switch in the "ON" position and cylinder head temperature above  $130^{\circ} \pm 8^{\circ}F$ , the choke heat sensor switch should be closed and full battery voltage present at carburetor side of heat sensor switch. If voltage is zero, check voltage at battery side of heat sensor switch. If voltage is again zero, check choke circuit fuse and related wire harness.

2) If voltage at battery side of switch is acceptable and engine temperature is above  $138^{\circ}F$ , but there is no voltage flow through switch, replace switch assembly. If full battery voltage is obtained at carburetor side of switch but choke fails to open, check choke plate and shaft for binding. If no binding condition exists, insert an ammeter into the circuit in series between the cold switch and electric choke. If a minimum reading of .5 amps is not obtained, replace electric choke unit.

**NOTE** - Temperature sensor reopens after cooling at temperatures of  $80-105^{\circ}F$ .

### ADJUSTMENTS

#### HOT (SLOW) IDLE RPM

See appropriate article in TUNE-UP SERVICE PROCEDURES.

#### COLD (FAST) IDLE RPM

See appropriate article in TUNE-UP SERVICE PROCEDURES.

#### ACCELERATOR LINKAGE

See appropriate article in TUNE-UP SERVICE PROCEDURES.

#### FLOAT LEVEL

1) Remove air horn. Remove gasket. Place straight edge across surface of float bowl.

2) Gently press needle valve IN toward closed position. Do not apply heavy pressure or damage may result to tip of needle valve.

3) While holding float tang against closed needle valve, top of floats should just touch bottom of straight edge.

4) If adjustment is needed, bend float tang and recheck. (See Fig. 1).

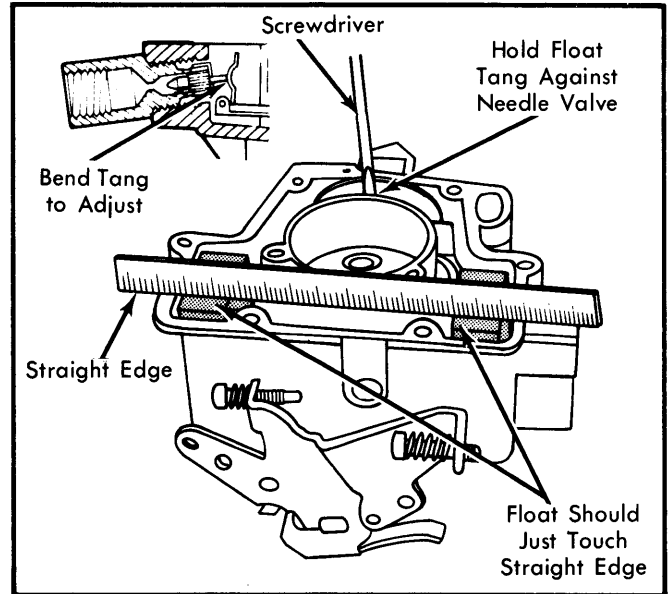


Fig. 1 Checking Float Level Using Straight Edge

#### FUEL LEVEL

With engine at normal operating temperature, remove air horn and measure distance from top of float bowl down to fuel level. Distance should be  $\frac{1}{16} \pm \frac{1}{32}$ ". If adjustment is necessary, bend float tang.

#### ACCELERATOR PUMP STROKE

1) Back idle speed screw off until throttle valves are closed completely. Measure specified accelerator pump stroke distance from vacuum passage casting to center of hole in pump operating lever. See Fig. 2.

2) To adjust accelerator pump stroke, bend operating rod at existing "U" bend.

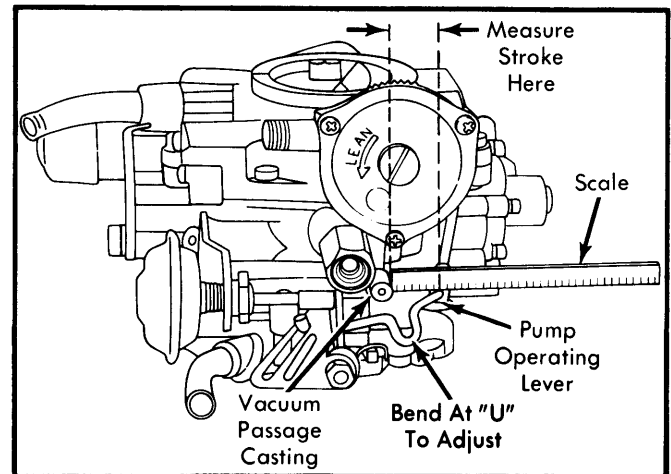


Fig. 2 Adjusting Accelerator Pump Piston Stroke

## HOLLEY MODEL 1940 SINGLE BARREL (Cont.)

### FAST IDLE CAM POSITION

**NOTE**— This adjustment is necessary to assure time at which each cam step occurs during engine warm-up.

- 1) Place fast idle speed adjusting screw on SECOND highest step of fast idle cam, against shoulder of high step. See Fig. 3
- 2) With fingers, press choke plate gently towards closed position. Do not force the plate, but be sure to remove any slack in the linkage.
- 3) Measure fast idle cam position specified clearance between upper edge of choke valve and air horn wall. Measurement can be made with a drill or pin gauge of specified size.
- 4) If clearance is not to specification, bend fast idle cam connecting rod.

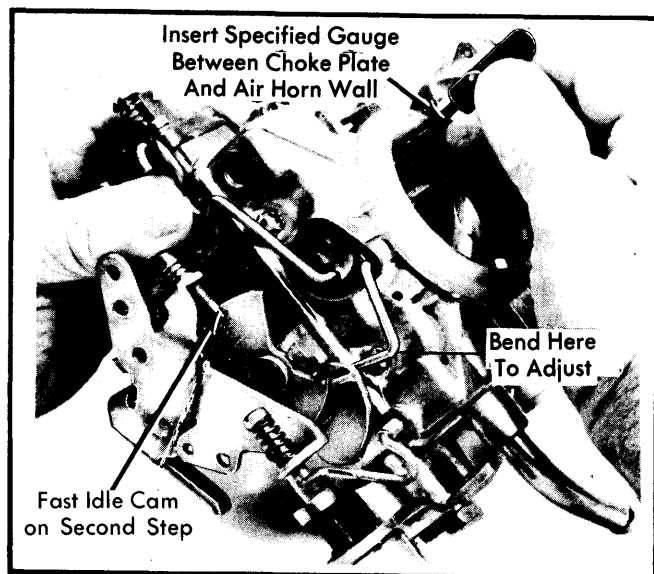


Fig. 3 Fast Idle Cam Position Adjustment

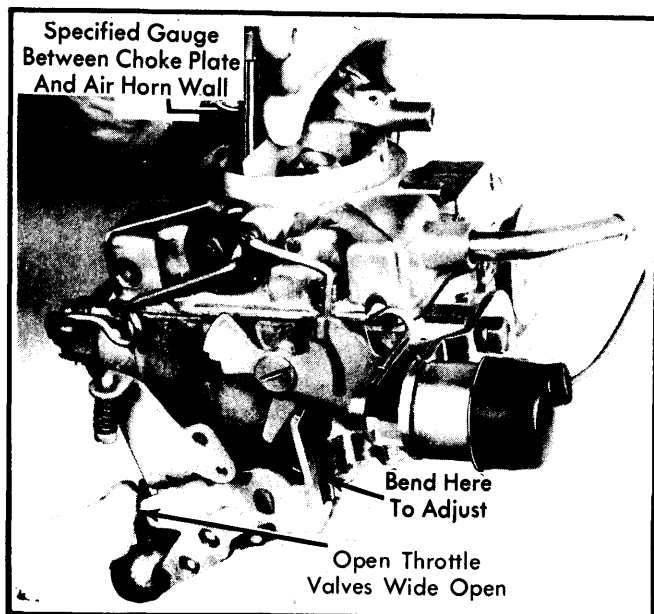


Fig. 4 Adjusting Choke Unloader

### CHOKE UNLOADER

- 1) Open throttle valves wide open. Apply a light closing pressure to choke valve. Measure choke unloader specified clearance between upper edge of choke valve and air horn wall. See Fig. 4.
- 2) Measurement can be made using a drill or pin gauge of specified size. Adjust clearance by bending choke unloader tang on throttle lever.

### AUTOMATIC CHOKE

- 1) Loosen choke cover retaining screws. Rotate cover to align proper marks on choke housing and choke coil cover.
- 2) Set coil cover to 1 notch rich. Tighten retaining screws.

## OVERHAUL

### DISASSEMBLY

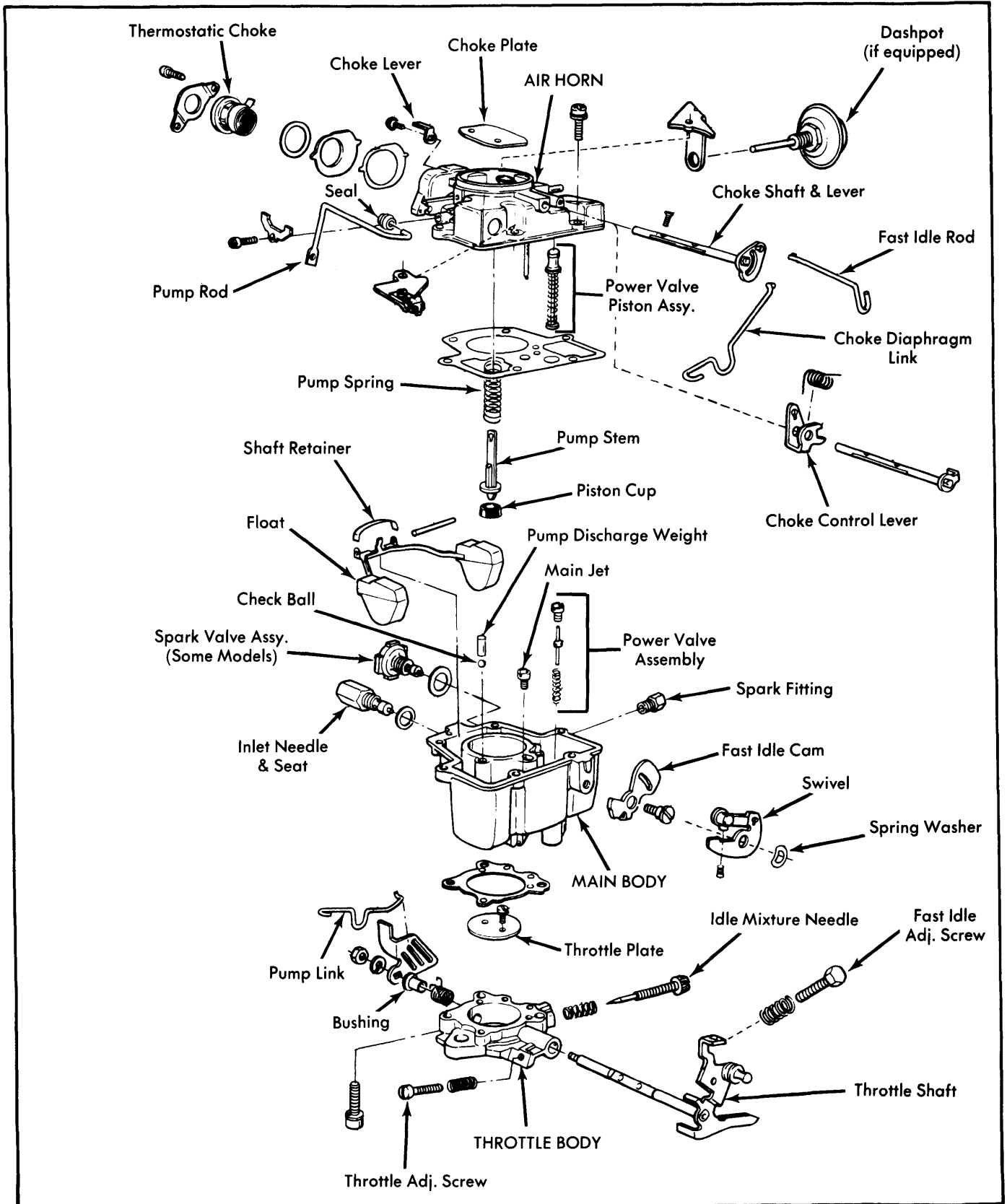
- 1) Remove choke cover screws and retainer ring. Remove choke cover. Remove idle speed solenoid and bracket. Remove fast idle cam screw, cam and link.
- 2) Remove nut and washer from accelerator pump rocker arm. Note position of rocker arm spring end tabs for reassembly. Remove rocker arm, link and spring. Separate link from rocker arm.
- 3) Remove air horn retaining screws and separate air horn from carburetor. Remove accelerator pump operating rod retainer screw and retainer. Rotate pump operating rod and disconnect pump drive spring and accelerator pump assembly. Rotate pump operating rod and remove from air horn.
- 4) Using a sharp pointed tool, remove staking from around edge of vacuum piston retainer. Remove vacuum piston with a pair of needle nose pliers.
- 5) Remove hot idle compensator valve cover, valve and gasket. If necessary, remove staking from choke valve screws and remove screws. Slide valve out of shaft and shaft out of air horn.
- 6) Turn main body upside down and remove pump discharge check ball and weight. Withdraw spring float shaft retainer, float shaft, and float assembly. Remove fuel inlet fitting and valve assembly. Remove main jet and power valve from main body. Remove main body-to-throttle body attaching screws, separate parts, and discard gasket.
- 7) Turn idle mixture screw to leanest position and remove limiter cap. Turn idle mixture screw clockwise until it seats, counting total number of turns. Record figure for reassembly reference. Remove curb idle speed screw and spring, low idle speed screw and spring, and fast idle speed screw and spring. Inspect throttle body for nicks, burrs, or a worn shaft.

**NOTE** — Do not disassemble throttle body any further.

### CLEANING & INSPECTION

- Use a regular carburetor cleaning solution. Soak components long enough to thoroughly clean all surfaces and passages of foreign matter.

## HOLLEY MODEL 1940 SINGLE BARREL (Cont.)



**Fig. 5 Exploded View of Holley 1940 Carburetor**

# 1980 Holley Carburetors

## HOLLEY MODEL 1940 SINGLE BARREL (Cont.)

- Do not soak any components containing rubber, leather or plastic.
- Remove any residue after cleaning by rinsing components in a suitable solvent.
- Blow out all passages with dry compressed air.

### REASSEMBLY

Using all new gaskets, reverse disassembly procedures and note the following:

**Vacuum Piston** — Before installing vacuum piston, be sure to remove all staking from retainer cavity. Install vacuum cylinder, seat retainer and stake lightly with suitable tool.

**Accelerator Pump** — Test accelerator pump discharge valve prior to assembly, by coating pump piston with oil or filling fuel bowl with gasoline. While holding pump discharge weight down, operate pump plunger. If no resistance is felt, pump discharge check ball is leaking. Stake check ball with suitable drift punch and test again.

CARBURETOR ADJUSTMENT SPECIFICATIONS						
Application	Float Level Setting	Fuel Level Setting	Accel. Pump Stroke Setting	Fast Idle Cam Setting	Choke Unloader Setting	Auto. Choke Setting
8789	①	$1\frac{1}{16}'' \pm 1\frac{1}{32}''$	$\frac{25}{32}''$	.150-.180"	.235"-.295"	Index

① — See Adjustment Procedure.