

# FUEL SYSTEM

## SERVICE INSTRUCTION WORKSHEET

TO REPAIR

GF3688-1

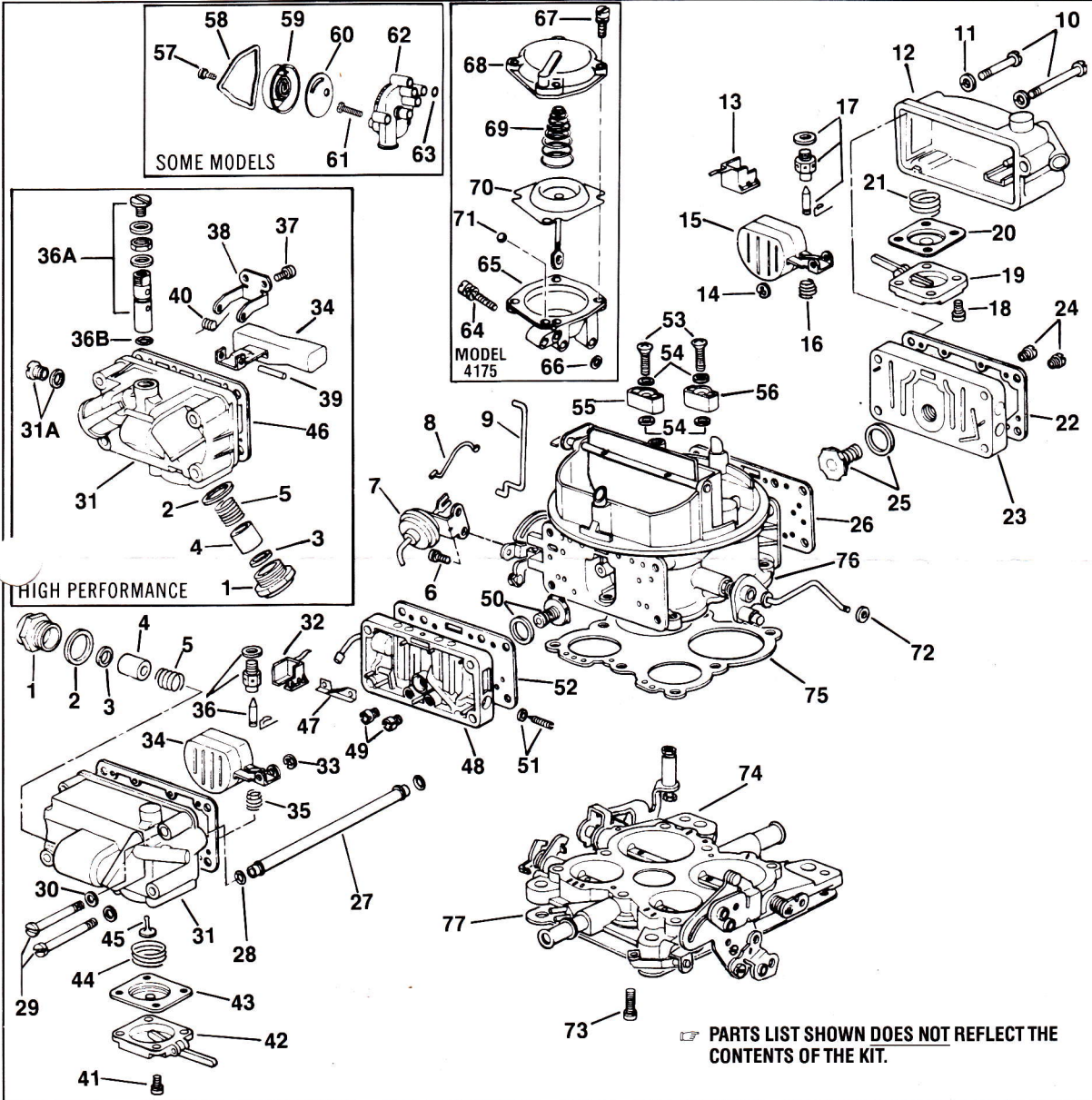
HOLLEY CARBURETOR

4 BARREL—Model 4165, 4175

- Carefully read the text in the following pages to become familiar with the contents of this worksheet before performing carburetor overhaul.
- The exploded view shown is typical of the model carburetor this kit will service. The view may differ slightly from the actual carburetor being overhauled.

- Use the exploded view as a guide. The numerical sequence may generally be followed to disassemble the carburetor far enough to permit cleaning and inspection.
- Parts List shown DOES NOT reflect the contents of the kit.
- Kit may contain extra parts intended for other carburetors within this group. Substitute identical replacement parts for original worn parts found in carburetor.

### PARTS LIST



PARTS LIST SHOWN DOES NOT REFLECT THE CONTENTS OF THE KIT.

### CLEANING

Cleaning must be done with carburetor disassembled. Soak (or spray) parts in cleaning solvent long enough to soften foreign matter. **CAUTION:** Do not soak or spray parts containing rubber, leather, plastic, or electrical parts. They may be damaged. Remove all loose particles and dirt using a stiff bristle brush. Do not use abrasives. Do not use a metal wire to clean out passageways and jets. Wash off in suitable solvent. Clear all passageways and jets with compressed air.

- Fitting, fuel inlet
- Washer, fuel inlet fitting
- Washer, fuel filter
- Filter, fuel
- Spring, fuel filter
- Screw, choke diaphragm (2)
- Choke diaphragm assy.
- Rod, choke diaphragm
- Rod, choke connecting
- Screw, sec. fuel bowl (2 short, 2 long)
- Washer, sec. fuel bowl screw (4)
- Fuel bowl assy., sec.
- Baffle plate, sec.
- Retainer, sec. float
- Float assy., sec.
- Spring, sec. float
- Needle, seat & washer assy., sec.
- Screw, sec. pump cover (4)
- Cover, sec. pump
- Diaphragm assy., sec. pump
- Spring, sec. diaphragm
- Gasket, sec. fuel bowl
- Metering body assy., sec.
- Main jets, sec. (2)
- Power valve & washer assy., sec.
- Gasket, sec. metering body
- Tube, fuel line
- O-ring, fuel line tube (2)
- Screw, pri. fuel bowl (2 short, 2 long)
- Washer, pri. fuel bowl screw (4)
- Fuel bowl assy., pri.
- Plug & washer, fuel level check
- Baffle plate, pri.
- Retainer, pri. float
- Float assy., pri.
- Spring, pri. float
- Needle, seat & washer assy., pri.
- Needle & seat assy., adjustable
- O-ring, needle & seat
- Screw, float bracket (2)
- Bracket, float pin
- Pin, float
- Spring, float
- Screw, pri. pump cover (4)
- Cover, pri. pump
- Diaphragm assy., pri. pump
- Spring, pri. diaphragm
- Valve, pri. pump check
- Gasket, pri. fuel bowl
- Baffle, metering body vent
- Metering body assy., pri.
- Main jets, pri. (2)
- Power valve & washer assy., pri.
- Needle & seat, idle adjust. (2)
- Gasket, pri. metering body
- Screws, pump discharge nozzle
- Nozzle, pri. pump discharge
- Nozzle, sec. pump discharge
- Screw, choke cover retainer (3)
- Retainer, choke cover
- Cover assy., choke thermostat
- Gasket, choke cover
- Screw, choke housing
- Choke housing assy.
- Washer, choke housing
- Screw, diaphragm housing
- Diaphragm housing assy., sec.
- Washer, diaphragm housing
- Screw, cover (4)
- Cover, sec. diaphragm
- Spring, sec. diaphragm
- Sec. diaphragm assy.
- Check ball, diaphragm housing
- Diaphragm housing assy., sec.
- Screw, throttle body (8)
- Throttle body assy.
- Gasket, throttle body
- Main body assy.
- Gasket, flange

## REMOVAL & INSTALLATION NOTES

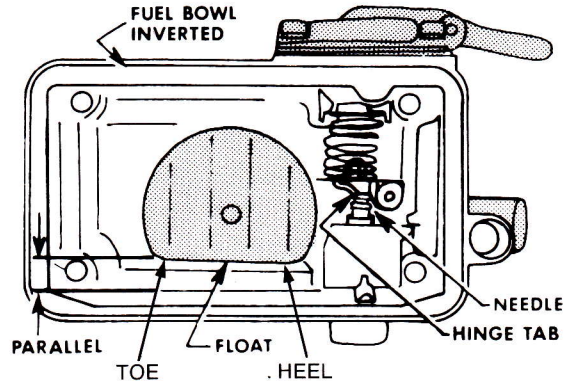
1. Cover opening on intake manifold after carburetor is removed.
2. Primary and secondary parts are not always the same. Make sure to mark the parts from each side.
3. Install in reverse order of removal.
4. Lightly lubricate o-rings with oil before installation.
5. Install needle & seat assy. (36) with small orifice on primary side. Install needle & seat assy. (17) with bigger orifice on secondary side.
6. When installing idle adjusting needles (51), turn in until lightly seated then back out one turn.
7. When installing pump check valves (45) (secondary not shown), lubricate tip of new valves, insert and pull from inside of fuel bowl until fully seated. Cut off tip at retaining shoulder.
8. Make sure to install return springs, (21) & (44), with large opening over rubber check valves.

## ADJUSTMENT DATA

**FIG. 1**

### **DRY FLOAT SETTING**

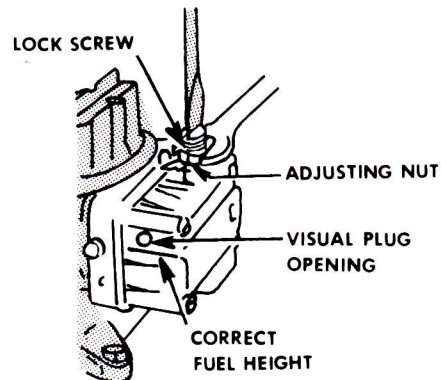
1. INVERT FUEL BOWL.
2. CHECK IF FLOAT IS PARALLEL TO SURFACE OF FUEL BOWL OR MEASURE DISTANCE BETWEEN FLOAT AND FUEL BOWL SURFACE AT TOE OF FLOAT (PRIMARY) HEEL OF FLOAT (SECONDARY). SEE SPEC. CHART.
3. TO ADJUST, BEND TAB.



**FIG. 2**

### **WET LEVEL ADJUSTMENT**

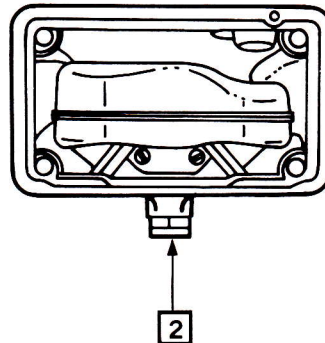
1. WITH CAR ON LEVEL SURFACE AND ENGINE RUNNING, LOOSEN LOCK SCREW.
2. CHECK GASOLINE LEVEL. IT SHOULD BE AT BOTTOM EDGE AT SIGHT PLUG PORT.
3. TO ADJUST, TURN ADJUSTING NUT COUNTER-CLOCKWISE TO LOWER LEVEL, COUNTER-CLOCKWISE TO RAISE LEVEL.



**FIG. 3**

### **DRY FLOAT SETTING (CENTER INLET TYPE)**

1. INVERT FUEL BOWL.
2. ADJUST FLOAT BY TURNING NEEDLE & SEAT ASSY. SO THAT IT IS CENTERED IN THE MIDDLE OF THE FUEL BOWL.

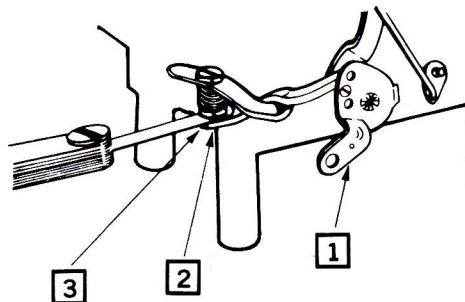


## ADJUSTMENT DATA (Cont'd)

**FIG. 4**

**PUMP OVERRIDE ADJUSTMENT**

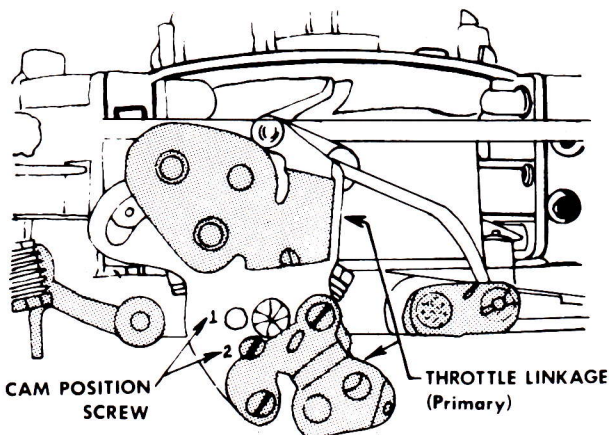
1. PLACE THROTTLE VALVE IN WIDE OPEN POSITION.
2. FULLY COMPRESS PUMP OPERATING LEVER.
3. MEASURE DIMENSION WITH FEELER GAUGE BETWEEN ADJUSTING NUT AND PUMP LEVER. IT SHOULD BE AS SPECIFIED.



**FIG. 5**

**PUMP STROKE-CAM SCREW POSITION**

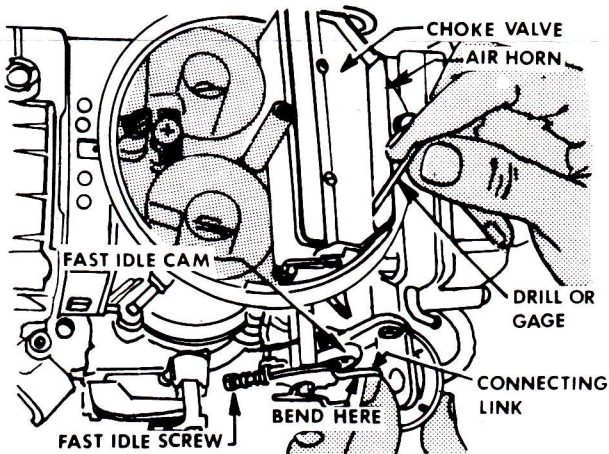
1. INSTALL SCREW IN THE POSITION LISTED IN SPECIFICATION CHART.



**FIG. 6**

**CHOKE QUALIFYING (PULL-DOWN) ADJUSTMENT**

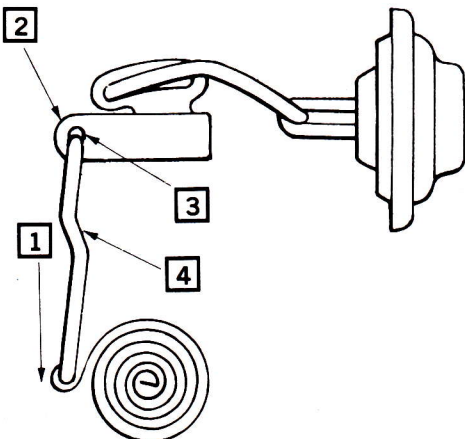
1. APPLY LIGHT CLOSING PRESSURE ON CHOKE VALVE.
2. DEPRESS PULL-DOWN DIAPHRAGM UNTIL FULLY SEATED.
3. MEASURE DIMENSION BETWEEN LOWER EDGE OF CHOKE VALVE AND AIR HORN WALL.
4. TO ADJUST, BEND PULL-DOWN LINK.



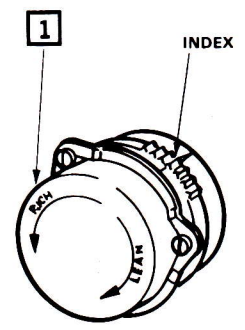
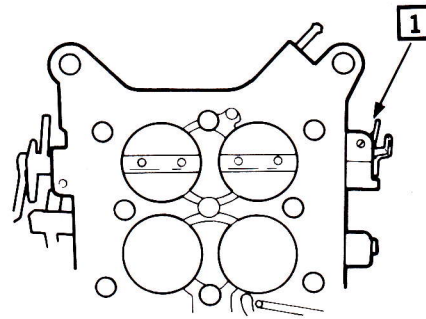
**FIG. 7**

**CHOKE LINK ADJUSTMENT**

1. PUSH LINK DOWNWARDS.
2. CHOKE LEVER SHOULD BE IN CLOSED CHOKE POSITION AS SHOWN.
3. THE TOP OF THE CHOKE LINK SHOULD BE 1/2 TO 1 LINK DIAMETER BELOW TOP EDGE OF HOLE.
4. TO ADJUST, BEND CHOKE LINK.



## ADJUSTMENT DATA (Cont'd)

<p><b>FIG. 8</b> <b>CHOKE ADJUSTMENT</b></p> <p>1. WHEN INSTALLING CHOKE COVER, ROTATE TO ALIGN REFERENCE MARK ON COVER WITH SPECIFIED MARK ON CHOKE HOUSING.</p>	
<p><b>FIG. 9</b> <b>SECONDARY THROTTLE STOP ADJUSTMENT</b></p> <p>1. TURN SECONDARY THROTTLE STOP SCREW OUT UNTIL SECONDARY THROTTLE VALVES ARE CLOSED IN BORE.</p> <p>2. TURN SCREW IN UNTIL IT JUST MAKES CONTACT WITH STOP ON LEVER. THEN, TURN ADDITIONAL 1/4 TURN.</p>	

### SPECIFICATIONS BY APPLICATION

Year	MODEL	FIG. 1 Float Level		FIG. 4 Pump Override	FIG. 5 Screw Position		FIG. 6 Choke Qualifying	FIG. 8 Choke Setting
		Primary	Secondary		Primary	Secondary		
<b>CHEVROLET — SPECIFICATION I.D.-A</b>								
1971-65	327, 350, 402, 427, 456 Eng. -Hi-Perf. w/D.P.	1	1	.015	# 2	# 1	.090	— <sup>2</sup>
<b>BUICK, CHEVROLET, OLDSMOBILE &amp; PONTIAC — SPECIFICATION I.D.-B</b>								
1973-70	Carb. No. 6210, 11, 62, 63; R6468	1	1	.015	# 2	# 1	.090	—
	Carb. No. 6497; R7054	1	1	.015	# 2	# 1	.070	2 Rich
	Carb. No. 6772, 73	1	1	.015	# 2	# 1	.070	—
	Carb. No. 6774	3/16	13/64	.015	# 2	# 1	.070	—
1971-67	Carb. No. 6498; 6512	1	1	.015	# 2	# 1	.070	— <sup>3</sup>
	Carb. No. 6528	1	1	.015	# 1	# 1	.105	—
<b>DODGE, PLYMOUTH — SPECIFICATION I.D.-B</b>								
1972-71	340, 400 Eng.	1	1	.015	# 2	# 1	.090	—
<b>CHRYSLER CORP. — SPECIFICATION I.D.-C</b>								
1976-73	340, 360, 400, 440 Eng. Carb. No. R7004, 05, 06	1	1	.015	# 2	—	.070	—
	Carb. No. R7004-1, -2; 7005-1, -2; 7006-1, -2; R7855	3/16	13/64	.015	# 2	—	.070 <sup>4</sup>	—
<b>OLDSMOBILE, PONTIAC — SPECIFICATION I.D.-C</b>								
1976-73	350, 400, 455 Eng. Carb. No. R7001	1	1	.015	# 2	# 1	.110	—
	Carb. No. 7351	3/16	13/64	.015	# 2	—	.096	Index
	Carb. No. 7397	3/16	13/64	.015	# 2	—	.070	2 Rich
	Carb. No. 8059,-1; R8060,-1	3/16	13/64	.015	# 2	—	.106	1 Rich

**FOOTNOTES:**

- <sup>1</sup> Set float parallel.
- <sup>2</sup> Carb. No. R6499 set 1 rich.
- <sup>3</sup> Carb. No. R6512 set 1 lean.
- <sup>4</sup> Carb. No. R7855 set .086.

**ABBREVIATIONS:**

- |          |                          |
|----------|--------------------------|
| Hi-Perf. | High Performance         |
| Pri.     | Primary                  |
| Sec.     | Secondary                |
| w/D.P.   | with Dual Pump Diaphragm |