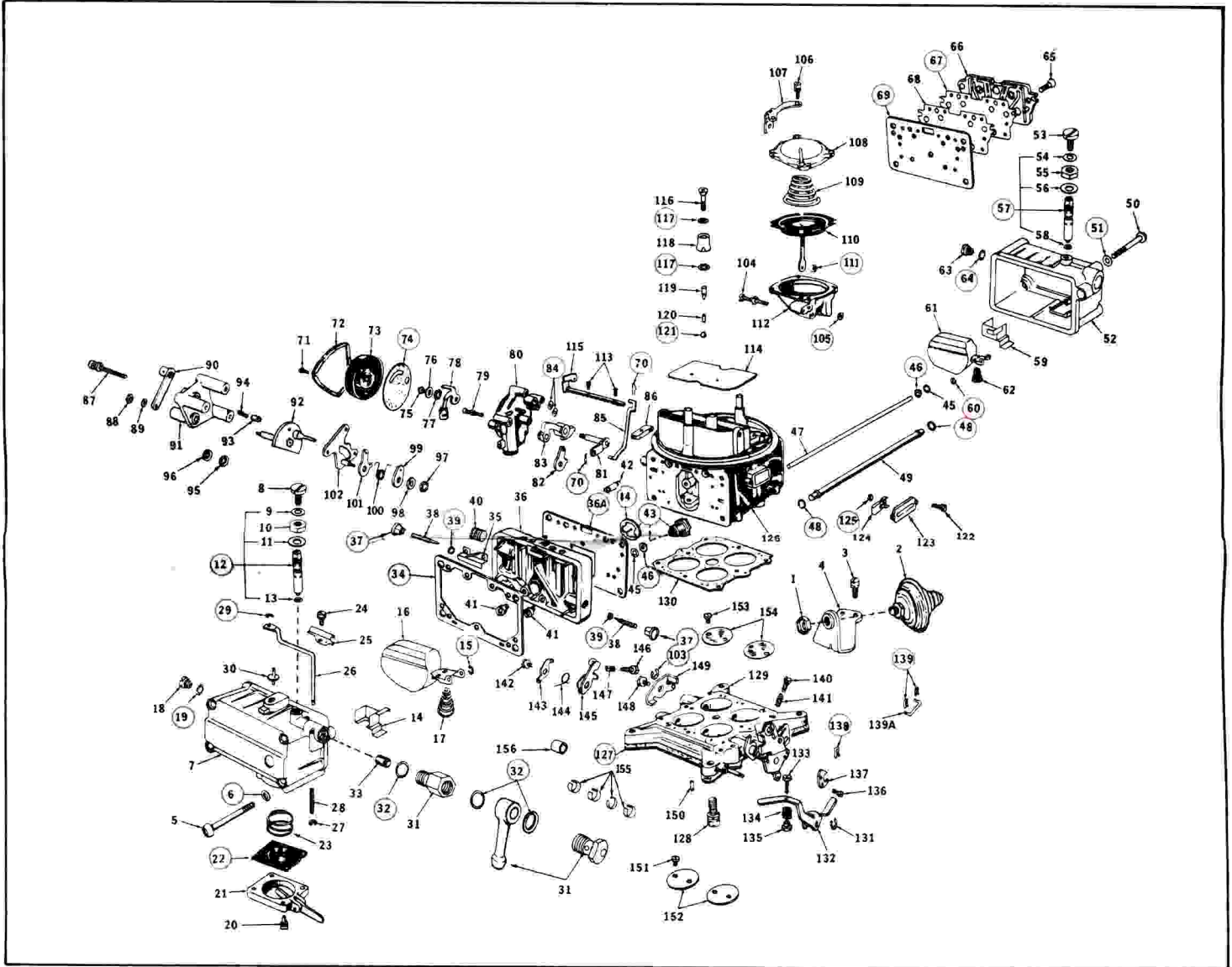


# instruction sheet **Holley Carburetor Model 4160**

## TYPICAL VIEW

The exploded view shown is typical of the model carburetor this kit will service, the view may differ slightly from the actual carburetor being renewed. **Parts included in this kit are circled in red.**

This kit may contain more parts than are actually required to service a given carburetor. When similar gaskets or parts are included in the kit, compare with original parts.



## NOMENCLATURE

REF. NO.	REF. NO.	REF. NO.	REF. NO.
1. Dashpot nut	13. Fuel valve seat "O" ring seal	26. Air vent rod	41. Main metering jet
2. Dashpot assembly	14. Baffle plate primary	27. Air vent spring retainer	42. Tube & "O" ring assy.
3. Dashpot bracket screw & lockwasher	15. Float retainer	28. Air vent rod spring	43. Power valve assembly
4. Dashpot bracket	16. Float assembly primary	29. Air vent valve retainer	44. Power valve assy. gasket
5. Fuel bowl to main body screw primary	17. Float spring primary	30. Air vent valve	45. Balance tube washer
6. Fuel bowl screw gasket	18. Fuel level check plug	31. Fuel inlet fitting	46. Balance tube "O" ring seal
7. Fuel bowl assembly primary	19. Fuel level check plug gasket	32. Fuel inlet fitting gasket	47. Balance tube
8. Fuel valve seat lock screw	20. Accel. pump cover assy. screw & lockwasher	33. Filter screen	48. Fuel line tube "O" ring seal
9. Fuel valve seat lock screw gasket	21. Accel. pump cover assy.	34. Fuel bowl gasket	49. Fuel line tube
10. Fuel valve seat adjusting nut	22. Accel. pump diaphragm assembly	35. Metering body vent baffle	50. Fuel bowl to main body screw sec.
11. Fuel valve seat adjusting nut gasket	23. Diaphragm return spring	36. Metering body assembly primary	51. Fuel bowl screw gasket sec.
12. Fuel inlet valve & seat assembly	24. Air vent clamp screw & lockwasher	37. Idle needle limiter cap	52. Fuel bowl assy. sec.
	25. Air vent rod clamp	38. Idle adjusting needle	53. Fuel valve seat lockscrew sec.
		39. Idle adjusting needle seal	
		40. Spark fitting or plug	

*Nomenclature continued on next page*

# CARBURETOR ADJUSTMENTS

NOMENCLATURE Continued

CLEANING

REF. NO.	REF. NO.
54. Fuel valve seat lock screw gasket sec.	105. Secondary diaphragm housing gasket
55. Fuel valve seat adjusting nut sec.	106. Sec. housing cover screw & lockwasher
56. Fuel valve seat adjusting nut gasket secondary	107. Choke control wire bracket
57. Fuel inlet valve & seat assembly secondary	108. Sec. housing cover
58. Fuel valve seat "O" ring seal secondary	109. Sec. diaphragm spring
59. Baffle plate secondary	110. Sec. diaphragm & rod assembly
60. Float retainer	111. Diaphragm housing check ball
61. Float assembly secondary	112. Sec. diaphragm housing
62. Float spring secondary	113. Choke plate screw
63. Fuel level check plug	114. Choke plate
64. Fuel level check plug gasket	115. Choke shaft assy.
65. Secondary metering body screw	116. Pump discharge nozzle screw
66. Secondary metering body	117. Pump discharge nozzle screw gasket
67. Secondary metering body plate gasket	118. Pump discharge nozzle
68. Secondary metering body plate	119. Pump discharge needle
69. Secondary metering body gasket	120. Pump discharge ballweight
70. Choke rod retainer	121. Pump discharge check ball
71. Therm. housing clamp screw	122. H.I.C. cover screw
72. Therm. housing clamp	123. H.I.C. cover
73. Therm. housing assembly	124. Hit idle compensator assembly
74. Therm. housing gasket	125. H.I.C. seal
75. Therm. shaft nut	126. Main body assy.
76. Therm. shaft nut lockwasher	127. Flange gasket
77. Therm. lever spacer	128. Throttle body screw & lockwasher
78. Therm. lever, link and piston assy.	129. Throttle body
79. Choke housing screw & lockwasher	130. Throttle body gasket
80. Choke housing assy.	131. Pump operating lever retainer
81. Choke housing shaft & lever assy.	132. Pump operating lever
82. Choke therm. lever	133. Pump lever adj. screw
83. Fast idle cam assy.	134. Pump lever adj. screw spring
84. Choke housing gasket	135. Pump lever adj. screw fitting
85. Choke rod	136. Pump cam lock screw
86. Choke rod seal	137. Pump cam
87. Fast idle cam plate screw & lockwasher	138. Throttle connector pin retainer
88. Choke control lever nut	139. Throttle connector cotter pin
89. Choke control lever nut lockwasher	140. Throttle stop screw
90. Choke lever & swivel assembly	141. Throttle stop screw spring
91. Fast idle cam plate	142. Fast idle cam lever screw & lockwasher
92. Fast idle cam & shaft assembly	143. Fast idle pick up lever
93. Fast idle cam plunger	144. Fast idle cam lever spring
94. Fast idle cam plunger spring	145. Fast idle cam lever
95. Choke oper. lever spring washer	146. Fast idle cam lever adjusting screw
96. Choke oper. lever washer	147. Fast idle cam lever screw spring
97. Back up plate stud nut	148. Diaphragm lever assy. screw & lockwasher
98. Back up plate stud nut lockwasher	149. Diaphragm lever assy.
99. Choke spring washer	150. Diaphragm lever adjusting screw
100. Choke spring	151. Throttle plate screw primary
101. Choke rod lever & bushing assy.	152. Throttle plate primary
102. Back up plate & stud assembly	153. Throttle plate screw secondary
103. Sec. diaphragm retainer	154. Throttle plate secondary
104. Diaphragm housing screw & lockwasher	155. Throttle shaft bearing (ribbon) pri. & sec.
	156. Throttle shaft bearing (solid) primary

Cleaning must be done with carburetor disassembled. Soak parts long enough to soften and remove all foreign material. Use a carburetor solvent, lacquer thinner or denatured alcohol. Make certain the throttle body is free of all hard carbon deposits. Wash off in suitable solvent. Blow out all passages in castings with compressed air and check carefully to insure thorough cleaning of obscure areas.

**CAUTION:** Do not soak parts containing rubber or plastic material. Serious damage could result.

Fuel bowls, should only be exposed to carburetor cleaner long enough to permit removal of gum and varnish deposits with a brush. (NOTE: Some fuel bowls have internal "O" ring seals which are not removable, but can be damaged by prolonged exposure to some carburetor cleaning solvents.)

## REASSEMBLY

Reassemble in reverse order to disassembly. Note special instructions and follow outline in making adjustments.

Manually operate the throttle lever and choke mechanism, checking for binding or malfunction. Any binding or interference could cause throttle to stick during operation and result in loss of carburetor throttle control (or uncontrolled engine speed).

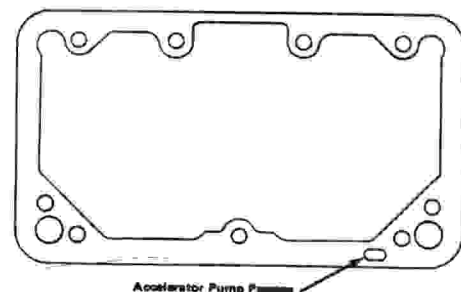
Check carburetor to be sure there are no leaks, flooding. Which might cause a fire.

## SPECIAL INSTRUCTIONS

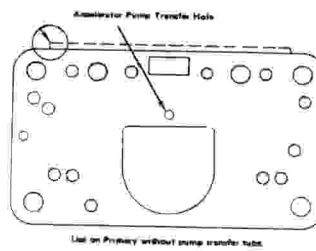
**IDLE ADJUSTING NEEDLE** — Tapered portion of needle must be straight and smooth. If grooved or ridged, a new needle should be installed.

**PUMP INLET CHECK VALVE** — Lubricate tip of new valve and insert in center hole in pump cavity. Pull thru from fuel bowl side until seated.

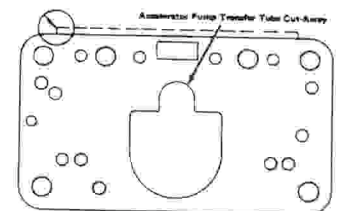
**IDLE LIMITER CAP** — It may be necessary to soak cap in boiling water a few minutes to aid in installation.



The primary fuel bowl gasket must be installed with the accelerator pump passage on the right side of the main jets. Fuel bowl screws must be torqued to 40 inch pounds.



Use on Primary without pump transfer tube.



Use on Primary with pump transfer tube.



Some 4160 models use primary metering body gaskets with additional stock in this area. Applications using this gasket have the top bead or lip of the metering body removed.

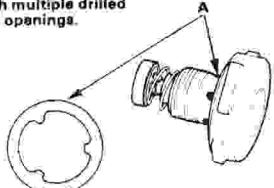
## DISASSEMBLY

Rest the carburetor on a repair stand to avoid damage to the throttle plates during renew procedures. Use exploded view as a guide, and follow the numerical sequence in general to disassemble unit far enough to permit cleaning and inspection. Do not remove throttle plates or shaft. Idle limiter; turn the idle limiter cap to its leanest (clockwise) position and remove cap. Observe and record the initial position of the needle slot. Turn the idle needles clockwise until lightly seated, recording the number of turns required to seat the needles. This procedure is necessary to reinstall the idle needles after renewing.

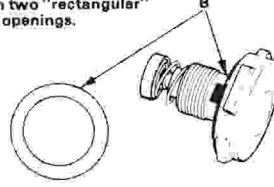
Use care not to damage idle adjusting needles when removing idle limiter caps.

# CARBURETOR ADJUSTMENTS

With multiple drilled fuel openings.



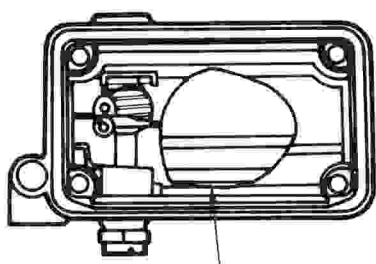
With two "rectangular" fuel openings.



**NOTE:** Proper power valve gasket must be used as shown. Use of improper gasket will result in fuel leakage around power valve. Torque to 100 inch pounds.

Fig. 1 - Power Valve Installation

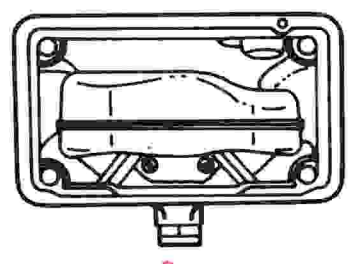
1 With fuel bowl inverted



2 Adjust float parallel to bowl floor

External Adjustable Type  
Fig. 2 - Dry Float Setting

1 With fuel bowl inverted

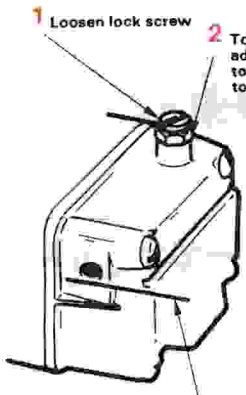


2 Adjust float so that it is centered in the center of the fuel bowl

Center Inlet Type  
Fig. 3 - Dry Float Setting

1 Loosen lock screw

2 To Adjust: Turn adjusting nut clockwise to lower counter-clockwise to raise level

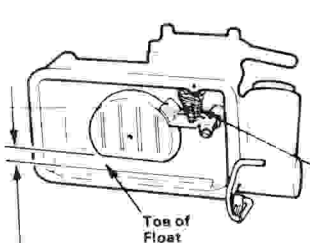


Proper level, at bottom edge of sight plug port

With car on level surface and engine running

Fig. 4 - Wet Level Adjustment

1 With fuel bowl inverted

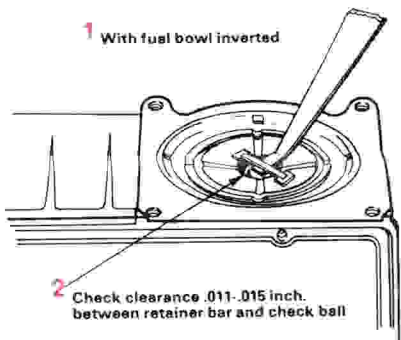


2 Measure distance between surface of fuel bowl and float, at toe of the float

3 To Adjust: Bend Tab

Non-Adjustable Type  
Fig. 5 - Dry Float Setting

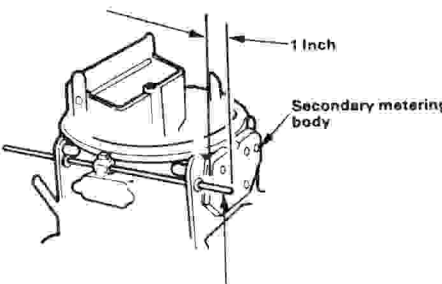
1 With fuel bowl inverted



2 Check clearance .011-.015 inch. between retainer bar and check ball

Fig. 6 - Pump Intake Check Ball Adjustment

**CAUTION:** Be sure "O" rings and washers are seated in recesses.



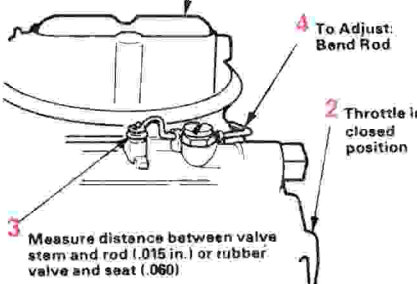
1 Inch

Secondary metering body

Position balance tube to extend 1 inch from metering body to end of tube

Fig. 7 - Balance Tube Adjustment

1 Choke plate wide open



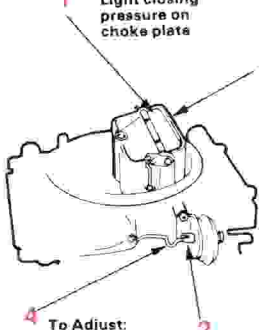
2 Throttle in closed position

3 Measure distance between valve stem and rod (.015 in.) or rubber valve and seat (.060)

4 To Adjust: Bend Rod

Fig. 8 - Vent Valve Adjustment

1 Light closing pressure on choke plate



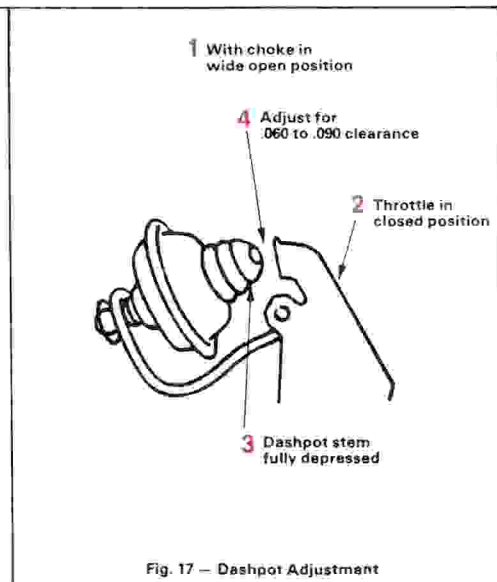
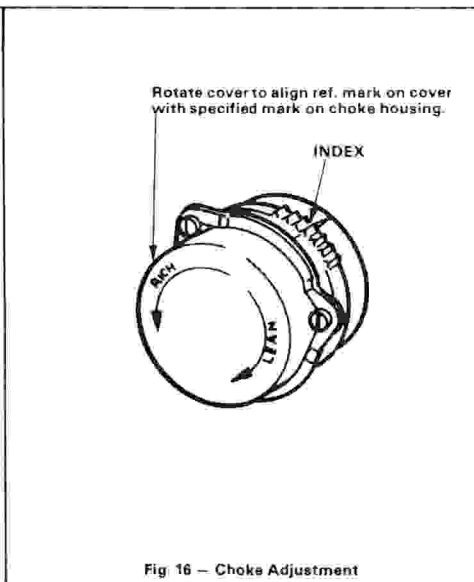
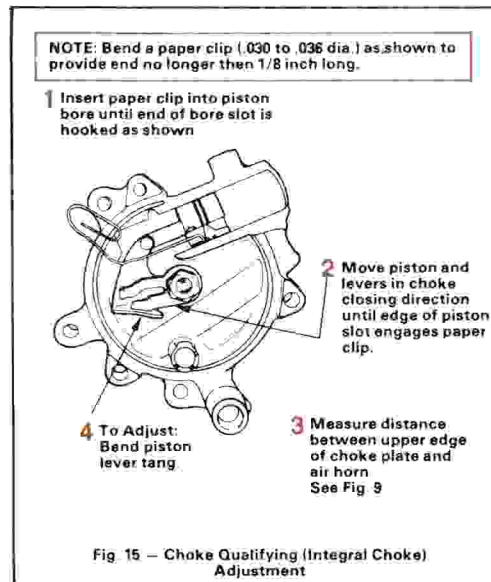
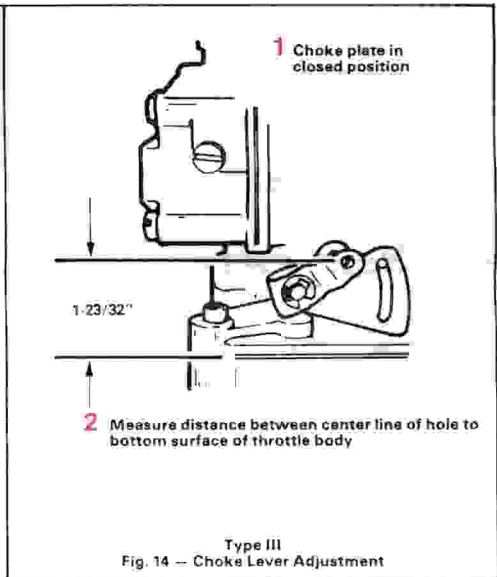
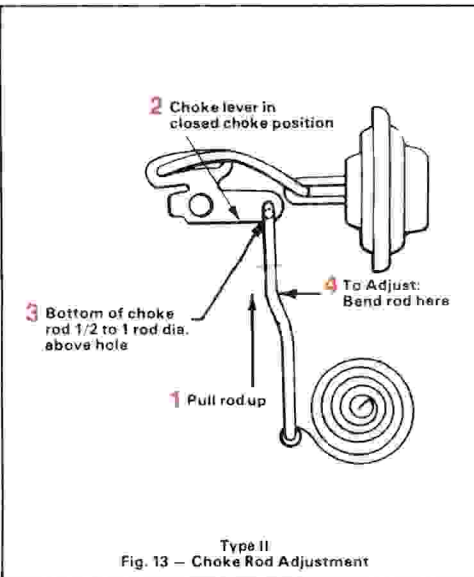
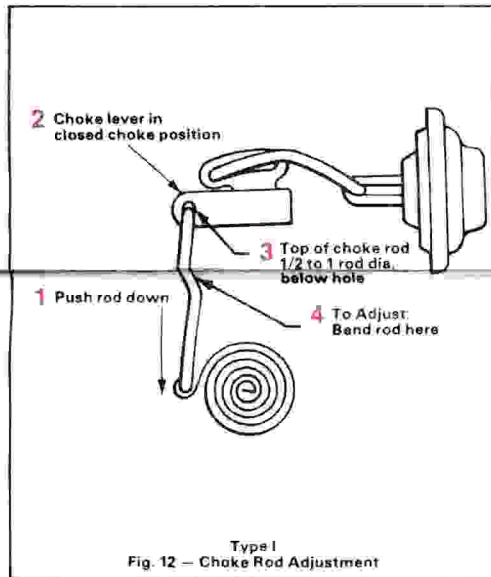
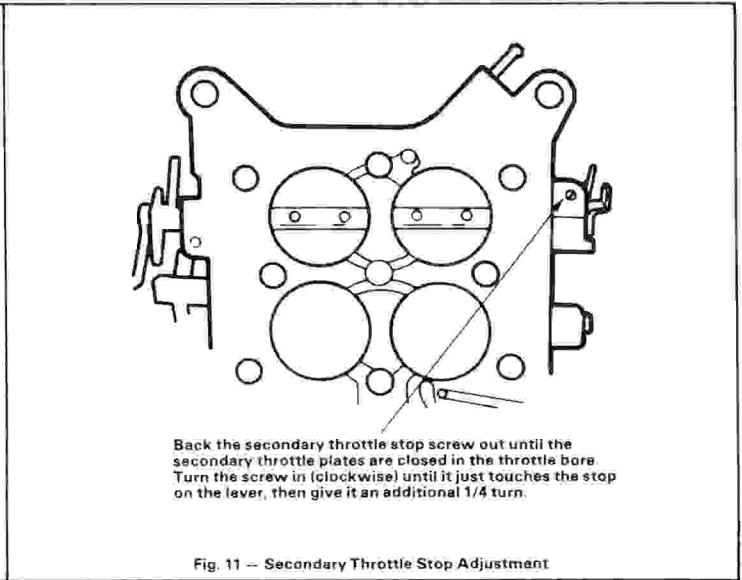
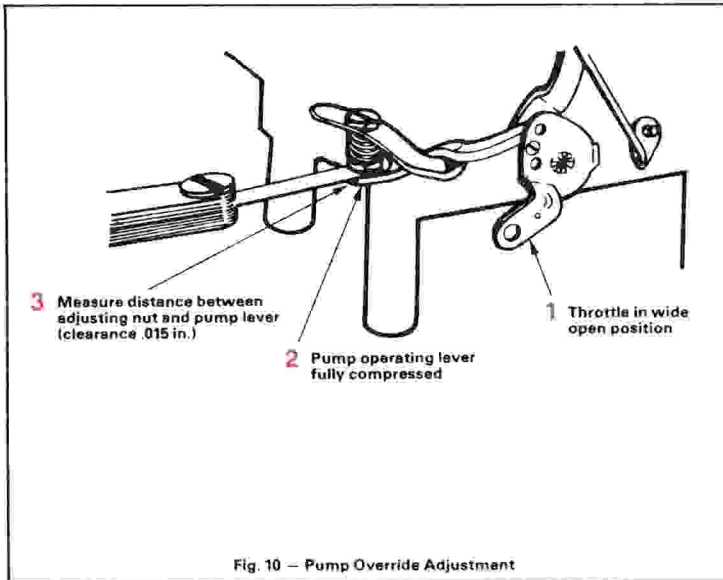
2 Depress stem and diaphragm to the limit of its travel

3 Measure distance between top edge of choke plate and wall of air horn

4 To Adjust: Bend link here

Fig. 9 - Choke Qualifying (Vacuum Pull Down) Adjustment

# CARBURETOR ADJUSTMENTS



## MODEL 4160 SPECIFICATIONS

199RR8179-1

Carburetor Number	Primary Dry Float Setting	Secondary Dry Float Setting	Pump Cam Position	Choke Qualify Adjustment	Choke Index Setting
R1732, R1733, R1734, R1736, R1737	13/64"	3/4"	#1		1 NR
R1737-1	1/2"	3/4"	#1		1 NR
R1738-1, R1740-1			#1		2 NR
R1740A	13/16"	1/2"	#1		1 NR
R1847, R1848, -1, R1849, R1850, R2112, R2142, -1, R2143, R2328, R2599, R2652, -1, R2804, R3113, R3115, R3489, R3490, R3491, R3492, R3602, -1, R4005, R4006, R4473, R81850			#1		INDEX
R1850-1, -2, -3, R2805, R2929, R3116, R3139, -1, R3140, R3301, R3310-2, -3, R3360, R3361, R3394, -1, R3411, R4224, R4235, R4236, R4239, R4397, R4577, R4604, R6299-1, R83310, R83311, R83312, R9015			#1		
R1971, R2052, R3916, R4581, R8159, R9776			#2		
R2143-1	1/2"	3/4"	#1		INDEX
R2973, R3085	7/16"	9/16"	#1		
R3140-1, R3230, R3267, R3268, R3370, R3420, R3605, R3606, R3608, R6444, -1, -2, R6777, -1			#1	.175"	
R3201, R3202, R3203, R4699			#1		1 NL
R3300, R3410	1/2"	5/8"	#1		3 NL
R3667			#2	.175"	
R3391			#1		1 NL
R3575, -1, -2	15/64"	17/64"	#1	.260"	
R3609			#1	.200"	
R3667, -1, -2	15/64"	17/64"	#1	.200"	
R3810	5/16"	11/32"	#1	.190"	
R3814, R3815, R3836, R3837, R3838	5/16"	11/32"	#1	.175"	
R3839	11/32"	11/32"	#1	.200"	
R3916-1	7/16"	9/16"	#1		
R3918, -1, -2, -3, R4749	15/64"	17/64"	#1	.280"	
R4166, -1, -2, -3, R4735, R4440, 1-, -2, -3	15/64"	17/64"	#1	.205"	
R4201, R4202			#1		3 NL
R4217	15/64"	17/64"	#1	.170"	
R4217-1, -2, -3, -4, R4736, -1, -2, R4738, -1, -2,	15/64"	17/64"	#1	.420"	
R4218, R4360	15/64"	17/64"	#1	.080"	
R4218-1, -2, -3, -4, R4360-1, -2, -3, R4366, -1, R4368, -1, -2, R4369, -1, -2, R4737, -1, -2, R4739, -1, -2	15/64"	17/64"	#1	.080"	
R4452			#2	.106"	1 NL
R4552-1, R7985, R7986, R8007, R8123, R8181, R9834, -1, -2, R89834A			#2	.159"	INDEX
R4548			#2	.159"	1 NR
R4549, R6591, R7053			#1	.230"	3 NR

**MODEL 4160 SPECIFICATIONS**

199RR8179-1

<u>Carburetor Number</u>	<u>Primary Dry Float Setting</u>	<u>Secondary Dry Float Setting</u>	<u>Pump Cam Position</u>	<u>Choke Qualify Adjustment</u>	<u>Choke Index Setting</u>
R4550			#1	.230"	
R4550-1			#1	.035"	1 NR
R4608, R80264			#2		INDEX
R4668	7/64"	9/32"	#1	.195"	
R4668-1	15/64"	17/64"	#1	.195"	
R4734	7/64"	9/32"	#1	.420"	
R4749-1, -2, -3	15/64"	17/64"	#1	.234"	
R6151, R6152, R7159, R9393, R9394, R50148, R50462, R50463, R50468, R80319, R80364AA			#2	.140"	INDEX
R6160, -2, R6253, R6255, R6257, R6290, -1	7/64"	13/64"	#1	.195"	
R6191, -1, R6193, -1	7/64"	13/64"	#1	.410"	
R6231, R6495			#1	.170"	2 NR
R6252, R6254, R6256	7/64"	13/64"	#1	.340"	
R6267, -1, -2, R7049			#2	.190"	1 NR
R6270, -1, R6538	7/64"	13/64"	#1	.234"	
R6291, -1, R6619-1, R6829, R6809, R6919, R6979, -1, R6989, R7009-1, R7010, R7478, R7987			#1	.150"	INDEX
R6407			#2	.140"	3 NL
R6444, -1, R6777			#1	.170"	
R6444-3			#1	.155"	
R6515	7/64"	9/32"	#1	.250"	
R6520, R6576, R7413			#2	.221"	4 NR
R6538	7/64"	13/64"	#1	.220"	
R6590, R6730, R6887, R7053-1, R7262, R7850, R8207			#1	.230"	1 NR
R6619			#2	.159"	2 NL
R6729, R6949, -1			#1	.195"	INDEX
R6839, R6946, -1, R66947, R6948, -1			#1	.180"	INDEX
R7009			#2	.159"	4 NR
R7010, R9626			#1	.159"	INDEX
R7128			#2	.140"	
R7163			#1	.140"	
R76446			#2	.201"	1 NL
R7850, R7154, R7974			#2	.090"	INDEX
R8004, R8005, R8006			#2	.190"	1 NL
R8408, R8409, R80341AA			#1	.200"	INDEX
R8410, R8412, R8416, R8589			#1	.200"	2 NR
R8411			#1	.200"	1 NR
R8414			#1	.200"	4 NR

**MODEL 4160 SPECIFICATIONS**

199RR8179-1

<b><u>Carburetor Number</u></b>	<b><u>Primary Dry Float Setting</u></b>	<b><u>Secondary Dry Float Setting</u></b>	<b><u>Pump Cam Position</u></b>	<b><u>Choke Qualify Adjustment</u></b>	<b><u>Choke Index Setting</u></b>
R8415			#3	.190"	2 NR
R8418, R8419, R8420, R8422			#1	.240"	2 NR
R8590			#1	.221"	INDEX
R9002, R9219			#2	.169"	INDEX
R9013, R9210			#2	.159"	
R9040			#1	.180"	1 NR
R9050			#2	.201"	2 NR
R9051			#2	.200"	1 NR
R9254			#2	.159"	INDEX
R9392, R50412			#1	.120"	INDEX
R9874			#1	.210"	
R50263, R80265			#2	.140"	2 NR
R50399, R50405, R80262			#2	.140"	1 NR
R50419-1, -2, R50469, R80319-1AA			#1	.140"	2 NR
R50464, R50470A, R80318, -1AA			#1	.140"	1 NR
R80265					
R80315			#2	.250"	5 NL
R80383			#1	.228"	3 NL
R80391			#2	.310"	5 NL
R80403			#1	.250"	5 NL