CARBURETOR SERVICE PROCEDURE

08016-R42-A

ROCHESTER MODEL 4G, 4GC

NOTE: Some models of the above listed Rochester carburetors may vary slightly in general design and appearance from others, but basic cleaning and adjustment procedure will remain the same.

1. DISASSEMBLY-CLEANING-REASSEMBLY

A. Disassemble carburetor for average cleaning to extent shown in exploded view. Keep parts removed from primary side of carburetor separate from secondary. Mark floats, venturi clusters and metering jets (note number stamped); return to same side.

B. Clean parts in a regular carburetor cleaning solution, following manufacturer's instructions. Do not soak leather or rubber parts which are to be reused. Rinse parts in a suitable solvent (or hot water) and thoroughly blow through all parts and passages with dry compressed air.

C. Reassemble in reverse order of disassembly. (a) Lightly seat idle mixture screws (58), then back out 1 1/2 turns. (b) Primary venturi cluster (40) containing pump discharge nozzles, install on side with pump well. (c) When two needle and seats (20) of different orifice size are used, install larger hole in primary side.

2. ADJUSTMENTS

A. Float Level: (Fig. 1)

Assemble and calibrate gauge to dimension listed using "B" scale on gauge. With gasket in place, measure for specified distance from gasket surface to top of each float (next to seam, if metal). To adjust, bend float arm. Do not force resilient needle into seat.

B. Float Toe: (Fig. 2)

Calibrate gauge to dimension listed using "A" scale on gauge. Measure for specified distance from gasket surface to center of dimple on side of float. (If no dimple is used, lower tip of float should be flush with casting surface.) To adjust, bend float arm at each float. Recheck float level.

C. Float Drop: (Fig. 3)

Calibrate gauge to dimension listed using "A" scale on gauge. With gasket in place and floats hanging freely, measure for specified distance from gasket surface to; (1) bottom of "D" or round type floats, (2) dimple on side of wedge type floats (if no dimple, measure to lower end of toe), (3) bottom of scribe line on plastic floats. To adjust, bend tang that contacts needle seat or spring.

D. Vacuum Assist: (Fig. 4)

Calibrate gauge to dimension listed using "B" scale on gauge. Hold air horn upright and with thumb hold power piston in full up position. Shake floats lightly. Cup retainer on spring must not bind on piston stem. Measure specified distance from gasket surface to center of dimple on float. To adjust, bend tang at center of float arm.

E. Pump Rod: (Fig. 5)

Calibrate gauge to dimension listed using "B" scale on gauge. With pump rod in specified hole in lever, back out stop screw until throttle valves are fully closed. Distance measured from air horn to bottom of pump plunger shaft should be as listed. To adjust, bend pump rod.

F. Idle Vent: (Fig. 5)

Calibrate gauge to dimension listed using "B" scale on gauge. Slowly open throttle valves until vent valve just closes. Distance now measured from air horn to bottom of pump plunger shaft should be as listed. To adjust, bend tang on pump lever (see inset).

G. Intermediate Choke Rod: (Fig. 6)

Type A. Models with choke housing on fuel bowl or throttle body, hold choke closed and bend intermediate choke rod until end of choke piston is flush with end of piston cylinder.

Type B. With fast idle screw on top step of fast idle cam, hold intermediate choke lever at full up position. All lash must be removed from rods in slots. Bend intermediate choke rod until end of choke piston is flush with end of piston cylinder.

H. Automatic Choke:

Hot Air Type. Rotate cover against spring tension to align mark with proper index point on housing.

Hot Water Type. Two steps required. First, align index marks on inner and outer covers. Second, rotate complete cover counter clockwise to align outer mark with proper index point on housing.

I. Choke Rod: (Fig. 7)

Step 1. Models with single idle stop screw, turn screw in one more turn after contacting bottom step of fast idle cam. Models with slow and fast idle stop screws, turn slow idle screw in one more turn after contacting stop on body. Turn fast idle screw in to just touch bottom step of fast idle cam.

Step 2. Place stop screw on second step of fast idle cam (1959 Olds. and later raise intermediate choke lever to full up position — rods at end of slots). Clearance measured that upper edge of choke valve remains open should be as listed. To adjust, bend choke rod. (For Olds. choke rod location, see fig. 6.)

J. Unloader: (Fig. 8)

Hold primary throttle valves wide open. Clearance measured that upper edge of choke valve remains open should be as listed. To adjust, bend unloader tang on fast idle cam.

K. Secondary Lockout & Contour: (Fig. 9)

Step 1. With choke valve closed, bend lockout lever to obtain specified clearance between widest surface of lever and fast idle cam edge.

Step 2. With choke valve open, bend lockout lever to obtain specified clearance between narrowest surface of lever and top edge of fast idle cam.

L. Engine Speed and Mixture: (Fig. 10)

Run engine until hot, choke wide open and idle compensator (if used) closed. Turn throttle stop screw for desired speed; 450-500 rpm, A/T in drive. (A.I.R. vehicles 600-650 rpm, A/T in drive.) Adjust both idle mixture screws slowly in or out for smoothest idle and maximum speed.

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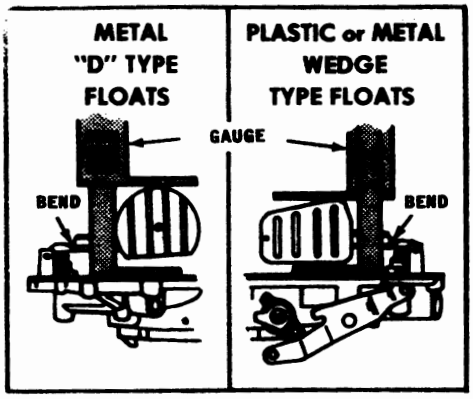


FIGURE 1

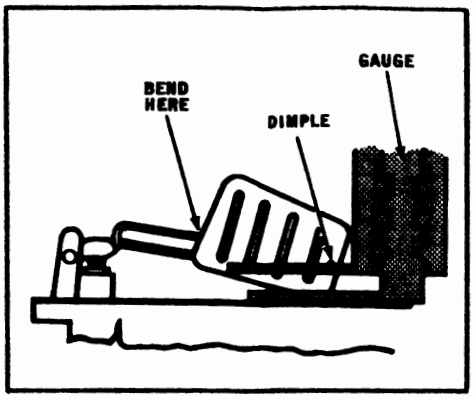


FIGURE 2

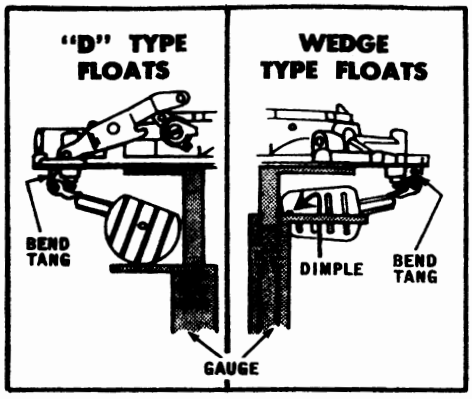


FIGURE 3

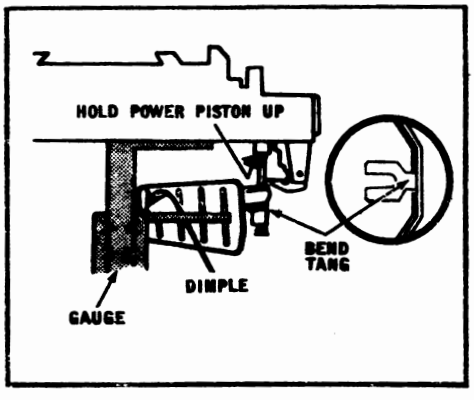
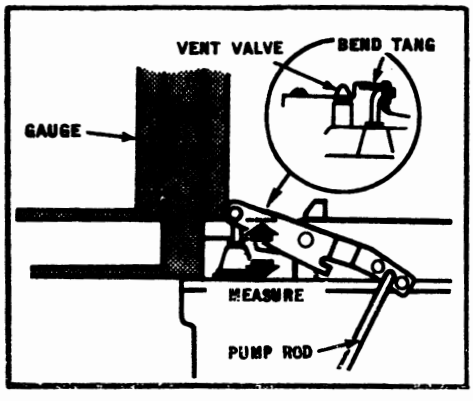


FIGURE 4



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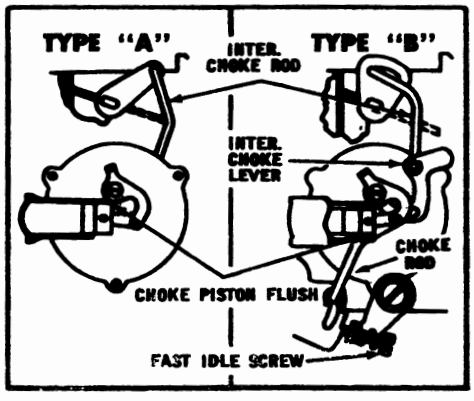
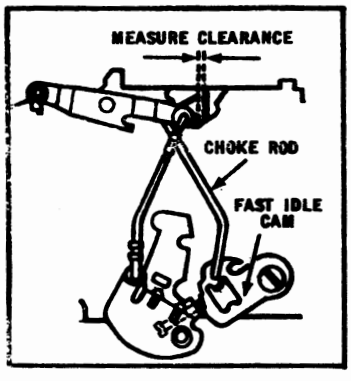


FIGURE 6



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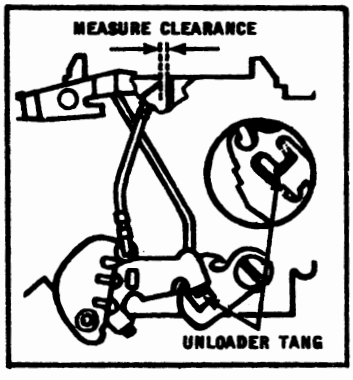


FIGURE 8

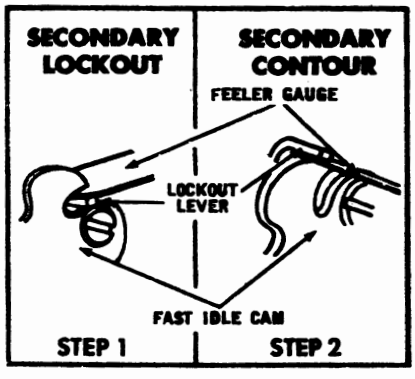


FIGURE 9

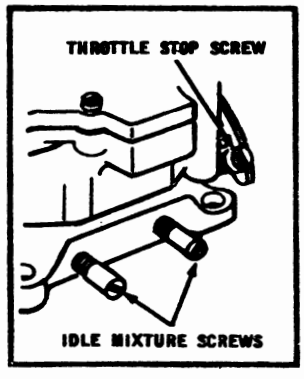


FIGURE 10

SPECIFICATION AND ADJUSTMENT TABLE

Application	Float Level		Float Toe		Float Drop		Vacuum Assist	Pump Rod		Idle Vent	Intermediate Choke Rod		Auto. Choke	Choke Rod	Unloader	Secondary Throttle	
	Pri.	Sec.	Pri.	Sec.	Pri.	Sec.		Hole	Setting		Type	Setting				Lockout	Contour
BUICK																	
1955-56	1 9/16	1 9/16	–	–	2 1/4	2 1/4	–	–	1 1/16	–	A	Flush	Index	.140	.120	.015	.030
1957	1 3/8	1 3/8	Flush	Flush	1 13/16	1 13/16	–	Center	1 1/32	–	A	Flush	Index	.150	.130	.015	.030
1958 7011600	1 3/8	1 3/8	3/8	3/8	1 5/16	1 5/16	–	Center	1 1/32	–	A	Flush	Index	.150	.130	.015	.030
1958 7013100	1 13/16	1 3/8	7/16	3/8	1 11/32	1 11/32	–	Center	1 1/32	–	A	Flush	Index	.150	.130	.015	.030
1959 7013044 [1]	1 15/32	1 3/8	11/16	3/8	1 1/2	1 5/16	1 1/16	Center	1 1/32	–	A	Flush	Index	.150	.130	.015	.030
1959 7013044 [2]	1 3/8	1 3/8	1/2	3/8	1 7/16	1 5/16	–	Center	1 1/32	–	A	Flush	Index	.150	.130	.015	.030
1960-62 Standard	1 11/32	1 3/8	9/16	3/8	1 7/16	1 5/16	–	Center	1 1/32	–	A	Flush	Index	.060	.130	.015	.030
1961-62 Special	1 11/32	1 3/8	9/16	3/8	1 7/16	1 5/16	–	Outer	29/32	–	A	Flush	Index	.045	.130	.015	.030
1963 Standard	1 11/32	1 3/8	9/16	3/8	1 7/16	1 1/4	–	Center	1	–	A	Flush	Index	.050	.130	.015	.030
1963 Special	1 11/32	1 3/8	9/16	3/8	1 9/16	1 9/32	–	Outer	29/32	–	A	Flush	Index	.045	.130	.015	.030
1964 300"	1 11/32	1 3/8	19/32	3/8	1 19/32	1 3/16	–	Inner	31/32	–	A	Flush	[3]	.045	.120	.015	.030
1964 Standard 401"	1 11/32	1 3/8	17/32	13/32	1 7/16	1 3/16	–	Center	1 1/32	–	A	Flush	Index	.030	.120	.015	.030
1965 401", 425"	1 13/32	1 13/32	–	–	1 1/16	1 1/4	–	Center	1	–	A	.030 Out	[4]	.060	.120	.015	.030
1966 401"	1 13/32	1 13/32	–	–	1 1/16	1 1/16	–	Center	1	–	A	.030 Out	Index	.060	.120	.015	.030
CADILLAC																	
1952	1 3/4	1 3/4	–	–	2 1/4	2 1/4	–	–	15/16	7/8	–	–	1-N Rich	.030	.070	.015	.015
1953	1 9/16	1 9/16	–	–	2 1/4	2 1/4	–	–	15/16	7/8	–	–	1-N Rich	.030	.070	.015	.015
1954	1 19/32	1 19/32	–	–	2 1/4	2 1/4	–	–	15/16	27/32	–	–	1-N Rich	.040	.130	.015	.015
1955-56	1 19/32	1 19/32	–	–	2 1/4	2 1/4	–	–	[5]	7/8	–	–	Index	.040	.130	.015	.015
1957	1 3/8	1 3/8	Flush	Flush	1 13/16	1 13/16	–	–	15/16	7/8	A	Flush	Index	.040	.130	.015	.015
1958	1 7/16	1 3/8	5/8	3/8	1 1/2	1 5/16	1 1/32	–	29/32	13/16	A	Flush	1-N Rich	.040	.130	.015	.015

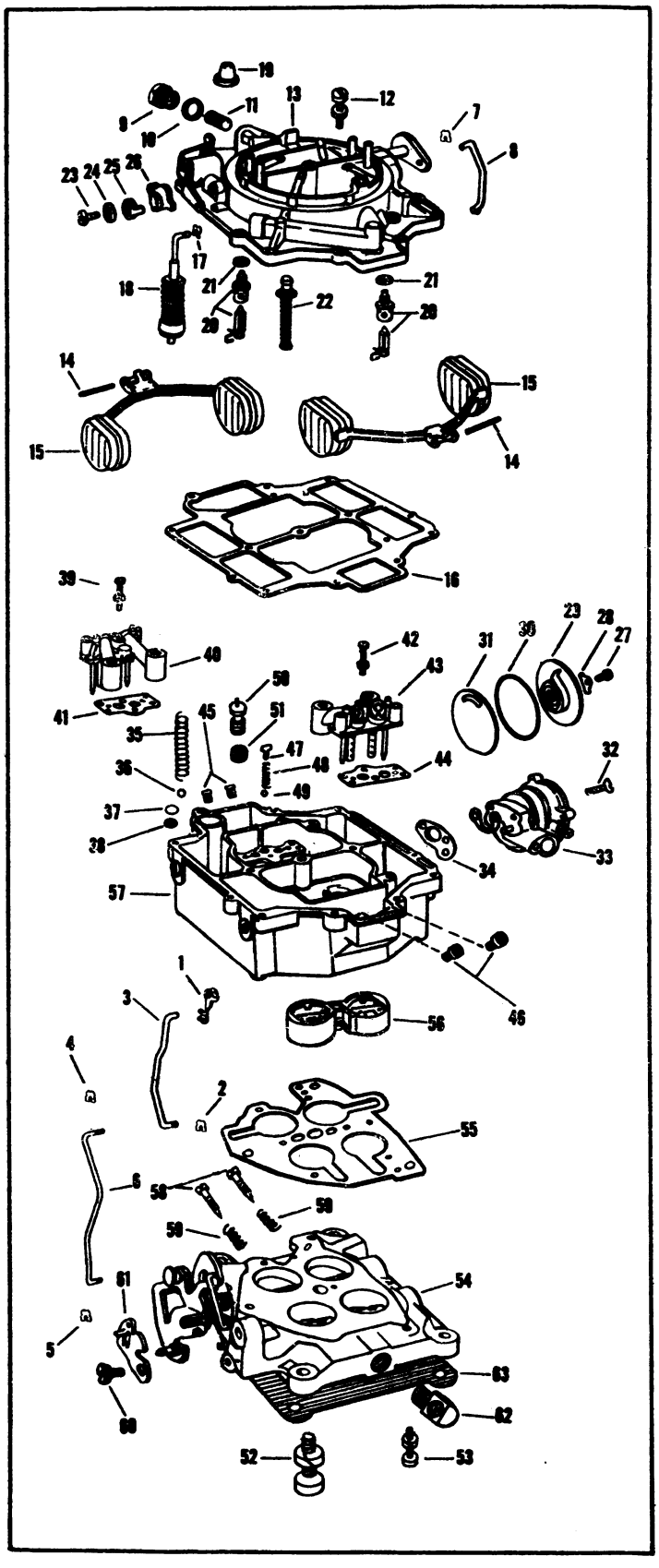
SPECIFICATION AND ADJUSTMENT TABLE (Cont.)

Application	Float Level		Float Toe		Float Drop		Vacuum Assist	Pump Rod		Idle Vent	Intermediate Choke Rod		Auto Choke	Choke Rod	Unloader	Secondary Throttle	
	Pri.	Sec.	Pri.	Sec.	Pri.	Sec.		Hole	Setting		Type	Setting				Lockout	Contour
CADILLAC Cont.																	
1958 [2]	1 3/8	1 3/8	3/8	3/8	1 5/16	1 5/16	–	–	29/32	13/16	A	Flush	1-N Rich	.040	.130	.015	.015
1959-62	1 7/16	1 3/8	5/8	3/8	1 1/2	1 5/16	1 3/32	–	27/32	3/4	A	Flush	1-N Rich	.040	.130	.015	.015
1963	1 7/16	1 3/8	5/8	3/8	1 1/2	1 1/4	1 1/16	–	27/32	–	A	Flush	1-N Rich	.040	.130	.015	.015
1964-66	1 7/16	1 3/8	5/8	3/8	1 1/2	1 1/16	1 1/16	Outer	13/16	–	A	Flush	Index	.040	.130	.020	.020
CHEVROLET																	
1956-57	1 5/8	1 5/8	–	–	2 1/4	2 1/4	–	–	1 1/16	–	–	–	1-N Lean	.045	.230	.015	.015
1958	1 5/8	1 11/16	–	–	2 1/4	2 1/4	–	–	1 1/16	31/32	–	–	Index [6]	.045	.230	.015	.015
1959-60 w/out Torsion	1 5/8	1 11/16	–	–	2 1/4	2 1/4	–	–	1 1/16	31/32	A	Flush	1-N Lean	.045	.230	.015	.015
1959-64 with Torsion	1 17/32	1 19/32	–	–	2 1/4	2 1/4	–	–	1 1/16	31/32	A	Flush	Index	.055	.230	.015	.015
1963 409"	1 1/2	1 5/16	13/16	1/2	1 1/2	1 1/8	1 7/32	–	1	29/32	A	Flush	Index	.070	.130	.015	.015
1964 409" 7024123,4	1 1/2	1 5/16	13/16	1/2	1 1/2	1 1/8	1 7/32	–	[7]	[8]	A	Flush	Index	.090	.130	.015	.015
1964-66 409"	1 1/2	1 13/32	25/32	21/32	1 1/2	1 7/16	1 5/32	–	[7]	[8]	A	Flush	Index	.090	.130	.015	.015
1965-66 283", 327"	1 17/32	1 19/32	–	–	2 1/4	2 1/4	–	Outer [9]	1 1/16	31/32	A	Flush	Index	.055	.250	.015	.015
CHEVROLET TRUCK																	
1957 283", 322"	[10]	[10]	–	–	2 1/4	2 1/4	–	–	1 1/16	–	–	–	–	–	–	–	–
1958	1 5/8	1 11/16	–	–	2 1/4	2 1/4	–	–	1 1/16	31/32	–	–	–	–	–	–	–
1959-65 w/Gov.	1 11/16	1 3/4	–	–	2 1/4	2 1/4	–	–	1 1/16	31/32 [11]	–	–	–	–	–	–	–
1965-66 327" w/o Gov.	1 17/32	1 19/32	–	–	2 1/4	2 1/4	–	Outer	1 1/16	–	–	–	–	–	–	–	–
CHRIS CRAFT																	
7013071, 7015090	1 15/32	1 3/8 [12]	11/16	3/8 [13]	1 1/2	1 5/16	1 1/16	Outer	1 1/32	–	A	Flush	3-N Lean	.050	.120	.015	.120
CRUSADER MARINE																	
409" 7020084	1 15/16	1 3/8	1/2	3/8	1 11/32	1 1/8	–	Outer	1 1/32	–	A	Flush	3-N Lean	.050	.120	.015	.120
327" 7020085	1 5/32	1 3/8	11/16	3/8	1 1/2	1 1/8	1 1/16	Outer	1 1/32	–	A	Flush	3-N Lean	.050	.120	.015	.120
327",409" 7023084,5,9	1 3/8	1 11/32	11/16	9/16	1 3/8	1 3/8	–	Outer	1 1/32	–	A	Flush	3-N Lean	.050	.120	.015	.120
DAYTONA MARINE																	
327", 409" 7023088,181	1 3/8	1 11/32	11/16	9/16	1 3/8	1 3/8	–	Outer	1	–	–	–	–	–	–	–	–
283" 7023187	1 17/32	1 19/32	–	–	2 1/4	2 1/4	–	Center	1 1/16	–	–	–	–	–	–	–	–
GRAY MARINE																	
7020087, 7024086	1 3/8	1 11/32	11/16	9/16	1 3/8	1 3/8	–	Outer	1 1/32	–	A	Flush	Index	.050	.120	.015	.110
7020991, 7024182	1 3/8	1 11/32	11/16	9/16	1 3/8	1 3/8	–	Outer	1 1/32	–	A	Flush	3-N Lean	.050	.110	.015	.110
KIEKHAEFER																	
7023180	1 1/2	1 9/16	–	–	2 1/4	2 1/4	–	Outer	1 3/32	–	A	Flush	Index	–	.230	.020	.020
7020995, 23183, 25180	1 3/8	1 11/32	11/16	9/16	1 3/8	1 3/8	–	Outer	1 1/32 [14]	–	A	Flush	3-N Lean [15]	–	.130	.015	.110 [16]
OLDSMOBILE																	
1952	1 3/8	1 3/8	–	–	1 15/16	1 15/16	–	–	1 1/16	1	–	–	Index	.055	.090	.015	.035
1953	1 9/16	1 9/16	–	–	2 1/4	2 1/4	–	–	1 1/16	1	–	–	Index	.055	.090	.015	.035
1954-56	1 5/8	1 5/8	–	–	2 1/4	2 1/4	–	–	1 1/16	13/16	–	–	1-N Lean [17]	.050	.120	.015	.030
1957	1 5/8	1 5/8	–	–	2 1/4	2 1/4	–	–	1 1/16	13/16	A	Flush	Index	.050	.090	.015	.030
1958-62	1 15/32	1 3/8	11/16	3/8	1 1/2	1 5/16	1 1/16 [18]	–	1 1/32	29/32	B	Flush	Index	.050	.120	.015	.030
1961-62 F-85	1 13/32	1 3/8	5/8	3/8	1 1/2	1 3/8	29/32	Outer	1 1/32	15/16	B	Flush	Index	.050	.190	.015	.030
1962 F-85 7020985	1 15/32	1 3/8	11/16	3/8	1 1/2	1 1/8	1 1/8	Outer	1 1/32	15/16	B	Flush	Index	.050	.190	.015	.030
1963-64	1 15/32	1 3/8	11/16	3/8	1 1/2	1 3/16	1 1/16 [19]	Inner	1	29/32	B	Flush	Index	.050	.115	.015	.030
1963-64 F-85	1 7/16 [20]	1 3/8	17/32	3/8	1 3/8	1 1/8	–	Outer	1	29/32	B	Flush	2-N Rich [21]	.050	.190	.015	.030
1965 F-85 330"	1 7/16	1 7/16	–	–	1 1/4	1 1/4	–	Outer	1	29/32	B	Flush	1-N Rich	.050	.120	.015	.030
1965 F-85 400"	1 15/32	1 3/8	–	–	1 1/16	1 1/16	13/16 [22]	Outer	1	29/32	B	Flush	1-N Rich	.050	.120	.015	.030
1965 425" 7025050	1 15/32	1 3/8	3/4	3/8	1 1/2	1 3/16	1 3/32	Outer	1	29/32	B	Flush	1-N Rich	.050	.120	.015	.030
1965 425" 7025051	1 15/32	1 3/8	5/8	3/8	1 1/2	1 3/16	1 1/8	Outer	1	29/32	B	Flush	1-N Rich	.050	.120	.015	.030
1965 425" 7025255	1 15/32	1 3/8	–	–	1 1/16	1 1/16	11/16	Outer	1	29/32	B	Flush	1-N Rich	.050	.120	.015	.030
OWENS MARINE																	
7023184,5	1 17/32	1 19/32	–	–	2 1/4	2 1/4	–	Outer	1 3/32	–	A	Flush	Index	.055	.230	.020	.020
PACKARD																	
1955-56	1 5/8	1 5/8	–	–	2 1/4	2 1/4	–	–	1 1/16	.065	–	–	Index	.050	.150	.015	.015
PALMER MARINE																	
345" 7015091	1 15/32	1 1/2	11/16	3/8	1 1/2	1 5/16	1 1/16	Center	1 1/32	–	–	–	–	–	.120	–	–
345" 7019084	1 13/32	1 15/32	5/8	9/16	1 1/2	1 5/16	29/32	Center	1 1/16	–	–	–	–	–	–	–	–
549" 7024084	1 3/8	1 3/8	11/16	11/16	1 3/8	1 3/8	–	Outer	1 1/32	–	–	–	–	–	–	–	–
PONTIAC*																	
1955-56	1 19/32	1 19/32	–	–	2 1/4	2 1/4	–	–	15/16	27/32 [23]	–	–	Index	.050	.120	.015	.015
1957	1 3/8	1 3/8	Flush	Flush	1 13/16	1 13/16	–	–	15/16	27/32	A	Flush	Index	.065	.120	.015	.015
1958	1 15/32	1 3/8	11/16	3/8	1 1/2	1 5/16	1 1/16	–	15/16	7/8	A	Flush	Index	.065	.120	.015	.015
1961-62 Tempest L-4	1 5/16	1 5/16	9/16	9/16	1 1/4	1 1/4	–	Inner	15/16	27/32	A	Flush	Index [24]	.030	.150	.015	.015
1962 Tempest V-8	1 11/32	1 3/8	9/16	3/8	1 9/16	1 9/32	–	Center	31/32	–	A	Flush	Index	.045	.130	.015	.030
1963 Tempest L-4	1 11/32	1 11/32	9/16	9/16	1 1/4	1 1/4	–	Inner	15/16	27/32	A	Flush	Index	.030	.150	.030	.015
REVLEY MARINE																	
401" 7024182	1 3/8	1 11/32	11/16	9/16	1 3/8	1 3/8	–	Outer	1 1/32	–	A	Flush	3-N Lean	–	.110	.015	.110
300" 7024187, 7025085	1 3/8	1 11/32	11/16	9/16	1 3/8	1 3/8	–	Inner	1 1/32	–	A	Flush	Index	.050	.120	.015	.030

*Canadian Pontiac Requires Adjustments as Listed for Chevrolet.

[1] With vacuum assist float
[2] W/out vacuum assist float
[3] S/T=Index; A/T=2-N Rich
[4] 401" Index; 425" 1-N Rich
[5] 1955=1"; 1956=1 1/16"
[6] 7012128=1-N Lean
[7] S/T=1 1/32"; A/T=29/32"
[8] S/T=15/16"; A/T=13/16"
[9] 7025127=Innerhole
[10] 283"=1 5/8"; 322"=1 9/16"
[11] 1959-60 Only
[12] 7015090=1 1/2"
[13] 7015090=5/8"
[14] 7023183=1 1/16"
[15] 7023183=Index
[16] 7023183=030"
[17] 1954-55 A/T=Index
[18] 1958=1 5/32"
[19] 1964=1 1/32"
[20] 1964=1 15/32"
[21] 1964=Index
[22] Air Cond.=11/16"
[23] 1956 Only
[24] A/T=1-N Rich

EXPLODED VIEW OF TYPICAL ROCHESTER CARBURETOR MODEL 4GC



Ref. No.	Nomenclature
1	Pump Rod Clip (upper)
2	Pump Rod Clip (lower)
3	Pump Rod
4	Choke Rod Clip (upper)
5	Choke Rod Clip (lower)
6	Choke Rod
7	Intermediate Choke Rod Clip
8	Intermediate Choke Rod
9	Strainer Nut
10	Strainer Nut Gasket
11	Fuel Inlet Strainer
12	Air Horn Screw and Washer
13	Air Horn
14	Float Pin
15	Float Assembly
16	Air Horn Gasket
17	Pump Plunger Clip
18	Pump Plunger Assembly
19	Pump Plunger Boot
20	Needle and Seat Assembly
21	Needle Seat Gasket
22	Power Piston Assembly
23	Trip Lever Screw
24	Spacer Washer
25	Trip Lever
26	Choke Lever
27	Stat Cover Screw
28	Stat Cover Retainer
29	Stat Cover Assembly
30	Stat Cover Gasket
31	Baffle Plate
32	Choke Housing Screw
33	Choke Housing Assembly
34	Choke Housing Gasket
35	Pump Return Spring
36	Pump Inlet Ball
37	Pump Inlet Strainer Retainer
38	Pump Inlet Strainer
39	Cluster Screw and Washer
40	Primary Venturi Cluster
41	Venturi Cluster Gasket
42	Cluster Screw and Washer
43	Secondary Venturi Cluster
44	Venturi Cluster Gasket
45	Primary Metering Jet
46	Secondary Metering Jet
47	Pump Discharge Guide
48	Pump Discharge Spring
49	Pump Discharge Ball
50	Power Valve Assembly
51	Power Valve Gasket
52	Throttle Body Screw (large)
53	Throttle Body Screw (small)
54	Throttle Body
55	Throttle Body Gasket
56	Auxiliary Throttle Valve
57	Float Bowl
58	Idle Mixture Screw
59	Idle Mixture Screw Spring
60	Fast Idle Cam Screw
61	Fast Idle Cam
62	Vacuum Line Fitting
63	Flange Gasket