

1964 "V8" BUICK

AFB FOUR-BORE DOWN-DRAFT CLIMATIC CONTROL CARBURETORS Nos. 3633S-3634S-3635S-3645S-SA-SB-3646S-3665S

1964 SERIES	ENGINE DISPL.	ORIGINAL CARB. NO.	SERVICE CARB. NO.	ZIP KIT NO.	GASKET SET NO.
A/T. 4600, 4800, Wildcat, Electra, LeSabre Estate Wagon	401	3633S	3665S	902-185A	519A
S/M/T. 4600, Wildcat, LeSabre Estate Wagon	401 & 425	3635S	3635S	902-185A	519A
A/T. 4700, Riviera; Opt. 4600, 4800, Wildcat, Electra	425	3665S	3665S	902-185A	519A
A/T. & S/M/T. (Front Carb.) Opt. 4600, 4700, 4800, Wildcat, Riviera, Electra	425	3645S-SA-SB	3645SB	902-185A	519A
A/T. (Rear Carb.) Opt. 4600, 4700, 4800, Wildcat, Riviera, Electra	425	3646S	3646S	902-185A	519A
S/M/T (Rear Carb.) Opt. 4600, 4700, 4800, Wildcat, Riviera, Electra	425	3634S	3634S	902-185A	519A

CARBURETOR SPECIFICATIONS FOR BUICK 8 CYLINDERS, VACUUM AT IDLE 15 TO 16 INCHES

Carb. No.	Thro. Bore Prim. & Sec. Size	Main Venturi Prim. & Sec. Size	Vents In Air Horn & Body Amt.	Idle Speed Jet In Prim. Venturi Size	Idle By-pass In Prim. Venturi Size	Idle Econ. In Prim. Venturi Size	Idle Bleed In Prim. Venturi Size	Idle Port In Prim. Side Size	Anti-Per. or Nozzle Bleed In Prim. & Sec. Venturi Size	Main Vent Tube In Prim. & Sec. Venturi Amt. Side Holes	Sec. Pick up Tube.(T) Discharge Port (P) Bleed (B) In Sec. Venturi Size	Pump Jet In Prim. Side Size	Choke Setting	Vacuum Spark Port In Prim. Side Size
3633S	1 ⁹ / ₁₆ (P) 1 ¹¹ / ₁₆ (S)	1 ³ / ₁₆ (S) 1 ⁹ / ₁₆ (S)	13	.035	.0511	.043	.0531	.200 x .030 x .051	.036 (P) .031 (S)	6 (P) 3 (S)	.052 (P) .0292 (B)	.028	INDEX	.095
3634S	1 ⁹ / ₁₆ (P) 1 ¹¹ / ₁₆ (S)	1 ³ / ₁₆ (P) 1 ⁹ / ₁₆ (S)	13	.031	.0452	.043	.0465	.180 x .030 x .051	.036 (P) .031 (S)	6 (P) 3 (S)	.052 (P) .0292 (B)	.028	INDEX	.130 x .040
3635S	1 ⁹ / ₁₆ (P) 1 ¹¹ / ₁₆ (S)	1 ³ / ₁₆ (P) 1 ⁹ / ₁₆ (S)	13	.031	.0452	.043	.0465	.185 x .030	.036 (P) .031 (S)	6 (P) 3 (S)	.0535 (T) .031 (P) .055 (P) .055 (B)	.028	INDEX	.130 x .040
3645S-SA-SB	1 ⁹ / ₁₆ (P) 1 ¹¹ / ₁₆ (S)	1 ³ / ₁₆ (P) 1 ⁹ / ₁₆ (S)	13	.031	.0453	.043	.0465	.150 x .030 .0275 Jet	.036 (P) .031 (S)	6 (P) 3 (S)	.052 (P) .0292 (B)	.028	No Choke	None
3646S	1 ⁹ / ₁₆ (P) 1 ¹¹ / ₁₆ (S)	1 ³ / ₁₆ (P) 1 ⁹ / ₁₆ (S)	13	.031	.040	.043	.0465	.150 x .030	.036 (P) .031 (S)	6 (P) 3 (S)	.052 (P) .0292 (B)	.028	INDEX	.130 x .040
3665S	1 ⁹ / ₁₆ (P) 1 ¹¹ / ₁₆ (S)	1 ³ / ₁₆ (P) 1 ⁹ / ₁₆ (S)	13	.031	.0472	.043	.0465	.185 x .030	.036 (P) .031 (S)	6 (P) 3 (S)	.031 (T) .031 (P) .055 (P) .055 (B)	.028	INDEX	Full Vacuum

MOTOR TUNE-UP — BE ACCURATE!

Spark Plug Gap .035"	Breaker Point Setting .016"	Ignition Timing Breaker Points to Open: 12° B.U.D.C. for A/T W/(2) Carb. Inst.; All Others 2½ B.U.D.C. At Vibration Damper Vacuum Hose Disconnected.	Float Setting See Adjustments	Idle Adjustment Screw Setting ¼ to 1¼ Turns Open
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CARBURETOR ADJUSTMENTS

Adjustments Illustrated on Service Procedure Form 3701

FLOAT ALIGNMENT: Side of floats parallel to edge of casting. Minimum clearance between lever and air horn lugs without binding. To adjust, bend float lever.

FLOAT LEVEL: 15/64 inch plus or minus 1/64 inch between top of floats (at outer end) and air horn gasket. To adjust, bend float lever.

FLOAT DROP: 23/32 inch plus or minus 1/16 inch between top of floats (at outer end) and air horn gasket. To adjust, bend stop tabs on float brackets.

PUMP: 7/16 inch (3633S-3635S-3665S), 1/2 inch (3634S-3645S-SA-SB-3646S) from the top of the bowl cover to the top of the plunger shaft, with throttle connector rod (all except 3634S-3646S) in center hole, (3634S-3646S) in inner hole of pump arm with throttle valves tightly closed. To adjust, bend throttle connector rod.

CHOKE PISTON LINKAGE ADJUSTMENT: (1) Bend a .026 inch wire gauge at a 90° angle approximately 1/8 inch from its end. (2) Open the choke valve and insert the wire gauge so that the bent portion is between the top of the slot in the choke piston cylinder and the bottom of the slot in the piston. Hold the wire gauge in position and close the choke valve by pressing on the piston lever in the choke housing until resistance is felt. There should now be 3/32 inch between the top of the choke valve and the air horn. (3) To adjust, bend choke connector rod.

FAST IDLE LINKAGE ADJUSTMENT: With choke valve closed center index mark on cam should align with adjusting screw. To adjust, bend fast idle connector rod.

NOTE: It may be necessary to bend stop lug on fast idle cam.

FAST IDLE THROTTLE VALVE CLEARANCE: (3633S) .020 inch, (3634S) .014 inch, (3635S-3646S) .030 inch, (3665S) .036 inch, between lower edge of throttle valve and bore

with adjusting screw on center index mark of cam.

FAST IDLE ON CAR: 600 R.P.M. hot engine with fast idle screw at end of bottom step of cam.

UNLOADER: 7/32 inch between upper edge of choke valve and inner wall of air horn with throttle valves wide open. To adjust, bend unloader lip on throttle lever.

SECONDARY THROTTLE LEVER ADJUSTMENT: (1) Block choke valve wide open. (2) (3633S, 3635S, 3665S) with 23/64 inch, (3634S, 3645S-SA-SB, 3646S) 27/64 inch between lower edge of primary valve and bore (opposite idle port) secondary valves should just start to open. To adjust, bend throttle operating rod. **NOTE:** Secondary throttle valves will be a few degrees from wide open when primary valves are wide open. Upper edge of secondary valve should just contact auxiliary valve when auxiliary valve is wide open. If necessary, bend stop lug on secondary lever to prevent secondary valves from going past wide open. (3) With primary and secondary throttle valves tightly closed, there should be .010 to .030 inch between positive closing shoes on primary and secondary throttle lever. To adjust, bend shoe on secondary lever.

SECONDARY THROTTLE LOCK-OUT ADJUSTMENT: Crack throttle valves and manually open and close the choke valve. Tang on secondary throttle lever should freely engage in notch of lockout dog. To adjust, bend tang on secondary throttle lever.

IDLE SPEED AND MIXTURE ADJUSTMENT: (3634-3646) (Normal Engine Temp.): In making the idle adjustment on the engine, the air adjustment screw is used to adjust idle speed in a similar manner as the throttle speed screw used previously. Turning the air adjustment screw outward increases engine speeds, but also leans the mixture supplies to the manifold which must be compensated for by adjustment of the idle mixture adjusting screws.

PARTS LIST

Part No.	PART NAME	Part No.	PART NAME
1A-119	Flange gasket	14-568S	Choke lever and shaft assy. (all except 3645-A-B)
2-281	Secondary throttle valve(2)	14-609S	Choke piston lever and link assy. (all except 3645-A-B)
2-211	Primary throttle valve (3633-3635-3665)(2)	14-612S	Choke shaft and lever assy. (piston hsg.) (all except 3645-A-B)
2-255	Primary throttle valve (3634-3645-A-B-3646)(2)	14-619	Choke shaft lever (all except 3645-A-B)
3-1221	Sec. throttle shaft (3645-A-B)	14-620	Cam trip lever (all except 3645-A-B)
3-1277S	Auxiliary throttle shaft, valve and weight assy. (3633-3665)	15-58S	Fuel inlet fitting assy. (3634-3646)
3-1441S	Auxiliary throttle shaft, valve and weight assy. (3635)	15-62S	Fuel inlet fitting assy. (3645-A-B)
3-1462S	Primary throttle shaft and lever assy. (3633- 3635-3665)	16-167	Step-up rod (.0695" x .063") (3665)(2)
3-1463S	Auxiliary throttle shaft, valve and weight assy. (3645-A-B)	16-219	Step-up rod (.0685" x .063") (3633-3635-3646)(2)
3-1464S	Auxiliary throttle shaft, valve and weight assy. (3634-3646)	16-252U	Step-up rod package (2) 16-255, (2) 61-400, (2) 120-233 1 size lean (3633)
3-1465S	Primary throttle shaft and lever assy. (3645) use 3-1549S	16-253U	Step-up rod package (2) 16-256, (2) 61-400, (2) 120-165 1 size lean (3635)
3-1472S	Primary throttle shaft and lever assy. (3634-3646)	16-254U	Step-up rod package (2) 16-255, (2) 61-400, (2) 120-165 1 size lean (3665)
3-1549S	Primary throttle shaft and lever assy. (3645-A-B)	16-286	Step-up rod (.0675" x .063") (3645-A-B)(2)
3-1633S	Sec. Thro. shaft & lever assy. (all except 3645-A-B)	16-298	Step-up rod (.066" x .063") (3634)(2)
4A-175	Primary throttle shaft dog	16-311U	Step-up rod package (2) 16-127, (2) 61-400, (2) 120-185 1 size lean (3645-A-B)
7-235	Choke valve (all except 3645-A-B)	16-312U	Step-up rod package (2) 16-255, (2) 61-400, (2) 120-185 1 size lean (3646)
11B-35	Rivet plug (all except 3645-A-B)	16-313U	Step-up rod package (2) 16-323, (2) 61-400, (2) 120-185 1 size lean (3634)
11B-79	Rivet plug(2)	17-51	Pump discharge check needle
11B-194	Pipe plug (3634-3635)	20-35	Fuel inlet fitting gasket (3645)
11B-389	Idle port rivet plug(2)	20-43	Piston housing gasket (all except 3645-A-B)
11B-390	Passage plug (primary)(2)	20-127	Fuel inlet fitting gasket (all except 3645-A-B)
11B-406	Passage plug (secondary)(2)	20-204	Needle seat gasket(2)
11B-407	Rivet plug	21-179S	Float and lever assy.(2)
11B-439	Primary venturi plug(2)	24-29	Float lever pin(2)

Part No.	PART NAME	Part No.	PART NAME
25-736S	Needle and seat assy. (resilient seat)(2)	101-420	Primary throttle valve screw(4)
25-860S	Needle and seat assy. (flared tip needle)(2)	101-421	Pump arm screw
30A-75	Idle mixture screw (all except 3645-A-B)(2)	101-431S	Air horn screw assy.
30A-126	Idle air adjustment screw (3634-3646)	101-560	Step-up piston cover plate screw(2)
39-11	Choke valve screw (all except 3645-A-B)(2)	101-436	Piston housing screw (all except 3645-A-B)(3)
47-30	Piston housing welsh plug (all except 3645-A-B)	101-452	Idle speed screw (3633-3635-3665)
47-34	Spark port welsh plug (all except 3645) (early model)	101-453S	Thermostatic valve screw assy. (all except early 3645)
47-36	Secondary venturi welsh plug(2)	101-484	Fast idle screw (all except 3645-A-B)
48-264S	Pump jet and housing assy	103-14	Lead shot (.180") (3645-A-B) (3) (all others) (1)
53A-412	Lockout dog (all except 3645-A-B)	103-16	Lead shot (.200")
53A-430	Secondary throttle operating lever	111-76	Pump arm
58-347S	Secondary venturi assy. choke side (3633- 3634-3645-3646-A-B)	114-146	Primary throttle shaft arm (outer)
58-348S	Secondary venturi assy. pump side (3633- 3634-3645-3646-A-B)	114-147	Primary throttle shaft arm (inner)
58-696S	Primary venturi assy. choke side (3633)	115-285	Choke connector rod (all except 3645-A-B)
58-697S	Primary venturi assy. pump side (3633)	115-314	Fast idle connector rod (all except 3645-A-B)
58-721S	Secondary venturi assy. choke side (3665)	115-317	Throttle operating rod
58-722S	Secondary venturi assy. pump side (3665)	115-372	Pump connector rod
58-725S	Primary venturi assy. choke side (3634-3635- 3645-A-B)	117-190	Pump connector link
58-726S	Primary venturi assy. pump side (3634-3635- 3645-A-B)	120-158	Secondary metering jet (.082") (3633)(2)
58-731S	Secondary venturi assy. choke side (3635)	120-159	Secondary metering jet (.089") (3665)(2)
58-732S	Secondary venturi assy. pump side (3635)	120-165	Secondary metering jet (.086") (3635)(2)
58-743S	Primary venturi assy. choke side (3665)	120-222	Secondary metering jet (.070") (3634-3645-A-B-3646)(2)
58-744S	Primary venturi assy. pump side (3665)	120-256	Primary metering jet (.092")(2)
58-776S	Primary venturi assy. choke side (3646)	121-287	Pump jet housing gasket
58-777S	Primary venturi assy. pump side (3646)	121-292	Air horn gasket
61-58	Fast idle adj. screw spring (all except 3645)	121-293	Secondary venturi cluster gasket (3633-3634- 3645-A-B-3646)(2)
61-84	Idle mixture screw spring (all except 3645-A-B)(2)	121-302	Primary venturi cluster gasket(2)
61-171	Pump spring (lower) (all except 3645)	121-314	Thermo. valve gasket (all except early 3645)
61-259	Vacuum piston spring(2)	121-500	Coil housing gasket (all except 3645-A-B)
61-291	Idle speed screw spring (3633-3635-3665)	121-511	Secondary venturi cluster gasket (3635-3665)(2)
61-398	Pump spring (lower) (3645) (use 61-658)	122-108S	Pump intake ball check assy
61-483	Secondary throttle return spring	136-159	Primary throttle shaft washer
61-585	Step-up rod retaining spring(2)	136-160	Secondary throttle shaft washer
61-599	Idle air adjusting screw (3634-3646)	136-174	Idle speed screw washer (3633-3635-3665)
61-623	Throttle flex spring	136-219	Choke piston lever retaining washer (all except 3645-A-B)
61-624	Fast idle cam spring (all except 3645-A-B)	150-190	Choke piston pin (all except 3645-A-B)
61-658	Pump spring (lower) (3645-A-B)	150A-10	Pin spring (3645-A-B) (3) (all others) (6)
63-58	Coil housing retainer (all except 3645-A-B)(3)	156-116S	Fuel inlet fitting assy. (3633-3635-3665)
64-217S	Pump plunger, rod and spring assy. (all except 3645-A-B)	160-117	Choke piston (all except 3645-A-B)
64-218S	Pump plunger, rod and spring assy. (3645-A-B)	160-207	Step-up piston(2)
65-43	Step-up piston cover plate(2)	169-92S	Thermostatic valve assy. (all except 3645-A-B)
101-65	Choke shaft lever screw (all except 3645-A-B)(2)	169-94S	Thermostatic valve assy. (early 3645)
101-74	Throttle shaft lever screw(2)	170-911S	Piston housing and plug assy. (3633-3634-3646-3665)
101-136	Coil housing screw (all except 3645-A-B)(3)	170-912S	Piston housing and plug assy. (3635)
101-152S	Airhorn screw assy.	170BE-478S	Thermostatic coil and housing assy. (all except 3645-A-B)
101-184S	Pump jet hsg. screw assy.(2)	181-287S	Fast idle cam assy. (3634)
101-323	Fast idle cam screw (all except 3645-A-B)	181-293S	Fast idle cam assy. (3633-3635-3646-3665)
101-362S	Air horn screw assy.(8)	186-70	Fuel bowl baffle(2)
101-379S	Secondary and primary venturi screw assy.(8)	186-106	Flange baffle plate
101-419	Secondary throttle valve screw(4)	186-109S	Choke baffle plate assy. (3633-3634- 3646-3665)
		186-120S	Choke baffle plate assy. (3635)

NOTE: Parts not listed above are not available for servicing these carburetors.

NOTE: Figures in parentheses indicate number of pieces used in one carburetor. Where no figure is shown, only one is used.