

1972 ROCHESTER 2GC & 2GV 2-BARREL

ROCHESTER 2GC

OLDSMOBILE	Synchro-mesh Auto. Trans.
350" V8 (Non-Calif.)	7042155.....7042156

ROCHESTER 2GV

BUICK

350" V8 (Non-Calif.)	7042143.....7042142
(Calif.)	7042143.....7042842

CHEVROLET

140" Vega (Non-Calif.)	7042107.....7042106
(Calif.)	7042827.....7042826
307" V8.....	7042101.....7042100
350" V8 Camaro (Non-Calif.) ...	7042111.....7042112
(Calif.)	7042831.....7042832
All Other (Non-Calif.)	7042113.....7042114
(Calif.)	7042833.....7042834
400" V8 (Non-Calif.)	7042118
(Calif.)	7042838

PONTIAC

307" V8	7042101.....7042100
350" V8	7042071.....7042062
400" V8 (Non-Calif.)	7042060
(Calif.)	7042061
455" V8	7042064

CARBURETOR IDENTIFICATION

Rochester carburetor part number is stamped on a horizontal section of the float bowl, near the fuel inlet nut. When float bowl assembly is being replaced, manufacturers instructions, contained in service package, must be followed so that the part number is transferred to the new float bowl.

DESCRIPTION

Carburetors are of 2-barrel downdraft design with side fuel bowl, 2GC models are equipped with an automatic integral choke. The automatic choke housing and thermostatic coil of the 2GC may be located on the air horn or throttle body, depending on application. The 2GV carburetor is also an automatic choke model, however, a vacuum break diaphragm unit is used in place of the conventional choke housing and piston. Two different sizes of the 2GV carburetor are used; the 2GV-1¼" models are used on the 4 cylinder Vega (option) and the 307" V8 engines, while the 2GV-1½" models are used on the other 2GV applications.

Idle Stop Solenoid — All carburetors are equipped with an idle stop solenoid, which is used to control curb idle speed and prevent engine dieseling; the Combination Emission Control Valve (CEC) is no longer used on any 2GC or 2GV models.

Fast Idle Cam — A new fast idle cam is used on most models to improve cold drive-away.

Additional Fuel Circuit — Added to late 1971 and all 1972 2GV-1½" carburetors, supplementing fuel flow of the main metering system. This is accomplished by two additional fuel feeds, located in air horn, just above choke valve.

Exhaust Gas Recirculation (E.G.R.) — A vacuum supply tube, installed in the carburetor throttle body, connects to a timed vertical port in the throttle body bore. This provides a vacuum signal to the E.G.R. Valve. This valve is mounted on intake manifold and is used to circulate exhaust gases into the combustion chamber to lower combustion temperature.

Throttle Lever — A new throttle lever with an air conditioning compressor cut-off switch actuating tang has been added to Vega 2GV-1¼" models.

Choke Shaft Lever — A new choke shaft lever has been incorporated. This new lever, is slotted, permitting choke to fully close at higher temperatures for improved cold starts.

Garter Spring Accelerator Pump — All 2GV-1¼" models will use a new garter spring accelerator pump; the new pump cup is used to maintain constant pump cup to pump wall contact. The pump cup is the self-venting "floating" type, and in addition, a new pump duration spring is used with the pump. Vega models also incorporate a new pump link and lever for improved performance and extended pump shooter tubes have been added in the pump shooter hole locations on venturi cluster, for better pump fuel distribution in venturi holes.

Vega Power Enrichment — The power restrictions have been removed from the float bowl assembly and metering of fuel for power mixtures is solely controlled by the inlet orifice of the power valve assembly.

Choke System — On Vega models, a new vacuum break diaphragm assembly, incorporating an integral plunger bucking spring, is used for improved engine starting. The thermostatic coil, located on the engine manifold, is calibrated to hold the choke valve closed when the engine is cold. While starting engine, air velocity against the off-set choke valve causes the valve to open slightly against the torque of the thermostatic coil. When engine starts, manifold vacuum increases. This increased vacuum is applied to the vacuum break diaphragm, which by connecting linkage to the choke valve shaft, opens the choke valve a predetermined amount against choke coil tension, so that the fuel mixture will be lean enough and the engine will run without stalling. The purpose of the plunger bucking spring in the vacuum break unit is to off-set tension of the thermostatic choke coil and balance opening of the choke valve with tension of the choke coil in relation to atmospheric temperature.

ADJUSTMENT

Idle Speed & Mixture

NOTE — Carburetors have plastic idle limiter caps on idle mixture adjusting screws. No attempt to adjust idle mixture screws should be made. If caps are removed during such operations as carburetor overhaul, fuel bowl replacement, or throttle body replacement, special procedure is required to readjust idle mixture screws.

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CARBURETOR ADJUSTMENT SPECIFICATIONS									
Rochester Carb. No.	Hot Idle Speed (Engine RPM) ① ⑤		Float Level Setting	Float Drop Setting	Pump Rod Setting	Choke Rod Setting	Vacuum Break Setting	Unloader Setting	Auto. Choke Setting
	Synchro-Mesh	Auto. Trans.							
7042060	.....	625	5/8"	1 9/32"	1 11/32"	.085"	.122"	.180"	②
7042061	.....	625	5/8"	1 9/32"	1 11/32"	.085"	.122"	.180"	②
7042062	.....	625	9/16"	1 9/32"	1 11/32"	.085"	.105"	.180"	②
7042064	.....	625	5/8"	1 9/32"	1 11/32"	.085"	.150"	.180"	②
7042071	800	.....	9/16"	1 9/32"	1 11/32"	.085"	.140"	.180"	②
7042100	.....	600/450	25/32"	1 31/32"	1 5/16"	.040"	.080"	.215"	②
7042101	900/450	.....	25/32"	1 31/32"	1 5/16"	.075"	.100"	.215"	②
7042106	.....	③ 700/550	19/32"	1 7/8"	1 1/16"	.060"	.085"	.215"	②
7042107	④ 1200/700	.....	19/32"	1 7/8"	1 1/16"	.080"	.100"	.215"	②
7042111	900/450	.....	23/32"	1 9/32"	1 1/2"	.100"	.180"	.325"	②
7042112	.....	600/450	23/32"	1 9/32"	1 1/2"	.100"	.170"	.325"	②
7042113	900/450	.....	23/32"	1 9/32"	1 1/2"	.100"	.180"	.325"	②
7042114	.....	600/450	23/32"	1 9/32"	1 1/2"	.100"	.170"	.325"	②
7042118	.....	600/450	23/32"	1 9/32"	1 1/2"	.100"	.190"	.325"	②
7042142	.....	650/500	15/32"	1 13/32"	1 15/32"	.080"	⑤ .150"	.180"	②
7042143	800/600	.....	15/32"	1 13/32"	1 15/32"	.080"	⑤ .160"	.180"	②
7042155	750/600	.....	17/32"	1 3/8"	1 11/32"	.160"	.215"	.170"	1 Lean Index
7042156	.....	650/600	17/32"	1 3/8"	1 11/32"	.160"	.200"	.170"	②
7042826	.....	③ 700/550	19/32"	1 7/8"	1 1/16"	.060"	.085"	.215"	②
7042827	④ 1200/700	.....	19/32"	1 7/8"	1 1/16"	.080"	.100"	.215"	②
7042831	900/450	.....	23/32"	1 9/32"	1 1/2"	.100"	.180"	.325"	②
7042832	.....	600/450	23/32"	1 9/32"	1 1/2"	.100"	.190"	.325"	②
7042833	900/450	.....	23/32"	1 9/32"	1 1/2"	.100"	.180"	.325"	②
7042834	.....	600/450	23/32"	1 9/32"	1 1/2"	.100"	.170"	.325"	②
7042838	.....	600/450	23/32"	1 9/32"	1 1/2"	.100"	.200"	.325"	②
7042842	.....	650/500	15/32"	1 13/32"	1 15/32"	.080"	⑤ .150"	.180"	②

① — Higher Speed — Solenoid Energized.

Lower Speed — Solenoid De-Energized.

② — See procedures in "Adjustment" section.

③ — With air conditioning 800/550 RPM.

④ — 1200/800 RPM with air conditioning.

⑤ — With A.I.R. operating (if equipped).

⑥ — Vacuum Break Auxiliary .140".

Idle Speed (Buick) — Make adjustment with engine at normal operating temperature, air cleaner installed, choke open, and air conditioner OFF. Disconnect the hose from air cleaner to vapor canister. Disconnect and plug distributor vacuum hose. Open throttle sufficiently to permit idle solenoid to extend and contact throttle lever pad in idle position. Adjust solenoid set screw to obtain higher RPM listed. *NOTE — Solenoid mounting bracket may be moved for additional adjustment.* Disconnect solenoid wire and adjust idle screw to obtain the lower RPM listed.

Idle Speed (Chevrolet, Including Vega) — Make adjustment with engine at normal operating temperature, air cleaner installed, air conditioner OFF, choke open, and parking brake set with drive wheels blocked. Disconnect fuel tank hose at vapor canister. Disconnect distributor vacuum hose at distributor and plug. Disconnect electrical connection at the idle stop solenoid, then adjust low idle screw to the lower RPM listed (see Specifications). Set dwell and timing, recheck low idle speed. Reconnect solenoid electrical connection, open throttle momentarily and adjust solenoid plunger screw to the higher RPM listed (see Specifications).

Idle Speed (Oldsmobile) — Make adjustment with engine at normal operating temperature, air cleaner removed, air cleaner vacuum hose disconnected at intake manifold and fitting plugged, choke open, air conditioner OFF, parking brake set and drive wheels blocked. Disconnect distributor vacuum hose. Plug hose to carburetor on automatic transmission, plug hose to manifold on synchro-mesh transmis-

sion. Then, with dwell and timing properly adjusted, adjust idle stop solenoid screw to the higher RPM listed (see Specifications). Disconnect solenoid electrical connection and adjust carburetor idle speed screw to obtain the lower RPM listed (see Specifications).

Idle Speed (Pontiac, Except Ventura II) — Disconnect carburetor evap hose from vapor canister, then disconnect carburetor to vacuum solenoid hose (at solenoid) and plug. Then, with dwell and timing properly set at idle speed, adjust carburetor speed screw to the specified RPM (see Specifications).

Idle Speed (Pontiac Ventura II) — Disconnect evap hose from vapor canister, then disconnect carburetor to vacuum solenoid hose (at solenoid) and plug. Disconnect electrical connection from idle stop solenoid, then adjust carburetor low idle (with screw on low step of cam) to the lower RPM listed (see Specifications). Set dwell and timing and recheck low idle speed. Reconnect solenoid wire, open throttle momentarily and adjust solenoid plunger screw to the higher RPM listed (see Specifications).

NOTE — Carburetors are equipped with locked mixture screws (limiter caps); do not attempt to adjust these screws as they are preset at the factory.

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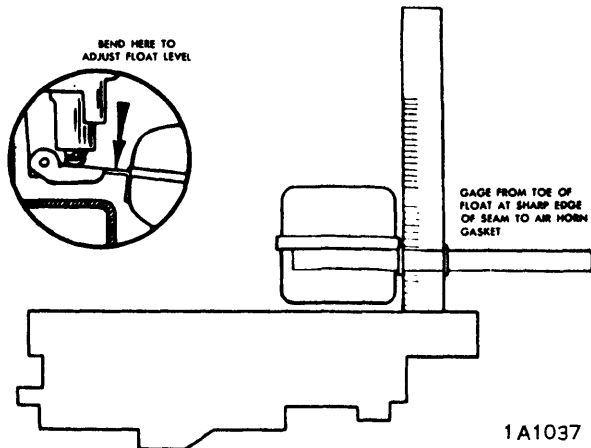
Fast Idle Speed

NOTE — This adjustment is only necessary on Oldsmobile vehicles. On all other vehicles, fast idle speed will be correct when slow (curb) idle speed correctly adjusted.

Make adjustment with engine at normal operating temperature, choke valve wide open, and fast idle screw on Low step of fast idle cam. Adjust fast idle speed screw to obtain 1000 RPM (all transmissions), with synchro-mesh in Neutral and automatic transmission in Park.

Float Level (Metal Float)

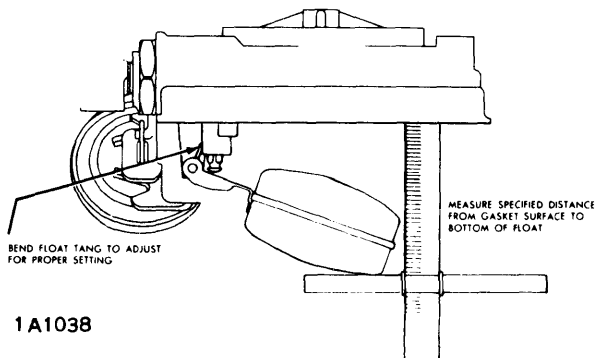
Invert air horn assembly with gasket in place. Measure from face of gasket to lower (sharp) edge of float seam at free end of float. Obtain specified clearance (see Specifications) by bending float arm.



FLOAT LEVEL ADJUSTMENT (METAL FLOAT)

Float Drop (Metal Float)

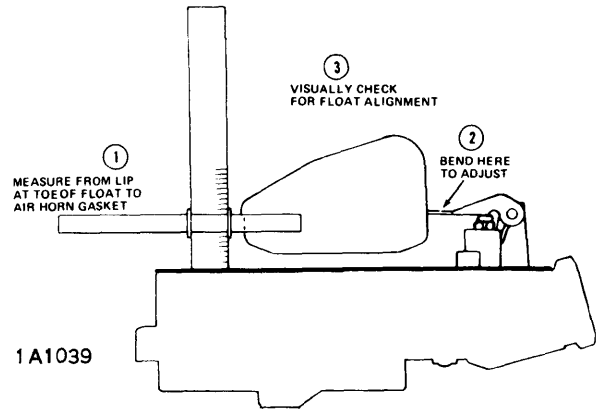
With bowl gasket in place, hold bowl cover in normal position, measure distance from gasket to bottom of float at lowest point. If distance not correct (see Specifications), bend tang (on float) that rests against needle valve.



FLOAT DROP ADJUSTMENT (METAL FLOAT)

Float Level (Plastic Float)

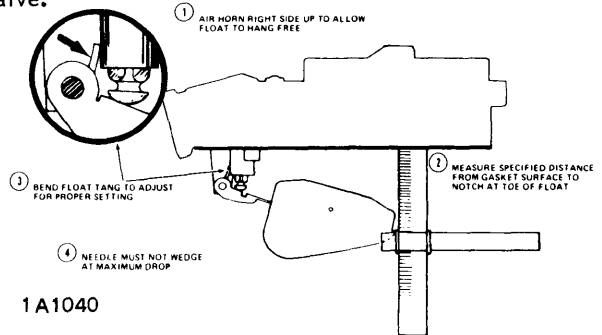
With bowl gasket in place, invert bowl cover and measure distance from gasket to lip on free end of float. If distance not as specified (see Specifications), adjust by bending float arm.



FLOAT LEVEL ADJUSTMENT (PLASTIC FLOAT)

Float Drop (Plastic Float)

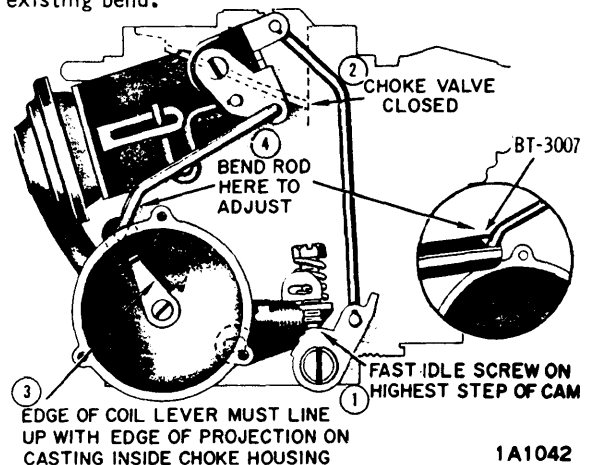
Hold bowl cover in normal position with gasket in place and measure distance from gasket to notch on free end of float. If distance not as specified (see Specifications), adjust by bending tang (on float) that rests against needle valve.



FLOAT DROP ADJUSTMENT (PLASTIC FLOAT)

Accelerator Pump

With throttle stop screw and fast idle screw (when used) backed out so that throttle valves are completely closed, measure distance from top of air horn ring to top of pump connector rod at pump lever. If distance not as specified (see Specifications), adjust by bending pump connector rod at existing bend.



INTERMEDIATE CHOKE ROD ADJUSTMENT — 2GC

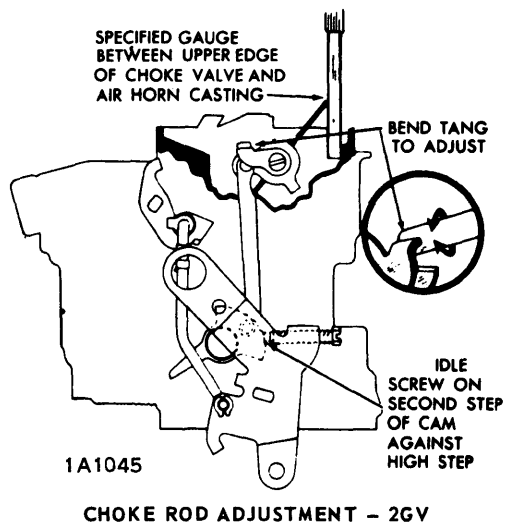
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Intermediate Choke Rod (2GC)

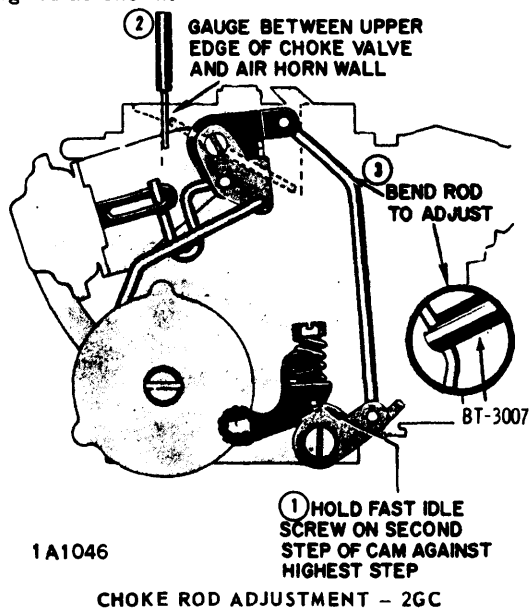
With fast idle screw on Highest step of cam and choke valve fully closed, insert a .120" gauge into choke housing and rotate choke coil lever clockwise. Lever should contact gauge at the same time choke valve closes, if not, bend rod as shown to adjust.

Choke Rod (Fast Idle Cam)

2GV Carburetors — Place idle speed adjusting screw in normal idle position, which is usually one to two turns in after contact with the lowest step of the fast idle cam, then after making this initial adjustment, place screw on Second step of cam and against the shoulder of the high step. With the choke valve held towards closed position, measure distance between upper edge of choke valve and inside of air horn wall, using specified gauge (see Specifications). To adjust, bend tang as shown.



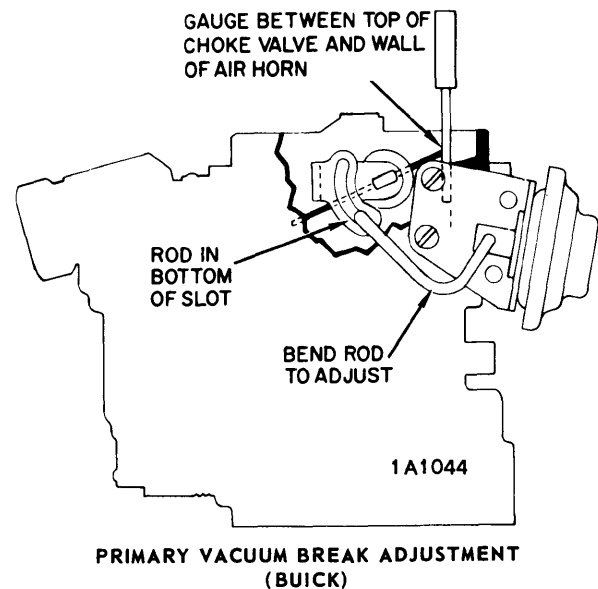
2GC Carburetors — Position fast idle screw on Second step of fast idle cam and against shoulder of high step. Measure distance between upper edge of choke valve and air horn wall (see Specifications). Adjust by bending connecting rod as shown.



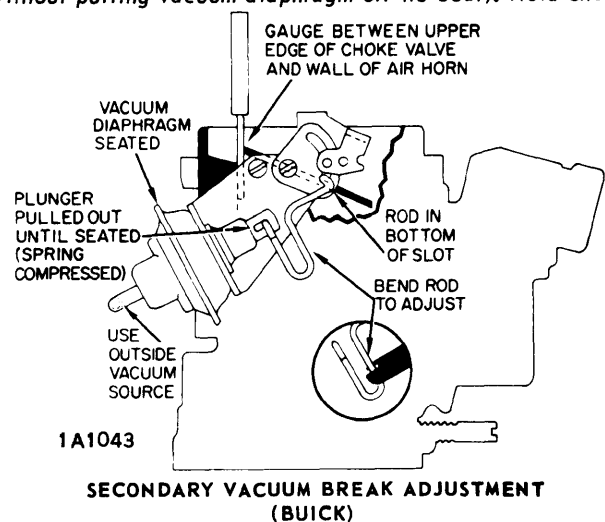
Vacuum Break (2GV Carbs.)

NOTE — Buick carburetors have two vacuum break units (primary and secondary), which are adjusted separately.

Buick Primary — This unit mounted on throttle lever side of carburetor. Seat vacuum break diaphragm using an outside vacuum source, or push diaphragm plunger inward until seated. Rotate choke valve toward closed position so that vacuum break rod is at bottom end of slot in choke valve lever (make certain fast idle screw does not hang up on fast idle cam and prevent choke valve closing). Gauge clearance between upper edge of choke valve and air horn wall. If clearance not correct (see Specifications), adjust by bending vacuum break rod at existing bend.



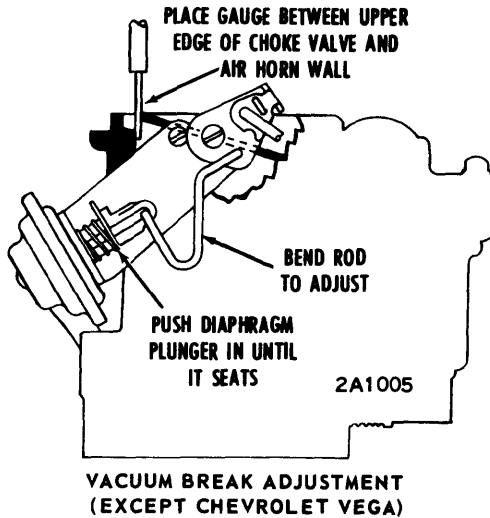
Buick Secondary — Unit mounted opposite side of primary vacuum break. Use outside vacuum source to hold vacuum break diaphragm in seated position (**CAUTION** — It will require approximately 8 seconds for diaphragm to retract). Rotate choke valve toward closed position with vacuum break rod at lower end of slot in choke valve lever until spring loaded diaphragm plunger is fully extended (**CAUTION** — Do not use extreme force to compress spring, force should just be sufficient to fully compress spring without pulling vacuum diaphragm off its seat). Hold choke



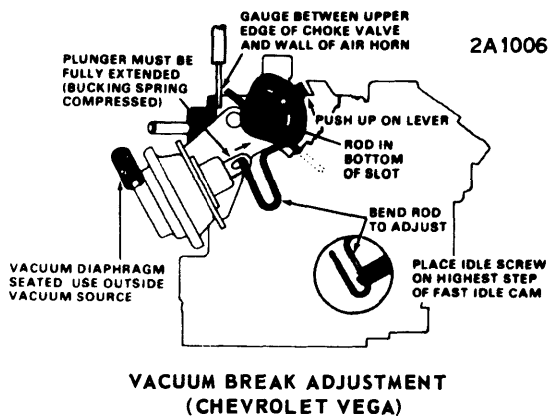
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valve in this position and gauge clearance between upper edge of choke valve and air horn wall, if clearance not correct (see Specifications), adjust by bending vacuum break link at existing loop as required.

Chevrolet (Except Vega) — Using an outside vacuum source, apply vacuum to diaphragm until it is fully seated. Hold choke valve towards closed position with a rubber band. Bend vacuum break link so that the specified gauge (see Specifications), will fit between the upper edge of choke valve and inside wall of air horn.

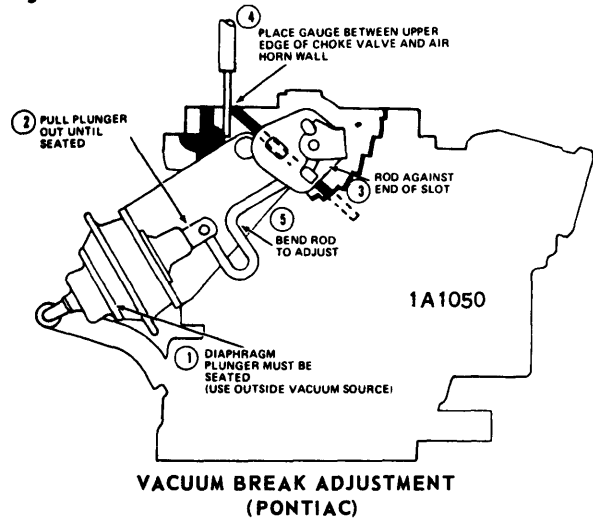


Chevrolet Vega — Using an outside vacuum source, seat vacuum break diaphragm plunger. Rotate choke valve towards the closed choke position so vacuum break link is at bottom of the slot in the choke shaft lever and the spring loaded plunger is fully compressed. With choke valve held in this position, measure distance between the upper edge of the choke valve and the inside wall of air horn. If clearance not correct (see Specifications), bend vacuum break link as shown. **CAUTION** — Use care when compressing diaphragm plunger spring so that force used in closing choke valve does not pull vacuum diaphragm off its seat.



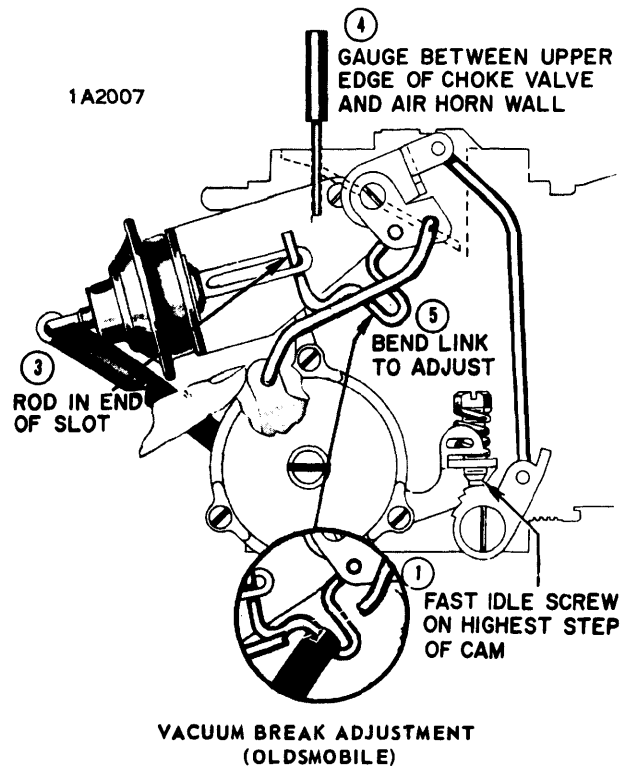
Pontiac — Fully seat the vacuum break diaphragm using an auxiliary vacuum source. Bleed valve restriction will delay full seating for a few seconds. After diaphragm is fully seated, push choke valve toward the closed position until the spring-loaded diaphragm plunger is fully extended.

Hold choke valve in this position and check clearance between upper edge of choke valve and air horn wall with specified gauge or drill (see Specifications). If adjustment required, bend vacuum break link. **CAUTION** — Be careful when compressing diaphragm plunger spring that the force used in closing the choke valve does not pull the vacuum plunger off its seat.



Vacuum Break (2GC Carbs.)

Oldsmobile — Use an outside vacuum source to fully seat vacuum break diaphragm (**CAUTION** — Diaphragm has bleed valve restriction and several seconds will be required to retract diaphragm). Make certain fast idle screw is on High step of fast idle cam, push choke valve toward closed position until spring-loaded diaphragm plunger is fully extended (spring compressed) with rod at outer end of plunger slot (**CAUTION** — Force used in closing choke valve should just be sufficient enough to extend diaphragm

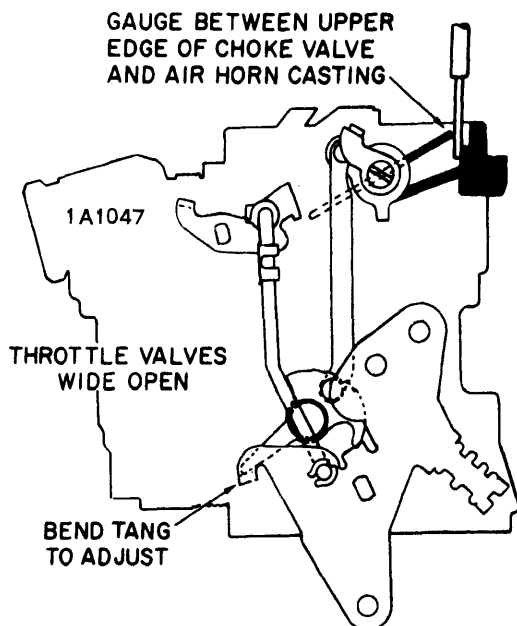


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plunger without pulling diaphragm off its seat). With choke valve in this position, gauge clearance between upper edge of choke valve and air horn wall. If clearance not correct (see Specifications), adjust by bending diaphragm connecting link at existing loop.

Unloader (All Models)

With throttle valves held wide open, clearance between upper edge of choke valve and inner air horn wall should be as specified (see Specifications). Adjust by bending tang on throttle lever (all models except Oldsmobile). On Oldsmobile 2GC carburetors, adjust by inserting screwdriver blade in slot in throttle lever and banding tang toward pad on intermediate choke lever for more clearance, or away from pad for less clearance.



UNLOADER ADJUSTMENT (EXCEPT OLDSMOBILE)

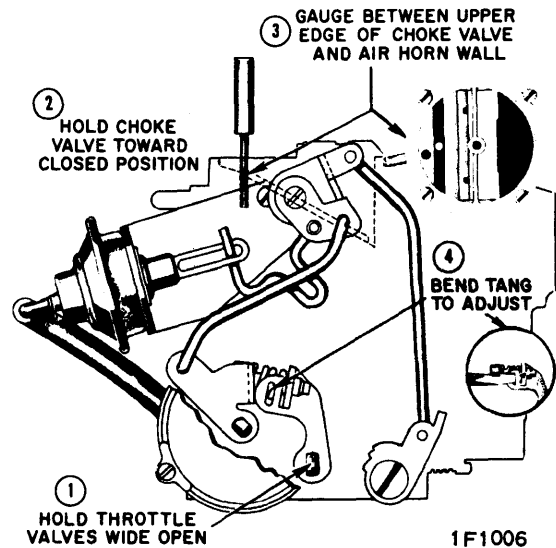
Automatic Choke (2GV Carbs.) (Choke Coil Rod)

Disconnect choke rod at choke valve lever and check choke valve rod length for each car model as detailed below.

Carburetor cleaning and overhaul is generally the result of a customer complaint that cannot be remedied by external adjustments or parts replacement with the carburetor installed on the engine.

Flooding, stumble on acceleration and other performance complaints are, in many instances, caused by dirt, water or other foreign matter in the carburetor fuel bowl, jets or passages. To aid in diagnosing the cause of complaint, the carburetor should be carefully removed from the engine so as not to agitate or drain the fuel in the bowl. Contents of the fuel bowl may then be examined as the carburetor is disassembled.

When cleaning and overhauling a carburetor, identify the carburetor by the model number stamped on the main body,



UNLOADER ADJUSTMENT (OLDSMOBILE)

Buick — Close choke valve completely. Pull up on choke rod to end of travel. End of rod should just fit into gauge notch in lever. To adjust, bend rod at angle.

Chevrolet (Except Vega) — Hold choke valve wide open. Push downward on rod to end of travel. Rod should fit in bottom of slot in lever. To adjust, bend rod at offset.

Chevrolet Vega — Hold choke valve completely open. Push downward on rod to end of travel. With rod held in this downward position, top edge of pin should be even with bottom of hole in lever. To adjust, rotate swivel on rod.

Pontiac — Close choke valve completely. Pull upward on rod to end of travel. Bottom of rod should fit notch in lever. To adjust, bend rod at angle.

Automatic Choke (2GC Carbs.) (Choke Coil Rod)

Oldsmobile — Loosen three retaining screws on choke coil cover. Rotate cover until index mark on cover is aligned with correct mark on choke coil housing (see Specifications).

OVERHAUL

adjacent to the fuel inlet fitting. Using this number, always order and install a complete Repair Kit which contains the necessary parts and gaskets.

Disassembly

1) Remove fuel inlet fitting, gasket, fuel filter and spring. Remove pump rod by removing lower retaining clip and rotating pump rod until lug on upper end of rod passes through upper pump lever. Remove fast idle cam attaching screw, then remove fast idle cam and rod assembly by rotating until lug on upper end of choke rod passes through slot in upper choke lever and collar assembly.

2) Remove vacuum break diaphragm hoses, from both units (if so equipped). Remove primary vacuum break diaphragm by removing two attaching screws, remove break rod from

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lever by rotating rod until end slides out of slot in lever and lug on other end of rod out of slot of diaphragm plunger shaft. Remove secondary vacuum break unit (if equipped) by removing lever from end of choke shaft, then remove lever from diaphragm plunger rod and rod from plunger shaft. Remove bracket attaching screws and remove diaphragm and bracket assembly.

3) Remove air horn attaching screws and guide air horn gently upward from bowl. Invert air horn and remove float hinge pin and float assembly, remove float needle from arm, then remove float needle seat and gasket. Remove power piston by depressing stem and allowing it to snap free. Remove pump plunger assembly from inner pump arm by rotating assembly until end of shaft will slide out of hole in inner pump lever. Loosen set screw on inner arm and remove outer lever and shaft assembly. **NOTE** — Plastic washer used between outer pump lever and air horn casting, do not immerse in carburetor cleaner.

4) Remove choke valve retaining screws and remove choke valve from shaft. Remove shaft, then remove lever and collar assembly from shaft, noting position of choke lever in relation to trip lever on choke shaft, for easier assembly.

5) Remove pump plunger return spring from well, then remove check ball by inverting bowl and shaking into hand, remove pump inlet screen. Remove main jets, power valve and gasket. Remove venturi attaching screws (3), cluster and gasket. **NOTE** — Center cluster has smooth shank and fibre gasket to seal accelerator pump by-pass.

6) Remove plastic main well inserts, then using needle-nose pliers, remove pump discharge ball spring "T" retainer and remove discharge spring and ball. **NOTE** — Throttle body assembly is serviced as a complete unit. Invert carburetor and remove throttle body to bowl attaching screws, throttle body and body to bowl gasket. On 2GC carburetors, remove choke cover attaching screws, retainer, cover and coil assembly and gasket. Also on 2GC, remove baffle plate from inside choke housing, then remove choke

housing attaching screws (2), choke housing and gasket; remove screw from end of intermediate choke shaft, then remove intermediate choke lever, choke coil lever, shaft assembly and dust seal from choke housing.

Cleaning & Inspection

Clean all carburetor castings and metal parts in cleaning solvent. Do not immerse choke housing, coil assembly, pump plunger, or vacuum break diaphragm in solvent. Clean pump plunger in clean gasoline. Clean vacuum break diaphragm with clean cloth. Blow out all passages with compressed air. Inspect all parts for wear or damage and replace as necessary.

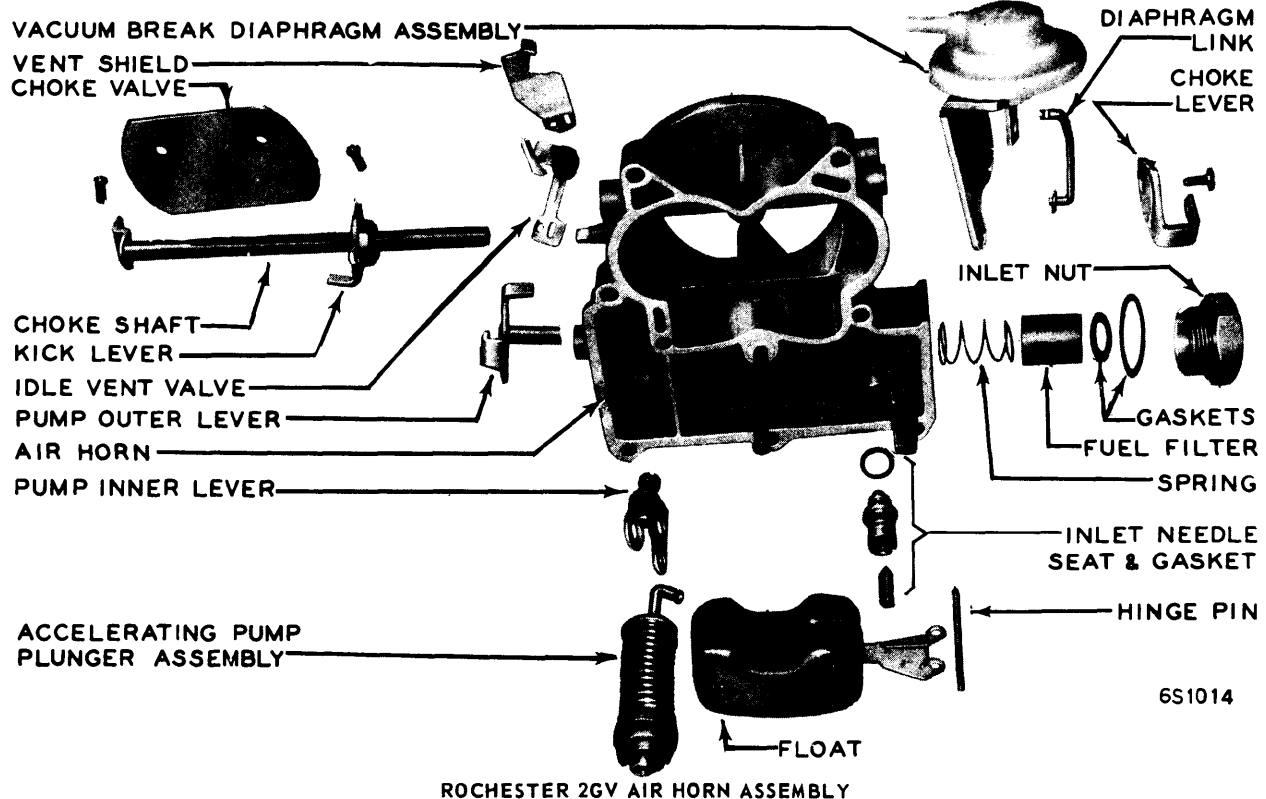
Reassembly

Use all new gaskets. Reassemble carburetor by reversing disassembly procedure and noting the following:

Idle Mixture Screws & Limiter Caps — After installing mixture screws and springs, back out screws 2 turns as a preliminary idle adjustment. Do not install new limiter caps until idle mixture has been completed.

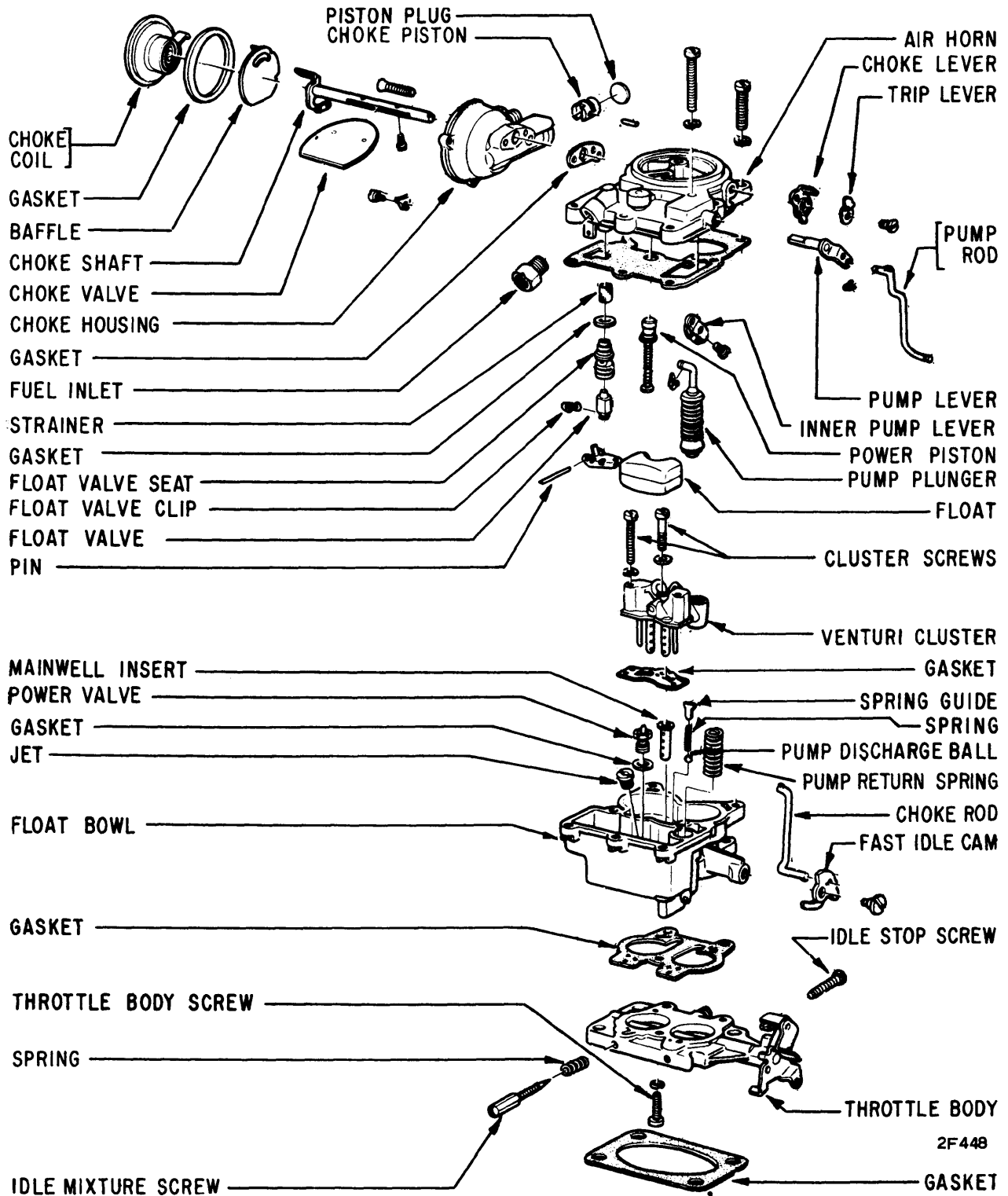
Choke Valve Installation — Install valve with identifying mark "RP" upward, center choke valve before tightening screws. **NOTE** — Valve can be centered by installing fast idle lever and choke trip lever on end of shaft and maintaining .020" clearance between fast idle lever and air horn casting, or between choke trip lever and choke lever and collar assembly. Stake choke valve screws lightly after tightening. Choke valve should move freely in housing.

Accelerating Pump Assembly — Lubricate pump shaft with suitable lubricant (light grease) when installing in bowl cover. Make certain that pump check balls are not interchanged. Inlet check ball is aluminum, discharge check ball is steel. **NOTE** — Some models may have a two-piece pump plunger assembly in place of an inlet check ball.



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1972 ROCHESTER 2GC & 2GV 2-BARREL (Cont.)



ROCHESTER 2-BARREL CARBURETOR (AUTO CHOKE ON AIR HORN)