ROCHESTER 2GC & 2GV 2-BARREL

BUICK

Application	Rochester Carburetor No. Man. Trans.	Auto. Trans.
350"		
Federal	7047417	7047414
California	7047417	7047404

CHEVROLET

350" Chevelle, Monte Carlo & Chevrolet		
Federal	7044017	7044014
California	7044017	7044314
350" Camaro	7044111	7044112
350" Nova	7044115	7044116
400"		7044118

PONTIAC

350"		
Federal	7043071	7043062
California		①7044063
400"		
Federal		7044066
California		②7044067

① — High Altitude 7043072.

② — High Altitude 7043070.

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, manfacturers instructions contained in service package, must be followed so that part number is transfered to the new float bowl.

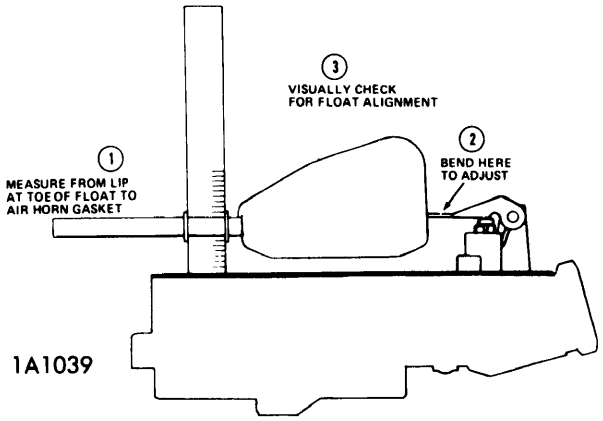
DESCRIPTION

Carburetors are of a 2-barrel downdraft type 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.

ADJUSTMENT

FLOAT LEVEL

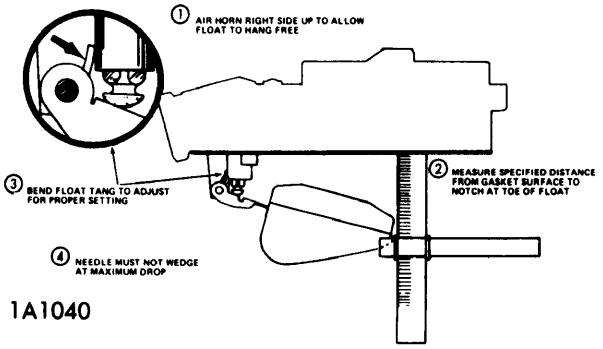
With bowl gasket in place, invert bowl cover and measure distance from gasket to lip on free end of float. If distance is incorrect (see specifications) adjust by bending float arm.



FLOAT LEVEL ADJUSTMENT

FLOAT DROP

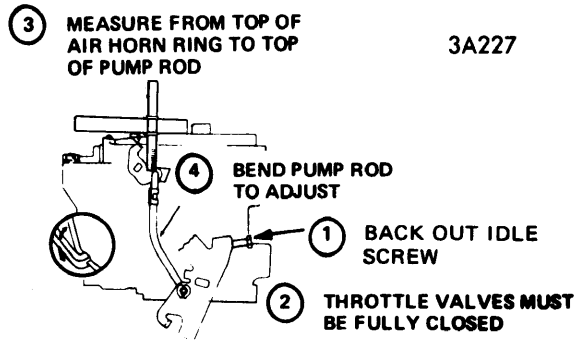
Hold bowl cover in normal position with gasket in place, and measure distance from gasket to notch on free end of float. If distance is incorrect (see specifications), adjust by bending tang on float that rests against needle valve.



FLOAT DROP ADJUSTMENT

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 is incorrect (see specifications), adjust by bending pump connector rod at existing bend.



PUMP ROD ADJUSTMENT

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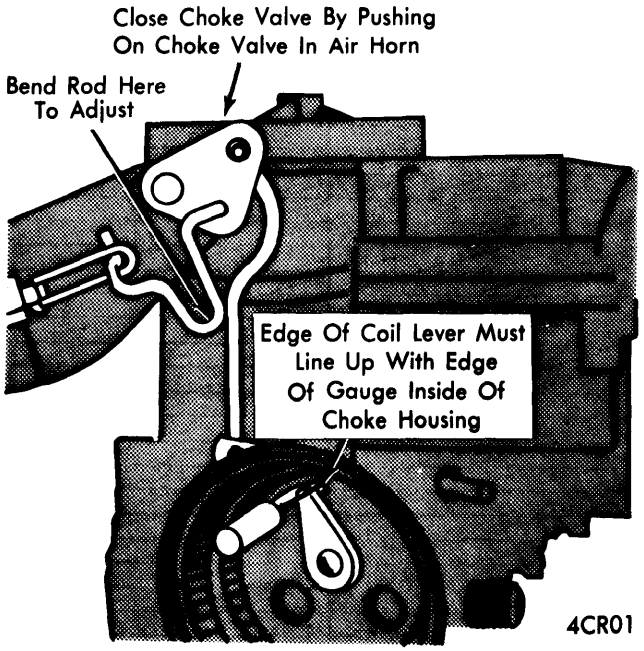
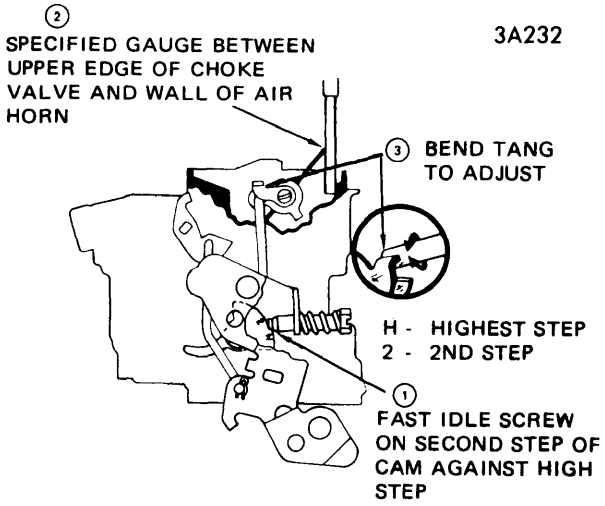
CHOKE ROD (FAST IDLE CAM)

2GC Carburetors – Place fast idle screw on highest step of fast idle cam. Close choke valve by pushing on choke valve in air horn. Insert specified gauge into choke housing slot (see illustration). Choke coil lever should just contact gauge in end of slot. Adjust by bending "U" bend of diaphragm.

2GV Carburetors – Place fast idle screw on second step of fast idle cam and against shoulder of high step. With choke valve held closed, measure distance between upper edge of choke valve and air horn wall (see specifications, Choke Rod Setting). To adjust bend tang as shown in illustration.



CHOKE ROD (FAST IDLE CAM)

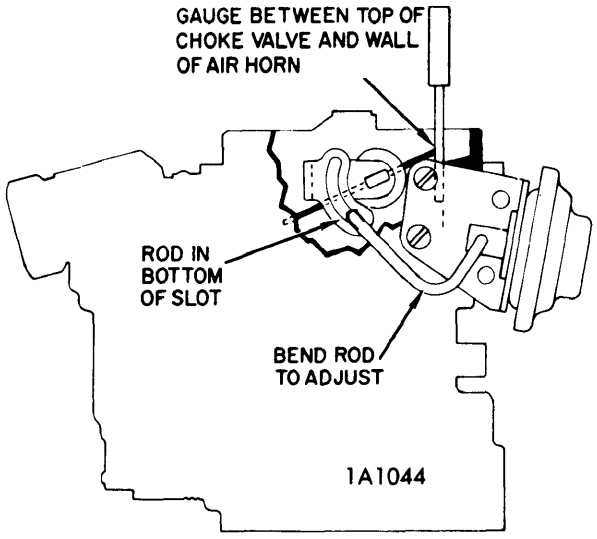


CHOKE ROD (FAST IDLE CAM) ADJUSTMENT – 2GV

VACUUM BREAK (2GV CARBS)

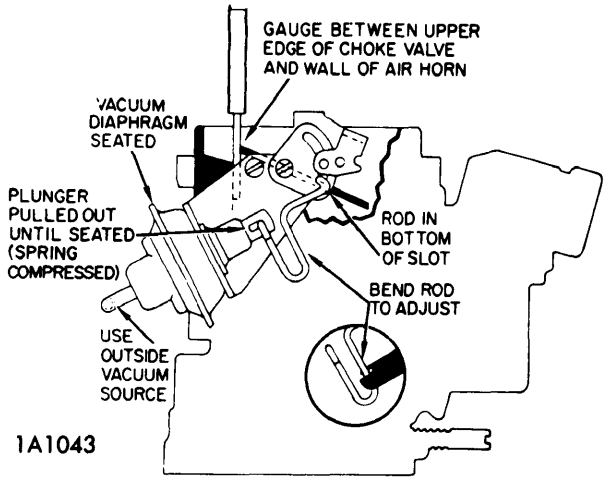
***NOTE** – Buick carburetors have two vacuum break units, a primary and a secondary, which must be adjusted separately.*

Buick Primary - *This unit is 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 from closing). Gauge clearance between upper edge of choke valve and air horn wall. If clearance is incorrect (see specifications), adjust by bending vacuum break rod at existing bend.



PRIMARY VACUUM BREAK ADJUSTMENT (BUICK)

Buick Secondary – *Unit is mounted opposite of primary vacuum break.* Use outside vacuum source to hold diaphragm in seated position. *(CAUTION – It will require approximately 8 seconds for diaphragm to fully contract. BE SURE to plug small bleed hole in diaphragm tube beneath filter element).* Rotate choke valve towards a closed position with vacuum break rod at lower end of slot in choke valve lever until spring loaded diaphragm is fully extended. *(CAUTION – Do not use extreme force to compress spring, use just enough force to fully compress spring without pulling vacuum diaphragm off its seat).* Hold choke valve in this position and gauge clearance between upper edge of choke valve and air horn wall, if clearance is incorrect (see specifications), adjust by bending vacuum break link at existing loop as required.



SECONDARY VACUUM BREAK ADJUSTMENT (BUICK)

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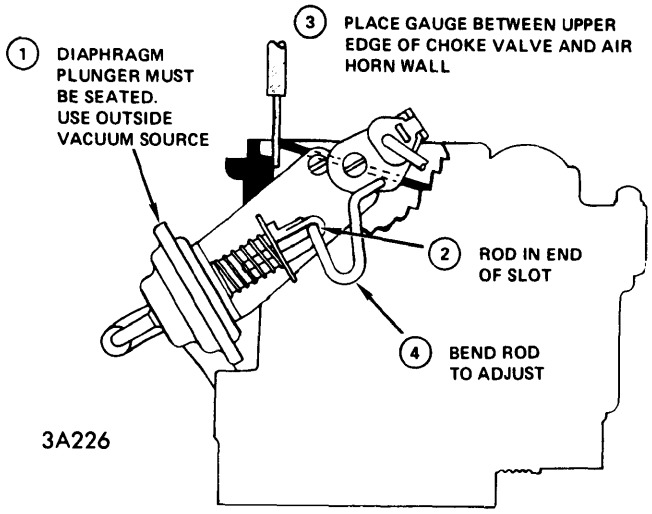
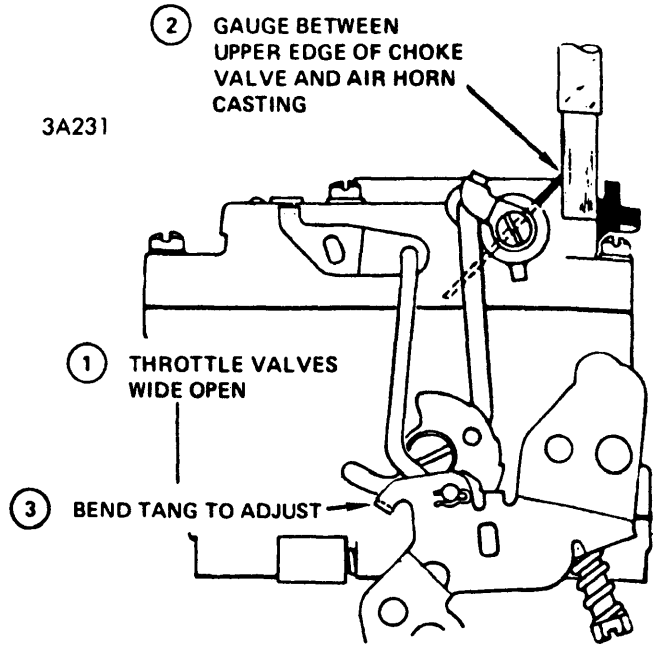
Chevrolet – Remove air cleaner assembly, and on vehicles with a "Therm AC" type air cleaner, plug the sensor's vacuum take off port. Using an outside vacuum source, apply vacuum to vacuum break diaphragm until the plunger is fully seated. With vacuum break diaphragm in fully seated position, push choke valve towards the closed position. With choke valve held in this position, and choke rod in end of diaphragm plunger (see illustration), check clearance between upper edge of choke valve and air horn (see specifications). To adjust, bend at existing bend.



VACUUM BREAK ADJUSTMENT

VACUUM BREAK ADJUSTMENT

Place fast idle screw on second step of fast idle cam and against shoulder of high step. With choke valve held closed, measure distance between upper edge of choke valve and air horn wall (see specifications, Choke Rod Setting). To adjust bend tang as shown in illustration.



UNLOADER ADJUSTMENT

UNLOADER (ALL MODELS)

With throttle valves held wide open, and choke valve held toward closed position with a rubber band, bend unloader tang on throttle lever to obtain specified clearance (see specifications) between upper edge of choke plate and air horn wall. See illustration.

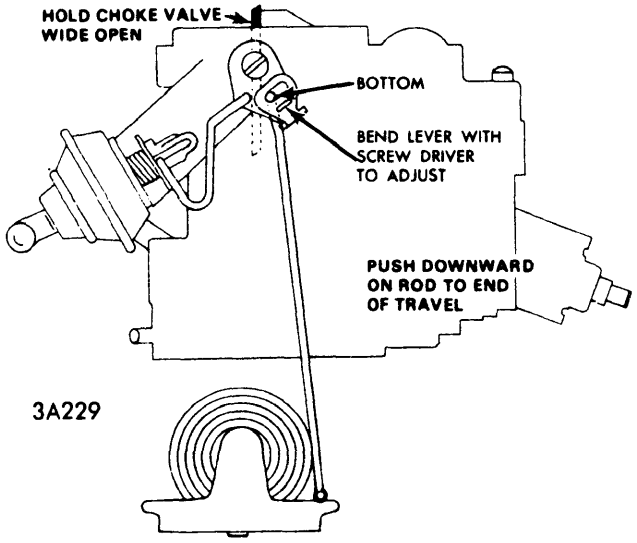
AUTOMATIC CHOKE (2GV CARBS) (CHOKE COIL ROD)

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

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 – Hold choke valve completely open. With thermostatic coil rod disconnected from upper lever, push downward on rod to end of travel. With rod in fully downward position, bottom of rod should be even with bottom of slotted hole in lever. To adjust, bend lever at point shown in illustration with screwdriver end.

Pontiac – Place fast idle screw on highest step of cam. 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).



CHOKE COIL ROD ADJUSTMENT – 2GV

AUTOMATIC CHOKE (2GC CARBS) (CHOKE COIL ROD)

IDLE SPEED

NOTE – In order to comply with emission standards, specifications shown on engine compartment emission control tune-up decal must be used in all instances. Decal information should be considered the most valid information available.

Preparations For Adjustment – Block wheels and apply parking brake. Start and warm engine to normal operating temperature. Turn off air conditioner. Disconnect and plug

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vacuum hoses to vacuum advance unit and hose from vapor canister to air cleaner or carburetor. Place manual transmission in Neutral or automatic transmission in "D". Note following additional preparations for individual manufacturer.

Pontiac – Remove air cleaner and plug vacuum hose (s) to air cleaner.

Buick & Chevrolet – Leave air cleaner installed. On Buick, disconnect and plug EGR vacuum hose at EGR valve.

Adjustment – With preparations for adjustment complete and timing set, de-energize solenoid and adjust carburetor idle speed screw to obtain lower specified idle RPM. Connect solenoid lead and allow plunger to extend. Adjust solenoid to specified higher RPM.

Idle Speed (RPM)

Application	Man. Trans.	Auto. Trans.
Buick	500/650	500/650
Chevrolet		
350"	500/900	500/600
400"	500/600	500/600
Pontiac		
350" & 400"		
Federal	600/1000	650
California		625

IDLE MIXTURE

Exhaust Gas Analyzer Procedure – With preparations for adjustment complete, set timing to specifications and adjust idle to higher specified RPM. Connect exhaust gas analyzer to vehicle. If CO level exceeds specifications, turn mixture screws in (leaner), in equal amounts until correct CO level is obtained at specified idle RPM. Reset idle speed, if necessary, with air cleaner installed.

Idle CO Level (%)

Application	CO%
Buick	0.3
Chevrolet	0.5
Pontiac	0.2

NOTE – Correct mixture for emission compliance and idle quality are preset by manufacturer. Following procedures should only be performed when normal tune-up procedures fail to give satisfactory idle performance at specified CO level, or after major overhaul or part replacement.

Tachometer (Speed Drop) Procedure – With preparations for a adjustment complete, set timing and adjust idle to higher specified idle RPM with solenoid energized and extended. Cut off mixture tabs. Equally richen mixture screws until maximum RPM is obtained. Equally lean mixture screws until lower specified idle RPM is obtained. Install air cleaner (if removed), connect all vacuum lines and recheck idle RPM. Use mixture screws for RPM correction.

Tachometer (Speed Drop) RPM

Application	Man. Trans.	Auto. Trans.
Buick	710/650	710/650
Chevrolet		
Federal	950/900	650/600
California	950/900	630/600
Pontiac		
350"		
Federal	1200/1000	720/625
California		730/650
400"		
Federal	1310/1000	720/650
California		685/625

OVERHAUL

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 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,

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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.

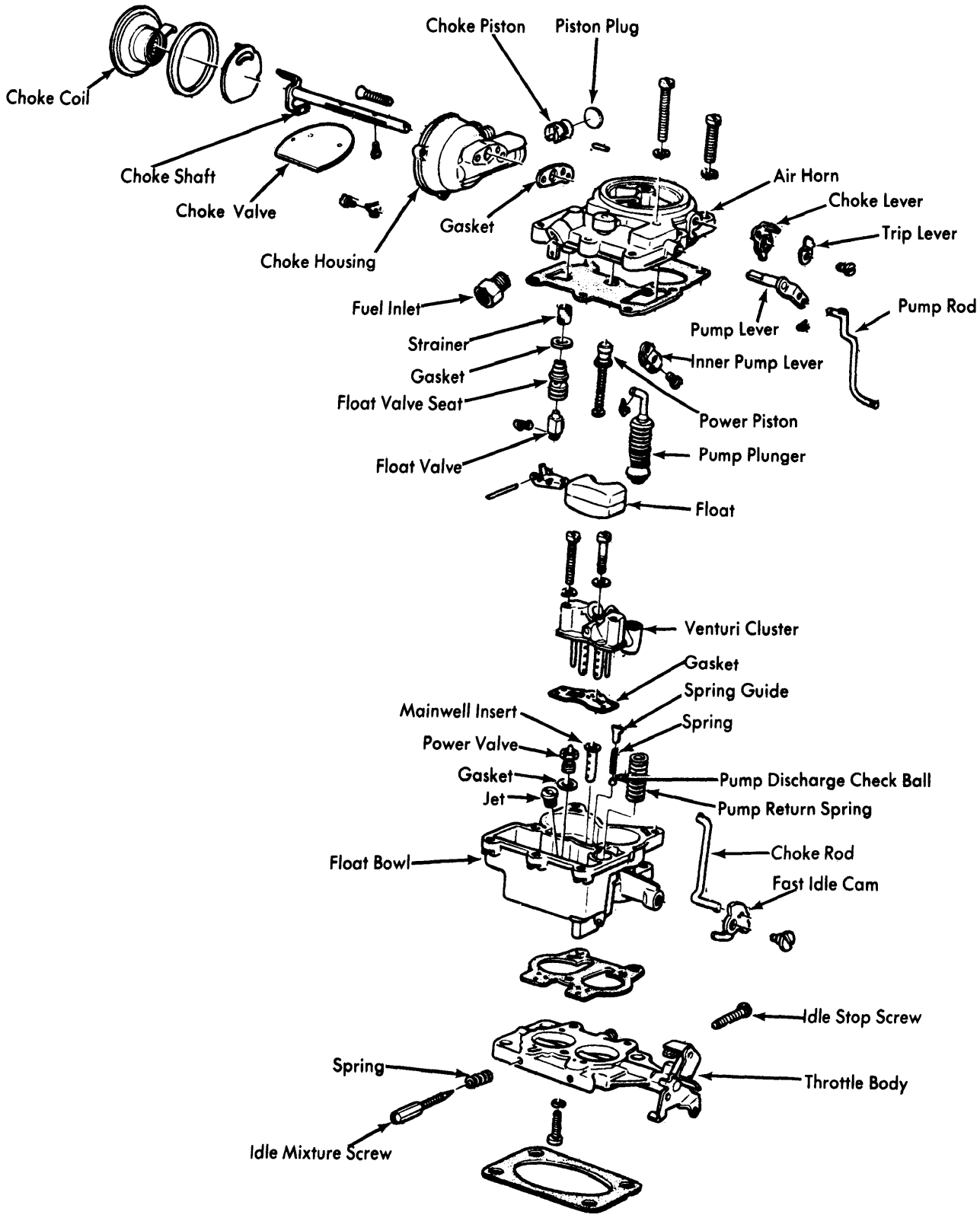
Accelerating Pump Assembly – Lubricate pump shaft with suitable lubricant (light grease) when installing in bowl cover. Make certain that pump check balls are not interchanged. Inlet check ball is aluminum, discharge check ball is steel. *NOTE – Some models may have a two-piece pump plunger assembly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

CARBURETOR ADJUSTMENT SPECIFICATIONS

Rochester Carb. No.	Idle Speed (Engine RPM)		Float Level Setting	Float Drop Setting	Pump Rod Setting	Choke Rod Setting	Vacuum Break ③ Setting	Unloader Setting	Auto. Choke Setting
	Hot①	Fast②							
7044141	500/650	700	15/32"	1 9/32"	1 15/32"	.080"	.160"	.180"	④
7044142	500/650	700	15/32"	1 9/32"	1 15/32"	.080"	.140"	.180"	④
7044144	500/650	700	15/32"	1 9/32"	1 15/32"	.080"	.140"	.180"	④
7044442	500/650	700	15/32"	1 9/32"	1 15/32"	.080"	.150"	.180"	④
7044444	500/650	700	15/32"	1 9/32"	1 15/32"	.080"	.150"	.180"	④
7044111	500/900	1600	19/32"	1 9/32"	1 21/32"	.200"	.140"	.250"	⑤
7044112	500/600	1600	19/32"	1 9/32"	1 9/32"	.245"	.130"	.325"	⑤
7044113	500/600	1600	19/32"	1 9/32"	1 21/32"	.200"	.140"	.250"	⑤
7044114	500/600	1600	19/32"	1 9/32"	1 21/32"	.245"	.140"	.250"	⑤
7044115	500/900	1600	19/32"	1 9/32"	1 21/32"	.200"	.140"	.250"	⑤
7044116	500/600	1600	19/32"	1 9/32"	1 9/16"	.245"	.130"	.325"	⑤
7044118	500/600	1600	19/32"	1 9/32"	1 9/16"	.245"	.130"	.325"	⑤
7043060	650	.....	21/32"	1 9/32"	1 11/32"	.085"	.160"	.180"	⑥
7043062	650	....	21/32"	1 9/32"	1 5/16"	.085"	.170"	.180"	⑥
7043070	625	....	21/32"	1 9/32"	1 11/32"	.085"	.160"	.180"	⑥
7043071	600/900	....	21/32"	1 9/32"	1 5/16"	.085"	.170"	.180"	⑥
7043072	625	....	21/32"	1 9/32"	1 5/16"	.085"	.195"	.180"	⑥
7043063	625	....	21/32"	1 9/32"	1 5/16"	.085"	.160"	.180"	⑥
7043066	650	....	21/32"	1 9/32"	1 11/32"	.085"	.180"	.180"	⑥
7043067	625	....	21/32"	1 9/32"	1 11/32"	.085"	.180"	.180"	⑥
7043065	650	....	21/32"	1 9/32"	1 11/32"	.085"	.180"	.180"	⑥

① – Higher Speed – Solenoid Energized.
Lower Speed – Solenoid De-Energized.
② – See "Adjustment" Section.
③ – Secondary .120".
④ – Adjusted to gauge notch.
⑤ – Rod in bottom of slot.
⑥ – One notch lean.

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



ROCHESTER 2-BBL. CARBURETOR (TYPICAL)