

ROCHESTER MV SINGLE BARREL

BUICK, CHEVROLET, OLDSMOBILE, PONTIAC

Rochester Carb No.

Application	Man. Trans.	Auto. Trans.
140" Without A/C		
Federal.....	7044023.....	7044024
Calif.....	7044323.....	7044324
140" With A/C		
Federal.....	7044033.....	7044034
Calif.....	7044333.....	7044334
250" Federal.....		
Federal.....	7044017.....	7044014
Calif.....	7044017.....	7044314

CARBURETOR IDENTIFICATION

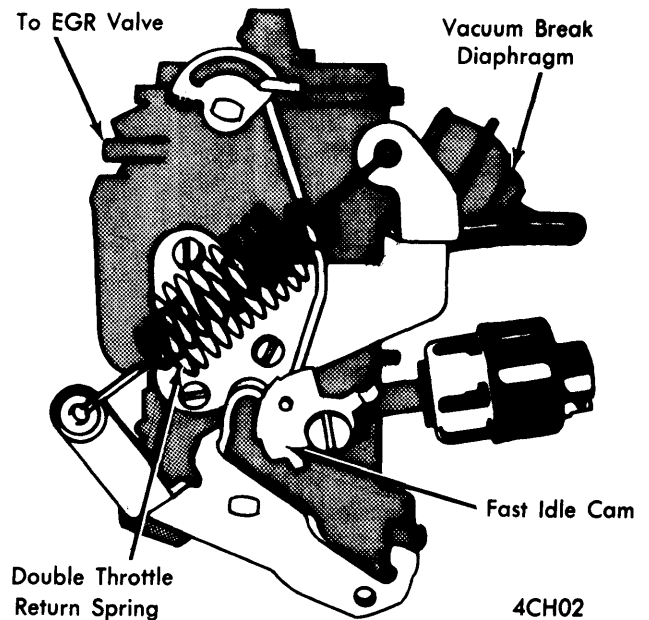
Carburetor part number is stamped on a vertical section of the float bowl, next to the fuel inlet nut. When float bowl assembly is being replaced, manufacturers instructions, contained in service package, must be followed so that part number is transferred to the new float bowl.

DESCRIPTION

Single barrel downdraft carburetor with automatic choke. A power enrichment system is utilized to provide good performance during moderate and heavy accelerations and at higher engine speeds. Idle system incorporates a hot idle compensator on automatic transmission models. Vacuum diaphragm unit is now mounted externally on air horn and connects to the thermostatic coil lever thru a connecting link. The automatic choke coil is manifold mounted and connected to the choke valve shaft by a rod. Carburetor has internally balanced venting thru a vent hole in air horn, leading from the float bowl into the bore beneath the air cleaner. A pressure relief valve system is incorporated in air horn and vents vapors externally during hot engine operation. There is an electrically operated idle stop solenoid in addition to the normal idle speed screw. Throttle lever has a double return spring which attaches to bracket on carburetor body.

Chevrolet Vega – Carburetor has been modified, from the above description, for use on the Chevrolet Vega, with the following differences:

- 1) Overall height is reduced. Main metering system is controlled by a main well air bleed and fixed orifice jet, instead of a metering rod and jet.
- 2) Power piston is eliminated. A venturi velocity power enrichment system is used to enrich air-fuel mixture during moderate to heavy accelerations and at higher engine speeds.
- 3) California models use a swivel on top of the automatic choke thermostatic coil rod and this swivel will be adjusted rather than bending the rod.
- 4) Float bowl casting is revised in the pump well area to provide increased clearance for hold-down stud nut. A thin lip pump cup is also used on Vega carburetors for improved cup to wall contact during cold weather operation.
- 5) Vega carburetors continue to use the vacuum diaphragm unit mounted on the air horn.



ROCHESTER MV CARBURETOR

ADJUSTMENT

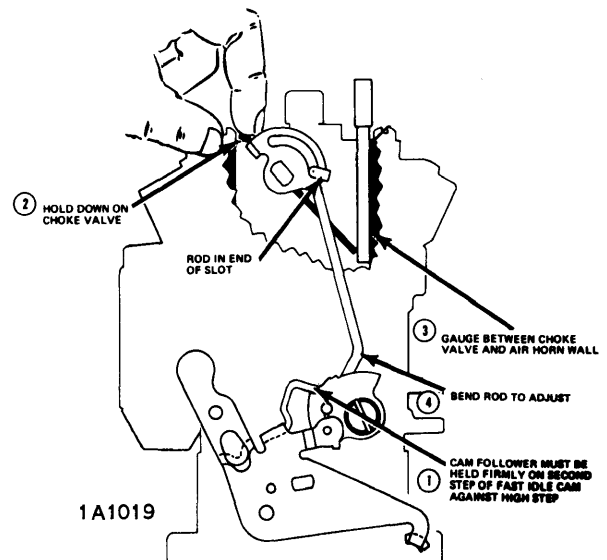
PRESSURE RELIEF VALVE

Located at top of carburetor air horn. Valve allows fuel vapors which form in float bowl during hot engine idle or "hot soak" to be vented externally so they will not be drawn into intake manifold. No adjustment required.

CHOKE ROD

NOTE – Fast idle adjustment must be made first.

Place fast idle cam follower on 2nd step of fast idle cam and against shoulder of high step. Hold choke valve down with fingers and make certain choke rod is at lower end of slot in choke lever. Gauge clearance between choke valve and air horn wall (see Specifications). To adjust, bend choke rod at offset (shown in illustration).

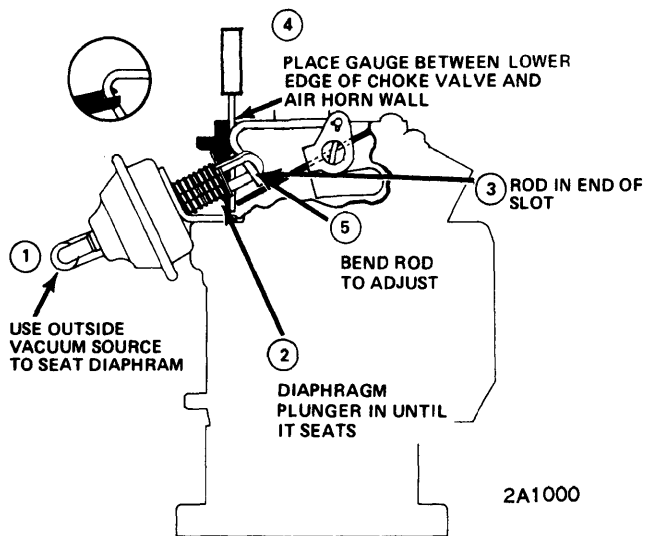


CHOKE ROD ADJUSTMENT

ROCHESTER MV SINGLE BARREL (Cont.)

VACUUM BREAK

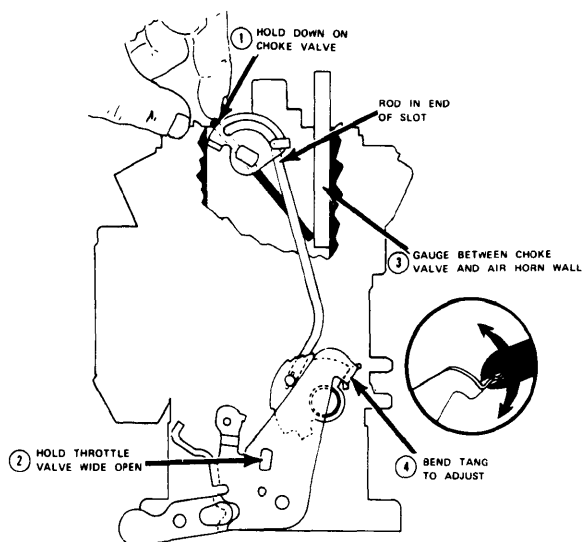
Using an outside vacuum source, apply vacuum to vacuum break diaphragm until plunger is fully seated, then with diaphragm in this position, push choke valve toward closed position. With choke valve closed, gauge clearance between lower edge of choke valve and air horn wall (see Specifications). To adjust, bend vacuum break rod at offset (shown in illustration).



VACUUM BREAK ADJUSTMENT

CHOKE UNLOADER

Hold choke valve towards "closed" position and rotate throttle lever to wide open position. Bend unloaded tang on throttle lever to obtain specified clearance (see Specifications) between lower edge of choke valve and air horn wall.

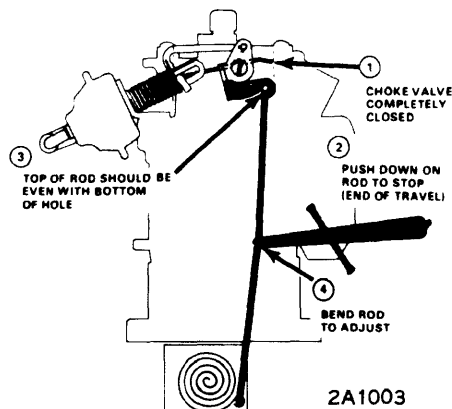


UNLOADER ADJUSTMENT

CHOKE COIL ROD

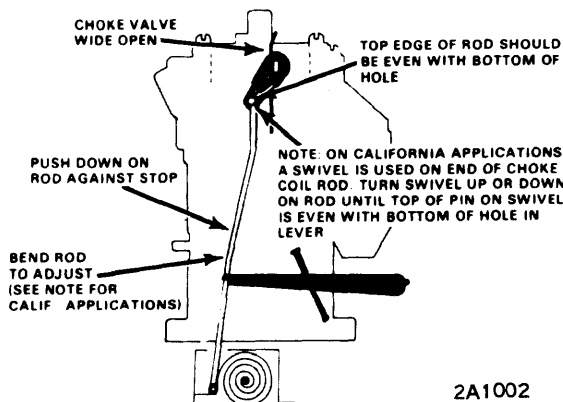
Except Chevrolet Vega - Hold choke valve completely closed. With thermostatic choke coil rod disconnected from

upper lever, push downward on rod to end of travel. With rod in this full downward position, top of rod should be even with bottom of hole in lever. To adjust, bend rod at point shown in illustration.



CHOKE COIL ROD ADJUSTMENT (EXCEPT VEGA)

Chevrolet Vega - Hold choke valve completely open. With thermostatic choke coil rod disconnected from upper lever, push downward on rod to end of travel. With rod in this full downward position, top edge of rod should be even with bottom of hole in lever (except California applications). On California models, when rod is in this full downward position, the top edge of the pin on the swivel should be even with the bottom of the hole in lever. To adjust, bend rod at point shown in illustration (non-California vehicles), or turn swivel up or down (California vehicles only).



CHOKE COIL ROD ADJUSTMENT (VEGA)

FLOAT LEVEL

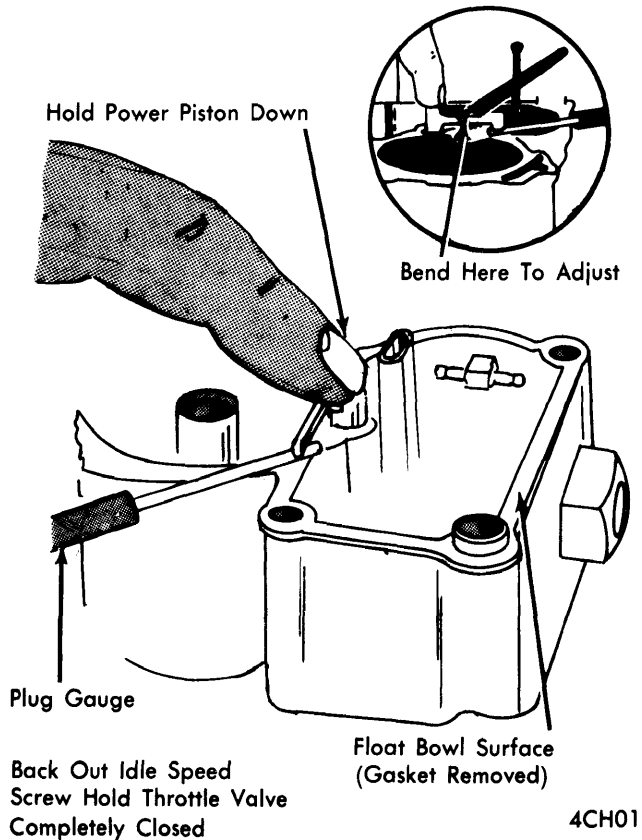
Hold float retaining pin firmly in place and push down on end of float arm, against top of float needle. Using a "T" gauge, measure distance from top of casting (with gasket removed) to the top of index point at toe of float. If measurement not as specified (see Specifications), adjust by bending float arm up or down at a point adjacent to the pontoon.

METERING ROD (EXCEPT VEGA)

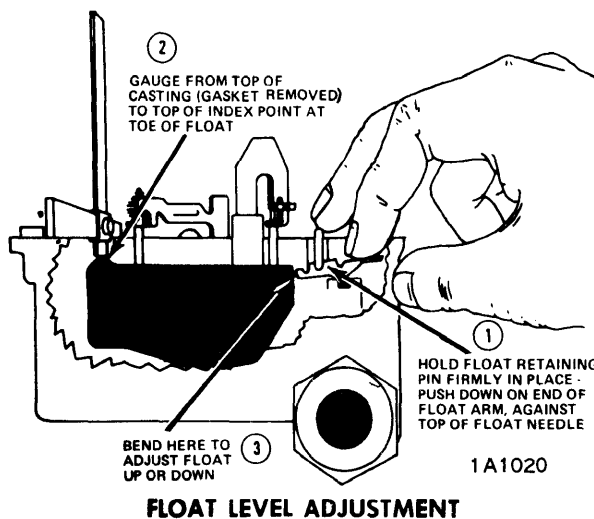
With air horn and bowl cover removed, remove metering rod by holding throttle valve wide open and pressing down on

ROCHESTER MV SINGLE BARREL (Cont.)

metering rod against spring tension and sliding rod out of slot in holder. Back out idle stop solenoid and rotate fast idle cam so that cam follower clears cam; hold throttle valve completely closed and press down on top of power piston so that it is held against its stop. Swing metering rod holder over flat surface of bowl casting adjacent to carburetor bore and use specified gauge to check clearance (see Specifications) between lower surface of holder and bowl casting. Gauge should be a slide fit. If clearance not correct, adjust by carefully bending metering rod holder up or down as required.



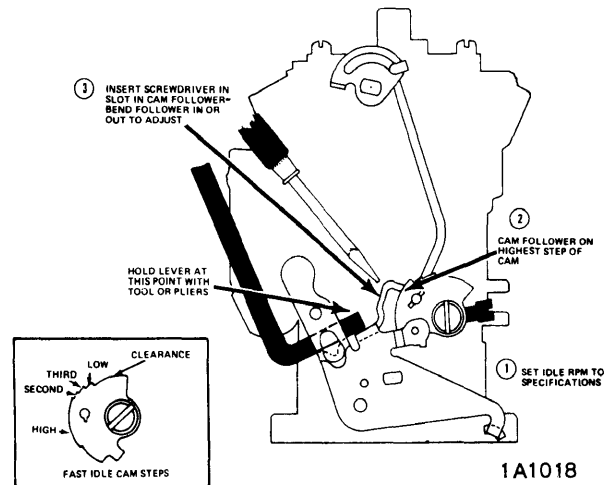
METERING ROD ADJUSTMENT



FAST IDLE SPEED

Preparations For Adjustment — On Oldsmobile, fast idle adjustment is preset at factory. On Chevrolet models, make adjustment with transmission in Neutral. On Pontiac models, make adjustment with manual transmission in Neutral or automatic transmission in "P". On Vega models, disconnect TCS electrical lead. On all models, disconnect vacuum to distributor.

Adjustment — Curb idle adjustment must be complete and engine at normal operating temperature. Place fast idle cam follower on highest step of fast idle cam. If necessary to adjust, insert screwdriver in slot of follower tang and bend as necessary to obtain specified fast idle RPM.



FAST IDLE ADJUSTMENT

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 (All Models) — Block wheels and apply parking brake. Start and warm engine to normal operating temperature. Turn air conditioner off. Disconnect and plug vacuum hose(s) 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 preparations for individual manufacturers.

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

Buick, Chevrolet & Oldsmobile — Leave air cleaner installed. **NOTE** — On Oldsmobile, disconnect and plug air cleaner hose at intake manifold. On Buick and Oldsmobile, disconnect and plug EGR vacuum hose at EGR valve.

Adjustment (Buick, Chevrolet & Vega) — Preparations for adjustment must be complete and timing set to specifications. With solenoid de-energized, adjust carburetor idle speed screw to lower specified idle RPM. Energize solenoid and allow plunger to extend. Adjust solenoid to higher specified idle RPM.

ROCHESTER MV SINGLE BARREL (Cont.)

Adjustment (Oldsmobile & Pontiac) — Preparations for adjustment must be complete and timing set to specifications. With solenoid energized and extended, adjust solenoid to higher specified idle RPM. On Oldsmobile (only), place automatic transmission in "P". On Oldsmobile and Pontiac, de-energize solenoid and adjust carburetor idle speed screw to lower speed specified idle RPM.

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.

Application	Idle Speed (RPM)	
	Man. Trans.	Auto. Trans.
Buick	450/950	450/600
Chevrolet (Exc. Vega).....	450/850.....	450/600
Oldsmobile.....	850/450	600/450
Pontiac.....	850/450	600/450
Vega	700/1000	550/750

Tachometer (Speed Drop) Procedure — Preparations for adjustment must be complete and timing set to specifications. Cut off mixture screw tabs. With idle speed solenoid energized and extended, adjust idle speed to higher specified idle RPM. Turn out (richer) mixture screw until maximum idle RPM is obtained. Reset idle speed to higher specified idle RPM. Turn in (lean) mixture screw until lower specified idle RPM is obtained.

IDLE MIXTURE

Exhaust Gas Analyzer Procedure — Preparation for adjustment must be complete and timing set to specifications. Connect CO meter. Do not remove idle mixture limiter cap. Turn mixture screw in or out until idle CO level is at or below specifications. Reset idle speed, if necessary, with air cleaner installed.

Application	Idle CO(%)	
	Man. Trans.	Auto. Trans.
Buick	0.3	0.3
Chevrolet (Exc. Vega).....	0.3	0.3
Oldsmobile.....	0.2	0.2
Pontiac.....	0.2	0.2
Vega	0.5	0.5

Application	Tachometer (Speed Drop) RPM	
	Man. Trans.	Auto. Trans.
Buick		
Federal.....	1100/950	650/600
California.....	1100/950	630/600
Chevrolet (Exc. Vega)		
Federal.....	950/850	650/600
California.....	950/850	630/600
Oldsmobile		
Federal.....	950/850	650/600
California.....	950/850	630/600
Pontiac		
Federal.....	950/850	650/600
California.....	950/850	630/600
Vega	800/700	800/750

CARBURETOR ADJUSTMENT SPECIFICATIONS

Rochester Car. No.	Idle Speed (Engine RPM)		Float Level Setting	Metering Rod Setting	Fast Idle (Off Engine)	Choke Rod Setting	Vacuum Break Setting	Unloader Setting	Auto. Choke Setting
	Hot ^①	Fast ^②							
7044023	700/1000	2000	.125"	....	.080"	.080"	.130"	.375"	③
7044024	700/1000	2200	.125"	....	.080"	.080"	.130"	.375"	③
7044323	700/1000	2000	.125"	....	.080"	.080"	.130"	.375"	③
7044324	700/1000	2200	.125"	....	.080"	.080"	.130"	.375"	③
7044033	700/1000	2000	.125"	....	.080"	.080"	.130"	.375"	③
7044034	700/1000	2200	.125"	....	.080"	.080"	.130"	.375"	③
7044333	700/1000	2000	.125"	....	.080"	.080"	.130"	.375"	③
7044334	700/1000	2200	.125"	....	.080"	.080"	.130"	.375"	③
7044017	850/450 ^③	1800 ^④	.295"	.072"	....	.275"	.350"	.500"	③
7044014	600/450	1800 ^④	.295"	.079"	....	.230"	.275"	.500"	③
7044314	600/450	1800 ^④	.295"	.073"	....	.245"	.300"	.500"	③

① — Vacuum to distributor disconnected.

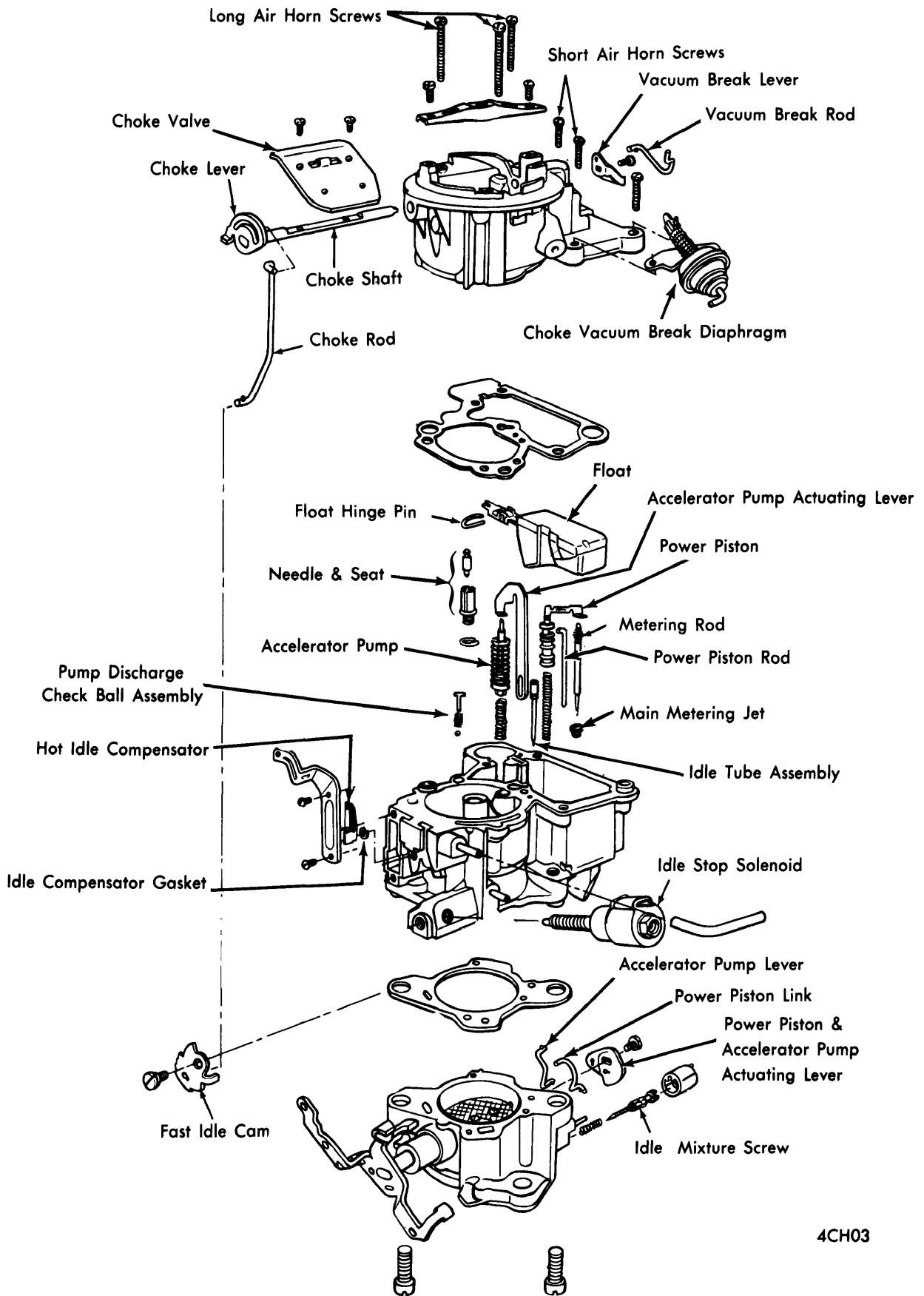
② — On Vega disconnect TCS wire and on all models, follower tang on high step of cam.

③ — On California models, 950/850 RPM.

④ — Vacuum advance disconnected, on high step, without EGR.

⑤ — Governed by choke coil rod adjustment.

ROCHESTER MV SINGLE BARREL (Cont.)



4CH03

ROCHESTER MV CARBURETOR ASSEMBLY (TYPICAL)

ROCHESTER MV SINGLE BARREL (Cont.)

OVERHAUL

DISASSEMBLY

1) Remove electrically operated idle stop solenoid wire connector and unscrew solenoid from float bowl casting, by turning solenoid counterclockwise. **NOTE** — Do not immerse idle stop solenoid in any type of carburetor cleaner.

2) Remove fast idle cam attaching screw, remove cam from choke rod at lower end by rotating over squirt on rod and from upper lever by rotating rod out of slot. Remove air horn to float bowl attaching screws (6) and remove air horn by lifting straight up. Invert air horn and remove two vacuum break diaphragm cover screws and carefully remove diaphragm cover.

3) Hold choke valve open, push upward on eyelet on choke valve at a 45° angle until looped end of rod slides off wire lever attached to choke valve, then remove diaphragm plunger rod through hole in air horn. If necessary, choke valve, vacuum break lever, and choke shaft can be removed from air horn by removing thermostatic coil lever attaching screw, then removing thermostatic coil lever and two choke valve attaching screws; remove choke valve and shaft from air horn. **NOTE** — Choke valve screws are held in place with Loc-tite, so it will be necessary to re-stake them after assembly.

CAUTION — Do not remove air cleaner stud bridge as Loc-tite is used on attaching screws.

4) Remove air horn to float bowl gasket (gasket has slit next to metering rod lever). Remove float assembly from bowl by lifting upward on float hinge pin, then remove hinge pin from float arm and remove float needle from seat. Disconnect accelerator pump and power piston actuator lever from end of throttle shaft by removing lever attaching screw. Hold down on power piston while removing lever, power piston spring and metering rod assembly may now be removed from float bowl.

5) Remove lower end of power piston link from actuator lever by rotating until tang on rod slides out of notch in lever. Remove actuator lever from lower end of accelerator pump link in same manner. Push down on accelerator pump and remove actuator link by rotating until tang on rod is aligned with slot on pump plunger lever, remove link.

6) Remove pump assembly from float bowl, then remove pump return spring and power piston spring from float bowl. Remove "T" guide and pump discharge spring using needle nose pliers. Invert bowl and remove pump discharge ball and idle tube. Remove main metering jet from bottom of fuel bowl and remove float needle seat and gasket using suitable tool (BT-3007). Remove two screws from idle com-

pensator cover, then remove cover, hot idle compensator and seal from recess in bowl.

7) The idle stop screw can now be removed. Remove fuel inlet nut and gasket, then remove filter and relief spring. Invert carburetor bowl and remove throttle body to bowl attaching screws, throttle body and insulator gasket. **NOTE** — Due to close tolerance fit, do not remove valve or shaft.

CLEANING & INSPECTION

Thoroughly clean carburetor castings and metal parts in a suitable solution, do not immerse rubber and plastic parts in cleaner. Blow out all passages with compressed air, do not use drills to clean jets or passages. Check float needle and seat assembly for wear, inspect upper and lower casting sealing surfaces for damage, inspect holes in levers for out of round condition, examine fast idle cam for wear or damage, check throttle and choke levers for binds or damage, and check all springs for distortion or tension loss; replace parts as necessary.

REASSEMBLY

NOTE — Throttle return spring bracket screws must be installed in their proper location, otherwise damage to body of carburetor may result.

Pump Plunger Installation — Install with slide protruding through bottom of bowl casting. Push downward on pump slide and install pump drive link into hole in lower end of shaft. Ends of drive link point towards carburetor bore.

Power Piston Installation — Install power piston and pump actuating lever to lower end of link (projection on lever points downward). Install spring into cavity, then install end of power piston actuating rod into groove on side of power piston. Install power piston metering rod assembly and actuating rod into float bowl (metering rod entering jet orifice).

NOTE — Check operation of entire drive mechanism, metering rod and accelerator pump, to ensure free operation from closed to wide open throttle, before installing air horn.

Choke Shaft Installation — Install choke shaft, choke valve and vacuum break lever. Align choke valve, tighten retaining screws and stake to prevent loosening.

Air Horn Installation — Install by gently lowering onto float bowl until seated, install long and short attaching screws, and torque screws tightly using following tightening sequence (see illustration).