

## 1970 ROCHESTER 4MC &amp; 4MV 4-BARREL

## ROCHESTER 4MC

	Rochester Carburetor No.	
	Synchro-mesh	Auto. Trans.
<b>OLDSMOBILE</b>		
350" V8	7040250	7040250
With W-31 ⓐ	7040255	7040255
455" V8 (except below)	7040251	7040251
4-4-2	7040253	7040257
4-4-2 with W-30 ⓐ	7040256	7040258
Toronado		7040252
All with W-33 ⓐ		7040257

## ROCHESTER 4MV

<b>BUICK</b>		
350" V8	7040245	7040244
455" V8 (except Riviera)	7040243	7040240
Riviera		7040247
455" V8 With Stage I	7040246	7040246
<b>CADILLAC</b>		
472" Std. Models		7040230
Limo. & Comm'l.		7040231
500" Eldorado		7040232
<b>CHEVROLET</b>		
350" 300 HP V8	7040203, 213	7040202
California Cars	7040503, 513	7040502
350" 350 HP	7040207	
California Cars	7040507	
396" (402") 325 HP, 400" (402")		
330 HP & 454" 345 HP V8	7040201, 221	7040200
California Cars	7040501, 521	7040500
396" (402") 350 HP &		
454" 360 & 390 HP V8	7040205	7040204
California Cars	7040505	7040504

## FORD Fairlane &amp; Montego

429" Cobra Jet V8	ⓐ 7040287	ⓐ 7040288
With Air Cond.	ⓐ 7040285	ⓐ 7040286

## PONTIAC

400" V8 (Except Ram Air)	7040263	7040264
California Cars	7040563	7040564
400" V8 (Ram Air)	7040273	7040270
California Cars	7040573	7040570
455" V8 (Small Valves)	7040262	7040262
Altitude Package		7040274
California Cars	7040562	7040562
455" V8 (Large Valves)	7040267	7040268
California Cars	7040567	7040568

- ⓐ — Outside Air Induction System (Optional).  
 ⓑ — Performance Package (High Perf. Engine).  
 ⓒ — Ford Code No. D00F-A. ⓓ — Ford Code No. D00F-B.  
 ⓔ — Ford Code No. D00F-F. ⓕ — Ford Code No. D00F-E.

## ►CHANGES, CAUTIONS, CORRECTIONS

## GENERAL MOTORS "C.C.S." &amp; "A.I.R." ENGINES

**NOTE:** These engines have special exhaust emission controls which include specially calibrated carburetors and distributors and related control items including Transmission Controlled Spark (T.C.S.) and thermostatically controlled air cleaners. A.I.R. engines also have an air pump for air injection in engine at exhaust ports.

**FORD MOTOR CO. "IMCO" ENGINES NOTE:** The 429" V8 Cobra Jet engines have special exhaust emission controls which include specially calibrated carburetors and distributors and related control items including Electronic Distributor Modulator, and thermostatically controlled air cleaners. No air pump is used.

## CARBURETOR IDENTIFICATION

Rochester carburetor number is stamped in vertical line (last seven digits) on side of carburetor casting directly above secondary throttle lever.

## DESCRIPTION

4MC and 4MV carburetors are four barrel downdraft types of same design used on previous models except for new features outlined below. All carburetors have a secondary air valve controlling the secondary metering rods and power piston control of the primary metering rods.

**Automatic Choke Assembly (4MC Carburetors)** — Choke thermostatic coil assembly is mounted on side of float bowl and linked to choke valve lever by a connector rod. Special automatic choke setting and choke coil lever adjustments are required on these models. Vacuum break is diaphragm type similar to that used on 4MV carburetor models.

**Vacuum Break (All Carburetors)** — On most carburetors, a check valve and air bleed are incorporated in vacuum break diaphragm to delay diaphragm action. When making vacuum break adjustment, time must be allowed for bleed-down action to fully seat the vacuum break diaphragm.

**Secondary Vacuum Break (Buick Carburetors)** — On most Buick models, an additional secondary vacuum break unit is used (connected to opposite end of choke valve lever) to refine vacuum break operation. On these models, both primary and secondary vacuum break adjustments are required.

**Idle Vent (All Carburetors)** — Used only on Pontiac non-California cars. On all other models, carburetor bowl is vented internally.

**Switching Valve (Pontiac California Cars)** — These carburetors have a switching valve located in the bowl cover to provide for fuel bowl venting and to control fuel evaporation vapor control (from fuel tank and carburetor). No adjustment is required.

## ADJUSTMENT

If an initial adjustment is required to warm up engine, set each idle mixture screw 4 turns out (Chevrolet & Oldsmobile), 2 turns out (Buick), 1½ turns out (Ford) and 5 turns out (Pontiac), from a lightly seated position. On Cadillac only turn **idle speed** screw in 1½ turns after screw contacts primary throttle lever.

## Idle Speed &amp; Mixture

With engine at normal operating temperature, vacuum hose (at distributor) disconnected and plugged, Hot Idle Compensator Valve closed, air conditioner OFF and auto. trans. in Drive, adjust each model as follows:

**Buick** — With air cleaner in place and automatic level control OFF (if equipped), adjust throttle stopscrew to specified idle speed (see *Specifications*), then adjust mixture screws (one at a time) to obtain highest tachometer reading. Now adjust throttle stopscrew to obtain **20 RPM** more than specification. Turn each mixture screw in (**lean**) to reduce engine speed 10 RPM (per screw), a total of **20 RPM**, thereby giving the recommended idle speed RPM.

# Rochester — Delco Carburetors

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## 1970 ROCHESTER 4MC & 4MV 4-BARREL (Cont.)

CARBURETOR ADJUSTMENT SPECIFICATIONS - #1							
Rochester Carb. No.	Slow Idle Speed (Engine RPM) ①		Fast Idle Speed (Eng. RPM)	Float Level Setting	Pump Rod Setting		Air Valve Dashpot Setting
	Synchro-mesh	Auto. Trans.			Rod Location	Adjustment	
7040200	.....	600	2400 ⑤	1/4"	.....	5/16"	.020"
7040201, 221	700	.....	2400 ⑤	1/4"	.....	5/16"	.020"
7040202	.....	600	2400 ⑤	1/4"	.....	5/16"	.020"
7040203, 213	700	.....	2400 ⑤	1/4"	.....	5/16"	.020"
7040204	.....	600	2400 ⑤	1/4"	.....	5/16"	.020"
7040205	700	.....	2400 ⑤	1/4"	.....	5/16"	.020"
7040207	750	.....	2400 ⑤	1/4"	.....	5/16"	.020"
7040230	.....	600	1900-1950 ④	1/4"	Outer	11/32"	.030"
7040231	.....	600	1900-1950 ④	1/4"	Outer	11/32"	.030"
7040232	.....	600	1900-1950 ④	1/4"	Outer	11/32"	.030"
7040240	.....	600	650 ⑥	3/8"	Inner	9/32"	.030"
7040243	700	.....	720 ⑥	3/8"	Inner	9/32"	.030"
7040244	.....	600	650 ⑥	5/16"	Outer	13/32"	.030"
7040245	700	.....	720 ⑥	5/16"	Outer	13/32"	.030"
7040246	.....	600	650 ⑥	5/16"	Inner	9/32"	.030"
7040247	.....	600	650 ⑥	3/8"	Inner	9/32"	.030"
7040250	650	575	1000 ③	1/4"	Inner	3/8"	.015"
7040251	750	575	1000 ③	1/4"	Inner	3/8"	.015"
7040252	.....	600	950 ③	1/4"	Inner	3/8"	.015"
7040253	750	600	1000 ③	1/4"	Inner	3/8"	.015"
7040255	750	625	1000 ③	1/4"	Inner	3/8"	.015"
7040256	750	.....	1000 ③	1/4"	Inner	3/8"	.015"
7040257	.....	600	950 ③	1/4"	Inner	3/8"	.015"
7040258	.....	650	1050 ③	1/4"	Inner	3/8"	.015"
7040262	950	650	2000 ⑤	9/32"	.....	.....	.025"
7040263	950	.....	2000 ⑤	9/32"	.....	.....	.025"
7040264	.....	650	2000 ⑤	9/32"	.....	.....	.025"
7040267	950	.....	2000 ⑤	9/32"	.....	.....	.025"
7040268	.....	650	2000 ⑤	9/32"	.....	.....	.025"
7040270	.....	750	2500 ⑤	9/32"	.....	.....	.025"
7040273	1050	.....	2500 ⑤	9/32"	.....	.....	.025"
7040274	.....	.....	2000 ⑤	9/32"	.....	.....	.025"
7040285	700/500 ②	.....	750 ⑧	11/32"	Outer	.....	.030"
7040286	.....	650/500 ②	1850 ⑦	11/32"	Outer	.....	.030"
7040287	700 ⑨	.....	750 ⑧	11/32"	Outer	.....	.030"
7040288	.....	650	1850 ⑧	11/32"	Outer	.....	.030"
7040500	.....	600	2400 ⑤	1/4"	.....	5/16"	.020"
7040501, 521	700	.....	2400 ⑤	1/4"	.....	5/16"	.020"
7040502	.....	600	2400 ⑤	1/4"	.....	5/16"	.020"
7040503, 513	700	.....	2400 ⑤	1/4"	.....	5/16"	.020"
7040504	.....	600	2400 ⑤	1/4"	.....	5/16"	.020"
7040505	700	.....	2400 ⑤	1/4"	.....	5/16"	.020"
7040507	750	.....	2400 ⑤	3/16"	.....	5/16"	.020"
7040562	950	650	2000 ⑤	9/32"	.....	.....	.025"
7040563	950	.....	2000 ⑤	9/32"	.....	.....	.025"
7040564	.....	650	2000 ⑤	9/32"	.....	.....	.025"
7040567	950	.....	2000 ⑤	9/32"	.....	.....	.025"
7040568	.....	650	2000 ⑤	9/32"	.....	.....	.025"
7040570	.....	750	2500 ⑤	9/32"	.....	.....	.025"
7040573	1050	.....	2500 ⑤	9/32"	.....	.....	.025"

## Rochester — Delco Carburetors

## 1970 ROCHESTER 4MC &amp; 4MV 4-BARREL (Cont.)

CARBURETOR ADJUSTMENT SPECIFICATIONS - #2							
Rochester Carb. No.	Choke Rod Setting	Secondary Metering Rod	Vacuum Break Setting	Unloader Setting	Air Valve Lockout	Secondary Throttle Lockout	Auto. Choke Setting
7040200	.100"	.....	.245"	.450"	.....	.....	15
7040201, 221	.100"	.....	.275"	.450"	.....	.....	15
7040202	.100"	.....	.245"	.450"	.....	.....	15
7040203, 213	.100"	.....	.245"	.450"	.....	.....	15
7040204	.100"	.....	.245"	.450"	.....	.....	15
7040205	.100"	.....	.275"	.450"	.....	.....	15
7040207	.100"	.....	.275"	.450"	.....	.....	15
7040230	.090"	.840"	.235"	.300"	.015"	.....	16
7040231	.090"	.840"	.235"	.300"	.015"	.....	16
7040232	.090"	.840"	.235"	.300"	.015"	.....	16
7040240	.130"	53/64"	12	.335"	.....	.015"	16
7040243	.130"	53/64"	11	.335"	.....	.015"	16
7040244	.130"	53/64"	10	.335"	.045"	.....	16
7040245	.130"	53/64"	.215"	.335"	.....	.015"	16
7040246	.130"	53/64"	13	.335"	.....	.015"	16
7040247	.130"	53/64"	14	.325"	.....	.015"	16
7040250	.140"	.....	.200"	.200"	.020"	.....	Index
7040251	.140"	.....	.200"	.200"	.020"	.....	Index
7040252	.170"	.....	.200"	.200"	.020"	.....	1 Rich
7040253	.230"	.....	.275"	.200"	.020"	.....	Index
7040255	.275"	.....	.325"	.200"	.020"	.....	Index
7040256	.275"	.....	.325"	.200"	.020"	.....	Index
7040257	.170"	.....	.200"	.200"	.020"	.....	Index
7040258	.170"	.....	.200"	.200"	.020"	.....	Index
7040262	.100"	.....	.400"	.....	.015"	.....	16
7040263	.100"	.....	.400"	.....	.015"	.....	16
7040264	.100"	.....	.400"	.....	.015"	.....	16
7040267	.100"	.....	.400"	.....	.015"	.....	16
7040268	.100"	.....	.400"	.....	.015"	.....	16
7040270	.100"	.....	.245"	.....	.015"	.....	16
7040273	.100"	.....	.245"	.....	.015"	.....	16
7040274	.100"	.....	.400"	.....	.015"	.....	16
7040285	.160"	.....	.140"	.300"	.015"	.....	15
7040286	.160"	.....	.190"	.300"	.015"	.....	15
7040287	.160"	.....	.140"	.300"	.015"	.....	15
7040288	.160"	.....	.190"	.300"	.015"	.....	15
7040500	.100"	.....	.245"	.450"	.....	.....	15
7040501, 521	.100"	.....	.275"	.450"	.....	.....	15
7040502	.100"	.....	.245"	.450"	.....	.....	15
7040503, 513	.100"	.....	.275"	.450"	.....	.....	15
7040504	.100"	.....	.245"	.450"	.....	.....	15
7040505	.100"	.....	.275"	.450"	.....	.....	15
7040507	.100"	.....	.275"	.450"	.....	.....	15
7040562	.100"	.....	.400"	.....	.015"	.....	16
7040563	.100"	.....	.400"	.....	.015"	.....	16
7040564	.100"	.....	.400"	.....	.015"	.....	16
7040567	.100"	.....	.400"	.....	.015"	.....	16
7040568	.100"	.....	.400"	.....	.015"	.....	16
7040570	.100"	.....	.245"	.....	.015"	.....	16
7040573	.100"	.....	.245"	.....	.015"	.....	16

## 1970 ROCHESTER 4MC & 4MV 4-BARREL (Cont.)

### CARBURETOR ADJUSTMENT TABLE FOOTNOTES

- ① — Synchro-mesh Trans. in Neutral, Auto. Trans. in Drive. Air conditioner OFF.
- ② — Higher RPM (Solenoid energized), Lower RPM (Solenoid not energized). Headlights ON High beam.
- ③ — Cam follower on Low step of fast idle cam. Auto. Trans. in Park.
- ④ — Cam follower on High step of fast idle cam. Auto. Trans. in Neutral.
- ⑤ — Cam follower on High step of fast idle cam. Auto. Trans. in Drive.
- ⑥ — Cam follower on Low step of fast idle cam. Auto. Trans. in Drive.
- ⑦ — Cam follower on 2nd. step of fast idle cam.
- ⑧ — Cam follower on 3rd. step of fast idle cam.
- ⑨ — Headlights ON High Beam.
- ⑩ — Primary .170", Secondary .150".
- ⑪ — Primary .215", Secondary .190".
- ⑫ — Primary .180", Secondary .160".
- ⑬ — Primary .200", Secondary .180".
- ⑭ — Primary .180", Secondary .160".
- ⑮ — Interference fit of choke rod (see Text).
- ⑯ — Rod in center gauging notch (see Text).

**Cadillac** — Disconnect and plug the parking brake vacuum hose at the vacuum release cylinder. With air cleaner removed, choke fully closed, carburetor on slow idle and primary and secondary throttle valves closed, set idle speed to 620 RPM by adjusting low speed idle screw. Using Extension Hex-head Driver (J-2246), or equivalent, turn one idle mixture screw clockwise until speed drops 10 RPM, repeat this adjustment on the other idle mixture screw (20 RPM reduction both screws).

**Chevrolet** — *NOTE* — Disconnect "FUEL TANK" line from vapor canister on California cars equipped with "Evaporative Emission" before making adjustments.

**350" 300 HP, 396" 325 HP, & 454" 345 HP V8** — With engine running at normal operating temperature and automatic transmission in "DRIVE", disconnect and plug distributor vacuum line. Turn idle mixture screws in until lightly seated, then back screws out 4 full turns. Adjust carburetor idle speed screw to obtain 775 RPM (synchro-mesh) or 630 RPM (auto. trans.). Adjust idle mixture screws equally in to obtain 700 RPM (synchro-mesh) or 600 RPM (auto. trans.). Reconnect distributor vacuum line.

**402" (396") 350 HP, 454" 350 HP, 360 HP & 390 HP V8 — Automatic Transmission** — With engine running at normal operating temperature and transmission in "DRIVE", disconnect and plug distributor vacuum line. Turn idle mixture screws in until lightly seated, then back screws out 4 full turns. Adjust carburetor idle speed screw to obtain 630 RPM, then adjust mixture screws equally in to obtain 600 RPM. Reconnect distributor vacuum line.

**Manual Transmission** — With distributor vacuum line disconnected and plugged, turn idle mixture screws in until lightly seated, then back screws out 4 full turns. Adjust carburetor idle speed screw to obtain 700 RPM. Turn one mixture screw in until speed drops 40 RPM. Regain 700 RPM by adjusting idle speed screw. Turn other idle mixture screw in until speed drops 40 RPM. Regain 700 RPM by adjusting idle speed screw. Reconnect distributor vacuum line.

**350" 300 HP (Corvette Only)** — With engine running at normal operating temperature and automatic transmission in "DRIVE", set idle mixture screws to obtain maximum idle RPM. Adjust idle speed screw to obtain 700 RPM (synchro-mesh) or 600 RPM (auto. trans.).

**Ford** — With choke fully open, headlights on high beam and air cleaner installed, set curb idle RPM to specifications with curb idle adjusting screw. Turn idle mixture screws in to obtain smoothest idle possible within range of limiter caps.

On models equipped with a solenoid throttle positioner, loosen locknut and turn solenoid in or out of bracket to

set specified curb idle RPM (see *Specifications*). After setting curb idle, disconnect solenoid lead wire and adjust carburetor throttle stopscrew to obtain 500 RPM. Reconnect solenoid lead and open throttle slightly by hand. Solenoid plunger will follow throttle lever and remain in a fully extended position (as long as ignition is on and solenoid energized). Turn idle mixture screws in to obtain smoothest idle possible within range of limiter caps.

If not possible to adjust idle speed with air cleaner installed, remove cleaner and make necessary adjustment, then reinstall cleaner and check RPM.

**Oldsmobile** — Obtain the following conditions before making adjustments: Air cleaner and vacuum hose removed and hose fitting plugged at manifold. — Distributor vacuum hose removed and plugged. — Engine running at normal operating temperature. — Stop engine, turn A/C "OFF", restart engine. — Choke fully open, cam follower off steps of cam, automatic transmission in "DRIVE". — Adjust carburetor idle speed screw only to obtain "B" RPM in following table. *NOTE* — Idle mixture screws are preset at factory for best idle quality and economy. If rough idle or engine stalling occurs after idle speed adjustment proceed as follows (after checking for engine vacuum leaks):

1) Stop engine. Turn idle mixture screws in until lightly seated, then back screws out 6 full turns (4 turns on 350" CID engine, all transmissions).

2) Start engine, automatic transmission in "DRIVE". Set idle speed screw to obtain "A" RPM in following table. (If "A" RPM not given use "B" RPM).

3) Turn each mixture screw in equally to obtain "B" RPM as shown in following table. Replace and reconnect air cleaner and hoses.

Engine & Trans.	"A" RPM	"B" RPM
350" F-85, Cutlass — A.T.	625	575
M.T.	725	650
M.T., W-31	750	750
A.T., W-31	625	625
455" F-85, Cutlass — A.T.	700	600
A.T., W-30	675	650
M.T.	750	750
M.T., W-30	750	750
Vista Cruiser —	650	575
455" Delta 88, 98 — A.T.	650	575
A.T., W-33	625	600
Toronado —	675	600

A.T. = Auto. Trans. M.T. = Manual Trans.

W-30 = Air Induction W-31 = Air Induction W-33 = Police

## 1970 ROCHESTER 4MC & 4MV 4-BARREL (Cont.)

**Pontiac** — NOTE — On all California cars, the fuel filler cap must be removed before the following idle settings are made.

With hot idle compensator plugged on all models (except Ram Air III & IV with auto. trans.) set curb idle as follows:

All Except Ram Air — Back out mixture screws 3-5 turns rich from a lightly seated position and adjust carburetor speed screw to obtain "A" RPM in table below. Lean mixture screws in equally to obtain "B" RPM.

	Synchro-mesh		Auto. Trans.	
	A	B	A	B
Except Ram Air .....	1050	950	675	650

**Ram Air** — With idle stop solenoid energized, adjust solenoid screw to obtain "A" RPM in table below. Adjust mixture screws (equally) to give lean best idle at that RPM. De-energize solenoid and adjust carburetor idle speed to obtain "B" RPM (solenoid inactive speed) in table below.

	Synchro-mesh		Auto. Trans.	
	A	B	A	B
With Ram Air .....	1050	650	750	500

### Fast Idle Speed (On Engine)

**Buick** — After properly adjusting slow idle, and with auto. trans. in Drive, synchro-mesh in Neutral, and cam follower on LOW step of fast idle cam, adjust fast idle screw (see Specifications).

**Cadillac** — With choke fully open, air cleaner removed, cam follower on HIGHEST step of fast idle cam, transmission in Neutral and Automatic Climate Control OFF (if equipped), adjust fast idle screw (see Specifications).

**Chevrolet** — With Transmission Controlled Spark solenoid disconnected, transmission in Neutral and cam follower on SECOND step of fast idle cam, adjust fast idle screw (see Specifications).

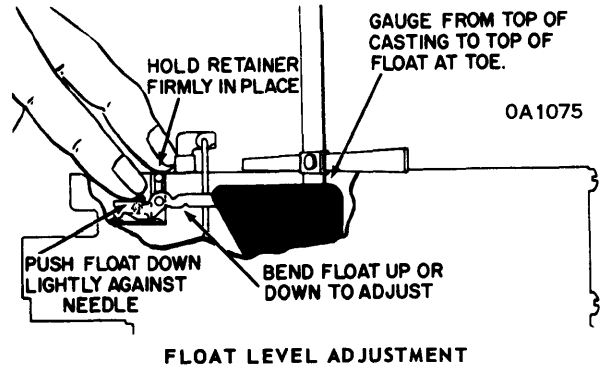
**Ford** — With cam follower on HIGHEST step of fast idle cam, back out fast idle screw until primary throttle plates are fully closed and cam follower is away from step of fast idle cam. Turn fast idle screw in until cam follower just contacts HIGHEST step of cam, from here, turn fast idle screw 2 more complete turns inward. This presets fast idle screw so the following choke settings can be performed accurately.

**Oldsmobile** — Remove air cleaner and disconnect air cleaner vacuum hose at intake manifold and plug fitting. Disconnect vacuum hose at distributor and plug hose. With transmission "P" or "N", and cam follower on LOW step (against shoulder of next higher step) adjust fast idle screw (see Specifications).

**Pontiac** — With transmissions in Neutral, choke valve fully open and fast idle lever on TOP step of fast idle cam, adjust fast idle speed screw (see Specifications).

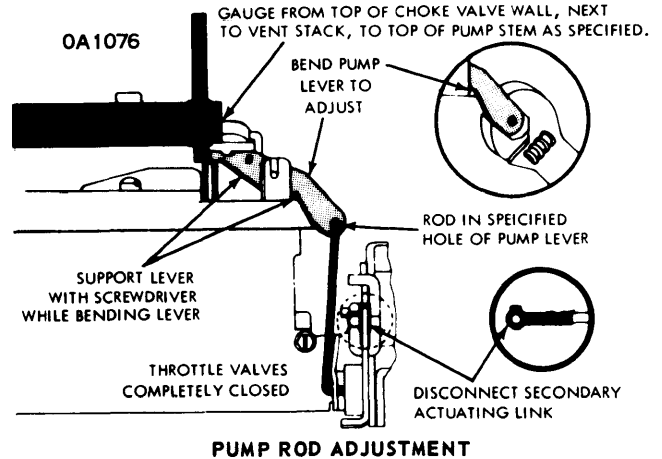
### Float Level (Off Engine)

With a T scale, measure from top of float bowl gasket surface (gasket removed) to top of float at toe (locate gauging point 1/16" back from radius at toe). Bend float up or down to adjust (see Specifications).



### Pump Rod Adjustment

With pump rod in specified hole in pump lever (see Specifications), gauge from top of choke valve wall next to vent stack, to top of pump stem. (See Specifications). To adjust, bend pump lever, while supporting pump lever between lever and top of air horn with a screwdriver.

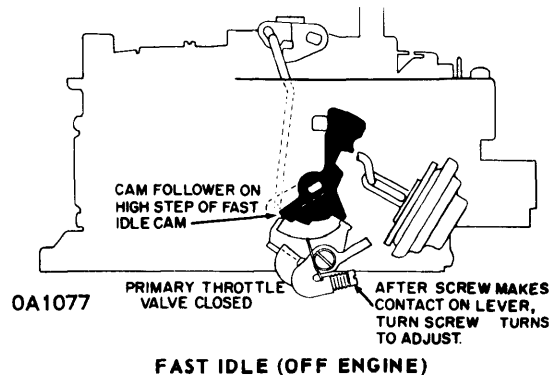


### Fast Idle Setting (Off Engine)

With primary throttle valves fully closed and cam follower on HIGHEST step of fast idle cam, turn fast idle screw (see table below) after screw makes contact on lever.

#### Fast Idle Screw Setting

	Screw Position
Buick .....	1½ turns
Cadillac .....	1½ turns
Chevrolet .....	2 turns

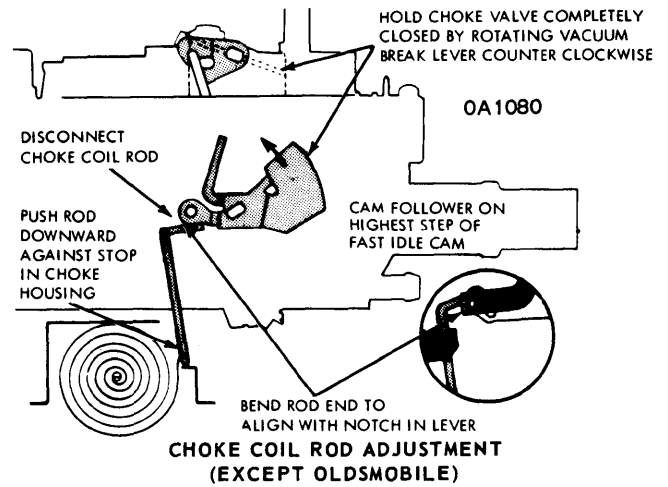
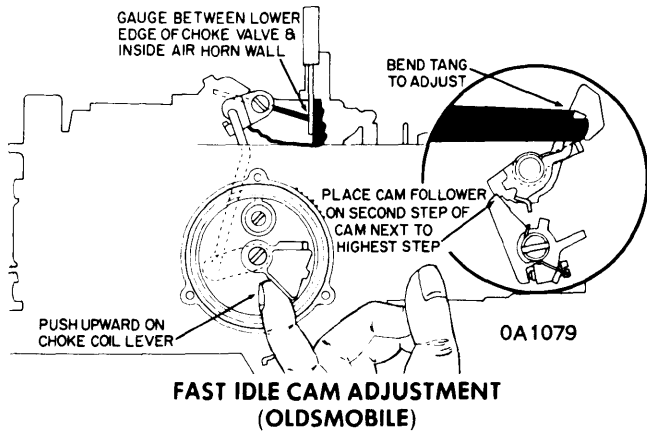


## 1970 ROCHESTER 4MC & 4MV 4-BARREL (Cont.)

### Idle Vent (Pontiac Only)

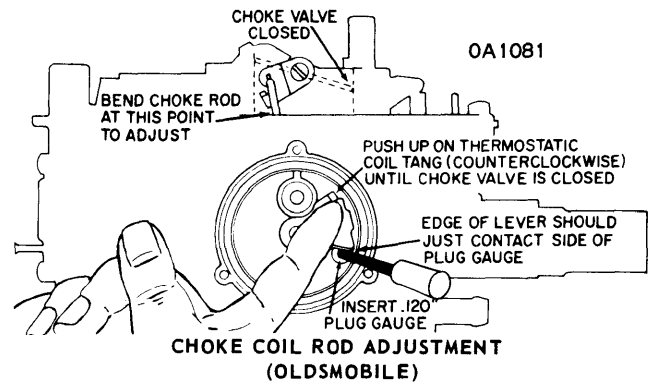
The idle vent valve, used only on Non-California Pontiac models has a bi-metal strip which holds the vent valve on its seat at temperatures below 75°F. With valve closed, open primary throttle until vent valve arm just contacts the bi-metal strip, next to vent valve. The distance from the top of the choke wall, next to the vent stack, to the top of the pump plunger stem, should be as specified. Bend wire tang on pump lever to adjust.

Pontiac (All Models) ..... 3/8"



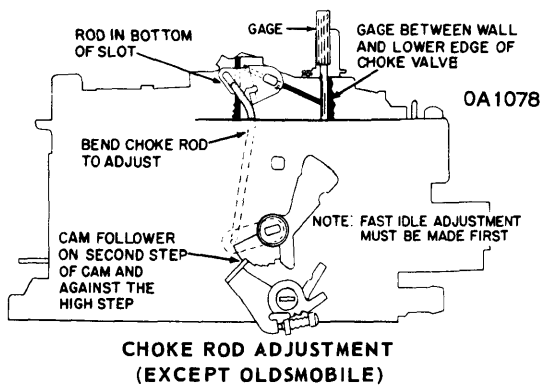
### Choke Coil Lever

**Oldsmobile** — With choke valve fully closed, push up on thermostatic coil tang (counterclockwise) to limit of travel. Insert a .120" plug gauge in hole just below edge of lever. Edge of lever should just contact side of plug gauge. Bend choke rod at offset to adjust.



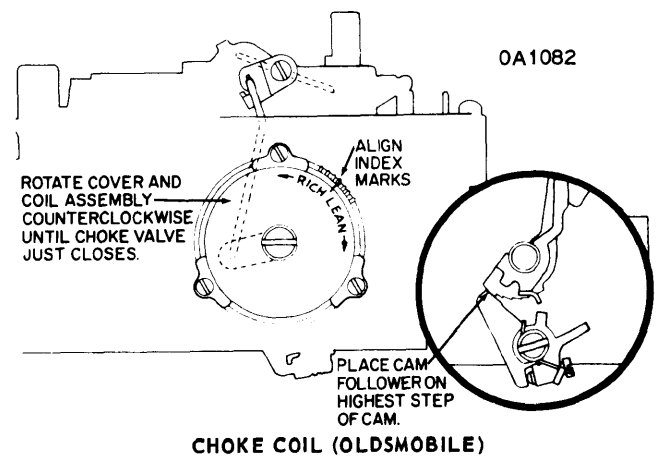
### CHOKE ROD (EXCEPT OLDSMOBILE)

Place fast idle cam follower on SECOND step of fast idle cam and against high step of cam. Rotate choke valve toward closed position by pushing up on vacuum break lever. With choke rod at bottom of slot (if used), measure dimension between lower edge of choke valve and air horn wall. If distance not as specified (see Specifications), bend rod to adjust.



### Choke Coil

**Oldsmobile** — With cam follower on HIGHEST step of fast idle cam, rotate cover and coil assembly counterclockwise until choke valve closes, then set index mark to INDEX (except Toronado) and to I NOTCH RICH (Toronado).



### CHOKE COIL ROD

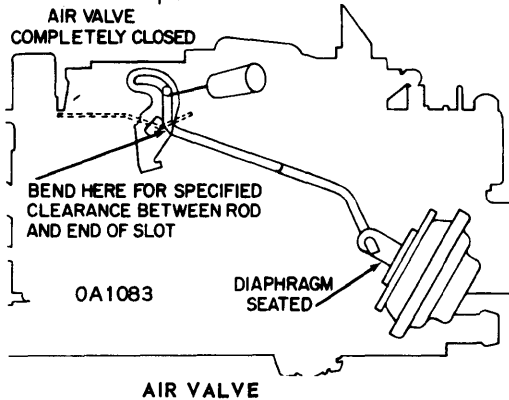
**Except Oldsmobile** — Hold choke valve fully closed by slight pressure on vacuum break lever. Pull up or push down on thermostatic coil rod to limit of travel. Rod should fit freely in gauging notch in vacuum break lever. The "L" notch is a one notch leaner setting and the "R" notch is for a one notch richer setting.

## 1970 ROCHESTER 4MC & 4MV 4-BARREL (Cont.)

### AIR VALVE DASHPOT

**Except Oldsmobile** — With air valve closed normally and vacuum break diaphragm seated, gauge between air valve dashpot rod and end of slot in air valve lever (see Specifications). Bend link at air valve end to adjust.

**Oldsmobile** — Same procedure as above, but with air valve wide open and no vacuum applied to dashpot. Open or close "U" in rod link to adjust.

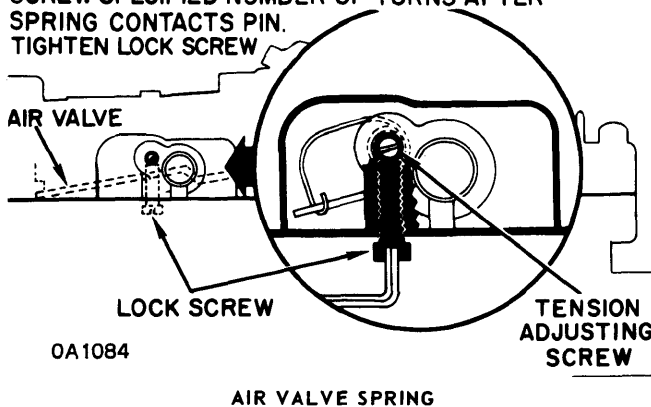


AIR VALVE

### Air Valve Spring

Remove vacuum break diaphragm, open choke valve, and loosen Allen-Head lockscrew. Turn tension adjusting screw (fulcrum pin on Ford models) counterclockwise until air valve opens part way, then turn tension screw (fulcrum pin on Ford models) clockwise (see table for amount) while tapping lightly on casting with a screwdriver. Hold adjusting screw and tighten lockscrew.

WITH LOCK SCREW LOOSENED AND WITH AIR VALVE CLOSED, TURN ADJUSTING SCREW SPECIFIED NUMBER OF TURNS AFTER SPRING CONTACTS PIN. TIGHTEN LOCK SCREW



AIR VALVE SPRING

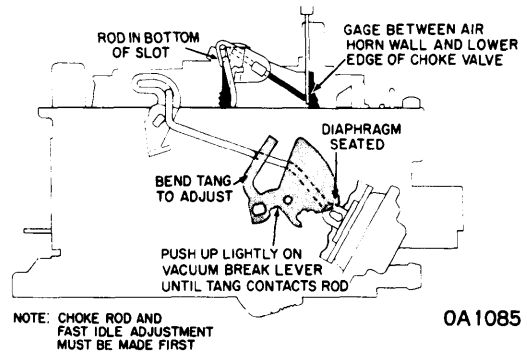
#### Adjusting Screw

Buick .....	1/2 turn
Cadillac .....	7/16 turn
Chevrolet .....	Ⓢ 13/16 turn
Oldsmobile (350" Except Outside Air) .....	1/2 turn
Oldsmobile (455" & 350" Outside Air) .....	3/4 turn
Ⓢ — On 350" 300 HP 7/16 turn.	

### VACUUM BREAK

**Except Oldsmobile** — Use external source of vacuum to seat vacuum break diaphragm. Hold break lever tang lightly against break rod. Measure distance between lower edge of choke valve and air horn wall (see Specifications). To adjust, bend tang of lever.

**Oldsmobile** — Place cam follower on highest step of fast idle cam. Use external source of vacuum to seat vacuum break diaphragm. With choke coil cover removed, push up on inside choke coil lever counterclockwise until tang on outside lever contacts vacuum break rod. Measure distance between lower edge of choke valve and air horn wall (see Specifications). To adjust, bend break rod at vacuum diaphragm end.

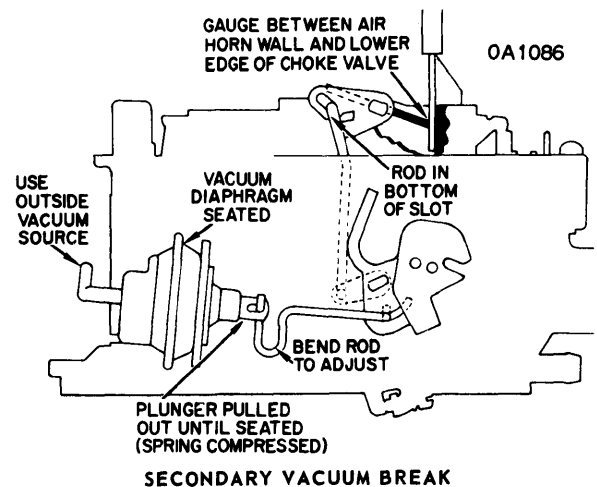


VACUUM BREAK

### Secondary Vacuum Break

**Buick** — With auxiliary vacuum break diaphragm plunger fully seated, rotate choke valve towards closed choke position, pushing on the vacuum break lever until spring loaded diaphragm plunger is fully extended. With choke valve held in this position, measure distance between lower edge of choke valve and inside of air horn wall (see Specifications). To adjust, bend vacuum break link at loop.

**CAUTION** — Take care when compressing diaphragm plunger spring so that force used in closing choke valve does not unseat vacuum diaphragm.

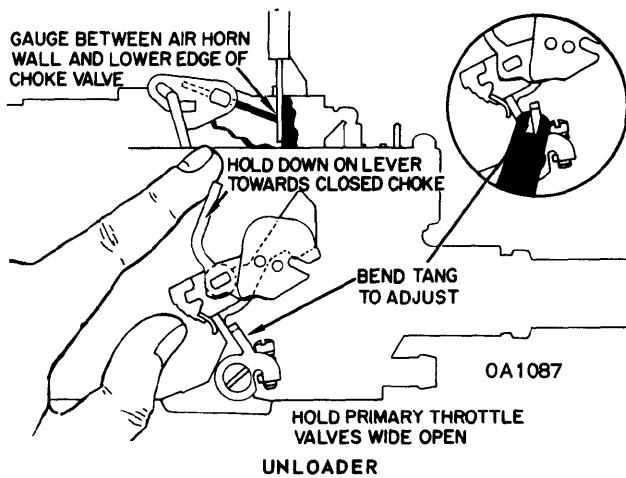


SECONDARY VACUUM BREAK

### Unloader

Push up lightly on vacuum break lever and open primary throttle wide. With valves in this position, measure distance between lower edge of choke valve (choke plates on Ford models) and air horn wall (see Specifications). To adjust, bend tang on fast idle lever rearward to increase and forward to decrease clearance.

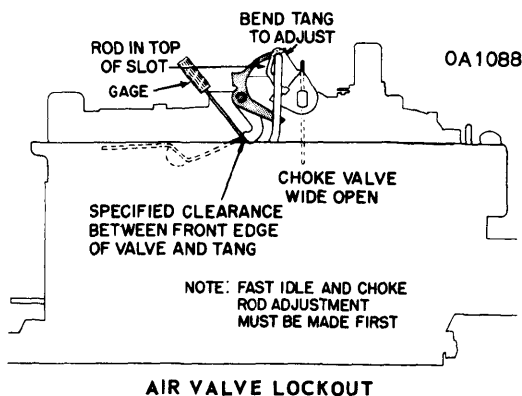
## 1970 ROCHESTER 4MC & 4MV 4-BARREL (Cont.)



### Air Valve Lockout

**NOTE** — This adjustment required on Buick 350" with auto. trans., Cadillac, Ford, Oldsmobile and Pontiac cars.

**Opening Clearance** — With choke valve open, apply sufficient pressure to force thermostatic coil lever to move choke rod to top of slot in choke lever. Move air valve in direction necessary to open valve. Measure distance between lockout tang and front edge of air valve (see Specifications). To adjust, bend upper end of air valve lockout lever.



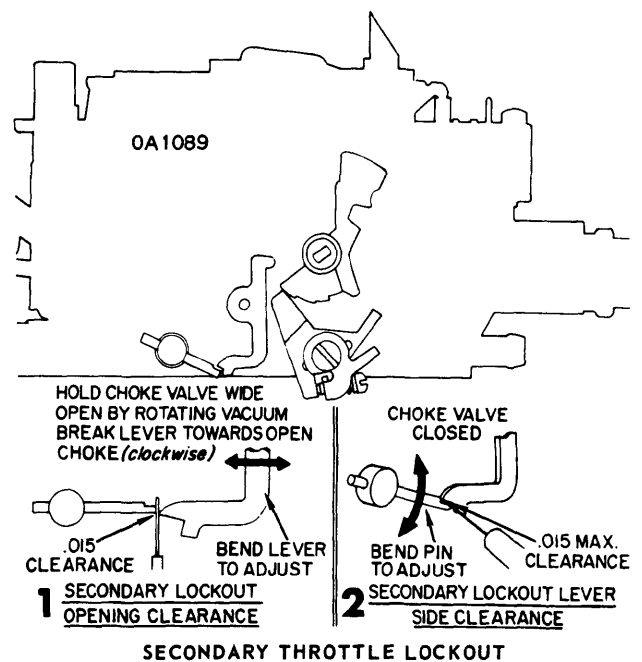
**Lockout** — Rotate choke valve to its wide open position by applying force to up side of choke valve.

**NOTE** — Air valve lockout tang will permit only 8-10° of air valve opening on Cadillac. This angle is not adjustable, but built into the assembly.

### Secondary Throttle Lockout

**NOTE** — This adjustment required on Buick only (except 350" auto. trans.).

**Opening Clearance** — Hold choke valve wide open by rotating vacuum brake lever toward open choke (clockwise). With secondary throttle valves held partially open, measure clearance between end of lockout pin and toe of lockout lever (see Specifications). Bend lockout lever at offset to adjust.



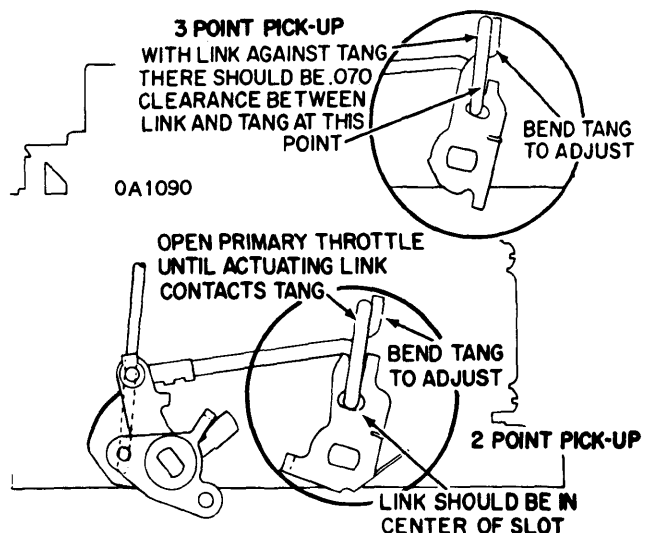
**Secondary Lockout Pin Side Clearance** — With choke valve and secondary throttle valve fully closed, bend lockout pin as shown to maintain specified side clearance between side of lockout pin and lockout lever.

### Secondary Opening

Two types of linkages used, which must be adjusted as follows:

Open primary throttle valves until actuating link contacts upper tang on secondary lever. When valves are in this position;

**2-Point Pick-up Linkage** — Bottom of link should be in center of secondary lever slot.



## 1970 ROCHESTER 4MC &amp; 4MV 4-BARREL (Cont.)

**3-Point Pick-up Linkage** — Clearance between link and middle tang should be .070".

Bend upper tang on secondary lever to adjust.

**Secondary Closing**

With slow idle set to specifications and cam follower off cam, and with choke valve wide open, measure distance between secondary throttle actuating rod and front of slot in secondary throttle lever (with closing tang on throttle lever resting against actuating lever). Clearance should be .020". To adjust, bend tang on primary throttle actuating lever.

**Secondary Metering Rod**

Check metering rod by measuring from top of each rod to top of air horn casting next to air cleaner stud hole (see *Specifications*). Adjust by bending metering rod hanger

**Automatic Choke**

**Buick** — Hold choke valve fully closed by rotating vacuum break lever counterclockwise. Pull upward on choke thermostatic coil rod to end of travel. Rod should fit freely in gauging notch at edge of lever. Bend rod at loop to adjust.

**Cadillac** — Remove choke assembly from manifold to disengage choke coil rod from vacuum break lever. Reinstall choke coil assembly, but do not install choke coil rod into hole in vacuum break lever. With choke fully closed, fast idle cam in cold start position and vacuum break lever in

maximum upward position, pull choke coil rod upward to limit of travel against stop in choke coil housing. Upper end of rod should be in specified notch (see *Specifications*). To adjust, bend choke coil rod at offset.

**NOTE** — The "L" notch is one notch leaner and the "R" notch, is one notch richer.

**Chevrolet** — With choke coil rod disconnected from vacuum lever, close choke valve completely by pressing on vacuum break lever. Press downward to limit of travel. Top of rod end should be even with bottom of hole in lever (one rod diameter interference fit). Adjust rod by bending at offset (rod end must be square and enter lever freely).

**Ford** — With choke coil rod disconnected from vacuum break lever, rotate vacuum break lever counterclockwise until choke valve closed. Push or pull rod until it hits stop in choke coil housing. Bend rod so it fits into hole in vacuum break lever. At this time, the upper end of rod should just enter hole in vacuum break lever. Bend coil rod so it goes one diameter beyond hole to give choke valve this extra closing pressure.

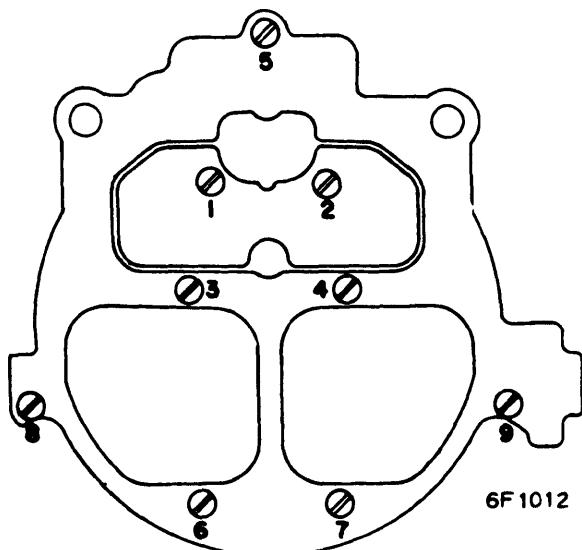
**Oldsmobile** — With cam follower on HIGHEST step of cam, rotate choke cover and coil assembly until choke valve just closes, set index mark as specified (see *Specifications*).

**Pontiac** — With choke coil rod disconnected from vacuum break lever, close choke valve completely by pressing upward on vacuum break lever, pull up on connector rod until rod contacts stop in choke housing. At this point, rod end should fit freely in center notch on upper side of lever. Adjust by bending rod at offset.

**OVERHAUL****Disassembly**

**Air Horn** — Remove idle vent valve assembly. Disconnect choke rod from upper choke shaft lever and pump rod from pump lever. Remove clip from vacuum break rod and remove rod. Remove air horn-to-bowl attaching screws (2 screws are next to primary venturi), and remove air horn by lifting straight up. Air horn gasket should remain on bowl. **CAUTION** — Be careful not to bend two small main

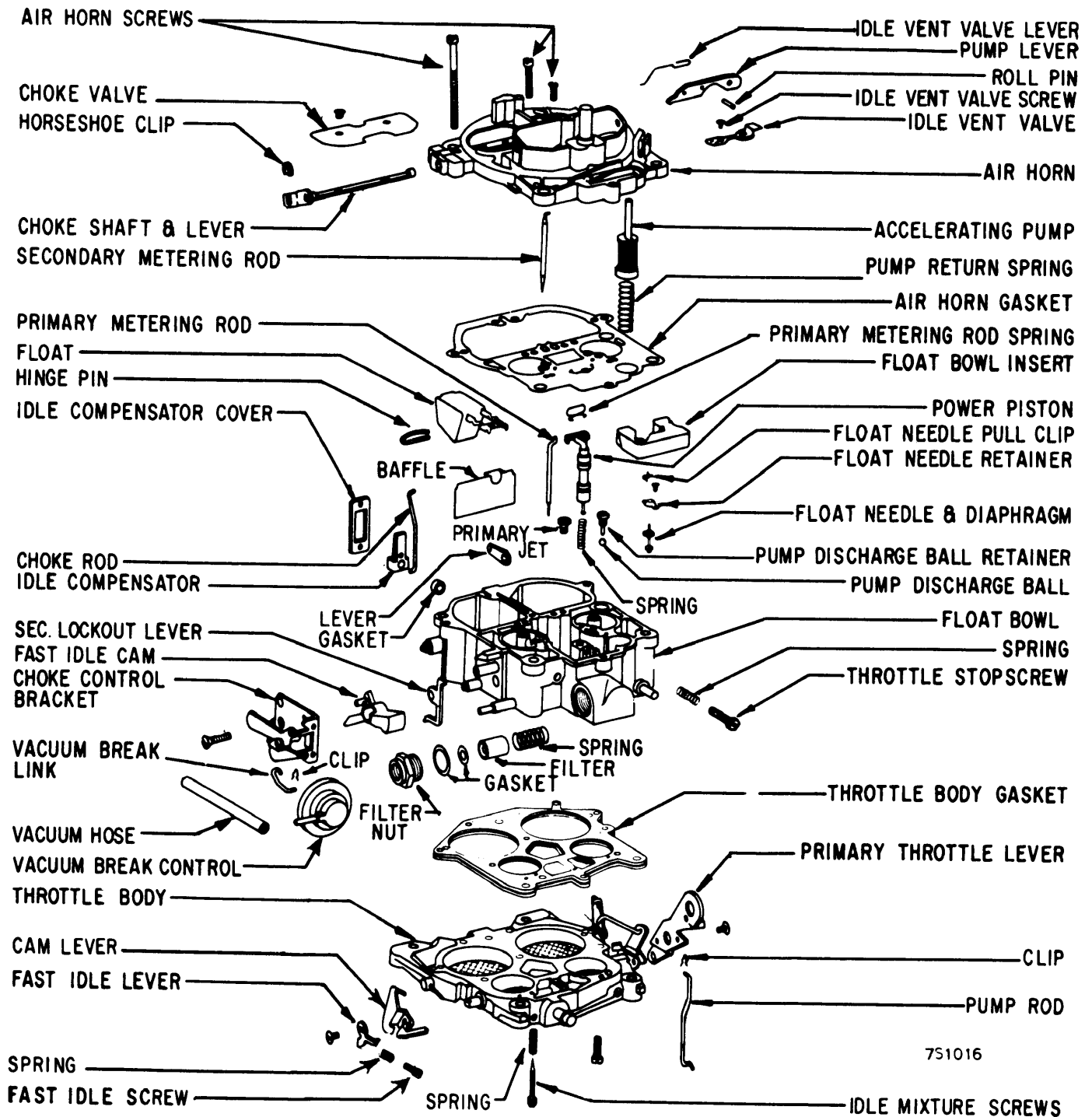
well air bleed tubes pressed into air horn. **DO NOT REMOVE**. Hold air valve wide open, then tilt and slide secondary metering rods from hanger. **NOTE** — Further disassembly of air horn is not required for cleaning. For parts replacement, take out choke valve screws, remove choke valve and slide choke shaft out, remove pump lever roll pin and remove pump lever. **CAUTION** — Air valves and air valve shaft are calibrated and must not be removed. If these parts damaged, replace air horn assembly.



**AIR HORN SCREW TIGHTENING SEQUENCE**

**Float Bowl** — Remove pump plunger from pump well. Remove air horn gasket from dowels on secondary side, then remove gasket from around power piston and primary metering rods. Remove pump return spring from pump well, plastic filler over float valve, and power piston and main metering rods (use needle nosed pliers to pull straight up on metering rod hanger directly over power piston). Remove power piston spring, disconnect tension spring from top of each metering rod, rotate rods and remove from hanger. Remove float assembly by pulling up slightly on retaining pin to remove pin, then slide float assembly toward front of bowl to disengage needle pull clip. **NOTE** — Be careful not to distort pull clip. Remove float needle retainer and needle assembly with wide blade screwdriver. On all car models replace needle and seat as an assembly if necessary. Remove primary metering jets. **CAUTION** — Do not remove secondary metering discs. Remove pump discharge check ball retainer and check ball, remove baffle from secondary side of bowl. On 4MV Carburetors, remove vacuum hose from tube connection on bowl and from vacuum break assembly, remove retaining screw from choke assembly and remove assembly from float bowl (**NOTE** — If further disassembly of choke is necessary, remove clip from vacuum

## 1970 ROCHESTER 4MC & 4MV 4-BARREL (Cont.)



ROCHESTER 4MV 4-BARREL CARBURETOR ASSEMBLY (TYPICAL)

break link at vacuum break lever and remove rod, spread retaining ears on bracket next to vacuum break assembly and then remove the vacuum break assembly from the lever). Remove fast idle cam from the choke assembly. Remove lower choke rod and actuating lever from inside of float bowl well. Remove hot idle compensator cover, then remove hot idle compensator and O-ring from float bowl. Remove fuel inlet filter nut, gasket, filter, and spring. Remove throttle body-to-bowl attaching screws, remove throttle body and insulator gasket.

**Automatic Choke Disassembly (4MC Carb.)** — Remove retaining screws and retainers, pull cover and coil assembly straight out and off choke housing. Do not attempt to remove baffle plate beneath thermostatic coil. Take out retaining screw and washer inside choke housing, slide complete choke assembly off float bowl. Remove coil lever retaining screw from end of shaft inside choke housing, remove lever from intermediate choke shaft flats, then remove intermediate choke shaft by sliding it out of housing, remove fast idle cam from shaft. Remove cup seal from inside

## 1970 ROCHESTER 4MC &amp; 4MV 4-BARREL (Cont.)

choke housing shaft hole in housing before immersing housing in carburetor cleaner, remove cup seal from float bowl plastic insert before cleaning bowl. **CAUTION** - Do not attempt to remove plastic insert.

**Throttle Body** - Remove pump rod from throttle lever by rotating rod out of primary throttle lever. Remove idle mixture screws and springs. **CAUTION** - Be careful not to damage secondary throttle valves. Further disassembly of throttle body is not required.

### Cleaning & Inspection

**CAUTION** - No rubber parts, plastic parts, diaphragms, or pump plungers should be immersed in carburetor cleaner. However, the plastic cam on air valve shaft may be cleaned normally in carburetor cleaner. If air valve or cam are damaged, or air valve is binding, air horn assembly must be replaced. Blow out all passages with compressed air, inspect all parts for wear or damage, replace parts as necessary.

- ▶ **PONTIAC CALIFORNIA CARBURETOR CAUTION:** These carburetors have vent valve assembly for evaporation emission control located inside air horn. Do not submerge these air horns in carburetor cleaner as vent valve diaphragm will be damaged. Keep front portion of air horn above cleaning fluid level.

### Reassembly

Reverse disassembly procedure using all new gaskets. When reassembling float bowl, be sure to adjust float level and make all other adjustments. See "Adjustment".

**Automatic Choke Reassembly (4MC Carbs.)** - Install new cup seal in plastic insert on side of float bowl (lip facing outward). Install fast idle cam on intermediate choke shaft with steps on cam facing downward. Install new cup seal inside choke housing (lips facing inward toward inside of housing), then install fast idle cam and intermediate shaft through seal in choke housing. Install thermostatic coil lever on intermediate choke shaft flats so that both inside and outside levers face toward fuel inlet, install lever retaining screw in end of shaft and tighten securely. Install lower choke rod lever in float bowl cavity. Install vacuum seal in choke housing cavity, then install housing on bowl and slide intermediate shaft into lower choke lever (Tool BT-6911 can be used to hold lever in correct position while installing choke housing). Install choke housing retaining screw and washer and tighten securely. If correctly installed, tang on lever should be beneath fast idle cam. Do not install choke cover and coil assembly until Choke Coil Lever Adjustment completed. See **ADJUSTMENTS**.

**Vacuum Break Installation** - If vacuum break diaphragm was removed from bracket, slide vacuum break diaphragm between retaining ears and bend ears down slightly to hold assembly securely. Install fast idle cam on vacuum break assembly.

**Air Horn Installation** - To prevent distortion of the air horn and binding of choke valve or air valve, tighten all air horn screws in correct sequence as shown in the illustration.