1971 DELCO 4MC & 4MV 4-BARREL

ROCHESTER 4MC

OLDSMOBILE	Rochester Carburetor No. Synchro-mesh	Auto. Trans.
350" V8	7041250	7041250
455" V8		7041251
Toronado		7041252
442	ℂ7041253	7041257

ℂ – 442 with synchro-mesh transmission, Air Induction and/or Two Plate Clutch uses 7041256.

ROCHESTER 4MV

BUICK		
350" V8	7041245	7041544
455" V8	7041243	7041540
Stage I	7041242	7041242
CADILLAC		
472" V8		7041230
75 Series		7041231
500" V8		7041232
CHEVROLET		
350" V8	7041203	7041202
Corvette	7041213	7041212
402" V8	7041201	7041200
454" V8	7041201	7041200
Corvette	7041205	7041204
FORD MOTOR CO.		
429" Cobra Jet	DOOF-A	DOOF-E
Police		DOOF-E
PONTIAC		
400" V8	7041263	7041264
Altitude		7041271
455" V8	7041263	7041262
High Output	7041267	7041268
High Output W/Ram Air	7041273	7041270

▶ CHANGES, CAUTIONS, CORRECTIONS

▶ *1971 FUEL FILTER CHANGE NOTE* – Each time inlet fuel filter is changed, inspect fuel line and fuel inlet nut and gasket. Should inlet nut become stripped or damaged, a replacement kit is available at your local car dealer or parts house.

DESCRIPTION

4MC and 4MV carburetors (4-barrel downdraft type) have one basic difference that permits easy and quick identification. The 4MC models are equipped with an integral automatic choke whereas the 4MV model makes use of a remote thermostatic choke coil mounted on the exhaust manifold which operates the conventional choke valve in carburetor air horn. The 1971 models are of the same basic design as previous models, but embody certain features and improvements as follows:

Buick – The air valve lockout has been deleted, and a throttle valve mechanism is used in its place. Carburetors have been equipped with both constant and timed bleed ports to clear the emission control vapor canister of vapors. The constant bleed port is operative when the throttle valves are in the idle position, while the timed bleed ports are operative in off idle and part throttle operation. Vehicles with automatic transmissions have an idle-return dashpot which is contacted by the carburetor throttle lever. Idle mixture screws are pre-set at the factory and locked in position with plastic caps.

Cadillac – The hot idle compensator valve has been deleted from all carburetors except those used on the 75 (limousine) series. Carburetors are equipped with two timed bleed ports to clear the emission control vapor canister of vapors from the fuel tank. Idle mixture screws are capped with plastic limiter caps that limit the range the screws may be adjusted. The stainless steel shim formerly used between the carburetor base and the base gasket is eliminated. *NOTE – Do not install a steel shim under 1971 model carburetor throttle bodies.* An idle stop solenoid has been installed in place of the former dashpot.

Chevrolet – Idle stop solenoids are eliminated on 1971 models. In their place, a Combined Emission Control Valve (C.E.C.) is used. The C.E.C. Valve serves two purposes. When the vehicle is in third or fourth gear the Valve advances the idle speed on deceleration to burn overrun hydrocarbons. Further, the Valve provides full spark vacuum advance in the higher gears, but is de-energized in the lower gears and at idle for retarded spark timing. *NOTE – Normal (curb) idle RPM is obtained by the idle stop screw in the carburetor body.* Idle mixture screws are pre-set at the factory and are locked in place by plastic caps.

Oldsmobile – 1971 model carburetors are equipped with two timed purge ports to remove vapor from the emission control canister. Two clean air tubes are mounted in the air horn to provide clean air to the thermostatic choke housing and to the Transmission Controlled Spark (T.C.S.) Valve. Idle mixture screws are pre-set at the factory and locked in place with plastic caps.

Pontiac – 1971 carburetors have both constant and timed purge ports to remove vapor from the emission control vapor canister. Constant purge port is operative at engine idle speed. Timed purge ports are operative at off-idle and part throttle engine speeds. The fuel bowl vent switch valve in the air horn has been deleted. Idle mixture screws are preset at the factory and locked in place with plastic caps. A variable vacuum break feature has been incorporated in the vacuum break diaphragm unit. With the exception of vehicles equipped with ram air, all carburetors have a hot idle compensator valve feature.

ADJUSTMENT

Idle Speed & Mixture

Idle mixture adjusting screws are either locked in place or permit of only a limited movement by the plastic caps attached to the screws at the factory. For purposes of emission control idle mixture screws are properly set at the factory and require adjustment only if caps and screws are removed for carburetor overhaul or throttle body replacement. Idle adjustment procedure is given below.

Buick – Air cleaner in position, engine at normal operating temperature, automatic transmission in DRIVE, and cam angle and ignition timing adjusted. Adjust throttle stop screw to obtain specified idle RPM. See Specifications.

Cadillac – Engine at normal operating temperature, parking brake hose and level control compressor hose disconnected and plugged, A/C OFF, transmission in DRIVE, air cleaner removed, and throttle solenoid disconnected, proceed as follows:

1) Adjust low curb idle speed screw to obtain 350-400 RPM. Reconnect solenoid wire, open throttle slightly to extend plunger fully.

1971 DELCO 4MC & 4MV 4-BARREL (Cont.)

2) Loosen solenoid lock nut and turn solenoid to obtain 600 RPM. Lock solenoid in place and reconnect all hoses and install air cleaner.

Chevrolet – Disconnect advance vacuum hose at distributor and plug hose. Disconnect "fuel tank" line at vapor canister (on Corvette, do not disconnect line, remove fuel tank gas cap). With engine running at normal operating temperature, adjust idle speed on 350" engines as follows:

1) Adjust carburetor idle speed screw to obtain 600 RPM with manual transmission in neutral and A/C OFF.

2) Adjust carburetor idle speed screw to obtain 550 RPM with automatic transmission in DRIVE and A/C ON.

3) DO NOT tamper with the C.E.C. Valve solenoid plunger screw in adjusting engine idle speed. Use only the carburetor idle speed screw.

With the above pre-adjustment conditions existing, adjust idle speed on 402" and 454" engines as follows:

1) Turn A/C OFF. Adjust carburetor idle speed screw to obtain 600 RPM with manual transmission in neutral and automatic transmission in DRIVE.

2) DO NOT tamper with the C.E.C. Valve solenoid plunger screw in adjusting engine idle speed. Use only the carburetor idle speed screw.

Ford – With engine and underhood temperatures stabilized, Headlights on High Beam, air conditioner Off, automatic transmission in Drive, and parking brake set (on cars with vacuum release parking brake, first disconnect vacuum line at power unit and plug line, then set brake), proceed as follows:

1) Adjust curb idle speed to specifications. On cars with solenoid throttle positioner, make this adjustment by turning solenoid assembly in or out of bracket as necessary, then disconnect solenoid lead at bullet connector and adjust lower (solenoid de-energized) idle speed by turning throttle stopscrew. Reconnect solenoid lead and open throttle slightly by hand (solenoid plunger will follow throttle lever and hold throttle in correct solenoid energized position).

2) Starting from full rich position (idle mixture screws turned counterclockwise as far as possible within range of

CARBURETOR ADJUSTMENT SPECIFICATIONS – # 1

Rochester Carb. No.	Slow Curb Idle Speed (Engine RPM)		Fast Idle Speed (Engine RPM)	Float Level Setting	Accelerator Pump		Air Valve Dashpot Setting
	Synchro-mesh	Auto. Trans.			Rod Location	Adjustment	
7041200	.....	600	1500	1/4"	.....	.....	.020"
7041201	600	.....	1350	1/4"	.....	.....	.020"
7041202	.....	550	1500	1/4"	.....	.....	.020"
7041203	600	.....	1350	1/4"	.....	.....	.020"
7041204	.....	600	1500	1/4"	.....	.....	.020"
7041205	600	.....	1350	1/4"	.....	.....	.020"
7041212	.....	550	1500	1/4"	.....	.....	.020"
7041213	600	.....	1350	1/4"	.....	.....	.020"
7041230	.....	600/400 ⑨	2100	1/4"	Outer	11/32"	.030"
7041231	.....	600/400 ⑨	2100	1/4"	Outer	11/32"	.030"
7041232	.....	600/400 ⑨	2100	1/4"	Outer	11/32"	.030"
7041242	700	600	④	13/32"	Inner	1/4"	.030"
7041243	700	.....	720	13/32"	Inner	1/4"	.030"
7041245	800	.....	820	15/32"	Inner	9/32"	.030"
7041250	750	600	1050	1/4"	Inner	3/8"	.050"
7041251	.....	600	1050	1/4"	Inner	3/8"	.030"
7041252	.....	600	1050	1/4"	Inner	3/8"	.030"
7041253	750	.....	1050	1/4"	Inner	3/8"	.050"
7041257	.....	600 ⑤	1050	1/4"	Inner	3/8"	.050"
7041262	.....	650	1700	9/32"	.....	13/32"	.025"
7041263	600	.....	1700	9/32"	.....	13/32"	.025"
7041264	.....	700	1700	9/32"	.....	13/32"	.025"
7041267	600	.....	1700	9/32"	.....	.....	.025"
7041268	.....	700	1700	9/32"	.....	.....	.025"
7041270	.....	700	1700	9/32"	.....	7/16"	.025"
7041271	.....	700	1700	9/32"	.....	.....	.025"
7041273	600	.....	1700	9/32"	.....	7/16"	.025"
7041540	.....	600	650	13/32"	Inner	1/4"	.030"
7041544	.....	600	650	15/32"	Inner	9/32"	.030"
DOOF-A	700	.....	1800 ⑦	11/32"	Outer	5/16"	.030"
DOOF-E	.....	650/500 ⑨	2000 ⑦	11/32"	Outer	5/16"	.030"

④ – 720 RPM Synchro-mesh, 650 RPM Auto. Trans.

⑤ – 650 RPM on Air Cond. Cars.

⑦ – Cam follower on second step of fast idle cam.

⑨ – Higher RPM with solenoid energized. Lower RPM with solenoid de-energized.

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limiter caps), turn both mixture screws inward equally for smoothest possible idle within limiter cap range. Make final idle speed and mixture check with air cleaner installed.

Oldsmobile – Engine at normal operating temperature, air cleaner removed. Disconnect air cleaner vacuum hose at intake manifold, plug fitting. Cam dwell and ignition timing properly adjusted, A/C OFF. Disconnect and plug carburetor hose at vapor canister. Disconnect and plug distributor vacuum advance hose at distributor. Adjust carburetor idle speed screw to obtain the following RPM:

1) 750 RPM (Manual Trans. in Neutral – All models), 600 RPM (Auto. Trans. in Park – All models except 442 with Air Cond.), 650 RPM (Auto. Trans. in Park – 442 with Air Cond.).

2) *Idle mixture screws are preset at factory and locked with caps. Do not remove caps or attempt to adjust these screws.*

Pontiac – With cam dwell and ignition timing correctly adjusted, disconnect carburetor "evap" hose at vapor canister. Disconnect carburetor hose at vacuum solenoid and plug hose. Disconnect throttle solenoid wire on vehciles with manual transmission. *NOTE – All 1971 carburetors are fitted with locked idle mixture screws. Do not tamper with these screws.* Adjust idle speed as follows:

1) Adjust carburetor speed screw to specified RPM (automatic transmission in DRIVE). See Specifications.

2) On vehicles with manual transmission, reconnect throttle solenoid wire. Manually extend solenoid screw and adjust to specified RPM. See Specifications.

Fast Idle Speed

Fast idle speed may be properly adjusted after curb idle speed adjustment has been correctly made. All pre-adjustment conditions apply except for mode of automatic transmission operation. Adjust the fast idle speed screw to obtain specified fast idle RPM (see Specifications) with cam follower on designated step of fast idle cam and automatic transmission selector lever in mode shown in following table:

Vehicle	Transmission Mode	Cam Step
Buick	DRIVE	Lowest
Cadillac	NEUTRAL	Highest
Chevrolet	NEUTRAL	Second
Ford	NEUTRAL	Second
Oldsmobile	PARK	Lowest
Pontiac	PARK	Highest

CARBURETOR ADJUSTMENT SPECIFICATIONS – #2

Rochester Carb. No.	Choke Rod or Lever Setting	Secondary Metering Rod	Vacuum Break Setting	Unloader Setting	Air Valve Lockout	C.E.C. Valve Idle Speed (Engine RPM)	Choke Coil or Rod Setting
7041200	.100"	.....	.260"	.....	.....	650	⑥
7041201	.100"	.....	.275"	.....	.....	850	⑥
7041202	.100"	.....	.260"	.....	.....	650	⑥
7041203	.100"	.....	.275"	.....	.....	900	⑥
7041204	.100"	.....	.260"	.....	.....	750	⑥
7041205	.100"	.....	.275"	.....	.....	900	⑥
7041212	.100"	.....	.260"	.....	.....	550	⑥
7041213	.100"	.....	.275"	.....	.....	900	⑥
7041230	.110"	.840"	.280"	.310"	.015"	.....	Index ⑤
7041231	.110"	.840"	.280"	.310"	.015"	.....	Index ⑤
7041232	.110"	.840"	.280"	.310"	.015"	.....	Index ⑤
7041242	.130"	53/64"	②	.325"	.....	.....	⑤
7041243	.130"	53/64"	③	.325"	.....	.....	⑤
7041245	.130"	53/64"	①	.325"	.....	.....	⑤
7041250	.140"	.....	.215"	.200"	.015"	.....	Index
7041251	.140"	.....	.215"	.200"	.015"	.....	Index
7041252	.170"	.....	.200"	.200"	.035"	.....	Index
7041253	.230"	.....	.275"	.200"	.035"	.....	Index
7041257	.170"	.....	.200"	.200"	.035"	.....	Index
7041262	.100"	.....	.240"	.310"	.015"	.....	Center ⑤
7041263	.100"	.....	.240"	.310"	.015"	.....	Center ⑤
7041264	.100"	.....	.240"	.310"	.015"	.....	Center ⑤
7041267	.100"	.....	.240"	.....	.015"	.....	Center ⑤
7041268	.100"	.....	.240"	.....	.015"	.....	Center ⑤
7041270	.100"	.....	.370"	.310"	.015"	.....	Center ⑤
7041271	.100"	.....	.240"	.....	.015"	.....	Center ⑤
7041273	.100"	.....	.370"	310"	.015"	.....	Center ⑤
7041540	.130"	53/64"	③	.325"	.....	.....	⑤
7041544	.130"	53/64"	①	.325"	.....	.....	⑤
DOOF–A	.160"	.....	.140"	.300"	.015"	.....	⑤
DOOF–E	.160"	.....	.190"	.300"	.015"	.....	⑤

① – Primary .170", Secondary .150".
② – Primary .180", Secondary .160".
③ – Primary .215", Secondary .200".
⑤ – Primary .180", Secondary .160".
⑥ – See text for adjustment.

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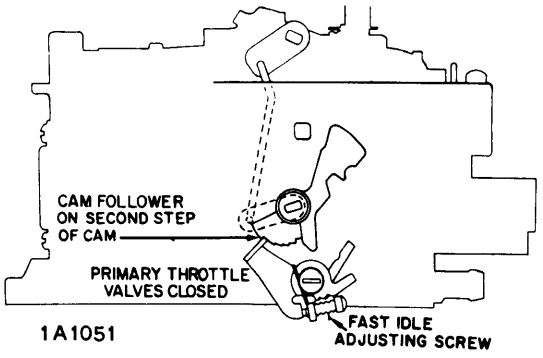
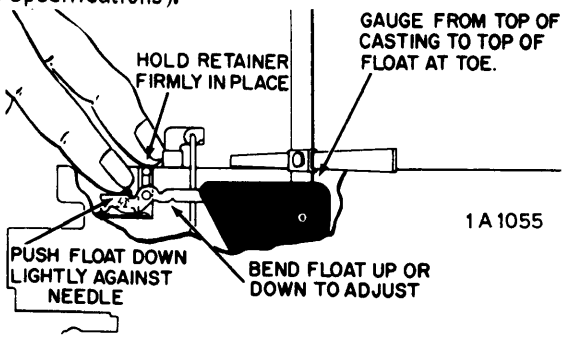


FAST IDLE SPEED ADJUSTMENT

Float Level

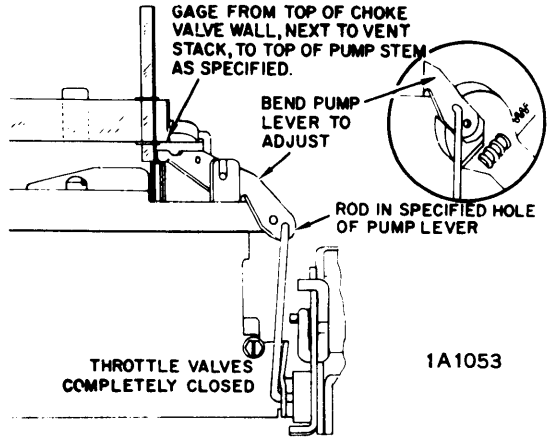
Hold retaining pin firmly in place with tang of float lightly seated on float needle. With adjustable T-scale, measure from top of float bowl gasket surface (gasket removed) to top of float at toe. Locate gauge point 1/16" from radius on toe. Bend float up or down to obtain specified measurement (see Specifications).



FLOAT ADJUSTMENT

Accelerator Pump Rod

Completely close primary throttle valves by backing out the idle speed stopscrew and making sure that the fast idle cam follower clears fast idle cam. It will also be necessary to bend the secondary throttle closing tang away from the primary throttle lever. With pump rod in specified hole (see Specifications) measure distance from top of choke valve wall next to vent stack, to top of pump stem. Obtain specified measurement (see Specifications) by bending pump lever. Support pump lever with screwdriver placed between lever and top of air horn. After adjustment is completed, readjust secondary throttle closing tang and and idle speed stop screw.



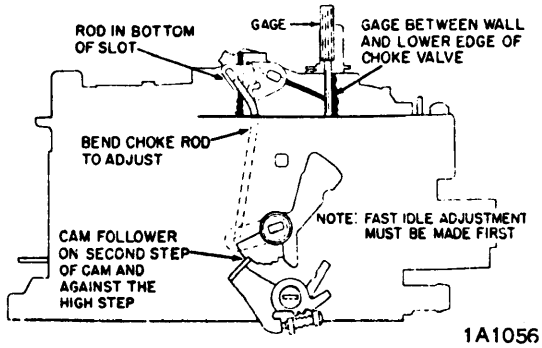
ACCELERATOR PUMP ADJUSTMENT

Choke Rod (All 4MV Carbs.)

1) Place fast idle cam follower on second step of fast idle cam and hold it against high step of cam by pressing lightly upward on vacuum break lever.

2) With choke rod in bottom of slot in choke lever, measure clearance between lower edge of choke valve at choke lever end and air horn wall.

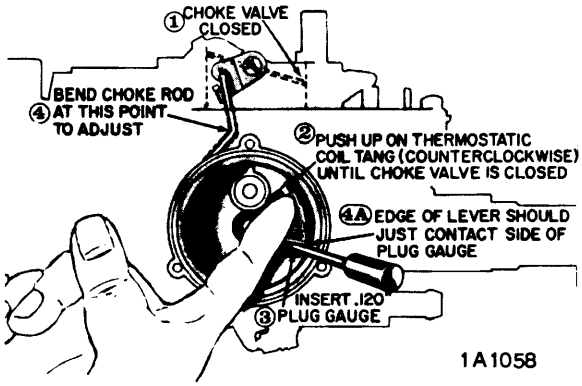
3) If this clearance not correct (see Specifications), adjust by bending choke rod at existing bend near upper end of rod.



CHOKE ROD ADJUSTMENT (4MV CARBURETORS)

Choke Coil Lever (4MC Oldsmobile Carbs.)

Remove thermostatic choke cover and coil assembly. Hold choke valve closed, push up on thermostatic coil tang to end of travel. Insert .120" plug gauge in hole in housing, just below edge of lever. Lever should just touch edge of gauge. Bend rod at existing bend if adjustment required.



CHOKE COIL LEVER ADJUSTMENT (OLDSMOBILE)

Fast Idle Cam (Choke Rod 4MC Oldsmobile Carbs.)

1) Place fast idle cam follower on second step of fast idle cam, move choke valve toward closed position by pressing on choke coil lever within automatic choke housing (remove choke cover and coil assembly for access) so that cam follower is held firmly against shoulder of high step on cam.

2) With choke valve in this position, measure clearance between lower edge of choke valve at choke lever end and air horn wall.

3) If this clearance not correct (see Specifications), adjust by bending tang at side of fast idle cam as shown in illustration.

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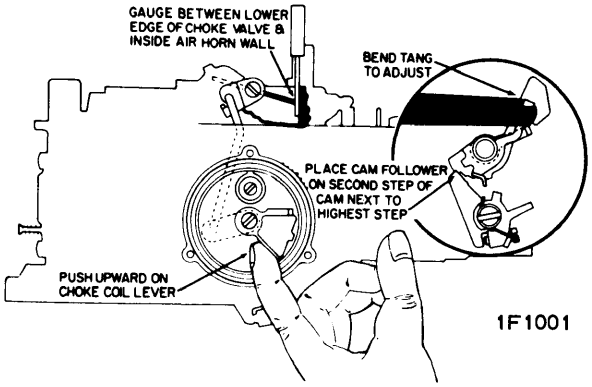


FAST IDLE CAM ADJUSTMENT (4MC OLDSMOBILE)

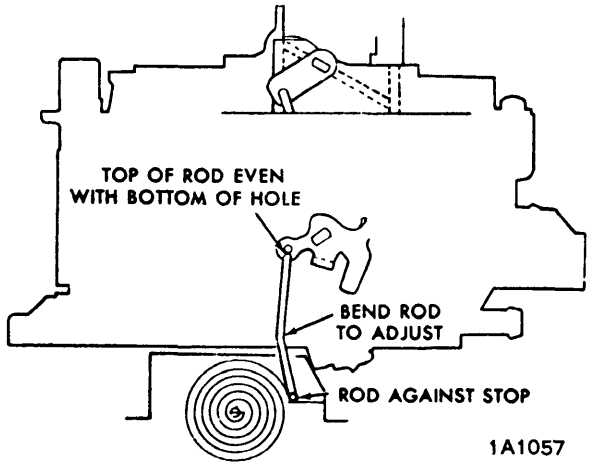
Automatic Choke Coil Rod (All 4MV Carburetors)

Buick – Hold choke valve fully closed after removing choke coil rod from choke lever. Pull upward on rod to end of travel. Rod should fit freely in gaging notch at edge of lever. Adjust by bending rod at existing bend. Reconnect rod in "Std." hole in lever.

Chevrolet – Hold choke valve closed after removing choke coil rod from choke lever. Pull down on rod to end of travel. Top of rod should be even with bottom of hole in choke lever. Adjust rod by bending rod at existing bend.

Cadillac – Remove choke coil from manifold to disengage choke coil rod from vacuum break lever, then reinstall choke coil on manifold. With fast idle cam in cold start position and choke valve closed, pull choke coil rod upward to end of travel with vacuum break lever in maximum upward position. Upper end of rod should be positioned in gauging notch (center notch). If adjustment required, bend rod at existing bend. *NOTE – "L" gauging notch is for one notch lean, and "R" notch is for one notch rich.*

Ford – Disconnect choke coil rod from vacuum break lever, hold choke valve fully closed and press down on choke rod to end of travel (against stop). Bottom of rod end should be even with top edge of hole in lever (one rod diameter long). Adjust by bending rod at existing bend as necessary, reconnect rod.

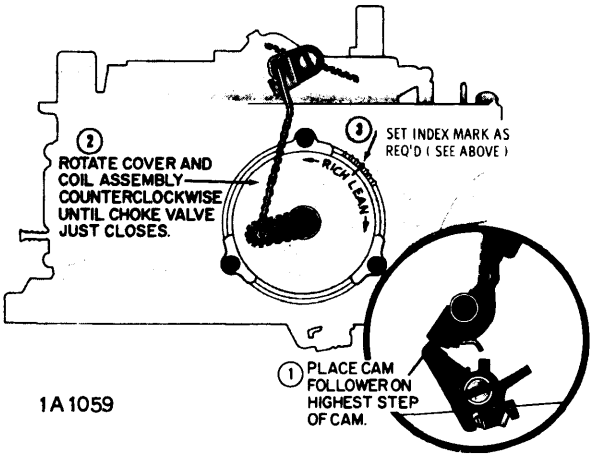


CHOKE COIL ROD ADJUSTMENT (TYPICAL)

Pontiac – With choke coil rod disconnected from vacuum break lever, hold choke valve closed by rotating vacuum break lever counterclockwise, push or pull rod to end of travel against stop. At this point rod end should fit freely in specified gauging notch on lever (see Specification). Adjust by bending rod at existing bend.

Automatic Choke Coil (4MC Oldsmobile Carbs.)

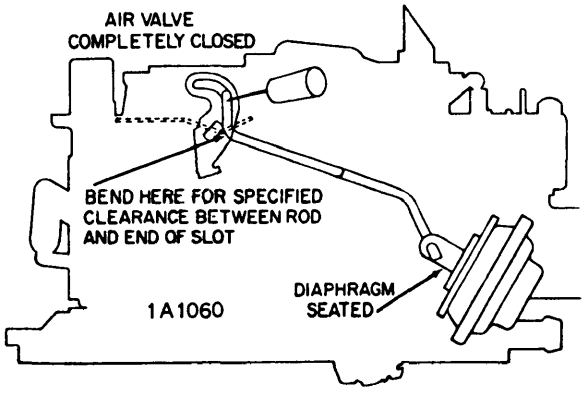
Oldsmobile – Place cam follower on highest step of cam. Rotate choke cover counterclockwise until choke valve just closes. Rotate choke cover to place index mark opposite specified mark on choke housing (see Specifications).



CHOKE COIL ADJUSTMENT (OLDSMOBILE)

Air Valve Dashpot (All 4MV Carburetors)

With air valve completely closed and vacuum break diaphragm seated, gauge clearance between air valve dashpot rod and end of slot in air valve lever. If clearance not correct (see Specifications), adjust by bending rod at existing bend at air valve end of rod.



AIR VALVE DASHPOT ADJUSTMENT (4MV)

Air Valve Dashpot (4MC Oldsmobile Carburetors)

With air valve wide open and vacuum break diaphragm extended (no vacuum), gauge clearance between air valve dashpot rod and end of slot in air valve lever. If clearance not correct (see Specifications), adjust by bending rod at loop in air valve end of rod.

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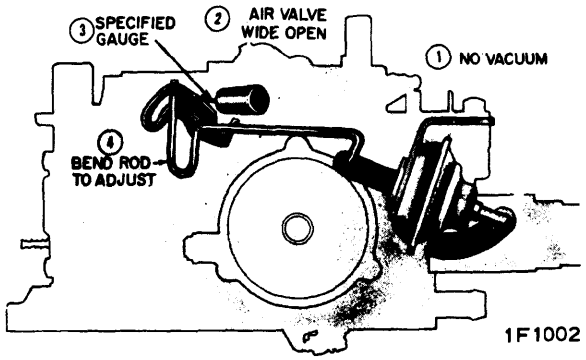
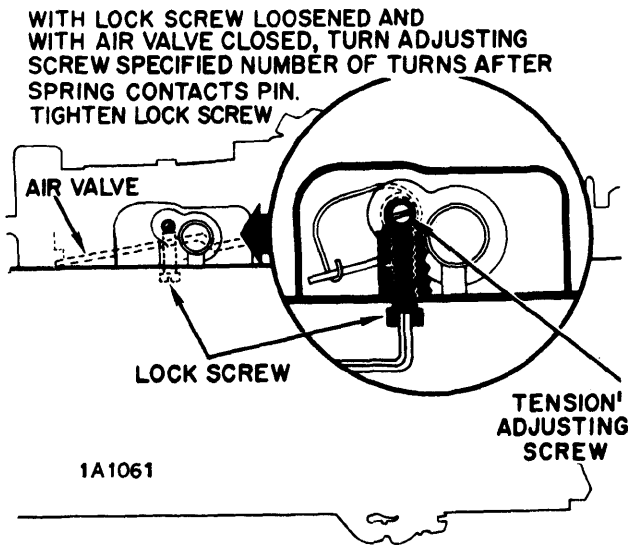


AIR VALVE DASHPOT ADJUSTMENT (4MC)

Air Valve Spring

Remove the vacuum break diaphragm and rod, open choke valve, loosen Allen-head lockscrew at adjusting screw. Turn adjusting screw counterclockwise until air valve opens slightly. Turn adjusting screw clockwise until valve just closes or spring contacts pin, then turn screw an additional specified amount (see table that follows). Tighten lockscrew.

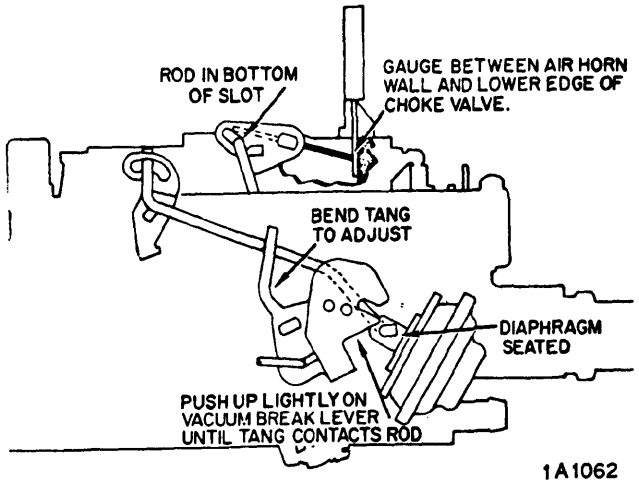
Application	Adjust Screw
Buick	1/2 turn.
Cadillac	1/2 turn.
Chevrolet	
Oldsmobile (Carb. No. 7041250)	1/2 turn.
All Other Carburetors	3/4 turn.
Pontiac	



AIR VALVE SPRING ADJUSTMENT

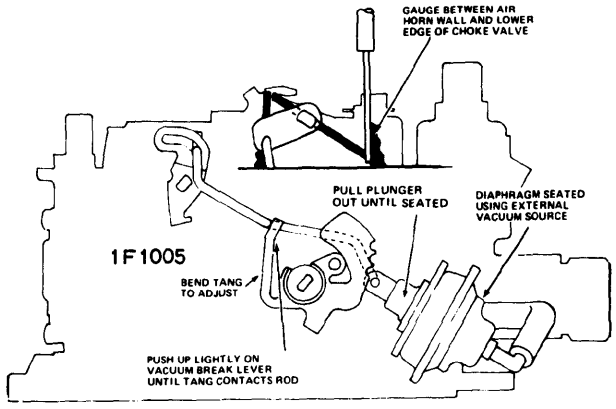
Main Vacuum Break (All 4MV Carbs.)

All Models except Pontiac – Seat vacuum break diaphragm so that plunger is fully retracted, push up on vacuum break lever until tang on lever lightly contacts offset in vacuum break rod and choke valve is closed to point where choke rod is at bottom of choke lever slot. Gauge clearance between lower edge of choke valve and air horn wall. If this clearance not correct (see Specifications), adjust by bending tang on vacuum break lever.



MAIN VACUUM BREAK ADJUSTMENT (4 MV) (EXCEPT PONTIAC)

Pontiac – Use outside vacuum source to seat vacuum break diaphragm and hold it in this position. Pull spring-loaded diaphragm plunger out until spring fully compressed *(CAUTION – Do not use more force than required to compress spring or diaphragm will be pulled off its seat).* Rotate choke valve toward closed position by pushing up on vacuum break lever until tang on lever lightly contacts offset in vacuum break rod. Gauge clearance between lower edge of choke valve and air horn wall. If this clearance not correct (see Specifications), adjust by bending tang on vacuum break lever as required.

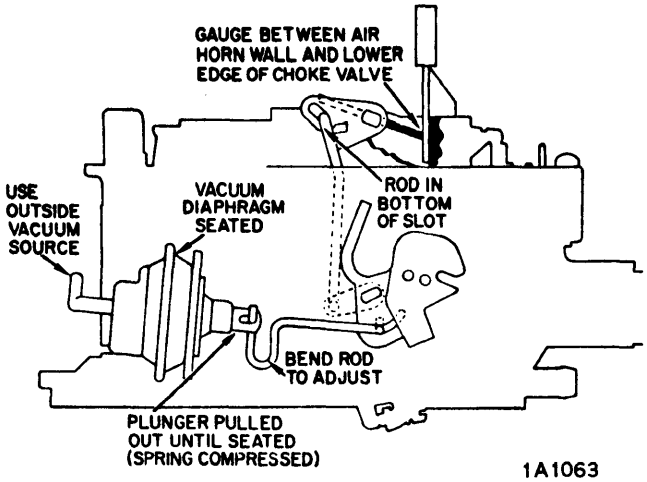


MAIN VACUUM BREAK ADJUSTMENT (4MV) (PONTIAC ONLY)

Auxiliary Vacuum Break (4MV Carburetors)

Buick – With auxiliary vacuum break diaphragm plunger fully seated, rotate choke valve towards closed position and push on vacuum break lever until spring loaded diaphragm plunger is fully extended. With choke valve held in this position, distance between lower edge of choke valve and air horn wall should be as specified (see Specifications). To adjust, bend vacuum break link at loop. ***NOTE*** – *Use care when compressing diaphragm plunger spring that force used in closing choke valve does not unseat vacuum diaphragm.*

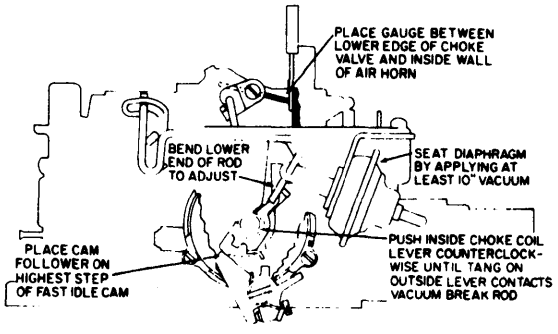
1971 DELCO 4MC & 4MV 4-BARREL (Cont.)



AUXILIARY VACUUM BREAK ADJUSTMENT (4MV)

Vacuum Break (4MC Oldsmobile Carbs.)

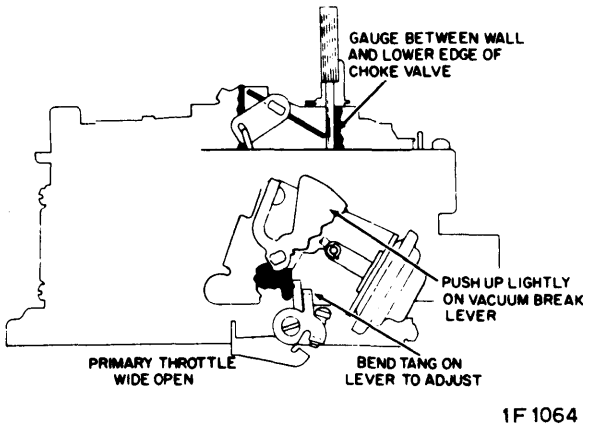
Place fast idle cam follower on highest step of fast idle cam, use outside vacuum source (at least 10" of Hg) to seat vacuum break diaphragm *(CAUTION – Diaphragm will not seat immediately due to built-in delaying action).* With automatic choke cover and coil assembly removed, press up on inner choke coil lever to rotate shaft and outer lever counterclockwise until tang on outer lever contacts vacuum break rod. Tap lower edge of choke valve down to take up slack in linkage, then check clearance between lower edge of valve and air horn wall. If clearance not correct (see Specifications), bend lower end of vacuum break rod at outer lever tang as required.



VACUUM BREAK ADJUSTMENT (4MC OLDSMOBILE)

Unloader

Push up lightly on vacuum break lever and open primary throttles wide. Hold valves in this position. If distance between lower edge of choke valve and air horn wall not as specified (see Specifications) bend tang on fast idle lever rearward to increase or forward to decrease clearance.



CHOKE UNLOADER ADJUSTMENT

Air Valve Lockout

All Models Except Cadillac – With choke valve wide open, rotate vacuum break lever clockwise so that choke lever rod is at upper end of slot in choke lever. Measure clearance between front edge of air valve and tang on lockout lever. If this clearance not correct (see Specifications), bend upper end of lockout lever that bears against choke valve lever.

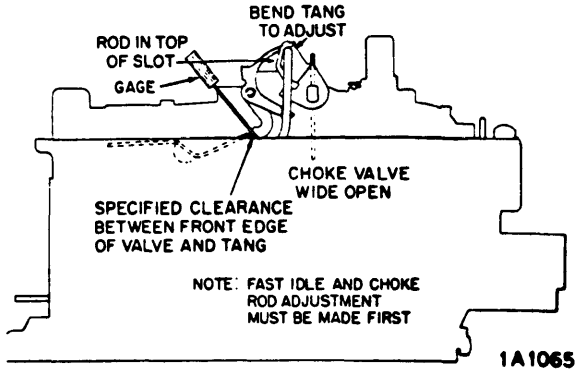
Cadillac – Air valve opening clearance must be adjusted to obtain proper lockout of air valve. This adjustment can not be correctly made unless fast idle and choke rod adjustments are made first. Adjust air valve lockout as follows:

1) Remove air valve lockout guard, position choke valve wide open.

2) Apply downward force to vacuum break lever to move choke rod to top of slot in choke lever. Move air valve slightly towards open position.

3) With the above conditions applying, clearance between lockout tang and front edge of air valve should be as specified (see Specifications). If adjustment required, bend tang that bears against choke valve.

4) Check lockout by opening choke valve wide open and opening throttle sufficiently to allow fast idle adjusting lever to be placed on highest step of fast idle cam. With choke rod in bottom of slot, air valve lockout tang should allow only 6°–10° of air valve opening. *NOTE – This angle built into assembly and is not adjustable.*



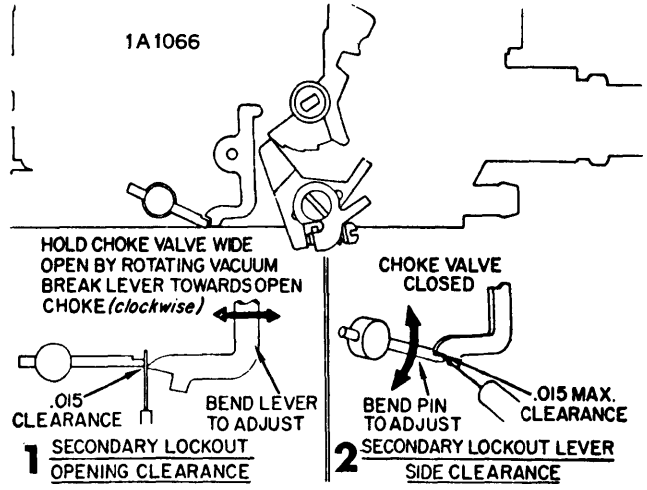
AIR VALVE LOCKOUT ADJUSTMENT

1971 DELCO 4MC & 4MV 4-BARREL (Cont.)

Secondary Throttle Lockout

Opening Clearance – Hold choke valve wide open with vacuum break lever, hold secondary throttle valves partially open. Clearance between end of lockout pin and toe of lockout lever should be .015". Bend lockout lever (see illustration) to adjust.

Secondary Lockout Pin Side Clearance – With choke valve and secondary throttles fully closed, bend lockout pin to obtain side clearance of .015" between side of lockout pin and lockout lever.



SECONDARY THROTTLE LOCKOUT ADJUSTMENT

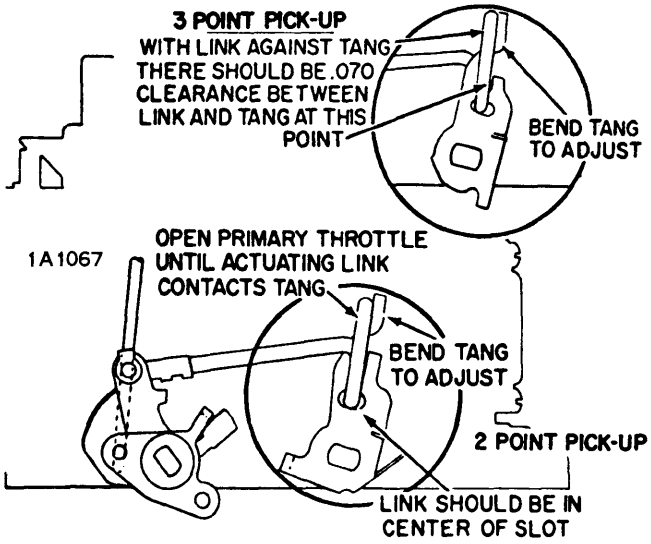
Secondary Throttle Opening

Open primary throttle valves until actuating link contacts upper tang on secondary lever. Since there are two types of linkage used in production, check adjustment as follows:

2-Point Pickup Linkage – Bottom of link should be in center of secondary lever slot.

3-Point Pickup Linkage – Clearance between link and middle tang should be .070".

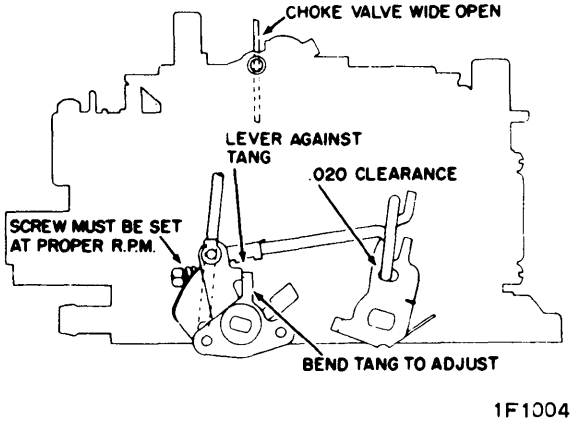
If adjustment required, bend upper tang on secondary lever.



SECONDARY THROTTLE OPENING ADJUSTMENT

Secondary Closing

With curb idle properly adjusted, cam follower off fast idle cam and choke valve wide open, clearance between secondary throttle actuating rod and front of slot in secondary throttle lever (with closing tang on throttle lever resting against actuating lever) should be .020". If adjustment required, bend tang on primary throttle actuating lever.

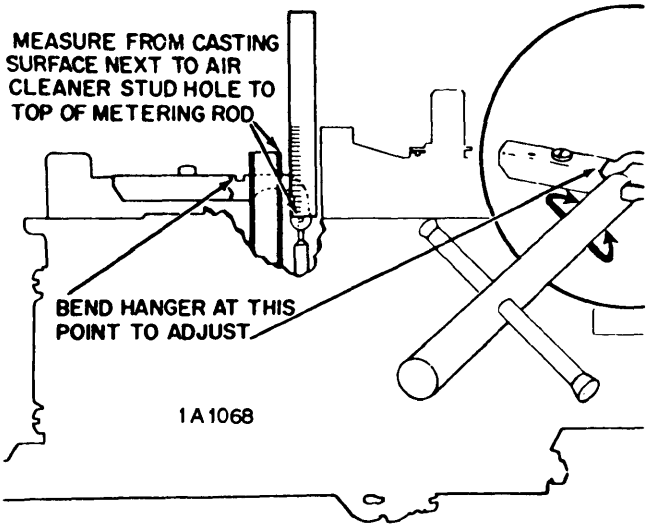


SECONDARY CLOSING ADJUSTMENT

Secondary Metering Rods

NOTE – Metering rod hangers are selectively matched to each carburetor and letter stamped. Unless hanger has been damaged, no change in hanger (metering rod) setting will be necessary.

If a new metering rod hanger is installed, adjustment may be checked by measuring the distance from top of metering rod to top of air horn (next to air cleaner stud hole). If measurement not as specified (see Specifications), bend metering rod hanger so that both metering rods are adjusted to the same dimension. *NOTE – Air valve must be closed when measurement is taken.*



SECONDARY METERING ROD ADJUSTMENT

1971 DELCO 4MC & 4MV 4-BARREL (Cont.)

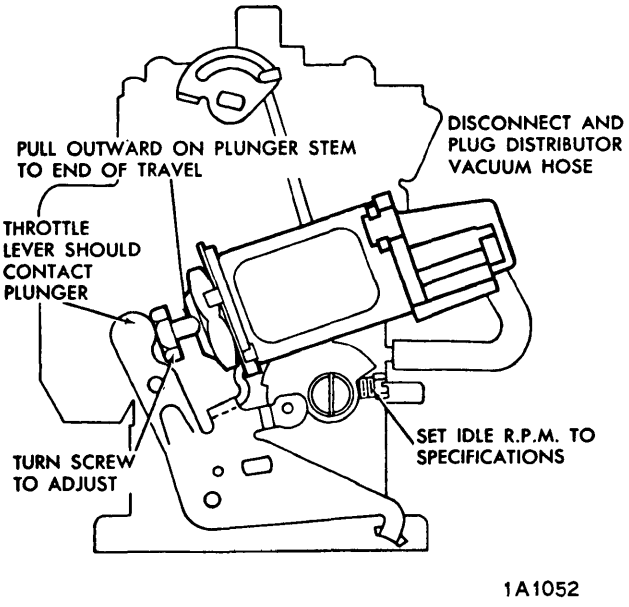
Combined Emission Control (C.E.C.) Valve

NOTE – This adjustment to be made only after **1)** *replacement of the solenoid,* **2)** *major carburetor overhaul, or* **3)** *removal or replacement of throttle body.*

Before adjusting the C.E.C. Valve all instructions as to tune-up listed on the decal under the hood must be complied with. Further, set the following conditions before making the adjustment. Engine running at normal operating temperature, manual transmission in neutral, automatic transmission in DRIVE. Vacuum hose at distributor removed and plugged, A/C OFF, and fuel tank hose disconnected from vapor canister (remove fuel tank gas cap on Corvette). Adjust as follows:

1) Manually extend the C.E.C. Valve plunger to contact throttle lever and limit of its travel.

2) Adjust plunger length to obtain specified engine speed (see Specifications).



C.E.C. VALVE ADJUSTMENT

Throttle Control Solenoid (Buick V8 Engines)

Used on manual transmission cars and controlled by a transmission mounted switch to increase idle speed with transmission in third or fourth gear. Adjust as follows:

1) With transmission in Neutral and engine running at normal operating temperature, disconnect solenoid wire at connector.

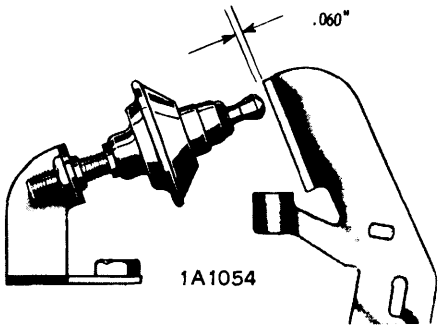
2) Disconnect single wire connector at relay directly above solenoid and plug this lead into solenoid connector which will energize solenoid.

3) Adjust solenoid adjusting bolt to obtain an engine idling speed of 1100 RPM. *NOTE – Solenoid is assembled at factory with plunger bottomed against stop and cannot be adjusted inward unless solenoid bracket also adjusted.* After adjustment completed, restore original electrical connections.

Throttle Dashpot

Buick (With Auto. Trans.) – With throttle valves in hot (curb) idle position, adjust dashpot two turns beyond point where plunger contacts throttle lever (plunger depressed .160").

Oldsmobile – With throttle valves in hot (curb) idle position, depress dashpot plunger fully and adjust dashpot for .060" clearance between end of dashpot plunger and throttle lever.

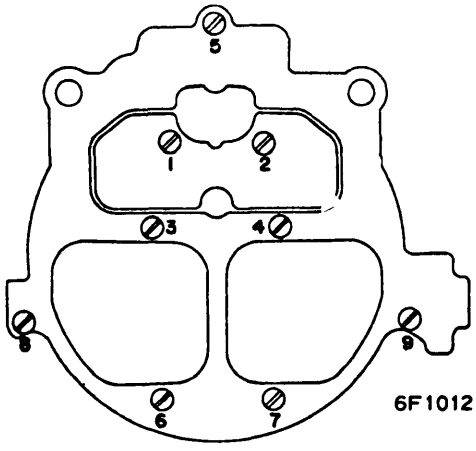


OLDSMOBILE DASHPOT ADJUSTMENT

OVERHAUL

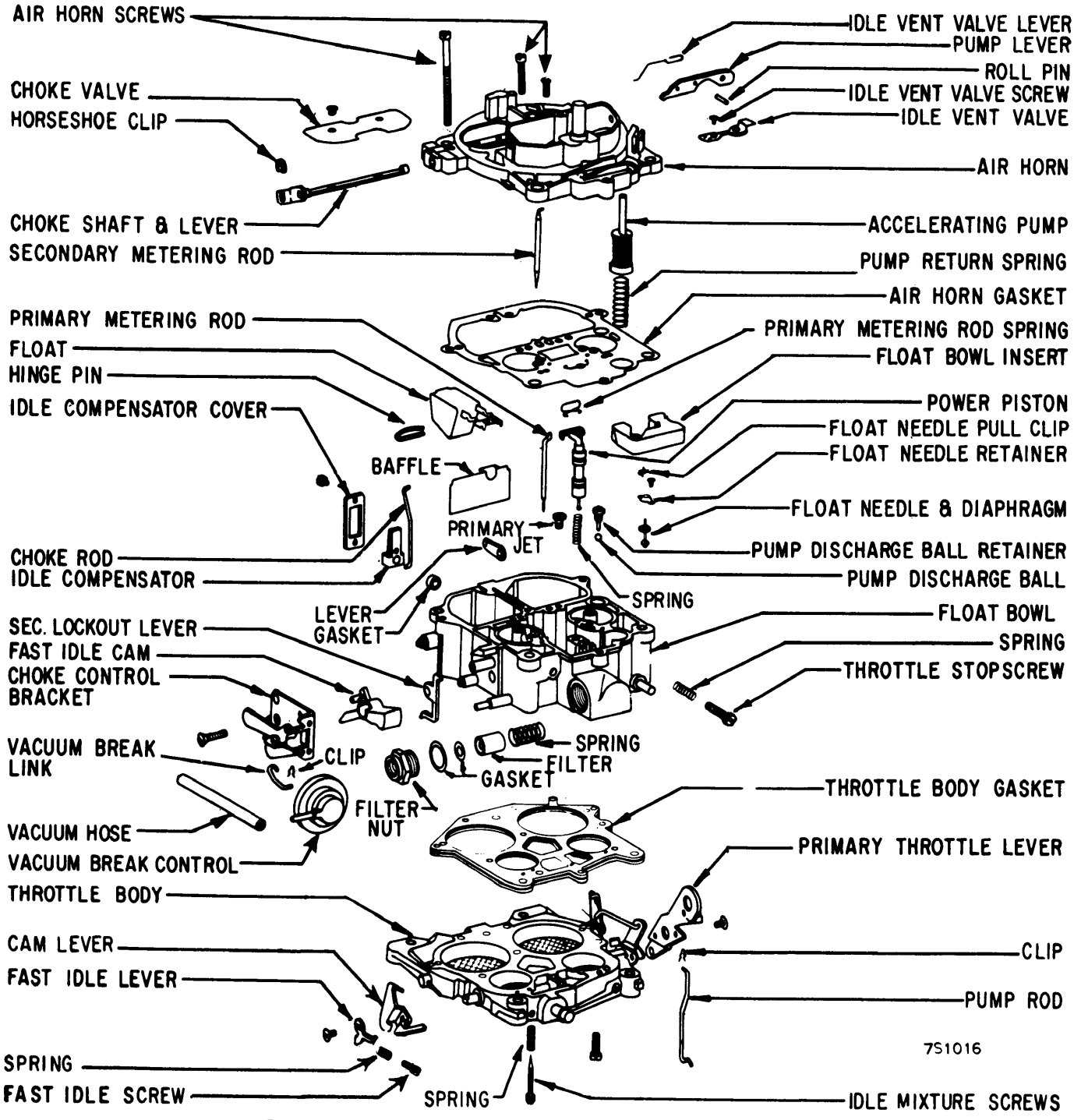
Disassembly

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 are damaged, replace air horn assembly.*



AIR HORN SCREW ATTACHING SEQUENCE

1971 DELCO 4MC & 4MV 4-BARREL (Cont.)



ROCHESTER 4MV 4-BARREL CARBURETOR ASSEMBLY (TYPICAL)

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 dis-

1971 DELCO 4MC & 4MV 4-BARREL (Cont.)

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 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.