

Holley Carburetors

1970 HOLLEY 4150 & 4160 4-BARREL

CHEVROLET

Carb. Model 4150	② Type	① Holley Carburetor No. Synchro-Mesh	Auto. Trans.
350" 360 HP V8.....	③	R-4555-A	R-4490-A
350" 360 HP V8.....	④	R-4489-A	R-4554-1A
370 HP (Corvette) ...	③	R-4555-A	
370 HP (Corvette) ...	④	R-4489-A	
396" (402") 375 HP... ③		R-4557-A	R-4492-A
396" (402") 375 HP... ④		R-4491-A	R-4556-A
454" 450 HP V8..... ③		R-4557-A	R-4492-A
454" 450 HP V8..... ④		R-4491-A	R-4556-A
460 HP (Corvette) ... ③		R-4559-A	R-4559-A
460 HP (Corvette) ... ④		R-4493-A	R-4493-A

CHRYSLER CORP.

Carb. Model 4160	②	Holley Carburetor No.	
383" V8	③	R-4367-A	R-4368-A
383" V8	④	R-4217-A	R-4218-A
383" V8 (with A/C) ...	③		R-4369-A
440" V8	③		R-4366-A
440" V8	④		R-4360-A

FORD MOTOR CO.

Carb. Model 4150-C	②	Holley Carburetor No.	
302" BOSS V8	④	DOZF-Z	
428" Cobra Jet V8 ...	④	DOZF-AA	DOZF-AB
428" Cobra Jet V8 (with A/C)	④	DOZF-AC	DOZF-AD
429" Super Cobra Jet V8	④	DOOF-N	DOOF-R
429" BOSS V8	④	DOOF-S	

- ① - Or Ford Autolite part number.
 ② - Designates useage on vehicles equipped for exhaust emission control only, or equipped for both exhaust emission and raw fuel evaporation control systems.
 ③ - Vehicles with exhaust emission control system only.
 ④ - Vehicles with both exhaust emission and fuel evaporation control systems.

►CHANGES, CAUTIONS, CORRECTIONS

- **CHRYSLER AUTOMATIC CHOKE CAUTION** - Choke "well" is a stainless-steel cup fastened over a port in manifold. A steel-asbestos gasket seals exhaust gases in manifold. Loosening or removing retaining bolts will allow exhaust gases to escape into engine compartment. **DO NOT RUN ENGINE WITHOUT CHOKE FIRMLY BOLTED TO MANIFOLD. FIRE OR HEAT DAMAGE MAY OCCUR.**
- **CAS, ECS NOTE** - In conformity with U. S. Government standards regarding exhaust emission control, carburetors are designated CAS (Cleaner Air System). Vehicles which are offered for original or initial sale in California are equipped with carburetors designated ECS (Evaporation Control System). Vehicles equipped with ECS are primarily CAS qualified to comply with Government regulations exhaust emissions and are then further equipped to control raw fuel vapor evaporation by means of the ECS equipment.

CARBURETOR IDENTIFICATION

All Carburetors (except Ford) - Holley part number is stamped on fuel bowl. Complete number (R3230A) may not appear on carburetor ("R" indicates carburetor, "A" indi-

cates assembly). A suffix number ("-1" etc.) indicates modifications in basic design or specifications.

Ford Carburetors - Ford number prefix and suffix is stamped on choke valve flange (Example "C5AF BD").

DESCRIPTION

Carburetors are downdraft type of same design used on previous models. Ford Motor Co. and Chrysler Corp. engines carburetors are equipped with idle mixture adjusting screw limiter caps which limit the range of adjustment possible when caps are in place.

Ford Cobra Jet Carburetors - When used on Cobra Jet 428" engines and on 302" BOSS engines a manual choke is used. An automatic choke system is used on the 429" Super Cobra Jet and BOSS carburetor installation.

Ford Motor Co. - Engines used in air conditioned vehicles are equipped with solenoid throttle positioners. All other engines have idle retard dashpots on carburetors.

Chrysler Corp. - Carburetors used on Chrysler Corp. vehicles are equipped with hot idle thermostatic valves and distributor ground switches.

Model 4150 - Primary and secondary metering blocks are used. Secondary metering block may or may not have Power Valve (power enrichment system).

Model 4150C - These carburetors are similar to other 4150 models except for the following features: "Center Hinged" Float with float hinge on side of float. External Vent Rod (primary fuel bowl vent valve operated by rod from throttle shaft lever), and External Fuel Distribution Tube (linking fuel bowls).

Model 4160 - Has conventional primary metering block and a Secondary Metering Body mounted on side of main body within secondary fuel bowl. No secondary Power Valve is used.

- **CHEVROLET & CHRYSLER CORP. CARBURETOR NOTE:** These carburetors have vacuum diaphragm type "Vacuum Break" or "Vacuum Kick" instead of choke vacuum piston and separate well type automatic choke linked to choke. See *Adjustments*.

ADJUSTMENT (ON ENGINE)

NOTE - On vehicles equipped with ECS and vapor canisters disconnect "Fuel Tank" line from vapor canister before making idle adjustments. After adjustments made reconnect line to canister. Other vehicles with ECS, remove fuel tank cap.

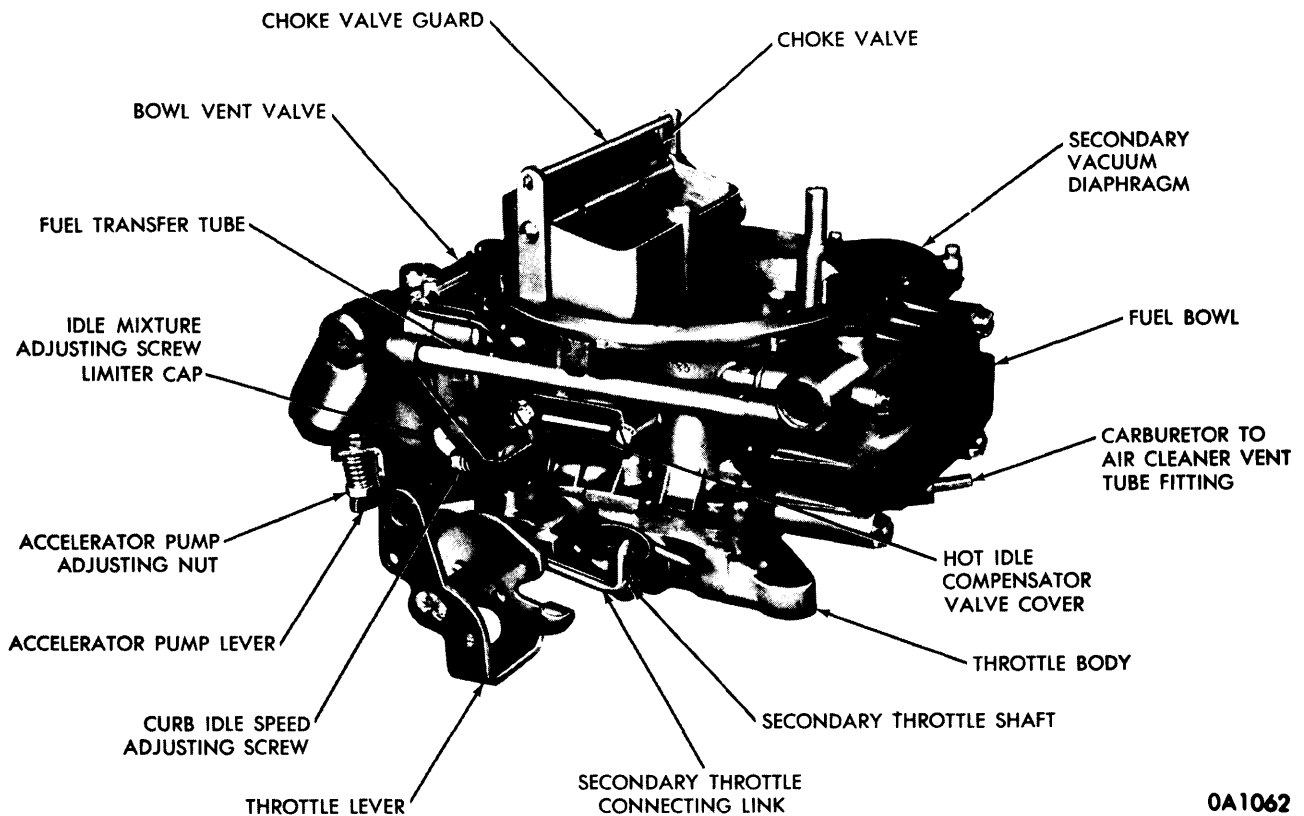
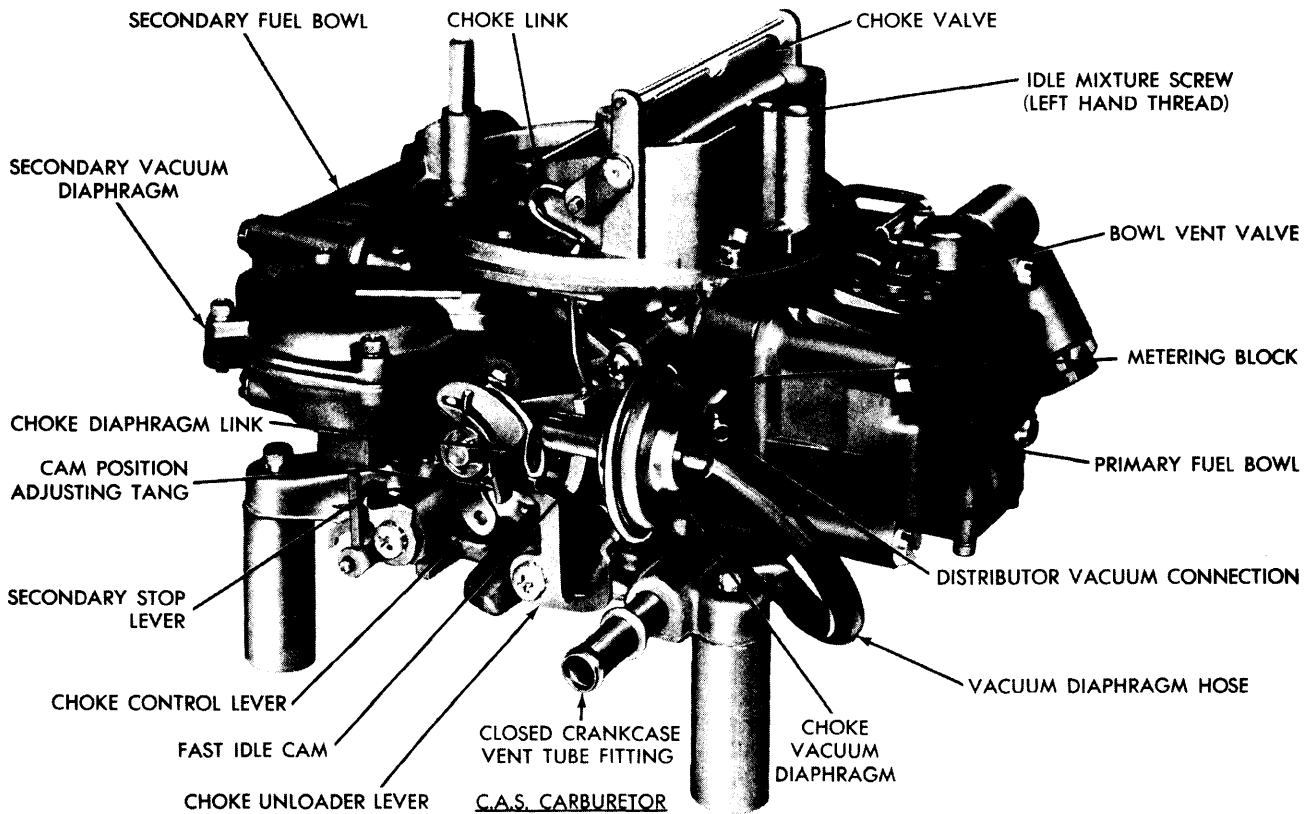
Idle Speed & Mixture

Chevrolet - With engine running at operating temperature (choke valve open, air cleaner damper door open) and A/C "OFF", observe tune-up decal in engine compartment and proceed as follows:

350" 370 HP V8, Manual Transmission - Adjust idle mixture screws to obtain maximum idle RPM. Adjust idle speed screw to obtain 750 RPM with transmission in neutral.

396" (402") 375 HP V8 and 454" 450 HP V8 - 1) Remove air cleaner, disconnect and plug distributor vacuum line. Adjust idle mixture screws to obtain maximum idle RPM.

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1970 HOLLEY 4160 CARBURETOR (C.A.S. SHOWN)

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2) Adjust idle speed screw to obtain 750 RPM with manual transmission in neutral; 700 RPM with automatic transmission in drive.

3) Turn one mixture screw in to obtain 20 RPM drop, then back screw out ¼ turn. Repeat for other mixture screw.

4) Readjust idle speed screw to obtain 750 RPM (manual transmission) or 700 RPM (automatic transmission).

Chrysler Corp. - Exhaust Analyzer must be used to ensure correct air-fuel ratio setting.

Ford Motor Co. - Turn both idle mixture screws counterclockwise to limit of travel with limiter cap ear against stop on carburetor body. With engine at normal operating temperature (choke valve wide open and fast idle inoperative), disconnect parking brake release vacuum line at power cylinder and block this line (where used), place automatic transmission selector lever in Drive, turn headlights ON, and air conditioner ON. Air cleaner must be in place. (NOTE - If necessary to remove air cleaner for adjustments, final idle speed and mixture settings must be checked with air cleaner in place) make certain that hot idle compensator valve closed and adjust throttle stopscrew for correct engine idle speed (see Specifications). Turn both idle mixture adjusting screws in for

smoothest possible idle within range of idle screw limiter caps. Recheck idle speed and repeat idle mixture adjustment if necessary.

Fast Idle

NOTE - Make this adjustment after hot or slow idle speed and idle mixture adjustment have been made. Adjust each model as follows:

Chevrolet - **NOTE** - Fast idle speed must be set with Transmission Controlled Spark wire disconnected and transmission in Neutral. With engine at normal operating temperature and idling with choke valve wide open, position fast idle lever on high step of fast idle cam, bend fast idle lever as required for correct fast idle speed (see Specifications).

Chrysler Corp. - With engine at normal operating temperature and idling with transmission in Park or Neutral, position fast idle tang on second highest step of fast idle cam. If fast idle speed not correct (see Specifications), adjust by bending fast idle tang perpendicular to surface of fast idle cam. **CAUTION** - Bending tang in any other manner will change Fast Idle Cam Position adjustment (see "Off Engine" adjustments).

Ford Motor Co. - Obtain the following conditions: Engine and underhood at normal operating temperature. Headlights

CARBURETOR ADJUSTMENT SPECIFICATIONS

Holley Carburetor No. ①	Idle Speed (Engine RPM)		Initial Idle Mix. Setting	Float Setting		Fast Idle (Off Eng.) Cam Setting	Unloader Setting	Vacuum Break Setting	Dashpot Setting	Auto. Choke Setting
	Hot ③	Fast		Primary	Secondary					
R4217-A	750	2000	②	15/64"	17/64"	#53	#25	#18	.....	2 Rich
R4218-A	750	1800	②	15/64"	17/64"	#53	#25	#46	.....	2 Rich
R4346	750	2200	②	.350" ④	.50" ④	.025"	.350"	.300"	.....	⑤
R4360-A	650	1600	②	15/64"	17/64"	#53	#25	#46	.....	2 Rich
R4366-A	650	1600	②	15/64"	17/64"	#53	#25	#46	.....	2 Rich
R4367-A	750	2000	②	15/64"	17/64"	#53	#25	#18	.....	2 Rich
R4368-A	750	1800	②	15/64"	17/64"	#53	#25	#46	.....	2 Rich
R4369-A	750	1800	②	15/64"	17/64"	#53	#25	#46	.....	2 Rich
R4489-A	.....	.....	..	⑧ ④	⑧ ④	.....	.350"	.....	.....	⑤
R4490AAS	.....	.....	..	⑧ ④	⑧ ④	.....	.350"	.....	.....	⑤
R4491-A	750	2200	②	⑧ ④	⑧ ④	.025"	.350"	.350"	.....	⑤
R4492-A	700	2200	②	⑧ ④	⑧ ④	.025"	.350"	.350"	.....	⑤
R4493-A	.....	.....	..	⑧ ④	⑧ ④	.....	.....	.....	.....	⑤
R4554AAS	.....	.....	..	⑧ ④	⑧ ④	.....	.350"	.....	.....	⑤
R4555-A	.....	.....	..	⑧ ④	⑧ ④	.....	.350"	.....	.....	⑤
R4556-A	700	2200	②	⑧ ④	⑧ ④	.025"	.350"	.350"	.....	⑤
R4557-A	750	2200	②	⑧ ④	⑧ ④	.025"	.350"	.350"	.....	⑤
R4559-A	.....	.....	..	⑧ ④	⑧ ④	.....	.350"	.....	.....	⑤
DOOF-N	650/500	2400	②	⑧ ④	⑧ ④	.....	.300"	.300"	⑦	2 Rich
DOOF-R	700/500	2200	②	⑧ ④	⑧ ④	.....	.300"	.300"	⑦	2 Rich
DOOF-S	700/500	2200	②	⑧ ④	⑧ ④	.....	.....	.....	⑦	⑥
DOZF-AA	725	1900	②	⑧ ④	⑧ ④	.....	.....	.....	.140"	⑥
DOZF-AB	675	2100	②	⑧ ④	⑧ ④	.....	.....	.....	.200"	⑥
DOZF-AC	725/500	1900	②	⑧ ④	⑧ ④	.....	.....	.....	⑦	⑥
DOZF-AD	675/500	2100	②	⑧ ④	⑧ ④	.....	.....	.....	⑦	⑥
DOZF-Z	800/500	.....	②	⑧ ④	⑧ ④	.....	.....	.....	⑦	⑥

① - Or Ford Autolite No.

② - Limiter caps used.

③ - On engine Tune-up Decal under hood.

④ - Fuel Level. See text for adjustment. ⑤ - See text for adjustment procedure. ⑥ - Manual choke. ⑦ - Solenoid equipped.

⑧ - See text. "Adjustment (Off Car)".

⑨ - Higher speed, solenoid energized. Lower speed, solenoid de-energized.

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"ON" (high beam), A/C "OFF". Automatic transmission in "DRIVE", manual transmission in neutral. **CAUTION:** On vehicles with vacuum release parking brake and automatic transmission, plug the vacuum line and set the brake before placing transmission in "DRIVE". This will permit the parking brake to remain engaged while engine is running and transmission is in "DRIVE". Adjust idle mixture and speed as follows:

1) Adjust curb idle speed to specification with air cleaner installed. Obtain adjustment on vehicles equipped with solenoid throttle positioner by turning the solenoid shaft adjusting screw in or out of the shaft.

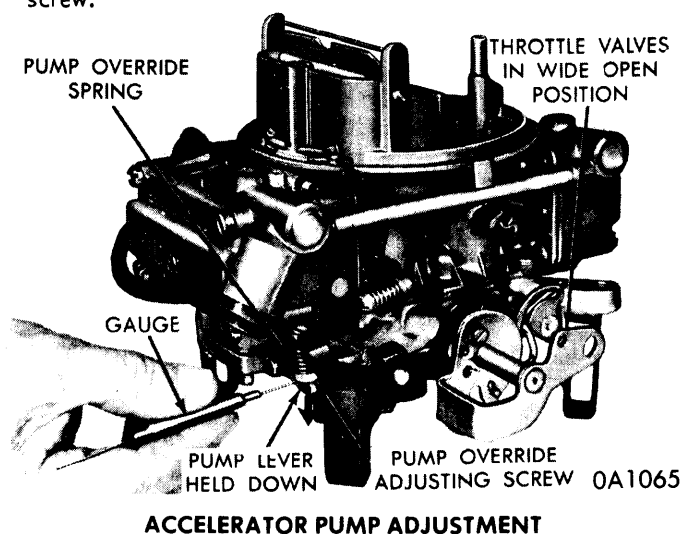
2) If vehicle is equipped with throttle positioner disconnect solenoid wire at bullet connector (near loom) and adjust carburetor throttle stop screw to 500 RPM.

3) Adjust the idle mixture screws inward to obtain smoothest idle possible within the range of the idle limiter caps. Make final check of idle smoothness and RPM only with air cleaner installed.

Ford Motor Co. - With engine at normal operating temperature, air cleaner removed, and tachometer connected, rotate the fast idle cam until the fast idle adjusting screw rests on the highest step of the cam. Turn adjusting screw to obtain specified fast idle RPM. (see Specifications).

Accelerating Pump

Override Adjustment - Hold throttle valves wide open, manually depress pump diaphragm actuating lever. In this position, clearance between head of operating lever adjusting screw and pump arm should be .015" (all carburetors). Adjust by turning the adjusting screw (one-half turn of screw is equal to .015"). Check pump action by fully closing throttle valves and then opening the valves. Slightest movement of throttle lever should cause corresponding movement of pump lever (lag will result in a top-in stumble or flat spot). Correct by lengthening adjusting screw.



Pump Setting Adjustment - Two holes provided in throttle lever for pump cam screw engagement as follows:

Chevrolet - Install pump cam screw in No. 1 hole (all carburetors).

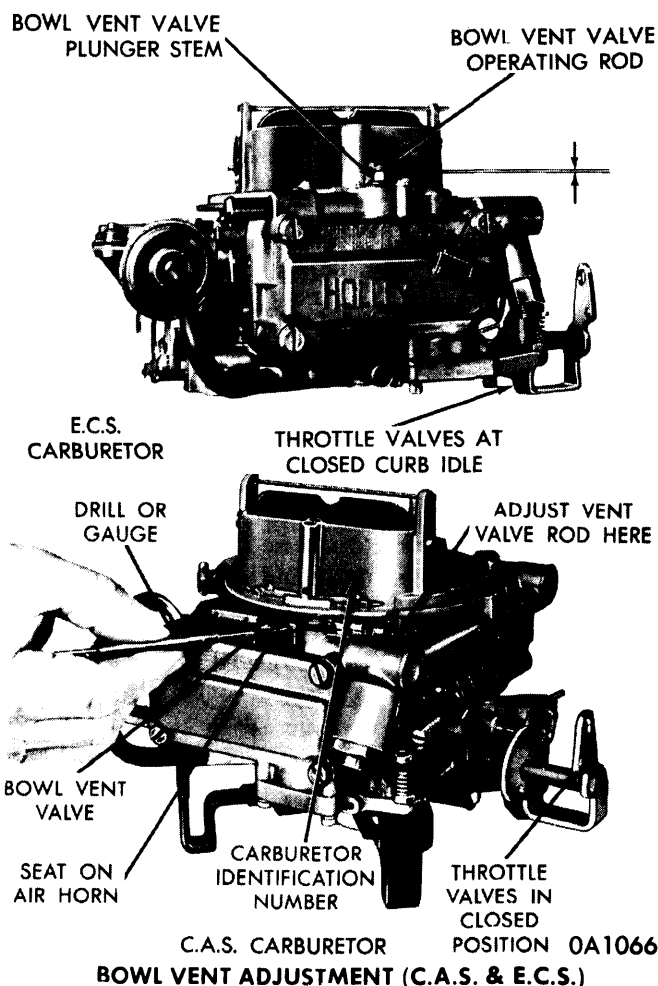
Ford Motor Co. - Install pump cam screw in No. 2 hole (all carburetors).

Bowl Vent

Chrysler Corp. (CAS & ECS Carbs.) - With idle speed properly set and throttle valves fully closed, clearance between vent valve button and seat on bowl cover should be (for CAS) 5/64". On ECS carburetors it should be possible to insert a No. 72 drill between bowl vent valve plunger stem and operating rod. If clearance not correct adjust by bending vent rod to change contact arc on throttle lever.

Fuel Level

Chrysler Corp. ("Wet" Fuel Level) - Before checking fuel level, make certain that fuel pump pressure is 5 lbs. (**CAUTION** - Fuel level will vary 1/32" for each 1 lb. variation in pressure). Remove lower bolt from fuel bowl furthest from fuel inlet, install C-4051 Wet Fuel Level Gauge in this bolt hole. Start or crank engine to refill bowl (some fuel will be lost when gauge installed). Read fuel level on gauge which should be 9/16" (primary bowl), 13/16" (secondary bowl). If adjustment required, see "Float Level (On Bench)" for removal of float bowl and float adjustment.

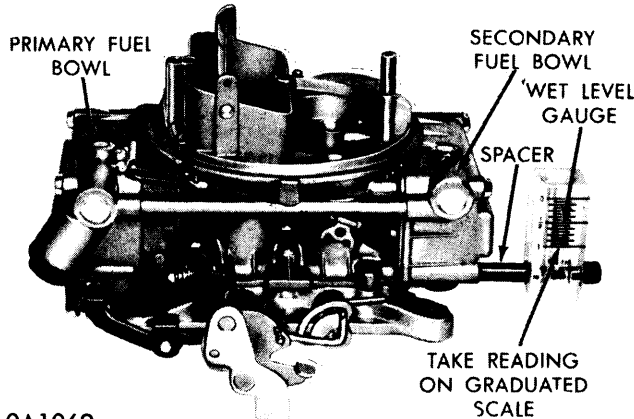


All Other Carburetors - Bring engine to normal operating temperature, then remove air cleaner and stop engine. Remove sight plug in end of fuel bowl (use a container to catch fuel). Fuel level within bowl should be at lower edge of sight plug hole ($\pm 1/32"$). To adjust, proceed as directed below. **NOTE** - When checking secondary float

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level, first accelerate primary throttles slightly and operate secondary throttle by hand to stabilize secondary fuel level.



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WET FUEL LEVEL (CHRYSLER CORP.)

Fuel Level Too High - With engine stopped, loosen lock screw on top of fuel bowl just enough to allow rotation of nut underneath. **CAUTION** - Do not unlock lock screw or attempt to adjust fuel level with engine running. Turn adjusting screw 1/2 turn clockwise to lower fuel level below specifications. Tighten lock screw, then run engine to stabilize fuel level. Check fuel level at sight plug hole. If level is not below specified level, repeat above step. With fuel level below specified level, turn adjusting nut in increments of 1/6 turn until correct fuel level is obtained. **NOTE** - 1/6 turn of adjusting nut will change fuel level at sight plug opening 3/64".

Fuel Level Too Low - Proceed as for "Fuel Level Too High" except that it will not be necessary to initially decrease fuel level below specifications.

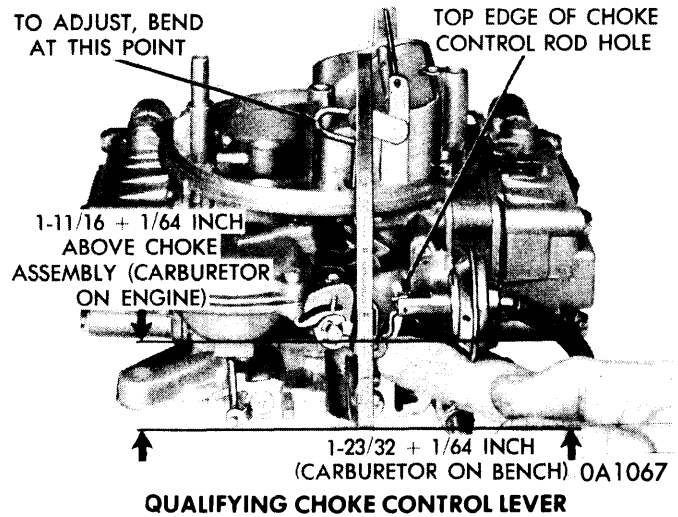
Choke Control Lever Qualifying

NOTE - On Chrysler, Imperial, Dodge & Plymouth, this adjustment must be made before checking or adjusting Fast Idle Cam Position, Unloader, or Vacuum Kick.

Chrysler, Imperial, Dodge, Plymouth - Open throttle valves to mid-position, close choke valve by applying light pressure on choke control lever. Use scale to measure distance from top of choke rod hole in control lever to top of choke assembly (carburetor on engine) or to carburetor base (carburetor off engine). If this measurement not correct (see specifications below), adjust the bending connector rod at existing bend near choke lever. **CAUTION** - Check rod for free movement between open and closed positions after adjustment and rebend as necessary to relieve any binding.

Choke Qualifying Setting

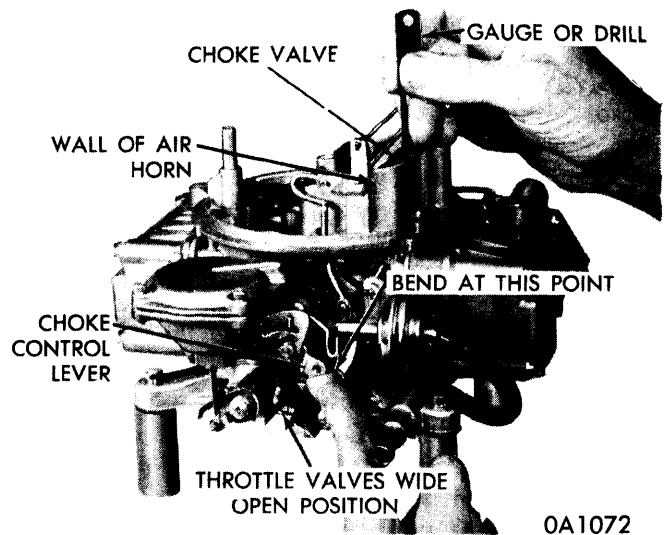
Carburetor On Engine	1-11/16" ± 1/64"
Carburetor Off Engine	1-23/32" ± 1/64"



Unloader

Chrysler Corp. (All Carburetors) - With throttle valves in wide open position, insert correct size drill rod (see Specifications) between upper edge of choke valve and air horn wall, move choke valve toward closed position with light finger pressure on choke lever. Slight drag should be noted as drill rod removed. Adjust by bending unloader lever at undercut portion near throttle shaft.

All Other Carburetors - With throttle valves in wide open position, move choke valve toward closed position against unloader tang on throttle shaft, then measure clearance between lower edge of choke valve and air horn wall with a gauge or drill rod of correct size (see Specifications). If clearance not correct, adjust by bending choke rod at offset bend near choke valve lever (see illustration).



CHOKE UNLOADER ADJUSTMENT

Fast Idle Cam Position

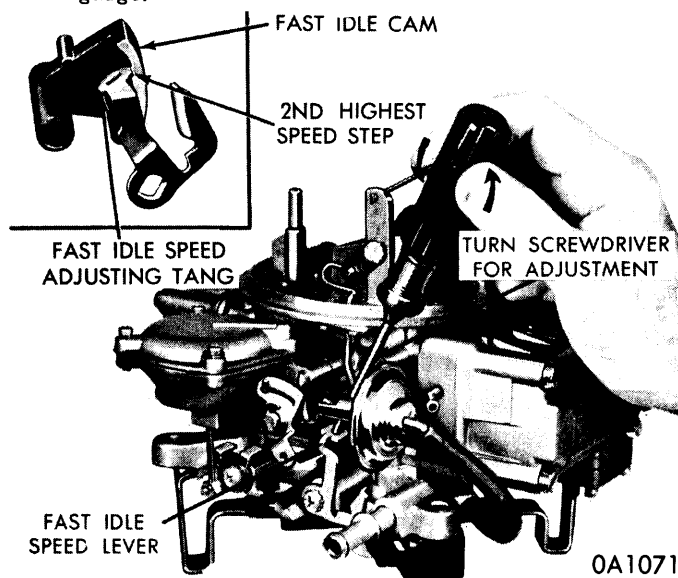
Chrysler Corp. - After qualifying choke control lever (if necessary) proceed as follows:

- 1) With fast idle speed adjusting tang contacting second highest speed step on fast idle cam, move choke toward closed position with light pressure on control lever.

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2) Insert #53 drill gauge between choke valve and air horn. Adjustment will be necessary if slight drag not obtained as drill is being removed.

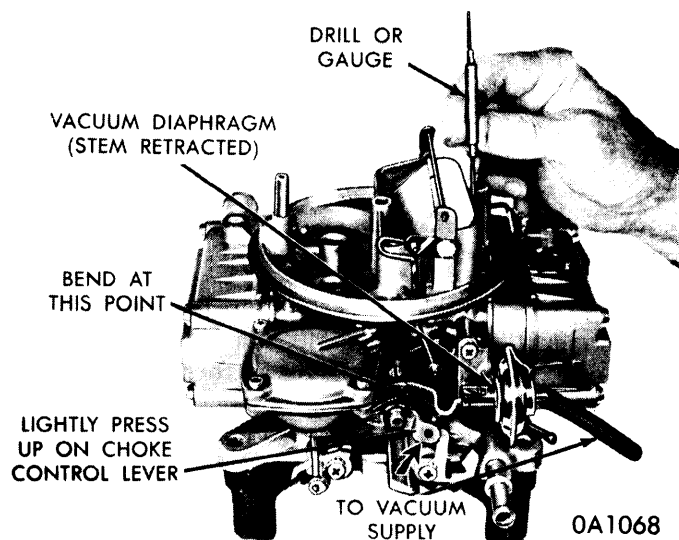
3) Bend tang (see illustration) to obtain proper drag on drill gauge.



FAST IDLE SPEED ADJUSTMENT

Choke Plate Pull-Down

Ford Motor Co. (If Used) - Disconnect heat tube at thermostatic choke cover, remove cover and coil assembly. Bend a .036" wire gauge at a 90° angle approximately 1/8" from end, insert bent end of gauge between piston slot and upper edge of right hand slot in choke housing, rotate choke lever counterclockwise until gauge held snugly in piston slot and maintain light pressure on choke lever to hold gauge in place. Use gauge or drill of correct size to check clearance between lower edge of choke valve and air horn wall. If clearance is not $.300" \pm .010"$ (all carburetors), adjust by bending adjusting arm on choke shaft lever up or down as necessary (see illustration).



VACUUM BREAK (KICK) ADJUSTMENT

Vacuum Kick (Choke Vacuum Diaphragm)

Chrysler Corp. (CAS and ECS Carbs.) - **NOTE** - Auxiliary vacuum source (distributor tester or another vehicle engine) can be used to supply vacuum, or engine can be operated to supply vacuum of 10" of Hg. minimum for this test. If auxiliary vacuum source used, disconnect vacuum hose at carburetor fitting and connect vacuum line to this hose (**CAUTION** - Disconnecting hose at diaphragm may damage system).

Checking - With vacuum applied to diaphragm, insert drill rod of correct size (see Specifications) between choke valve and air horn wall, apply sufficient closing pressure on choke rod lever to provide minimum choke valve opening without distorting diaphragm link. (**CAUTION** - Diaphragm internal spring must be compressed which will be noted by extension of diaphragm stem). At this point, slight drag should be noted as drill withdrawn from choke valve. If choke valve position not correct, adjust diaphragm link length as necessary.

Adjustment - Change link length by opening or closing the link bend (**CAUTION** - Do not apply twisting or bending force to diaphragm).

Final Check - With no vacuum applied, choke valve must move freely between open and closed positions.

Vacuum Break

Chevrolet - Start engine or connect an outside vacuum source to choke vacuum diaphragm. Remove choke rod and use rubber band to simulate choke coil action (cold engine) on choke lever. Open accelerator until choke partially closes and fast idle screw rests on high step of fast idle cam. With vacuum diaphragm link acting on choke lever, insert specified gauge between air horn and choke valve at lower edge (see Specifications). Adjust by bending rod or tang.

AUTOMATIC CHOKE (WELL TYPE)

Chevrolet - With carburetor installed on engine and choke rod connected, see that choke valve and rod operate freely. Disconnect choke rod at choke lever. Hold choke valve closed and press down on choke rod to limit of its travel. Top of rod end should be even with bottom of hole in choke lever (1 rod diameter interference fit). Adjust by bending rod at offset. **CAUTION** - Rod end must enter choke lever hole freely without bind.

Chrysler Corp. - This unit is serviced as a complete assembly. Do not attempt to repair unit or change adjustment. See "Chrysler Automatic Choke".

Automatic Choke (Integral Type)

Loosen choke cover screws and rotate cover and coil assembly to align reference mark on cover with correct graduation of scale on choke housing. See "Specifications".

Dashpot

Ford Motor Co. - With engine at normal operating temperature, idle speed and mixture adjustments completed, loosen dashpot locknut. Hold throttle closed and depress dashpot plunger with screwdriver blade. Measure clearance between plunger tip and throttle lever. Turn dashpot to obtain specified clearance (see Specifications). Tighten locknut.

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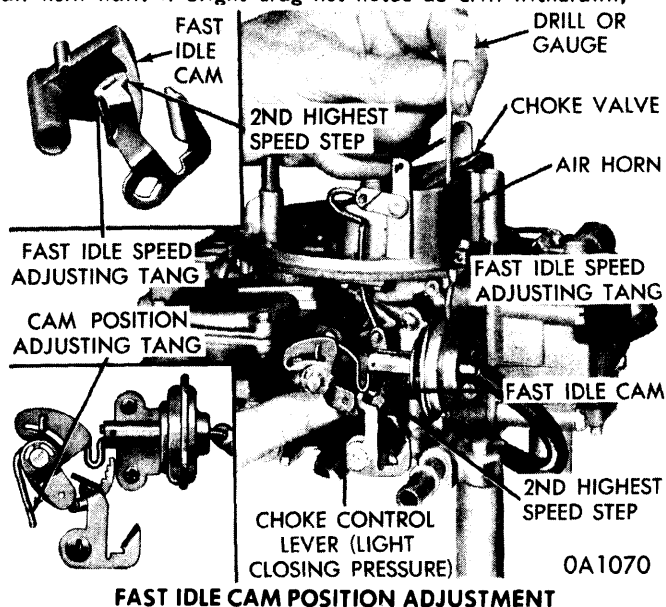
Dashpot

Ford Motor Co. (If So Equipped) – With the engine at normal operating temperature, idle speed and mixture adjustments completed, loosen anti-stall dashpot locknut. Hold throttle closed and depress dashpot plunger with screwdriver blade, then measure clearance between plunger tip and throttle lever. If clearance is not .100", turn dashpot to adjust. Tighten locknut.

ADJUSTMENT (OFF ENGINE)

Fast Idle Cam Position

Chrysler Corp. (CAS and ECS Carburetors) – With fast idle speed adjusting tang contacting second highest step on fast idle cam (see illustration), move choke valve toward closed position with light pressure on choke control lever. Measure choke valve opening by inserting drill rod of correct size (see Specifications) between valve edge and air horn wall. If slight drag not noted as drill withdrawn,



adjust by bending fast idle speed tang **parallel** to cam contact surface. **CAUTION** – Bending tang in any other manner will change Fast Idle Speed adjustment (see "On Engine" adjustments).

Fast Idle Cam

Chevy Nova, Chevelle, Camaro, Chevrolet & Corvette – Open throttle slightly and close choke valve fully to position fast idle lever on high step of fast idle cam, close throttle valves. Check throttle valve opening by inserting drill rod of correct size (see Specifications) between edge of throttle valve and carburetor wall on idle transfer slot side. Adjust by bending fast idle lever. Check fast idle speed after carburetor installed on engine.

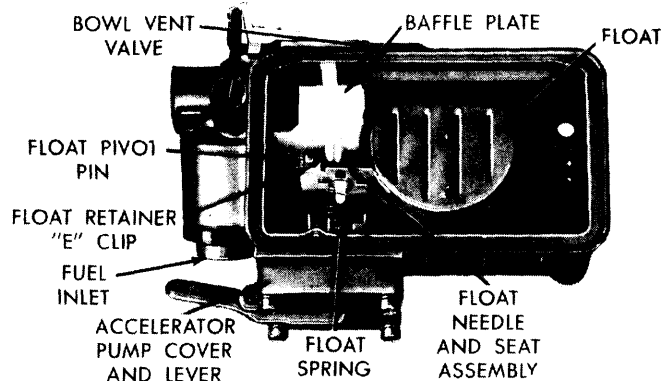
Secondary Throttle Stopscrew (On Bench)

Chevrolet & Ford Motor Co. – Back off secondary throttle stopscrew (see illustration) until secondary throttle valves are tightly closed, turn stopscrew in until it just contacts the stop on the secondary throttle operating lever, then turn stopscrew in one-half additional turn.

Chrysler Corp. – No adjustment required. Secondary throttle valves are factory preadjusted.

Float Level (On Bench)

NOTE – This is a preliminary adjustment only. After carburetor is installed on engine, Fuel Level must be checked and adjusted. See "Fuel Level" under ADJUSTMENT (ON ENGINE).



FUEL BOWL ASSEMBLY

Chevrolet – With fuel bowl inverted, adjust float until float surface is parallel with the surface directly below the float. On non-adjustable needle and seat assemblies, bend float adjustment tab. On adjustable type, turn adjusting nut.

Chrysler Corp. (CAS and ECS Carbs.) – Invert fuel bowl and float assembly with weight of float resting on seated intake needle, measure distance between toe of float and lower surface of fuel bowl (primary fuel bowl), heel of float and lower surface of fuel bowl (secondary fuel bowl). See Specifications. Adjust by bending float lever tang.

Ford Motor Co. – Invert fuel bowl and turn adjusting nut until center of float is equidistant from top and bottom of bowl.

OVERHAUL

Disassembly

Before disassembly, loosen fuel inlet fitting, fuel bowl sight plugs, and needle and seat assembly lockscrews, then separate carburetor into main subassemblies and disassemble each of these subassemblies as follows:

- 1) On carburetors with external interconnecting fuel line, disconnect line at primary and secondary fuel bowls. Remove primary fuel bowl screws and remove fuel bowl, primary metering body, splash shield and gaskets, and fuel tube (fuel bowl connector) if used.
- 2) Remove secondary fuel bowl screws, remove fuel bowl, secondary metering body and gasket (Model 4150). On Model 4160, remove secondary metering body screws and lift out metering body and gasket.
- 3) Disconnect secondary throttle operating rod at throttle lever, then remove secondary throttle operating

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diaphragm assembly and gasket from main body. Disconnect vacuum hose at vacuum break or kick assembly, then remove diaphragm assembly (if used). Remove throttle body-to-main body screws, then remove throttle body and gasket from main body.

Fuel Bowls - 1) On carburetors with "end-hinged" floats, remove float hinge pin retainer, remove hinge pin and slide float from bowl. If necessary, remove spring from float assembly. Remove inlet baffle from bowl (if used). On carburetors with "side-hinged" floats, remove two float hinge screws, remove float assembly from bowl, slide hinge pin out, remove float and spring.

2) Remove fuel inlet needle and seat assembly. *NOTE - Do not disassemble fuel inlet needle and seat as they are matched assemblies.* Remove sight plug and gasket. Remove inlet fitting, fuel filter, spring, and gaskets.

3) On primary fuel bowls only, remove air vent valve assembly, then take out pump diaphragm cover assembly screws and remove pump cover, diaphragm, and spring from bowl. Check pump inlet ball for damage and make certain ball is free. Any damage to ball, passage, or retainer will require replacement of fuel bowl.

Metering Bodies - Use wide-bladed screwdriver to remove main metering jets, use 12-Pt. socket to remove power valve, remove vacuum fitting. On Model 4160 secondary metering bodies, remove plate and gasket from metering body dowel pins.

Chrysler Corp. - When removing idle mixture adjusting screws from primary metering body, first turn limiter caps against stops, pry caps off ends of screws, turn screws in until lightly seated and count number of turns required, note this number so that screws can be reinstalled in exact same position, then remove screws and gaskets.

Ford Motor Co. - Remove limiter caps from ends of idle mixture adjusting screws in primary metering body, then remove screws from body.

Secondary Throttle Operating Diaphragm Assembly - Take out screws and remove diaphragm cover, remove spring and diaphragm assembly from housing. Remove vacuum check ball from housing (when used).

Automatic Choke, Ford Only - 1) Remove choke rod retainer from shaft and lever assembly, remove choke and thermostatic coil assembly and gasket, then remove choke housing and gaskets from main body.

2) Remove choke housing shaft nut, lockwasher, and spacer, then remove shaft and fast idle cam. Remove choke piston and lever assembly from housing. Remove choke rod and seal from main body.

3) If necessary to remove choke valve, file staking on retaining screws (*CAUTION - Use care not to damage choke shaft or venturi while filing screws*), remove screws and slide choke valve out, remove choke valve shaft.

Main Body - On carburetors with vacuum break, take out retaining screws and remove vacuum break diaphragm assembly. Take out accelerating pump nozzle screw, remove discharge nozzle and gaskets, invert main body and catch pump discharge needle which will fall out.

Throttle Body - 1) Remove accelerating pump operating lever, secondary throttle connecting rod, secondary throttle diaphragm lever, and fast idle cam lever. Remove throttle stop screw and spring.

2) If necessary to remove primary or secondary throttle valves and shafts, lightly scribe all throttle valves along throttle shafts and mark each valve and corresponding bore to ensure correct reassembly, then file off staking on valve retaining screws (*CAUTION - Use care not to damage throttle shaft or venturi while filing screws*), take out screws and slide throttle valves out, slide throttle shafts out. Remove Teflon bushings from secondary throttle shaft.

Cleaning & Inspection

Clean metallic parts and castings with carburetor cleaner or solvent (if throttle body not disassembled, clean this assembly and all non-metallic parts in alcohol or gasoline). Blow out all passages with compressed air. Inspect all parts for wear or damage. All mating surfaces must be smooth and not burred or gouged. Inspect needle and seat for burrs, ridges, or wear, and replace both parts as an assembly.

Reassembly

Use all new gaskets. Reverse disassembly procedure and note the following:

Throttle Valve Installation - Assemble valves on shafts in accordance with marks made at disassembly, install but do not tighten retaining screws. Center valves by tapping lightly while holding valves closed (little or no light should show between edges of valves and carburetor bore), then tighten retaining screws securely and stake the screws (*CAUTION - Support shaft on soft metal bar to prevent bending shaft during staking operation*). *NOTE - Roll new plastic throttle shaft bushings between thumb and first finger to shape on shaft for easier installation.*

Accelerating Pump Discharge Needle Seat - If seat is rough, use an old discharge needle and tap needle lightly using a small brass rod and fibre mallet. Install new discharge needle and make sure it is free in passage.

Secondary Diaphragm Housing Assembly - Install vacuum check ball in housing (when used), install the diaphragm and position the spring on diaphragm (small end on boss on cover), tighten cover screws just snug, then pull diaphragm rod downward as far as possible while tightening cover screws securely. Install assembly on carburetor main body.

Idle Mixture Adjusting Screw Installation (Chrysler Corp.) - Install screws and gaskets in primary metering body and turn screws in until lightly seated, then back out each screw exact number of turns noted during disassembly, install new limiter cap on each screw with tabs against stop in metering body.

Idle Mixture Adjusting Screw Installation (Ford Motor Co.) - Install adjusting screws in primary metering body, turn each screw in until lightly seated, then back screw out 1½ turns for initial idle fuel adjustment. Do not install limiter caps until after carburetor installed on engine and air/fuel ratio set to specifications.

