

1968-69 HOLLEY SINGLE BARREL MODEL 1920

1968

DART, VALIANT, SIGNET & BARRACUDA Holley Carburetor No. Synchro-mesh Auto. Trans. 225" 6 Cyl. R-3919-A R-3920-A

DODGE & PLYMOUTH TAXICAB 225" 6 Cyl. R-3924-A R-3924-A

DODGE CORONET, PLYMOUTH BELVEDERE & FURY 225" 6 Cyl. R-3921-A R-3922-A

1969

DART, VALIANT, SIGNET & BARRACUDA Holley Carburetor No. Synchro-mesh Auto. Trans. 225" 6 Cyl. R-4161A R-4162A

DODGE & PLYMOUTH TAXICAB 225" 6 Cyl. R-4165A R-4165A

DODGE CORONET & CHARGER, PLYMOUTH BELVEDERE & FURY 225" 6 Cyl. R-4163A R-4164A

►CHANGES, CAUTIONS, CORRECTIONS

All carburetors are "CAS" type (used with "Clean Air System" engine installations).

CARBURETOR IDENTIFICATION

Holley part number is stamped on the fuel bowl. The complete number (Example R-3271-A) may not appear on carburetor. "R" indicates carburetor and "A" indicates assembly. A suffix figure ("1" etc.) indicates modifications.

DESCRIPTION

Single barrel downdraft type with separate "Well Type" automatic choke. Carburetors are similar to previous models with externally mounted choke vacuum diaphragm to provide initial choke valve opening when engine starts.

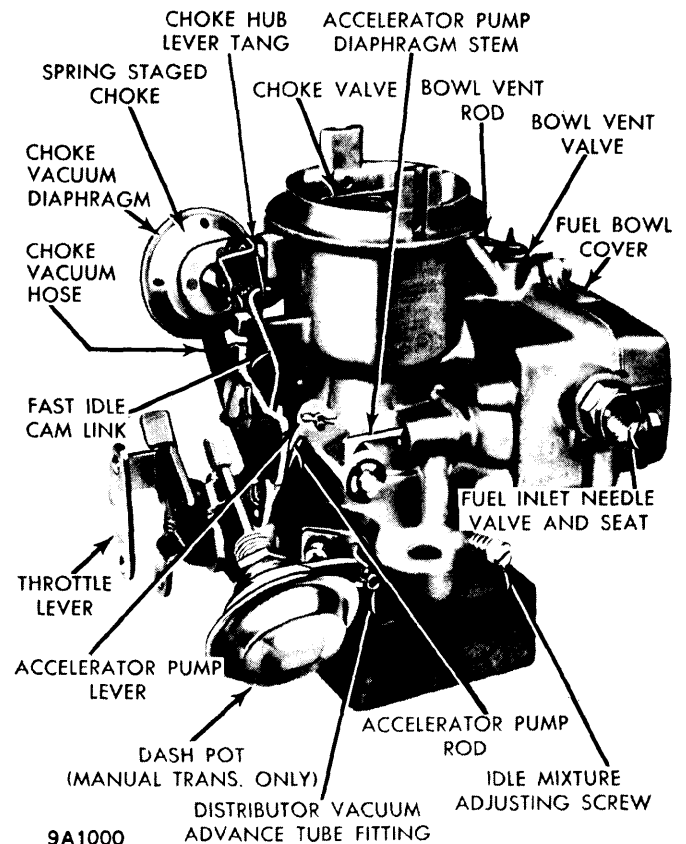
Idle Limiter Cap - 1969 model carburetors have an idle limiter cap installed on idle mixture adjusting screw which limits range of adjustment for exhaust emission control. Do not remove or deform limiter cap and make certain ear on cap contacts stop on carburetor body to provide positive stops for mixture screw adjustment range.

ADJUSTMENT

"ON ENGINE" ADJUSTMENT NOTE - Engine must be at normal operating temperature when making idle speed and mixture adjustment and fast idle speed adjustment. When adjusting idle speed, headlights must be ON. If car equipped with air conditioning, turn Air Conditioner OFF.

Idle Speed & Mixture

NOTE - '69 model carburetors have an idle limiter cap installed on idle mixture adjusting screw which limits range of adjustment. Do not remove cap in making adjustment.



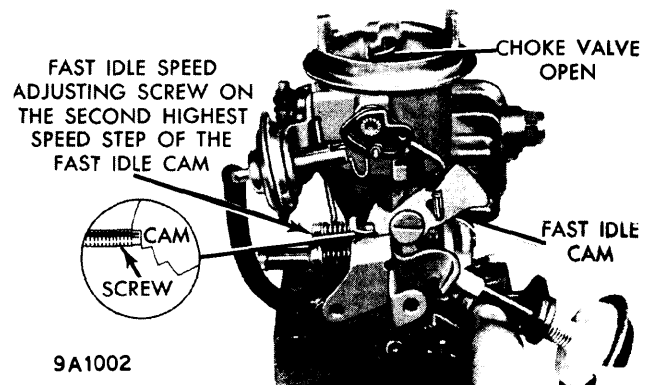
HOLLEY 1920 CARBURETOR COMPONENTS

All Carburetors - Exhaust Analyser must be used to ensure correct fuel-air mixture setting.

Fast Idle Speed (On Engine)

NOTE - Fast Idle Cam Position must be adjusted before adjusting fast idle speed. See Fast Idle Cam Position adjustment.

All Carburetors - With hot idle speed correctly adjusted and engine idling at normal operating temperature with transmission in Park or Neutral, position fast idle screw on second highest step of fast idle cam (see illustrations), turn fast idle adjusting screw in or out for correct fast idle speed (see Specifications).

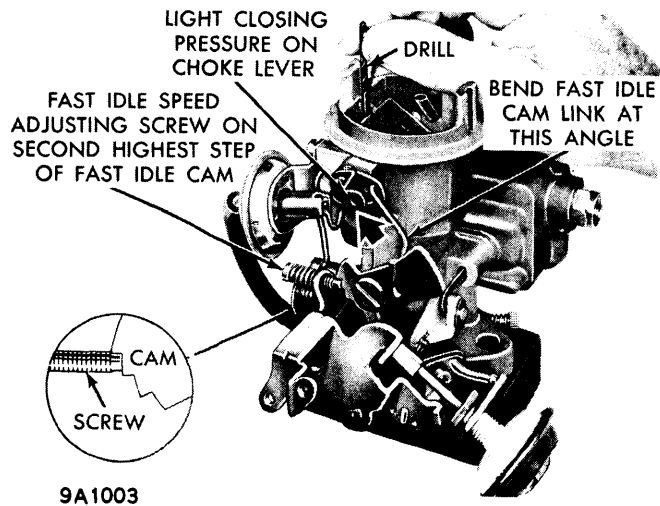


FAST IDLE SPEED ADJUSTMENT

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Fast Idle Cam Position

All Carburetors - Position fast idle adjusting screw on second step of fast idle cam and against shoulder of highest step (see illustration). Check choke valve opening by inserting gauge or drill rod of correct size (see Specifications) between choke valve and air horn wall. If slight drag not noted as gauge is withdrawn, adjust as necessary by bending fast idle connector rod at lower angle (see illustration) until correct choke valve opening is secured. Unloader operation will be correct after this adjustment has been made (separate adjustment not required).



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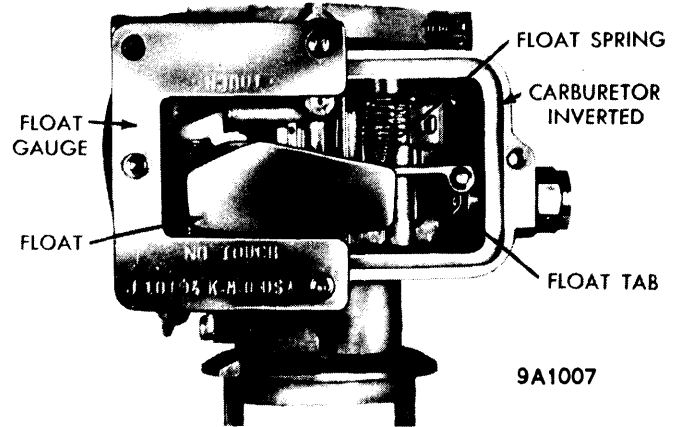
FAST IDLE CAM POSITION ADJUSTMENT

Fuel Level (On Engine)

With car on level floor and engine running, remove economizer diaphragm assembly and check fuel level with a depth gauge inserted through economizer opening. If fuel level not correct, (see Specifications), adjust float level (following).

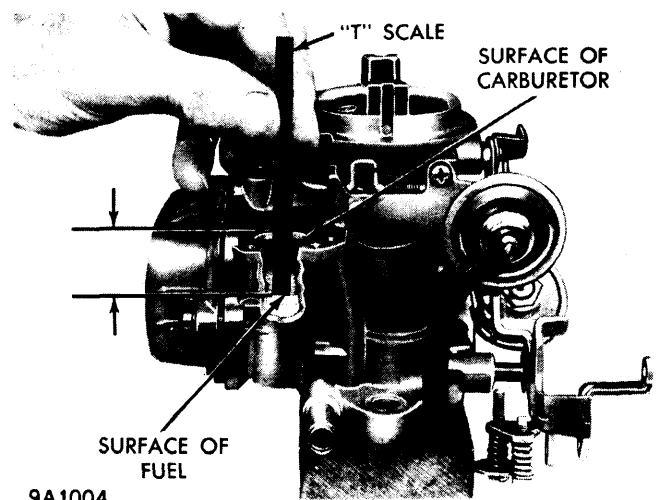
Float Level (Off Engine)

With bowl cover removed, invert carburetor and install correct float level gauge (see Specifications) as shown in illustration. Float should just contact "Touch" leg of



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FLOAT LEVEL ADJUSTMENT



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FUEL LEVEL CHECKING PROCEDURE

CARBURETOR ADJUSTMENT SPECIFICATIONS

Holley Carb. No.	Idle Speed (Engine RPM)		Fast Idle Cam Position	Float Level Gauge	Fuel Level Setting	Auto. Choke Setting	Bowl Vent	Spring Staged Choke	Vacuum Kick Setting
	Hot ①	Fast ②							
R-3919-A	650	1400	#41	C-3903	27/32"	2 Rich	3/32"	—	#30
R-3920-A	650	1600	#52	C-3903	27/32"	2 Rich	3/32"	—	#38
R-3921-A	650	1400	#41	C-3903	27/32"	2 Rich	3/32"	—	#30
R-3922-A	650	1600	#52	C-3903	27/32"	2 Rich	3/32"	—	#38
R-3924-A	650	1400	#52	C-3903	27/32"	2 Rich	3/32"	—	#38
R-4161-A	700	1600	#52	C-3903	27/32"	2 Rich	3/32"	—	#39
R-4162-A	650	1800	#52	C-3903	27/32"	2 Rich	3/32"	—	#50
R-4163-A	700	1600	#52	C-3903	27/32"	2 Rich	3/32"	—	#39
R-4164-A	650	1800	#52	C-3903	27/32"	2 Rich	3/32"	—	#50
R-4165-A	650	1700	#52	C-3903	27/32"	2 Rich	3/32"	—	#39

① - Headlights ON, transmission in NEUTRAL and Air Cond. OFF.

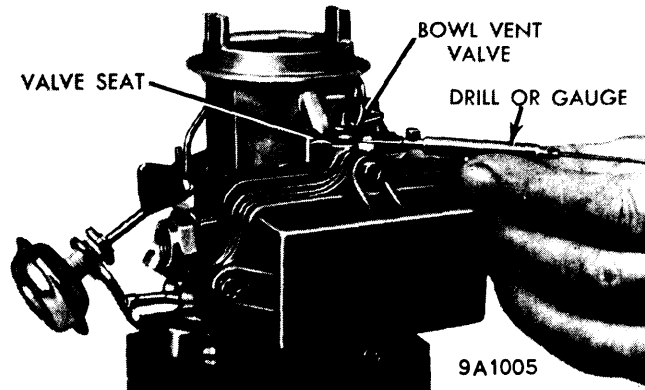
② - With fast idle screw on second highest step of fast idle cam.

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gauge and should just clear "No Touch" leg when gauge reversed. Adjust by bending float tab (which contacts fuel inlet needle) as necessary. **CAUTION** - Do not allow float tab to contact inlet needle while adjusting, rubber tip on needle may be compressed causing false setting.

Bowl Vent

All Carburetors - With throttle valve closed in curb idle position (see Idle Speed Adjustment), check vent valve opening on fuel bowl (see illustration) by inserting gauge or drill rod of correct size (see Specifications) between vent valve and seat. Adjust by bending horizontal portion of vent rod as necessary. **CAUTION** - Make certain vent rod does not bind in guide after adjustment.



BOWL VENT ADJUSTMENT

Vacuum Kick (Choke Vacuum Diaphragm)

NOTE - Adjustment can be made with carburetor on engine and engine running (to supply vacuum) as follows:

Checking - Back off fast idle screw so choke can be closed to kick position with carburetor throttle at curb idle. Insert drill of correct size (see Specifications) between choke valve and air horn wall, apply sufficient closing force on choke rod lever to provide minimum choke valve opening without distorting diaphragm link (**CAUTION** - Diaphragm internal spring must be fully compressed which will be noted by extension of diaphragm stem).

At this point, slight drag should be noted as drill is withdrawn from choke valve. If choke valve opening not correct, adjust diaphragm link length as necessary. Re-set fast idle speed.

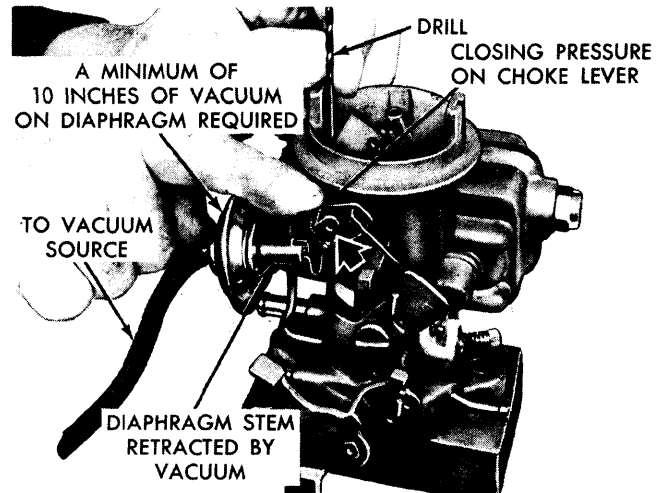
Disassembly

1) Remove vacuum hose between carburetor throttle fitting and vacuum diaphragm, disengage operating link and remove vacuum diaphragm and bracket assembly. **NOTE** - Bowl vent valve rod and spring will fall out as vacuum diaphragm bracket is removed.

2) Remove fuel inlet needle valve and seat. Take out economizer retaining screws, then lift out economizer cover, diaphragm, and stem assembly.

3) Remove fuel bowl attaching screws, remove fuel bowl, baffle, and gasket (discard gasket). Slide baffle out of bowl. Remove float bumper spring. Remove float retaining

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



VACUUM KICK SETTING

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

Automatic Choke

CAUTION - This unit is serviced as a complete assembly. Do not attempt to repair unit or change the adjustment. Check for free movement by moving choke rod up and down. If binding noted, replace unit. Do not lubricate any part of the choke linkage or control unit.

Dashpot ("CAS" Carburetors)

After idle speed and mixture adjusted, run engine with tachometer attached and open throttle to point where actuating tab on throttle lever contacts dashpot stem (stem must not be compressed), note tachometer reading. Engine speed should be 2500 RPM. Adjust dashpot by turning it in or out of mounting bracket.

OVERHAUL

clip, then slide float off fulcrum pin. Remove economizer body and plugs assembly from fuel bowl. Tilt pump lever on its pivot to free hook on pump diaphragm stem, slide pump diaphragm and spring out of fuel bowl. Use suitable wrench (C-3748) to remove main jet from economizer body.

4) Remove pump lever retaining clip, slide lever off pivot and disengage link from throttle lever. Take out fast idle cam retaining screw, remove cam and disengage fast idle cam rod. On 1969 models, remove white plastic limiter cap from idle air mixture screw. Count number of turns to seat screw. The same number of turns will be maintained on installation. Remove screw and spring from throttle body. Remove curb idle and fast idle adjusting screws and springs from throttle lever.

Holley Carburetors

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5) Take out choke valve retaining screws, lift choke valve out, withdraw choke shaft and lever from air horn.

6) Do not remove throttle valve and shaft unless installation of new parts required (manufacturer recommends replacement of carburetor assembly if wear is extreme). Mark position of throttle valve in bore, remove throttle valve screws (screws are staked and care should be taken not to break them off in shaft), lift throttle valve out and remove throttle shaft from carburetor body.

Cleaning & Inspection

Clean all parts except Vacuum Kick Diaphragm in suitable solvent, clean all orifices and channels with air and inspect for wear. Do not immerse vacuum kick diaphragm in any liquid (clean external surfaces with clean cloth or soft wire brush, shake dirt from stem side of diaphragm with diaphragm depressed; if compressed air used to remove loose dirt, do not direct air stream in vacuum diaphragm fitting).

Reassembly

Reverse disassembly procedure and note the following:

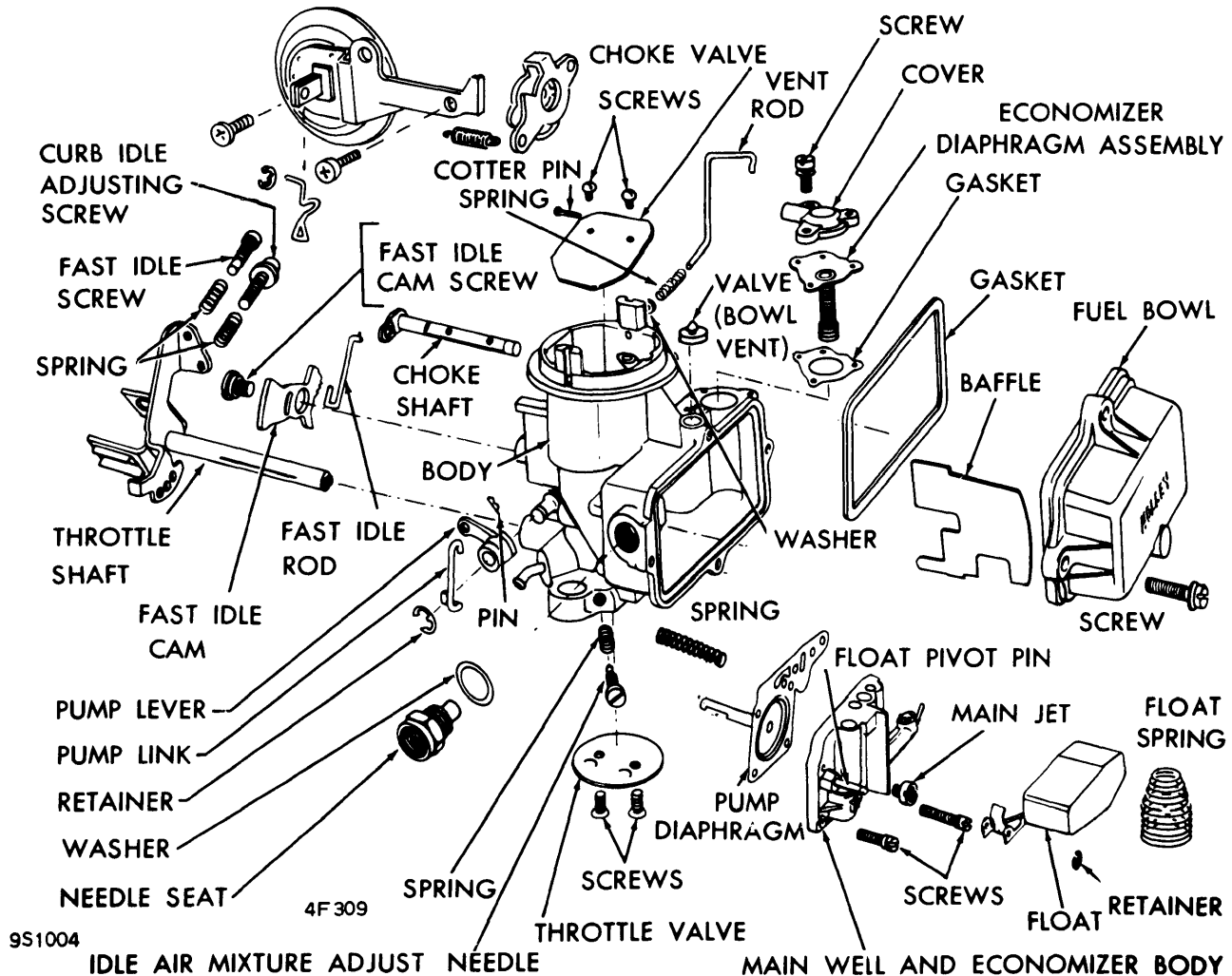
Throttle Valve Installation - Install throttle valve to marks made at disassembly, install new screws loosely, move

valve to closed position. Tap valve lightly to seat it in throttle bore, then tighten screws securely and stake screws by squeezing with pliers.

Choke Valve Installation - Install choke valve in same manner as throttle valve (above), check for binding by rotating choke lever through full travel.

Vacuum Kick Diaphragm - Before installing unit, check for leakage as follows: Depress diaphragm stem fully, seal vacuum passage by placing finger over vacuum fitting and release stem. If stem moves more than 1/16" in 10 seconds, leakage is excessive and unit should be replaced. To install diaphragm assembly, position bowl vent valve rod assembly on air horn with rod centered in its grooves, install vacuum diaphragm assembly on air horn making certain vent rod is not dislodged, tighten diaphragm attaching screws securely.

Limiter Cap Installation - Install idle mixture screw and spring in body. Tapered portion must be straight and smooth. If tapered portion is grooved or ridged, a new idle mixture screw must be installed. Turn screw lightly against seat with fingers. Back off number of turns counted at disassembly. Install new plastic cap (blue) with tab against stop.



HOLLEY SINGLE BARREL MODEL 1920 ASSEMBLY