

## FORD (AUTOLITE) 4-BARREL MODEL 4300

COUGAR, FAIRLANE & MUSTANG	Ford Carburetor No.	
	Synchro-mesh	Auto. Trans.
289" V8 (No Thermactor).....	C7DF-9510-L.....	C7DF-9510-M
(With Thermactor).....	C7DF-9510-C.....	C7DF-9510-D

COMET & FAIRLANE		
390" V8 (No Therm.)....	C7AF-9510-AC.....	C7OF-9510-S,AJ
(With Thermactor).....	C7AF-9510-AG.....	C7OF-9510-H,AH

## FORD (1966)

428" V8 (No Thermactor) .....	C6AF-9510-BU
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## FORD (1967)

390" V8 (No Therm.)....	C7AF-9510-AC.....	C7AF-9510-AD,BJ
(With Thermactor).....	C7AF-9510-AG.....	C7AF-9510-AH,BH
428" V8 (No Thermactor).....	C7AF-9510-AE.....	C7AF-9510-AF
(With Thermactor).....	C7AF-9510-AG.....	C7AF-9510-AH
428" V8 Police Special		
(No Thermactor).....	C7AF-9510-AE.....	C7AF-9510-F
(With Thermactor).....	C7AF-9510-L.....	C7AF-9510-M

## MERCURY

390" V8 (No Therm.)....	C7AF-9510-AC...	C7AF-9510-AD,BJ
(With Thermactor).....	C7AF-9510-AG...	C7AF-9510-AH,BH
410" V8 (No Therm.)....	C7MF-9510-A .....	C7MF-9510-B
	C7AF-9510-AE.....	C7AF-9510-AF,BJ
(With Thermactor).....	C7MF-9510-C .....	C7MF-9510-D
	C7AF-9510-AG.....	
(With "IMCO") ① .....		② C7MF-9510-E
428" V8 (No Thermactor).....	C7AF-9510-A.....	C7AF-9510-B
	C7AF-9510-AE.....	C7AF-9510-AF
(With Thermactor).....	C7AF-9510-J.....	C7AF-9510-K
	C7AF-9510-AG.....	C7AF-9510-AH
428" V8 Police Special		
(No Thermactor).....		C7AF-9510-F
(With Thermactor).....		C7AF-9510-M

## THUNDERBIRD

390" V8 (No Thermactor) .....	C7AF-9510-AD,BJ
(With Thermactor).....	C7AF-9510-AH,BH
428" V8 (No Thermactor).....	C7AF-9510-AF,AV, BJ
(With Thermactor).....	C7AF-9510-AH,AY, BH

① - Special exhaust emission control system. See Description.

② - Supersedes Carburetor No. XF-177753.

## CARBURETOR IDENTIFICATION

Carburetor number Prefix and Suffix (example C6AF BU) is stamped on tag attached to carburetor by one air horn screw. First letter of second line on tag ("A" etc.) indicates design changes which may affect parts replacement. Standard (non-Thermactor) carburetors have aluminum tag.

## ▶ CHANGES, CAUTIONS, CORRECTIONS

- ▶ 1967 FORD & MERCURY 410" & 428" ENGINE CARBURETOR LOADING AFTER STARTING CORRECTION (Thermactor Engines with Auto. Trans.): To correct this complaint, install new "BX" automatic choke cover and thermostatic coil assembly, Part No. C7AZ-9848-C (replacing original "BO" assembly), and set carburetor to following new specifications:

**Automatic Choke** - 2 Notches Rich.

**Choke Pulldown Clearance** - .140" (9/64").

**Fast Idle Cam Clearance** - .093" (3/32").

**Fast Idle Speed** - 1400 RPM.

- ▶ 1967 COUGAR, FAIRLANE, MUSTANG 289" ENGINE CARBURETOR LOADING AFTER STARTING CORRECTION (All Auto. Trans. Engines with C7DF-9510-D & C7DF-9510-M Carbs.): To correct this complaint, install new "BX" automatic choke cover and thermostatic coil

assembly, Part No. C7AZ-9848-C (replacing original "CO" or "BO" assembly), and set carburetor to following new specifications:

**Automatic Choke** - Set at Index.

**Choke Pulldown Clearance** - .109" (7/64").

**Fast Idle Cam Clearance** - .080" (5/64").

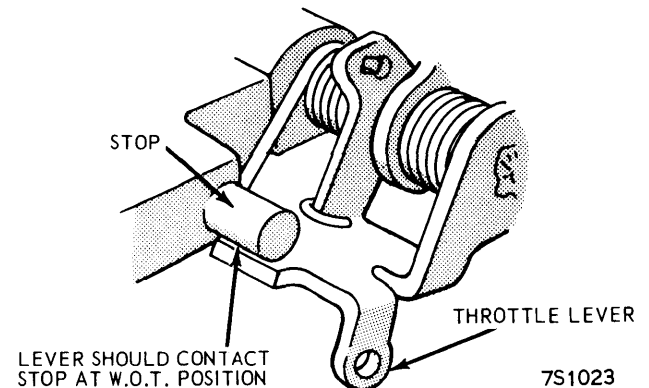
**Fast Idle Speed** - 1350 RPM.

- ▶ 1967 FORD MOTOR CO. 4-BARREL MODEL 4300 CARBURETOR MODIFICATIONS FOR IMPROVED ENGINE PERFORMANCE (289", 410", & 428" V8 Engines except Police Interceptor): Modify carburetor and make adjustments to correct specific troubles as detailed below.

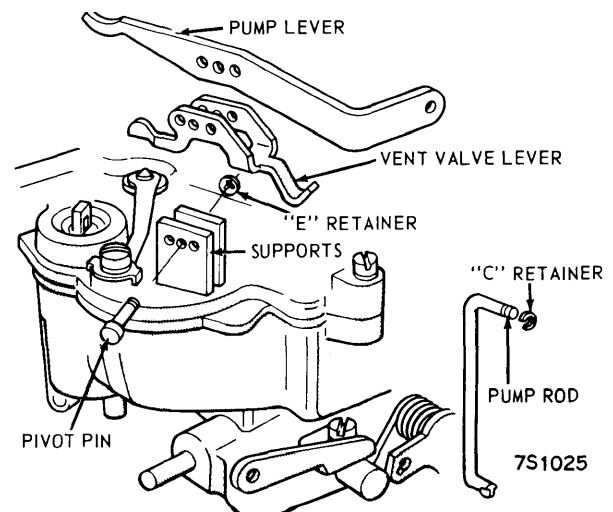
**Engine Hesitation, Stumble, or Poor Cold Drive-away** - Install all parts furnished in Modification Kit No. C7AZ-9D814-A following installation instructions in kit. When installing pump lever, use pliers to squeeze lever supports for .010" total clearance between pump lever and supports. Install Choke Bimetal Cover "BO" (in kit) only to replace original cover stamped "BOA" (do not replace cover with any other stamping). Install pump lever pivot pin in #2 hole, adjust idle vent and automatic choke.

**Low Top Speed or no Dechoke (Unloader) Action** - Will be noted as poor performance, hard cold starting, or flooding on cold starts. Check and adjust throttle linkage so that throttle lever contacts stop on carburetor base with accelerator pedal depressed to floor. Check and adjust Unloader. Minimum choke valve opening must be .135".

**Hard Hot Engine Starts** - Caused by insufficient or no Fuel Bowl Vent Valve clearance at idle. Disassemble pump lever and vent valve actuating lever, enlarge pump



FORD MODEL 4300 WIDE OPEN THROTTLE STOP



FORD MODEL 4300 ACCELERATING PUMP ASSEMBLY

## FORD (AUTOLITE) 4-BARREL MODEL 4300 (Continued)

rod hole in pump lever with 9/64" drill, use pliers to squeeze lever supports for .010" total clearance between pump lever and supports. Reassemble levers and adjust Bowl Vent.

**Rough Idle (high or erratic idle speed)** - May be caused by tight secondary throttle shaft causing secondary throttle bind. Check by rocking throttle shaft ends (some up and down movement should be detected). Make certain secondary throttle return spring properly installed. If shaft is tight or bent, position 1/4-1/2" diameter rod or wood block on end of secondary throttle shaft (choke side first, throttle side also if required) use light hammer to apply light to moderate tap to end of rod or block. Check operation by running engine at idle speed with tachometer

attached, open secondary throttle valve slightly and allow it to return to closed position. If engine does not return to normal idle speed (repeat several times), replace secondary throttle shaft.

**Cold Engine Stalls on Transmission Engagement** - Caused by fast idle speed set too low. Check and adjust fast idle speed.

### DESCRIPTION

Model 4300 carburetors are new design 3-piece body (air horn, main body, throttle body) 4-barrel carburetors with single fuel bowl for all barrels (concentric bowl with

### CARBURETOR ADJUSTMENT SPECIFICATIONS

Ford Carb. Number	Idle Speed (Engine RPM)		Float Level		Fuel Bowl Vent Valve	Choke Valve Pull-down	Fast Idle Cam Clearance	Unloader Setting	Automatic Choke Setting
	Hot ①	Fast ②	Primary Valve	Auxiliary Valve					
C6AF-9510-BU	475	1200	25/32"	1/16"	1/16"	.110-.130"	.080-.100"	.135"	Index
C7AF-9510-A	575	1200	25/32"	1/16"	1/16"	.200-.220"	.090-.110"	.135"	Index
C7AF-9510-B	475	1200	25/32"	1/16"	1/16"	.110-.130"	.080-.100"	.135"	Index
C7AF-9510-F	600	1400	25/32"	1/16"	1/16"	.190-.210"	.090-.110"	.135"	Index
C7AF-9510-J	475	1200	25/32"	1/16"	1/16"	.110-.130"	.080-.100"	.135"	Index
C7AF-9510-K	550	1500	25/32"	1/16"	1/16"	.190-.210"	.090-.110"	.135"	Index
C7AF-9510-L	625	1300	25/32"	1/16"	1/16"	.200-.220"	.090-.110"	.135"	Index
C7AF-9510-M	550	1500	25/32"	1/16"	1/16"	.190-.210"	.090-.110"	.135"	Index
C7AF-9510-AC	600	1200	25/32"	1/16"	1/16"	.190-.210"	.090-.110"	.135"	Index
C7AF-9510-AD	575	1400	25/32"	1/16"	1/16"	.190-.210"	.090-.110"	.135"	Index
C7AF-9510-AE	575	1200	25/32"	1/16"	1/16"	.200-.220"	.090-.110"	.135"	Index
C7AF-9510-AF	475	1200	25/32"	1/16"	1/16"	.110-.130"	.080-.100"	.135"	Index
C7AF-9510-AG	625	1500	25/32"	1/16"	1/16"	.190-.210"	.090-.110"	.135"	Index
C7AF-9510-AH	550	1500	25/32"	1/16"	1/16"	.190-.210"	.090-.110"	.135"	Index
C7AF-9510-AV	475	1200	25/32"	1/16"	.070"	.110-.130"	.080-.100"	.135"	Index
C7AF-9510-AY	550	1500	25/32"	1/16"	.070"	.110-.130"	.080-.100"	.135"	Index
C7AF-9510-BH	550	1200	25/32"	1/16"	.070"	.090-.110"	.070-.090"	.100"	Index
C7AF-9510-BJ	475	1200	25/32"	1/16"	.070"	.090-.110"	.070-.090"	.100"	Index
C7DF-9510-C	625	1400	25/32"	1/16"	1/16"	.140-.160"	.090-.110"	.135"	Index
C7DF-9510-D	550	1600	25/32"	1/16"	1/16"	.090-.110"	.090-.110"	.135"	Index
C7DF-9510-L	600	1400	25/32"	1/16"	1/16"	.140-.160"	.090-.110"	.135"	Index
C7DF-9510-M	525	1600	25/32"	1/16"	1/16"	.090-.110"	.090-.110"	.135"	Index
C7MF-9510-A	575	1200	25/32"	1/16"	1/16"	.200-.220"	.090-.110"	.135"	Index
C7MF-9510-B	550	1500	25/32"	1/16"	1/16"	.190-.210"	.090-.110"	.135"	Index
C7MF-9510-C	625	1300	25/32"	1/16"	1/16"	.190-.210"	.090-.110"	.135"	Index
C7MF-9510-D	550	1500	25/32"	1/16"	1/16"	.190-.210"	.090-.110"	.135"	Index
C7MF-9510-E	550	1200	13/16"	1/16"	1/16"	.160-.180"	.130-.150"	.100"	Index
C7OF-9510-H	550	1500	25/32"	1/16"	1/16"	.190-.210"	.090-.110"	.135"	Index
C7OF-9510-S	475	1400	25/32"	1/16"	1/16"	.190-.210"	.090-.110"	.135"	Index
C7OF-9510-AH	550	1200	25/32"	1/16"	.070"	.090-.110"	.070-.090"	.....	Index
C7OF-9510-AJ	475	1200	25/32"	1/16"	.070"	.090-.110"	.070-.090"	.....	Index
XF-177753	550	1500	25/32"	1/16"	1/16"	.110-.130"	.090-.110"	.135"	Index

① - Headlights ON. Air Conditioner ON. Automatic Transmission in DRIVE.

② - With fast idle speed screw on kick-down step of fast idle cam.

## FORD (AUTOLITE) 4-BARREL MODEL 4300 (Continued)

double float). Primary section has "idle air bypass system" for idle speed adjustment (no throttle stopscrew) and a thermostatic type hot idle compensator (located on top of air horn between secondary barrels). Secondary section has spring-loaded air valves (located above secondary throttle valves) and are linked to a hydraulic dashpot to prevent air valve flutter or erratic operation. Secondary throttle valves are mechanically operated by the primary throttle linkage. This carburetor has the usual conventional fuel systems.

**Thermactor Engine Carburetors** - Carburetors used on engines with Thermactor Exhaust Emission Control system have special calibration and other parts. See car model listing above.

**"IMCO" Engine Carburetors** - Carburetors used on this engine are specially calibrated to provide leaner fuel mixtures and controlled rich limit of idle mixture and are used with a special Ignition Distributor to provide exhaust emission control without burning exhaust gases in the exhaust manifold (no air pump used). See car model listing above.

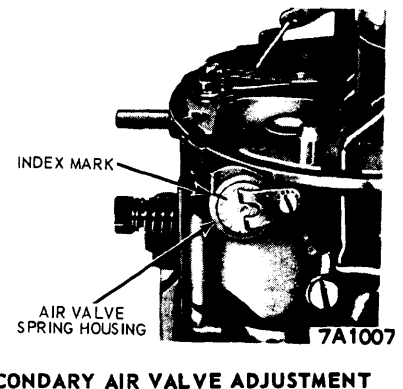
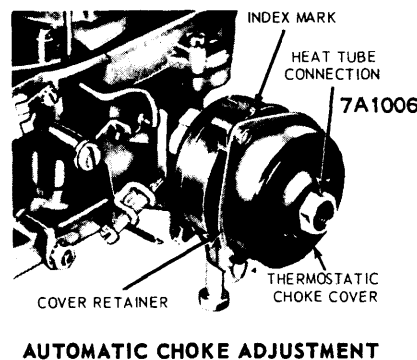
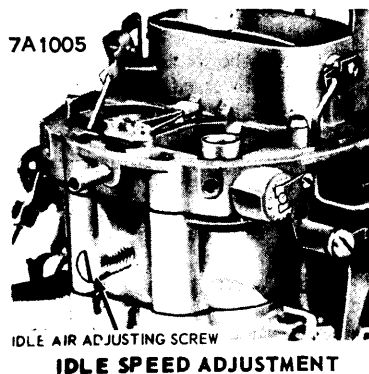
### ADJUSTMENT

**ADJUSTMENT NOTE** - If preliminary adjustment required to warm-up engine, set both idle mixture screws 1½ turns outward (counterclockwise) from a lightly seated position, set idle air bypass screw 3½ turns outward (counterclockwise) from a lightly seated position. Operate engine until temperatures normalized. *Hot idle compensator valve must be closed when making following adjustments.*

- **THERMACTOR ENGINES WITH AIR CONDITIONING CAUTION:** If Thermal Sensing Valve used in distributor vacuum line (controlling vacuum line to intake manifold), disconnect distributor vacuum hose and manifold vacuum hose at sensing valve and plug manifold vacuum hose when making carburetor idle adjustment.

### Idle Speed & Mixture

Turn Headlights and Air Conditioner ON, place automatic transmission in DRIVE (with brakes set). With engine running at normal operating temperature, adjust engine speed to specified RPM (see Specifications) by turning idle air bypass screw (one screw for both primary barrels) in or out as necessary. Adjust each idle fuel adjusting screw in succession by turning screw inward until engine RPM begins to drop (idle lean point), then turn screw out ¼ turn. After both screws adjusted, turn each screw in or out slightly for smoothest idle. Final setting of both screws should be within 1/8 turn of each other.



### Fast Idle Speed

Rotate fast idle cam so that fast idle speed screw contacts kick-down step of cam, adjust fast idle screw to obtain specified fast idle engine speed (see Specifications).

### Throttle Linkage Adjustment (Auto. Trans. Cars)

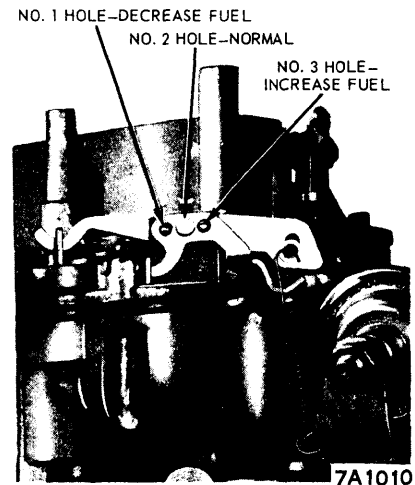
See CARBURETOR on car model Tune-Up pages.

### Accelerating Pump

Pump link (operating arm) and bracket have three holes for pivot pin engagement and pump stroke is adjusted by moving pin as required. **NOTE** - Vent valve adjusting lever is mounted on pump link at pivot pin. Vent valve must be checked and adjusted whenever pump link setting changed.

**Normal Setting** - Pivot pin engaged in No. 2 (center) hole of pump link and vent lever. No. 1 hole provides less pump discharge, No. 3 hole maximum pump discharge (see illustration).

**Pump Adjustment** - Disconnect pump rod from pump link before removing pump pivot pin. Line up holes in vent lever, pump link, and pivot hole in main body casting before attempting to reinstall pivot pin, make certain pivot pin retainer is properly installed on pin. (Continued)



**ACCELERATING PUMP STROKE ADJUSTMENT**

## FORD (AUTOLITE) 4-BARREL MODEL 4300 (Continued)

### Fuel Bowl Vent Valve

Vent valve must be checked and adjusted whenever accelerating pump setting changed. With throttle valves in closed position, check clearance between vent valve and valve seat with a feeler gauge (see Specifications). If valve opening not correct, adjust by bending vent valve lever end (which contacts pump arm) up or down as necessary.

### Choke Valve Pull-down & Fast Idle Cam Linkage

Make these adjustments in order as follows:

**Choke Valve Pull-down** - 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 (see Specifications) to check clearance between lower edge of choke valve and air horn wall. If this pull-down clearance not correct, adjust by bending adjusting arm on choke shaft lever up or down as necessary. Remove piston gauge.

**Fast Idle Cam Linkage** - Install choke cover and thermostatic coil loosely (make certain coil end engages choke lever slot), rotate cover to a 90° Rich position, position fast idle speed adjusting screw on kick-down step of fast idle cam and hold it in this position. Use gauge or drill of correct size (see Specifications) to check clearance between lower edge of choke valve and air horn wall. If fast idle cam clearance not correct, adjust by turning fast idle cam adjusting screw in or out as necessary (CAUTION - This is not the fast idle speed adjusting screw - see illustration). Adjust automatic choke to specified setting.

### Unloader

Hold throttle valves in wide open position, rotate choke valve toward closed position until pawl on fast idle lever contacts fast idle cam. Use gauge or drill of correct size

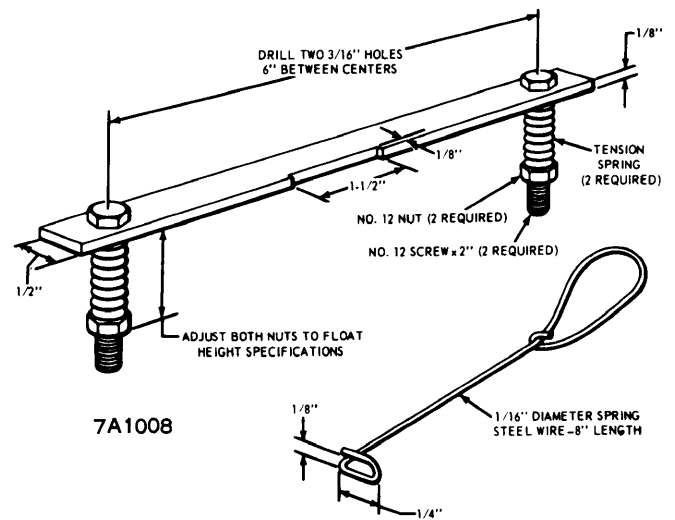
(see Specifications) to check clearance between upper edge of choke valve and air horn wall. If clearance not correct, adjust by bending pawl on fast idle speed lever forward or backward as necessary.

### Automatic Choke

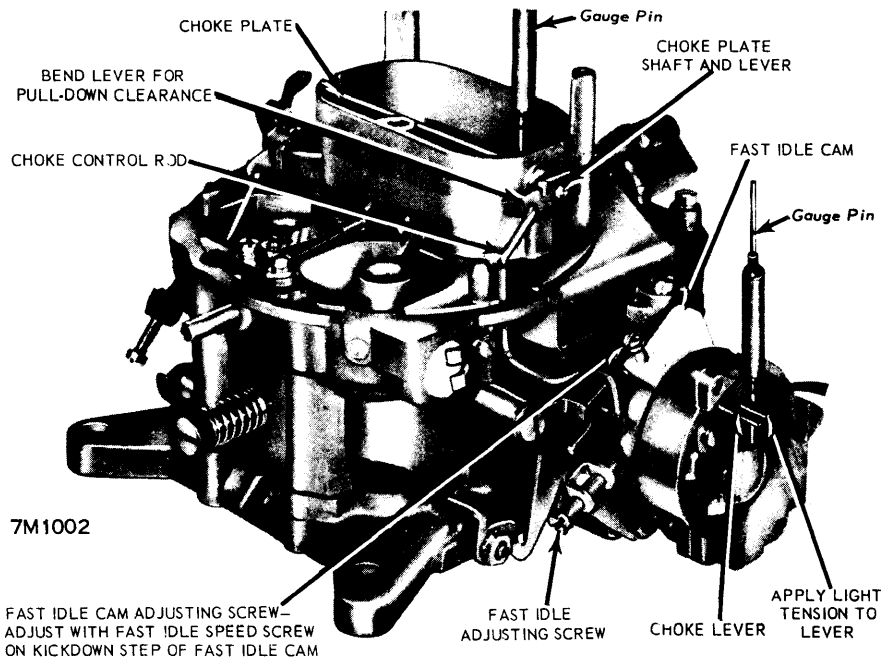
NOTE - Heat tube connection on cover must be loosened to remove or adjust choke cover (hold heat connection on cover with wrench while loosening or tightening connector nut). Loosen choke cover and thermostatic coil retainer screws, rotate cover to align index mark on cover flange with reference mark on housing (Centered or index setting), tighten retainer screws.

### Secondary Air Valve Spring

NOTE - Adjustment required whenever spring housing removed or adjustment disturbed. Loosen air valve spring housing screw and allow housing to rotate to "no-load" position. With air valves in closed position, scribe refer-



FLOAT LEVEL GAUGE & BENDING TOOL



CHOKE VALVE PULL-DOWN & FAST IDLE CAM ADJUSTMENT

## FORD (AUTOLITE) 4-BARREL MODEL 4300 (Continued)

ence mark on air horn and nylon spring housing, then rotate spring housing counterclockwise 140° (7 knobs on housing) and tighten retainer screw. **CAUTION** - When installing air valve spring, make certain open end of spring hook is facing to left at bottom of housing cavity in air horn.

## Float Level

**CAUTION** - Two fuel inlet valves used and float level must be adjusted exactly as detailed below. It is recommended that a Float Gauge and Float Bending tool be made up to dimensions shown in illustration for this purpose.

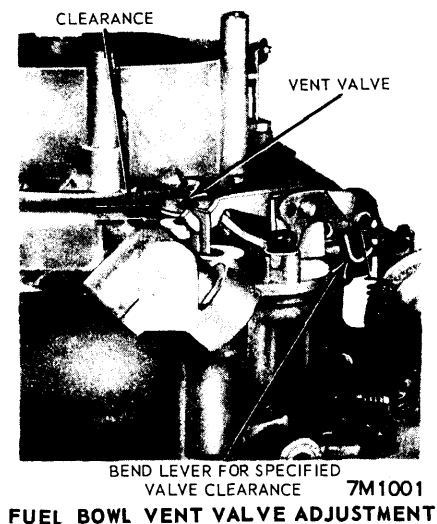
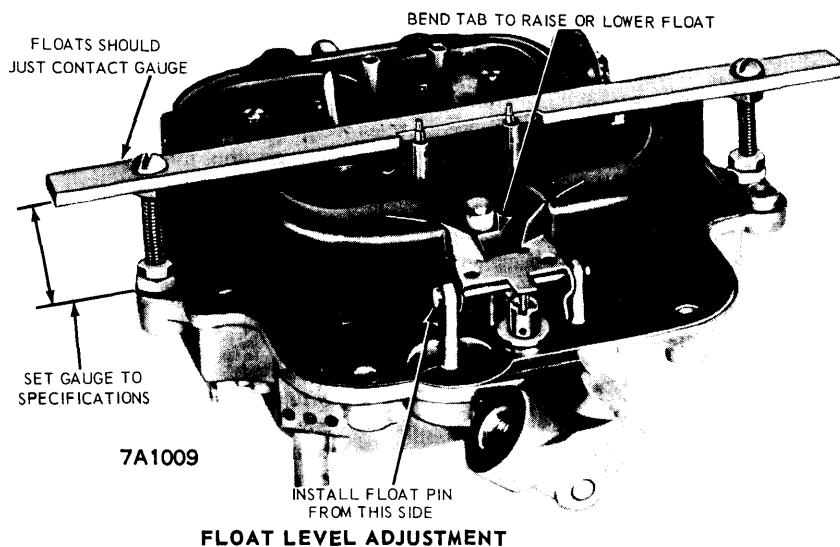
**Float Level (Primary Fuel Valve)** - Adjust nuts on float level checking gauge for correct float level setting (see Specifications). With air horn and float assembly removed and inverted, install float gauge over floats with locating

bolts installed in outboard holes of air horn. Both floats should just touch underside of float gauge bar. Align floats by slightly twisting float arms, adjust float height by bending primary needle tab (inner tab on float arm) up or down as necessary. **CAUTION** - Raise floats so that tab clears primary needle when bending tab.

**Auxiliary Fuel Valve** - After adjusting primary fuel valve and with float gauge installed (above), check clearance between auxiliary fuel valve pin and tab on rear of float arm. If clearance not correct (see Specifications), adjust by bending this tab up or down as required.

## Dashpot

With throttle valves closed, depress dashpot plunger fully and check clearance between plunger tip and throttle lever. This clearance should be 1/8" (all carburetors). Adjust by loosening locknut and turning dashpot in or out of mounting bracket as required.



## OVERHAUL

**NOTE** - Carburetor consists of three main castings: Air Horn, Main Body, and Throttle Body, which are separated and then disassembled separately as follows:

## Disassembly

**Air Horn** - 1) Disconnect choke control rod from automatic choke lever and accelerating pump rod from throttle lever. Remove all air horn-to-main body retaining screws (**NOTE** - One screw retains fuel bowl external vent valve), carefully lift air horn off main body.

2) Remove float pivot pin and lift out float assembly, use correct size screwdriver (or jet removal tool) to remove main and auxiliary fuel inlet seat assemblies and gaskets.

3) Disconnect secondary air valve lever rods from dampener piston assembly and air valve, remove dampener piston and rod assembly.

4) If necessary to remove secondary air valves or shaft, scribe index mark on air valve housing and body casting, remove valve retaining screws and valves, then slide shaft out of air horn.

5) If necessary to remove choke valve or shaft, remove staking marks on choke valve retaining screws or file off flared portion of screws, remove retaining screws and valve, then slide shaft out of air horn.

6) Take out attaching screws and remove hot idle compensator valve assembly. Do not remove power valve vacuum valve assembly unless it is to be replaced. Remove staked areas and remove valve assembly carefully to avoid damage to air horn casting.

**Main Body** - 1) Invert main body assembly and catch accelerating pump discharge needle which will fall out. Remove idle air adjusting screw and spring.

2) Use 3/8" deep socket to remove power valve and jet tool to remove main metering jets from within fuel bowl.

3) Remove check ball retainer from bottom of accelerating pump cylinder with long nosed pliers, then invert main body and catch pump inlet ball check which will drop out.

4) Remove throttle body-to-main retaining screws from bottom of throttle body and separate the two castings.

**Throttle Body** - 1) Remove idle mixture screws and springs, Remove automatic choke housing cover screws, remove retainer, cover and thermostatic spring assembly, and gasket. Remove retaining screw from end of choke shaft, rotate piston and lever assembly until piston clears cylinder and remove assembly.

2) Remove secondary throttle-to-primary throttle lever connecting link. If necessary to remove primary or second-

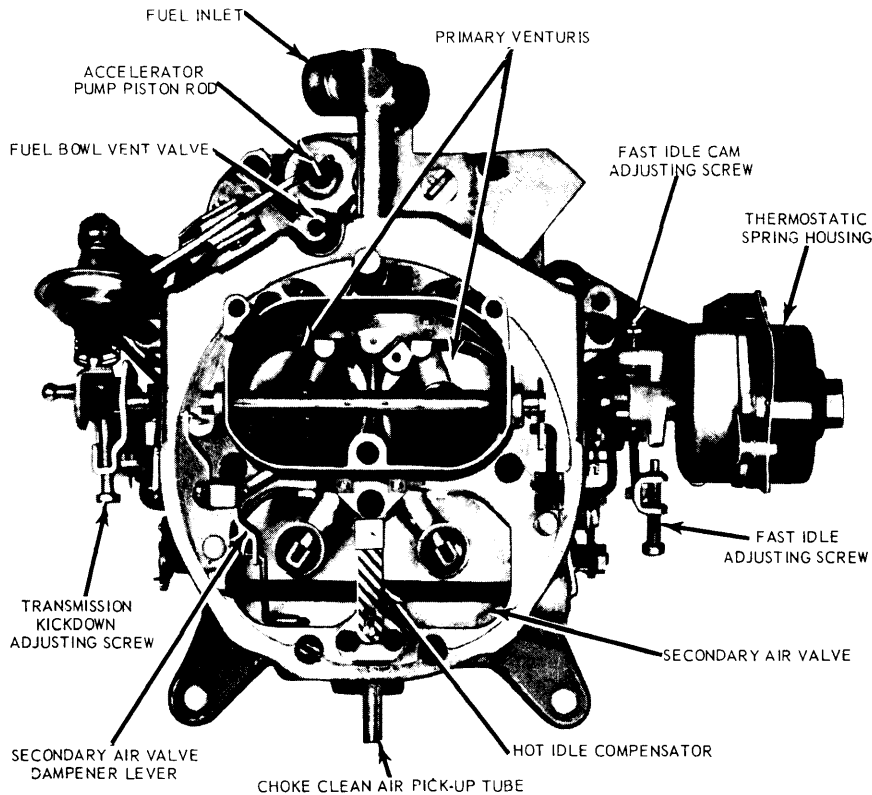
## FORD (AUTOLITE) 4-BARREL MODEL 4300 (Continued)

ary throttle valves or shafts, remove staking marks on throttle valve attaching screws, remove screws and valves.  
 3) After valves removed, remove nut from secondary throttle shaft, slide shaft and return spring out of throttle body.  
 4) After valves removed, remove nut from primary throttle shaft and remove fast idle lever and adjusting screw, then slide primary throttle shaft and lever assembly out of throttle body. Remove throttle lever assembly retainer, slide lever and springs off shaft.  
 5) If necessary to remove fast idle cam or bushings, press bushing out of choke housing and bushing column. **CAU-**

**TION** - Housing and column must be properly supported during bushing removal and installation to prevent bending or breaking of the column.

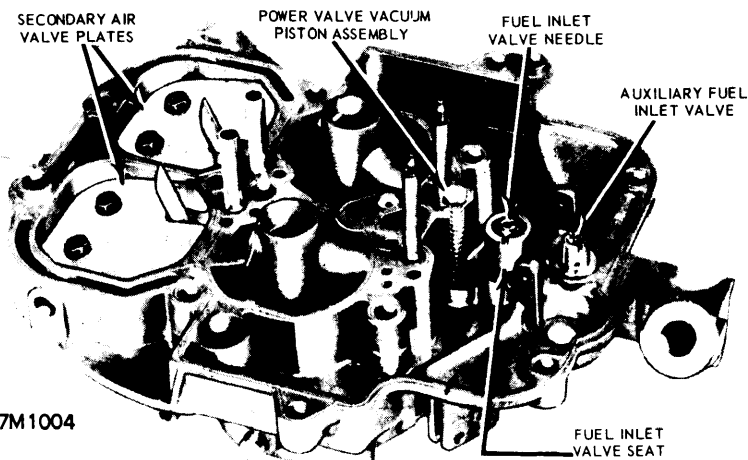
### Cleaning & Inspection

Clean all castings and metal parts in cleaning solution (plastic fast idle cam and air valve spring cover can be cleaned in the solution but floats and gaskets should not be immersed in the solution). Rinse parts in hot water,



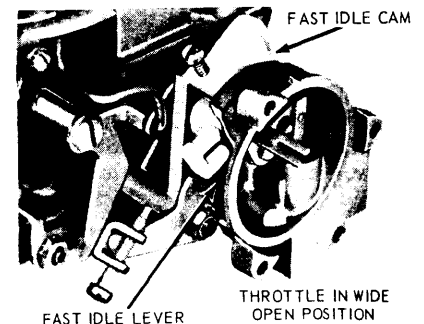
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FORD MODEL 4300 CARBURETOR ASSEMBLY (TOP VIEW)



7M1004

AIR HORN ASSEMBLY



7M1003

UNLOADER ADJUSTMENT



## FORD (AUTOLITE) 4-BARREL MODEL 4300 (Continued)

soak in gasoline, and dry with air. Blow out all passages, jets, and tubes with air. Inspect all parts for wear, distortion or damage. Make certain power valve piston and rod move freely. **CAUTION** - Do not remove calibrating shims from power valve piston rod for cleaning and use care not to distort rod.

### Reassembly

Use all new gaskets. Reassemble carburetor by reversing disassembly procedure with particular attention to the following points:

**Primary Throttle Valve Installation** - Install return spring (coiled clockwise) on primary throttle shaft and insert shaft in throttle body. Position throttle valves on shaft with ground flat edge of valves facing upwards and toward idle mixture needles, install valve screws just snug. Rotate shaft to closed position, tap valves lightly to properly seat them in throttle bore (when viewed against a light, little or no light should be visible around valves), then tighten valve screws securely.

**Fast Idle Cam & Bushing Installation** - Start bushing through choke housing, position fast idle cam between housing and bushing column and slide bushing through fast idle cam, then support bushing column and press bushing into position in column. Clean bushing with 1/4" reamer before installing choke shaft and lever.

**Idle Mixture & Idle Air Adjusting Screws** - Set idle mixture adjusting screws 1 1/2 turns out and idle air adjusting screw

3/2 turns out from a lightly seated position for preliminary setting.

**Choke Valve Installation** - Insert choke shaft in air horn with lever end on automatic choke side, install choke valve and tighten attaching screws just snug, then close valve and tap lightly to position it in air horn, tighten attaching screws and stake screws to prevent loosening. Install a new seal on choke control rod, press seal into air horn and attach control rod to choke shaft lever (**CAUTION** - Seal must grip ledge in air horn at all four points to prevent unfiltered air entering carburetor).

**Air Valve Installation** - Slide air valve shaft in air horn with slotted end of shaft in air valve spring chamber. Position plain air valve in air horn opening adjacent to spring chamber and tighten attaching screws just snug, install air valve in other air horn opening with control rod eye facing upward, install attaching screws just snug. Close air valves and tap valves lightly to position them in air horn, then tighten attaching screws and stake the screws to prevent loosening. Insert air valve spring in end of air valve shaft slot and push spring to bottom of slot. **NOTE** - Spring must be installed with outer hook at bottom of spring cavity when air valves are open (vertical) and hook opening must face toward left. Install housing retainer but do not tighten attaching screw until air valve spring tension adjusted (see Adjustments).

**Carburetor Adjustments** - Make all adjustments listed in Adjustment section.

