1974 Carter Carburetors

CARTER YF SINGLE BARREL

AMERICAN MOTORS (232" & 258")

Application	American Motors Code No. ① Man. Trans.	Auto. Trans.
Federal		
Matador	6431	7001
Javelin	6431	7001
Gremlin	6423	7000
Hornet		
Hatchback	6423	7000,7001
2 DR. & 4 DR.	6423	7000
Station Wagon	6431	7001
California		
Matador ②		6510
All Others	7029	7028

① — 258" Man. Trans. available only on Hornet Hatchback & Gremlin.

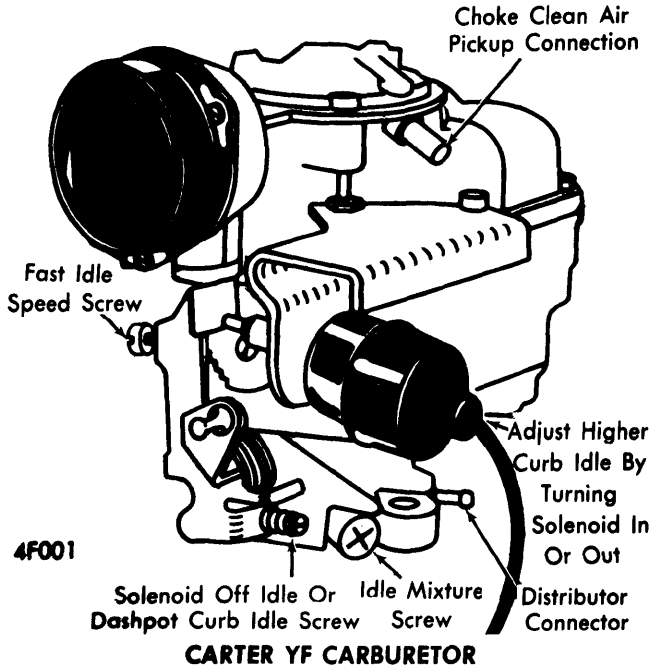
② — Matador Station Wagons with 232" or 258" engines not available in California.

FORD MOTOR CO. (200")

Application	Ford Carburetor No. Man. Trans.	Auto. Trans.
Federal		
All Models	D4DE-GA,HA, ABA,ACA	D4DE-JA,JB, KA,KB
California		
All Models		D4DE-EA,FA

JEEP (232" & 258")

Application	American Motors Code Man. Trans.	Auto. Trans.
232" (All)	7029	6431
258"		
Federal	6431	7001
Calif.	6431,6511,7029	



CARTER YF CARBURETOR

CARBURETOR IDENTIFICATION

Carter carburetor number or Ford part number stamped on tag attached to carburetor body with one screw. Ford identification tags may also be stamped Autolite, or Motorcraft.

DESCRIPTION

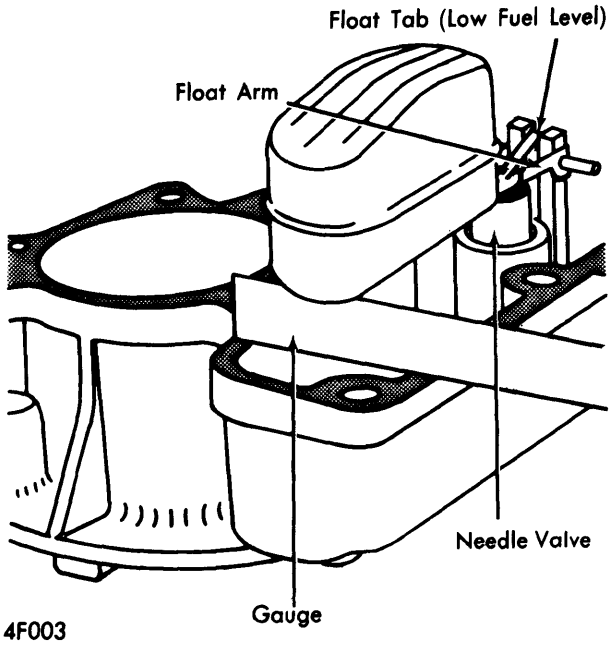
Carter YF carburetor is made up of three main assemblies; air horn, main body, and throttle body. Air horn contains choke plate, internal vent for fuel bowl, automatic choke control with electric assist (if equipped) and float assembly. Main body contains accelerator pump assembly, metering rod, low speed jet, and main discharge nozzle. Throttle body contains throttle plate and idle mixture screws.

NOTE — Ford Motor Company and American Motors cars equipped with either air conditioning or automatic transmission (in California), use an idle speed (throttle stop) solenoid, to prevent dieseling when ignition is turned off.

ADJUSTMENT

FLOAT LEVEL

All Models — Remove air horn and gasket from carburetor. Invert air horn assembly and measure distance between top of float, at free end, and air horn casting. *CAUTION — Do not load needle when adjusting float.* Bend float arm as necessary to adjust float level (clearance). *NOTE — Do not bend tab at end of float arm.*

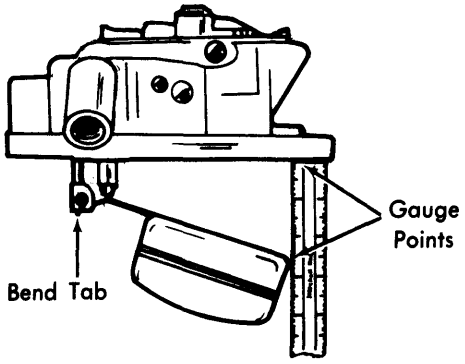


FLOAT LEVEL ADJUSTMENT

FLOAT DROP

Remove air horn and gasket from carburetor. Hold air horn upright and let float hang free. Measure maximum clearance from top of float to air horn casting. To adjust, bend tab at end of float arm to obtain specified setting.

CARTER YF SINGLE BARREL (Cont.)



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FLOAT DROP MEASUREMENT

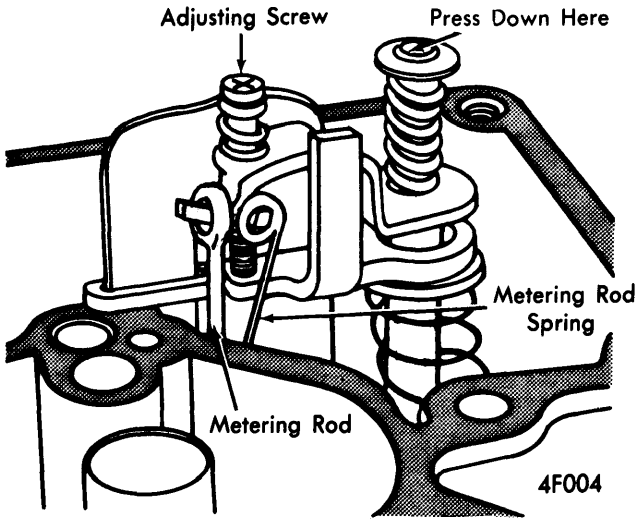
METERING ROD

All Models – After removing air horn and gasket, proceed as follows:

1) Back out idle adjusting screw until throttle plate is closed tight in throttle bore. Press down on end of pump diaphragm shaft until assembly bottoms.

2) Hold diaphragm assembly down and turn metering rod adjustment screw until metering rod just bottoms in body casting.

3) Turn metering rod adjustment screw in one additional turn.



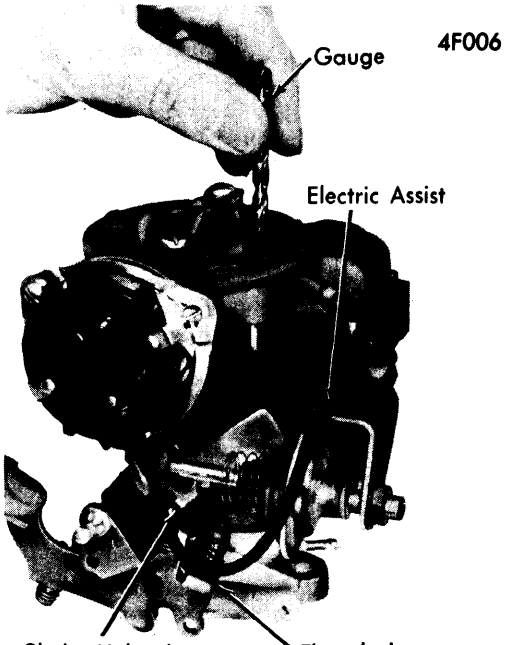
METERING ROD ADJUSTMENT

UNLOADER

With air cleaner removed, hold throttle plate fully open and close choke plate as far as possible without force. Use a drill gauge (see Specifications), and check clearance between choke plate and air horn.

Ford Motor Co. – Adjust by bending arm on choke trip lever of throttle lever. Bend arm downward to decrease clearance, and upward to increase clearance.

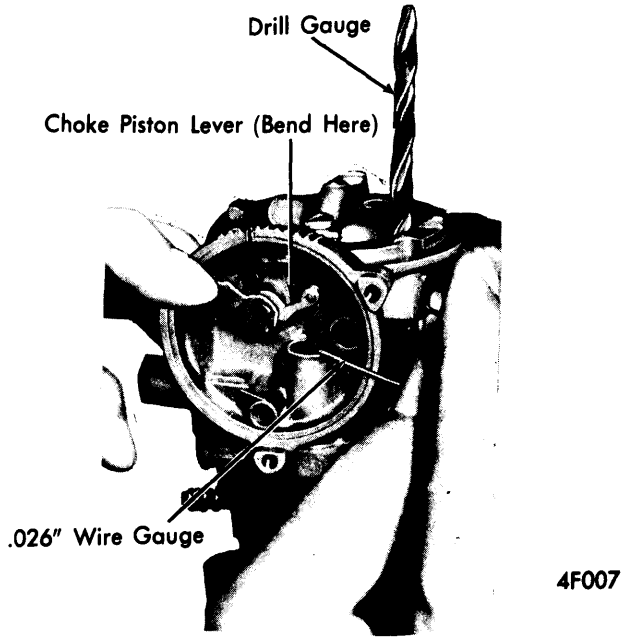
American Motors & Jeep Models – Adjust by bending tang on throttle lever which contacts fast idle cam. Bend toward cam to increase clearance, and away from cam to decrease clearance. *CAUTION – Do not bend unloader tang downward from a horizontal plane.* After making adjustment, make certain unloader tang does not contact main body flange when throttle is fully open.



CHOKE UNLOADER ADJUSTMENT

AUTOMATIC CHOKE

Loosen attaching screws and rotate choke to align index mark on cover with correct graduation of scale on housing (see Specifications).



CHOKE VALVE PULL-DOWN CLEARANCE ADJUSTMENT

CHOKE VALVE PULL-DOWN CLEARANCE

All Models – Remove air cleaner, choke thermostatic spring housing, and heat baffle from carburetor. Bend a .026" diameter (Ford Motor Co.) or .025" diameter (American Motors & Jeep Models) wire gauge at a 90° angle approximately ⅛" from one end. Insert bent end of gauge between choke piston slot and right hand slot in choke hous-

CARTER YF SINGLE BARREL (Cont.)

ing. Rotate choke piston lever counterclockwise until gauge is snug in piston slot. Exert light pressure on choke piston lever to hold gauge in place, then use a drill with a diameter equal to specified pulldown clearance between lower edge of choke plate and carburetor bore to check clearance. To adjust, bend choke piston lever as required to obtain specified setting. *NOTE — When bending lever, be careful not to distort piston link.*

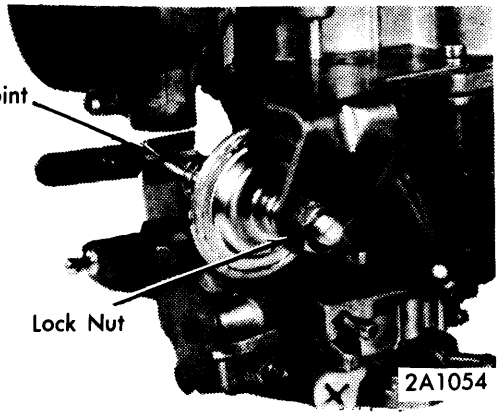
FAST IDLE CAM SETTING

Position fast idle screw on kickdown step of fast idle cam and against shoulder of high step. Adjust by bending choke plate connecting rod to obtain clearance between lower edge of choke plate and air horn wall.

DASHPOT

NOTE — Dashpot not used on all models.

With choke valve wide open and throttle valve closed in curb idle position, hold dashpot plunger fully depressed and measure clearance between end of dashpot plunger stem and throttle lever. If clearance not correct (see Specifications), adjust by turning dashpot in or out of mounting bracket. Tighten locknut after completing adjustment.



DASHPOT ADJUSTMENT

FAST IDLE SPEED

NOTE — Curb idle speed and mixture must be set to specifications before attempting to set fast idle speed.

With engine at normal operating temperature, air cleaner removed, EGR vacuum line disconnected and jumper line to distributor (if required), tachometer attached; manually rotate fast idle cam until fast idle adjusting screw rests on high step (Ford) or second step (American Motors) of fast idle cam. Turn fast idle adjusting screw to obtain specified RPM.

IDLE SPEED (THROTTLE STOP) SOLENOID

NOTE — In order to comply with emission standards, specifications shown on engine compartment emission control tune-up decal must be used in all instances. Decal information should be considered the most valid information available. If performing only adjustment procedure, do not remove idle mixture limiter cap.

Preparations For Adjustment (American Motors and Jeep) — Block wheels and apply parking brake. Start and warm engine to normal operating temperature. Turn air conditioner off and place manual transmission in Neutral or automatic transmission in "D". Verify that dwell and timing are properly adjusted. Leave air cleaner installed. Adjust idle speed 30 RPM above specified idle RPM.

Preparations For Adjustment (Ford Motor Co.) — Block wheels and apply parking brake. Start and warm engine to normal operating temperature. Set timing and idle. Turn mixture screw to full rich stop (counterclockwise). Remove air cleaner, disconnect and plug evaporator canister-to-air cleaner hose.

Ford Motor Co. — With solenoid energized (if equipped), turn solenoid adjusting screw to obtain specified idle RPM. Place automatic transmission in "N" and disconnect solenoid wire. Adjust carburetor idle speed screw to obtain 500-550 RPM. Reconnect solenoid wire and allow plunger to extend. Stop engine and replace air cleaner and connect all vacuum hoses. Restart engine and check idle RPM. Readjust solenoid (if equipped) and mixture screw (do not remove idle limiter cap) to obtain smoothest possible idle at specified RPM.

IDLE SPEED & MIXTURE (EXHAUST GAS ANALYZER PROCEDURE)

NOTE — Do not allow engine to idle more than two minutes at one time. If adjustments take longer, raise engine speed to 2000 RPM to stablize engine temperature, then continue with adjustments.

American Motors & Jeep — 1) Preparations for adjustment must be completed. *See Idle Speed (Throttle Stop) Solenoid.* Connect exhaust gas analyzer and adjust idle speed 30 RPM above specified idle RPM. If equipped with solenoid, adjust 30 RPM above specified idle RPM with solenoid energized.

2) Disconnect solenoid and place automatic transmission in "N". Adjust carburetor speed screw to obtain 500 RPM and reconnect solenoid.

3) On all models, if CO level is not within specifications, turn mixture screw in or out 1/16 turn at a time, until correct CO level is obtained at specified RPM. *NOTE — Allow ten seconds between each adjustment, for meter stablization.*

4) If idle speed changes more than 30 RPM during adjustments, reset to specified RPM. Repeat adjustments until correct CO level is obtained at specified idle RPM .

Ford Motor Co. — 1) Preparations for adjustment must be completed. *See Idle Speed (Throttle Stop) Solenoid.* Connect exhaust gas analyzer and place automatic transmission in "D" or manual transmission in Neutral. If idle CO level is not within specifications, recheck meter calibration, then recheck idle CO level.

2) If CO level is still not within specifications, remove air cleaner and idle mixture limiter cap. Adjust mixture screw to obtain specified CO level and immediately readjust idle speed to specifications. Install air cleaner and recheck CO level. Repeat adjustment procedure, if necessary, to obtain correct CO level at specified idle RPM. Install new (blue) limiter cap on mixture screw.

IDLE SPEED & MIXTURE (TACHOMETER SPEED DROP PROCEDURE)

American Motors & Jeep — 1) Preparations for adjustment must be completed. *See Idle Speed (Throttle Stop) Solenoid.* Adjust idle mixture screw to full rich stop and remove idle limiter cap. Adjust idle 30 RPM above spcified idle RPM.

2) If equipped with solenoid, leave solenoid energized and adjust solenoid in or out to obtain 30 RPM above specified idle RPM. Disconnect solenoid and place automatic transmission in "N". Adjust carburetor speed screw to obtain 500 RPM, then reconnect solenoid.

CARTER YF SINGLE BARREL (Cont.)

CARBURETOR ADJUSTMENT SPECIFICATIONS

Carter Carb. No.	Idle Speed (Engine RPM) Hot	Idle Speed (Engine RPM) Fast	Fast Idle Cam Position	Float Level Setting	Pump Travel Setting	Bowl Vent Setting	Unloader Setting ②	Vacuum Break Setting	Auto. Choke Setting
Am. Mtr. & Jeep									
6423	① 600/550	1600	.190±.011"	.476±.032"	1.38"	.215±.020"	.215"	.095±.032"	1-Rich
6431	① 600/550	1600	.190±.011"	.476±.032"	1.38"	.215±.020"	.215"	.....	1-Rich
6510	600/700	1600	.190±.011"	.476±.032"	1.38"	.215±.020"	.215"	.....	1-Rich
6511	① 600/550	1600	.190±.011"	.476±.032"	1.38"	.215±.020"	.215"	.095±.032"	1-Rich
7000	① 600/550	1600	.190±.011"	.476±.032"	1.38"	.215±.020"	.215"	.....	1-Rich
7001	① 600/550	1600	.190±.011"	.476±.032"	1.38"	.215±.020"	.215"	.....	1-Rich
7028	600/700	1600	.190±.011"	.476±.032"	1.38"	.215±.020"	.215"	.....	1-Rich
7029	600/700	1600	.190±.011"	.476±.032"	1.38"	.215±.020"	.215"	.095±.032"	1-Rich
FoMoCo									
D4DE-JA	550±50	2000	.140±.015"	.375±.015"	1.38"	.200±.020"	.250"	.10±.015"	Index
D4DE-JB	550±50	2000	.140±.015"	.375±.015"	1.38"	.200±.020"	.250"	.10±.015"	Index
D4DE-ABA	750	2000	.170±.015"	.375±.015"	1.38"	.230±.020"	.250"	.10±.015"	Index
D4DE-KA	550±50	2000	.140±.015"	.375±.015"	1.38"	.200±.020"	.250"	.10±.015"	Index
D4DE-KB	550±50	2000	.140±.015"	.375±.015"	1.38"	.200±.020"	.250"	.10±.015"	Index
D4DE-EA	550±50	2000	.140±.015"	.375±.015"	1.38"	.200±.020"	.250"	.10±.015"	Index

① — Without EGR 700/600.
② — Minimum Clearance.

3) On all models, turn mixture screw in (lean) until RPM loss is indicated. Turn mixture screw out (richer) until highest RPM is obtained with "lean best idle" condition. *NOTE — If speed changes more that 30 RPM during mixture adjustment, reset idle speed to 30 RPM above specified idle RPM and repeat adjustment.* After obtaining "lean best idle" (withing specified idle RPM range), turn mixture screw in (lean) until specified idle RPM drop is obtained (35 RPM on man. trans. or 20 RPM on auto. trans.).

OVERHAUL

DISASSEMBLY

1) Remove attaching screws and retainers, thermostatic spring housing assembly, spring housing gasket, spring housing baffle plate and fast idle link. Remove air horn assembly attaching screws, dashpot or solenoid bracket assembly, air horn assembly, and air horn gasket.

2) Turn air horn assembly upside down and remove float pin and float and lever assembly. Turn air horn right side up and catch needle pin, spring and needle. Remove needle seat and gasket.

3) Remove air cleaner bracket, then remove choke plate attaching screws. File staked ends, if necessary, and use new screws at reassembly. Remove choke plate from air horn, remove choke link lever and attaching screw. Rotate choke shaft and piston assembly counterclockwise until choke piston is out of choke piston cylinder, remove assembly from air horn. Remove piston pin and piston from choke piston lever and shaft assembly.

4) Turn main body upside down and catch accelerating pump check needle. Loosen throttle shaft arm screw and remove arm and pump connector link. Remove fast idle cam and shoulder screw. Remove accelerating pump diaphragm housing screws, lift out pump diaphragm assembly, pump lifter link, metering rod and fuel bowl baffle plate as a unit.

5) Disengage metering rod arm spring from metering rod, remove metering rod from rod arm assembly. Note the location of any washers that were used for shimming either spring. Compress upper pump spring and remove spring retainer, remove upper spring, metering rod arm assembly, and the pump lifter link from the pump diaphragm shaft. Compress pump diaphragm spring, remove pump diaphragm spring retainer, spring, and pump diaphragm assembly from pump diaphragm housing assembly.

6) Using the proper size jet tool or screwdriver, remove metering rod jet and low speed jet. Remove retaining screws and separate throttle body flange assembly from the main body casting. Remove body flange gasket. Remove throttle plate retaining screws. File staked ends, if necessary, and use new screws at reassembly. Slide throttle shaft and lever assembly out of throttle body flange assembly. Note location of the ends of torsion spring on throttle shaft for proper reassembly. When removing idle mixture limiter cap, be sure to note the position of the tab. After removing the limiter cap, count the number of turns to lightly seat the needle, this information is necessary to correctly position needle at reassembly.

CLEANING & INSPECTION

Wash all parts in carburetor cleaning solution. *CAUTION — Do not immerse accelerating pump diaphragm, power valve, secondary operating diaphragm, and dashpot assembly in solution.* Inspect all parts for wear or damage and replace if necessary. Blow out all passages with air.

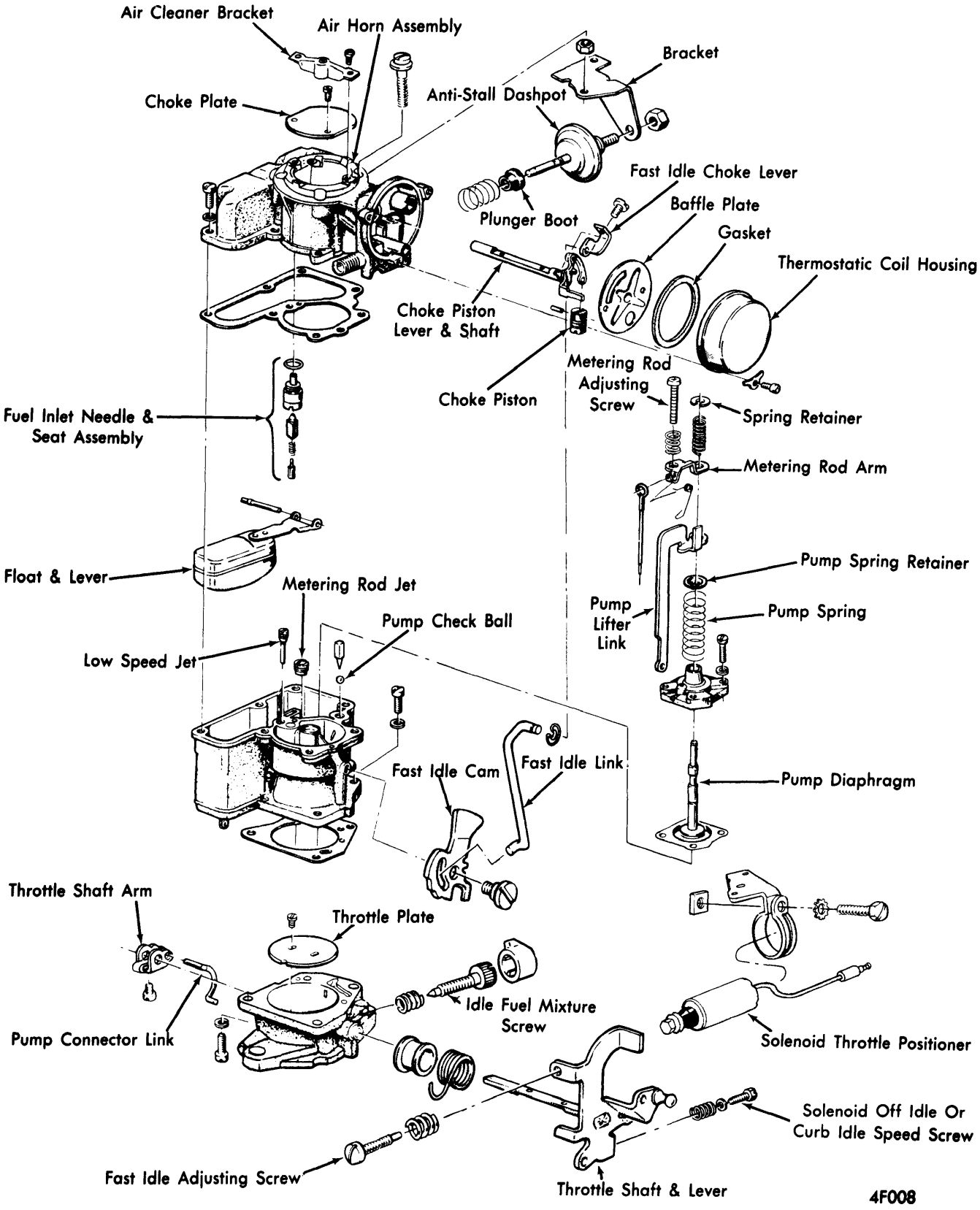
REASSEMBLY

To reassemble, reverse disassembly procedure while noting the following:

1) Position throttle plate on the throttle shaft with the notch in the plate aligned with the slotted idle port in the throttle body flange. Install throttle plate attaching screws snug, but not tight, move shaft back and forth and rotate it to be sure the throttle plate does not bind in flange bore. It is necessary that the throttle plate should close tight in the bore, therefore, the idle speed screw should be backed out sufficiently to insure it does not contact the throttle stop. Reposition the throttle plate if necessary, and tighten screws and stake (or peen) the screws in place.

2) Be sure vacuum passage in the diaphragm housing is aligned with the vacuum passage in the main body.

CARTER YF SINGLE BARREL (Cont.)



CARTER YF CARBURETOR ASSEMBLY (TYPICAL)