CARTER YF SINGLE BARREL

AMERICAN MOTORS & JEEP

Carter Carburetor Numbers

Application	Man. Trans.	Auto. Trans.
232" & 258"		
(Calif. & CJ/DJ)	6401, 6429	6400, 6430
(All Others)	6421, 6299, 6423, 6431	6422, 6300, 6424, 6432

FORD MOTOR CO.

Motorcraft Carburetor Number

Application	Man. Trans.	Auto. Trans.
200" (Exc. A/C)	D3DF-AA	D3DF-CA
(With A/C)	D3DF-BA	D3DF-DA

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

Single barrel downdraft type with diaphragm type accelerating pump and integral automatic choke. Carburetors are similar to previous models with idle limiter caps used on idle mixture screw. Slight differences and changes are as follows:

Ford Motor Co. – In addition to last years adjustable metering rod, 1973 YF carburetors incorporate an Exhaust Gas Recirculation port. Also, this year on Comet and Maverick models (equipped with Air Cond.), is a throttle solenoid and bracket.

American Motors & Jeep – Adjustable dashpots are used on Man. Trans. carburetors. Metering rod adjustment requires a special procedure (see Adjustment). Later model carburetors have a Nitrophyl float hinged at left side of air horn, revised internal venting and no float bowl baffle.

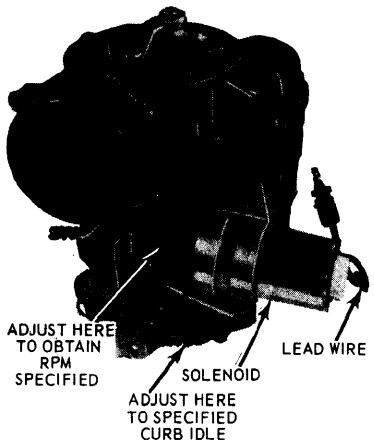
ADJUSTMENT

IDLE SPEED & MIXTURE

Ford Motor Co. – *CAUTION – Set parking brake while making idle mixture and idle speed adjustments.* Position fast idle screw or cam follower on kick-down step of fast idle cam and run engine a minimum of 20 minutes at 1500 RPM to stabilize engine and underhood temperatures before idle adjustments are made. With choke valve wide open and fast idle inoperative, place Auto. Trans. in "D", (Man. Trans. in "N"), and turn on headlights (to place alternator under load). With air conditioner (if so equipped) turned OFF, and air cleaner installed (if necessary to remove air cleaner for adjustment, final idle setting and fuel mixture setting must be checked after air cleaner reinstalled). Adjust carburetor as follows:

Ford Motor Co. Carburetors Without SolenoidThrottle Modulator – Adjust throttle stopscrew for correct hot engine idle speed (see Specifications), turn idle mixture screw in (clockwise) for smoothest possible idle within range of adjusting screw limiter. Recheck idle speed and repeat idle mixture adjustment if necessary.

Ford Motor Co. Carburetors With Solenoid Throttle Modulator – Turn **solenoid plunger screw** in or out to obtain specified curb idle speed (Higher speed as listed in Specifications). *NOTE – Solenoid must be energized (lead connected and ignition ON).* Turn idle mixture screw in (clockwise) for smoothest possible idle within range of adjusting screw limiter. Recheck idle speed and repeat idle mixture adjustment if necessary. Then disconnect solenoid lead (throttle valve will close further) and adjust **throttle stopscrew** for correct idle speed (Lower speed as listed in Specifications). Reconnect solenoid lead, open throttle valve slightly by hand. Solenoid plunger should follow throttle lever and increase idle speed to "solenoid energized" specification.



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THROTTLE SOLENOID POSITIONER ADJUSTMENT

► *UNSATISFACTORY IDLE PERFORMANCE CORRECTION: If idle performance is not satisfactory after making carburetor adjustment and is not improved by general engine tune-up, see "Ford Motor Co. Tune-Up" in Exhaust Emission Manual.*

American Motors & Jeep Models – *NOTE – To compensate for fuel and temperature variations while performing idle mixture adjustment observe the following:*

1) After running engine to obtain normal operating temperature and with air cleaner in place do not idle engine over 3 minutes at a time.

2) If idle mixture adjustment not completed within 3 minutes run engine at 2000 RPM for 1 minute. Then recheck idle mixture.

Idle Speed – Using throttle idle speed adjusting screw, adjust idle speed to specified RPM (see Specifications).

Idle Mixture – Observing the *NOTE* above, perform adjustment as follows:

1) Starting from full counterclockwise position turn mixture clockwise (leaner) until loss of engine RPM is noted.

2) Turn mixture screw counterclockwise until highest RPM reading is obtained at "lean best idle" setting.

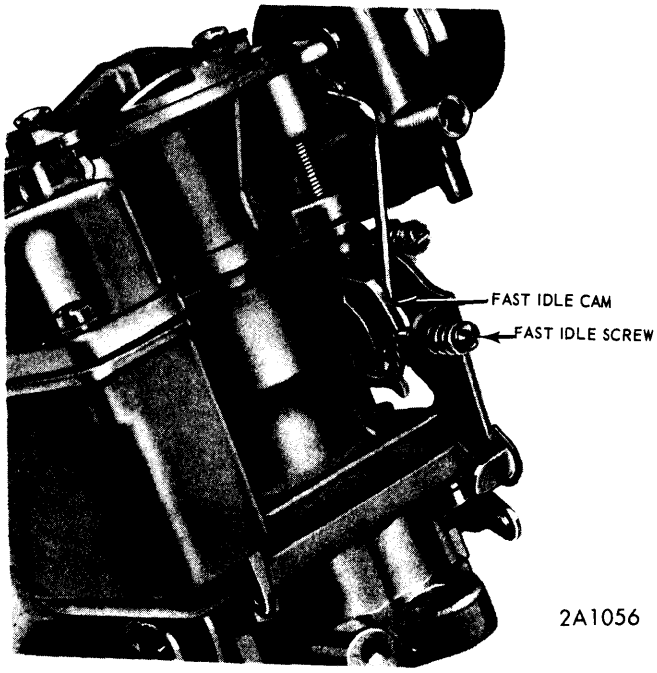
3) If idle speed changed more than 30 RPM during the mixture adjustment, reset to specified RPM and repeat adjustment. Adjust final curb idle speed.

► *UNSATISFACTORY IDLE PERFORMANCE CORRECTION: If idle performance is not satisfactory after making carburetor adjustment and is not improved by general engine tune-up, see "American Motors Tune-Up" in Exhaust Emission Manual.*

CARTER YF SINGLE BARREL (Cont.)

FAST IDLE SPEED

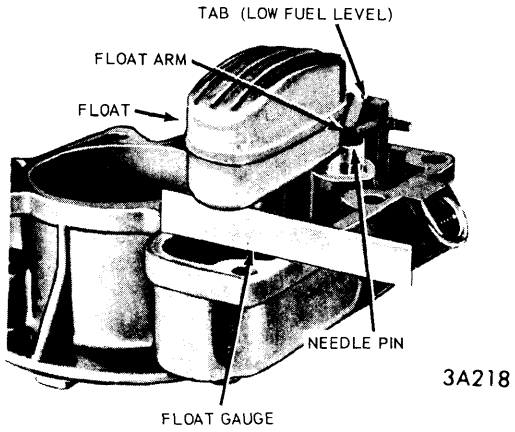
All Models – *NOTE – Curb idle speed and mixture must be adjusted to specifications before attempting to set fast idle speed.* With engine at normal operating temperature, air cleaner removed and tachometer attached, manually rotate fast idle cam until fast idle adjusting screw rests on high step of cam (Ford Motor Co.) or second step (American Motors & Jeep Models). Turn fast idle adjusting screw inward or outward as required to obtain specified fast idle RPM.



FAST IDLE SPEED ADJUSTMENT

FLOAT LEVEL

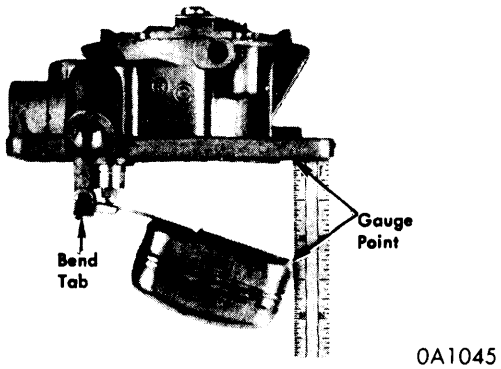
All Models – Remove air horn and gasket from carburetor. Invert air horn assembly and measure distance between top of float, at free end, and air horn casting. *CAUTION – Do not load needle when adjusting float.* Bend float arm as necessary to adjust float level (clearance). *NOTE – Do not bend tab at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



FLOAT LEVEL ADJUSTMENT

FLOAT DROP

American Motors & Jeep Models – 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.



MEASURING FLOAT DROP

ACCELERATING PUMP

No adjustment required.

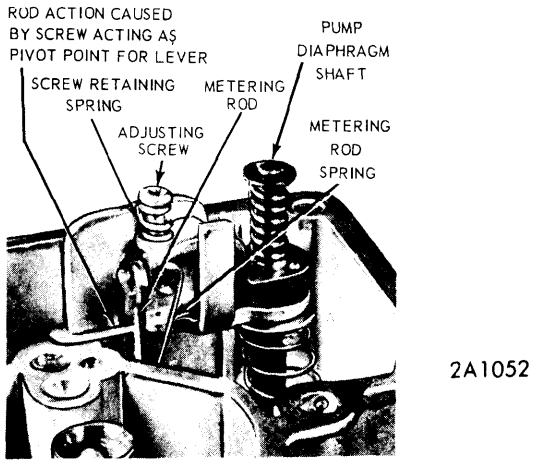
METERING ROD

Ford Motor Co. – After removing air horn and gasket, proceed as follows:

1) Back out idle speed adjusting screw until throttle valve is seated in throttle bore. Press down on diaphragm shaft until metering rod arm contacts lifter link at diaphragm stem.

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 (FORD MOTOR CO.)

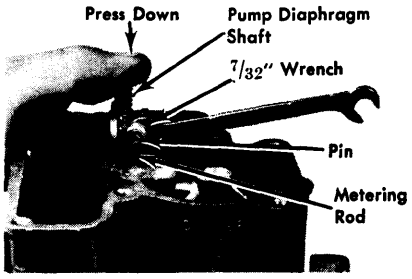
American Motors & Jeep Models – Remove air horn assembly, then proceed as follows:

1) Back out curb idle adjusting screw and dashpot (if so equipped) until throttle valve completely closed. Press down on pump diaphragm shaft until it bottoms.

CARTER YF SINGLE BARREL (Cont.)

2) With diaphragm bottom in vacuum chamber, metering rod should contact bottom of metering rod well and metering rod eyelet should slide freely on metering rod arm pin.

3) If adjustment required, bend metering rod pin tab as required using an open end wrench as shown.



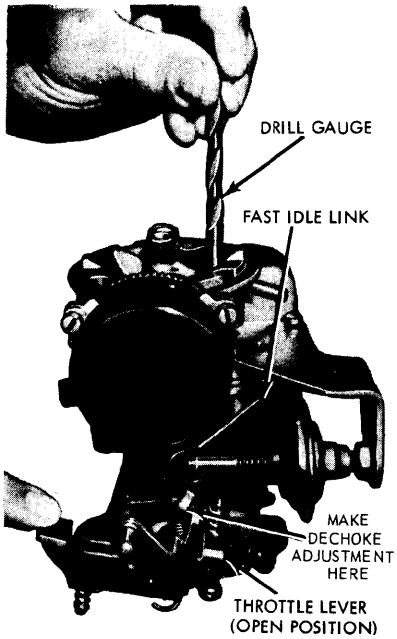
METERING ROD ADJUSTMENT (AMERICAN MOTORS)

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.



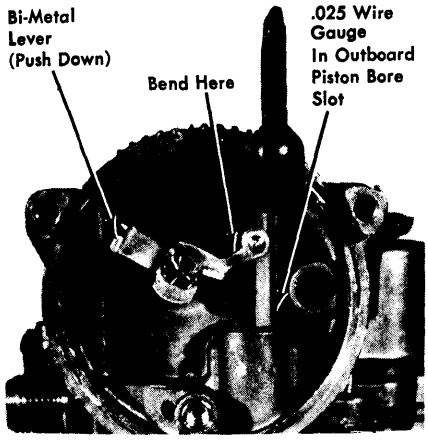
UNLOADER ADJUSTMENT

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 CLEARANCE PULLDOWN

All Models – Remove air cleaner, choke thermostatic spring housing, and heat baffle from carburetor. Bend a .026" diameter (Ford Motor Co.) or .25" diameter (American Motors & Jeep Models) wire gauge at a 90° angle approximately 1/8" from one end. Insert bent end of gauge between choke piston slot and right hand slot in choke housing. 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.*

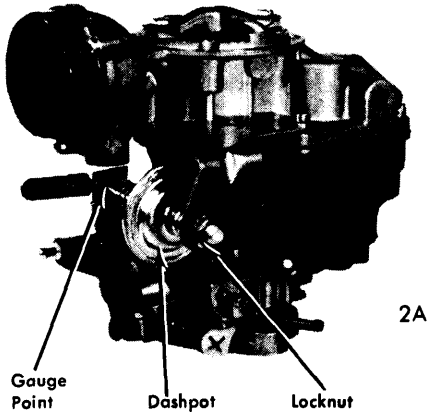


CHOKE VALVE PULLDOWN CLEARANCE

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

CARTER YF SINGLE BARREL (Cont.)

CARBURETOR ADJUSTMENT SPECIFICATIONS

Carburetor Number	Idle Speed (Engine RPM)		Float Level Setting	Float Drop	Unloader Setting	Dashpot Clearance	Choke Pull-Down	Auto. Choke Setting
	Hot	Fast						
Jeep & Amer. Mtrs.								
6299	600	1600	29/64"	1 1/4"	.275"	3/32"	.215"	1-Rich
6300	500	1600	29/64"	1 1/4"	.275"	3/32"	.215"	1-Rich
6400	600	1600	29/64"	1 1/4"	.275"	3/32"	.215"	1-Rich
6401	700	1600	29/64"	1 1/4"	.275"	3/32"	.215"	1-Rich
6421	700	1600	29/64"	1 1/4"	.275"	3/32"	.215"	1-Rich
6422	600	1600	29/64"	1 1/4"	.275"	3/32"	.215"	1-Rich
6423	700	1600	15/32"	1 3/8"	.275"	3/32"	.215	1-Rich
6424	600	1600	15/32"	1 3/8"	.275"	3/32"	.215"	1-Rich
6429	700	1600	15/32"	1 3/8"	.275"	3/32"	.215"	1-Rich
6430	600	1600	15/32"	1 3/8"	.275"	3/32"	.215"	1-Rich
6431	600	1600	15/32"	1 3/8"	.275"	3/32"	.215"	1-Rich
6432	500	1600	15/32"	1 3/8"	.275"	3/32"	.215"	1-Rich
FoMoCo ①								
D3DF-AA	②	2000	3/8" ③	.....	.250"	1/10"	.230"	Index
D3DF-CA	②	2000	3/8" ③	.....	.250"	1/10"	.200"	1-Rich
D3DF-BA	②	.....	.....	.....	.....	.....	.....	.....
D3DF-DA	②	.....	.....	.....	.....	.....	.....	.....

① – Headlights on High Beam. Air Conditioning OFF. Higher RPM – Solenoid connected with Auto. Trans. in "D", Man. Trans. in "N". Lower RPM – Solenoid Disconnected, transmissions (all) in Neutral.

② – See Engine Tune-Up Decal in Engine Compartment.

③ – ± 1/32".

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.

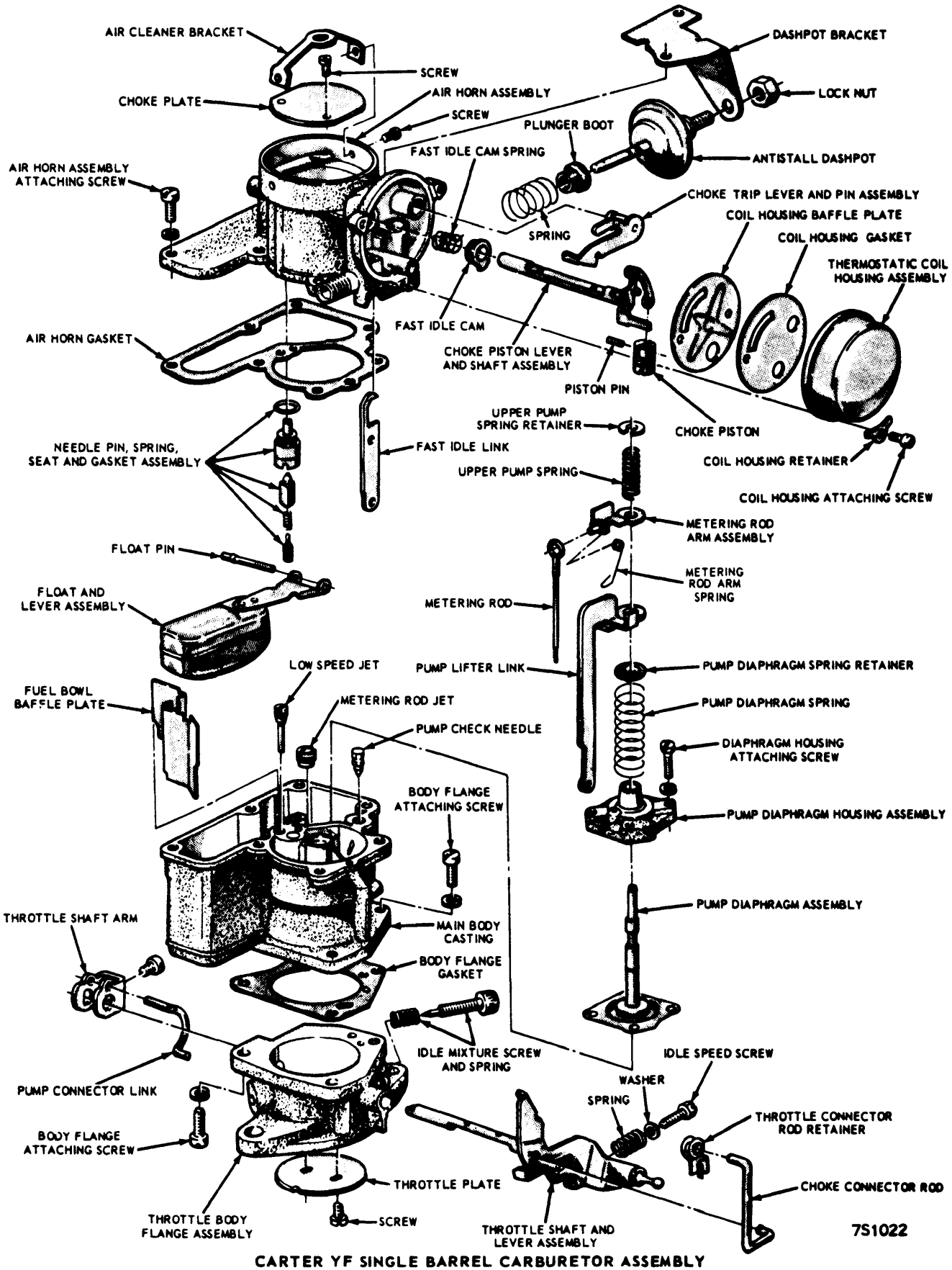
1) Position throttle plate on the throttle shaft with the notch in the plate aligned with the slotted idle port in the throttle body flange. Install throttle plate attaching screws snug, but not tight, move shaft back and forth and rotate it to be sure the throttle plate does not bind in flange bore. 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.

Reassembly

To reassemble, reverse disassembly procedure while noting the following:

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 SINGLE BARREL CARBURETOR ASSEMBLY (WITH INTEGRAL AUTOMATIC CHOKE)