CARTER RBS SINGLE BARREL

FORD MOTOR CO.

Carter RBS 1-Bbl.

Application	① Ford Part No. Man. Trans.	Auto. Trans.
250"	D4DE-BB,SB	D4DE-AAA,AB

① — Basic Ford Part No. is 9510.

CARBURETOR IDENTIFICATION

Carter or Motorcraft number stamped on a metal tag attached to air horn. Lower line of characters and digits on tag designates design or production changes and production date information. Carburetor number, as designated above, will also be on identification tag.

DESCRIPTION

Model RBS carburetor is of single venturi design which incorporates a single light-weight aluminum casting with stamped steel fuel bowl. All calibration points are located in single casting. Carburetor has two internal vapor vents and an additional vent, mechanically controlled by throttle (on Calif. models only).

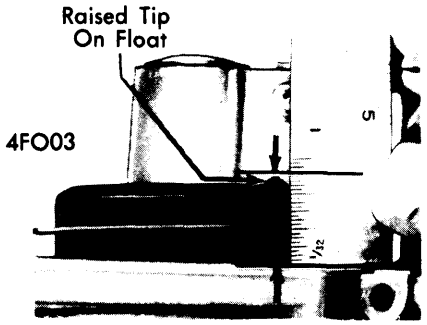
Diaphragm controlled step-up metering rod controls fuel supply. Accelerator pump is spring actuated. Carburetor is equipped with vacuum piston automatic choke. An electric assist unit is used on California models. Throttle solenoid positioner is used to control dieseling or afterrunning by closing throttle plates when ignition is off.

ADJUSTMENTS

FLOAT

Level — With carburetor assembly inverted (bowl and bowl gasket removed) and weight of float (only) resting on inlet needle, measure distance from main body casting surface to raised tips on outer side of float. Measure for specified setting at both ends of float and equalize the measurement. This is accomplished by holding float securely at narrow portion, with needle-nose pliers, and twisting float as required. While holding tab, float may be adjusted to specifications. *NOTE — Hold tab of float lever away from inlet needle during adjustment.*

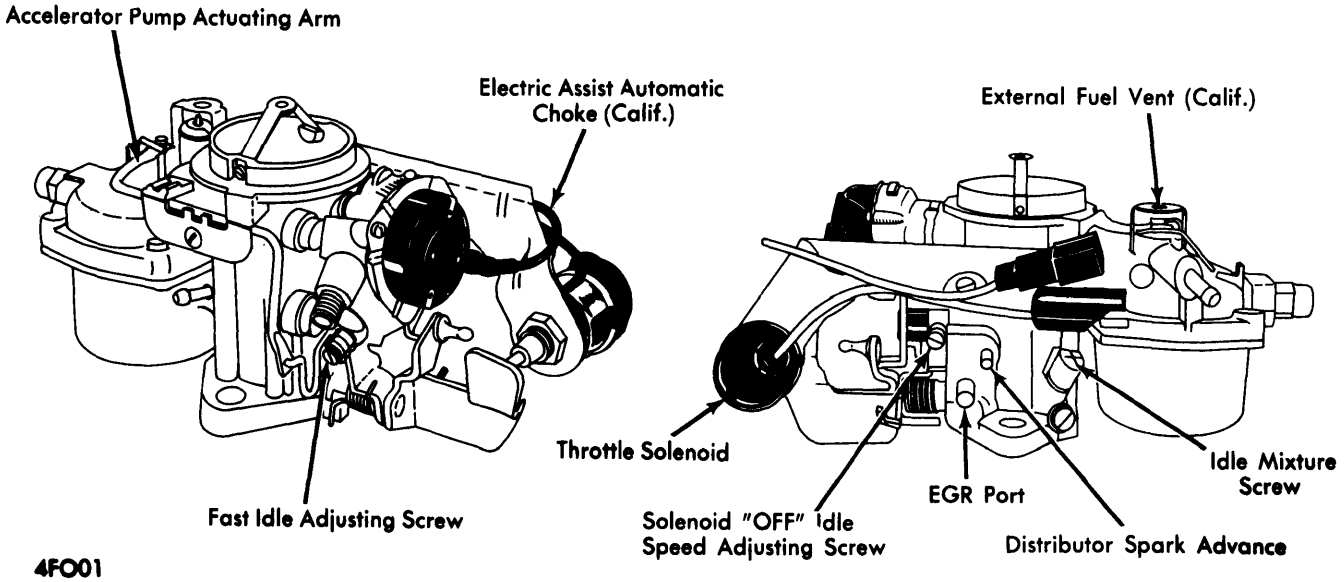
Drop — With air horn upright and float hanging free, measure vertical distance from main body casting surface to outer ends of float on top side. To adjust bend tab at end of float arm.



FLOAT LEVEL MEASUREMENT

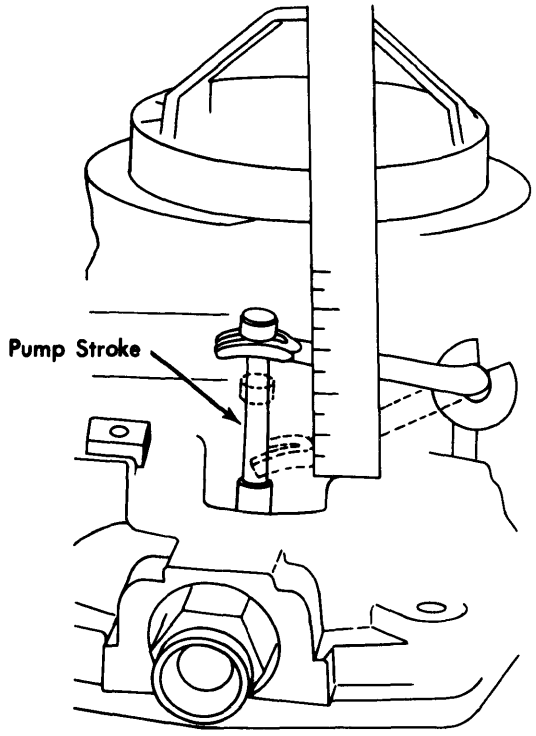
ACCELERATOR PUMP

Back off idle speed adjusting screw, open choke valve, and seat throttle in bore. Measure distance or height from flat surface of main body casting to top of pump stem. Open throttle wide and again measure height. Pump stroke is difference between two measurements. To adjust, open or close pump connector link at offset portion.



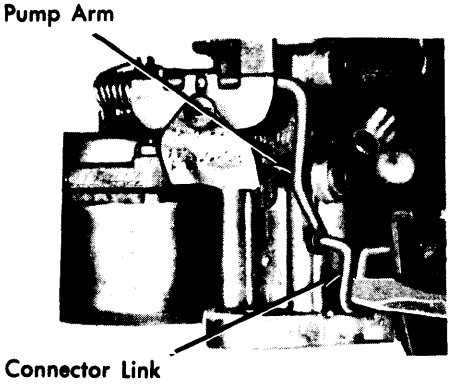
CARTER RBS CARBURETION (TYPICAL)

CARTER RBS SINGLE BARREL (Cont.)



4FO07

ACCELERATOR PUMP STROKE MEASUREMENT

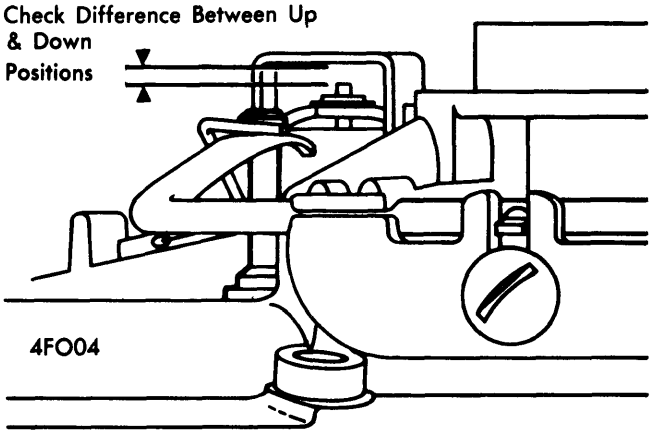


4FO05

PUMP STROKE ADJUSTMENT

MECHANICAL FUEL BOWL VENT VALVE (IF EQUIPPED)

With idle and accelerator pump set to specification, position throttle at curb idle position on actuated solenoid. Measure distance from top of vent guard to top of vent valve stem. Open throttle until vent has seated, and again measure distance. Vent opening is difference between two measurements. Adjust to specifications by bending link at point where it contacts accelerator pump operating arm.



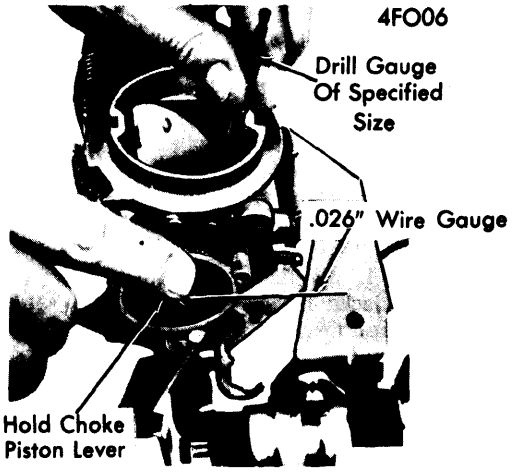
ADJUSTING FUEL BOWL VENT OPENING (CALIFORNIA)

CHOKE UNLOADER

With throttle valve wide open, clearance between lower edge of choke valve and wall of air horn should be as indicated in table. To adjust, bend tang on throttle lever.

CHOKE VALVE PULL-DOWN

Bend a .026" wire gauge 90° approximately 1/8" from its end. Open choke valve and place gauge so bent portion is between top of slot in choke piston cylinder and bottom of slot in piston. While holding wire gauge in place, close choke valve by pressing piston lever in choke housing counterclockwise until gauge is snug in piston slot. While exerting light pressure on piston lever to hold gauge in place, measure clearance between lower edge of choke valve and air horn wall using correct size drill rod (see Specifications). If clearance not correct, adjust by bending choke piston lever as required. *CAUTION - Remove piston lever for bending - use care not to distort piston link.*



CHOKE PISTON LINKAGE

FAST IDLE CAM

Position fast idle screw on second highest step of fast idle cam and against shoulder of high step. Check clearance between lower edge of choke plate and carburetor bore. If necessary to adjust, bend choke plate connecting rod.

CARTER RBS SINGLE BARREL (Cont.)

AUTOMATIC CHOKE

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

IDLE SPEED

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.

Preparations For Adjustments — Block wheels and apply parking brake. Start and warm engine to normal operating temperature. Set timing and idle. Turn mixture screw to its full rich stop. Remove air cleaner, disconnect and plug evaporator canister to air cleaner hose.

Adjustment — With solenoid energized (if equipped), adjust solenoid screw, or if not equipped with solenoid adjust carburetor idle speed screw to obtain specified idle RPM. De-energize solenoid (if equipped), place automatic transmission in "N", or manual transmission in Neutral, and adjust idle screw to obtain 500-550 RPM. Connect solenoid wire and allow solenoid plunger to extend. On all models, stop engine, replace air cleaner and connect all vacuum hoses. Restart engine and check idle RPM. Readjust solenoid (if equipped) or idle speed screw and idle mixture screws (within range of limiters) to obtain smoothest idle RPM at correct CO level and at specified idle RPM.

IDLE 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 stabilize engine temperature, then continue adjustments.

1) Preparations for adjustments must be completed. *See Idle Speed Adjustment.* Connect and calibrate exhaust gas analyzer. Place automatic transmission in "D" or manual transmission in Neutral. If idle CO level is not within specified limits, recheck meter calibrations.

2) If idle CO level is still not within specifications, remove air cleaner and idle mixture limiter caps. Adjust mixture screws equally to obtain specified CO level and immediately readjust idle speed to specifications, if necessary. Install air cleaner and recheck CO level. If necessary repeat adjustment procedure until correct CO level is obtained at specified idle RPM. Install new (blue) service limiter caps on screws.

OVERHAUL

DISASSEMBLY

1) Remove anti-stall dashpot or throttle positioner solenoid and bracket as an assembly (when used). Remove automatic choke cover and coil assembly and gasket. Remove choke piston lever screw from end of choke shaft, remove piston lever, choke piston and link as an assembly. Remove air cleaner anchor screw bracket from air horn.

2) Remove fork lever from choke shaft, remove staking and take out choke valve screws, remove valve and slide choke shaft out.

3) Remove fast idle cam retainer and plastic collar, remove cam and disengage connector rod from cam and choke shaft fork lever. Remove pump arm connector link, free retaining spring from pump arm at plunger end, remove pump arm retainer screw and retainer, then remove pump arm, spring, and plastic sleeve.

4) Take out fuel bowl attaching screws, remove bowl and gasket. Remove float pin attaching screws, remove float pin, float, fuel inlet needle valve and seat assembly.

5) Use a light hammer to tap down on upper end of pump plunger shaft to remove cover on lower face of casting, *CAUTION — Pump plunger and spring will drop out with cover.*

6) Remove snap ring and pry conical washer out of upper end of step-up metering rod diaphragm housing, pierce diaphragm cover with a sharp pointed tool and pry cover out, remove diaphragm retainer, spring, and diaphragm and step-up metering rod assembly.

7) If necessary to remove throttle valve or shaft, scribe throttle plate and lower face of mounting flange lightly for correct installation. remove staking from throttle valve screws with a file, remove screws, lift out valve and slide throttle shaft and lever assembly out.

8) Remove (plastic) idle limiter cap, being certain to note position of tab. After removing limiter cap, count the number of turns necessary to lightly seat needle (this will aid in reassembly). Remove idle mixture screw and spring, fast idle speed screw and spring, and idle speed screw and spring. *CAUTION — Do not disturb or attempt to remove slotted idle passage plug, located directly below idle mixture adjusting screw, as this screw is pressed in and any change in position will affect idle performance.*

CARBURETOR ADJUSTMENT SPECIFICATIONS

Motorcraft Number	Idle Speed (Engine RPM)		Float Level Setting	Fast Idle Cam Setting	Choke Pull-Down	Unloader Setting	Auto. Choke Setting
	Hot	Fast					
All Models	①	1400	9/16"	.115±.015"	.300"	.250"	1 Rich

① — Set to specifications shown on engine tune-up decal located in engine compartment.

CARTER RBS SINGLE BARREL (Cont.)

CLEANING & INSPECTION

Wash all parts except pump diaphragm, power valve, step-up rod diaphragm, dashpot and throttle positioner solenoid in clean carburetor solvent, rinse in kerosene and dry with compressed air. Wipe all parts which can not be immersed in solvent with clean cloth. Blow out all passages with air. Check all parts for wear or damage.

REASSEMBLY

Use all new gaskets, reassemble carburetor by reversing disassembly procedure while noting the following:

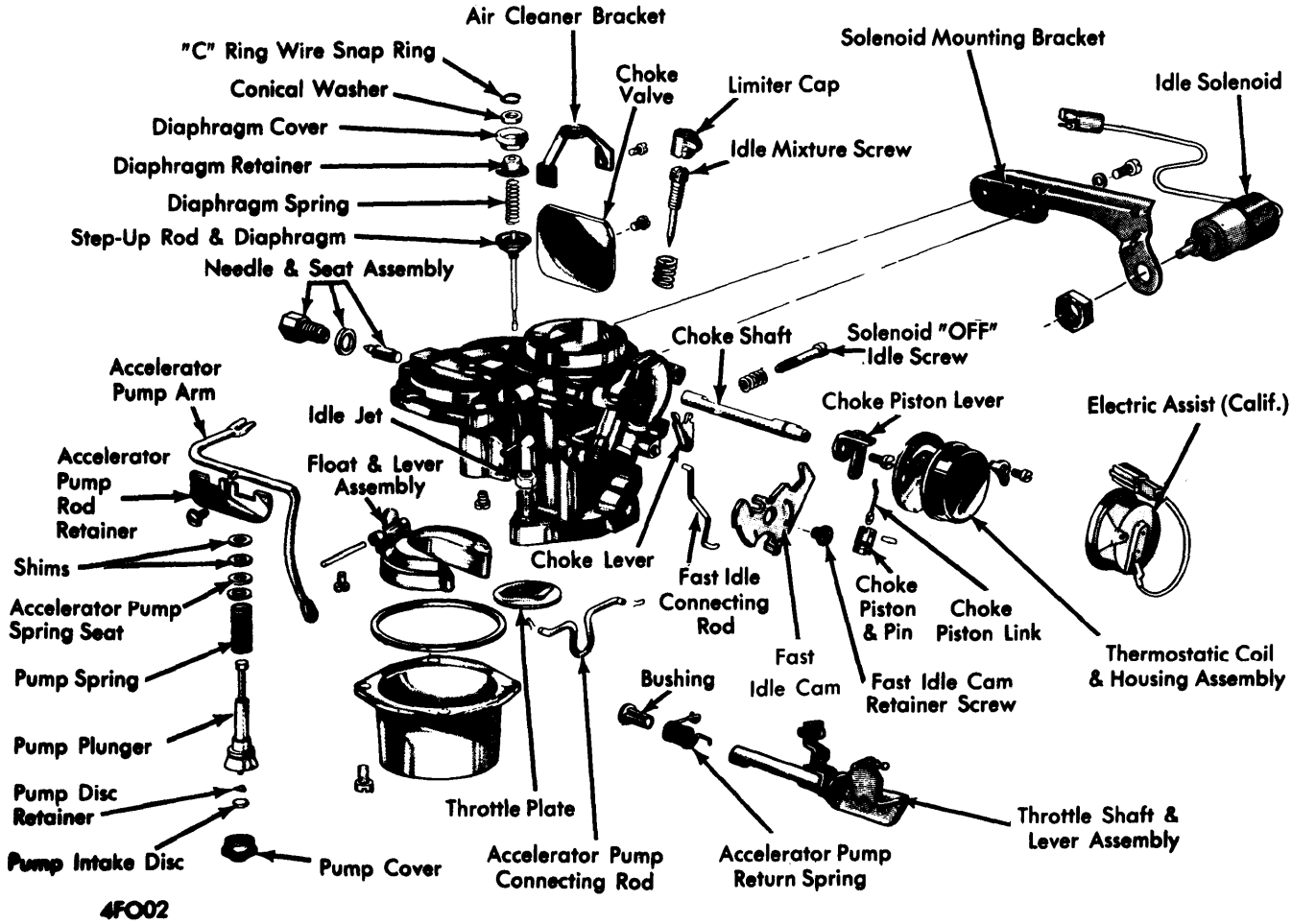
Accelerating Pump Assembly – Install pump plunger with spring, spring seat, and shims in carburetor body. Install new cover on bottom of body, use a 5/8" socket to press on outer edge of cover and tap with light hammer to seat cover on bottom of carburetor body.

Step-Up Metering Rod & Diaphragm Assembly – Install idle jet in main body. Insert metering rod in sleeve in casting and drop into place in main body, position diaphragm spring and retainer over diaphragm. Install new diaphragm cover. Use 1/2" socket and light hammer to seat diaphragm cover in casting. Install new conical washer over diaphragm cover and use a 7/16" socket and light hammer to tap washer down until it is flat in main body.

Throttle Valve Installation – Install valve on shaft with scribe marks (made during disassembly) aligned, install valve screw just snug. Close valve and check alignment by holding main body up to light – little or no light should show around valve. Tap valve lightly to seat it and hold valve closed while tightening screws securely. Stake attaching screws while supporting shaft with a metal bar or block of wood.

Choke Valve Installation – Center choke valve in same manner as throttle valve, while tightening screws.

Idle Mixture Adjusting Screw & Limiter Cap – Install adjusting screw and spring, but do not install limiter cap until after carburetor has been installed on engine and idle mixture adjusted.



CARTER RBS CARBURETOR ASSEMBLY (TYPICAL)