

# CARBURETOR SERVICE PROCEDURE

## CARTER MODEL AFB

NOTE: Some models of the Carter AFB carburetor may vary slightly in general design and appearance from others, but basic cleaning and adjustment procedure will remain the same.

### 1. DISASSEMBLY

The following procedure for disassembly divides the carburetor into two main sections: Air Horn and Main Body. Disassembly will be best accomplished by following alphabetical listing which denotes name of part to be removed and number sequence indicating order of removal.

#### Caution: Idle Limiter Caps

Beginning 1968; do not remove idle limiter caps or idle mixture screws unless required calibrating equipment and new replacement caps are available.

#### Air Horn Section:

- A. Fuel inlet fitting and strainer — 1, 2 and 3.
- B. Choke connector rod (upper) — 4 and 5.
- C. Fast idle rod — 6 and 7.
- D. Throttle connector rod — 8 through 12.
- E. Pump connector link — 13 and 14.
- F. If an internal type dashpot is used, disconnect rod between throttle and dashpot levers.
- G. Step-up piston and rod assemblies — 15 through 20.
- H. Air Horn assembly — 21 and 22.
- I. Float assemblies and air horn gasket — 23, 24 and 25.
- J. Needle and seat assemblies — 26 and 27.

#### Main Body Section:

- K. Pump plunger and return spring — 28 and 29.
- L. If dashpot is used, remove plunger and return spring from well opposite pump well.
- M. Primary venturi assemblies — 30, 31, 32 and 33.
- N. Secondary venturi assemblies — 34, 35, 36, and 37.
- O. Auxiliary throttle valve (if used) — 38.
- P. Pump discharge nozzle assembly — 39, 40, 41 and 42.
- Q. Primary metering jets — 43.
- R. Fuel bowl baffle — 44.
- S. Secondary metering jets — 45.
- T. Thermostatic valve assembly (if used). Valve is "T" shaped, located between secondary venturis and held in place with two screws.
- U. Lower choke connector rod (if used) — 46 and 47.
- V. Thermostatic housing assembly (if used) — 48 through 52.
- W. Choke housing assembly (if used) — 53, 54 and 55.
- X. Pump intake check plug, seat and ball — 56, 57 and 58. On late model carburetors, the pump intake check ball assembly is located inside of fuel bowl near bottom of pump well.
- Y. Idle adjusting screws — 59 and 60.
- Z. Idle air adjusting screw (if used) — 61 and 62.

### 2. CLEANING

- A. Using a regular carburetor cleaning solution, soak parts long enough to give a thorough cleaning and make sure parts and passages are free of all foreign matter.
- B. To remove any residue that might be left after use of the cleaner, it is recommended that parts be immersed in clean gasoline or a suitable solvent.
- C. BLOW OUT ALL PARTS AND PASSAGES WITH DRY COMPRESSED AIR.
- D. Do not soak any parts containing rubber, leather or plastic if they are to be re-used.

### 3. REASSEMBLY

Reassemble carburetor in the reverse order of disassembly.

- A. Make initial setting of idle adjusting screws (59) and idle air adjusting screw (61, if used) by turning inward until lightly seated, then back screws out number of turns listed: Idle adjusting screws 1½ turns; Idle air adjusting screw 1½ to 3½ turns. Make final adjustment on engine as stated in adjustment section 4-1.
- B. Make sure metering jets are installed correctly. Primary jets (43) have large hole — secondary jets (45) have small hole.
- C. If an auxiliary throttle valve (38) is used, position valve with letter "C" toward center of carburetor, facing up. Valve must move freely and return to closed position.
- D. The primary and secondary venturis (31, 32, 35 and 36) must be reinstalled in their original positions. They each have a cutout notch which must correctly match step in main body.
- E. If an internal type dashpot is used, do not interchange pump and dashpot plunger return springs. The pump spring (29) is the shorter of the two.
- F. Use care when installing step-up pistons and rods (18 and 19). Rods must not be forced into position or bent out of alignment.
- G. Some late model carburetors will contain an "S" shaped pump connector link (14). Reinstall with upper end facing out through pump lever and inner end facing in through hole in pump plunger stem.

### 4. ADJUSTMENTS

#### A. Float Level: (Fig. 1)

Assemble and calibrate adjustable float gauge to dimension listed in specification table using "A" line on sliding portion of gauge.

With air horn inverted and gasket in place, position gauge as shown in Fig. 1. If distance measured between gasket surface and top of float (at outer end) is not as listed, adjust by bending float arm. Side of float must be parallel with outer edge of air horn casting. Adjust both floats, making certain resilient tipped needle is not pressed into seat.

#### B. Float Drop: (Fig. 2)

Calibrate adjustable float gauge to dimension listed in specification table using "A" line on gauge. With air horn held upright, gasket in place and float hanging freely, the distance measured from gasket surface to top of float (at free end) should be as listed. To adjust, bend stop tab on float bracket. Adjust both floats.

#### C. Pump: (Fig. 3)

Calibrate gauge to dimension listed in specification table using "B" line on gauge. With pump rod in specified hole in pump arm, back out throttle stop screw until throttle valves are completely closed. With gauge placed on air horn surface, bend pump rod until top of pump plunger shaft just touches lower edge of upper gauge leg.

#### D. Bowl Vent Valve (If so equipped)

With throttle valves fully closed, measurement between rubber grommet and valve seat should be 5/32" at narrowest point.

#### E. Choke Piston Linkage:

##### Type I (Fig. 4)

Hold choke valve closed by applying pressure to piston

lever in choke housing. The clearance (B) between piston lever and stop in housing should be as listed in specification table. Adjust all models except Ford products by bending choke connector rod. To adjust Ford products, loosen lock screw on lever supporting choke connector rod and rotate lever as needed. Tighten screw.

**Type II (Fig. 5)**

Bend a .026" wire gauge (paper clip) at a 90° angle 1/8" from the end. Open throttle halfway to prevent fast idle cam from touching adjusting screw. Open choke and insert gauge so that bent portion is between top of slot in choke piston cylinder and bottom of slot in piston. Holding gauge in place, close choke by pressing on piston lever in choke housing until resistance is felt. There should now be the clearance listed between top of choke valve and inner wall of air horn. To adjust, bend choke connector rod.

**Type III (Fig. 4)**

Make certain that fast idle cam does not touch adjusting screw. Close choke valve by pressing on piston lever in choke housing. The top of the choke piston should be flush with the top of the choke piston cylinder. To adjust bend choke connector rod.

**F. Fast Idle - Linkage:**

**Type I (Fig. 6)**

With choke valve closed and fast idle cam against stop on housing, the clearance (C) between the two levers on end of choke shaft should be as listed in specification table. To adjust, bend fast idle rod.

**Type II (Fig. 7)**

With choke valve closed, index mark on fast idle cam should align with center of fast idle screw. To adjust, bend fast idle rod.

**G. Fast Idle - Throttle: (Fig. 7)**

With choke closed, turn fast idle screw in against high step of fast idle cam (or index mark, if used) until the clearance (D) between lower edge of throttle valve and bore of carburetor is as listed in specification table.

**H. Unloader: (Fig. 3)**

With primary throttle valves held wide open and choke closed as far as possible without forcing it, the clearance measured between upper edge of choke valve and inner wall of air horn should be as listed in specification table. To adjust, bend unloader lip on primary throttle lever.

**I. Idle Mixture and Speed: (Fig. 8)**

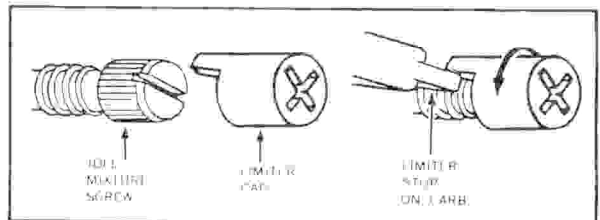
Run engine until hot, choke wide open and (if used) hot idle compensator valve closed. Adjust both idle adjusting screws for highest RPM. Then turn screws inward until lean mixture causes engine to run rough and lose speed. Finally turn screws out, just enough to regain lost speed and smoothest idle. Adjust throttle stop screw for desired RPM and recheck idle adjusting screws for best "lean as possible" setting

**Note:** On some models, idle speed is controlled by use of an idle air adjusting screw (No. 61, exploded view). When used it replaces the conventional throttle stop screw. Turning it outward (counterclockwise) increases engine speed by allowing more air to enter the manifold, but also leans the mixture. The idle adjusting screws must be readjusted to compensate for this action when ever engine speed is changed.

**C.A.P., C.A.S., E.C.S. & V.S.S. Models:**

Beginning 1966 carburetors with these systems require special idle mixture and speed settings with use of an electric tachometer, vacuum gauges and exhaust analyzer. Follow car model manufacturer's instructions. If special calibrating equipment is not available, temporary adjustment can be made in normal manner providing idle adjusting screws are not backed out more than 2 turns from lightly seated position. Idle adjusting screws must be adjusted to maintain a 14.2 air/fuel ratio or "lean as possible" idle mixture.

**J. TO INSTALL NEW IDLE LIMITER CAPS**



If original idle limiter caps have been removed, new caps must be installed, after completing idle adjustments, to comply with State and Federal regulations regarding Emission Control by limiting range of idle mixture screw travel.

1. Soften cap in hot water.
2. Place cap on head of mixture screw in extreme counterclockwise position with tab on cap against stop on carburetor.
3. Press firmly until cap locks in place. Use care not to change screw setting when installing cap.

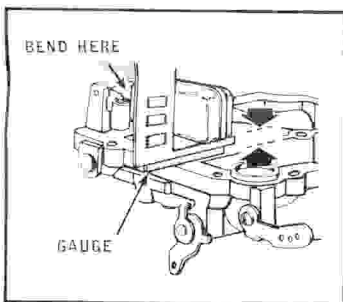


FIGURE 1

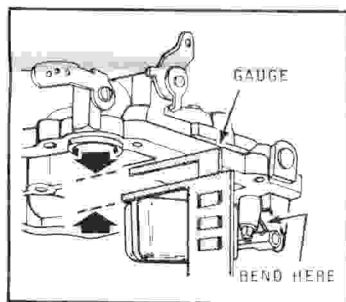


FIGURE 2

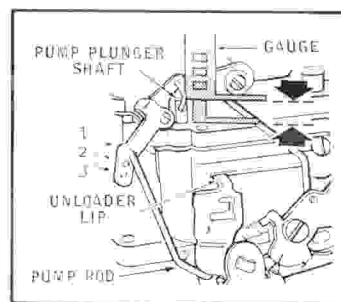


FIGURE 3

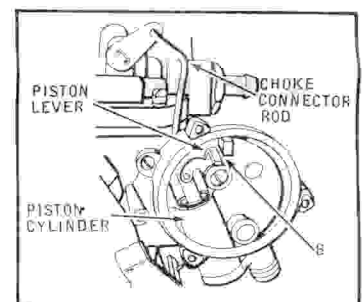


FIGURE 4

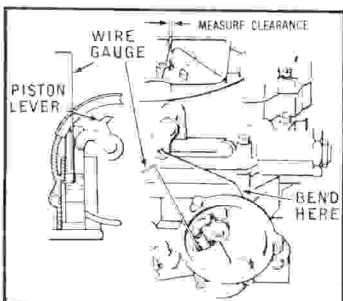


FIGURE 5

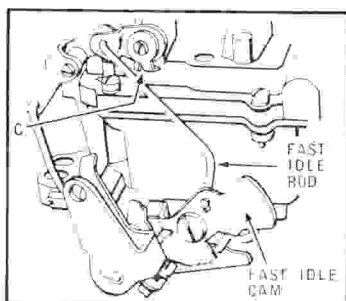


FIGURE 6

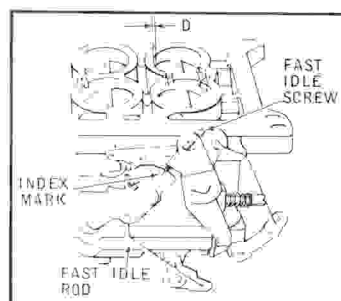


FIGURE 7

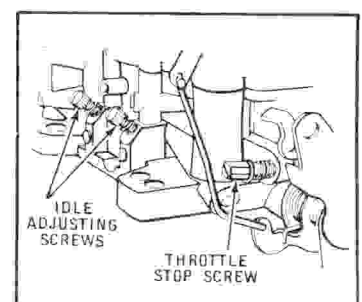


FIGURE 8

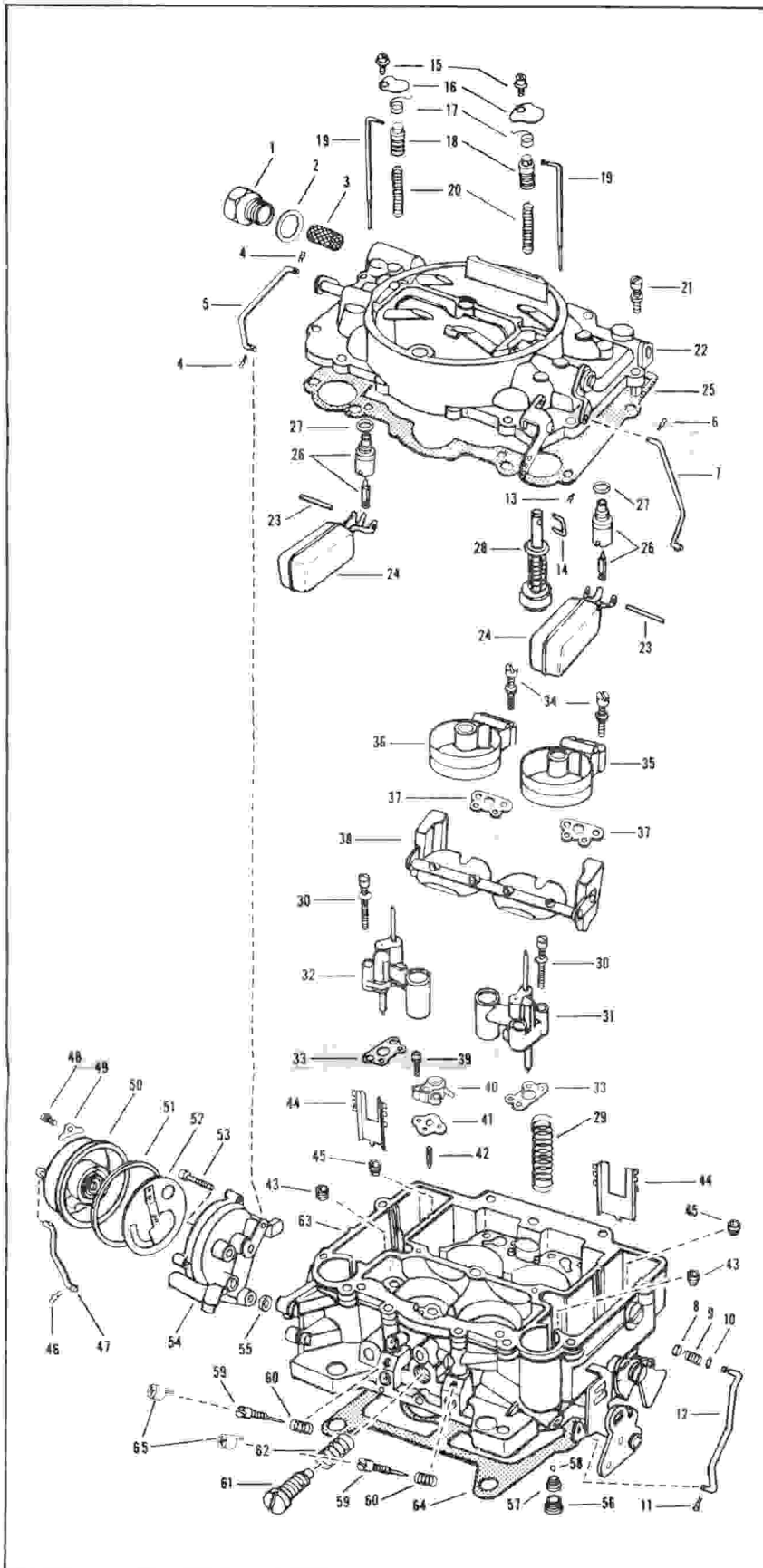




# EXPLODED VIEW OF TYPICAL CARTER CARBURETOR MODEL AFB

Ref. No.

Nomenclature



- 1 Fuel Inlet Fitting
- 2 Fuel Inlet Fitting Gasket
- 3 Fuel Inlet Strainer
- 4 Pin Spring
- 5 Choke Connector Rod (upper)
- 6 Pin Spring
- 7 Fast Idle Connector Rod
- 8 Connector Rod Retainer
- 9 Retainer Spring
- 10 Washer
- 11 Pin Spring
- 12 Throttle Connector Rod
- 13 Pin Spring
- 14 Pump Connector Link
- 15 Step-up Piston Cover Screw
- 16 Step-up Piston Cover
- 17 Step-up Rod Retainer Spring
- 18 Step-up Piston
- 19 Step-up Rod
- 20 Vacuum Piston Spring
- 21 Air Horn Screw and Washer
- 22 Air Horn Assembly
- 23 Float Pin
- 24 Float Assembly
- 25 Air Horn Gasket
- 26 Needle and Seat Assembly
- 27 Needle Seat Gasket
- 28 Pump Plunger Assembly
- 29 Pump Return Spring
- 30 Primary Venturi Attaching Screw
- 31 Primary Venturi Assembly (pump side)
- 32 Primary Venturi Assembly (opposite pump)
- 33 Primary Venturi Gasket
- 34 Secondary Venturi Attaching Screw
- 35 Secondary Venturi Assembly (pump side)
- 36 Secondary Venturi Assembly (opposite pump)
- 37 Secondary Venturi Gasket
- 38 Auxiliary Throttle Valve
- 39 Pump Discharge Nozzle Screw
- 40 Pump Discharge Nozzle Assembly
- 41 Pump Nozzle Gasket
- 42 Pump Discharge Needle
- 43 Primary Metering Jet
- 44 Fuel Bowl Baffle
- 45 Secondary Metering Jet
- 46 Pin Spring
- 47 Choke Connector Rod (lower)
- 48 Coil Housing Attaching Screw
- 49 Coil Housing Retainer
- 50 Thermostatic Coil and Housing Assembly
- 51 Coil Housing Gasket
- 52 Baffle Plate
- 53 Choke Housing Screw and Washer
- 54 Choke Housing Assembly
- 55 Choke Housing Gasket
- 56 Pump Intake Check Plug
- 57 Pump Intake Check Ball Seat
- 58 Pump Intake Check Ball
- 59 Idle Adjusting Screw
- 60 Idle Adjusting Screw Spring
- 61 Idle Air Adjusting Screw\*
- 62 Idle Air Adjusting Screw Spring
- 63 Main Body Assembly
- 64 Flange Gasket
- 65 Idle Screw Limiter Cap\*\*

\* Not used on all models

\*\* Beginning 1968