

CARBURETOR SERVICE PROCEDURE

CARTER MODEL AFB

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

1. DISASSEMBLY

Using the exploded view as a guide, disassemble carburetor only far enough to permit a thorough cleaning. Removal of choke or throttle valves is not necessary unless parts require special attention.

Note: Beginning 1966 C.A.P. (Cleaner Air Package carburetors – identified by green tag), the idle adjusting screws (59) are not removable. They lock at a maximum of 1¼ to 3 turns open and will be broken if an attempt is made to remove them from carburetor. All other regular carburetor models contain removable idle adjusting screws.

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.

2. CLEANING

Soak parts in a regular carburetor cleaning solution, as directed by the manufacturer's instructions, long enough to remove all dirt, carbon or foreign matter. Do not soak any parts containing rubber, leather or plastic if they are to be reused. Use a small bristle brush to aid in cleaning of sharp corners or areas of excessive dirt buildup. Rinse parts in hot water or a suitable solvent and thoroughly blow out all parts and passages with dry compressed air.

Caution: Do not soak dashpot or choke vacuum break diaphragm assemblies, in carburetor cleaner, when so equipped.

3. REASSEMBLY

Reassemble carburetor in the reverse order of disassembly, paying particular attention to the following:

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.

Note: On C.A.P. carburetors, do not back screw out more than 2 turns maximum. On all models, make final hot idle setting on engine as stated in adjustment section 4-K.

B. On some models, a pump intake check assembly is located inside of fuel bowl at base of pump well. When used it replaces plug, seat and ball (56-58) as shown in exploded view.

C. Make sure metering jets are installed correctly. Primary jets (43) have large hole – Secondary jets (45) have small hole.

D. 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.

E. 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.

F. Some models will contain a "T" shaped Thermostatic Valve Assembly located between the secondary venturis and held

in place with two screws. Purpose of valve is to prevent engine stalling by supplying additional air to the idle mixture during prolonged hot idle periods. Valve must be closed at normal idle. If bimetal spring is bent out of shape, it must be replaced.

G. Use care when installing step up pistons and rods (18 and 19). Rods must not be forced into position or bent out of alignment.

H. Some late model carburetors will contain an "S" shaped pump connector link (14). Reinstall with upper end, through hole in pump lever, facing away from center of carburetor. Lower end must face center of carburetor through hole in pump plunger stem.

4. ADJUSTMENTS

A. Float Level: (Fig. 1)

(Floats must be vertically aligned and sides parallel with outer edge of air horn casting.) Assemble and calibrate adjustable gauge to dimension listed in specification table using "A" scale on gauge. With gasket in place, invert air horn and position gauge as shown measuring for specified distance between gasket surface and top of float (at outer end). To adjust, bend float arm. Adjust both floats, making certain resilient tip needle is not pressed into seat.

B. Float Drop: (Fig. 2) 23/32"

Calibrate adjustable float gauge to 23/32" dimension using "A" scale on gauge. With gasket in place, air horn held upright and floats hanging freely, position gauge as shown. The distance measured between gasket surface and outer end of float 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 table using "B" scale 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, top of pump plunger shaft should just touch lower edge of upper gauge leg. To adjust, bend pump rod.

D. 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 table. To adjust, bend choke connector rod.

Type II (Fig. 5)

Bend a .026" wire gauge (paper clip) at a 90° angle 1/8" from the end. Open throttle half way to prevent fast idle cam from touching adjusting screw. Open choke and insert gauge so that bent end 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 until gauge is locked in position. There should now be the clearance, as listed in table, between top of choke valve and inner wall of air horn. To adjust, bend choke connector rod.

E. Fast Idle – Linkage:

Type I (Fig. 6)

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

Type II and III (Fig. 7)

Place fast idle screw on bottom step and against middle step of fast idle cam for Type II. Place screw on second step and against top step of cam for Type III. With cam and screw positioned as stated above, lightly close choke valve as far as possible without forcing. Using a drill as a gauge, the distance that upper edge of choke valve remains open should be as listed in table. To adjust, bend fast idle rod.

F. Fast Idle – Throttle Valve: (Fig. 6)

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

G. Unloader: (Fig. 3)

Hold primary throttle valves wide open and lightly close choke valve as far as possible without forcing. The distance measured that upper edge of choke valve remains open should be as listed in table. To adjust, bend unloader lip on throttle lever.

H. Vacuum Break: (Fig. 8)

1964 carburetors, press diaphragm "stem" inward until bottomed. 1965 and later, press diaphragm "plate" (not end of stem) inward until diaphragm is bottomed. Lightly close choke valve as far as possible without forcing. Using a drill as a gauge, the distance that upper edge of choke valve remains open should be as listed in table. To adjust, bend choke operating link.

Caution: Remove link when bending to prevent damage to diaphragm.

Note: Optional method of bottoming diaphragm is to apply a separate source of vacuum to diaphragm assembly. (Use length of hose from manifold of another engine or a distributor tester with a minimum of 10" of vacuum.) Lightly close choke and measure valve opening as above.

I. Automatic Choke:

Integral Type (Unit on Carb.)

With cover retaining screws loosely in place, rotate cover against spring tension until mark on cover is aligned with specified mark on housing. Tighten screws. Choke valve should be completely closed but free to open with slight finger pressure.

Cross-Over Type (Unit in Manifold)

Remove unit from manifold, loosen lock nut and turn mounting post with screw driver until index mark on disc is aligned with specified mark (between "L" and "R" scale markings) as listed in table. Tighten locknut and reinstall in manifold. Connect to carburetor and check for proper choke valve tension when cold.

J. Secondary Throttle Valve:

Block choke valve in wide open position. Open primary throttle valves until distance between lower edge of valve and carburetor bore on side opposite idle ports is as listed in specification table. Secondary throttle valves should just start to open at this point. To adjust, bend secondary throttle operating rod.

Note: With primary and secondary throttles fully closed, there should be .010 to .030 clearance between closing shoes on primary and secondary throttle levers.

K. Idle Mixture and Speed: (Fig. 6)

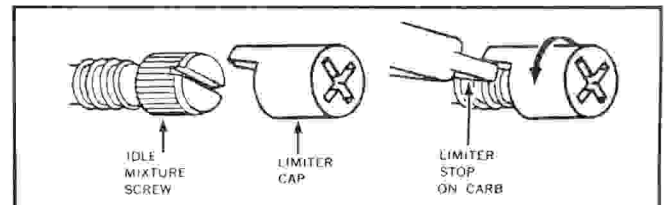
Run engine until hot, choke wide open and (if used) hot idle compensator valve closed. Adjust both idle adjusting screws (2) for highest RPM. Then turn screws inward until lean mixture causes engine to run rough and lose speed. Finally turn screws out just enough to regain lost speed and smoothest idle. Adjust throttle stop screw (1) for correct RPM and recheck idle adjusting screws.

Note: On some models, idle speed is controlled by use of an idle air adjusting screw (61, exploded view). It replaces the conventional throttle stop screw. Turning it outward (counter-clockwise) increases engine speed by allowing more air to enter the manifold, but also leans out the mixture. The idle adjusting screws must be readjusted to compensate for this action.

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.

L. TO INSTALL NEW IDLE MIXTURE 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 counter-clockwise 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.

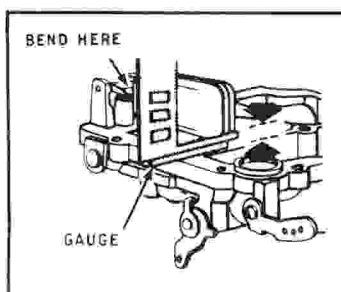


Figure 1

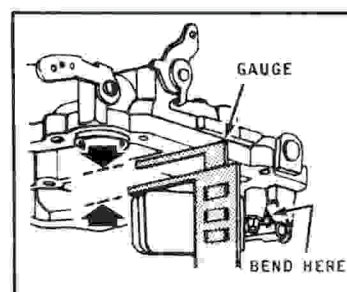


Figure 2

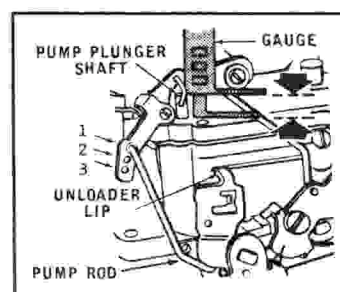


Figure 3

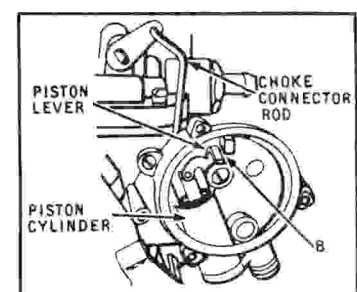


Figure 4

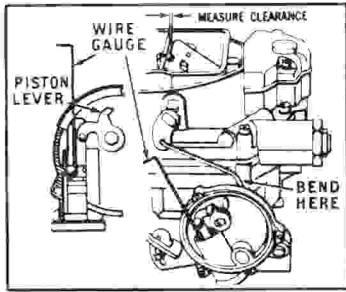


Figure 5

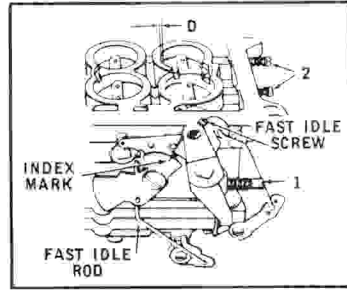


Figure 6

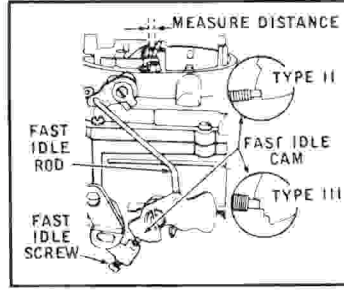


Figure 7

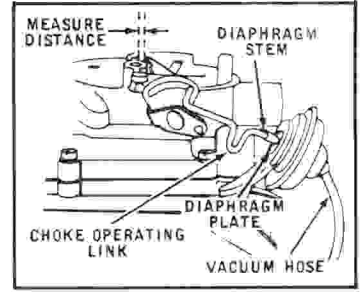


Figure 8

SPECIFICATION AND ADJUSTMENT TABLE

* Note: Beginning 1968, see "Decal" in engine compartment for additional Idle Mixture procedure and specifications.

Application	Float Level	Pump		Choke Piston Linkage		Fast Idle Linkage		Fast Idle Throttle Valve	Un-loader	Vacuum Break	Auto Choke	Secondary Throttle Valve	Engine Speed - R.P.M.*		
		Hoic	Setting	Type	Setting	Type	Setting						Hot Idle (1)	A/T	Fast Idle
CHRYSLER															
1957-58	7/32	2	7/16	I	.040 (2)	I	Index	.012	1/4	-	1 Rich	(3)	500	500	1400 (4)
1959 & 62 Hi Perf Duals (Front)	9/32	2	7/16	-	-	-	-	-	-	-	-	23/64	-	-	-
(Rear)	7/32	2	7/16	II	1/8	I	Index	.012	1/4	-	1 Rich	23/64	650	-	1400 (4)
1959-63	7/32	2	7/16	-	-	I	Index	.020	1/4	-	2 Rich	3/8	500	500	1800 (4)
1960-61 Duals 2903	9/32	2	7/16	II	1/8	I	Index	.010	1/4	-	1 Rich	-	500	500	1800 (4)
1963-64 Duals 3505	9/32	2	7/16	-	-	-	-	-	-	-	-	29/64	700	-	1400 (4)
1964 413" & 383" Eng's (Incl. Can. 383")	7/32	2	7/16	-	-	II	7/32 (5)	.020	3/8	1/8	2 Rich (6)	21/64	500	500	700 (7)
1965 (Incl. 4200 Service Carb.)	7/32	2	7/16	-	-	III	1/16	.020	3/8	1/8	Index (8)	21/64	500	500	700 (7)
1966 w/o C.A.P.	7/32	2	7/16	-	-	III	1/16	.020 (9)	3/8	1/8 (10)	2 Rich	21/64	500	500	700 (7)
1966 w/ C.A.P.	7/32	2	7/16	-	-	III	1/16	.018	5/16	5/64	Index	21/64	650	600	1500 (11)
1967 w/o C.A.P.	5/16 (12)	2	7/16	-	-	III	1/16	.020 (9)	3/8	1/8 (13)	2 Rich	(14)	500	500	700 (7)
1967 w/ C.A.P.	5/16	2	7/16	-	-	III	1/16	.020	5/16 (15)	1/8 (16)	Index	(14)	650	600	1400 (11)
CHRYSLER MARINE															
1961-66 3213 & 3214	7/32	2	7/16	-	-	I	Index	.020	1/4	-	(17)	13/64	550	-	700 (7)
1962-67 3392 M/Choke	7/32	2	7/16	-	-	-	-	.020	-	-	-	13/64	550	-	700 (7)
1962-67 Duals, 3394 (Rear)	7/32	2	7/16	-	-	-	-	.020	-	-	Manual	13/64	550	-	700 (7)
1962-69 Duals, 3393 (Front)	17/64	2	7/16	-	-	-	-	-	-	-	-	23/64	550	-	700 (7)
1963-69 Duals, 3564 (Rear)	7/32	2	7/16	II	5/64	I	Index	.020	3/8	-	1 Rich	1/4	550	-	700 (7)
1963-69 (Exc. 4699)	7/32	2	7/16	II	5/16 (18)	(19)	(19)	.020	1/4 (20)	3/32 (21)	(22)	(23)	550	-	700 (7)
1969 4599	5/16	1	7/16	-	-	III	1/16	.020	3/8	1/8	Index	23/64	550	-	700 (7)
Carb. No. 6130	5/16	1	7/16	-	-	III	1/16	-	11/64	-	Index	3/8	650	-	1700 (11)
DESOTO - DODGE - PLYMOUTH**															
1958-59 Duals (Front)	9/32	2	7/16	-	-	-	-	-	-	-	-	23/64	-	-	-
(Rear)	7/32	2	7/16	I (24)	.040	I	Index	.012	1/4	-	1 Rich	23/64	600	-	1400 (4)
1958-63	7/32	2	7/16	-	-	I	Index	.020	1/4	-	1 Rich	3/8	500	500	1800 (4)
1960 Std. Trans (Dodge only)	5/16	2	7/16	II	1/8	I	Index	.010	1/4	-	Index	23/64	500	-	1250 (4)
1960-61 Duals 2903	9/32	2	7/16	II	1/8	I	Index	.010	1/4	-	1 Rich	-	500	500	1800 (4)
1963 Duals 3447	9/32	2	7/16	-	-	-	-	-	-	-	-	29/64	900	900	-
1964 Police, Hi Perf & Canada	7/32	2	7/16	-	-	II	7/32	.020	3/8	1/8	Index (8)	21/64	500	500	700 (7)
1964-65 Duals	7/32 (25)	1	9/16	-	-	-	-	-	-	-	-	23/32	900	900	-
1965	7/32	2	7/16	-	-	III	1/16	.020	3/8 (19)	-	Index (8)	21/64	500	500	700 (7)
1966-67 Duals, w/o C.A.P. (Front)	9/32	2	7/16	-	-	-	-	-	-	-	-	17/64	750	750	-
(Rear)	7/32	2	7/16	-	-	III	1/16	.030	1/4	-	1 Rich	17/64	750	750	1500 (11)
1966 w/o C.A.P.	7/32	2	7/16	-	-	III	1/16	.020	3/8 (19)	1/8 (19)	2 Rich	21/64	500	500	700 (11)
1966 w/ C.A.P.	7/32	2	7/16	-	-	III	1/16	.018 (9)	5/16 (13)	5/64 (27)	Index	21/64	650	600	1500 (11)
1967 w/o C.A.P.	5/16	2	7/16	-	-	III	1/16	.020 (9)	3/8 (15)	1/8 (13)	2 Rich	(13)	500	500	700 (7)
1967 w/ C.A.P.	5/16	2	7/16	-	-	III	1/16	.020	5/16 (15)	1/8 (16)	Index	(13)	650	600	1400 (11)
1967 Duals, w/ C.A.P. (Front)	19/64	2	7/16	-	-	-	-	-	-	-	-	17/64	750	750	-
(Rear)	7/32	2	7/16	II	1/8	III	1/16	.020	1/4	-	2 Rich	17/64	750	750	1800 (11)
1968-69 Duals, w/ C.A.P. (Front)	19/64	2	7/16	-	-	-	-	-	-	-	-	17/64	750	750	-
(Rear)	7/32	2	7/16	II	(28)	III	1/16	.024	1/4	-	2 Rich	17/64	750	750	1800 (11)
1970-71 Duals, w/ E.C.S. (Front)	19/64	2	7/16	-	-	-	-	-	-	-	-	17/64	900	900	-
(Rear)	7/32	2	7/16	II	(29)	III	1/16	-	1/4 (30)	-	2 Rich	17/64	900	900	(31) (11)
DODGE TRUCK (Incl. Canada)															
1960-68 Std. Trans.	7/32	2	33/64	-	-	-	-	-	-	-	-	3/8	500	-	-

** Includes Barracuda, Challenger, Dart and Valiant

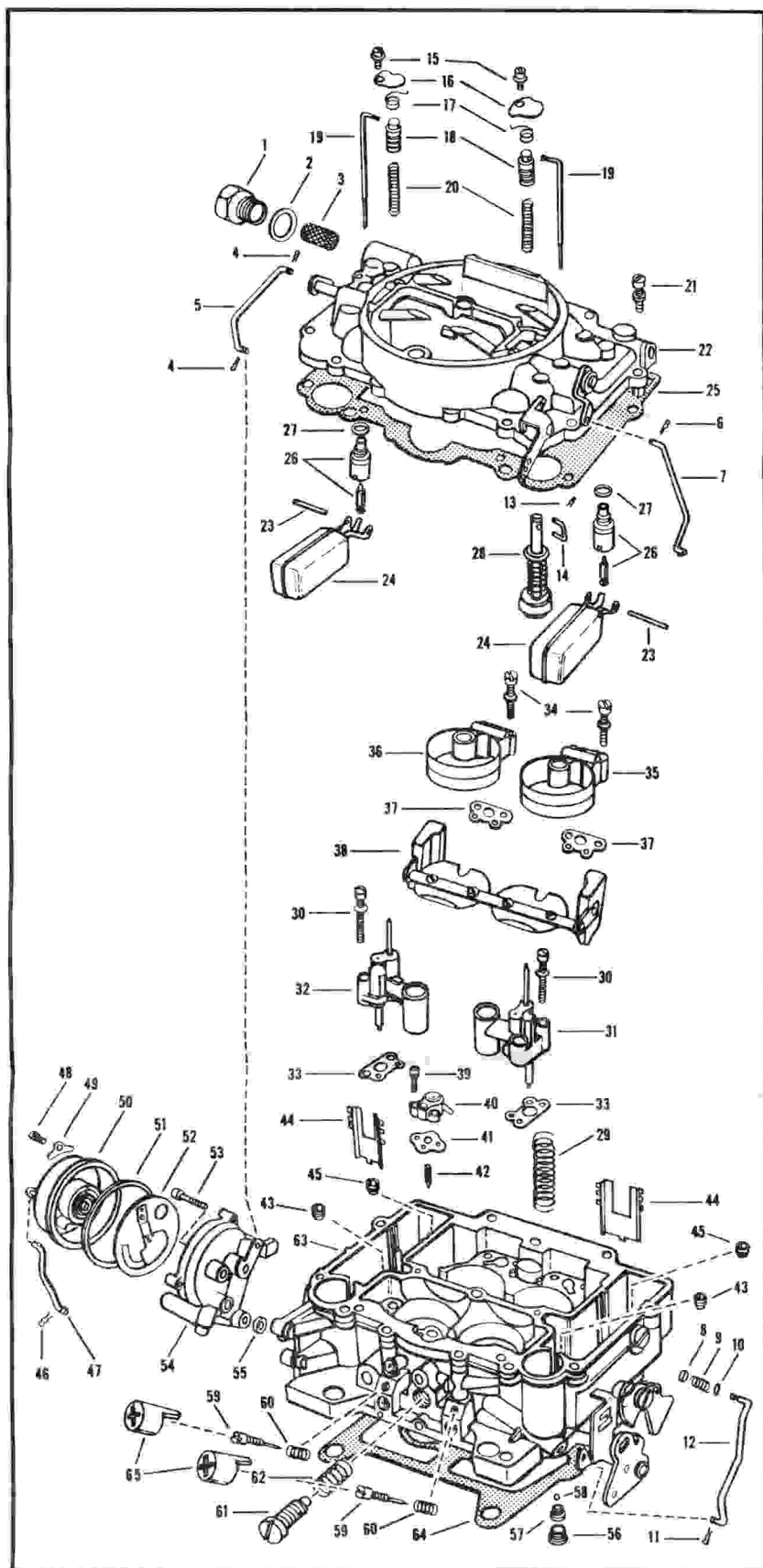
Abbreviations: C.A.P. = Cleaner Air Package, C.A.S. = Cleaner Air System, E.C.S. = Emission Control System, V.S.S. = Vapor Saver System, Eng.(s) = Engine(s), w/ = with, w/o = without, Incl. = Includes, Can. = Canada, Hi Perf. = High Performance, S/T = Standard Transmission, A/T = Automatic Transmission, M/Choke = Manual (Hand) Choke, Carb. = Carburetor.

- | | |
|--|---|
| (1) In "Neutral" | (16) Carb. No's 4309, 4310, 4311 = 5/64 |
| (2) 1958 Carb. No. 2836 = .067. | (17) Carb. No's 3213 = Index; 3214 = 2 Rich |
| (3) 1957 = 19/64; 1958 = 3/8. | (18) Carb. No. 3543 only |
| (4) Fast idle screw on "Index" mark on top step of cam. | (19) Carb. No's 3543 & 4476 = 1 - Index; 3980 = Type III = 1/16 |
| (5) Service Carb. No. 4200 = Type III - 1/16 | (20) Carb. No. 3543 = 3/8 |
| (6) Carb. No's 3614 & 4200 = Index | (21) Carb. No. 3980 only |
| (7) Fast idle screw on "Bottom" step of cam. | (22) Carb. No's 3543 = 1 Rich; 3980 & 4476 = 2 Rich |
| (8) Carb. No's 3612, 3853, 3854, 3858 & 3871 = 2 Rich. | (23) Carb. No's 3543 = 13/64; 3980 = 21/64; 4476 = 7/16 |
| (9) Carb. No's 4119 & 4294 = .013; 4131, 4299 & 4326 = .025 | (24) 1958 = Type II - 1/8 |
| (10) Carb. No's 4120 = 3/32; 4131 = 7/16 | (25) 1965 = 5/32 |
| (11) Fast idle screw on second step against top step of cam. | (26) Carb. No's 4318 = 9/32 |
| (12) Carb. No's 4326 & 4327 = 7/32 | (27) Carb. No's 4121 & 4122 = 1/8 |
| (13) Carb. No's 4295 = 3/32; 4299 = 7/64 | (28) Carb. No's 4431 = 5/32; 4432 = 7/64 |
| (14) 383" Eng. = 21/64; 440" Eng. = 23/64 | (29) Carb. No's 4745 = .055; 4756 = .100 |
| (15) Carb. No's 4328 & 4329 = 3/8; 273" Eng. = 7/32 | (30) 1970 only |
| | (31) 1970 = 2000 R.P.M.; 1971 = 2300 R.P.M. |

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