

SERVICE INSTRUCTIONS

CARTER THERMO-QUAD.

DISASSEMBLY

The numerical sequence of the exploded view may be followed in most instances to disassemble the carburetor far enough to permit cleaning, inspection, and installation of kit contents. Variations in design, omission and addition of parts may occur between models in this group. **NOTE: To remove pump plunger (40) use a small rod placed on upper end of plunger shaft and tap lightly.**

On some models the countershaft lever (24) is not removable, it will be necessary to revolve the bowl cover to disengage the fast idle cam rod (25) from slot in cam to separate bowl cover from fuel bowl. **Do not disturb transducer adjustment.** To remove, take transducer and bracket assembly off carburetor as a unit. Two of the bowl cover screws (37) are located between choke valve and inner wall of bowl cover. The air valve parts (20, 21, and 22) should not be removed unless air valve or shaft is binding. If the idle limiter caps (70) must be removed to qualify the idle, position the limiter caps to the stop. Remove caps from idle air mixture screws carefully to avoid damaging screws. Before removal of idle adjustment screws, be sure and count the number of turns to seat the screws as the same number of turns from the seat should be maintained during the reassembly of carburetor.

CLEANING

Clean all parts thoroughly in an approved cleaning solvent. Special attention should be given to carbon deposits in throttle bores and passages. Do not use wires or pointed tools to clean passages and calibrated holes as calibration of carburetor may be destroyed. Rinse parts in a suitable solvent. Blow out all passages with compressed air. Do not immerse leather, rubber, diaphragms, solenoids, transducer assemblies, or other similar materials in cleaning solvent. **(Do not immerse fuel bowl (55) in cleaning solvents for a prolonged period of time.)**

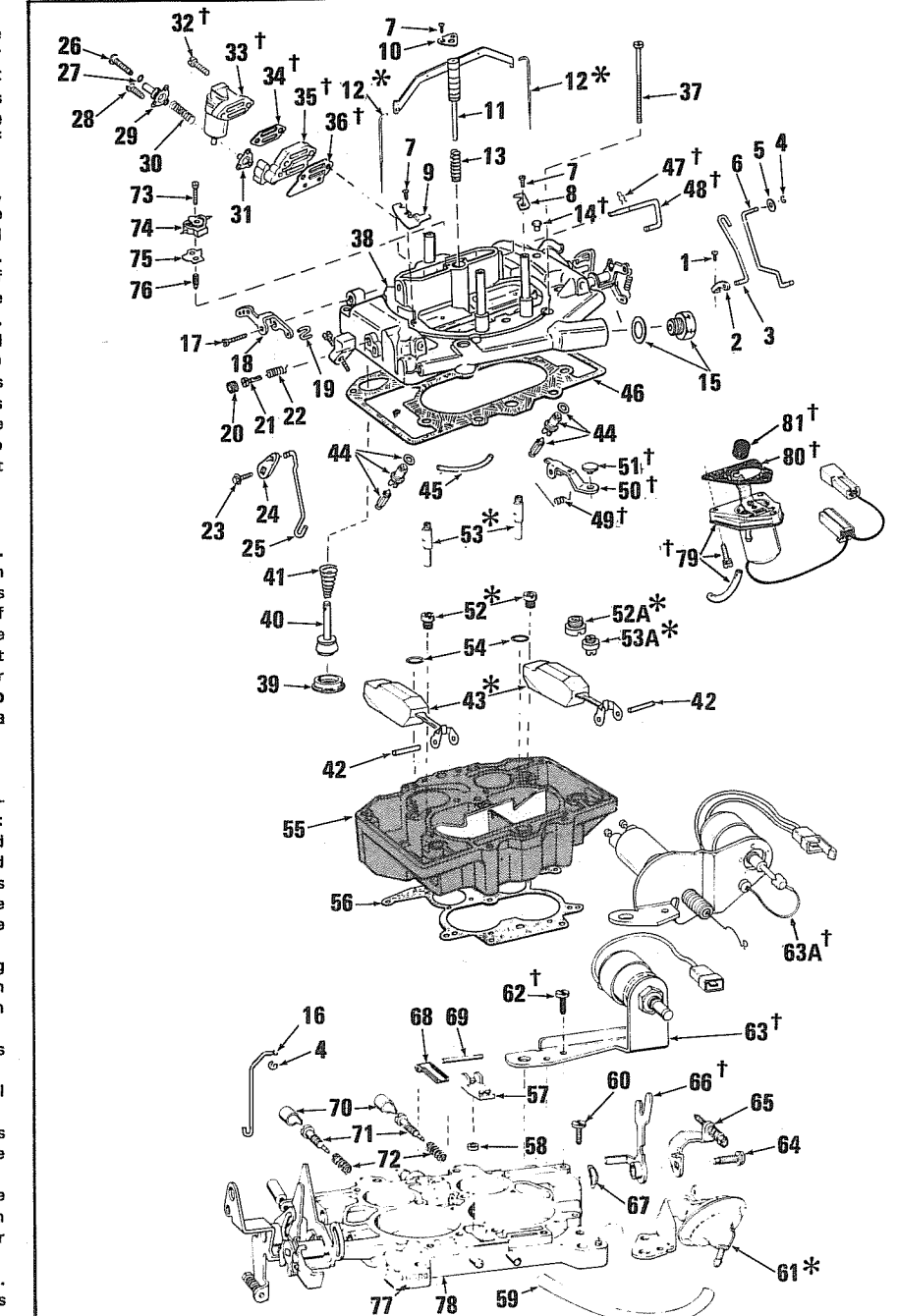
REASSEMBLY

Reverse the numerical sequence of exploded view to reassemble carburetor. Note the following special instructions:

1. If the idle limiter caps and mixture screws were removed during disassembly, the mixture screws should be seated lightly then backed out the same number of turns established during disassembly for initial idle mixture adjustment. For final adjustment, see decal in engine compartment.
2. Lubricate the cup on plunger assembly (40). Install spring (41) small end downward on plunger stem. Install stem through hole in bowl cover, and install "S" link (19) with lower open end toward choke to hold in place.
3. Install step-up piston assembly (11) with guide dimples toward choke valve.
4. Be sure quad "X" rings (54) are seated properly in bowl well before installing bowl cover assembly.
5. Be sure the upper vent lever (48) on bowl cover is positioned in the fork of bowl vent lever (66) on flange assembly when installing bowl cover.
6. **CAUTION:** Damage to the fuel bowl (55) will result if the ends of float pins (42) are allowed to extend between bowl cover (38) and fuel bowl when tightening bowl cover screws (37).
7. For metering rod check, see special instructions, page 4.
8. On completion of all adjustments, be sure throttle valves move freely from wide open to closed position.

NOMENCLATURE

1. Choke lever screw	18. Pump arm
2. Choke lever	19. Pump connector "S" link
3. Choke connector rod	20. Air valve lock plug
4. Choke pull-off rod retainer	21. Air valve adjustment plug
5. Choke pull-off rod washer	22. Air valve spring
6. Choke pull-off connector rod	23. Countershaft screw
7. Step-up piston and metering rod cover plate screw (3)	24. Countershaft lever
8. Metering rod cover plate (choke side)	25. Fast idle connector rod
9. Metering rod cover plate (pump side)	26. Idle enrichment screw
10. Step-up piston cover plate	27. Idle enrichment cover screw washer
11. Step-up piston assembly	28. Idle enrichment cover screw (2)
*12. Metering rod (2)	29. Idle enrichment diaphragm cover
*13. Step-up piston spring	30. Idle enrichment diaphragm spring
*14. Bowl vent adjustment plug	31. Idle enrichment diaphragm
15. Fuel inlet fitting and gasket	*32. Altitude compensator screw
16. Throttle connector rod	*33. Altitude compensator
17. Pump arm screw	



*IF EQUIPPED

*SEE CARTER ZIP-KIT AND FUEL SYSTEMS SERVICE PARTS CATALOG FORM 3880 FOR PART NO. AND APPLICATION.

*34. Altitude compensator gasket	*52A. Primary metering jet - 1971	65. Bowl vent lever (lower)
*35. Idle enrichment casting	*53. Secondary metering jet (2)	*66. Bowl vent fork lever
*36. Idle enrichment casting gasket	*53A. Secondary metering jet - 1971	67. Throttle shaft washer
37. Bowl cover screw (10)	54. Quad "X" rings - 1972 and later (2)	68. Step-up piston lifter
38. Bowl cover assembly	55. Fuel bowl	69. Step-up piston lifter pin
39. Pump intake check assembly	56. Fuel bowl gasket	70. Idle limiter cap (2)
40. Plunger assembly	57. Idle compensator valve	71. Idle mixture screw (2)
41. Plunger spring	58. Idle compensator gasket	72. Idle mixture screw spring (2)
42. Float pin (2)	59. Choke pull-off hose	73. Pump housing screw
*43. Float (2)	60. Choke pull-off bracket screw	74. Pump jet housing
44. Needle, seat and gasket	*61. Choke pull-off and bracket	75. Pump housing gasket
45. Pump passage tube	*62. Bracket screw (if used)	76. Pump discharge check needle
46. Bowl cover gasket	*63. Solenoid and bracket	77. Carburetor identification number
*47. Bowl vent pin retainer	*64. Bowl vent lever operating screw	78. Flange assembly
*48. Bowl vent lever (upper)		*79. Bowl vent valve solenoid, hose, and screw (3)
*49. Bowl vent lever spring		*80. Bowl vent valve gasket
*50. Bowl vent arm		*81. Bowl vent valve grommet
*51. Bowl vent grommet		
*52. Primary metering jet		

FLOAT LEVEL (FIG. 1)

With bowl cover inverted, gasket installed, and floats resting on seated needle, the dimension of each float from bowl cover gasket to bottom of float (flat surface) near outer ends should be as listed in Data Chart. To adjust, bend lever. **NOTE: Never allow lip of float to be pressed against needle when adjusting.**

SECONDARY THROTTLE LINKAGE (FIG. 2)

Open throttle valves to the wide open position. The primary and secondary throttle shaft stops, should contact casting at the same time. To adjust, bend link. Do not attempt to adjust secondary throttle valves to the wide open position.

PUMP (FIG. 3)

Both following steps must be made with the throttle connector rod (A) in proper hole of pump arm (B), indicated in data chart, and choke in open position.

STEP 1

Turn idle speed screw clockwise until it just touches the stop and continue two (2) full turns. The dimension from the top of plunger stem to top of bowl cover should be as specified. To adjust, bend connector rod (A).

STEP 2

Open throttle slowly until the secondary throttle shaft just begins to move. Hold in this position. Measure again from the top of plunger stem to top of bowl cover. The dimension should be as listed in data chart. To adjust, bend tang (C) on primary throttle shaft.

AIR VALVE OPENING (FIG. 4)

With air valve wide open there should be the dimension as listed in Data Chart between air horn wall and inner edge of air valve. To adjust bend corner of air valve with pliers.

AIR VALVE SPRING TENSION (SEE FIG. 3)

1. Loosen lock plug. Rotate adjustment plug (inner) clockwise to allow air valve to position itself to wide open.
2. Check to see that air valve and shaft are operating freely.
3. To adjust, rotate adjustment plug (inner) counterclockwise until air valve just contacts the stop, then refer to Data Chart for the additional number of turns, while holding the adjustment plug in this position, tighten lock plug.

CHOKE CONTROL LEVER (FIG. 5)

Close choke valve by pushing on choke lever, with throttle partially open. The vertical dimension from top of rod hole to base of carburetor should be 3-3/8 inch. To adjust, bend rod.

DIAPHRAGM CONNECTOR ROD (FIG. 6)

Bottom the vacuum diaphragm by using an outside source of vacuum or by pressing downward on end of diaphragm stem, there should be .040 inch between air valve and stop. To adjust, bend diaphragm connector rod.

VACUUM BREAK (FIG. 7) (LOW BREAK (EARLY))

Open throttle and place fast idle screw on highest step of fast idle cam. Seat diaphragm by using an outside vacuum source. Move choke towards the closed position by applying a firm closing pressure to choke rod lever (A) extending spring (B) until tab (C) contacts stop. The dimension (D) between lower edge of choke valve and inner wall of air horn should be as listed in Data Chart. To adjust, bend tang (E) with screwdriver.

VACUUM BREAK (LATE) & (1978) High Break (Step 1)

Open throttle and place fast idle screw on highest step of fast idle cam. Seat diaphragm by using an outside vacuum source. Hold levers together at (A) using a small clamp. Move choke valve toward the closed position by applying a light closing pressure to choke rod lever (B). The dimension (C) between lower edge of choke valve and inner wall of air horn should be as listed in Data Chart. To adjust, bend lever (D). (1978 models use allen wrench) (1977 model use pliers).

Low Break (Step 2)

Remove small clamp from choke lever. Follow same procedure as step 1. The dimension (C) should be as listed in Data Chart. To adjust, bend tang (E) on choke lever with screwdriver.

FAST IDLE CAM AND LINKAGE (FIG. 8)

With throttle closed, turn fast idle screw (A) in until when pushed down will drop off lowest step of fast idle cam and cannot be raised again until the throttle is opened. Place fast idle screw on second highest step of fast idle cam, close choke valve as far as possible. The dimension between the lower edge of choke valve and inner wall of air horn should be as listed in Data Chart. To adjust, bend connector rod.

UNLOADER (FIG. 9)

With throttle in wide open position, close choke valve as far as possible without forcing. The dimension between lower edge of choke valve and inner wall of air horn should be as listed in Data Chart. To adjust, bend front tang on fast idle control lever.

SECONDARY THROTTLE LEVER PICK UP (FIG. 10)

Apply light pressure downward on the fast idle screw to move choke control lever to the wide open choke position. The dimension between pick up lever and top of secondary lever should be as listed in Data Chart. To adjust, bend rear tang on throttle lever.

IDLE SPEED AND MIXTURE (FIG. 11) (PRIOR TO 1977)

Use exhaust analyzer if available. If not available, make temporary adjustment as follows:

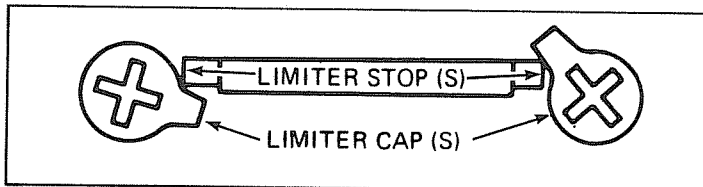
1. Refer to the "Emission Control Decal" in engine compartment for the proper engine RPM.
2. Engine at normal operating temperature, choke fully open, air cleaner installed, automatic transmission in "neutral", and air conditioner turned off.
3. Connect a tachometer and turn idle speed screw (A) or if equipped with the idle stop solenoid, turn solenoid speed screw (B) to the specified engine RPM with the solenoid wire connected to energize the solenoid. **NOTE: 1975 models equipped with the Catalyst Protection System will include a throttle solenoid positioner and can be identified by a printed decal on the solenoid, which states DO NOT USE solenoid or screw to set idle speed. This adjustment described below. In Fig. 13.**
4. Turn the mixture screws (C) counterclockwise (richer) until a loss of engine RPM is indicated on tachometer. Turn the mixture screws (C) clockwise (leaner) until the highest RPM is obtained, then continue turning clockwise until engine RPM starts to decrease. Turn the mixture screws counterclockwise (richer) until the lean best idle setting is obtained. Readjust speed screw if necessary. If equipped with the idle stop solenoid turn speed screw (A) inward until end of screw just touches stop, now back off one full turn to obtain low idle speed setting.

1977 AND LATER IDLE SPEED AND MIXTURE

Refer to decal in engine compartment for proper procedures and specifications.

LIMITER CAP INSTALLATION

Soak the limiter caps in boiling water for a few minutes, to aid installation. Position caps on mixture screws so that when they are seated by pressing firmly the tab will be in the maximum counterclockwise position against the limiter stops. (See illustration).

**BOWL VAPOR VENT (FIG. 12)**

With throttle valves set at curb idle and idle stop solenoid energized, if equipped, remove plug from air horn and insert a narrow ruler in hole. Rest ruler lightly on top of valve. The dimension from top of valve to top of casting should be as listed in Data Chart. To adjust, bend operating lever. Before installing the new plug be sure and compare with the old plug that was removed, for the proper diameter size.

SOLENOID OPERATED VENT VALVE, ELECTRIC WITH VACUUM ASSIST (IF EQUIPPED) (FIG. 13)

1. Solenoid unit must be adjusted before reinstalling on the carburetor.
2. Measure the dimension between the edge of the solenoid housing and the vent valve operating lever with a drill of the proper dimension as listed in the Data Chart.
3. To adjust turn screw (A) on valve lever.
4. After adjusting, place rubber valve in arm and install on carburetor using the proper gasket.

FAST IDLE SPEED ON CAR (FIG. 14)

With fast idle screw on the second highest step of cam. Adjust fast idle screw to the engine R.P.M. listed in Data Chart.

THROTTLE POSITIONER SOLENOID – IF EQUIPPED (FIG. 15) (Catalyst Protection System)

1. Disconnect the solenoid wire and hold throttle wide open. Apply battery voltage with a jumper lead to solenoid wire. The solenoid stem should extend positively and maintain its extended position. If it does not, replace unit. Remove the jumper lead from solenoid wire and release throttle.
2. Connect a tachometer, start engine, again apply battery voltage with jumper lead to solenoid wire. Raise engine speed to make sure solenoid is fully extended. Adjust speed screw (D) if needed to approximately 1500 RPM, allow time for OSAC valve to provide vacuum spark advance and engine speed to stabilize. Disconnect the jumper lead and reconnect the solenoid wire.
3. Accelerate engine manually to approximately 2500 RPM and release throttle. Engine should return to normal idle.

VACUUM THROTTLE POSITIONER – IF EQUIPPED (FIG. 16) (Catalyst Protection System)

1. Accelerate engine manually to speed of approximately 2000 RPM.
2. Loosen nut (A) and rotate vacuum throttle positioner until positioner stem just contacts throttle lever (B).
3. Release throttle, then slowly rotate the positioner to decrease engine speed until a sudden drop in speed occurs (about 1000 RPM). At this point, continue adjusting the vacuum positioner in the decreasing direction 1/4 additional turn and tighten jam nut (A).
4. Accelerate engine manually to about 2500 RPM and release throttle. Engine should return to normal idle.

TRANSDUCER

See car manufacturer's manual for proper adjustment procedures and specifications.