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 the cleaning and inspection. The omission and addition of some parts will occur between models in this group. To remove pump plunger (40) use a small rod placed on upper end of plunger shaft and tap lightly. NOTE: 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. If the plastic idle limiter caps (70) are removed to qualify the idle, turn cap clockwise against the stop and remove the cap. Gently turn the idle mixture screws clockwise until it seats. Record the starting position and the exact number of turns required to seat the screws. This is necessary to reinstall them in same position during reassembly. *CAUTION:* 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.

CLEANING

Clean all parts throughly in an approved solvent. Special attention should be given to carbon deposits in throttle bores and passages, rinse parts in a suitable solvent. Blow out all passages with compressed air. **CAUTION: Do not soak leather, diaphragm assemblies, rubber or other similar material in solvent.**

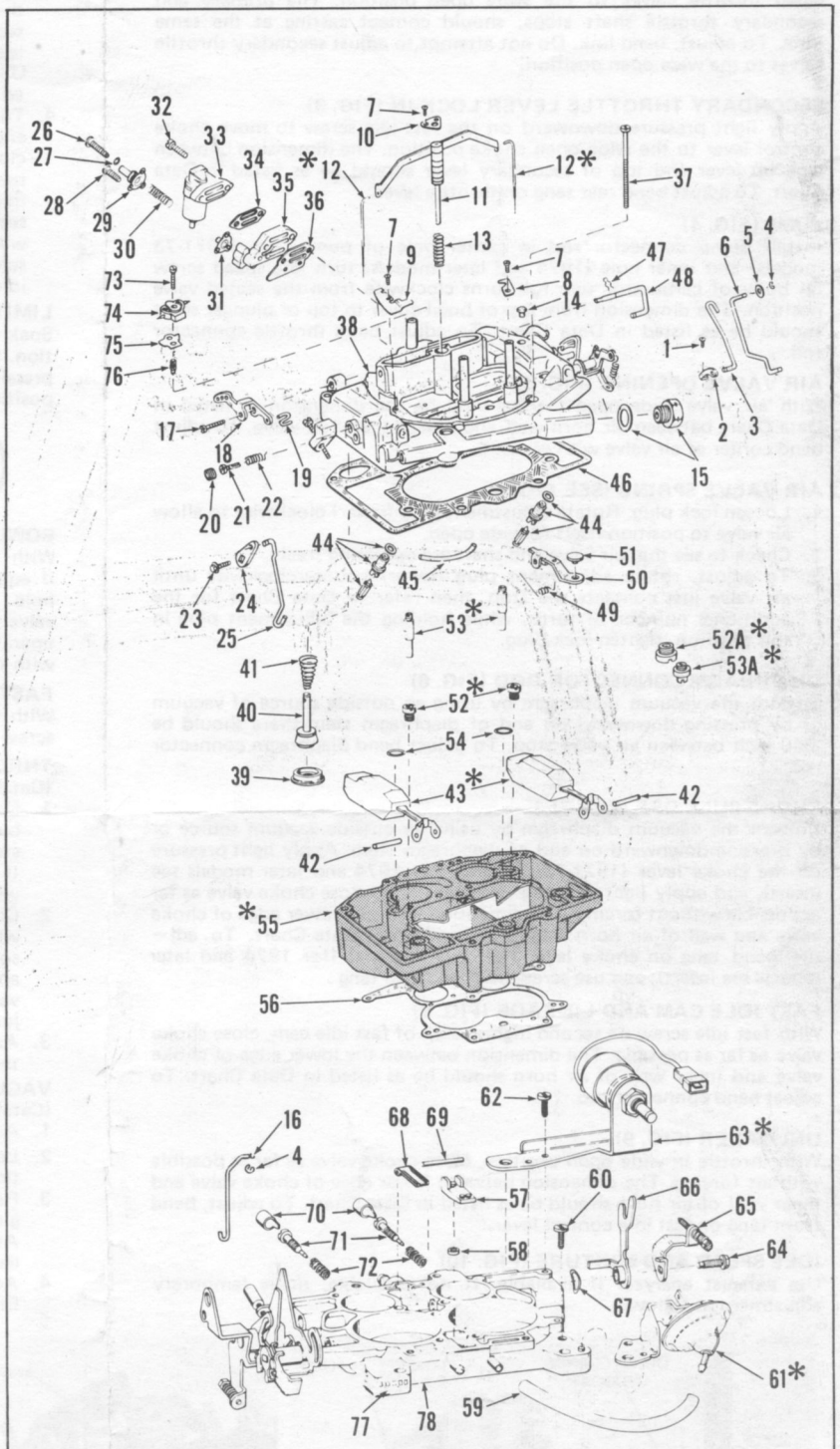
REASSEMBLY

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 recorded from seat during disassembly.
2. Lubricate the cup on plunger assembly (40). Install spring (41) small end downward on plunger stem. Install stem thru 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 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.
5. **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).
6. **For metering rod check; see Special Instructions page 4.**

NOMENCLATURE

1. Choke lever screw
2. Choke lever
3. Choke connector rod
4. Choke pull-off rod retainer
5. Choke pull-off rod washer
6. Choke pull-off connector rod
7. Step-up piston and metering rod cover plate screw (3)
8. Metering rod cover plate (choke side)
9. Metering rod cover plate (pump side)
10. Step-up piston cover plate
11. Step-up piston assembly
12. * Metering rod (2)
13. Step-up piston spring
14. Bowl vent adjustment plug
15. Fuel inlet fitting and gasket
16. Throttle connector rod
17. Pump arm screw
18. Pump arm
19. Pump connector "S" link
20. Air valve lock plug
21. Air valve adjustment plug
22. Air valve spring
23. Countershaft screw
24. Countershaft lever
25. Fast idle connector rod
26. Idle Enrichment Screw
27. Idle enrichment cover screw washer
28. Idle enrichment cover screw (2)
29. Idle enrichment diaphragm cover
30. Idle enrichment diaphragm spring
31. Idle enrichment diaphragm
32. Altitude compensator screw
33. Altitude compensator
34. Altitude compensator gasket
35. Idle enrichment casting
36. Idle enrichment casting gasket
37. Bowl cover screw (10)
38. Bowl cover assembly
39. Pump intake check assembly
40. Plunger assembly
41. Plunger spring
42. Float pin (2)
43. * Float (2)
44. Needle seat and gasket (2)
45. Pump passage tube
46. Bowl cover gasket
47. Bowl Vent Pin Retainer
48. Bowl vent lever (upper)
49. Bowl vent lever spring
50. Bowl vent arm
51. Bowl vent grommet
52. * Primary metering jet (2)
52A. * Primary metering jet (2) 1971
53. * Secondary metering jet (2)
53A. * Secondary metering jet (2) 1971
54. "O" rings (2) 1972 and later
55. * Fuel bowl
56. Fuel bowl gasket
57. Idle compensator valve
58. Idle compensator gasket
59. Choke pull-off hose
60. Choke pull-off bracket screw
61. * Choke pull-off and bracket
62. Solenoid bracket screw
63. * Solenoid and bracket (If used)
64. Bowl vent lever operating screw
65. Bowl vent fork lever
66. Throttle shaft washer
67. Step-up piston lifter
68. Step-up piston lifter pin
69. Idle limiter cap (2)
70. Idle mixture screw (3)
71. Idle mixture screw spring (2)
72. Pump housing screw
73. Pump jet housing
74. Pump housing gasket
75. Pump discharge check needle
76. Carburetor identification number
77. Flange assembly
78.



*SEE CARTER ZIP-KIT AND FUEL SYSTEM SERVICE PARTS CATALOG FORM 3880 FOR PART NUMBER AND APPLICATION.

Form PSO66E, 4 pages Revised April 30, 1975

ADJUSTMENTS

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.

SECONDARY THROTTLE LEVER LOCK-IN (FIG. 3)
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.

PUMP (FIG. 4)
Install pump connector rod in center hole of pump arm (1971-73 models) and inner hole (1974 and later models) turn idle speed screw on body of carburetor two full turns clockwise from the seated valve position. The dimension from top of bowl cover to top of plunger shaft should be as listed in Data Chart. To adjust bend throttle connector rod.

AIR VALVE OPENING (FIG. 5)
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 (SEE FIG. 4)
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.

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 stop. To adjust bend diaphragm connector rod.

CHOKE PULL-OFF (FIG. 7)
Bottom the vacuum diaphragm by using an outside vacuum source or by pressing downward on end of diaphragm stem. Apply light pressure on the choke lever (1971-73 models) (for 1974 and later models see insert), and apply light pressure on lever (A) to close choke valve as far as possible without forcing. The dimension between lower edge of choke valve and wall of air horn should be as listed in Data Chart. To adj– ust bend tang on choke lever (1971-73 models) (for 1974 and later models see insert), and use screwdriver to bend tang .

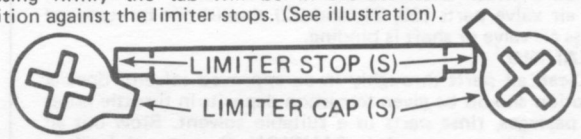
FAST IDLE CAM AND LINKAGE (FIG. 8)
With fast idle screw on second highest step of fast idle cam, close choke valve as far as possible. The dimension between the lower edge of choke valve and inner wall of air horn should be as listed in Data Chart. To adjust bend connector rod.

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.

IDLE SPEED AND MIXTURE (FIG. 10)
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.

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. 11)
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.

FAST IDLE SPEED ON CAR – (FIG. 12)
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. 13)
(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. 14)
(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.

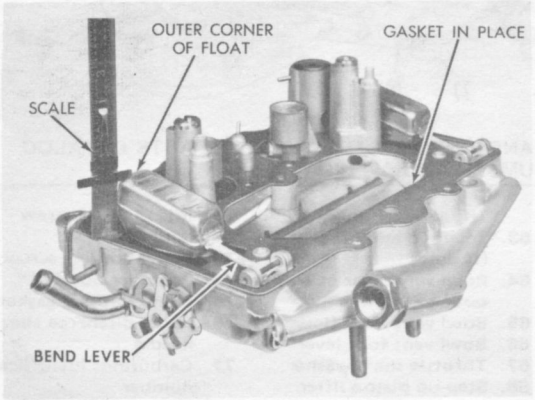


FIG. 1 – FLOAT LEVEL

FIG. 2 – SEC. THROT. LINK

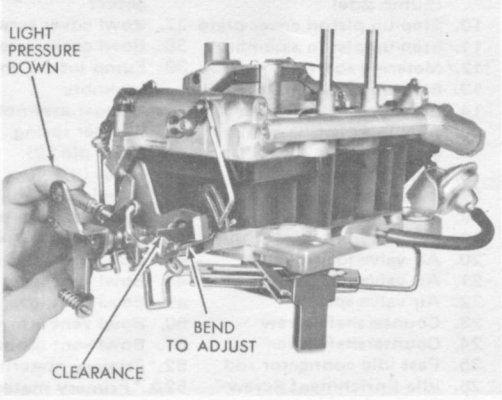


FIG. 3 – SEC. THROT. LOCK-IN

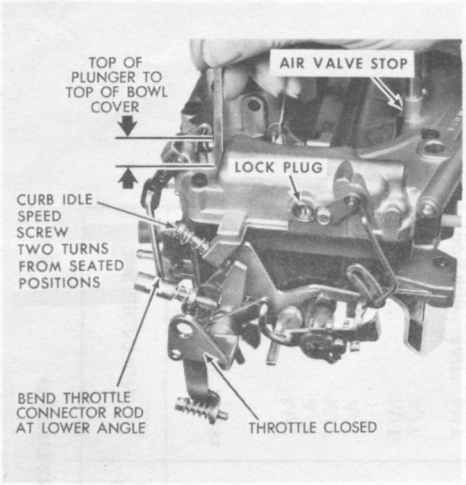


FIG. 4 – PUMP

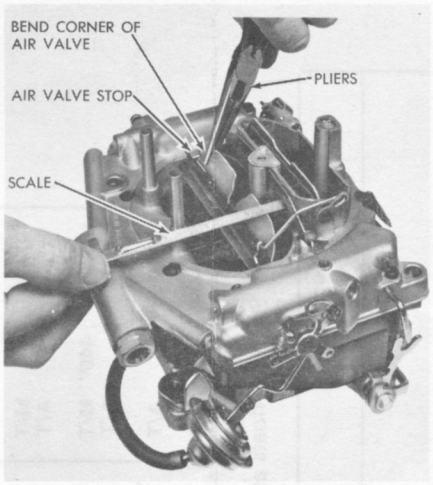


FIG. 5 – AIR VALVE OPENING

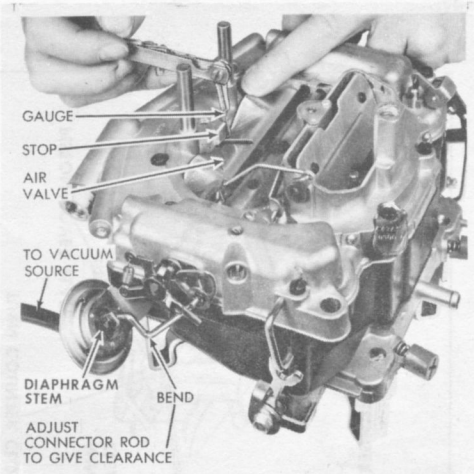


FIG. 6 – DIAPHRAGM CONN. ROD

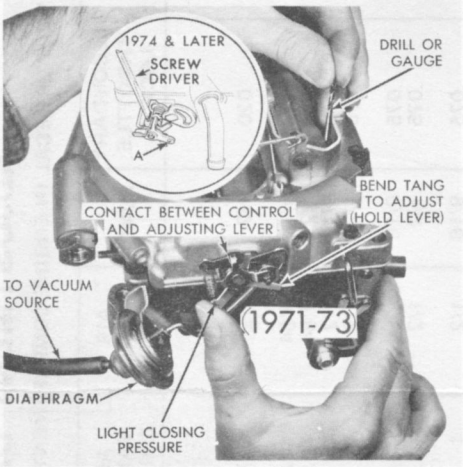


FIG. 7 – CHOKE PULL-OFF

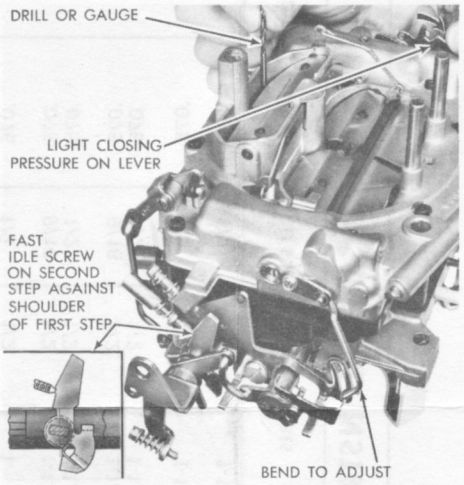


FIG. 8 – FAST IDLE CAM & LINK

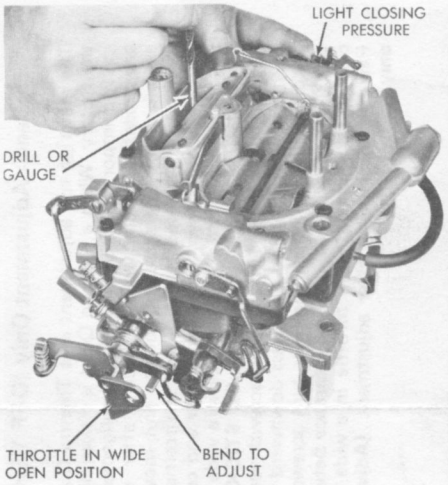


FIG. 9 – UNLOADER

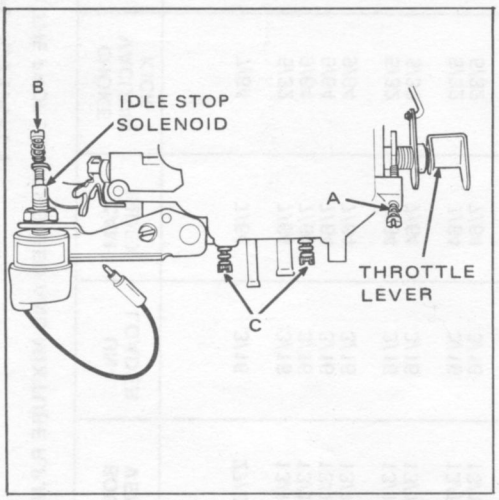


FIG. 10 – IDLE SPEED AND MIXTURE

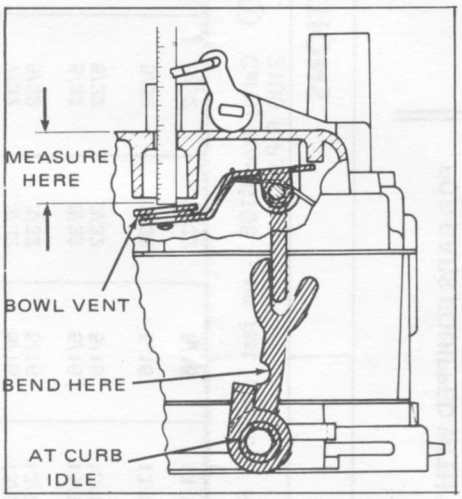


FIG. 11 – BOWL VAPOR VENT

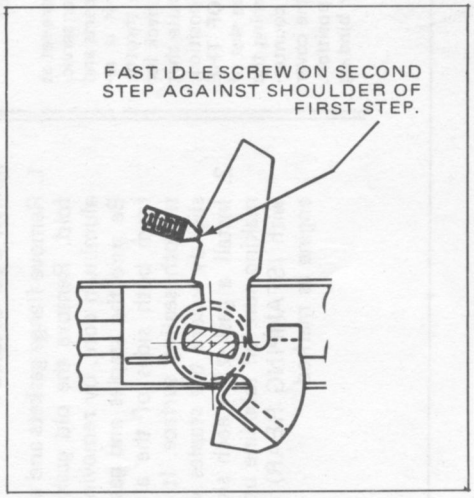


FIG. 12 – FAST IDLE

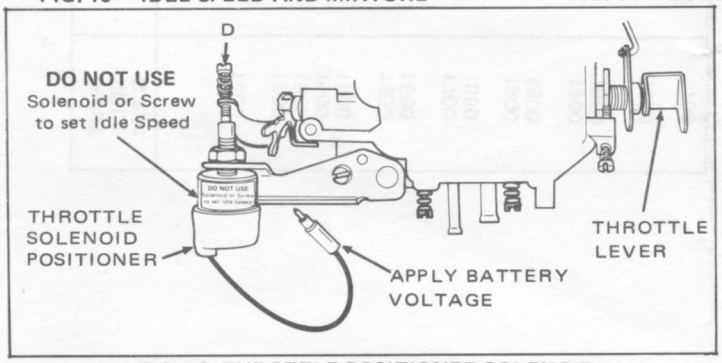


FIG. 13 THROTTLE POSITIONER SOLENOID

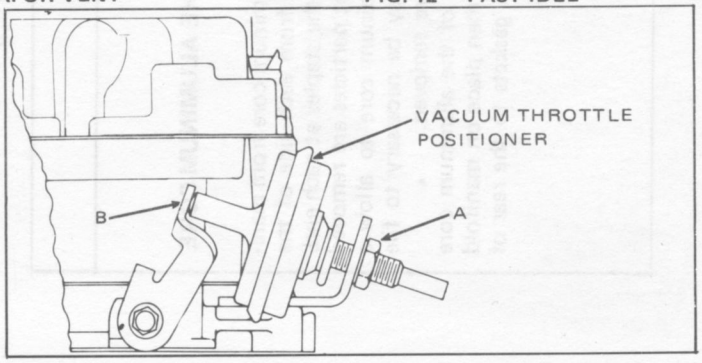


FIG. 14 – VACUUM THROTTLE POSITIONER

ADJUSTMENT DATA CHART

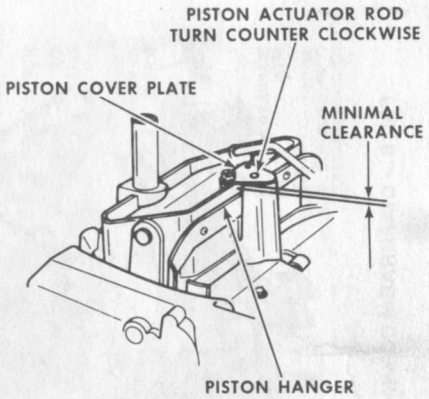
IMPORTANT: SEE TUNE-UP DECAL IN ENGINE COMPARTMENT FOR THE PROPER IDLE SPEED AND MIXTURE R.P.M.

APPLICATION		FLOAT LEVEL	SECONDARY THROTTLE LOCK-IN	PUMP	AIR VALVE OPENING	AIR VALVE SPRING	CHOKE VACUUM KICK	CAM INDEX	UN-LOADER	BOWL VENT	FAST IDLE R.P.M.
CHRYSLER											
Passenger Cars & Trucks											
1971 All		1"	.020	1/2	1/2	1-1/4	7/64	7/64	3/16	27/32	1800
1972 340"	M/T	1"	.075	9/16	29/64	1-1/4	5/32	7/64	3/16	13/16	1900
	A/T	1"	.075	1/2	29/64	1-1/4	9/64	7/64	3/16	13/16	1900
400"	M/T	1"	.075	9/16	1/2	1	9/64	7/64	3/16	13/16	1900 ①
	A/T	1"	.075	1/2	1/2	1	9/64	7/64	3/16	13/16	1900 ①
1973 340"	M/T	1"	.075	9/16	29/64	1-1/4	5/32	7/64	3/16	13/16	1300
	A/T	1"	.075	1/2	1/2	1-1/4	5/32	7/64	3/16	13/16	1800
1973 400", 440"	M/T	1"	.075	9/16	1/2	1	5/32	7/64	3/16	13/16	1700
	A/T	1"	.075	1/2	1/2	1	5/32	7/64	3/16	13/16	1800
1974 360"	M/T	1"	.075	9/16	1/2	1-1/4	7/32	3/32	5/16	13/16	1900
	A/T	1"	.075	1/2	1/2	1-1/4	5/32	3/32	5/16	13/16	1900
1974 400", 440"	M/T	1"	.075	9/16	1/2	1-1/4	5/32	3/32	5/16	13/16	1700
	A/T	1"	.075	1/2	1/2	1-1/4	5/32	3/32	5/16	13/16	1800
1975 360"	A/T	29/32	.075	1/2	1/2	1-1/4	5/32	3/32	5/16	13/16	1600
1975 400", 440"	All/T	29/32	.075	1/2	1/2	1-1/4	5/32	3/32	5/16	13/16	1700

NOTE: Set brass floats as indicated in data chart and set all plastic floats 29/32"

① Carburetor 6165 – set fast idle 2000 R.P.M.; 6166 – set 2100 R.P.M.

SPECIAL INSTRUCTIONS



METERING ROD CHECK

Bench Adjustment Only (OFF VEHICLE)

The metering rod adjustment of a Thermo Quad is pre-set at the factory. When a Thermo Quad is disassembled for servicing it is important to check for proper alignment of parts and any possible binding of the throttle after the unit is reassembled. After reassembly of the unit move the throttle lever from the closed to the wide open position to check for any binding between the piston hanger and cover plate that will allow the throttle lever to stick in a wide open position. **TO ELIMINATE ANY BINDING OR STICKING OF THE THROTTLE LEVER:** Place a small screwdriver in the slot of the piston actuator rod and press downward bottoming the piston in the cylinder. Carefully turn screwdriver counterclockwise to achieve a minimal clearance between the cover plate and piston with the throttle in a wide open position. Recheck for binding after adjustment. **(Adjust for binding only.)**

FOR CARS EQUIPPED WITH THE ALUMINUM CORE MANIFOLD GASKET

1. Remove flange gaskets and aluminum core from manifold. Remove the old gasket from each side of the aluminum core, by removing the staples at each end. Be sure the staples and gasket particles are removed from both sides of the aluminum core to allow a smooth sealing surface. It May be necessary to file slightly where the staples were removed.
2. Install a gasket on each side of the aluminum core making sure all tabs line up, then place on manifold with (STAMPING REAR) on gaskets to the rear of engine as marked.

SUPPLEMENT ADJUSTMENT DATA CHART
THERMO-QUAD CARBURETOR

TO BE USED WITH PS066E

IMPORTANT: SEE TUNE-UP DECAL IN ENGINE COMPARTMENT FOR THE PROPER IDLE SPEED AND MIXTURE.

APPLICATION	FLOAT LEVEL	SEC. THROT. LOCK-IN	PUMP	AIR VALVE OPENING	AIR VALVE SPRING	CHOKE PULL-OFF	CAM INDEX	UN-LOADER	BOWL VENT	FAST IDLE R.P.M.
1976 360" All	29/32 ①	.075	1/2	1/2	1-1/4	5/32	3/32	5/16	13/16	1700
1976 400"										
Non Cal.	29/32	.075	1/2	1/2	1-1/4	5/32	3/32	5/16	13/16	1800
Cal. & Canada	29/32	.075	1/2	1/2	1-1/4	3/32	3/32	5/16	13/16	1600
1976 400" All	29/32	.075	1/2	1/2	1-1/4	3/32 ②	3/32	5/16	13/16	1700

① Carb. 9004, 9055 - Float Level 31/32
② Carb. 9036 - Choke Pull-Off 5/32

TFN 807