

FUEL SYSTEM

SERVICE INSTRUCTION WORKSHEET

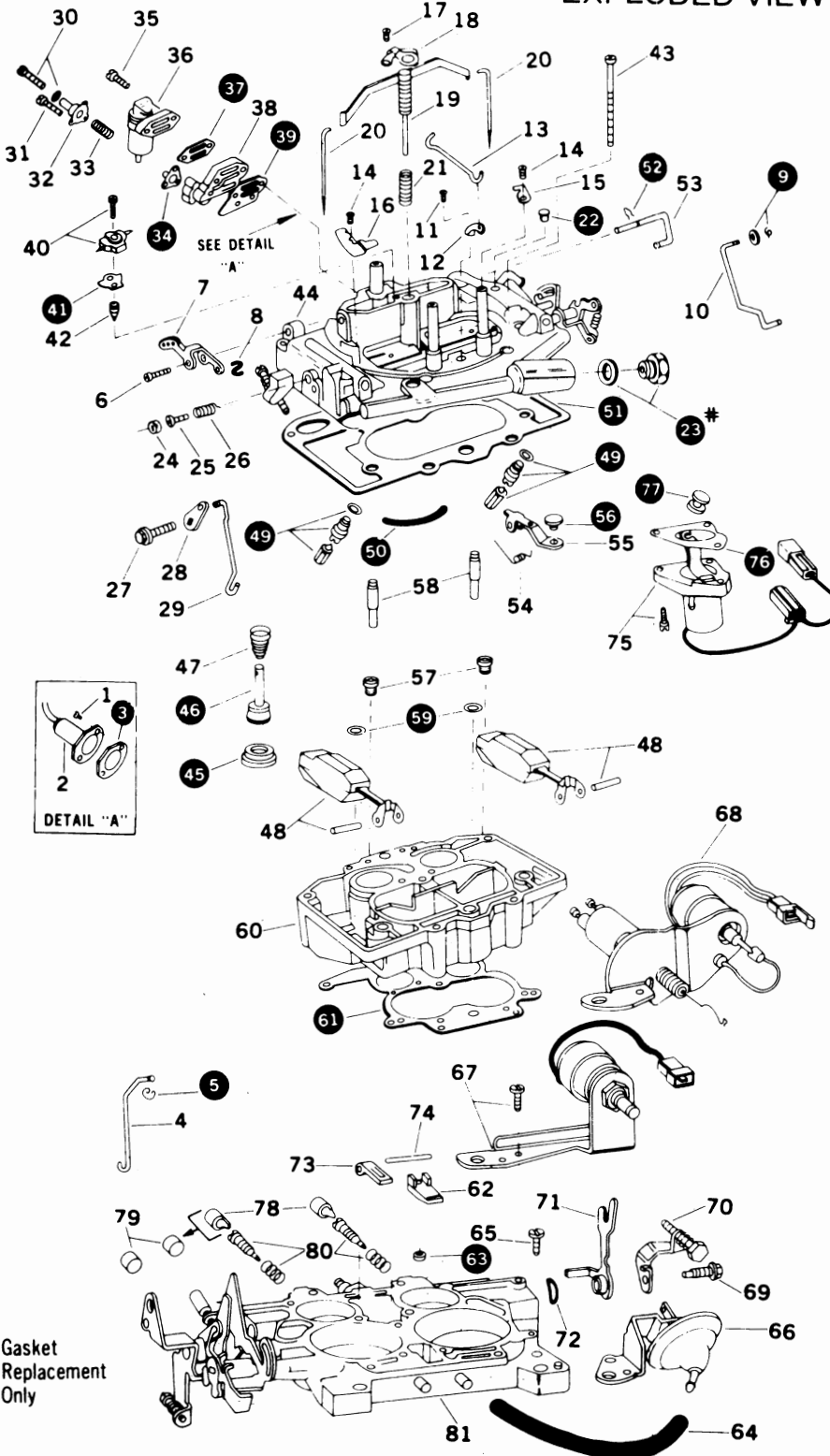
TO REPAIR

GF3624-7

CARTER CARBURETOR

4 BARREL—MODEL THERMO-QUAD

EXPLODED VIEW



1. Carefully read the text in the following pages to become familiar with the contents of this worksheet before performing carburetor overhaul.
2. The exploded view is typical of the model carburetor this kit will service. The view may differ slightly from the actual carburetor being overhauled.
3. Use the exploded view as a guide. The numerical sequence of the parts list may generally be followed to disassemble the carburetor far enough to permit cleaning and inspection.
4. Parts list shown DOES NOT reflect the contents of the kit.
5. Kit may contain extra parts intended for other carburetors within this group. Substitute identical replacement parts for original worn parts found in carburetor.

CLEANING

Cleaning must be done with carburetor disassembled. Use spray cleaner and a stiff bristle brush to remove dirt and carbon deposits. Do not use abrasives and wires to clean parts and passageways. Wash off in suitable solvent, and clear all passageways with compressed air.
Caution: When cleaning with solvent do not soak or spray parts containing rubber, leather, plastic and electrical components.

PARTS LIST

- | | |
|--|--|
| 1. Screw, Duty Cycle Solenoid | 40. Screw & Pump Nozzle Assembly |
| 2. Solenoid, Duty Cycle* | 41. Gasket, Pump Nozzle Assy. |
| 3. Gasket, Duty Cycle Solenoid* | 42. Needle, Pump Discharge |
| 4. Retainer, Throttle Connector Rod | 43. Screw, Air Horn Assy. |
| 5. Rod, Throttle Connector | 44. Air Horn Assembly |
| 6. Screw, Pump Lever | 45. Check Valve, Pump Intake |
| 7. Lever, Pump | 46. Pump Piston Assembly |
| 8. "S" Link, Pump Connector | 47. Spring, Pump Plunger |
| 9. Retainer & Washer, Choke Diaphragm | 48. Float & Pin Assy. (2) |
| 10. Rod, Choke Diaphragm | 49. Needle, Seat & Gasket Assembly (2) |
| 11. Screw, Lever, Choke Diaphragm | 50. Tube, Fuel Passage |
| 12. Lever, Choke Countershaft | 51. Gasket, Air Horn |
| 13. Rod, Choke Connector | 52. Clip, Bowl Vent Link* |
| 14. Screw, Meter Rod Cover (2) | 53. Link, Bowl Vent Connecting* |
| 15. Cover, Metering Rod (Choke Side) | 54. Spring, Bowl Vent Lever* |
| 16. Cover, Metering Rod (Pump Side) | 55. Lever, Bowl Vent* |
| 17. Screw, Piston Retainer | 56. Seal, Bowl Vent* |
| 18. Retainer, Step-Up Piston | 57. Jet, Primary Metering (2) |
| 19. Piston Assembly, Step-Up | 58. Jet, Secondary Metering (2) |
| 20. Rod, Metering (2) | 59. "O" Ring Primary (2) |
| 21. Spring, Piston Assembly | 60. Main Body |
| 22. Plug, Bowl Vent Measuring Hole* | 61. Gasket, Main Body to Throttle Body |
| 23. Fitting & Gasket, Fuel Inlet | 62. Valve, Idle Compensator |
| 24. Plug, Air Valve Lock | 63. Seal, Idle Compensator |
| 25. Screw, Air Valve Adjusting | 64. Hose, Choke Diaphragm |
| 26. Spring, Air Valve | 65. Screw, Choke Diaphragm Bracket |
| 27. Screw, Countershaft | 66. Choke Diaphragm Assy. |
| 28. Lever, Countershaft | 67. Solenoid Assembly & Mounting Screw |
| 29. Rod, Fast Idle | 68. Transducer & Solenoid Assembly |
| 30. Screw & Washer, Idle Enrichment* (1) | 69. Screw, Bowl Vent Lever* |
| 31. Screw, Idle Enrichment* (2) | 70. Lever Assy., Bowl Vent |
| 32. Cover, Idle Enrichment* | 71. Fork Lever, Bowl Vent |
| 33. Spring, Idle Enrichment* | 72. Washer, Throttle Shaft |
| 34. Diaphragm, Enrichment* | 73. Lifter, Step-Up Piston |
| 35. Screw, Altitude Compensator* | 74. Lifter Pin, Step-Up Piston |
| 36. Compensator, Altitude* | 75. Solenoid, Bowl Vent Valve & Screw (3)* |
| 37. Gasket, Altitude Compensator | 76. Gasket, Solenoid Mounting |
| 38. Housing, Altitude Compensator & Idle Enrichment | 77. Valve, Bowl Vent, Rubber* |
| 39. Gasket, Casting, Altitude Compensating & Idle Enrichment | 78. Cap, Limiter (2) |
| | 79. Plug, Sealed Mixture Screw (2)† |
| | 80. Screw & Spring, Idle Mixture |
| | 81. Throttle Body Assembly |

NOTE: Circled parts are included in most kits. Extra parts are included for other kits.

* Some Models

† See Fig. N.

☞ PARTS LIST SHOWN DOES NOT REFLECT THE CONTENTS OF THE KIT.

GF3624-7-P1

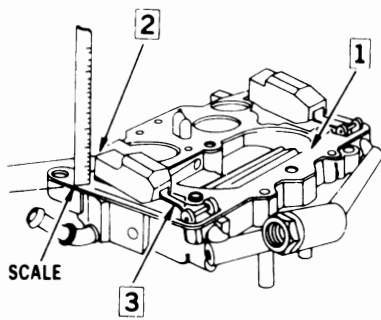
REMOVAL & INSTALLATION NOTES:

- Cover opening on intake manifold after carburetor is removed.
- Two air horn screws (43) are located between choke valve and air horn wall.
- Leave connecting rods and links connected at one end whenever possible.
- Bowl vent seal (56), can easily be removed and installed without removing lever and rod.
- To remove pump piston assy. (46), tap plunger end lightly to drive out intake check valve (45), then remove pump assy.
- When removing transducer (68), do not disturb adjustment.
- Install parts and components in reverse order of removal.
- When installing idle mixture screws (80), turn in until lightly seated, then back out 1-1/2 turns.
- Be sure primary o-rings (59) are correctly seated in main body before installing air horn assy.
- Before installing pump assy. (46), flare cup, then soak in light clean oil for a few minutes.
- Install pump plunger spring (47) with large end toward air horn, then install pump. Hold in place with "S" link (8). Be sure lower open end of link is toward choke.
- Install new intake check valve (45) and tap lightly into place.
- Position step-up piston (19) with guide dimples facing choke valve.
- Models with special float pins, install with head toward center of carburetor.
- Models with special vent valve (77), install 3 notch side of valve to the top.
- When installing air horn assy. onto main body, be sure connecting link (53) is positioned in fork lever (71).

ADJUSTMENT DATA

**FIG. 2
FLOAT LEVEL ADJUSTMENT**

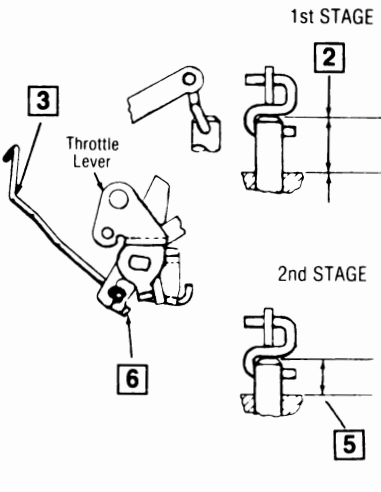
- Invert air horn cover with gasket in place.
- With floats resting lightly on needles, measure as specified from gasket surface of air horn to bottom outer edge (flat surface) of float.
- If adjustment is required, bend lever as shown. **Note:** Both floats must be equally adjusted. Also, never allow needles to be pressed into seats since damage to the rubber tip may result.



**FIG. 4
PUMP STROKE ADJUSTMENT**

FIRST STAGE:

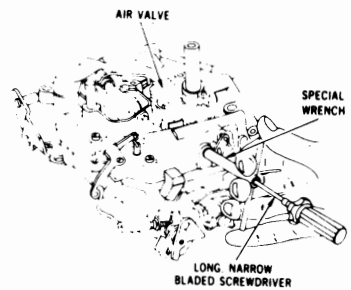
- Install throttle connector rod in center hole of three hole pump arm or in inner hole of a two hole arm.
- Measure height of pump plunger at curb idle, from air horn surface to top of plunger. **Note:** For models with idle stop solenoid, turn ignition to ON position.
- To adjust, bend throttle connector rod where shown.



- ### SECOND STAGE (for carbs. with staged pump systems):
- Open choke, then open throttle until secondary lockout latch is just applied. Note that plunger travel downward stops at that point.
 - Measure height of pump plunger as in step 2.
 - To adjust, bend tang where shown.

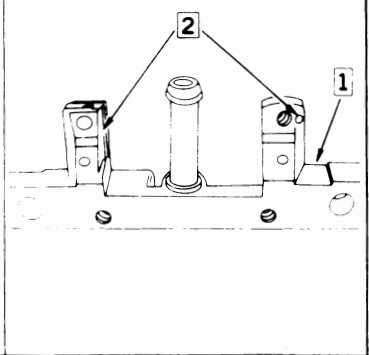
**FIG. 6
AIR VALVE SPRING TENSION ADJUSTMENT**

- If adjustment is required, loosen lock plug (24) with special wrench.
- Insert a long narrow bladed screwdriver to turn center adjusting screw (25) clockwise until air valve rotates to wide open position, thus releasing tension on spring (26).
- At this point air valve & lever should rotate freely without binding.
- Next, turn adjusting screw counterclockwise until air valve touches lightly on stop, then additional turns as specified.
- Reset by holding adjusting screw stationary & tighten lock plug.



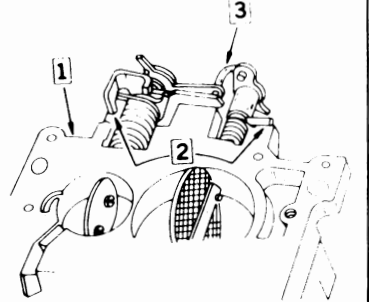
**FIG. 1
SEALED MIXTURE SCREWS REMOVAL (IF REQUIRED)**

- Place carburetor in a holding device with mixture screw locations facing upward.
- a) Start a pilot drill (.086") on a 45° angle upwards towards sealed plugs in the side of mixture screw housings. Then increase drill size to .120".
b) Place a punch in hole & drive out sealed plugs.
c) Insert a sharp punch inside mixture screw holes & drive out roll pins.
d) Mark position of mixture screws (80). Turn in until lightly seated, counting number of turns. Turn out to index mark & record number of turns for reassembly.



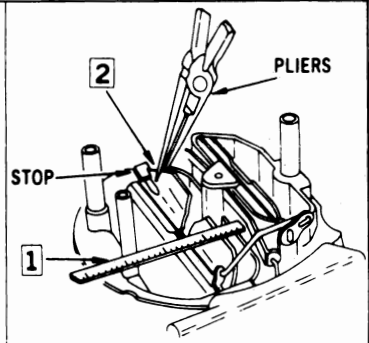
**FIG. 3
SECONDARY THROTTLE LINKAGE ADJUSTMENT**

- Invert carburetor & maintain fast idle lever in curb idle position.
- Move throttle valves to wide open position. The primary & secondary levers should both contact stops at the same time.
- If adjustment is required, bend secondary throttle connecting link as shown.



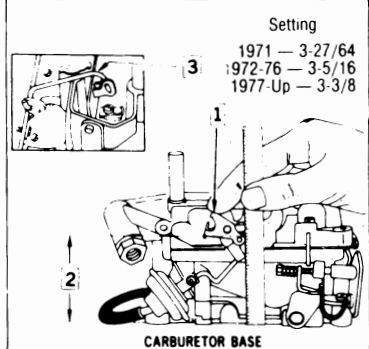
**FIG. 5
SECONDARY AIR VALVE OPENING ADJUSTMENT**

- With air valve wide open, measure distance as specified between air horn wall & inner edge of air valve.
- If adjustment is required, bend corner as specified at notch of air valve using a pair of pliers.



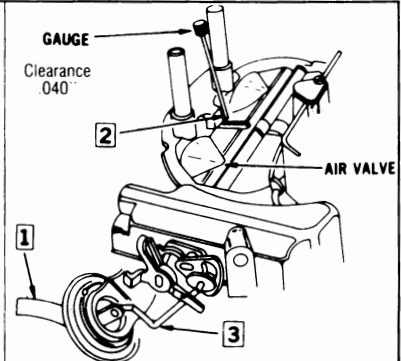
**FIG. 7
CHOKE CONTROL LEVER ADJUSTMENT**

- Place carburetor on flat surface (as shown) & close choke by applying light pressure to choke lever with throttle slightly open.
- Measure as specified from top of rod hole in choke lever to float surface of carburetor base (as shown).
- If adjustment is required, bend choke connector link.
Note: If choke control lever adj. is altered, vacuum kick, fast idle cam & choke unloader adjustments must also be reset.



**FIG. 8
DIAPHRAGM CONNECTOR ROD ADJUSTMENT**

- Connect an outside vacuum source & apply 15 inches of vacuum or more to fully seat diaphragm.
- Using a gauge or drill, measure clearance as specified between air valve & stop.
- If adjustment is required, bend rod as shown.
Note: If this adjustment has been changed, vacuum kick adjustment must also be corrected.

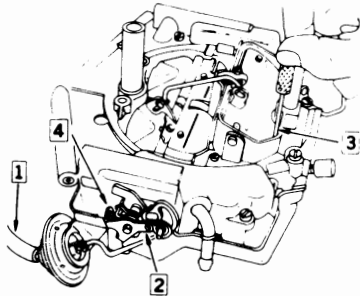


ADJUSTMENT DATA (Cont'd)

**FIG. 9
CHOKE VACUUM KICK
ADJUSTMENT**

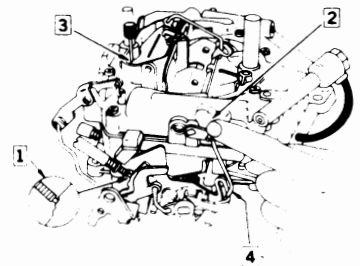
Note: Make this adjustment after choke control lever & choke connector rod adjustments have been made.

1. Open throttle to release cam at closed choke position. Close throttle. Now connect an outside vacuum source to vacuum break & draw 15 inches of vacuum or more.
2. Apply closing pressure on choke lever until tang contacts stop.
3. Using a gauge or drill, measure as specified between lower side of choke valve & wall of air horn. **Caution:** With gauge in place, do not change position of choke.
4. If adjustment is required, twist screwdriver in tang slot as needed. Do not adjust diaphragm rod.



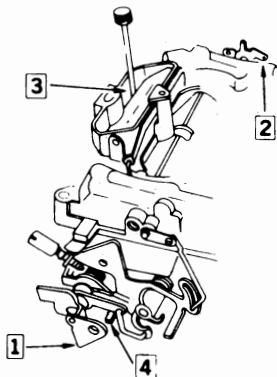
**FIG. 10
FAST IDLE CAM & LINK
ADJUSTMENT**

1. Position fast idle screw on second step of fast idle cam.
2. Close choke valve by applying a light closing pressure to connector rod lever.
3. Using a drill or gauge, measure as specified between lower side of choke valve & wall of air horn.
4. If adjustment is required, bend connector rod (as shown).



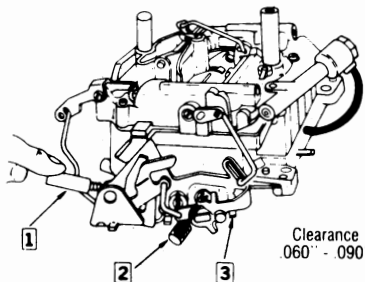
**FIG. 11
UNLOADER ADJUSTMENT**

1. Maintain throttle valve in wide open position.
2. Lightly press lever to move choke toward closed position.
3. Using a drill or gauge, measure as specified between lower side of choke valve & wall of air horn. **Caution:** With gauge in place, do not change position of choke.
4. If adjustment is required, bend tang on fast idle lever.



**FIG. 13
SECONDARY THROTTLE
LOCKOUT ADJUSTMENT**

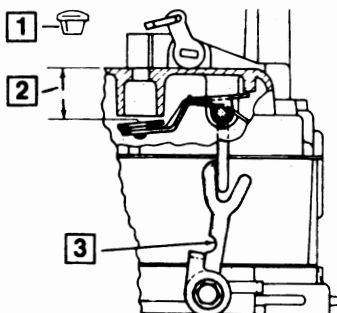
1. Apply a downward light pressure on the fast idle screw to rotate choke control lever to wide open choke position.
2. Using a gauge or drill, measure clearance between lockout lever & stop.
3. If adjustment is required, bend tang as shown.



**FIG. 14
MECHANICAL BOWL
VALVE ADJUSTMENT**

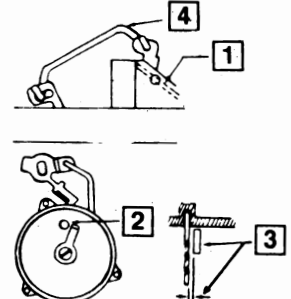
1. Remove plug from air horn assembly.
2. With throttle valve at curb idle, measure carefully from top edge of hole to surface of vent valve. Distance should be 13/16\".
3. To adjust, bend operating lever at notch.

Note: Install new plug and tap lightly to seat.



**FIG. 15
CHOKE CONTROL LEVER
CONNECTING ADJUSTMENT
(FORD Application)**

1. Hold choke valve fully closed.
2. Insert .120 inch gauge or drill bit into hole of choke housing.
3. Exert slight pressure on choke opening lever (clockwise). The edge of lever tang should be 1/6\" from gauge and parallel with it.
4. To adjust, bend choke control lever connecting rod at the upper elbow.
5. Install choke cover assembly and adjust to index marks.



**FIG. 12
SOLENOID VENT ADJUSTMENT**

Procedure I — BENCH

Note: Adjust solenoid before installing on carburetor.

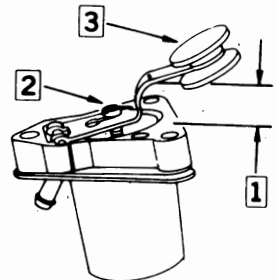
1. Remove rubber valve & measure clearance as specified below, using a gauge or drill between edge of solenoid housing & vent valve operating lever.
2. If adjustment is required, turn screw as needed on valve lever.
3. Replace rubber valve in arm after adjustment.

Clearance 13/64" - 1980 Models.

Procedure II — BENCH

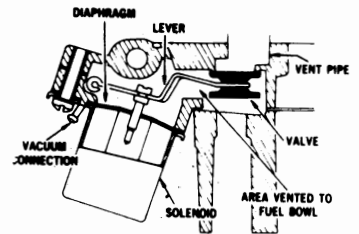
1. Remove hose from solenoid bowl vent diaphragm & substitute an outside vacuum source.
2. Check for valve movement by looking down the air horn vent pipe while applying 15 inches or more of vacuum.
3. Turn ignition switch ON & disconnect outside vacuum. Valve should maintain a down position until ignition is turned OFF.
4. If the valve does not indicate any movement when vacuum is applied to diaphragm, the diaphragm is locking & the unit must be replaced. However, if the valve remains in the up position with ignition turned ON & vacuum removed, the solenoid or wiring circuit is defective.

PROCEDURE I - BENCH



Clearance
13/64"

PROCEDURE II - ON CAR



SPECIFICATION CHART

Year	Applications	Float Level Fig. 2	Pump Stroke Adj. Fig. 4		Sec. Air Valve Fig. 5	Spring Turns Fig. 6	Vacuum Kick Adj. Fig. 9	Fast Idle Cam Fig. 10	Unloader Adj. Fig. 11
			Stage 1	Stage 2					

CHRYSLER MOTORS

1977	360, 400 Eng.—Exc.	27/32	33/64	5/16	31/64	1-1/2	.100	.100	.310
	Carb. No. 9093	27/32	33/64	23/64	17/32	1-1/4	.150	.100	.310
	Carb. No. 9076	27/32	33/64	5/16	1/2	1-1/2	.150	.100	.310
	440 Eng.	27/32	33/64	5/16	1/2	1-1/4	.100	.100	.310
1976	360, 400 Eng.	29/32	33/64	5/16	33/64	1-1/4	.100	.100 ¹	.310
	440 Eng.—Exc.	29/32	33/64	5/16	33/64	1-1/4	.100	.100	.310
	Carb. Nos. 9058, 59	29/32	31/64	—	33/64	1-1/4	.100	.100	.310
1975	360, 400, 440 Eng.	29/32	31/64 ²	—	1/2	1-1/4	.100	.100	.310
1974	360, 400, 440 Eng.—A/T—Exc.	1"	31/64	—	1/2	1-1/4	.160	.100	.310
	Carb. No. 6488	1"	35/64	21/64	1/2	1-1/4	.160	.100	.310
	—M/T	1"	35/64	21/64	1/2	1-1/4	.210	.100	.310
1973	340, 400 Eng.—A/T	1-1/16	31/64	—	29/64 ³	1-1/4	.160	.110	.190
	—M/T	1-1/16	35/64	23/64	29/64 ³	1-1/4	.160	.110	.190
	440 Eng.	1-1/16	31/64	—	31/64	1-1/4	.160	.110	.190
1972	340, 400 Eng.—A/T	1"	31/64	—	31/64 ⁴	1	.140	.116	.190
	—M/T	1"	9/16	13/32	31/64 ⁴	1	.160	.116	.190

CHRYSLER INDUSTRIAL & MARINE

440 Eng.	1" ⁵	31/64	—	15/32	1-1/4	.160	.110	.190
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DODGE, PLYMOUTH

1971	340 Eng.	1"	31/64	—	31/64	1-1/4	.100	.100	.190
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DODGE TRUCKS

1977	440 Eng.	27/32	1/2	5/16	1/2	1-1/4	.160 ⁶	.100	.310
1976-75	440 Eng.	29/32	35/64	5/16	1/2	1-1/4	.160	.100	.310
1974-73	440 Eng.—Exc.	1" ⁵	31/64 ⁷	—	1/2 ⁸	1-1/4	.160	.100	.310 ⁹
	Carb. No. 9022	1" ⁵	35/64	—	1/2	1-1/4	.210	.100	.310

FORD, LINCOLN, MERCURY

1974	460 Eng.	1-1/16	5/16 ¹¹	—	15/32	1-1/4	—	.100	.250
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I.H.C. TRUCKS

1979-74	345, 392 Eng.	1-1/16 ⁵	11/32	—	31/64	1-1/4	11/32 ¹⁰	.100	.300
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ABBREVIATIONS:

A.T. Automatic Transmission
Exc. Except
M.T. Manual Transmission

FOOTNOTES:

- ¹ Carb. Nos. 9055, 74 set .110.
- ² Carb. Nos. 9004, 08, .1 set 35/64.
- ³ Carb. Nos. 6320, 21 set 31/64.
- ⁴ Carb. No. 6138, 39 set 29/64.
- ⁵ Applications with Cellular float (not brass) set 29/32
- ⁶ Carb. No. 9096 set .100.
- ⁷ Carb. No. 9017 set 15/32.
- ⁸ 1973 models set 15/32.
- ⁹ Carb. no. 6518 set .190.
- ¹⁰ High break setting is given.
- ¹¹ Measure from air horn surface to bottom of "S" link.