

# SERVICE INSTRUCTIONS

# ROCHESTER CARBURETOR MODELS 4MC-4MV

## DISASSEMBLY

Use the numerical sequence of the exploded view in most instances as a guide to disassemble far enough to permit the installation of the kit contents, inspection, and cleaning of carburetors. Variation in shape, omission and addition of parts will occur between models in this group. NOTE: To remove the air horn on some models where the retainers (4) are not used on connector rods, remove the pump lever pin (13), by driving inward. Remove arm (14) and disconnect pump rod. Remove air horn screws (15 and 16). The two countersunk screws (17) are next to primary venturi inside air horn. To remove air horn lift straight up and also disengage vacuum break rod (6) while removing air horn. If choke valve or air valve require removal, file stake end of valve screws before turning.

NOTE: if the idler limiter caps (69), idler mixture screws and springs (68) must be removed to improve the idle quality, after removal of the caps, before removing the mixture screws, be sure and turn them (clockwise) and count the number of turns to lightly seat the screws. This is required so that the same number of turns can be maintained during reassembly.

## CLEANING

Clean parts thoroughly in an approved carburetor cleaner. 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. Do not immerse rubber, plastic, diaphragm, and electric solenoids in any type carburetor cleaner.

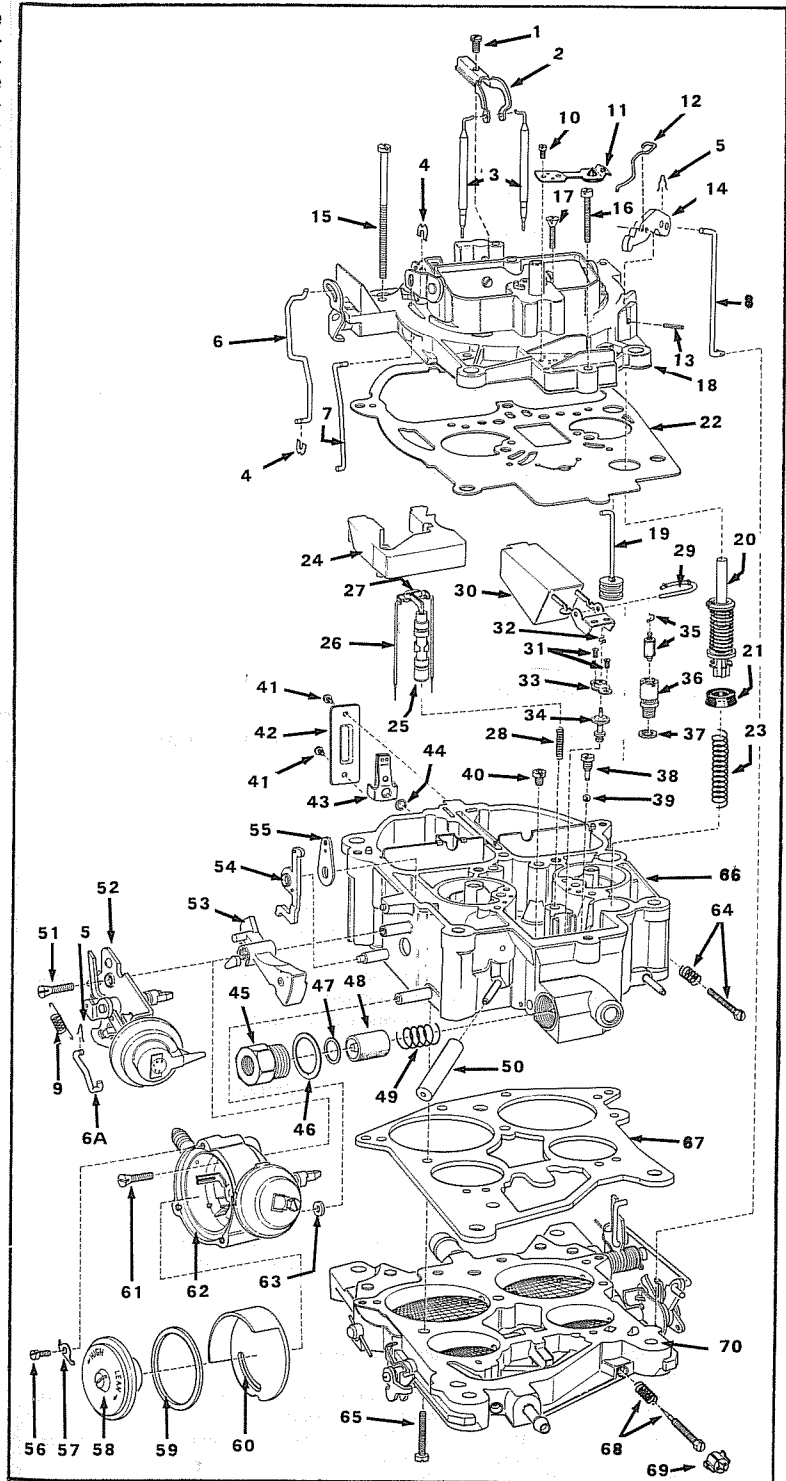
## REASSEMBLY

To reassemble, reverse the numerical sequence and use the reference numbers shown in the exploded view. Note the following special instructions.

1. Idle mixture screws (68) should be seated lightly and then backed out the number of turns established during disassembly.
2. To install the lower choke rod lever (55) connect choke rod (7) to end of lever, then holding choke rod with grooved end pointing inward, position lever in well of fuel bowl, and install lock out lever (54) if equipped. Slide fast idle cam (53) on shaft of choke assembly and bracket (52), then install bracket (52) engaging the shaft with hole in lever. Install retainer screw (51) and tighten securely. Remove choke rod from end of lever in body well until the air horn (18) is installed.
3. To replace the diaphragm type needle with the new improved needle and the secondary metering well gasket, refer to special instructions on back of this form.
4. Install power piston spring (28) power piston (25) and primary metering rods (26) by carefully guiding rods into jets. Press firmly down on power piston to either engage the retaining pin in throttle body gasket or the proper position of a holding clip used on piston (25) to hold in place during assembly.
5. Lubricate plunger cup (21) with engine oil, and install on the original plunger assembly.

## NOMENCLATURE

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|--|--|
| 1. Secondary metering rod hanger screw       | 28. Power piston spring                    |
| 2. Secondary metering rod hanger             | 29. Float retainer pin                     |
| 3. Secondary metering rod (2)                | 30. Float                                  |
| 4. Retainer                                  | 31. Needle retainer screw (2)              |
| 5. Pin spring                                | 32. Needle clip                            |
| 6. Vacuum break rod                          | 33. Needle retainer                        |
| 6A Vacuum break rod (where used)             | 34. Needle assembly (where used)           |
| 7. Choke rod                                 | 35. Needle (where used)                    |
| 8. Pump rod                                  | 36. Needle seat (where used)               |
| 9. Choke modulating spring (where used)      | 37. Needle seat gasket (where used)        |
| 10. Bowl vent screw                          | 38. Discharge check ball retainer          |
| 11. Bowl vent assembly                       | 39. Discharge check ball                   |
| 12. Bowl vent lever                          | 40. Primary metering jet                   |
| 13. Pump arm pin                             | 41. Idle compensator screw (2)             |
| 14. Pump arm                                 | 42. Idle compensator cover                 |
| 15. Air horn to bowl screws (4 long)         | 43. Idle compensator valve                 |
| 16. Air horn to bowl screws (3 short)        | 44. Idle compensator gasket                |
| 17. Air horn to bowl screws (2 counter-sunk) | 45. Fuel inlet nut                         |
| 18. Air horn assembly                        | 46. Fuel inlet nut gasket                  |
| 19. Dash pot plunger (where used)            | 47. Filter gasket                          |
| 20. Plunger assembly                         | 48. Filter                                 |
| 21. Plunger cap                              | 49. Filter spring                          |
| 22. Air horn gasket                          | 50. Hose                                   |
| 23. Lower plunger spring                     | 51. Choke pull-off diaphragm and bracket   |
| 24. Plastic filler                           | 52. Choke pull-off diaphragm bracket screw |
| 25. Power piston                             | 53. Fast idle cam                          |
| 26. Primary metering rod (2)                 | 54. Lockout lever                          |
| 27. Primary metering rod spring              | 55. Lower choke lever                      |
|  | 56. Stat cover screw (4MC Model)           |



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|--------------------------------------|---------------------------------------|
| 57. Stat cover retainer (4MC Model)  | 64. Throttle speed screw and spring   |
| 58. Stat cover (4MC Model)           | 65. Throttle body to bowl screws (6)  |
| 59. Stat cover gasket (4MC Model)    | 66. Fuel bowl                         |
| 60. Baffle plate                     | 67. Throttle body gasket              |
| 61. Choke housing screw (4MC Model)  | 68. Idle mixture screw and spring (2) |
| 62. Choke housing (4MC Model)        | 69. Idle limiter cap (2)              |
| 63. Choke housing gasket (4MC Model) | 70. Throttle body assembly            |

**FLOAT LEVEL (FIG. 1)**

1. Hold float retainer (A) firmly in place, and press float lever (B) lightly against needle.
2. The dimension (C) should be as listed in Adjustment Data Chart from top of fuel bowl to top of float 3/16" back from end of float, with cover gasket removed.
3. To adjust, bend float lever (D) up or down.

**PUMP ROD (FIG. 2)**

Install pump rod in pump lever hole (A or B) as listed in Adjustment Data Chart.

**IDLE VENT (SEE FIG. 2)**

1. Open primary throttle valves until vent valve (E) just closes.  
**NOTE:** On the (thermostatic type) open primary throttle until vent arm just contacts the bi-metal strip at valve (E) then proceed with step two and three.
2. The dimension (C) from top of choke valve wall next to vent stack to top of plunger stem should be as listed in Adjustment Data Chart.
3. To adjust, bend wire arm (F).

**FAST IDLE SPEED (BENCH) (FIG. 3)**

1. Position the cam follower (A) on the highest step of fast idle cam.
2. Back out fast idle screw (B) to allow primary throttle valves to close.
3. Turn fast idle screw (B) in 2 turns after it makes contact with cam follower lever. Check final speed setting on engine.

**CHOKEROD CAM (FIG. 4)**

1. Position the cam follower (A) on second highest step of fast idle cam next to highest step.
2. Move choke valve toward the closed position, push down on vacuum break lever (B) on the 4MV models, on the 4MC (1966 Buick) push down on thermostatic coil tang (B) shown in choke housing (Fig. 8).
3. The dimension (C) between choke valve and inner wall of air horn, should be as listed in Adjustment Data Chart.
4. To adjust, bend choke rod (D).

**AIR VALVE DASHPOT (FIG. 5)**

1. Seat diaphragm (A) by using outside vacuum source.
2. The dimension (B) between dashpot rod and end of slot in lever should be as listed in Adjustment Data Chart.
3. To adjust bend rod (C).

**VACUUM BREAK—4MV EXCEPT 1970-74 OLDSMOBILE AND 1973-74 PONTIAC (FIG. 6)**

1. Seat diaphragm stem (A) by using outside vacuum source.
2. On 1967 and later models move choke valve toward closed position by pushing lightly on vacuum break lever (B) until tang (C) on lever contacts offset bend in link. On 1965-66 models push down on break lever (B) until connector link (D) is at the outer end of slots as shown.
3. With the diaphragm seated the dimension (E) between the lower edge of choke valve and inner wall of air horn, should be as listed in Adjustment Data Chart.
4. 1965-66 models bend carburetor link (D). 1967 and later models, except 1972 - 74 Chevrolet bend tang (C). 1972-74 Chevrolet bend the connector link near the lowest slot of diaphragm stem.

**VACUUM BREAK—4MC 1970-74 OLDSMOBILE - PONTIAC 1973-74 (FIG. 7)**

1. Place cam follower (A) on *highest step* of fast idle cam (B), shown in insert.
2. Seat diaphragm (C) by using an outside vacuum source. Rotate choke valve toward the closed position until lever (D) contacts the end of rod (E).
3. With choke valve held in this position the dimension (F) should be as listed in Adjustment Data Chart. To adjust bend lower end of rod (E).

**VACUUM BREAK - 4MC 1966 BUICK (FIG. 8)****Step A.**

1. Open throttle valves slightly to allow choke valve to close, and choke rod to bottom in slot in upper choke lever (A).
2. Bend thermostatic coil tang (B) if necessary to align with the index tab, as shown inside of choke housing.
3. With tang (B) aligned with index tab, the dimension (C) should be .100 inch between tang (D) and vacuum break pin.
4. To adjust bend tang (D).

**Step B.**

1. Press diaphragm screw (E) inward, until diaphragm is bottomed and tang (D) is against vacuum break pin and choke rod is in bottom of slot of upper choke lever.
2. The dimension (F) between the lower edge of choke valve and inner wall of air horn should be as listed in Adjustment Data Chart.
3. To adjust, turn screw (E) in or out as required.

**AUXILIARY VACUUM BREAK - 4MV 1970-74 BUICK (FIG. 9)**

1. If the purge filter is used, remove rubber cover (A) from diaphragm tube and plug the small bleed hole (B) with tape, before seating the diaphragm (C) by using an outside vacuum source.
2. Rotate choke valve towards closed position by pushing counterclockwise on lever (D) until the spring loaded diaphragm stem (E) is fully extended.
3. With choke valve held in this position the dimension (F) should be as listed in Adjustment Data Chart. To adjust bend link at (G).
4. After the adjustment has been made remove tape from purge filter bleed hole and install rubber cover.

**CHOKEROD LEVER - 4MC 1970-74 OLDSMOBILE -1973-74 PONTIAC (FIG. 10)**

With choke valve closed push upward on lever (A) inside of housing to limit of travel. Place a .120 drill in hole just below edge of lever as shown, the edge of lever should just contact drill. To adjust, bend choke rod (B).

**AUTOMATIC CHOKEROD - 1966 BUICK - 1970-74 OLDSMOBILE - 1973-74 PONTIAC. (SEE FIG. 10)**

1. Place cam follower (C) on the *second step* of fast idle cam (F), shown in insert.
2. Rotate choke valve toward the closed position by pushing on the lever (A) inside choke housing.
3. The dimension (E) between lower edge of choke valve and inside wall of air horn should be as listed in Adjustment Data Chart. To adjust, bend tang (H) shown in insert.

**UNLOADER (FIG. 11)**

1. Open the primary throttle valves to the wide open position.
2. Move choke valve toward the closed position, by pushing lightly on vacuum break lever, (A), on 4MC models (1966 Buick), push lightly on tang (B) shown in coil housing (Fig. 8).
3. The dimension (C) between the lower edge of choke valve and inner wall of air horn should be as listed in Adjustment Data Chart.
4. To adjust, bend tang (D).

**AIR VALVE LOCKOUT - If so equipped (FIG. 12)**

1. With choke valve wide open and choke rod in top of slot in choke lever (A). Open air valves slightly and measure the dimension (B) between the front edge of air valve and lockout tang.
2. To adjust bend tang (C).

**SEC. THROTTLE VALVE LOCKOUT - If so equipped (FIG. 13)****Step A**

Hold choke valve wide open. With secondary throttle valves held partially open, the dimension between lockout pin and toe of lockout lever should be .015. To adjust bend lever (B).

**Step B**

With choke valve, and secondary throttle valves fully closed, the dimension between lockout pin and lockout lever should be .015. To adjust bend lockout pin (C).

**SECONDARY METERING ROD (FIG. 14)**

1. With the air valves closed, the dimension (A) should be as listed in Adjustment Data Chart from the top of both metering rods to the top of air cleaner stud hole.
2. To adjust, bend hanger as shown up or down at (B).

**AIR VALVE SPRING (FIG. 15)**

1. Loosen (Allen) lock screw (A) and turn adjusting screw (B) counterclockwise to remove all spring tension.
2. Close air valve and refer to the Adjustment Data Chart for the required number of turns (Clockwise) of adjusting screw (B), after torsion spring (C) just contacts pin (D). Hold adjusting screw in this position and tighten Allen screw.

**AUTOMATIC CHOKEROD - 1966 BUICK - 1970-74 OLDSMOBILE - 1973-74 PONTIAC**

Rotate thermostatic coil housing against spring tension until mark on cover is aligned with center index mark on housing (tighten screws). Do not exceed 2 notches "rich" or "lean" from index mark on housing when adjusting.

**IDLE SPEED MIXTURE (REFER TO EXPLODED VIEW)**

With engine at normal operating temperature and the idle compensator valve (43) where used held closed, adjust the throttle speed screw (64) for the proper idle speed as listed in the Adjustment Data Chart. Adjust both idle mixture screws (68) "in" or "out" until the smoothest idle is obtained. Recheck throttle speed screw (64) if necessary.

**NOTE:** on cars equipped with the Automatic Level Control refer to the car mfg. service manual for the proper idle adjustment procedure. See printed decal in engine compartment for slow idle and fast idle R.P.M. on 1968 and later Models. **Do not set CEC valve adjustment for the idle R.P.M. or decrease in engine braking may result.**