

# E4MC / E4ME TPS and MIXTURE ADJUSTMENT

## STEP 1

Unplug the Throttle Position Sensor and enrichment solenoid connectors;

Remove the choke pull-off actuator and linkage rod (25 & 28);

Remove the secondary metering rod cam follower (10) and metering rods (9);

Remove the choke lever screw and lever, and the linkage rod (29, 30, & 31);

Remove the air horn screws (5, 6, & 7) and the two front carburetor to intake bolts;

Carefully lift the air horn (1) off the carburetor body. As you do, pivot the air horn to allow the accelerator pump linkage rod to be removed from the top lever (3, 69);

Hold down the float hinge pin (57) and simultaneously hold the front end of the float (56) closed against the inlet needle and seat (55), to raise the float to its maximum position.

Verify correct float level by measuring the rear edge of the float to the top of the carburetor body with no gasket in place. Gently bend the float tab to raise or lower this setting to the specification;

Replace the gasket and reassemble the carburetor, being careful to properly align the metering rods, pickup tubes, and TPS actuator plunger;

Reconnect the hoses and electrical connectors;

## STEP 2

Start engine and allow it to reach normal operating temperature;

Set engine timing at the specified RPM;

Set base idle speed with the A/C off and idle speed solenoid disconnected;

Turn off the engine;

Insert the probes of a digital voltmeter in terminals 'B' and 'C' on the TPS connector (center and bottom terminals). You may have to insert a paper clip or similar object into the rear of the connector to make contact;

Turn on the ignition but do not start the engine. Read the voltage of the TPS. Remove the top plug (19) and adjust the TPS screw (18) to obtain a reading of 0.48VDC across the terminals. NOTE - If your meter probes are reversed, the reading will be -0.48VDC. The important factor is the number.

Replace the hole plug in the adjustment screw hole when the position is set;

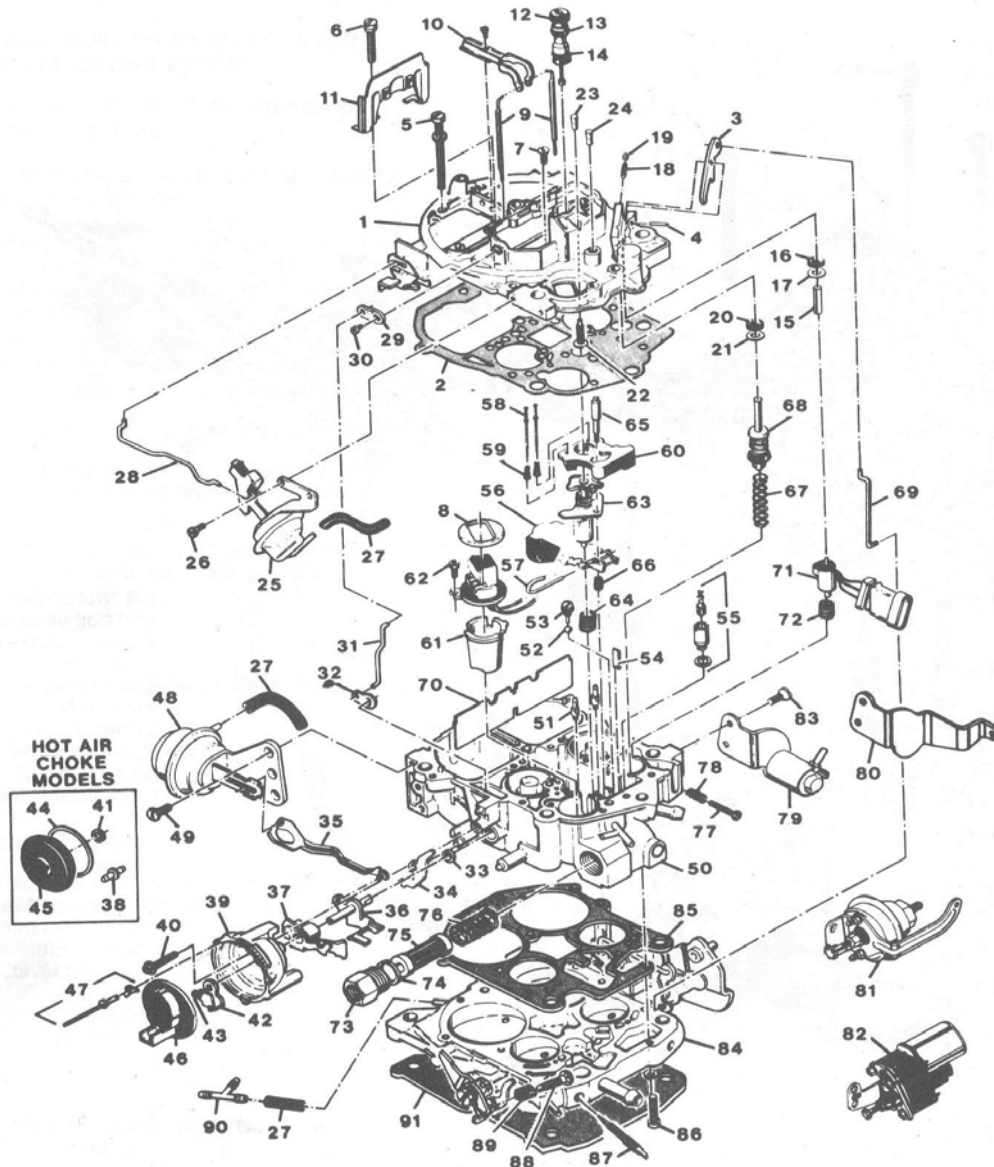
Connect a dwell meter or oscilloscope probe to terminal 'B' on the enrichment solenoid connector;

Start the engine and allow it to reach normal operating temperature. Start the engine and reset the base idle if necessary. The dwell meter reading should vary while this is occurring, or the oscilloscope square wave frequency (pulse length) should vary;

Set the parking brake, block the drive wheels, and place the transmission in DRIVE for an automatic car, NEUTRAL for a manual car;

The dwell meter reading should fluctuate between 10 and 50 on the 6 cylinder scale, the oscilloscope should indicate a 15-85% duty cycle. Adjust the idle air bleed valve screw (12) in 1/8th turn increments to obtain a dwell reading between 25-35. The optimum setting is 30 (50% duty cycle), so get as close to this as possible. Adjust the screw only a little at a time and allow the system to react between adjustments;

If the desired reading is not attainable through this method, the idle mixture screws will have to be adjusted (87). This will require removal of the carburetor and cutting the throttle body away around the steel plugs. Then reinstall and adjust the idle mixture screws evenly, then adjusting the idle air bleed screw as described above to obtain the correct readings.



1. Air horn assembly
2. Gasket—air horn
3. Lever—pump actuating
4. Roll pin—pump lever hinge
5. Screw—air horn, long (2)
6. Screw—air horn, short
7. Screw—air horn, countersunk (2)
8. Gasket—solenoid connector to air horn
9. Metering rod—secondary (2)
10. Holder & screw—secondary metering rod
11. Baffle—secondary air
12. Valve—idle air bleed
13. "O" ring (thick)—idle air bleed valve
14. "O" ring (thin)—idle air bleed valve
15. Plunger—TPS actuator
16. Seal—TPS plunger
17. Retainer—TPS seal
18. Screw—TPS adjusting

19. Plug—TPS screw
20. Seal—pump plunger
21. Retainer—pump seal
22. Screw—solenoid plunger stop (rich mixture stop)
23. Plug—plunger stop screw (rich mixture stop)
24. Plug—solenoid adjusting screw (lean mixture)
25. Vacuum break & bracket—front
26. Screw—vacuum break attaching (2)
27. Hose—vacuum
28. Rod—air valve
29. Lever—choke rod (upper)
30. Screw—choke lever
31. Rod—choke
32. Lever—choke rod (lower)
33. Seal—intermediate choke shaft
34. Lever—secondary lockout

35. Link—rear vacuum break
36. Intermediate choke shaft & lever
37. Cam—fast idle
38. Seal—choke housing to bowl (hot air choke)
39. Choke housing
40. Screw—choke housing to bowl
41. Seal—intermediate choke shaft (hot air choke)
42. Lever—choke coil
43. Screw—choke coil lever
44. Gasket—Stat cover (hot air choke)
45. Stat cover & coil assembly (hot air choke)
46. Stat cover & coil assembly (electric choke)
47. Kit—stat cover attaching
48. Vacuum break assembly—rear

49. Screw—vacuum break attaching (2)
50. Float Bowl Assembly
51. Jet—primary metering (2)
52. Ball—pump discharge
53. Retainer—pump discharge ball
54. Baffle—pump well
55. Needle & seat assembly
56. Float assembly
57. Hinge pin—float assembly
58. Rod—primary metering (2)
59. Spring—primary metering rod (2)
60. Insert—float bowl
61. Insert—bowl cavity
62. Screw—connector attaching
63. Mixture control (M/C) solenoid & plunger assembly
64. Spring—solenoid tension
65. Screw—solenoid adjusting (lean mixture)
66. Spring—solenoid adjusting screw
67. Spring—pump return
68. Pump assembly
69. Link—pump
70. Baffle—secondary bores
71. Throttle position sensor (TPS)
72. Spring—TPS Tension
73. Filter nut—fuel inlet
74. Gasket—filter nut
75. Filter—fuel inlet
76. Spring—fuel filter
77. Screw—idle stop
78. Spring—idle stop screw
79. Idle speed solenoid & bracket assembly
80. Bracket—throttle return spring
81. Idle load compensator & bracket assembly
82. Idle speed control & bracket assembly
83. Screw—bracket attaching
84. Throttle body assembly
85. Gasket—throttle body
86. Screw—throttle body
87. Idle needle & spring assembly (2)
88. Screw—fast idle adjusting
89. Spring fast idle screw
90. Tee—vacuum hose
91. Gasket—flange

Exploded view of Rochester E4ME carburetor