ROCHESTER E4MC & E4ME 4-BARREL

CARBURETOR APPLICATION

GENERAL MOTORS
(BUICK, CADILLAC, CHEVROLET,
GMC CABALLERO, OLDSMOBILE & PONTIAC)

Application	Rochester Carb. No.
3.8L 231" Turbo VIN 3 V6 (E4ME)	
Chevrolet	
Auto. Trans.	17081242,17081243
4.1L 252" VIN 4 V6 (E4ME)	
Cadillac	
Auto. Trans.	
With A/C	17081248,17081289
Oldsmobile	
Auto. Trans.	
Without A/C	17081247,17081249
With A/C	17081245,17081248,17081289
4.9L 301" VIN W V8 (E4ME)	
Buick and Pontiac	
Auto. Trans.	17081270,17081272
4.9L 301" Turbo VIN T V8 (E4ME)	
Buick and Pontiac	
Auto. Trans.	17081273,17081274
5.0L 305" VIN H V8 (E4ME)	
Buick	
Federal Man. Trans.	
Without A/C	17081203
With A/C	17081207
Calif. Man. Trans.	
Without A/C	17081202
With A/C	17081204
Chevrolet and GMC	
Auto. Trans.	
Without A/C	17081202
With A/C	17081204
Man. Trans.	
Without A/C	17081203
With A/C	17081207
Pontiac	
Federal Man. Trans.	
Without A/C	17081203
With A/C	17081207
Calif. Man. Trans.	
Without A/C	17081202
With A/C	17081204
5.0L 307" VIN Y V8 (E4MC)	
Buick	
Auto. Trans.	17081254
Oldsmobile	
Auto. Trans.	17081253,17081254
Pontiac	
Auto. Trans.	17081254
5.7L 350" VIN L V8 (E4ME)	
Chevrolet	
Auto. Trans.	
Without A/C	17081216
With A/C	17081218
5.7L 350" VIN 6 V8 (E4ME)	
Corvette	
Auto. Trans.	17081218
Man. Trans.	17081217

CARBURETOR IDENTIFICATION

The Rochester carburetor number is stamped on vertical section of float bowl, near the secondary throttle. If float bowl is replaced, follow manufacturer's instructions contained in service package to ensure part number is transferred to new float bowl.

The E4MC and E4ME Quadrajet carburetors are used nationwide with the Computer Command Control (CCC) system. The first letter "E" indicates the carburetor is a part of the CCC system. The final letter, if "E", indicates the carburetor is equipped with an electric choke; if "C", a hot air choke.

DESCRIPTION

The E4MC and E4ME carburetors are of a 2-stage, downdraft design. The primary side has a triple venturi system. The secondary side is composed of 2 large throttle bores, using the air valve principle, in which fuel is metered in direct proportion to the amount of air passing through the secondary throttle bores. A baffle is attached to the secondary side of the air horn, above the main well bleed tubes. This deflects incoming air to improve secondary nozzle operation on heavy acceleration.

The E4MC carburetor uses a float bowl-mounted heated air choke assembly; the E4ME, an electrically-actuated choke assembly. All E4MC and most E4ME models have 2 vacuum break diaphragm assemblies, the front and rear, while some E4ME models have only the front vacuum break assembly.

Both carburetors have 6 basic systems. These include the float, idle, main metering (part throttle), power, pump and choke systems. Both the E4MC and E4ME models are used in conjunction with the Computer Command Control (CCC) System. The carburetors are equipped with an electrically-actuated mixture control solenoid mounted in the float bowl. Fuel metering is controlled by stepped metering rods that operate in removable jets.

Both models include tamper-resistant factory settings of the mixture control solenoid, setting of rich stop, idle air bleed valve, TPS, vacuum break diaphragm screws, and idle mixture needles. No attempt should be made to adjust these except during major carburetor overhaul or replacement of air horn, float bowl, or throttle body. Both electric and hot air chokes have riveted covers, which must not be removed except for major overhaul.

E4ME carburetor models used on the 301" VIN W and some E4MC models used on the 307" VIN Y V8 engines are equipped with an Idle Speed Control (ISC), mounted on the float bowl. Controlled by the ECM, it controls engine idle speed in two ways, by controlling normal curb idle and by acting as a dashpot on deceleration and throttle closing. Some 307" VIN Y V8 engines using the E4MC model may be equipped with an Idle Load Compensator for control of curb idle speed. Most vehicles that do not have either, the ISC or ILC, but having air conditioning, are equipped with an Idle Speed Solenoid (ISS). The ISS is used to maintain a specific idle speed during air conditioner operation.

ADJUSTMENTS

HOT (SLOW) IDLE RPM

See appropriate article in TUNE-UP SERVICE PROCEDURES.

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IDLE MIXTURE

See appropriate article in TUNE-UP SERVICE PROCEDURES.

COLD (FAST) IDLE RPM

See appropriate article in TUNE-UP SERVICE PROCEDURES.

IDLE AIR BLEED VALVE

See appropriate article in TUNE-UP SERVICE PROCEDURES

► ANGLE GAUGE ADJUSTMENT TOOL

Manufacturer recommends that some carburetor adjustments be performed using a choke valve angle gauge (Kent-Moore tool no. J-26701). While preparations and actual adjustments may vary with individual adjustment, the procedure for using the angle gauge to check the choke valve angle remains the same. Use the following procedure to perform adjustments requiring the use of the choke valve angle gauge.

1) Rotate degree scale on angle gauge so that 0° mark is opposite pointer.

2) With choke valve closed, place angle gauge magnet squarely on choke valve.

3) Rotate leveling bubble on angle gauge until it is centered.

4) Rotate degree scale until specified degree mark is opposite pointer.

5) Now perform individual adjustment preparations as outlined in the following carburetor adjustments requiring angle gauge. If bubble is centered, adjustment is correct. If not, adjust carburetor as outlined.

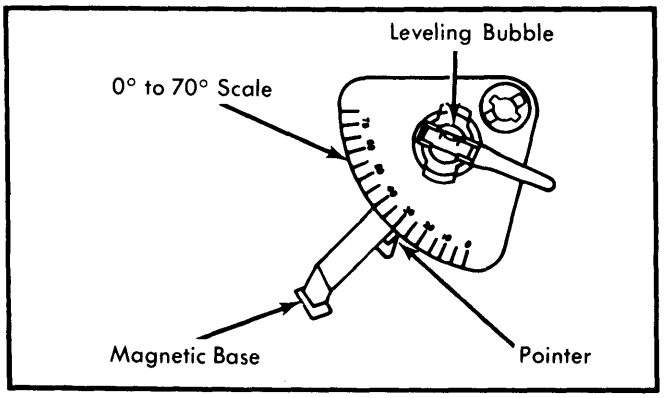

Fig. 1 Choke Valve Angle Gauge

FLOAT LEVEL

1) Remove air horn and gasket from float bowl. Hold float retainer firmly down. *See Fig. 2.*

2) Position a "T" measuring scale over toe of float at a point 3/16" from end of float at toe. Measure distance from float bowl casting to top of float.

3) Use the following procedure to adjust float level, if setting varies more than 1/16" from specified setting.

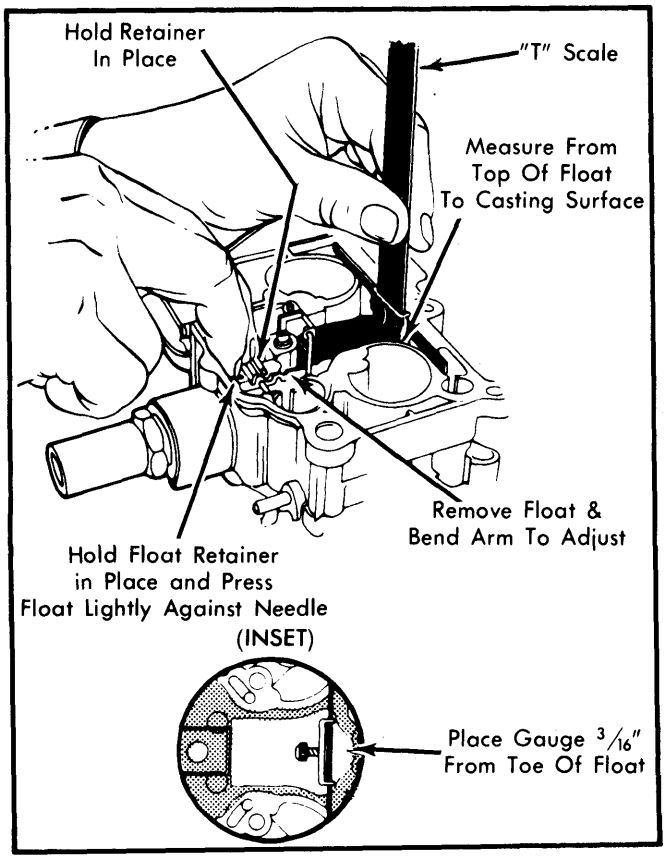

Fig. 2 Adjusting Float Level

Float Level Too High

a) Hold float retainer clip firmly in place.

b) Push down on center of float pontoon until correct float level setting is obtained.

Float Level Too Low

a) Lift out metering rods. Remove solenoid connector screws.

b) Turn mixture solenoid screw clockwise, counting and recording the number of turns required to lightly bottom screw in float bowl.

c) Turn screw counterclockwise and remove. Lift solenoid and connector from float bowl.

d) Remove float and bend arm up to adjust. Make sure float is correctly aligned after adjustment.

e) Reinstall components in reverse order that they were removed. Back out solenoid mixture screw number of turns noted in step **b)**.

ACCELERATOR PUMP ROD

No pump adjustment is required on carburetors for the Computer Command Control system.

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CHOKE COIL LEVER

NOTE – *Choke coil cover uses rivets in place of retaining screws. If necessary to remove choke coil cover, refer to Disassembly and Reassembly procedures in this Section.*

1) Remove 3 choke cover retaining rivets, if necessary. Then remove choke cover and coil from choke housing. See *Fig. 3*. Place fast idle cam follower on high step of fast idle cam.

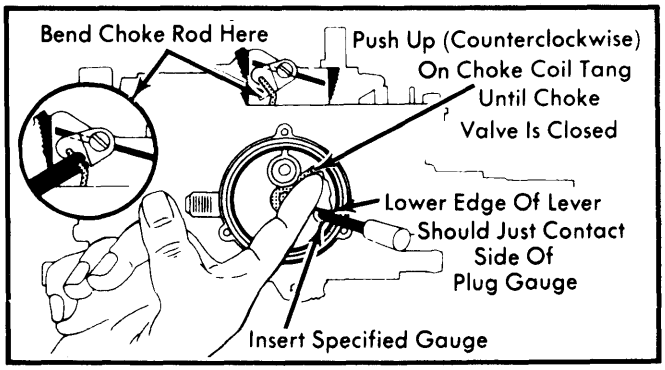

Fig. 3 Adjusting Choke Coil Lever

2) Push up on thermostatic coil tang (counterclockwise) until choke valve is closed. Insert a .120" drill or pin gauge into hole in choke housing casting.

3) Lower edge of lever in choke housing should just touch drill or pin gauge. Bend choke rod at point shown to adjust. Be sure cam follower is on high step of fast idle cam. Install choke coil and cover, using choke cover retainer kit.

FAST IDLE ADJUSTMENT (BENCH SETTING)

NOTE – *This is a preliminary adjustment only. It is required to ensure that other adjustments are made with fast idle speed approximately correct. Final Cold (Fast) Idle Speed adjustment must be made with carburetor installed and engine running. See appropriate article in TUNE-UP Section.*

1) Place fast idle speed cam follower on high step of fast idle cam. Back off fast idle speed screw until throttle valves are completely closed.

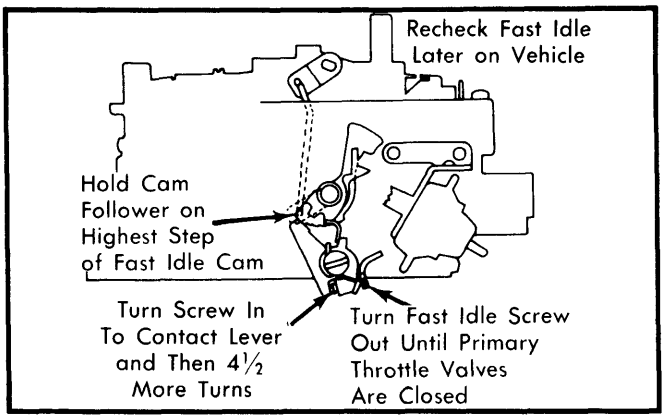

Fig. 4 Fast Idle Bench Adjustment

2) Now turn fast idle screw in until it just touches lever. Then, turn screw in an additional 4½ turns. See *Fig. 4*.

CHOKE ROD (FAST IDLE CAM)

NOTE – *Fast idle adjustment (bench setting) and choke coil lever must be adjusted first. This adjustment is performed using choke angle gauge, see procedure at beginning of adjustment.*

CAUTION – *Do not remove rivets and choke cover to perform this adjustment. Use rubber band on vacuum break lever tang to hold choke valve closed.*

1) Place fast idle speed cam follower on second step of fast idle cam against shoulder of highest step. See *Fig. 5*.

2) Close choke by pushing up on choke coil lever or vacuum break lever tang. Hold choke closed with a rubber band.

3) Bubble on choke angle gauge should be centered with specified angle mark opposite pointer.

4) To adjust, bend tang on fast idle cam until bubble of choke valve angle gauge is centered.

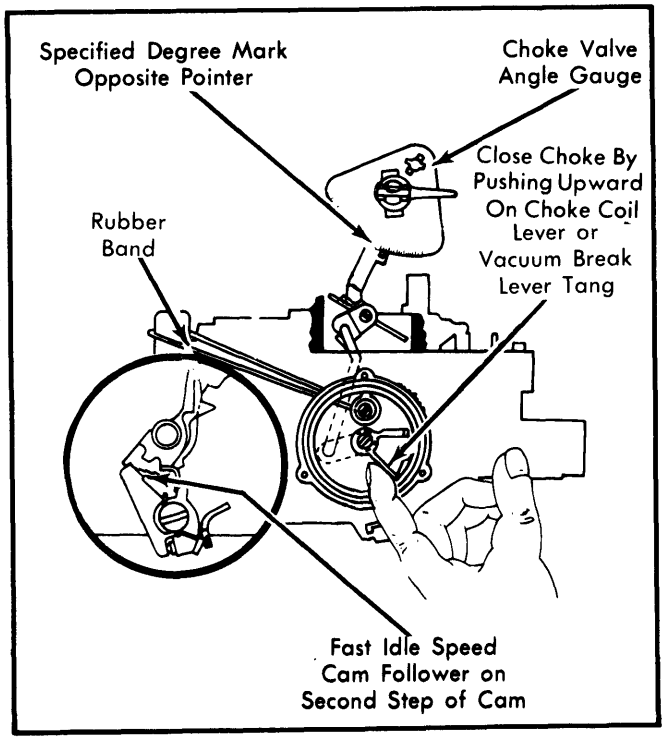

Fig. 5 Adjusting Choke Rod (Fast Idle Cam)

AIR VALVE ROD – FRONT

1) Using an outside vacuum source, seat primary (front) choke vacuum break diaphragm. Plug purge bleed hole (if equipped) with masking tape. Hole is found in end of diaphragm. See *Fig. 6*.

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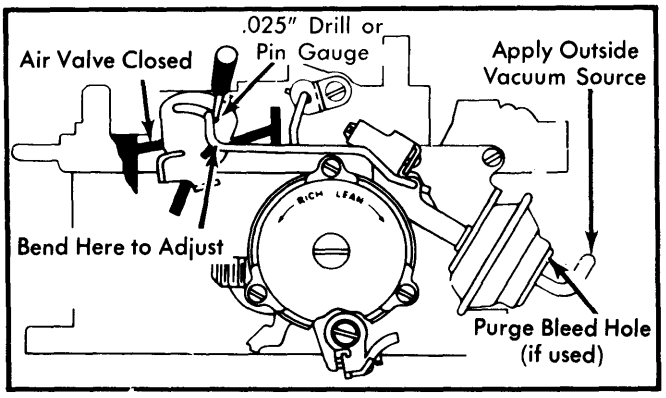

Fig. 6 Adjusting Air Valve Rod – Front

2) Make sure air valve is completely closed. Measure clearance between rod and end of slot in lever. Clearance can be checked using a specified drill or pin gauge.

3) Bend rod at point shown to adjust clearance in slot to .025". Remove tape and reconnect vacuum hose to diaphragm.

PRIMARY (FRONT) VACUUM BREAK

NOTE – *Choke coil lever and fast idle bench adjustment must be correct before performing this adjustment. Adjustment is performed using a choke valve angle gauge. See procedure at beginning of Adjustments.*

CAUTION – *Do not remove rivets and choke cover to perform this adjustment. Use rubber band on vacuum break lever tang to hold choke valve closed.*

1) Remove vacuum break from carburetor. Place bracket in vise, and grind off weld holding adjustment screw cover in place. Remove cover and reinstall vacuum break. Using an outside vacuum source of at least 15 in. Hg, seat primary (front) vacuum break diaphragm. See *Fig. 7*.

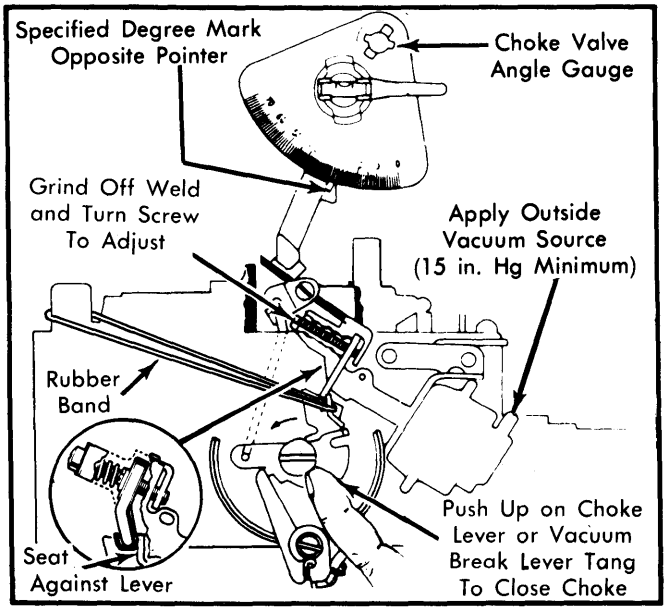

Fig. 7 Adjusting Primary (Front) Vacuum Break

NOTE – *On delay models with air bleed, remove rubber cover from filter element and plug small bleed hole in vacuum tube with tape. Remove tape after completing adjustment. Also, be sure leaf bucking spring (if equipped) is seated against lever.*

2) Close choke by pushing up on choke coil lever or vacuum break lever tang. Hold choke closed with a rubber band.

3) Bubble on angle gauge should be centered with specified degree mark opposite pointer.

4) To adjust, turn vacuum break adjustment screw until bubble of choke valve angle gauge is centered.

SECONDARY (REAR) VACUUM BREAK

NOTE – *Choke coil lever and fast idle bench adjustment must be correct before performing this adjustment. Adjustment is performed using a choke valve angle gauge. See procedure at beginning of Adjustments.*

CAUTION – *Do not remove rivets and choke cover to perform this adjustment. Use rubber band on vacuum break lever tang to hold choke valve closed.*

NOTE – *Do not attempt to adjust rear vacuum break by bending link, which is of a new non-bendable design.*

1) Remove vacuum break from carburetor. Place bracket in vise and grind off adjustment screw cap. Reinstall vacuum break unit. On delay models with air bleed, plug end cover using an accelerator pump plunger cap. Using an outside vacuum source of at least 15 in. Hg, seat vacuum diaphragm. See *Fig. 8*. Remove cup after adjustment. Make sure bucking spring (if equipped) on diaphragm plunger is compressed and seated.

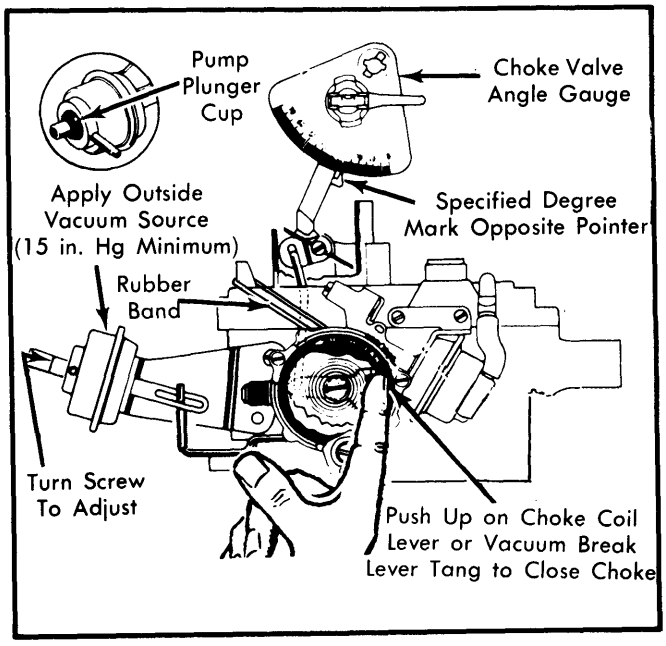

Fig. 8 Adjusting Secondary (Rear) Vacuum Break

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2) Close choke valve by pushing up on choke coil lever or vacuum break lever tang. Hold in position with a rubber band. Make sure bucking spring on diaphragm plunger (if equipped) is compressed and seated.

3) Bubble on choke valve angle gauge should be centered with specified degree mark opposite pointer.

4) To adjust, turn rear vacuum break adjustment screw until bubble of choke valve angle gauge is centered.

AIR VALVE SPRING

1) Use hex wrench to loosen lock screw. Turn tension adjusting screw counterclockwise until air valve opens part way.

2) Turn tension adjusting screw clockwise until air valve just closes. Then turn adjusting screw clockwise specified number of turns. See *Fig. 9*.

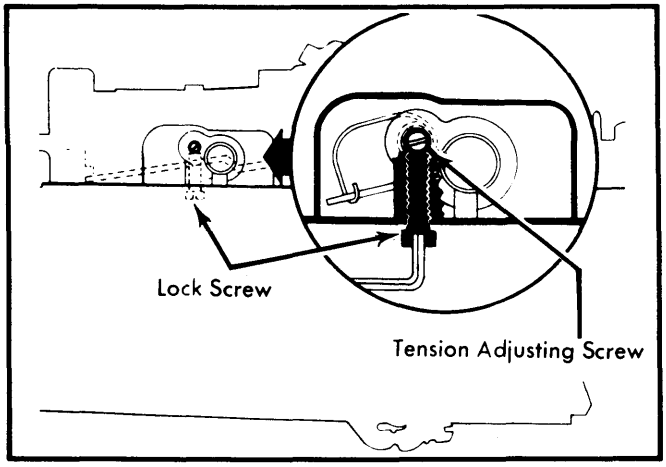

Fig. 9 Adjusting Air Valve Spring

3) Hold adjusting screw and tighten lock screw.

AUTOMATIC CHOKE

NOTE – *Automatic choke is non-adjustable. If removal of choke cover is necessary to perform other adjustments, refer to Overhaul, Disassembly and Reassembly, in this Section for complete information on removal of choke coil cover rivets. Only remove choke cover if major overhaul is required or if choke cover requires replacement.*

1) Remove 3 choke cover retaining rivets. Position fast idle cam follower on high step of fast idle cam.

2) Rotate cover to align notch with retainer tab. Install rivets from choke cover retainer kit.

CHOKE UNLOADER

NOTE – *Choke coil lever and fast idle bench adjustment must be correct before performing this adjustment. Adjustment is performed using a choke valve angle gauge. See procedure at beginning of Adjustments.*

CAUTION – *Do not remove rivets and choke cover to perform this adjustment. Use rubber band on vacuum break lever tang to hold choke valve closed.*

1) If removed, install choke thermostatic cover and coil assembly on housing, using special rivets in service kit. Hold throttle valves wide open. See *Fig. 10*.

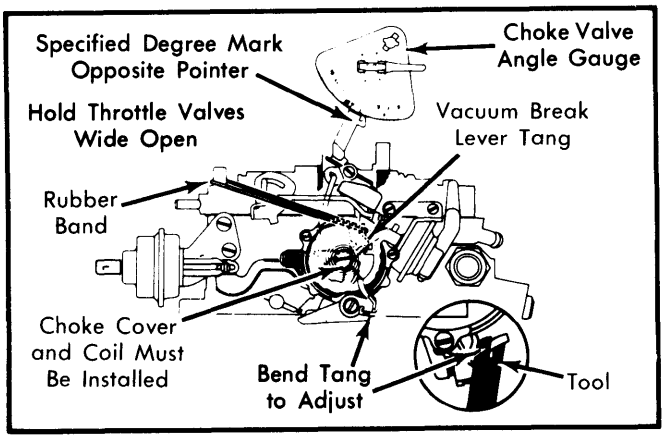

Fig. 10 Adjusting Choke Unloader

2) If engine is warm, close choke valve by pushing up on vacuum break lever tang. Hold in position with a rubber band.

3) Bubble on choke valve angle gauge should be centered with specified degree mark opposite pointer.

4) To adjust, bend choke unloader tang on fast idle lever until bubble is centered. Then remove gauge.

SECONDARY THROTTLE VALVE LOCKOUT

Lockout Lever Side Clearance – 1) Hold choke valve and throttle valves closed completely See *Fig. 11*.

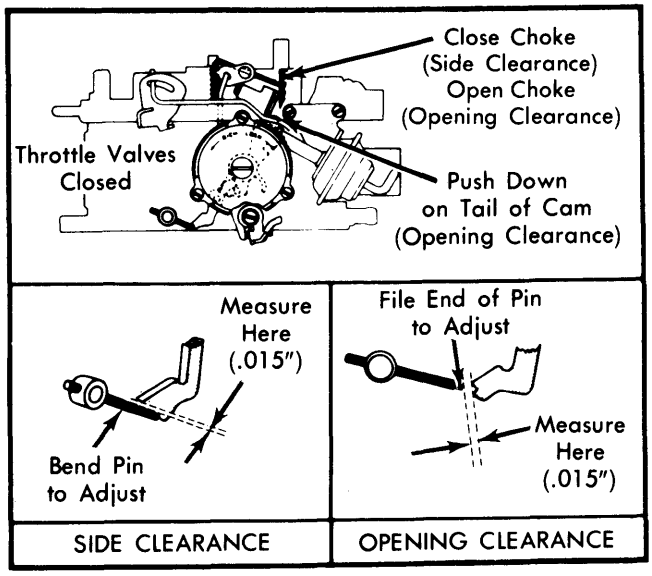

Fig. 11 Adjusting Secondary Throttle Valve Lockout

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2) Measure secondary throttle valve lockout specified side clearance between pin and lockout lever.

3) Specified clearance is .015". To adjust, bend pin.

Lockout Lever Opening Clearance – 1) Push down on tail of fast idle cam and open choke valve completely.

2) Measure secondary throttle valve lockout specified opening clearance between end of pin and toe of lockout lever.

3) Specified clearance is .015". To adjust, file end of lockout pin. Make sure all burrs are removed.

SECONDARY CLOSING LINKAGE

1) Engine idle speed must be correctly adjusted. Hold choke valve wide open and make sure fast idle cam follower is off fast idle cam steps. *See Fig. 12.*

2) Make sure secondary closing lever is against tang. Measure specified clearance between secondary throttle link and slot in secondary throttle lever.

3) Specified clearance is .020". To adjust bend tang.

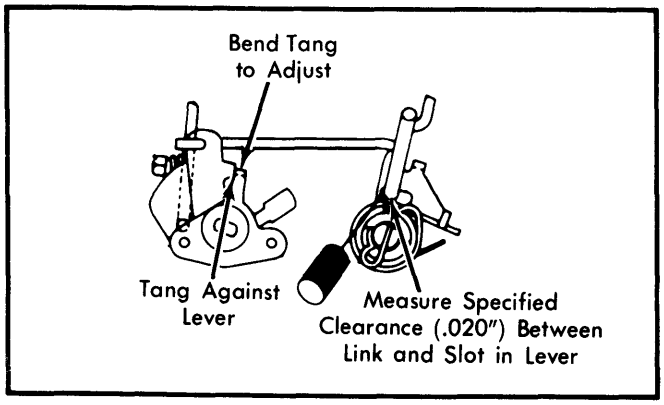

Fig. 12 Adjusting Secondary Throttle Closing Linkage

SECONDARY OPENING LINKAGE

1) Open primary throttle valves until secondary throttle link just contacts tang on secondary throttle lever. *See Fig. 13.*

2) Link should be centered in slot of secondary throttle lever. To adjust, bend tang on secondary throttle lever.

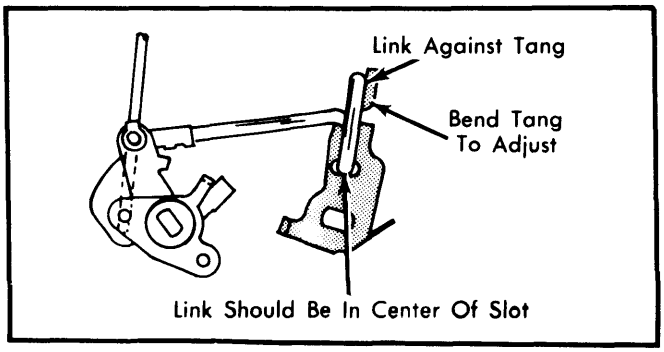

Fig. 13 Adjusting Secondary Throttle Opening Linkage

MIXTURE CONTROL SOLENOID

1) Solenoid operation can be checked on vehicle using external float level gauge tool (J-9789-130). Some material must be removed from the side of the tool to allow for clearance in air horn.

2) Remove air cleaner and gasket. Insert gauge in "D" shaped vent hole in casting next to Idle Air Bleed Valve plug. Make sure gauge moves freely in hole.

3) Press down on gauge and release. With gauge released (solenoid up position), read inch mark on gauge that lines up with top of air horn casting and record reading.

4) Lightly press down on gauge until it bottoms (solenoid down position). Read inch mark that lines up with air horn casting.

5) Subtract solenoid up position from solenoid down position. Difference is total solenoid travel. Travel should be 1/16-1/8". If correct, proceed to Idle Air Bleed Valve Adjustment (Tune-Up Service Procedures Section).

6) To adjust, remove air horn. Turn mixture control solenoid screw clockwise. Record number of turns required to lightly bottom screw in float bowl.

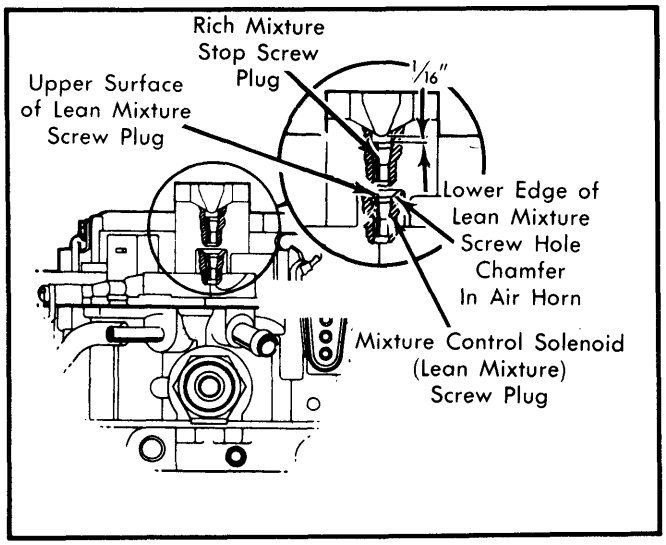

Fig. 14 Installing Lean and Rich Mixture Stop Screws in Air Horn

7) If number of turns is not 3½-4½, solenoid travel is incorrect. Adjust screw to 2 turns from bottom. Then invert air horn and using a small punch, drive mixture control solenoid screw plug out of air horn from bottom side. Discard plug.

NOTE – *Specification in step* **7)** *is for Buick, Pontiac and Oldsmobile. For Chevrolet, number of turns should be 3½-3¾, backing off screw 3½ turns.*

8) Reinstall air horn and new gasket on float bowl and temporarily secure with 2 screws. Recheck solenoid plunger travel (1/16-1/8"). If travel is correct, complete assembly of air horn and proceed to step **11)**.

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9) If solenoid travel is incorrect, remove and invert air horn assembly. Using suitable tool (J-28696-4), remove rich mixture stop screw from bottom side of air horn. Then, drive screw plug out of air horn from bottom side. Discard plug. Reinstall rich mixture stop screw in air horn until screw is lightly bottomed.

10) Reinstall air horn and gasket on float bowl. Insert gauge in vent hole. Using suitable tool (J-28696), turn stop screw clockwise until total solenoid plunger travel is 3/32".

11) Once solenoid travel is correct set, install new plugs supplied in service kit. Install mixture solenoid screw plug (hollow end down) into hole in raised boss of air horn casting. Using a small punch, drive plug into air horn until upper surface of plug is even with lower edge of hole chamfer. *See Fig. 14.*

NOTE – *Plug must be installed to retain the setting of the mixture control solenoid stop screw in float bowl and to prevent escape of fuel vapors.*

12) If removed, install plug (hollow end down) in air horn over rich mixture stop screw (located next to idle air bleed valve cover). Using a small punch, drive new plug into place until it is approximately 1/16" below the surface of air horn casting.

NOTE – *Plug must be installed to retain setting of rich mixture stop screw.*

THROTTLE POSITION SENSOR (TPS)

NOTE – *Do not remove plug or adjust TPS screw unless replacement of air horn, float bowl, TPS unit or screw is necessary or unless diagnosis indicates TPS unit is improperly adjusted. Adjustment is very critical for proper performance.*

1) Using a 5/64" drill bit, drill hole in aluminum plug covering TPS adjustment screw. Drill only enough to start self-tapping screw (about 1/16-1/8").

2) Install No. 8 self-tapping screw (1/2" long) in drilled hole in plug, but only far enough to engage threads securely. Place wide-blade screwdriver under screw head and pry plug from air horn casting. Discard plug.

3) Using removal tool (J-28696-10), remove TPS screw. Connect digital voltmeter (J-29125) from TPS connector center terminal "B" to bottom terminal "C". Use jumper wires between terminals for access. Turn ignition switch on, but do not run engine. Reinstall TPS adjustment screw, using same removal tool. Turn screw to obtain specified voltage at specified throttle position. Air conditioning should be turned off. Use 10 meg digital voltmeter.

4) After adjustment, install new plug from service kit. Drive plug into air horn until flush with raised pump lever boss.

NOTE – *Plug must be installed to retain TPS adjustment screw setting.*

Throttle Position Sensor Specifications

Engine	Throttle Position	Voltage
3.8L Vin 3 Malibu Century & Regal	Fast Idle	1.3 Volts
Riviera	Fast Idle	1.12 Volts
4.1L Vin 4	Curb Idle	.56 Volts
4.9L Vin W	Curb Idle	.35 Volts
4.9L Vin W	Fast Idle [1]	1.7 Volts
5.0L Vin H	Curb Idle	.56 Volts
5.0L Vin Y	Curb Idle	.46 Volts
5.7L Vin L & 6	Curb Idle	.56 Volts
6.0L Vin 6	Curb Idle	.14 Volts

[1] – On high step of cam.

OVERHAUL

DISASSEMBLY

NOTE – *Before performing any service on carburetor, it is essential that carburetor be placed on a holding fixture (J-9789-118) to prevent damage to throttle valves.*

ISC, ILC, ISS Solenoids – If equipped with one of these idle solenoids, remove screws securing solenoid and bracket to float bowl. Remove assembly.

Air Horn Removal – **1)** Remove upper choke lever from end of choke shaft by removing retaining screw. Then rotate upper choke lever to remove choke rod from slot in lever. Remove choke rod from lower lever inside float bowl casting.

NOTE – *Remove rod by holding lower lever outward with small screwdriver and twisting rod counterclockwise.*

2) Remove vacuum hose from front vacuum break unit. Remove secondary metering rods by removing the small screw in top of metering rod hanger. Lift upward on metering rod hanger until secondary metering rods are completely out of air horn. Metering rods may be disassembled from hanger by rotating ends out of holes in end of hanger.

3) Drive pump lever pivot pin inward until pump lever can be removed, then disconnect pump rod from pump lever. Remove 11 air horn-to-float bowl attaching screws. Remove 2 countersunk screws located near venturi. Remove secondary air baffle deflector from beneath center 2 air horn screws. Remove air horn from float bowl by lifting straight up.

NOTE – *Use care not to damage mixture control solenoid connector, TPS adjustment lever, and small tubes protruding from air horn. Do not attempt to remove small tubes.*

4) Remove primary (front) choke vacuum break diaphragm. Using only fingers, remove TPS plunger by pushing plunger up through seal in air horn. If air horn is removed, the lean mixture screw plug must also be removed from air horn. Drive out plug from bottom side, discarding plug.

5) Remove TPS seal by inverting air horn and using a small screwdriver to remove staking around seal retainer. Discard both seal and retainer. Remove pump plunger stem seal in

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same manner and discard seal and retainer. Use care not to damage casting. Further disassembly should not be necessary.

CAUTION — *The mixture control solenoid air/fuel mixture adjustments are very sensitive. The mixture control solenoid stop screw, TPS adjustment screw and idle air bleed valve in air horn are all pre-set at the factory and plugged to resist tampering. Do not remove plugs during normal carburetor cleaning and servicing, unless carburetor or mixture control solenoid has been diagnosed as the cause of poor engine performance.*

6) If necessary to remove idle air bleed valve, drill off rivet heads with 1/8" drill. Drive remainder of rivets out of tower with drift and small hammer. Lift out cover over valve, and remove remaining rivets from inside tower. Using a screwdriver that fully fits slot in valve, turn valve counterclockwise to remove from air horn. Remove "O" rings from valve, using new "O" rings upon reassembly.

Float Bowl — 1) Remove solenoid metering rod plunger by lifting straight upward. Remove rubber seal from around mixture control solenoid connector. Remove air horn gasket by lifting out of dowel locating pins. Discard gasket.

2) Remove pump plunger and spring from pump well. Remove staking holding TPS in bowl. To do so, protect gasket surface by laying a flat piece of metal across casting. Using a small screwdriver, lightly depress and hold TPS down against spring tension. Carefully remove staking from around TPS by prying upward with a small chisel against the metal piece (not bowl casting).

3) Push up from bottom on electrical connector and remove TPS and connector assembly from bowl. Use care not to damage sensor during removal. Remove plastic filler block from float valve. Carefully remove each metering rod from metering jet. Make sure return spring is removed with each rod. Remove return spring by sliding it off metering rod.

4) Remove screws connecting solenoid connector to float bowl. Using adjusting tool (J-28696) on upper end of mixture control solenoid screw, count number of clockwise turns required to lightly seat screw. Record number for later reassembly. Then, turn screw counterclockwise to remove it from fuel bowl. Carefully lift solenoid and connector assembly from bowl.

NOTE — *Do not remove plunger return spring or connector from solenoid body. Solenoid and connector are serviced as an assembly.*

5) Remove plastic insert from solenoid connector cavity in float bowl. Remove solenoid screw tension spring (next to float hanger clip). Remove float assembly and needle valve by lifting straight up. Remove needle valve seat and gasket.

6) Remove large mixture control solenoid tension spring from boss on bottom of float bowl located between metering jets. Remove metering jets (if necessary).

7) Remove accelerator pump discharge check ball retainer and check ball. Remove accelerator pump well baffle (if necessary).

8) Remove rear vacuum break diaphragm and bracket. Rotate unit to remove vacuum break rod from slot in diaphragm plunger.

9) Align a .159" (No. 21) drill on choke cover retaining rivet and drill only enough to remove rivet head. Repeat for remaining 2 rivets. Remove choke cover and coil assembly. Remove choke housing retaining screw located inside choke housing. Slide complete choke assembly from float bowl.

10) Remove choke coil lever retaining screw from end of intermediate shaft. Remove thermostatic coil lever from flats on intermediate shaft and remove shaft. Fast idle cam can now be removed from intermediate choke shaft.

11) Remove fuel inlet nut, gasket and filter. Remove throttle body-to-float bowl attaching screws and throttle body.

Throttle Bowl — 1) Remove accelerator pump rod from throttle lever by rotating rod until tang aligns with slot in lever.

2) Turn throttle body over, and position on a holding fixture with manifold side up. Make 2 parallel cuts in throttle body using a small hacksaw, cutting on each side of idle mixture needle plug. Cuts should reach down to steel plug, but no more than 1/8" beyond locator points. Distance between saw marks will depend upon size of punch used.

3) Place a flat punch at a point near ends of saw marks. Hold punch at 45° angle and drive it into throttle body until casting breaks away, exposing steel plug.

4) Hold center punch vertically and drive it into steel plug. Then hold punch at 45° angle and drive plug out of casting. Repeat process for remaining mixture needle. When removing or installing needles, refer to idle mixture adjustment in Tune-Up Service Procedures Section.

NOTE — *Hardened steel plug will shatter. It is not necessary to remove plug completely. Remove just enough pieces to allow idle mixture adjusting tool (J-29030) to be used to remove mixture screws and springs. Idle mixture screw head has a "double-D" configuration and can also be removed using a piece of 7/32" copper tubing that has been partially flattened.*

CLEANING & INSPECTION

NOTE — *If idle air bleed valve is not removed on E4ME/E4MC model carburetors, clean air horn in a low-volatile solvent only. DO NOT place in carburetor cleaner. Damage to "O" rings on idle air bleed valve will result.*

- Use a regular carburetor cleaning solution. Soak components long enough to thoroughly clean all surfaces and passages of foreign matter.
- Do not soak any components containing rubber, leather or plastic. Particularly do not soak air horn with bleed valve installed, electric choke, idle speed solenoid, idle speed control or idle load compensator, TPS, thermostatic choke cover and coil, vacuum break diaphragms, pump plunger and other such parts.
- Remove any residue after cleaning by rinsing components in a suitable solvent.
- Blow out all passages with dry compressed air.

ROCHESTER E4MC & E4ME 4-BARREL (Cont.)

1. Air Horn Assembly
2. Air Horn Screws
3. Air Horn Screws
4. Secondary Metering Rod Holder Kit
5. Secondary Metering Rods
6. Choke Valve
7. Air Horn Countersunk Screws
8. Idle Air Bleed Valve Assembly
9. Pump Actuating Lever
10. Throttle Position Sensor Actuator Plunger
11. Pump Lever Hinge Pin
12. Solenoid Stop Screw
13. Air Horn Gasket
14. Solenoid Adjusting Screw
15. Float Bowl Insert
16. Mixture Control Solenoid
17. Float Assembly
18. Accelerator Pump Assembly
19. Accelerator Pump Spring
20. Accelerator Pump Rod
21. Throttle Position Sensor
22. Float Needle and Seat Assembly
23. Solenoid Screw Spring
24. Solenoid Return Spring
25. Pump Well Baffle
26. Main Metering Jets
27. Bracket Attaching Screws
28. Throttle Return Spring Bracket
29. Solenoid and Bracket Assembly
30. Idle Stop Screw Spring
31. Idle Stop Screw
32. Float Bowl Assembly
33. Throttle Body Gasket
34. Throttle Shaft and Lever Assembly
35. Idle Needle and Spring Assemblies
36. Throttle Body Screws
37. Flange Gasket
38. Fast Idle Speed Screw
39. Fast Idle Speed Screw Spring
40. Cam Follower Lever
41. Fast Idle Screw Lever
42. Cam Lever Spring
43. Lever Attaching Screw
44. Hot Air Choke Housing-to-Bowl Seal
45. Hot Air Choke Cover and Thermostatic Coil Assembly
46. Hot Air Choke Cover Gasket
47. Intermediate Choke Shaft Seal
48. Vacuum Hose
49. Vacuum Hose Tee
50. Fuel Inlet Filter Nut
51. Fuel Filter Nut Gasket
52. Fuel Inlet Filter
53. Fuel Inlet Filter Spring
54. Rivet Service Kit
55. Choke Cover Retainers
56. Electric Choke Cover and Thermostatic Coil Assembly
57. Choke Housing Screws
58. Choke Coil Lever Screw
59. Choke Coil Lever
60. Choke Housing Kit
61. Fast Idle Cam
62. Intermediate Choke Lever and Shaft
63. Intermediate Choke Shaft Seal
64. Secondary Lockout Lever
65. Secondary Vacuum Break Link
66. Secondary Vacuum Break Screws
67. Secondary Vacuum Break Diaphragm and Bracket Assembly
68. Vacuum Hose
69. Intermediate Choke Lever
70. Choke Rod
71. Secondary Baffle Plate
72. Pump Discharge Ball Retainer
73. Pump Discharge Ball
74. Aneroid Cavity Insert
75. Mixture Control Solenoid Connector
76. Solenoid Connector Screw
77. Solenoid Connector Gasket
78. Float Retainer (Hinge Pin)
79. Main Metering Rod Springs
80. Main Metering Rods
81. Vacuum Hose
82. Primary Vacuum Break Diaphragm and Bracket Assembly
83. Vacuum Break Attaching Screws
84. Air Valve Rod
85. Choke Lever Screws
86. Choke Lever
87. Choke Shaft
88. Throttle Body Assembly

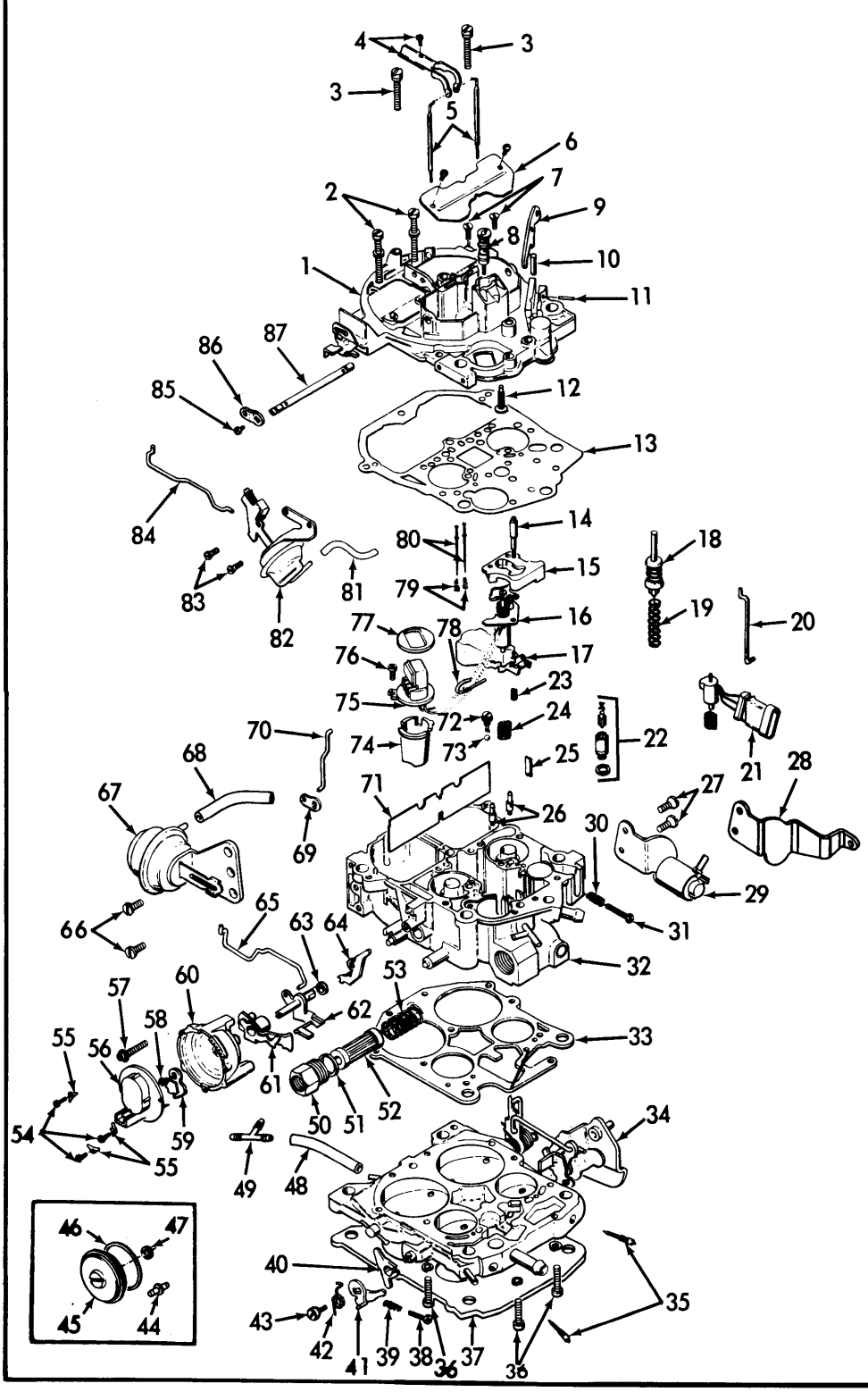

Fig. 15 Exploded View of Rochester Model E4MC and E4ME 4-Barrel Carburetors

ROCHESTER E4MC & E4ME 4-BARREL (Cont.)

REASSEMBLY

NOTE – *Use new gaskets and seals. Make sure that new gaskets fit correctly and that all holes and slots are punched through and correctly located.*

Reassemble carburetor in reverse order of disassembly, noting the following:

1) The intermediate choke shaft lever and fast idle cam are assembled correctly when tang and lever are below fast idle cam.

2) When installing float and retaining pin, insert with end of loop of pin facing pump well. Fuel inlet needle pull clip should be over edge of flat on float arm. Do not hook clip into holes in float arm.

3) When installing mixture control solenoid, make sure pin on end of solenoid aligns with hole in raised boss at bottom of float bowl.

4) When installing mixture control solenoid screw, turn it in clockwise until it lightly bottoms out. Then back off the number of turns counted at disassembly (should be between 3½ and 4½ turns).

NOTE – *Do not force mixture control solenoid screw to bottom, as screw or seat could be damaged.*

5) When installing idle air bleed valve (if removed), turn valve clockwise until it is lightly seated. Then back screw out 2 turns. Final adjustments must be made on vehicle.

NOTE – *If choke thermostatic cover and coil assembly was removed, it will be necessary to install a new service rivet kit.*

6) Place fast idle screw on high step of fast idle cam. Install choke coil cover if removed, aligning notch in cover with tab on cover retainer (supplied in service kit). Be sure coil tang engages pick-up lever. Install blind rivets.

NOTE – *On E4ME models, ground contact for electric choke is provided by metal plate located at rear of choke cover assembly. Do not install choke cover gasket between electric choke and housing.*

7) Install air horn screws and tighten evenly, securely, and in sequence shown in *Fig. 15.*

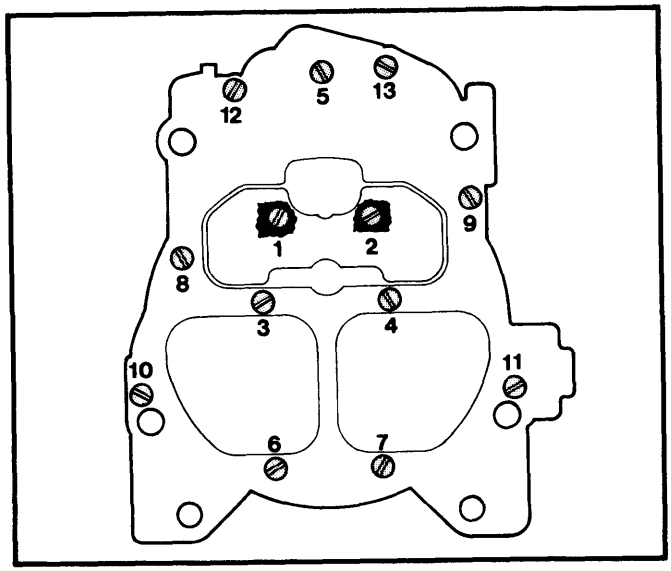

Fig. 16 Air Horn Screw Tightening Sequence

CARBURETOR ADJUSTMENT SPECIFICATIONS

Application	Float Level Setting	Accelerator Pump		Choke Coil Lever Setting	Choke Rod Setting	Air Valve Rod Setting	Vacuum Break		Air Valve Spring Setting①	Choke Unloader Setting
		Stem Setting	Hole Setting				Primary Setting	Secondary Setting		
E4MC										
17081253	15/32"	TR	TR	.120"	14°	.025"	25°	36°	1/2	35°
17081254	15/32"	TR	TR	.120"	14°	.025"	25°	36°	1/2	35°
E4ME										
17081202	11/32"	TR	TR	.120"	20°	.025"	26°	.....	7/8	38°
17081203	11/32"	TR	TR	.120"	20°	.025"	26°	.....	7/8	38°
17081204	11/32"	TR	TR	.120"	20°	.025"	26°	.....	7/8	38°
17081207	11/32"	TR	TR	.120"	20°	.025"	26°	.....	7/8	38°
17081216	11/32"	TR	TR	.120"	20°	.025"	26°	.....	7/8	38°
17081217	11/32"	TR	TR	.120"	20°	.025"	26°	.....	7/8	38°
17081218	11/32"	TR	TR	.120"	20°	.025"	26°	.....	7/8	38°
17081242	3/8"	TR	TR	.120"	24.5°	.025"	17°	15°	9/16	38°
17081243	5/16"	TR	TR	.120"	24.5°	.025"	19°	17°	9/16	38°
17081245	3/8"	TR	TR	.120"	24.5°	.025"	28°	24°	5/8	38°
17081247	3/8"	TR	TR	.120"	24.5°	.025"	28°	24°	5/8	38°
17081248	3/8"	TR	TR	.120"	24.5°	.025"	28°	24°	5/8	38°
17081249	3/8"	TR	TR	.120"	24.5°	.025"	28°	24°	5/8	38°
17081270	7/16"	TR	TR	.120"	14.5°	.025"	24°	34°	5/8	35°
17081272	7/16"	TR	TR	.120"	14.5°	.025"	24°	40°	5/8	35°
17081273	7/16"	TR	TR	.120"	16°	.025"	24°	34°	5/8	35°
17081274	7/16"	TR	TR	.120"	16°	.025"	24°	35°	5/8	35°
17081289	13/32"	TR	TR	.120"	24.5°	.025"	28°	24°	5/8	38°

① – Specification is number of turns.