

ROCHESTER M2ME 2-BARREL

NOTE — **SERIES IDENTIFICATION:** The vehicle numbers used in this article have been abbreviated for common reference to both Chevrolet and GMC models. Chevrolet models use numerical designations as listed; GMC models are identified as follows: 10 = 1500; 20 = 2500; 30 = 3500.

CARBURETOR APPLICATION

CHEVROLET & GMC

Application	Rochester Carb. No.	
	Man. Trans.	Auto. Trans.
5.0L (305") Federal C10/20		
Without A/C	17081142, 17081143	
With A/C	17081144, 17081145	
G10/20		
Without A/C	17081101	17081142
With A/C	17081103	17081144

CARBURETOR IDENTIFICATION

Carburetor model identification is stamped vertically on left rear corner of float bowl. Be sure to follow manufacturer's instructions on transferring identification number if new float bowl is to be installed on original carburetor.

DESCRIPTION

The Rochester M2ME carburetor is of single stage, downdraft, 2-barrel design. It is equipped with an Adjustable Part Throttle (APT) screw which accurately meters fuel flow through the main jets for improved emission control. This screw is preset at the factory, and is non-adjustable.

The choke system has an electric thermostat and coil assembly, and has factory tamper-proofing. A single float, brass needle seat, and rubber-tipped float valve are used to control fuel level in the float chamber.

ADJUSTMENT

HOT (SLOW) IDLE RPM

See appropriate article in TUNE-UP SERVICE PROCEDURES.

IDLE MIXTURE

See appropriate article in TUNE-UP SERVICE PROCEDURES.

COLD (FAST) IDLE RPM

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 each 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.

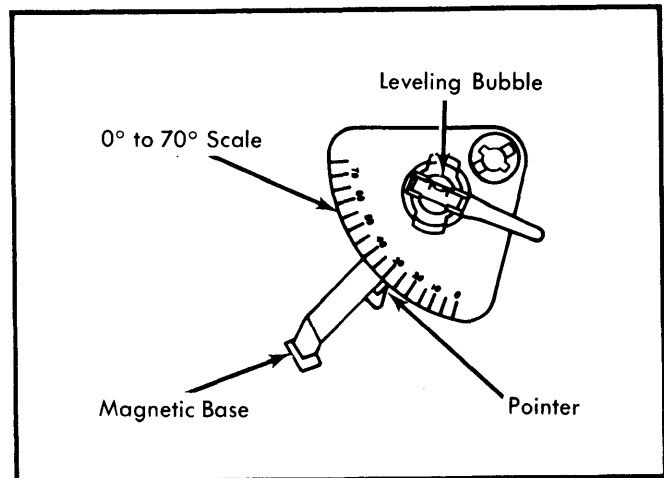


Fig. 1 Choke Valve Angle Gauge

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 point $\frac{3}{16}$ " from end of float at toe. Measure distance from float bowl casting to float.
- 3) To adjust, remove float and bend arm. Check to make sure float is correctly aligned after adjustment.

ACCELERATOR PUMP

- 1) Close throttle valves completely. Make sure fast idle speed screw is off fast idle cam. See Fig. 3.
- 2) Make sure accelerator pump rod is in specified hole (inner or outer) of accelerator pump lever.
- 3) Using a "T" scale, measure accelerator pump specified distance from top of choke valve wall (next to vent stack) to top of accelerator pump stem.

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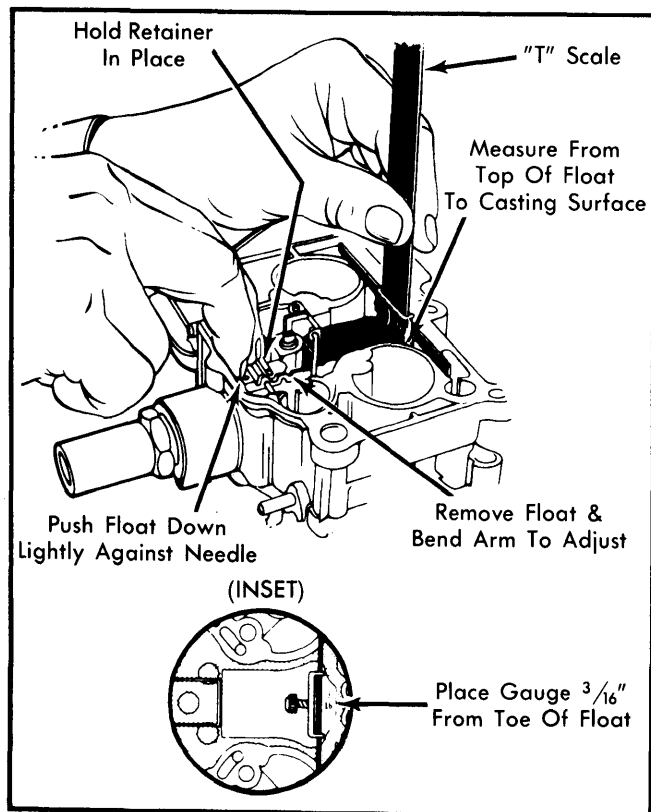


Fig. 2 Adjusting Float Level

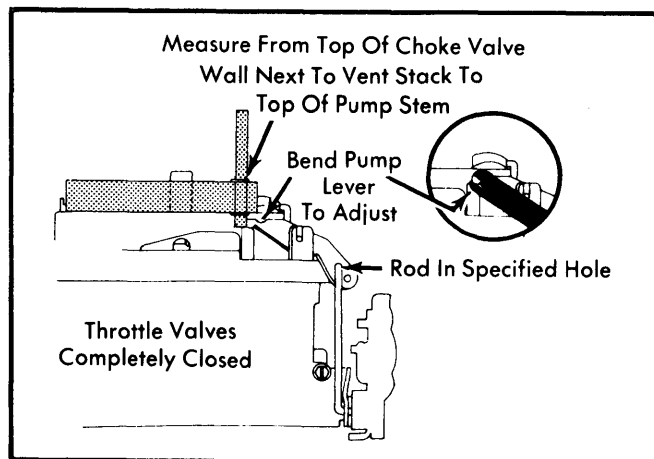


Fig. 3 Adjusting Accelerator Pump

4) To adjust, support accelerator pump lever with a screwdriver and bend pump arm at point shown.

CHOKE COIL LEVER

NOTE — Choke coil cover is retained on choke housing with rivets to prevent tampering with factory adjustments. If necessary to remove cover, refer to Disassembly and Reassembly procedures in this Section.

1) Drill out and remove retaining rivets. Remove choke cover and thermostatic coil from choke housing. See Fig. 4.

2) Position fast idle speed cam follower on high step of fast idle cam.

3) Push up (counterclockwise) on choke coil tang until choke valve is closed.

4) Insert a specified drill or pin gauge in hole provided in choke housing. Choke lever inside housing should just touch drill or pin gauge.

5) To adjust, bend choke rod at point shown.

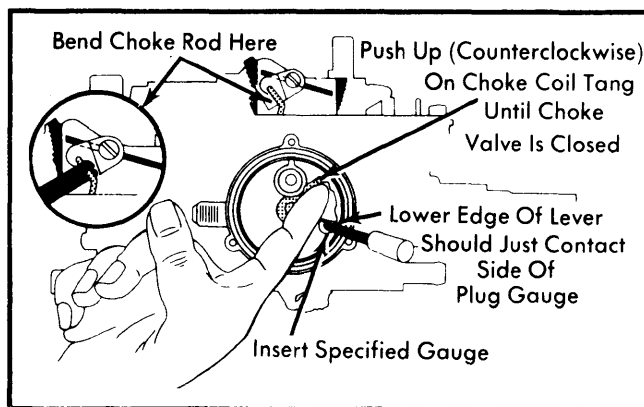


Fig. 4 Adjusting Choke Coil Lever

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 SERVICE PROCEDURES.

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

2) Turn fast idle screw in until it just contacts lever, then turn in an additional $4\frac{1}{2}$ turns.

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 Adjustments.

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 in choke angle gauge should be centered with specified angle mark opposite pointer.

4) If adjustment is required, bend tang on fast idle cam until bubble is centered.

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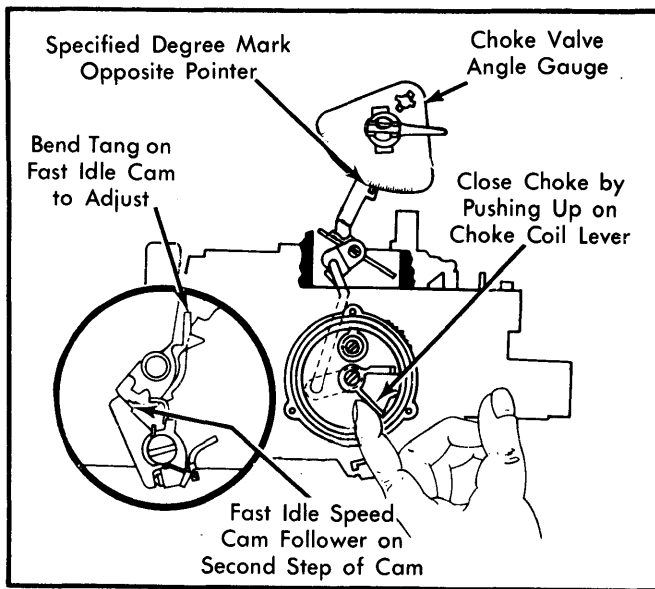


Fig. 5 Adjusting Choke Rod (Fast Idle Cam)

PRIMARY VACUUM BREAK

NOTE — This adjustment is performed using the choke angle gauge, see procedure at beginning of Adjustments.

1) Using an outside vacuum source of at least 15 in. Hg, seat primary vacuum break diaphragm. See Fig. 6.

NOTE — On models equipped with air bleed, remove rubber cover from filter and plug vacuum tube with a piece of tape. If bleed hole is in end of diaphragm, plug hole in end of diaphragm with a piece of tape. Remove tape after completing adjustment.

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

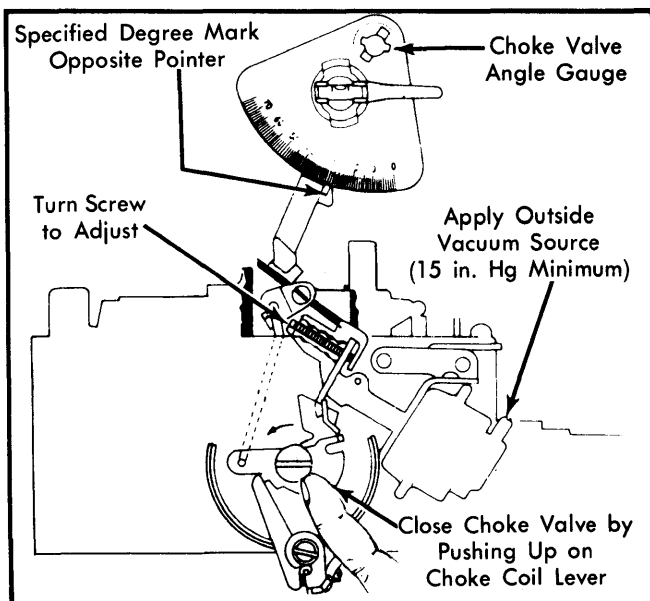


Fig. 6 Adjusting Primary Vacuum Break

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

4) If adjustment is required, turn vacuum break until bubble in angle gauge is centered.

AUTOMATIC CHOKE

NOTE — Choke coil cover is retained on choke housing with rivets to prevent tampering with factory adjustments. If necessary to remove cover, refer to Disassembly and Reassembly procedures in this Section.

CHOKE UNLOADER

NOTE — This adjustment is performed using the choke valve angle gauge, see procedure at beginning of adjustments.

NOTE — Choke coil lever adjustment must be correct and fast idle adjustment made before adjusting choke unloader.

1) Hold throttle valves wide open. If engine is warm, close choke valve by pushing up on vacuum break lever tang. Hold in position with a rubber band. See Fig. 7.

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

3) If adjustment is required, bend choke unloader tang on throttle lever until bubble in angle gauge is centered.

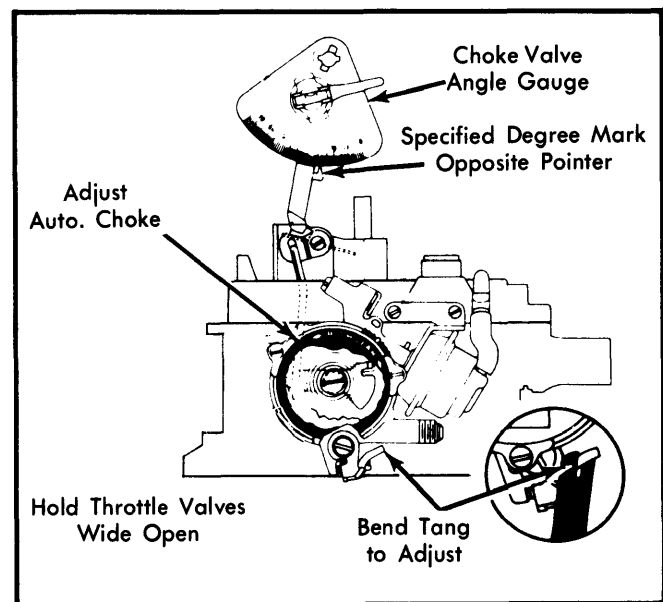


Fig. 7 Adjusting Choke Unloader

OVERHAUL

DISASSEMBLY

NOTE — Place carburetor on a suitable working stand to avoid damaging throttle valves during overhaul.

Air Horn — 1) Remove solenoid and bracket assembly.

2) Remove screw and upper choke from end of choke shaft.

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3) Rotate upper choke lever to remove choke rod from slot in lever.

4) Remove choke rod from lower lever inside bowl casting.

NOTE— Hold lever outward and twist rod counterclockwise to remove.

5) Using suitable driver, drive pump lever pivot pin inward until pump lever can be removed from air horn.

6) Remove pump lever from pump rod, noting location of pump rod for reassembly.

CAUTION— Be careful when removing roll pin to avoid damage to pump lever bosses.

7) Remove 9 air horn screws. Remove air horn by lifting straight up and away from float bowl.

NOTE— Two of the 9 air horn screws are countersunk and are located next to the venturi.

8) Remove front vacuum break assembly. Remove accelerator pump plunger stem seal by inverting air horn and removing staking that holds seal retainer in place.

9) No further disassembly of air horn is required unless choke valve or shaft is to be replaced. If so, remove 2 staked choke valve screws, choke valve and shaft.

Float Bowl — 1) Remove air horn gasket.

NOTE— When lifting gasket tab from under power piston hanger, use care not to bend springs holding main metering rods.

2) Remove pump plunger and return spring from pump well.

3) Remove power piston and metering rods by depressing piston stem and allowing it to snap free. Repeat if necessary.

CAUTION— Do not use pliers to remove power piston.

4) Remove power piston spring from well.

CAUTION— The A.P.T. metering rod adjustment screw is preset at factory. Do not change this adjustment. If float bowl is to be replaced, new bowl will already have a preset A.P.T. screw installed.

5) Disconnect tension spring from top of each metering rod. Rotate rods to remove from hanger. Note position of rods for reassembly.

6) Remove plastic filler block over float valve.

7) Remove float and float needle by pulling up on retaining pin. Remove needle seat and gasket with suitable tool (J-22769).

8) Remove main metering jets only if necessary.

9) Remove pump discharge check ball retainer and check ball. Remove pump well fill slot only if necessary.

10) Align a .159" (No. 21) drill on choke cover retaining rivet and drill only enough to remove rivet head. Repeat for remain-

ing rivets. Remove cover and coil assembly. Remove pieces of rivets from choke housing.

11) Remove screw and washer inside choke housing and remove housing assembly from float bowl.

12) Invert float bowl and remove lower choke lever.

13) Remove coil lever screw at end of shaft inside choke housing. Remove coil lever from flats on choke shaft.

14) Remove intermediate choke shaft from housing by sliding outward.

15) Remove fast idle cam from choke shaft.

CAUTION— If housing is to be soaked in solvent, remove cup seal from inside choke housing shaft hole. Remove cup seal from insert to clean float bowl. Do not remove insert.

16) Remove fuel inlet nut, gasket, check valve filter assembly, and spring.

17) Remove throttle body from float bowl.

18) Remove throttle body-to-bowl insulator gasket.

Throttle Body — 1) Remove accelerator pump rod from throttle lever.

NOTE— It is not necessary to disassemble throttle body any further. Do not remove idle mixture screw plugs unless it is necessary to replace mixture screws or cleaning and air pressure fails to clean idle mixture passages. If necessary to remove, proceed as follows:

2) Using a hacksaw, make 2 parallel cuts in throttle body on either side of locator points beneath the idle mixture needle plug (manifold side). Cuts should reach down to steel plug, but should not extend more than 1/8" beyond locator points.

3) Place a flat punch at a point near the ends of saw marks in throttle body. Holding punch at a 45° angle, drive casting away until steel plug is exposed.

4) Holding a center punch vertically, drive it into steel plug. Angle center punch and drive plug out of casting. Hardened plug will break rather than remain intact.

5) Remove enough of plug to allow mixture screw adjusting tool (J-28706) or a thin walled 3/16" deep socket to be used to remove mixture screws and springs. Remove mixture screws and springs.

CLEANING & INSPECTION

- 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.
- Remove any residue after cleaning by rinsing components in a suitable solvent.
- Blow out all passages with dry compressed air.

1981 Rochester Carburetors

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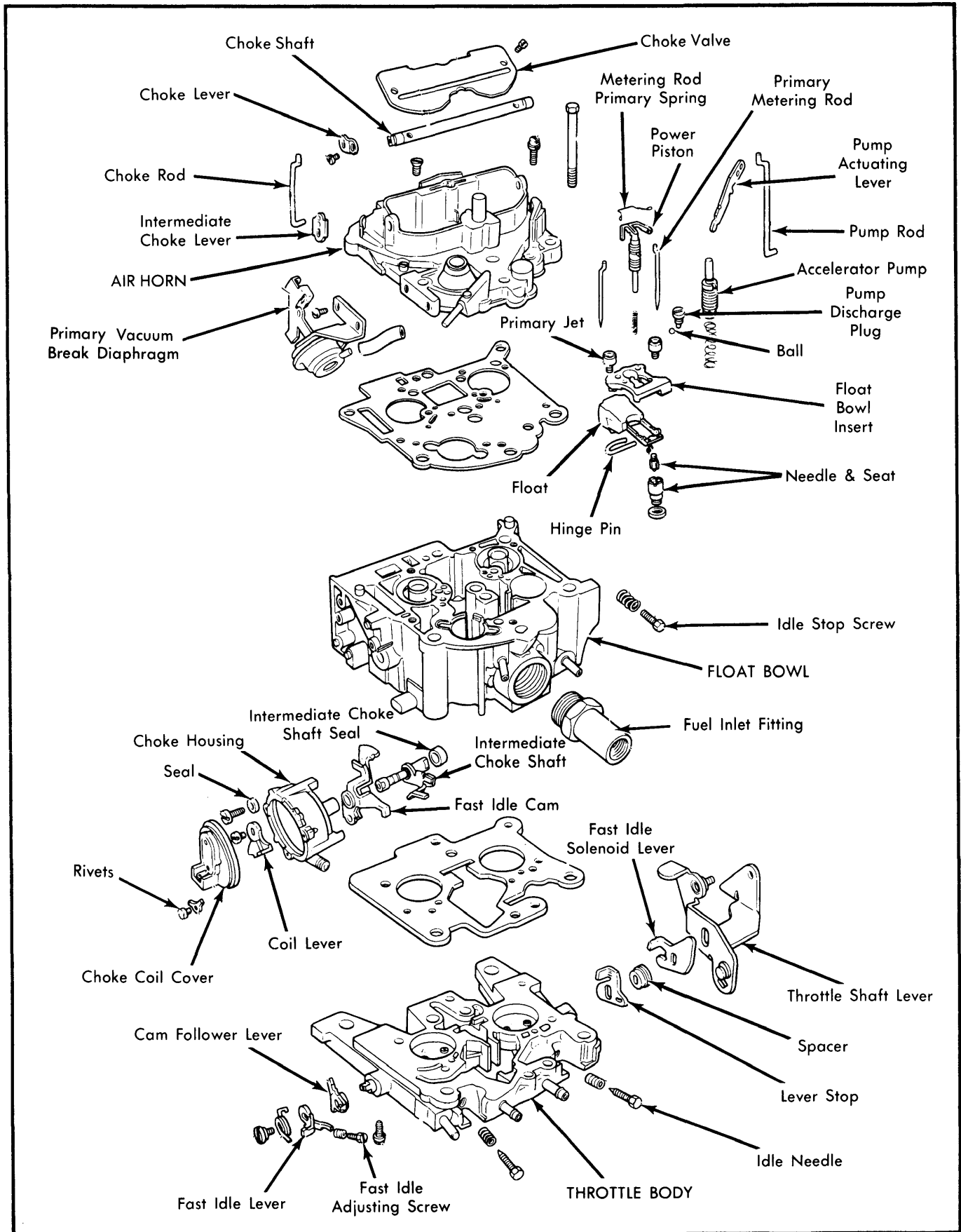


Fig. 8 Exploded View of Rochester Model M2ME Carburetor

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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.

To reassemble carburetor, reverse disassembly procedures and note the following:

- 1) Inside thermostatic choke coil lever is properly aligned when both inside and outside levers face toward fuel inlet.
- 2) The intermediate choke shaft lever and fast idle cam are correctly aligned when the tang on lever is beneath fast idle cam.
- 3) When installing fuel inlet needle valve pull clip over edge of flat on float arm, do not hook clip in holes in float arm.

NOTE — If choke coil cover was removed, it will be necessary to install service rivet retaining kit. Before installing cover, place fast idle screw on high step of fast idle cam. Align notch in cover with raised boss on housing cover flange and install rivets. Do not use a gasket between choke housing and electric choke assembly, as a ground contact is needed for choke assembly.

4) Place fast idle screw on high step of fast idle cam. Install choke coil cover, aligning notch in cover with raised boss on housing cover flange.

5) Install 9 air horn screws and tighten evenly and in correct sequence. See Fig. 9.

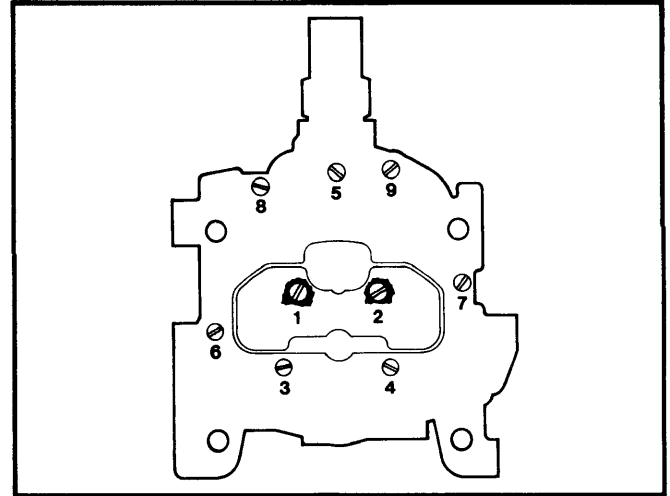


Fig. 9 Air Horn Tightening Sequence

CARBURETOR ADJUSTMENT SPECIFICATIONS

Application	Float Level Setting	Accelerator Lever Setting	Pump Hole Setting	Choke Coil Lever Setting	Choke Rod Setting	Primary Vac. Break Setting	Auto. Choke Setting	Choke Unloader Setting
17081101	13/32"	5/16"	Inner	.120"	38°	25°	TR	38°
17081103	13/32"	5/16"	Inner	.120"	38°	25°	TR	38°
17081142	13/32"	5/16"	Inner	.120"	38°	25°	TR	38°
17081143	13/32"	5/16"	Inner	.120"	38°	25°	TR	38°
17081144	13/32"	5/16"	Inner	.120"	38°	25°	TR	38°
17081145	13/32"	5/16"	Inner	.120"	38°	25°	TR	38°

TR — Tamper Resistant.