ROCHESTER M2MC 2-BARREL

CARBURETOR APPLICATION

CHEVROLET & GMC

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.*

Application	Rochester Carb. No. Man. Trans.	Auto. Trans.
305" V8		
C10		
Without AC	17080143	17080142
With A/C	17080145	17080144
G10		
Without A/C	17080143	17080100
With AC	17080145	17080102

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 model M2MC as a single stage, downdraft, 2-barrel carburetor. It uses the design features of the primary side of the Rochester M4MC 4-barrel carburetor. The carburetor is equipped with an adjustable part throttle (APT) screw in the float bowl. This adjustment screw helps refine fuel mixture to improve emission control. The screw is preset at factory and adjustment should not be changed.

The choke system control is a conventional, integral, heated air type. A single choke vacuum break diaphragm is used to control choke valve opening after initially starting engine.

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.

NOTE – *If angle gauge is not available, each individual adjustment will include procedure for checking clearance between choke valve and air horn wall. Both degree and decimal specifications will be given in Carburetor Adjustment Specifications table.*

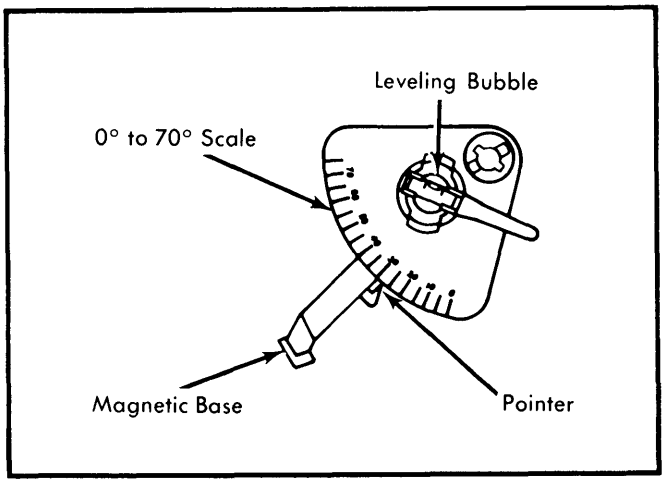

Fig. 1 Choke Valve Angle Gauge

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 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.

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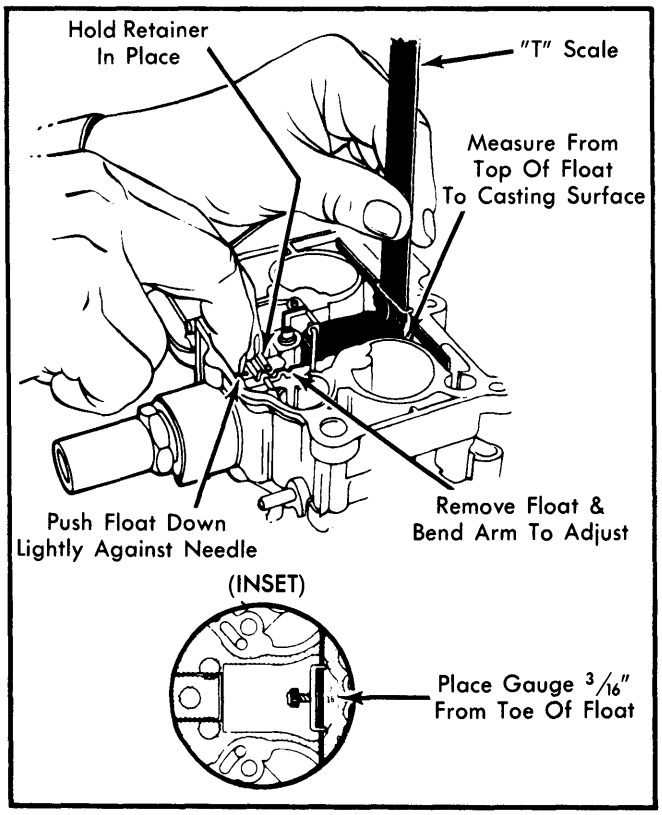

Fig. 2 Adjusting Float Level

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.

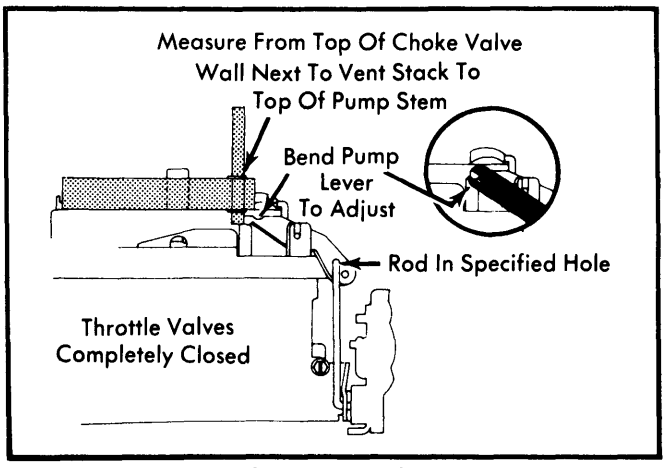

Fig. 3 Adjusting Accelerator Pump

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) Remove 3 retaining screws, then remove choke cover and 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.

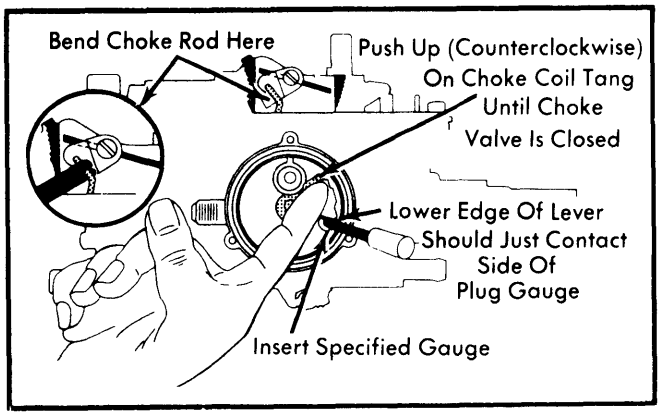

Fig. 4 Adjusting Choke Coil Lever

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 speed screw in until it just contacts lever, then turn an additional 2 turns in.

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*.

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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. If angle gauge not available, measure specified clearance between upper edge of choke valve and air horn wall.

4) To adjust, bend tang or fast idle cam until bubble is centered or correct clearance is obtained.

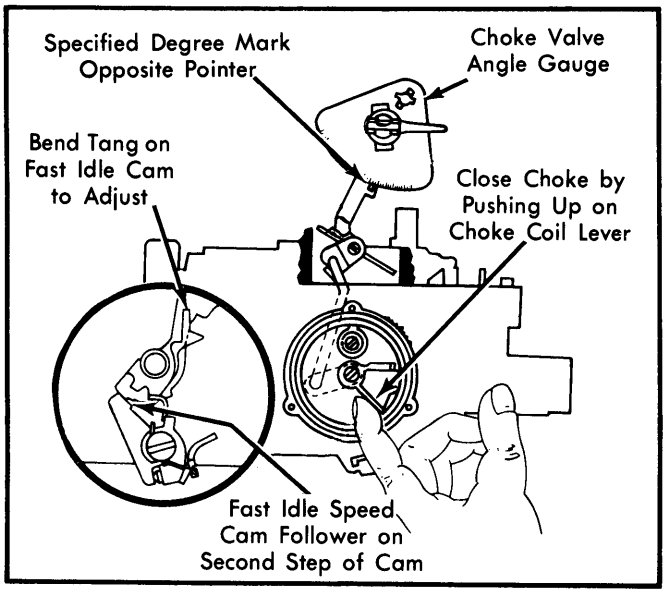

Fig. 5 Adjusting Choke Rod (Fast Idle Cam)

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.

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

4) If angle gauge is not available, measure specified clearance between upper edge of choke valve and air horn wall.

5) To adjust, turn vacuum break adjustment screw until bubble is centered or correct clearance is obtained.

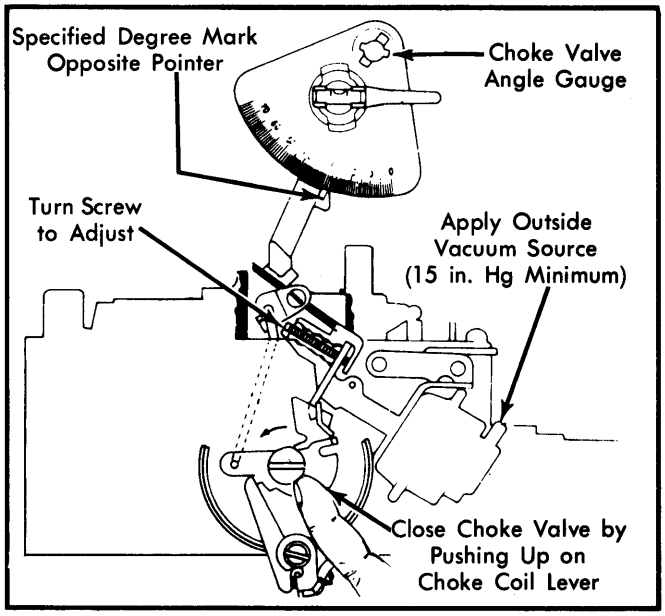

Fig. 6 Adjusting Primary Vacuum Break

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.*

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

2) Rotate cover in specified direction to align reference mark on cover with specified graduation in housing. Tighten cover screws.

CHOKE UNLOADER

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

1) Adjust automatic choke as previously outlined. Hold throttle valves wide open. *See Fig. 7.*

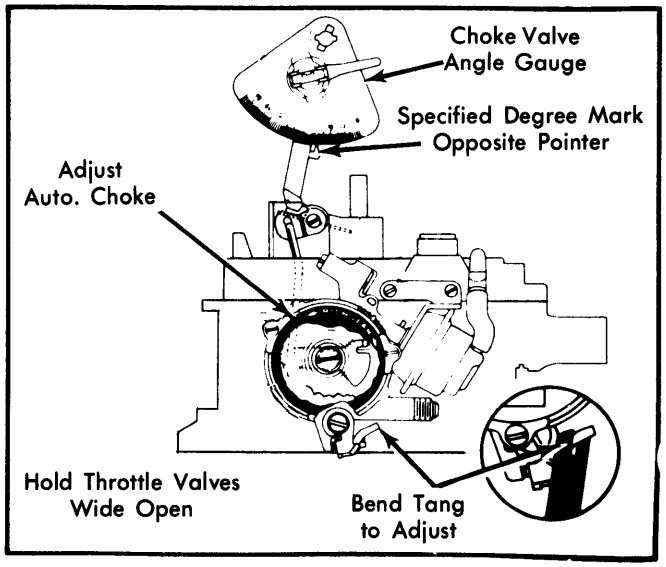

Fig. 7 Adjusting Choke Unloader

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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) If angle gauge is not available, measure specified clearance between upper edge of choke valve and air horn wall.

5) To adjust, bend choke unloader tang on throttle lever until bubble is centered or correct clearance is obtained.

OVERHAUL

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 remove upper choke lever from end of choke shaft.

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 7 air horn screws and remove air horn by lifting straight up and away from float bowl.

NOTE – *Two of the 7 air horn screws are countersunk and are located next to the venturi.*

CAUTION – *Do not try to remove small tubes sticking out from bottom of air horn. These tubes are pressed in at factory.*

8) Remove front vacuum break control assembly.

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 aneroid cavity insert.

9) Remove main metering jets only if necessary.

10) Remove pump discharge check ball retainer and check ball. Remove pump well fill slot baffle.

11) Remove rear vacuum break assembly (if equipped).

12) Remove vacuum break rod by holding down on fast idle cam in hot idle position. Move end of rod away from float bowl and disengage from intermediate choke lever.

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

14) Remove choke cover gasket (if equipped).

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

16) Invert float bowl and remove lower choke lever.

17) Remove plastic tube seal from choke housing (if equipped).

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

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

20) 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.*

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

22) Remove throttle body from float bowl.

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

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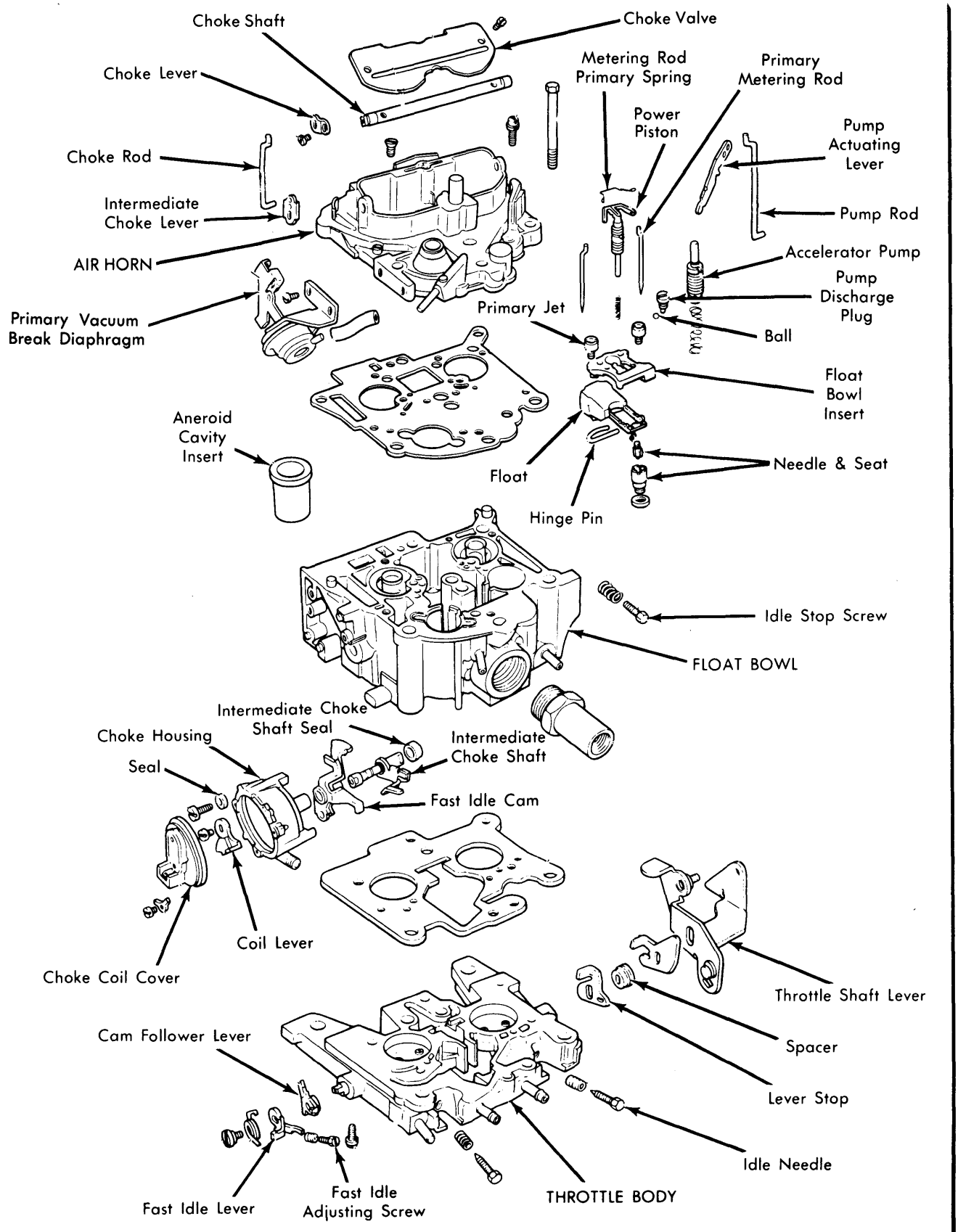

Fig. 8 Exploded View of Rochester Model M2MC 2-Barrel Carburetor

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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) Invert throttle body and position on a holding fixture with manifold side up. Position a punch in between 2 locator points on manifold side of throttle body. There are 2 locator points above each mixture screw.

3) Using a hammer, drive punch against throttle body to break out portion of throttle body to gain access to idle mixture screw plugs. Drive out hardened steel plugs.

NOTE – *Hardened steel plug will shatter. It is not necessary to remove plug completely. Remove just enough pieces 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.*

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.

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

2) When installing float and retaining pin, make sure open end of float retaining pin faces accelerator pump well.

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.

4) Make sure bleed tubes, pull-over enrichment tubes (if equipped) and plunger stem are placed in correct position when installing air horn.

NOTE – *If choke coil cover was removed, it will be necessary to install self-tapping screws (supplied in service kit) to replace retainer rivets. Before installing cover, start self-tapping screws into choke housing, making sure they start easily and are properly aligned. Remove screws and proceed as follows:*

5) 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. Install self-tapping screws and tighten.

6) Install 7 air horn screws and tighten evenly and in correct sequence.

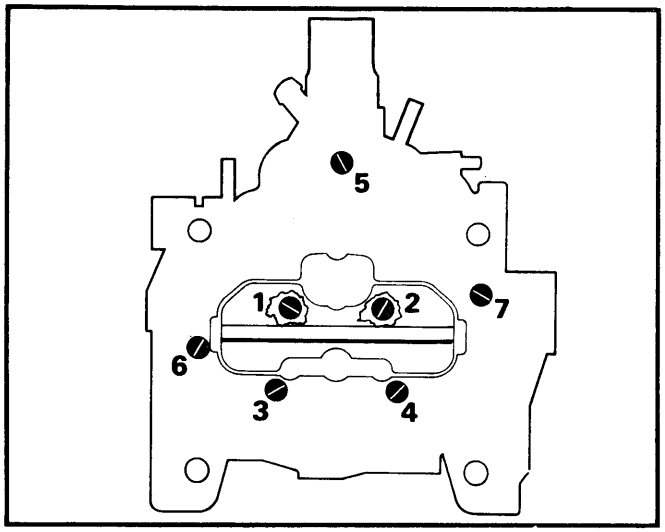

Fig. 9 Air Horn Tightening Sequence

CARBURETOR ADJUSTMENT SPECIFICATIONS

Application	Float Level Setting	Accelerator Lever Setting	Pump Hole Setting	Choke Coil Lever Setting	Choke Rod Setting ①	Primary Vac. Break Setting ①	Auto. Choke Setting	Choke Unloader Setting ①
17080100	7/16"	9/32"	Inner	.120"	38° (.243")	29° (.171")	Index	38° (.243")
17080102	7/16"	9/32"	Inner	.120"	38° (.243")	29° (.171")	Index	38° (.243")
17080142	7/16"	9/32"	Inner	.120"	38° (.243")	29° (.171")	Index	38° (.243")
17080143	7/16"	9/32"	Inner	.120"	38° (.243")	29° (.171")	Index	38° (.243")
17080144	7/16"	9/32"	Inner	.120"	38° (.243")	29° (.171")	Index	38° (.243")
17080145	7/16"	9/32"	Inner	.120"	38° (.243"	29° (.171")	Index	38° (.243")

① – **Both** angle degree and decimal equivalent given.