SERVICE BULLETIN #1031

McCULLOCH

SUBJECT SERVICING THE CARBURETOR

MODEL S44A S55A DATE 8/12/58

As the result of manufacturing operations on carburetors installed in early S44A and S55A engines, metal chips or fines may have become lodged in carburetor passages. These obstructions can cause either flooding or lean operation. In later carburetors special care has been taken to eliminate metal chips and fines. If either flooding or lean operation should occur, the carburetor may be cleaned according to the following procedure:

A. To remove carburetor assembly from engine:

1. Remove air cleaner cover and filter element.
2. Disconnect fuel hose from fuel pump inlet tube.
3. Disconnect choke push rod from choke lever arm.
4. Remove carburetor-to-adapter mounting bolts.
5. Remove carburetor assembly from it's enclosure.

B. To disassemble carburetor, preliminary to cleaning:

1. Remove the four fuel pump retaining screws.
2. Remove fuel pump body, fuel pump diaphragm, fuel pump gasket, diaphragm plate and diaphragm assembly. Note position and sequence of parts.
3. Remove inlet lever pin screw, inlet lever pin and inlet lever.
4. Remove inlet ball and rubber seat.
5. Back out and remove two needle adjustment screws.

C. To clean carburetor parts:

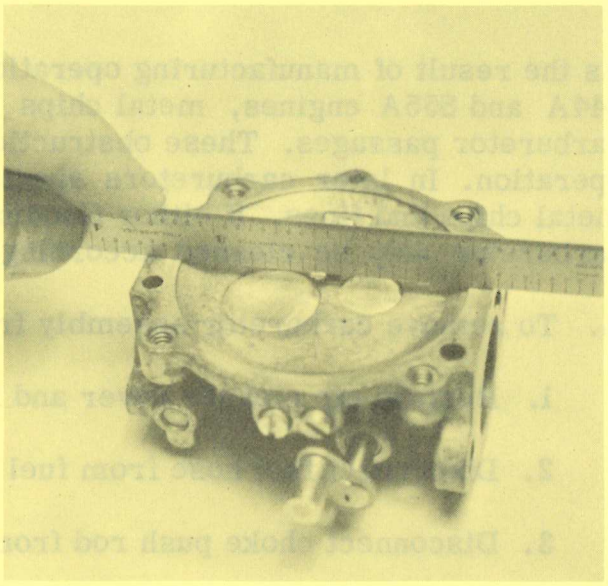
1. Wash carburetor body, fuel pump body and diaphragm plate in solvent or gasoline by sloshing them around in the liquid.
2. Blow out passages of above parts with compressed air.
3. Repeat steps 1 and 2 to remove any remaining obstructing particles.

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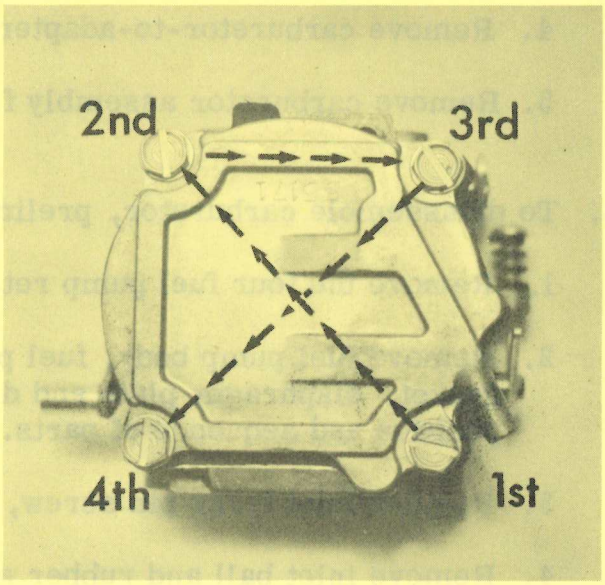
D. Reassemble the carburetor and fuel pump assembly by following a reversal of the disassembly procedure above, taking special care of the following points:

1. Install a NEW ball seat, lubricating it against damage with vaseline or oil.

2. Check inlet valve lever to be certain that the curved hook end is level with the diaphragm face of the carburetor body.



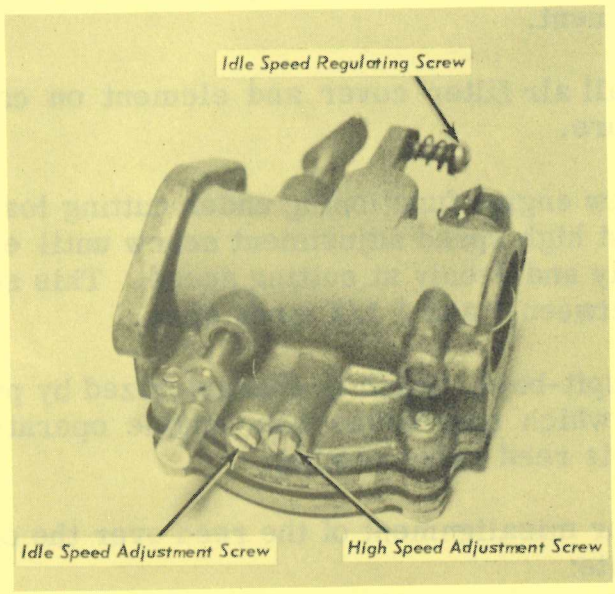
3. When installing fuel pump retaining screws, secure them finger tight, then tighten finally to 25 inch pounds in a diagonal sequence.



4. Reinstall the two needle adjustment screws turning them until they seat. Avoid jamming the needles into their respective seats within the carburetor body. To do so will damage the carburetor beyond repair.

5. Install a 1/2 inch length of 5/16 inch Tygon plastic tubing over the inlet tube of the fuel pump cover. This assures a tighter fit of the fuel hose, P/N 50097, on the inlet tube, and eliminates leaking at this point. Later carburetors have a ridge of increased O.D. on the inlet tube and do not need the Tygon tube.

6. Engage throttle shaft roller in governor arm lever assembly slot.



7. Adjust carburetor

a) Initial Carburetor Adjustment

. Insert thin screwdriver through carburetor adjustment access-hole and open (turn counter-clockwise) high speed adjustment screw 1 1/4 turns.

. Open (turn counter-clockwise)idle adjustment screw 3/4 turn.

. Turn Idle Speed Regulating Screw clockwise to open throttle to maximum idle point.

. Follow standard starting procedures to start engine. After engine starts, bring up to operation temperature before making final carburetor adjustments.

b) Final Carburetor Adjustment

. Adjust Idle Speed Regulating Screw (turn counter-clockwise) until engine speed reduces to R.P.M. just below point of clutch engagement (chain stops turning).

. Slowly adjust the Idle Adjustment Screw to obtain an even engine performance. Depress throttle trigger fully to accelerate engine then release. If engine faulters, or does not accelerate rapidly and smoothly, open (turn counter-clockwise) idle adjustment screw in very gradual steps until correct acceleration is obtained.

- If necessary, readjust idle speed regulating screw to reduce engine idle speed to point below that of clutch engagement.

- Reinstall air filter cover and element on carburetor enclosure.

- With saw engine functioning under cutting load, slowly readjust high speed adjustment screw until engine runs smoothly and evenly at cutting speed. This setting will vary between 1 and 1 1/2 turns open.

NOTE: Excessive spit-back, which is characterized by puddles of fuel in the air box, and which may cause lean engine operation, can be caused by incomplete reed valve seating.

1. To check for misalignment of the reed over the openings in the reed plate:

   a) Remove the fuel tank from the engine.

   b) With a scribe, make a light line around the outside edge of the reed on the valve seating face of the fuel tank bottom.

   c) Disassemble the reed valve and guard.

   d) Examine the scribed line for reed coverage of the fuel tank bottom openings. If reed misalignment is indicated, note direction and amount of correction required upon reassembly.

2. To eliminate burrs or roughness on valve seating surface:

   a) Rub the reed valve seating surface with a figure eight motion on a piece of emery paper backed by a machined smooth surface.

   b) Wash reed valve and fuel tank with solvent or gasoline to remove any metal chips or fines which may have adhered to them.