SERVICE BULLETIN #1036

SUBJECT: CARBURETOR MAINTENANCE AND THE CONDENSATE CHAIN OILER

MODEL: MAC D30, D36 DATE: 8/19/58

Since the condensate chain oiling system draws its lubricant from the engine crankcase, the supply of lubricant is dependent upon the efficiency of the carburetor and the reed valve assembly. To provide adequate fuel-lubricant to the crankcase, the carburetor must be clean and correctly adjusted, and the reed valve must be seating properly. The following procedure is suggested as an aid to cleaning and maintaining the carburetor and reed plate assembly in the Mac D30 and D36 engines:

A. To remove the carburetor from the engine:

1. Loosen air box cover retaining screw and remove air box cover and filter element.
2. Disconnect fuel hose from fuel pump inlet tube.
3. Disconnect throttle push rod.
4. Loosen carburetor mounting bolts.
5. Remove carburetor assembly from air box.

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 lever.
4. Remove inlet valve ball and rubber seat.
5. Back out and remove the two needle adjustment screws.

LITHO IN U.S.A.

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.

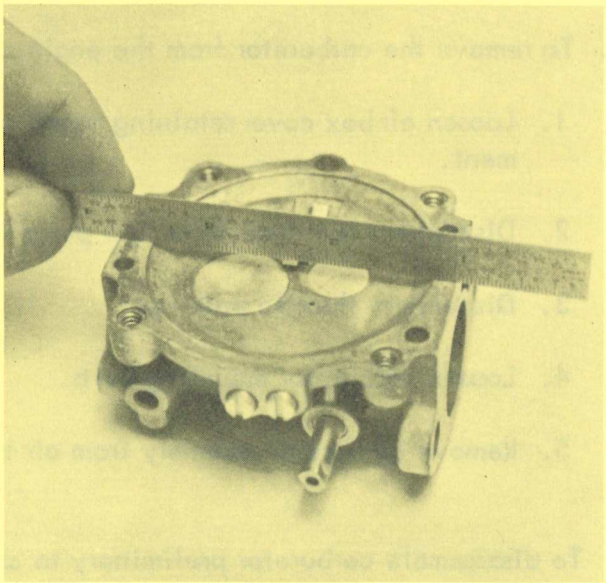
2. Blow out the passages of the above parts with compressed air.

3. Repeat steps 1 and 2 to remove any remaining obstructing particles.

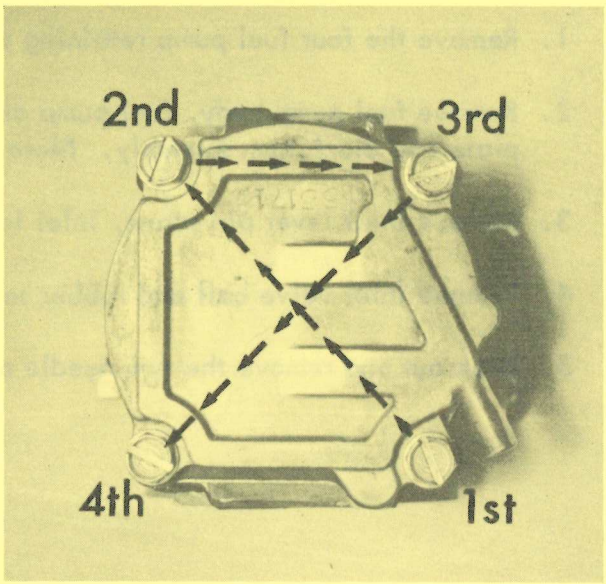
D. Reassemble the carburetor and fuel pump assembly by following a reversal of the disassembly procedure above, taking special care of the following points:

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.

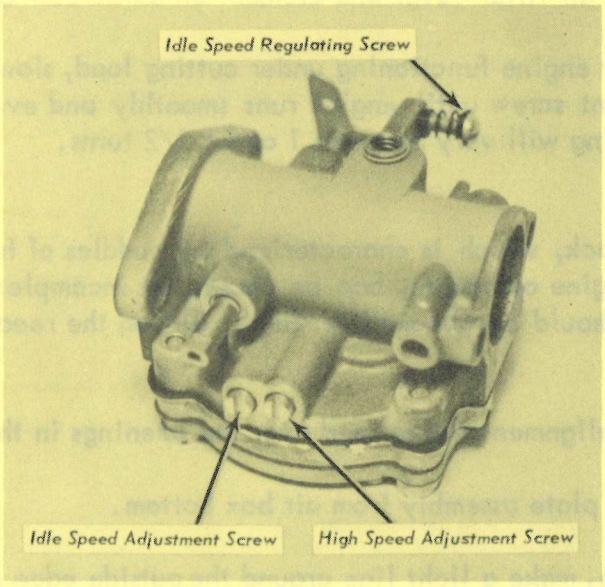


3. When installing fuel pump retaining screws, secure them all finger tight, then tighten finally to 25 inch pounds in a diagonal sequence.



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 camage 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. To 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 Adjustments

- 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 falters, 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.

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. The reed plate assembly should be checked for burrs, dirt on the reed plate or misalignment of the reed.

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

   a) Remove reed plate assembly from air box bottom.

   b) With a scribe, make a light line around the outside edge of the reed on the face of the reed plate.

   c) Disassemble the reed plate assembly.

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

2. To clean assembly and eliminate burrs:

   a) Wash disassembled reed plate and reed in solvent or gasoline to remove dirt or metal chips.

   b) Rub the reed valve plate seating surface with a figure eight motion on a piece of emery paper backed by a machined smooth surface. Wash plate in solvent or gasoline.