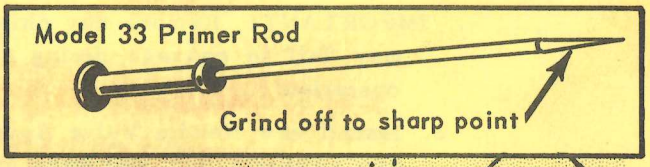
SERVICE BULLETIN # 1000

SUBJECT FUEL SYSTEM – Modification to reduce lean-out and/or flooding.

MODEL 77 (and 49) DATE 9/20/57

Where problems regarding flooding and/or lean-out have been experienced on Model 77 and/or 49 Chain Saw engines, slight modifications to the idle fuel system and main fuel system, in the crankcase and carburetor, can be made in the field which will result in a definite reduction of such problems. The modifications, as described in this bulletin, are currently being incorporated in Model 77 and 49 engines at the factory. The modifications are as follows:



CRANKCASE

1. Remove Carburetor, Handle Cover Assembly, Fan Housing, Flywheel and Crankcase Cover.
2. Remove Throttle Gate, small Venturi Sleeve, and Sleeve Spring.
3. Insert Model 33 Primer Rod that has been sharpened as shown in illustration, or similar punch, into the small venturi opening (Crankcase Cover side) and punch a hole through the lead plug which is imbedded in the idle passage. This can be accomplished by lightly tapping the punch with a hammer.

   NOTE: The hole should not exceed .040 inch diameter.
4. Remove punch and blow through passage with compressed air to remove any chips from the passage.

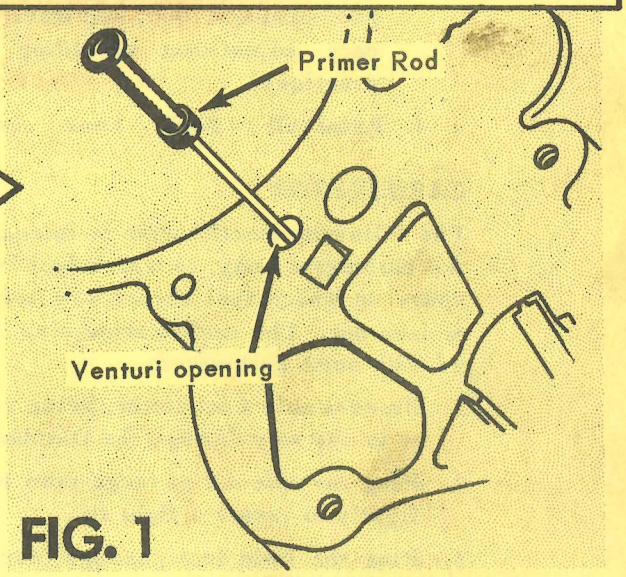


FIG. 1

5. Replace the Sleeve Spring, Venturi Sleeve, Throttle Gate, Crankcase Cover, Flywheel and Fan Housing.
6. Replace the Handle Cover Assembly and install a 1/4–28 x 3/4 inch long screw, part number 103295, in place of the 1/4–28 x 1.00 inch long screw, part number 103297 used to block off the idle air passage through the Handle Cover.

   NOTE: Do not reinstall screw, part number 103297, or modification work will not be effective. Also, to obtain maximum engine performance, and to provide greatest effectiveness against the problem of lean-out, where it is encountered, the new Main Needle Valve, part number 47603, should be installed in the crankcase. Instructions for the installation of this needle are as follows:

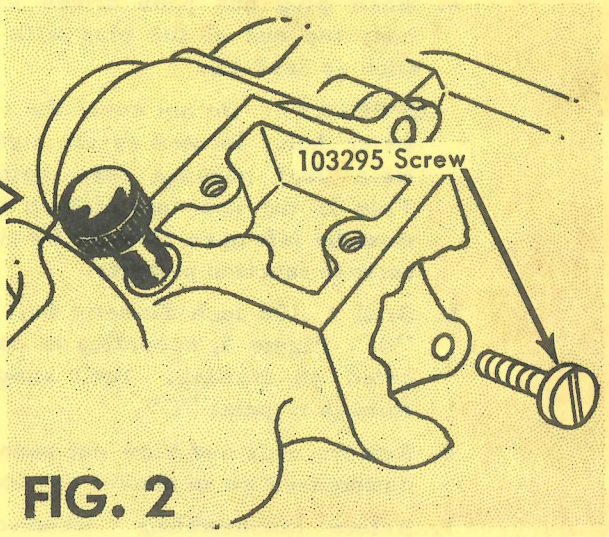


FIG. 2

LITHO IN U.S.A.

a. Remove Fuel Tank.

b. Remove Carburetor Assembly.

c. Remove Needle Valve Assembly, part number 28921.

d. Invert crankcase and drill out (enlarge) high speed fuel passage (see illustration) using No. 44 drill, part number 104051. Drill through depth of shoulder (approximately .090 inch).

NOTE: For use in compliance with these instructions, the drill should be inserted in a pin-vise.

IMPORTANT: Remove any chips that may fall in passage during drilling operation.

e. Install new Needle Valve Assembly, part number 47603, and make preliminary adjustment according to past practices.

f. Reinstall Fuel Tank Assembly.

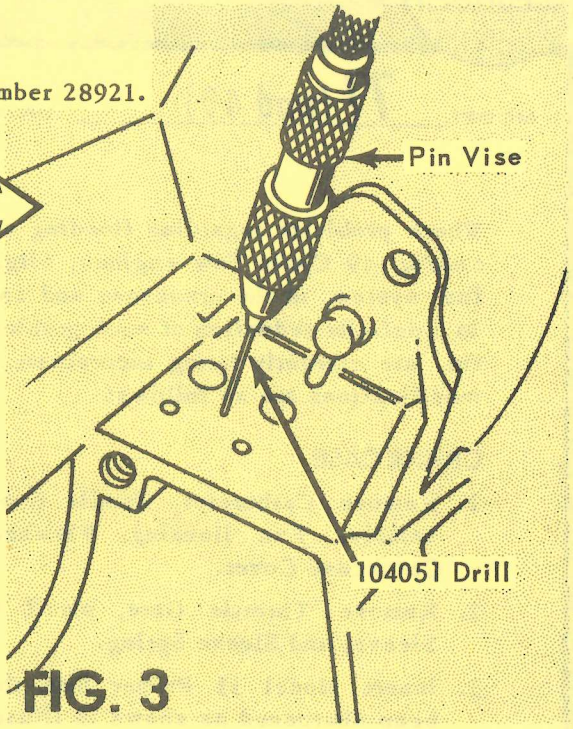


FIG. 3

CARBURETOR

The following modification is intended to increase the effective "head", or point, within the carburetor body, to which fuel is permitted to rise. This increased head reduces the space in which fuel vapors can accumulate, thus reducing the possibility of vapor lock or lean-out. The modification also reduces flooding sensitivity which has been experienced with some carburetors.

1. Disassemble Carburetor, being careful not to lose the Ball Check Valve or Ball Seat, or in any way damage the Diaphragm or Diaphragm Lever.
2. Plug the idle air passage (see Figure 4) with a lead plug, peening edges of passage lightly to insure a tight fit.
3. Plug the main fuel passage (see Figure 5) using a piece of brass drill rod, or brass plug, part number 36626, available from the factory.
4. When plug has been driven in snugly, coat the end of the plug with a sealer such as Seal-All.

IMPORTANT: Do not cover the small diameter hole, located to the right of the main fuel passage (see point "D"). This is the idle fuel pick-up hole, and must be left open in order for the carburetor to function properly.

5. Drill a .120 inch diameter hole at point "B", Figure 5, according to angle indicated on drawing. Drill should break through at point "C".
6. Remove drill and blow out passage with compressed air to remove any loose chips.
7. Before reassembling Carburetor, place Ball Check Valve, part number 100302,

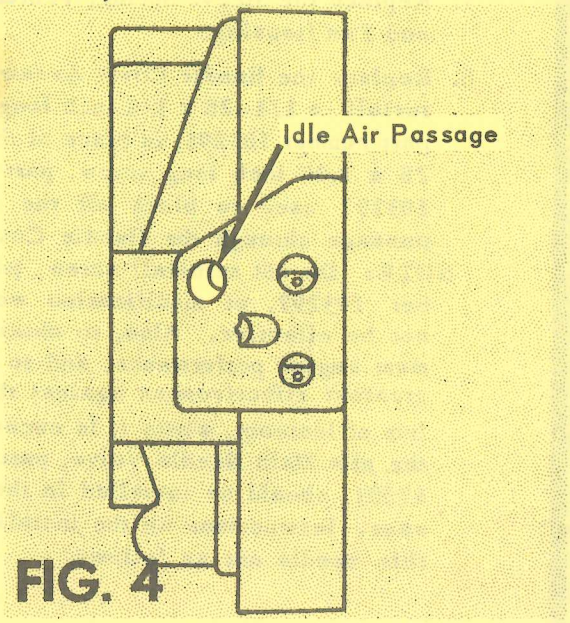


FIG. 4

on Check Valve Seat and tap ball lightly with a light-weight ball peen hammer. This will insure a good seat when the carburetor is assembled, reducing the possibility of carburetor flooding due to a leaky check valve seat.

8. Discard ball used to form the seat, and install a new ball, part number 100302, when reassembling the carburetor.
9. Reassemble Carburetor and install on engine.

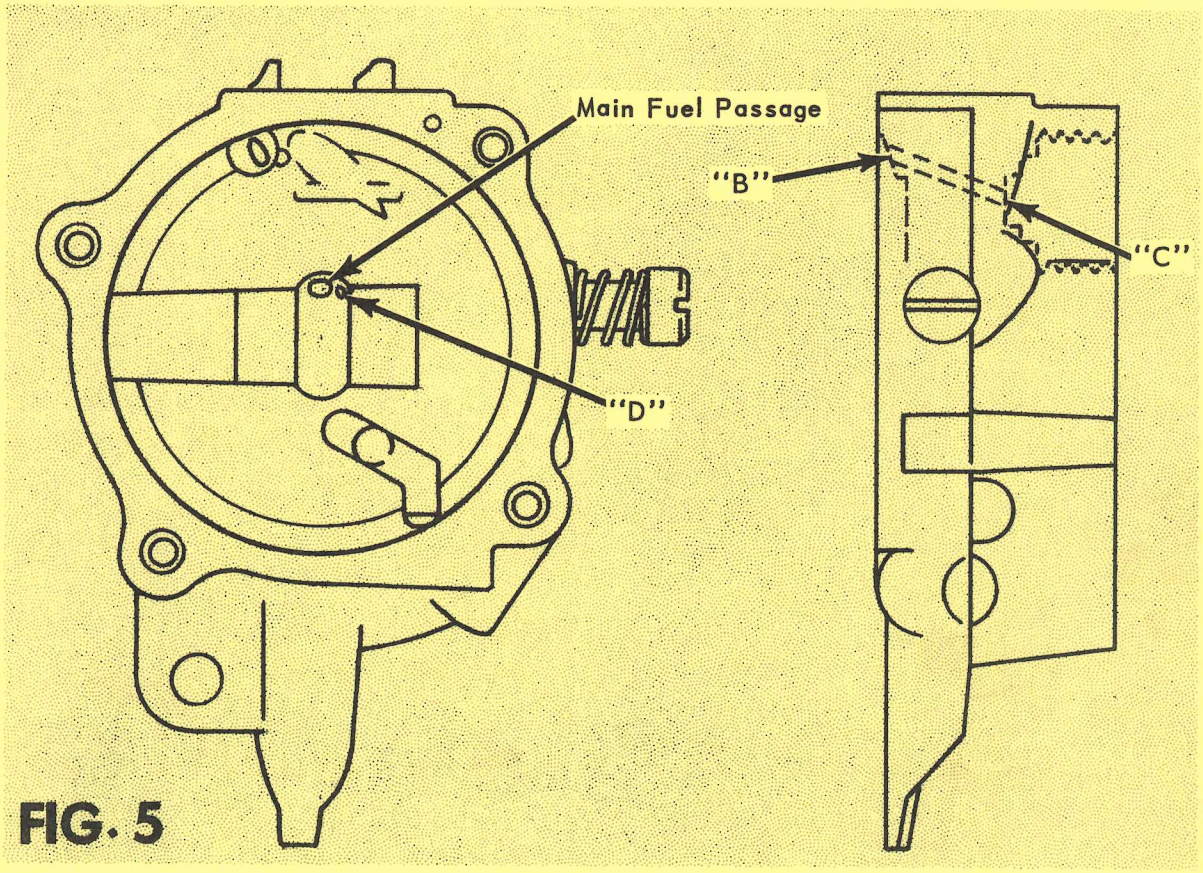


FIG. 5