McCULLOCH

SERVICE BULLETIN #1128A

SUBJECT PREVENTING STALLING AND POWER LOSS DUE TO FUEL PUDDLING

MODEL 1-41, 1-51 DATE 7/18/61

THIS BULLETIN REPLACES #1128

When Model 1-41 and 1-51 chain saw engines are operated for prolonged periods without changing their position, fuel puddling can result. Fuel puddling occurs at idling speed because the velocity of the air passing through the carburetor venturi, is not great enough to break the fuel mixture into a fine spray. Because the fuel mixture is not broken into this fine spray, the heavier, non-combustible elements in the fuel, will collect in large droplets around the reed valve assembly and on the sides of the fuel transfer passage. As long as the idling Model 1-41 or 1-51 stays in the same position or attitude, the large droplets will not affect engine operation. However, when the idling chain saw is moved to a cutting position, the droplets have a tendency to flow towards the lowest point in the fuel transfer passage and collect or puddle together. When the low point is near the fuel transfer passage ports, the puddled fuel will be drawn into the combustion chamber.

When any puddled fuel, consisting of these heavy elements, enters the combustion chamber at idling speed, there is not enough of a proper fuel/air mixture with it to keep the engine running and as a consequence the engine will load up and stall.

To eliminate troubles caused by fuel puddling and to obtain more effective vaporization of the fuel in the crankcase, the reed valve assembly and its associated parts are replaced with new, improved parts as follows:

1. A redesigned Reed Plate, P/N 57656A, with an 0.095-inch (0.241-cm) diameter hole drilled through it. The hole induces an agitating effect which breaks up the droplets of heavy elements collecting on the reed plate.

2. A Reed Valve, P/N 51809A, which has been redesigned for use with the new reed plate.

3. A Fuel Deflector, P/N 57654, is used to guide the fuel/air mixture, along with the broken-up droplets, directly into the crankcase. (The heavy elements entering the crankcase will not interfere with the engine operation and will be burned during the first few minutes of high speed operation.

4. A Reed Clamp, P/N 57658, is used to reinforce the fuel deflector and help hold it in position.

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5. An Insulator (gasket), P/N 57657, is used as a spacer to prevent the end of the fuel deflector hitting on the crankcase.

6. A new Gasket, P/N 57145, for installation between the airbox and the reed plate assembly.

A complete list of the new or improved parts is as follows:

Quantity	Part No.	Part Name	Quantity	Part No.	Part Name
1	57145	Gasket-Airbox	1	57657	Insulator-Gasket
1	57656A	Reed Plate	1	51480	Lockplate
1	51809A	Reed Valve	1	57658	Reed Clamp
2	103740	Screw - 8-32 x 5/8 in. lg.	1	57654	Fuel Deflector

Installation of the fuel deflector and reed valve assembly on Model 1-41 and 1-51 engines is as follows:

1. Drain the fuel and oil tanks.

2. Remove the airbox cover and the air filter element.

3. Disconnect the choke and throttle control rods. Disconnect the fuel hose from the fuel pump connection and remove the carburetor.

4. Remove the fuel and oiler tank covers. Remove the three screws holding the oiler tank to the fuel tank and remove the oiler tank.

5. Remove the screw holding the airbox handle to the handle brace. Remove the four screws fastening the airbox assembly to the crankcase (see figure 1).

6. Remove the fuel hose from the tank connection and remove the airbox assembly from the crankcase.

7. Remove the screws fastening the reed valve assembly to the airbox and discard the parts.

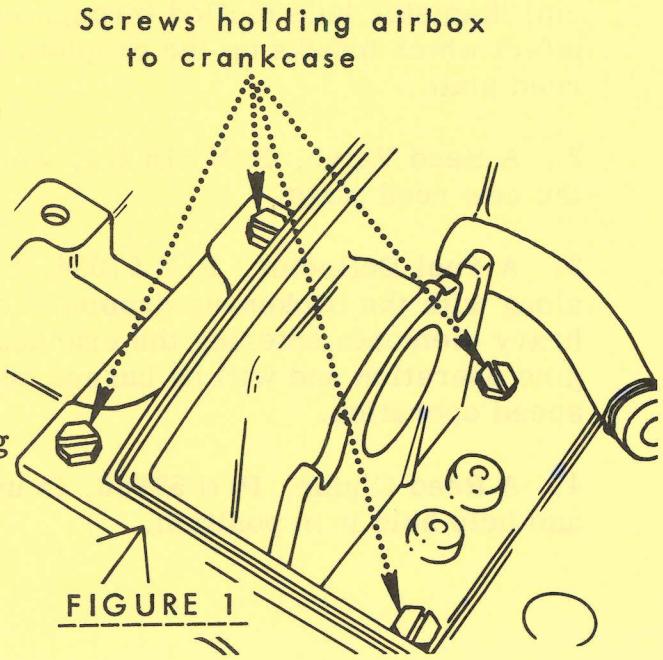


FIGURE 1

Note

Examine the airbox mounting flange before installing the fuel deflector parts. The forward attaching holes should be spotfaced or recessed (see figure 2) to give the screw heads clearance from the bottom of the oiler tank. On some airboxes the holes are not spotfaced and when the fuel deflector, insulator and other parts are installed, the screw heads will be too high and will interfere with the oiler tank installation. On an airbox that is not spotfaced, the needed clearance can be obtained by using an 7/16-inch diameter drill to counterbore the holes 1/16-inch deep.

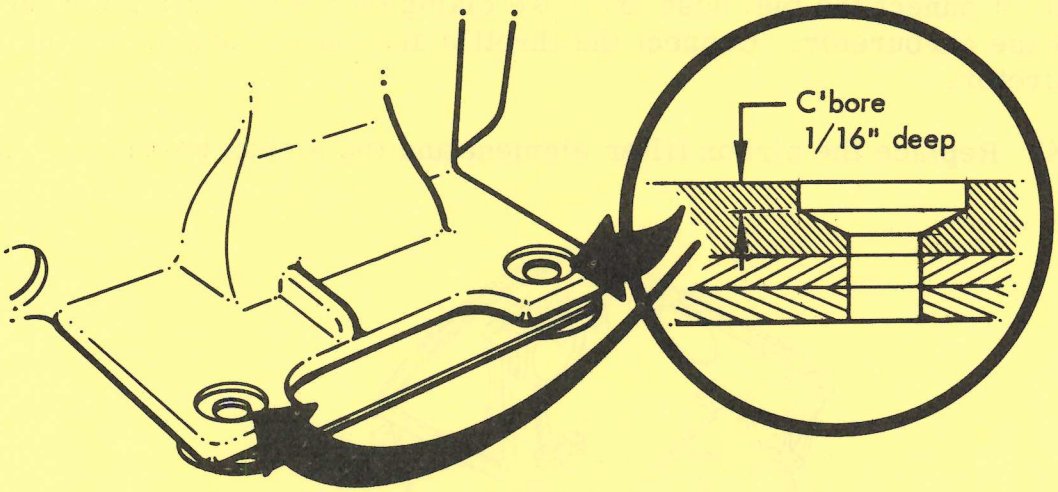


FIGURE 2

8. Using the new screws, P/N 103740, and the new lockplate, P/N 51480, install the new Reed Clamp, P/N 57658, new Fuel Deflector, P/N 57654, new Reed Valve, P/N 51809A, new Reed Plate, P/N 57656A, and the new airbox Gasket, P/N 57145, on the airbox (see figure 3, last page). Tighten the screws fastening the reed valve assembly to the air box to a torque value of 30 to 35 inch-pounds (2-1/2 to 3 foot-pounds). Lock the screws by bending the lockplate ends up against the screw heads.

9. Place the new Insulator, P/N 57657, on the crankcase over the fuel transfer passage opening and set the airbox assembly in position.

Note

Be sure all the oiler parts are in place and the end of the oiler push rod is started into the opening in the end of the oiler piston.

10. Install the four screws fastening the airbox assembly to the crankcase and tighten them to a torque value of 55 to 60 inch-pounds (4-1/2 to 5 foot-pounds). Reinstall the screw holding the airbox handle to the handle brace.

11. Reinstall the fuel hose and hose clamp on the fuel tank connection.

12. Reinstall the carburetor, carburetor gaskets and the carburetor adapter. Be sure the raised bar on the adapter rim lines up with the raised bar on the carburetor mounting flange of the airbox. Tighten the carburetor screws to a torque value of 90 to 100 inch-pounds (7-1/2 to 8-1/3 foot-pounds).

13. Connect the fuel hose and hose clamp on the fuel pump connection at the carburetor. Connect the throttle and choke controls on the carburetor.

14. Replace the airbox filter element and the airbox cover.

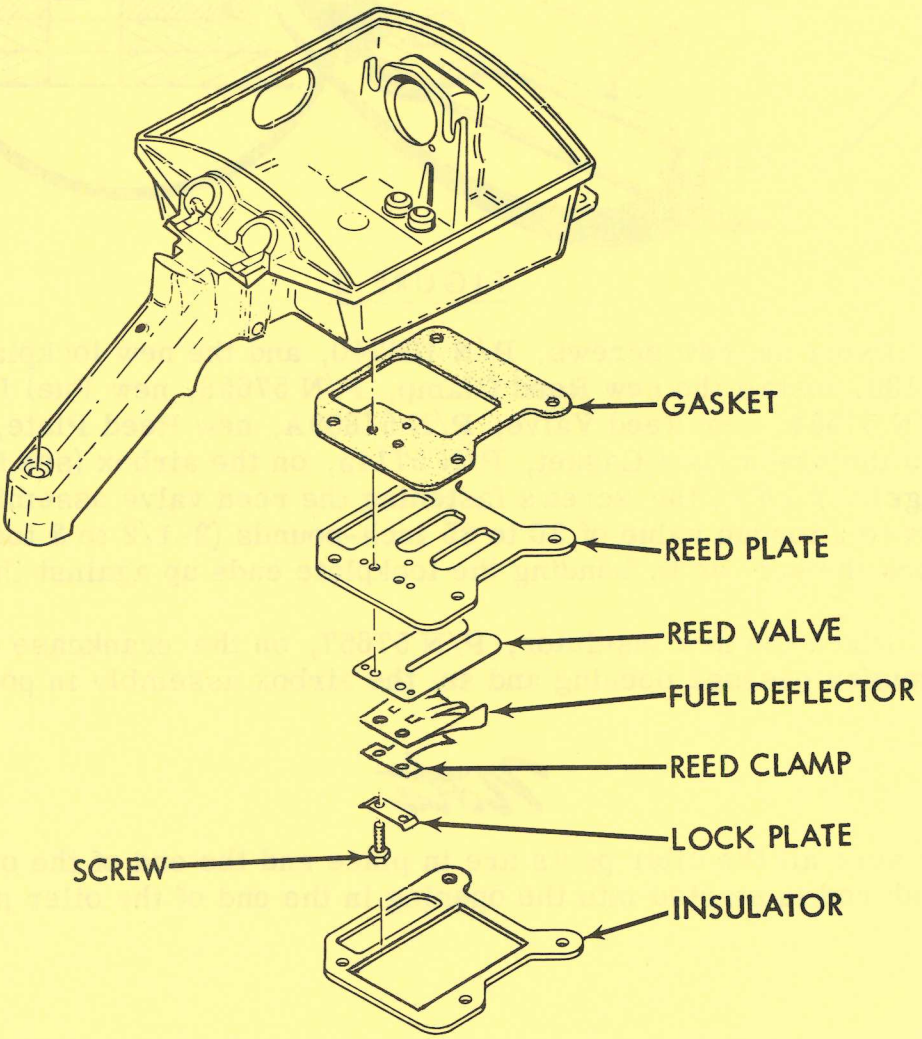


FIGURE 3