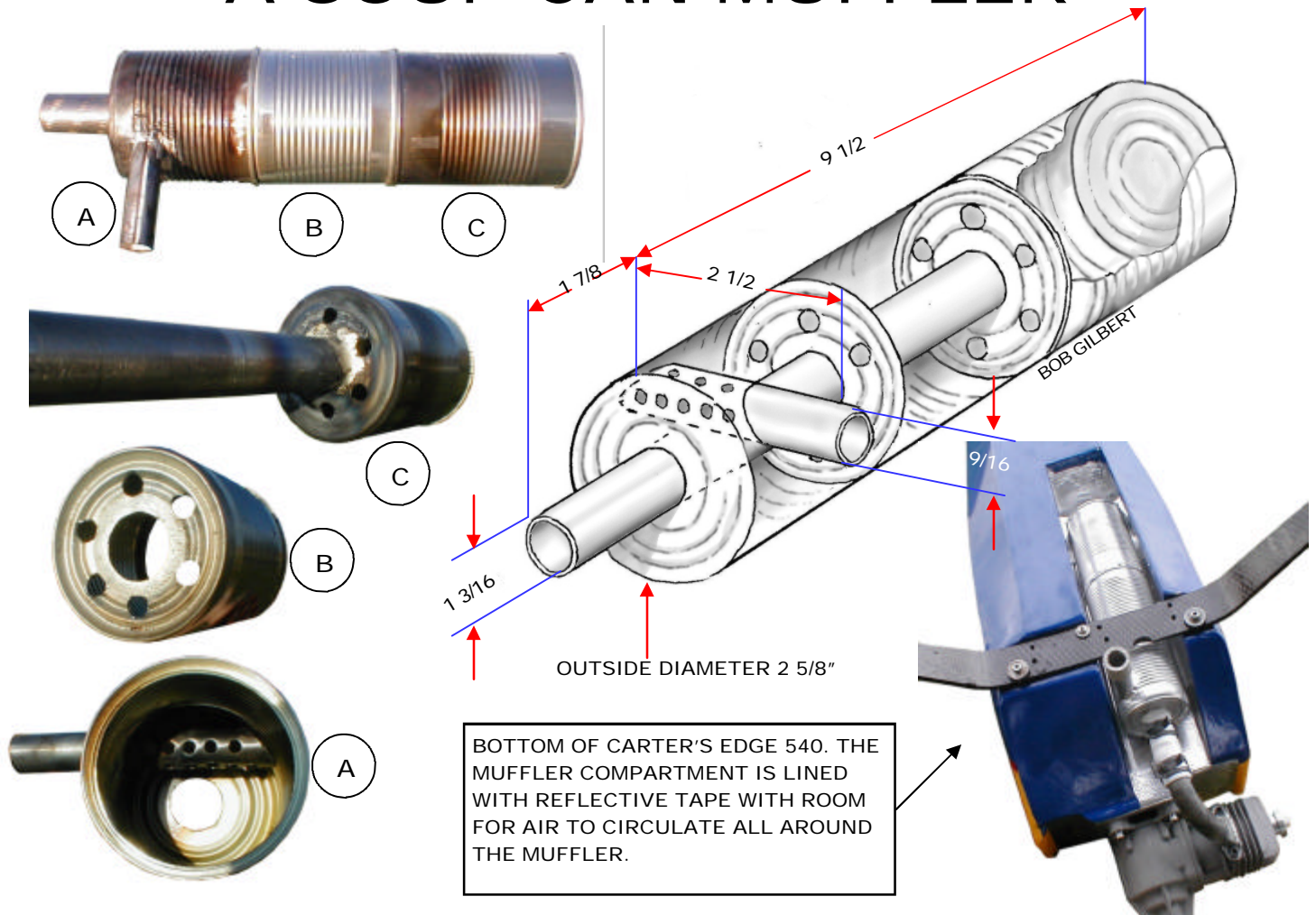


A SOUP CAN MUFFLER



BOTTOM OF CARTER'S EDGE 540. THE MUFFLER COMPARTMENT IS LINED WITH REFLECTIVE TAPE WITH ROOM FOR AIR TO CIRCULATE ALL AROUND THE MUFFLER.

Carter Pounders started with a soup can $3 \frac{3}{16}$ " long (C) and two vegetable cans each $2 \frac{7}{8}$ " long (A and B). They were all $2 \frac{5}{8}$ " in diameter and were designed to snap together, top to bottom, to facilitate stacking.

The input from the engine is a steel tube from a discarded child's swing set. It is brazed to (C) and extends forward far enough for (A) and (B) to slip on and have $1 \frac{7}{8}$ " protruding outside the muffler for the Teflon hose that attaches it to the factory supplied engine header.

The forward end of (B) and (C) are each perforated with six equally spaced holes about $\frac{9}{32}$ " in diameter.

Another piece of scrap steel tubing $\frac{9}{16}$ " in diameter is installed through the wall of (A) so that it is perpendicular to the inlet tube. It is located high enough to just clear the inlet tube and the inboard end is ground to fit tightly against the inside of the can. This tube protrudes about $2 \frac{1}{2}$ " outward from the centerline of the muffler. It is perforated with 19 holes $\frac{1}{8}$ " in diameter.

After assembly the whole affair is brazed together. The complete muffler as shown in the photo weighs $7 \frac{1}{2}$ oz.

In this arrangement the exhaust gases are routed all the way to the last can and expand into it. They have to reverse direction and return forward through the perforated baffles and then find their way into the outlet tube through the $\frac{1}{8}$ " holes. **This reduces the noise from the ZDZ 40 and 20 x 10 prop from 94 db with the Pitts muffler to 87db! Static thrust is 16 1/4 lbs with an airplane weight of 14 lbs. When the engine is fully run in it will be higher still. The thing is extremely quiet in flight and has plenty of power.**

Bob Gilbert