ON BEING A DO-IT-YOURSELF BIRD

by LOWELL C. YUND, M.D., LUTHER MOYER AND DONALD MILLER

Assembling the Schweizer 1-26 standard kit is a big project, not to be undertaken lightly. One must learn aircraft construction standards and techniques, which are high. The manual gives all of the information needed to do this, with a little help from FAA's CAM-18.

The neophyte will be nervous with the first few runs of the rivet gun, worrying about ruining the part, etc. Special tools are needed, and can be obtained from the factory. A good shop man is a great asset to the project (we had a plumbing and heating contractor), one who can put together an air compressor with an automatic pressure regulator. The project gives outlet to almost all your mechanical skills, and may teach you a few more.

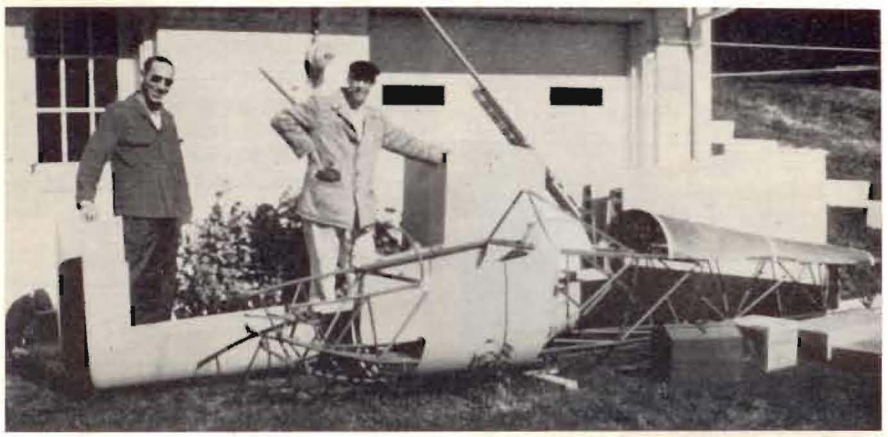
Our project took five months, working very steadily, averaging a two-man team 24 hours a week. We did not keep single man-hours because it is almost impossible for one man to work alone, especially for riveting. We had three men, but one was usually studying the blueprints, or getting things ready for the other two.

Our philosophy of the whole project was to have each man completely satisfied, no short cuts, and to do the best possible job that we could. No time limit or target schedule was set, relieving us from any production tension. This added hours to the job but also added satisfaction to the end result. Following are the hours logged by the two-man team: tail surfaces, 52; left wing, 84; right wing, 56 (note that the second wing went much faster than the first); fuselage, 160; covering, 80; finish, 50; trailer, 80.

Concerning tools, a rivet gun is essential. Ours was borrowed and our plumbing and heating man rigged the compressor. Rivet sets, bucking bars, dimpling set, and drills were from Schweizer, as were extension drills (a must), clecos and cleco pliers. The rivet squeezer was a great help. With it a fellow can duplicate factory rivets and no one can tell the difference. Such things as the nose and throat doctors' mirrors, forceps and hemostats turned out to be very useful. There is one rivet in each wing which we call the gall-bladder rivet. The bucking bar could only be held by one of the maneuvers which a surgeon uses in gall-bladder work. One rivet at the outboard end of the false spar required forming a special bucking bar and several others required a rivet set with a long shank and an offset, formed and turned in the plumbing shop.

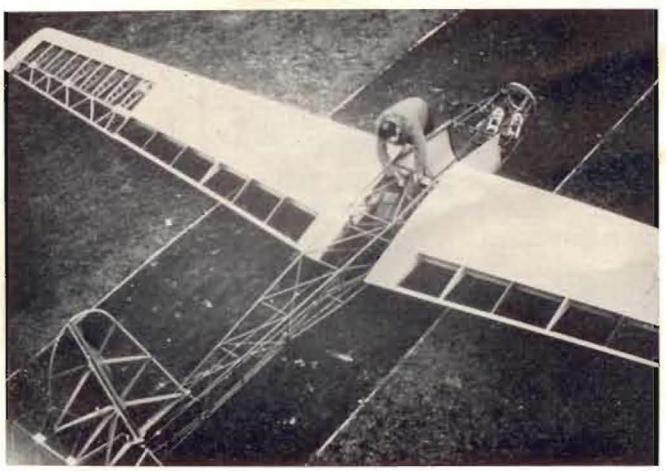
The cat was a big help in running the spoiler cables (*Soaring*, March, '62). Every time we tried to outguess Ernie (Ernest Schweizer, the designer) or do it better, we found out we were wrong, so turned to the north and bowed. They pitched us a few curves, such as sending a 1-23 aileron idler arm, which is a mirror image of the 1-26 part. This cost us about an hour's head scratching and some heated discussion.

One outstanding thing about the five months is that our interest never sagged. Every new page of instructions was turned with pleasant anticipation. There were no dull or boring spots. This was, perhaps, because we wanted every detail correct, but didn't know what



Don Miller, left, and Lowell Yund survey the Schweizer 1-26 standard kit after uncrating it.

The pleasure and satisfaction of completing this job are tremendous. One can really go overboard in praise of the makers. When the "average" man sees his bird floating in the sky on its first flight, he realizes he has invaded a foreign field, and succeeded in a very positive way. It doesn't matter that you didn't design and actually fabricate all of the pieces—just having put them together to get a fine machine is a thrill of a lifetime. As Welch says, here is one of the few remaining machines in this modern world that one can understand completely.



First assembly of the 1-26 after construction was completed prior to covering.