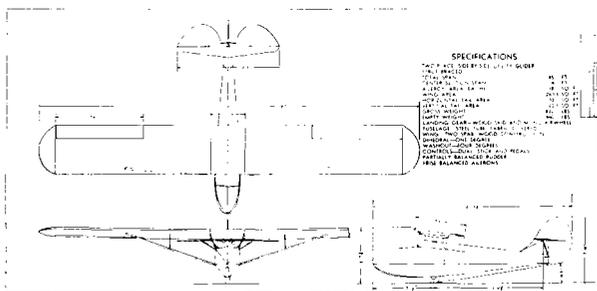


The point may be mentioned that the 0012 airfoil does not have a high value of maximum lift coefficient. I did not consider this fact of very great importance in this design because I was not particularly worried about minimum sinking speed, nor did I feel that the resulting slight increase in landing speed would be worth worrying about. No doubt many of the pilots at Frankfort last fall noticed that I cruised normally at a somewhat higher speed than any of the other ships present.

The preliminary specifications I had set up called for a performance approximating that of the several popular single place utilities which have long been in use by most of the clubs and many individuals. A conservative estimate of weight of the ship carrying a load of two persons equipped with parachutes showed a gross in the neighborhood of 800 pounds. A wing with a 45-foot span and 6-foot chord was decided upon to give a wing area of 263.5 square feet and an aspect ratio of 7.68. The empty weight of the completed ship was 440 pounds, giving a gross weight of 820 pounds, resulting in a wing loading of 3.11 pounds per square foot—slightly more than that of most other utilities but justified by my earlier decision to sacrifice low sinking speed for other considerations.

After putting in nearly 30 hours of soaring, gliding, and airplane-towing with the ship, I am still unable to give accurate figures on gliding angle and sinking speed, because I have not had an opportunity to make a series of tests under the proper conditions to obtain satisfactory results. However, on the occasion of my airplane-towed flight at the National Contest last summer with Lt. Col.



Robert Olds as passenger, my Kollsman variometer indicated a sinking speed of $3\frac{1}{2}$ feet per second at an air-speed of just under 35 miles per hour. This speed was very near the stall. On repeated occasions with a passenger aboard I have been able to hang on at equal altitudes with the single place utilities.

Repeated experiments with the stall have been tried and there has been no indication of bad characteristics. A definite warning of the stalled condition is given by a slight shaking or shuddering of the tail section caused by the disturbed air flow over the wing at the stall. In

level flight with stick full back the stall is followed by a shallow dive with little loss of altitude and then repetition of the stall and dive as long as the stick is held back. There is no tendency toward falling off on a wing and into a spin. On the first airplane-towed flight at Utica during tests, both left and right spins were executed and I experienced no difficulty in recovering. On a recent trip to Elmira a number of loops were flown, their lack of excellence being in direct proportion to my lack of practice in aerobatics in the last couple of years and not a function of the ship's capabilities.

At the end of the 1937 National Contest at Elmira the "Golden Goose" was, I think, deemed pretty much of a failure. This may be attributed to a number of reasons. First of all, I arrived at the Meet several days late and, as will be remembered, there was almost no soaring done by utilities after the first few days on account of poor weather conditions. It was rather difficult to prove the ship without soaring weather. Also, I had worked night and day for months and was in no shape physically to attempt to fly unless conditions were favorable. And, to top it all off, I had no trailer and did not relish the idea of attempting to soar in lift which I considered too weak to be of any real use and ending up down in the valley with no way to get back.

However, the last contest at Elmira gave me a couple of good chances, and with a passenger aboard I twice hopped from Number 3 Hill over to South Mountain on thermals which took me to 3460 feet above the take-off. On the second flight I went on for 28 miles to exceed the national distance record previously set up in Jay Buxton's "Transporter". At the end of the Meet I was in eleventh place and examination of the records shows that all the pilots whose points exceeded mine were flying sailplanes. This proved to me that the glider had at least its intended performance. Later in the summer at the Frankfort contest I placed eighth among the pilots, in this case only one utility ship placing higher—the Cadet, with "Iron Man" Dick Randolph at the helm for over 12 hours.

And so, even though I sacrificed an opportunity to build and fly a high performance sailplane in order to produce a ship which I felt would be of more use, I have felt quite well repaid by these humble performances and by the opportunity I have had to introduce such men as Lt. Col. Olds, Fred Weick and Congressman Engel of Michigan, to the delights of soaring flight.

Somewhat as an afterthought to the foregoing discussion I might add that a complete set of 62 working drawings of the glider has been completed and I am still spending considerable of my spare time putting the stress analysis into shape to be submitted to the Civil Aeronautics Authority for approval. Those who have done such a job on other ships will realize what a tremendous task this is for one man working at it only during his off-duty moments.

(Continued on page 11)