

## THE SMITH TWO-SEATER "City of Utica"

by Stanley W. Smith

✶

"Is that Golden Monstrosity the ship that flew twenty-eight miles with a passenger the other day?" This query, so quaintly put to his companion by a passerby, unaware of my identity, forcefully brought home to me the admitted fact that my ship is not exactly a thing of beauty as compared to the "Ibis" or others of the high performance sailplanes. But I chuckled at the remark along with Paul duPont, with whom I was chatting at the time because I had often remarked that beauty of line was probably the least important requirement for the type of glider I had decided was needed to fill a certain niche in the gliding and soaring scheme.

Although I had done a great deal of work on the preliminary design of a small high performance sailplane as early as the fall of 1935 and was eager for an opportunity to complete the design and begin construction, I was influenced by the terms of the Eaton Design Competition to try to develop a type of ship which I felt was more sorely needed by training groups than was another high performance sailplane. So after I was transferred to Utica in February, 1937, and an opportunity to build the ship appeared, I went ahead with the idea for a two-place, side-by-side utility, and began active work on the design.

I had had many helpful suggestions from Earl Southee while in Elmira and had made a tentative layout of the fuselage arrangement and a number of test ribs, so that

Final check before tests at Utica Airport.



The author, right, about to take Congressman Engel aloft at Frankfort contest.

the work progressed rapidly. By working late nearly every night throughout the spring I was able to test fly the ship on June 30 and airplane-tow to Elmira two days later. The ship was built entirely by the students of the New York State Aviation School at Utica, working under my direct supervision and that of the staff of instructors at the School.

To go back to the fundamental points in the design, it seemed obvious to me that a two-place ship was the logical answer to the training problem. But since two-seaters are generally expensive, because of their large size, the problem arose of how to reduce the cost of construction. The answer to this was not to try for high performance but to cut all corners possible to provide a ship having good stability characteristics for safe training with the greatest economy in construction and materials. This meant that there would be no taper in the wing and no superfluous fairing to effect a gain in performance or appearance. Throughout the entire design, flight performance was always sacrificed when necessary in favor of economy and ruggedness.

Side-by-side seating was chosen for reasons of better visibility for both pilot and student and to insure easiest possible communication between them in training flights. Although it is realized that the wider cross section involves a probable increase in fuselage drag, construction was somewhat simplified by the need for only one cockpit.

There are several reasons why the parasol type of wing mounting was chosen. First, is its inherent stability both laterally and longitudinally because of the pendulum effect. Second, it makes possible the use of a center section which is left mounted on the fuselage at all times, thus breaking down the large span into smaller sections for ease in trailering. Tests have shown that there is somewhat less wing-fuselage interference than with the usual high-wing type connection. Another point, which is often useful in crowded ridge soaring, is the excellent rearward visibility. An advantage arising from the use of a center section is the lack of necessity