

into the more stable and faster-moving air above it. The latter layer stopped further vertical development of the clouds and at the same time caused the rotary motions noted on the tops of the clouds.

From this point onwards it was a question of increasing speed with height and shifting sideways along the wave to try and stay in the best area. I found that the best lift appeared over the most dense-looking parts of the clouds on this occasion, and I used this as a guide whenever the lift dropped off.

The altimeter kept winding round in a satisfactory manner so when I passed 12,000 feet I turned on the oxygen and sat there staring fixedly at the variometers and slowly freezing. Luckily I hadn't removed my pyjamas and these, together with ordinary trousers, a flying suit plus three pairs of socks, two sweaters, a woolen hat and overboots, gave me reasonable protection.

At just over 19,000 ft. the lift petered out and the air turned slightly more blue locally since this was just a few feet short of the height I required for Diamond altitude. My luck held and by moving along the ridge and increasing speed to 60 knots, I gradually worked the variometer needle up to 200 fpm again and held it until the lift gradually tapered off to just over zero at 21,000 feet. By this time I WAS COLD. The temperature at this altitude was around minus thirty to minus forty degrees Fahrenheit and I had deliberately kept the vent open to prevent frost forming on the canopy. The view was superb, but unfortunately I didn't really appreciate it due to the cold and, as the barograph trace shows, my descent was rapid to say the least. I had been on oxygen for approximately 2½ hours of the 4 hours 20 minutes I was airborne and had used approximately 300 litres of the 400-litre capacity of the Skylark's system due to the slow rate of climb.

John Macone invited us all down to the Alpen Inn to celebrate the occasion with champagne. What more can a soaring pilot ask of a November day!

(Editor's note: It is believed that the flight described in the foregoing article earned the first altitude diamond ever made in a wave condition east of the Great Plains.)

STANDARD AUSTRIA FOR 1964

by FREDERICK H. MATTESON

Since its introduction, the Standard Austria sailplane has found an enthusiastic reception in America as a result of its beautiful streamlined form, perfectly contoured surface, comfortable cockpit and the outstanding penetration for a Standard Class sailplane. A number of excellent flights have been made including Ben Greene's world record-breaking goal flight of 458 miles.

In spite of such success, Mr. Martin Schempp, manufacturer of the Standard Austria, has been busy continuously developing the design in order to improve performance, comfort and utility as well as simplifying manufacture and reducing costs. Mr. Schempp, who in the early thirties worked in Pittsburgh for the Haller-Hirth Sailplane Company, helped build Bowlus Albatross sailplanes for Warren Eaton and Richard duPont and won Silver badge No. 8 and top prizes in our Nationals from 1931 to 1934; returned to Elmira for the 1963 Nationals. He was

greeted warmly by many old-timers and spoke to many of our leading pilots.

His discussions at Elmira led to a number of refinements which appear in the 1964 model which has been designated the Standard Austria SH. The biggest change is a new wing in which the airfoil was changed from the original NACA 65(sub2)-415 to the Eppler 266. A comparison of the two profiles is shown in the first figure. The primary reason for this change was to improve the low speed and circling performance. A comparison of level flight sinking speeds in still air in the second figure shows that, although low-speed performance was improved, this was obtained without sacrifice of the excellent high-speed penetration. Great care is taken to obtain the wave-free profile and mirror-like finish which affords this remarkable low sink range. The leading edge of the new wing has been formed from fiberglass rather than the spruce used on the previous

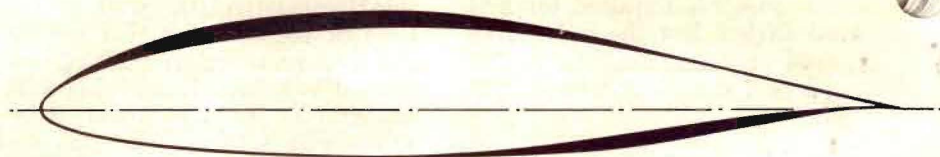


FIGURE 1

STANDARD AUSTRIA S 1963 - INNER AIRFOIL : NACA 652 415
STANDARD AUSTRIA SH 1964 - OUTER AIRFOIL : EPPLER 266



Photo by S. A. Aldott (all rights reserved)

A photo of the Standard Austria S which was used by Ben Greene to establish a new world soaring goal record of 458 miles last fall. Another of this model was flown by Rodolfo Hossinger to the 1964 Argentine National Championship in January.