



Martin and Kelman

GUY STORER'S OLYMPIA

By ALEXIS DAWYDOFF

THE first American built DFS Olympia was successfully test flown on Saturday, July 27, at the Mastic Flight Strip, Mastic, Long Island, by Steve Bennis. Its owner, Guy B. Storer, spent over five years building the sailplane and the brilliant performance of the ship more than repaid him for the long nights and weekends he spent toiling over its construction. The Olympia proved to be a remarkably easy sailplane to fly, exceedingly stable and light on the controls. After a couple of low straight hops Steve Bennis took it to an altitude of 500 feet and managed to stay up for five minutes. His wife, Ginny, made the first soaring flight of the day staying up for 20 minutes and reaching an altitude of 2800 feet from auto tow. Subsequent soaring flights were made by Guy Storer who remained aloft for 55 minutes hitting the all time high of 5500 feet and by Steve Bennis who soared 45 minutes and reached 5000 feet. Both of these flights were achieved by aero tow. The tow pilot was Don Lawrence flying his Boeing PT-17. Steve Bennis put the Olympia through stalls, spins and loops reporting favorably on all of these maneuvers. The ship recovers easily from the spin by just neutralizing all controls and has no vicious stall characteristics. Charlie Dale, who helped Storer during the final stages of construction and who had not flown gliders for 14 years flew the Olympia without any trouble.

At the end of the day, when it was decided to end operations, the Olympia was aero-towed to the Aviation Country Club, Hicksville, Long Island, a distance of 40 miles from Mastic, with Ginny Bennis at the controls.

Storer's Olympia differs from the original design in the addition of a wheel landing gear which facilitates considerably the ground handling of the sailplane.

The Olympia (DFS Meise) is a straightforward high wing monoplane with the pilot's head just in front of and in line with the wing leading edge. The transparent cockpit cover fairs into the upper surface of the wing, the center section leading edge of which is cut away to add roominess to the cockpit and to aid

upward visibility. The entire wind screen and cabin top is removable to permit entry or exit. The Meise is a small sailplane and may be considered to have only moderate performance. There was no attempt to equal the performance of the best sailplanes. To do so would have added size and complexity. The strength and diving requirements indicate that the glider should be an all-weather machine and a safe machine.

The choice of the high wing was made for the sake of simplicity and because it had been found by the DFS that the high wing type was easier to design for good performance in upcurrents where tight continuous turns were necessary. Tight turns involve two conditions which tend to disturb the flow over the center section which is the most sensitive part of the wing. First there is usually some slight side slip, no matter how perfect the turn. Secondly, the flow over the wing is distorted by the fact that one wing is always moving faster than the other in such turns. There is, therefore, some crossflow over the center section. In the shoulder or mid wing type the fuselage is mixed up with the wing, and extremely careful design, manufacture and maintenance is necessary to prevent undesirable aerodynamic interference in other than straight flights. The clear upper surface of the high wing is not so sensitive to such disturbances.

Because they had been used before and successfully on the Reiher (Heron) and Weihe (Kite) sailplanes, the wing sections chosen for the Meise were Goettingen 549 thickened to 16% at the root and Goettingen 676 at the tip. The taper is 2.6:1 and the combined aerodynamic and geometric washout at the tip is 7 degrees. The root section is used up to the inner end of the aileron (0.6 semispan) and the outer part faired straight from G 549 to G 676. A dihedral of 2.5 degrees on the chord line is used. The sweep of the wing is such that there is no sweep on the 30% spanwise chord line.

The choice of Goettingen 549 for the earlier designs mentioned above was made on the basis of wind tunnel tests. It is interesting to compare it with NACA