

Scale Documentation for Sailplanes. Pt 2.

Carrying on from last issue, we can look at **FLUGZEUGTYPEN** Volume 6, **Sailplanes 3**. This issue looks at a further eight sailplanes, manufactured in Germany, and covering the years 1958 through to present day 2000. This book is also packed with 65 pages of information, photos and 3 views. The colour photos are superb, to say the least.



Let us very briefly look at the following gliders, some of which can be seen as radio control models, flying at our own field.

Schempp-Hirth Ventus a/b/c/ -

The Ventus was the first racing class sailplane produced by Schempp Hirth, and had its maiden flight in May, 1980. A few days later, the Ventus b had its maiden flight. This version was designed for taller pilots, typically those who were up to 1.95m and taller. The no compromise design of the Ventus, reflected careful development, and established new standards in this field.

The design of the thinned airfoil, and carbon fibre construction, coupled with docile stall characteristics, gave pilots an extra margin of safety, when ridge soaring and tight turning in small thermals. The Ventus continued production runs until 1994, due to the huge boom in sales, following competition successes. When the Ventus 2 was finally released, some 613 a + b machines had been sold. A swinging pylon mounted engine version was also manufactured, allowing self launching capability. These T tail, triple tapered wing sailplanes make a wonderful subject for scale modeling.

Shempp-Hirth Duo Discus. -

In February 1993, the single seat Discus, gained a big brother, in the 20 metre wingspan, 2 seater Duo. It is impossible to confuse the two seater Duo Discus, with any other 2 seater on the market. The distinctive appearance, of the forward swept inner panels and the rearward swept tips, make an unmistakable picture. It has a 4 piece wing, which allows easy ground handling and a trailer transportable unit. It takes three persons to assemble the wings however, and also a wing trestle. The ailerons extend out to the tip, and are automatically coupled on assembly. Differential is also automatically designed in the construction. The fuselage is GRP monocoque construction, with retractable main wheel. A good example of the Duo Discus, can be seen flying, in the Thomas Crown Affair movie. Along with full size footage, a model was also flown on the slopes of California, to provide realistic scenes for the movie. There are several Duo Discus scale models in the Club, and they fly very well indeed.

Schleicher KA 8b -

Post war glider designs are naturally becoming rarer to see flying. The Ka 8 is still be a familiar sight at fields in Europe. First flown in March 1958, the first version saw only 6 examples built. Slight changes in

design followed, seeing the 8b having slightly larger ailerons and a modified main wing fitting. An optional elevator Flettner tab was also introduced, as well as a revised canopy with two small additional windows. Around 110 examples of this version were built. The 8c was fitted with a large wheel, forward of the Cof G, which meant that the skid could be reduced to a very small size. Around 10 of these machines were built. The stall characteristics and exemplary low speed performance, make this sailplane well suited to tight circling in weak thermals. There are still some 450 registered examples flying in Europe, in the year 2000, many of those having been homebuilt from kits and plans. Two of our Club members have KA 8s, one of foam construction, and the other of balsa/plywood/glass. A very nice machine, reminiscent of the Golden age of gliders.

MDM-1 Fox –

The prototype of the MDM-1 Fox first flew in the 1993 World Aerobatic Championship, where it won the event. Developed from the Swift, the Fox is a dual seat machine, able to be used as a trainer for the budding aerobatic pilot. With the mid wing layout, the Fox is quite happy flying inverted. It is fully aerobatic, yet maintains a similar gliding performance as the “Club Class” sailplanes. The wing has a large root chord and a low aspect ratio. Type approval for manufacture was finally granted in 1996, and at the time of writing, in August 2000, 36 MDM Fox sailplanes had been delivered from the Polish factory. There are several large Fox, model sailplanes in the Club, one with a wingspan of some 5.8 metres. Truly awe inspiring to see them flying.

Schleicher AS22-2 ASH 25. –

The first test flight of this 2 seater, took place in September 1984, and just 10 days later, it was dispatched to Australia. On 28th December 1984, it was flown to a 300 klm triangle flight, setting up a new world record at an average speed of 149.3 kph. Soon after, the ASH 25 was developed from the 22-2 and the prototype was again

transported to Australia, where at Christmas 1986, it immediately set three new world records. A new record distance for 2 seater gliders, of 1260 klm was completed, at an average speed of 137.8 kph. A couple of weeks later, the pilots flew 1380 klm at an average speed of 143.5 kph. As of April 2000, 110 ASH 25's had left the German factory, as well as a further 109 with retractable engines. At a cost of some \$200,000+ each, these gliders represent a fair investment.

Glaser-Dirks DG 300 Elan Acro –

This glider has been designed for aerobatics. It is almost identical in appearance, to the standard DG300, but has been reinforced structurally, to ensure that it is capable of all aerobatic manouvres. Winglets can be fitted, so that the 300 Elan, is comfortable to fly as a ‘normal’ glider. It is safe to say that the DG300 in its various guises, represents a worthy successor to the excellent DG100, and some 490 examples have been delivered to the end of 1999.

Glaser-Dirks DG800. –

This firm was founded in August 1973 and renamed in August 1998, to DG Flugzeugbau. In 25 years of production, some 1800 gliders were built. Over the years, the company has earned a steady income, producing self launching, high performance motor gliders, with retractable engines. Based on the revised fuselage of the DG400 and the wing of the DG600, the new DG800 can have wing spans of 15m and 18m, by the use of plug in tip panels. The original wing plugs were machined full length, using cnc milling machines. The moulds were then laid up in carbon fibre, with integral heating elements, for tempering. This level of accuracy was unparalleled, and resulted in highly accurate wings, over the entire production period. The 800 is available as a pure glider, or with the air cooled Rotax 505 twin cylinder 2 stroke engine. By the year 2000, 124 powered DG800b and 40 DG800s pure gliders, had been delivered. As a successor to the DG400, the new DG800 is likely to

remain a part of the companys product range, for many years to come.

Grob G103C Twin Acro. –

This glider has been designed for training aerobatics and performance flying. This glider is aimed at the client who cannot afford the cost of a super machine, but still desires a two seater which can be bought at a substantially lower cost, yet fulfill a wide

range of requirements. Typically, an all round club machine. The Grob 103C, fills the bill exactly. The twin III is a self launching version, and extends the envelope of the glider pilot, substantially. The machine is also rated for aerobatics, and the sleek appearance is a winner, at a budget. With its downturned tips, the Grob 103C, Twin III acro, is a very nice sailplane indeed.

As can be seen, these books have a lot of fascinating information and pictorial content. It describes the exhilaration of flight in early times, as well as the progression to modern day sailplanes and composite construction.

I have taken only tiny snippets of the information on each marque. For the sailplane enthusiast, these two reference books are a great investment.

The books are available from Traplet Australia, so any questions or orders, can be directed to Dave Burns at (02) 9520 0933. Tell them you read about it in theHSL newsletter.

Klaus Weiss