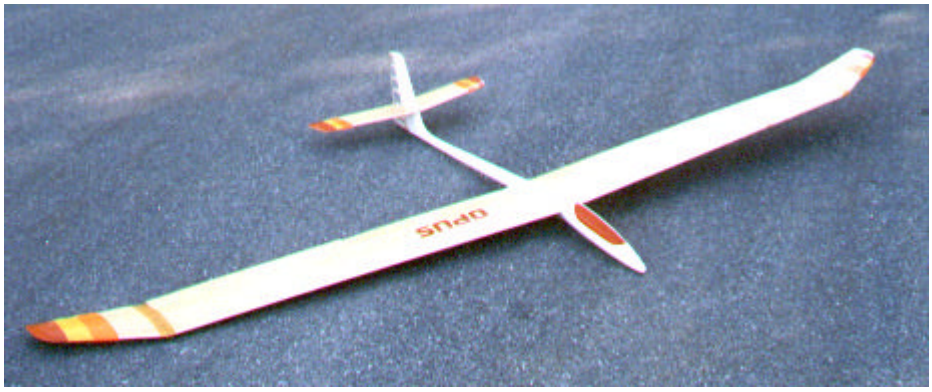
Opus 750 C



Northeast Sailplane Products
Wingspan: 100", Wing area: 750 sq. in., Weight: 49 oz., Wingloading: 8.75 oz./sq. ft., Airfoil: S9037, Skill level: INT/ADV, Radio: standard receiver, 6 micro servos, 600AEmah battery pack

New!!! We have now made the Opus in an all composite version. This is the first sailplane to use the Carbon?kevlar wing technology now used on the SchpotDorker! Very lightweight and capabale of a strong winch lauanch the new Opus C is a wonder for those contest where spot landings are a must and the thermals are very tight.! The new Opus 750 c comes with flat wingtips for the expert pilot. For the less experienced pilot we recommend turning them up as shown in the photo.

This is an amazing and very desirable sailplane. First, it was designed by Michael Selig. The airfoils are unique and well-integrated into the Opus and all the details were shaped and developed to enhance performance. The airfoils are a new series -- actually a new generation, representing a big advance in thermal soaring performance.

The Opus was designed to operate at lower wingloading than the typical competition thermal sailplane. In order to keep weight to a minimum and still maintain low overall weight, the Opus 750 makes judicious use of composite materials. Penetration is achieved through attention to drag reduction.

The fuselage is fiberglass reinforced with Kevlar. That sounds pretty normal for today's competition sailplane, but to keep a high strength-to-weight ratio, the fuselage is carefully reinforced with a fine Kevlar cloth cut and shaped by templates to strengthen where it is most needed. Dr. Selig spent a considerable amount of time carefully designing the fuselage to reduce drag: the resulting, most unusual fuselage has 30% less drag than the typical fiberglass fuselage found on today's high performance sailplanes.

To achieve this drag reduction, the fuselage was aligned with the airflow. Remember that air is fluid and is consequently affected by an object moving through it. As in any fluid, the object affects the flow in front as well as behind. As the airfoil moves through the air, the upper surface being longer than the lower surface, creates lift, and also creates another effect called wing suction. It causes the air in front of the wing to bend upward. The Opus 750 fuselage follows this bent airflow, thereby reducing drag. The front of the fuselage bends downward so it aligns with the stream of air in front of the wing. As the airflow leaves the trailing edge, it bounces back slightly and describes a slight upward movement. The Opus 750 fuselage has a very slight upward bend from trailing edge to tail, following the airflow and resulting in further reduction of drag. All components of the Opus 750 are considered in the mission to maximize lift and reduce drag, including such details as the wing fairings and tail junctions.

The Opus can fly with a lighter wing loading and have a very low sinkrate, yet its substantial drag reduction design is capable of penetration to equal much heavier sailplanes. You just might be able to have your cake and eat it too.

The Opus 750 comes as an almost ready fly kit. All plans, hardware and instructions are included. The wingrod is 3/8" 7075 aluminum for lightness and strength. The plans recommend radio equipment of specific weight in order to keep the weight as low as possible. All servos are micro size.

The wings, stabs bagged with a combination of Carbonfiber cloth and Kevlar. The wings come ready to fly and incorporate our new integral Kevlar internal Hinges. These are good for the life of the sailplane so you will never

need hinge tape again! The Rudder is built up balsa for the lightest possible weight where it can do the most good. Ailerons, flaps, servo wells, and servo wire tunnels are factory precut. The root ribs are installed, so there is little fitting of the wing to the fuselage.

The S9037 has higher lift than the SD7037 but lower drag at thermalling speeds. At higher speeds the Opus 750 will move out well with the airfoil reflexed. The tail airfoils are lower in drag than the popular SD8020. At a very low angle of attack, most symmetrical airfoils have a dead band - meaning that through a certain range they exhibit little or no change in lift in the range. The S9026 stabilizer airfoil not only has less drag than the SD8020, but more importantly, it has a much smaller deadband. This results in much increased control, evident at thermalling speeds. The effect is that the Opus feels centered even in turbulent thermals. The vertical fin and rudder airfoil is the S9023. It acts similarly to the S9026 with the emphasis on reduced drag.

In Dr. Selig's estimation, the modified Schuemann planform with turned-up tips is still one of the best and most efficient planforms for thermal duration. He has used it to great advantage, with improvements, in the Opus design. The taper ratio has been decreased, leaving a wider chord and hence more tip area. The wider tip acts to reduce tip stall tendencies, increases area at the tip, and allows the Opus to slow down and fly a tighter turn. Additionally, higher Reynolds Numbers at the tip increase efficiency with little or no drag penalty.

Taking all these factors as a whole, it's easy to realize that the new Opus 750 C is something new in the realm of high performance sailplanes. Here we see a synergy of design targeted at one purpose: true improvement in thermal performance.

NSP Opus 750 C $524.95

Sal: The wings on the Opus are a tribute to craftsmanship. They are very accurate and strong and without a doubt the lightest wings of their type anywhere! Each wing panel weighs 11 ounces each!

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