To be found in ***AUFWIND*** at page 26

F3F Made Easy

„Vikos" by MG-Modellbau

I had been looking to get a F3F slope plane for a while. These gliders are fast regardless whether flown in front of the slope or when dynamic soaring. It's impressive to watch a well set-up model perform a high-speed F3F turn. Just sitting still, the „Vikos" looks like a racing machine: sleek, elegant, and low-drag. The name „Vikos" may allude to the famous Viking Race, the most important F3F event.

Famous designer Norbert Habe himself worked with Radek Munzar, the manufacturer of the „Vikos," on the design of the model, which therefore sports the „HN-947" airfoil. This section is efficient and offers low drag at high speed. It also supplies decent lift at low speed, an attribute which is supposed to improve handling in weak lift.

Of course, not much has to be „build" with this model. The kit has the carbon wing halves, painted in red-white, the V-tail halves, fuselage with canopy, a bag of accessories, and the carbon wing joiner. The latter looked impressive, and fit perfectly into the wing. The „Vikos" has a floating joiner system. This means, alignment pins take up the load of the fuselage, while the joiner „floats" in the over-sized opening in the fuselage. This reduces stress at the roots between fuselage and wing. There also is less chance of mis-alignment. The alignment pins necessarily are quite robust in design.

The fuselage came with the V-tail linkages (Bowden tubes wrapped with fiberglass) installed. The servo tray was plywood covered with silvery fiberglass, the same material also used for the canopy. The fuselage nose also is fiberglass, and therefore the 2.4-GHz antennas can remain inside the fuselage. The boom, however is built with carbon fiber. The V-tail is mounted onto offset carbon joiners, which are installed in the fuselage; the V-tail halves are secured with tape. Two pins assure proper alignment of the V-tail, and overall, this is a very robust solution. To attach the V-tail linkages, a small hatch cover on the fuselage under the V-tail has to be removed. This allows easy linkage attachment without having to probe through small holes with a screwdriver. The cover is secured with tape also. The plane comes with a tow hook installed, which increases the versatility of the „Vikos." The fuselage has a ballast tube for 20-mm round stock. The tubes in the wings hold 14-mm stock. Together, up to 1.5 kilograms of ballast can be added to the plane.

In order to install the wiring, the servo bays in the wing had to be cut open first. The accessory pack contained everything needed for the wiring harness. Installing the wiring was a bit of a fiddle job, because the openings in two wood ribs had to be located with music wire first with which the wiring then was pulled through. Compared to that, fitting the Multiplex plugs into the wing and fuselage was child's play. The control horns in the wing were installed, and the music wire linkages and matching clevises were attached quickly. The wipers of the flaps and ailerons have to be sanded a bit to allow smooth operation under load.

About the quality of the molded parts: it was truly outstanding; not a single surface flaw, and seams were hardly visible. The structure of the parts and the hardness of the surface were convincing. So what I had here wasn't just a F3F contest model, but also a robust every-day plane which didn't mind one or the other hard landing. Certainly, the quality of the „Vikos" met all my expectations. One small complaint can be made of the fact that the upper wing surface would bulge slightly when the wing servos were mounted into their frames. It'd be good to install some extra material in the servo bays. I added a thin layer of balsa before I installed the servo frames. This prevented the bulging, but it also reduced the maximum allowable thickness of the servo.

To reduce hangar and transport rash of such a nice model, I ordered wing and fuselage bags at Finsinger-Modellbau (www.modellbauservice-finsinger.de). They're made from very flexible bubble-wrap material and have very strongly sewn edges. The „Vikos" wasn't in Finsinger's data base yet, so I drew the parts' outlines onto wallpaper and sent it to Finsinger. Shortly thereafter, the bags arrived sporting red seams to match my plane.

Such a high-quality model should only be equipped with matching RC components. Particularly the use as a sloper and dynamic soarer asks for this. I wanted to assure slop-free linkages and servos. I installed the trusted and precise Futaba „S-3150" servos. These 11-mm servos have metal gears and precise centering. My home-built frames made instal-

lation easy. Installing the matching red and white fiber glass servo covers finished the wing-servo installation. Receiver battery was a 4-cell 2,200 mAh NiMH pack weighing 170 grams, and I used a Multiplex „M-Link Light" 6-channel receiver.

Fifty grams of nose-weight were needed to balance the plane at 107 millimeters. All-up weight was thus 2,200 grams without ballast. Information on the internet mentioned CG-locations as far aft as 111 millimeters.

Motivated by such an easy and successful assembly I went right to field for the maiden flight. The lack of propulsion required the use of a high-start: 7 meters of F3B rubber and 30 meters of line. The „Vikos" pulled hard on the line, and climbed respectably after the zoom, from where it proceeded to fly „as if on rails." But it stalled in the first turn. What the hey? Alright, let's land carefully and add some lead to the nose. The CG was now at 102 millimeters. Goes to show that one shouldn't believe everything posted on the internet. In the future, the manufacturer should publish tested data for this model.

After I had launched again, the model flew turns smoothly and safely. In fact, the „Vikos" hooked thermals and climbed without much ado. Cambering the wing 4 mm down really reduced the minimum circling radius. I let the model climb in the thermal to see what it'll do in a dive. From about 150 meters up, the model accelerated and rocketed across the field with a subdued whistle – all without ballast. I noticed no tucking during the dive at this CG location. I pulled up and set up for landing. Full-crow setting required significant down-elevator compensation for a soft, slow-speed landing. This, I hoped, would help landing on the slope. I made some more high-start flights, enough to do some aerobatics on the way down.

My Denmark vacation was approaching, and I had to decide which model to take. I had been flying all kinds of gliders at the Danish dunes, ranging from a light-weight HLG to a 5-meter model. Everything seems to fly there. One matter-of-fact advantage of these slopes is the consistent wind, ideal conditions for dialing in a glider. So the „Vikos" was added to the luggage. The first slope flight came on an eight-meter high dune which the wind hit perfectly at only about 5 to 12 miles per hour. I had added 600 grams of ballast to the plane. Right from launch, the plane was on step. Three millimeters of snap-flap allowed quick turns without loss of altitude. The plane cruised right at eye level, making very little noise, and I had more and more fun with it. I noticed that the model is designed more for light air than for strong lift conditions. The advantage is that more ballast can be added, yet still allow „grippy" turns, which, in turn, allows the plane to compete in windier conditions also. Don't get me wrong, the "Vikos is no light-air model. Its advantage simply is the easy handling and carefree, enjoyable flying, even when conditions are not ideal. The pilot can go ahead and try new things. Very nice!

Big air requires ballast, and more is better. In a F3F contest, two important model attributes are decisive: high top speed in the straights and quick turns on command. The „Vikos" does the latter exceptionally well, almost explosively. This is due to the airfoil and the overall layout. The grippiness noticeably reduces the distance traveled in the turns. Also important is correct aileron differential, so that the model does not raise the nose in the turns but stays on course for the next turn. Slow aileron servos also can effect a raised nose, because the inside aileron does not deflect fast enough in quick turns. The „S-3150" just barely are up to the job.

Another property of the „Vikos" is the way it handles windy conditions. Energy retention and overall flight behavior are truly excellent under adverse conditions, pointing toward the overall low drag of the model. During this vacation, I also tested the plane's crunch resistance. The glider's great control response tempt the pilot to try new and tight maneuvers, resulting in the occasional spear landing in the sand. The carbon joiner had no problem with that, and the fuselage also held. Hitting a wing tip on landing, didn't damage the joiner either, only the wings separated a little from the fuselage. Here, credit is due the floating joiner system.

In short, the „Vikos" is robust, responsive, and „darn fast" when asked. It even thermals well. I haven't flown a F3F contest with it yet, but I figure it'll be extremely competitive; it's the tight turns and the spritely acceleration out of the turns which make me say that. Its comparatively small span of 2.9 meters reinforces the impression of speed and agility.

Rarely have I flown such a balanced slope model – the „Vikos" can handle anything!

Volker Kaul
Photos: Maren Kaul

Data:

„Vikos" by MG-Modellbau – A modern slope racer

Wing span:	2,900 mm	Thermal setting:	
Length:	1,510 mm	Aileron:	+3 mm
Weight :	2,200 g	flaps:	+4 mm
Wing area:	57 qdm	Speed setting:	
Wing loading:	38.6 g/qdm	Aileron:	-1,5 mm
		Flaps:	-2 mm
Control throws:		Crow:	
Elevator:	+/-8 mm	Aileron:	-15 mm
Aileron:	+8/-20 mm	Flaps:	+80 degrees
		Center of gravity:	102 mm

Price: 1,090 €; available at MG-Modellbau, Tel. +49/9349-929820, www.mg-modellbau.de.

Photo Captions:

Page 26:
- The „Vikos" is a pretty plane which looks great in this setting.
- The „Vikos" was wrung out during the slope vacation in Denmark.

Page 27:
- All's well! The „Vikos" really did deliver.

Page 28:
- Futaba „S-3150" servos installed in the wing.
- Perfect fit of the V-tail to the fuselage
- The hatch at the tail end allows easy access to the linkages.
- Crow requires lots of down-elevator compensation for slow and smooth landings.
- Launching the model into a 25-mph breeze.

Page 29:
- The paint scheme really helps with visibility.
- Even a high-start yielded impressive launch heights.