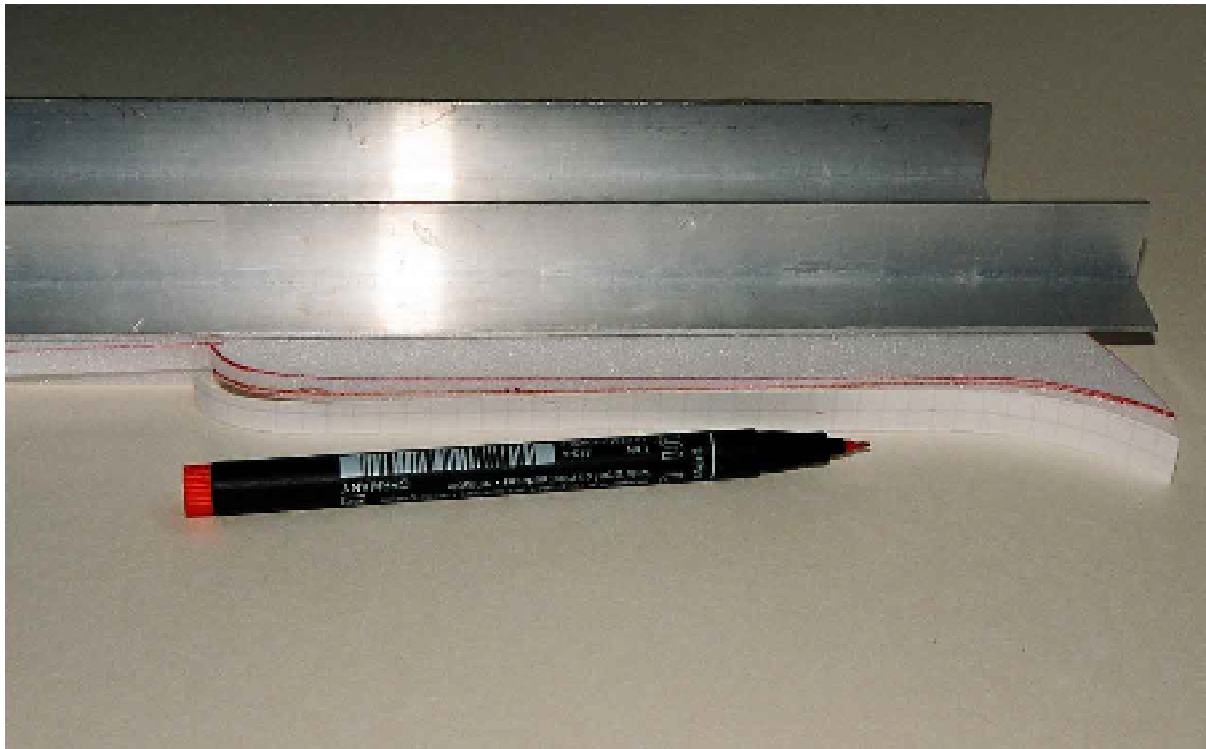


Building Instructions for Variante75 by Gerard Jumelin

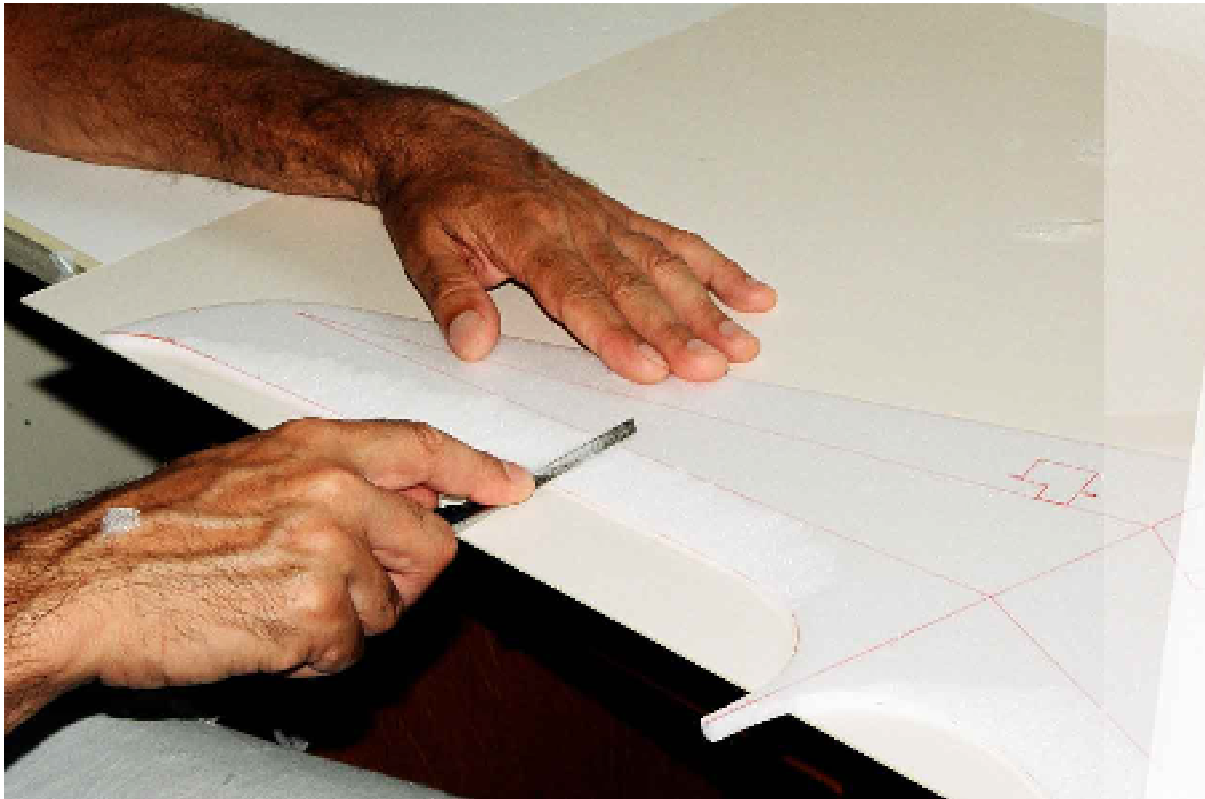
The Variante 75 cm is the last & biggest sized wing that I shaped, carved & sanded from a flat 6 mm Depron board. Of course as I built most of the wings for the JMP team, I have many of this kind under my belt. As my first one was successful there is no reason that yours won't fly.

Foam and paper & few balsa sticks nothing exotic or hard to find. White glue & foam friendly CA glue. Carbon fiber strips could be used instead of balsa across the span.

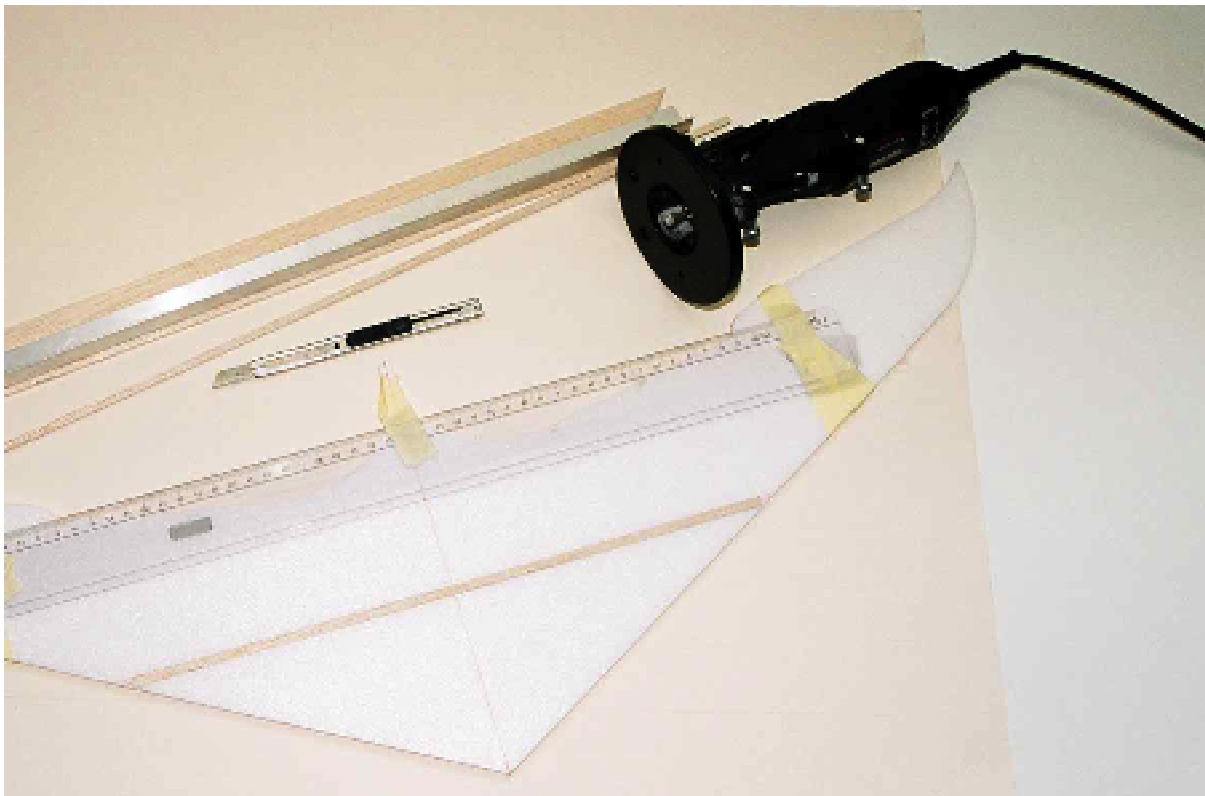
Use normal micro servos & radio gear to keep it light and don't worry you can achieve a perfect pure flying- wing without any winglet. The Variantes were built in so many ways & in different sizes: hollow wing , flat bottom, with or without ribs. Only one trick : the non linear washout "à la Horten"



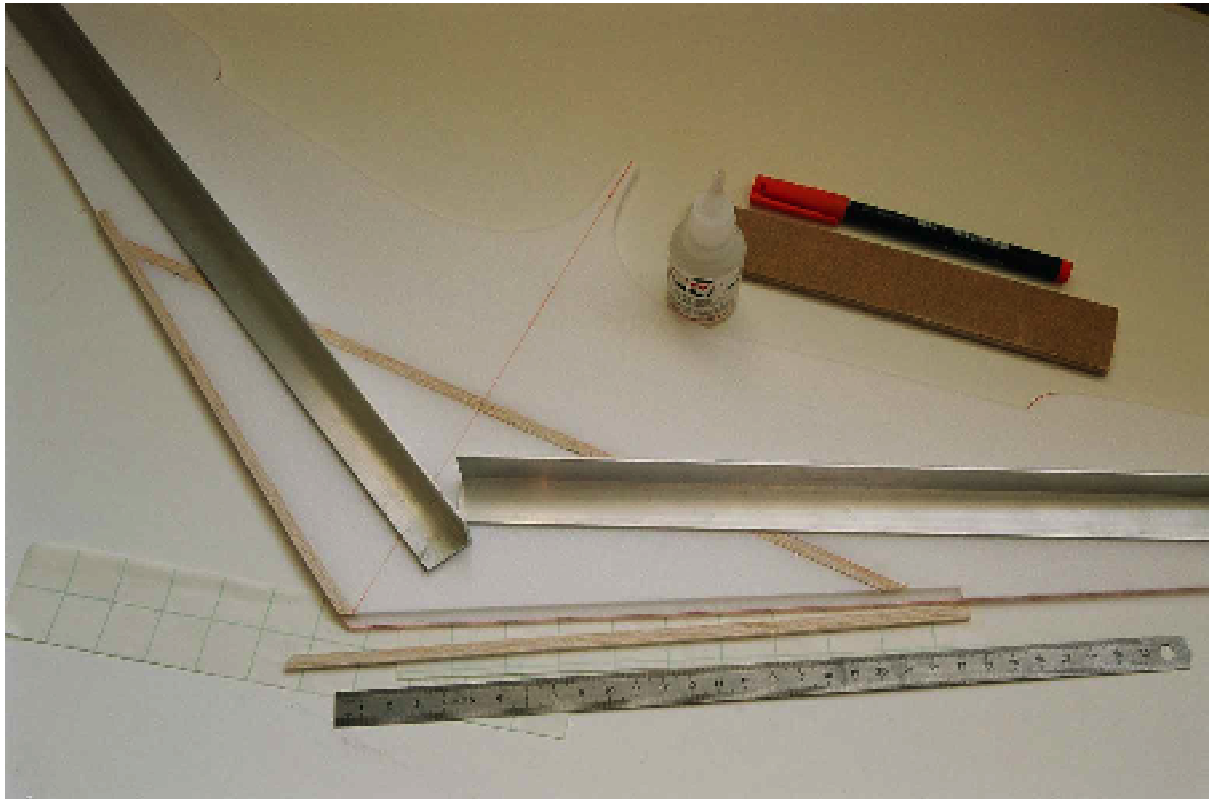
First a diagonal line is drawn on the edge of the elevon with the help of a cardboard template.



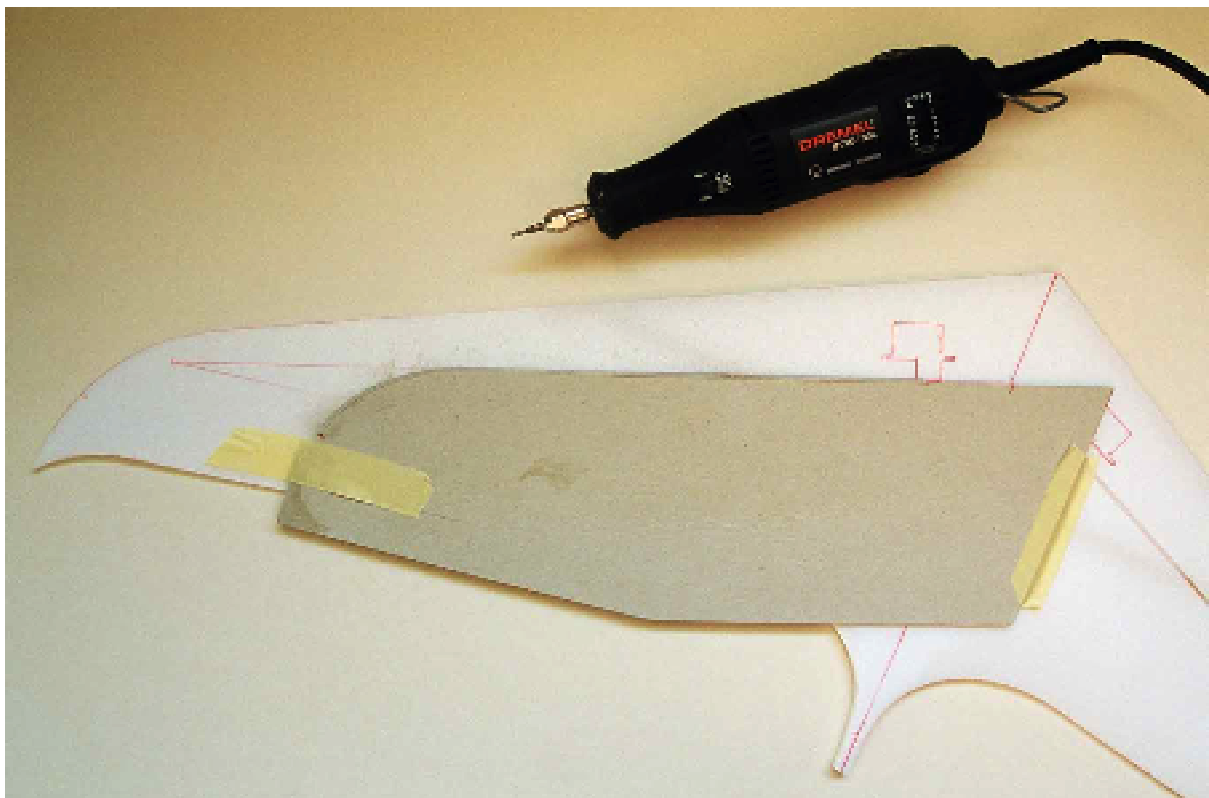
A new blade for your cutter, let's start a rough-shaping using the guide lines then sand aiming for a flat bottom profile . A flat-bottom airfoil in the center will turn into a semisymmetrical airfoil at the tip.



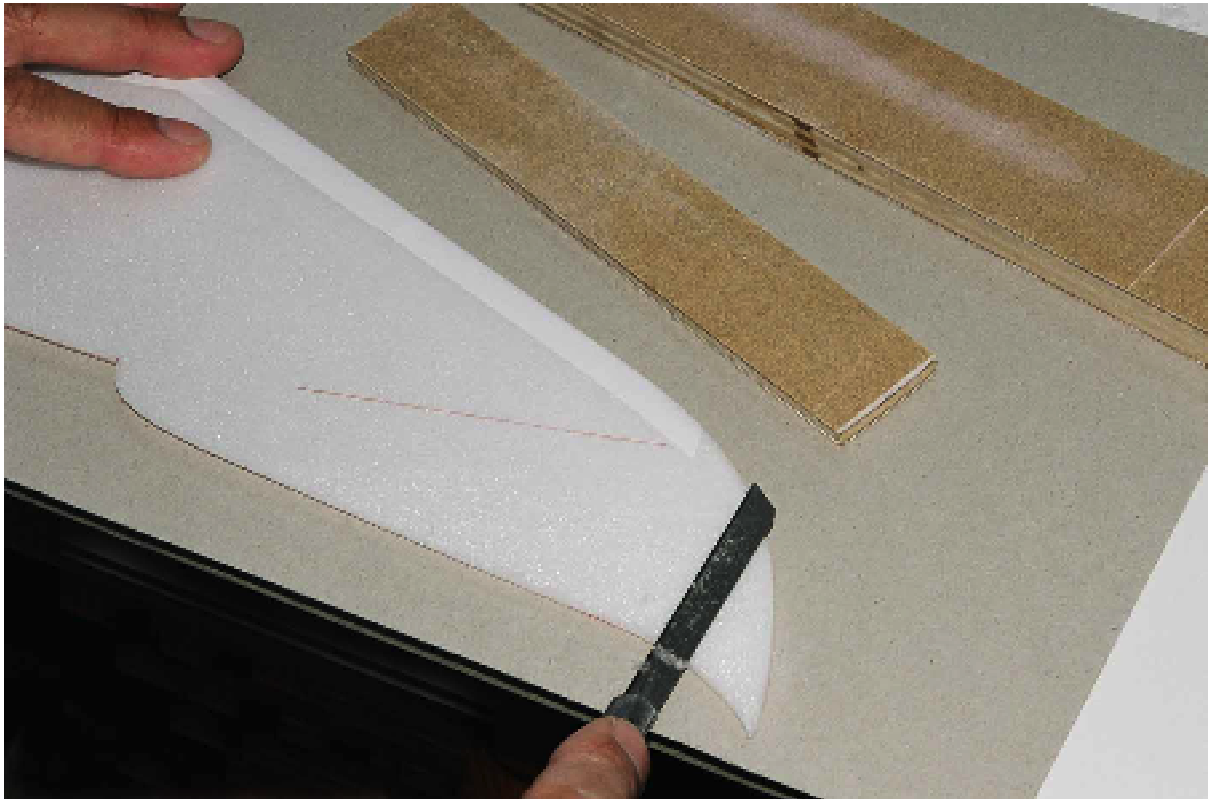
A "Dremel Moto-Tool" is perfect for routing job the groove for the 5x3 mm balsa spar and the leading edge stiffeners.



Odorless cyano - foam safe CA is used . A Light paper strip will cover the spar. Copier/printer paper strip will wrap the leading edge thereby forming a D-tube wing structure.



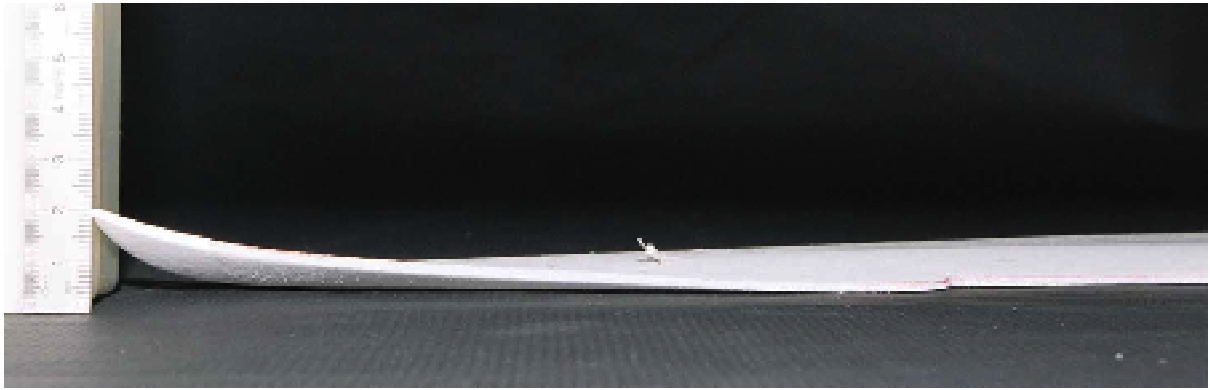
A thick cardboard jig will guide the $\varnothing 2$ mm router bit and allow a neat channel for the plastic tubing.



Underside of the wing most of the Depron is shaved then sanded at the wing tip following the diagonal guide line on the elevon edge. 150 grit , 240, 400 grit for finishing.



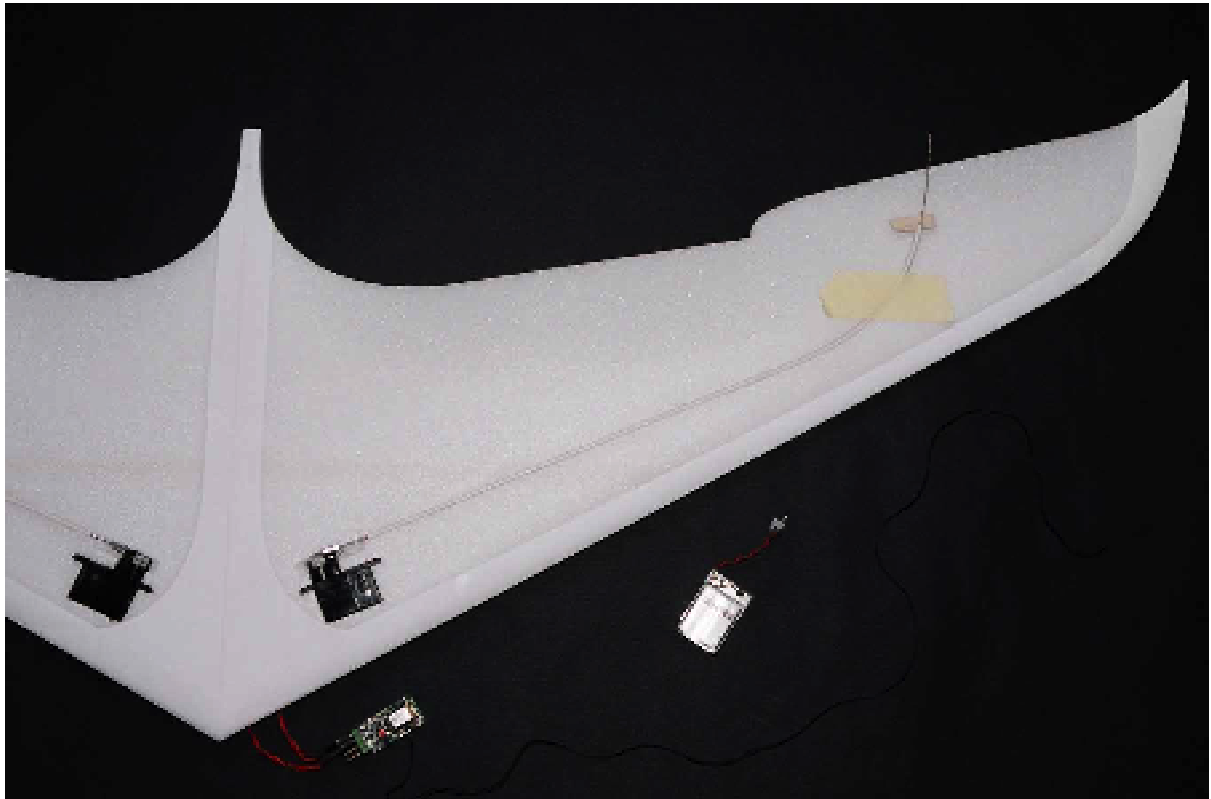
Hot air thermoforming with a hair dryer that I hold steady between my knees and blowing upward. The elevon hinge line is held right on the table edge. The wing is kept flat on the table by one hand while the other hand strokes the foam from the center to the tip with a progressive twisting action.



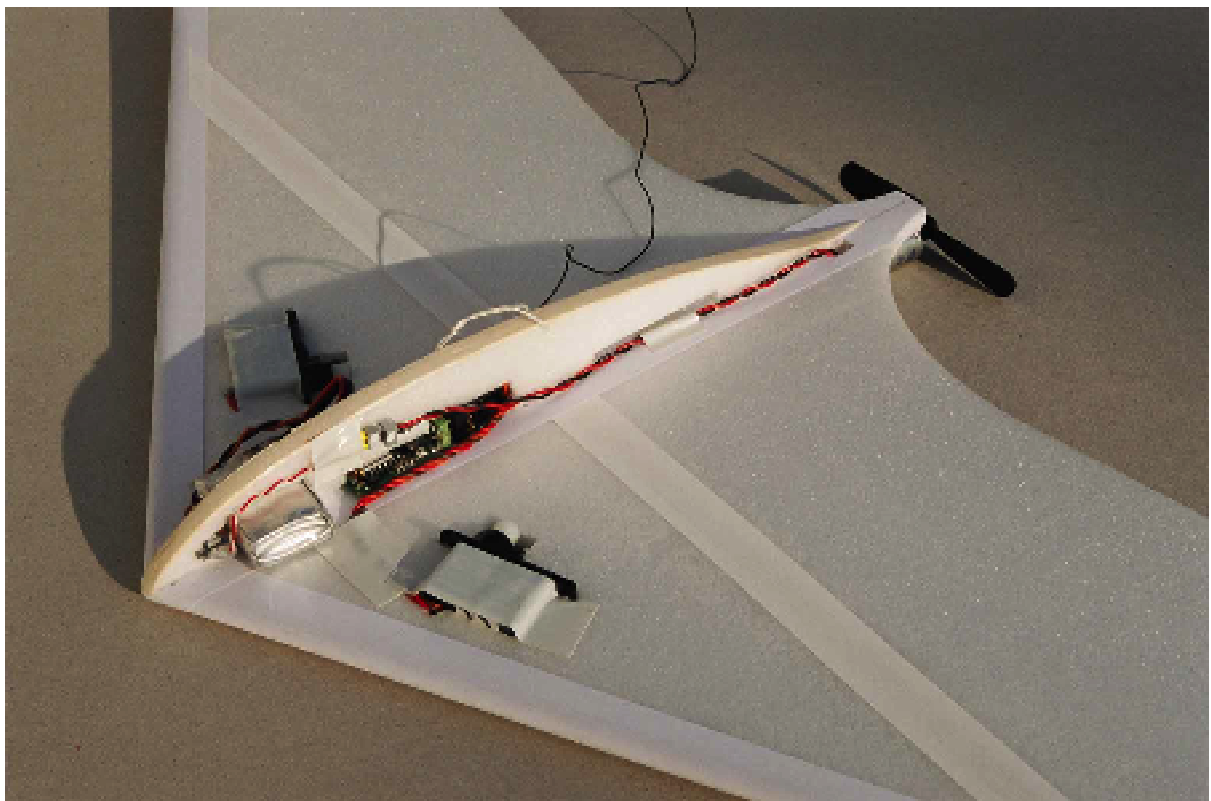
As the foam cools down the elevon will retain the desired twist: (about 20mm)
The washout is non linear. Check for the same amount of twist under both tips.



Variante 75 "revisited" with a new powerplant a small BL motor from Germany. A deluxe wing ! A Mighty Midget Brushless motor from BSD would be an alternative. 2 cavities were routed and paper walled with white glue. Wes-Technik 310 cells. YGE 4-BL controller.



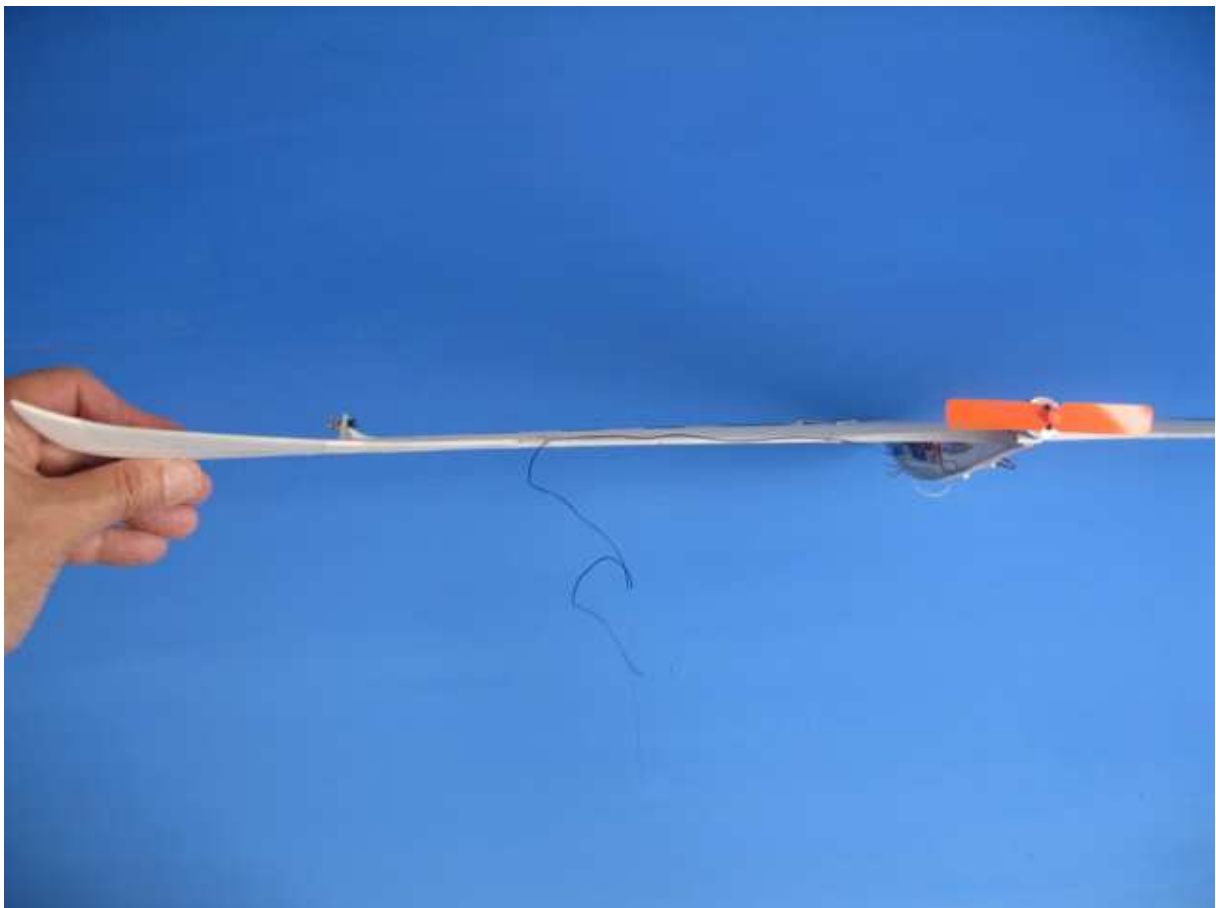
GWS 6 g servos are not the slimmest nowadays. But you need to balance the wing . Note the balsa shim under the plastic tubing on the elevon side. 5-minutes epoxy will secure the pushrod housing.



Variante 75 ready for the maiden flight = 60g -N20 motor direct drive- 2 Kokam 145 cells--JMP radio gear. This version is not overpowered but a relaxing park flyer. Note the string on the skid to check the CG location.



Horten twist



Horten twist rear-view