



Remote controlled

Retro glider Hast 3

The Hast 3 is basically built like a free flight model from the 1930s from pine, plywood and balsa, covered with fabric or fleece. However, the fuselage is widened to 60 mm, plus a pendulum tailplane, a pleasing rudder and somewhat lower constructed wings, which are attached to the fuselage with spring straps. The club fuselage is slightly weakened and shortened; the wings can be secured with rubber rings.

Building the wings

To start with the wings, you must first make a slipway (see fig. 1 on the plan). Two sample ribs are then made from item 1, they serve as templates for the rib block made of 2 mm balsa. It is possible that one block will be too thick to work with, so you will have to work with two balsa blocks.

The first connecting ribs (pos. 2) are to be made of 3 mm plywood, whereby the slots in the ribs of the left wing for the spring hinge are shifted forward by 2.5 mm. The end strip on the wing ear is laminated or assembled from individual pieces. When laminating, I make the necessary template from 10 mm plywood, protect the parts with Tesa packing tape, also the underlay. 3 mm balsa strips are coated with cold glue and then pressed together with clamps.

The main spars...

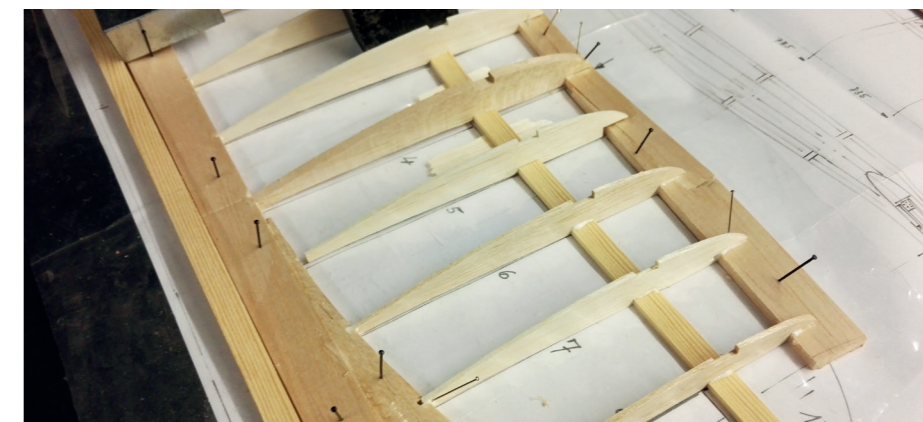
... (pos. 9) is pre-bent over a candle; the work can be easily checked by placing it on the slipway. Now take a finished rib from the block, lay it on and check which supports are necessary under the main spar.

Now cut the wing plan from the plan, lay it on the slipway, protect it with foil, lay the main spar on top, fix it with pins - but you should not nail it through, but fix it laterally with some pins. The main spar is now lifted with pads so that it is flush with the underside of the ribs.

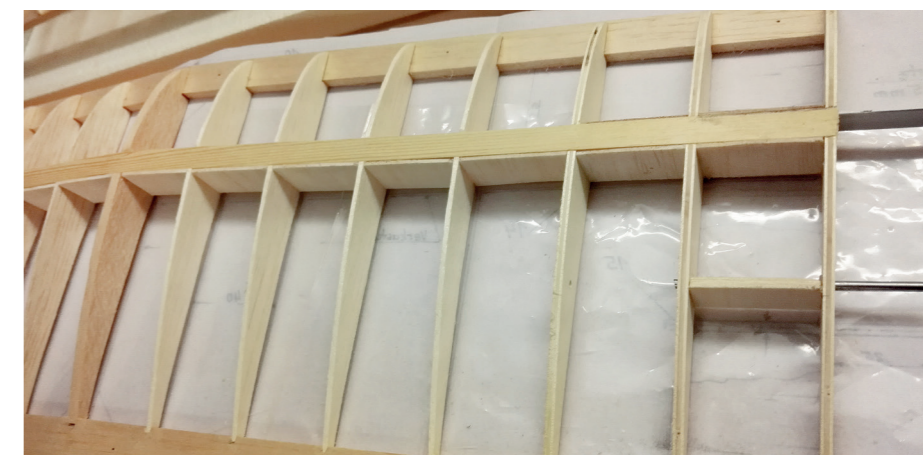
The rest is done quickly: glue on all ribs, insert the upper main spar, add the end rail. Then attach the latching and let everything dry. Once this is done, detach the wing from the slipway, glue the leading edge, fit the connector and possibly resin it. There is not much to say about the construction of the



The ribs can be made in a block or - if you want it to go even faster - you can use the milling parts kit available from VTH.



The wing is built directly on the foil-protected plan, above the main spar made of a 3x10 mm pine strip.



Once all the ribs are glued in place and the upper main spar and end rail are in place, attach the latching.

tailplane: It is made of 6 mm balsa wood in flat construction - this is done quickly and almost incidentally. I recommend fabric or fleece as covering material for wings and tailplane.

The fuselage is created

If necessary, copy the fuselage frames from the second page of the plan, cut them out and glue them to the necessary plywood. After sawing out the paper, of course, sand it away. Now draw a centre line on a building board, then mark the individual positions at right

angles at the distance indicated on the plan.

Attention: The hull is still being built with the keel on top. Fix some frames with hot glue. Then glue the longitudinal chord (pos. 19) in place, as well as two times pos. 20. You may need to support some formers with small corner glues.

After drying, detach the fuselage from the building board, saw off any protruding auxiliary fastenings and now use hot glue to properly attach the fuselage framework to the building board in some places. The fuselage remains on the slipway if possible. The connecting ribs are



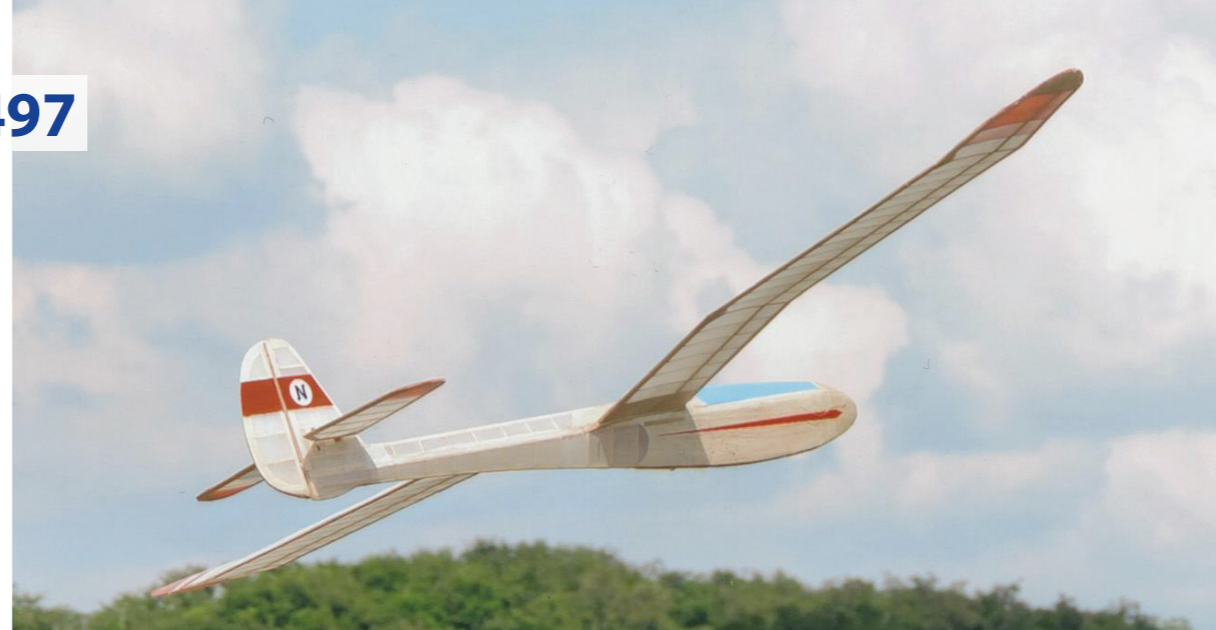
Pre-bend the main spars (pos. 9) over a candle and check the work by laying them on the slipway.

now glued on at the correct angle of attack, possibly using auxiliary templates.

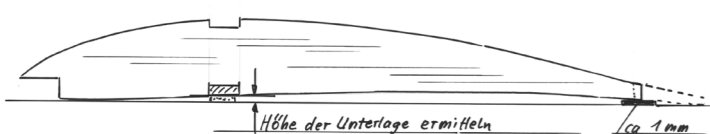
Everything comes together

The wings can now be pushed on with MS tubes, everything aligned, the plug-in connection glued with epoxy. Then you can glue in the rudder (pos. 25), adjust the longitudinal chord pos. 22, glue it on and make and insert the pocket for the pendulum rudder lever.

What is still missing now? Making the rudder fin and making the canopy. The latter goes like this: Cover the fuselage with foil, make the base board, glue on the mouldings and fix them. Cut out the cardboard and fit the side



Use auxiliary supports to hold the hull to the slipway.



To determine which supports are necessary under the main spar, take a rib from the block.

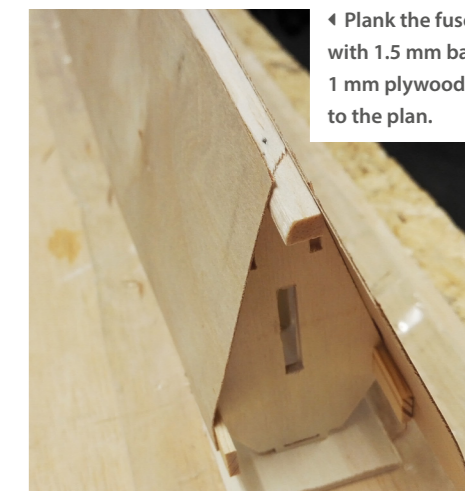
parts as a pattern. If it looks good, cut the balsa wood parts according to this pattern and glue them on. When dry, remove the whole thing, sand the top to fit and add the planking. Now it is the turn of the Bowden cables and linkages.

Final works

Finally, you can detach the fuselage from the slipway, remove the auxiliary supports and sand everything. Then glue the planking (item 36) on and the fuselage nose and sand again. The fuselage shell does not look very torsion-resistant at this stage, but after covering it looks quite different. In order to be able to hold the fuselage well during take-off, two handle strips are glued in place according to the plan. The Hast 3 is completed ready for flight by inserting the servos - here we recommend D-Power's AS-225BB MG on the elevator and on the side, the cut-outs in the routing parts set are matched to them. Of course, you will not need their metal gearboxes in flight; it is more likely that an „overload“ will occur during transport. For the flight battery we use four AAA micro cells from Eneloop soldered next to each other, these have good space in the front chamber. A little lead is added to the first compartment. With a rudder deflection of about 40 mm measured at the lowest point, the Hast goes around the corner sufficiently quickly. Cracked barrel rolls are not primarily its discipline. The maximum elevator deflection shown in the plan is also correct.

4 A 10x1.2 mm flat steel strip is resin-coated as a push-fit connection, which is quite sufficient.

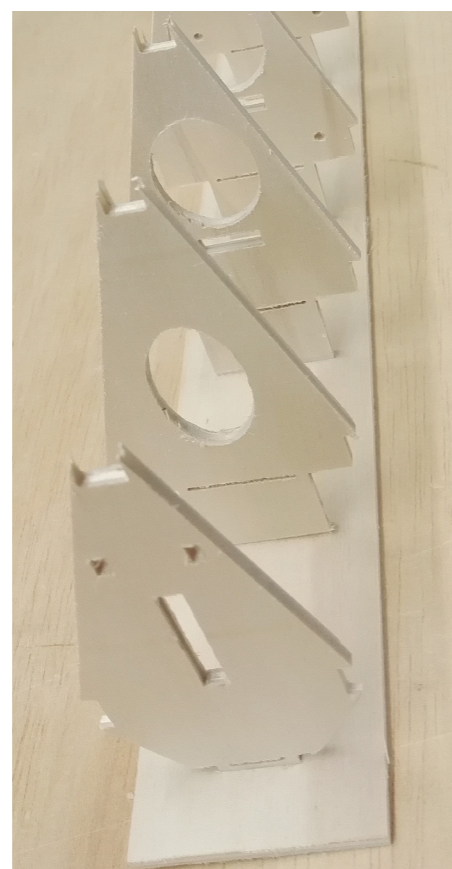
4 Plank the fuselage sides with 1.5 mm balsa and 1 mm plywood according to the plan.



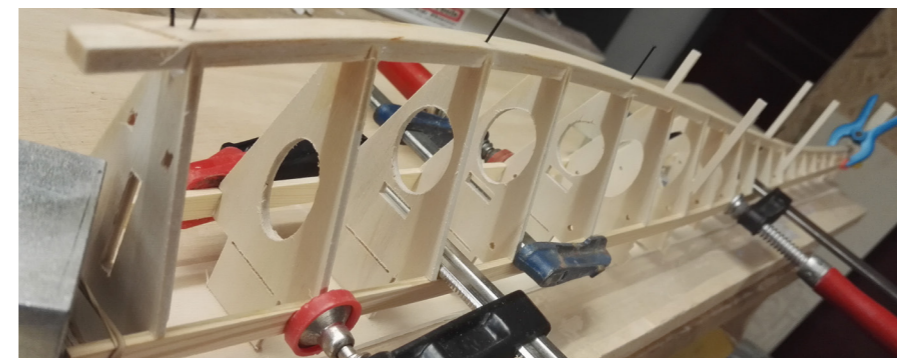
The fuselage nose is made of 5 mm plywood, with balsa mouldings added to the sides..



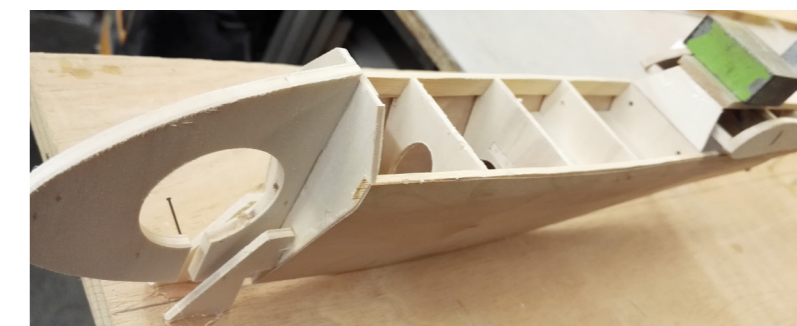
The end strip on the wing ear is still laminated - or you assemble it from individual pieces.



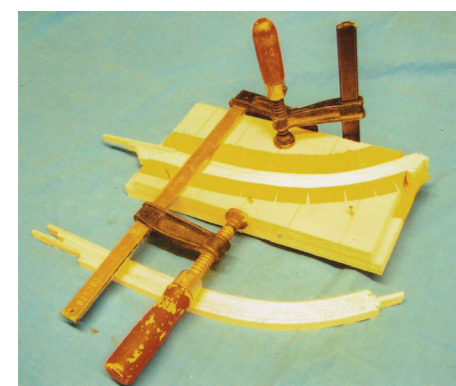
First, the fuselage is built upside down. You can fix the first frames with hot glue.



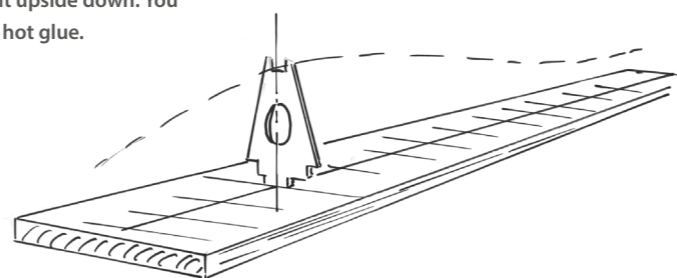
To glue the longitudinal chords, clamp the components with clamping screws and pliers.



Anzeige



I make the template for laminating from 10 mm plywood. 3 mm balsa strips are then coated with cold glue and the layers pressed with clamps.



Rumpf - Aufbau - Kieloben u Hast 2 u



**Neu:
Modell "Edge"**

**11 verschiedene Modelle
mit auswechselbaren
Filtergläsern**

Polarised sunglasses for RC

Flying Circus Events
Bärenweg 19
D-71296 Heimsheim
Tel. 07033-3069912
Mobil 0171-3420718

Modellfliegerbrille.de Zum Schutz Ihrer Augen ... und Ihres Modells!

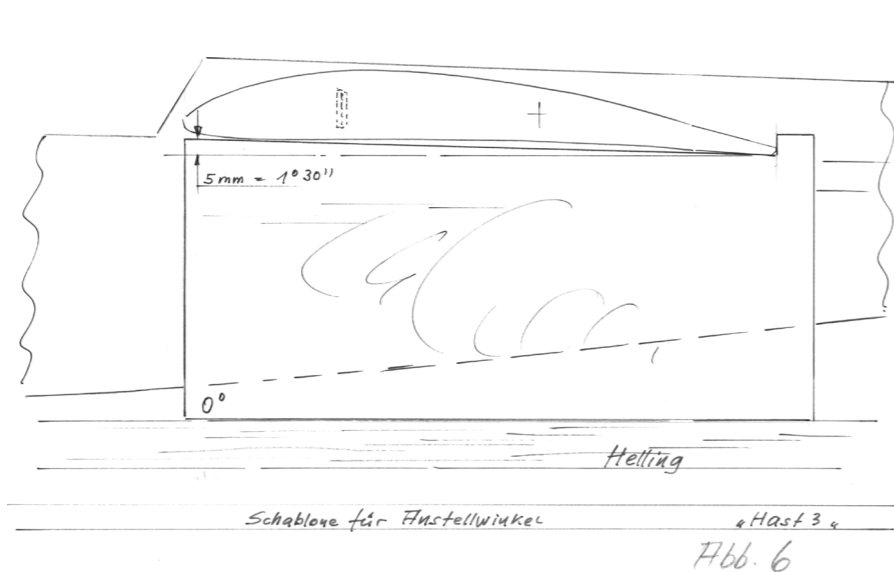


Parts list

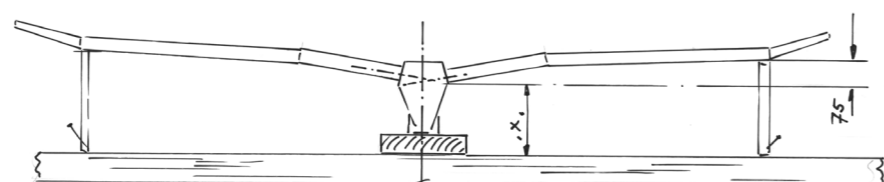
Pos.	Amount	Component	Material
Wing			
1	2	Sample rib	Plywood. 5 mm
2	6	Rib	Plywood. 3 mm
3	32	Rib	Balsa 2 mm
4	4	Rib	Balsa 6 to 8 mm
5-8		Rib	Balsa 2 mm
9	4	Main spar	Pine 3x10 mm
10	2	Nose strip	Balsa 6x15 mm
11	2	End strip	Balsa 6x20 mm
12		Latching	Plywood 0.6 to 0.8 mm
13	2	Edge arch	Balsa 3 to 4 mm
14	2	Flat steel	10x1.2 mm
15	2	Spring steel	Ø3 mm
16		Planking	Plywood 0.6 to 0.8 mm
Elevator			
20	2	Nose strip	Balsa 6x12 mm
21	2	End strip	Balsa 6x15 mm
22		Bar	Balsa 3x6 mm
23	2	MS pipe	Ø2 mm inside
24	2	Spring steel	Ø2 mm inside
Hull			
1	1	Frame	Plywood 4 to 5 mm
2-18		Frame	Plywood. 3 mm
19	2	Longitudinal belt	Balsa 3 mm
20	2	Longitudinal belt	Pine 3x10 mm
21	2	Connection rib	Plywood 3 to 4 mm
22	1	Longitudinal belt	Balsa approx. 6x30 mm
23	1	Tip of the fuselage	Plywood. 5 mm
24	2	Moulded parts	Adapt balsa
25		Holm	Balsa according to drawing
26	1	Moulded part	Balsa
27	1	Moulded part	Balsa
28		Bridges	Balsa 3 mm
29	1	Moulded part	Balsa laminate
30	1	Lever	Plywood. Beech 3 mm
31	2	Lever box	Plywood 0.6 to 0.8 mm
32	2	MS sleeve	inside 10x1,2 mm
33	2	MS pipe	Ø3 mm inside
34		Klotz	Jaws moulded
35		Bonnet	Balsa 3 mm adjust
36		Planking	Balsa 1,5 mm
37		Bar	Balsa according to drawing
38		Reinforcement	Adapt balsa
39		Moulded part	Plywood. 4 mm
40		Planking	Plywood 1 mm

The fuselage-side wing connection is made by a plywood rib, in which the receptacles for the plug-in are located.

The elevator made of 6 mm balsa wood in flat construction is pluggable and constructed as a pendulum.

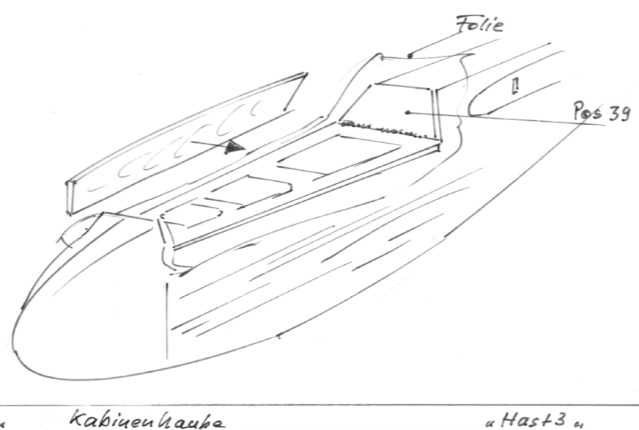


The connecting ribs must be glued on at the correct angle of attack, possibly using auxiliary templates.



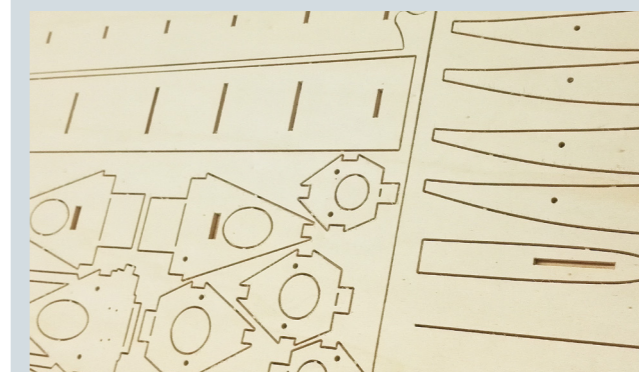
← The following applies for aligning and gluing in the plug-in connection: Dimensi-

For the canopy, first cover the fuselage with foil and make the base board.



MILLING PARTS SET

The fastest way to build the Hast 3 is with our routed parts set. It contains all components such as ribs and frames made of balsa and plywood in selected quality. You will also need planking material and some battens. **Art.No.: 6211773, Price: €74.95**



FMT subscribers can obtain the Hast 3 milling parts set until 26.7.2018 at the special price of € 67.45 in the subscription club (www.vth.de/mein-vth/abo-club) or via the VTH order service..

Retro glider Hast 3

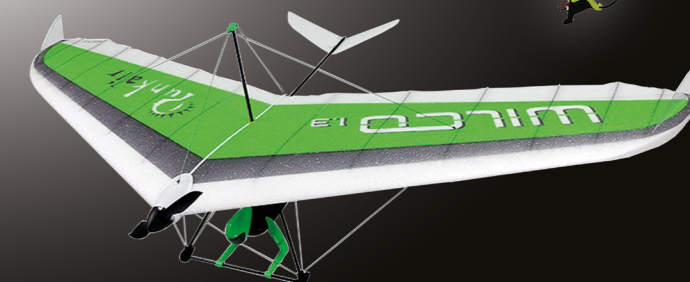
Wingspan:	2,06 m
Weight:	900 g
Surface area:	43 dm ²
Wing loading:	30 g/dm ²
Profile:	NACA 6411

VTH-Order-Service: E-Mail: service@vth.de
Tel.: 07221 5087-22 Internet: <http://en.shop.vth.de>

Anzeige



CEFICS, Ihr neuer Ansprechpartner für Produkte von



www.cefics.com

AirC2fly Obschwarzbach 11, 40822 Mettmann e-mail: info@cefics.com Tel.: +49 (0) 8702 7129058