

New Generation IMOCA

Team Malizia - Thomas Ruyant Racing - Banque Populaire

A printable RC sailboat by YACHTPRINT, Chris Angelduro

Version 2.0, 08/2026



This IMOCA is one of the most exciting new-generation offshore racing yachts. Three sisterships have been created for **Team Malizia, Thomas Ruyant and Banque Populaire**, bringing the same cutting-edge concept to three of the world's leading IMOCA teams. The design is **narrower, lighter and exceptionally stable**, with powerful foils and a new geometry optimized to make the boat accelerate quickly and take off early, even in moderate conditions.

The 18th scale model captures the **stunning lines** and its impressive **sailing performance**. It is **capable of full foiling** like the original and has the option for a **canting keel system** (extra file set). The hull segments feature **new connecting flanges**, providing precise alignment, increased overlap for better watertightness, while acting as half-frames for additional stiffness.

TECHNICAL DATA of the model:

Scale	1:18
Length	1.015 mm hull, 1.115 mm incl. detachable bowsprit
Width	280 mm hull, 770 mm incl. foils
Weight	3,2 kg ready to sail w/o battery, thereof 1,0 kg for fin and keel weight

SHOPPING LIST / Bill of material

In addition to the printable components, you will need the following parts:

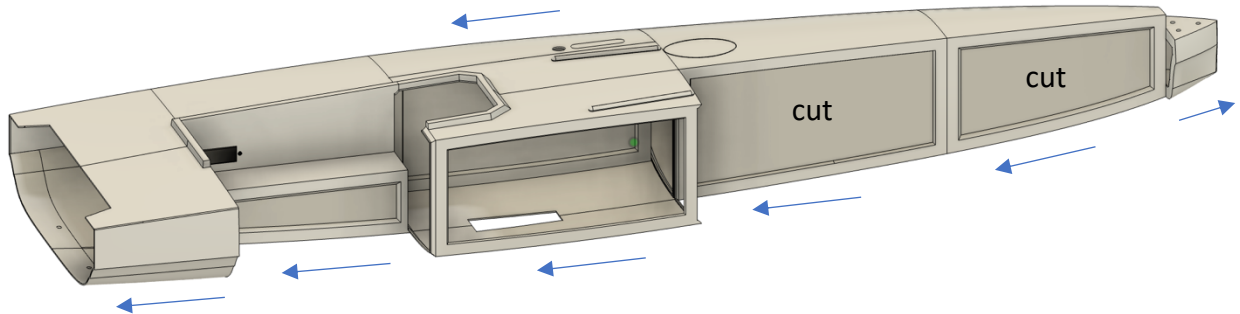
- **4-channel RC transmitter and receiver** system, e.g. Radiomaster with ELRS
- **2 Mini high voltage servos** for the rudders approx. 29,5 x 14 x 24 (length, width, height), preferably waterproof, e.g. Kingmax CLS02S or comparable
- **1 Sail winch**, high voltage capable, standard size, torque min. 20kg/cm, size approx. 40 x 20 x 30 (height up to screw holes), e.g. Kingmax SW22HV or SW01BS
- **rx-battery** for receiver, Lipo 7,4V 500-1200mAh, e.g. TATTU 2S 7.4V 500mAh
- 2m x 12mm **carbon tubes** for the mast, 2x 1m 10mm tubes for the booms, 2x 370mm 8mm carbon tube for the outriggers/deck spreaders
- **Sails**, e.g. a B-rig from a Mini40 multihull, IOM, or a comparable size (can be ordered from YACHTPRINT or produced DIY with Yachtprint Accessory-kit, see YP online-shop)
- **Sheet line** (e.g., 0.5mm dyneema fishing line) and 1mm **rubber line**
- **Keel fin and weight** from a DF95 (available as spare parts); the 1-1,5kg bulb can also be 3D-printed and filled with lead
- 3mm **stainless steel rod** for rudder axis, 2x shaft collars with 3,1mm holes
- **Threaded inserts** M3 and M4, e.g. from RUTHEX, Various M3 stainless steel screws in different lengths, e.g. mixed screw box AliExpress

3D PRINTING

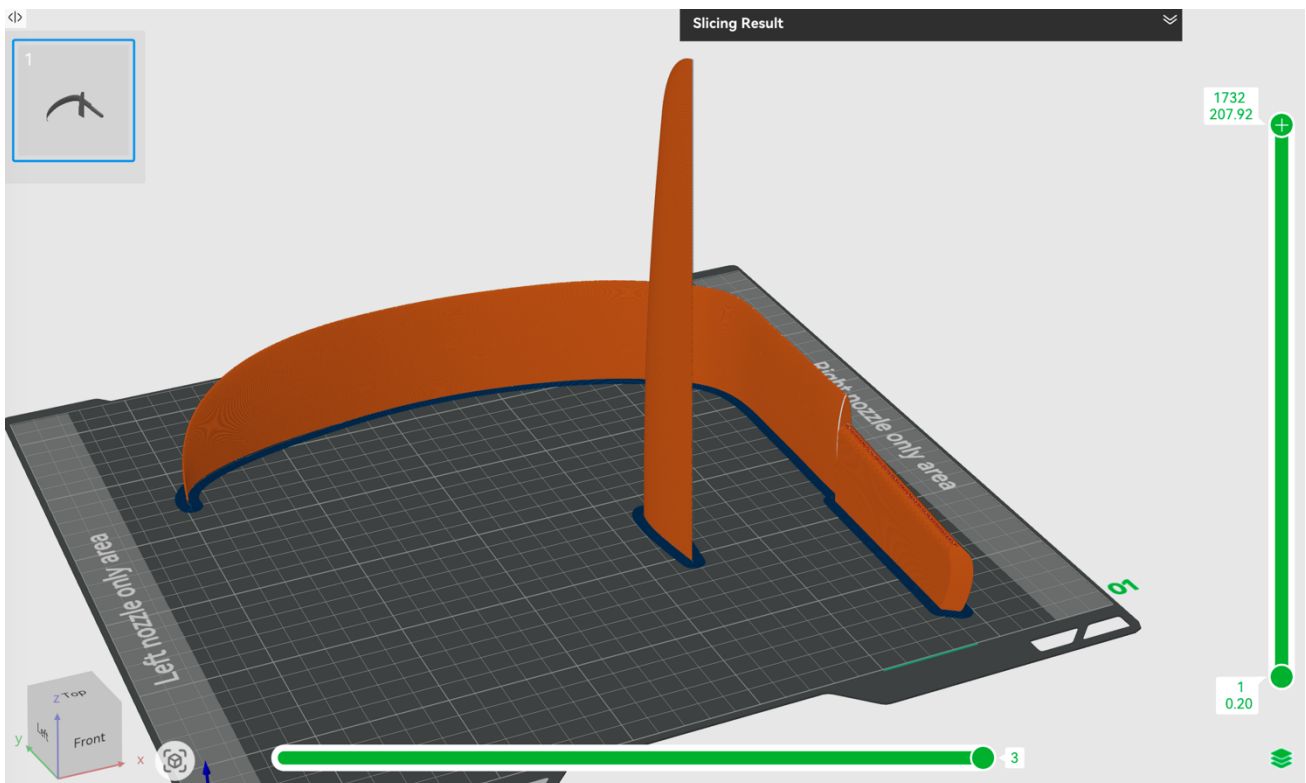
The model is ideally printed in ABS/GF, or comparable materials, and can be best produced on an enclosed printer with a build volume of 205 × 205 × 250 mm or larger. I don't recommend PLA or PETG as they are not heat resistant and quite heavy.

Print plate	205x205x250 (minimum size for x/y/z)
Filament	ABS/GF approx. 1,5-2,0 kg which is roughly two rolls
Walls	3 walls with a 0.4mm nozzle (walls also often called perimeters)
Right side	All parts marked with an "L" are for the left side and must be mirrored in the slicer along the x-axis for the right side
Infill %	The hull segments are hollow by design, infill-% can be left at any value

The hull segments are hollow by design, so you don't have to set infill at 0%. The wall thickness is 1,2mm so use 3 walls with a 0.4 mm nozzle. **Follow the print orientation shown below.** Set top and bottom layers to zero so the front and rear of the segments remain open; the bow segment shall have 3–4 bottom layers. Use a brim to avoid warping. The recessed vertical side faces are printed for stability and cut out later with a hot knife.



Print the rudder on its root face with a brim and at least 6 walls. Print the foils with 6 walls as well, laid on their leading front edge and supported by a brim. When positioning a foil on the build plate, ensure it contacts the plate along its whole length. Lower it slightly into the plate until it sits firmly.



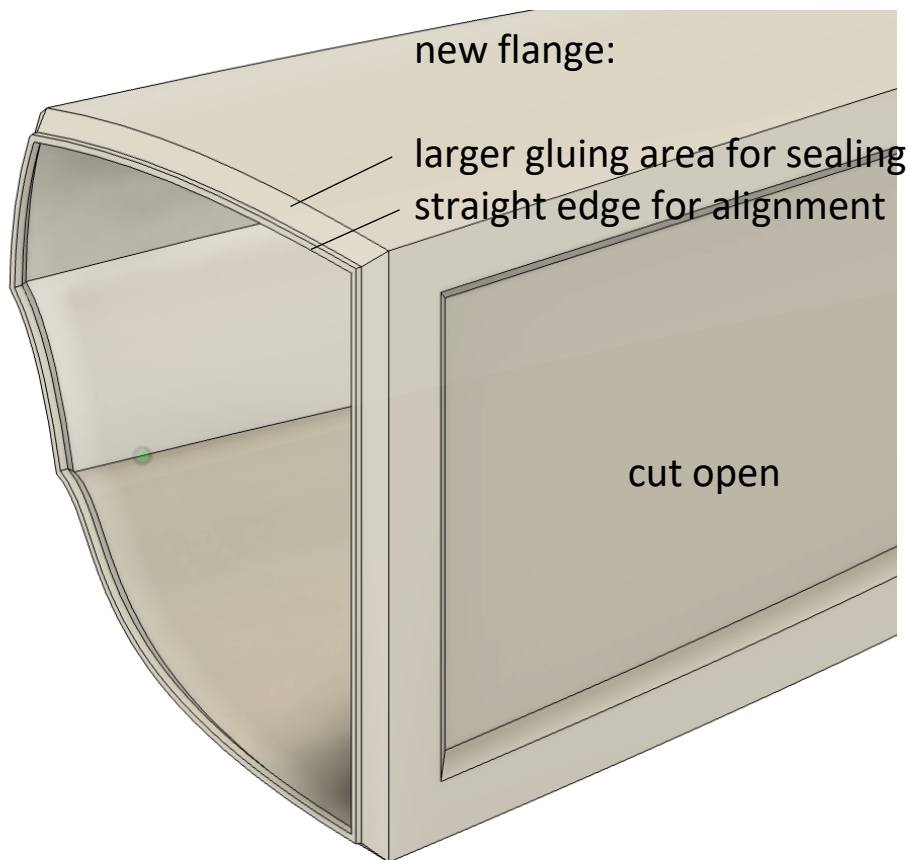
Print the cockpit on its rear wall. If it is too long for your printer, simply split it in the slicer and glue the two halves back together with a butt joint.

PRINTED PARTS LIST

New Generation IMOCA	Material	Top/Bottom	Quantity	Mirror?	comment
10 HULL					
BOW SPRIT.stl	ABS/GF	0	1	no	=> nozzle 0.4mm & infill 25% for all parts print 3 walls/perimeters
H1L STERN INSERT L.stl	ABS/GF	3/4	1	yes	
H1L stern.stl	ABS/GF	0	1	yes	alternative to H1LR, for midsize printers
H1LR stern onepiece.stl	ABS/GF	0	1	no	alternative to H1L if printbed size allows
H2L rc.stl	ABS/GF	0	1	yes	
H3L foil.stl	ABS/GF	0	1	yes	
H3M std keel.stl	ABS/GF	0	1	no	for standard/fixed keel alternative to #8
H3M cant keel.stl	ABS/GF	0	1	no	for canting keel alternative to #7
H4L.stl	ABS/GF	0	1	yes	
H5L.stl	ABS/GF	0	1	yes	
H6 bow.stl	ABS/GF	3/4	1	yes	
20 CABIN					
CABIN onepiece.stl	ABS/GF	3/4	1	no	Cut horizontally in slicer if too high
CABIN SIDE POD L.stl	ABS/GF	3/4	1	no	
CABIN SIDE POD R.stl	ABS/GF	3/4	1	no	
WINDOW BACK L.stl	ABS/GF	3/4	1	yes	optional, to glue on cabin in different color
WINDOW FRONT L.stl	ABS/GF	3/4	1	yes	optional, to glue on cabin in different color
WINDOW SIDE FRONT L.stl	ABS/GF	3/4	1	yes	optional, to glue on cabin in different color
WINDOW SIDE L.stl	ABS/GF	3/4	1	yes	optional, to glue on cabin in different color
WINDOW SIDE POD front L.stl	ABS/GF	3/4	1	yes	optional, to glue on cabin in different color
WINDOW SIDE POD side L.stl	ABS/GF	3/4	1	yes	optional, to glue on cabin in different color
30 KEEL & SKEG					
KEEL BOX BRACE.stl	ABS/GF	3/4	1	yes	print 6 walls/perimeters
KEEL BOX.stl	ABS/GF	3/4	1	no	print 6 walls/perimeters
SKEG element.stl	ABS/GF	3/4	2	no	print 6 walls/perimeters
SKEG front piece.stl	ABS/GF	3/4	1	no	print 6 walls/perimeters
40 FOIL					
F-CASE L -lower.stl	ABS/GF	3/4	1	yes	print 6 walls/perimeters
F-CASE L -ruthex piece.stl	ABS/GF	3/4	1	yes	print 6 walls/perimeters
F-CASE L -skid.stl	ABS/GF	3/4	1	yes	print 6 walls/perimeters
F-CASE L -upper.stl	ABS/GF	3/4	1	yes	print 6 walls/perimeters
FOIL V3.stl	ABS/GF	3/4	1	yes	print 6-8 walls, proven large foil
FOIL V5.stl	ABS/GF	3/4	1	yes	print 6-8 walls, most scale for display
FOIL V6.stl	ABS/GF	3/4	1	yes	print 6-8 walls, V5 increased root profile
FOIL V7.stl	ABS/GF	3/4	1	yes	print 6-8 walls, V6 with steady root profile
50 RUDDER					
RUDDER BRACKET L.stl	ABS/GF	3/4	1	yes	
RUDDER BRACKET upper axis.	ABS/GF	3/4	1	yes	
RUDDER.stl	ABS/GF	3/4	1	yes	print 6 walls/perimeters
60 RIG					
BASE OUTRIGGER	ABS/GF	3/4	1	no	
BLOCK 4 13 4 lower thick.stl	ABS/GF	3/4	4	no	
BLOCK 4 13 4 lower.stl	ABS/GF	3/4	1	no	
BLOCK 4 13 4 upper.stl	ABS/GF	3/4	5	no	
BOOM BAND neo 10mm -long-	ABS/GF	3/4	0	no	
BOOM BAND neo 10mm -middl	ABS/GF	3/4	7	no	
BOOM BAND neo 10mm -short	ABS/GF	3/4	2	no	
GOOSE BOOM 10mm.stl	ABS/GF	3/4	1	no	
GOOSE mast 12mm.stl	ABS/GF	3/4	1	no	
GOOSE PIVOT 12-16mm.stl	ABS/GF	3/4	1	no	
U.stl	ABS/GF	3/4	1	no	for "flying" block, bend to U shape under heat
70 MOLDS					
MOLD DECK 1.stl	PLA	3/4	1	yes	
MOLD DECK 2.stl	PLA	3/4	1	yes	
MOLD DECK 3.stl	PLA	3/4	1	yes	
MOLD DECK 4.stl	PLA	3/4	1	yes	
MOLD HULL 1.stl	PLA	3/4	1	yes	
MOLD HULL 2.stl	PLA	3/4	1	yes	
MOLD HULL 3.stl	PLA	3/4	1	yes	
MOLD HULL 4.stl	PLA	3/4	1	yes	

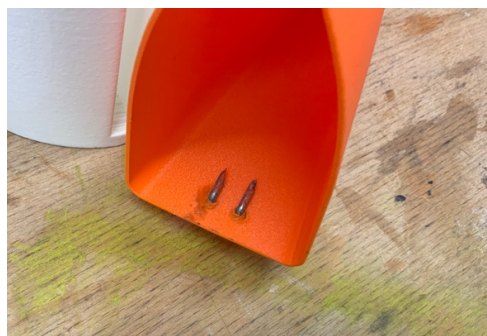
HULL ASSEMBLY

The new connecting flanges ensure a good alignment of the segments. In order to compensate for small tolerances, the mid joint is as a simple butt joint.



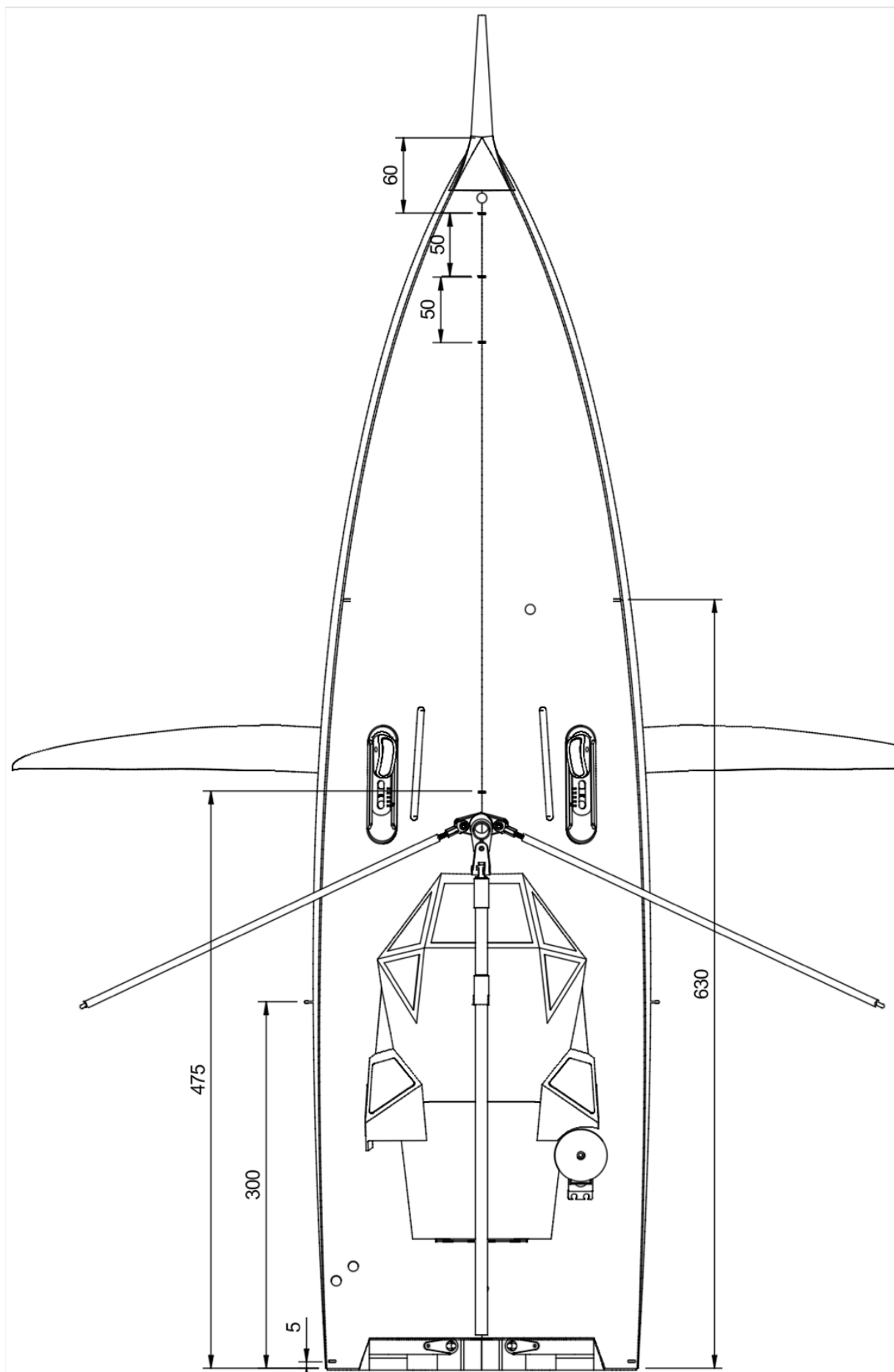
Cut out the vertical recessed areas on the mid plane for weight saving and glue the left and right sides of the parts together. Before gluing the segments in their longitudinal order install the deck eyes and secure them from the inside with epoxy.

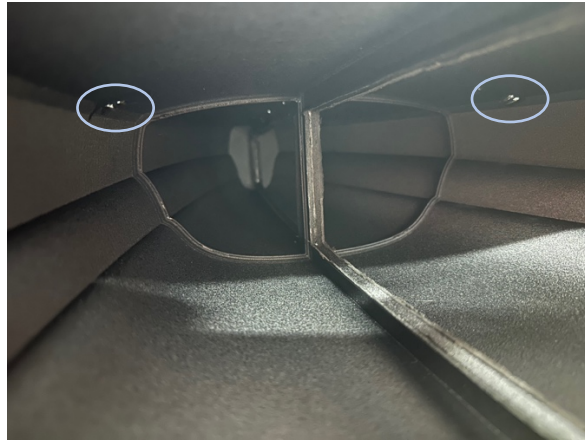
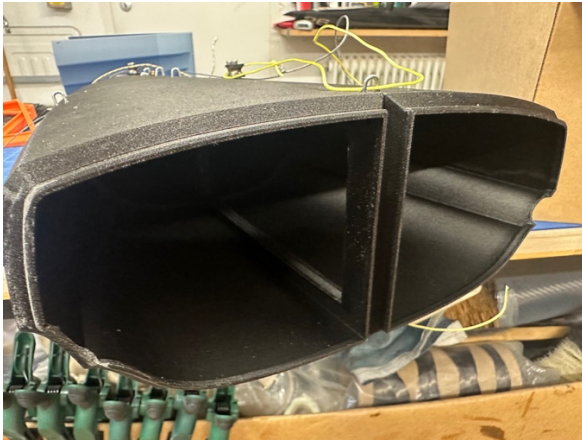
To create deck eyes, bend a wire into a U and trim it to approximately 15mm. Bend both ends 90 degrees in the same direction and insert them into two small holes on the deck, securing with epoxy. The orientation of the ends is important, as they need to apply pressure against the deck when force is applied.



Example picture from another boat.

The positions for the deck eyes are indicated in the plan on the following page.

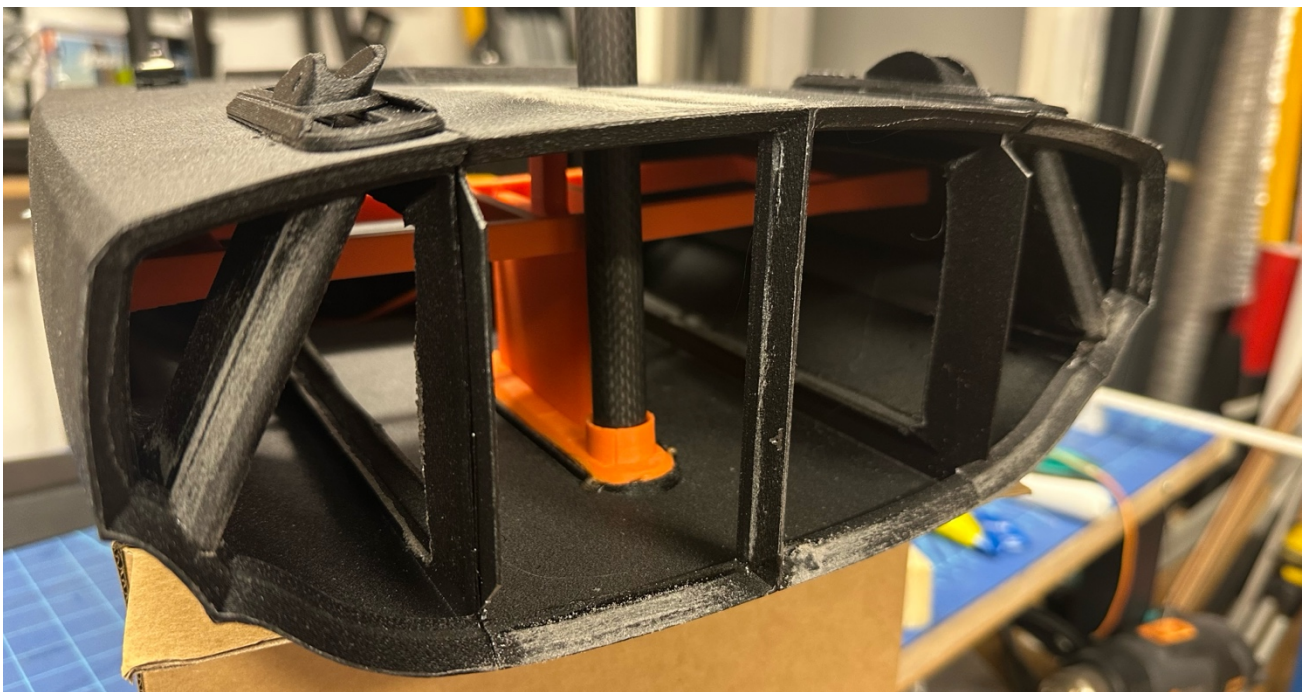




Segments H5L & R glued together with the inside surfaces removed. The new flanges act as stiffening half-bulkheads. On the right you see the deck eyes secured with Epoxy.

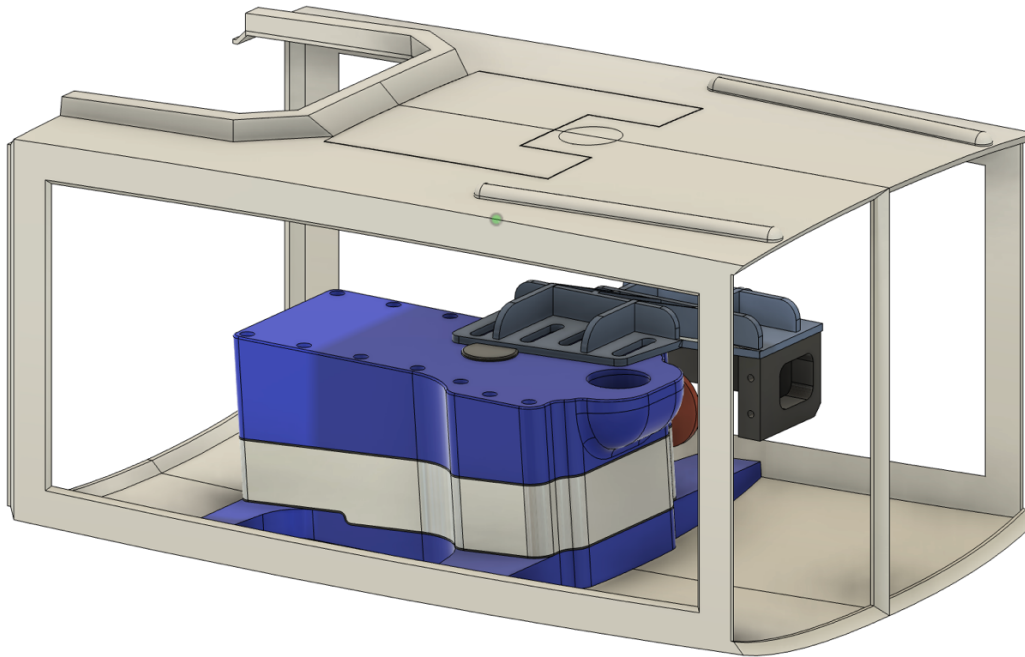
Melt three M3 threaded inserts into the bow segment “H6 bow” to attach the removable bowsprit. Glue together the three foil-case parts, but leave the skid unglued so it remains movable. Then carefully glue the foil cases into hull segment H3L and -R. Make sure the top of each foil case sits flush with the deck and the lower end is watertight.

For the fixed-keel configuration, glue the KEEL BOX into “H3M std keel”. For the canting-keel option, see the next chapter. Glue H3L, H3M and H3R together, then secure the keel box with the KEEL BOX BRACES L and R.



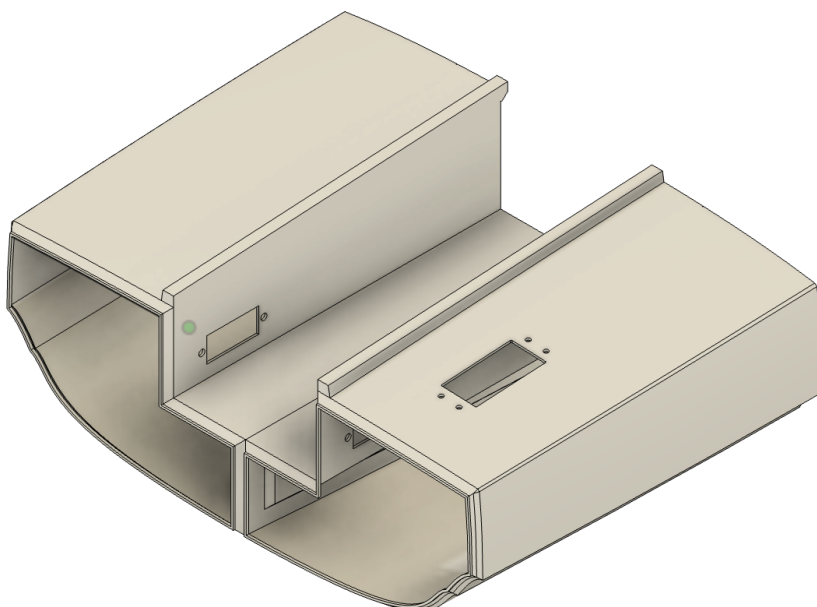
The foil cases and keel box are installed in the mid section H3L, -M and the mirrored -R

The canting keel uses a standard-size sail winch with 6 turns to move the keel about 35 degrees to each side. Print hull section “H3M cant keel” instead of “H3M std keel”; the KEEL BOX is not required. The canting keel allows either a lighter keel weight or a higher righting moment. It improves sailing performance, although foiling is also possible with the fixed keel. All printable parts and the bill of materials for the canting keel box are included in a separate file package, available in the YACHTS section of the Yachtprint.de website.



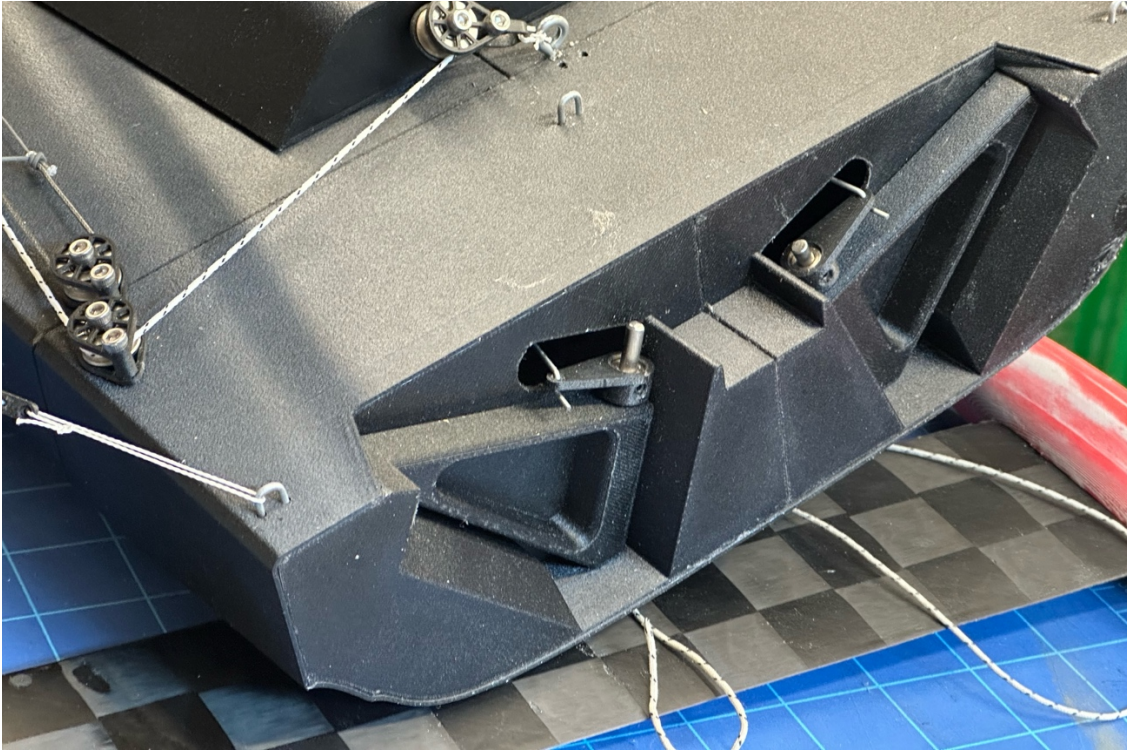
The canting keel features a sealed worm drive and uses the same keel fin as the fixed version

The next hull segment to prepare is H2L and -R where the RC components will be installed. On the right side an external sail winch is mounted flush on deck. Therefore a dedicated right side-part "H2R rc" must be used which is prepared for the sail winch.



For the hull segment of the stern, you can either use the left and right halves or, if your printer allows, print the section in one piece. Insert the pins of the RUDDER BRACKETS into the STERN INSERTS and secure them with an upper axis on the outside edge of each bracket. Then glue the INSERTS into hull segment H1.

Run the steering rods through the holes in the rear wall of the INSERTS and attach them to the rudder horns. Drill the rudder stock to approximately 3.1 mm for the 3mm rudder axis.



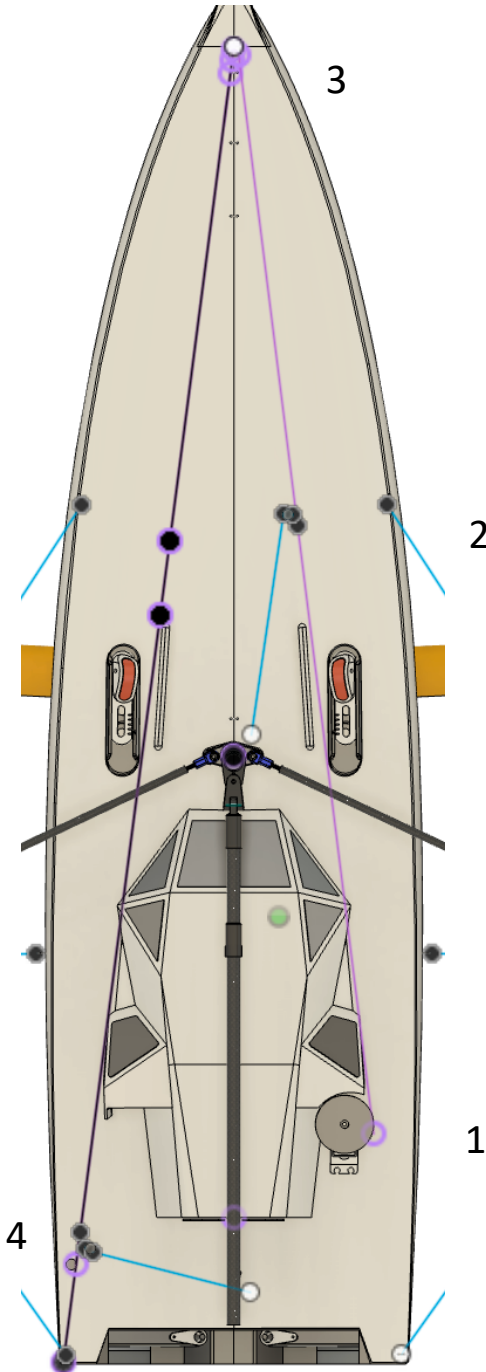
Make sure that the servo horns are in a 90 degrees angle to the steering rods of the rudders



With each rudder controlled by its own servo, you can use a digital V-tail mixer in your transmitter to toe the rudders in or out, creating positive or negative lift.

SHEETING SYSTEM

The sheeting system uses a rubber band to keep the winch sheet (purple) under tension. From this winch sheet, two separate sail sheets (blue) run to the jib and main sail.



1 Sail winch pulling in and out.

2 turning block for the jib sheet (blue), the winch sheet runs straight past (purple)

3 forward turning block for winch sheet

4 rear turning block for winch sheet and attachment of rubber string to run up to bow (black).

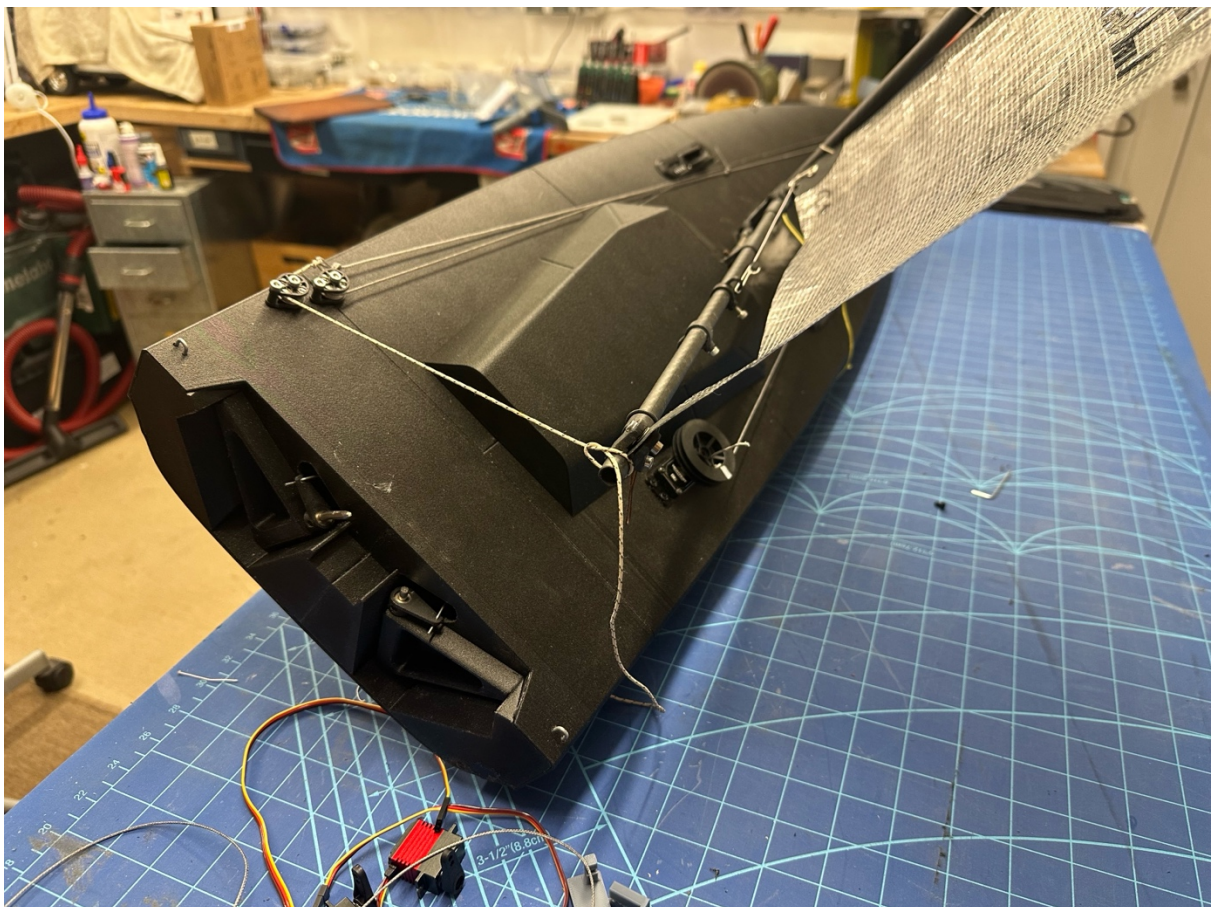
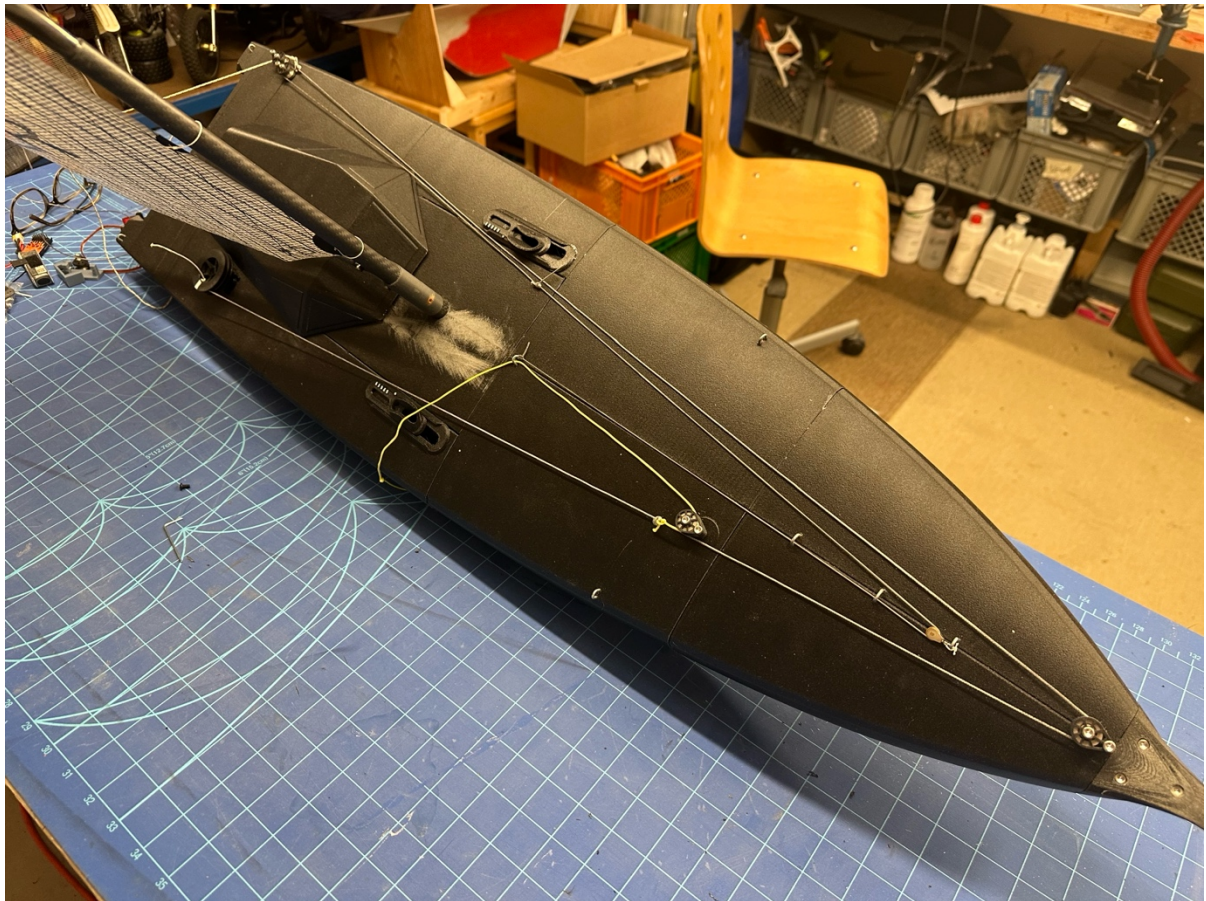
Main sheet (blue) to run through second block to a flying block midship and to the boom.

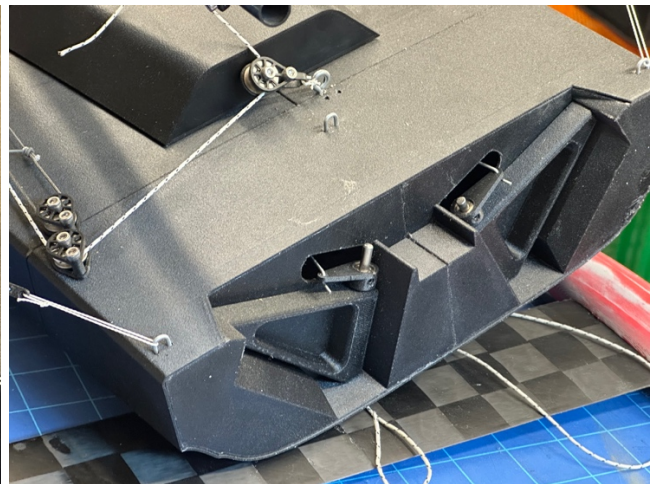
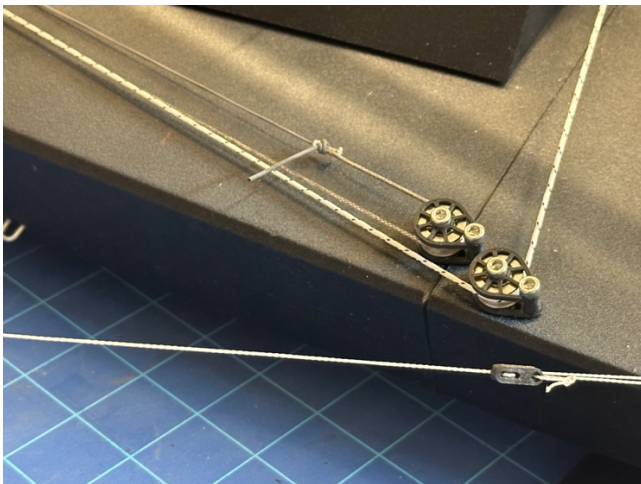
The rubber line must still just be tensioned in the full out/eased position. The winch pulls against the rubber line when sheeting in for upwind sailing.

BLOCKS

As blocks you can purchase parts e.g. from “Cap Maquettes” (French store) or “Sailsetc.” (UK store).

Alternatively, you can use the printable parts provided here. To complete the blocks, you need ball bearings with a U groove and a size of 4x13x4 (in mm, inner hole/outer diameter/thickness).





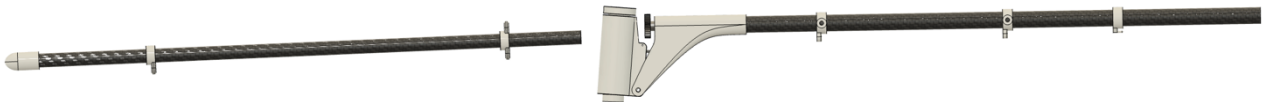
APPENDAGES

The boat is compatible with the Dragon Force 95 (DF95) fin and keel bulb, which are widely available as spare parts. Alternatively, you can 3D print the bulb and fill it with lead and epoxy to reach about 550g.

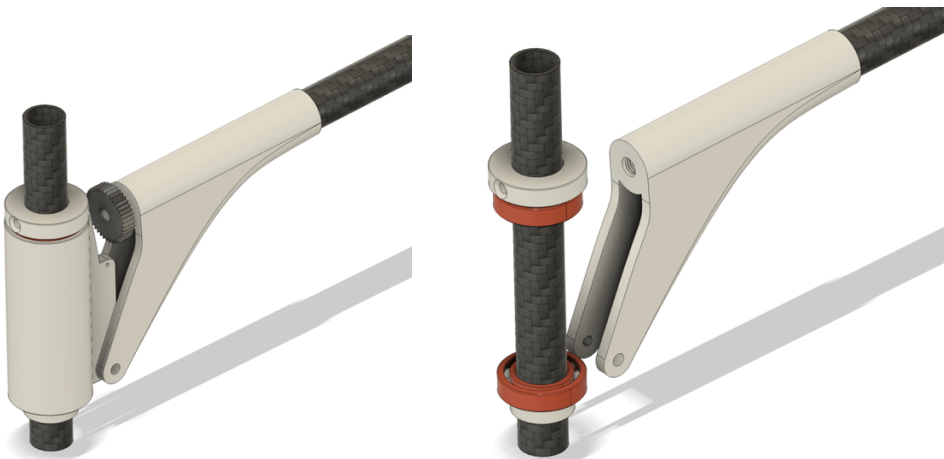
RIG AND SAILS

The provided printable rig parts can be used to assemble a custom rig with 10-16mm carbon tubes. The B- and C-rigs of a Mini40 trimaran are suitable options; the B-rig closely matches the scale of the original IMOCA, as indicated in the sail plans below.

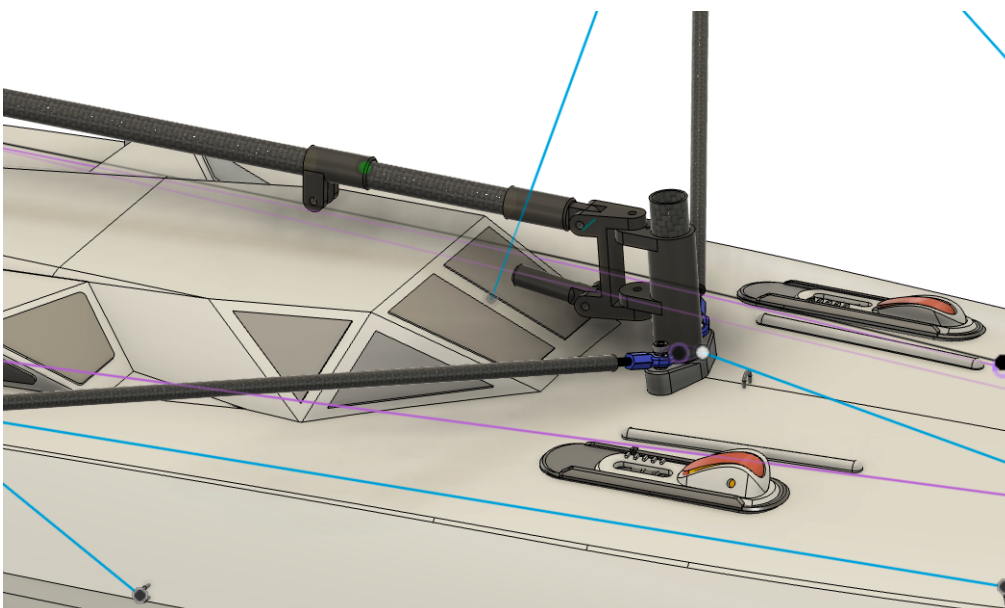
The mast step is 16mm in diameter, fitting a 14mm mast foot. The mast measures 12mm, tapering to 10mm at the top for the last 20%. Use 10mm booms for the jib and main.



The gooseneck is also printable. Two versions are available. The first version shown below requires two 12/21/5 ball bearings (inner diameter, outer diameter, width), shown in red below:



A simple gooseneck is offered as an alternative version. This arrangement requires a turnbuckle to connect the base of the gooseneck to the boom



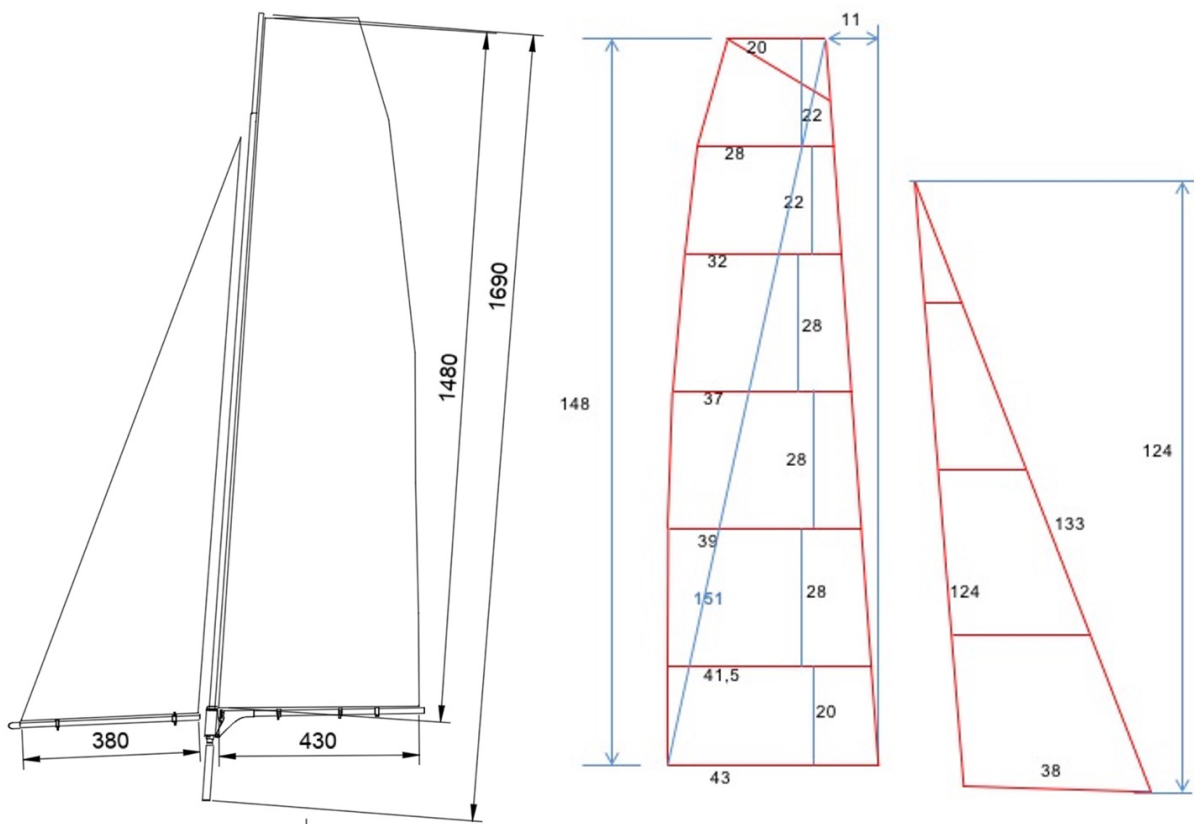
Attach the outrigger (also called deck spreaders) poles to the mast step above deck level using ball joints. Use 8mm carbon tubes for the outriggers with a length of 370mm each.

Secure the outrigger poles with three lines/wires attached to deck eyes: two lines go more longitudinally to front and to the rear. The middle line at the hull side handles most of the shroud load—reinforce this hull area with carbon fiber. All lines must be tight and strong, dyneema fishing rods are suitable for that.



Rigging the outriggers. They need quite some tension!

RIG & SAIL PLAN



The sails can be purchased at your local RC sail maker using the plan above (contact us if you can't find suitable sails or sail makers) or made diy using the sail making tool in the Yachtprint accessory package together with detailed sail making instructions.

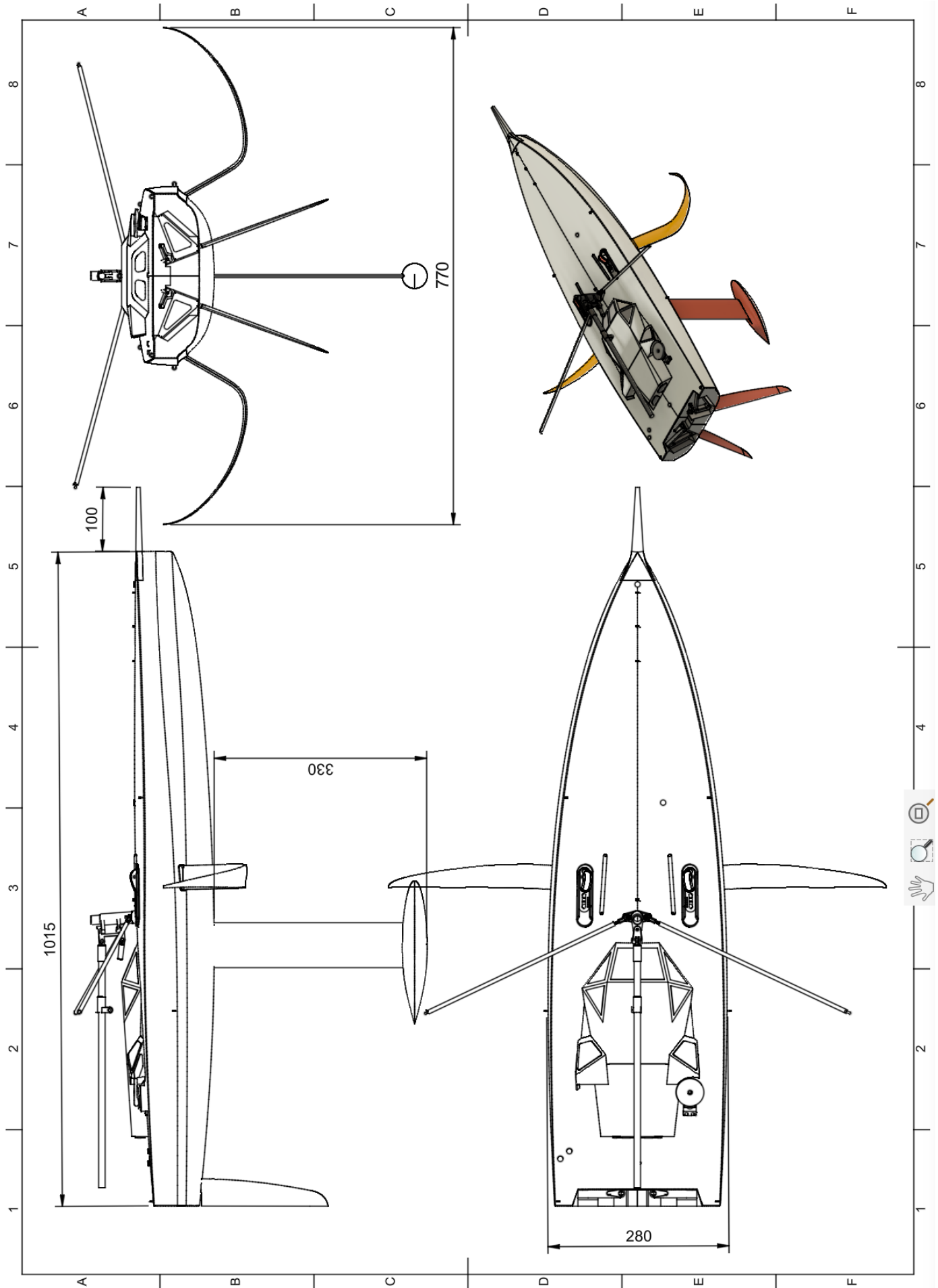
MOLDS for COMPOSITE HULL

The file package includes a set of negative molds that can be used to produce a composite hull and deck. Print the mold parts upright so that the layer lines run from side to side.

Print the molds in regular PLA with 2 walls and treat them with release wax WITHOUT any sanding. I had very good releases just with a couple of layers of release wax.

The composite deck and hull shells are connected with the shoe-box method meaning that the deck goes over the hull and overlaps at the sides.





GENERAL REMARKS

PLEASE DON'T SHARE THE FILES. A lot of genuine work went into it and there are hundreds of scammers selling other people's intellectual property. As I cannot secure this technically, I depend on you.

You purchased a license to print as many boats and parts as you wish for YOUR OWN PERSONAL USAGE.

When you sell a boat, THE LICENSE GOES WITH IT. Please purchase a new license if you have another boat in use or if you want to build another one. If in doubt, just contact.

You can use third party printing but MAKE SURE THEY DELETE THE FILES after printing.

If you run into problems, have any questions or If you wish changes CONTACT ME.

ACTIVELY post about your project in the Facebook community. I love discussing and gathering new views.

Your

Chris Angelduro
YACHTPRINT

