

SRB90 - SAR Boat

A printable RC boat by YACHTPRINT, Chris Angelduro

Version 3.0, 05/2026



The picture shows the prototype without details like radar, clamps, etc.

The new SRB90 prototype of the DGzRS, the German SAR organisation, is a new rescue workboat of about thirteen meters in length, designed for operations in shallow waters and coastal areas. The boat features an aluminum hull and two jet drives. Commissioning is planned for summer 2026.

The SRB90 model is designed in a scale of 1:10 and measures about 1.3 meters in length. With a weight of more than 12 kilograms and two real jet drives, the model delivers a very realistic handling and appearance on the water creating large waves & spray. It runs smoothly, is powerful and highly maneuverable.

In addition to the printable hull, the file package includes printable parts for a full-size negative hull mold for hand-laminating a fiberglass hull. It also includes a complete 3D-printable deck and bulkhead structure adapted for such a laminated hull.

TECHNICAL DATA of the model:

Scale	1:10
Length	1.293 mm hull
Width	425 mm
Weight	ca. 12kg incl. RC components
Print plate	280x280x305 for 1:10 (e.g. Bambu Lab H2D, values for x/y/z) 160x160x210 for alternative scale 1:15 (=66,7% of above) for min.
Filament	ABS/GF or comparable material, approx. 10 kg

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

- RC transmitter and receiver, min. 4-channel, potentially more for additional functions
- 2x 40mm jet drive units with reverse buckets, e.g. from MSQ, TFL or 3D printed from Hillprinties
- 4x high voltage, metal gear servos, 15-25kg torque, preferably waterproof
- 2x brushless motors, e.g. MSQ or SSS
- 2x ESC (electronic speed controls), water cooled, 140-160A
- 2x Lipo batteries 3-6s
- Optional: RC bilge pump for engine module
- Optional: additional functions like LED lights, sound, rotating radar, FPV, etc.

TWO SCALES RECOMMENDED

There are two scales recommended for printing: 10th scale as default and 15th scale as smaller size.

10th scale length 1,29m, width 0,42m (it is gigantic, believe me...)

15th scale length 0,86m, width 0,28m (scale it down in the slicer with the factor 0,667)

Because the hull and cabin bodies are solid, they can be scaled easily in the slicer, for example to 1:20 or 50%. The wall thicknesses is not scaling automatically but can be adjusted independently in the slicer by setting the number of walls (toolpaths) together with the layer width.

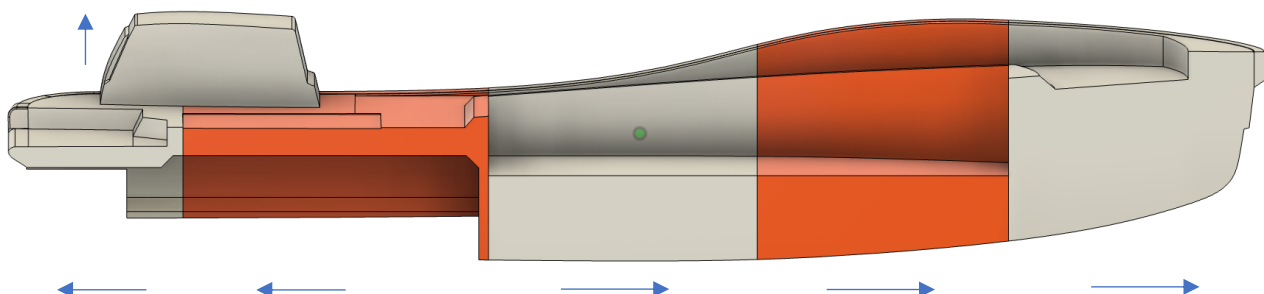
The following instructions refer to the larger 10th scale version.

3D PRINTING

- 1) mirror parts marked with "L" in the slicer along X for the right side corresponding parts
- 2) set infill to 0% for hull sections to get hollow parts
- 3) print with 0.8 nozzle, 2-3 walls/perimeters to obtain the necessary stability
- 4) filament suggestion: ABS/GF from BambuLab but other strong filaments will work as well.

The hull segments H1-5 are printed upright and need to be hollow. In order to achieve this, the infill has to be set to 0% (optionally lightning infill, see below). Always print bottom and top layers. The top layers are printed by bridging. Allow min 4 top layers to obtain a smooth surface. In order to support the upper top layers you can optionally set the infill to "Lightning at 5-7%". By doing that, infill is only added just before horizontal layers that may need support.

The hull segment's print direction is shown below.



All hull segments are left side parts. For the right side, they must be mirrored along X in the slicer.

INSTRUCTIONS – SRB90

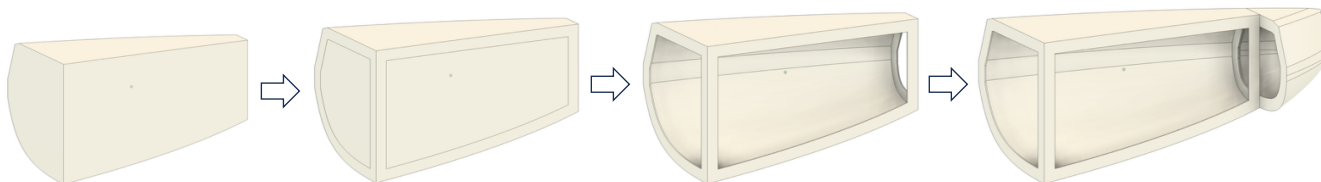
PARTS LIST 3D PRINTED BOAT/HULL

3D printed parts list SRB90		Material	Nozzle	Infill	Quantity	Mirror?	comment
10 hull							
DOME L.stl		ABS/GF or comparable	0.8	0%	2	yes	one for each side, mirror along X
H1 L bow.stl		ABS/GF or comparable	0.8	0%	2	yes	one for each side, mirror along X, print two walls at 0.8 width
H2 L.stl		ABS/GF or comparable	0.8	0%	2	yes	one for each side, mirror along X, print two walls at 0.8 width
H3 L.stl		ABS/GF or comparable	0.8	0%	2	yes	one for each side, mirror along X, print two walls at 0.8 width
H4 L.stl		ABS/GF or comparable	0.8	0%	2	yes	one for each side, mirror along X, print two walls at 0.8 width
H5 L stern.stl		ABS/GF or comparable	0.8	0%	2	yes	one for each side, mirror along X, print two walls at 0.8 width
20 cabin							
BACK WINDOW FRAME L.stl		ABS/GF or comparable	0.8	100%	2	no	use gyroid infill, or increase # of walls to create a solid body
CAB ROOF front.stl		ABS/GF or comparable	0.8	7%	1	no	use gyroid infill
CAB ROOF rear.stl		ABS/GF or comparable	0.8	7%	1	no	use gyroid infill
CABIN door.stl		ABS/GF or comparable	0.8	100%	2	no	use gyroid infill, or increase # of walls to create a solid body
CABIN front.stl		ABS/GF or comparable	0.8	7%	1	no	use gyroid infill
CABIN middle.stl		ABS/GF or comparable	0.8	7%	1	no	use gyroid infill
CABIN rear.stl		ABS/GF or comparable	0.8	7%	1	no	use gyroid infill
CABIN side piece L.stl		ABS/GF or comparable	0.8	7%	2	yes	use gyroid infill
WINDOW front L.stl		ABS/GF or comparable	0.8	100%	2	yes	use gyroid infill, or increase # of walls to create a solid body
WINDOW side printable.stl		ABS/GF or comparable	0.8	100%	2	no	use gyroid infill, or increase # of walls to create a solid body
30 engine module							
ENGINE MODULE front.stl		ABS/GF or comparable	0.8	100%	1	no	use gyroid infill, or increase # of walls to create a solid body
ENGINE MODULE rear.stl		ABS/GF or comparable	0.8	100%	1	no	use gyroid infill, or increase # of walls to create a solid body
40 sea fence							
Reling Bow L.stl							
Reling Cabin L + R.stl							
Reling Cabin side R.stl	these STL serve as templates, they may be printed in pieces or laying on their flat faces						
Reling Dome L.stl							
Reling Roof rear.stl							
Reling Side cabin.stl							
50 details							
CLAMP.stl		ABS/GF or comparable	0.8	100%	6	no	use gyroid infill, or increase # of walls to create a solid body
DOME VENT L.stl		ABS/GF or comparable	0.8	100%	2	yes	use gyroid infill, or increase # of walls to create a solid body
HATCH.stl		ABS/GF or comparable	0.8	100%	4	no	use gyroid infill, or increase # of walls to create a solid body
POS LIGHT L.stl		ABS/GF or comparable	0.8	100%	2	yes	use gyroid infill, or increase # of walls to create a solid body
RADAR base.stl		ABS/GF or comparable	0.8	7%	1	no	use gyroid infill
RADAR pivot.stl		ABS/GF or comparable	0.8	7%	1	no	use gyroid infill
ROOF ANTENNA MAST L.stl		ABS/GF or comparable	0.8	7%	2	yes	use gyroid infill
SIGN dgzrs.stl		ABS/GF or comparable	0.8	100%	2	no	use gyroid infill, or increase # of walls to create a solid body
VENT.stl		ABS/GF or comparable	0.8	100%	4	no	use gyroid infill, or increase # of walls to create a solid body
60 table stand							
STAND front.stl		ABS/GF or comparable	0.8	7%	1	no	use gyroid infill
STAND rear.stl		ABS/GF or comparable	0.8	7%	1	no	use gyroid infill

ASSEMBLY

The general approach is to cut out the inner parts of the mating faces leaving a 5-10mm edge as gluing surface (see description above). The hull is then piece by piece glued together.

The insides of the mating faces of the hull segments are cut out while leaving a 10mm frame as glueing surface and for rigidity. You can use a soldering iron with a knife as tool piece for that cutout.



Cutting the inside walls of the segment while leaving a 10mm frame (principle! parts from another boat)



Printed parts of the prototype with marks for the cutouts

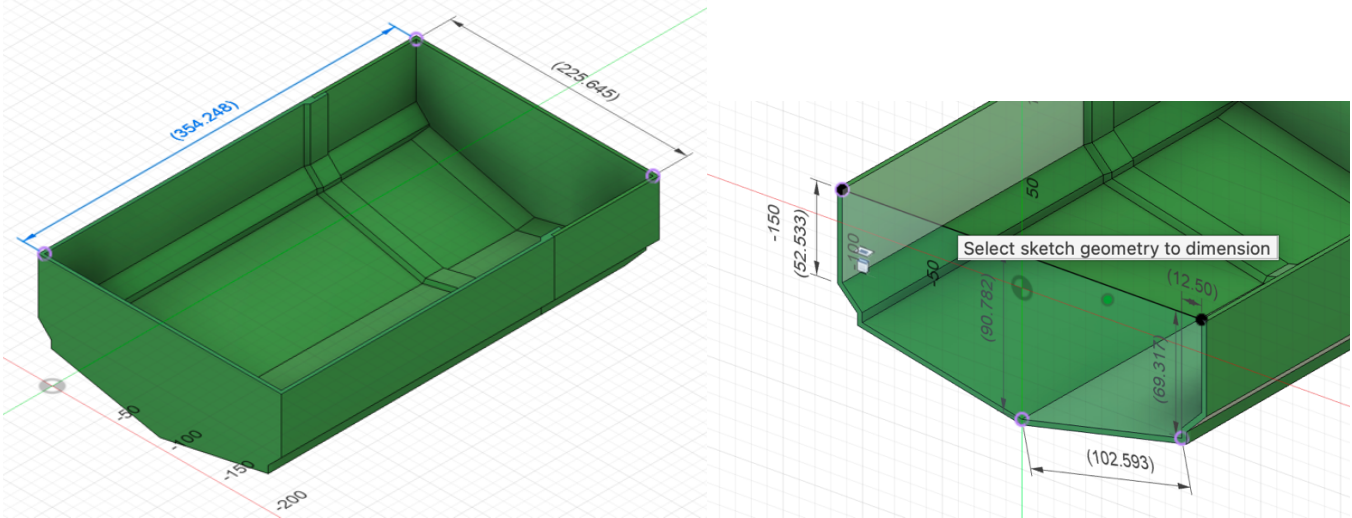
Assemble the model in three modules: 1) hull, 2) cabin, and 3) engine module.

The hull frame that supports the cabin has grooves at the front and rear for a self-adhesive magnetic strip measuring 10 mm wide and 1 mm thick. Combined with a thin metal strip glued to the underside of the cabin, this holds the cabin securely on the hull.

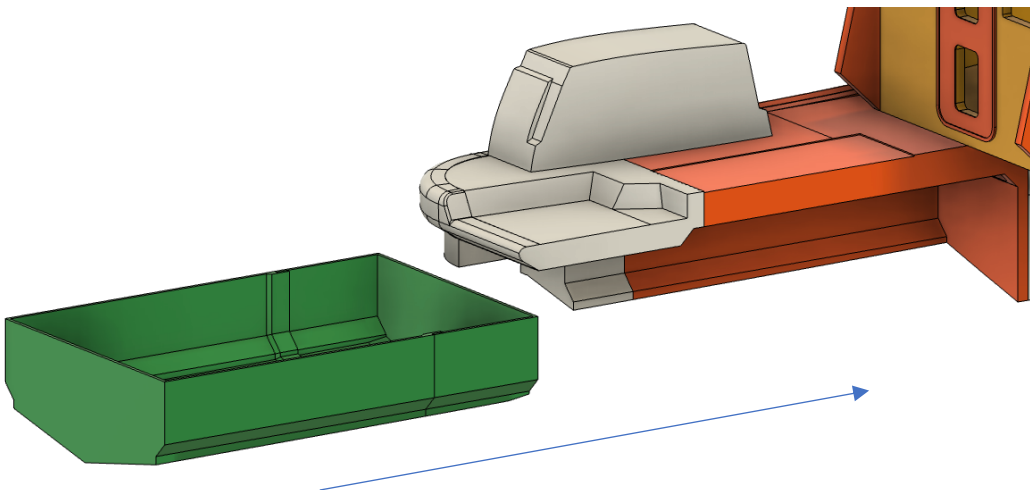
The engine module consists of two parts printed on their vertical outer surfaces. Unlike the hull segments, these parts are shelled, meaning they are hollow. Increase the number of walls/perimeters until the walls are solid without infill.

The module is large enough to hold two standard 40 mm jet units, including the servos (see shopping list). Its top edge sits about 10 mm above the waterline, so little or no sealing is required.

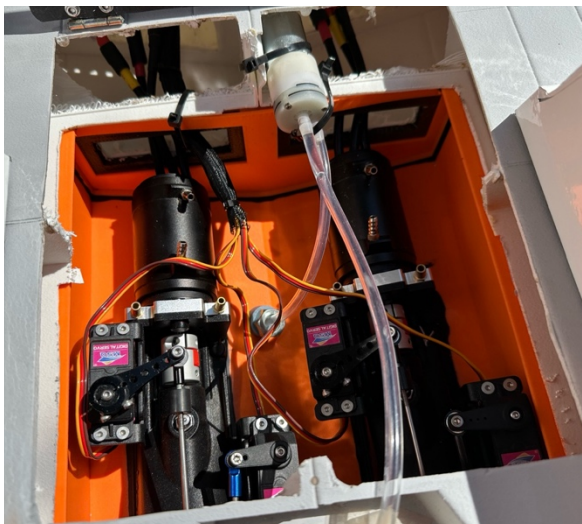
Dimensions of the engine module to judge fit of your jet drives:



The module is inserted into the hull from the stern. It is held in place by the angled groove in the hull and rests against the bulkhead. To prevent it from being pulled out when reversing or braking, it can be secured with one or two screws.



The Jet-drive installation depends largely on the specific model you choose.



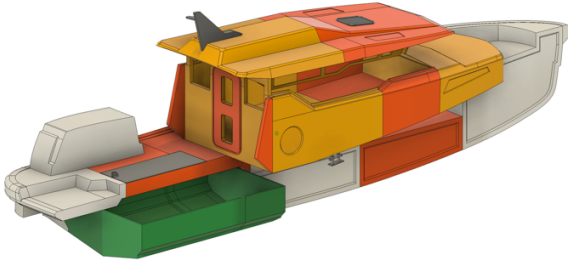
I strongly recommend gluing in the frame on the intake opening, as water leakage is otherwise almost inevitable.

Some jet units have a separate mounting frame that can be glued in instead of the entire jet.

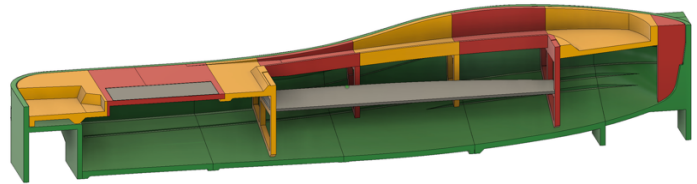
Example: MSQ jet drives installed with a bilge pump centered between them (this engine module differs a bit from the current "production" version)

MOLD FOR FIBERGLASS HULL

Instead of printing the hull segments, you can use the negative mold to laminate a fiberglass hull shell. The deck remains 3D printed and is fully adapted to the fiberglass hull, together with dedicated bulkheads. The orange rubber edge integrated into the hull segments of the 3D-printed version is provided here as separate parts. This simplifies the mold shape and avoids undercuts. The cabin is still printed.

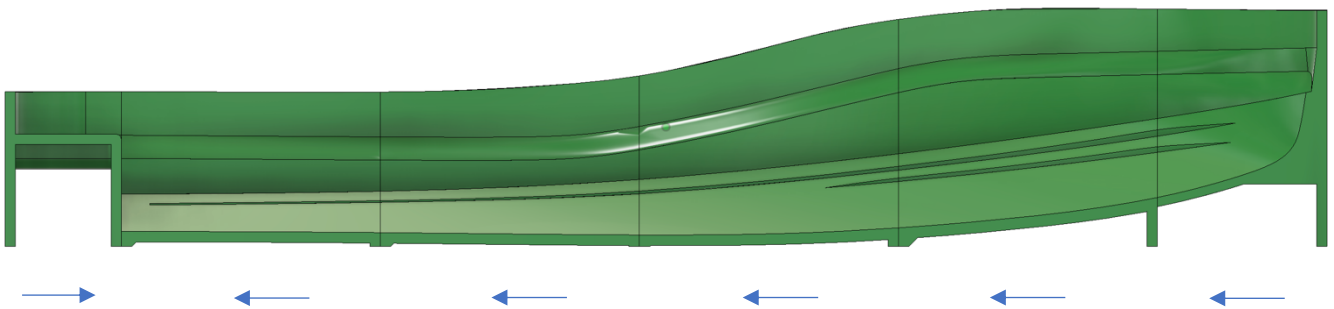


Classical 3D printed version



Mold with adapted deck and bulkhead structure

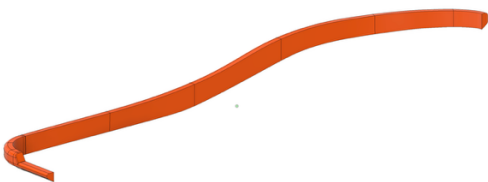
Print the mold pieces in the orientation shown below (watch out the stern section, use supports here). For the right side, mirror the parts along the X-axis in the slicer. I recommend standard PLA for this purpose because it is hard, inexpensive, and prints quickly. Use a 0.4 mm nozzle for a good surface finish.



Glue the mold segments together along their flush mating surfaces. You can sand and fill the inside of the mold to create a smooth surface, but very good results are possible even without additional surface finishing. Apply 3–4 coats of release wax and, optionally, one layer of PVA release film.

The deck parts are recessed approximately 1.2–1.5 mm from the mold, so the finished fiberglass hull should match this thickness or be slightly thicker. A rough glass-cloth layup estimate is 1x 25/50 g plus 3–4x 160 g, or 1x 25/50 g plus 2–3x 200 g. Fill or round sharp internal corners and spray rails with epoxy and cotton flocks or a comparable filler material.

Print the rubber edge (the printing material must NOT be rubber of course) and glue it to the outside of the fiberglass hull. As usual, mirror the parts along X for the right side.



INSTRUCTIONS – SRB90

PARTS LIST MOLD FOR FIBERGLASS HULL

(Parts for cabin, details etc. are shown in the first list)

3D printed parts SRB90 MO	Material	Nozzle	Infill	Quantity	Mirror?	comment
10 hull						
15 MOLD for hull - alternative to 10						
deck						
DECK w Bulk 7.stl	ABS/GF or comparable	0.8	10-15%%	2	yes	use gyroid infill
DECK w Bulk 1 bow.stl	ABS/GF or comparable	0.8	10-15%%	2	yes	use gyroid infill
DECK w Bulk 2.stl	ABS/GF or comparable	0.8	10-15%%	2	yes	use gyroid infill
DECK w Bulk 3.stl	ABS/GF or comparable	0.8	10-15%%	2	yes	use gyroid infill
DECK w Bulk 4.stl	ABS/GF or comparable	0.8	10-15%%	2	yes	use gyroid infill
DECK w Bulk 5.stl	ABS/GF or comparable	0.8	10-15%%	2	yes	use gyroid infill
DECK w Bulk 6.stl	ABS/GF or comparable	0.8	10-15%%	2	yes	use gyroid infill
DECK w Bulk 8 stern.stl	ABS/GF or comparable	0.8	10-15%%	2	yes	use gyroid infill
ENGINE HATCH L.stl	ABS/GF or comparable	0.8	10-15%%	2	yes	use gyroid infill
RC board.stl	ABS/GF or comparable	0.8	10-15%%	2	yes	use gyroid infill
mold						
MOLD L 1 bow 1.stl	PLA	0.4	10%	2	yes	use gyroid infill, min. 2 walls
MOLD L 2.stl	PLA	0.4	10%	2	yes	use gyroid infill, min. 2 walls
MOLD L 3.stl	PLA	0.4	10%	2	yes	use gyroid infill, min. 2 walls
MOLD L 4.stl	PLA	0.4	10%	2	yes	use gyroid infill, min. 2 walls
MOLD L 5.stl	PLA	0.4	10%	2	yes	use gyroid infill, min. 2 walls
MOLD L 6 stern.stl	PLA	0.4	10%	2	yes	use gyroid infill, min. 2 walls
rubber edge						
RUBBER L 1.stl	ABS/GF or comparable	0.8	7%	2	yes	use gyroid infill
RUBBER L 2.stl	ABS/GF or comparable	0.8	0%	2	yes	use gyroid infill
RUBBER L 3.stl	ABS/GF or comparable	0.8	0%	2	yes	use gyroid infill
RUBBER L 4.stl	ABS/GF or comparable	0.8	0%	2	yes	use gyroid infill
RUBBER L 5.stl	ABS/GF or comparable	0.8	0%	2	yes	use gyroid infill
RUBBER L 6.stl	ABS/GF or comparable	0.8	0%	2	yes	use gyroid infill
RUBBER L 7.stl	ABS/GF or comparable	0.8	10-15%%	2	yes	use gyroid infill

SHOPPING LIST (Suggestions)

Jet Drives: Hillprinties (3D printable) or MSQ 40mm or TFL 40mm
 Motor: SSS 4074 1400kV
 ESC: Hobbywing 160A
 LiPo: CNHL 4S 10.000 mAh

The HillPrinties Shop

3D Printed RC Boats, Drives and Trailers

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HPW40 2-Stage Water Jet Pump

€19,95

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– 1 +

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Direct Download after Your Purchase

This design is a true-to-original 2-stage water jet drive for RC models.

The jet drive has a nominal diameter of 40 mm and is designed for operation with a 2.0-2.5 kW brushless motor on 3-6S LiPos.

The print data includes 3 assemblies:

1. HPW40 water jet drive with control nozzle
2. HPW40 water jet drive with control nozzle and reverse flap
3. V8 motor cover

All necessary data for printing the housing, stator, stator housing, impellers and accessories are included.





40mm

007 5mm motor shaft black
With servo mount and 2pcs servo

High Quality MSQ 40mm Water Jet Boat Pump Spray Water Thruster With Reversing bucket 4/5mm Shaft for RC Model Jet Boats

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Color: 5mm Motor 007





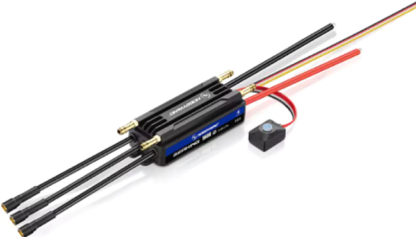








INSTRUCTIONS – SRB90



Seaking 160A V4

Brand: **Hobbywing Seaking160A/120A/90A/60A/30A V4 ESC Large Current Built-in BEC LP67 Fully Waterproof High Thrust for RC Boat DIY**

★★★★★ 5.0 10 Reviews | 37 sold

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Color: Seaking-160A-V4







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Different KV Value for Optinal



TFL SSS 2960 3660 3674 4074 4082 4092 5684 5694 56104 56114 56123
Brushless Motor Engine for RC Electric Boat

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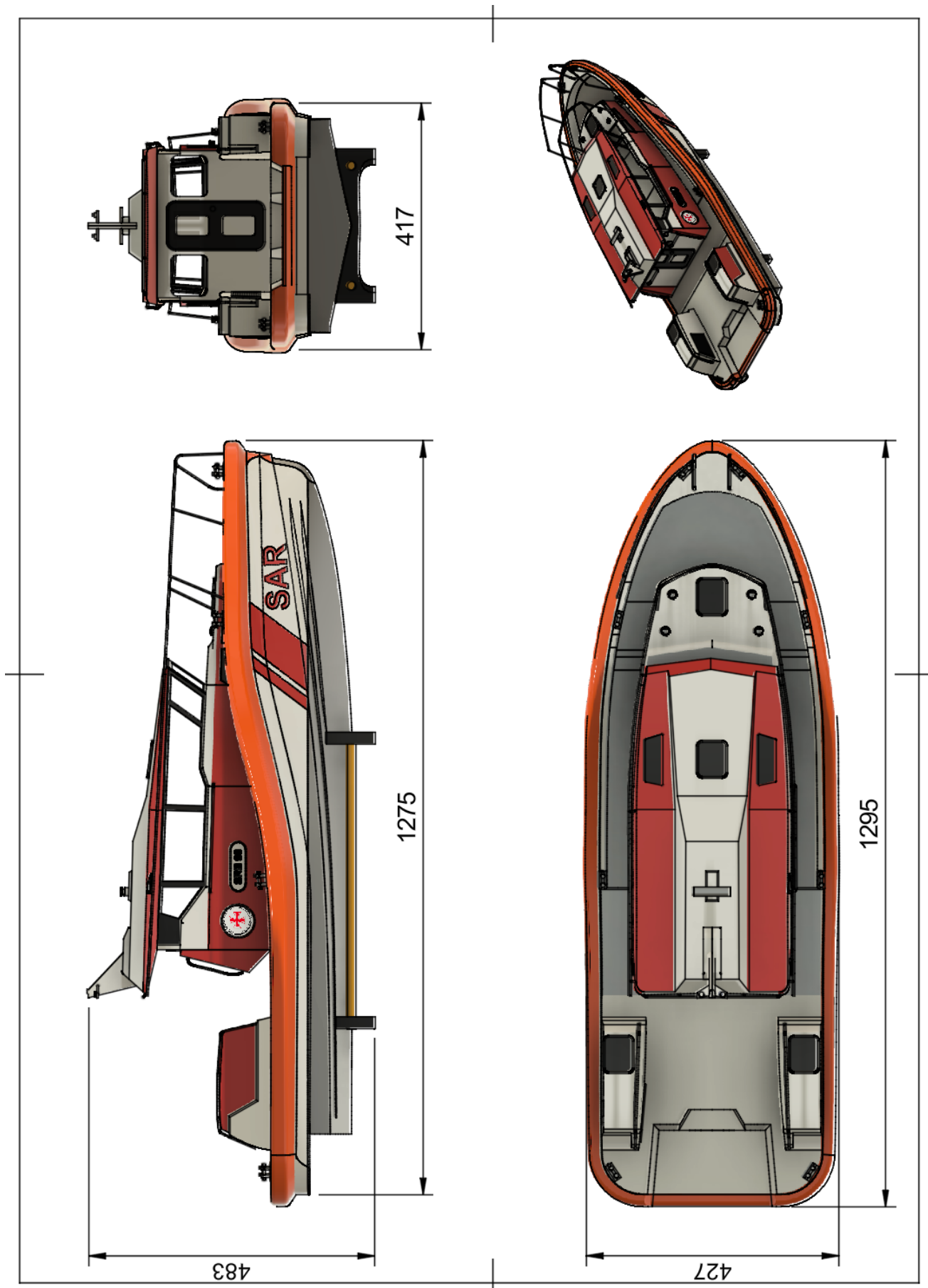
Color: 4074 KV1400

2960 KV2200	2960 KV2881	2960 KV3300	2960 KV4122
3660 KV1620	3660 KV2726	3660 KV2070	3674 KV1650
3674 KV2000	3674 KV2200	3674 KV3200	4074 KV1400

BOAT STAND

The desk boat stand consists of two parts connected by two 50 cm tubes with a diameter of 14 mm. It follows the hull contour when the outer edge of the front support is positioned just behind the end of the lower spray rail (see picture below).







The prototype at moderate speed. The 40 mm jet drives propel the boat to top speed with ease. Because the system is deliberately overpowered, all components run cool and under low stress, which helps extend their service life.

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 me at info@yachtprint.de

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

If you consider building up a fleet, e.g. for club racing, ask me for a VOLUME DISCOUNT starting at 3 units.

If you run into problems, have any questions or If you wish changes to certain parts PLS CONTACT ME.

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

PRINT IT, BUILD IT, SAIL IT and HAVE FUN!

Your

Chris Angelduro
YACHTPRINT

