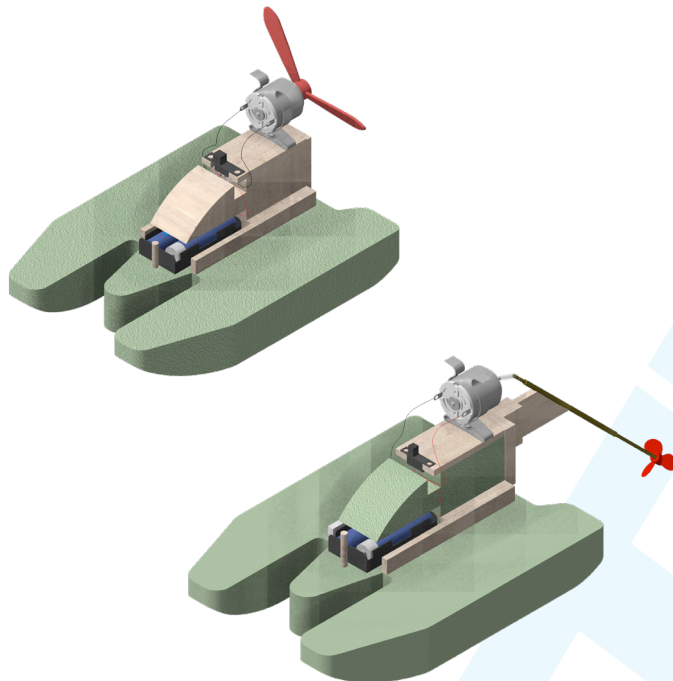
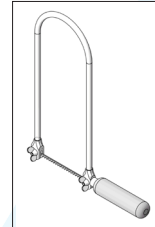


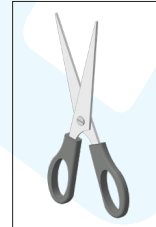
# 119.099 OPITEC Speedboat



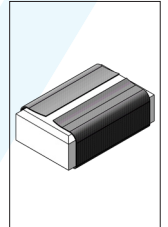
## Tools Required:



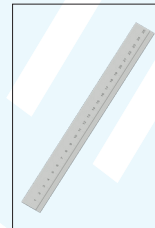
jigsaw



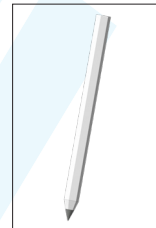
scissors



sandpaper



ruler



Bleistift



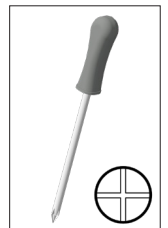
soldering iron



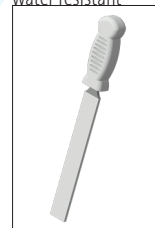
wood glue  
water resistant



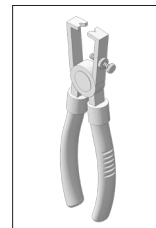
drill



screwdriver



engineer's file



wire stripper



side cutter

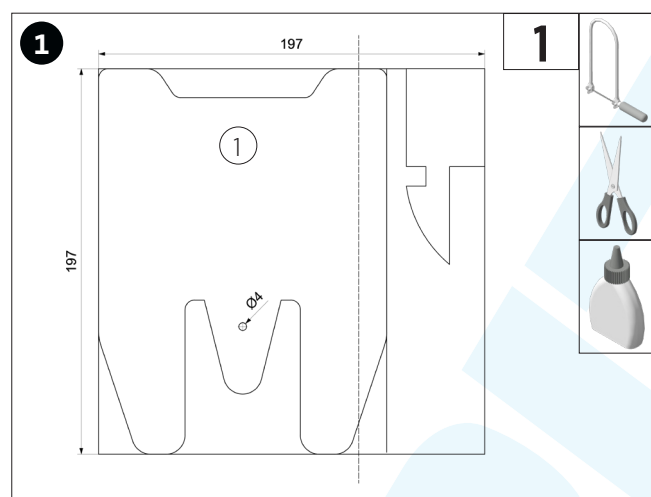
## Please Note

The OPITEC range of projects is not intended as toys for young children. They are teaching aids for young people learning the skills of Craft, Design and Technology. These projects should only be undertaken and operated with the guidance of a fully qualified adult. The finished projects are not suitable to give to children under 3 years old. Some parts can be swallowed. Danger of suffocation!

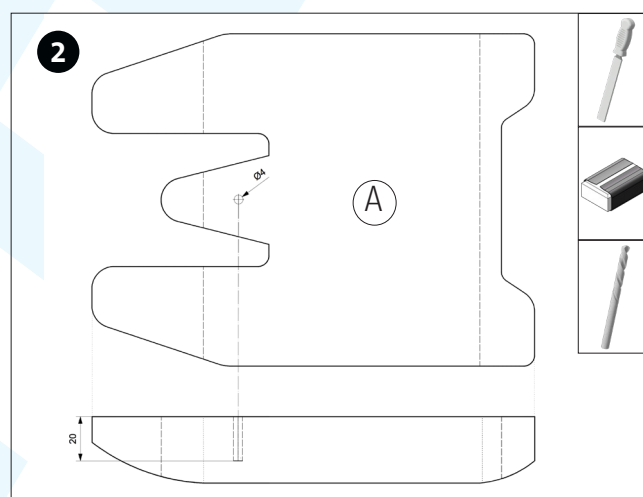
Parts List	Quantity	Size (mm)	Designation	Part No.
styrodur	1	200x200x30	base frame	1
plywood	1	125x100x4	wooden parts	2
spring steel clamp	1	23-27	motor bracket	3
motor RE260	1		motor	4
round rod	1	ø4x50	battery holder	5
brass tube	1	ø3x100	bearing ship's propeller axis	6
brass base rod	1	ø2x245	ship's propeller axis	7
ship's propeller clockwise	1		ship's propeller	8
propeller	1	ø115	propeller	9
battery holder	1		battery holder	10
micro slide switch	1	19x6	switch	11
electrical wire black	1	500	wiring	12

**Instruction 119.099**  
**Opitec Speedboat**

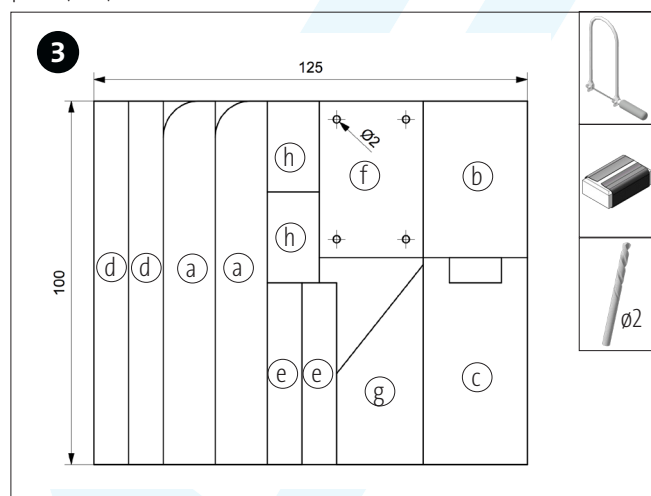
Parts List	Quantity	Size (mm)	Designation	Part No.
Phillips screw	5		bracket	13
washer	5		bracket	14
silicone tube	1	1/3	connection axis/ motor	15



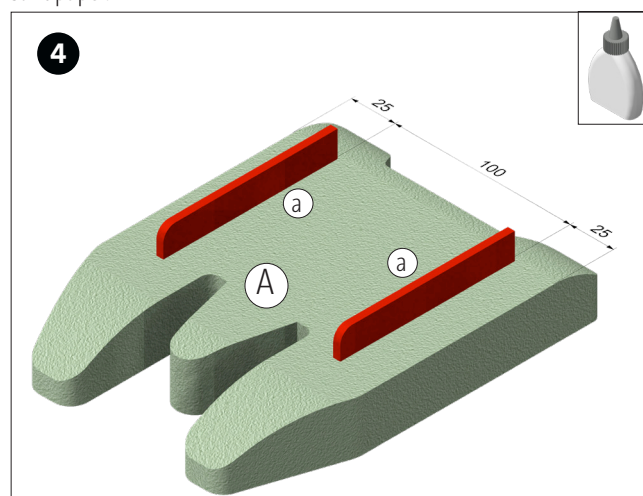
Cut out the template (page 9+11) and glue it together at the dividing line. Transfer the template to the Styrodur (1) and saw out the two parts (A+B) and then clean the saw cuts.



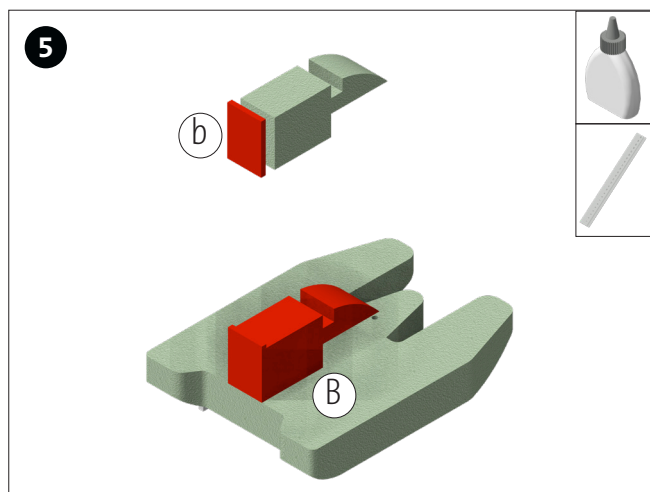
Drill the  $\varnothing 4$  mm hole approx. 20 mm deep. Round off the basic shape on the underside with the engineer's file as shown and clean with sandpaper.



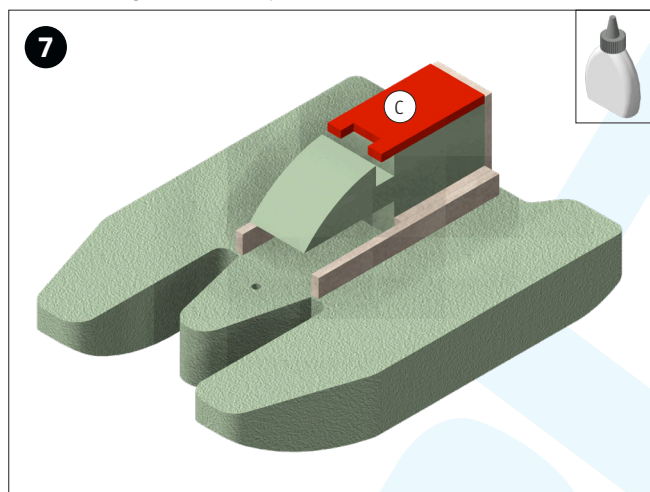
Transfer the template (page 11) to the plywood panel. Cut out all parts (a-f) and clean the saw cuts. Drill the  $\varnothing 2$  mm holes in part (f).



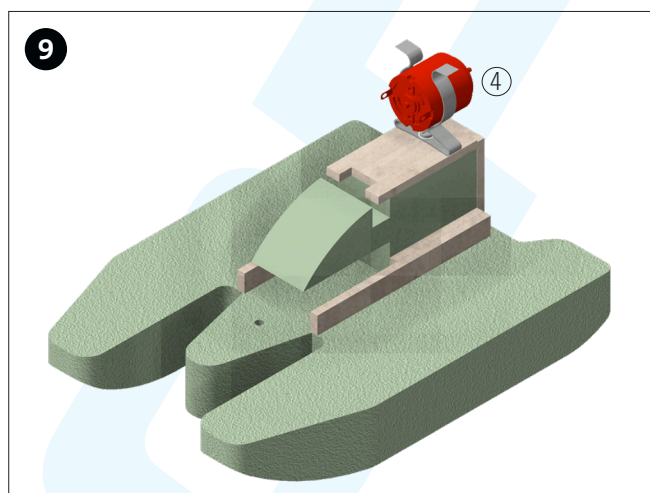
Measure and mark the position of the two strips (a) on the underside according to the dimensions and glue the strips with waterproof wood glue as shown. Let the glue dry well.



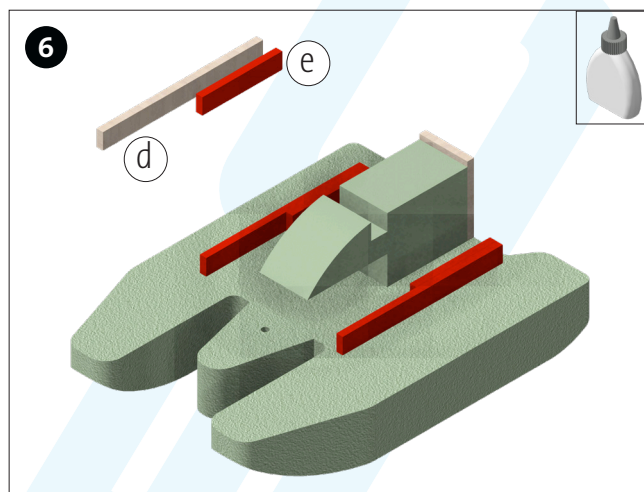
Glue the plywood part (b) flush with the lower edge to the back of the assembly (B) as shown. Then glue the construction centered and flush to the rear edge on the base plate (A).



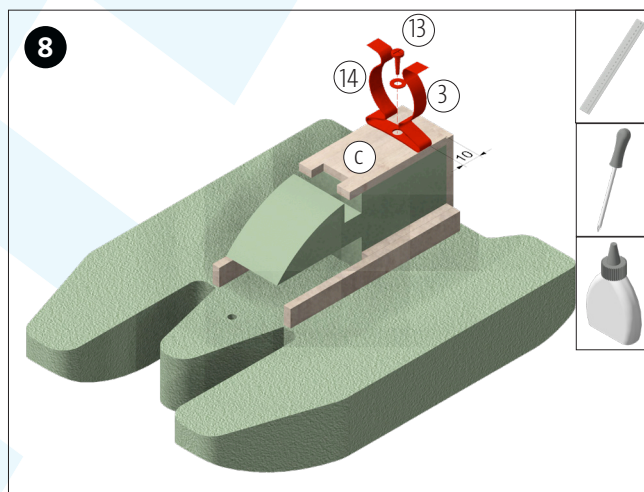
Glue part (c) flush to the rear edge on the construction (B) as shown.



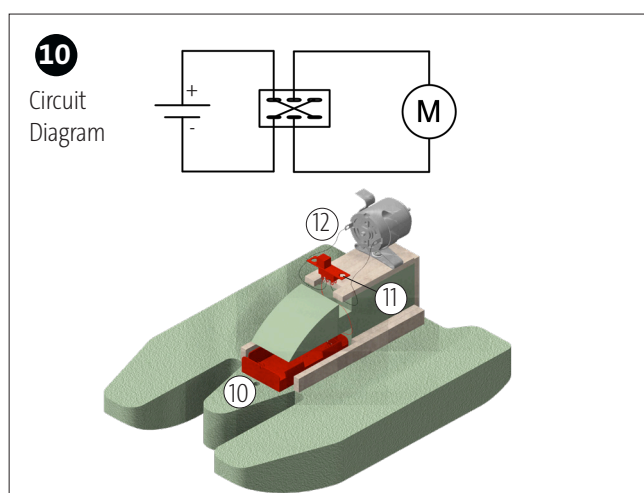
Insert the motor (4) into the spring steel clamp (3). The motor axis points backwards.



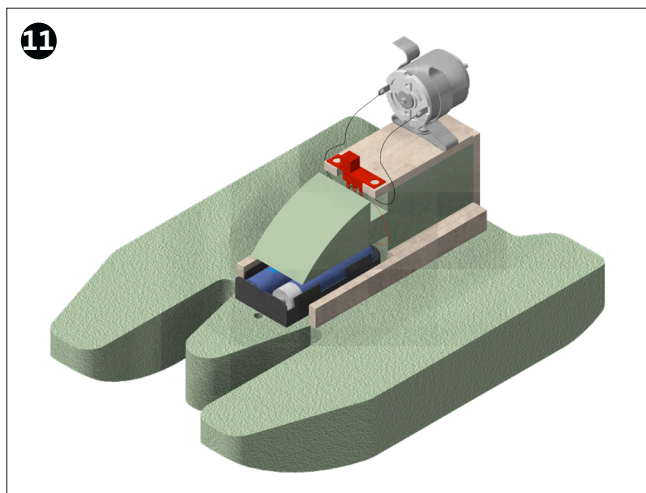
Glue the plywood parts (e+f) together and glue them to part (B) and the base plate (A) as illustrated.



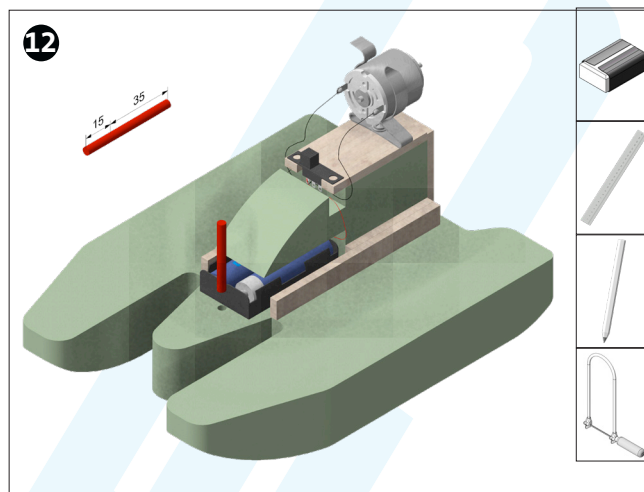
Measure 10 mm at the rear edge of part (c). Screw the spring steel clamp (3) with a screw (13) and a washer (14) at this position.



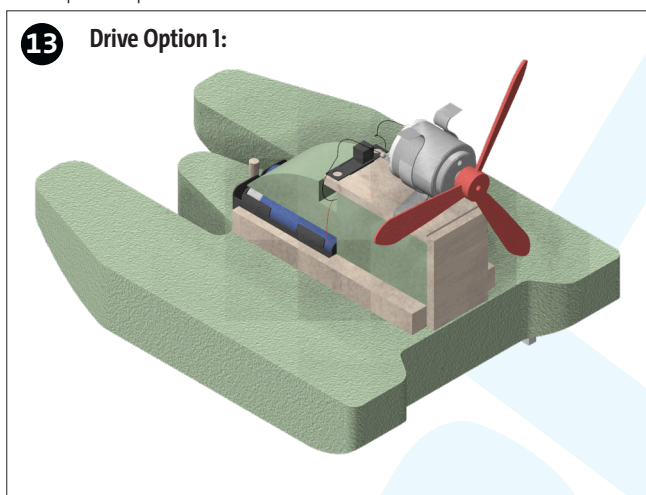
Cut the round rod (5) to 35 mm length. Clean the saw cut and insert it into the hole in the base plate (A) to prevent the battery holder (10) from slipping out.



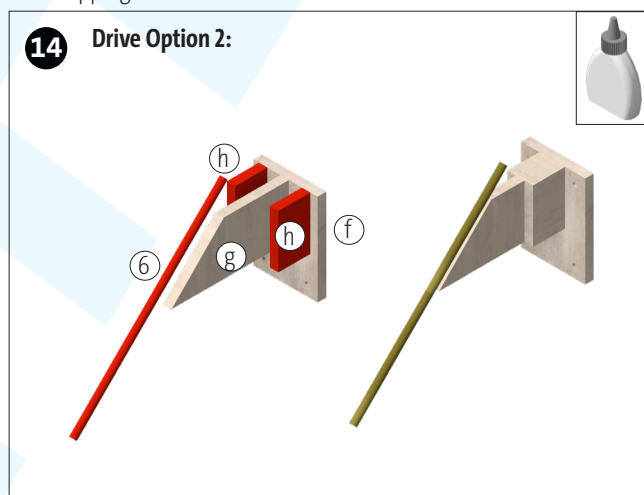
Insert the switch (11) in the recess as shown. Insert batteries and check function. **Note:** The switch should not be glued on to ensure subsequent repairs



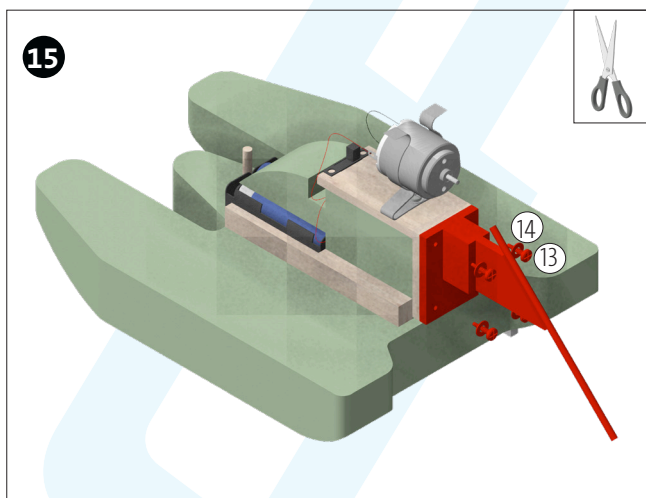
Cut the round rod (5) to 35 mm length. Clean the saw cut and insert it into the hole in the base plate (A) to prevent the battery holder (10) from slipping out.



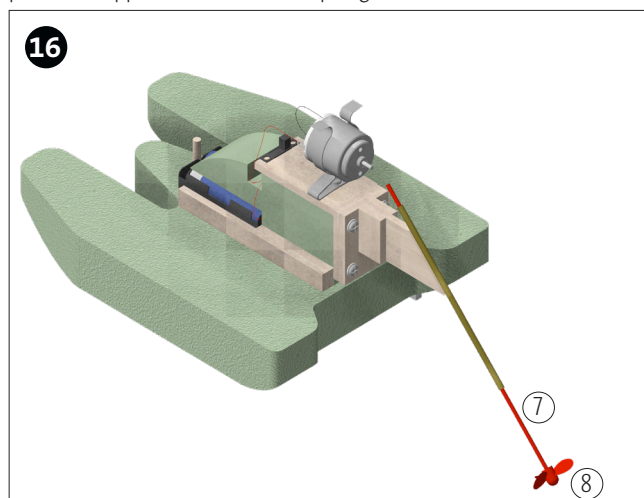
Put the propeller (9) on the motor shaft. Set the pole switch correctly and the journey can begin.



Glue part (g) centered to part (f) as shown. Glue on one part (h) from each side. Then glue the brass tube to the bevel in such a way that it protrudes approx. 10 mm at the top edge.

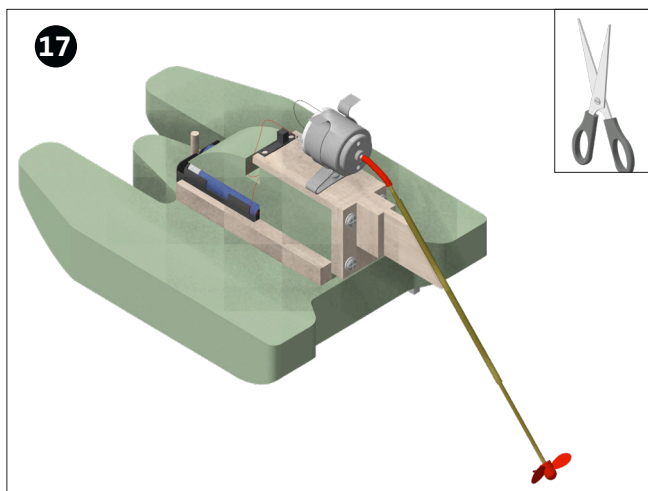


Screw the mounting for the ship's propeller onto part (b) by using 4 screws (13) and 4 washers (14) as shown.



Shorten the brass rod (7) to approx. 170 mm and deburr. Attach the ship's propeller (8) to one end and then push it through the brass tube.

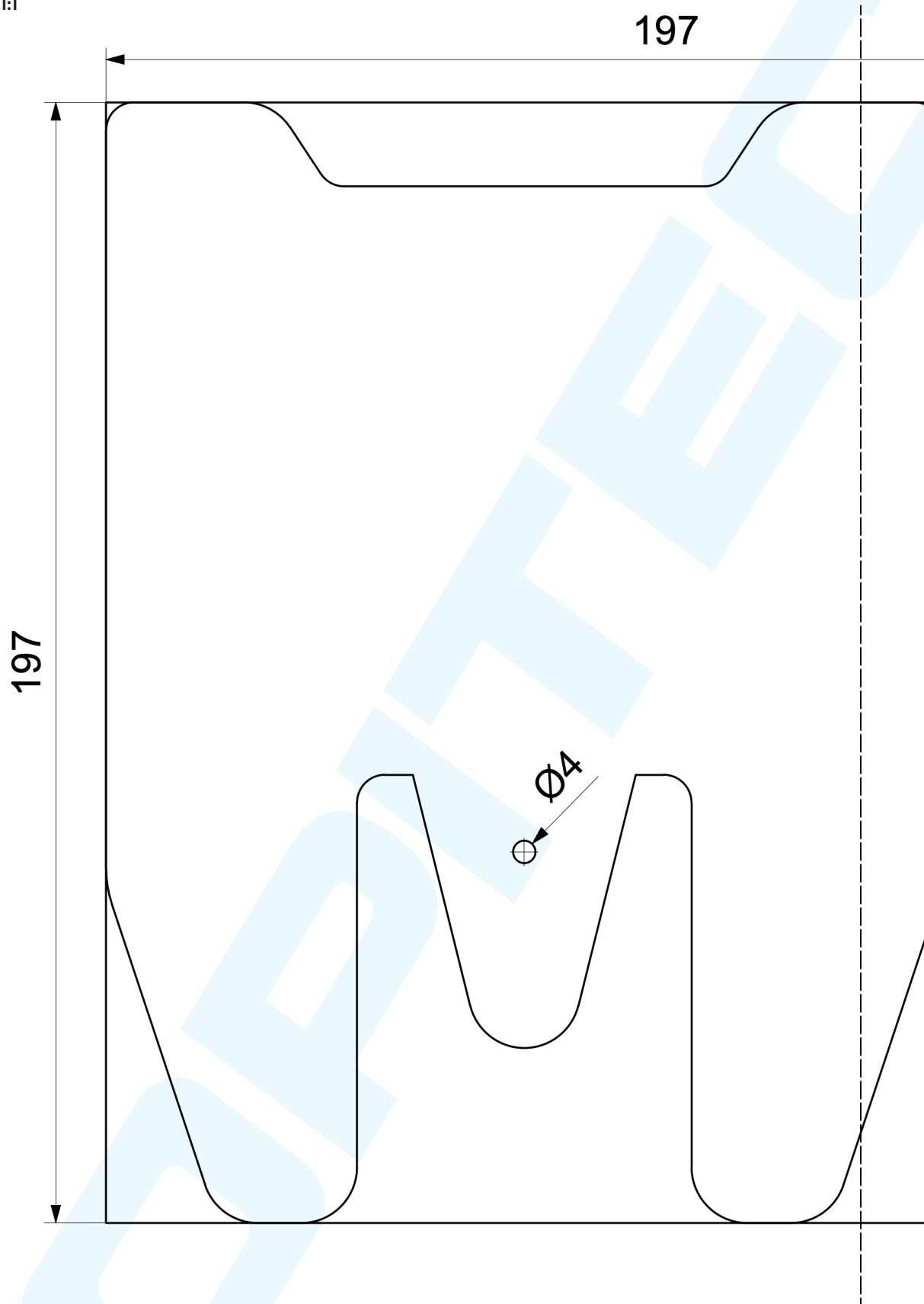




Cut approx. 20-25 mm from the silicone hose (15) and push one end onto the motor axis. Place the other end on the brass rod as shown. Set the pole switch correctly and the journey can begin.

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