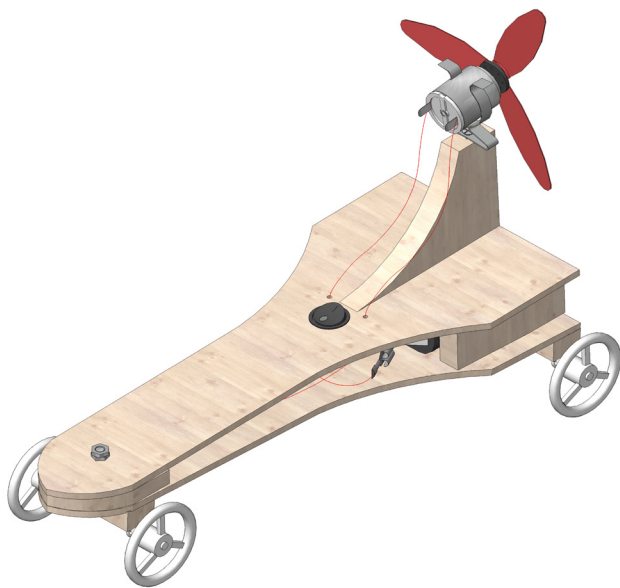


101.141

LT-Racer with Propeller Drive

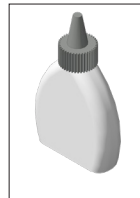


Please Note

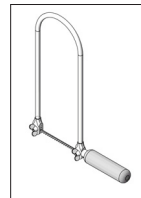
The OPITEC range of projects is not intended as play toys for young children. They are teaching aids for young people learning the skills of Craft, Design and Technology. These projects should only be undertaken and tested with the guidance of a fully qualified adult.

The finished projects are not suitable to give to children under 3 years old. Some parts can be swallowed. Danger of suffocation!

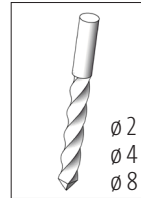
Required Tools:



Wood Glue,



Fretsaw



Drill



Side Cutter,



Locking Clamp



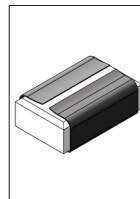
Slot Screwdriver



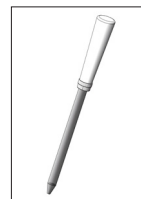
Phillips Screwdriver



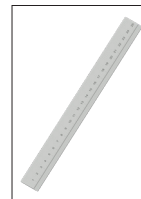
Engineer's File



Sandpaper



Round File



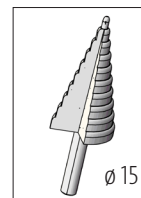
Ruler



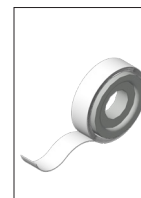
Pencil



Soldering Iron



Step Drill

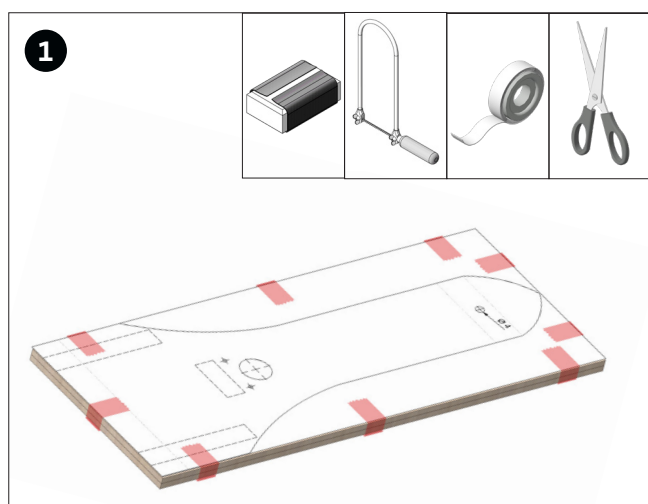


Adhesive Tape

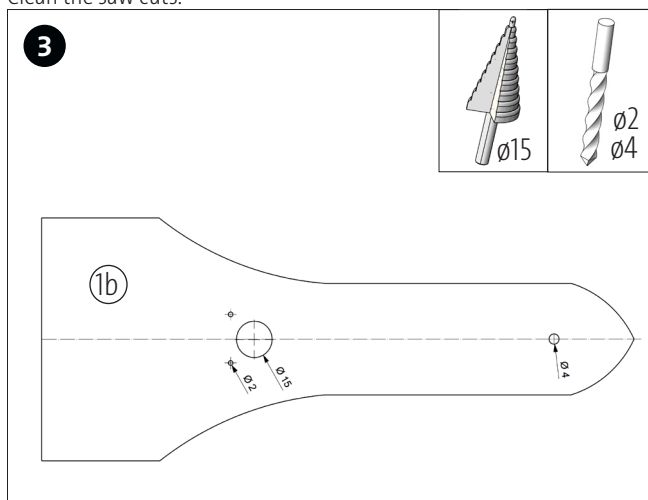
Contents List:	Qty:	Size (mm):	Designation:	Part No.:
Plywood	2	250x100x3	Base and Cover Plate	1
Plywood	1	80x50x10	Motor Mount	2
Wooden Strip	1	150x15x10	Bearing Spider	3
Wooden Strip	1	150x25x10	Battery Compartment	4
Plywood	1	60x45x6	Intermediate Piece	5
Impeller	4	ø37	Wheels	6
Spacers	4	ø5	Spacer for Wheels	7
Eye Bolt	4	12	Shaft Spider	8
Metal Axis	1	120x3	Rear Axle	9
Metal Axis	1	70x3	Front Axle	10

Instructions 101141
LT-Racer with Propeller Drive

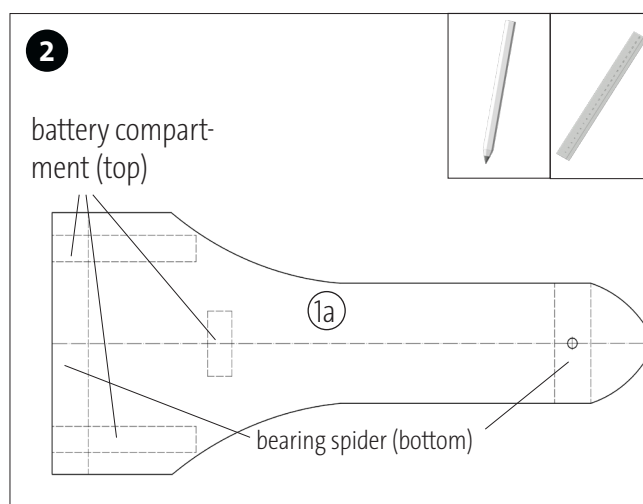
Contents List:	Qty:	Size (mm):	Designation:	Part No.:
Motor R140	1		Drive	11
Spring-Steel Clamp	1	17-22	Motor Mount	12
Rocker Switch	1	16,3	Switch	13
Chipboard Screw	1	16x3	Mount Spring-Steel Clamp	14
Cylinder Head Screw	1	25x4	Screw Connection Front	15
Nut	2	M4	Screw Connection Front	16
Washer	2	9/4,3	Washer	17
Jumper Wire Red	1	500	Cabling	18
Blade Receptacle	2		Battery Connection	19
Propeller Blade	3		Propeller	20
Cylinder Head Screw	3	6x2	Propeller	21
Propeller Hub	1		Propeller	22



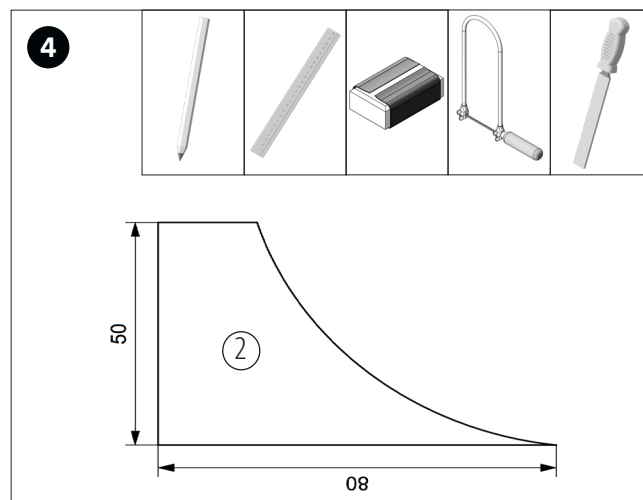
Put the plywood panels (1) on top of each other and fix them with adhesive tape. Now transfer the template (A) and saw the shape. Clean the saw cuts.



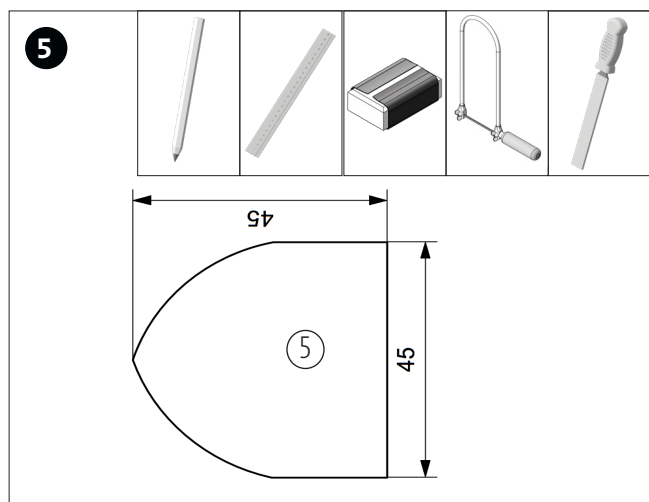
Drill the top (other cut from step 1) as shown in the template (page 7). (part 1b)



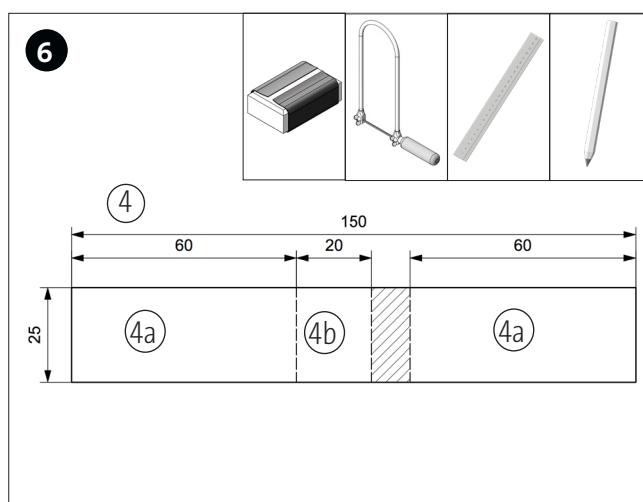
Transfer the position of the battery compartment (4) and of the bearing spider (3) on one of the cuts from step 1. (part 1a)



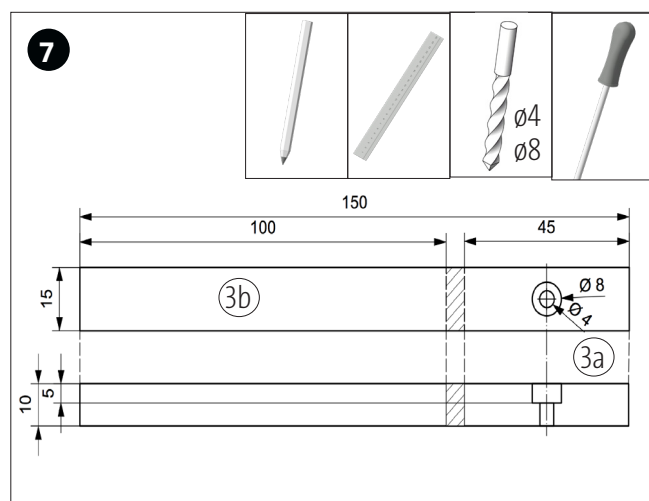
Then transfer the template for the motor mount (B) on the plywood (2) and saw it with the fretsaw. Clean the saw cuts with the sandpaper and the file.



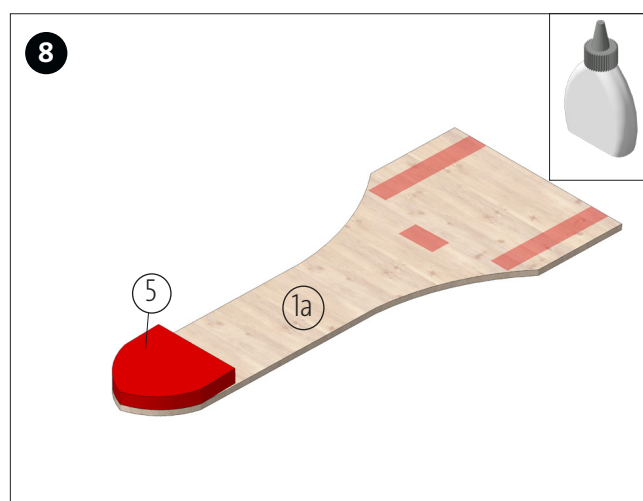
Transfer the template for the intermediate piece (5) (C) on the plywood (5) and saw it with the fretsaw. Clean the saw cuts with the sandpaper and the file.



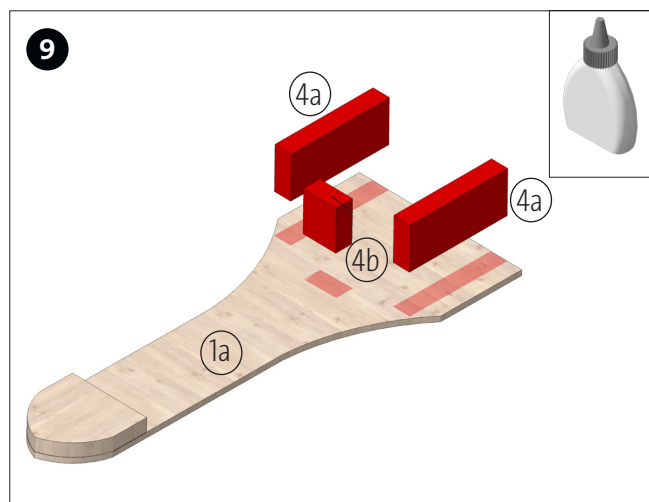
Cut the wooden strip (4) according to the instructions and clean the saw cuts.



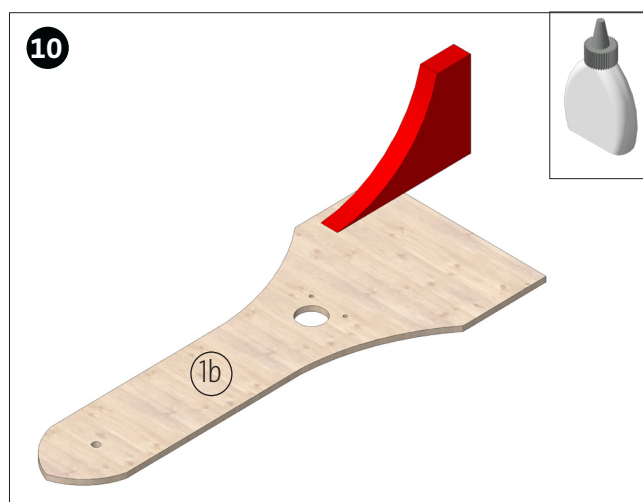
Cut the wooden strip (3) according to the instructions and clean the saw cuts. Take the 45mm long piece and drill a 4mm big hole in it as shown. Moreover drill a 5mm deep blind hole in it. Use the Ø8mm drill.



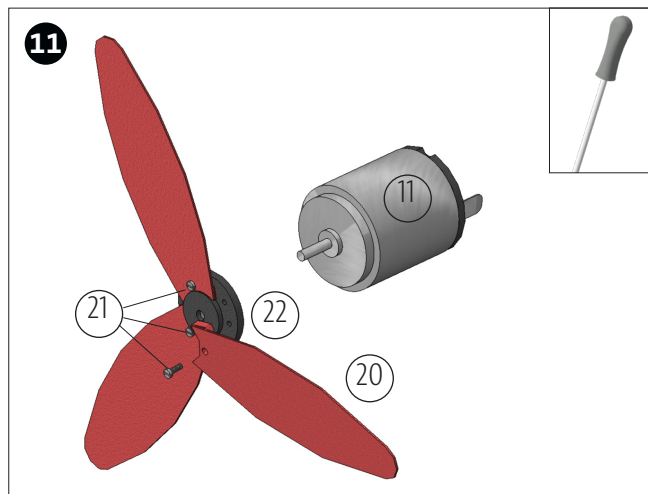
Glue the intermediate piece (5) on the front part of 1a.



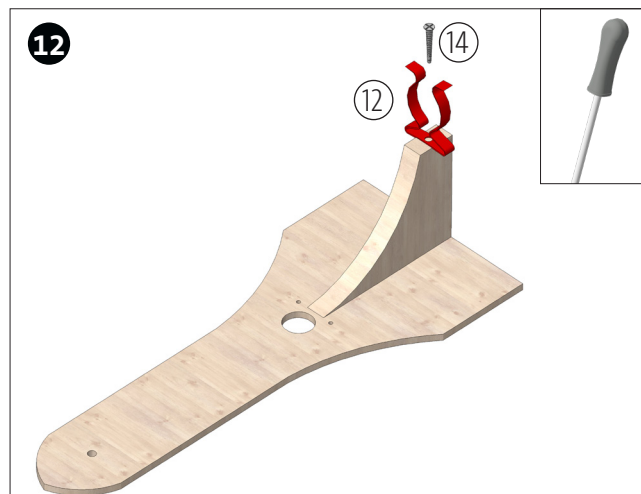
Glue the wooden strips from step 6 on top of 1a.



Glue the motor mount (2) central and flush with the rear edge on the upper part of 1b.



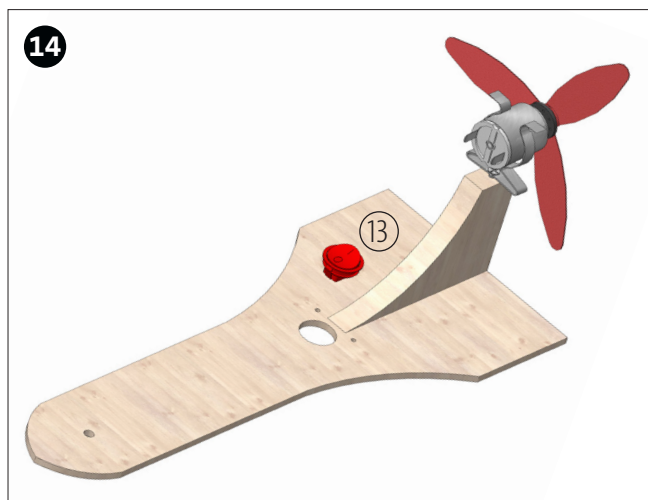
Fix the propeller blades (20) with the cylinder head screws (21) on the propeller hub (22) as shown. Afterwards put the rotor on the motor drive (11).



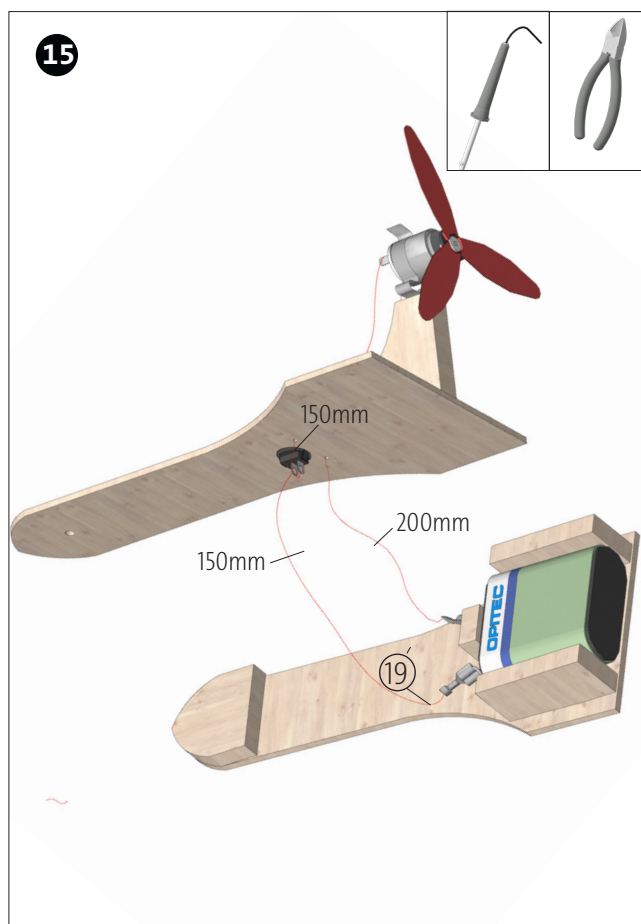
Put the spring steel clamp (12) central on the motor mount (2) as shown and fix it with the chipboard screw (14).



Put the manufactured motor into the clamp.

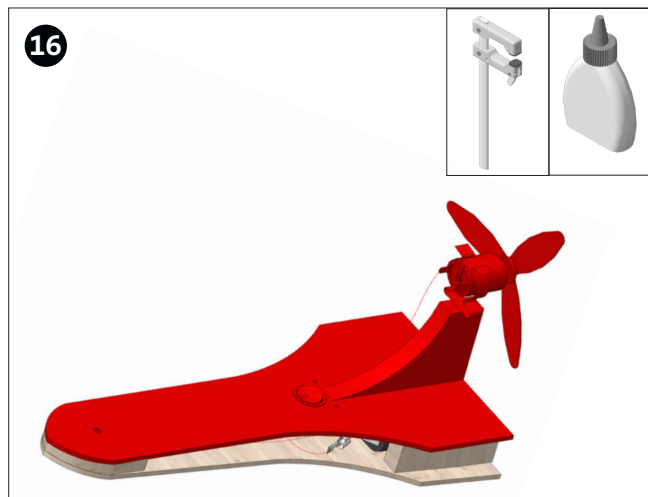


Insert the switch (13) in the anticipated eyelet of \varnothing 15mm.

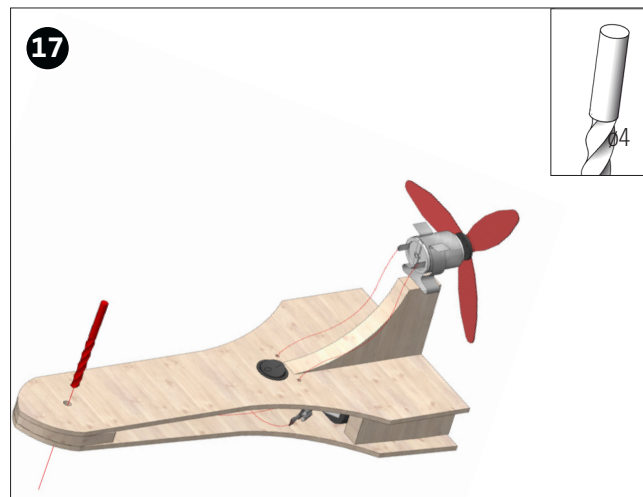


Crosscut three cable pieces (2x 150mm, 1x 200mm) from the jumper wire (18) and remove insulation on both sides. Attach one cable (150mm) to the positive terminal of the motor (marked with point), take it through the drill in the upper part and connect it to the external switch port. Connect the second end with the middle switch connector and connect the other end with a blade receptacle (19). Connect the 200mm cable to the negative terminal of the motor, take it through the drill and connect the end with a blade receptacle (19). Solder the connections.

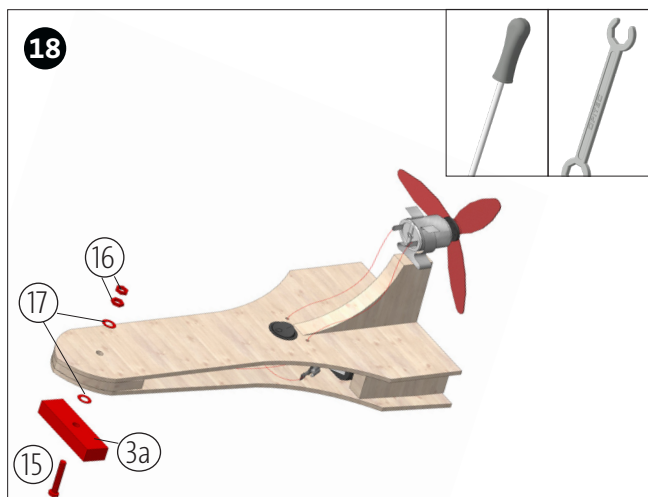
Instructions 101141
LT-Racer with Propeller Drive



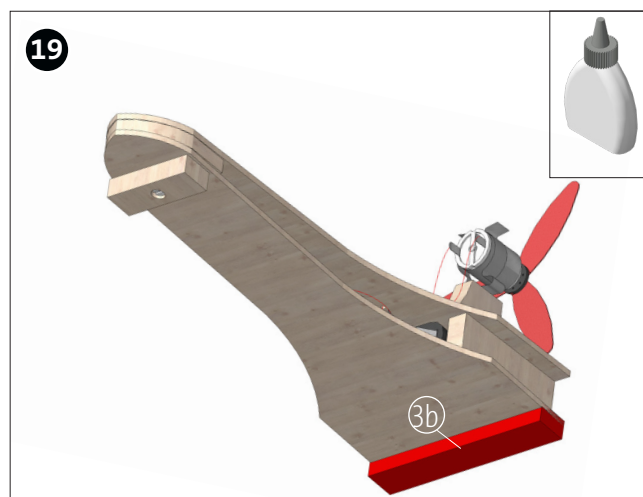
Glue the top on the intermediate piece (5) and the wooden strips (4a - 4c) as shown. Fix it with locking clamps until the glue is dry.



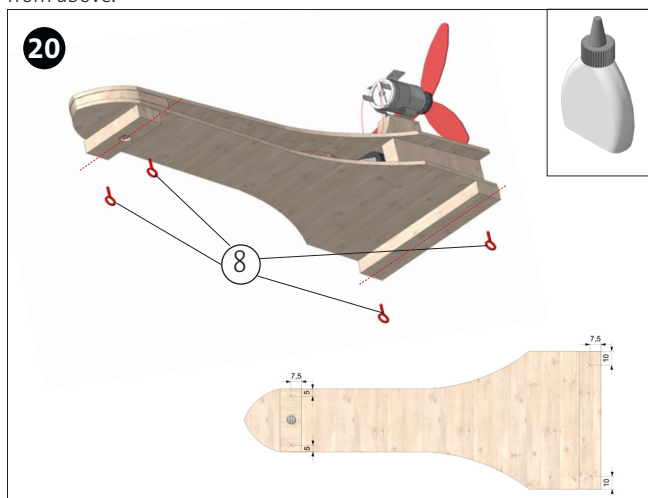
Now drill the intermediate piece and the base with a 4mm drill use the drill in the upper part.



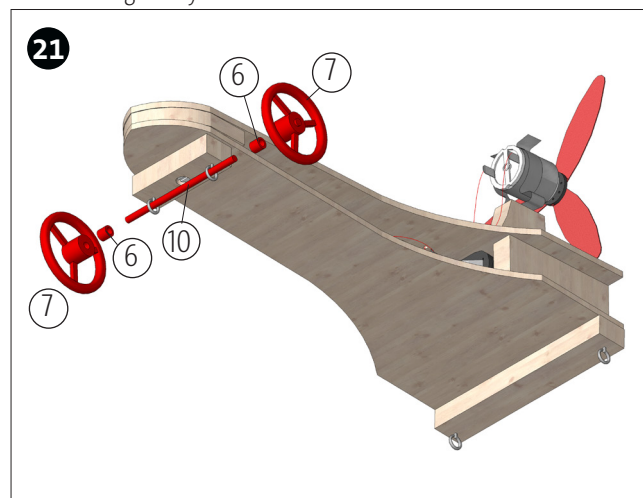
Install the front axle support (3a) with the cylinder head screw (15) and one washer (17) as shown. Fix it with two nuts (16) and one washer from above.



Glue the rear axle support (3b) flush with the rear edge on the bottom side. Let the glue dry well.

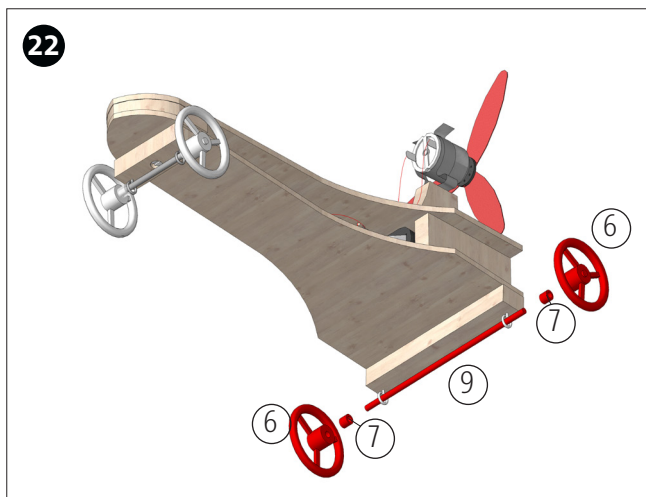


Transfer and mark the position of the eye bolts (8) on the axle supports according to the instructions. Screw the eye bolts in and look to it that the eye bolts of each axle are exactly mirrored.

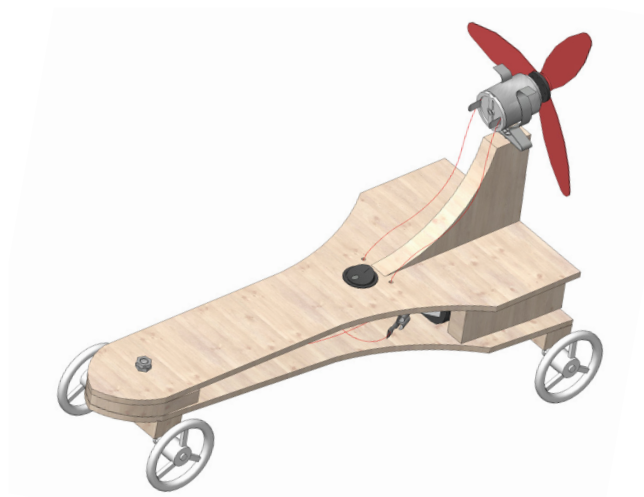


Insert the metal axis (10) as shown and clip on spacers (7) on each side. Then fix the impellers (6).

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LT-Racer with Propeller Drive



Insert the metal axis (9) as shown and clip on spacers (7) on each side. Then fix the impellers (6).



Insert battery and get on the road!

Note: If the vehicle is travelling in reverse, simply reverse the polarity of the cables on the motor!

