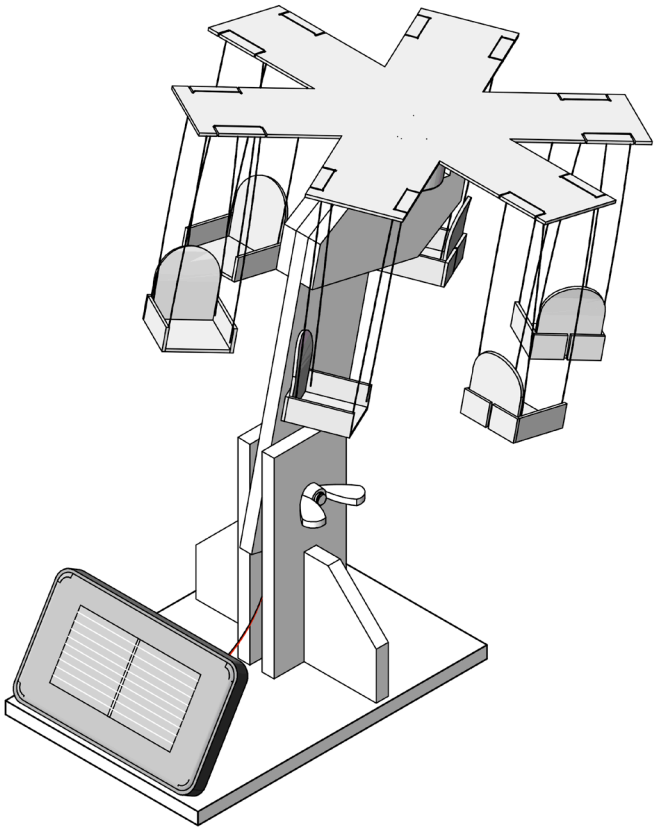
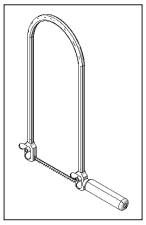
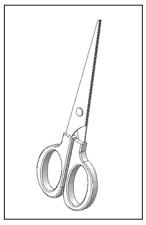
118.819

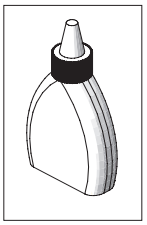
Solar Carousel

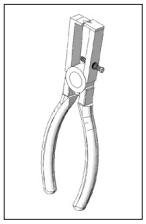


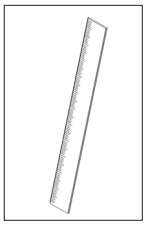
Tools Required:

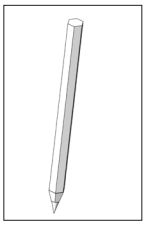

jigsaw

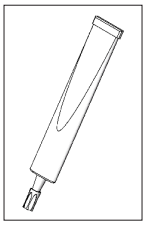

scissors

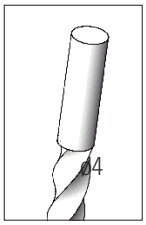

wood glue


wire stripper

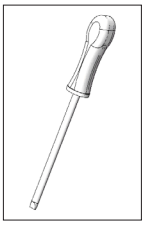

ruler

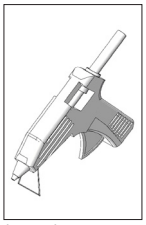

pencil

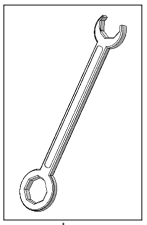

superglue

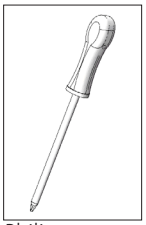


drill


slot screwdriver


hot glue gun


wrench


Philips screwdriver


craft knife


adhesive tape

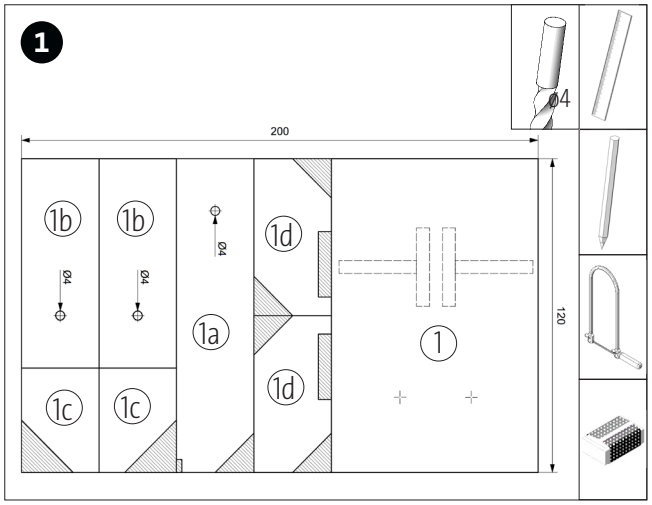

soldering iron and solder

Please Note!

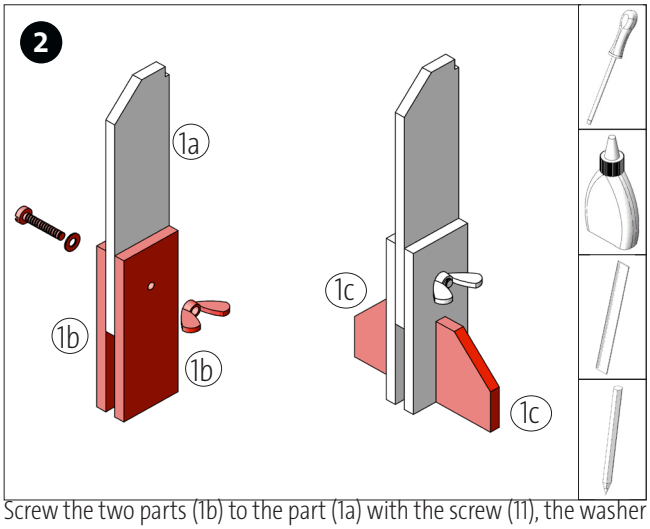
The Opitec Range of projects is not intended as play toys for young children. They are teaching aids for young people learning the skills of craft, design and technology. These projects should only be undertaken and operated with the guidance of a fully qualified adult. The finished projects are not 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.
plywood	1	200x120x5	individual parts	1
grey cardboard	1	210x150x1	carousel top/ seats	2
propeller hub	1		motor connection upper part	3
wing nut	1	M4	mounting swivel arm	4
washer	1	9/4	mounting swivel arm	5
cord	1	2000	suspension seats	6
solar cell casted	1		drive	7
electrical wire	1	500	circuit	8
solar motor	1		drive	9
lens Phillips-head screw	2		mounting solar cell	10
cylinder head screw	1	ø4x20	mounting swivel arm	11

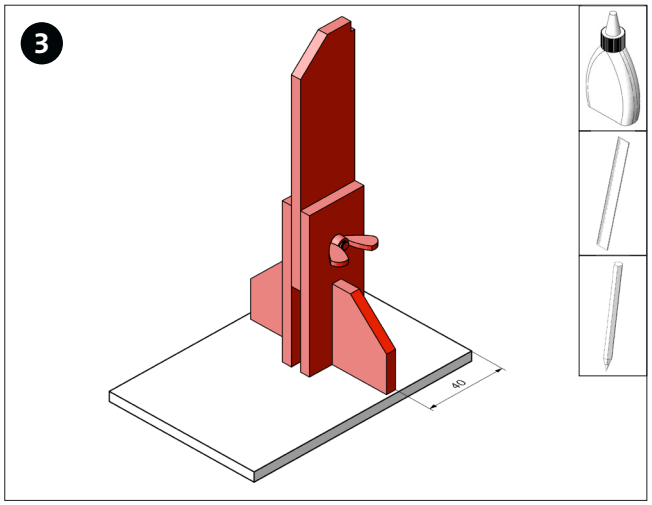
OPITEC



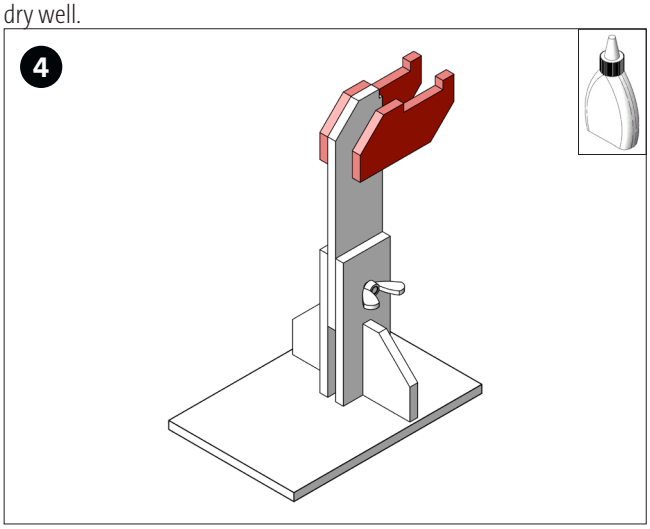
Transfer the template (page 5) to the plywood 1 and drill through and saw out all parts (1-1d). Clean saw cuts. Sketch the position of the constuction and the solar cell on the base plate (1).



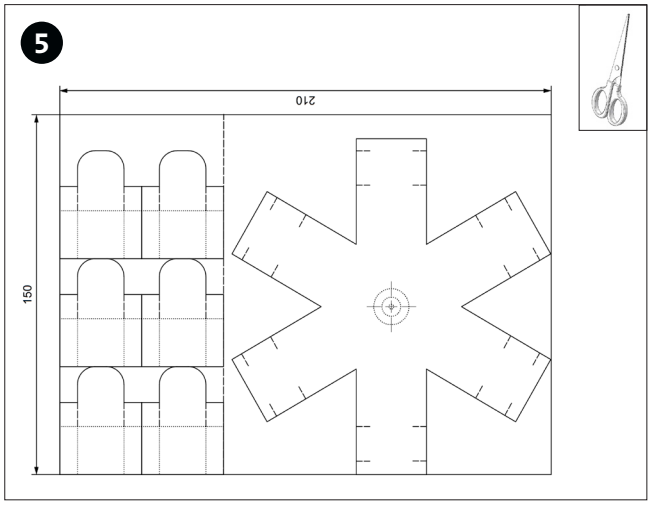
Screw the two parts (1b) to the part (1a) with the screw (11), the washer (5) and the wing nut (4) as illustrated. Glue the two parts (1c) centered and flush with the lower edge to the parts (1b) and allow the glue to dry well.



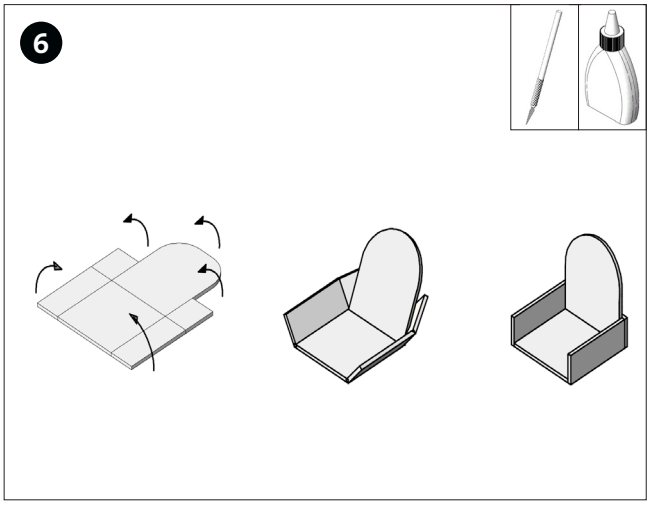
Glue the carousel stand to the base plate indented by 40 mm. Let the glue dry well.



Glue the motor brackets (1d) flush with the top edge from both sides.

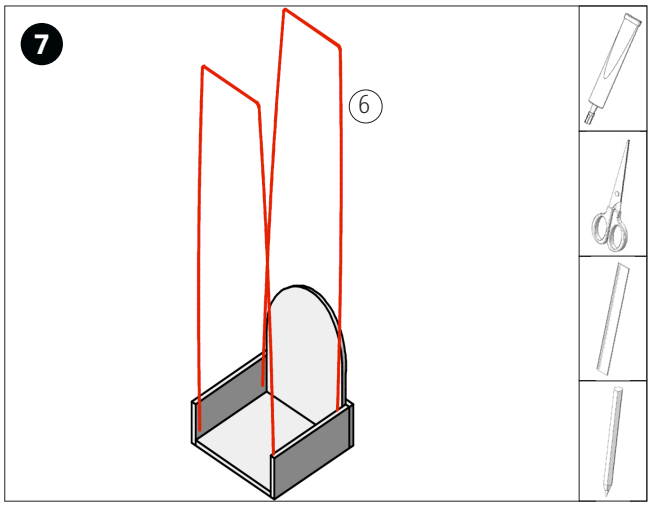


Cut the top (see template on page 7) and the seats out of the grey cardboard (2). The dashed lines get incised. The dotted lines are fold edges.



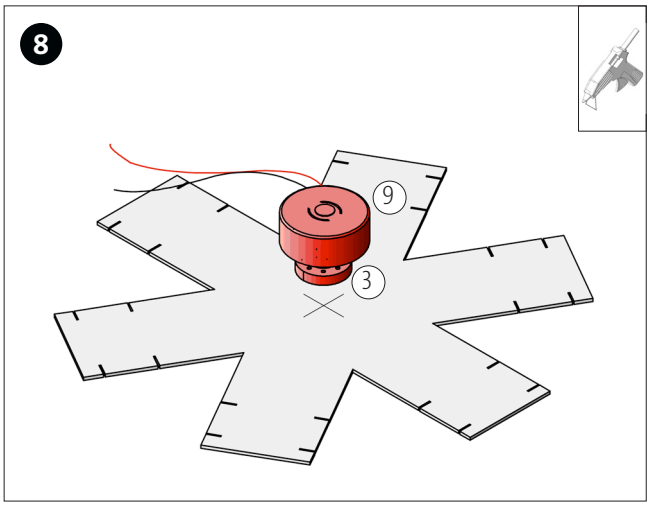
Scratch folding edges slightly. Then fold the seats as shown above and glue the tabs to the back of the seat.

7



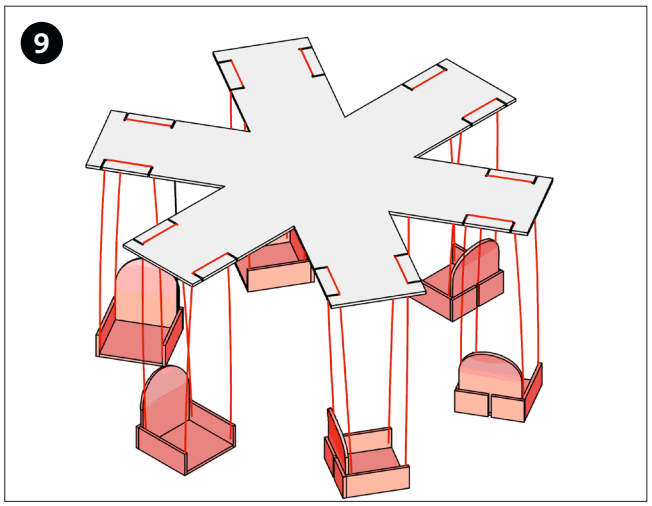
Cut 12 pieces about 160 mm length off the cord (6). Then glue 2 pieces in each seat with superglue as shown...

8



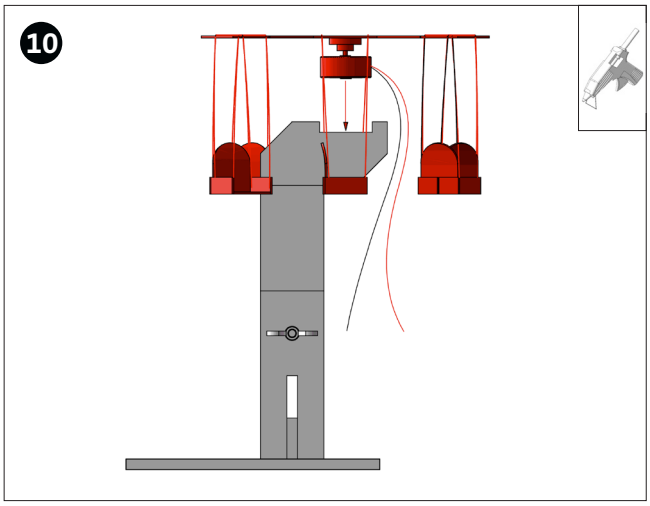
Insert the motor (9) into the hub (3). Glue the hub (3) to the centre point as shown.

9



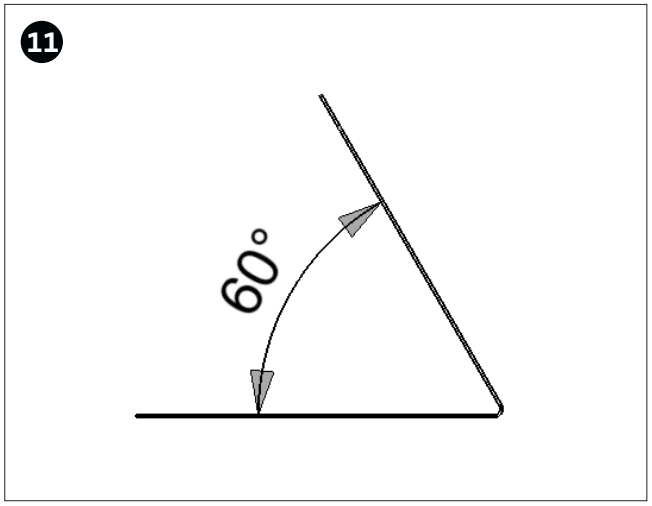
Hang the finished seats in direction of rotation in the top , align them and fix them with adhesive.

10



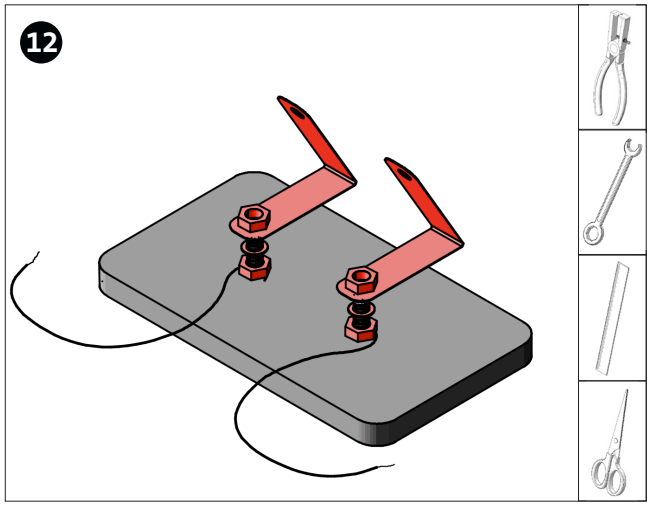
Glue the motor with the wheel centered on the motor bracket as shown. Use the hot glue gun.

11



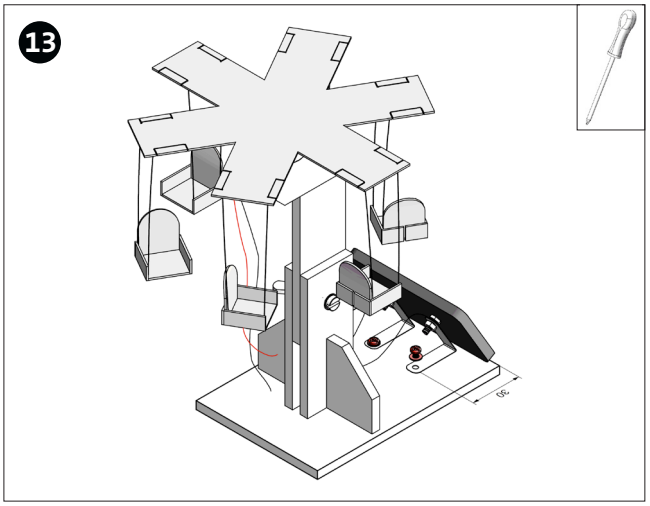
Bend the fixing straps of the solar cell (7) by 60° in the middle as shown.

12

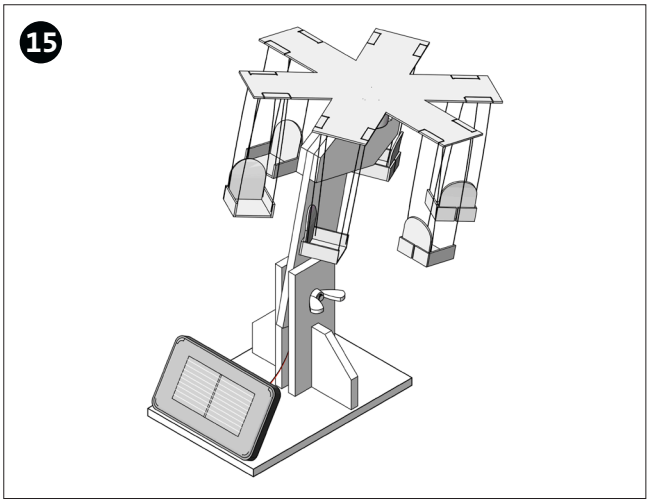


Cut 2 pieces (approx. 100 mm) off the control wire and remove the insulation on both sides. Then fasten the two cables to the solar cell as illustrated and screw on the fixing straps.

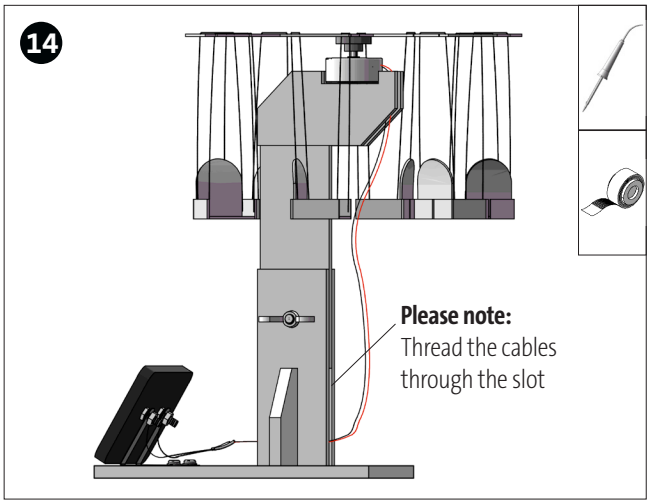
OPITEC



Fasten the solar cell with screws (10) to the base plate as shown.

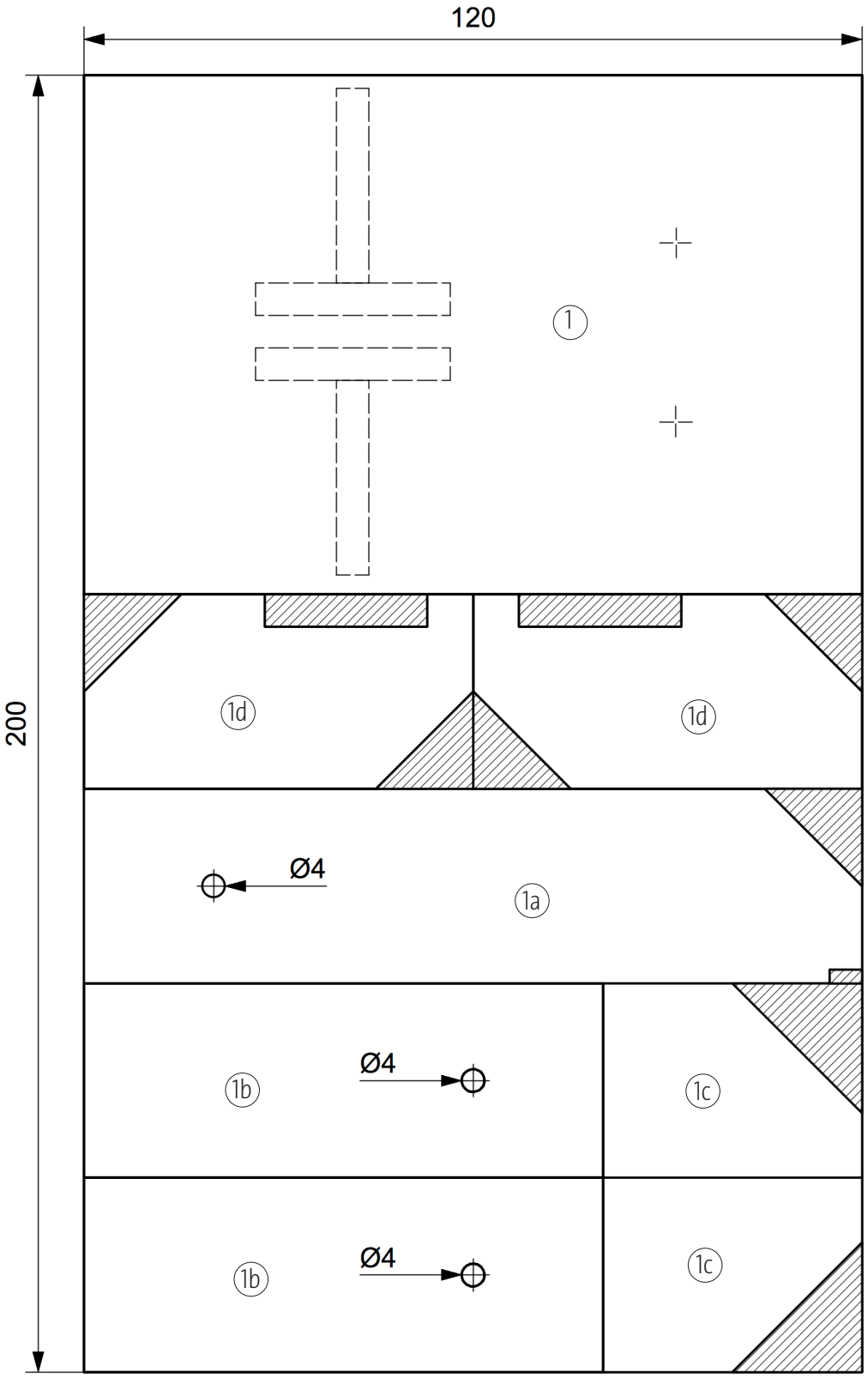


Finished!
The top can be tilted as desired by loosening and retightening the wing nut.



Guide the motor cable through the slot in the column. Then solder or twist the cable from the + pole of the solar cell with the red motor cable. Solder or twist the cable from the -pole with the black motor cable. Insulate the joints of both cables with adhesive tape.

Template Plywood
S 1:1



Template Grey Cardboard
S 1:1