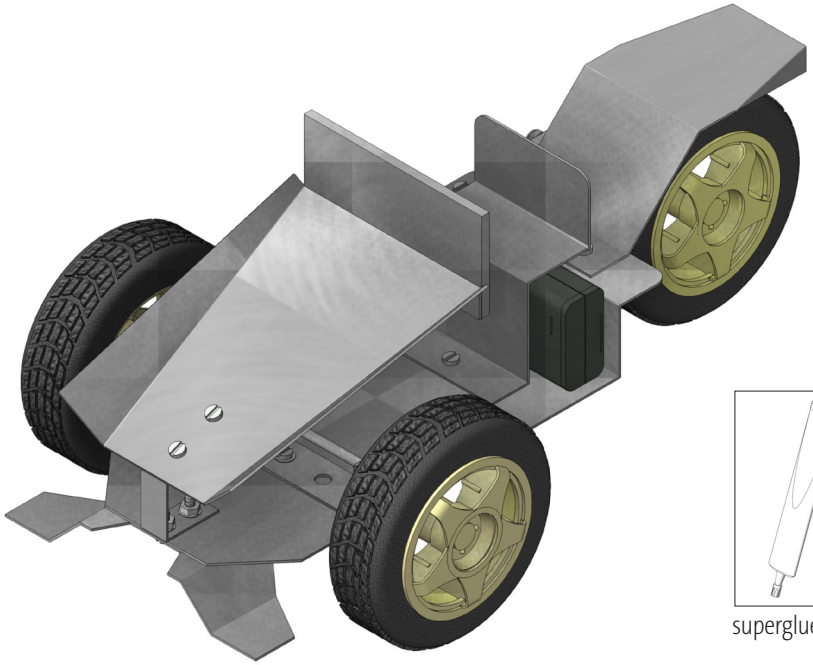
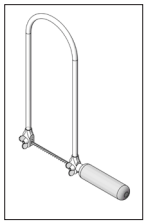
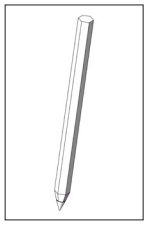
120.852

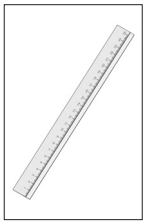
Aluminium Trike with Gear Motor

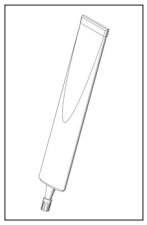


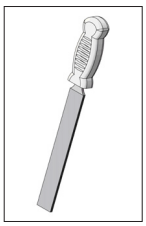
Tools Required:


jigsaw with metal saw blade


pencil

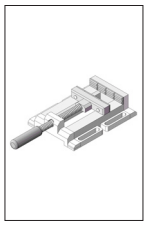

ruler


superglue


engineer's file

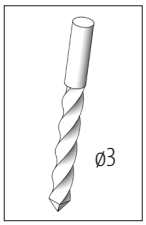

centre punch


wrench


machine vice


slot screwdriver


soldering iron and solder



metal drill

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	Parts No.
aluminium sheet	1	200x200x0,8	vehicle body	1
perforated sheet	1	135x15x1	front axle retainer	2
metal axle	1	ø3x120	front axle	3
gear motor	1		drive	4
battery holder	1		battery	5
acrylic glass	1	70x35x3	pane	6
cylinder head screw	2	ø3x25	attachment motor	7
cylinder head screw	10	ø3x8	screw connection body	8
nut	10	M3	screw connection body	9
lock nut	3	M3	screw connection motor/axle	10
washer	15	7/3,2	screw connection	11
reducer	2	4/3	reduction wheel/axle	12
wheel	3	ø70	wheels	13

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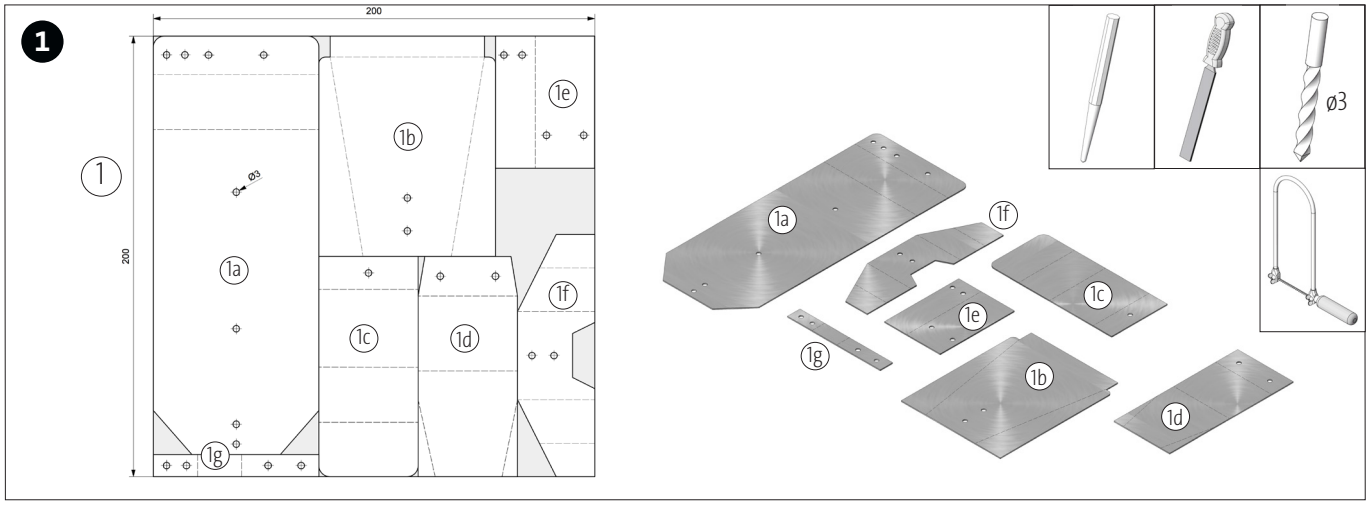
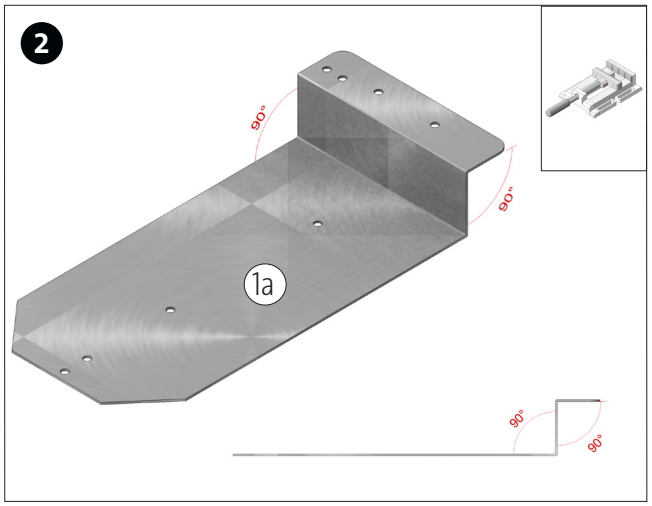
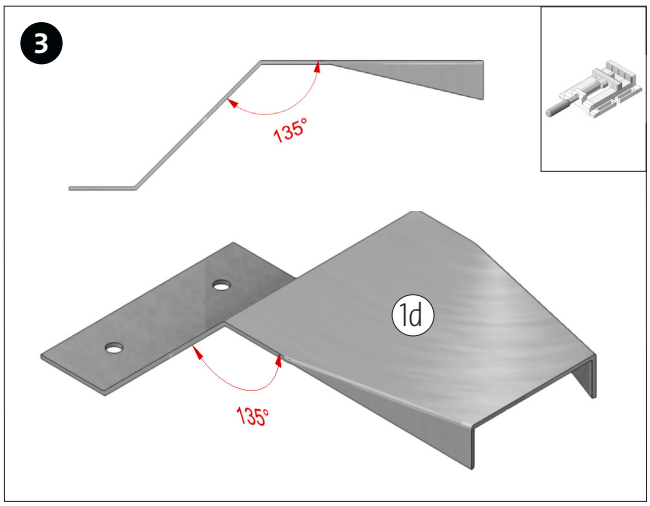


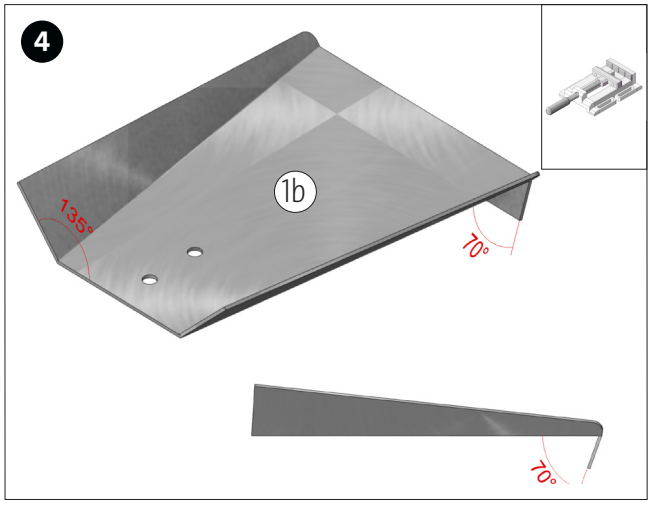
Transfer the template (pages 7+9) to the aluminium sheet (1). Centre-punch the holes and scribe the bending edges. Drill through the individual parts with a ø 3 mm drill bit. Then saw out and deburr all parts.



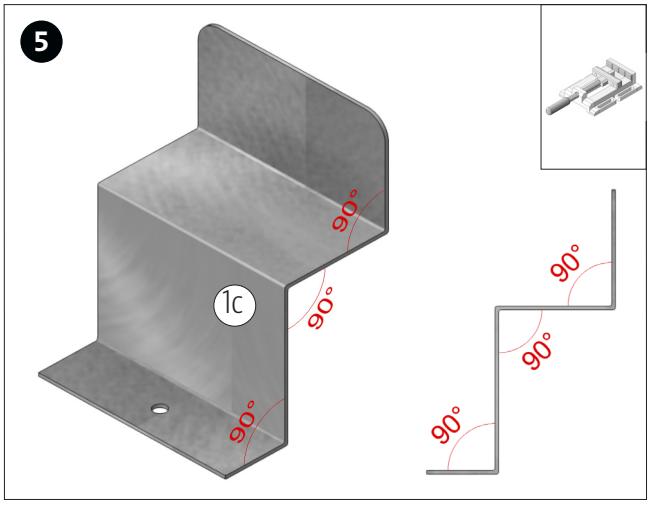
Bend the base plate (1a) by 90° at the bending edges as shown.
Note: Observe bending direction and use protective jaws.



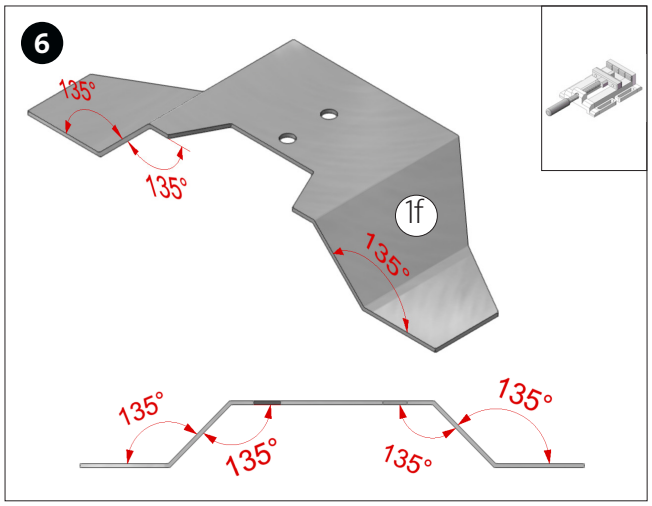
Angle the rear spoiler (1d) at the bending edges as shown.
Note: Use protective jaws.



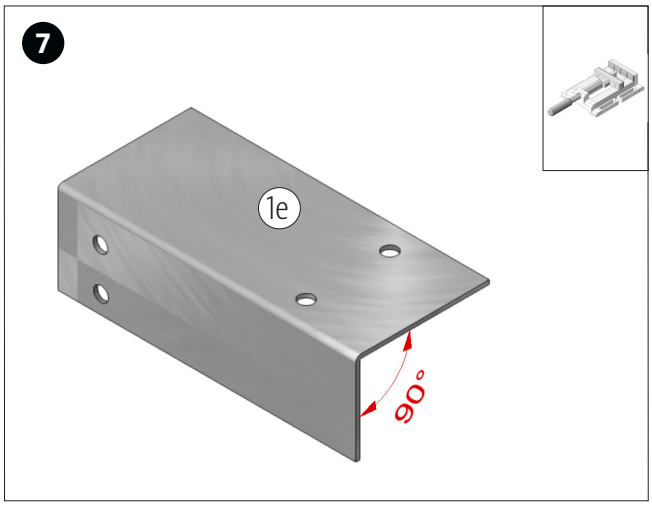
Bend the bonnet (1d) at the bending edges by 135° and 70° as shown.



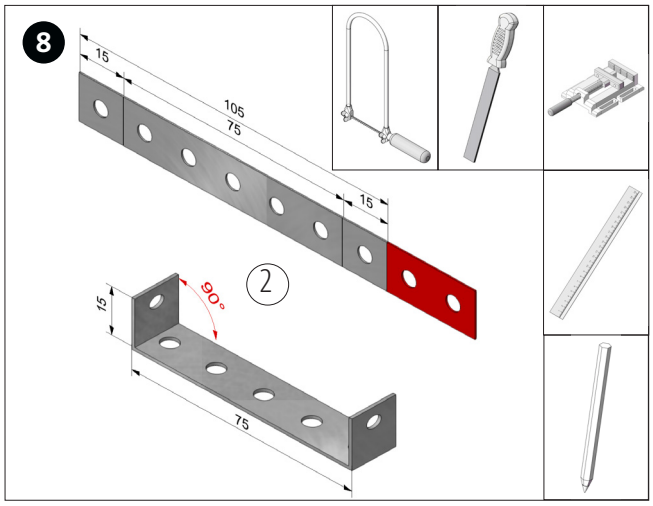
Bend the seat (1c) by 90° at the bending edges as shown. Note: Please take note of the bending direction!



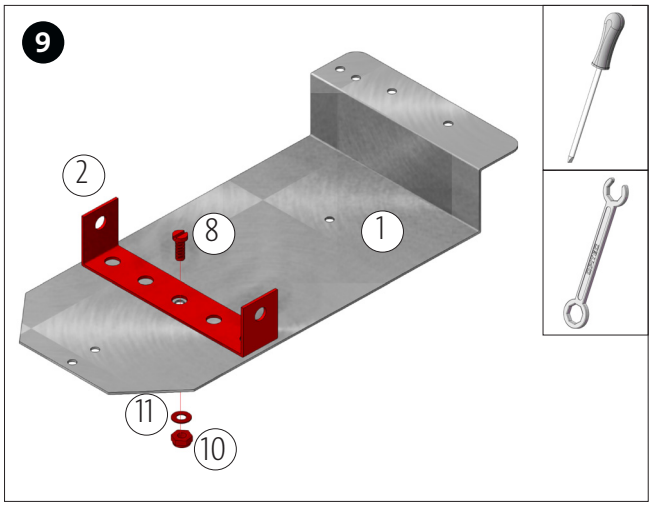
Bend the front spoiler (1f) at the bending edges as shown.



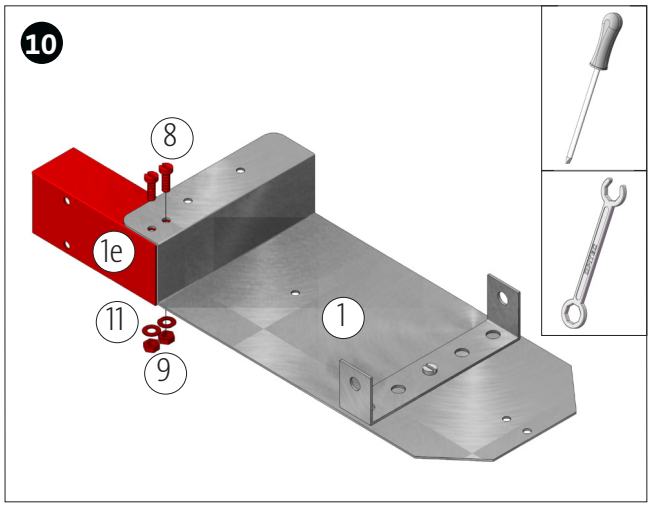
Bend the motor bracket (1e) by 90° as shown.



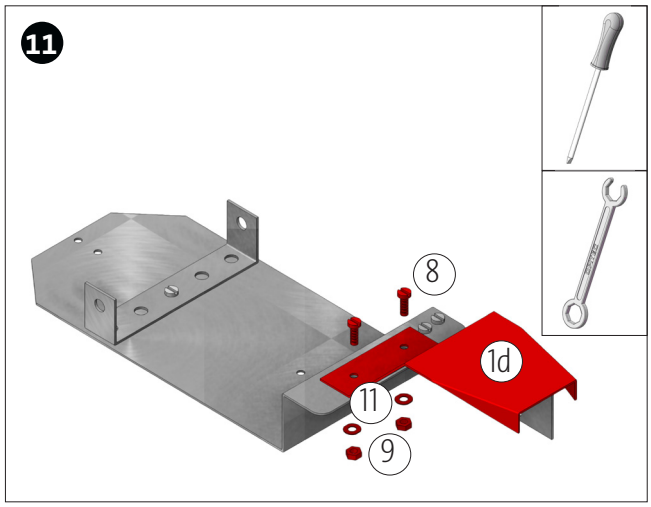
Shorten the axle holder (2) to 105 mm and deburr. Then scribe 15 mm on both sides and bend both ends by 90°.



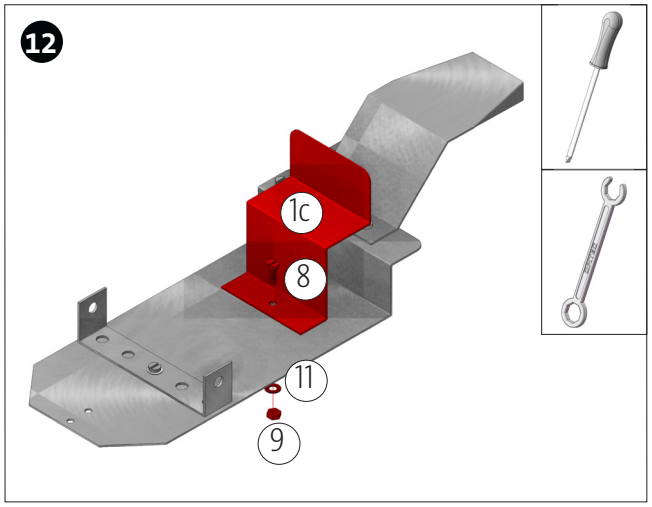
Fasten the axle holder (2) to the base plate (1) as shown with a screw (8), a washer (11) and a stop nut (10).



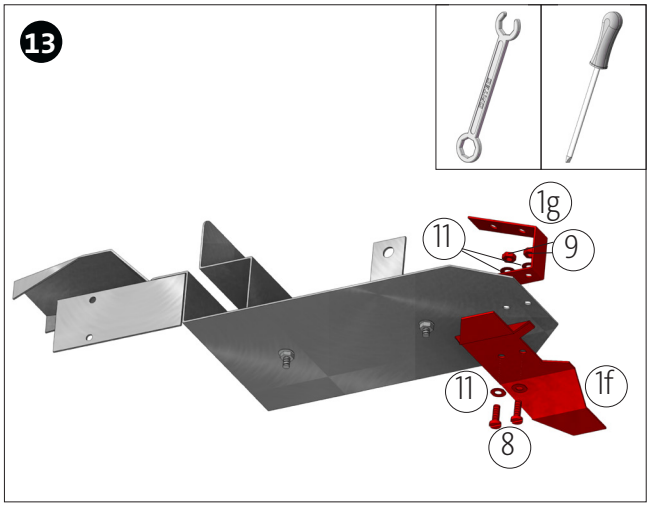
Screw the bracket (1e) for the geared motor (4) to the base plate by using two screws (8) , two washers (11) and two nuts (9) as shown.



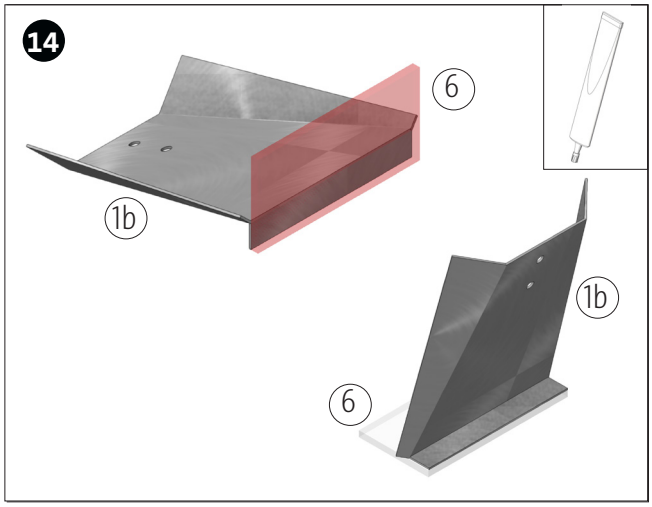
Screw the rear spoiler (1d) to the base plate by using two screws (8), two washers (11) and two nuts (9) as shown.



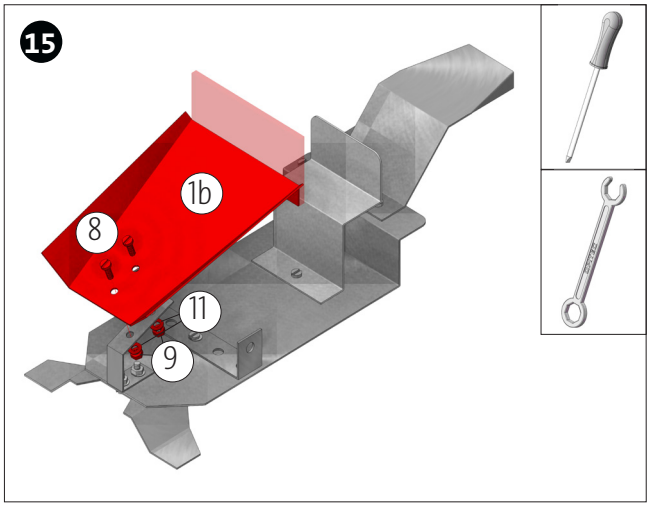
Attach the seat (1c) to the base plate using a screw (8), a washer (11) and a nut (9) as shown.



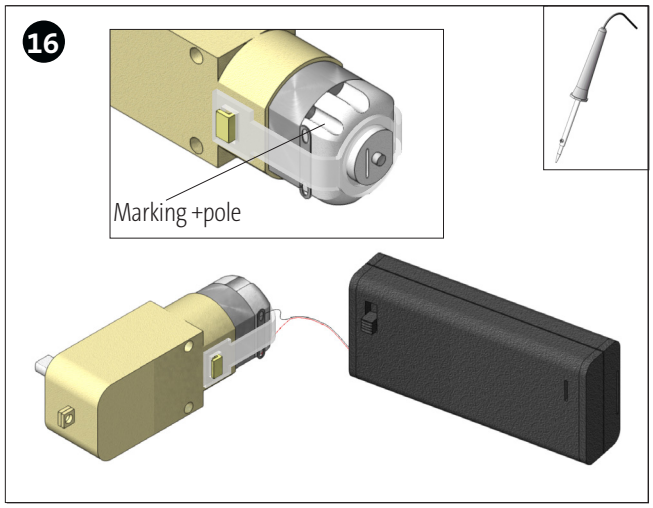
Fasten the front spoiler (1f) from below and the bracket (1g) for the bonnet from above with 2 screws (8), 4 washers and 2 nuts (9) as shown.



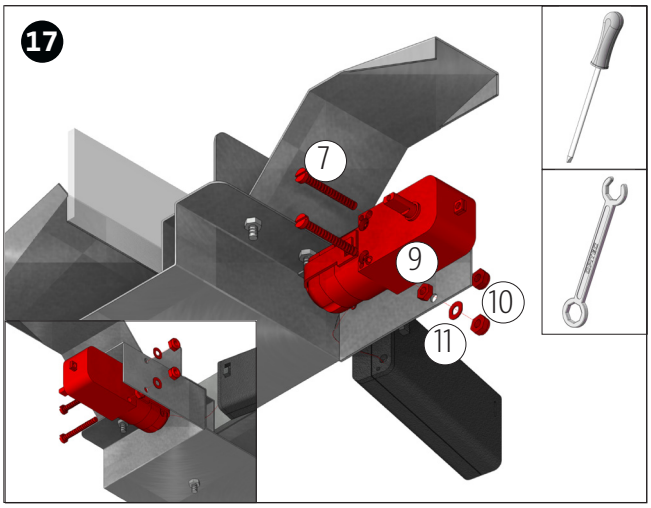
Glue the acrylic glass pane (6) to the intended adhesive surface of the bonnet (15) with superglue as shown.



Screw the bonnet (1b) to the bracket with 2 screws (8), 2 washers (11) and 2 nuts (9) as shown.



Solder the red cable of the battery holder to the + pole (recess in the motor housing) and the black cable to the - pole of the geared motor.



Insert two screws (7) through the holes of the geared motor and screw on and tighten one nut (9) each from the opposite side. Then insert the screws through the holes in the gear holder and fasten from the outside with a washer (11) and a stop nut (10) each.

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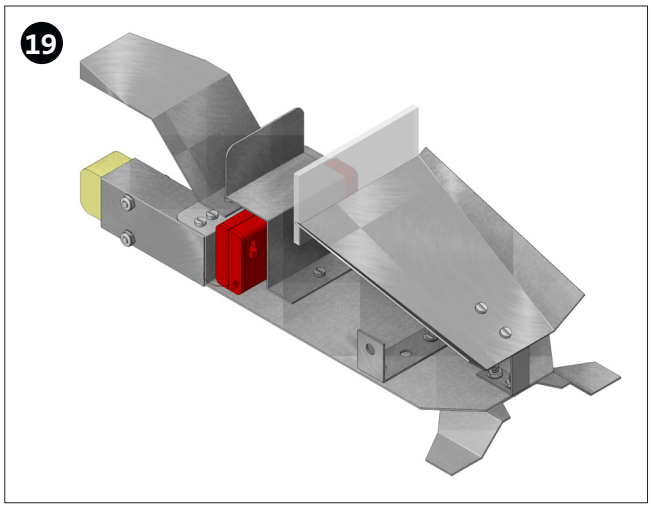
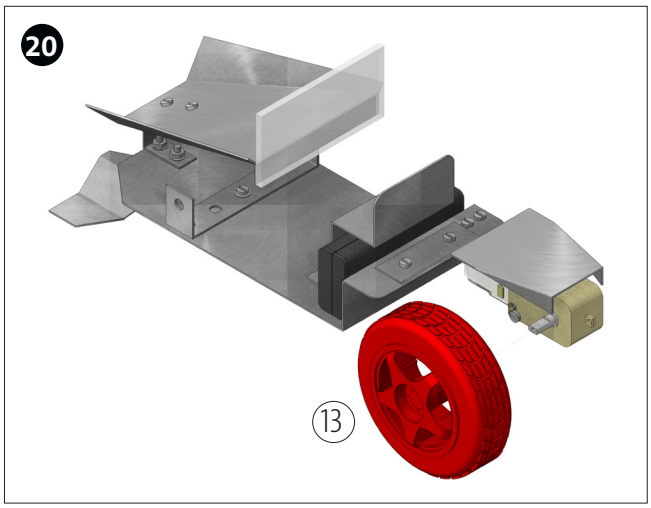
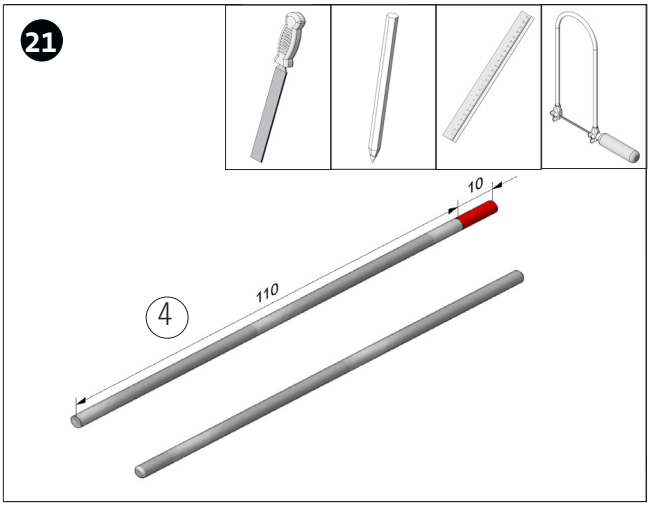


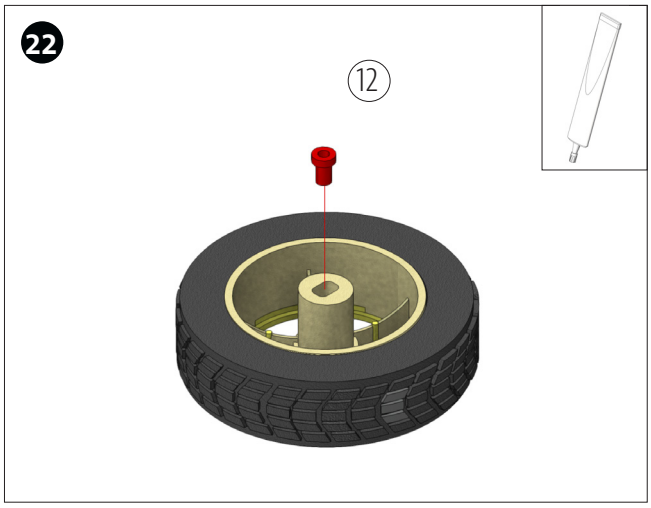
Then insert the battery holder under the seat as shown.



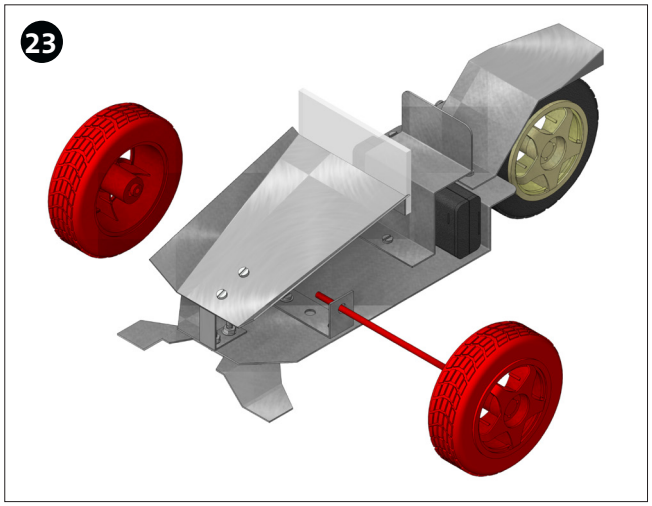
Fit a wheel (13) onto the gear axle as shown.



Shorten the metal axle (4) to 110 mm. Deburr both ends with the workshop file.

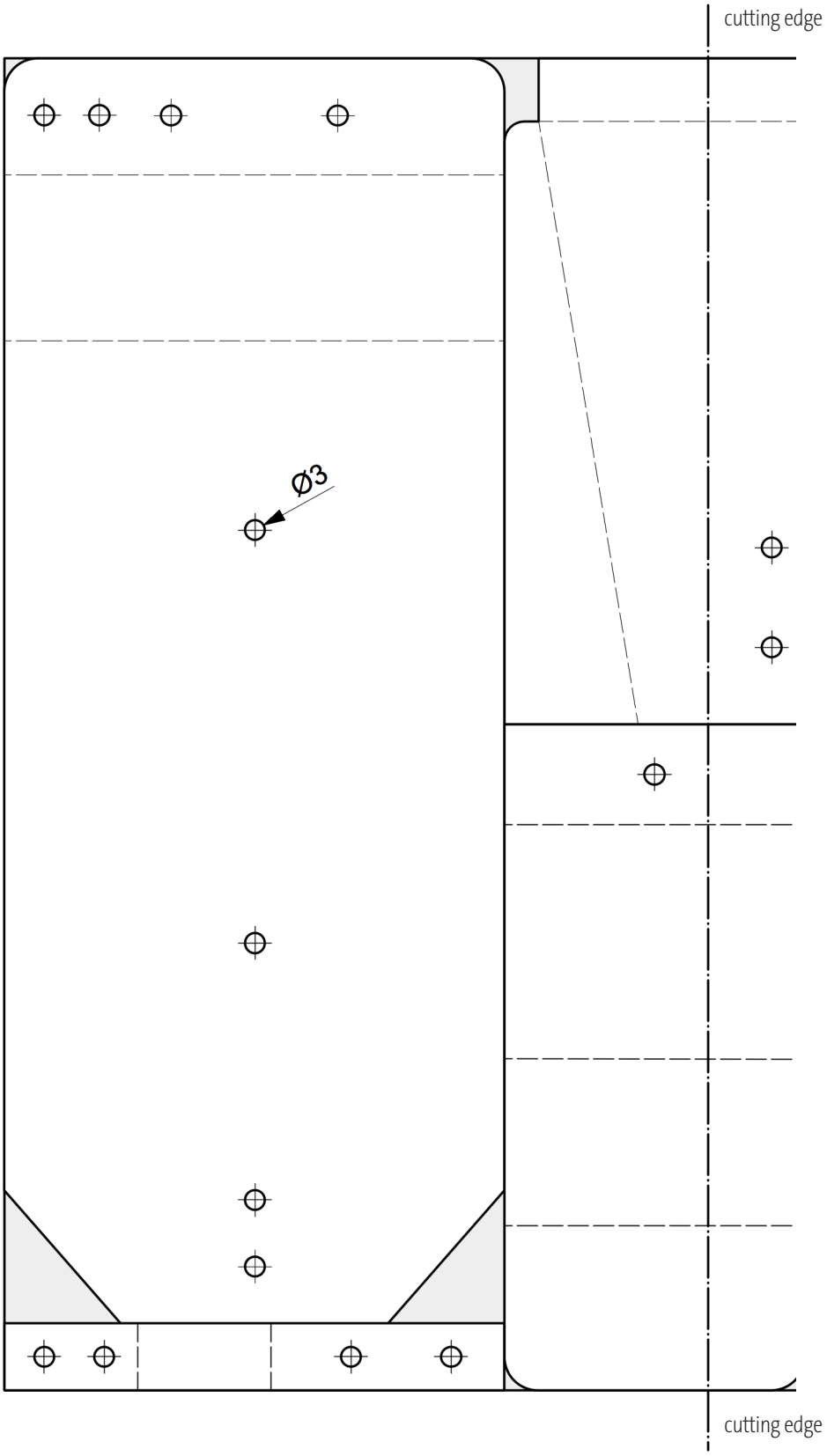


Insert a reducing piece (12) into the hole of each of the two remaining wheels (13) and fix it with superglue.



Push the axle (4) through the axle holder and put a wheel (13) with reducer on both sides. That's it!

Template Aluminium Sheet Part 1
S 1:1



Template Aluminium Sheet Part 1
S 1:1