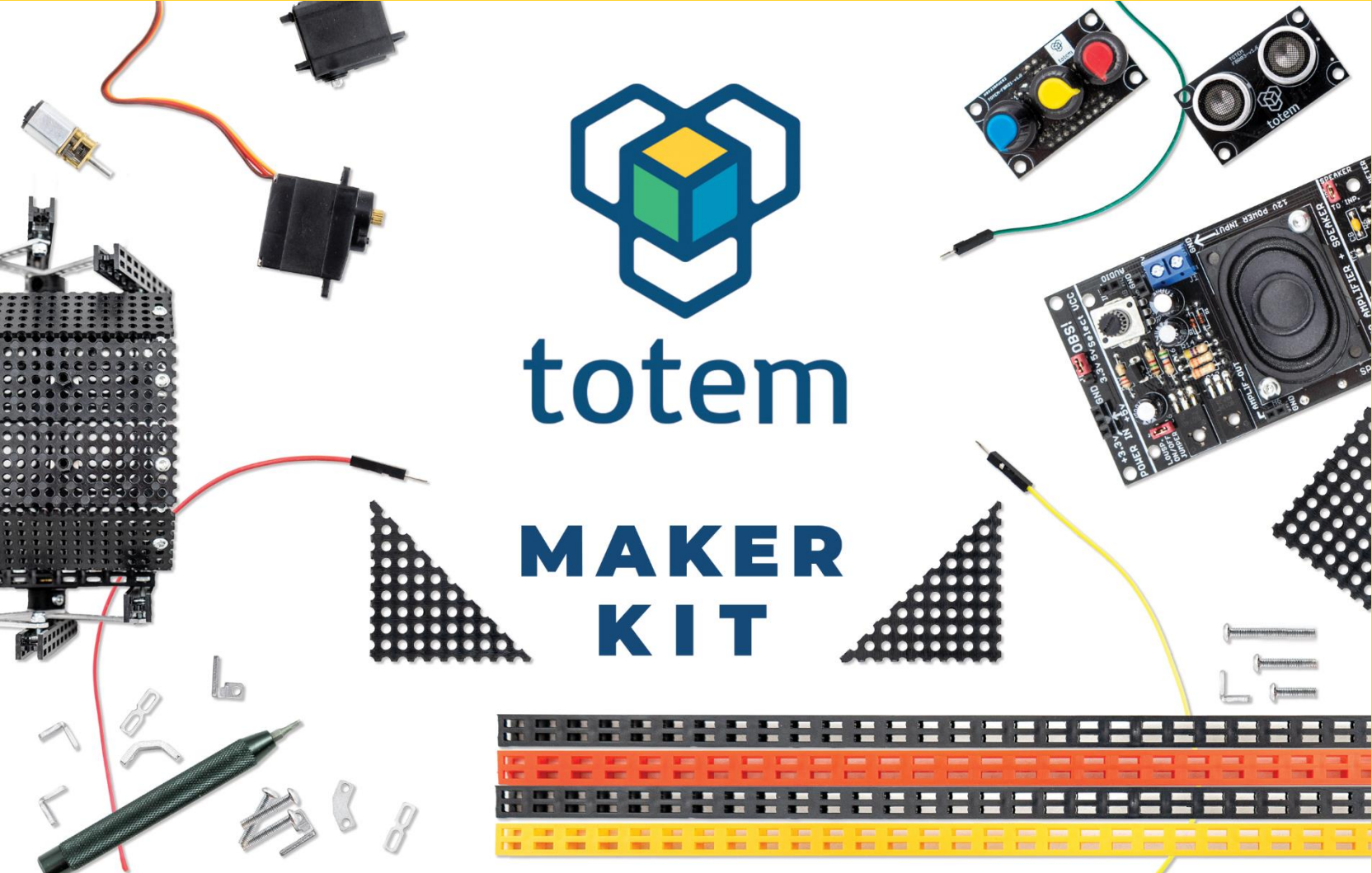




totem

**MAKER  
KIT**



## PARTS LIST

### PRE-CUT MAKER KIT, MAKER KIT and XL MAKER KIT parts



2-hole bracket  
pg. 9, 21.



2-hole 90 bracket  
pg. 8.



2-hole 45 bracket  
pg. 12.



C-bracket  
pg. 8, 10, 11.



L-twisted bracket  
pg. 15.



L-twisted mirror  
bracket  
pg. 15.



2-hole simple  
bracket  
pg. 9, 10.



2-hole 45 simple  
bracket  
pg. 13, 21.



L-bracket  
pg. 16.



L-twisted adj.  
bracket  
pg. 20.



L-twisted mirror  
adj. bracket  
pg. 20.



Bolt M3x12  
pg. 19.



Bolt M3x6  
commonly used.



Nut M3 6x10  
commonly used.



Nylon nut M3  
pg. 20.



Nylon Standoff  
M3 8mm  
pg. 20.

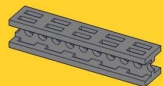


Double side filler  
pg. 12,16.

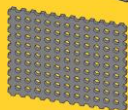


Single side filler  
pg. 13,14.

### In MAKER KIT and XL MAKER KIT only:



Beam  
400 mm



Board  
100x100 mm  
pg. 19.



Swan 90x45  
bracket  
pg. 16.



Swan 90x45  
mirror bracket  
pg. 16.



45x90 bracket  
pg. 14.



45x90 mirror  
bracket  
pg. 14.



3-hole bracket  
pg. 11, 17.



3-hole 45 bracket  
pg. 18.



Strip Bracket  
(200 mm)  
pg. 22.

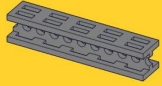


Bolt M3x8  
pg. 11.

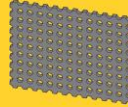


Nut M3 5.5x5.5  
pg. 11.

In PRE-CUT Maker KIT only:

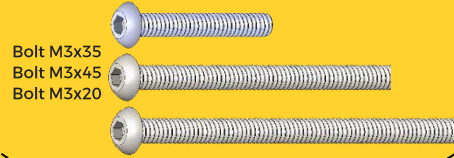


Beams:  
100 mm  
90 mm  
50 mm  
40 mm



Boards:  
100x100 mm  
30x100 mm

In XL MAKER KIT only:



Bolt M3x35  
Bolt M3x45  
Bolt M3x20

TIPS:

Brackets with:  
**Round holes:** when you have no need to adjust  
**Oblong holes:** with a possibility to adjust.

## TOTEM TOOLS

### Beam Cutter

In MAKER KIT and XL MAKER KIT only

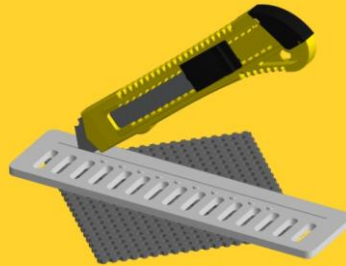
- Attaches to the table.
- Ruler.
- Friendly for left-handed use.



### Board Cutter

In MAKER KIT and XL KIT only

- Straight or 45° angled cuts – depends on the side of the ruler.
- Ruler pins fits into the grid of the board.



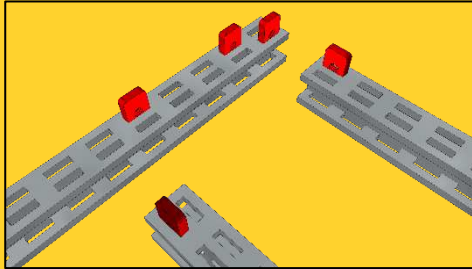
### Magnetic Screwdriver

- Super strong magnetic grip - bolt firmly stays on screwdriver even when shaking it.
- Makes things easier - grab bolts and nuts from the compartment box with the magnet.

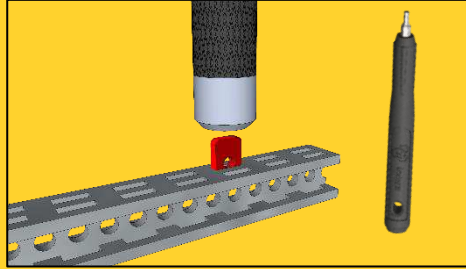


## TOTEM Hints and Tips

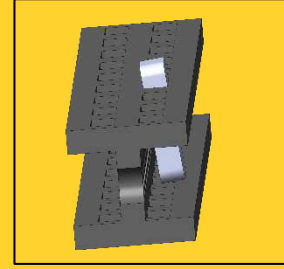
1. Good idea to start with putting nuts into slots.



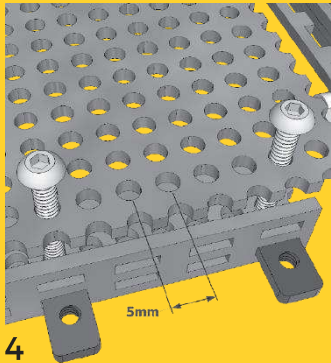
2. Use back of the screwdriver to push the nut into the beam.



3. Make sure the nut enters both slots.

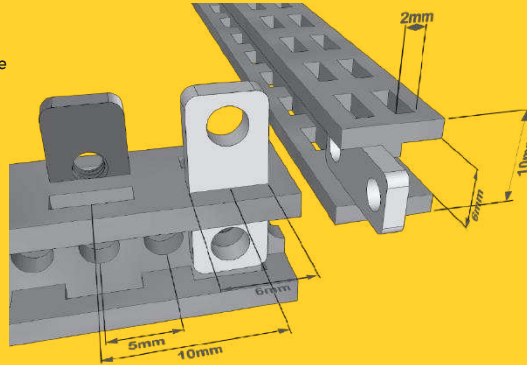


## TOTEM GRID



The geometry of Totem is so that brackets and nuts are 2x6 mm profile, and they fit into the beams in 2 directions.

5mm and 10mm grid is also present in Totem boards. The holes are 5mm apart, and can be fitted to other Totem parts in many ways.



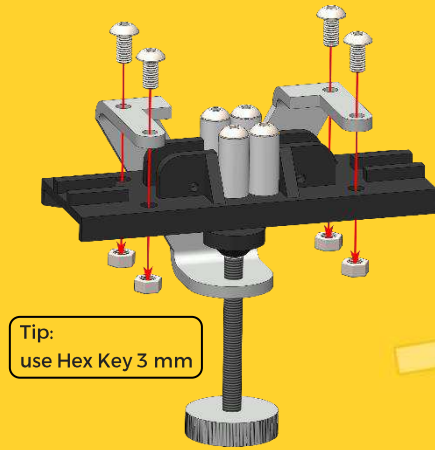
4



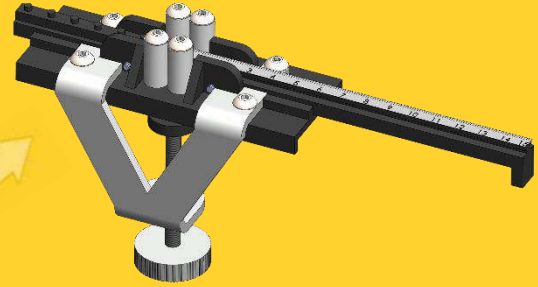
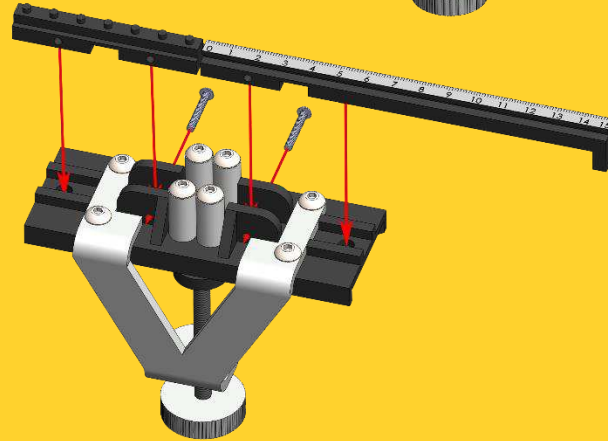
Totem Tips

## BEAM CUTTER

### Assembly of Beam Cutter



Tip:  
use Hex Key 3 mm



NOTE: this tool can be assembled symmetrically in order to cut with the left hand.

Assembly of the Saw

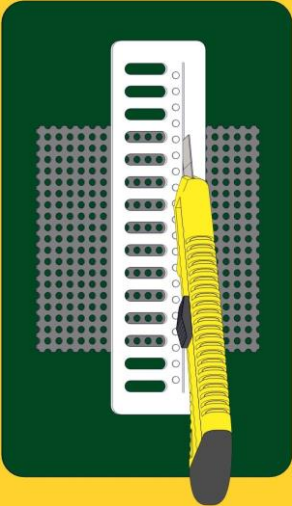


Using the Beam Cutter

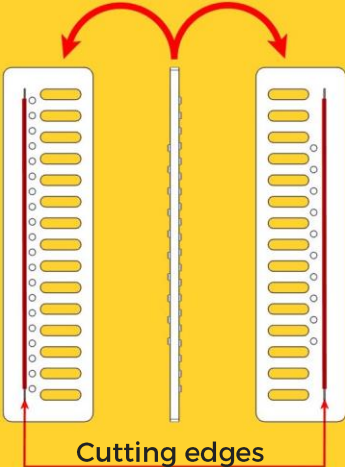


# BOARD CUTTER

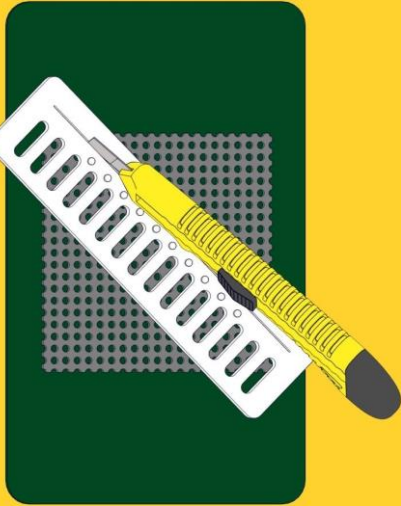
Straight cut



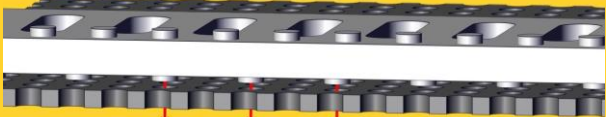
Flip direction



Angled cut

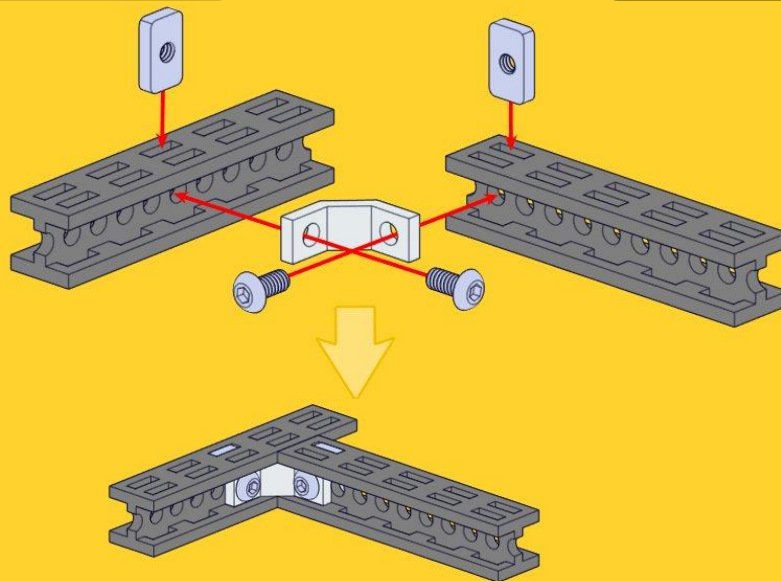
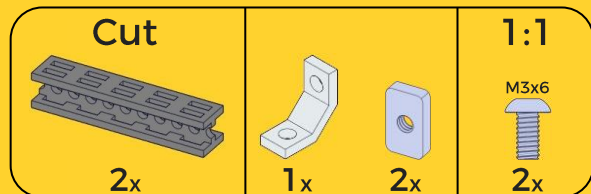


Cutting edges



Fit pins in to the grid of the board

## C-bracket



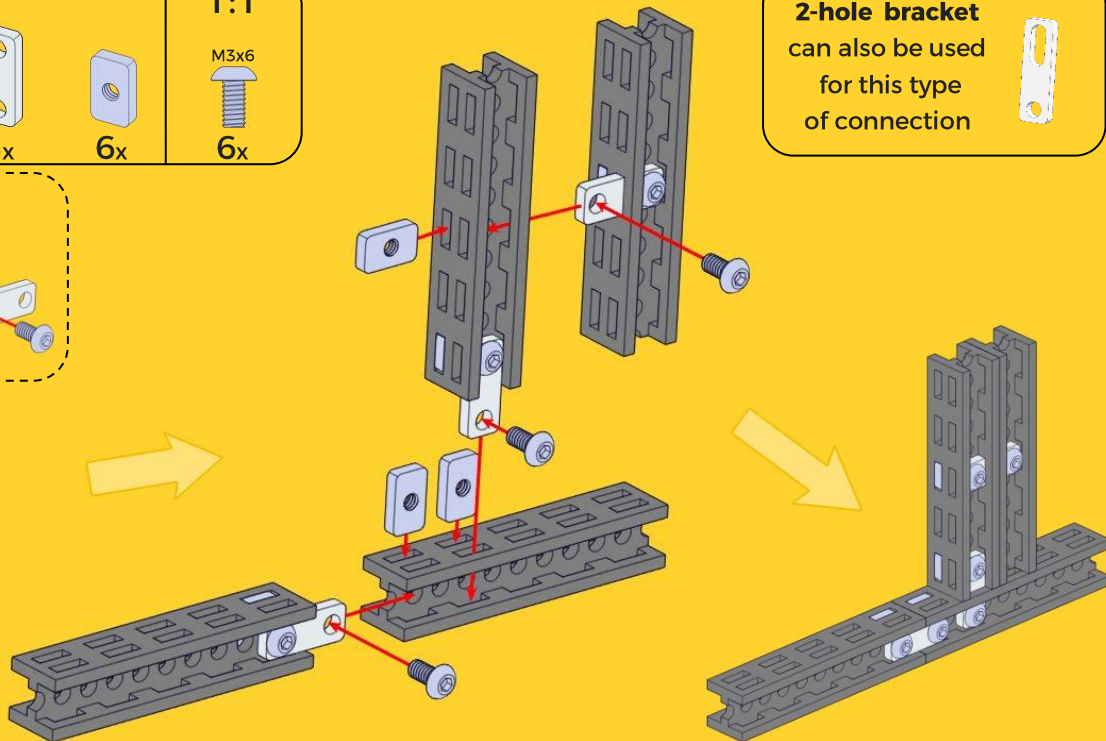
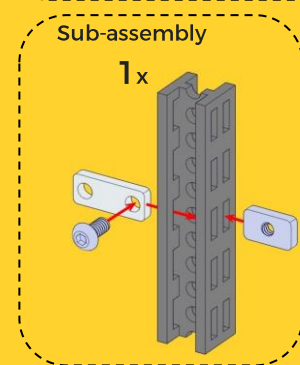
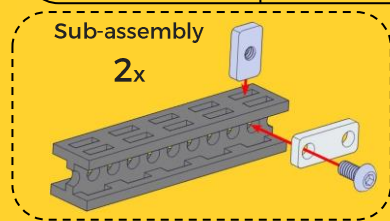
## Tip

**2-hole 90 bracket**  
can also be used  
for this type of  
connection





## 2-hole simple bracket



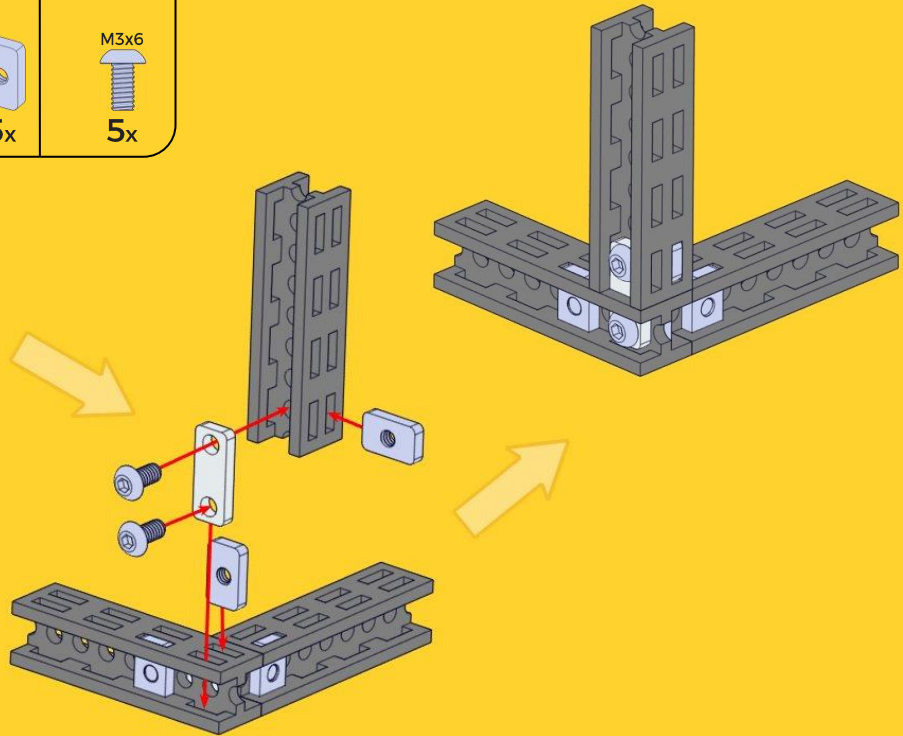
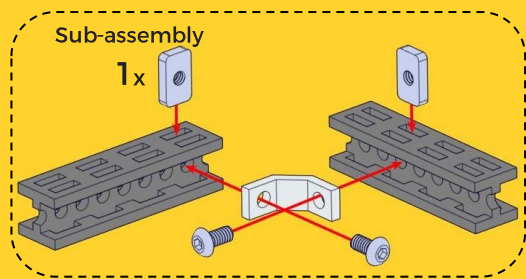
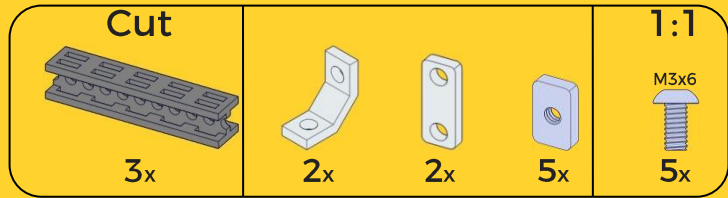
## Tip

**2-hole bracket**  
can also be used  
for this type  
of connection

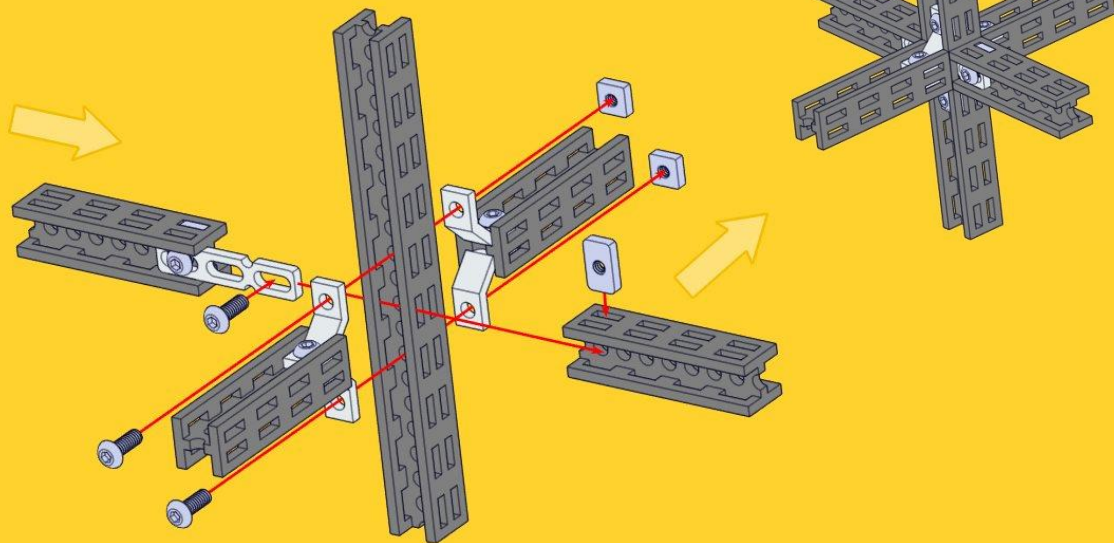
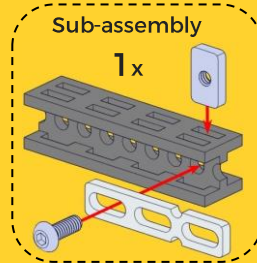
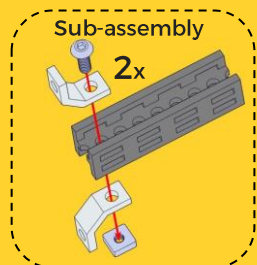
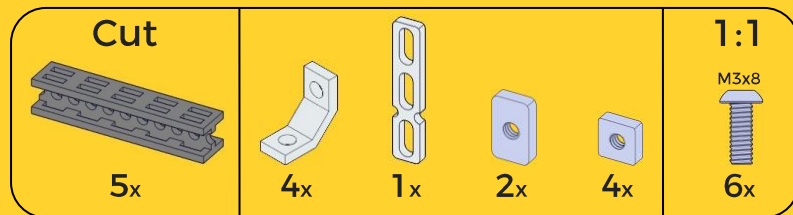


NOTE: there are many other ways to use this bracket.

## Typical C-bracket corner

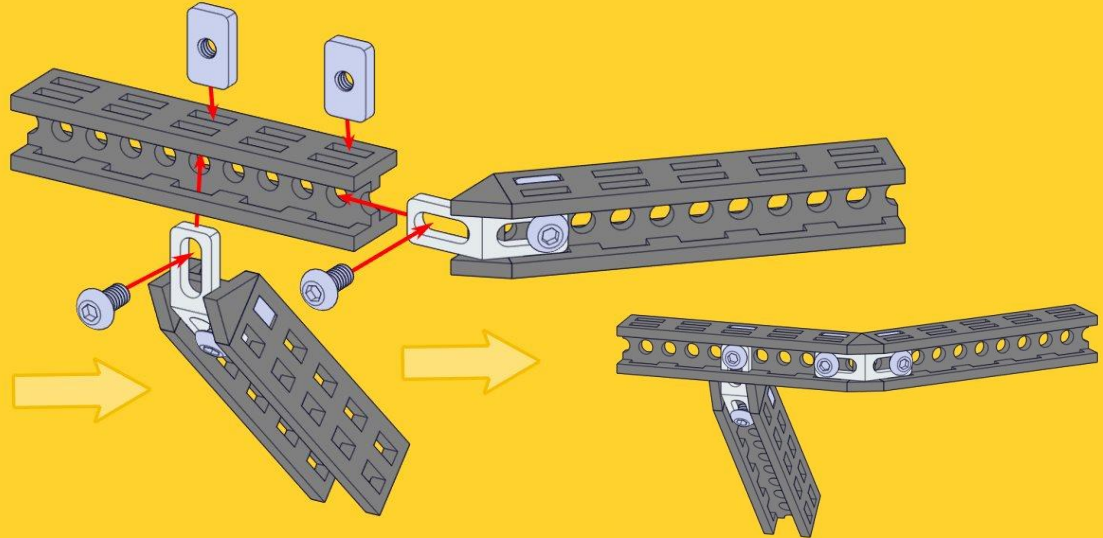
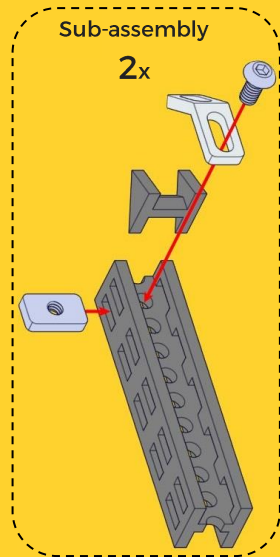
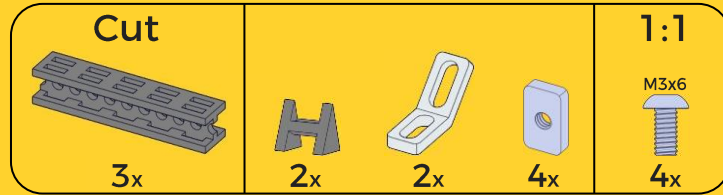


## C-bracket and 3-hole bracket

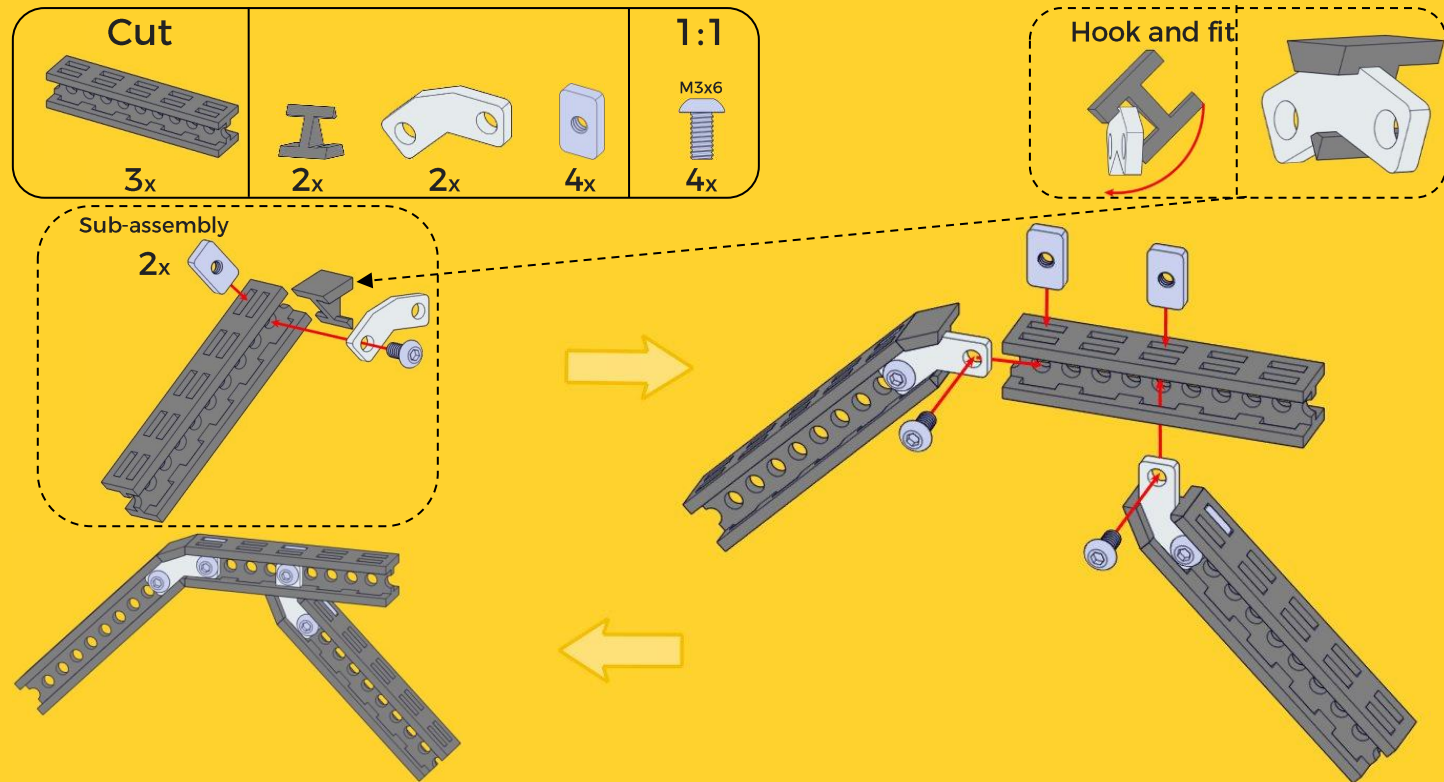


NOTE: there are many other ways to use this bracket.

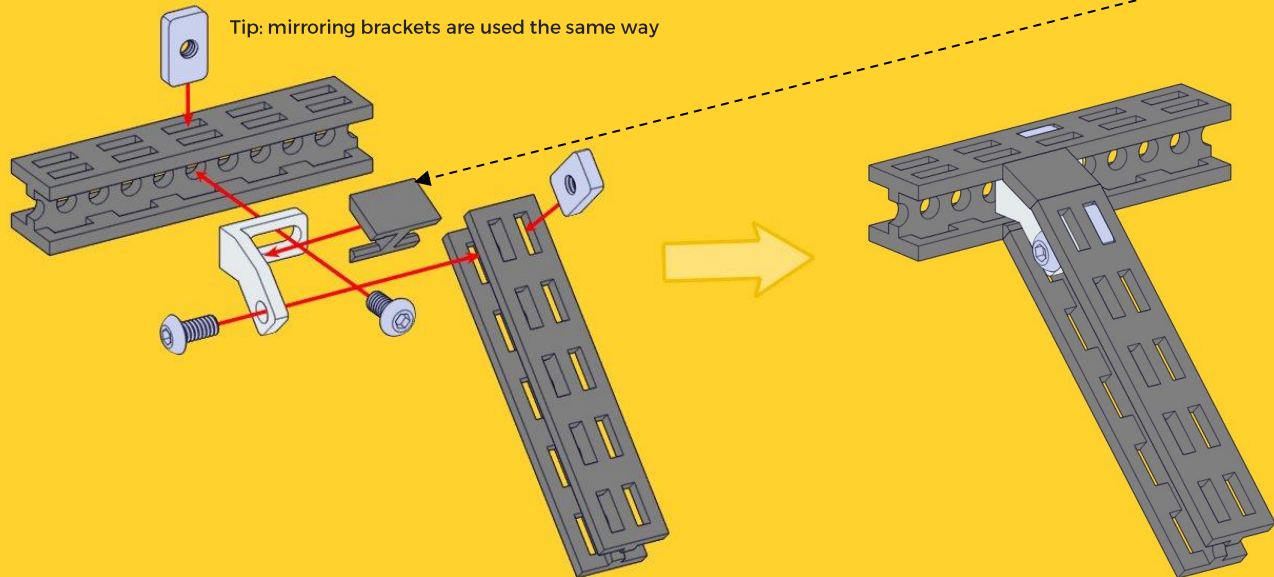
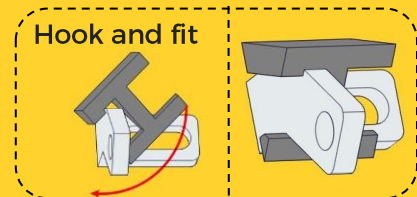
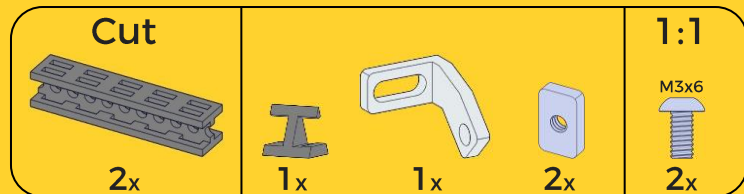
## 2-hole 45 bracket



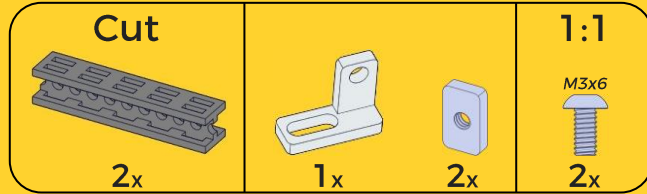
## 2-hole 45 simple bracket



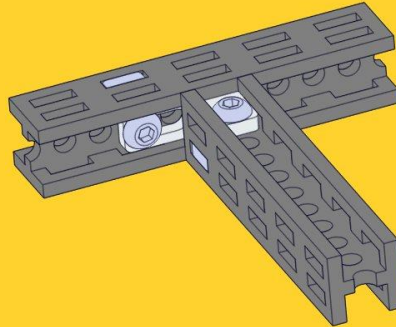
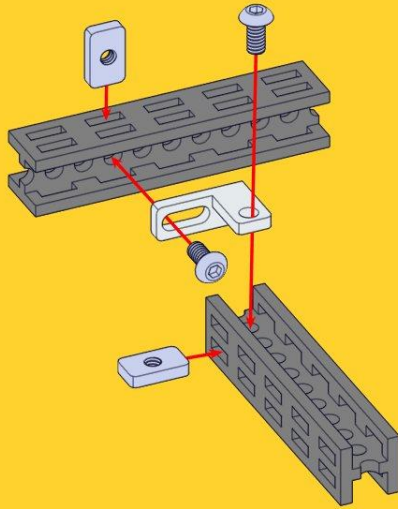
## 45x90 bracket



## L-twisted bracket

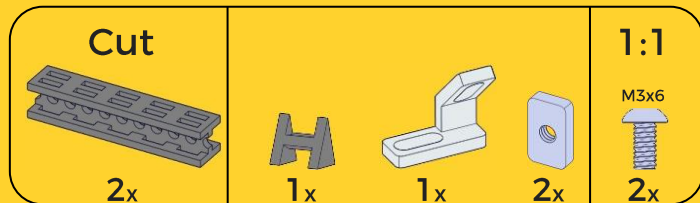


Tip: mirroring brackets are used the same way

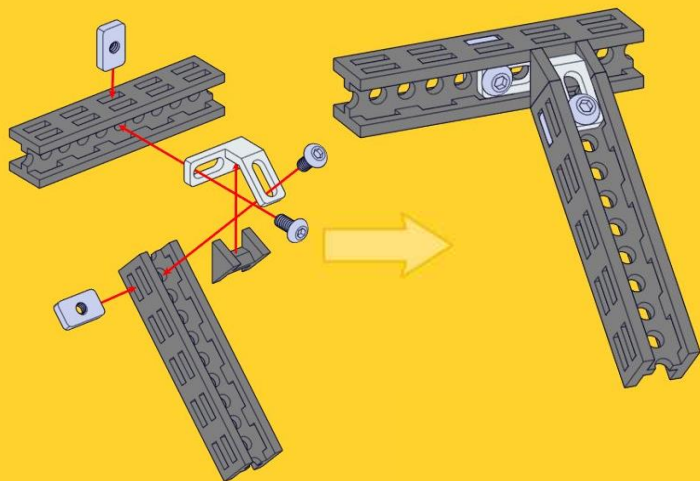


NOTE: there are many other ways to use this bracket.

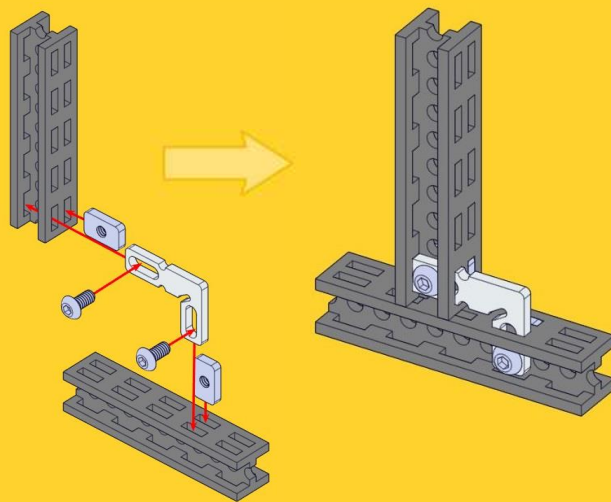
## Swan 90x45 bracket



Tip: mirroring brackets are used the same way

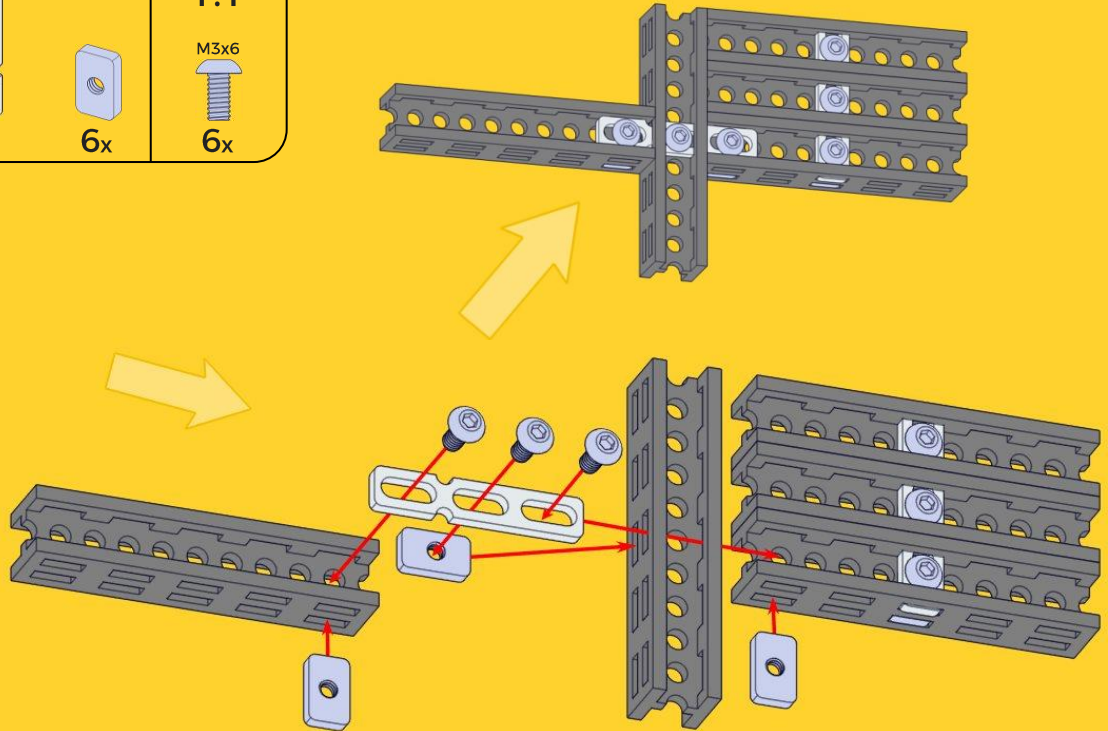
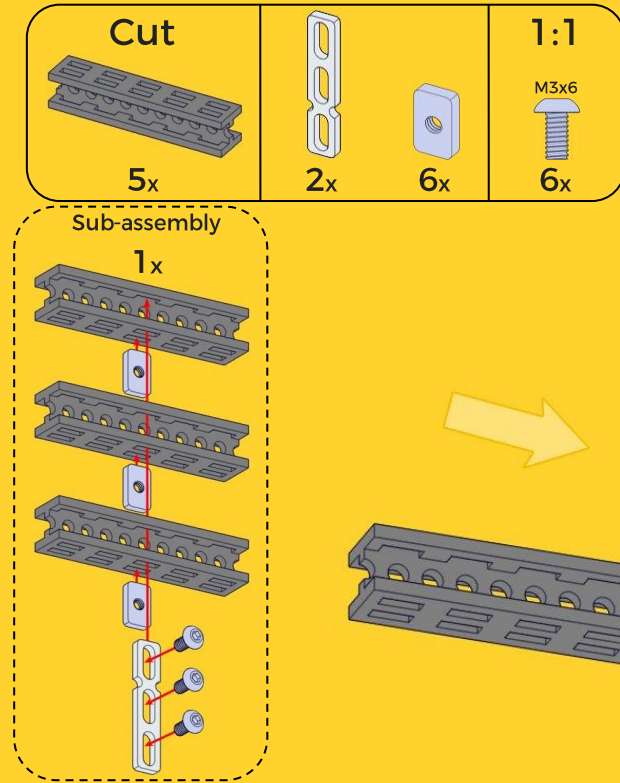


## L-bracket



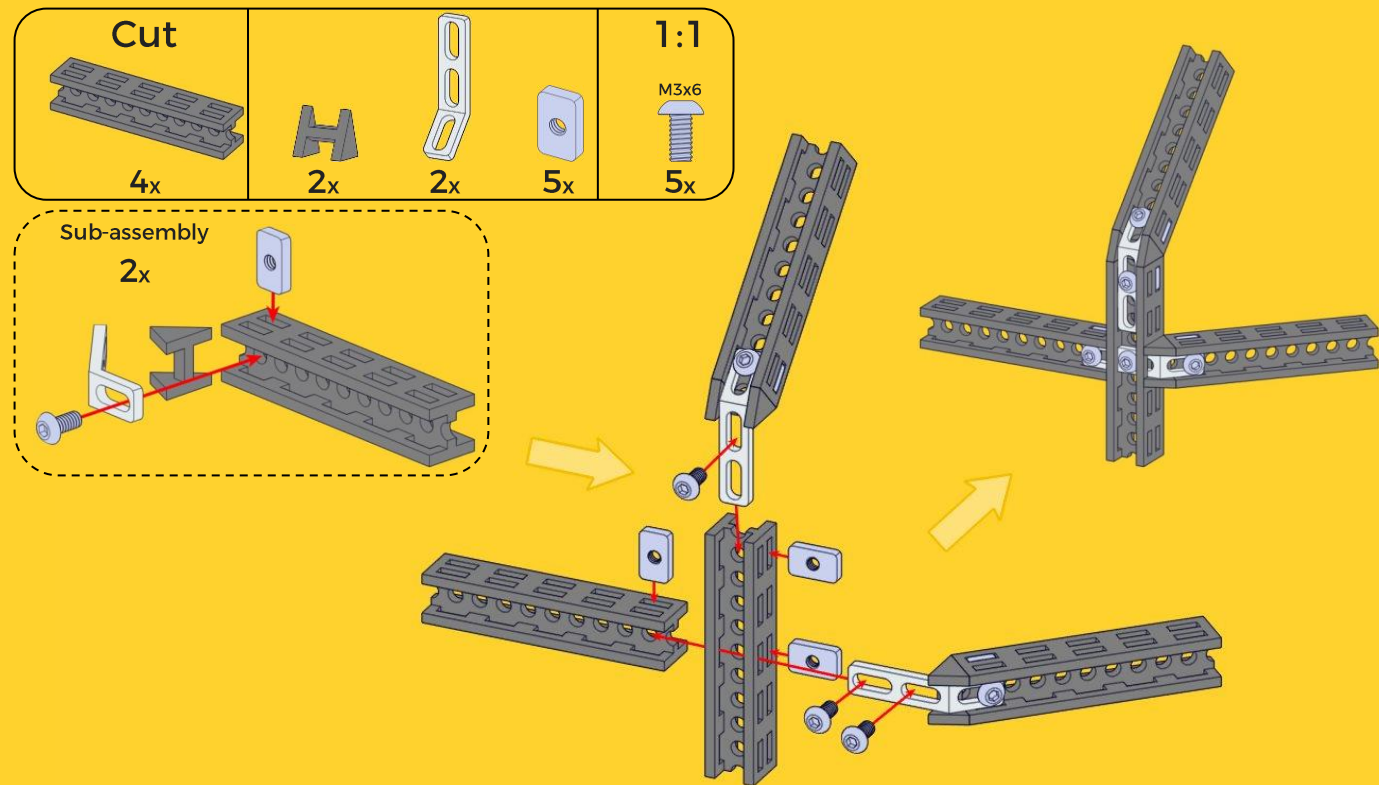


## 3-hole bracket

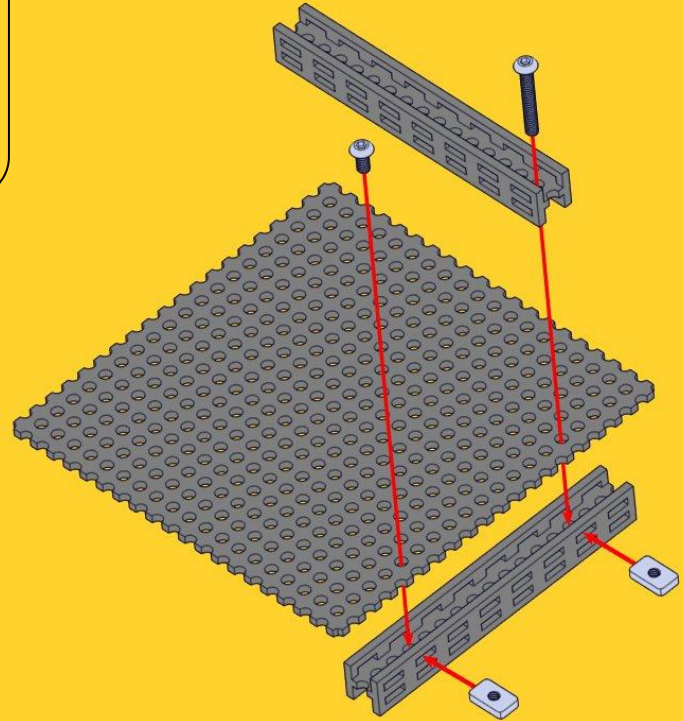
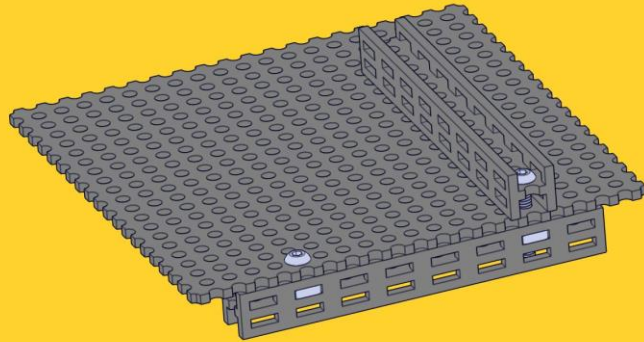
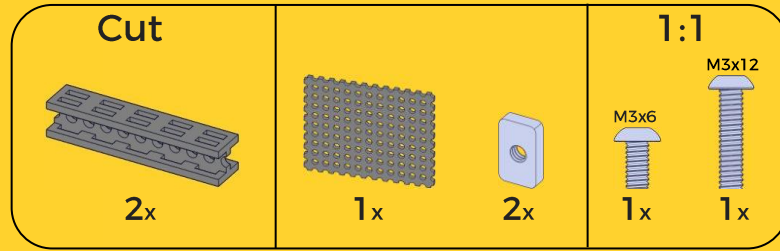


NOTE: there are many other ways to use this bracket.

## 3-hole 45 bracket







## Using Boards

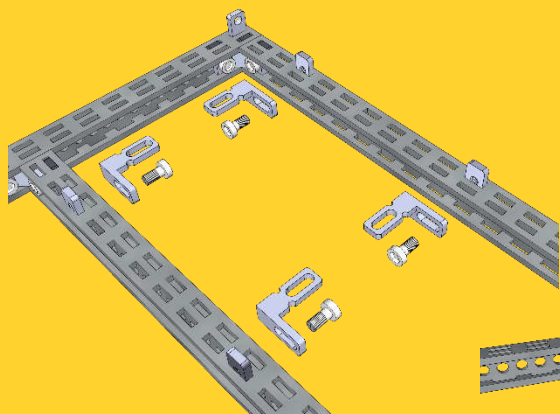


NOTE: there are many other ways to use boards.

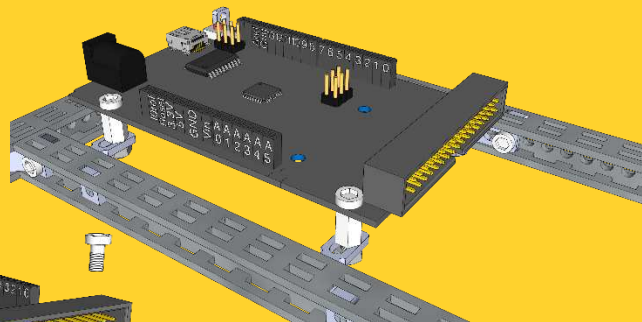
## Using Nylon Standoffs to mount electronics



<b>Cut</b>  Make a frame	 2x	 2x	 4x	 4x	 4x	 8x
---	---	---	---	---	---	---



2. Adjust position of the brackets and standoffs to fit holes in the electronics board. Then tighten nuts and bolts.

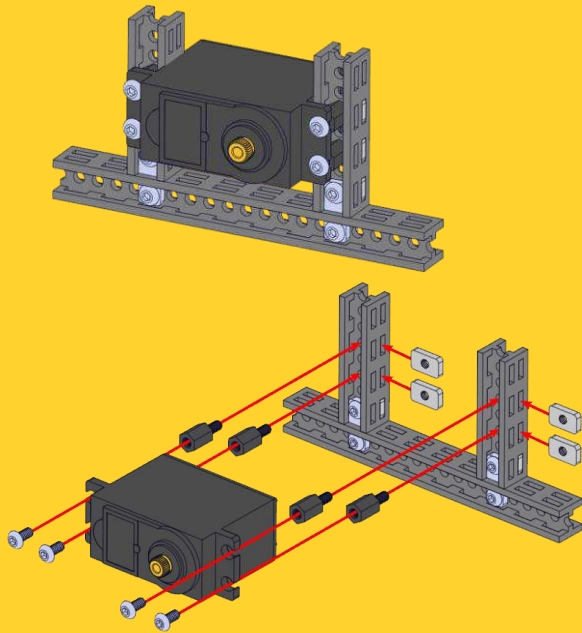


1. Do not tighten bolts too much, since you will adjust position a little in the next step.

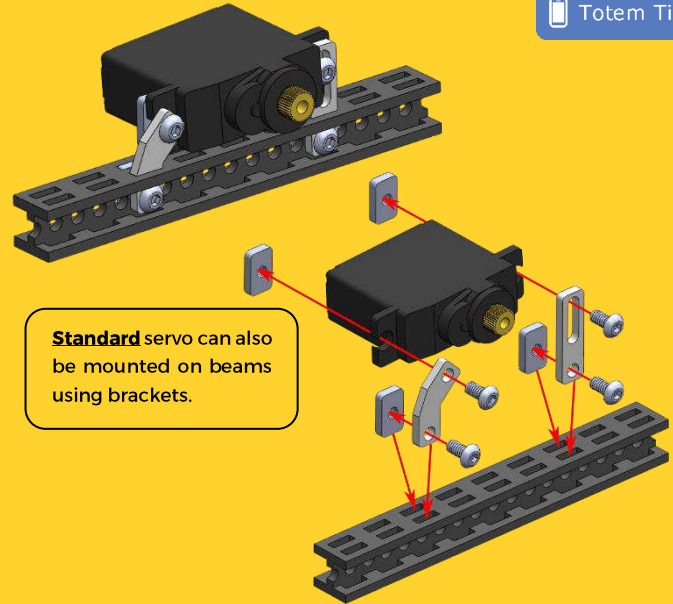


## Tips of mounting motors

Standard servo motors: using standoffs



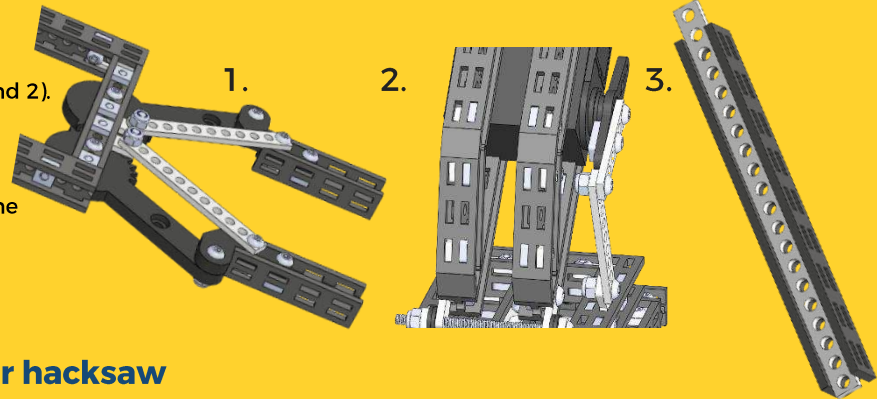
Mini servo motors: using brackets



Totem Tips

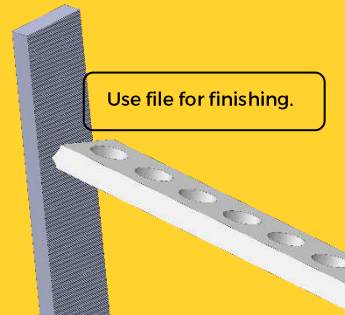
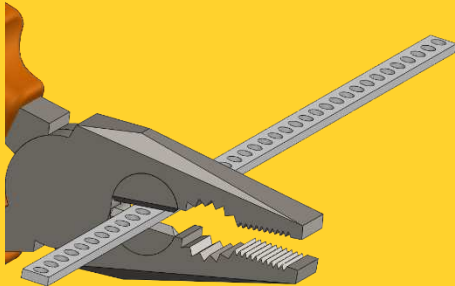
## Using Strip brackets

- Perfect when building robotics (picture 1 and 2).
- Can be cut into any required length.
- Hole diameter: 3 mm.
- Holes can be drilled for 4 mm hardware.
- Strengthen the Beam: it perfectly fits into the track of the Beam and makes it even more sturdy (picture 3).



## Cutting strip brackets: use pliers or hacksaw

- Cutting with pliers

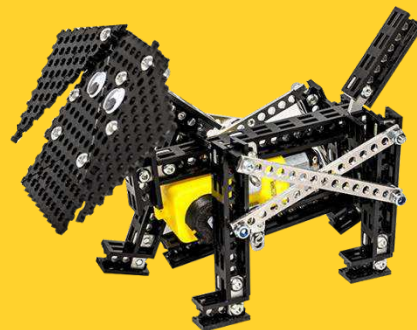
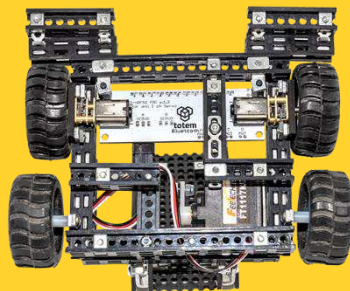


## BRING YOUR IDEAS TO REALITY WITH TOTEM

### ROBOTICS PROJECTS

Use Totem as a base for robotics projects.

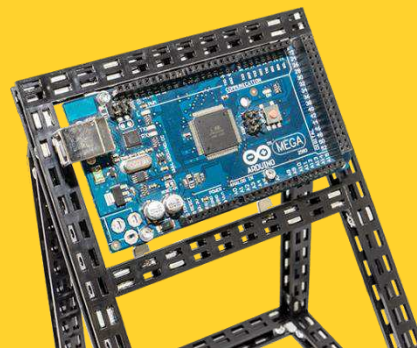
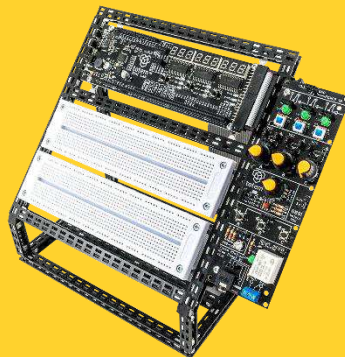
Add motors, wheels, electronics and other parts.



### STRUCTURES FOR ELECTRONICS

Use Totem to build structures for electronics.

No more messy electronics.



[www.totemaker.net](http://www.totemaker.net)

More building tips and ideas.

# Discover the joy of making

## UPGRADE TO NO LIMIT



Caution: this is not a toy and is intended for use by or under the supervision of adults.



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