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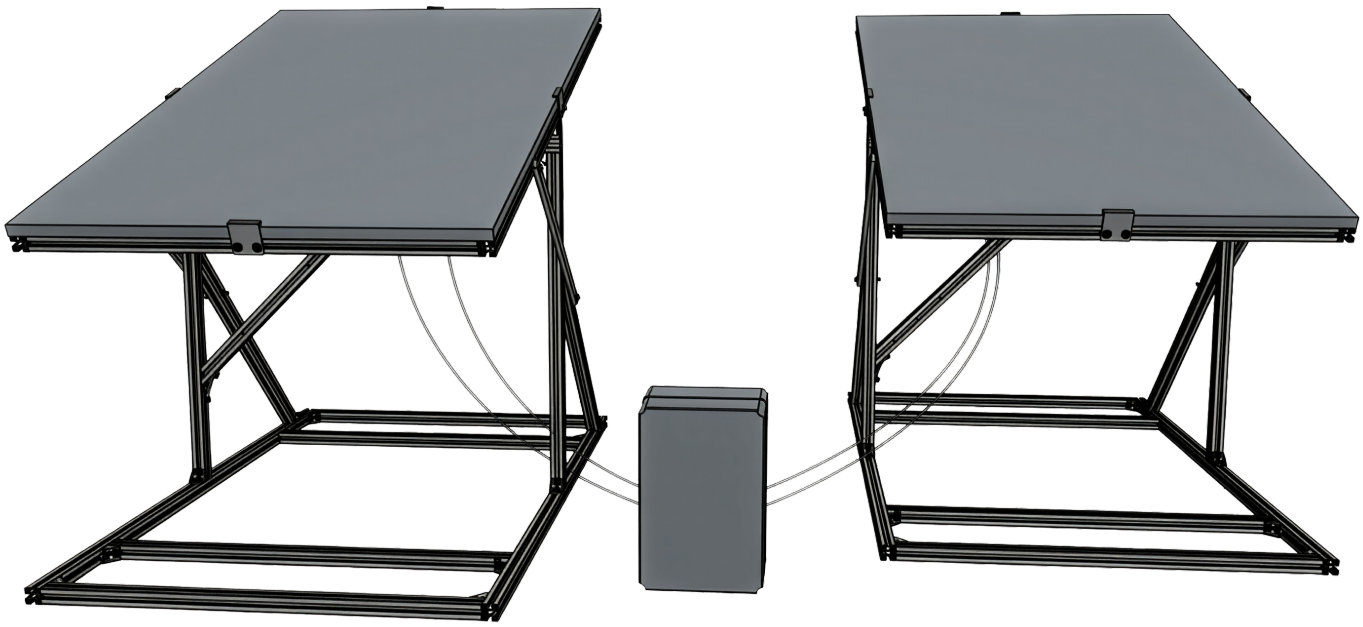


Instructions

Educational PV system

Assembly and operating instructions

Third edition, August 2025
Editor: Robert Mog
Proofreading: Matthias Schmuderer
Design / Layout: Carina Lützenburger, Robert Mog, Marina Unger,Nele Willenbrink
3D visualisations: Janus Wagner
Translation: Victor Batschkus, Robert Mog

www.solarbildung.org
Solar for Schools Bildung gGmbH
Steinstr. 39, Rgb. rechts
D-81667 Munich

contact@solarbildung.org

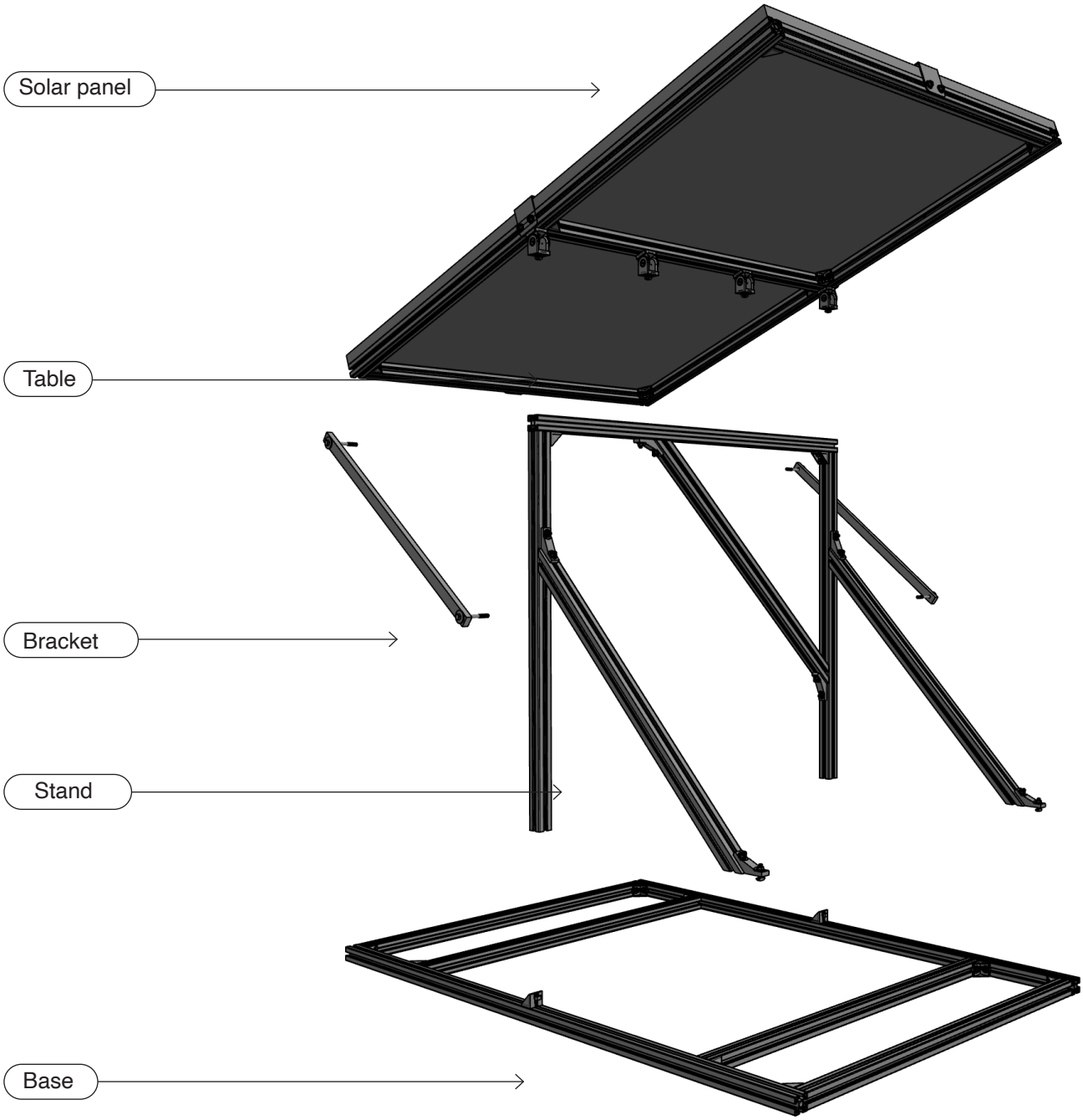
Instructions

Educational PV-System

Installation & operating instructions

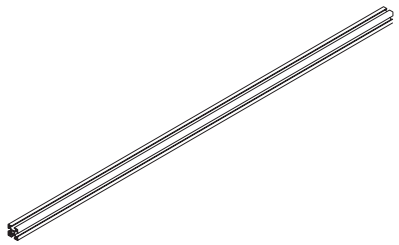
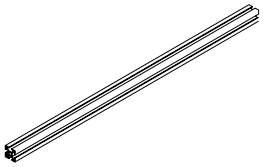
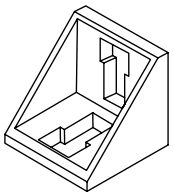
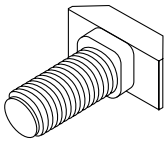
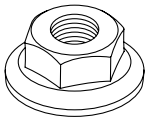
Content

01 Components



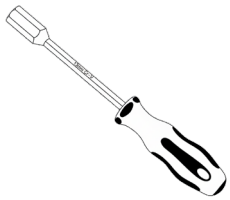
02 Assembly instruction for base

List of components for base

	Aluminium profile long (176.5 cm)	2x
	Aluminium profile short (106 cm)	4x
	90° Bracket	10x
	Hammer head screw M8 x 20	20x
	Collar nut M8	20x

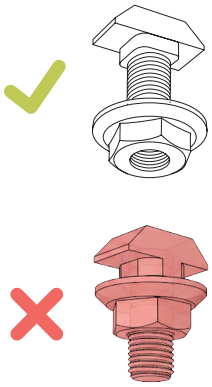
Tool

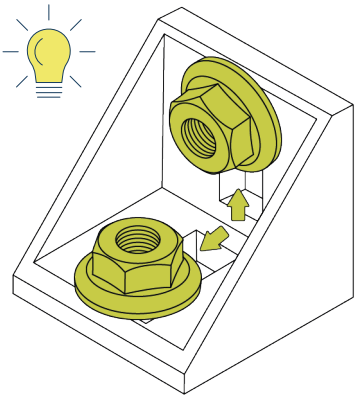
2x Ring wrenches 13

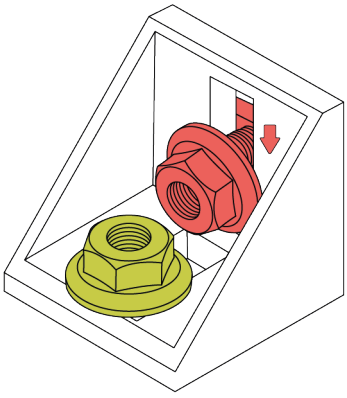


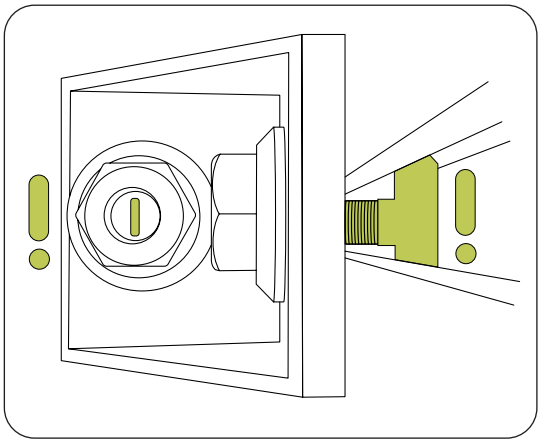
Preperation

20x

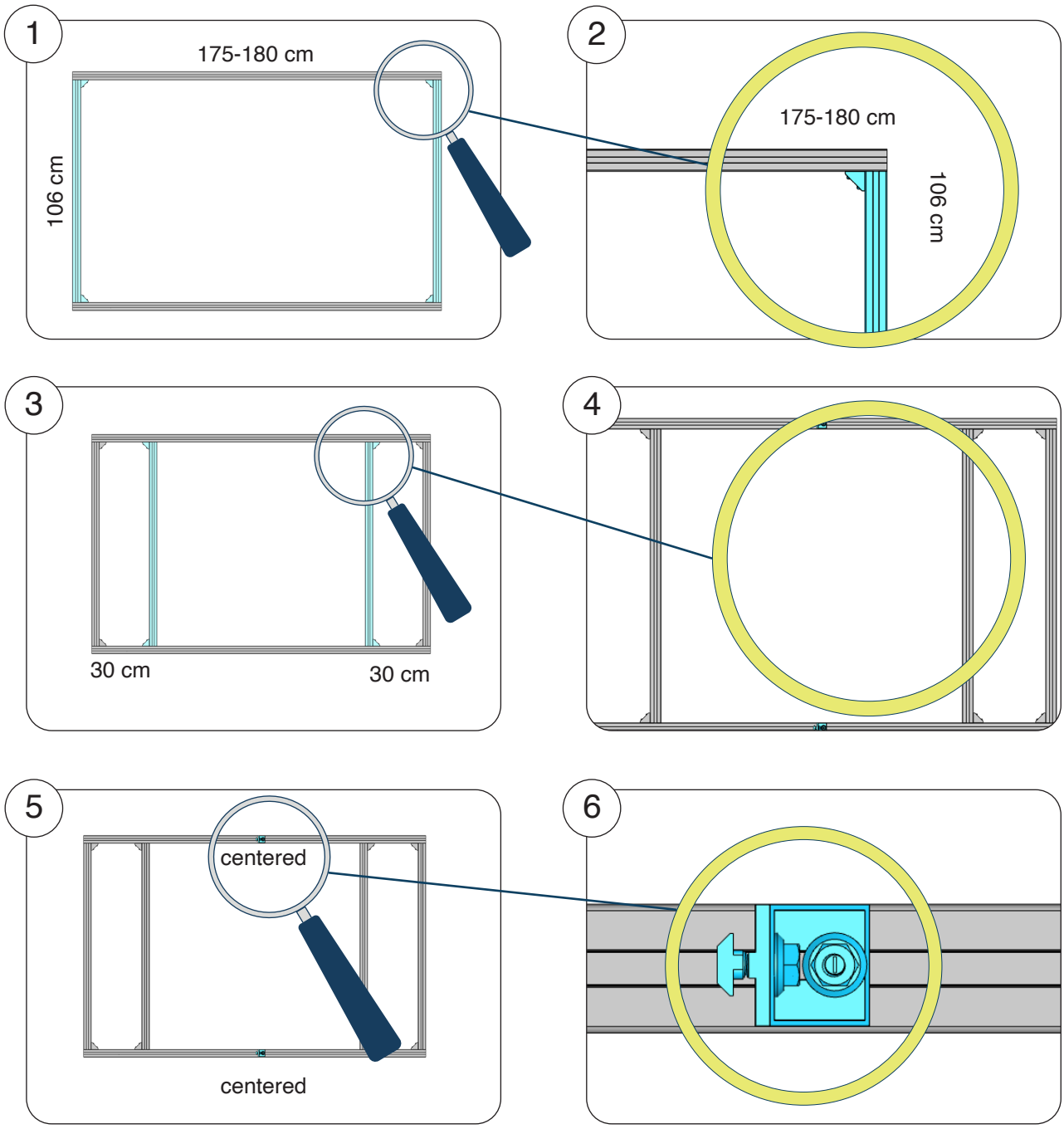






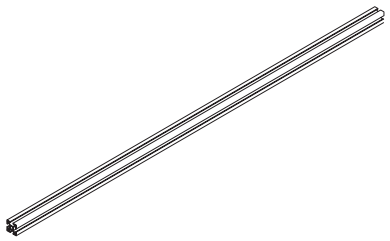
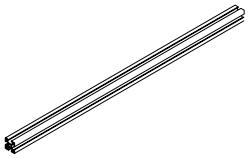
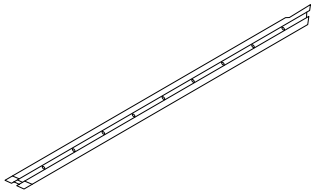
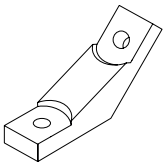
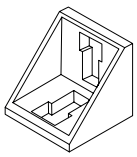
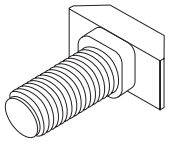
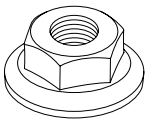


Carry heavy components together to prevent injuries.

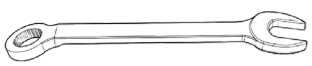

1
175-180 cm
106 cm
2
175-180 cm
106 cm
3
30 cm
30 cm
4
5
centered
centered
6

03 Assembly instruction for stand

List of components for stand

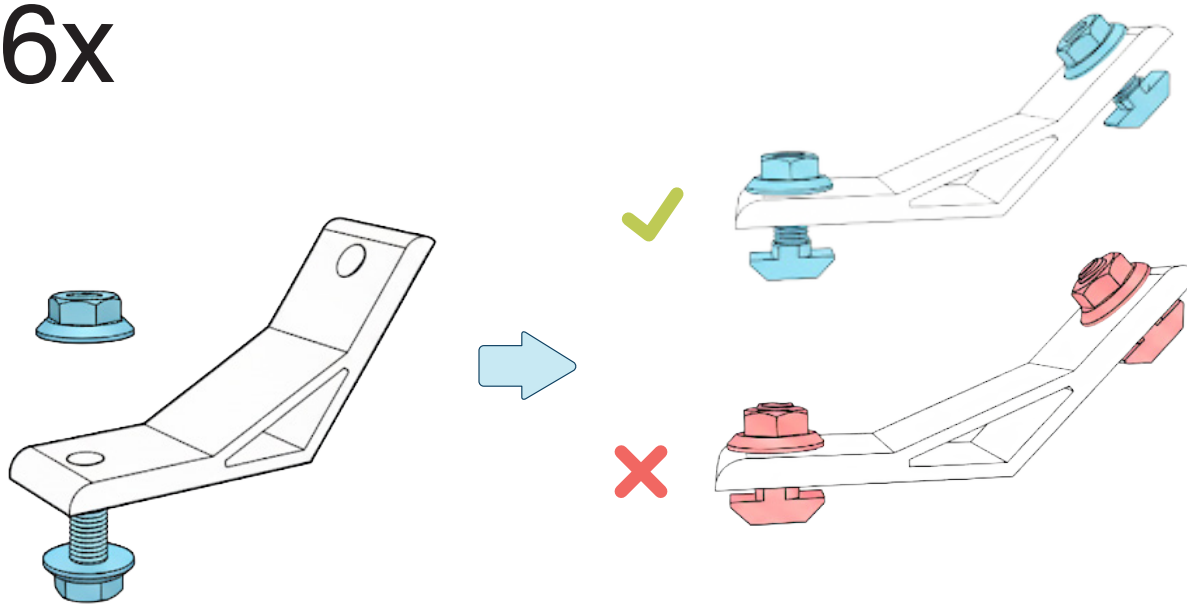
	Aluminium profile long (114cm)	1x
	Aluminium profile short (100 cm)	2x
	beveled aluminium profile with holes (100 cm)	3x
	135° Brackets	6x
	90° Brackets	2x
	Hammer head screw M8 x 20	16x
	Collar nut M8	16x

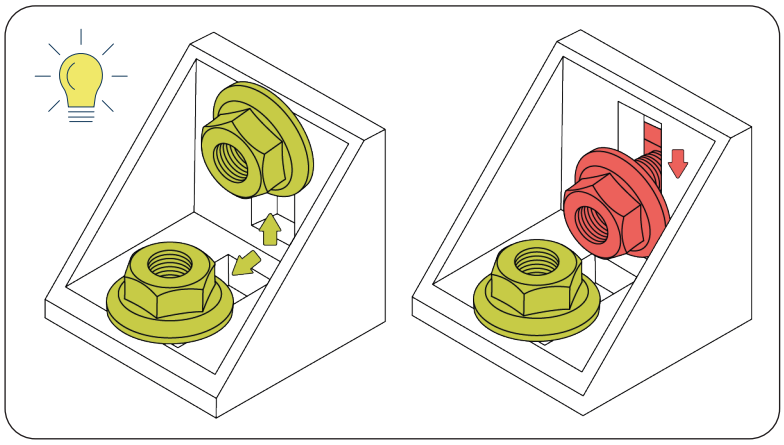
Tool

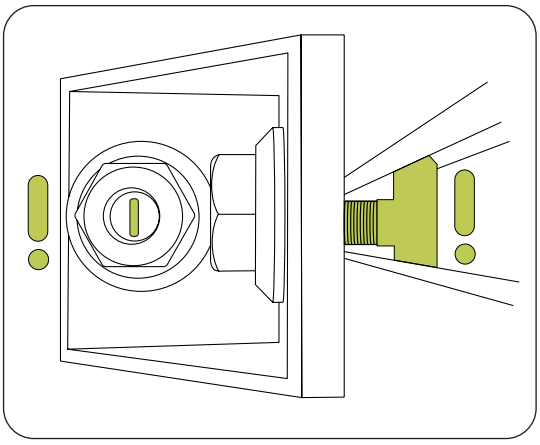
1x Ring wrenches 13 

Preperation

6x

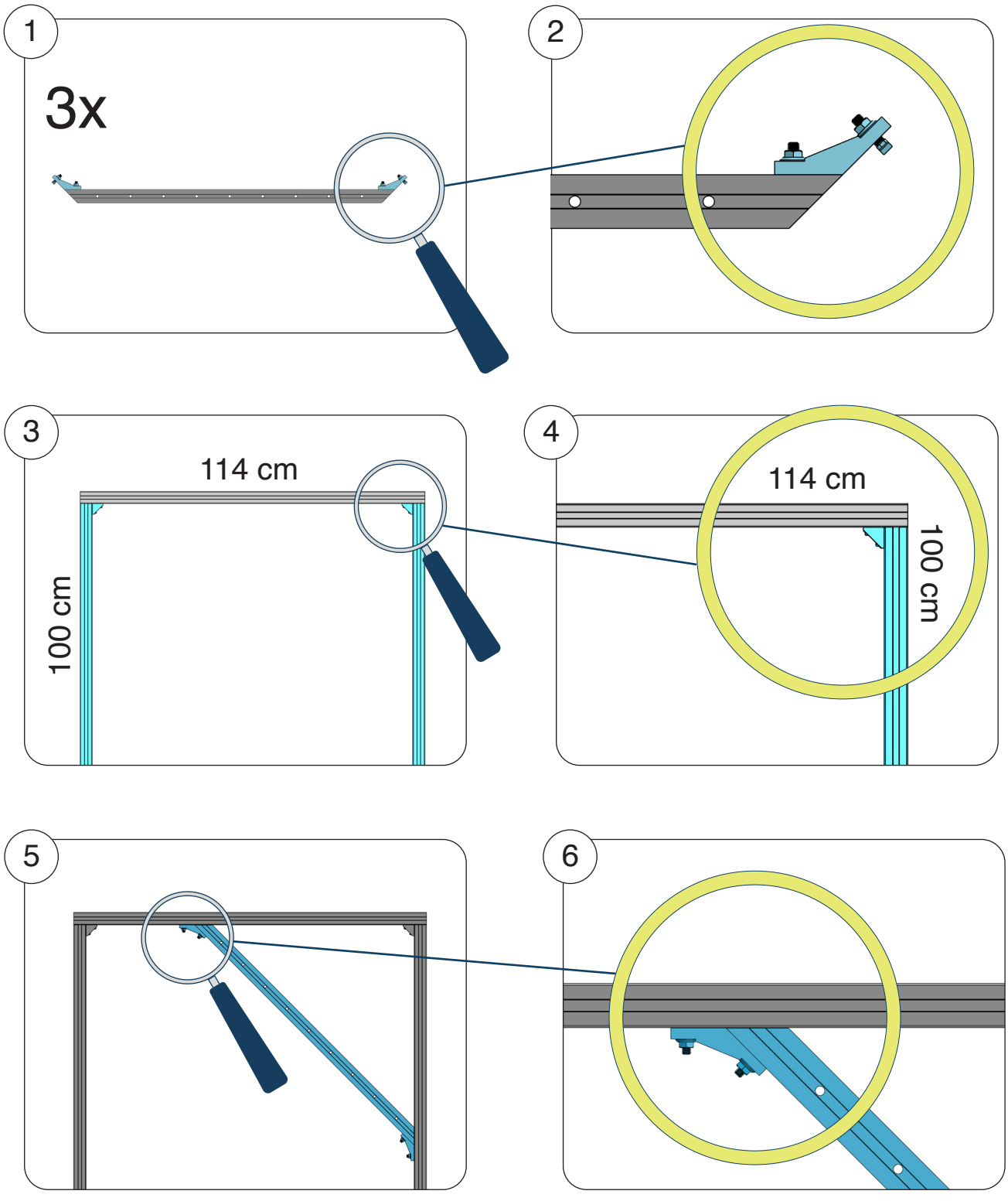






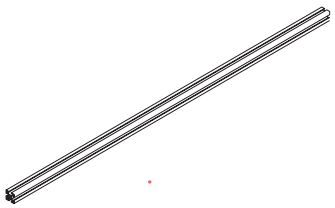
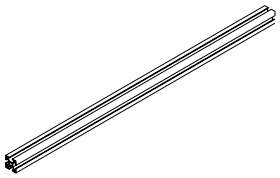
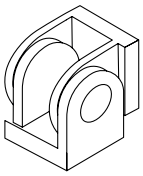
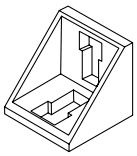
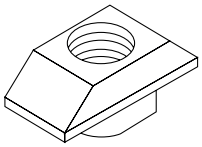
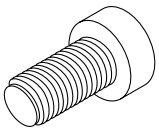
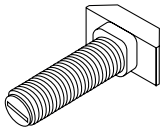
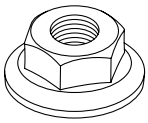
Carry heavy components together to prevent injuries.

Stand



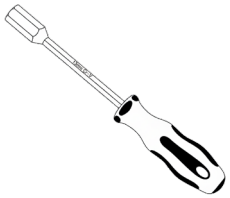
04 Assembly instruction for table

List of components for table

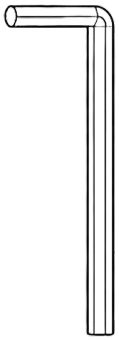
	Aluminium profile long (176.5 cm)	2x
	Aluminium profile short (106 cm)	3x
	Pivot joint	4x
	90° Bracket	8x
	Hammerhead nut M8	8x
	Hexagon socket head cap screw M8 x 15	8x
	Hammer head screw M8 x 20	16x
	Collar nut M8	16x

Tools

2x Ring wrenches 13

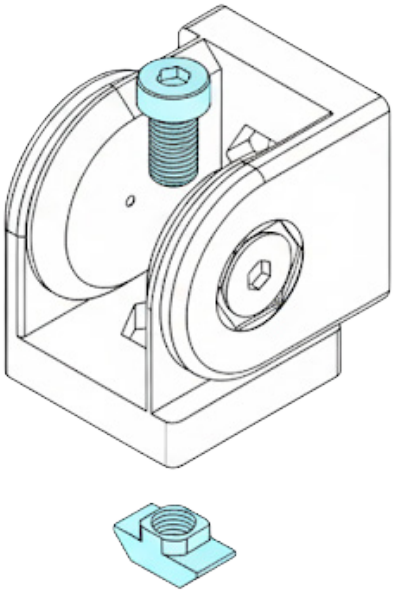


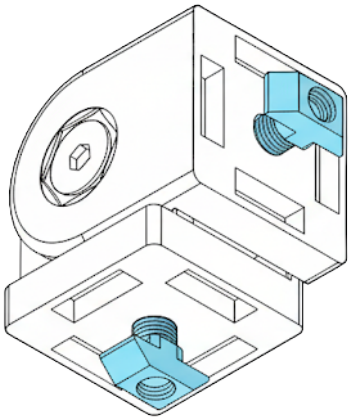
2x Allen keys

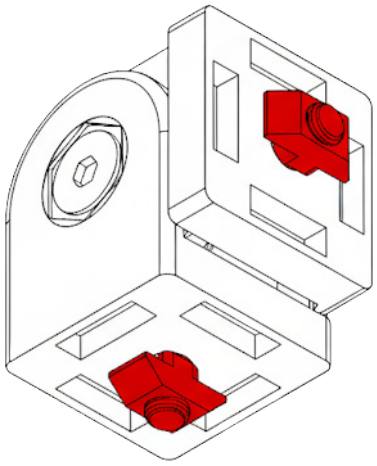


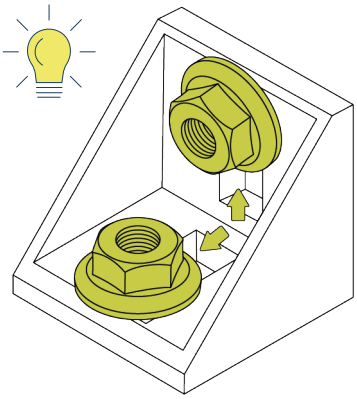
Preperation

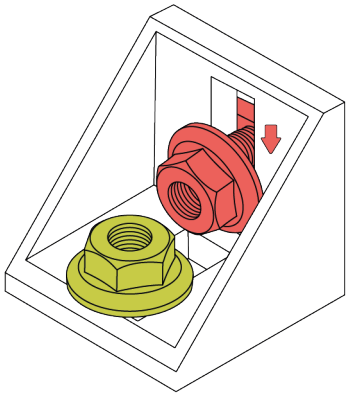
4x

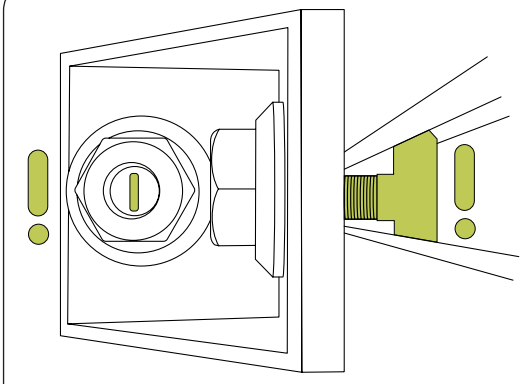






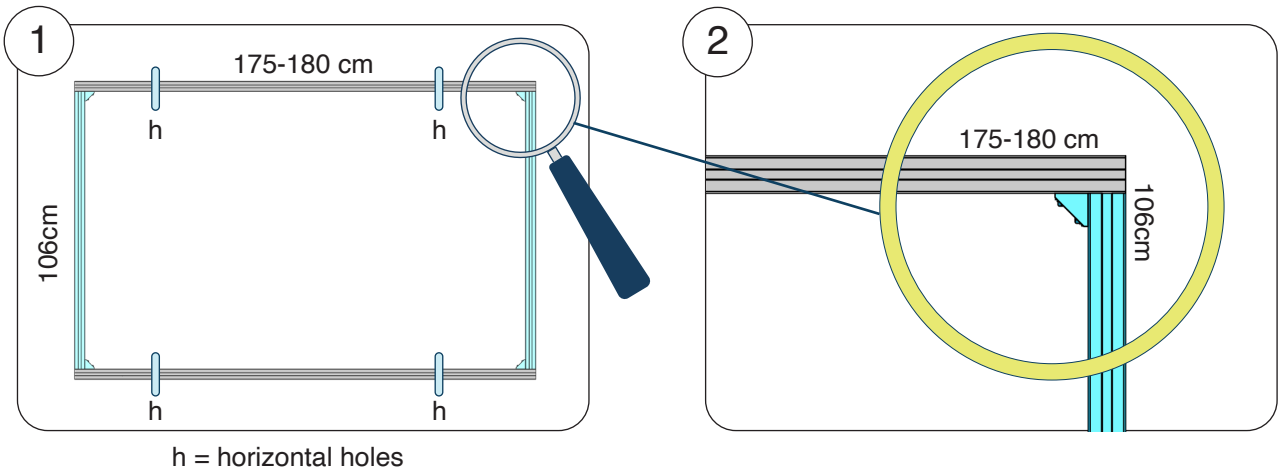


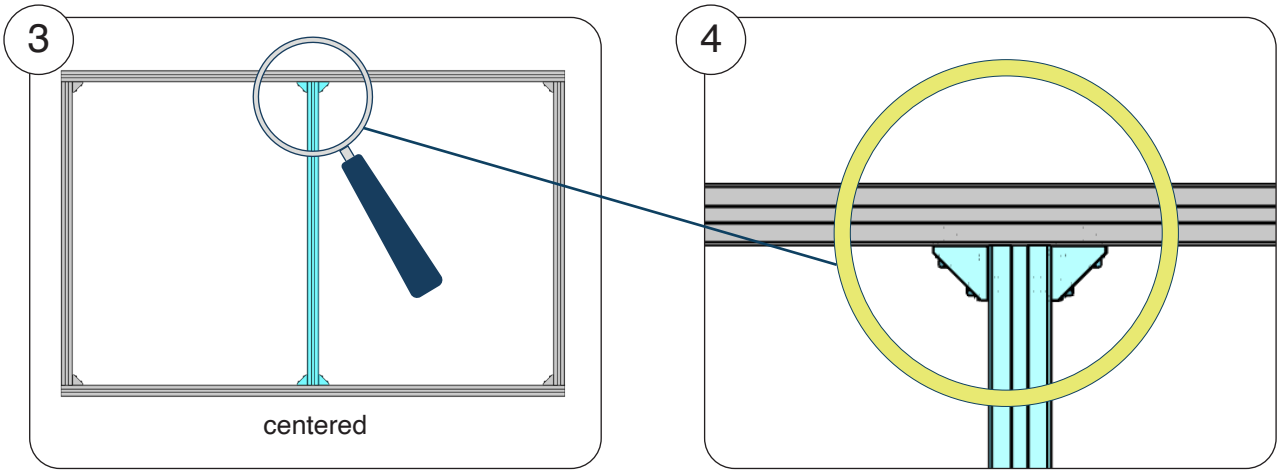


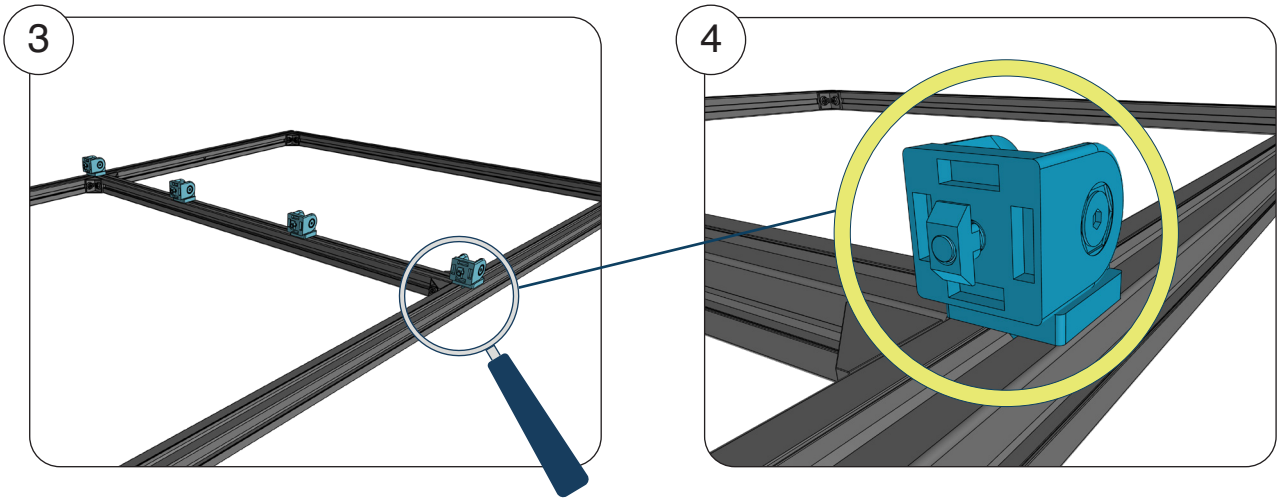


Carry heavy components together to prevent injuries.

Table

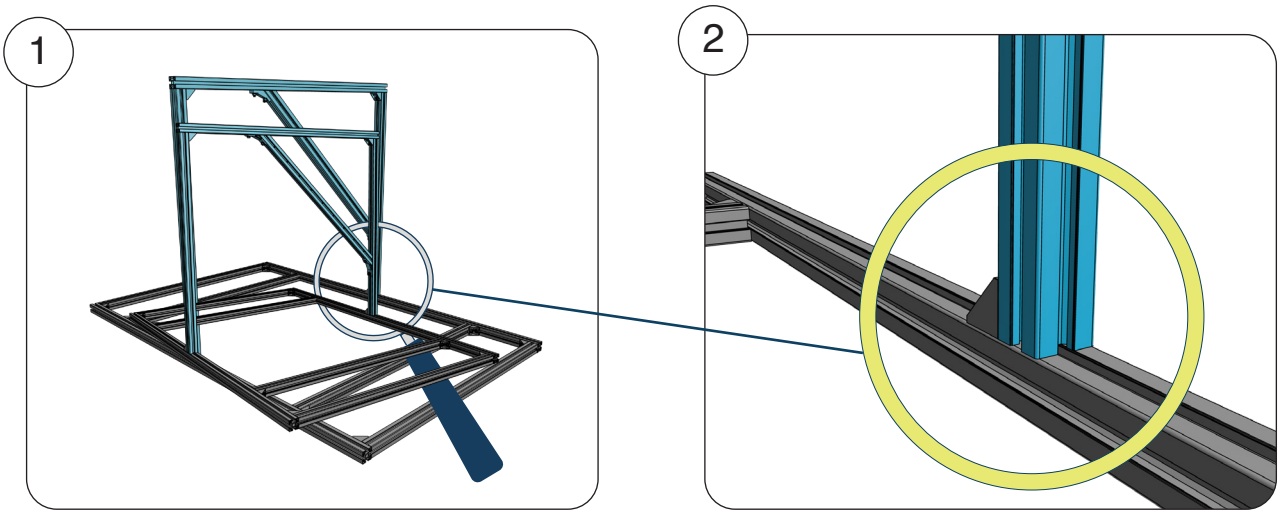

1
175-180 cm
h
h
106cm
h
h
h = horizontal holes
2
175-180 cm
106cm


3
centered
4


3
4

05 Assembling the components

Stand + Base



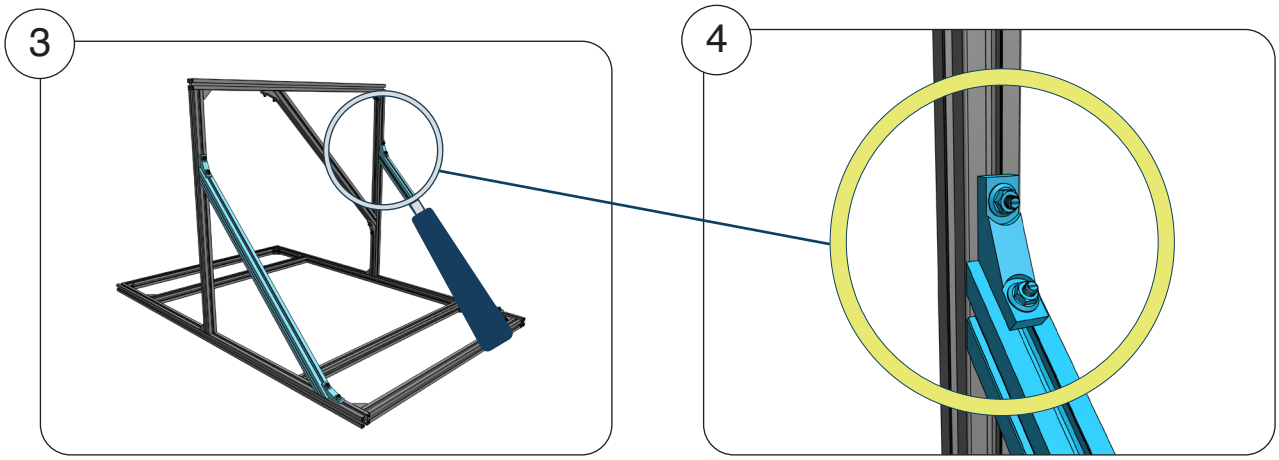
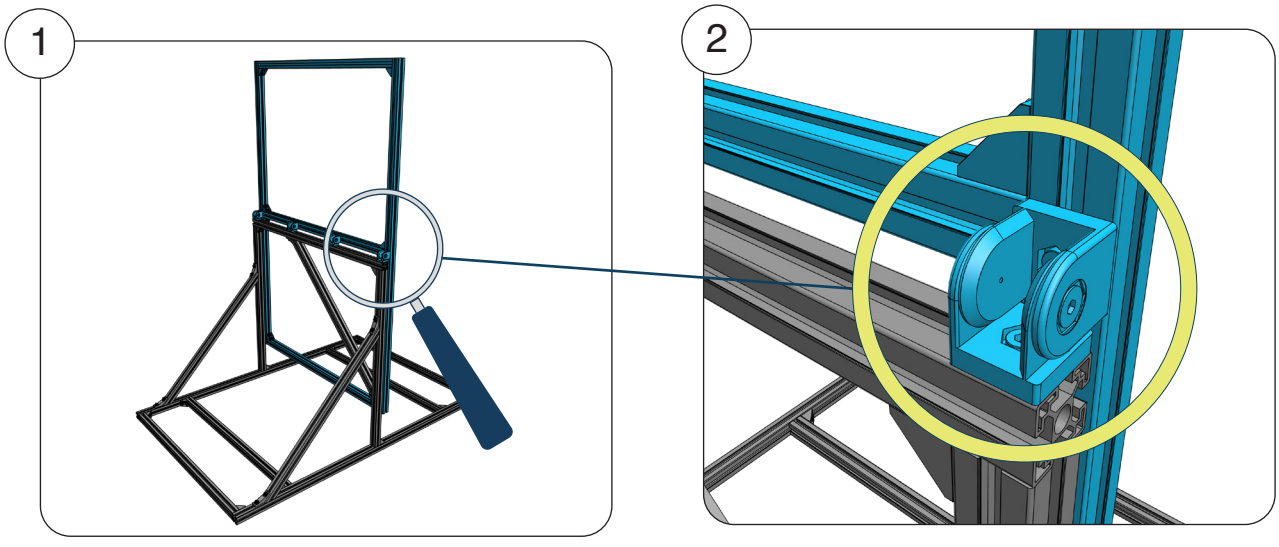
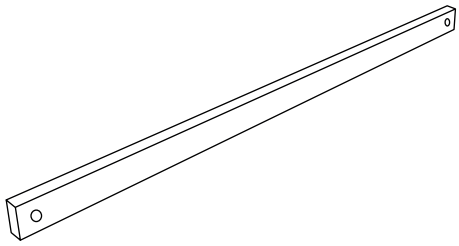
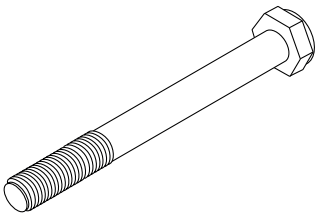
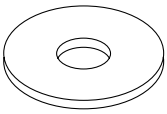
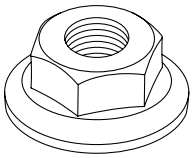


Table + standbase



06 Assembling the bracket

List of components for bracket

	Aluminium profile with holes	2x
	Hexagon head screw M8 x 80	4x
	Washer	4x
	Collar nut M8	4x

Carry heavy components together to prevent injuries.

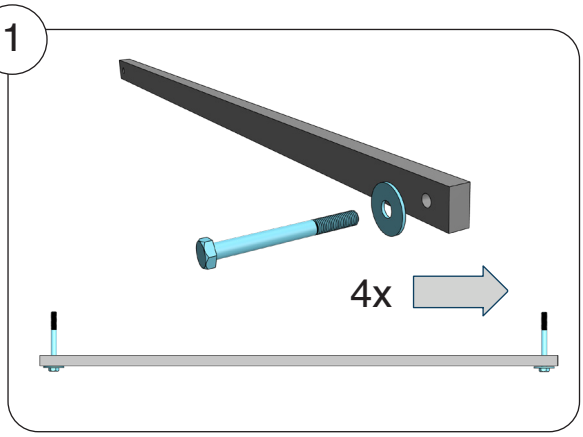
Two people hold the table at a slight angle while two others attach the brackets to the stand.

When attaching the Aluminum to the table, make sure that it can still be rotated and only screw it tight after it has been attached to the stand.

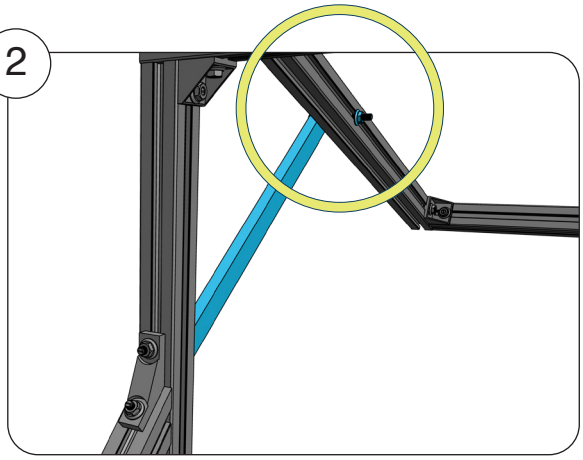
In the following steps, we will align and secure the table. Make sure that the table is tilted toward the sun and use the corresponding holes in the base for this purpose.

First attach the bracket to the table

1

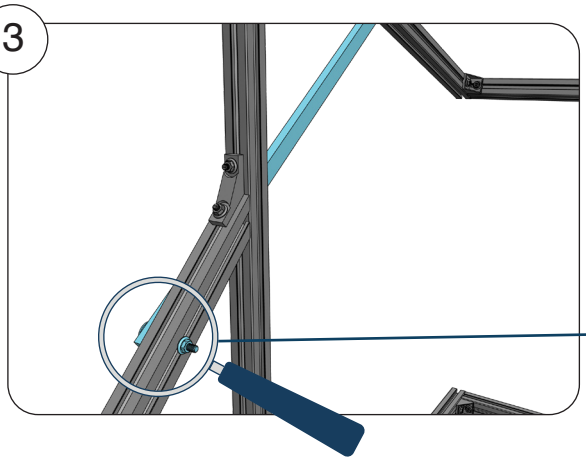


2



Then secure the bracket to the base

3



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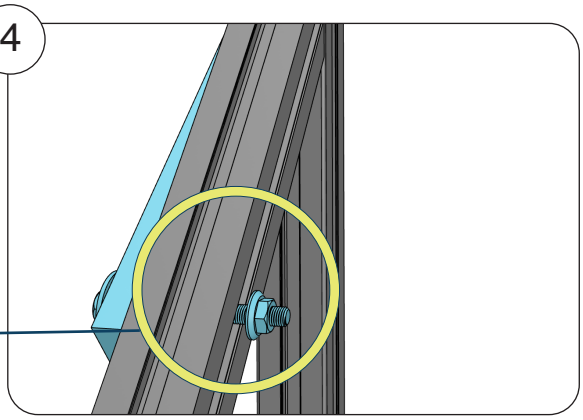
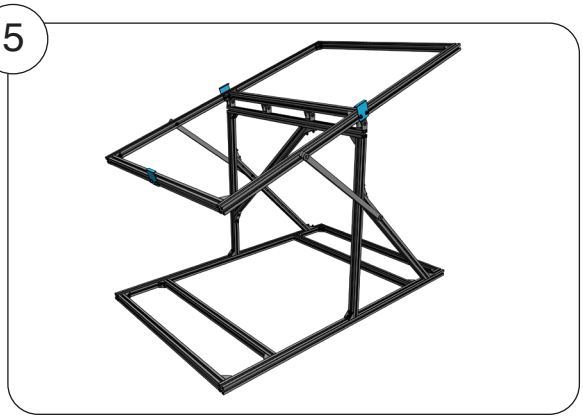
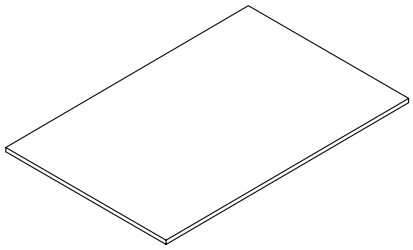
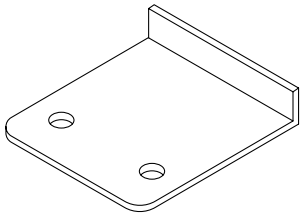
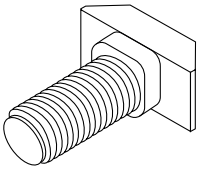
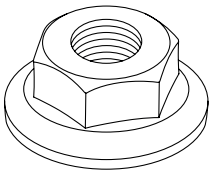


5



07 Assembling the solar panel

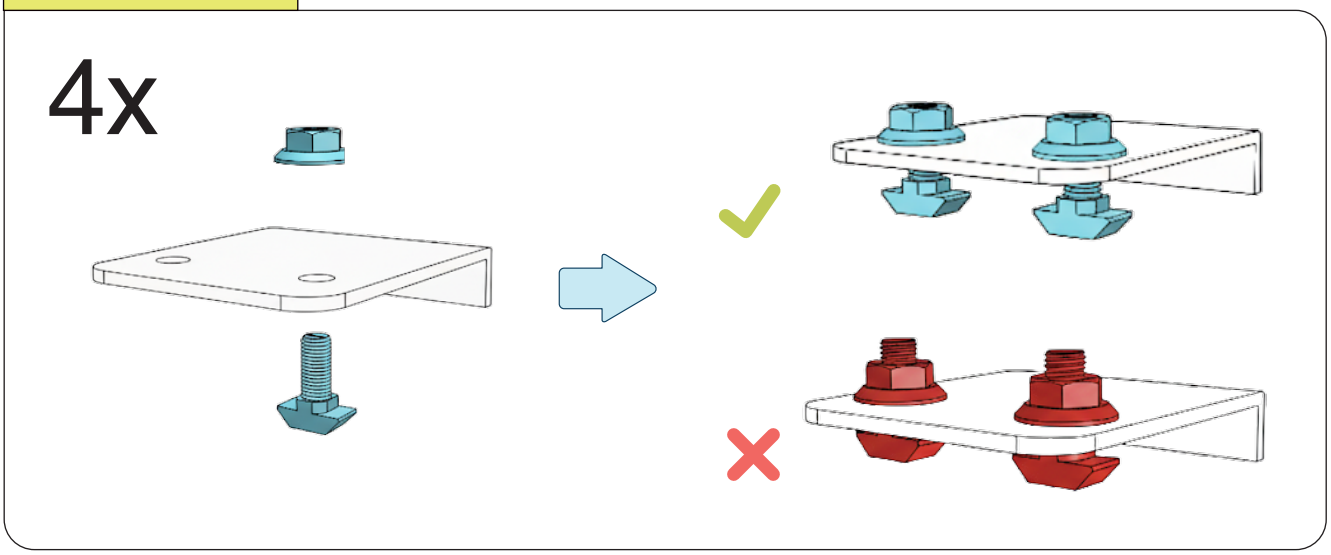
List of components for solar panel

	Solar panel	1x
	Mounting bracket	4x
	Hammer head screw M8	8x
	Collar nut M8	8x

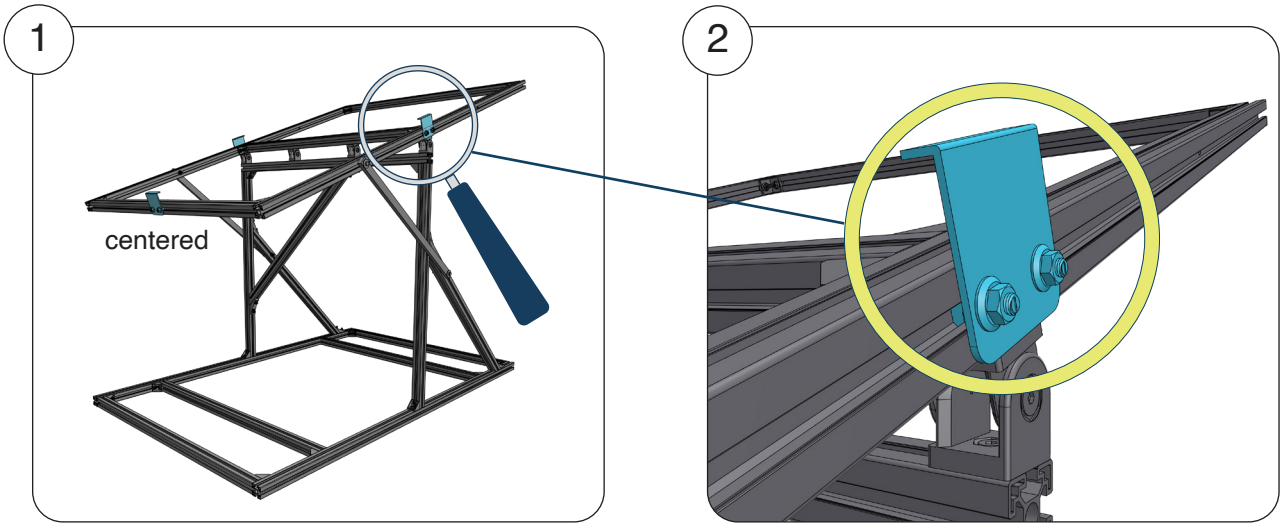
Carry heavy components together to prevent injuries.

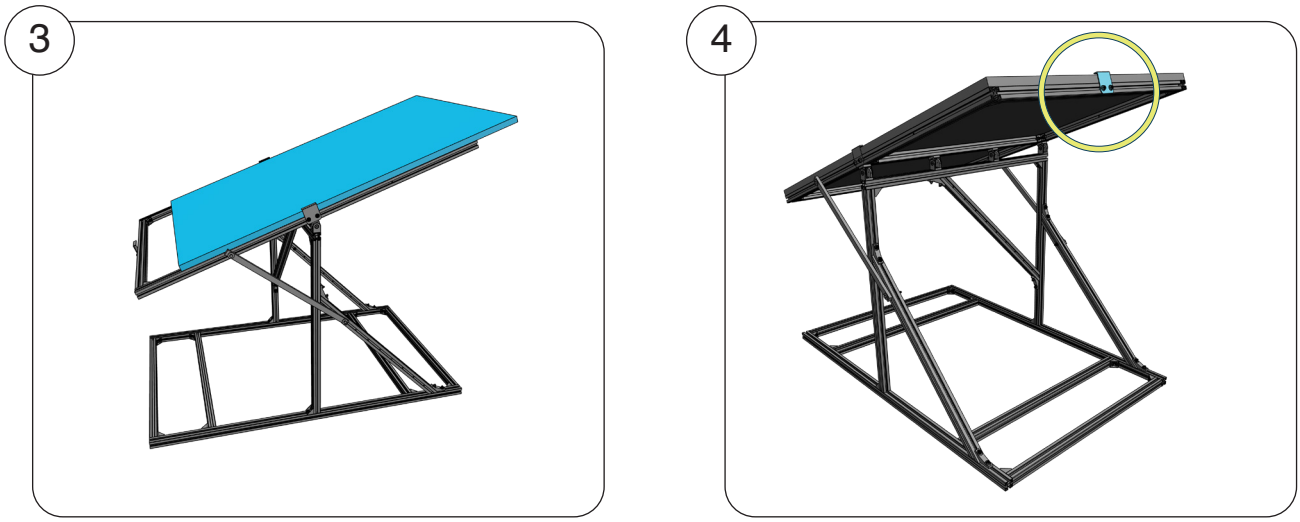
When attaching the PV module, make sure that the cables do not get caught on the metal edges.

Preperation



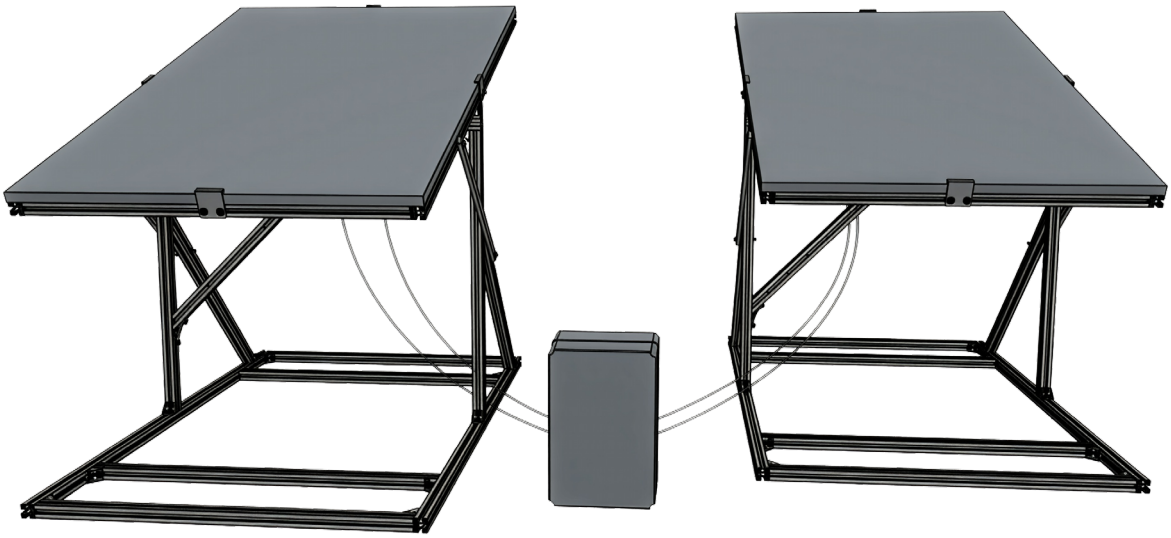
Solar panel





08 Electrical box

Electrical box



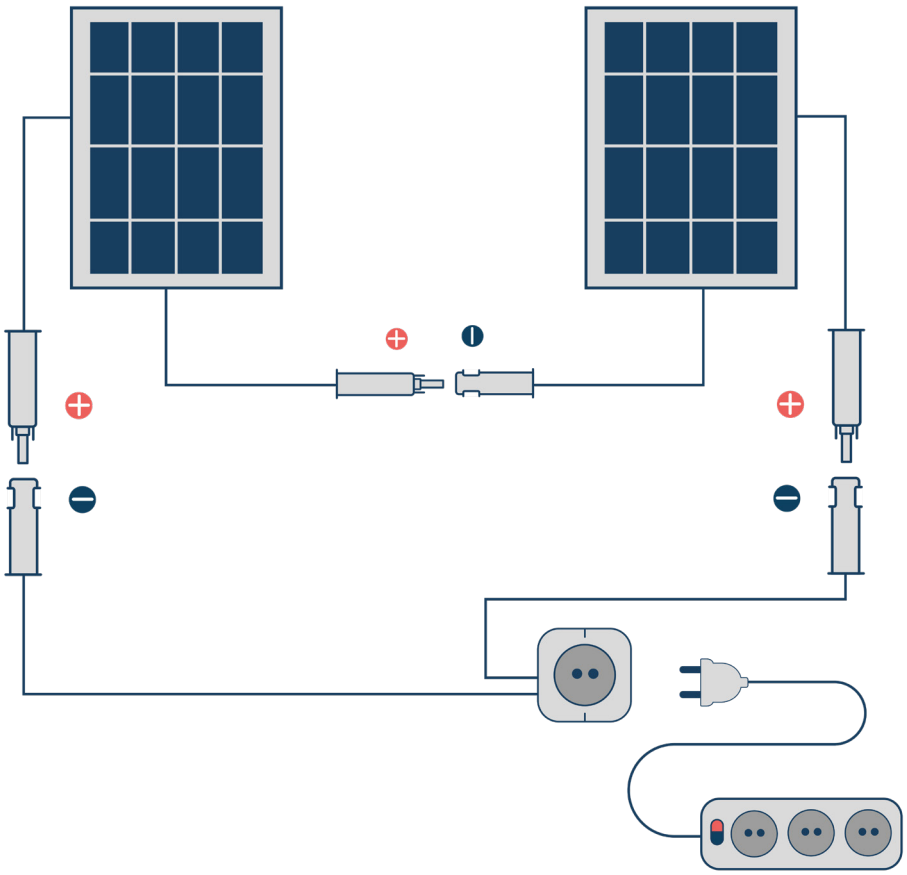
The electrical box should be positioned as centrally as possible between the PV systems. Discuss with your class and your teacher: Which circuit is best for you and why? What are the advantages and disadvantages of series and parallel circuits? You will find the circuit diagrams for both variants on the following pages.

Carry heavy components together to prevent injuries.

09 Initial setup

Series connection

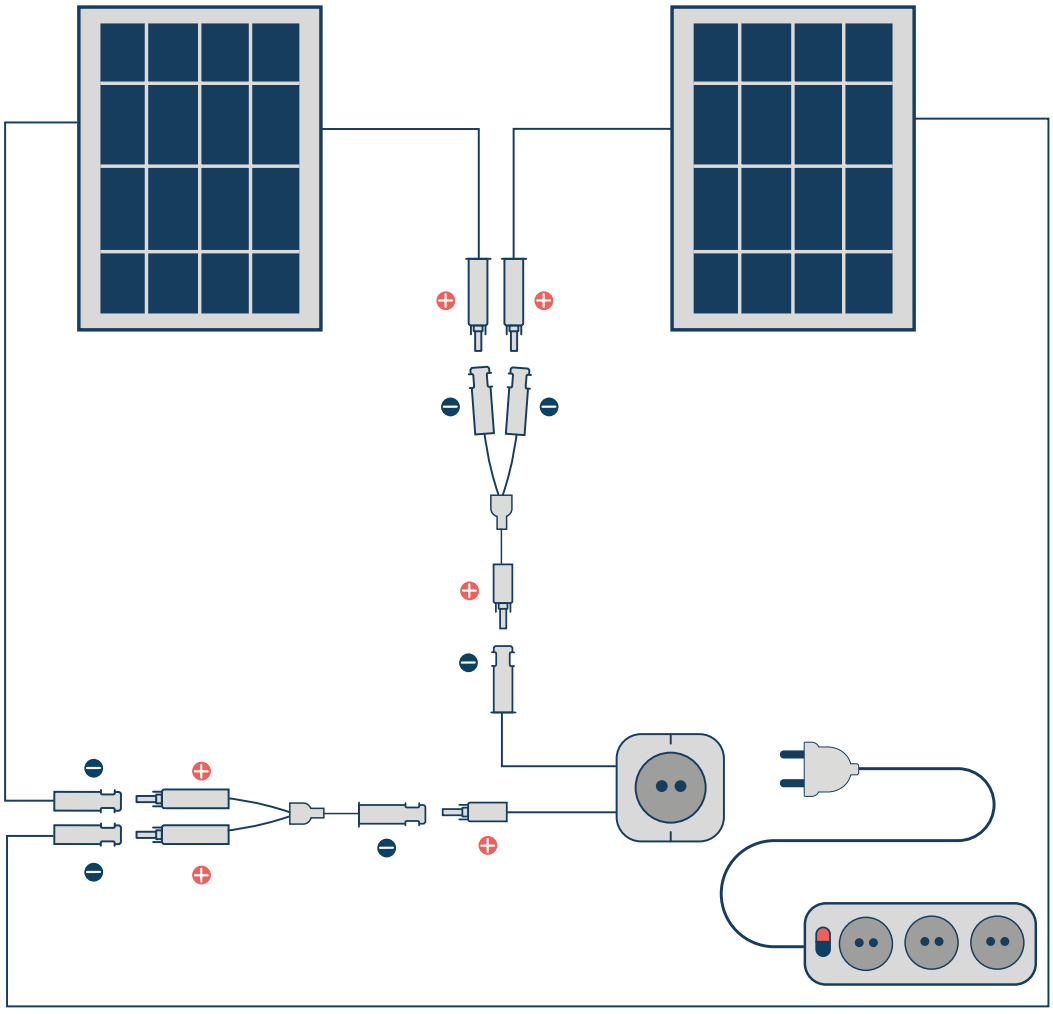
When installing the electronic components, check for damage on the cable and ensure proper use to avoid injury from electric shock.



Connect the cables from the electrical box to the PV modules in series as shown to enable a circuit. The solar system is now ready for operation. It offers a maximum output of approx. 350 watts. You can now operate several devices, such as one or more electronic instruments, chargers, or a popcorn machine, via a multiple socket.

Parallelschaltung

When installing the electronic components, check for damage on the cable and ensure proper use to avoid injury from electric shock.



Verbindet die Kabel des Elektrokasten wie gezeigt parallel mit den PV-Modulen, um einen Stromkreislauf zu ermöglichen. Die Solar Anlage ist jetzt bereit für den Betrieb. Sie bietet eine maximale Leistung von ca. 350 Watt. Über eine Mehrfachsteckdose könnt ihr nun mehrere Geräte, wie z.B. ein oder mehrere E-Instrumente, Ladegeräte, oder zum Beispiel eine Popcorn-Maschine betreiben.