

# IndEgo: A Dataset of Industrial Scenarios and Collaborative Work for Egocentric Assistants

## Introduction:

This document contains the **original task instructions** provided to participants during the data collection phase of the **IndEgo dataset**.

The goal of this dataset is to capture realistic, multimodal recordings of **industrial activities** performed by human workers from an **egocentric perspective**. Tasks include assembly, disassembly, inspection, tool usage, and collaborative workflows, designed to reflect practical industrial procedures.

These instructions were intentionally written to be:

- **Understandable to non-experts** in manufacturing
- **Structured but flexible**, to encourage natural task execution
- Sufficiently detailed to ensure task **repeatability and variation** across users

We include these task briefs to support the **transparency, reproducibility, and interpretability** of our dataset, and to help reviewers assess:

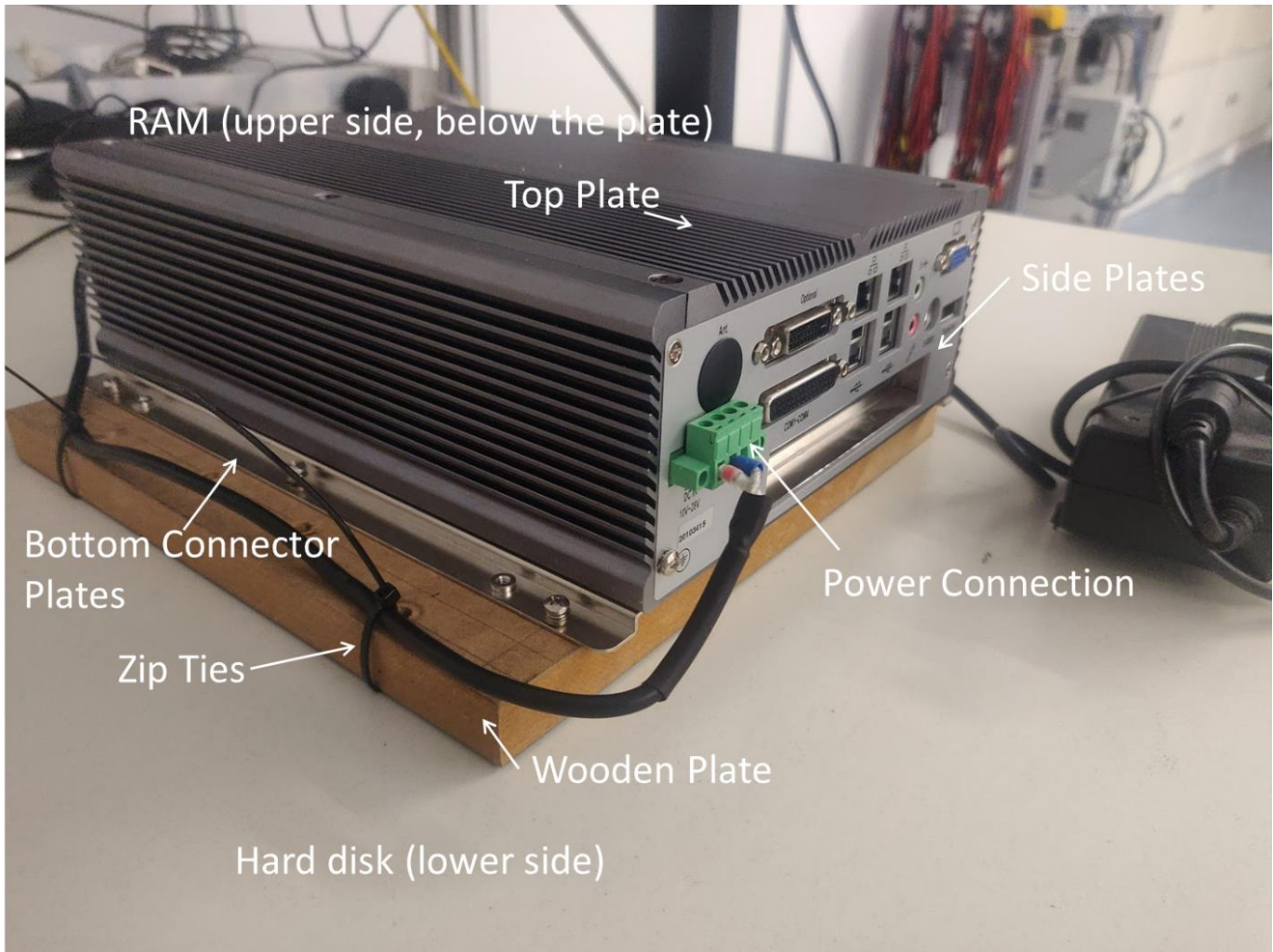
- How participants were guided during recordings
- What the expected steps or goals were
- How realistic and representative the scenarios are for industrial AI research

For each task, you'll find the exact instruction text given to the user at the start of the session. No additional prompting was given unless explicitly stated.

### Please Note:

- This document does not contain instructions for all cases, but rather examples to represent and cover each category and scenario.
- This document only contains instructions pertaining to the tasks. The meta instructions and guidance (how to use the sensors, data collection protocol, best practices, safety and ethics, privacy considerations, etc.) were given to each participant separately prior to the data collection activities.
- These task briefs are not scripts, they were used to assist the participants and seed realistic, unscripted behaviour for capturing natural variation in industrial workflows.
- Some instructions at the end of the document are in German. These are the original assembly steps for the proprietary station from the industrial supplier.

## Disassembly: Embedded Computing Unit



**Needed:** Cross head screwdrivers (magnetic preferred), small flathead screwdriver, cutter, clean working desk

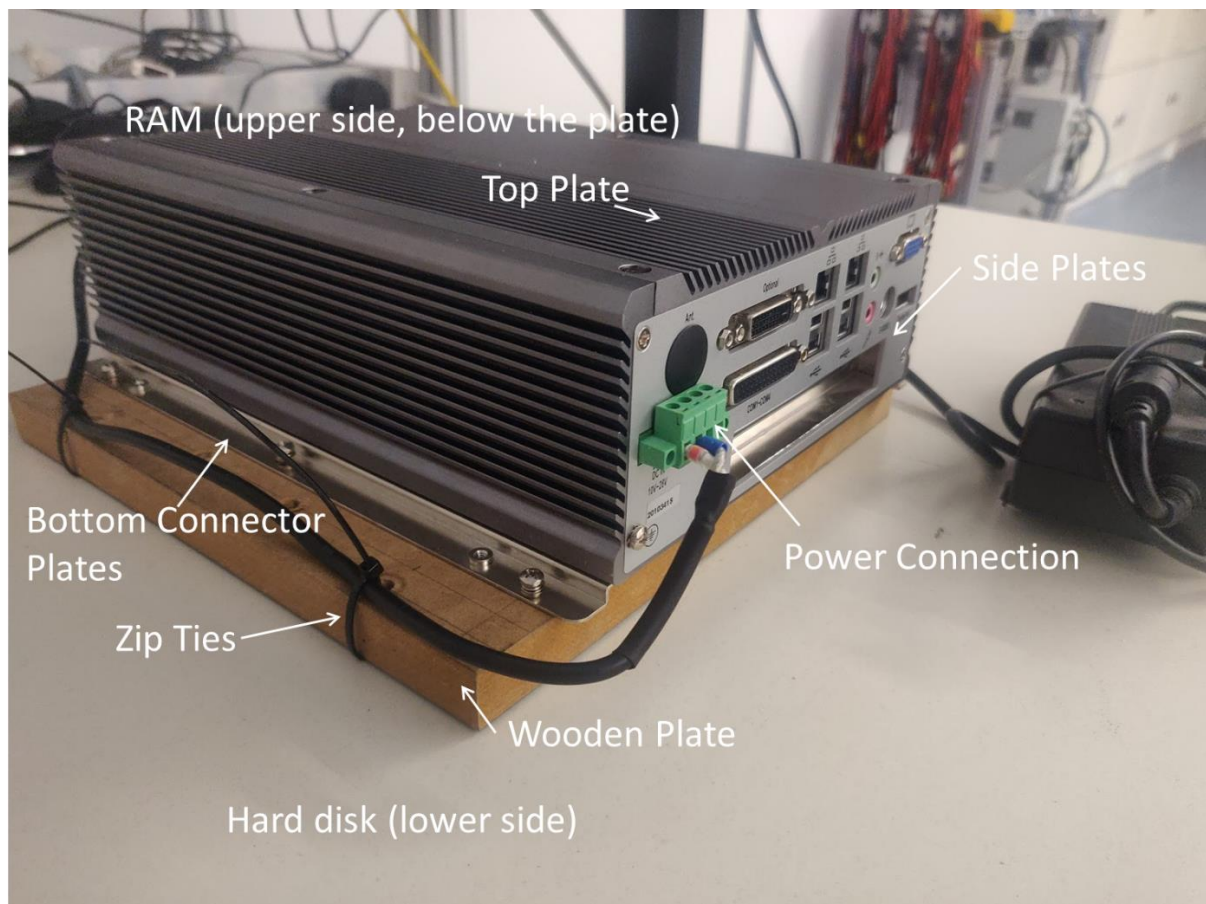
### **Steps:**

- Cut zip ties.
- Remove wooden plate.
- Remove bottom connector plates.
- Remove side plates.
- Remove the green power connection.
- Remove bottom plate.
- Remove top plate.
- Remove RAM Chip.
- Detach hard disk power cable and data cable.
- Remove hard disk.

### **Expected end state:**

- All parts correctly detached and set aside. All the screws/bolts are also kept safely.

## Assembly: Embedded Computing Unit



**Needed:** Cross head screwdrivers (magnetic preferred), small flathead screwdriver, cutter, clean working desk, cloth for cleaning etc.

### Steps:

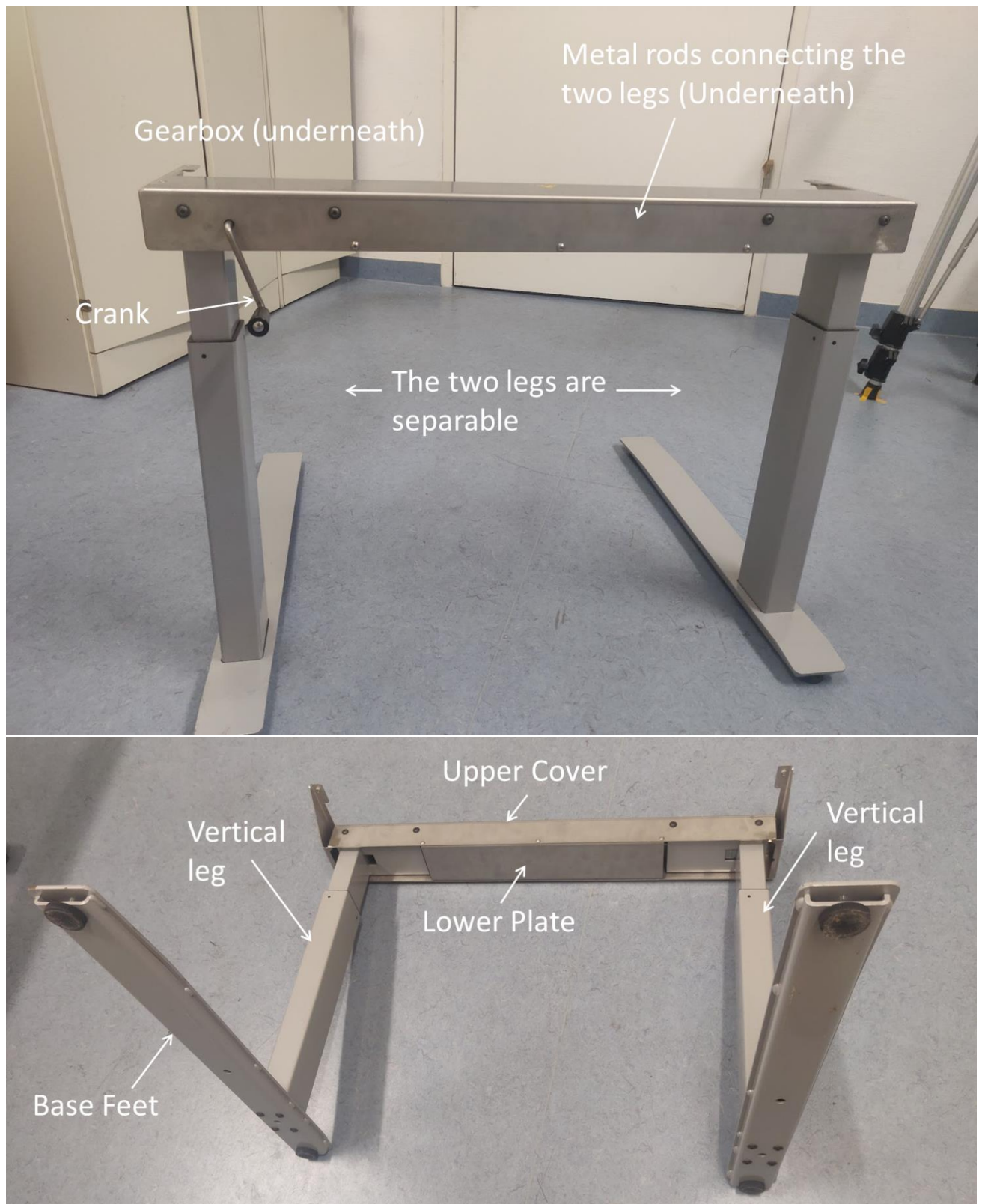
- Inspect and clean the inner setup.
- Attach RAM card.
- Attach the hard disk screws.
- Attach power cable and data cable of hard disk.
- Inspect all screws are ok and there are no moving/detached parts.
- Attach side plates.
- Attach lower plate.
- Attach upper plate.
- Attach the green power connection.
- Bolt on to the wooden block.
- Attach zip ties (optional: cut the long ends off)
- Plug in power to the assembly.
- Plug in the monitor.
- Switch on power and confirm that the device works.

**Expected end state:**



- The assembly looks like the reference image above. There are no loose parts. The monitor shows the computing unit booting successfully.

### Disassembly: Mechanical Height Adjustable Desk Frame



**Needed:** Gloves, allen keys (multiple sizes), drilling machine with star-shaped bits, trolley (to move)

**Steps:**

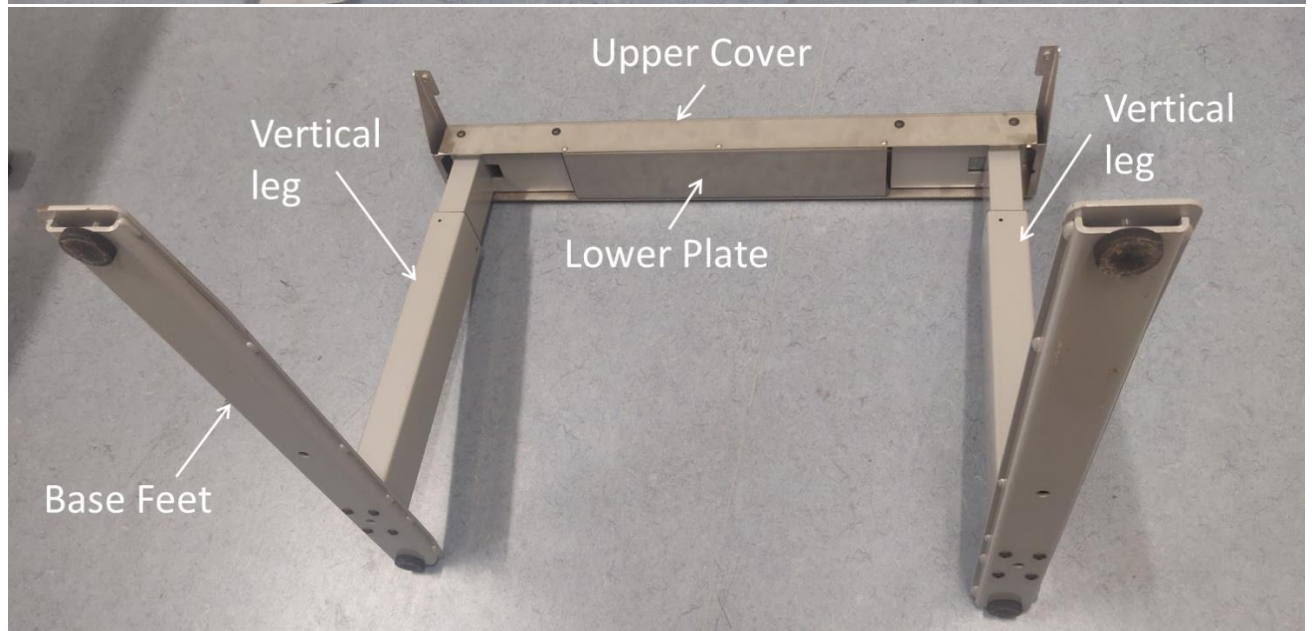
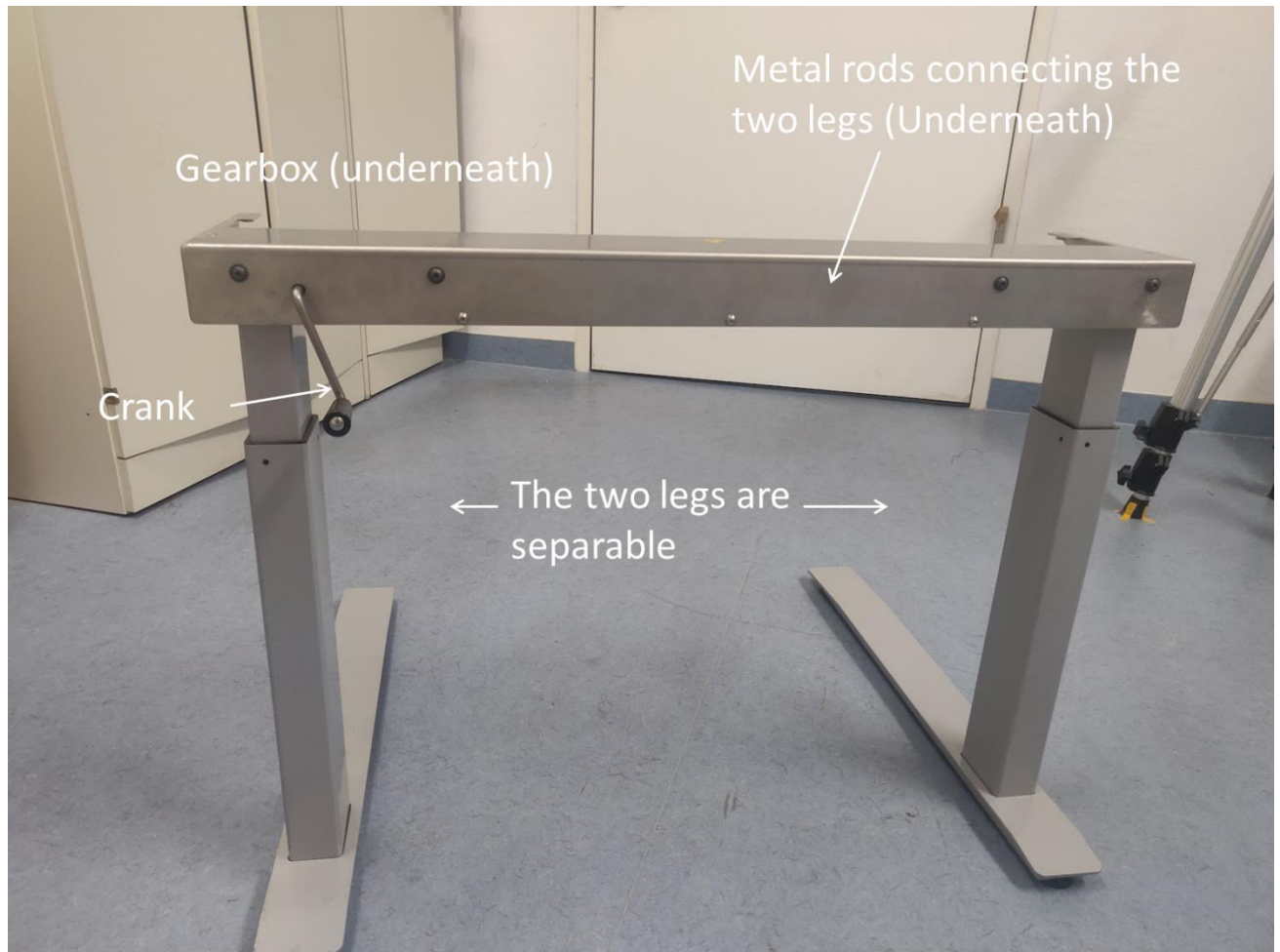


- Put on gloves (some parts are sharp/metallic, and some are greasy).
- Adjust the crank, such that the table is at the lowest height.
- Unscrew the 6 bolts and remove the lower plate.
- Remove the crank.
- Unscrew the 8 back bolts and remove the upper cover.
- Remove the bolts holding the two ends of the connecting rod from the inside (allen keys)
- Find the appropriate bit needed for the outer bolts and fit it onto the drilling machine. Prepare the drilling machine.
- Unscrew the bolts on each side.
- Separate the two legs.
- Lay the two ends horizontally (second image).
- Unscrew the black bolts connecting the base feet and the legs.
- Make sure that the bolts belonging to the respective parts are stored together and separated from the others.
- Put all the tools back.
- Detach the drill bit and put the bits away.
- Remove gloves.

**Expected end state:**

The different parts are separated. The bolts/screws are separated along with their connecting parts, such that someone else can understand which parts should be connected together.

## Assembly: Mechanical Height Adjustable Desk Frame



**Needed:** Gloves, allen keys (multiple sizes), drilling machine with star-shaped bits, trolley (to move)

### **Steps:**

- Put on gloves (some parts are sharp/metallic, and some are greasy).

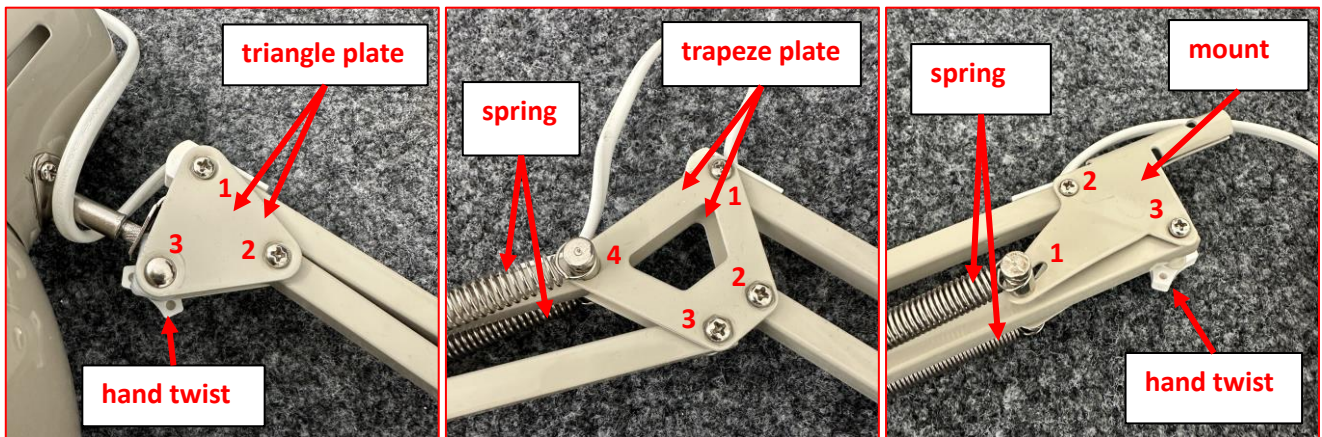
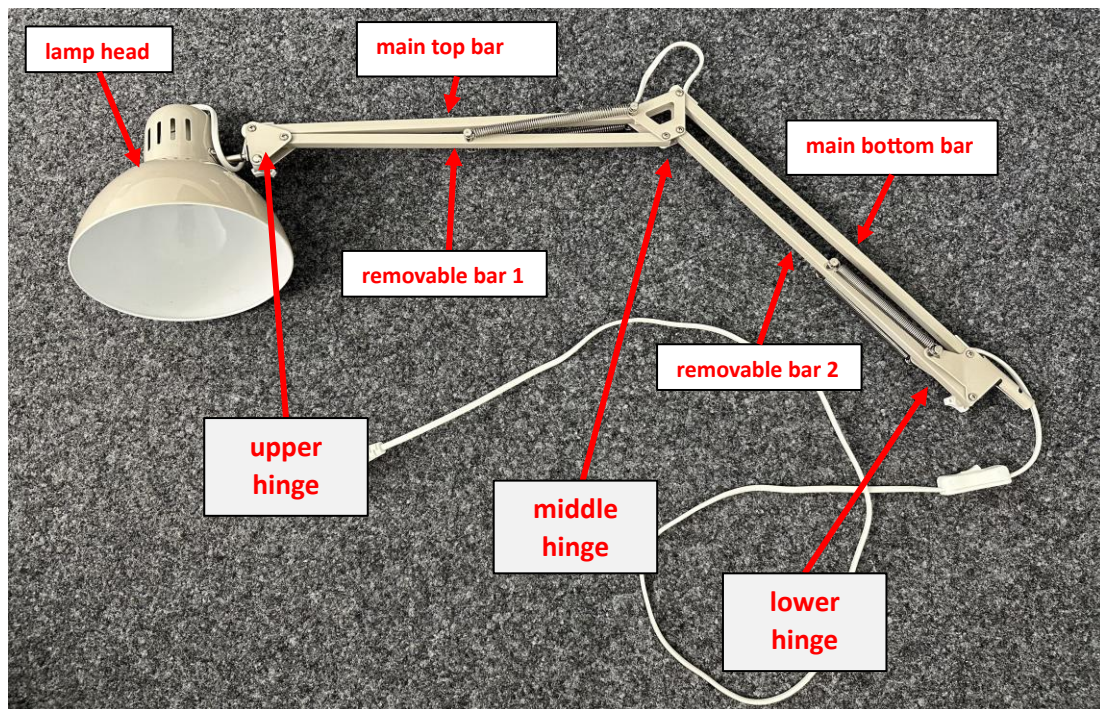
- Connect the base feet to their respective vertical legs.
- Connect the two metal rods connecting the two legs.
- Adjust the distance between the legs, such that the upper cover can accurately fit on top later.
- Prepare the drilling machine with the appropriate tool.
- Fasten the bolts on the outer side using the drilling machine.
- Adjust the gearbox, such that it fits in the slots properly. Fasten the bolts that hold the gearboxes in place (allen keys).
- Put on the upper cover. Fasten the 8 bolts.
- Place the lower plate and adjust it so that it fits properly. Fasten the bolts connecting it.
- Attach the crank.
- Test the assembly to see if everything works.
- If yes, put all the tools away.
- Remove gloves.

**Expected end state:**

The assembly looks like the reference images above. Moving the crank will move the legs up and down smoothly. There are no loose parts or missing bolts.



## Disassembly: lamp



**equipment needed:** screwdriver

**steps:** (to unscrew bolt - hold nut fast)

- for **upper** hinge:
  - unscrew bolts 1 & 2
  - use hand twist to unscrew bolt 3
  - take triangle plates off
  - store bolts and nuts in a pile with plates
- for **middle** hinge:
  - unhook springs (4)
  - unscrew spring hooks (4)
  - unscrew bolts 1, 2 & 3
  - take trapeze plates off
  - remove removable bar (1)
  - store bolts and nuts in a pile with plates, springs, spring hooks and bar

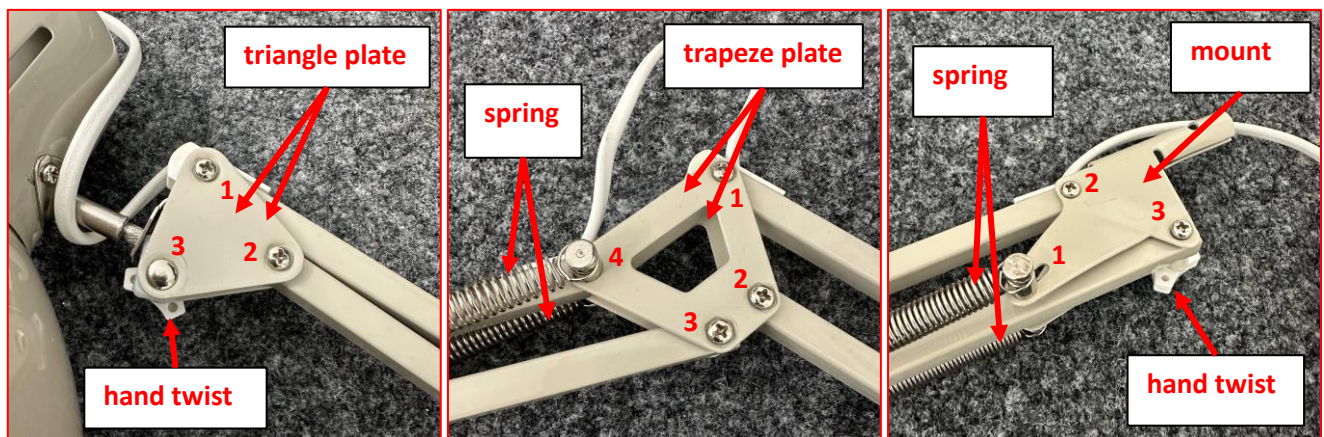
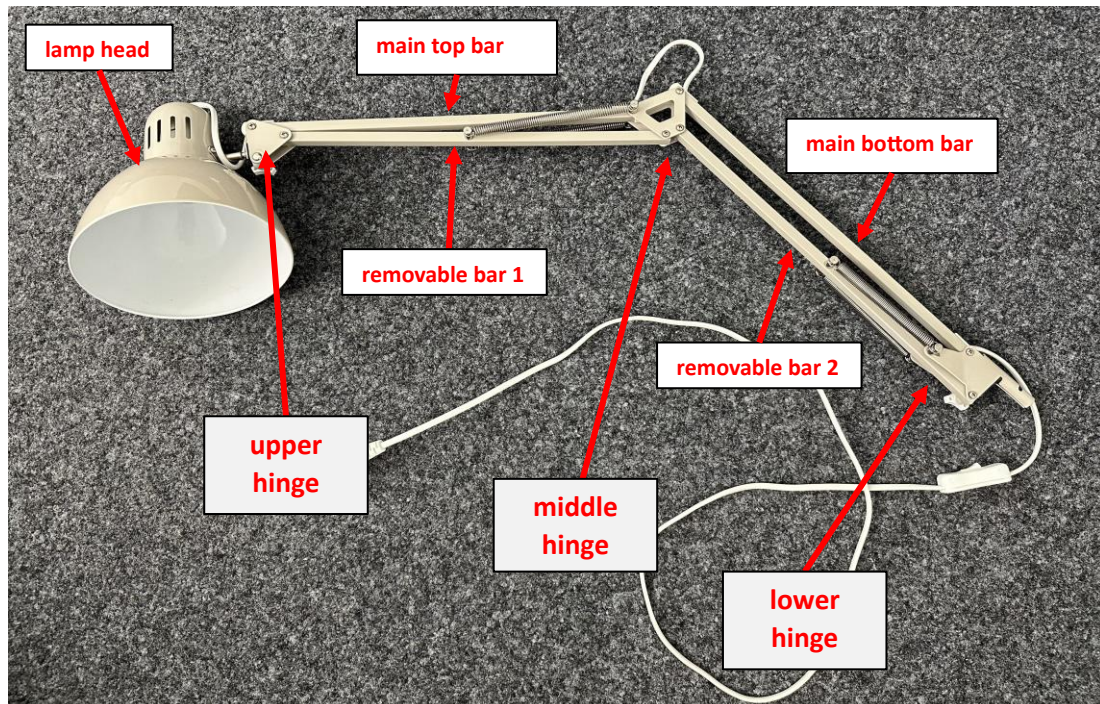
- for **lower** hinge:
  - unhook springs (1)
  - unscrew bolt 2
  - use hand twist to unscrew bolt 3
  - remove removable bar (2)
  - store bolts and nuts in a pile with springs, bar and mount

**expected end state:**

The different parts are separated into corresponding piles, making it easy for someone else to reassemble later.



## Assembly: lamp



**equipment needed:** screwdriver

**steps:** (for each bolt - always use a nut)

- for **lower** hinge:
  - attach mount onto main bottom bar (location 2)
  - attach mount onto removable bar 2 (location 3), using the hand twist
  - hook springs onto hooks on the mount (1) and those on removable bar 2
- for **middle** hinge:
  - attach trapeze plates to main bottom bar (location 1), making sure the longer side is facing the cable/ "outside"
  - attach removable bar 2 to the plates (location 2)
  - attach removable bar 1 to the plates (location 3)
  - attach spring hooks and main top bar to plates (location 4)
  - hook springs onto hooks on the trapeze plate and those on removable bar 1



- for **upper** hinge:
  - attach triangle plates to main top bar (location 1)
  - attach removable bar 1 to plates (location 2)
  - attach lamp head to plates (location 3), using the hand twist

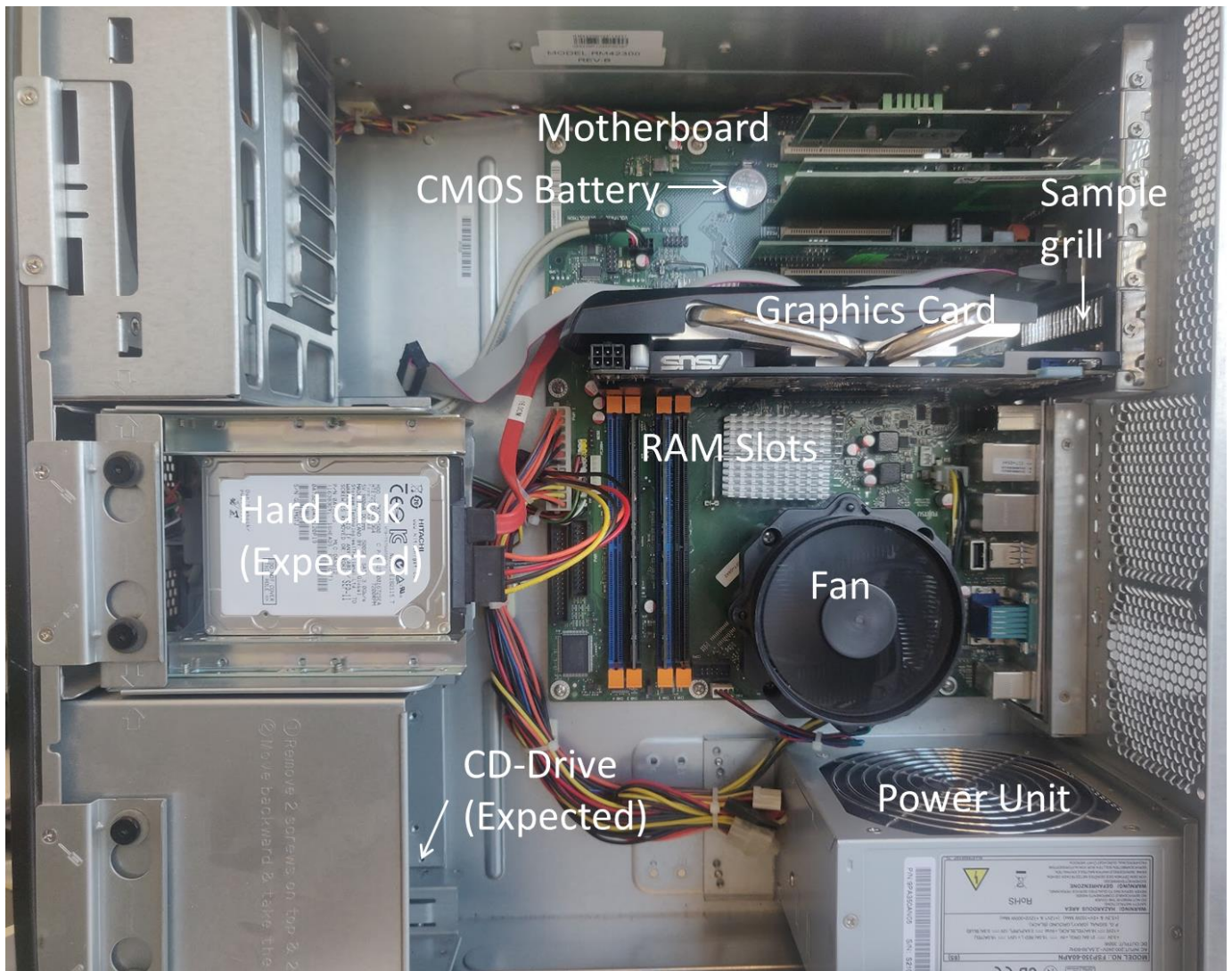
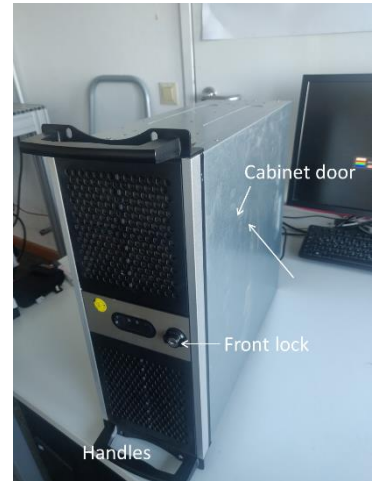
**expected end state:**

The lamp looks like the image above. All three hinges work to change position of the lamp and there are no loose or leftover parts.

## Repair: Windows PC

### Scenario:

- You are given a PC cabinet to inspect and repair.
- You must make sure that it works (starts and boots up, etc)
- The repaired PC should have a functional CD cabinet, SSD hard disk and a functioning/well-connected motherboard.
- You have additional supplies such as cables, RAM chips, SSD drives, batteries, bolts, to work with.

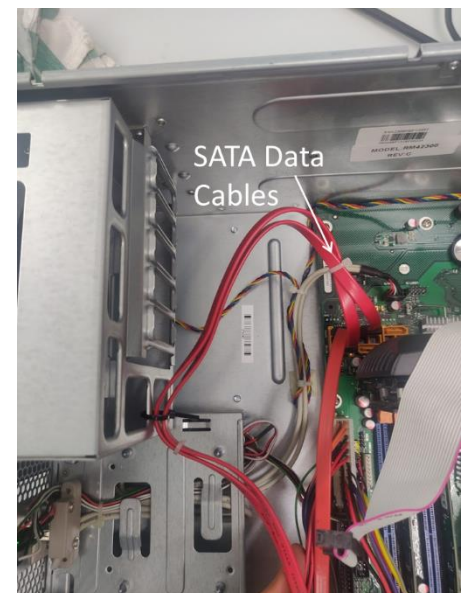


**Needed:** PC-parts and repair box, crosshead screwdrivers (small and large), Allen keys, flathead screw drivers.

### Steps:

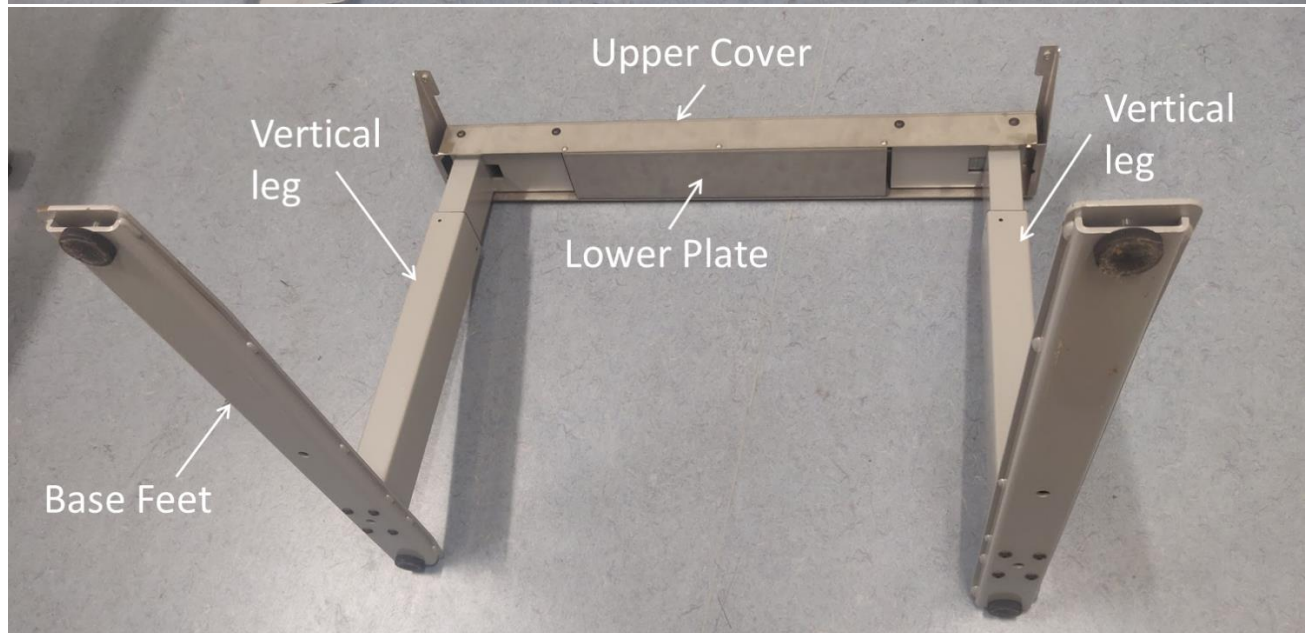
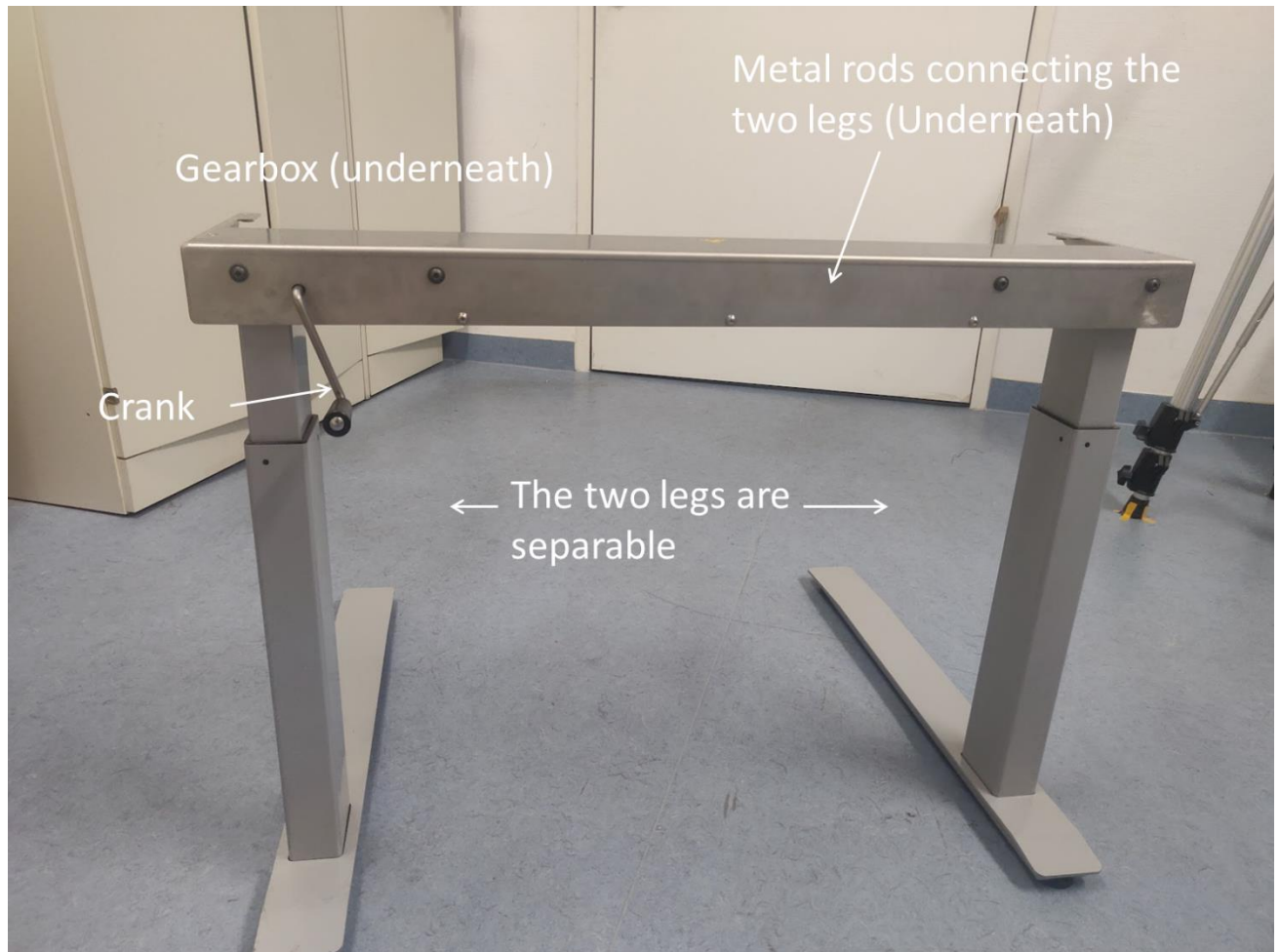
- Inspect the PC from the outside. The front lock can easily be opened.
- Plug in the power cord. Try to start the PC. Does it start?

- Disconnect power cord and get tools/repair box ready.
- Open the cabinet door and inspect the interior.
- Check if the power unit is connected with the mother board.
- Check if the fan unit is connected to the motherboard.
- Check if the CMOS battery is connected. If not, use the battery from the box.
- Are there any cables that do not connect to the motherboard at the moment? (If yes, can they be connected?)
  - If any devices such as the graphics card are in the way, remove it.
- Are there 2 RAM chips neatly inserted into the motherboard? If not, use the ones from the box.
  - If any devices such as the graphics card are in the way, remove it.
- Is the hard disk mounted and connected?
  - If not, use the available hard disk and mount it onto the chassis at the expected location. Use the available bolts (up to 4).
  - Connect the power cable and the data cable.
- Is the CD drive available and functioning?
  - If not, mount the available drive onto the chassis. Use the available bolts (up to 4).
  - Connect the power cable and the data cable.
- Can the cables be bundled together with a zip tie to avoid collision with other parts?
  - If yes, connect them.
- If the graphics card was removed, replace the open slot with a grill.
- While the cabinet is open, quickly connect the power cord and check if the PC starts (be careful).
  - Also inspect if the newly installed parts (CD drive open and close successfully)
- Are there any spare/unconnected parts in the cabinet? If yes, remove them.
- You can now close the cabinet and finish the repair process.
- If a monitor is available, test if the PC boots successfully.





## Disassembly: Mechanical Height Adjustable Table

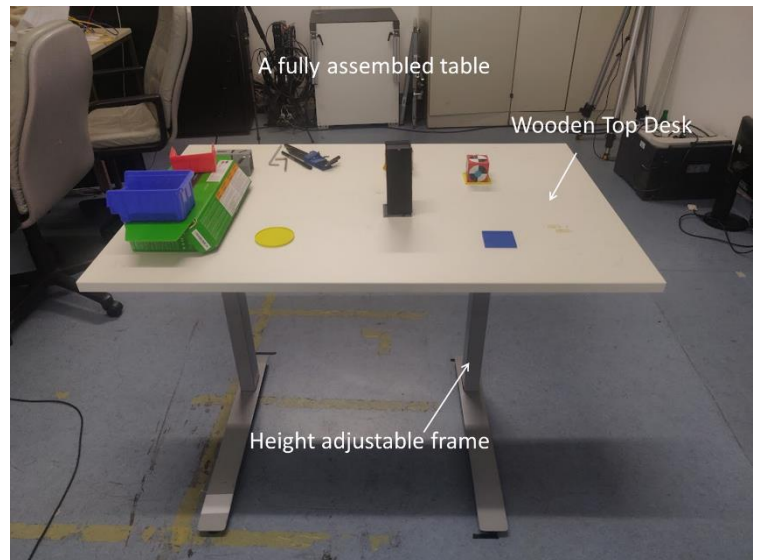


**Needed:** Gloves, Allen keys (multiple sizes), drilling machine with star-shaped bits, trolley (to move), carpet.

These things will be in different rooms, so collect them all and bring them to the needed room.

## Steps:

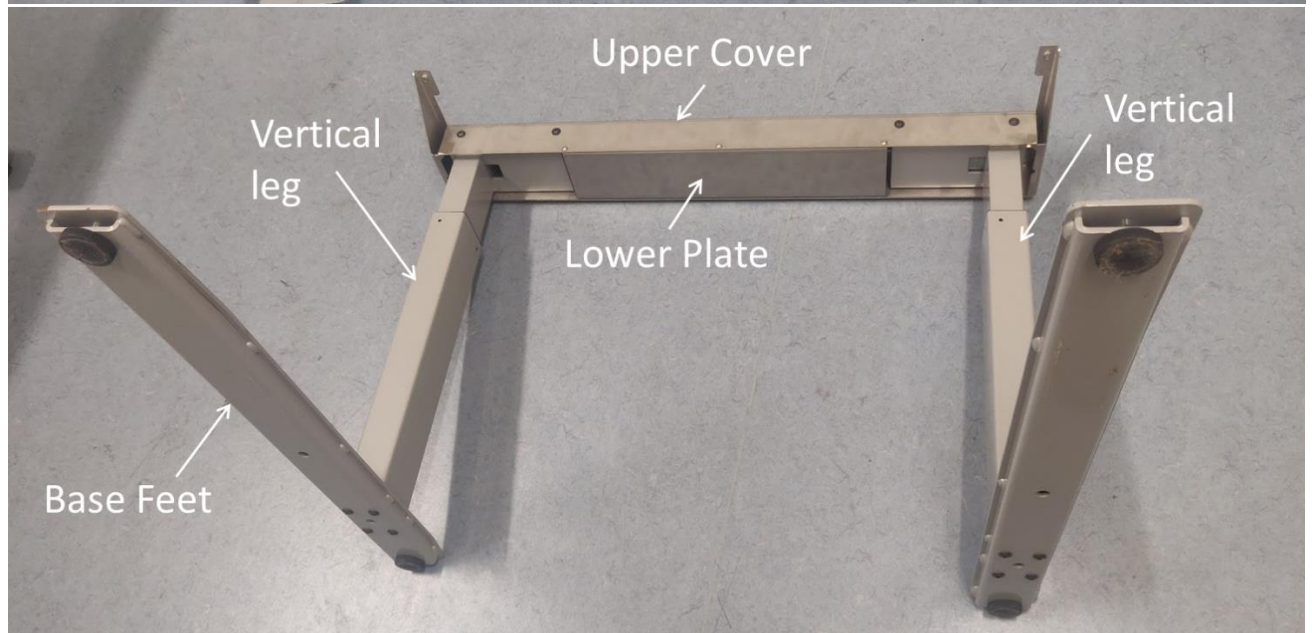
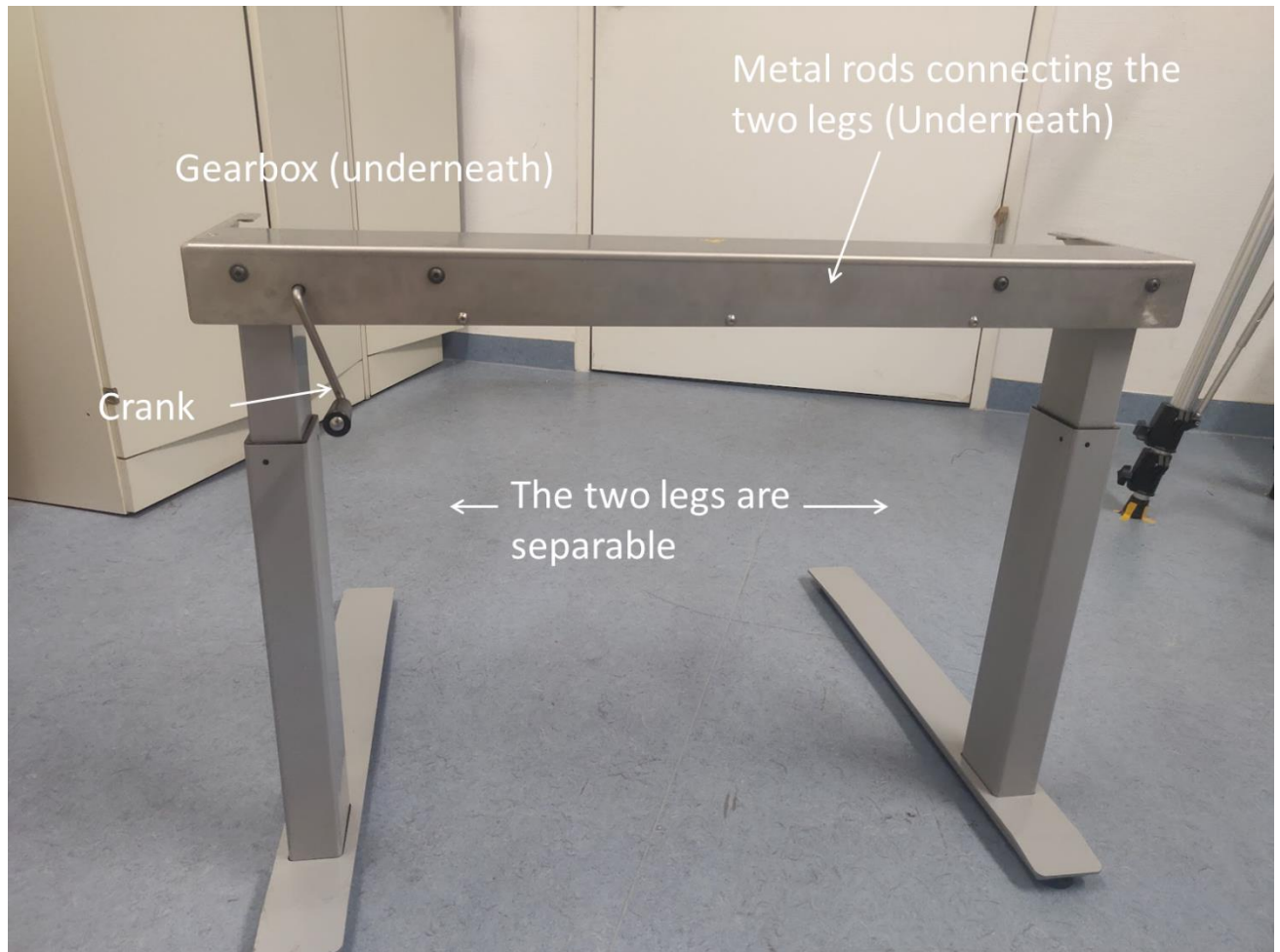
- Put on gloves (some parts are sharp/metallic, and some are greasy).
- Empty the table if it isn't already. The things that are stuck can remain.
- Mark the side of the wooden desk, so it is clear how it should be aligned when someone assembles it back. Use an erasable marker.
- Unscrew the screws holding the desk.
- Remove the desk. Use the blanket and place the desk on it.
- Adjust the crank, such that the table is at the lowest height.
- Remove the crank.
- Unscrew the 6 bolts and remove the lower plate.
- Unscrew the 8 back bolts and remove the upper cover.
- Remove the bolts holding the two ends of the connecting rod from the inside (allen keys)
- Find the appropriate bit needed for the outer bolts and fit it onto the drilling machine. Prepare the drilling machine.
- Unscrew the bolts on each side.
- Separate the two legs.
- Lay the two ends horizontally (second image).
- Unscrew the black bolts connecting the base feet and the legs.
- Make sure that the bolts belonging to the respective parts are stored together and separated from the others.
- Put all the tools back.
- Detach the drill bit and put the bits away.
- Remove gloves.



## Expected end state:

The different parts are separated. The bolts/screws are separated along with their connecting parts, such that someone else can understand which parts should be connected.

## Assembly: Mechanical Height Adjustable Table



**Needed:** Gloves, allen keys (multiple sizes), drilling machine with star-shaped bits, trolley (to move), blanket.

These things will be in different rooms, so collect them all and bring them to the needed room.



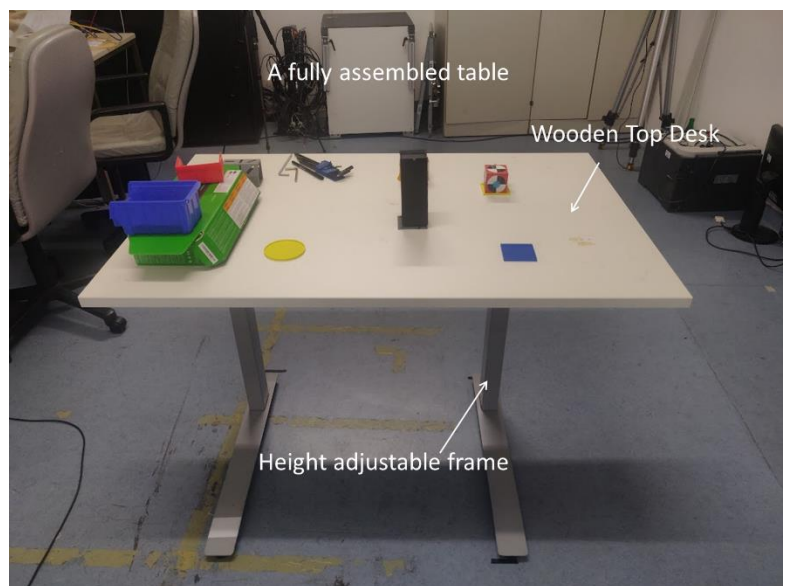
## Steps:

- Put on gloves (some parts are sharp/metallic, and some are greasy).
- Connect the base feet to their respective vertical legs.
- Connect the two metal rods connecting the two legs.
- Adjust the distance between the legs, such that the upper cover can accurately fit on top later.
- Prepare the drilling machine with the appropriate tool.
- Fasten the bolts on the outer side using the drilling machine.
- Adjust the gearbox, such that it fits in the slots properly. Fasten the bolts that hold the gearboxes in place (allen keys).
- Put on the upper cover. Fasten the 8 bolts.
- Place the lower plate and adjust it so that it fits properly. Fasten the bolts connecting it.
- Attach the crank.
- Test the frame to see if everything works.
- Adjust the height to the needed level.
- Place the wooden desk on top, align it using the markings.
- Fasten the desk onto the frame.
- Check the assembly, it should be sturdy. There should be no loose parts.
- Remove gloves.

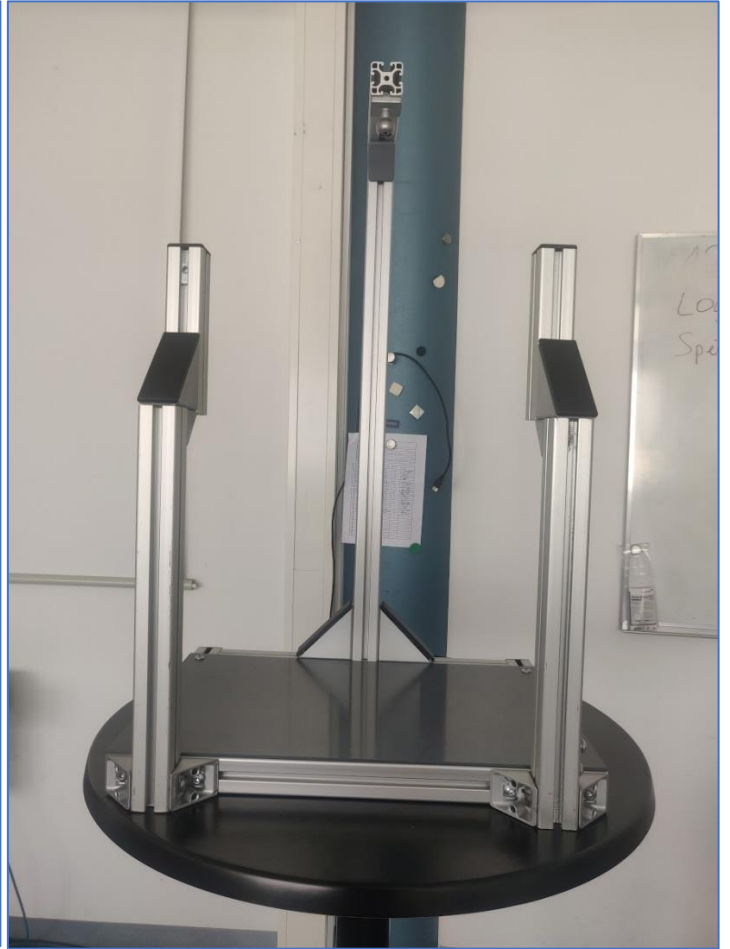
Put the tools back.

## Expected end state:

The assembly looks like the reference image. Moving the crank will move the legs up and down smoothly. There are no loose parts or missing bolts.



## Inspection & Repair: Demonstrator Subassembly



### **Scenario:**

- You are given a damaged/wrongly assembled frame.
- Your task is to compare it with the reference images and modify the assembly to match the expected design.
- At the end, inspect the integrity and make sure that the structure is rigid, with no moving/loose parts.

**Needed:** Gloves (optional), allen keys (multiple sizes), repair box with spare parts.

**Recommended Steps:** The user is free to approach the problem based on their judgement.



## Disassembly: Old IKEA Table

**Needed:** Gloves, Allen keys, wrench (size 14)

### **Steps:**

- Put on gloves (some parts are sharp/metallic, and some are heavy).
- Clear the table.
- The wooden top is connected to the lower frame using double tape. Remove the top (requires force), dispose the tape.
- Detach the two hangers (upper side frame).
- The four corners of the frame are connected using bolts and connectors. Disconnect them using the wrench.
- Detach the central bar and the side bars.
- Put all the tools back.
- Remove gloves.



### **Expected end state:**

The different parts are separated. The bolts/screws are separated along with their connecting parts, such that someone else can understand which parts should be connected together.

## Assembly: Old IKEA Table

**Needed:** Gloves, Allen keys, wrench (size 14), Double tape, cutter, clamp, wooden block, rasping tool.

### **Steps:**

- Put on gloves (some parts are sharp/metallic, and some are greasy).
- Connect the legs together using the central frame.
- Connect the side bars and the central bars to the frame.
- Attach the two hangers to the upper frame.
- Look for screws that can fit the wooden top onto the frame. If found, attach the tabletop onto the frame.
- If such screws are not available, use double tape as a temporary solution.
- Attach the wooden top, such that one side is much closer to the frame. This is important for clamping operations.
- Test the assembly to see if the frame and the tabletop are sturdy.
- Do a clamp test: Clamp a wooden block onto the desk and perform a test rasping operation. Notice if the tabletop moves in relation to the frame.
- If the assembly works well, put all the tools away.
- Remove gloves.



### **Expected end state:**

The assembly looks like the reference images above. There are no loose parts or missing bolts. Operations such as rasping can be performed comfortably on the desk.



## Logistics and Organisation:

**Needed:** Safety Kit (Gloves, Safety shoes, Vest), Large Trolley, Sticky notes, marker.

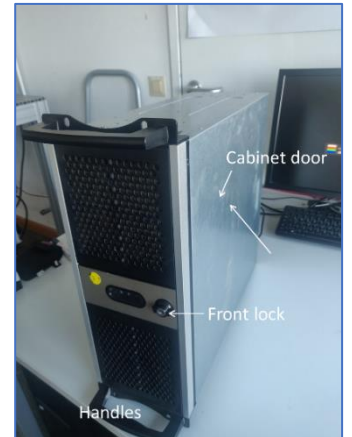
### Steps:

- Put on the safety kit. It is ok to remove the gloves for some steps in the process below.
- Find the **wooden trolley**. If not found, use the elevator, and go to the ground floor to retrieve it.
- Make sure that the trolley is empty at start. Place it at the corner opposite to the elevator as shown.



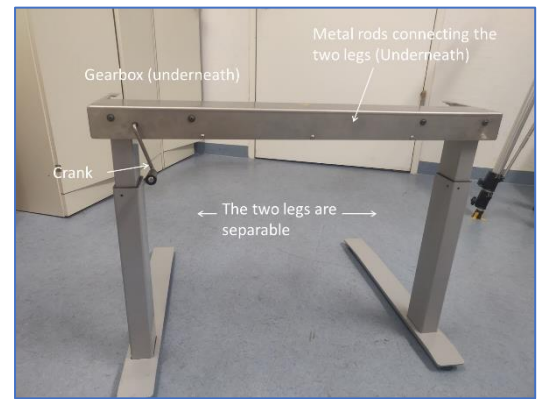
### Part 1: Electronics

- Find the power cables and the display cables for the monitors.
- Find and inspect the **Mac Computer**. Does it start upon booting up? If no, put a sticky note on it with the title *Defective*. If it starts properly, the note should be *Usable*.
- Open the Computer and check the following:
  - Is Power connection working?
  - Is the RAM card there?
  - Are the Hard Disks Connected?
  - Is the CMOS Battery there?
  - Put on a second note: *Parts: OK* or *Missing Parts* as needed.
- Find the old monitor and the printer. Mark: *Defective* or *Usable*. No need to open.
- Find and inspect the **PC (with handles)** and the other **silver windows PC**. Repeat the process.
- Once these are all marked, bring the trolley, and load the devices. Open the trolley door if needed.
- Finally, bring the trolley to the original location opposite to the elevator and leave the devices inside.
- Return the cables.



## Part 2: Mechanical Devices

- Find the **height adjustable mechanical frame** as shown in the figure.
- Inspect the device for functionality and missing parts (including bolts, crank etc.). Add a note- *Functional, Damaged, Missing parts* depending on the result.
- Add a second (and third, if needed) note at the location of the missing/defective part.
- Find and inspect the **demonstrator subassembly** (as shown). After inspection, put a suitable label on it as appropriate.
- Find the **Green lamp**. Inspect the lamp assembly and the attached bulb. Put a suitable note as appropriate.
- Fetch the trolley. Unload the previously kept electronics devices in the corner opposite to the elevator for collection.
- Add the mechanical devices to the trolley. Carefully place them without damaging the devices.
- Add some **prototype bars** to the trolley for additional work. Bind them using the cord. Put a label: *Additional bars*.
- Also Pack some additional **bolts and pins** (similar to those found on the demonstrator). Add them into a zip lock bag. Alternatively, use a standard bag with zip tie or a small cardboard box. Add a label: *Spare Parts*.
- Load everything into the trolley.
- Carry everything to the Elevator. And wait for the pickup person to collect everything. In the meantime, the vest and the gloves can be removed.



### Expected end state:

All devices and assemblies were carefully inspected, sorted, and labelled. Another person who collects the parts can understand the state of the devices clearly.

## Woodworking

**Needed:** Safety vest + Gloves, Screwdrivers, clamping tool, drilling machine + drill bits, rasping tool, spare screws.

**TLDR:** Remove the bracket from the old block and attach it onto the new block along with other operations.

### Steps:

- Put on the vest and gloves.
- Inspect the old block to check if the bracket can be unscrewed using a screwdriver.
- If not, clamp the block onto the table. The bracket should point outwards facing the worker.
- Test whether the block moves upon applying force. Adjust if needed.
- Prepare the drilling machine with a suitable bit for Unscrewing the bracket.
- Carefully unscrew the two screws holding the bracket and remove it.
- Unclamp the block, clean it, and store it away.
- Take the new wooden block. Mark the side on the block, on which the bracket should be attached.
- Clamp the block onto the desk. The marked side should face the user.
- With a pencil, mark the outline of the bracket and the two holes that need to be made for the screws.
- Rasping: The 4 edges and corners of the face must be chamfered using the rasping tool. Unclamp the block to perform the operation on other corners.
- Clamp the block again with the proper alignment.
- With the metal tool, make some dents onto the intended screwing locations.
- Gently screw in the screws. Use the drilling machine. Do not screw in completely.
- If the screws do not easily go in, use the drill bit to create small holes into the block carefully.
- Attach the bracket to the block. Tighten the screws.
- Check whether there is any movement/looseness between the block and the bracket.
- Upon successful installation, put the tools and the safety kit away. Clean the workspace and charge the drilling machine battery.



### Expected end state:

The bracket is successfully installed at the intended location; the attachment is rigid and stable. The tools used for the task are placed back. Workplace is clean and tidy.



### Mistake Detection: Open and repair a PC (22)

Action	Possible Mistakes
1. Open the cabinet	
2. Inspect for loose connections and missing parts	
3. Add CMOS battery	not doing so
	loose battery fit
4. Add RAM Chip	not doing so
	wrong chip size
	loose fit
5. Attach the data cable and the power cable to the hard disk	not doing so
	loose fit
6. Attach Fan cable to motherboard	not doing so
	loose fit
7. Attach system power to motherboard	not doing so
	loose fit
8. clean the interior with a cloth	leaving the cloth inside
	cleaning with bare hands instead
9. Close the cabinet	Not doing so
10. Start the PC and confirm if everything is ok	

## Organisation and Logistics

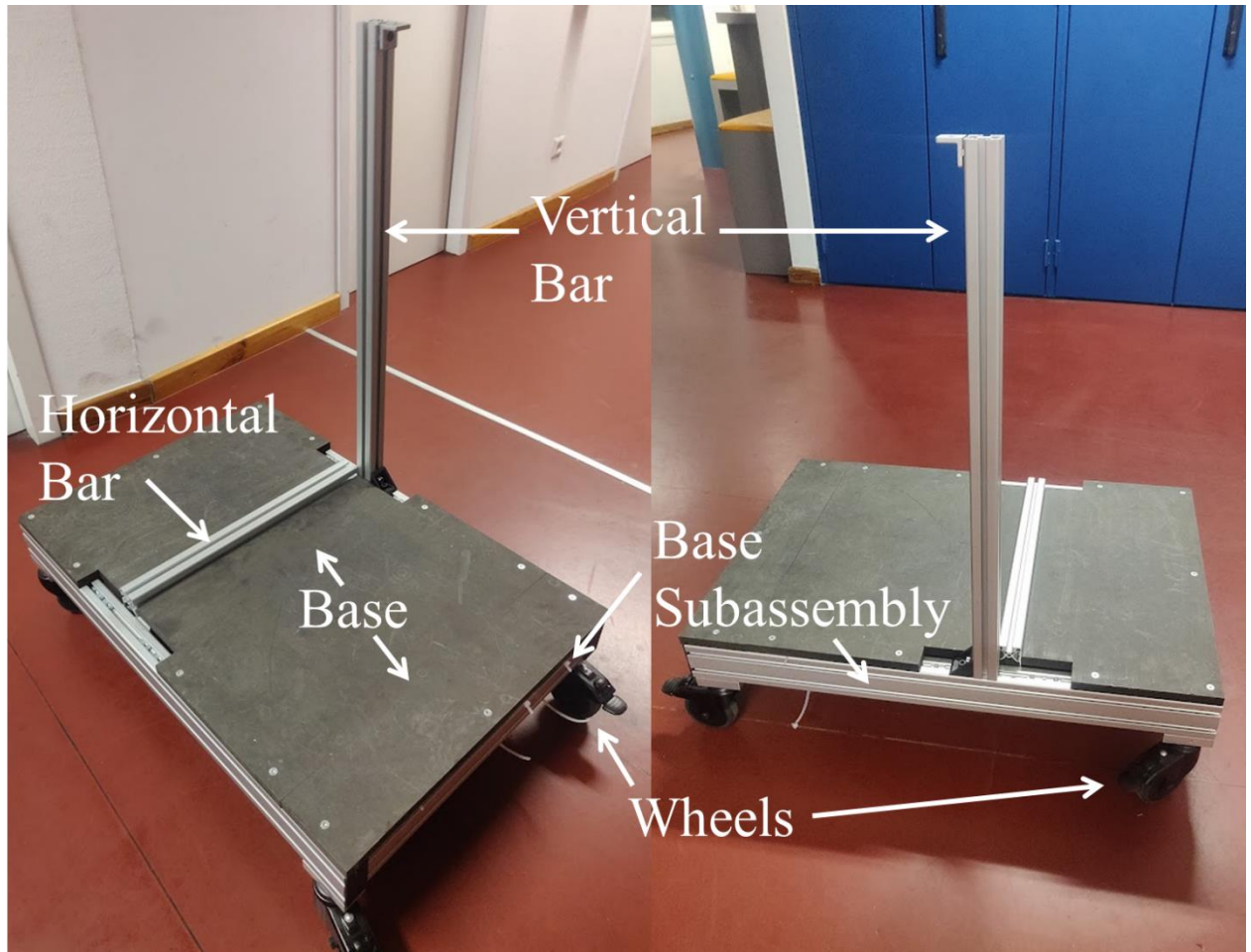
**Needed:** Safety vest + Gloves, other tools.

**TLDR:** Make sure that the working desk and the lab is cleared for other workers.

Steps:

- This is an example of a task with no specific step instructions. Only a goal was specified.

## Disassembly: Trolley Prototype



**Needed:** Gloves, Allen keys (multiple sizes), carpet (for hard floors), screw drivers (if necessary), cleaning cloth and liquid (optional).

**TLDR:** Disassemble the frame, separate individual parts, clean the base if needed.

### **Steps:**

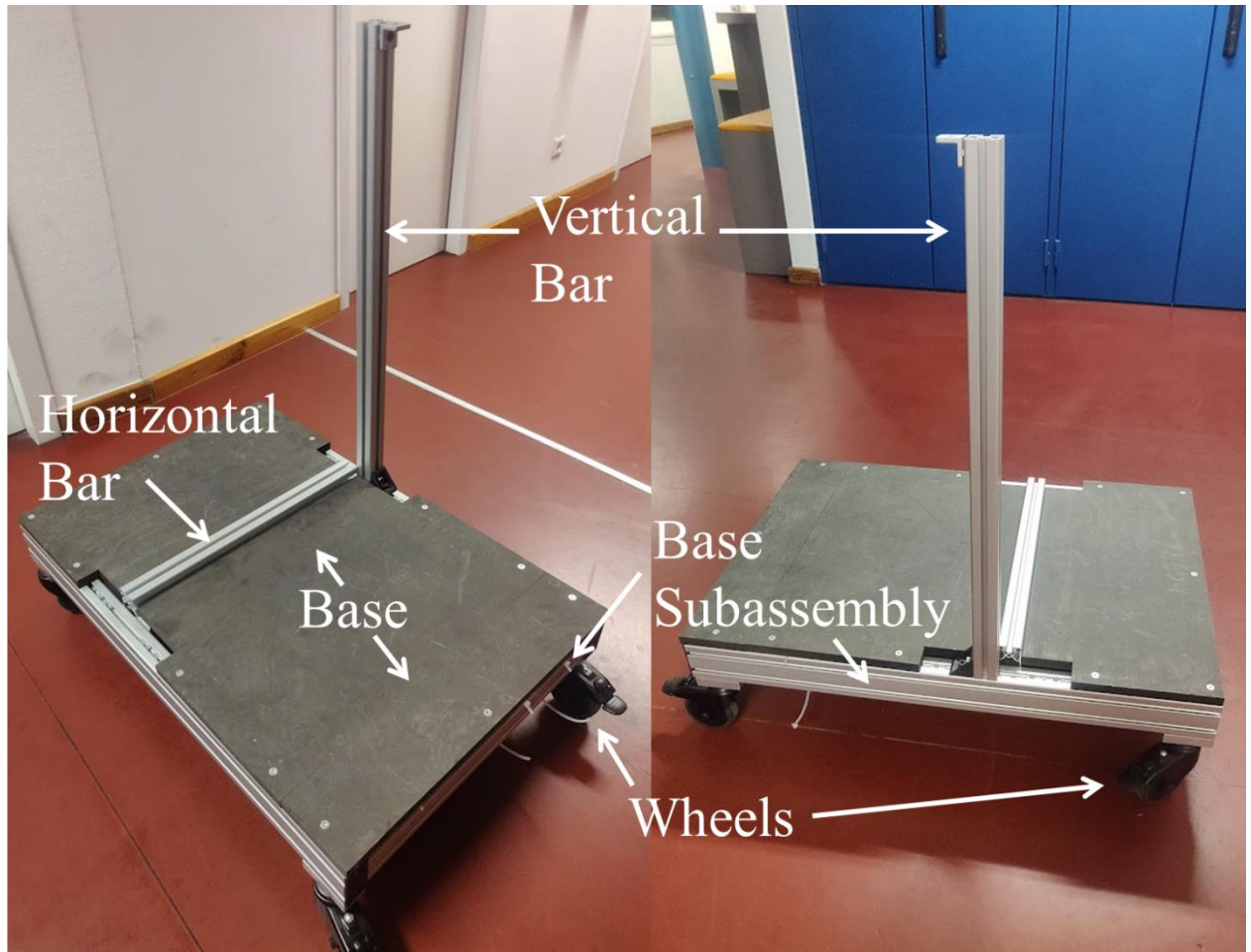
- Put on gloves.
- Search for appropriate tools. Large sizes Allen keys are needed for the wheels, smaller ones are needed for the base subassembly and the base.
- Remove the vertical bar.
- Remove the base plates.
- Detach the four wheels. The wheel units don't need to be disassembled further.
- Remove the individual parts of the subassembly and the horizontal bar.
- (Optional): Clean the base and frame with a cloth and cleaner.
- Sort the bolts, connectors, and small parts with their original parts.

### **Expected end state:**

The trolley has been disassembled. The individual parts and their bolts, connectors are arranged so they can be assembled by someone else. The base and other parts are clean.



## Assembly: Trolley Prototype



**Needed:** Gloves, Allen keys (multiple sizes), carpet (for hard floors), screw drivers (if necessary).

**TLDR:** Assemble the frame, test it.

### **Steps:**

- Put on gloves.
- Search for appropriate tools. Large sizes Allen keys are needed for the wheels, smaller ones are needed for the base subassembly and the base.
- Assemble the base subassembly.
- Attach the wheel units.
- Add the horizontal bar and the vertical bar.
- Test the trolley:
  - Without anything loaded.
  - By loading some things (e.g. a PC)

### **Expected end state:**

The trolley has been assembled. There are no moving/loose parts. The trolley works well and can easily transport items.

## Logistics & Organisation: Packing & Transportation

**Needed:** Gloves, safety vest, safety shoes, box/crate, packaging material, wooden pallet, pallet truck, weighing station, storage space.

**TL;DR:** Pack the box with the used parts and carry it out for being shipped.

### **Steps:**

- Wear the safety kit.
- Place the box down and empty the current contents.
- Place it on the wooden pallet.
- Open the cabinet storage and weigh the boxed parts.
- For undamaged parts that weigh 6kg or less, place them in the box. The others can be put back in the cabinet.
- Package the box and prepare it for shipping (use padding etc.)
- Secure the package and put the shipping label.
- **Worker 1:**
  - Bring the pallet truck
  - Load the pallet and the package
  - Carry the package to the H level
  - Carry it out to be shipped
- **Worker 2:**
  - Help Worker 1 with carrying the pallet to the elevator.
  - Inspect and weigh the old items from the box.
  - Place them securely onto the table.
  - Tidy up the working place

### **Expected end state:**

The used parts have been packaged and carried out for shipment. The working place is tidy and all tools are put away.

## Logistics & Organisation: Transportation & Unpacking

**Needed:** Gloves, safety vest, safety shoes, box/crate, packaging material, wooden pallet, pallet truck, weighing station, storage space.

**TL;DR:** Transport the delivery pallet to the working station, unpack the box. Inspect the delivered parts and store them.

### **Steps:**

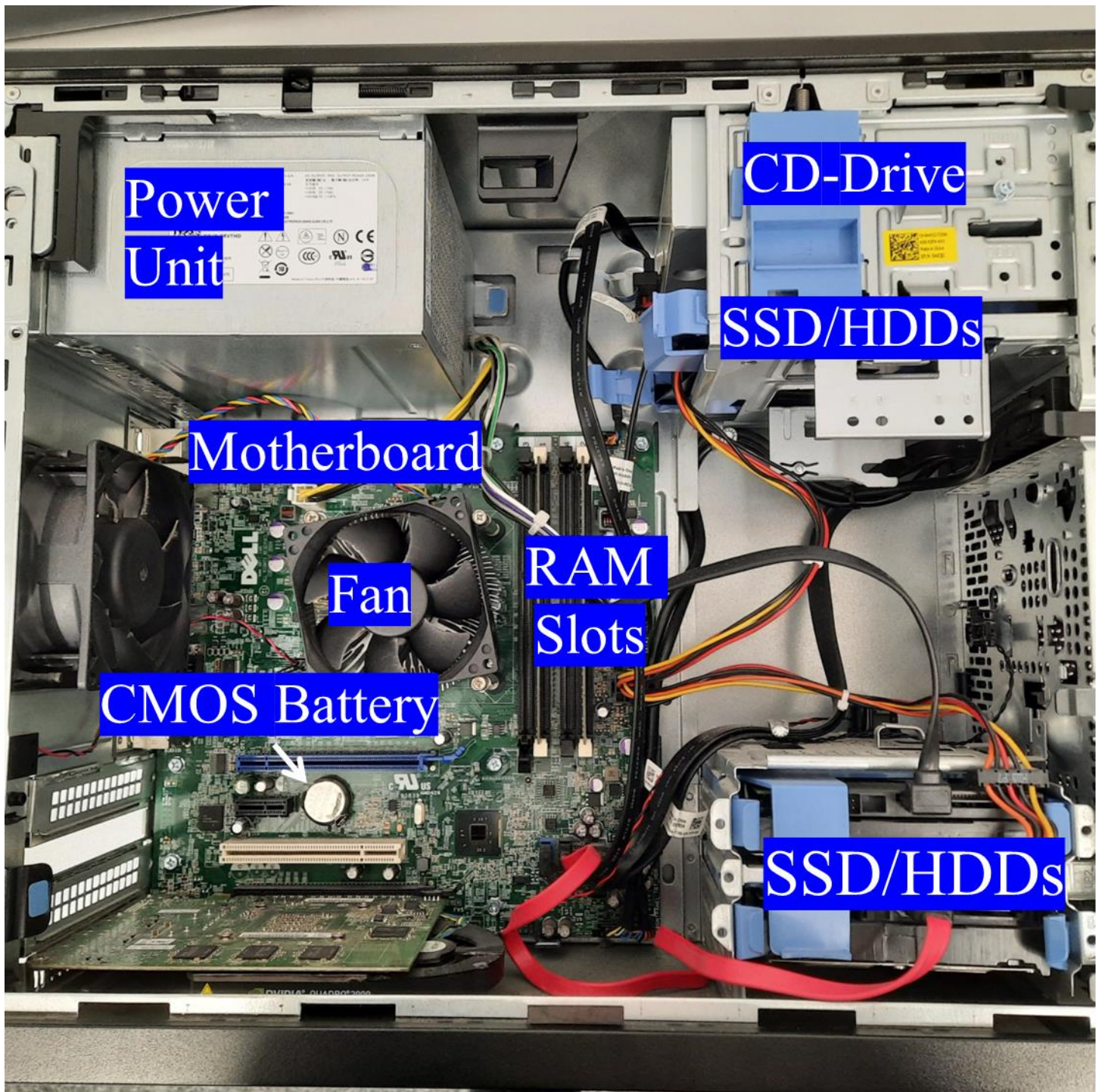
- Wear the safety kit.
- Place the box down and empty the current contents.
- Place it on the wooden pallet.
- Open the cabinet storage and weigh the boxed parts.
- For undamaged parts that weigh 6kg or less, place them in the box. The others can be put back in the cabinet.
- Package the box and prepare it for shipping (use padding etc.)
- Secure the package and put the shipping label.
- **Worker 1:**
  - Bring the pallet truck
  - Load the pallet and the package
  - Carry the package to the H level
  - Carry it out to be shipped
- **Worker 2:**
  - Help Worker 1 with carrying the pallet to the elevator.
  - Inspect and weigh the old items from the box.
  - Place them securely onto the table.
  - Tidy up the working place

### **Expected end state:**

The used parts have been packaged and carried out for shipment. The working place is tidy and all tools are put away.



## Inspection and Repair: Desktop Computer



### Scenario:

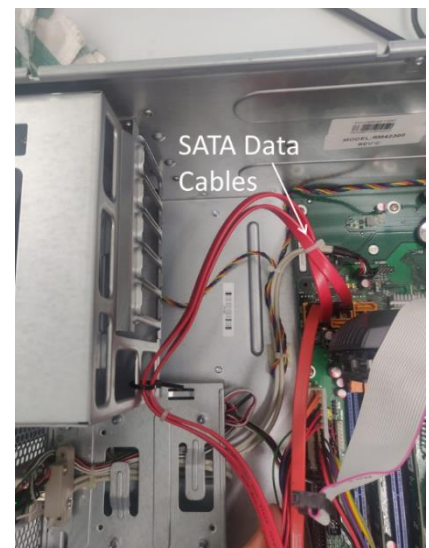
- You are given a PC cabinet to inspect, repair and refurbish.
- You must make sure that it works (starts and boots up, etc)
- The repaired PC should have a functional CD cabinet, hard disk drives and a functioning/well-connected motherboard.

- You have additional supplies such as cables, RAM chips, SSD drives, batteries, bolts, to work with.

**Needed:** PC-parts and repair box, crosshead screwdrivers (small and large)

**Steps:**

- Inspect the PC from the outside. The front lock can easily be opened.
- Plug in the power cord. Try to start the PC. Does it start?
- Disconnect power cord and get tools/repair box ready.
- Open the cabinet door and inspect the interior.
- Check if the power unit is connected with the mother board.
- If the fan unit is absent, install a replacement unit. Connect it to the motherboard.
- Check if the CMOS battery is connected. If not, use the battery from the box.
- Are there any cables that do not connect to the motherboard at the moment? (If yes, can they be connected?)
  - If any devices such as the graphics card are in the way, remove it.
- Are there 2 RAM chips neatly inserted into the motherboard? If not, use the ones from the box.
- Are the hard disks mounted and connected?
  - If not, use the available hard disks and mount it onto the chassis at the expected location.
  - Connect the power cable and the data cable.
- Do the same for SSD as required.
- Is the CD drive available and functioning?
  - If not, mount the available drive onto the chassis.
  - Connect the power cable and the data cable.
- Can the cables be bundled together with a zip tie to avoid collision with other parts?
- While the cabinet is open, quickly connect the power cord and check if the PC starts (be careful).
  - Also inspect if the newly installed parts (CD drive open and close successfully)



- Are there any spare/unconnected parts in the cabinet? If yes, remove them.
- Clean, and close the cabinet and finish the repair process.
- If a monitor is available, test if the PC boots successfully.

## **Disassembly: Workstation Computer**

**Needed:** Gloves (some parts are metallic and/or sharp), screwdrivers (multiple sizes)

### **Steps:**

- Wear gloves (feel free to remove them when necessary)
- Open the hatch and remove the door.
- Inspect and identify the various parts.
- Remove the Chip Rack, which will also remove Fan 2 (attached)
- Remove the duct.
- Remove Fan 1 by detaching its frame.
- Remove the bolts attached to the GPU frame. The entire GPU frame should be detachable by releasing the latch to the left.
- Detach the cables attached to the HDDs. Remove the HDDs.
- Remove the RAM chips attached to the motherboard.
- Remove the heat sink.
- Remove the CMOS Battery.
- Remove the frame holding the CPU.
- Remove the CPU.
- (Optional) Unplug the cables attached to the Motherboard.
- Sort the removed parts, bolts for an easier assembly later.

### **Expected end state:**

The different parts of the system have been removed carefully, without damage. The setup can be assembled by another person later.



## **Assembly: Workstation Computer**

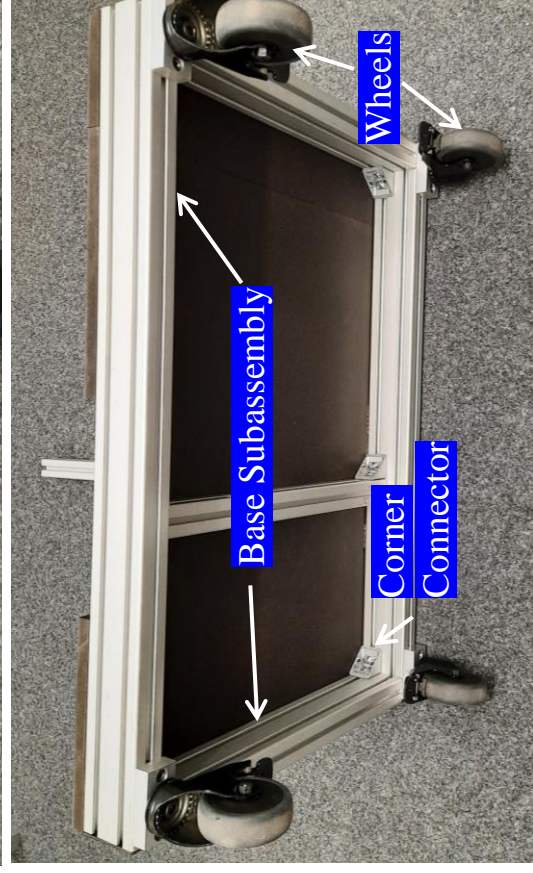
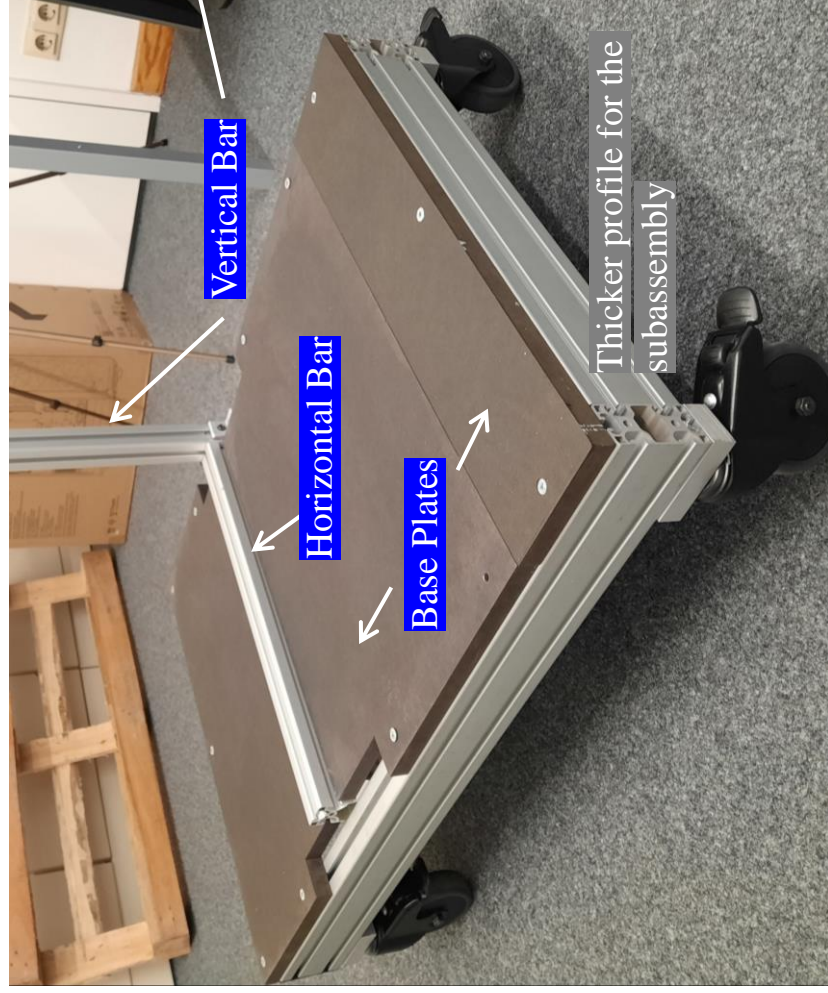
**Needed:** Gloves (some parts are metallic and/or sharp), screwdrivers (multiple sizes)

### **Steps:**

- Wear gloves (feel free to remove them when necessary).
- Place the CPU in the correct position. Attach the frame on the top using the bolts.
- Plug in all the cables onto the motherboard that are open and available.
- Attach the CMOS battery.
- Attach the RAM chips onto the motherboard.
- Attach the heat sink on top of the CPU.
- Attach Fan 1 and the bolts onto the frame. Attach the power supply onto the motherboard.
- Attach the HDDs. Connect the power and data cables.
- Place the GPUs and the frame in its position. Lock the chips in their correct place on both ends. Plug in the necessary cables.
- Place the Chip Rack and Fan 2.
- Attach the duct.
- Attach all the necessary bolts to the frame.
- Inspect the whole system. There should be no unattached/loose parts or cables.
- Close the open end of the cabinet and lock the hatch.
- Plug in power and test that the system works.

### **Expected end state:**

The workstation has been carefully assembled and successfully tested. There are no loose parts or cables.



A fully functional assembly should have:

- Four wheels
- Stable base subassembly
- All connections held together by corner connectors (with bolts and slots)
- Well-connected base plates with no gaps
- No shaky/loose connections

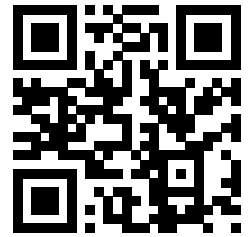
\*Please test the assembly after the repair process.

## Projektübersicht

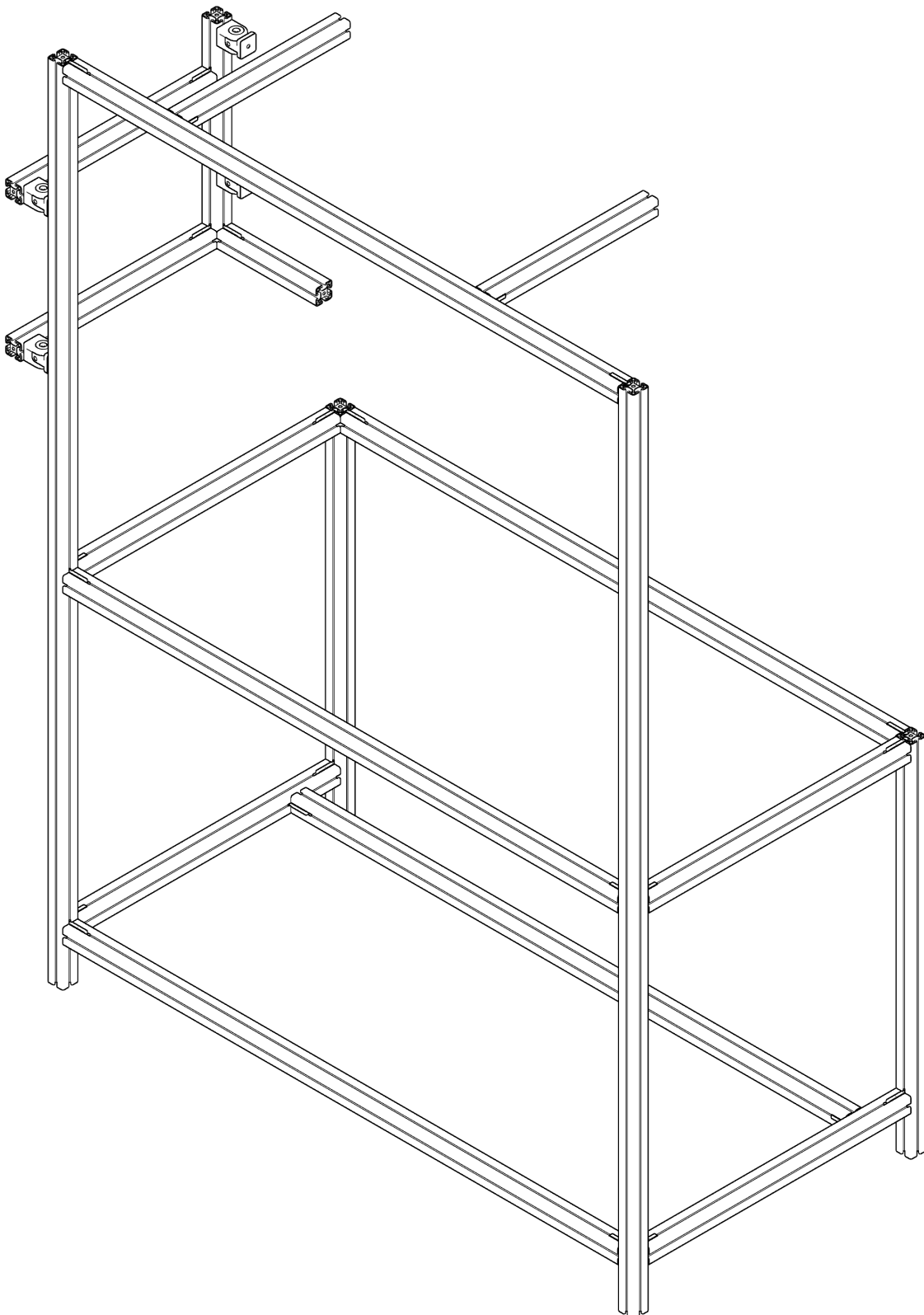
Projektname: 2024-11-15 Engineering Project

Projektnummer: 9a8e4a91d586411ea1e9077a179cfd173

Projektbeschreibung: workstation - BORG draft sketch 3D

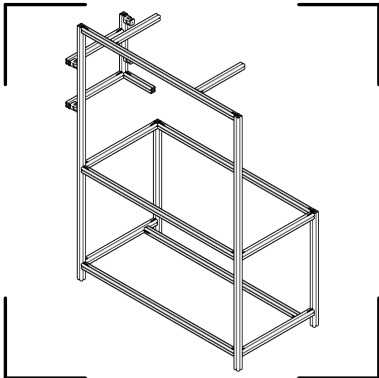


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# Baugruppenübersicht

- Projektübersicht ..... 1
- Baugruppenübersicht ..... 2
- Lieferstückliste ..... 3
- Stückliste ..... 4
- Unbearbeitete Profile ..... 5














## Baugruppe 1

- Isometrische Ansicht ..... 7
- Dreitafelprojektion ..... 8
- Explosionsdarstellung ..... 9
- Montageanleitung ..... 10



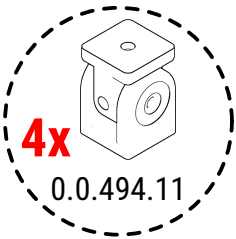
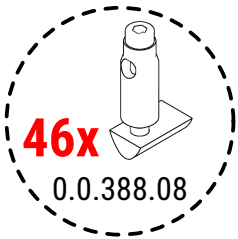
## Lieferstückliste

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1	 Profil 8 40x40 leicht, natur Länge: 254mm	0.0.026.33	1
2	 Profil 8 40x40 leicht, natur Länge: 428mm	0.0.026.33	2
3	 Profil 8 40x40 leicht, natur Länge: 500mm	0.0.026.33	3
4	 Profil 8 40x40 leicht, natur Länge: 670mm	0.0.026.33	4
2	 Profil 8 40x40 leicht, natur Länge: 920mm	0.0.026.33	5
5	 Profil 8 40x40 leicht, natur Länge: 1420mm	0.0.026.33	6
2	 Profil 8 40x40 leicht, natur Länge: 2050mm	0.0.026.33	7
46	 Automatik-Verbindungssatz 8 Abdeckblende, grau ähnlich RAL 7042	0.0.616.31	8
6	 Nutenstein 8 St M8, verzinkt	0.0.026.18	9
46	 Automatik-Verbindungssatz 8, verzinkt	0.0.388.08	10
4	 Schwenklager 8 40x40	0.0.494.11	11

Stückliste

Position	Artikelbezeichnung	Artikel-Nr.	Seite	Anzahl
1	Profil 8 40x40 leicht, natur, Länge: 254mm	0.0.026.33	5	1
2	Profil 8 40x40 leicht, natur, Länge: 428mm	0.0.026.33	5	2
3	Profil 8 40x40 leicht, natur, Länge: 500mm	0.0.026.33	5	3
4	Profil 8 40x40 leicht, natur, Länge: 670mm	0.0.026.33	5	4
5	Profil 8 40x40 leicht, natur, Länge: 920mm	0.0.026.33	5	2
6	Profil 8 40x40 leicht, natur, Länge: 1420mm	0.0.026.33	5	5
7	Profil 8 40x40 leicht, natur, Länge: 2050mm	0.0.026.33	6	2
8	Automatik-Verbindungssatz 8 Abdeckblende, grau ähnlich RAL 7042	0.0.616.31	-	46
9	Nutenstein 8 St M8, verzinkt	0.0.026.18	-	6
10	Automatik-Verbindungssatz 8, verzinkt	0.0.388.08	-	46
11	Schwenklager 8 40x40	0.0.494.11	-	4

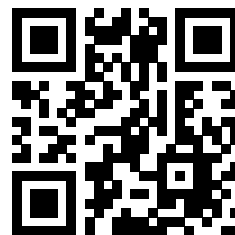
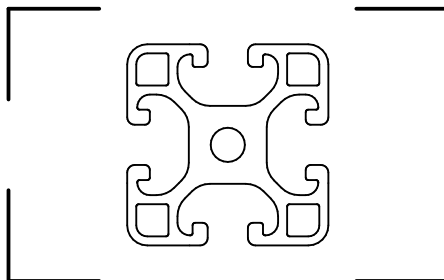
Verbindungstechnik ( gesamt )



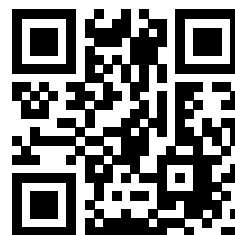
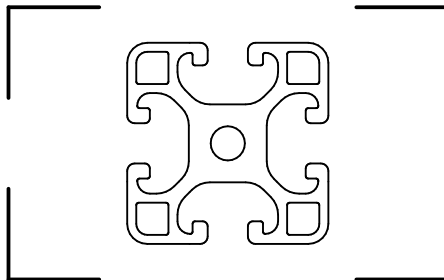
## Unbearbeitete Profile

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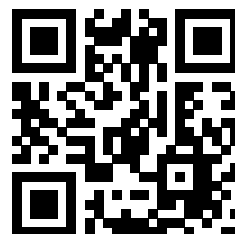
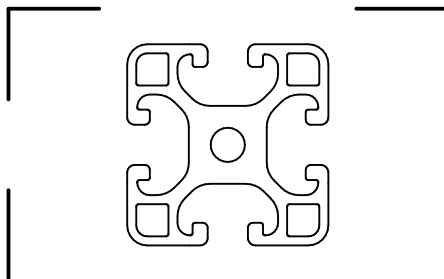
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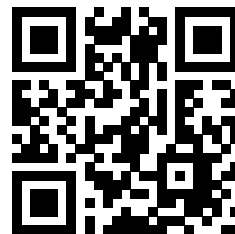
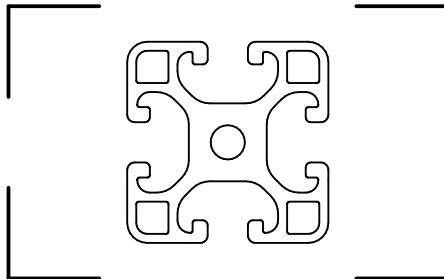
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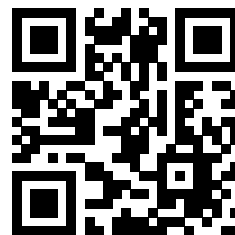
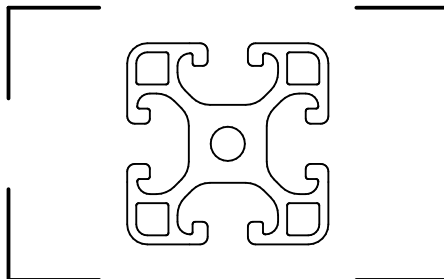
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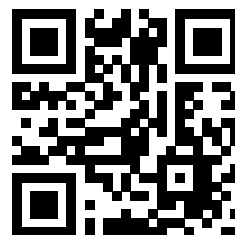
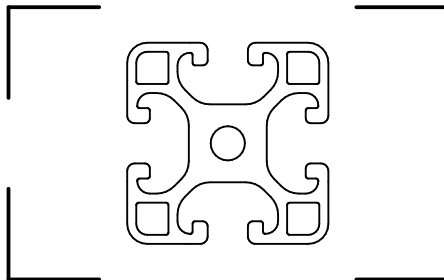
Teil 4, Profil 8 40x40 leicht, natur  
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Länge: 670mm, Unbearbeitet

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Länge: 920mm, Unbearbeitet

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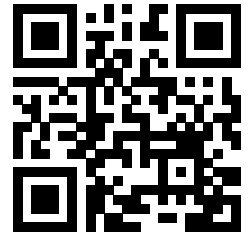
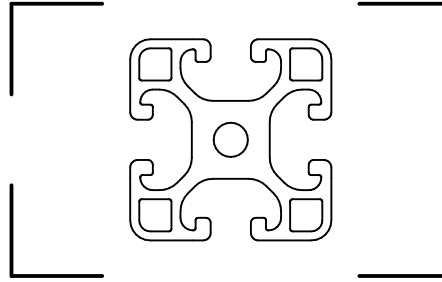
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Länge: 1420mm, Unbearbeitet

[i24.ws/r0AAbwPn.6](https://i24.ws/r0AAbwPn.6)

2x

Teil 7, Profil 8 40x40 leicht, natur  
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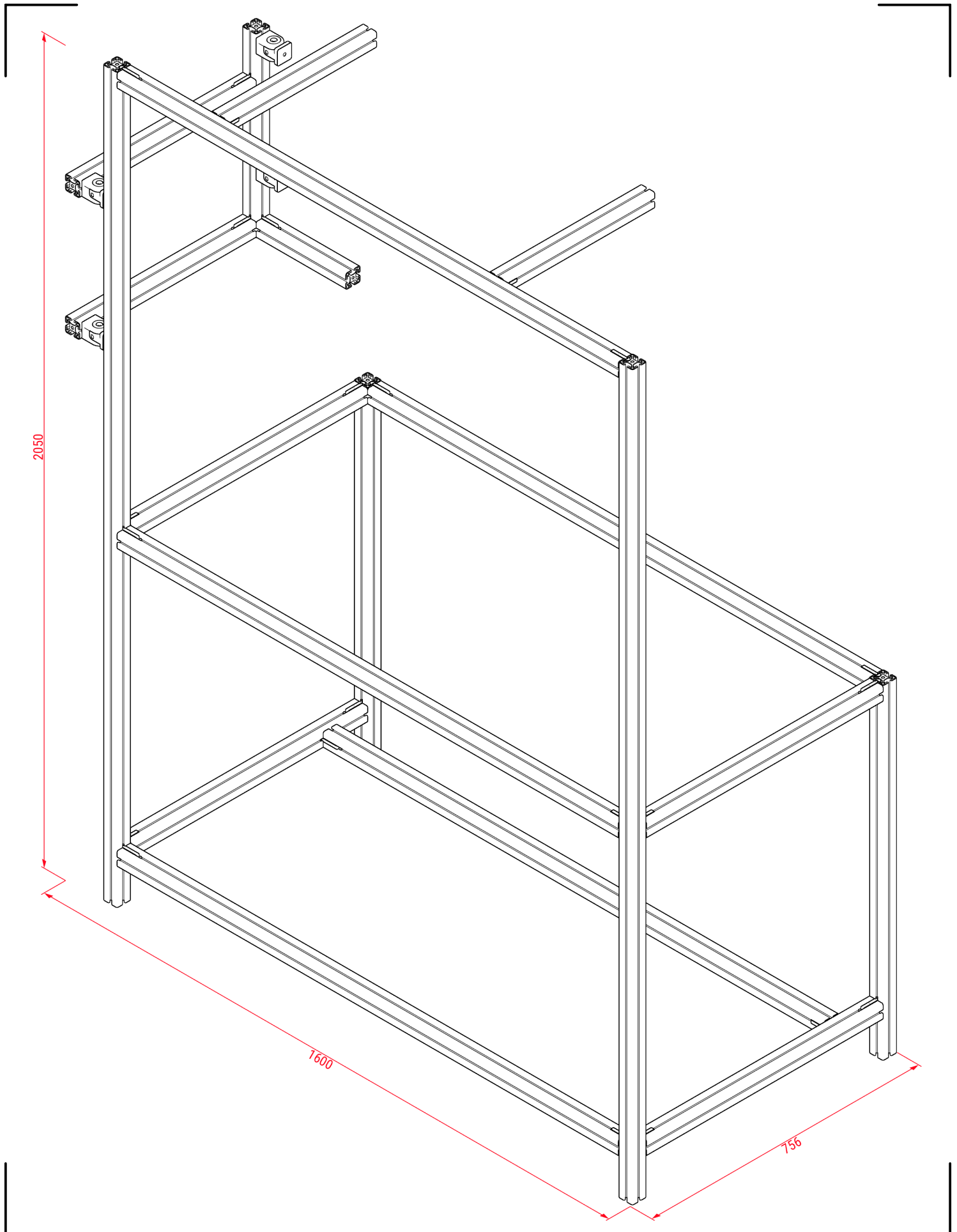
## Unbearbeitete Profile



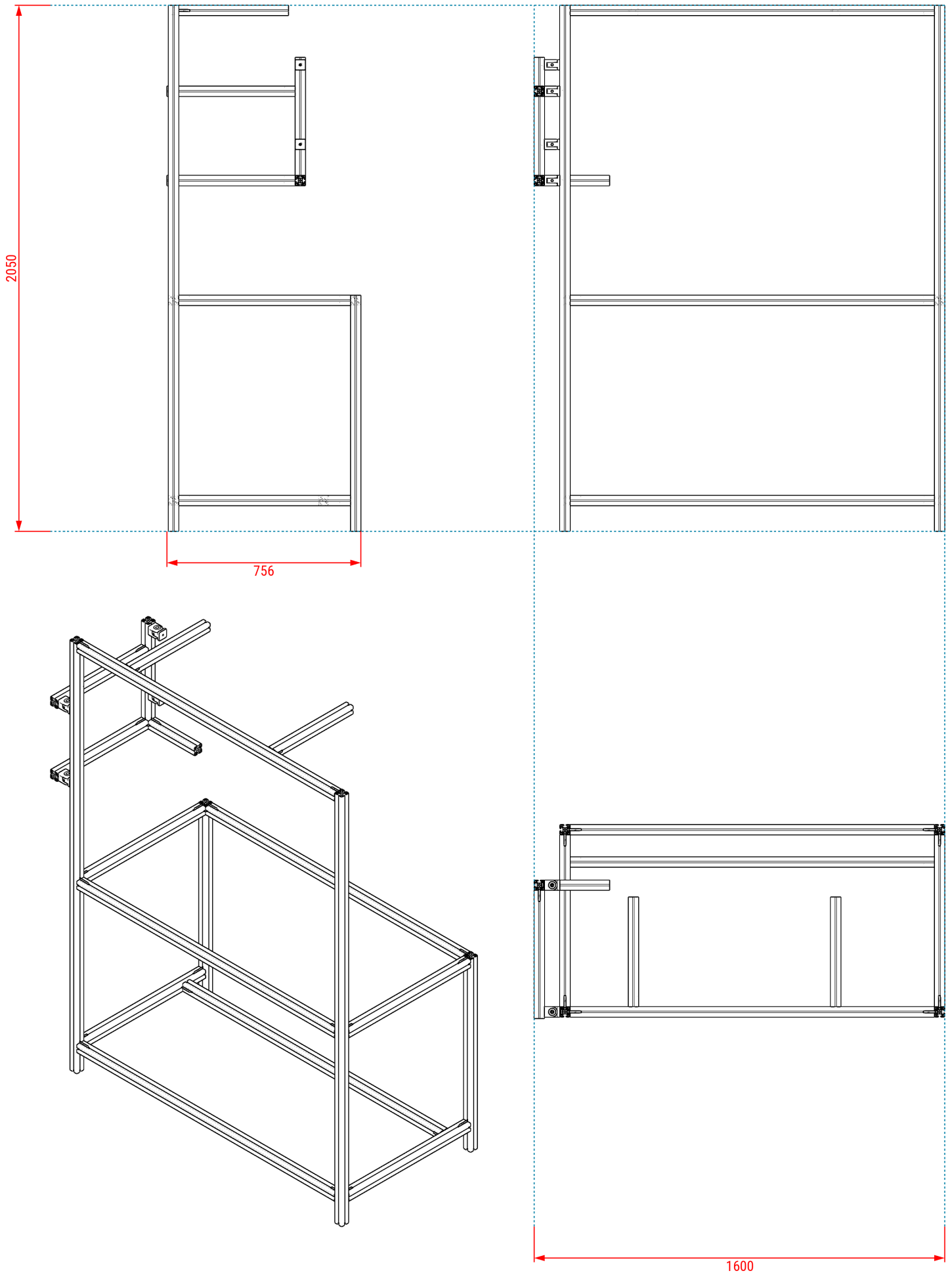
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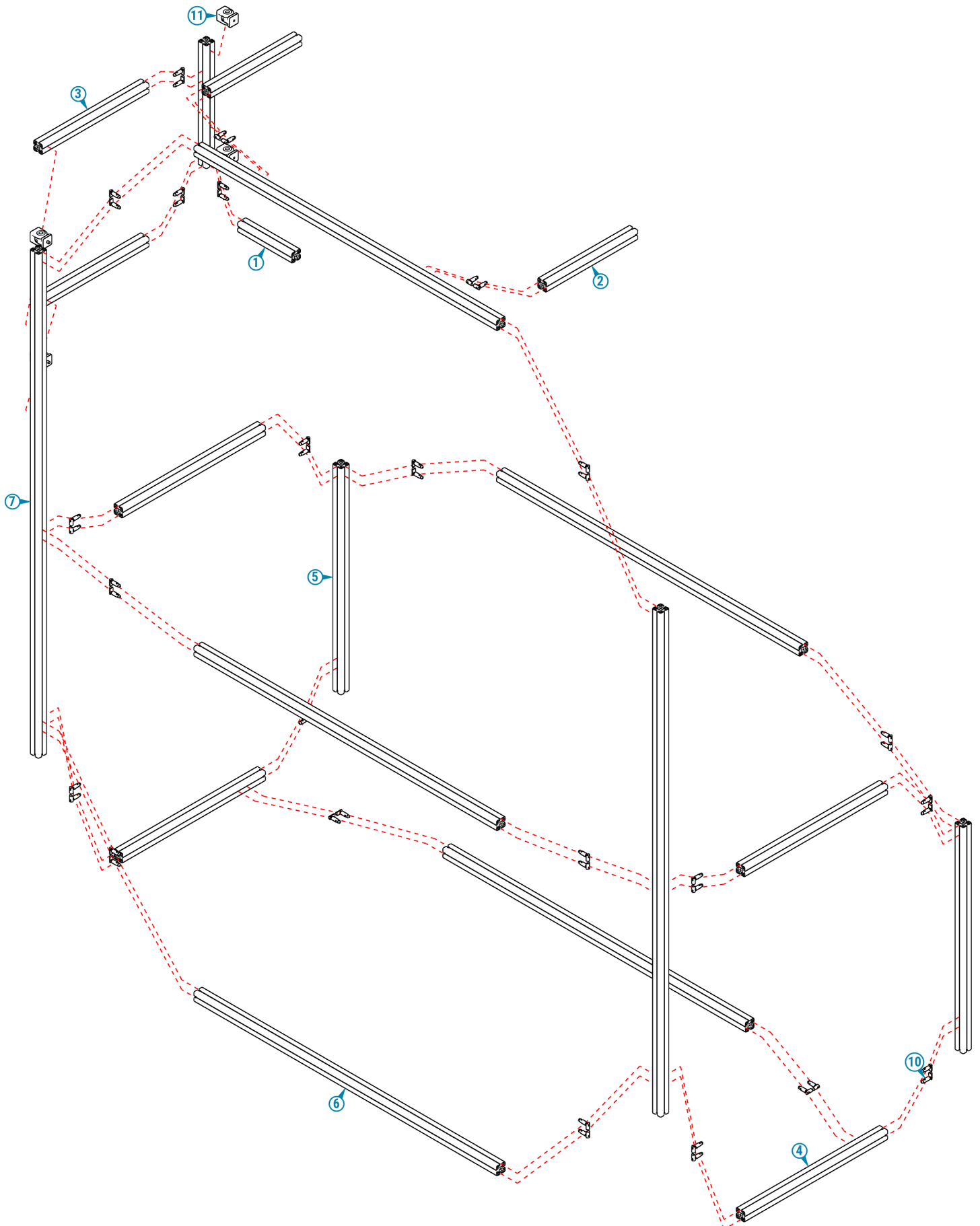
Isometrische Ansicht Baugruppe 1 / 1



# Dreitafelprojektion Baugruppe 1 / 1



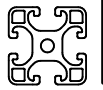
# Explosionsdarstellung Baugruppe 1 / 1



# Montageanleitung

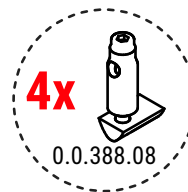
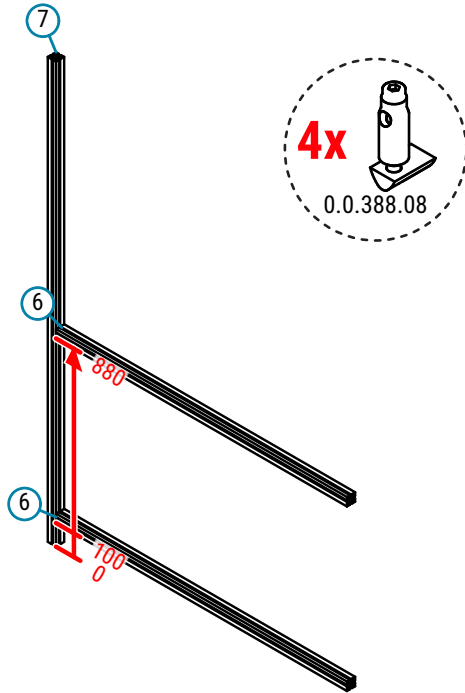
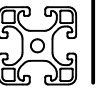
## Schritt 1/ 13

Starte mit Teil 7 und 6



## Schritt 2/ 13

Montiere 1 x Teil 7



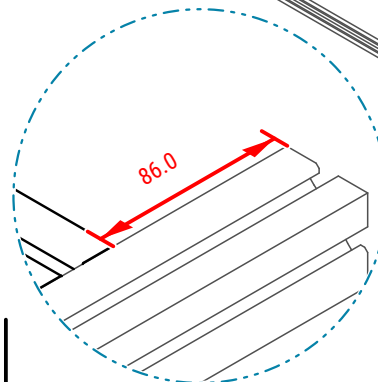
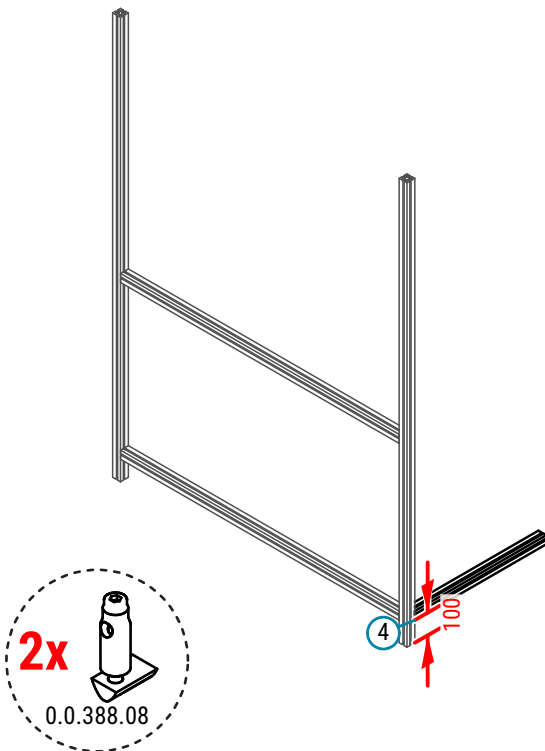
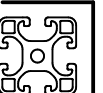
## Schritt 3/ 13

Montiere 1 x Teil 4



## Schritt 4/ 13

Montiere 1 x Teil 6

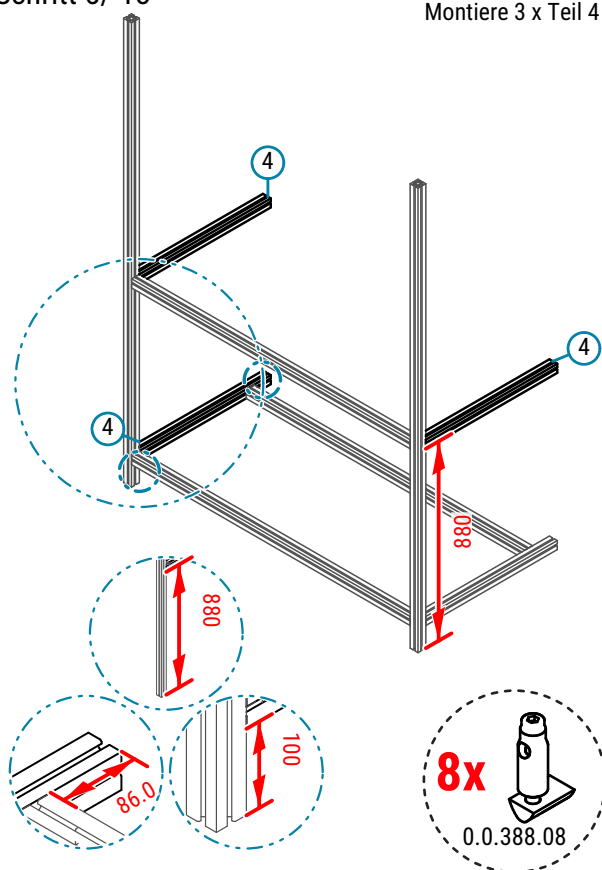
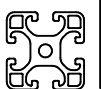




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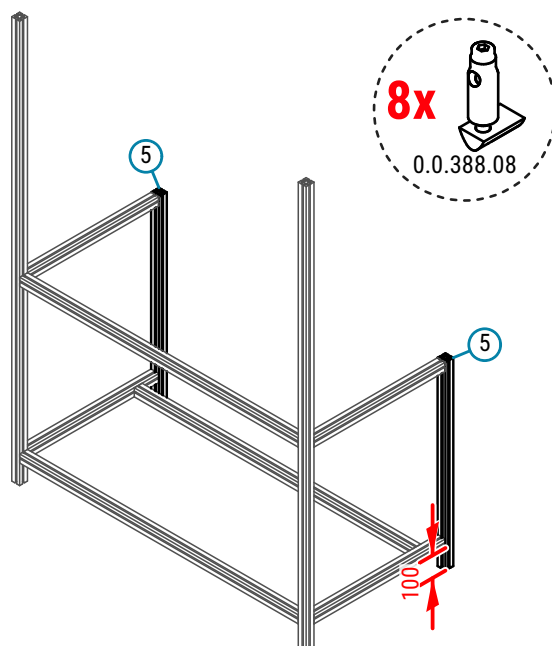
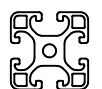
## Schritt 5/ 13

Montiere 3 x Teil 4



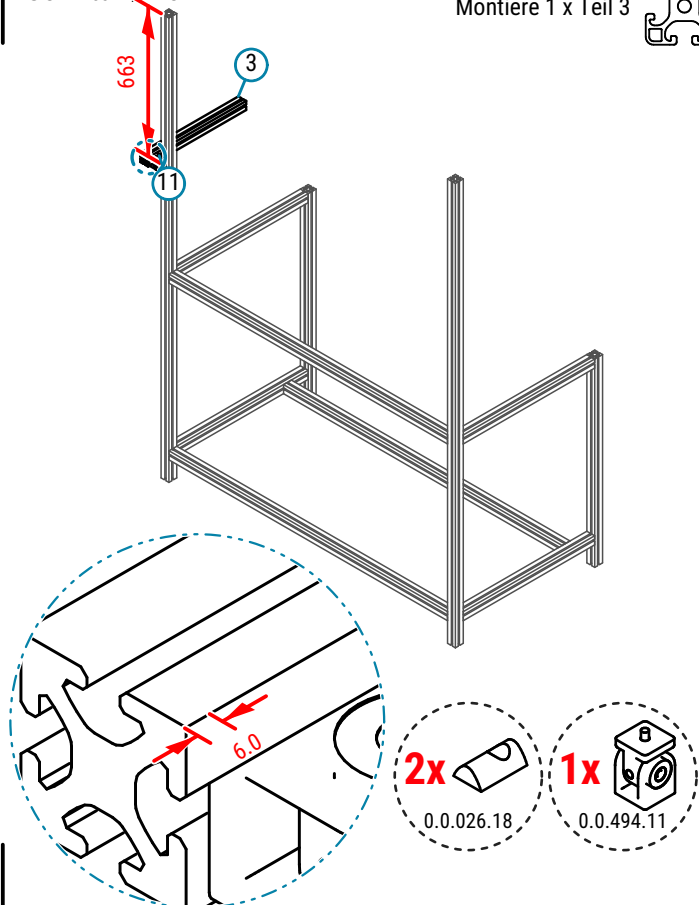
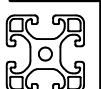
## Schritt 6/ 13

Montiere 2 x Teil 5



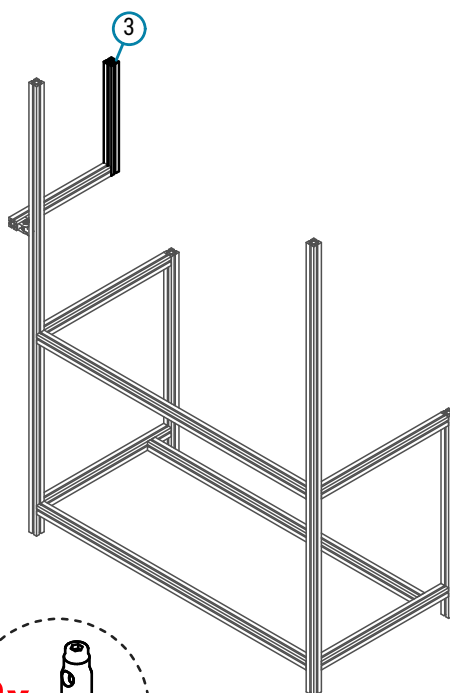
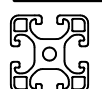
## Schritt 7/ 13

Montiere 1 x Teil 3



## Schritt 8/ 13

Montiere 1 x Teil 3



Alle montierten Teile weisen ein identisches Maß auf

# Montageanleitung

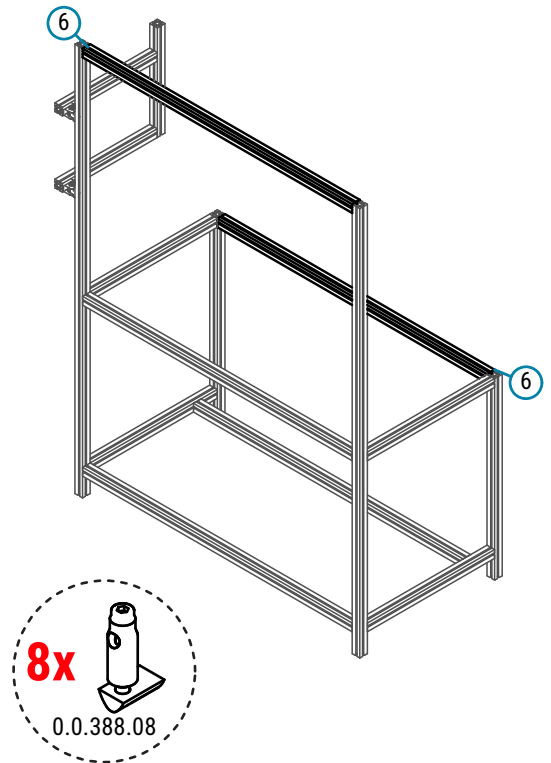
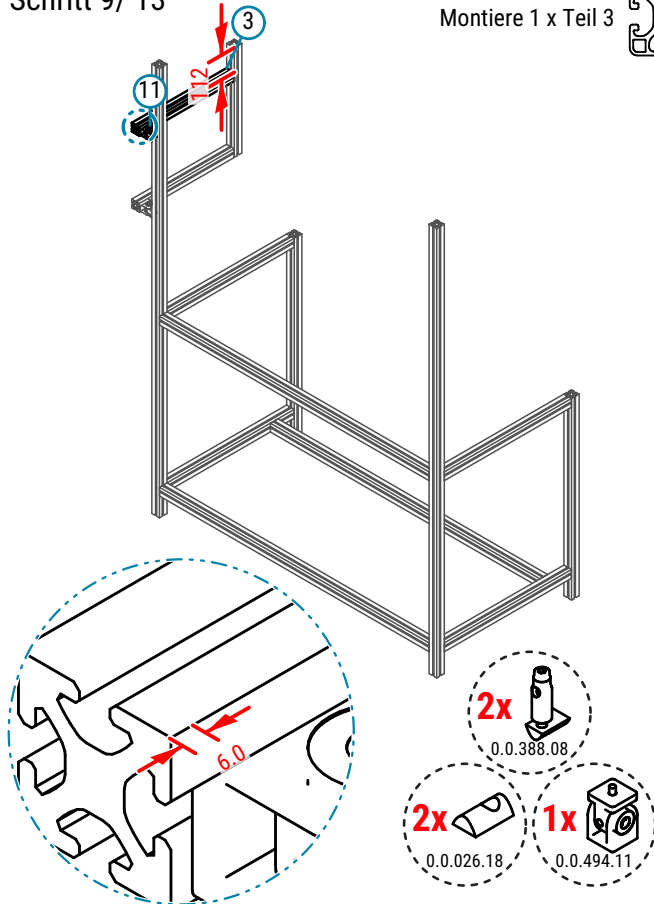
Schritt 9/ 13

Montiere 1 x Teil 3



Schritt 10/ 13

Montiere 2 x Teil 6



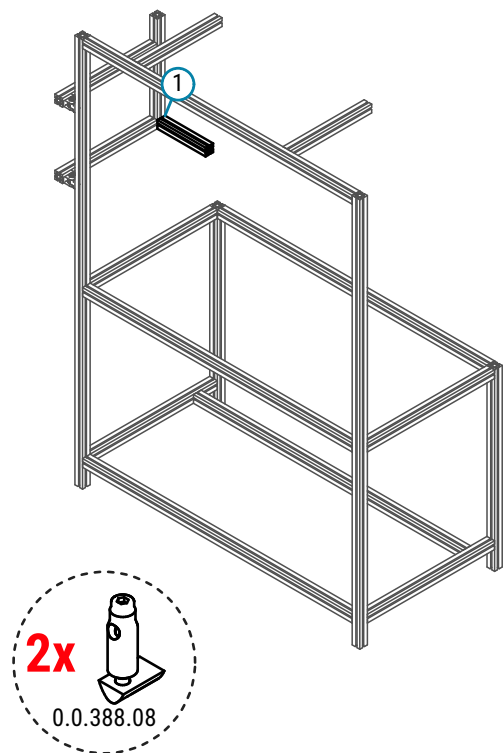
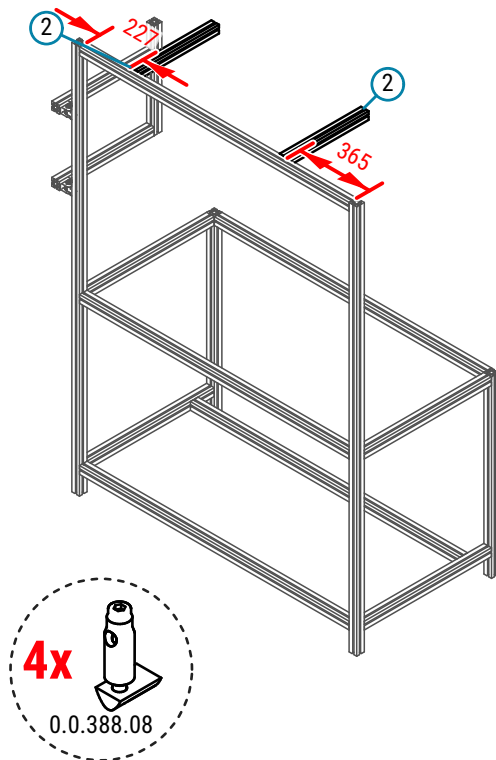
Schritt 11/ 13

Montiere 2 x Teil 2



Schritt 12/ 13

Montiere 1 x Teil 1



## Montageanleitung

Schritt 13/ 13

Montiere 2 x Teil 11

