



# Fabscan100

## Assembly instructions v.1.00

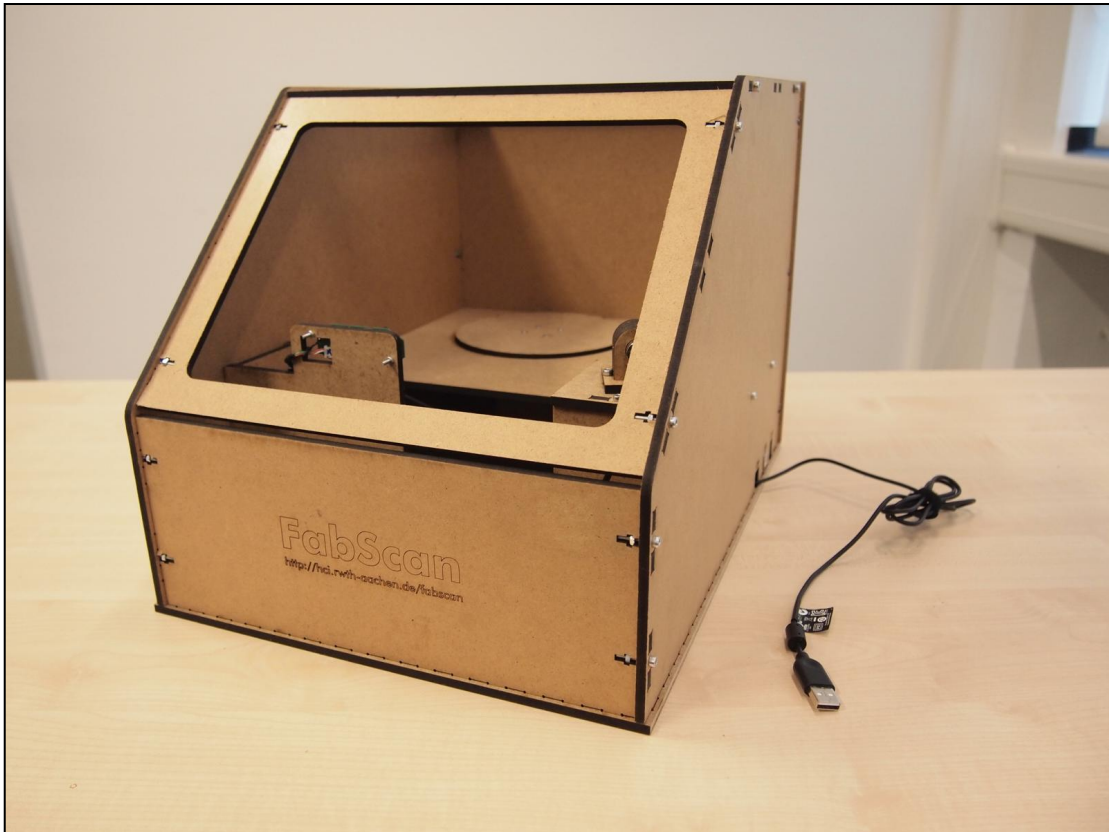


Figure 1: The Fabscan100.

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## List of material:

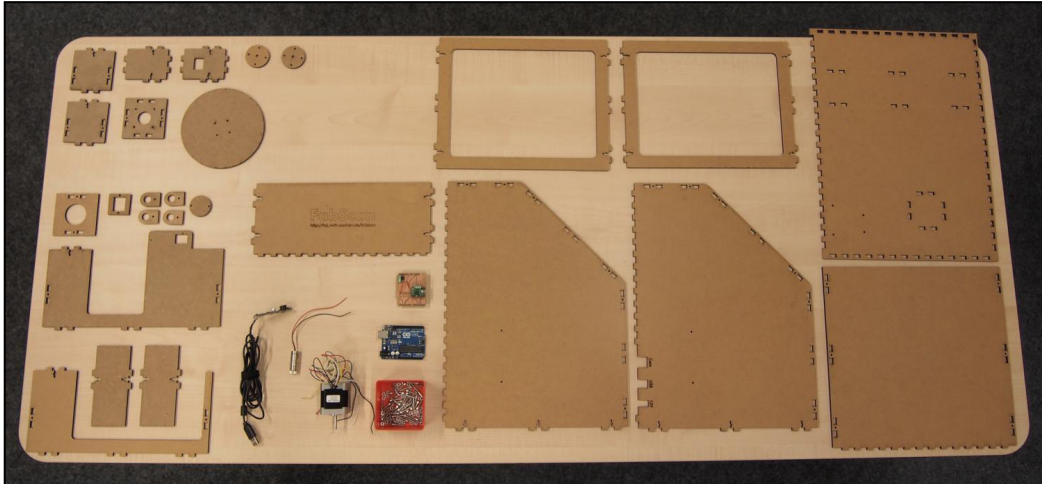


Figure 2: Material needed for the assembly. Note: Housing middle is not in the picture.

Part name:	Included in:	No:
Screws DIN 965 M3x20 + nuts		4 + 4
Screws DIN 965 M3x8 + nuts		4
Screws DIN 965 M2x20 + nuts		2 + 6
Screws DIN 965 M3x16 + nuts		4 + 6
Screws DIN 912 M3x25 + nuts		1
Screws DIN 912 M3x16 + nuts		36 + 36
Turning Table Circle		1
Turning Table Circle small		2
Bracket Laser Holder parts		4
Bracket Laser Holder frame		1
Bracket Laser Holder circle		1
Bracket front		1
Bracket back		1
Bracket top		1
Bracket left/right		2
Box bottom		1
Box left side		1
Box right side		1
Box Top		1
Box Slope		1
Box Front		1
Box Back		1
Box Middle		1
Motor Housing		5
Fabscan Shield		1
Laser		1
Camera		1
Arduino Uno		1
Motor Nema 17		1

## 1. Turning Table

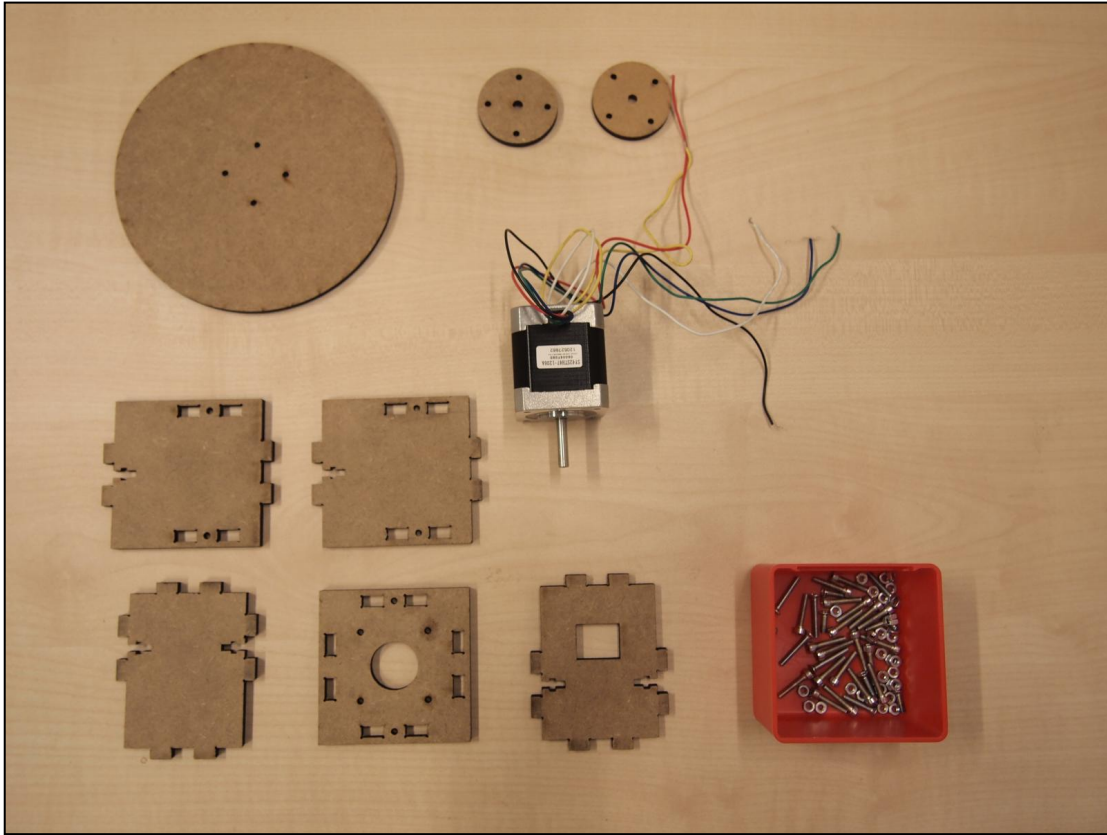
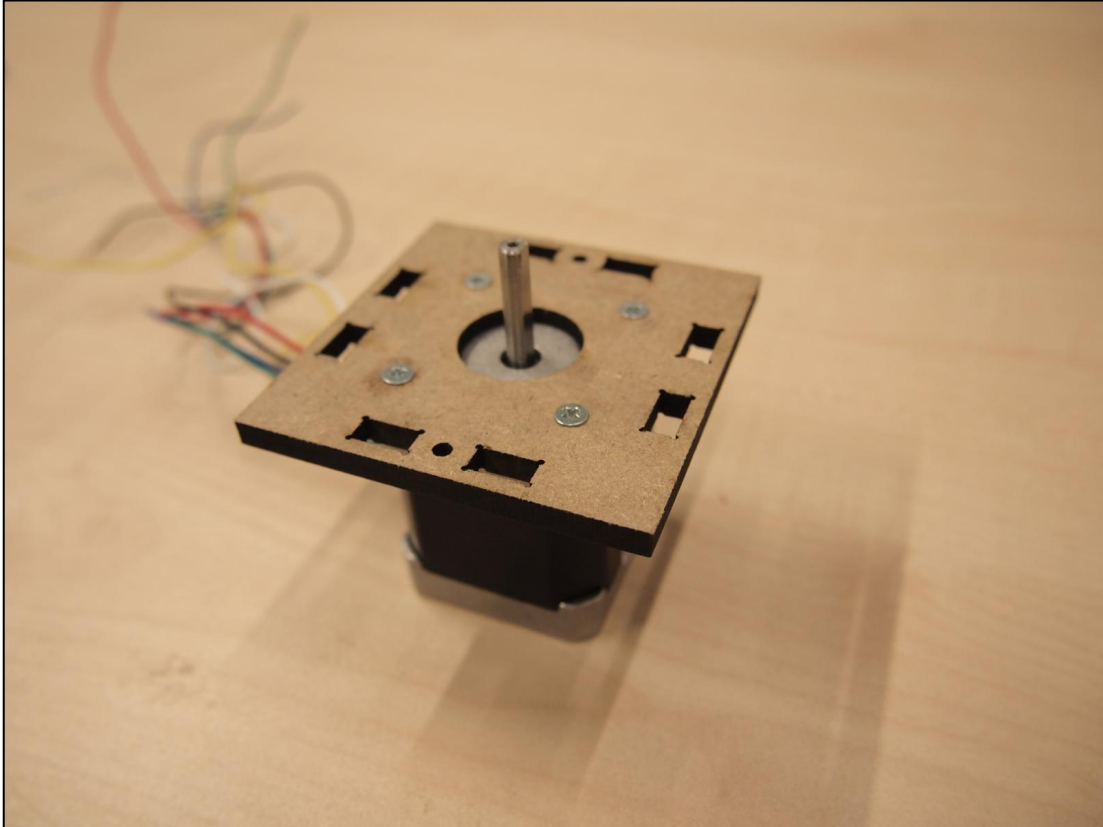
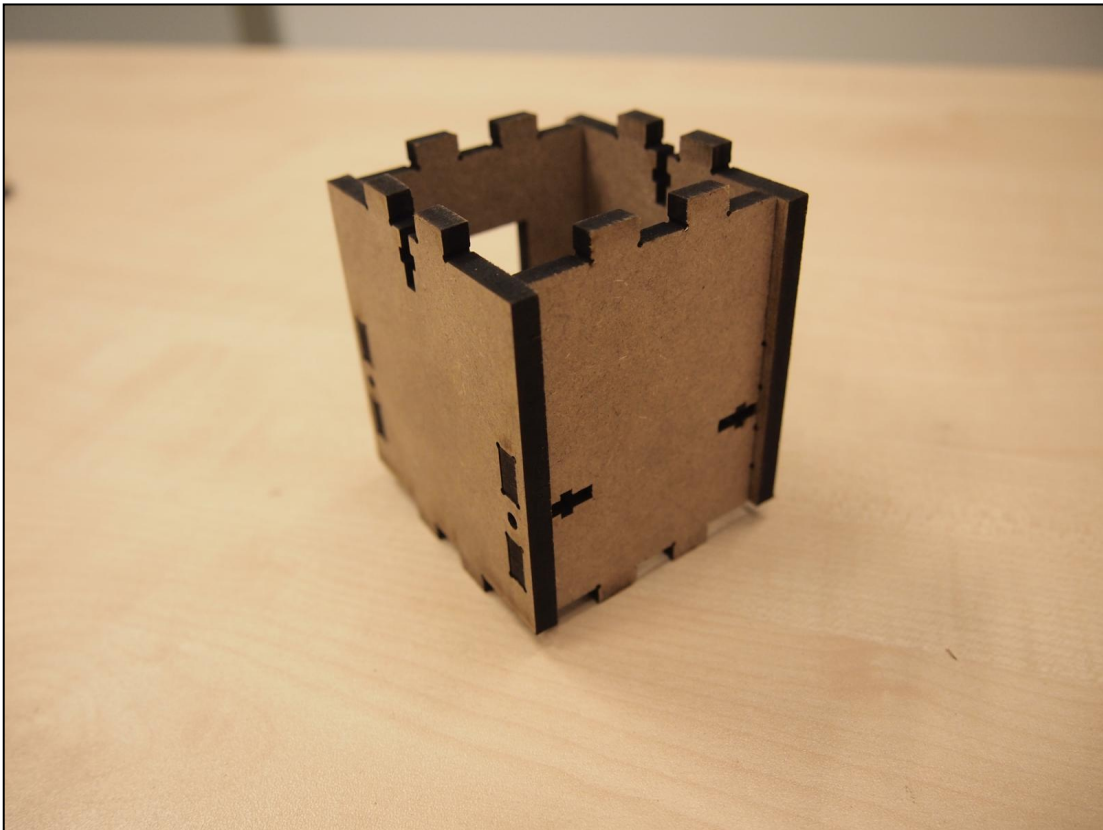


Figure 3: Parts needed for the assembly group 'Turning Table'.

Part name:	Included in:	No:
Assembly Turning Table:		
Turning Table Circle small		1
Turning Table Circle		1
Turning Table Circle small		2
Motor Housing		5
Motor Nema 17		1
Screws DIN 965 M3x20 + nuts		4 + 4
Screws DIN 965 M3x8 + nuts		4
Screws DIN 912 M3x16 + nuts		6 + 6

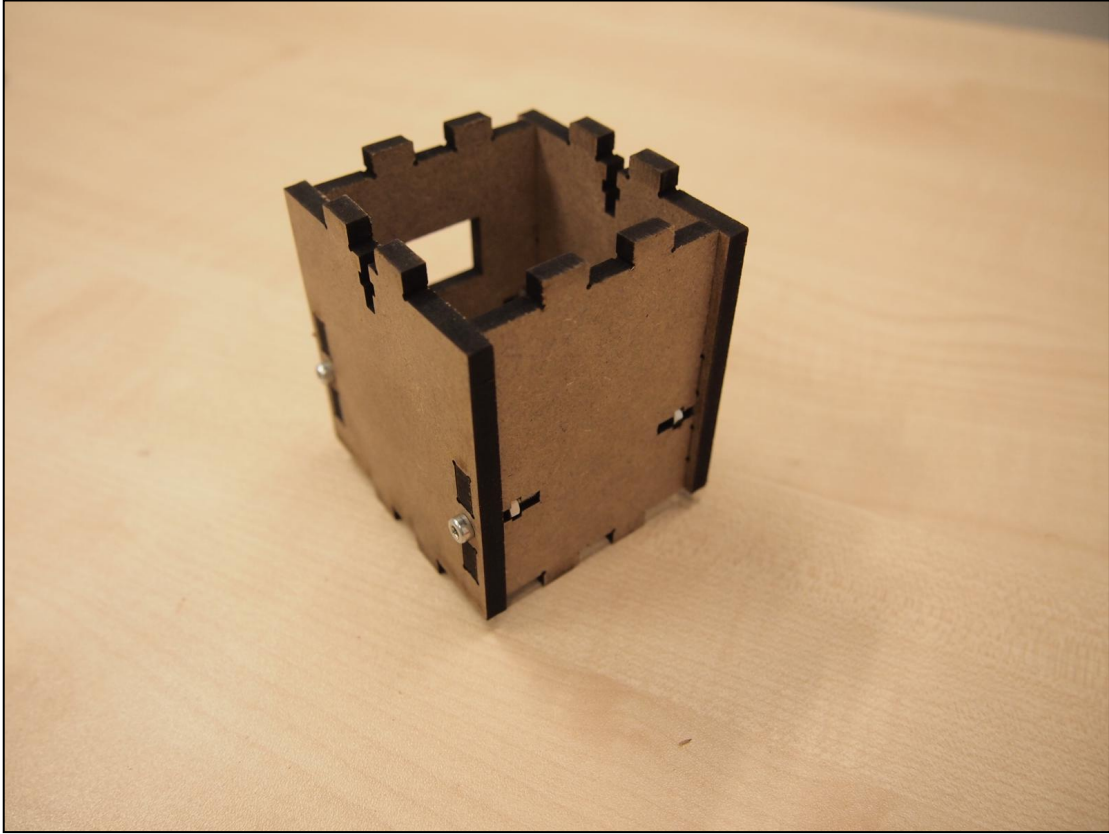


**Figure 4:** Use four DIN965 M3x8 Screws to connect the motor housing top with the Nema 17 stepper motor.

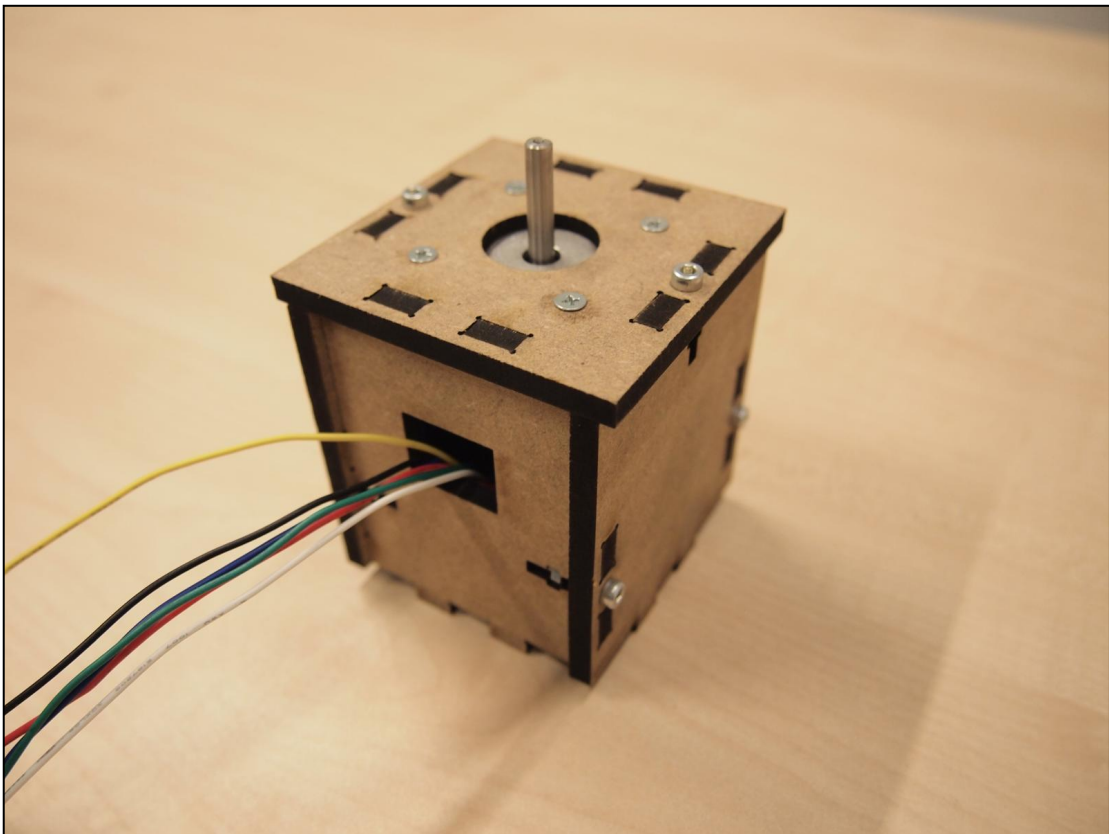


**Figure 5:** Connect the four parts of the motor housing as shown.





**Figure 6: Use four DIN 912 M3x16 screws and nuts to secure the housing.**



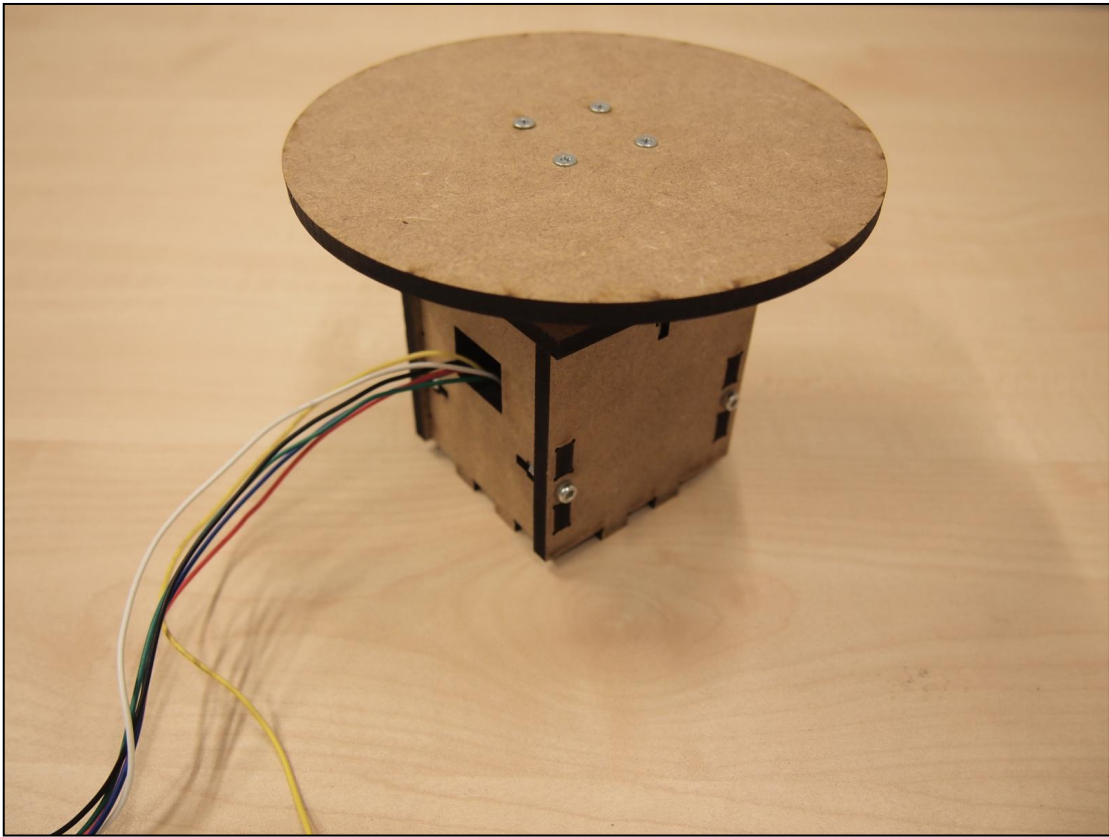
**Figure 7: Attach the Top part of the housing and secure it with two DIN 912 M3x16 screws and nuts.**



**Figure 8:** Take the two small turning table circles and align them the way shown. Make sure the circle in the middle is aligned correctly!



**Figure 9:** Attach the two small turning table circles to the big turning table using four DIN 965 M3x20 screws and nuts. Make sure the screws are leveled to the surface.



**Figure 10:** Now attach the turning table to the motor shaft. You're done with the turntable.

## 2. Camera / Laser Bracket

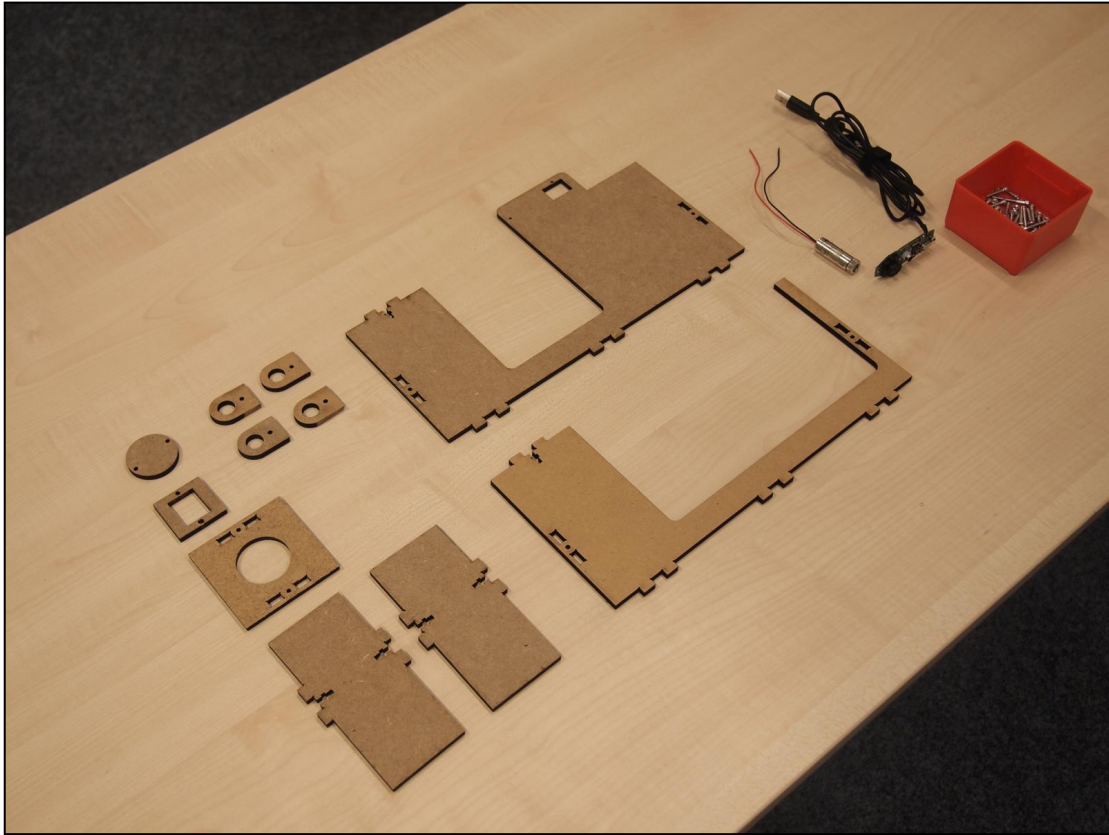
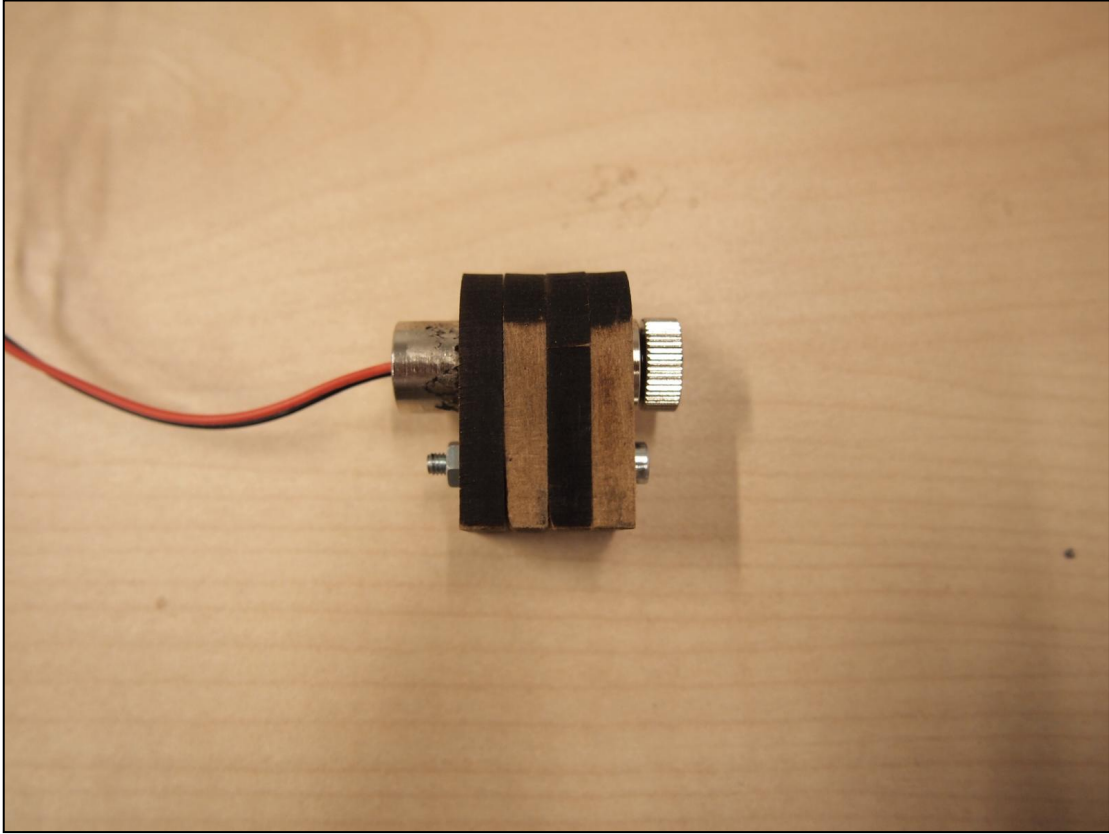


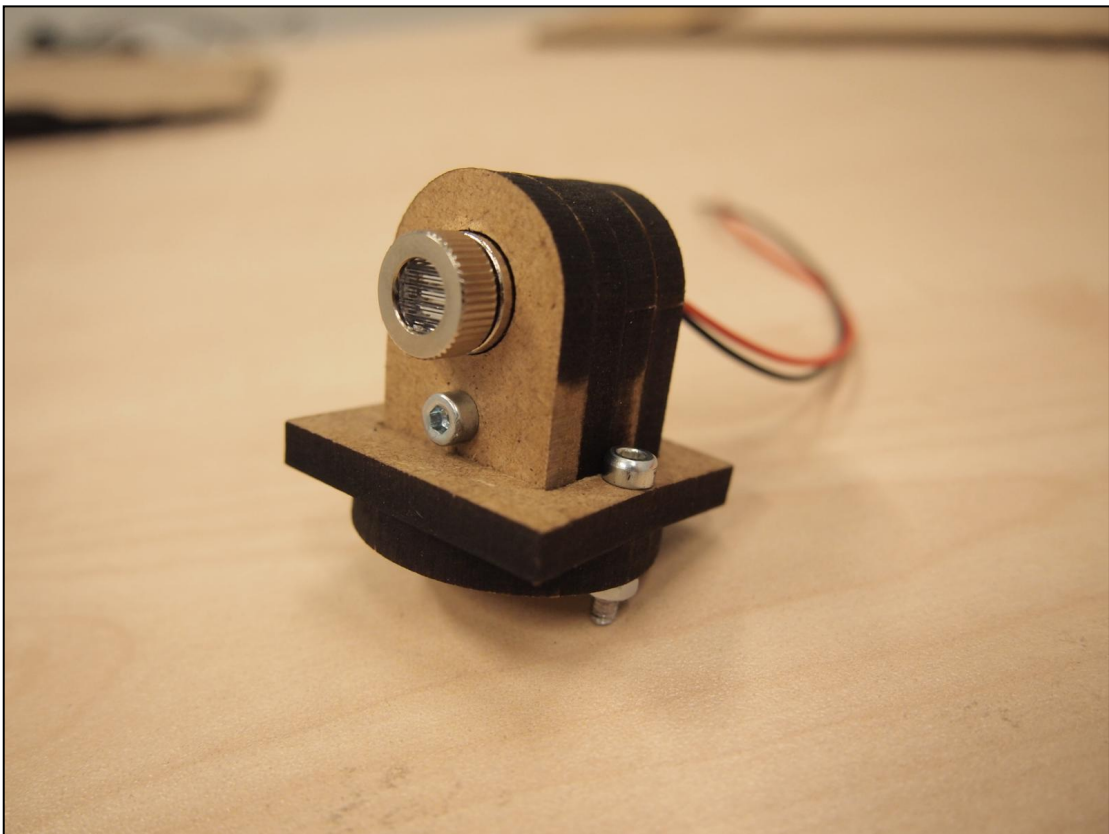
Figure 11: Parts needed for the assembly group 'Camera / Laser Bracket'.

Assembly Camera / Laser Bracket:		
Bracket Laser Holder parts		4
Bracket Laser Holder frame		1
Bracket Laser Holder circle		1
Bracket front		1
Bracket back		1
Bracket top		1
Bracket left/right		2
Screws DIN 965 M2x20 + nuts		2 + 6
Screws DIN 912 M3x16 + nuts		8 + 8
Screws DIN 912 M3x25 + nuts		1
Laser		1
Camera		1

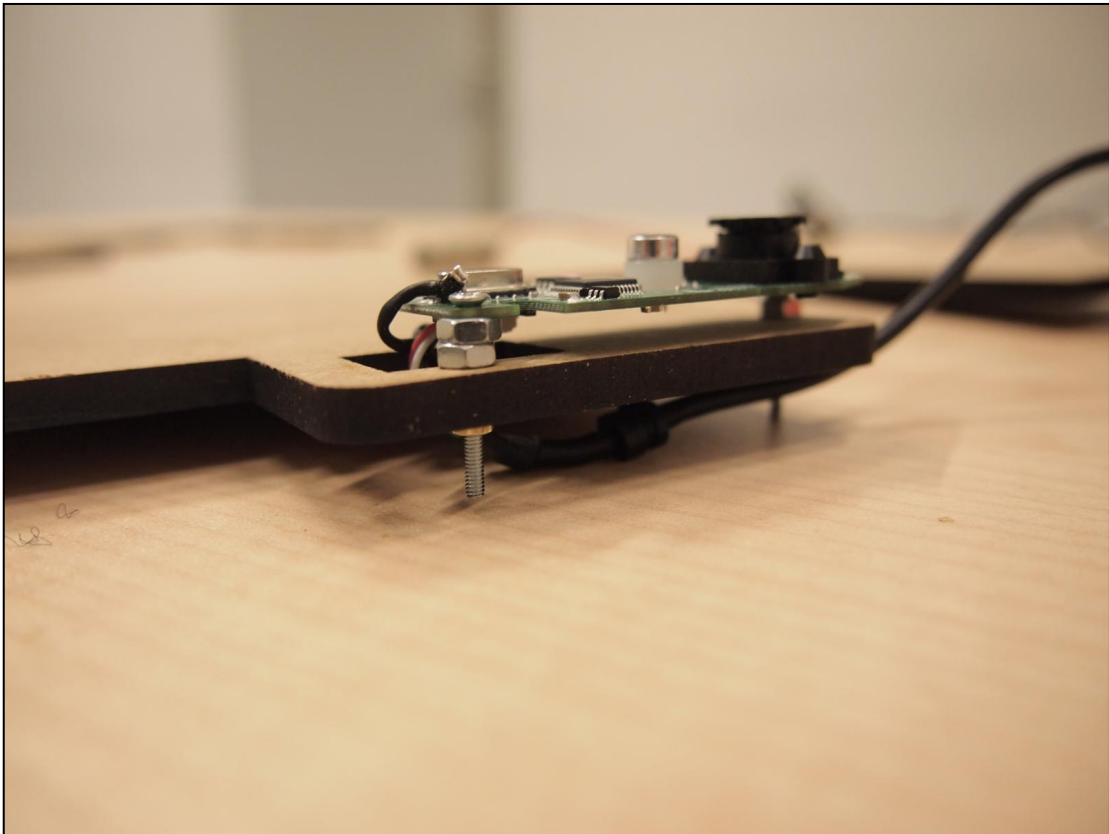




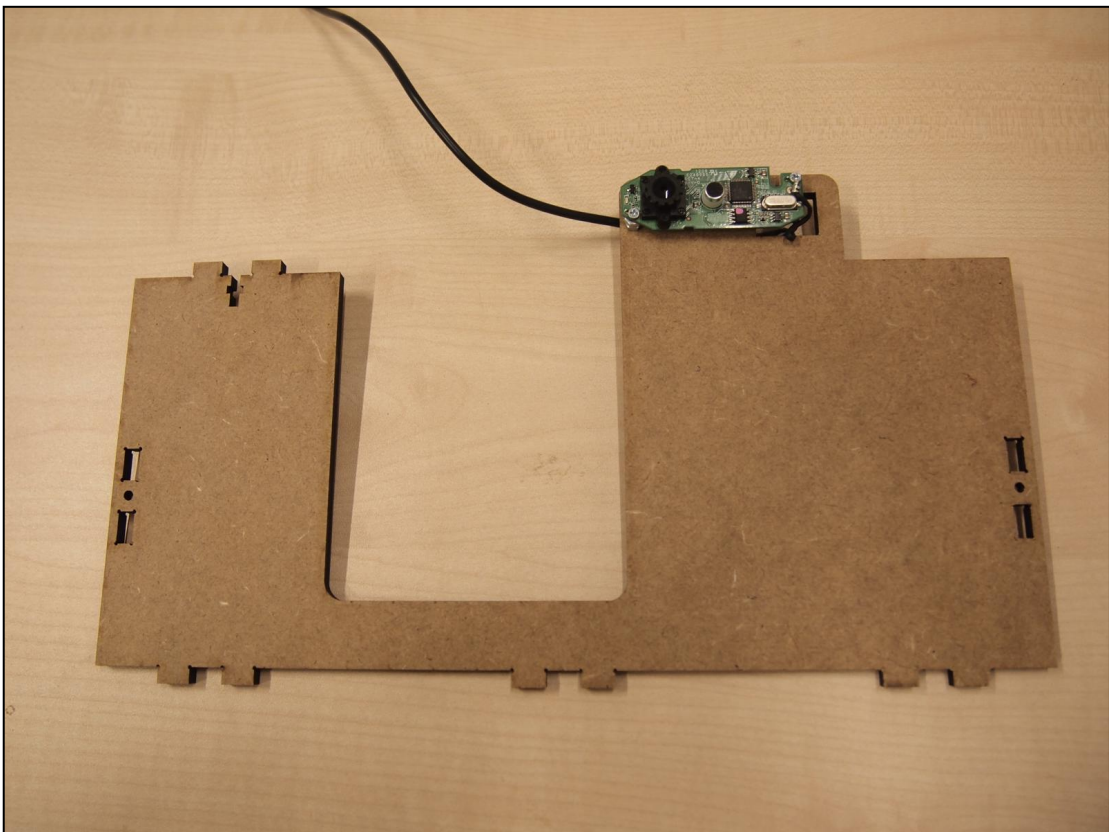
**Figure 12:** Take the four laser holder parts and connect them using the DIN 912 M3x25 screw and nut. Insert the laser the way shown.



**Figure 13:** Now insert the laser holder in the laser holder frame and circle. Fasten two DIN 965 M3x16 screws and nuts the way shown.



**Figure 14:** Attach the disassembled camera to the bracket back with two DIN 965 M2x20 screws and nuts. Use four M2 nuts as spacers.



**Figure 15:** The bracket back should now look like this.

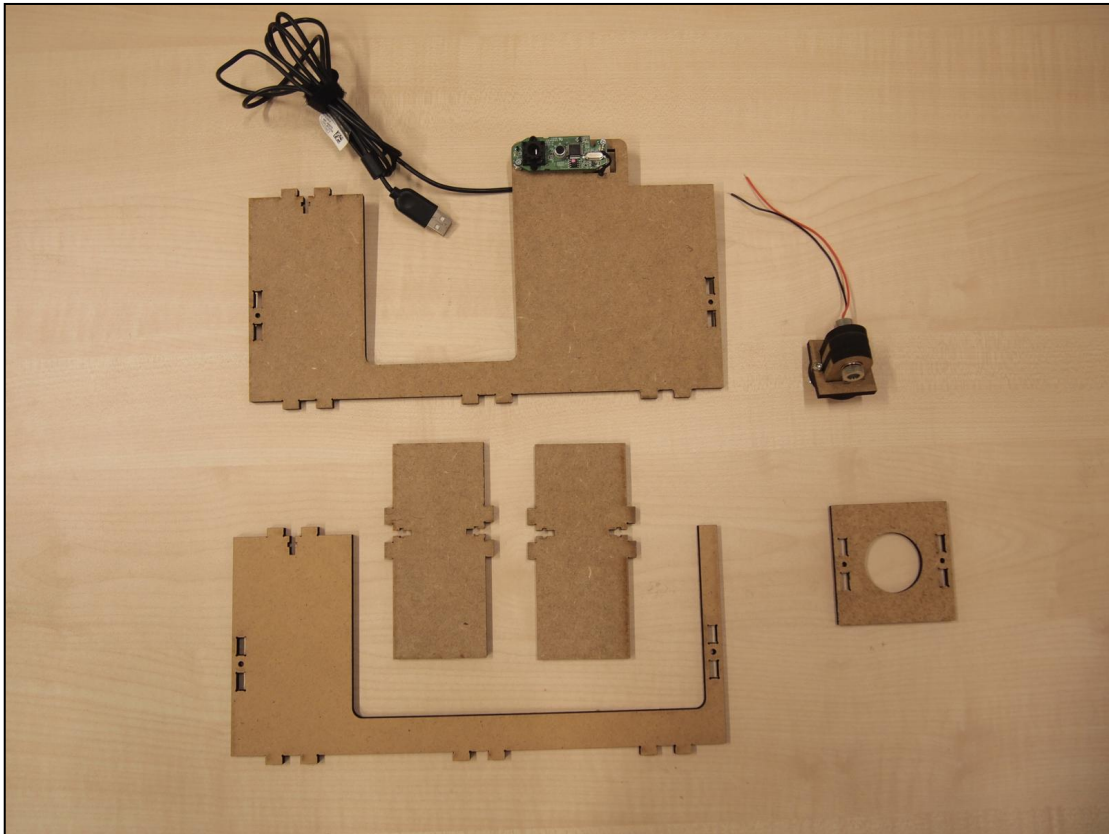


Figure 16: Take the parts left for this assembly group...

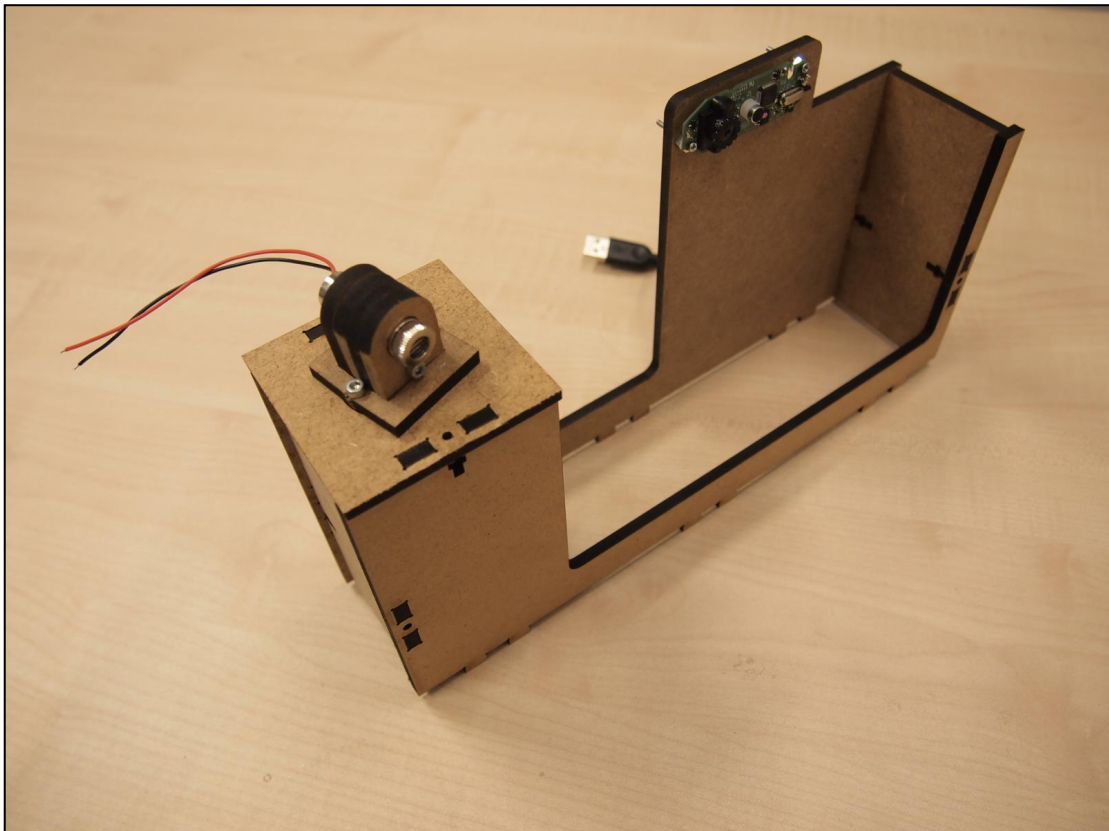


Figure 17: ...and assemble them as shown. Use six DIN 912 M3x16 screws and nuts to secure the bracket. You're done with the camera / laser bracket.



### 3. Housing

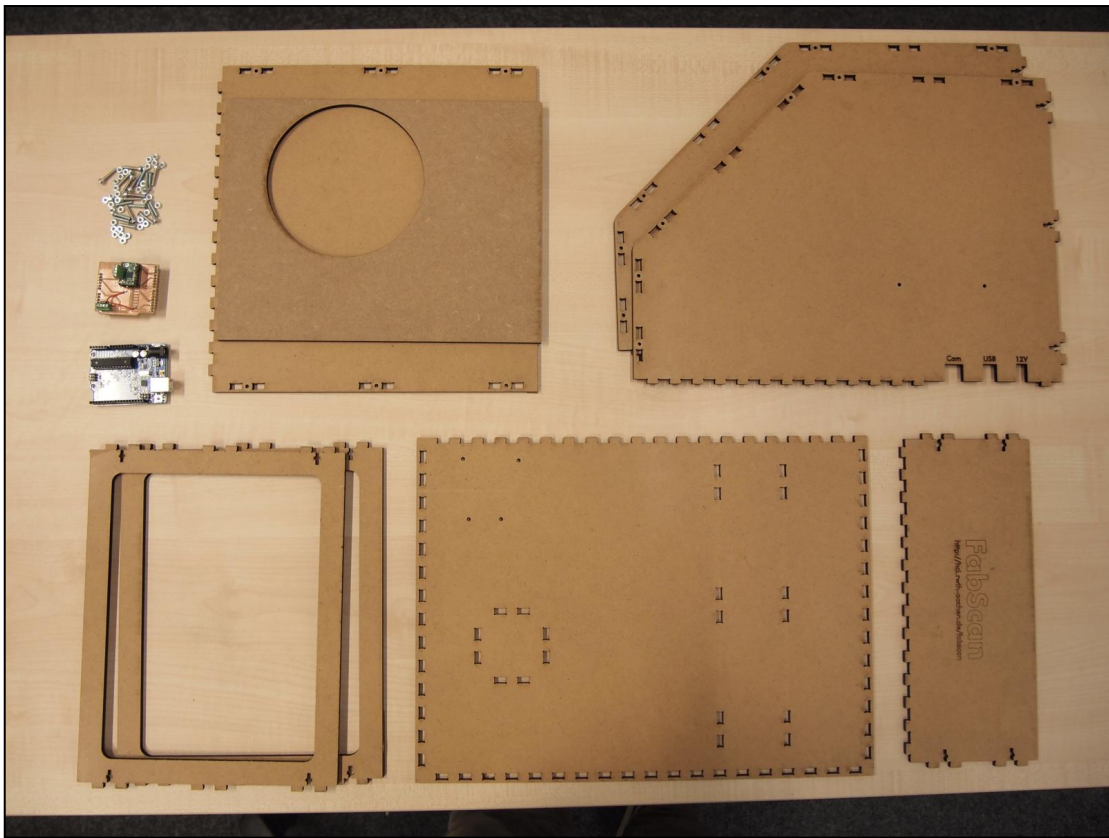
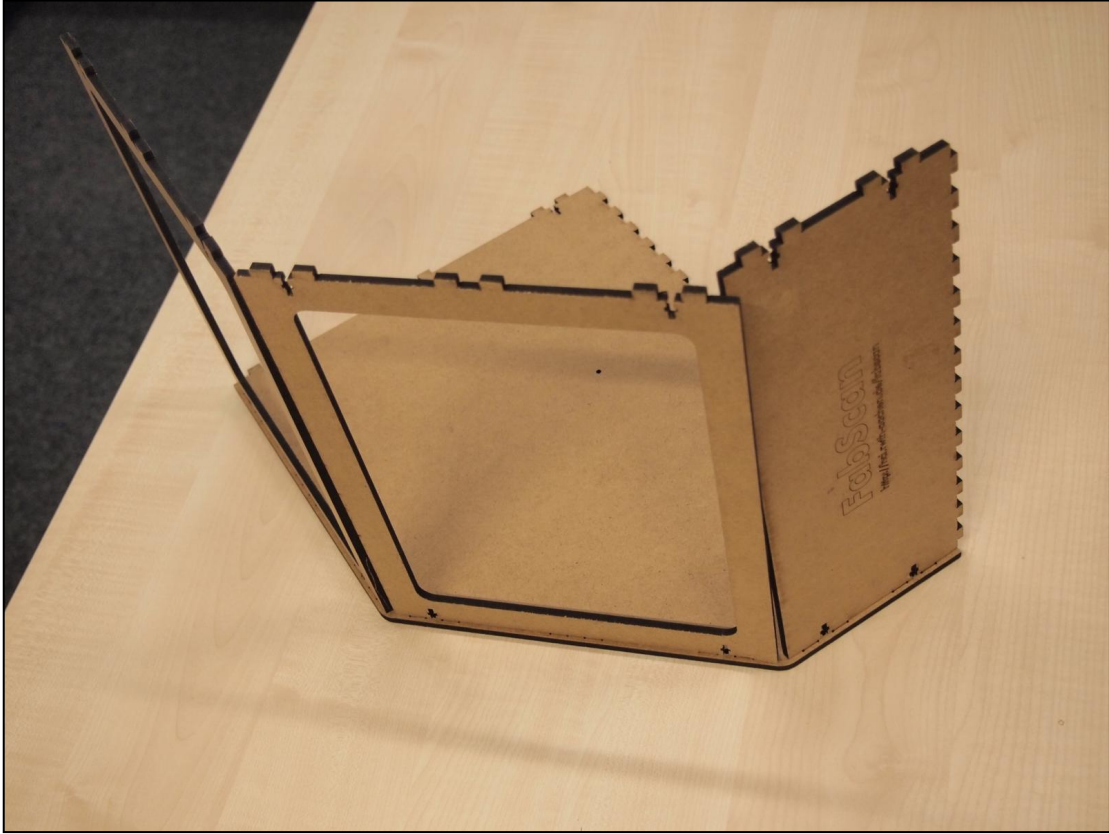


Figure 18: Parts needed for the assembly group 'Housing'.

Assembly Housing		
Box bottom		1
Box left side		1
Box right side		1
Box Top		1
Box Slope		1
Box Front		1
Box Back		1
Box Middle		1
Arduino UNO		1
Fabscan Shield		1
Screws DIN 965 M3x16 + nuts		4 + 6
Screws DIN 912 M3x16 + nuts		22 + 22





**Figure 19: Attach the Box top, slope and front to the Box left or right side.**



**Figure 20: Make sure the box top flush with the Box left or right side. If it doesn't fit you may have mixed up the Box slope and Box top part.**

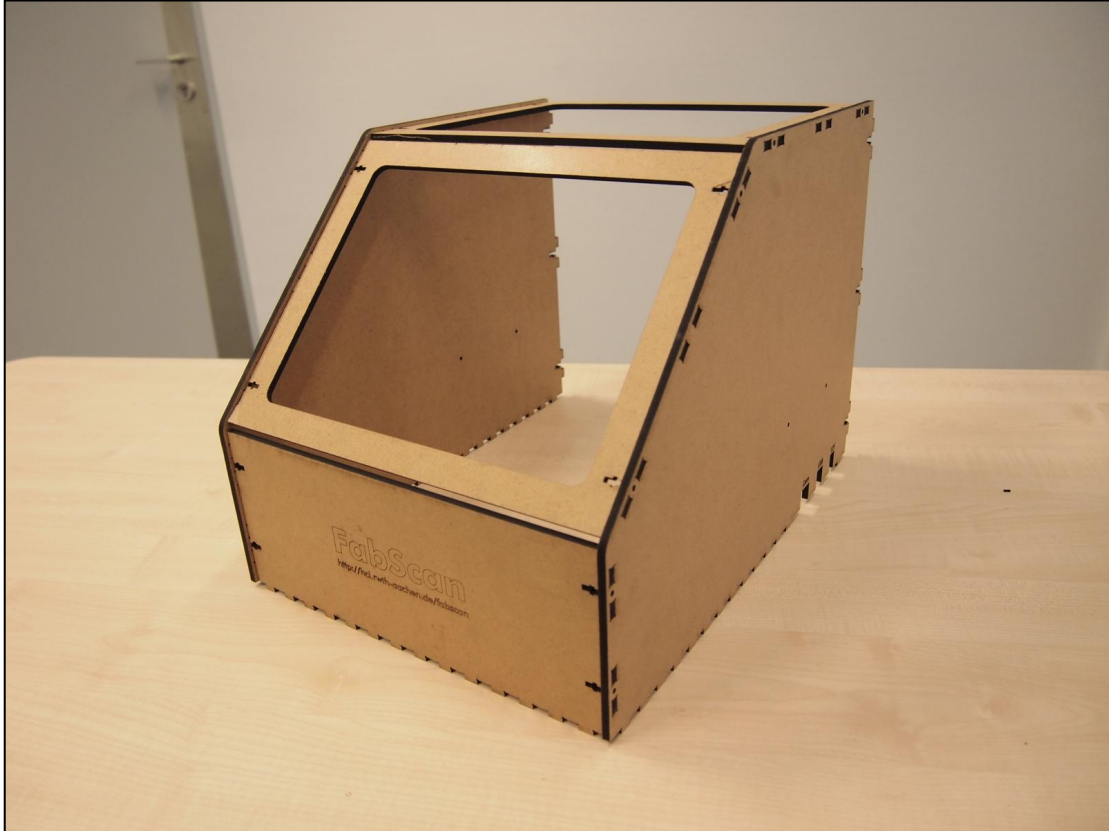


Figure 21: Now attach the missing side part.



Figure 22: Insert four DIN 912 M3x16 screws and nuts in the holes on the side parts as shown.

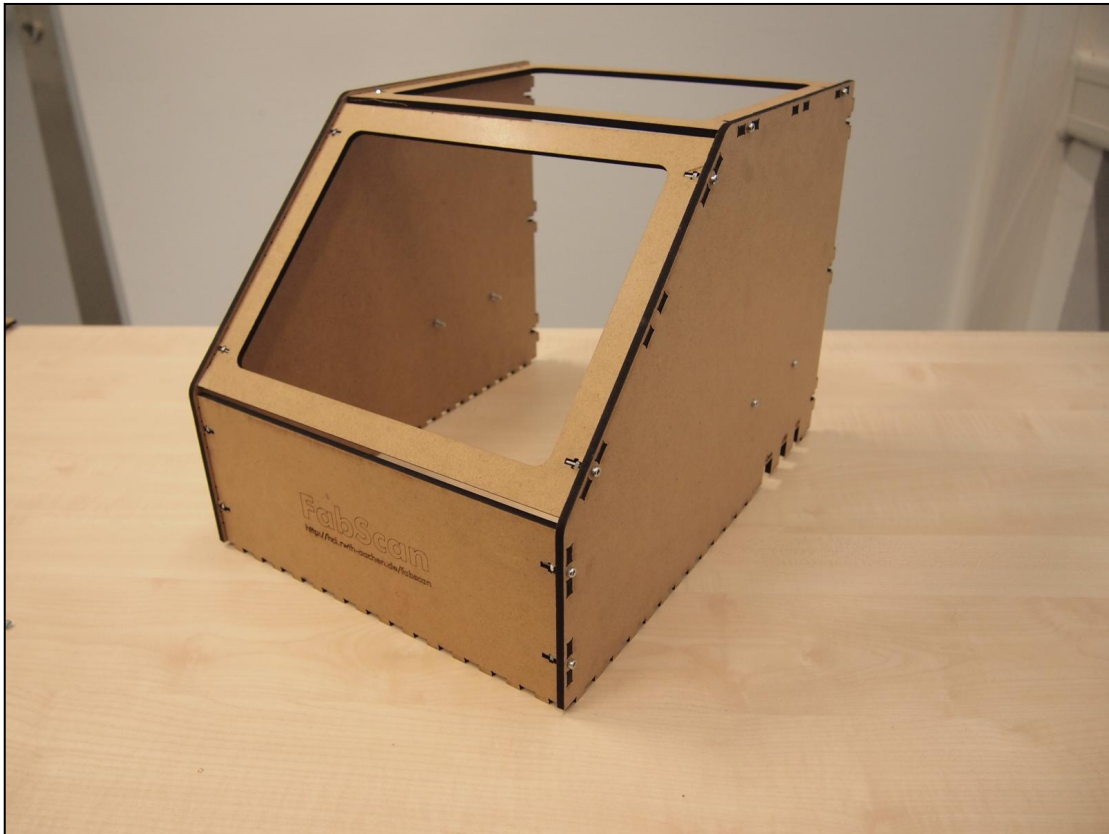


Figure 23: Use 12 DIN 912 M3x16 screws and nuts to secure the housing.

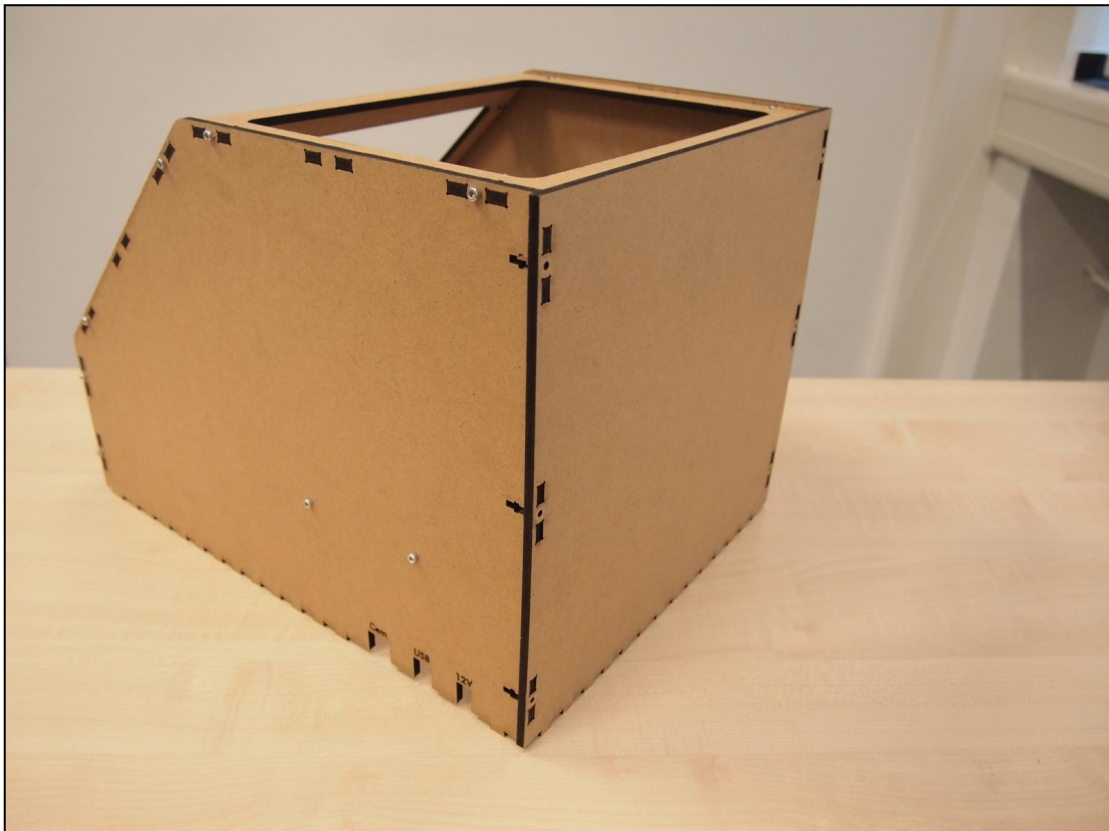


Figure 24: Attach the Box back plate.



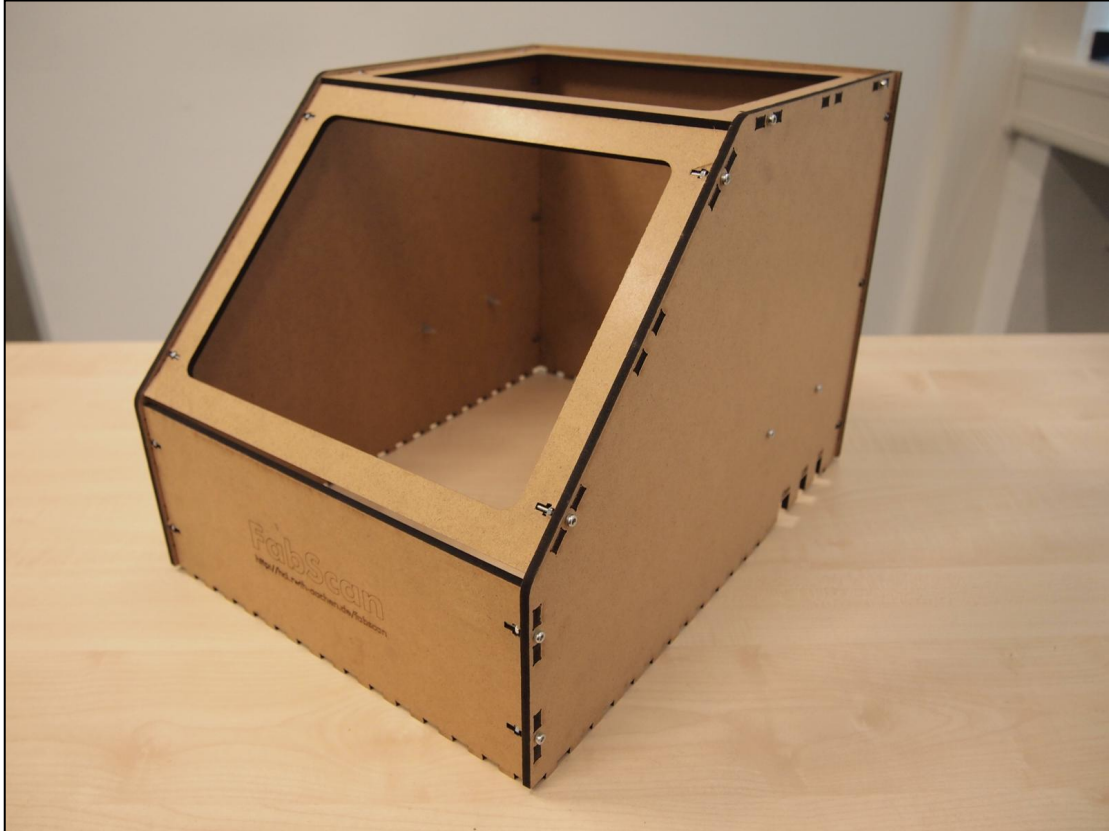


Figure 25: Fasten four DIN 912 M3x16 screws and nuts.

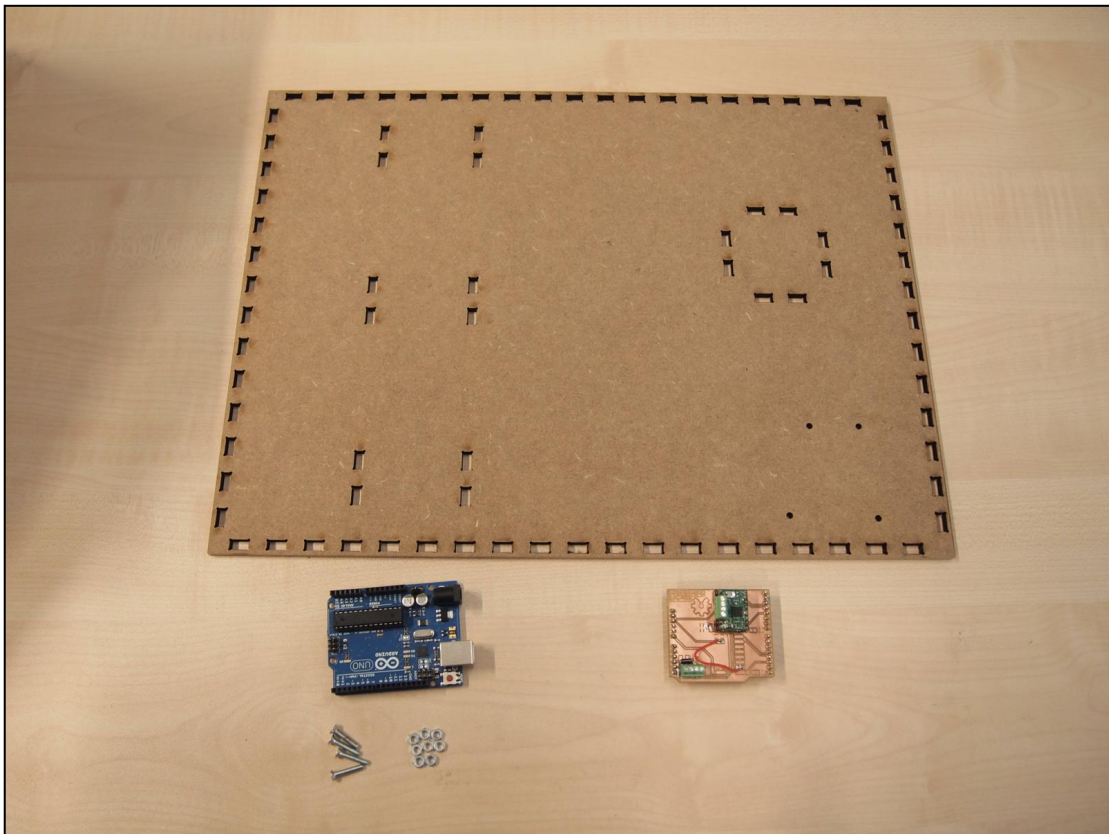
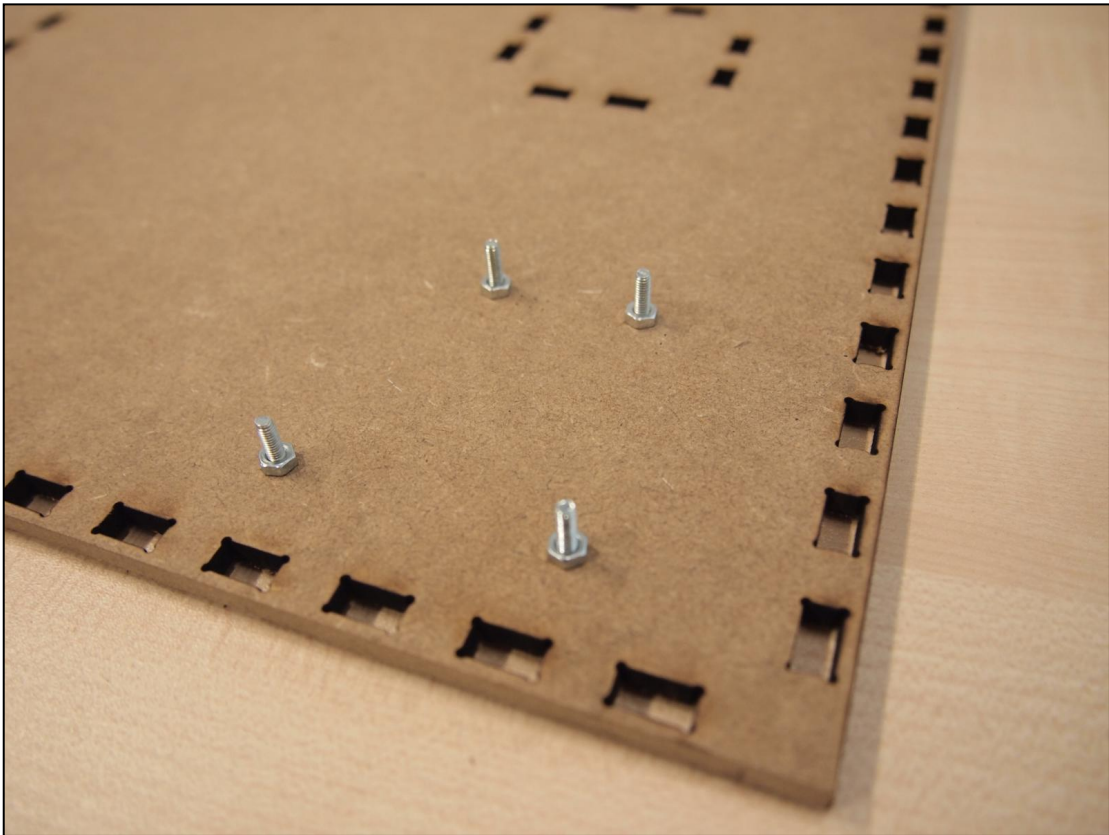
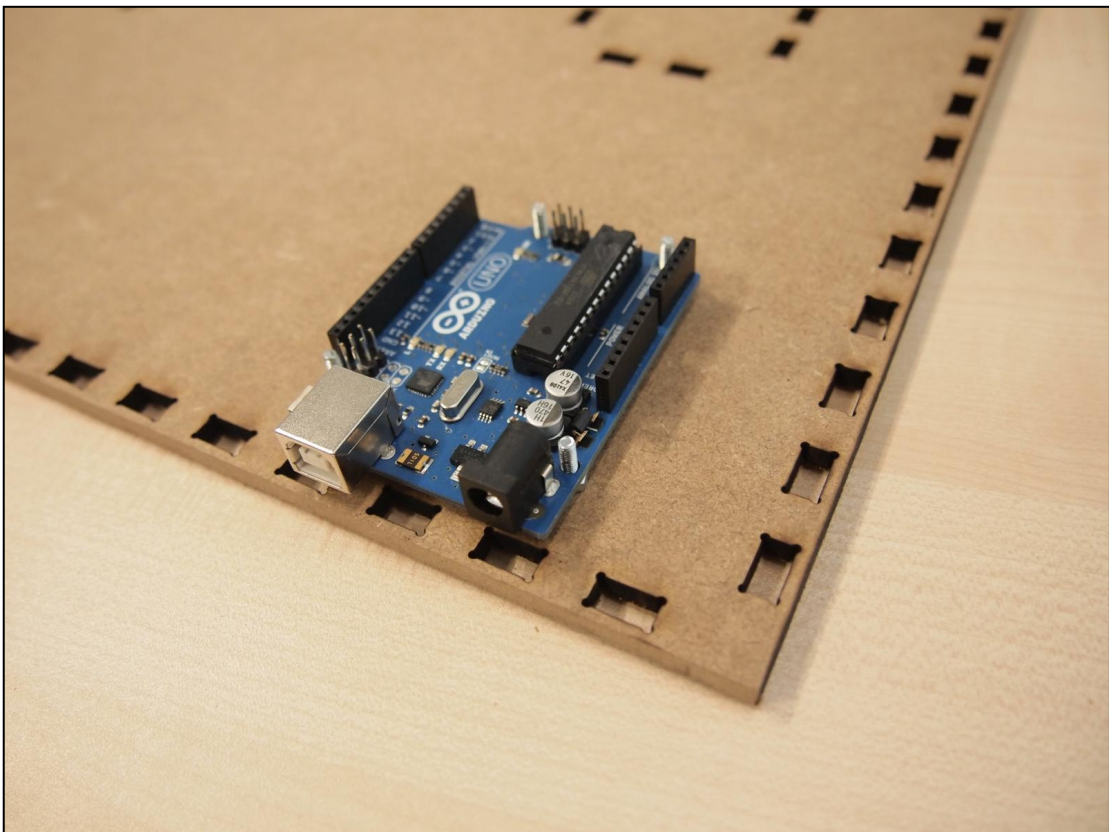


Figure 26: Take the Box bottom, the Arduino + Fabscan Shield as well as four DIN 965 M3x16 screws and six nuts. Notice: The shield could look different in further versions.





**Figure 27: Insert four DIN 965 M3x16 screws in the holes on the Box bottom and fasten then with four nuts. Make sure the bottom surface is flat.**



**Figure 28: Position the Arduino on the screws.**

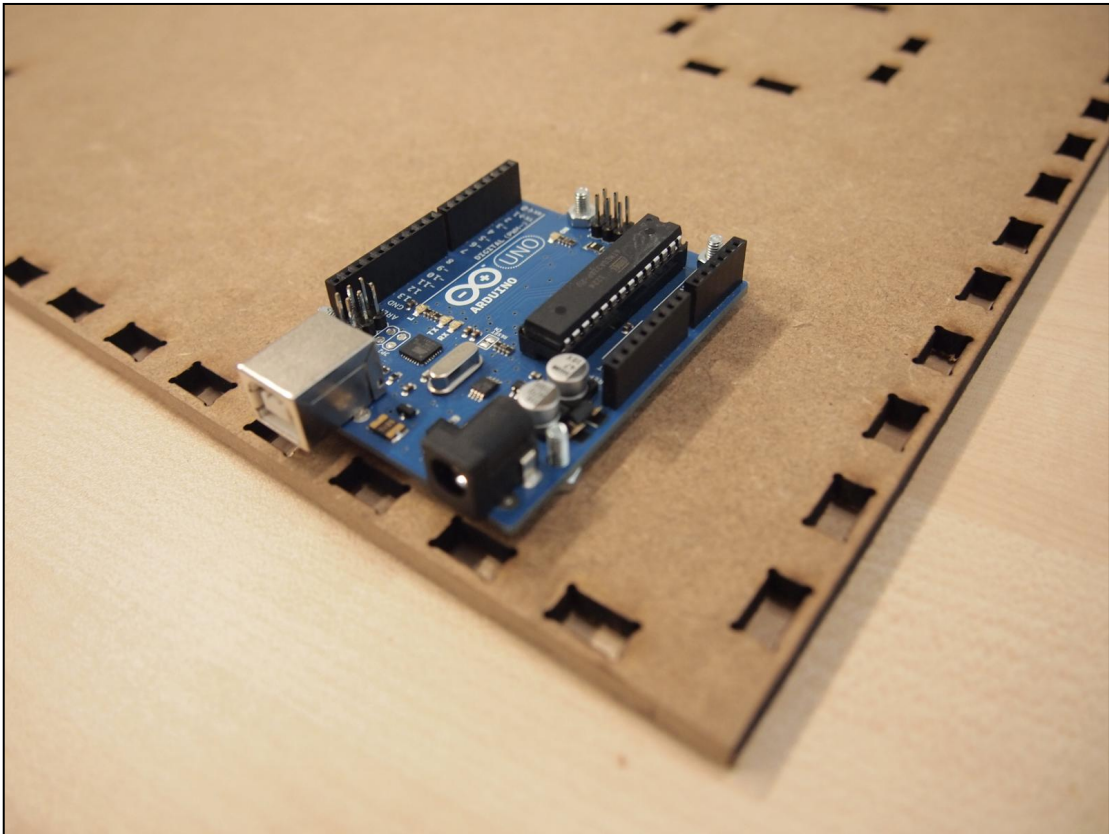


Figure 29: Use two nuts to secure the Arduino.

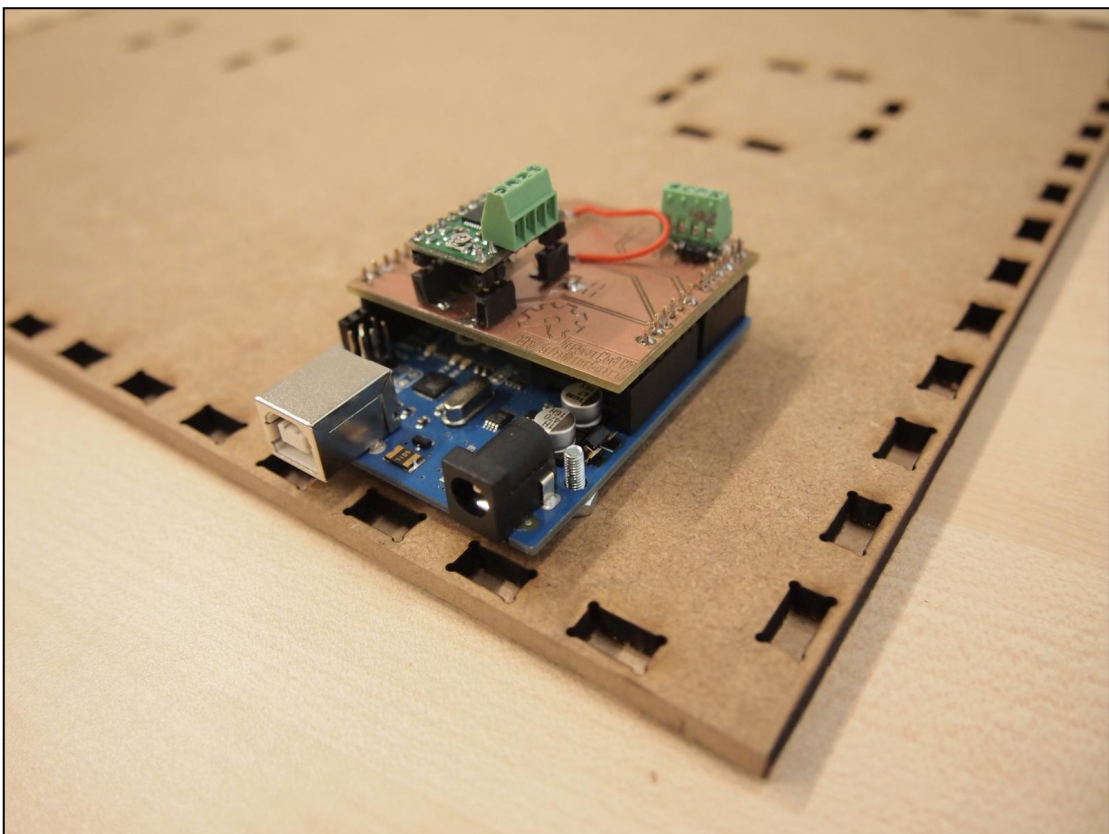


Figure 30: Attach the Fabscan Shield to the Arduino. Congratulation, you finished the 'housing'.



## 4. Final assembly

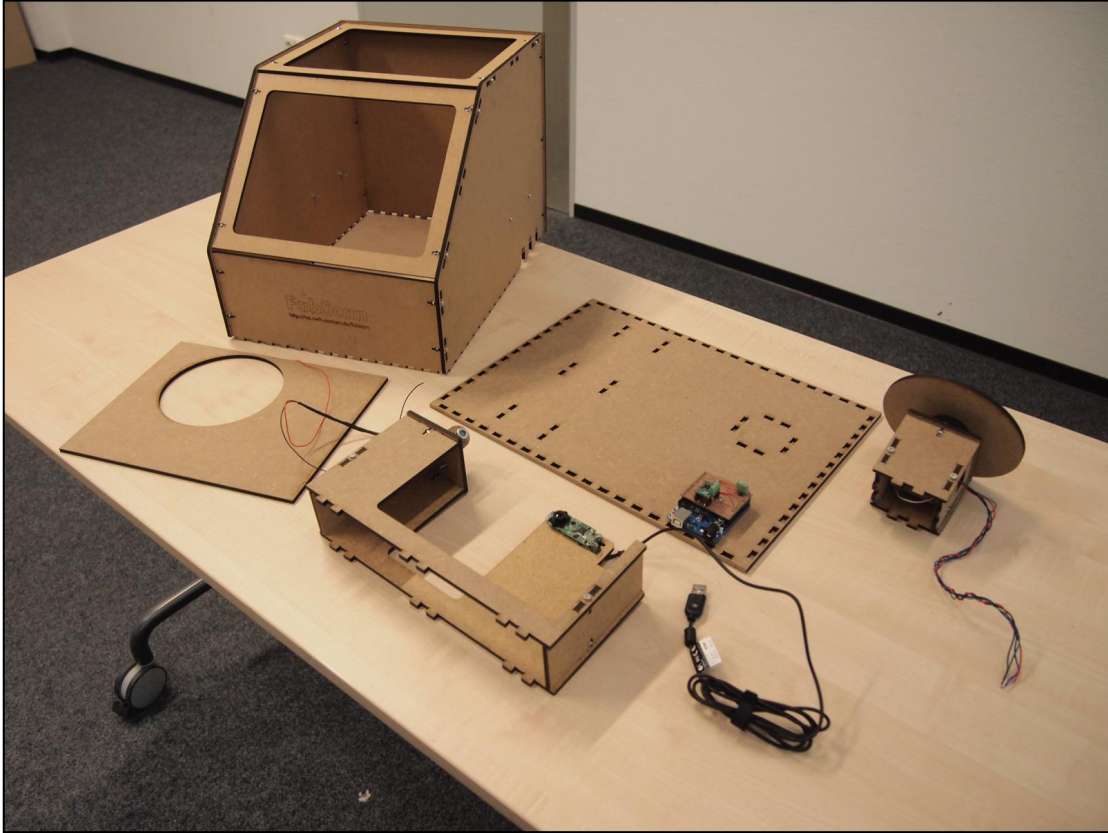


Figure 31: Your workspace should now look like this.

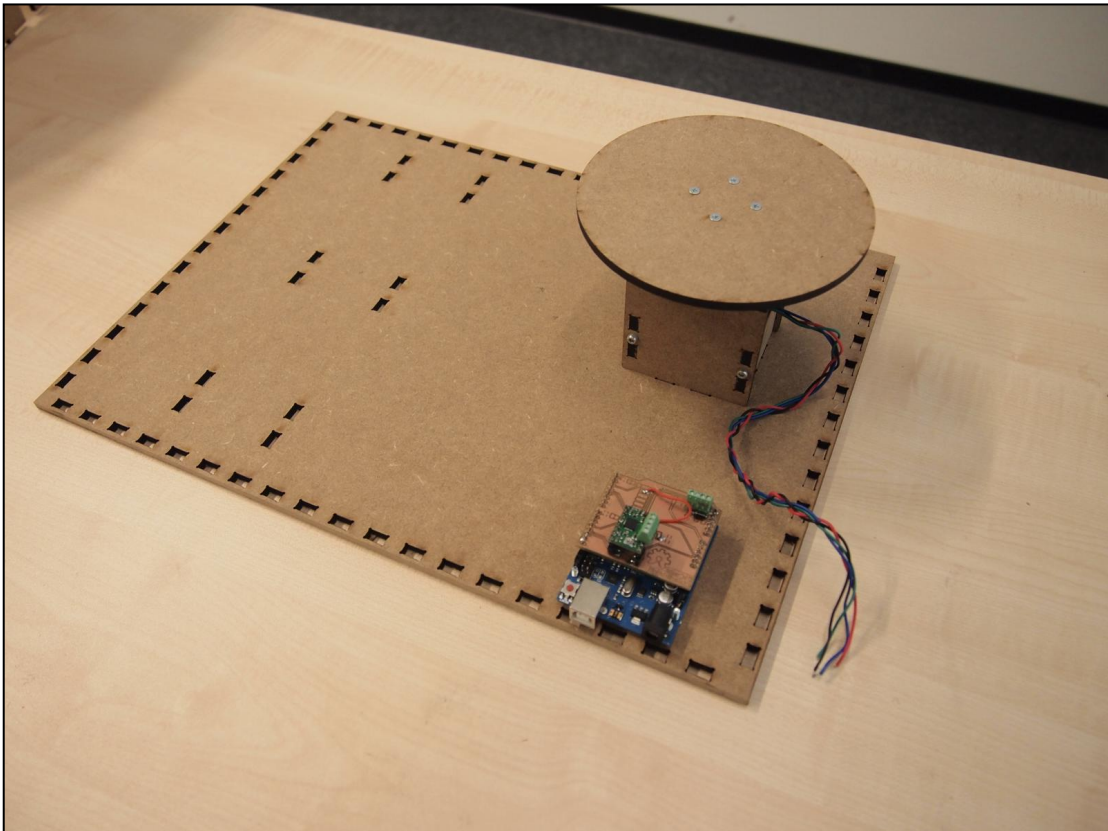


Figure 32: Place the assembly group 'Turning Table' on the Box bottom.

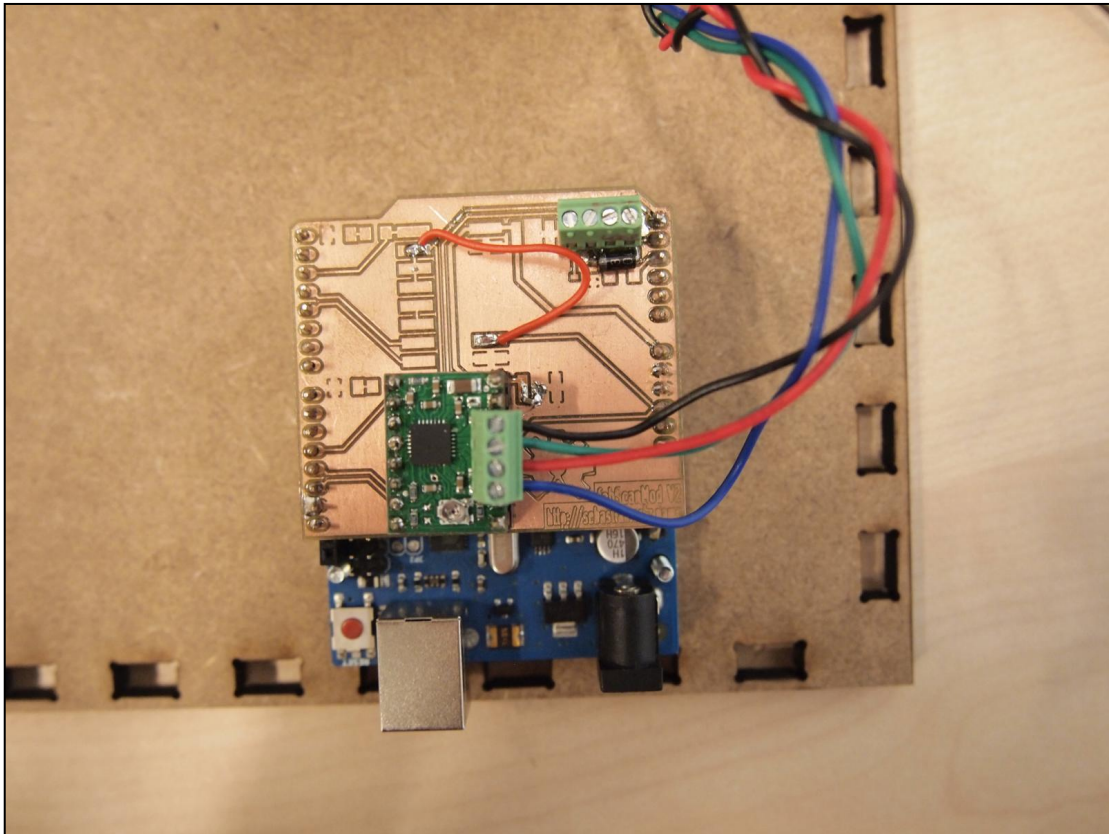


Figure 33: Connect the stepper motor cable with the Fabscan shield.

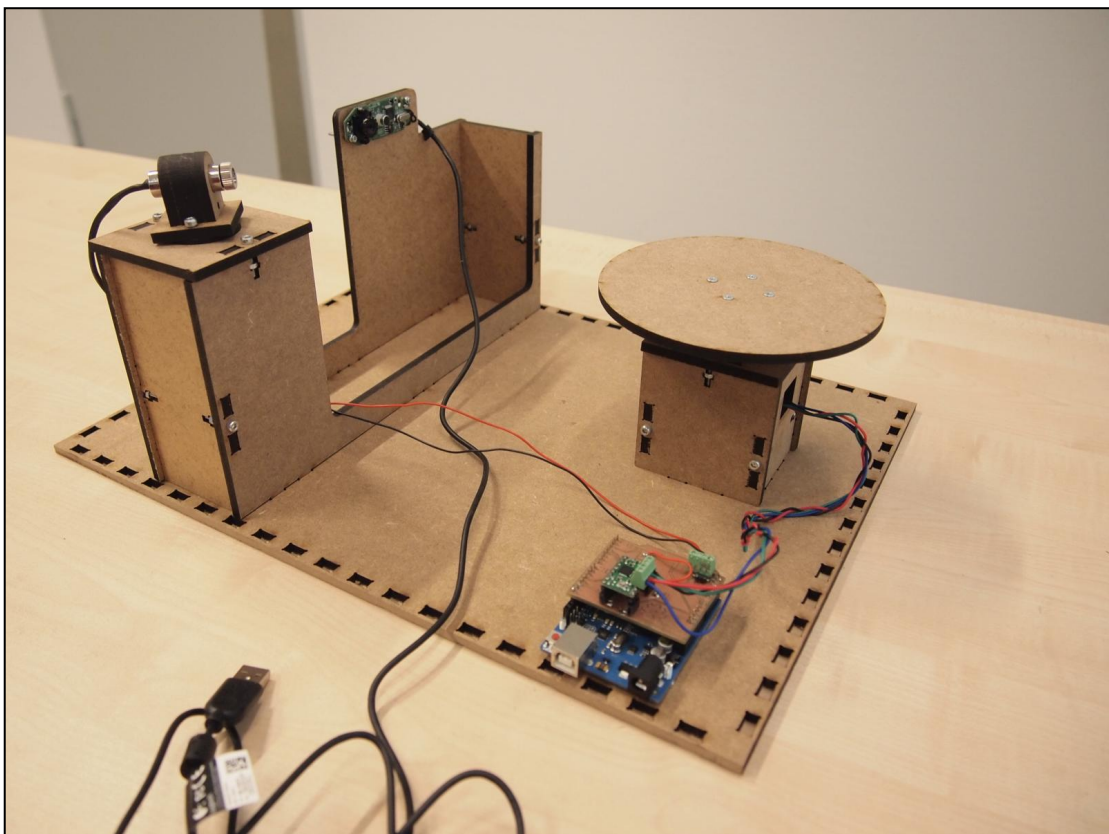


Figure 34: Now attach the 'Camera / Laser bracket' assembly group to the Box bottom.



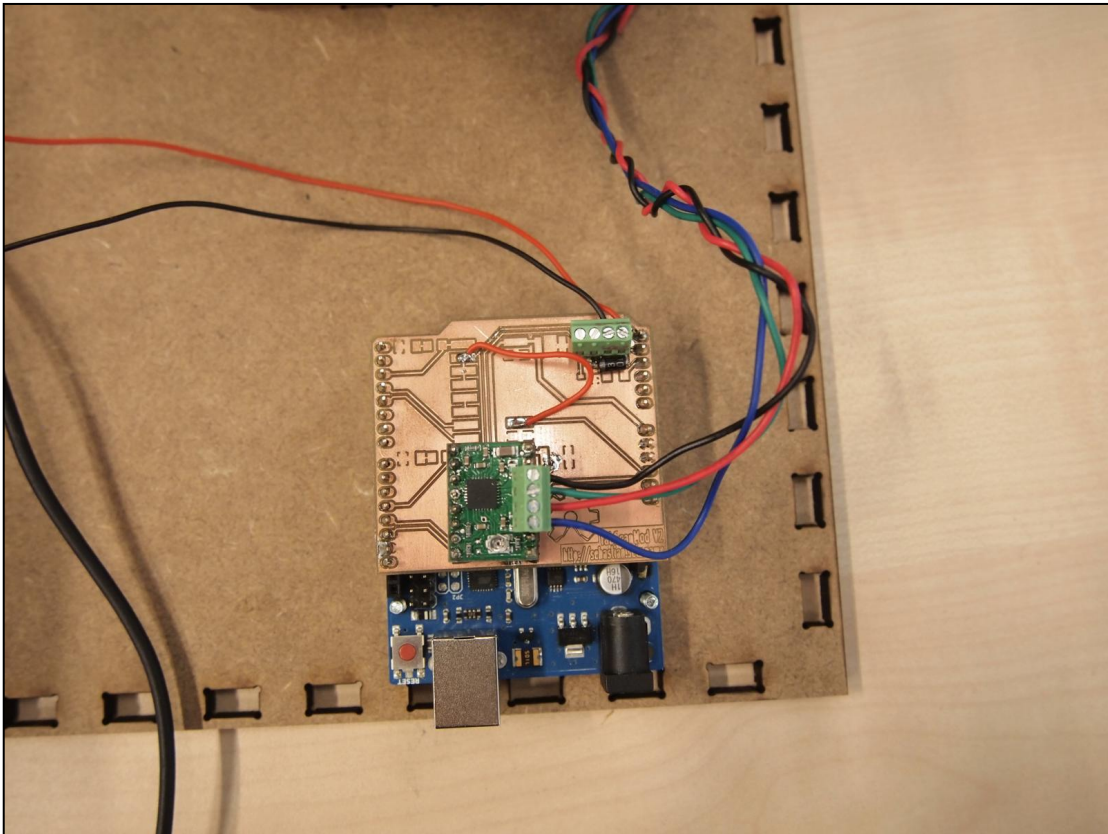


Figure 35: Connect the Laser with the Fabsan shield as shown.



Figure 36: Insert the housing middle in the assembly group 'Housing'.

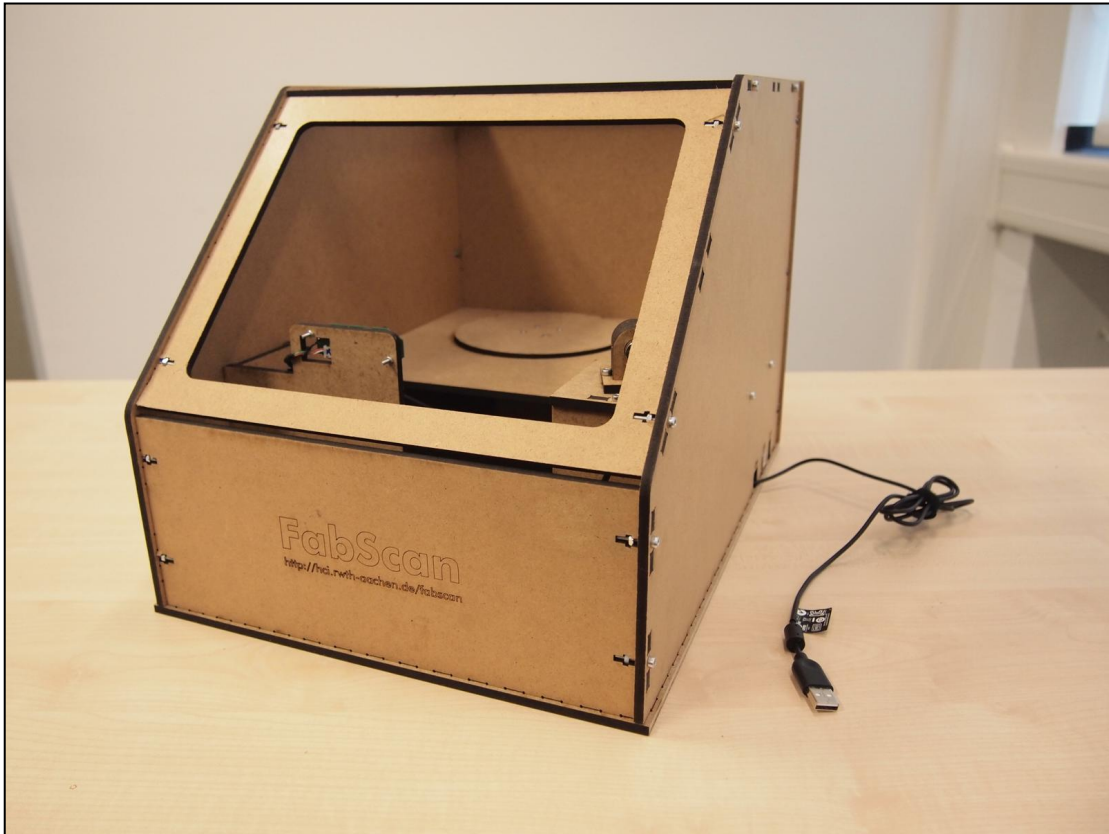


Figure 37: Place the 'Housing' assembly group to the Box bottom.



Figure 38: Congratulation, you're done! :)