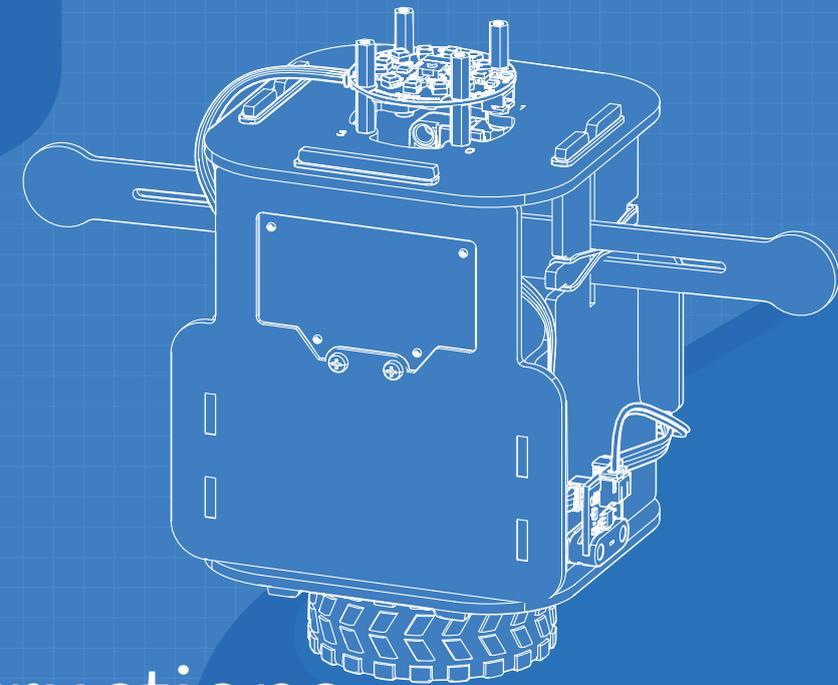
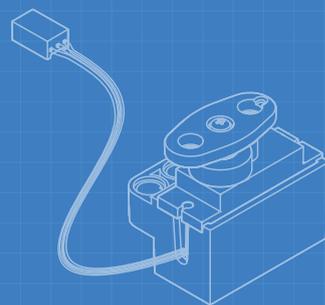


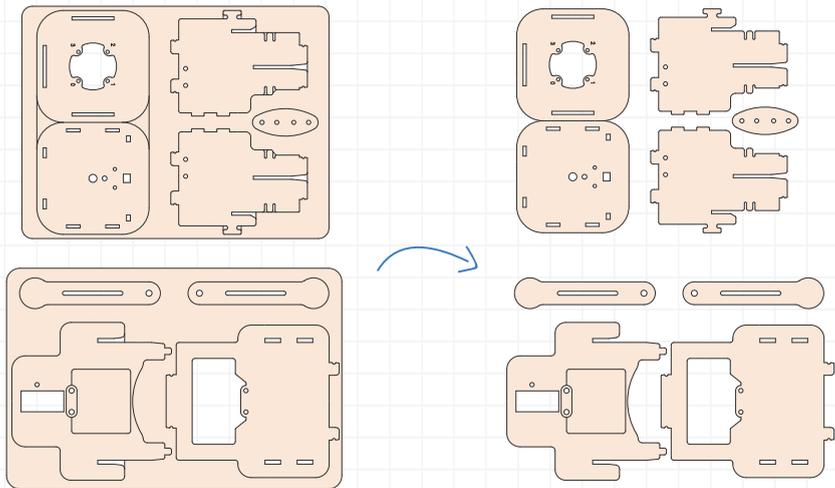
makeblock



# Building Instructions

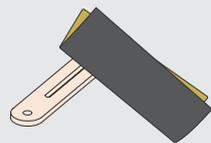
## Companion Robot

# 1 Take out the wood boards.

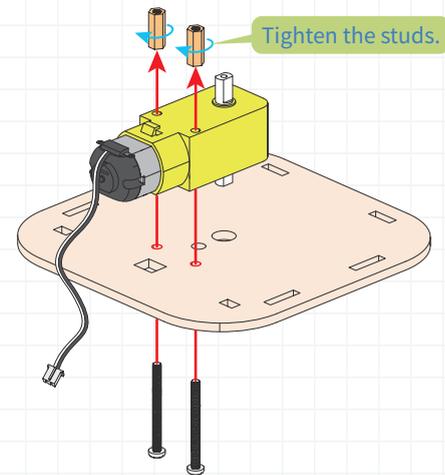


## Pro tips

Use the sandpaper included to sand a smooth finish on the wood board before you start installing it.



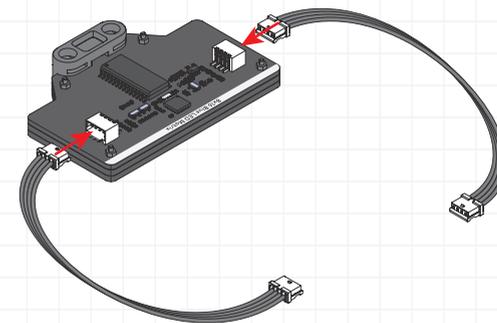
# 2 Install the motor.



1:1

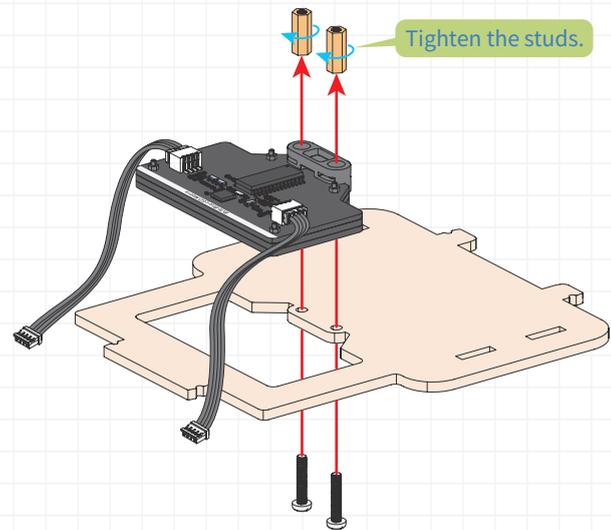
- ✓ M3 \*30mm
- ✗ M3 \*14mm
- ✗ M3 \*20mm

# 3 Insert 10 cm connection cables into the ports on both sides of the LED matrix.



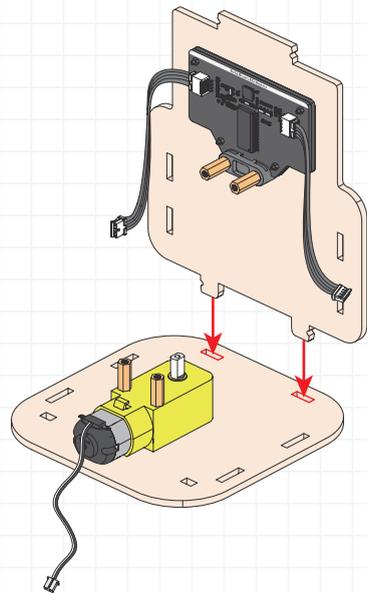
- ✓ 10 cm
- ✗ 20 cm

4 Fix the LED matrix on the wood board.

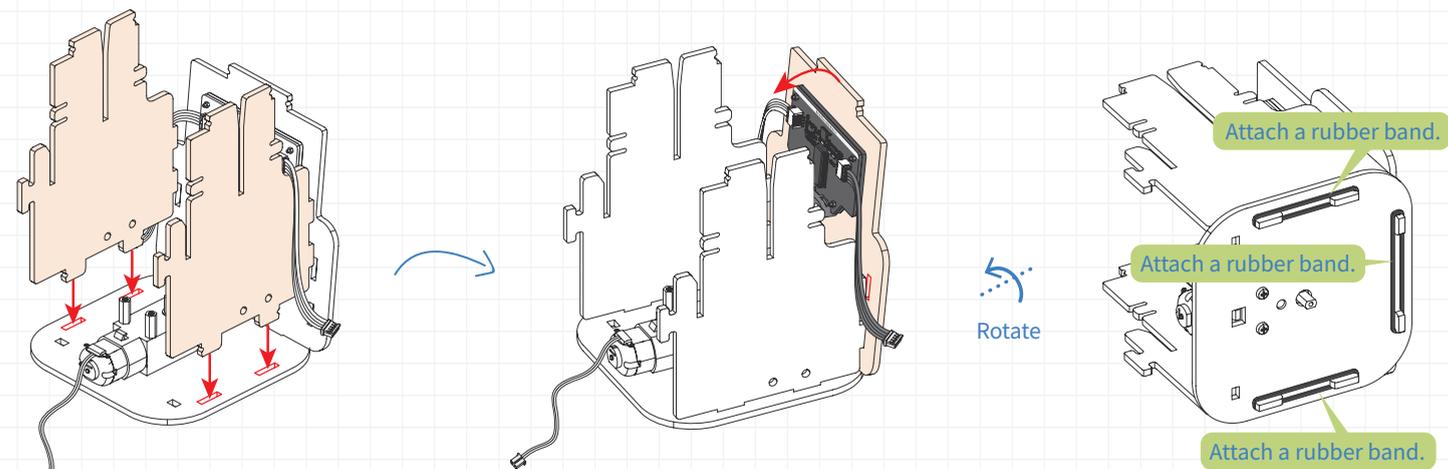


1:1		
✓		M3 *14mm
✗		M3 *20mm
✗		M3 *30mm

5 Join the two wood boards.

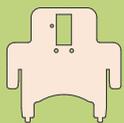


6 Install the wood boards as shown and hold them in place with rubber bands.



## 7 Install the servo.

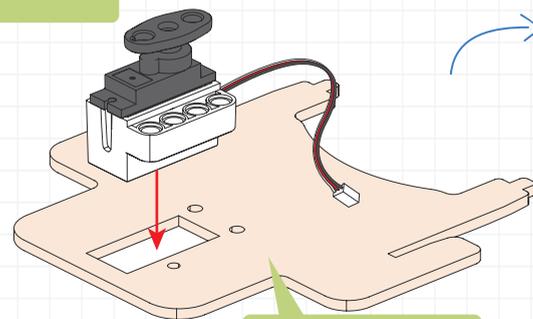
Make sure you correctly identify the front and back sides. The back side has marks while the front side has no marks.



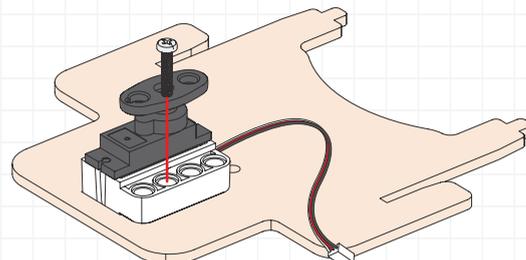
Front (without marks)



Back (with marks)



Here is the unmarked side facing up.

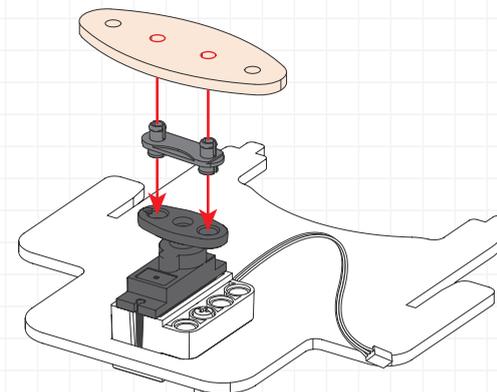
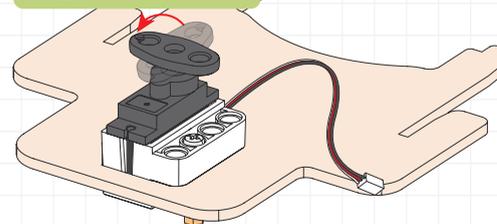


Tighten the stud.

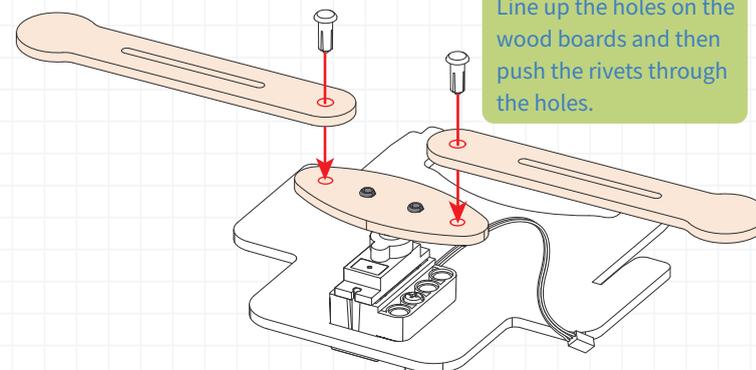
1:1	
	 M3 * 14mm
	 M3 * 20mm
	 M3 * 30mm

## 8 Mount the wood board on the servo hub.

Turn the servo hub to the position as shown.

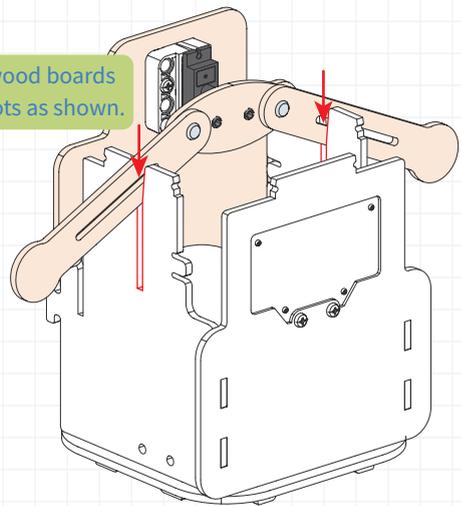


Line up the holes on the wood boards and then push the rivets through the holes.

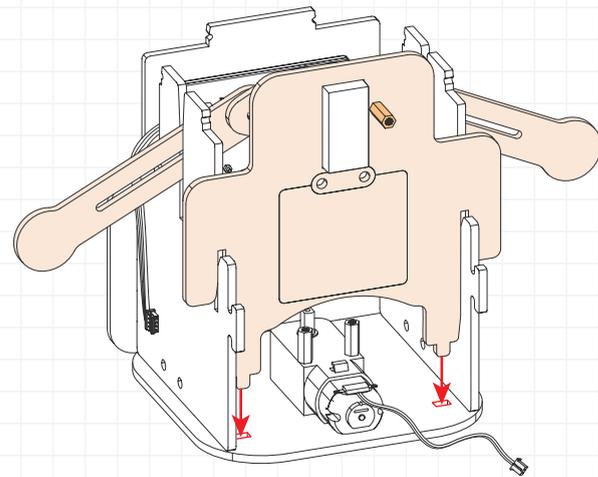


## 9 Join the wood boards.

Slide the wood boards into the slots as shown.

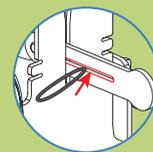


Rotate

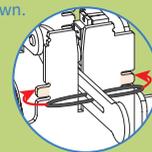


## 10 Attach rubber bands.

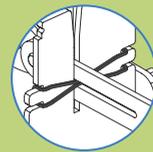
1 Slip the rubber band through the slit.



2 Stretch the rubber band to hook it around the locations as shown.

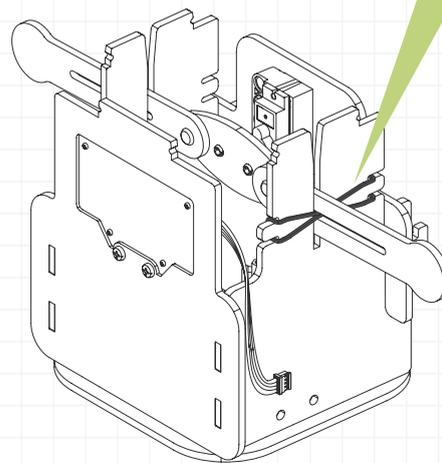


3 Done.

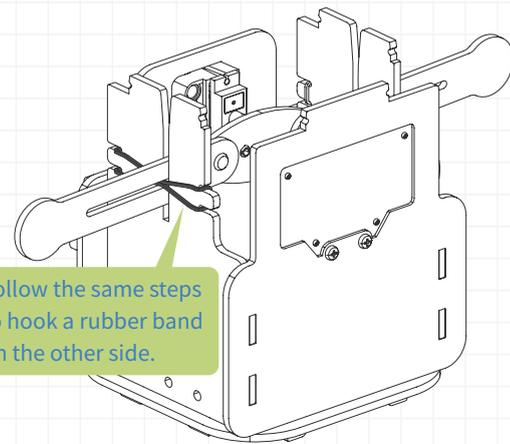


### Pro tips

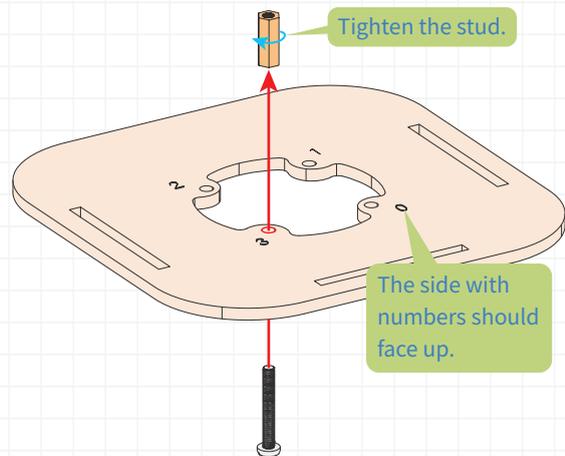
Check the video tutorials in the software to view building guides.



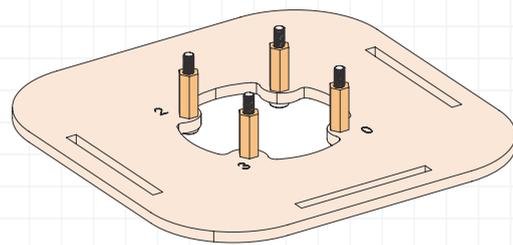
Follow the same steps to hook a rubber band on the other side.



# 11



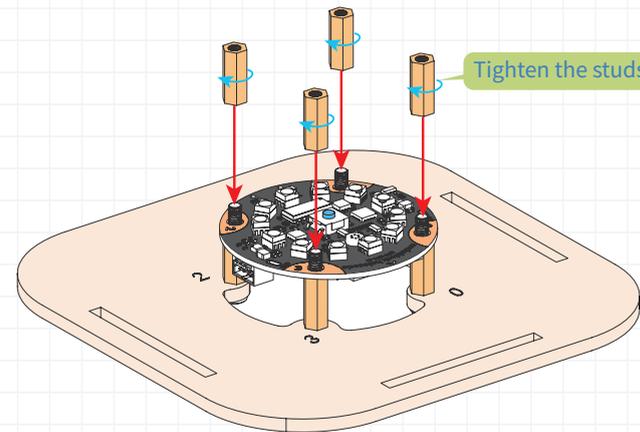
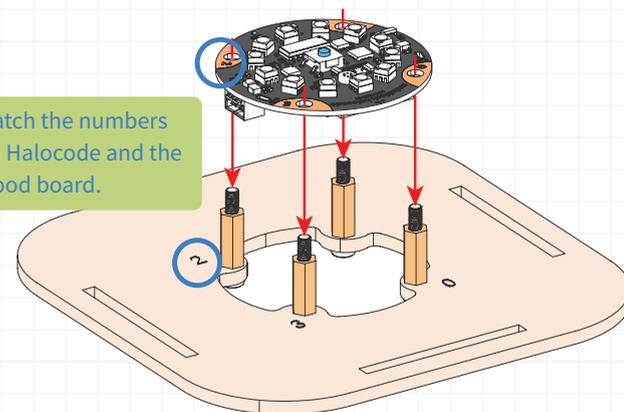
Do the same with the rest of the screws and studs.



# 12

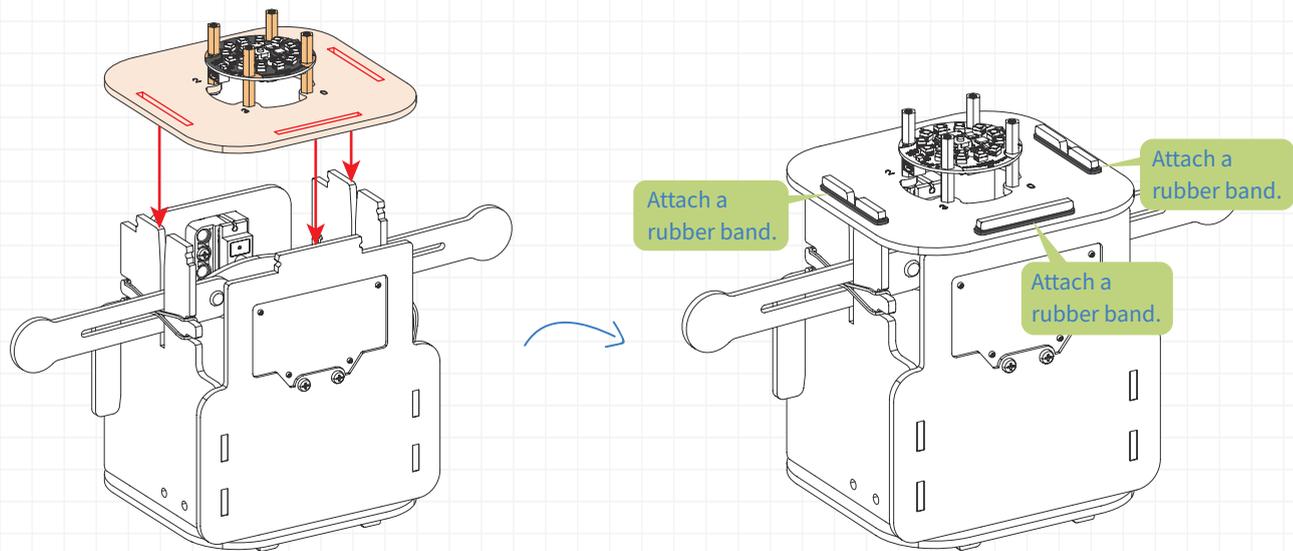
 Install Halocode.

Match the numbers on Halocode and the wood board.

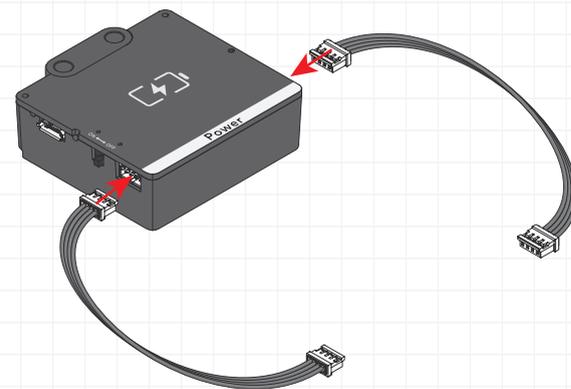


1:1		
✓		M3 *20mm
✗		M3 *14mm
✗		M3 *30mm

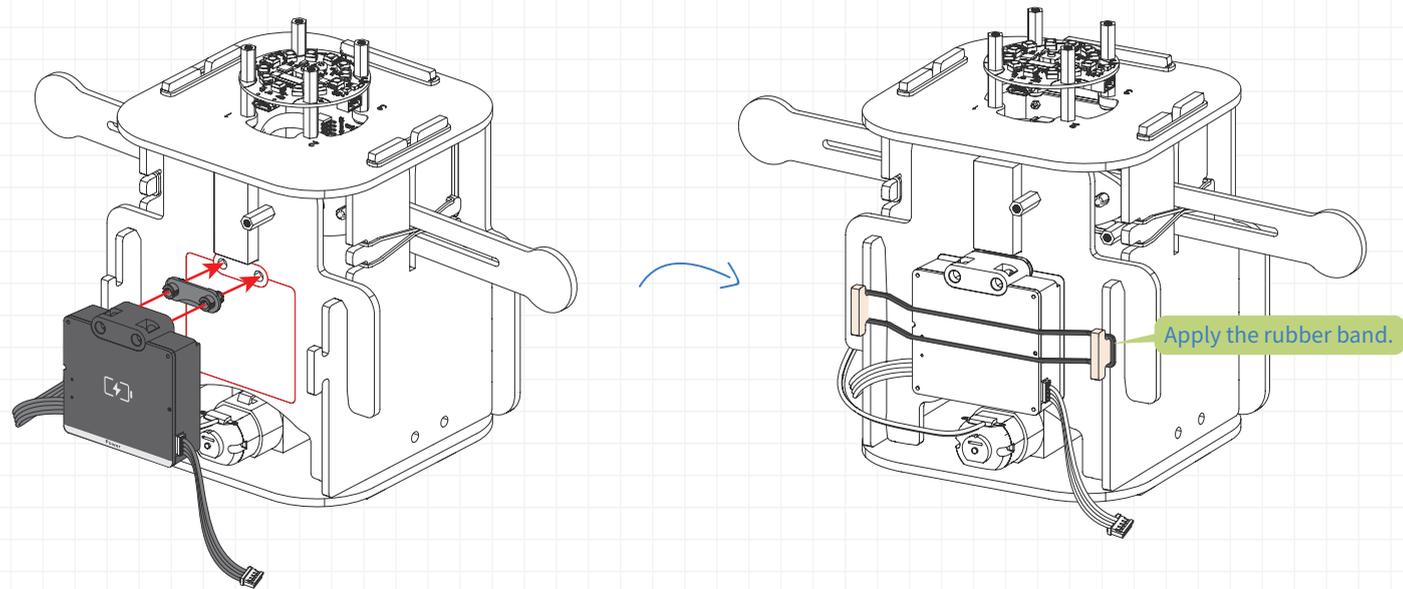
**13** Install the wood board as shown and hold it in place with rubber bands.



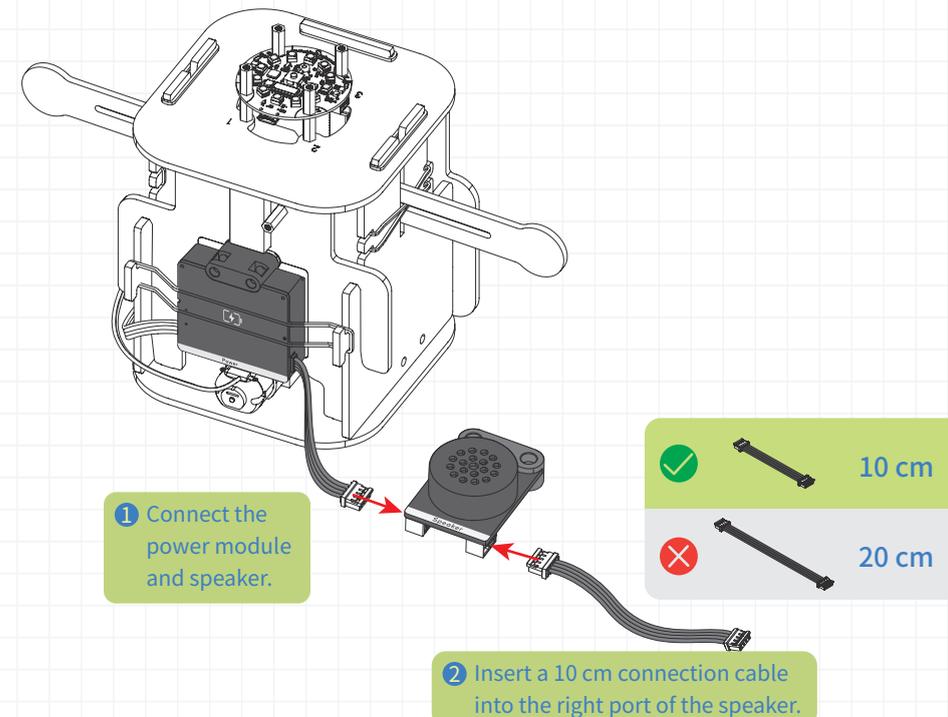
**14** Insert 10 cm connection cables into the ports on both sides of the power module.



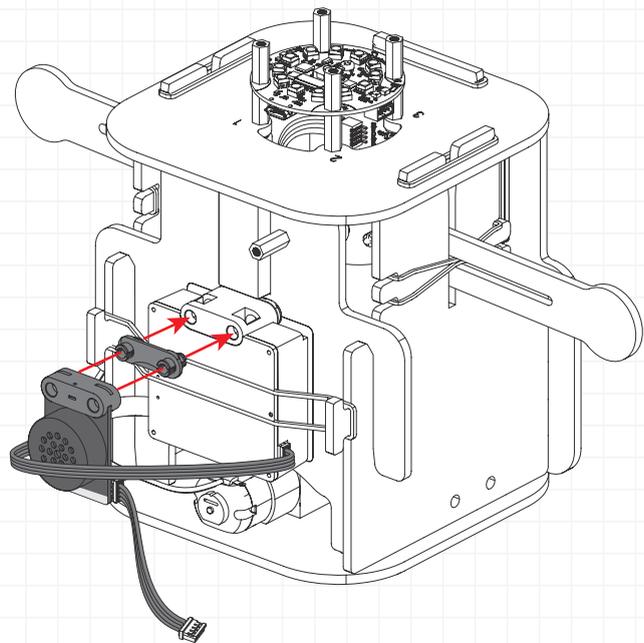
**15** Install the power module and hold it in place with a rubber band.



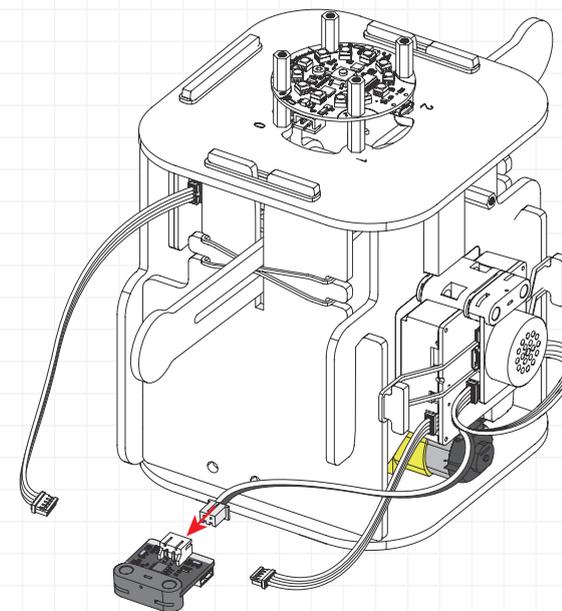
**16** Take out the speaker and connect the modules as shown.



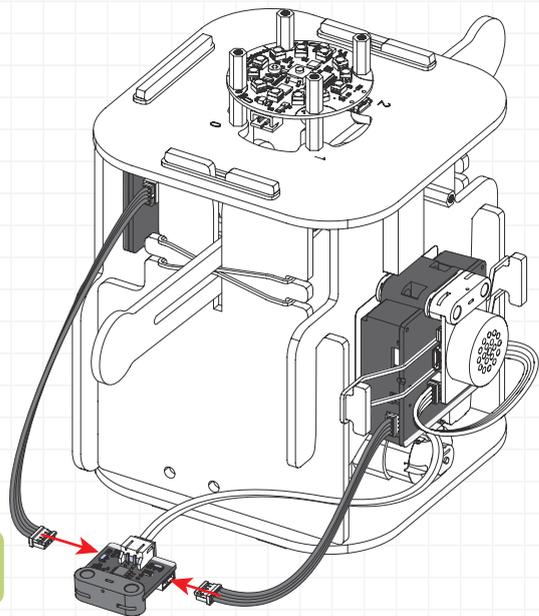
**17** Install the speaker.



**18** Insert the motor cable into the motor driver.



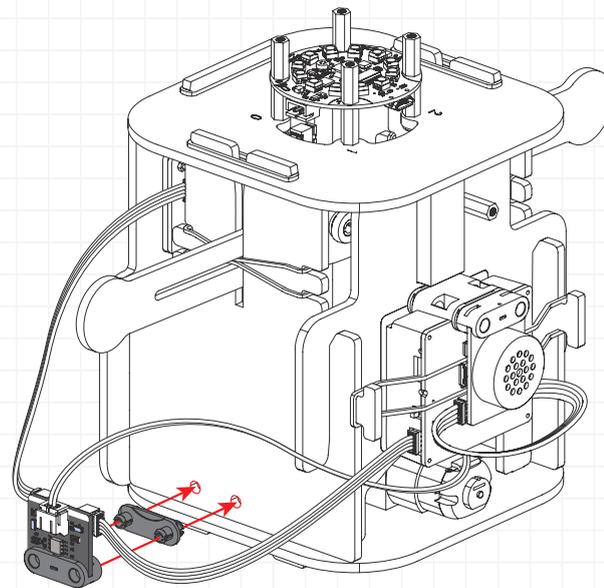
19 Connect the modules as shown.



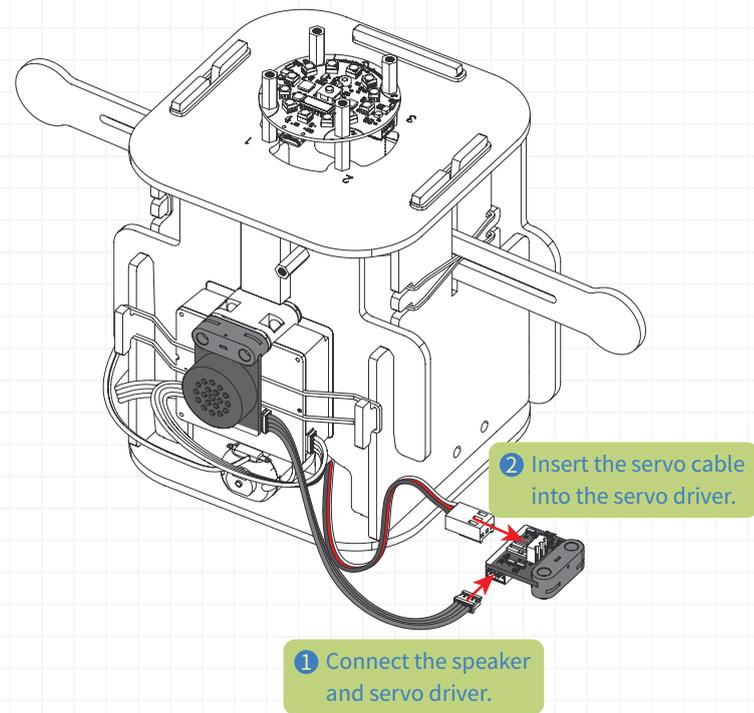
1 Connect the LED matrix and motor driver.

2 Connect the power module and motor driver.

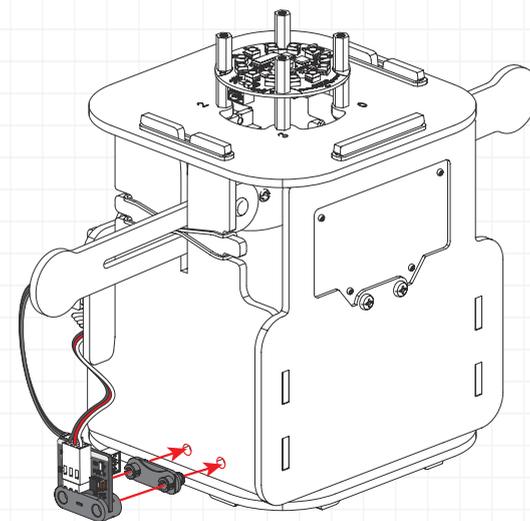
20 Attach the motor driver to the wood board.



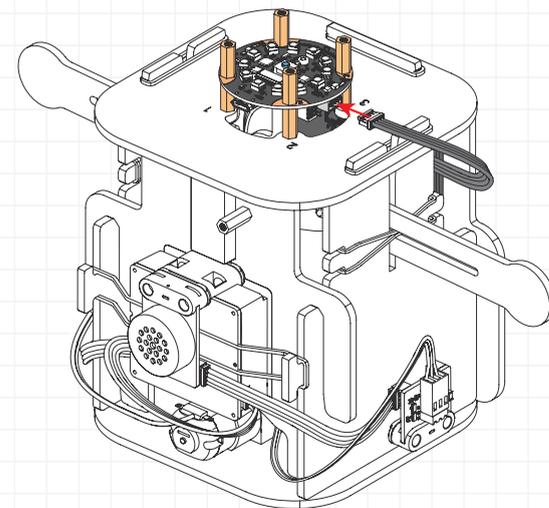
**21** Take out the servo driver and connect the modules as shown.



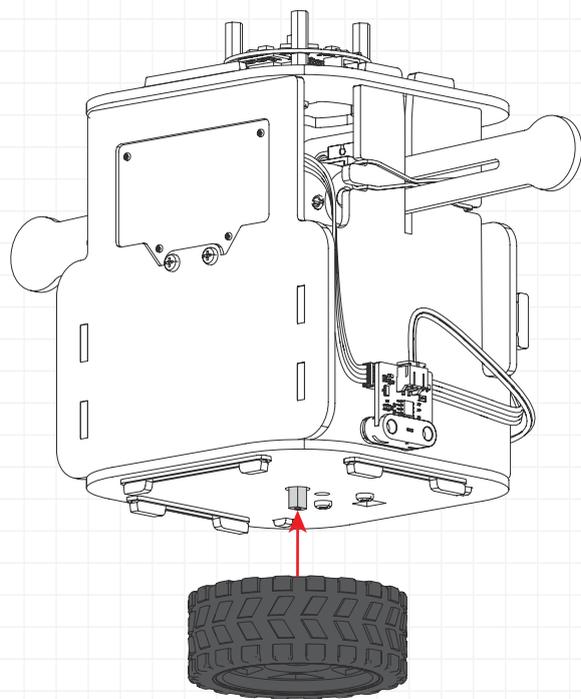
**22** Install the servo driver.



**23** Connect the LED matrix to Halocode.



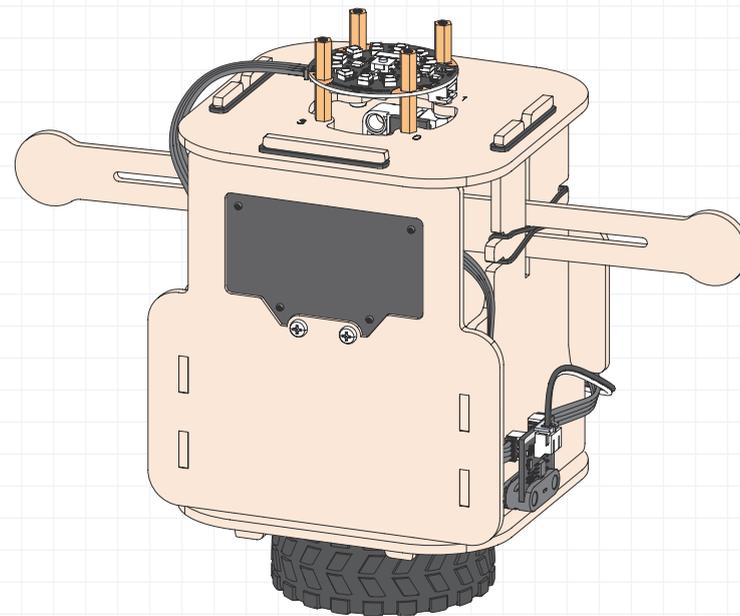
## 24 Install the wheel.



### Pro tips

Check the video tutorials in the software to view building guides.

## 25 Great! The Companion Robot is finished!



26 Now, return to mBlock on your PC or iPad and program your project.

