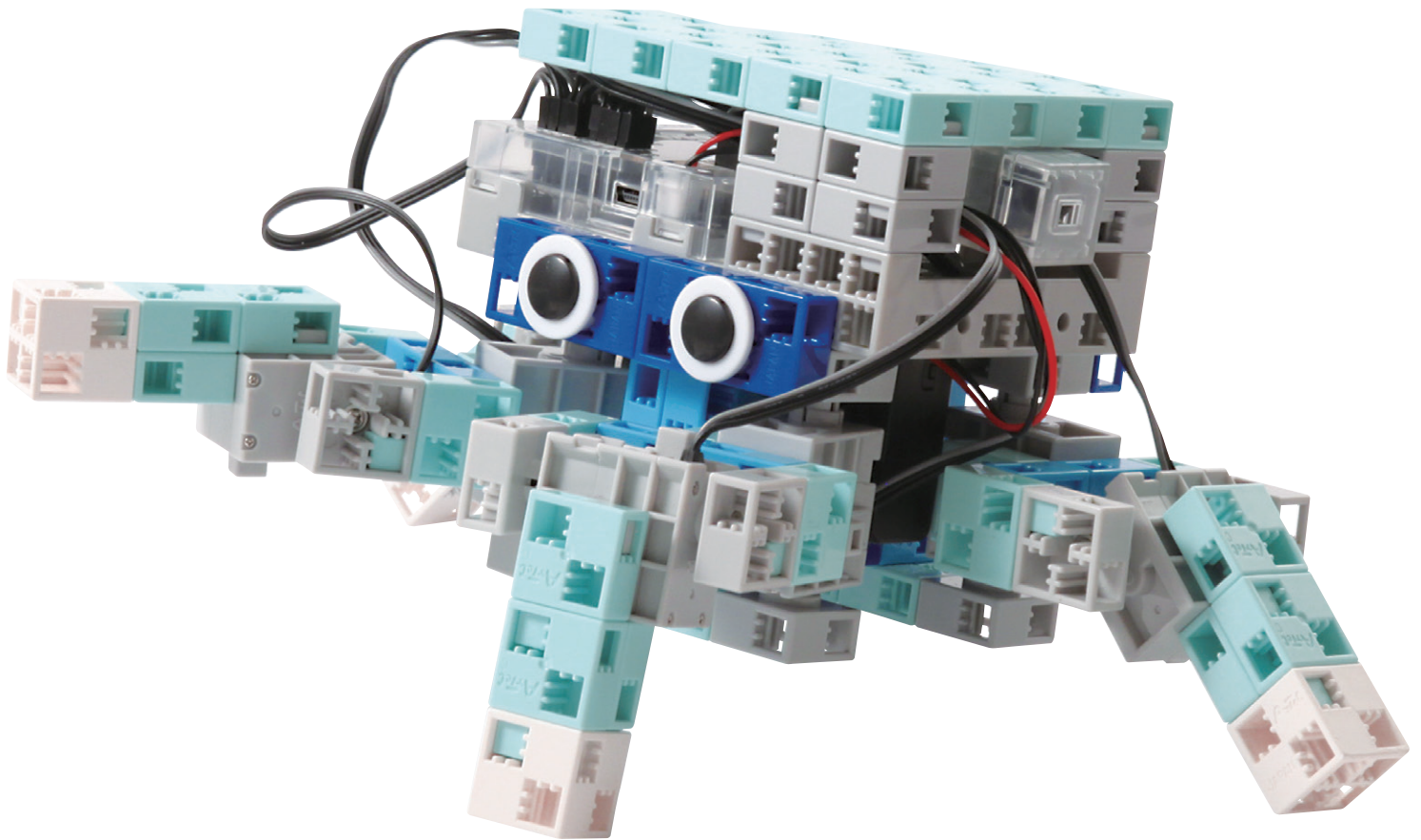


Four-legged Dancing Robot

Assembly Instructions



Artec Co., Ltd.

Address: 3-2-21 Kitakamei-cho, Yao-shi, Osaka
581-0066 Japan

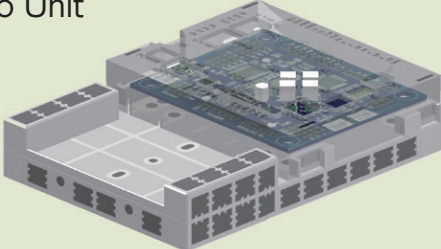
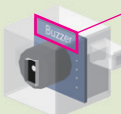

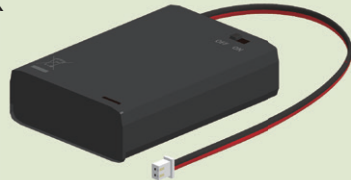

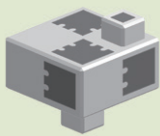
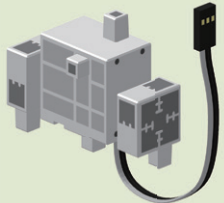





E-mail: export@artec-kk.co.jp

Website: www.artec-kk.co.jp/en

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in multiple countries including Japan, South Korea,
Canada, and the USA.

Four-legged Dancing Robot

Contents

Studuino Unit  ×1	Buzzer  ×1	USB Cable  ×1
Battery Box  ×1	Basic Cube (white)  ×4	Half A (light gray)  ×8
Servomotor  ×8	Sensor Connecting Cable (three-wire 15 cm)  ×1	Half B (blue)  ×12
		Half C (light aqua)  ×52
		Half D (aqua)  ×17
		Disk  ×2

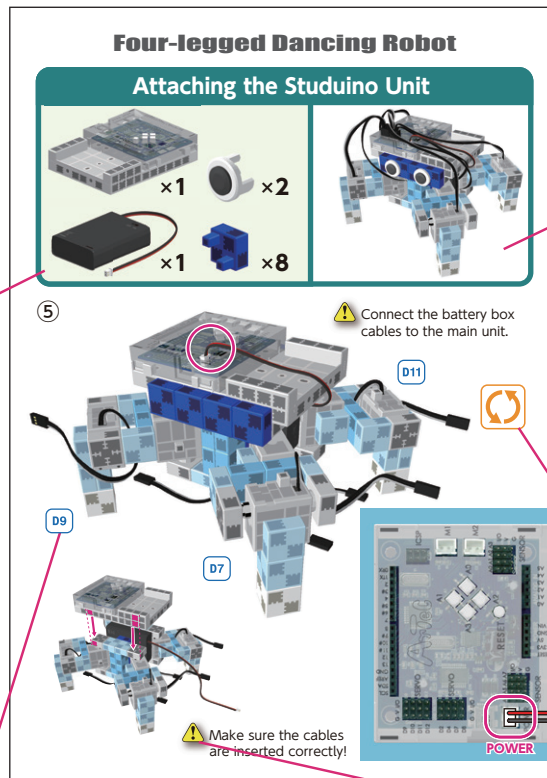
Assembly Instruction Labels

×1

Shows the parts needed for assembly. Indicates the number of parts needed for assembly.

D9

Shows the sticker number used for each servomotor. Use the motor with the correct sticker number.



Shows an image of the completely assembled item.



Indicates when the direction of a component must be changed for assembly.



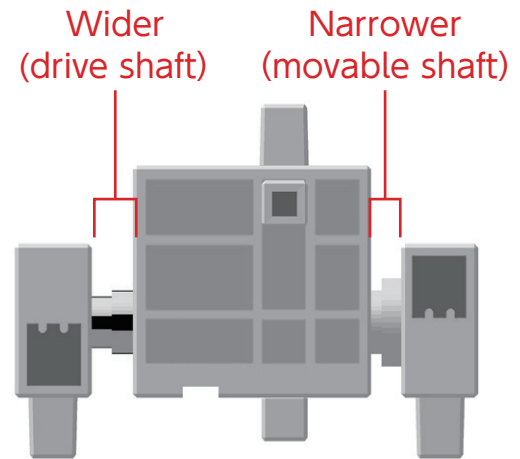
Indicates tips or warning when building a specific item.

Handling the Servomotor

1 Orientation

The photo to the right shows the servomotor facing you. There are two shafts, the one with the wider space is the drive shaft and the one with the narrower space is the movable shaft.

- ★ When turning the drive shaft by hand, do so very slowly and gently. Excessive pressure when turning may cause damage to the servomotor.



2 Calibration and Setting Connector Numbers

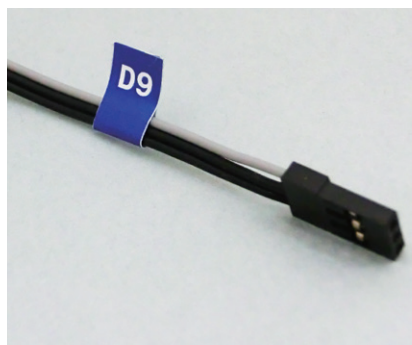
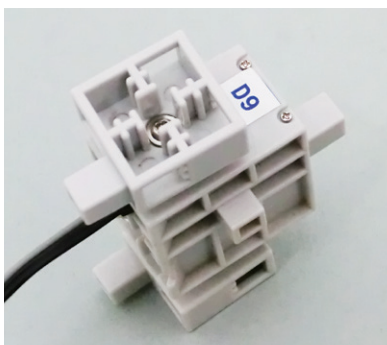
Before building your robot, read **6. Using Servomotors** in the **Studuino Icon Programming Environment Guide** (download from <http://www.artec-kk.co.jp/artecrobo/>) for instructions on how to calibrate your servomotor.

Building your robot without calibrating your servomotor may cause damage or improper functionality.

- ★ Do not change the connector or the servomotor after calibration. Servomotor calibrations are unique to each servomotor.

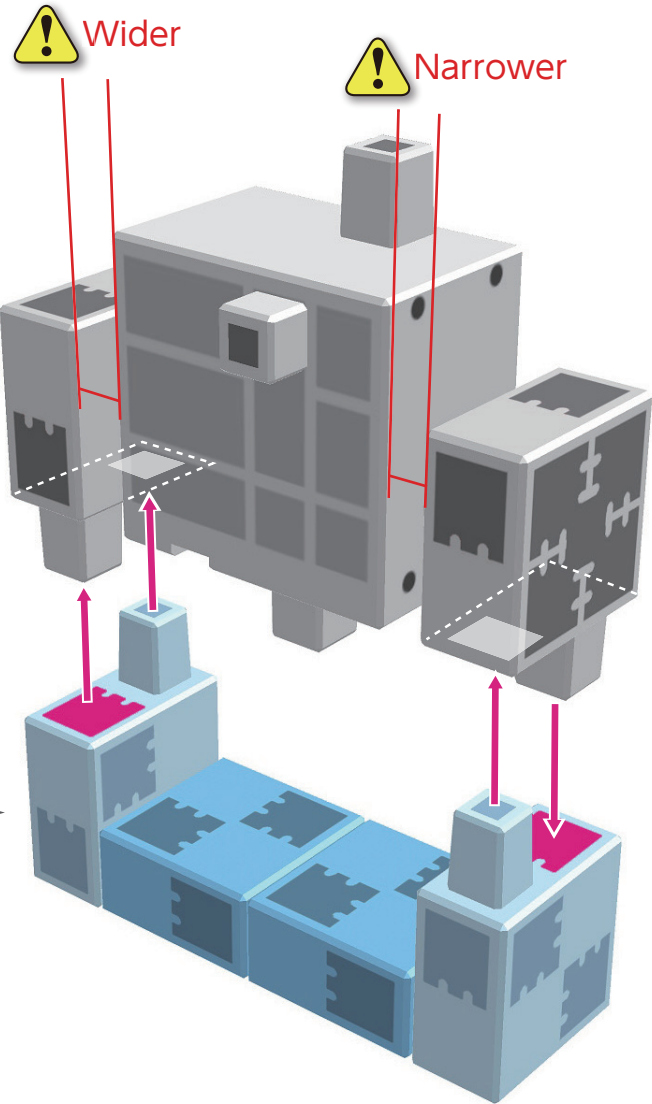
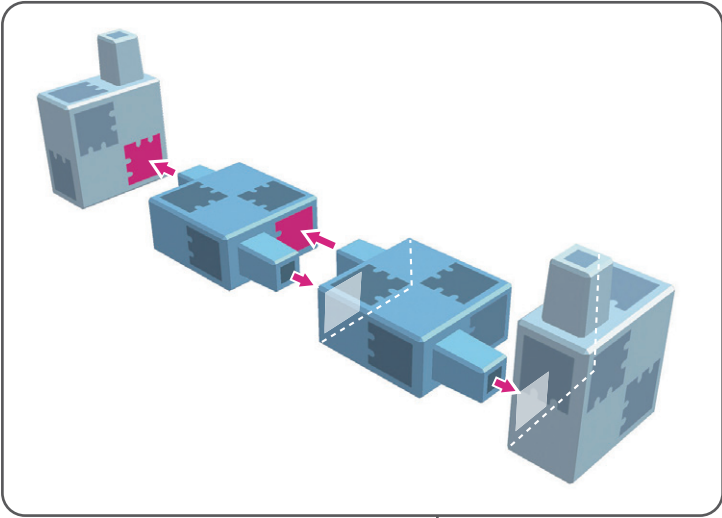
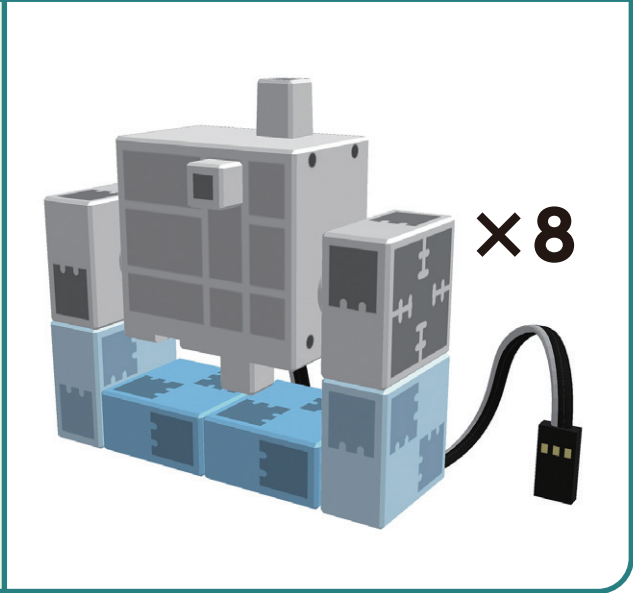
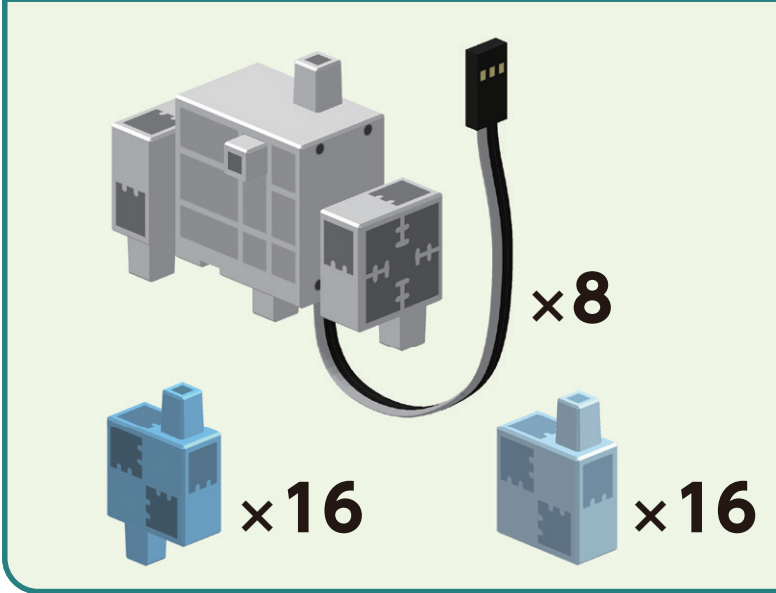
Attaching Number Stickers

After calibration, we recommend putting a sticker on the connector used for the servomotor so it can be easily identified.



Four-legged Dancing Robot

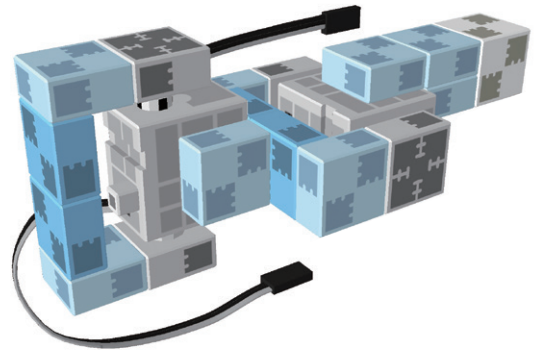
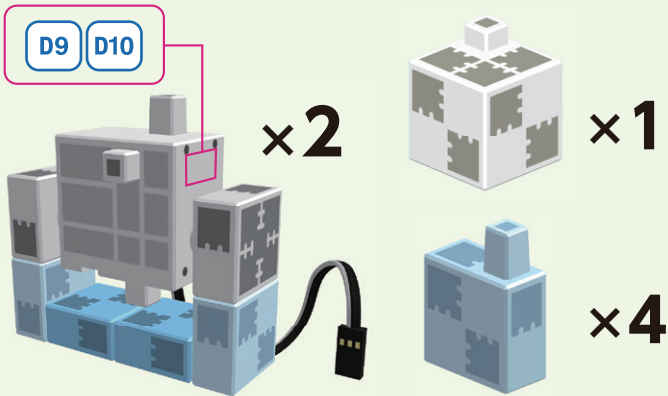
Assembling the Servomotor



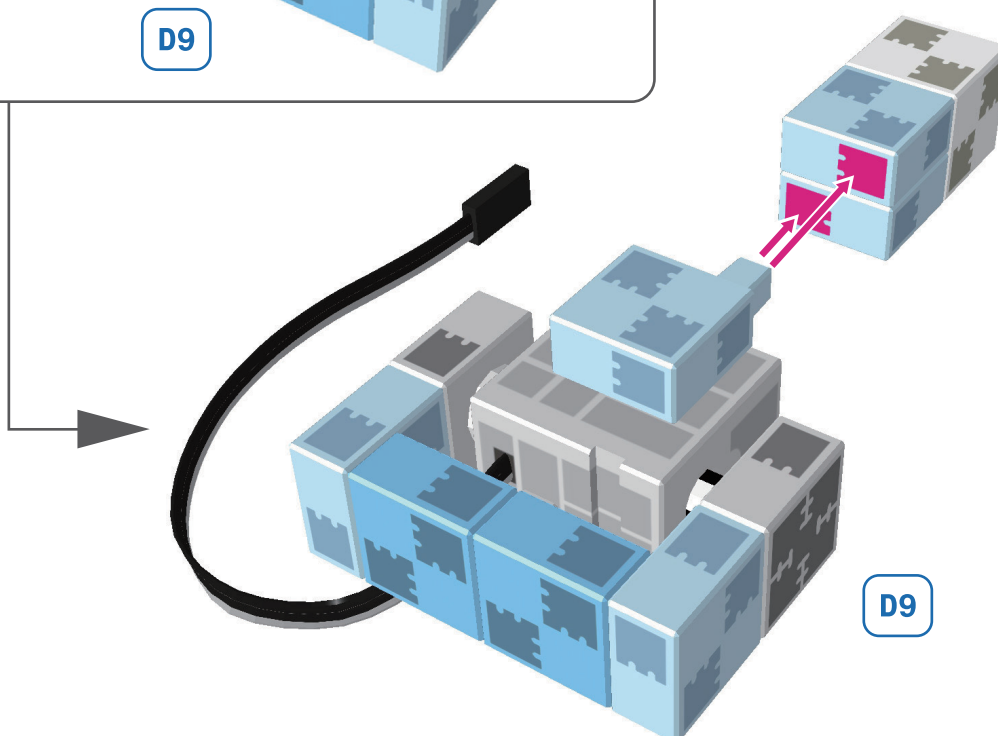
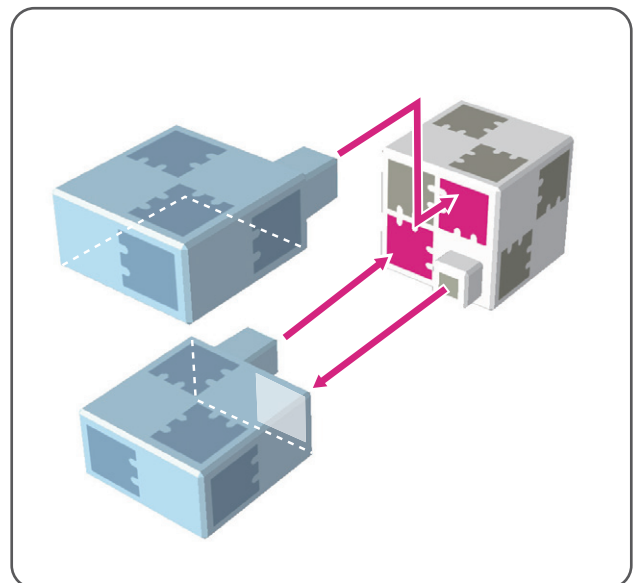
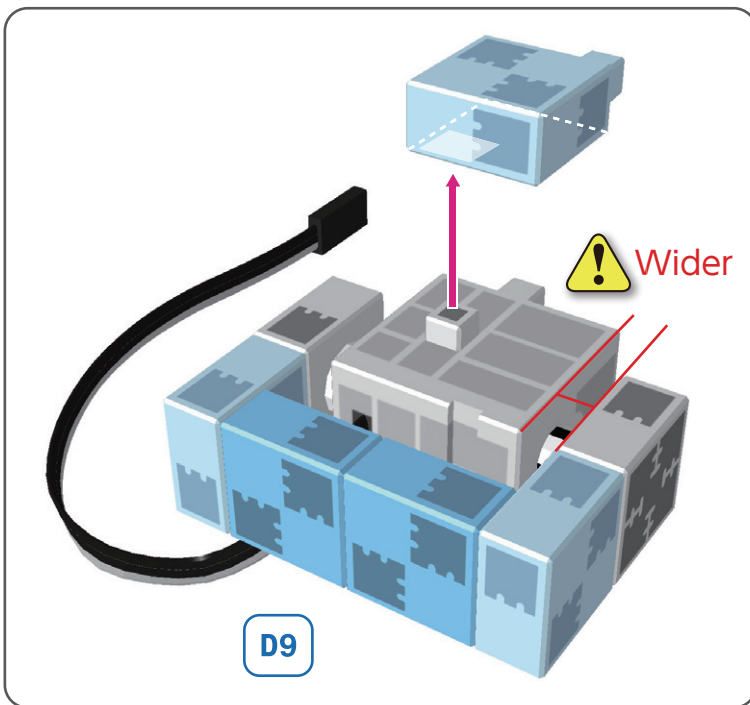
 Make eight in total.

Four-legged Dancing Robot

Assembling the Front-right Leg

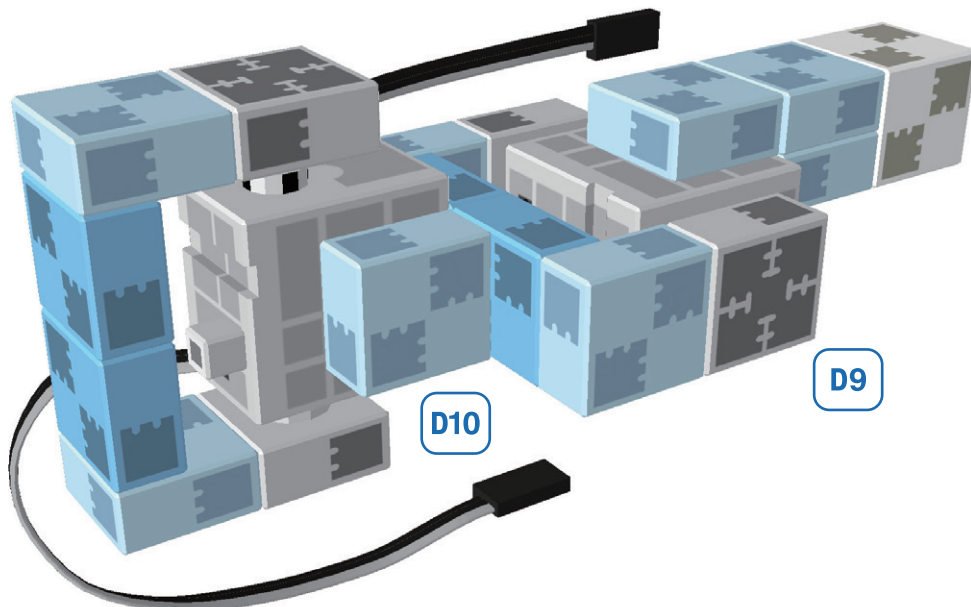
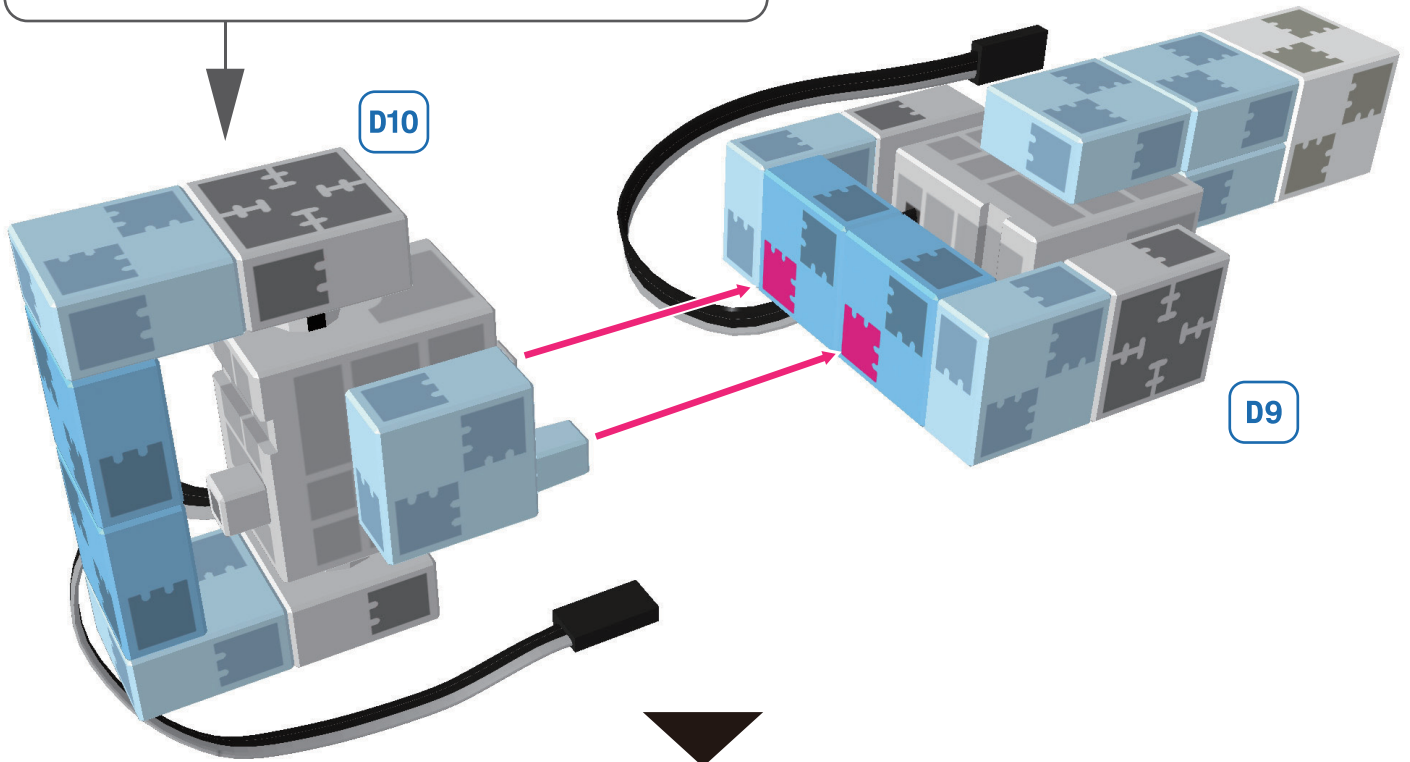
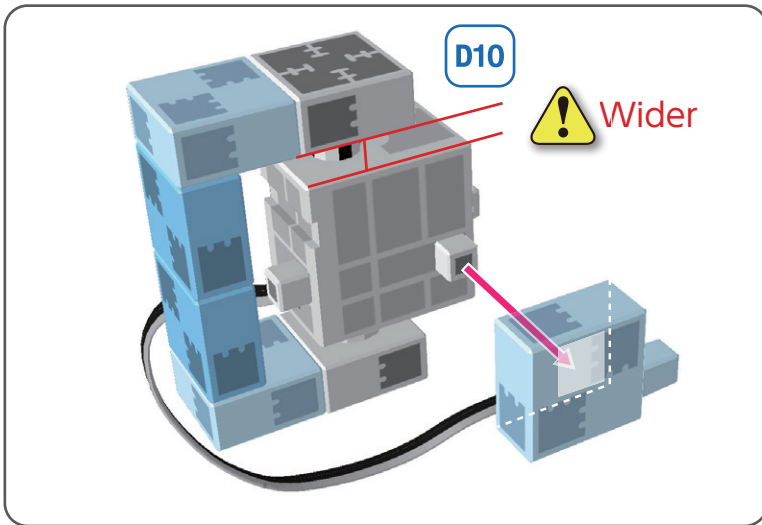


1



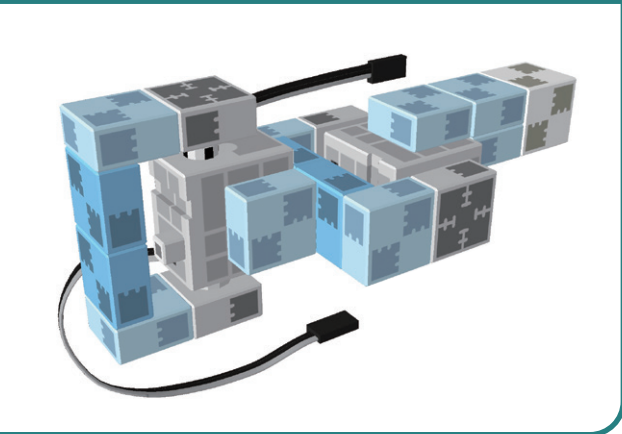
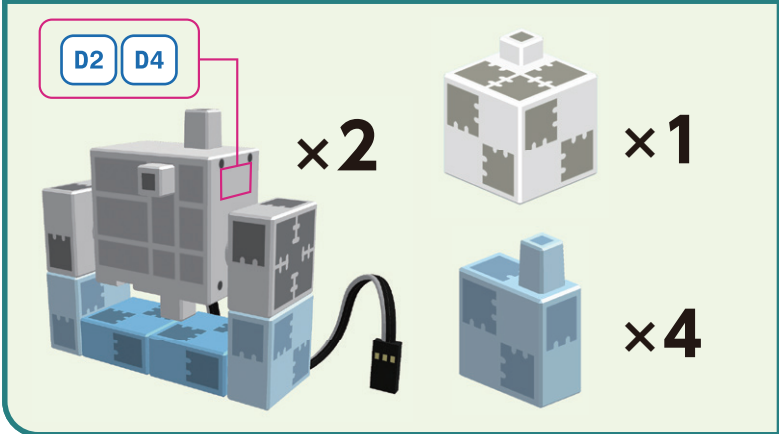
Four-legged Dancing Robot

2

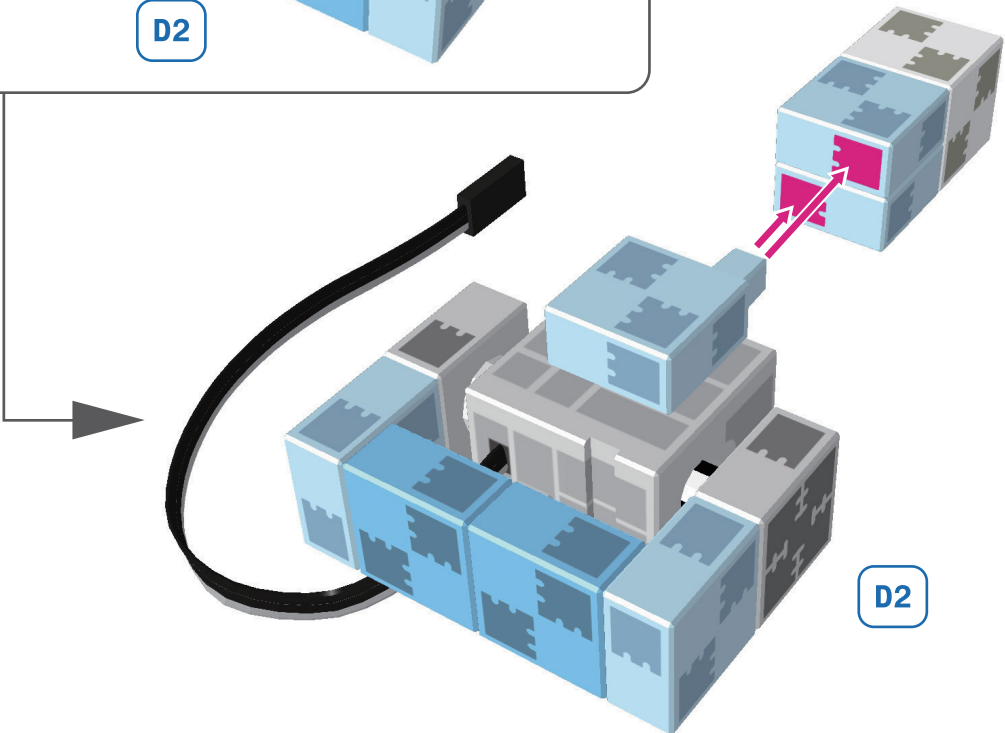
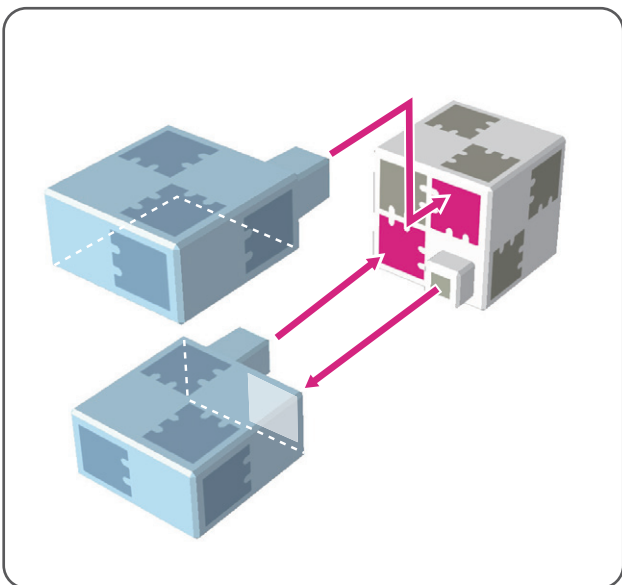
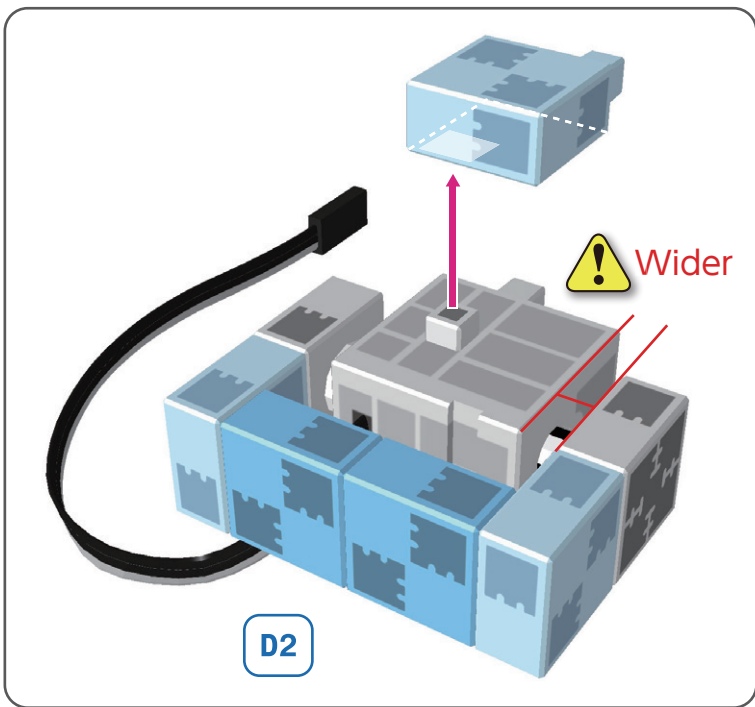


Four-legged Dancing Robot

Assembling the Rear-right Leg

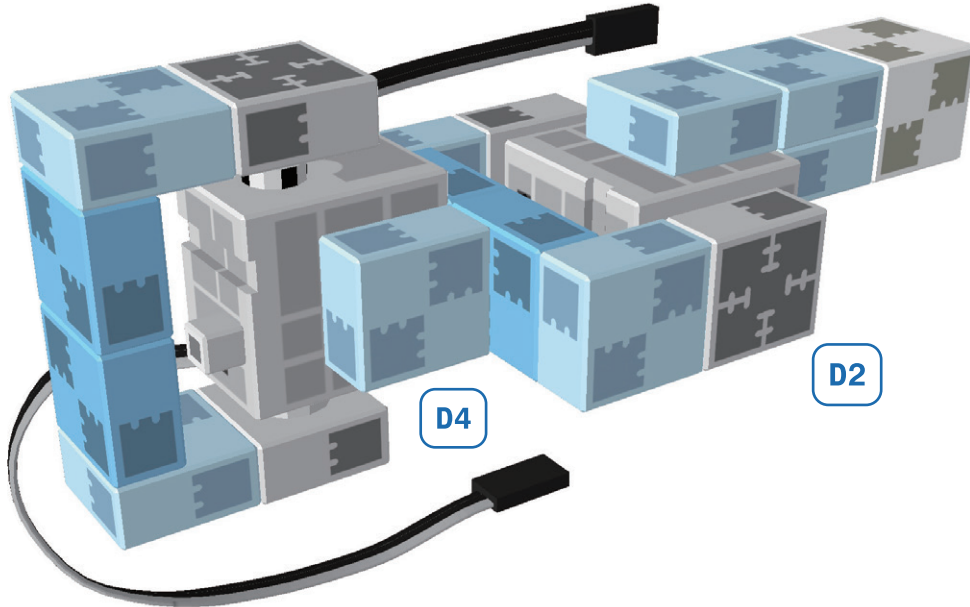
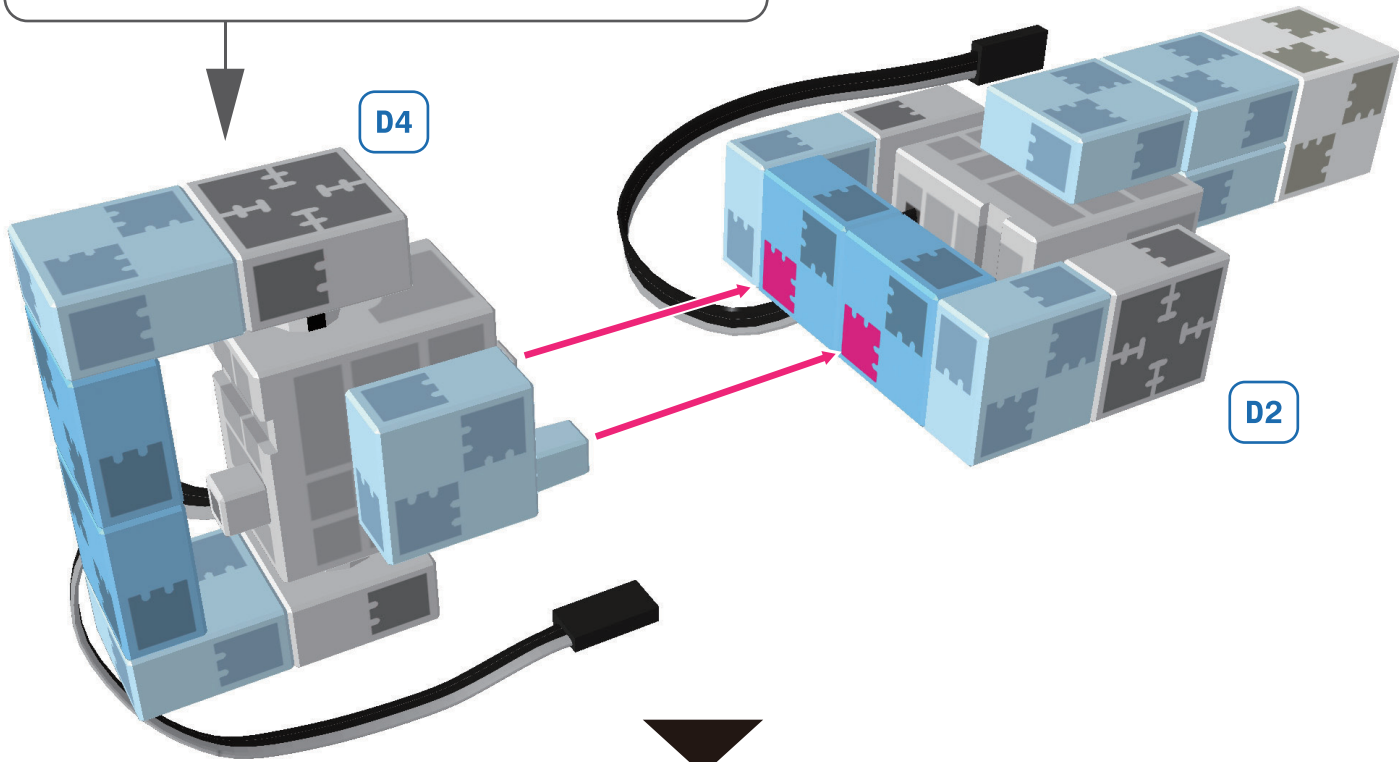
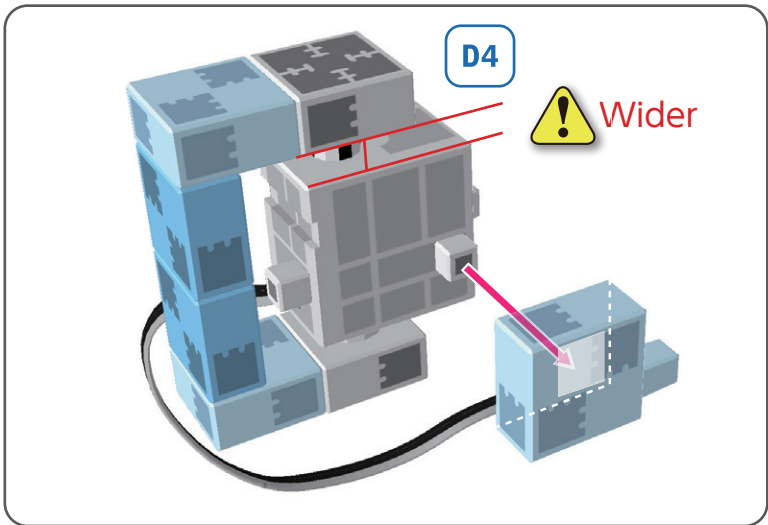


1



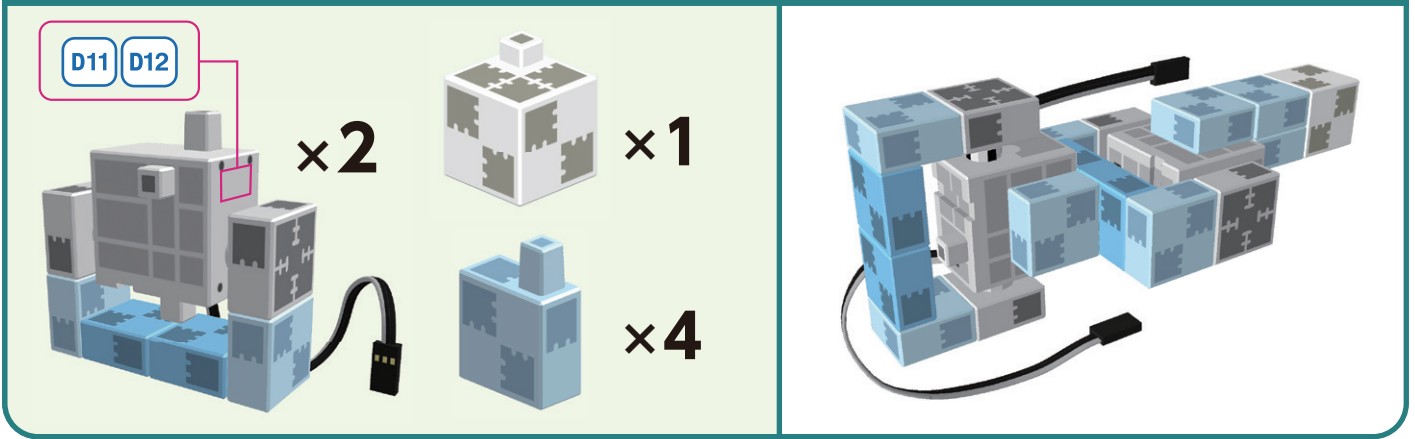
Four-legged Dancing Robot

2

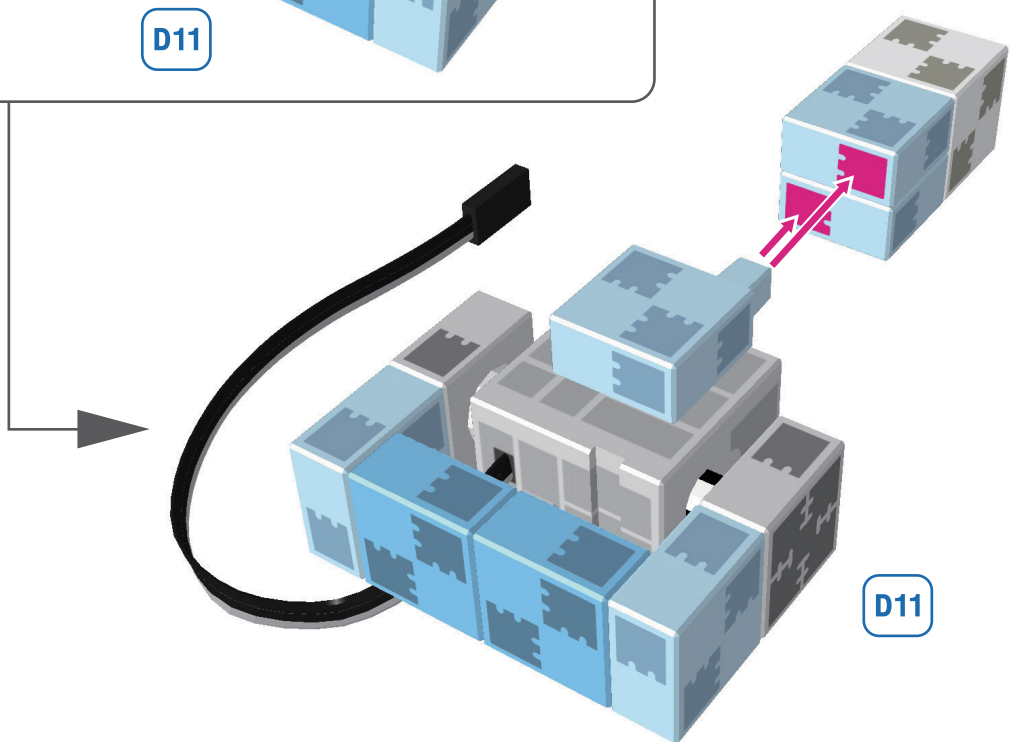
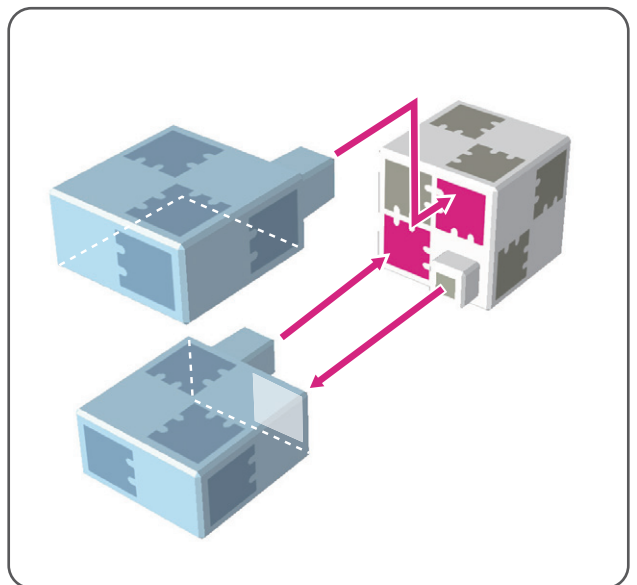
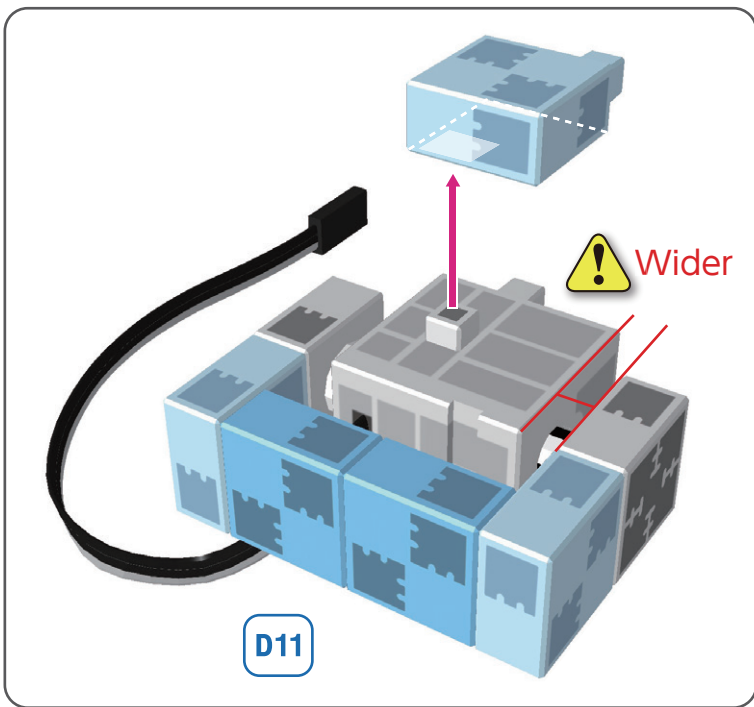


Four-legged Dancing Robot

Assembling the Front-left Leg

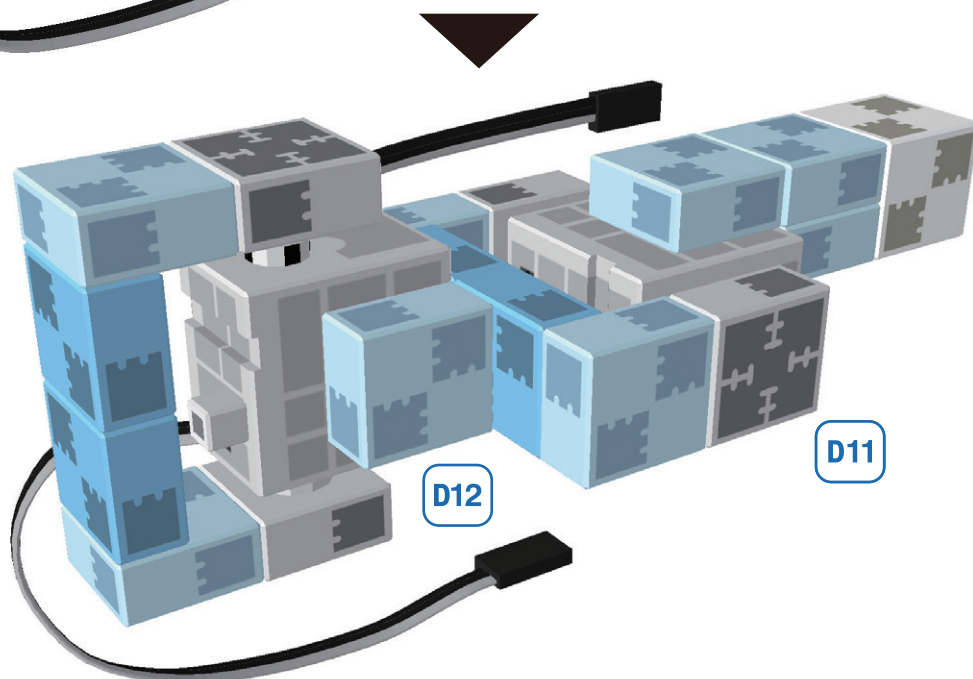
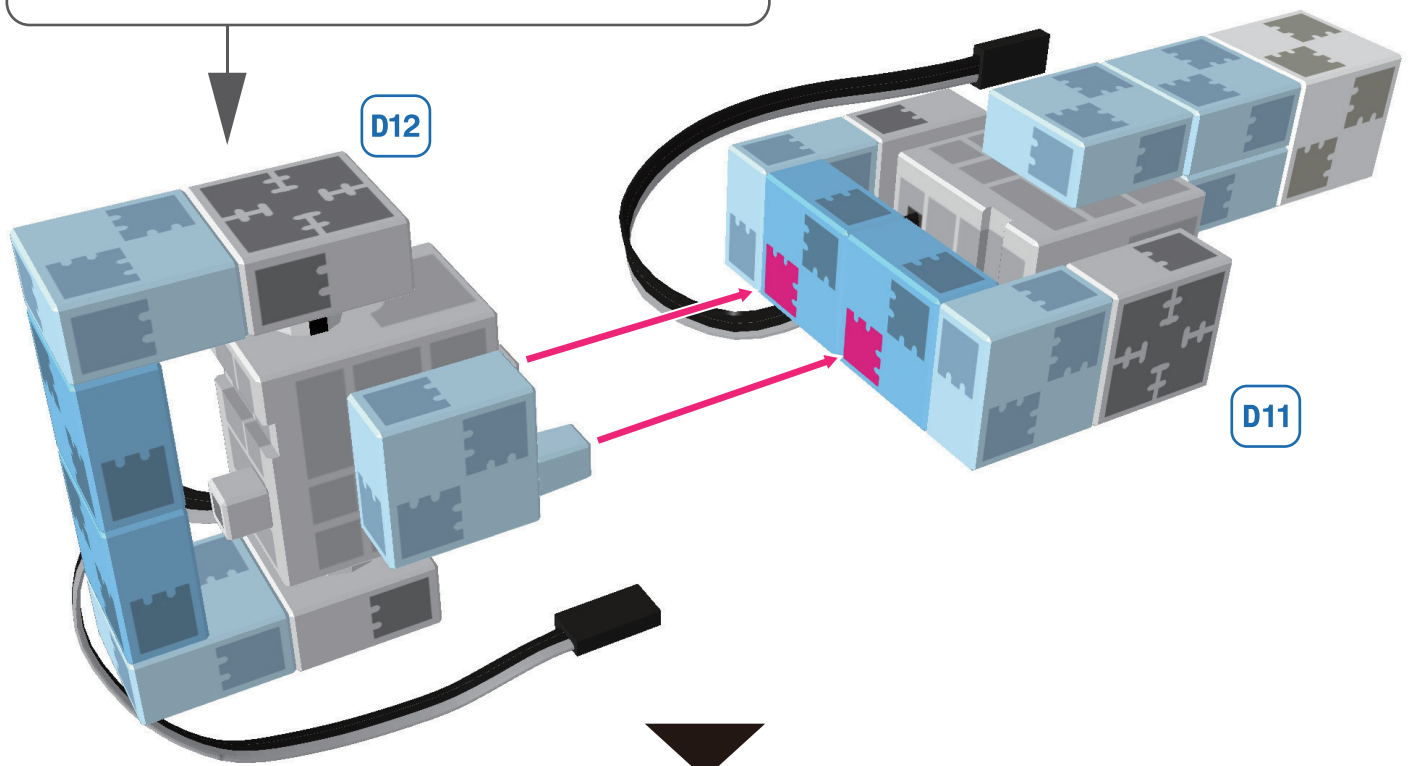
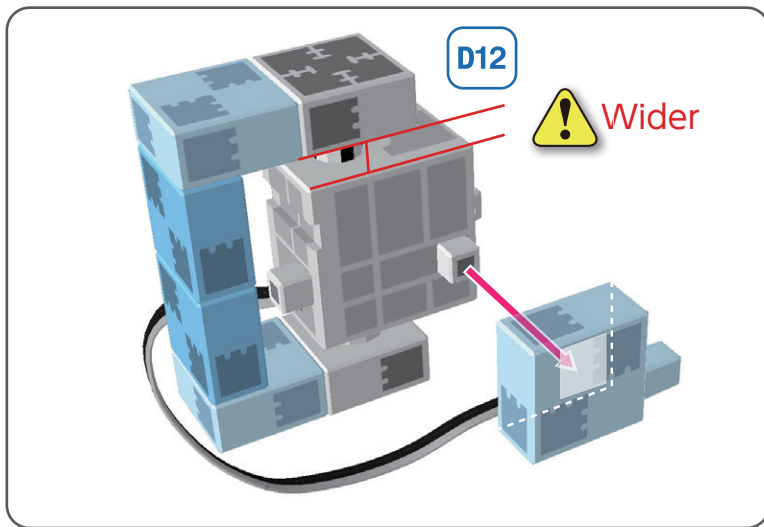


1



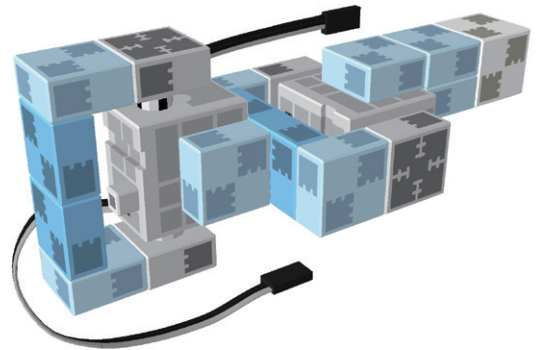
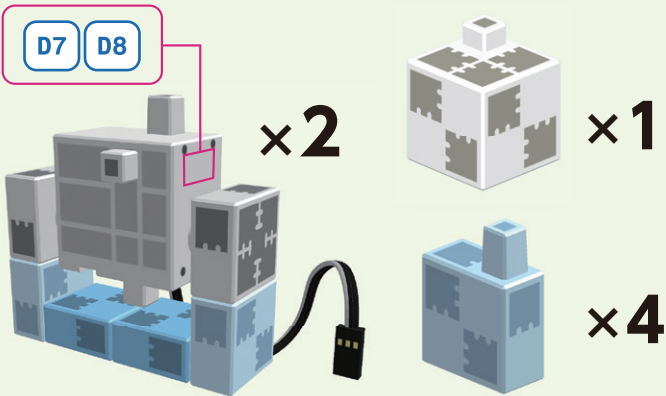
Four-legged Dancing Robot

2

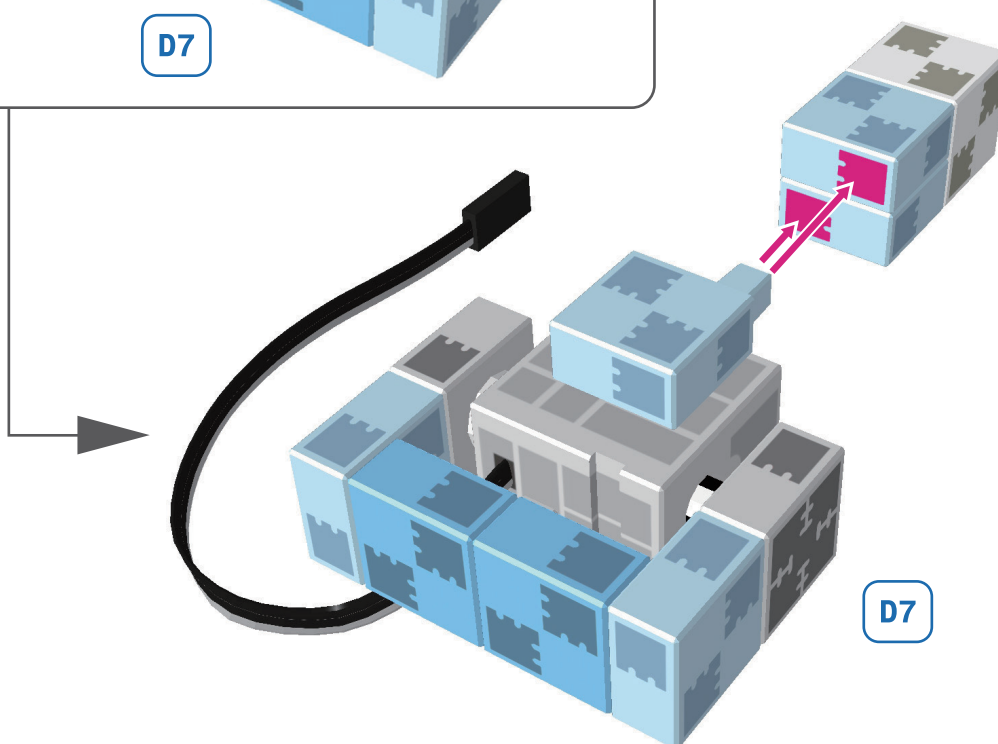
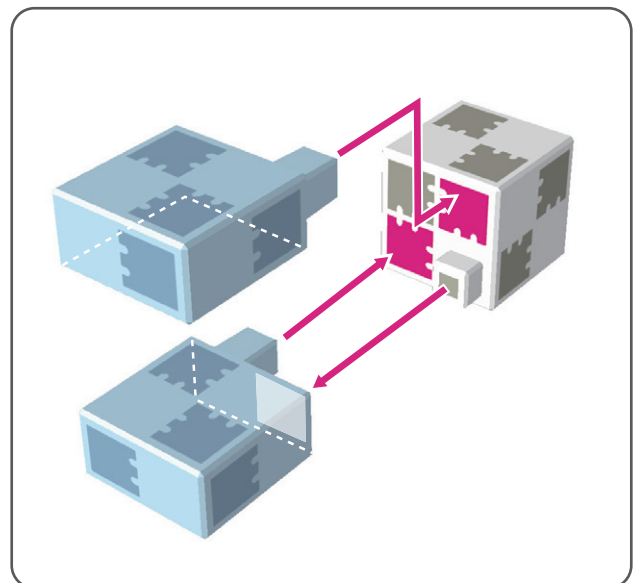
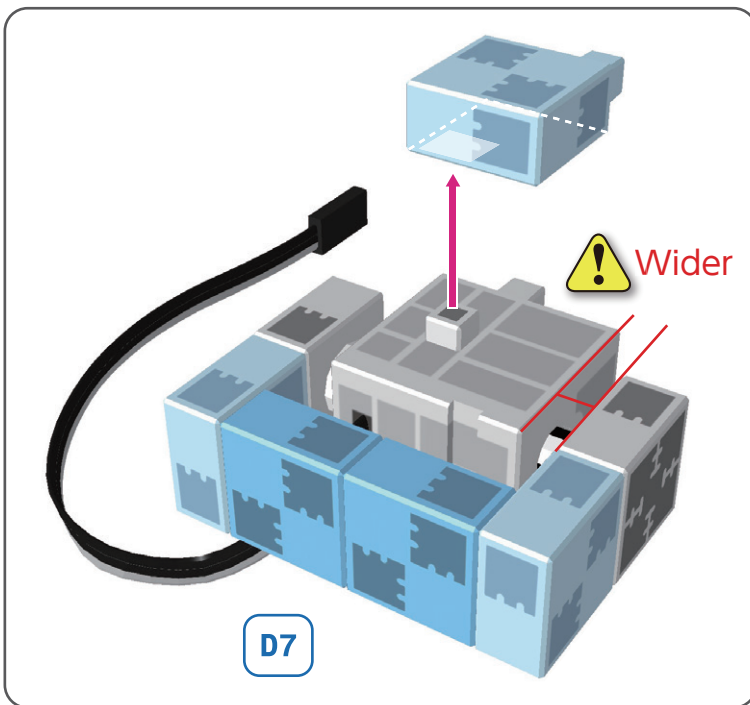


Four-legged Dancing Robot

Assembling the Rear-left Leg

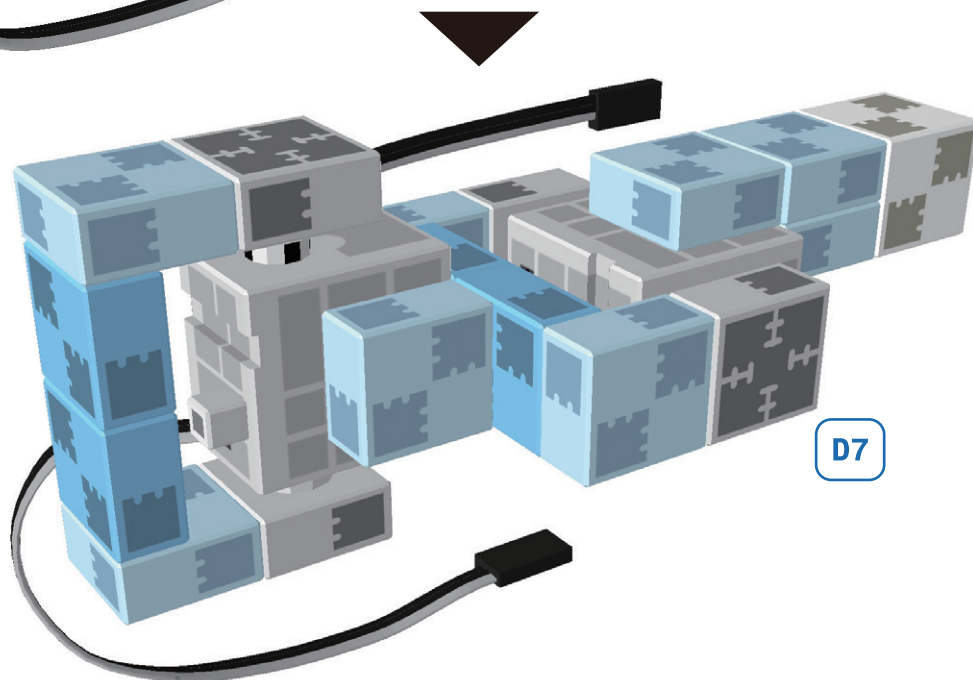
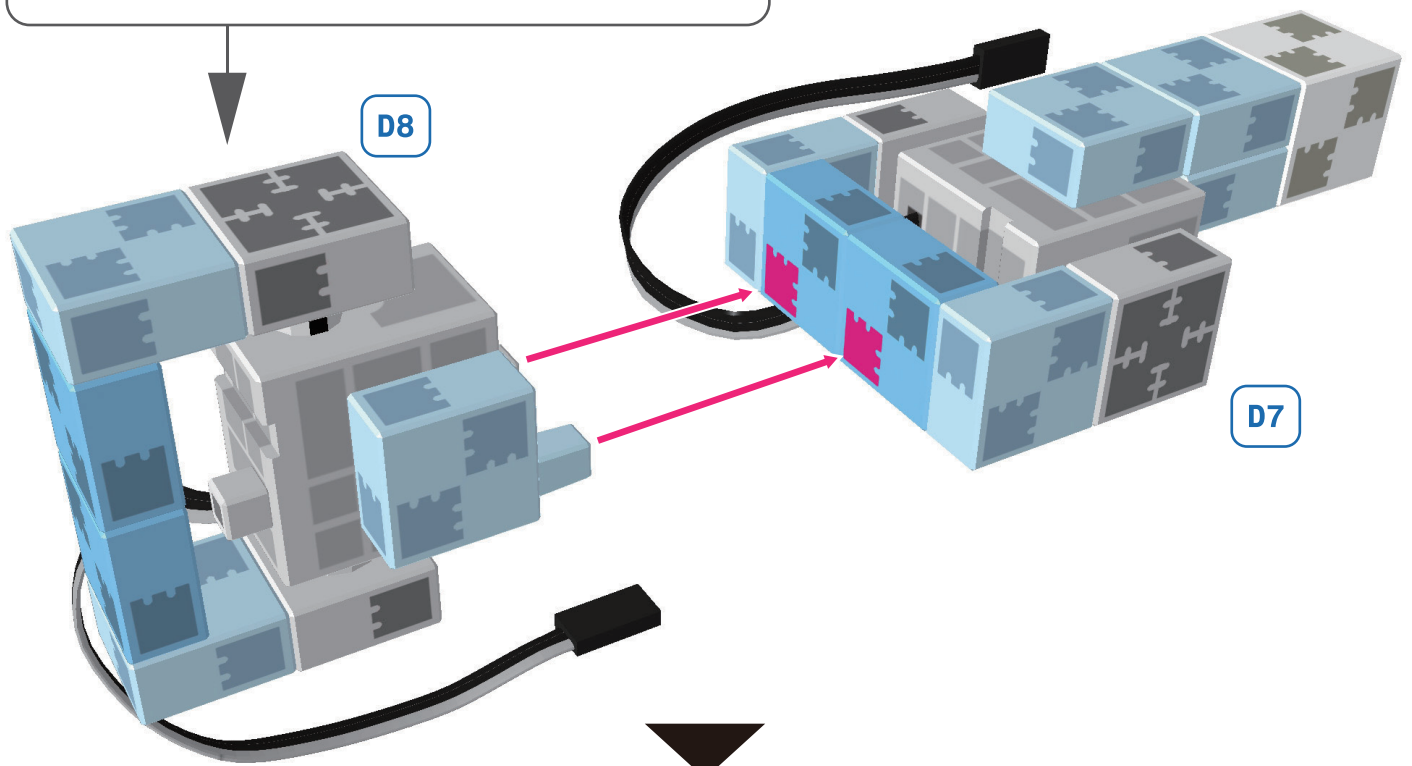
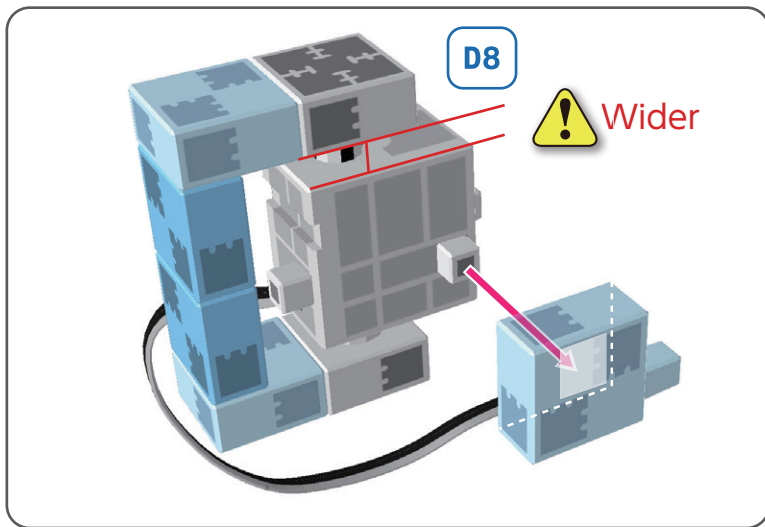


1



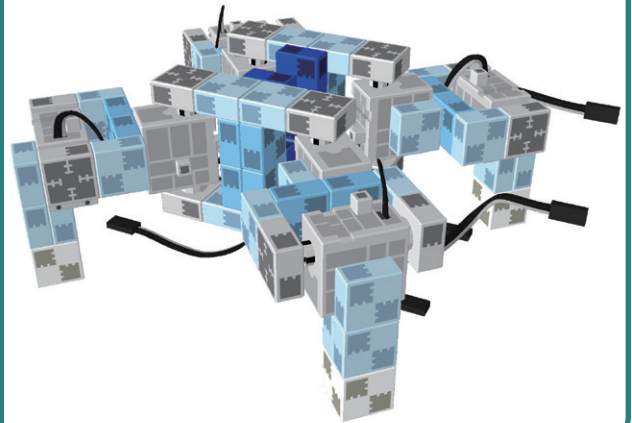
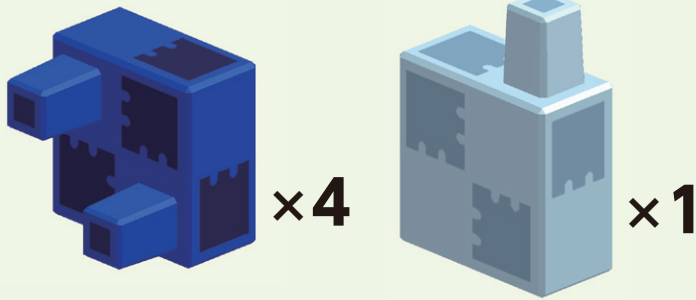
Four-legged Dancing Robot

2



Four-legged Dancing Robot

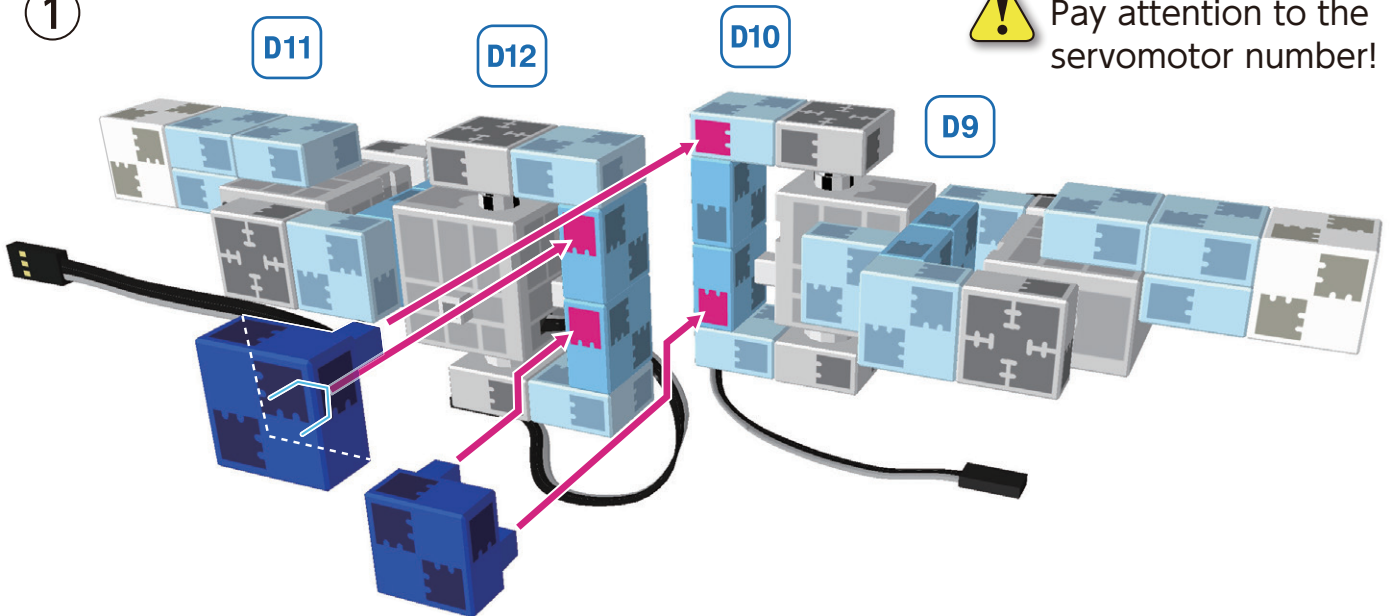
Assembling the Lower Half



①



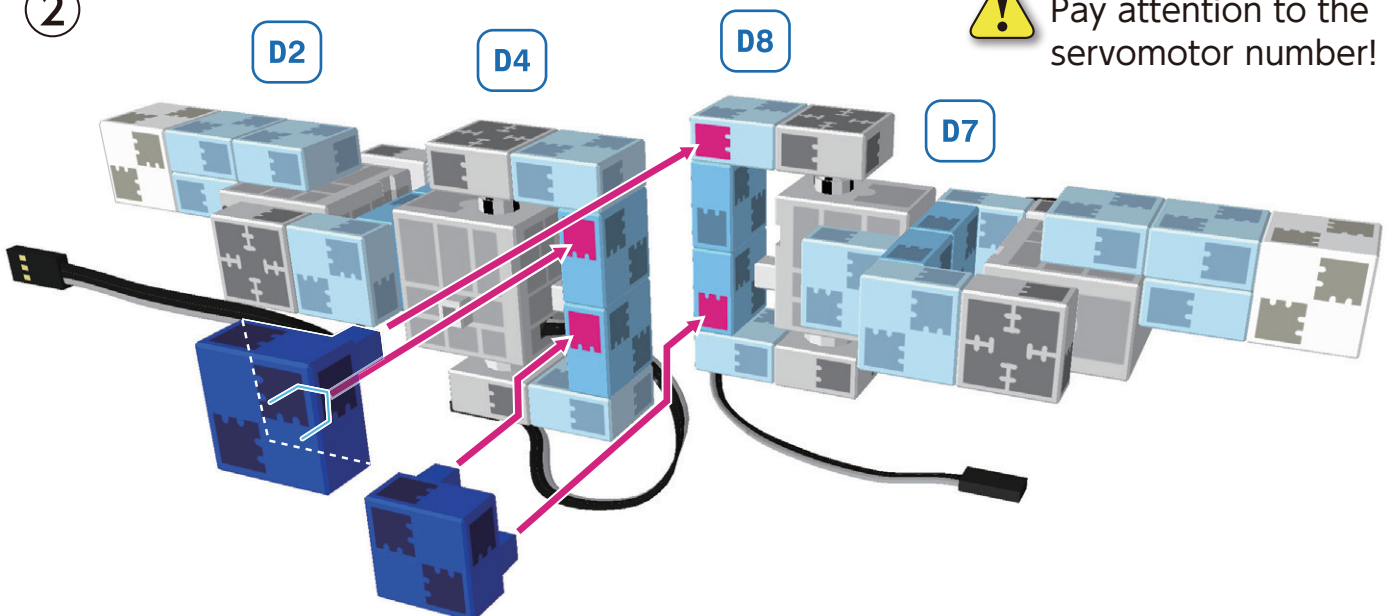
Pay attention to the servomotor number!



②

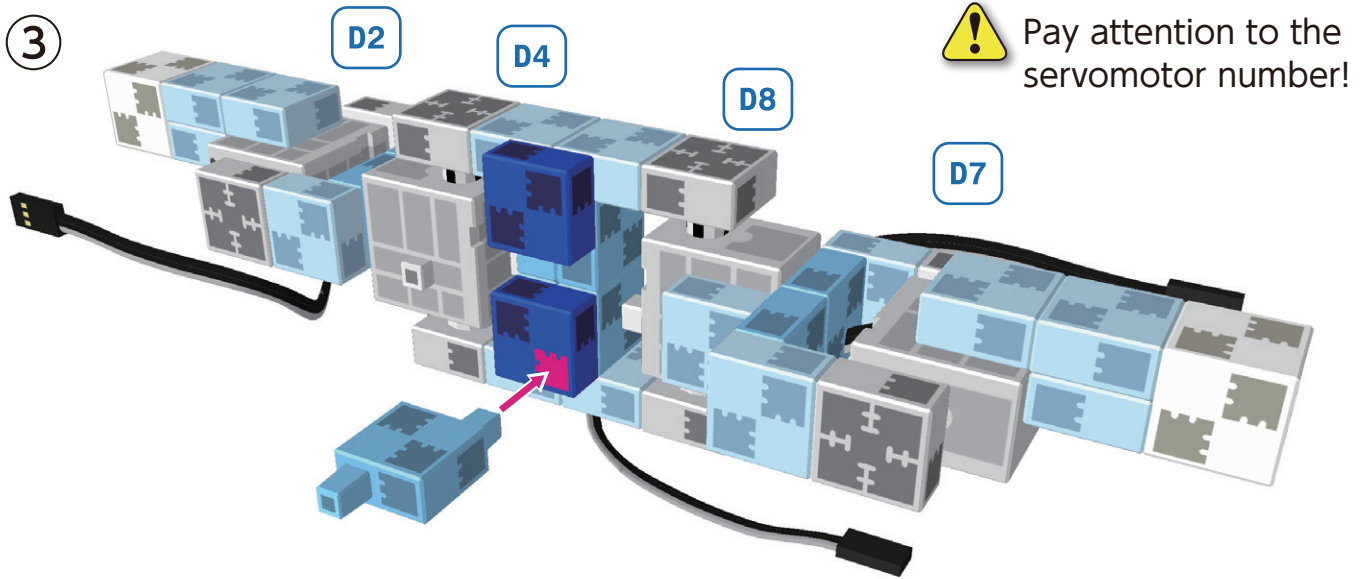


Pay attention to the servomotor number!

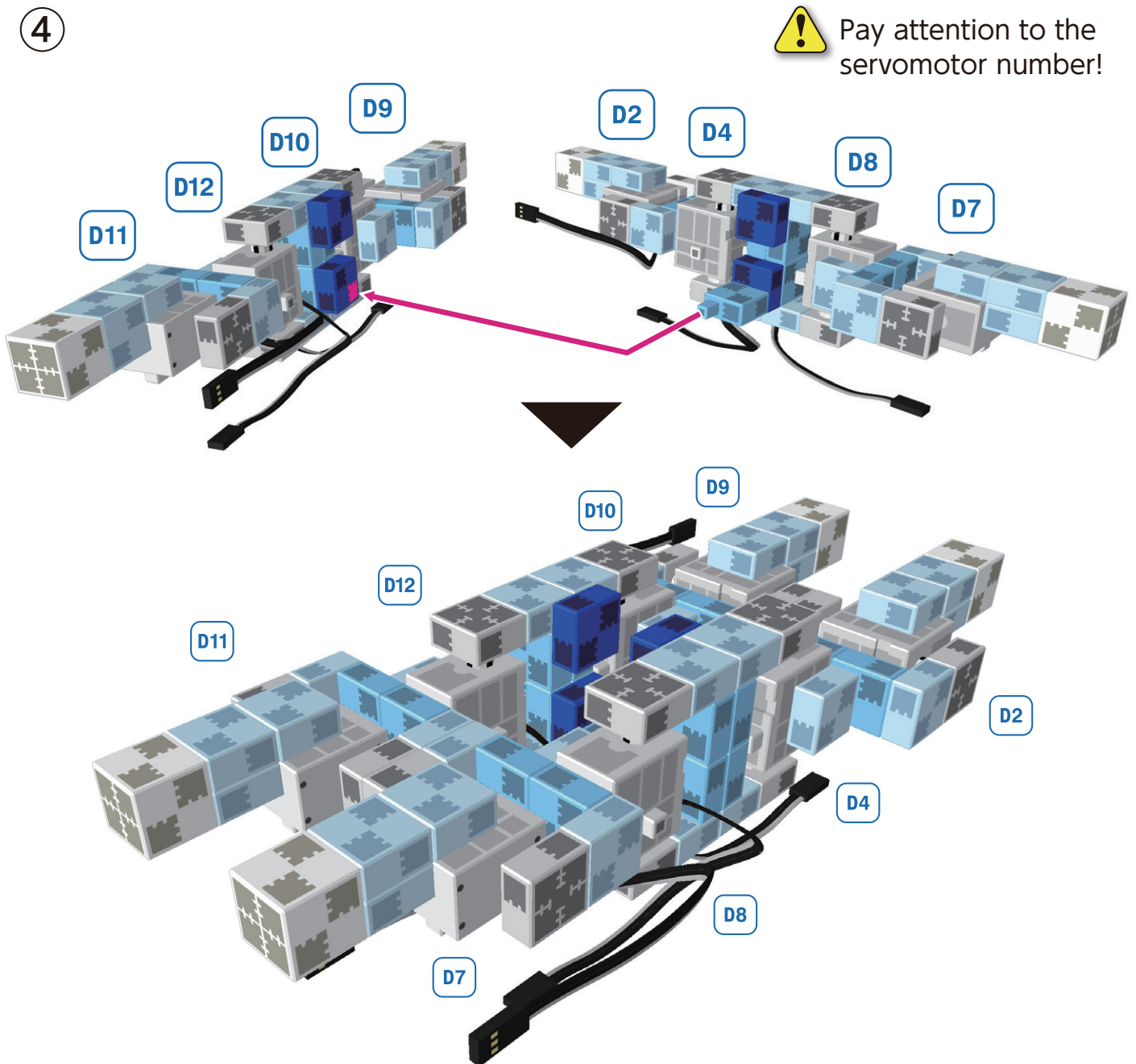


Four-legged Dancing Robot

3




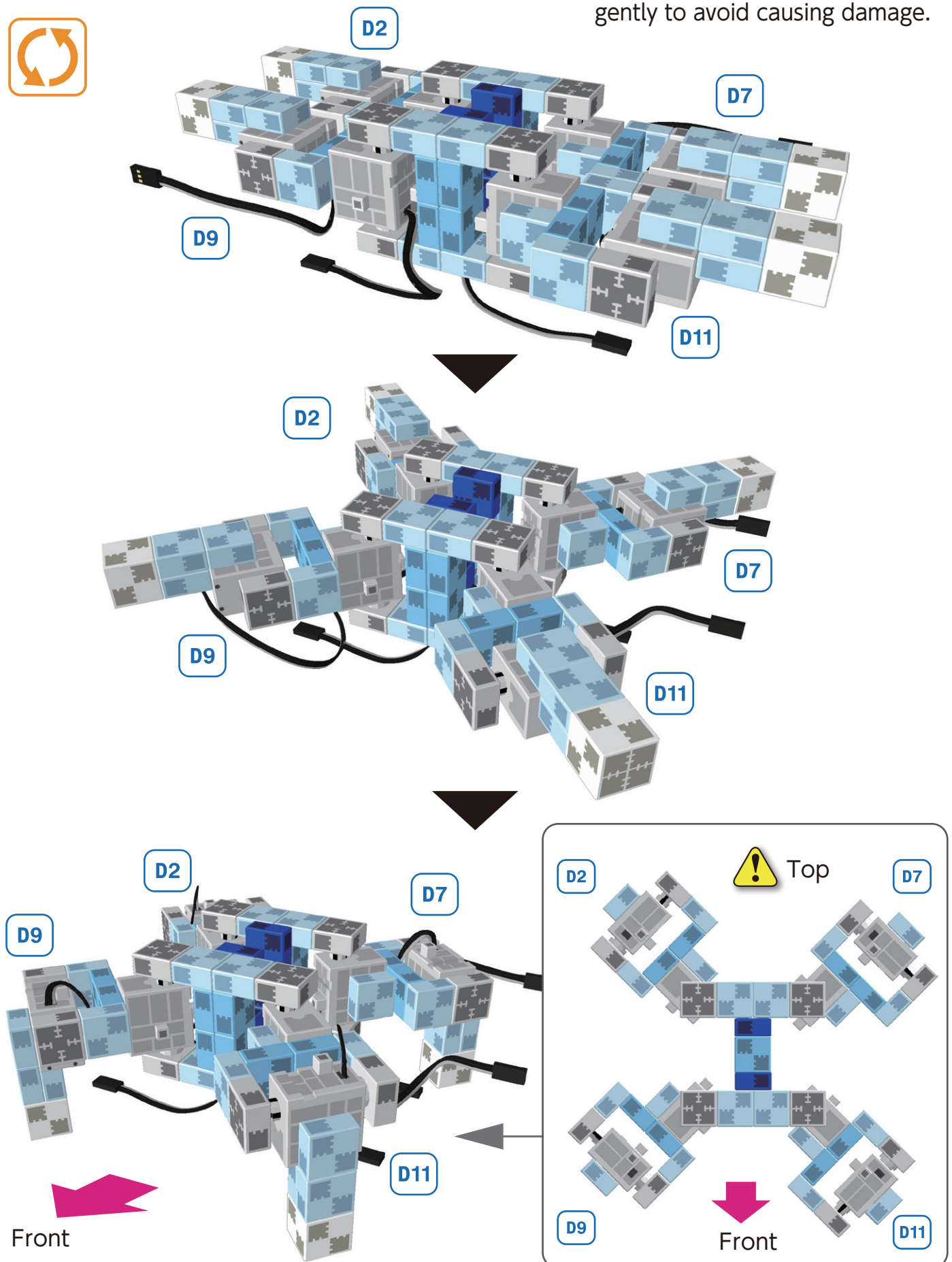
4



Four-legged Dancing Robot

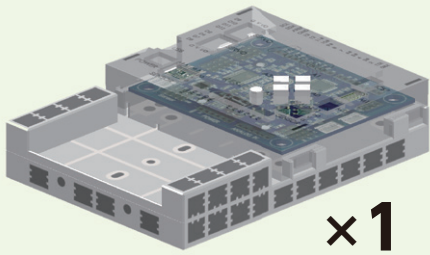
5 When turning the servomotor by hand, turn in the direction of the picture.

 When turning the drive shaft by hand, do so very slowly and gently to avoid causing damage.



Four-legged Dancing Robot

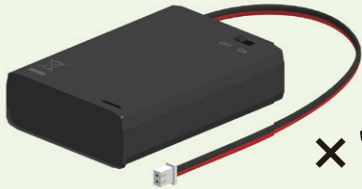
Attaching the Studuino Unit



×1



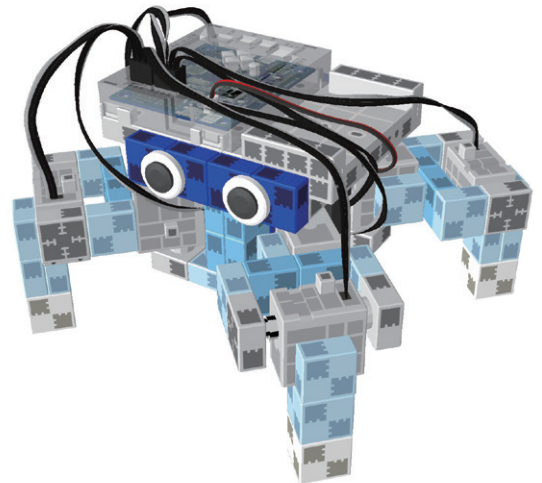
×2



×1



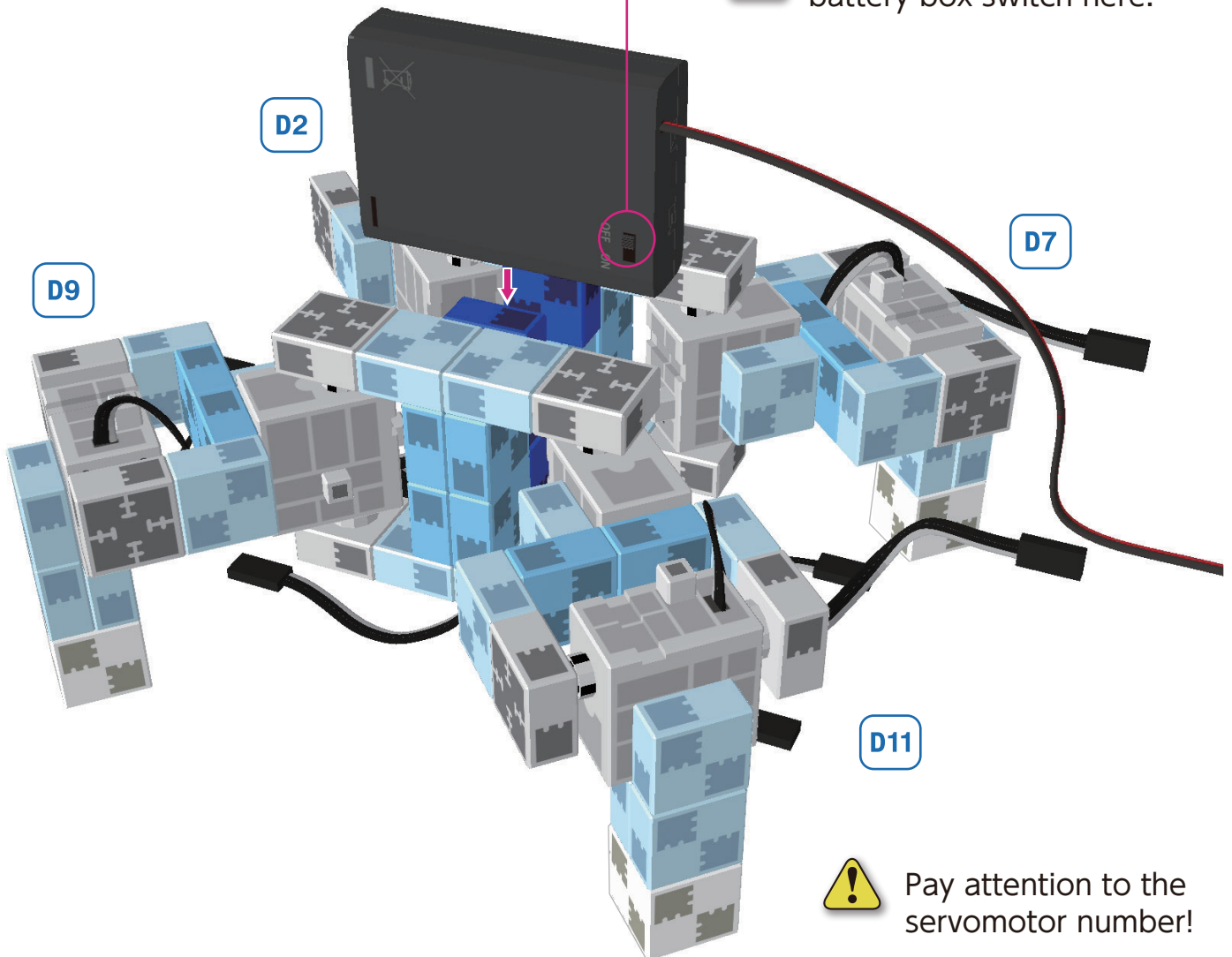
×8



①



You should see the battery box switch here.

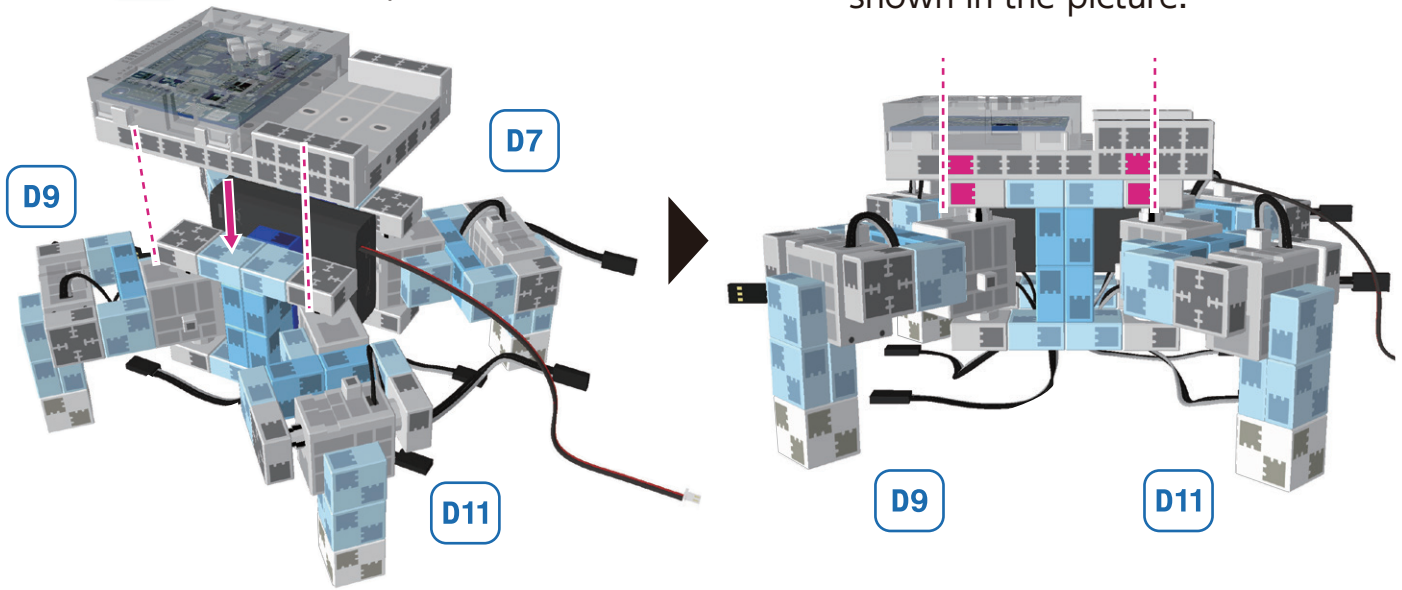


Pay attention to the servomotor number!

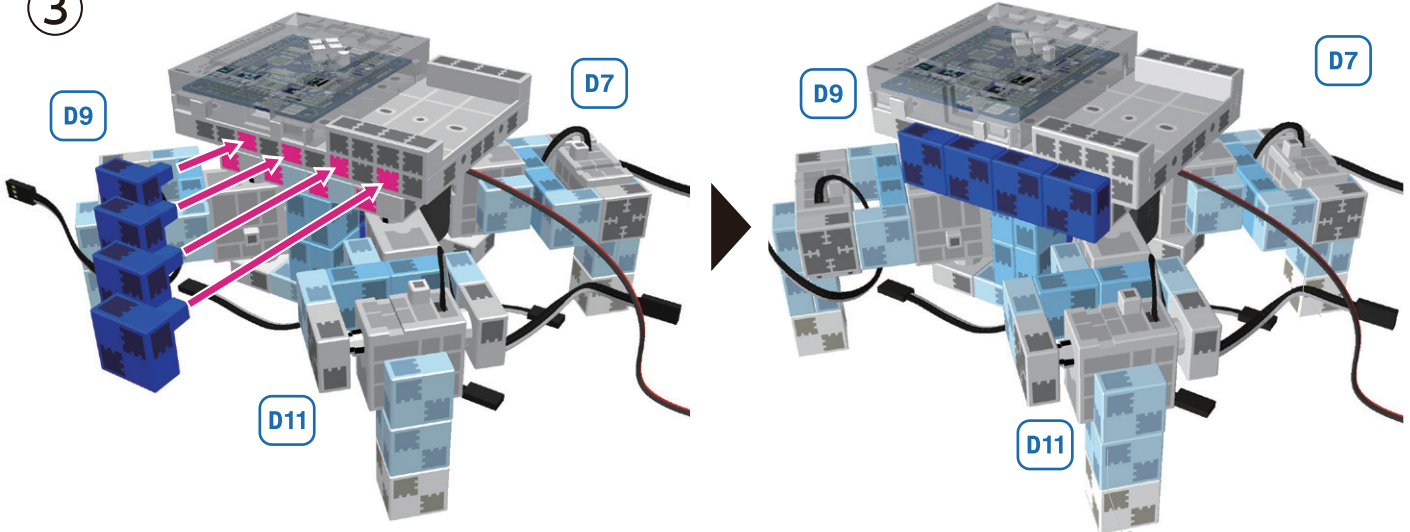
Four-legged Dancing Robot

② ⚠️ Make sure the battery box is covered by the Studuino unit.

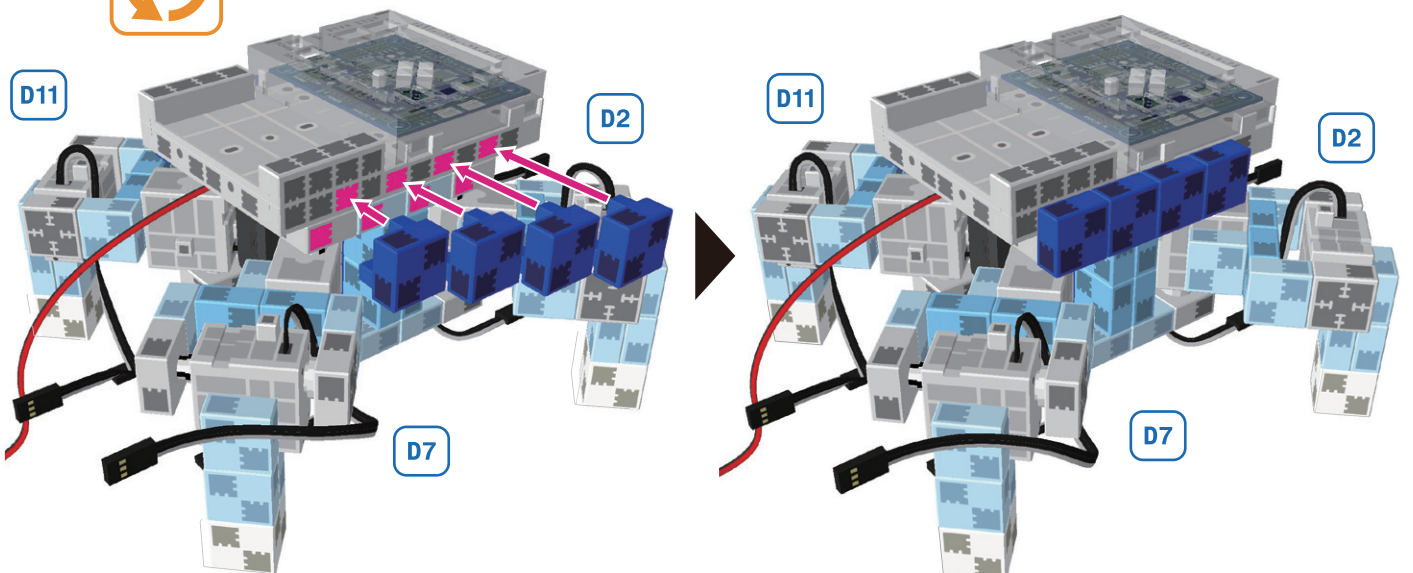
⚠️ Align the holes as shown in the picture.



③

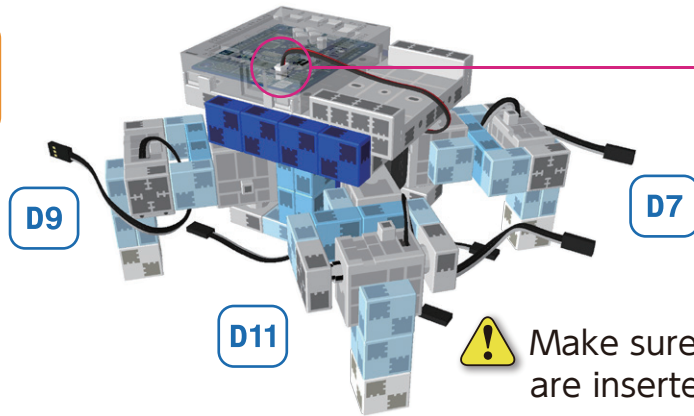


④

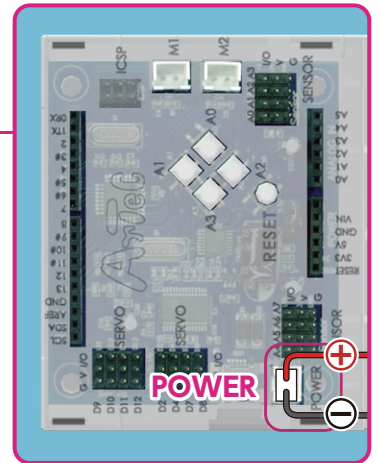


Four-legged Dancing Robot

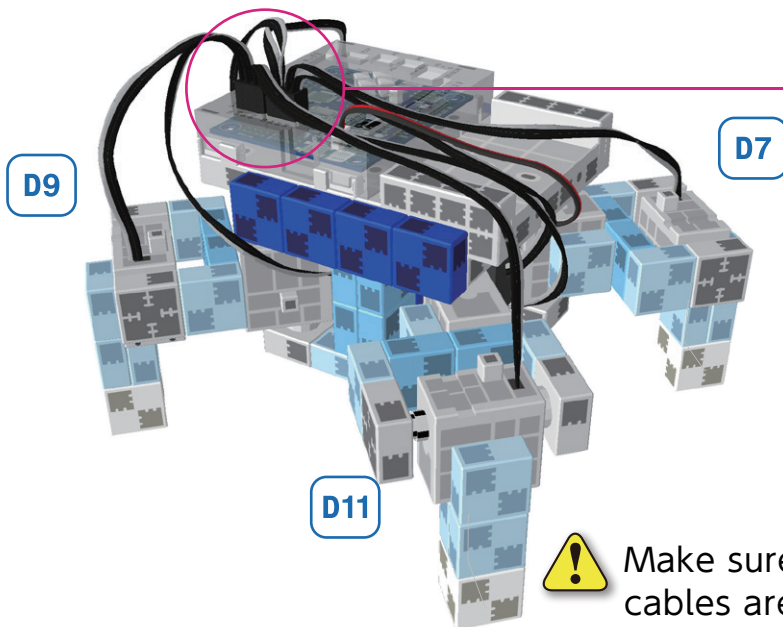
- 5 Connect the battery box cables to the Studuino unit.



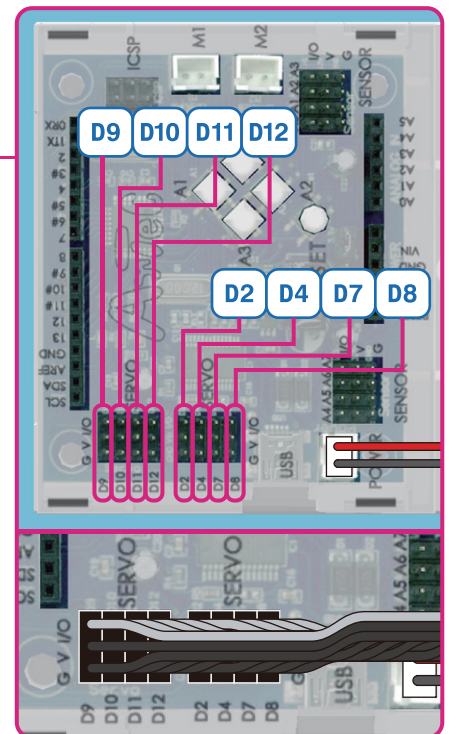
⚠ Make sure the cables are inserted correctly!



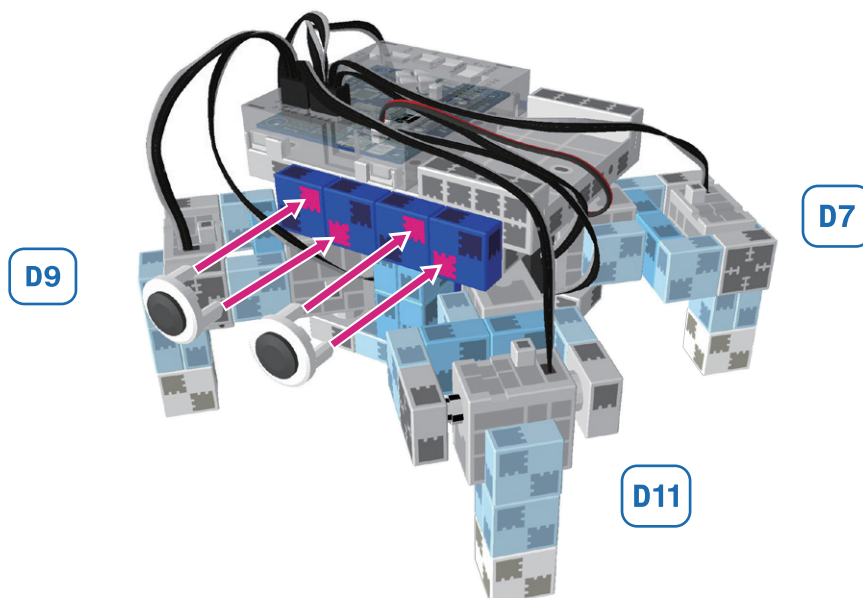
- 6 Connect the eight cables from the servomotor to their corresponding places on your Studuino unit.



⚠ Make sure the cables are inserted correctly!

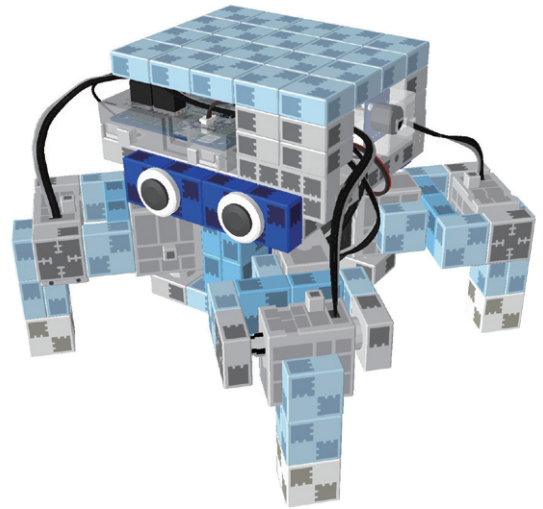
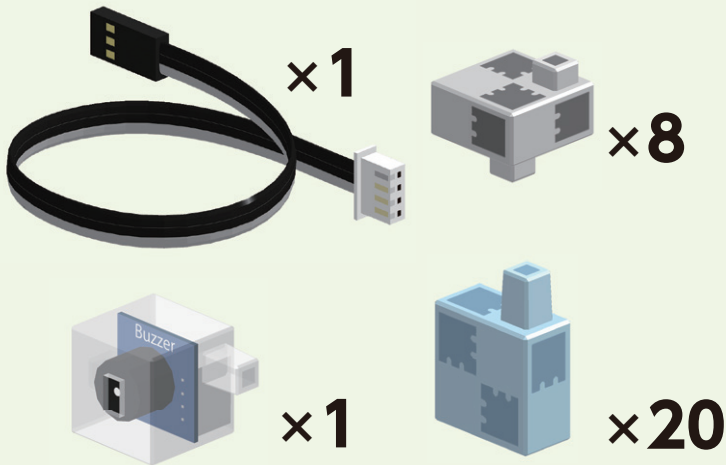


- 7

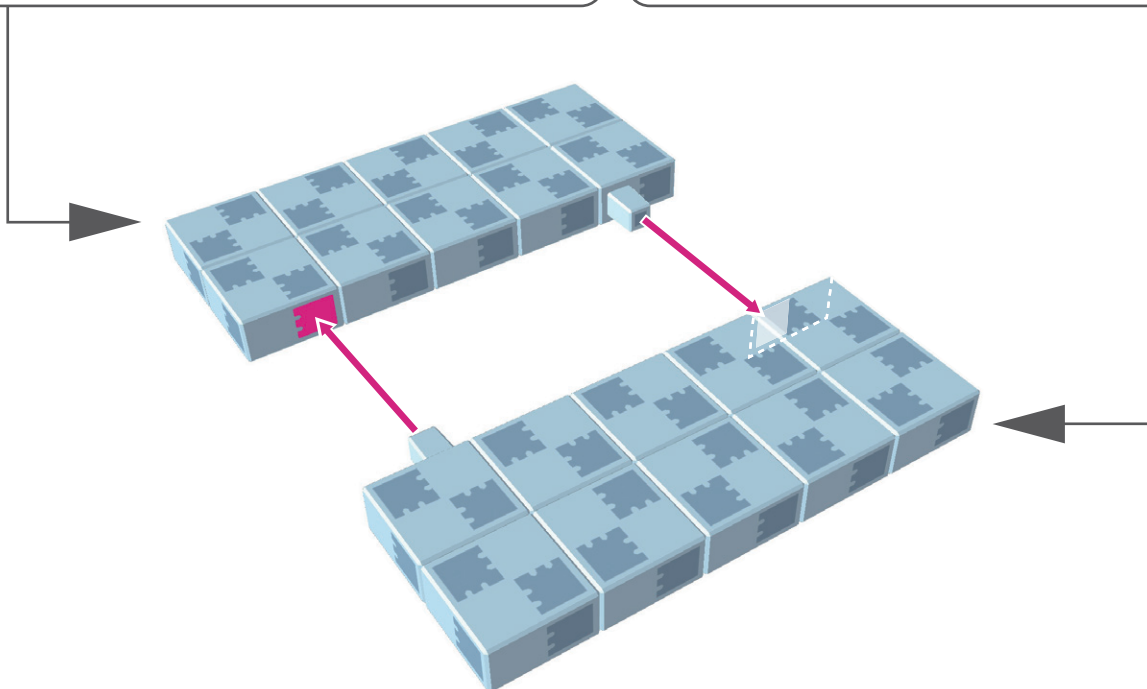
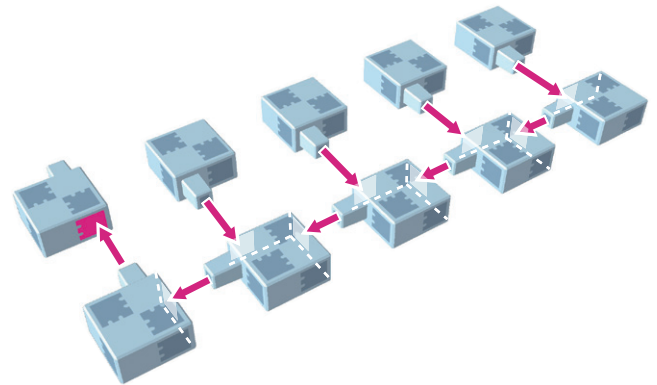
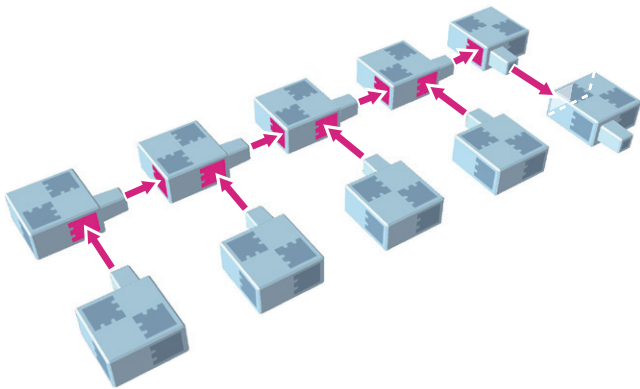


Four-legged Dancing Robot

Assembling the Head

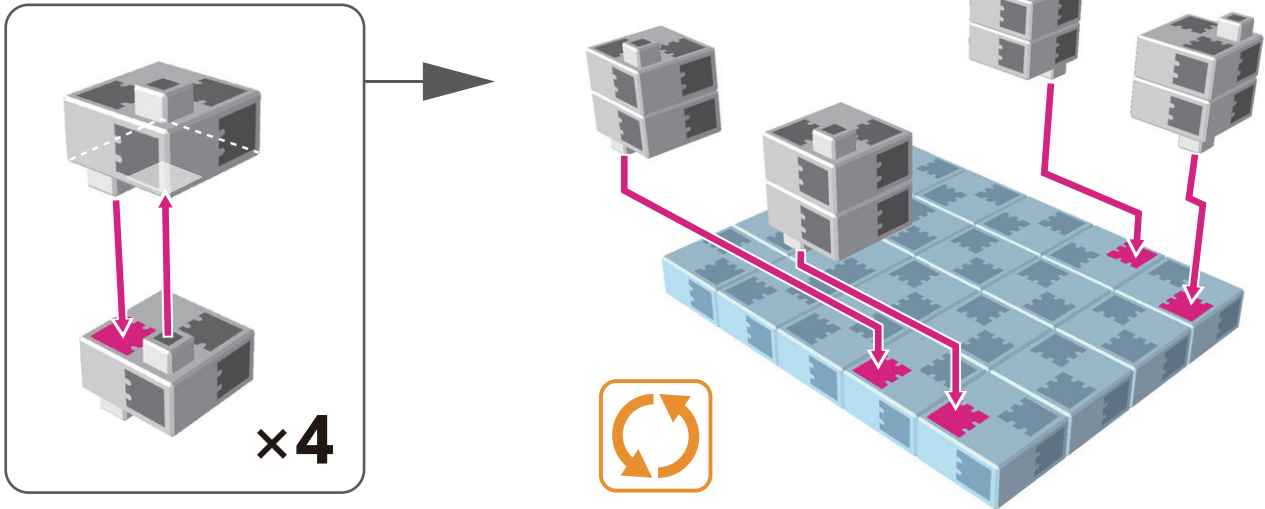


①

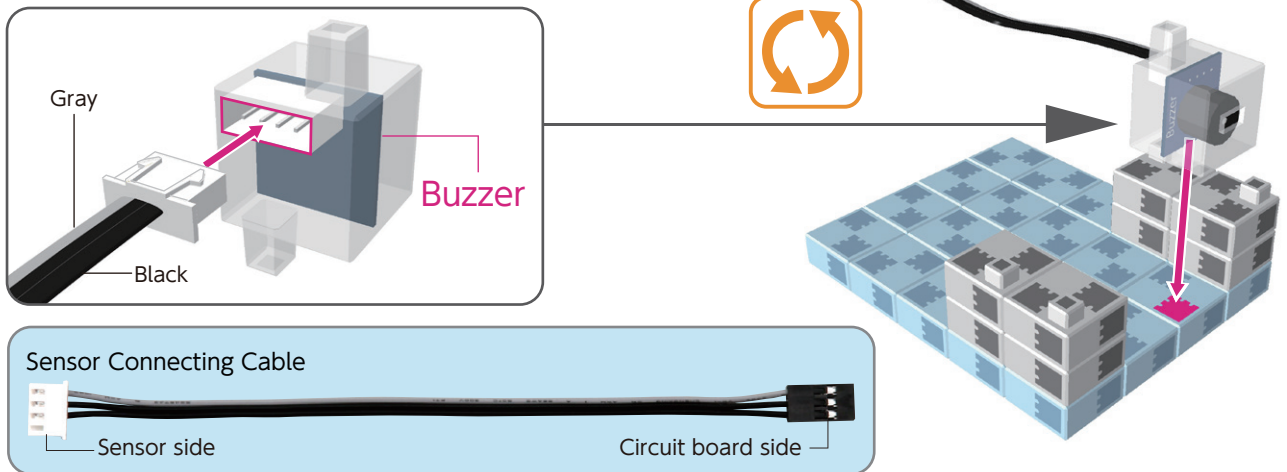


Four-legged Dancing Robot

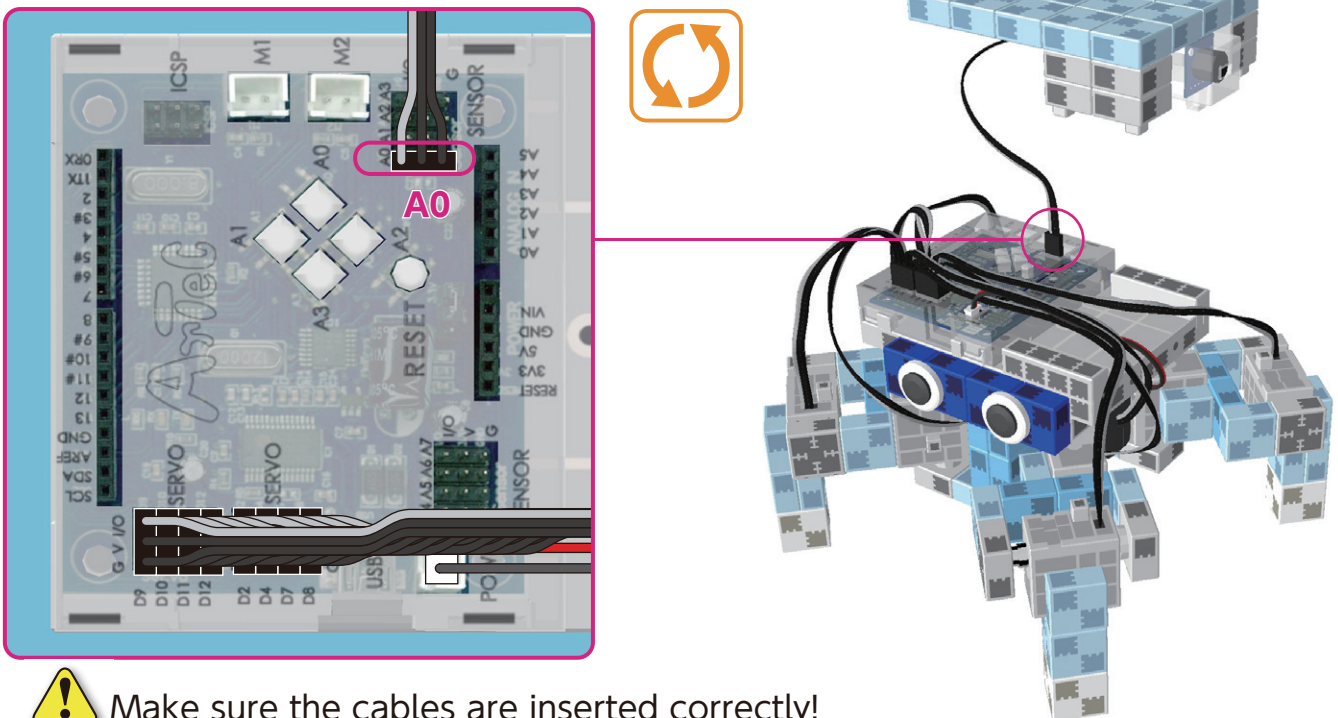
2



3




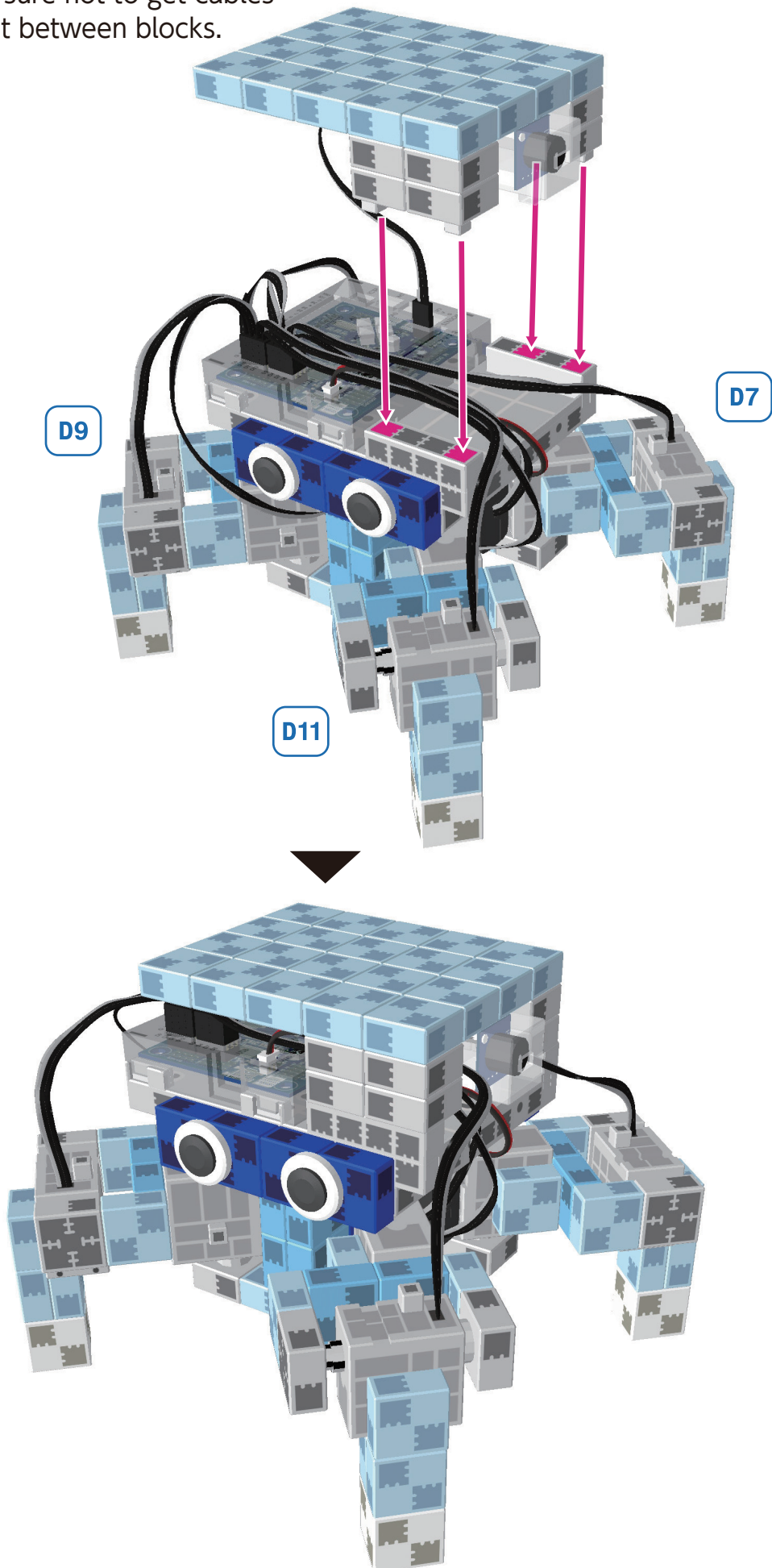
4 Connect the cables from the buzzer to **A0**.



 Make sure the cables are inserted correctly!

Four-legged Dancing Robot

- 5  Make sure not to get cables caught between blocks.

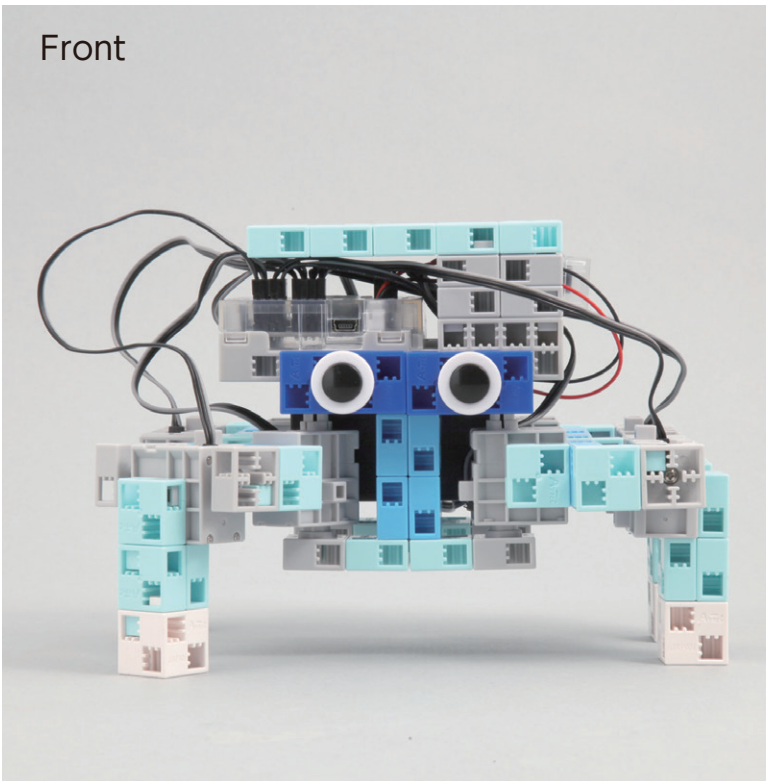


Four-legged Dancing Robot

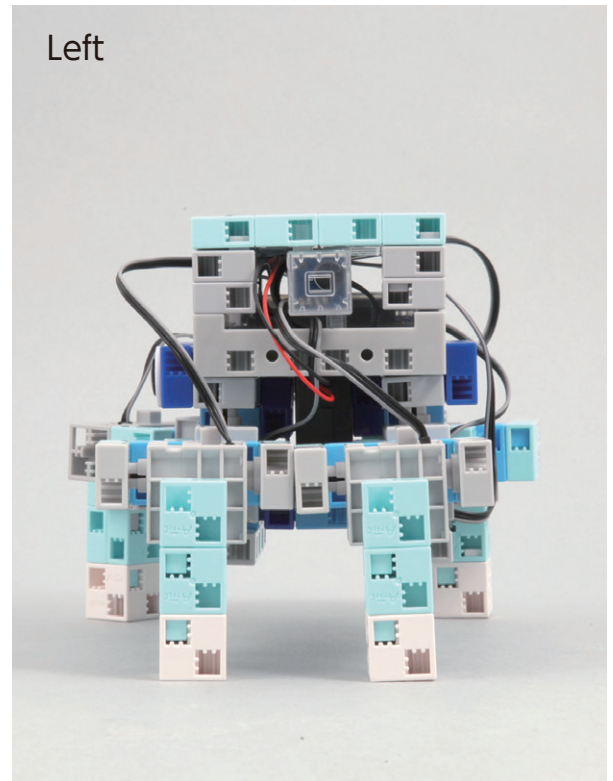
Completed Four-legged Dancing Robot

- ⚠ Be cautious of cables that could become entangled in the moving parts of the motor and cause the robot to disconnect. Take care when arranging cables.
- ⚠ Before operating your robot, check the Assembly Instructions again to confirm your robot has been assembled correctly.

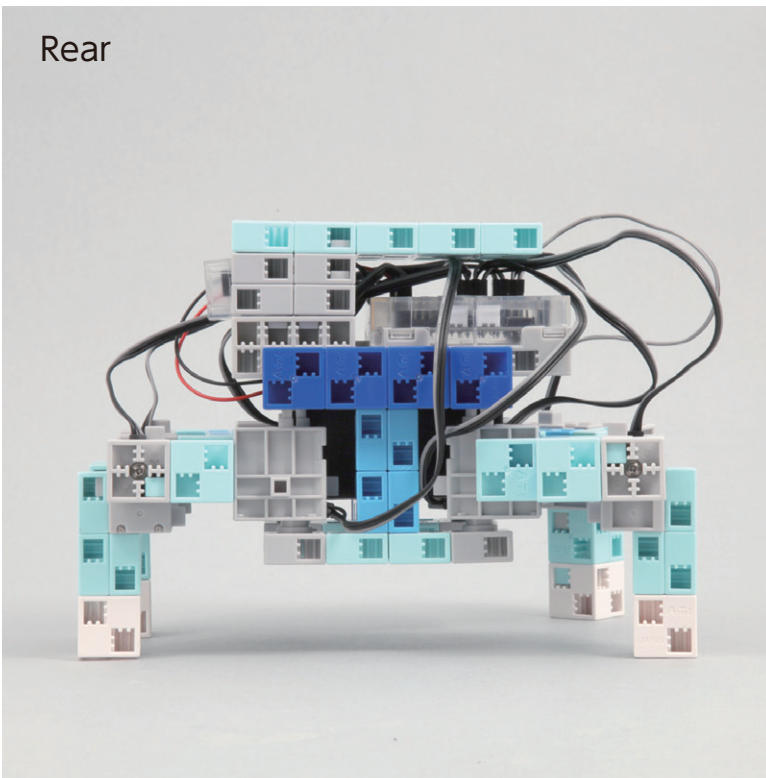
Front



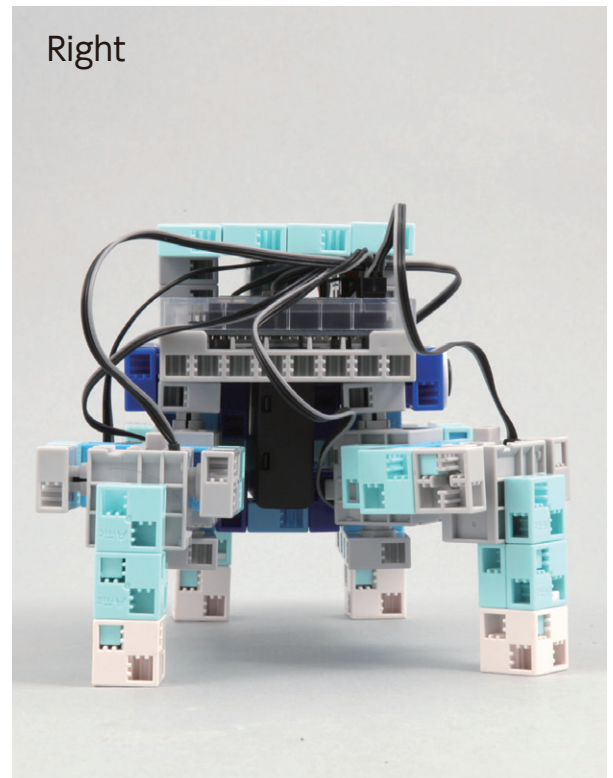
Left



Rear



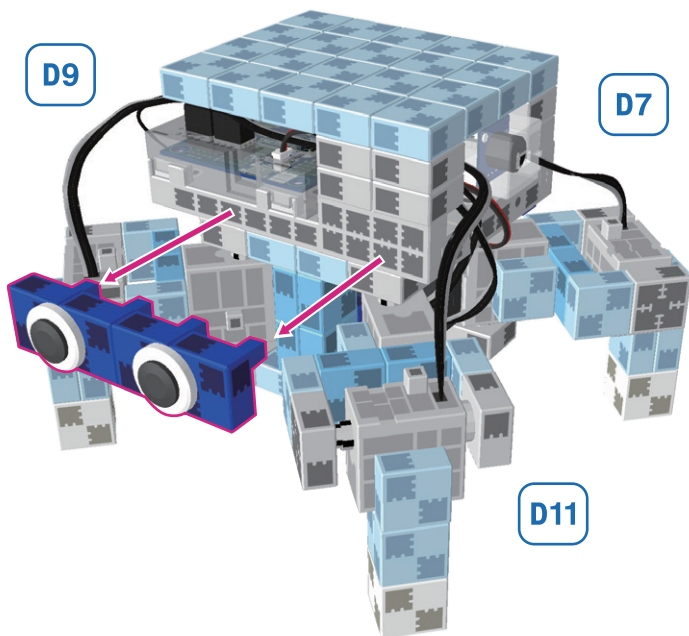
Right



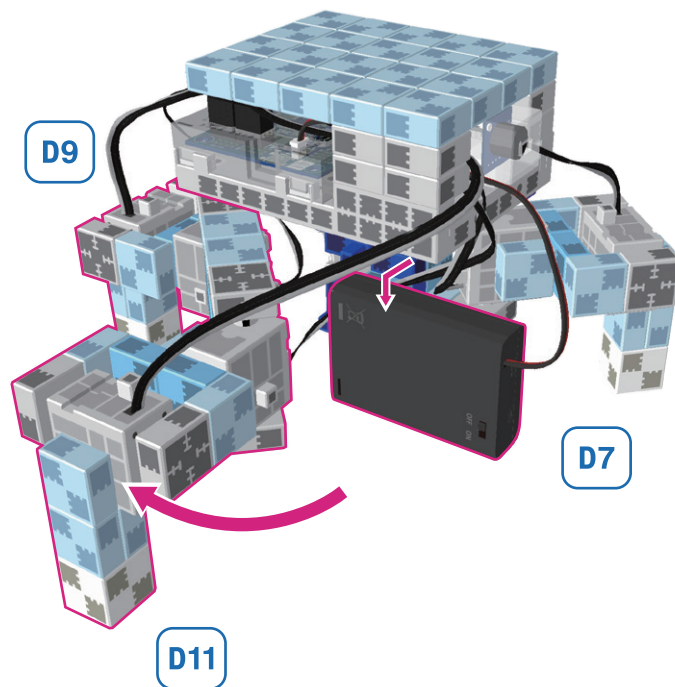
Four-legged Dancing Robot

Replacing the Batteries

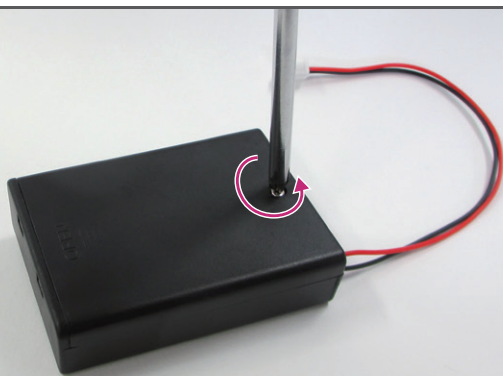
1



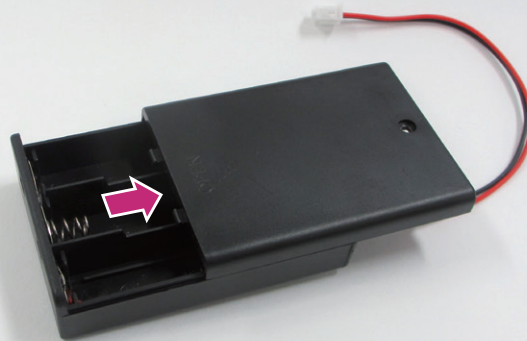
2



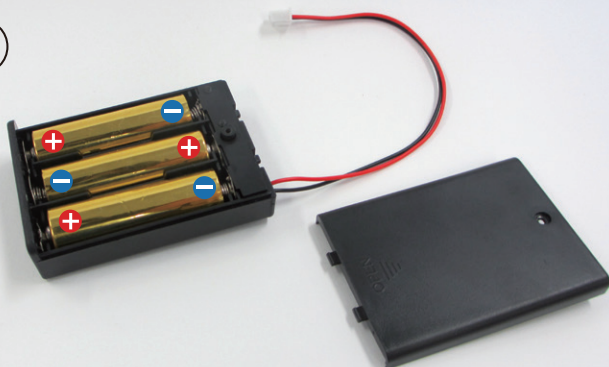
3



4



5



Use a screwdriver
(Phillips #1) to open.



Insert batteries in the
correct polarity.

Put the lid of the battery box
back in place.

Four-legged Dancing Robot

Operating Your Four-legged Dancing Robot (Walking)

Install the software from the URL below to setup the **Studuino Programming Environment**.


★ Proceed to Step 1 when software installation is complete.

<http://www.artec-kk.co.jp/studuino/>

- ① Connect the USB cable to the PC and the Studuino unit.
Refer to **1.3. About Studuino** in **Studuino Programming Environment Manual** for more details.
- ② Download the program file **Four_leggedDancingRobot_1.ipd** from the URL below in the **ArtecRobo** section.

<http://www.artec-kk.co.jp/artecrobo/>

- ③ Open the downloaded file.

- ④ Transfer the program to the Studuino unit by clicking the Transfer button .



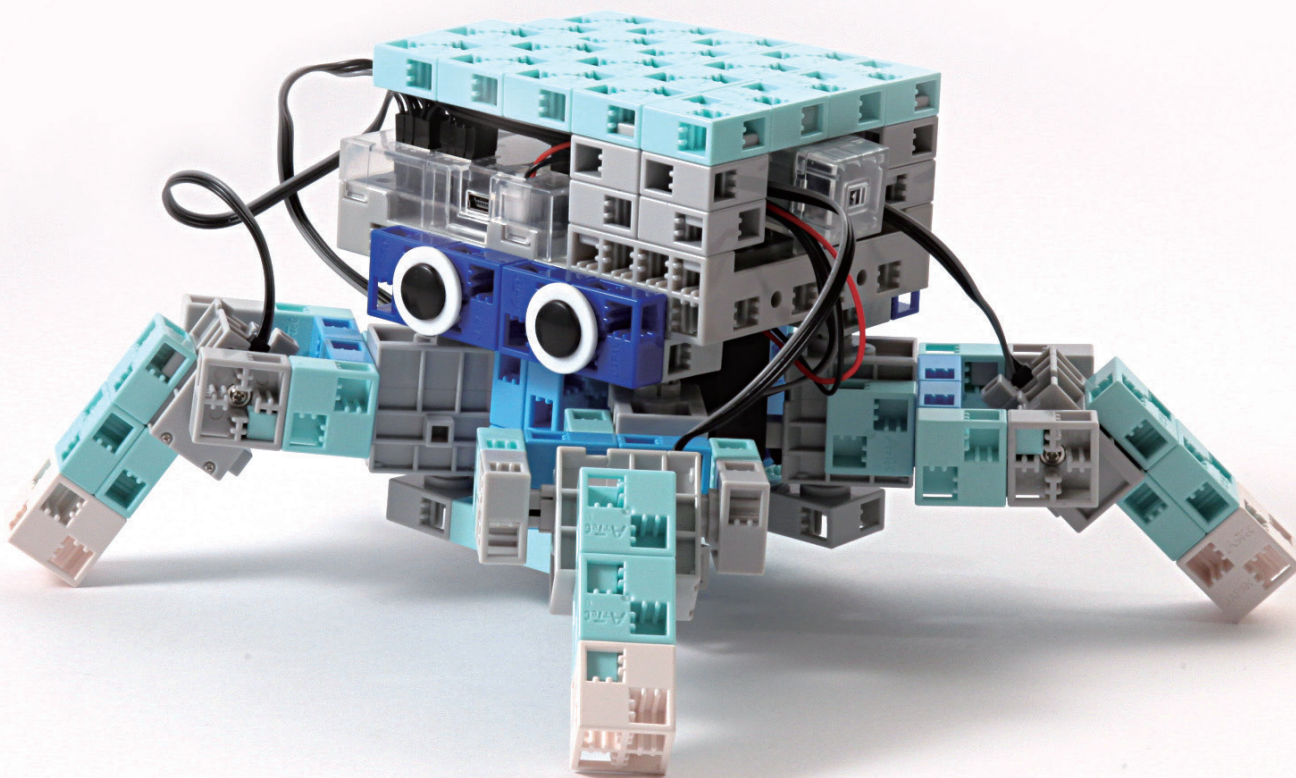
- ⑤ Remove the USB cable from the Studuino unit.

Four-legged Dancing Robot

Operating Your Four-legged Dancing Robot (Walking)

⑥ Turn the switch of the battery box on and your robot will start walking.

- ⚠ Immediately turn the switch to off if your robot does not begin walking as shown in the picture below. Not doing so may damage the servomotor.
- ⚠ If your robot does not move, the servomotor may be in the wrong position or the blocks may be improperly connected. Re-read the Assembly Instructions to make sure that your robot has been assembled correctly.



⑦ Your robot should take six steps and turn three times in the opposite direction.

Four-legged Dancing Robot

Operating Your Four-legged Dancing Robot (Dancing)

Use the Block Programming Environment to make your robot dance to a melody.

Install the software from the URL below to setup the **Stduino Programming Environment**.

★Proceed to Step 1 if the software on page 24 is already installed.

<http://www.artec-kk.co.jp/stduino/>

- ① Connect the USB cable to the PC and the Stduino unit.
Refer to **1.3. About Stduino** in **Stduino Programming Environment Manual** for more details.
- ② Download the program file **Four_leggedDancingRobot_2.bpd** from the URL below in the **ArtecRobo** section.

<http://www.artec-kk.co.jp/artecrobo/>

- ③ Open the downloaded file.

- ④ Transfer the program to the Stduino unit by clicking the Transfer button.

- ⑤ Remove the USB cable from the Stduino unit.

- ⑥ Turn the switch of the battery box on and your robot will start walking.

- ⑦ Your robot will dance to the melody.

