

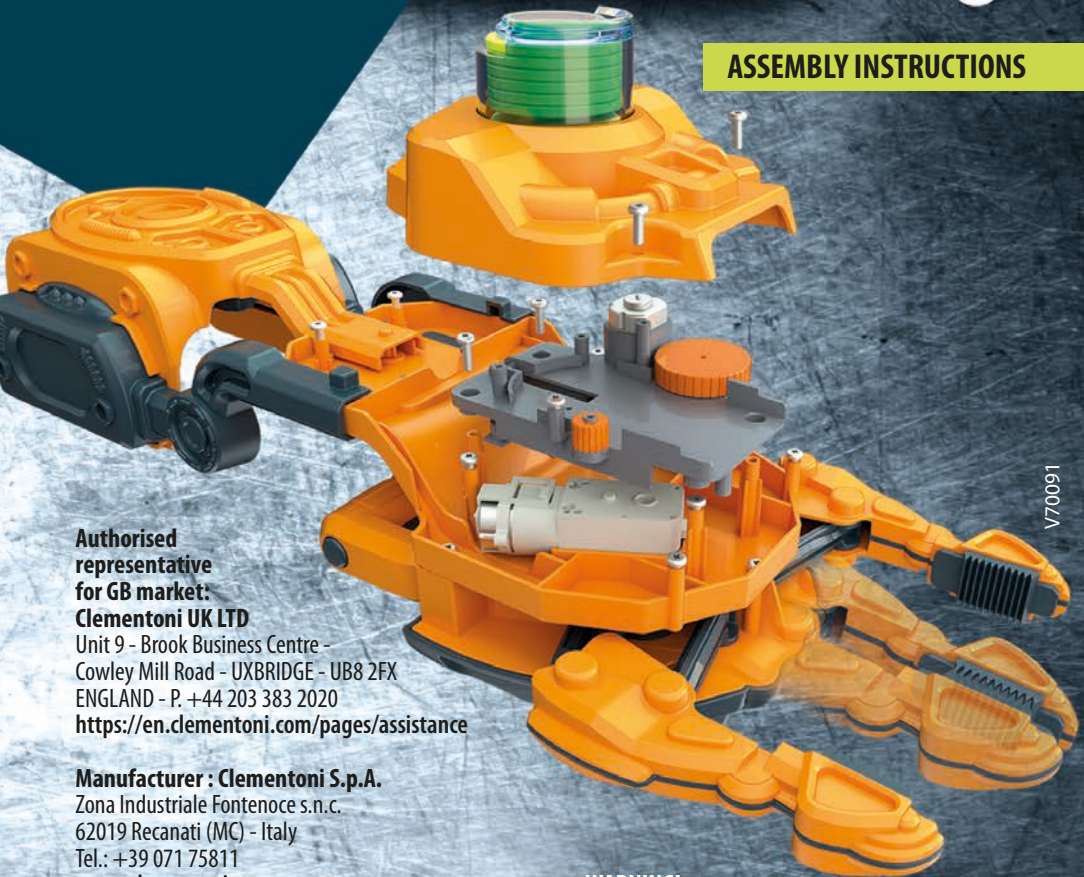
Science  
& play®

ROBOTICS

# CYBER-ARM ROBOTIC BLASTER

8+

ASSEMBLY INSTRUCTIONS



V7009/L

**Authorised  
representative  
for GB market:**

**Clementoni UK LTD**

Unit 9 - Brook Business Centre -  
Cowley Mill Road - UXBRIDGE - UB8 2FX  
ENGLAND - P. +44 203 383 2020  
<https://en.clementoni.com/pages/assistance>

**Manufacturer : Clementoni S.p.A.**

Zona Industriale Fontenoce s.n.c.  
62019 Recanati (MC) - Italy  
Tel.: +39 071 75811  
[www.clementoni.com](http://www.clementoni.com)

**WARNING!**

Do not aim at the eyes or face.  
Do not use the grippers to grasp  
parts of the body.

**WARNING!**

Only for children aged 8 years and older. The instructions  
for adults are included and must be observed.

Read and keep for future reference.

 **Clementoni.**

## REMOVING AND INSTALLING THE BATTERIES

1. Make sure that the toy is switched off.
2. Use a multi-purpose screwdriver to loosen the screw fastening the cover to the battery compartment.
3. Remove the flat batteries.
4. Insert the batteries (4 x 1.5V AA/LR6) by ensuring that their pole marks match those indicated on the battery compartment.
5. The batteries must be inserted by an adult.
6. Close the battery compartment and tighten the screw.
7. Make sure that the device works.

**Power supply:** 6 VDC; **batteries:** 4 x 1.5V AA/LR6

Batteries not included.

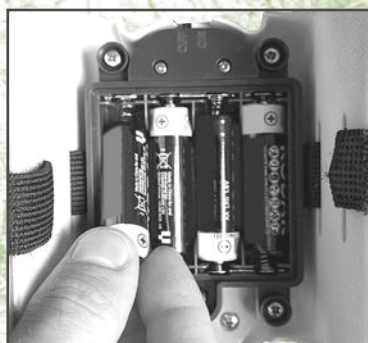
**ASSEMBLY TIME:** the time estimated for mounting this kit is 15 to 20 minutes.

### INSTRUCTIONS FOR SUPERVISING ADULTS:

This toy is suitable for children aged 8 years and older.

An adult should be present when the instrument is assembled and during handling and installation of the electrical parts.

### HOW TO INSERT THE BATTERIES: ASK AN ADULT TO HELP YOU!



## INTRODUCTION

Leap into the future with your **Robotic Arm!**

With this experimental kit you can assemble a robotic arm that can be worn. You will be able to clutch objects and hurl discs thanks to its 2 electric motors and the mechanisms present inside it.

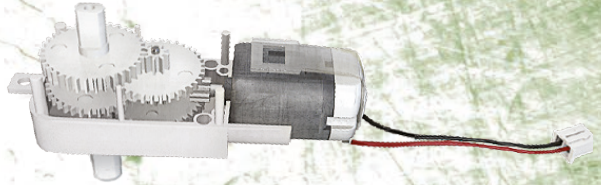


## THE MOTOR OF THE GRIPPERS

The motor that drives the grippers is made up (as you can see in the image below) of two distinct parts: the motor and the plastic block that contains a cascade of gears, namely the **reducer**.

A **reducer** is used to reduce the output rotation speed on the axis: without it, the motor would rotate too quickly, making it impossible to use. However, this is not the only function of the reducer!

A cascade of gears like the one that we are using, by slowing down rotation, allows the motor to exert a greater force. In this way, the Robotic Arm can also clutch heavy objects.



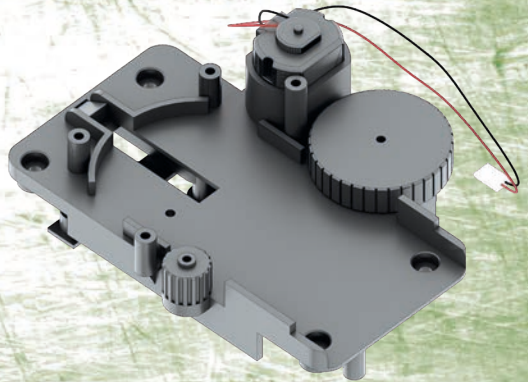
## DISC LAUNCHER

The disc launcher has a very special combination of gears: a spring-based rack and an axis of rotation. The rack mechanism consists of two parts: a toothed rod paired with a cogwheel. When it turns, the cogwheel will move the toothed rod in a certain direction, transforming its rotary motion into linear motion.

At every drive, thanks to the spring, it shifts 1 disc from the loader to the launch zone in front of it, where it will encounter the rotary axis. The cogwheel on the upper part (or rotary axis), by turning at the same speed as the motor, will impart an induced rotation on the disc that will launch it and make it glide for 1 or 2 meters.

**But why is the disc launched with a rotary motion?** Imagine the disc were a flying disc.

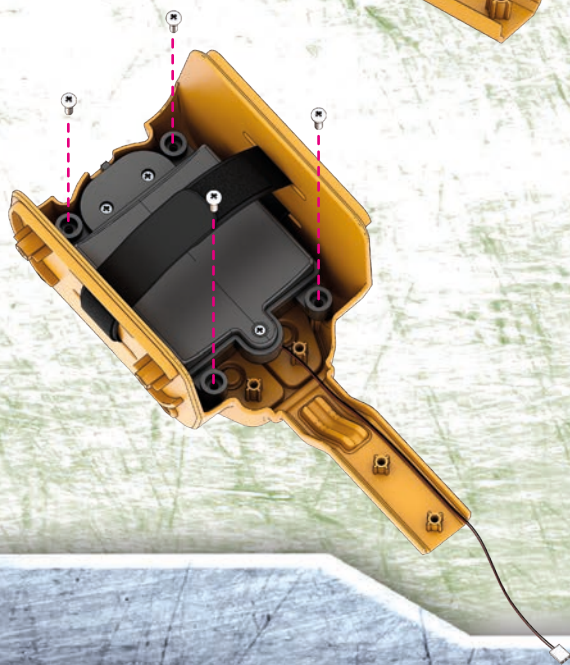
A flying disc does not travel very far without rotation. It is the rotation speed that allows it to fly and keep stable, according to the so-called **gyroscope effect**. The faster the rotations, the more stable its path. We can observe this when we climb on a bicycle: it stays upright only if we pedal.



## ASSEMBLY:



Insert the band with the velcro as shown in the image on part **1**, while keeping the rough part facing upwards.



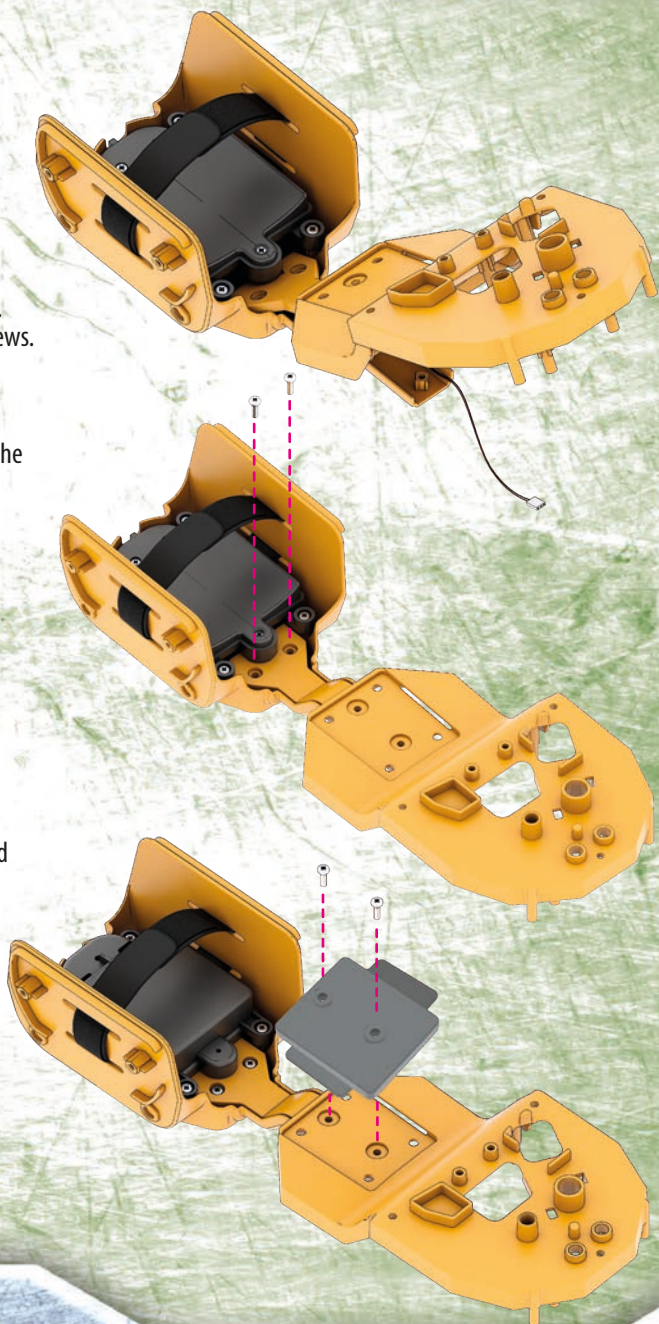
Mount the battery compartment by gently folding the cable and passing it under as shown in the image.

**Note:** make sure that the elastic band passes under the compartment and that the velcro closure is on top.

Take part 2, and put it in place by inclining it as shown in the image. Fasten the two parts with two screws.

**Note:** make sure that the battery cables do not get crushed during the operation.

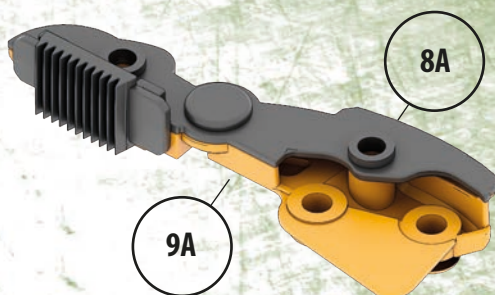
Insert part 3 one flap at a time and secure all the elements with two screws.





**Note:** tighten the screws properly.

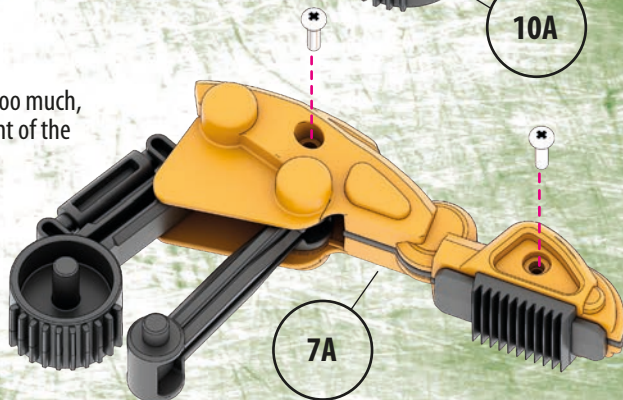
**Note:** do not confuse parts A with parts B.



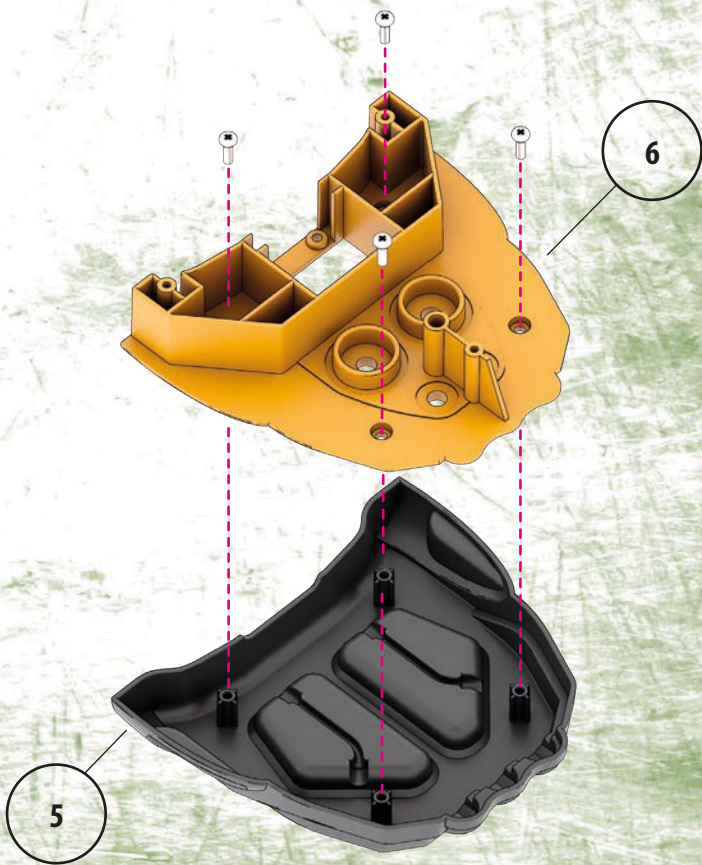
Mount the arm by keeping the large pin outside and the small pin on the gripper.



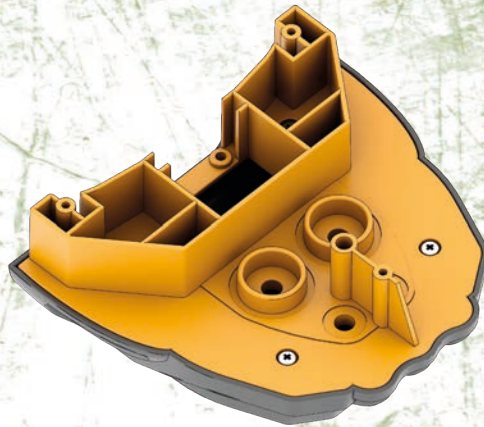
Close without tightening the screws too much, so as to avoid hindering the movement of the arms.



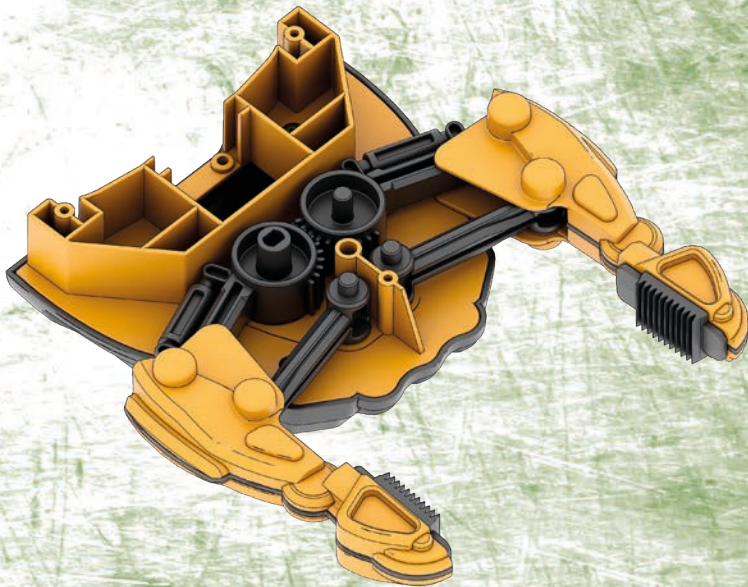
**Perform the same procedure for parts 7B, 8B, 9B and 10B.**

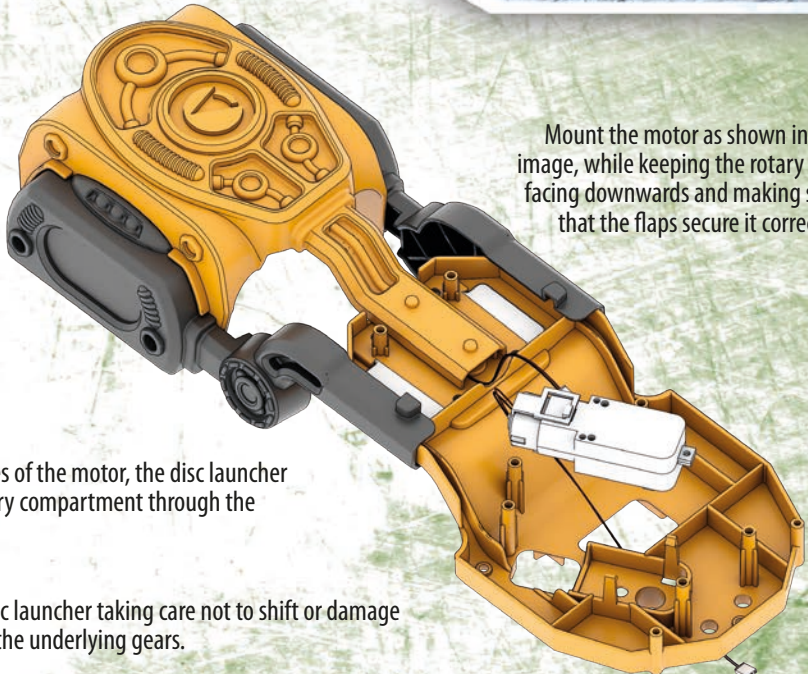






Mount the grippers with the maximum possible opening, making sure that the sides with the screws face downwards and the pin with the rectangular hole faces upwards.

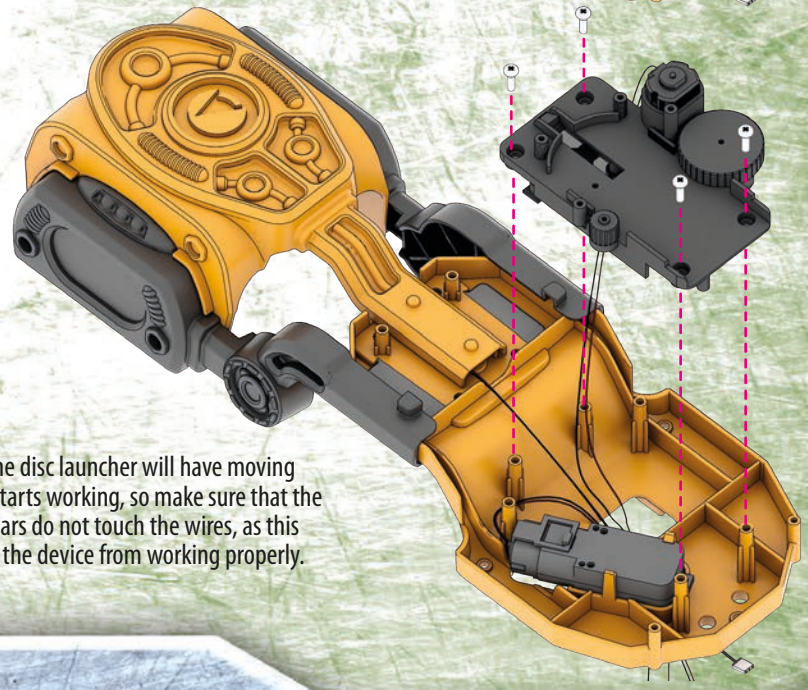





Mount the motor as shown in the image, while keeping the rotary axis facing downwards and making sure that the flaps secure it correctly.

Pass the cables of the motor, the disc launcher and the battery compartment through the central hole.

Mount the disc launcher taking care not to shift or damage the spring or the underlying gears.



**WARNING:** the disc launcher will have moving parts once it starts working, so make sure that the underlying gears do not touch the wires, as this could prevent the device from working properly.




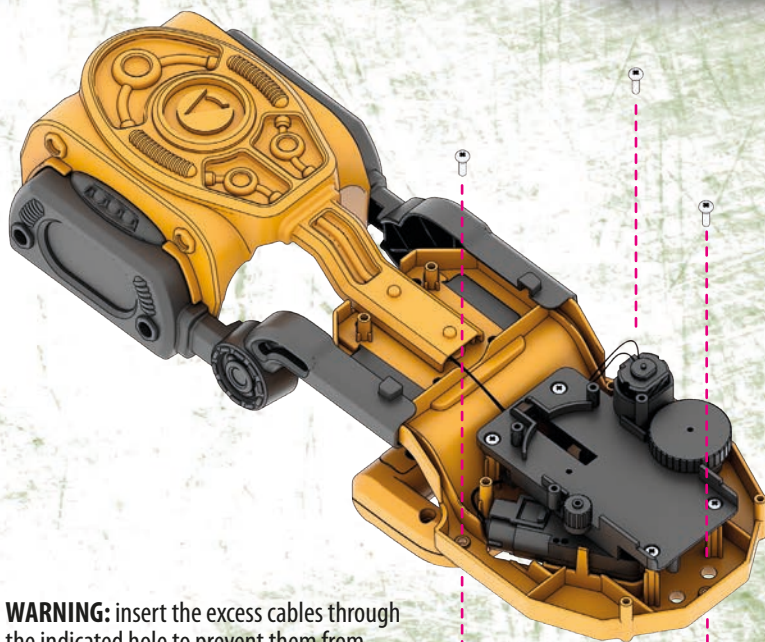
Connect the Molex connector according to the following scheme:

- P. Gripper motor**
- B. Batteries**
- D. Disc launcher**

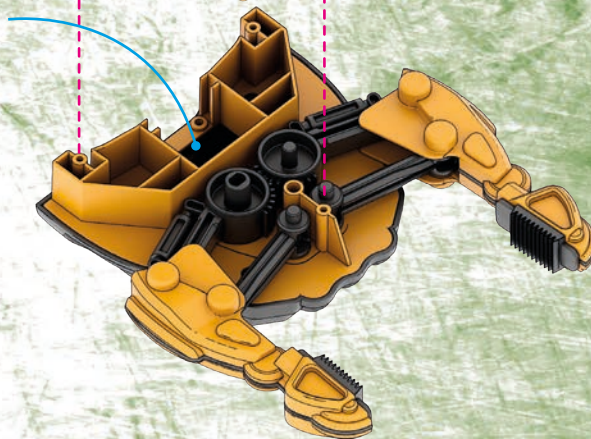
**P.**  
**B.**  
**D.**

The handle can be mounted in two different directions: if you are right-handed, mount it as shown in the picture with the side button facing left, while if you are left-handed, mount the handle with the button towards the right.

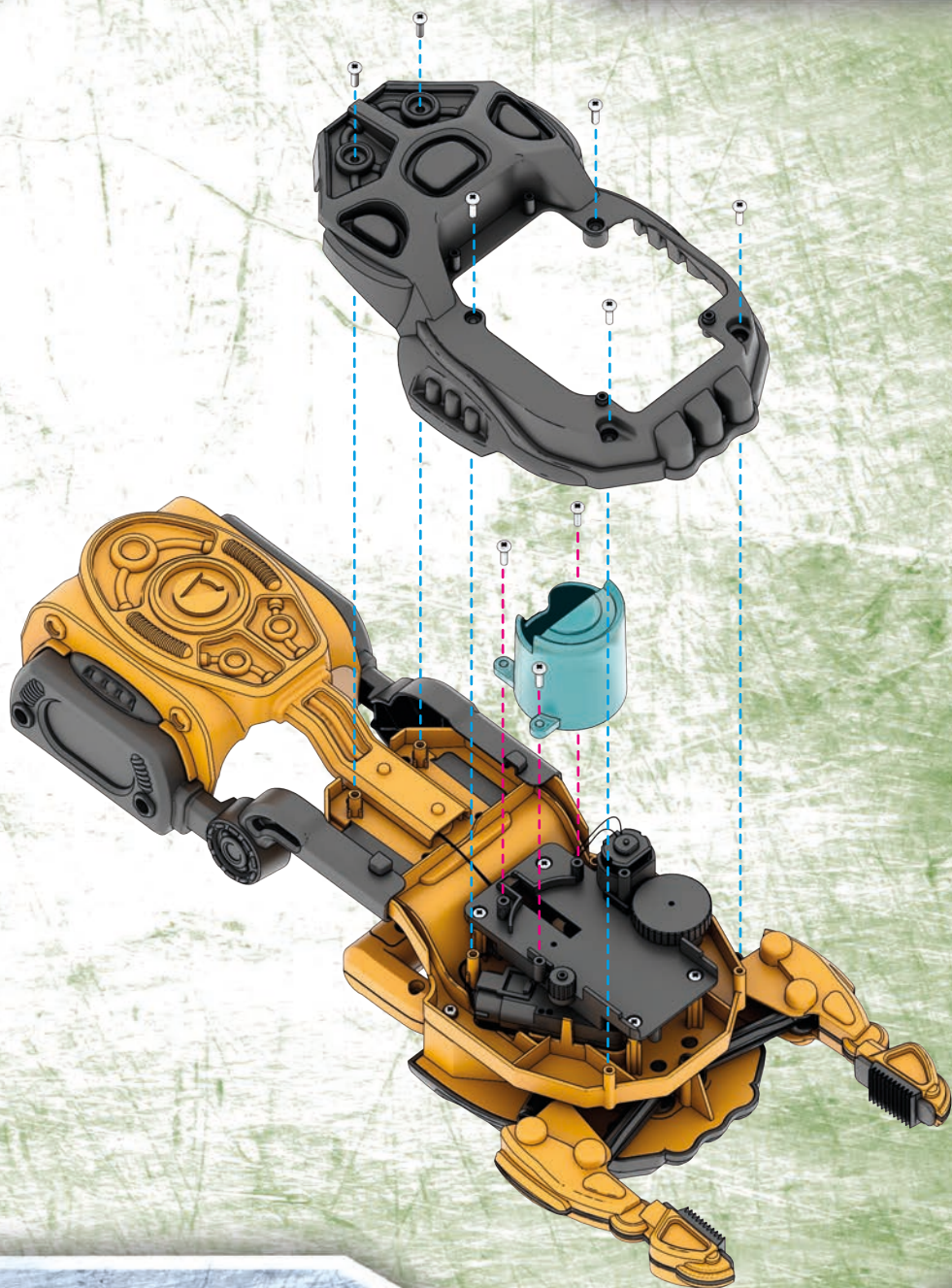




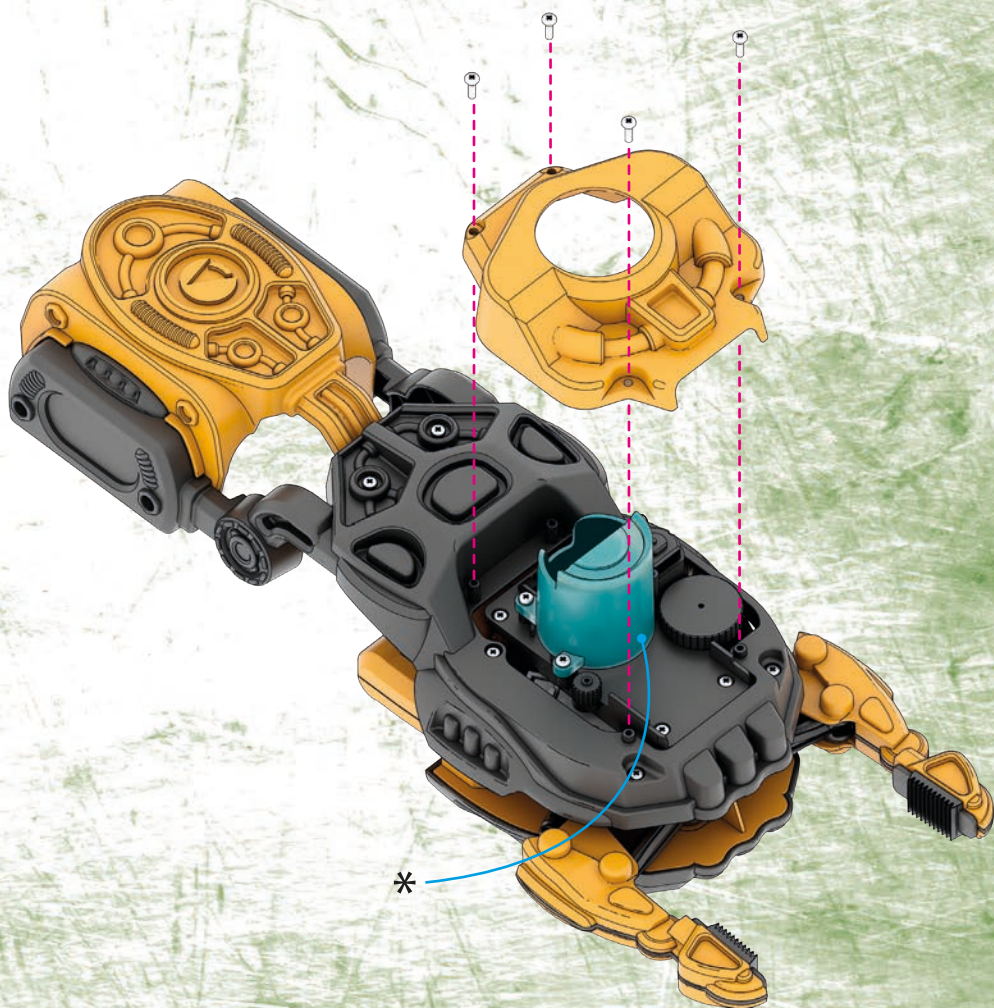
**WARNING:** insert the excess cables through the indicated hole to prevent them from getting crushed during the assembly.

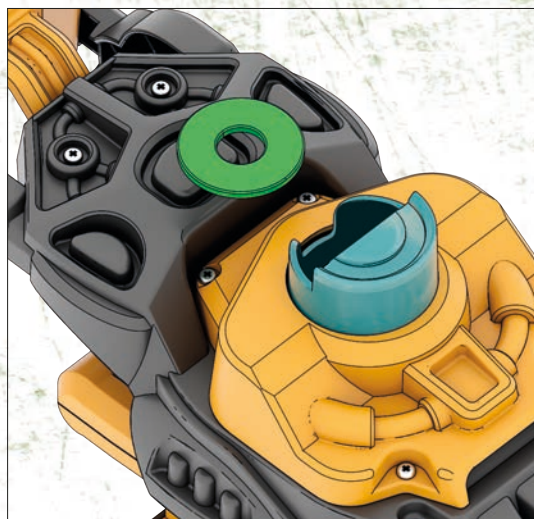


Assemble the two parts, while ensuring that the motor's axis is perfectly aligned with the pin with the rectangular hole; should this not be the case, slightly move the grippers until the part goes into place properly; then, once it has been assembled, gently put it back into the maximum opening position.



**WARNING:** before assembling part 12, make sure that there is enough space between the transparent loader and the disc launcher (where specified), so that at least one sponge disc can pass. \*





Insert the discs one at a time through the transparent loader slit. Make sure that the disc enters flat and that it makes contact with the base of the disc launcher or with the underlying disc.

**WARNING!** The disc launcher will not be able to work unless the discs are stacked properly; if they enter the launcher crooked or diagonally, use your finger or a pen to arrange them flat.

## AIM AND ... PLAY!

### **Wear your robotic arm and grip the handle!**

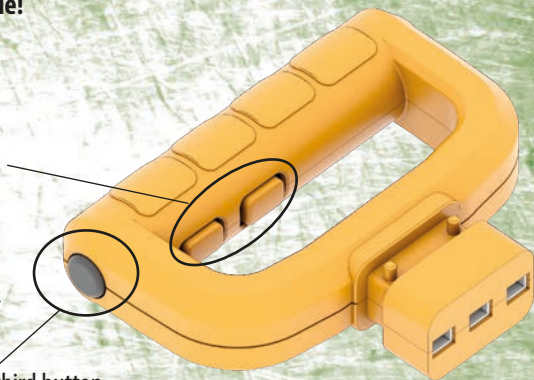
Here's how to control it:

**ROBOTIC GRIP:** to control the movement of the grippers, press the two buttons on the inner side of the handle. The innermost button closes the grippers, the outermost one opens them.

The innermost button closes the grippers, the outermost one opens them.

**P.S.: here's a tip!** For a stronger grip or to lift heavy objects, once you have grasped them, hold down the button that closes the grippers.

**DISC LAUNCHER:** aim properly and keep the third button pressed down; the arm will start launching discs at regular intervals! Keep the button pressed down for a volley effect!



# INSTRUCTIONS FOR CORRECT USE OF TOYS/GAMES WITH REPLACEABLE BATTERIES

## WARNING!

• Batteries must be installed by an adult. • The + and - symbols on the batteries must be lined up correctly. • Old batteries must be removed from the toy. • The power terminal block must not be short-circuited. • Never touch the contacts inside the battery compartment, as this could cause a short circuit. • The rechargeable batteries must be removed prior to being charged. Only recharge under adult supervision. • Never attempt to recharge non-rechargeable batteries. • Different types of batteries or new and used batteries should not be used at the same time.

## OTHER RECOMMENDATIONS:

• Batteries are dangerous if swallowed; keep away from children. • Always remove batteries prior to long-term storage. • Do not try to open the batteries. • Do not throw batteries into a fire.

## INSTRUCTIONS FOR BATTERY DISPOSAL



The symbol indicates that worn-out batteries must be disposed of in accordance with current regulations on waste disposal. Chemical symbols for mercury (Hg), cadmium (Cd) and/or lead (Pb) which appear below the crossed out wheeled recycling bin symbol indicate that there is a significant percentage of the relative substance in the battery. These substances are highly damaging to the environment and human health. The correct disposal of batteries allows their isolation and the targeted treatment of harmful substances, and allows recycling of precious primary materials, reducing negative effects on persons and the environment. The disposal of worn-out batteries in landfills or the environment significantly increases the risk of water pollution. Pursuant to European Directive 2013/56/EU, it is prohibited to dispose of batteries and accumulators as household waste and consumers are obliged to participate in separated waste collection so as to facilitate the treatment and recycling of the same.

## OPERATING TIPS

In case of anomalies occurring during use, the following simple checks should be carried out:

### The toy is not working properly.

Are the batteries inserted correctly?  
Do the batteries need to be replaced?

**The toy switches off or seizes up.** Reset the toy in one of the following ways, or try both:

- switch the toy off and then back on again;
- remove the batteries for at least 10 seconds before putting them back in.

## HOW TO DISPOSE OF THE BATTERIES

Discharge the batteries completely by leaving the device on until the batteries have fully run out. Remove the batteries from the toy before disposal. Dispose of all batteries in accordance with current regulations, by using the appropriate containers at an authorized recycling center or by returning them to the shop where they were purchased. Returning them is free! Penalties are applied for incorrect disposal.

## INSTRUCTIONS FOR THE DISPOSAL OF ELECTRICAL AND ELECTRONIC DEVICES SUBJECT TO SEPARATE WASTE DISPOSAL

**IMPORTANT!** The crossed out wheeled recycling bin symbol indicates that in European Union member states (Directive 2012/19/EU) and in those that adopt separated waste collection systems, all components of the product marked with this symbol (or indicated as such in the instructions) are subject to separated waste collection laws at the end of their life. It is prohibited to dispose of such components as mixed household waste.

## HOW TO DISPOSE OF ELECTRICAL AND ELECTRONIC WASTE

It is mandatory to separately collect those components marked with the symbol (or indicated as such in the relevant documentation) and deliver them to authorized recycling centers for the purposes established, or where possible, to return the product for disposal back to the shop when a similar product is purchased, or for free if the product's external dimensions are below 25 cm. The users of the product play a critical role in ensuring the correct disposal of electrical and electronic equipment that has reached the end of its life. It is therefore important for each user to be aware of their role and to always dispose of electrical/electronic waste in accordance with current legislation, thereby contributing to the correct management of waste and encouraging its reuse, recycling and/or recovery.

If any malfunctions occur due to an electrostatic discharge, the toy should be switched off and then back on again to restore its correct operation. If the problem persists, use the toy in another location.

## Maintenance

• Use a soft damp cloth to clean the toy, without any type of detergent. • Do not use chemical solvents. • Do not expose it to direct sunlight or to any other source of heat. • Do not pour liquids onto the toy or immerse it in water. • Do not dismantle it or allow it to fall. • Remove the batteries from the toy if it is not used for extended periods of time.



**WARNING!** Components marked by the symbol contain substances that are harmful to the environment and human health. It is therefore prohibited to dispose of them as mixed household waste or together with other domestic waste. Incorrect disposal may result in damage to the environment and may be punishable by law. These components should not be used improperly. In particular, it is forbidden to remove the electrical and electronic parts from the toy or use the toy if it is damaged. These actions could cause health hazards. Note: the above information only relates to the parts of the toy marked with the symbol (or those parts indicated in the documentation as being subject to this restriction). Other components of the toy (cards, accessories, etc.) and their packaging are not subject to the above-mentioned indications and must be disposed of according to the METHODS specified in the current standards. These other components do not need to be delivered to authorized recycling centers for electrical and electronic equipment or returned to the shop when a new product is purchased. Domestic (non-professional) users are invited to contact their local retailer, the public waste disposal authorities or the Customer Service department of: CLEMENTONI S.p.A. (Tel. +39 071 75811; fax +39 071 7581234; e-mail: info@clementoni.it) for further information about the correct way to dispose of the product.

**Clementoni** Registered on the electronic and electrical manufacturers' register: **REGISTRATION IN PROGRESS.**

## WARNING:

**this toy is fragile; be careful not to let it fall and do not force the movement of the motors manually (for example, by forcing the grippers by hand), otherwise it may break.**

## WARNING:

all packaging materials, such as adhesive tapes, bags, plastic sheets, metal wires and labels, are not part of the toy and must be kept out of reach of children. Should the operating problems persist, contact the Courtesy Service from Monday to Friday between 2 p.m. and 6 p.m. at the toll-free number appearing below.

**MADE IN ITALY**

Designed, developed and tested in Italy.

Clementoni S.p.A.

Zona Industriale Fontenoco s.n.c.

62019 Recanati (MC) – Italy

Phone: +39 071 75811 / www.clementoni.com