

EXPERIMENT MANUAL

Mega Cyborg[®] Hydro Blaster



 THAMES & KOSMOS

Thames & Kosmos, 89 Ship St., Providence, RI, 02903, USA | 1-800-587-2872 | www.thamesandkosmos.com
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KIT CONTENTS

Good to know!

If you are missing any parts, please contact Thames & Kosmos customer service.

What's inside your experiment kit:

<p>A</p>				<p>B</p>						
<p>C</p>				<p>D</p>						
<p>E</p>				<p>F</p>		<p>G</p>				
<p>P1</p>	<p>P2</p>		<p>P3</p>	<p>P6</p>	<p>P5</p>	<p>P17</p>	<p>P9</p>	<p>P8</p>	<p>P7</p>	
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Wow!
That's a lot of parts!

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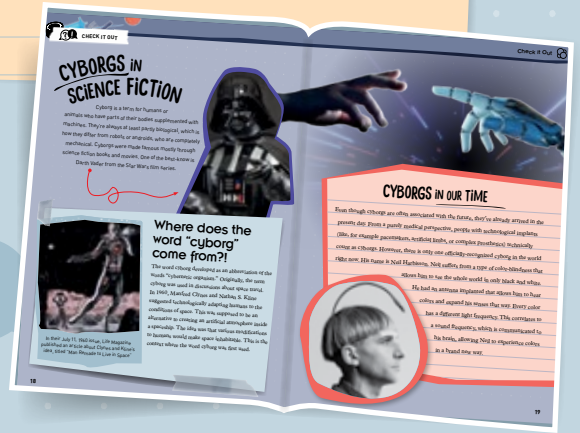
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ASSEMBLY BEGINS ON PAGE 8
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TIPS

YOU WILL FIND ADDITIONAL INFO IN THE CHECK IT OUT SECTIONS ON PAGES 18, 19, 42, AND 43



Checklist:

✓ No.	Description	Quantity	Item No.
○ P1	Wide-headed screw	4	728638
○ P2	Screw	27	728638
○ P3	Washer	3	728640
○ P4	Rubber gasket	1	728639
○ P5	Cap	1	728641
○ P6	Bottle top	1	728641
○ P7	Tension spring	4	728639
○ P8	Torsion spring	2	728640
○ P9	Extra small spring	2	726639 728641
○ P10	Small spring	1	728640
○ P11	Medium spring	1	728640

✓ No.	Description	Quantity	Item No.
○ P12	Large spring	2	728640
○ P13	Tubing	1	728641
○ P14	Lubricant packet	1	723607
○ P15	Water tank (160 ml)	1	728642
○ P16	Foam pads, thick	1	728639
○ P17	Foam pads, thin	1	728639
○ P18	Sticker sheet	1	728643
○ A	Frame A with parts A1 – A14	1	728630
○ B	Frame B with parts B1 – B19	1	728631
○ C	Frame C with parts C1 – C15	1	728632
○ D	Frame D with parts D1 – D22	1	728633
○ E	Frame E with parts E1 – E18	1	728635
○ F	Frame F with parts F1 – F9	1	728636
○ G	Frame G with parts G1 – G2	1	728637



YOU WILL ALSO NEED:

Small Phillips-head screwdriver, diagonal cutter or scissors and nail file, needle-nosed pliers, felt-tipped marker, small plastic cup, cotton swab, and paper towels



SAFETY INFORMATION

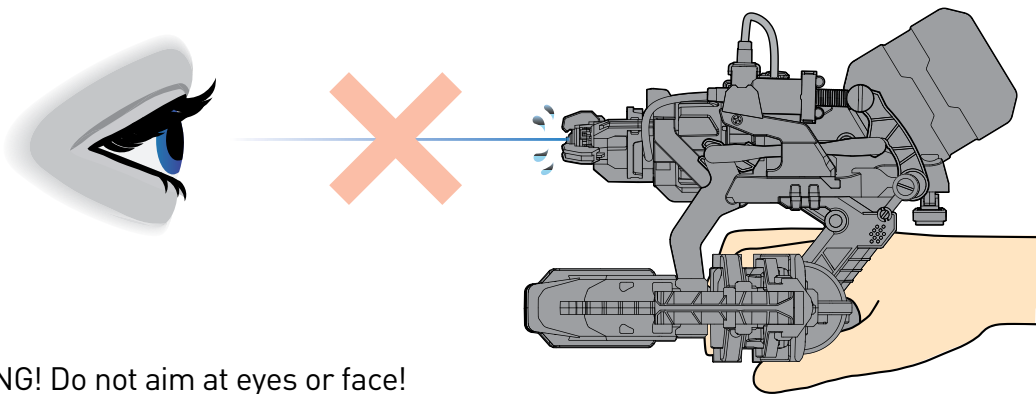
WARNING!

Not suitable for children under 3 years. Choking hazard — small parts may be swallowed or inhaled. Strangulation hazard — long tubes may become wrapped around the neck.

WARNING! Some parts of this kit have functional sharp points, corners, or edges. There is risk of injury!

Only to be used under adult supervision. Instructions for parents or other supervising adults are included and have to be observed.

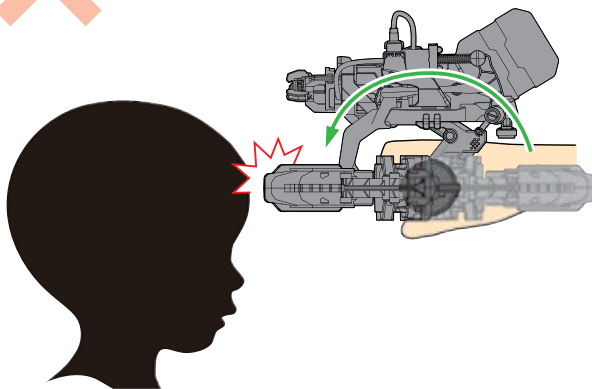
Keep the packaging and instructions as they contain important information.



WARNING! Do not aim at eyes or face!

Be sure to always maintain a safe distance when transforming the blaster!

Do not hold onto any moving parts!

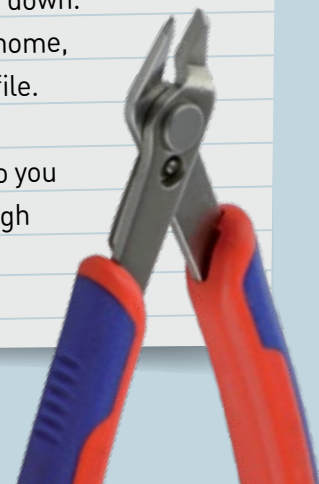


THE RIGHT TOOL

Using the right tool can make assembling your models easier and it can also make your models work better in the end. It is best to cut the plastic parts out of their frames with a small diagonal cutter (such as those used for electronics work) or model pliers. Using these tools, the parts can be precisely cut so that no burrs remain on the parts and there is no need to file them down.

If you don't have these pliers at home, you can use scissors and a nail file.

Normal scissors do not cut as precisely as a diagonal cutter, so you may have to file some of the rough edges down with the nail file.



IMPORTANT INFORMATION

Dear Parents!

Children want to explore, understand, and create new things.

They want to try things and do it by themselves. They want to gain knowledge!

They can do all of this with Thames & Kosmos experiment kits.

With every single experiment, they grow smarter and more knowledgeable.

Before building and experimenting, read the instructions together with your child and discuss the safety instructions.

Support your child with advice and a helping hand, especially during tricky assembly steps or experiments. Some assembly steps require more strength, which you may need to provide.

To prevent damage to the work surface on which your child is building and experimenting, provide them with a mat or other surface protection.

When cutting the plastic parts out of the frames with the diagonal cutter or scissors, special care must be taken, not just because of the sharp edges on the tools, but also because the plastic parts can yield sharp edges

or burrs. These can be removed with the help of the diagonal cutter or a nail file. Supervise your child when they are using the sharp tools until you trust that they can handle the tools independently.

The water spraying function of the Mega Cyborg Hydro Blaster should only be used outside. To avoid injury: Only use clean tap water. Do not fill with water from a puddle, a rain bucket, a natural body of water (ex: a pond, lake, ocean, etc.), or a swimming pool. Do not fill with any other type of liquid besides clean tap water.

Children must be supervised when playing with the toy.

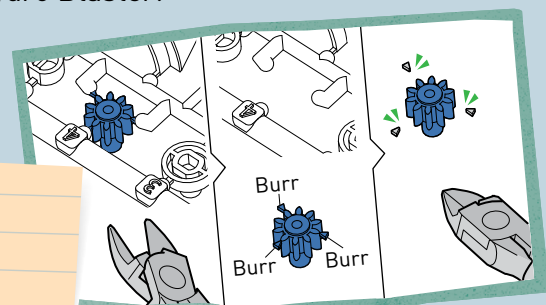
We hope you and your child have a lot of fun building and playing with the Mega Cyborg Hydro Blaster!



TIPS

IMPORTANT:

REMOVE THE PARTS FROM THE FRAMES ONLY WHEN THEY ARE NEEDED. REMOVE EXCESS MATERIAL BEFORE ASSEMBLY WITH THE HELP OF A DIAGONAL CUTTER OR A NAIL FILE.



Have fun!



TOM & IZZY

IT'S QUIET IN THE JUNKYARD.
EVERYONE HAS GONE TO SLEEP ...
... EXCEPT TOM AND IZZY.

HERE, WHERE OTHER PEOPLE
SEE JUST JUNK, OUR HEROES SEE
ENDLESS POSSIBILITIES.

THE
THRUST
MUST BE
INCREASED
BY A FACTOR
OF 10.

I FOUND
SOMETHING!

WE
NEED MORE
THRUST ...

... TO OVERCOME
GRAVITY.

THE PIECE
WE NEEDED!

HMM ... THAT
JUST MIGHT
WORK!

... AS
LONG AS
IT ISN'T
BROKEN.

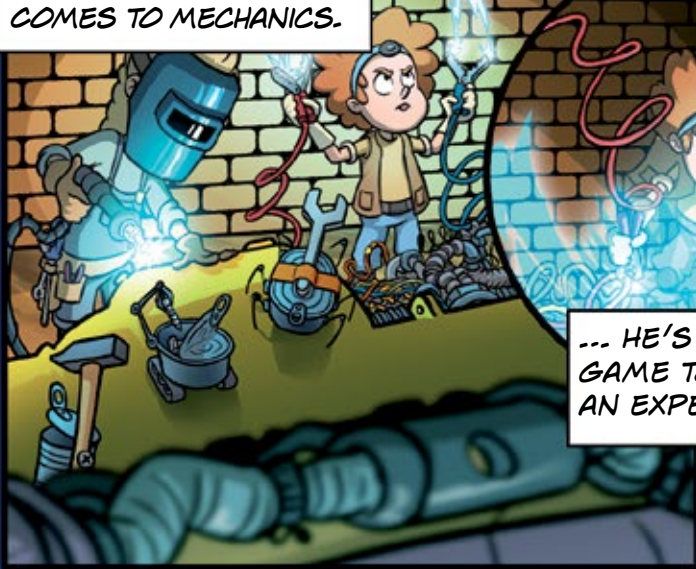
DON'T
WORRY! THIS
SMALL LEAK
WILL BE EASY
TO PLUG.

ALRIGHT,
LET'S GET
TO WORK!

IZZY CAN REPAIR ANYTHING. SHE IS A GENIUS WHEN IT COMES TO MECHANICS.

TOM, ON THE OTHER HAND, IS A SCIENTIST THROUGH AND THROUGH ...

TOGETHER THEY CAN BUILD ANYTHING!



... HE'S ALWAYS GAME TO TRY AN EXPERIMENT!



I THINK IT'S READY!



YES! WE DID IT!

NOTHING CAN STOP US NOW!

WHERE SHOULD WE FLY NEXT?

WHEREVER WE WANT!

WE CAN GO ANYWHERE!



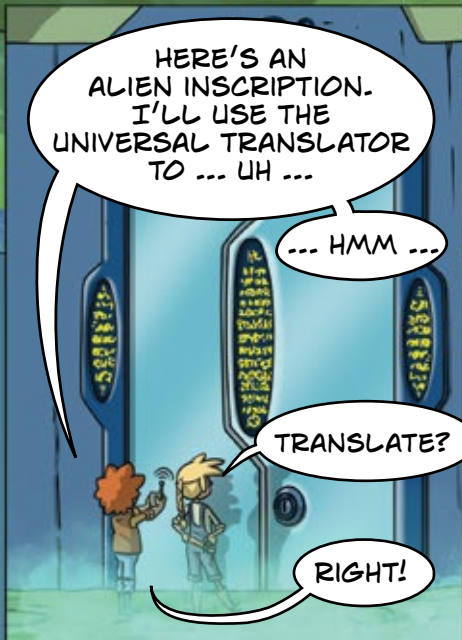


THIS ABANDONED
EXTRATERRESTRIAL TEMPLE WAS
SURPRISINGLY EASY TO FIND, IZZY.

THERE'S A BEAM OF LIGHT
SHINING OUT FROM IT INTO
THE UNIVERSE, TOM.

... MAYBE FOR
MILLIONS OF YEARS!

I WOULDN'T WANT TO
HAVE THEIR ENERGY BILL.
LET'S GO!



HERE'S AN
ALIEN INSCRIPTION.
I'LL USE THE
UNIVERSAL TRANSLATOR
TO ... UH ...

... HMM ...

TRANSLATE?

RIGHT!

"IF YOU DESIRE
THE GALACTIC
BOOMERANG, YOU
MUST FIRST PROVE YOU
ARE WORDY ..."

WORDY?

I THINK IT'S
SUPPOSED TO
SAY "WORTHY." THE
UNIVERSAL TRANSLATOR
ISN'T PERFECT YET.

GOT IT.

"TO DO SO, YOU
MUST BE CREATIVE,
CLEVER, SKIFT AND
SWILLFUL ..."

UH,
"SWIFT AND
SKILLFUL".

HAHAHA,
"SKIFT AND
SWILLFUL."

YEAH,
BUT THE
ERRORS ARE
FUNNIER!

"... AND BUILD THIS
MEGA CYBORG HYDRO
BLASTER ..."

THIS WHAT? HAH,
"MEGA CYBORG HYDRO
BLASTER," HOW SILLY!

REALLY?
COOL!!
THEN LET'S GET
TO WORK! GRAB A
SCREWDRIVER!

NO, THERE'S
ACTUALLY A
MANUAL.





Let's
GO!

ASSEMBLY VIDEO

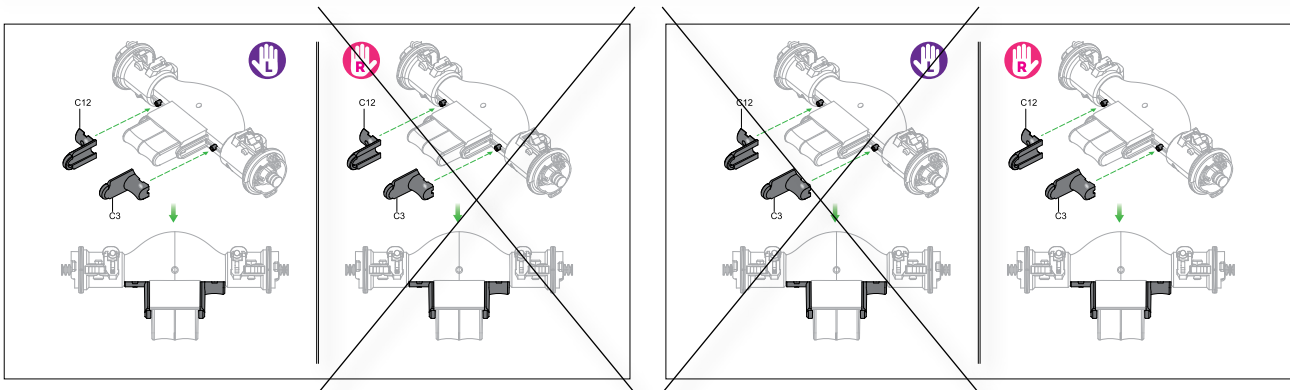
Scan this QR code for a step-by-step assembly video.



BEFORE YOU START!


Decide which hand you would like to operate the Hydro Blaster with before you begin the assembly. It's best if you choose the hand you write with. Find the pages in the list on the right and cross out the parts of the instructions for the hand that you did not choose. These will be symbolized by the  "left-handed" and  "right-handed" symbols.

Go through the following pages:
 Page 12, Step 14 – Page 21, Step 6
 Page 25, Step 19 – Page 26, Step 22
 Page 27, Step 2 – Page 28, Steps 3, 4, & 5
 Page 29, Step 6 – Page 30, Step 3
 Page 31, Steps 4 & 5 – Page 32, Step 6

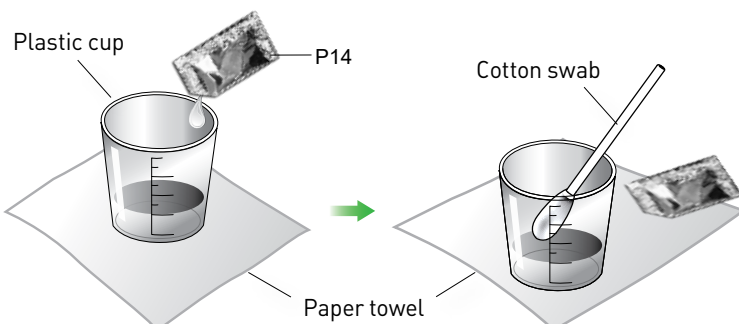



If you want to operate the Hydro Blaster with your left hand, cross out the sections that are marked "right-handed."

If you want to operate the Hydro Blaster with your right hand, cross out the sections that are marked "left-handed."

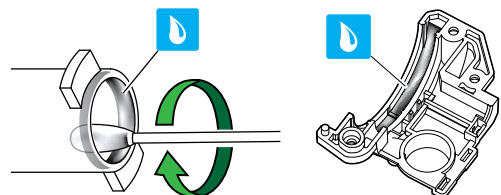
 = Oil


When you see this symbol in the instructions, oil the component indicated.



 Only oil the shaded area.

Example:



 Work carefully and do not touch the oil with your hands or get it into your eyes. Dispose of leftover oil in the household trash after assembly. Do not pour it down the drain.



ASSEMBLING THE HAND MODULE

1

A3 A9 B8

P7 x 2

View from above

B11

2

B19

1 2 3 4

90°

3

P8

Needle-nosed pliers

1 2 3 4

! Ask an adult for help if you have trouble with these steps.


! Remove burrs before assembly.

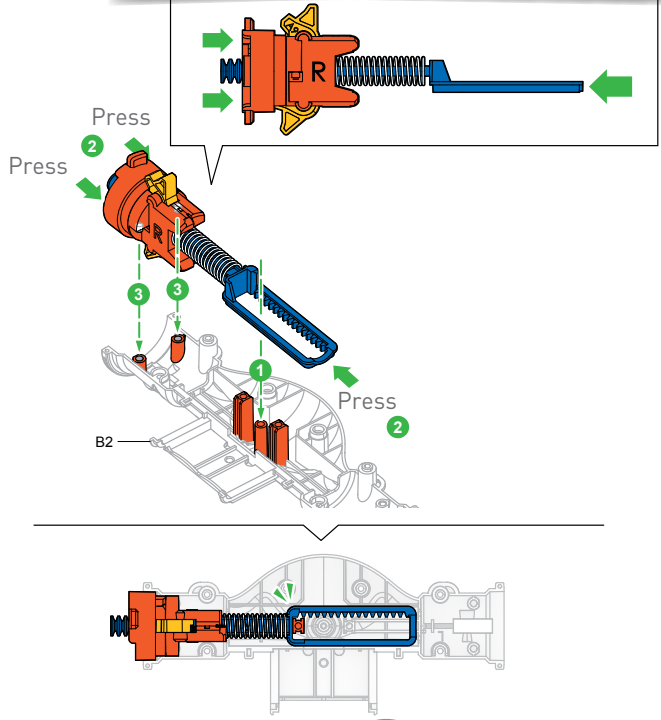
P12(L) R F3

F3

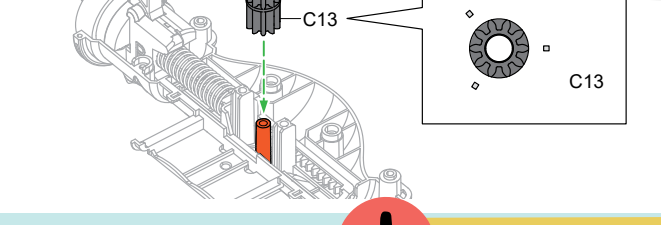
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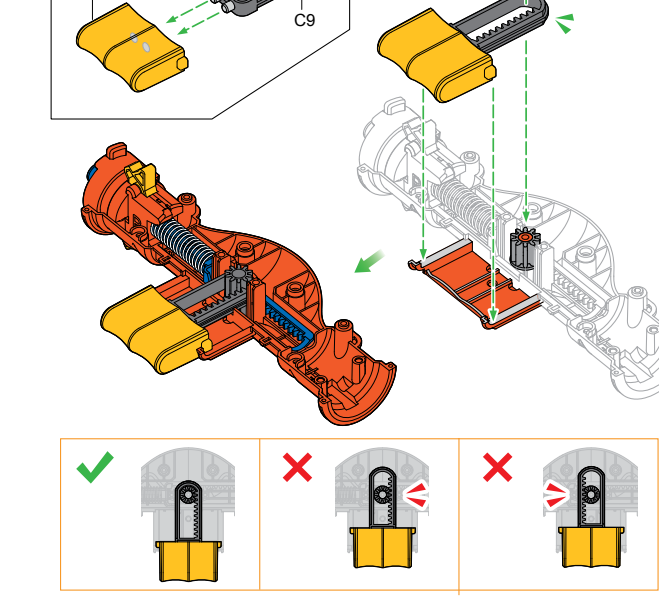
5  Pay attention to the orientation of the part. Don't assemble it upside-down.



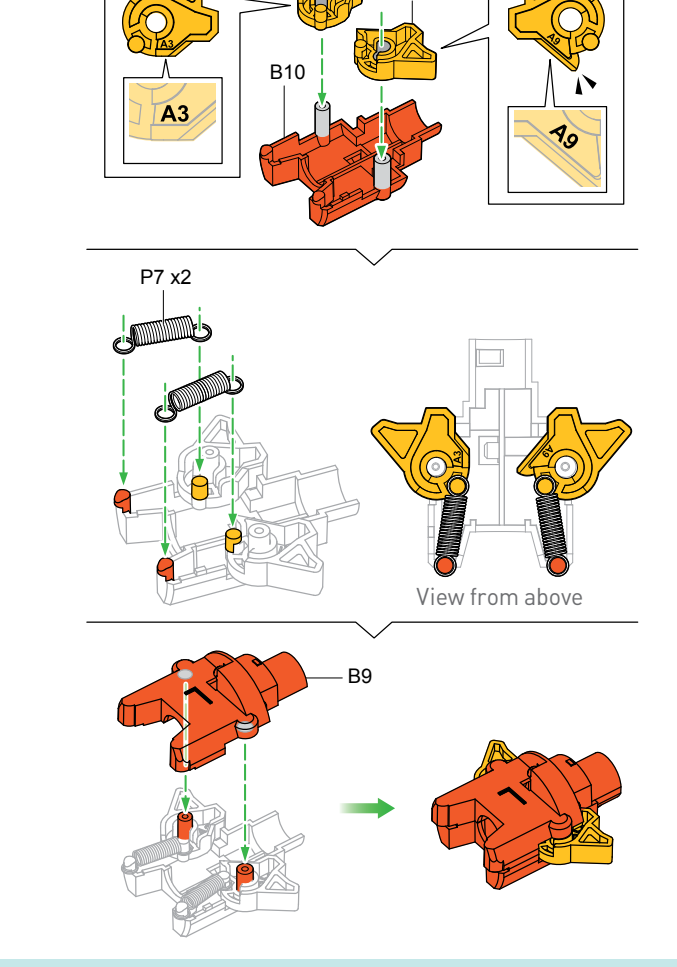
6  Remove burrs before assembly.



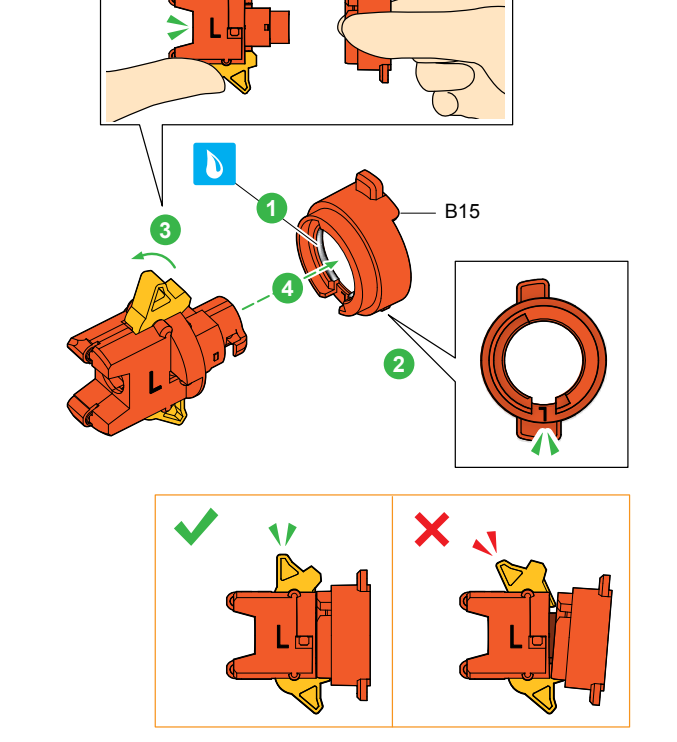
7  Pay attention to the correct orientation.



8

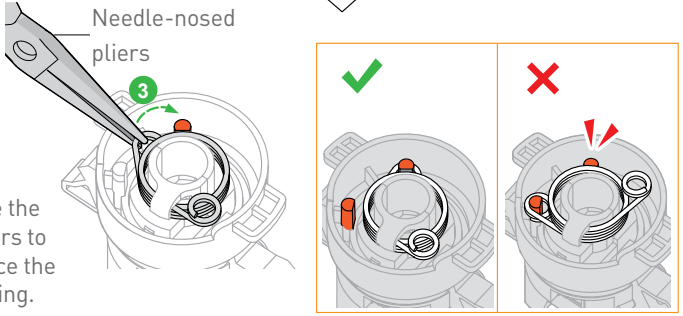
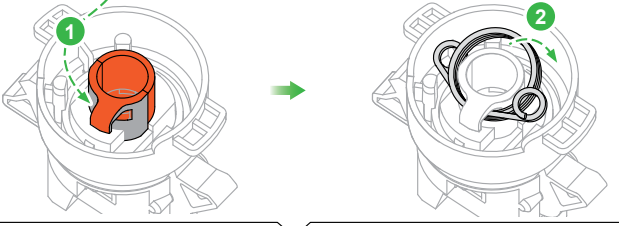
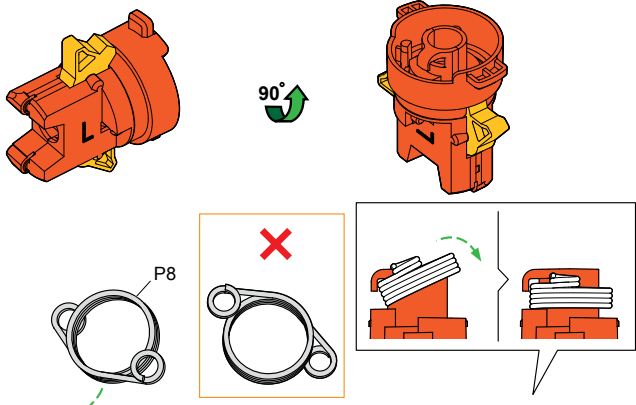


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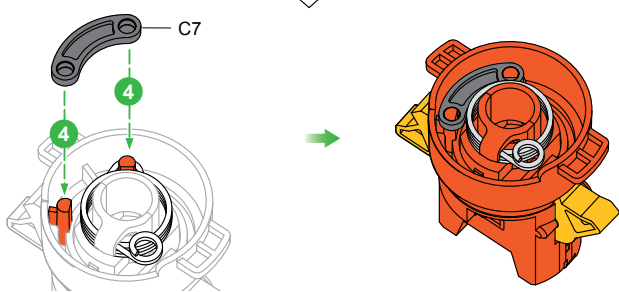




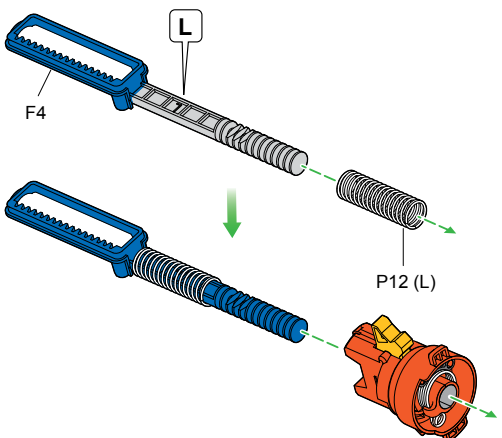
10



Use the pliers to place the spring.

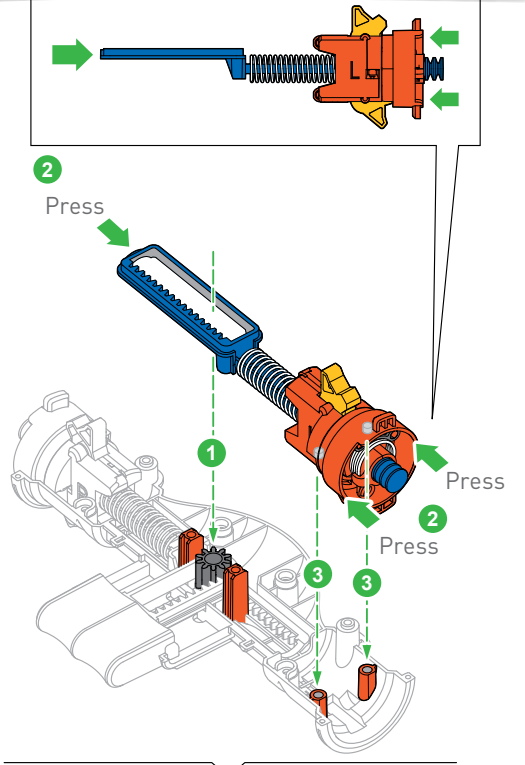


Remove burrs before assembly.



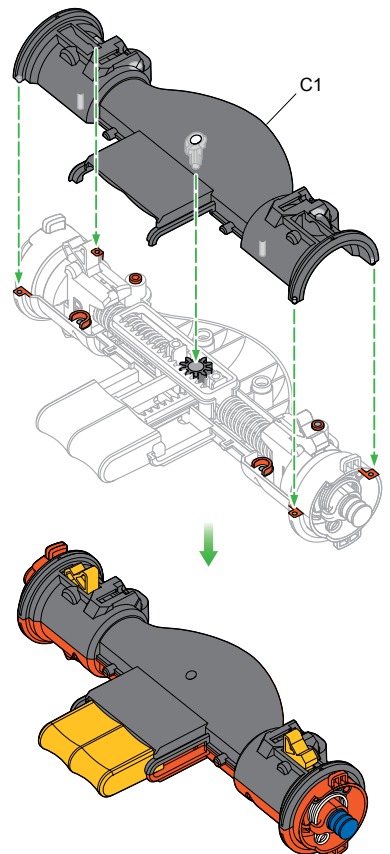
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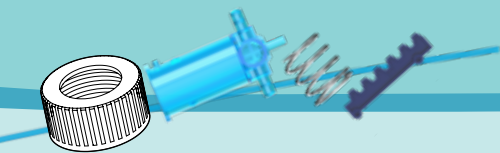
Pay attention to the orientation of the part. Don't assemble it upside-down.



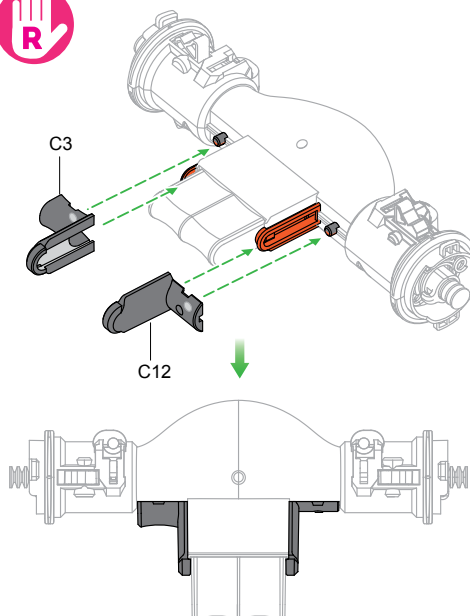
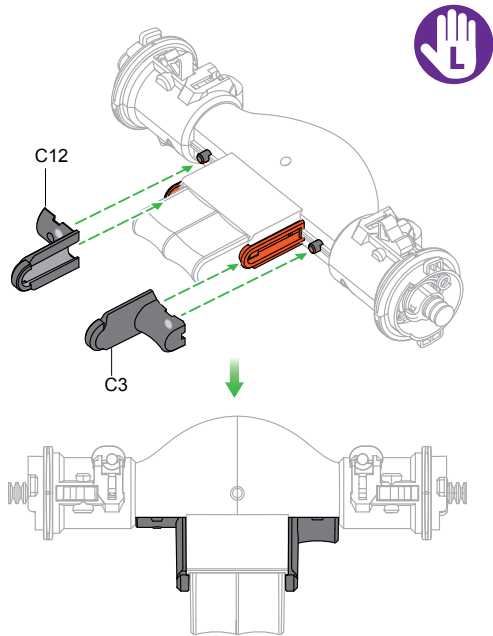
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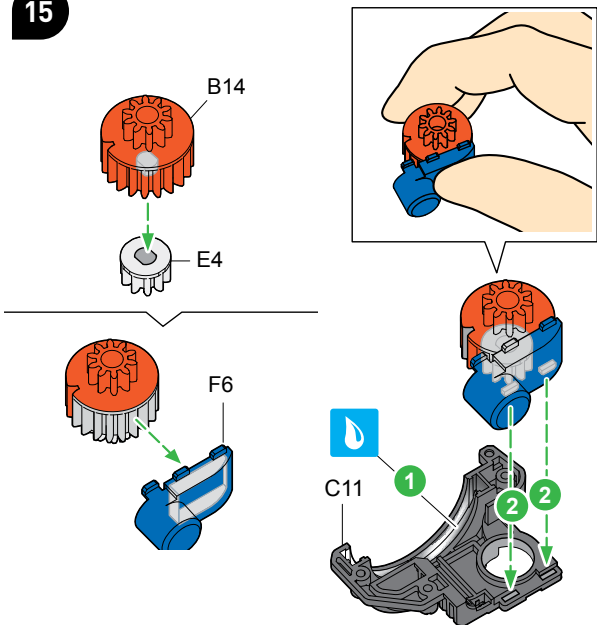




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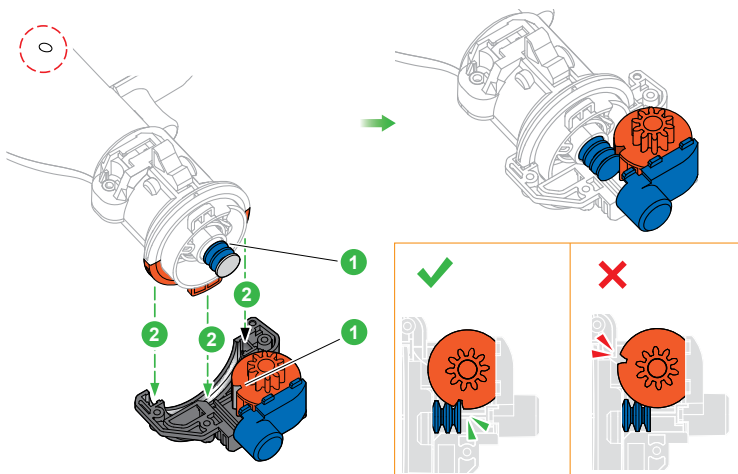


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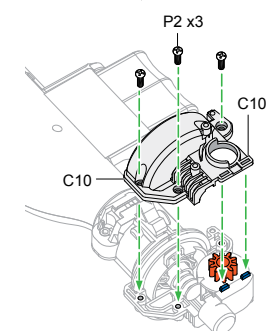
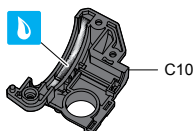


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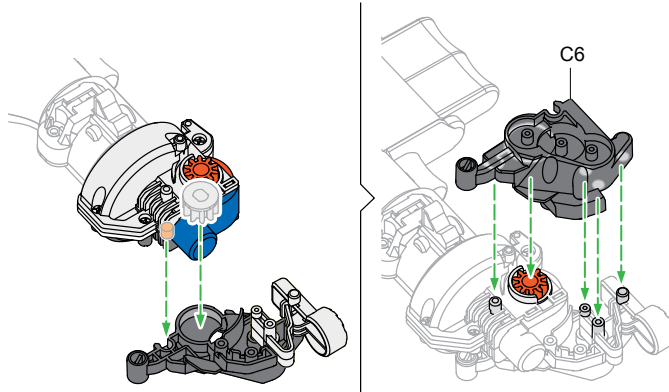
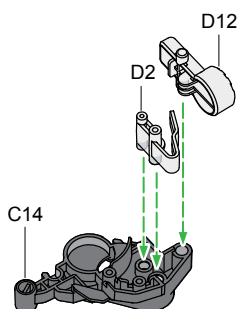
! Pay attention to the correct placement of the gear.

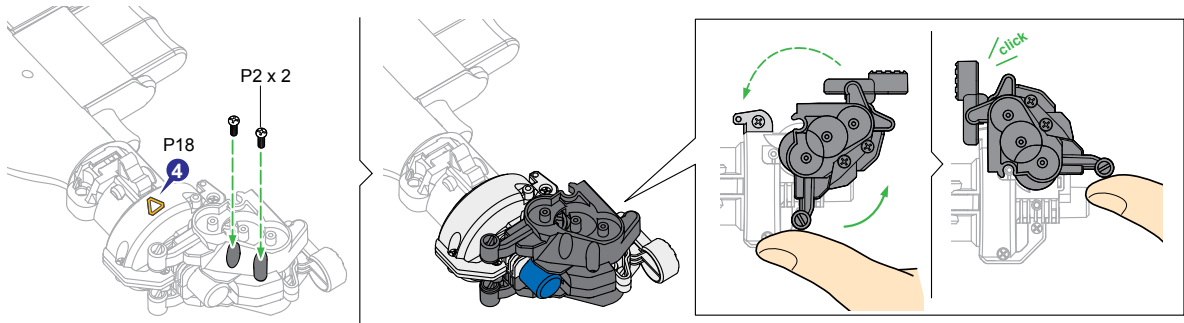


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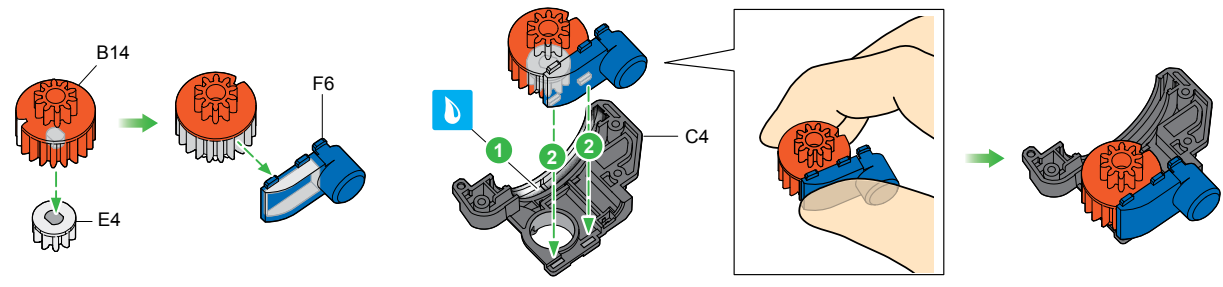


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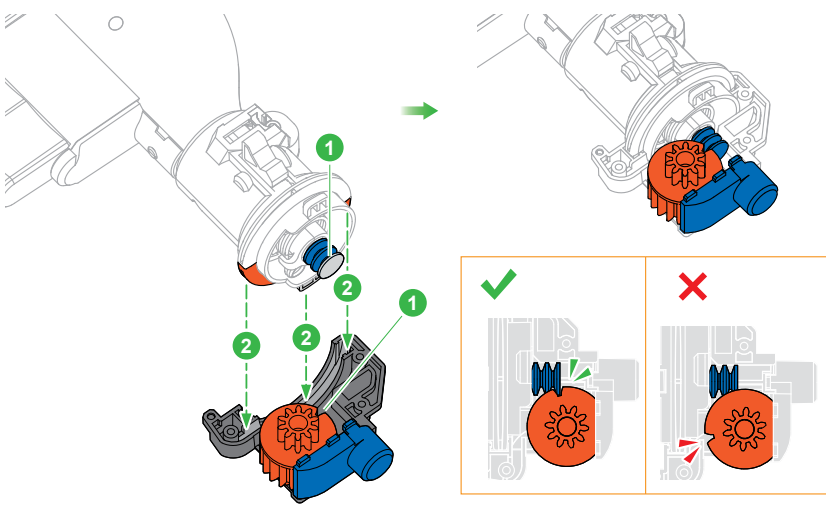




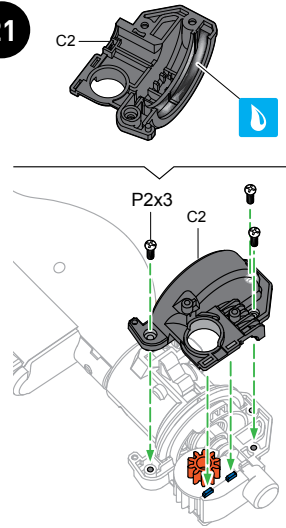
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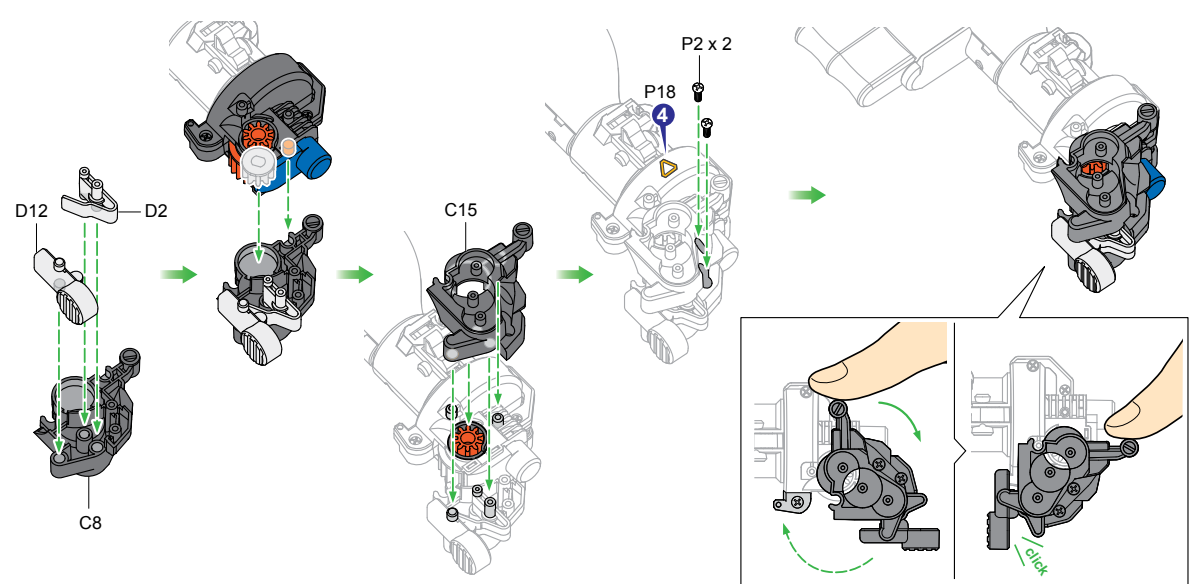
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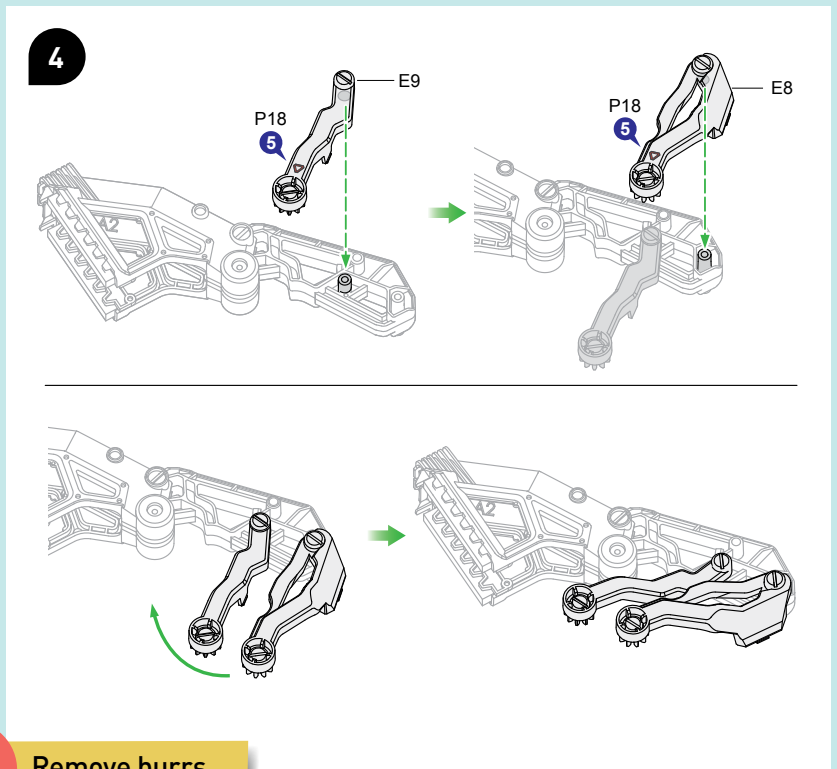
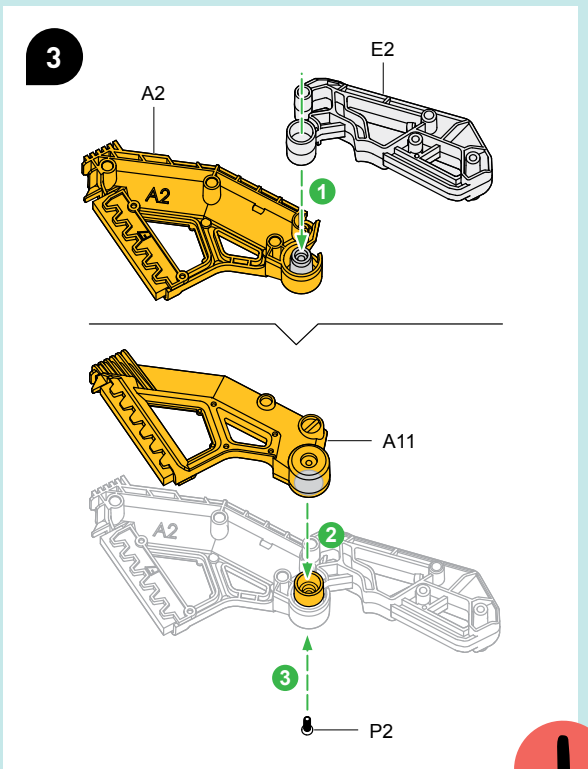
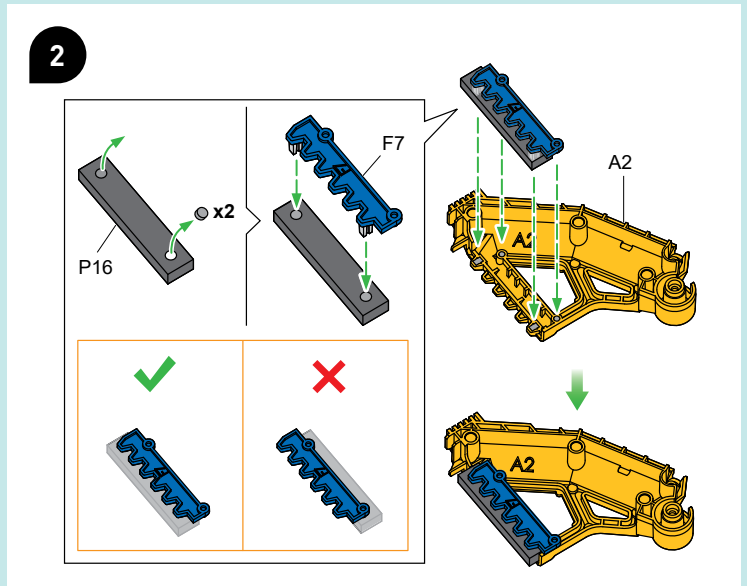
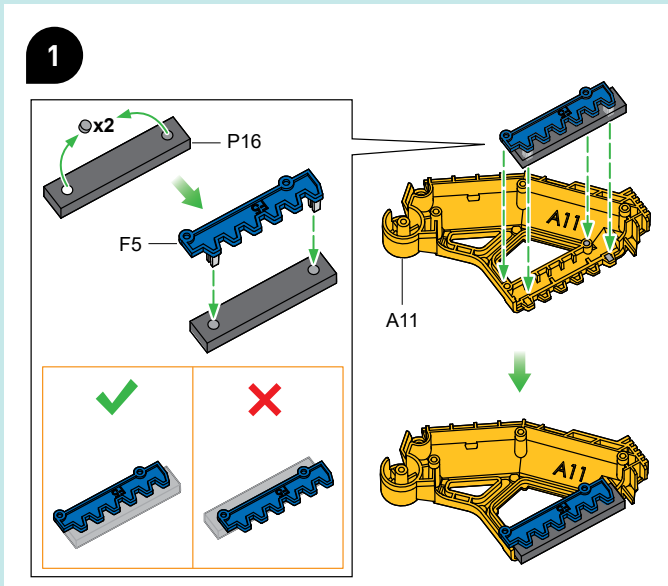
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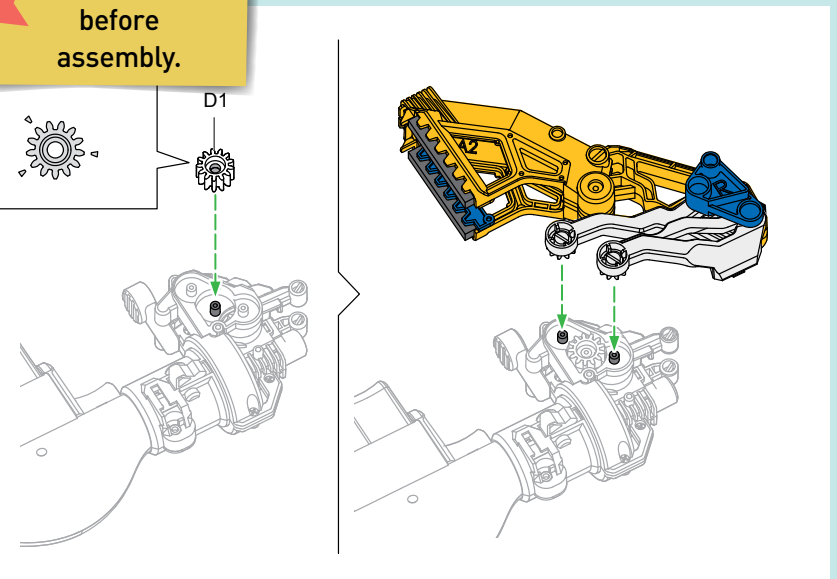
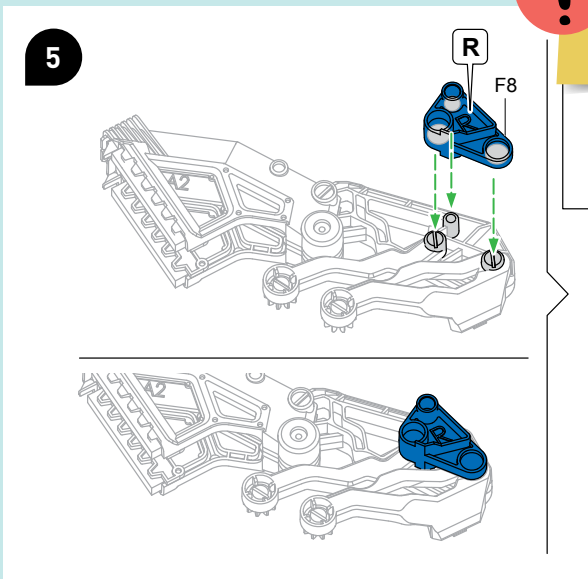
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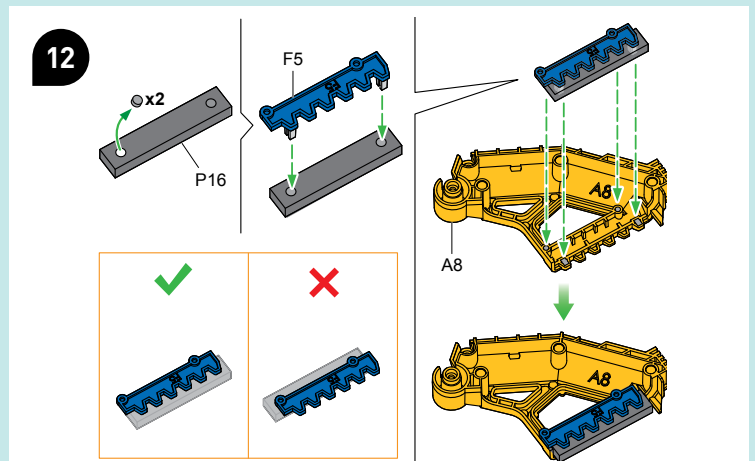
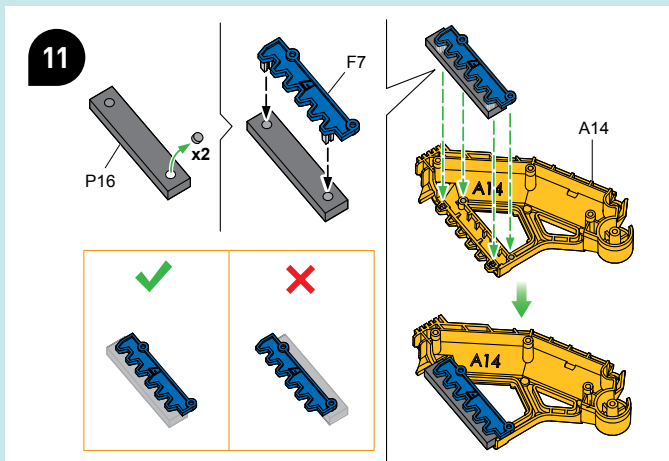
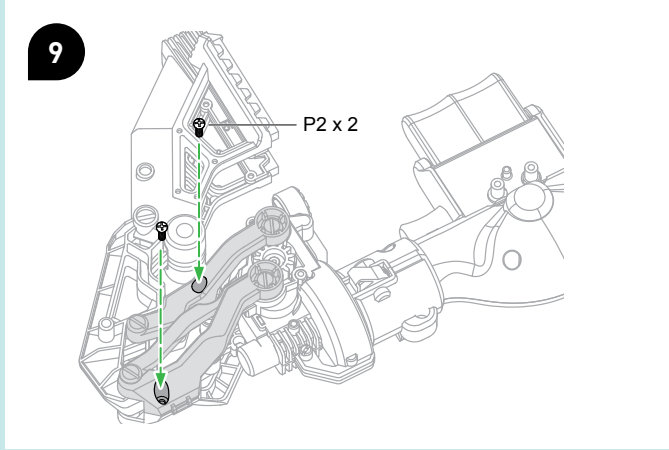
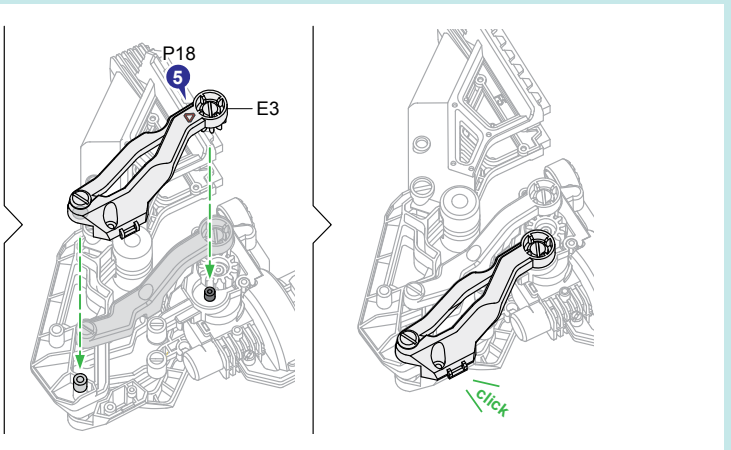
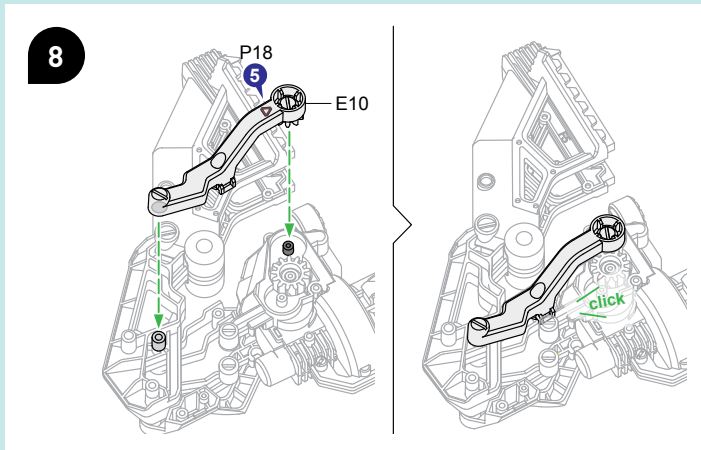
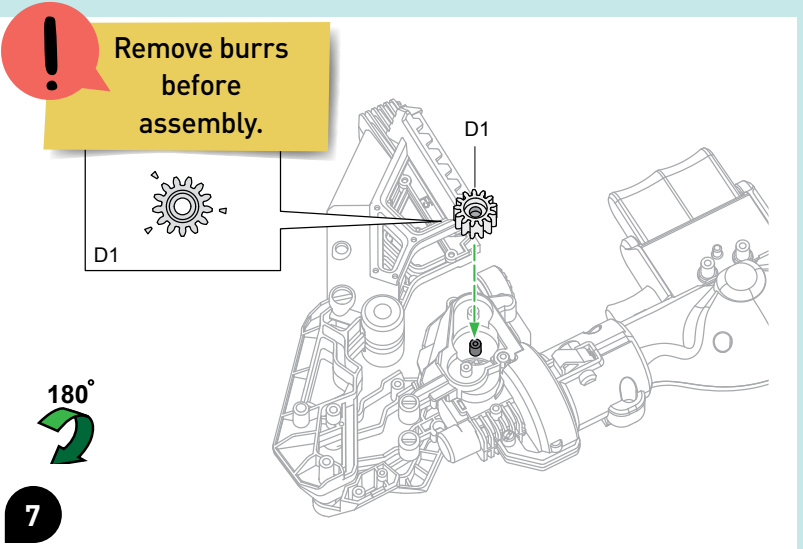
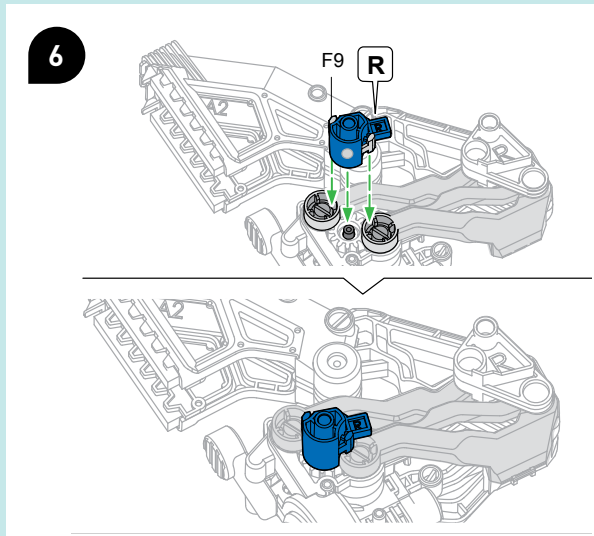


ASSEMBLING THE GRIPPER



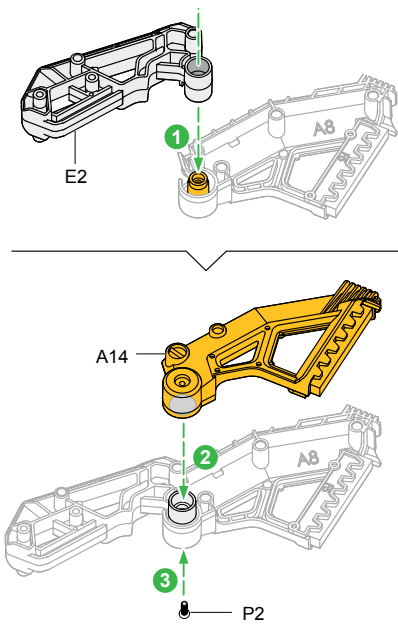
! Remove burrs before assembly.



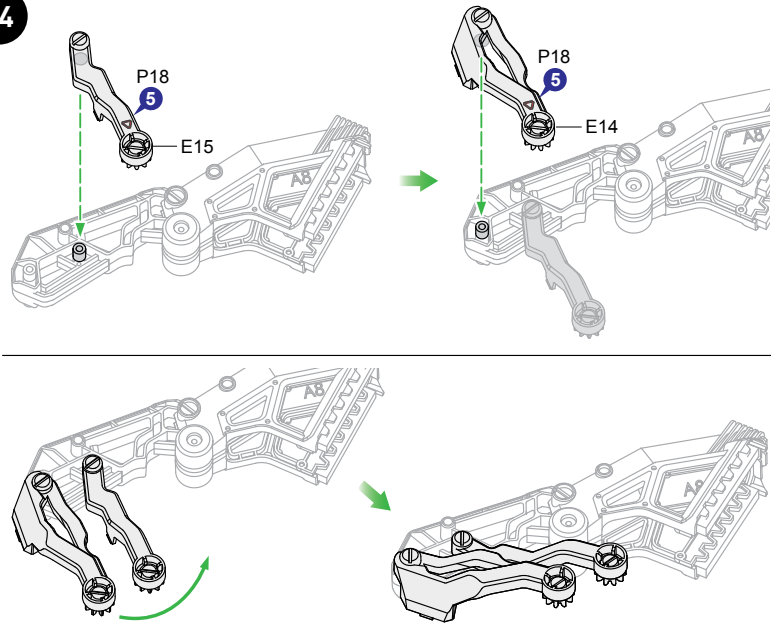




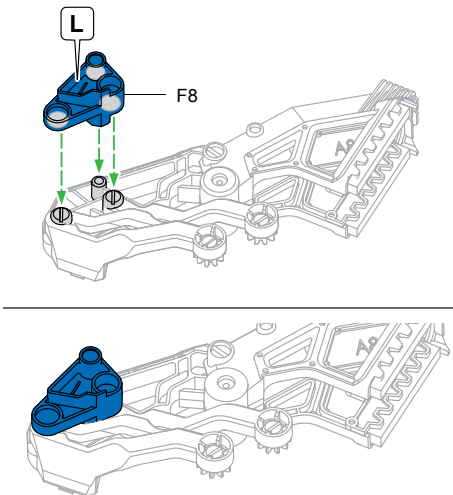
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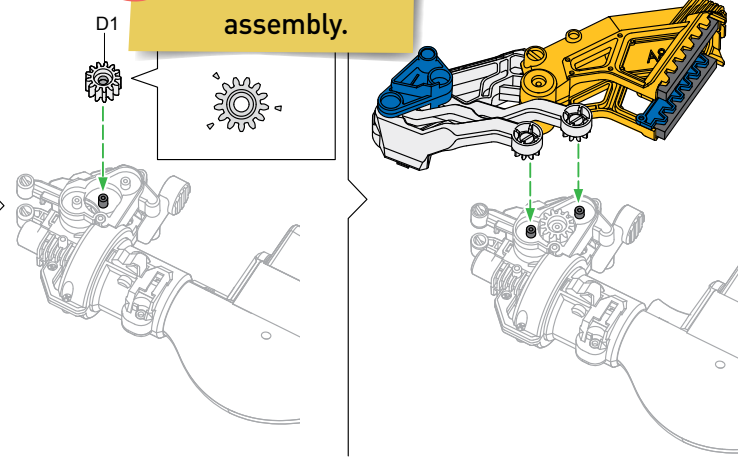
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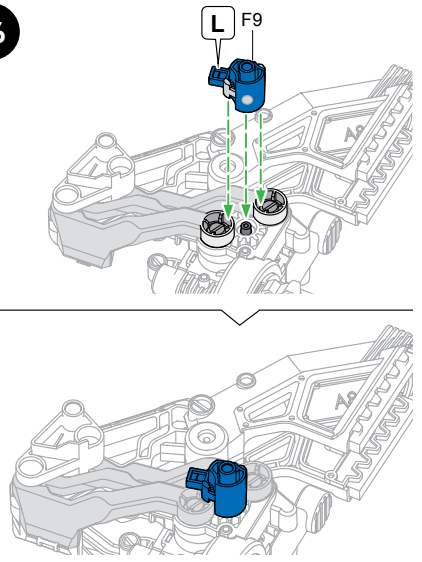
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! Remove burrs before assembly.

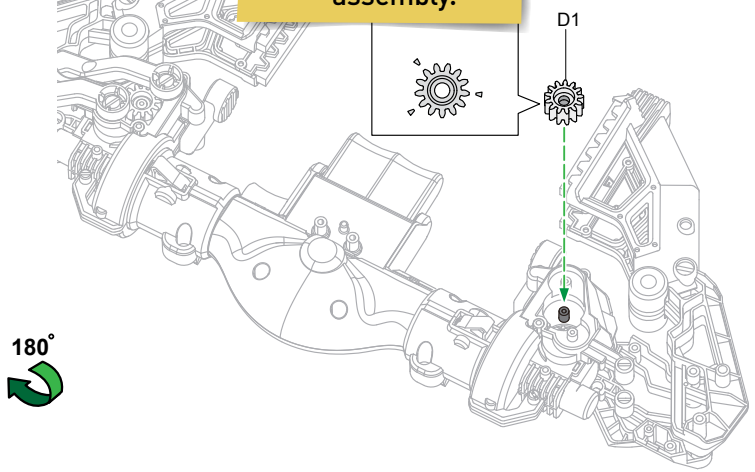


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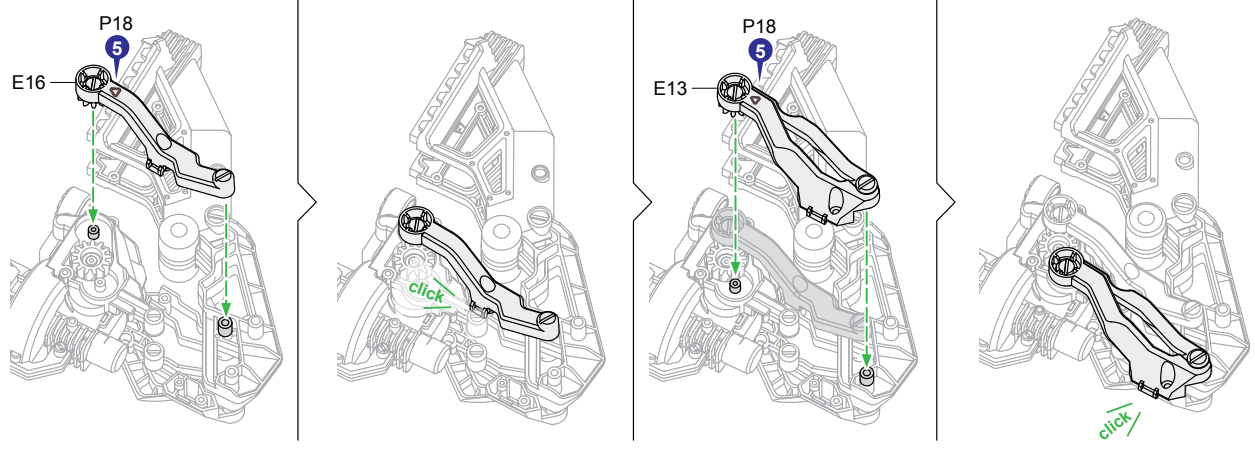
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! Remove burrs before assembly.

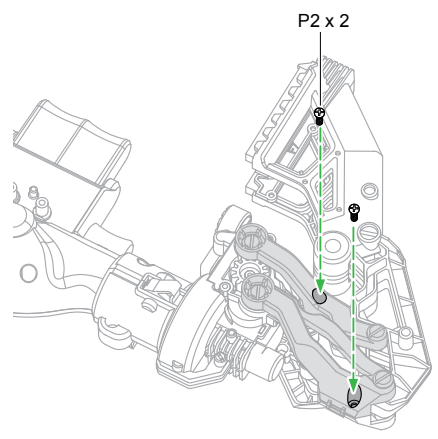




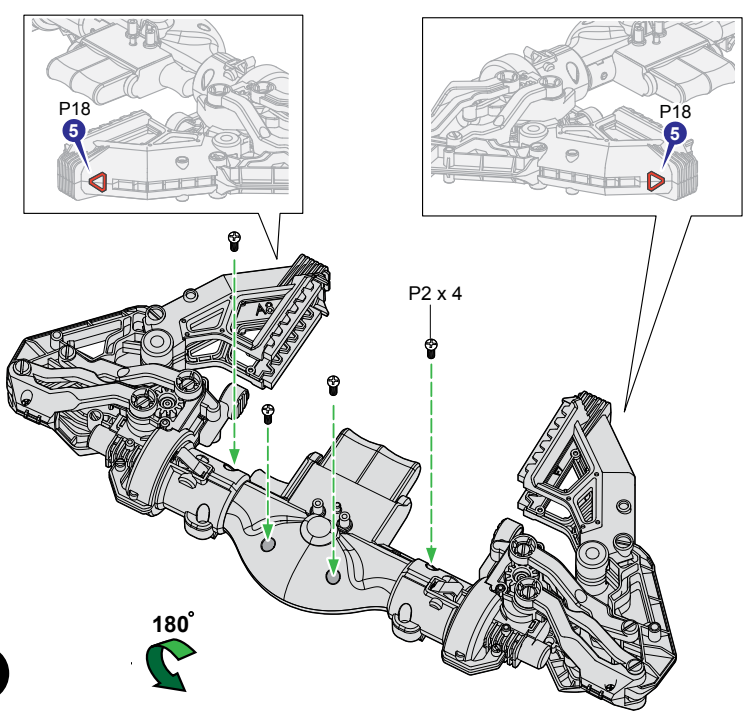
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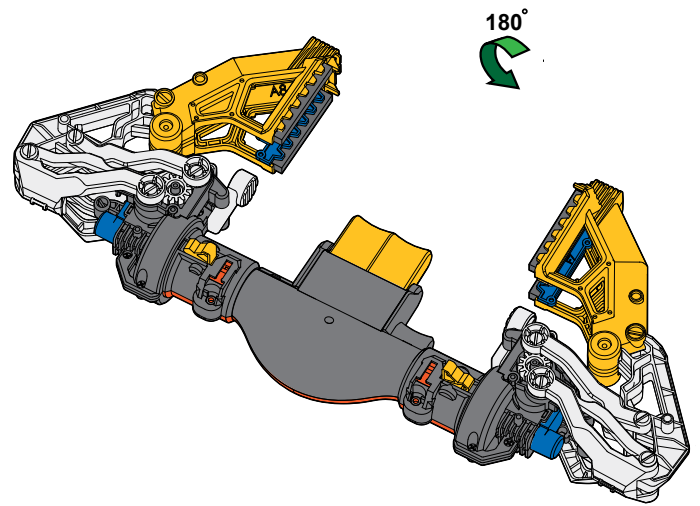
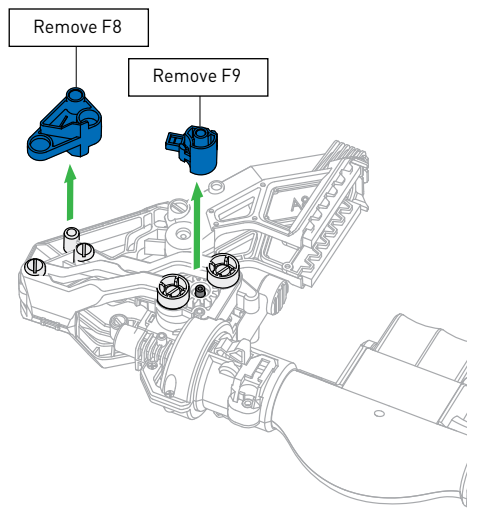
19



20



21





CYBORGS IN SCIENCE FICTION

Cyborg is a term for humans or animals who have parts of their bodies supplemented with machines. They're always at least partly biological, which is how they differ from robots or androids, who are completely mechanical. Cyborgs were made famous mostly through science fiction books and movies. One of the best-known is Darth Vader from the Star Wars film series.



Where does the word "cyborg" come from?!

The word cyborg developed as an abbreviation of the words "cybernetic organism." Originally, the term cyborg was used in discussions about space travel. In 1960, Manfred Clynes and Nathan S. Kline suggested technologically adapting humans to the conditions of space. This was supposed to be an alternative to creating an artificial atmosphere inside a spaceship. The idea was that various modifications to humans would make space inhabitable. This is the context where the word cyborg was first used.



In their July 11, 1960 issue, Life Magazine published an article about Clynes and Kline's idea, titled "Man Remade to Live in Space"



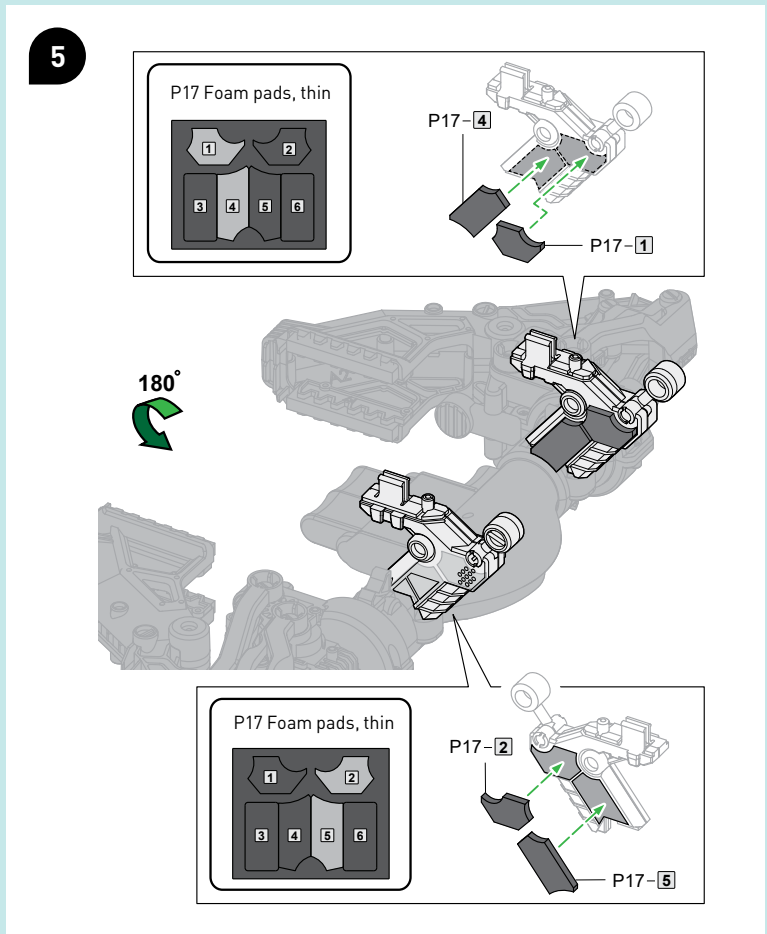
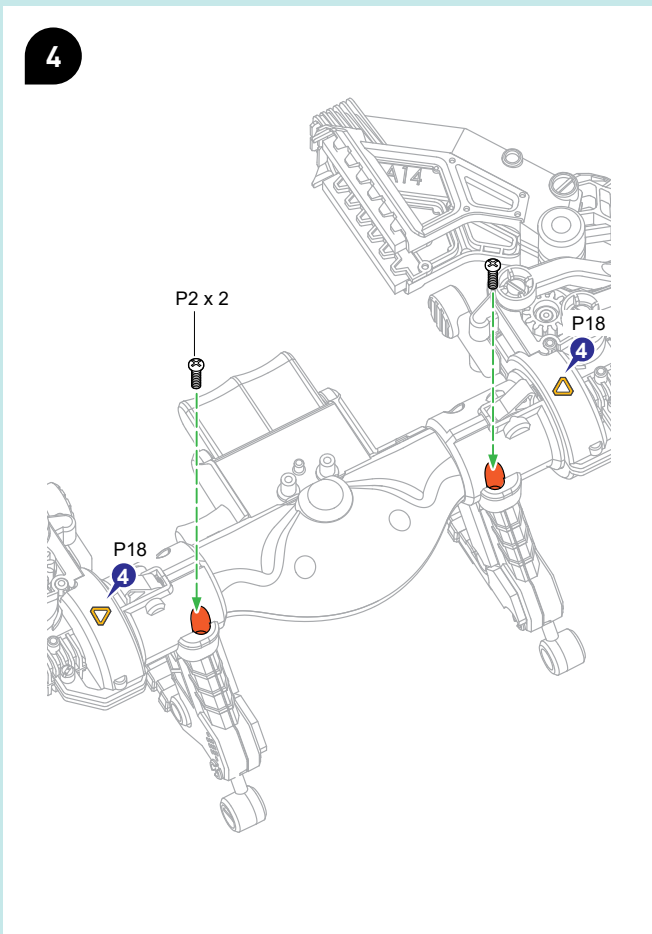
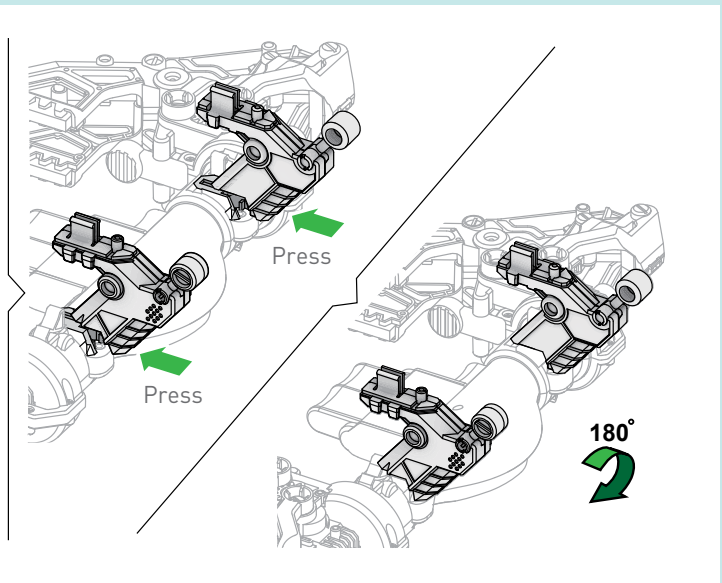
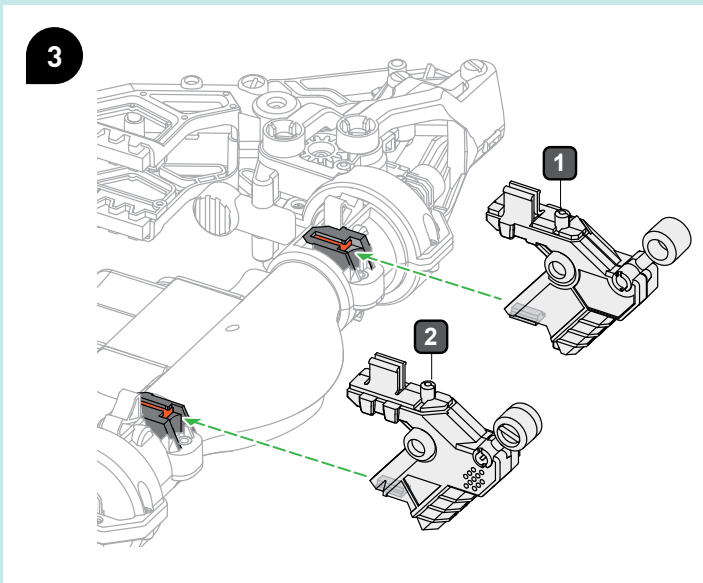
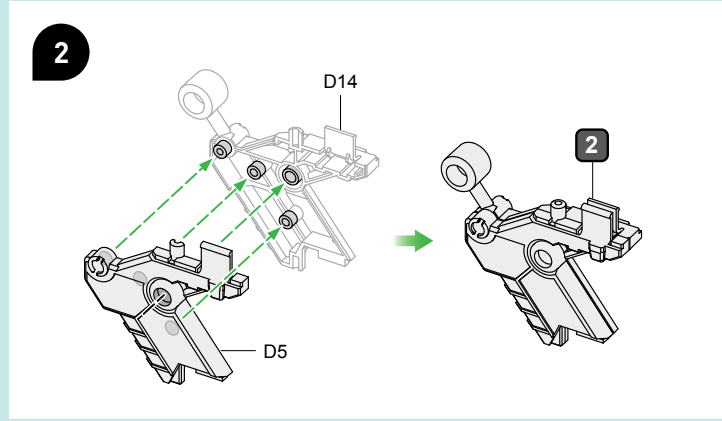
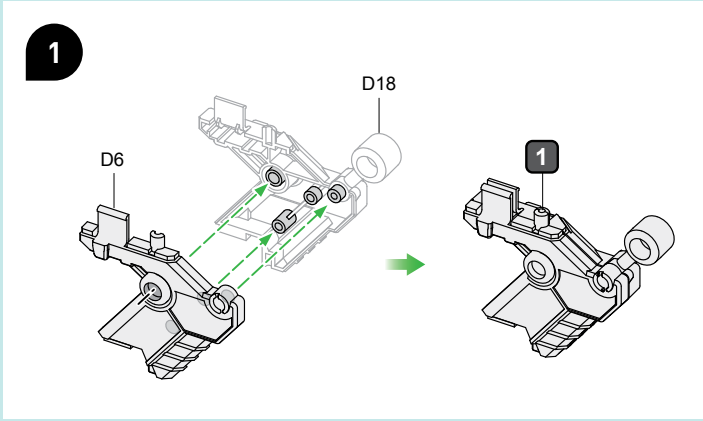
CYBORGS IN OUR TIME

Even though cyborgs are often associated with the future, they've already arrived in the present day. From a purely medical perspective, people with technological implants (like, for example pacemakers, artificial limbs, or complex prosthetics) technically count as cyborgs. However, there is only one officially-recognized cyborg in the world right now. His name is Neil Harbisson. Neil suffers from a type of color-blindness that allows him to see the whole world in only black and white.

He had an antenna implanted that allows him to hear colors and expand his senses that way. Every color has a different light frequency. This correlates to a sound frequency, which is communicated to his brain, allowing Neil to experience colors in a brand new way.



ASSEMBLING THE BASE AND THUMB LATCH



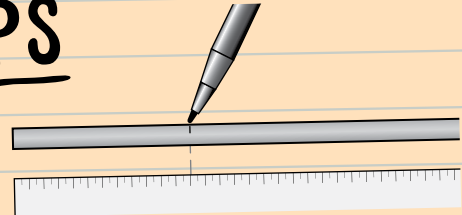


6

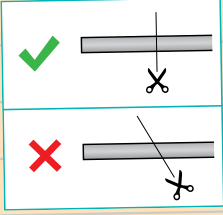
CUT THE TUBING TO LENGTH

TIPS

1



2

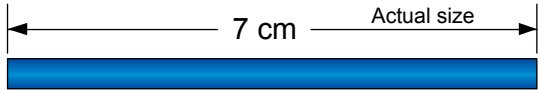


MEASURE AND MARK BEFORE CUTTING.

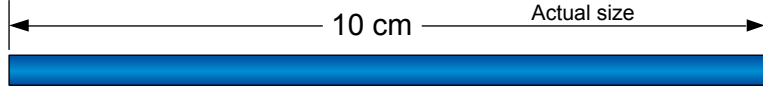
MAKE STRAIGHT CUTS WHEN CUTTING.

3

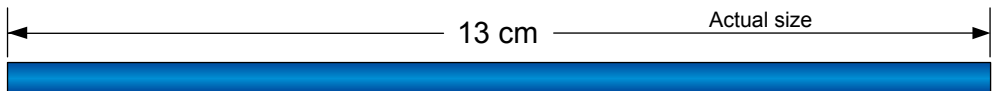
Cut the tube into three sections, one of each length.



Tube, 7cm



Tube, 10cm



Tube, 13cm

ASSEMBLING THE HYDRAULIC SYSTEMS

1 **Remove burrs before assembly.**

B1
P9 (XS)
D20

2

P3
D11

3

click
click
click
Press
Press

4

Tube, 10cm
B4

click
click
click

5

F2

1
2

6

A7

A7 x 2



7

Actual size

P11 (M)

B12

8

Burr

Burr

Burr

Burr

Burr

Burr

1

1

2

3

3

8

P5

4

✗

✗

✓

9

1

1

2

3

3

B16

B17

✓

✗

✓

✗

10

G2

1

2

Click

3

4

Press

! Pay attention to the rotation direction.

11

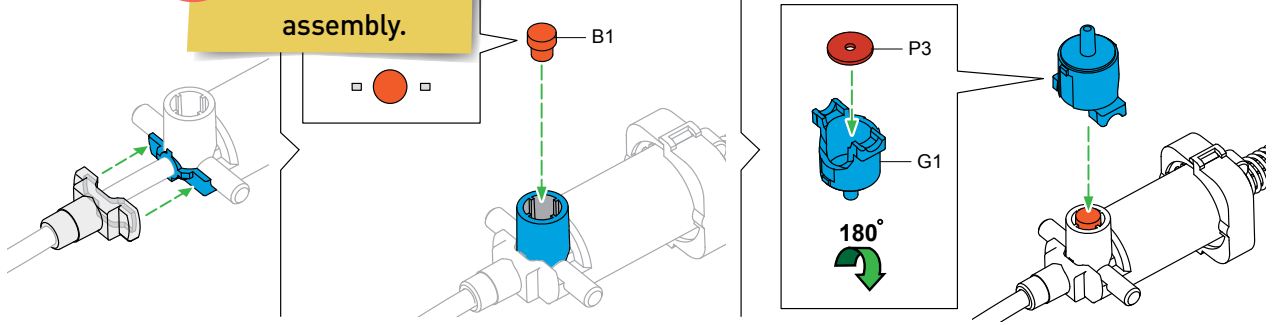
E11

✓

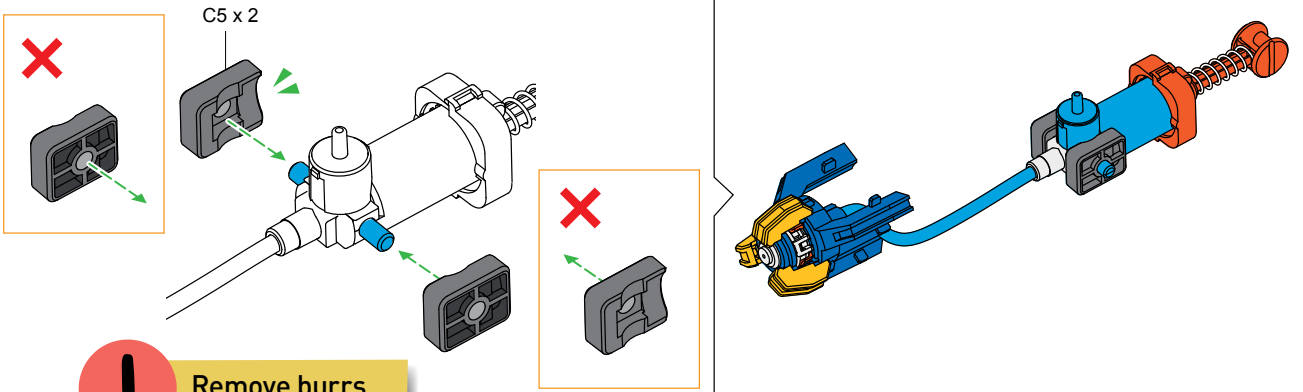
✗

! Remove burrs before assembly.

12

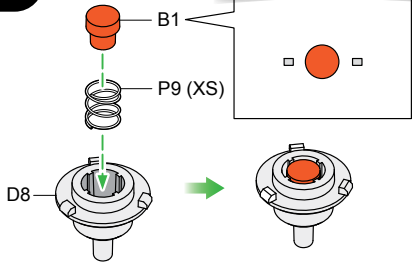


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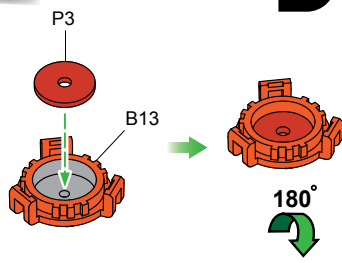


! Remove burrs before assembly.

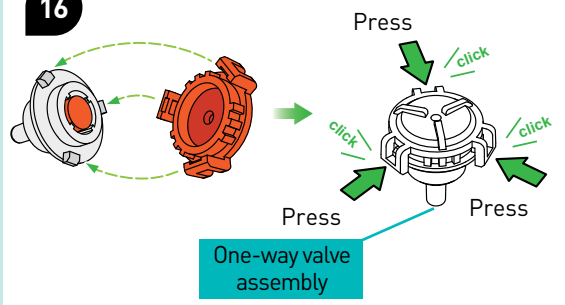
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15

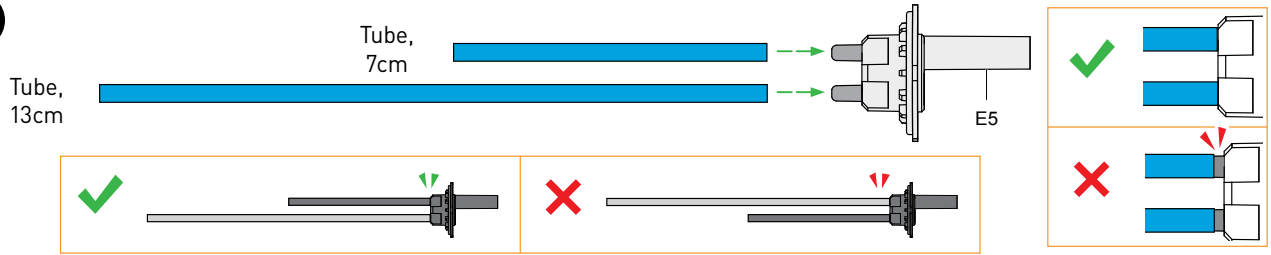


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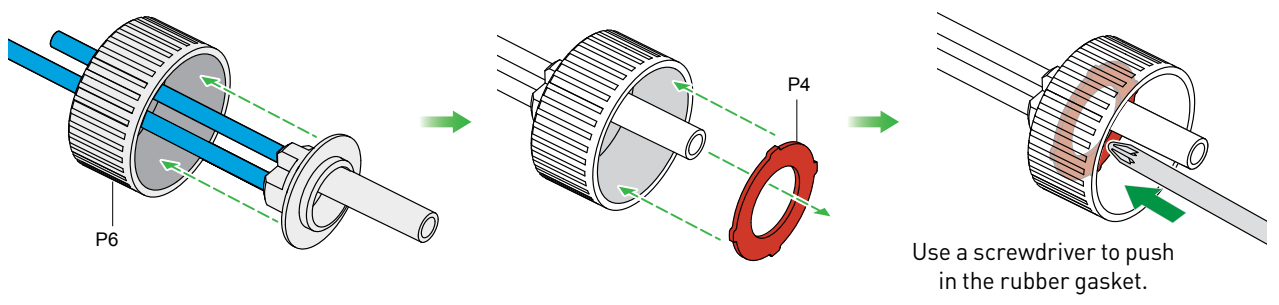


ASSEMBLING THE WATER TANK HOLDER

17



18





19

Tube, 13cm

Tube, 7cm

D22

D13

The tube is on the left side.

Tube, 7cm

Tube, 13cm

D22

D13

The tube is on the right side.

20

A6

P18

PUSH

Press

21

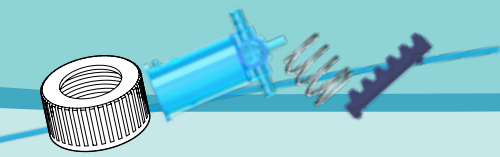
F1

P18

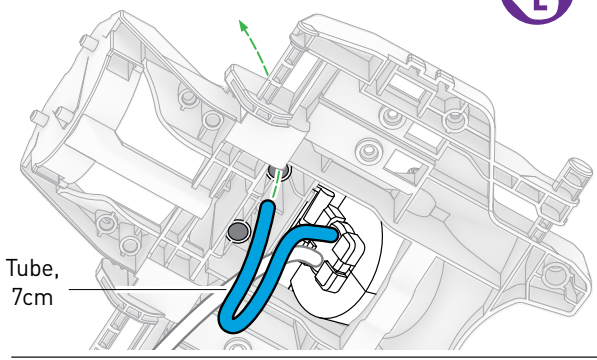
P18

P1

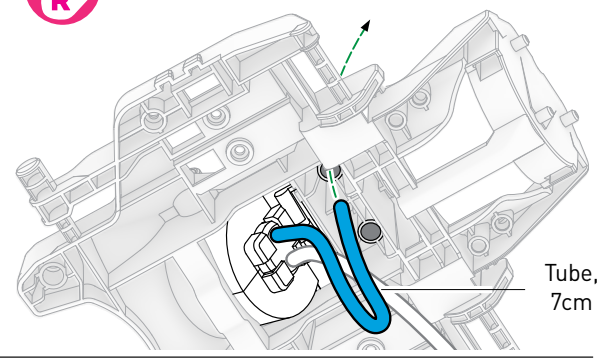
click



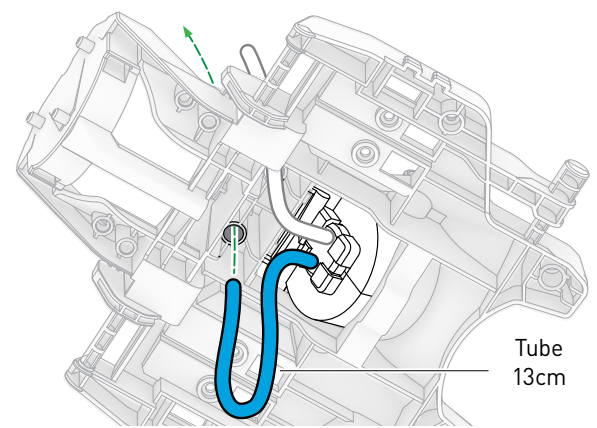
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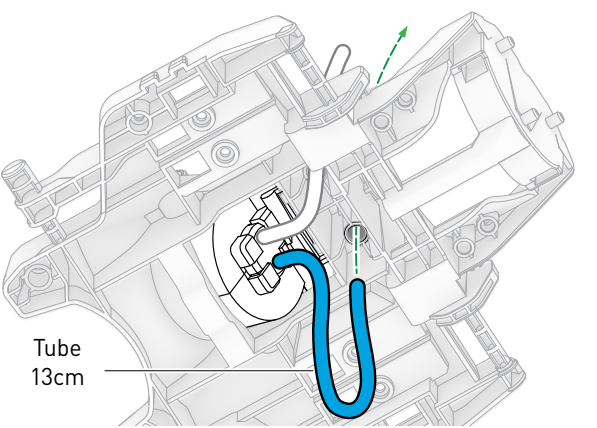
Tube,
7cm



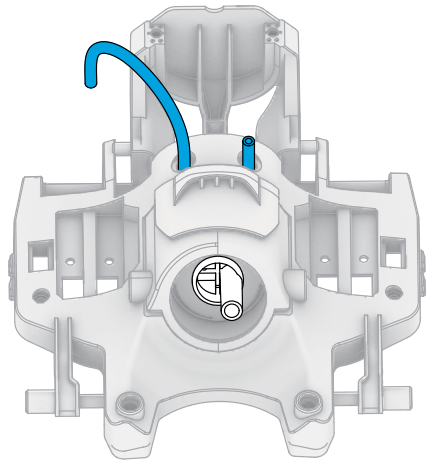
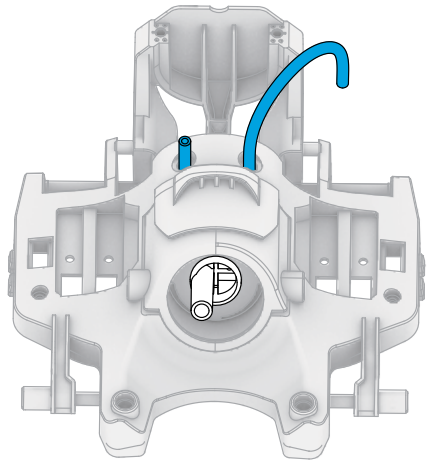
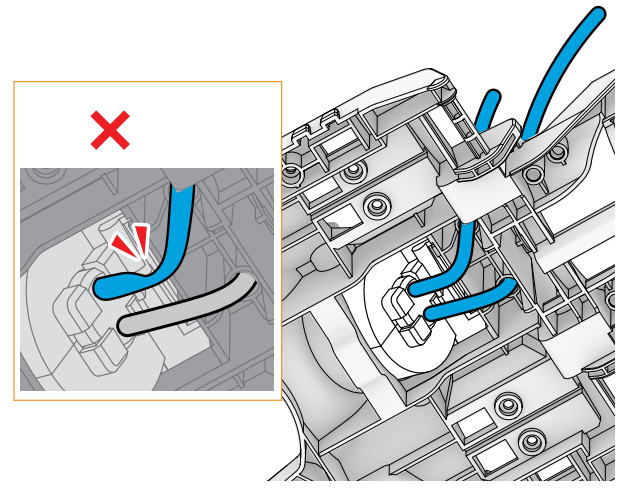
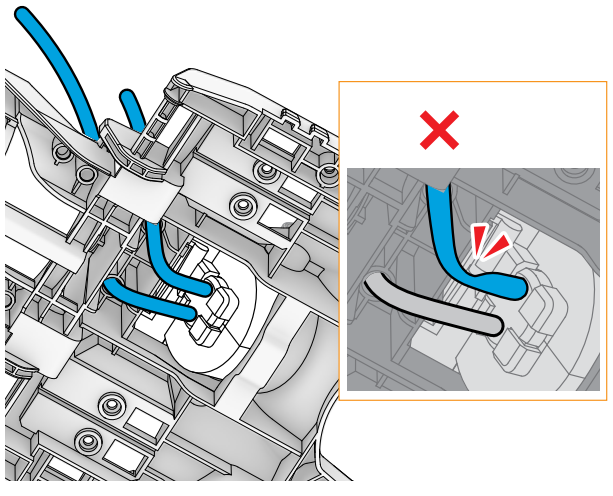
Tube,
7cm



Tube
13cm



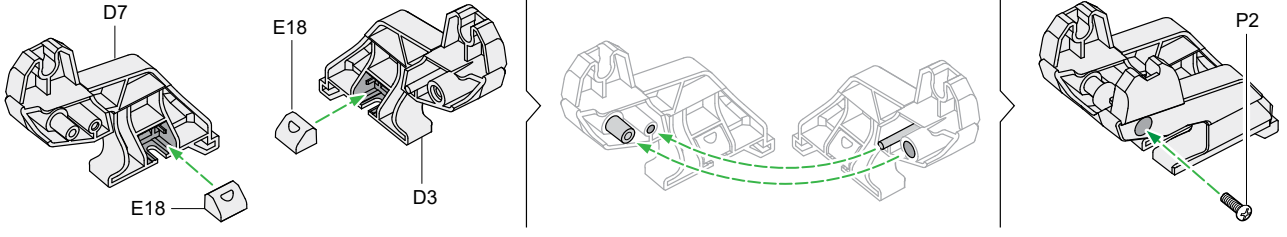
Tube
13cm



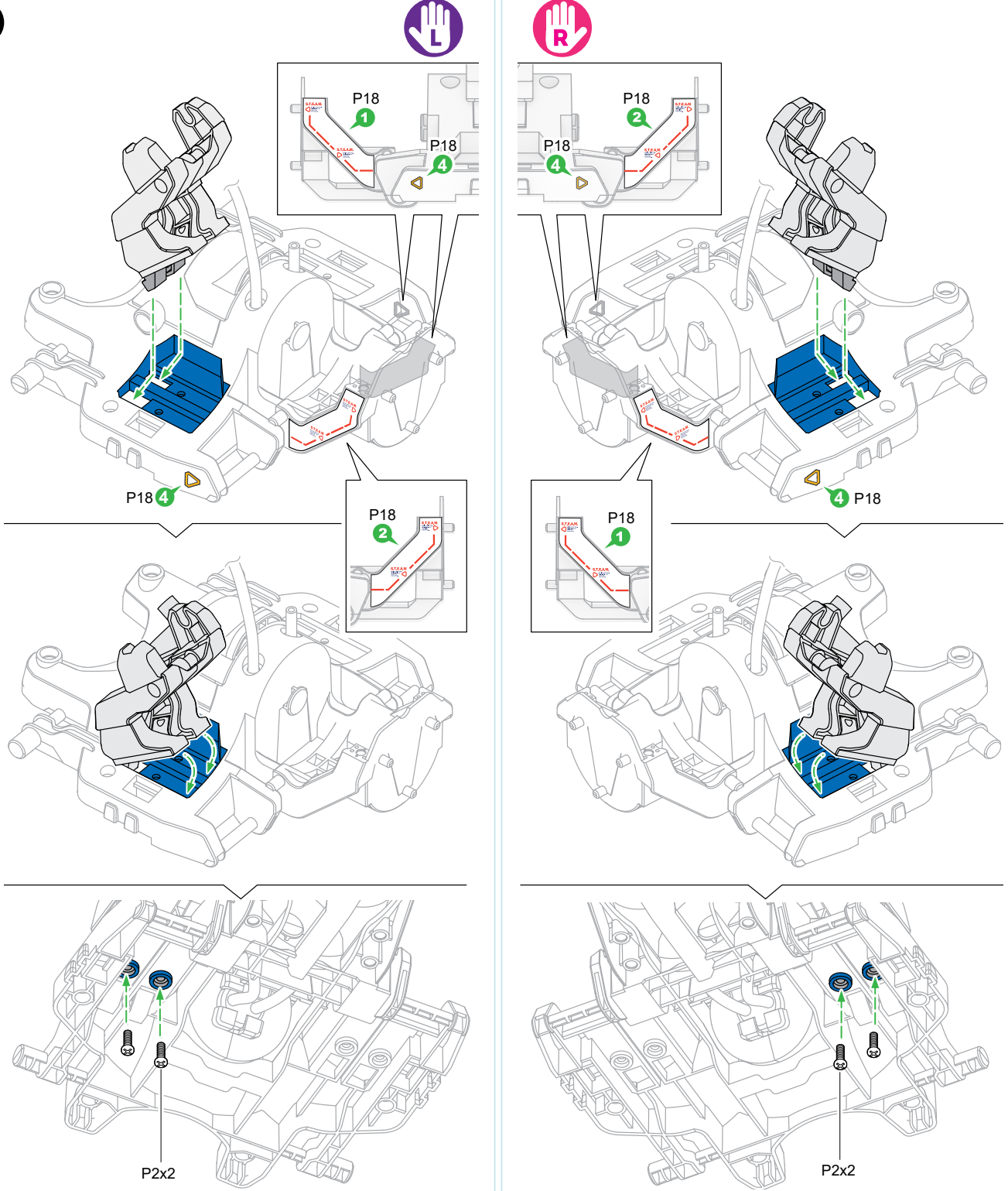


ASSEMBLING THE SHOOTING PLATFORM

1

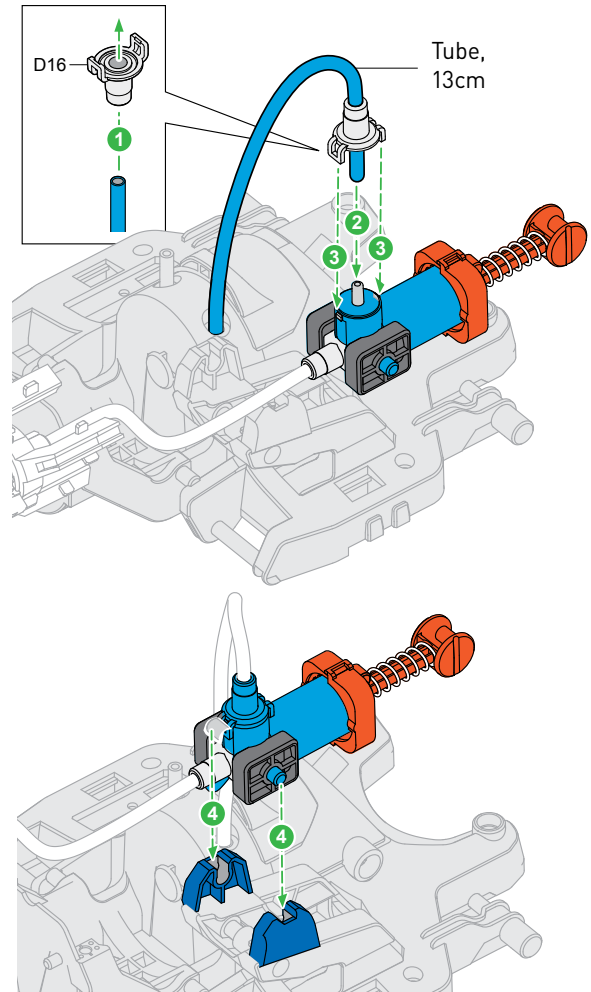
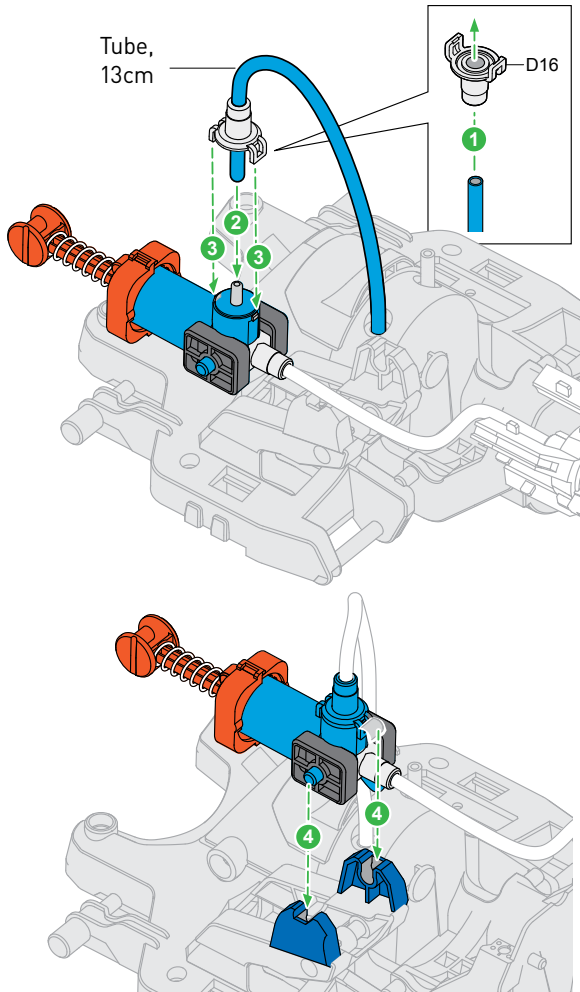


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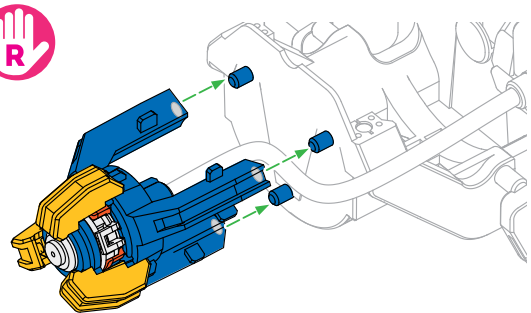
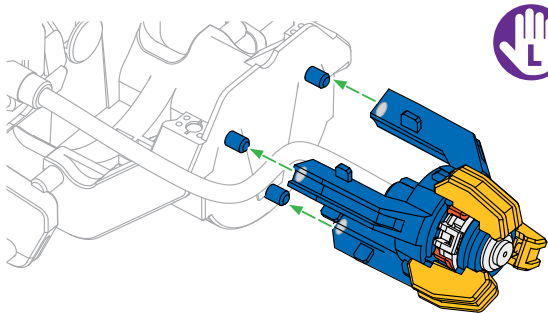




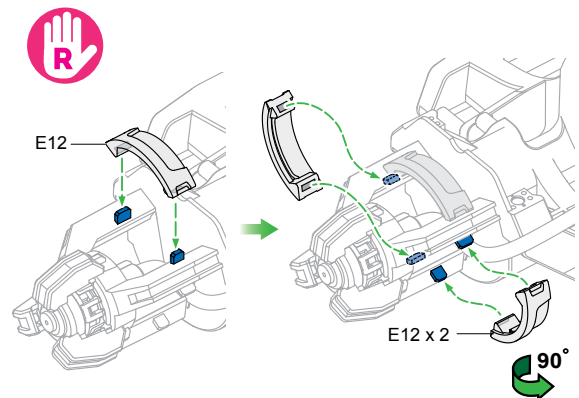
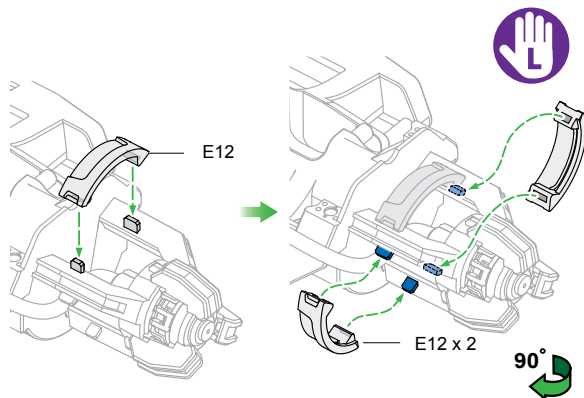
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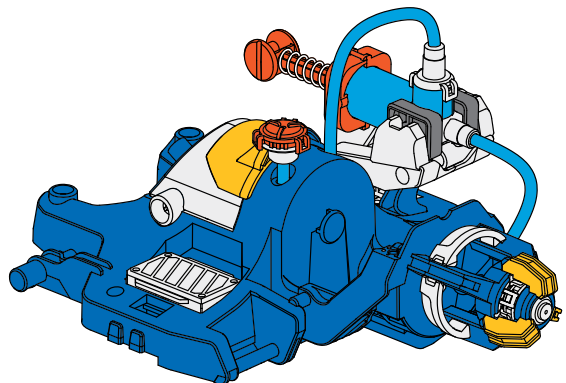
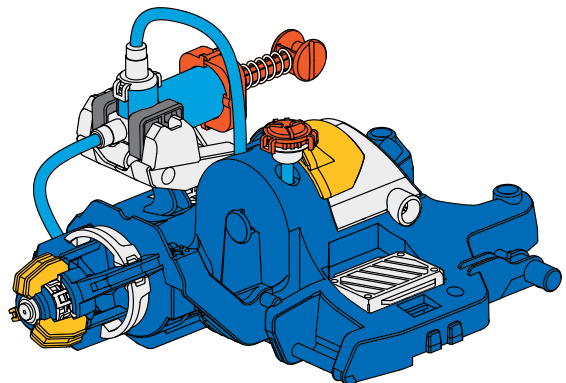
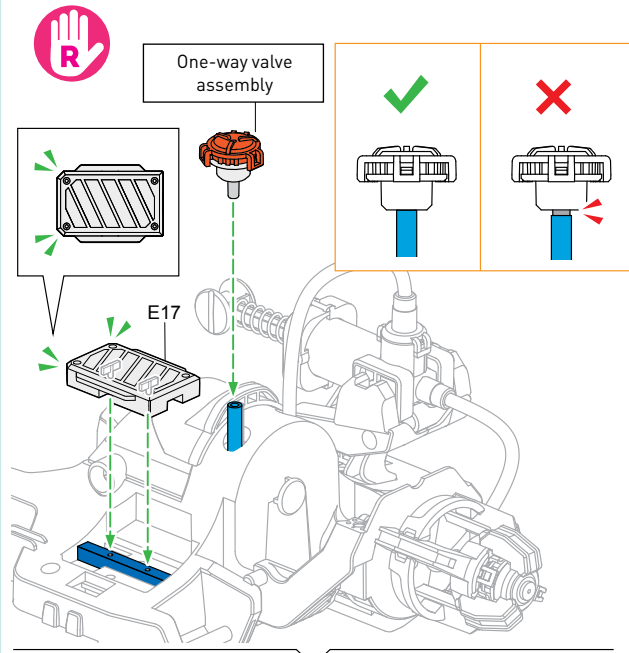
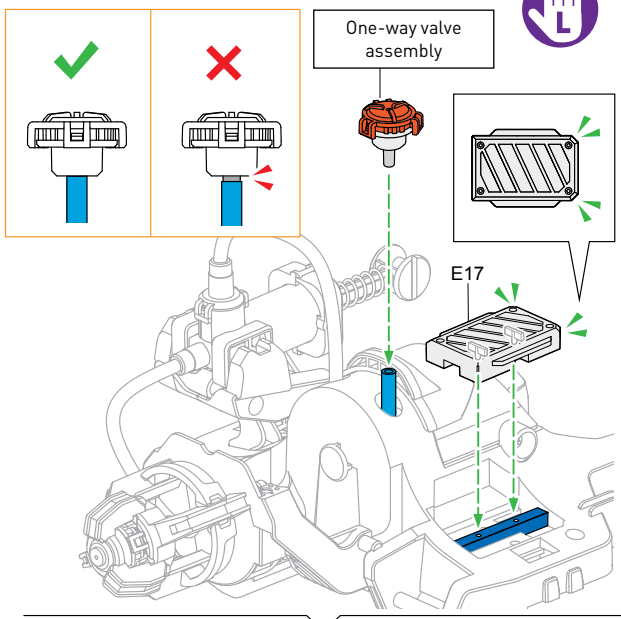


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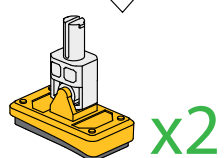
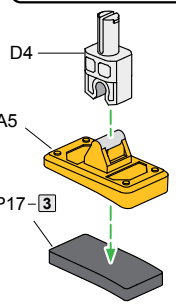
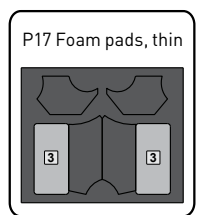




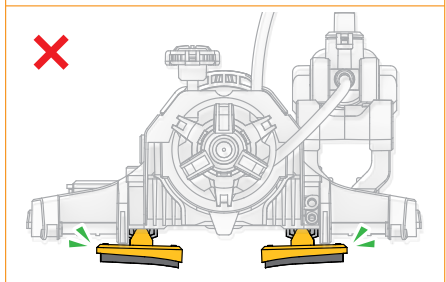
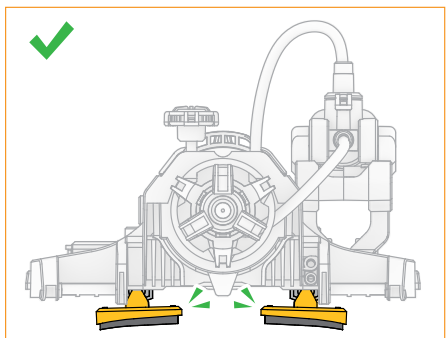
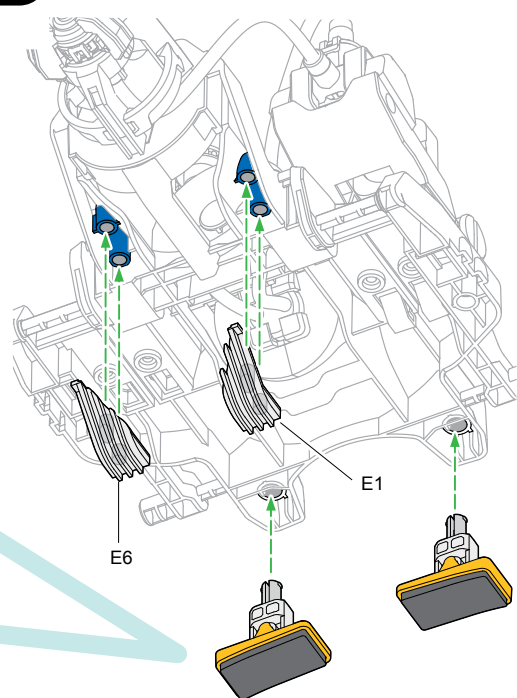
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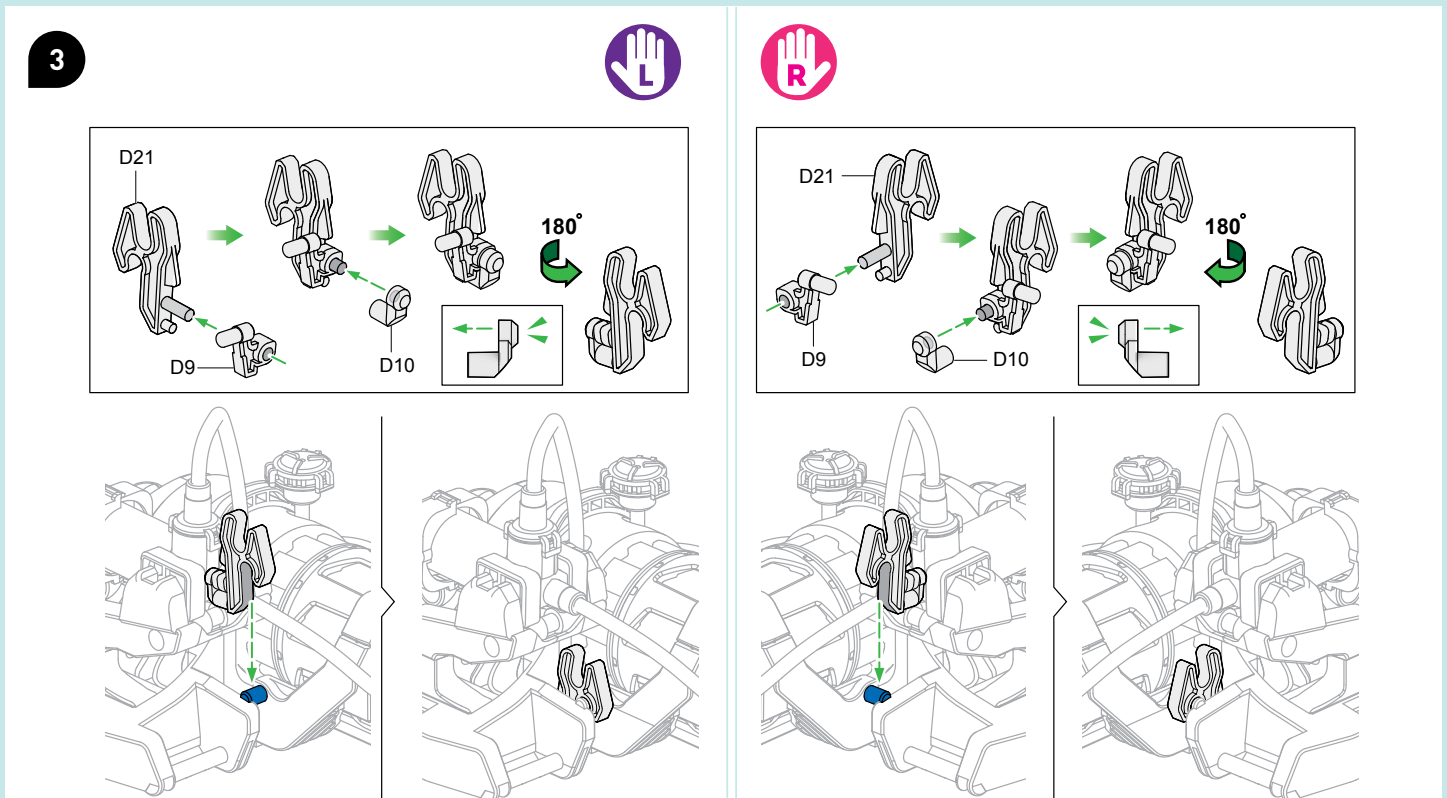
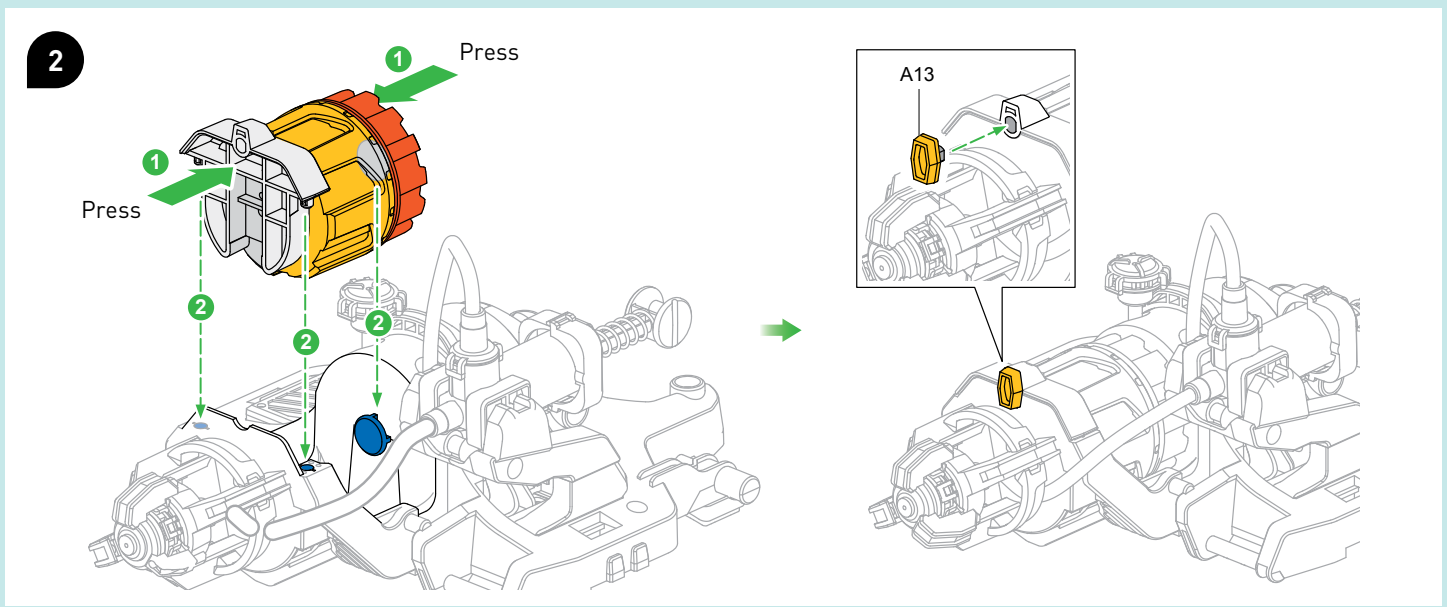
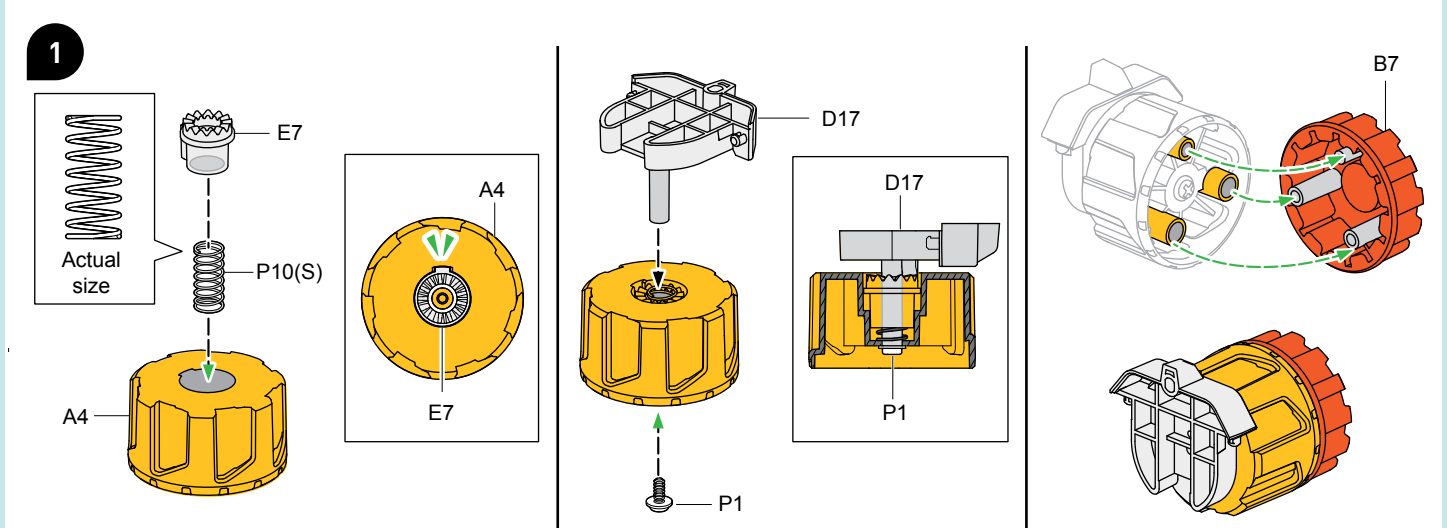
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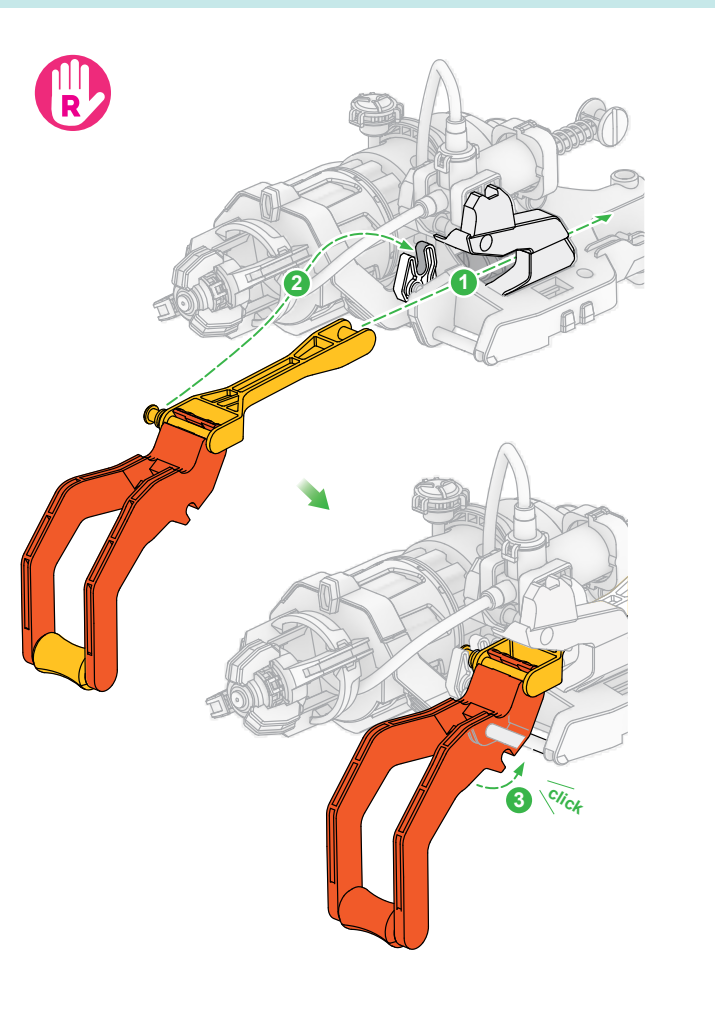
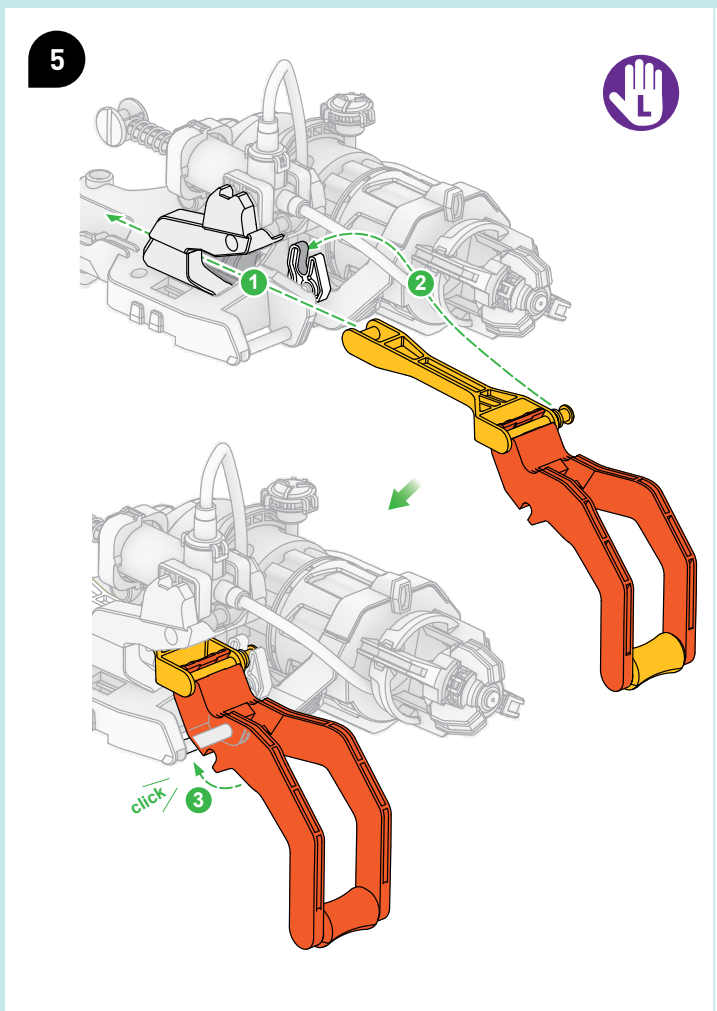
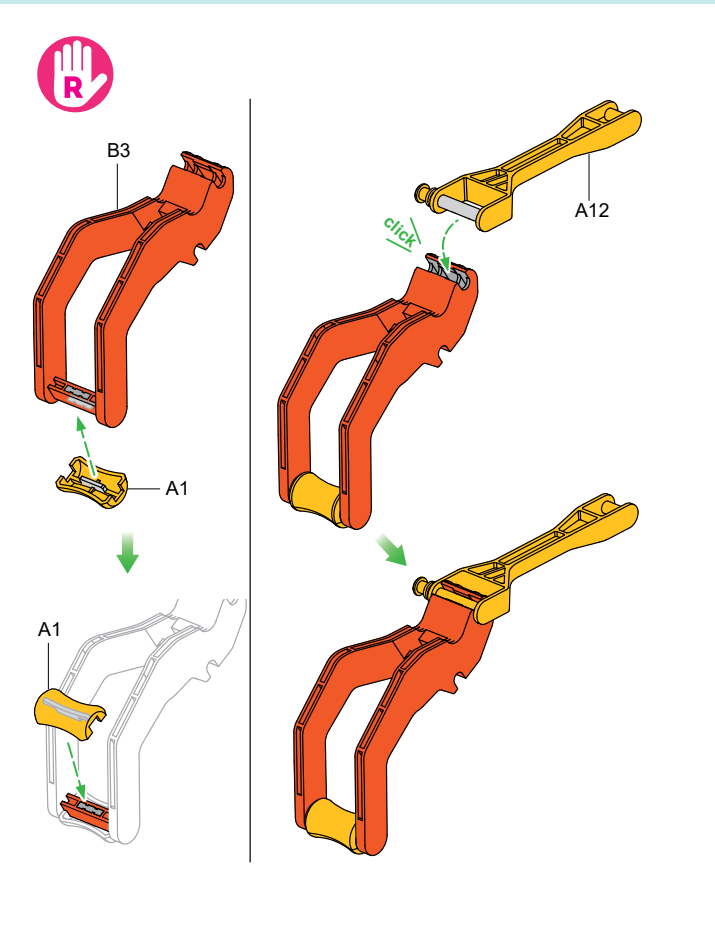
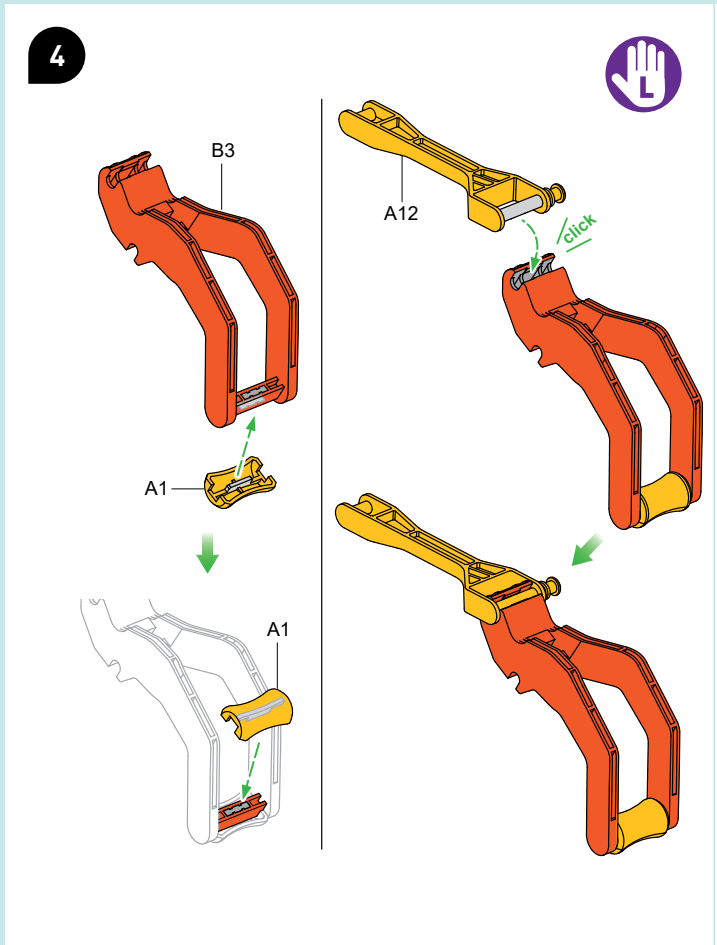


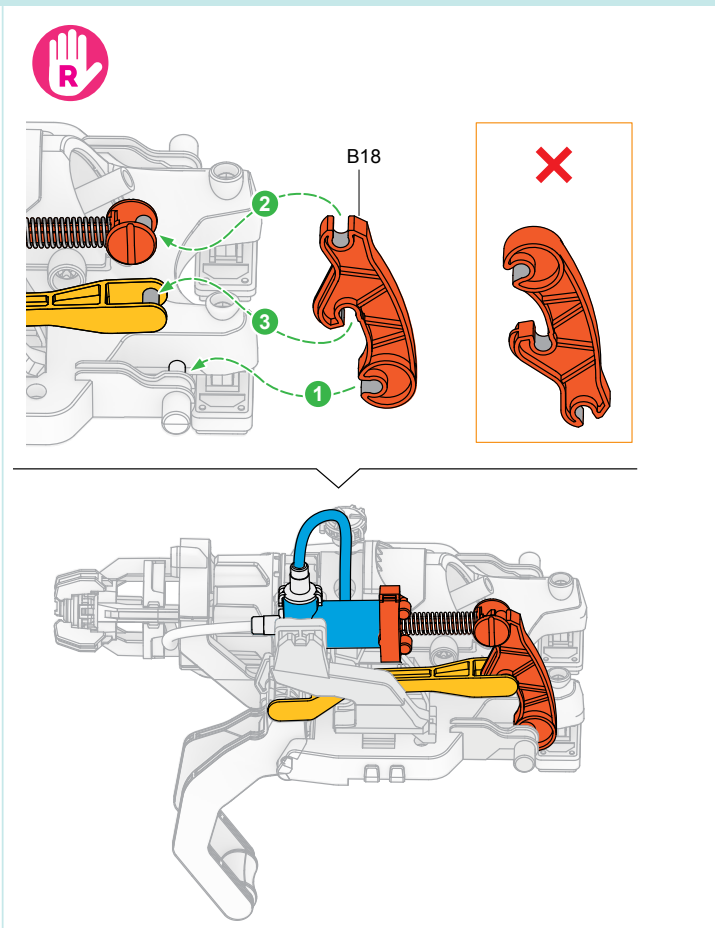
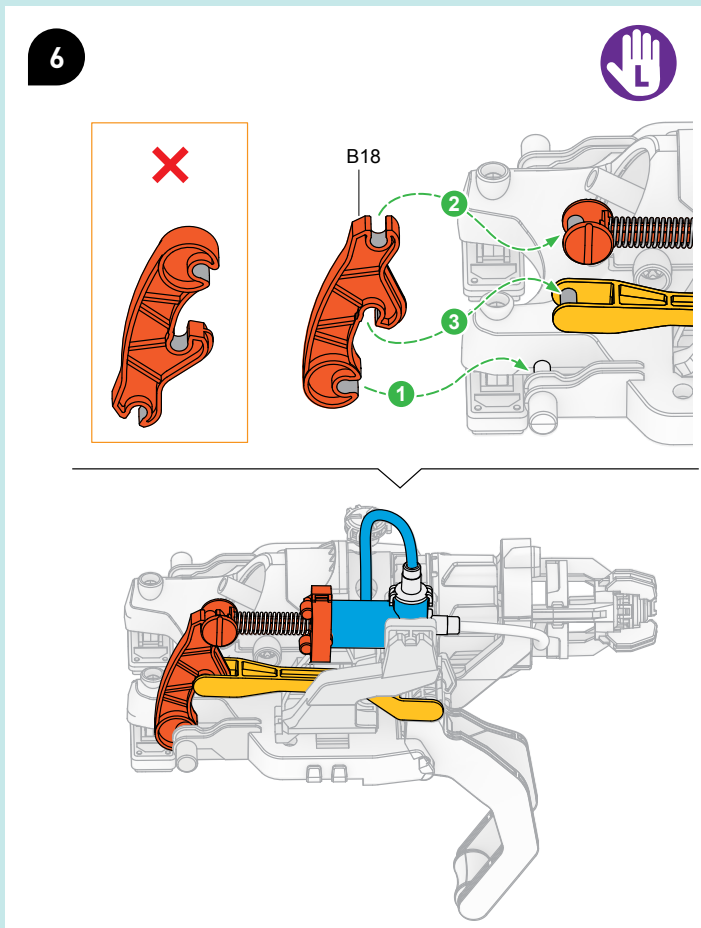
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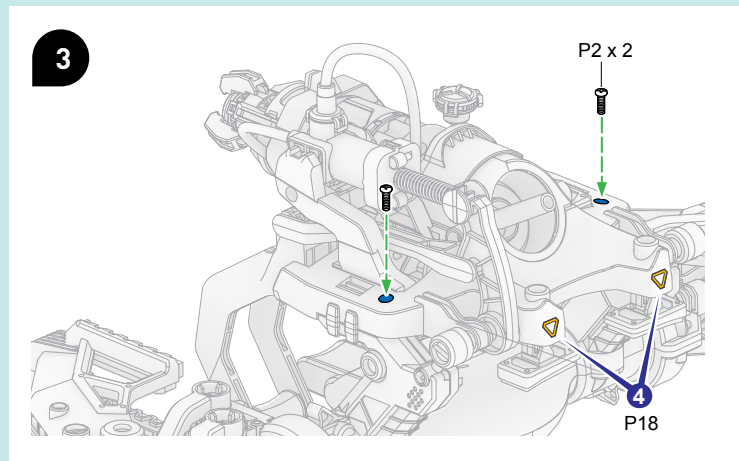
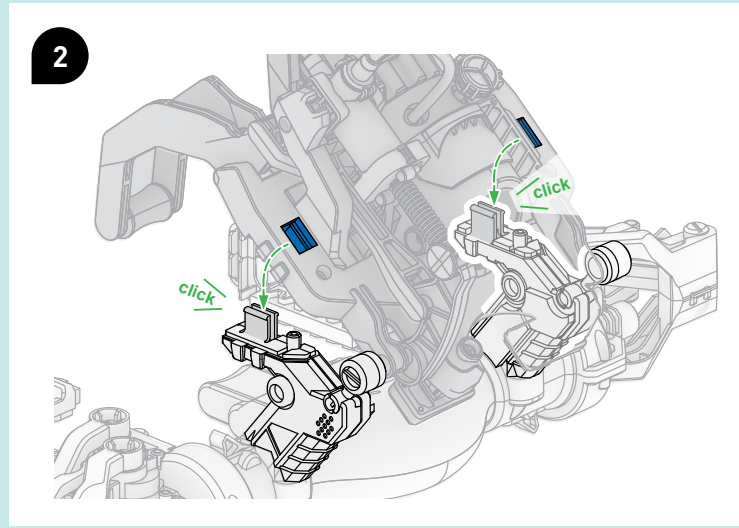
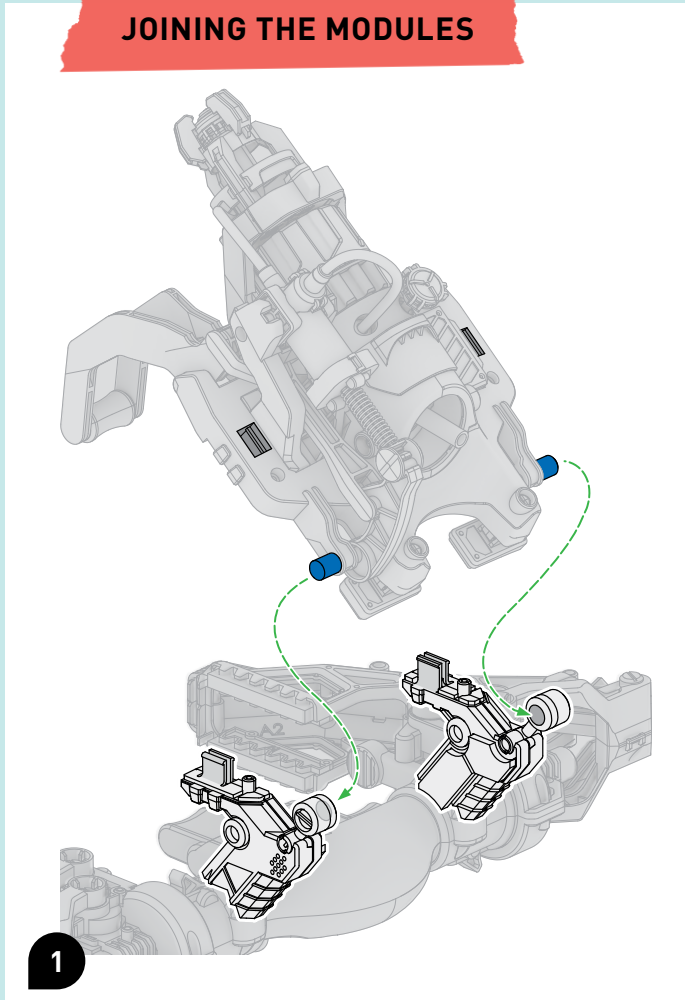
ASSEMBLING THE REVOLVER AND TRIGGER







JOINING THE MODULES





FILLING AND INSTALLING THE WATER TANK

1

P15 P18 P18

WATER ONLY WATER ONLY

WATER ONLY WATER ONLY

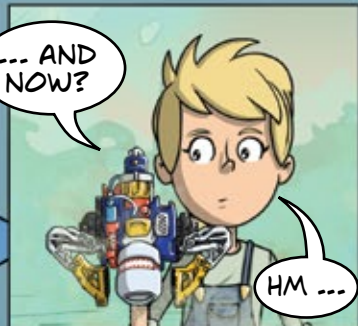
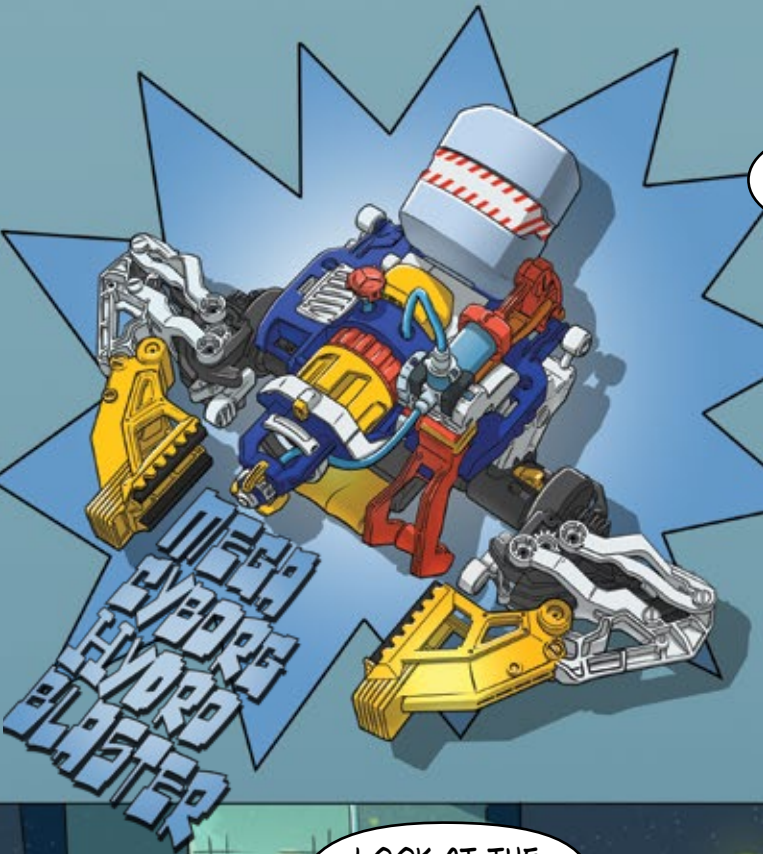
Only fill with clean water.

160 ml

2

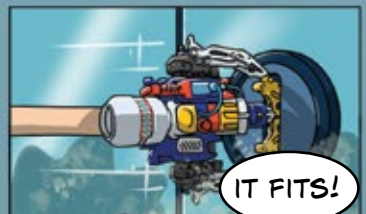
Done!

Hold the water tank upright and turn until it's secure.



... AND NOW?

HM ...



IT FITS!



OPEN SESAME!



HA!



LOOK AT THE PRETTY LITTLE LIGHT THINGS!

COOOOOOOL!

CAREFUL, IZZY! ACCORDING TO THE SCANNER, THOSE THINGS CARRY A HIGH CHARGE WHICH DISCHARGES WHEN THEY'RE TOUCHED ...

JUST WAIT! TAKE THAT YOU SILLY LITTLE ENERGY PARTICLES! SPRITZ SPRITZ!



HGNNNNNNNNN!



PEW!

PEW!



PEW!



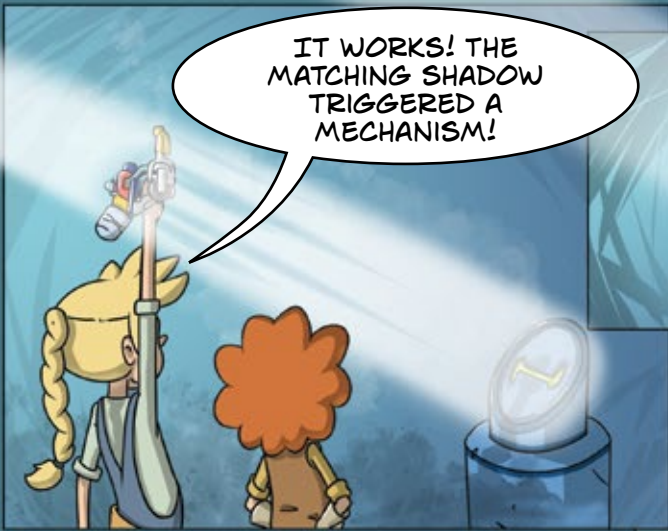
PEW!

HAH! I GOT THEM PRETTY WET. WE'RE SAFE FOR NOW.

IN THE MEANTIME, I'VE FOUND THE NEXT TEST, AND ALSO A THEORY.



USE THE BOOMERANG CONFIGURATION AND HOLD YOUR HAND IN THE LIGHT BEAM.



IT WORKS! THE MATCHING SHADOW TRIGGERED A MECHANISM!



WOW!



THE GALACTIC BOOMERANG!

IN A WATER BUBBLE. FASCINATING! BUT WHY?



GOT IT!

SOMETHING ISN'T RIGHT ...

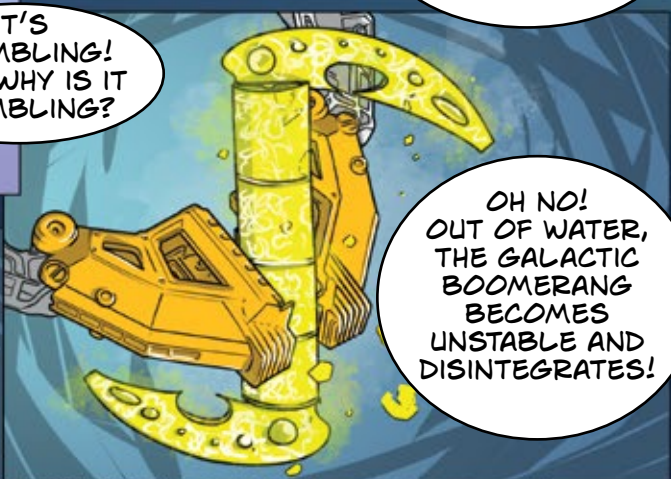
IT'S CRUMBLING! TOM, WHY IS IT CRUMBLING?



NO PROBLEM! I'LL JUST SPRAY WATER ON IT WITH THE MEGA CYBORG HYDRO BLASTER! SPRITZ, SPRITZ!

A WONDERFUL IDEA, IZZY!

BACK TO THE SHIP!



OH NO! OUT OF WATER, THE GALACTIC BOOMERANG BECOMES UNSTABLE AND DISINTEGRATES!



WHAT DOES THE GALACTIC BOOMERANG DO, ANYWAY?

BOUNCES BACK.

BOUNCES BACK?

BOUNCES BACK.

... YOU GOT THAT FROM THE UNIVERSAL TRANSLATOR AND YOU HAVE NO IDEA WHAT IT DOES, RIGHT?

I GOT THAT FROM THE UNIVERSAL TRANSLATOR AND YOU HAVE NO IDEA WHAT IT DOES, YES.

HAHAHAHAHA!

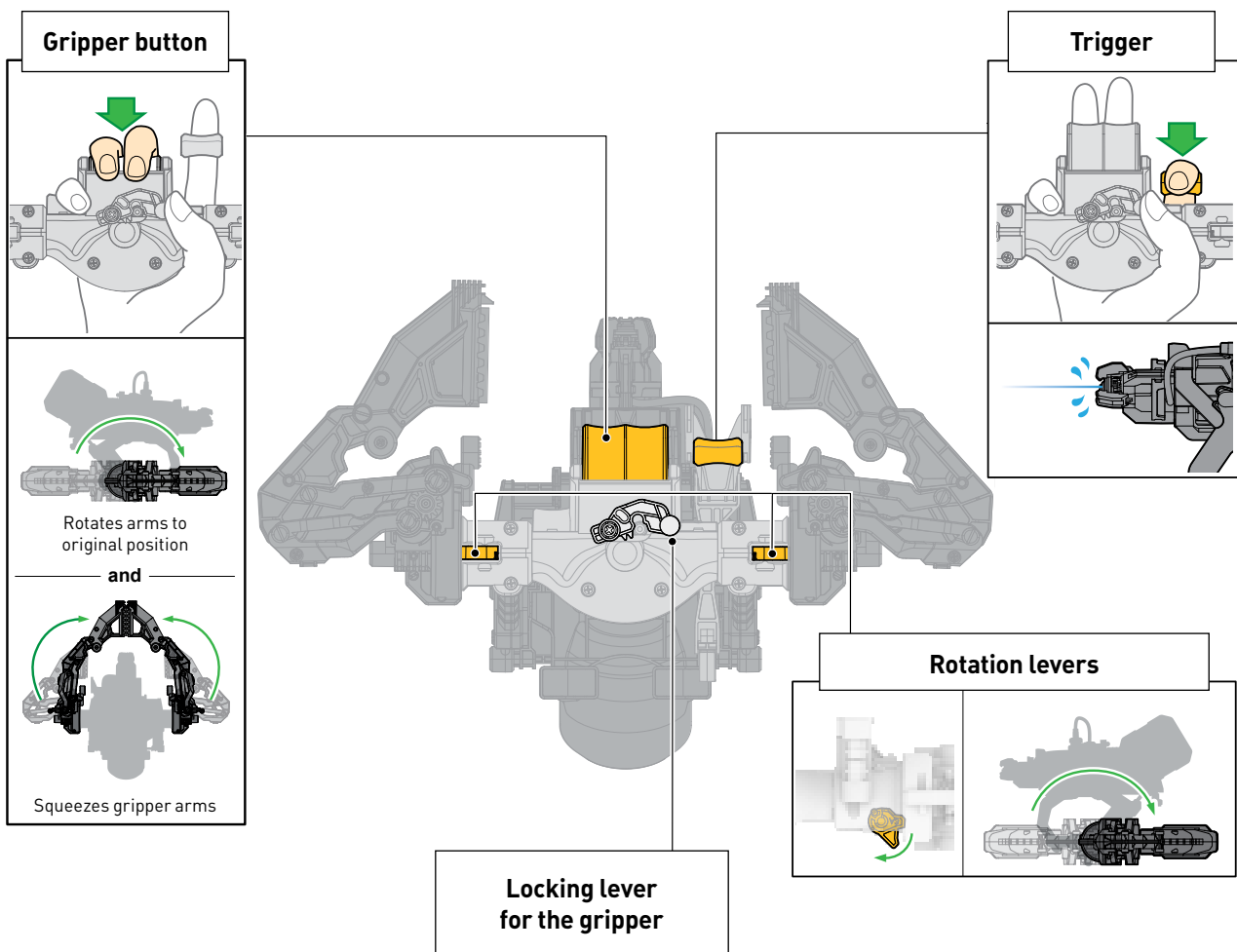


*Let's
GO!*

OPERATING INSTRUCTIONS

USING YOUR HYDRO BLASTER

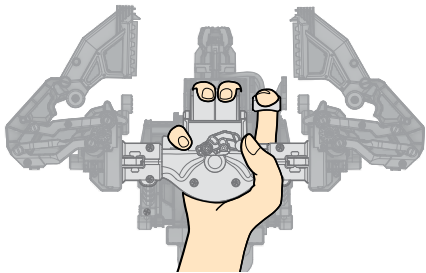
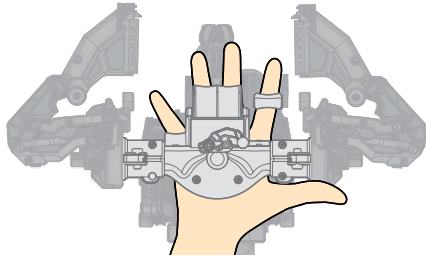
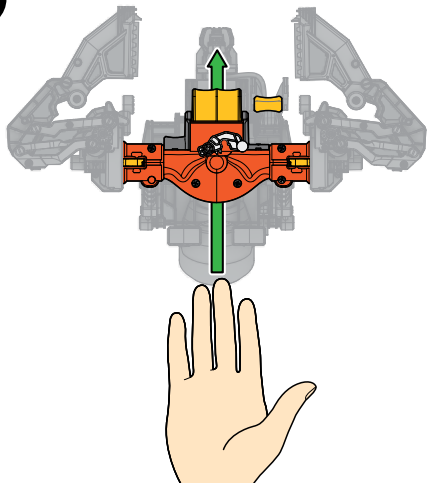
You've done it, your Mega Cyborg Hydro Blaster is assembled and ready to use! In this section you will learn how to operate your blaster. You will also find out how you can activate cool transformations of the arms and what you should pay attention to when using the blaster.



! Make sure that the locking lever is unlocked before you use the gripper button.

USING THE HYDRO BLASTER

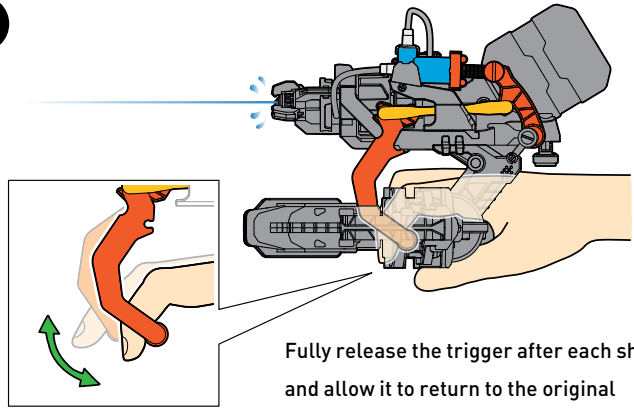
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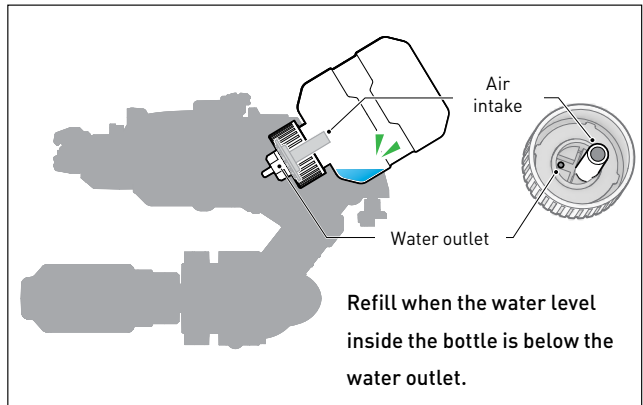
Avoid pressing hard on the gripper button when the locking lever is engaged.

Arrange your fingers as shown in the diagram. The index finger operates the trigger. Operate the gripper button with your middle and ring fingers. You can use your thumb to operate the locking lever.

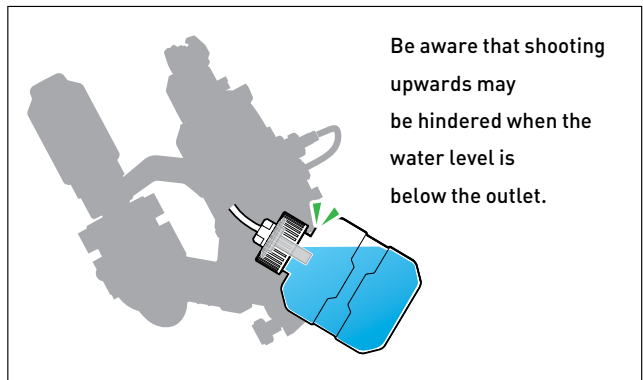
2



Fully release the trigger after each shot and allow it to return to the original position in order to generate enough pressure for the next shot.

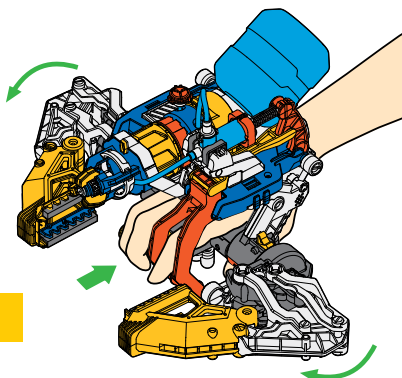


Refill when the water level inside the bottle is below the water outlet.

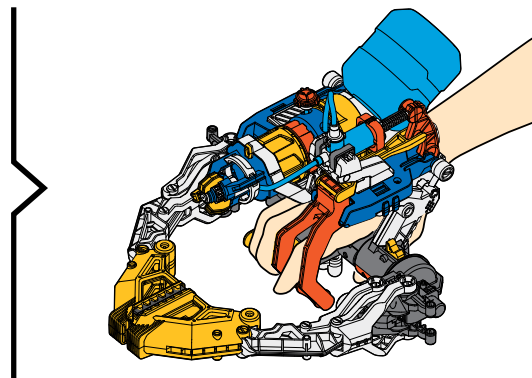


Be aware that shooting upwards may be hindered when the water level is below the outlet.

3



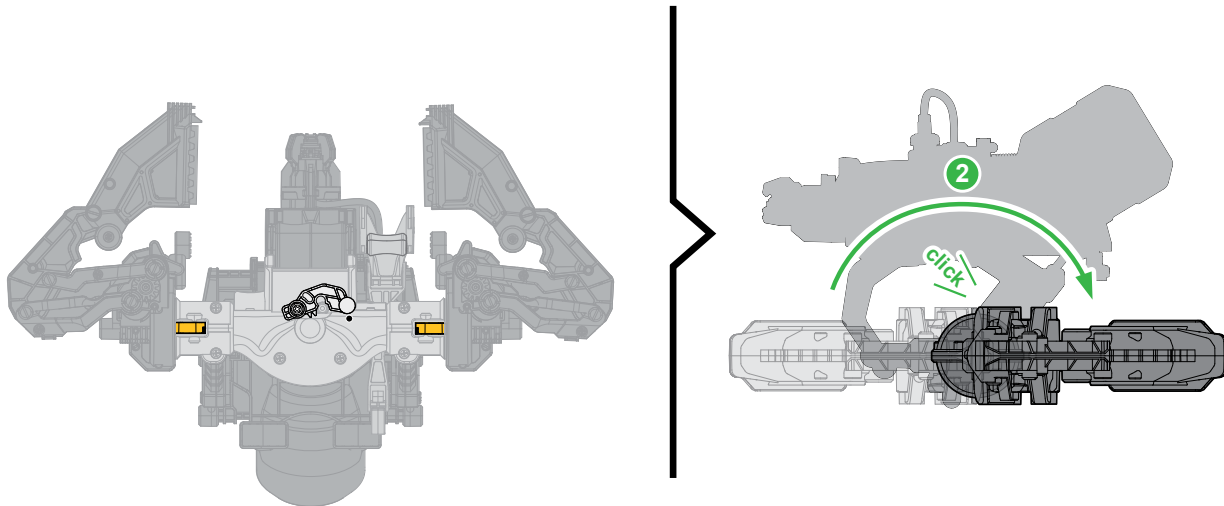
Gripper mode



TRANSFORMING THE BLASTER

ROTATING THE GRIPPERS

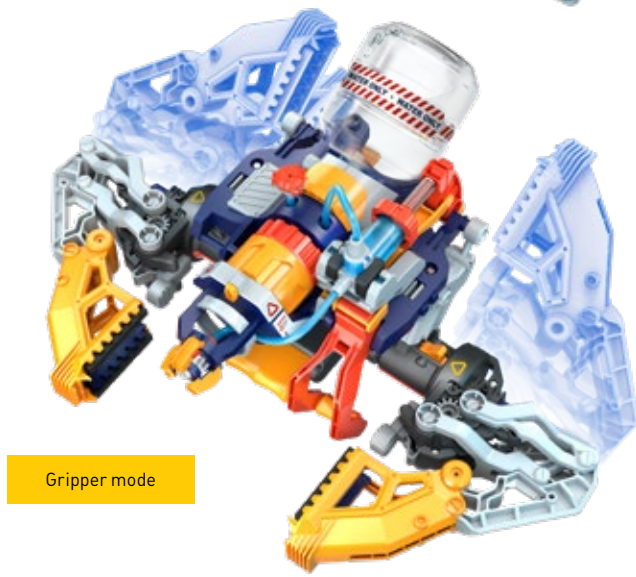
Unlock the gripper arms with the orange rotation levers, to allow the arms to be rotated backward. When the gripper arms are unlocked, they can be rotated manually until they click into the backward position.



You can rotate one or both of the arms. In this way, you can transform the blaster into the following forms:

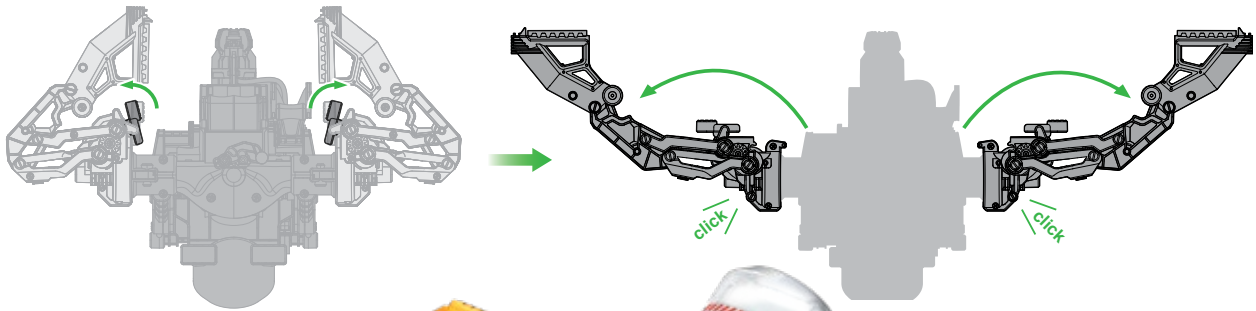


To rotate the gripper arms forward into gripper mode, simply press and release the gripper button quickly. The arms will automatically rotate forward.



EXPANDING THE GRIPPER ARMS

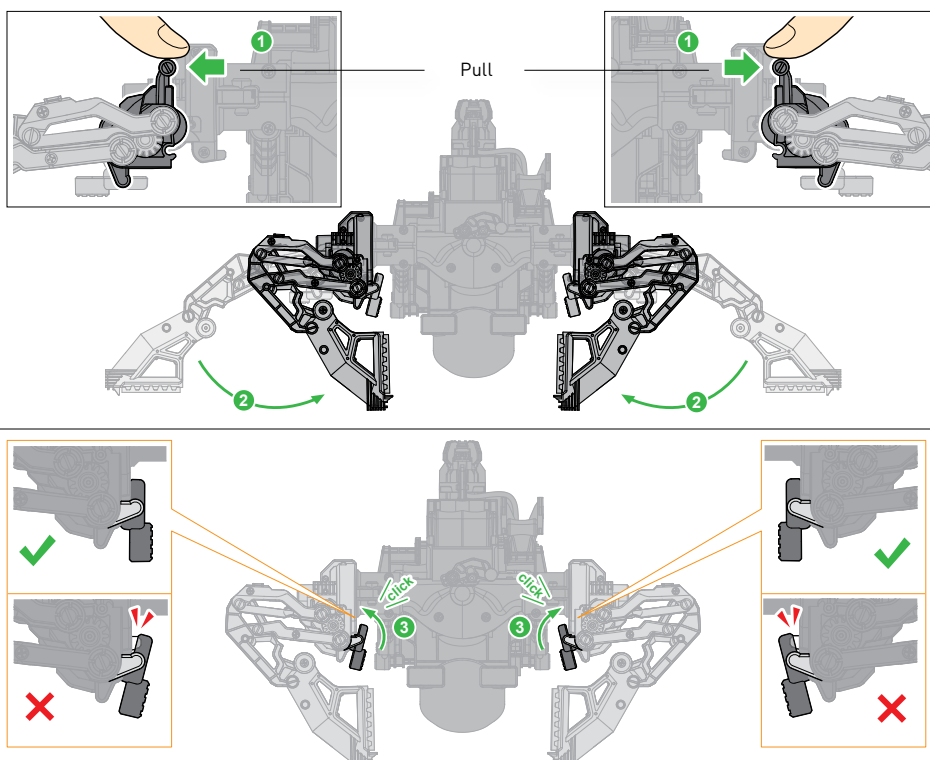
The gripper arms can not only be rotated, but also expanded.



Press the white expansion buttons outwards as shown, and carefully unfold the arms until you hear a click. If you also rotate the arms, the blaster will look like a futuristic crossbow.

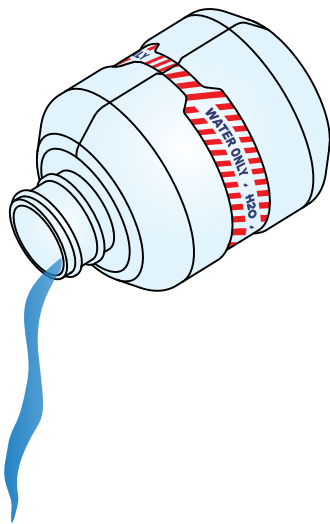
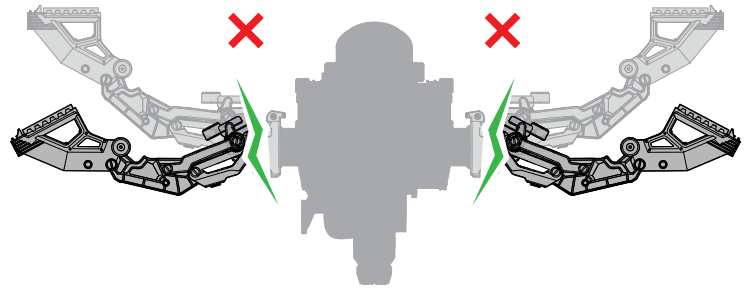
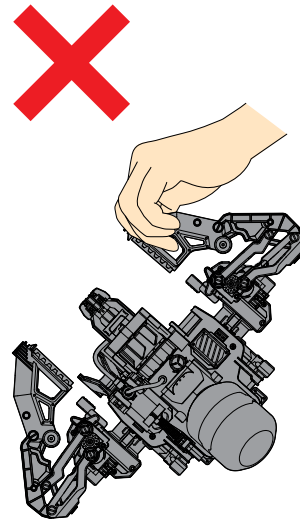
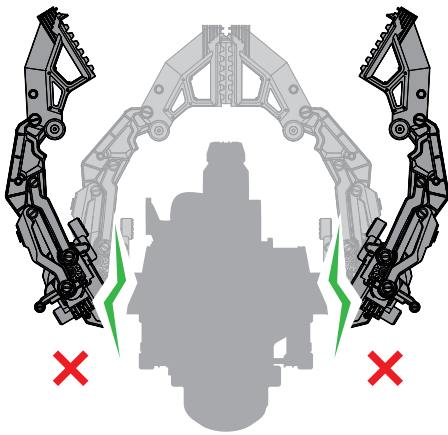


To return the arms to their original positions, pull the black levers, as shown below, then carefully fold the arms back in with your hands. The white buttons must visibly latch back in place.



**IMPORTANT HANDLING INFORMATION****CAUTION!**

In order for you to have fun with your Mega Cyborg Hydro Blaster for as long as possible, there are a few things to consider. Never lift the hydro blaster by one arm and avoid twisting the arms to prevent damage.



Always empty the water tank and allow it to dry when you are done playing.

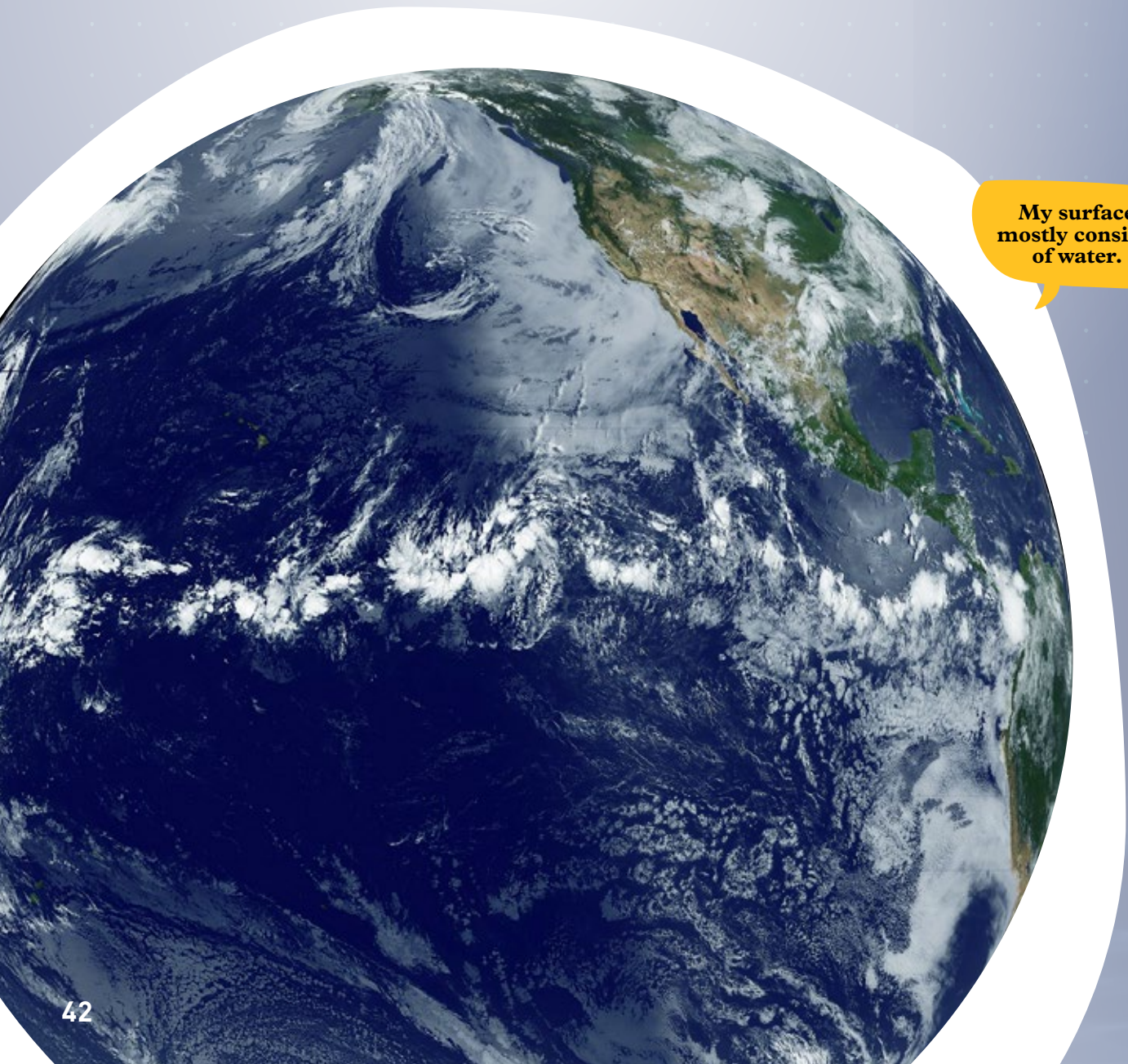
Now you know everything about your Hydro Blaster!





Water

Water is one of the most essential materials on Earth. Without water, there would be no life. It can be found all over our world — it falls from the sky as rain, runs through valleys in the form of rivers, or flows out of the taps in our homes. But water can also be found in plants, animals, and even our own bodies. About 50 – 65% of our bodies are made up of this essential material. Even the Earth's surface is 71% covered by water. Earth contains an estimated 1.4 trillion liters of water (a trillion is a one followed by 21 zeros). Of these 1.4 trillion liters, our drinking water is a tiny portion: only 3% of the total water on our planet is drinkable.



My surface mostly consists of water.

WHAT DOES H₂O MEAN, ANYWAY?!

Our world contains more than a hundred chemical elements.

An element is a material that's entirely made up of one kind of atom. You can imagine them as the world's smallest building

blocks. When one or more atoms bond, they create a new substance. These bonded atoms are called a molecule.

Water is a molecule made up of two different chemical elements: hydrogen (H) and oxygen (O). Two hydrogen atoms are bonded with an oxygen atom. The notation H₂O therefore shows the number of each element in the molecule. Because these are very small and not even visible with the most powerful microscope, even a small drop of water contains a huge number of H₂O molecules.



Hydraulics

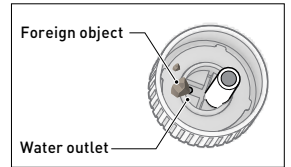
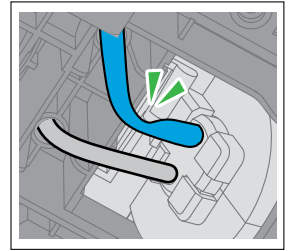
Water isn't only important for our survival, it's also used for things like operating heavy machinery. The term "hydraulics" refers to technology that uses fluids such as oil or water to transport signals, power, or energy. A hydraulic system uses a pressurized fluid. This fluid must be stored in a closed tube system. If you take away space from the liquid in the system, for example by compressing the space, the pressure will increase as the liquid tries to expand evenly in the system. This pressure moves the liquid into another space, so that, for example, the arm of a backhoe can be moved. Your Hydro Blaster utilizes pressure to fire water out of the blaster. Pretty cool, right?



PROBLEM 1

Your water tank has water in it, but no water comes out when you pull the trigger.

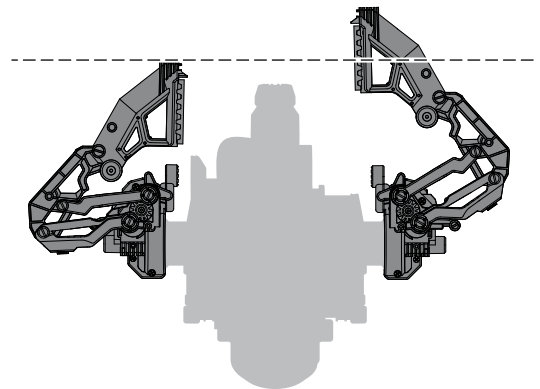
1. Check if your water line is tangled or bent, blocking the water or air (see picture).
2. If the water tank is not drawing water, there may be a problem with the seal. Please re-do steps 1 to 3 on page 22 and steps 14 to 16 on page 24. Check whether there are any burrs left on the one-way valve and remove them if necessary.
Also check whether there are any foreign objects blocking the rubber gasket (P4) or the water outlet cap.



PROBLEM 2

The two sides of the assembled gripper are not symmetrical, or the opening and closing distance is abnormal (see picture).

1. Check that the linkage teeth are in the correct position: page 14, step 5 to page 16, step 17.
2. Check that the teeth of the gears are in the correct position: page 12, step 15 to page 13, step 18.
3. Check that F3 was installed correctly: page 9, step 4 to page 11, step 12.



PROBLEM 3

The gripper cannot open or close.

1. Ensure that the gripper locking lever is released: page 37.
2. Ensure part C9 is placed correctly: page 10, step 7.

PROBLEM 4

The gripper arms cannot be rotated upwards to the rear to form a boomerang or shield.

Check if the tension springs (P8) are properly positioned: page 9, step 3 and page 11, step 10.

PROBLEM 5

The water bottle cannot be securely locked.

Please re-do page 25, step 21 and re-tighten the wide-headed screws (P1).

PROBLEM 6

The right-side gripper doesn't rotate smoothly.

1. Ensure oil was applied to C10 and C11: page 12, step 15 and step 17.
2. Ensure oil was applied to B19: page 9, step 2.

PROBLEM 7

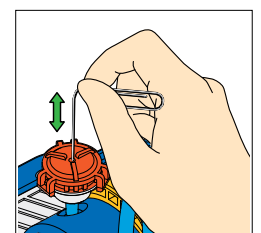
The left-side gripper doesn't rotate smoothly.

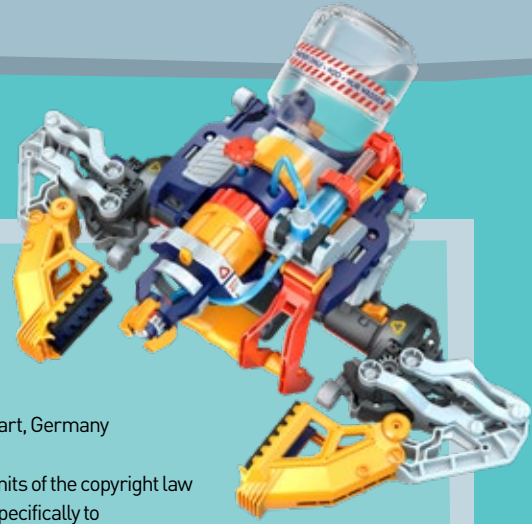
1. Ensure oil was applied to C2 and C4: page 13, step 19 and step 21.
2. Ensure oil was applied to B15: page 10, step 9.

PROBLEM 8

The air intake is not working properly.

1. Use a paperclip or pin to gently tap the air intake valve several times to ensure that the one-way valve is not stuck.





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Manual photos: Jaimie Duplass & beror (all adhesive strips © fotolia); PublicDomainPictures, p. 10 top; tommyvideo, p. 38 background (both © Pixabay); nnerto, p. 20 top right; icarmen13, p. 20 bottom left; sdecoret, p. 21 top hands; TANATPON, p. 21 top background; willyam, p. 45 bottom left; leszek-glasner, p. 45 bottom right; jayzynism, p. 45 background (all previous © AdobeStock); Artsiom P, p. 44 bottom left (© shutterstock.com); Hector Adalid, p. 21 bottom left (© Wikipedia, CC BY-SA 4.0)

Design concept & packaging design: Peter Schmidt Group, Hamburg

Packaging layout: Joanna Mühlbauer, Steingaden

Packaging photos: CIC Components Industries Co., Ltd., Taiwan

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Editing: Ted McGuire, Hannah Mintz, Ava Tessitore Additional graphics and layout: Dan Freitas

Distributed in North America by Thames & Kosmos, LLC. Providence, RI 02903

Phone: 800-587-2872; Web: www.thamesandkosmos.com

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Printed in Taiwan / Imprimé en Taiwan



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