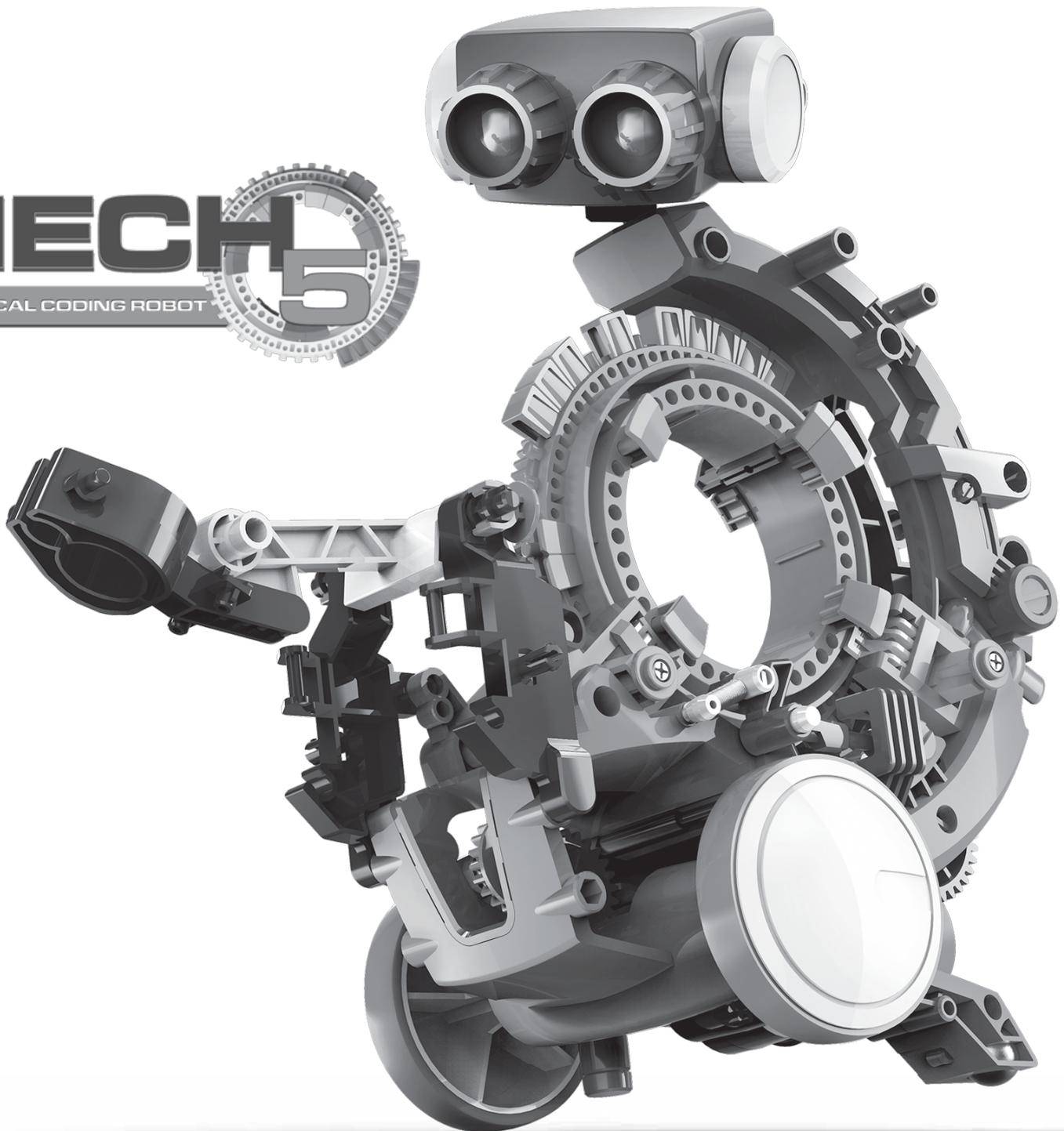


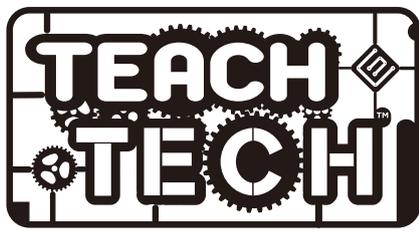
TEACH TECH™

MECH 5

MECHANICAL CODING ROBOT



ASSEMBLY & INSTRUCTION MANUAL



Content

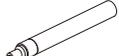
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Introduction

The mechanical coding wheel is the heart of the Mech.5 Mechanical Coding Robot. It steers its coded courses and programmed tasks. Coding is executed effortlessly by snapping the coding buttons onto the coding wheel directing your robot to perform its basic functions – move forward, backward, right or left, spin or pause. Thanks to this simple to follow approach, coding and performing more challenging tasks like throwing, lifting, kicking or drawing, become achievable as the user’s coding skills increase.

This mission-based, entry level STEM coding robot is designed to inspire users to learn about mechanical engineering principles and coding basics. It encourages children to think while also developing their problem-solving and troubleshooting skills when faced with different tasks and difficulties. Engage in the coding world and beyond by challenging yourself with your very first coding robot.

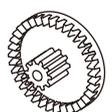
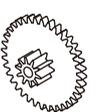
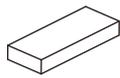
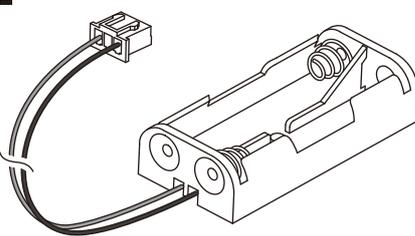
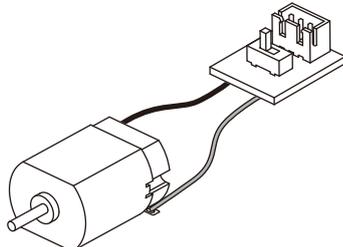
Tools You May Need

Diagonal Cutter 	Screwdriver 	Battery(AAA) x 2  Alkaline batteries are recommended	Ruler 	Marker (Fine) 	Safety Glasses 
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Mechanical Parts List

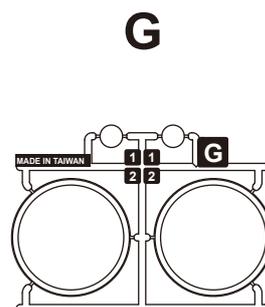
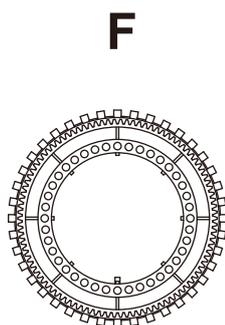
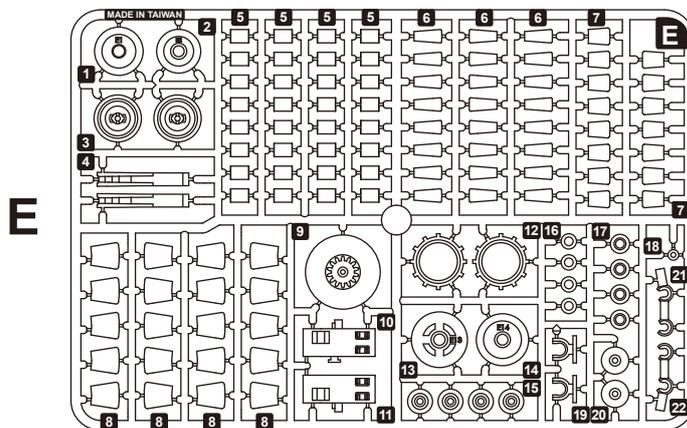
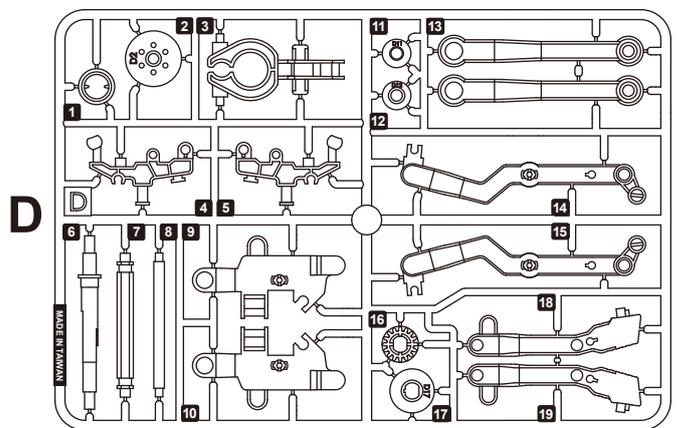
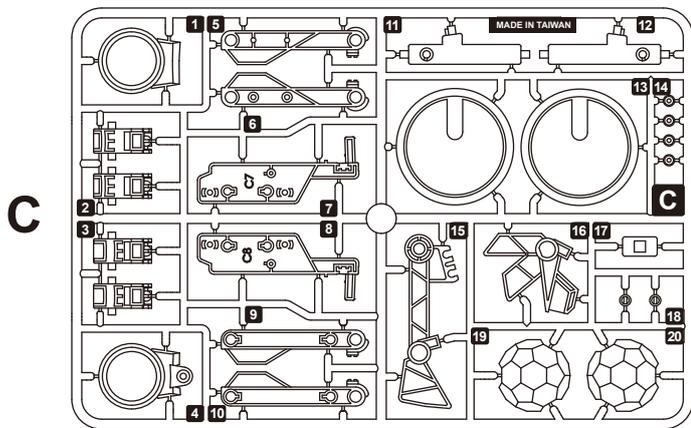
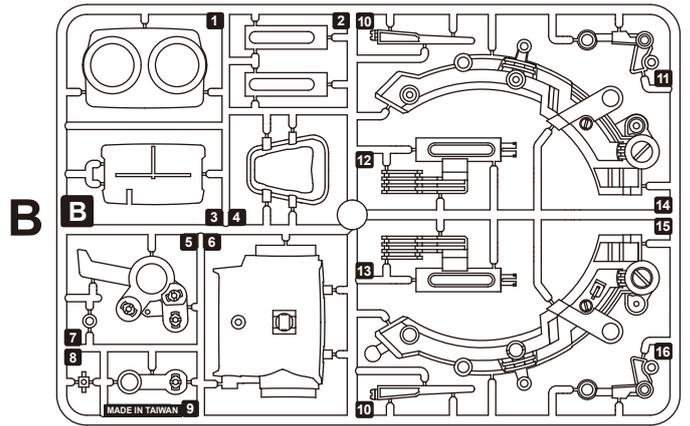
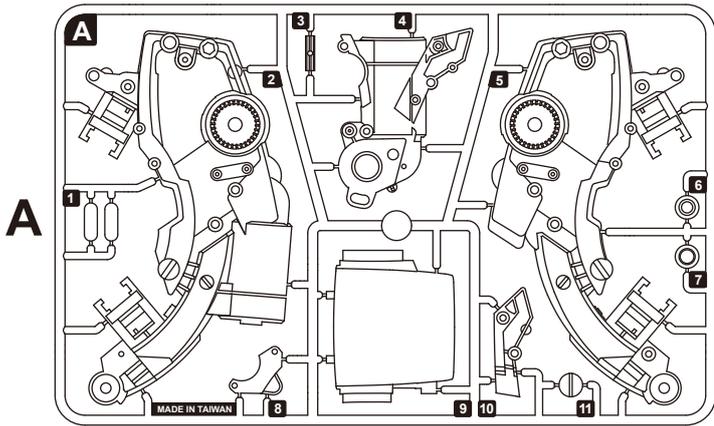


- Important: If any parts are missing or damage, DO NOT RETURN TO THE RETAILER. E-mail us at support@elenco.com or call (800) 533-2441
- Product contains functional edges and sharp points.

P1	Pinion Gear (White)	P2	Gear 36/10T (Black)	P3	Gear 36/10T (Yellow)	P4	Gear 36T (Orange)
	QTY 1		QTY 1		QTY 2		QTY 1
P5	Gear 10T (Black)	P6	Shaft	P7	Tapping Screw	P8	Spring (Small)
	QTY 1		QTY 2	 1:1	QTY 15		QTY 2
P9	Spring (Big)	P10	Steel Ball	P11	Sponge		
	QTY 2		QTY 1		QTY 2		
P12	Battery Holder with Connector	P13	Motor with PC Board				
DC 3V 		QTY 1		QTY 1			

Plastic Parts

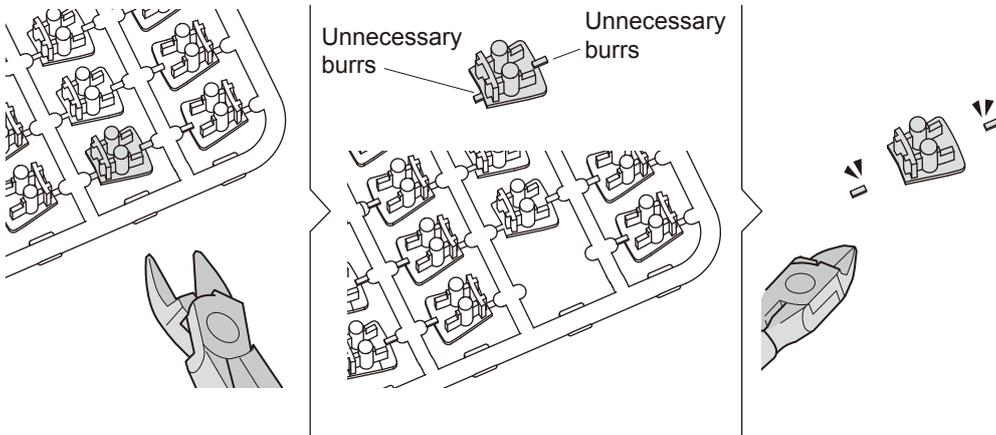
! Cut off the plastic parts when they are required. Do not cut them in advance.





Please Read Before Assembly

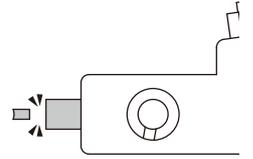
Remove burrs



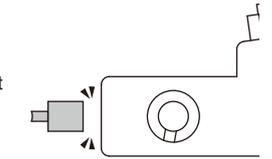
Some burrs are left at the edge of plastic parts after cutting them off. Make sure the burrs are completely removed to avoid operation malfunction.



Correct



Incorrect



Trim off the burrs ONLY. Do not trim off the protrusion of the original plastic parts. All features of parts should be kept completely.

Fasten tapping screws



Use corresponding (size-compatible) screwdriver. By following steps below, you can fasten the tapping screws perfectly.

Put the screwdriver towards the top of screws.

- (1) Screw in
- (2) Feel the tension getting higher
- (3) Keep screwing

Repeat until screws are tightly fastened.



Please lock screws all the way down to the bottom. If they are not fastened tightly enough, parts may come off. The robot may consequently not work.



Correct

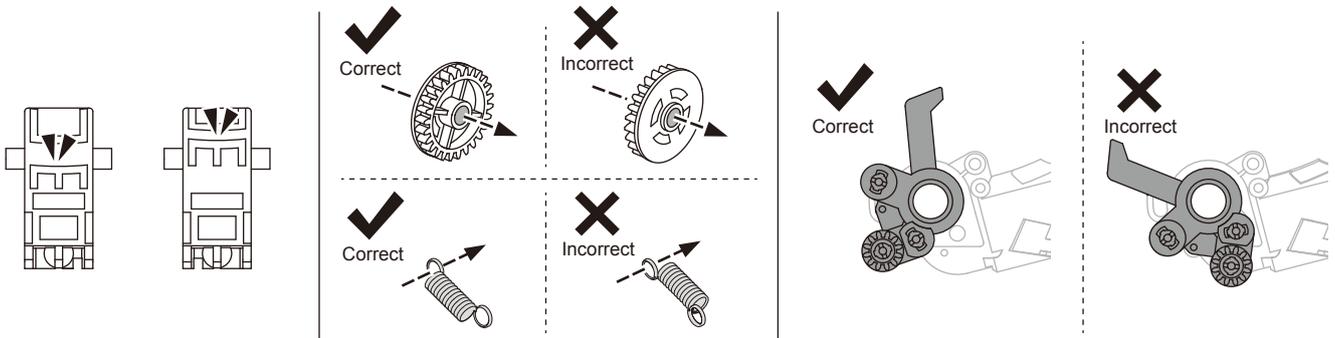


Incorrect



Shape, assembly direction, and position of parts

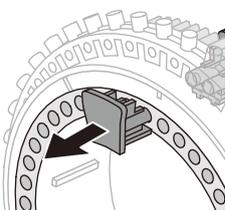
Some parts may look quite similar. They should be assembled in the designated direction and position shown in manual.



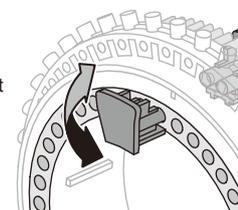
Coding buttons can be removed for new programming. Remove them straight up off the coding wheel. Do not torque them to avoid damage.



Correct



Incorrect



Correct

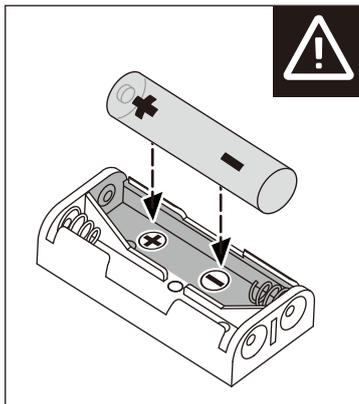
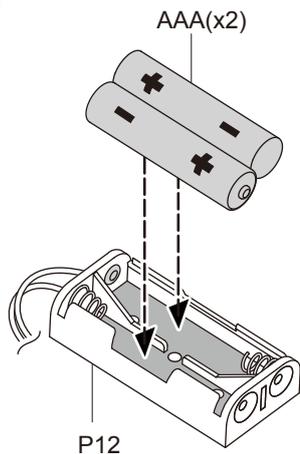


Incorrect



Head Module Assembly

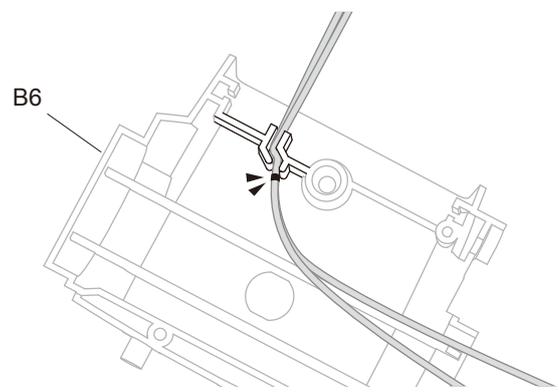
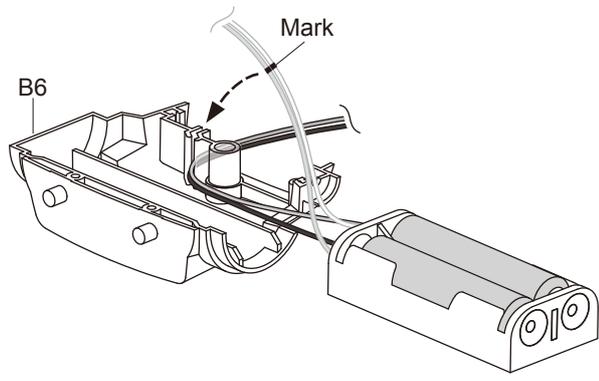
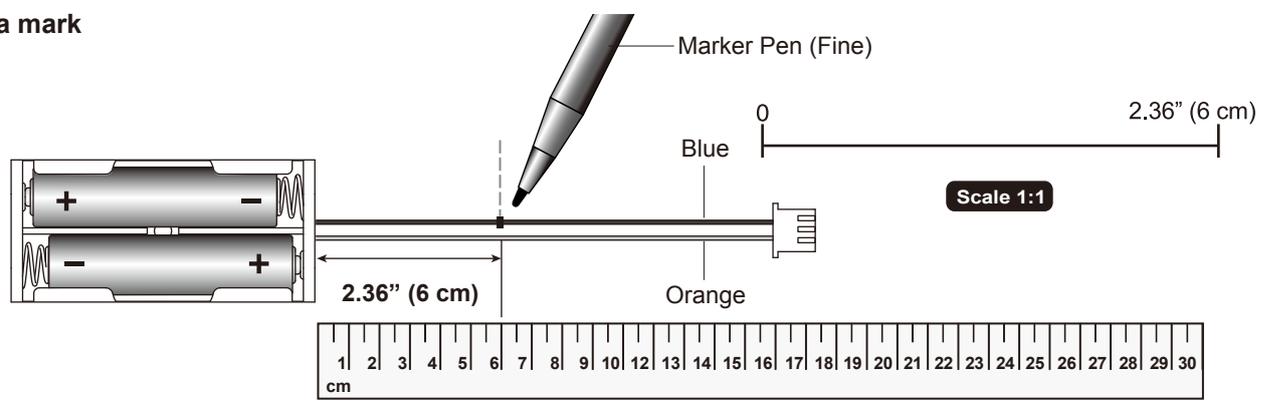
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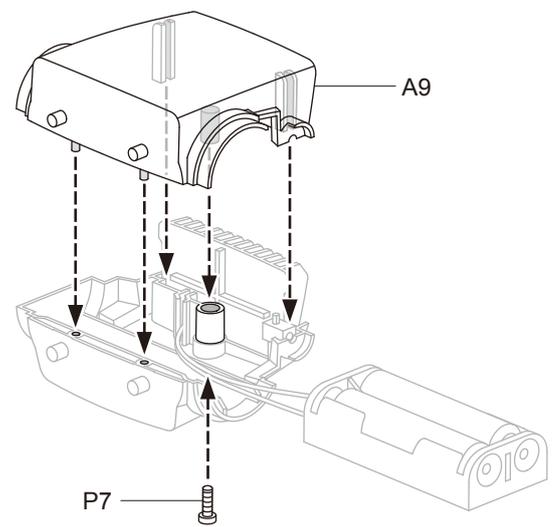
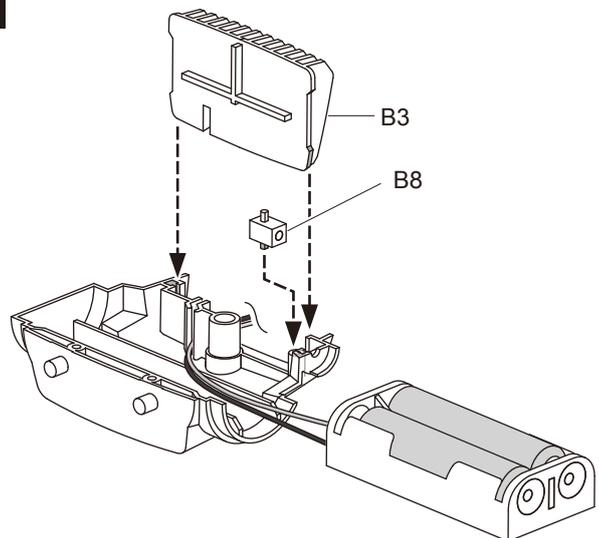
⚠ Insert “-” on battery first

- Installation, removal and replacement of batteries should be carried out by an adult or under adult supervision.
- Avoid short circuiting the contacts in the battery compartment or the battery terminals.
- Do not mix used batteries and new batteries or batteries of different types.
- Do not mix alkaline, standard (carbon-zinc), or rechargeable (nickel-cadmium) batteries.
- Batteries are to be inserted with the correct polarity.
- Do not attempt to recharge non-rechargeable batteries.
- Remove exhausted batteries from the product to avoid leakage.

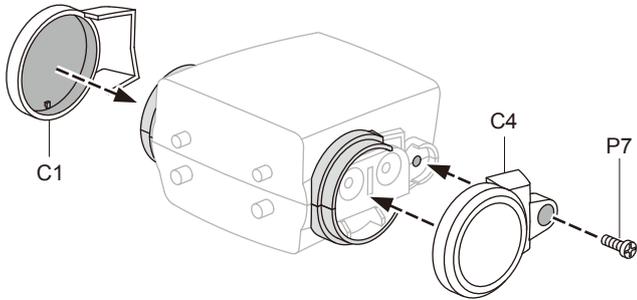
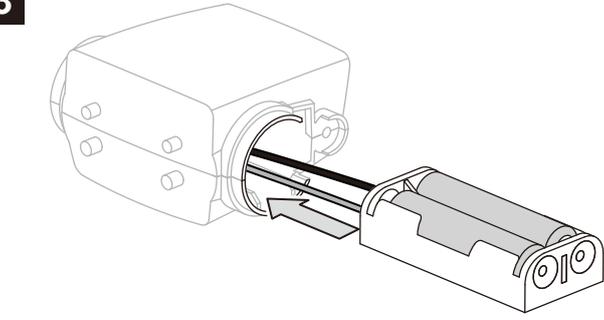
Making a mark



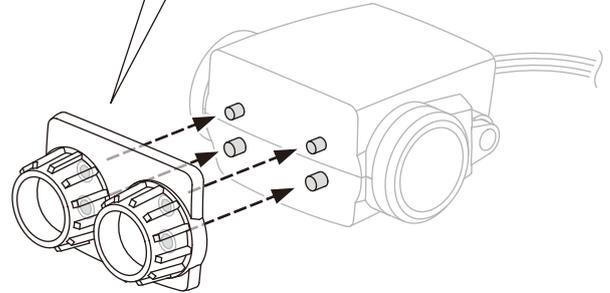
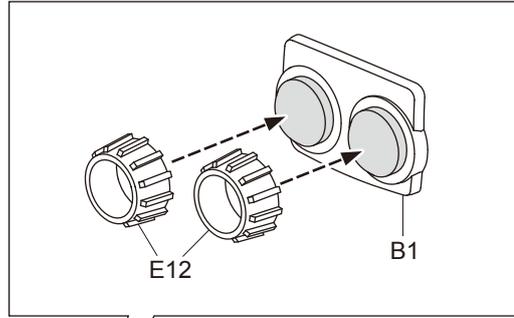
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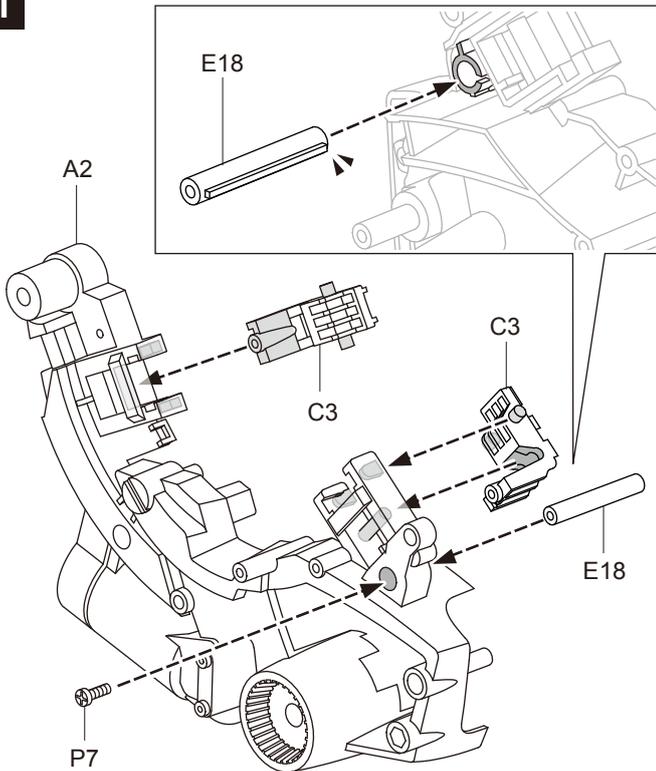


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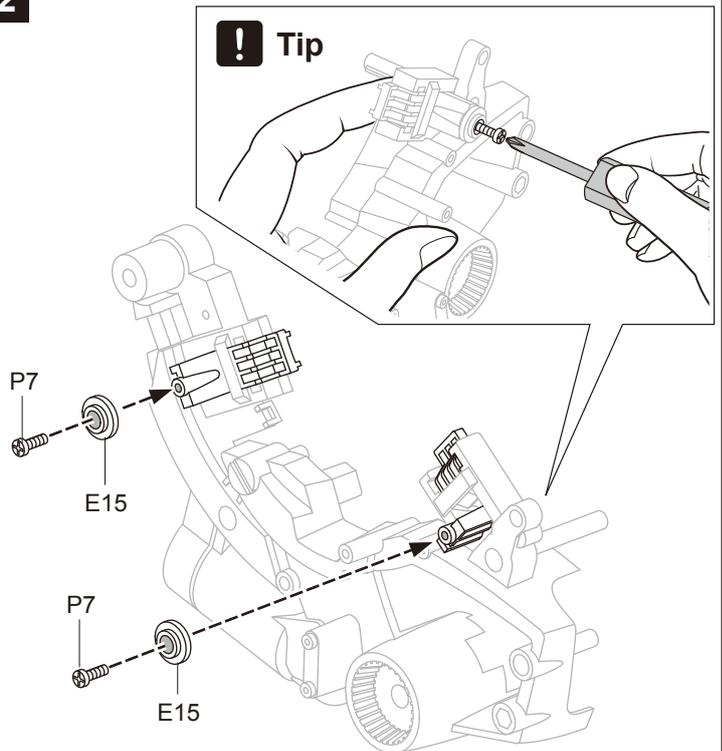


Gear Box Module Assembly

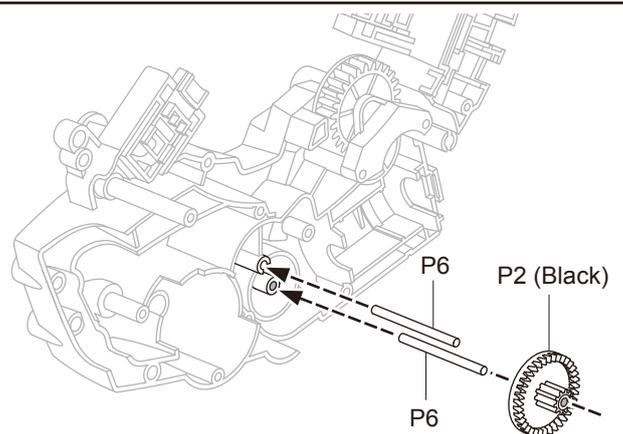
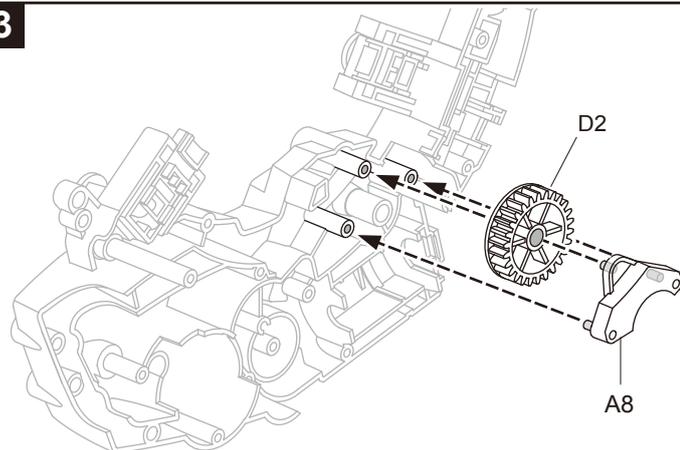
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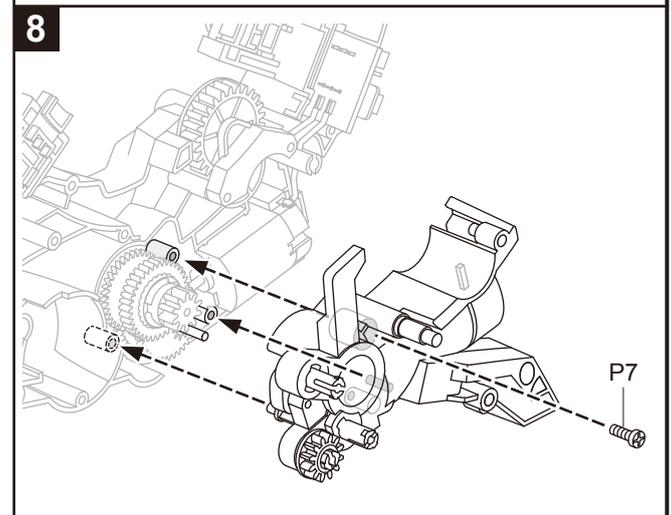
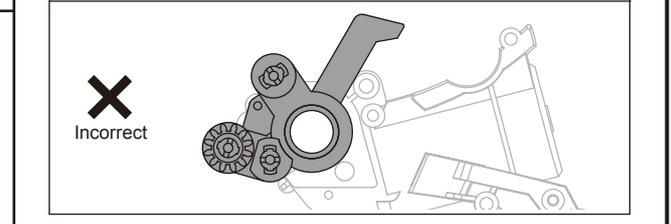
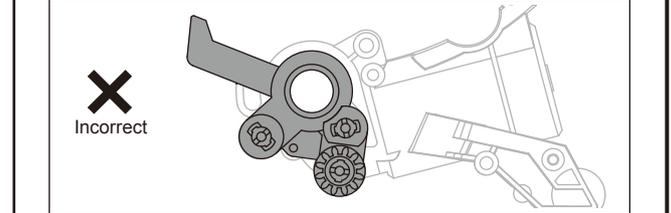
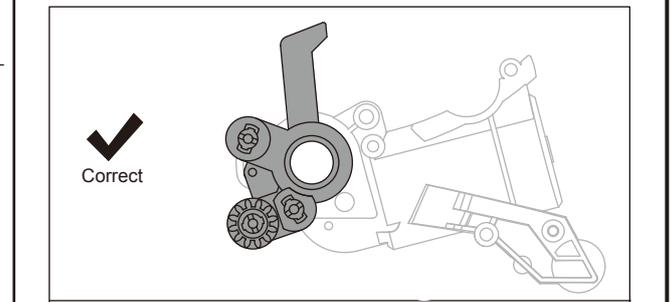
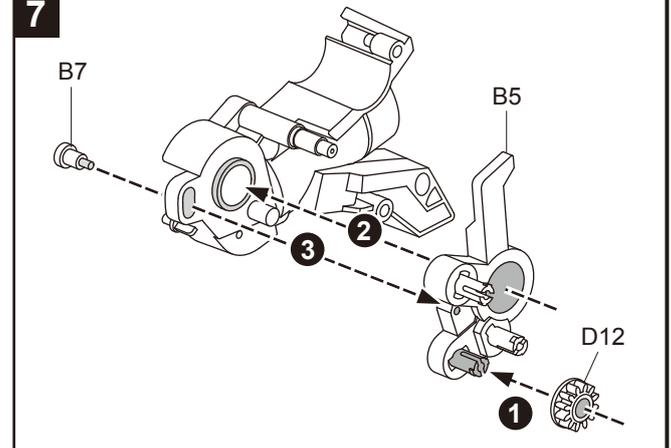
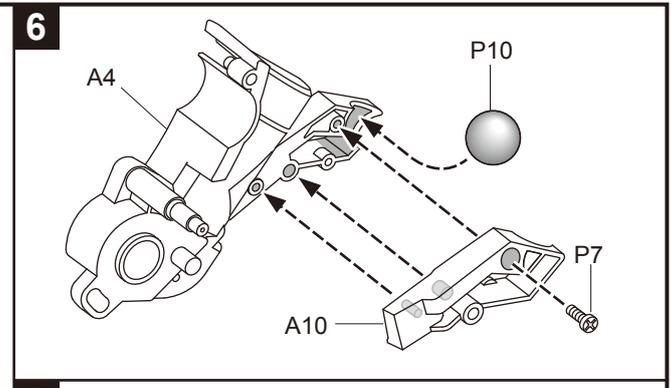
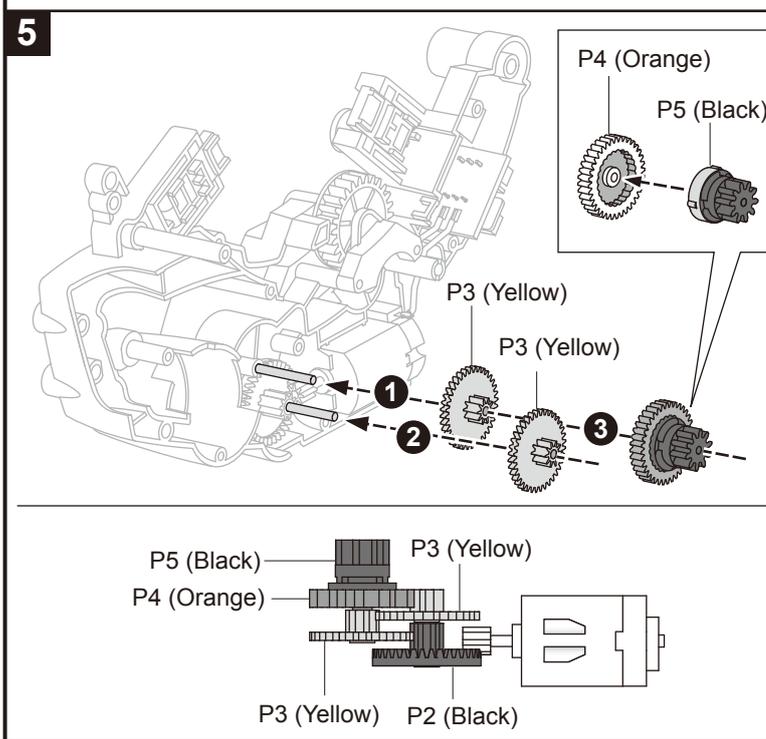
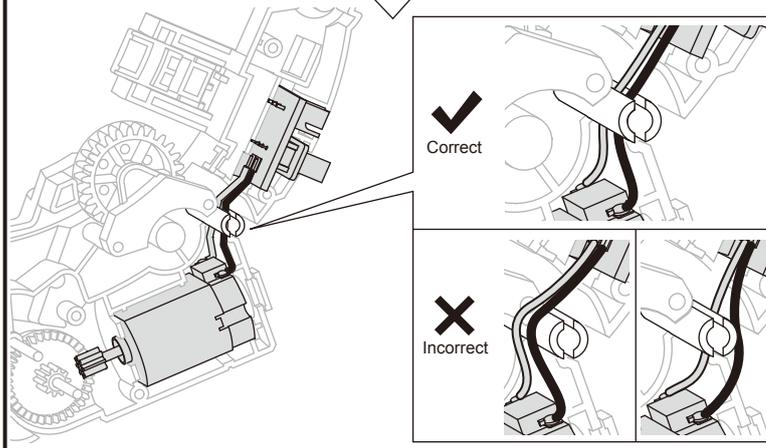
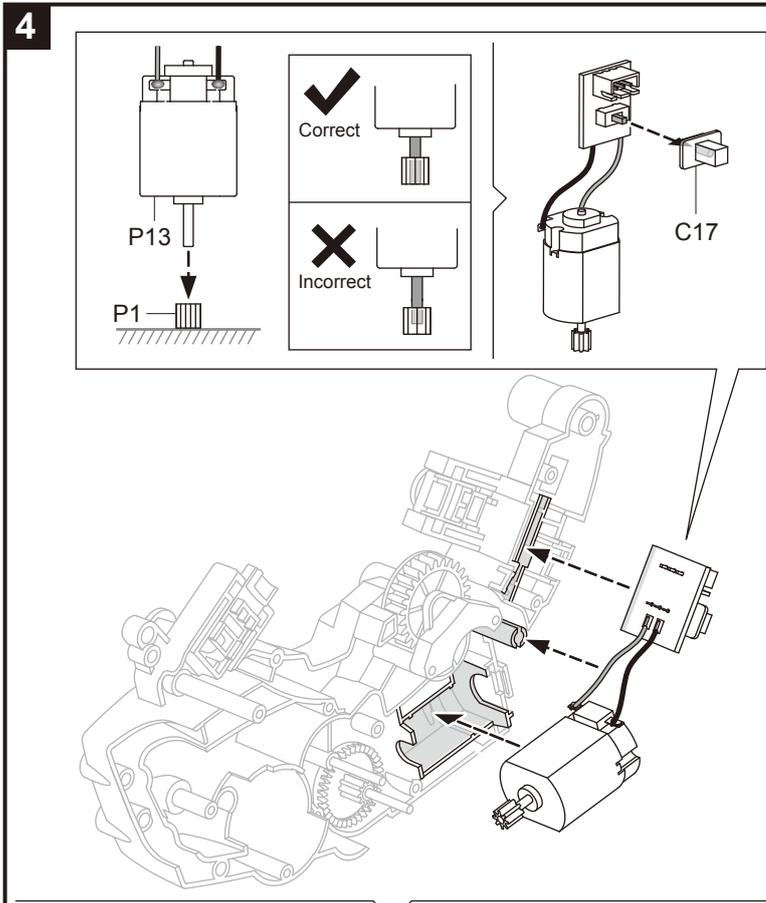


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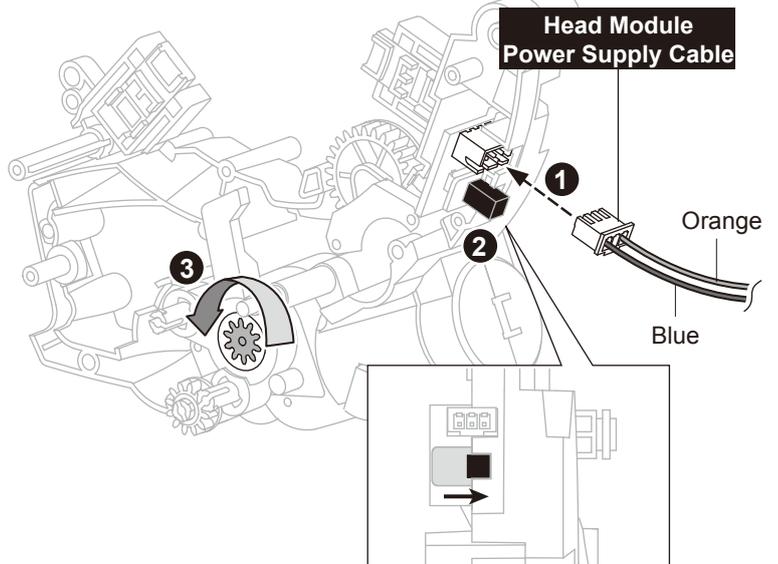
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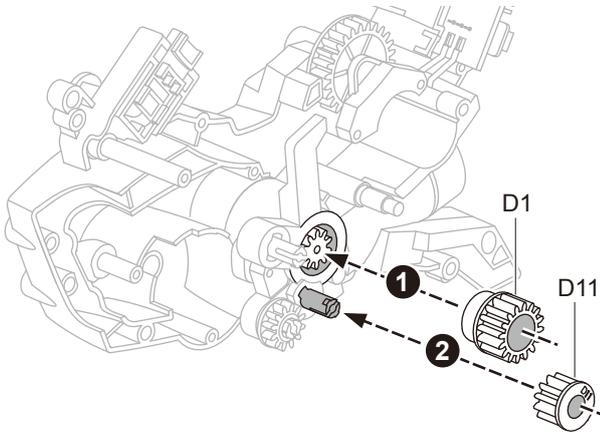


Rear Gear Box Testing (1)

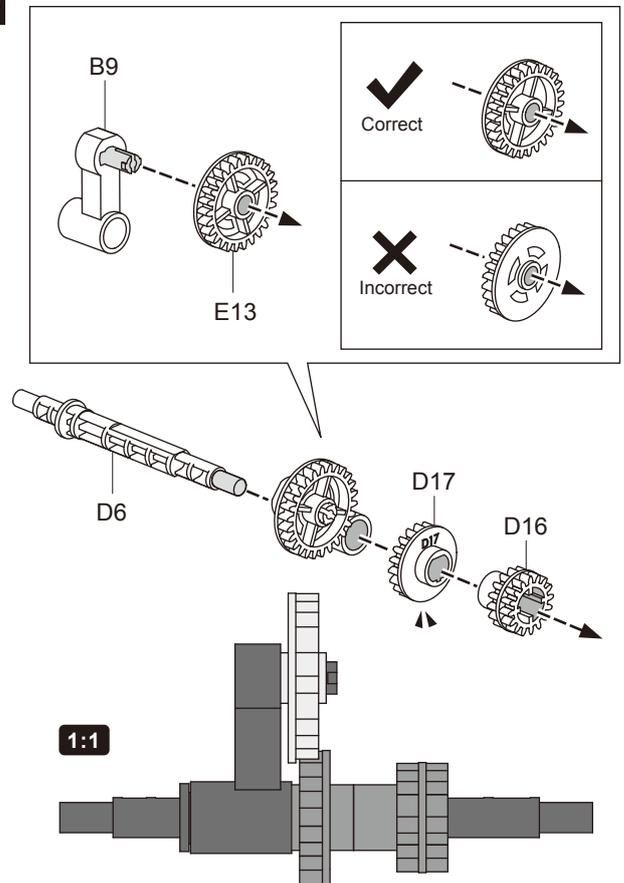
- 1 Connect the power supply cable of assembled head (Refer to page 4: Head Module Assembly) to the terminal base.
- 2 Move the switch to the right to turn the power on.
- 3 The gear will run counterclockwise as illustration.
- 4 Switch off and remove the power supply cable after the testing. If the gear box doesn't run smoothly or there is abnormal noise, please go back to page 5 step 1 to reassemble.



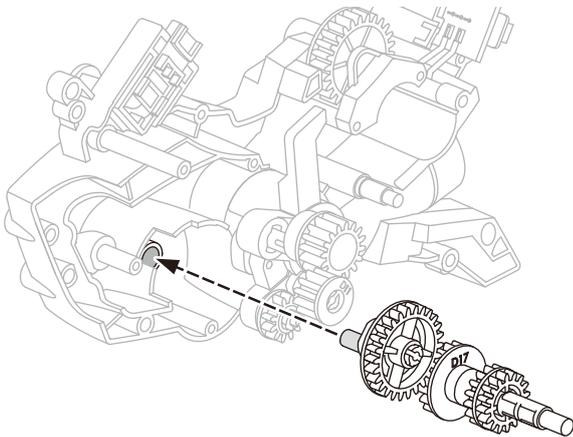
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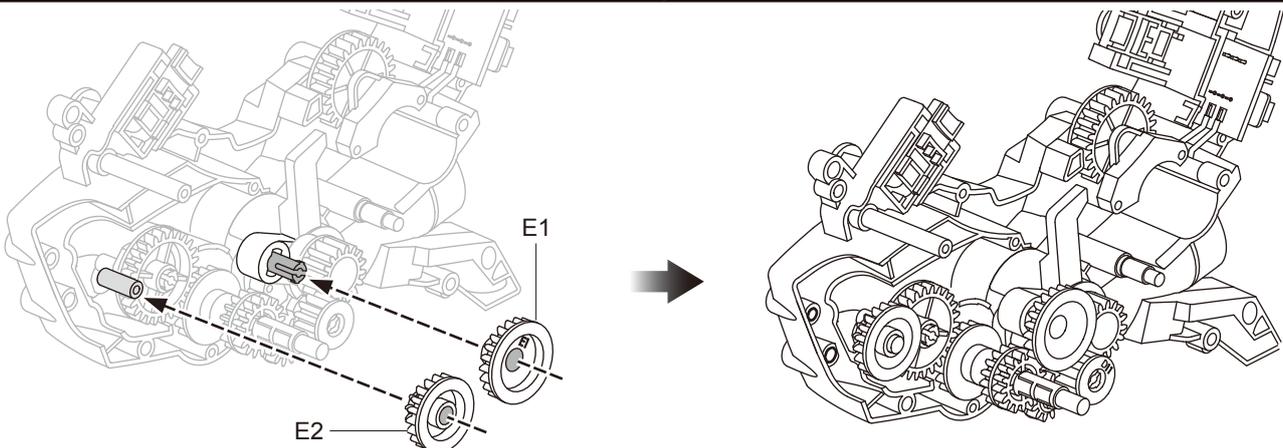
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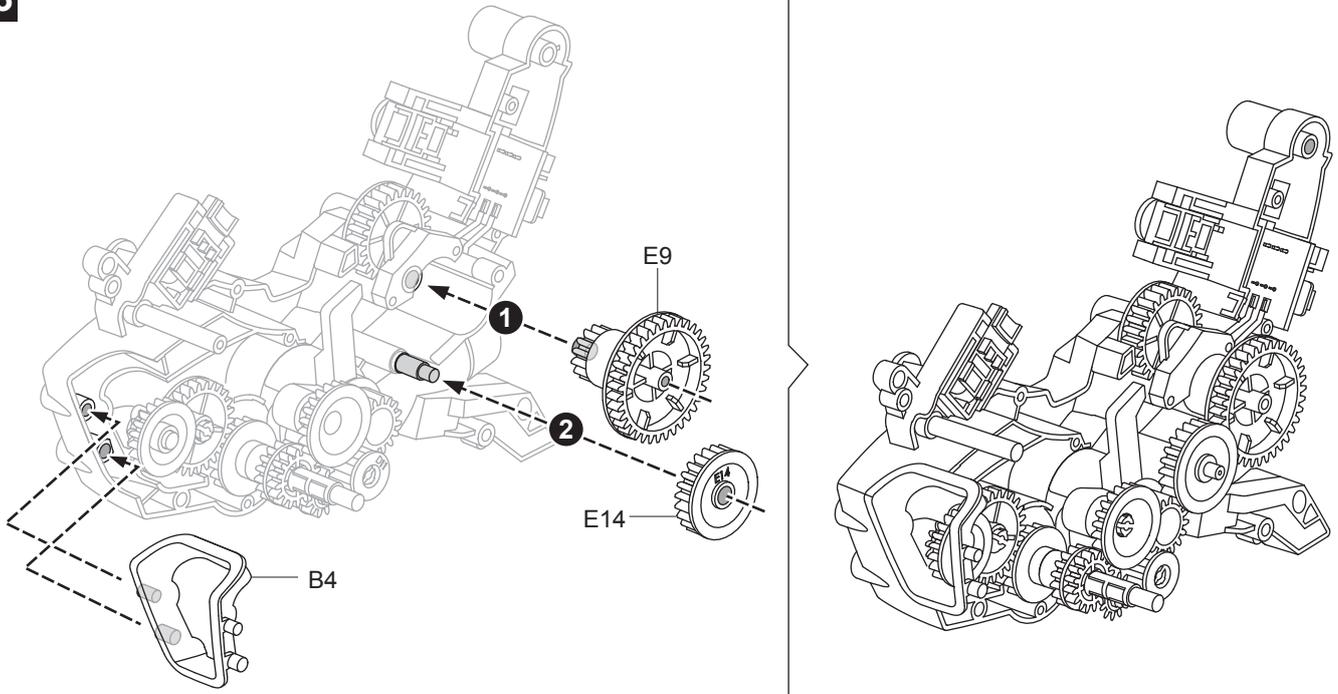
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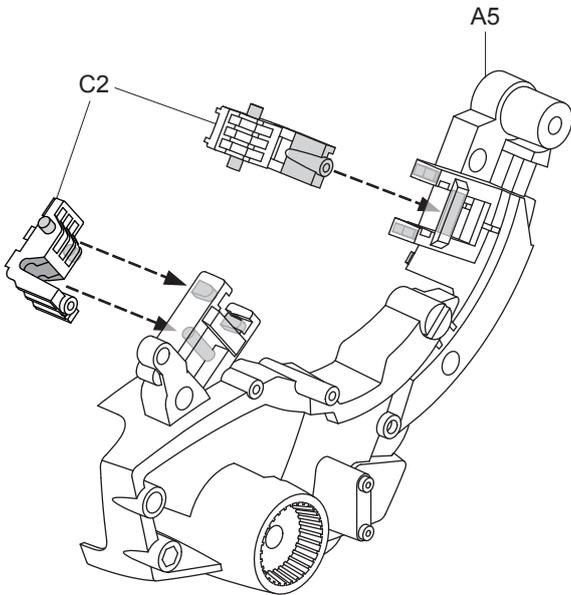
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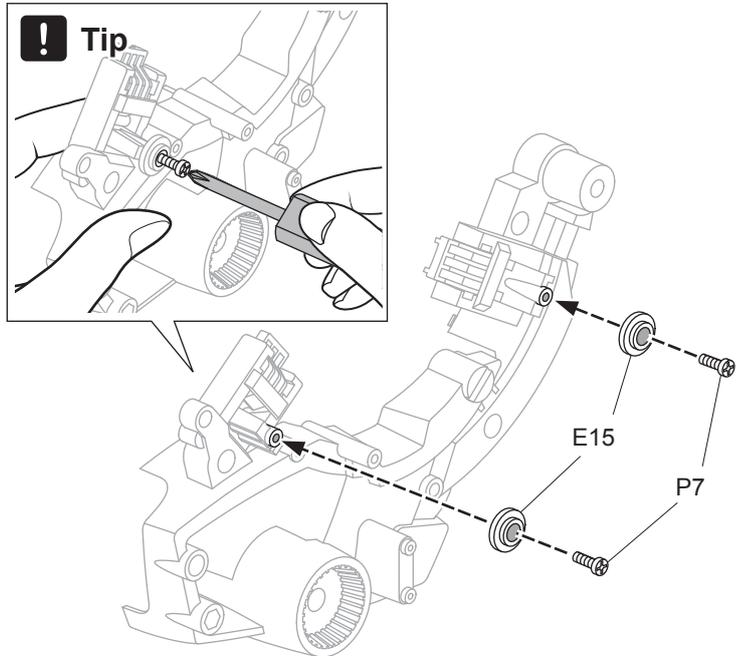
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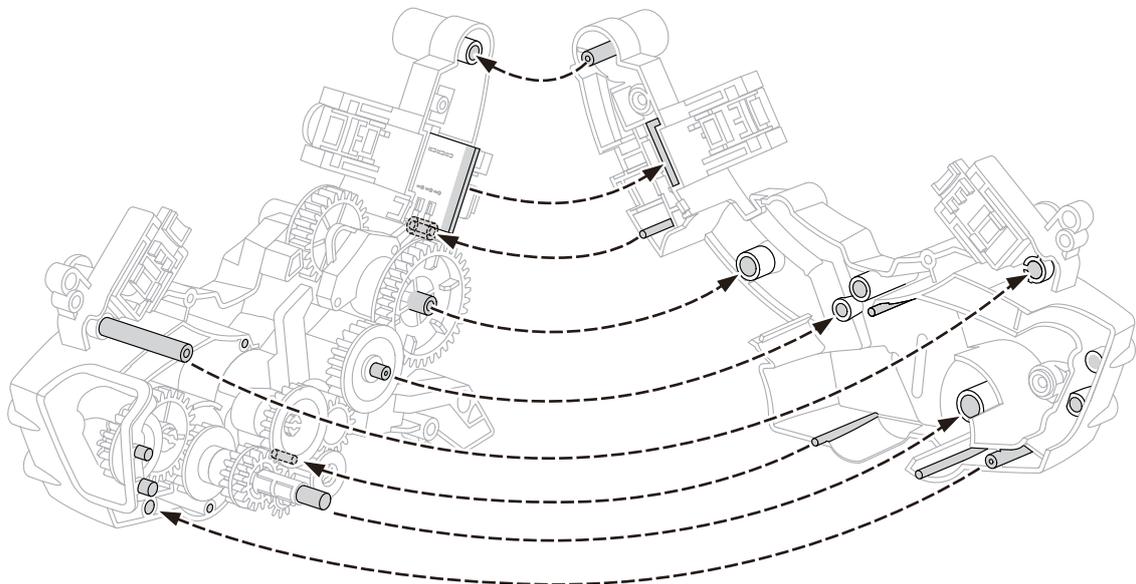
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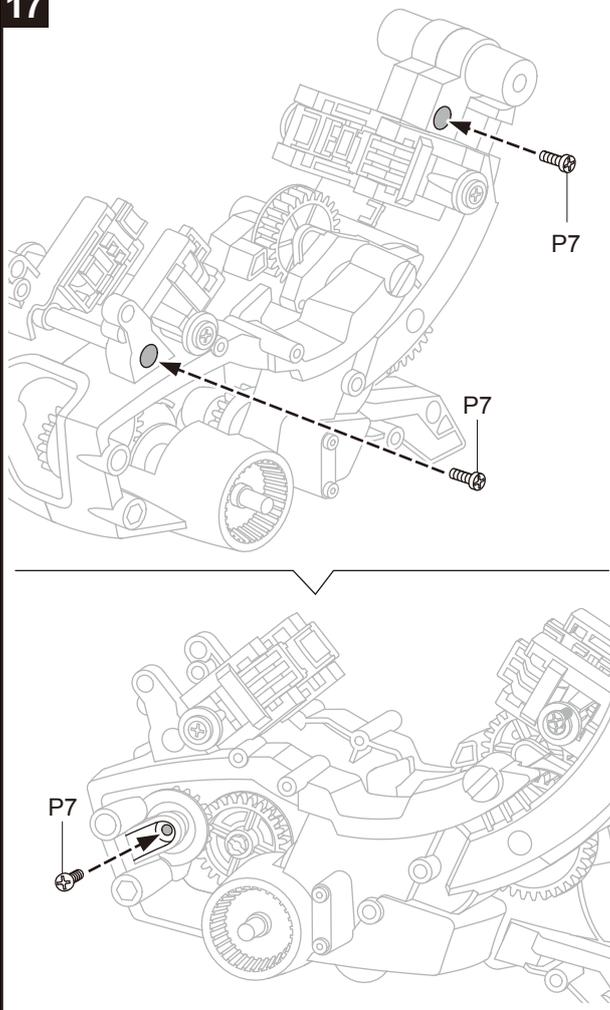
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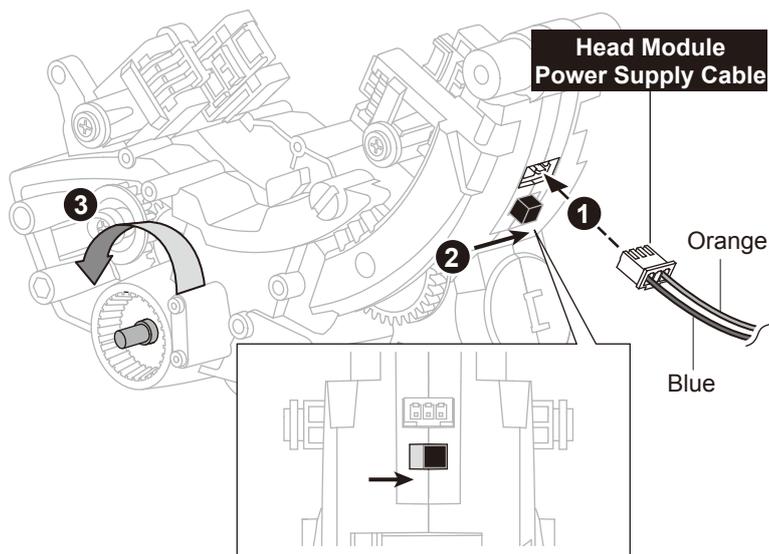


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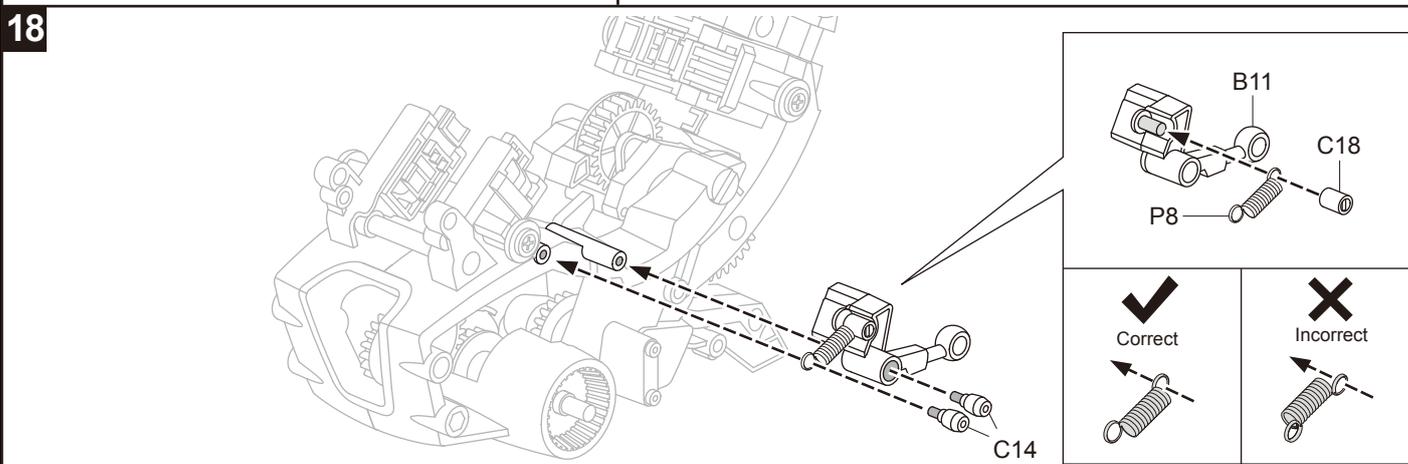


Rear Gear Box Testing (2)

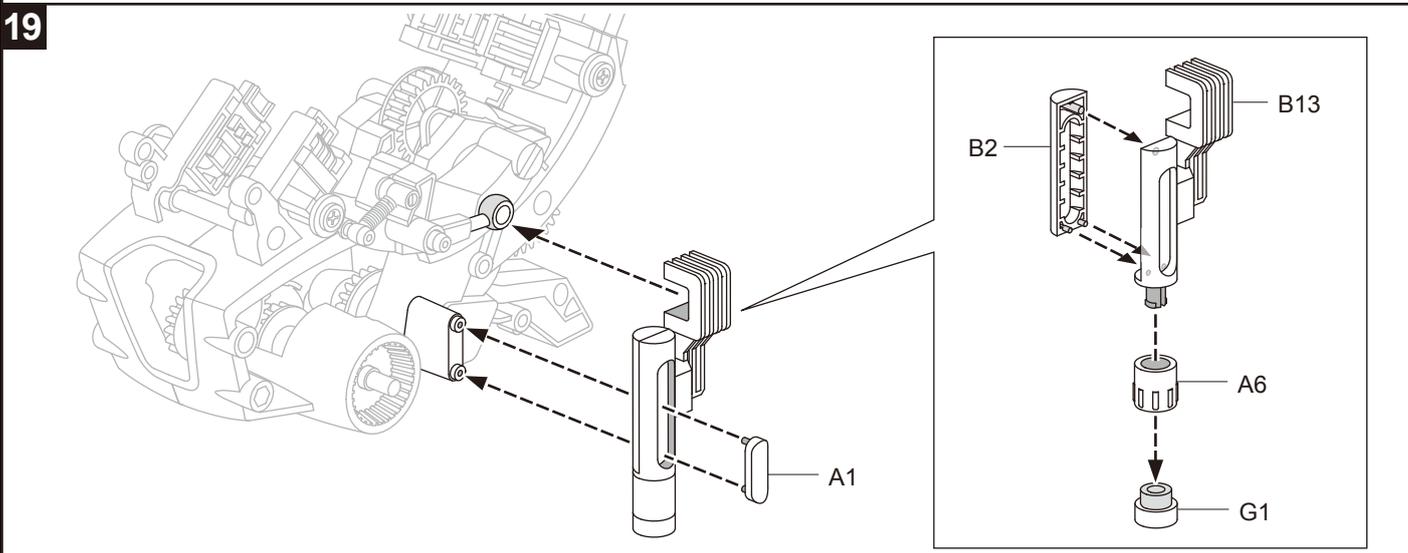
- 1 Connect the power supply cable of assembled head (refer to page 4: Head Module Assembly) to the terminal base.
- 2 Move the switch to the right to turn the power on.
- 3 The gear will run counterclockwise as illustration.
- 4 Switch off and remove the power supply cable after the testing. If the gear box doesn't run smoothly or there is abnormal noise, please go back to page 5 step 1 to reassemble.



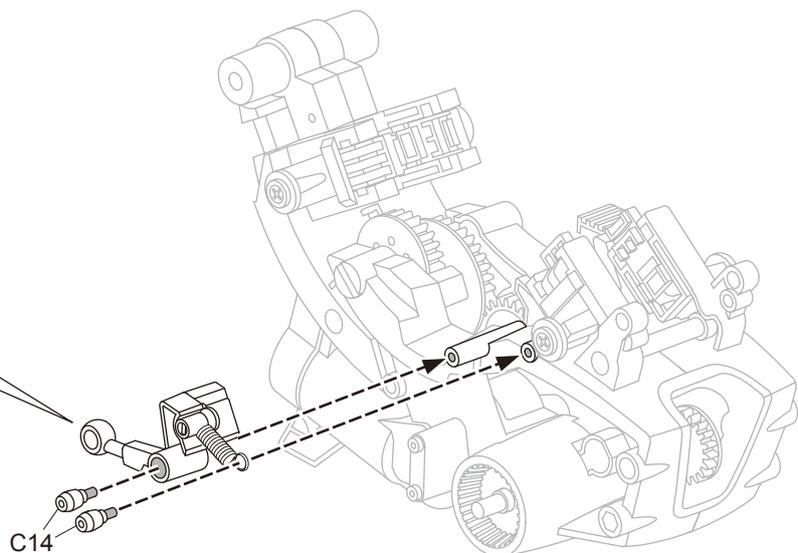
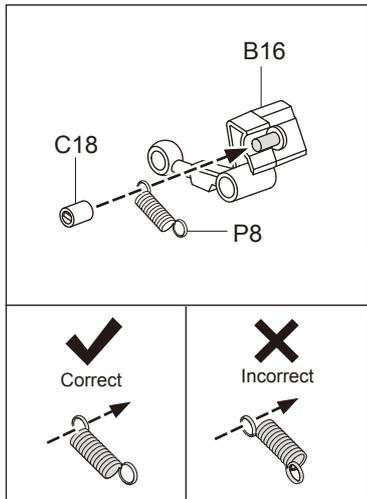
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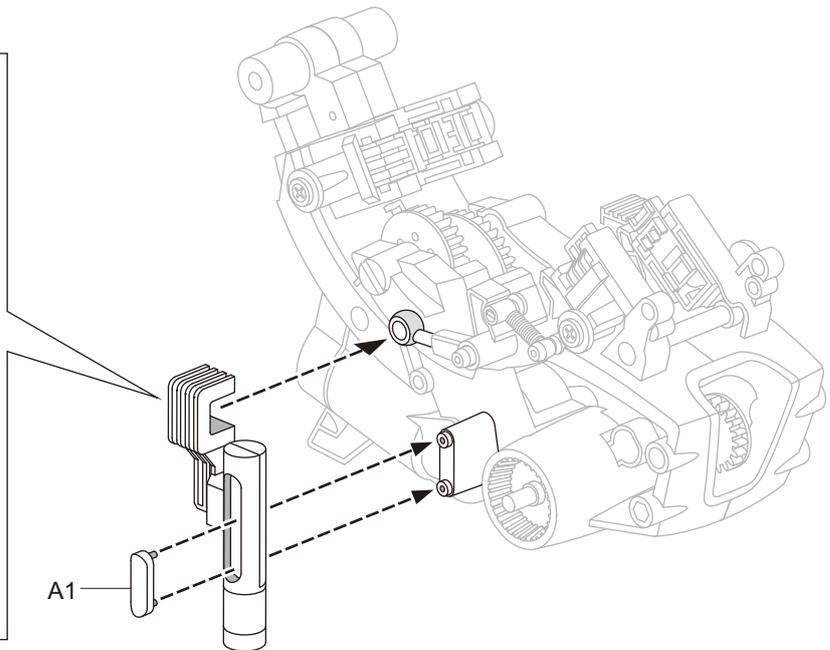
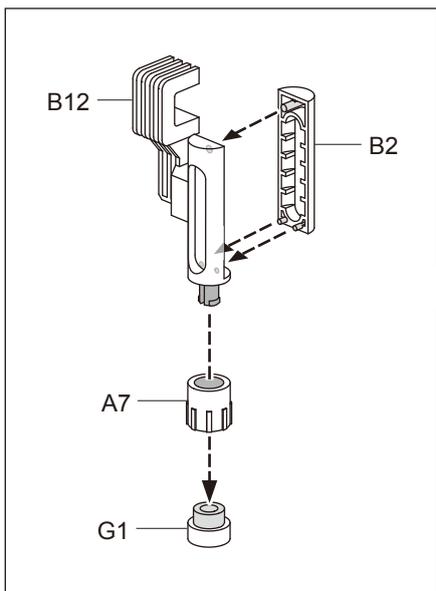
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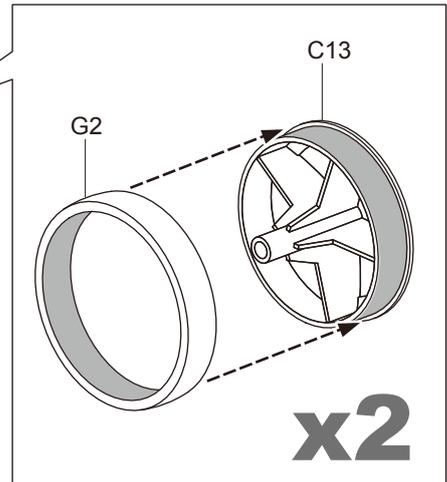
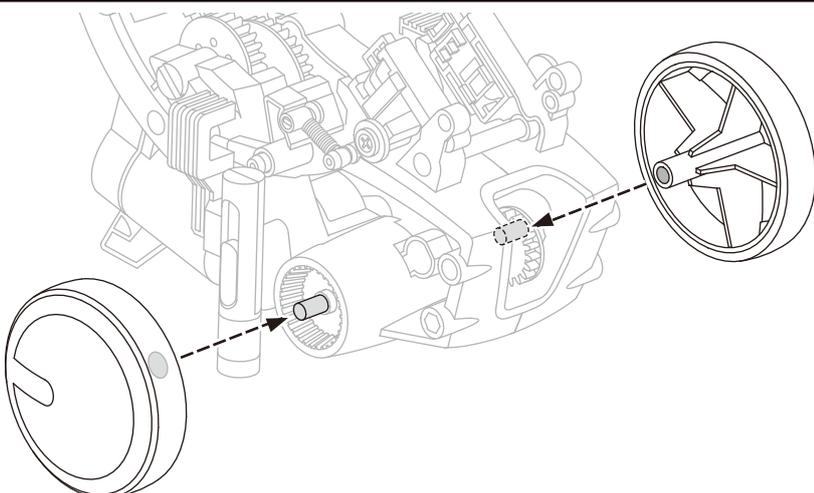
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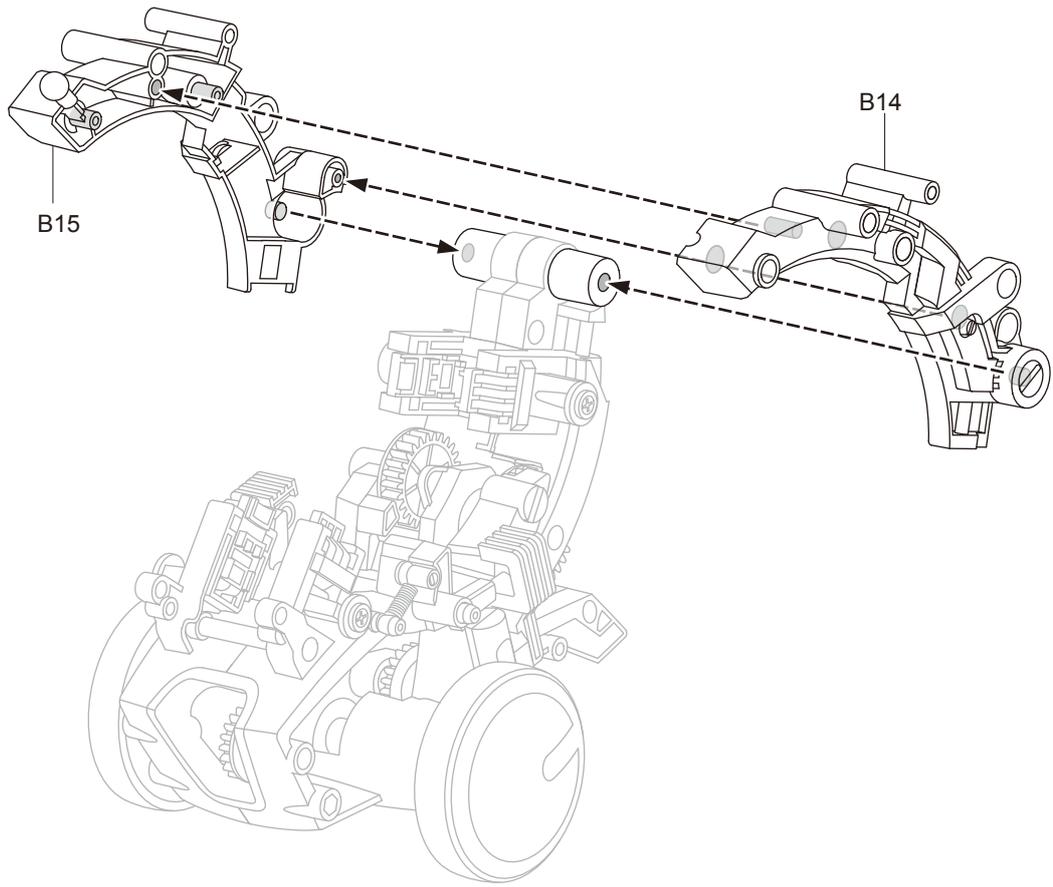
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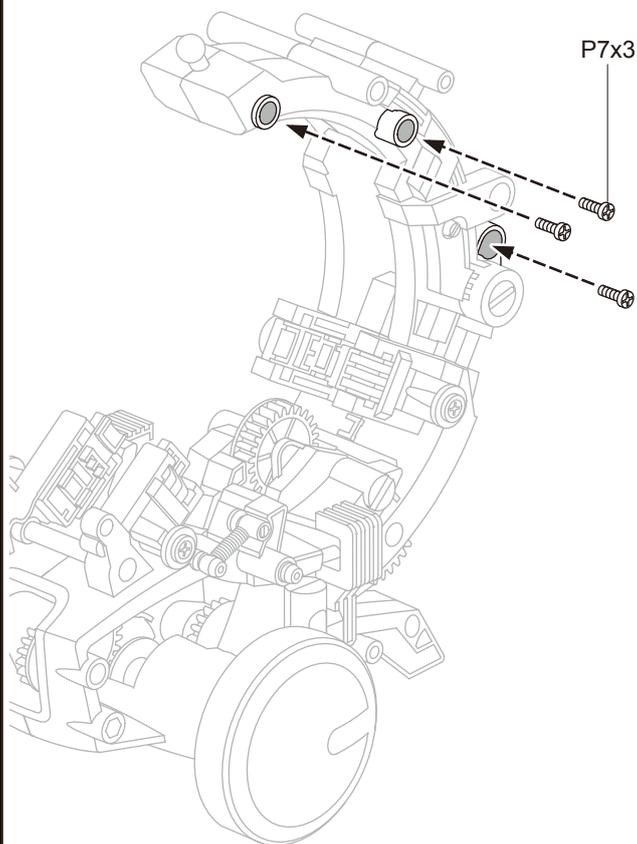
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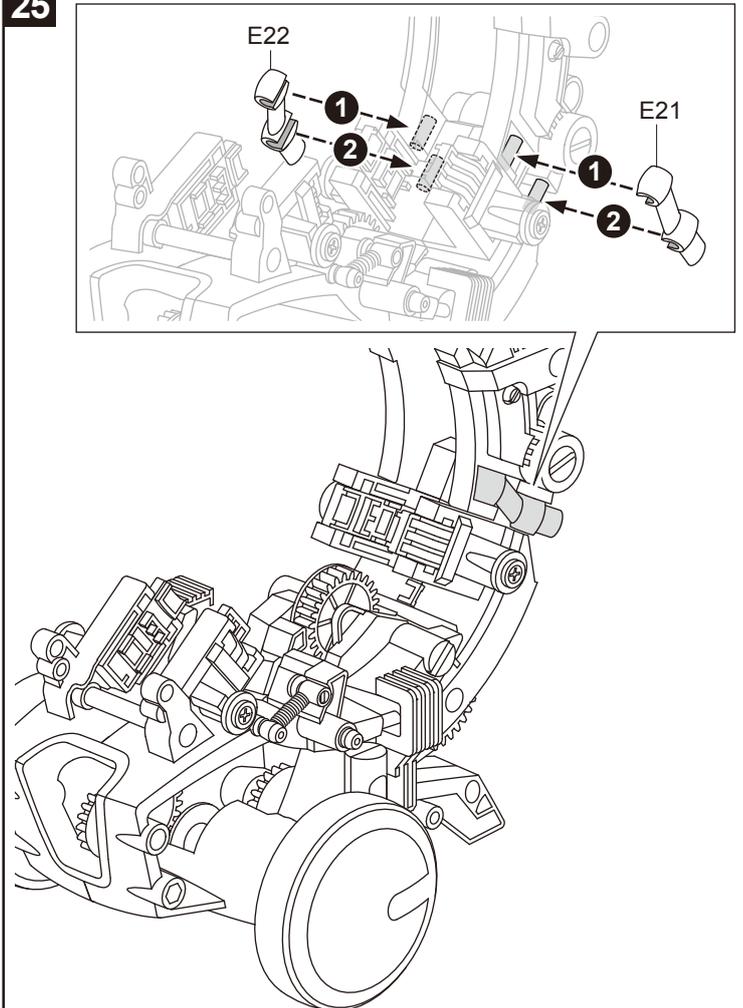
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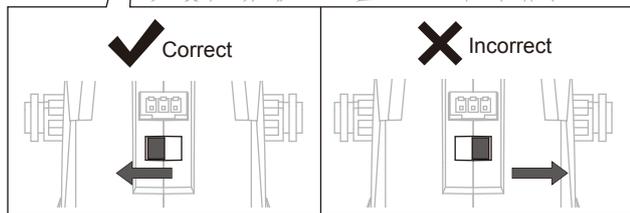
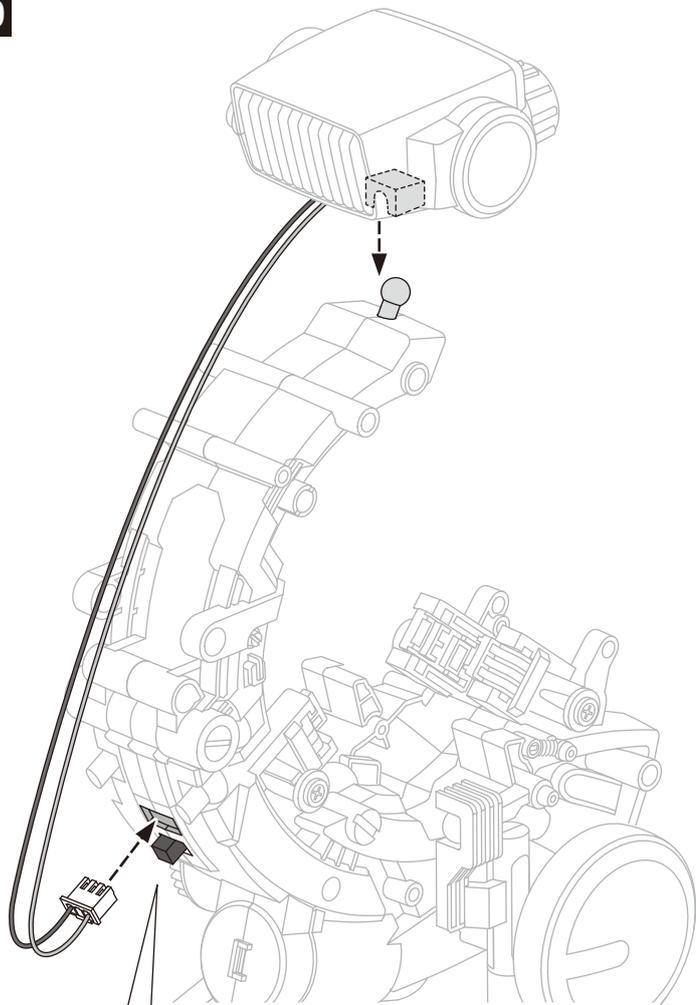
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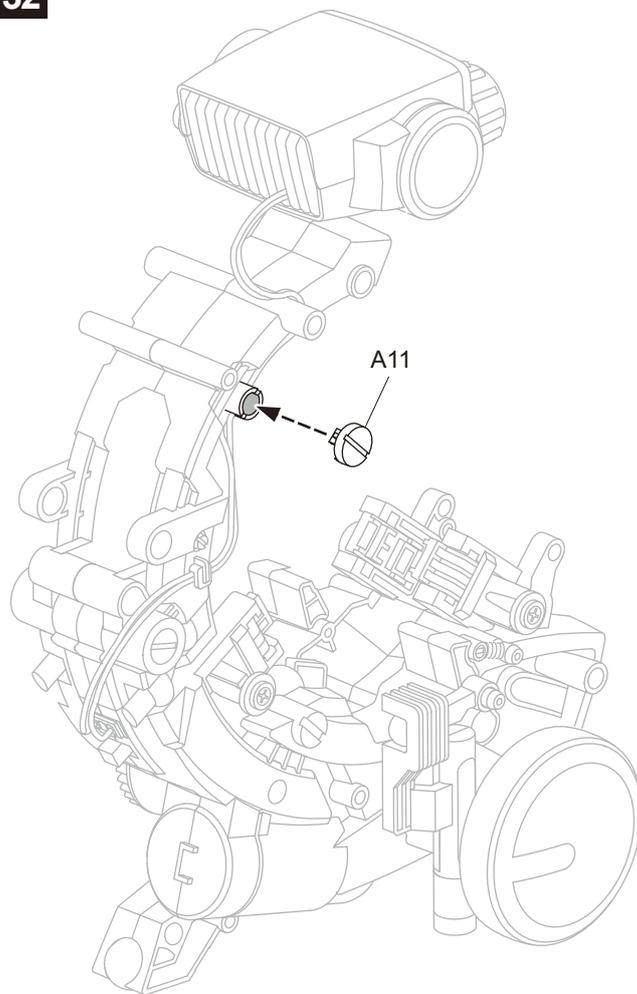
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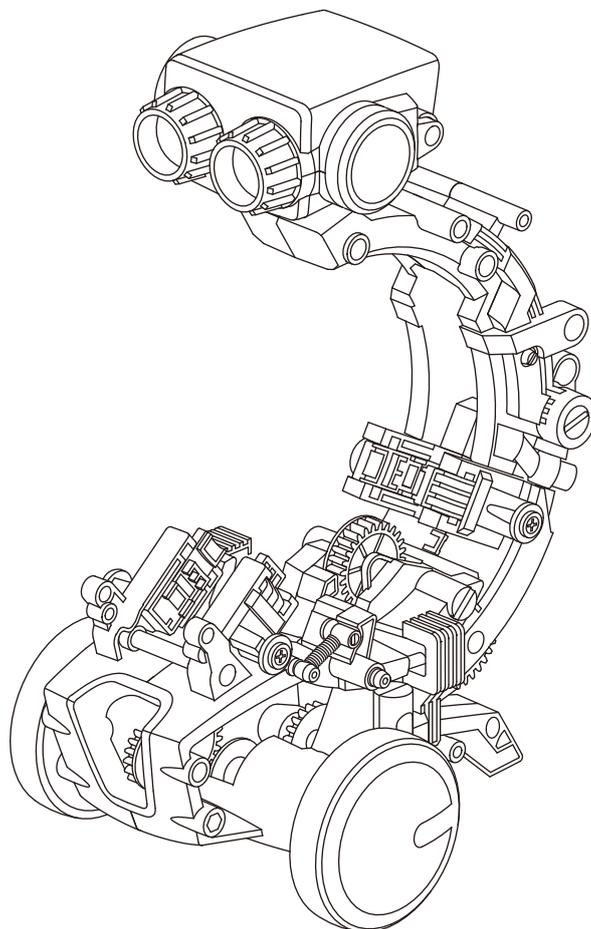


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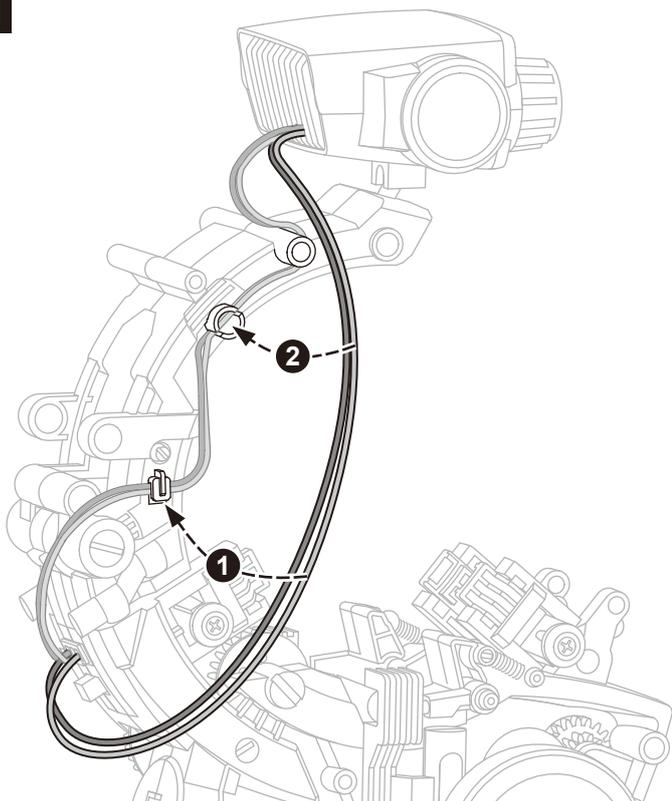


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Completed

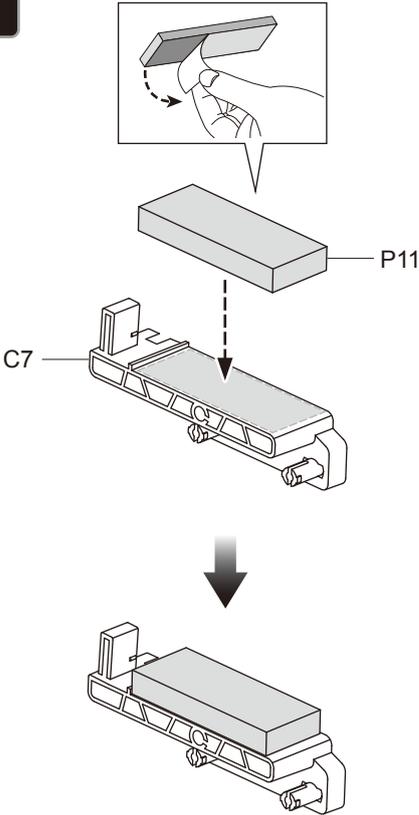


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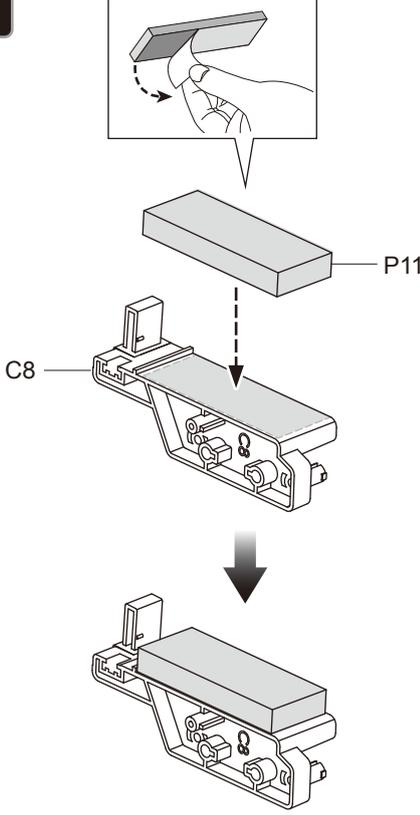


Accessory Module Assembly

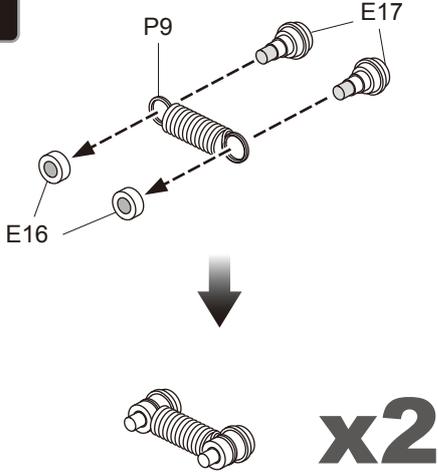
MODULE 1



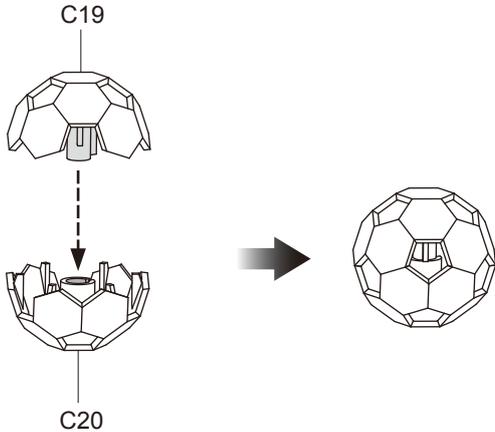
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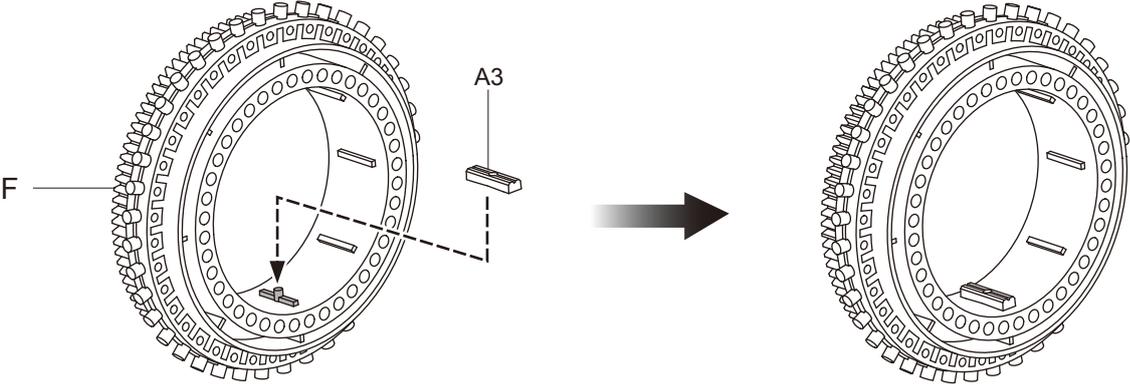
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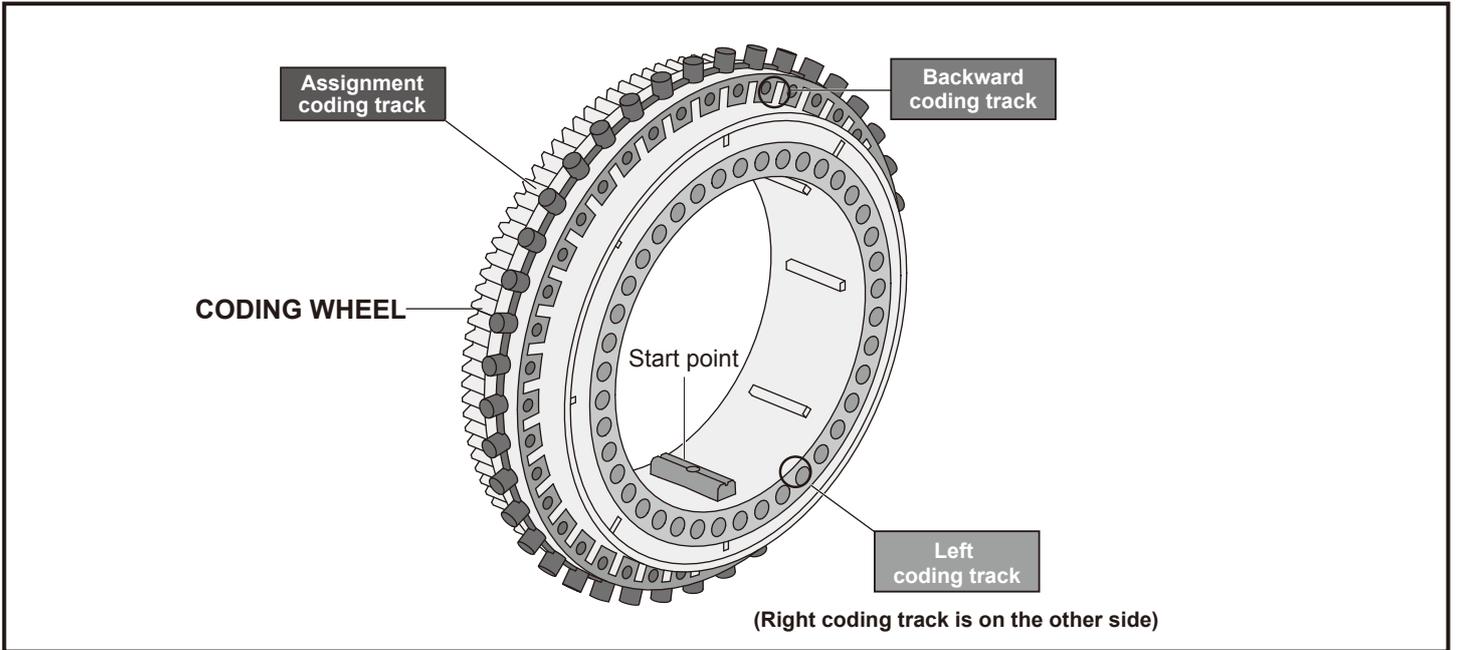
MODULE 4



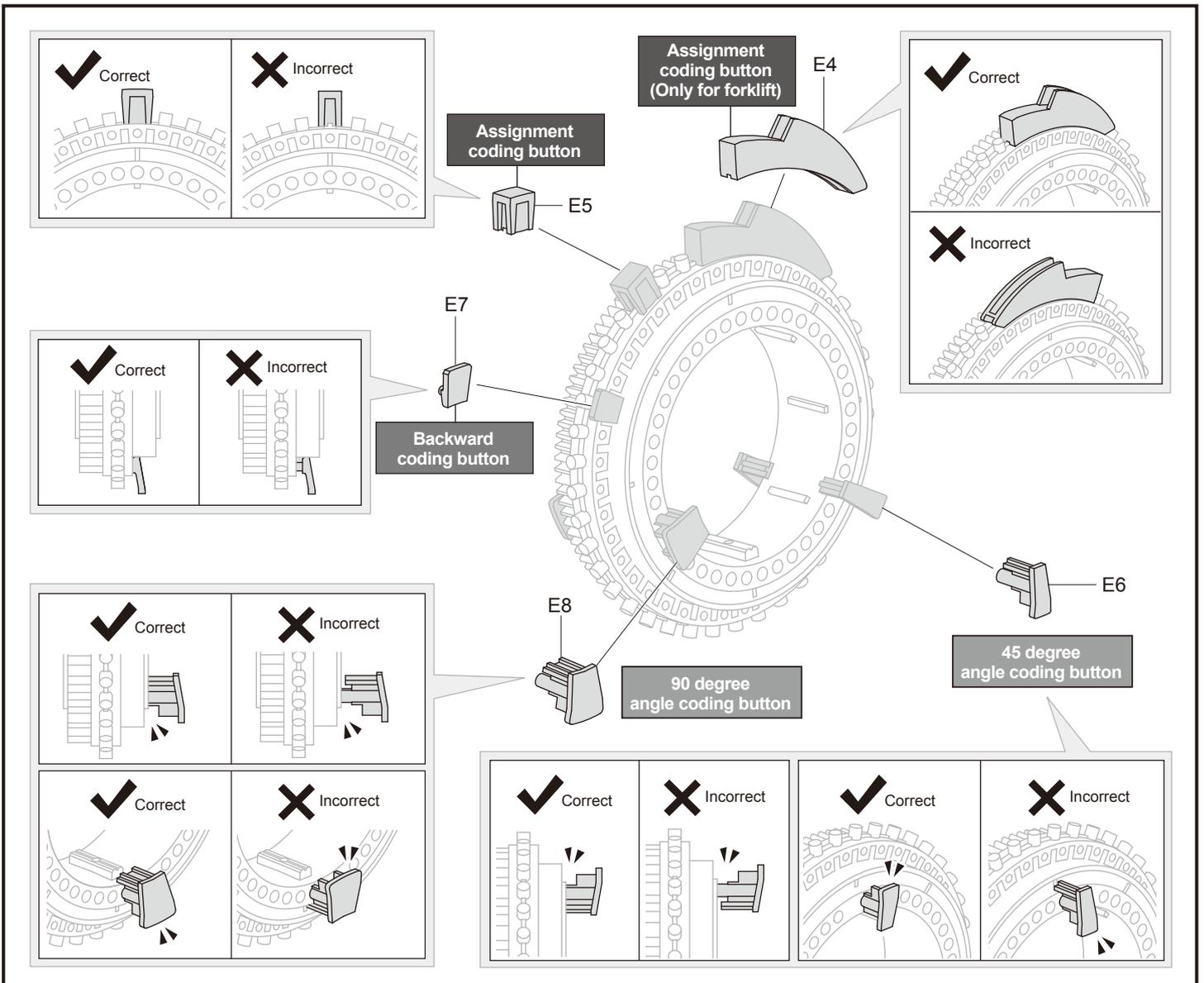
Coding Wheel Assembly



About the Coding Wheel

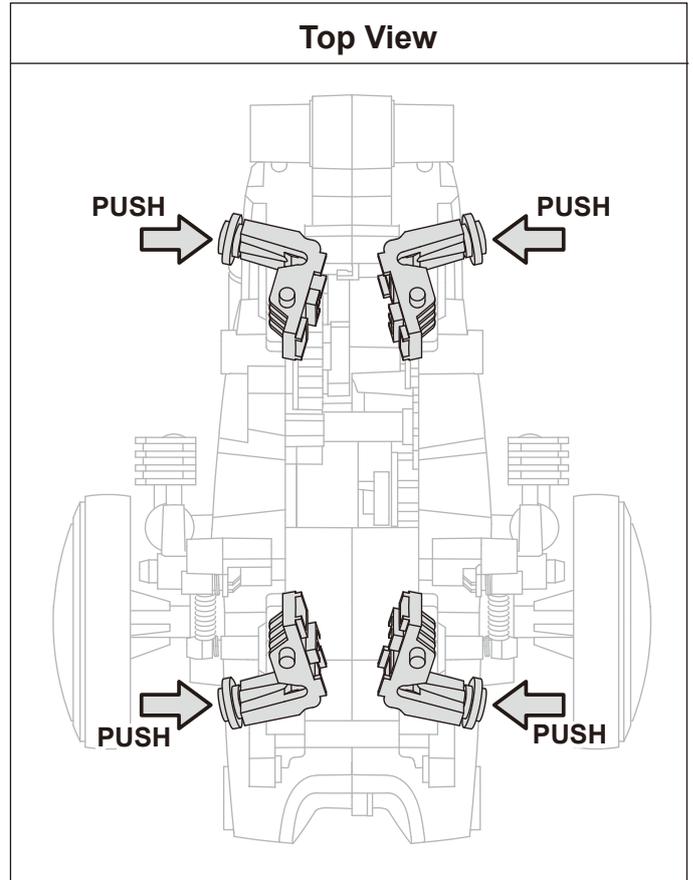
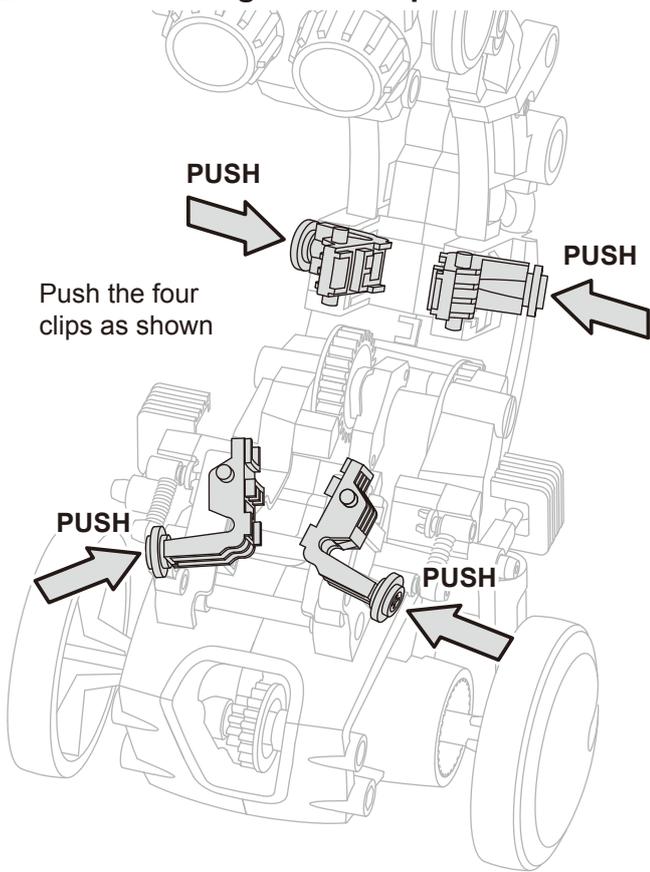


How to Install Coding Buttons



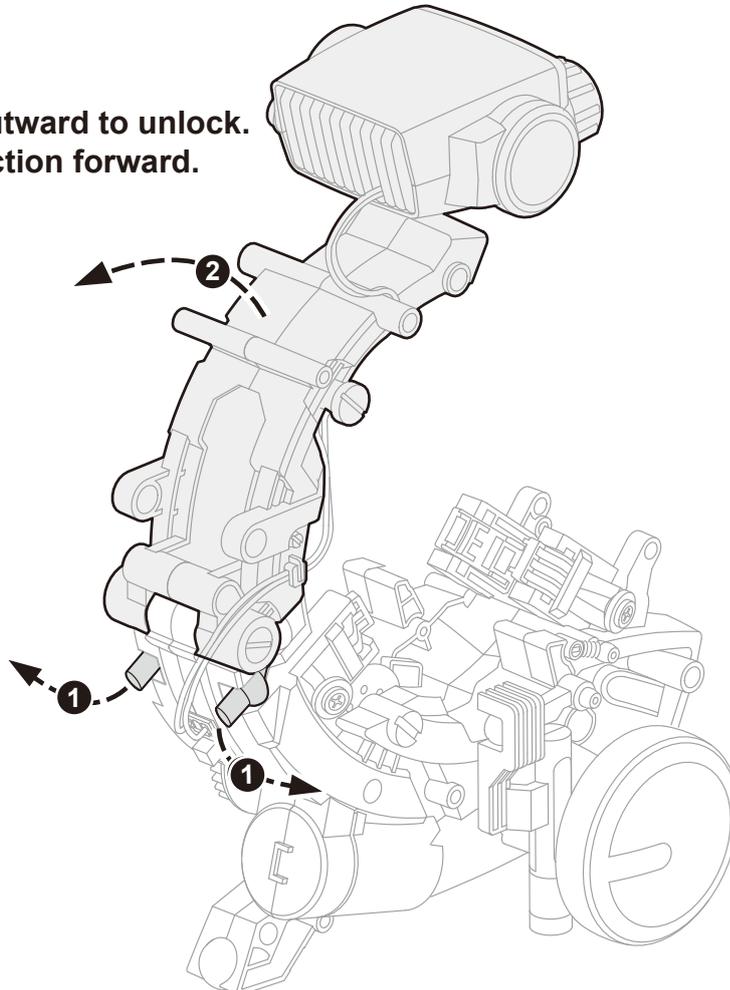
How to Install the Coding Wheel

1 Unlock Coding Wheel Clips

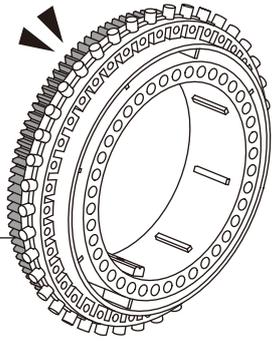


2

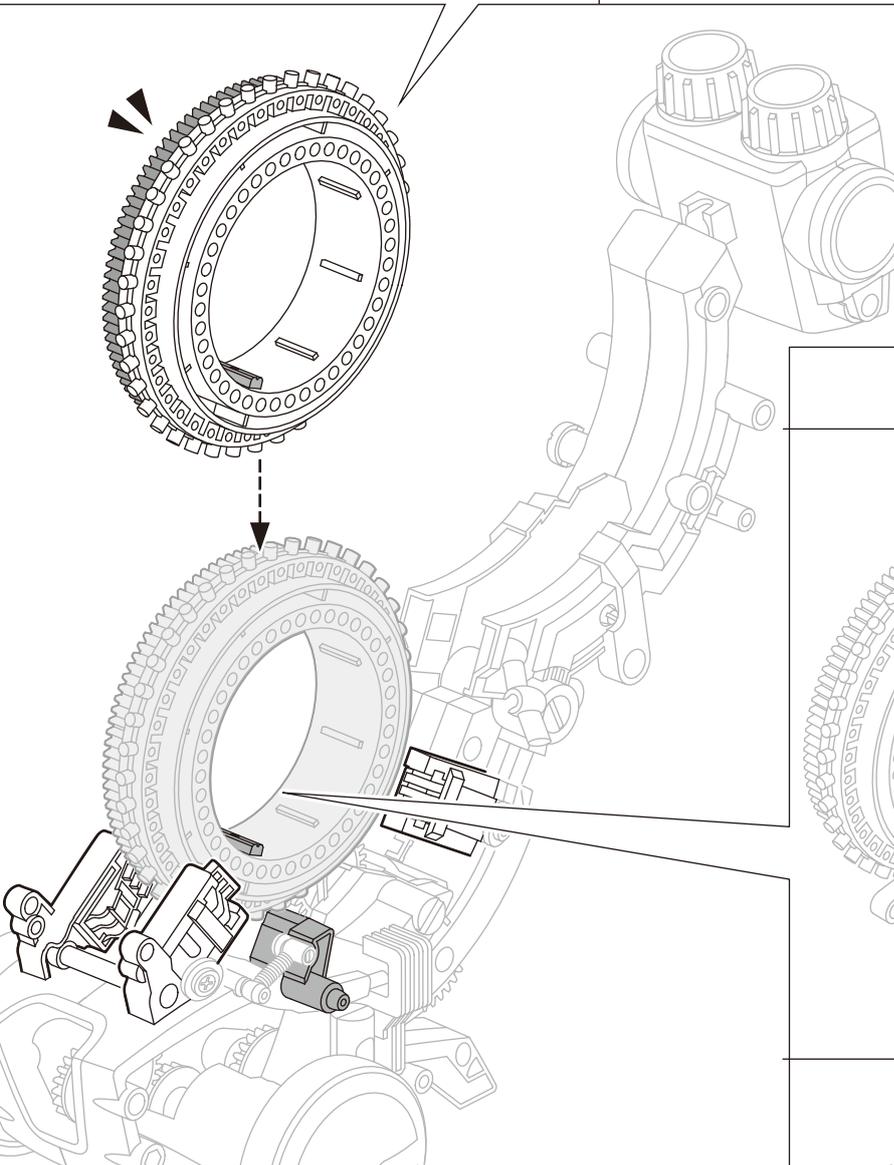
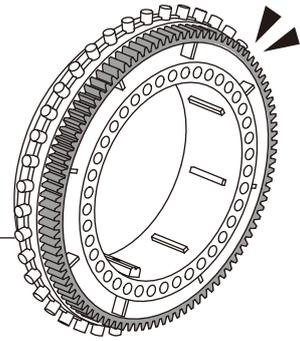
- 1 Rotate clips outward to unlock.
- 2 Tilt shaded section forward.



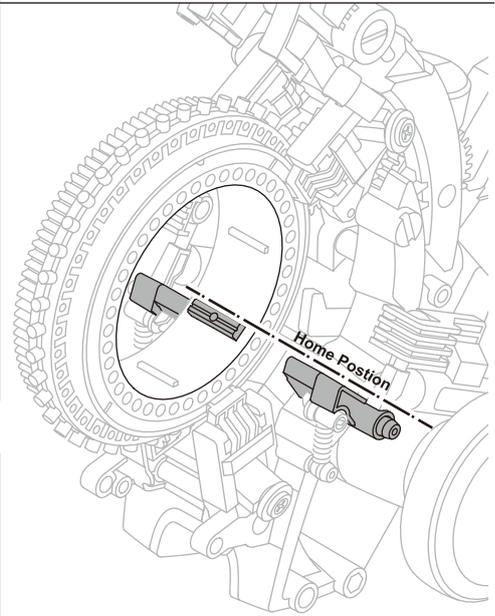
✓ Correct



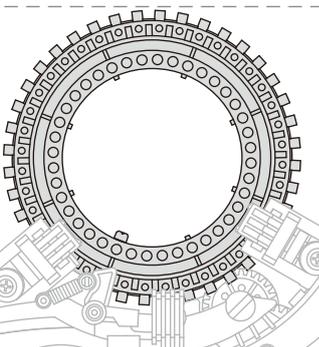
✗ Incorrect



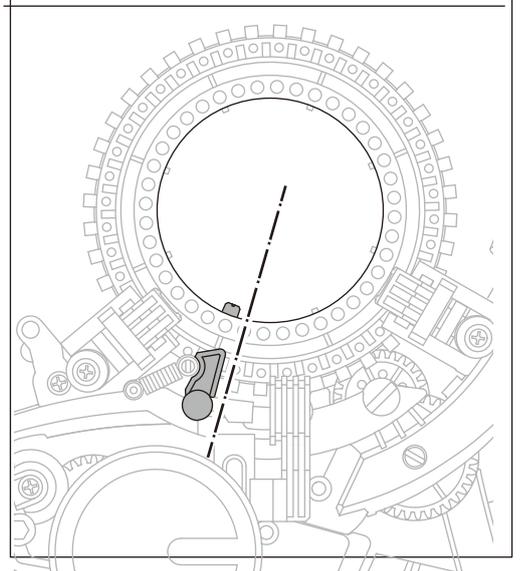
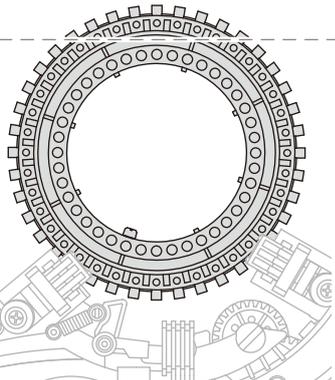
Set the "Start Point" to Home Position



✓ Correct

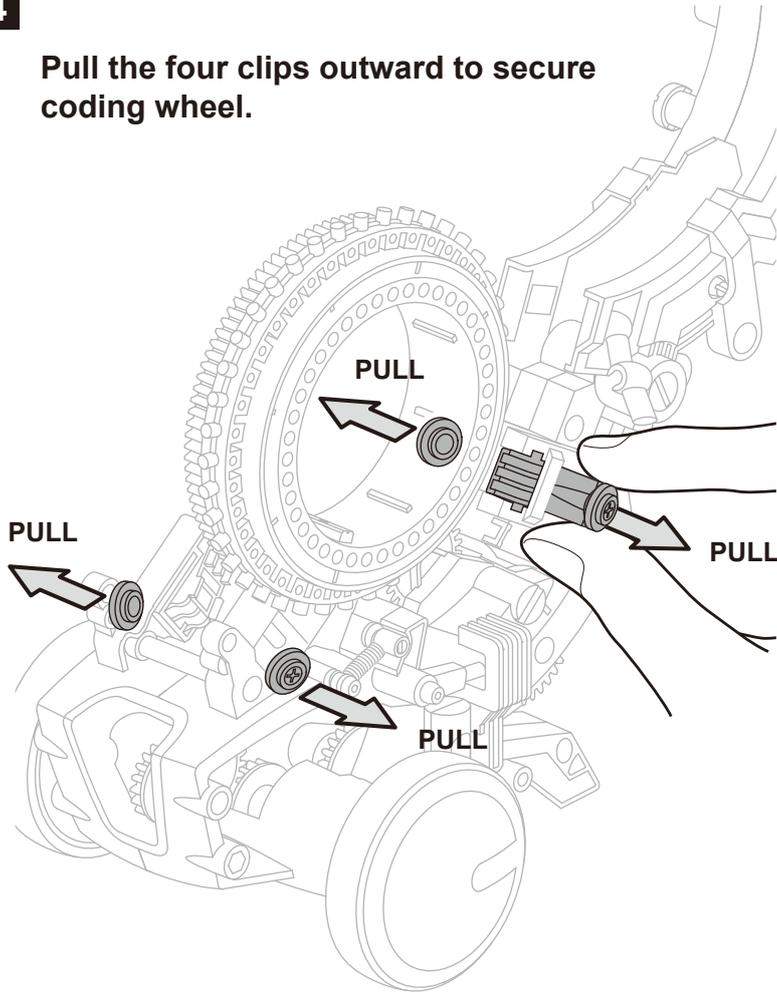


✗ Incorrect

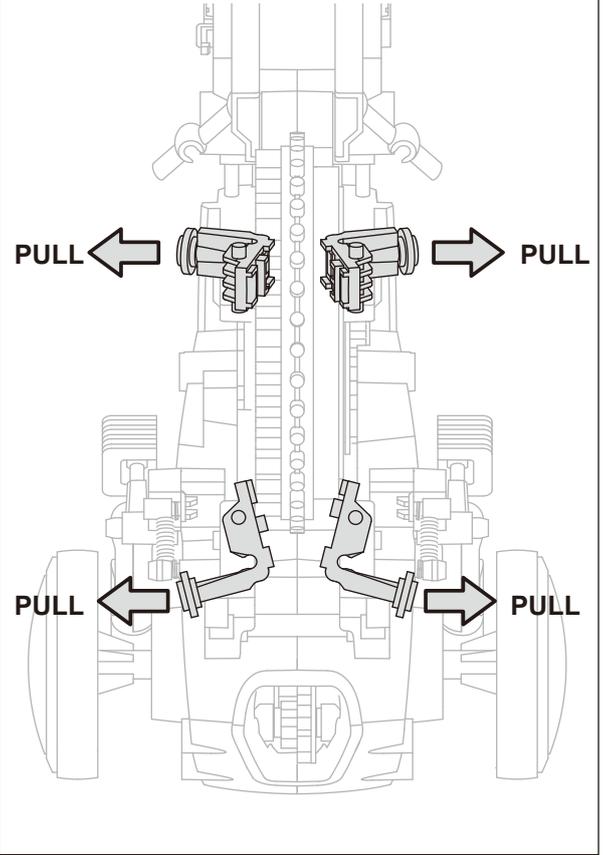


4

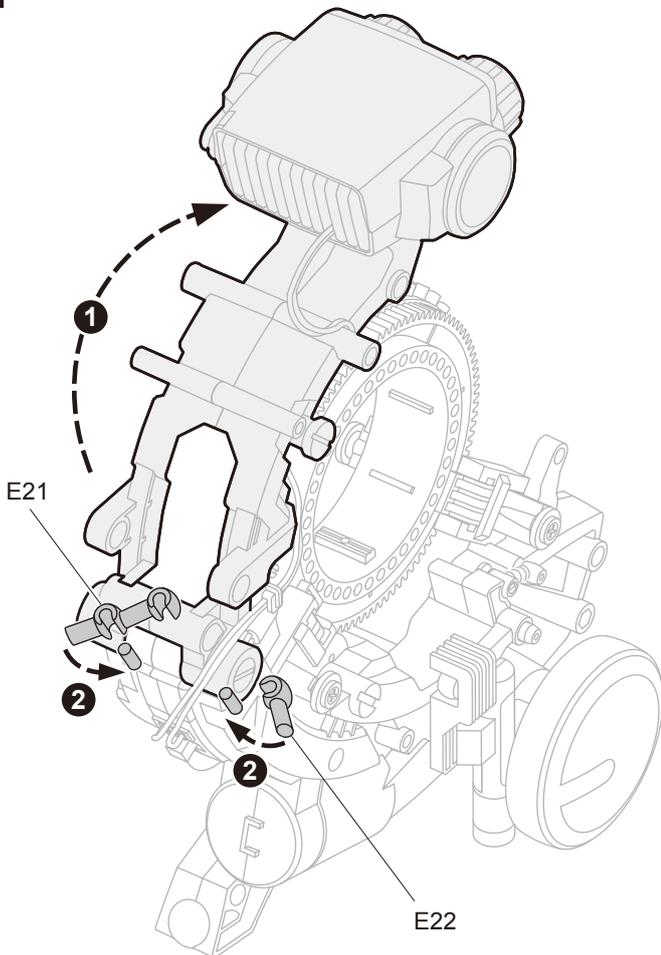
Pull the four clips outward to secure coding wheel.



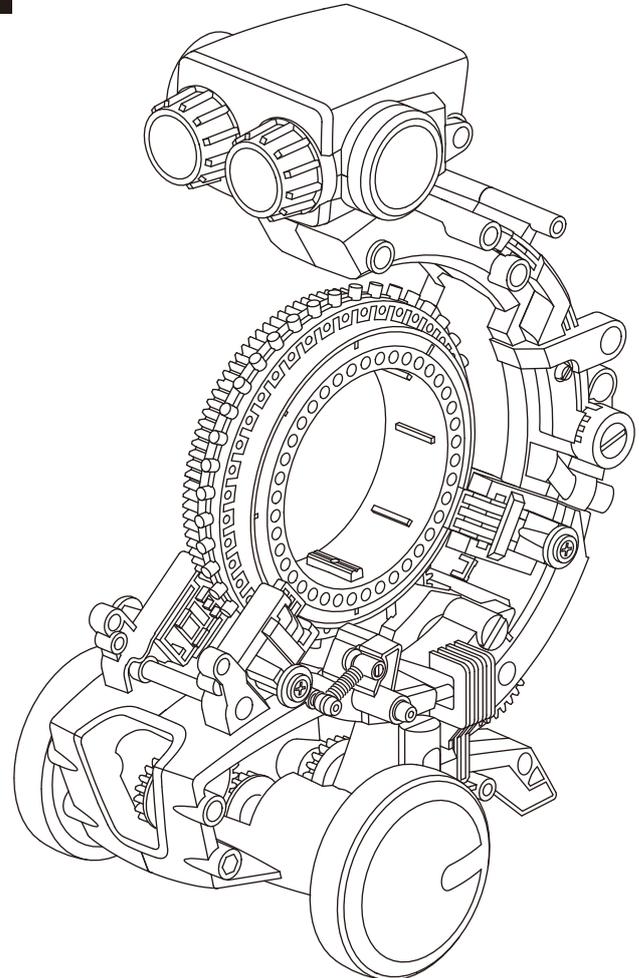
Front View



5



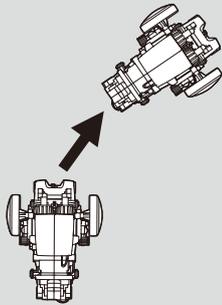
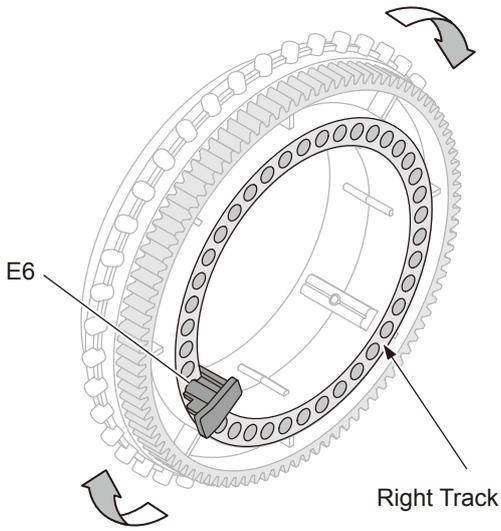
6



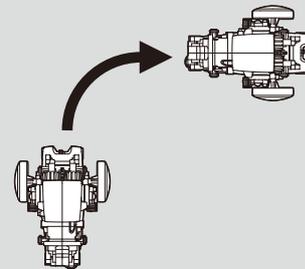
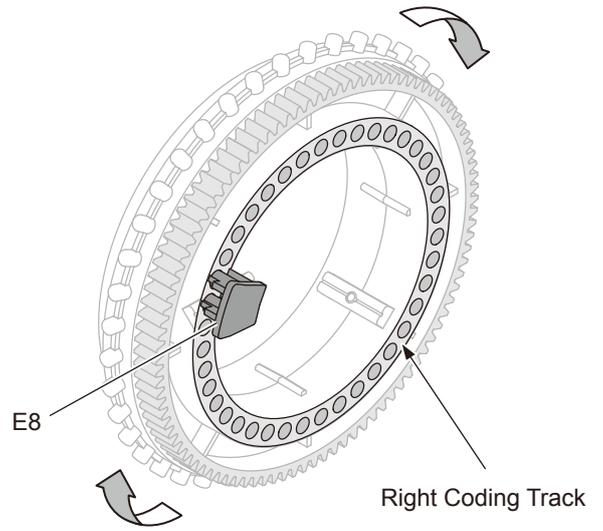
How the Coding Buttons Work



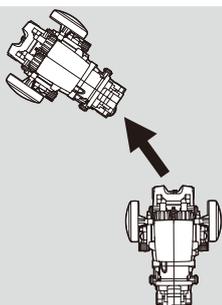
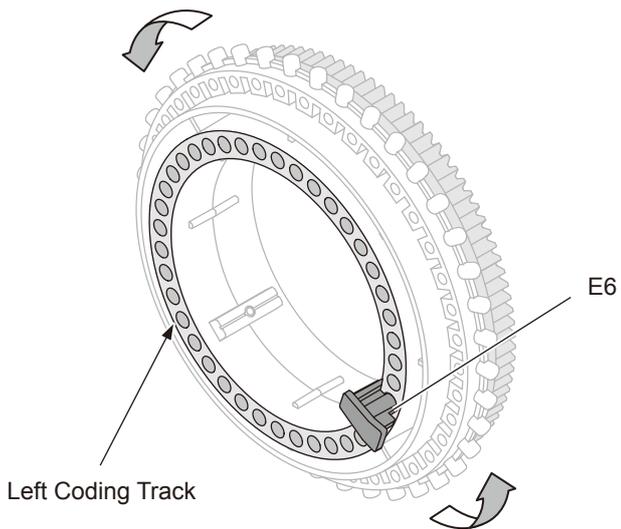
45° Right Turn



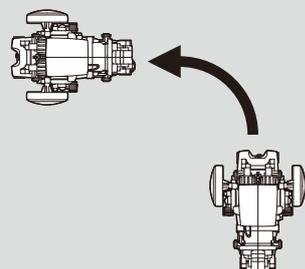
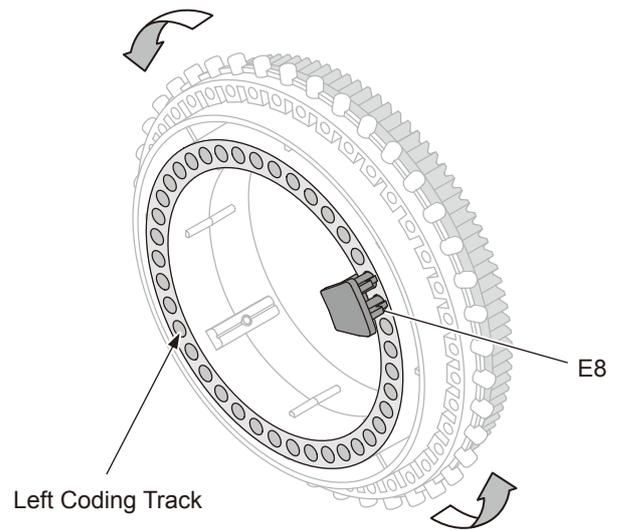
90° Right Turn

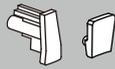


45° Left Turn

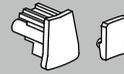
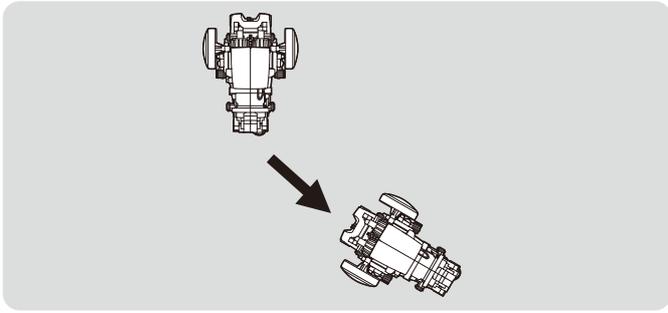
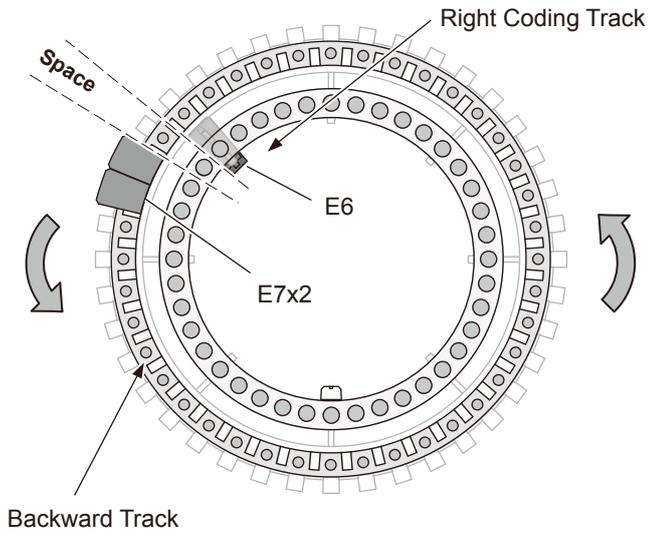


90° Left Turn

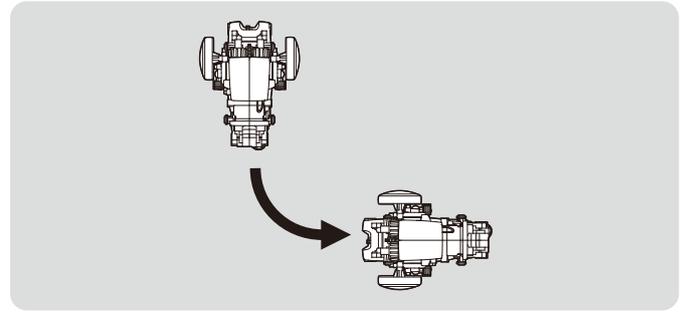
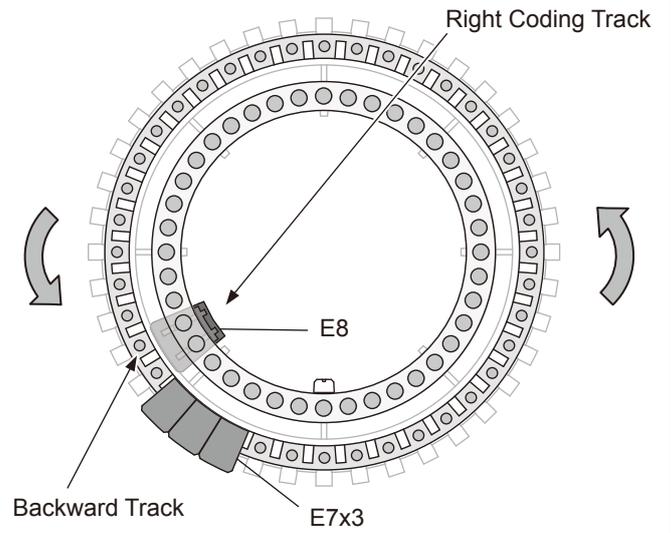




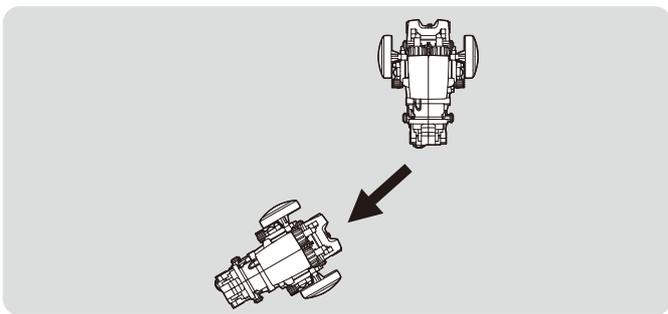
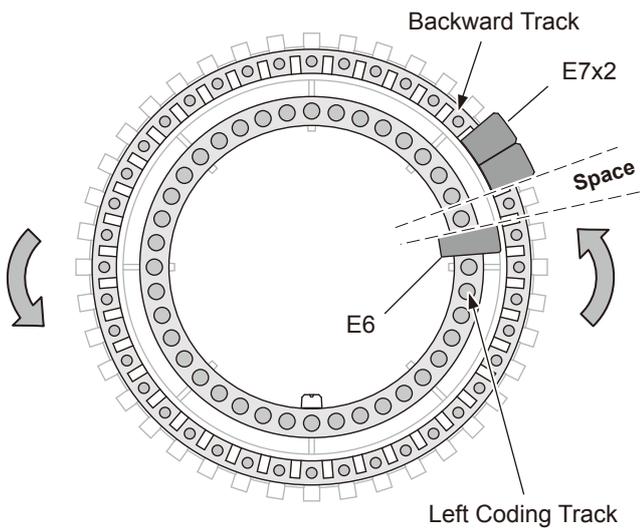
45° Back Right Turn



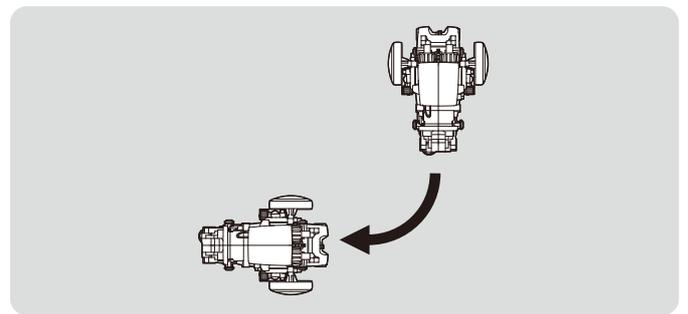
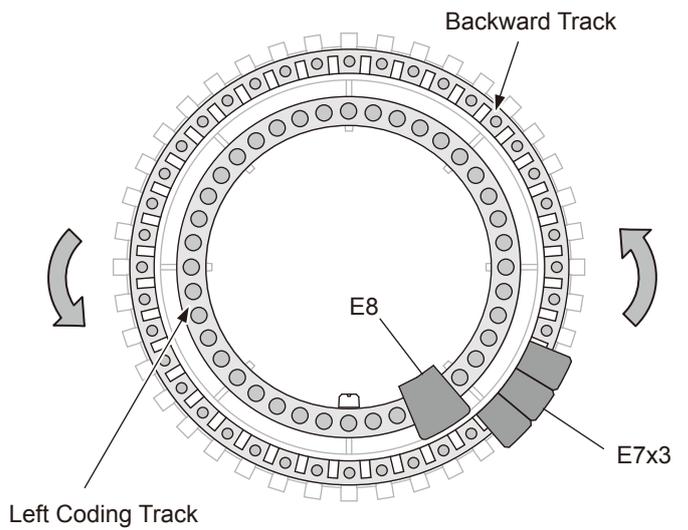
90° Back Right Turn



45° Back Left Turn



90° Back Left Turn



Backward

Backward Track

E7

Stop

E8x2

Right Coding Track

Left Coding Track

STOP

Task

E5

Right side

Left side

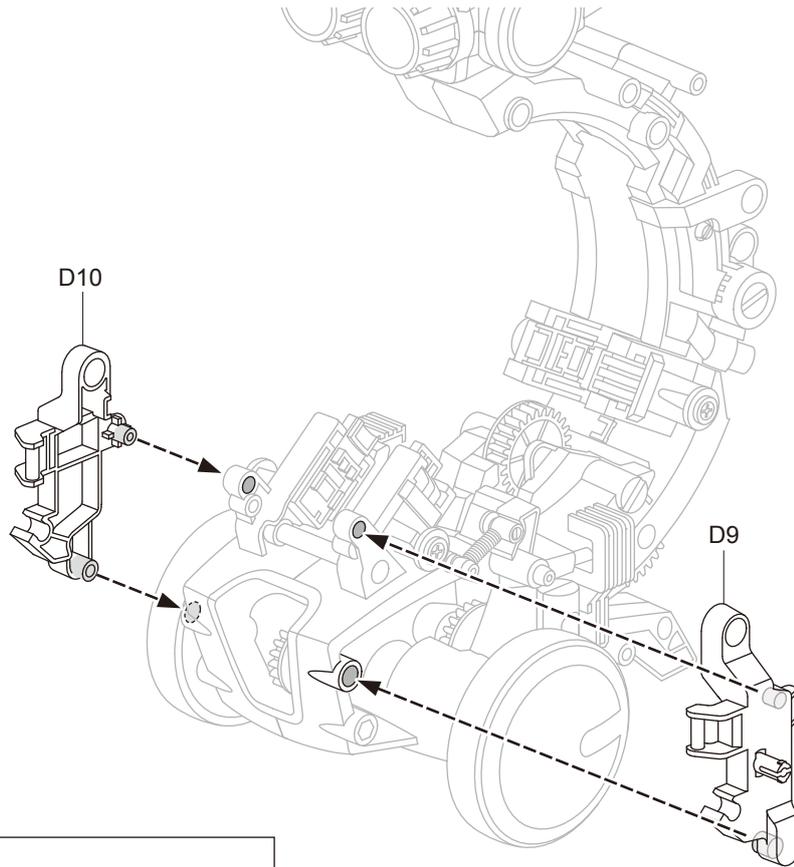
Forklift descending

E4

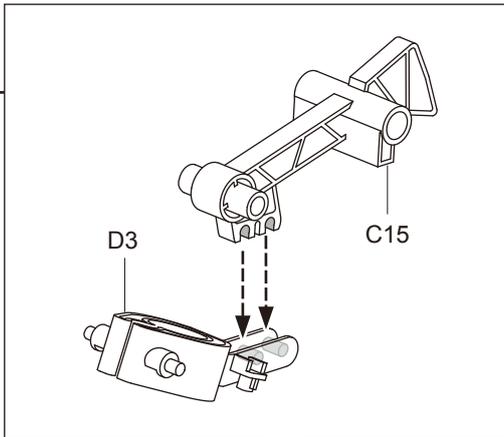
Left side

Drawing-bot Assembly

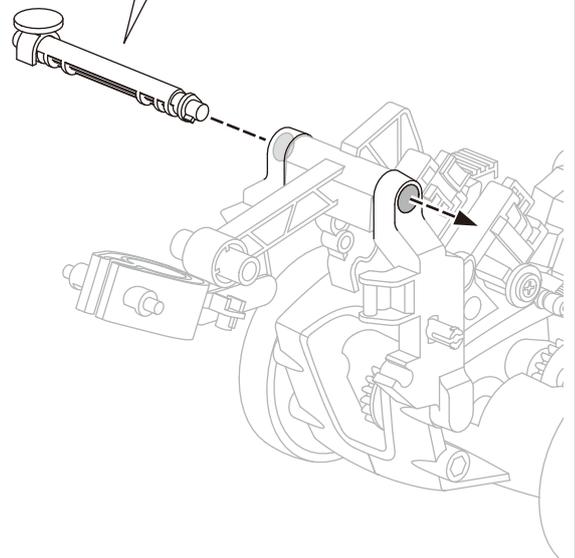
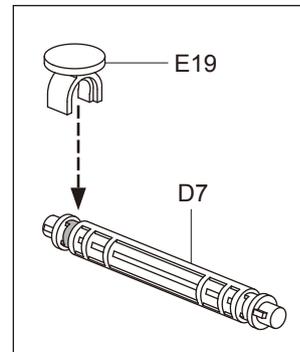
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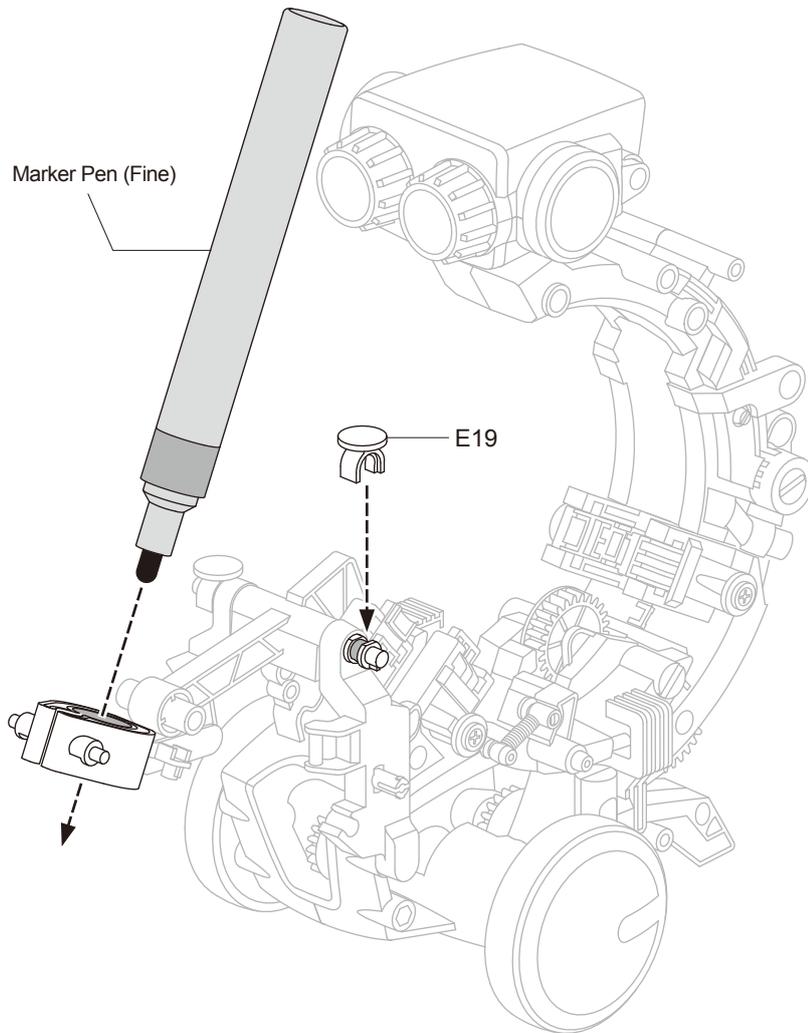


2



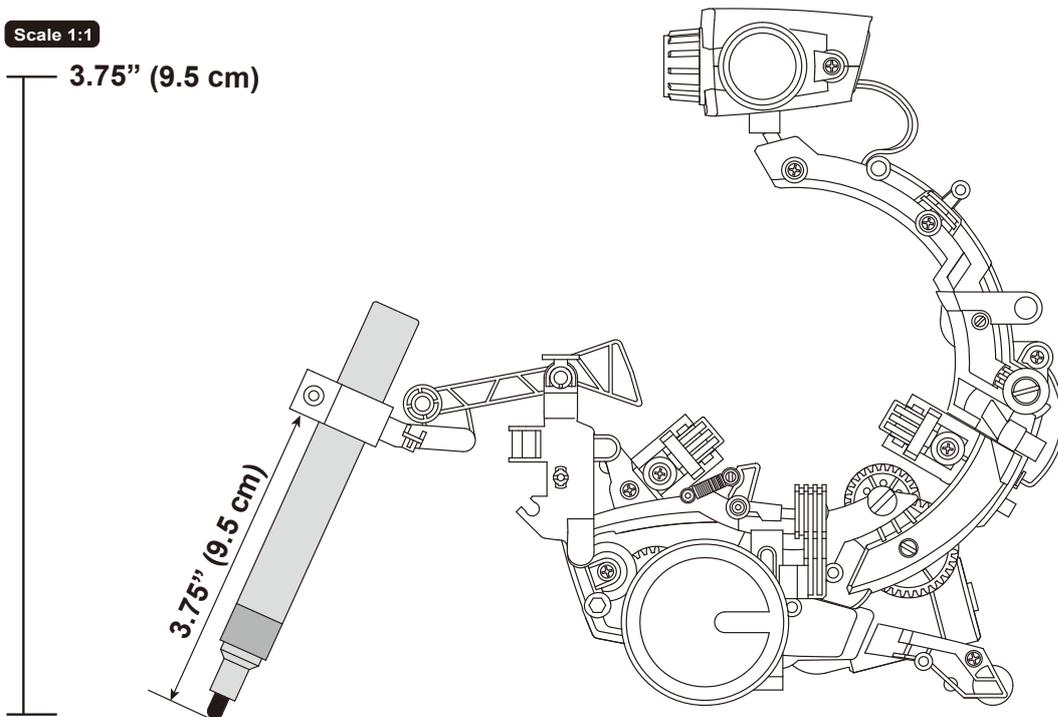
3





Scale 1:1

3.75" (9.5 cm)



Video Tips

To better understand the assembly and operations of each project, view the sample video listed in Video Tips on the project page.



Parts Required:



E5x10



E8x5



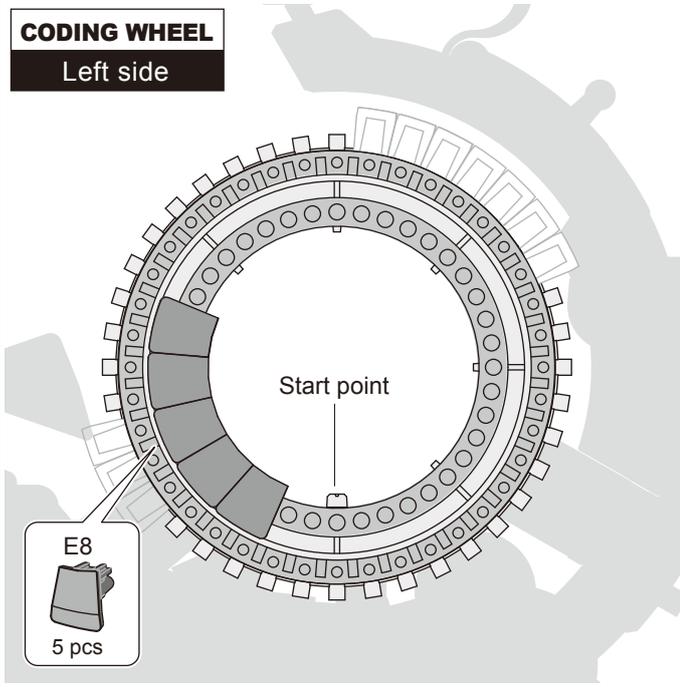
CODING

Insert the Coding buttons as shown.

Note the position and sequence on both sides of the coding

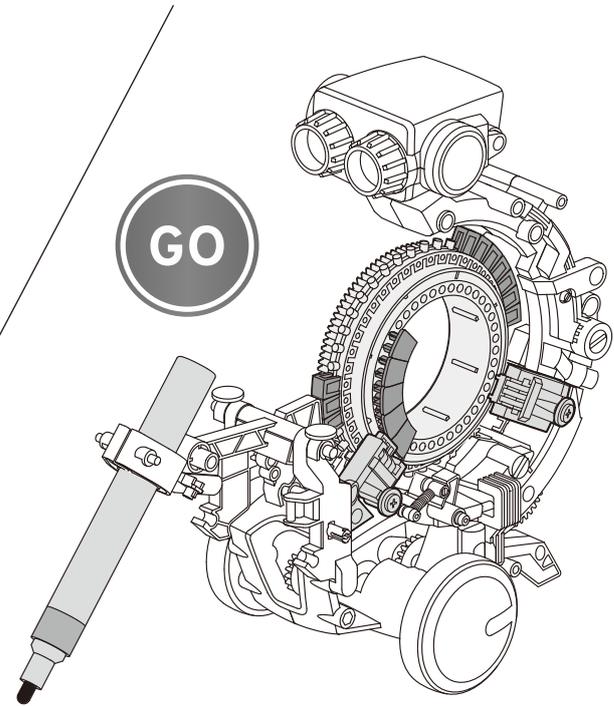
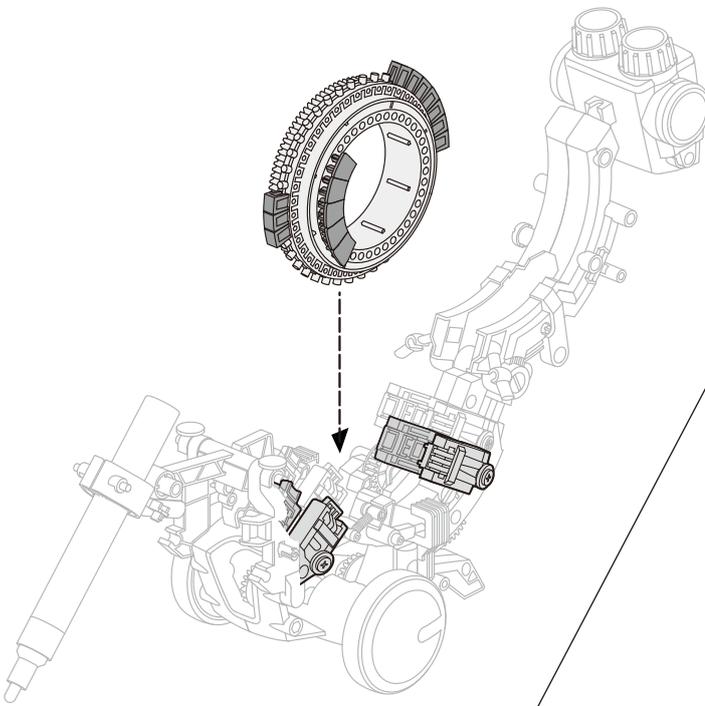
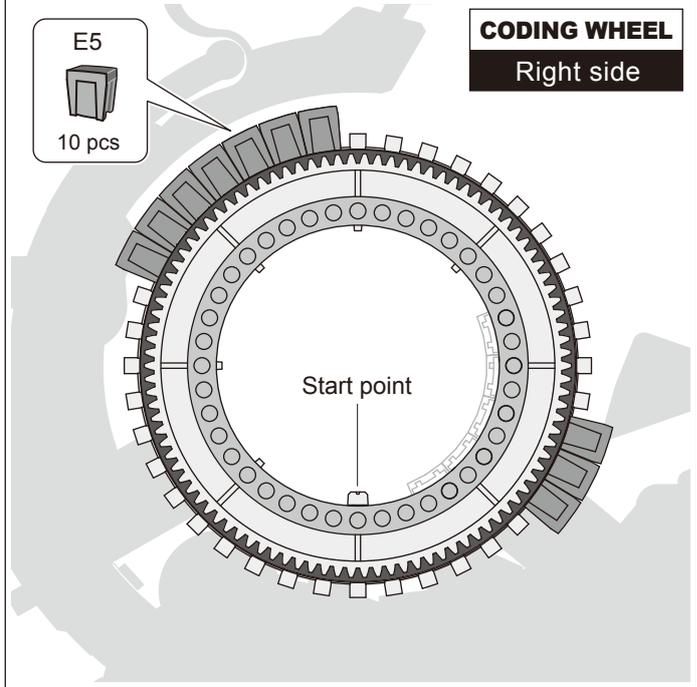
CODING WHEEL

Left side



CODING WHEEL

Right side



First test the program with the pen cap on. Place the unit on a 2.5' x 2.5' piece of paper. Turn the Draw-BOT on, it moves forward then draws a 13' diameter circle. Note: Turn the unit off before it repeats the program. Now, remove the pen cap and run the program again. Using the coding buttons create your own program.

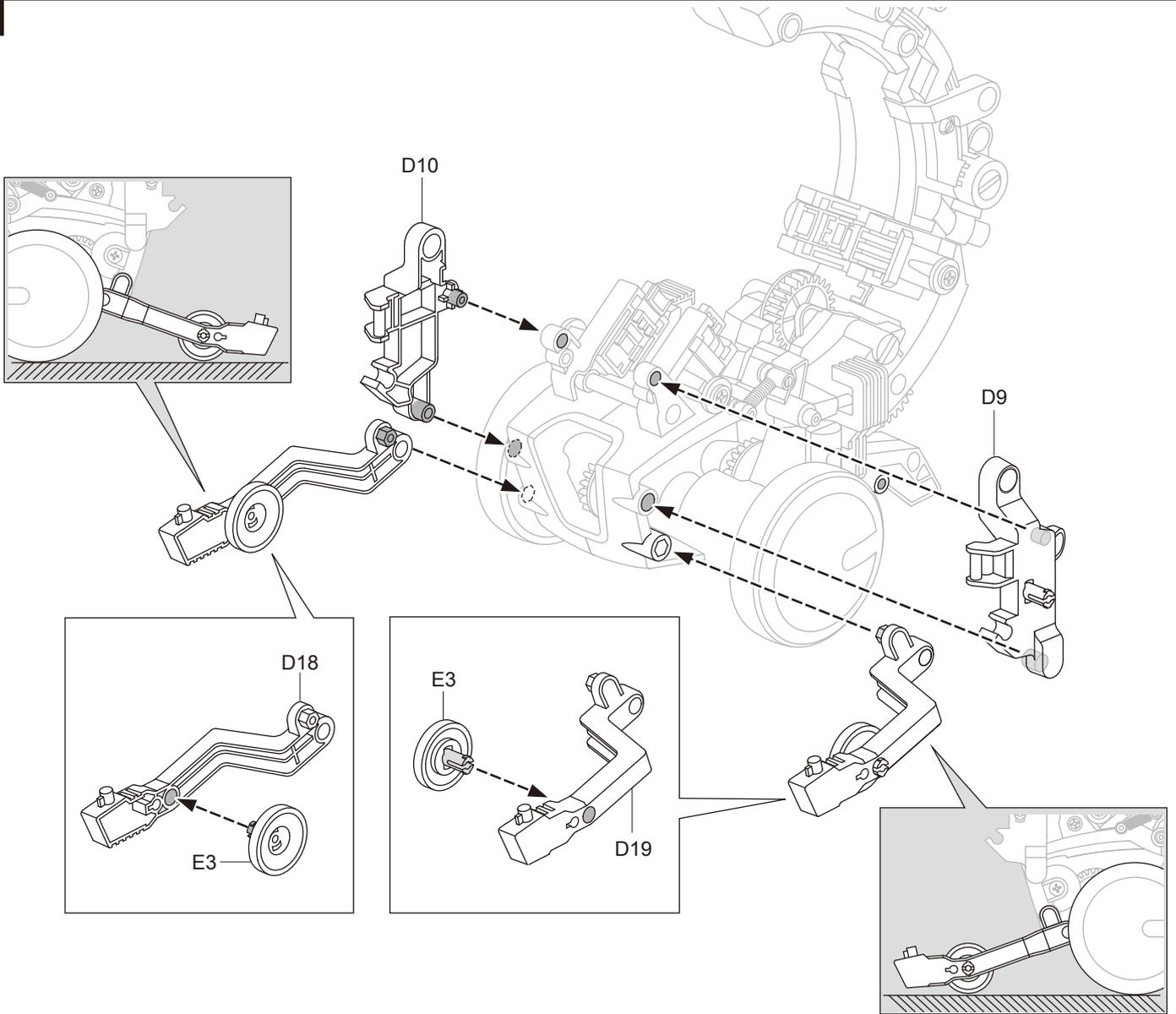


Trouble Shooting

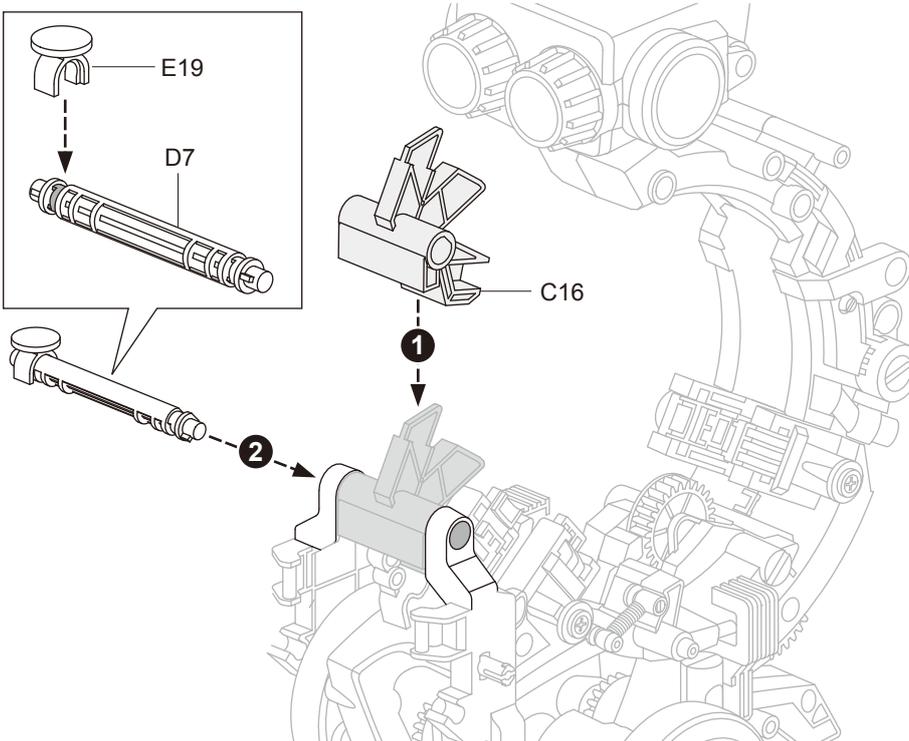
1. If it does not follow the coding program correctly, please go back to page 21 step 2 to check if parts D3 and C15 are assembled in the right way.
2. Check the coding buttons and wheel installation.
3. See page 37

Forklift-bot Assembly

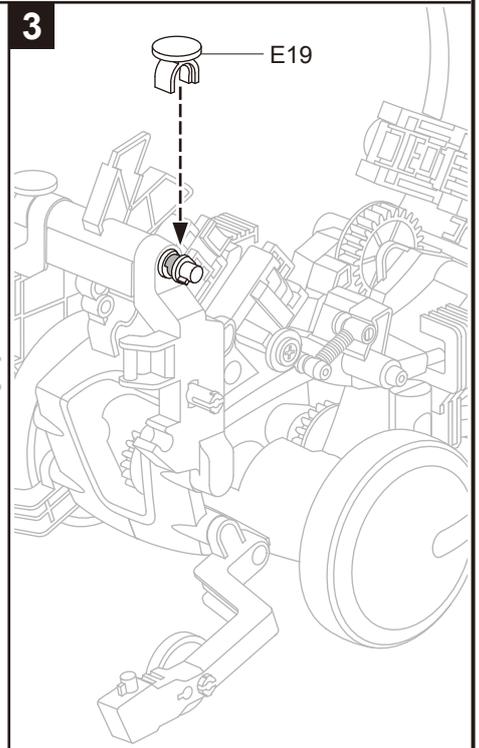
1

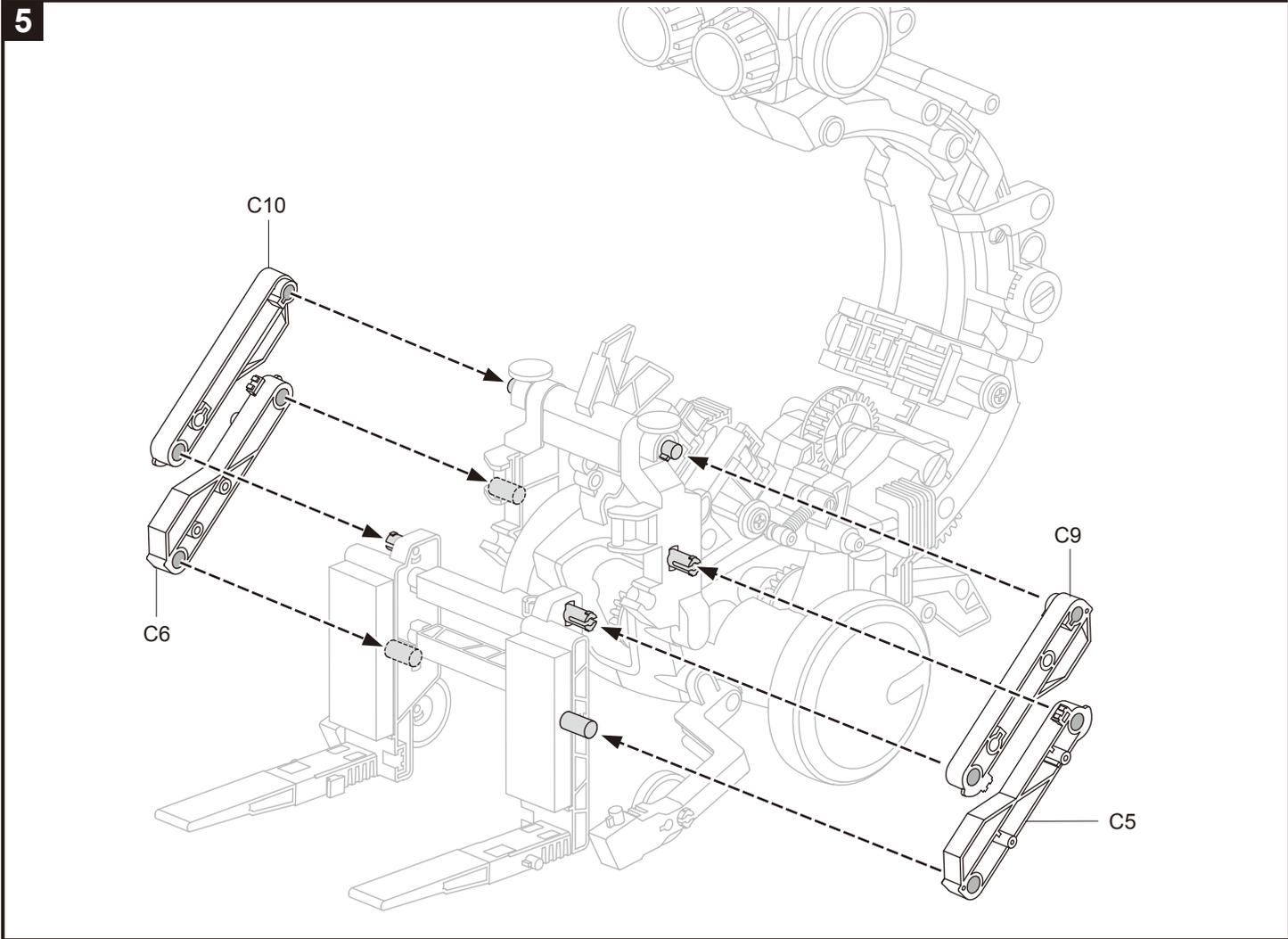
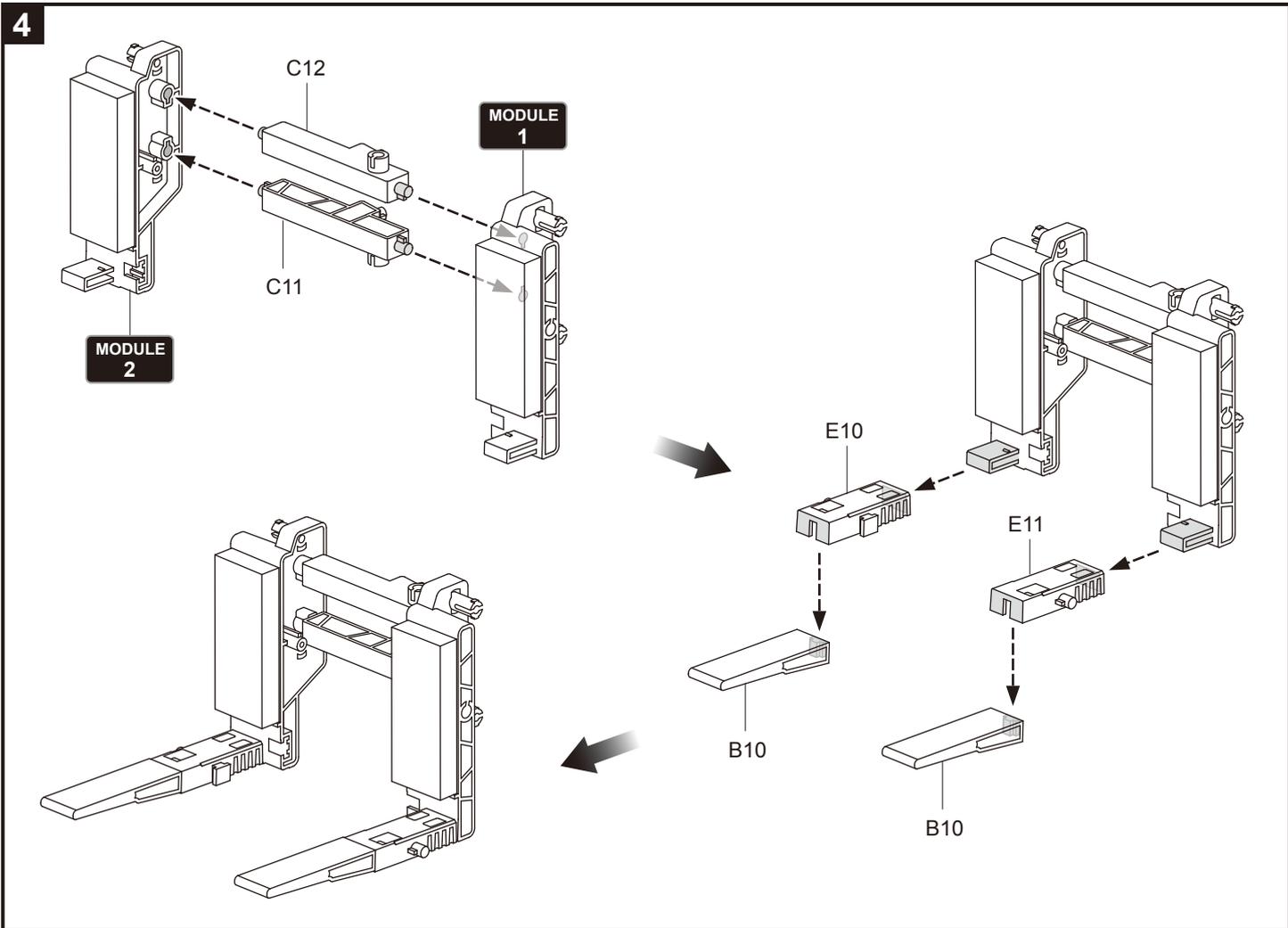


2



3





Forklift-bot



Video Tips

View a video on this project at <https://www.elenco.com/teachtech/>

Parts Required:



E4x2



E5x6



E6x5



E7x6



E8x11



CODING

Insert the coding buttons as shown.

Note the position the sequence on both sides of the coding wheel.

CODING WHEEL

Left side

E6



2 pcs

E7



6 pcs

E8



6 pcs

CODING WHEEL

Right side

E4



2 pcs

E5



6 pcs

E8

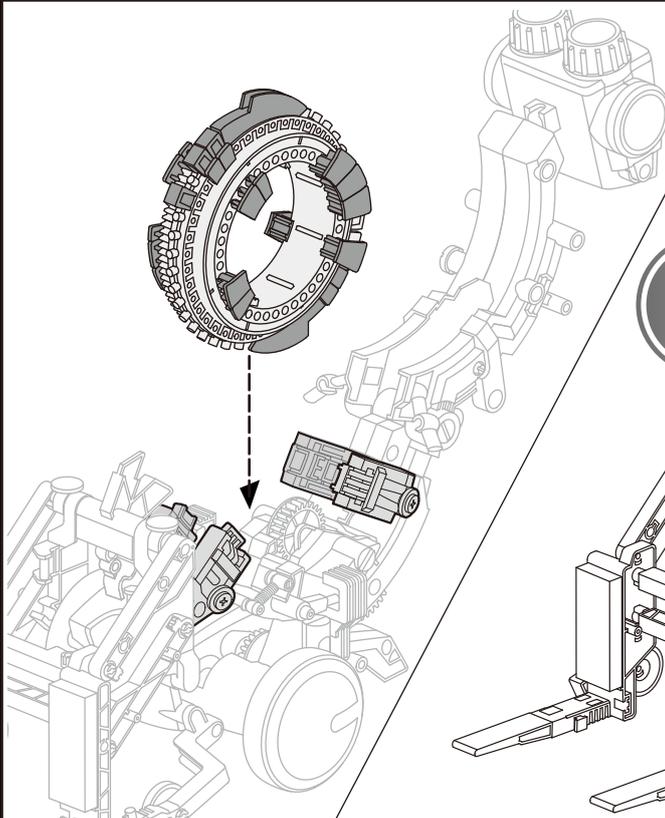


5 pcs

E6

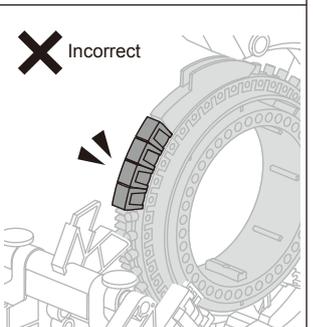
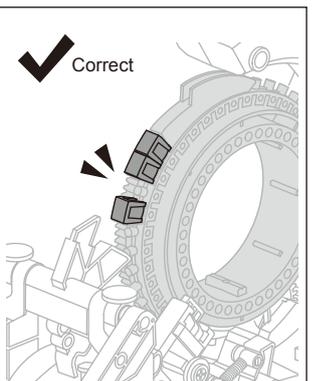


3 pcs



Anytime when you want to add "lifting" to your current coding program, install mission buttons as illustrated below to enable the movement.

GO

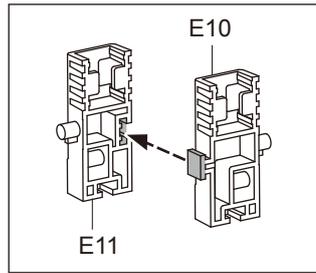


Trouble Shooting

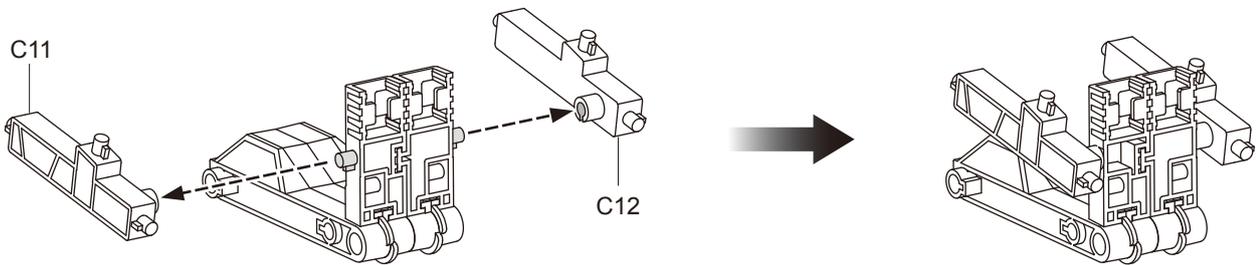
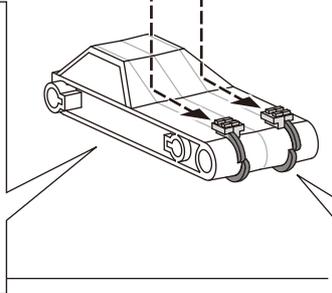
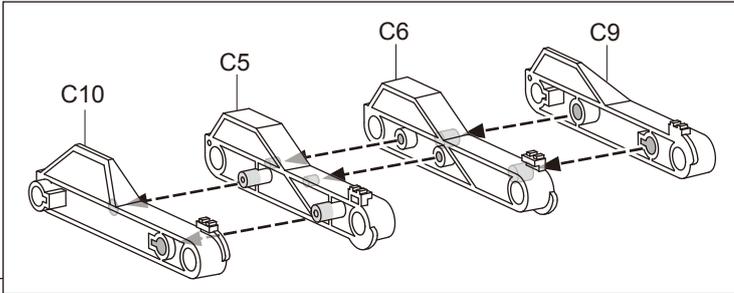
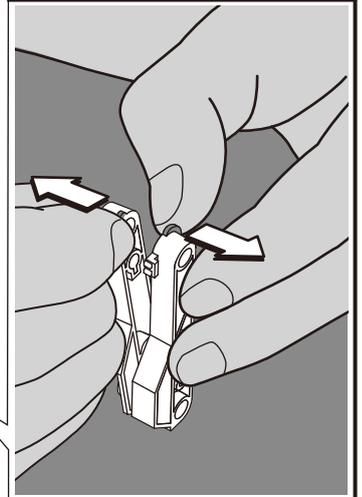
1. Check the coding buttons and wheel installation, refer to pages 14-15
2. See page 37

Throwing-bot Assembly

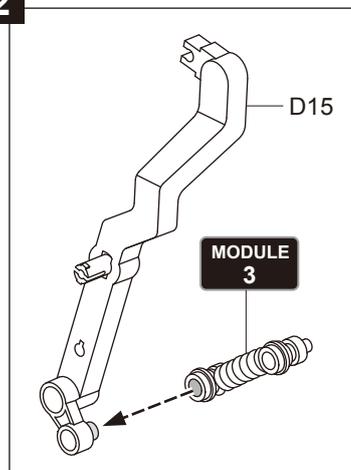
1



Tip : disassemble assembly as shown below

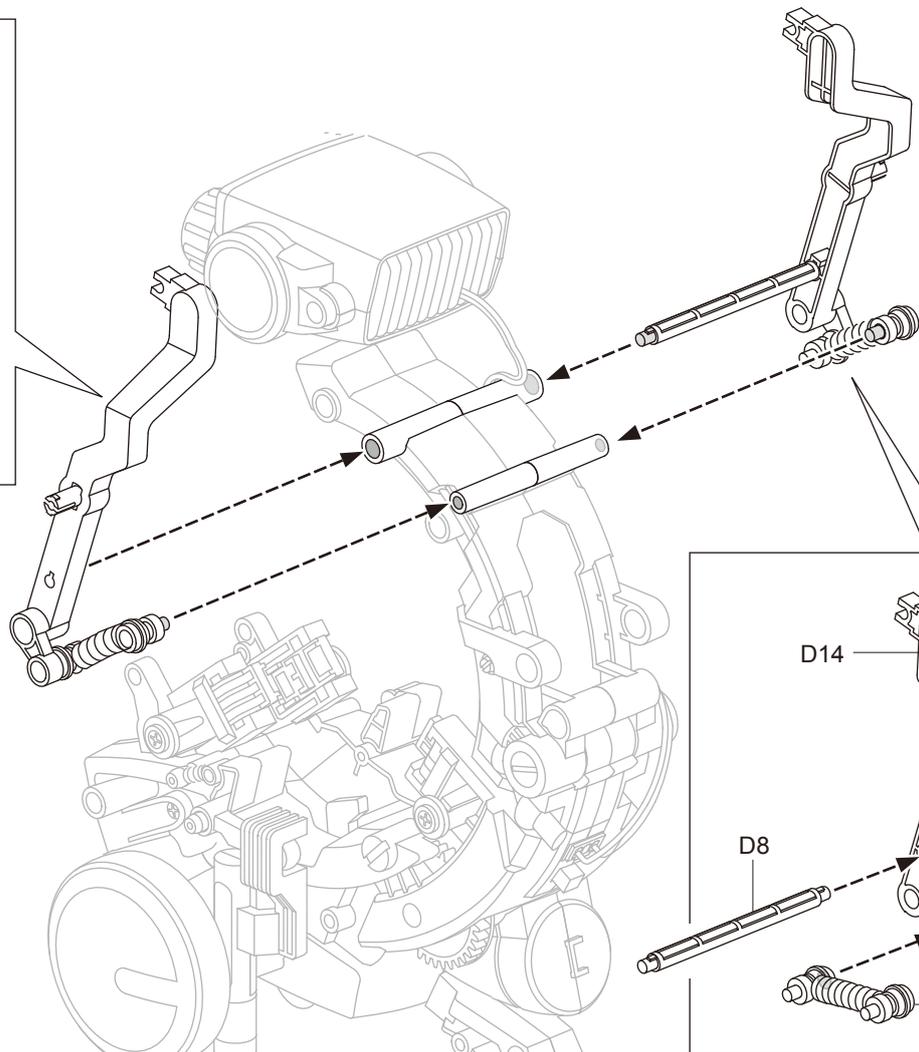


2



MODULE 3

Refer to page 12

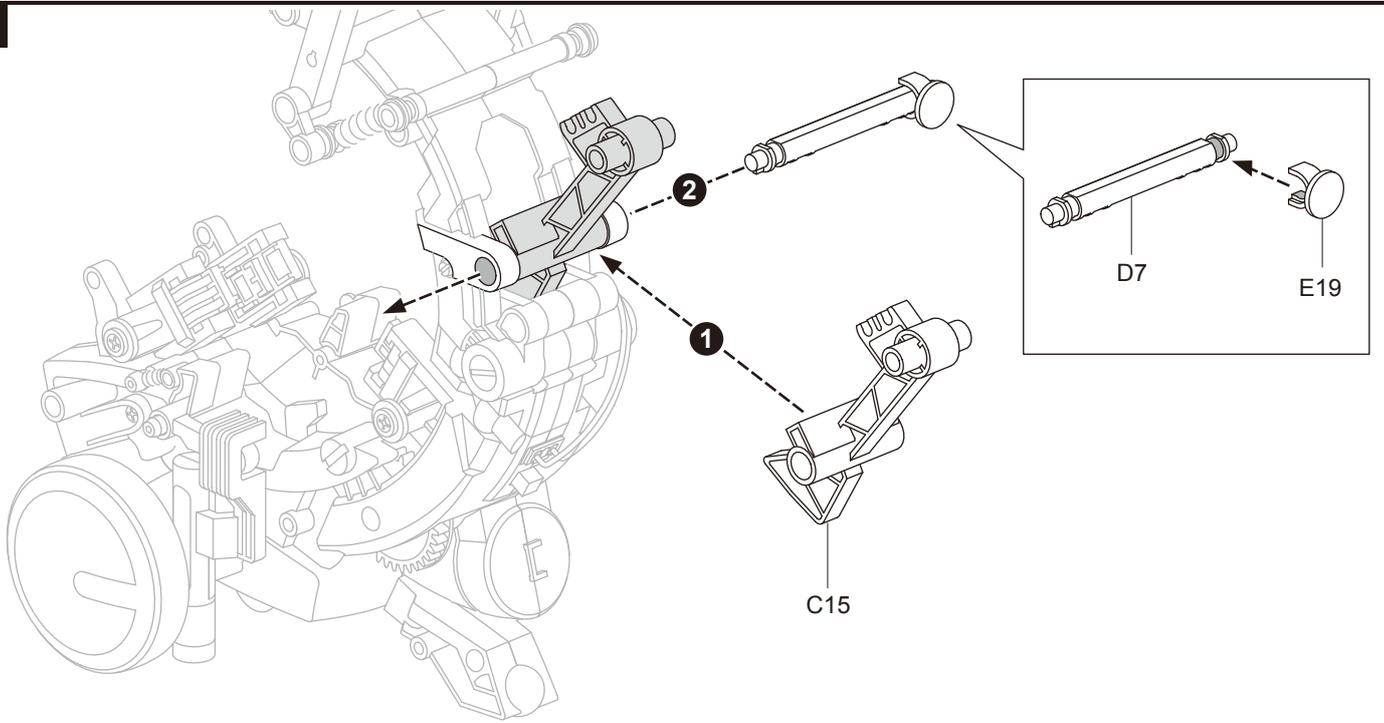


D14

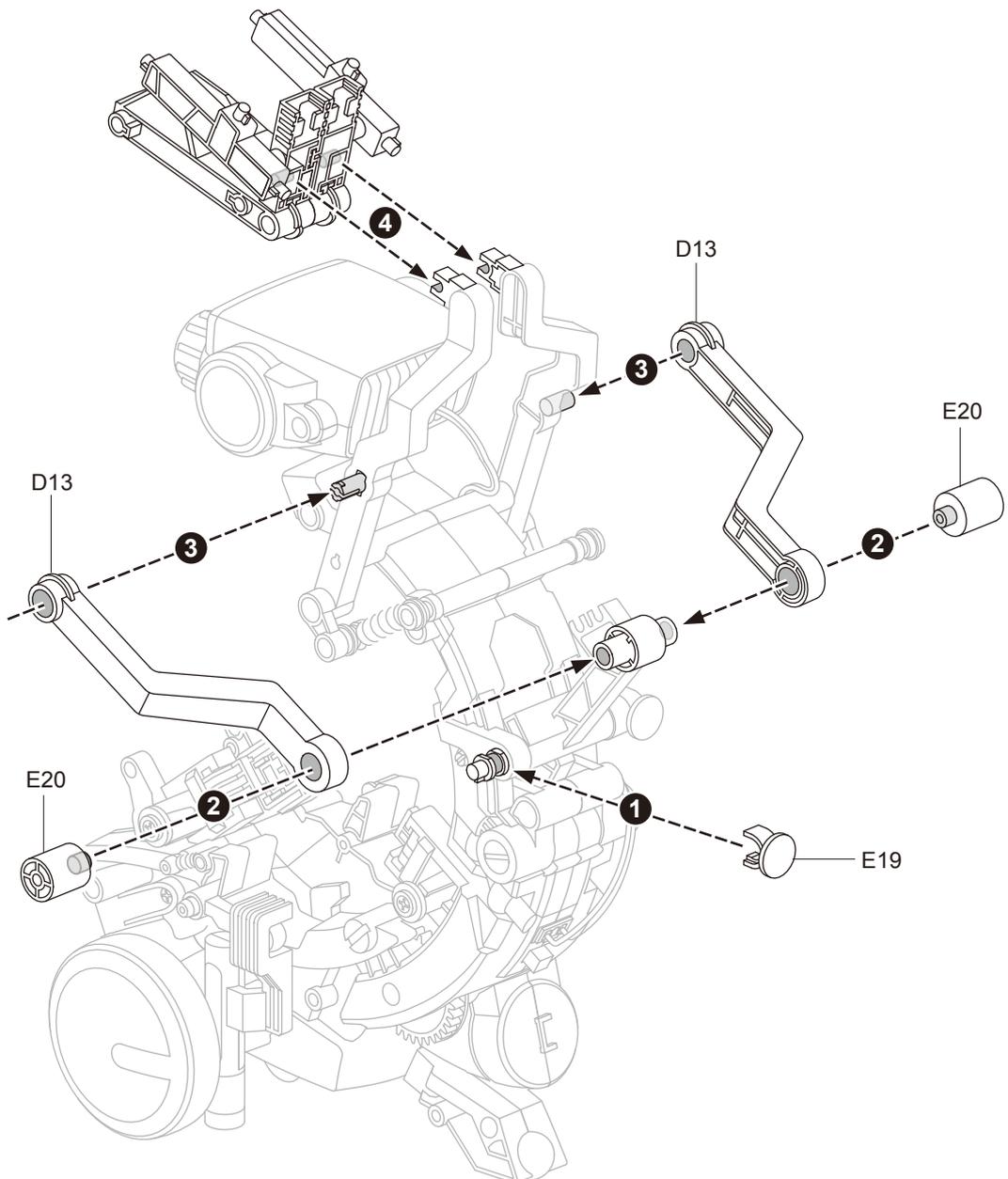
D8

MODULE 3

3



4



Throwing-bot



Video Tips

View a video on this project at <https://www.elenco.com/teachtech/>

Parts Required:



E5x2



E6x3



E8x10



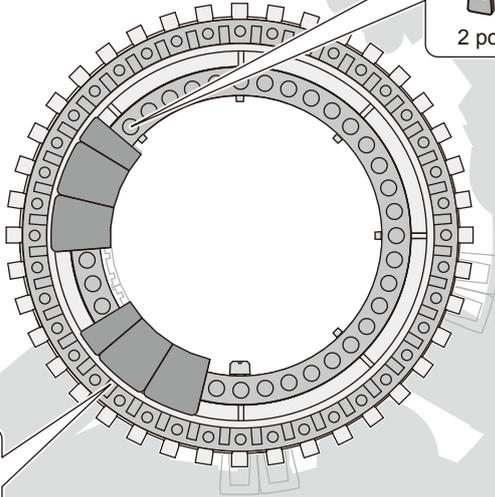
CODING

Insert the coding buttons as shown.

Note the position the sequence on both sides of the coding wheel.

CODING WHEEL

Left side



E6

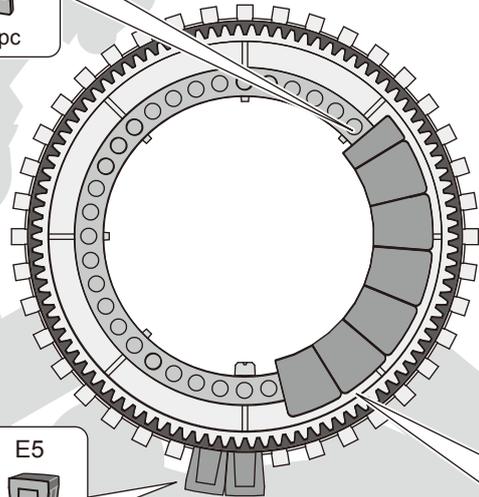
2 pcs

E8

4 pcs

CODING WHEEL

Right side



E6

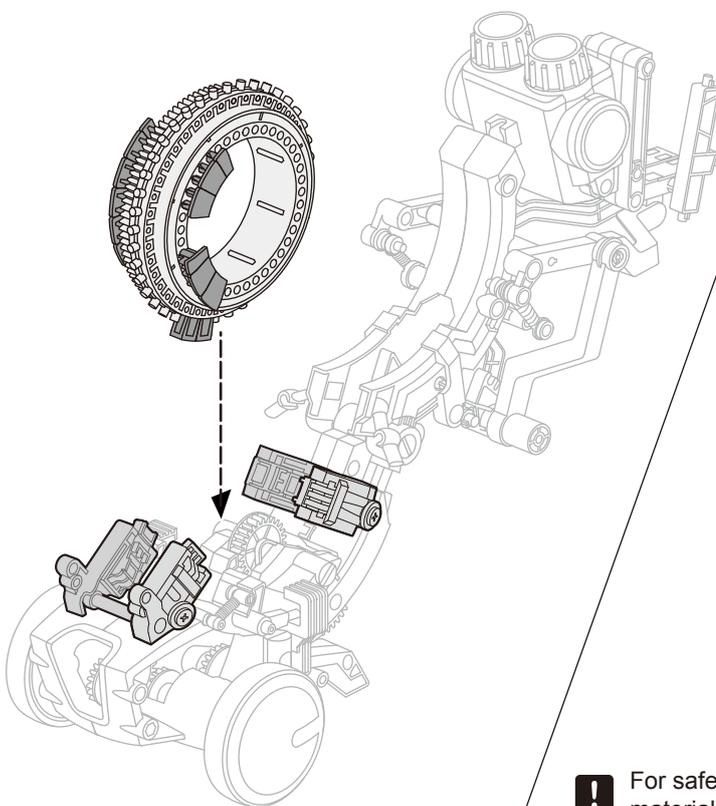
1 pc

E5

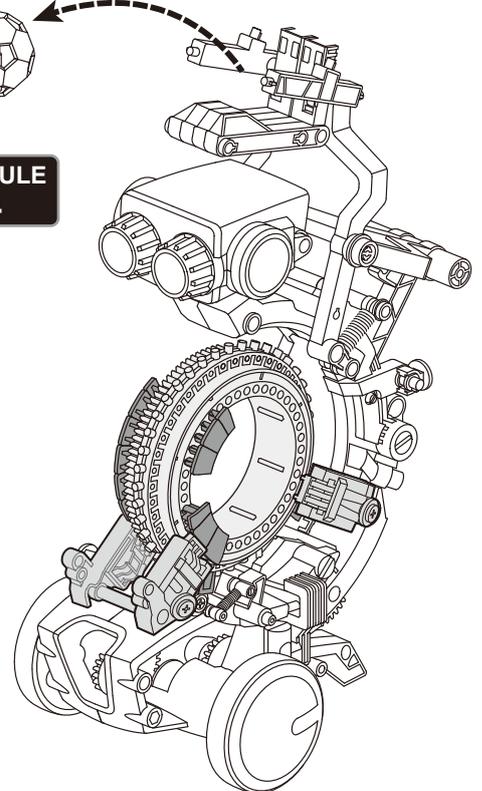
2 pcs

E8

6 pcs



MODULE
4



For safety concern, users should not use any dangerous materials as throwing object, such as steel balls or sharp items.

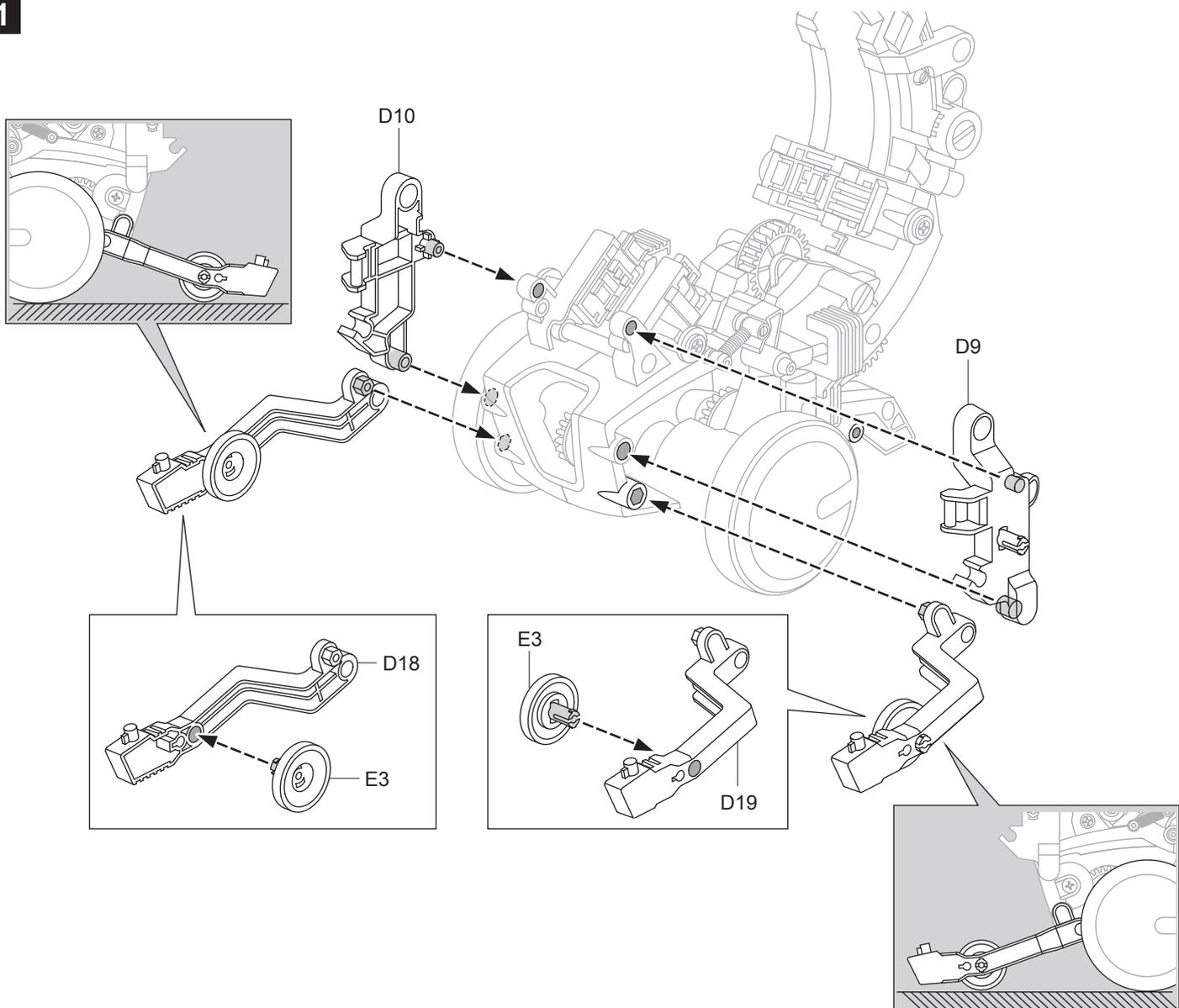


Trouble Shooting

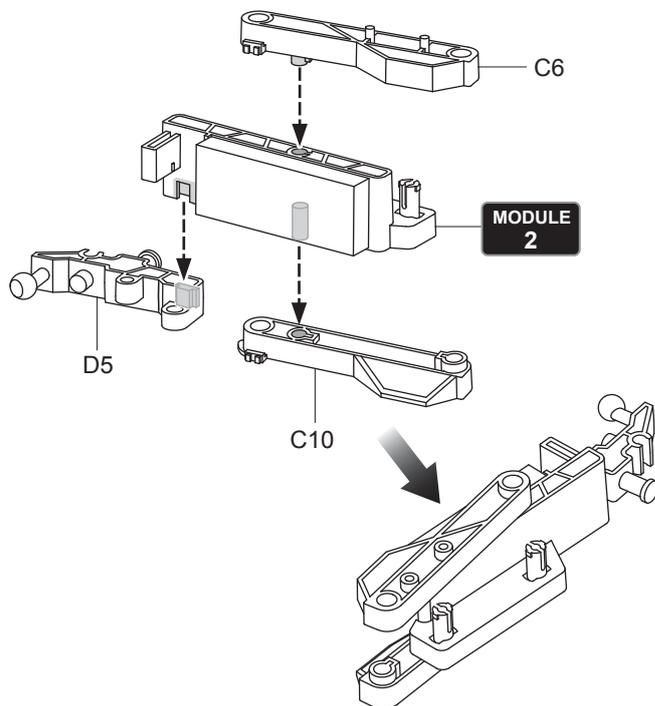
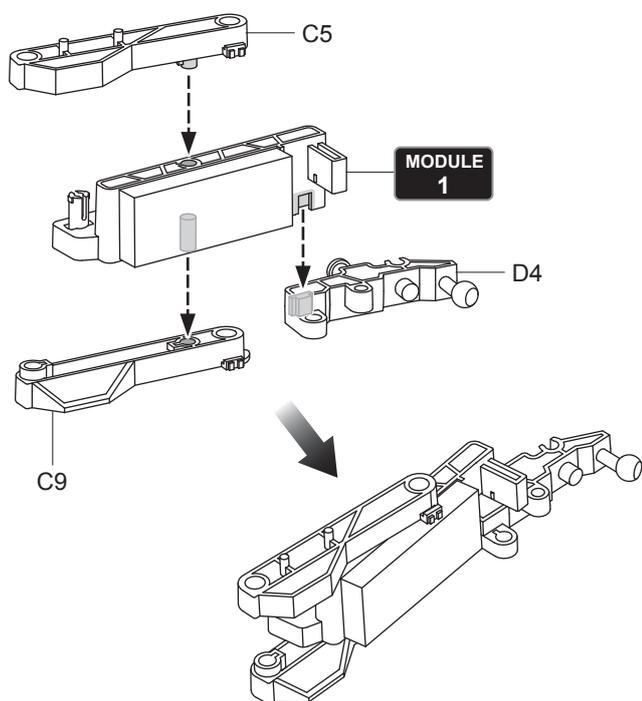
1. If it does not follow the coding program correctly, please go back to page 17 step 5 to check if parts E21 and E22 are assembled in the right way.
2. Check the coding buttons and wheel installation
3. See page 37

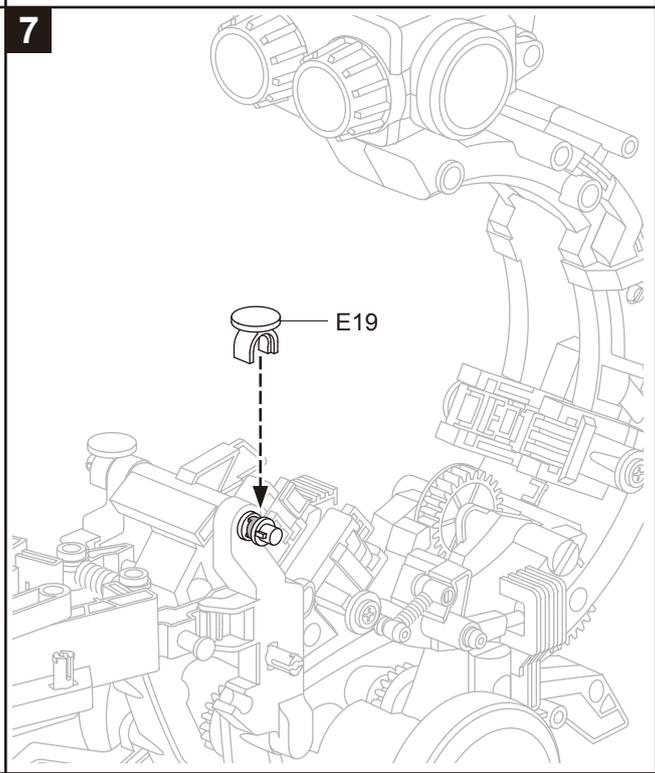
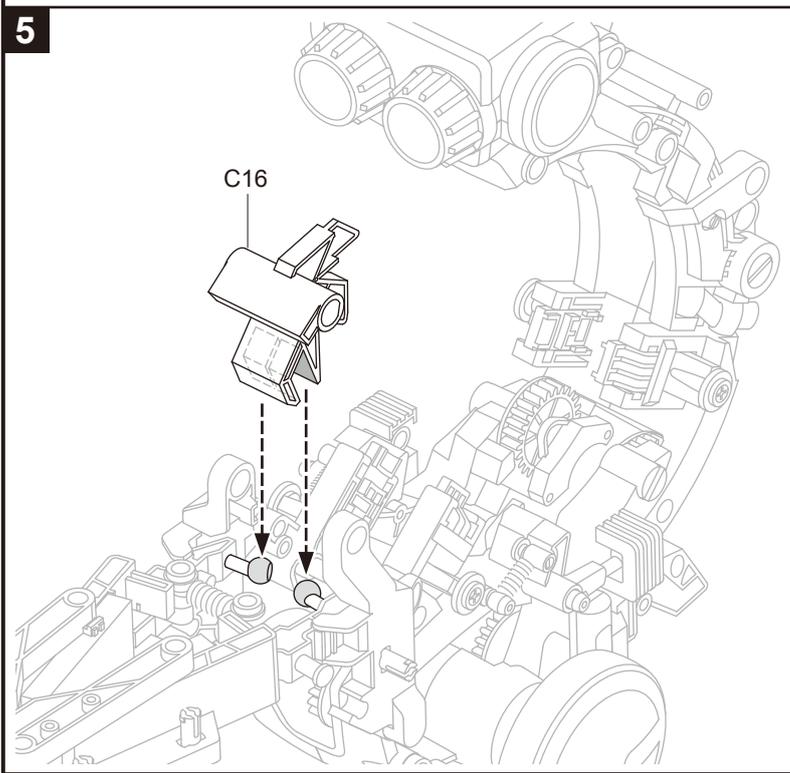
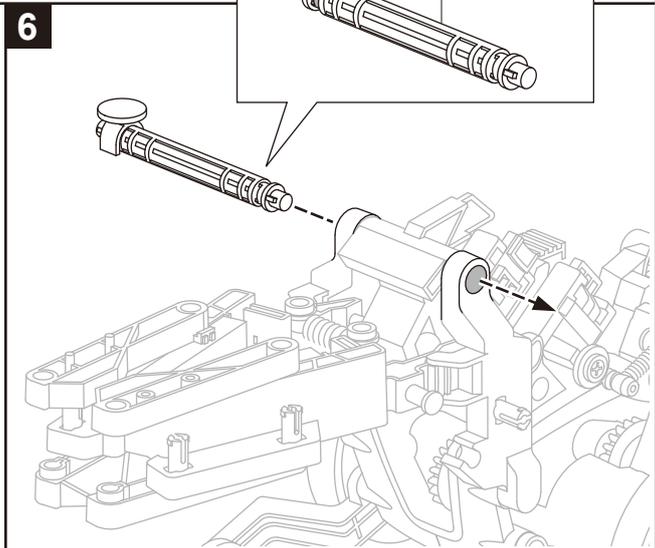
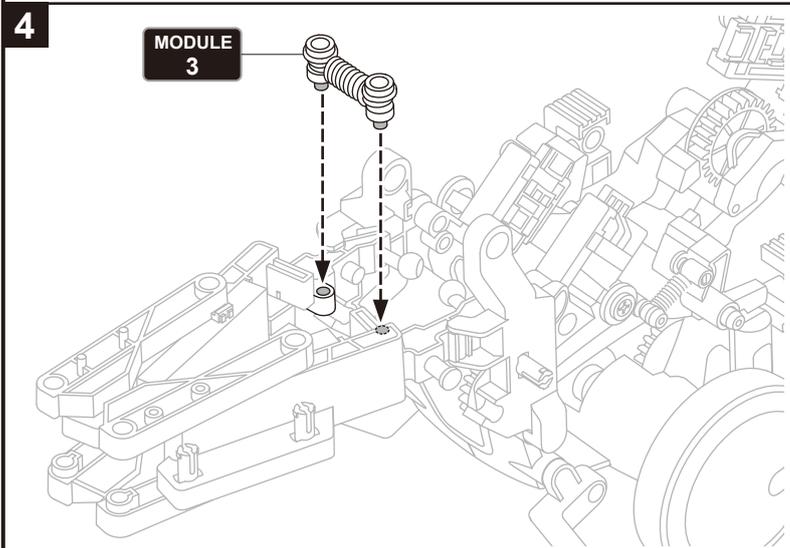
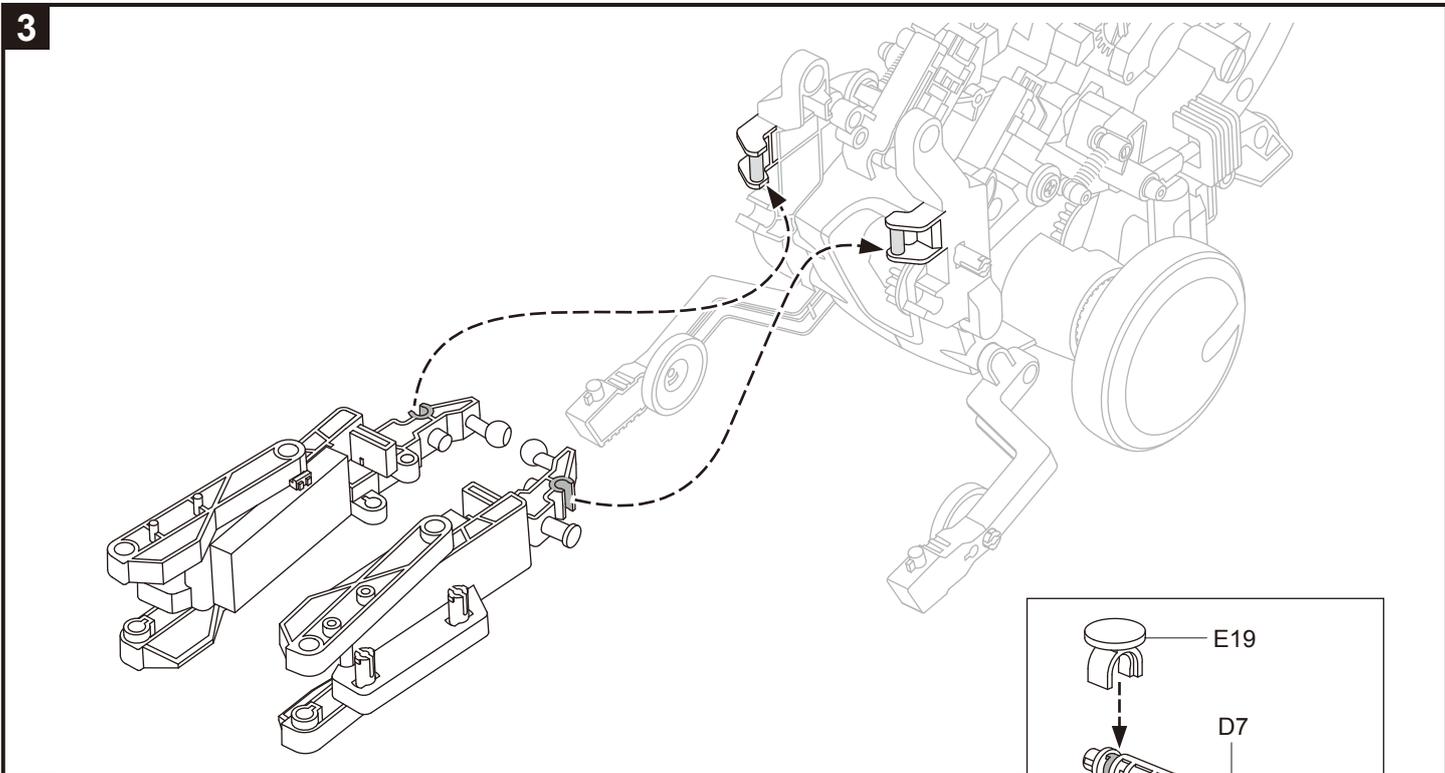
Gripper-bot Assembly

1



2





Gripper-BOT



Video Tips

View a video on this project at <https://www.elenco.com/teachtech/>

Parts Required:



E5x9



E6x2



E7x6



E8x9



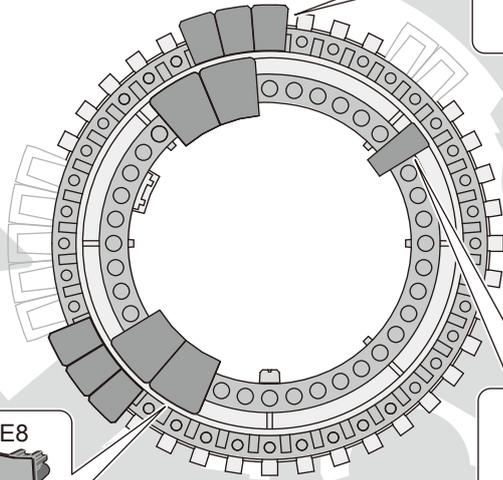
CODING

Insert the coding buttons as shown.

Note the position the sequence on both sides of the coding wheel.

CODING WHEEL

Left side



E7

6 pcs

E6

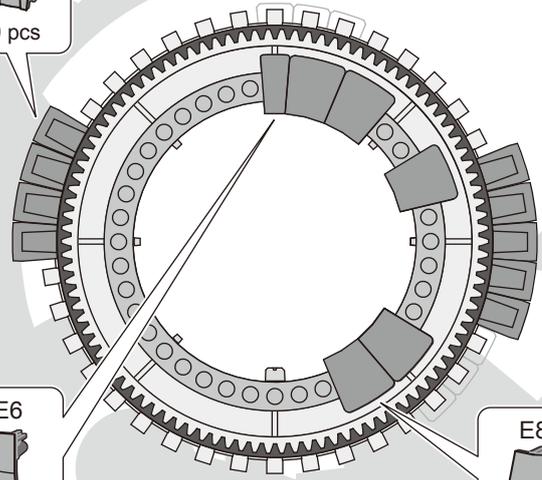
1 pc

E8

4 pcs

CODING WHEEL

Right side



E5

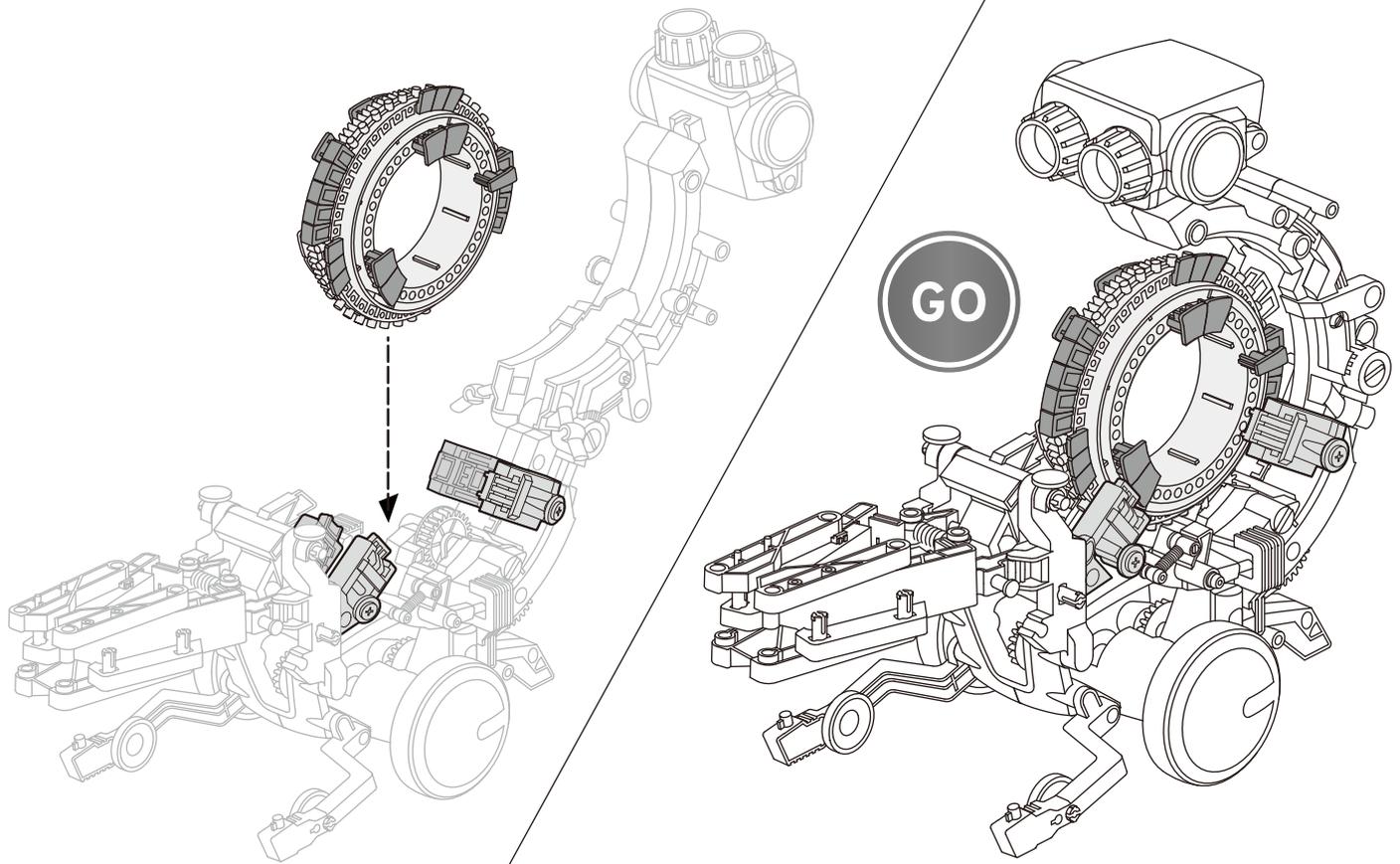
9 pcs

E6

1 pc

E8

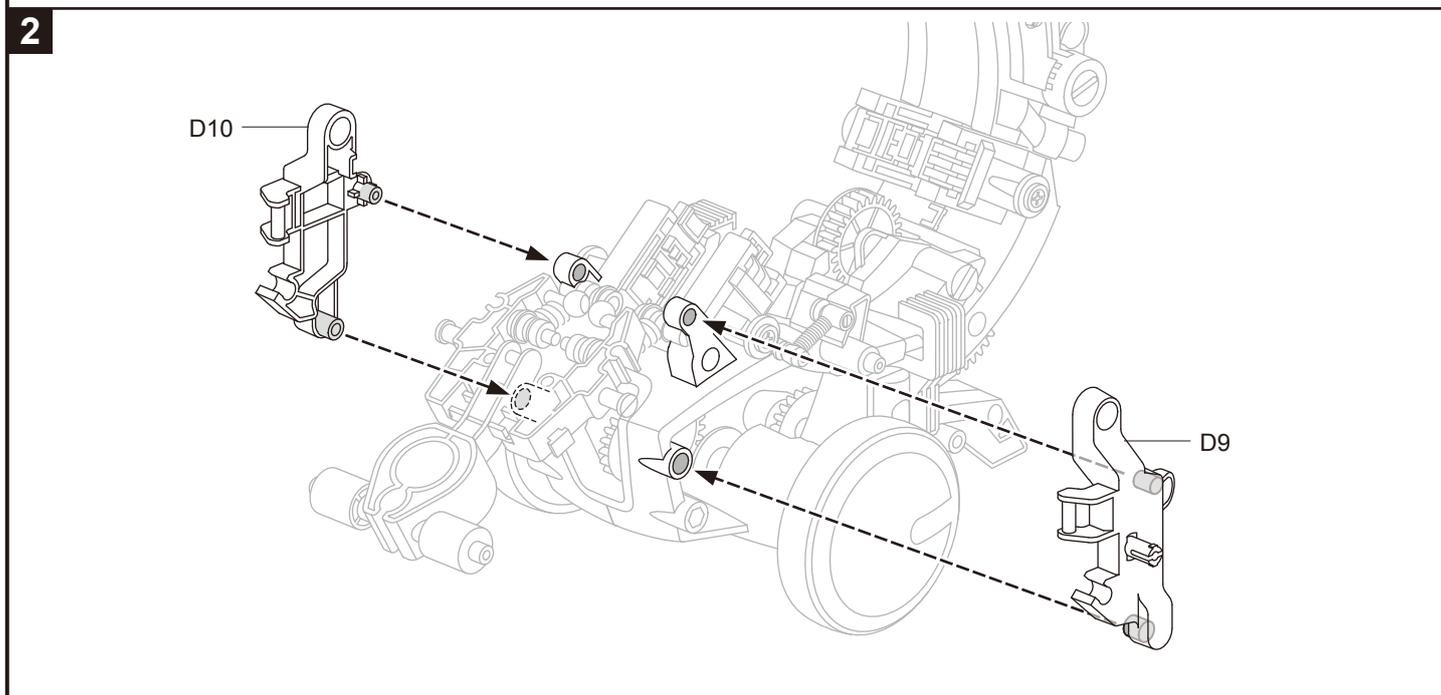
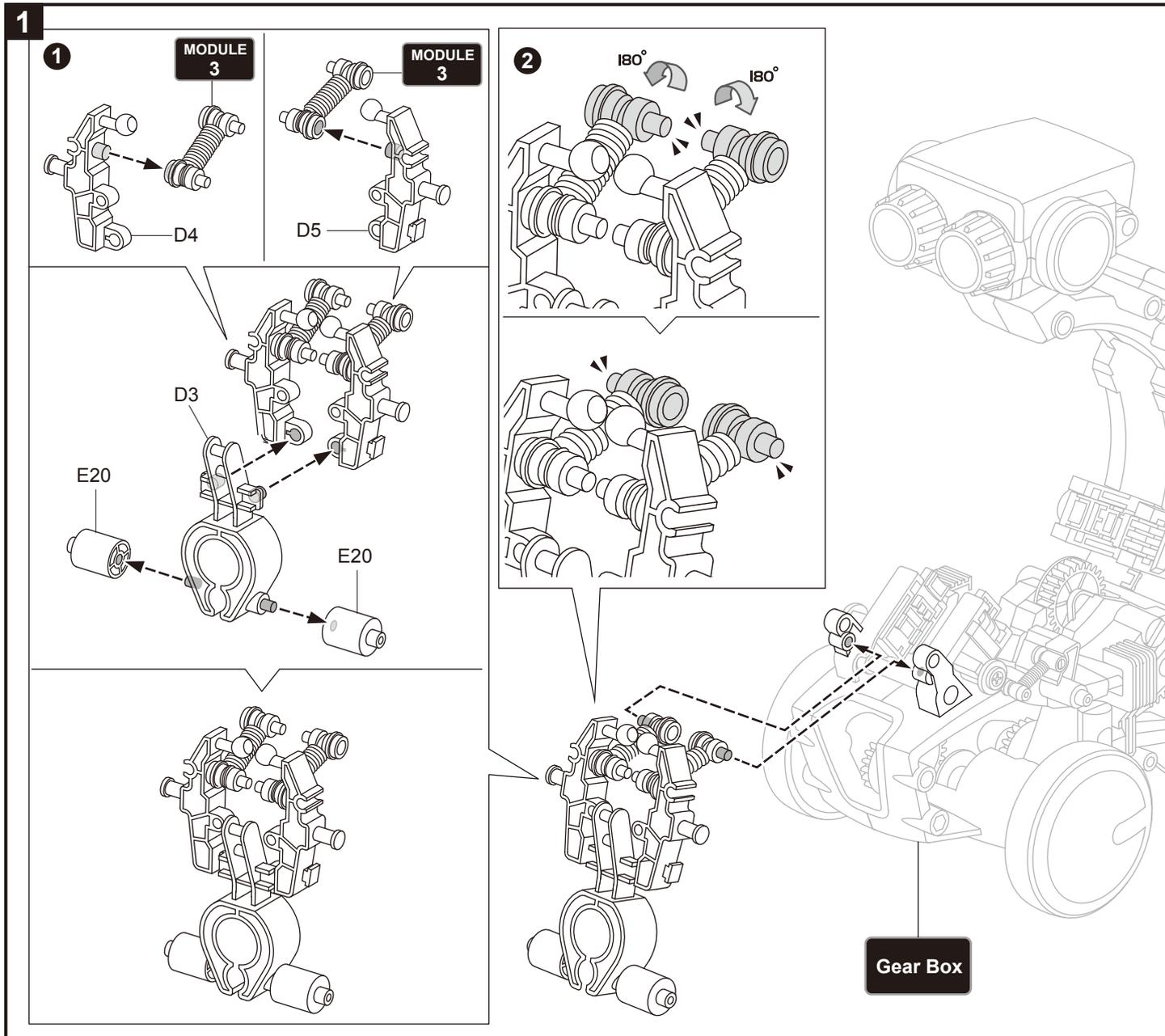
5 pcs

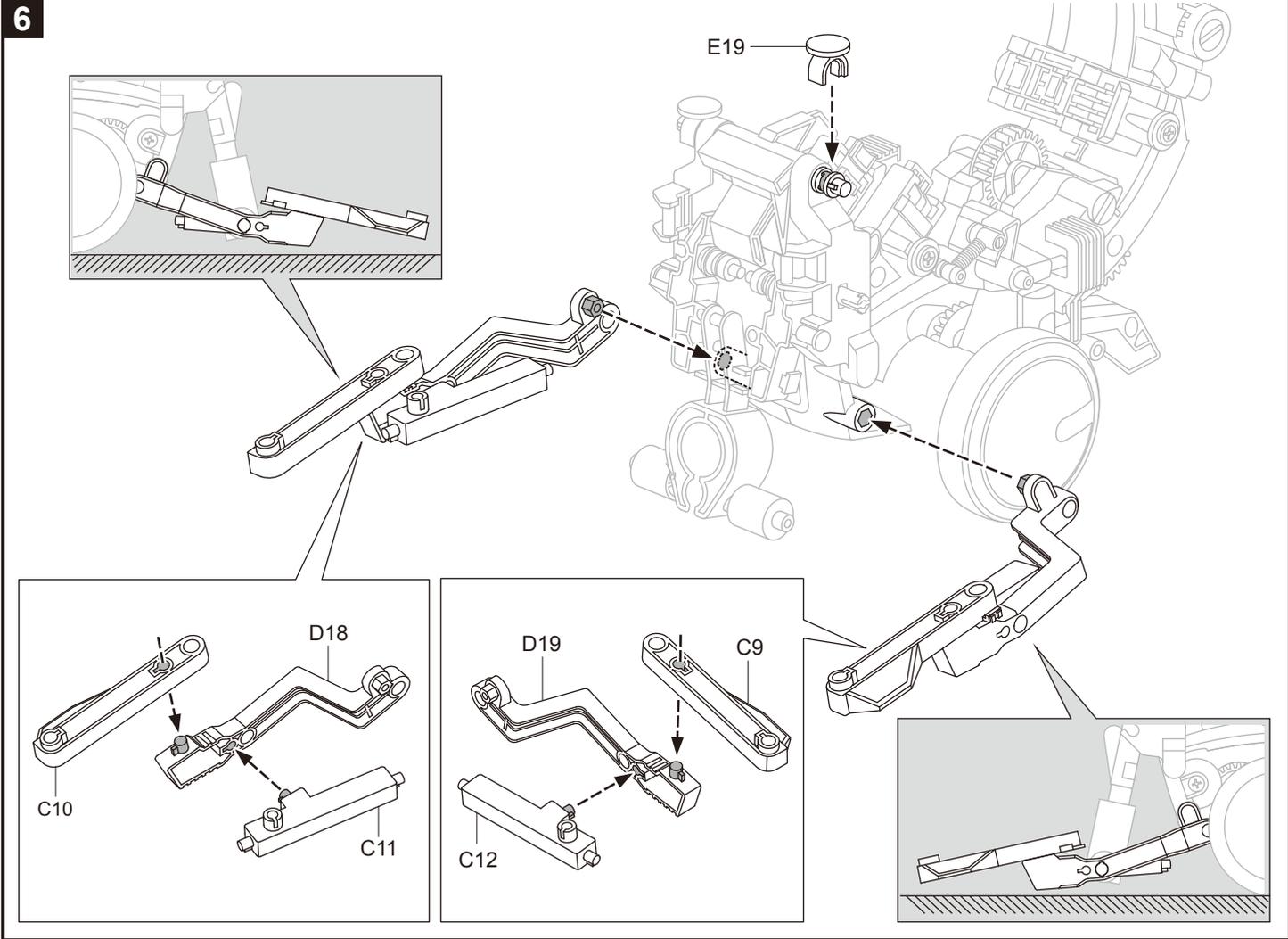
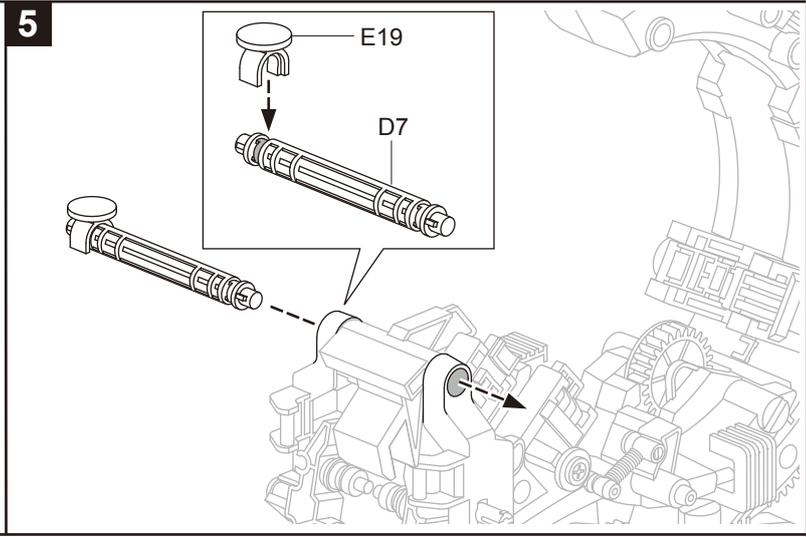
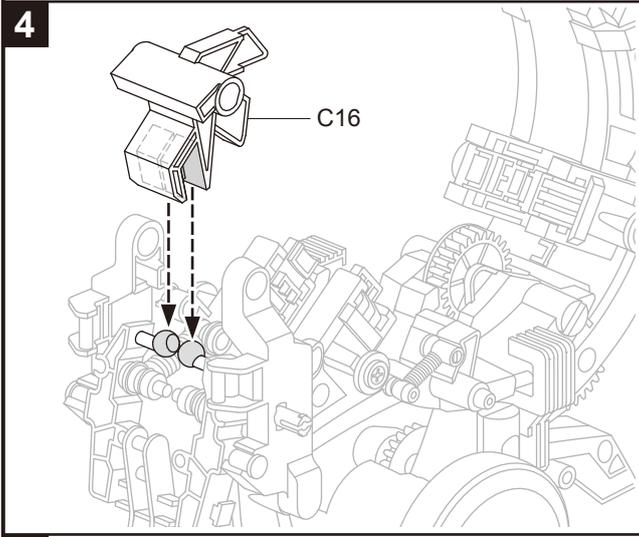
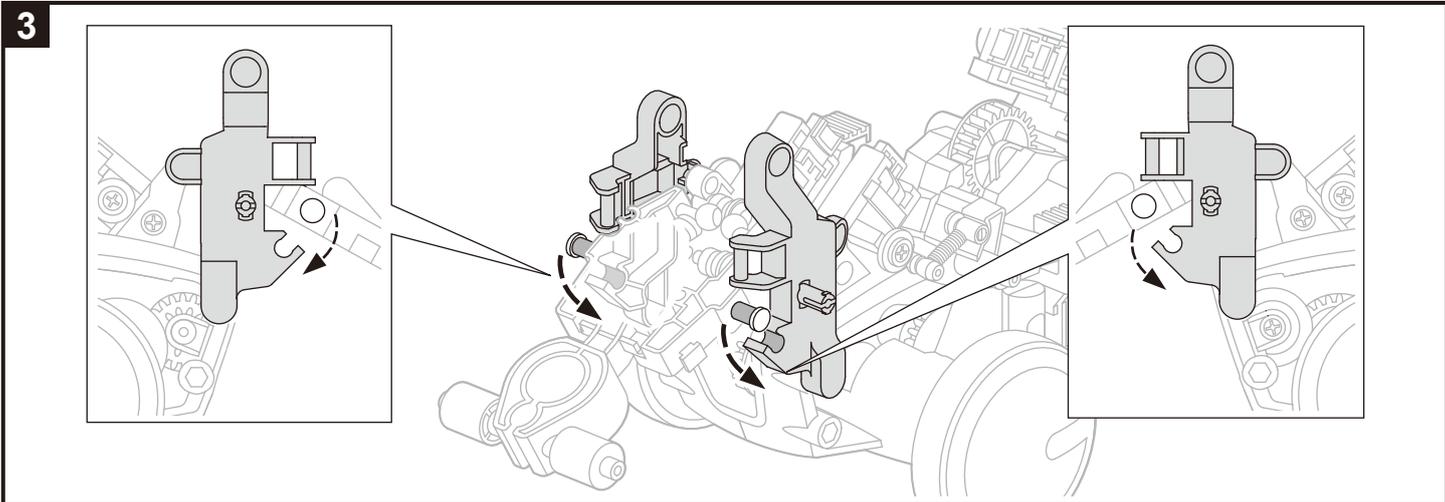


Trouble Shooting

1. If it does not follow the coding program correctly, please go back to page 31 step 5 to check if part C16 is assembled in the right way.
2. Check the coding buttons and wheel installation, refer to pages 13-15
3. See page 37

Soccer-bot Assembly





Soccer-bot



Video Tips

View a video on this project at <https://www.elenco.com/teachtech/>

Parts Required:



E5x4



E8x5



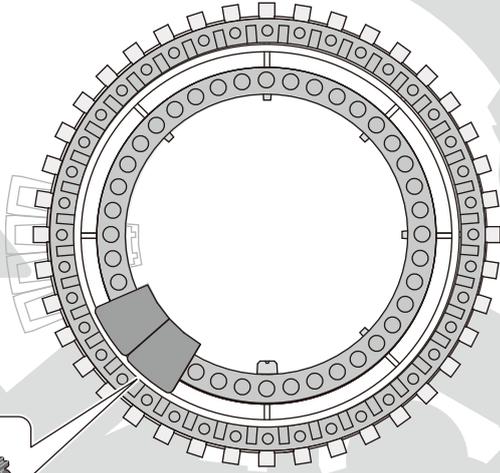
CODING

Insert the coding buttons as shown.

Note the position the sequence on both sides of the coding wheel.

CODING WHEEL

Left side



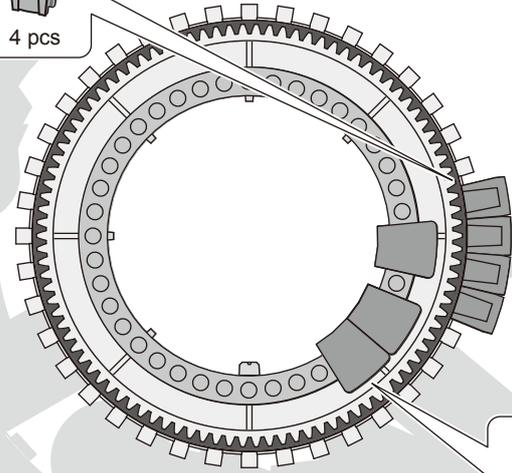
E8



2 pcs

CODING WHEEL

Right side



E5

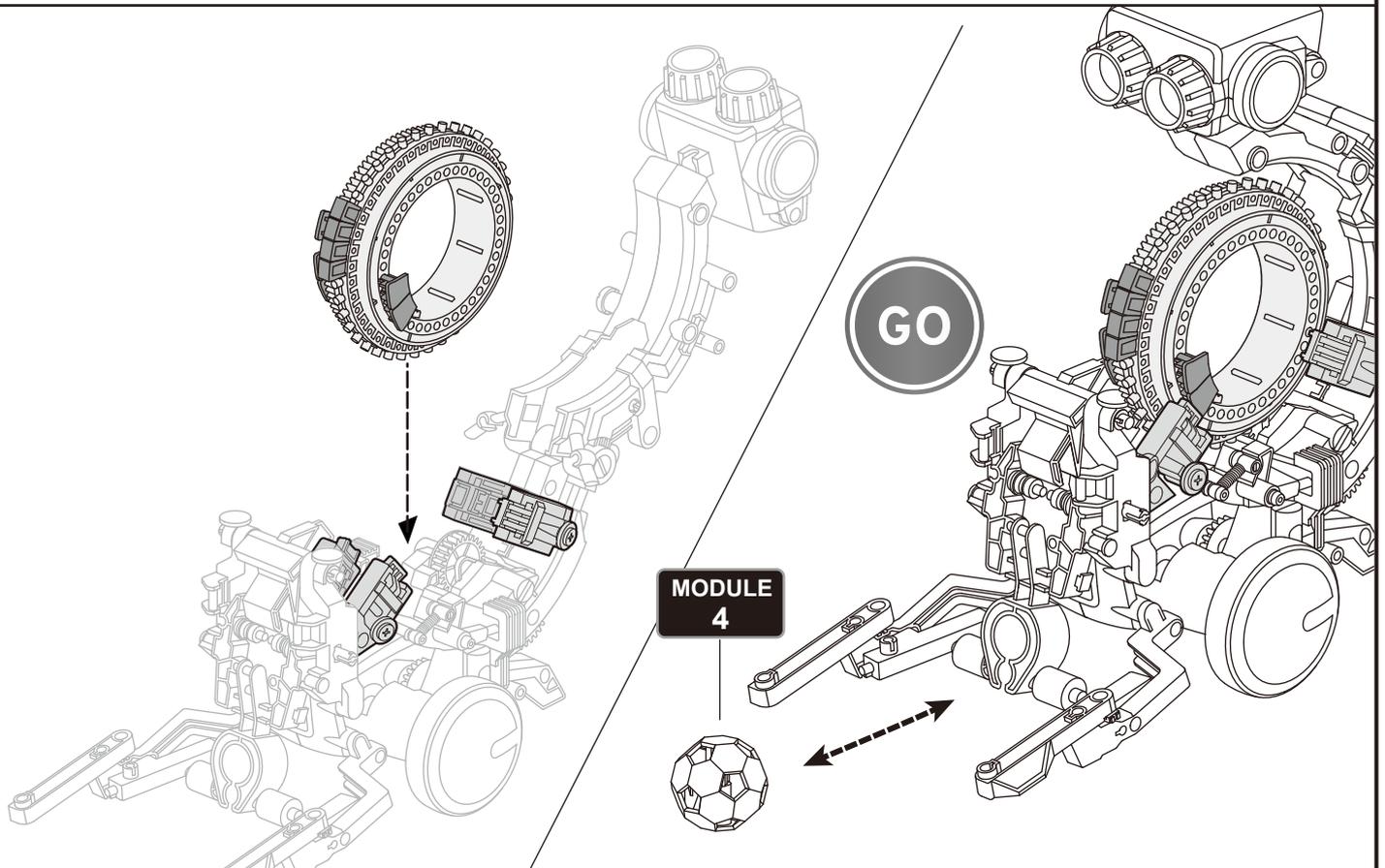


4 pcs

E8



3 pcs

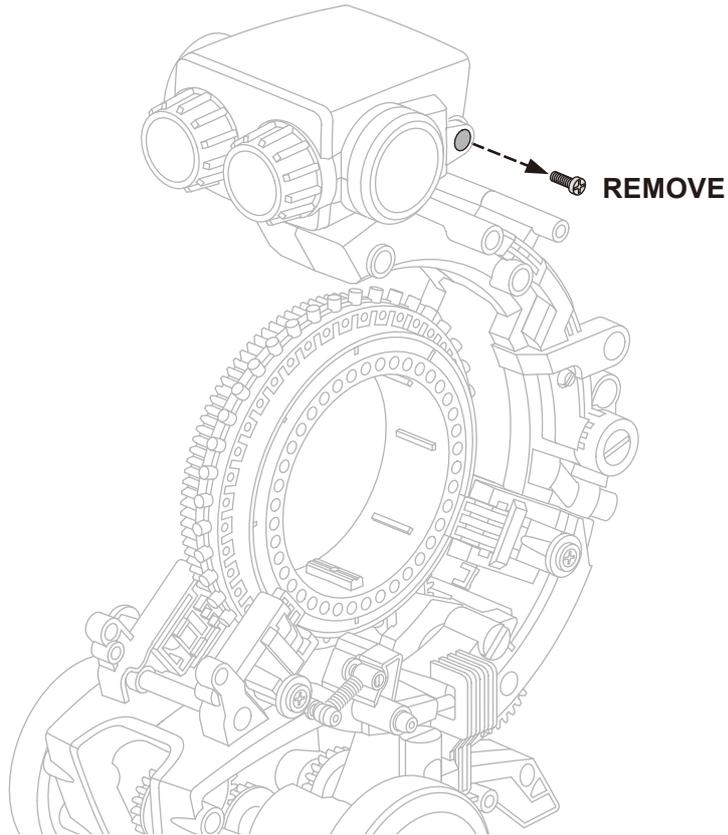


Trouble Shooting

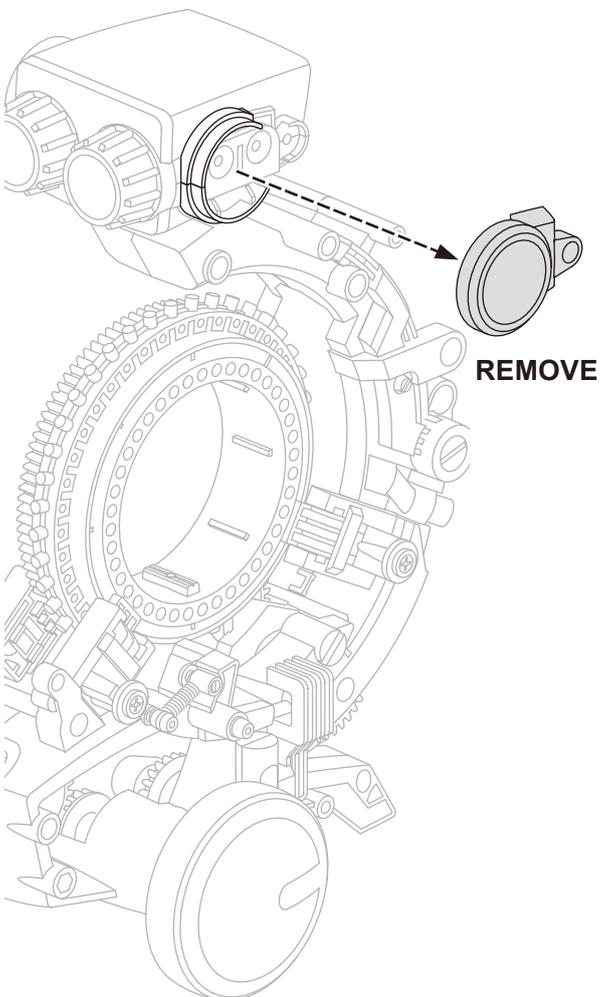
1. If it does not follow the coding program correctly, please go back to page 34 step 4 to check if part C16 is assembled in the right way.
2. Check the coding buttons and wheel installation, refer to pages 13-15
3. See page 37

How to Replace the Batteries

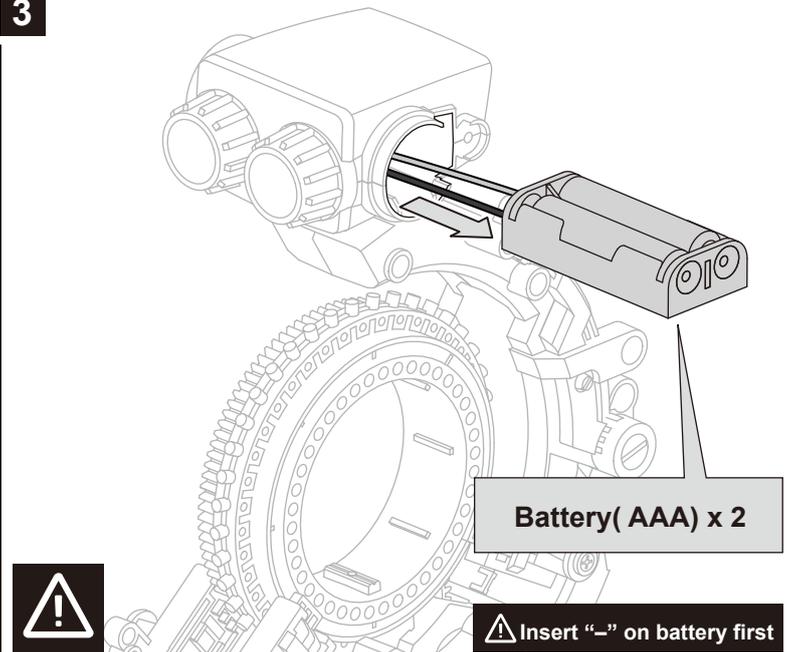
1



2



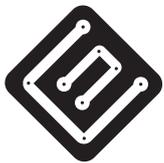
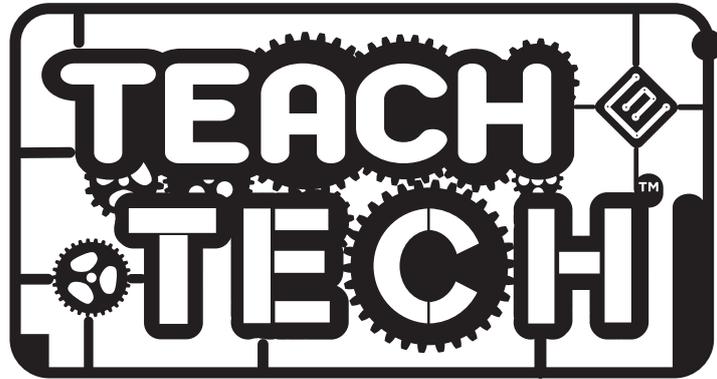
3



- Removal and replacement of batteries should be carried out by adults or under adult supervision.
- Avoid short circuiting the contacts in the battery compartment or the battery terminals.
- Do not mix used batteries and new batteries or batteries of different types.
- Do not mix alkaline, standard (carbon-zinc), or rechargeable (nickel-cadmium) batteries.
- Batteries are to be inserted with the correct polarity.
- Do not attempt to recharge non-rechargeable batteries.
- Remove exhausted batteries from the product to avoid leakage.

Trouble Shooting

1. Ensure all coding buttons are assembled correctly (refer to page 14).
2. Ensure the coding wheel is assembled correctly (refer to pages 15–17, steps **1**–**6**).
3. If the robot does not move smoothly or appropriately when turning right/left or stopping, please go back to pages 9–10 and ensure steps **18** – **21** are correctly executed.
4. If the robot does not move smoothly or appropriately when going backward, please go back to page 6 step **7** to check if parts **B5**, **B7**, and **D12** are assembled in the right way.
5. If the Drawing-bot does not follow the coding program correctly, please go back to page 21 step **2** to check if parts **D3** and **C15** are assembled in the right way.
6. If the Forklift-bot does not follow the coding program correctly, please go back to page 26 to check if part **E5** is assembled in the right way.
7. If the Throwing-bot does not follow the coding program correctly, please go back to page 17 step **5** to check if parts **E21** and **E22** are assembled in the right way.
8. If the Gripper-bot does not follow the coding program correctly, please go back to page 31 step **5** to check if part **C16** is assembled in the right way.
9. If the Soccer-bot does not follow the coding program correctly, please go back to page 34 step **4** to check if part **C16** is assembled in the right way.



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150 Carpenter Ave.
Wheeling, IL 60090, USA

(847) 541-3800 or (800) 533-2441
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