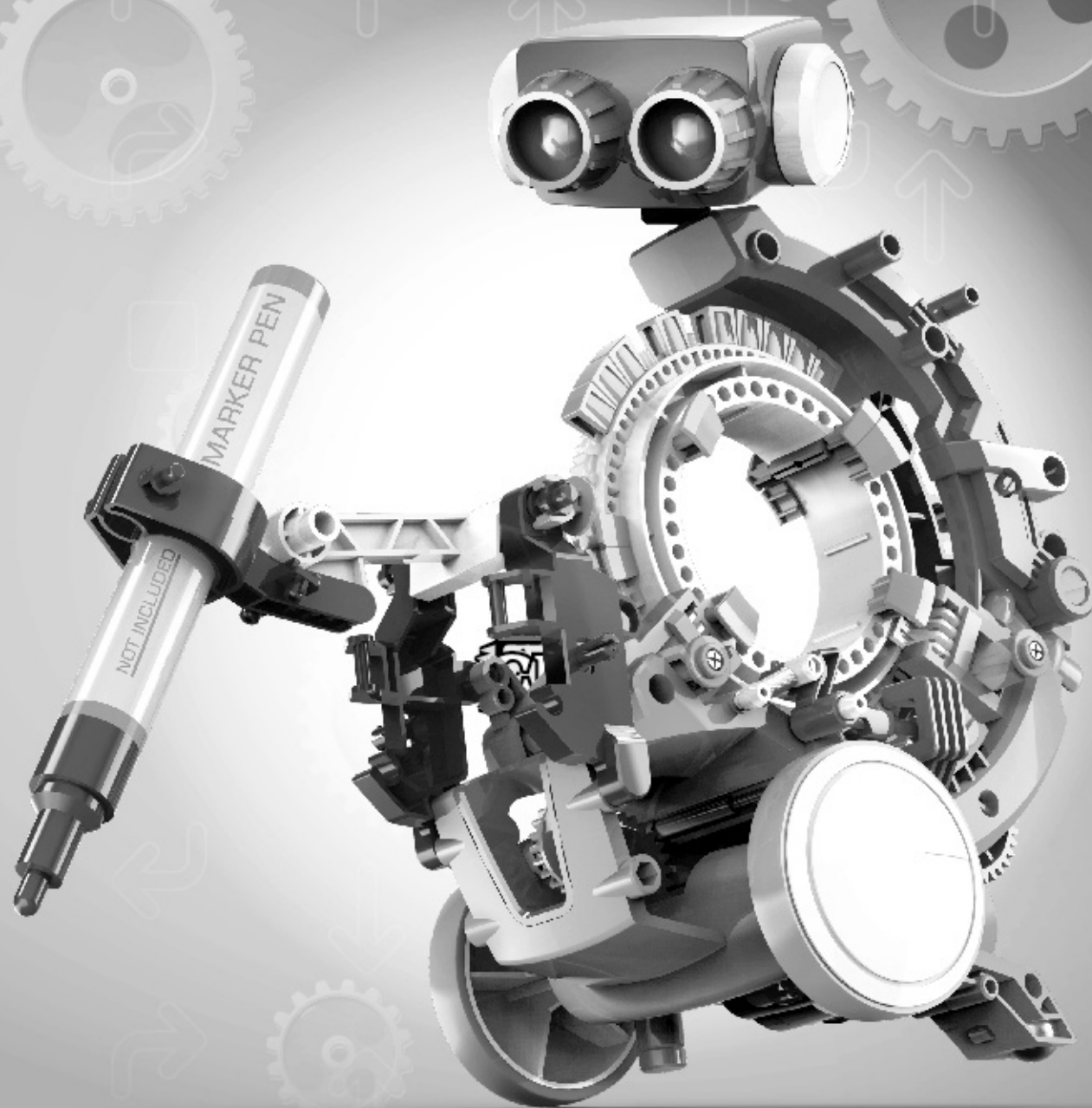


5ⁱⁿ1 Mechanical CODING robot



Assembly & Instruction
Manual

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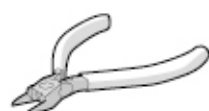
5 IN 1 Mechanical Coding Robot

Product Introduction

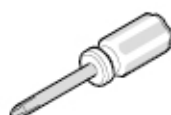
The mechanical coding wheel is placed into the heart of the robot to steer its coded courses and tasks. Coding is easily implemented by snapping the coding buttons onto the wheel and having the robot perform its basic functions – go forward, backward, right/left turn, spin or pause. Thanks to this easy to follow approach, coding and performing the tasks (such as throwing, lifting, kicking or drawing), become more interesting and challenging as the user's skills increase.

This mission-based, entry level STEM coding robot is designed to inspire users to learn about mechanical engineering and coding basics. It encourages children to think while also developing their problem-solving 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



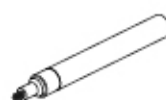
Diagonal Cutter



Screwdriver



Ruler














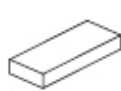
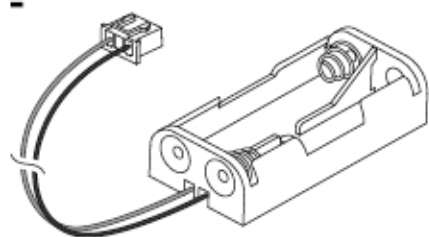
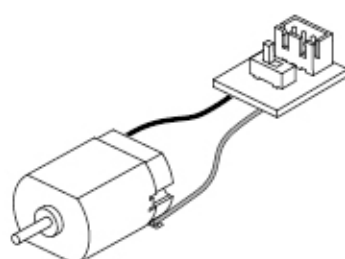
Marker Pen (Fine)



Battery(AAA) x 2
Alkaline batteries are recommended

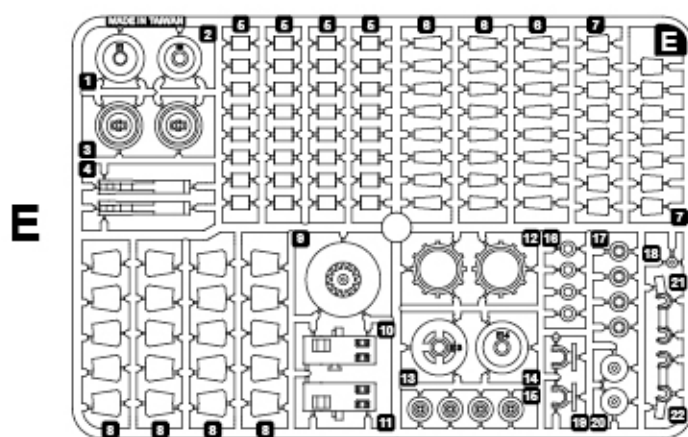
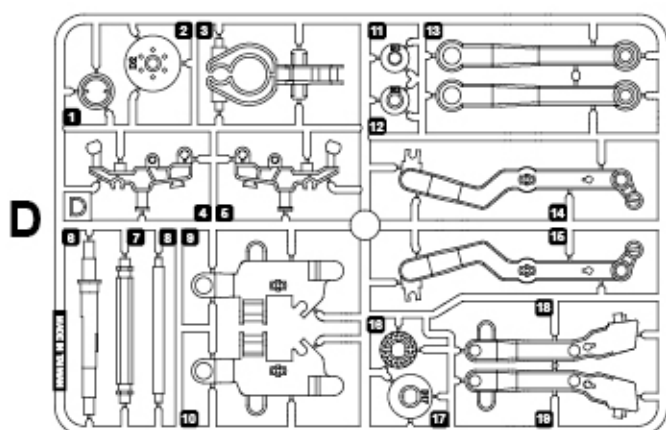
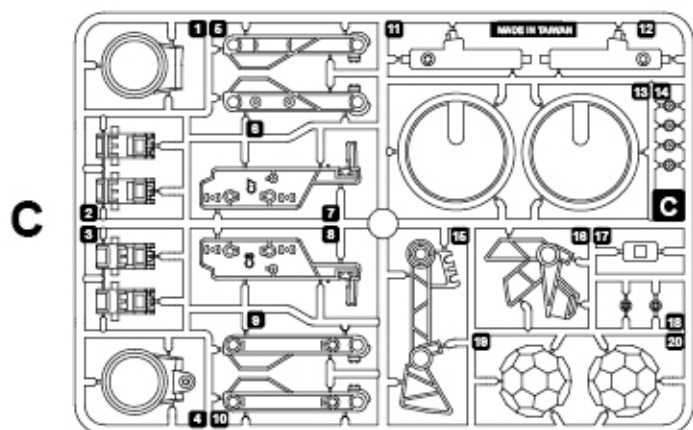
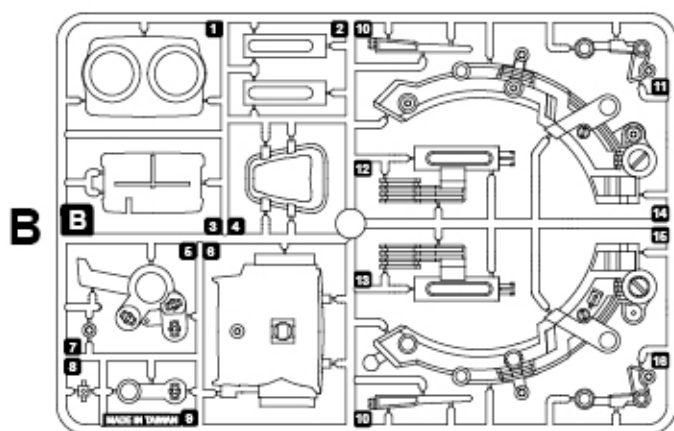
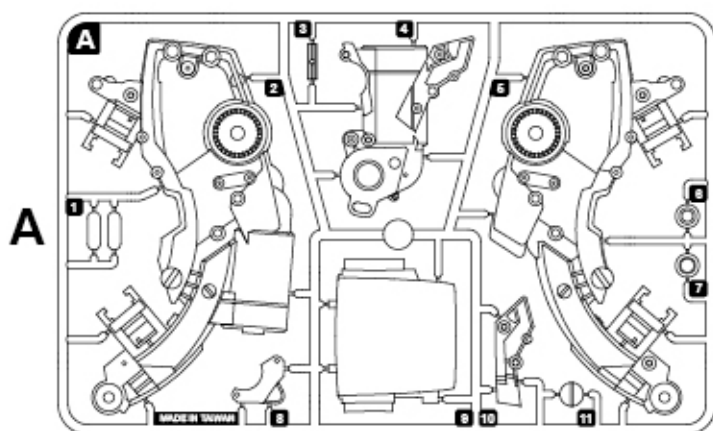
Mechanical Parts List

! Product contains functional edges and sharp points.

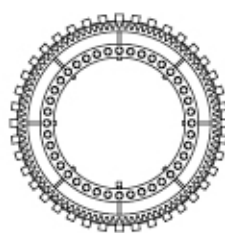
P1	Pinion Gear (White)	P2	Gear 36/10T (Black)	P3	Gear 36/10T (Yellow)	P4	Gear 36T (Orange)
 1 pc		 1 pc		 2 pcs		 1 pc	
P5	Gear 10T (Black)	P6	Shaft	P7	Tapping Screw	P8	Spring (Small)
 1 pc		 2 pcs		  1:1 15 pcs		 2 pcs	
P9	Spring (Big)		P10	Steel Ball		P11	Spong
 2 pcs			 1 pc			 2 pcs	
P12	Battery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

Plastic Parts

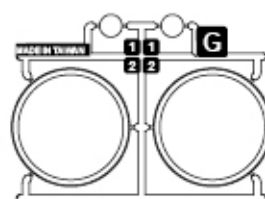
! Cut off the plastic parts when they are required.
Do not cut them in advance.



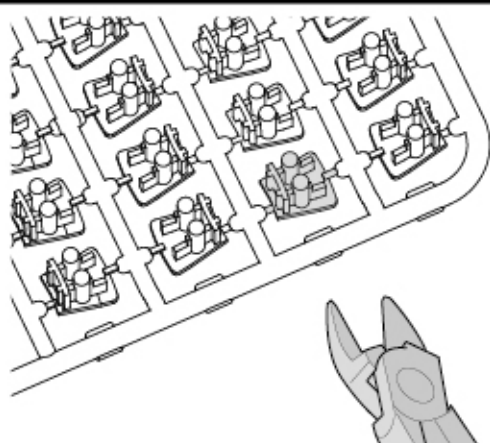
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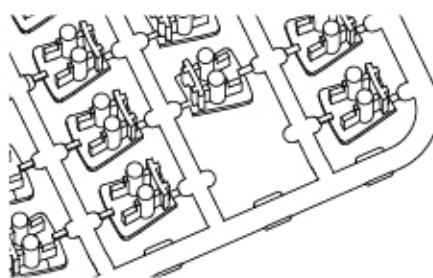
G



Tip: Cut Off the Burrs Before Assembly



burr



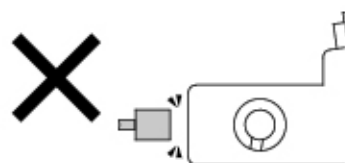
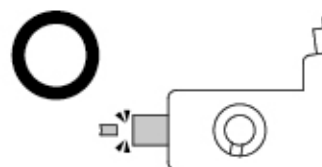
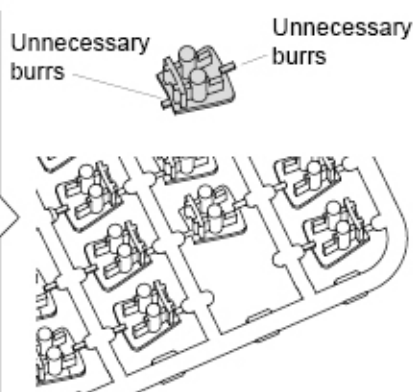
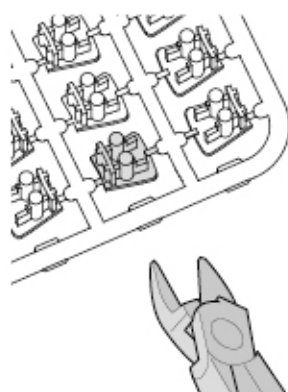
Must-know



Read It Before Assembly

Please read through and follow the tips below before assembly.

Remove burrs



It happens a lot 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.

Trim off the burrs ONLY. Do not trim off the protrusion belonged to 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.

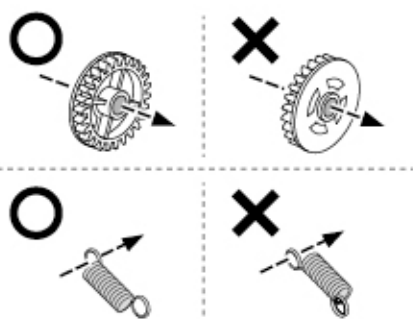
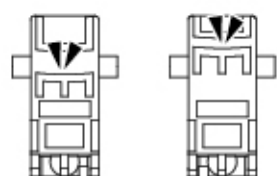


Please lock screws all the way down to the bottom. If they are not fastened tightly enough, parts may come off. The robot may consequently not work.

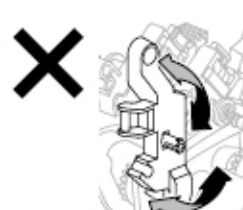
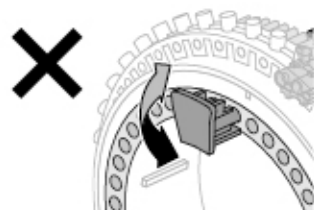
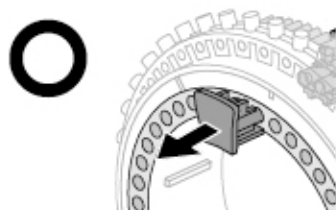


Shape, assembly direction, and position of parts

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

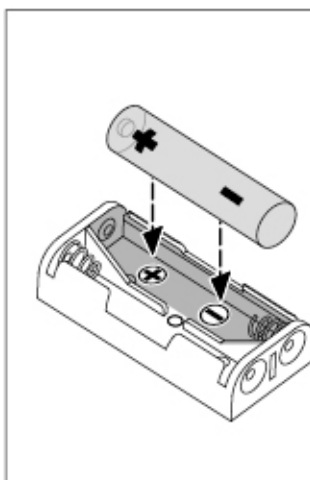
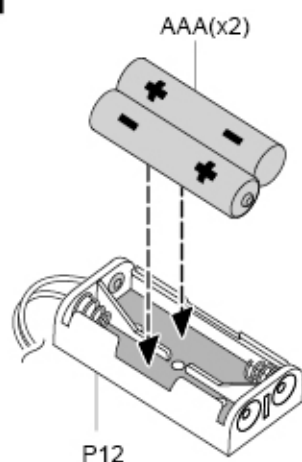


Coding buttons can be removed for new programming. Remove them straight up off the coding wheel. Do not torque them to avoid damage.



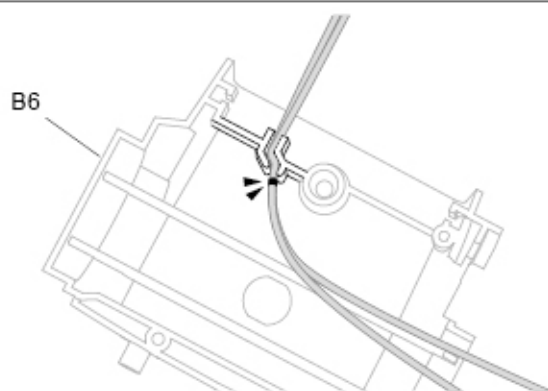
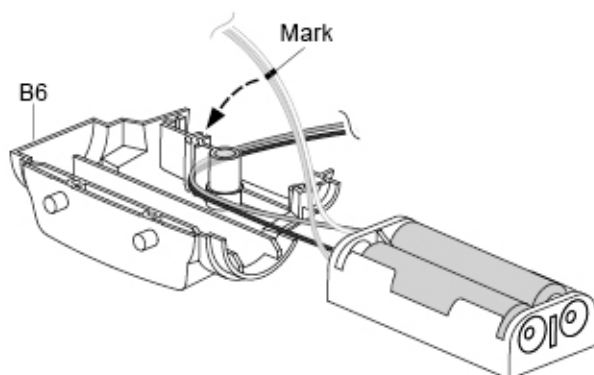
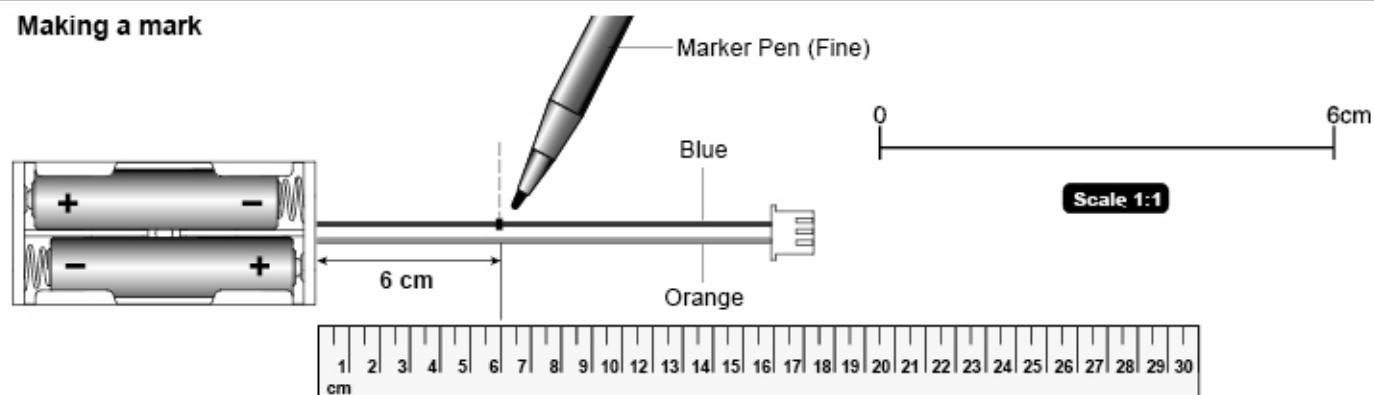
Head Module Assembly

1

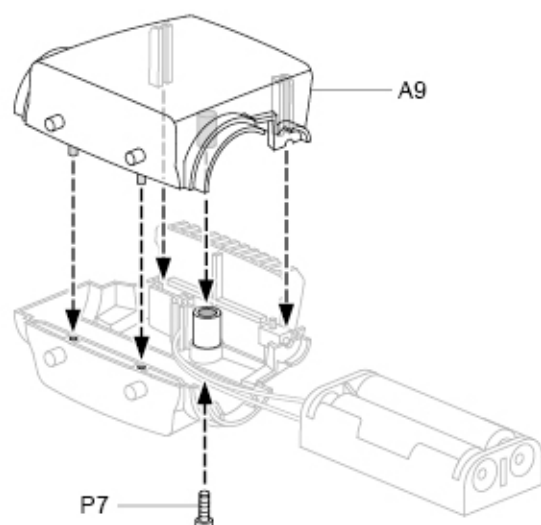
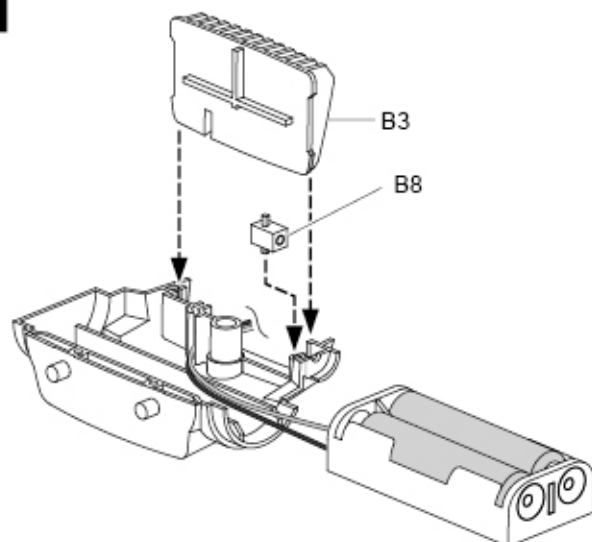


- Removal and replacement of batteries should be carried out by adults or under adult supervision.
- Avoid short circuiting the contacts in the battery compartment or the battery terminals.
- Do not mix used batteries and new batteries or batteries of different types.
- Do not mix alkaline, standard (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.

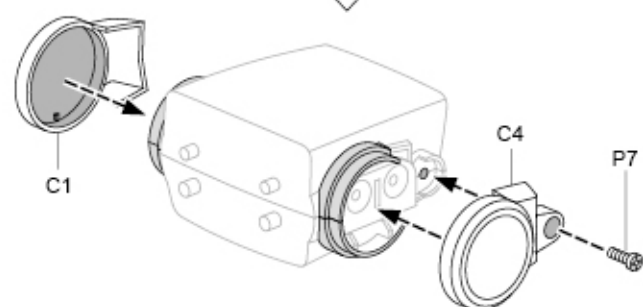
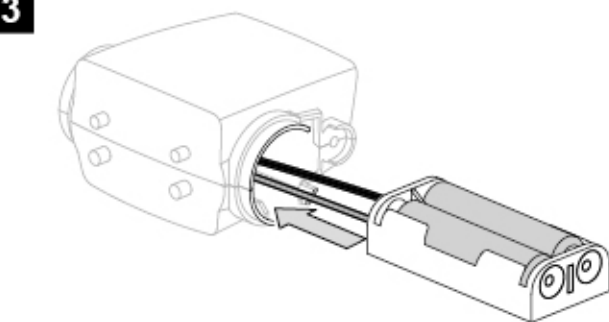
Making a mark



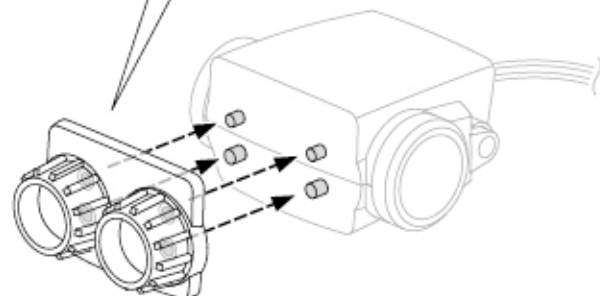
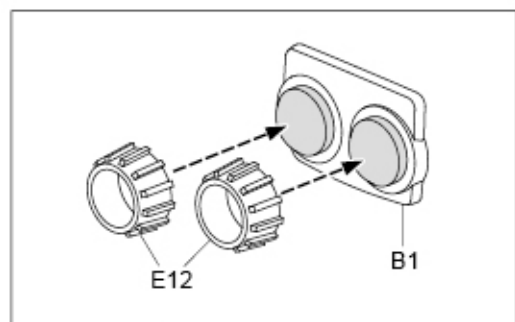
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3

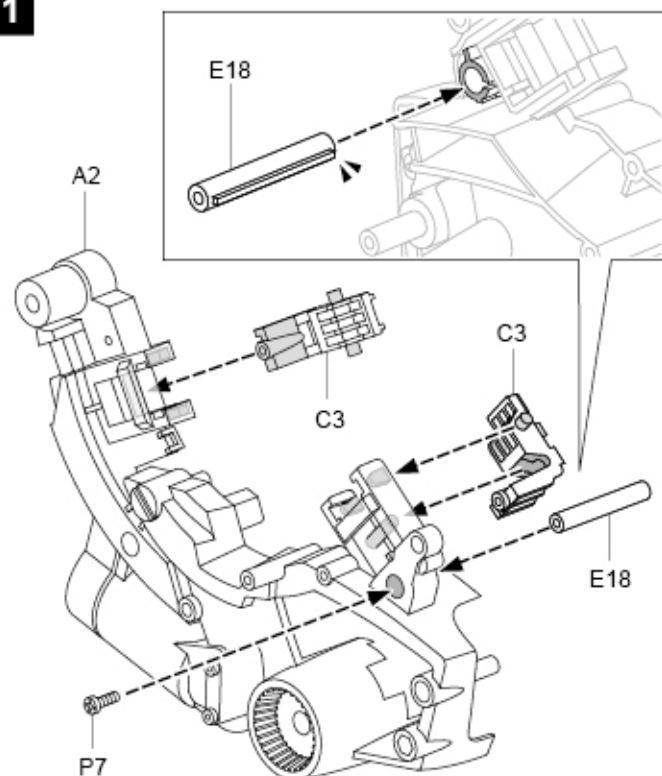


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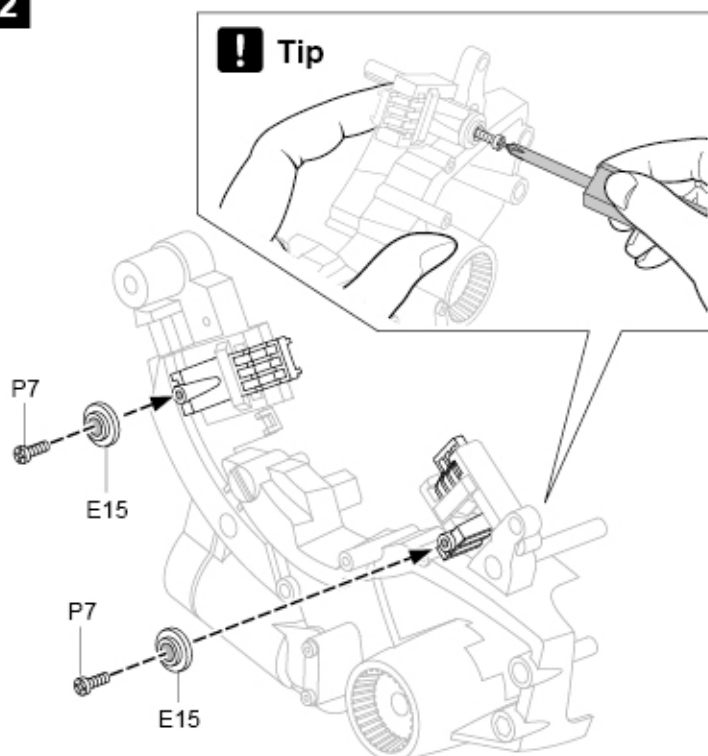


Gear Box Module Assembly

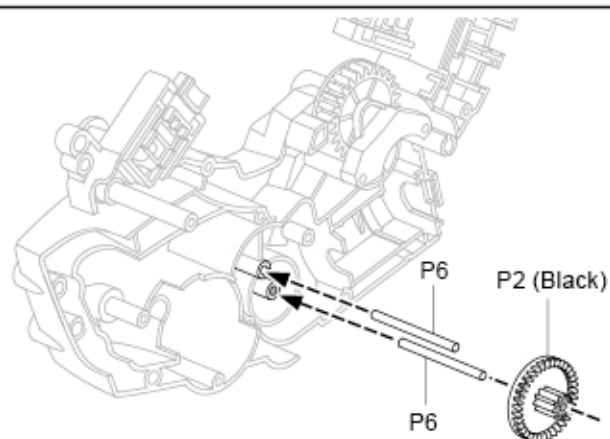
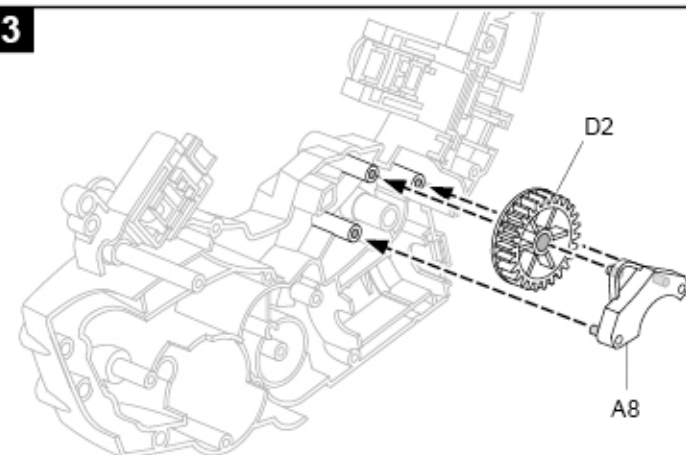
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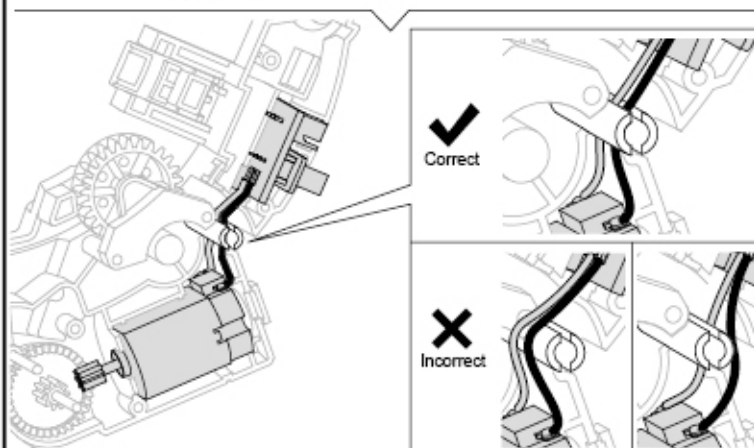
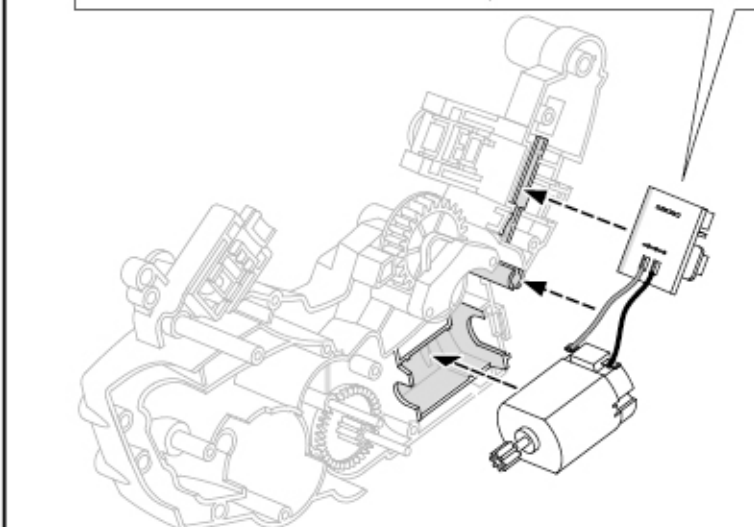
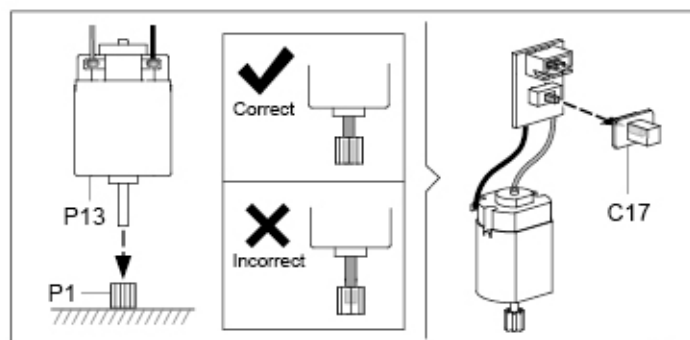
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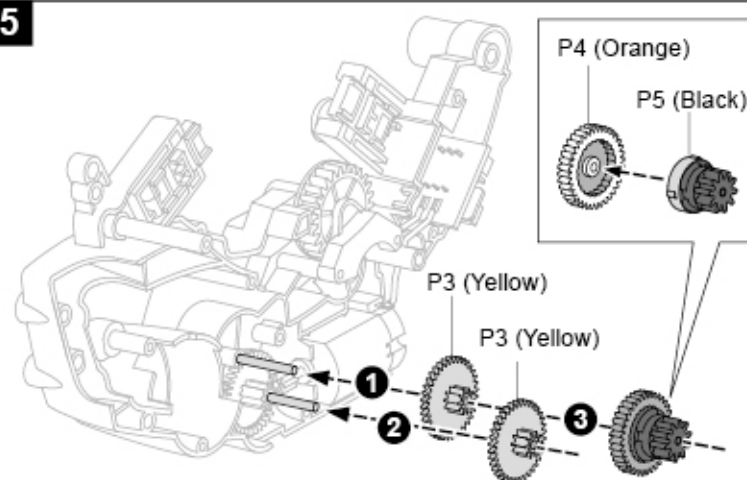
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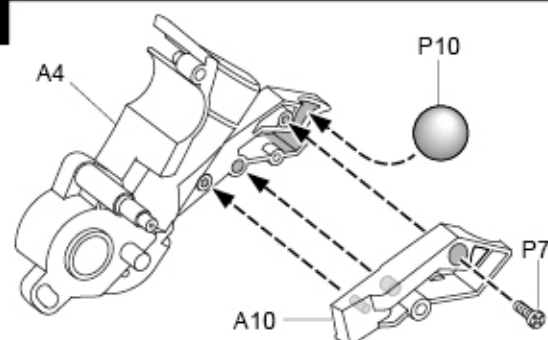
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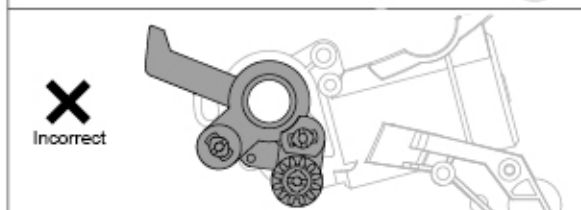
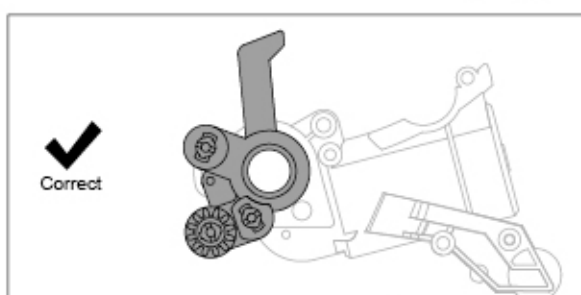
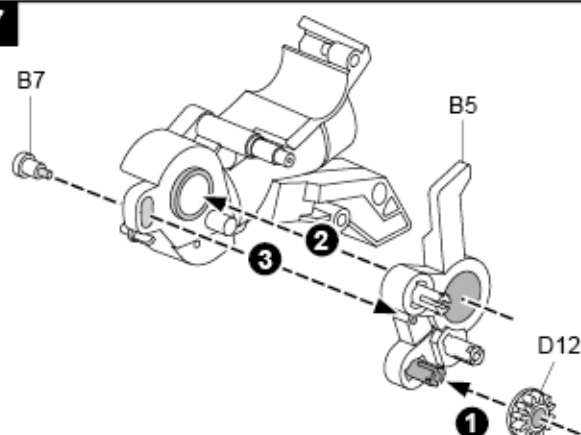
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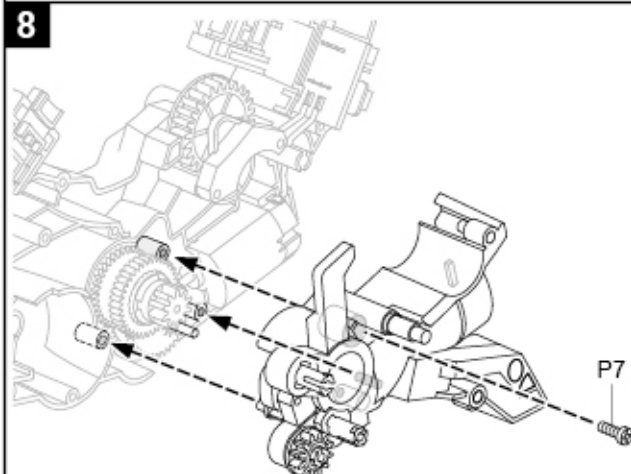
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7

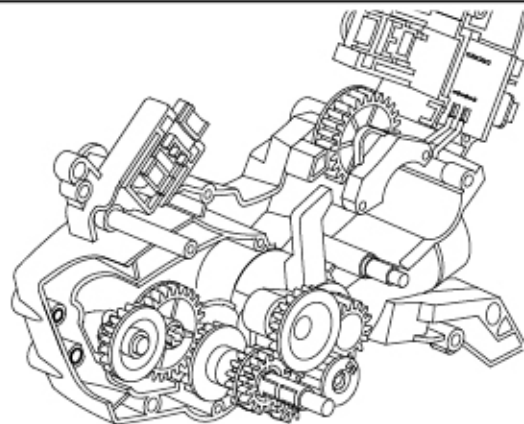
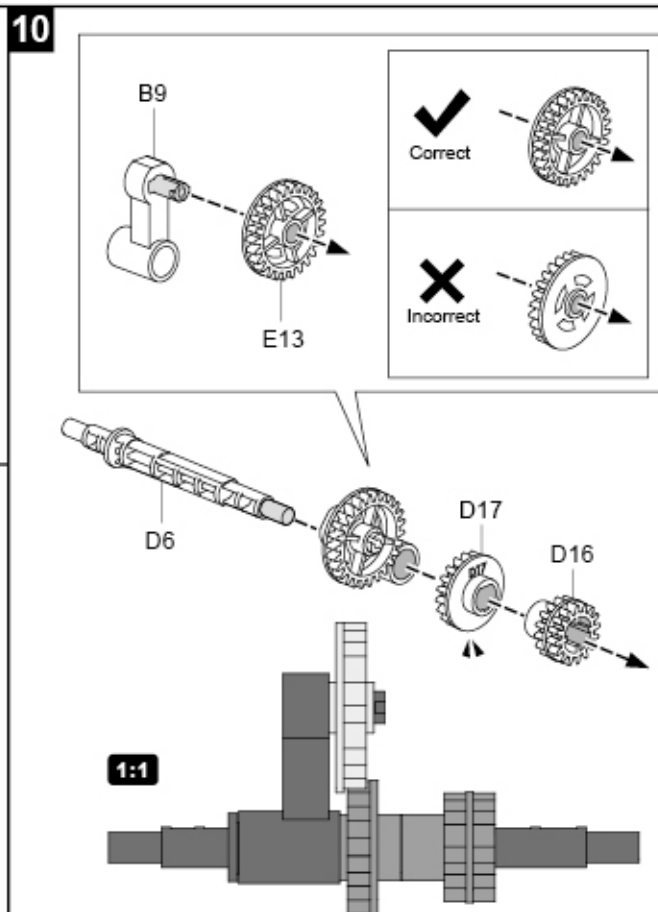
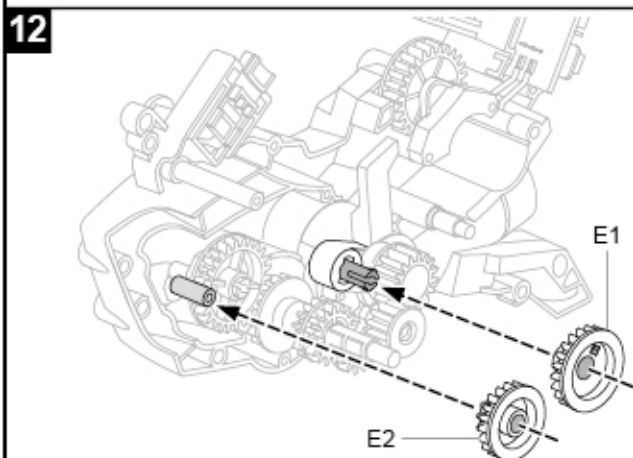
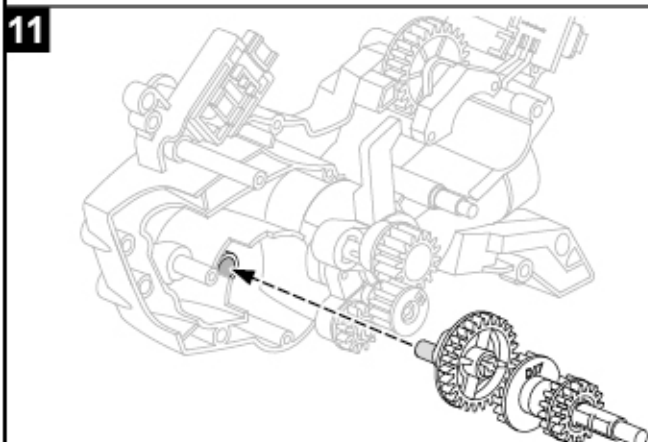
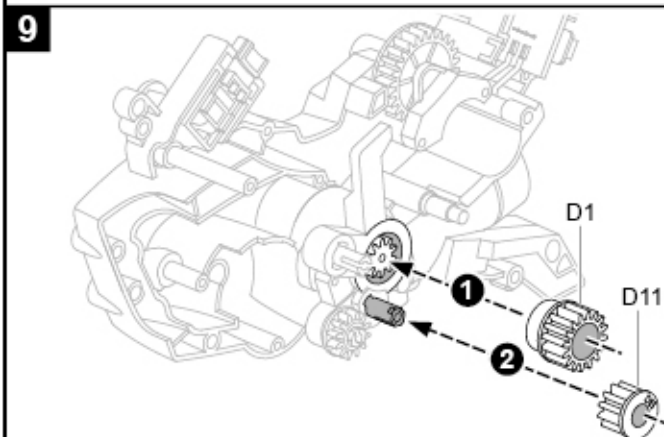
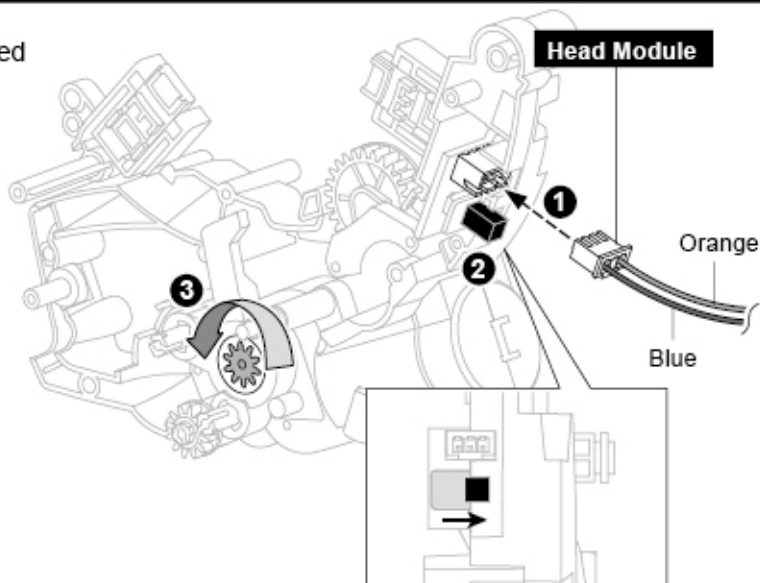


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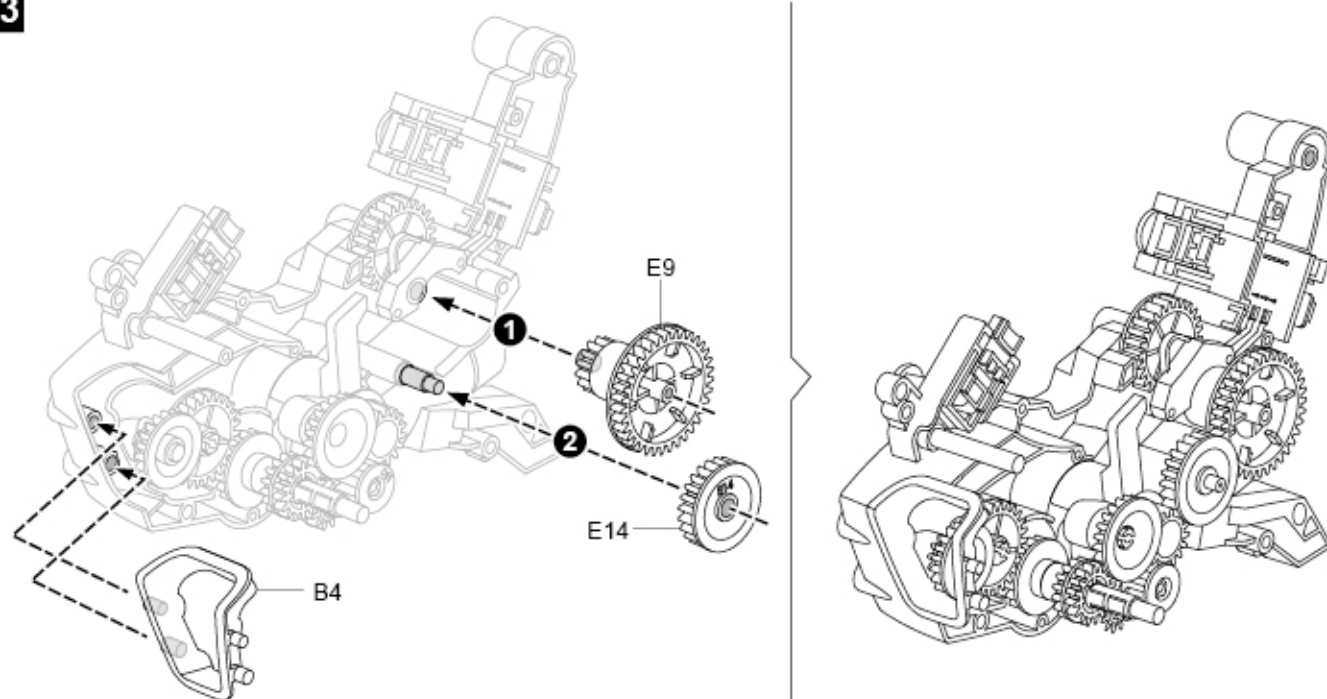


Rear Gear Box Testing (1)

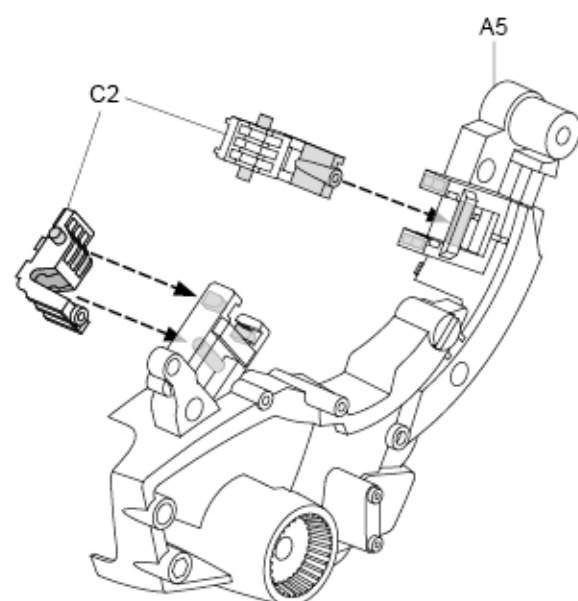
- 1** Fully connect the power supply cable of assembled head (refer to page 4 Head Module Assembly) to the terminal base.
- 2** Push the switch to the right to turn the power on.
- 3** The gear will run counterclockwise as illustration.
- 4** Switch off and remove the power supply cable after the testing.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



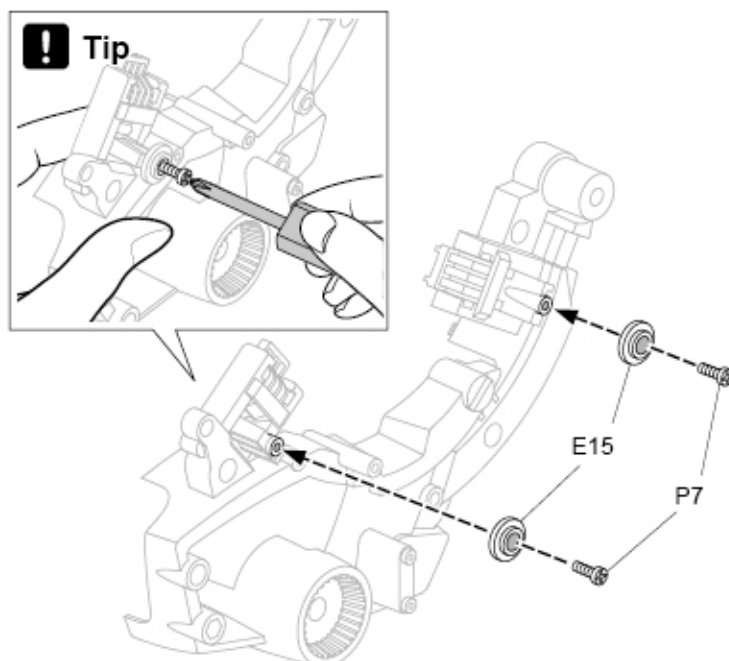
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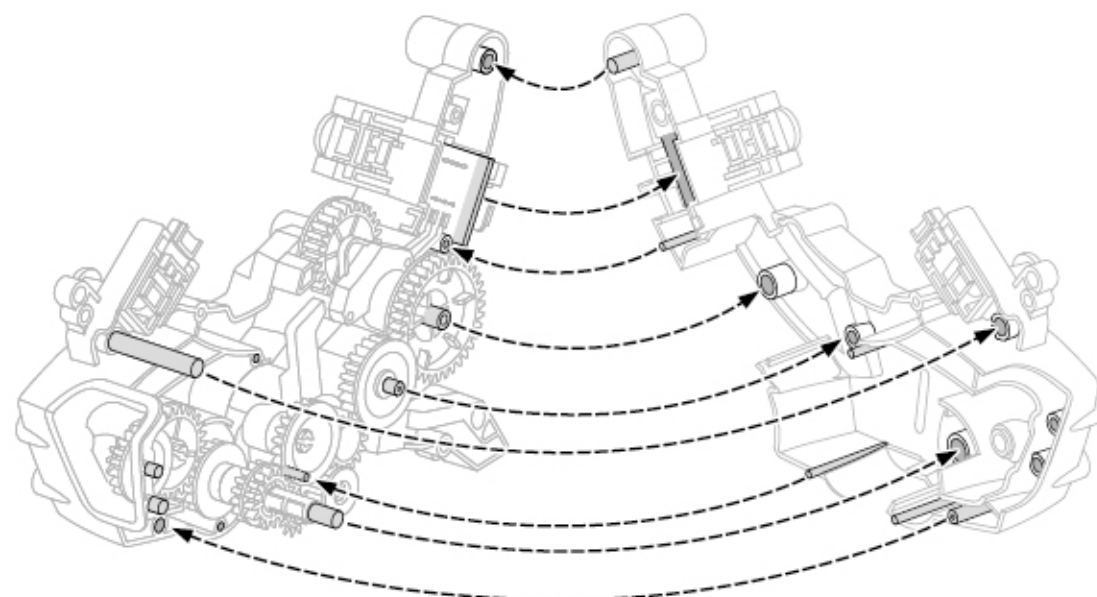
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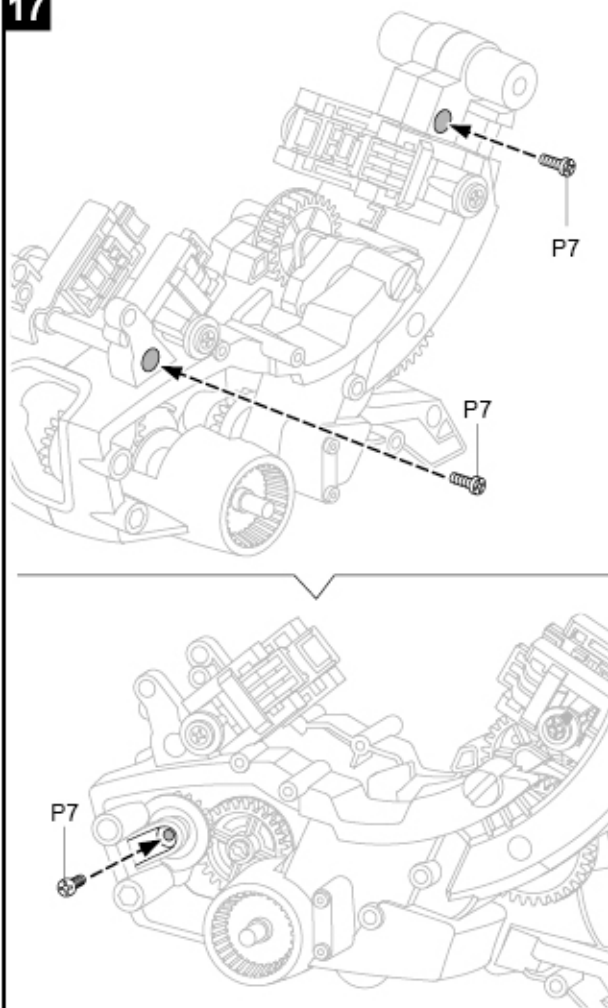
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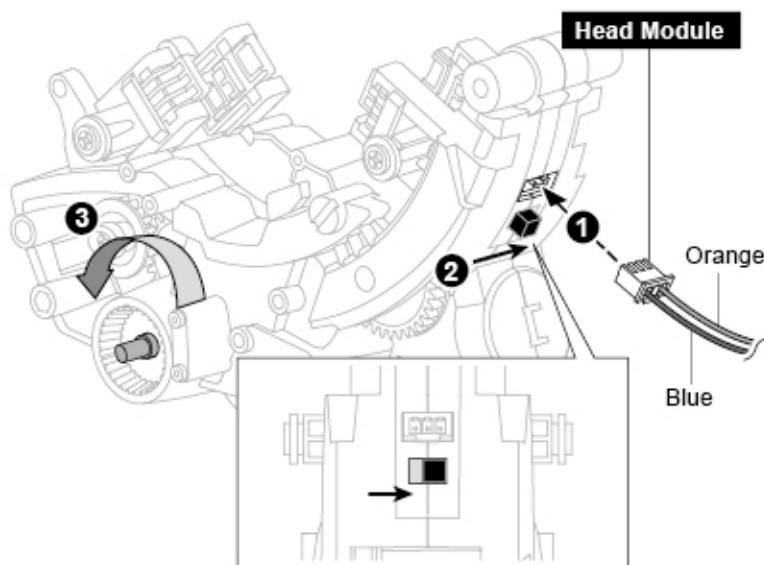


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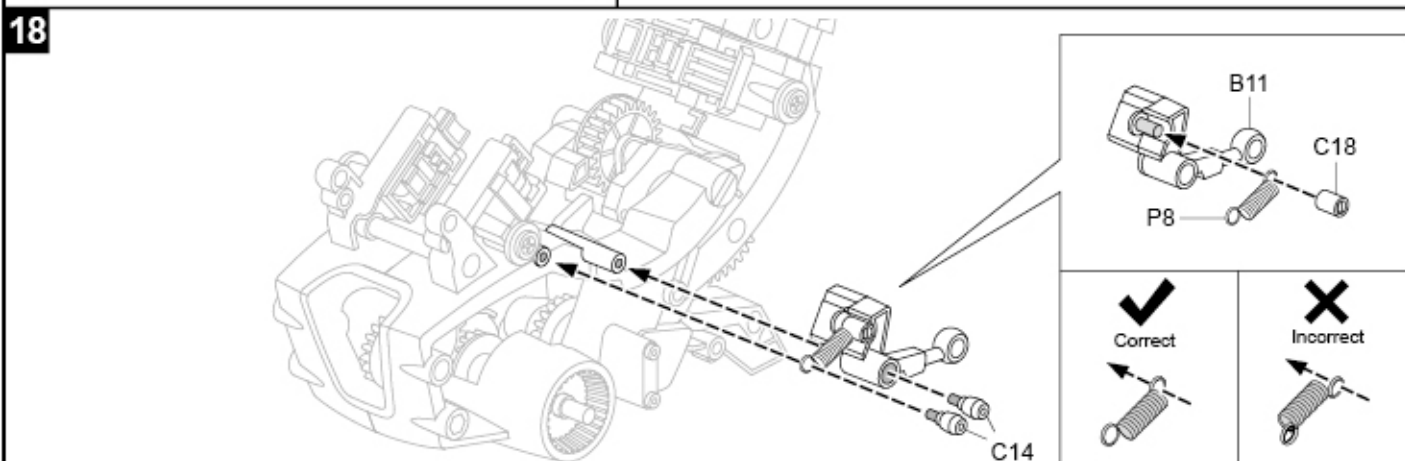


Rear Gear Box Testing (2)

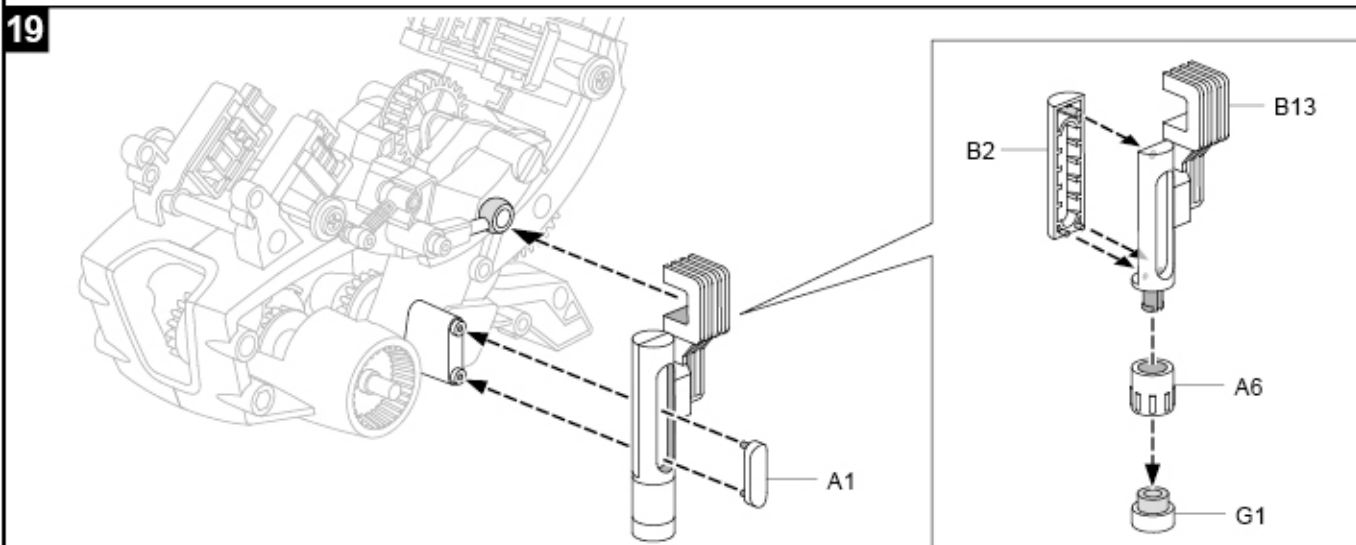
- ❶ Fully connect the power supply cable of assembled head (refer to page 4 Head Module Assembly) to the terminal base.
- ❷ Push the switch to the right to turn the power on.
- ❸ The gear will run counterclockwise as illustration.
- ❹ Switch off and remove the power supply cable after the testing. If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



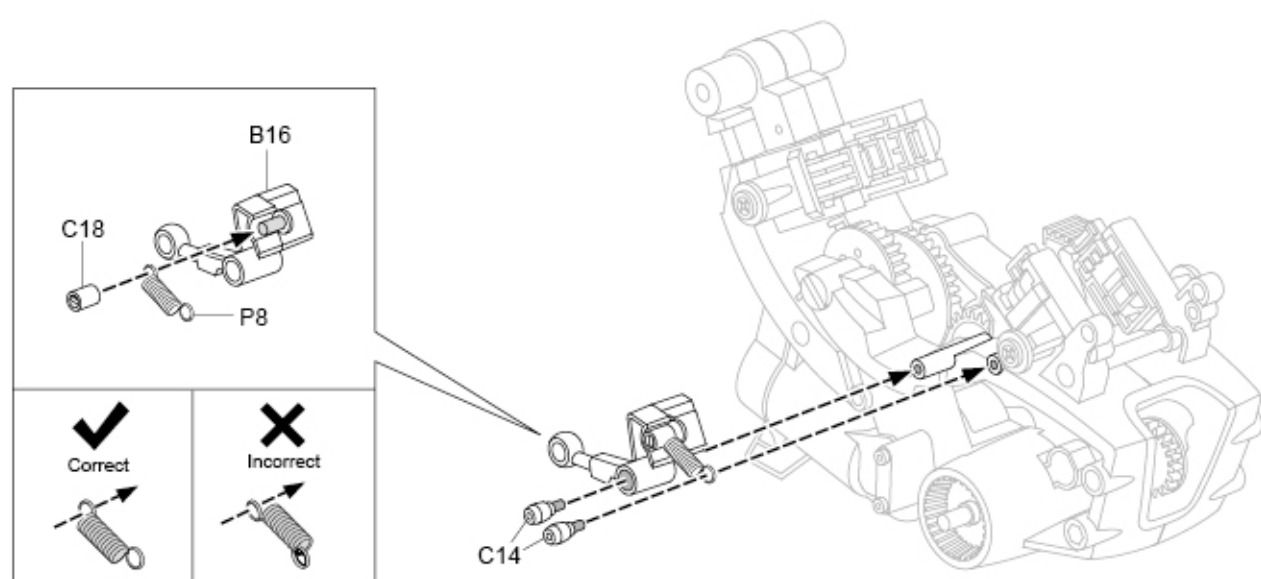
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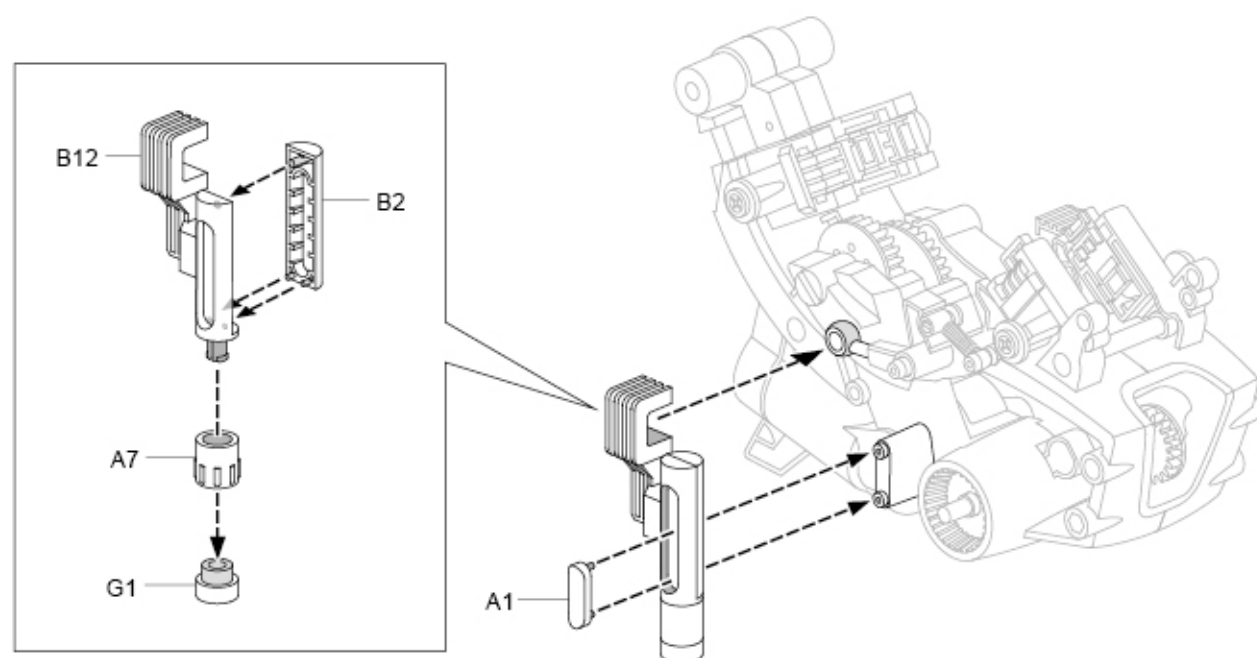
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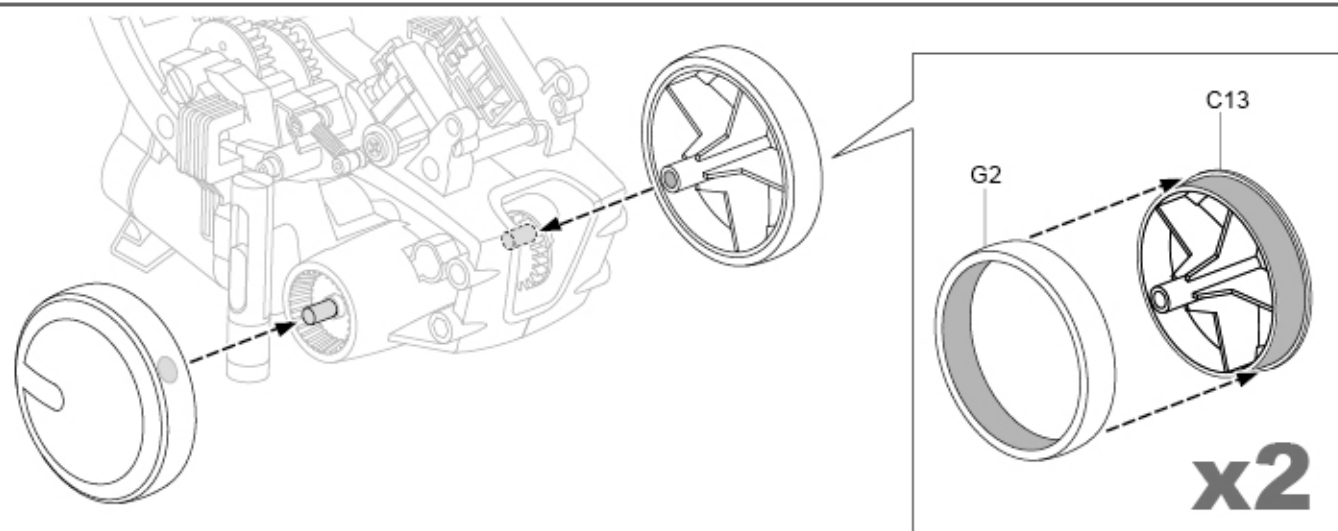
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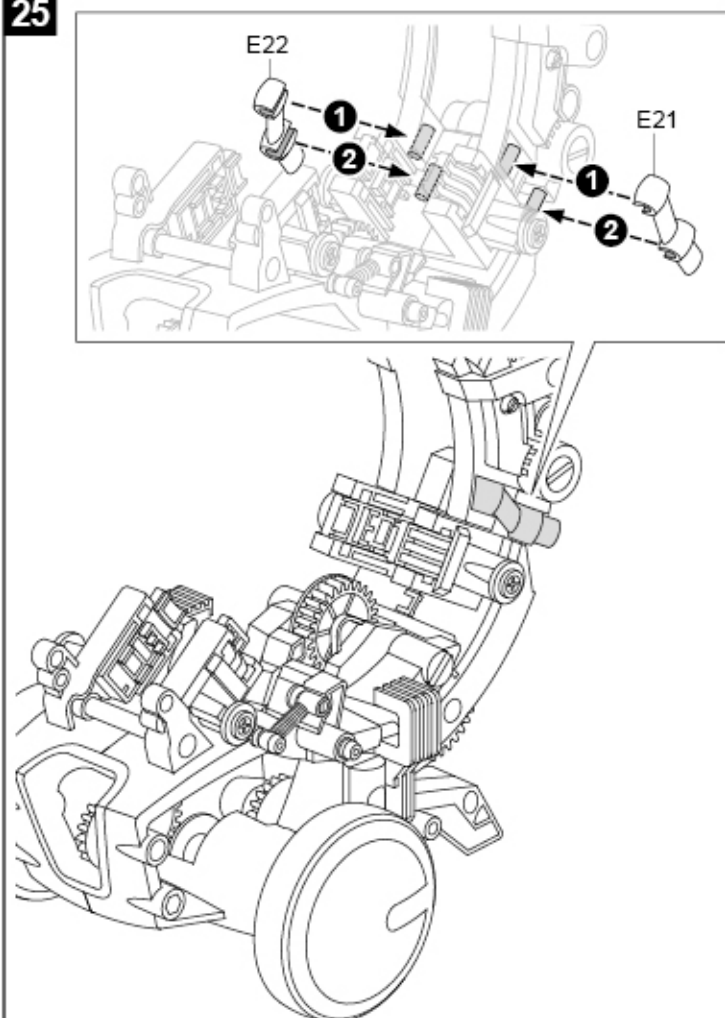
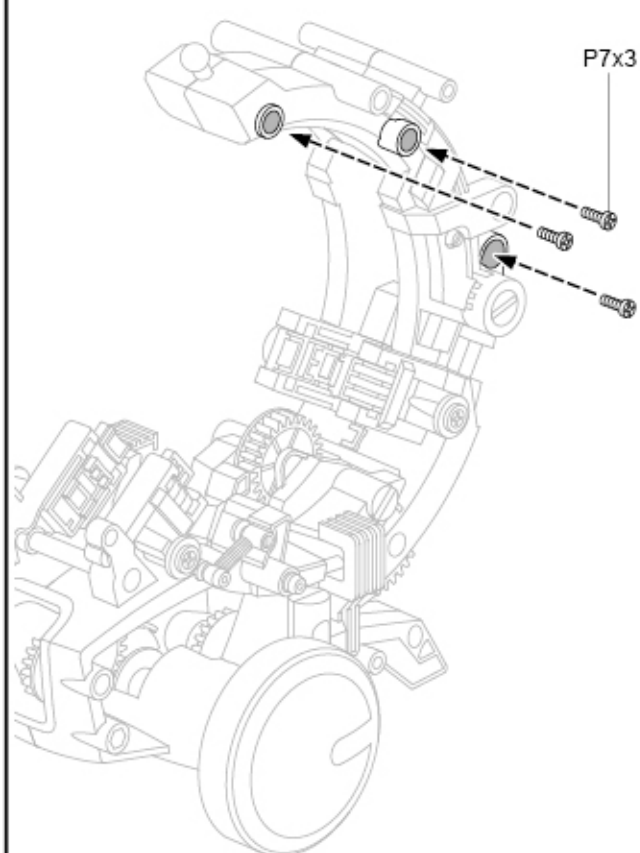
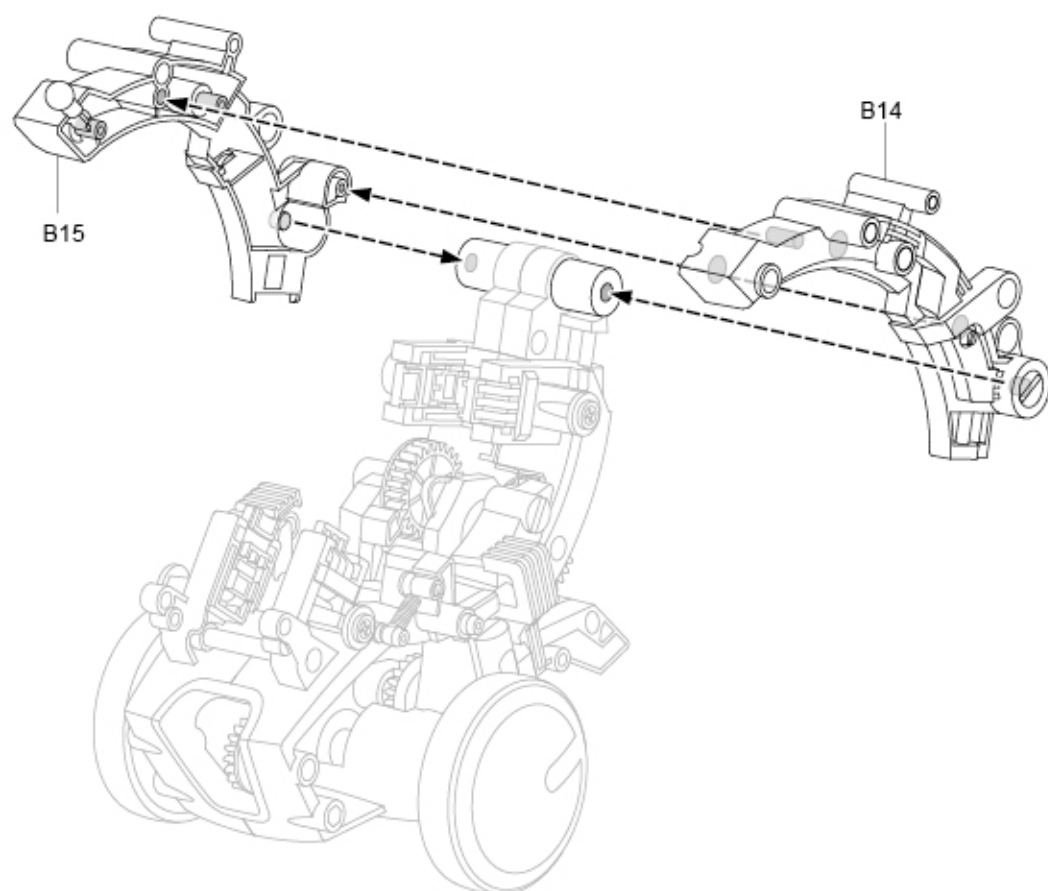


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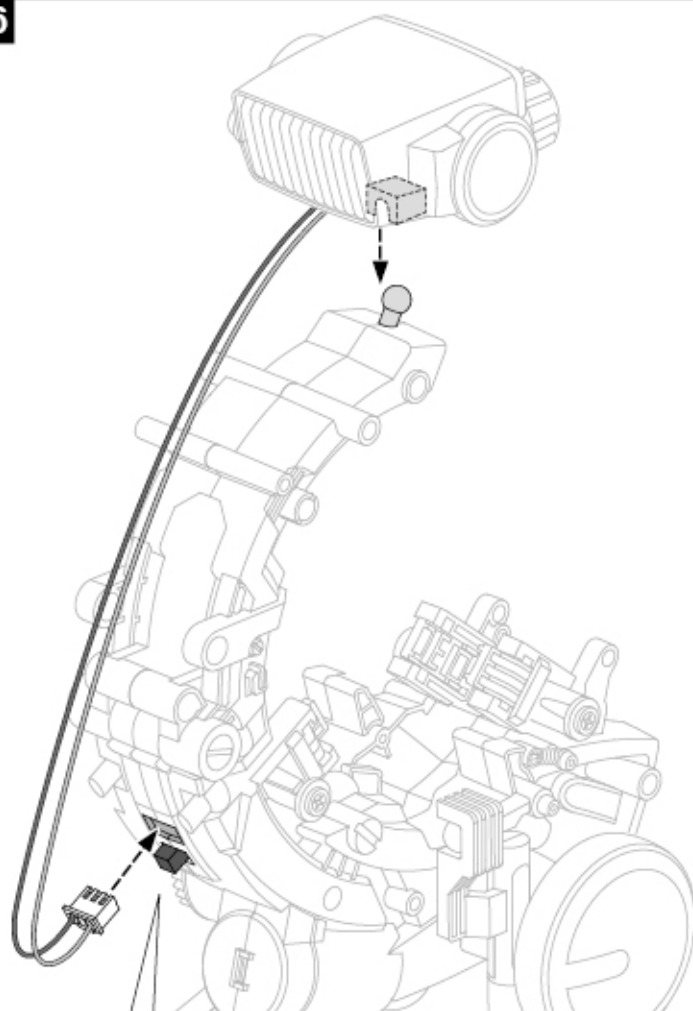


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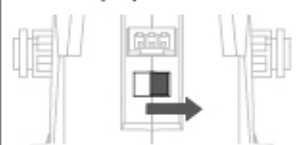
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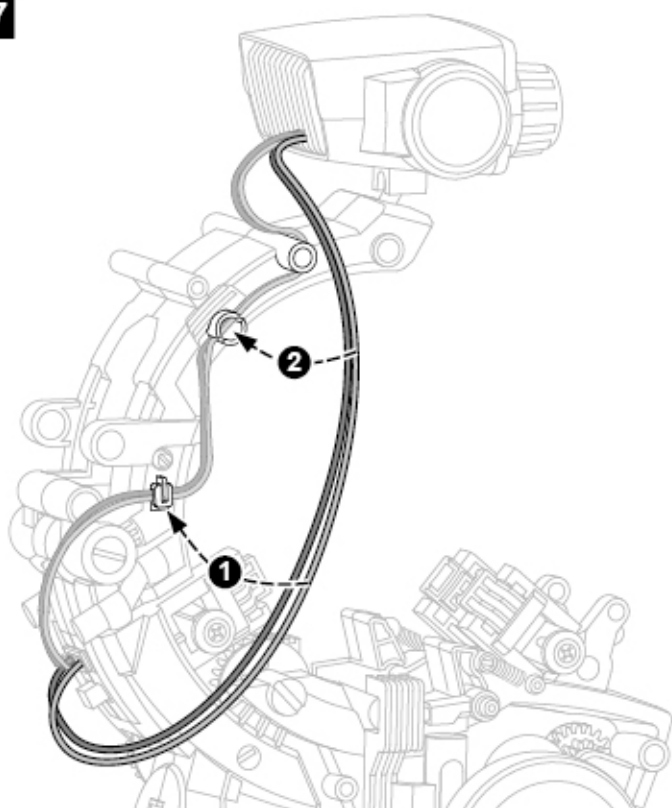
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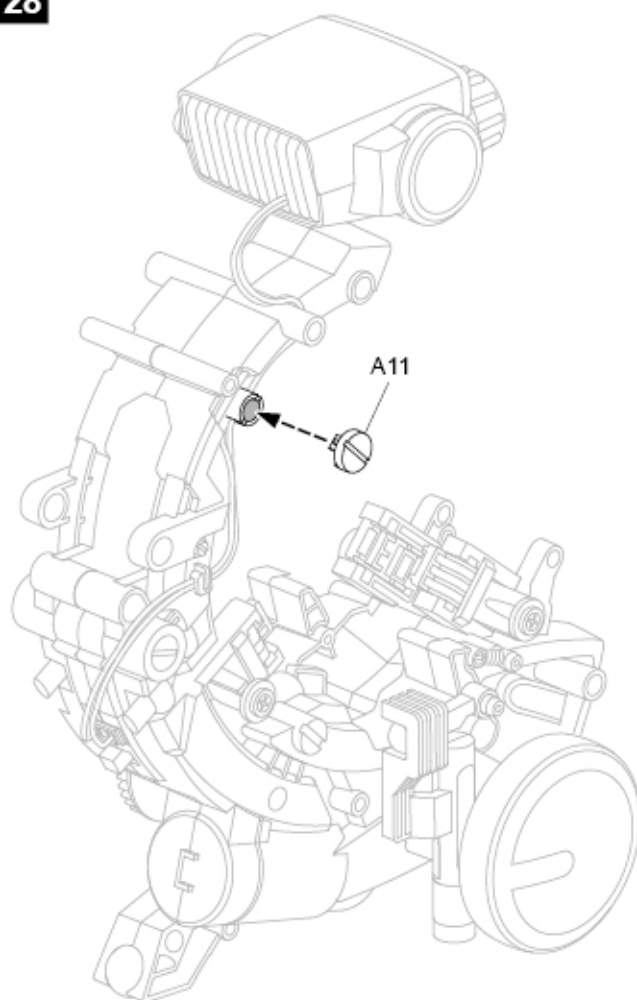
Incorrect



27

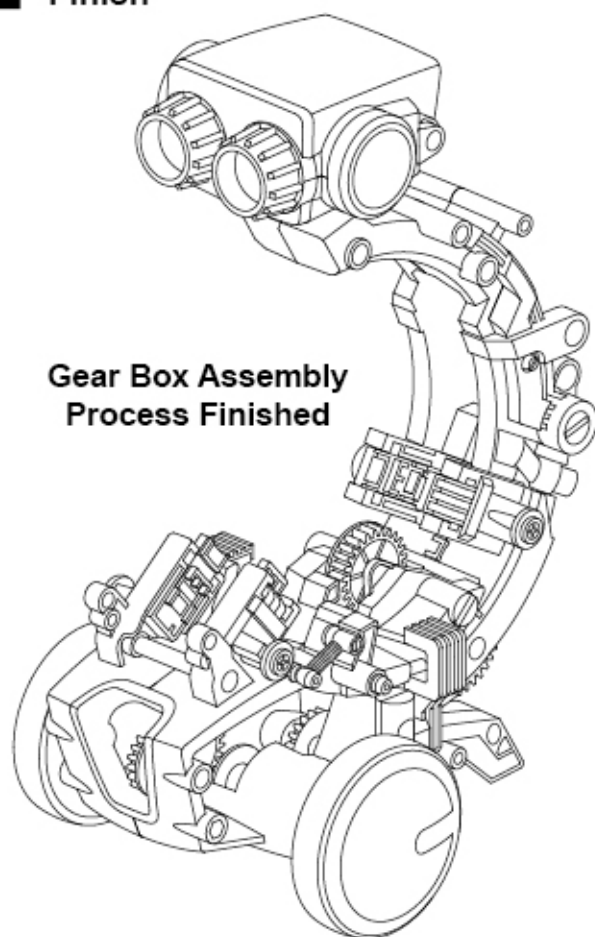


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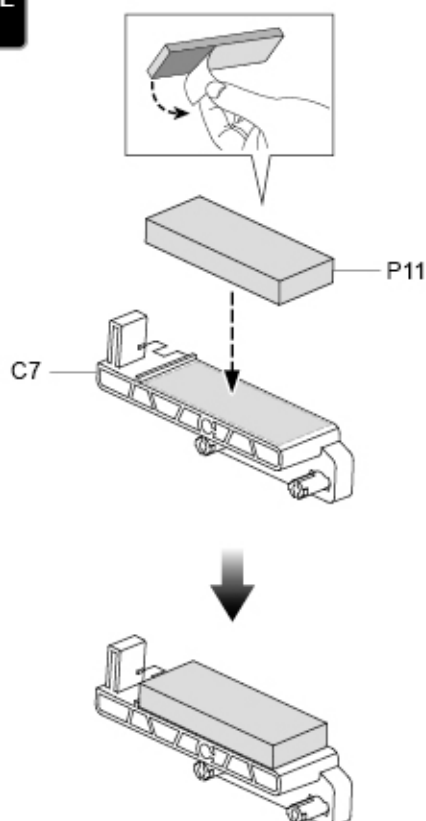
29

Finish

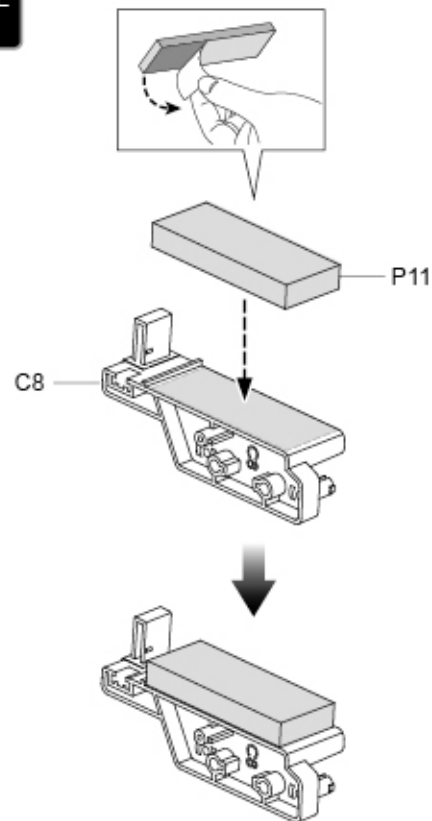


Accessory Module Assembly

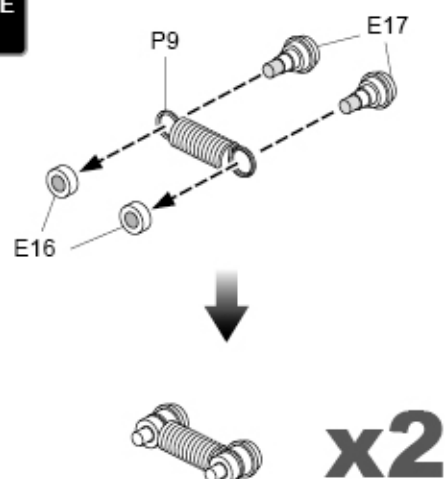
MODULE 1



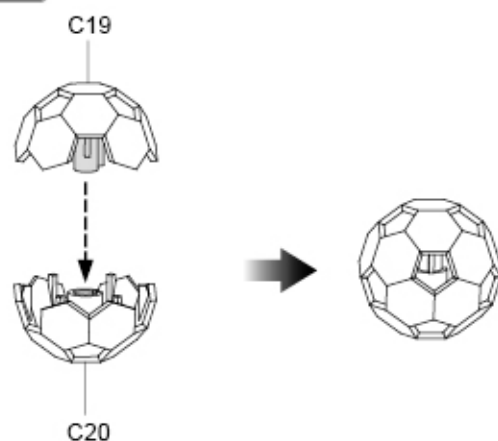
MODULE 2



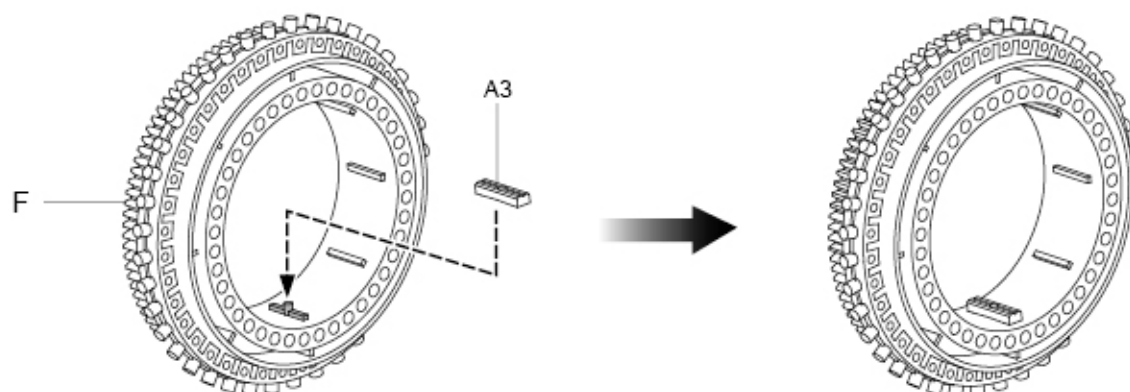
MODULE 3



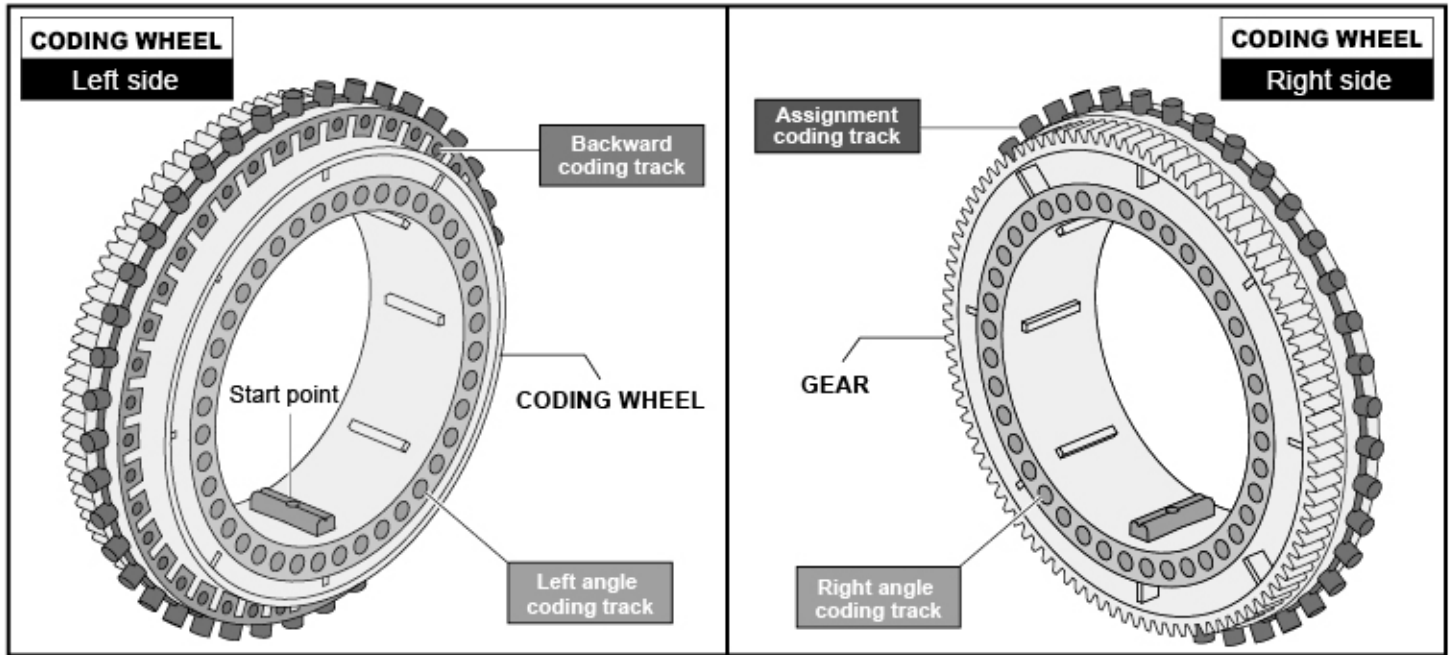
MODULE 4



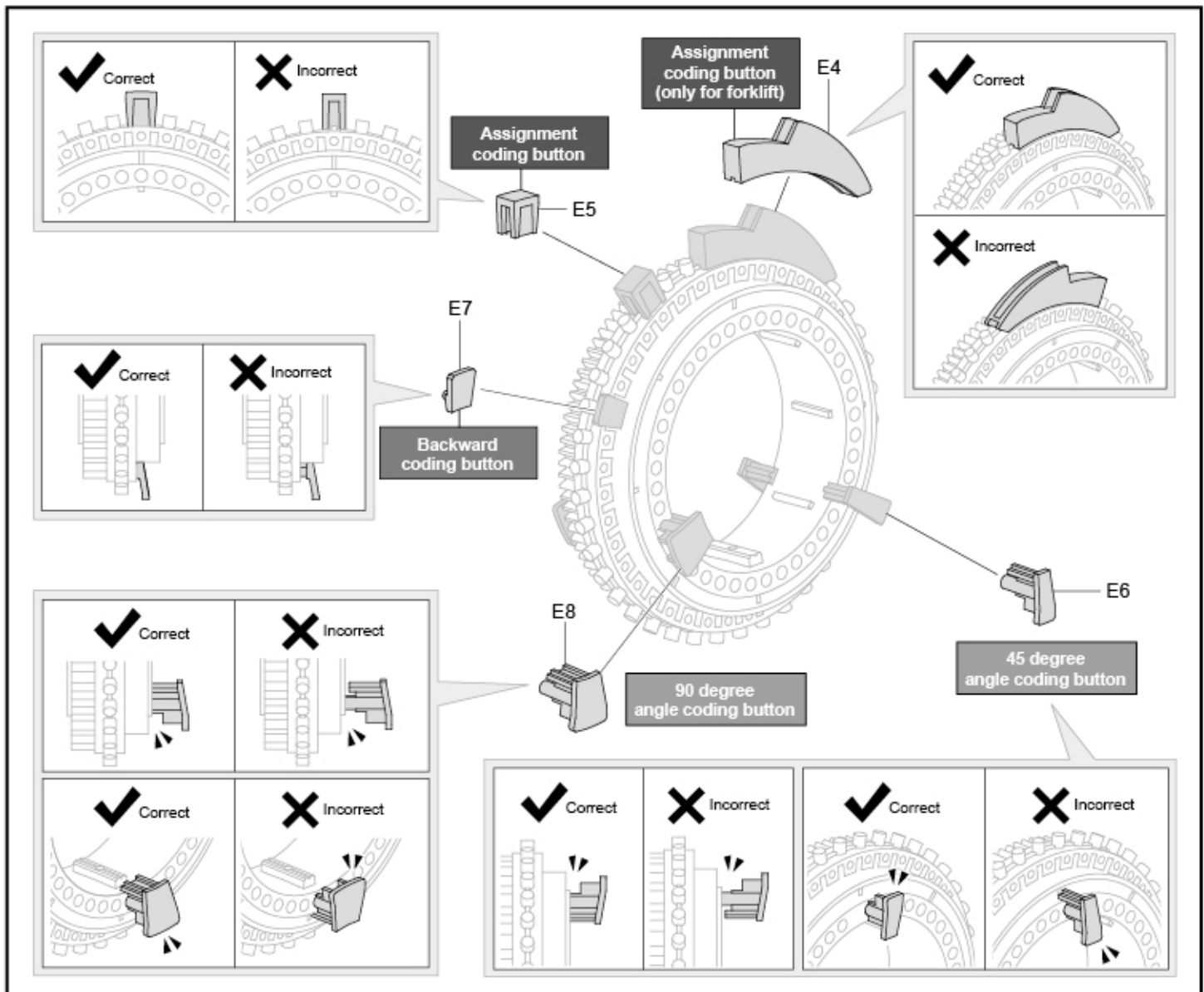
Coding Wheel Assembly



About Coding Wheel

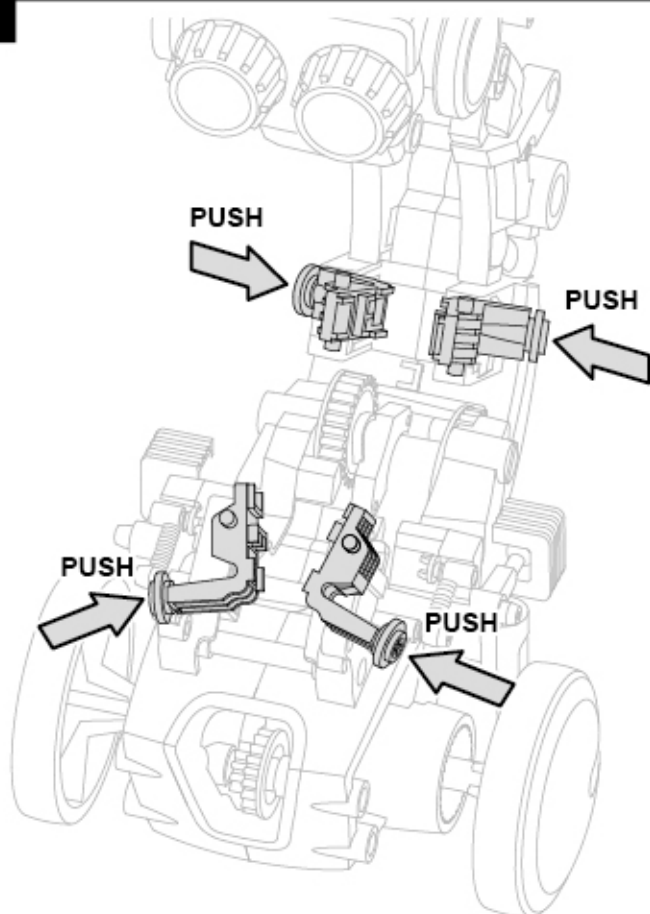


How to Install Coding Buttons

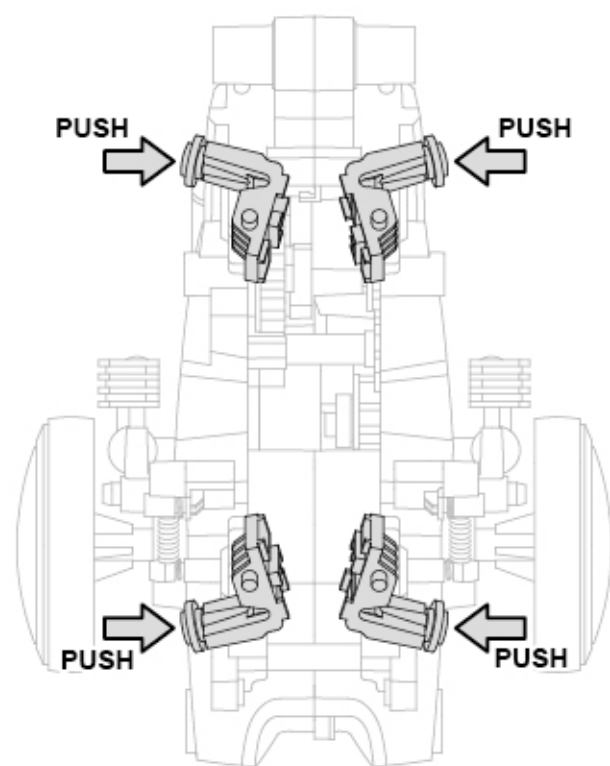


How to Install the Coding Wheel

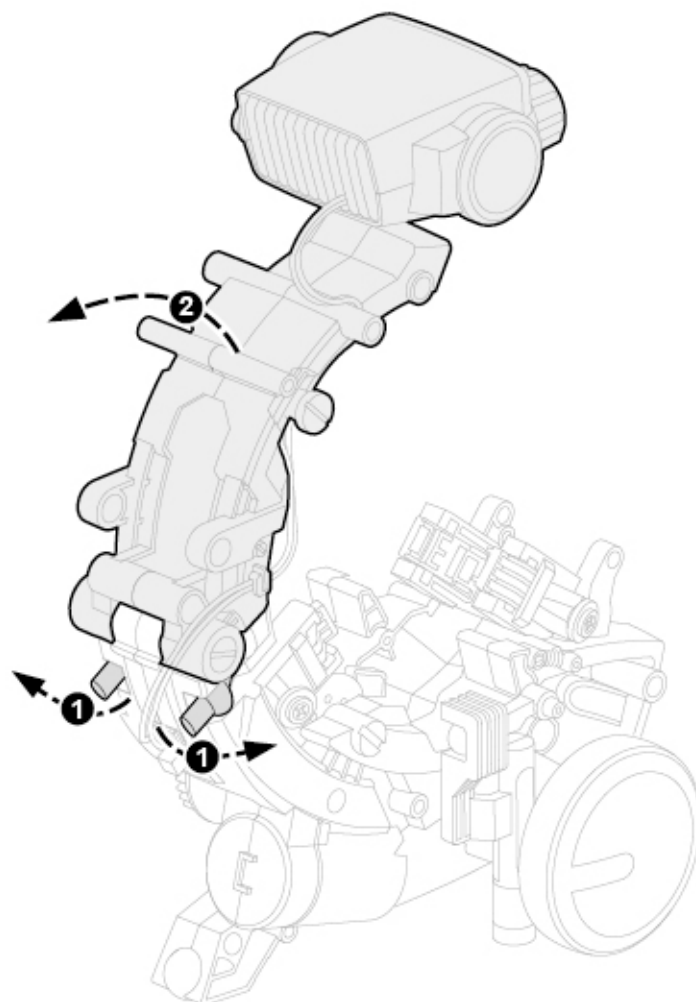
1



Top View



2

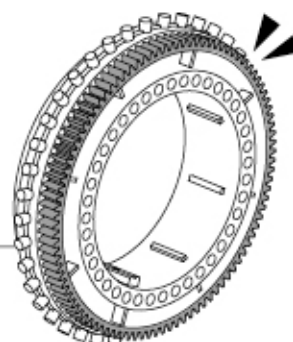


✓ Correct

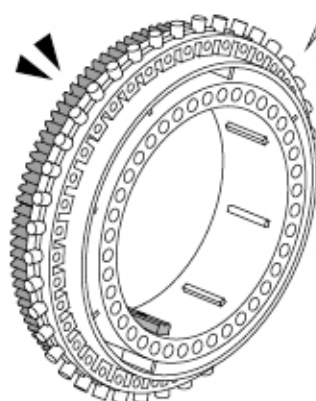


Coding Wheel

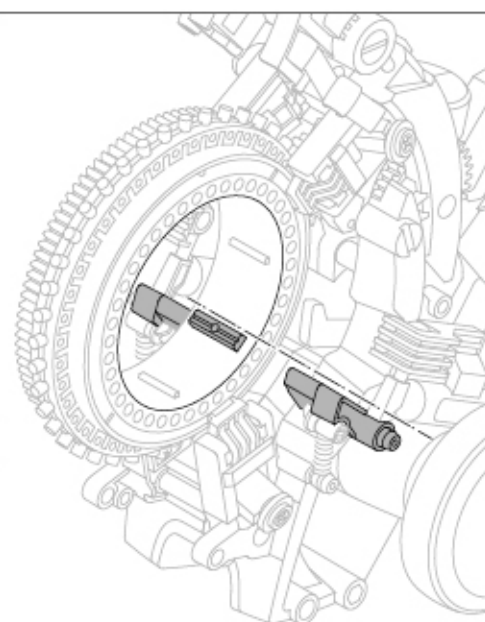
✗ Incorrect



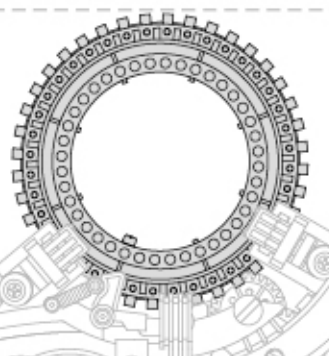
Coding Wheel



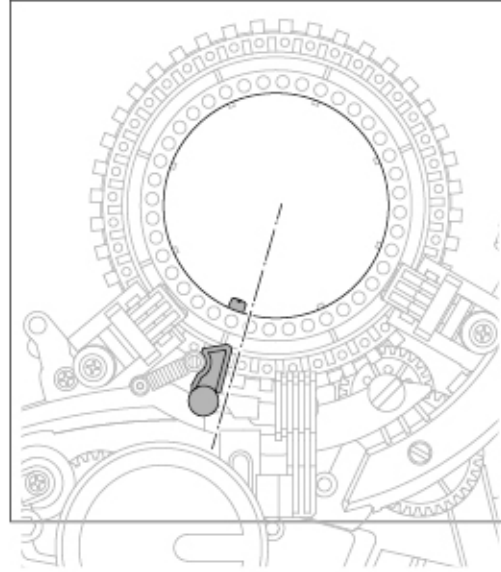
Home Position



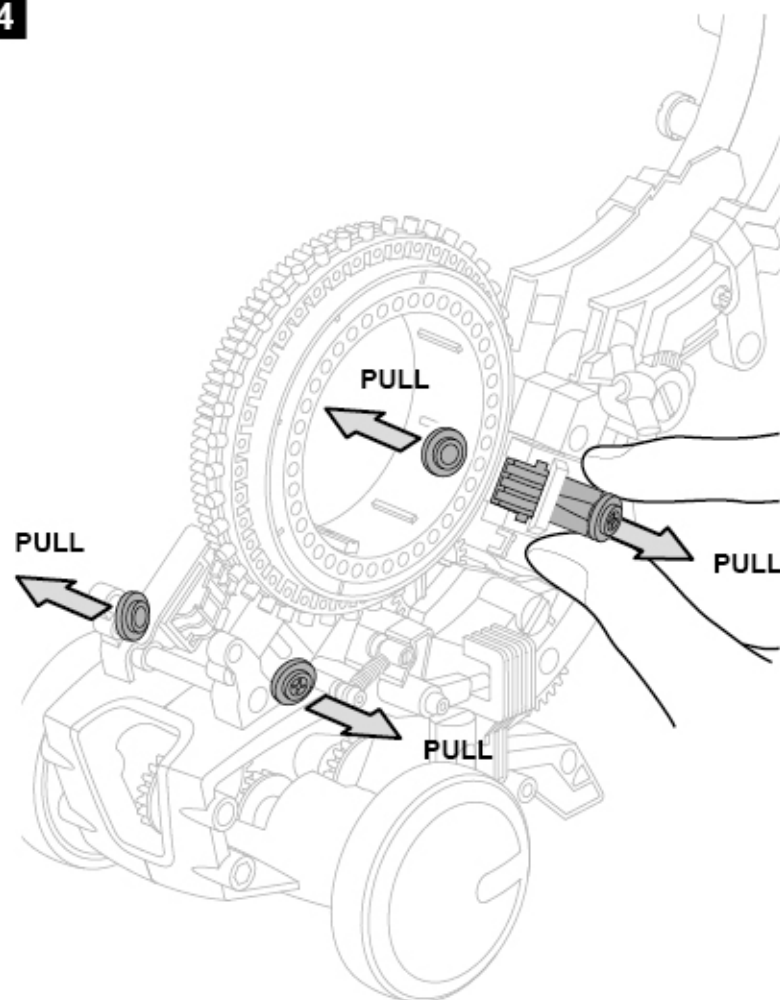
✓ Correct



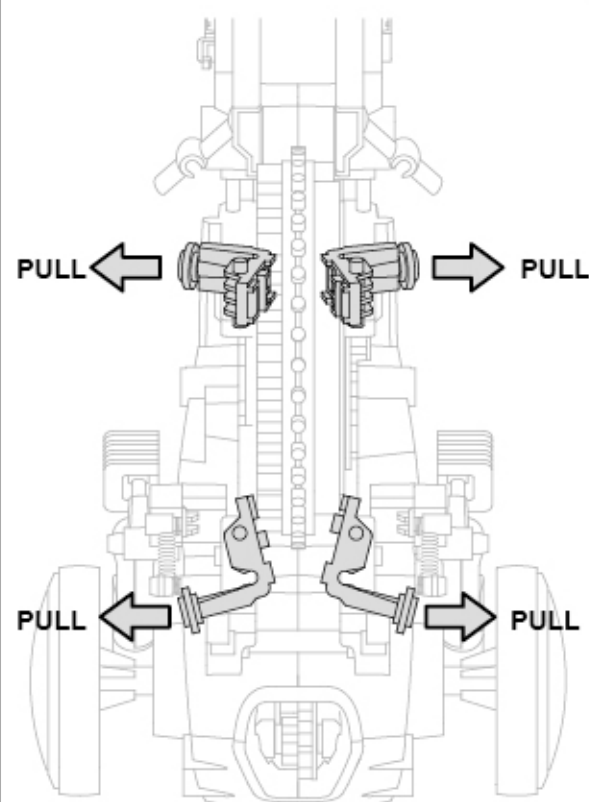
✗ Incorrect



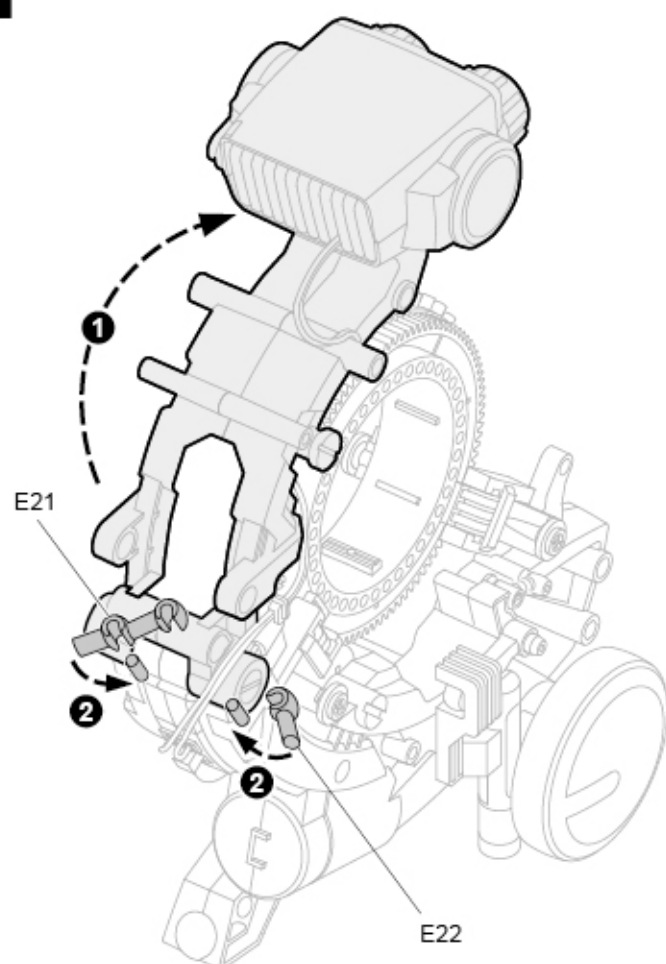
4



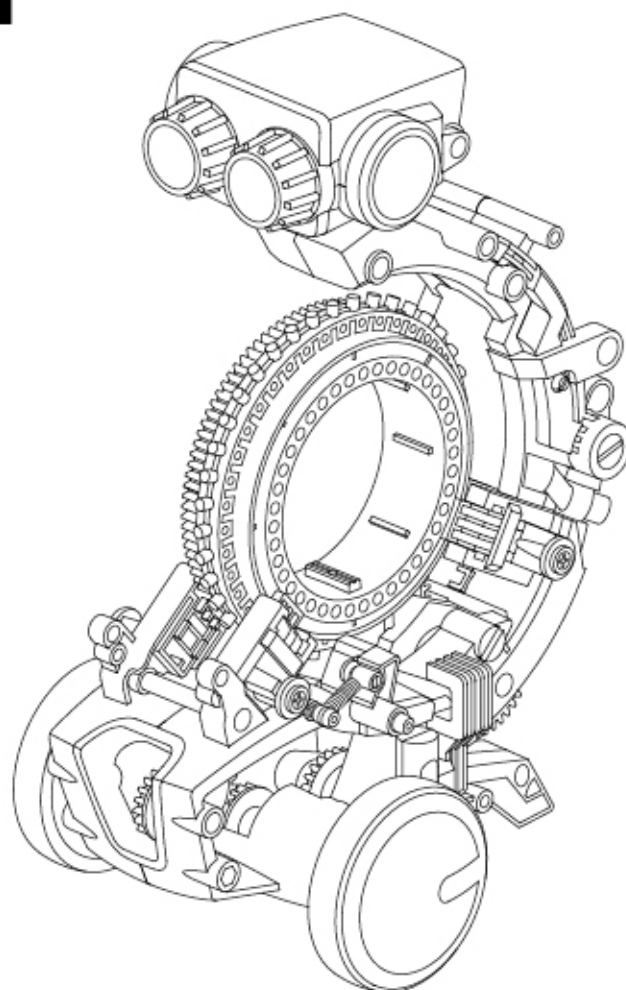
Front View



5



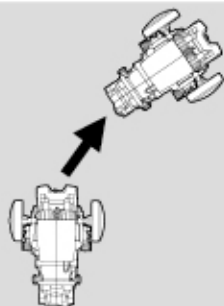
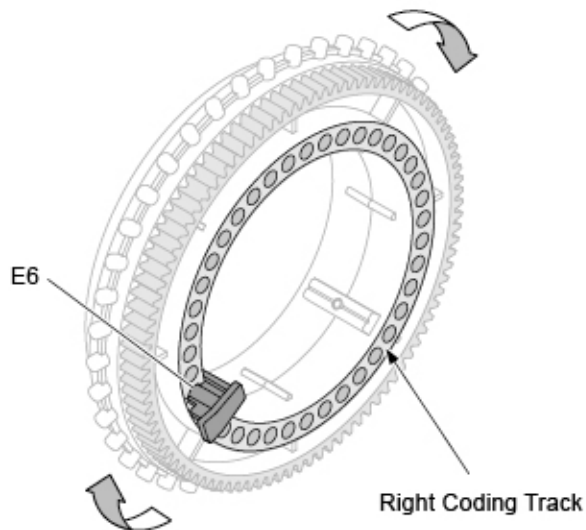
6



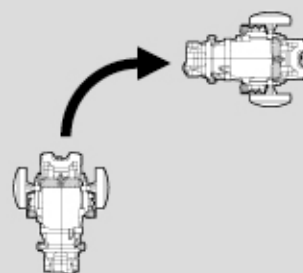
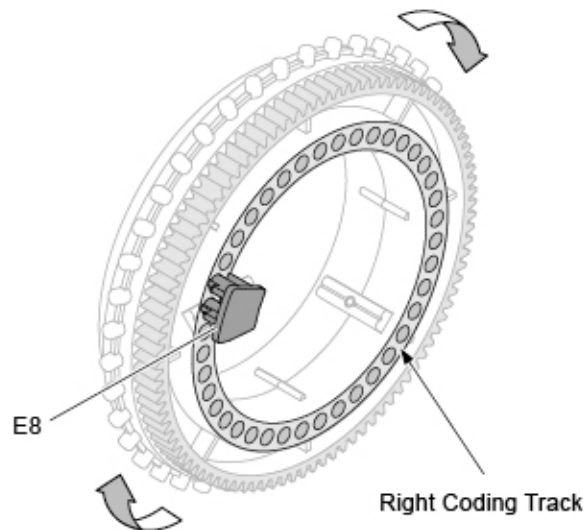
How the Coding Buttons Work



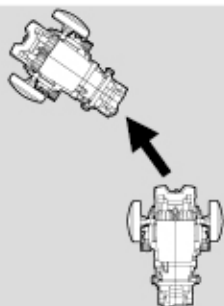
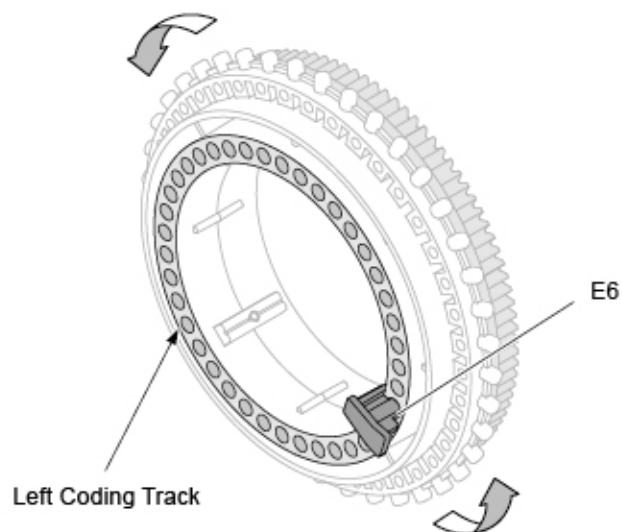
45° Right Turn



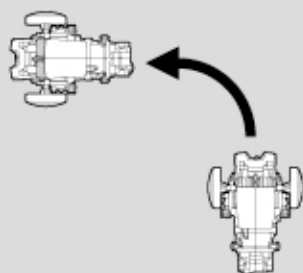
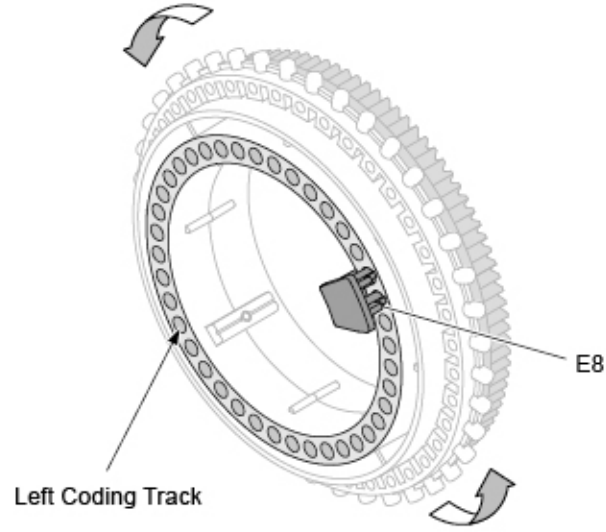
90° Right Turn



45° Left Turn

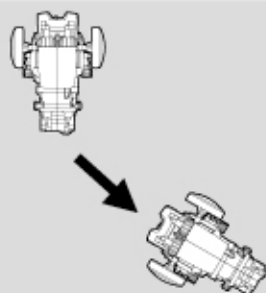
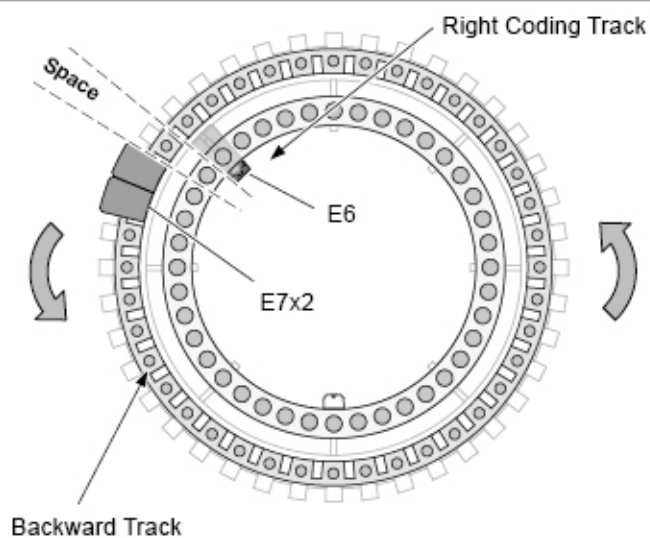


90° Left Turn

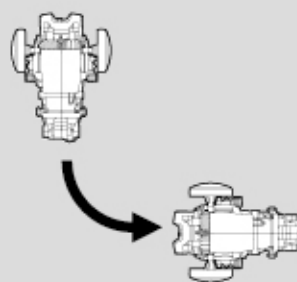
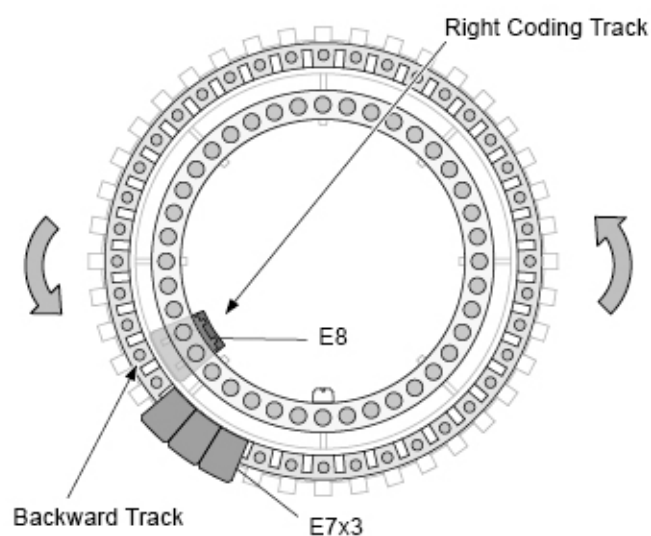




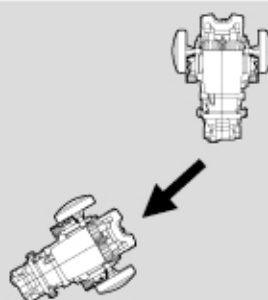
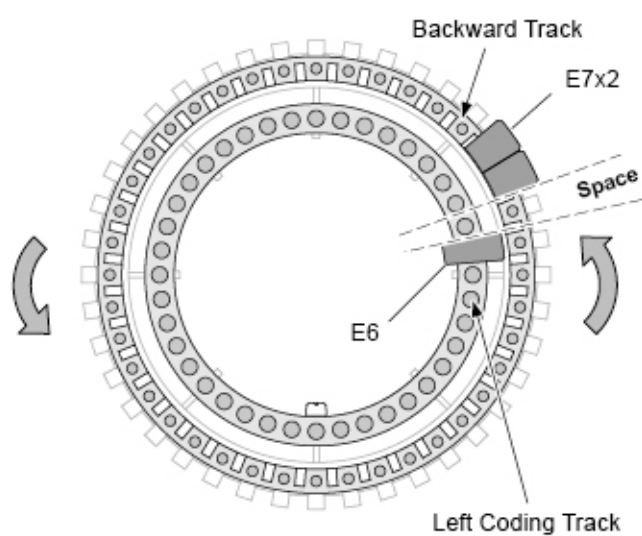
45° Back Right Turn



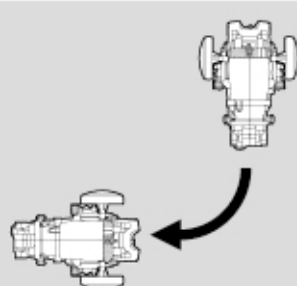
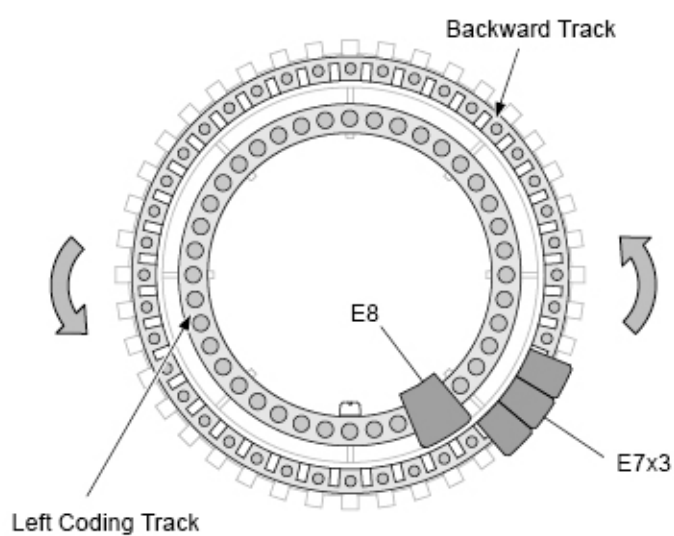
90° Back Right Turn



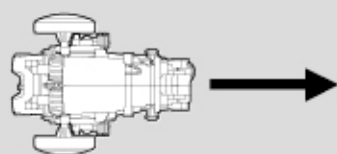
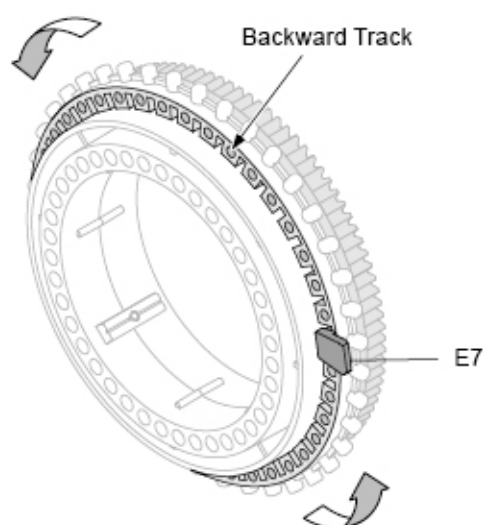
45° Back Left Turn



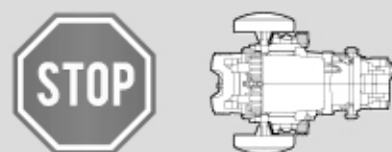
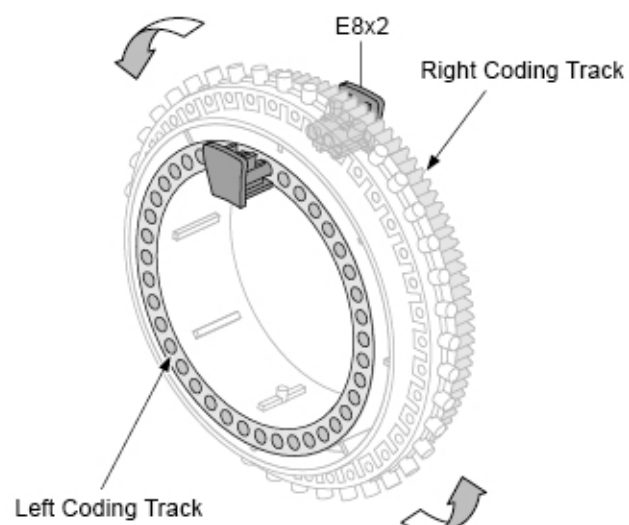
90° Back Left Turn



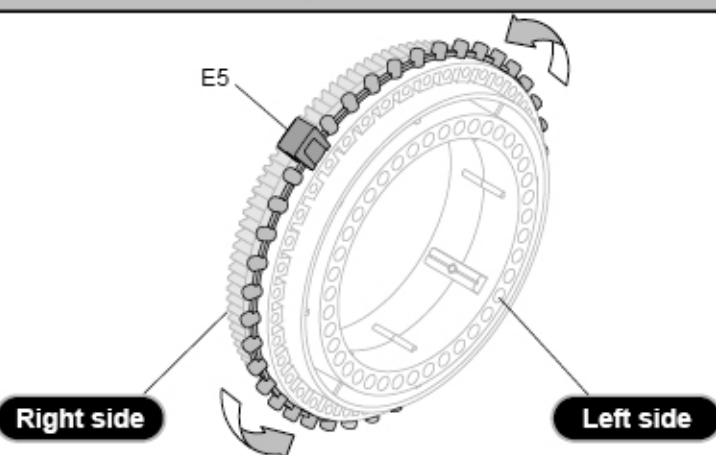
Backward



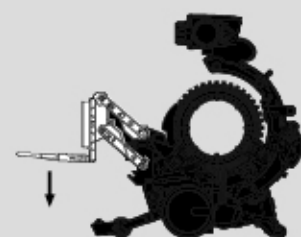
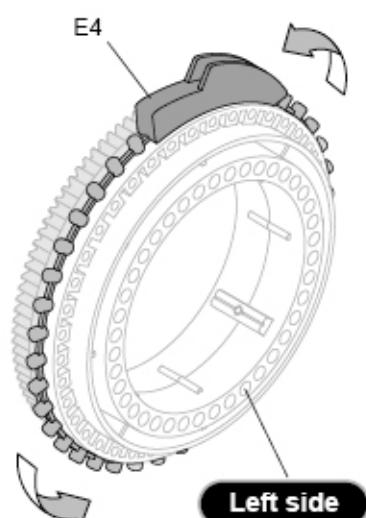
Stop



Task

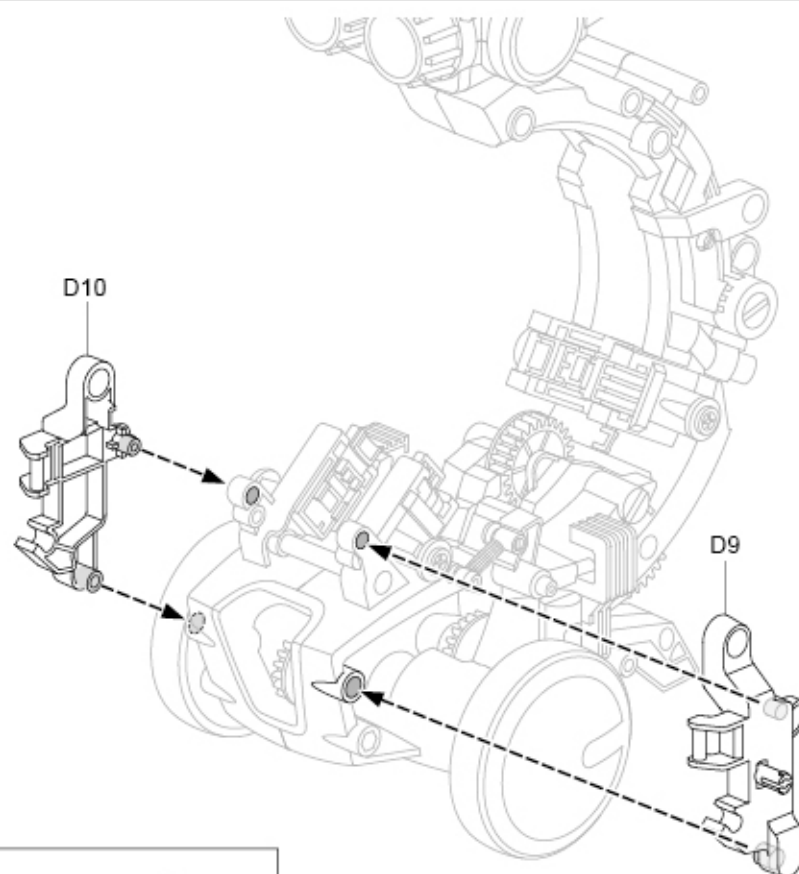


Forklift descending

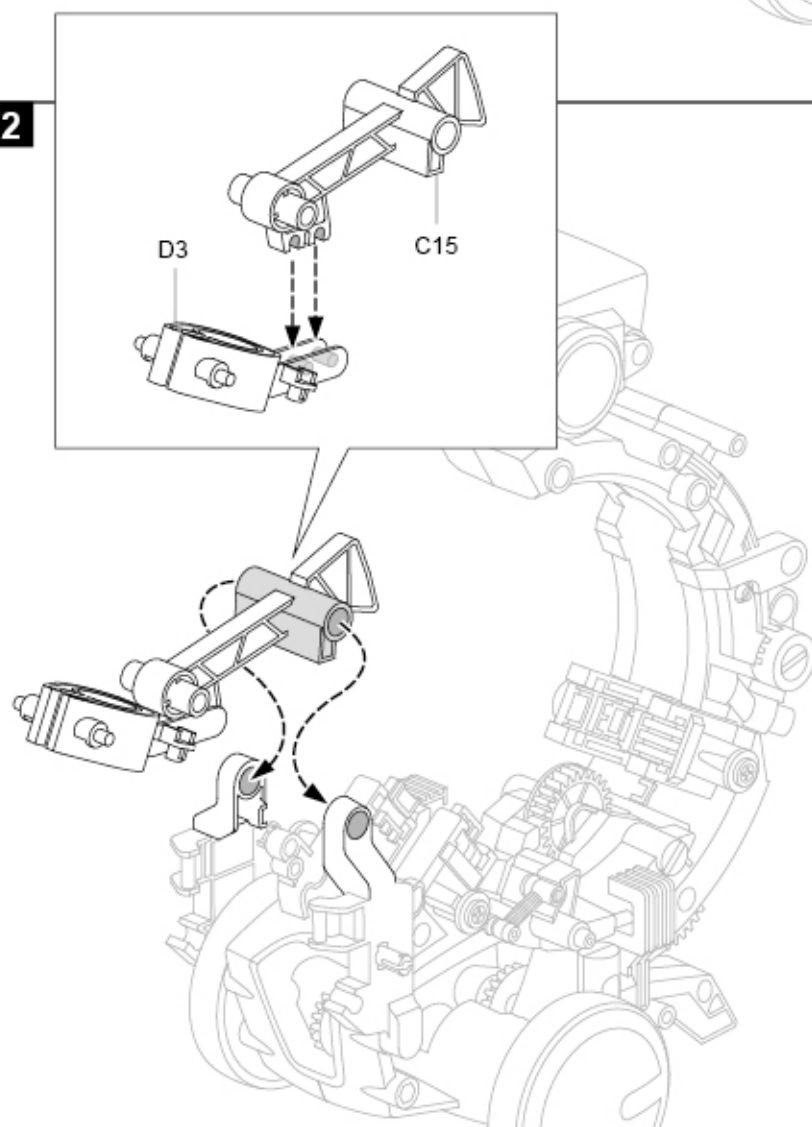


Drawing-bot Assembly

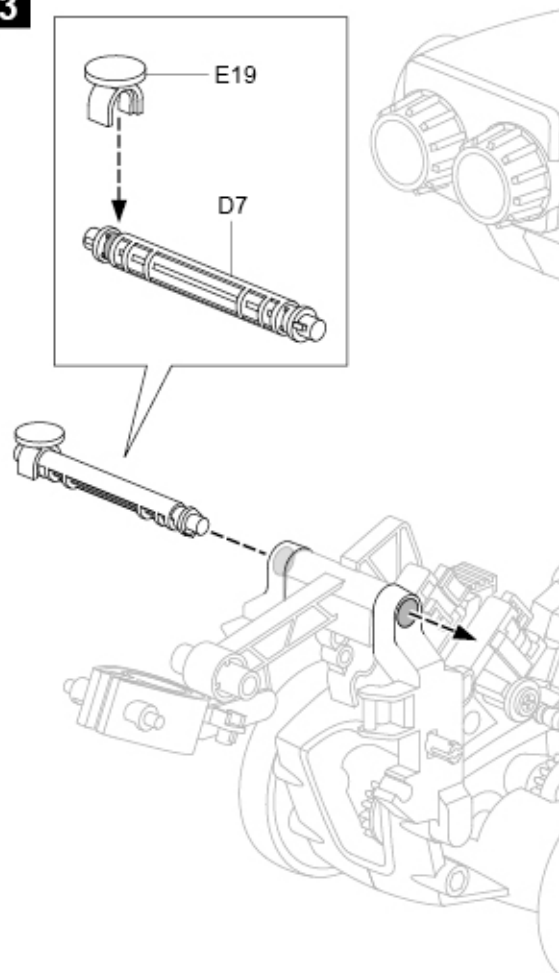
1

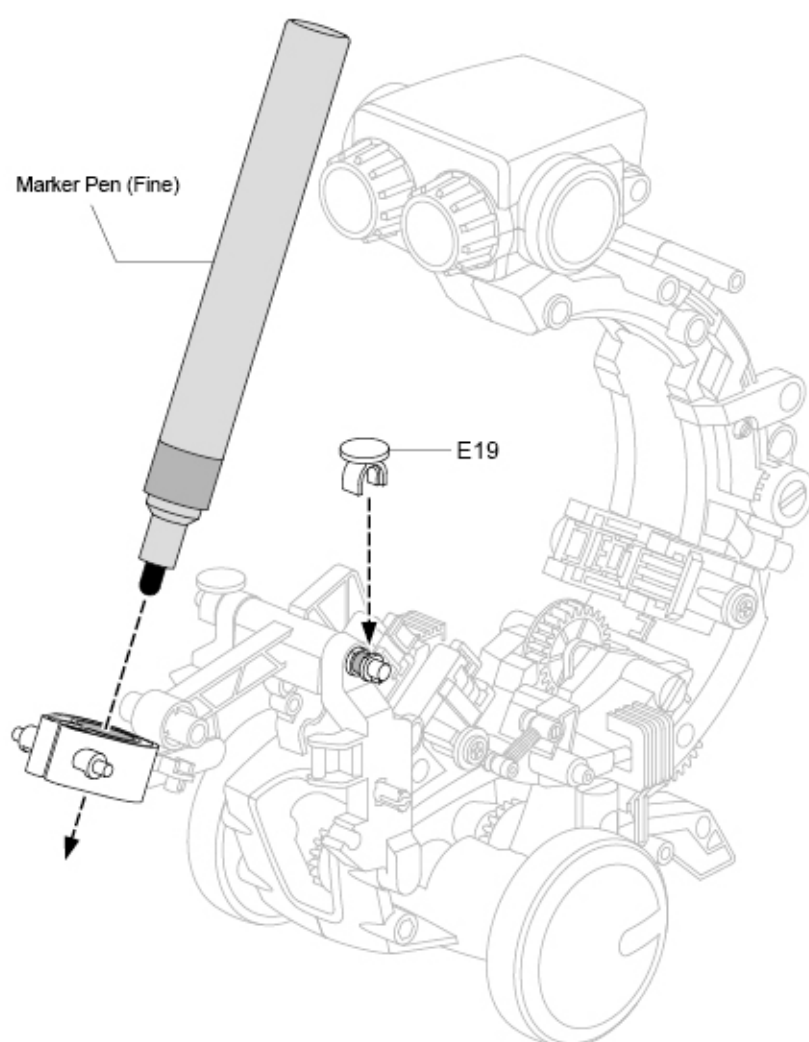


2



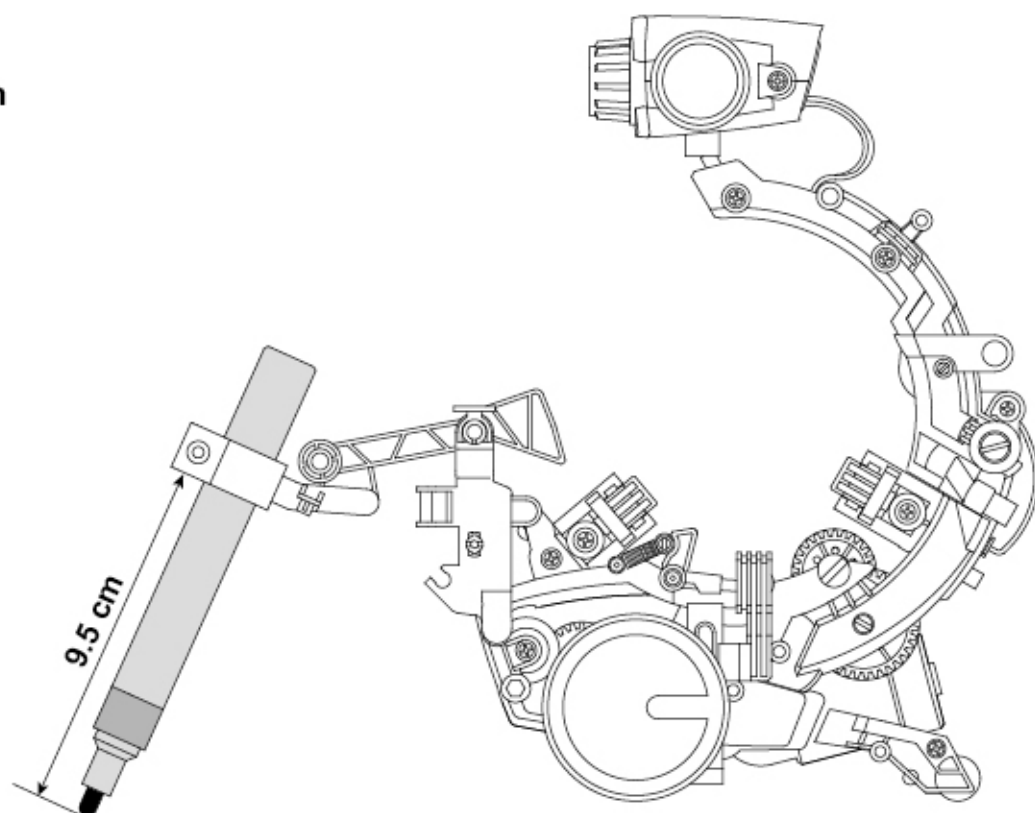
3





Scale 1:1

9.5cm



Drawing-bot Example 01

<https://www.youtube.com/playlist?list=PLCDHXNSOfhXMsuOyGT2QytmDgF8gOnFhP>

Video Tips



Parts Required:



E5x10



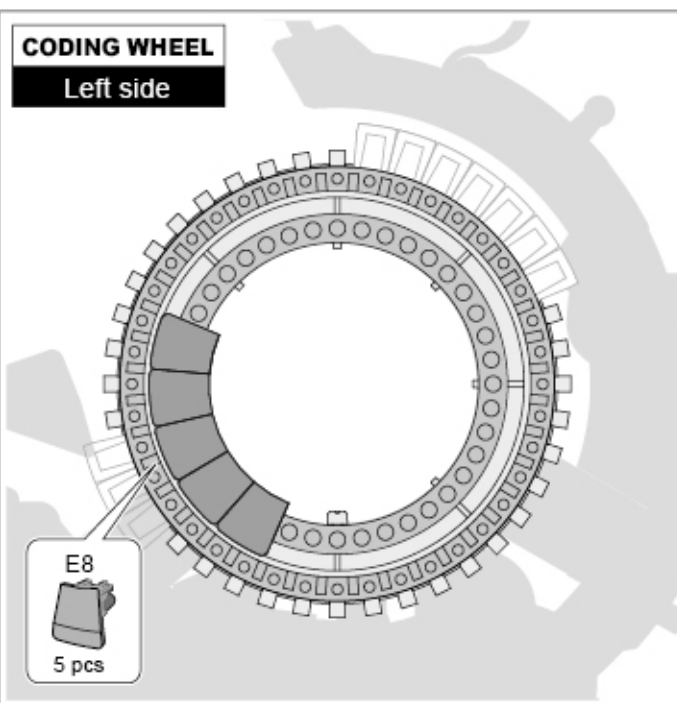
E8x5



Pay attention to assembly sequence and position on both sides of the coding wheel.

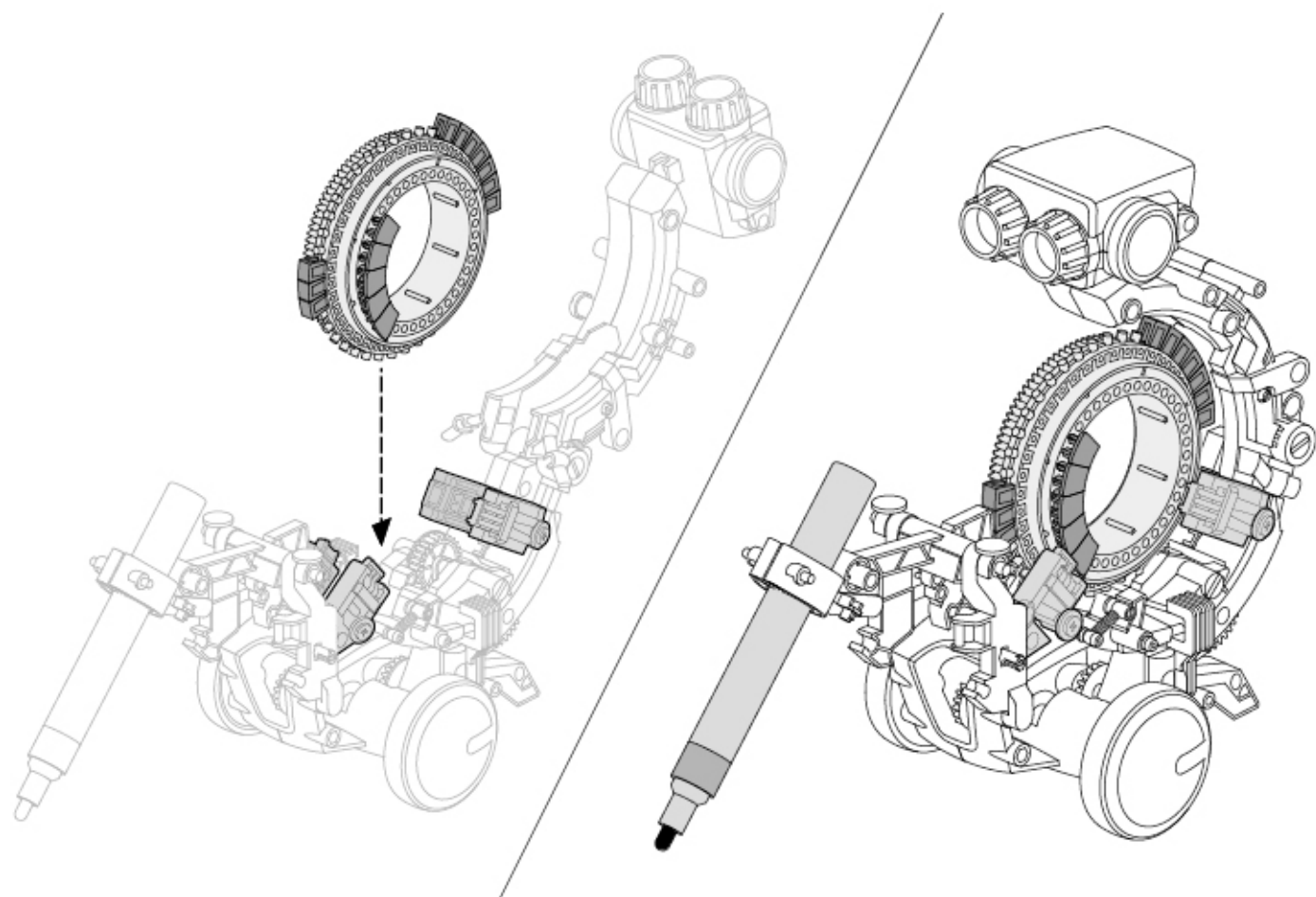
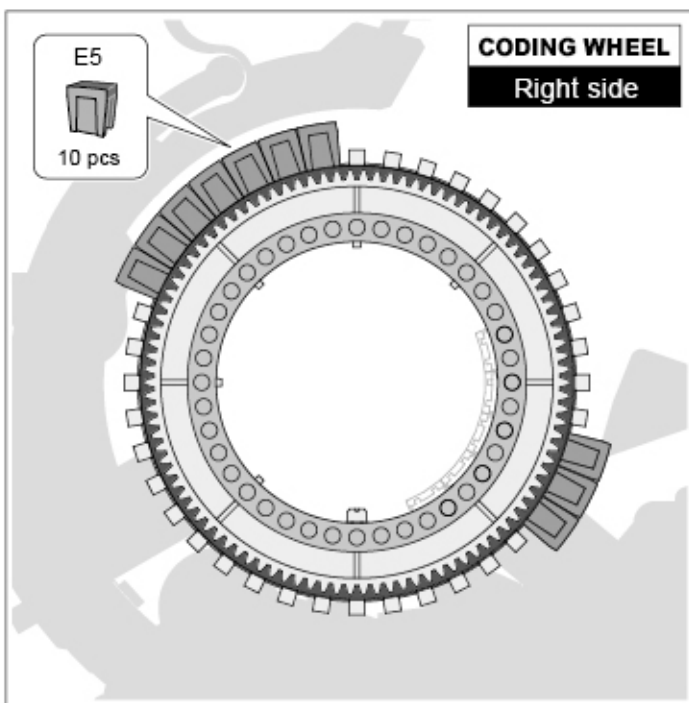
CODING WHEEL

Left side



CODING WHEEL

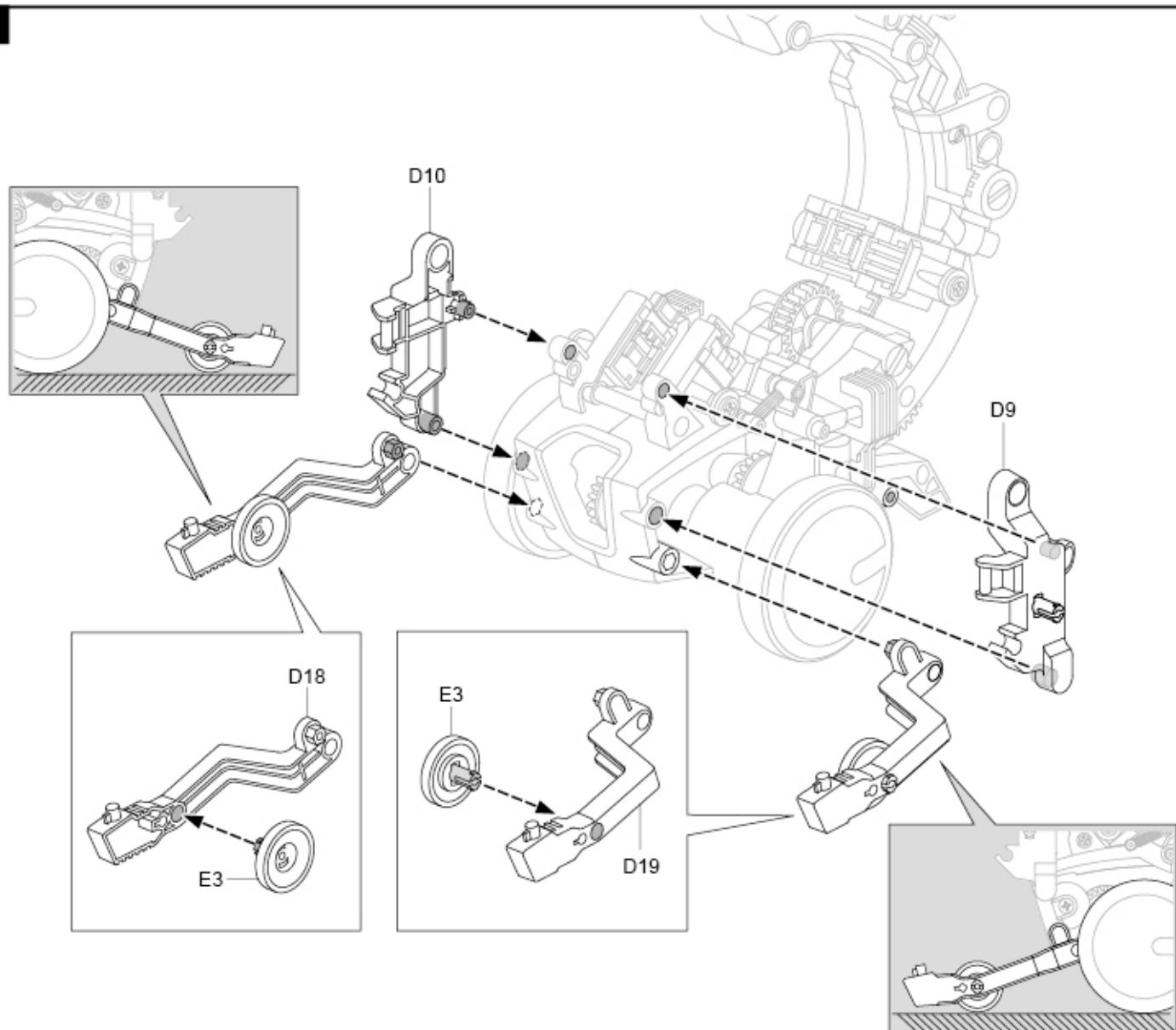
Right side



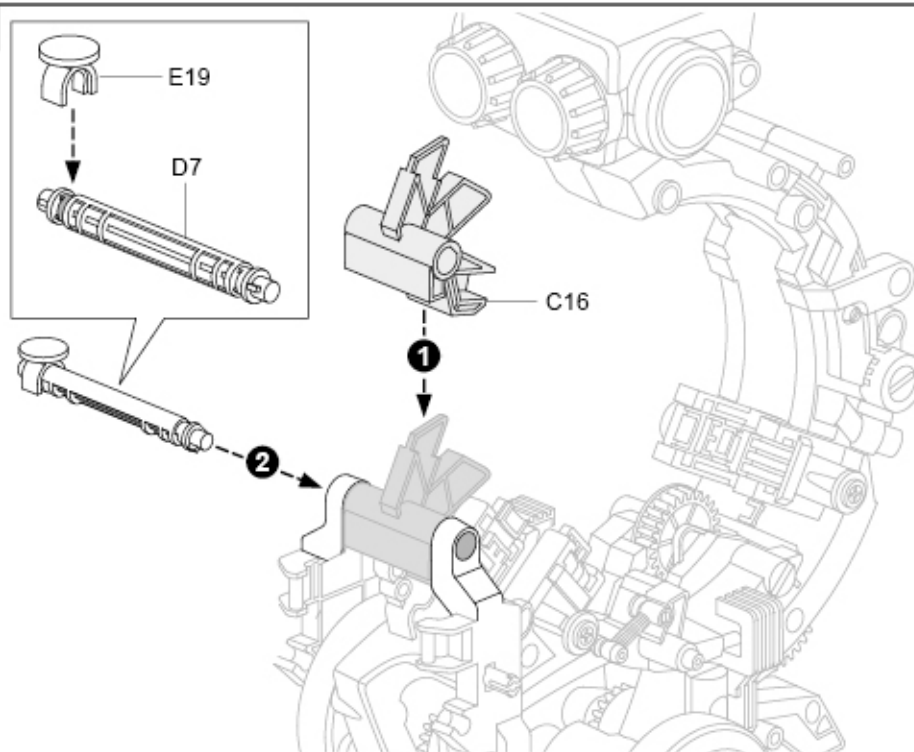
Please refer to page 15 step 1 to page 17 step 6. Ensure the coding wheel is assembled correctly.

Forklift-bot Assembly

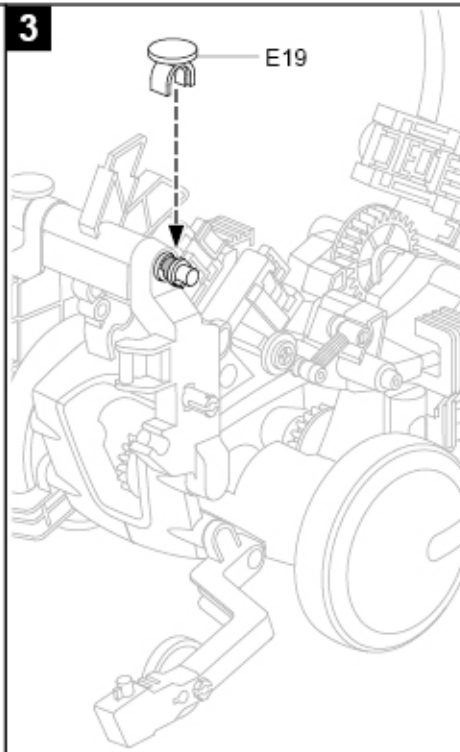
1



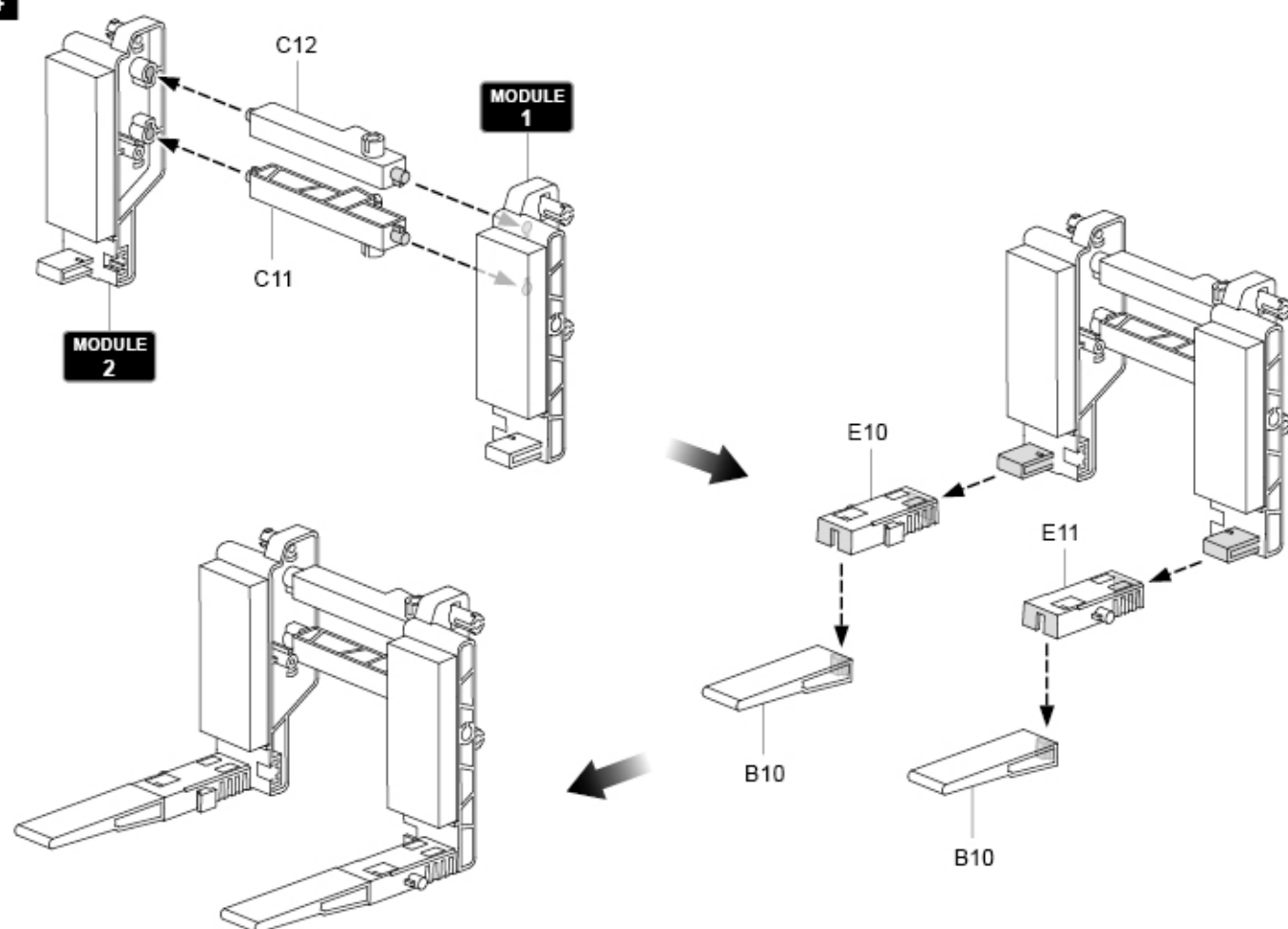
2



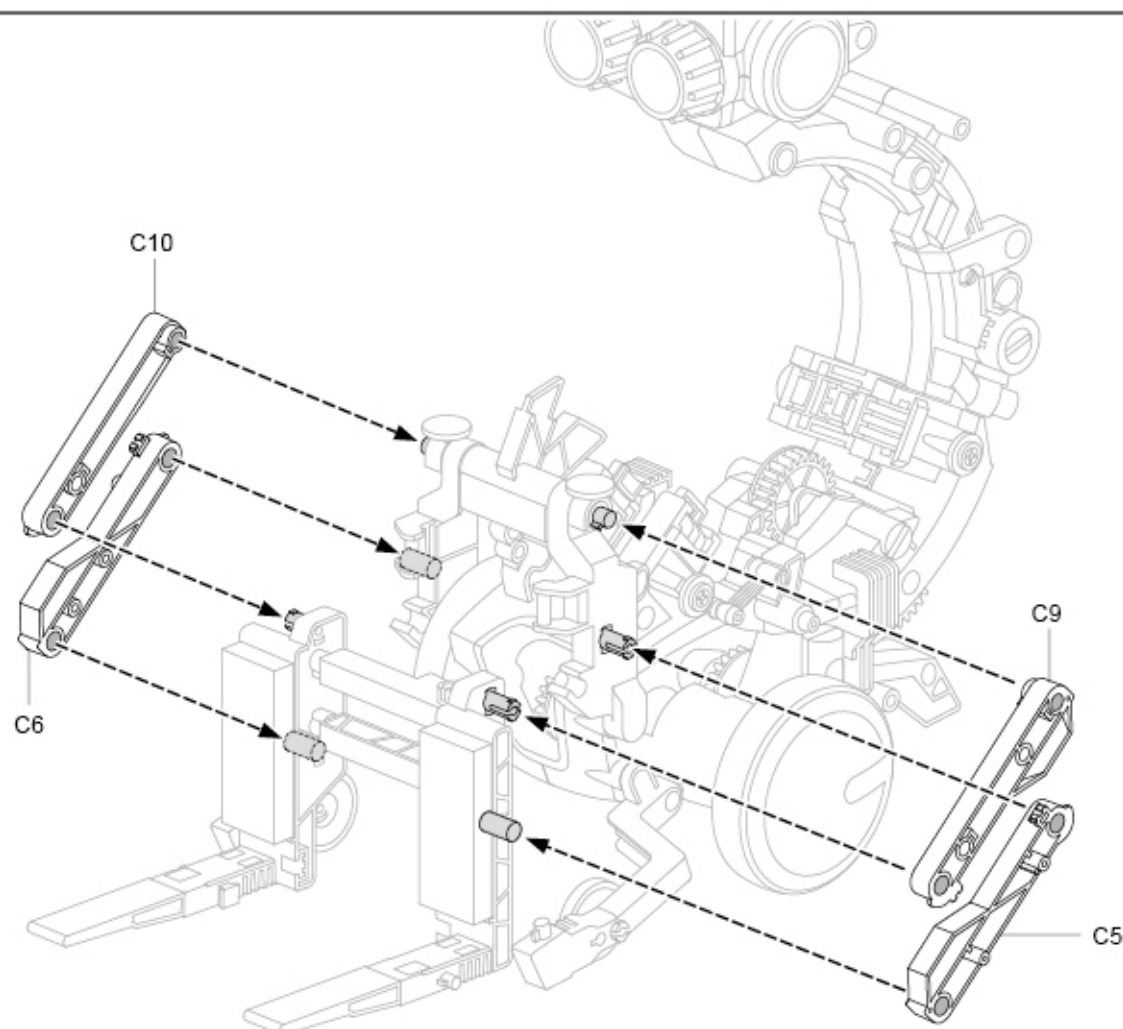
3



4



5



Forklift-bot Example 01

<https://www.youtube.com/playlist?list=PLCDHXNSOfhXN3oaLILkAh15QLNI4huXVn>

Video Tips



Parts Required:



E4x2



E5x6



E6x5



E7x6



E8x11



Pay attention to assembly sequence and position on both sides of the coding wheel.

CODING WHEEL Left side

E6

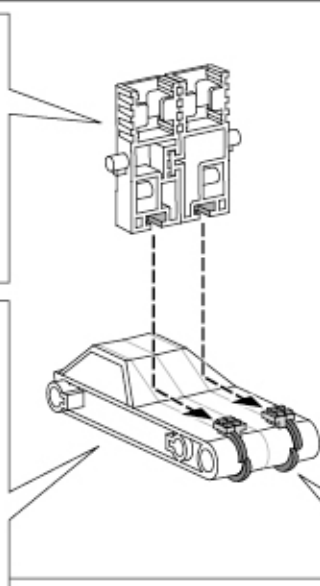
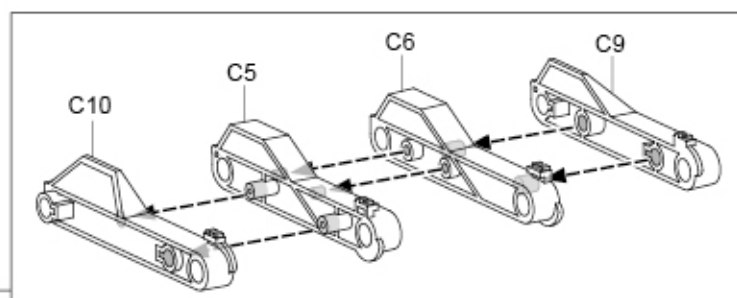
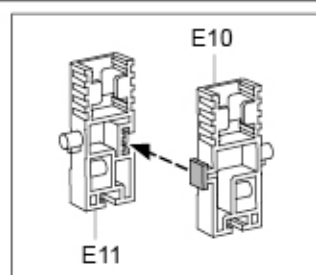
2 pcs

E7

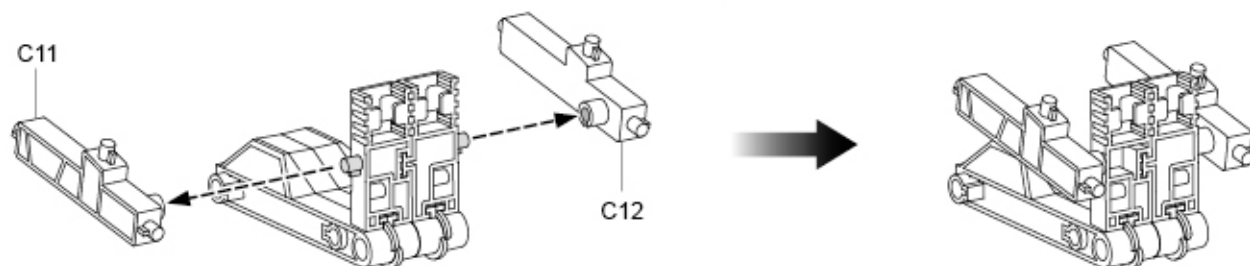
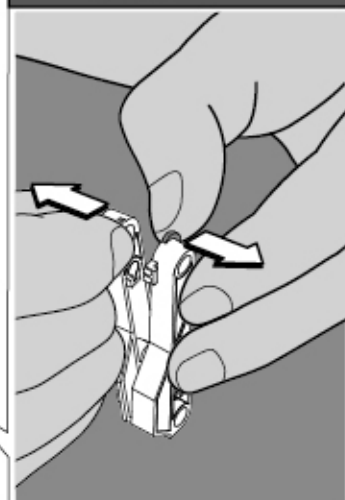
6 pcs

Throwing-bot Assembly

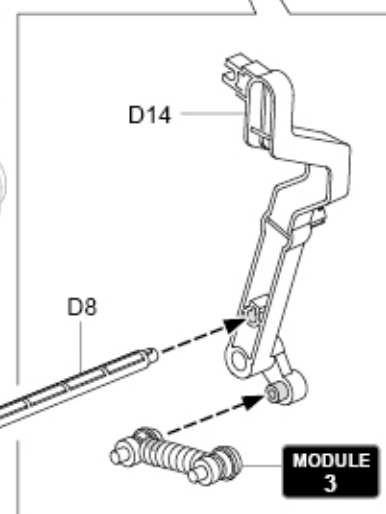
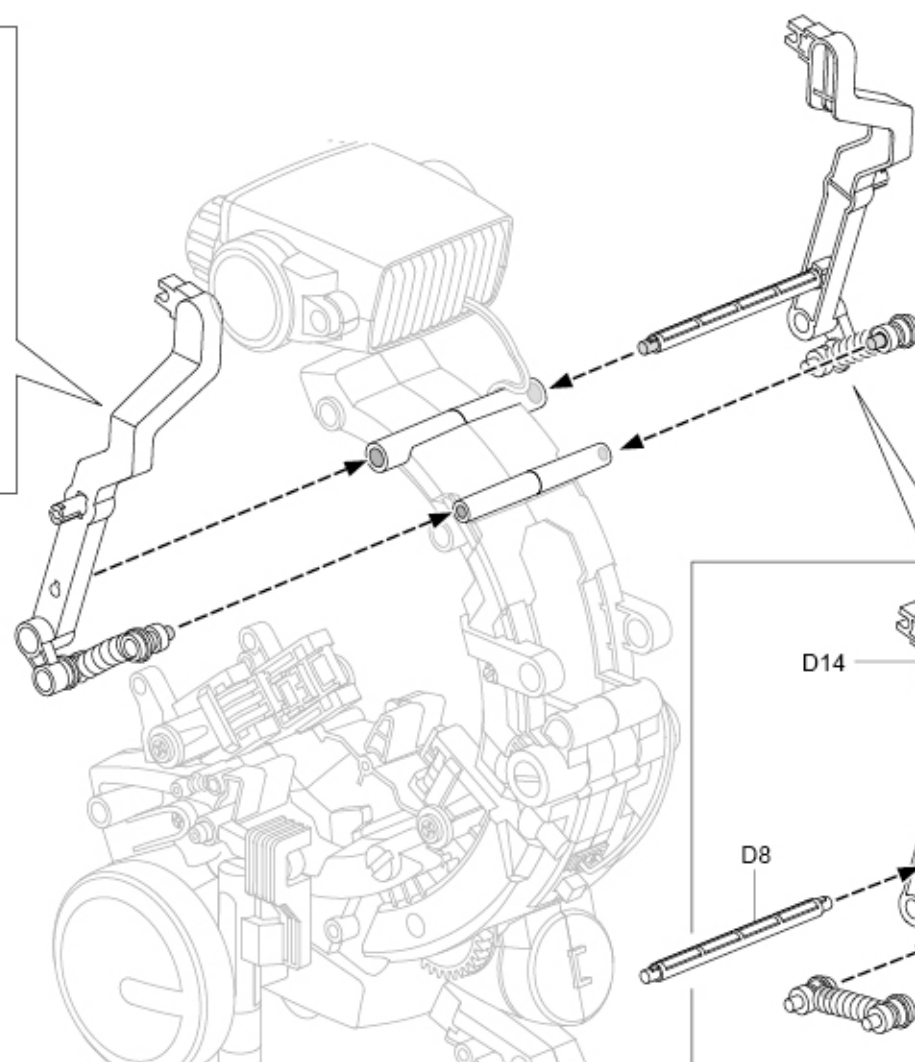
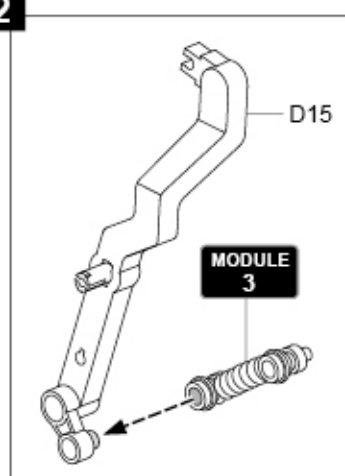
1



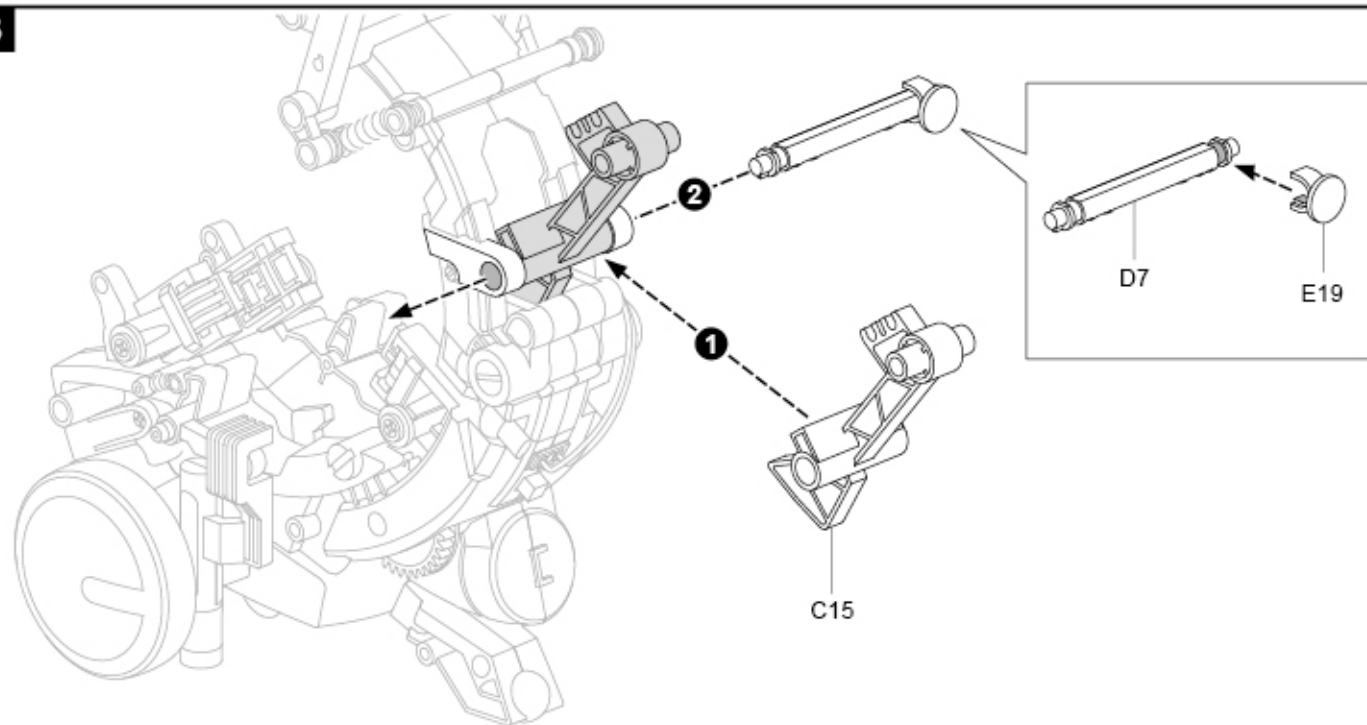
Tip : disassemble below modules.



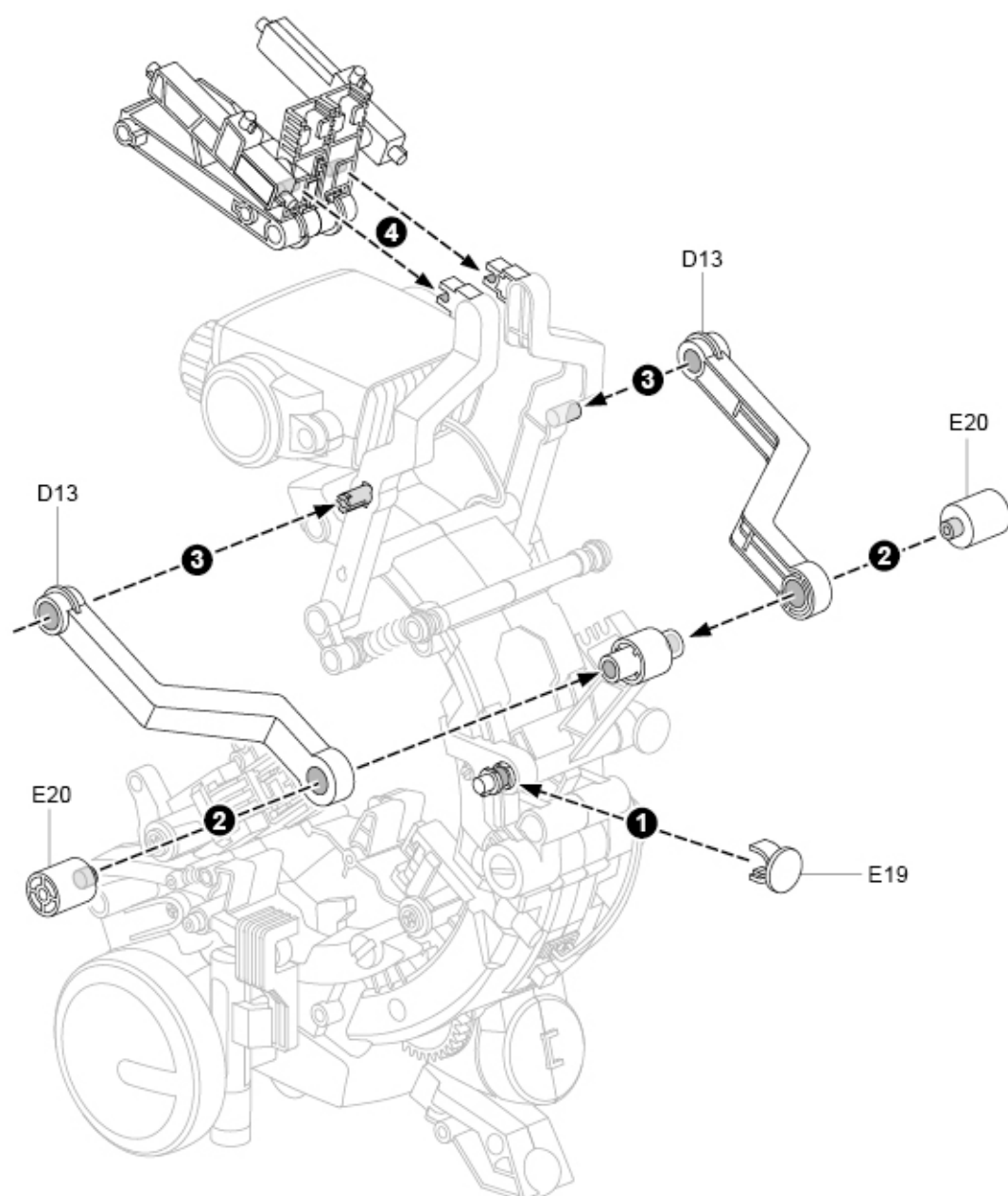
2



3



4



Throwing-bot Example 01

<https://www.youtube.com/playlist?list=PLCDHXNSOfhXPwIkNvIARmnTIWdePDtgB5>

Video Tips



Parts Required:



E5x2



E6x3



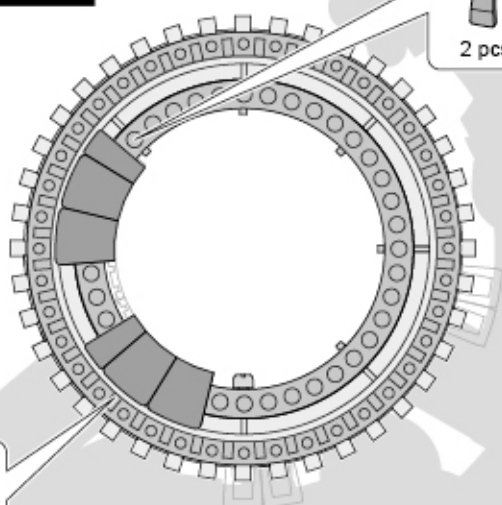
E8x10



Pay attention to assembly sequence and position on both sides of the coding wheel.

CODING WHEEL

Left side



E6

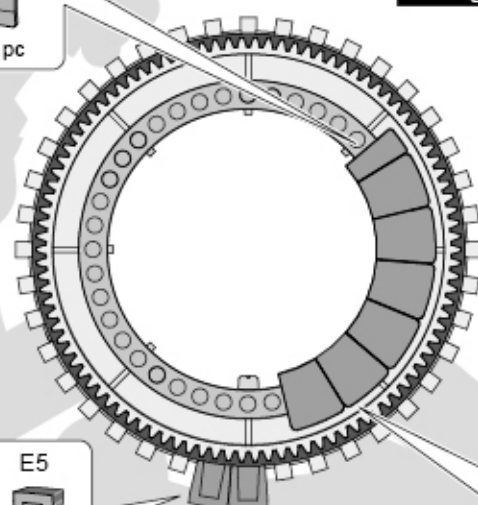
2 pcs

E8

4 pcs

CODING WHEEL

Right side



E6

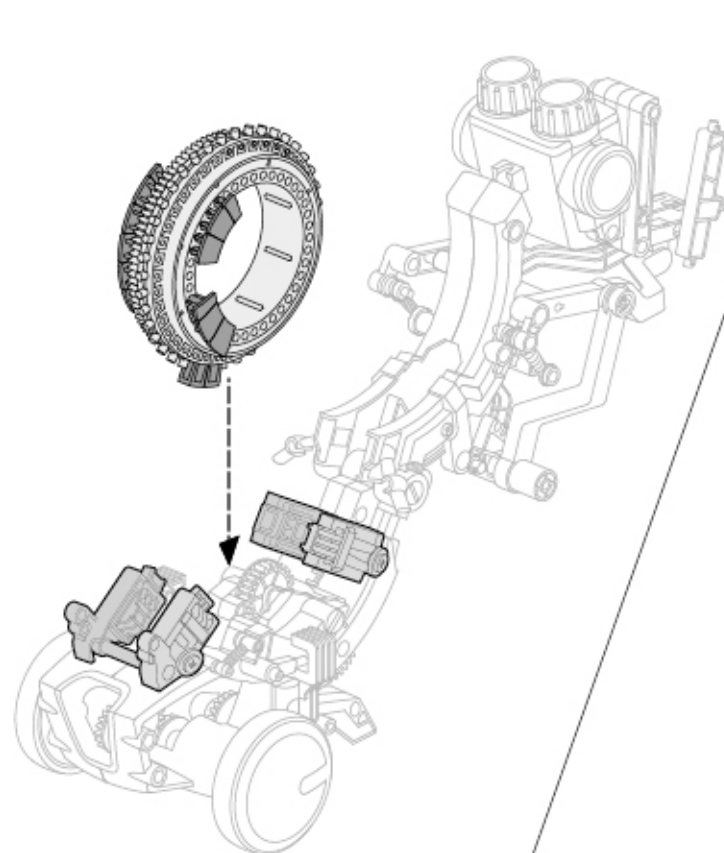
1 pc

E5

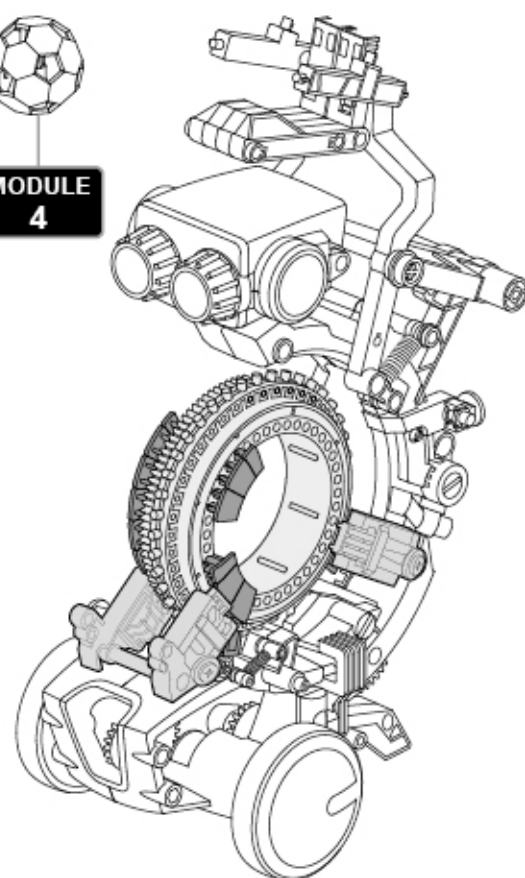
2 pcs

E8

6 pcs



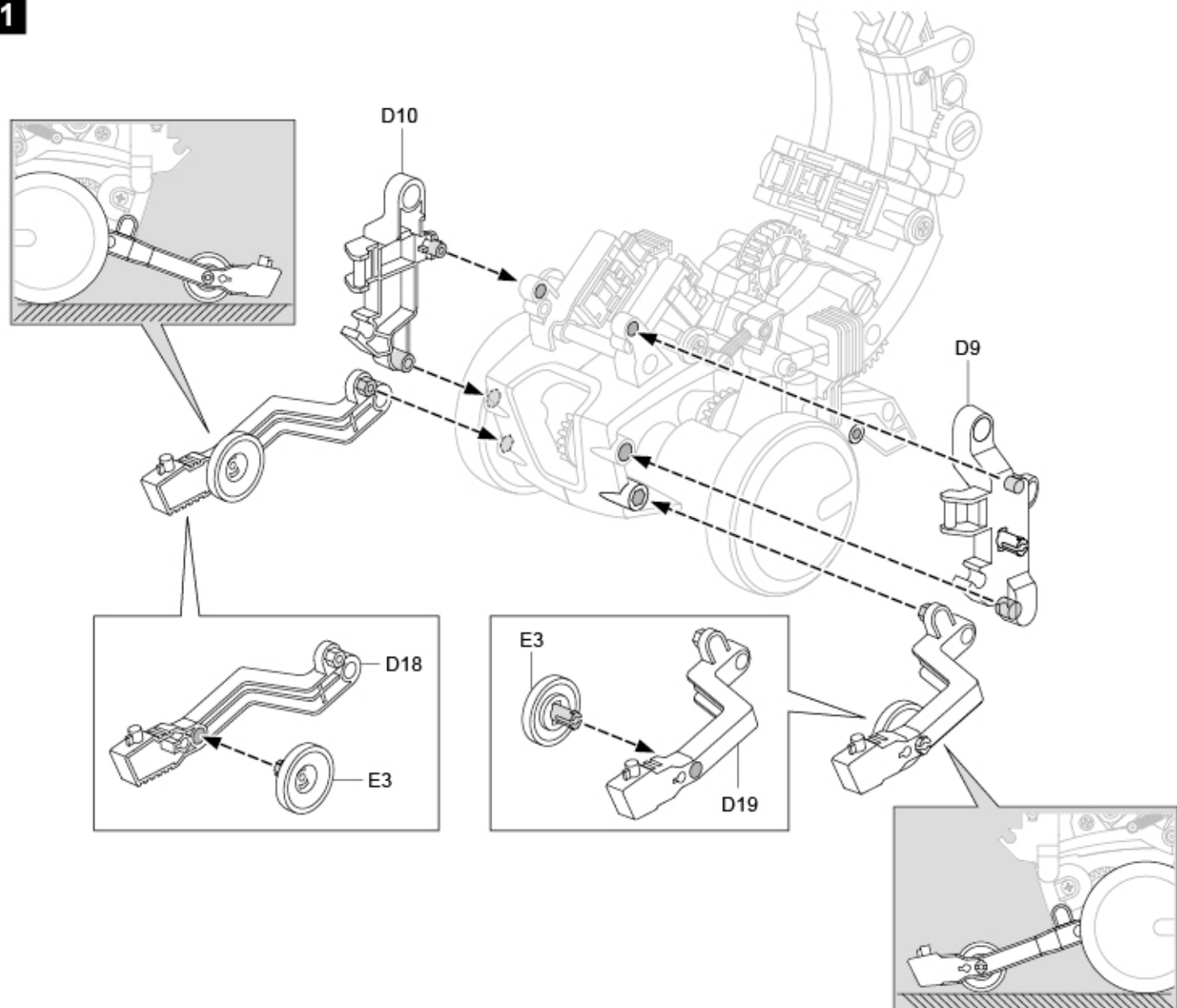
MODULE
4



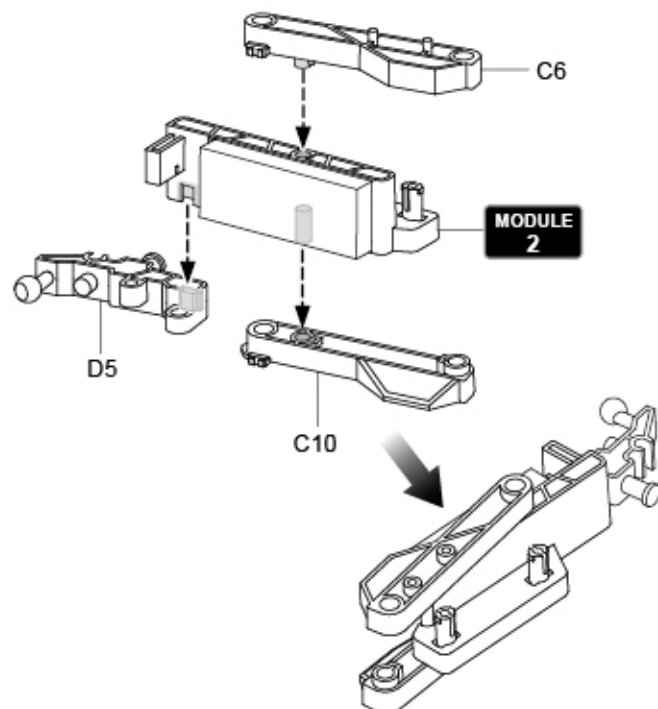
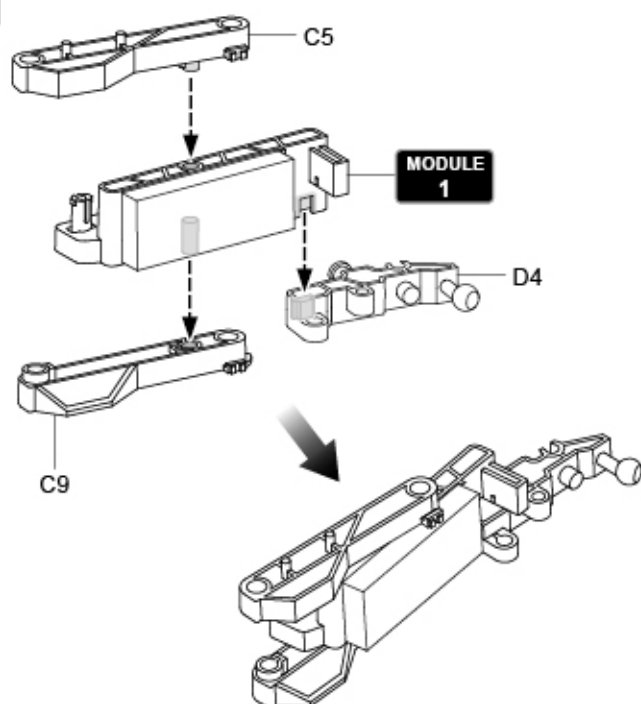
For safety concern, users should not take any dangerous materials as throwing object, such as steel balls or sharp items.

! Please refer to page 15 step 1 to page 17 step 6. Ensure the coding wheel is assembled correctly.

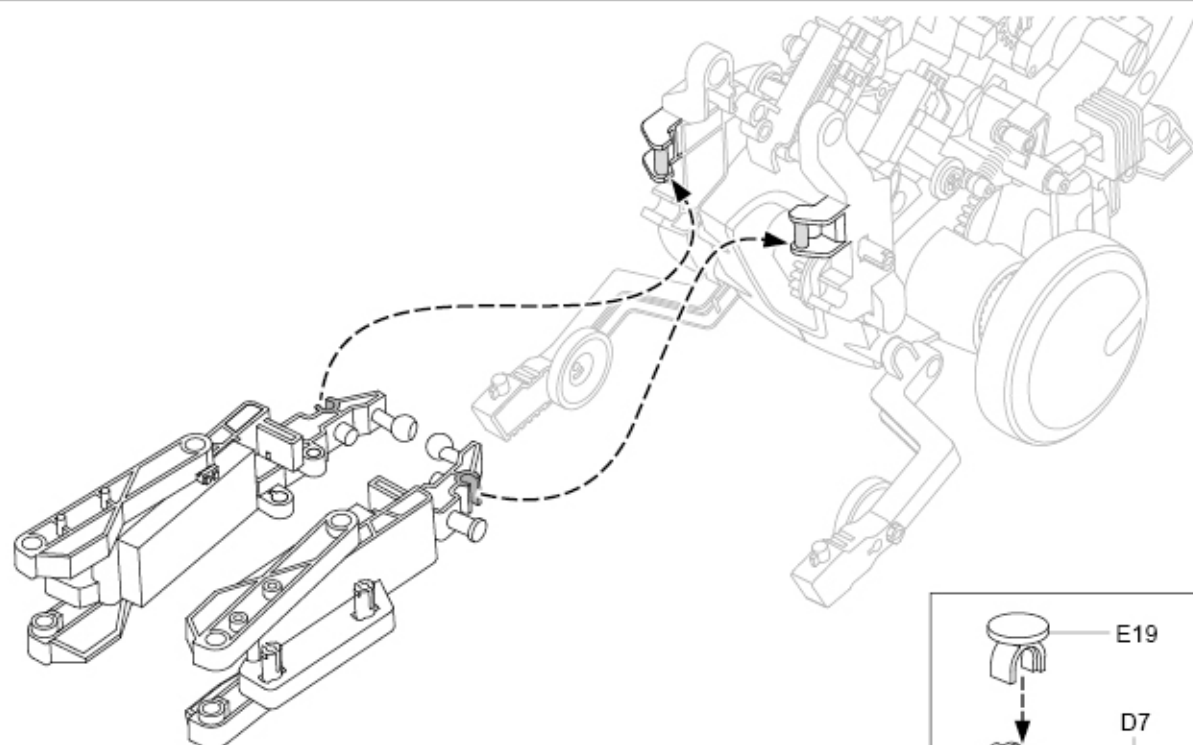
1



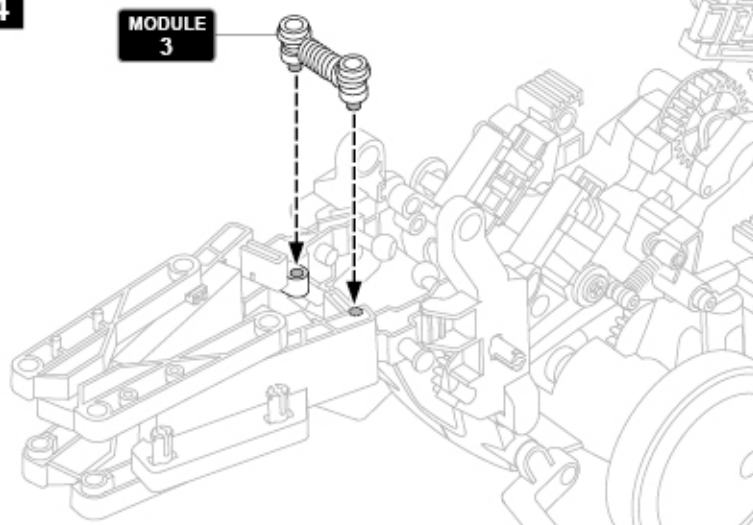
2



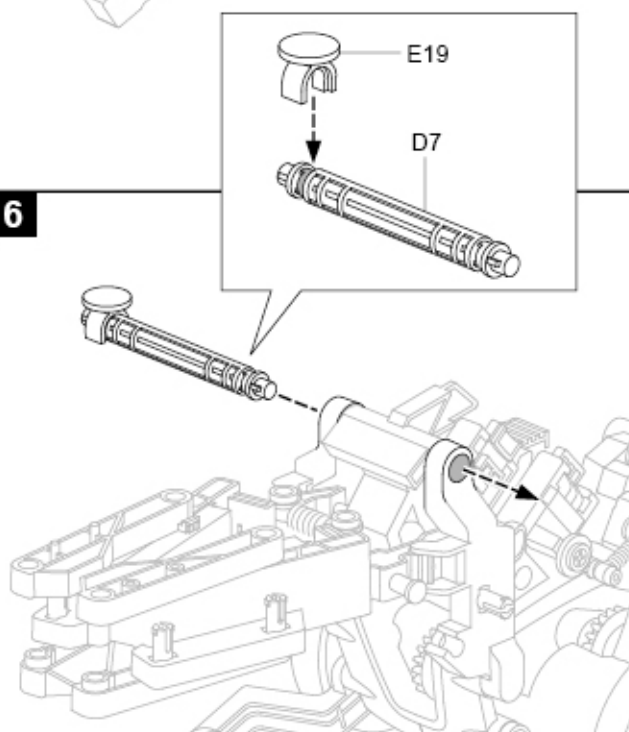
3



4

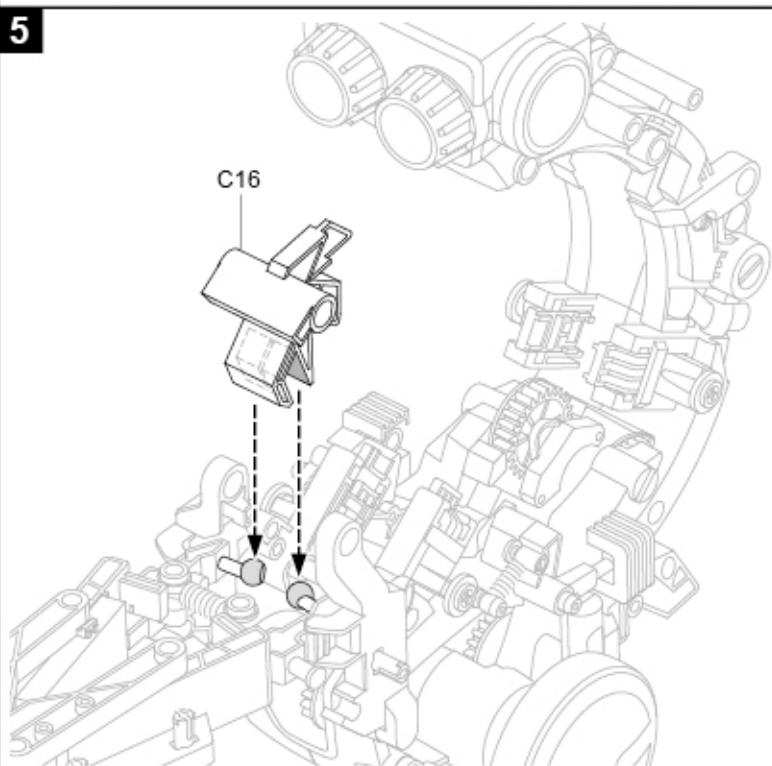
MODULE
3

6



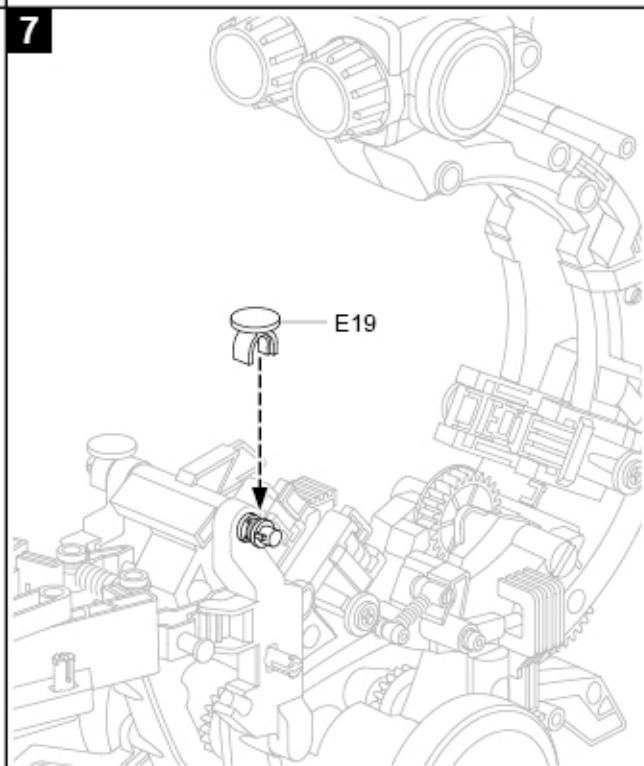
5

C16



7

E19



Gripper-bot Example 01

<https://www.youtube.com/playlist?list=PLCDHXNSOfhXM6ym4TOAzuX2fg3jm5mGym>

Video Tips



Parts Required:



E5x9



E6x2



E7x6



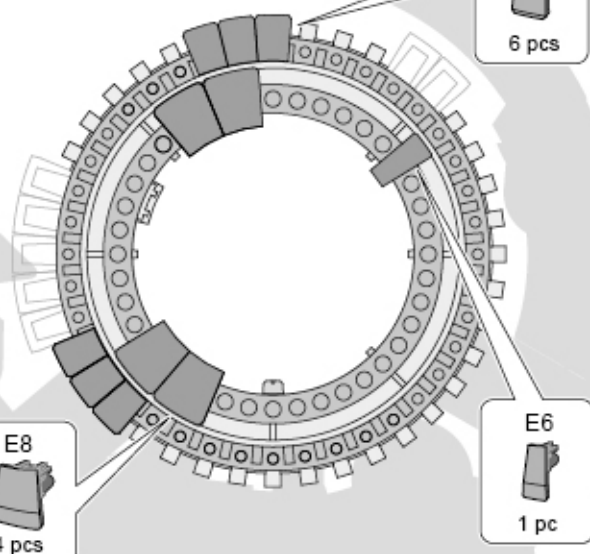
E8x9



Pay attention to assembly sequence and position on both sides of the coding wheel.

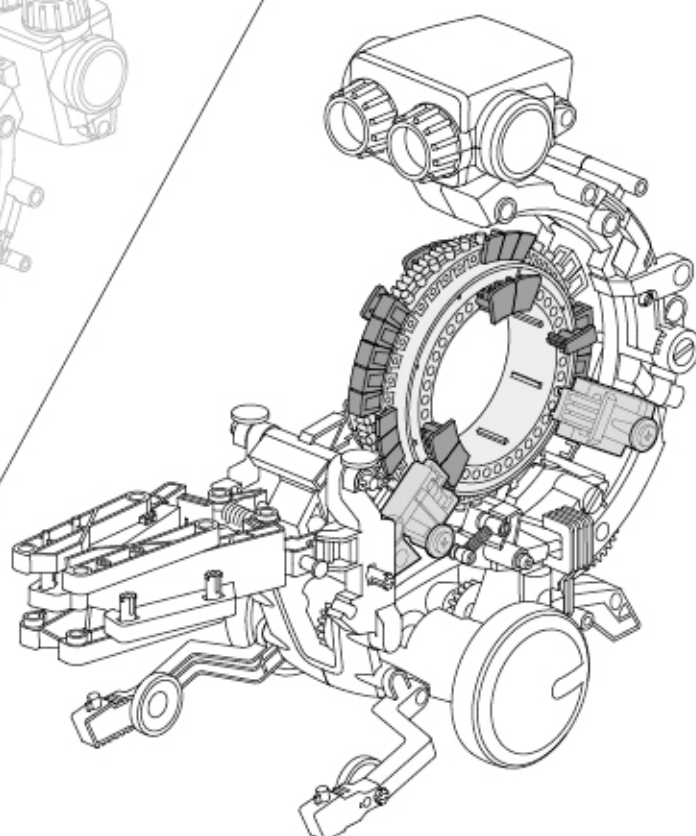
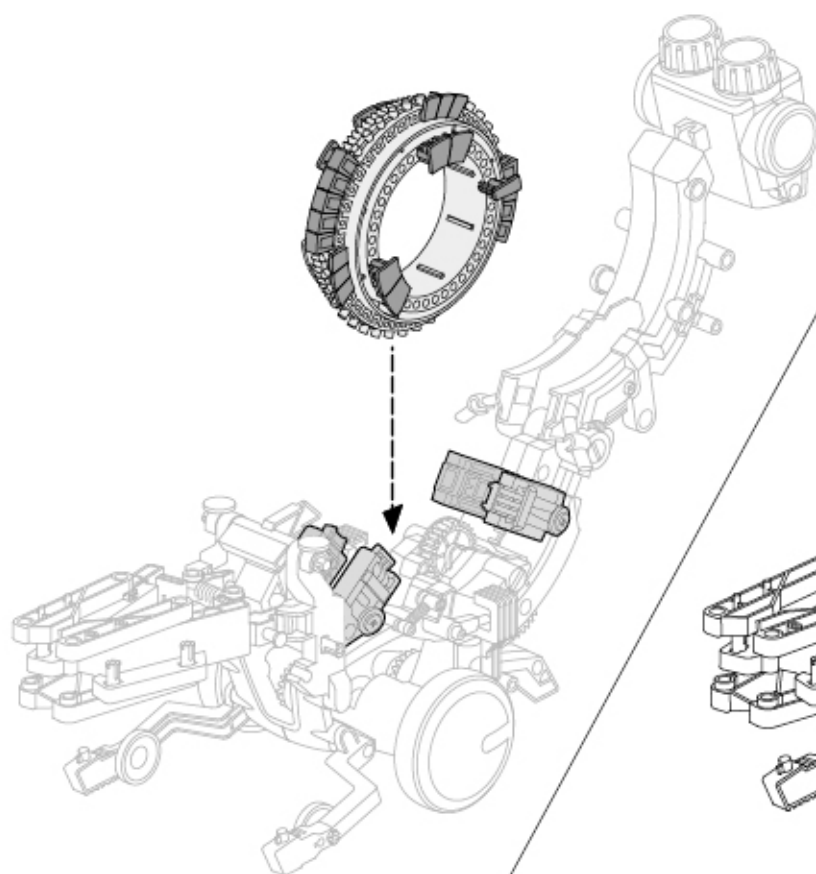
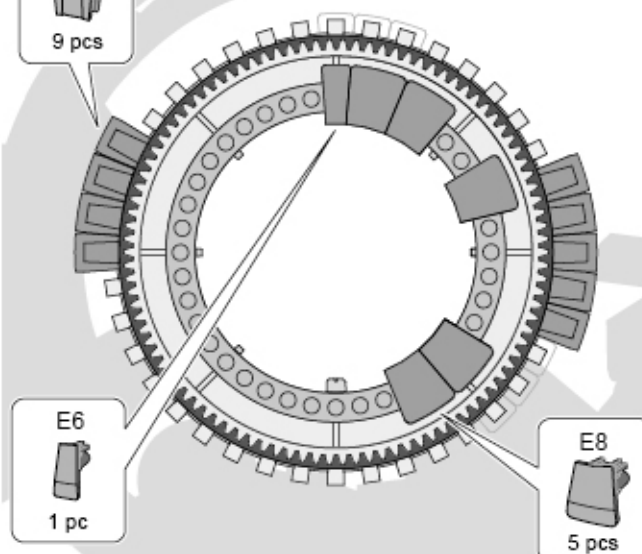
CODING WHEEL

Left side



CODING WHEEL

Right side



! Please refer to page 15 step 1 to page 17 step 6 . Ensure the coding wheel is assembled correctly.

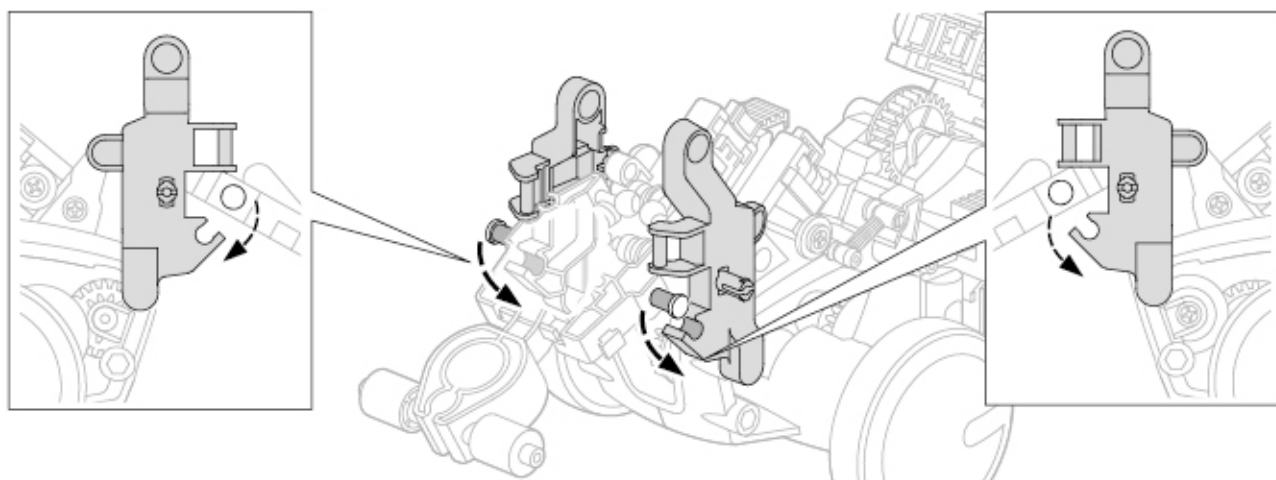
1



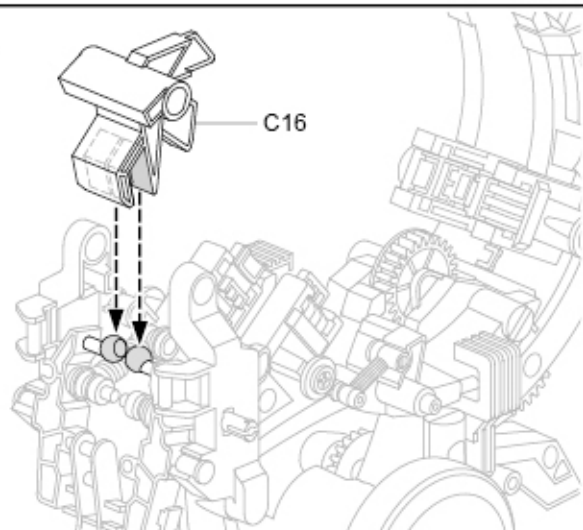
2



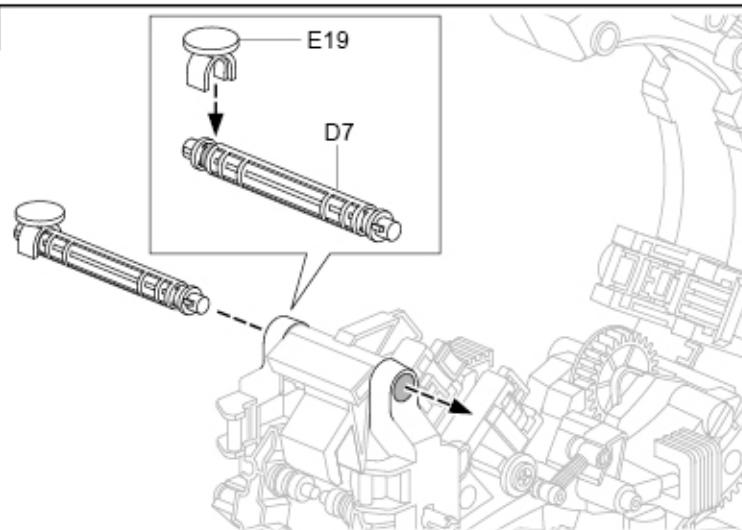
3



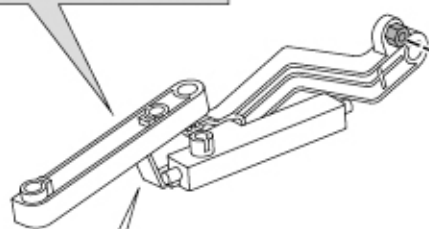
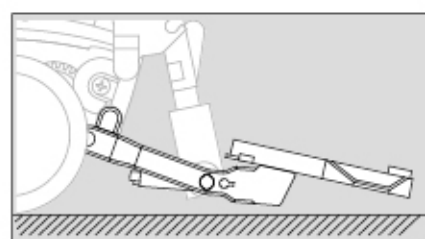
4



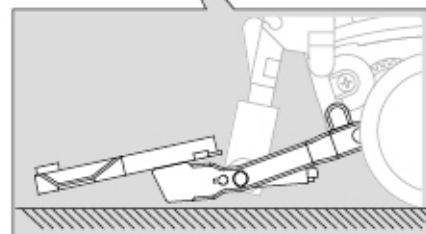
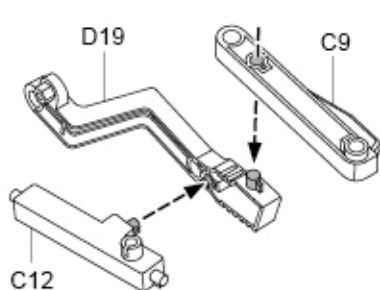
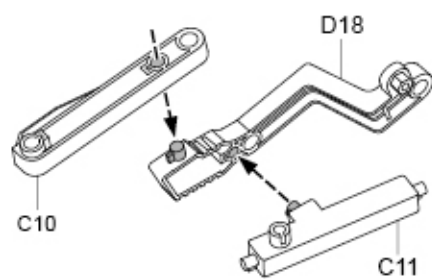
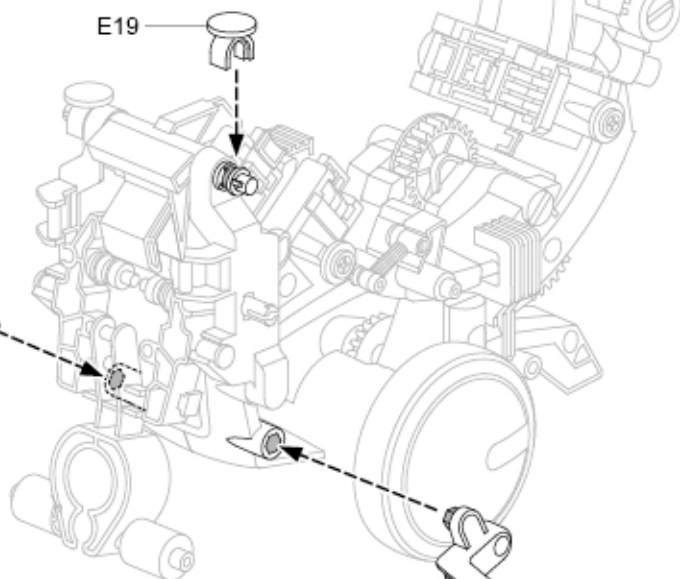
5



6



E19



Soccer-bot Example 01

<https://www.youtube.com/playlist?list=PLCDHXNSOfhXP5UHZAokocWmGMxVvQVA5k>

Video Tips



Parts Required:



E5x4



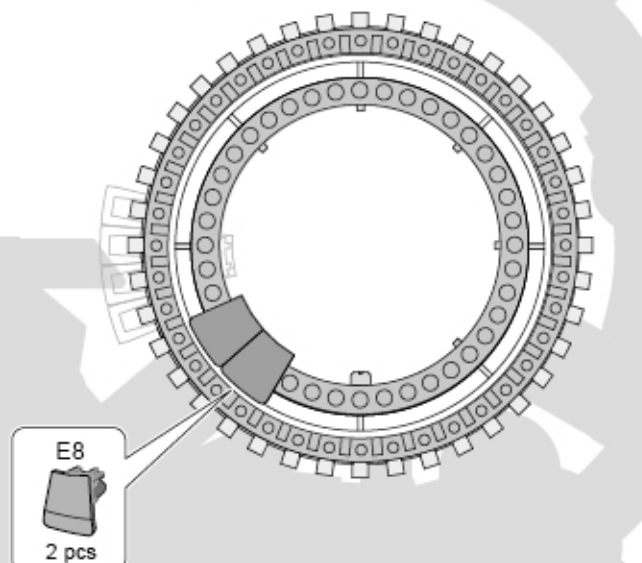
E8x5



Pay attention to assembly sequence and position of both sides of the coding wheel.

CODING WHEEL

Left side



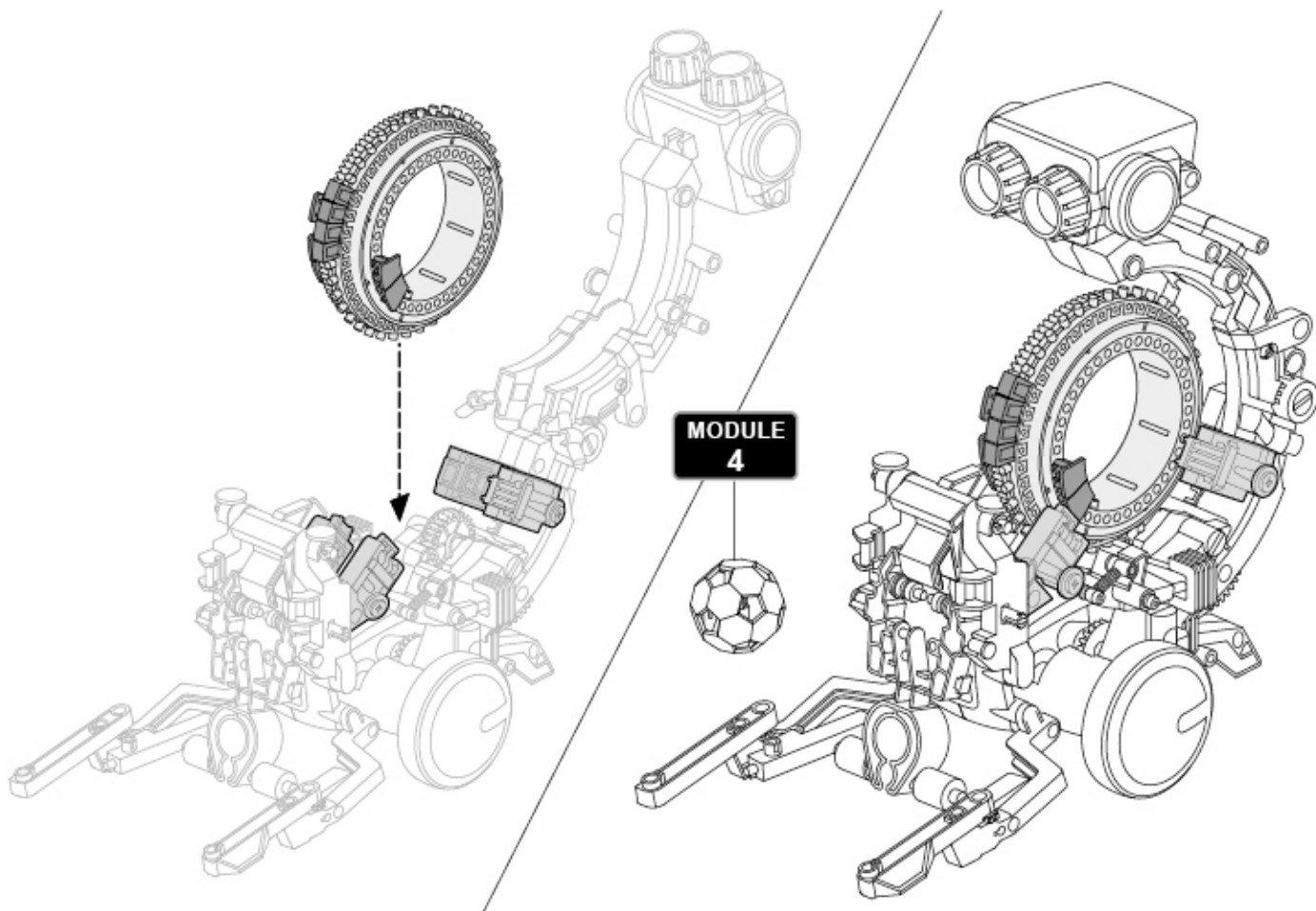
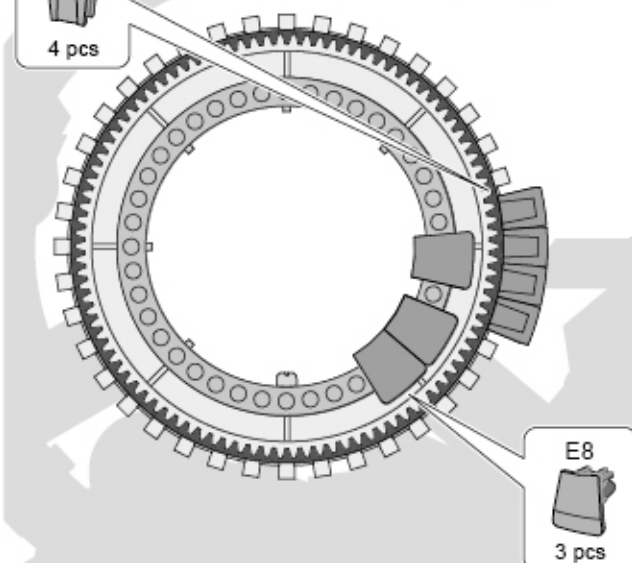
E5



4 pcs

CODING WHEEL

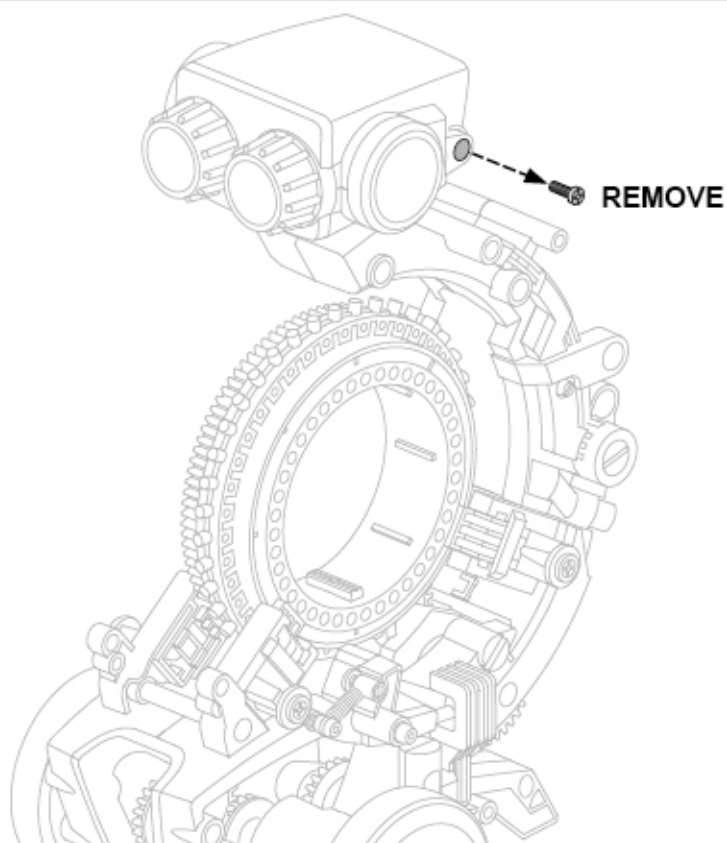
Right side



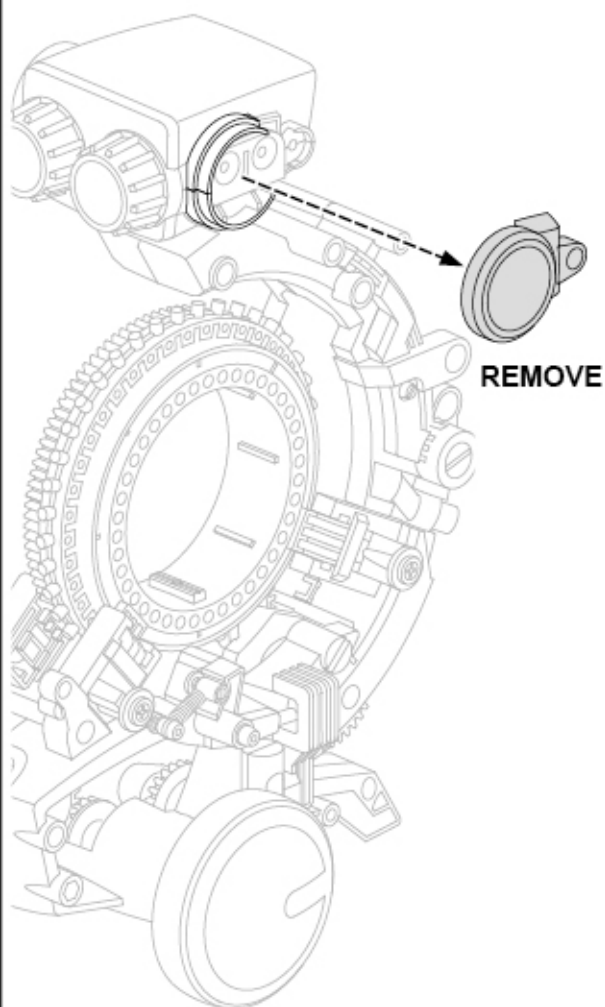
Please refer to page 15 step 1 to page 17 step 6. Ensure the coding wheel is assembled correctly.

How to Replace the Batteries

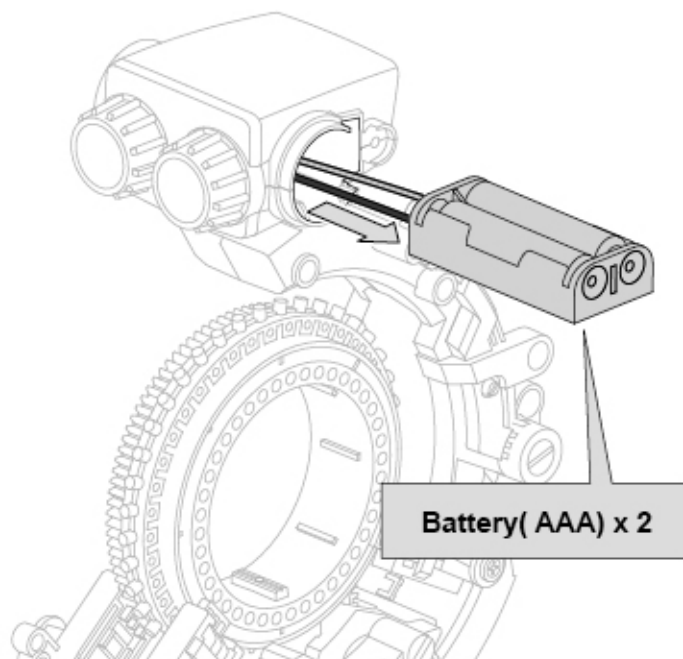
1



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.

- 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.

5ⁱⁿ1

Mechanical CODING robot

- 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.
- Remove exhausted batteries from the product to avoid leakage.
- 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.
- Rechargeable batteries are only to be charged under adult supervision.
- Rechargeable batteries are to be removed from the toy before being charged.

