

HYDRAULIC ROBOT ARM



Assembly & Instruction
Manual



Contents

Product Introduction	1
Tools You May Need	1
Mechanical Parts List	2
Plastic Parts	3
Mechanical Assembly	
Gripper Unit Assembly	6
Stand & Control Base Assembly	7
Main Body Assembly	13
How To Oil The Parts	20
H0~H5 Cylinder Assembly	20
I1 ~ I5 Cylinder Assembly	26
How To Cut The Tube	35
How To Fill Up The Cylinder With Water	36
How To Fit Tube	37
Hydraulic Cylinder Module Assembly	37
Lever Controller Assembly	49
Controller Module Assembly	51
Robot Arm Module Assembly	66
How To Play	76
Trouble Shooting	86

HYDRAULIC ROBOT ARM

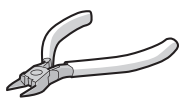
Product Introduction

This Robot Arm has made a little more interesting and hydro-mechanically fun.

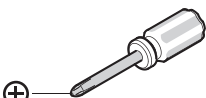
With Hydraulic Arm Edge, command six axes of varied movements: the gripper to open and close up to 1.89 inches, wrist rotation of 180 degrees, wrist mobility of 98 degrees, elbow range of 44 degrees, base rotation of 270 degrees, and shoulder motion of 45 degrees. With a vertical reach of 16.35 inches, horizontal reach of 12.42 inches, and lifting capacity of 50g, your robotic friend is ready for your genius to erupt. With the removal of the gripper, you can activate the suction apparatus. This feature enables the user to elevate objects with a larger surface area (like a small mobile phone). Another prodigious attribution is a braking system that is integrated in the lever controllers to execute all commands accurately. WOW!

How does Hydraulic Robot Arm equate to fun? Children will have total command and visual manipulation using the science principles of a Hydraulic system and its application. Easy to follow instructions with detailed graphic illustrations pave the way for successful and satisfying kit building of 229 pieces. Compliment your engineering, math, science, and technology learning strategy. No battery or motor required. It is powered by water; thus, the "Hydraulic" significance and how it manipulates axes movement via lever controllers. Hydraulic Robot Arm is recommended for ages 10 and up, but with its 229 assembly parts, it will challenge the beginner engineering enthusiasts.

Tools You May Need



Diagonal Cutter



Screwdriver



Scissors



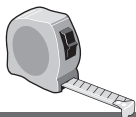
Tissue Paper



Cup & Water



Marker Pen (Fine)



or




Tape Measure or Ruler

Mechanical Parts List

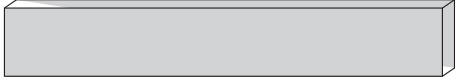
! Product contains functional edges and sharp points.

P1 Tapping Screw(Short)




9 pcs

P3 Iron Bar (Short)



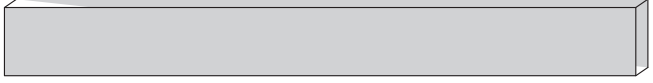
1 pc

P2 Tapping Screw(Long)



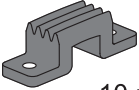
28 pcs

P4 Iron Bar (Long)




1 pc

P5 Brake Pad



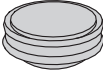
10 pcs

P6 Cap (Small)



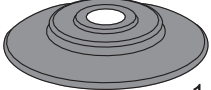
5 pcs

P7 Cap (Big)



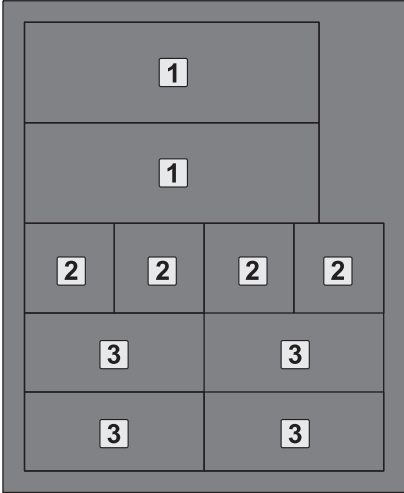
6 pcs

P8 Suction Cup




1 pc

P9 Sponge




1 pc

P10 Spring(Smallest)




5 pcs

P11 Spring(Short)




1 pc

P12 Spring(Medium)



1 pc

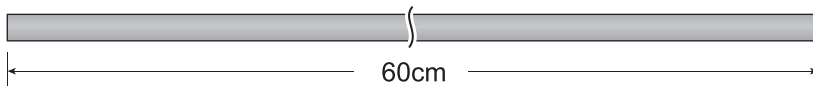
P13 Spring(Long)



1 pc

P14

Soft Tube



5 pcs

P15

Oil Bag

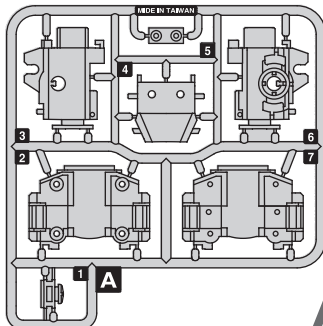


Do not touch the oil while fitting the soft tube.

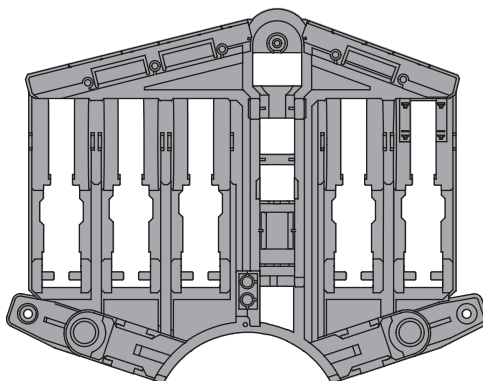
1 pc

Plastic Parts

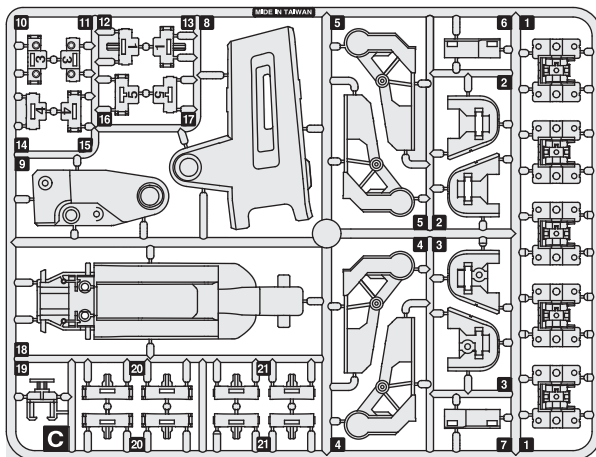
! Cut the plastic parts when they are required.
Do not cut them in advance.



A

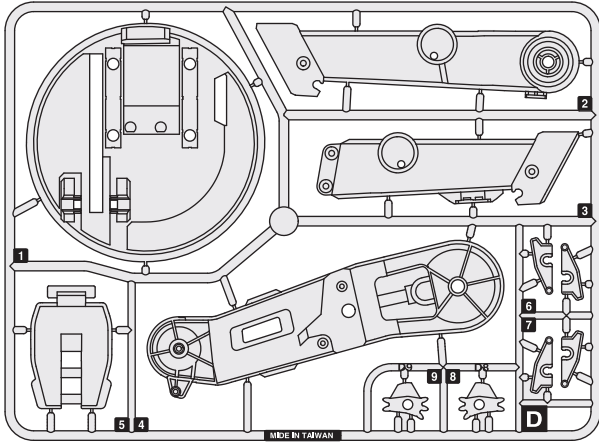


B

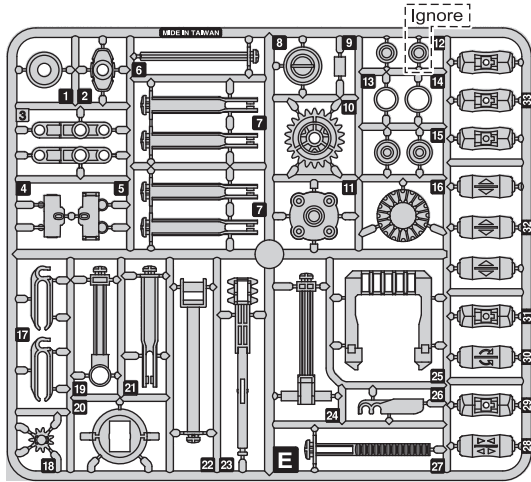


C

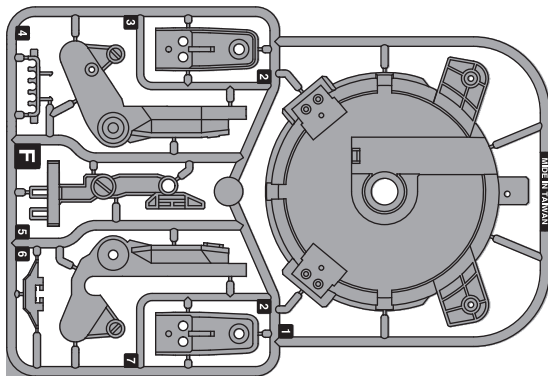
C



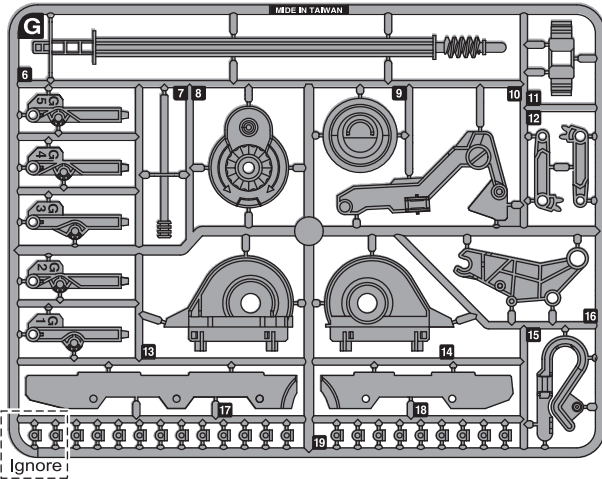
D



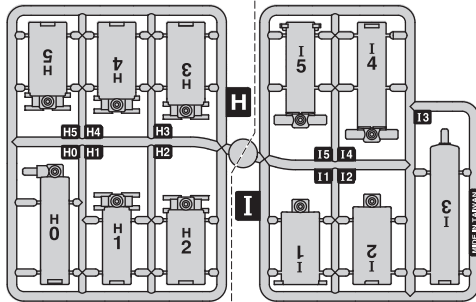
E



F



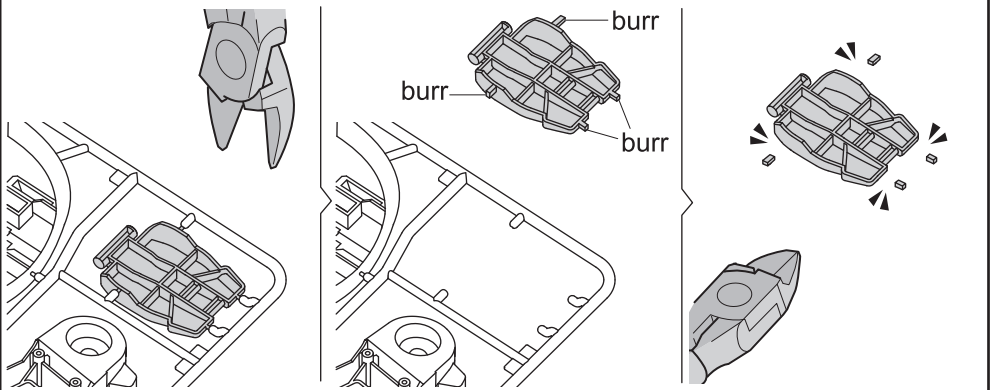
G



H

I

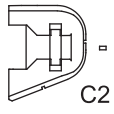
⚠ Tip: cut off the burrs before assembly



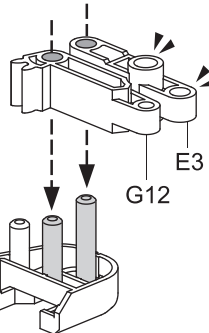
Gripper Unit Assembly

1

! Cut off the burrs before assembly.

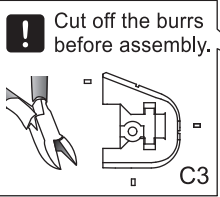


C2



G12

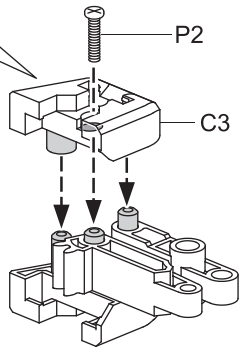
E3



! Cut off the burrs before assembly.



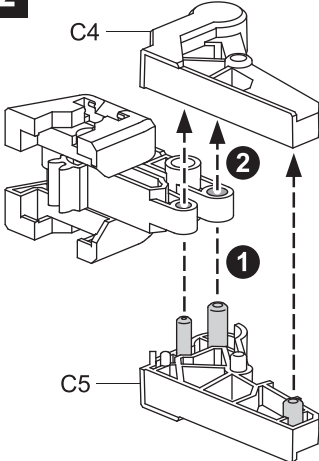
C3



P2

C3

2

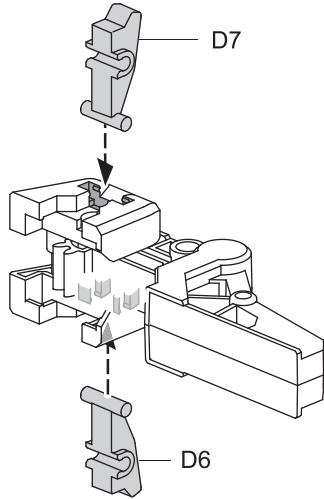


C4

2

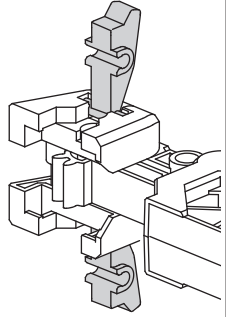
1

C5

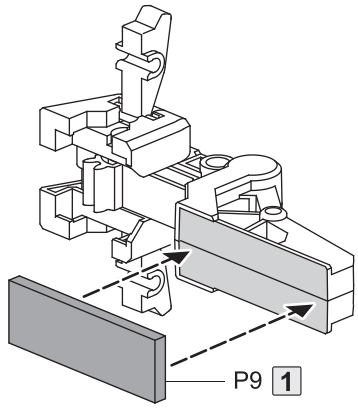


D7

D6

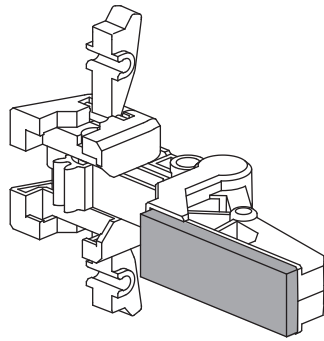


3



P9

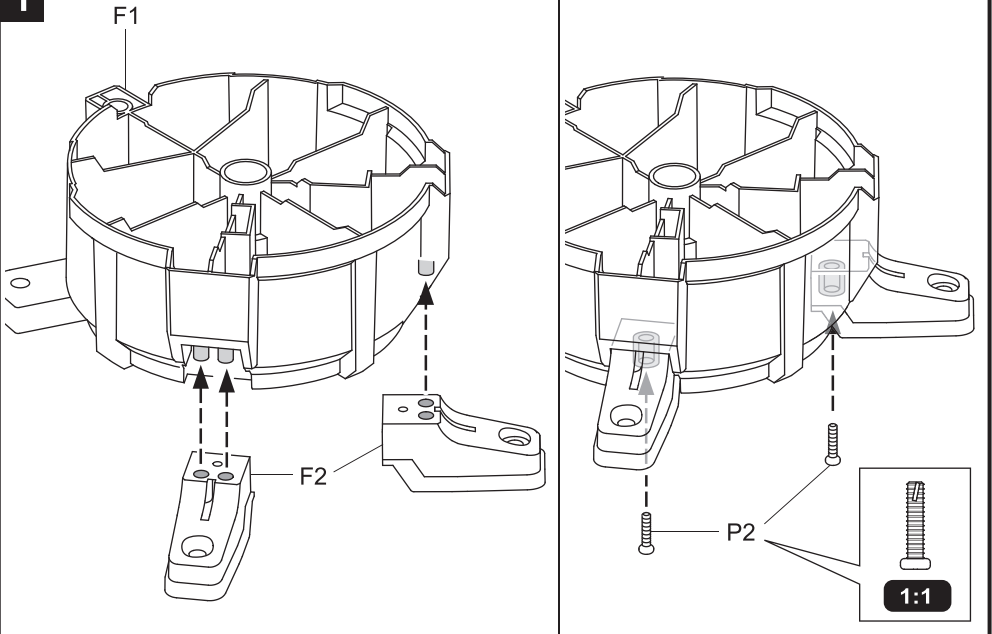
1



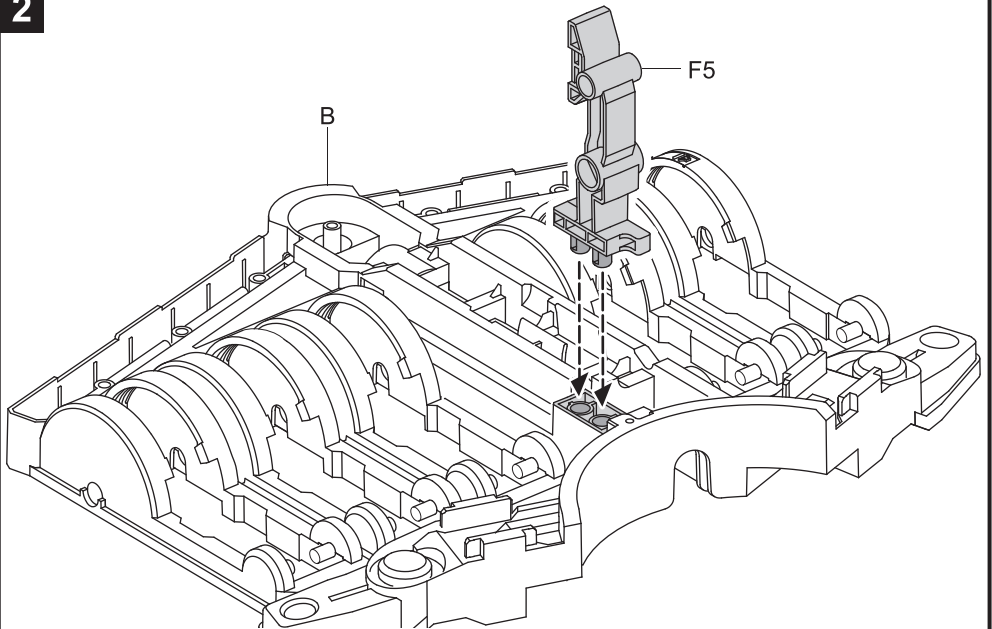
x2

Stand & Control Base Assembly

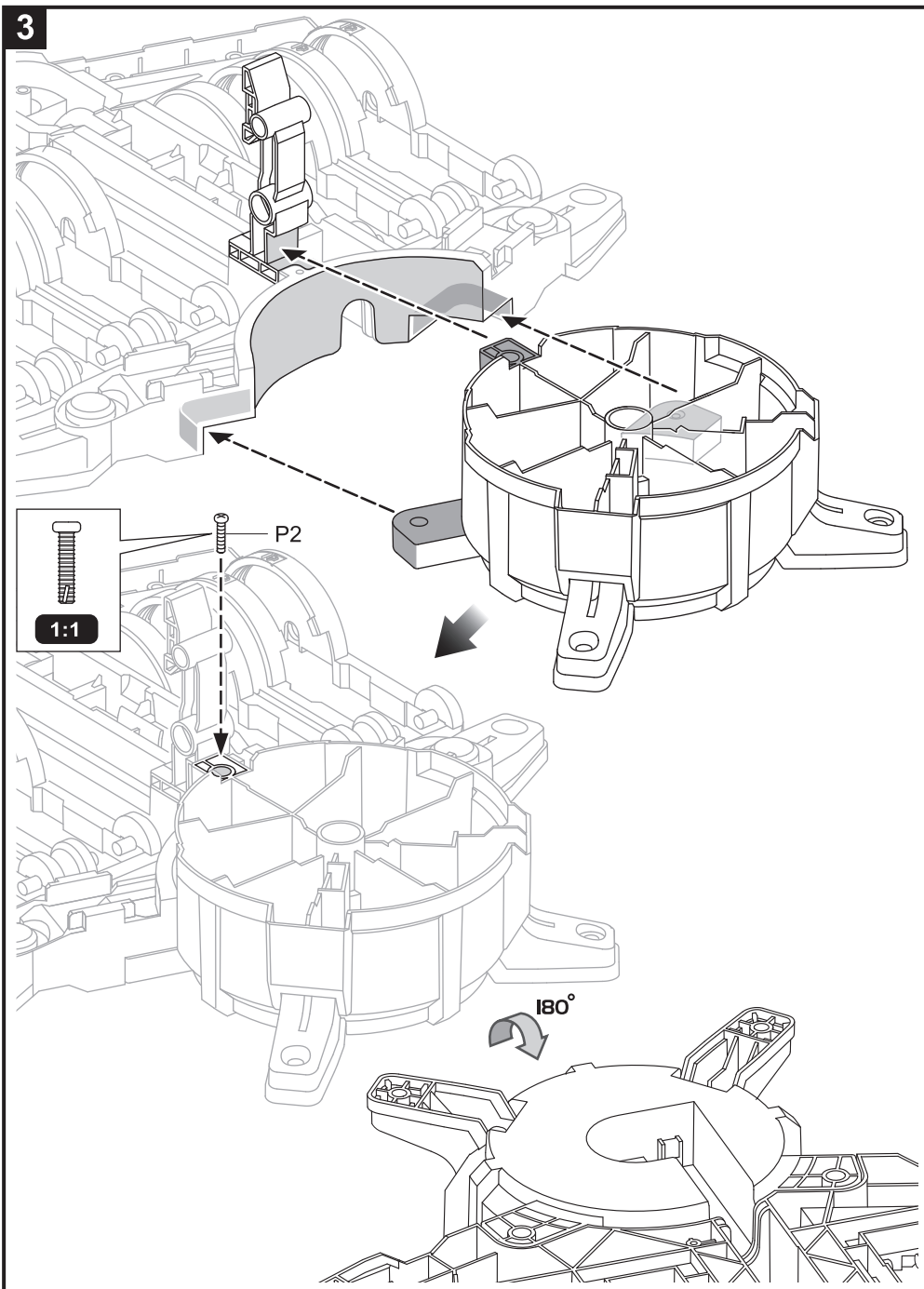
1



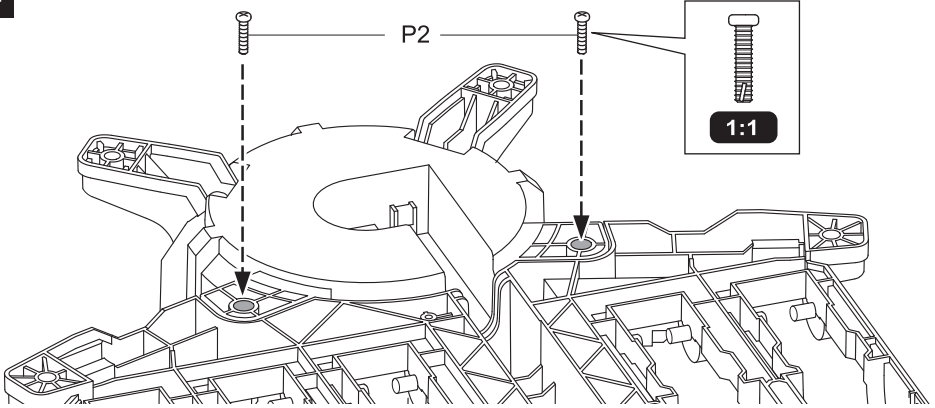
2



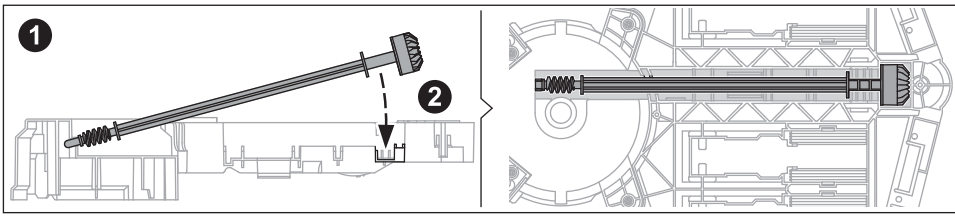
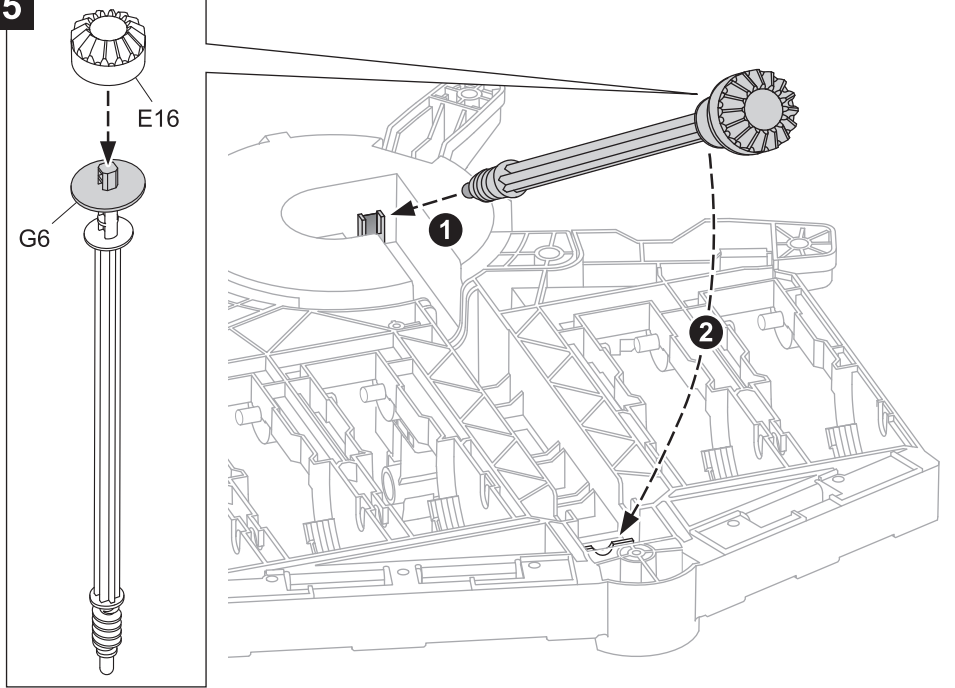
3



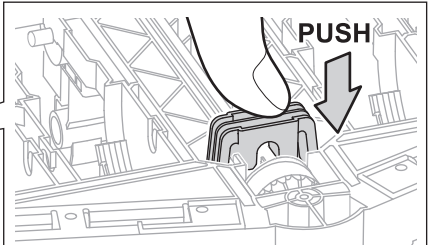
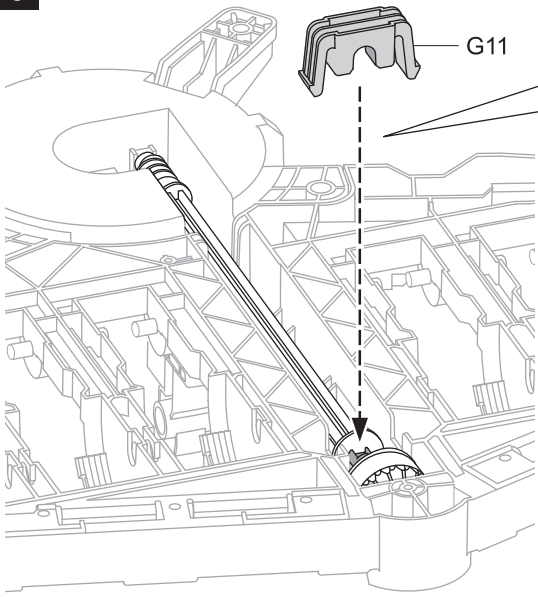
4



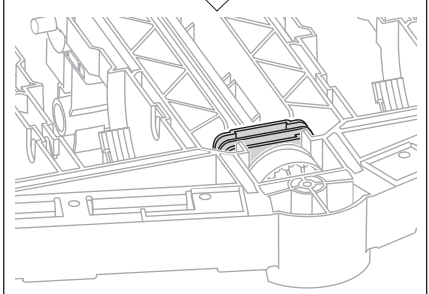
5



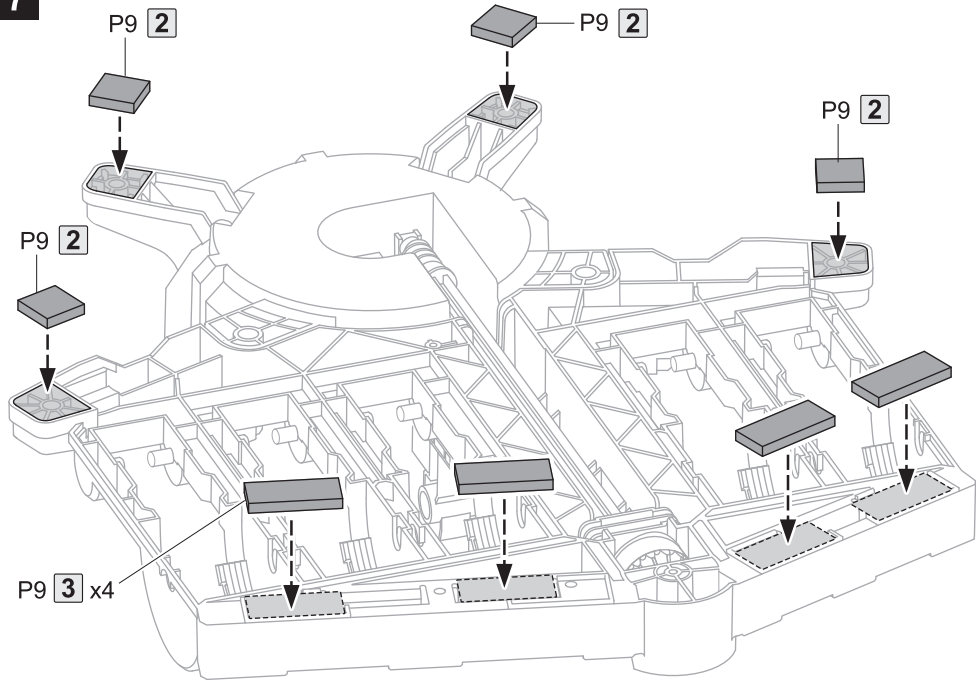
6



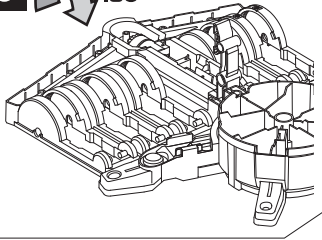
You will hear G11 snap into place when you push down far enough.



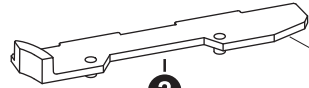
7



8

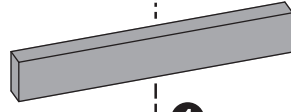


G17



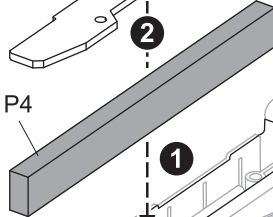
G18

2



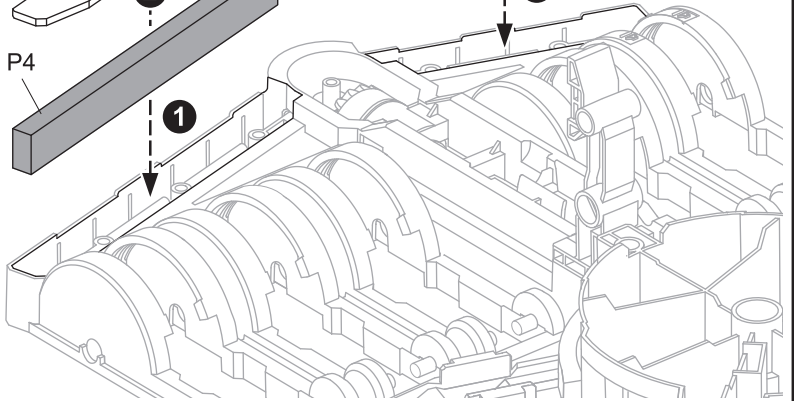
P3

1



P4

1



9

P1

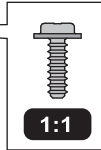
1

E2

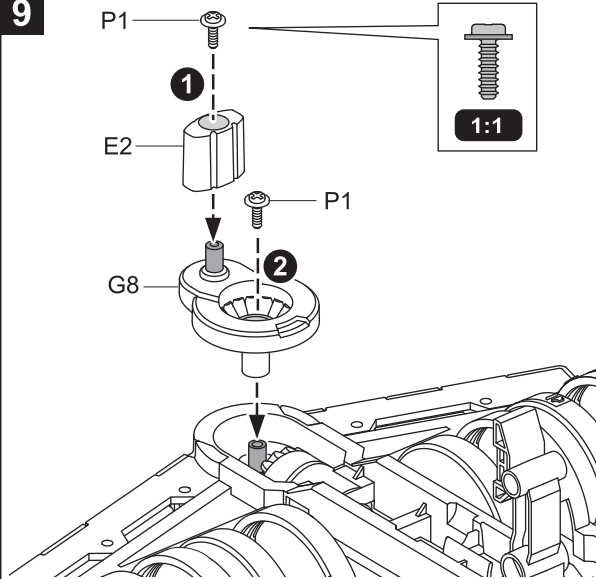
P1

G8

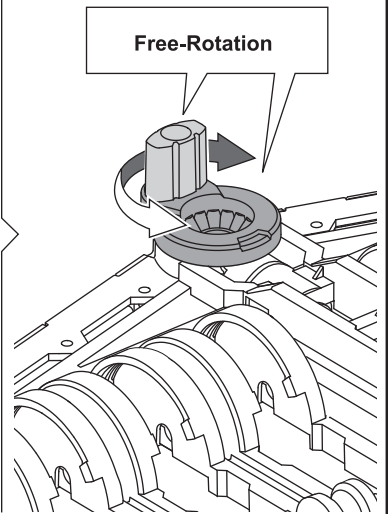
2



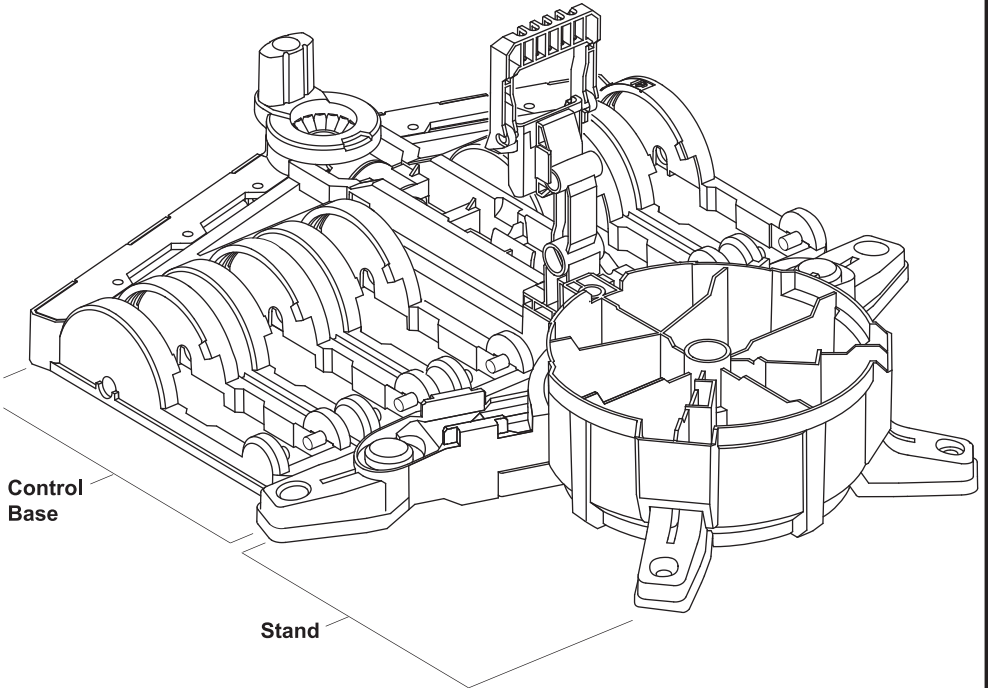
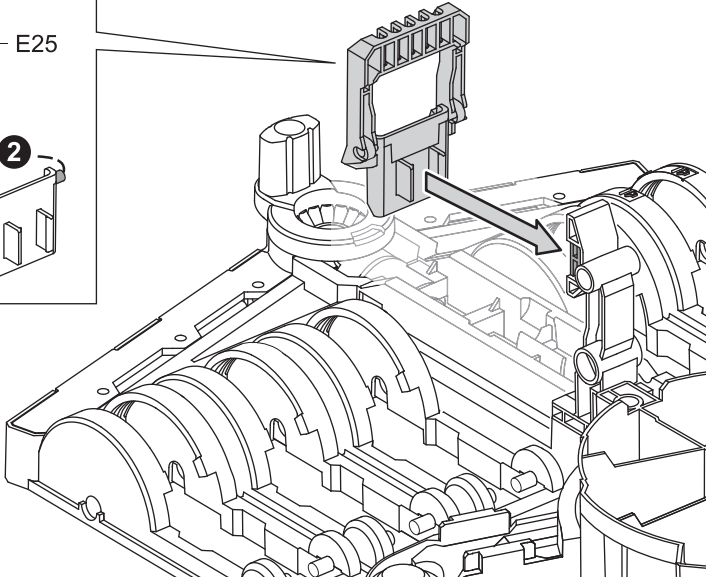
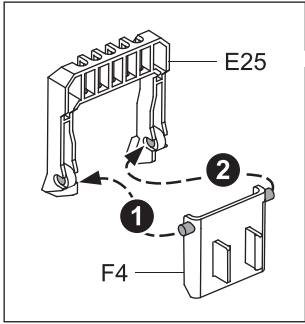
1:1



Free-Rotation

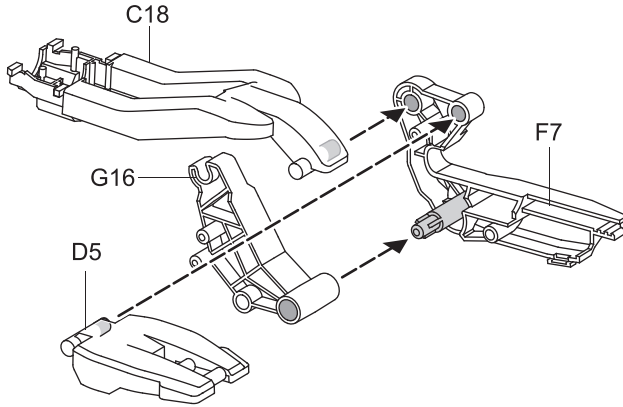


10

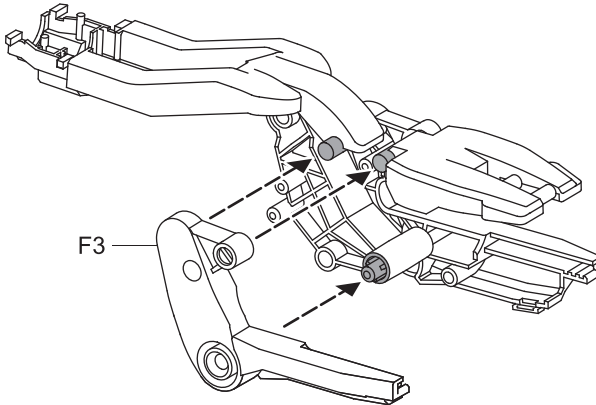


Main Body Assembly

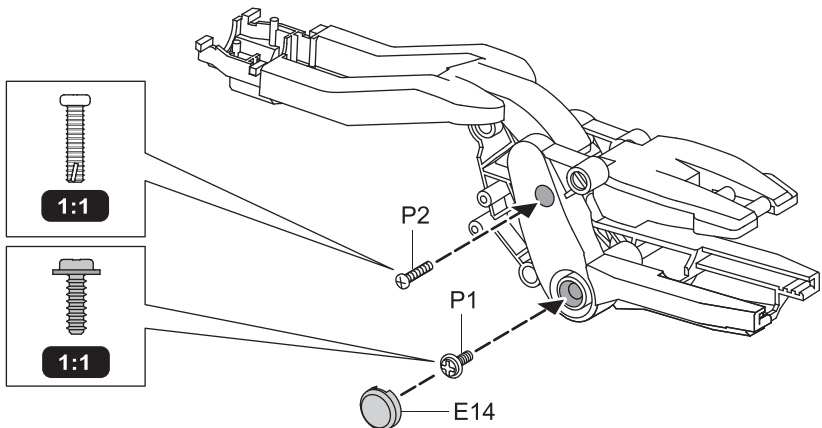
1



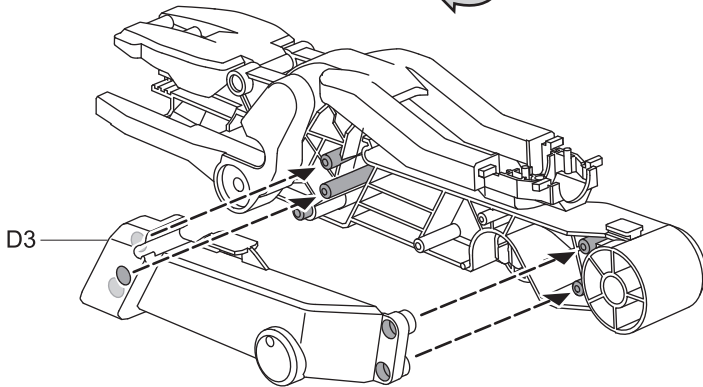
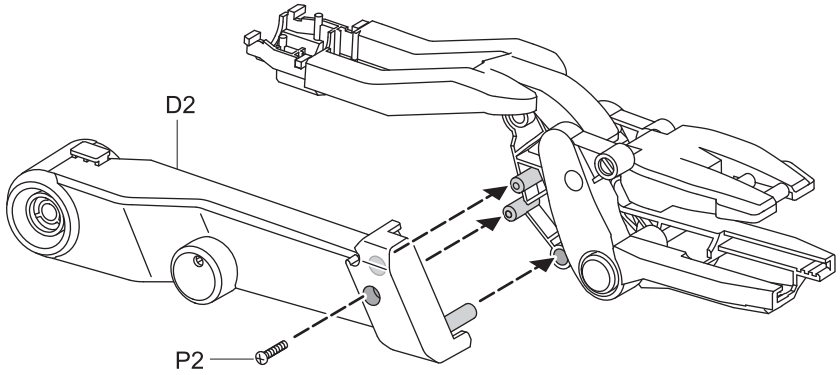
2



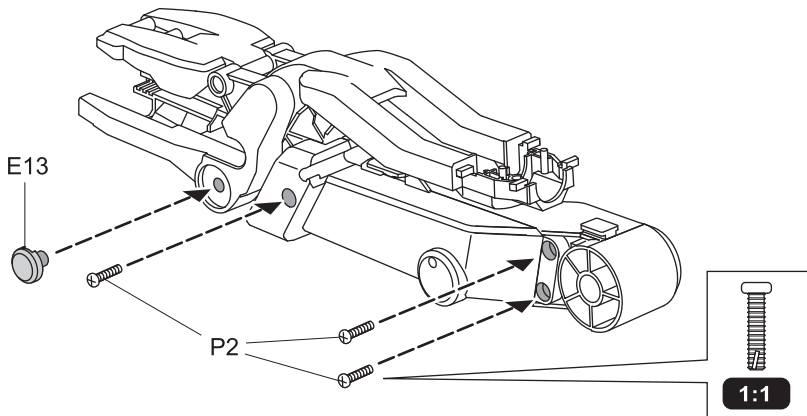
3



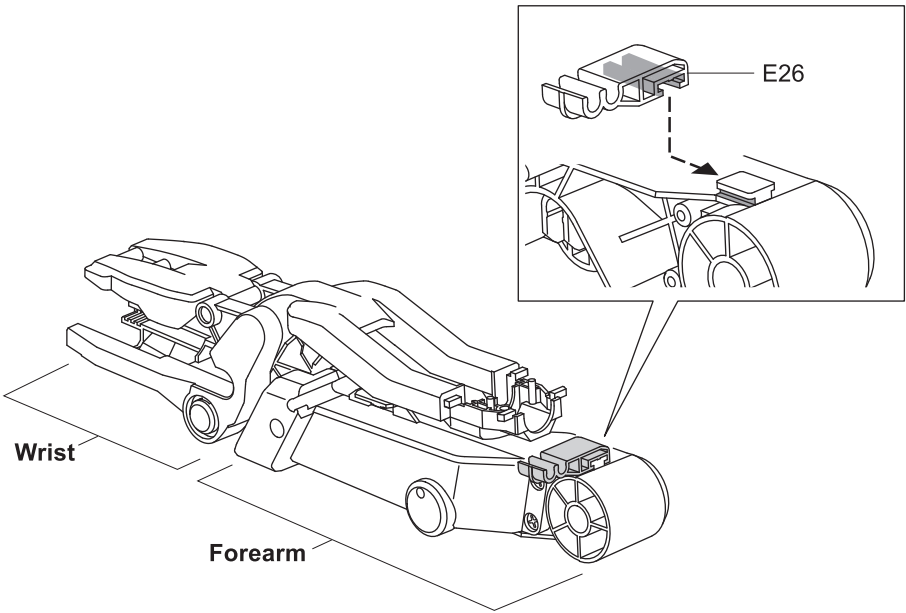
4



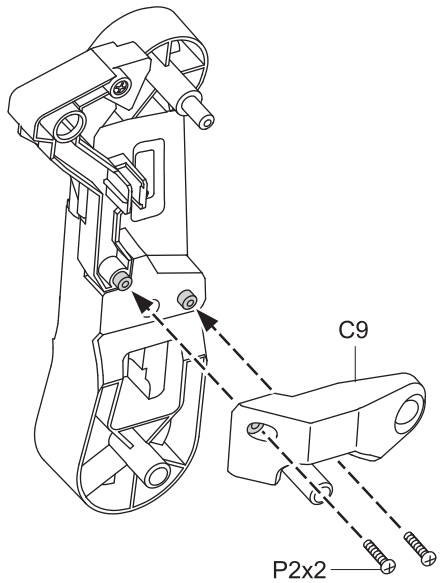
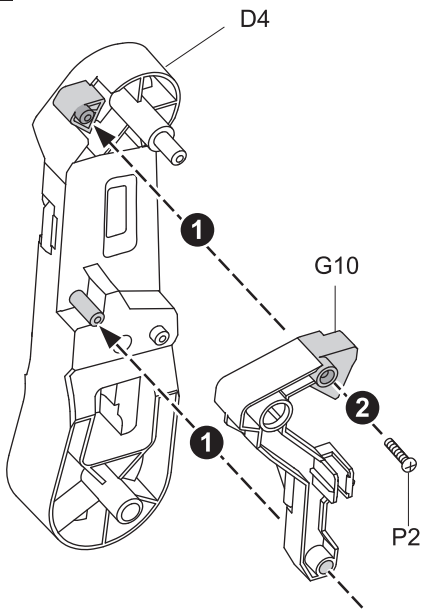
5



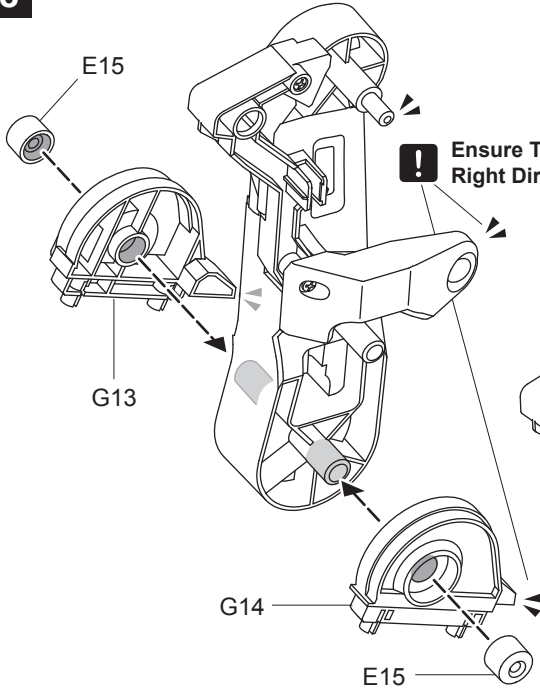
6



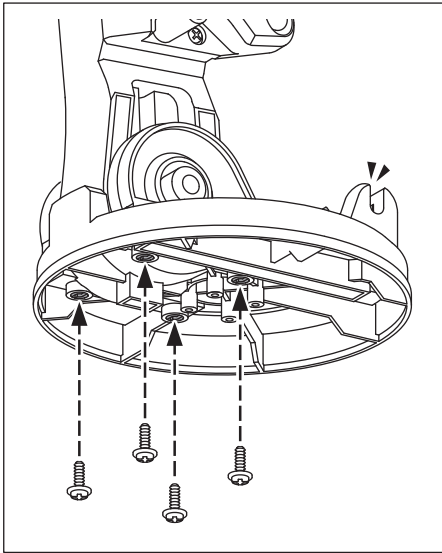
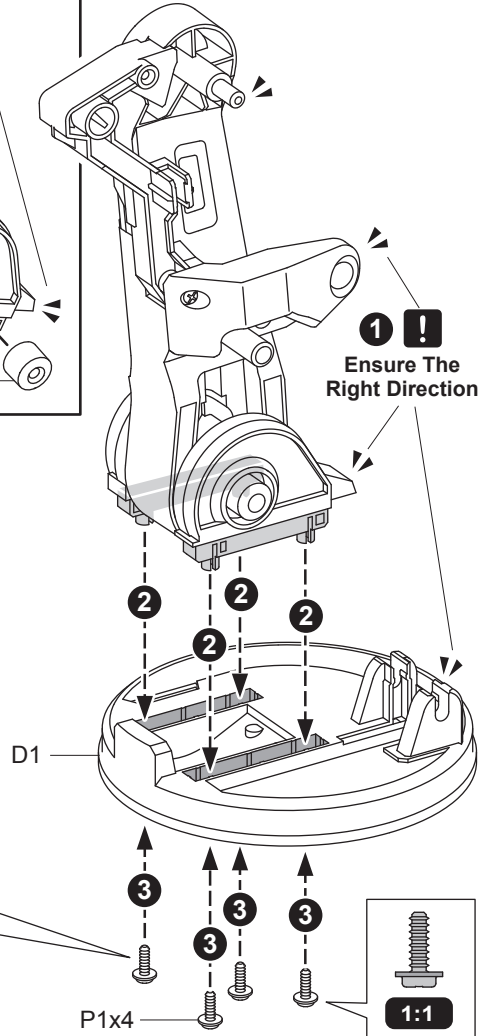
7



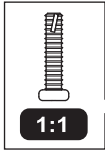
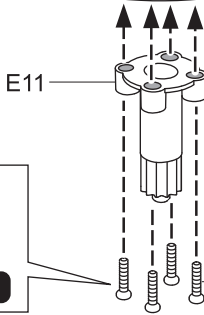
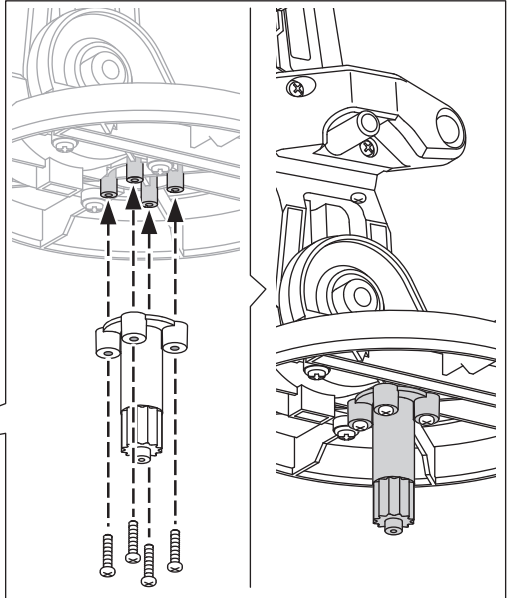
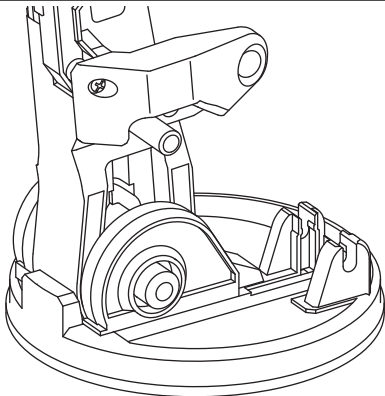
8



9



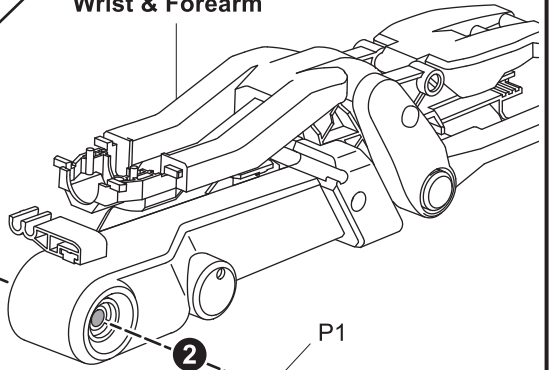
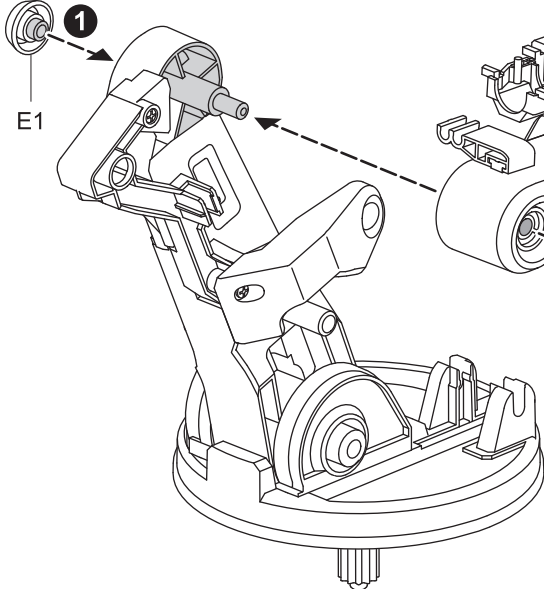
10



P2x4

11

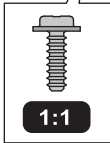
Wrist & Forearm

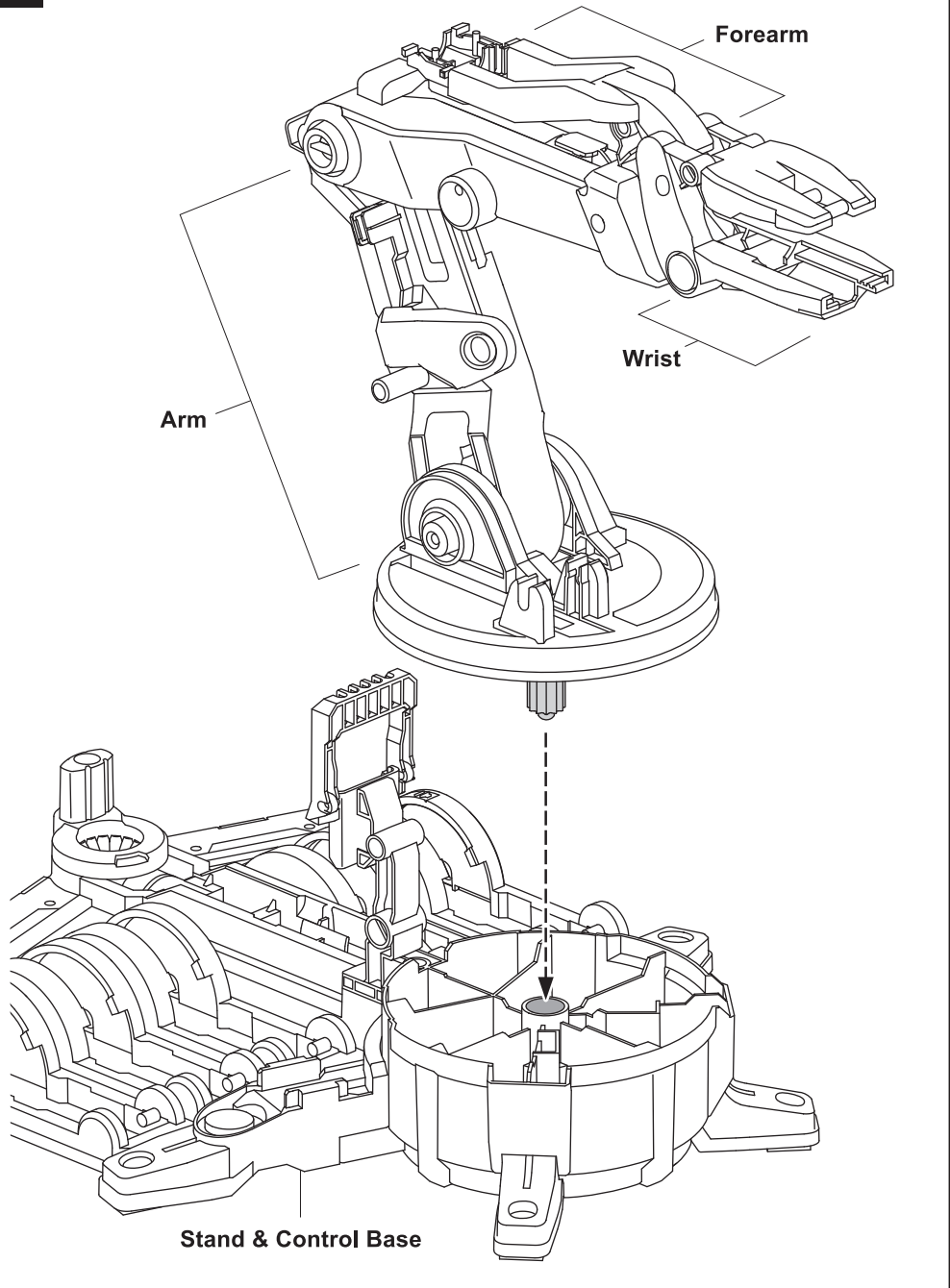


E1

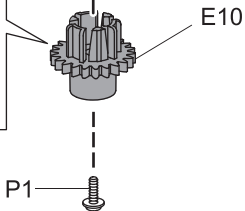
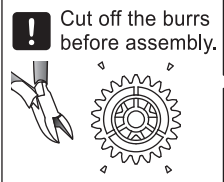
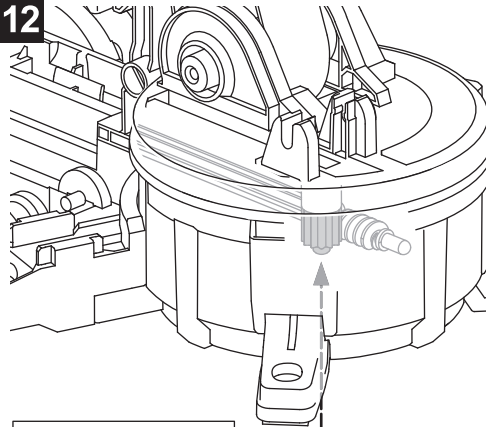
P1

E8



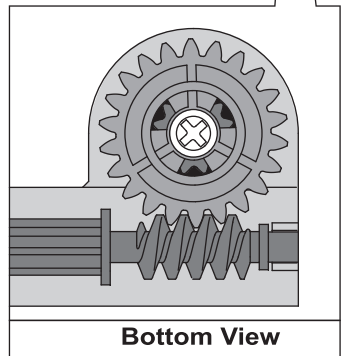
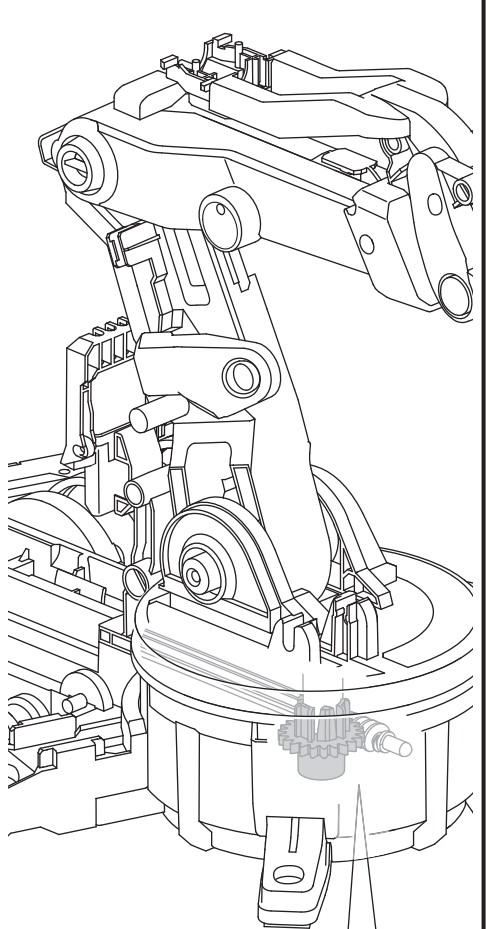
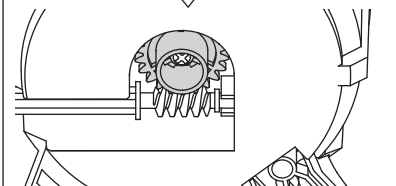
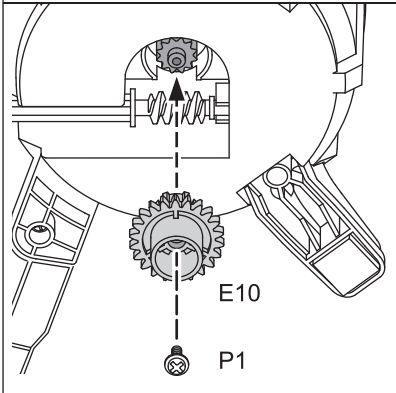


12



! Make sure E10 is not inserted upside down.

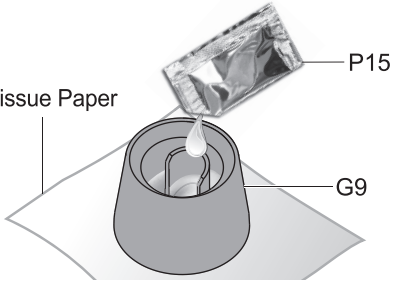
Bottom View



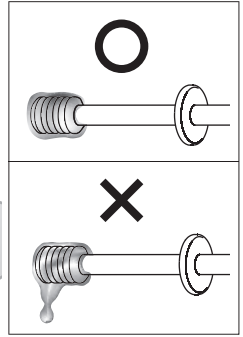
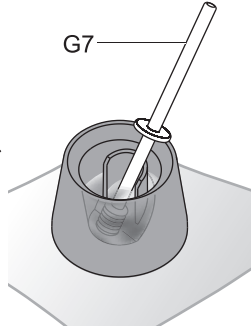
How To Oil The Parts

1

Tissue Paper



G7




Do not spill any oil from the G9 oil sink.
Keep oil contained.

2

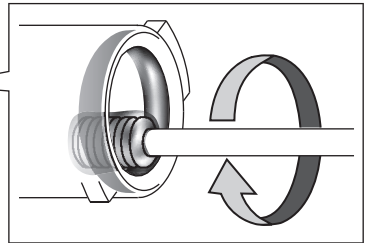
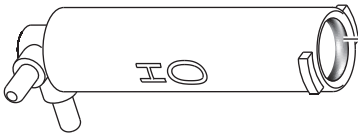


= Apply Oil

Note : Oil the parts when  appears.



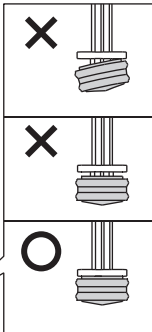
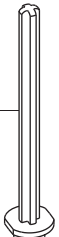
Do not oil outside the shadow as shown below.



H0~H5 Cylinder Assembly

H0 Cylinder Assembly

E6

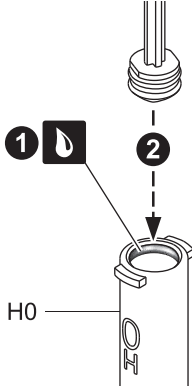


P6

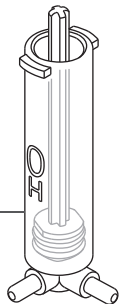
1

2

H0

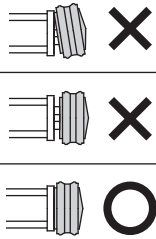
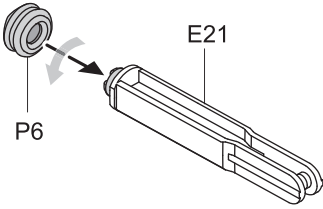


H0
Cylinder

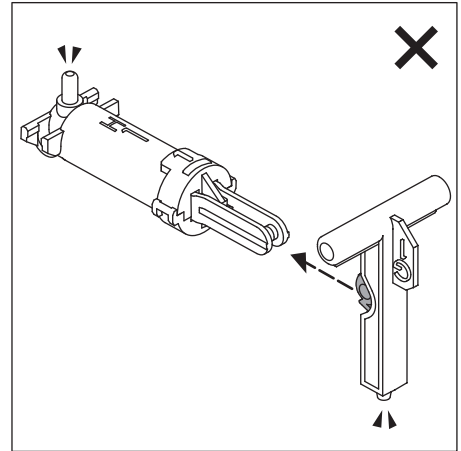
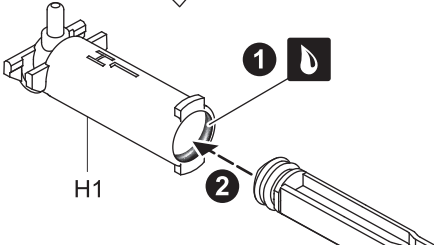
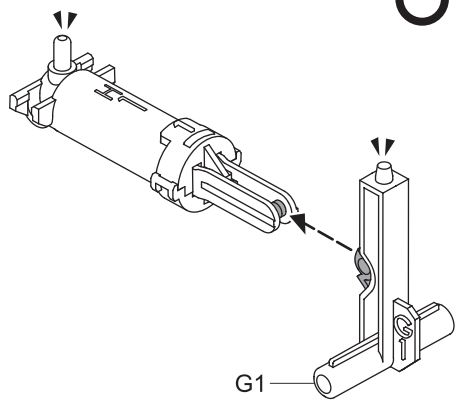


H1 Cylinder Assembly

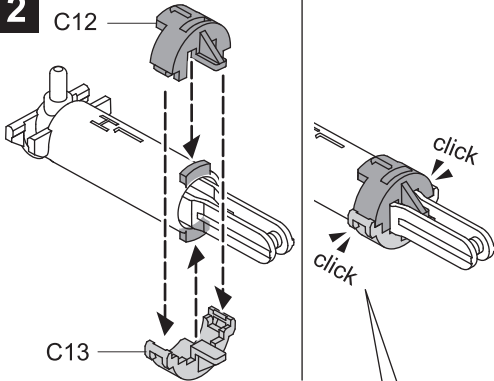
1



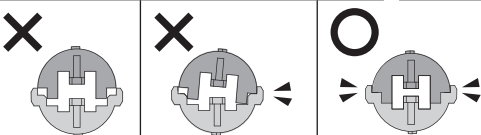
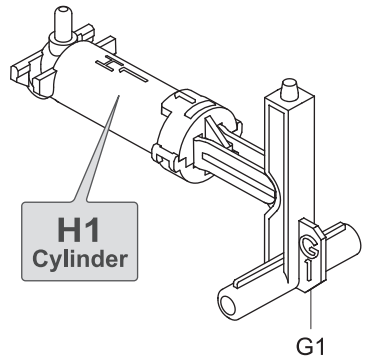
3



2

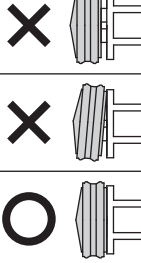
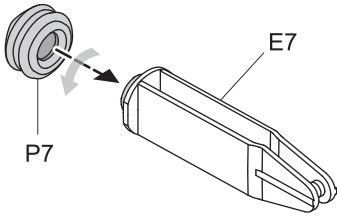


4

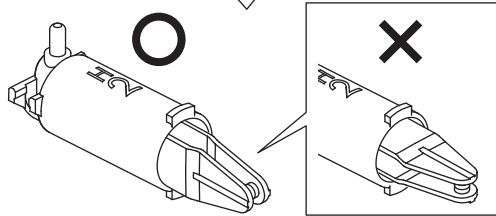
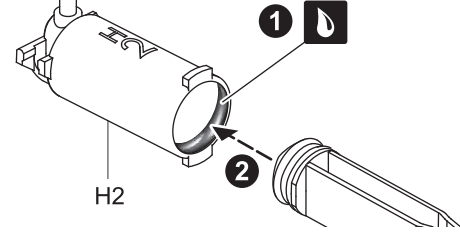
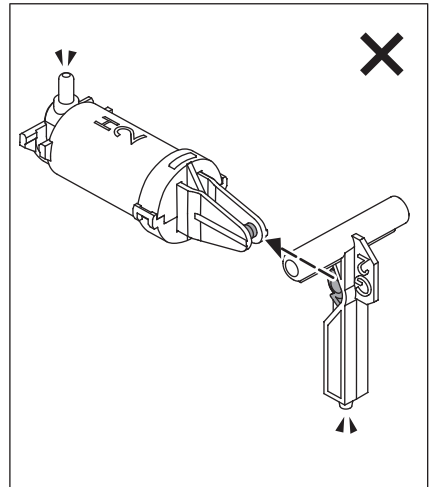
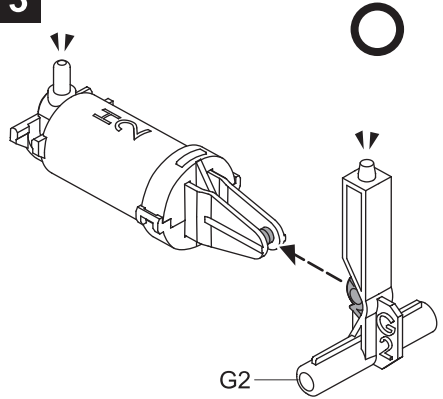


H2 Cylinder Assembly

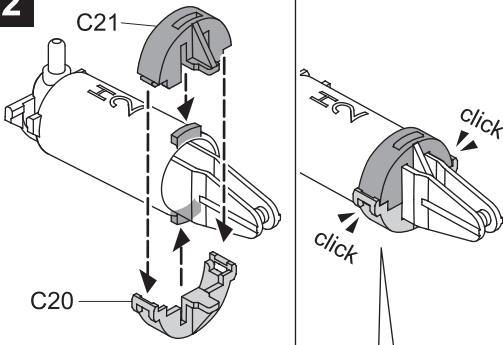
1



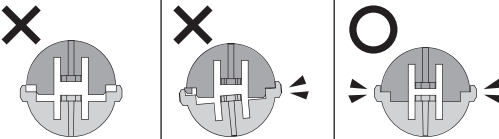
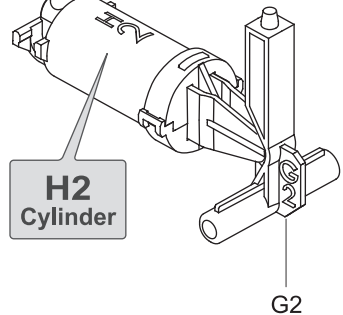
3



2

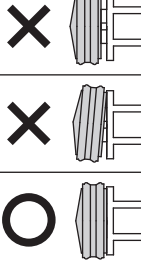
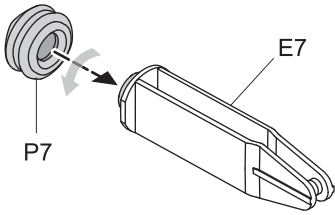


4

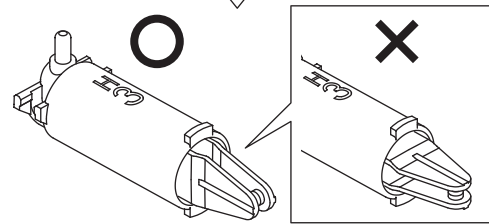
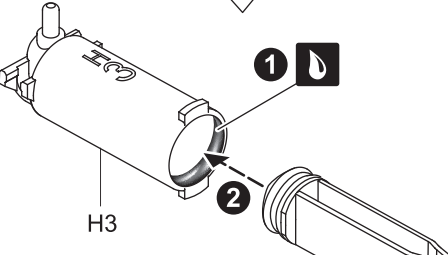
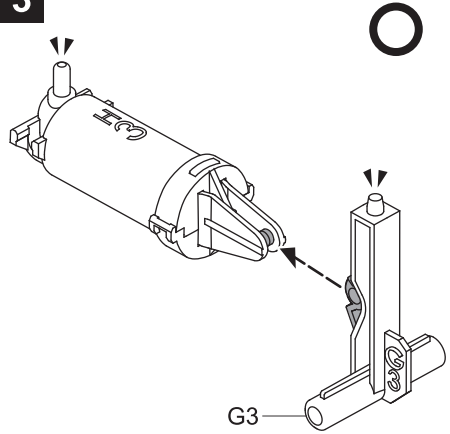


H3 Cylinder Assembly

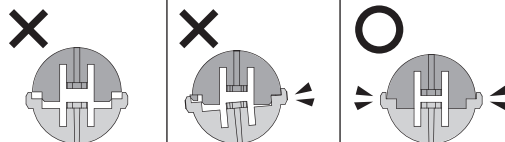
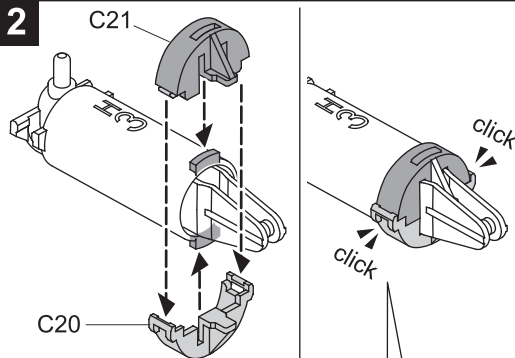
1



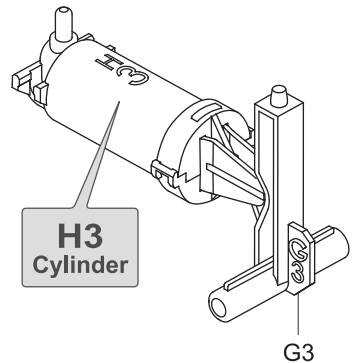
3



2

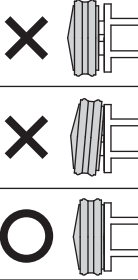
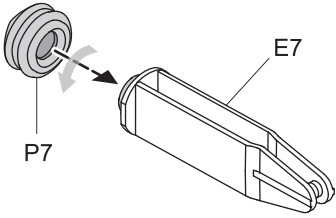


4

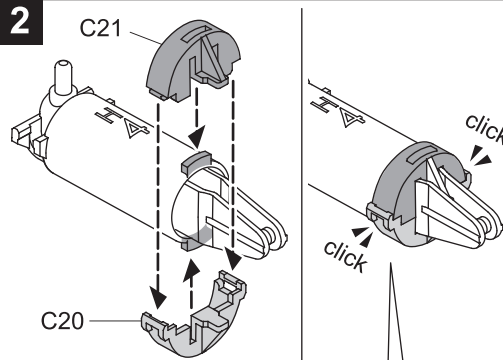
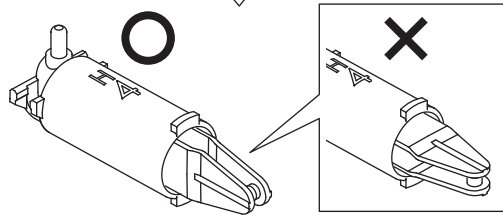
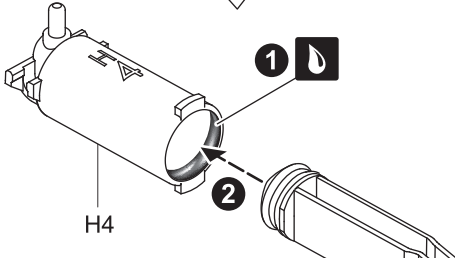
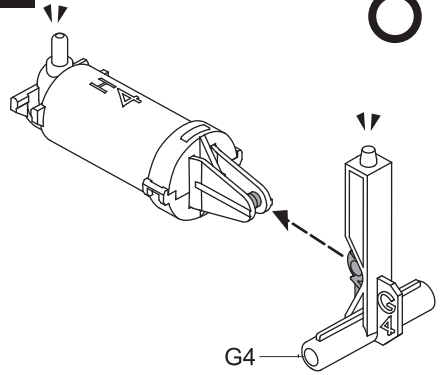


H4 Cylinder Assembly

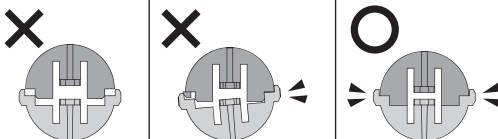
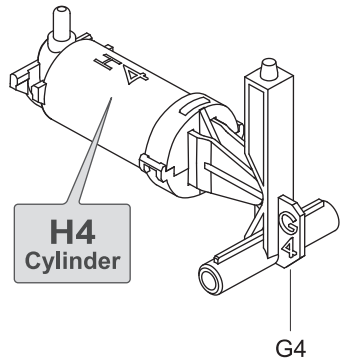
1



3

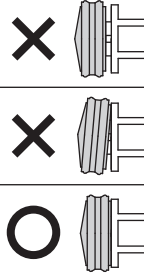
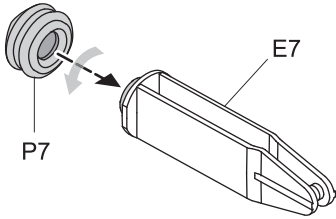


4

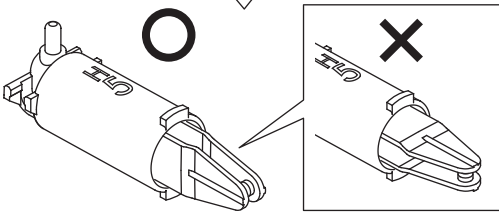
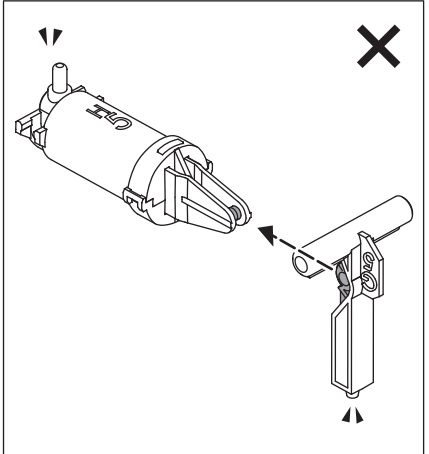
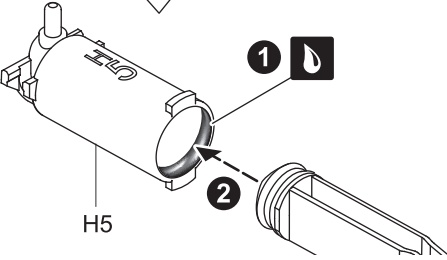
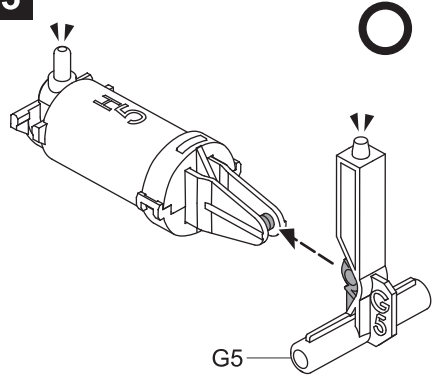


H5 Cylinder Assembly

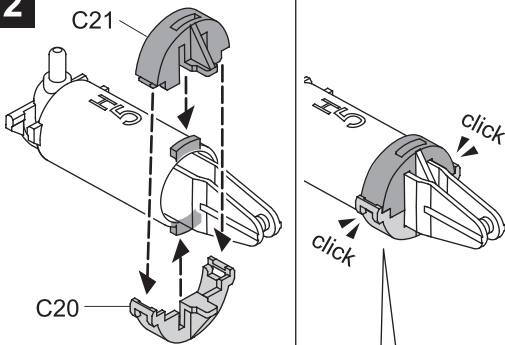
1



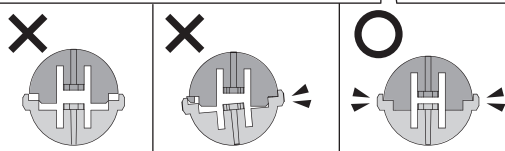
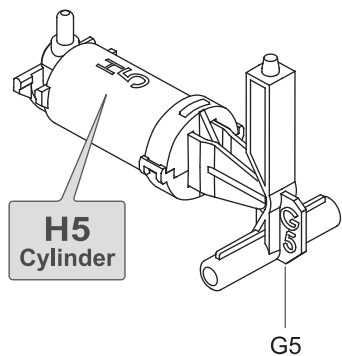
3



2



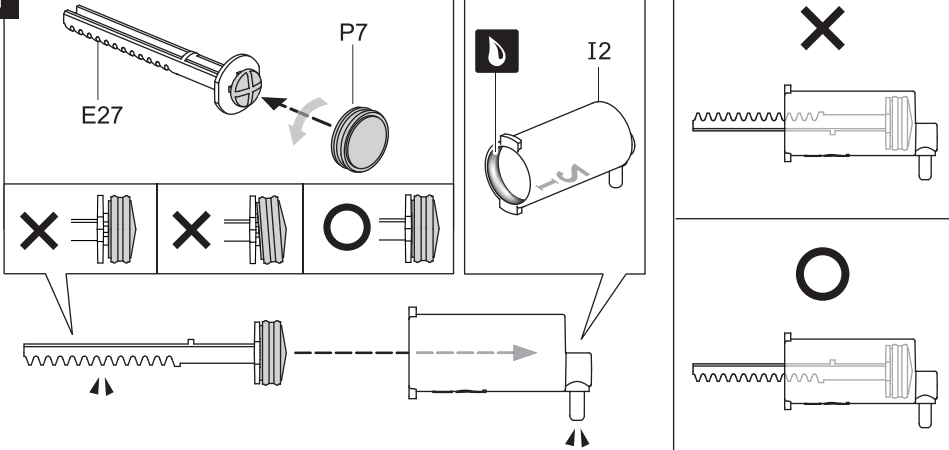
4



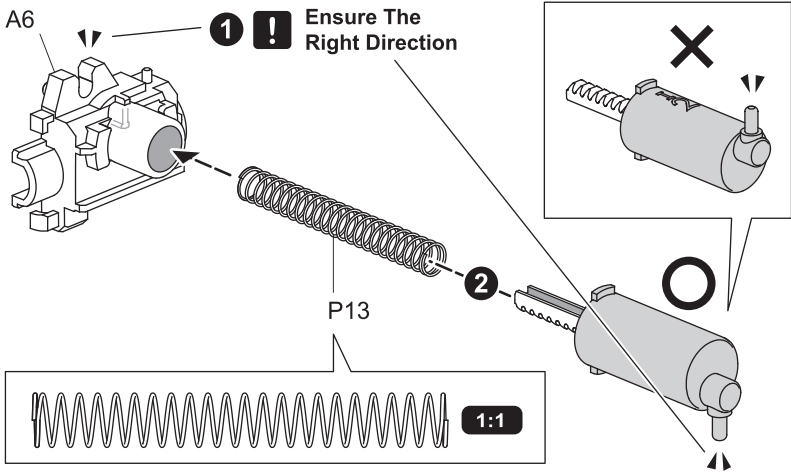
I1 ~ I5 Cylinder Assembly

I1 & I2 Cylinder

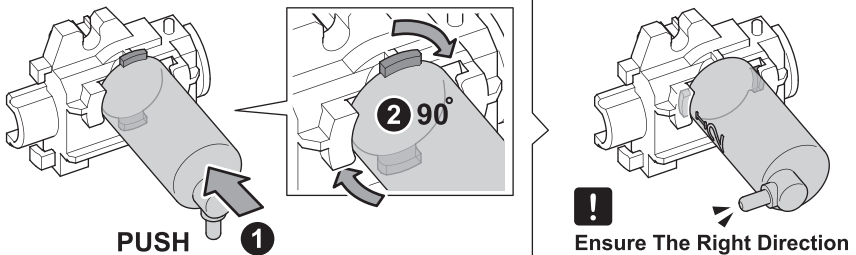
1



2

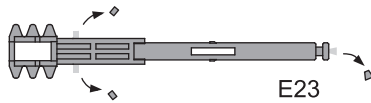


3

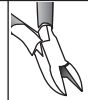


4

! Cut off the burrs before assembly.

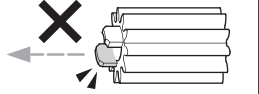


E23

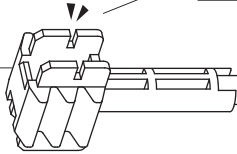


E18

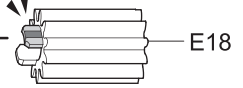
1 ! Ensure The Right Direction



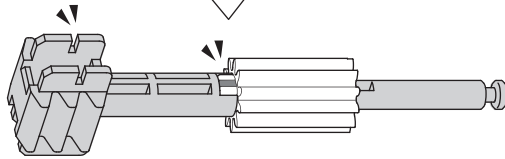
E23



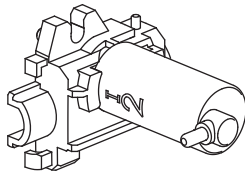
2



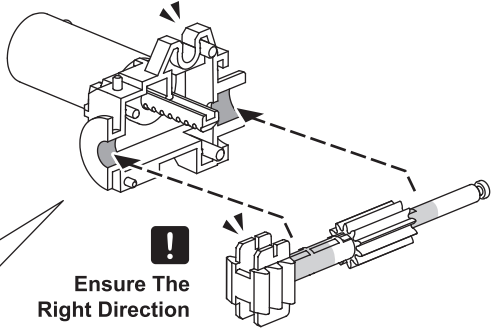
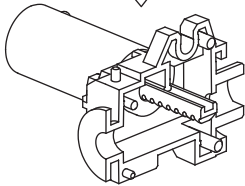
E18



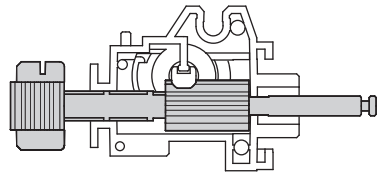
5



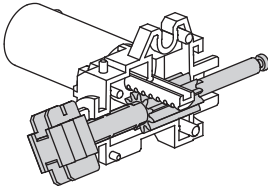
180°



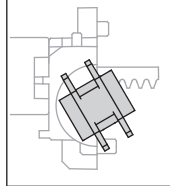
! Ensure The Right Direction



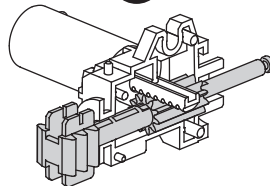
X



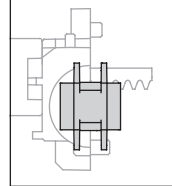
Front View

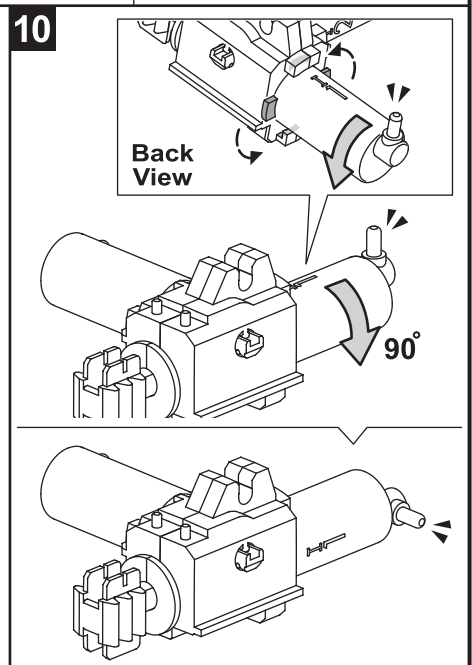
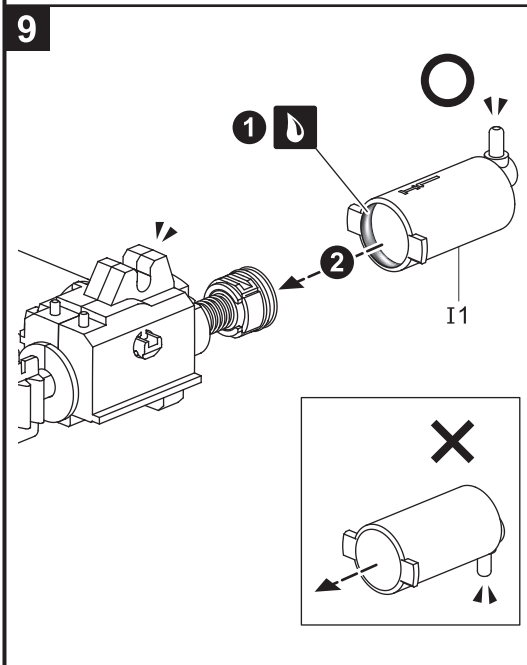
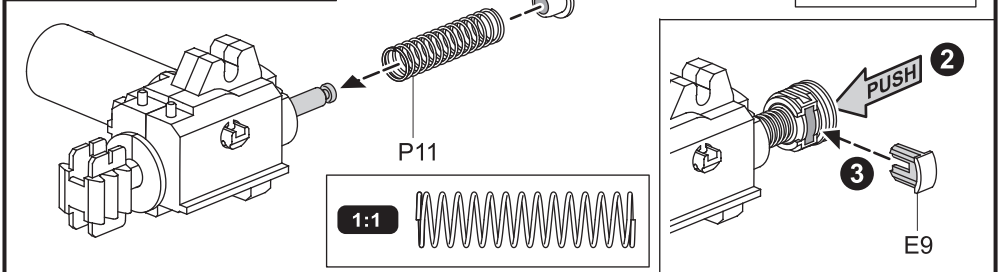
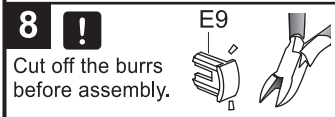
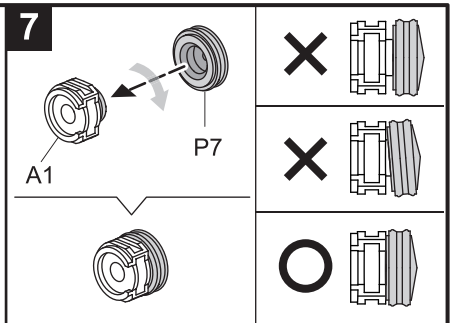
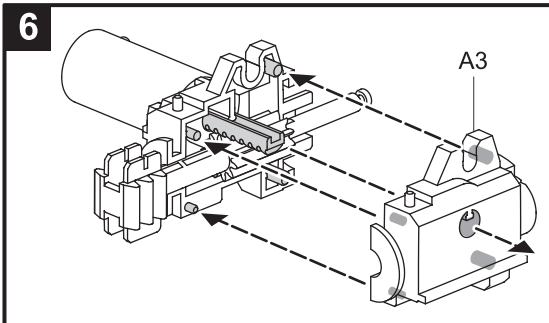


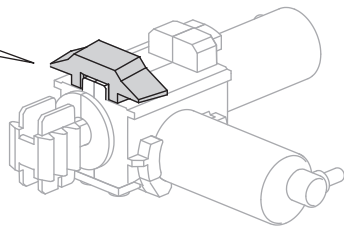
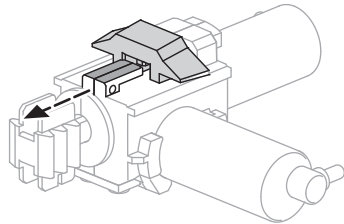
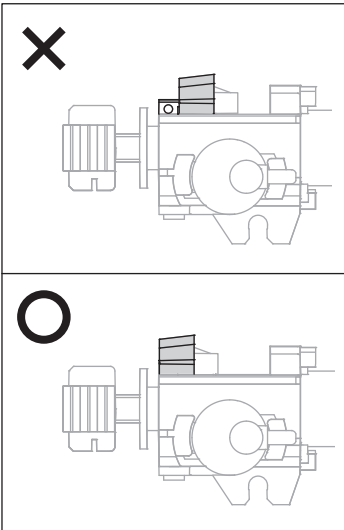
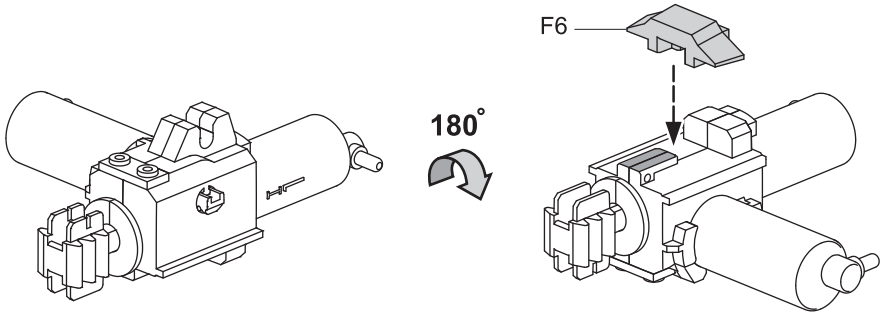
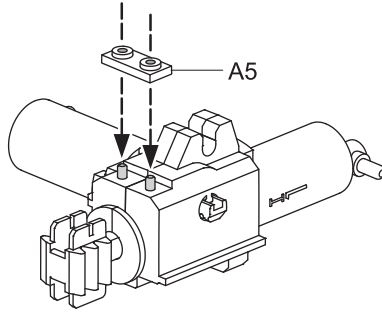
O



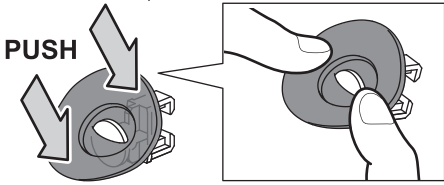
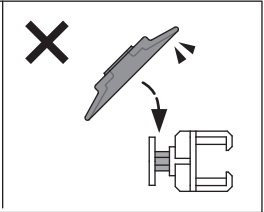
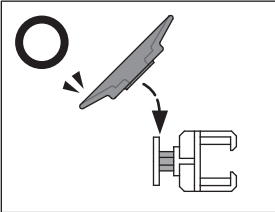
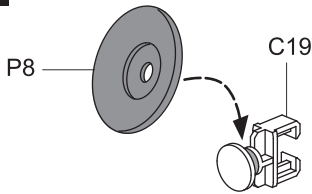
Front View



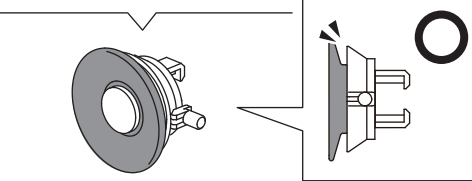
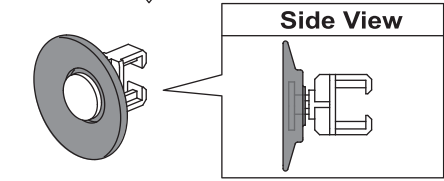
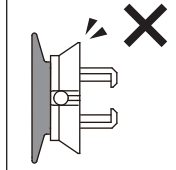
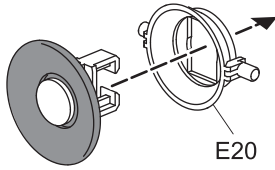




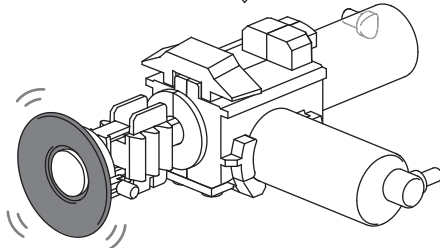
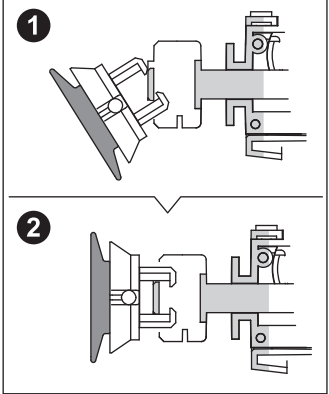
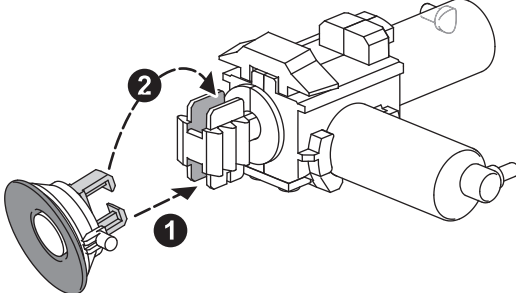
12

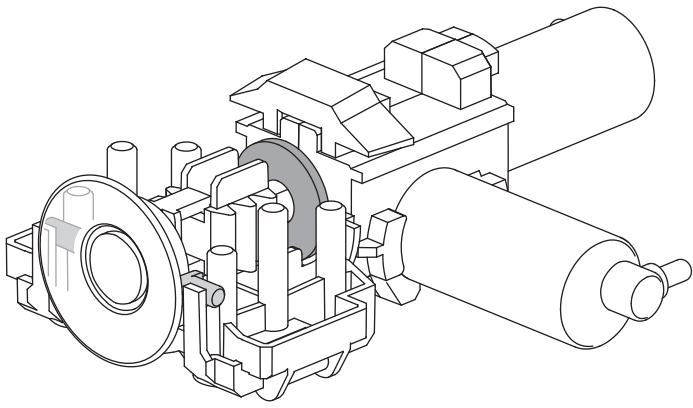
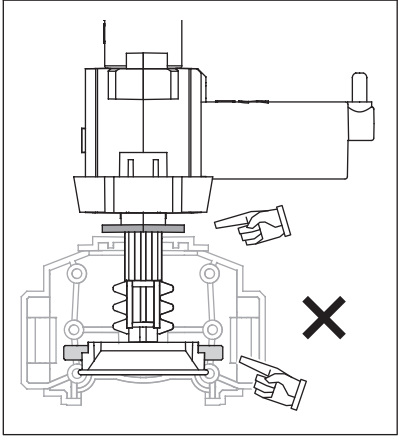
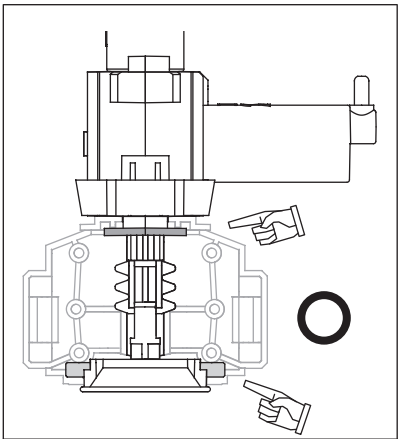
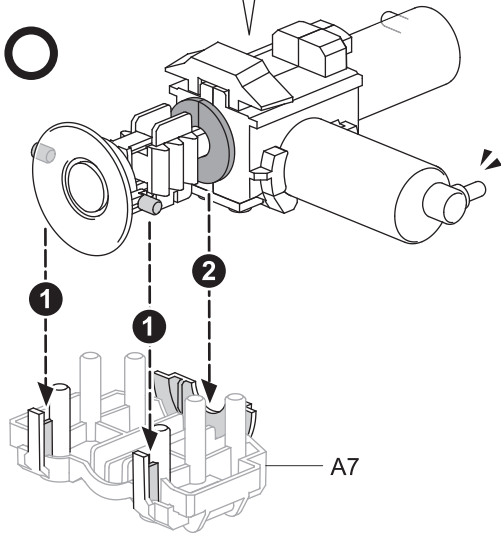
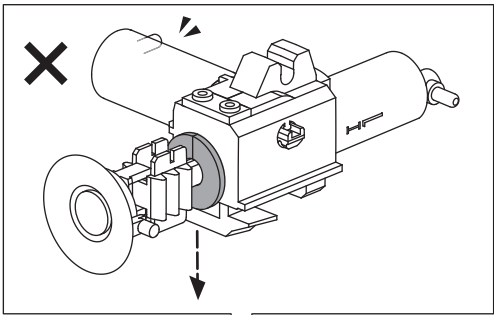


13



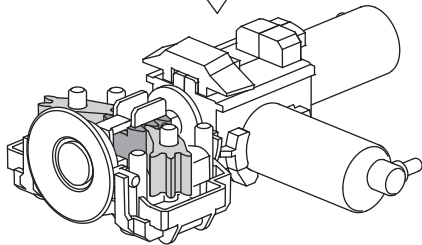
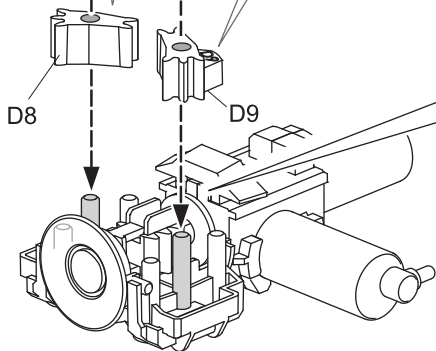
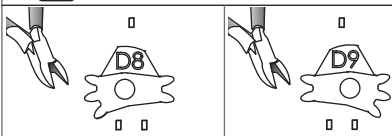
14



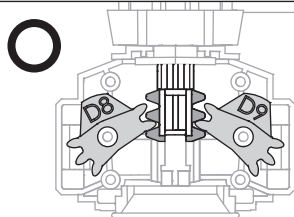


16

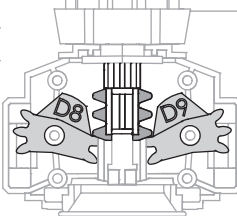
! Cut off the burrs before assembly.



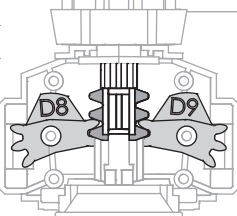
! Very Important



X



X

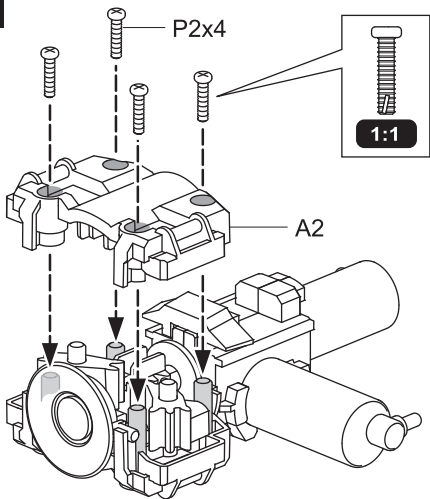


17

P2x4

1:1

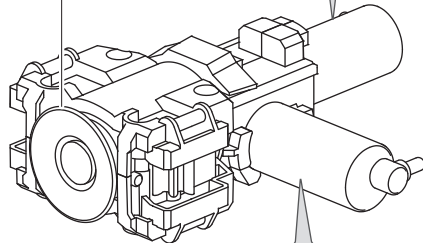
A2



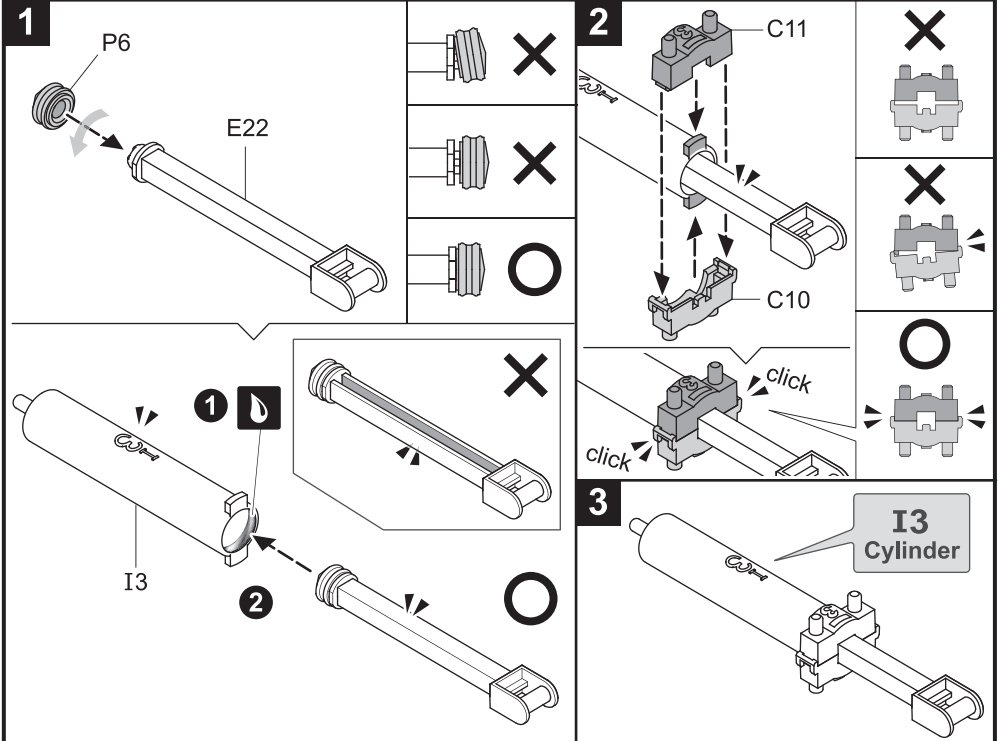
Suction Cup

I1
Cylinder

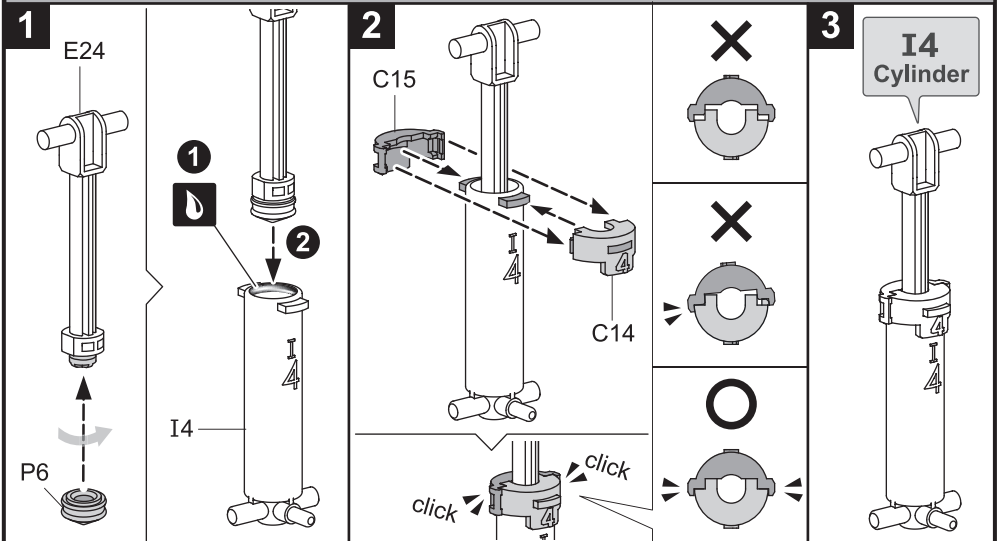
I2
Cylinder



I3 Cylinder

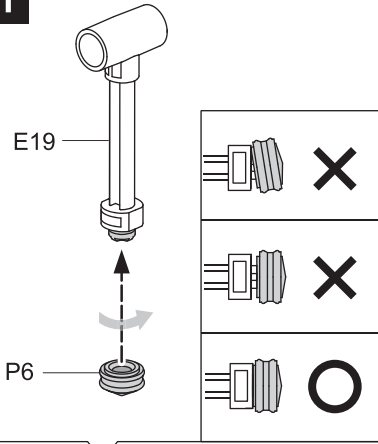


I4 Cylinder



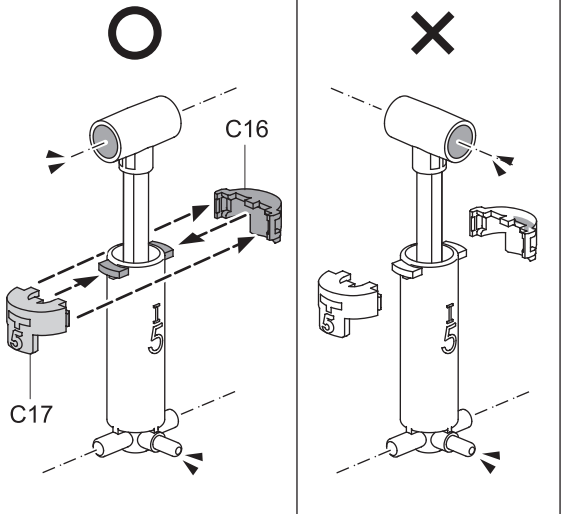
I5 Cylinder

1

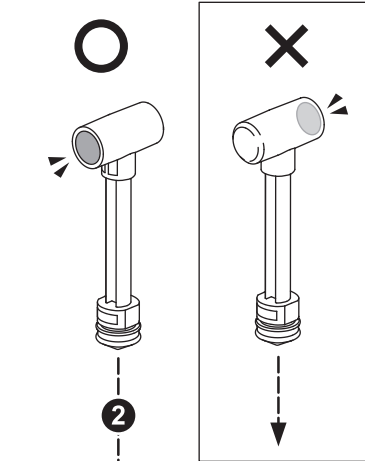


2

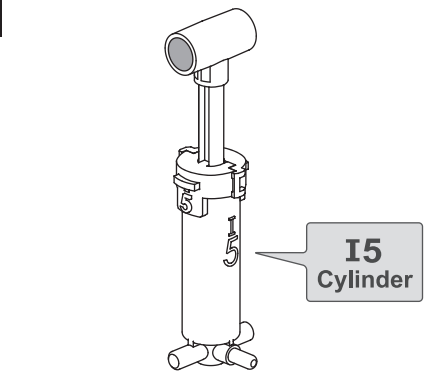
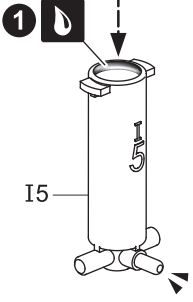
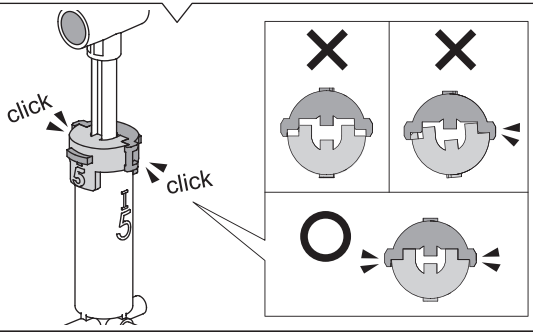
! Ensure The Right Direction



! Ensure The Right Direction

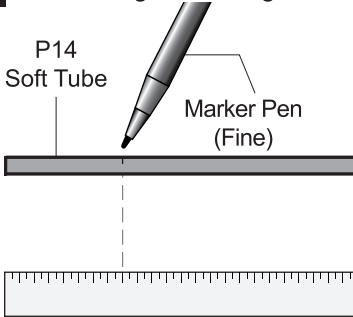


3

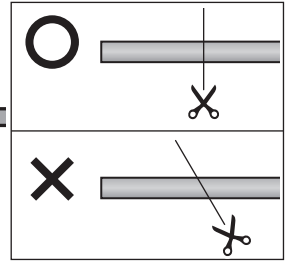
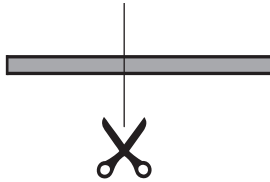


How To Cut The Tube

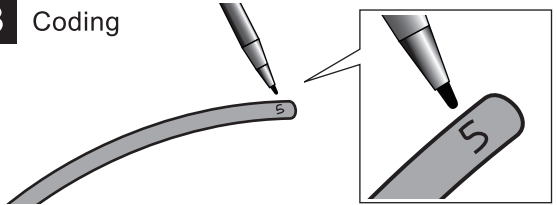
1 Measuring & Marking



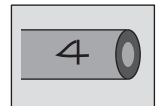
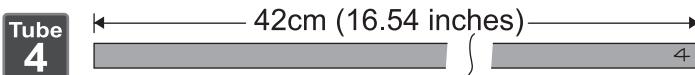
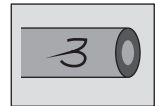
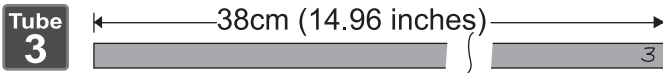
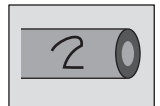
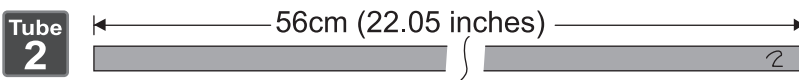
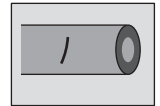
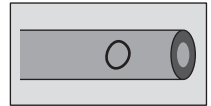
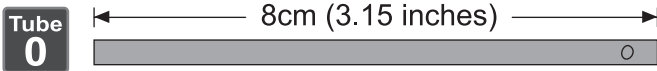
2 Cutting



3 Coding

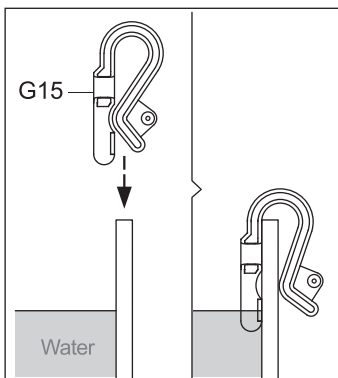


4 **!** Use the same tube to cut Tube 1 & Tube 0. Images below not to scale



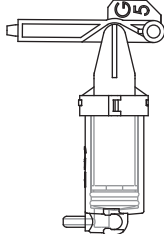
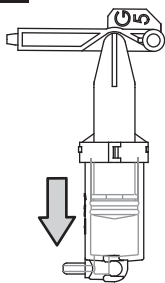
How To Fill Up The Cylinder With Water

1

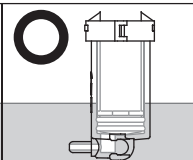
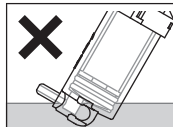
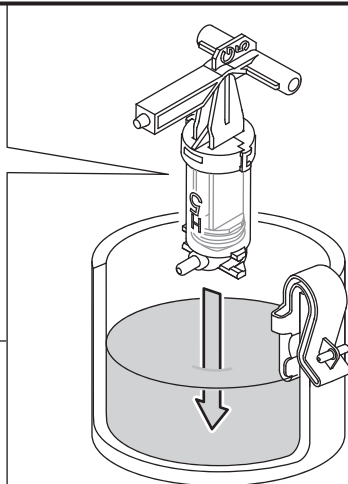


Pour around a half cup of water

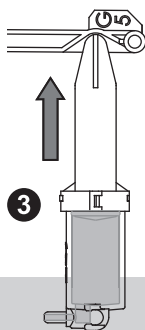
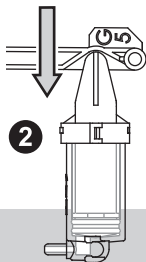
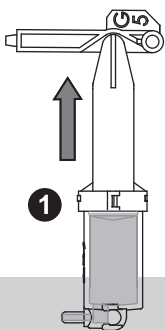
2



! Press down the piston to the bottom

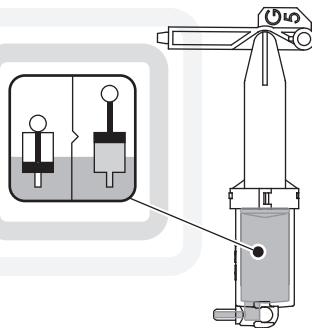


3




- 1 Pull up the piston to the top (as shown above).
- 2 Press down the piston to the bottom.
- 3 Re-do step 2&3 to fill up the cylinder with water.

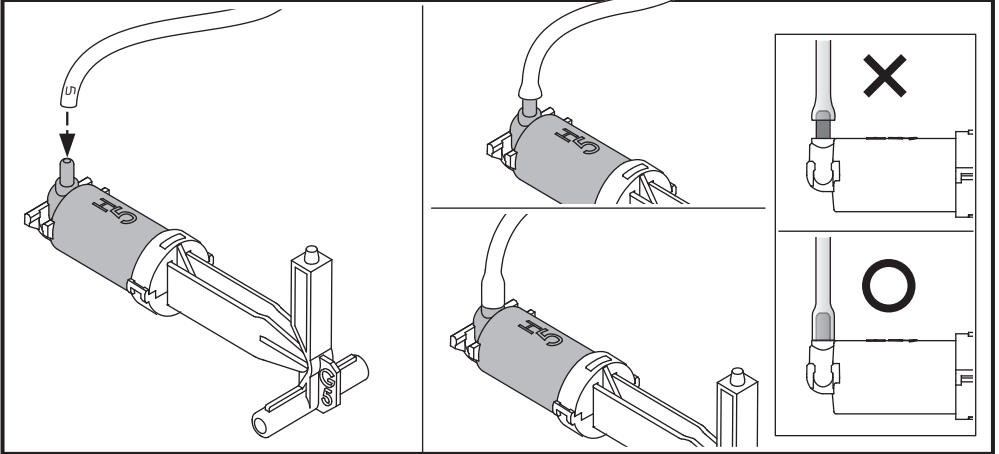
4



Note

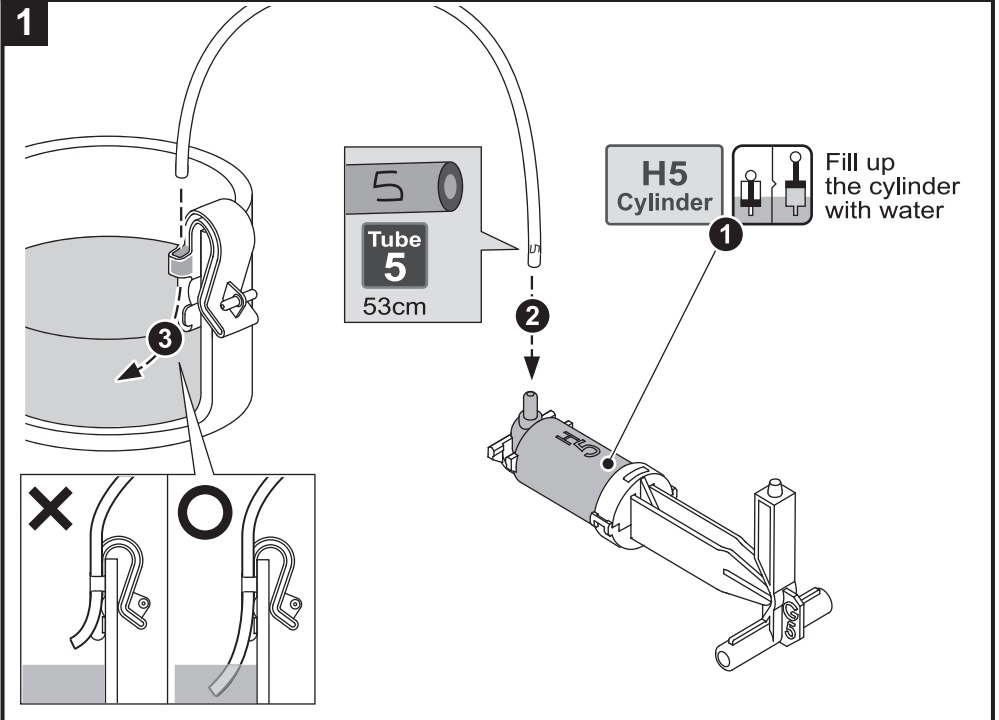
Fill up the cylinder with water when  appears.

How To Fit Tube

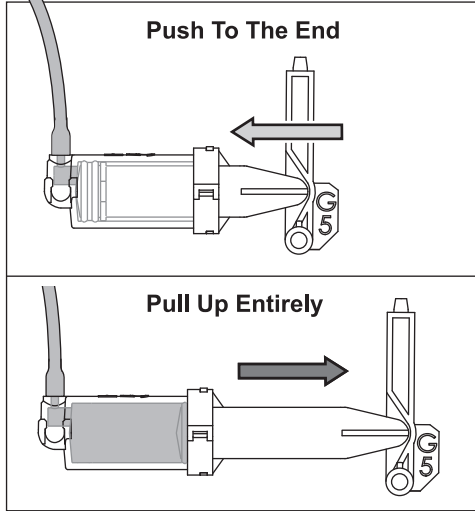
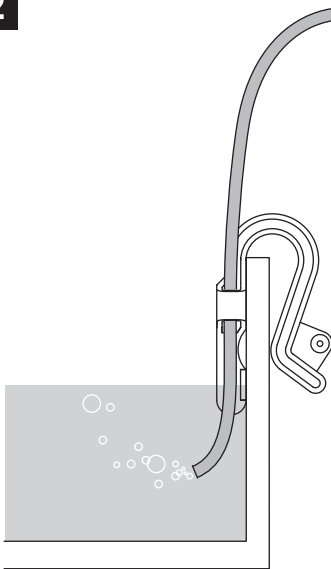


Hydraulic Cylinder Moduel Assembly

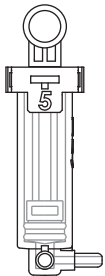
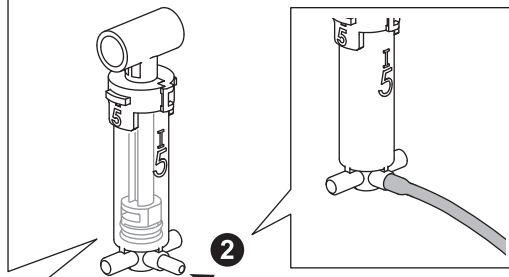
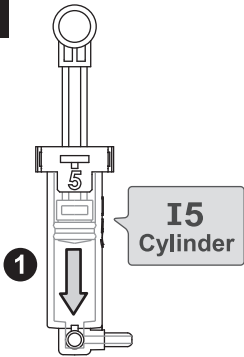
Connect H5 With I5



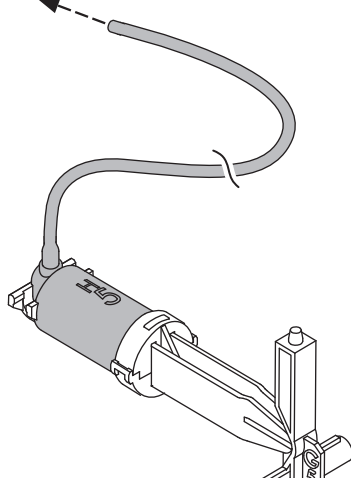
2



3



! Press down the piston to the bottom



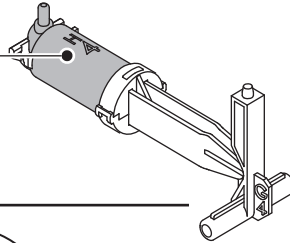
Connect H4 With I4

1

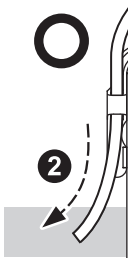
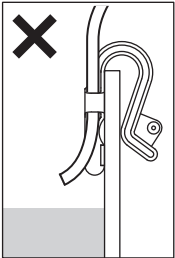
H4
Cylinder



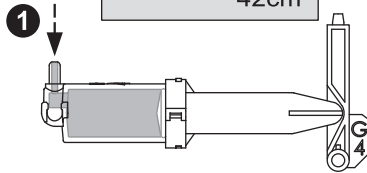
Fill up the cylinder with water



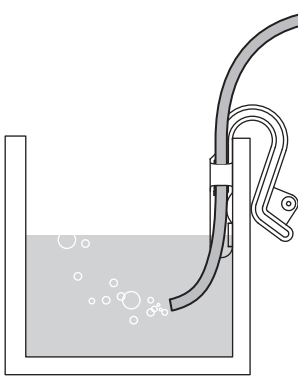
2



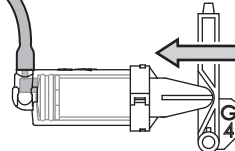
4 Tube
4
42cm



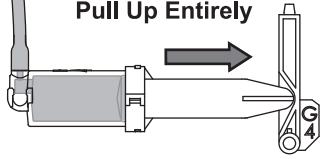
3



Push To The End



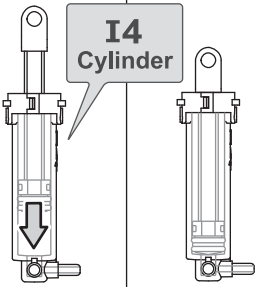
Pull Up Entirely



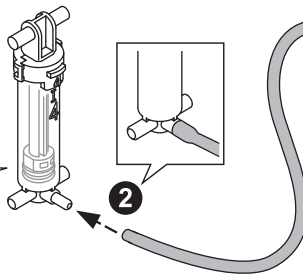
4

I4
Cylinder

1



2



! Press down the piston to the bottom

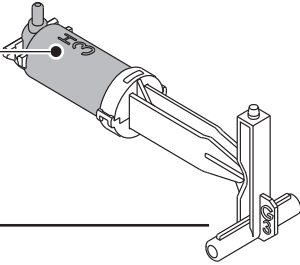
Connect H3 With I3

1

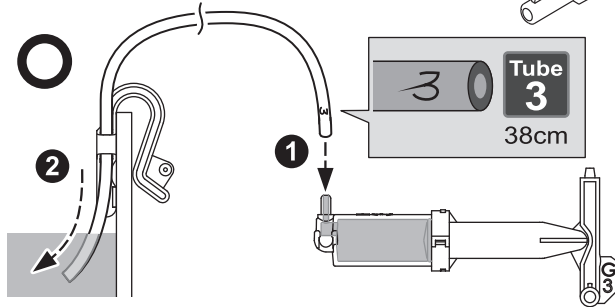
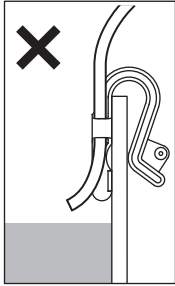
H3
Cylinder



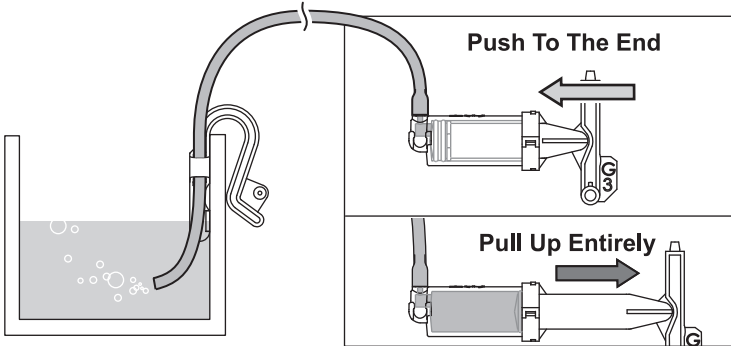
Fill up the cylinder with water



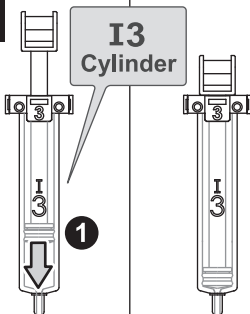
2



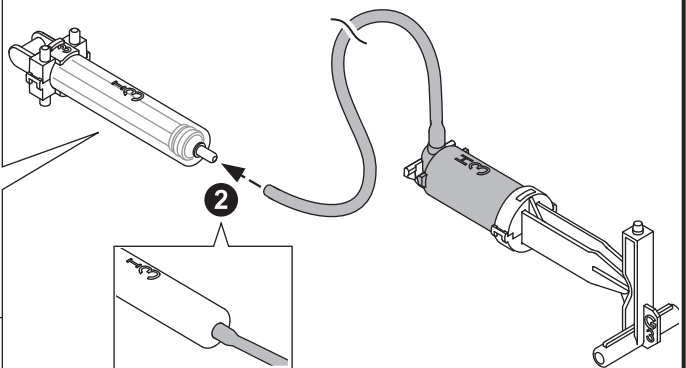
3



4



I3
Cylinder



! Press down the piston to the bottom

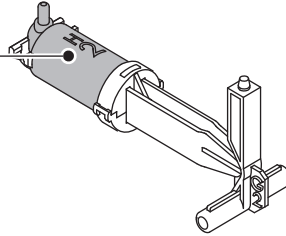
Connect H2 With I2

1

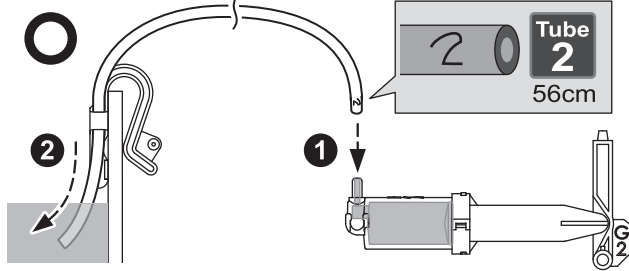
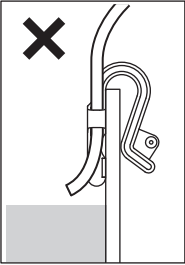
H2
Cylinder



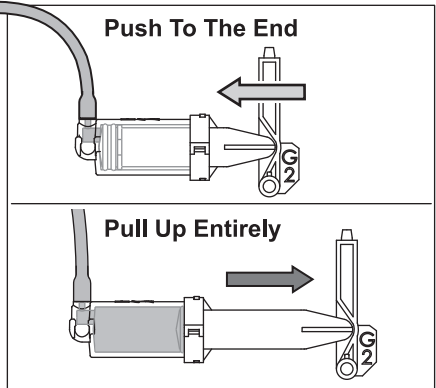
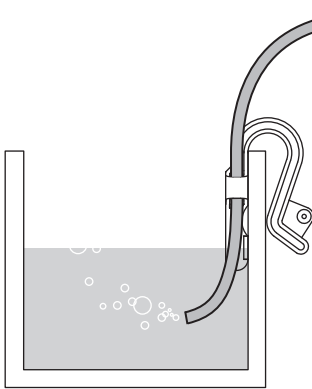
Fill up the cylinder with water



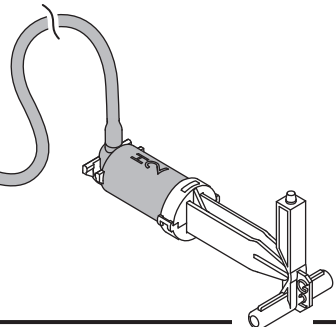
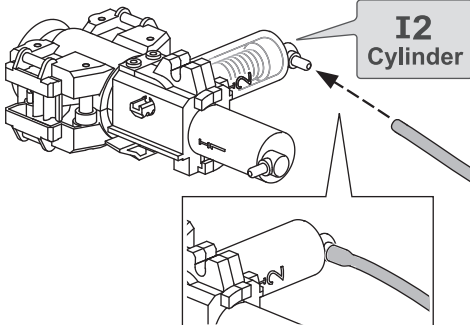
2



3



4



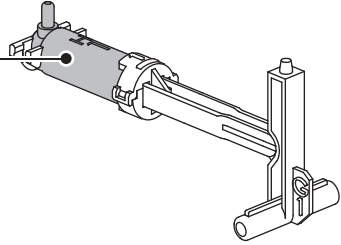
Connect H1、H0 With I1

1

H1
Cylinder



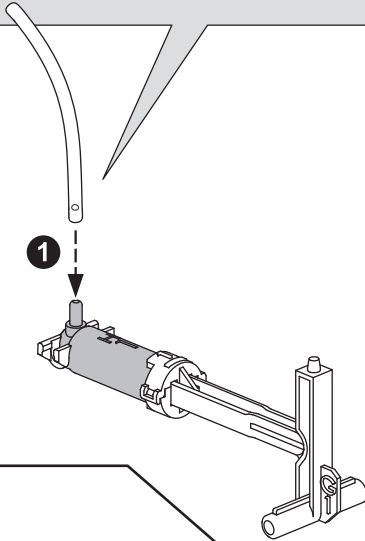
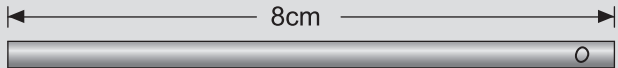
Fill up the cylinder with water



2

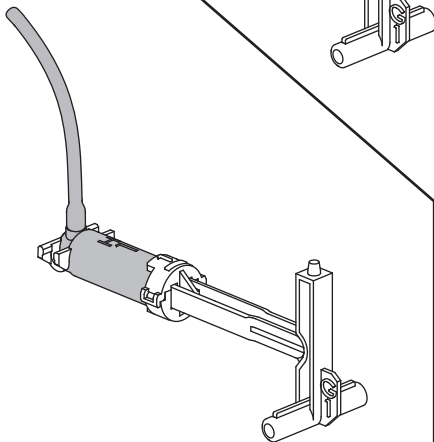
Tube
0

1:1

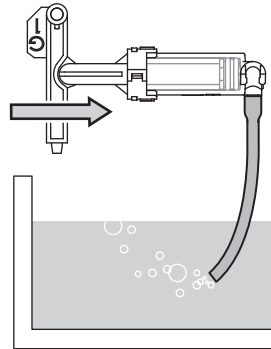


1

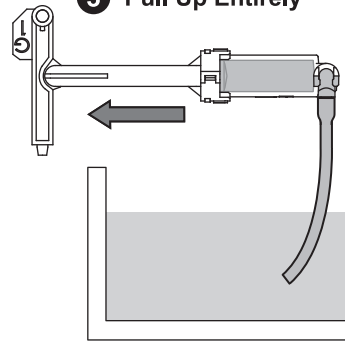
3



2 Push To The End



3 Pull Up Entirely

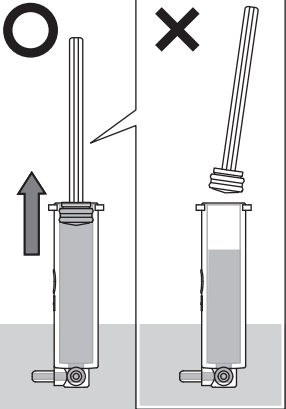
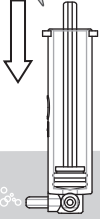


4

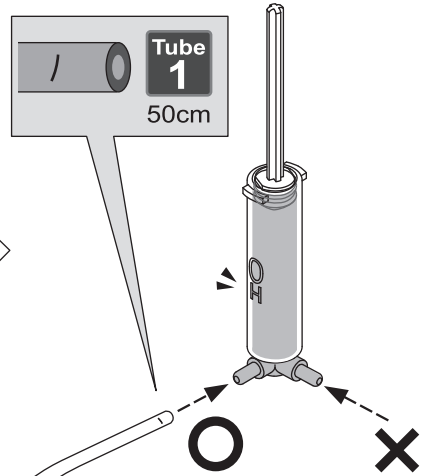
Push To The End

Pull Up Entirely

**H0
Cylinder**



**Tube
1
50cm**

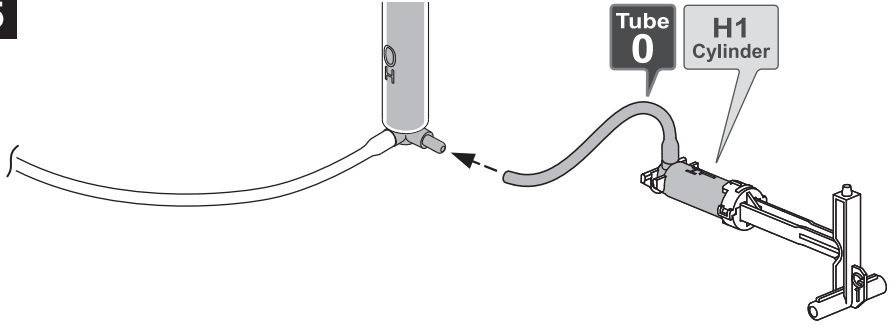


! Ensure The Right Direction

5

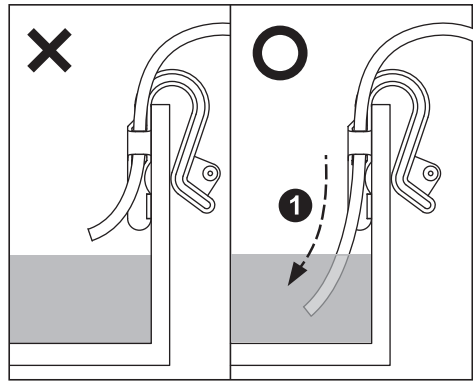
**Tube
0**

**H1
Cylinder**

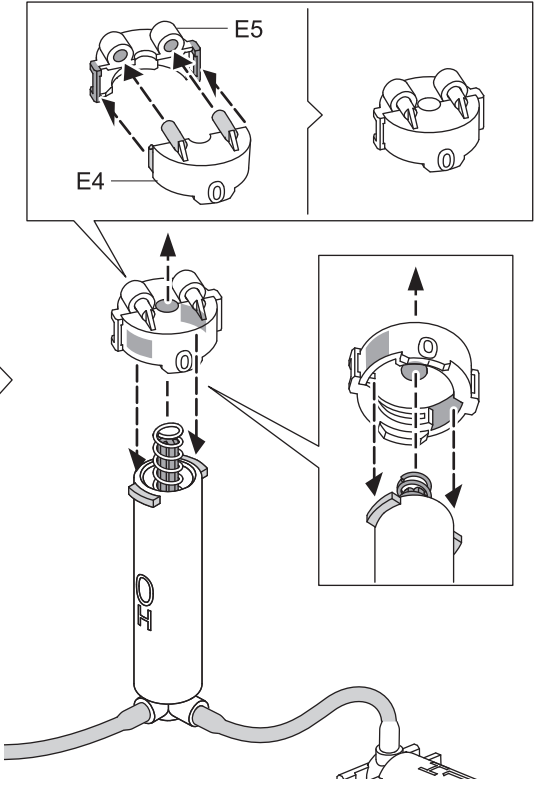
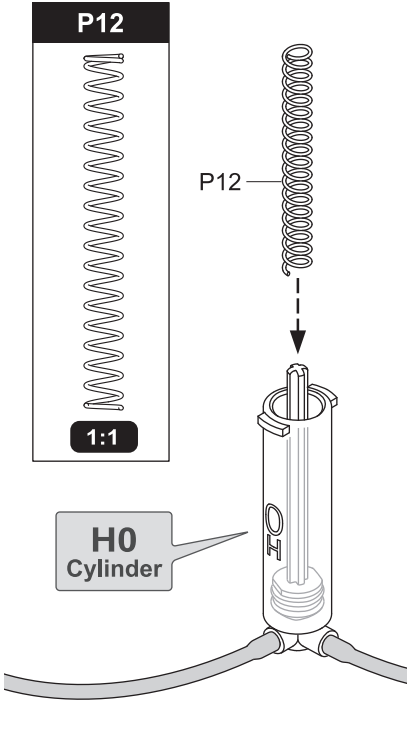


6

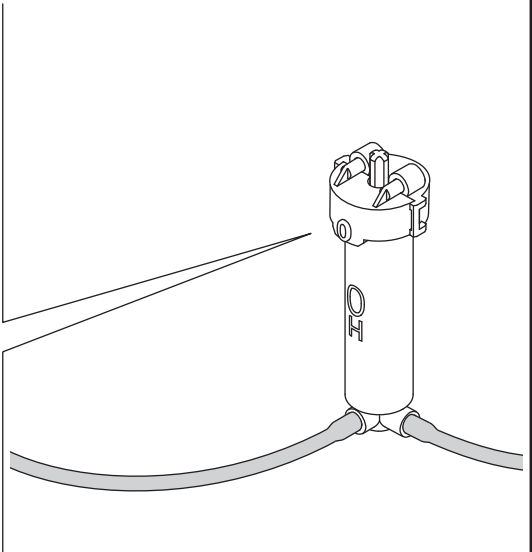
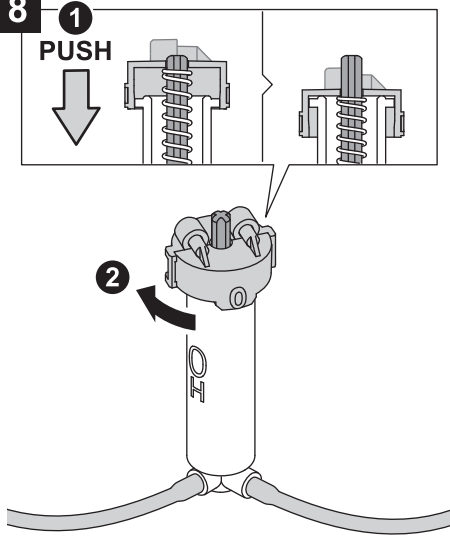
**2 Press down
the piston to
the bottom**



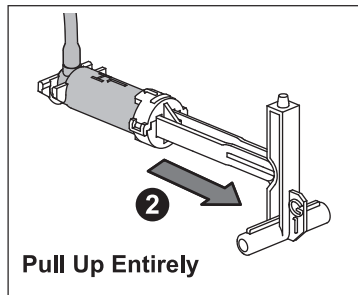
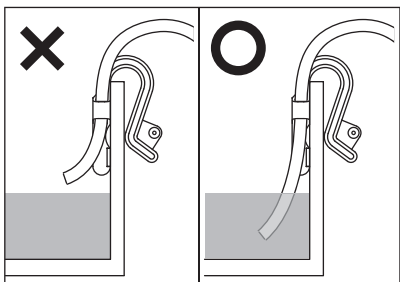
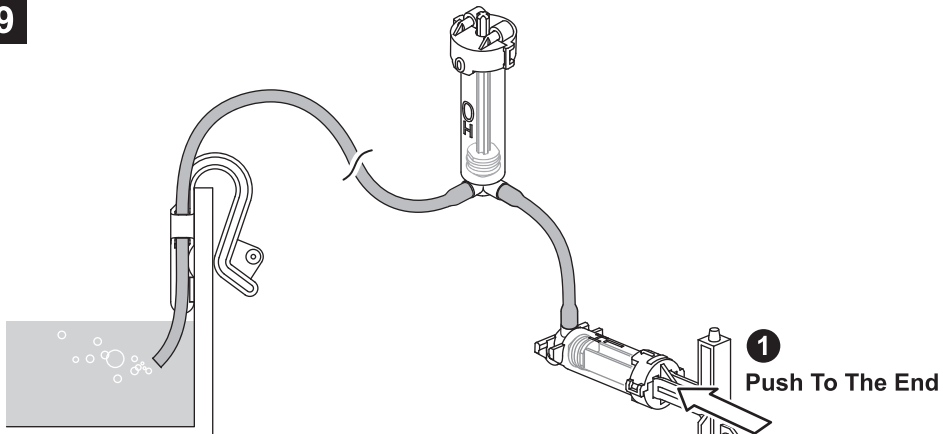
7



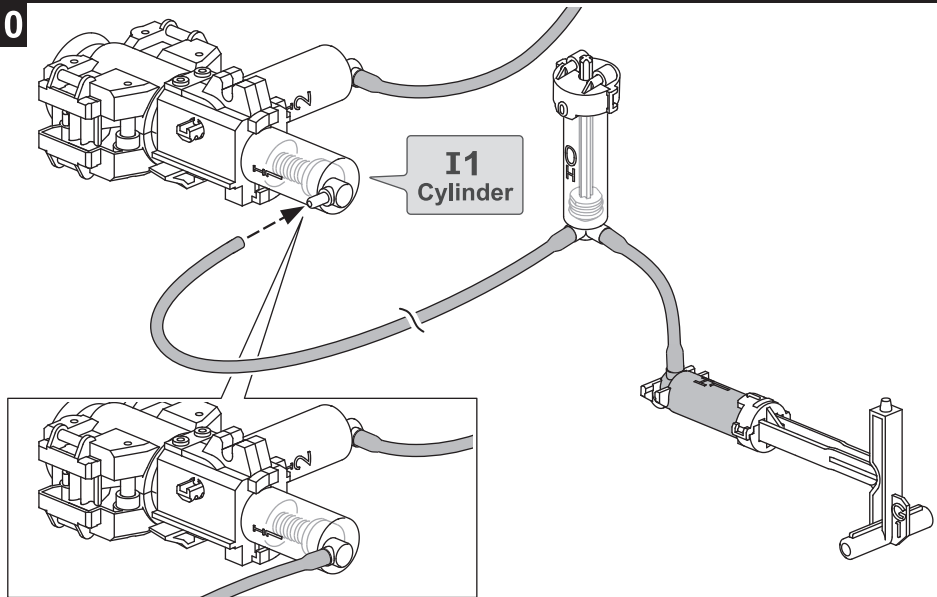
8



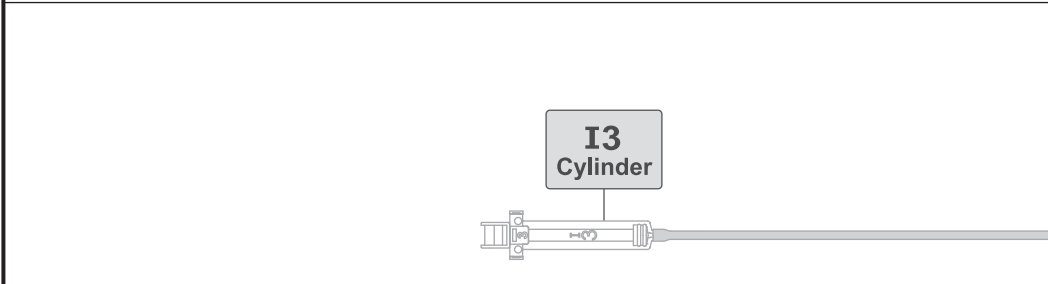
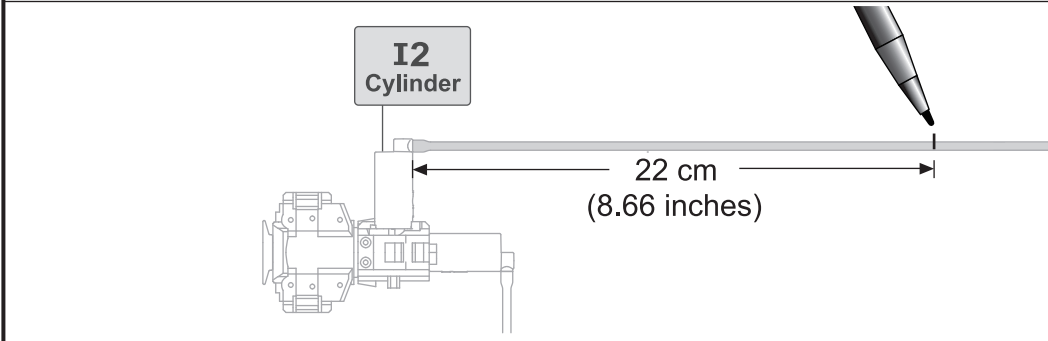
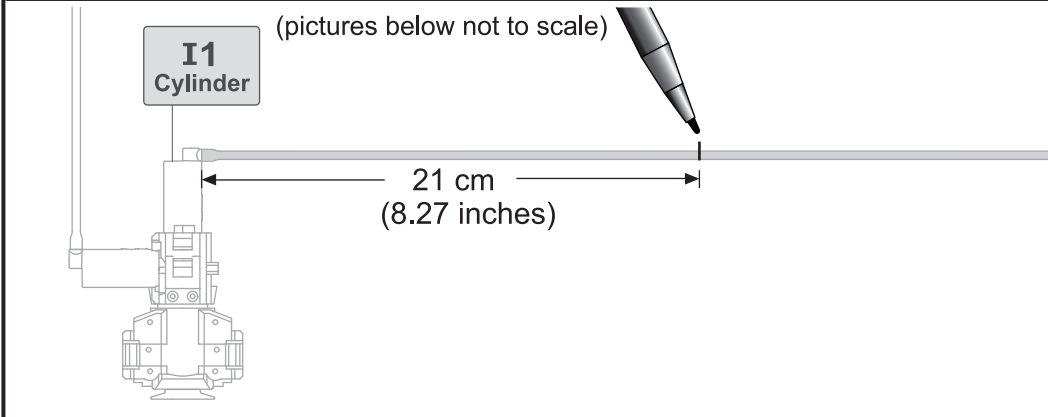
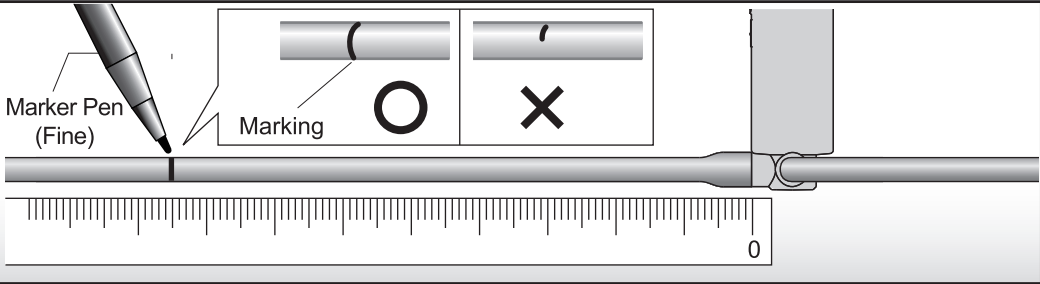
9



10



Measuring & Marking



50cm
(19.69 inches)

**Tube
1**

**H0
Cylinder**

**H1
Cylinder**

8.5 cm
(3.26 inches)

56cm
(22.05 inches)

**Tube
2**

**H2
Cylinder**

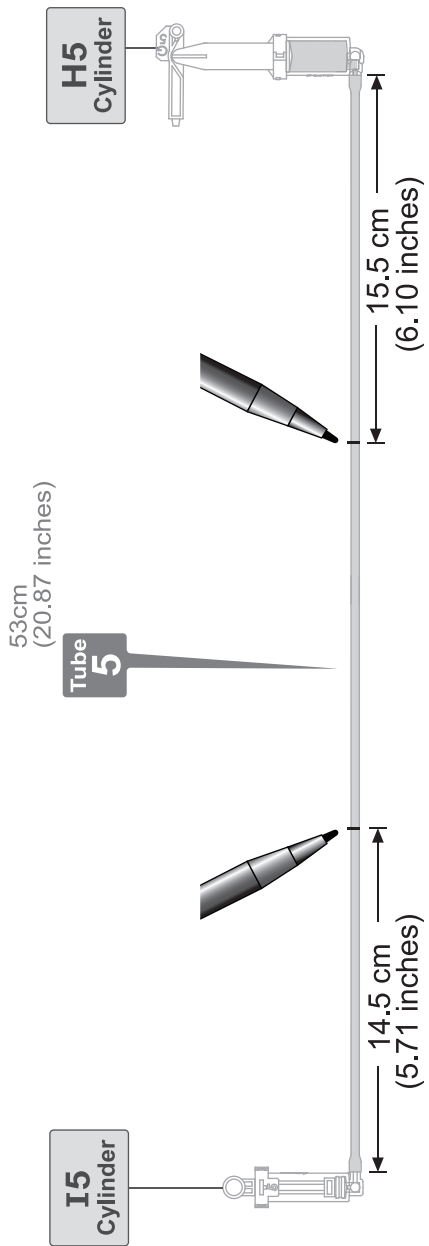
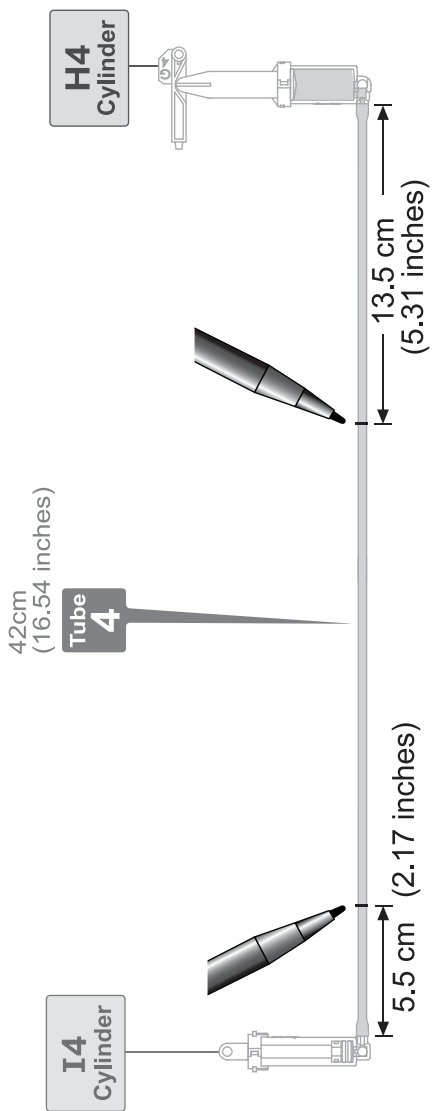
13.5 cm
(5.31 inches)

38cm
(14.96 inches)

**Tube
3**

**H3
Cylinder**

11 cm
(4.33 inches)

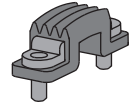
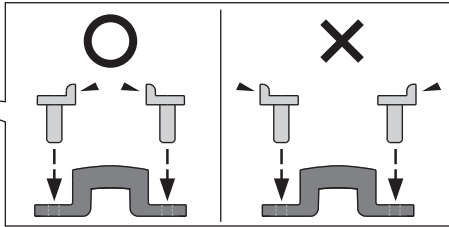
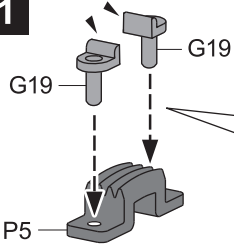


Lever Controller Assembly



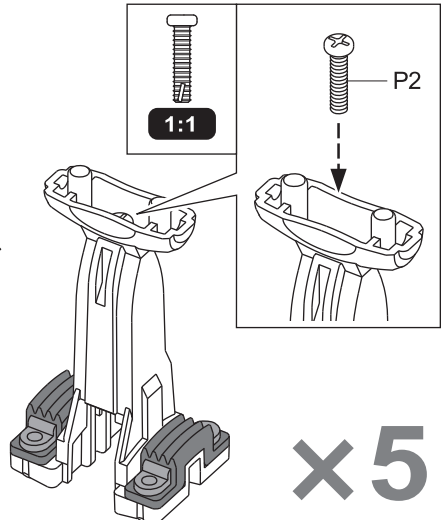
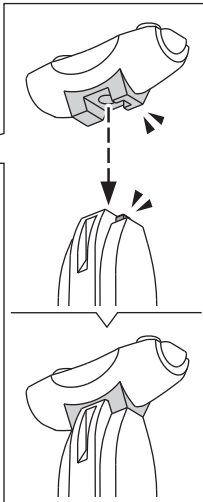
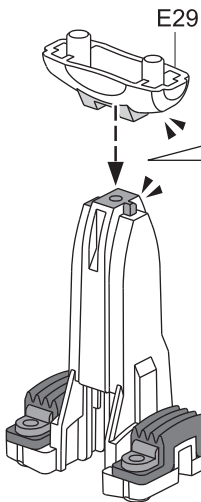
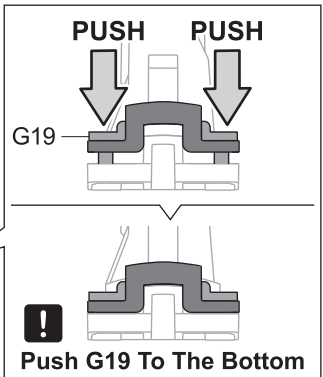
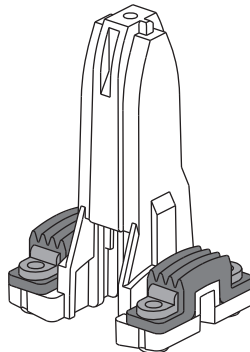
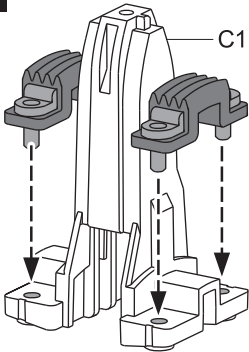
Very Important ! P5 (Brake Pad) must be clean and not stained by oil.
Make sure to hand clean and dry P5 before assembly.

1

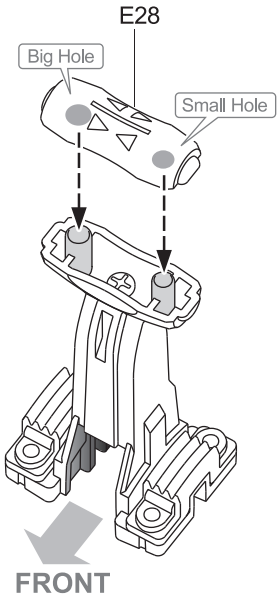


x10

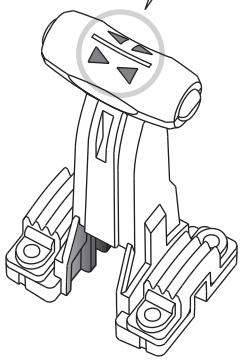
2



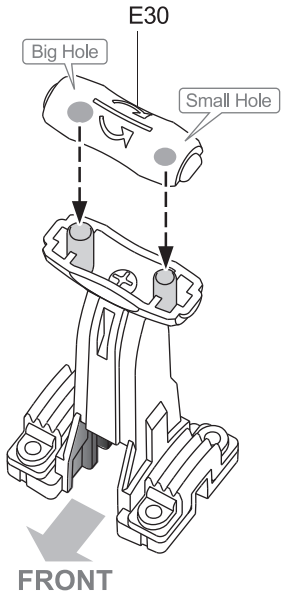
3



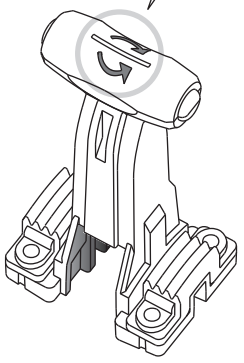
Lever Controller 1



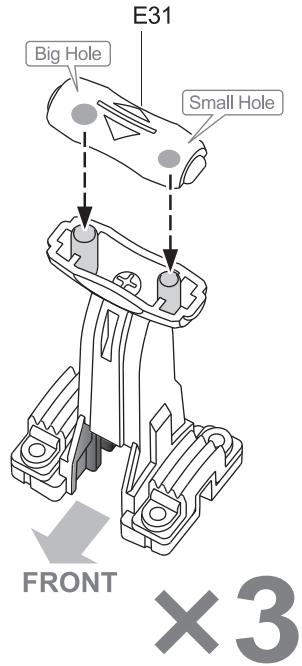
4



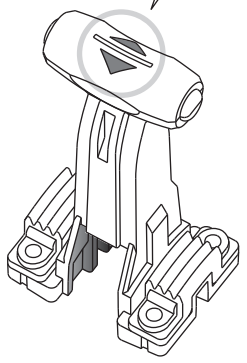
Lever Controller 2



5



Lever Controller 3.4.5



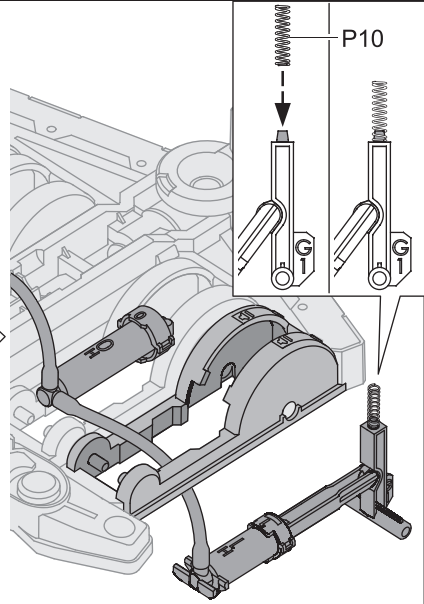
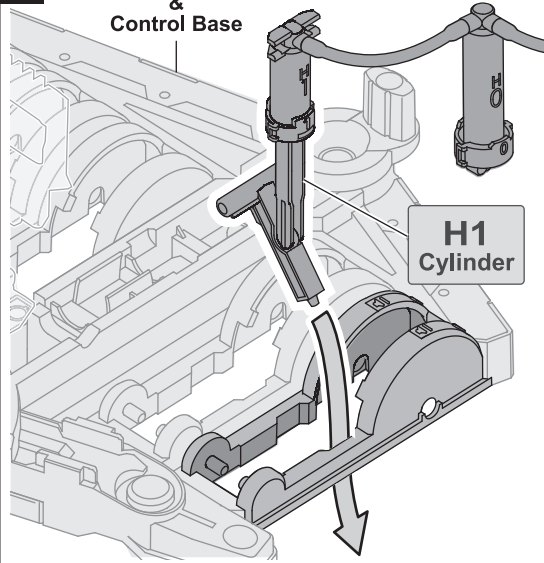
Control Moduel Assembly

Unit 1: H0.H1 Cylinder & Lever Controller 1

1

Stand
&
Control Base

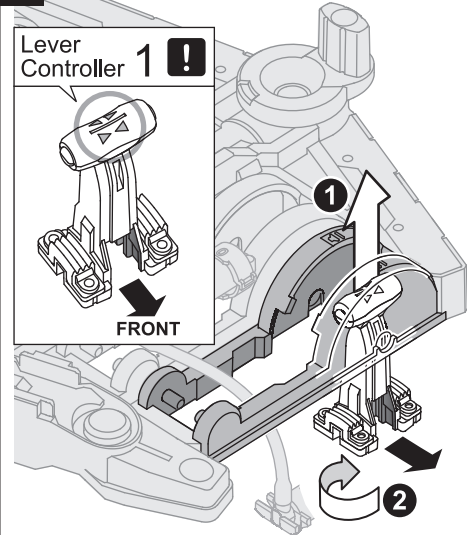
H1
Cylinder



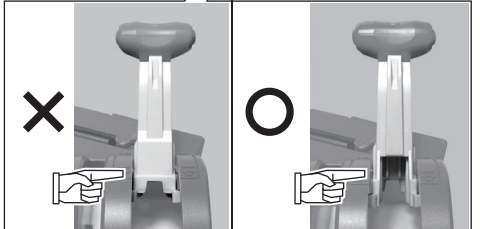
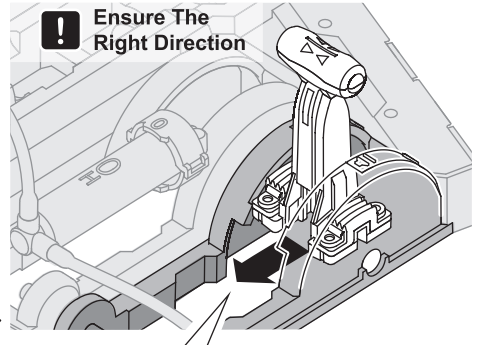
2

Lever
Controller 1

FRONT

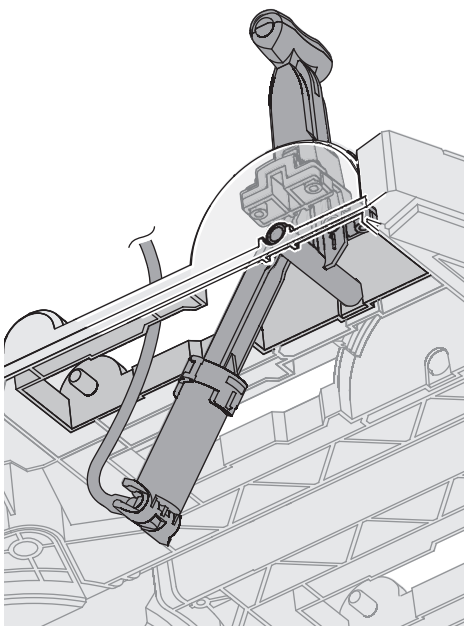
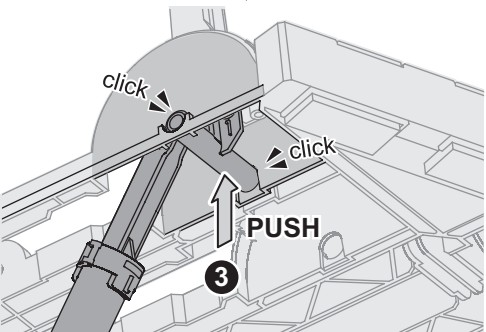
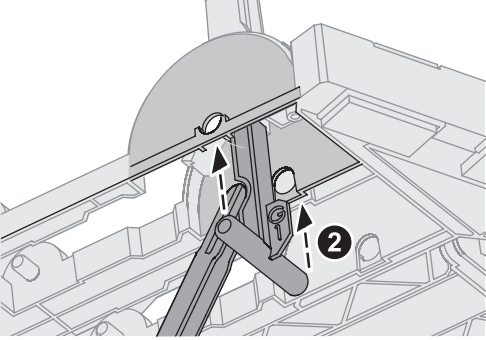
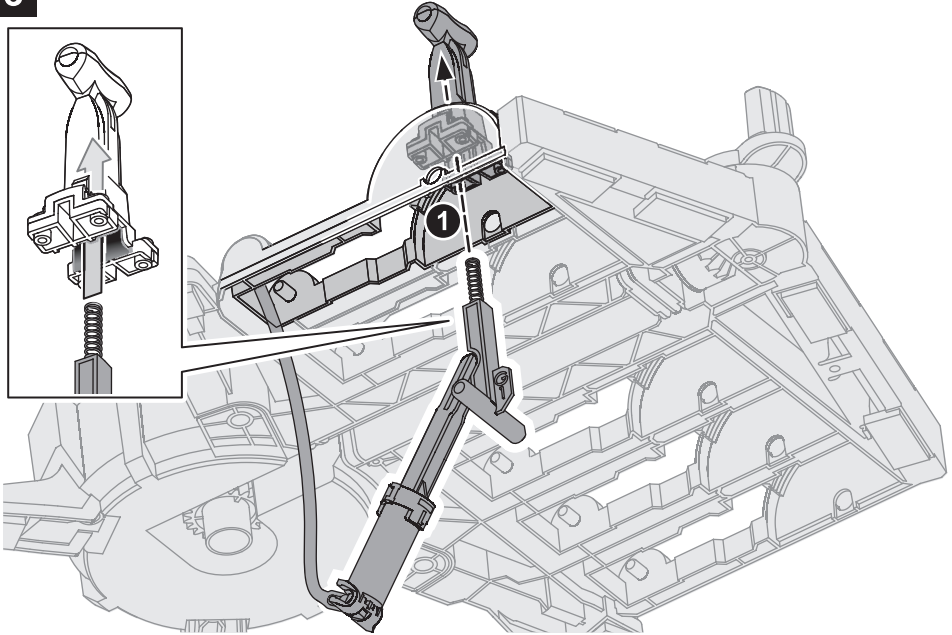
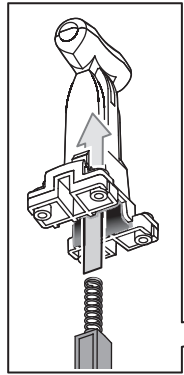


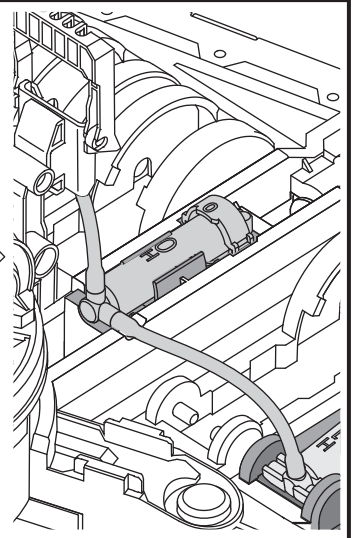
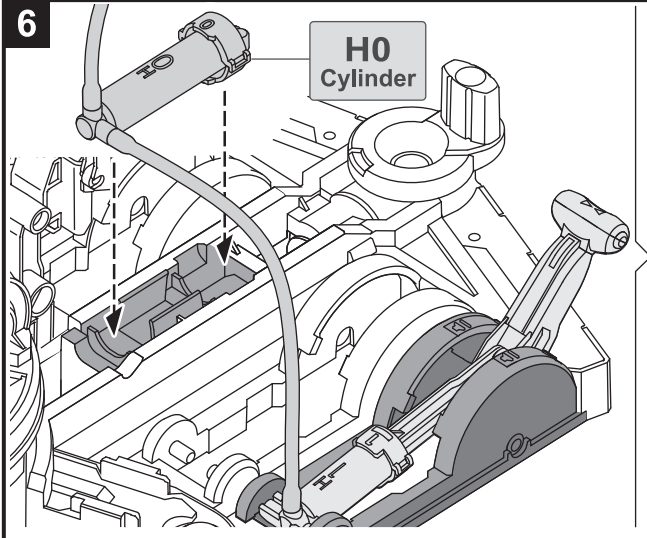
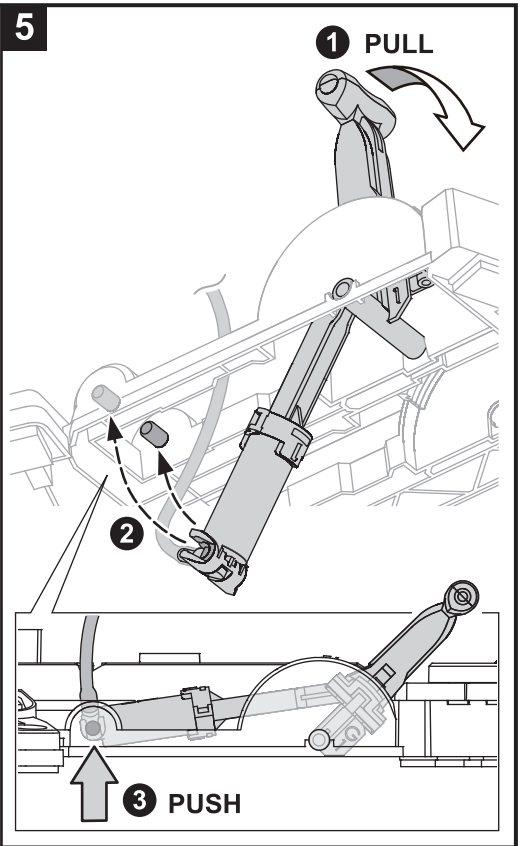
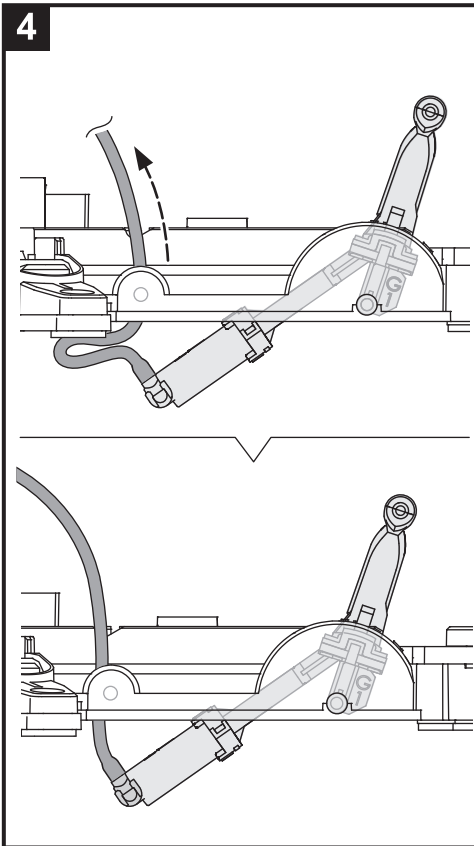
! Ensure The
Right Direction



Front View

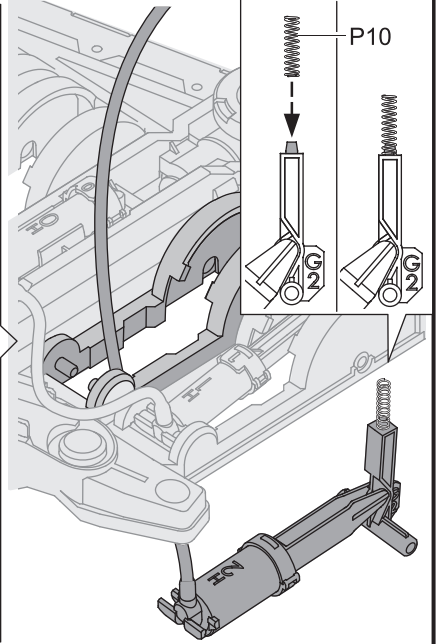
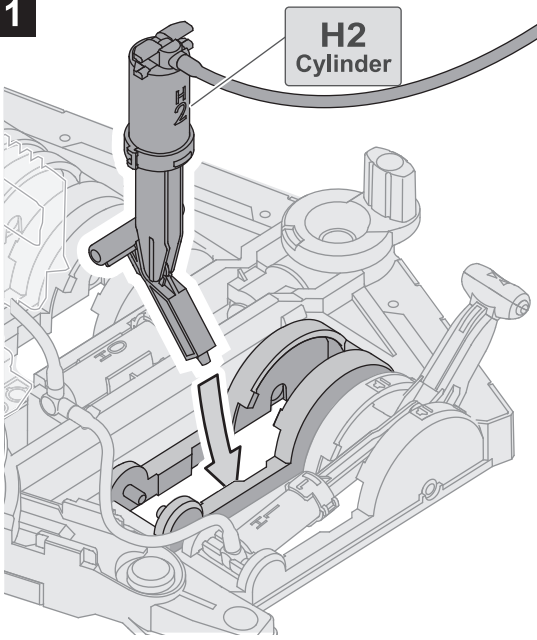
3





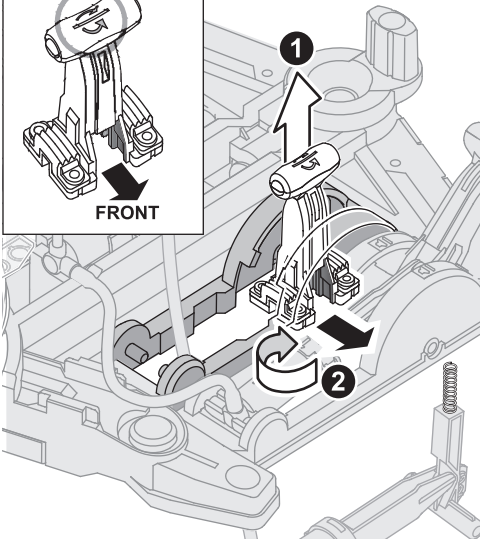
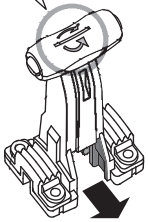
Unit 2: H2 Cylinder & Lever Controller 2

1

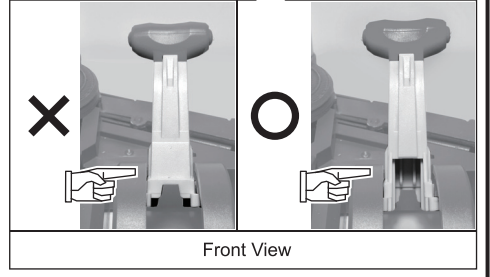
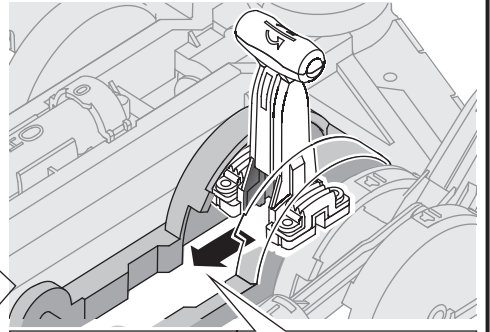


2

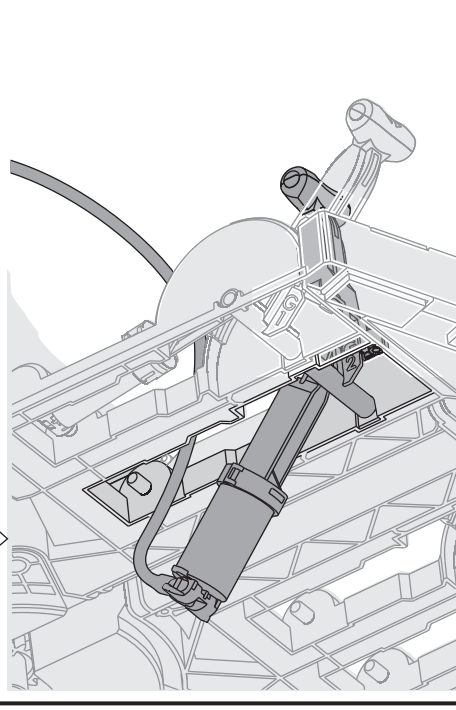
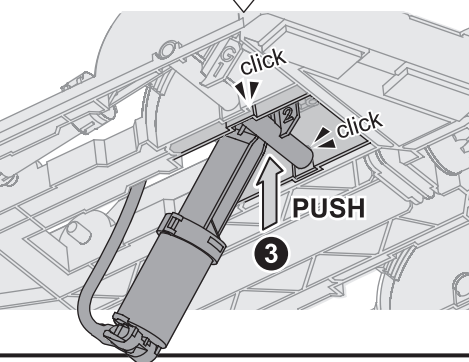
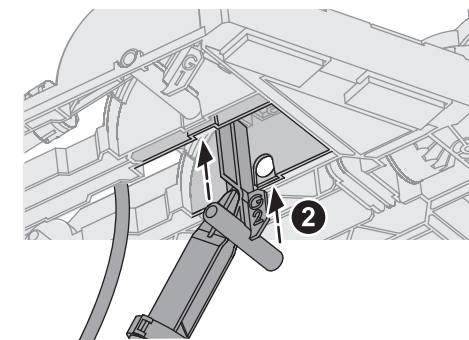
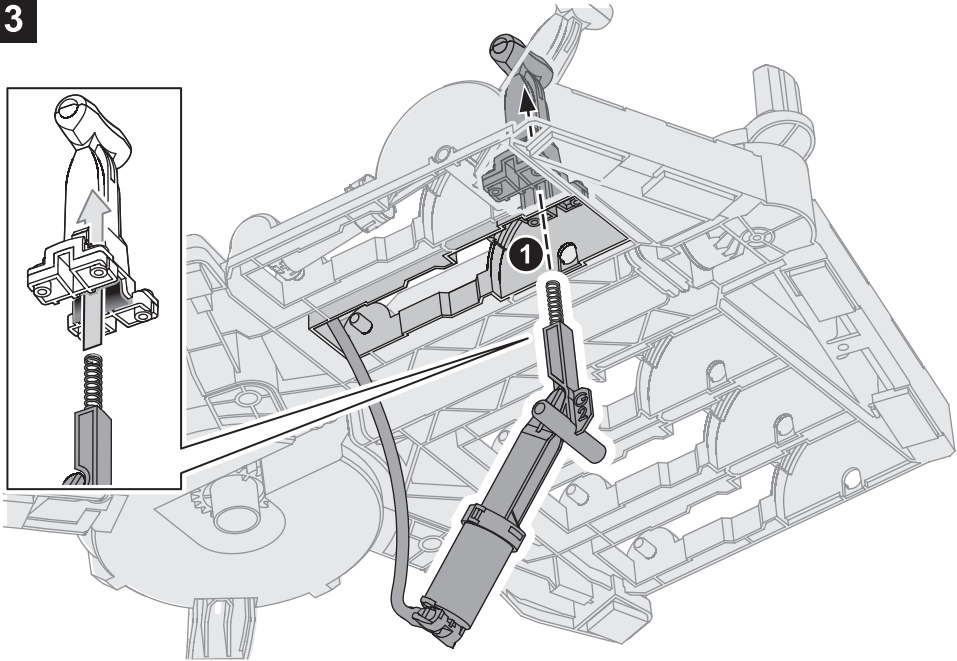
Lever Controller 2

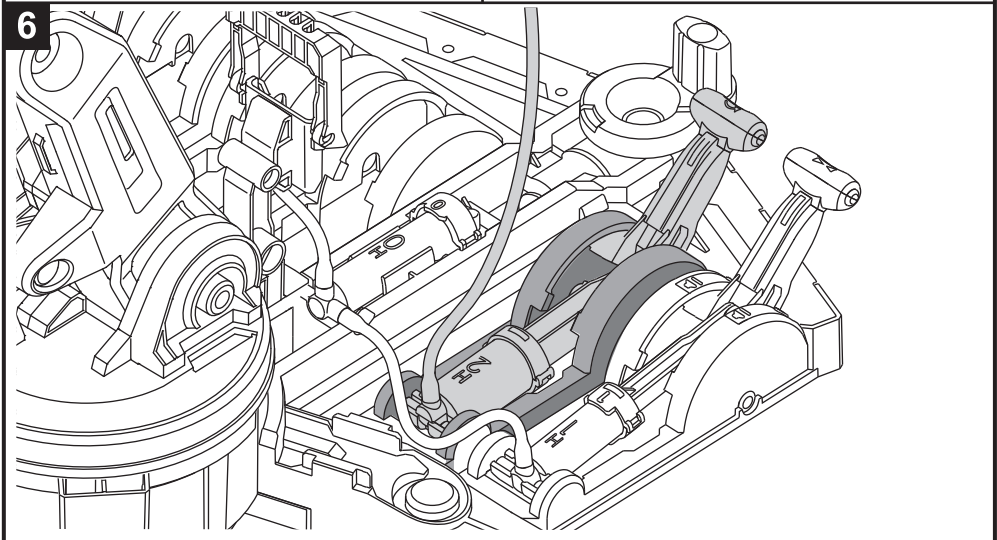
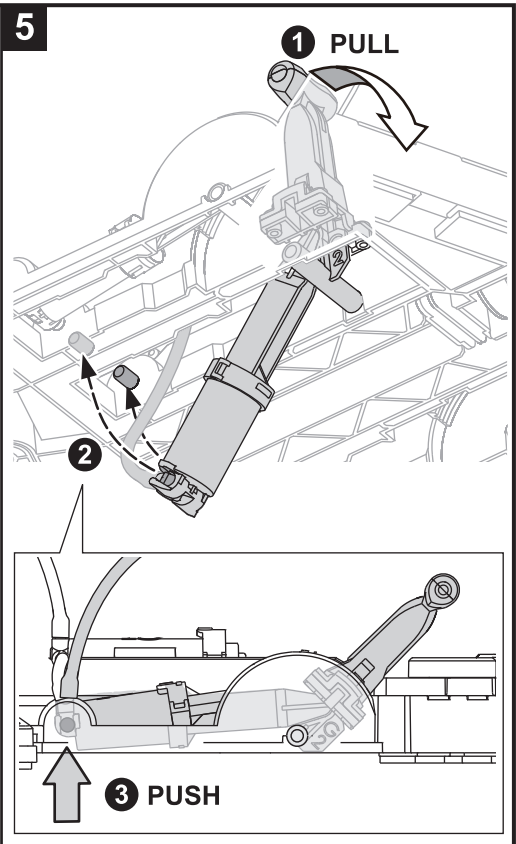
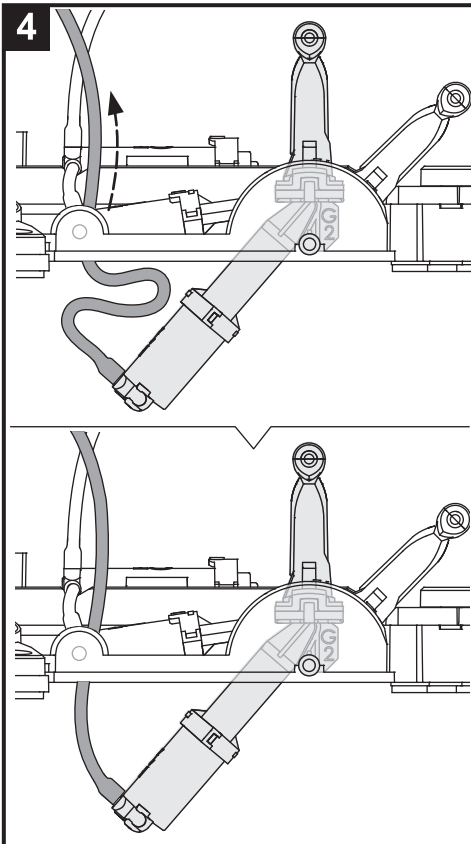


! Ensure The Right Direction



3

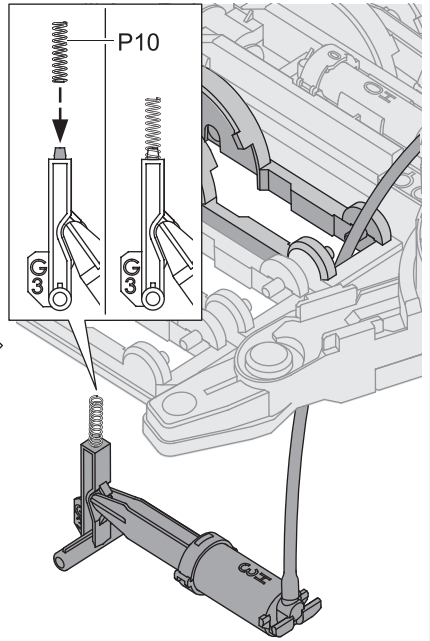
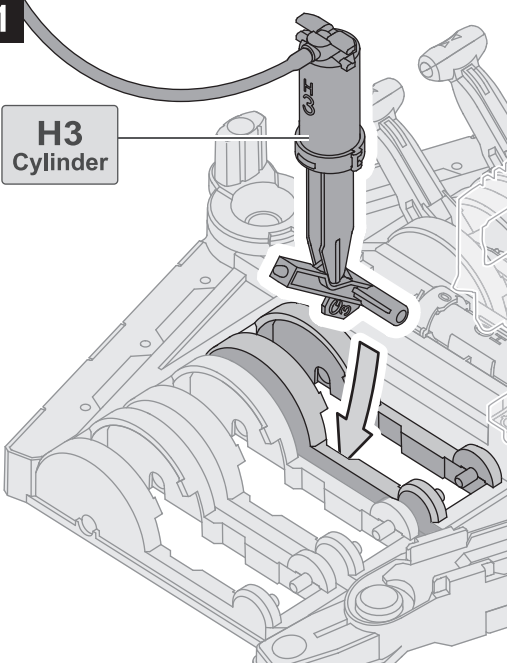




Unit 3: H3 Cylinder & Lever Controller 3

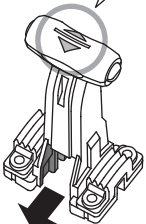
1

H3
Cylinder



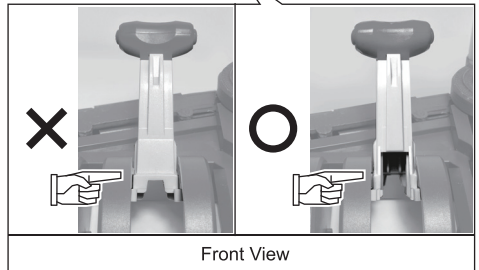
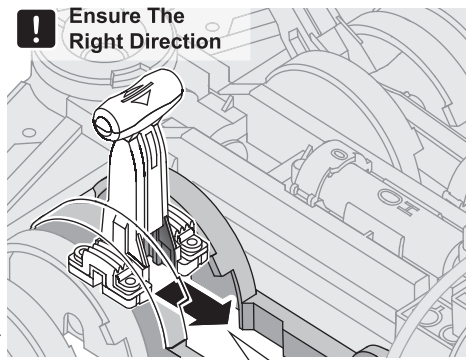
2

Lever
Controller 3 !



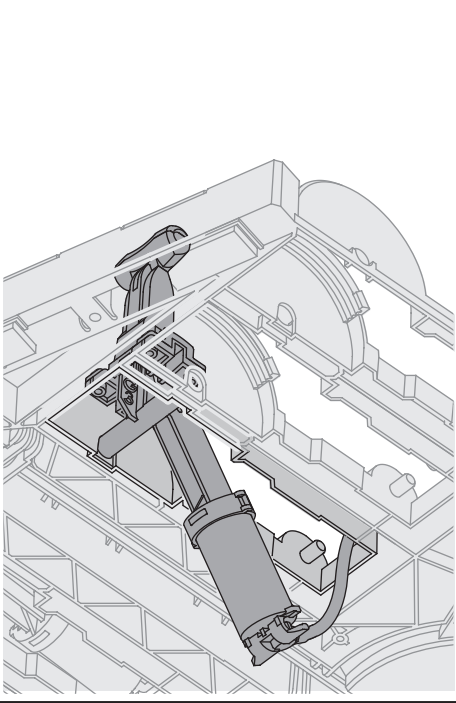
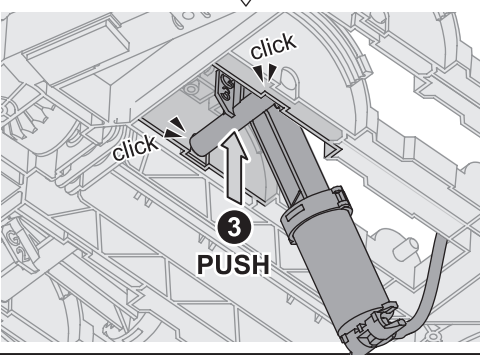
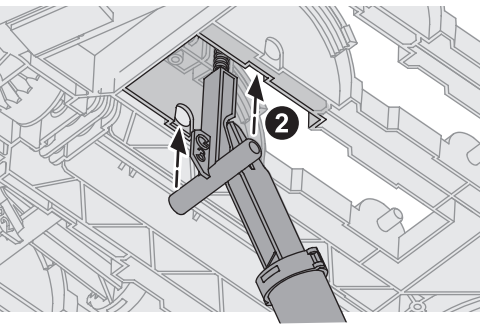
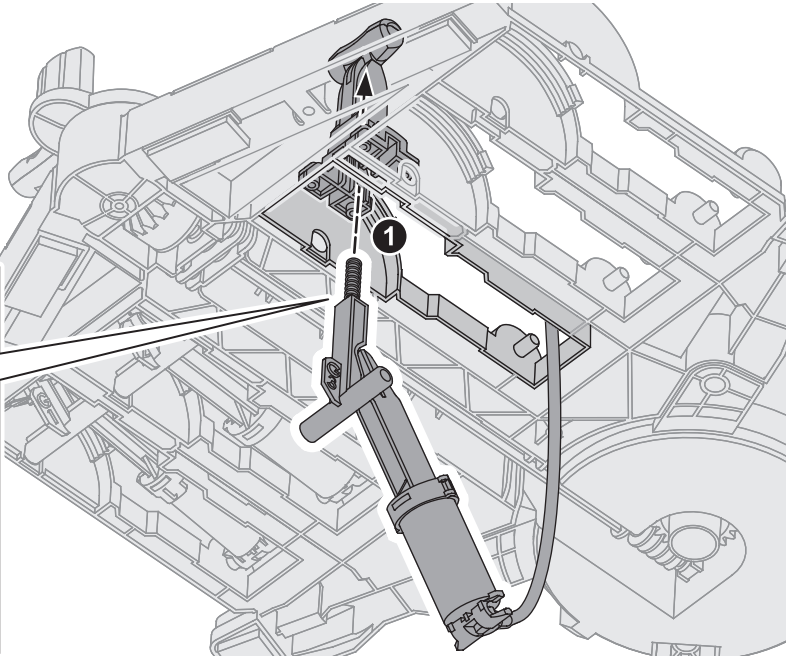
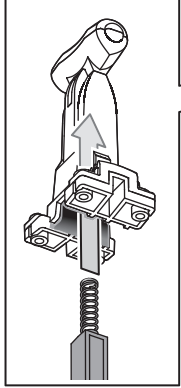
FRONT

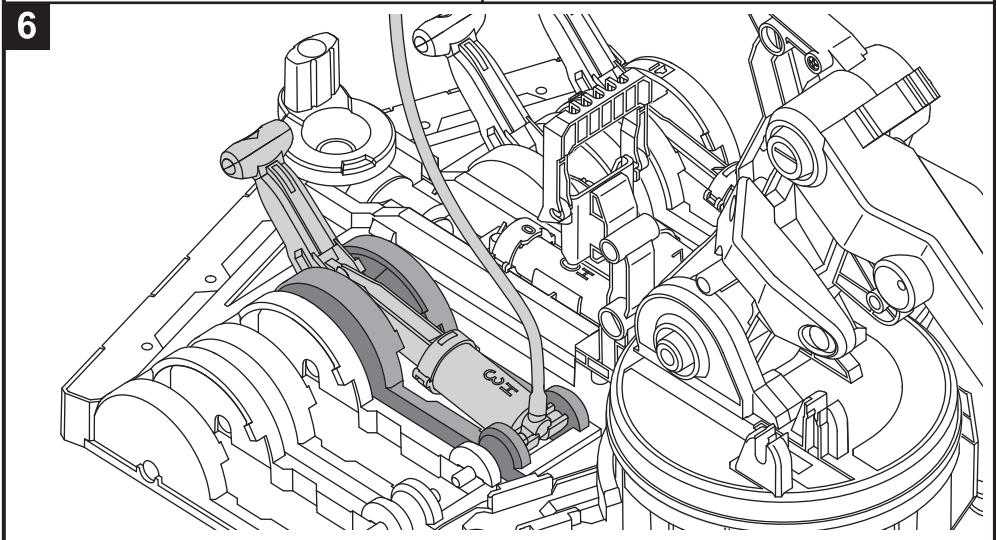
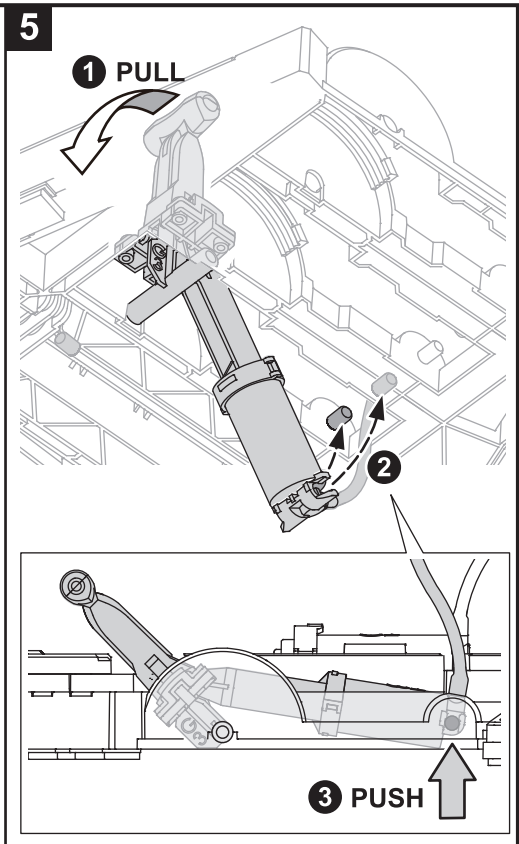
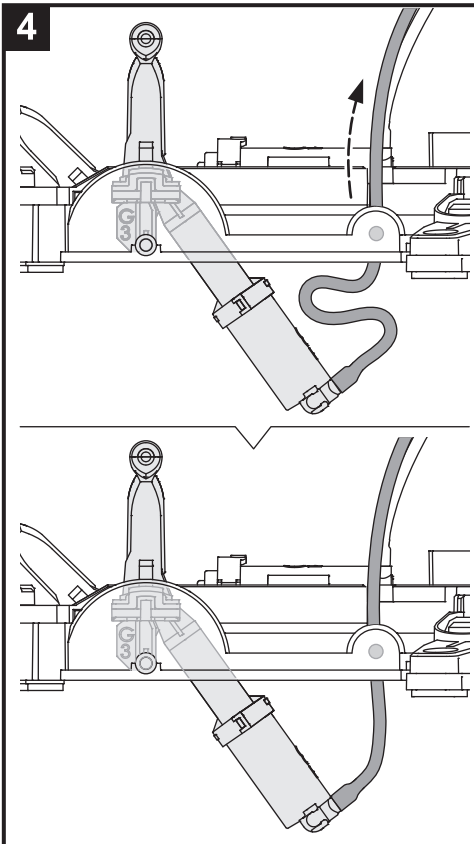
! Ensure The
Right Direction



Front View

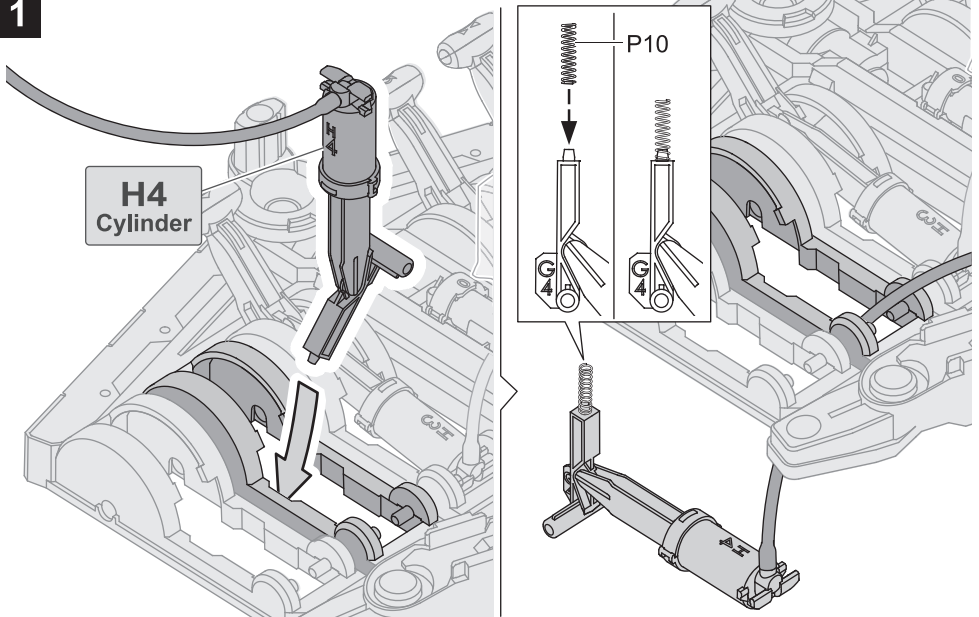
3





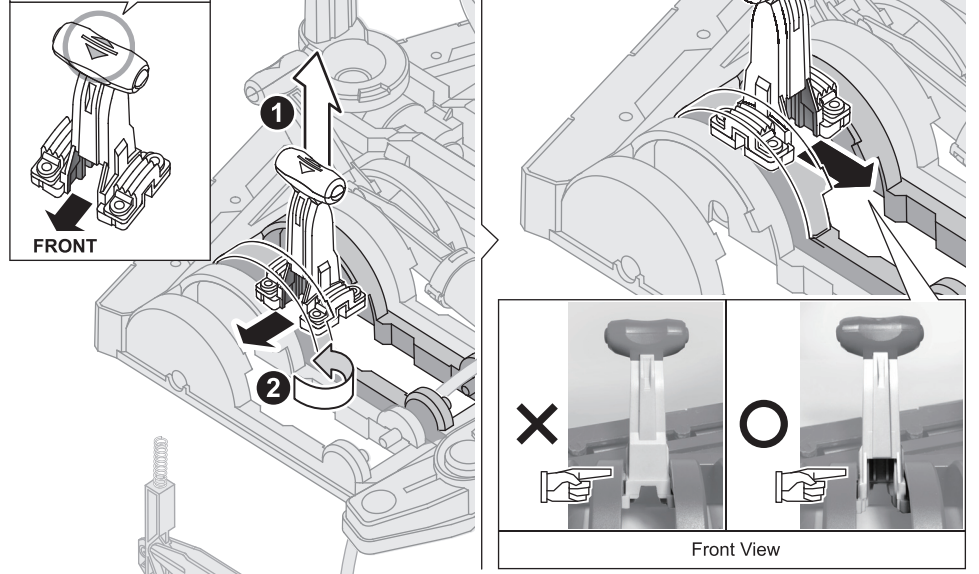
Unit 4: H4 Cylinder & Lever Controller 4

1

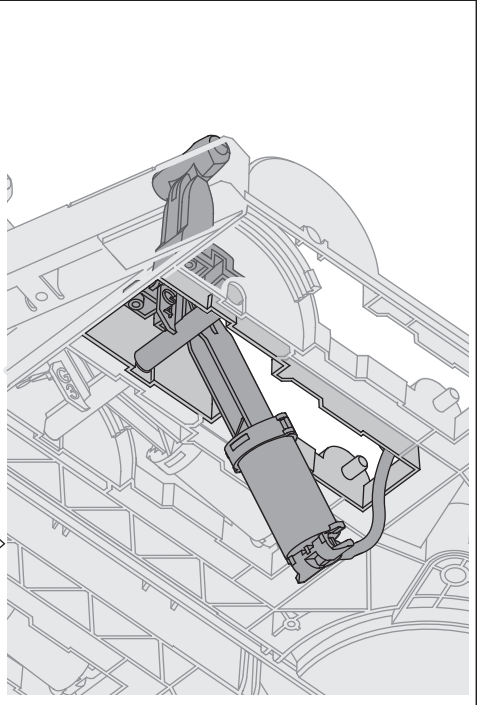
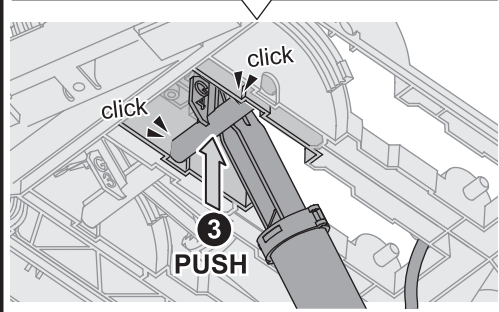
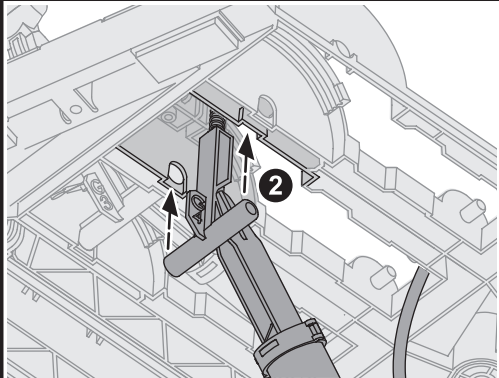
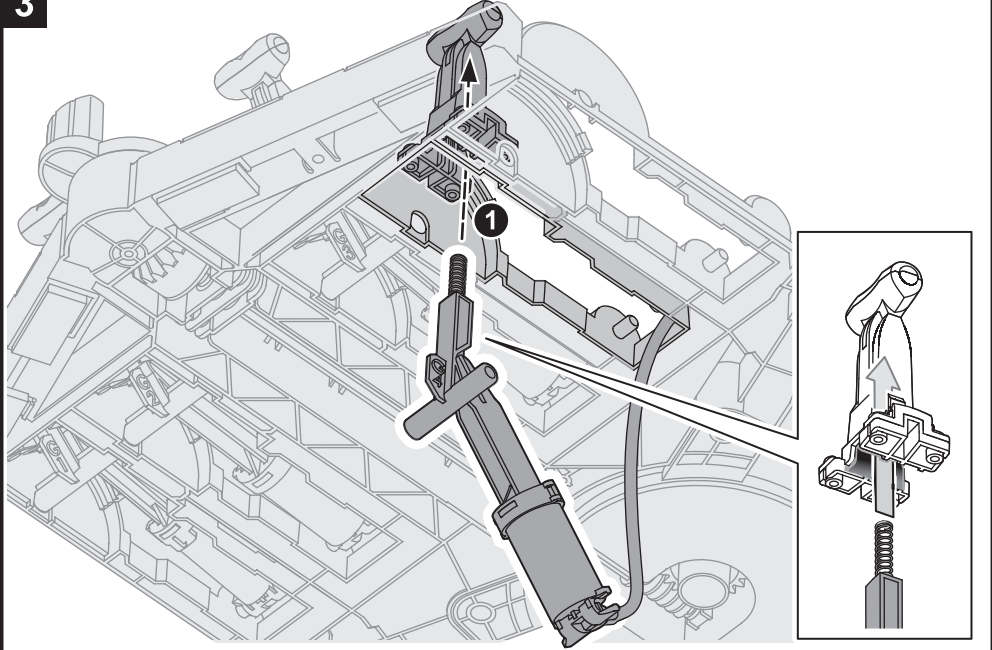


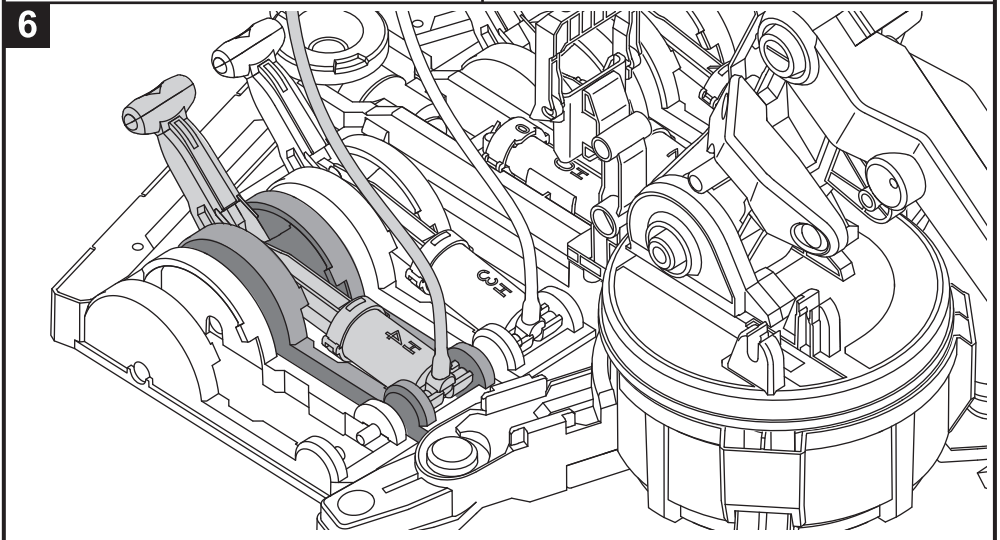
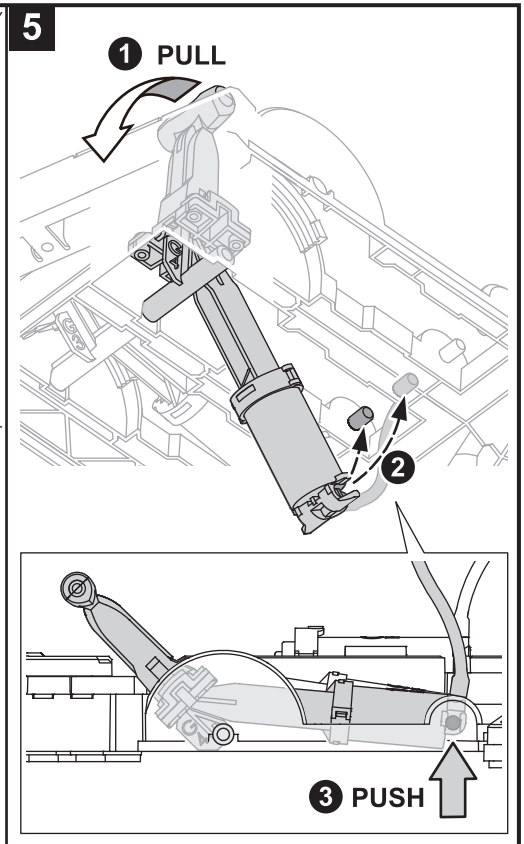
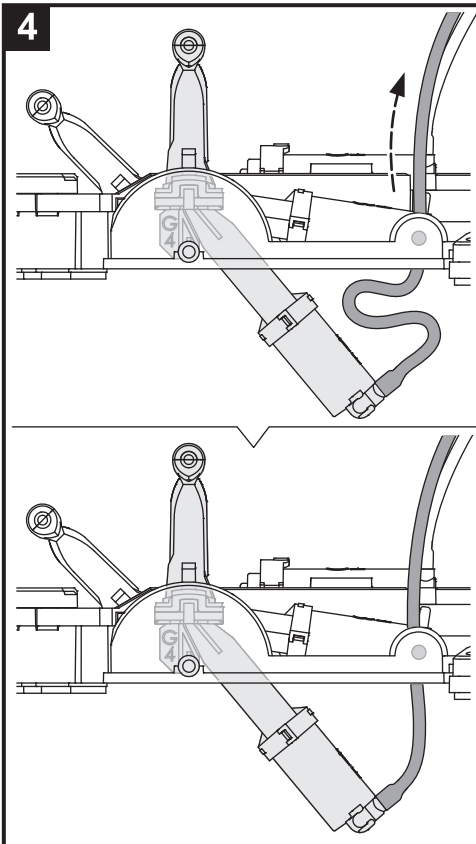
2

Lever Controller 4



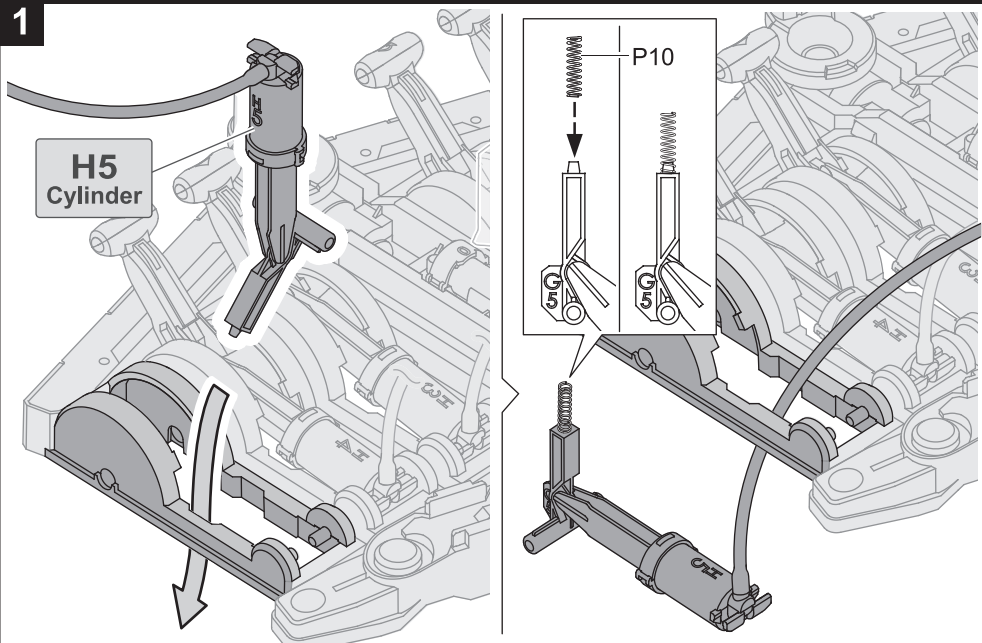
3



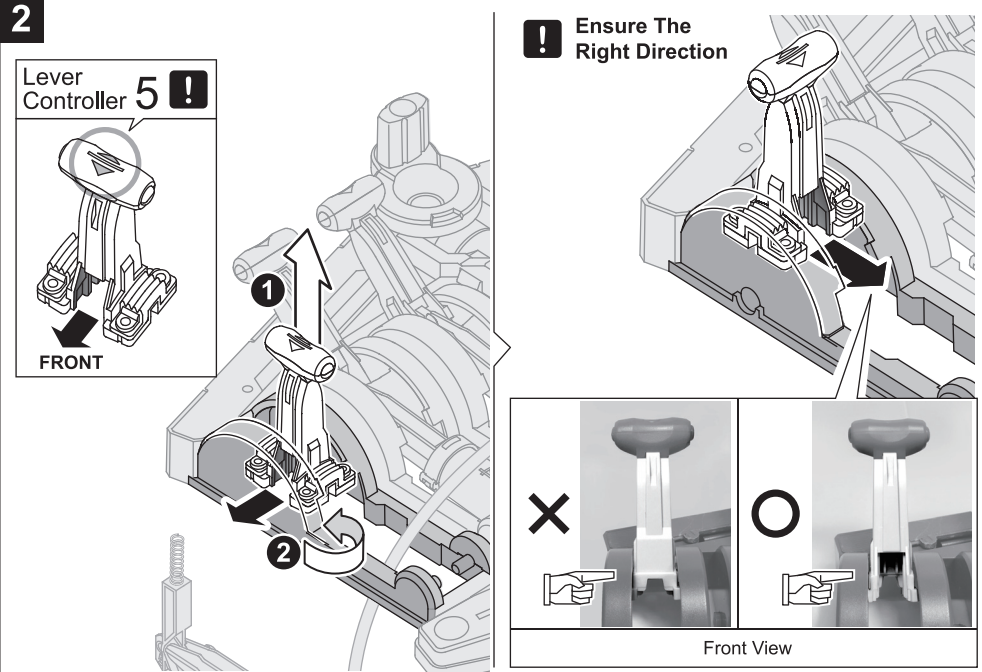


Unit 5: H5 Cylinder & Lever Controller 5

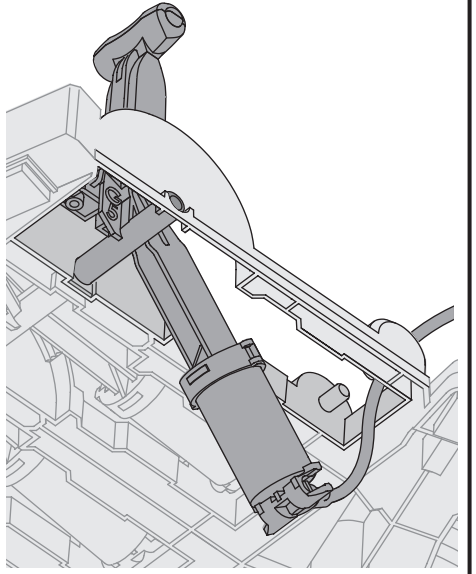
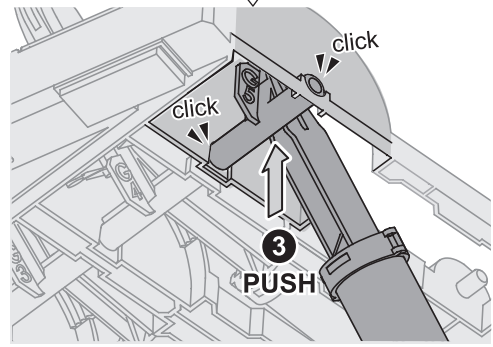
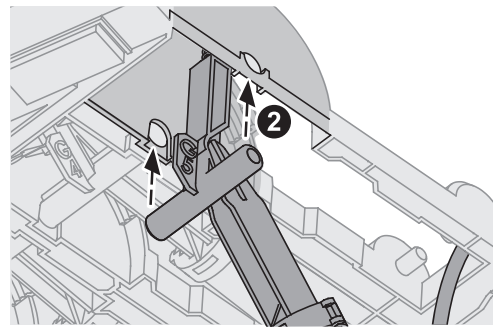
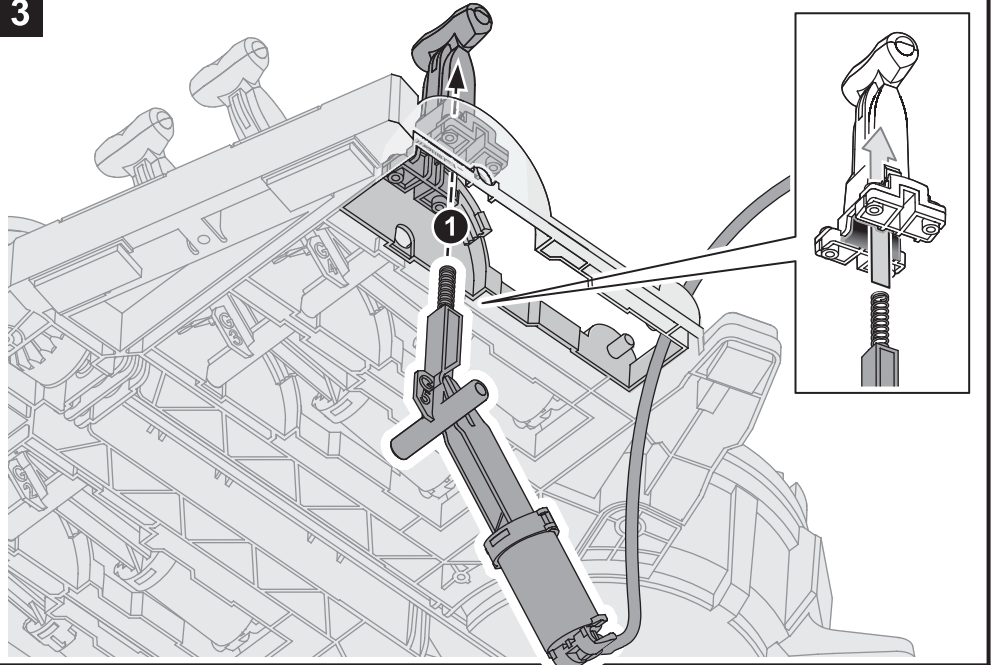
1

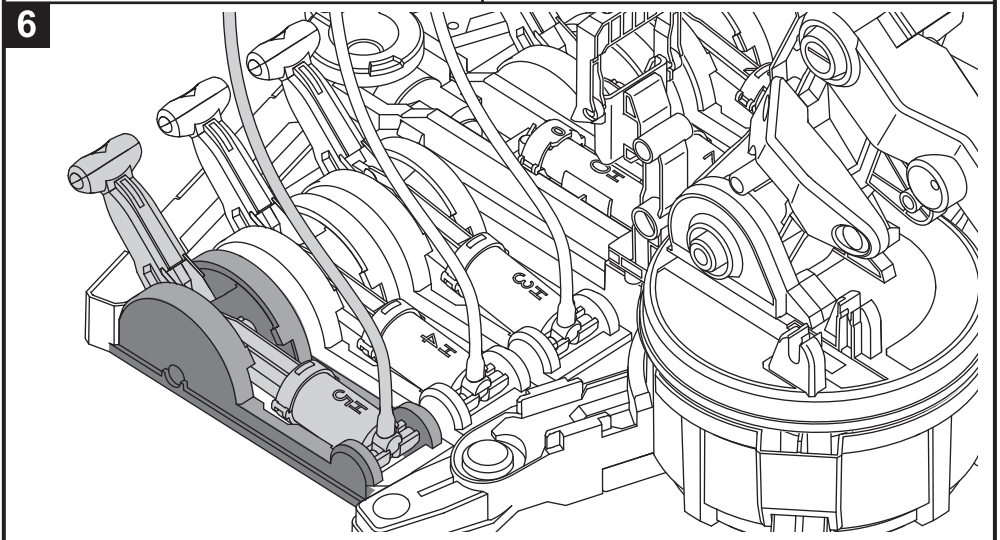
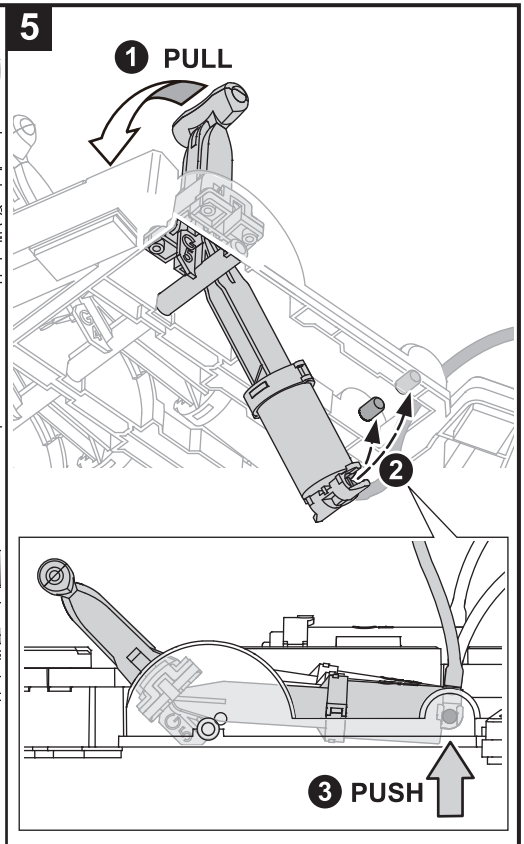
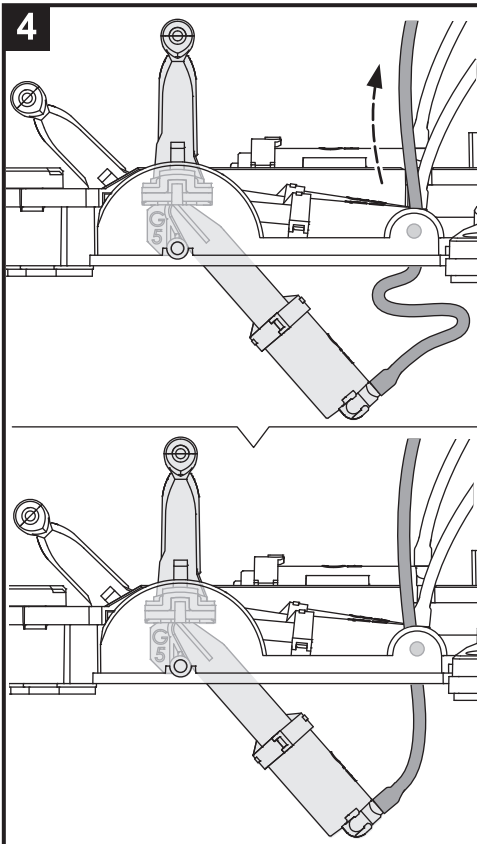


2



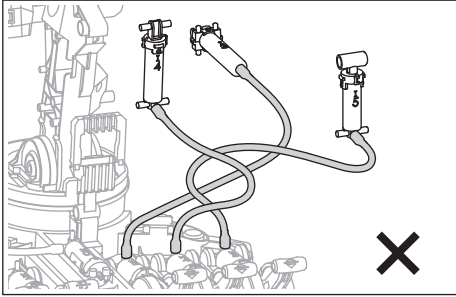
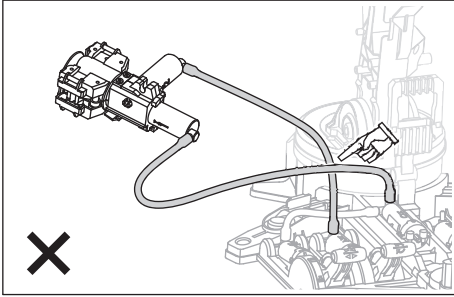
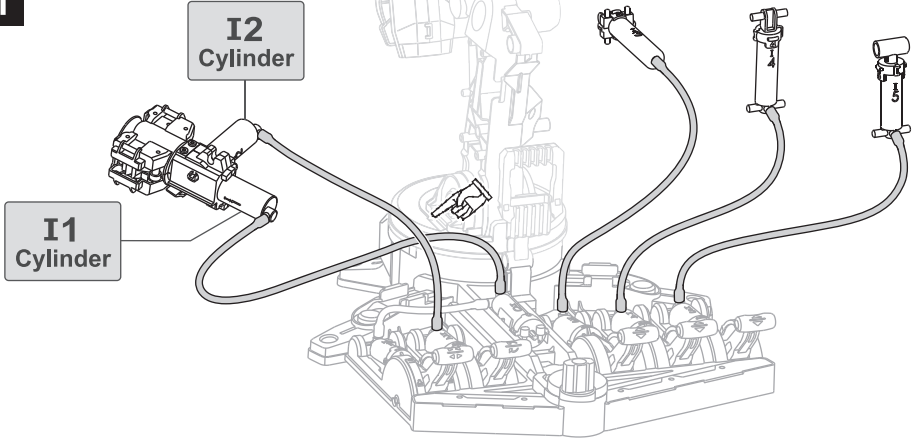
3



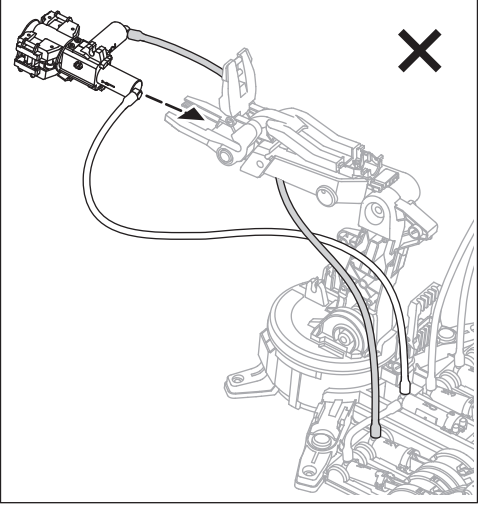
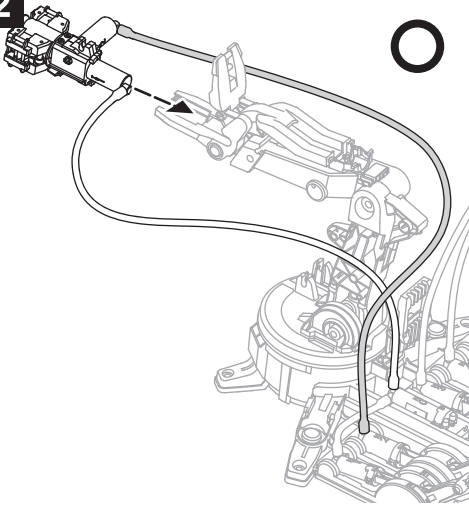


Robot Arm Module Assembly

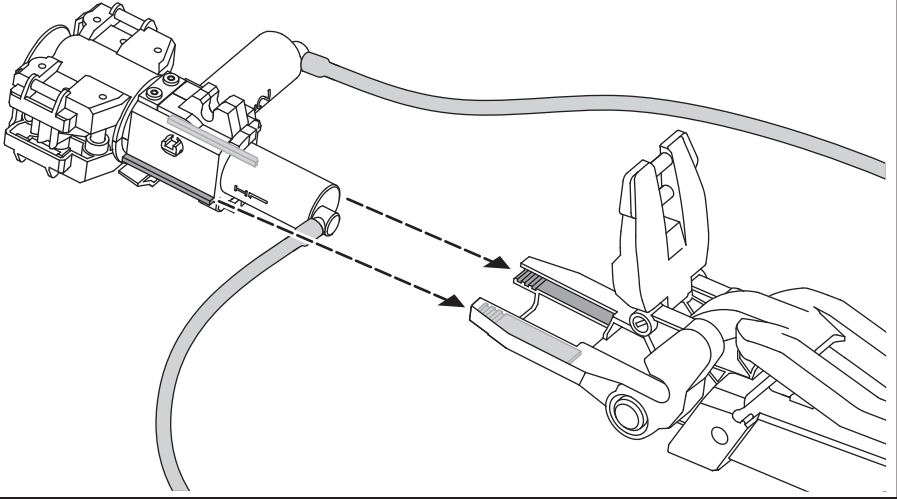
1



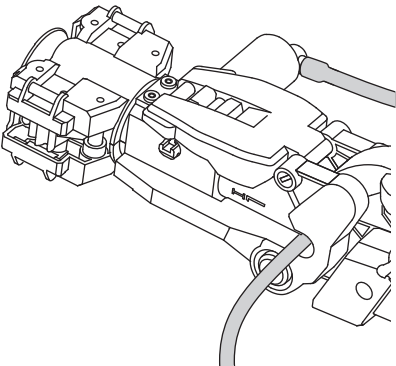
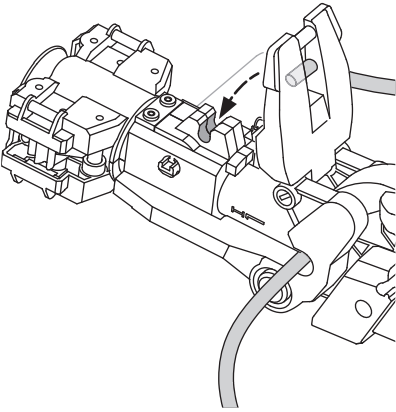
2



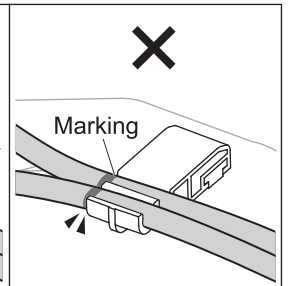
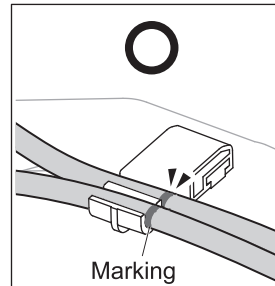
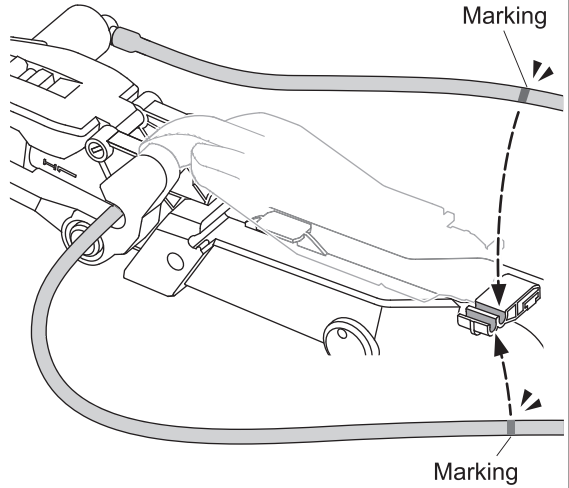
3



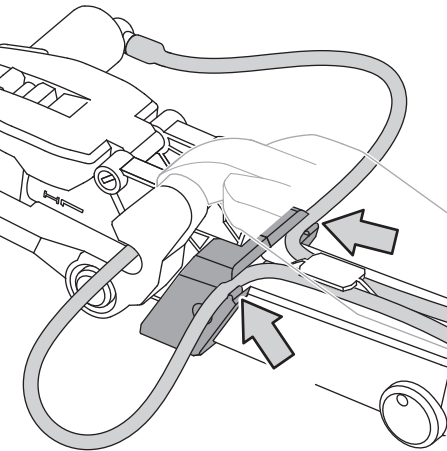
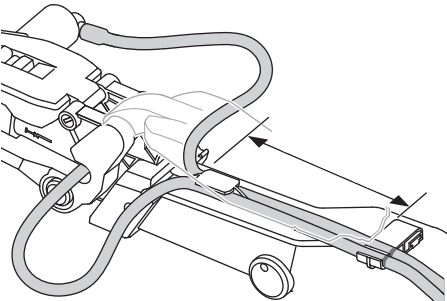
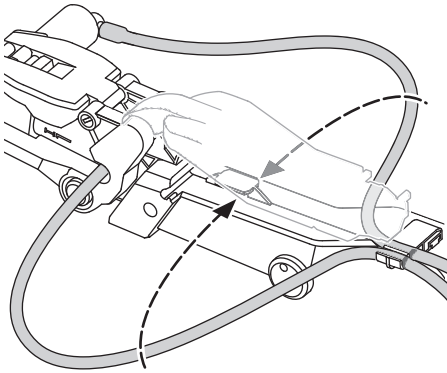
4



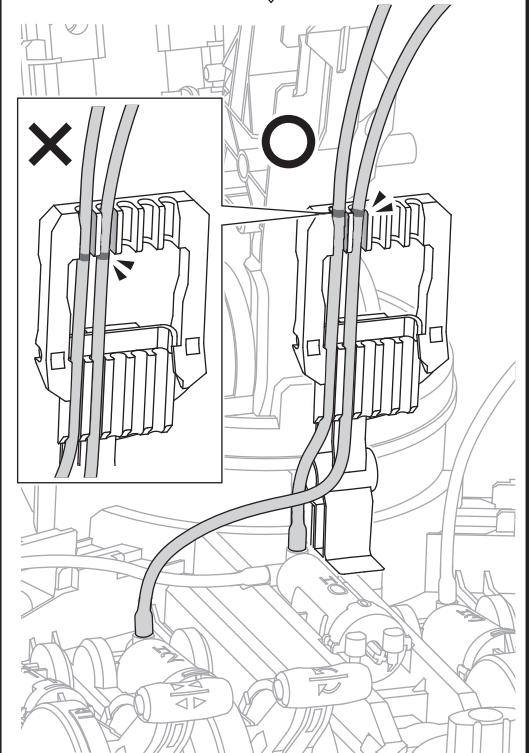
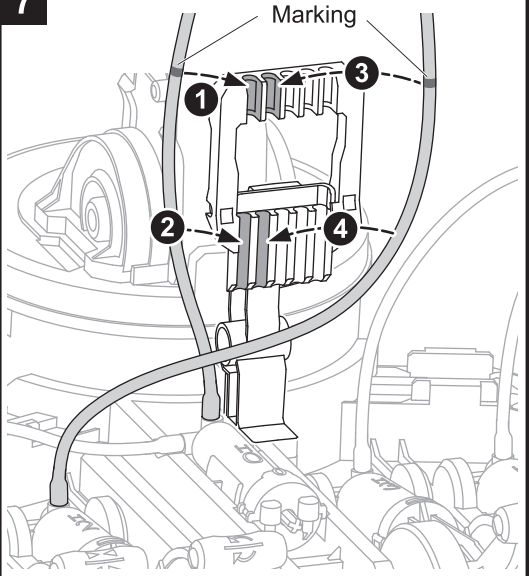
5



6 Set the soft tube in the groove.

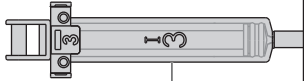


7

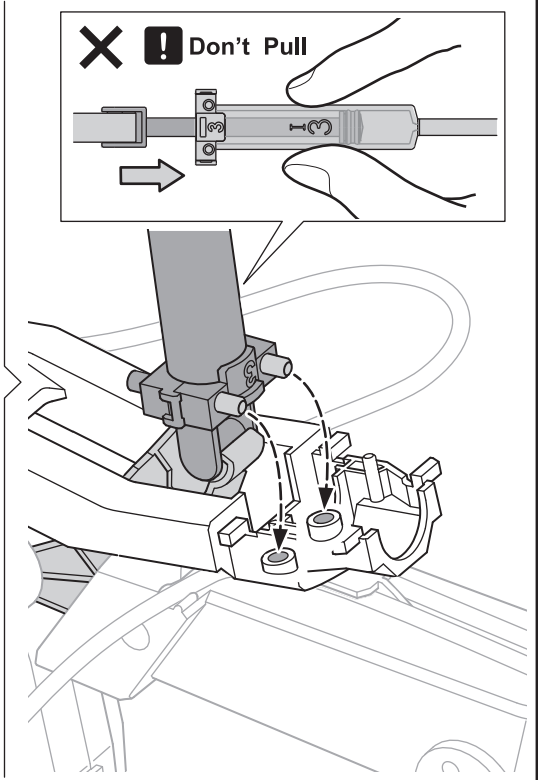
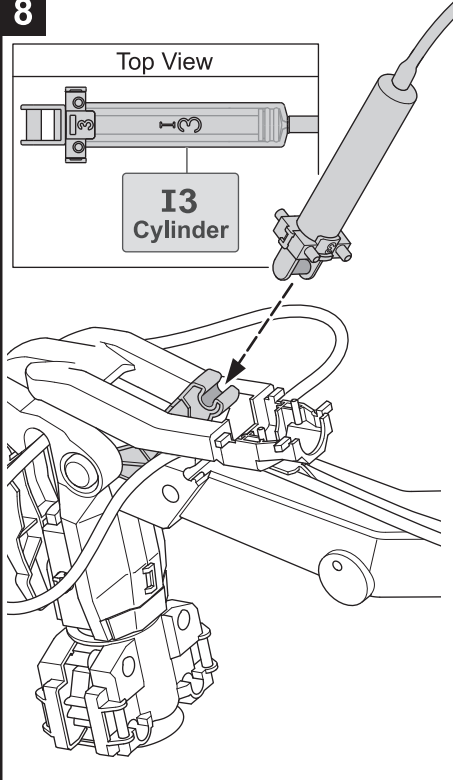
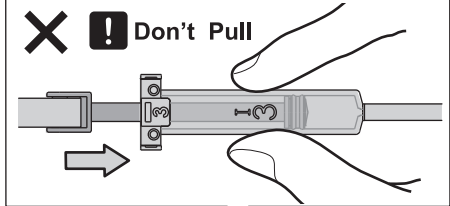


8

Top View



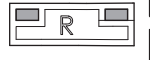
I3
Cylinder



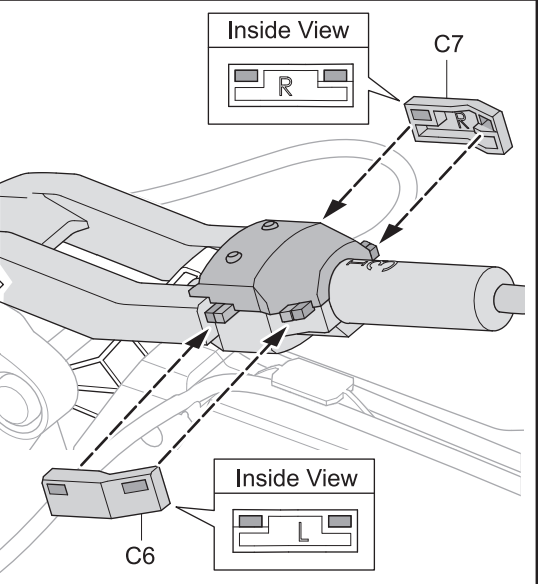
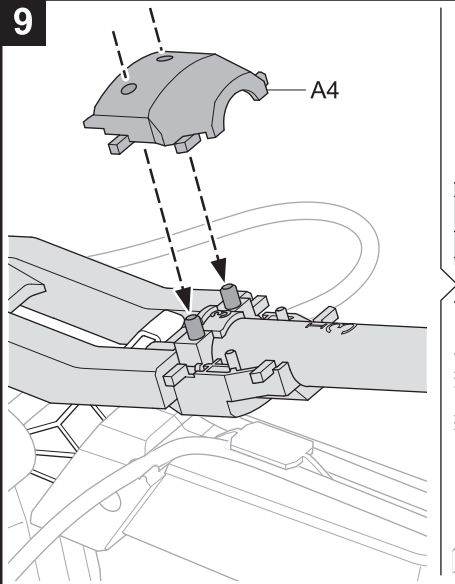
9

A4

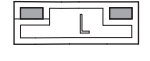
Inside View



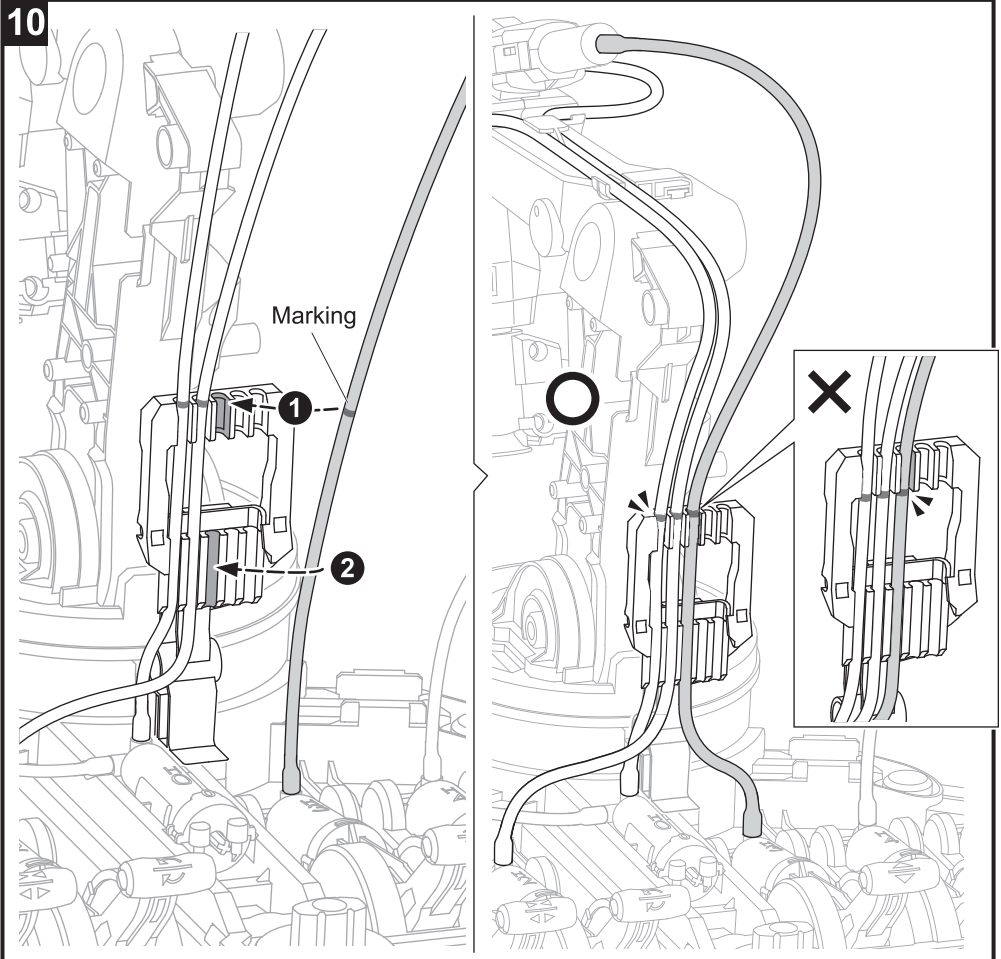
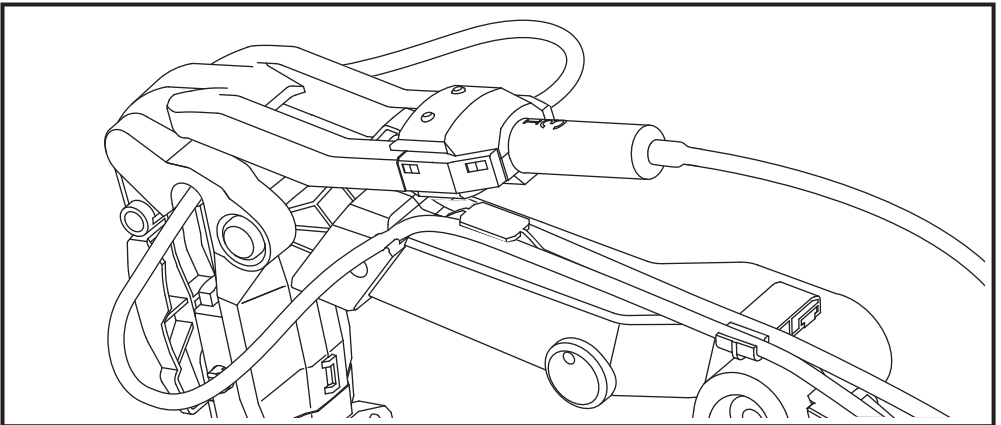
C7



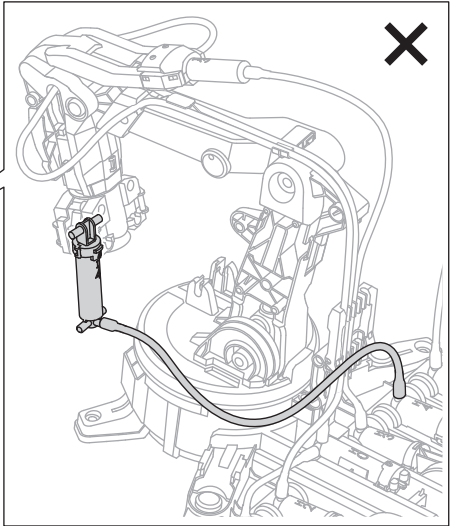
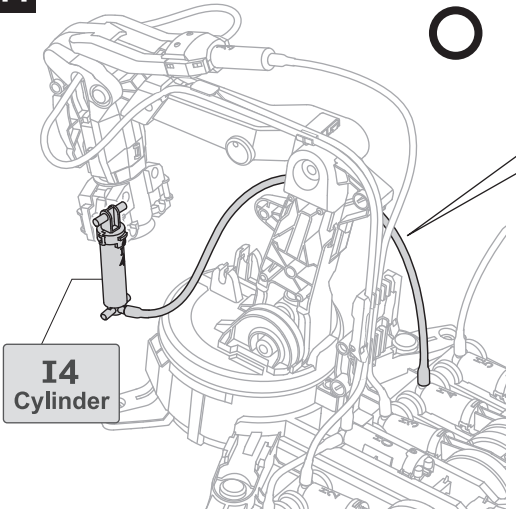
Inside View



C6

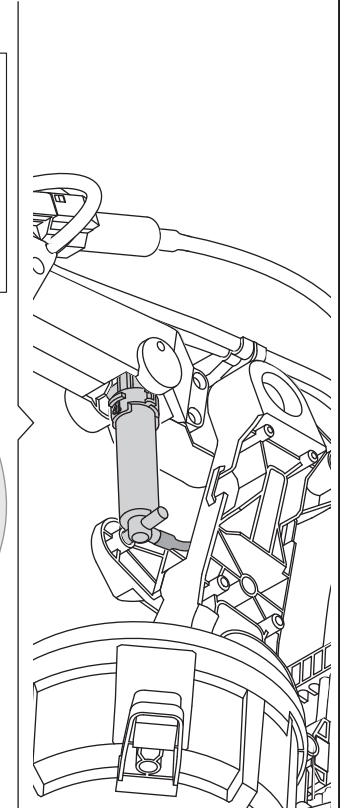
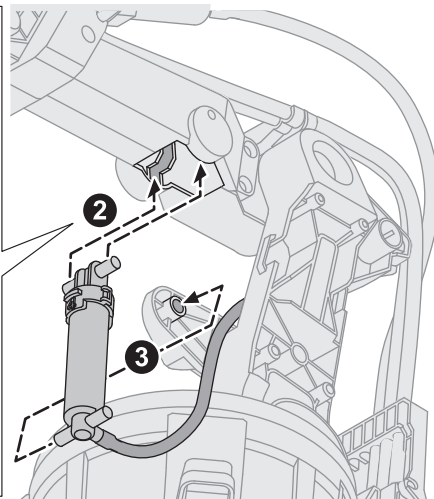
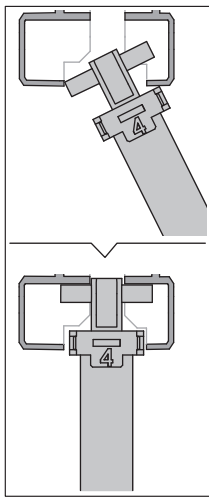
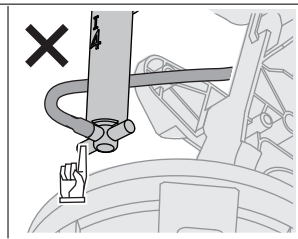
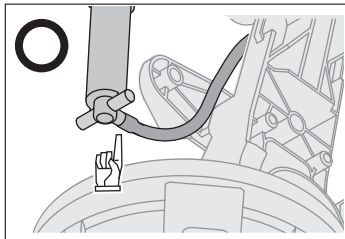


11

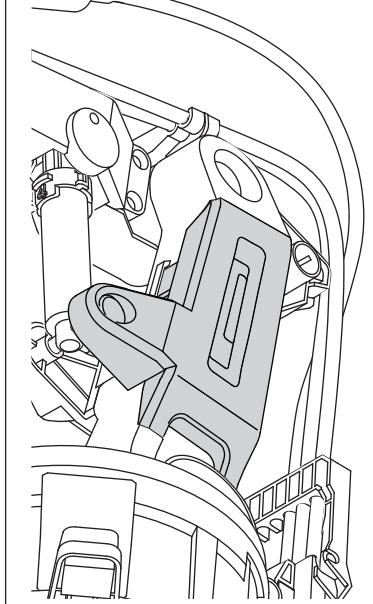
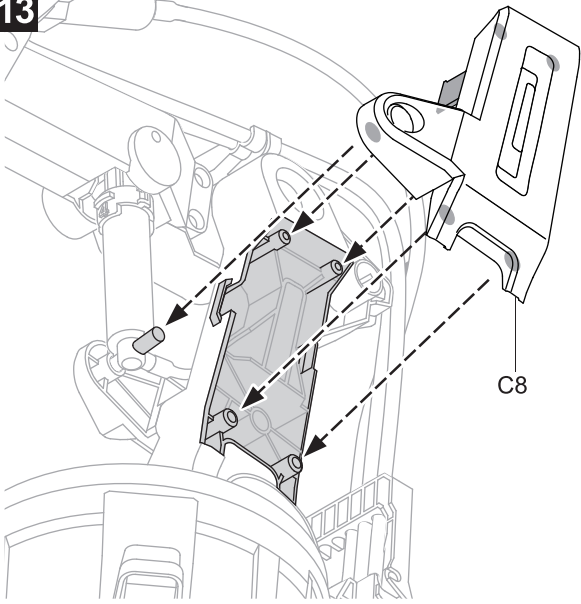


12

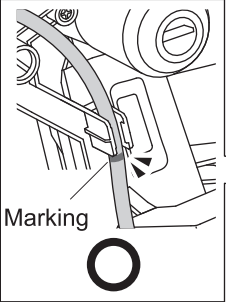
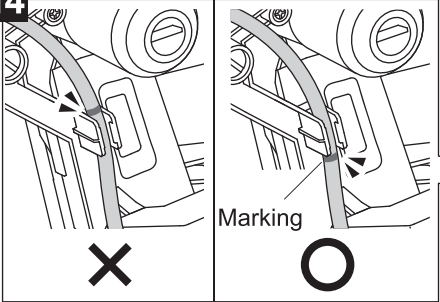
1 Ensure The Right Direction



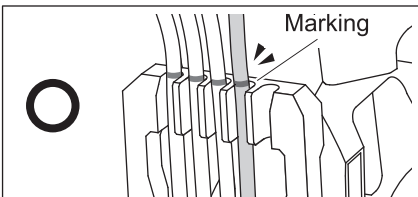
13



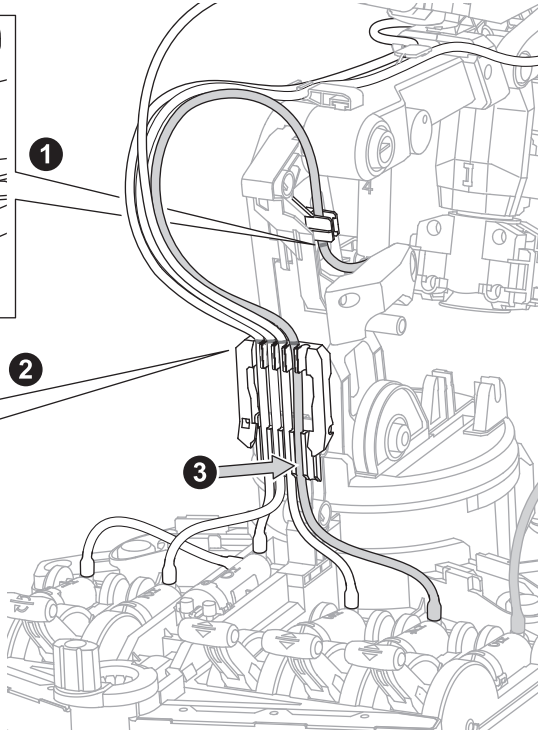
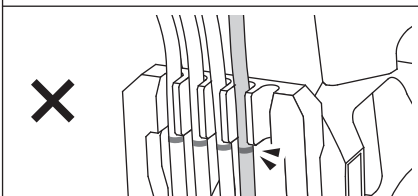
14



1



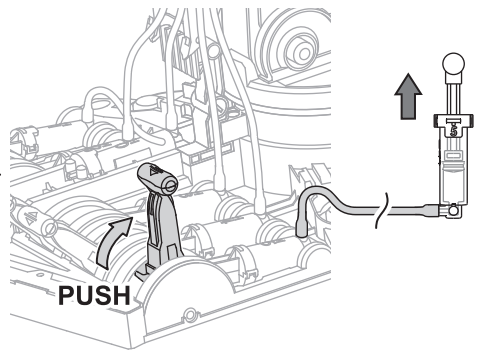
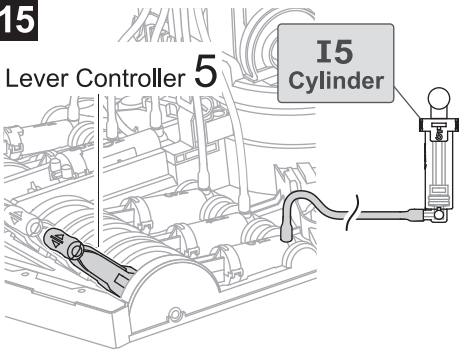
2



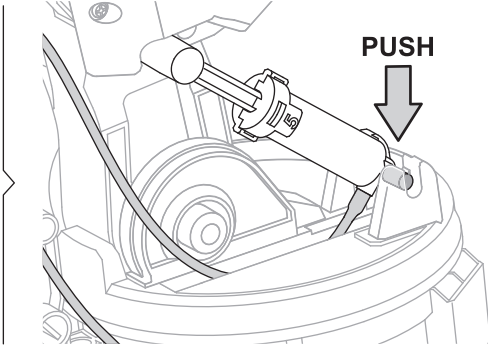
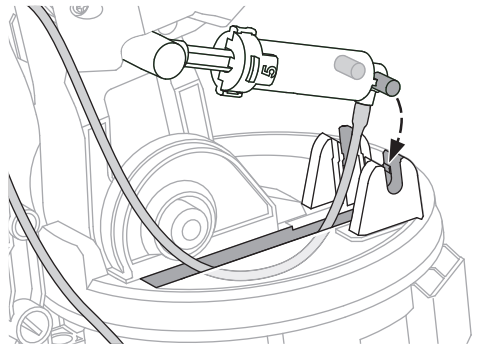
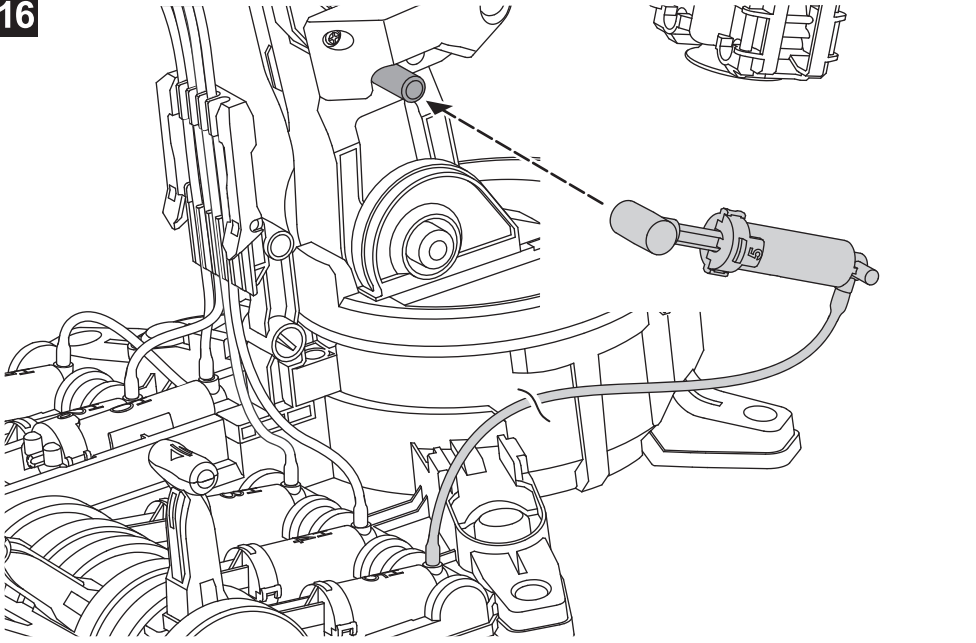
15

Lever Controller 5

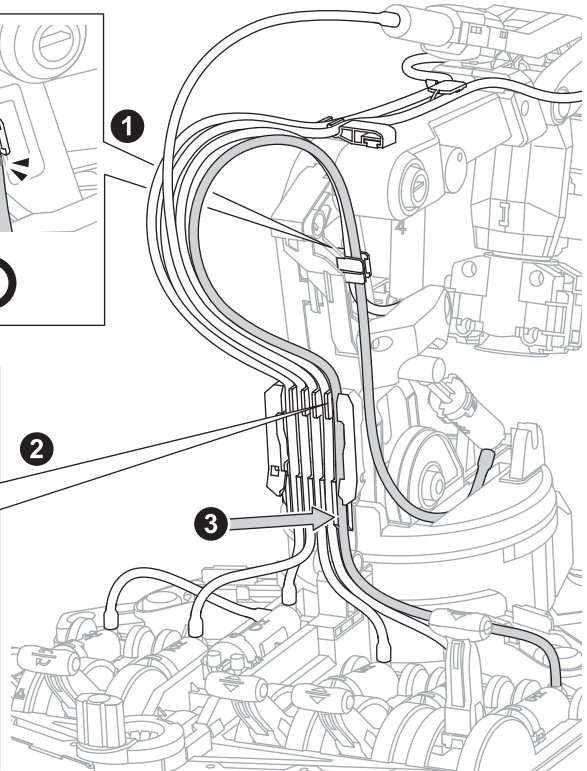
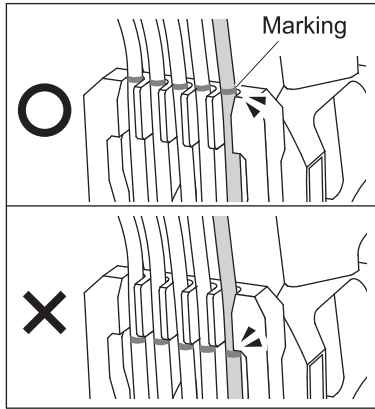
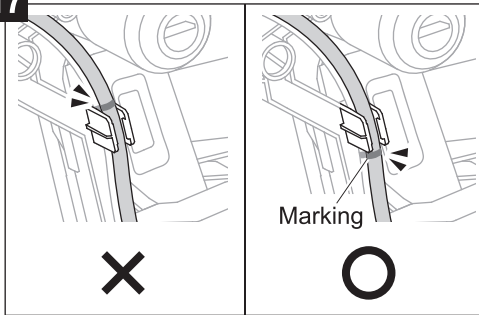
I5
Cylinder



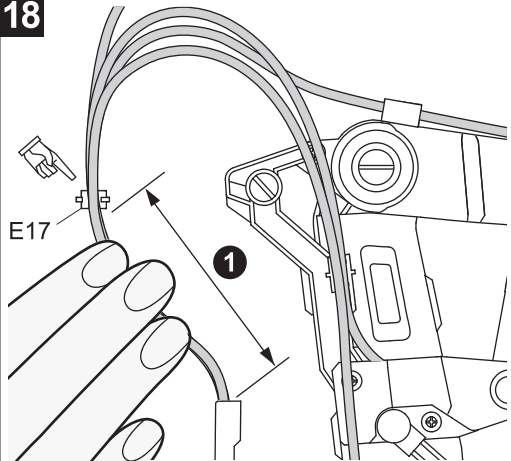
16



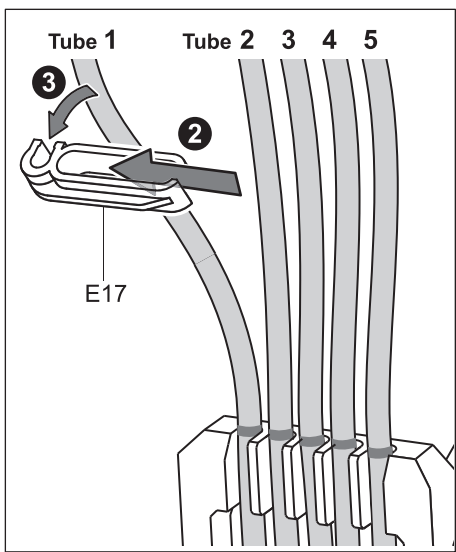
17



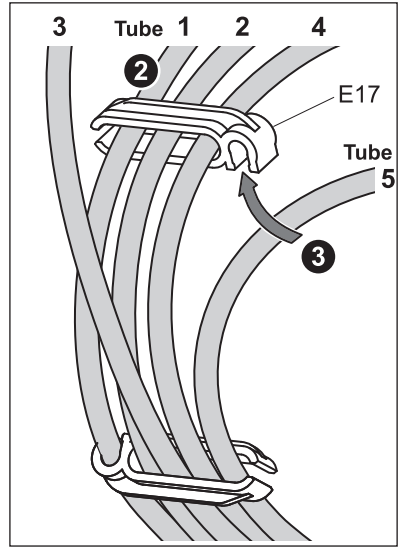
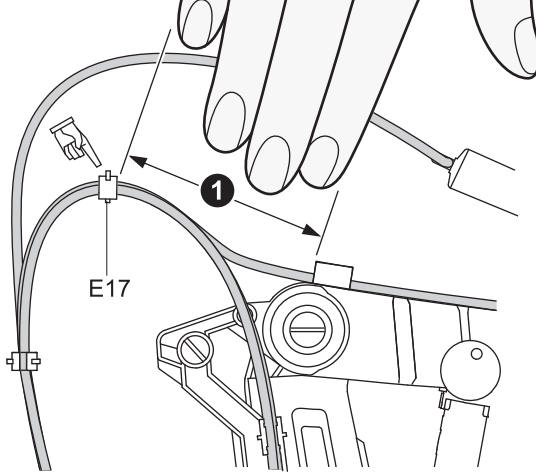
18



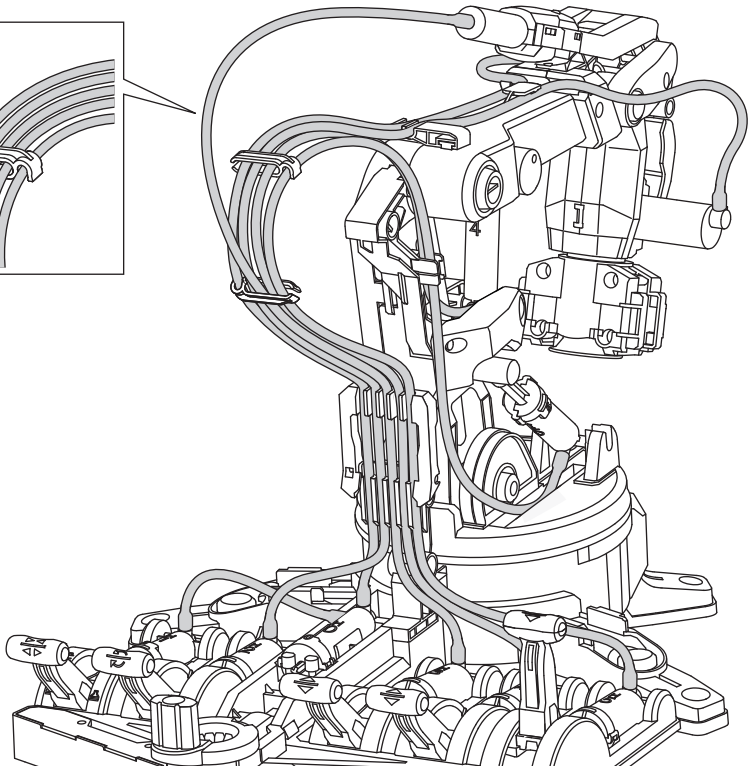
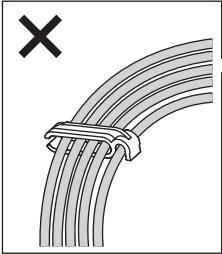
Using your hand, measure approx 4-finger width of soft tube, this is to assist you in fixing E17 and binding the tubes.



19 Using your hand, measure approx 4-finger width of soft tube, this is to assist you in fixing E17 and binding the tubes.

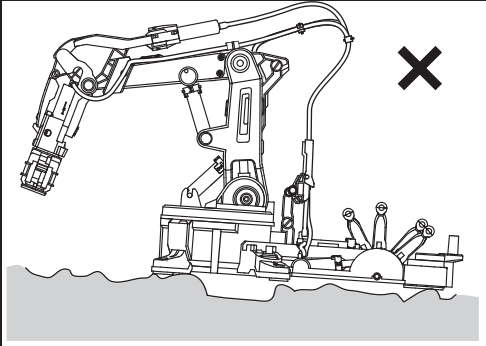
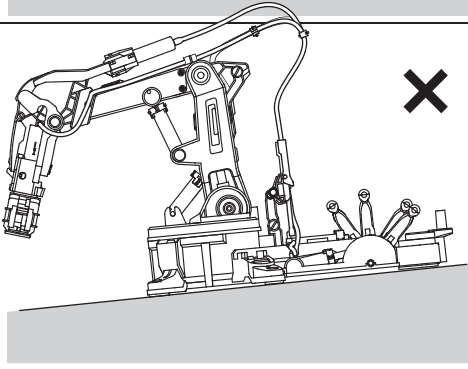
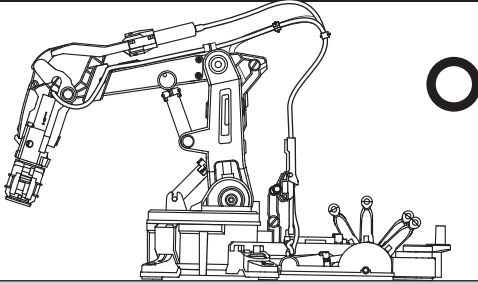


20

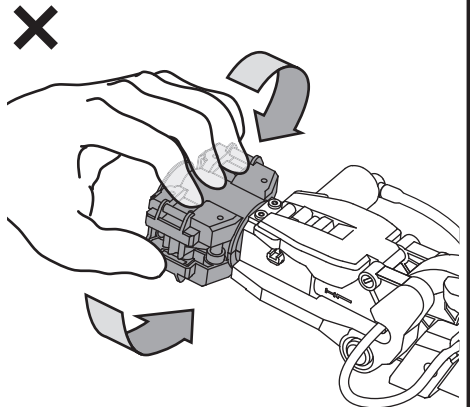
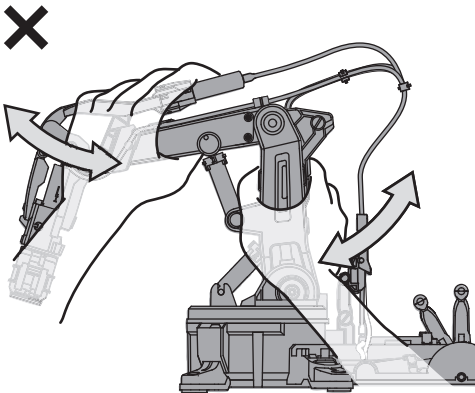


How To Play

Warning

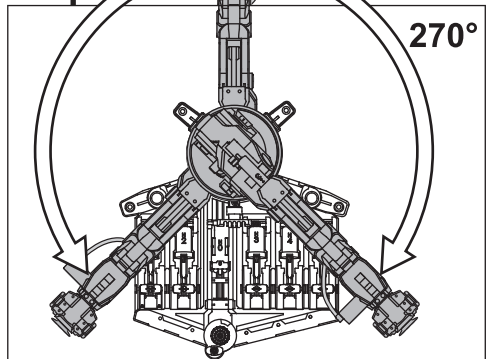
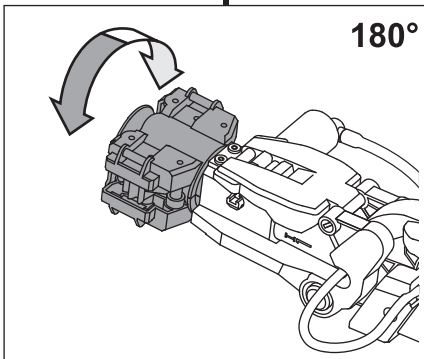
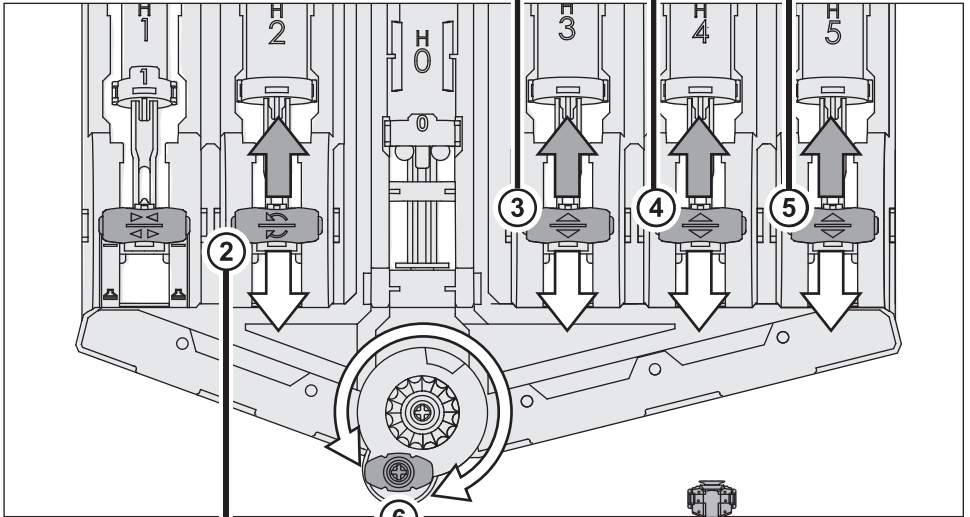
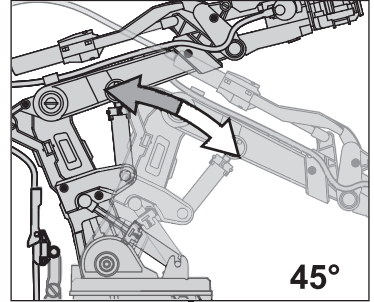
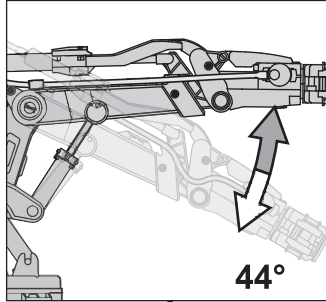
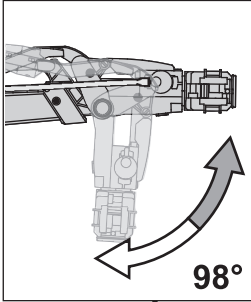


Operate on a smooth and level surface.



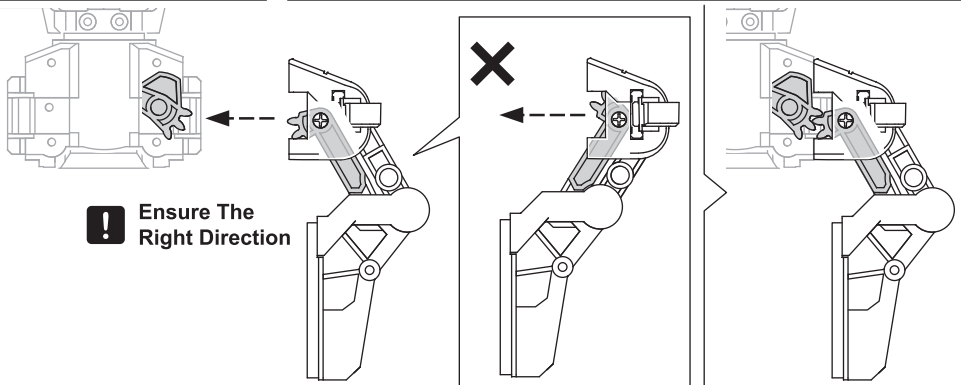
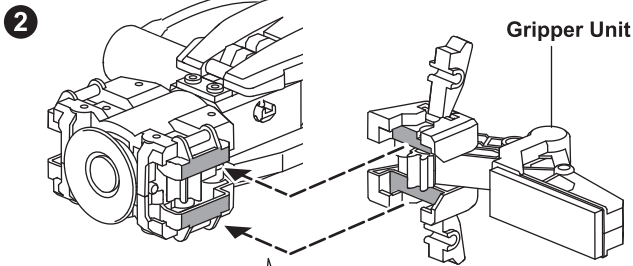
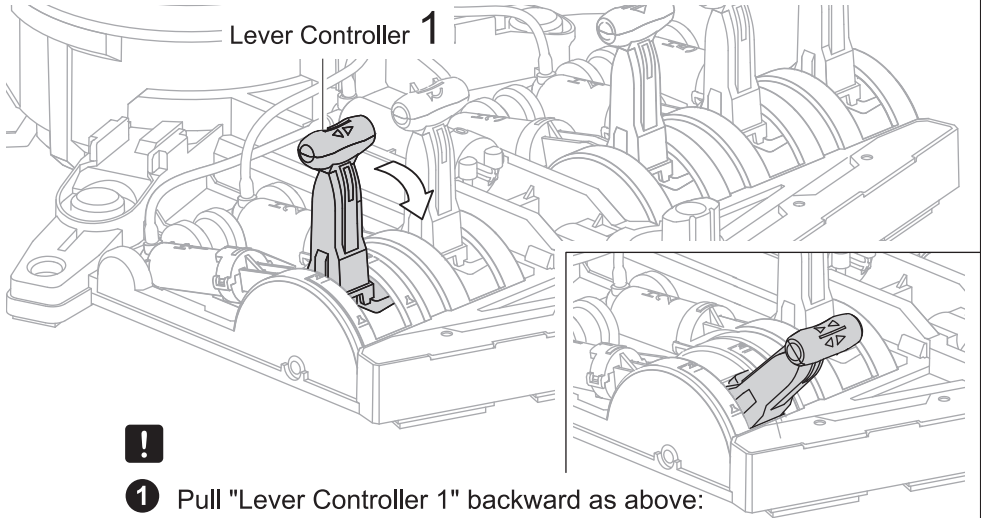
Handle the arm with care and do not mistreat as shown above

How To Play: 2~6 AXES

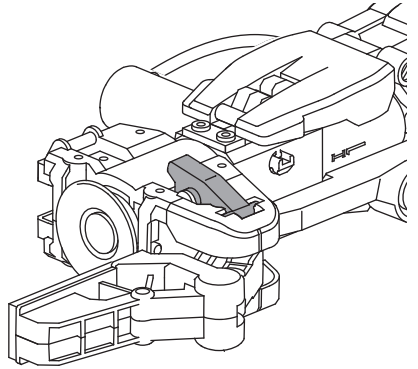
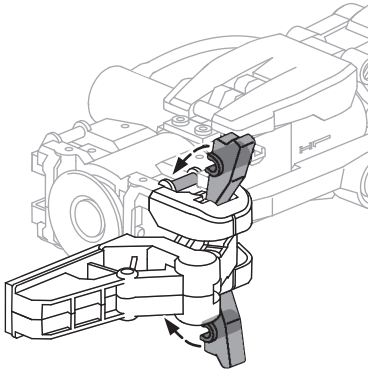


How To Play-Gripper Mode

1 Installation

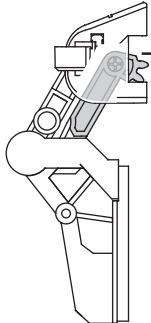
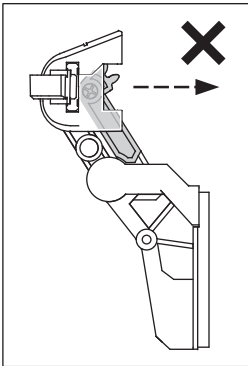
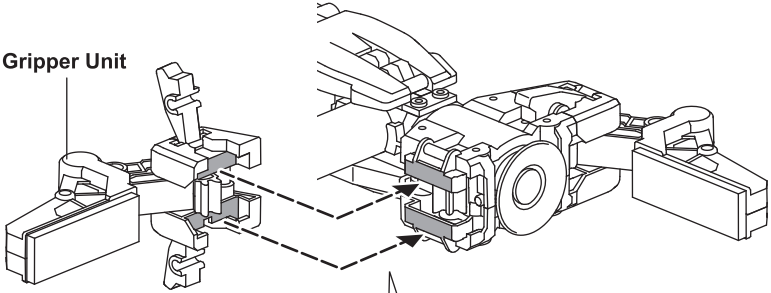


3

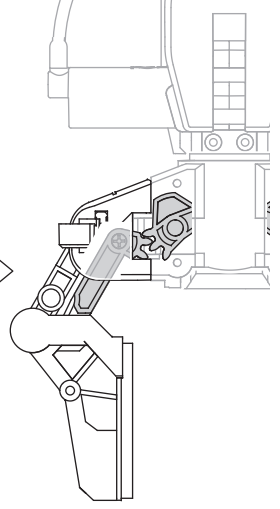
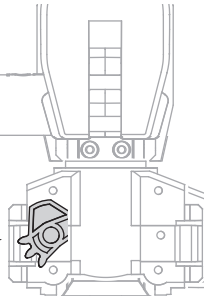


4

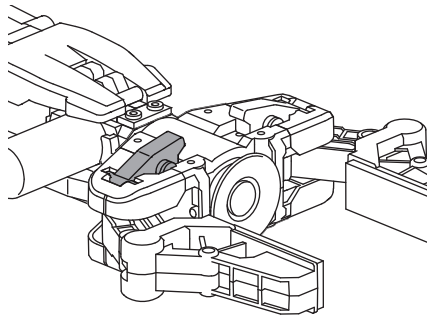
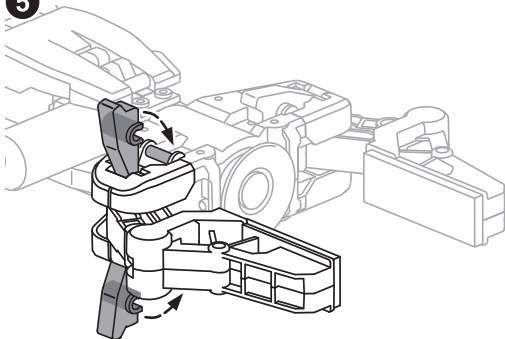
Gripper Unit



Ensure The
Right Direction



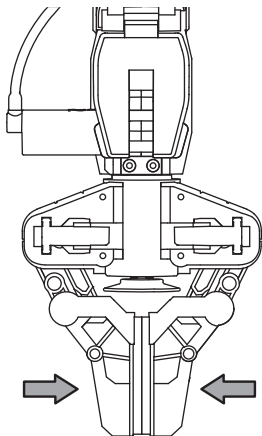
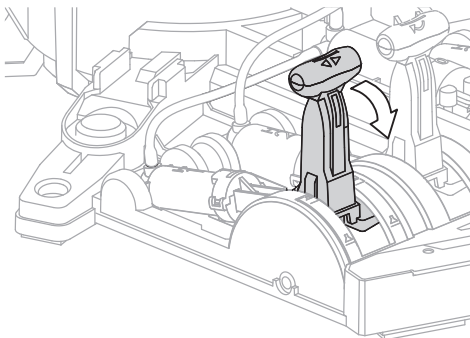
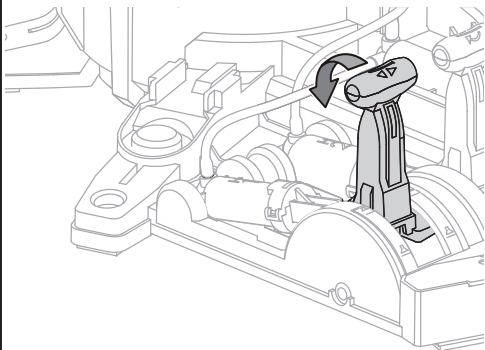
5



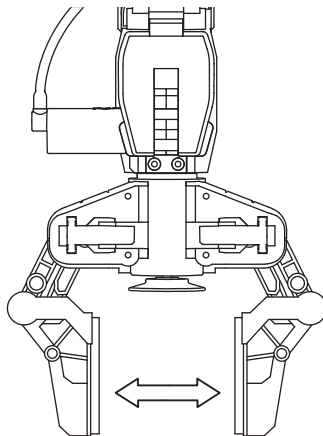
2

Grip the object:
Push "Lever Controller 1" forward

Release the object:
Pull "Lever Controller 1" backward



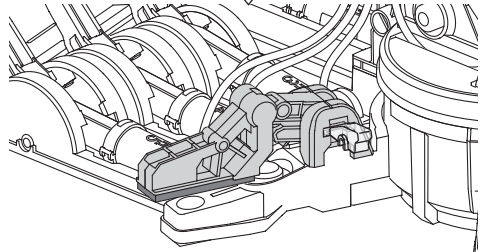
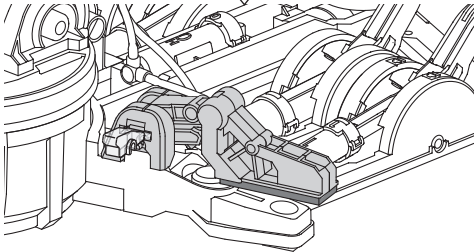
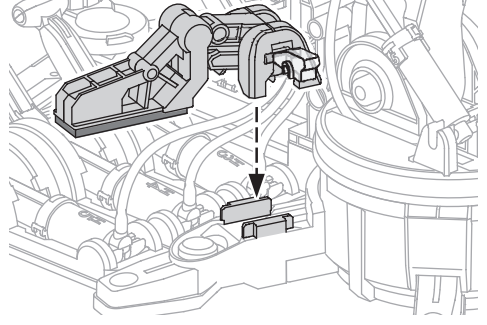
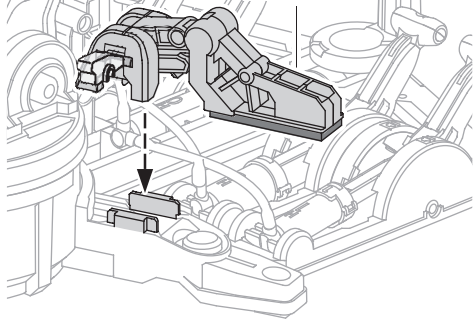
Maximum Lift : **50 g**



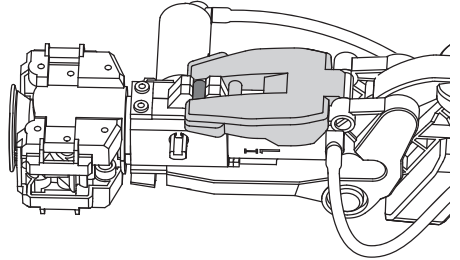
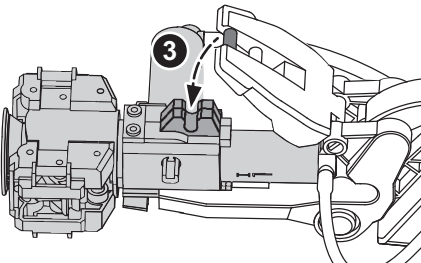
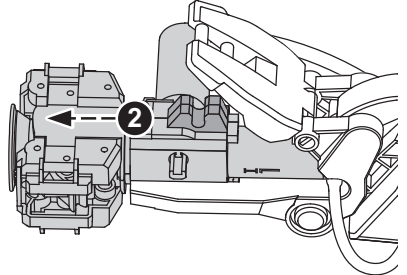
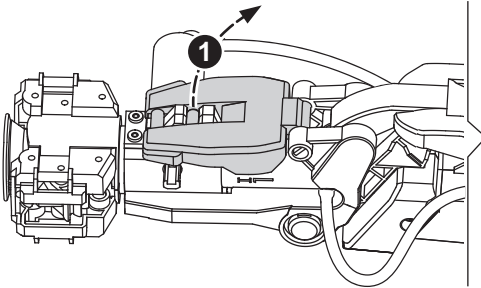
How To Play- Suction Mode

- 1** Release Gripper unit and put it aside as below

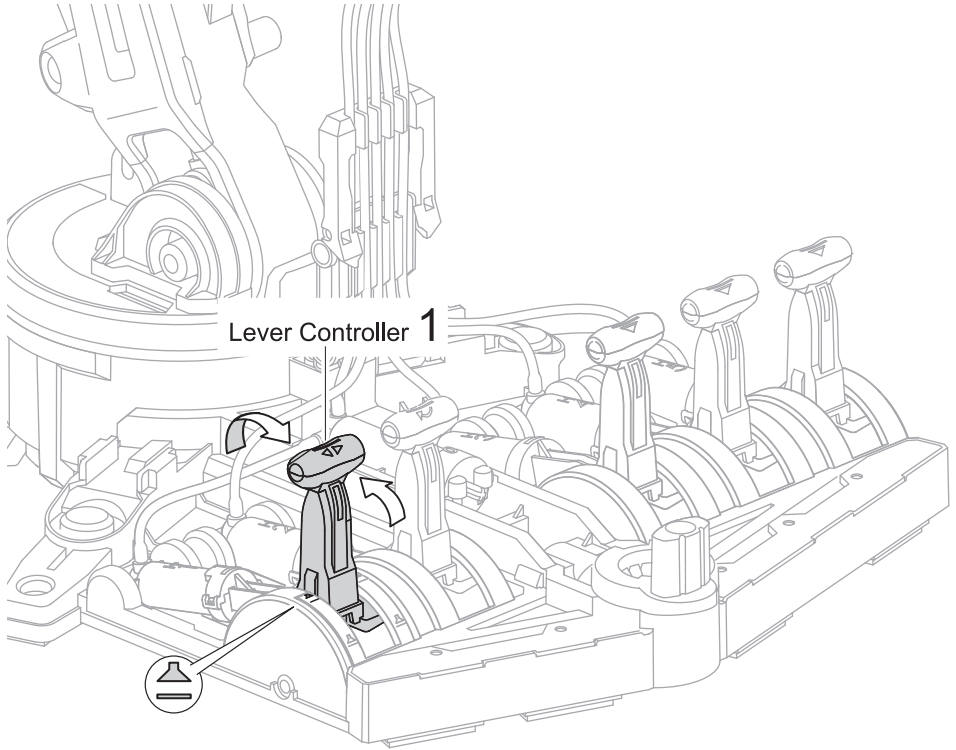
Gripper Unit



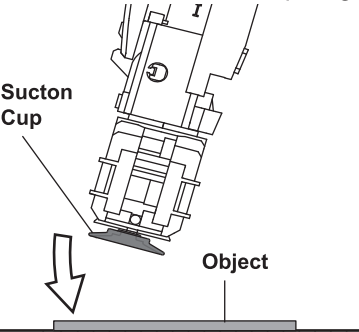
- 2** Very Important !! Step 2 must be completely fulfilled under Suction Mode.



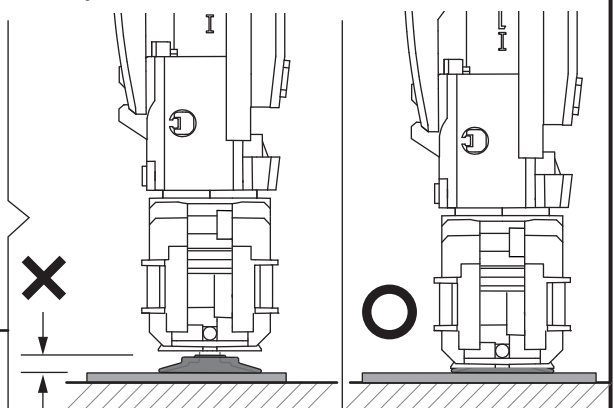
3 Set the "Lever Controller 1" in the middle as below



4 Operate the lever Controllers 2-6 (refer to page. 77), and have suction cup target the object.

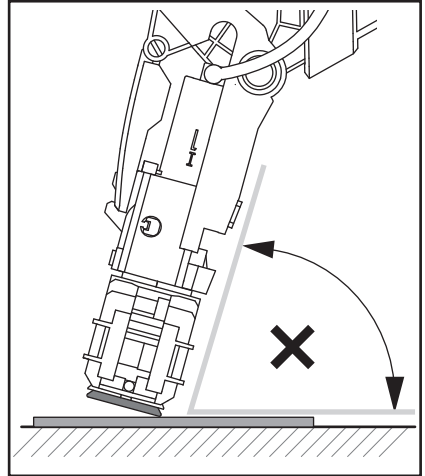
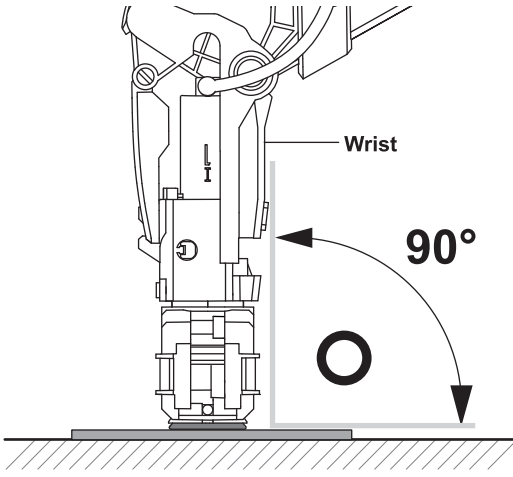


To obtain the best results, suction objects on a smooth surface, suction objects bigger than the suction cup, and max.50 g

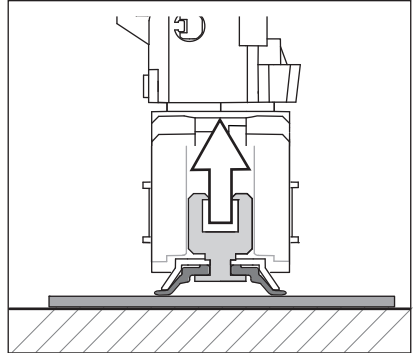
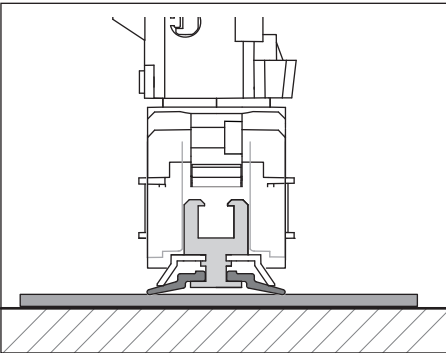
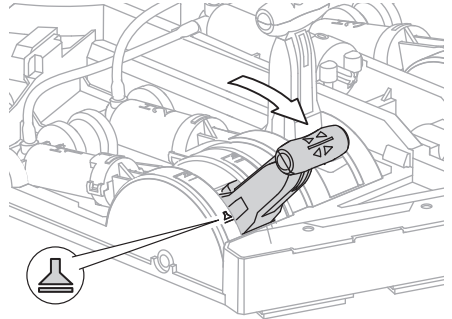
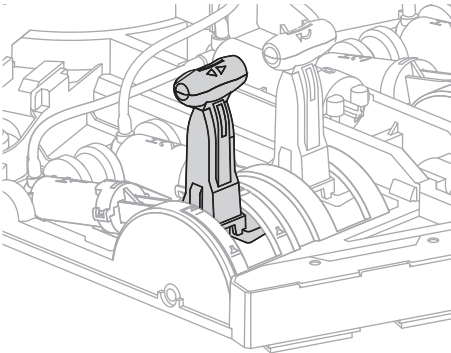


! Make suction cup stick to the object tightly.

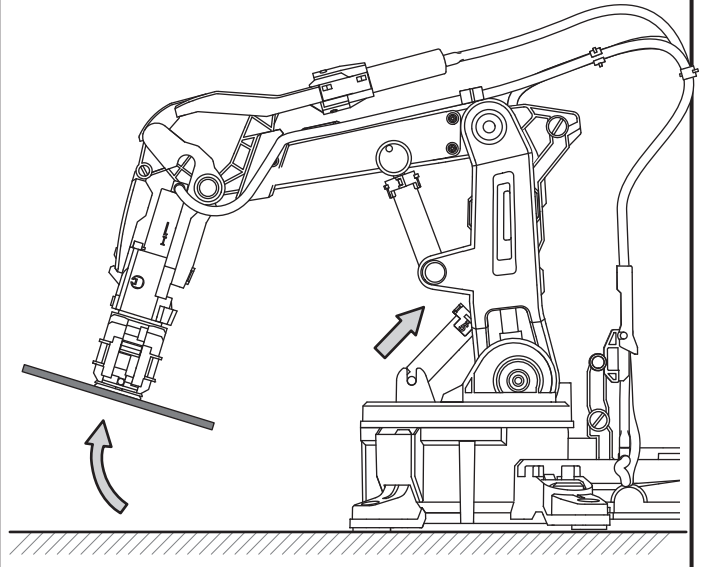
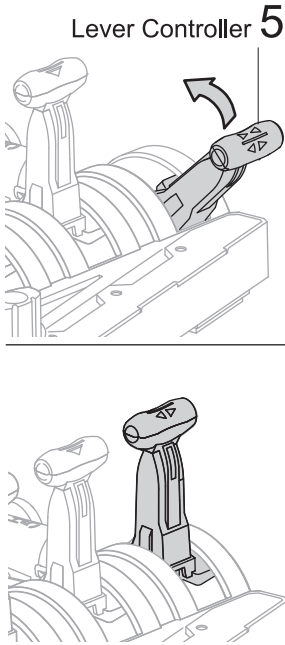
! Direct the Wrist to the object straightly



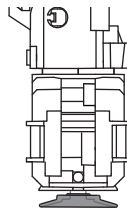
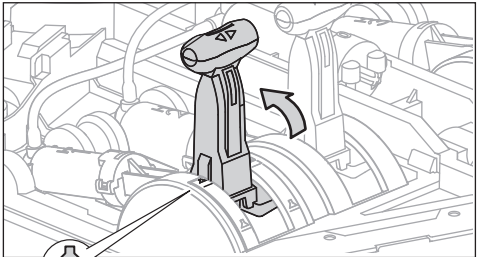
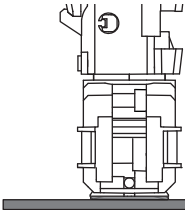
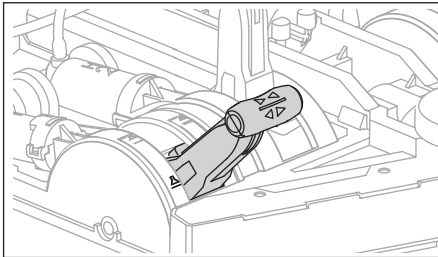
5 Pull "Lever Controller 1" backward as below, and have the cup suck the object.



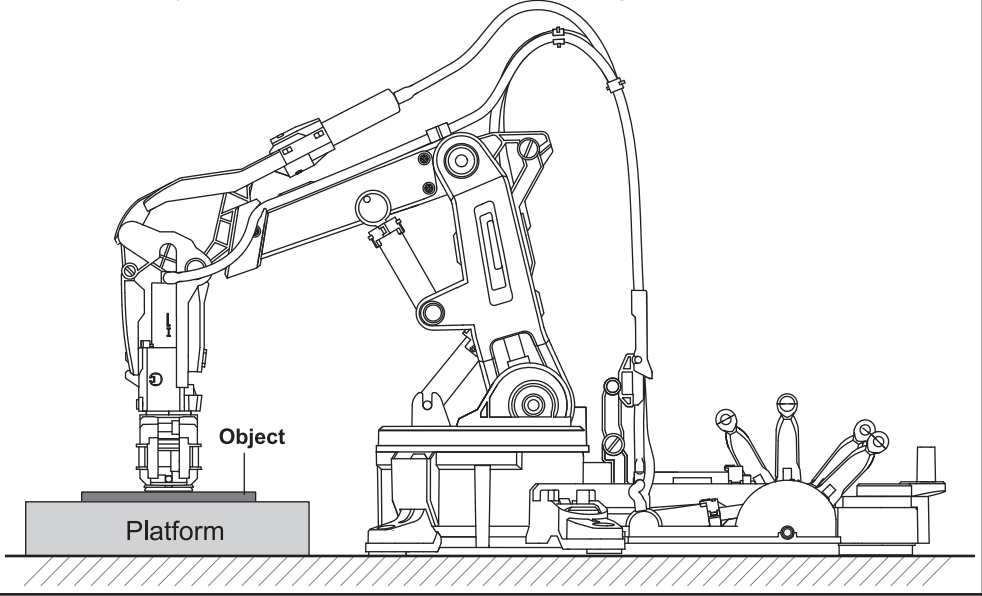
6 Push "Lever Controller 5" forward to lift the object.



7 Set "Lever Controller 1" in the middle to release object.



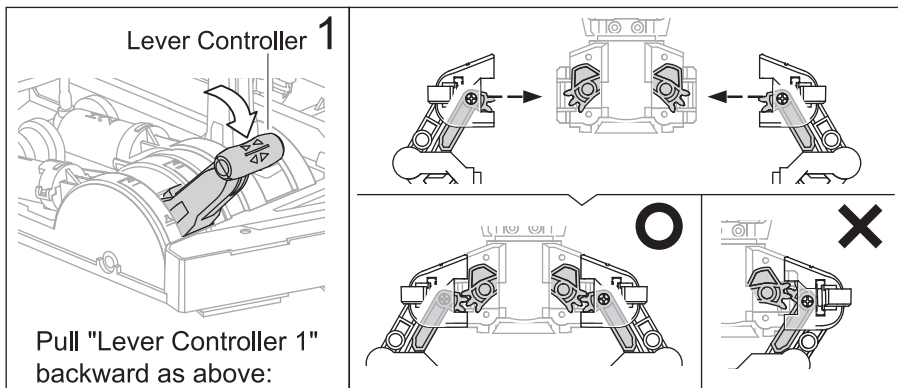
8 Tip: Put the object under a slightly higher/and smoother platform, it may help you practice the "Suction mode" with greater success.



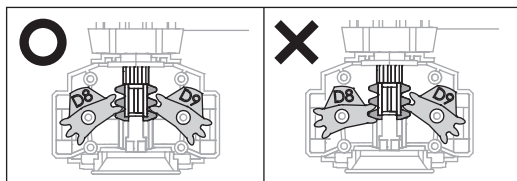
Trouble Shooting

● If gripper unit does not work (open or close) functionally, please check following steps.

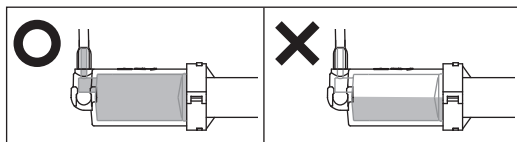
1. Check if gripper unit is installed in the correct position and direction (as below pics in pages 78,79)



2. Back to page 32, and check step 16 is correct.



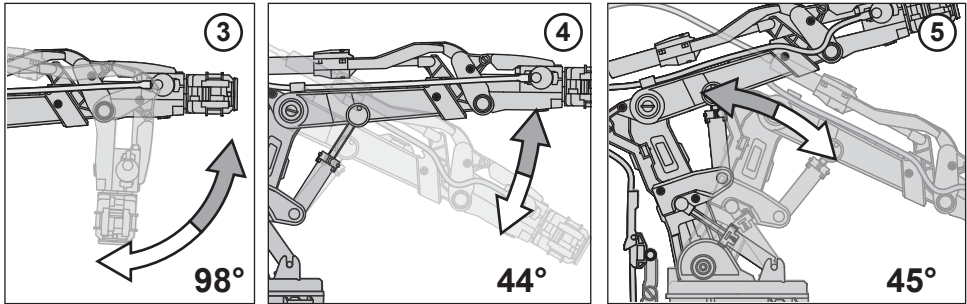
3. Check if there is excess air inside the Cylinder H1, I1 and Tube 1. In the case, back to pages 42-45 to re-assemble."



● If suction cup cannot suck the objects under suction mode.

1. Back to pages 81~84, and check if all steps 2~6 are installed correctly.
2. Check if there are excess air inside the Cylinder H1, I1 and Tube 1. In the case, back to pages 42-45 to re-assemble.

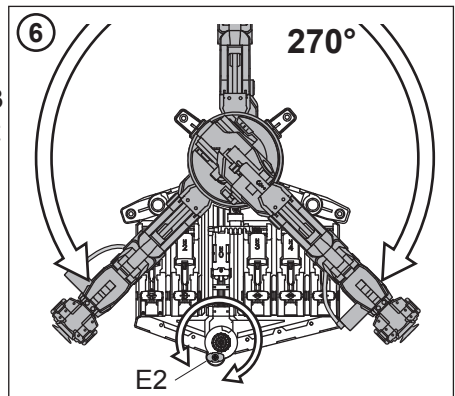
● If operation angle on the Axes 3/4/5 is unable to extend to the max.



1. Check if there is excess air inside the Cylinder H3/4/5, I3/4/5, and Tube 3/4/5, in that case, back to pages 37~40 to re-assemble.
2. Check if all tubes are routing and not twisting during assembly. In the case of twisted tubes.
 - (a) back to pages 66~75 " Robot Arm Module Assembly " to check if all markings on the tubes are installed in the right position.
 - (b) back to Pages 46~48 " Measuring & Marking " to check if all lengths of tubes are cut and marked correctly.

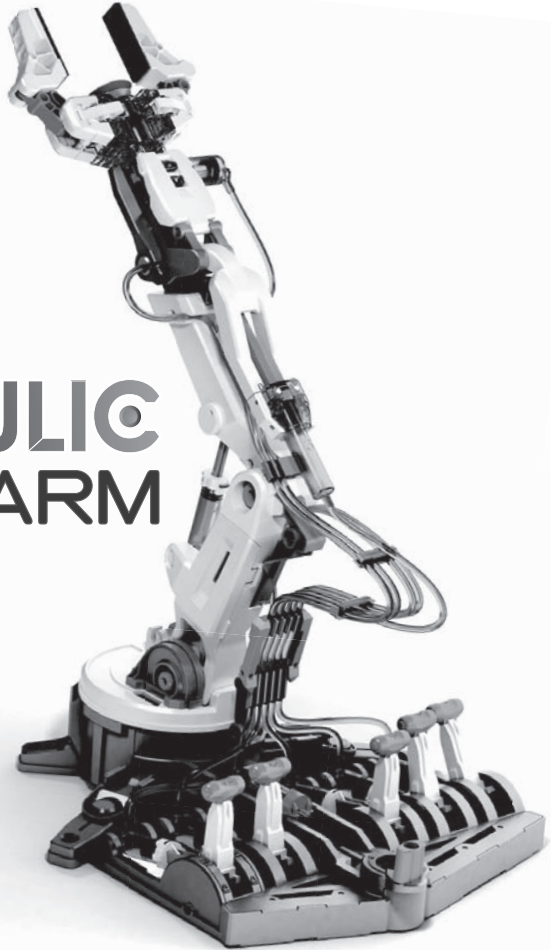
● Poor movement of the 6th Axe.

1. If 6th Axe doesnot move when rotating E2, back to Page 19, Step 13 and check if E10 is intalled in the right position.



2. Check if all tubes are routing and not twisting during assembly. In the case of twisted tubes,
 - (a) back to pages 66~75 "Robot Arm Module Assembly" to check if all markings on the tubes are installed in the right position.
 - (b) back to Pages 46~48 " Measuring & Marking " to check if all lengths of tubes are cut and marked correctly.

HYDRAULIC ROBOTARM



 **WARNING :**
CHOKING HAZARD
Small parts
Not for children under
3 years

