

Hidraulinės rankos KSR12 surinkimo ir naudojimo instrukcija

HYDRAULIC ROBOTARM



Assembly & Instruction **Manual**



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HYDRAULIC ROBOT ARM

Apie Hidraulinės rankos komplektą

Hidraulinė ranka sukurta sudominti vaikus hidraulikos pradmenimis

Naudojant hidraulinę ranką valdykite 6 ašimis: griebtuvas – atsidaro iki 4,8cm, riešo pasukamumas 180° , riešo judesys 98° , alkūnės pasukamumas 44° , platformos pasukamumas 270° , peties judesys 45° , aukštis iki 40cm, horizontalus pasiekiamumas iki 36cm, galimybė pakelti objektą iki 36g. Nuėmus žnyplės galima pritaisyti siurbtuką su kuriuo galima pakelti lygią plokštumą turintį objektą

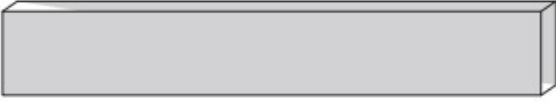
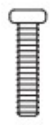
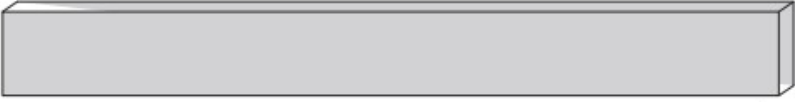
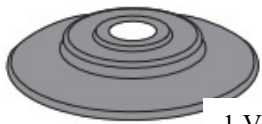
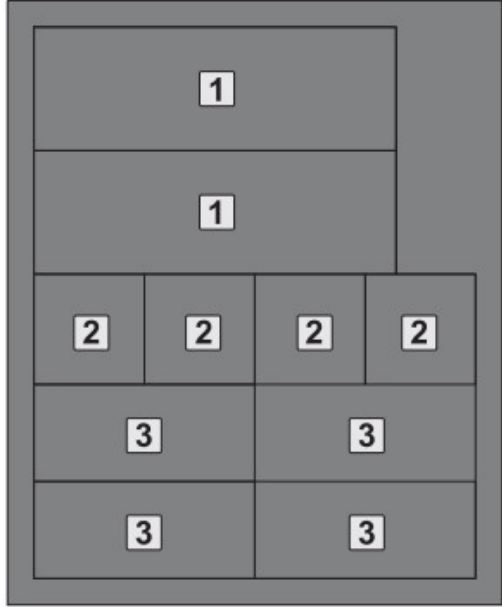
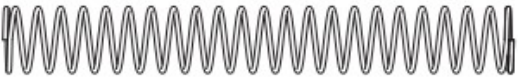
Komplekte yra 229 dalys, ir visa ranka valdoma be baterijų ar varikliukų, tik vandens pagalba

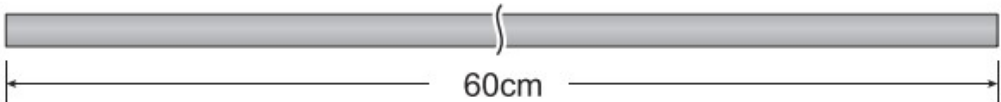
Jums papildomai reikės



Mechaninių dalių sąrašas

! Dalys gali turėti aštrių kampų

P1 Varžteliai (trumpi)  9 Vnt	P3 Plieninis stačiakampis trumpas  1 Vnt		
P2 Varžteliai ilgi  28 Vnt	P4 Plieninis stačiakampis ilgas  1 Vnt		
P5 Laikikliai  10 Vnt	P6 Dangteliai maži  5 Vnt	P7 Dangteliai dideli  6 Vnt	P8 Pritraukimo padukas  1 Vnt
P9 Spyruoklė (kempinės)  1 Vnt			
P10 Spyruoklė (mažiausia)  5 Vnt			
P11 Spyruoklė (trumpa)  1 Vnt			
P12 Spyruoklė (vidutinė)  1 Vnt			
P13 Spyruoklė (ilga)  1 Vnt			

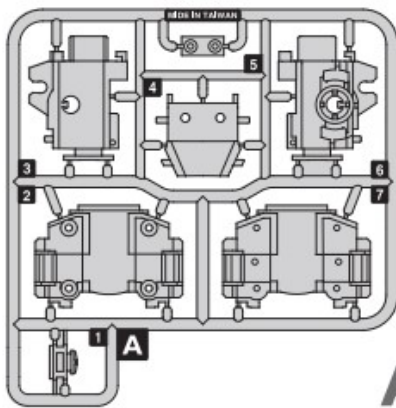
P14	Minkštas vamzdelis	
		5 Vnt

P15	Maišelis su tepalu	
		1 Vnt

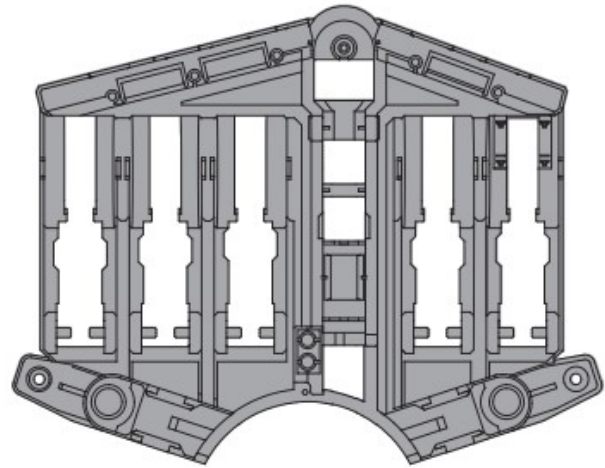
Nenaudokit tepalo kol
montuojate minkštus
vamzdelius

Plastmasinės dalys

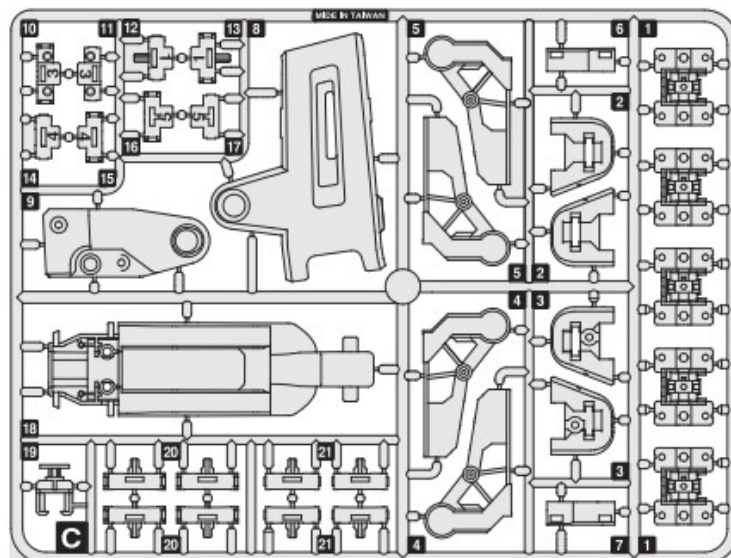
! Nesukarpykit plastikinių dalių iš anksto, atkirpkite
tuomet kai reikės būtent ją montuoti



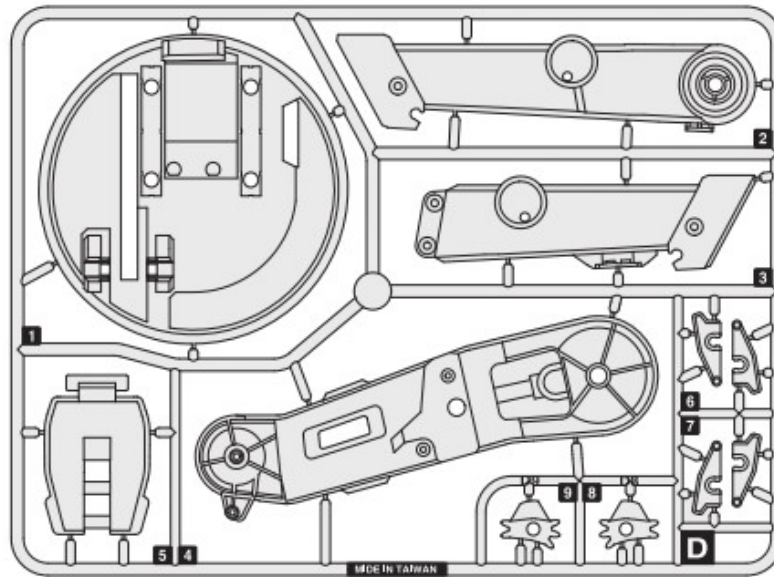
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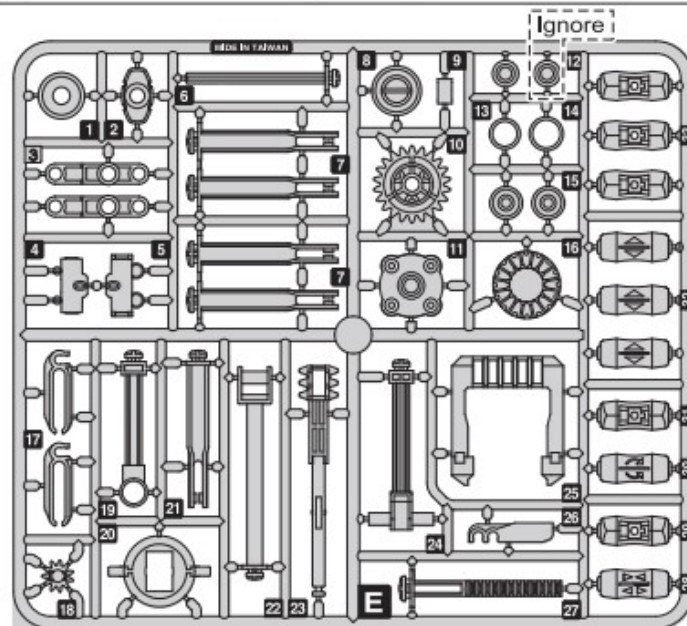
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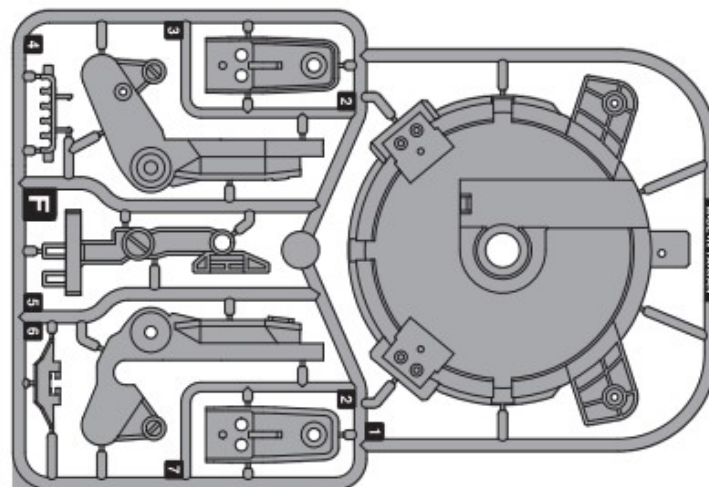
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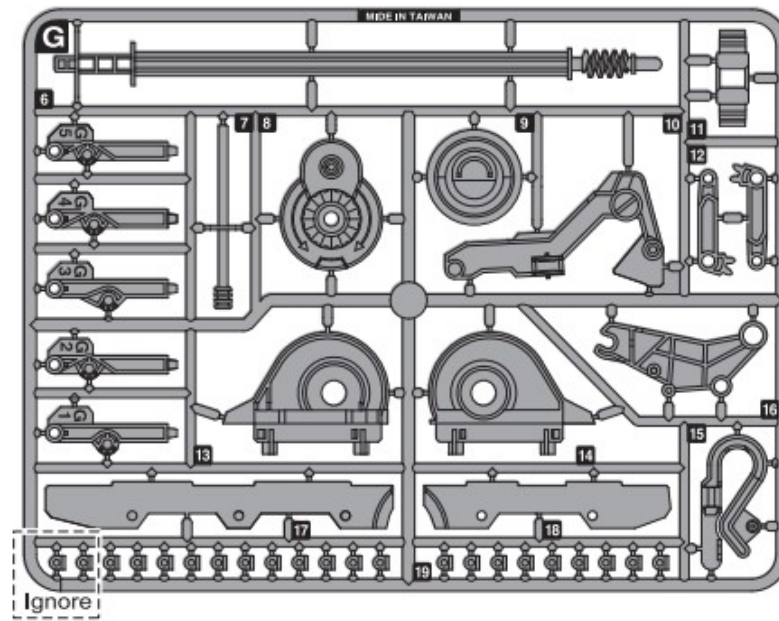
D



E

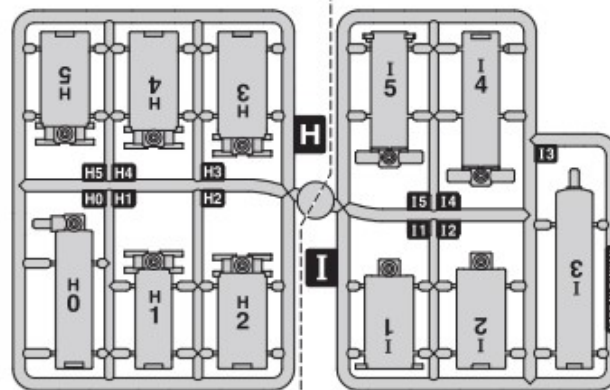


F



G

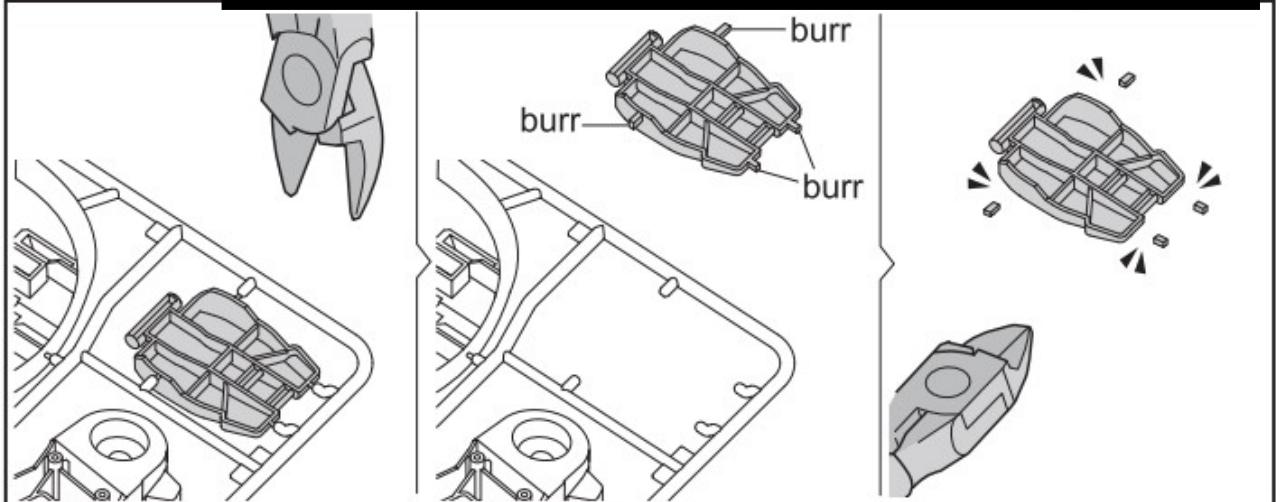
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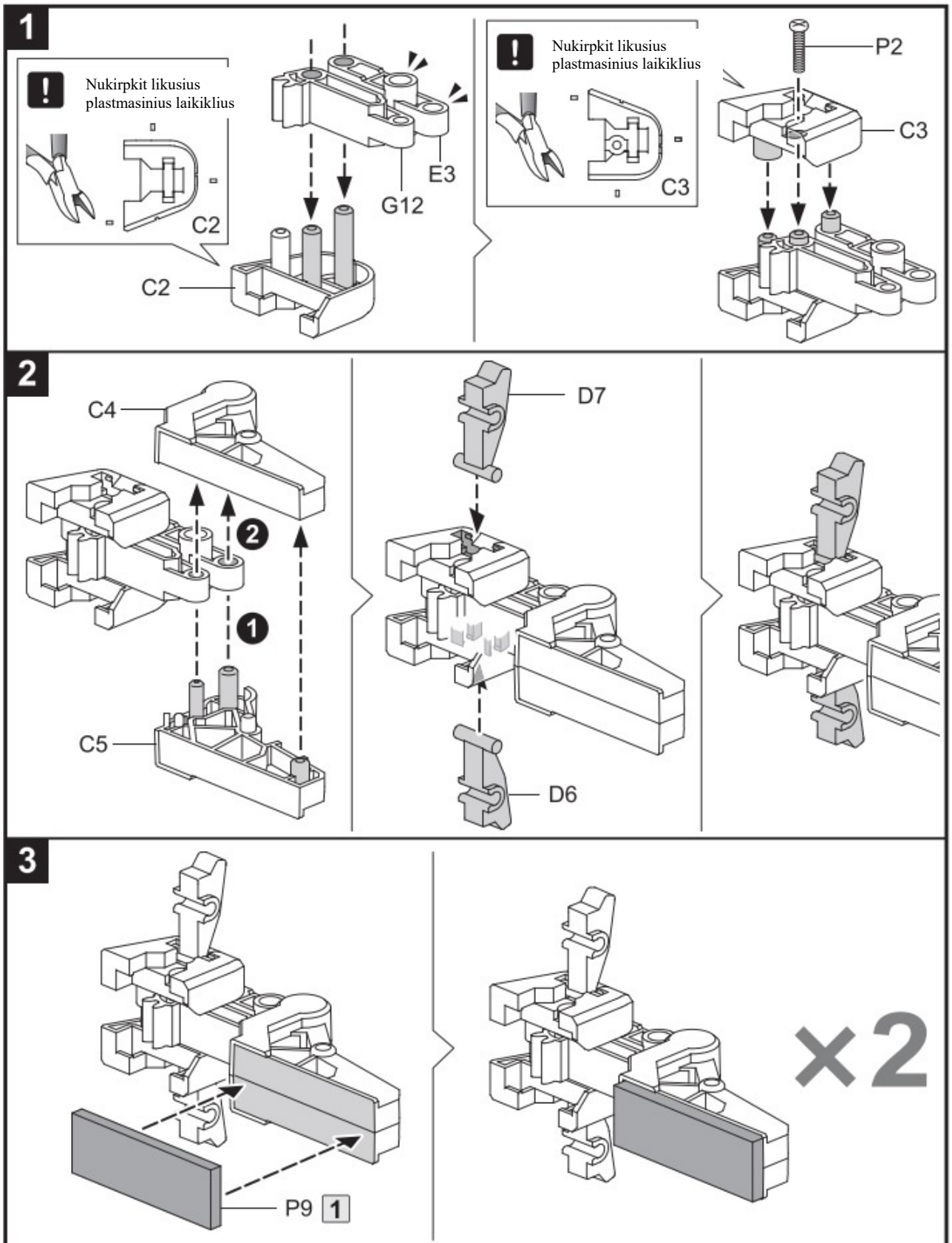
I



Patarimas: nukirpkit likusios plastmasės (burr) laikiklius prieš montuojant

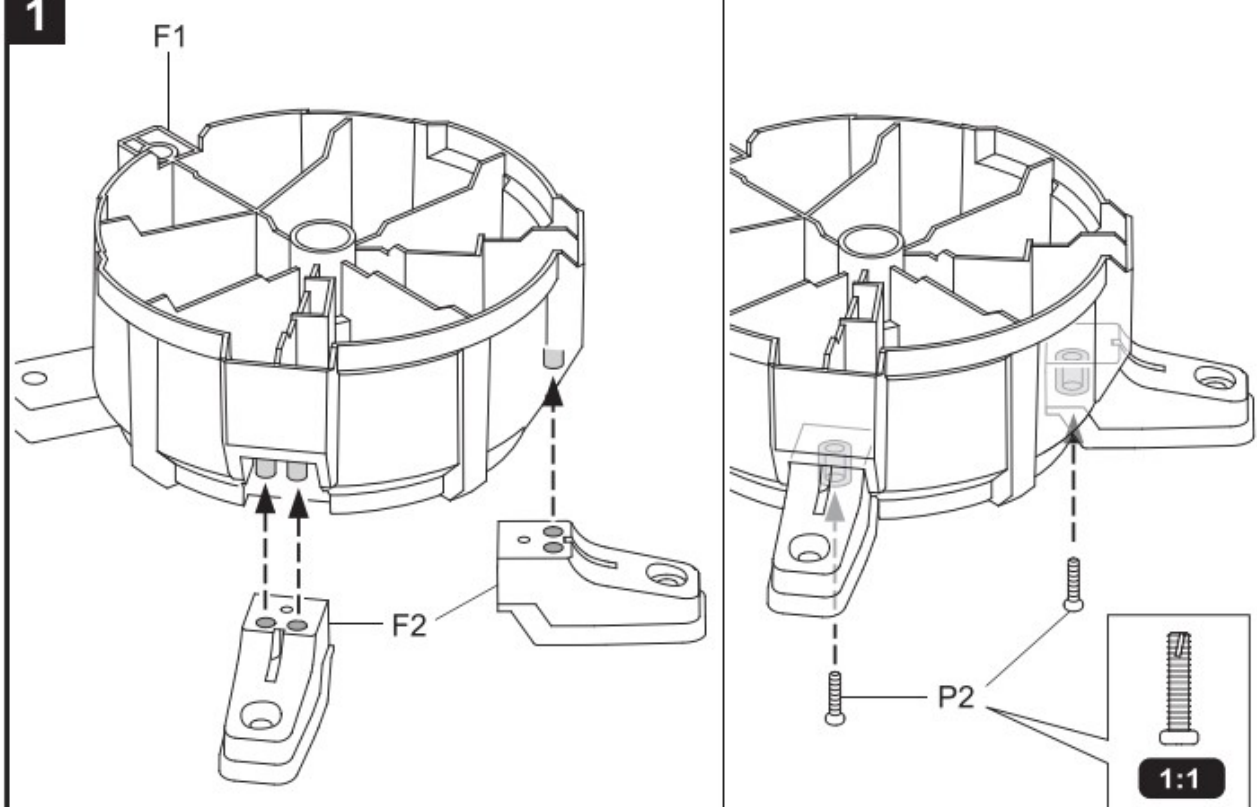


Žnyplių surinkimas

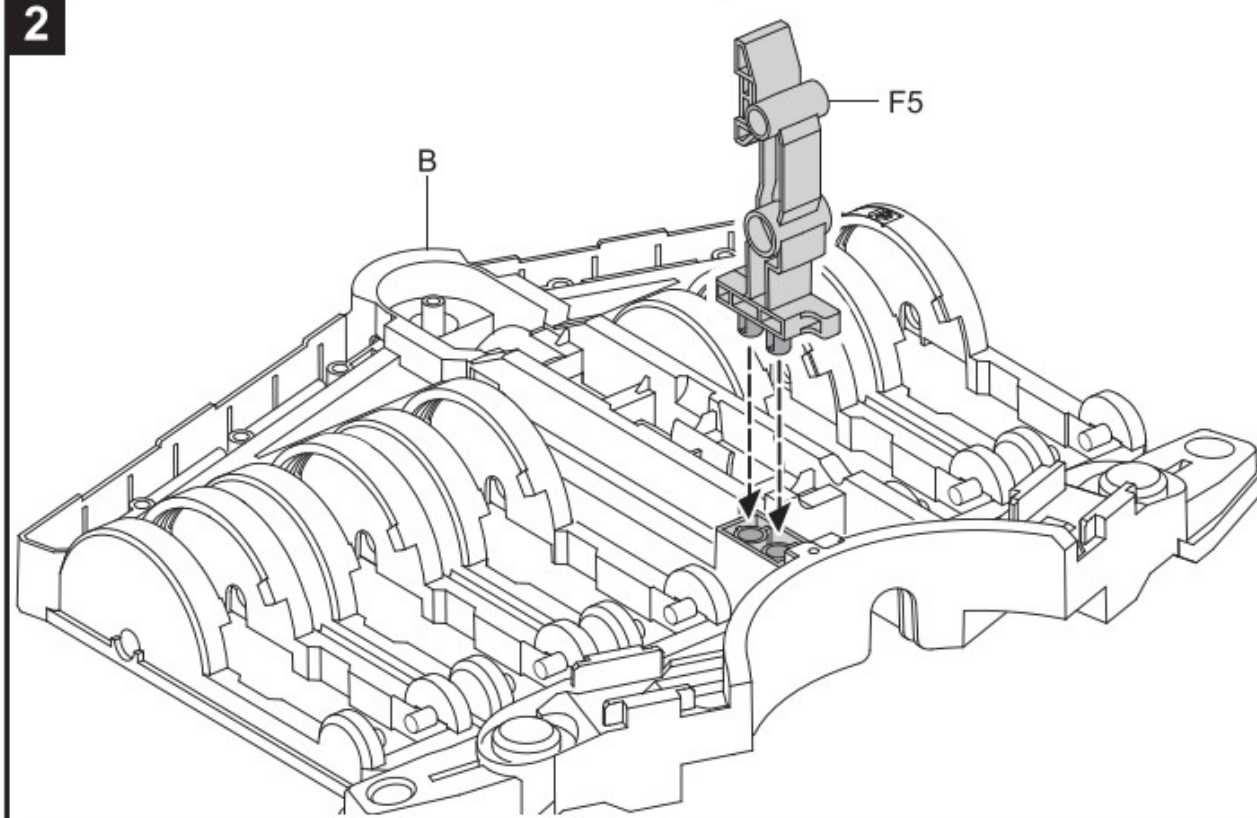


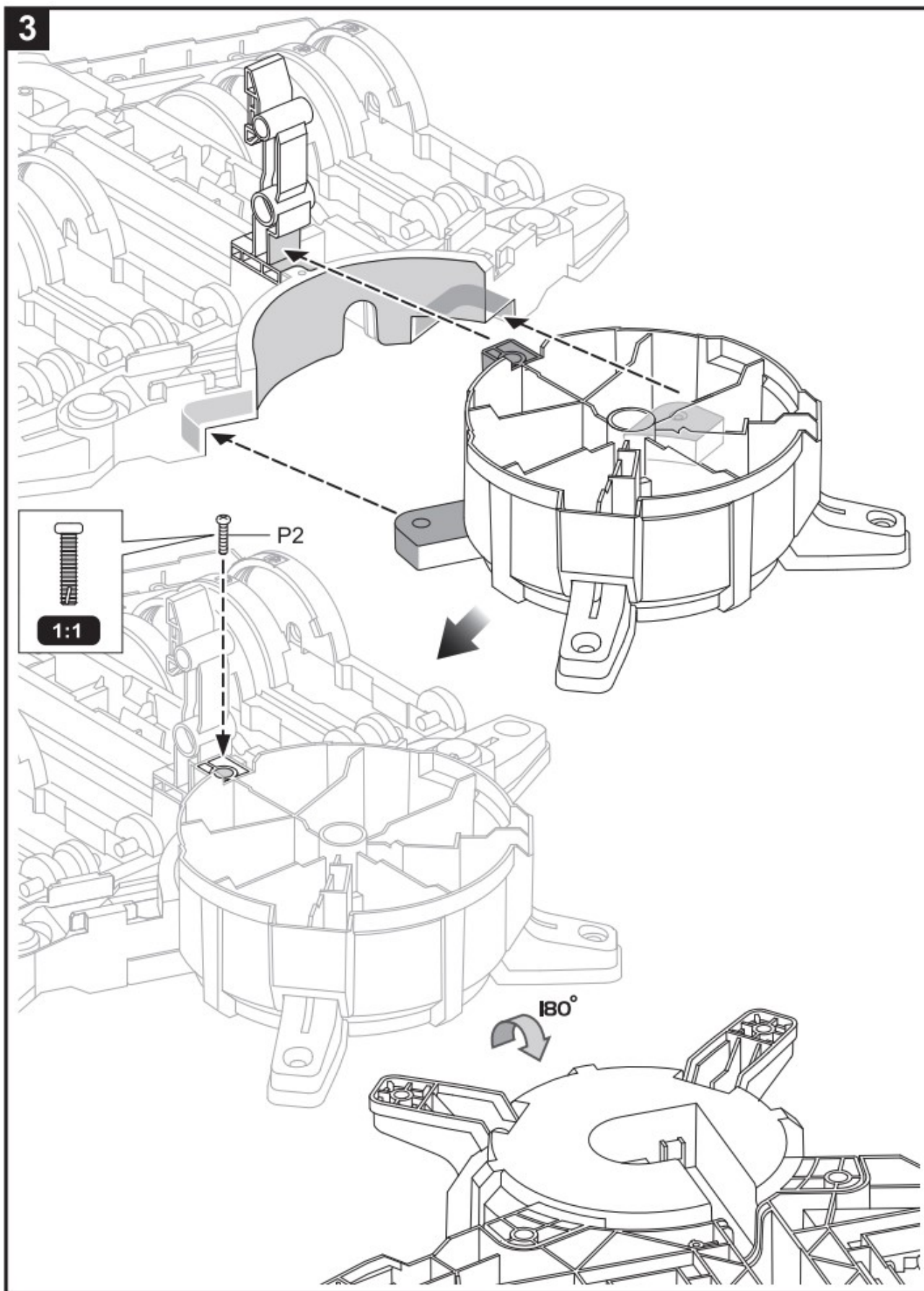
Pado surinkimas

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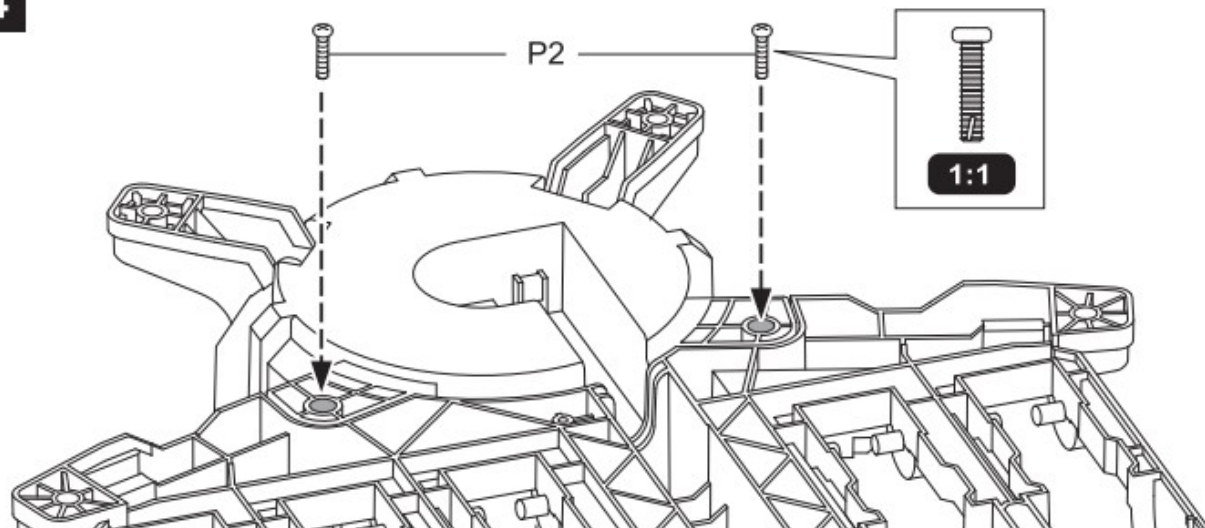


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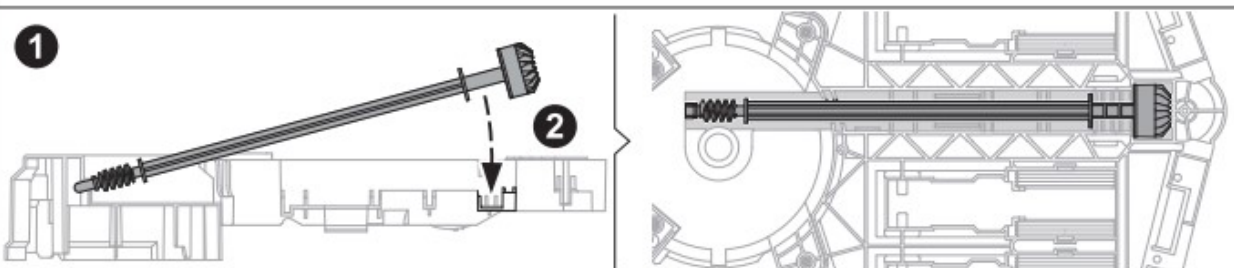
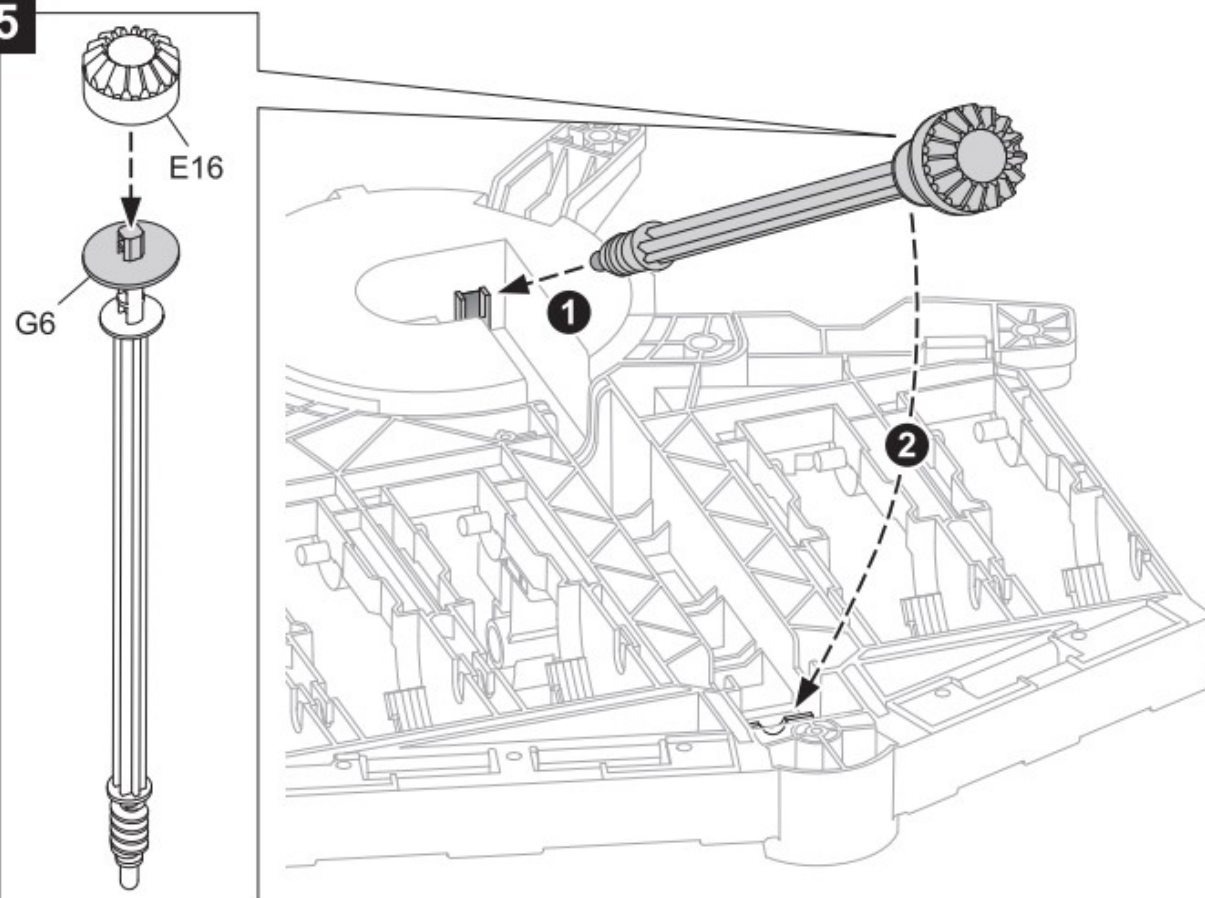




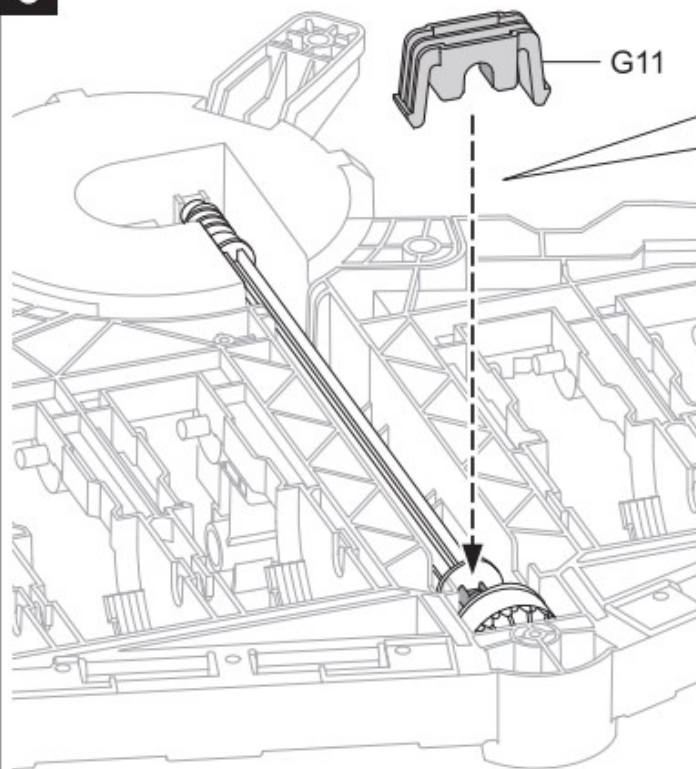
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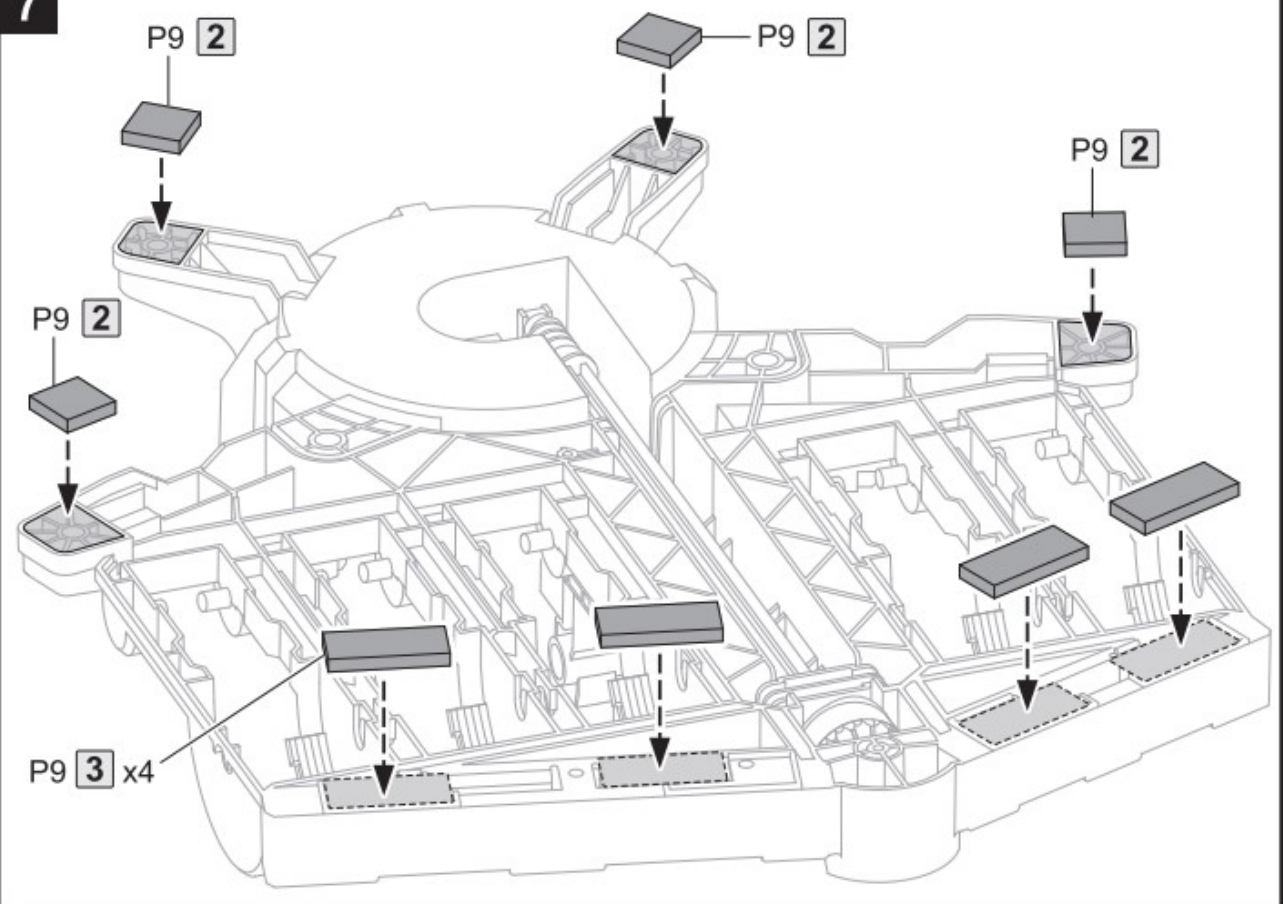
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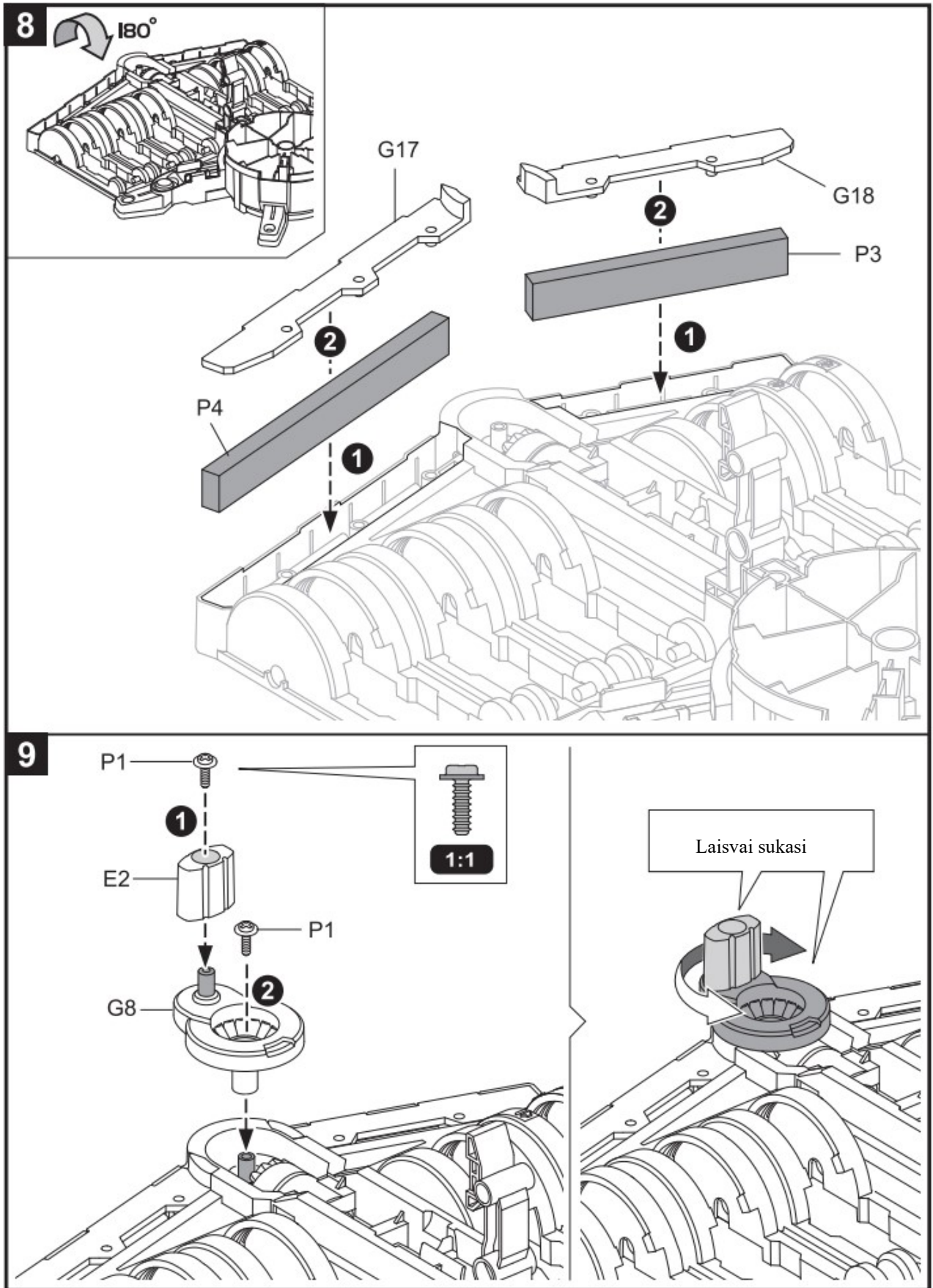


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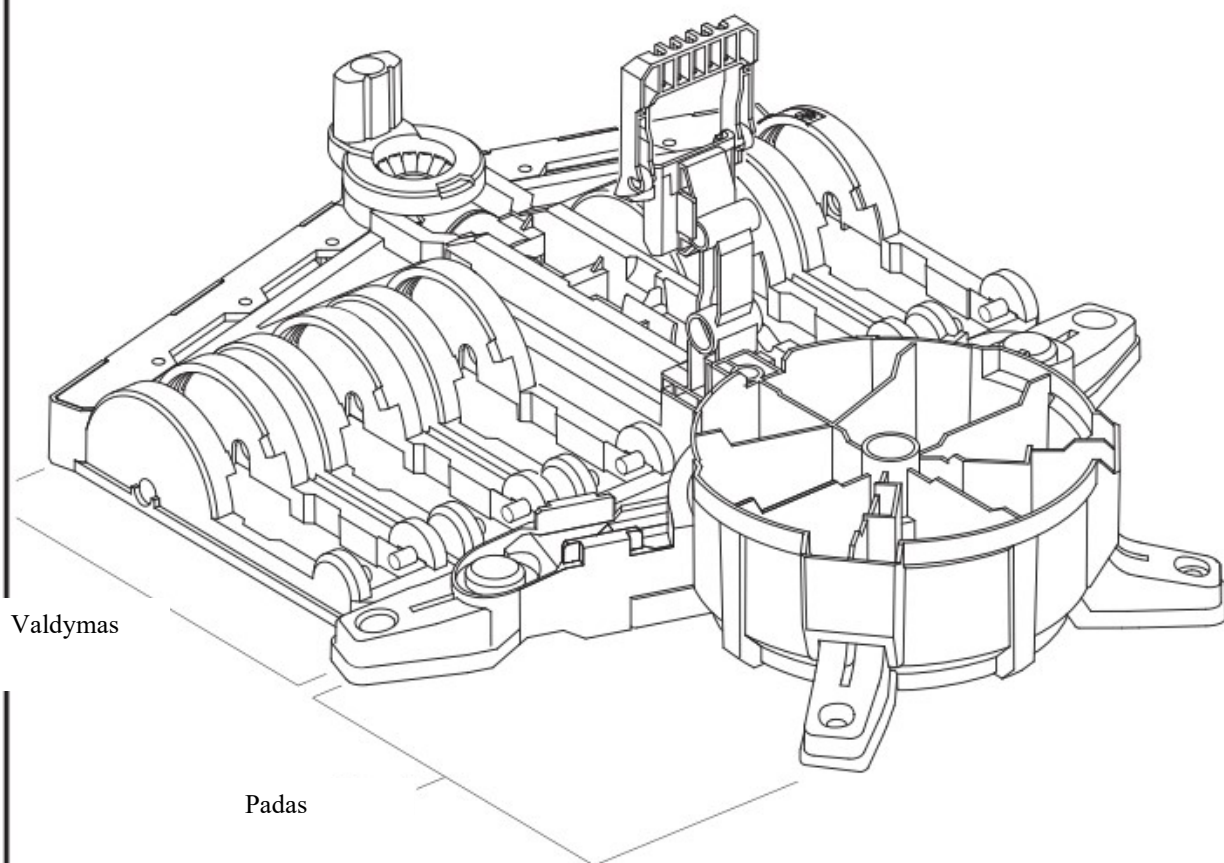
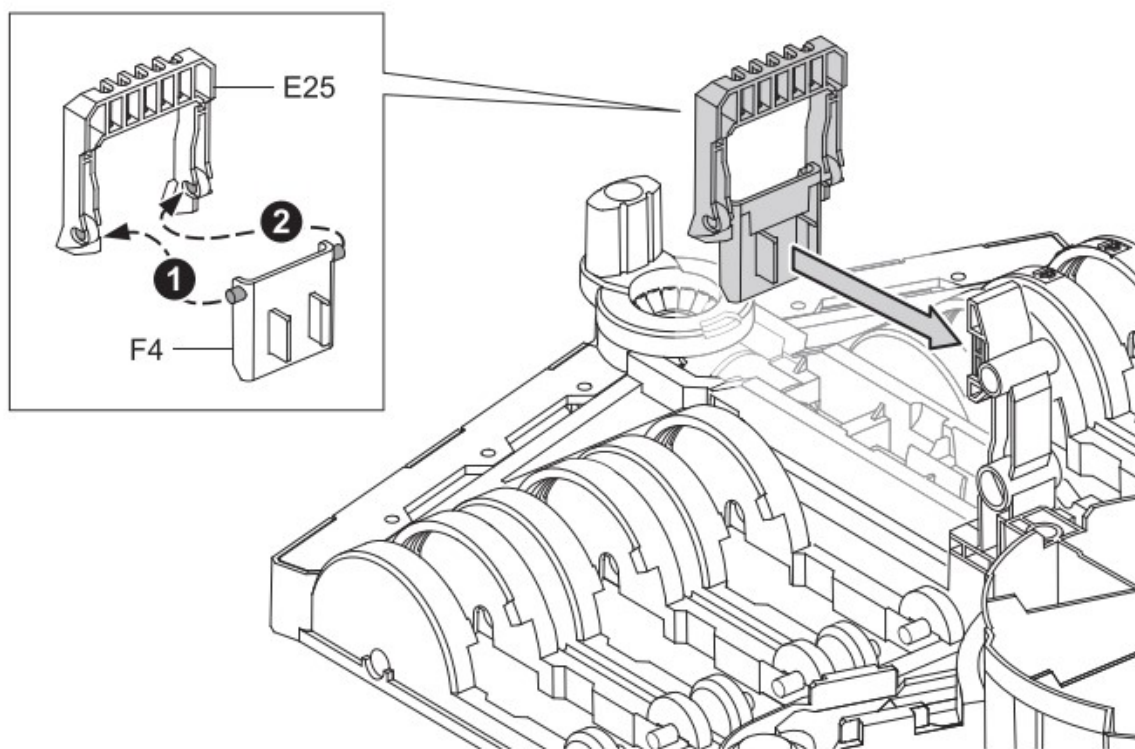


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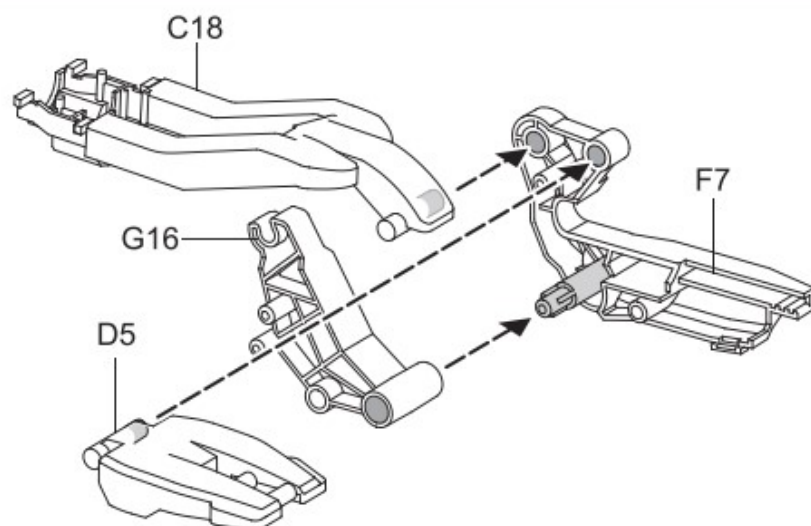


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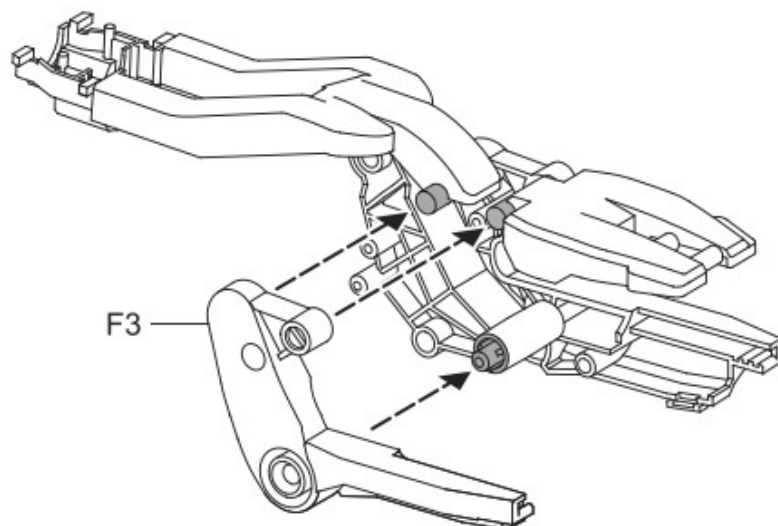


Pagrindinės rankos surinkimas

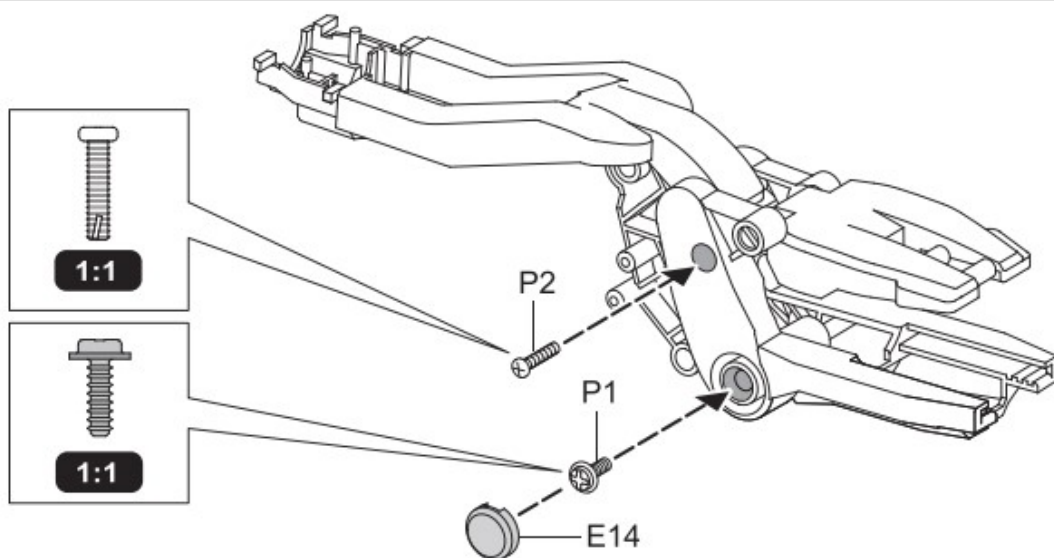
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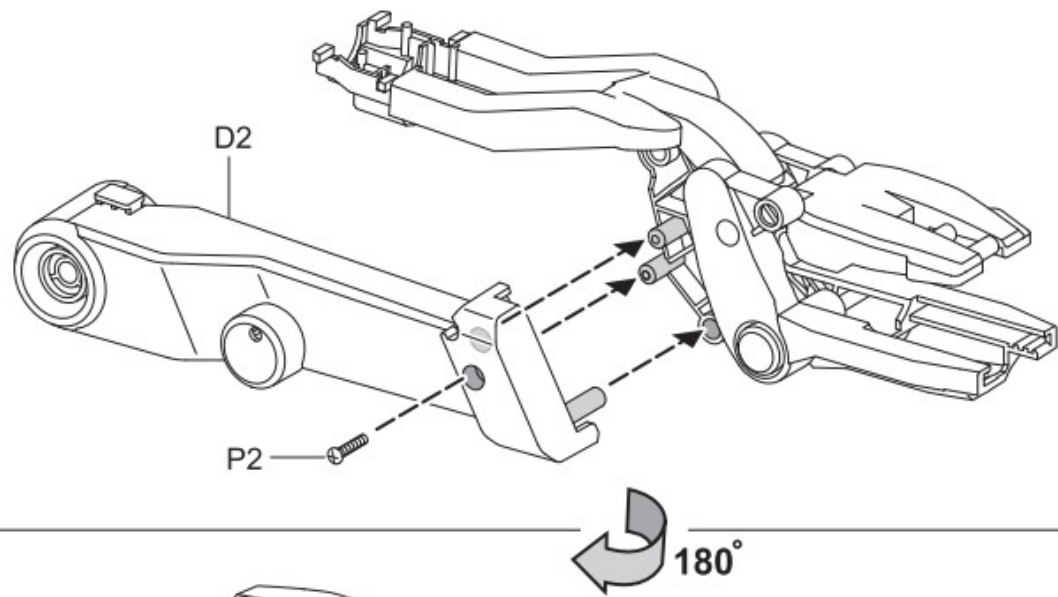
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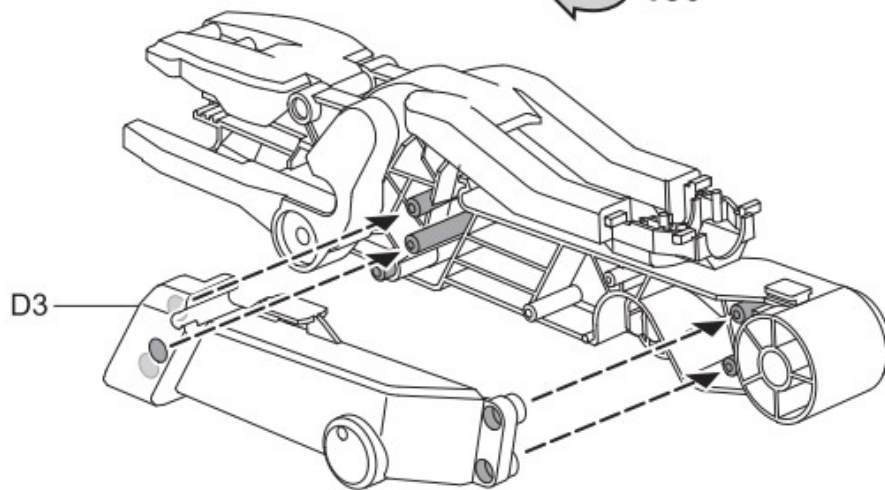
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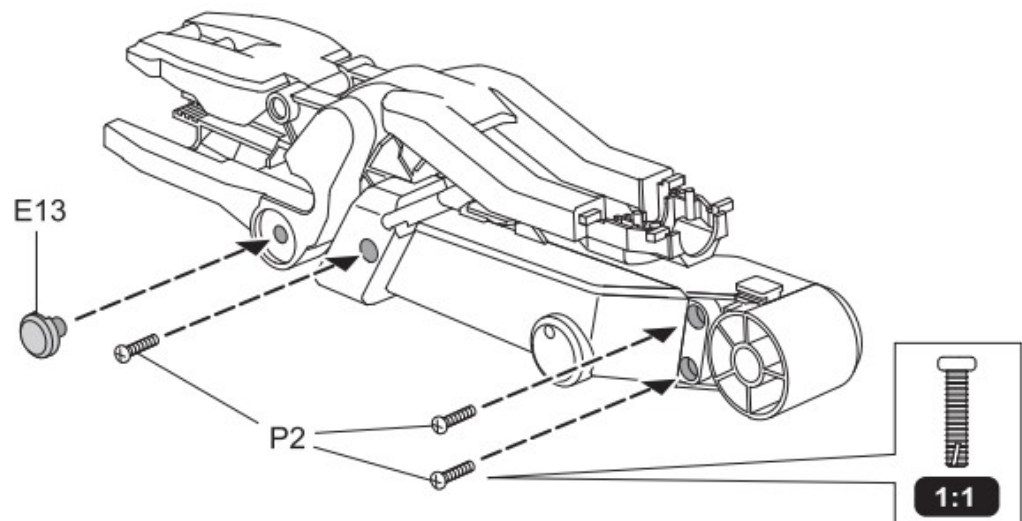
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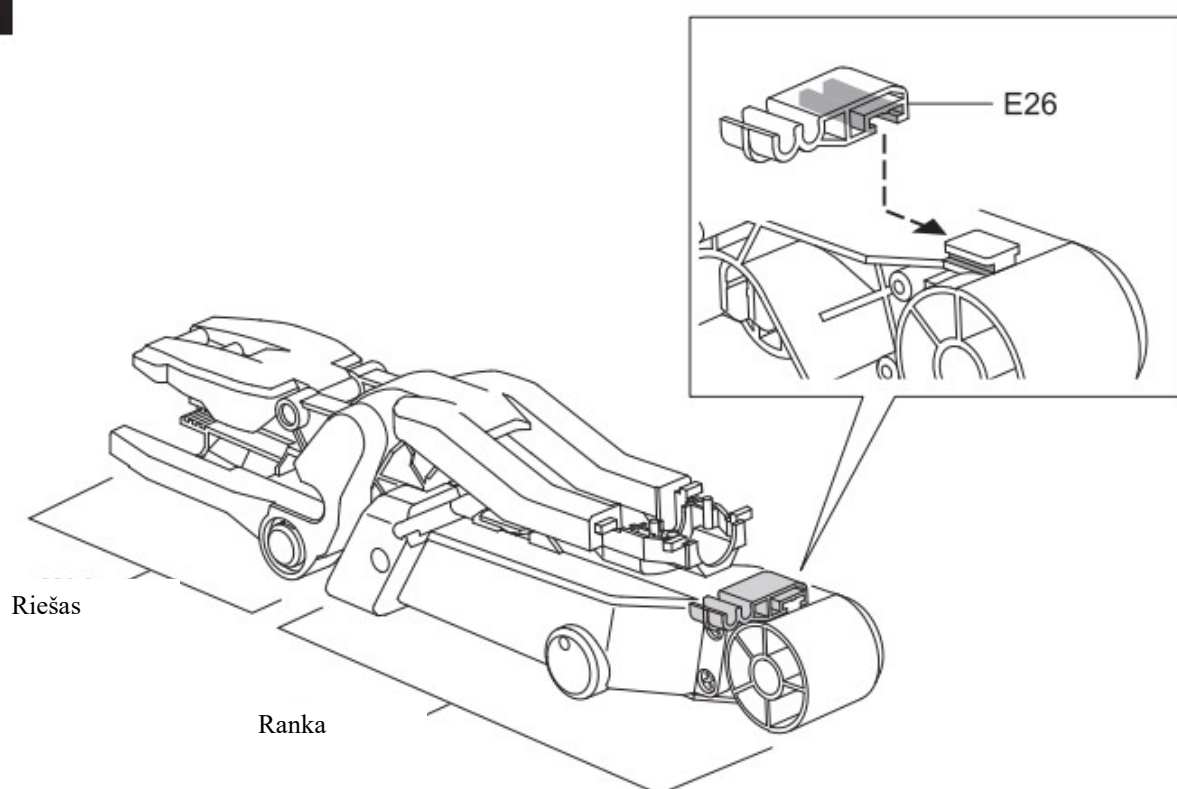
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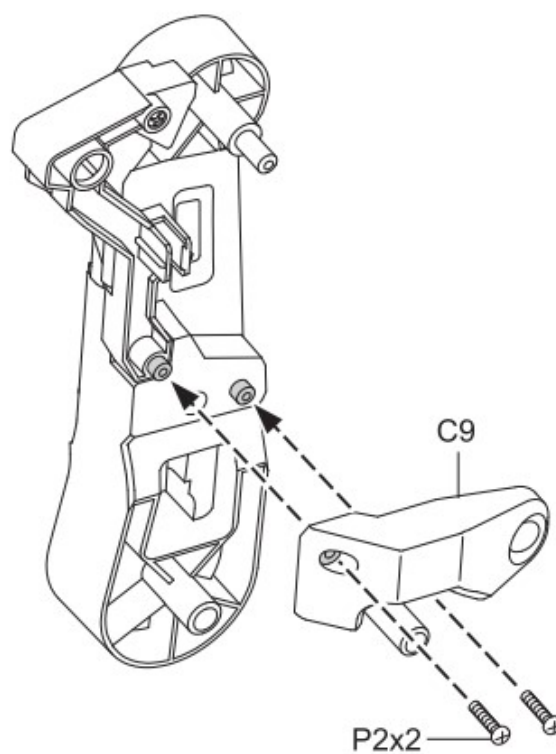
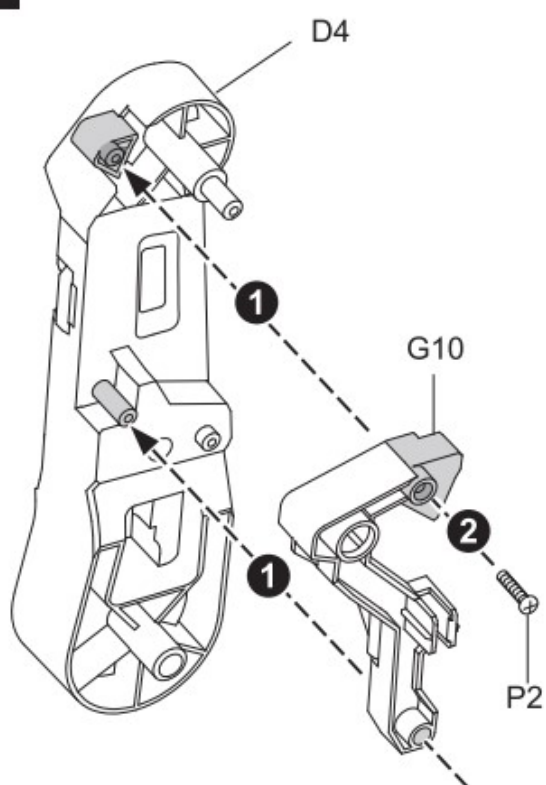
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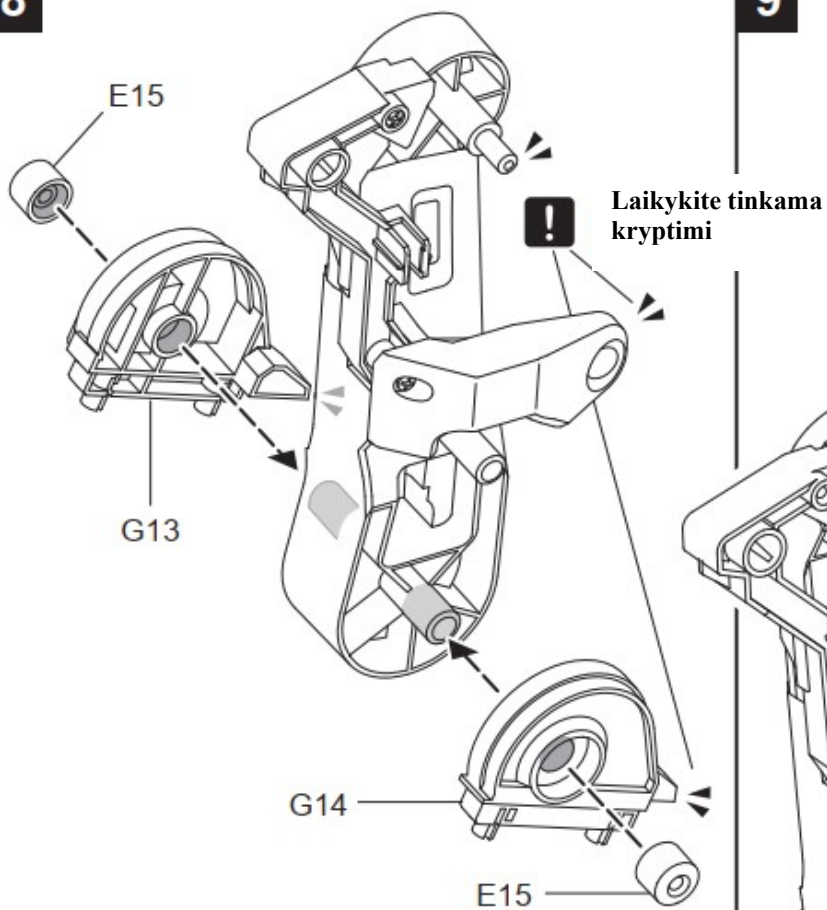
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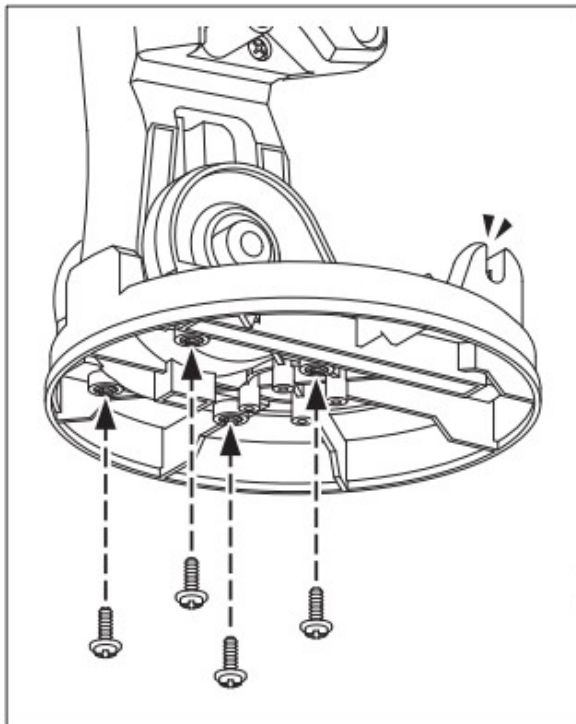
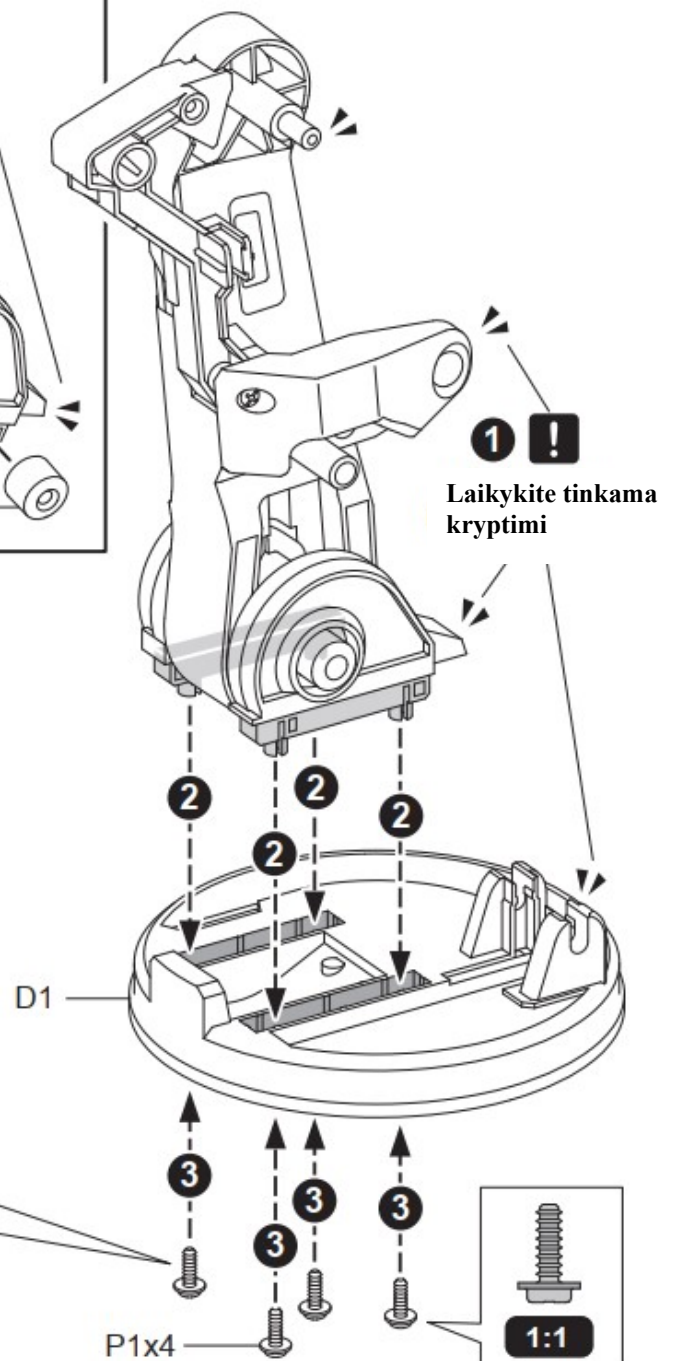
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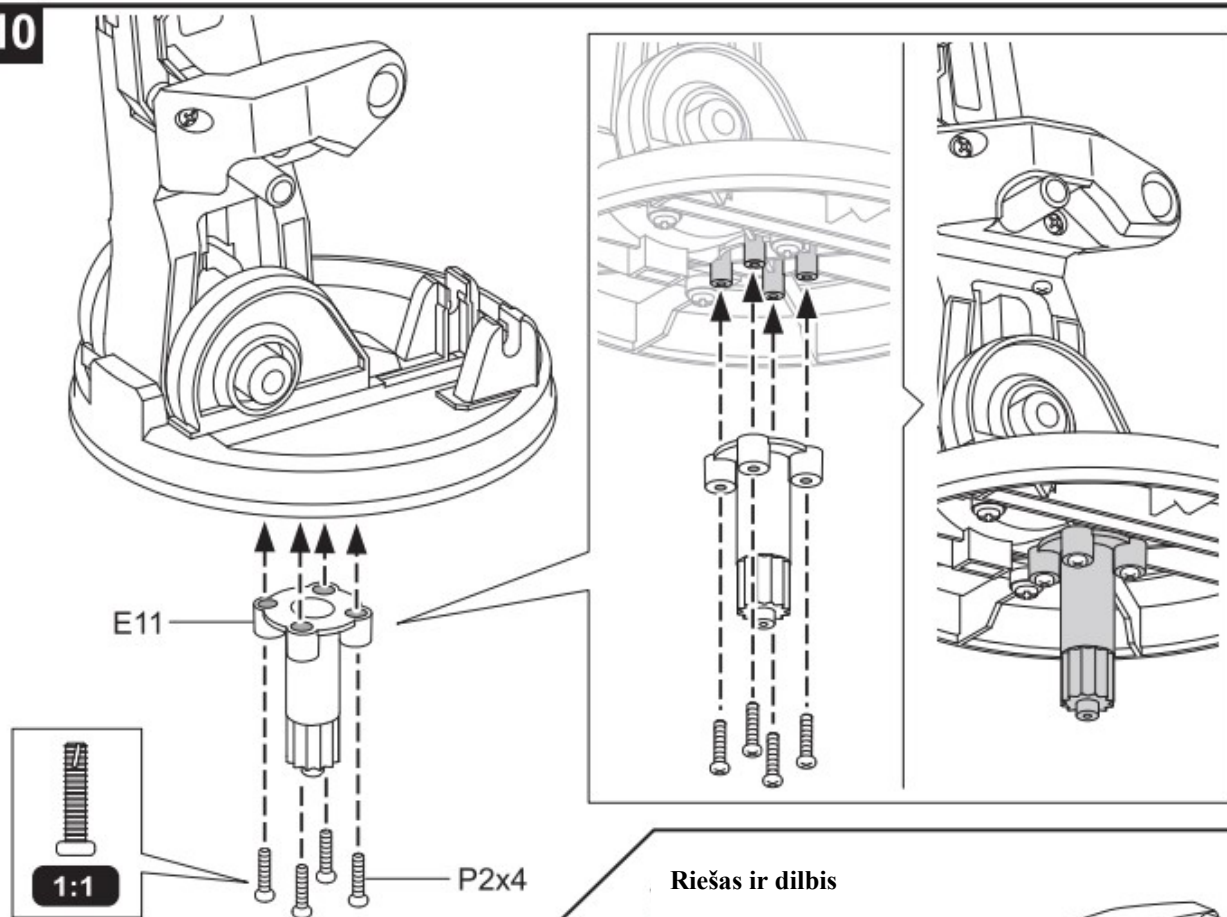
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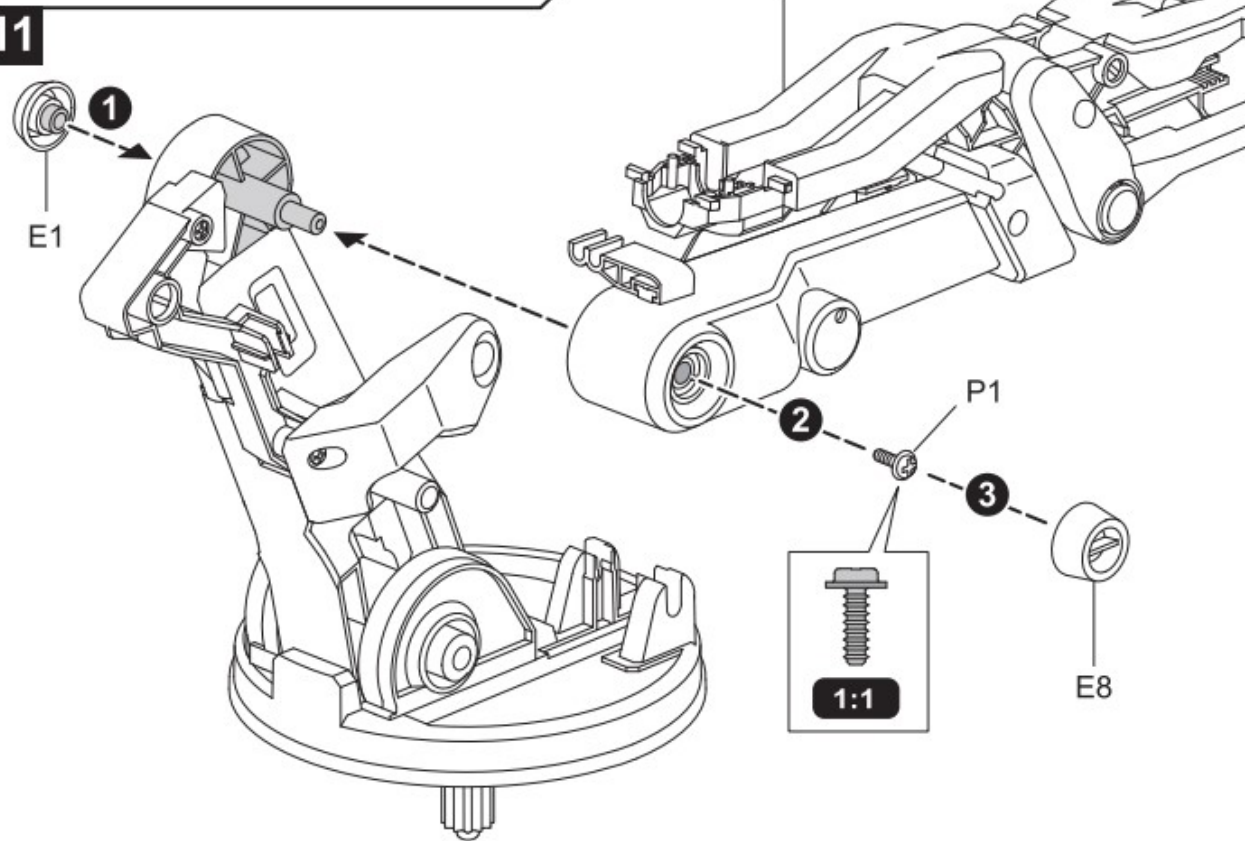
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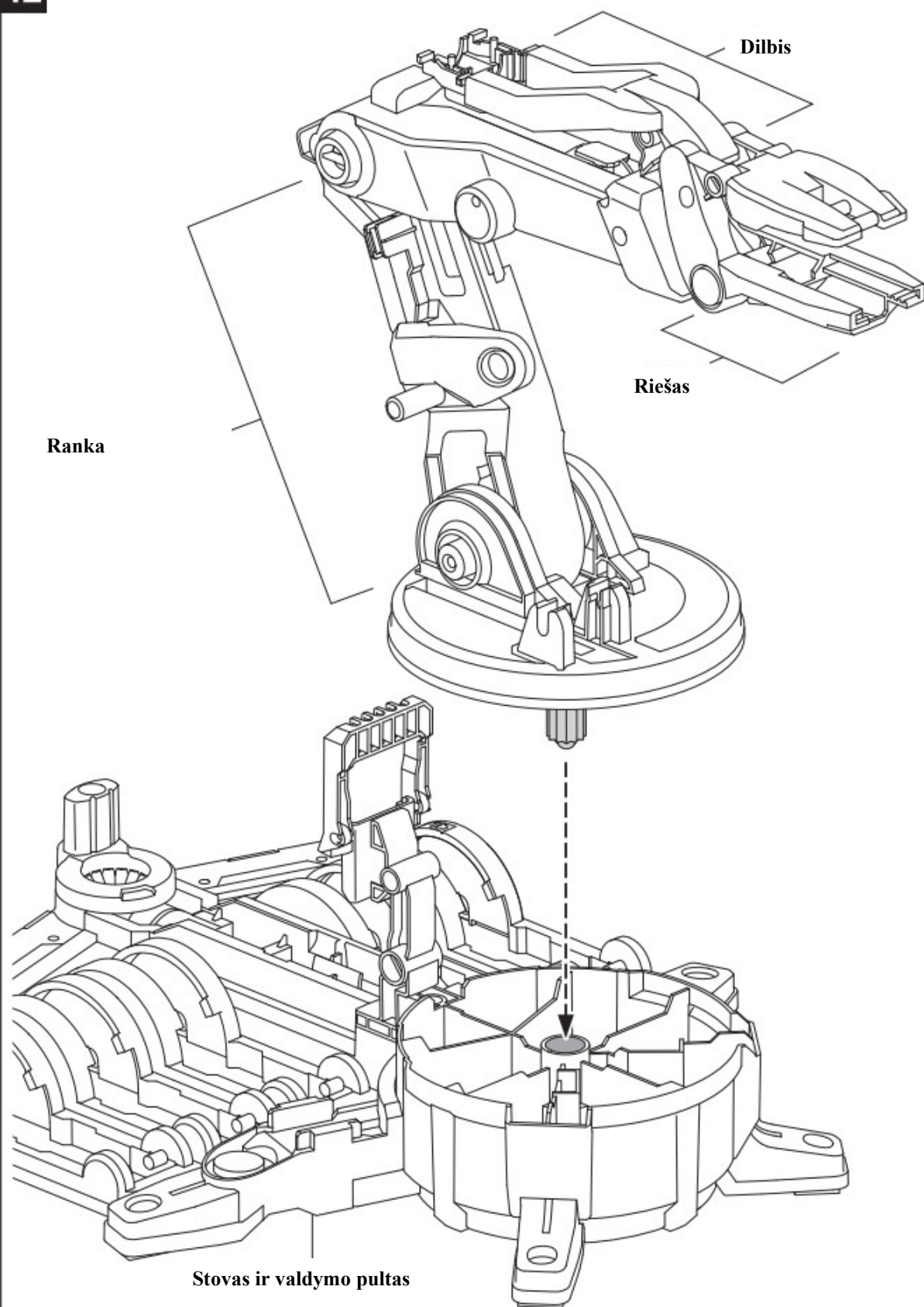
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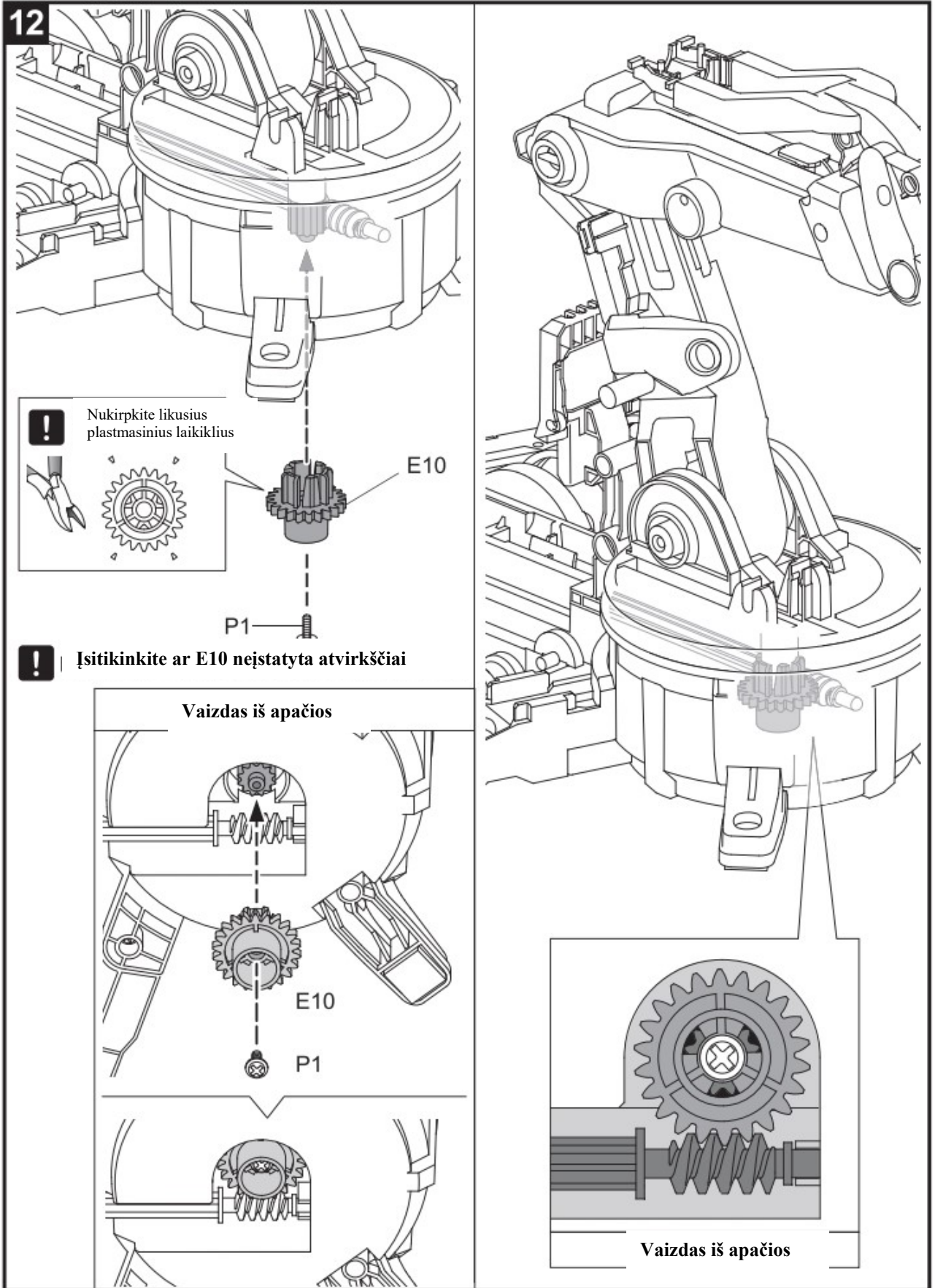


11



12





Kaip sutepti dalis

1

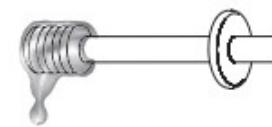
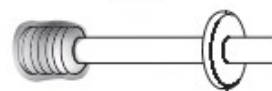
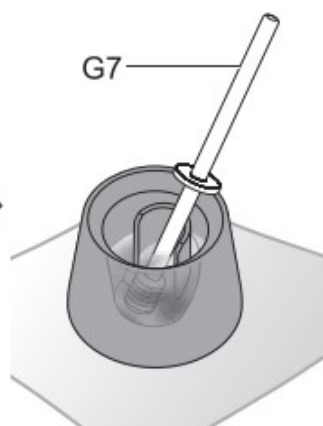
Popierinis
rankšluostis



G9

Neišpilkit tepalo iš G9

G7



2



= Sutepti tepalu

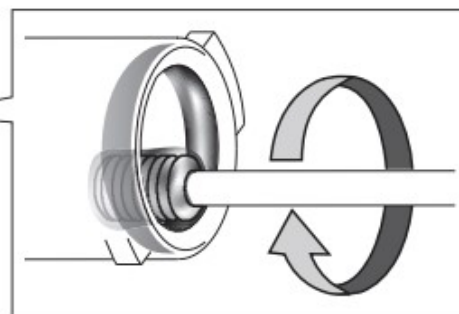
Svarbu: tepti dalis kurios
pažymėtos



ženkluku

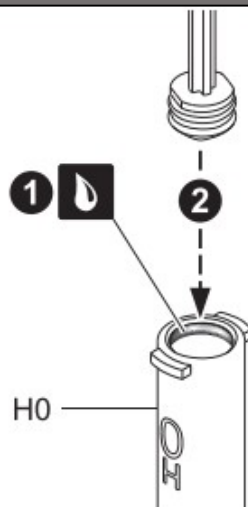
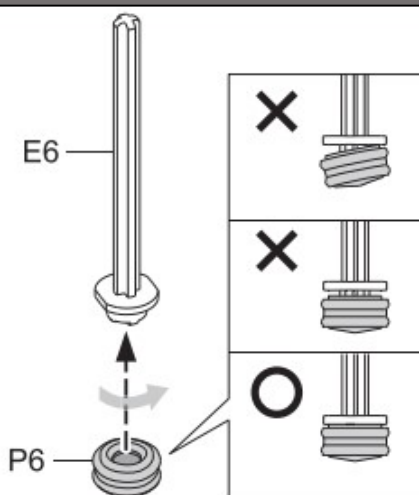


Netepti didesnės dalies nei pažymėta šešėliu



H0~H5 Cilindrų surinkimas

H0 cilindro surinkimas



1

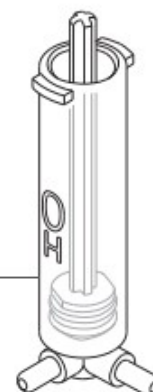


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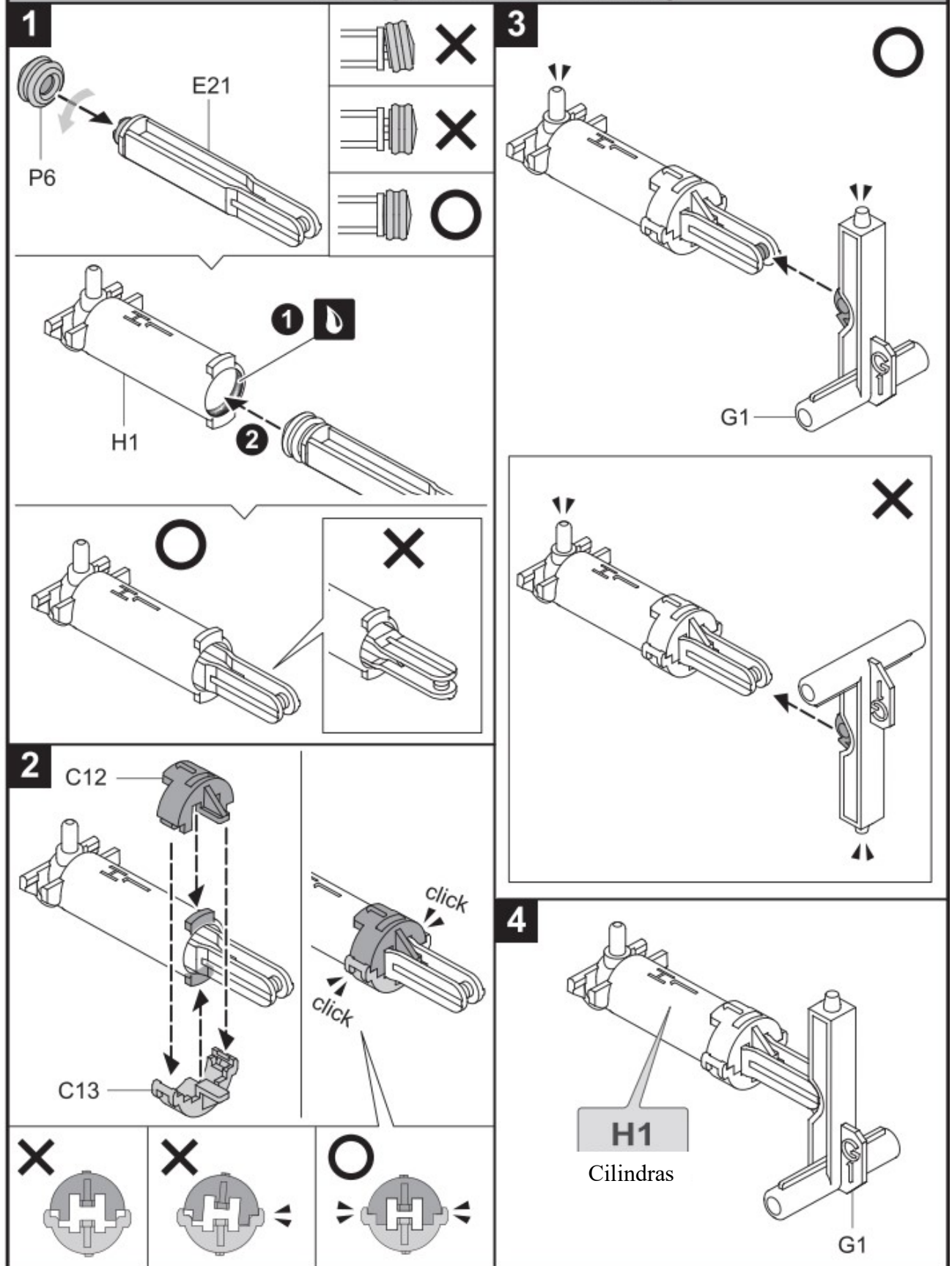
H0

H0

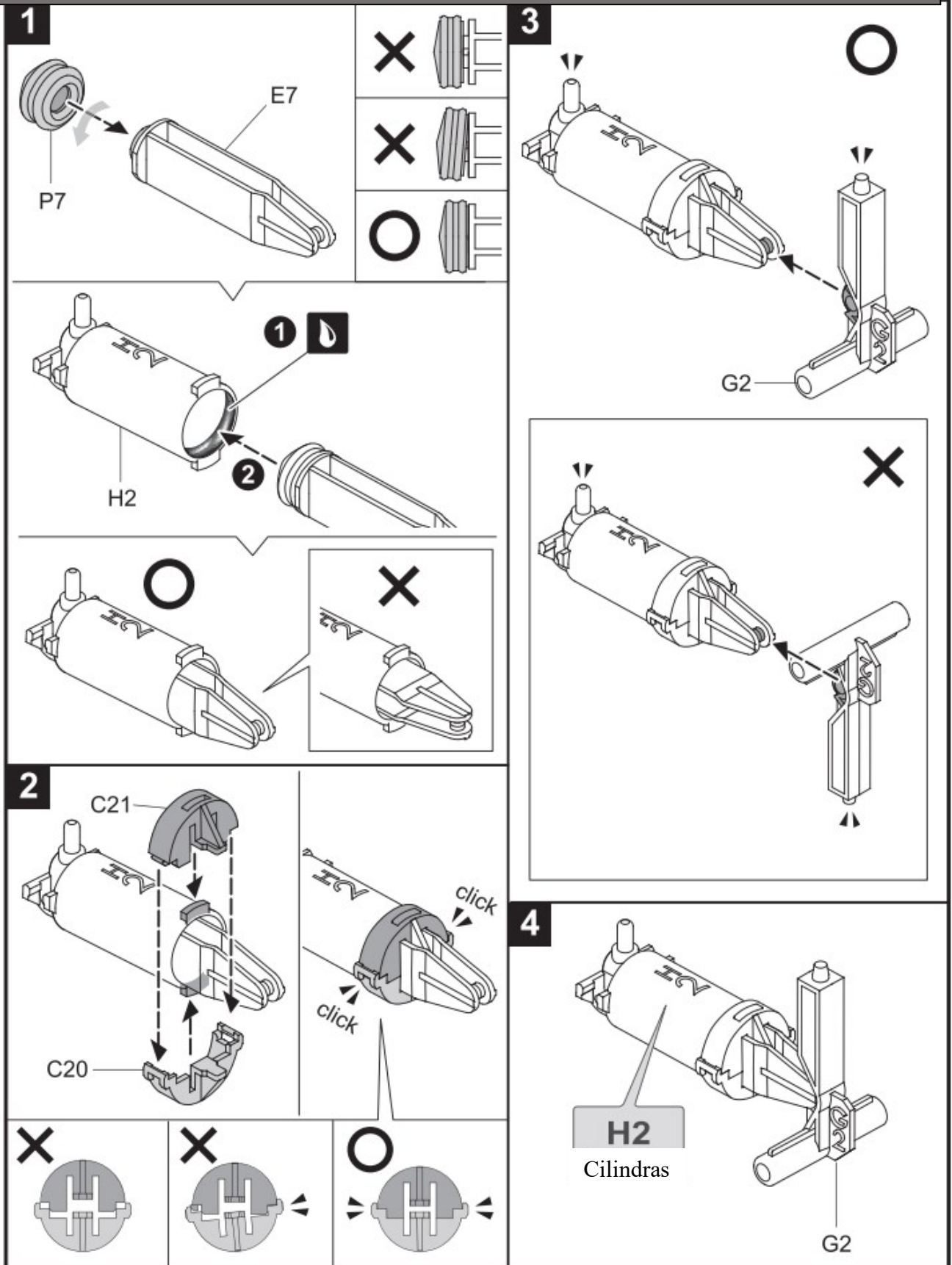
Cilindras



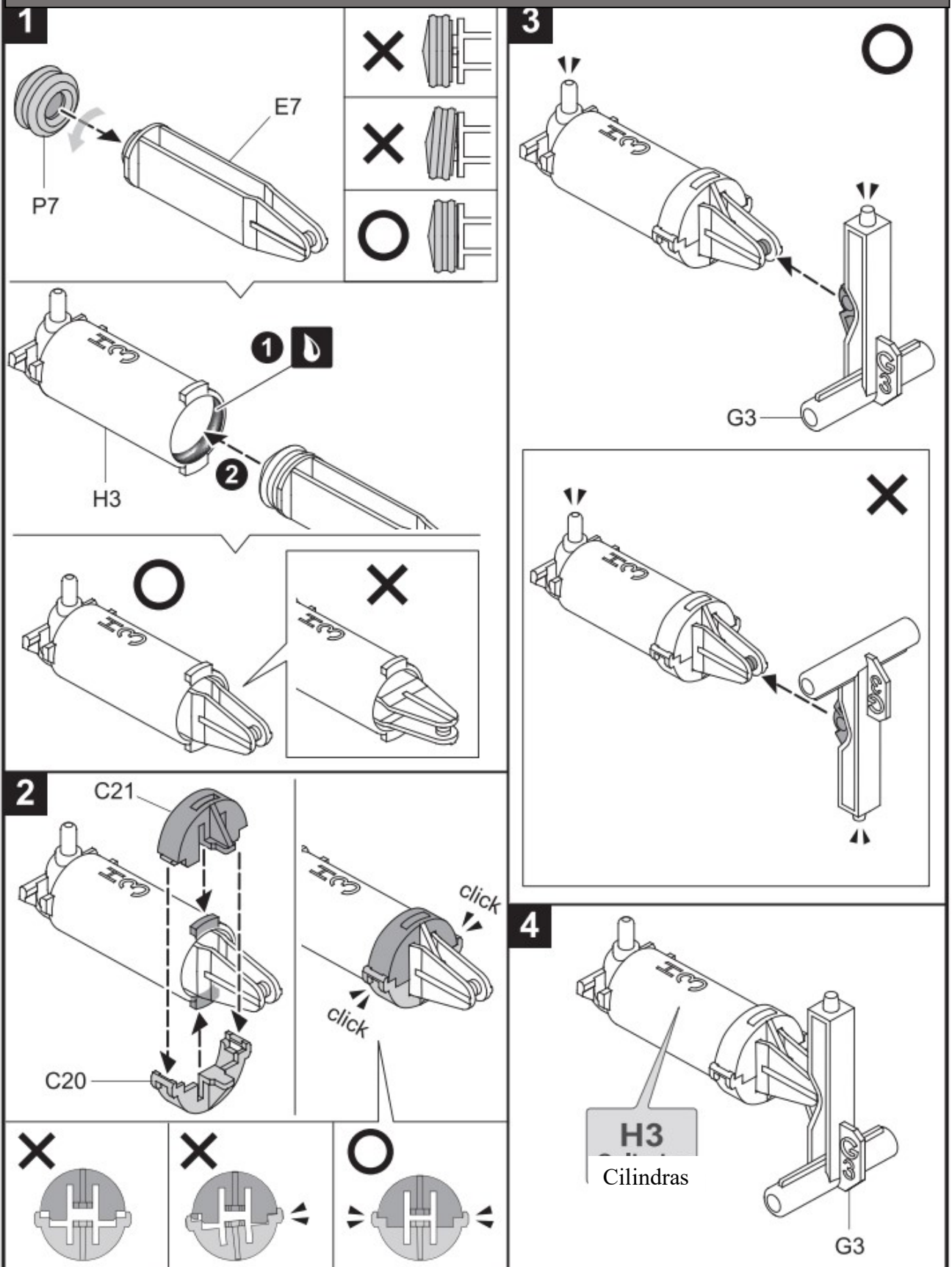
H1 cilindro surinkimas



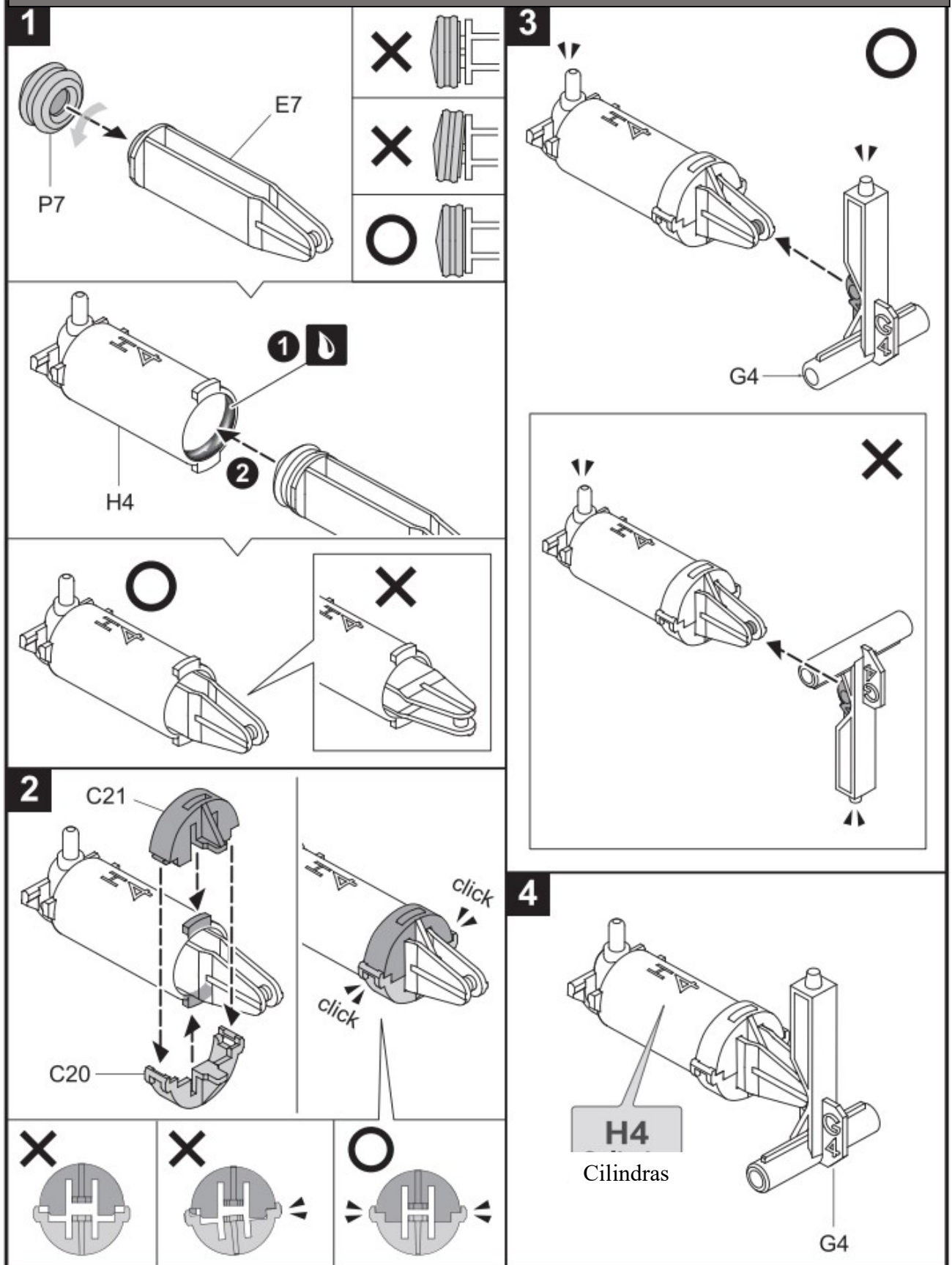
H2 cilindro surinkimas



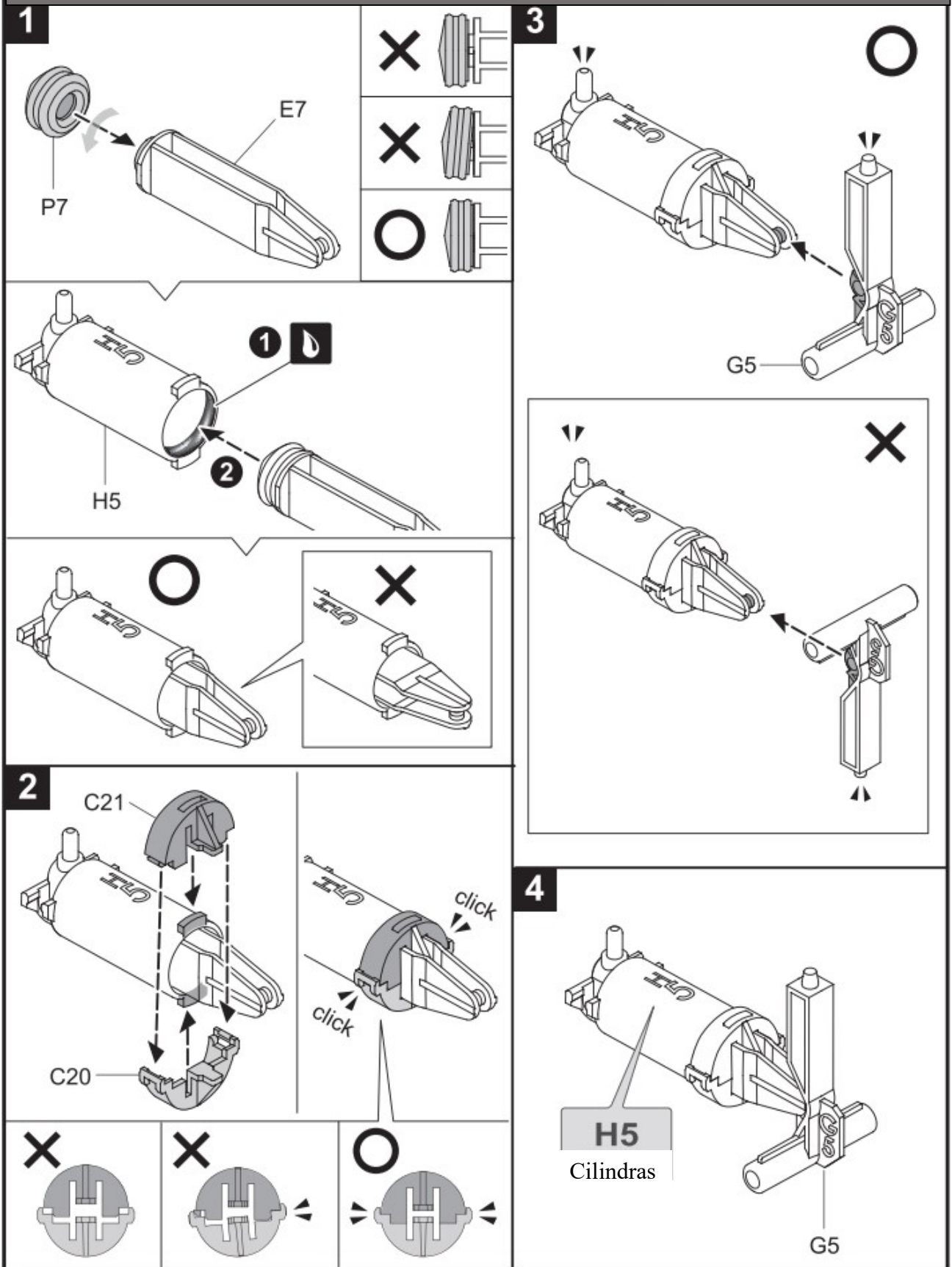
H3 cilindro surinkimas



H4 cilindro surinkimas



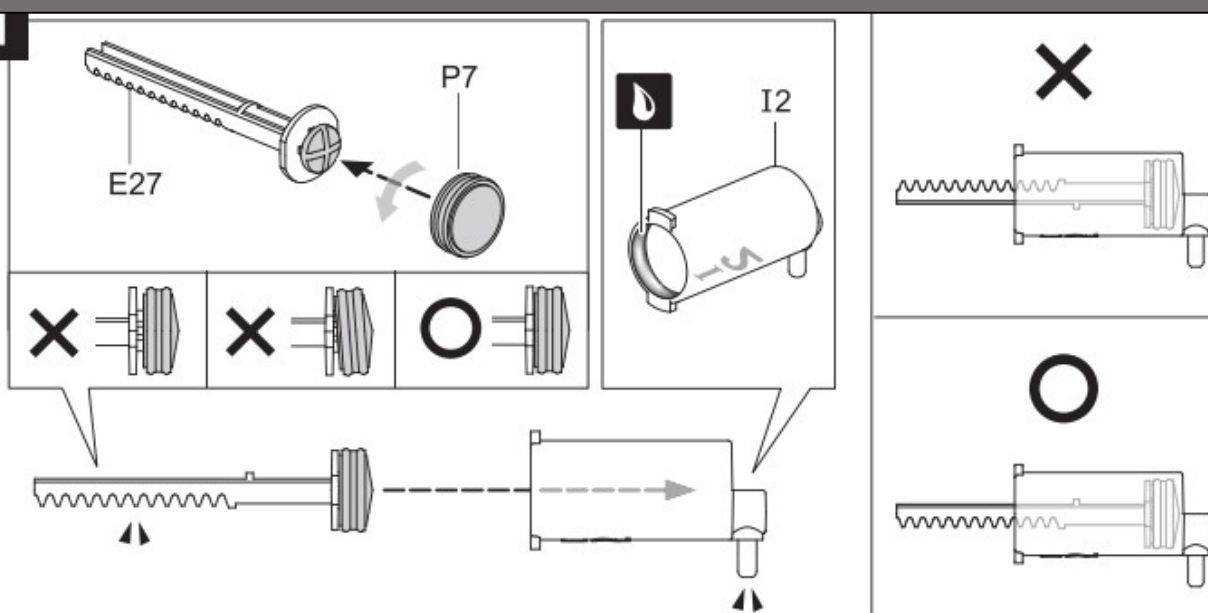
H5 cilindro surinkimas



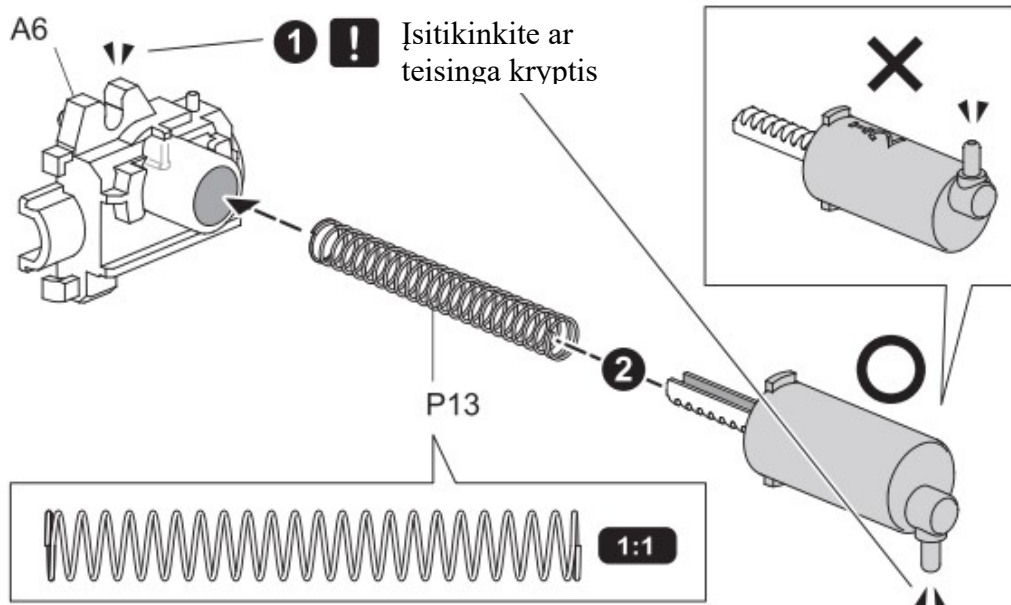
I1~I5 Cilindrų surinkimas

I1 ir I2 cilindrų surinkimas

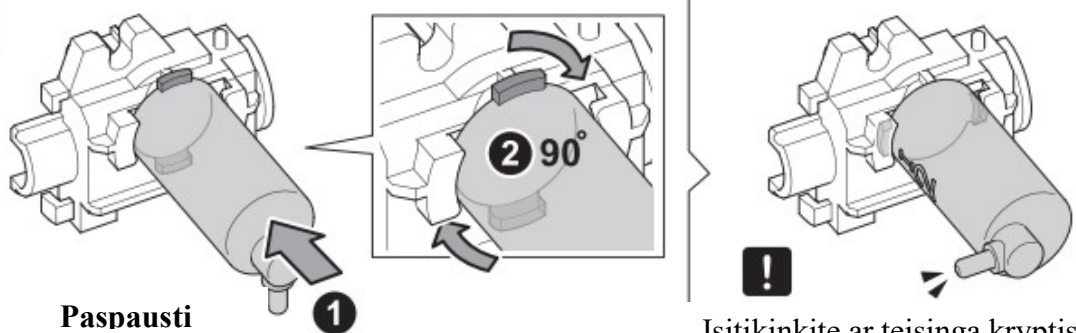
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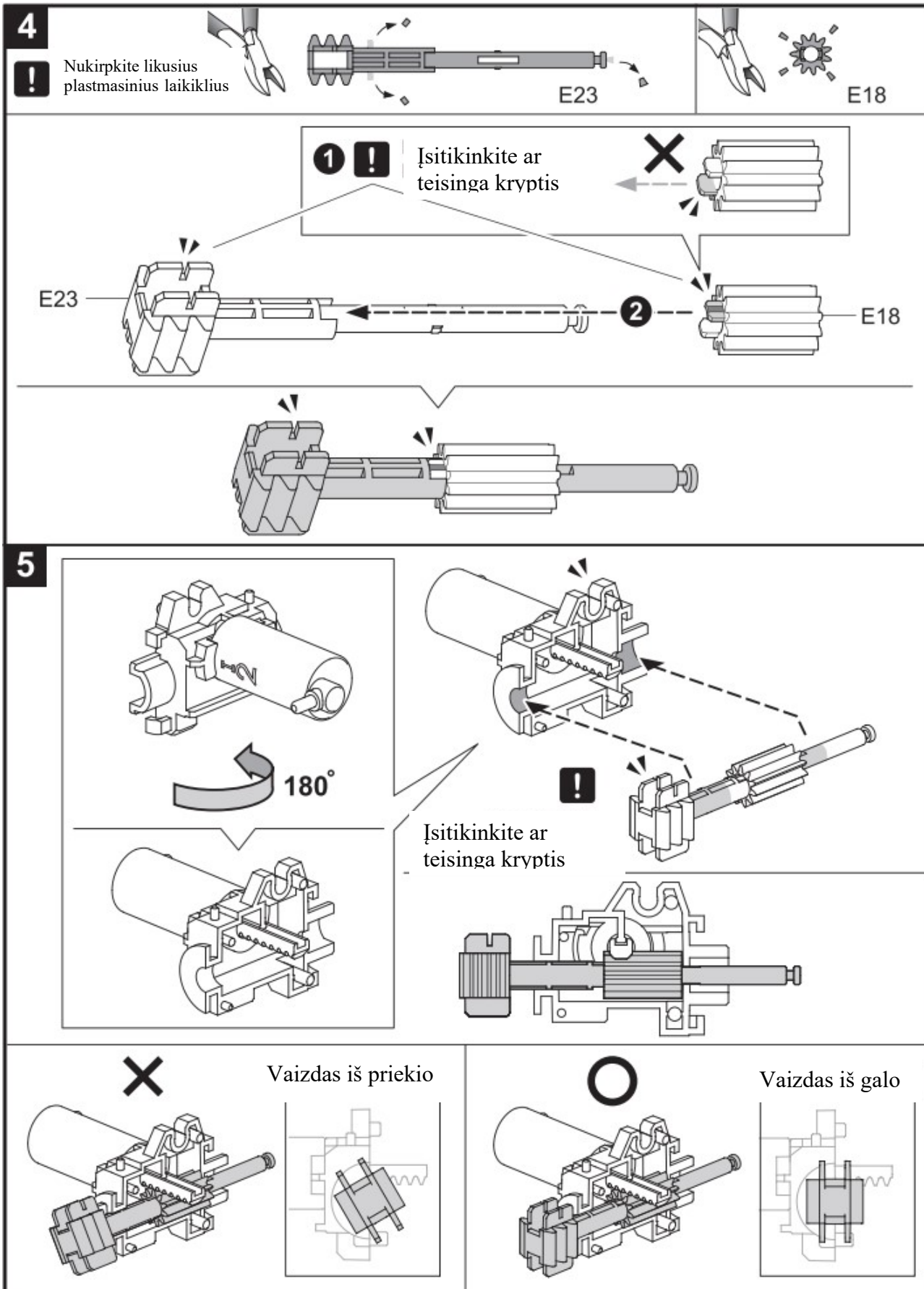


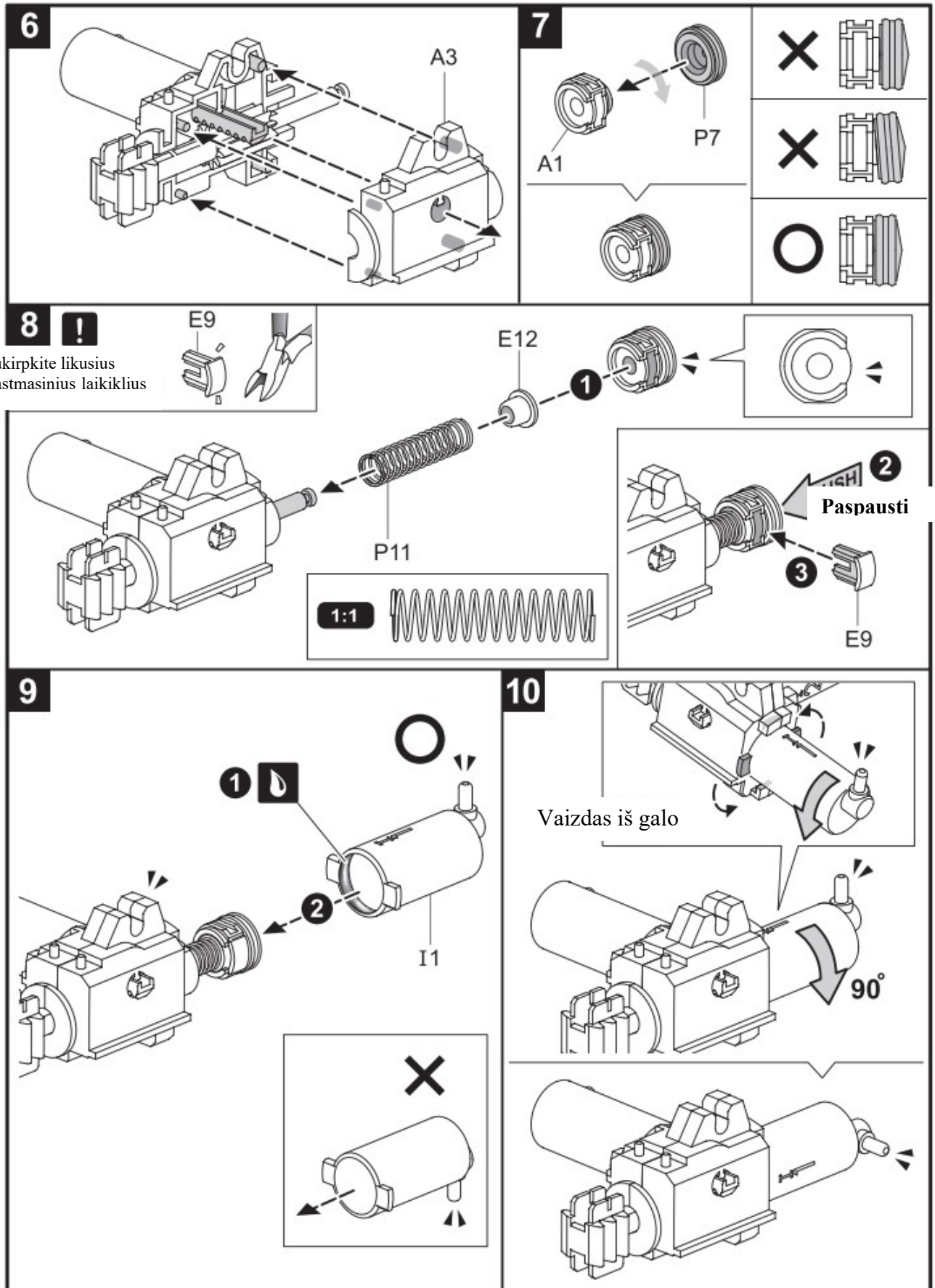
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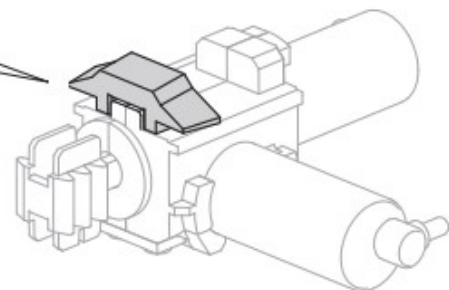
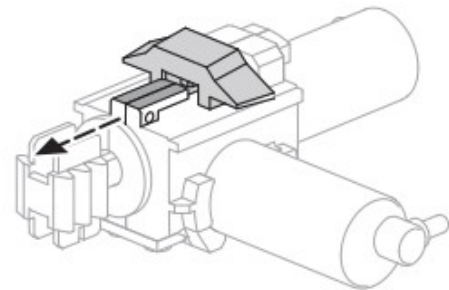
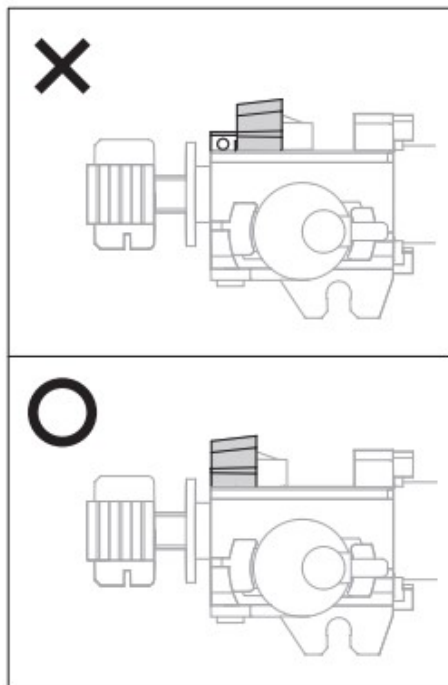
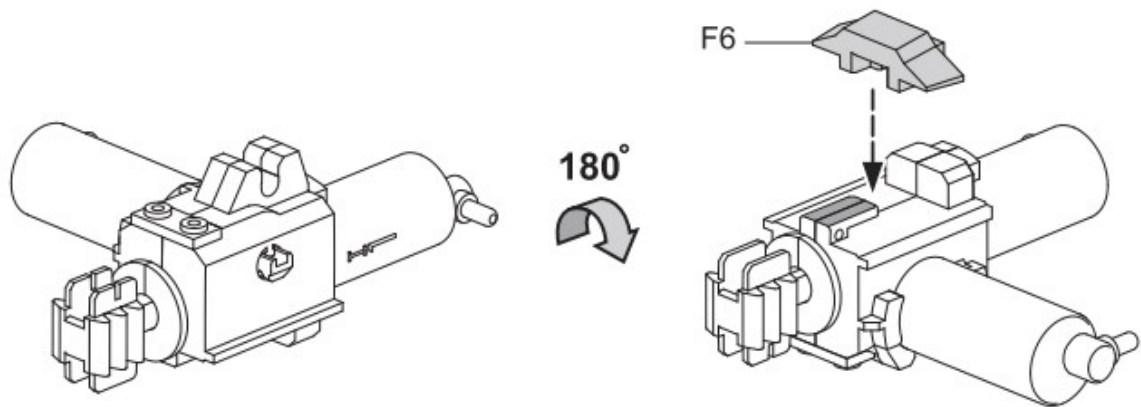
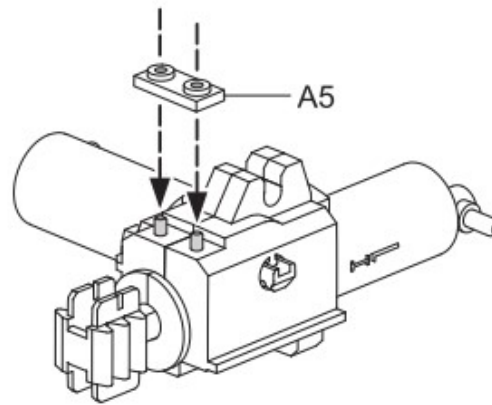
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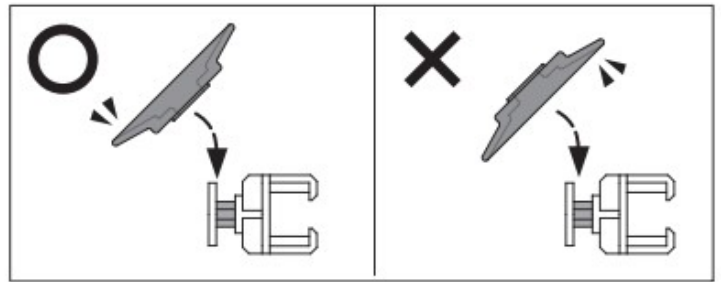
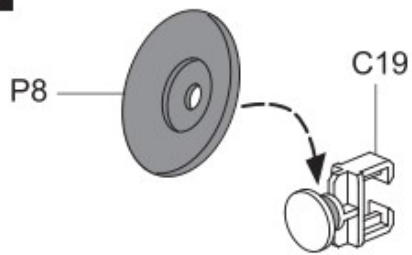




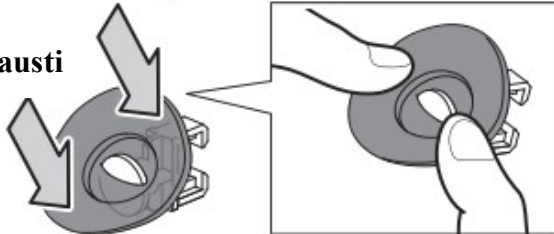
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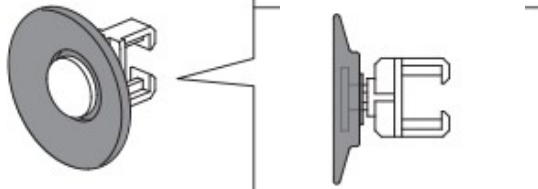
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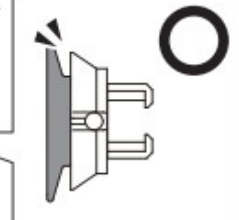
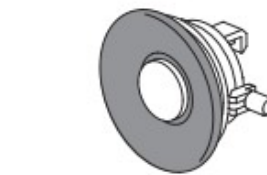
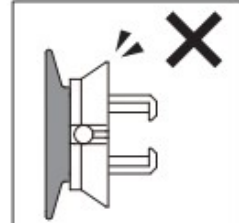
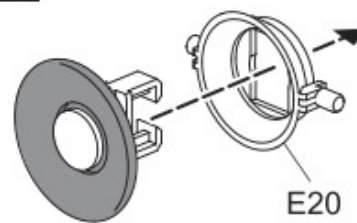
Paspaukti



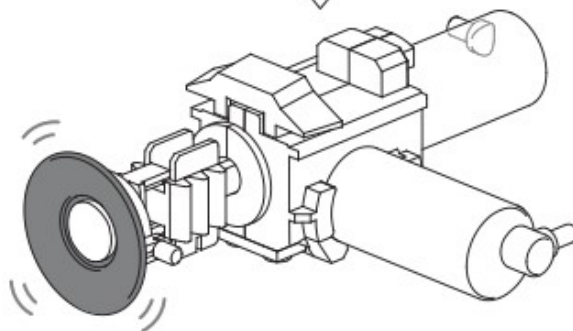
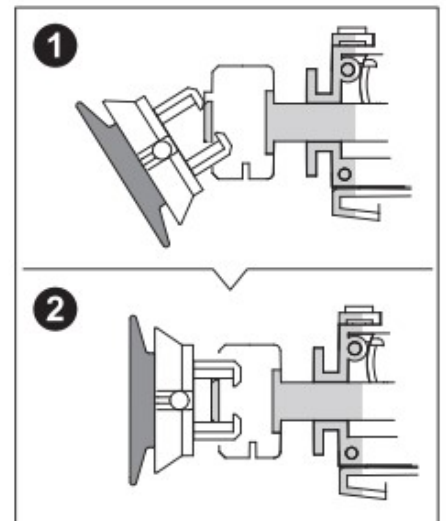
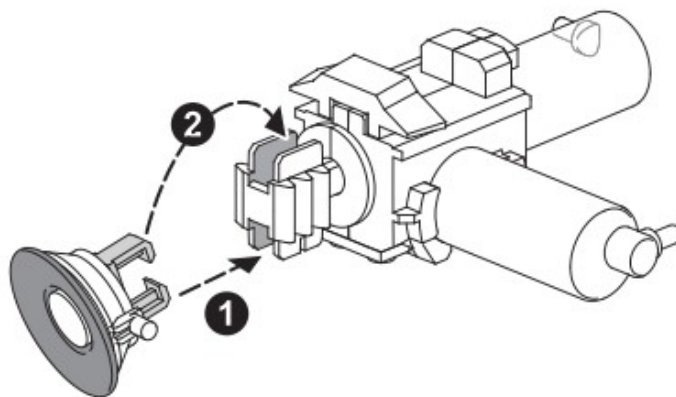
Vaizdas iš šono



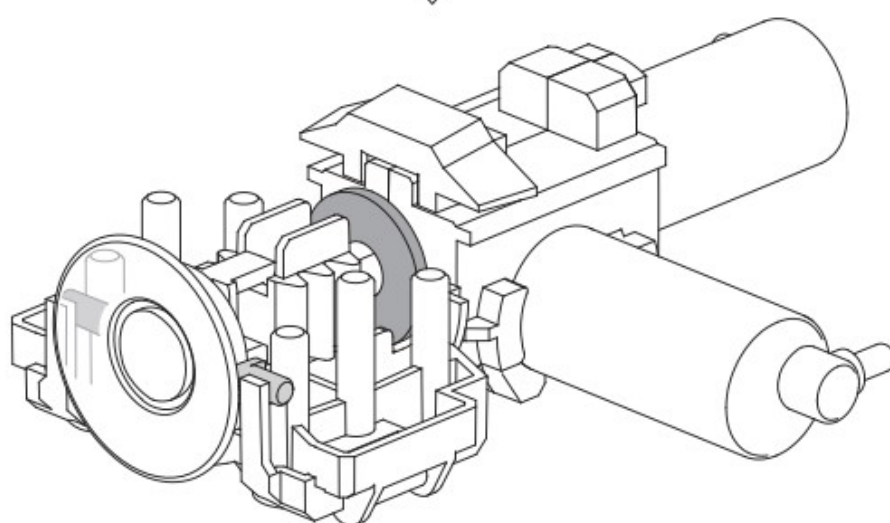
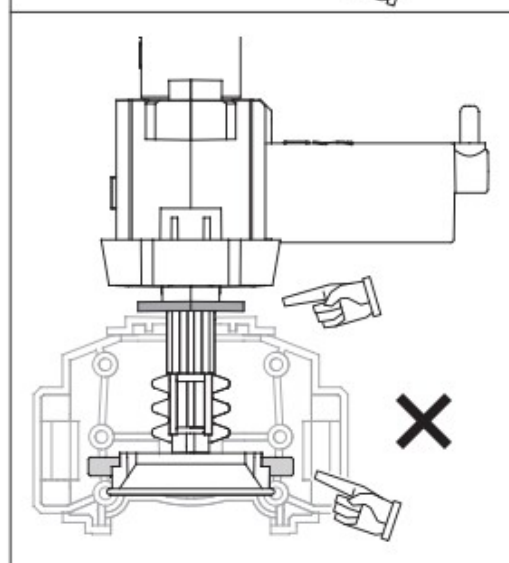
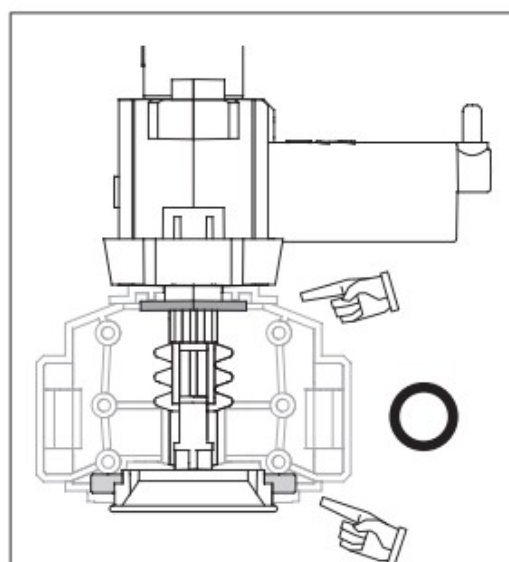
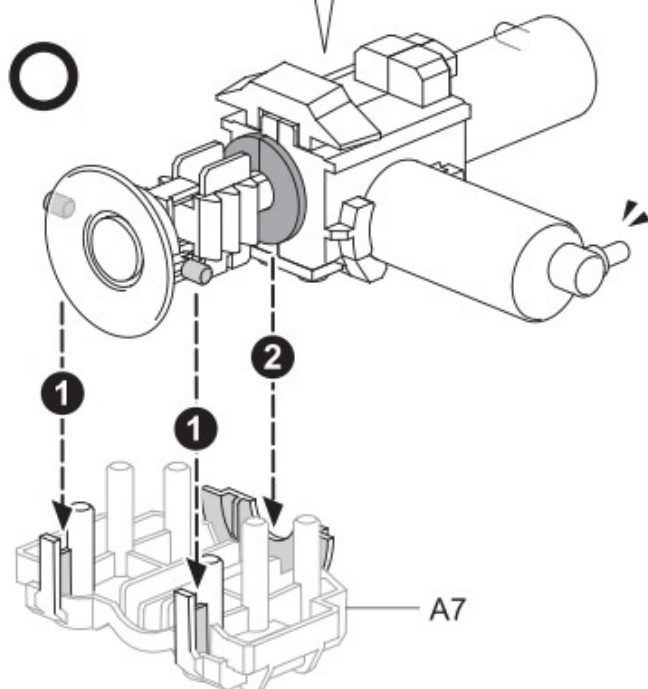
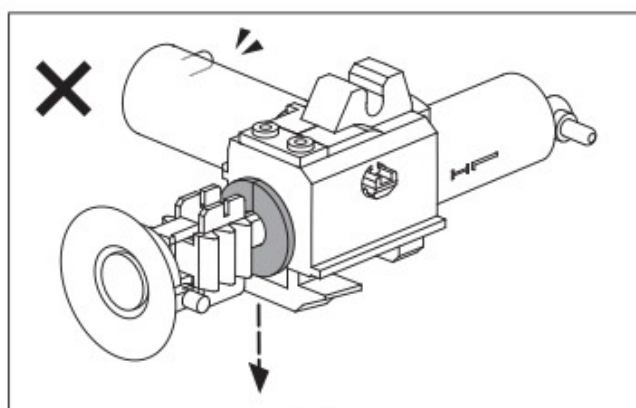
13



14



15



16

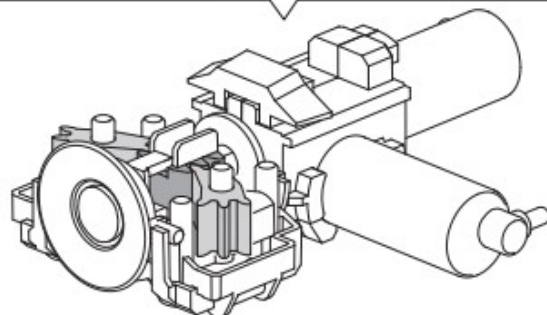
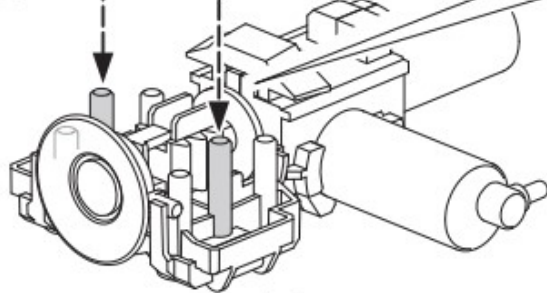


Nukirpkite likusius plastmasinius laikiklius



D8

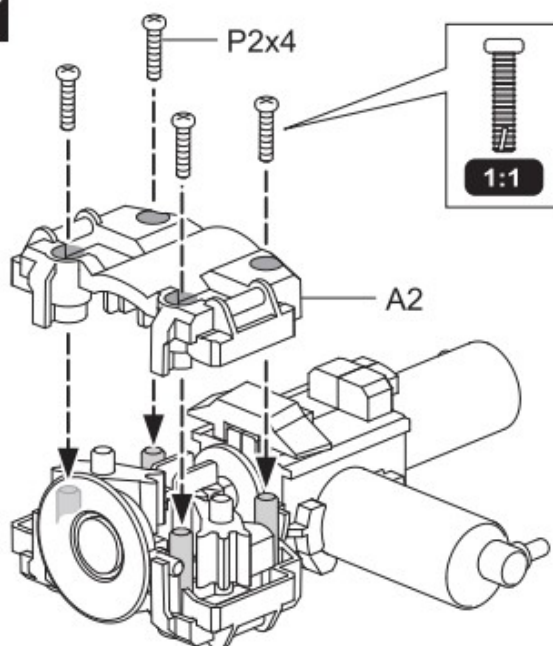
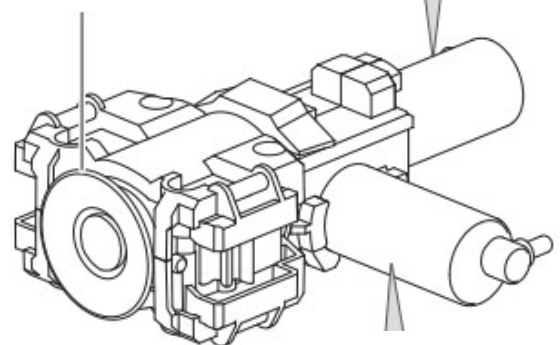
D9



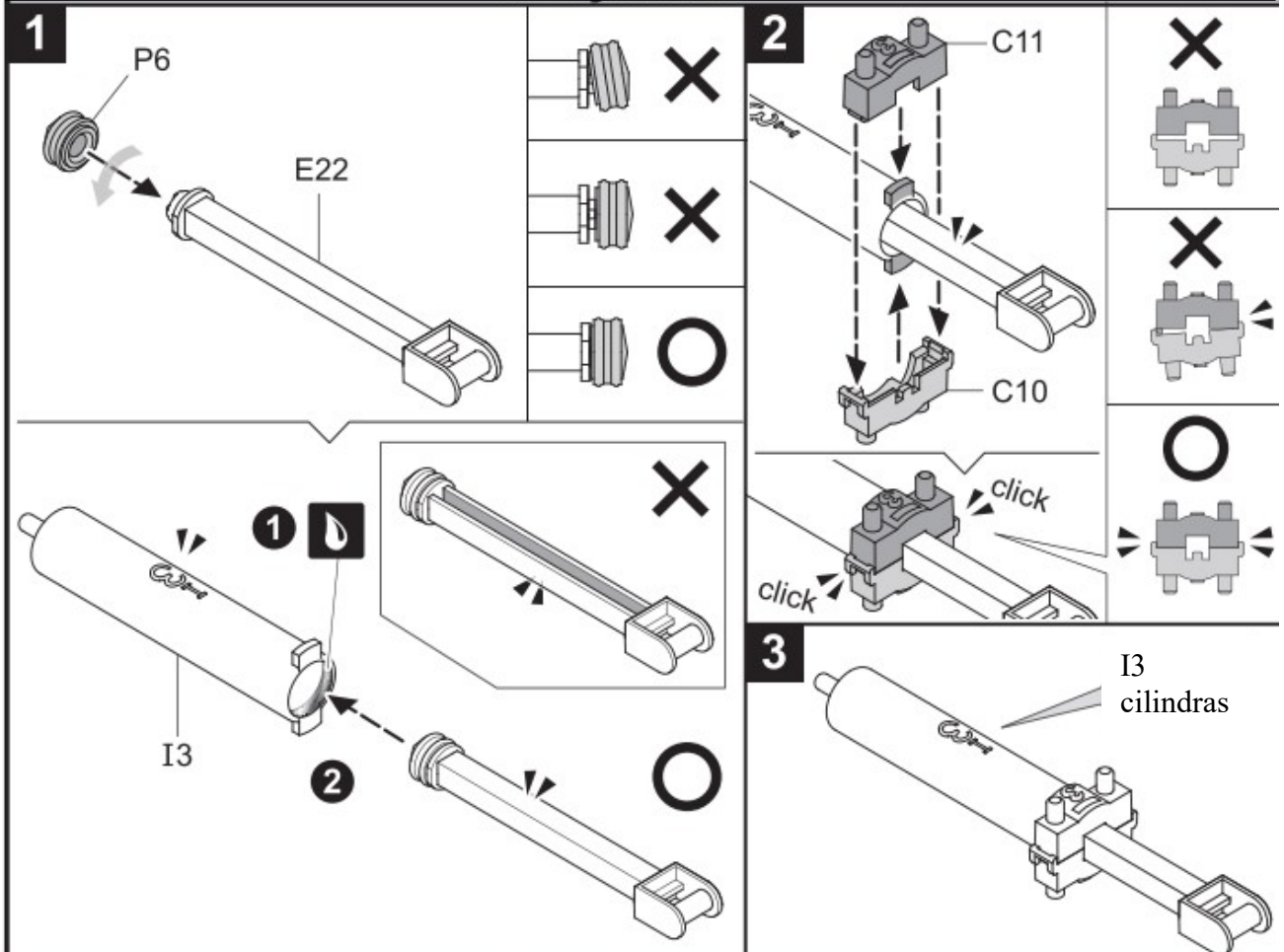
Labai svarbu



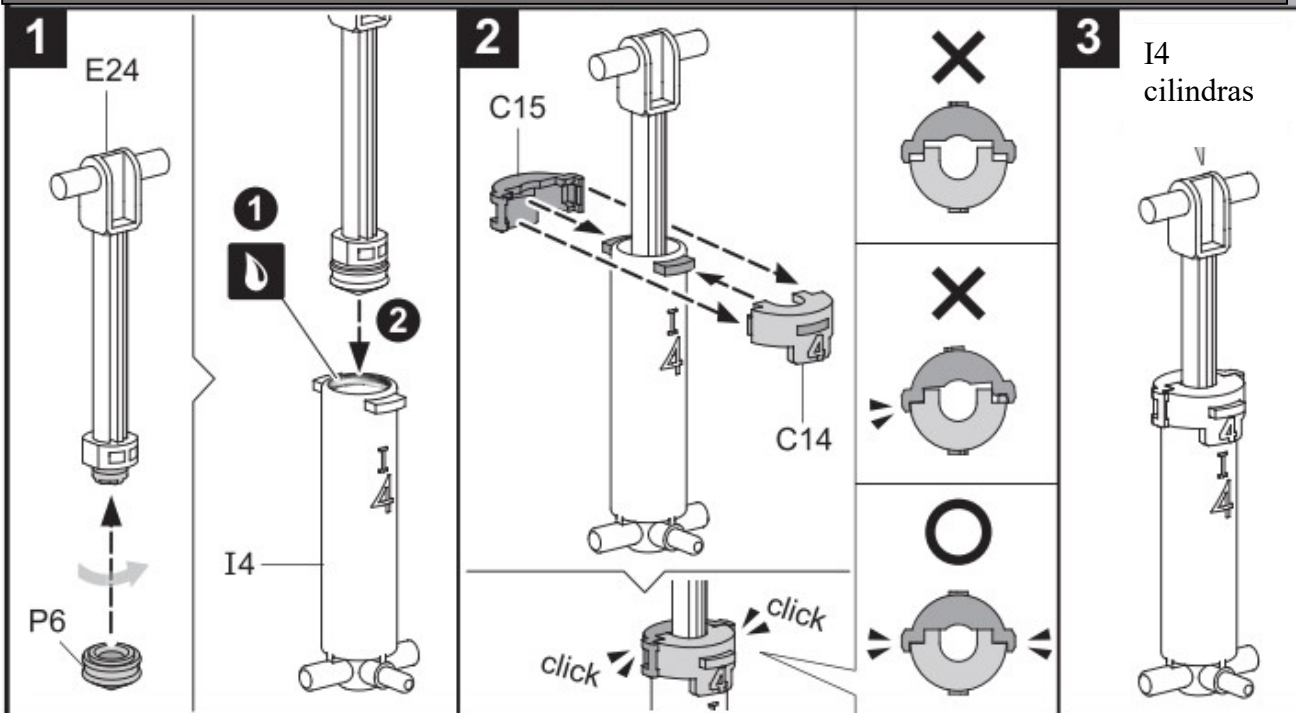
17

Pritraukimo
padasI1
cilindrasI2
cilindras

I3 cilindras

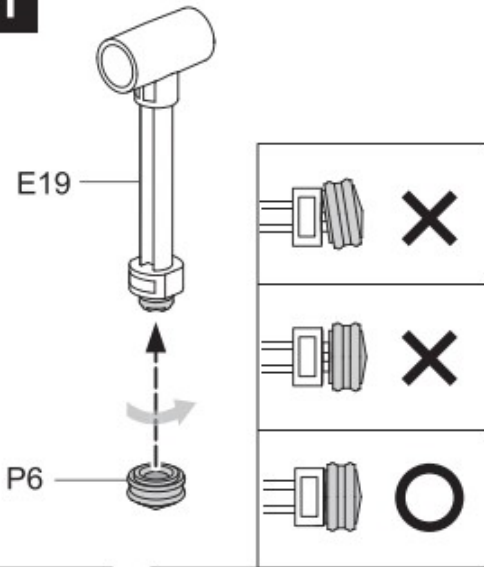


I4 Cilindras

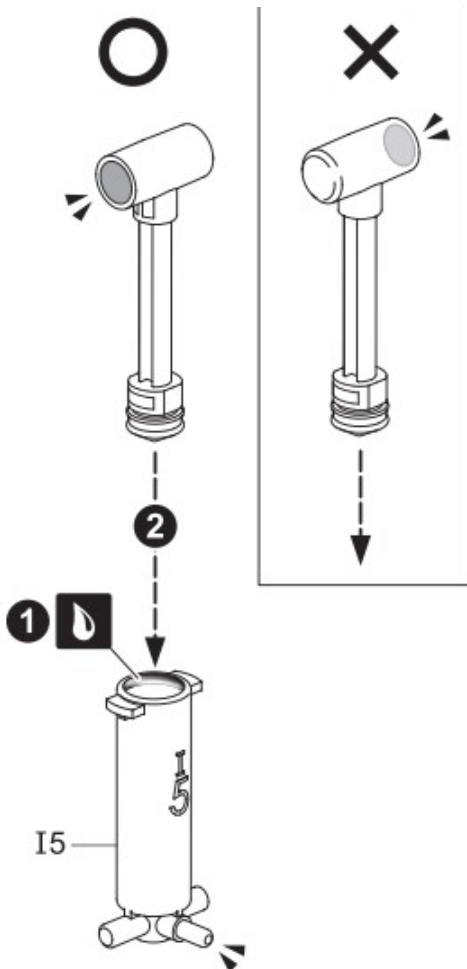


I5 Cilindras

1

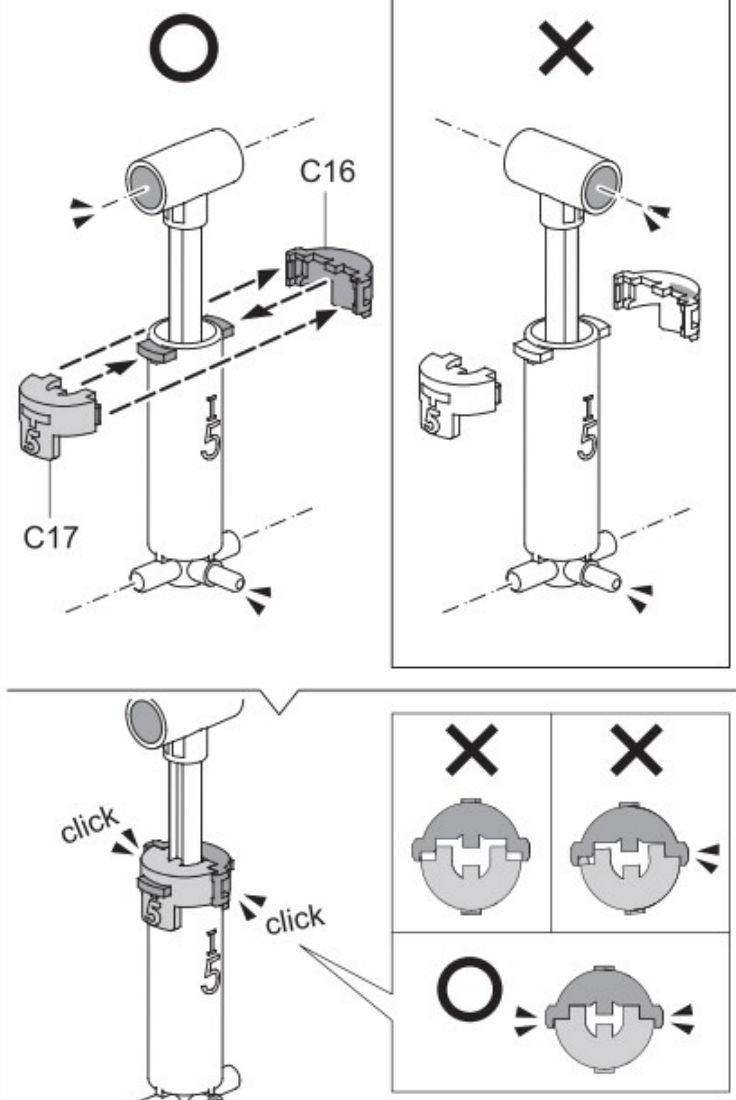


! Įsitikinkite ar teisinga kryptis

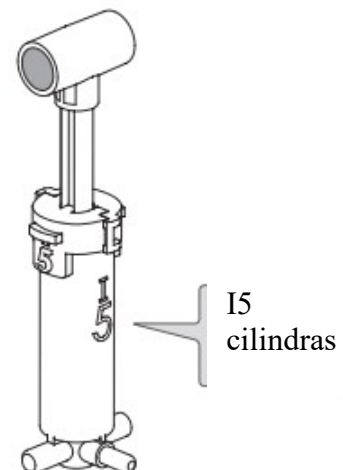


2

! Įsitikinkite ar teisinga kryptis



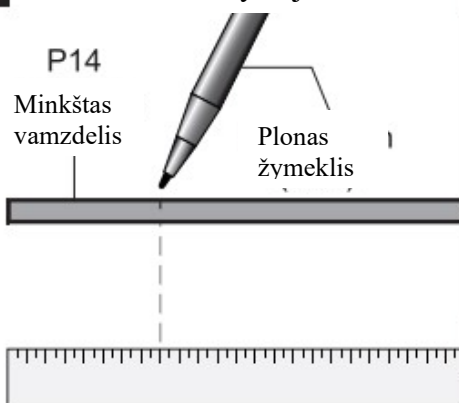
3



Kaip atkirpti vamzdelius

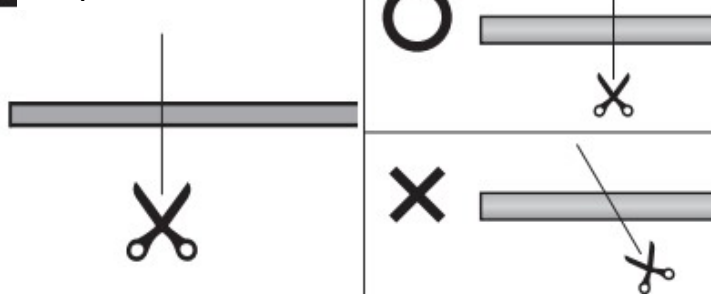
1

Matavimas ir žymėjimas



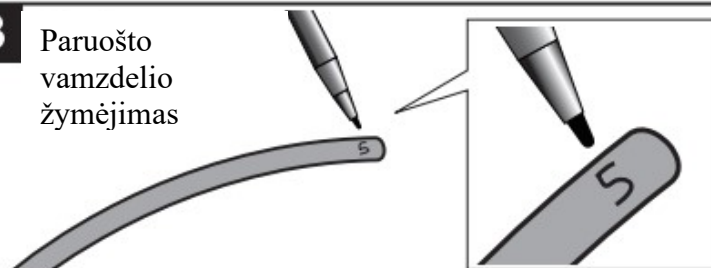
2

Kirpimas



3

Paruošto vamzdelio žymėjimas



4



0 ir 1 vamzdelį atkirpkite iš to paties vamzdelio

Vamzdelis

8cm (3.15 inches)

0



le



Vamzdelis

50cm (19.69 inches)

1



Vamzdelis

56cm (22.05 inches)

2



Vamzdelis

38cm (14.96 inches)

3



Vamzdelis

42cm (16.54 inches)

4



Vamzdelis

53cm (20.87 inches)

5



Kaip pripildyti cilindrus vandeniu

1

Vanduo

puodelis

Vanduo

Pripilkite pusę puodelio vandens

2

! Paspauskite cilindą iki galo

3

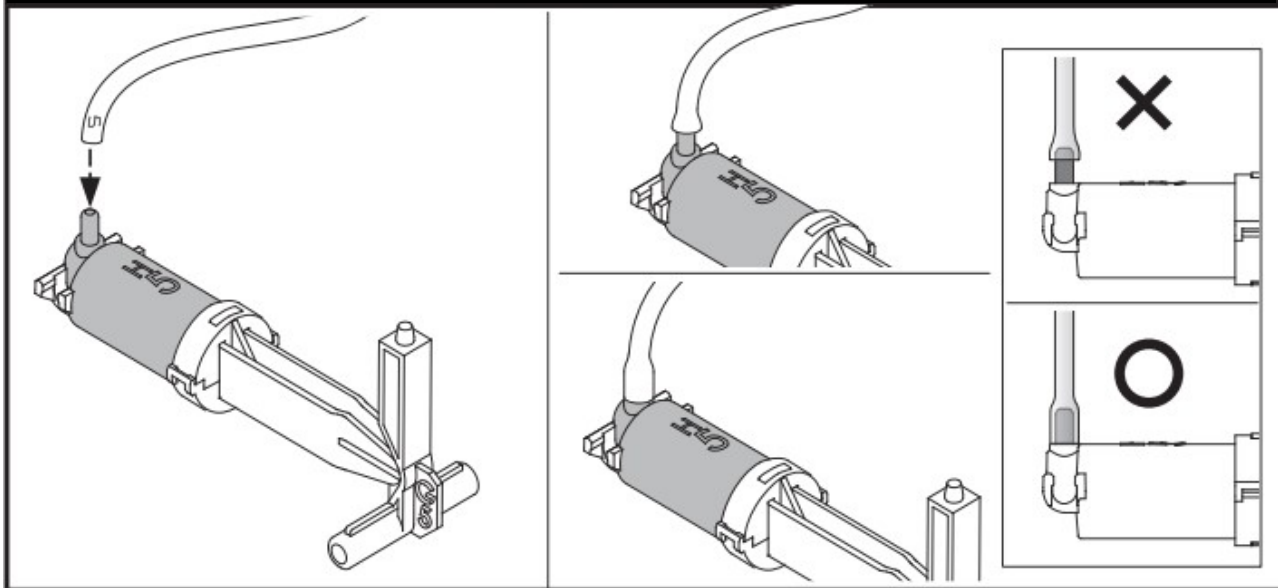
- 1** Patraukite cilindą kaip parodyta aukščiau
- 2** Suspauskite cilindą
- 3** Pakartokite 2 ir 3 žingsnius kitiems cilindrams

4

Svarbu

Pripildykite cilindrus vandeniu kaip parodyta

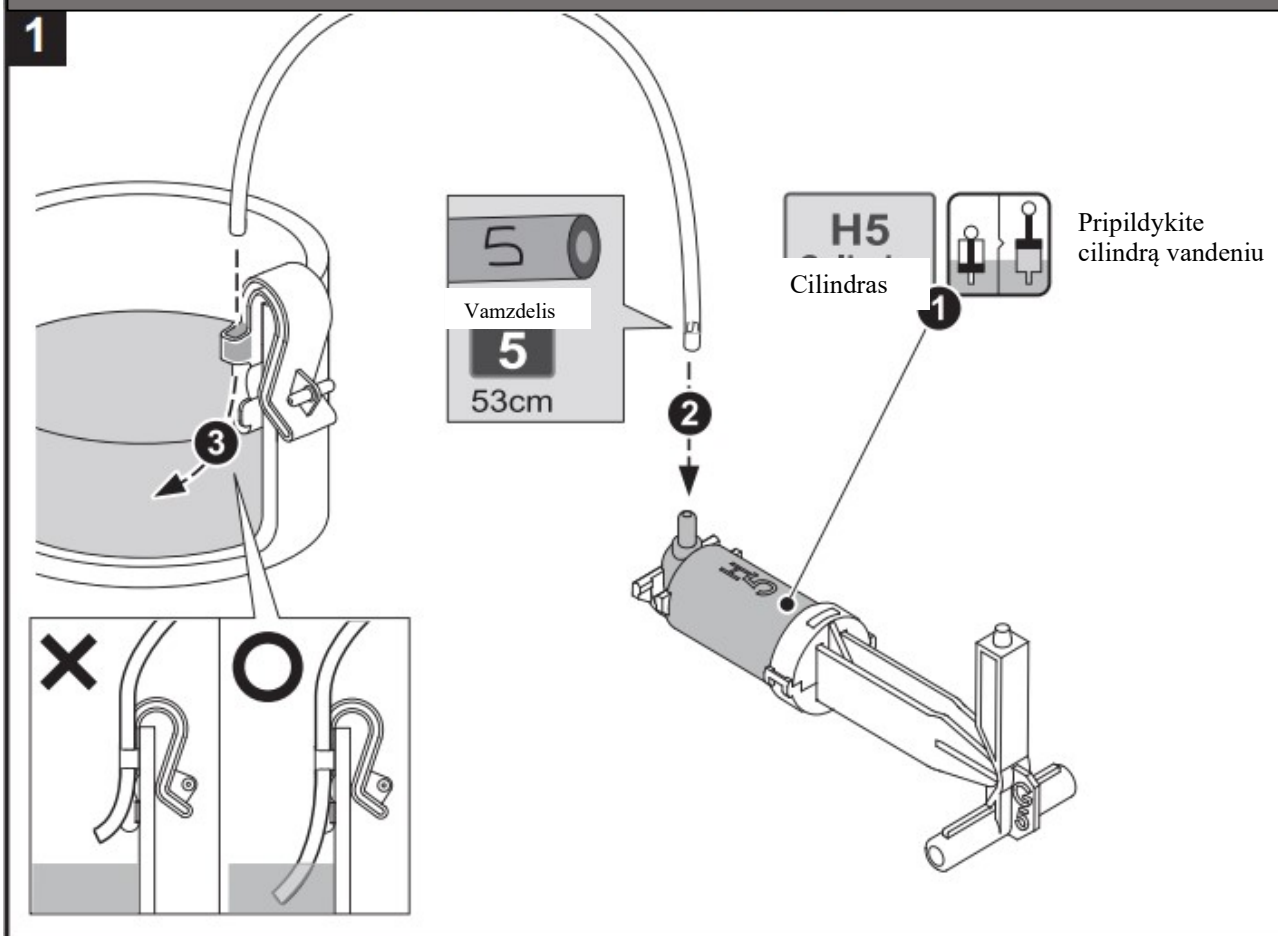
Kaip sumontuoti vamzdelius



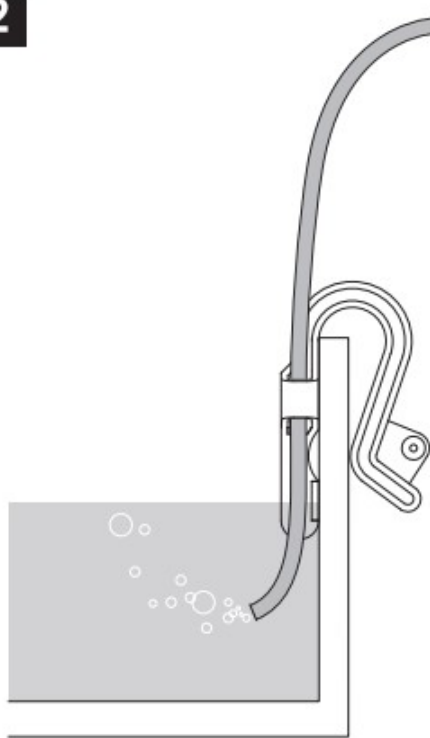
Hidraulinio modulio surinkimas

Sujunkite H5 su I5

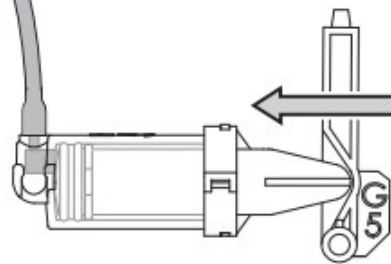
1



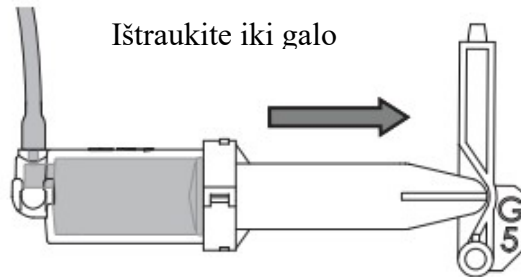
2



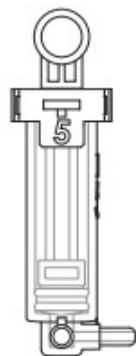
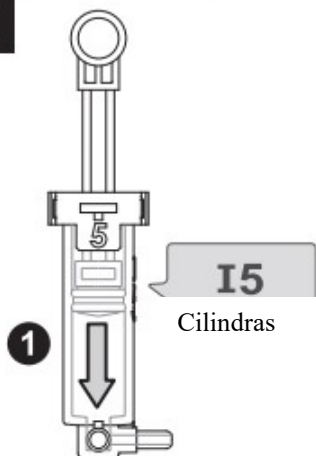
Paspauskite iki galo



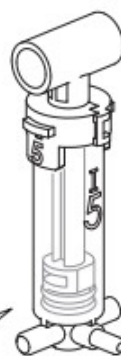
Ištraukite iki galo



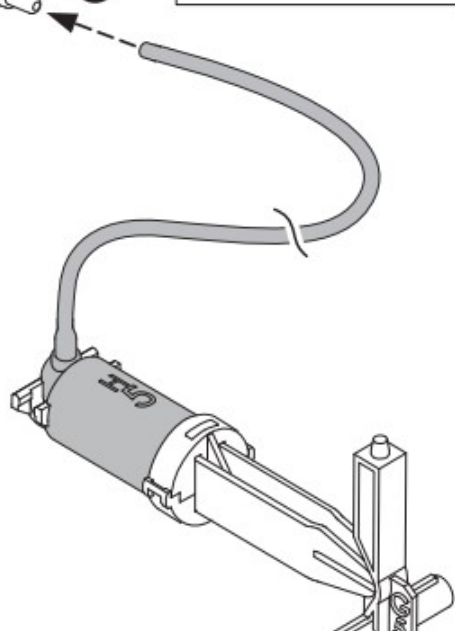
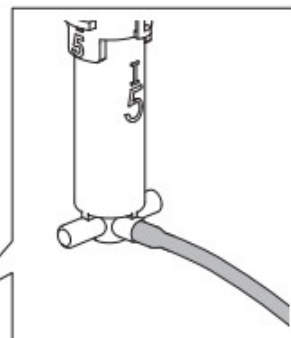
3



! Paspauskite cilindrą iki galo



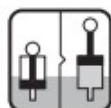
2



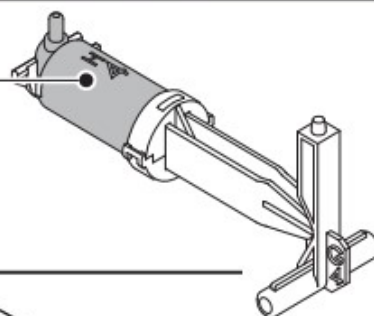
Sujunkite H4 su I4

1

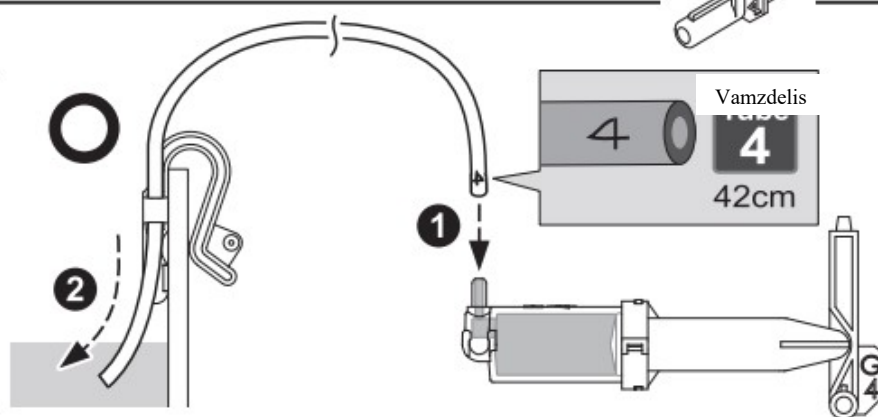
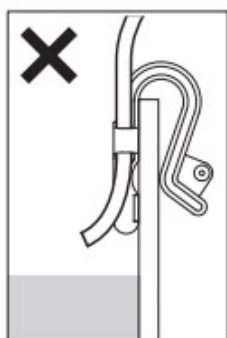
H4
Cilindras



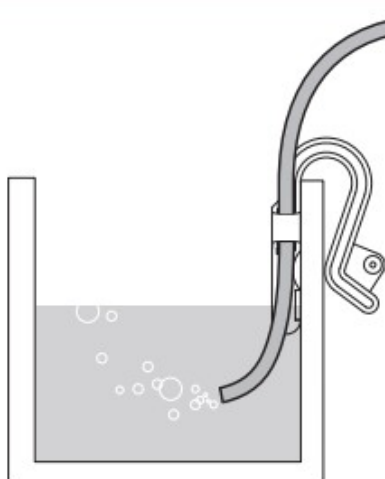
Fil Pripildykite
wil cilindrą vandeniu



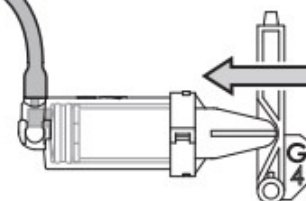
2



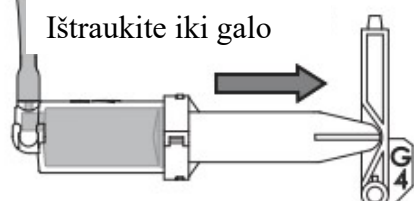
3



Paspauskite iki galo

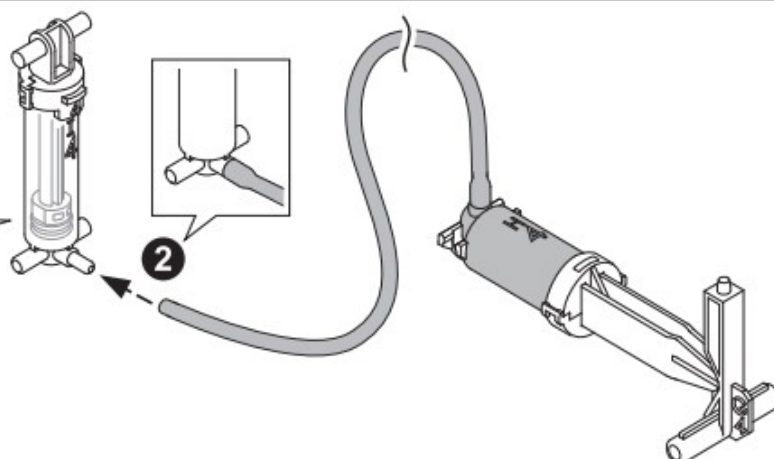
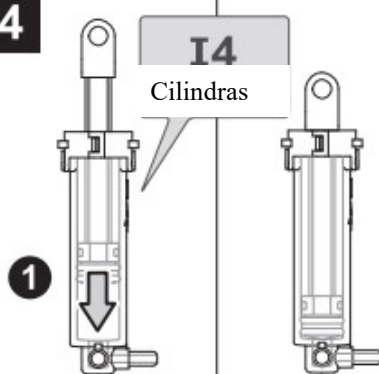


Ištraukite iki galo



4

I4
Cilindras



Paspauskite cilindrą
iki galo

Sujunkite H3 su I3

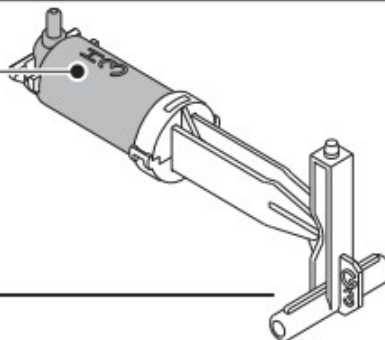
1

H3

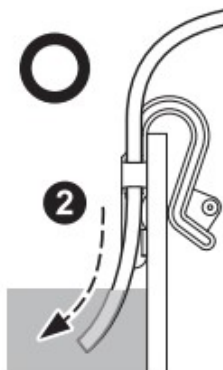
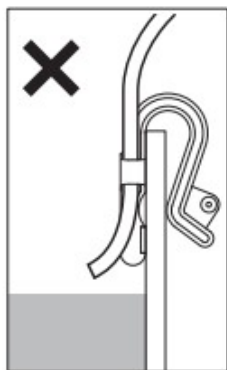
Cilindras



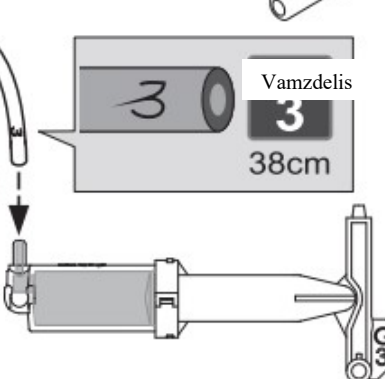
Pripildykite cilindrą vandeniu



2



1

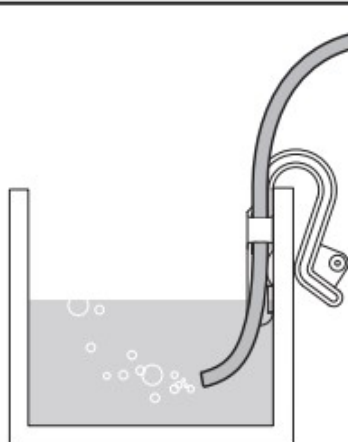


Vamzdelis

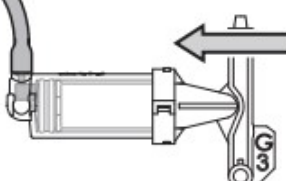
3

38cm

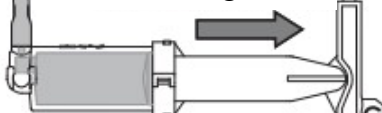
3



Paspauskite iki galo



Ištraukite iki galo



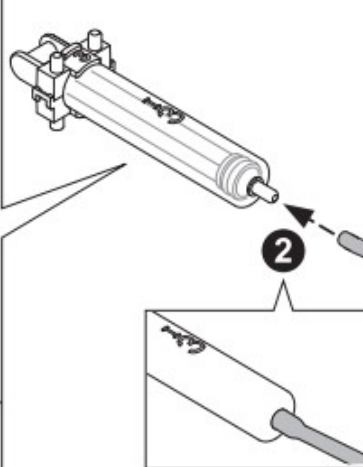
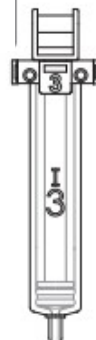
4

I3

Cilindras



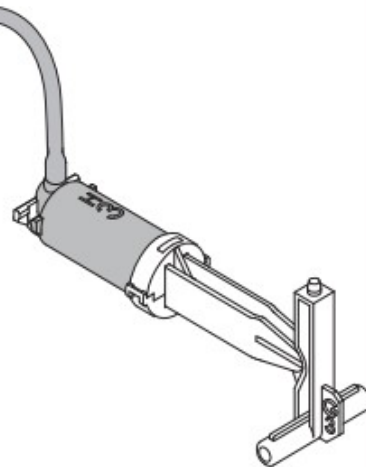
1



2



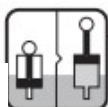
Paspauskite cilindrą iki galo



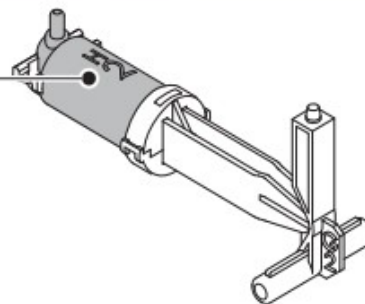
Sujunkite H2 su I2

1

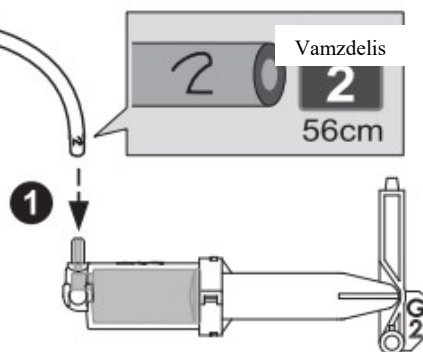
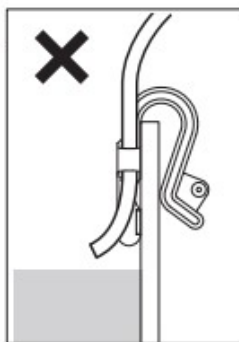
H2
Cilindras



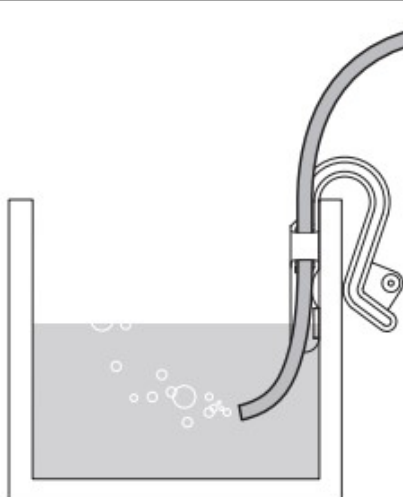
Pripildykite cilindrą
vandeniu



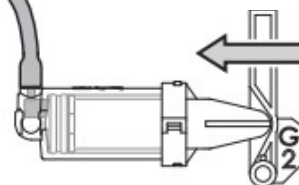
2



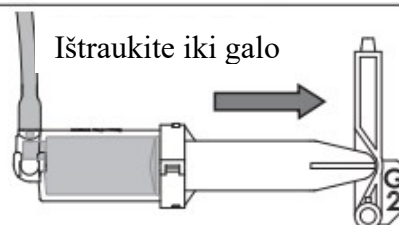
3



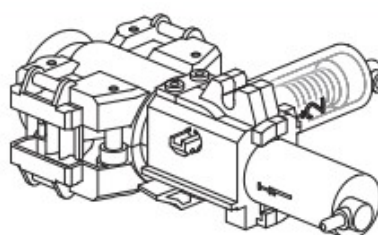
Paspauskite iki galo



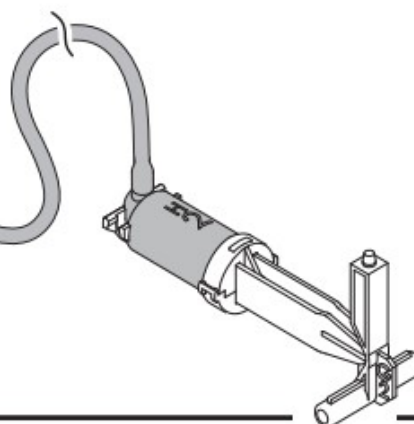
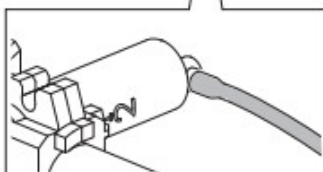
Ištraukite iki galo



4



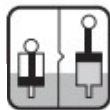
I2
Cilindras



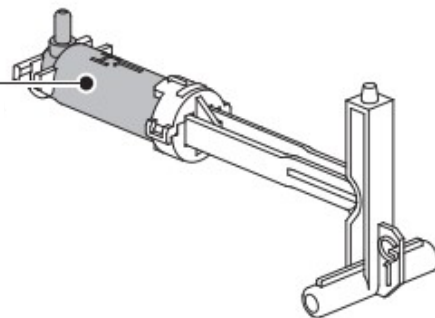
Sujunkite H1 / H0 su I1

1

H1
Cilindras

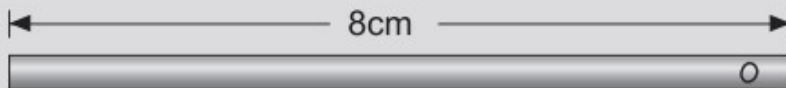
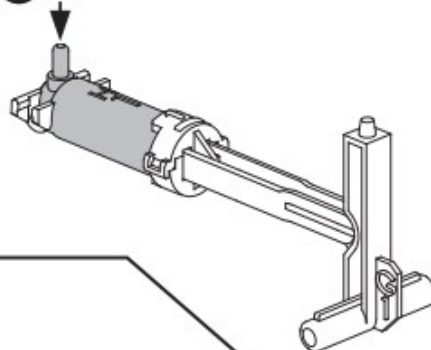
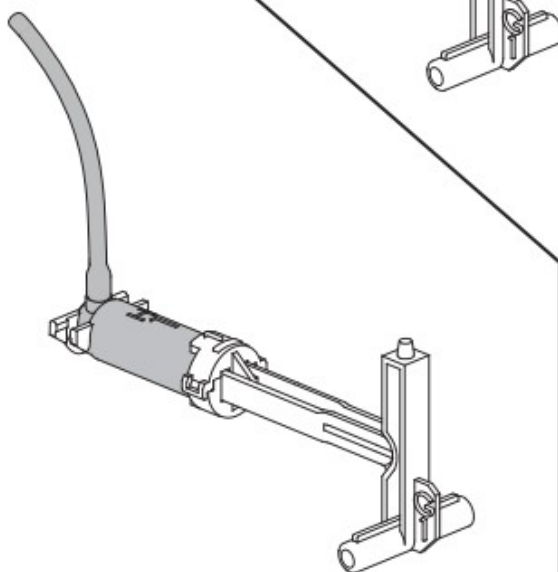


Pripildykite cilindrą
vandeniu

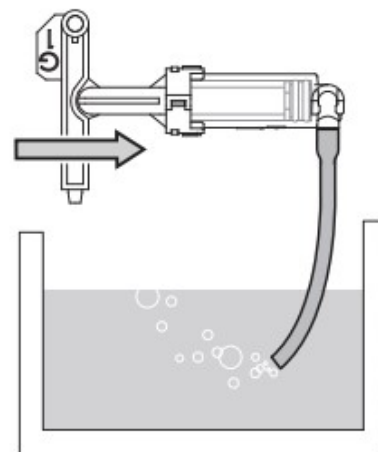
**2**

Vamzdelis
0 **1:1**

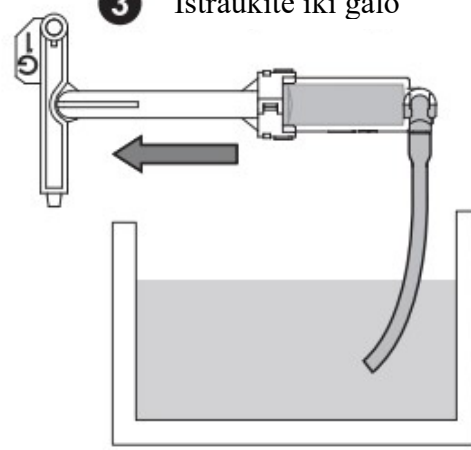
8cm

**1****3****2**

Paspauskite iki galo

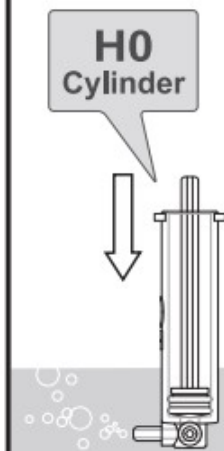
**3**

Ištraukite iki galo

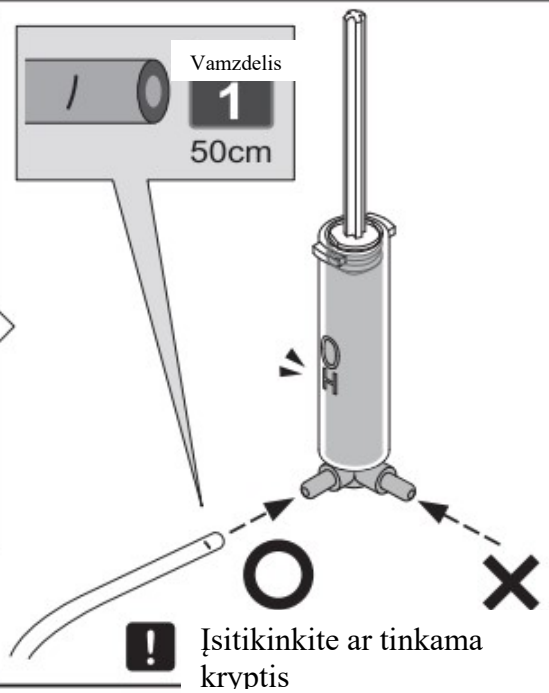
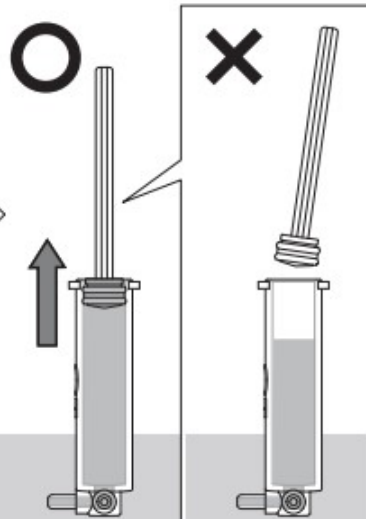


4

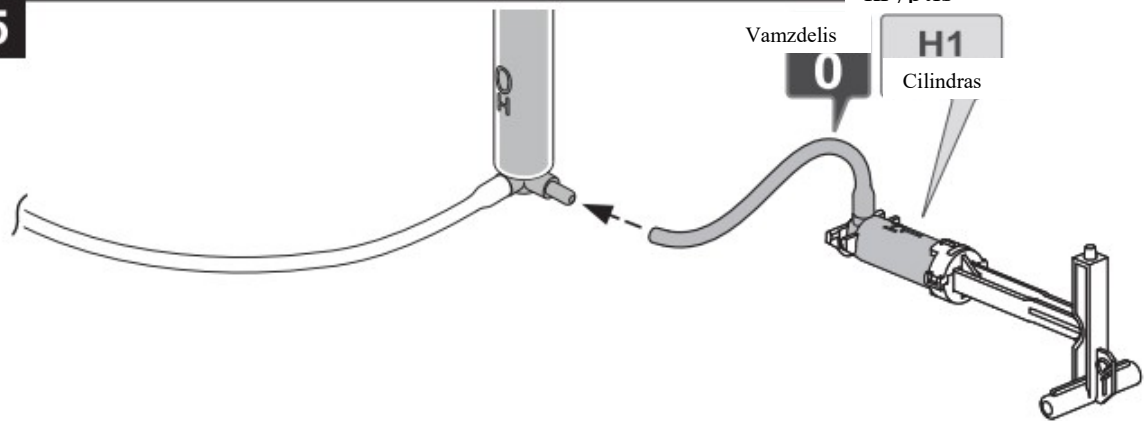
Paspauskite iki galo



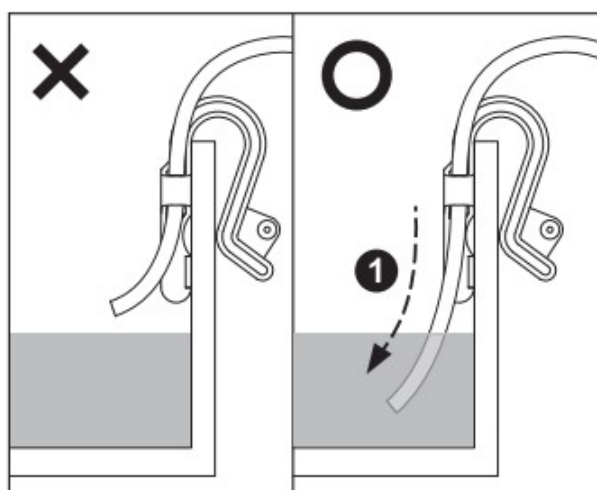
Ištraukite iki galo



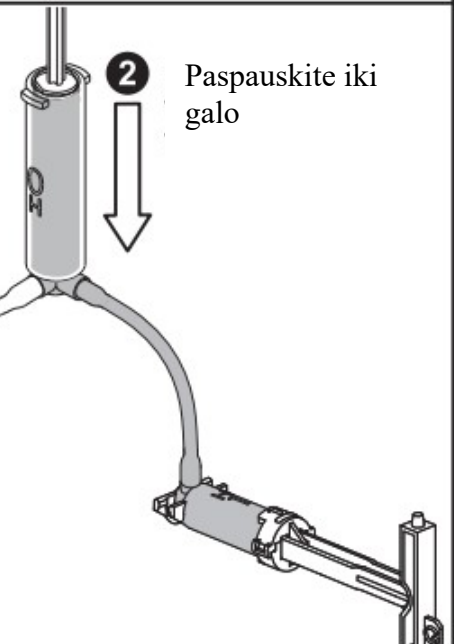
5

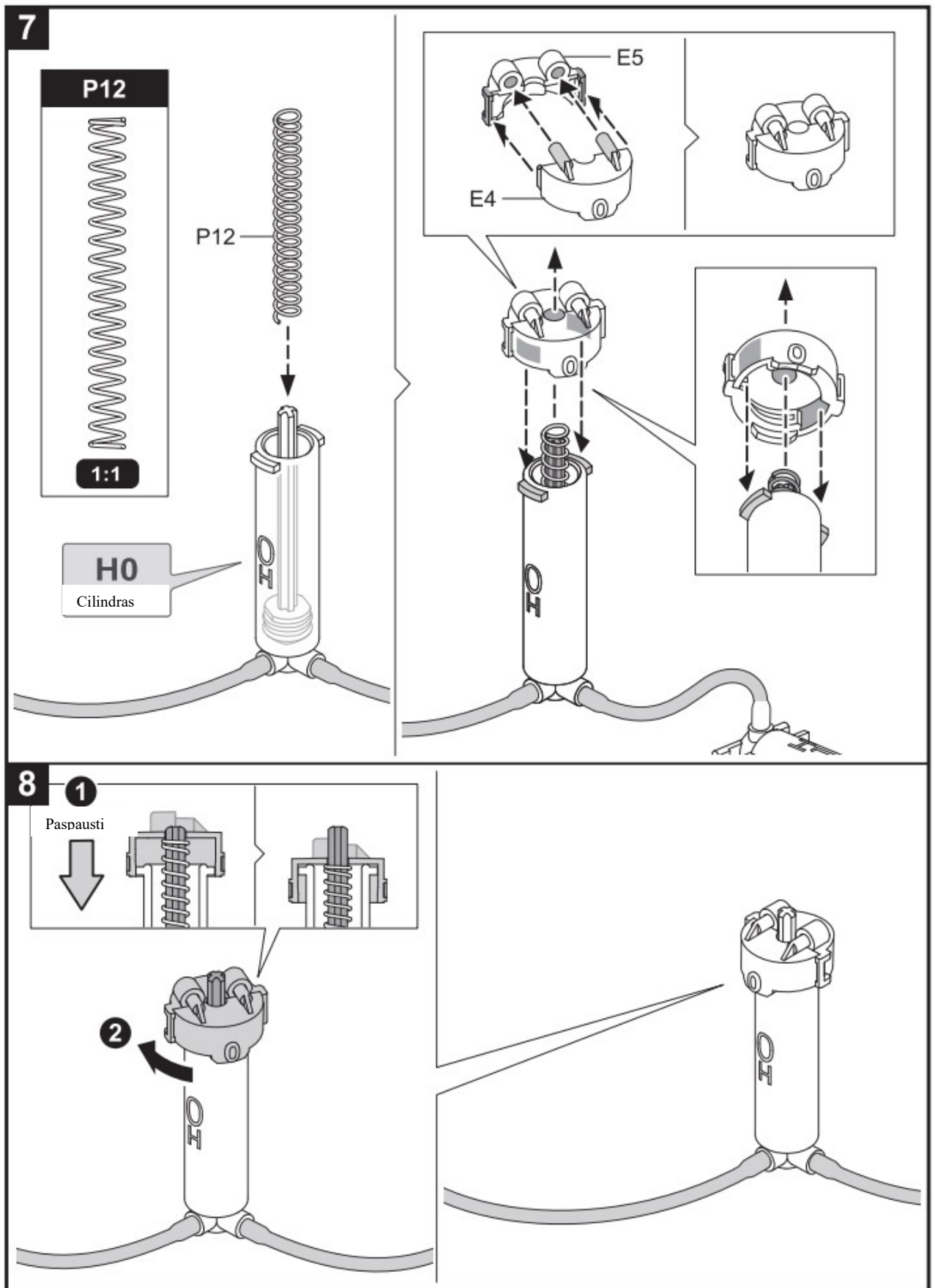


6

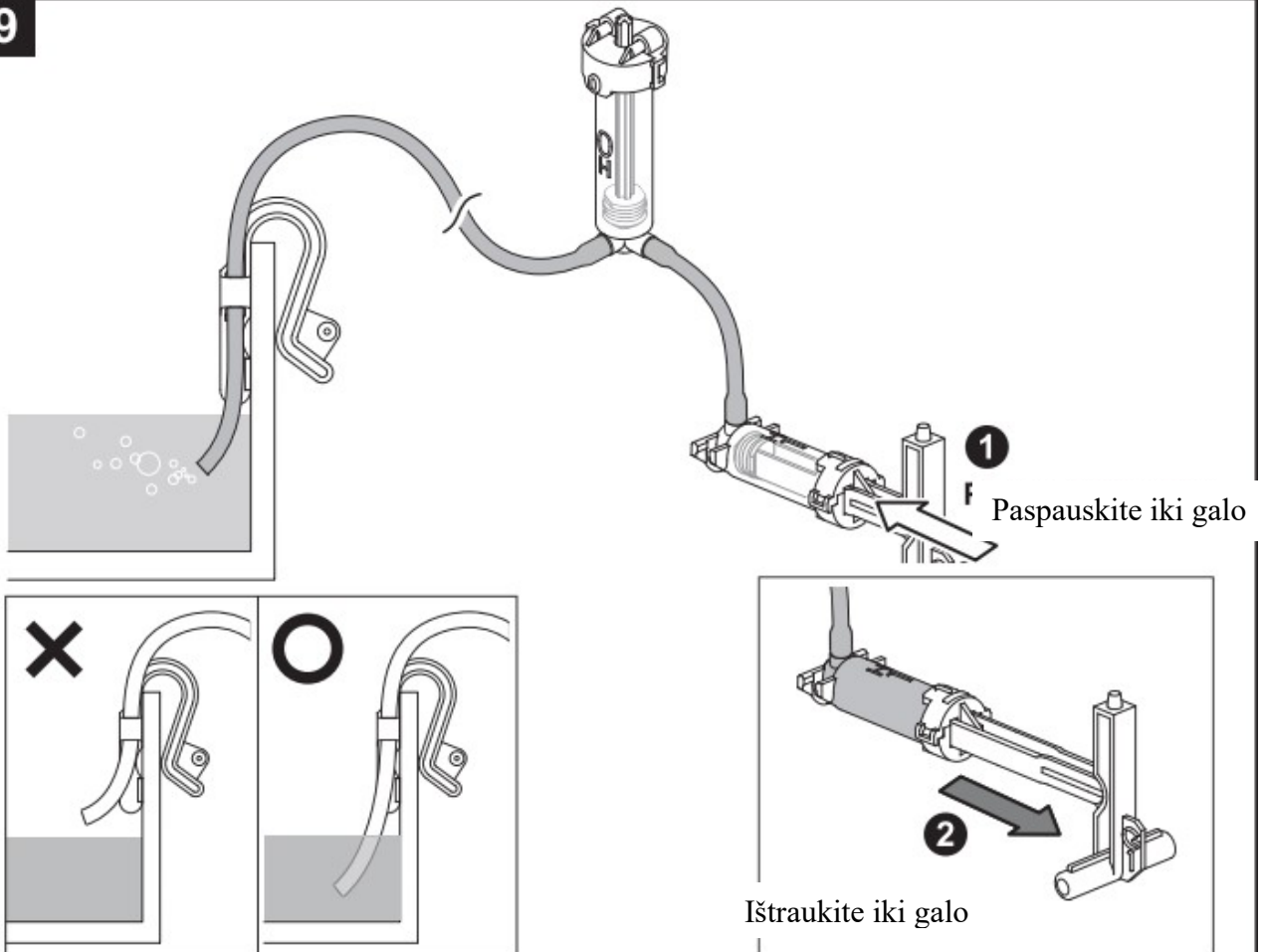


2 Paspauskite iki galo

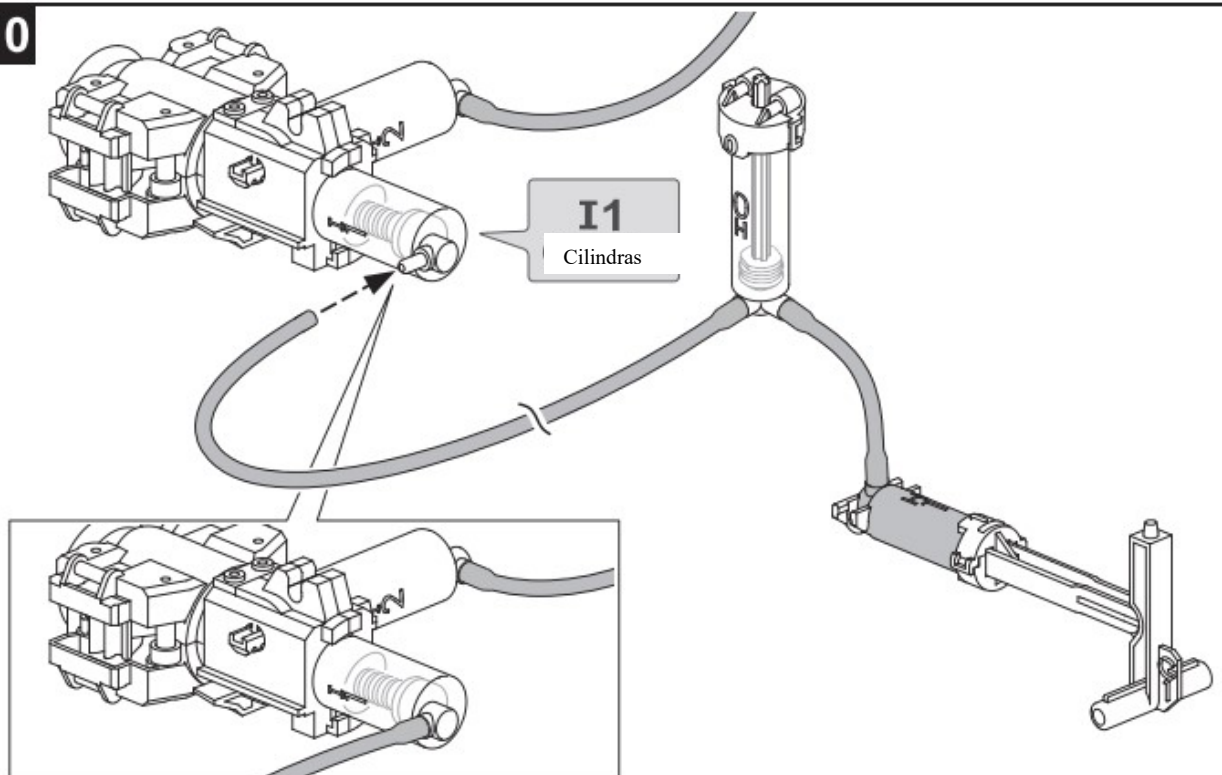




9



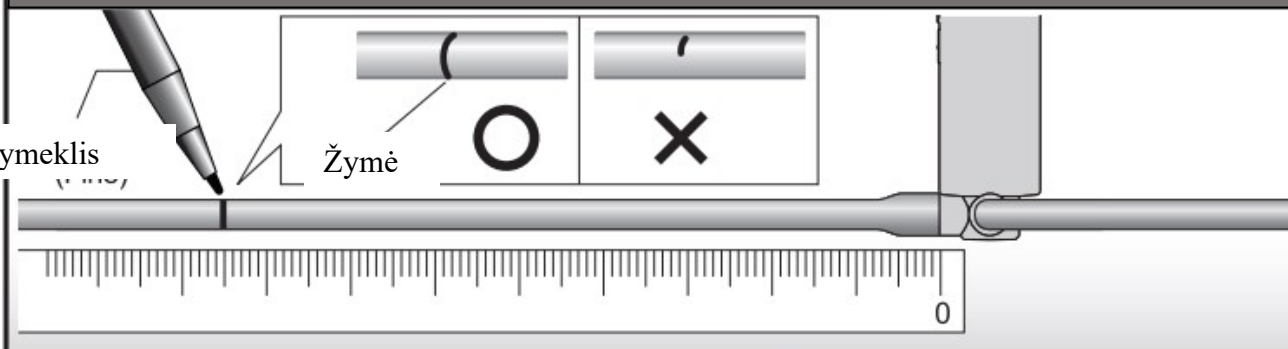
10



Matavimas ir žymėjimas

Plonas žymeklis

Žymė

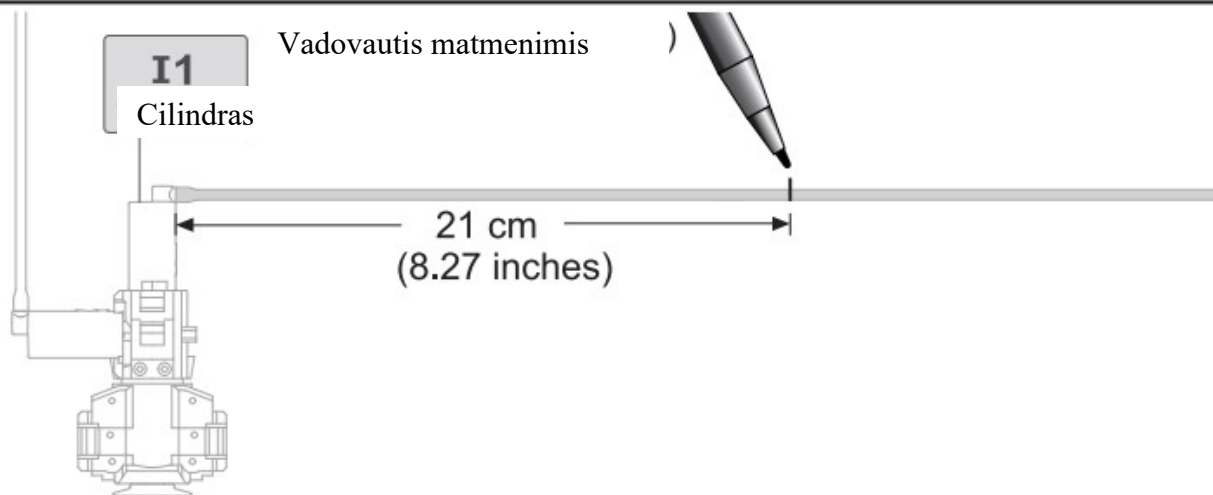


I1

Cilindras

Vadovautis matmenimis

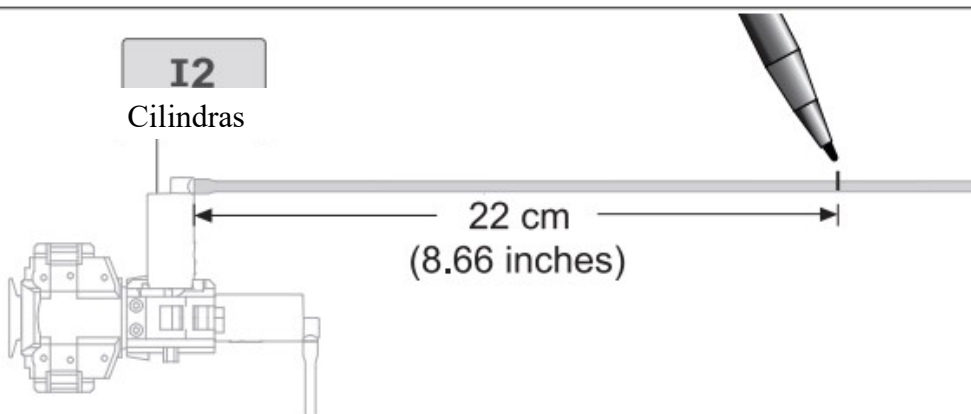
21 cm
(8.27 inches)



I2

Cilindras

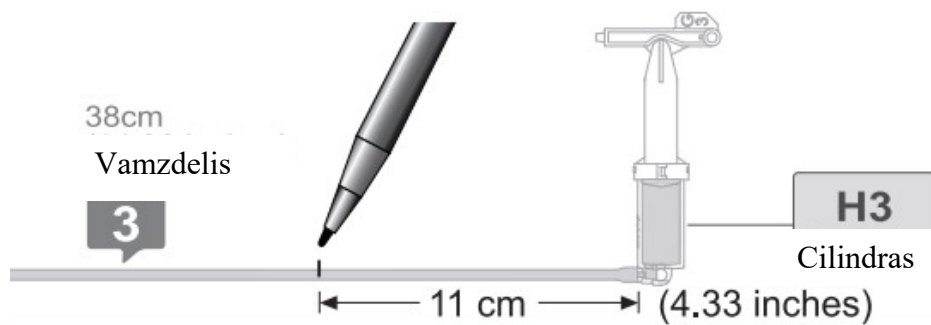
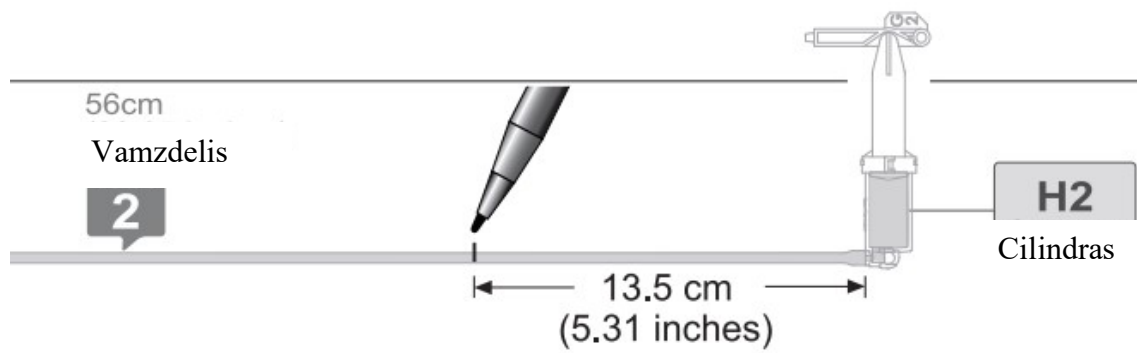
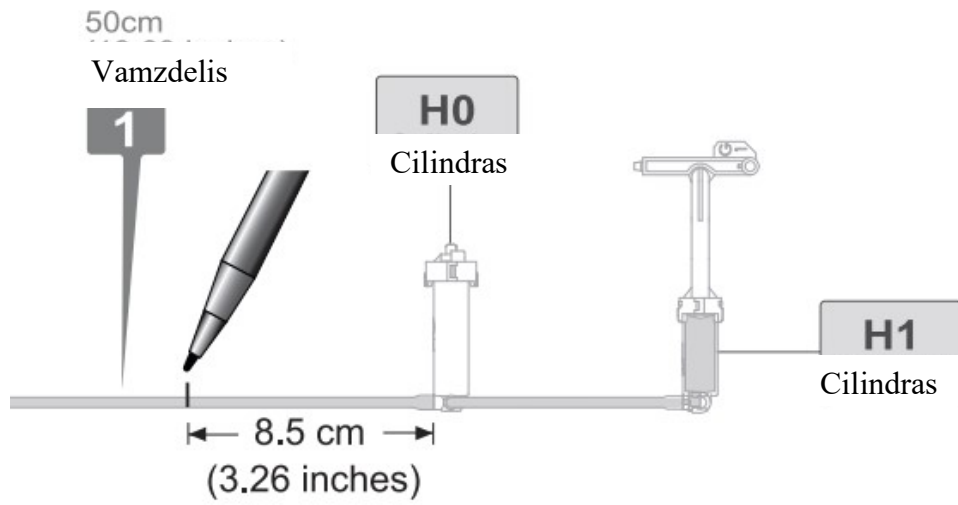
22 cm
(8.66 inches)

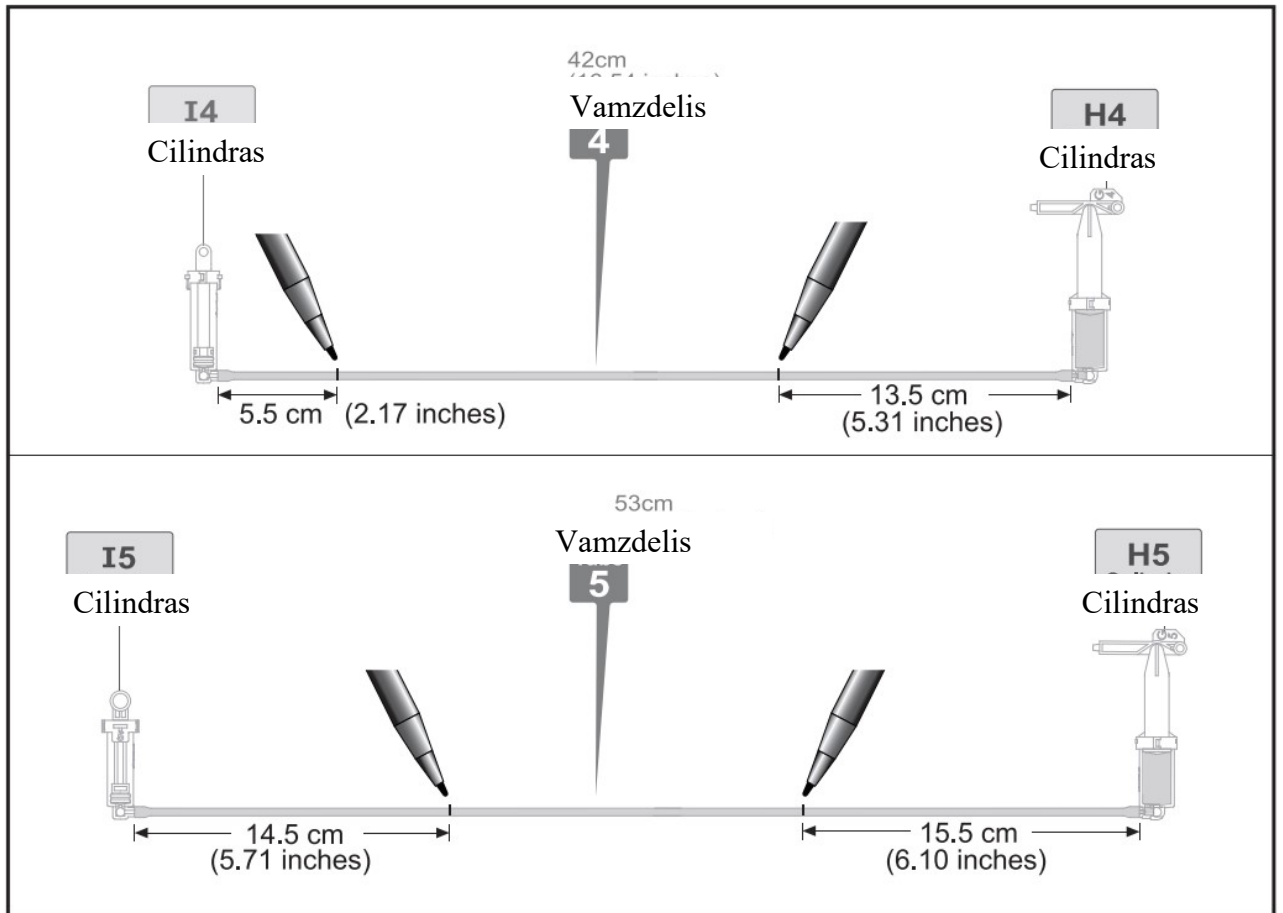


I3

Cilindras





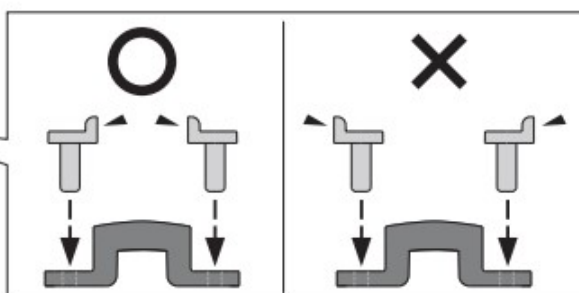
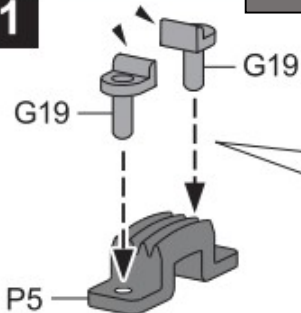


Valdymo pulto surinkimas



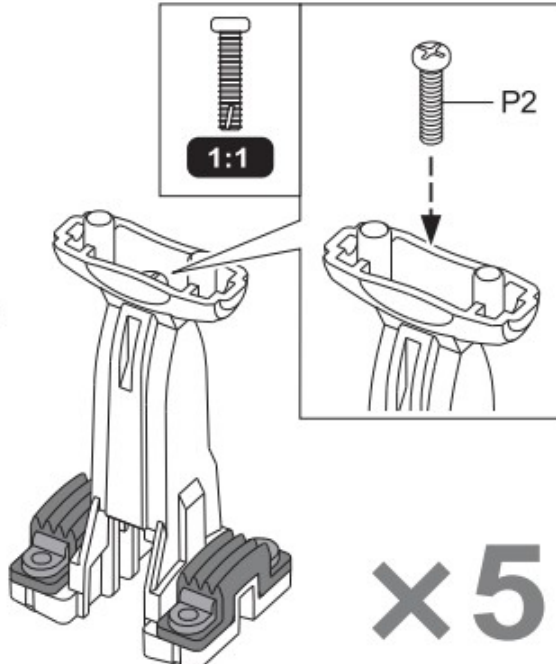
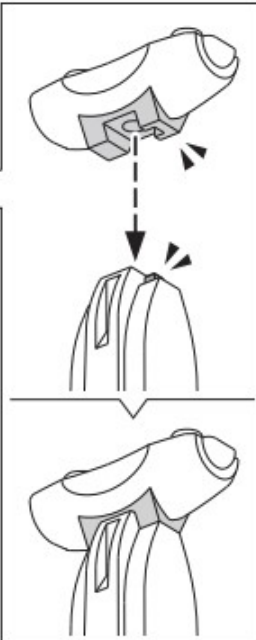
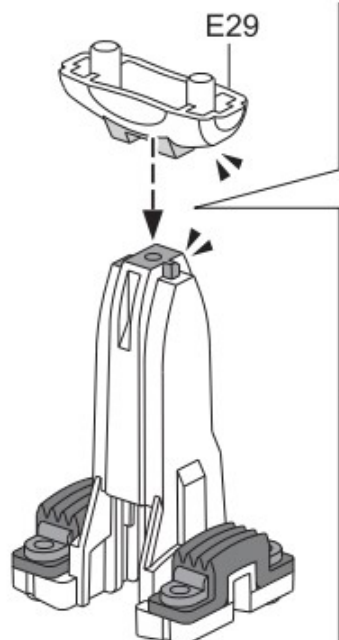
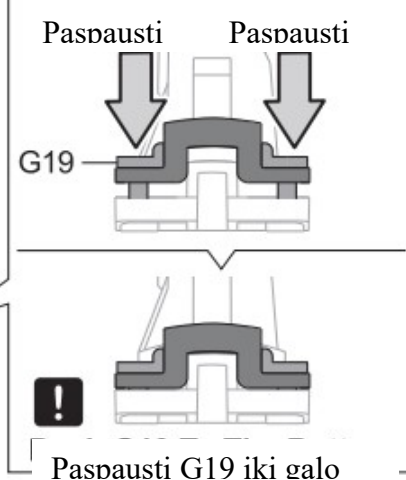
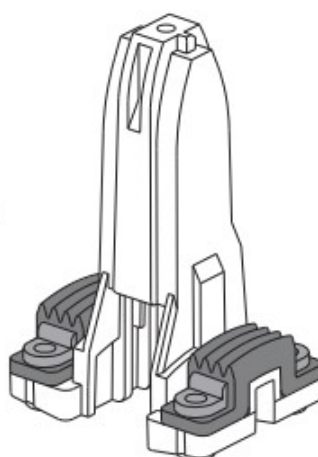
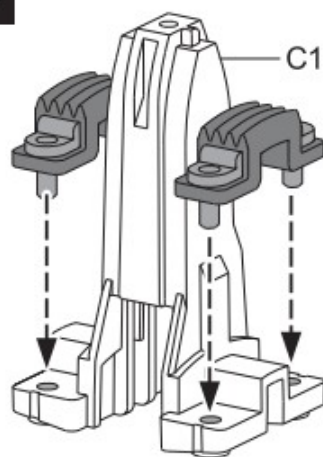
LABAI SVARBU! P5 padukai turi būti švarūs, be jokių tepalo likučių, įsitikinkite kad Jūsų rankos švarios prieš juos montuojant

1



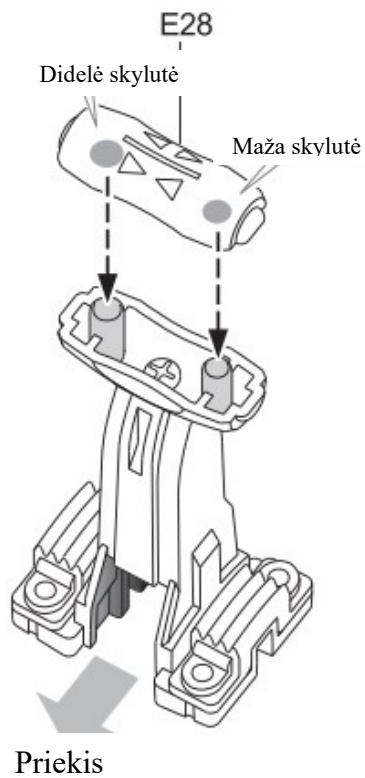
x10

2

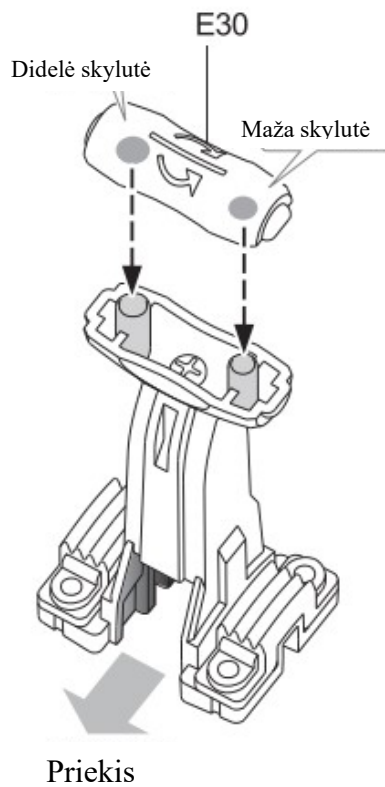


x5

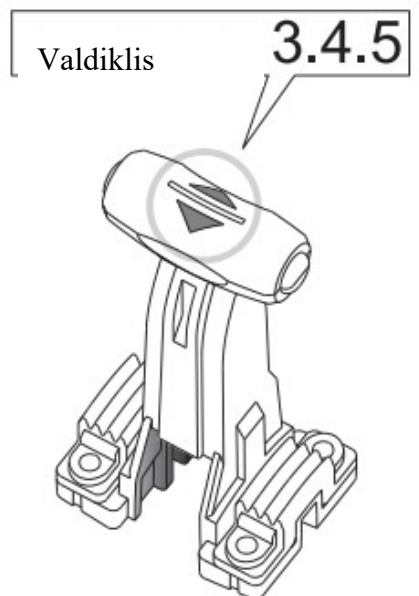
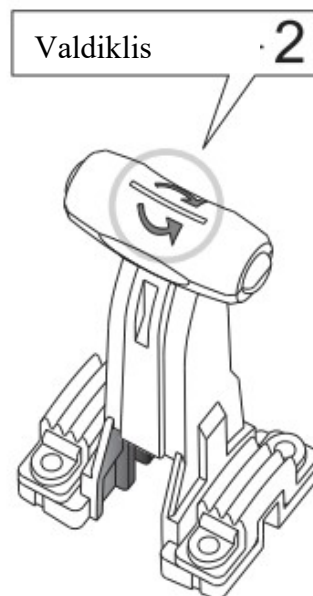
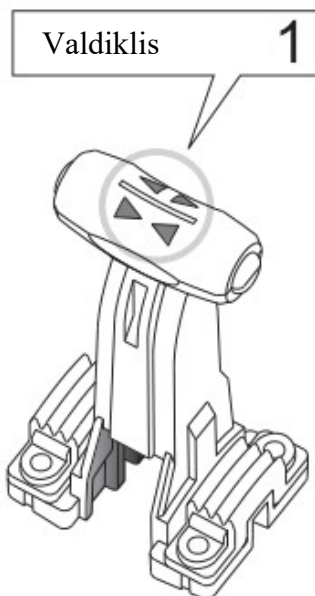
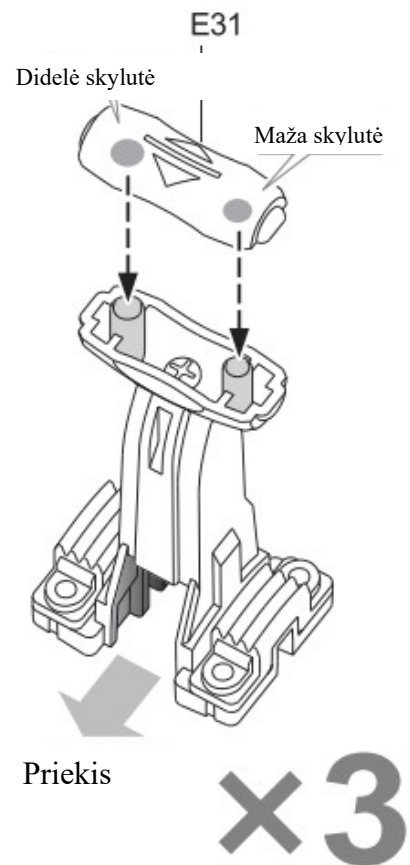
3



4



5

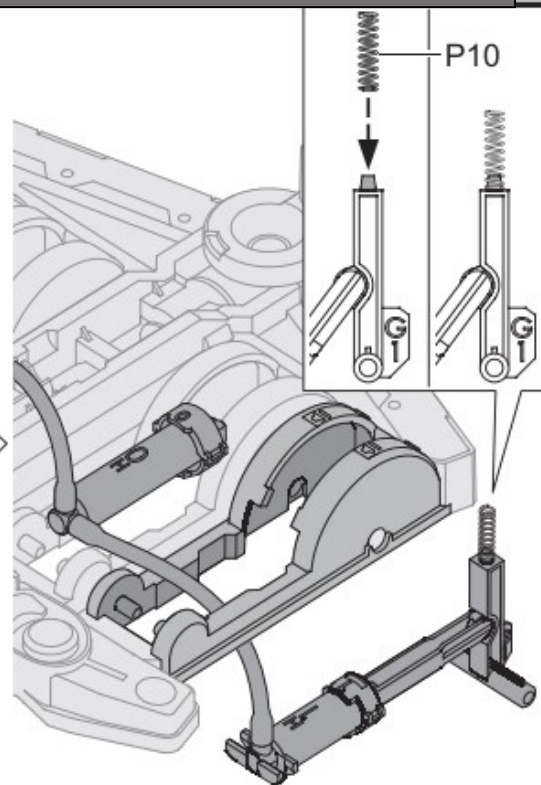
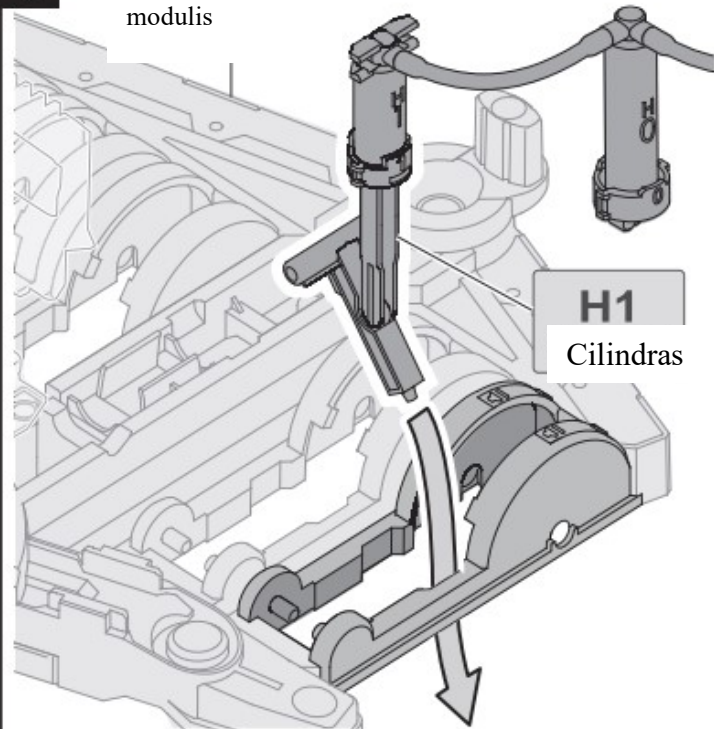


Valdymo pulto surinkimas

1 modulis: H0 ir H1 cilindrai ir 1 valdiklis

1

Padas ir valdymo
modulis

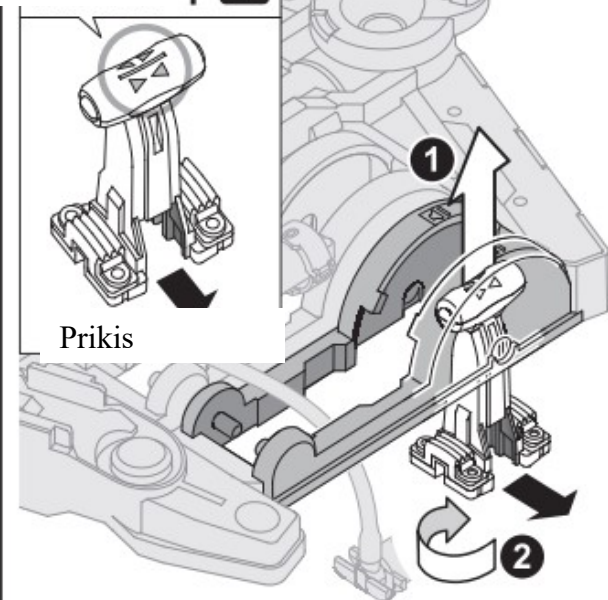


2

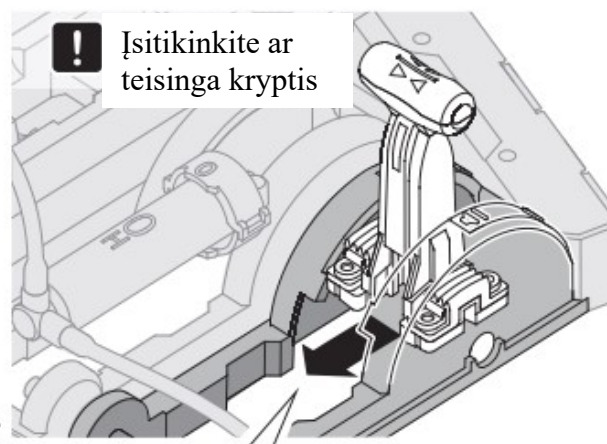
Valdiklis

1

!

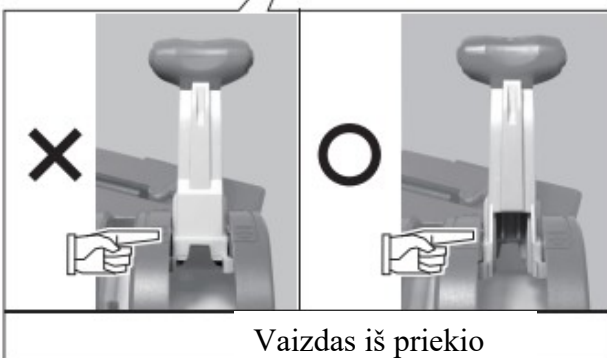


Prikis

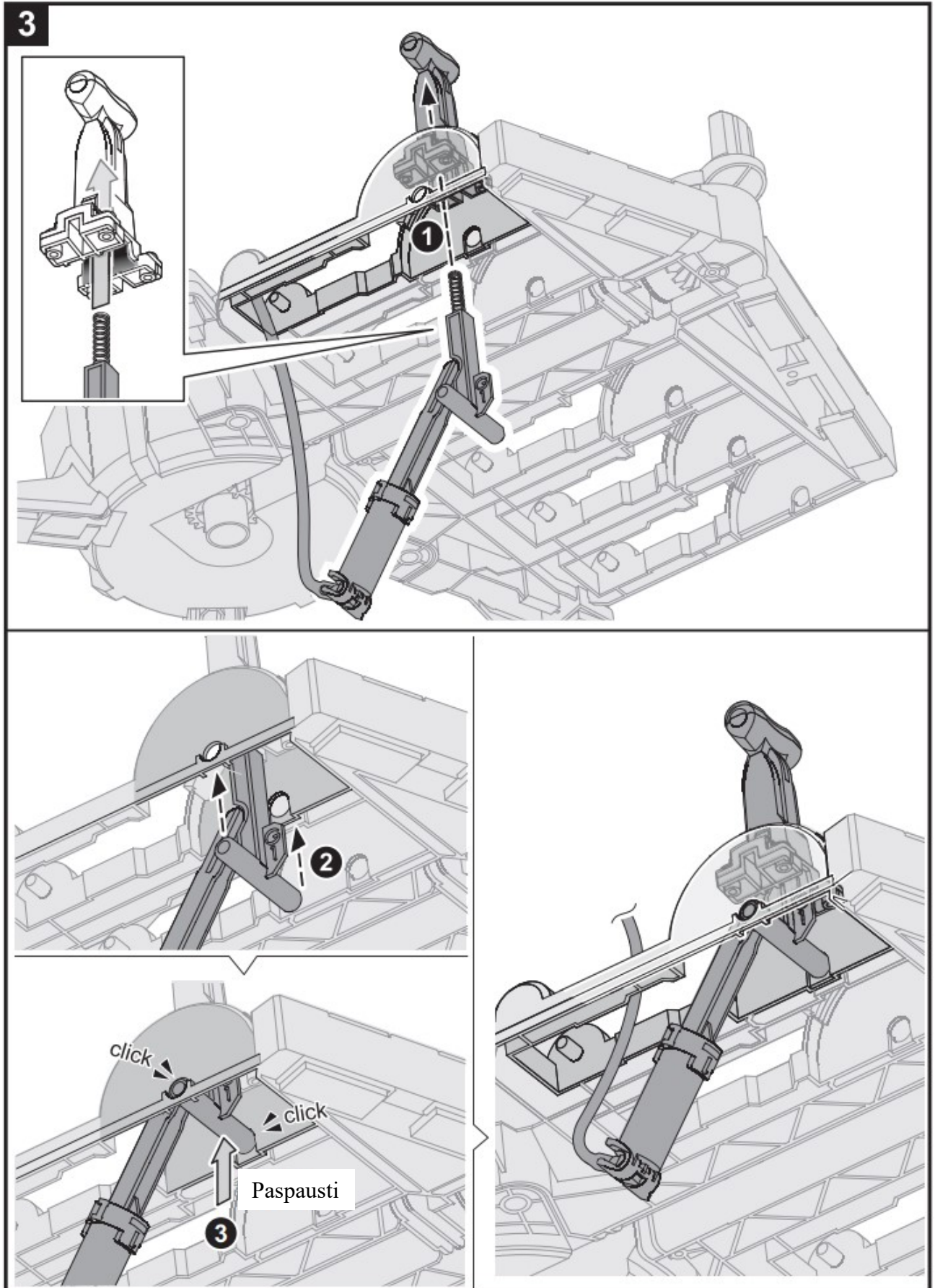


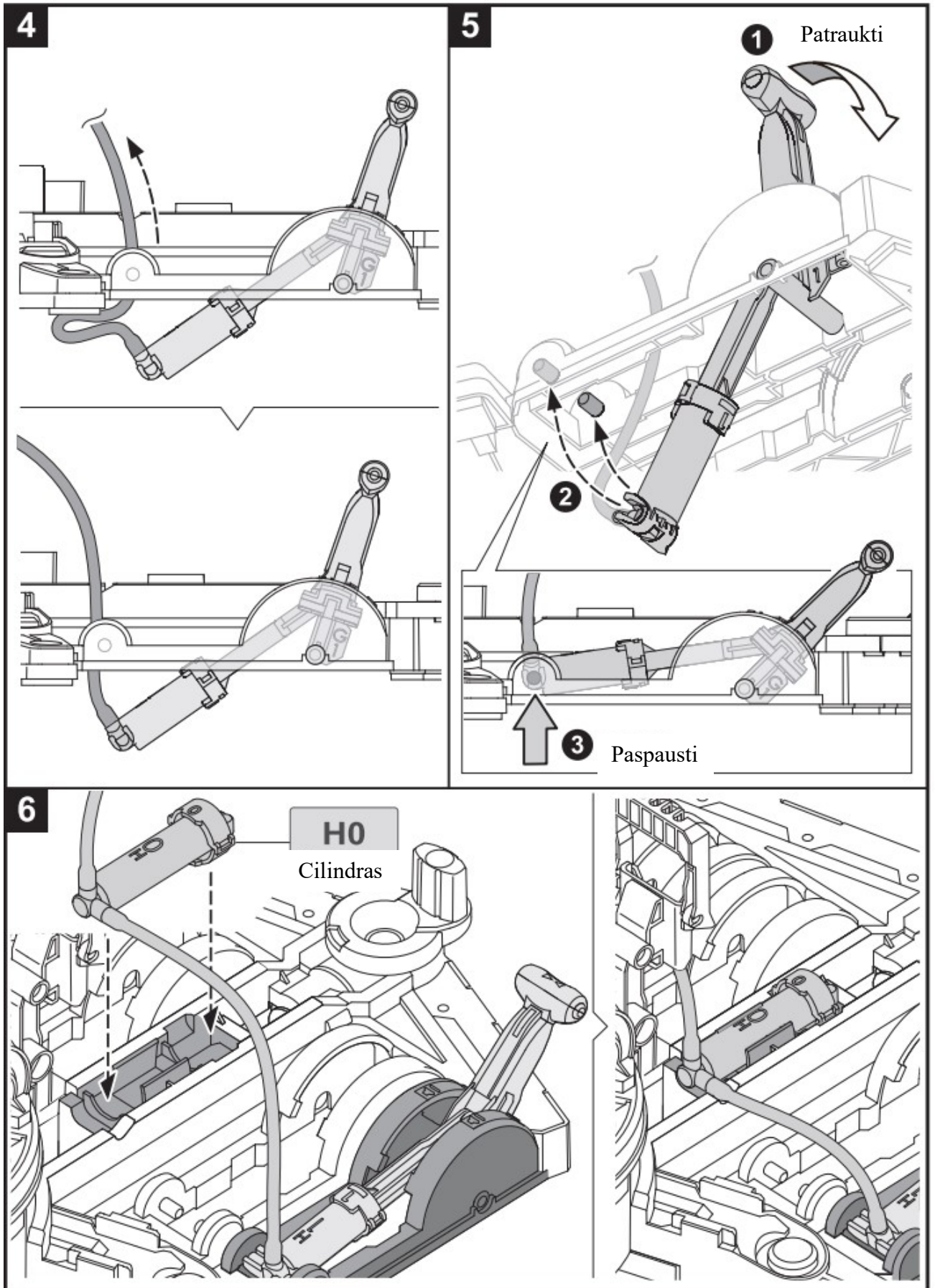
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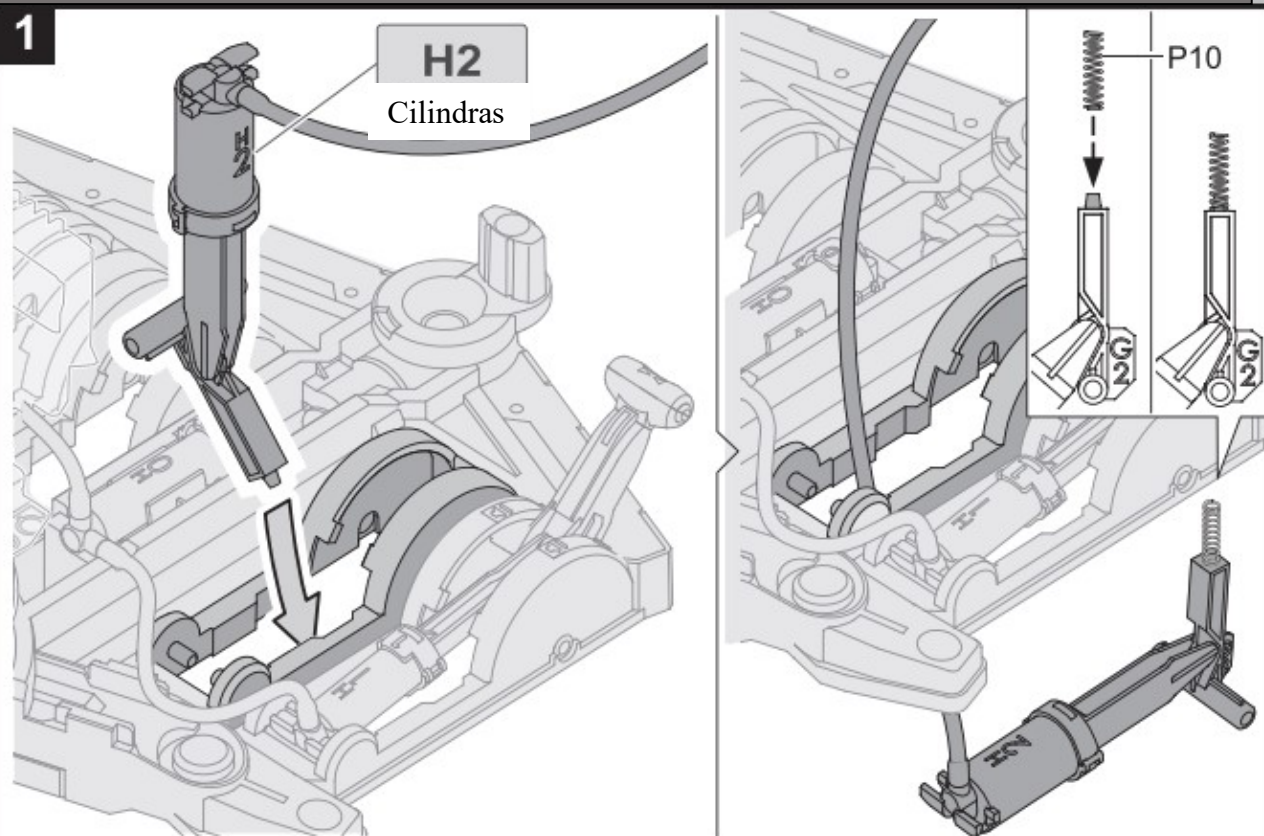
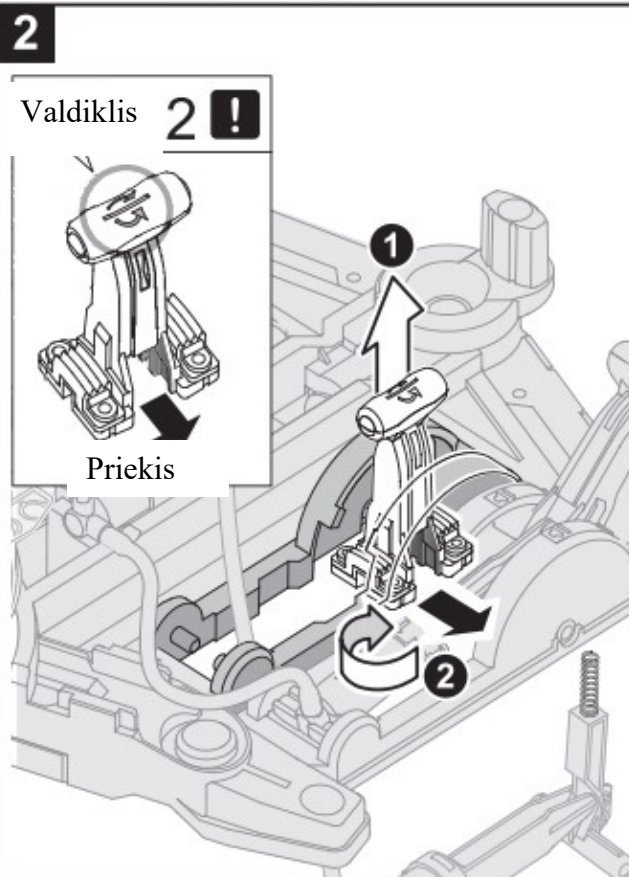
Įsitikinkite ar
teisinga kryptis



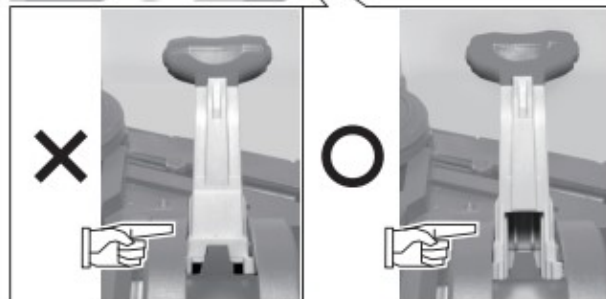
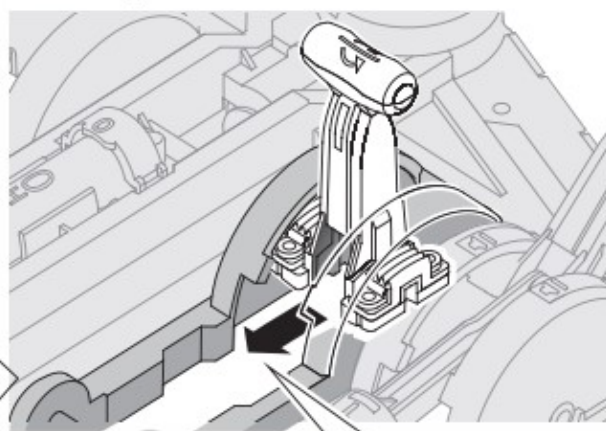
Vaizdas iš priekio





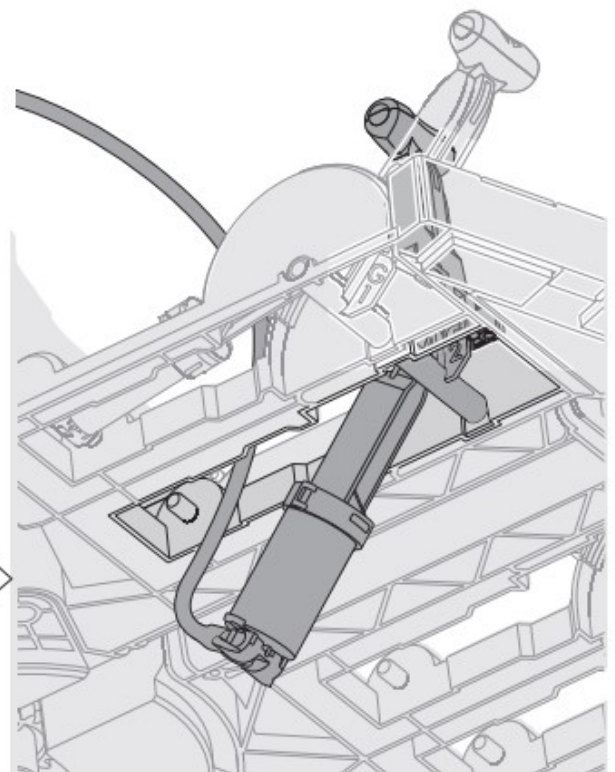
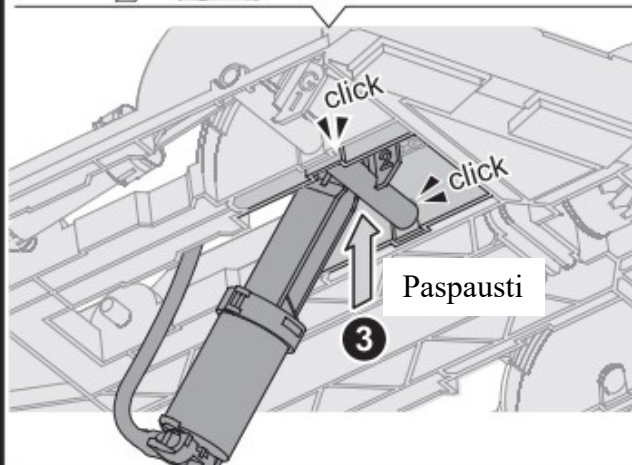
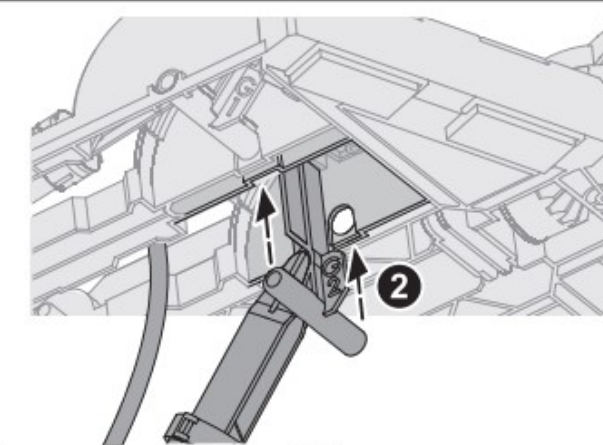
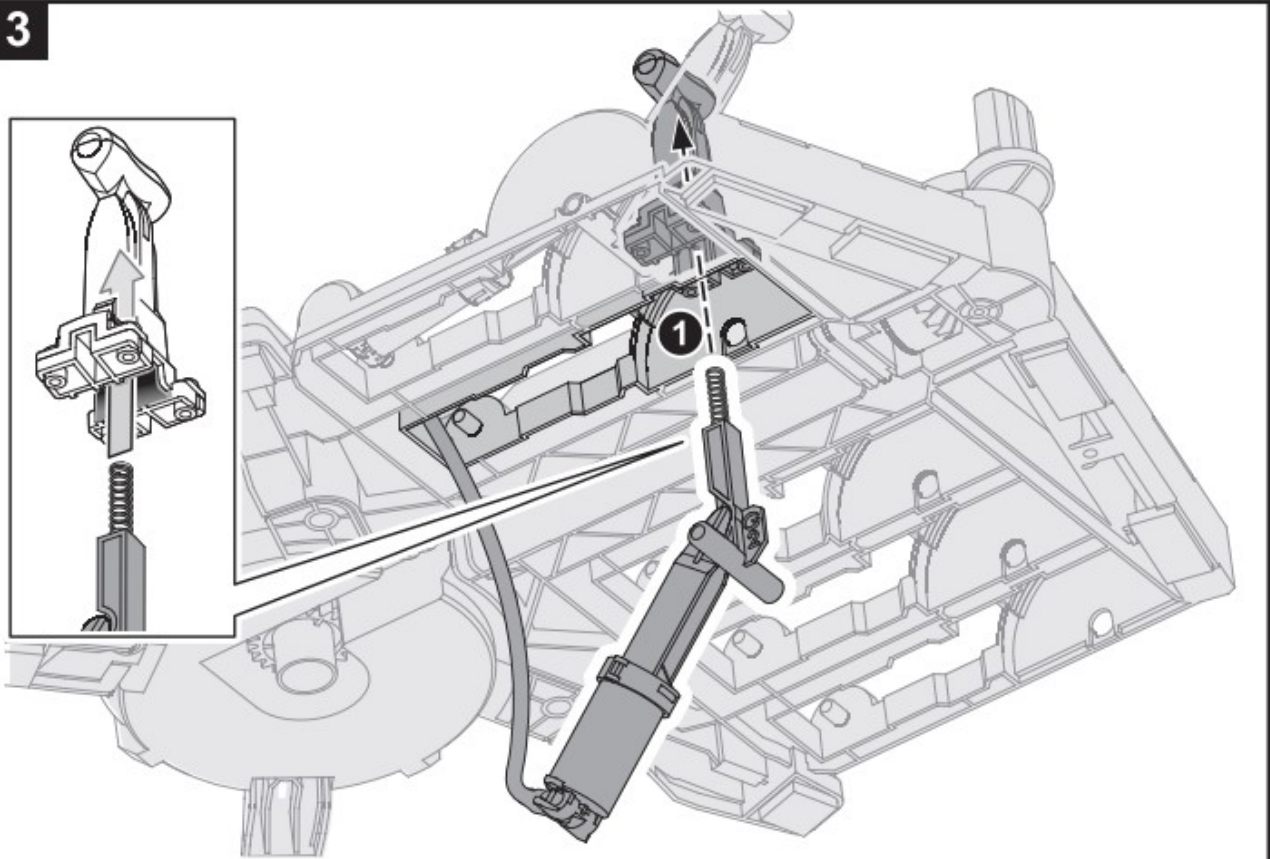
2 modulis: H2 cilindras ir 2 valdiklis
1

2


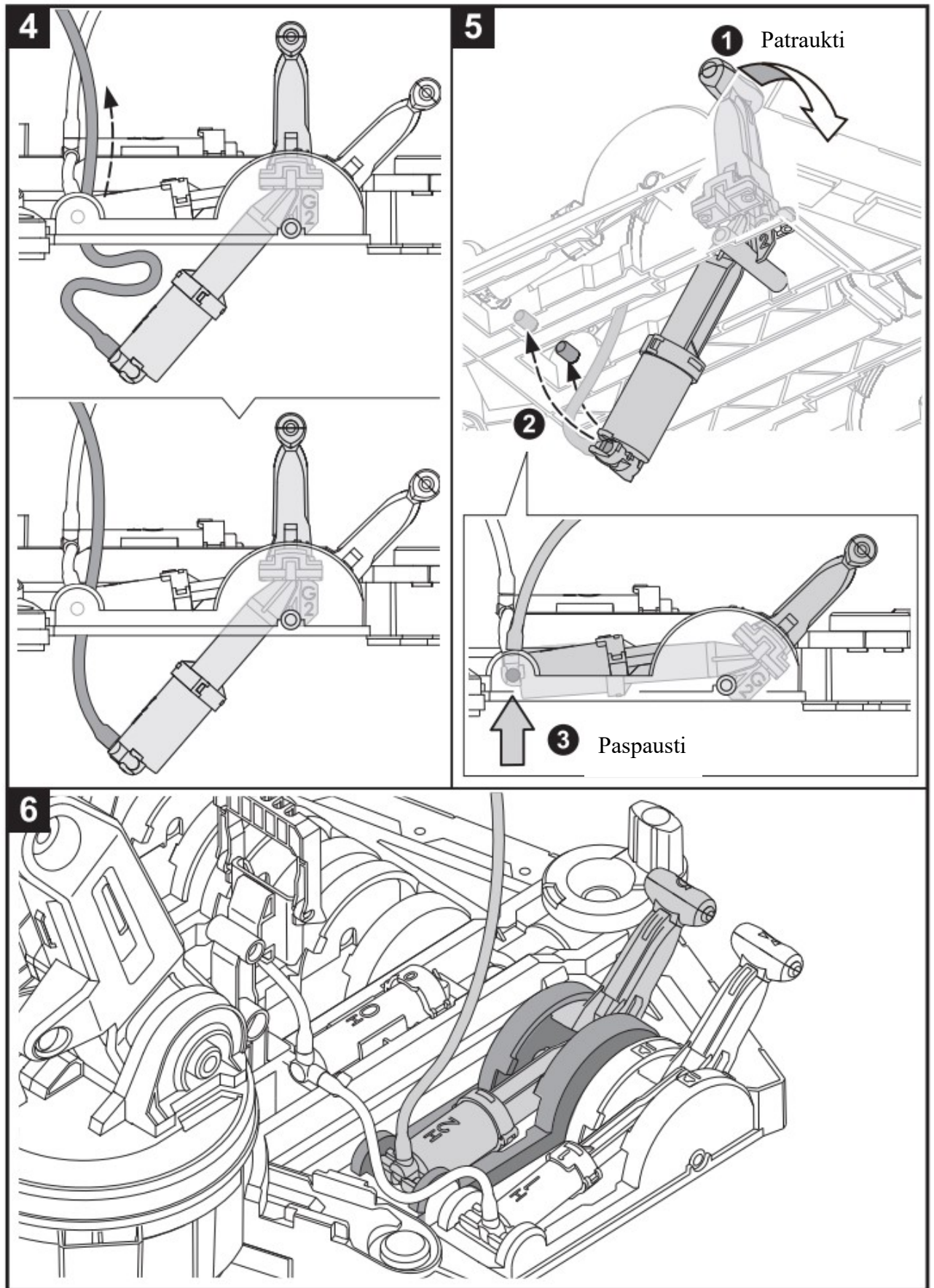
Įsitikinkite ar teisinga kryptis



Vaizdas iš priekio

3



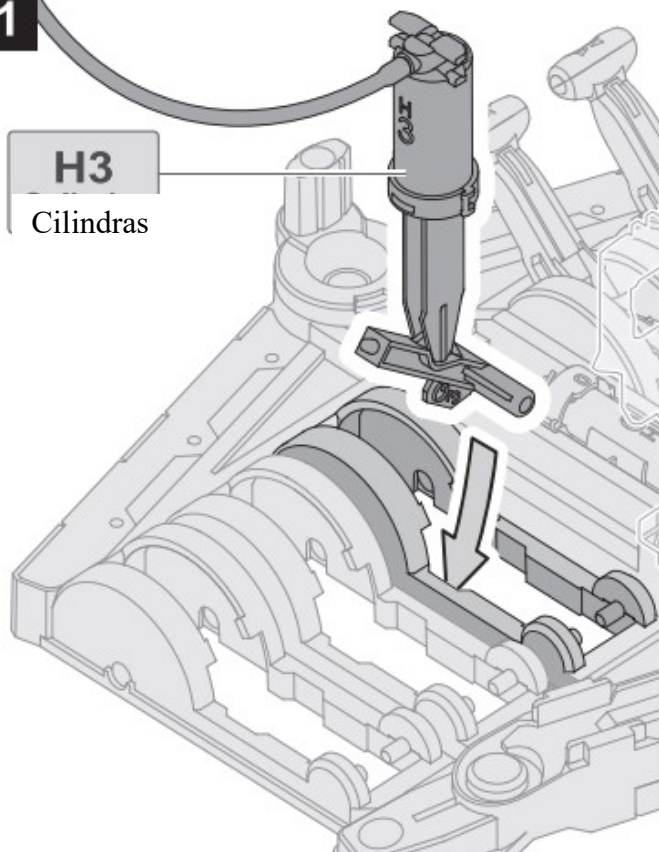


3 modulis: H3 cilindras ir 3 valdiklis

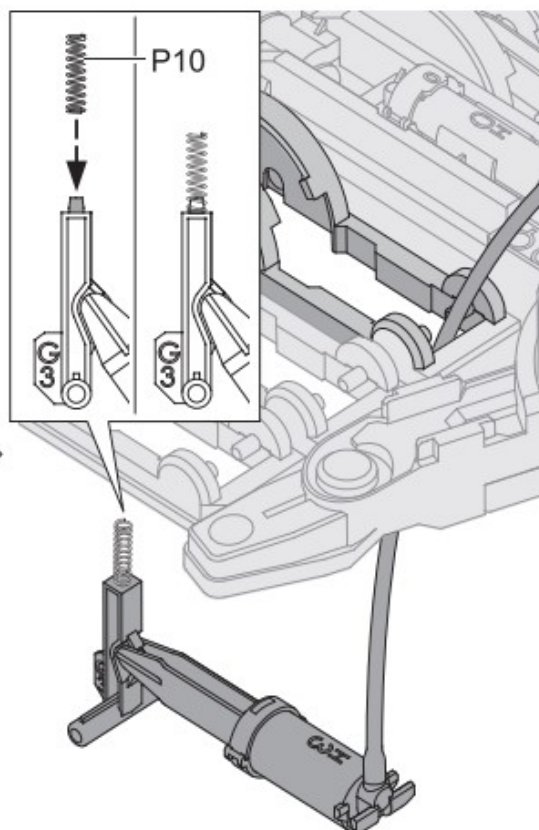
1

H3

Cilindras



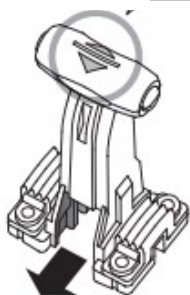
P10



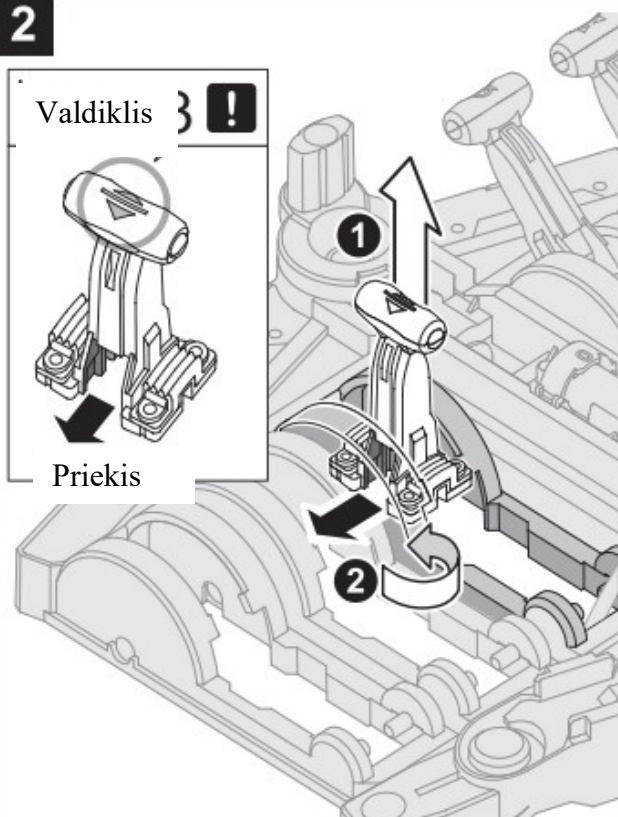
2

Valdiklis

!

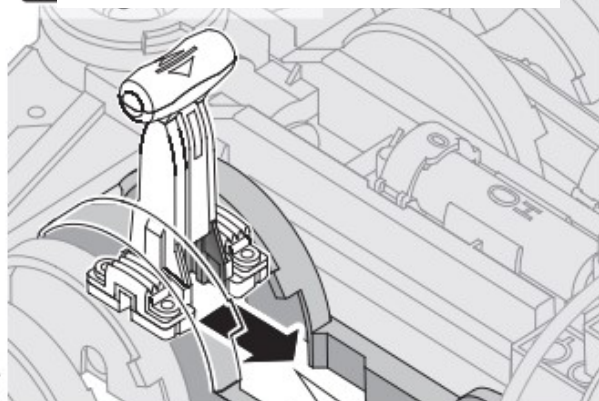


Priekis



!

Įsitikinkite ar teisinga kryptis



X

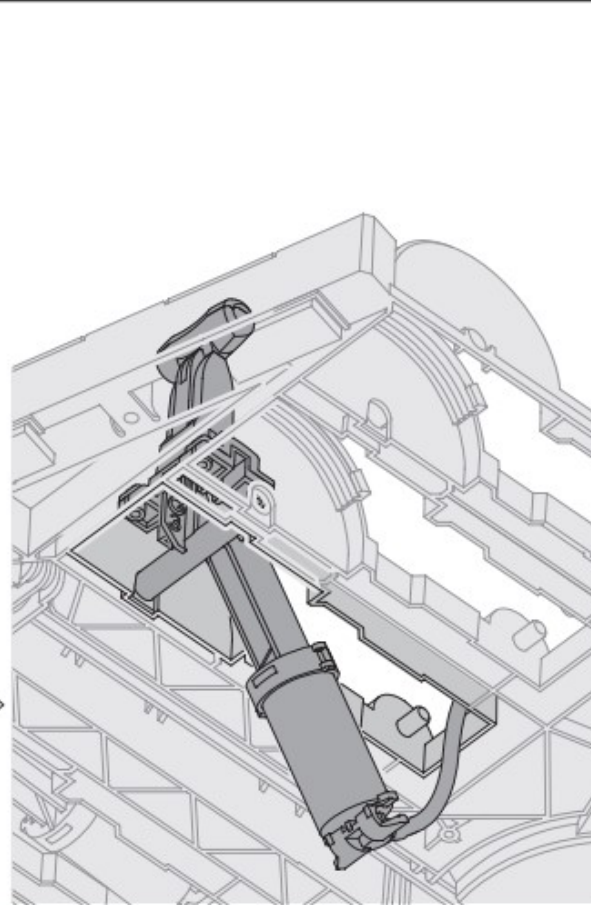
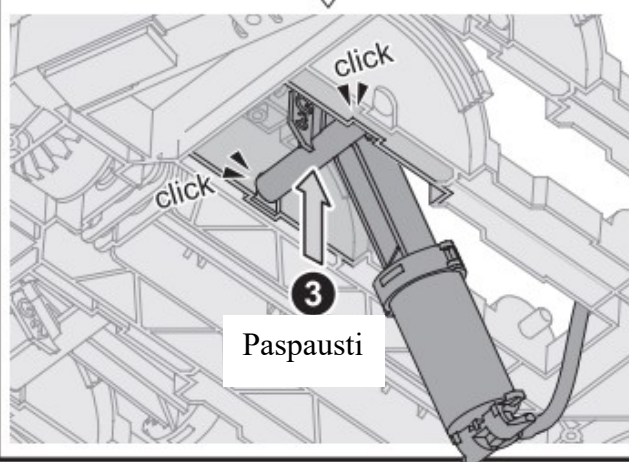
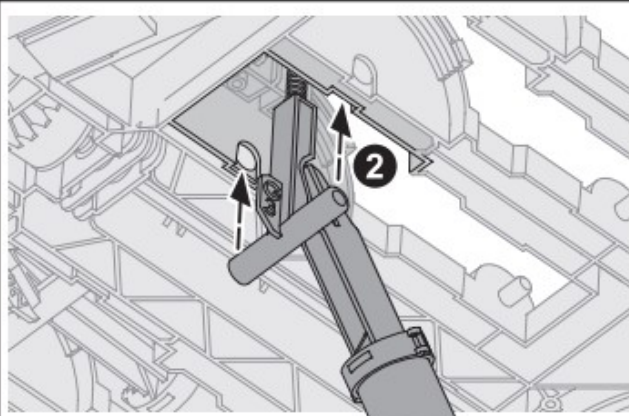
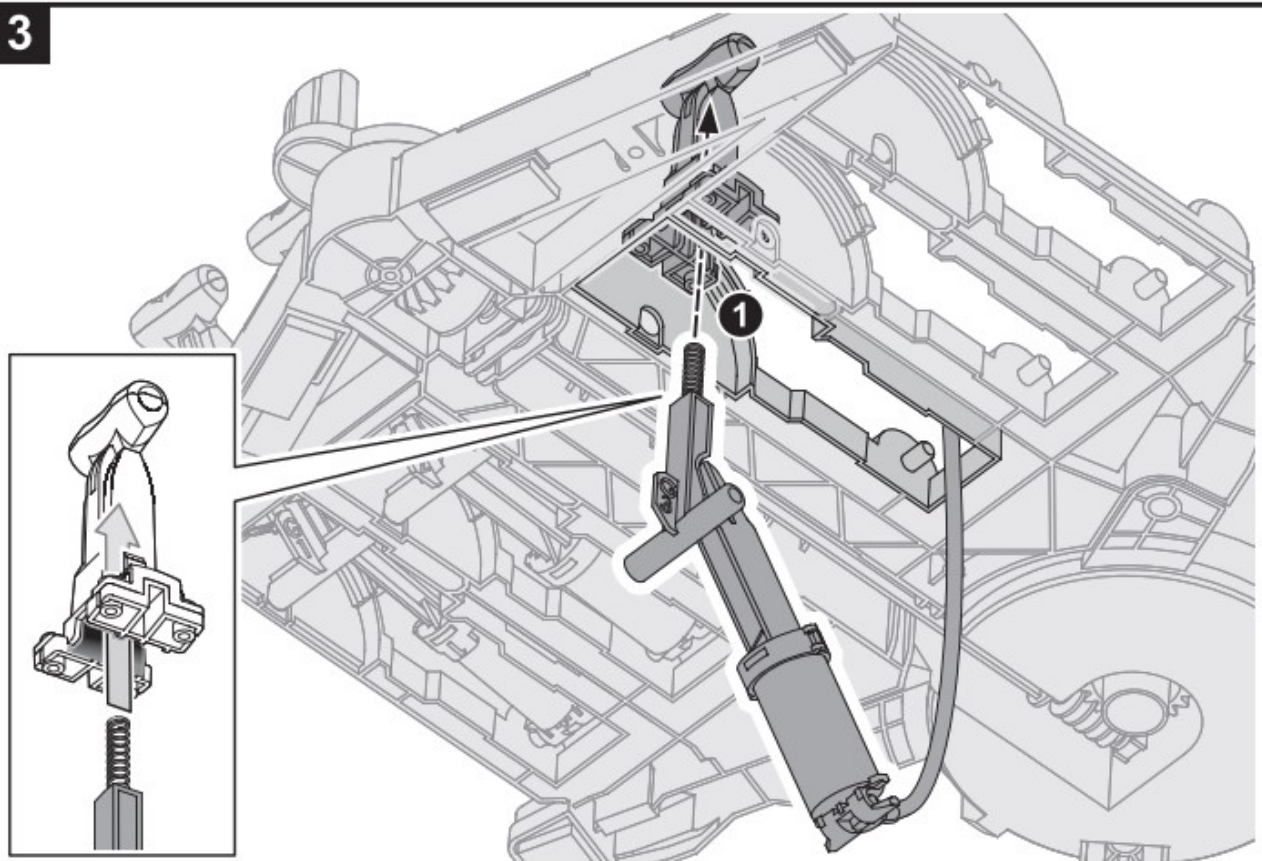


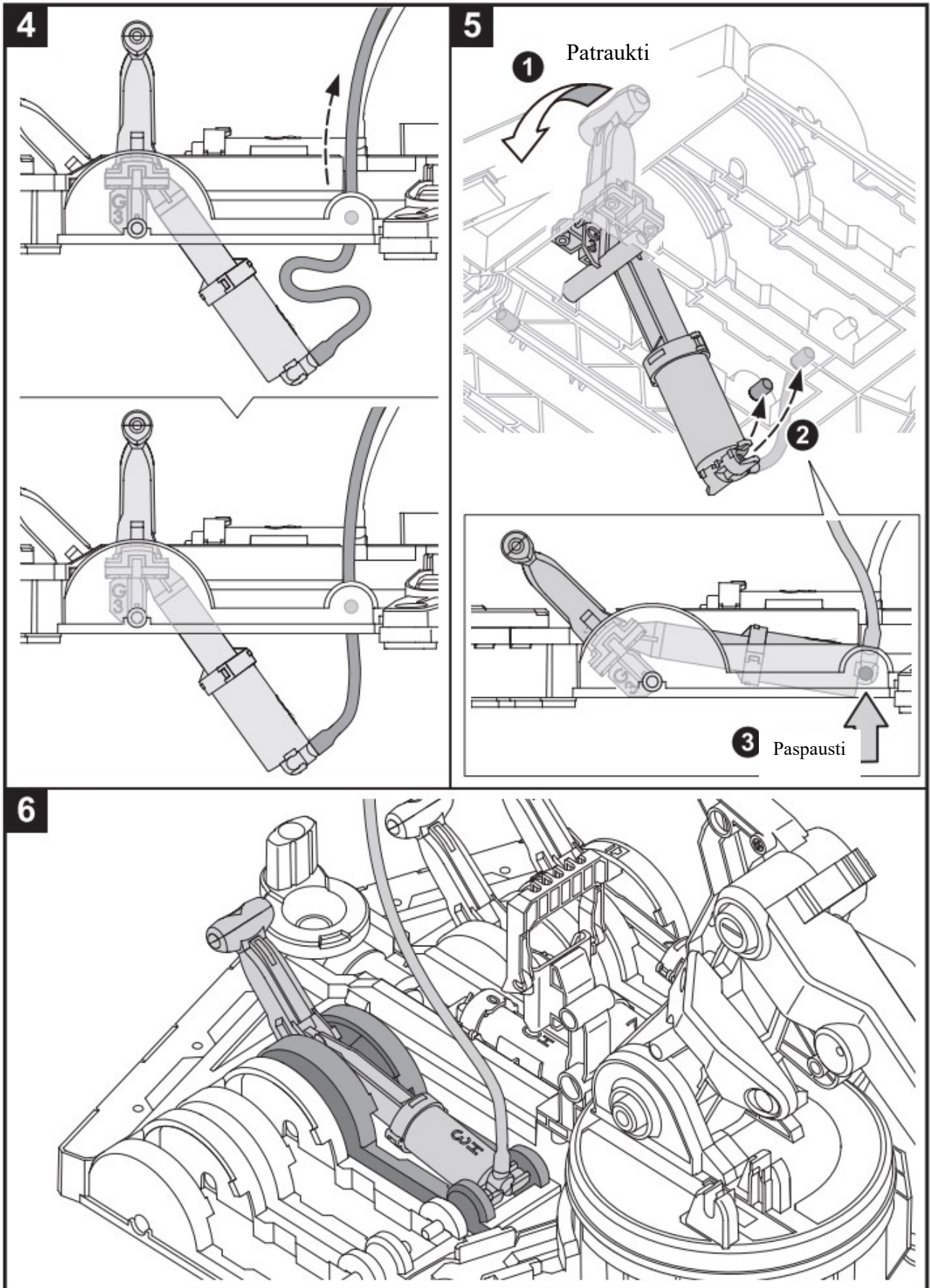
O



Vaizdas iš priekio

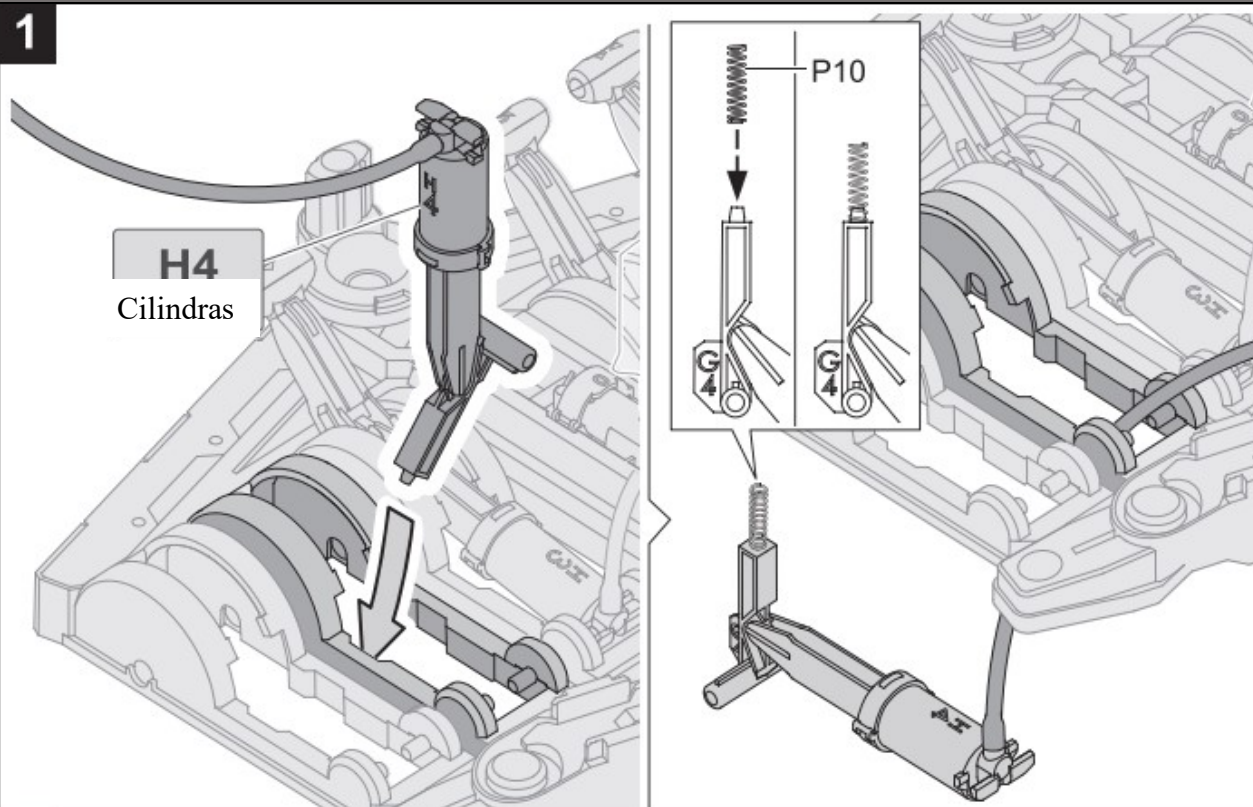
3



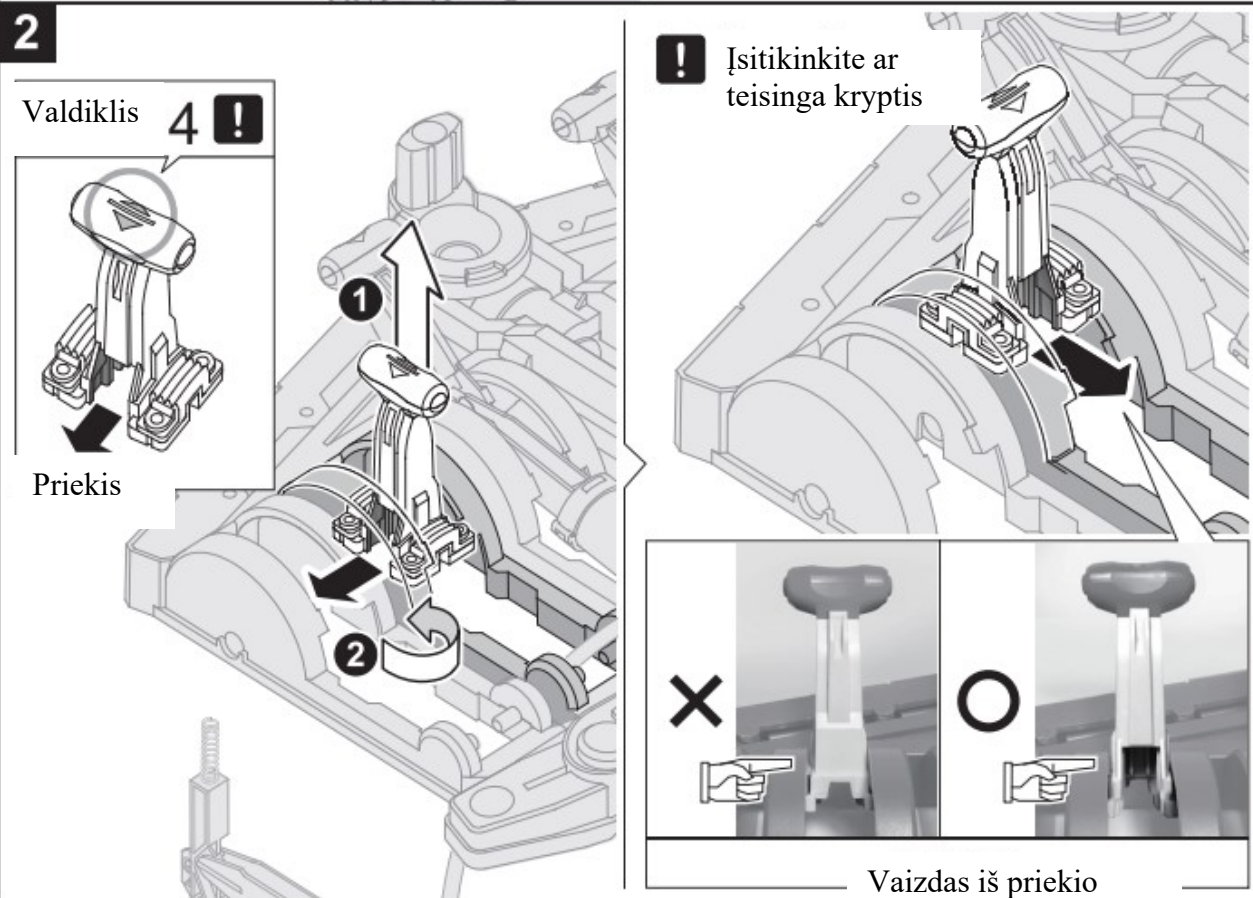


4 modulis: H4 cilindras ir 4 valdiklis

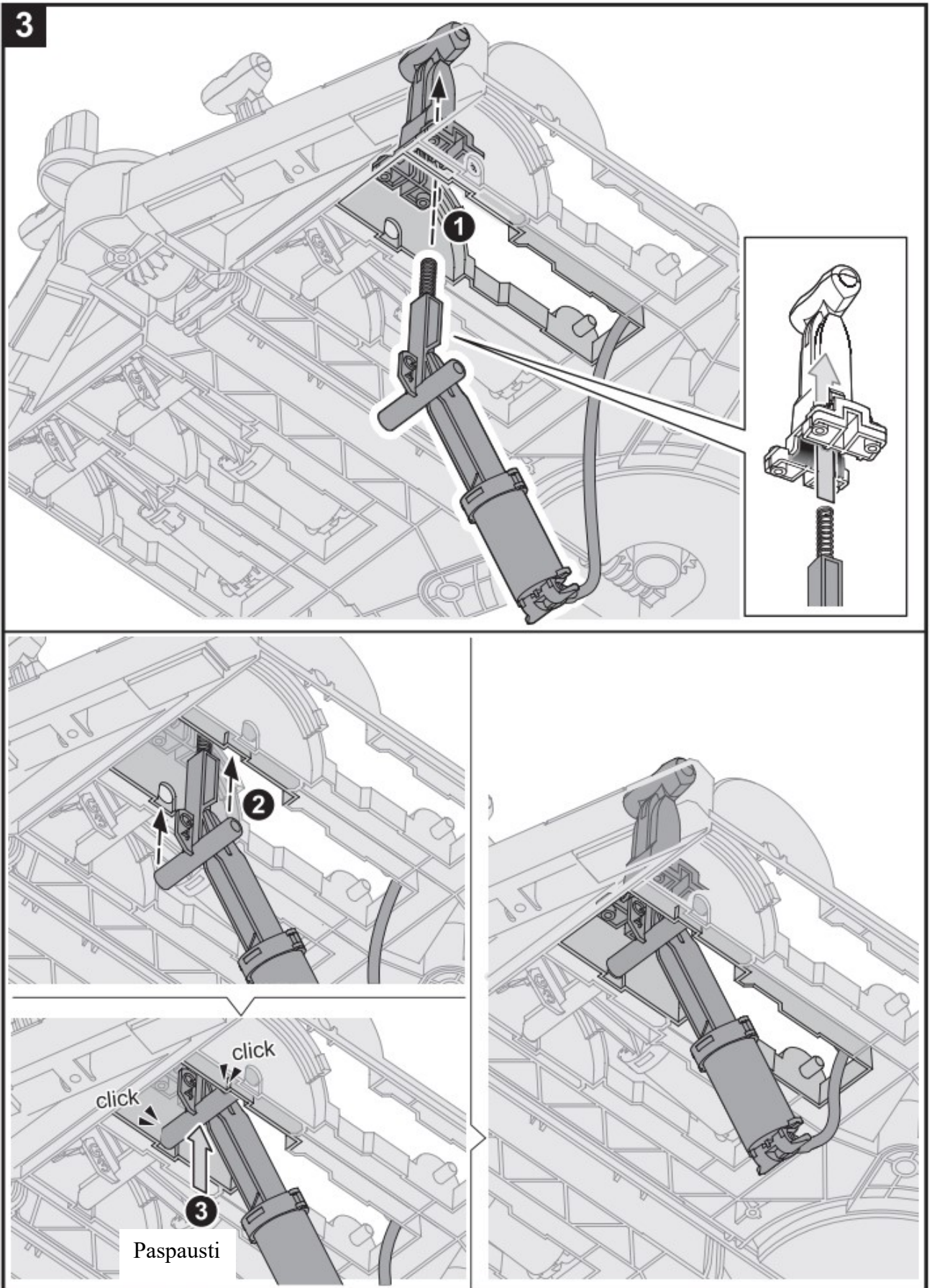
1

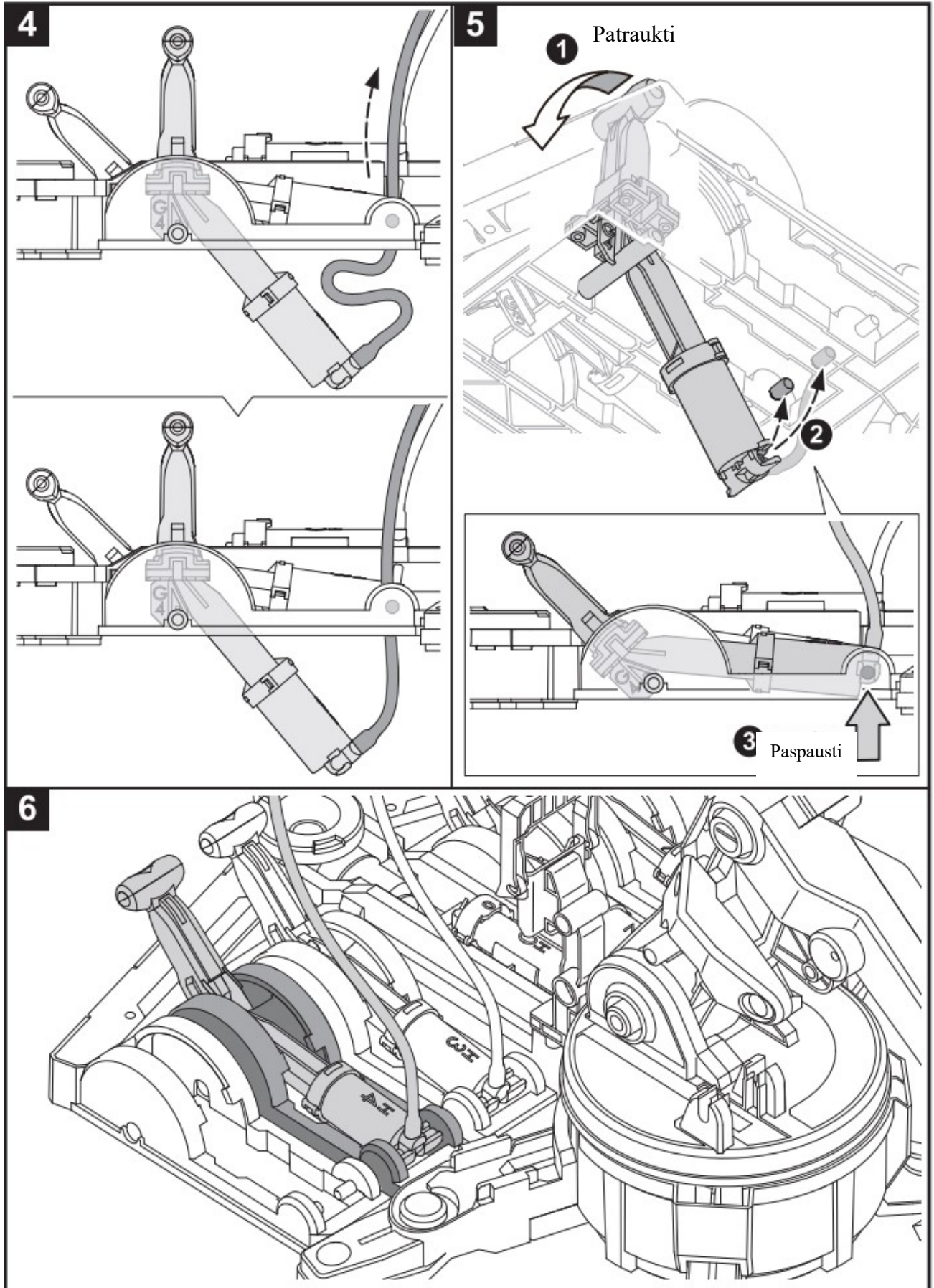


2



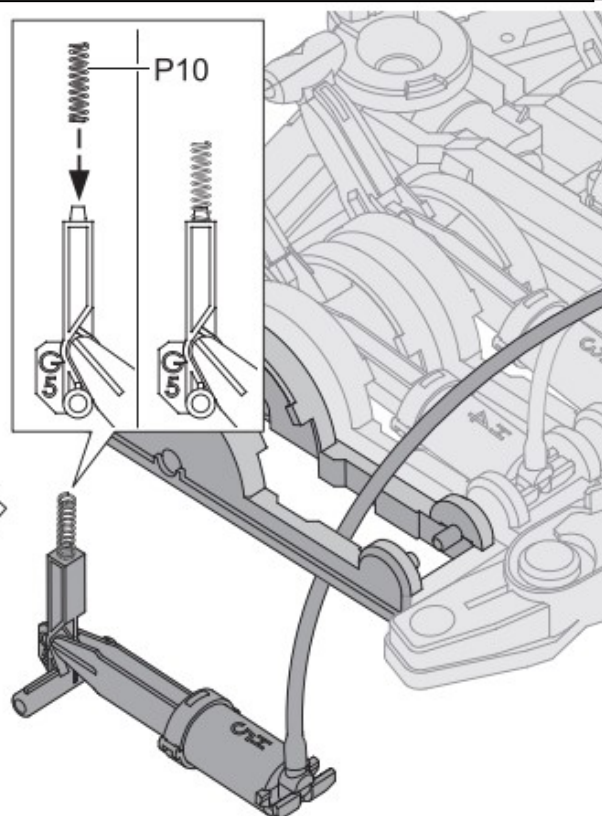
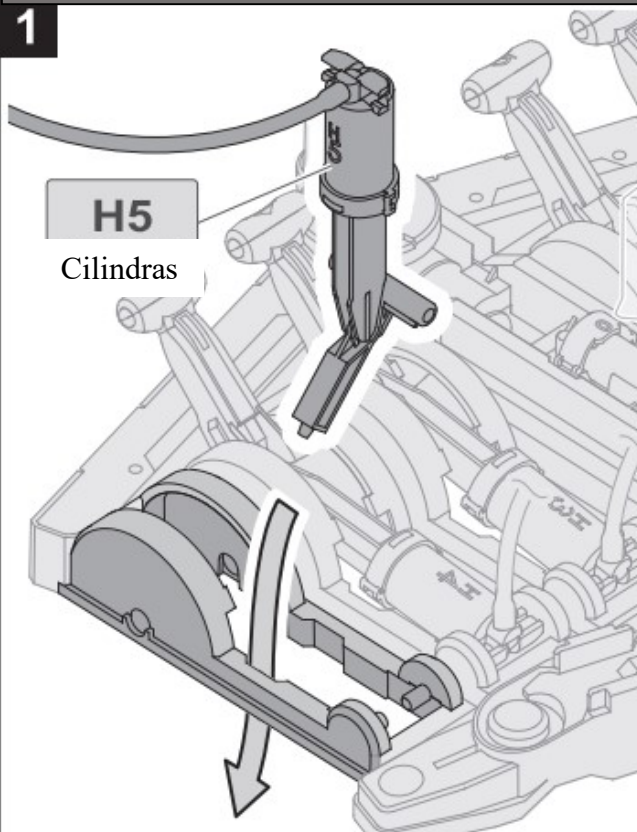
3



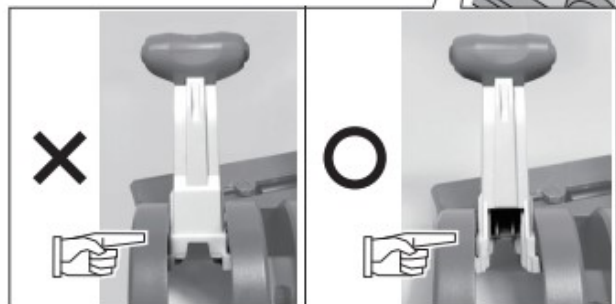
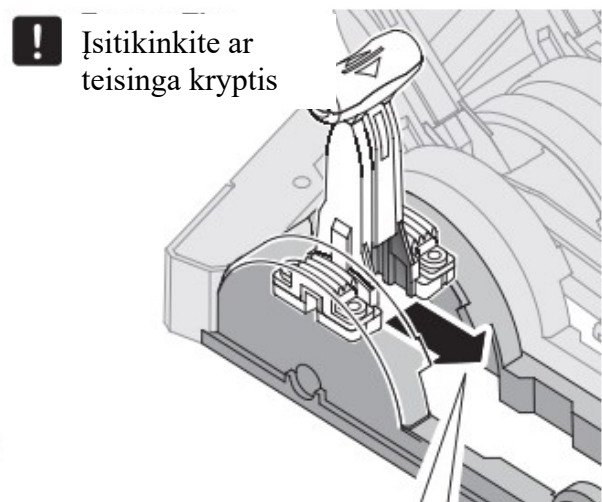
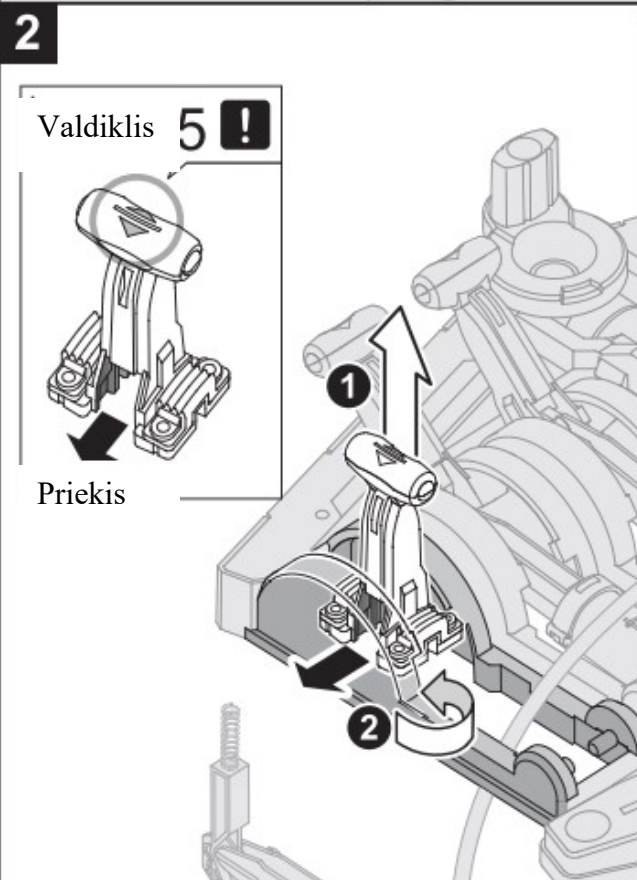


5 modulis: H5 cilindras ir 5 valdiklis

1

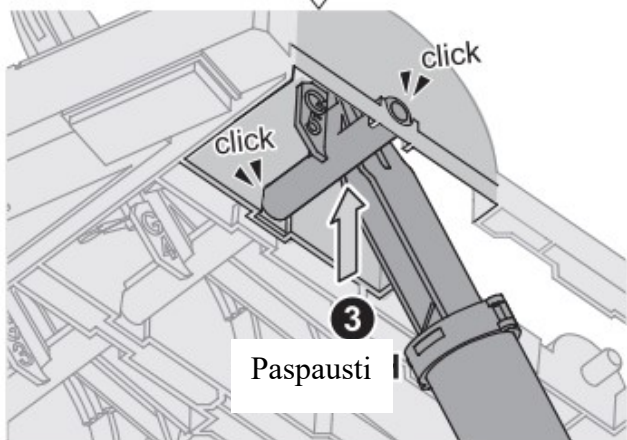
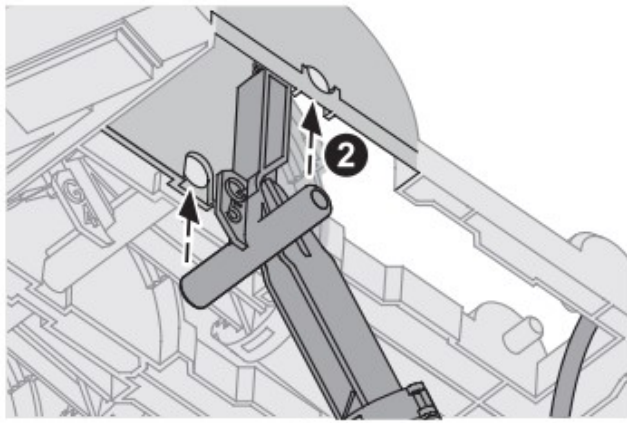
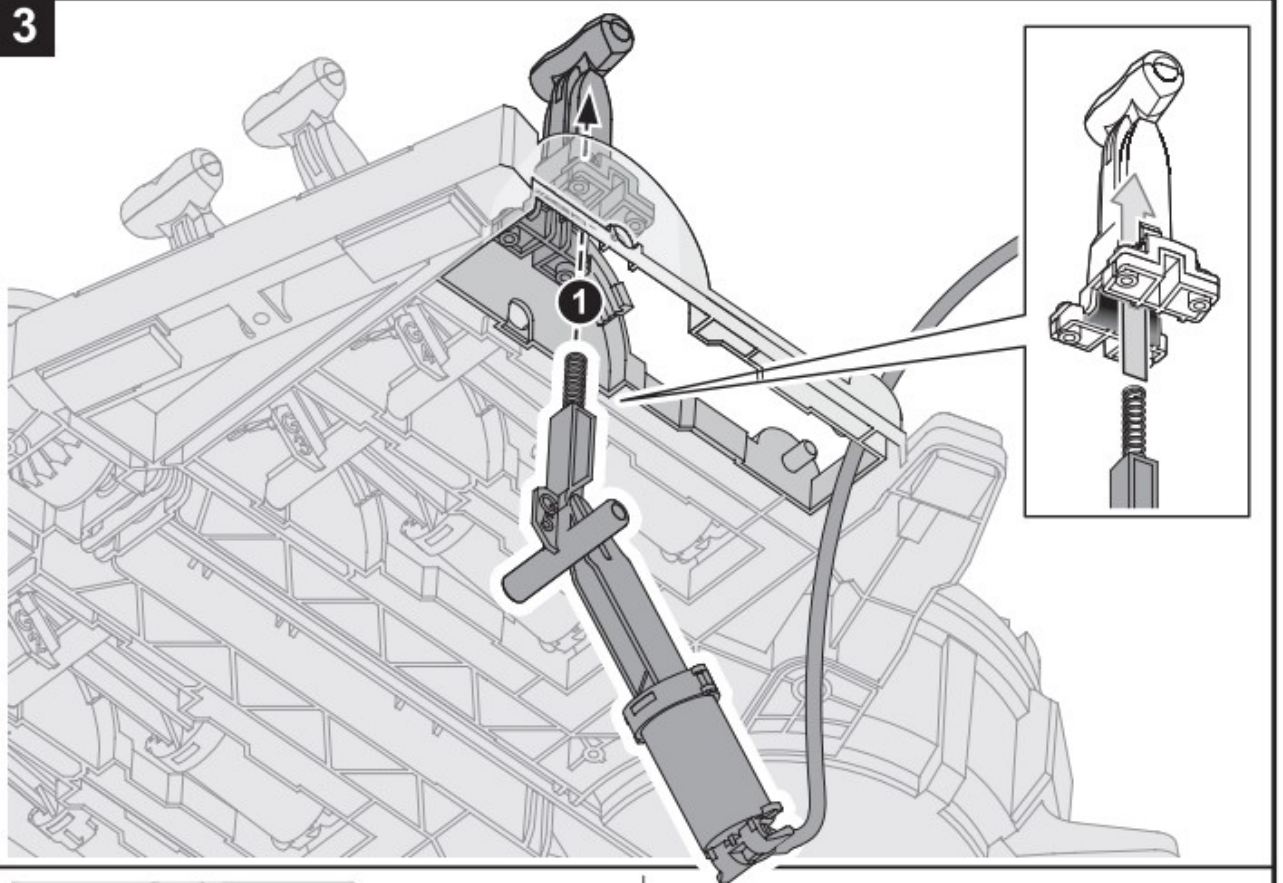


2

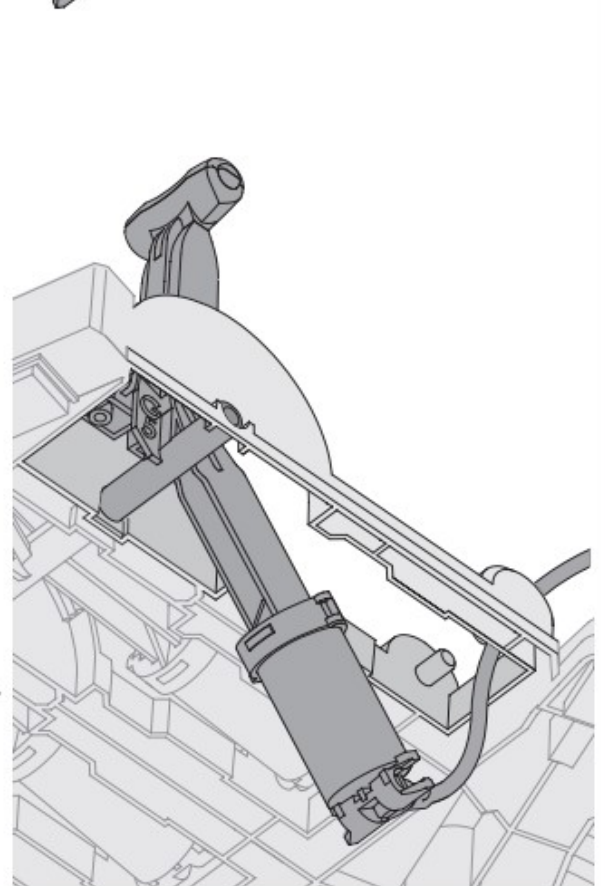


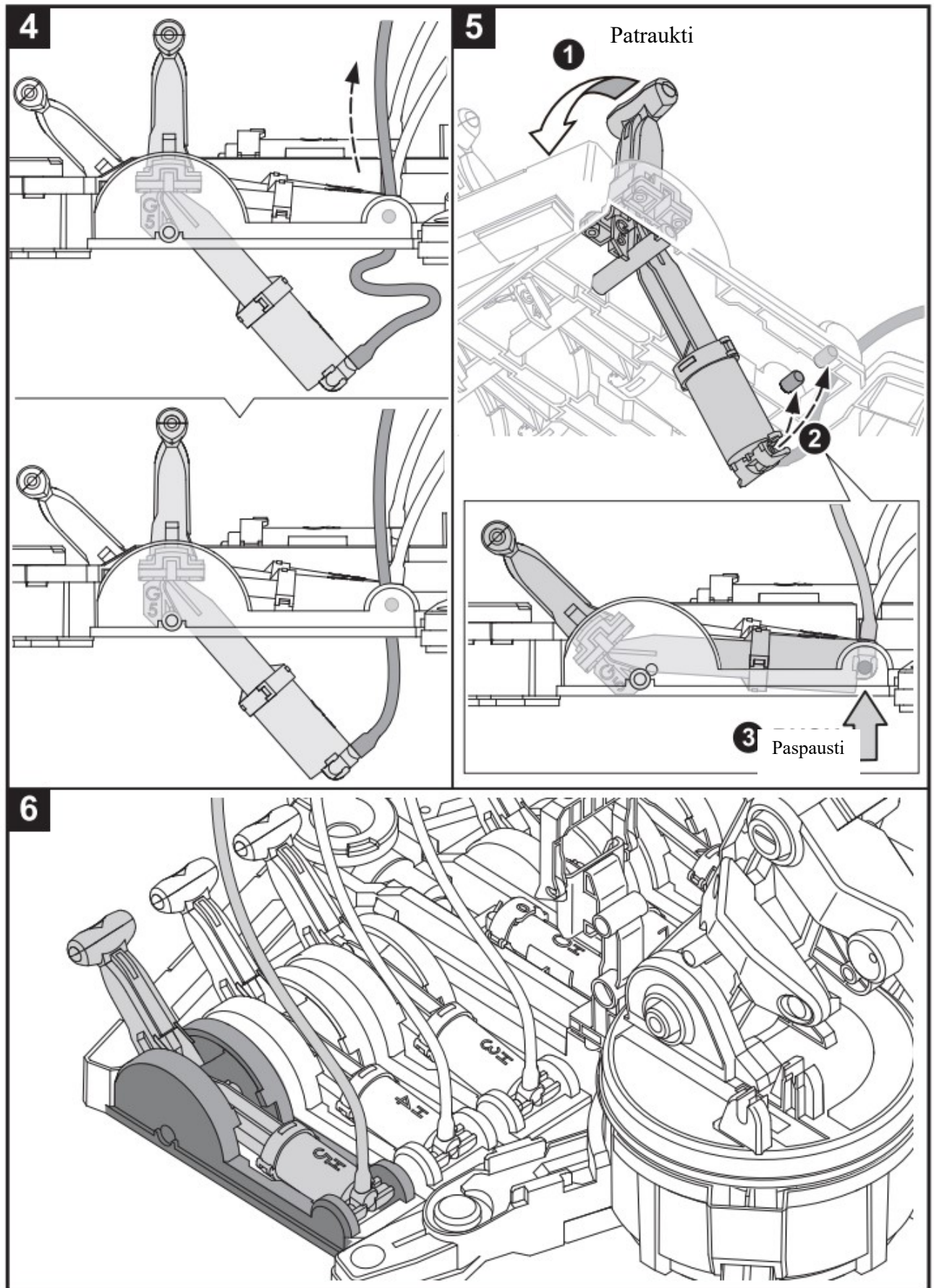
Vaizdas iš priekio

3



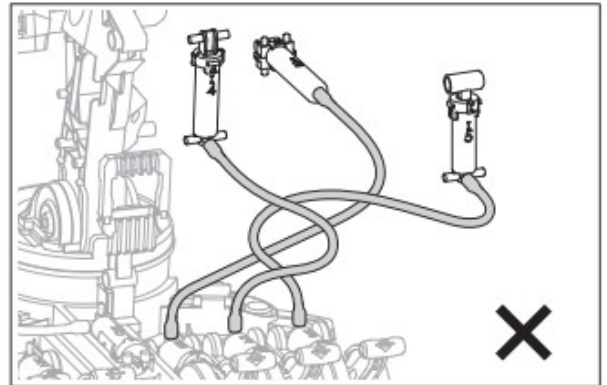
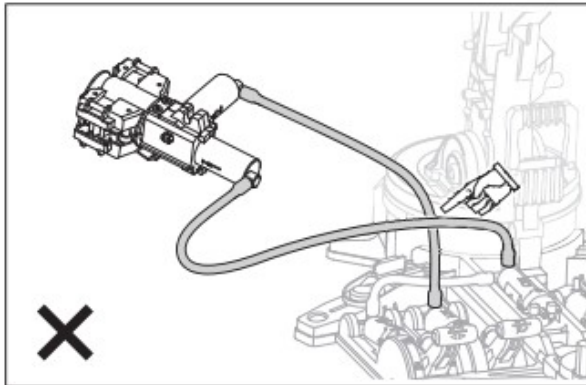
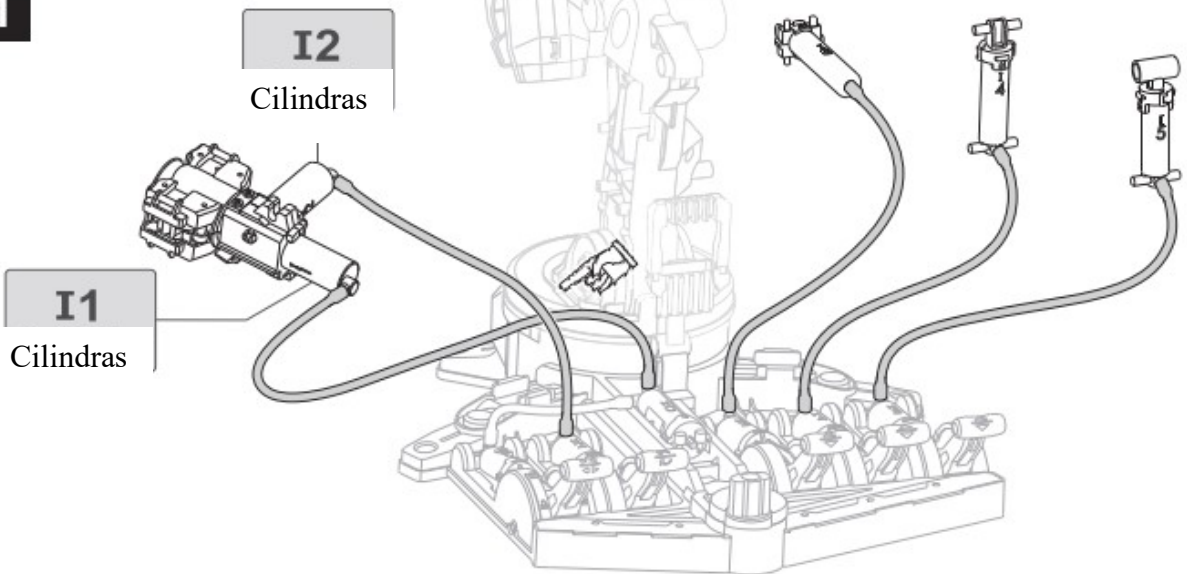
Paspausti



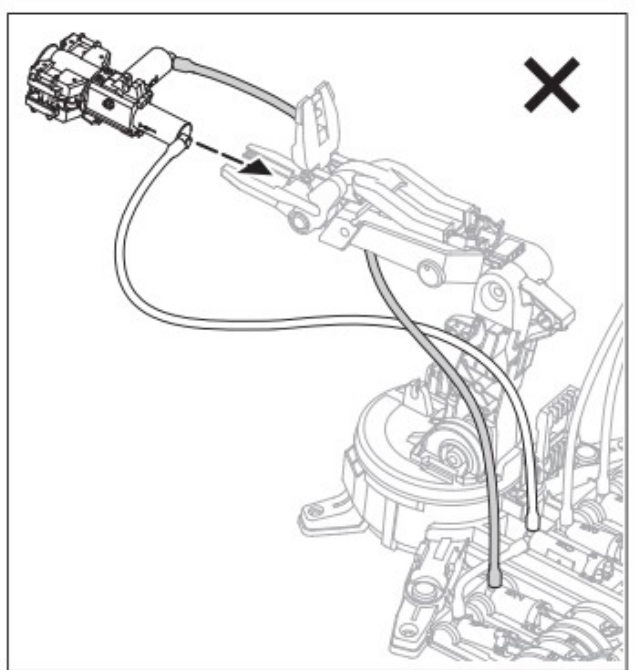
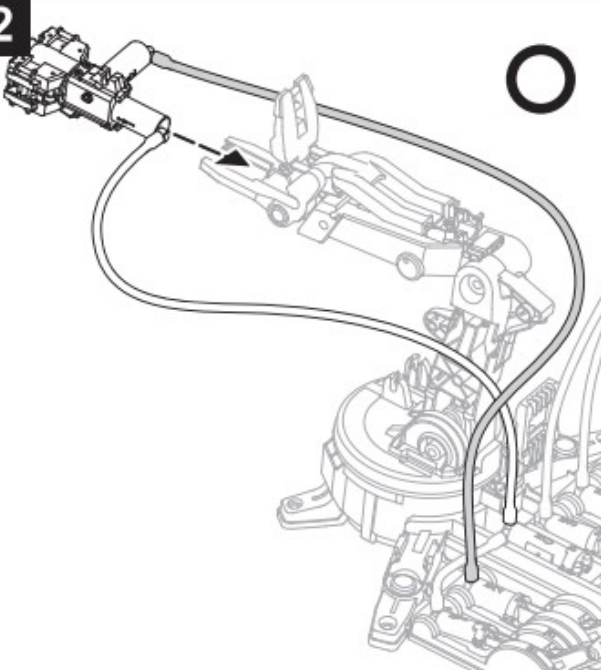


Hidraulinės rankos surinkimas

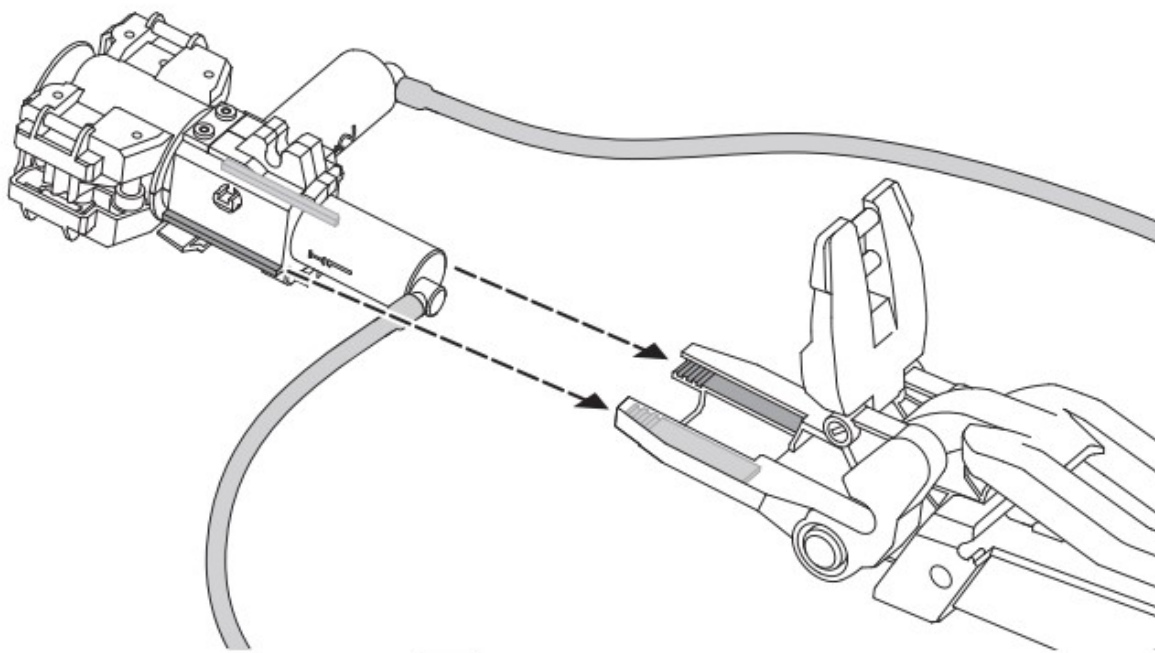
1



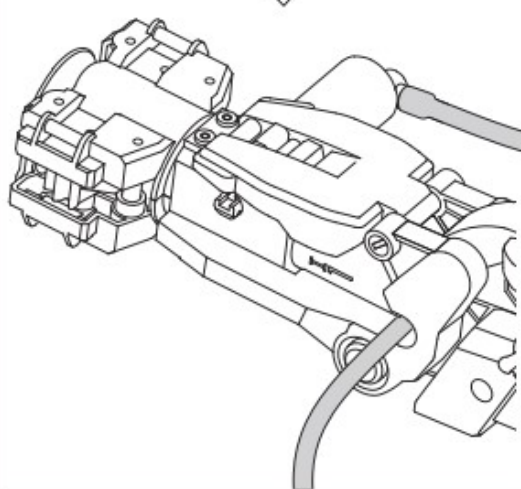
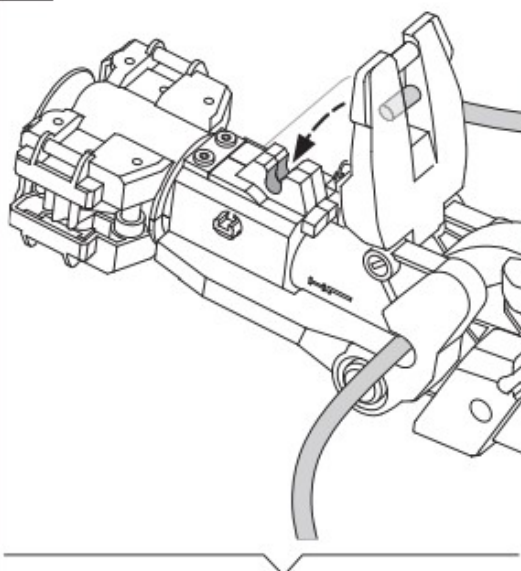
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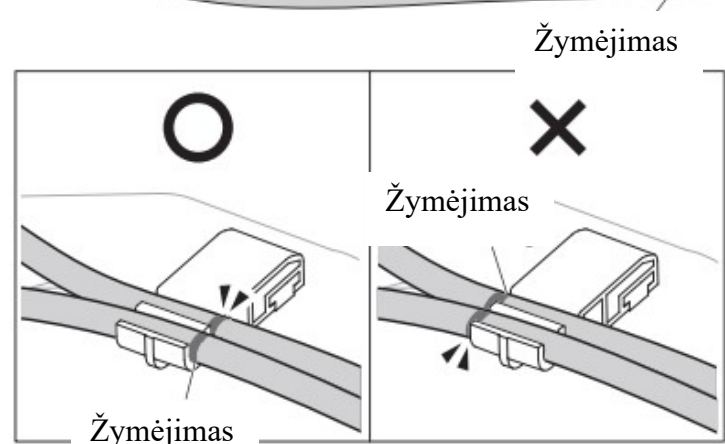
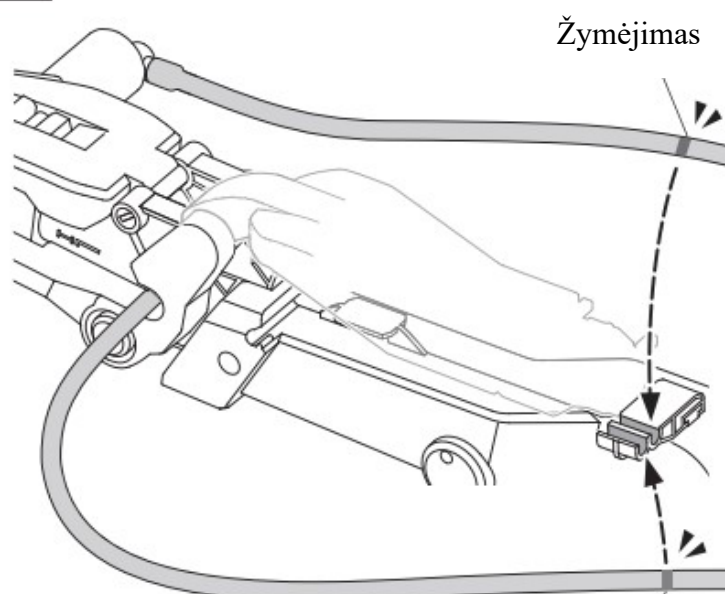
3



4

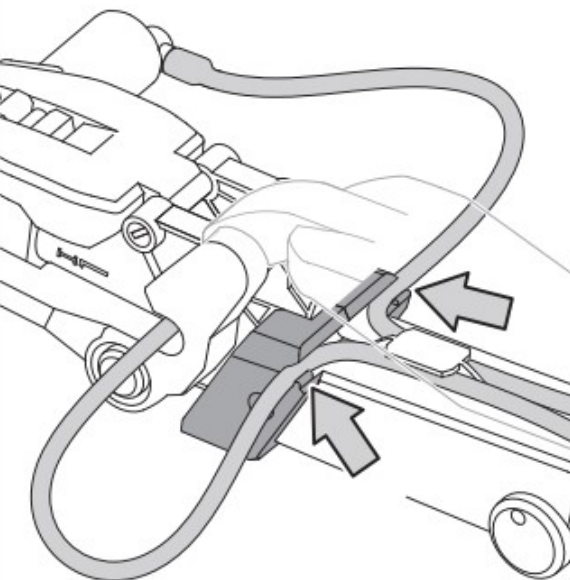
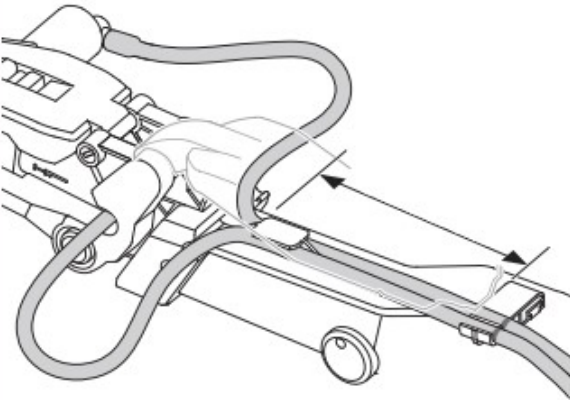
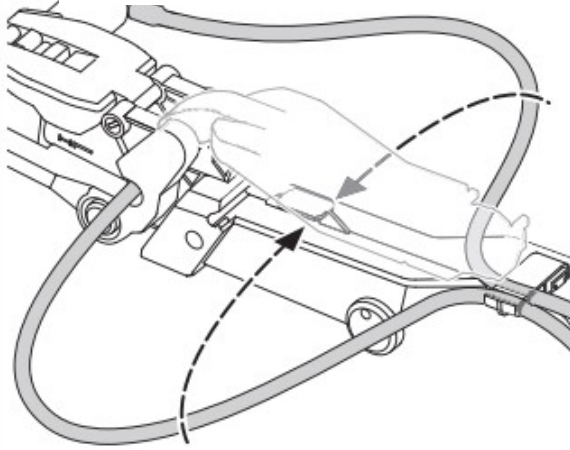


5



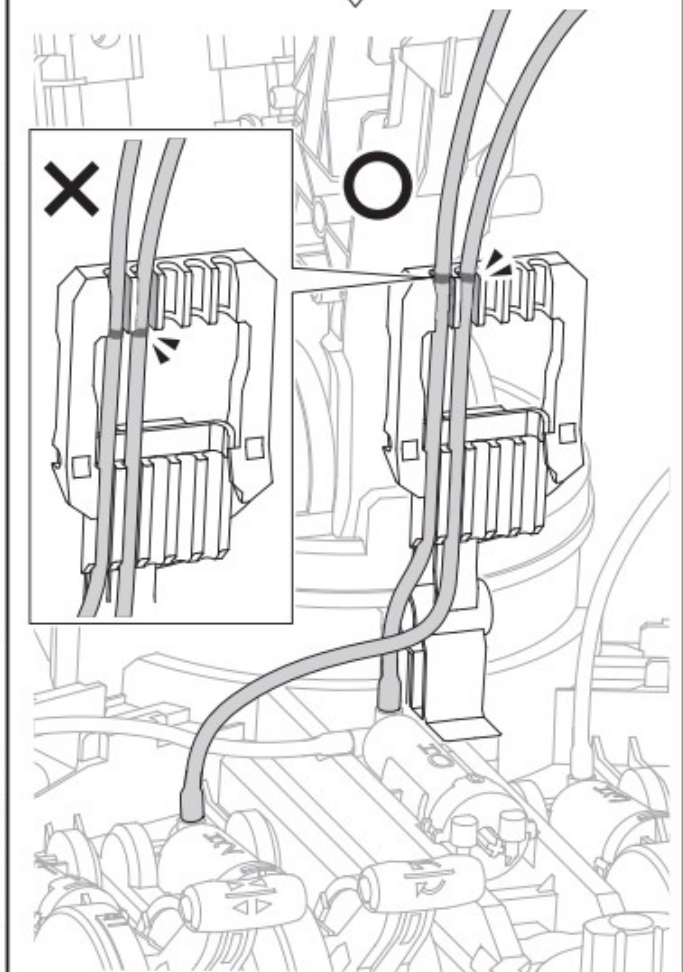
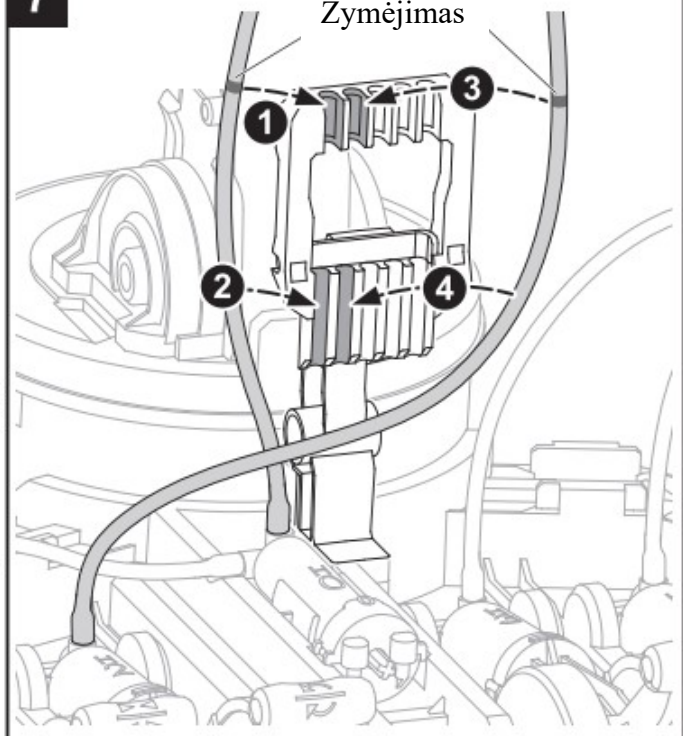
6

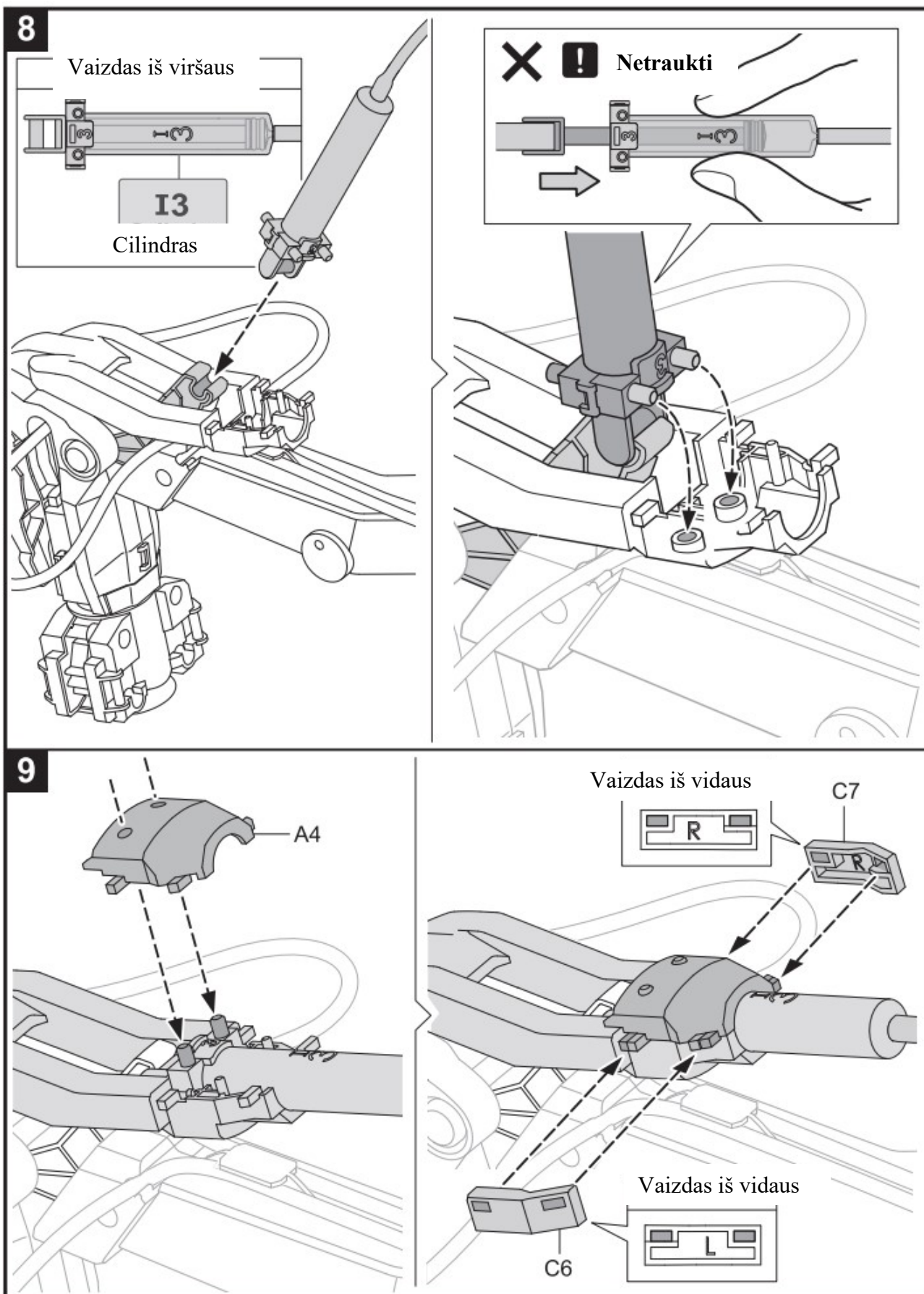
Minkštų vamzdelių įstatymas į
griovelius

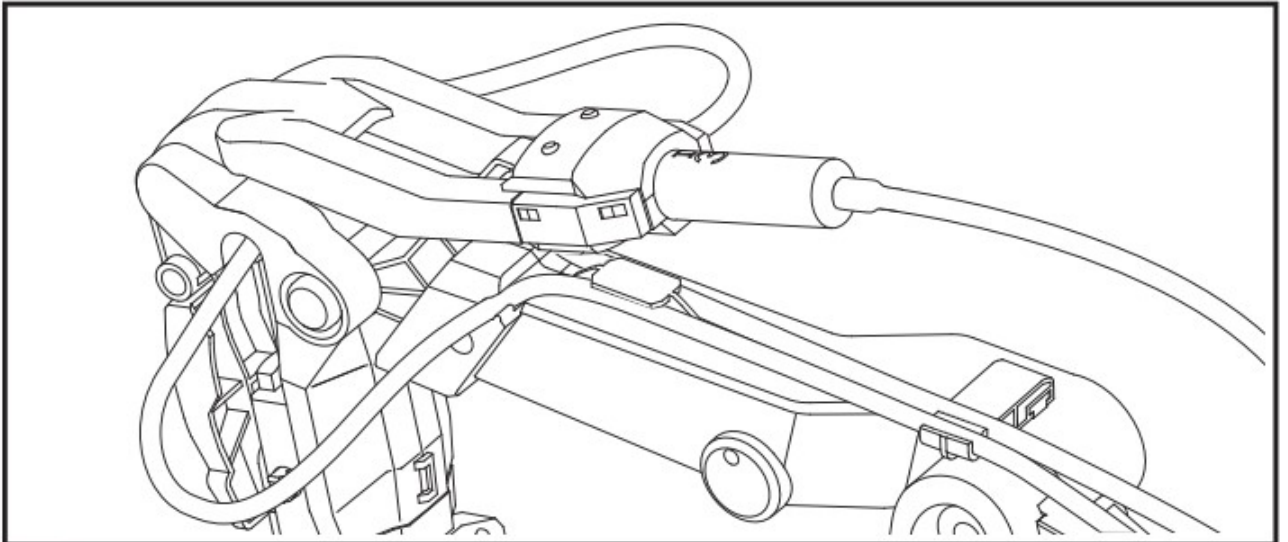


7

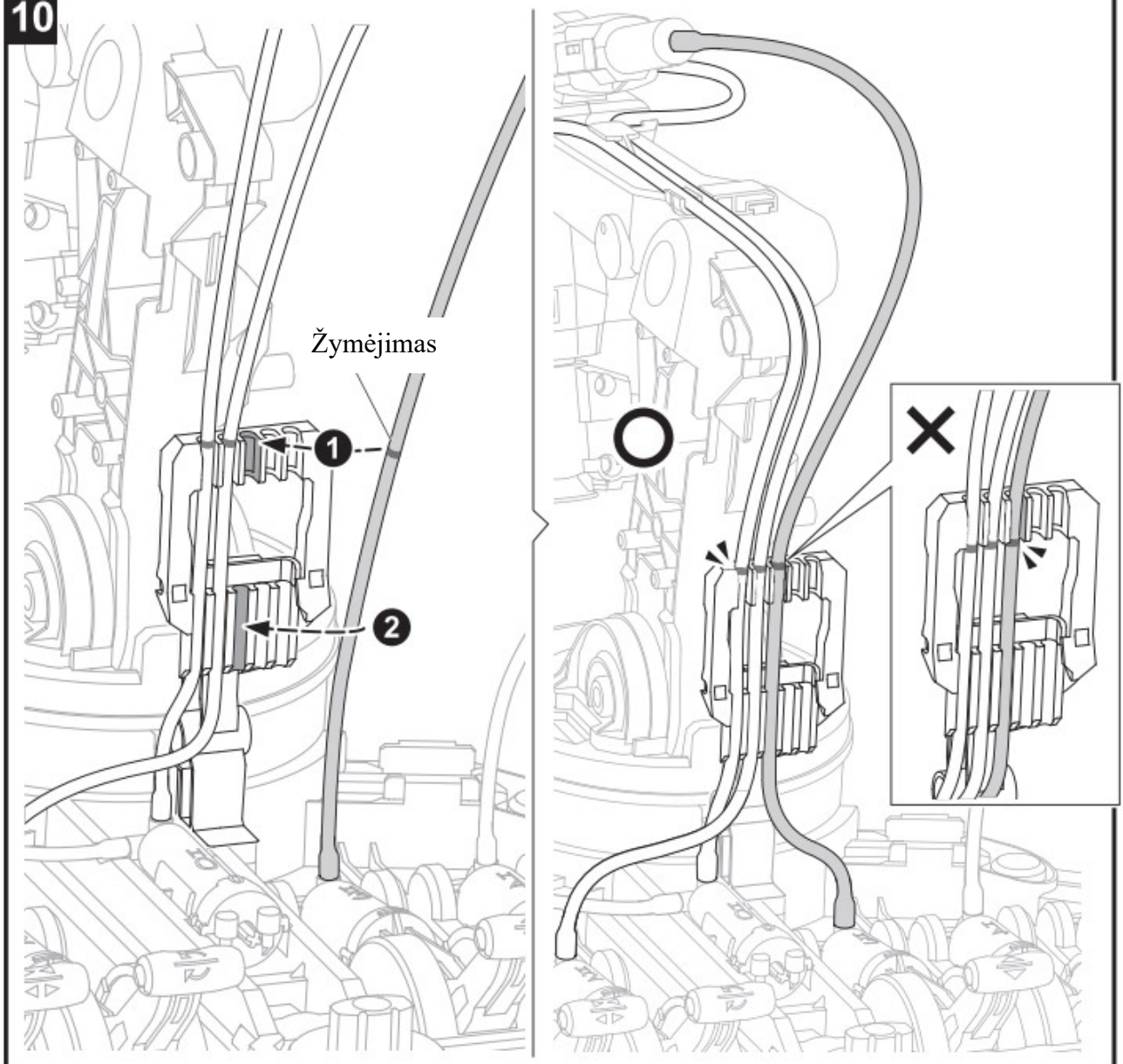
Žymėjimas



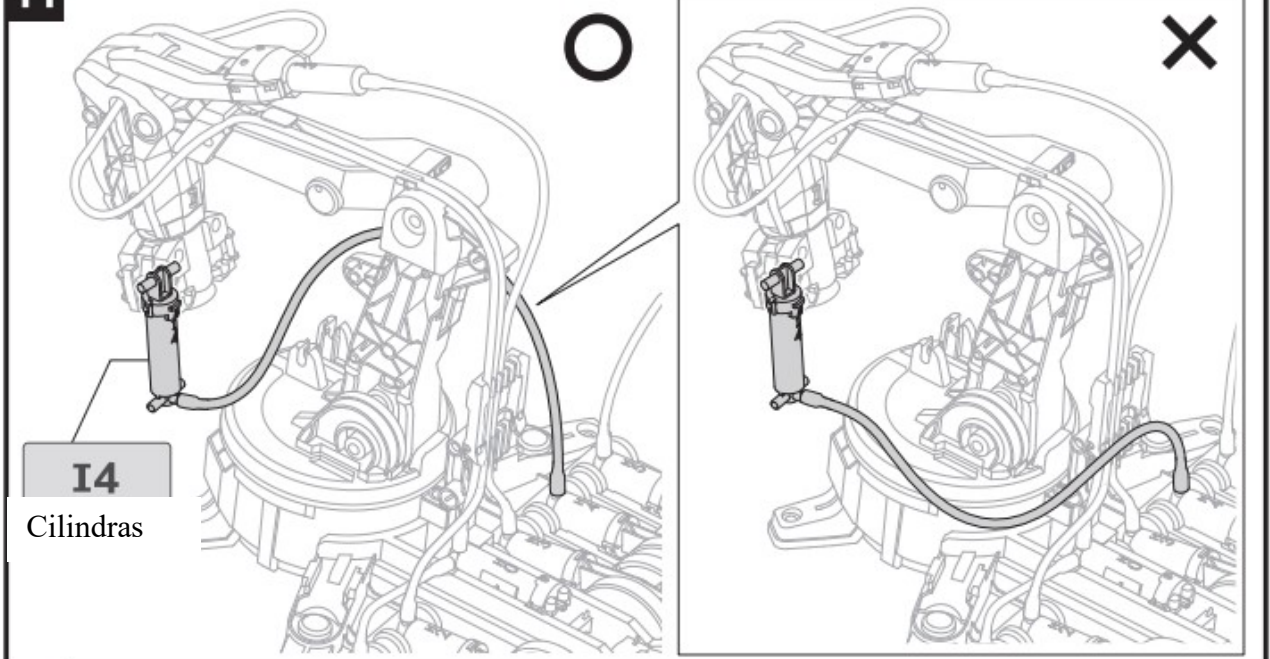




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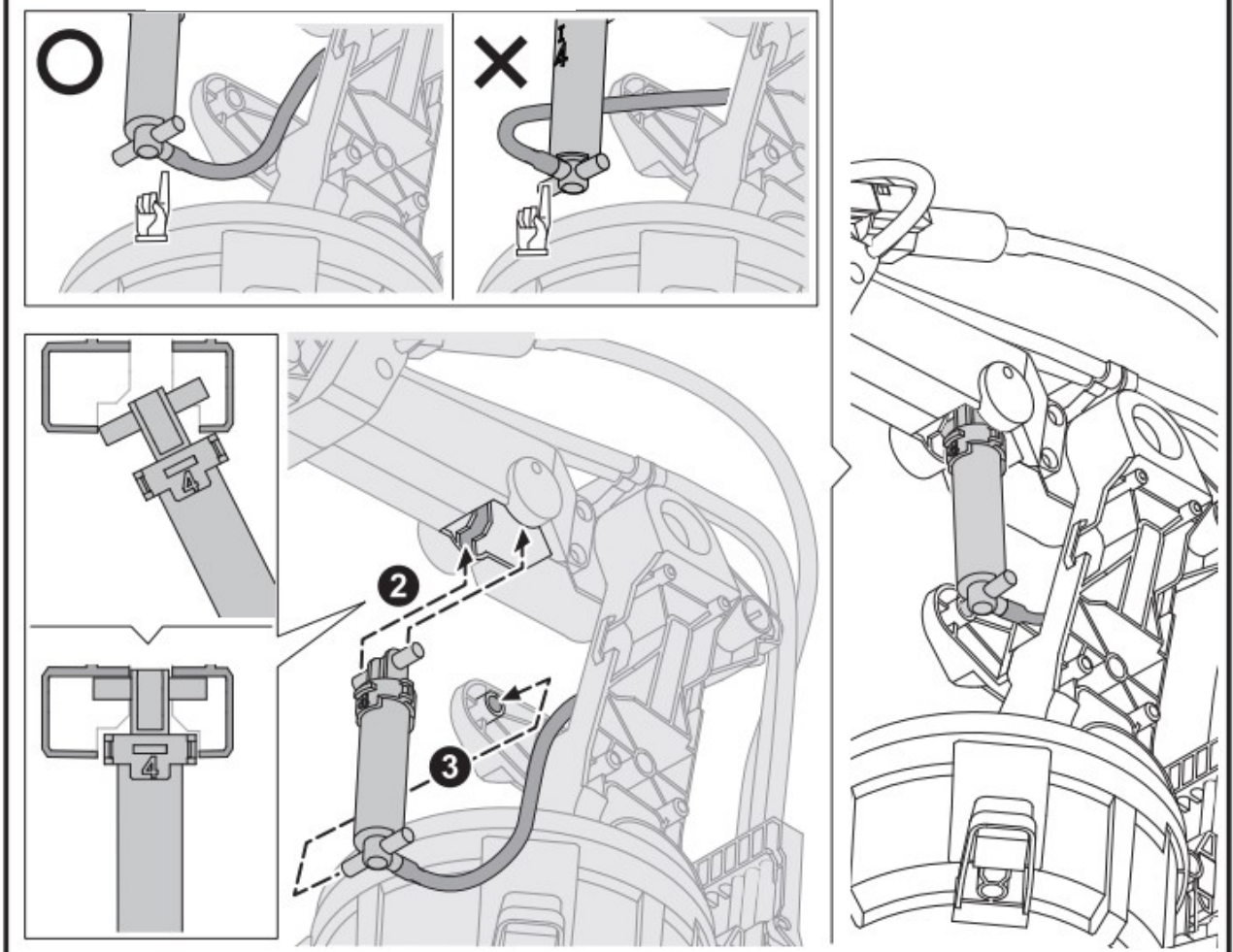


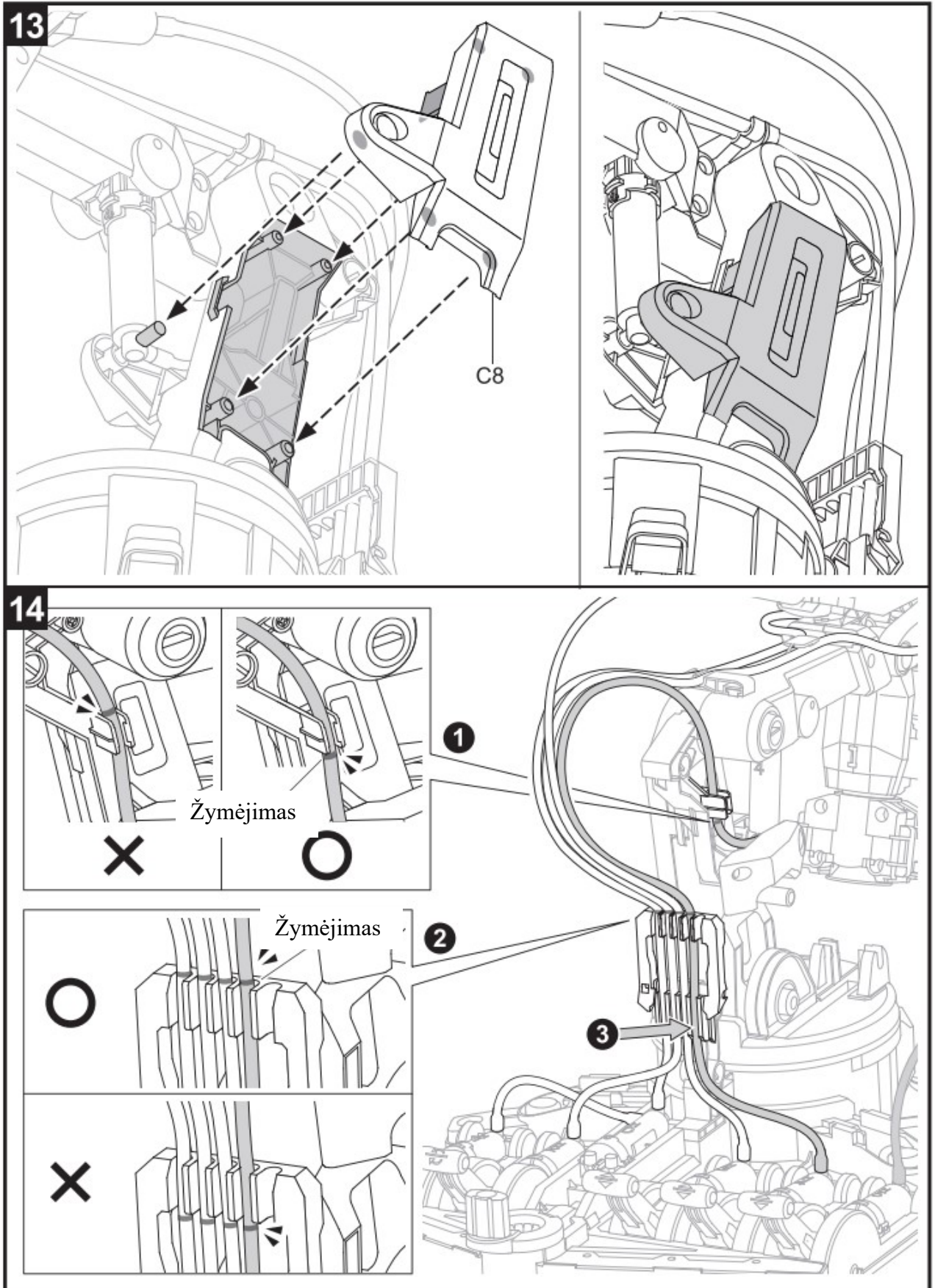
11



12

1 Įsitikinkite ar teisinga kryptis



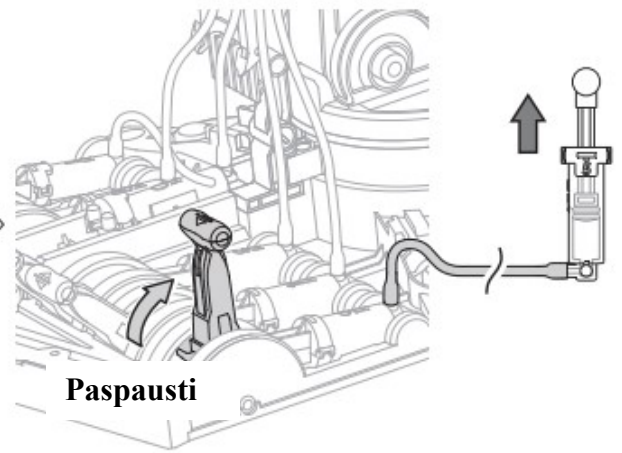
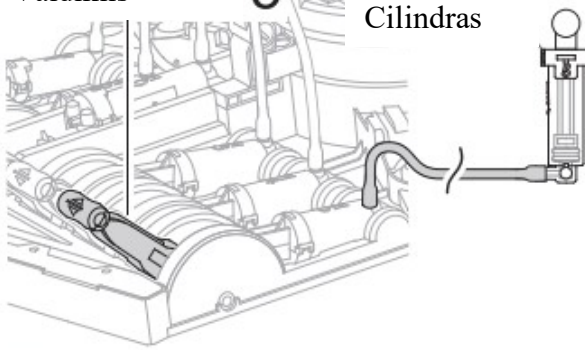
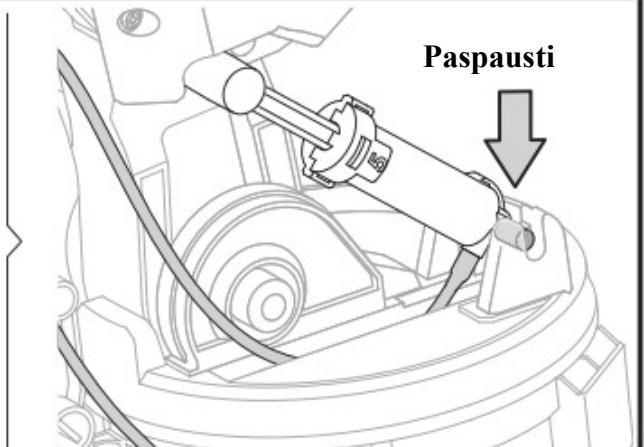
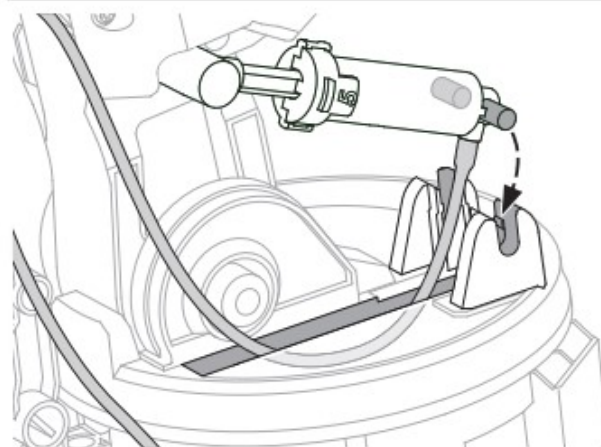
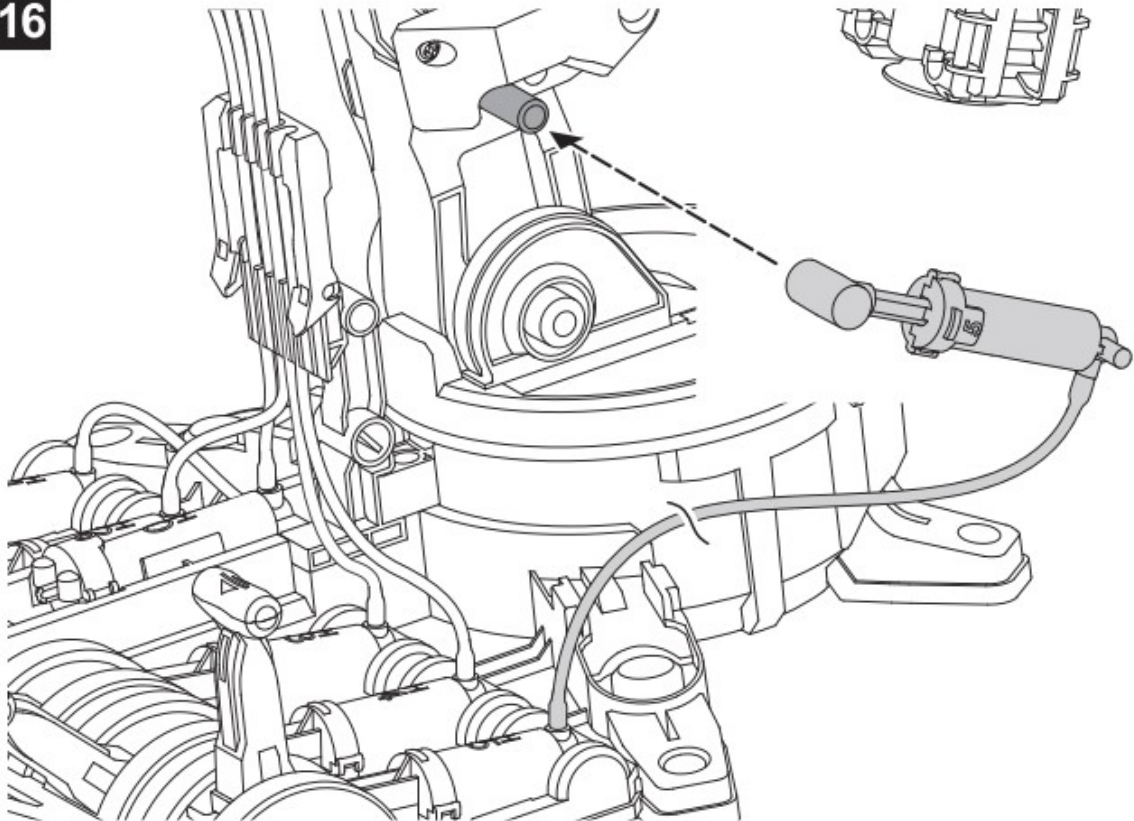


15

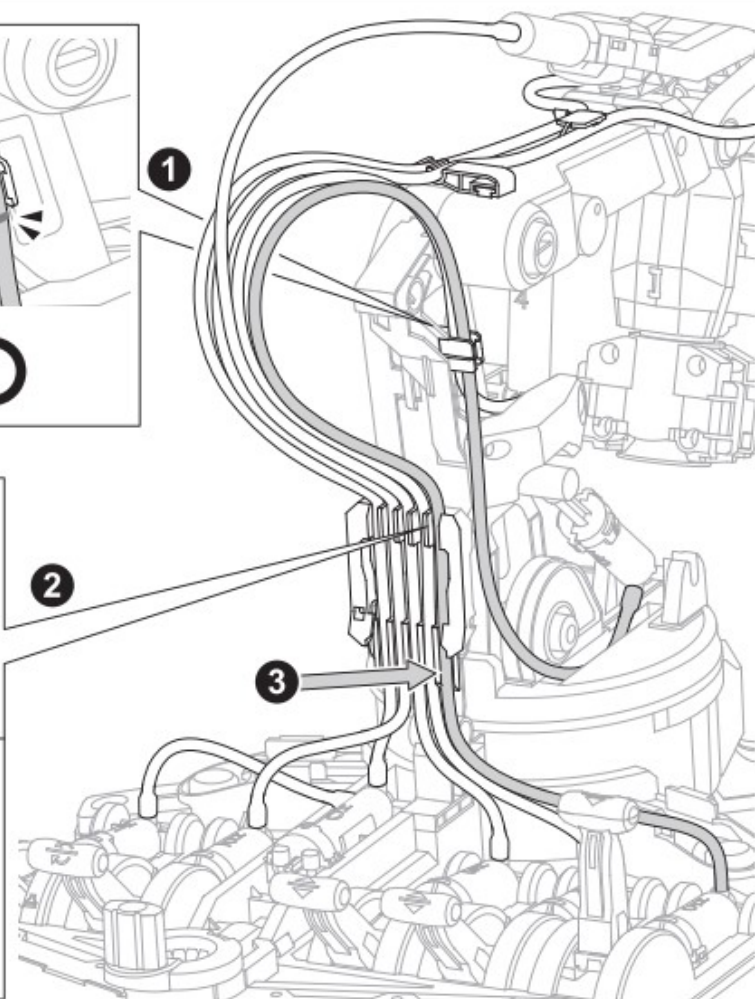
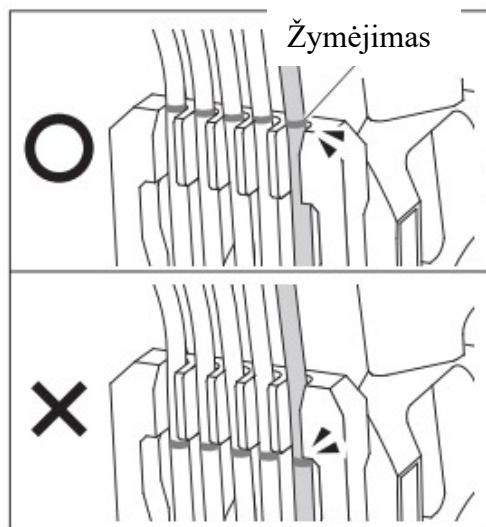
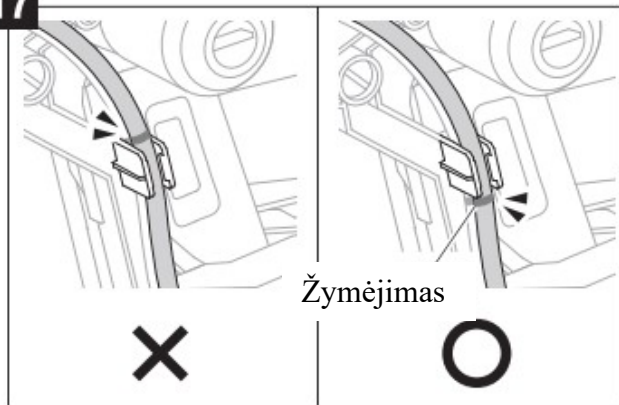
Valdiklis

5**I5**

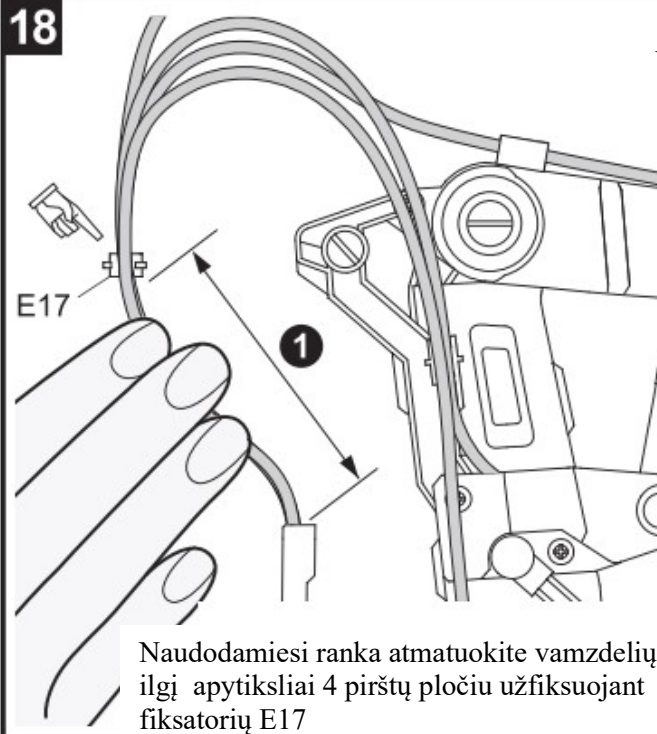
Cilindras

**16**

17

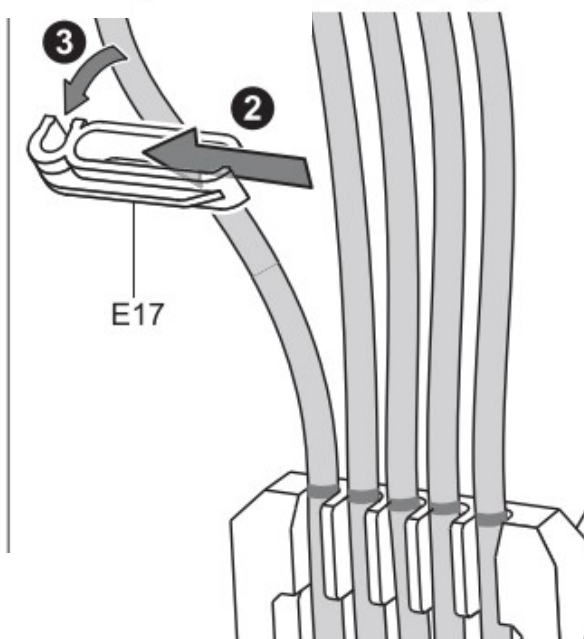


18



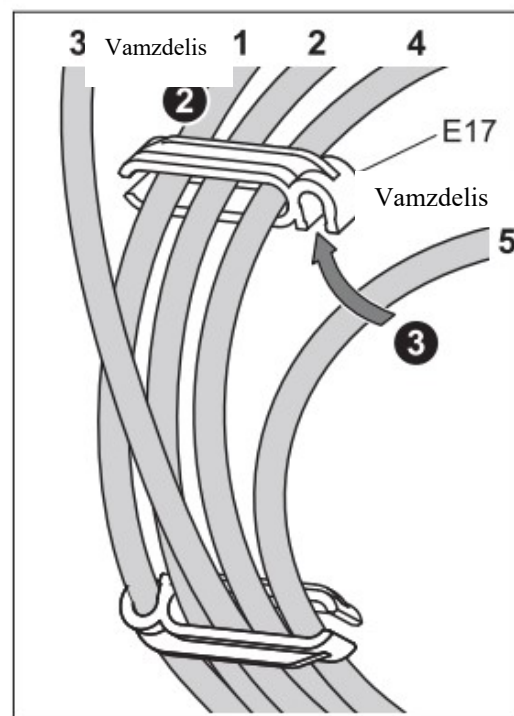
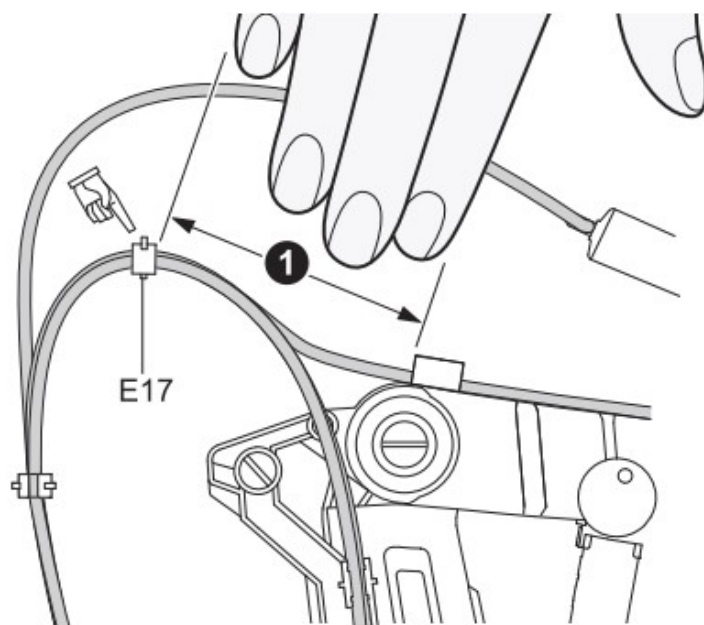
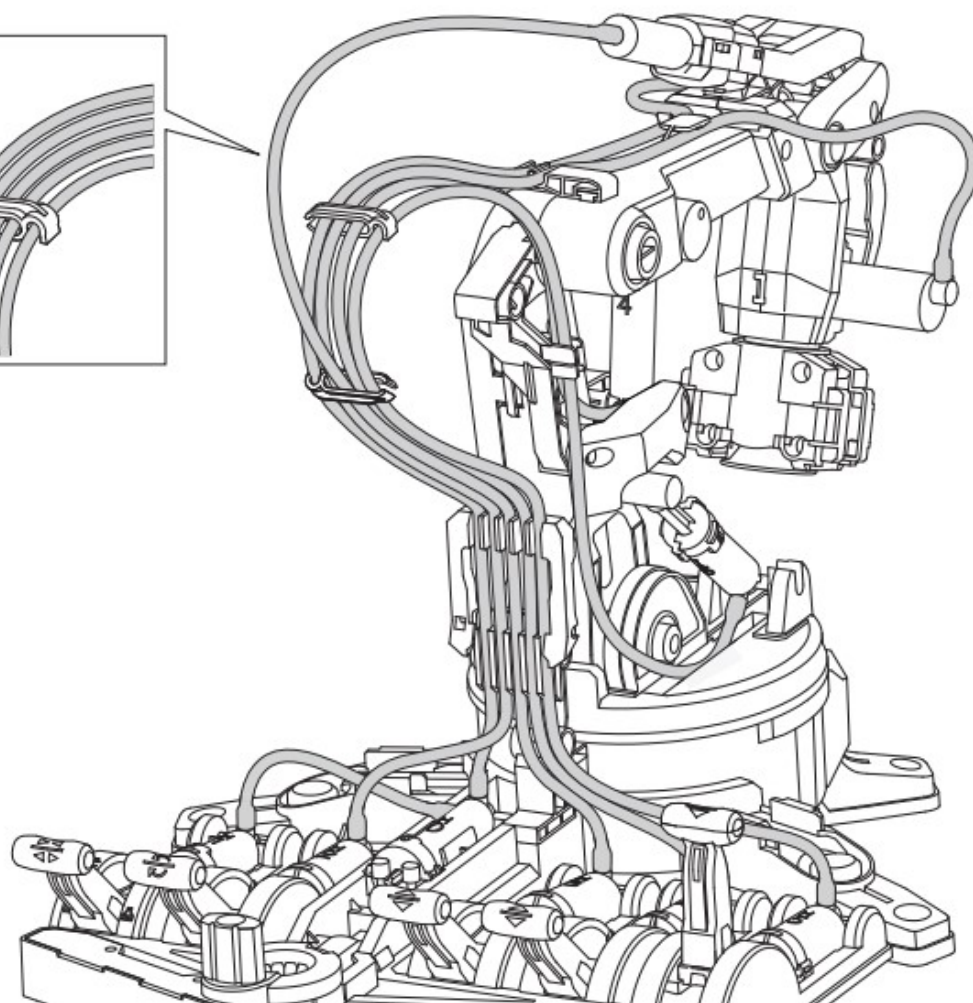
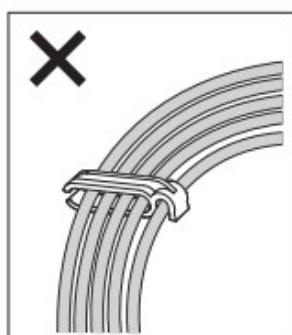
Naudodamiesi ranka atmatuokite vamzdelių ilgį apytiksliai 4 pirštų pločiu užfiksuojant fiksiatorių E17

Vamzdelis 1 Vamzdelis 2 3 4 5

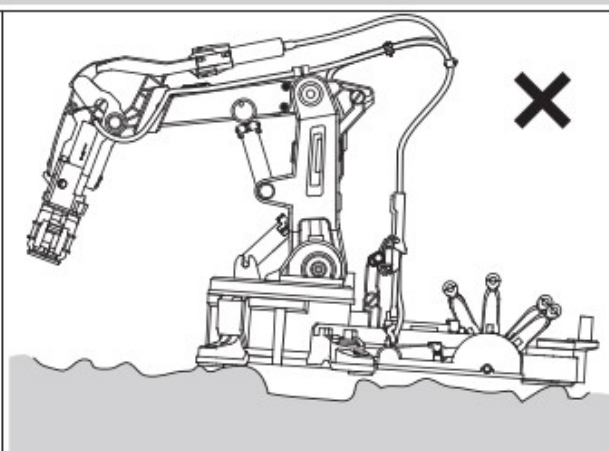
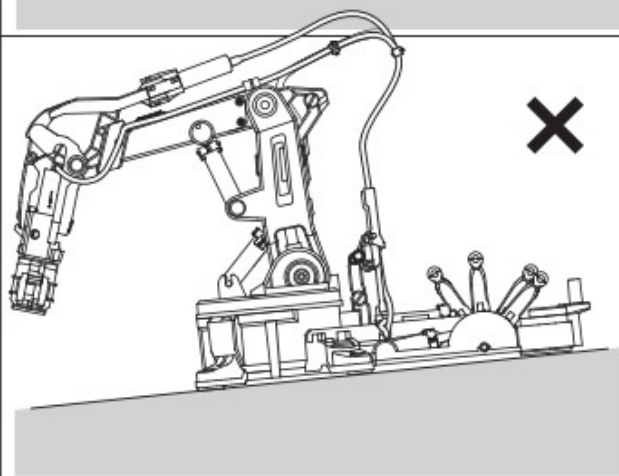
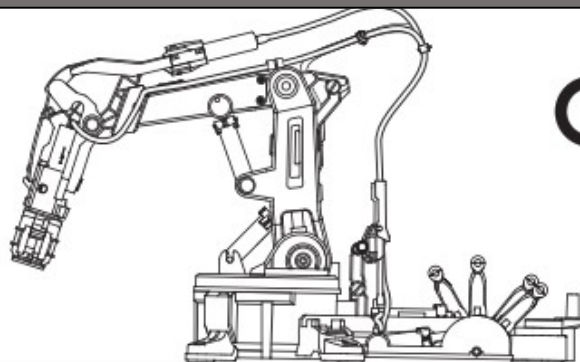


19

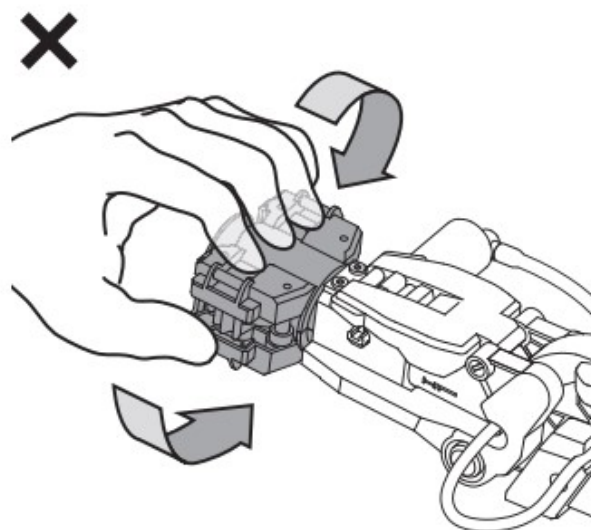
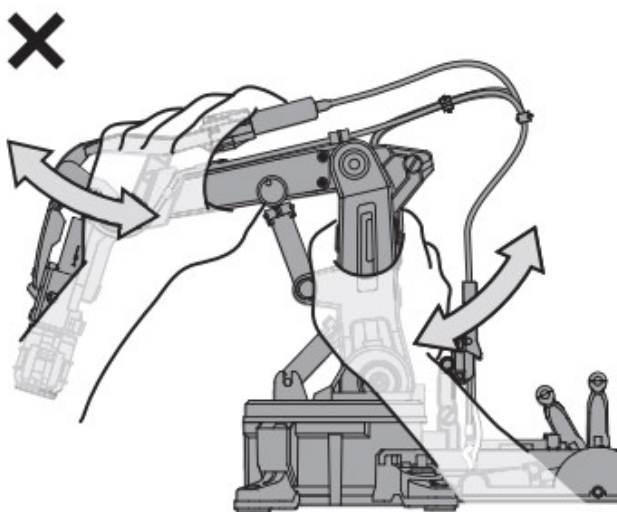
Naudodamiesi ranka atmatuokite vamzdelių ilgį apytiksliai 4 pirštų pločiu užfiksuojant fiksiatorių E17

**20**

SVARBU

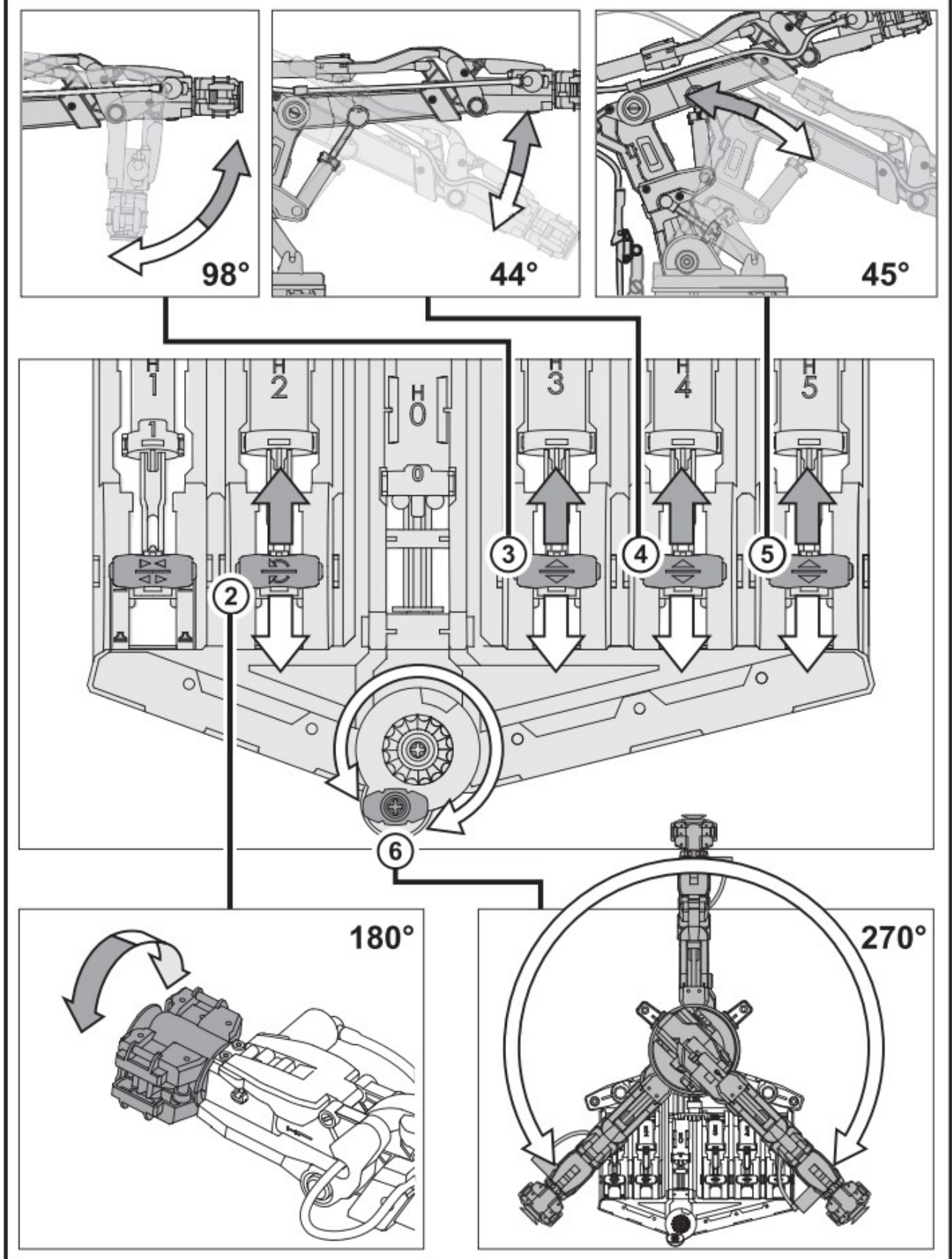


Naudokite ant lygaus horizontalaus paviršiaus



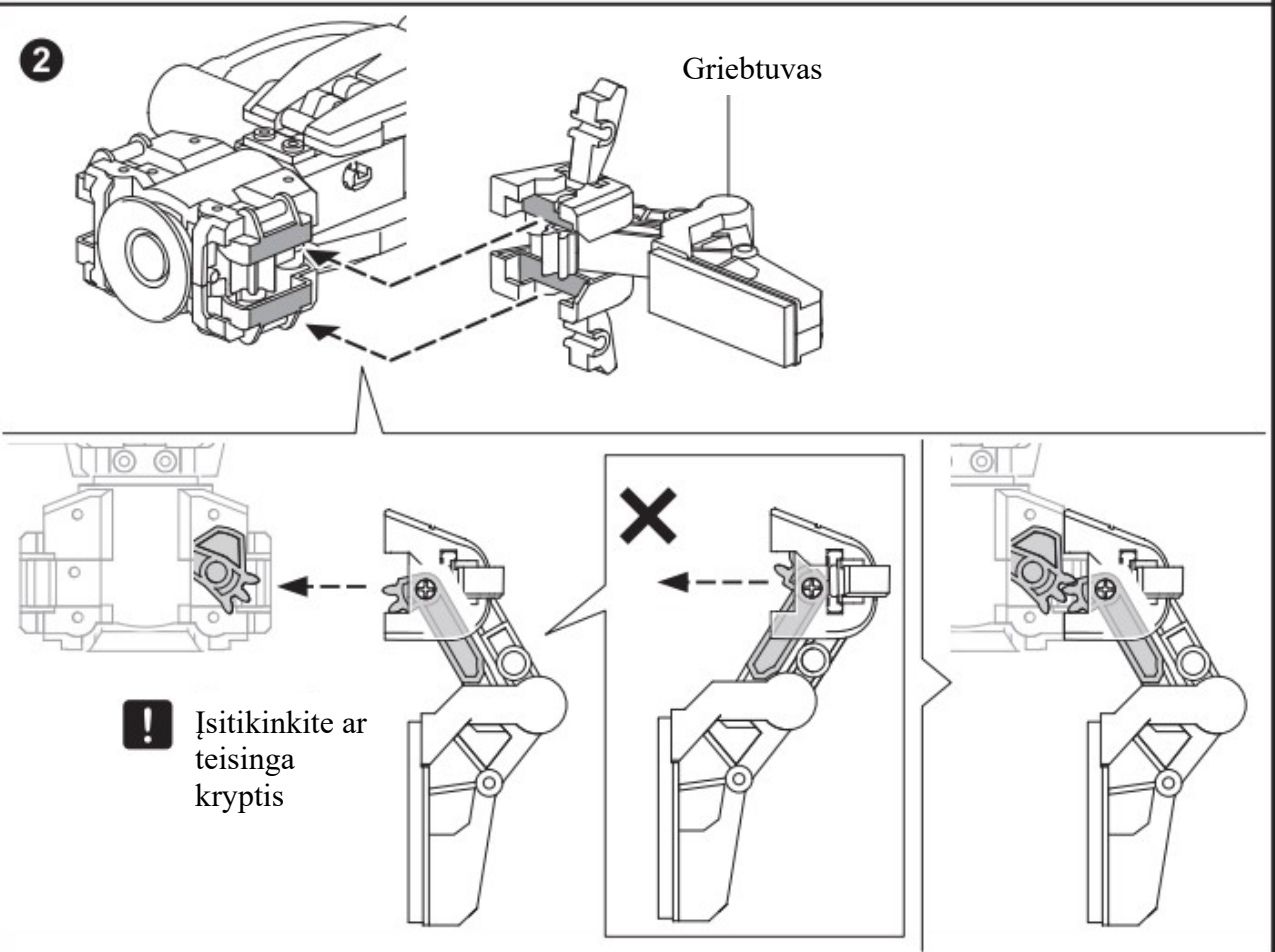
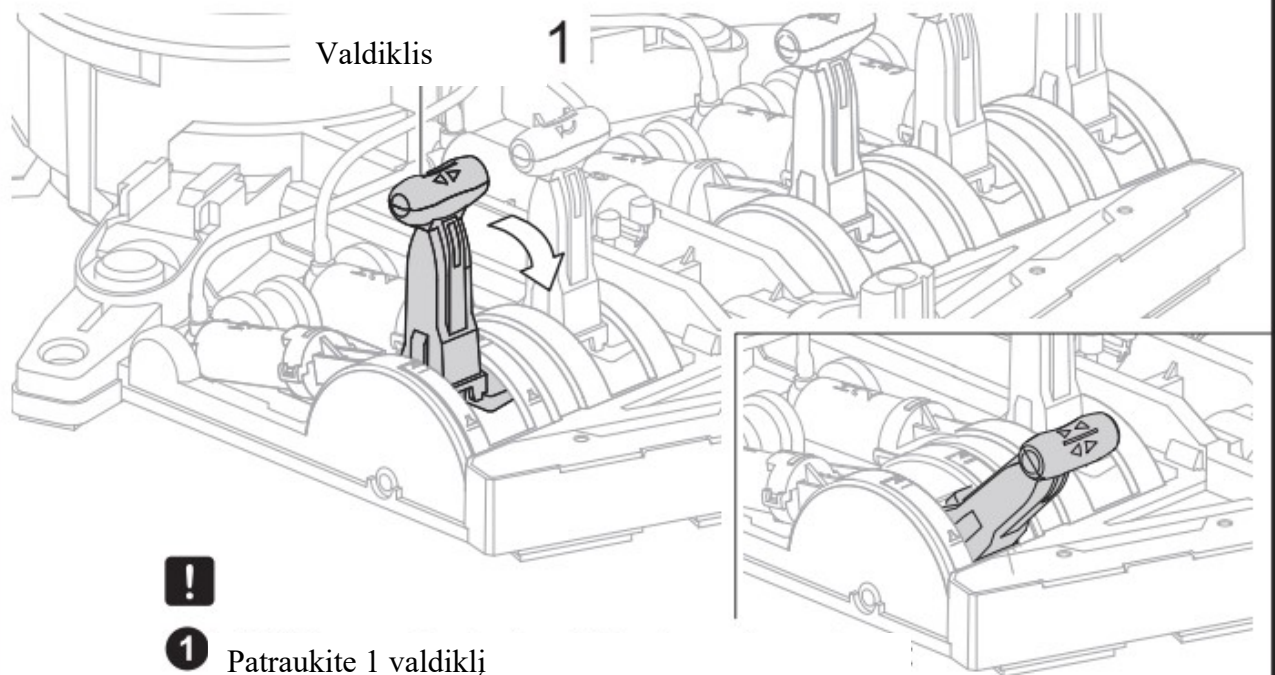
Perneškite prietaisą atsargiai, tempkit už atskirų dalių

Kaip valdyti: 2~6 ašimis

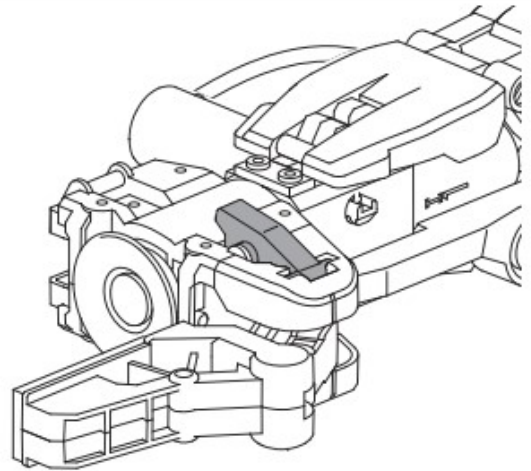
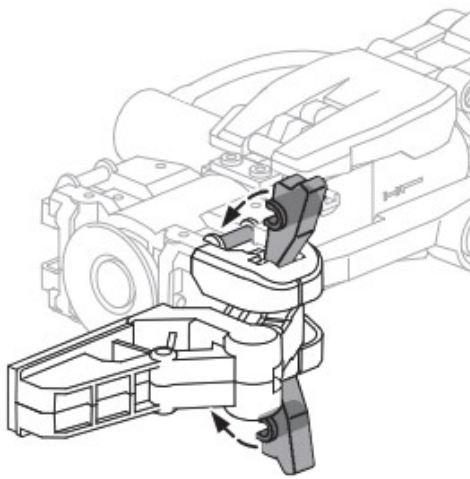


Kaip valdyti griebtuvą

1 Diegimas

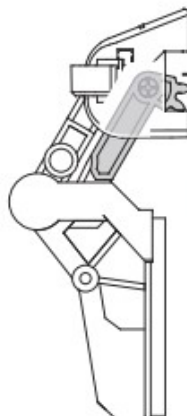
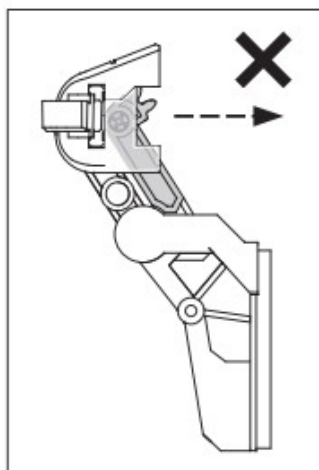
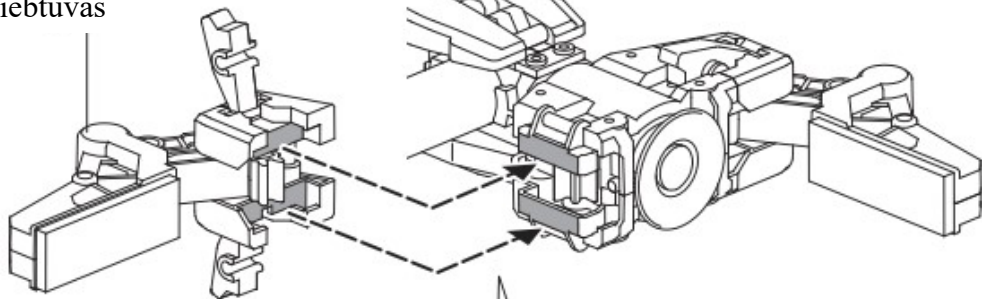


3

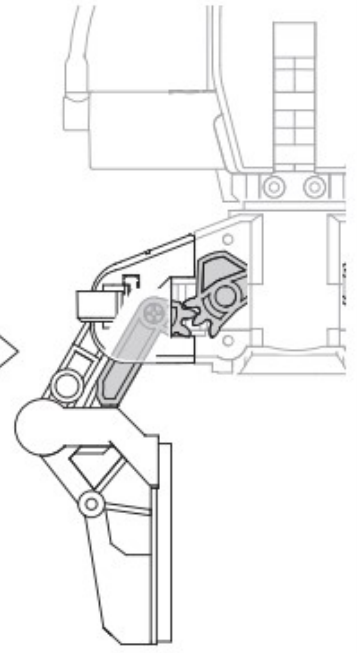
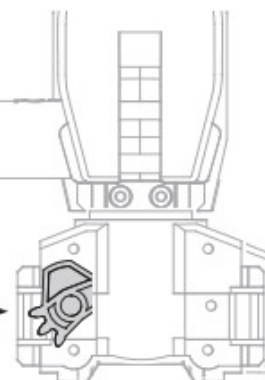


4

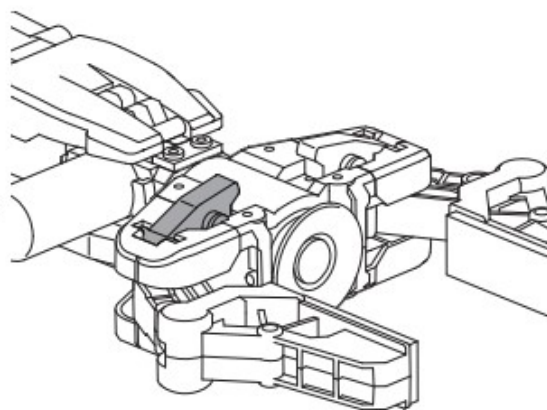
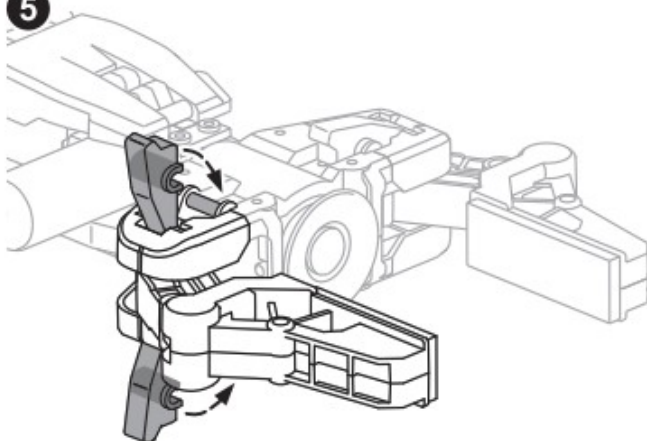
Griebtuvas



Įsitikinkite ar
teisinga
kryptis

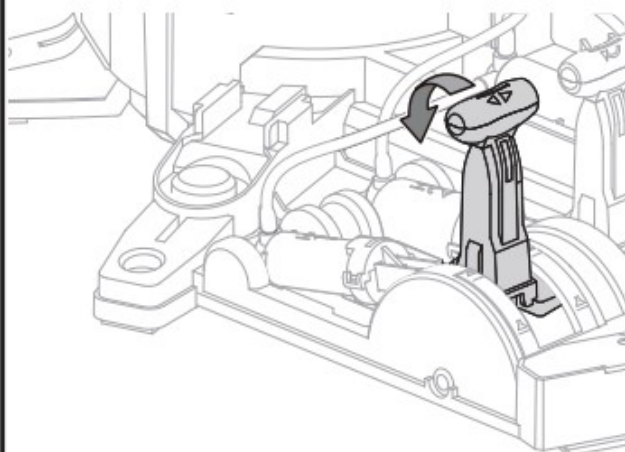


5

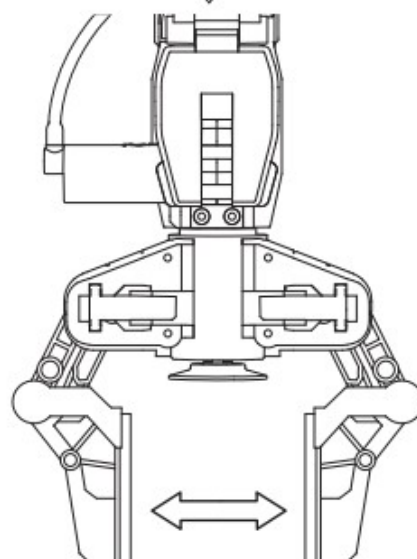
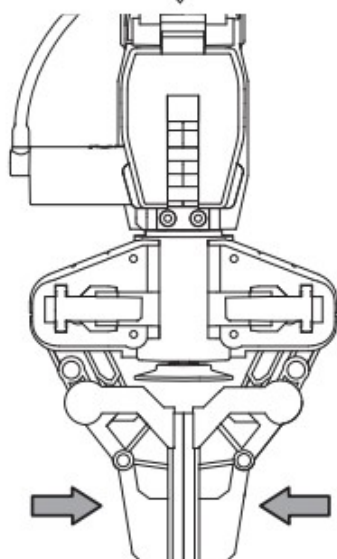
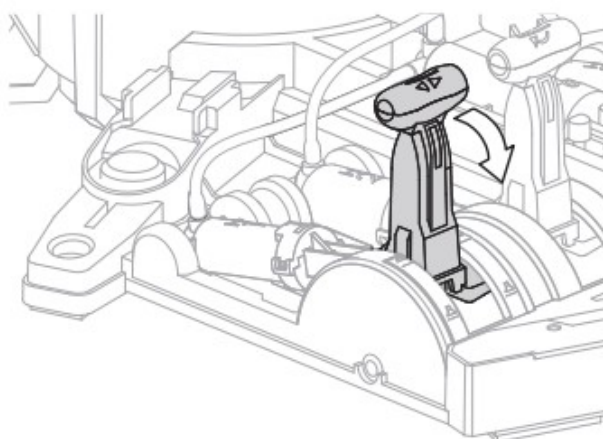


2

Objekto sugriebimas: pastumkite 1
valdiklio rankenėlę į priekį



Objekto paleidimas: patraukite 1
valdiklio rankenėlę atgal



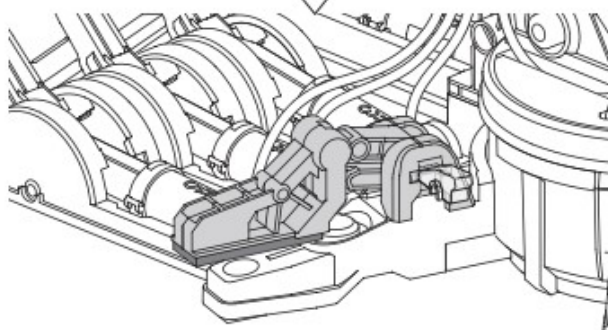
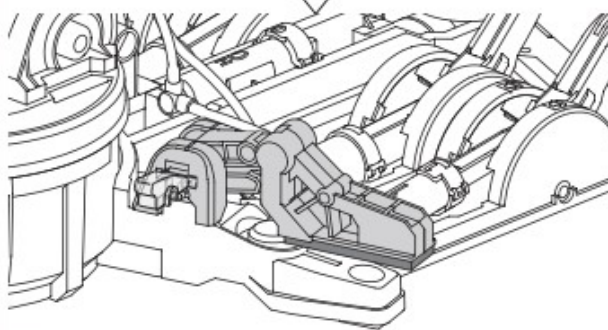
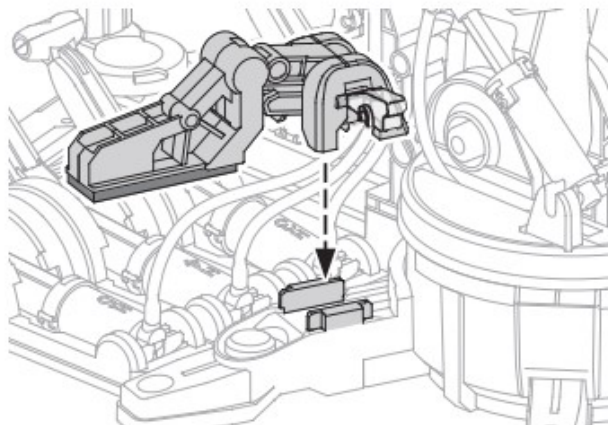
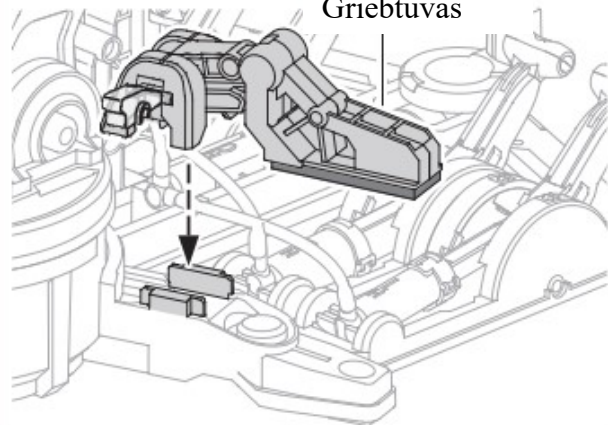
Didžiausias pakeliamo objekto svoris **50g**

Kaip valdyti siurbtuko režimas

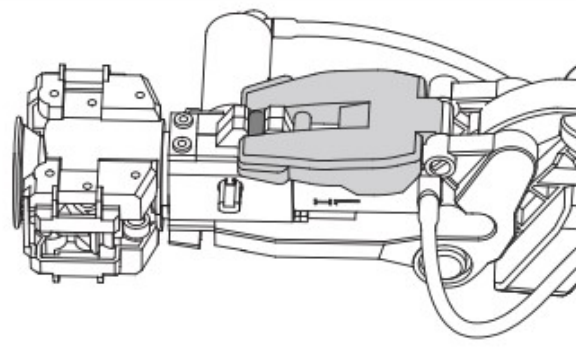
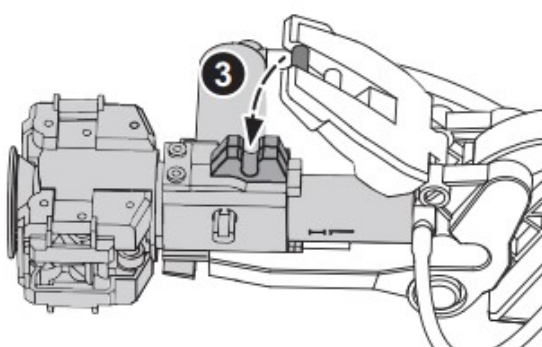
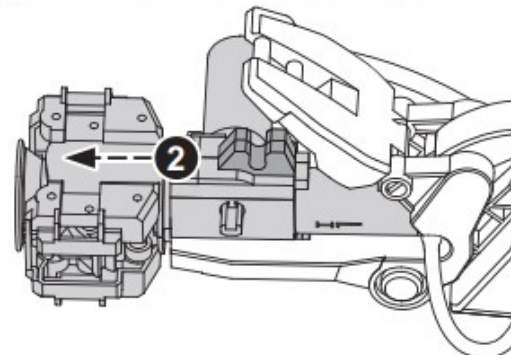
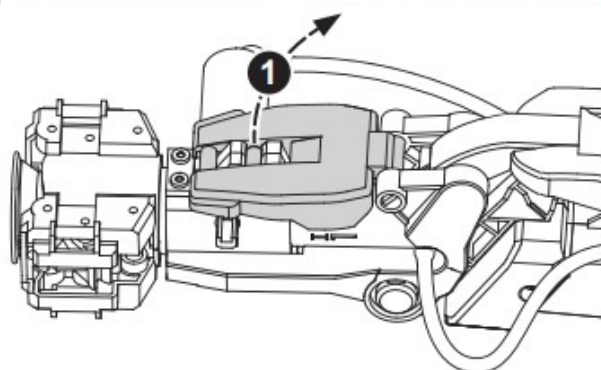
1

Atpalaiduokite griebtuvą

Griebtuvas

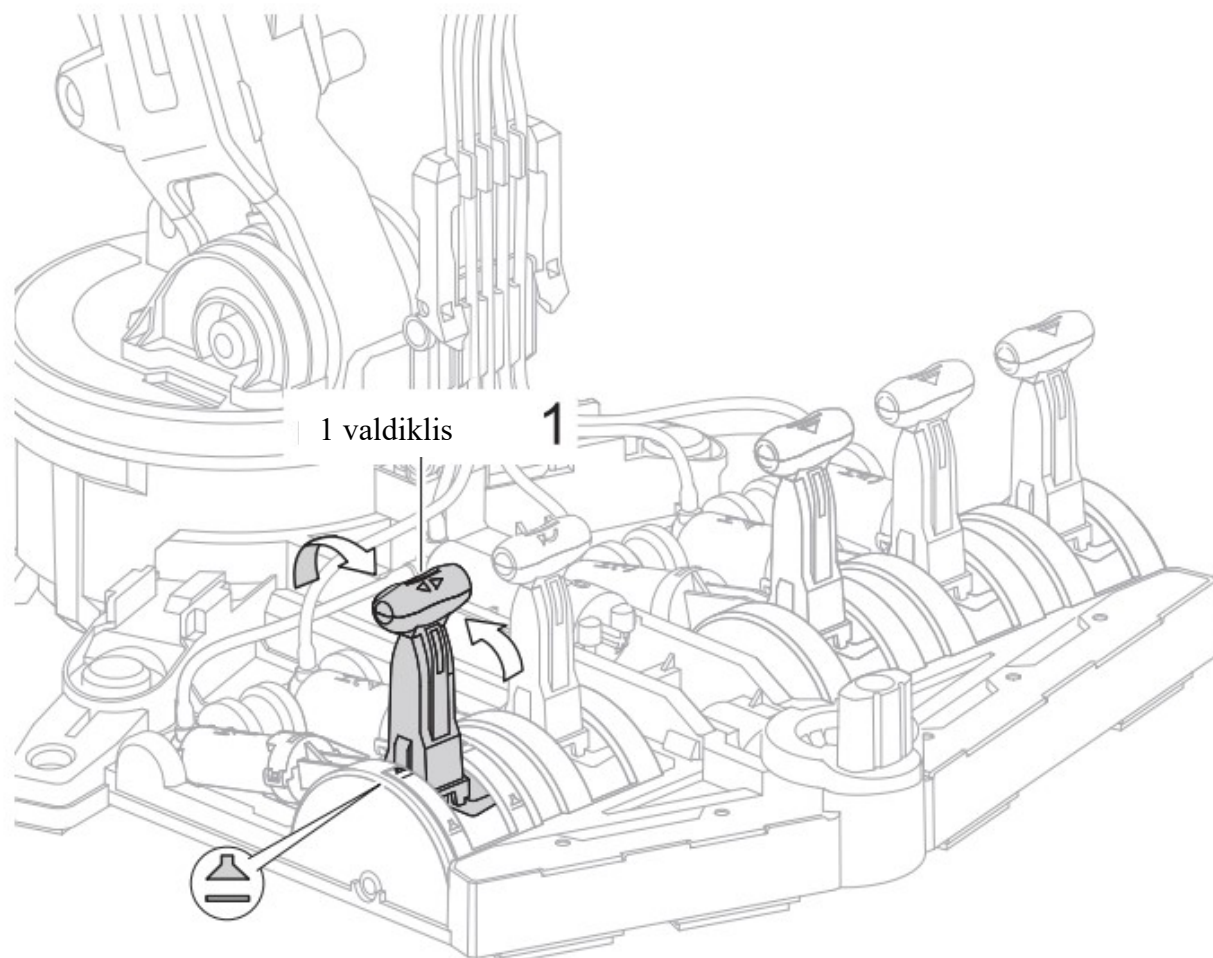

2

SVARBU! 2 žingsnis turi būti pilnai įvykdytas



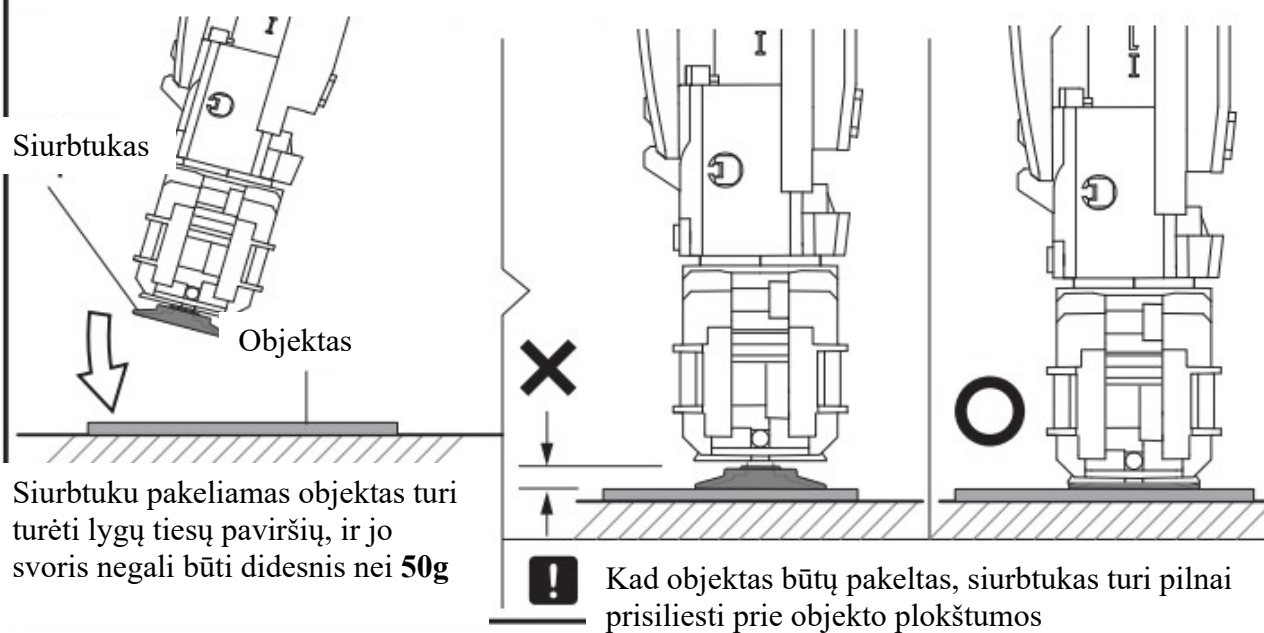
3

1 valdiklio rankenėlę pastatykite ant vidurinės pozicijos



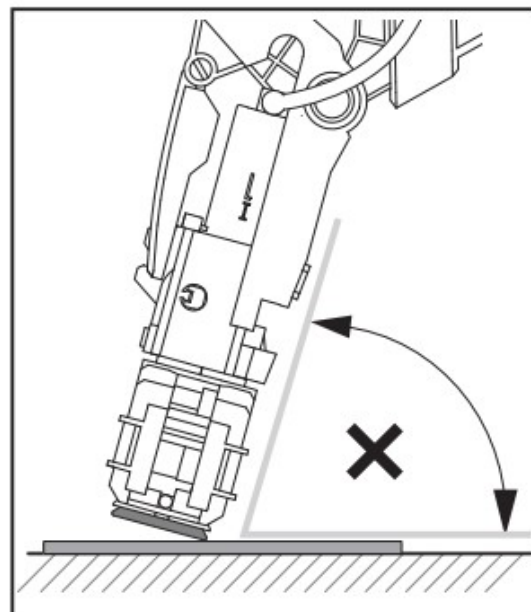
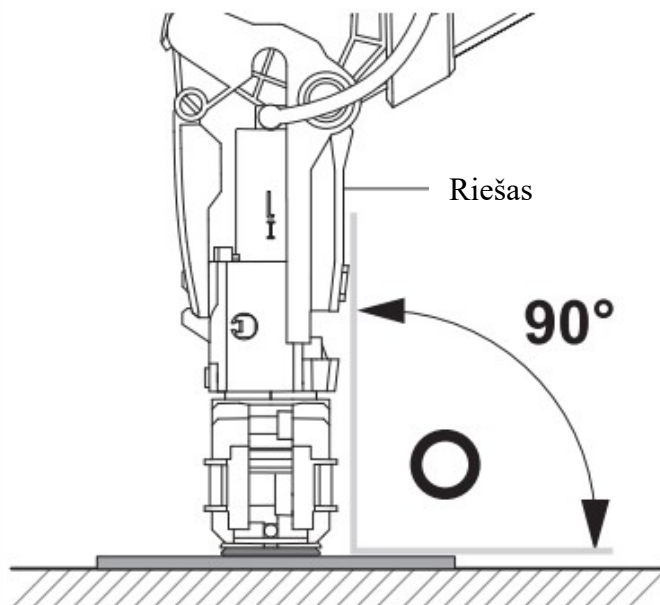
4

Valdymas analogiškas kaip griebtuvo



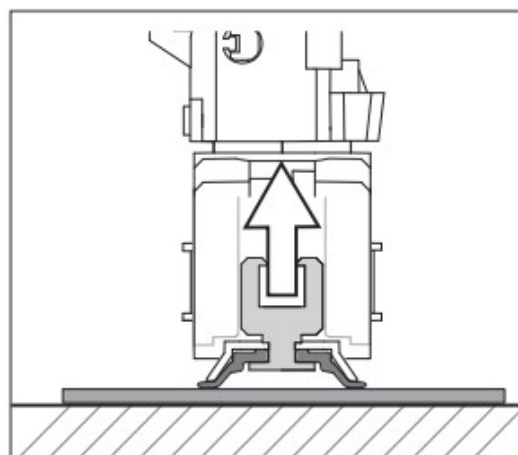
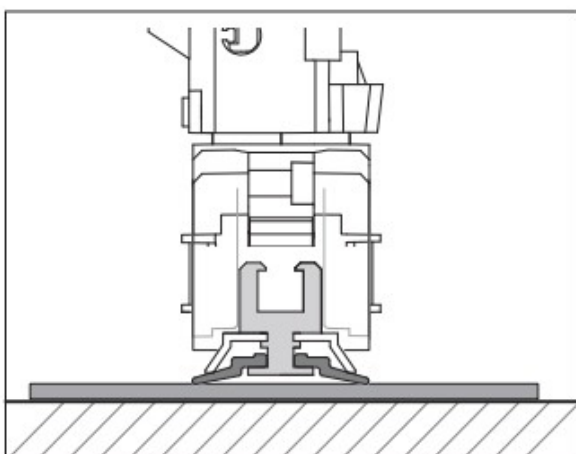
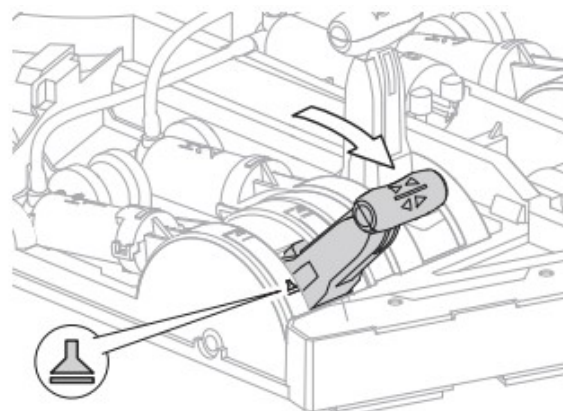
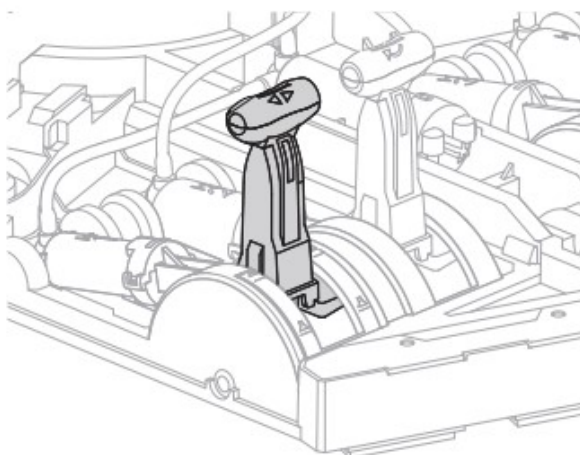


Siurbtukas turi tiesiai prisiglausti prie plokštumos



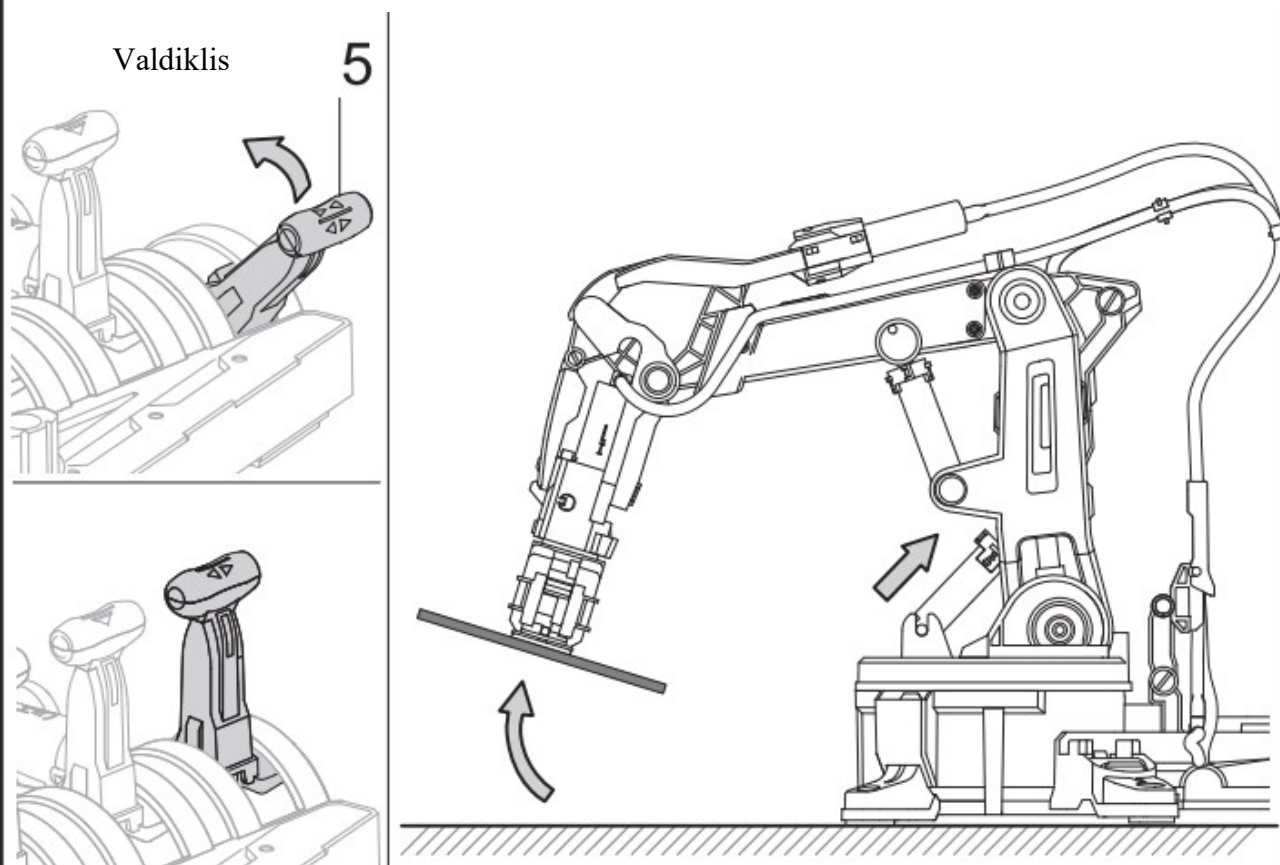
5

Patraukite 1 valdiklio rankenėlę atgal

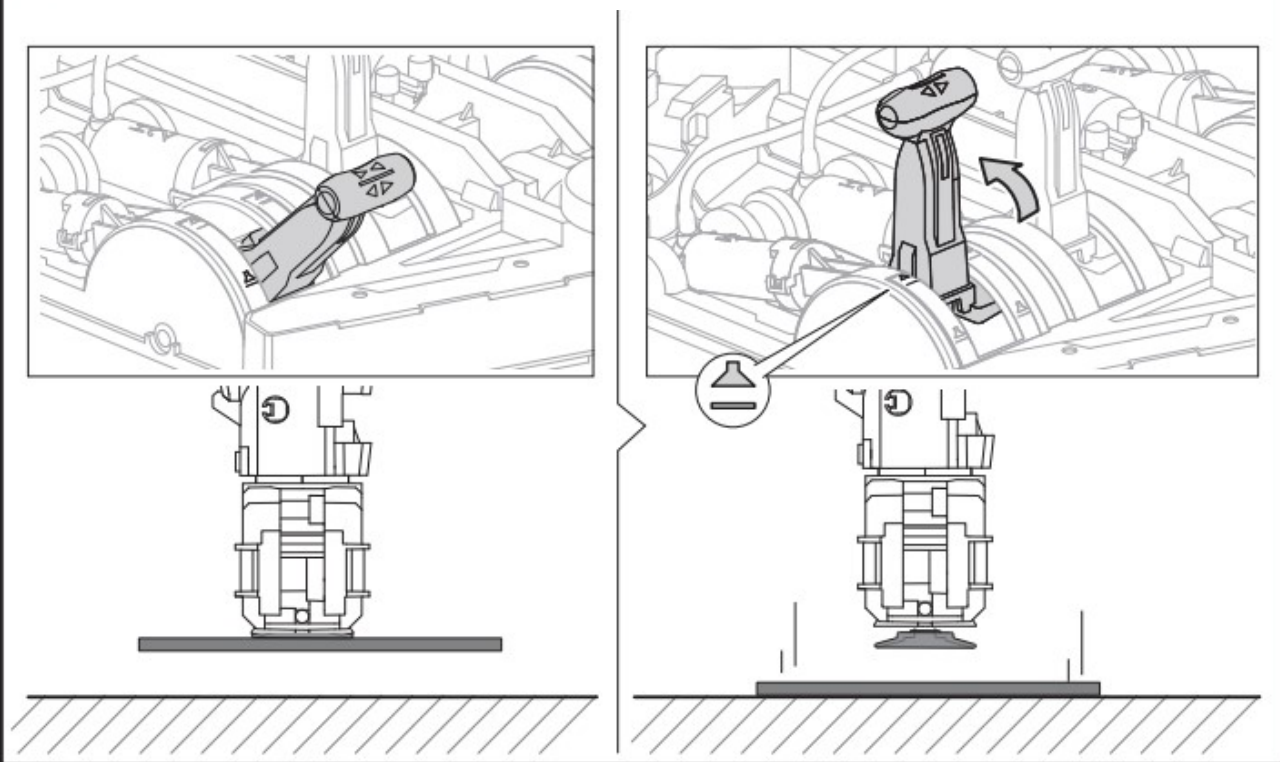


6

Pastumkite 5 valdiklio rankenėlę į priekį

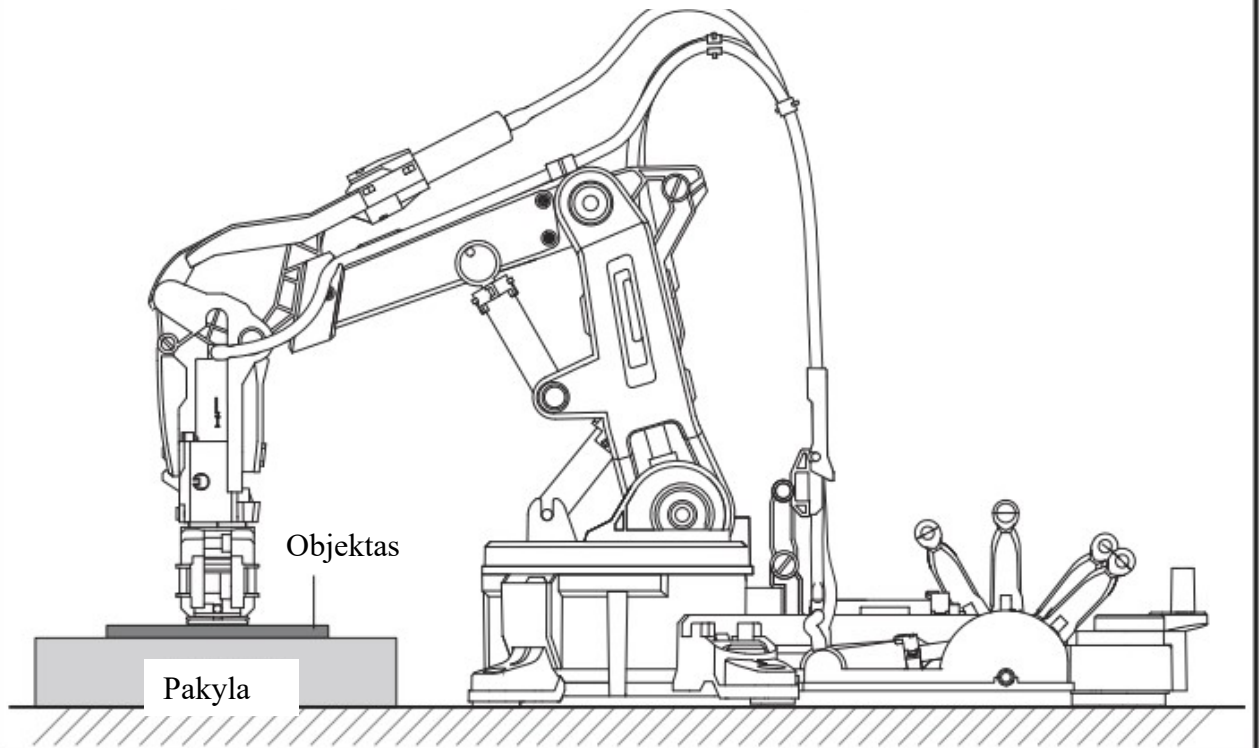
**7**

Pastumkite 1 valdiklio rankenėlę iki vidurio norint paleisti objektą



8

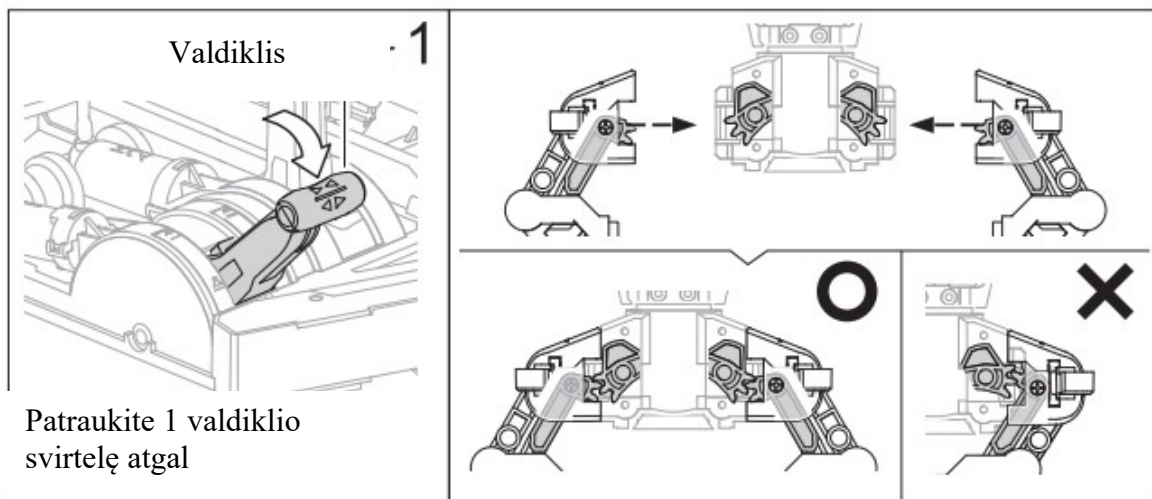
Patarimas: padėkite objektą ant lygios pakyls, taip lengviau bus galima paimti objektą



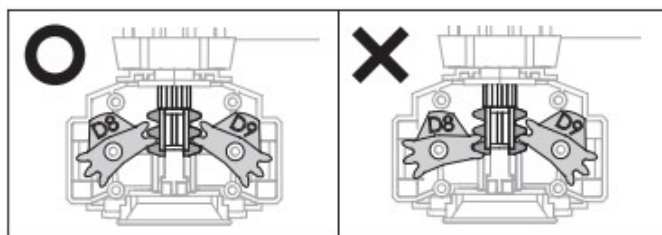
Galimų problemų sprendimas

- **Jeigu griebtuvas neveikia (neužsidaro /neatsidaro) pabandykite atlikti šiuos žingsnius**

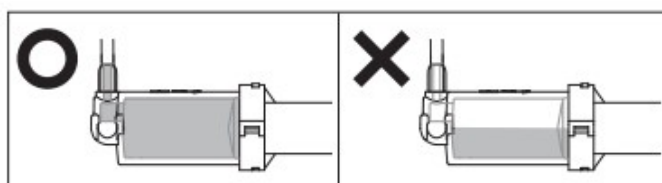
1. Patikrinkite ar griebtuvas sumontuotas tinkamai (78, 79 paveikslėliai)



2. Patikrinkite ar teisingai sumontuota



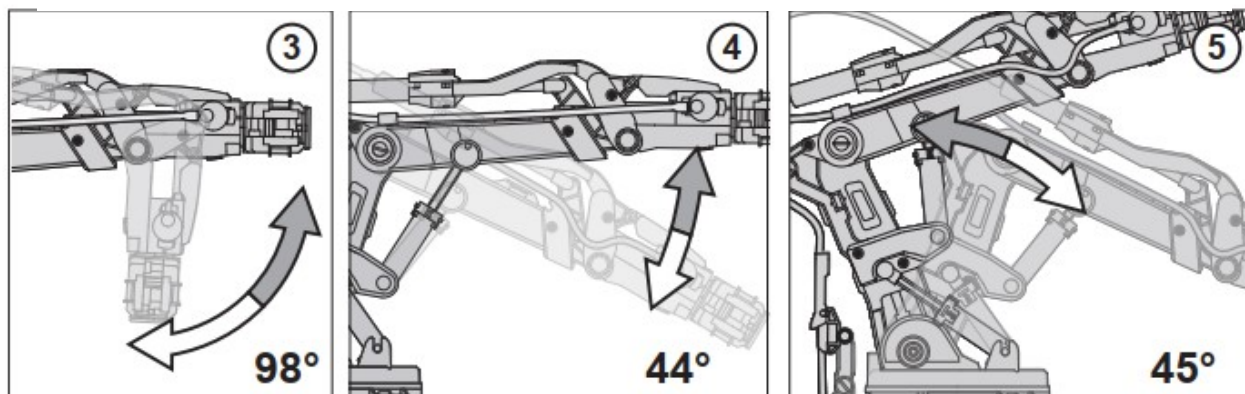
3. Patikrinkite ar nėra oro cilindruose H1 I1 ir vamzdelyje1, jeigu yra – reikia perrinkti iš naujo



- **Jeigu siurbtukas nesilaiko prie objekto**

1. Patikrinkite ar teisingai sumontuota
2. Patikrinkite ar nėra oro cilindruose H1 I1 ir vamzdelyje1, jeigu yra – reikia perrinkti iš naujo

● Jeigu ranka nejuda didžiausiu kampu 3/4/5 ašimis



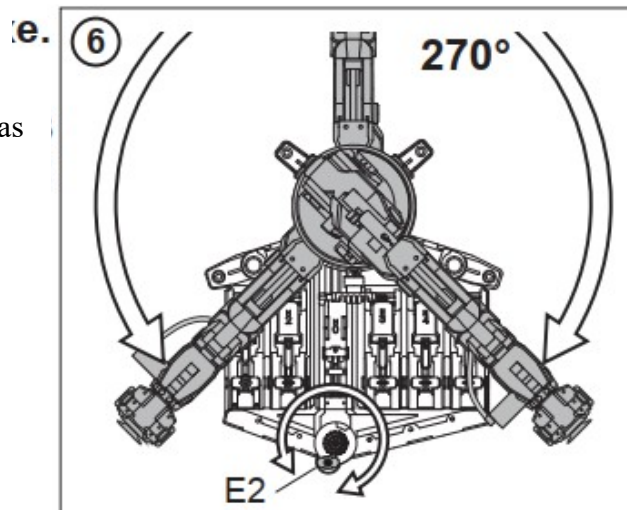
1. Patikrinkite ar nėra oro cilindruose H3/4/5 ir I3/4/5 ir vamzdeliuose 3/4/5, jeigu yra – reikia perrinkti iš naujo
2. Patikrinkite ar surinkimo metu vamzdeliai nėra susisukę ar užsigniaužę

● Mažas judėjimas 6 ašimi

1. Jeigu 6 ašimi sunkiai juda ranka, sukant rankenėlę E2, patikrinkite ar gerai įstatytas krumpliaratis E10



E10



2. Patikrinkite ar surinkimo metu vamzdeliai nėra susisukę ar užsigniaužę