

# סדנה לאנרגיה סולרית

180  
חלקים

14 דגמים

אנרגיה סולרית

8+

**Buki**  
France  
SCIENCES

## תכולת המארז

אין לחבר לרשת החשמל



P1: מנוע

P2: לוח סולארי

P3: גלגל שיניים (צהוב)

P4: גלגל שיניים עם מוט

P5: גלגל שיניים (אדום)

P6: גלגל שיניים (ירוק)

P7: כיסוי

P8: מוט מעוגל

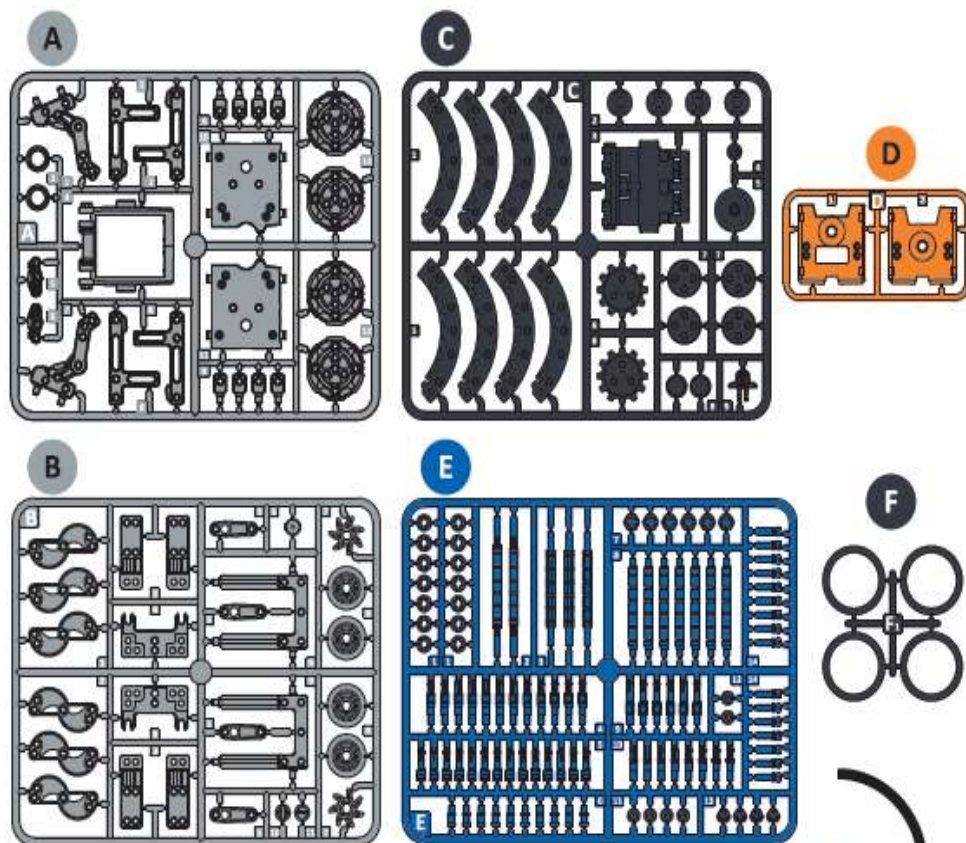
P9: ספינה

P10: מדבקות

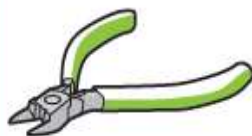
P11: תוויות

P12: שקיות

## חלקים לפירוק



תזדקקו לדברים  
הבאים



צבת



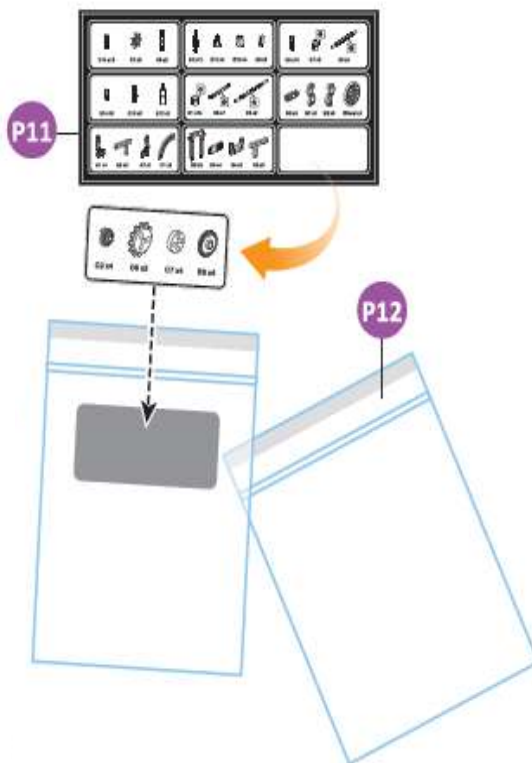
היזהרו לפרק את  
החלקים ב-E כנדרש



## לפני ההרכבה

1

מקמו את התוויות (P11) על 9 השקיות המסופקות לכם (P12).



2

תפרקו את החלקים ואחסנו אותם בשקיות המתאימות.



## טיפים



A



B



C

A – הלוגו הזה ממליץ לכם לבקש עזרה מאדם מבוגר להשלמת השלב.

B – לוגו זה מסב את תשומת הלב שלכם לשלב חשוב או לפיסת מידע שיש לנהוג לפיה.

C – הלוגו הזה מראה היכן להדביק את המדבקות.

דרגת  
קושי

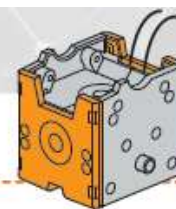


קלה

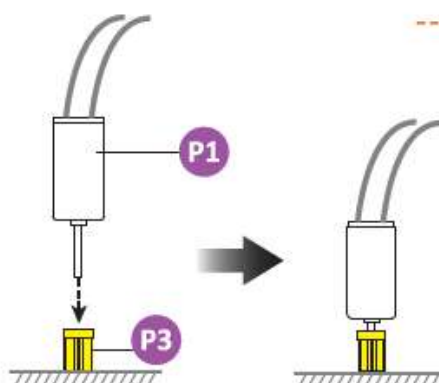
קשה

A

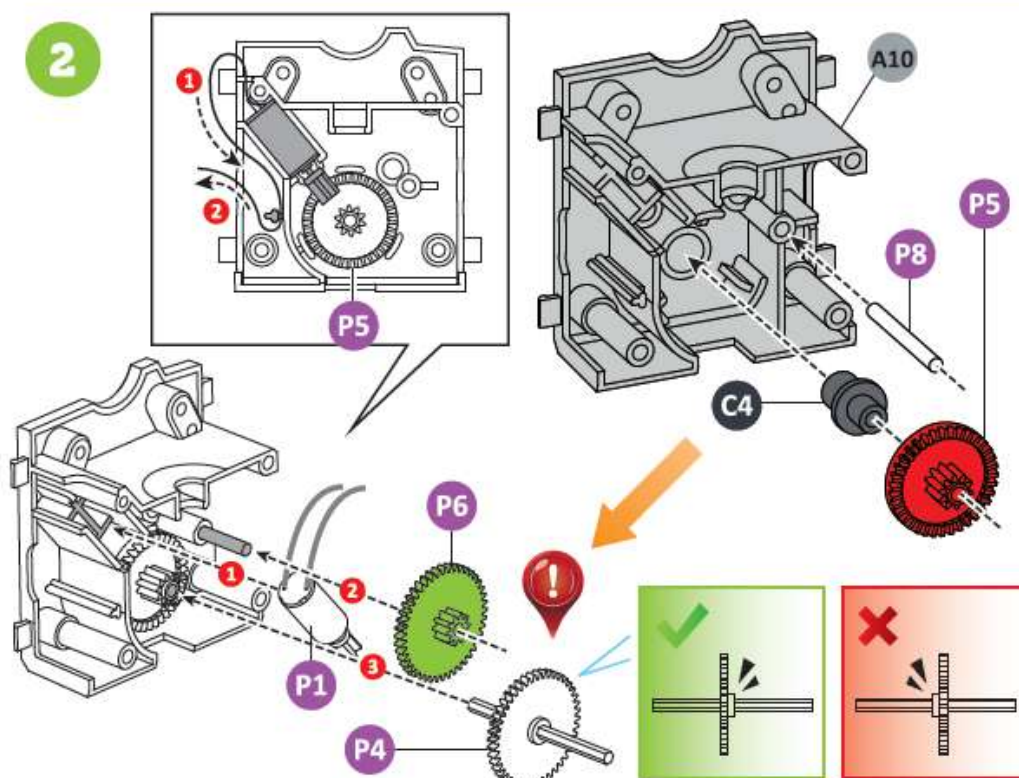
# המנוע



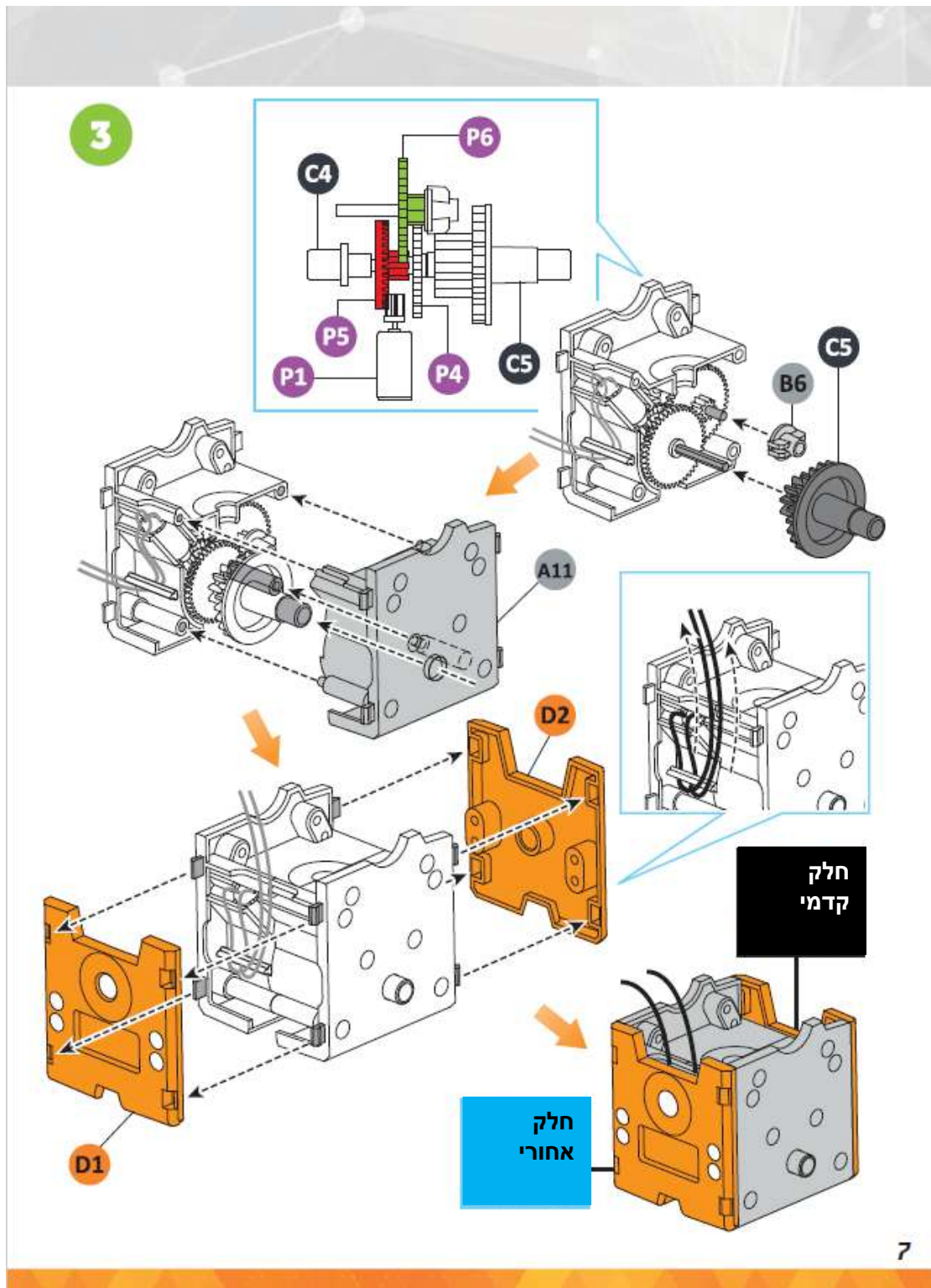
1



2



הקפידו לבצע את ההרכבה בכיוון הנכון.

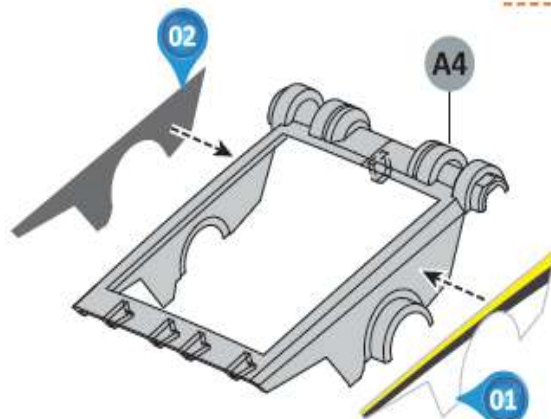


**B**

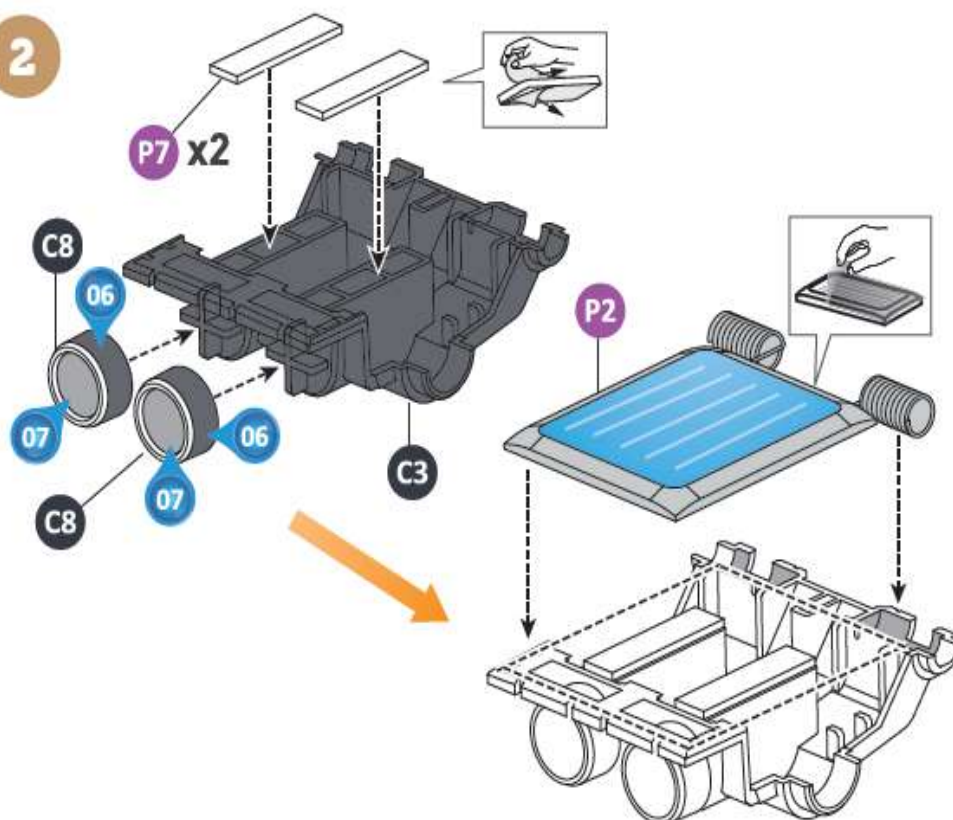
## הראש



**1**

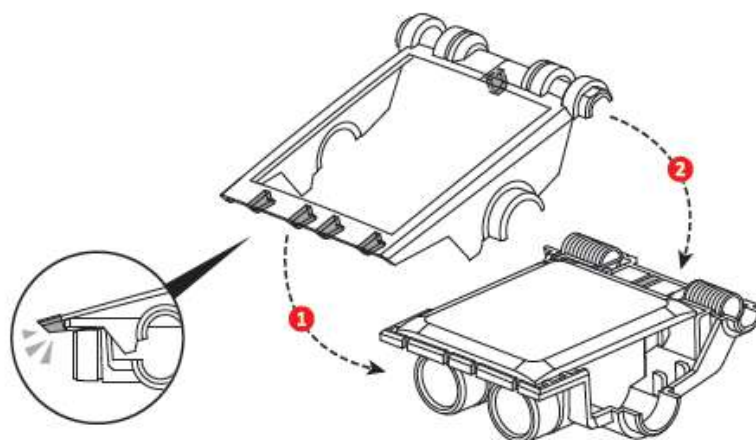


**2**

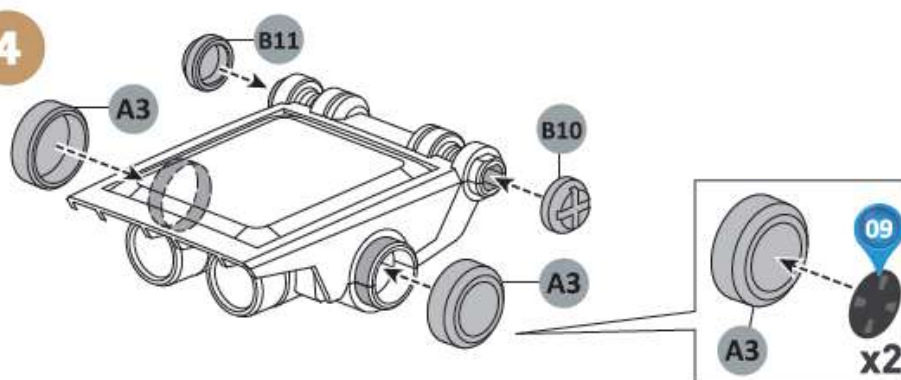




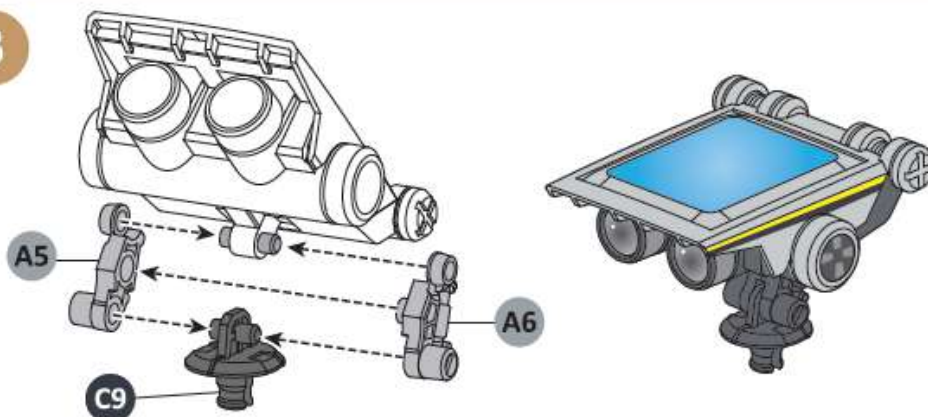
3



4



5

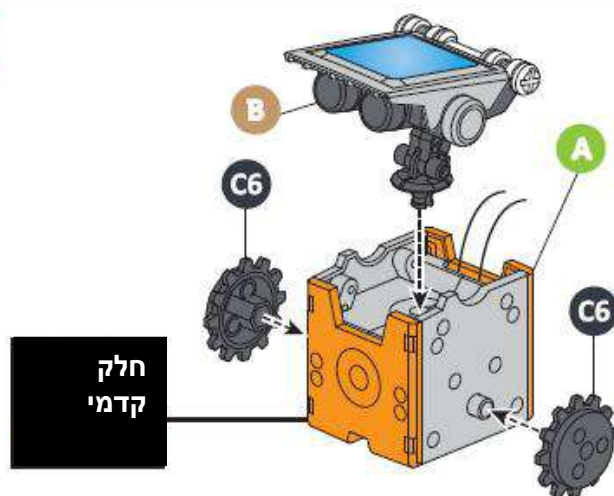


## בדיקה

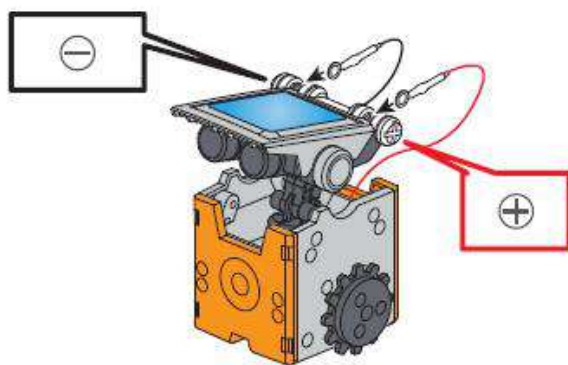
תזדקקו לדברים הבאים



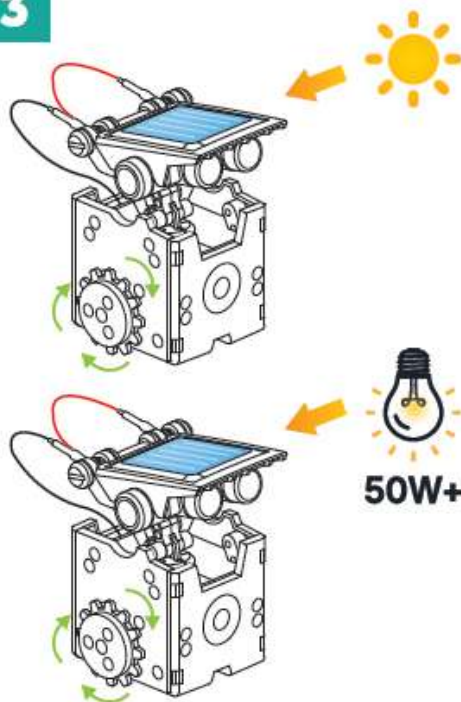
1



2



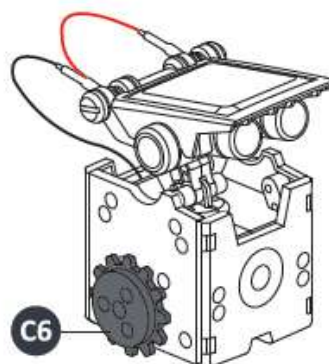
3



בדקו את המנוע ואת הראש באור שמש ישיר או עם נורת הלוגן חזקה (50 וואט או יותר).

### יש בעיות?

במידה ו-C6 אינו מסתובב, תפרקו את המנוע והפעילו מחדש את המכלול מעמוד 6.





## הספינה

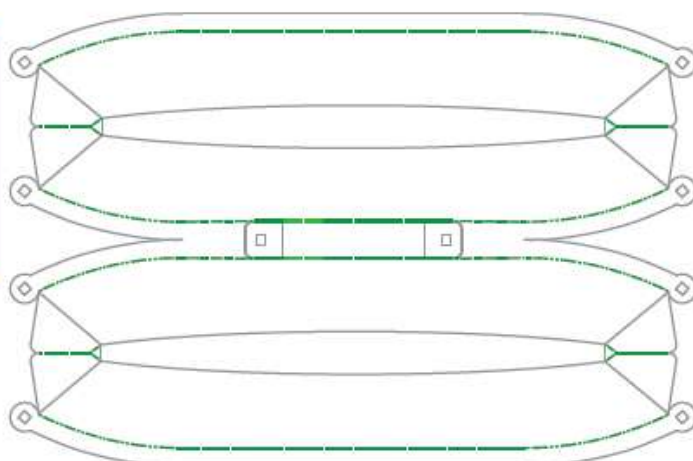
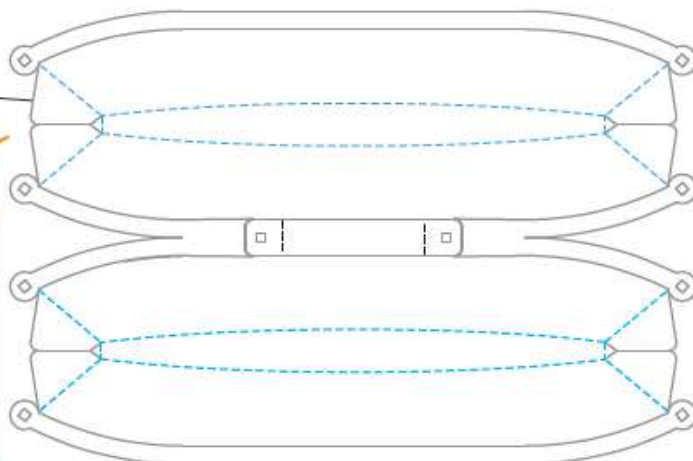


P9

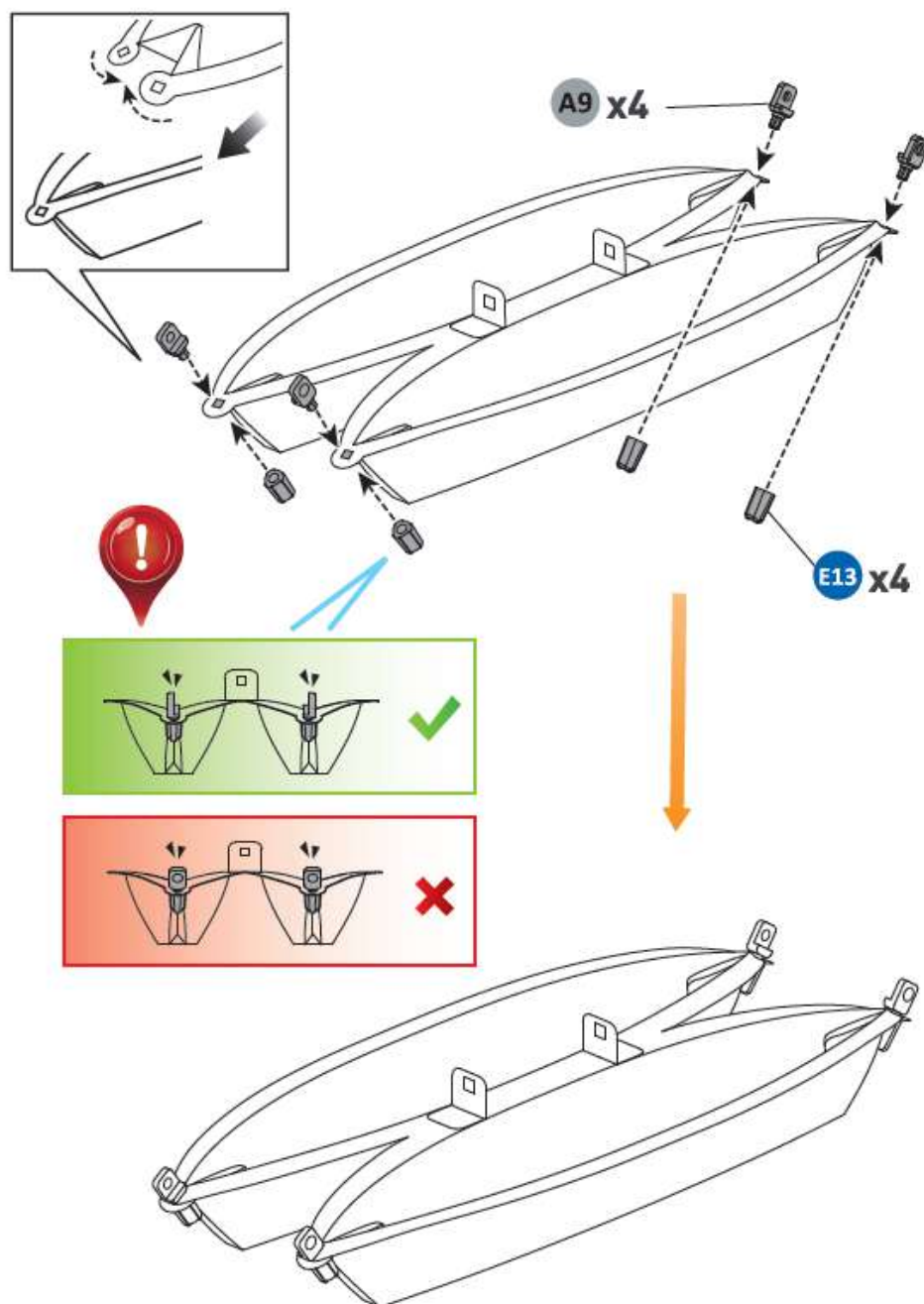
קיפול עמק



קיפול הר

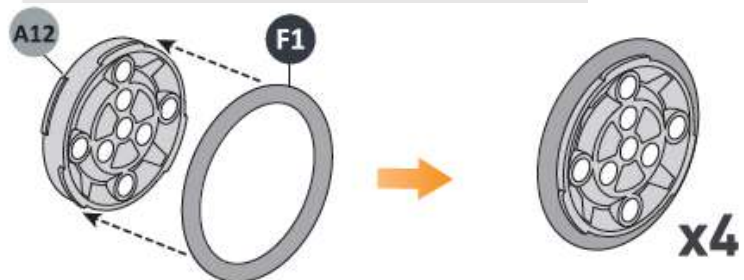




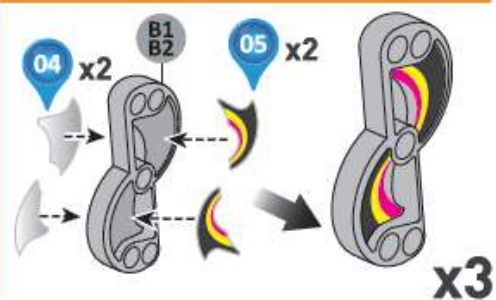
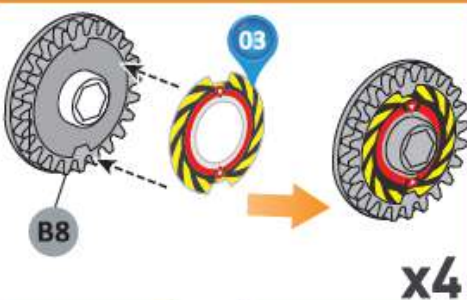
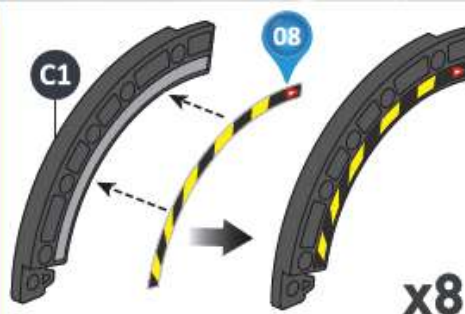
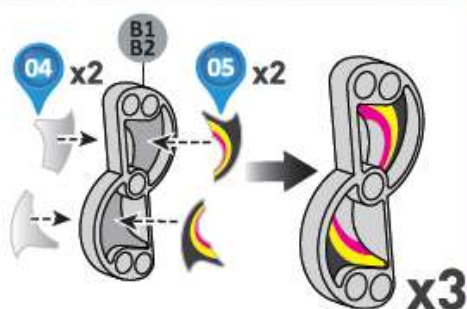


**D**

## הגלגלים



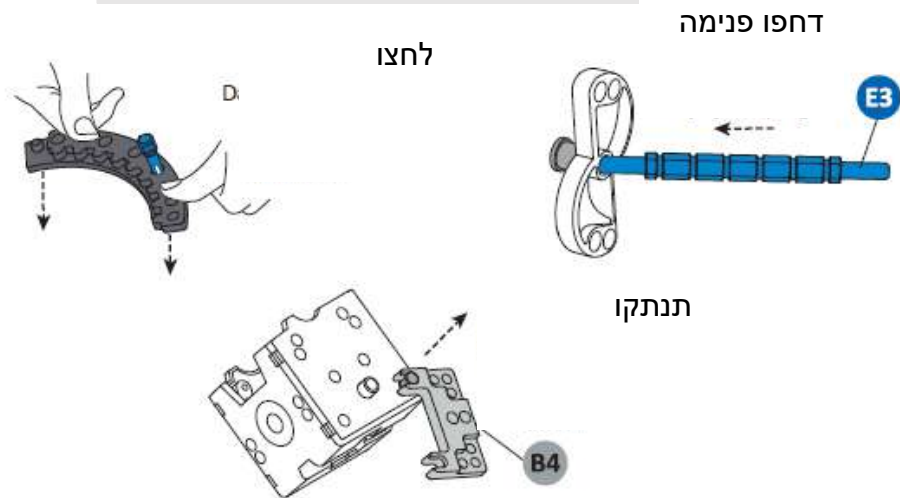
## מדבקות



חתכו בזהירות



## יש בעיות?



## כיצד לשחק?

| במקום פתוח | שמש        | עננים                       | צל       |
|------------|------------|-----------------------------|----------|
|            |            |                             |          |
| במקום סגור | נורת הלוגן | נורת פלואורסצנט<br>קומפקטית | נורת LED |
|            | 50W+       |                             |          |
|            |            |                             |          |



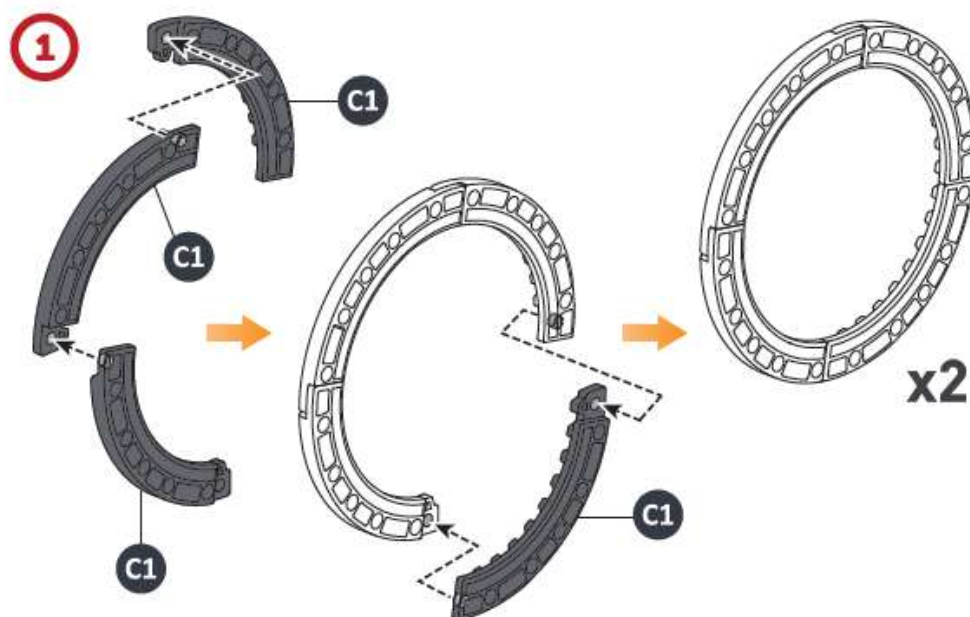


1

# רובוט על גלגלים

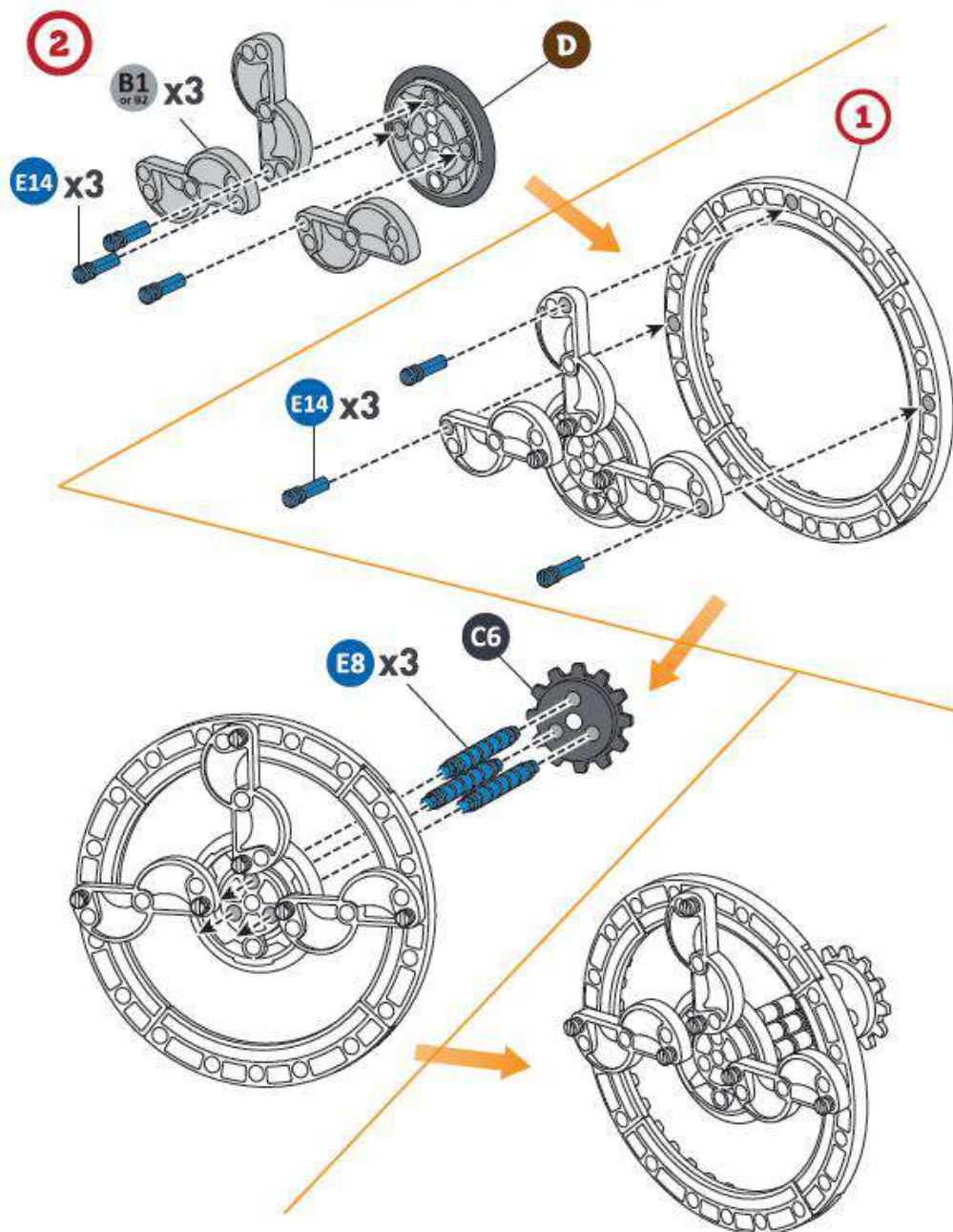


תזדקקו לדברים הבאים

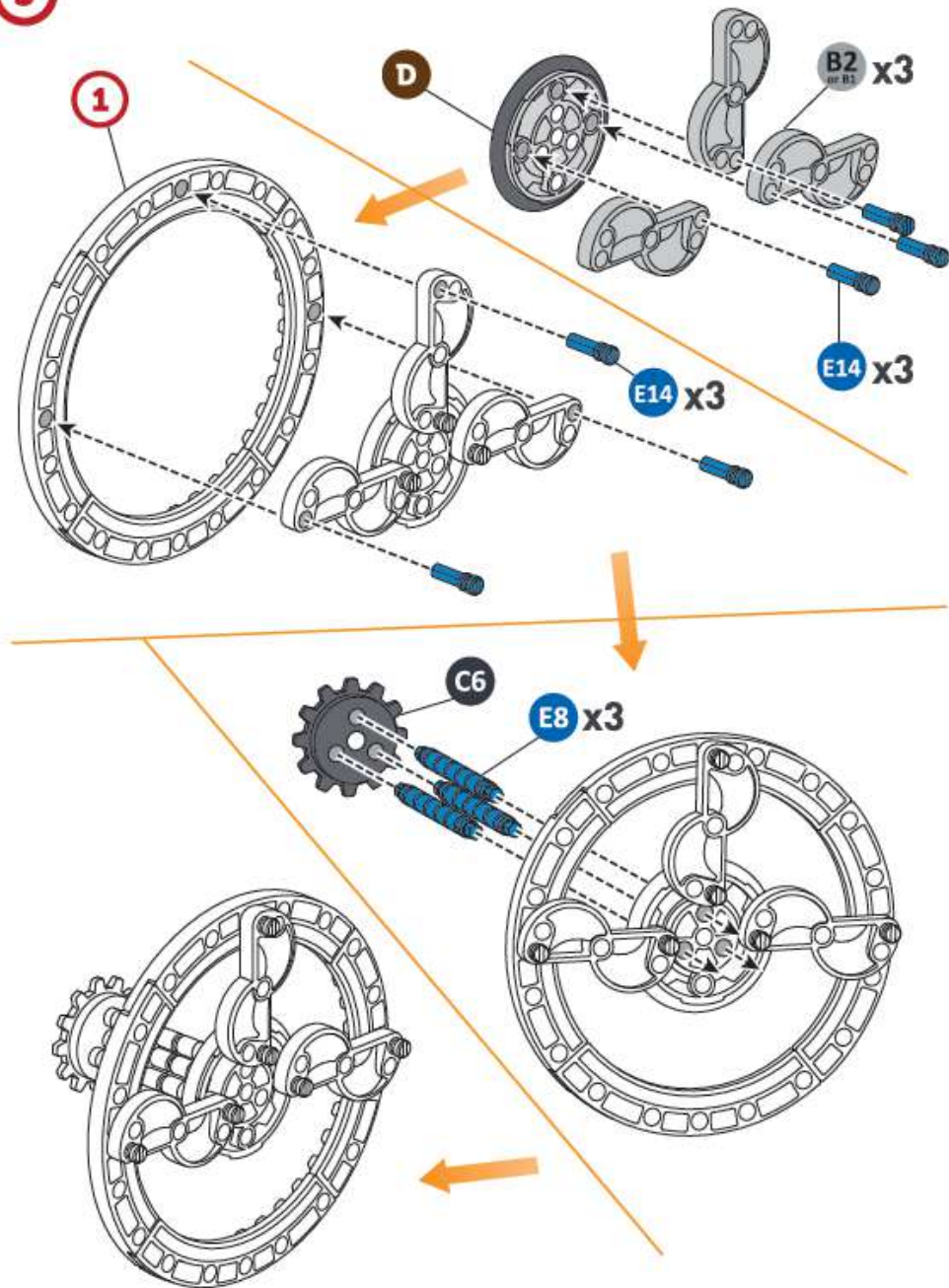


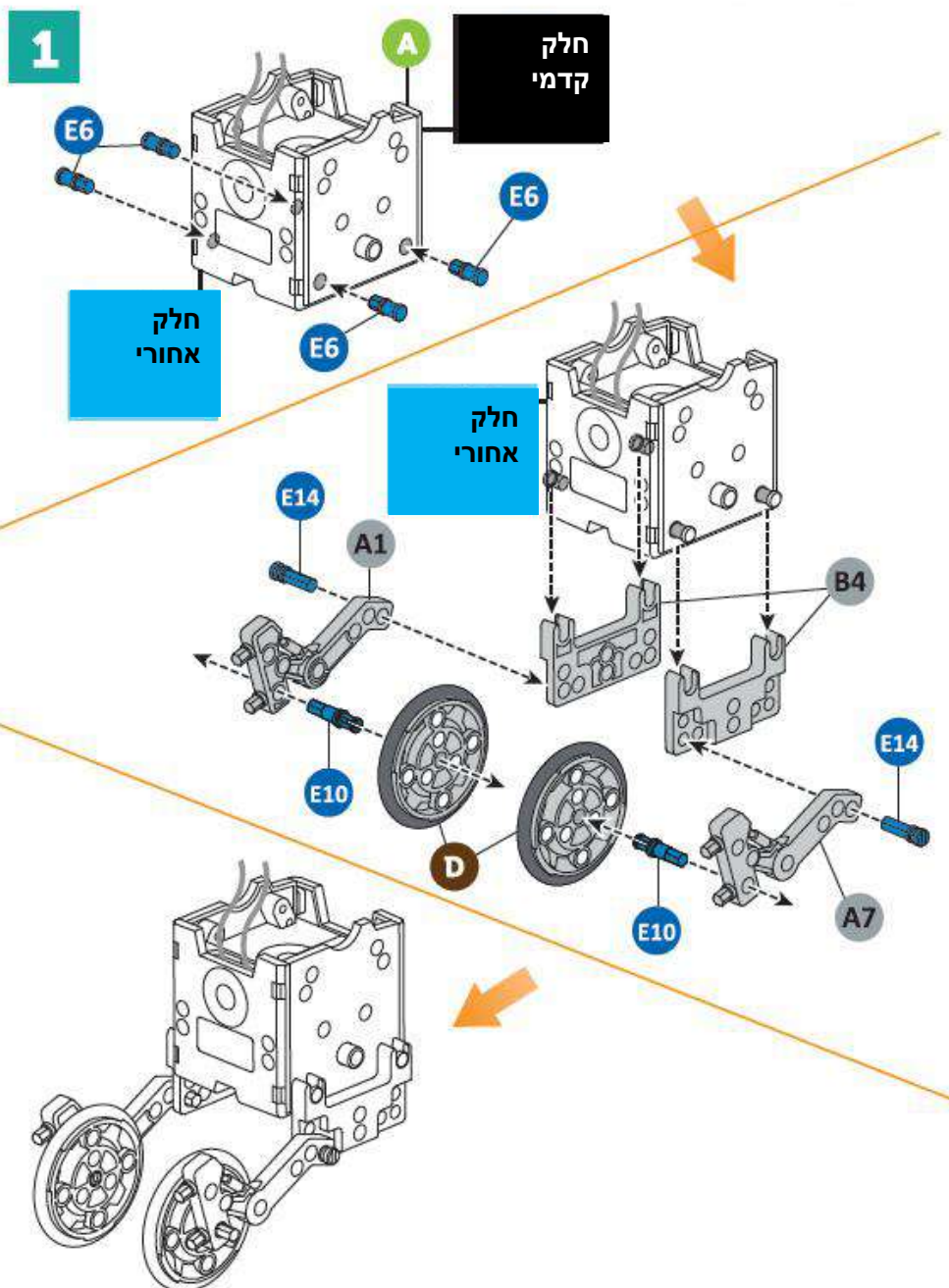
## רובוט על גלגלים

1



3



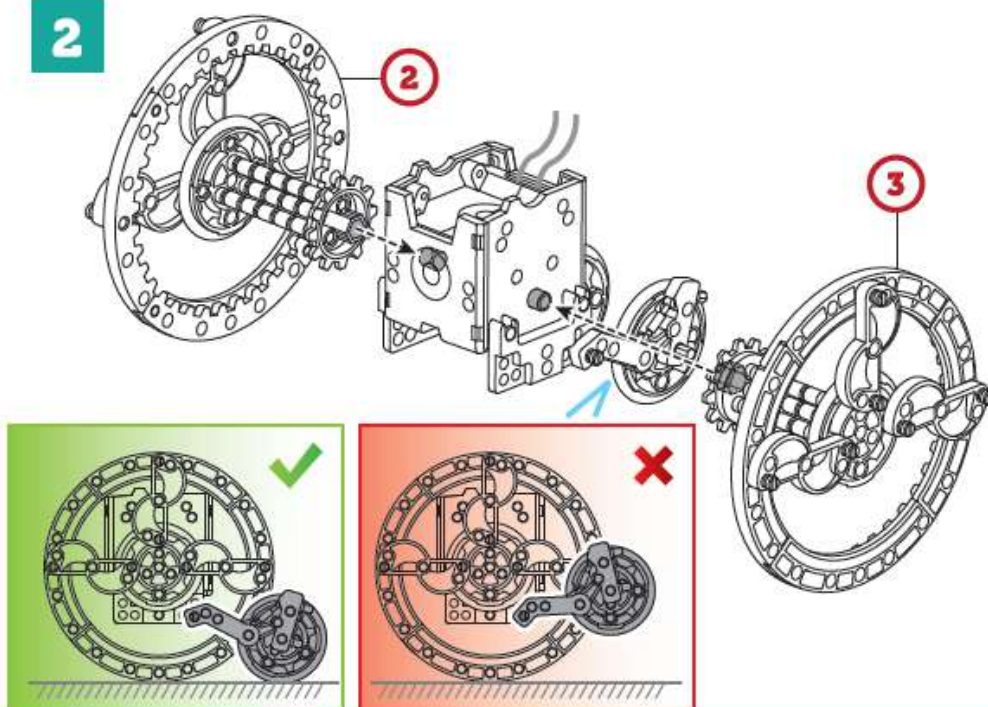




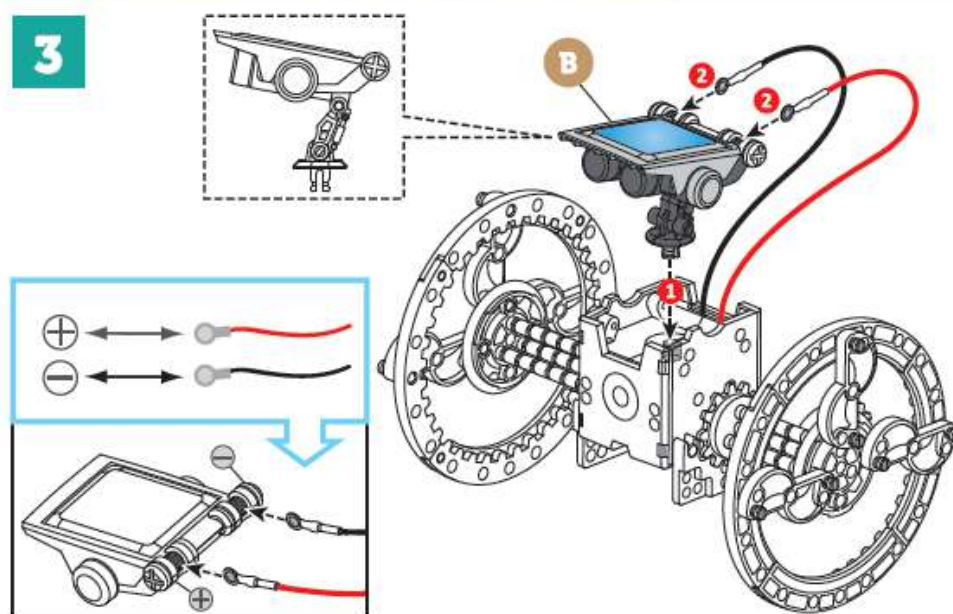
# רובוט על גלגלים

1

2



3

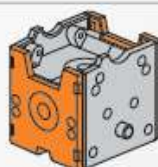


# 2

## רובוט צב



תזדקקו לדברים הבאים



A



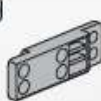
B



A2 x2



A8 x2



B3 x4



B4 x2



B8 x3



C1 x4



C2 x1



C7 x4



E8 x5



E3 x2



E6 x4



E14 x2



E5 x4



E4 x7

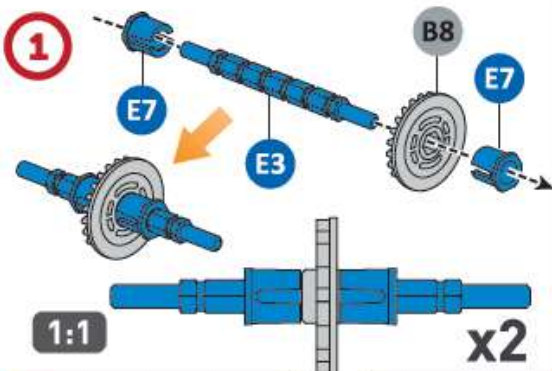


E7 x4

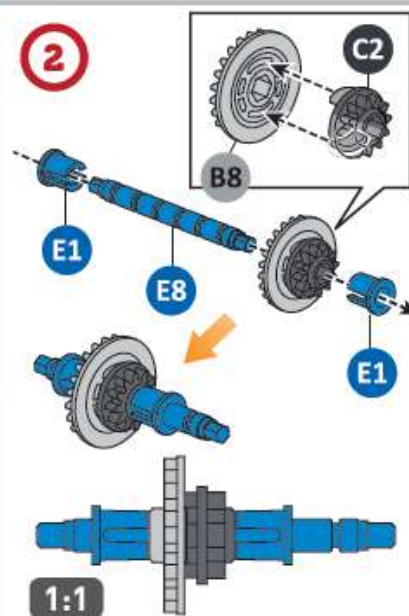


E1 x2

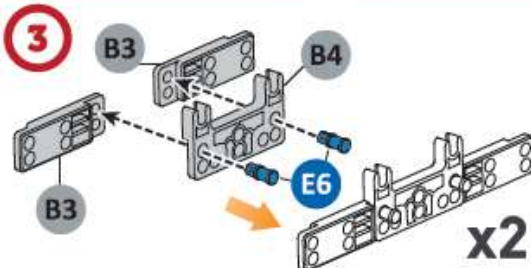
1



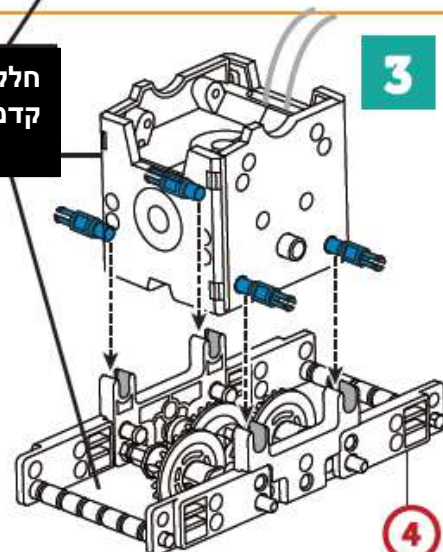
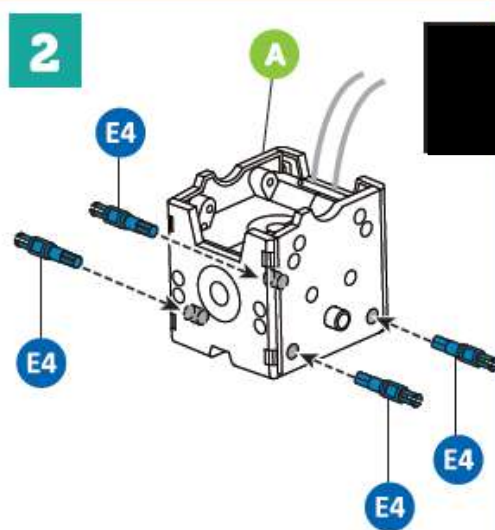
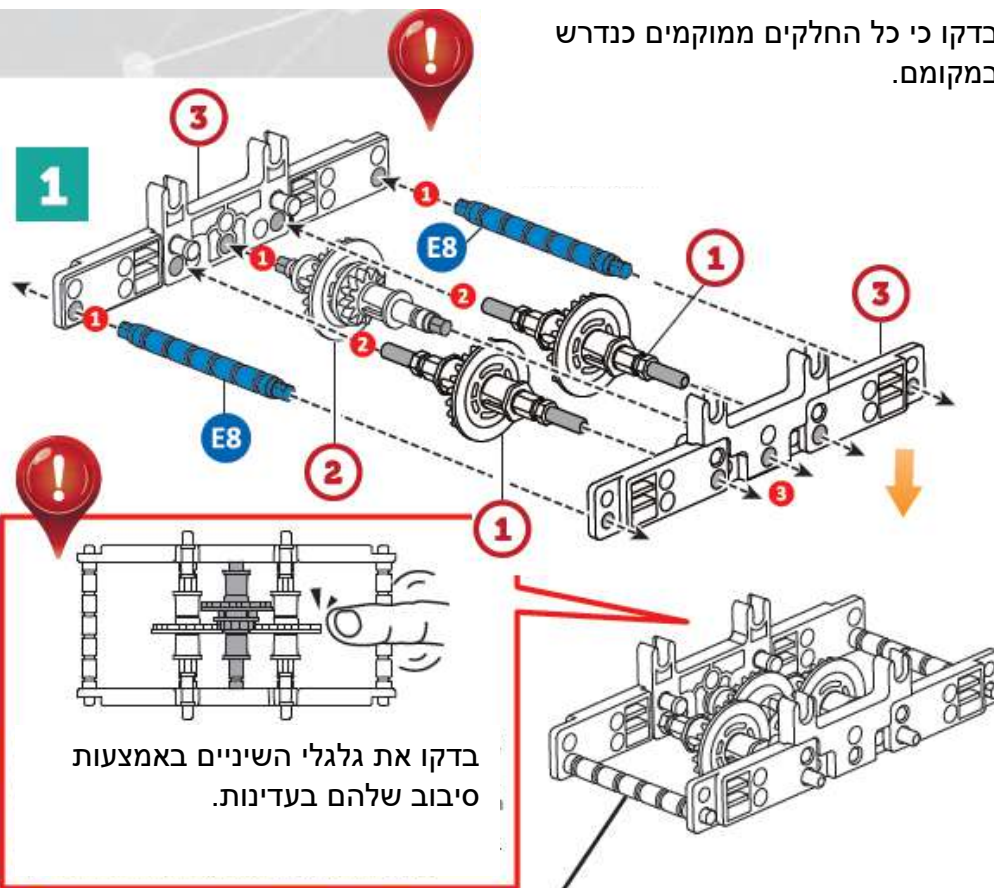
2



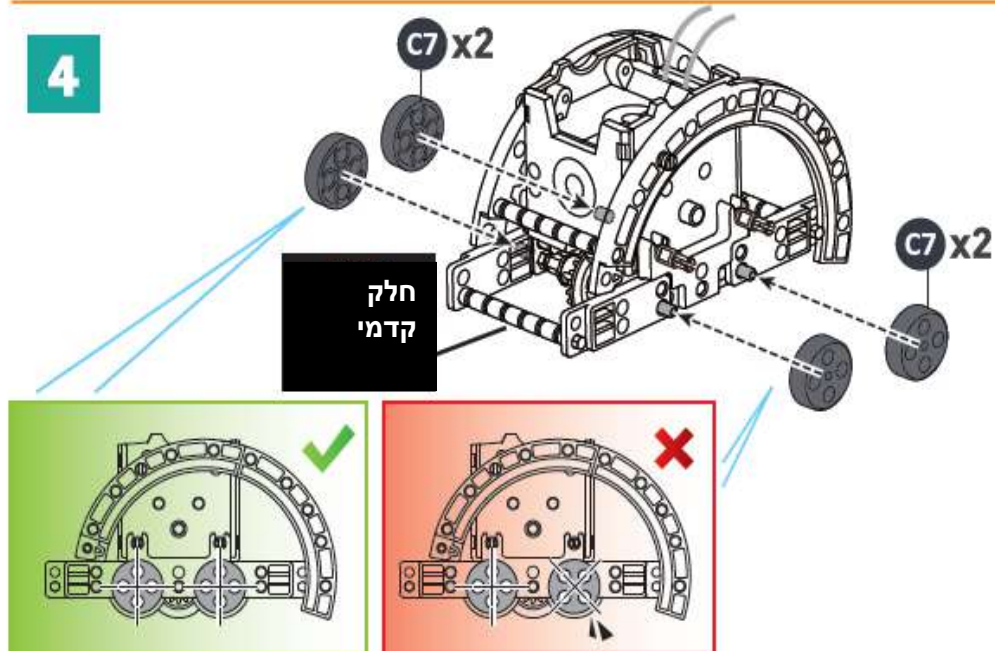
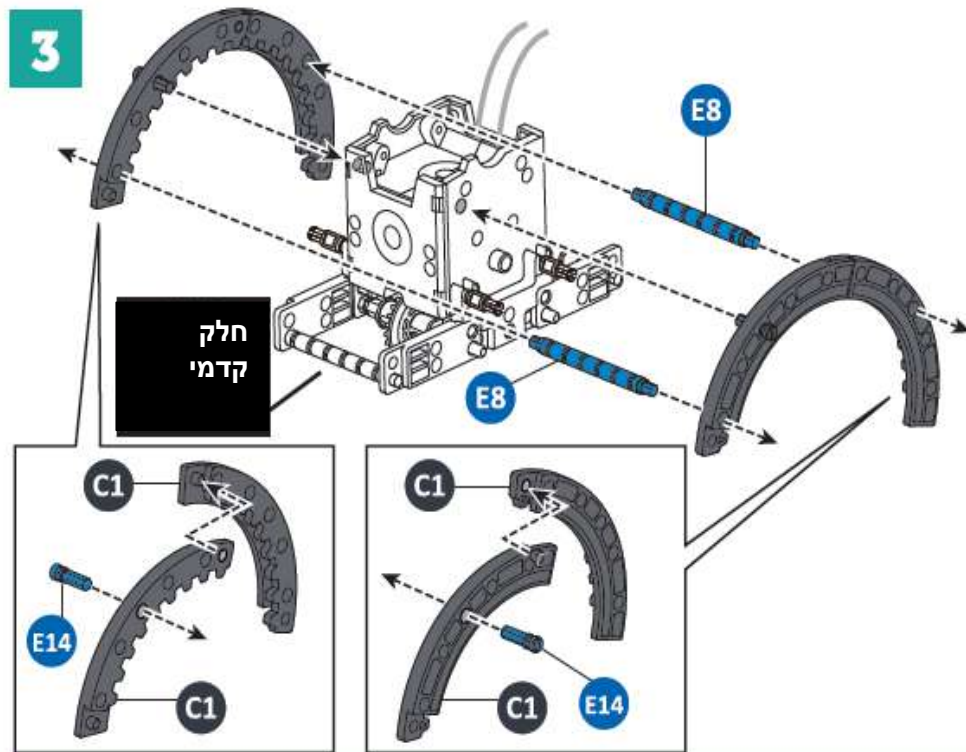
3



בדקו כי כל החלקים ממוקמים כנדרש  
במקומם.



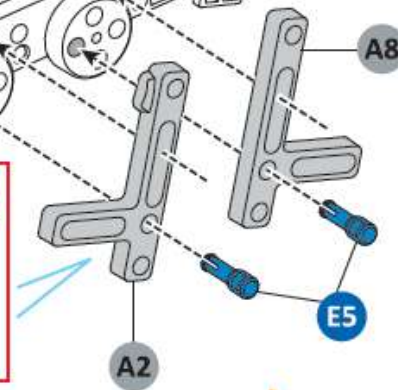






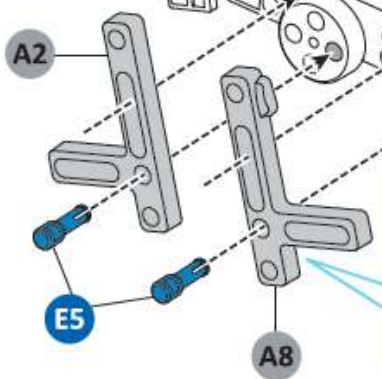
5

חלק  
קדמי

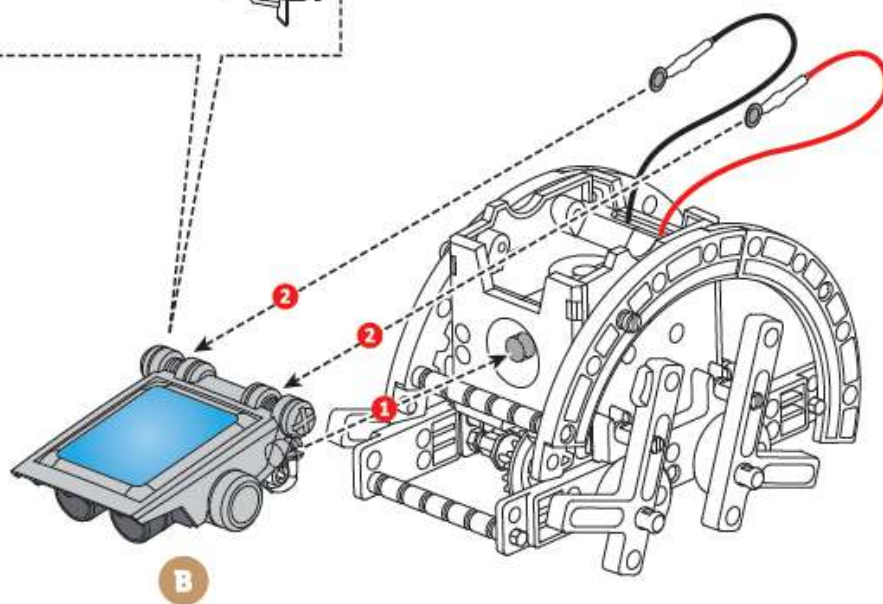
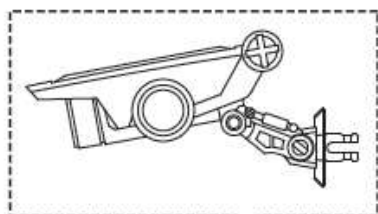
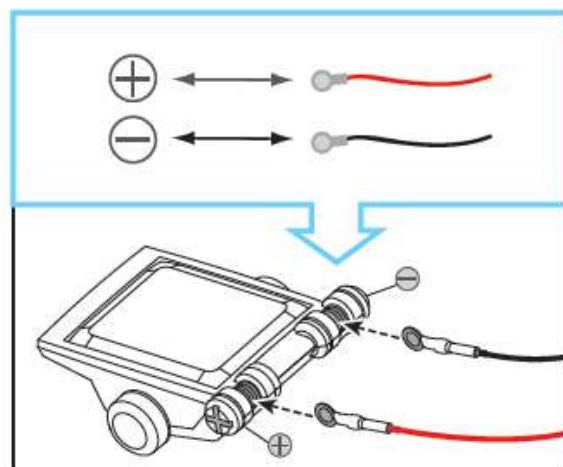


סובבו  
90°

חלק  
קדמי



6

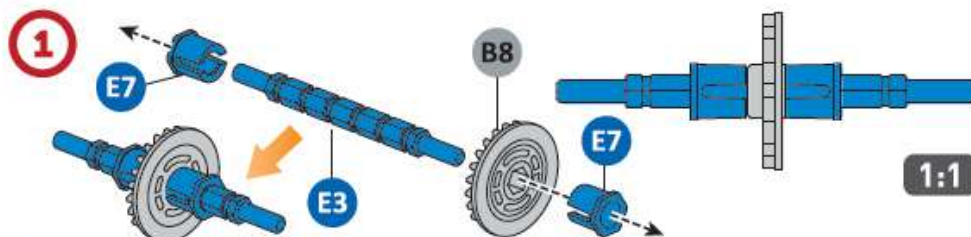


3

# רובוט מהלך

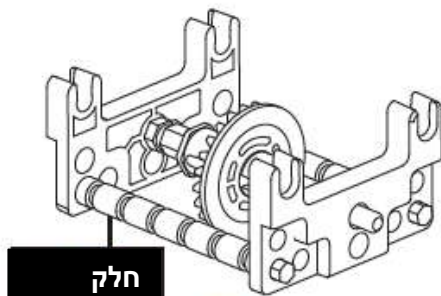


תזדקקו לדברים הבאים

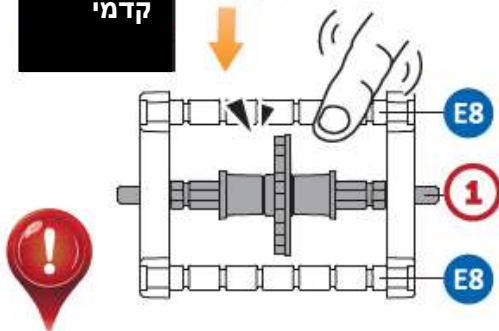


בדקו כי כל החלקים ממוקמים כנדרש במקומם.



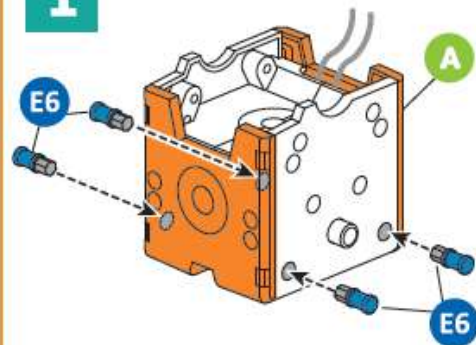


חלק  
קדמי

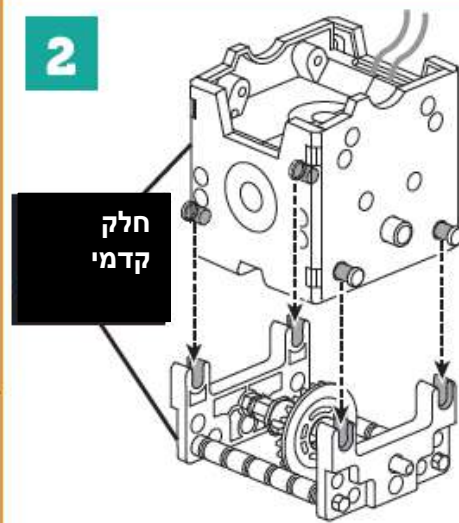


בדקו את גלגלי השיניים באמצעות סיבוב שלהם בעדינות.

1

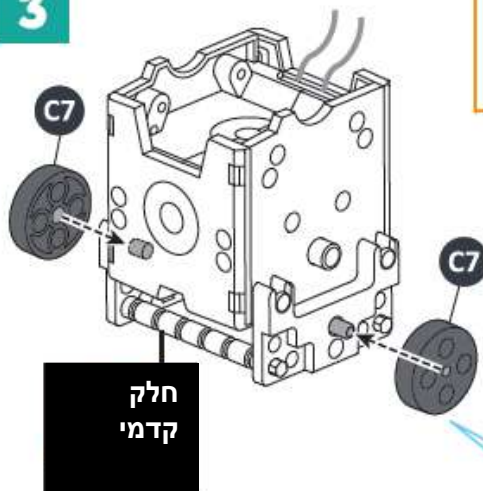


2

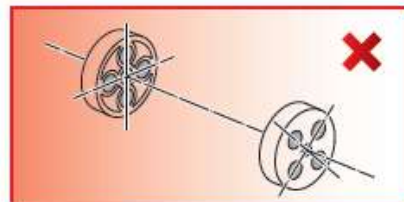
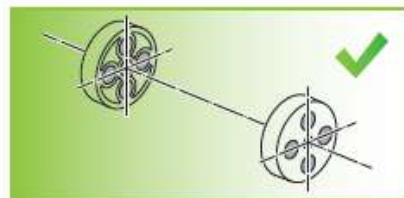


חלק  
קדמי

3

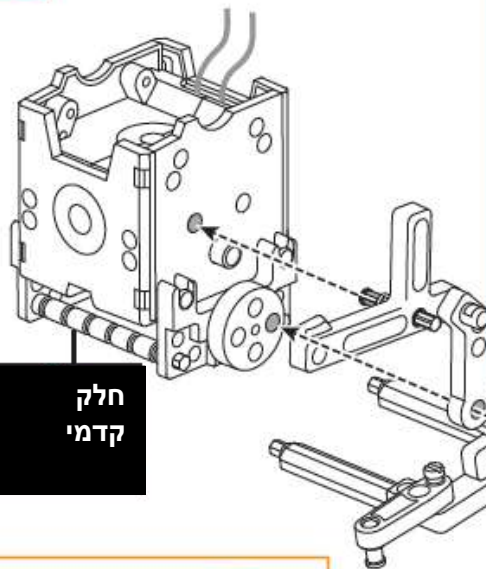


חלק  
קדמי

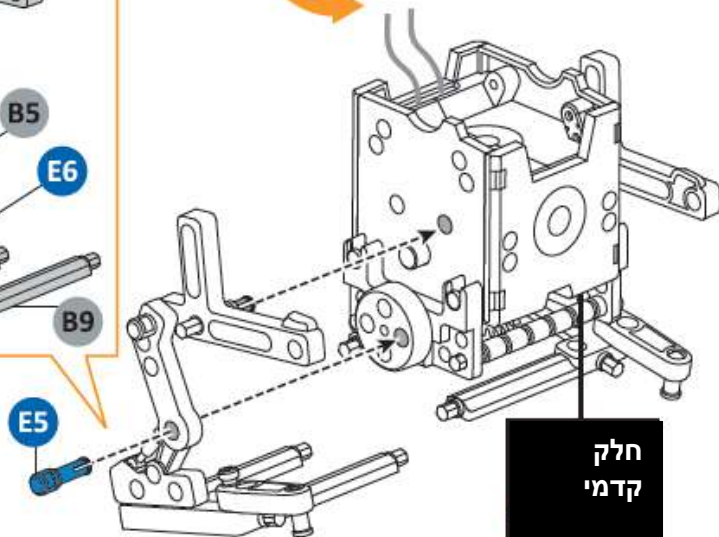
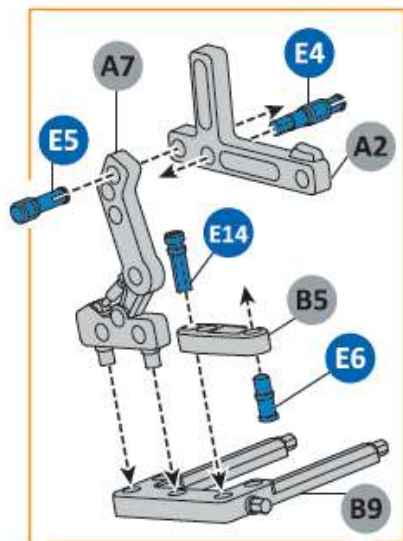
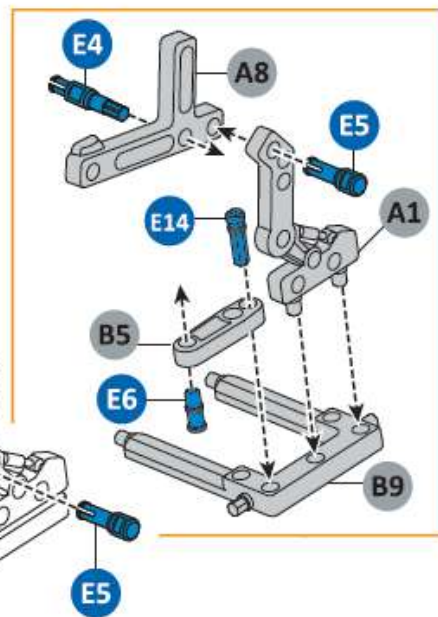




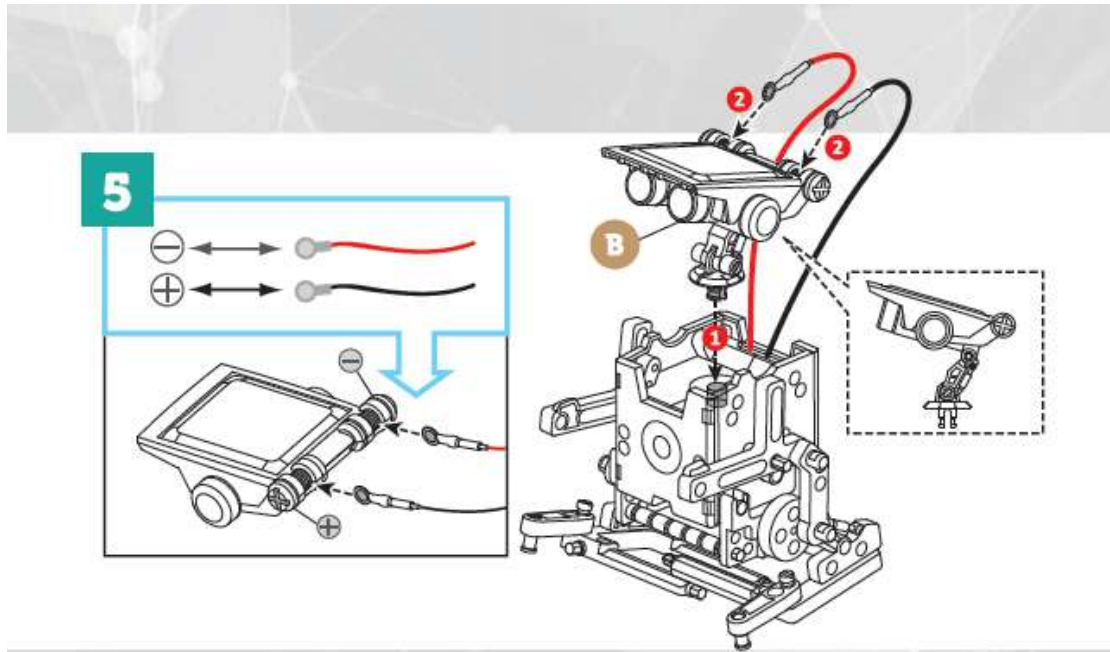
4



חלק  
קדמי



חלק  
קדמי



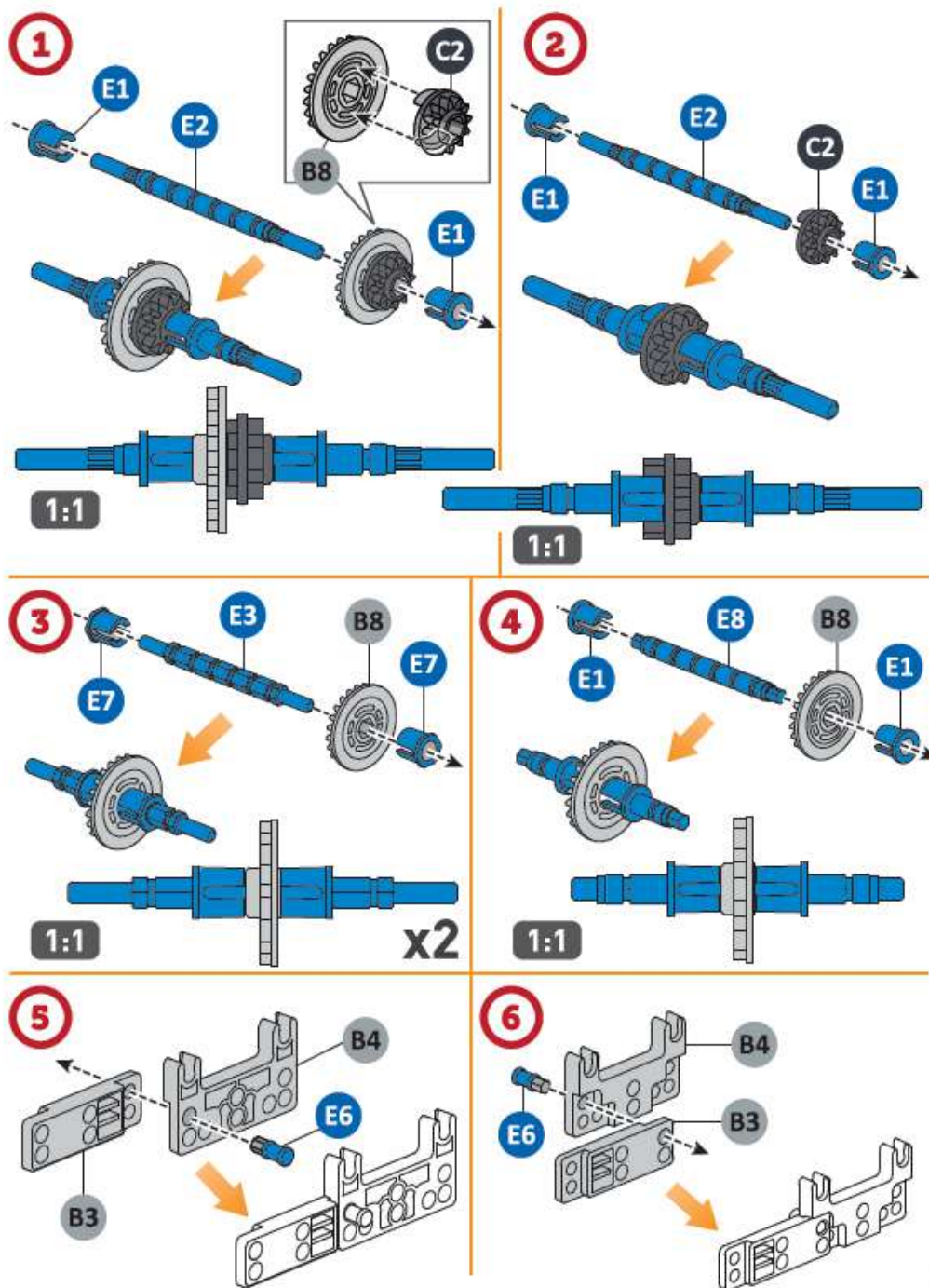
## 4 רובוט חתול



**תזדקקו לדברים הבאים**

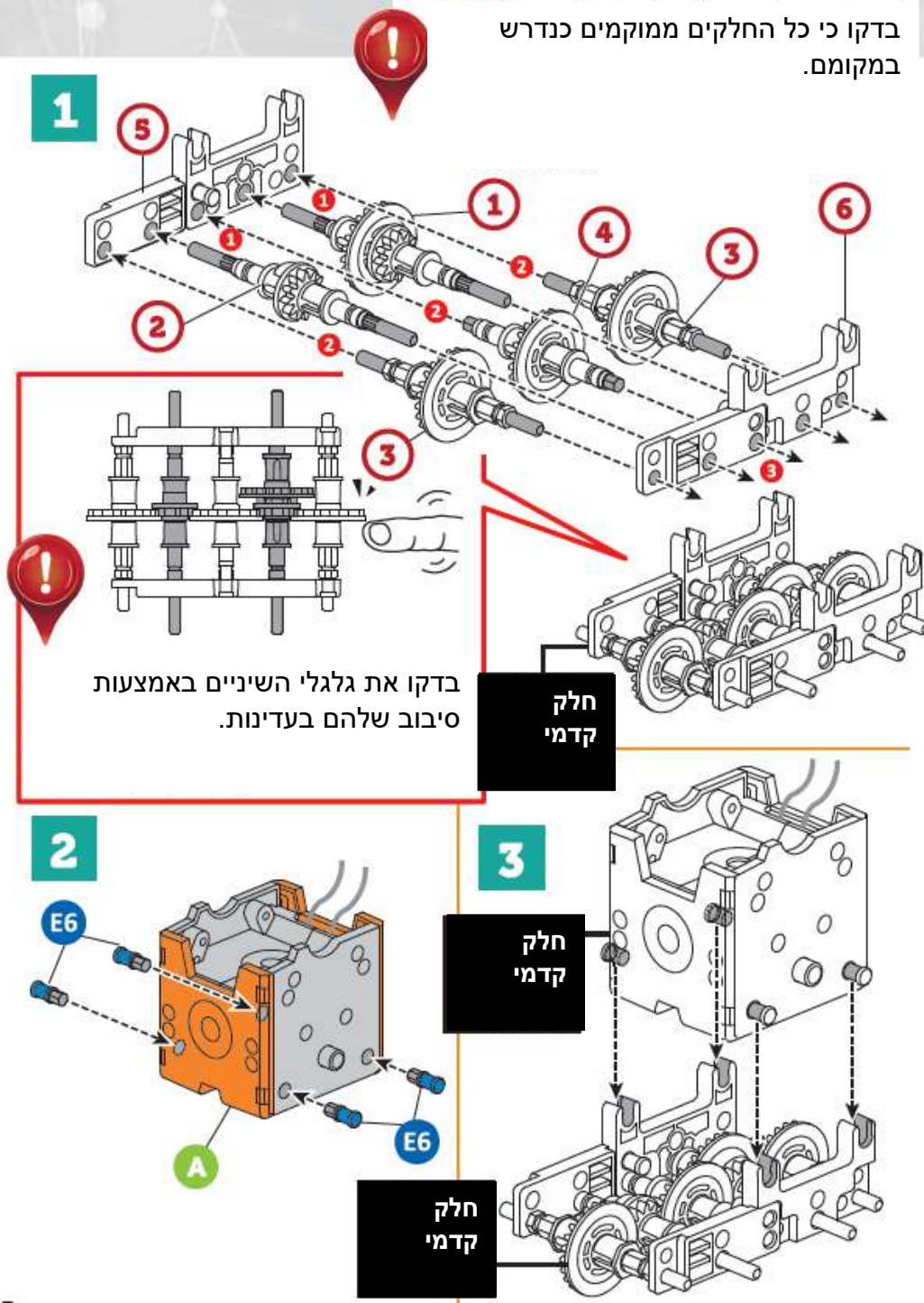
|       |       |       |       |
|-------|-------|-------|-------|
|       |       |       |       |
| A8 x2 | A     | A2 x2 |       |
|       |       |       |       |
| B3 x2 | B4 x2 | B8 x4 | C2 x2 |
|       |       |       |       |
| E5 x4 | E1 x6 | E7 x4 | E8 x1 |
|       |       |       |       |
| E2 x2 | E3 x2 |       |       |

## רובוט חתול





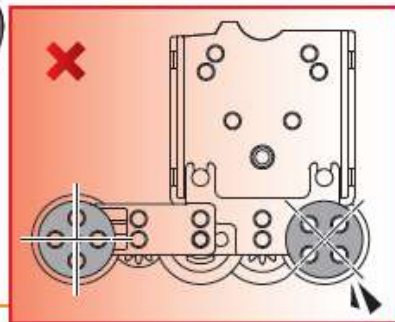
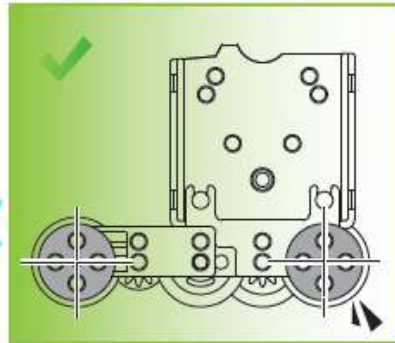
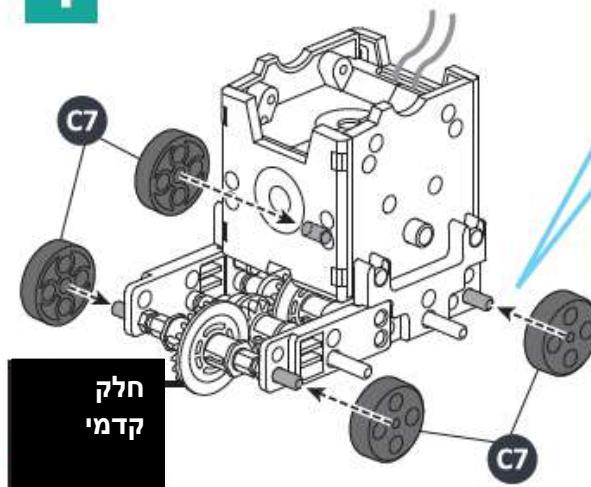
בדקו כי כל החלקים ממוקמים כנדרש  
במקומם.



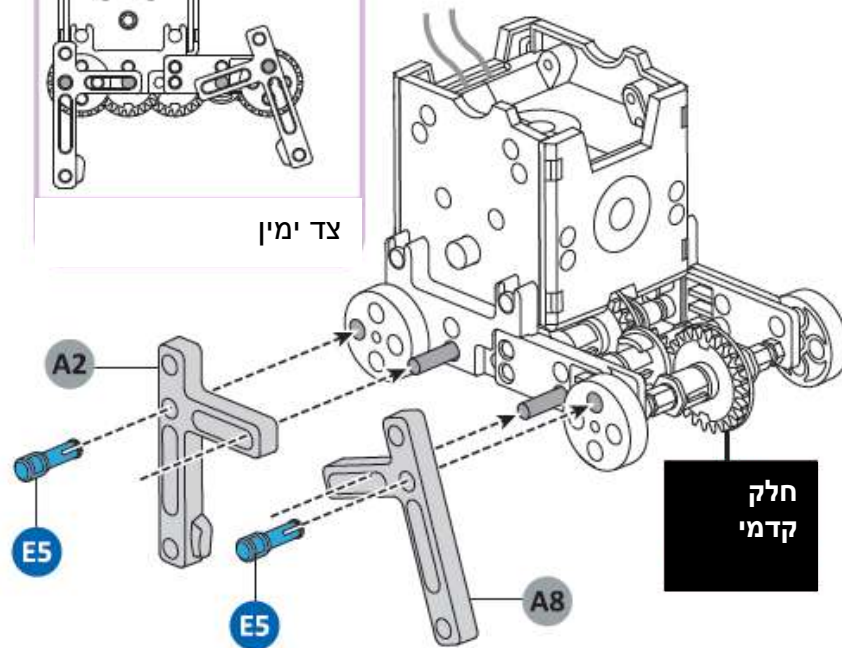
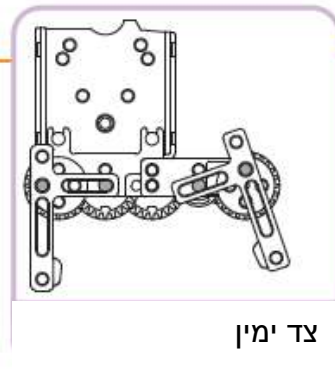


## רובוט חתול

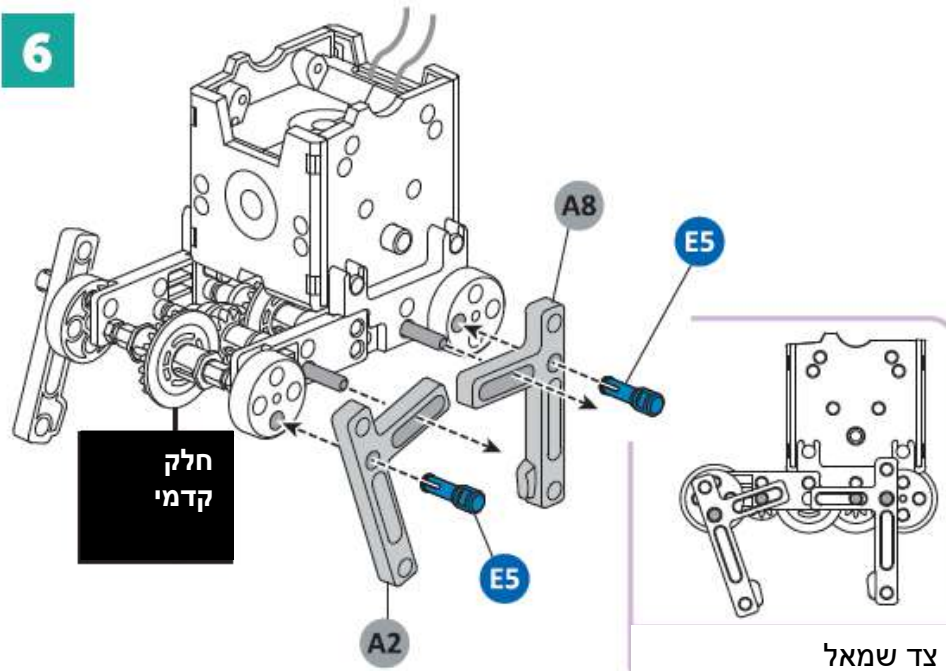
4



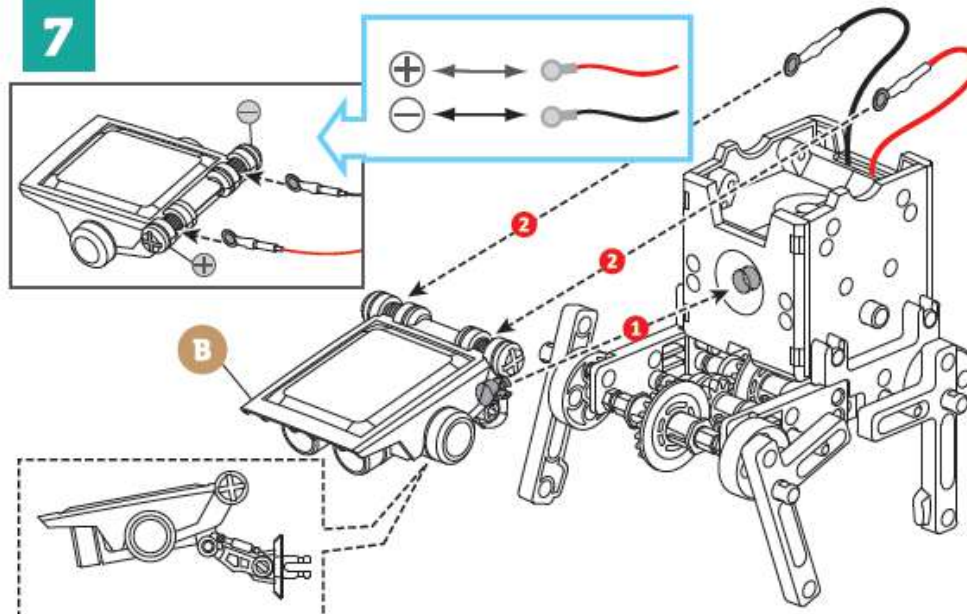
5



6



7

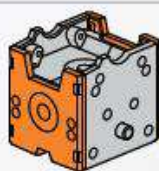


# 5

## רובוט ספינה



תזדקקו לדברים  
הבאים



A



B



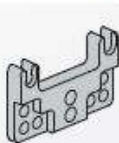
D x2



B1 x3



B2 x3



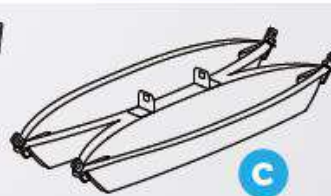
B4 x2



C6 x2



C1 x8



C



E6 x4



E14 x12



E4 x8

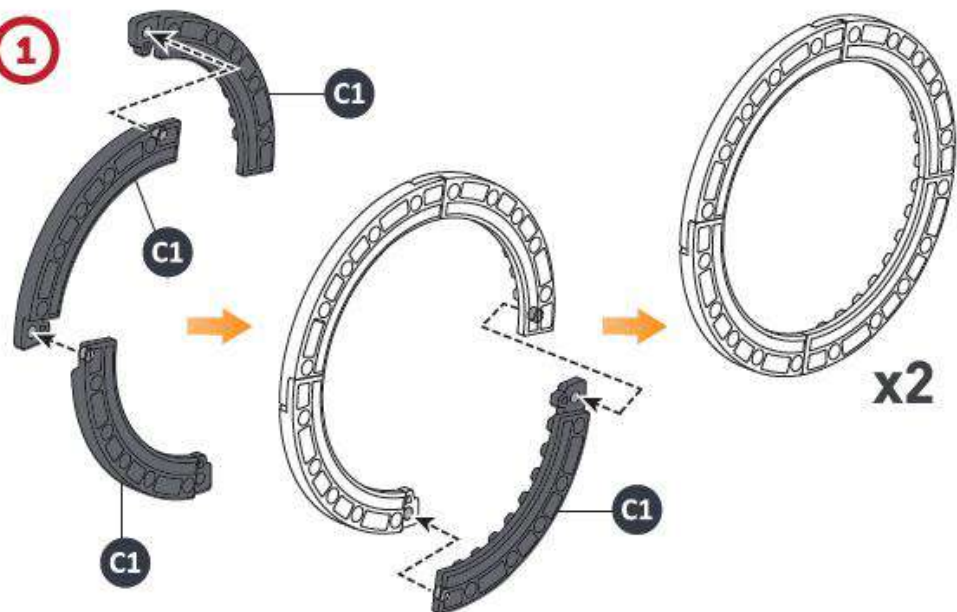


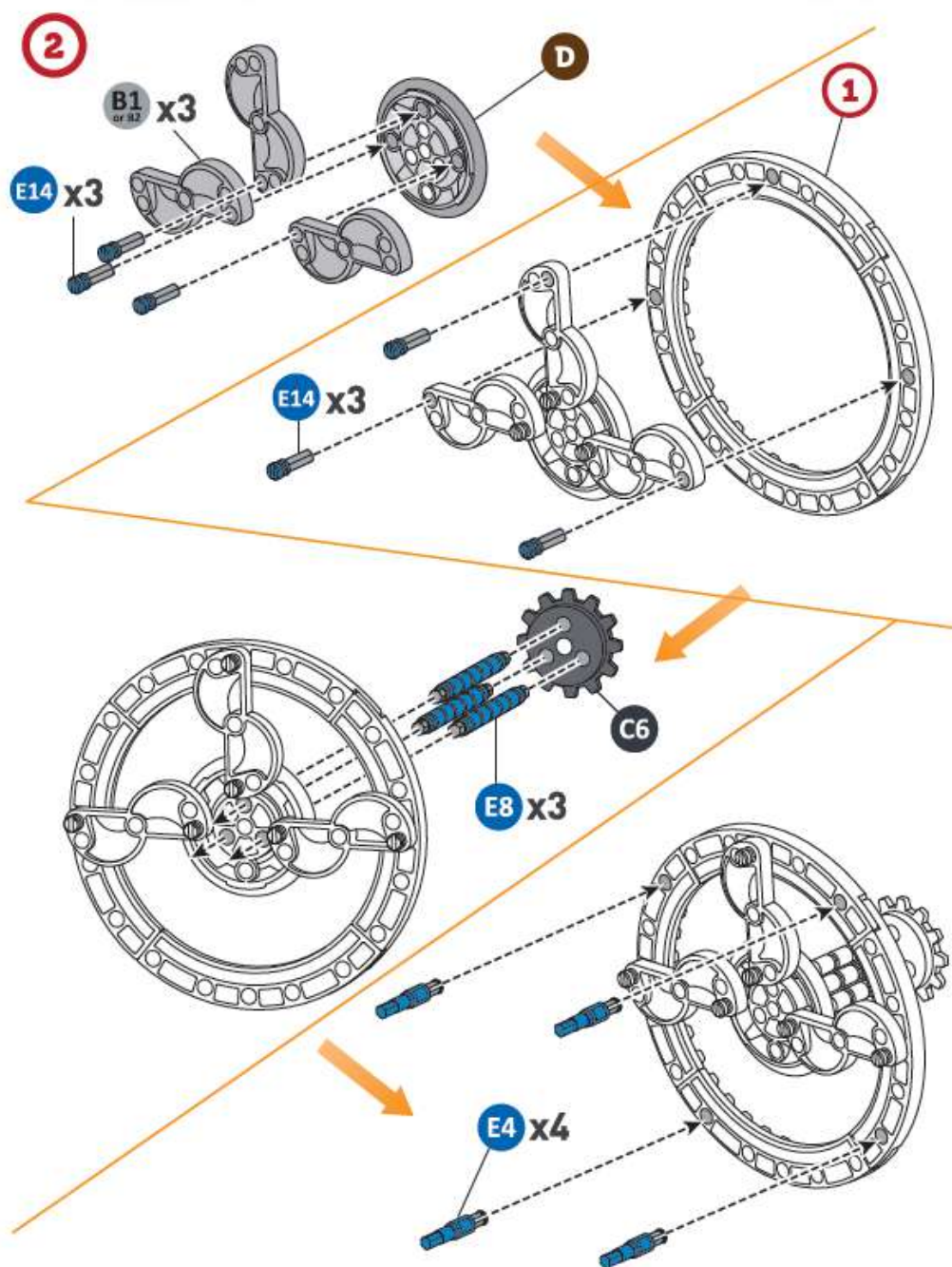
E9 x2



E8 x6

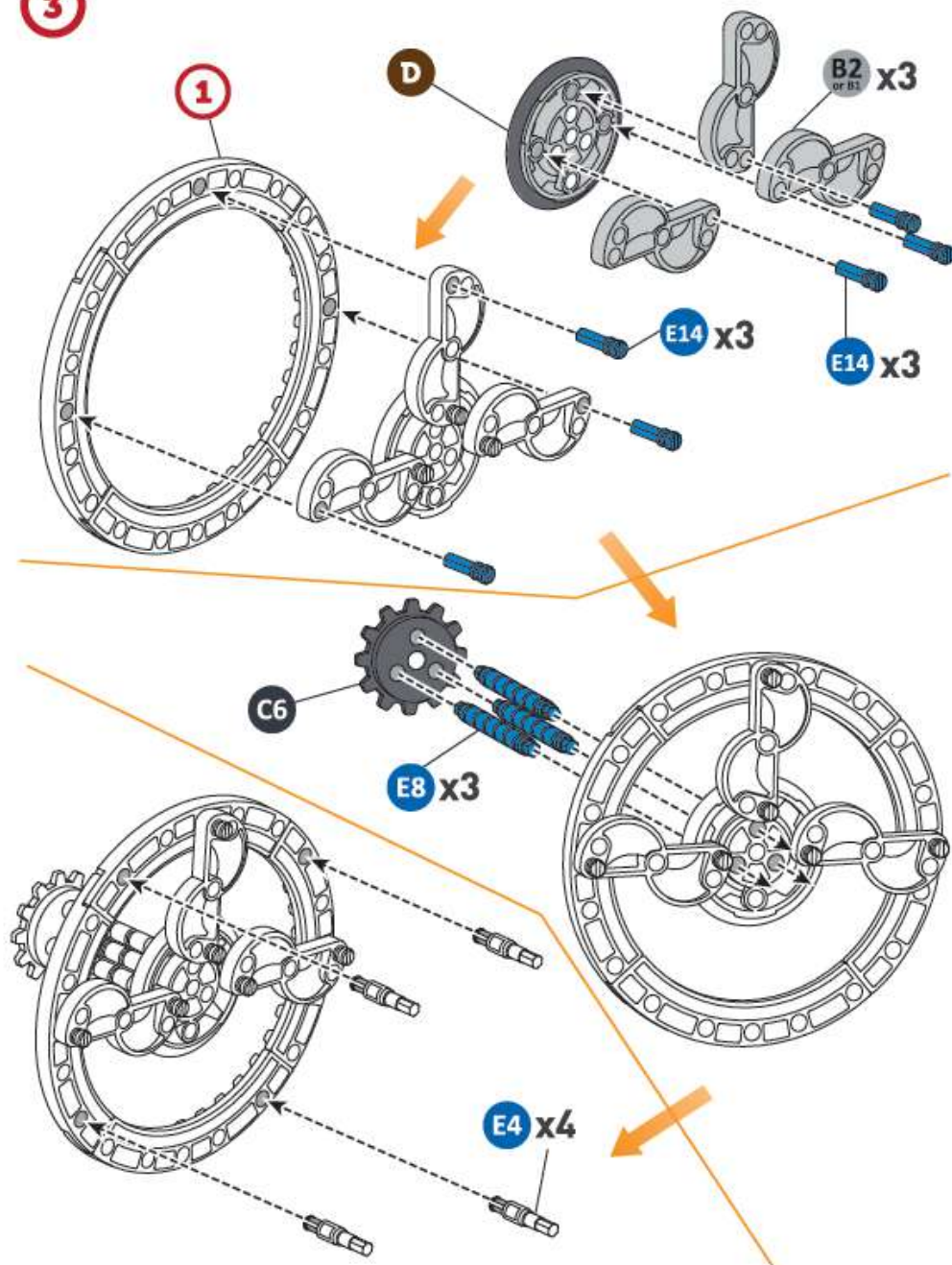
1





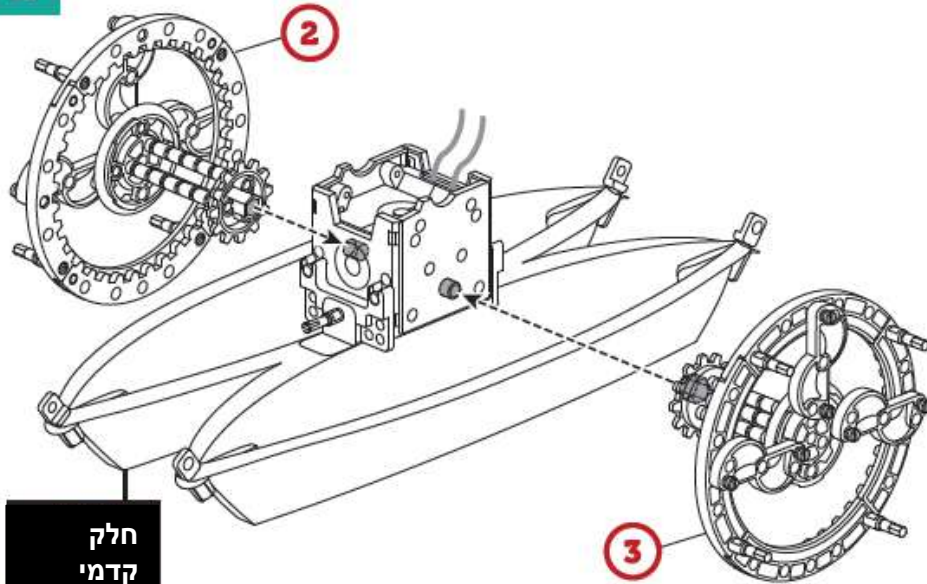


3

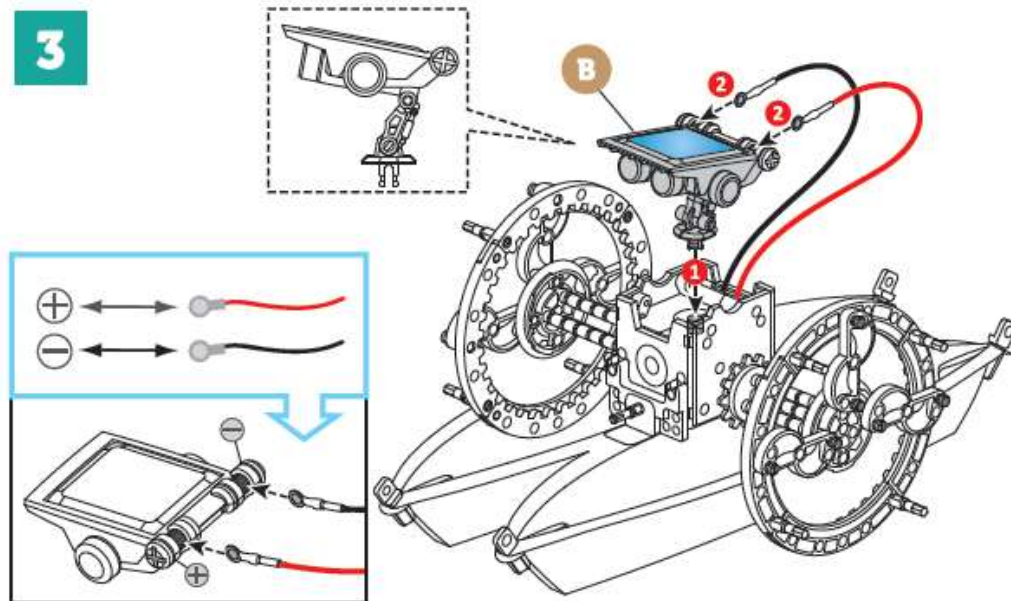




2



3

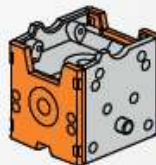


# 6

## רובוט חיפושית



תזדקקו לדברים  
הבאים



A



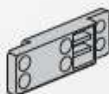
B



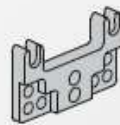
B1 x3



B2 x3



B3 x4



B4 x2



B8 x3



C2 x3



E6 x8



E11 x4



E12 x2



E7 x6



E1 x4

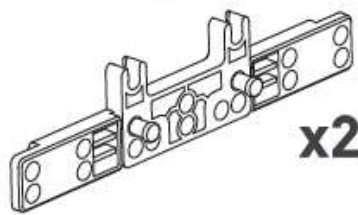
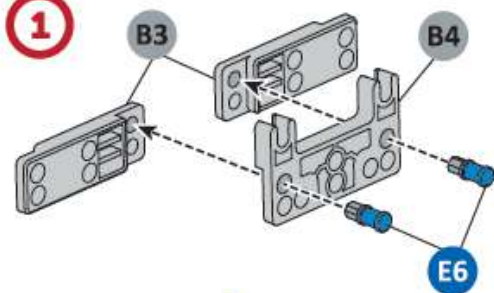


E8 x2



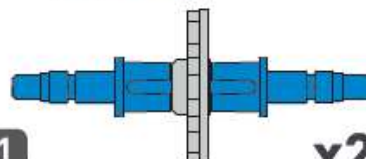
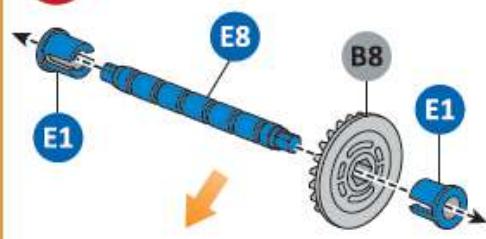
E3 x3

1



x2

2

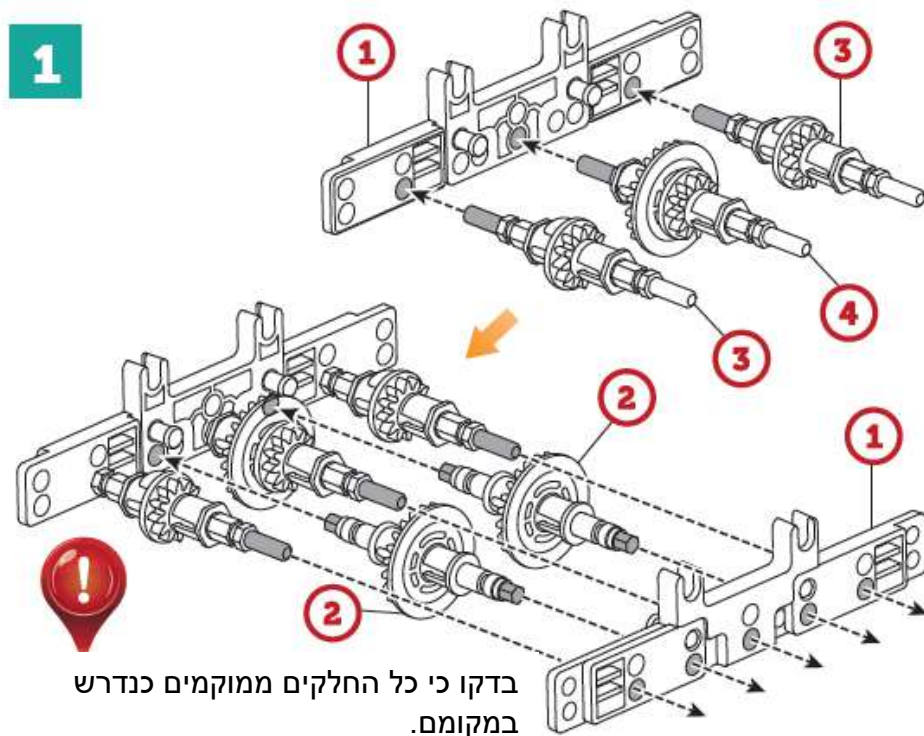
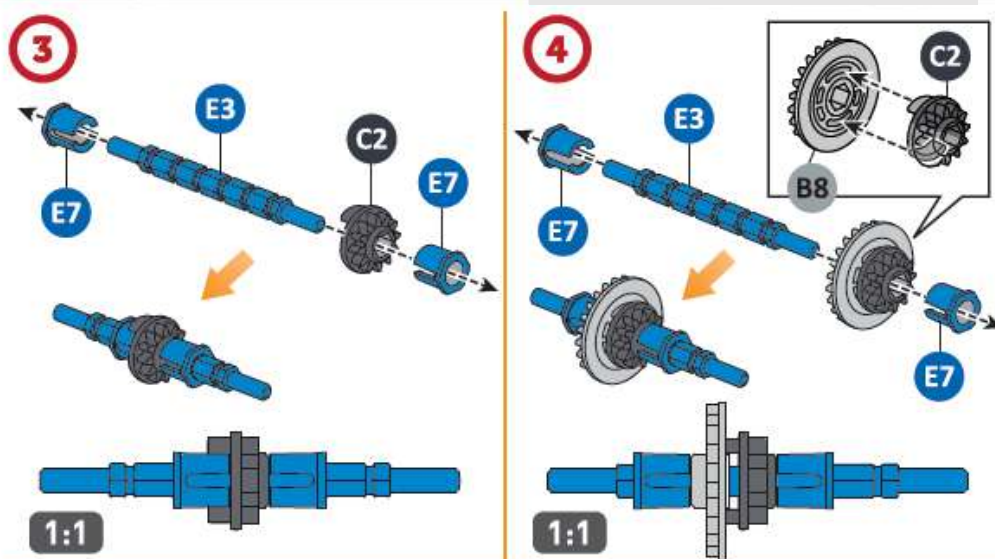


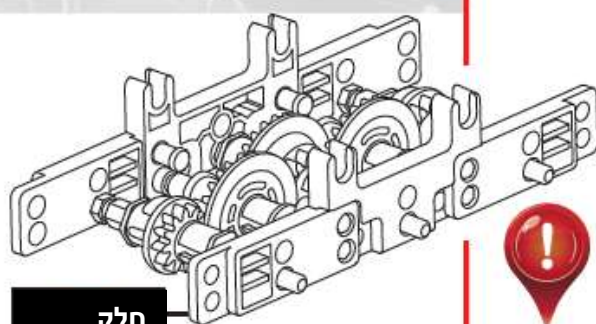
1:1

x2

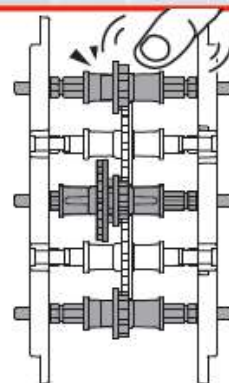


## רובוט חיפושית

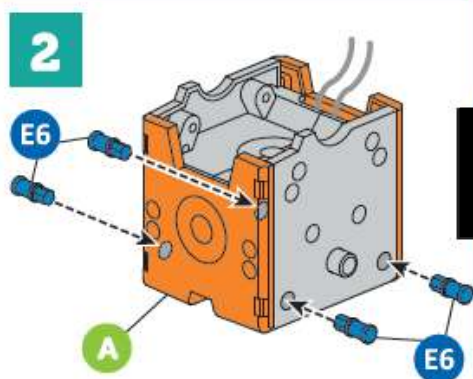




חלק  
קדמי



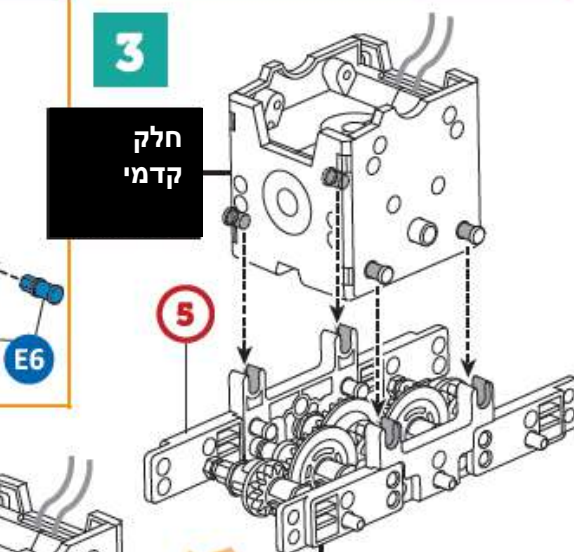
בדקו את גלגלי השיניים באמצעות  
סיבוב שלהם בעדינות.



2

E6

A

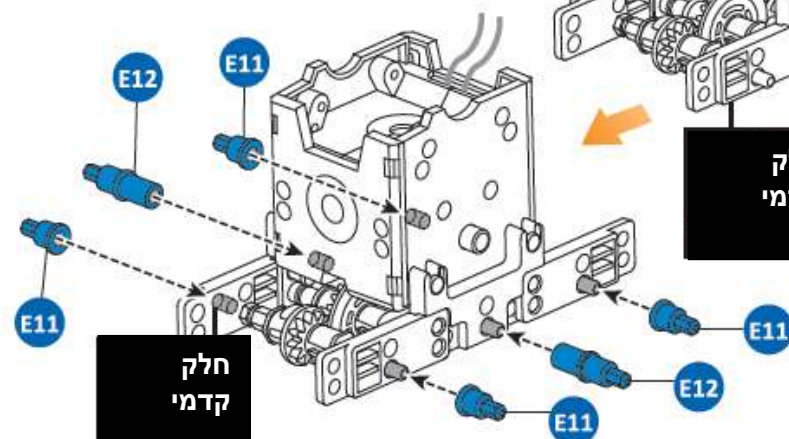


3

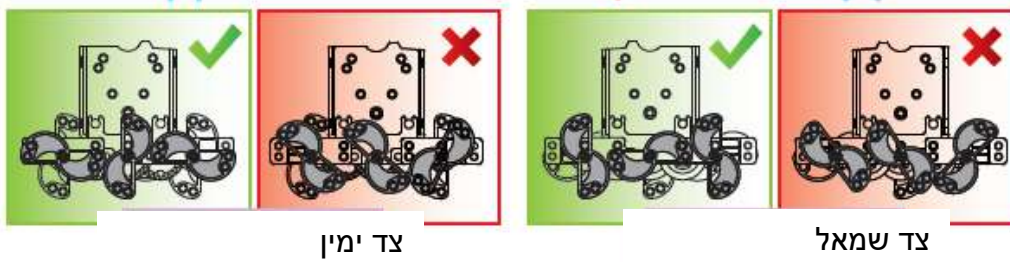
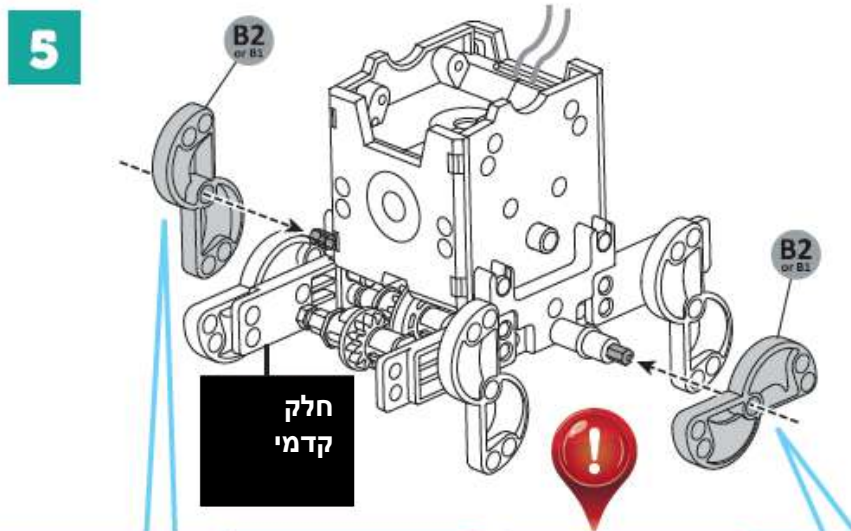
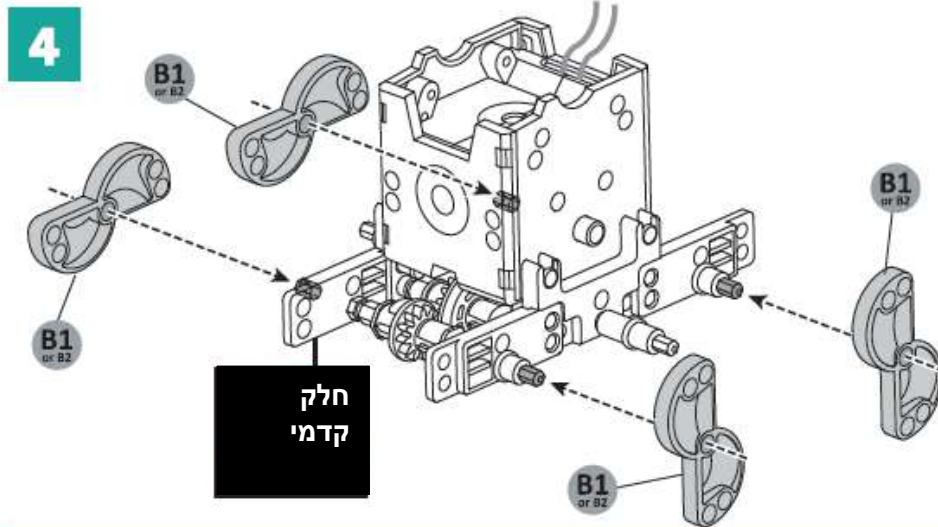
חלק  
קדמי

5

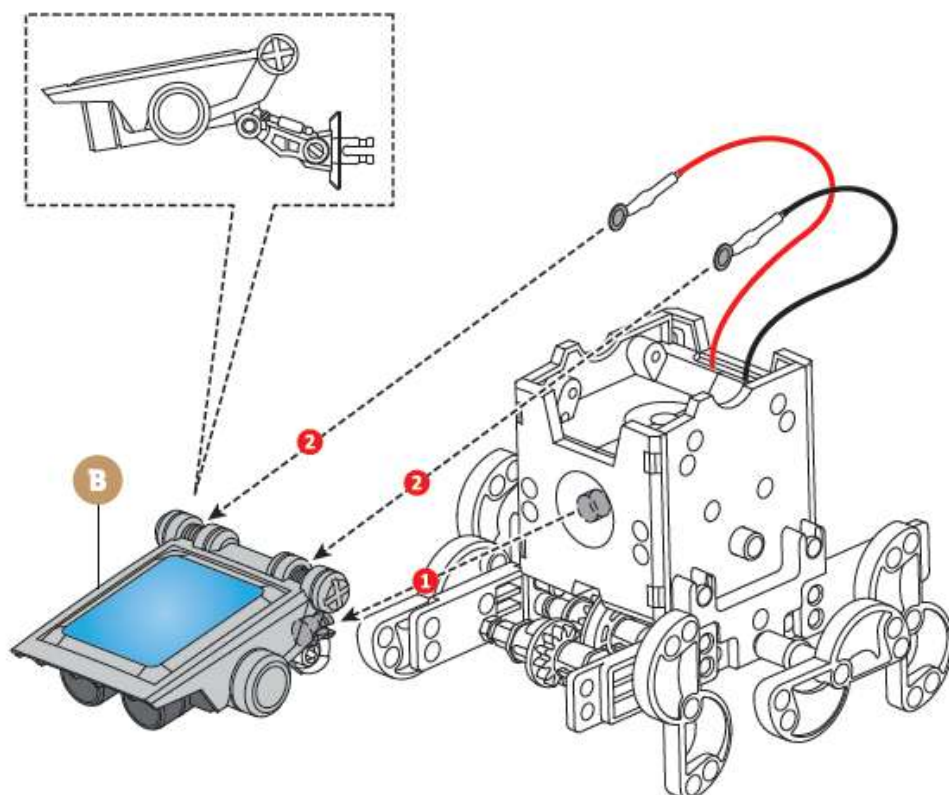
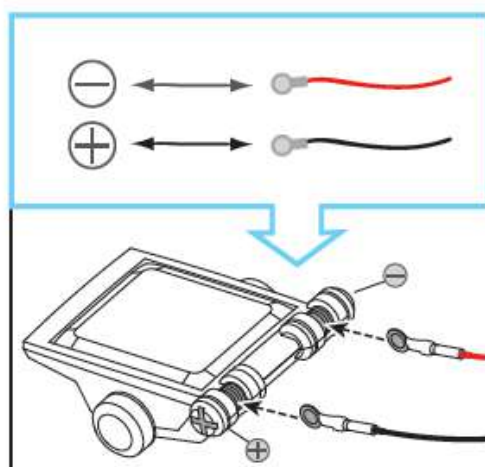
חלק  
קדמי



חלק  
קדמי



6

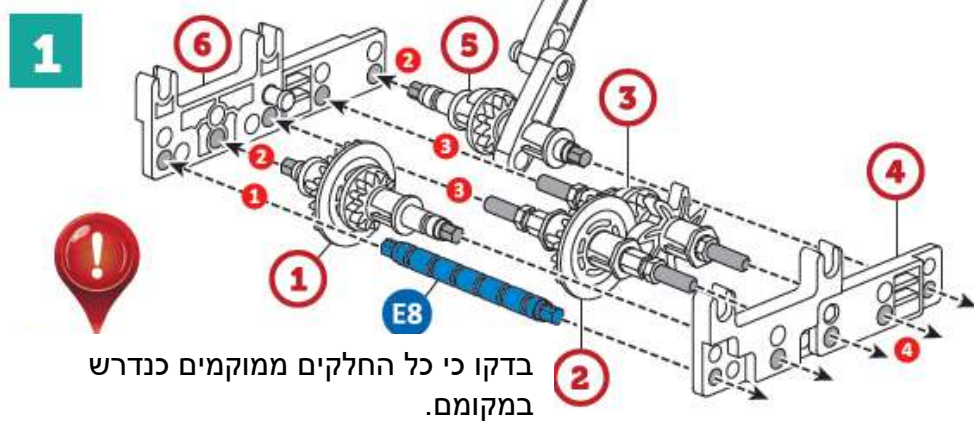
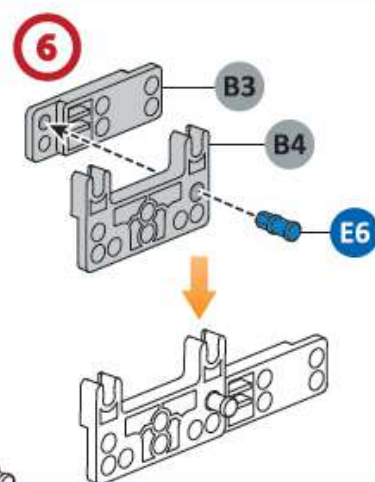
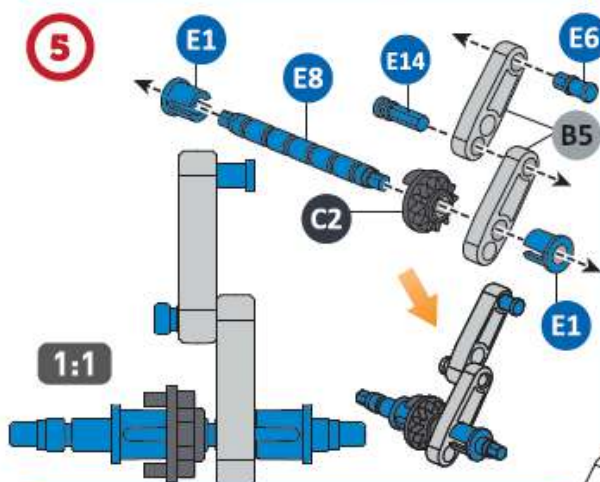
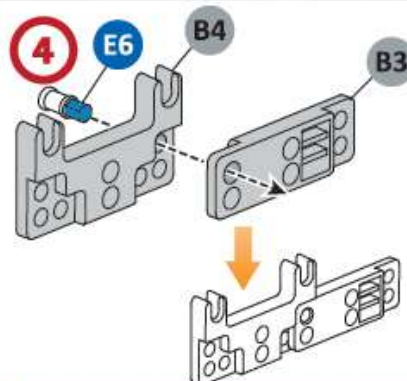
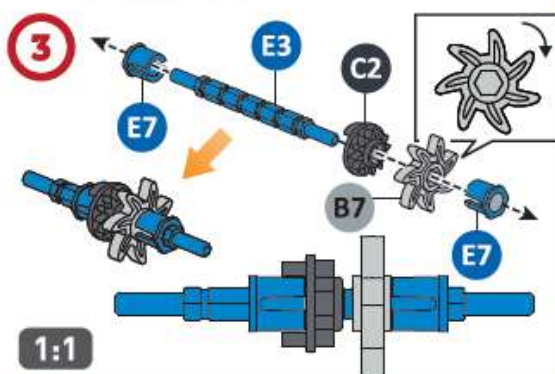


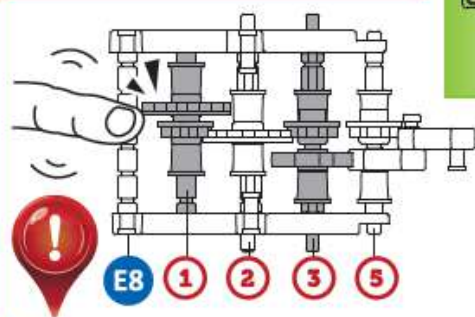




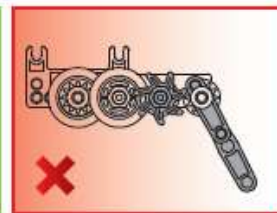
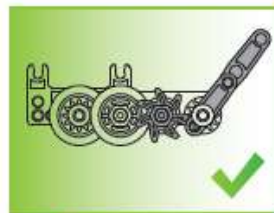
## רובוט כלב

7

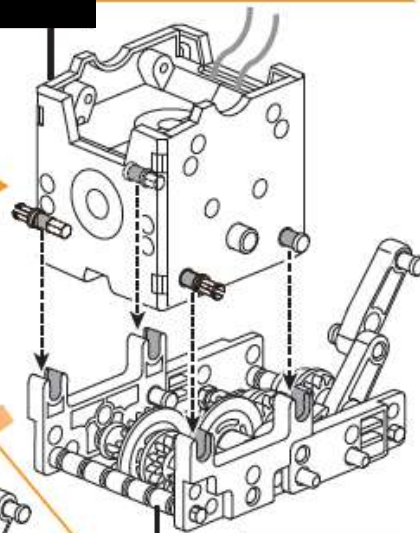
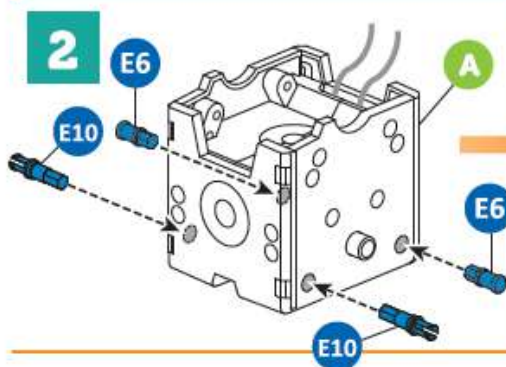




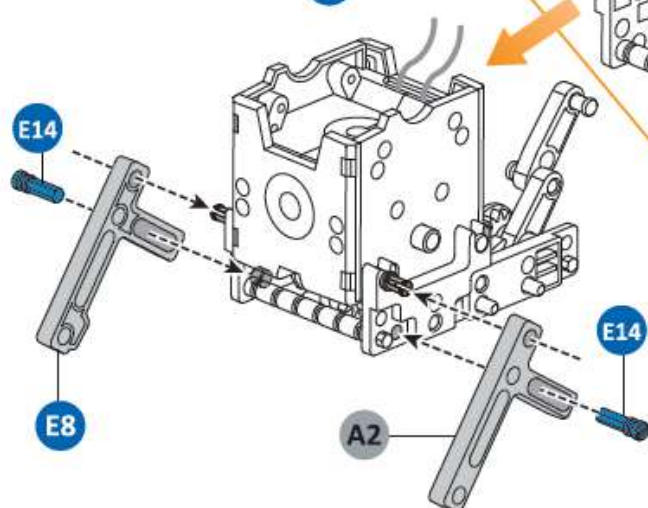
בדקו את גלגלי השיניים באמצעות  
סיבוב שלהם בעדינות.



חלק  
קדמי



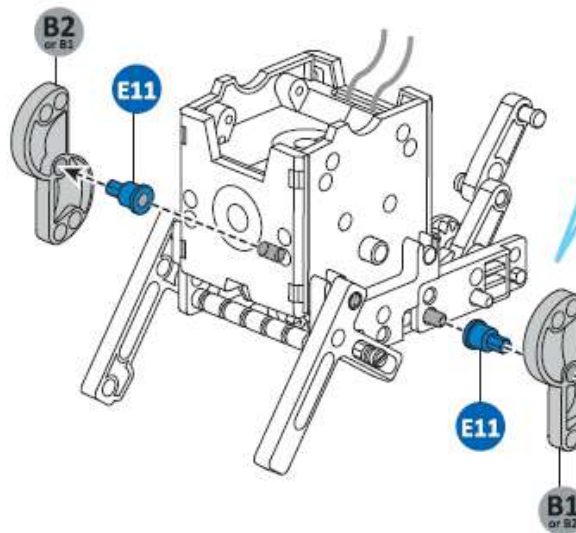
חלק  
קדמי



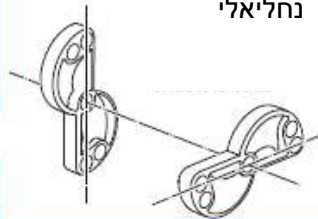


שני מצבים אפשריים:

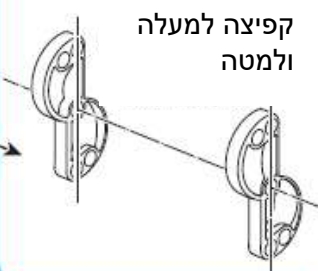
3



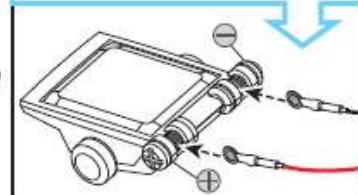
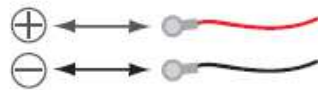
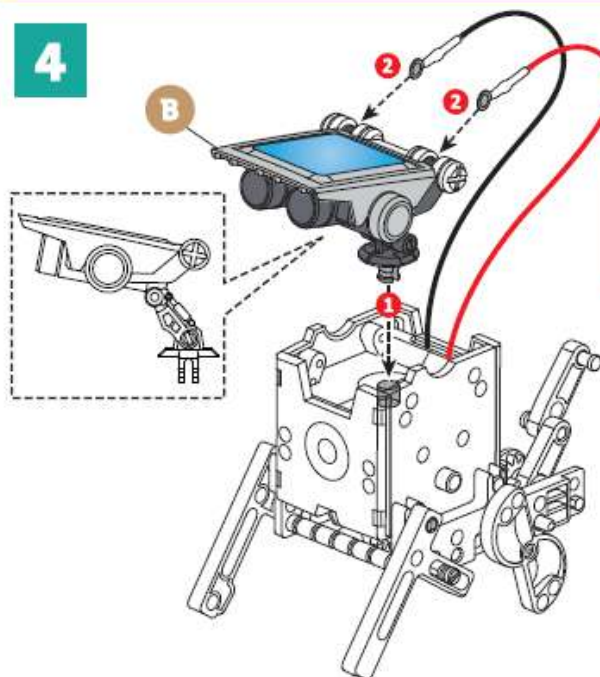
נחילאלי



קפיצה למעלה  
ולמטה



4



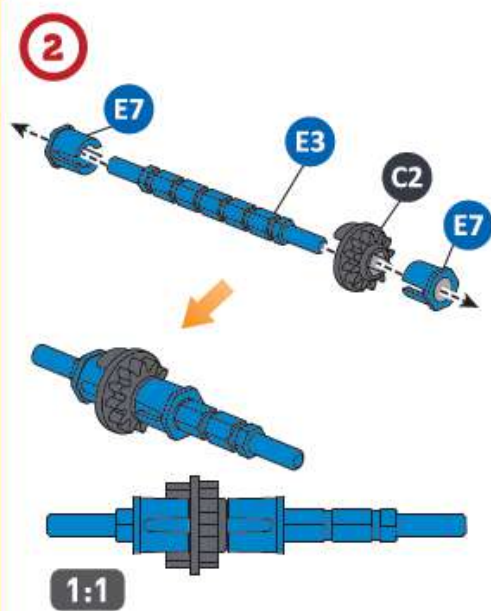
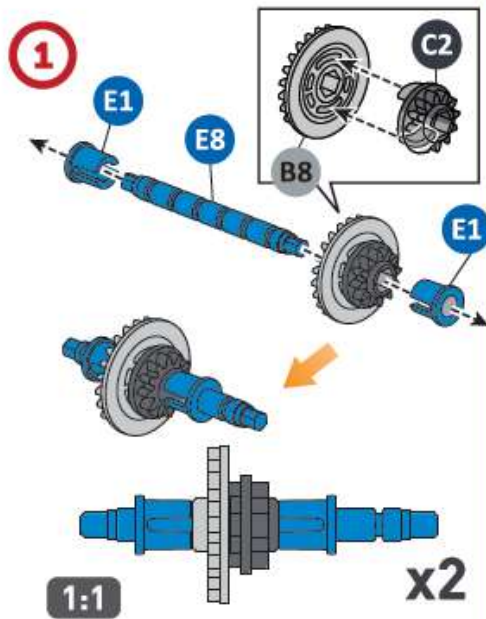
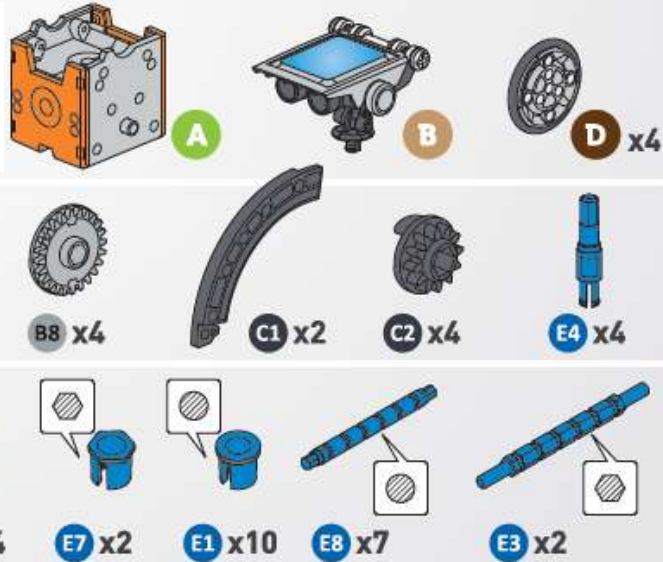


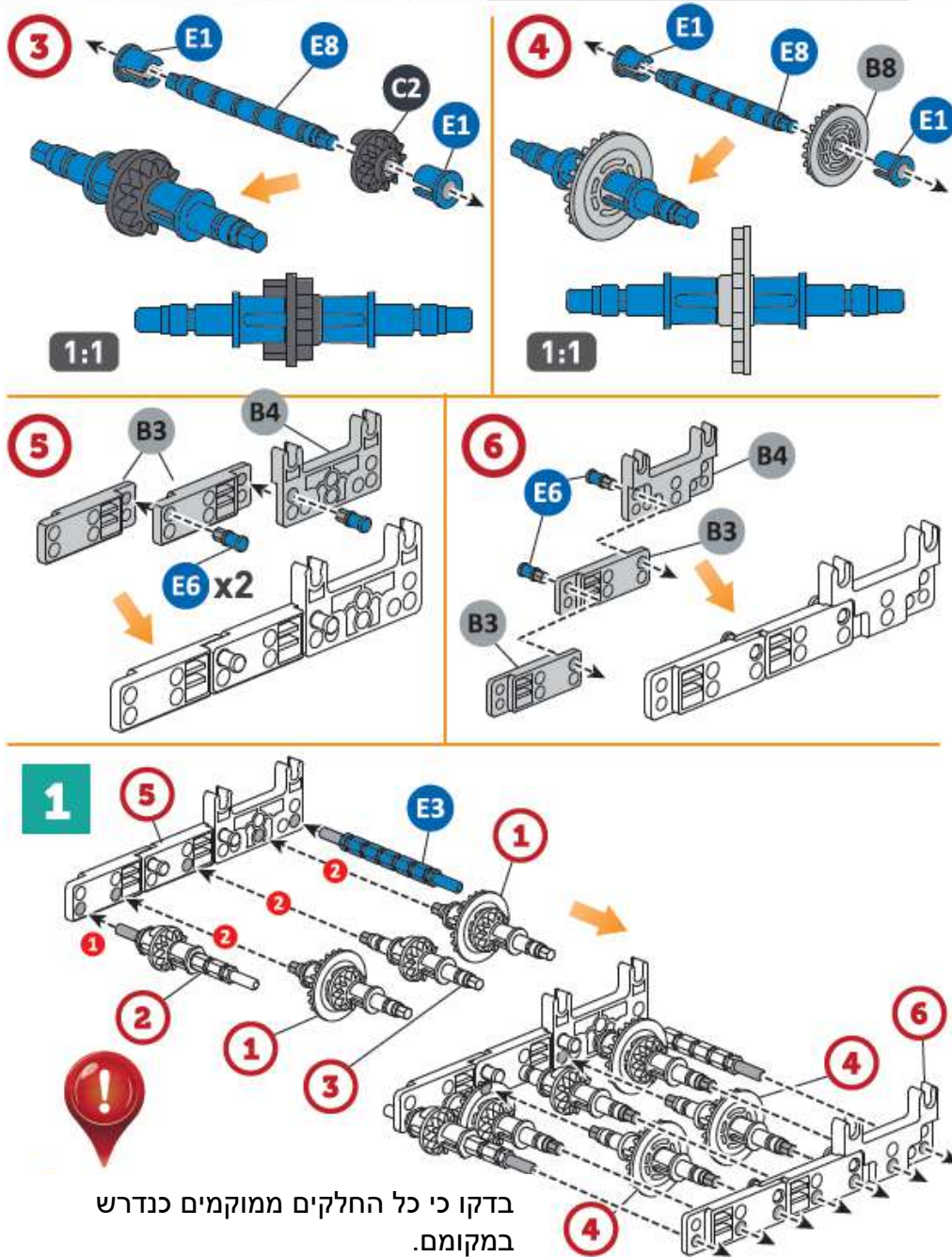
8

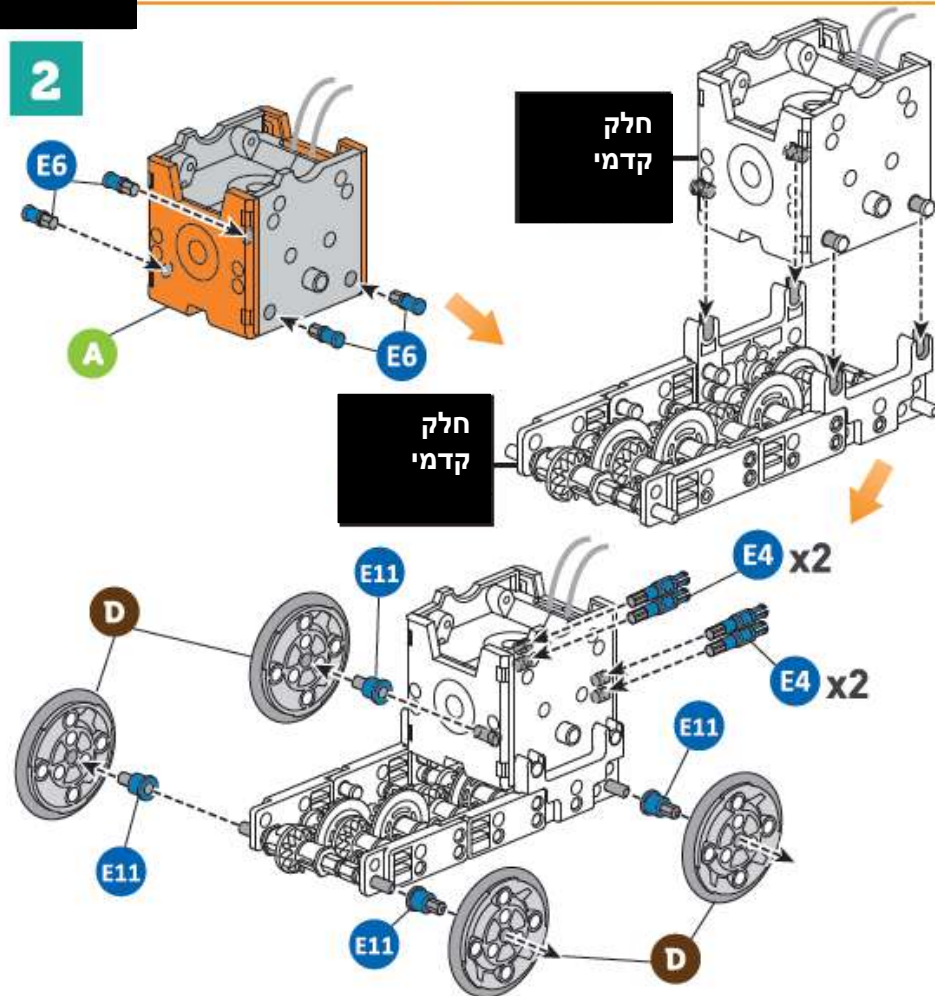
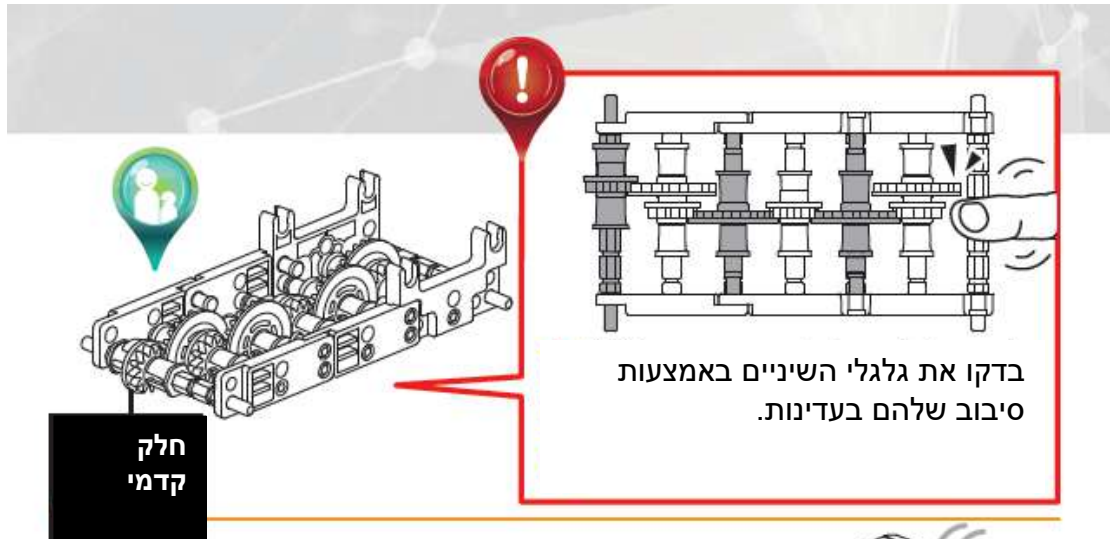
# רובוט מכונית



תזדקקו לדברים הבאים

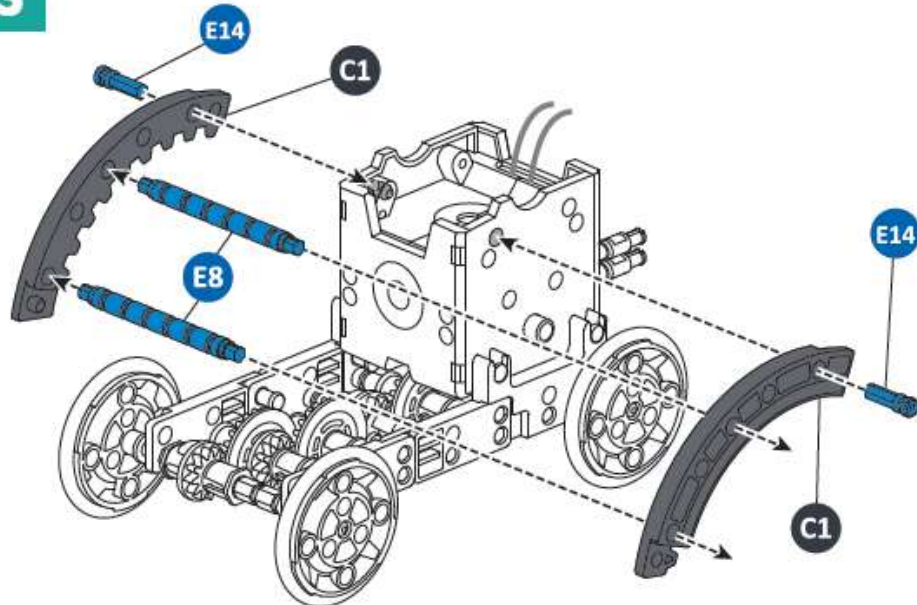




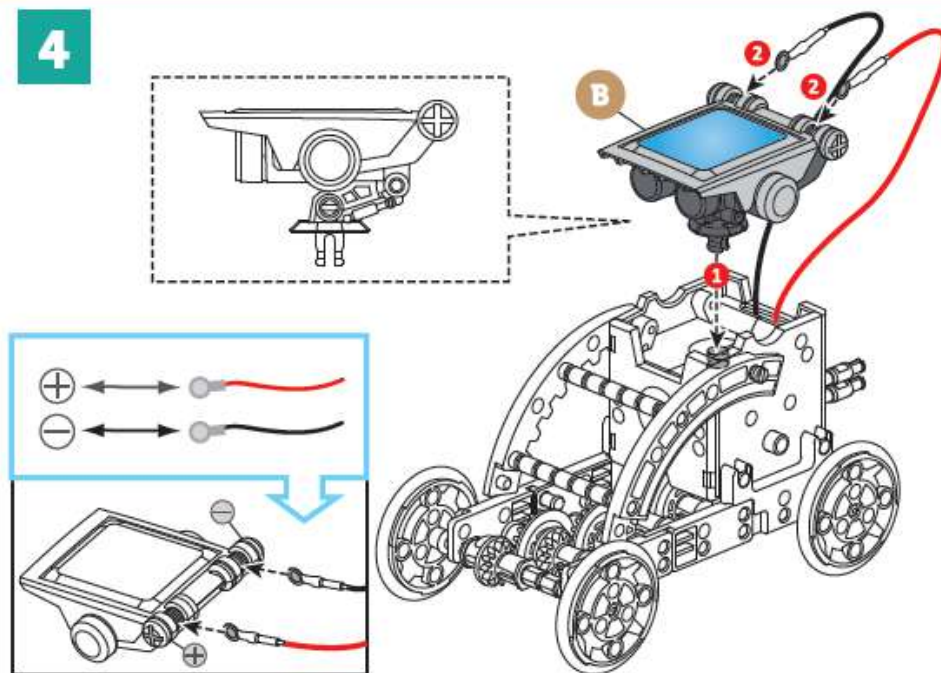




3



4

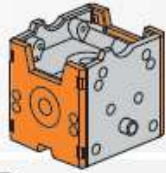


23





תזדקקו לדברים  
הבאים



A



B



A2 x2



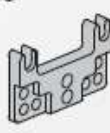
A8 x2



B1 x2



B2 x2



B4 x2



B5 x2



B8 x3



B9 x2



C2 x1



C7 x4



E6 x4



E5 x8



E4 x10



E7 x4



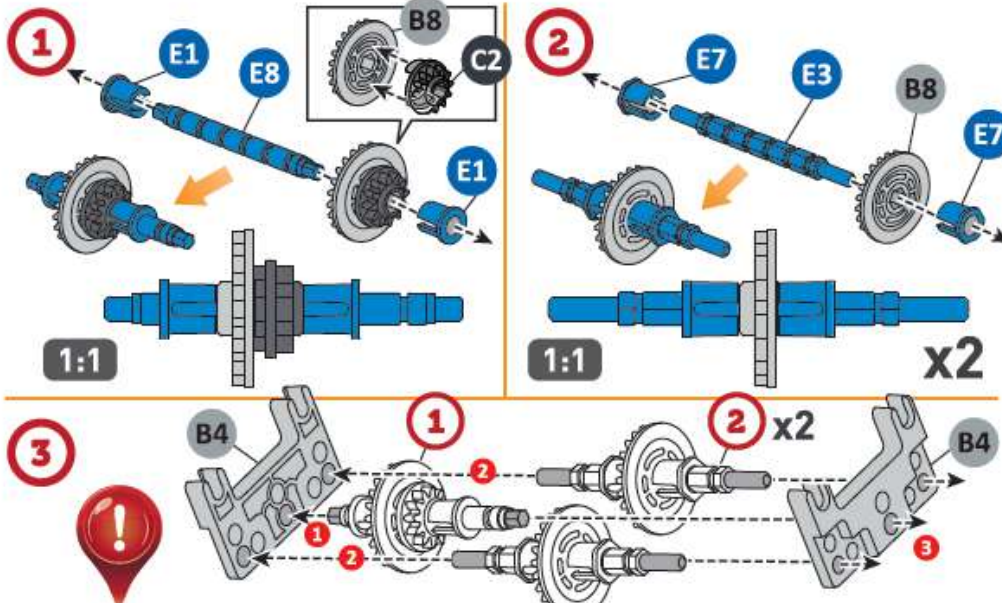
E1 x2



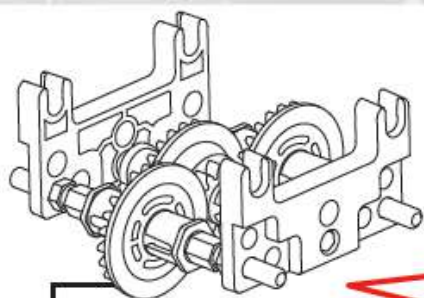
E8 x1



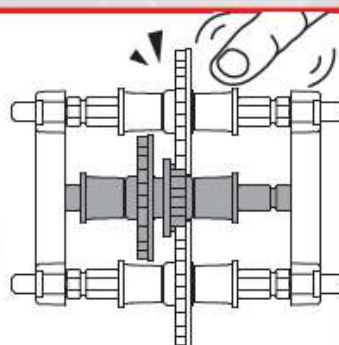
E3 x2



בדקו כי כל החלקים ממוקמים כנדרש במקומם.

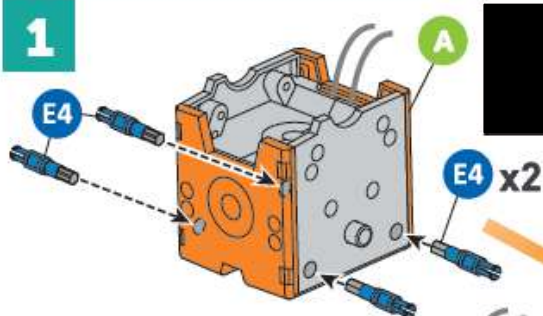


חלק  
קדמי

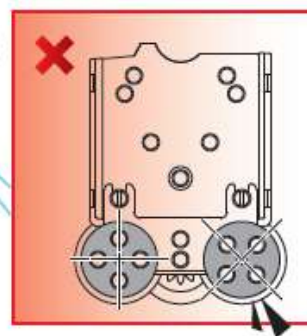
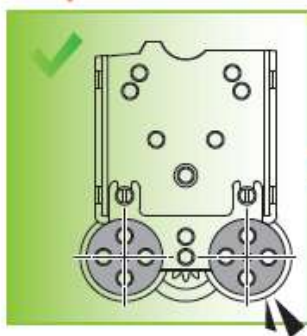
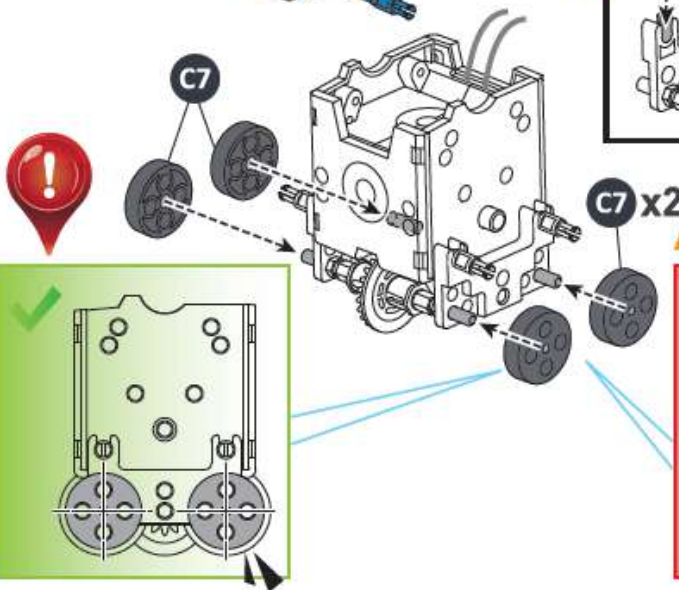
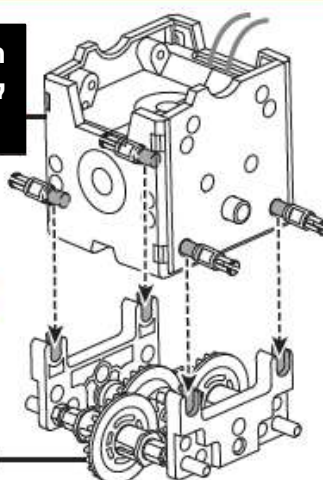


בדקו את גלגלי השיניים באמצעות  
סיבוב שלהם בעדינות.

1



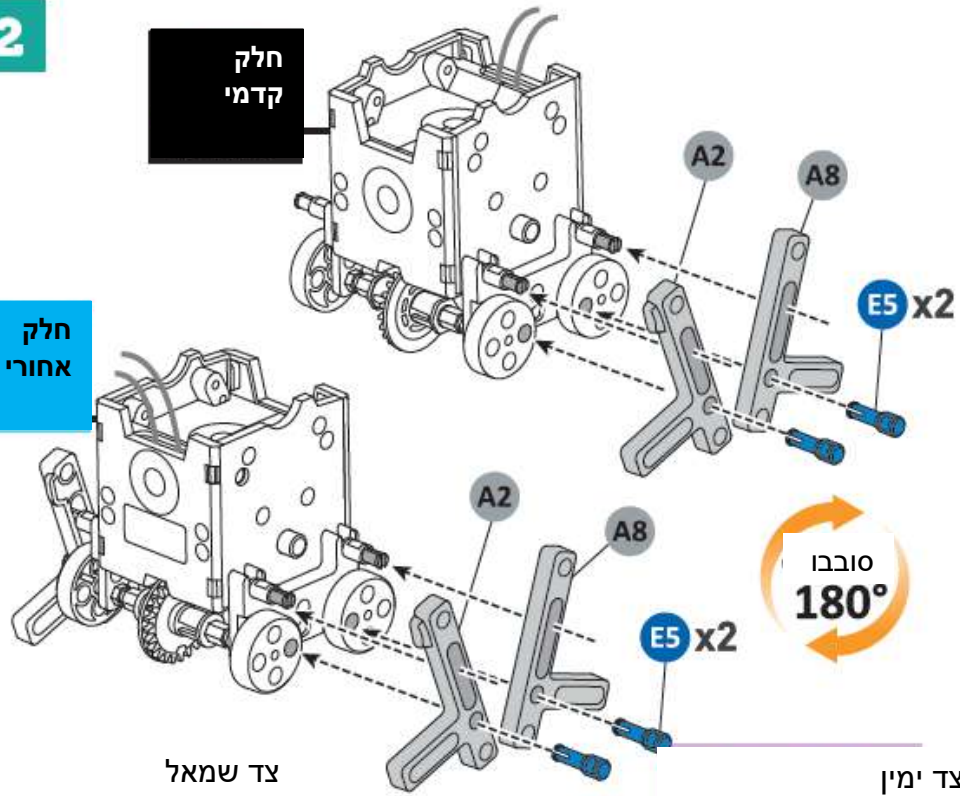
חלק  
קדמי



2

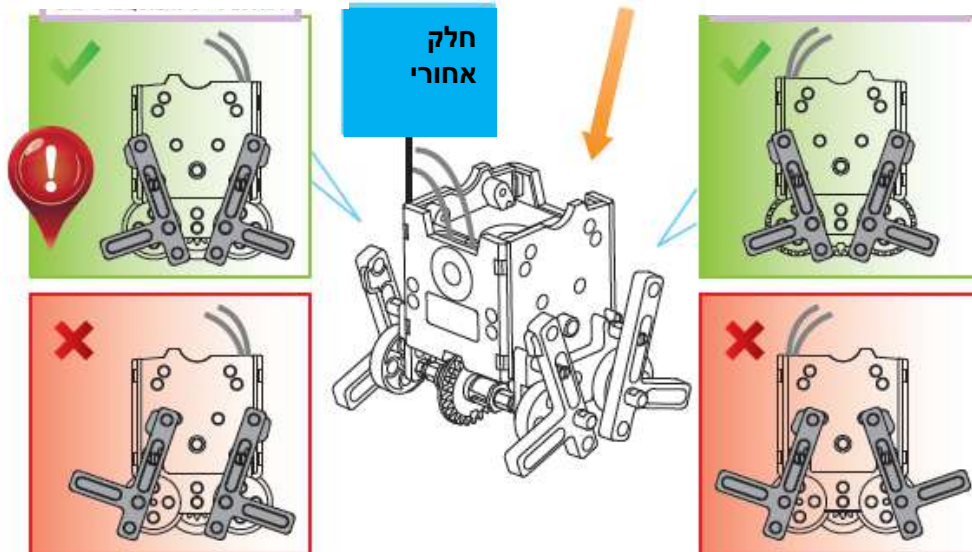
חלק  
קדמי

חלק  
אחורי



צד שמאל

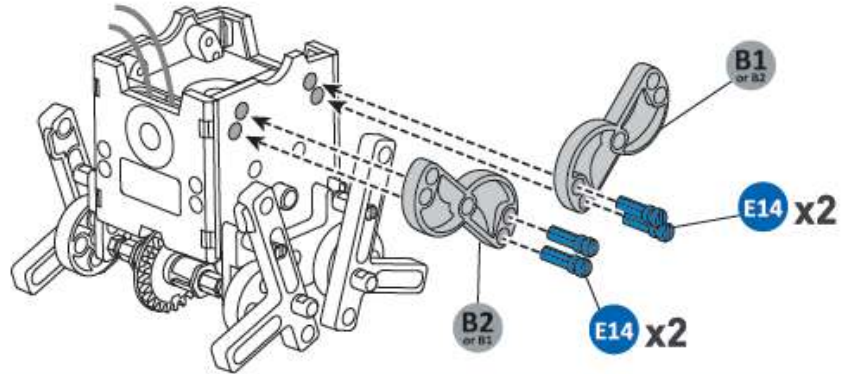
צד ימין



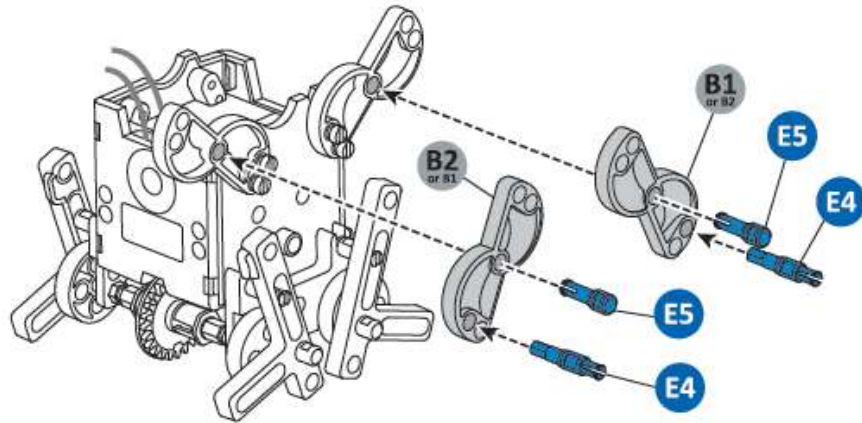
חלק  
אחורי



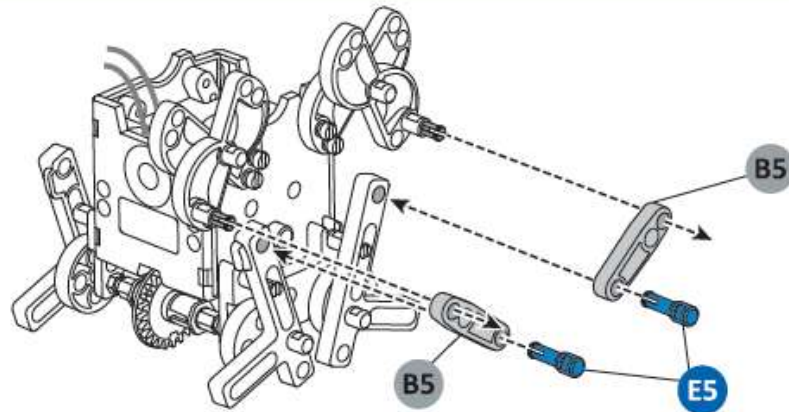
3



4

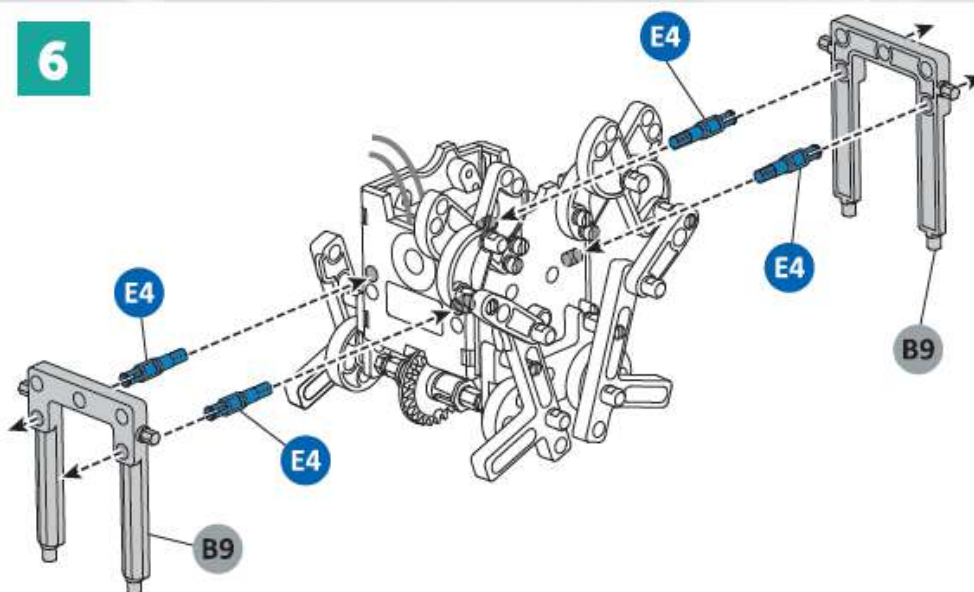


5

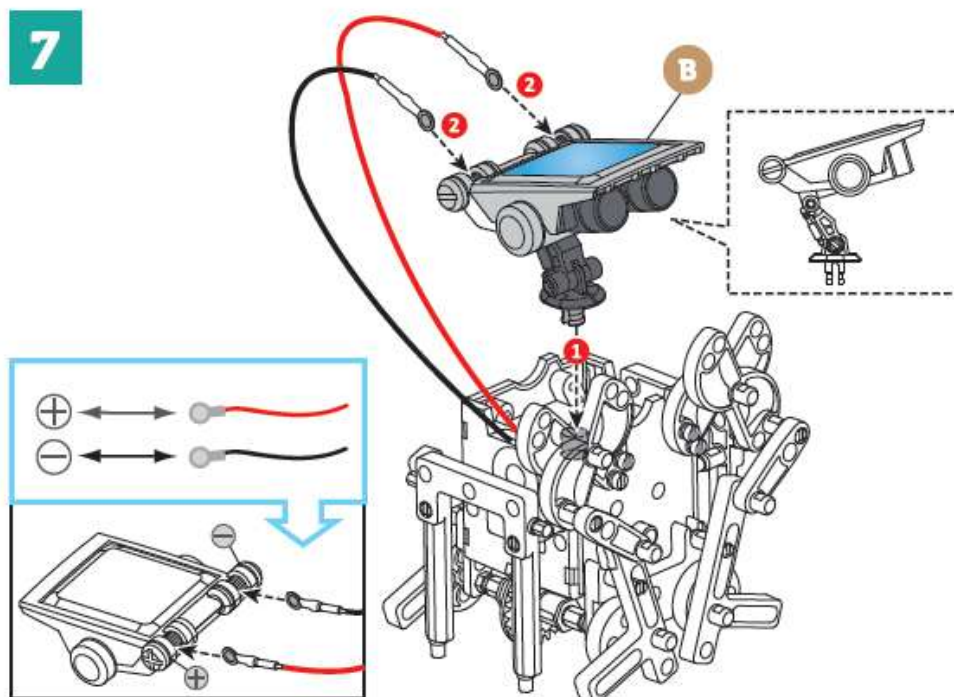




6



7



# 10

## רובוט חילזון



תזדקקו לדברים הבאים

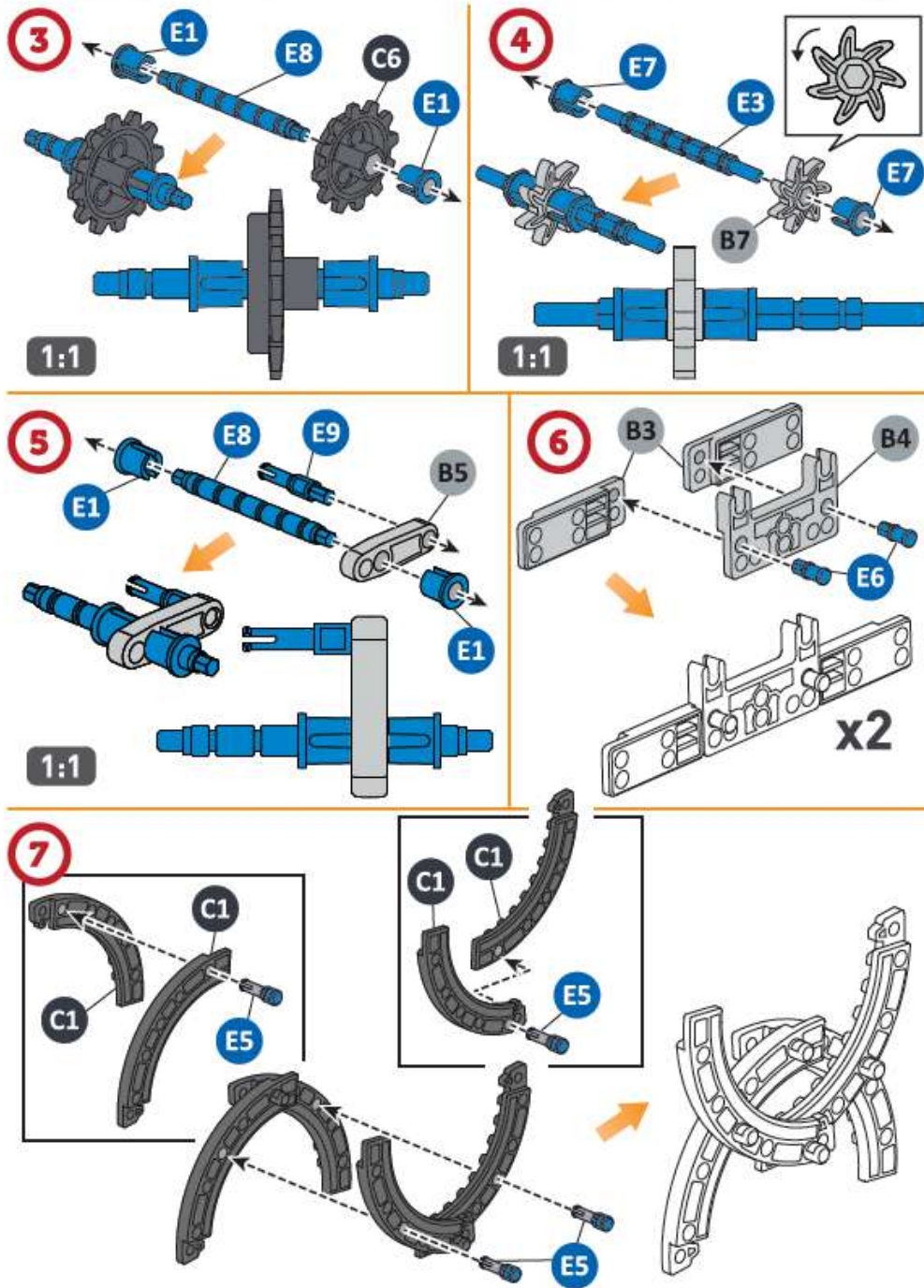
|  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

**1**

1:1

**2**

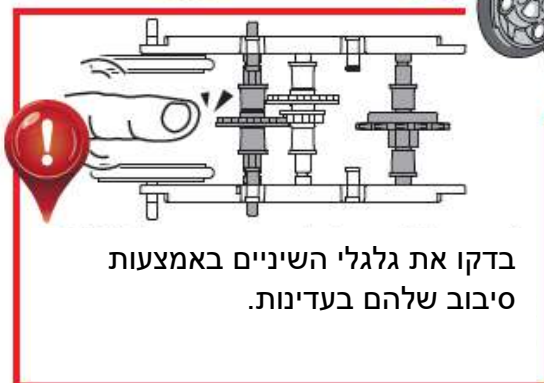
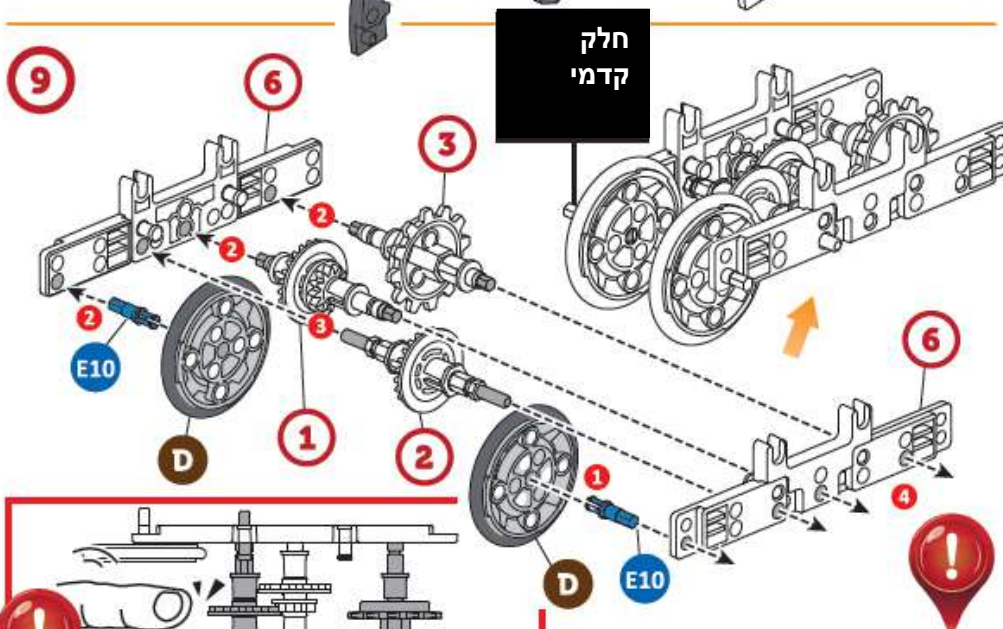
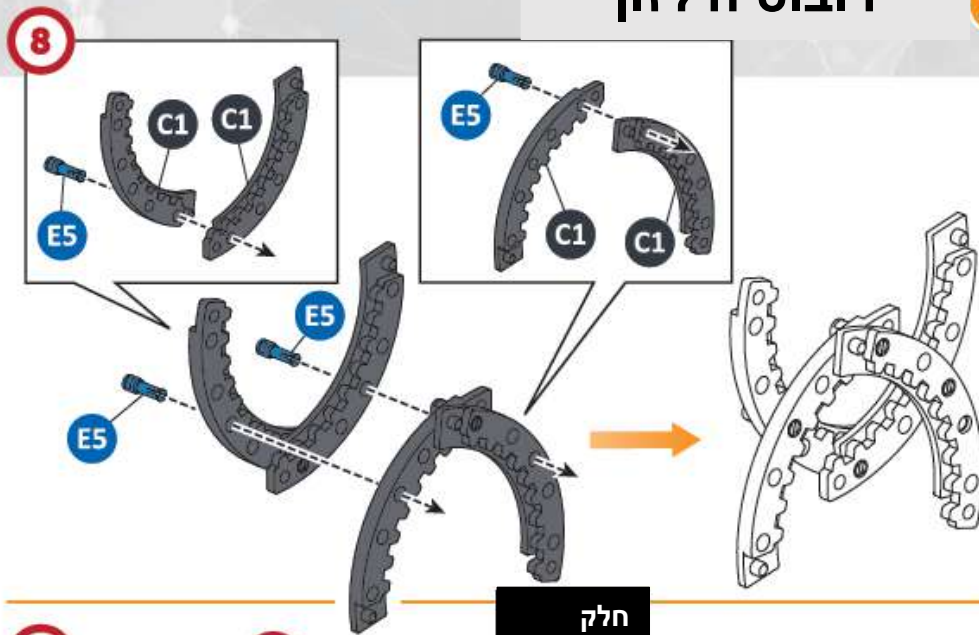
1:1





## רובוט חילזון

10

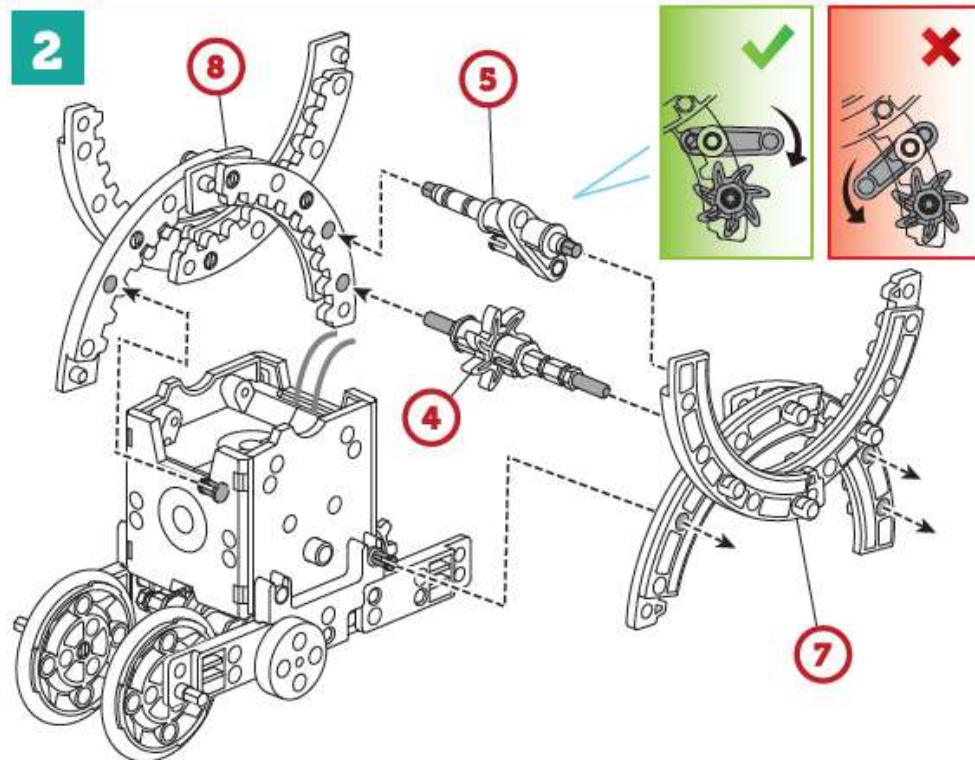
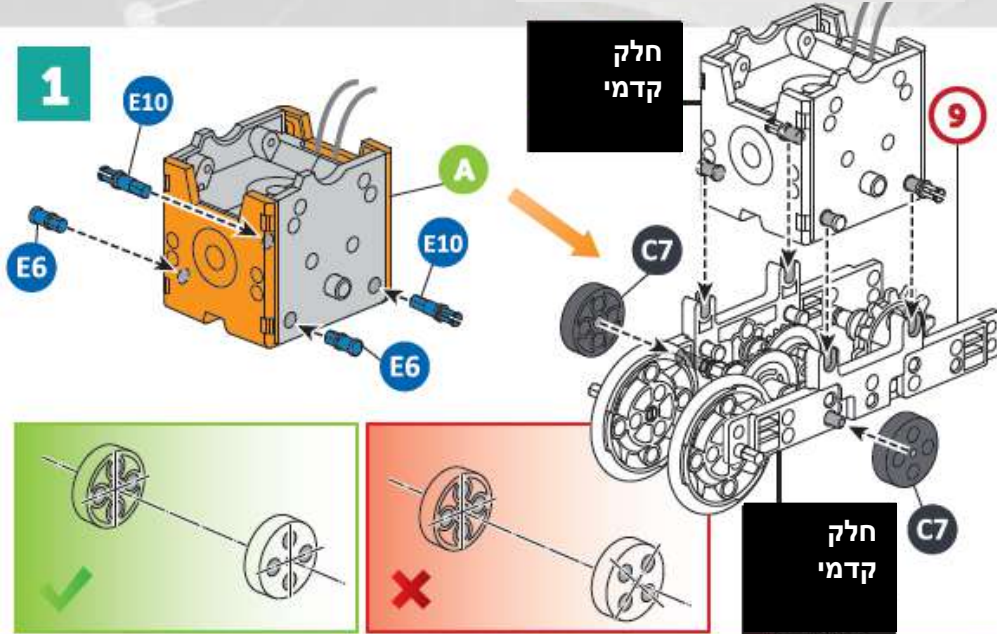


בדקו כי כל החלקים ממוקמים כנדרש במקומם.

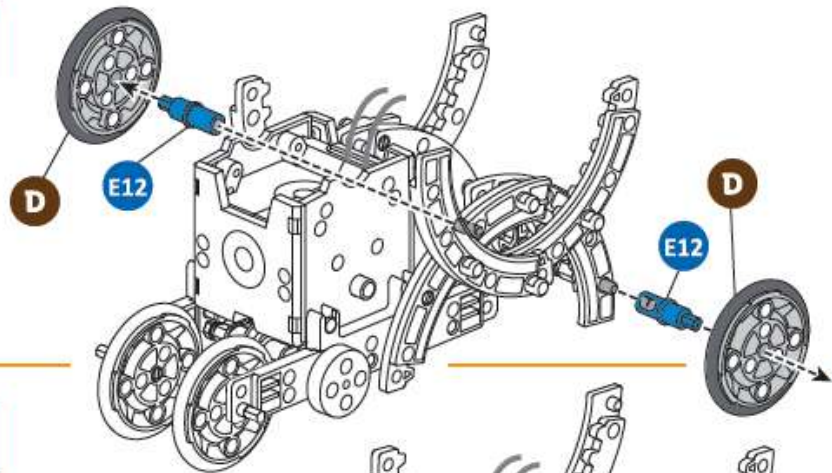


# רובוט חילזון

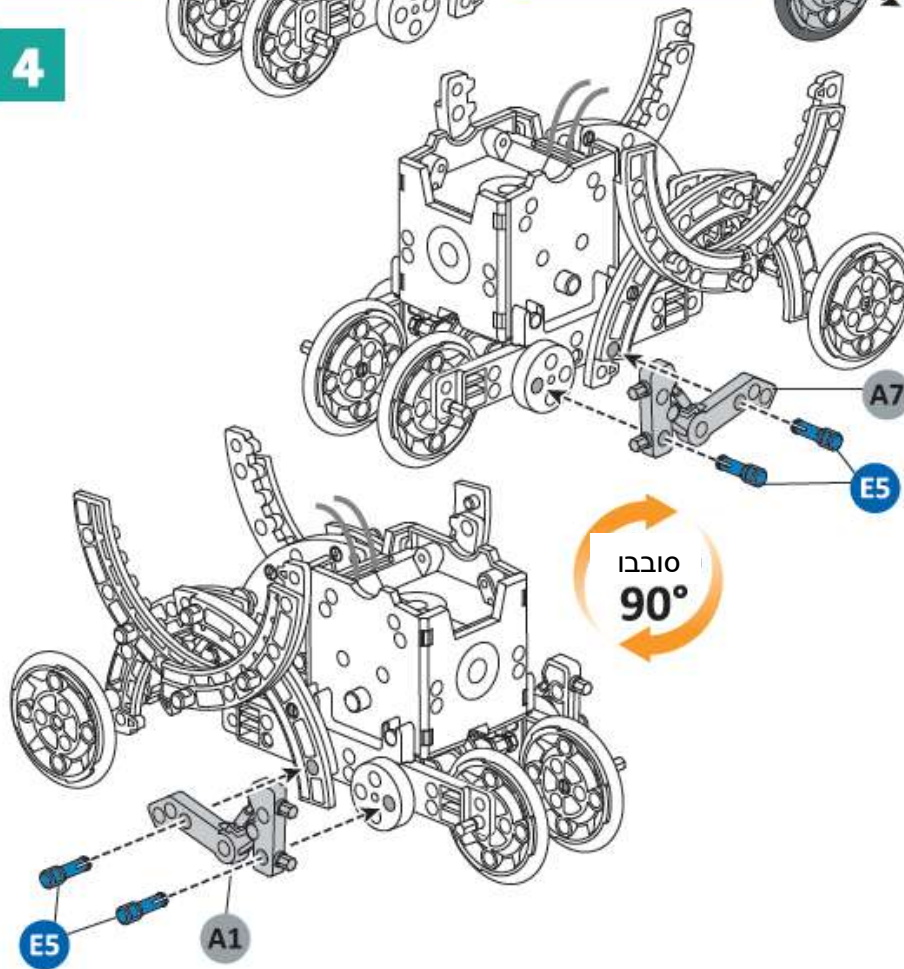
10



3

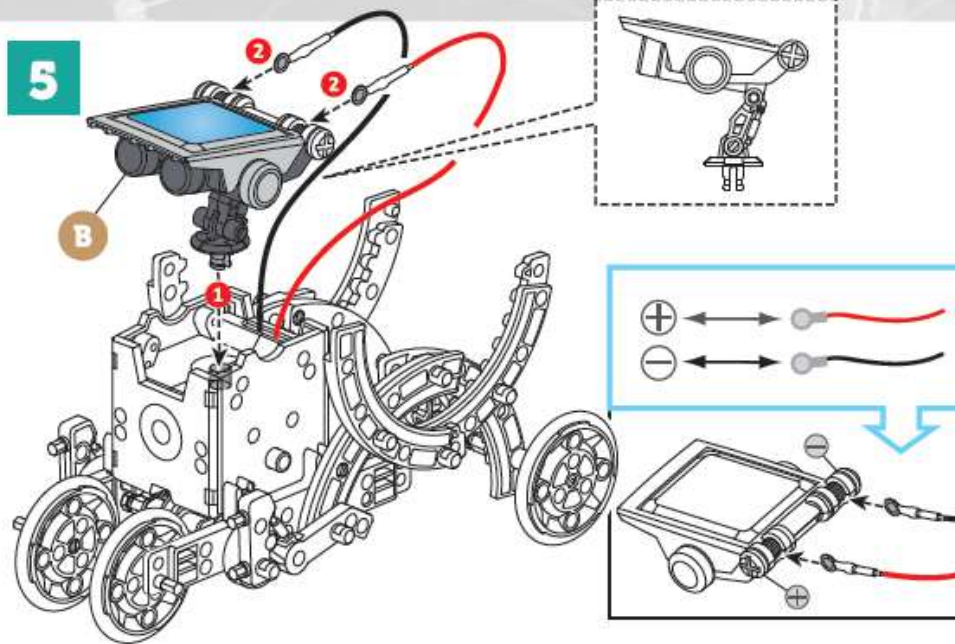


4



## רובוט חילזון

10

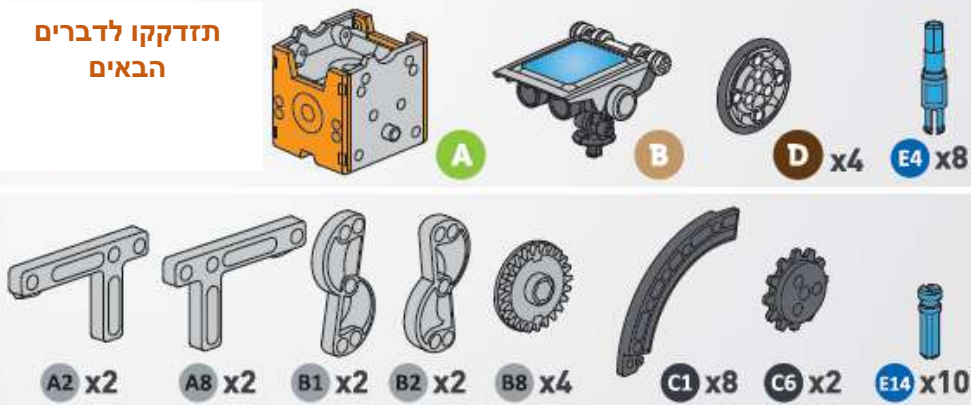


## רובוט בלון

11

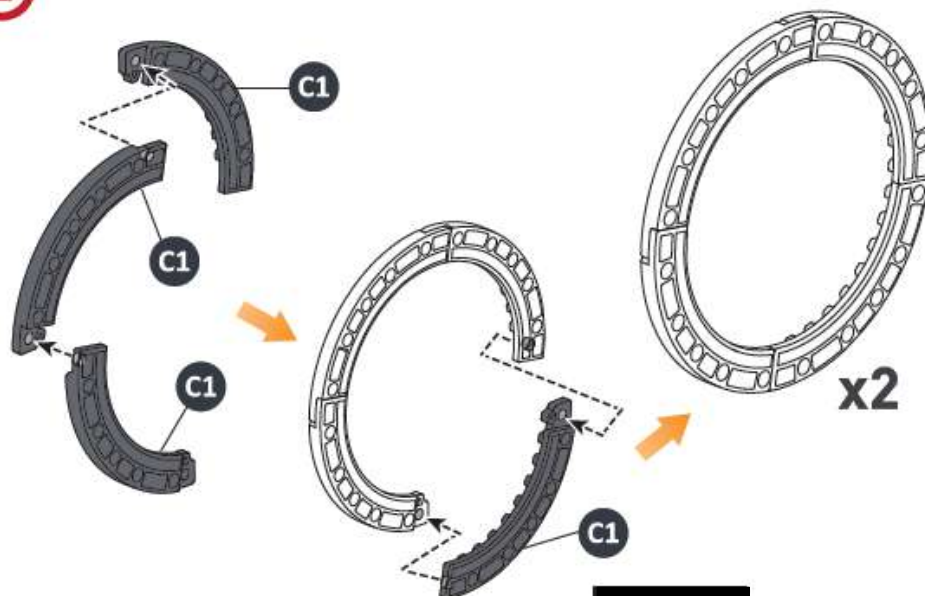


תזדקקו לדברים  
הבאים

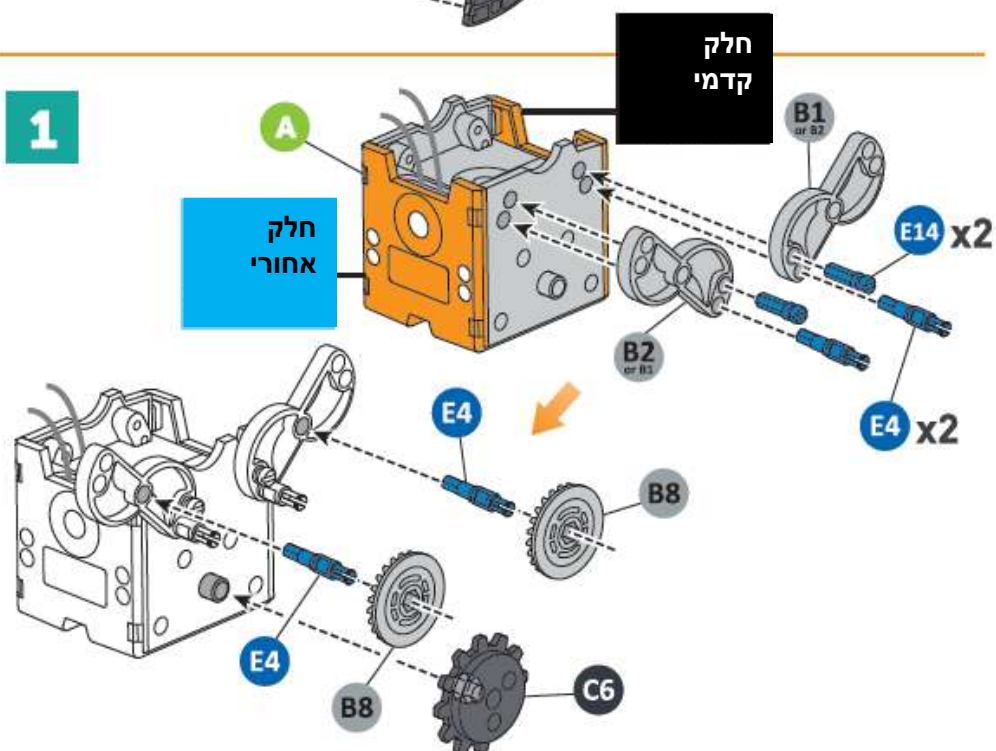




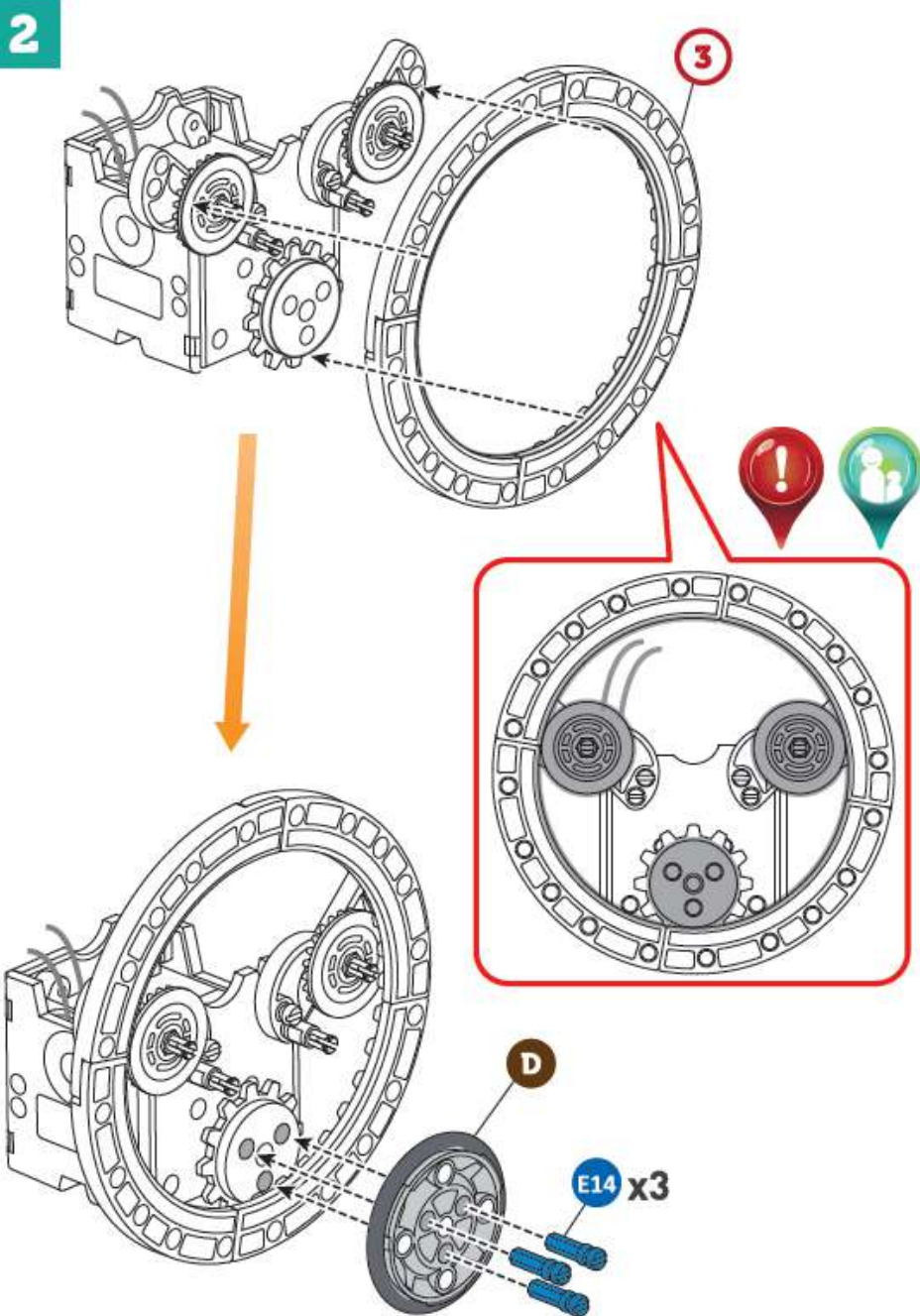
1



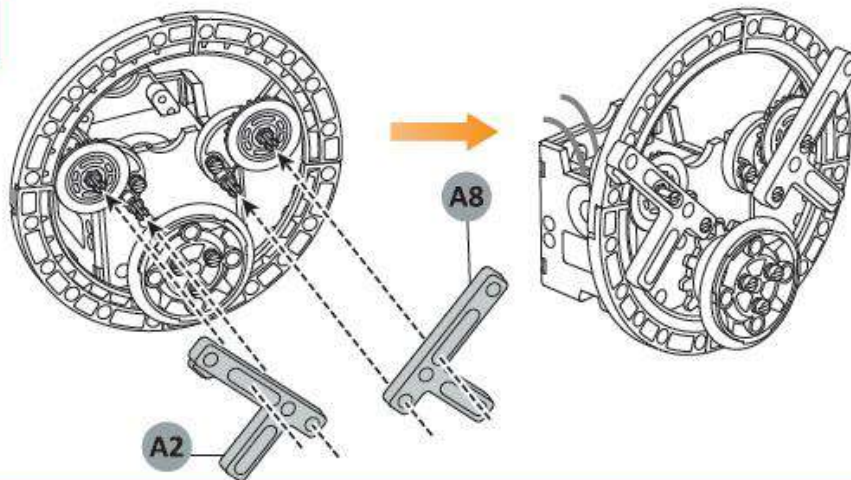
1



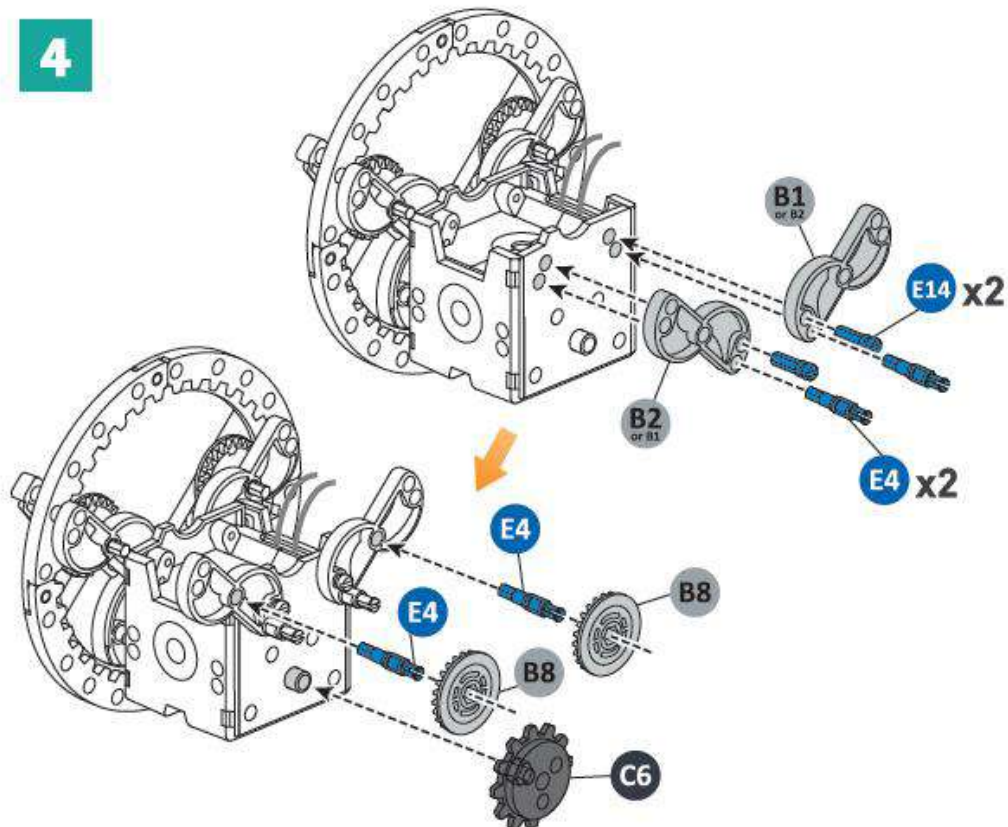




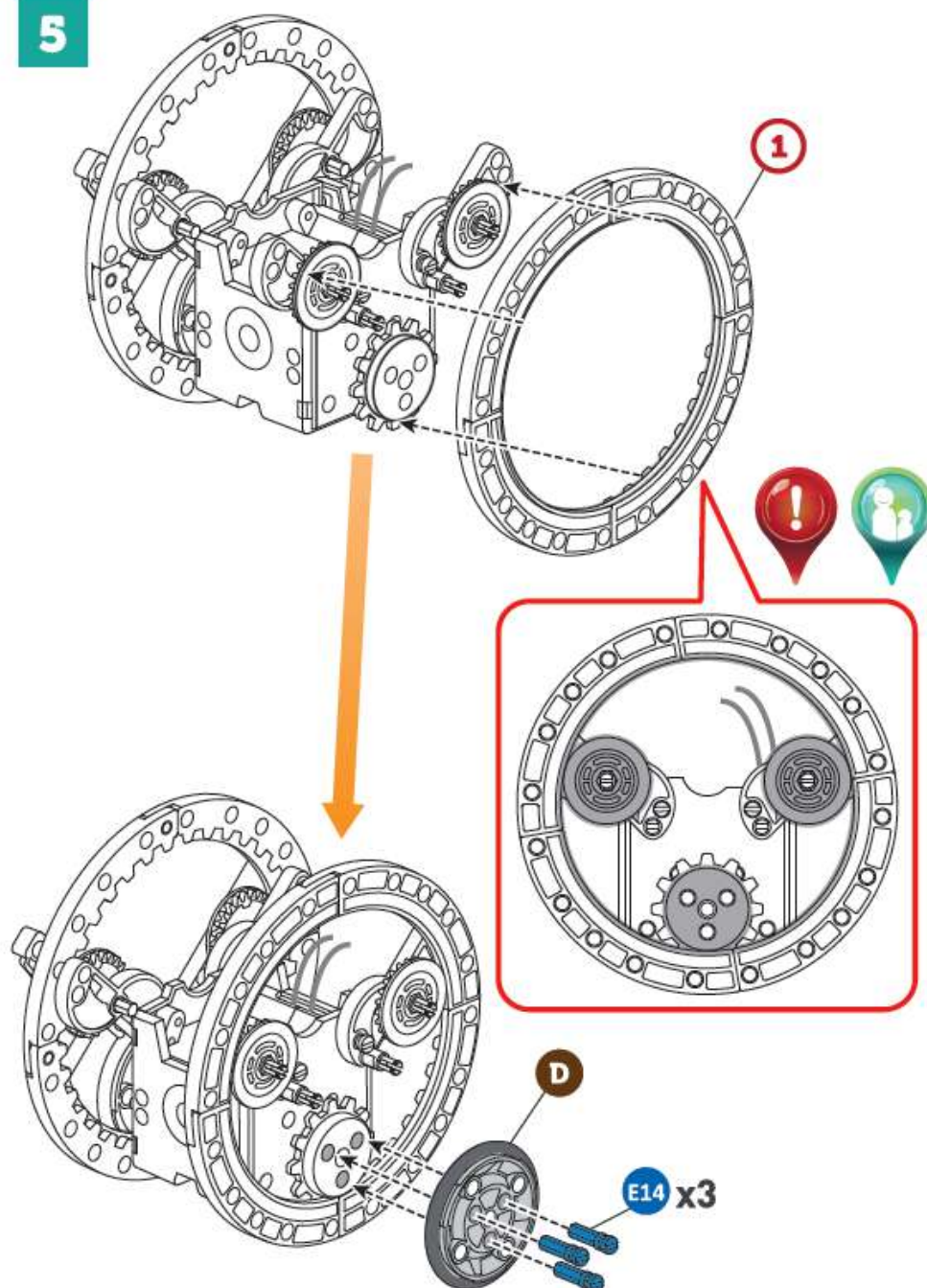
3



4

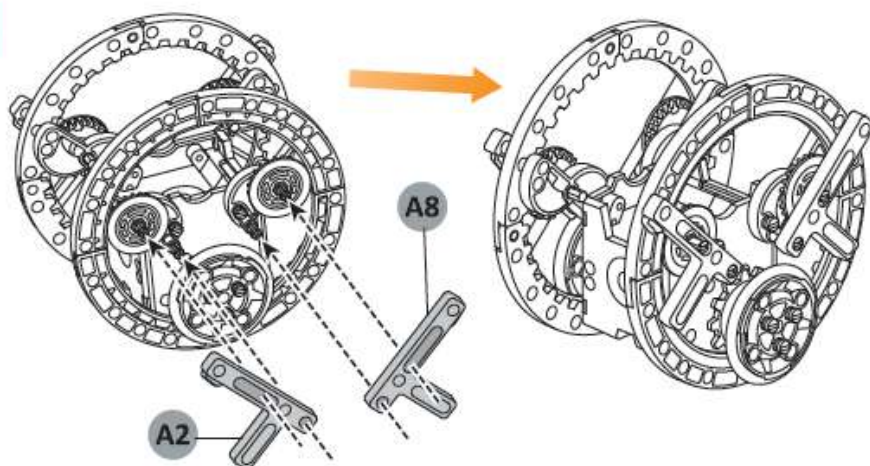


5

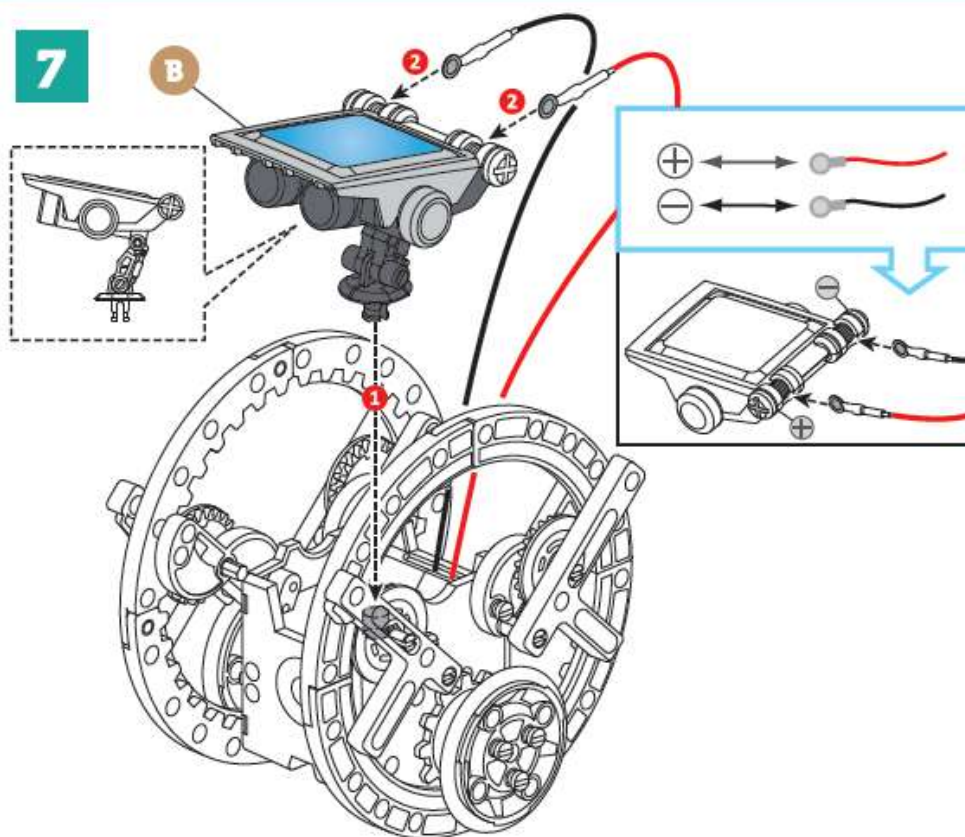




6



7



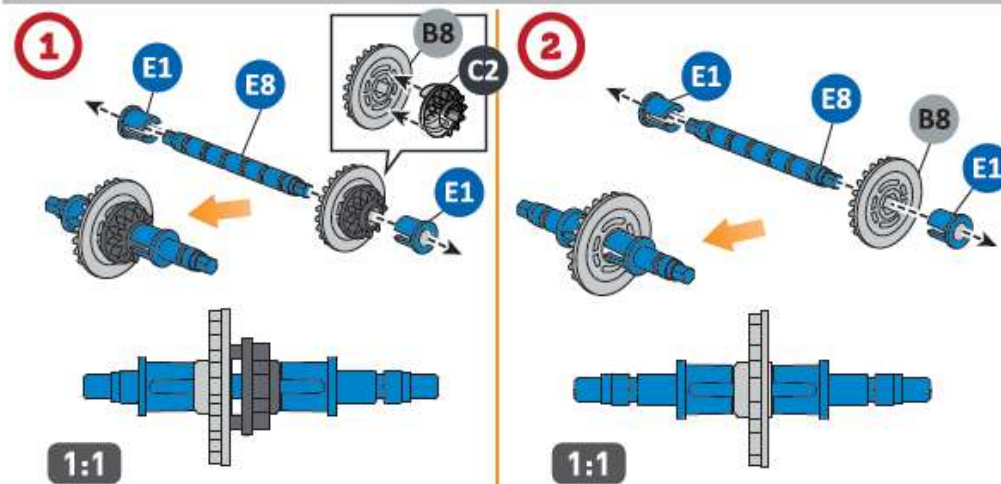


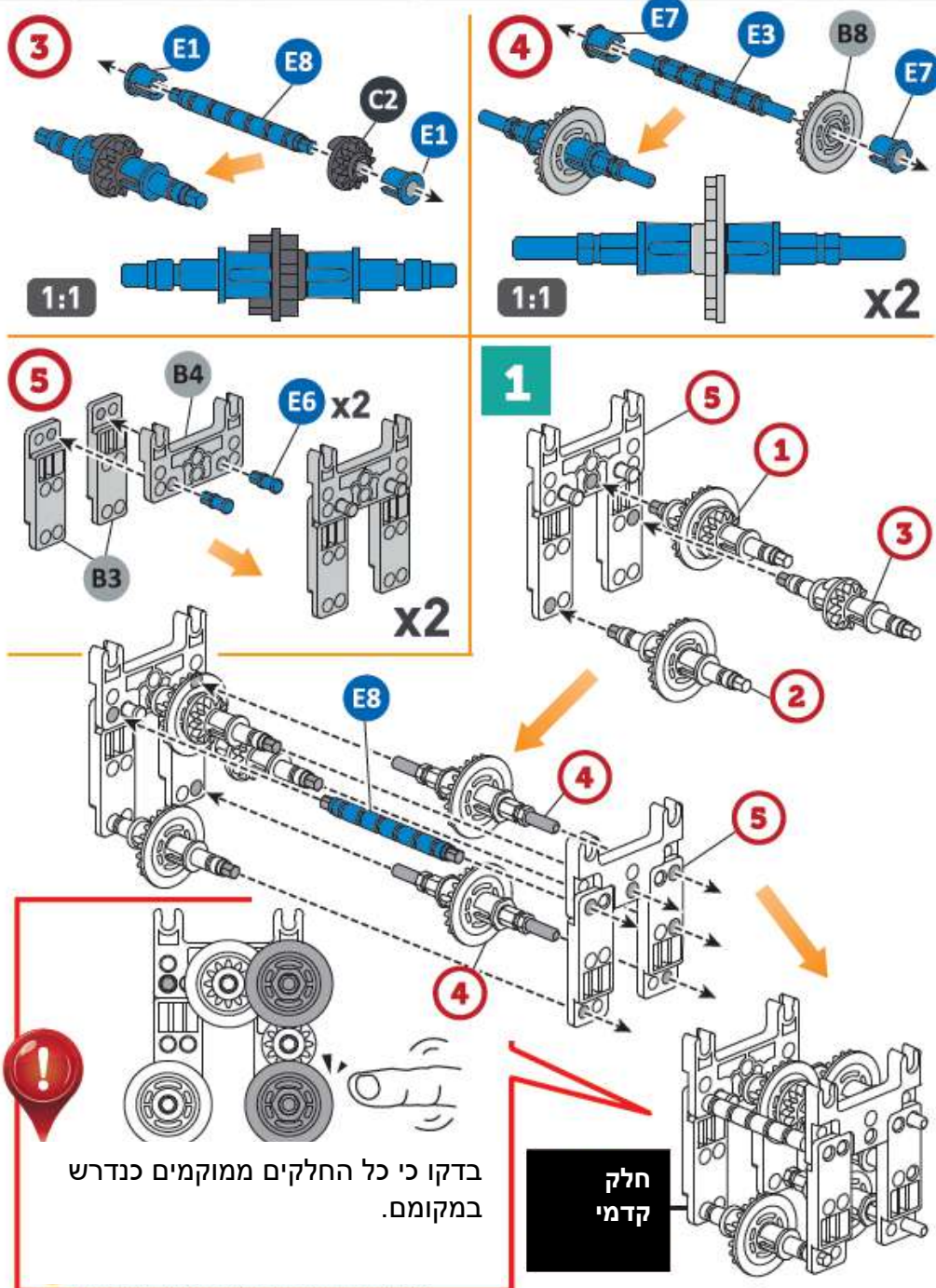
# 12

## רובוט מתאגרף

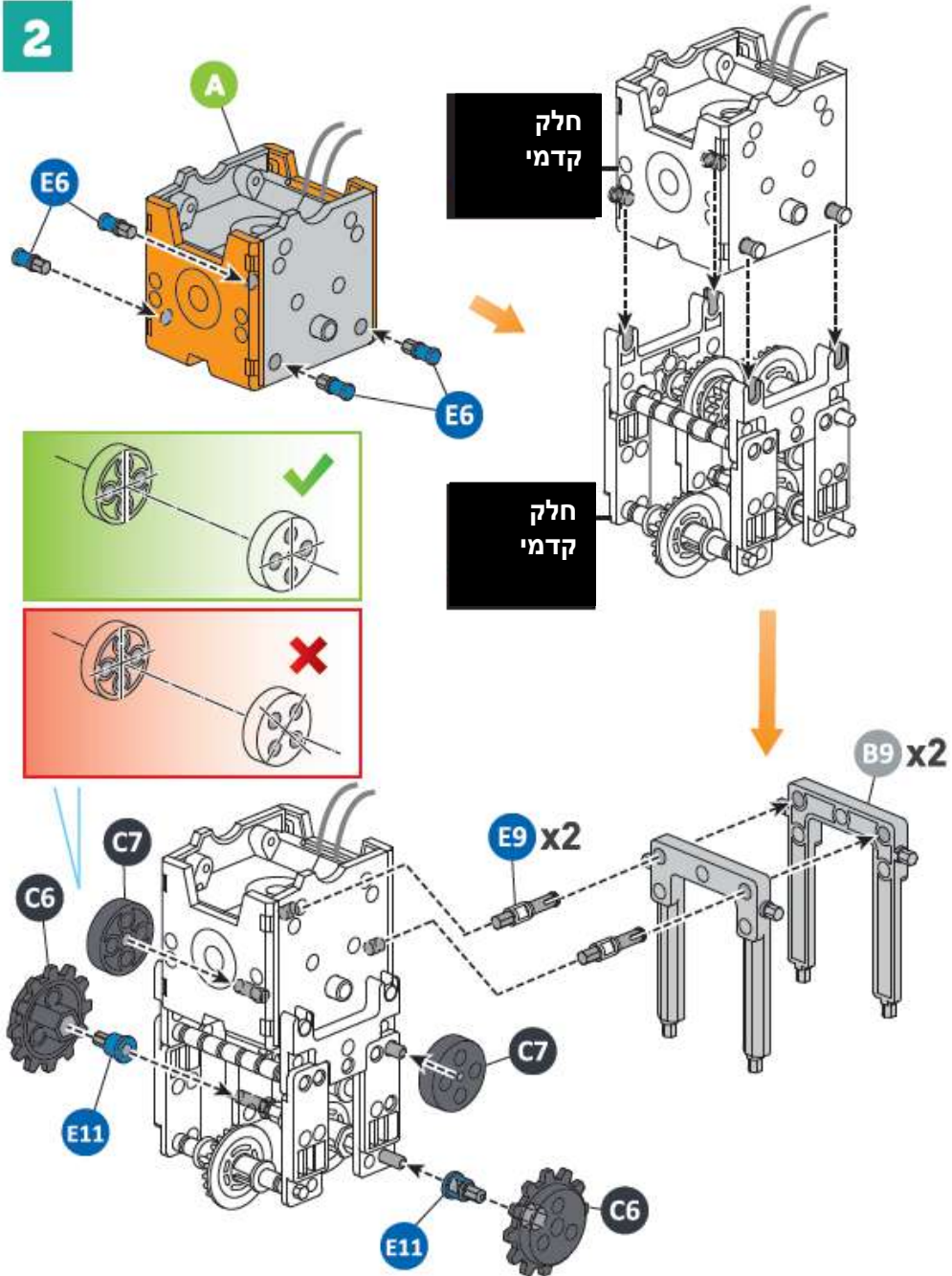


תזדקקו לדברים  
הבאים



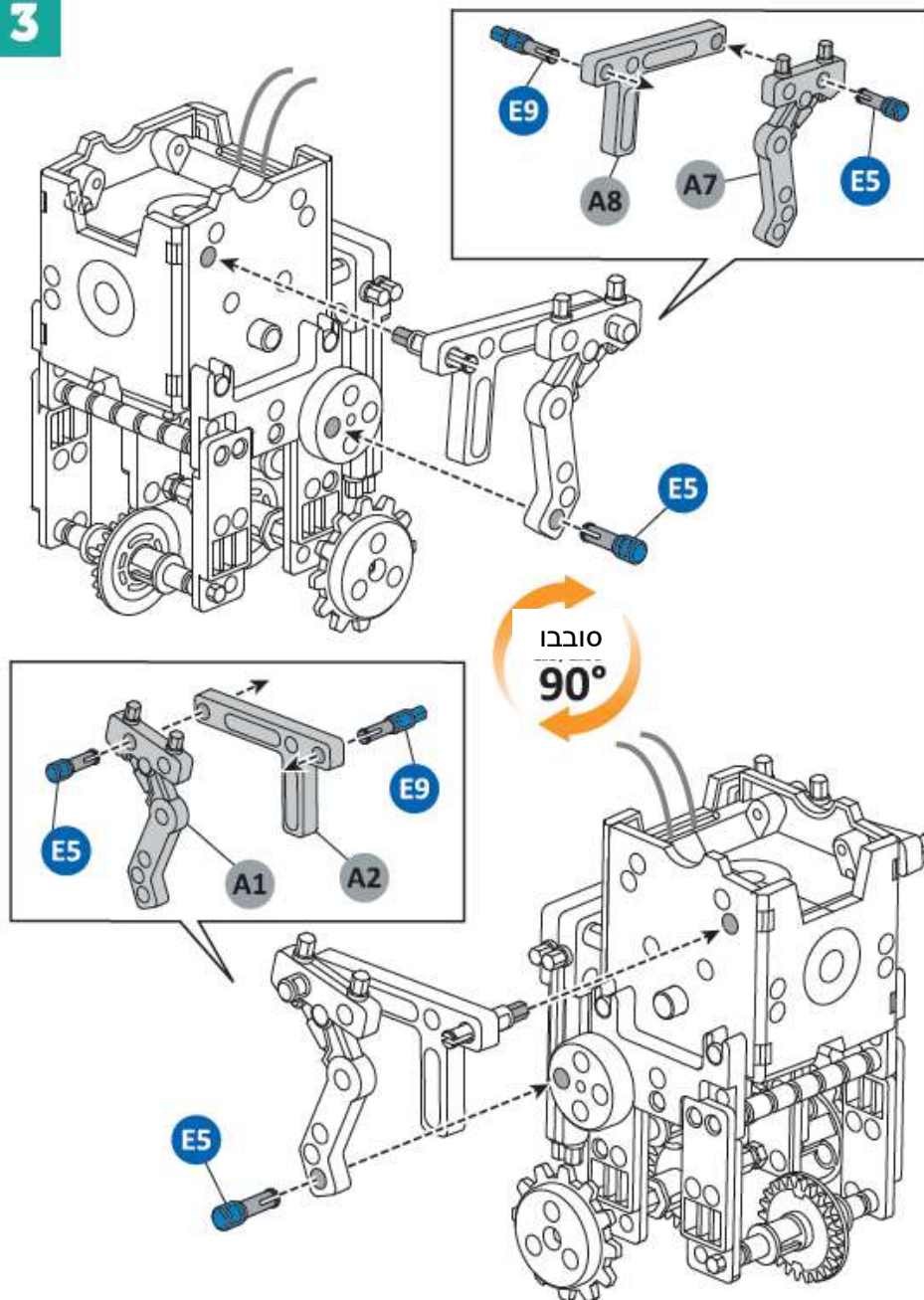


2



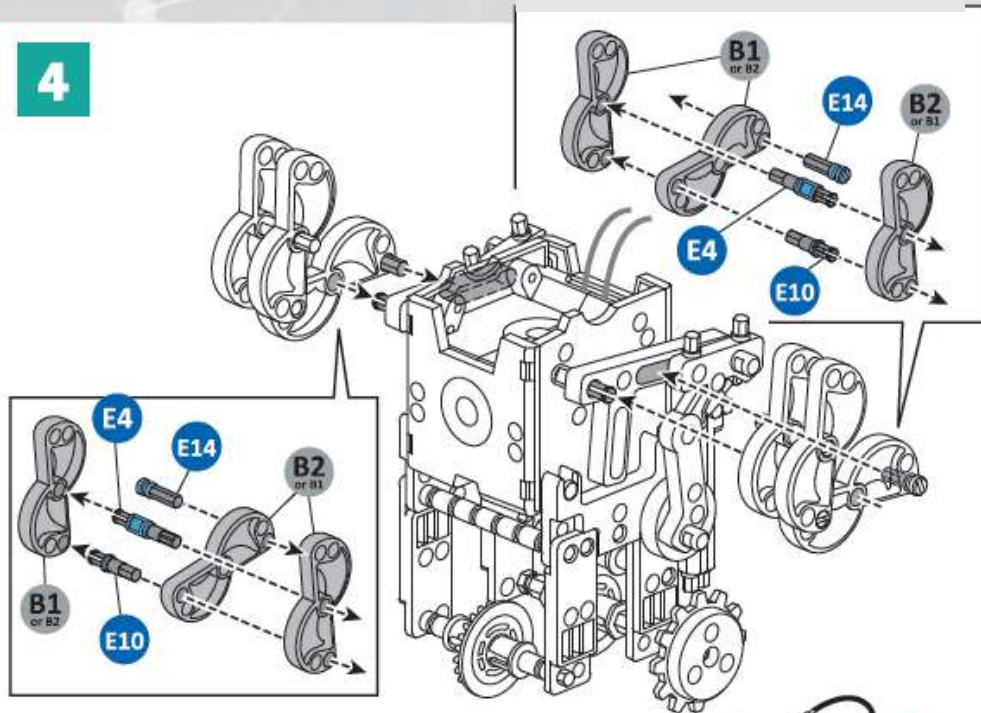


3

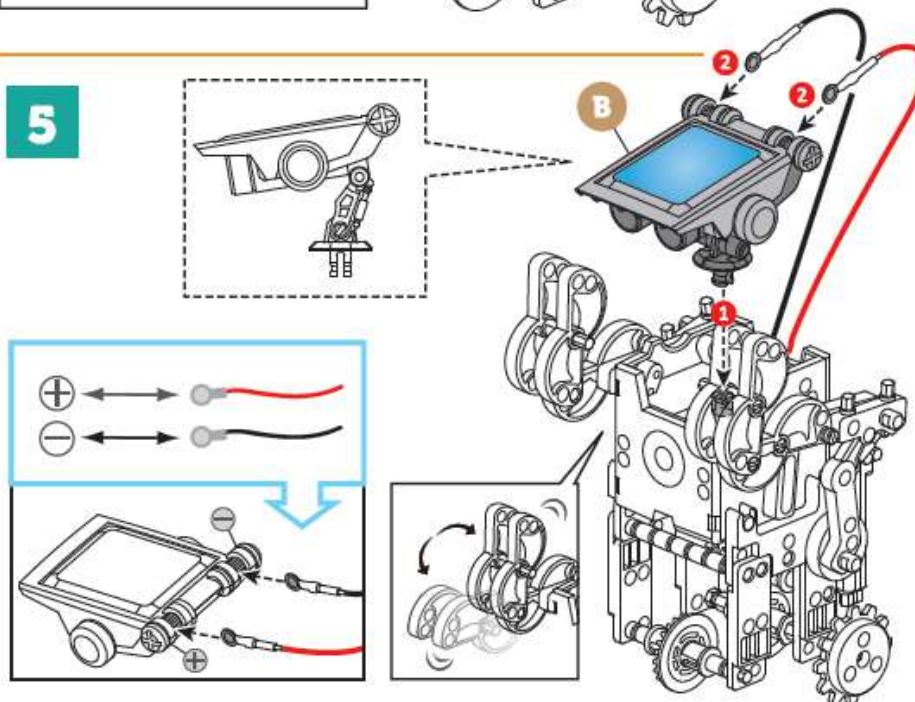




4

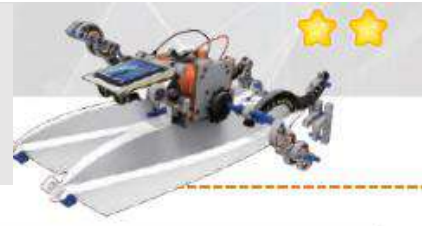


5



# 13

## רובוט גולש



**תזדקקו לדברים הבאים**

**A**

**B**

**C**

**A1** x1

**A2** x2

**A7** x1

**A8** x2

**B1** x3

**B2** x3

**B4** x2

**B5** x2

**C1** x4

**C6** x2

**E6** x4

**E5** x6

**E10** x4

**E4** x10

**E9** x2

**E1** x4

**E8** x2

**1**

**x2**

**1:1**

**1**

**חלק קדמי**

סובבו 180°

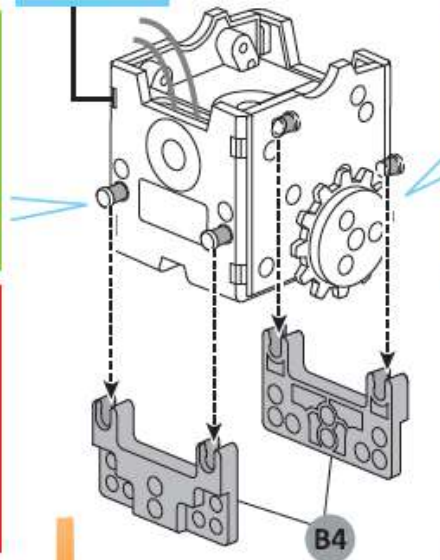
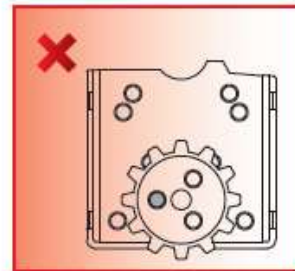
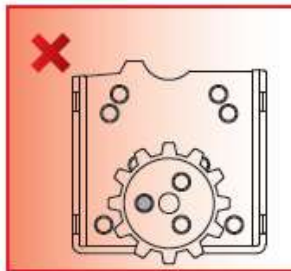
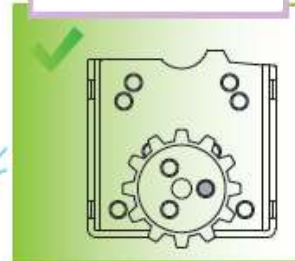
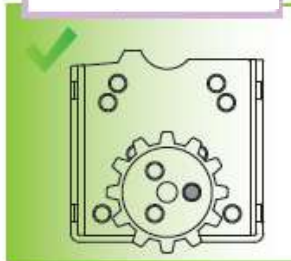
**חלק אחורי**

2

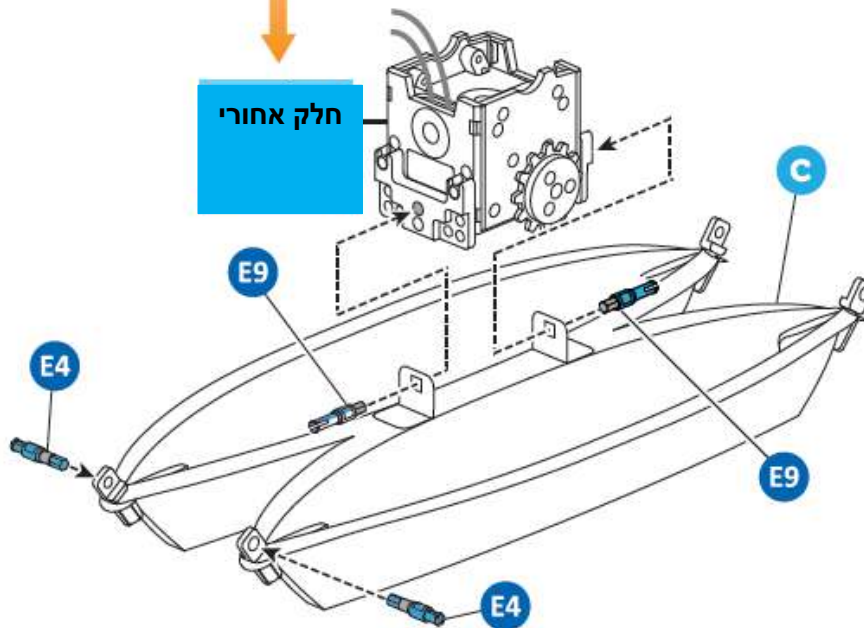
חלק אחורי

צד שמאל

צד ימין

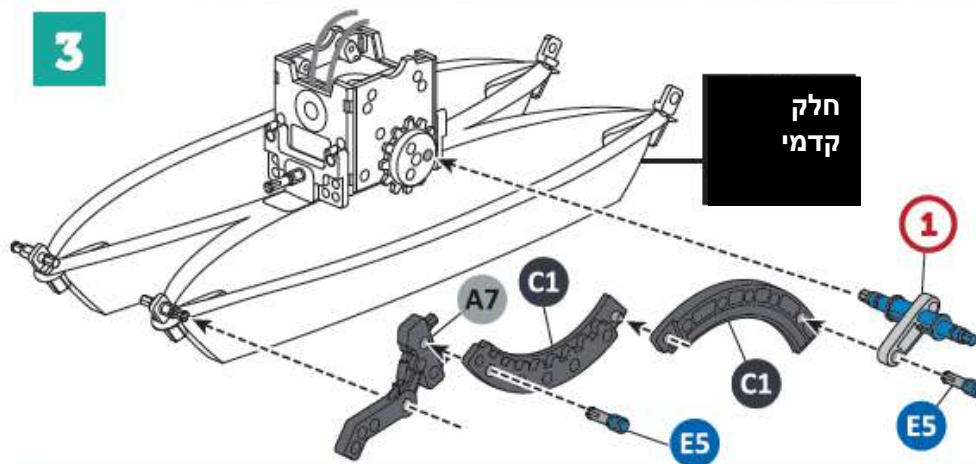


חלק אחורי

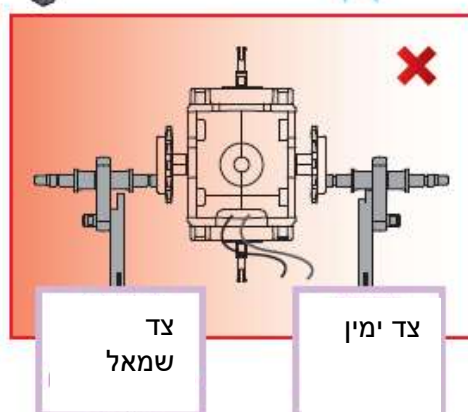
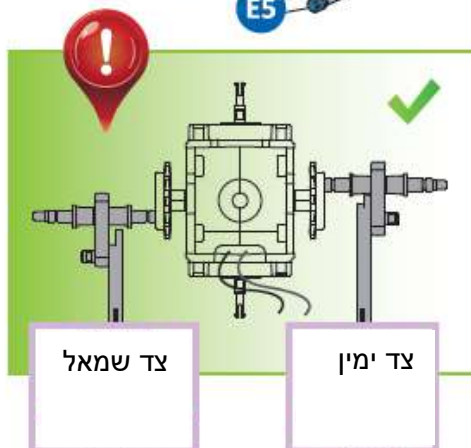
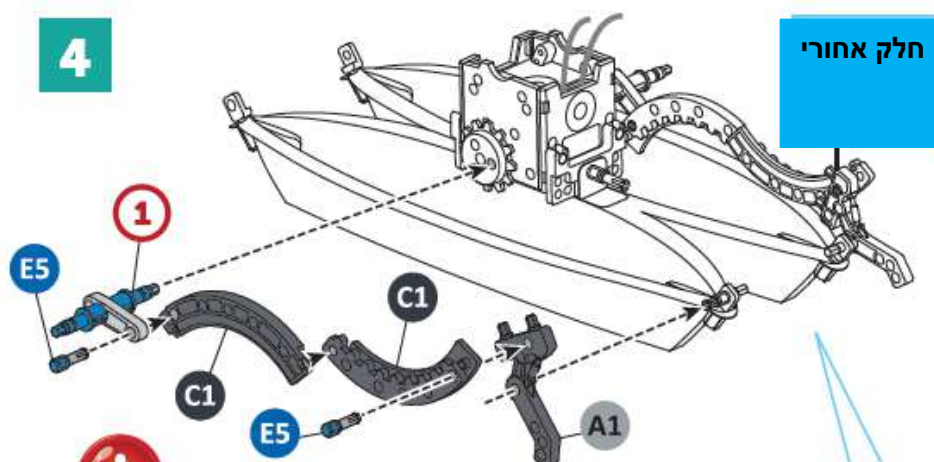




3



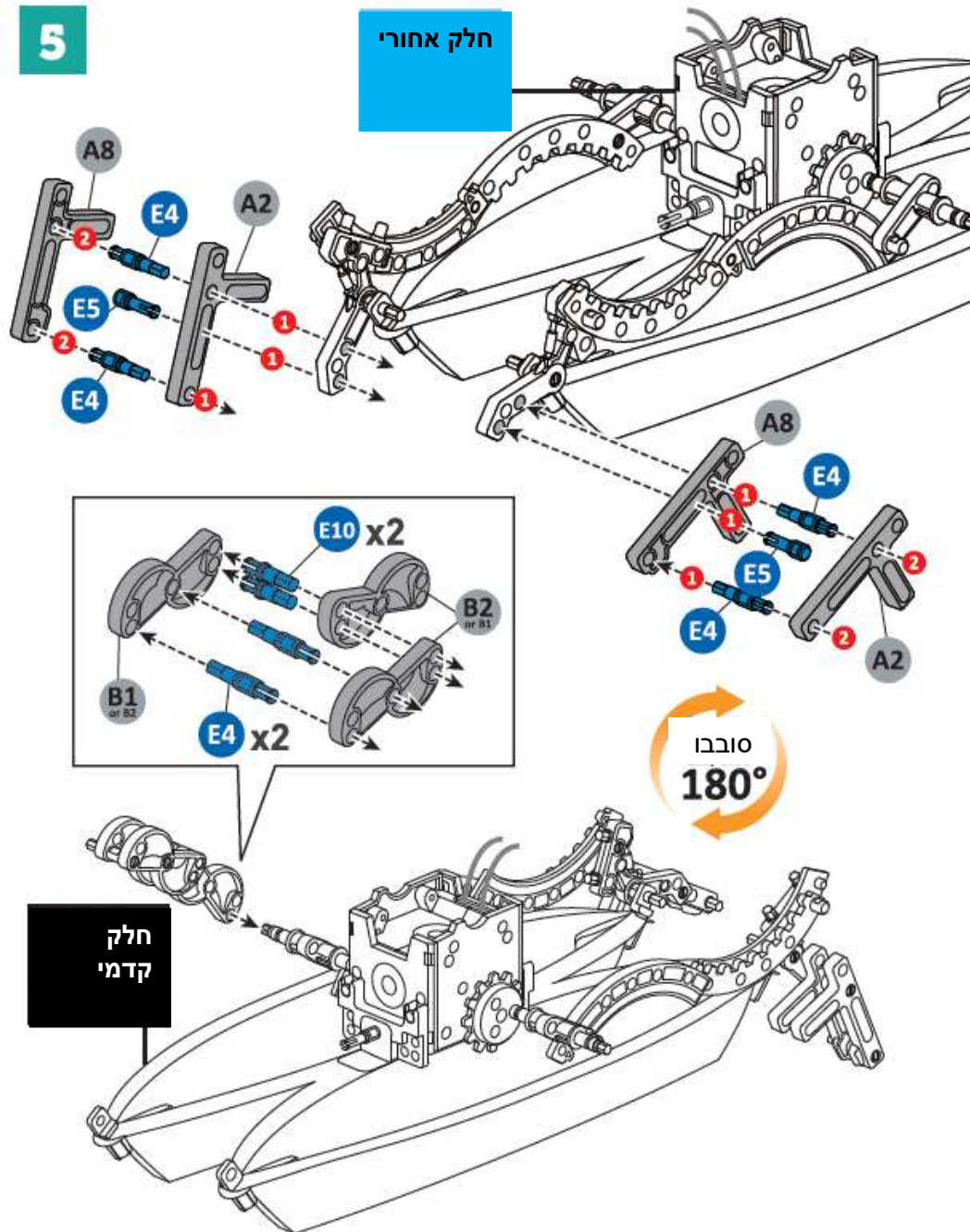
4

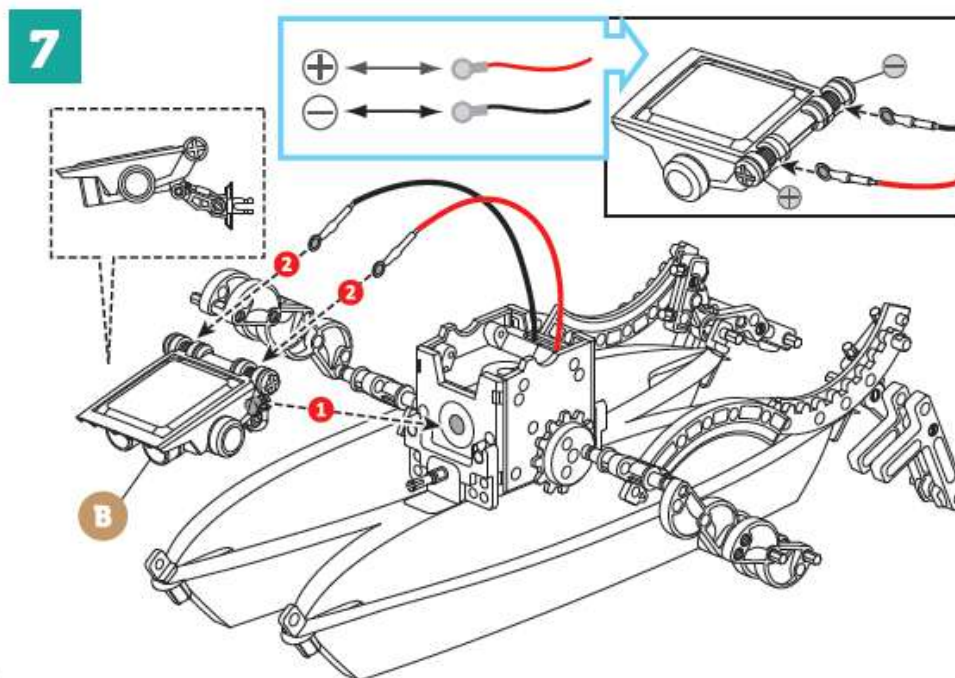
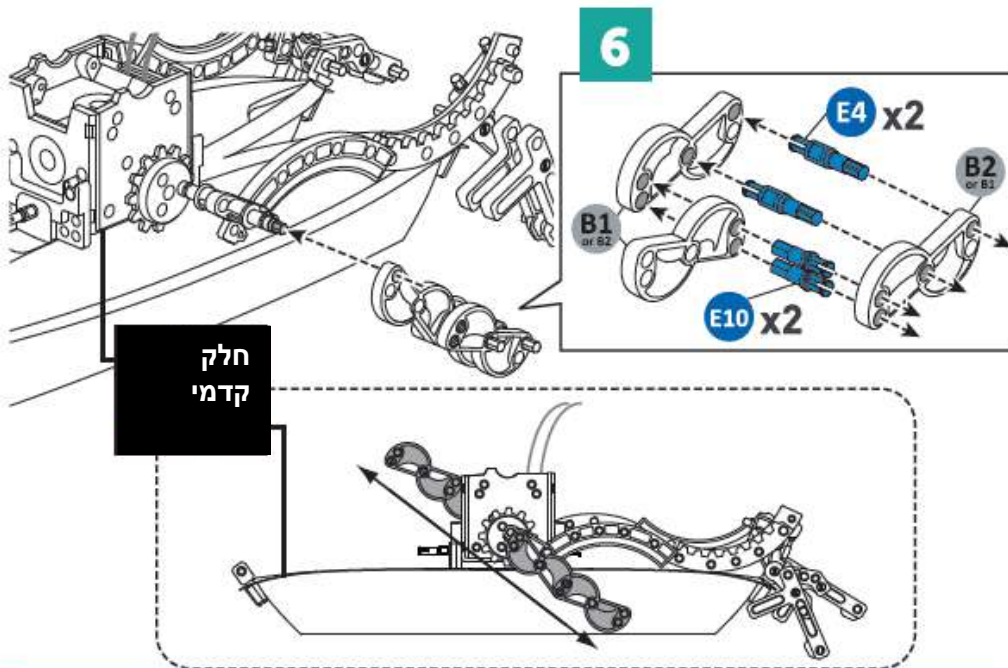




5

חלק אחורי



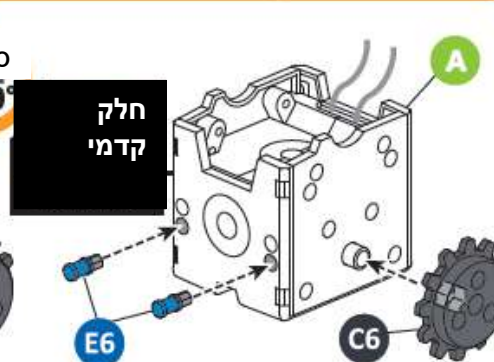
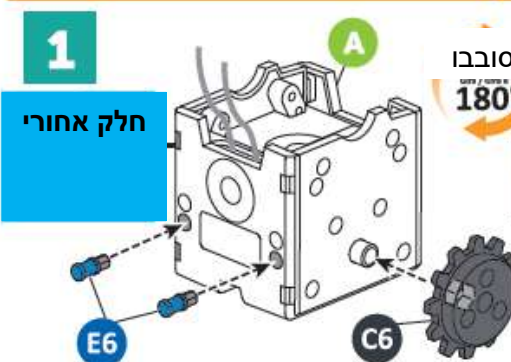
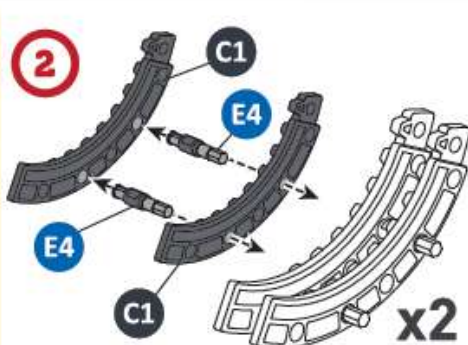
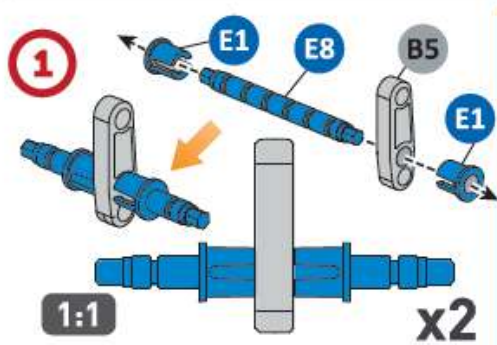
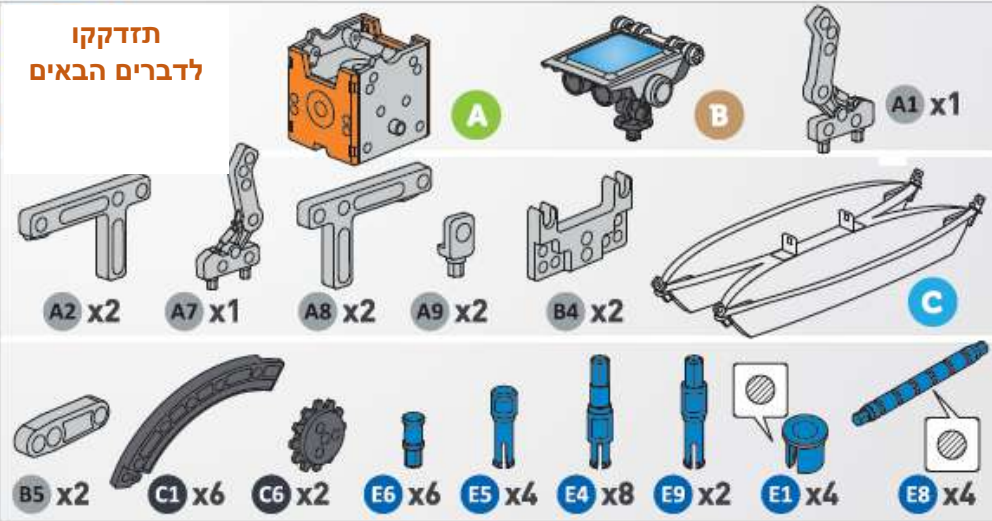


14

# רובוט חותר



תזדקקו  
לדברים הבאים



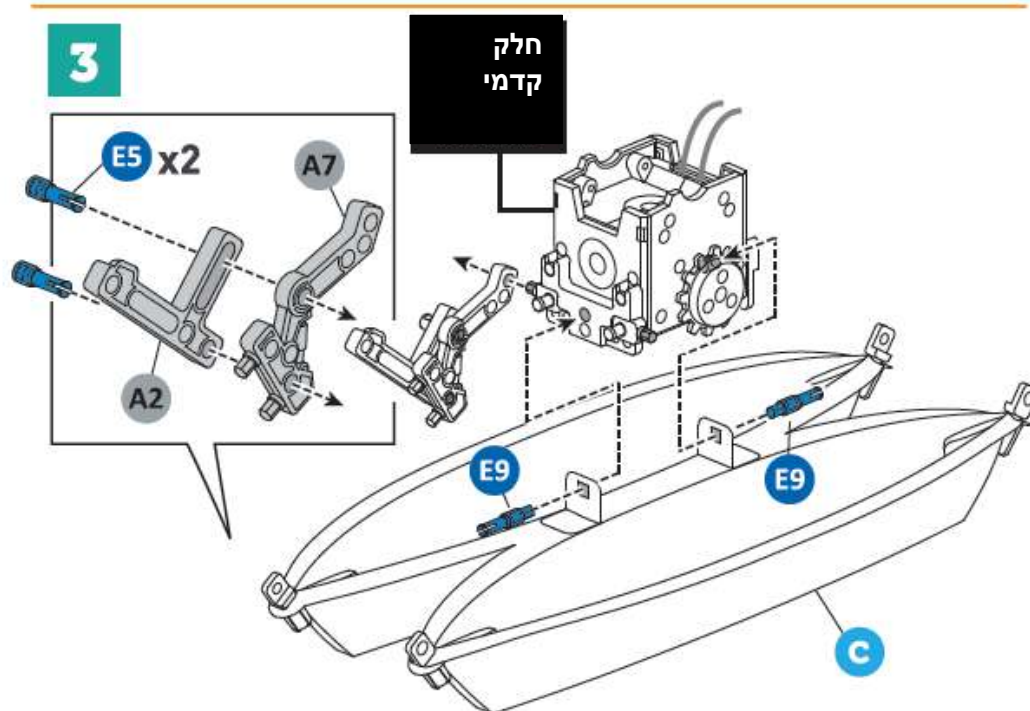
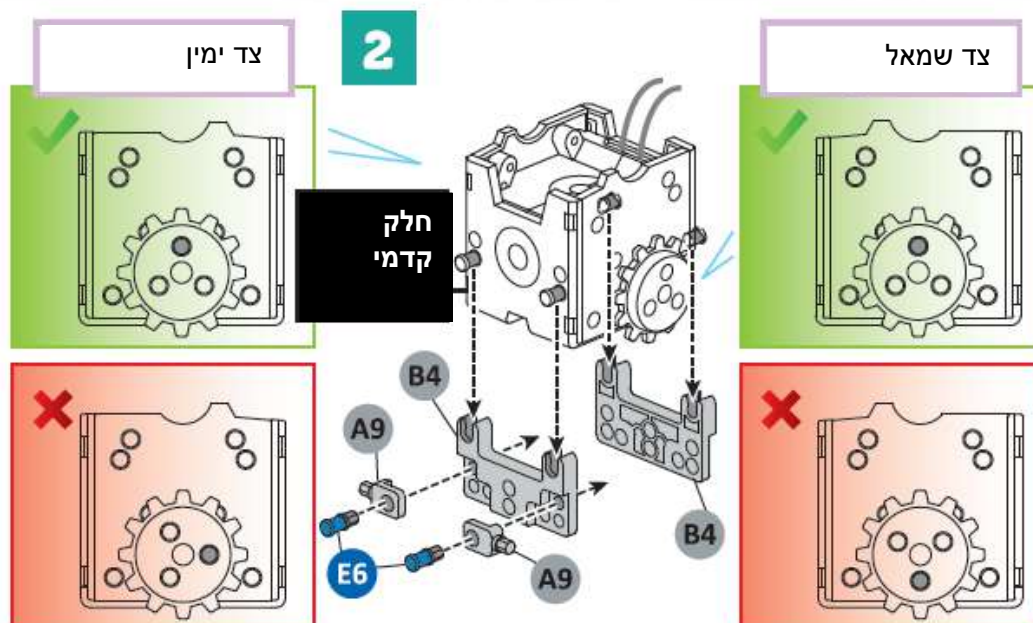
1

חלק אחורי

סובבו  
180°

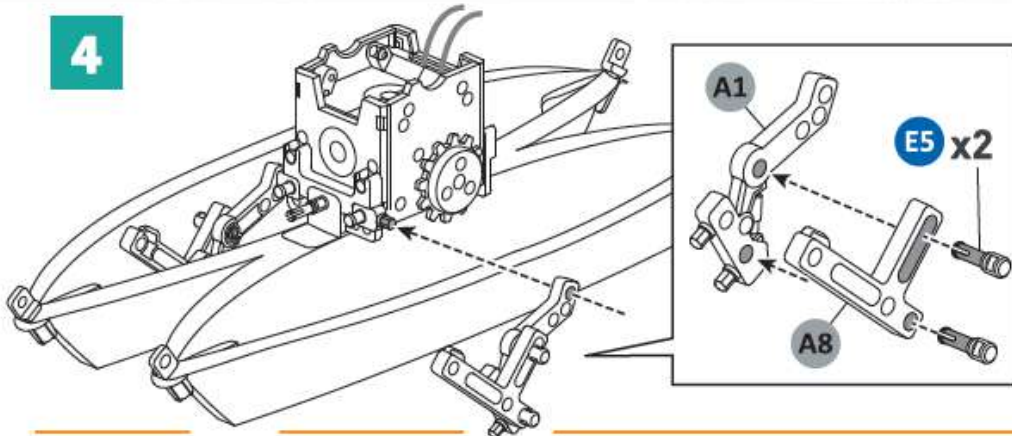
חלק  
קדמי



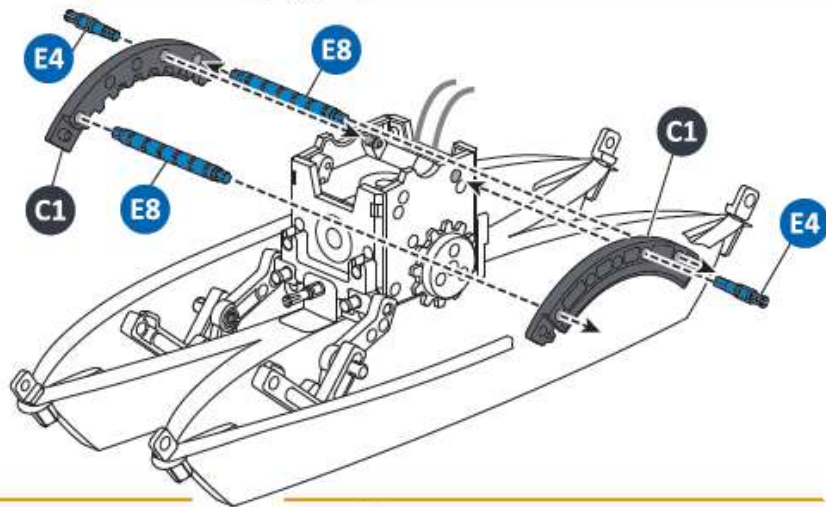




4

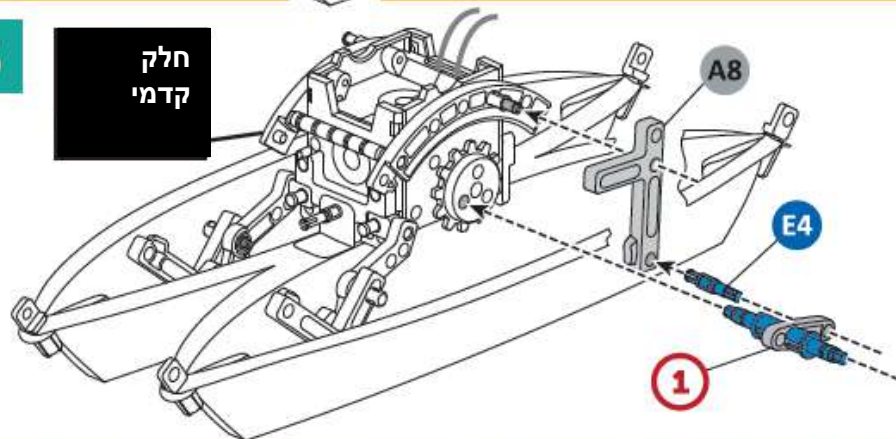


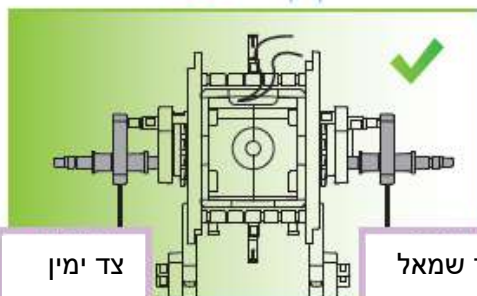
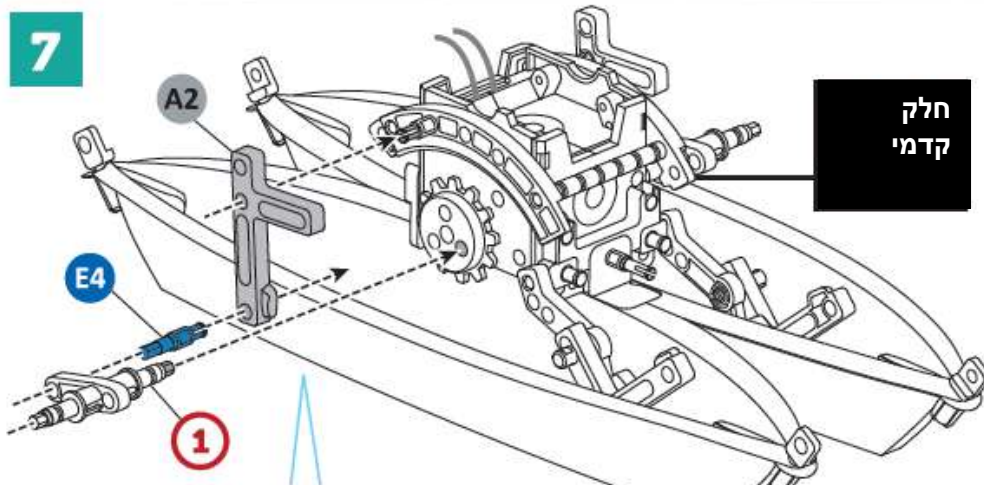
5



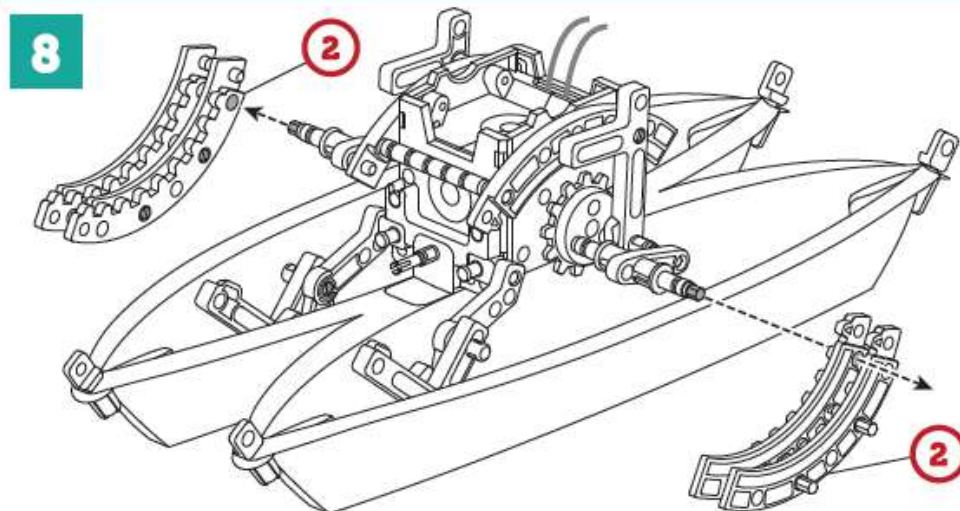
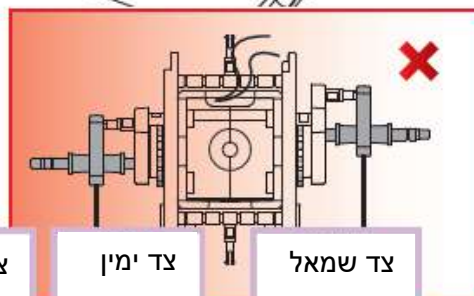
6

חלק  
קדמי

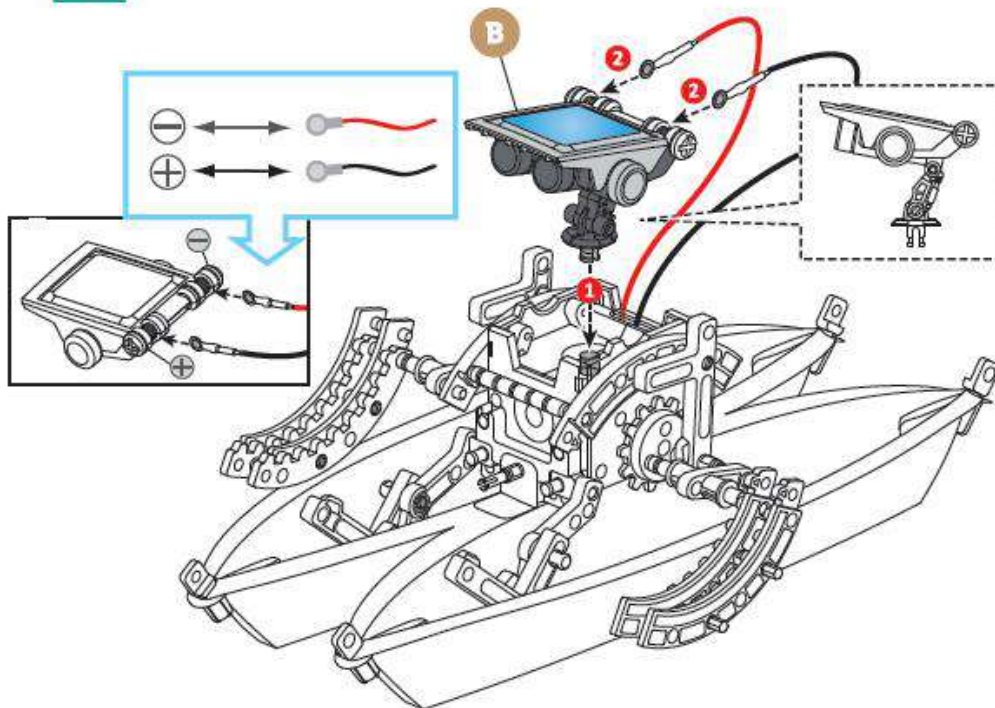




צד שמאל



9








**FR** **MISE EN GARDE :** Uniquement pour enfants de 8 ans et plus.  
**ATTENTION !** Ne convient pas aux enfants de moins de 36 mois.  
 Présence de petits éléments susceptibles d'être ingérés.  
 Danger d'étouffement.  
**ATTENTION !** A utiliser sous la surveillance rapprochée d'un adulte. Présence de pointes et de bords coupants fonctionnels.  
**GARDER L'EMBALLAGE POUR REFERENCE FUTURE.**  
 Les couleurs et le contenu peuvent varier légèrement.

**DE** **WARNING:** Für Kinder ab 8 Jahren.  
**ACHTUNG!** Nicht für Kinder unter 36 Monaten geeignet wegen verschluckbarer Kleinteile. Erstickungsgefahr.  
**ACHTUNG !** Nur unter der direkten Aufsicht eines Erwachsenen benutzen. Verletzungsgefahr durch Spitzen und funktionelle Schneidkanten.  
**BEWAHREN SIE DIE VERPACKUNG FÜR ZUKÜNFTIGE REFERENZ.** Farben und Inhalte können leicht variieren.

**ES** **ADVERTENCIA:** Únicamente para niños a partir de 8 años.  
**¡ADVERTENCIA!** No conviene para niños menores de 36 meses ya que contiene piezas pequeñas que podrían ser ingeridas. Peligro de asfixia.  
**¡ATENCIÓN!** Se utilizará exclusivamente bajo la vigilancia directa de una persona adulta. Presencia de una punta afilada o bordes cortantes.  
**GUARDAR EL EMBALAJE PARA FUTURAS CONSULTAS.**  
 Los colores y contenido pueden variar ligeramente.

**EN** **WARNING:** For children aged 8 and over only.  
**WARNING!** Not suitable for children under 36 months due to small parts which can be ingested. Choking hazard.  
**WARNING!** To be used under the direct supervision of an adult. Presence of functional sharp points and edges.  
**RETAIN THE PACKAGING FOR FUTURE REFERENCE.**  
 The colors and content may slightly vary.

**NL** **LET OP:** Alleen voor kinderen ouder dan 8 jaar.  
**WAARSCHUWING!** Niet geschikt voor kinderen jonger dan 36 maanden, vanwege kleine onderdelen. Verstikkingsgevaar.  
**WAARSCHUWING !** Alleen gebruiken onder toezicht van een volwassene. Aanwezigheid van scherpe punten en randen !  
**VERPAKKING BEWAREN VOOR REFERENTIE.**  
 De kleuren en inhoud kunnen iets afwijken.

**IT** **AVVERTIMENTO:** Unicamente per bambini di 8 anni e più.  
**AVVERTENZA!** Non adatto a bambini di età inferiore a 36 mesi. Contiene piccole parti che potrebbero essere ingerite. Pericolo di soffocamento.  
**AVVERTENZA!** Da usare sotto la sorveglianza di un adulto. Presenza di punte acuminate e bordi taglienti funzionali.  
**CONSERVARE L'IMBALLAGGIO PER UNA CONSULTAZIONE FUTURA.** I colori e contenuti possono variare leggermente.

**Développé et distribué par :**  
**Developed and distributed by :**  
**BUKI France**  
 22 rue du 33ème Mobiles - 72000 Le Mans - FRANCE  
 Tél: +33 1 46 65 09 92  
 E-mail : [daniellevy@bezeqint.net](mailto:daniellevy@bezeqint.net)  
[www.bukifrance.com](http://www.bukifrance.com)





Photo Credits : iStock - Bigstock