

14 in 1_{KIT} EDUCATIONAL SOLAR ROBOT

⚙️ Build your own solar robot kit ⚙️

Assembly & Instruction **Manual** CONTENTS

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14 in 1 EDUCATIONAL SOLAR ROBOT KIT

Product Introduction

Alternative energy is the future, so now is the perfect time to start children on the path of learning basic concepts behind these technologies. Fortunately, this product is powered by the sun, there are no batteries required. The robot moves in direct sunlight and allows children to create while using their infinite imagination.

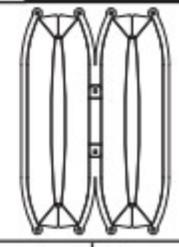
There are two levels in building the robot kit. Level one includes: Turtle-bot, Beetle-bot, Quadru-bot, Boat-bot, Walker-bot, Dog-bot, and Wheel-bot. Then they can challenge their manipulative skills with the second level: Roly Poly-bot, Auto-bot, Slither-bot, Surf-bot, Boxer-bot, Crab-bot and Row-bot.

Tool You May Need

Diagonal Cutter



Mechanical Parts List

P1 Motor With Connectors  QTY 1 <small>Don't connect the wires to the mains.</small>		P2 Solar Panel With Springs  QTY 1	
P3 Pinion Gear(yellow)  QTY 1	P4 Gear With Shaft  QTY 1	P5 Gear(Red)  QTY 1	P9 boat  QTY 1
P6 Gear(Green)  QTY 1	P7 Sponge  QTY 2	P8 Round Shaft  QTY 1	

Einführung

Erneuerbare Energien sind die Zukunft. Deshalb ist es das ideale Moment, um Kinder die Grundbegriffe dieser Technologien zu lernen. Glücklicherweise ist das Gerät solarbetrieben (ohne Batterien). Dieser Roboter funktioniert bei direkter Sonneneinstrahlung und erlaubt Kindern dank Ihrer Fantasie neue Dinge zu kreieren. Die Roboter werden je nach Schwierigkeitsgrad aufgeteilt: Stufe 1 enthält: Turtle-bot, Beetle-bot, Quadru-bot, Boat-bot, Walker-bot, Dog-bot, und Wheel-bot. Stufe 2 enthält: Roly Poly-bot, Auto-bot, Slither-bot, Surf-bot, Boxer-bot, Crab-bot und Row-bot.

Benötigte Werkzeuge

Seitenschneider

Liste mit mechanischen Teilen

Motor mit Anschlüssen

Solarmodul mit Federn

Ritzel (Gelb)

Zahnrad mit Achse

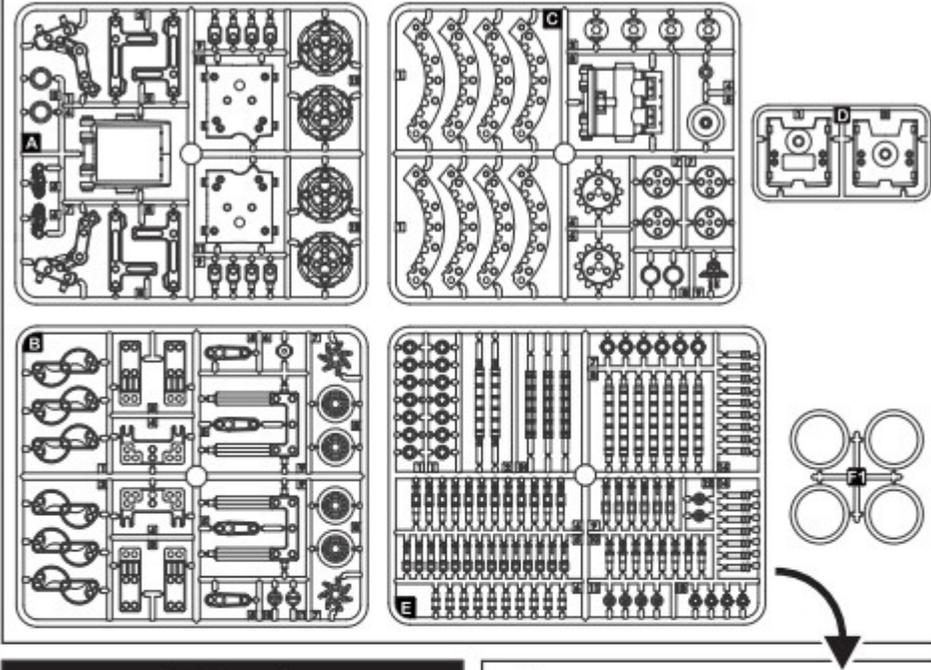
Zahnrad (Rot)

Zahnrad (Grün)

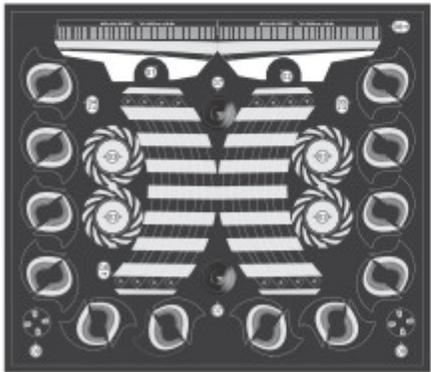
Schwamm

Runde Welle

Plastic Parts



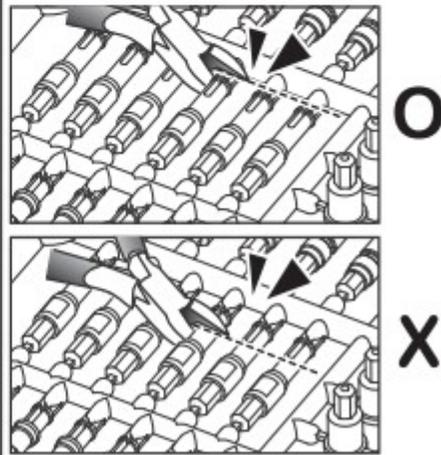
Sticker A



QTY

1

 Make sure to cut the plastic parts **E** correctly.



Kunststoffteile

Sticker A

Achtung: Schneiden Sie die Kunststoffteile korrekt.

Sticker B			Zipper bag	
	QTY			QTY
	1			9

Sticker B

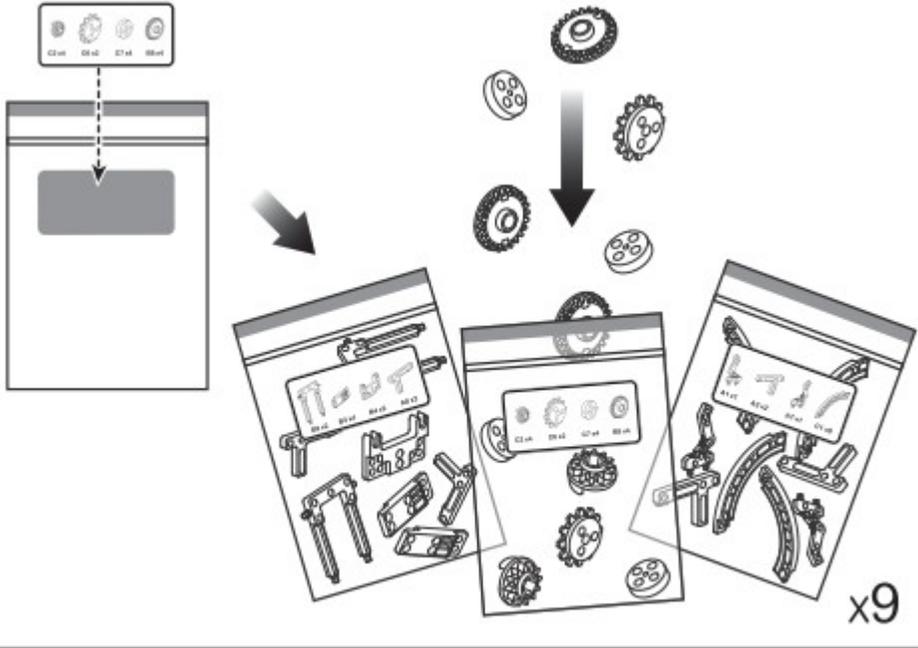
Beutel mit Reißverschluss

Tip



For easy identification of each plastic part, suggest to sort out plastic parts and put them into zipper bags as per instruction.

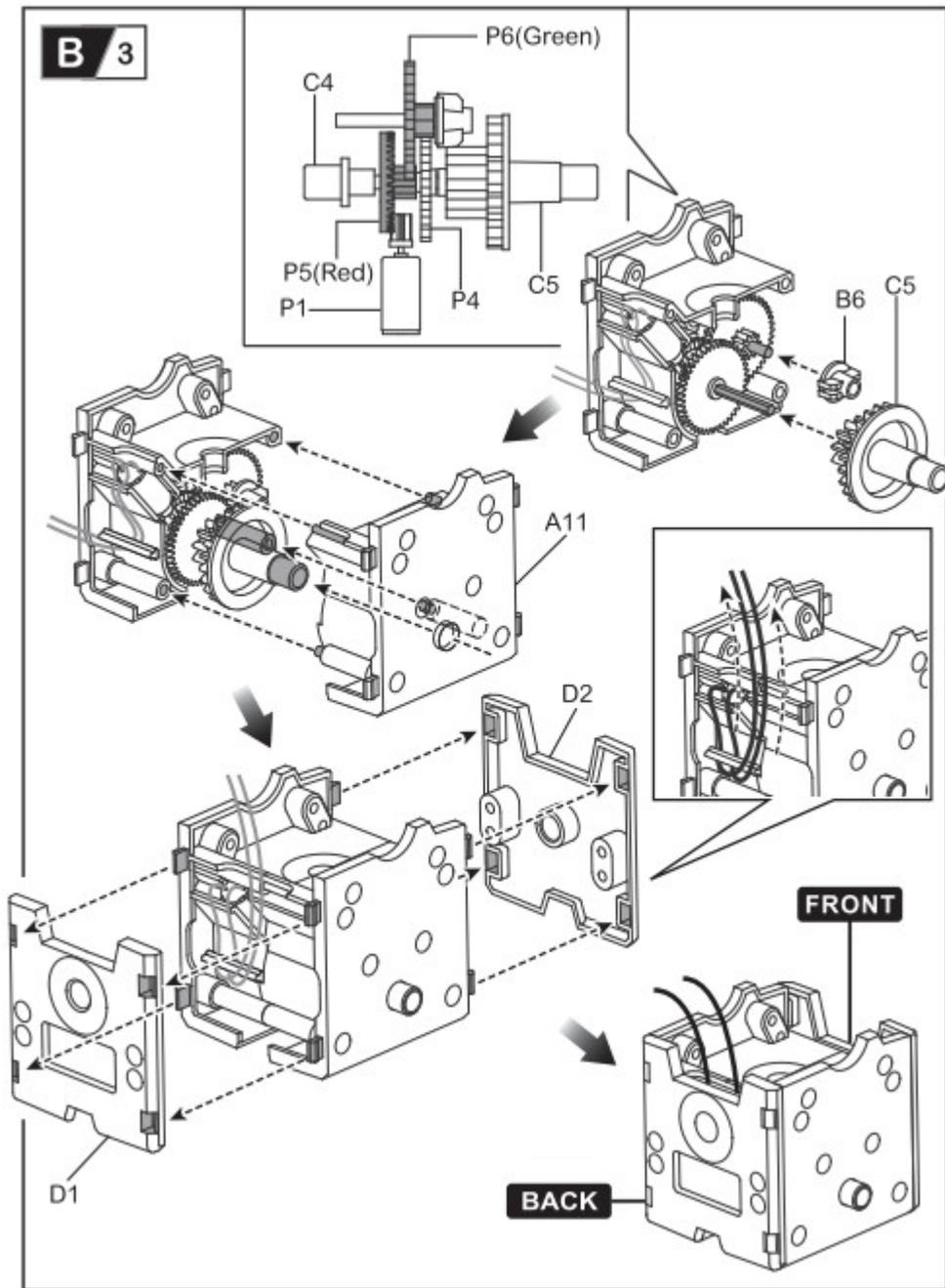
(P.S. Each zipper bag to be placed an illustrated sticker B (as below) first.)



Für eine einfache Identifizierung der Kunststoffteile, stecken Sie diese je nach Roboter in verschiedenen Beuteln mit Reißverschluss.

Hinweis: Kleben Sie einen Sticker B auf jedem Beutel (siehe Abb.)

B 3

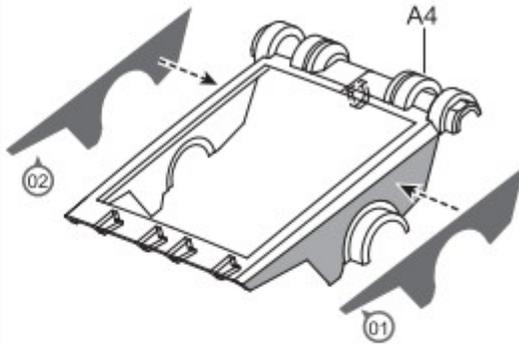


Head Module Assembly

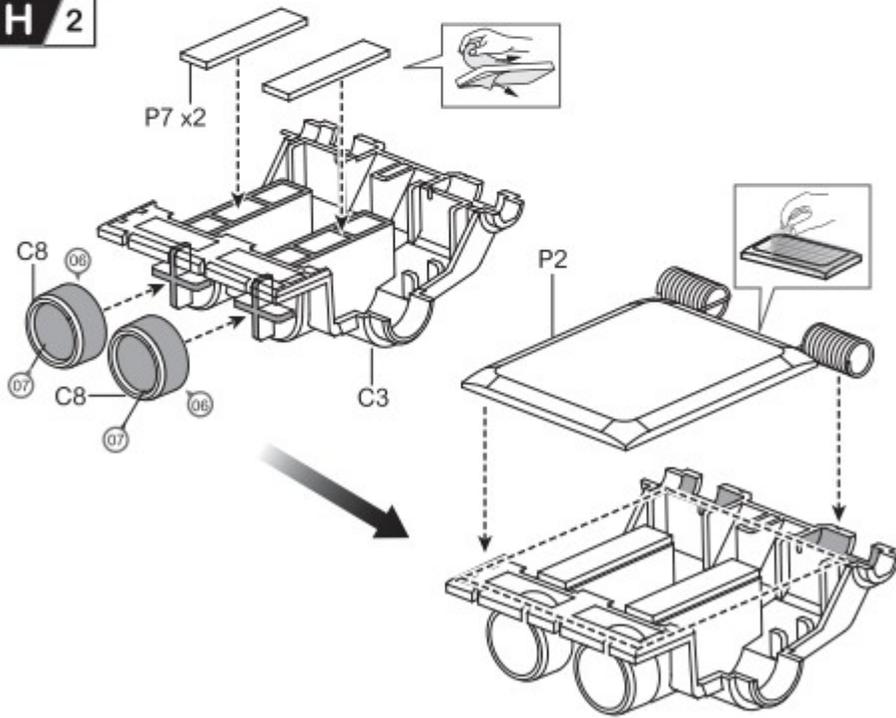
Finished Product



H 1

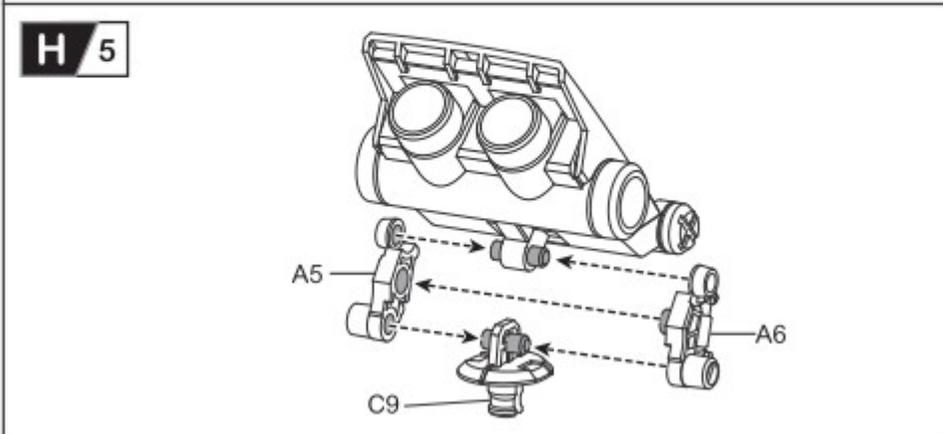
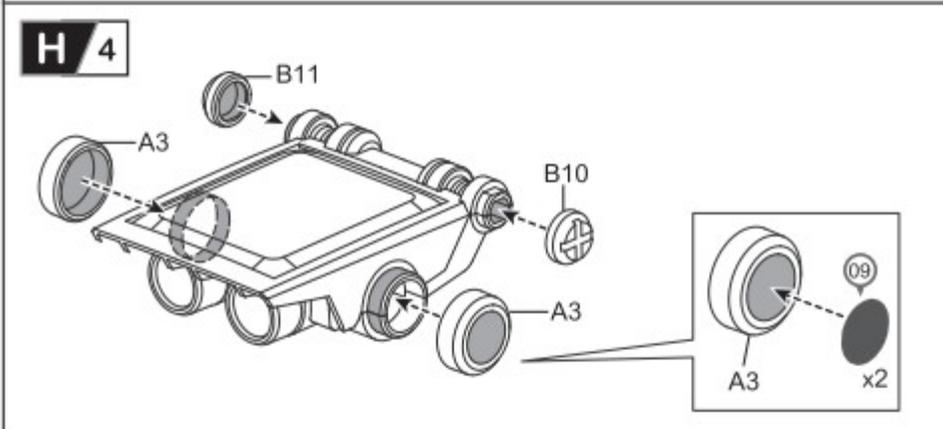
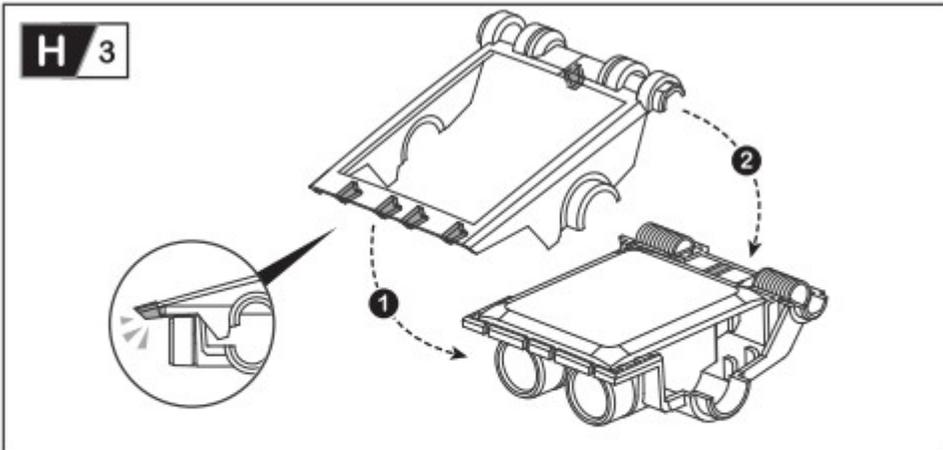


H 2

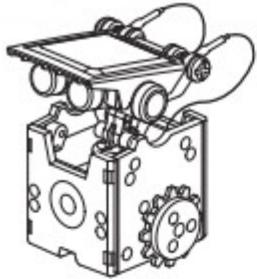


Den Kopf montieren

Endprodukt



Testing : You need to test the gear box first.



Prepare the below parts first before you test the "Gear box" and "Solar panel".



Body
(Gear Box)

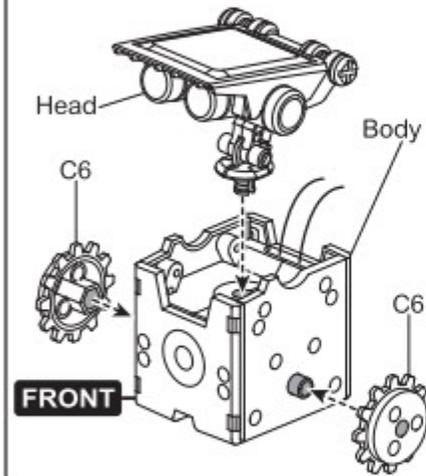


Head
(Solar Panel)

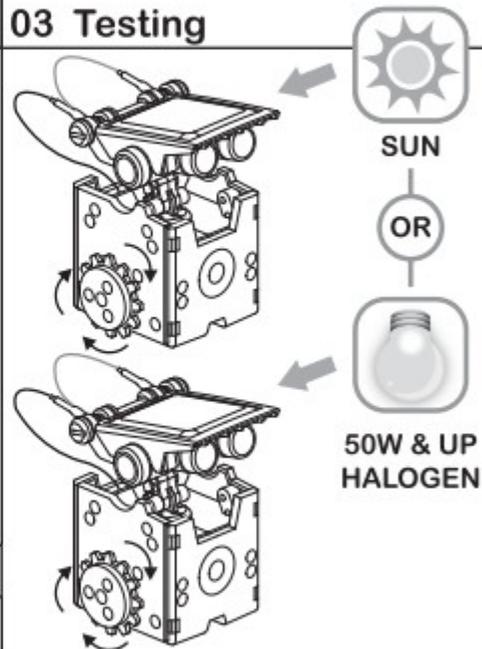


C6 x2

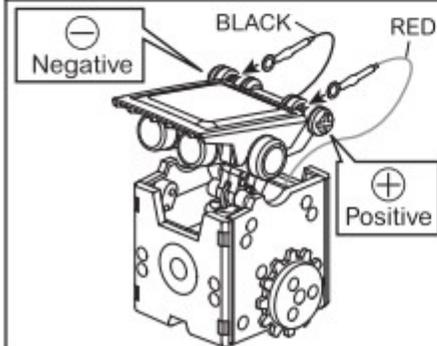
01 Assembly



03 Testing



02 Wiring



04 Trouble shooting

If C6 does not work,
Please disassemble the gear box,
and back to the page 4.

Einen Test durchführen: Prüfen Sie zuerst das Getriebe.

Montieren Sie zuerst folgende Teile, bevor Sie das "Getriebe" und das "Solarmodul" prüfen".

Montage

Den Lichtschlauch testen

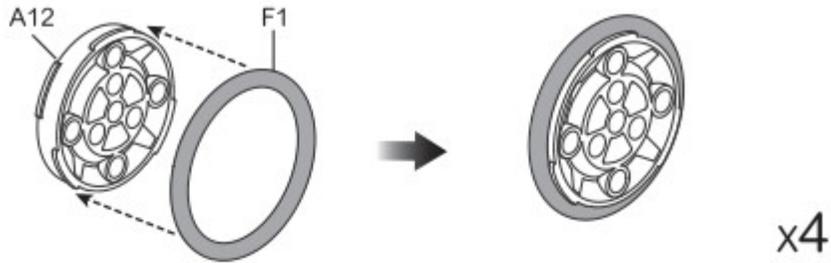
Anschluss

Beachten Sie, dass C6 dreht!

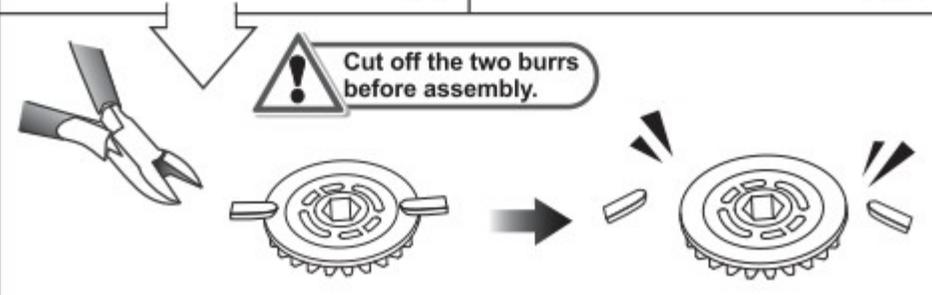
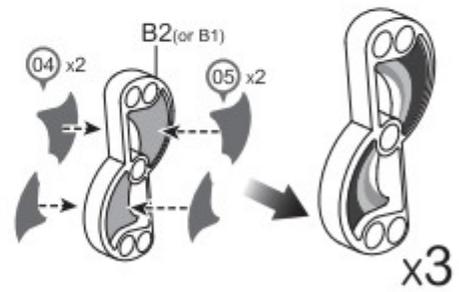
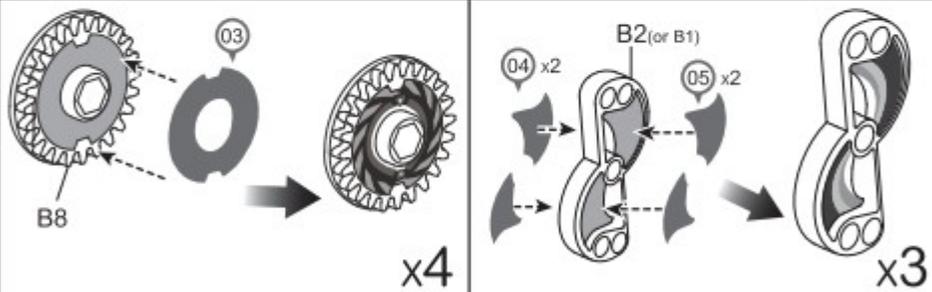
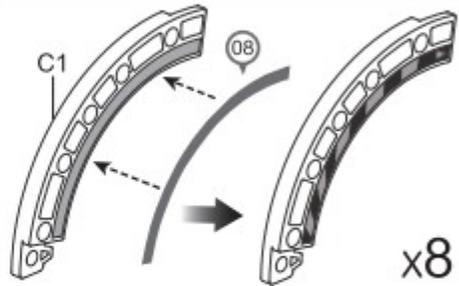
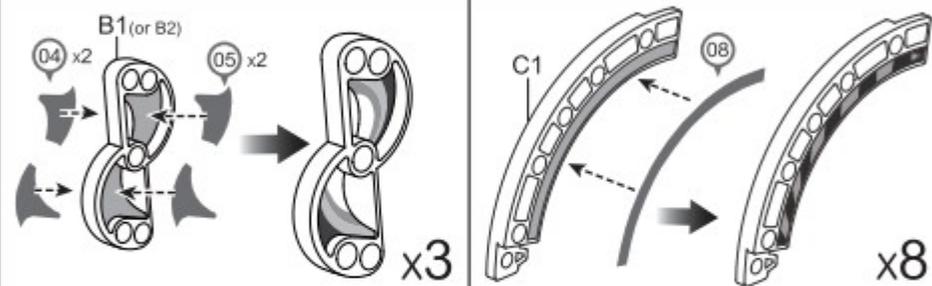
Problemlösung

Kann C6 nicht drehen, dann demontieren Sie das Getriebe und kehren Sie zur Seite 4 zurück.

Wheel Module Assembly



Sticker A



Das Rad montieren

Sticker A

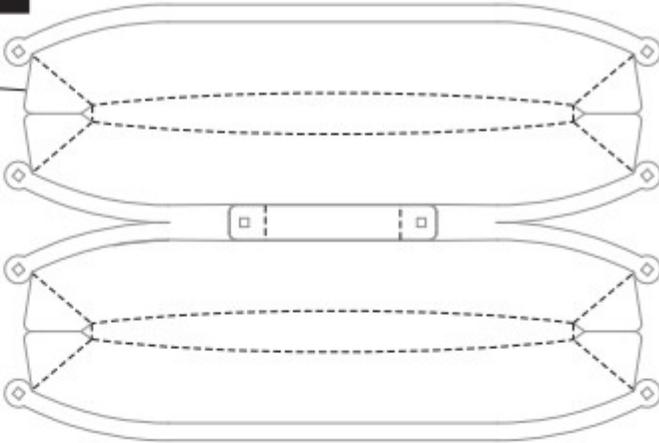
Schneiden Sie die Grate vor Montage ab.

Boat Module Assembly

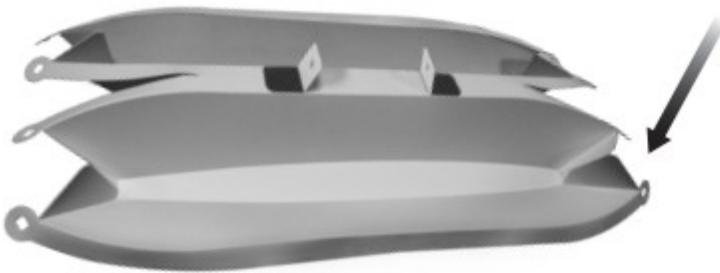
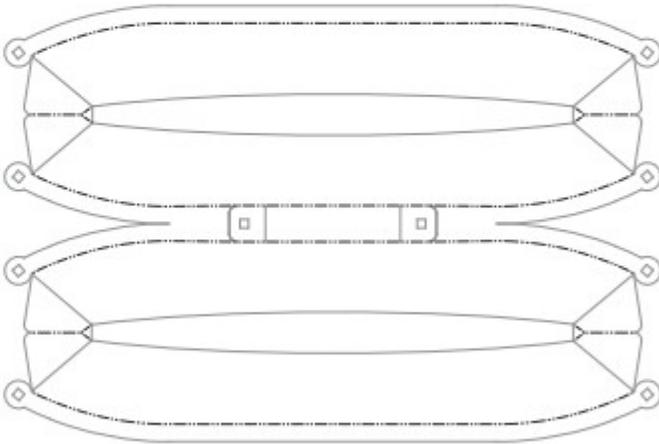
form the boat

P9

Valley fold



Mountain fold

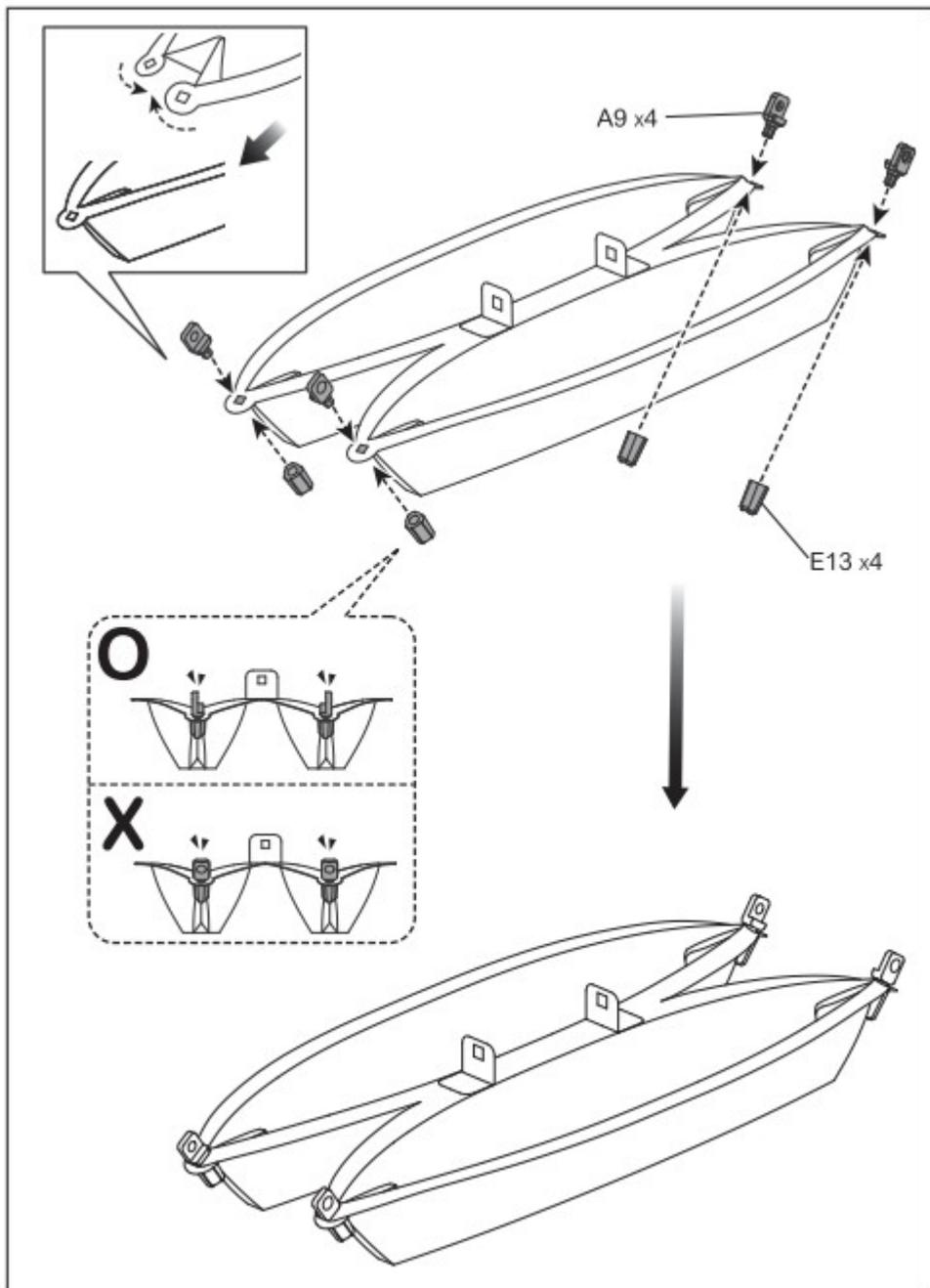


Das Boot montieren

Bauen Sie das
Boot.

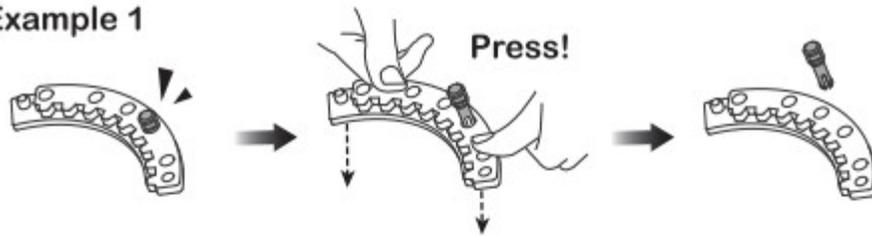
Talfalte

Bergfalte

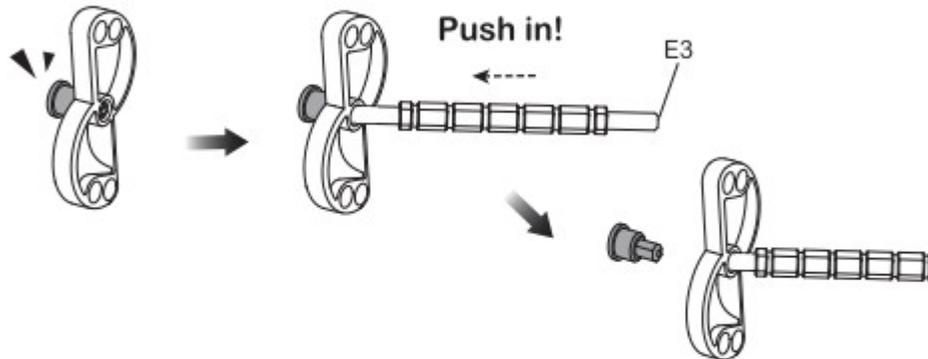


Tips (When your part's stuck.)

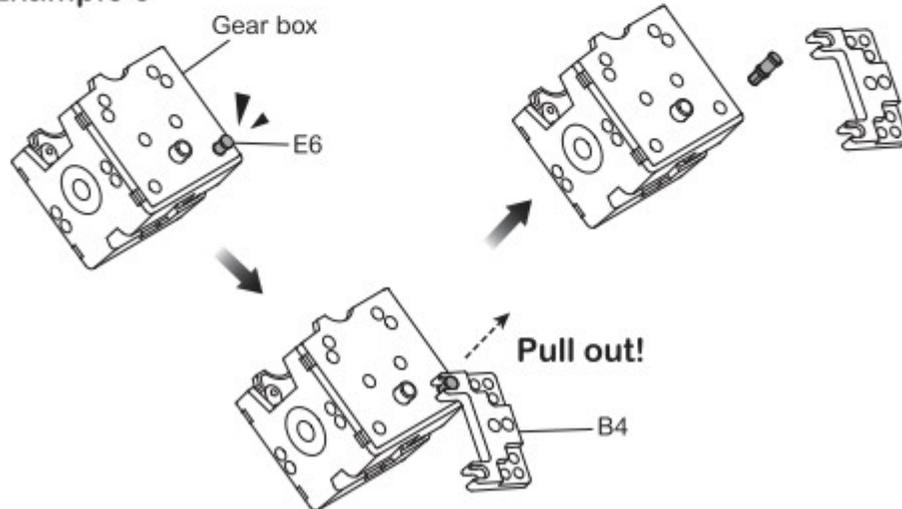
Example 1



Example 2



Example 3



Hinweise (Wenn der Teil blockiert ist.)

Beispiel 1

Drücken

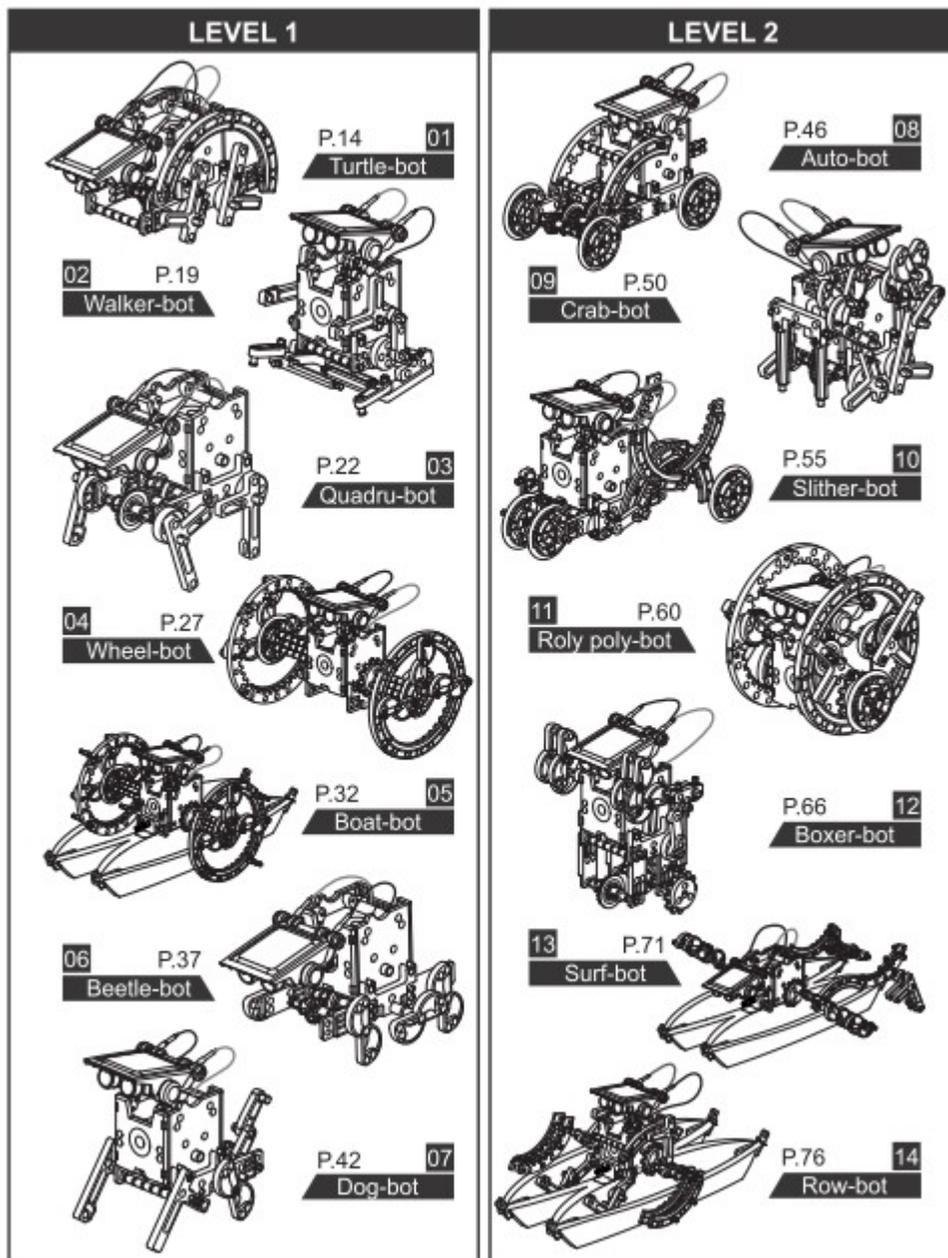
Beispiel 2

Einstecken

Beispiel 3

Ausziehen

14 Robot Modes



14 verschiedene Roboter

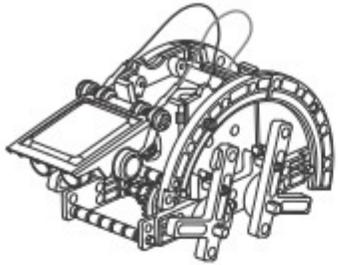
STUFE 1

STUFE 2

01 Turtle-bot Assembly

Level 1

Prepare the below parts first before you assemble the "Turtle-bot".



Body



Head



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



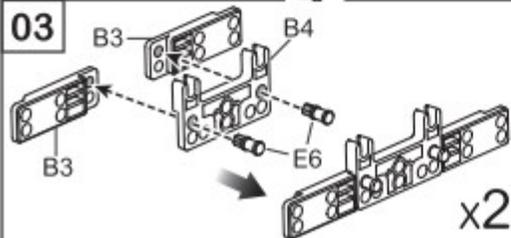
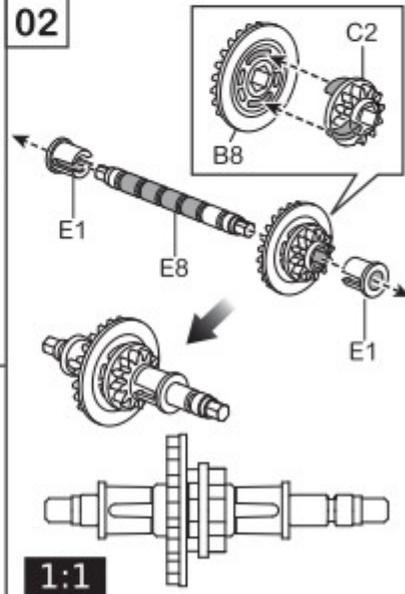
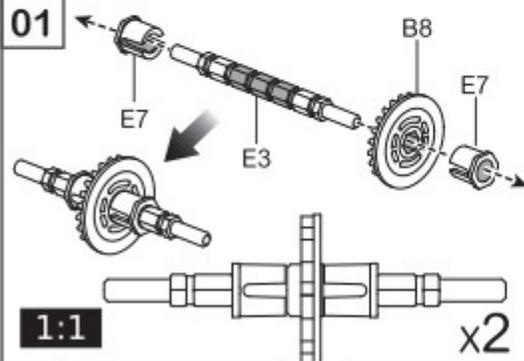
E4 x4



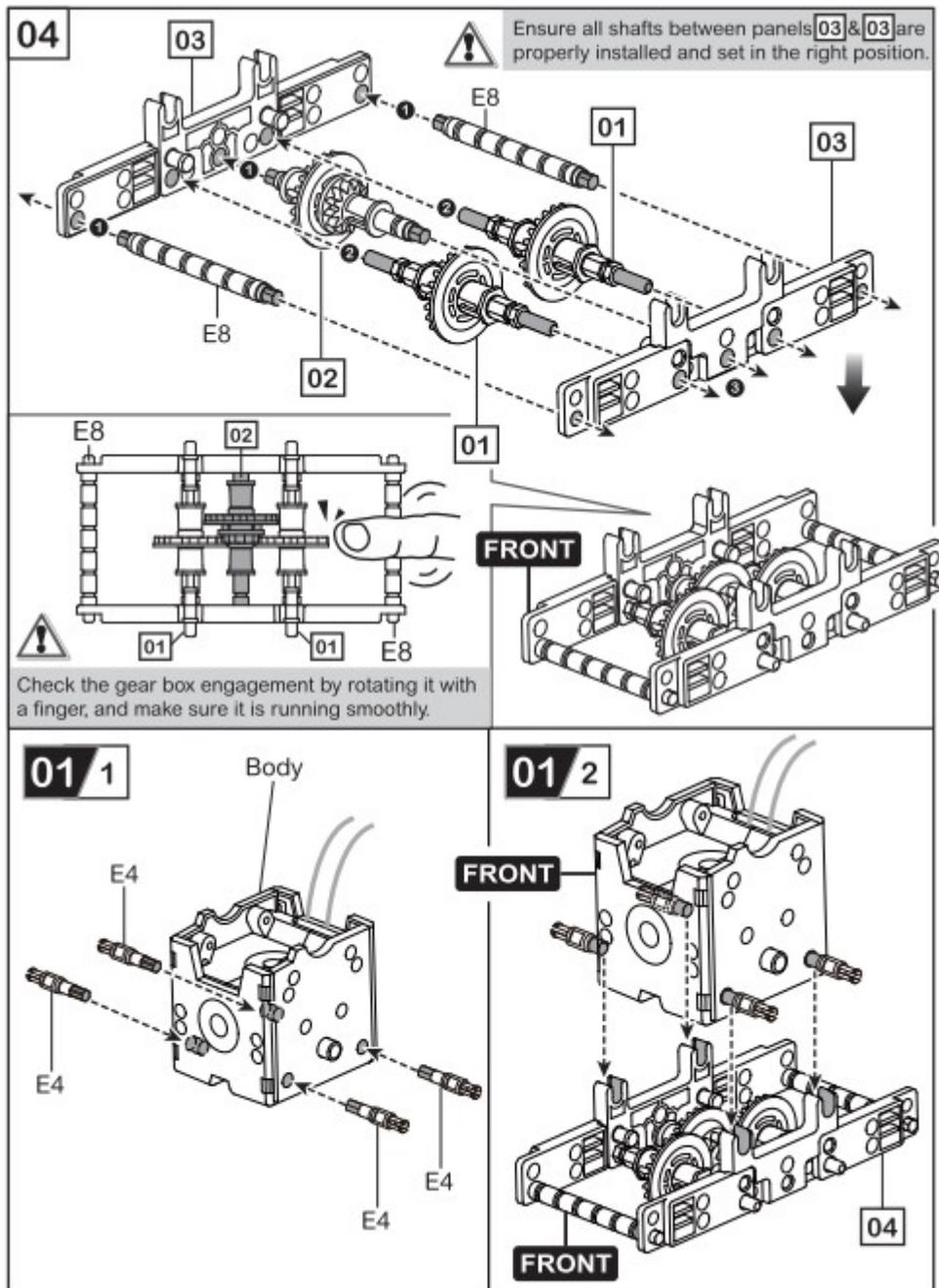
E7 x4



E1 x2



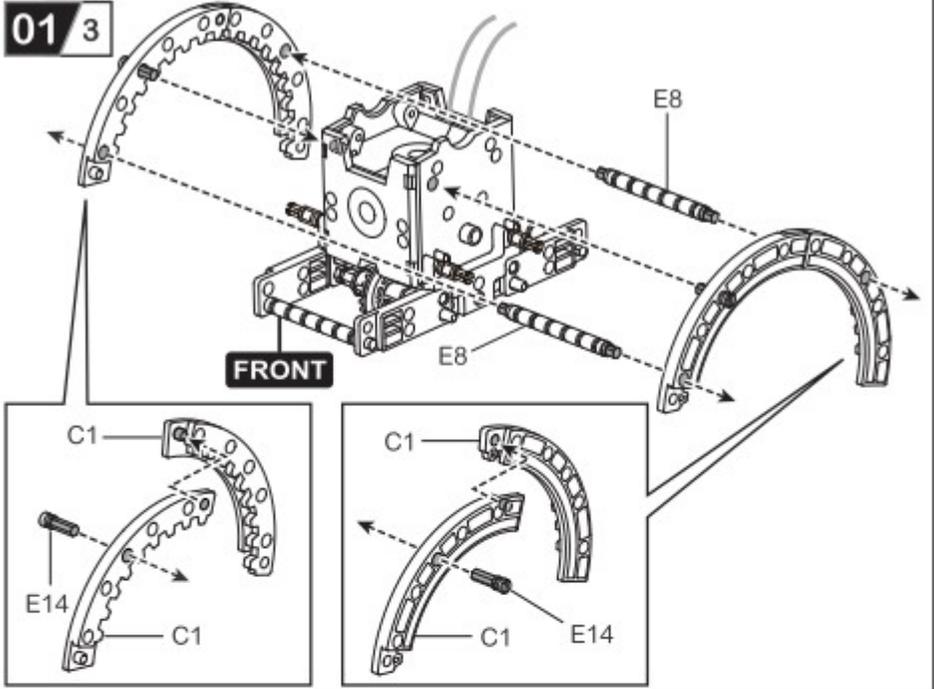
Montieren Sie zuerst folgende Teile, bevor Sie den "Turtle-bot" montieren.



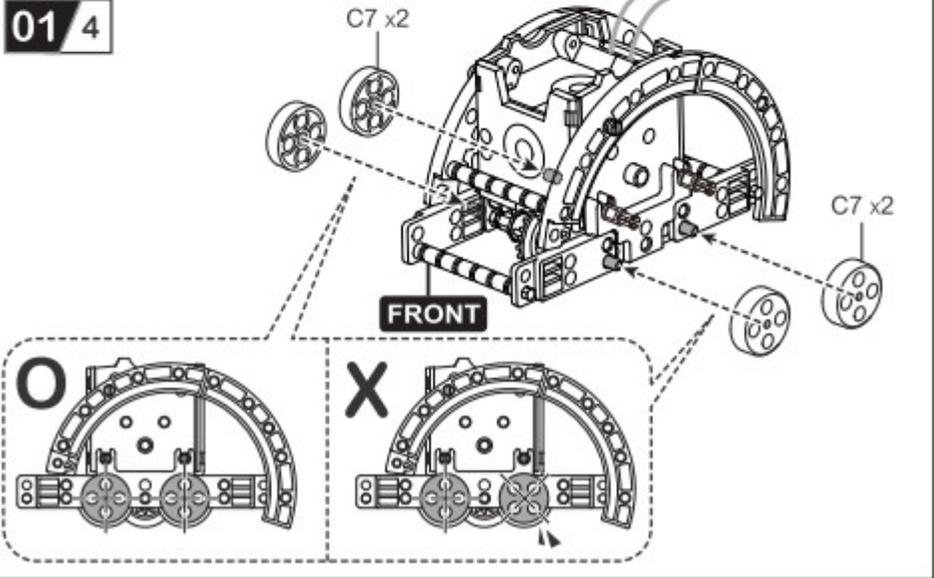
Stellen Sie sicher, dass alle Achsen zwischen Panels 03 & 03 korrekt installiert sind. Beachten Sie die Position.

Drehen Sie die Zahnräder, um zu überprüfen, ob diese problemlos bewegen können.

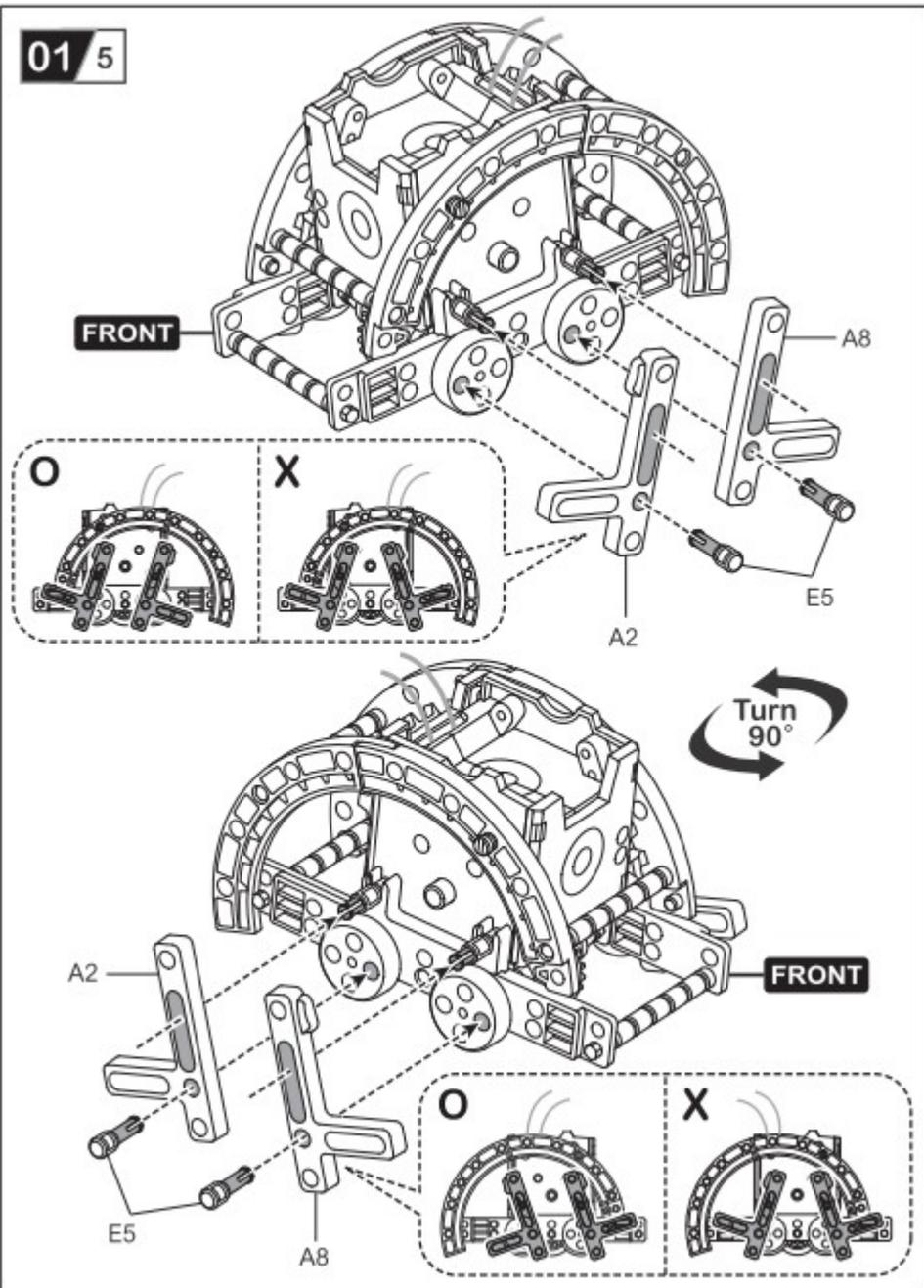
01/3



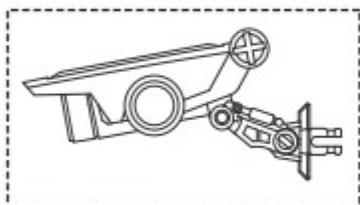
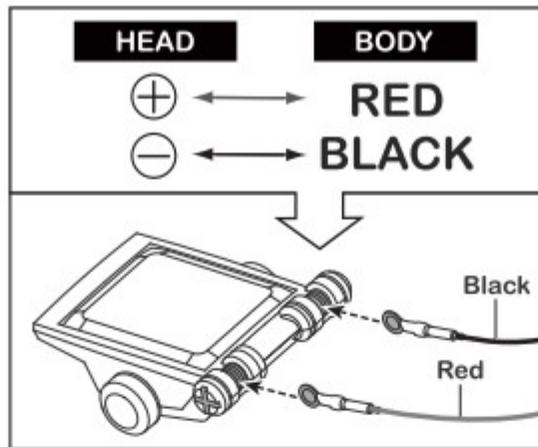
01/4



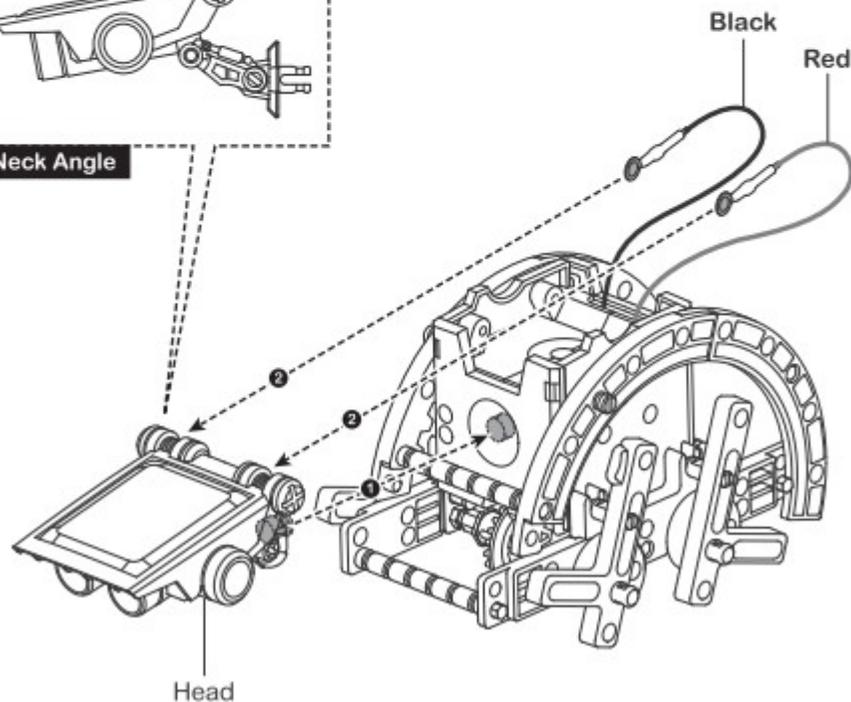
01 / 5



01/6

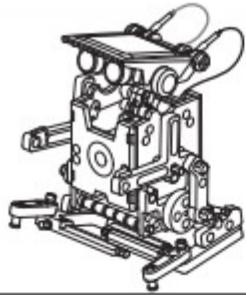


Neck Angle



02 Walker - bot Assembly

Level 1



Prepare the below parts first before you assemble the "Walker-bot".



Body



Head



A1 x1



A2 x1



A8 x1



A7 x1



B4 x2



B5 x2



B8 x1



B9 x2



C7 x2



E6 x6



E14 x2



E5 x4



E4 x2



E7 x2

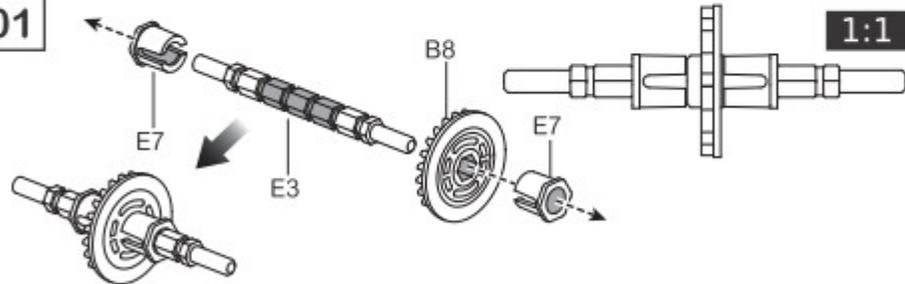


E8 x2



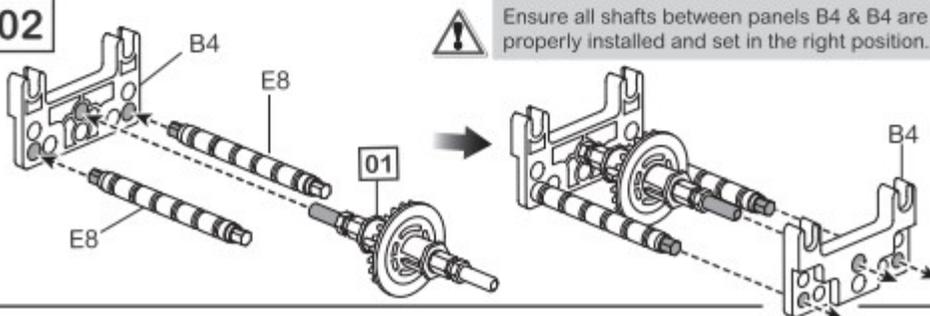
E3 x1

01



1:1

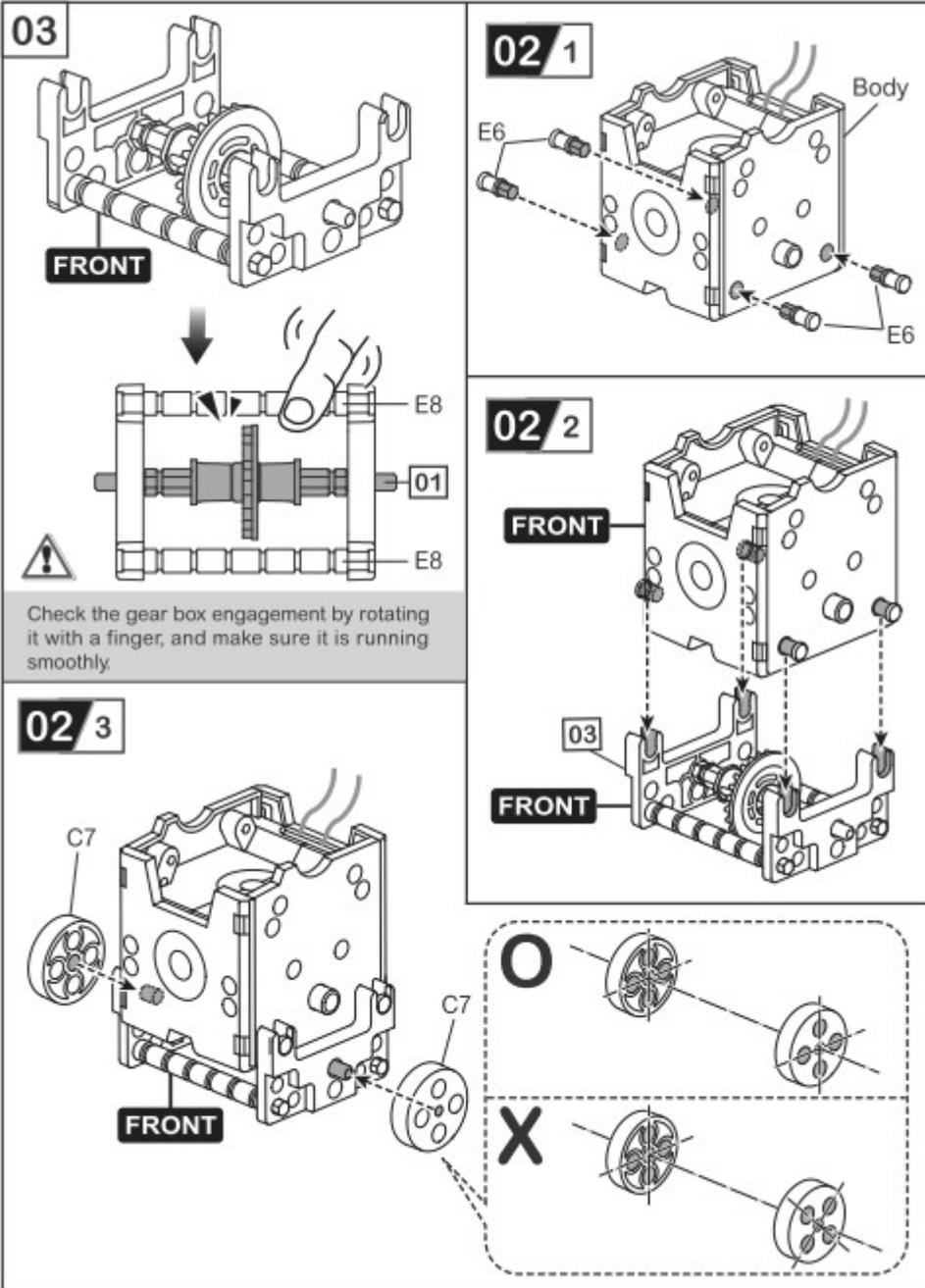
02



Ensure all shafts between panels B4 & B4 are properly installed and set in the right position.

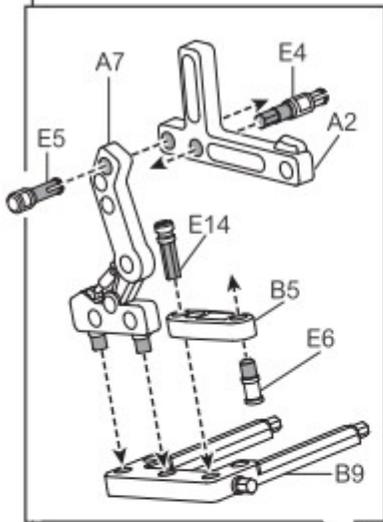
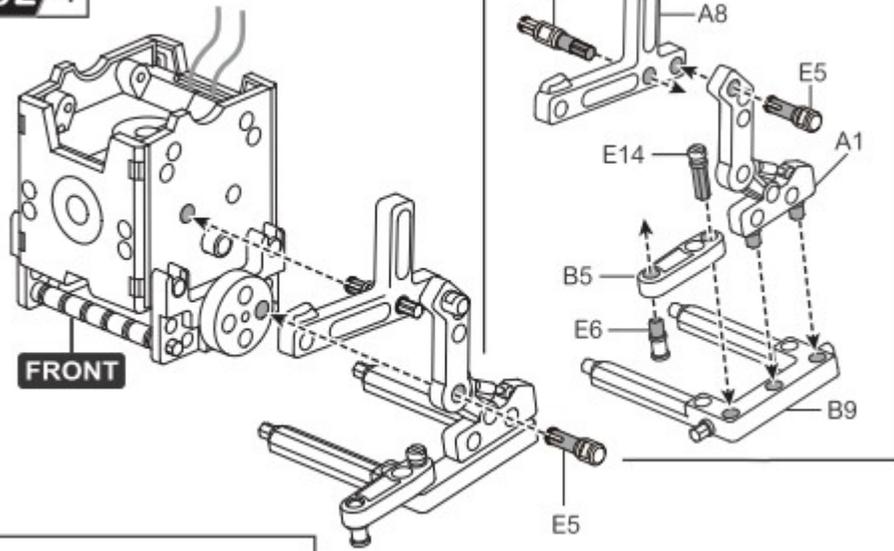
Montieren Sie zuerst folgende Teile, bevor Sie den "Walker-bot" montieren.

Stellen Sie sicher, dass alle Achsen zwischen Panels B4 & B4 korrekt installiert sind. Beachten Sie die Position.

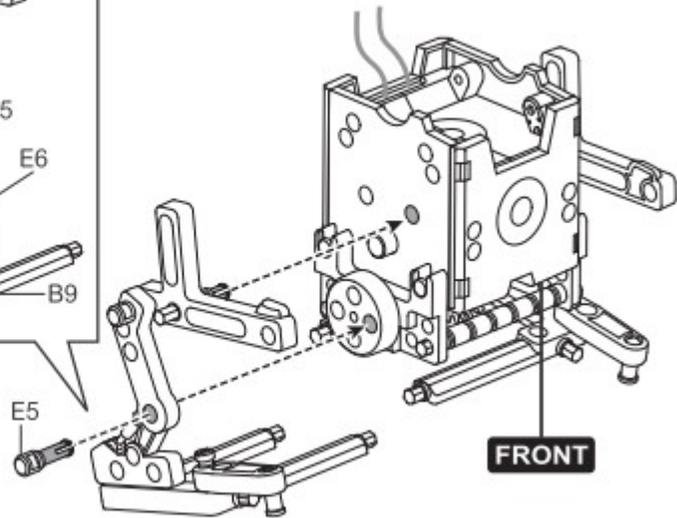


Drehen Sie die Zahnräder, um zu überprüfen, ob diese problemlos bewegen können.

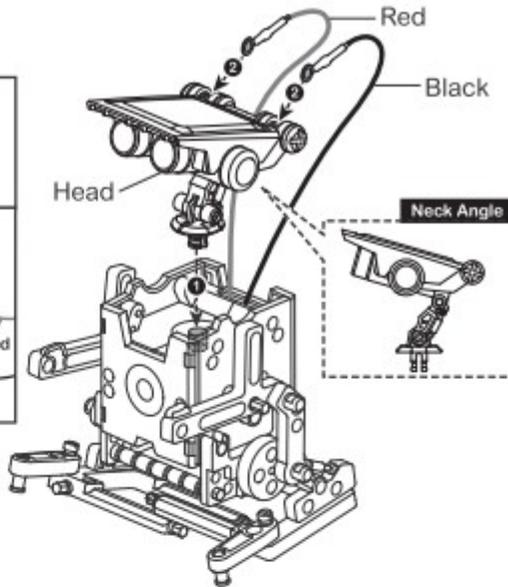
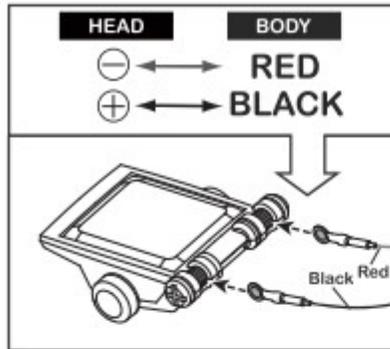
02 4



Turn
90°

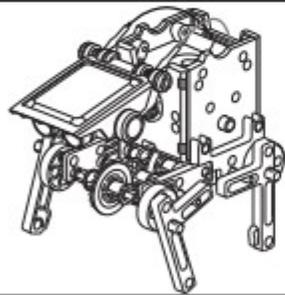


02 / 5

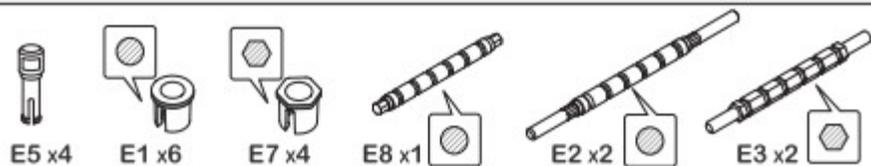
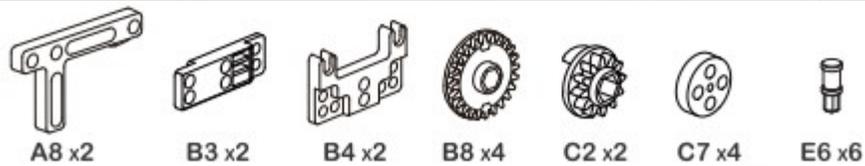
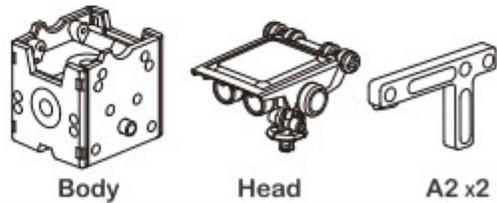


03 Quadru-bot Assembly

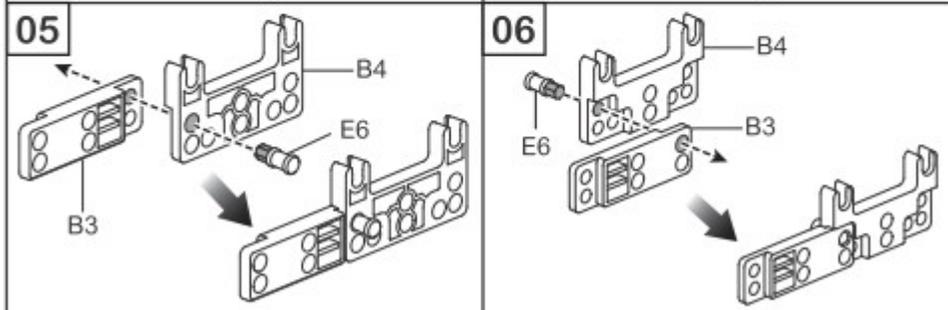
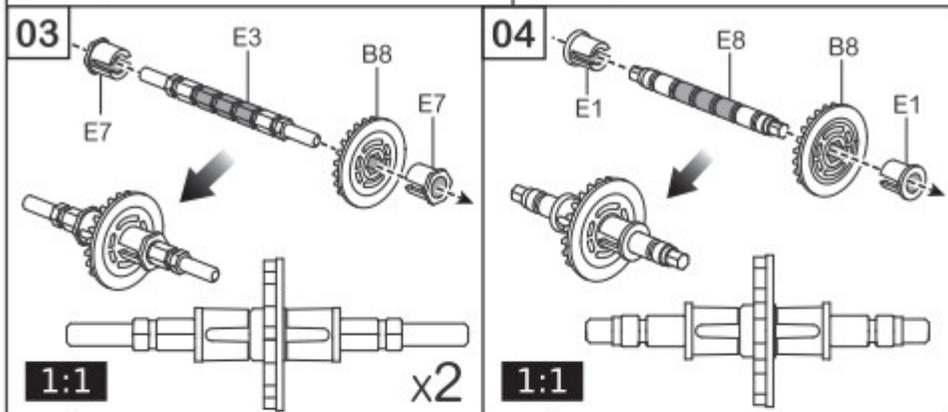
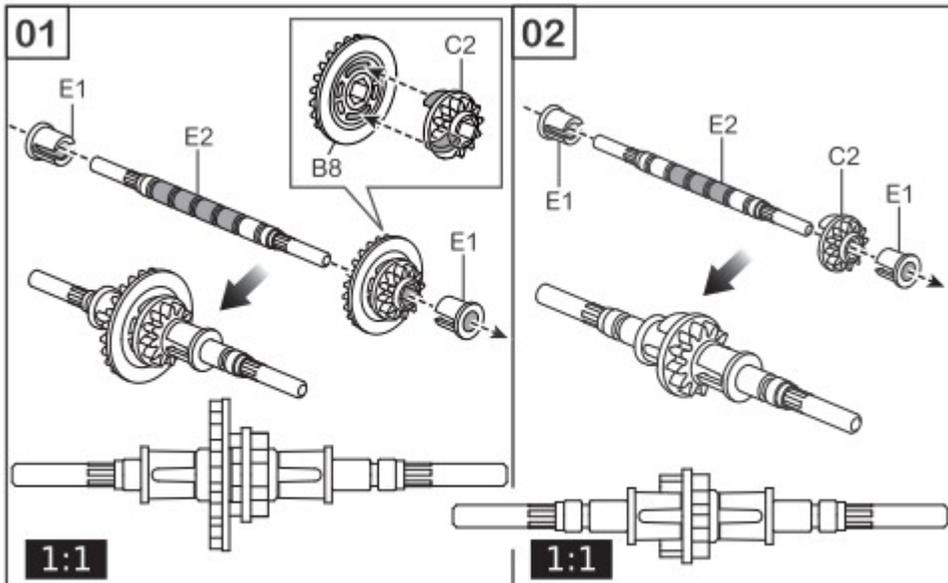
Level 1

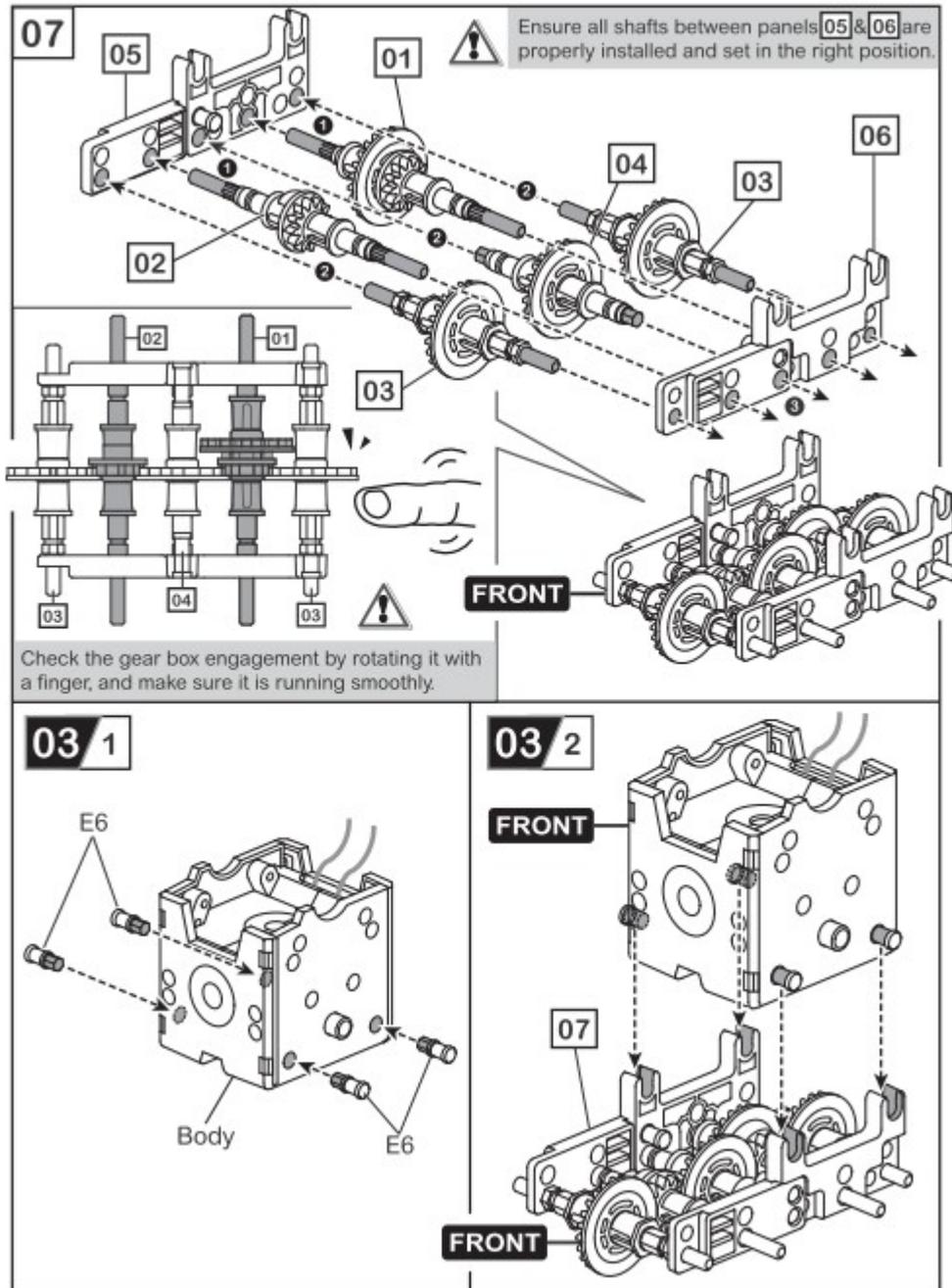


Prepare the below parts first before you assemble the "Quadru-bot".



Montieren Sie zuerst folgende Teile, bevor Sie den "Quadru-bot" montieren.

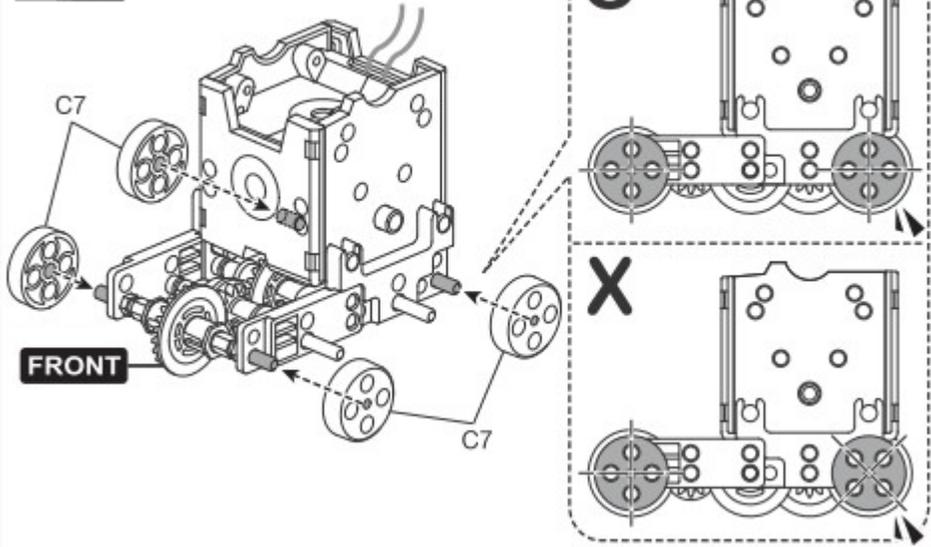




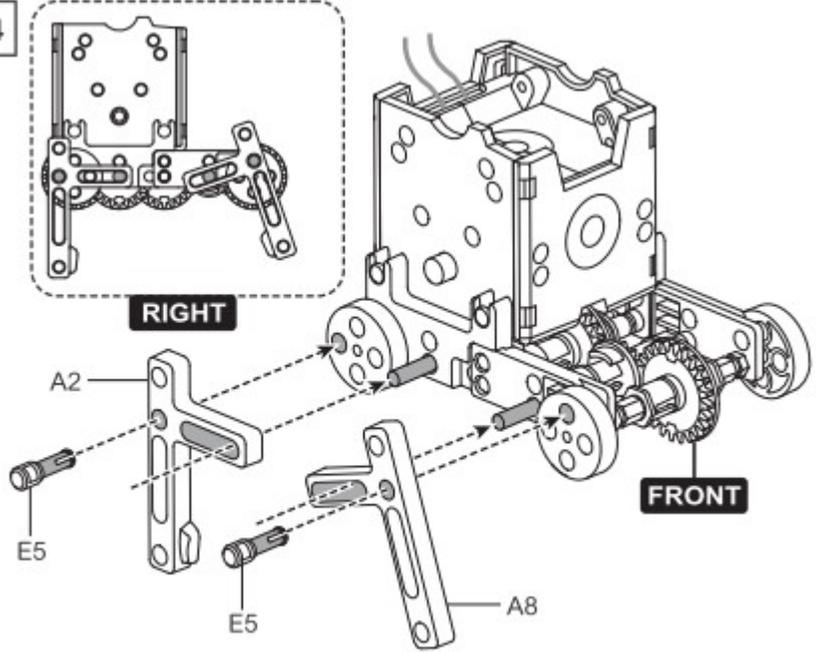
Stellen Sie sicher, dass alle Achsen zwischen Panels 05 & 06 korrekt installiert sind. Beachten Sie die Position.

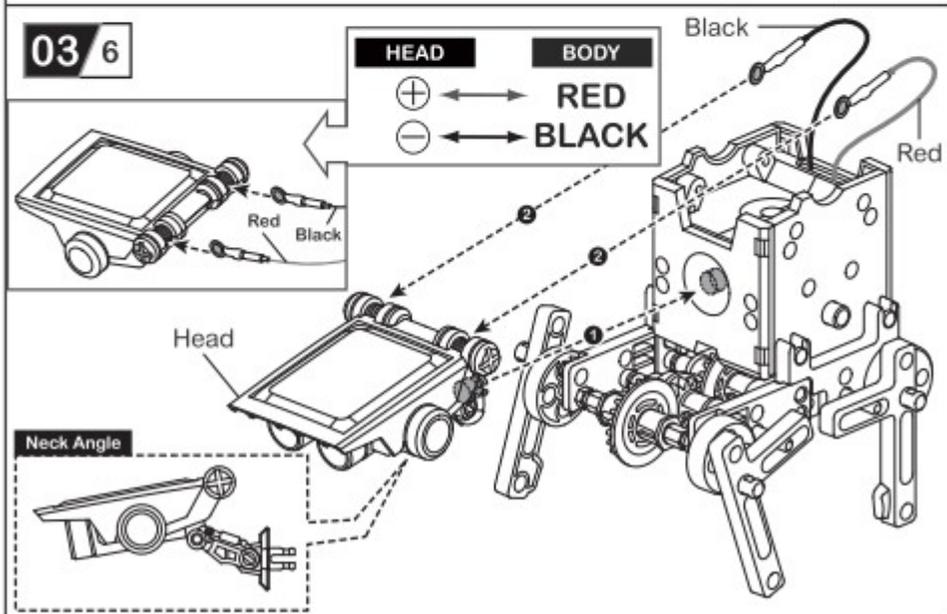
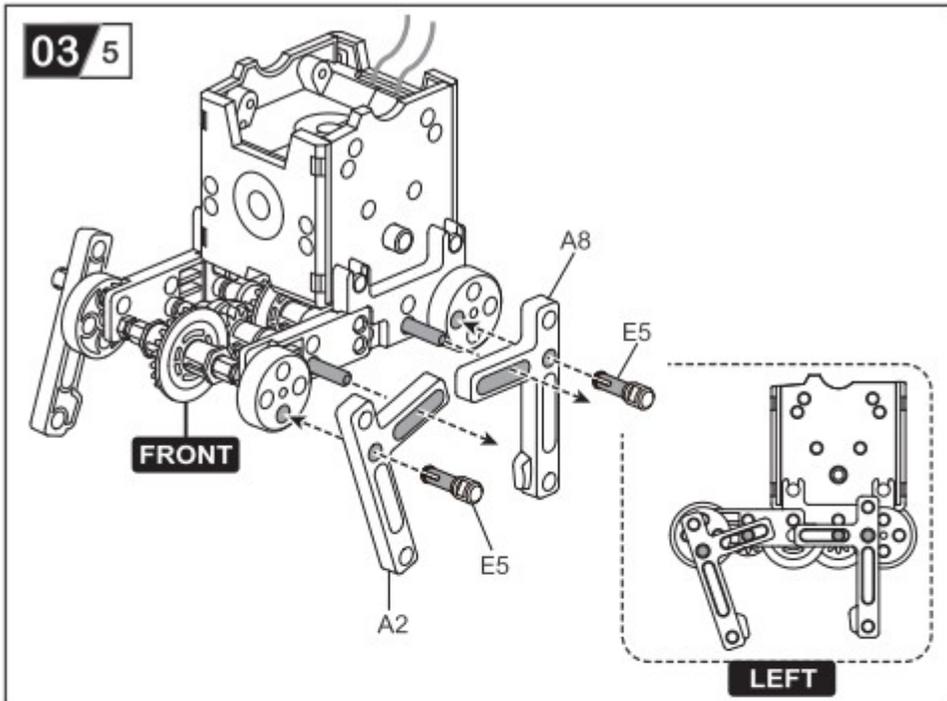
Drehen Sie die Zahnräder, um zu überprüfen, ob diese problemlos bewegen können.

03/3



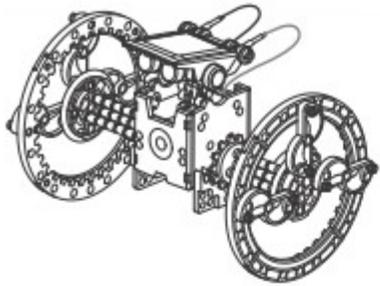
03/4





04 Wheel-bot Assembly

Level 1



Prepare the below parts first before you assemble the "Wheel-bot".



Body



Head



Wheel x4



A1 x1



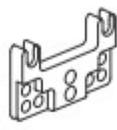
A7 x1



B1 x3



B2 x3



B4 x2



C6 x2



C1 x8



E6 x4



E14 x14

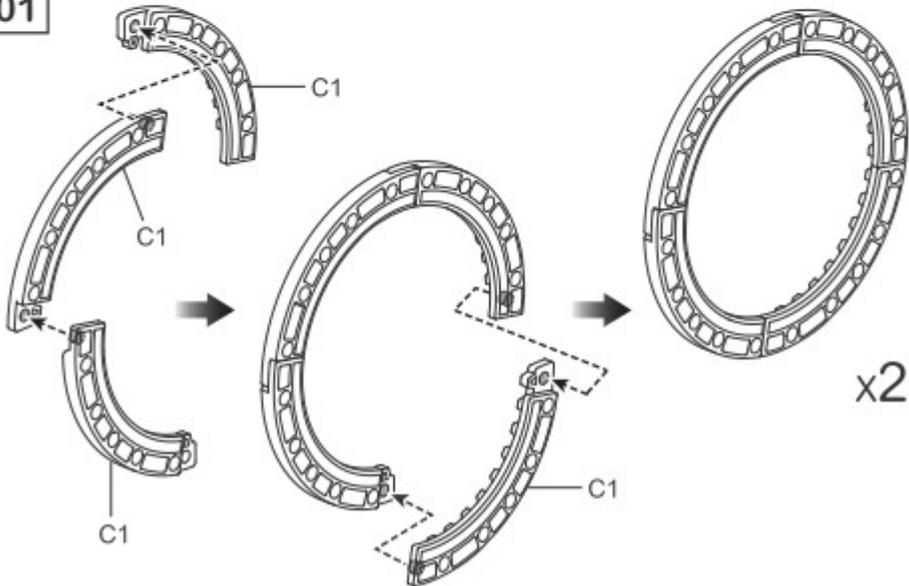


E10 x2



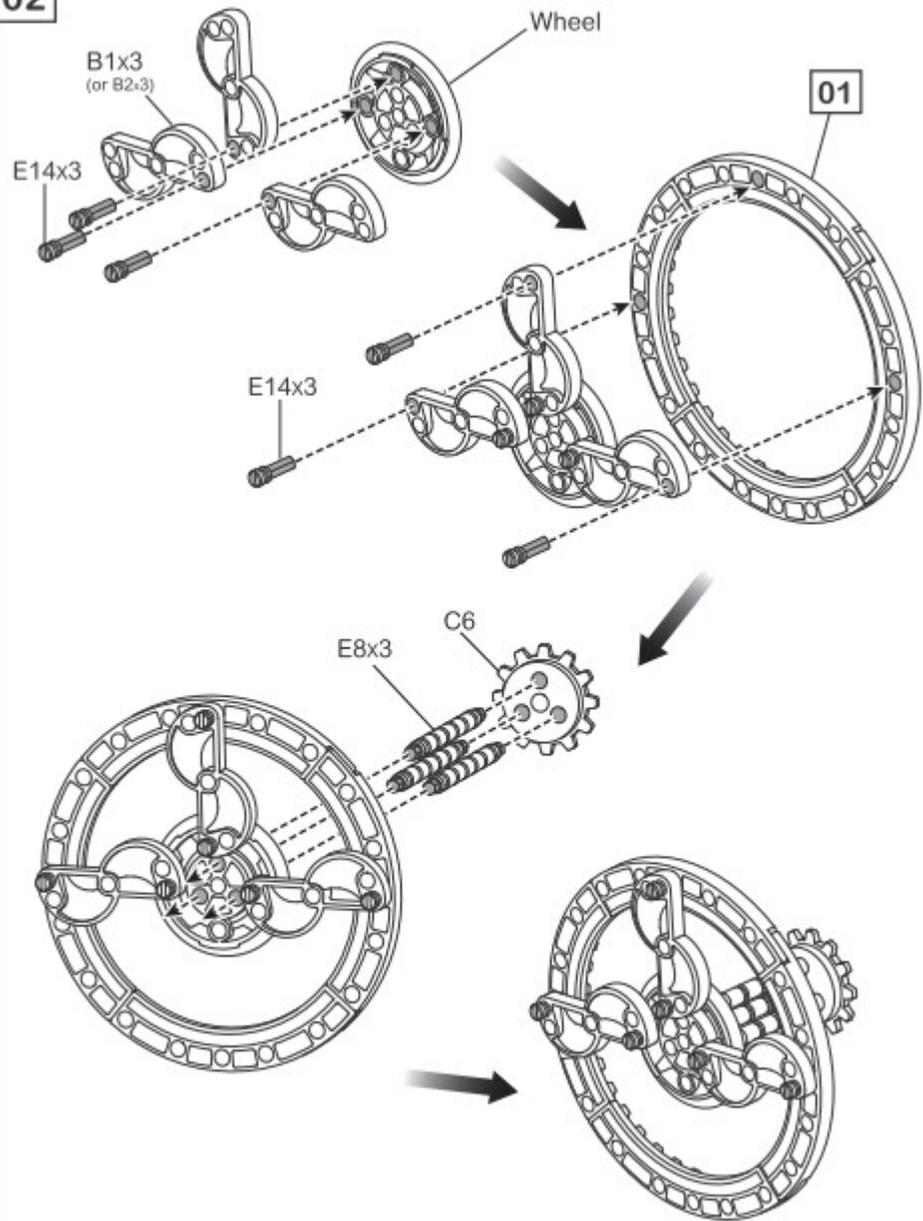
E8 x6

01

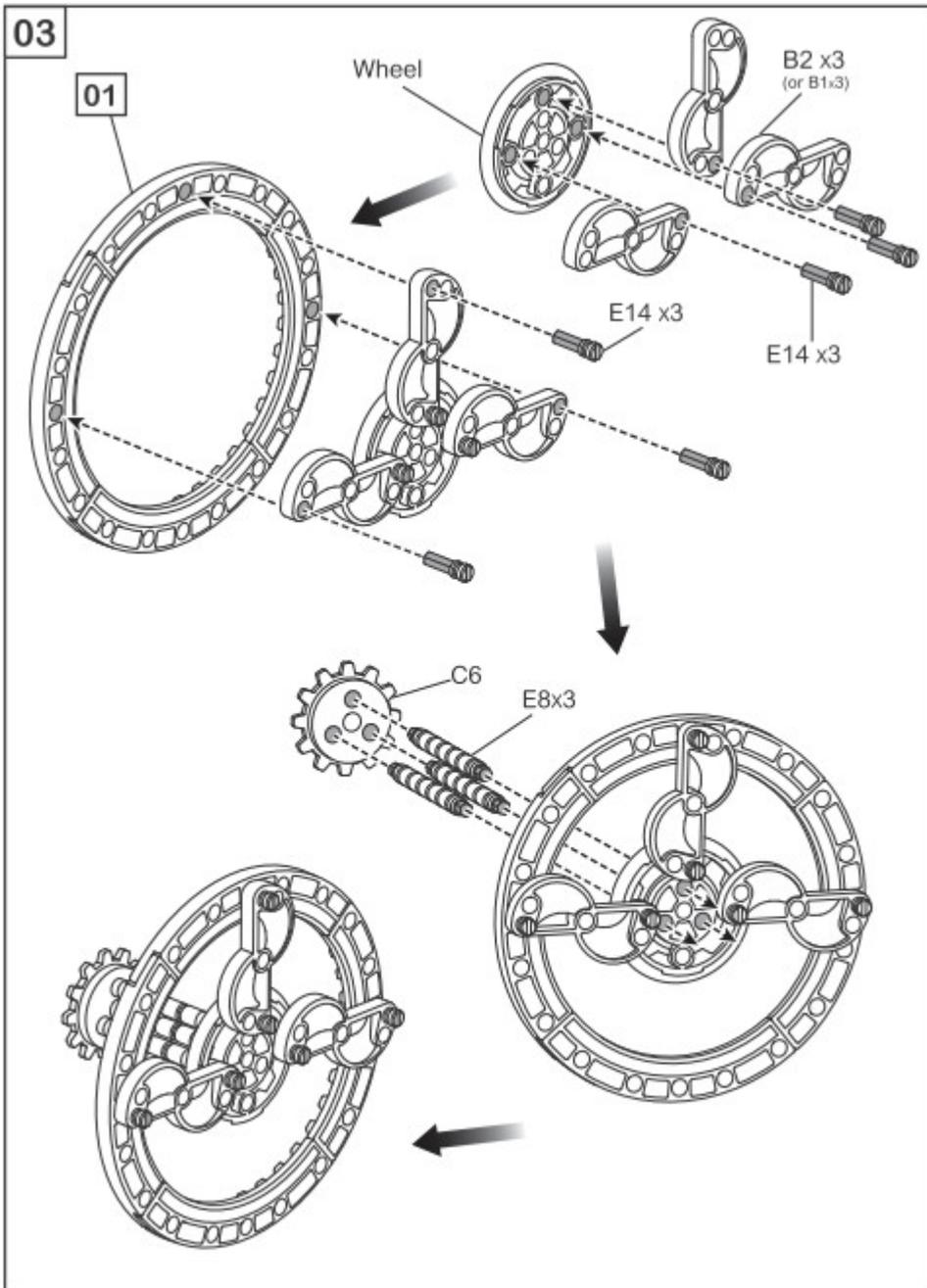


Montieren Sie zuerst folgende Teile, bevor Sie den "Rad-bot" montieren.

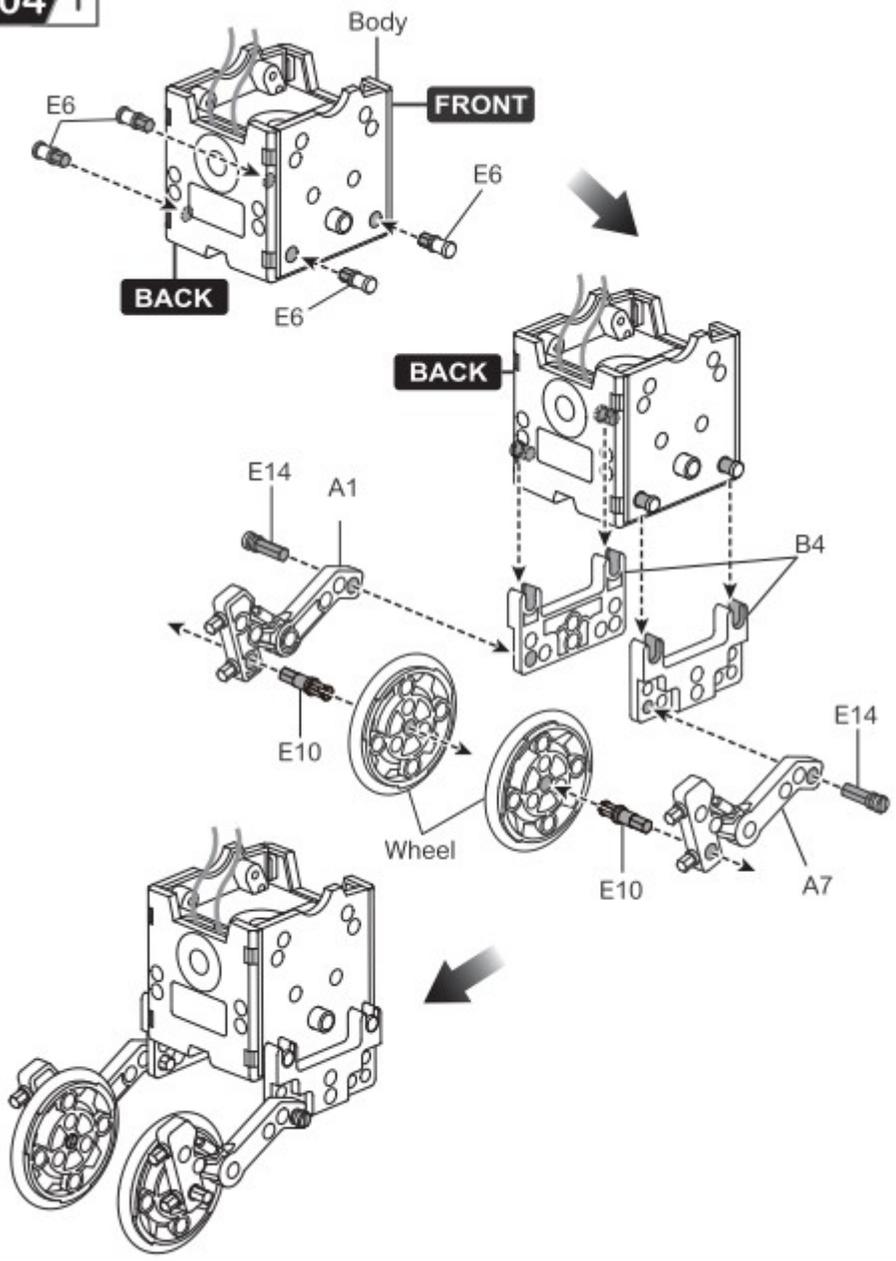
02

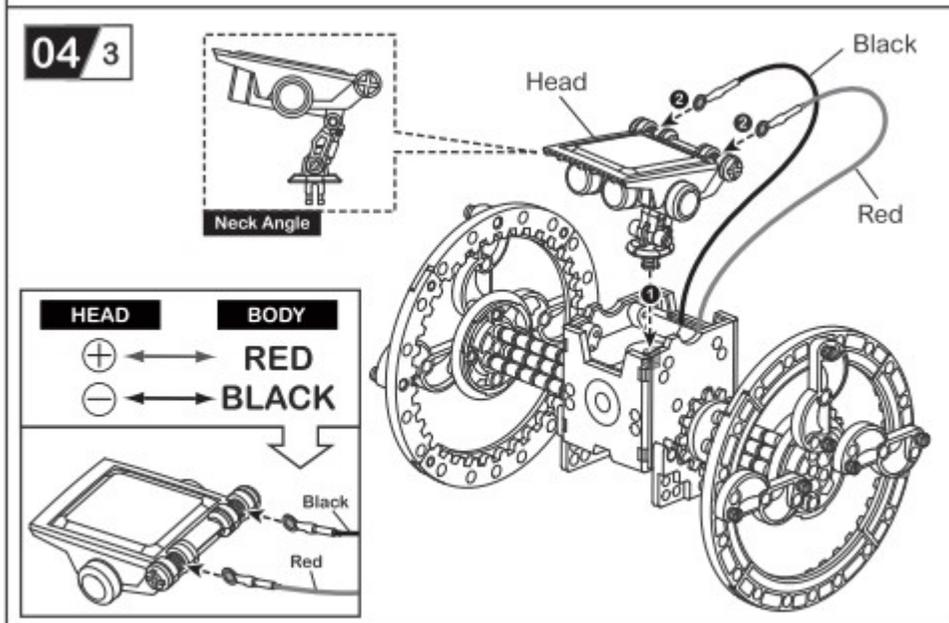
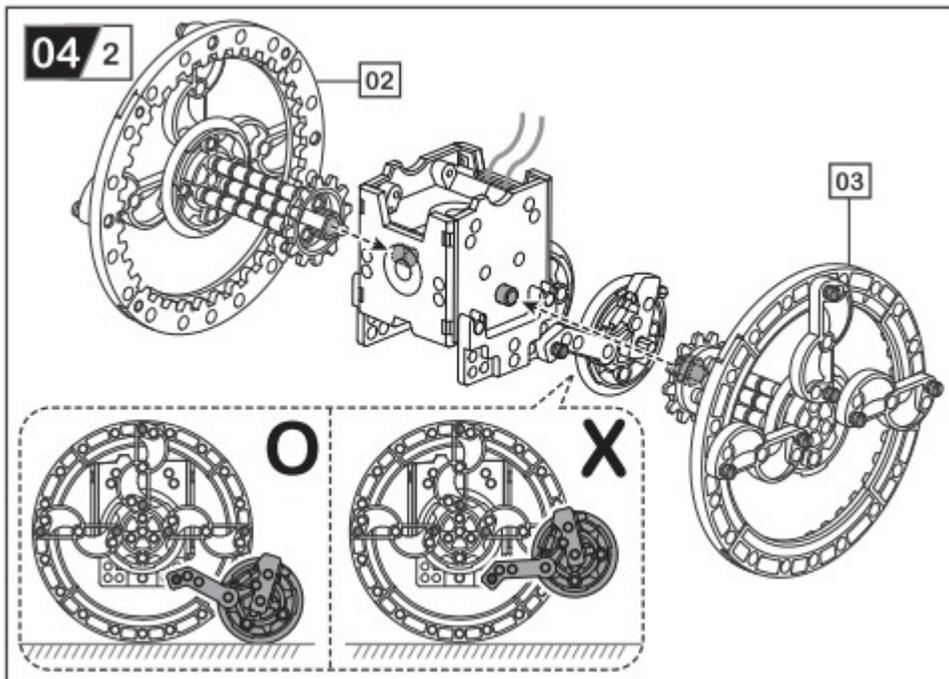


03



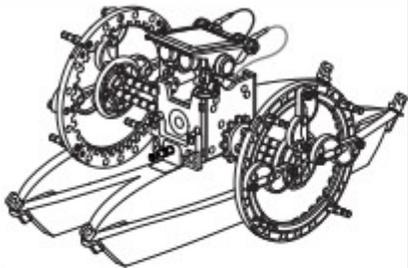
04/1



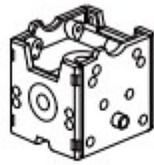


05 Boat-bot Assembly

Level 1



Prepare the below parts first before you assemble the "Boat-bot".



Body



Head



Wheel x2



B1 x3



B2 x3



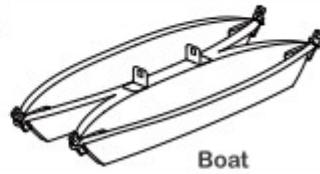
B4 x2



C6 x2



C1 x8



Boat



E6 x4



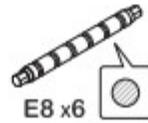
E14 x12



E4 x8

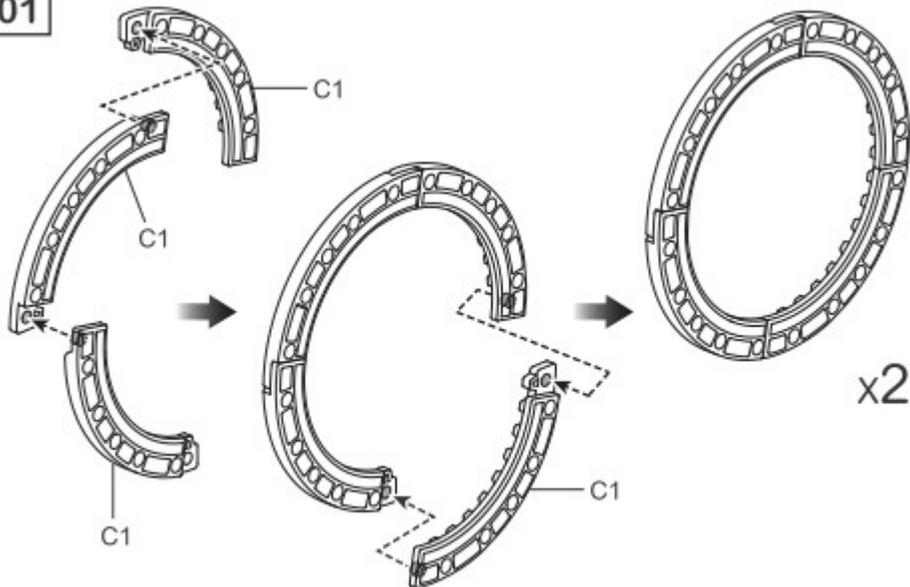


E9 x2



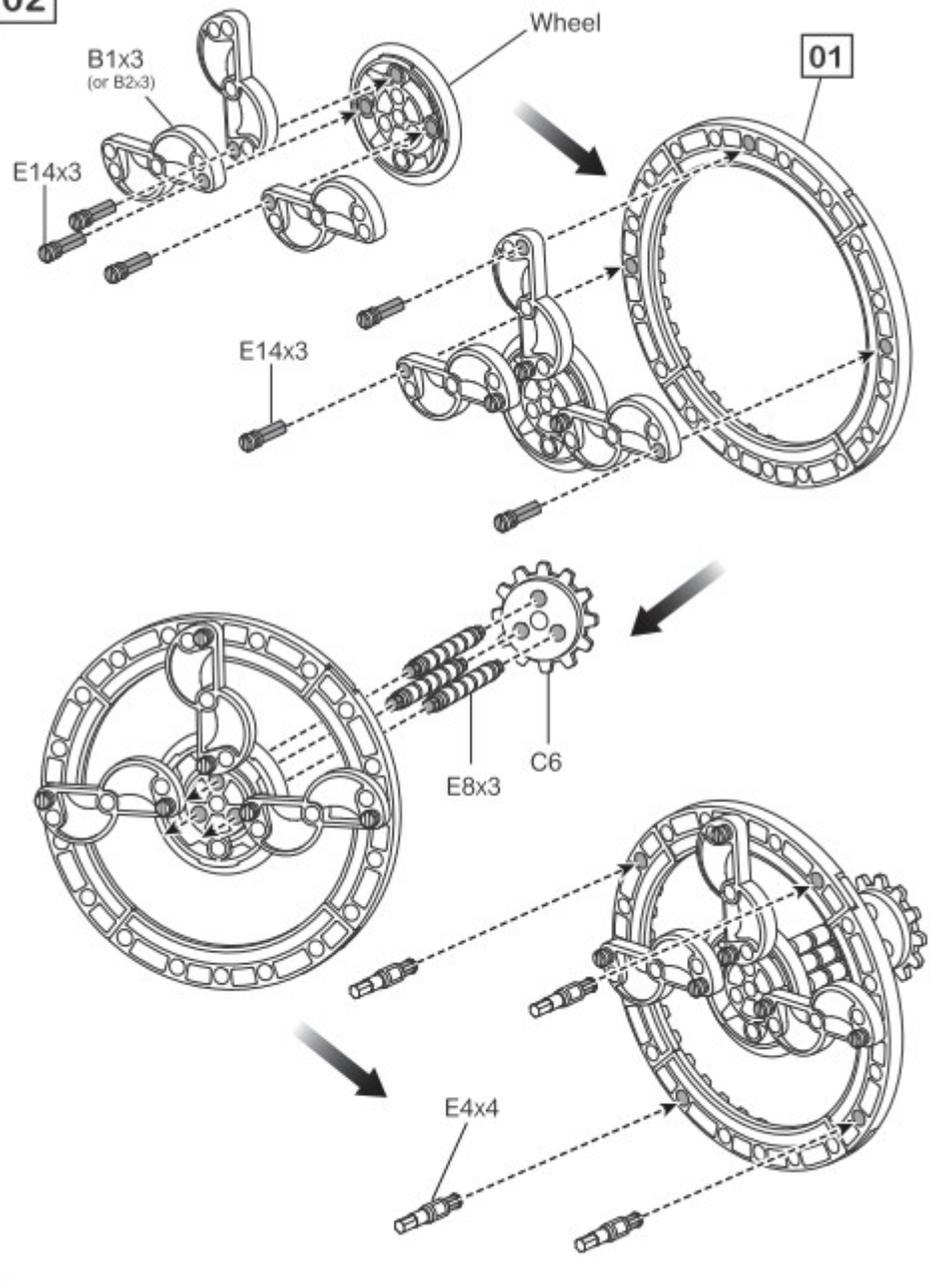
E8 x6

01

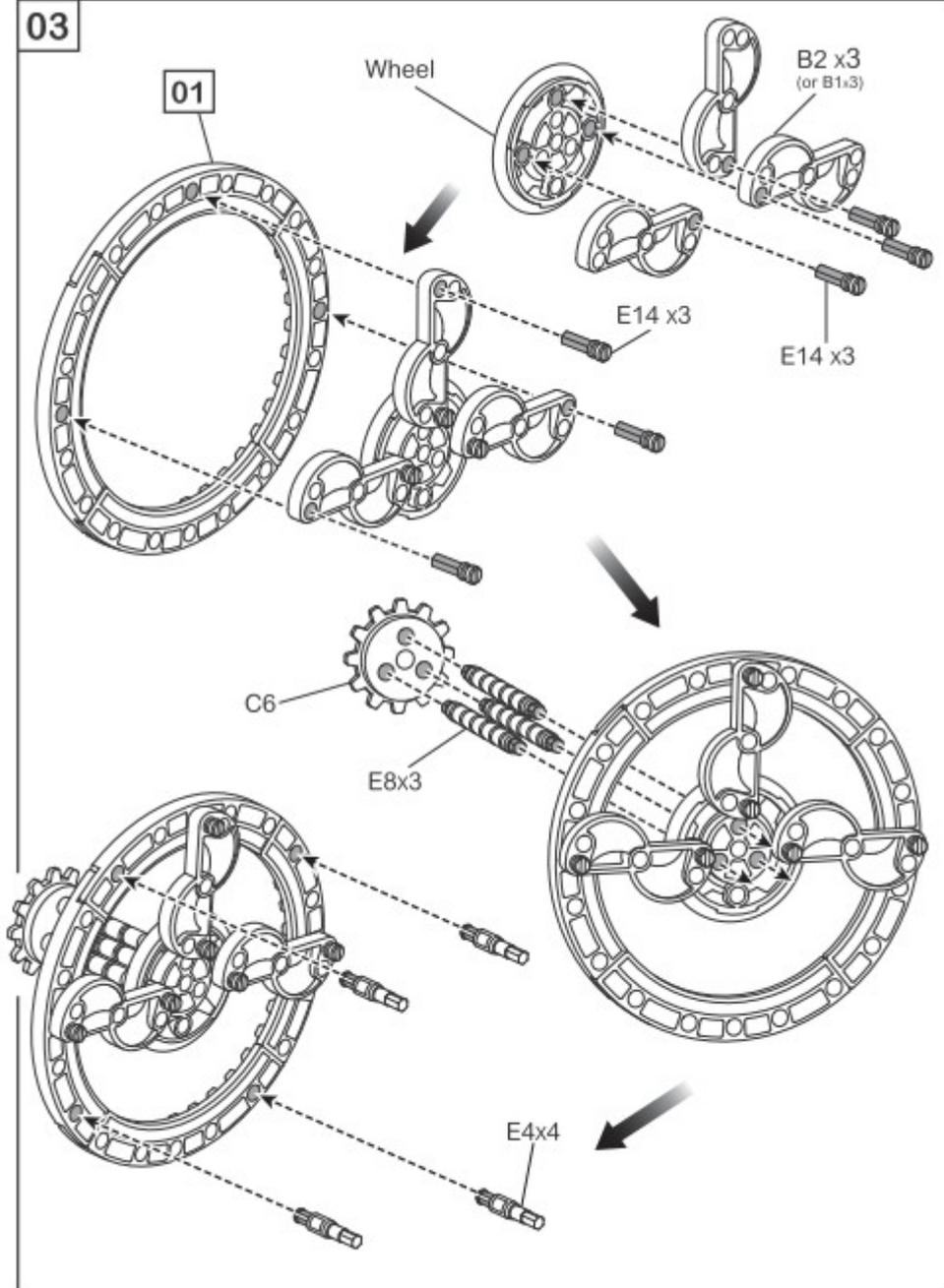


Montieren Sie zuerst folgende Teile, bevor Sie den "Boat-bot" montieren.

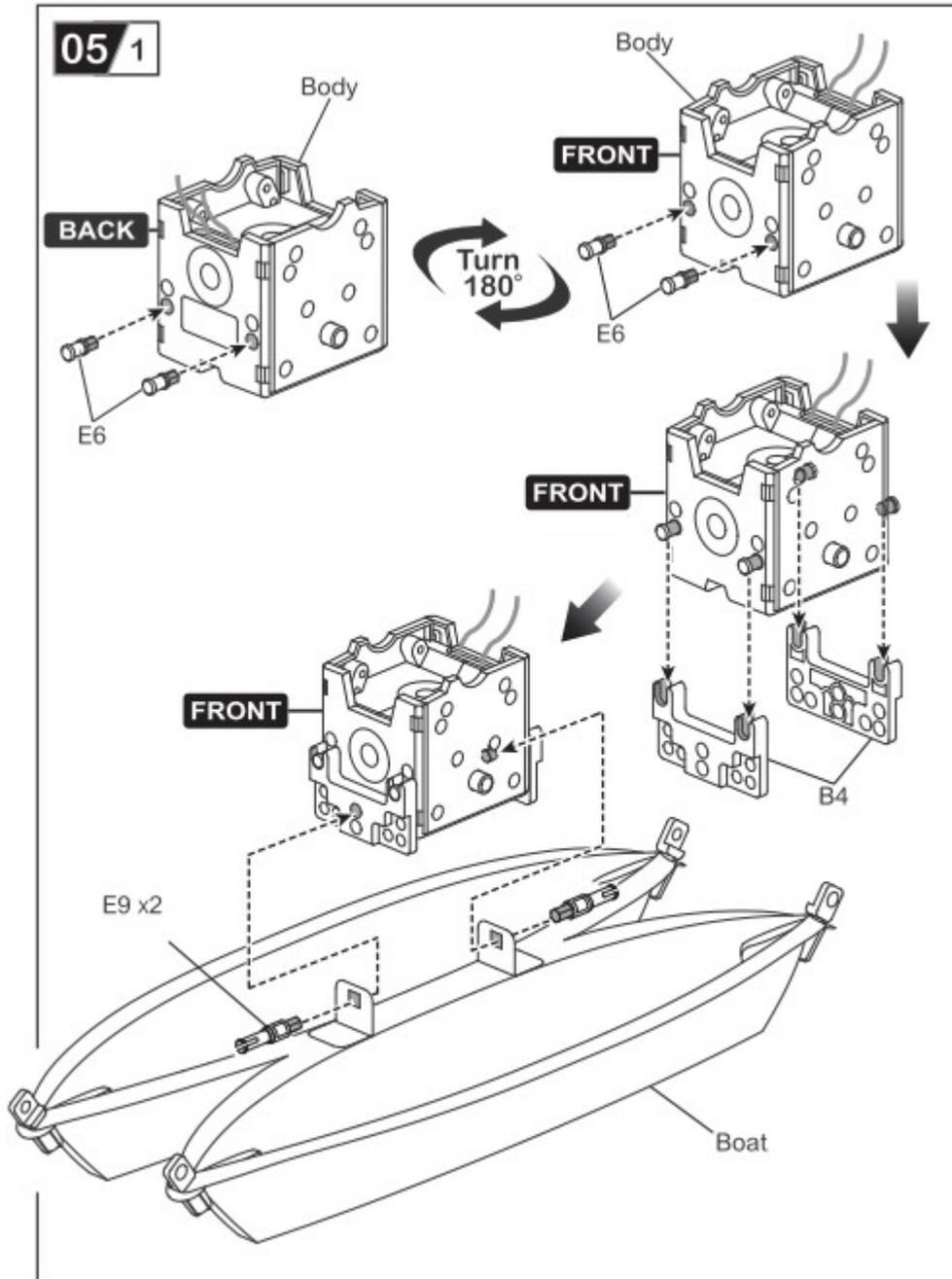
02



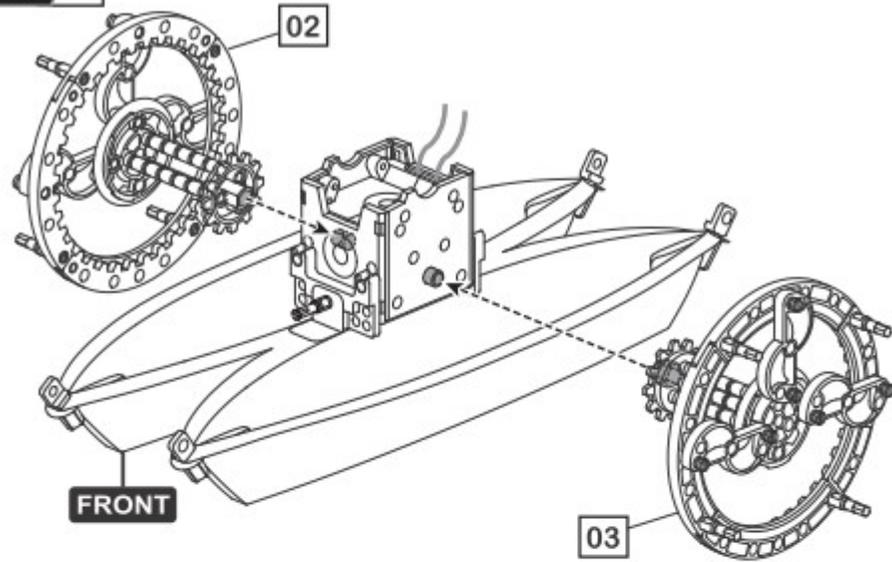
03



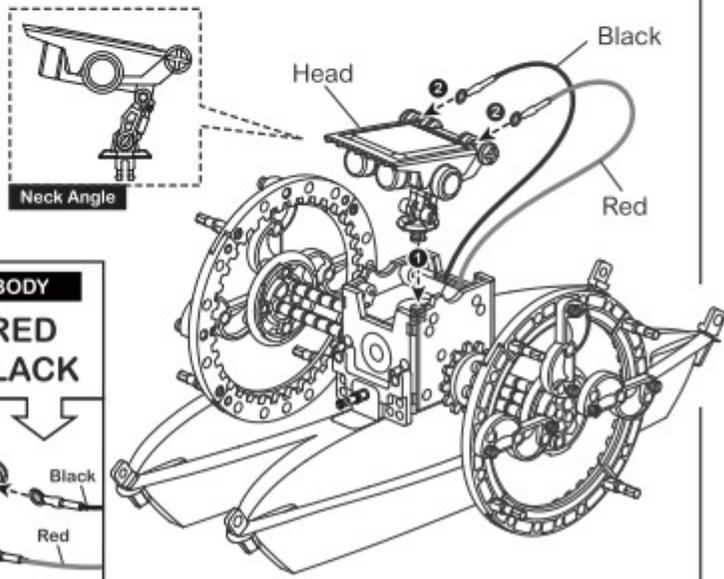
05 1



05/2

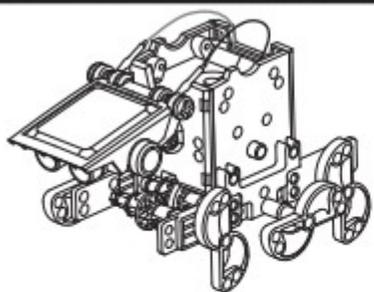


05/3

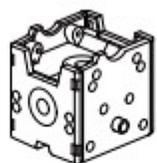


06 Beetle-bot Assembly

Level 1



Prepare the below parts first before you assemble the "Beetle-bot".



Body



Head



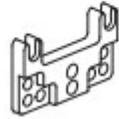
B1 x3



B2 x3



B3 x4



B4 x2



B8 x3



C2 x3



E6 x8



E11 x4



E12 x2



E7 x6



E1 x4

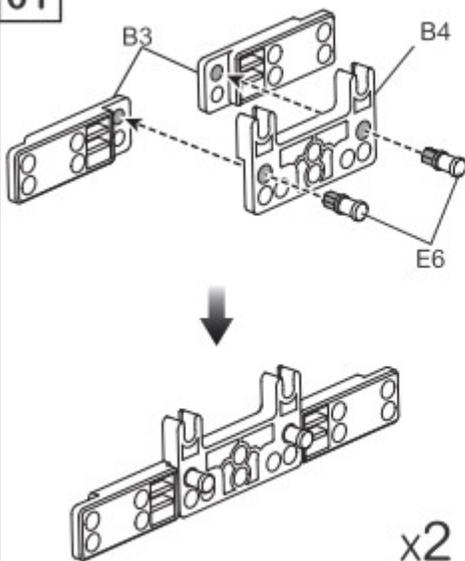


E8 x2



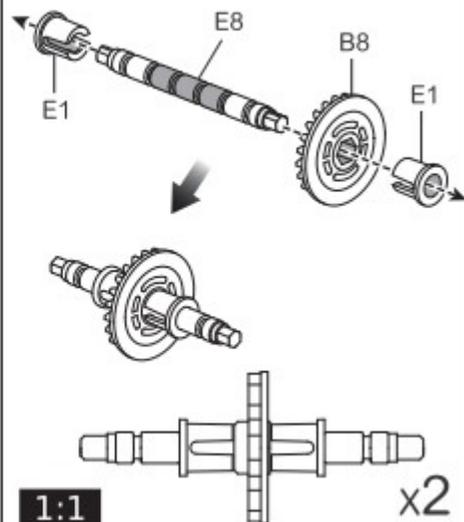
E3 x3

01



x2

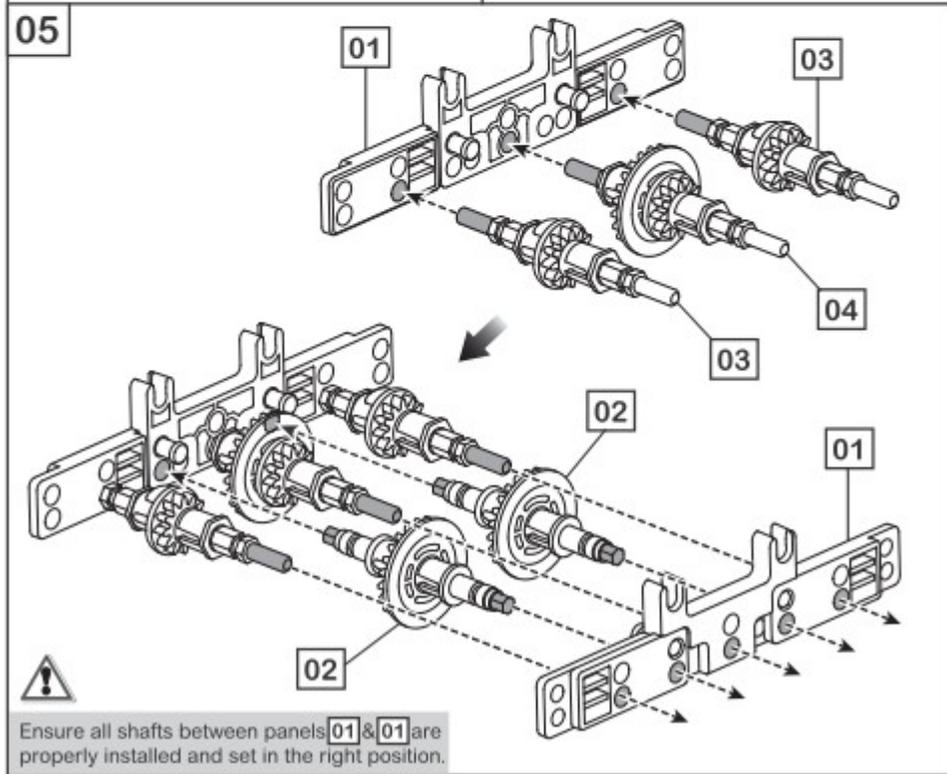
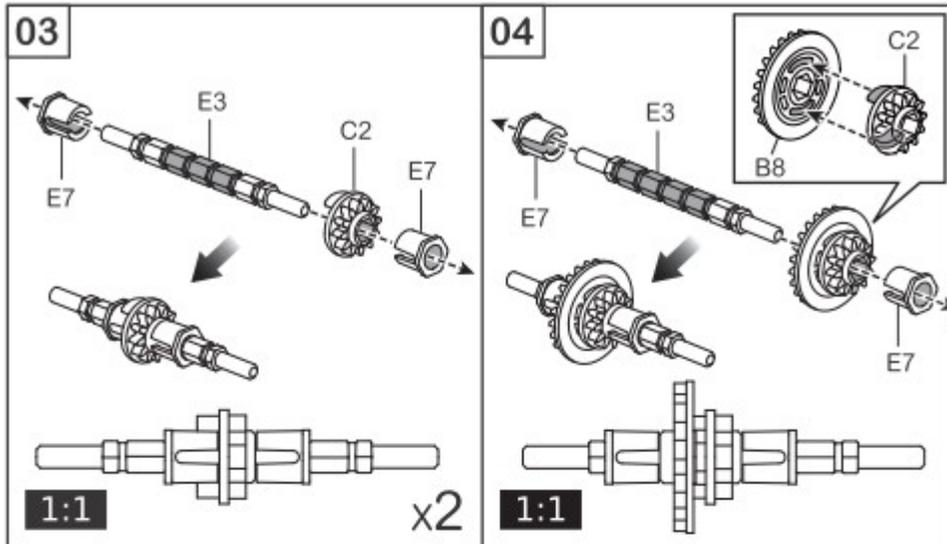
02



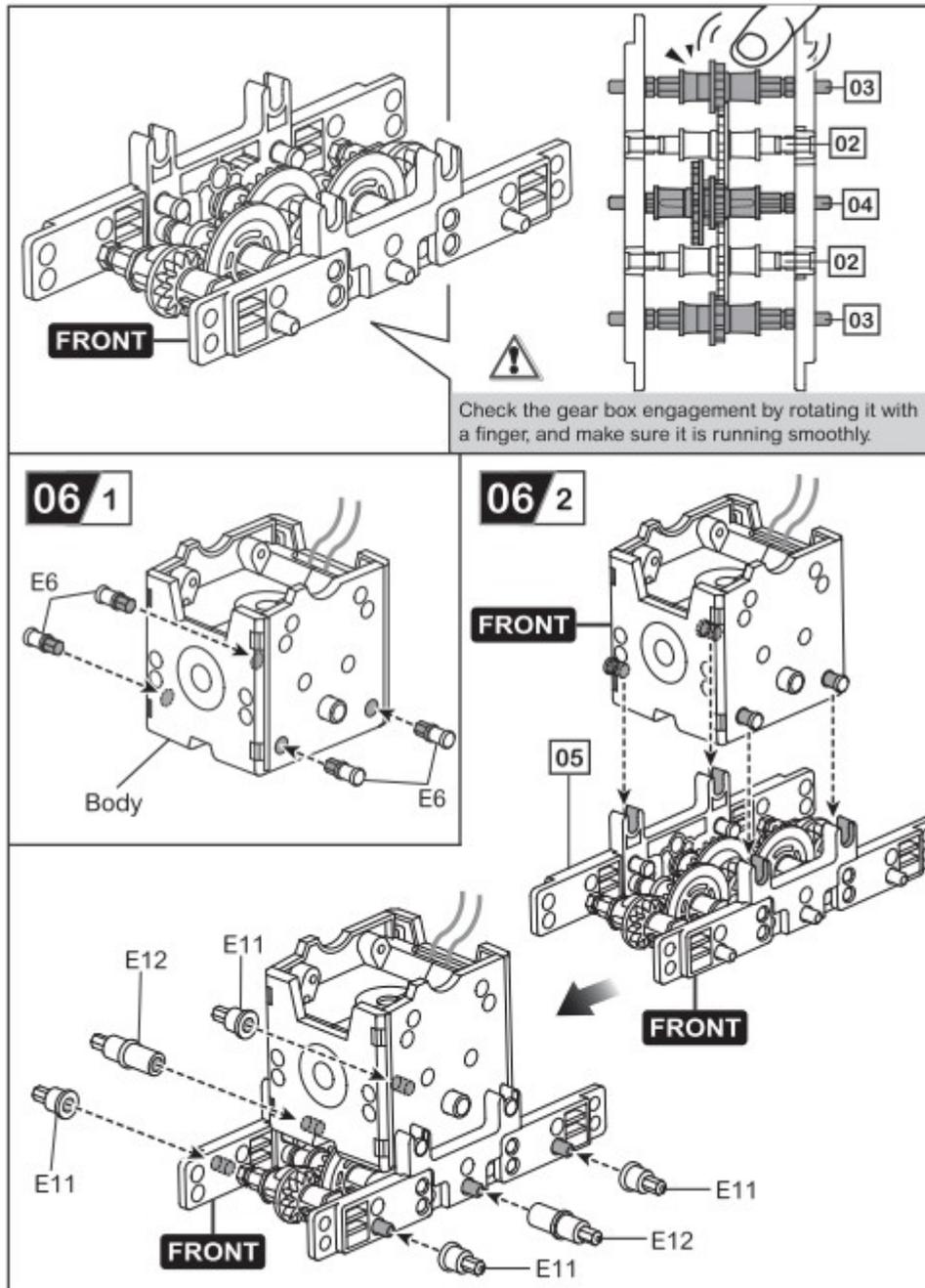
x2

1:1

Montieren Sie zuerst folgende Teile, bevor Sie den "Beetle-bot" montieren.

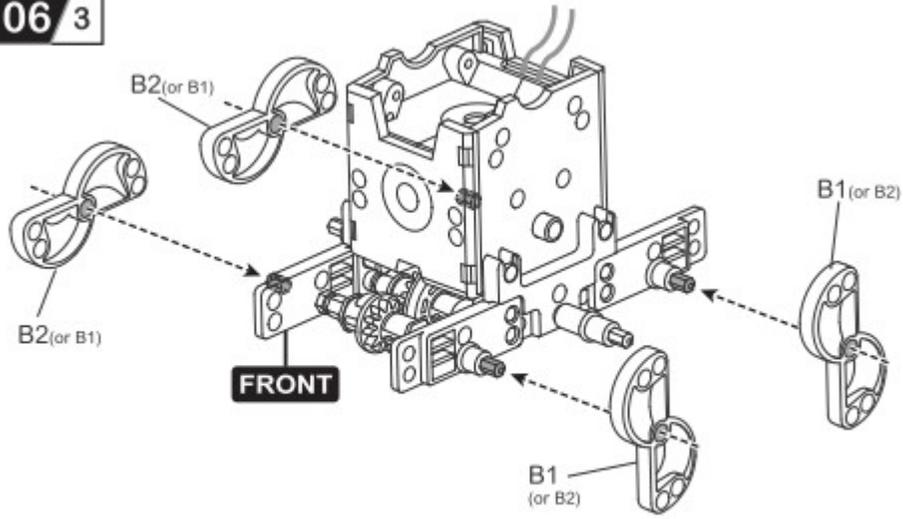


Stellen Sie sicher, dass alle Achsen zwischen Panels 01 & 01 korrekt installiert sind. Beachten Sie die Position.

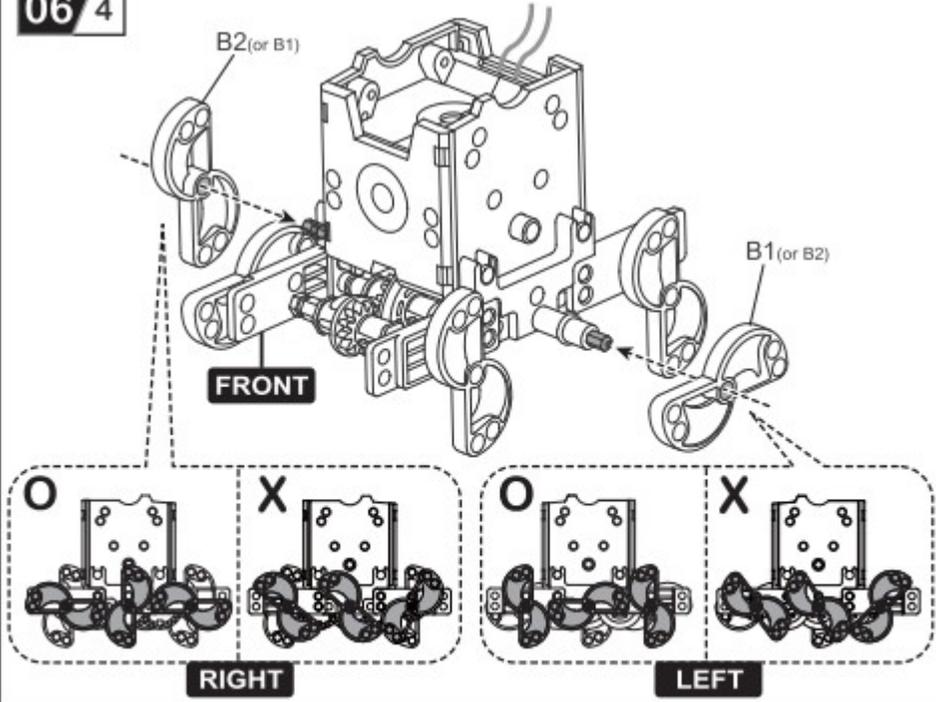


Drehen Sie die Zahnräder, um zu überprüfen, ob diese problemlos bewegen können.

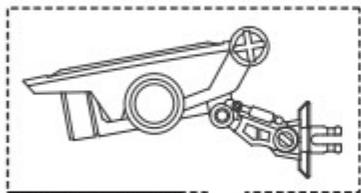
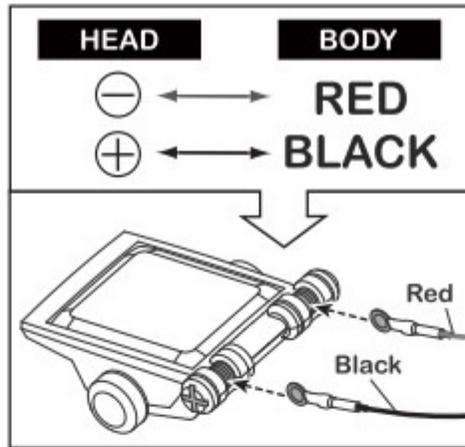
06 3



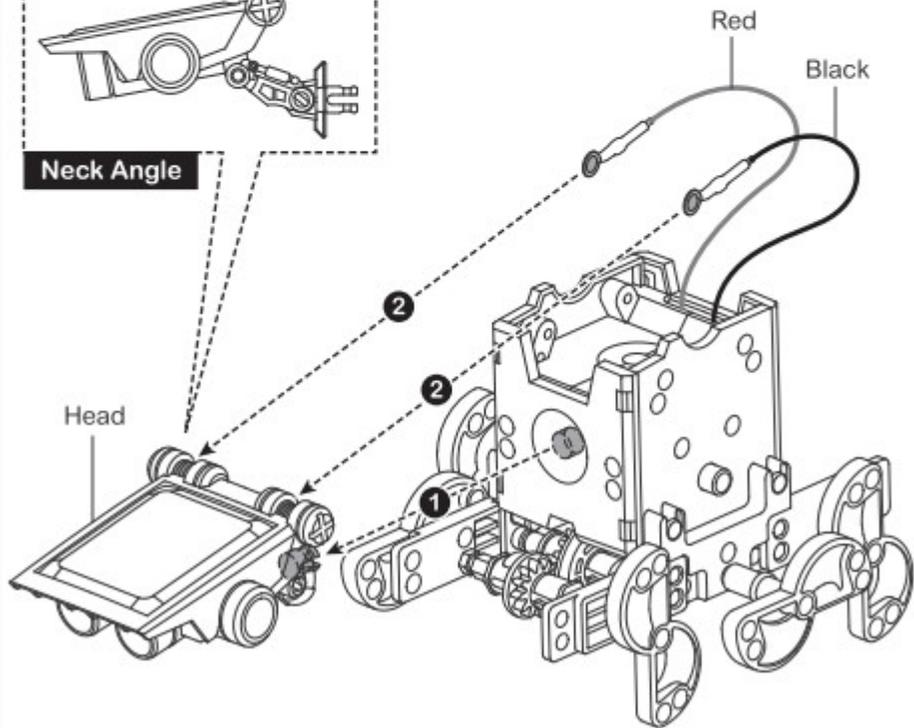
06 4



06/5



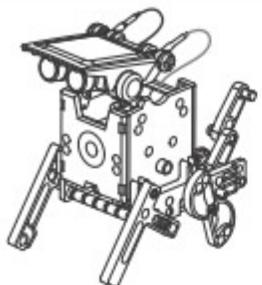
Neck Angle



Winkel (Nacken)

07 Dog-bot Assembly

Level 1



Prepare the below parts first before you assemble the "Dog-bot".



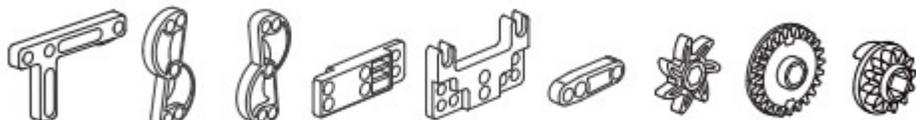
Body



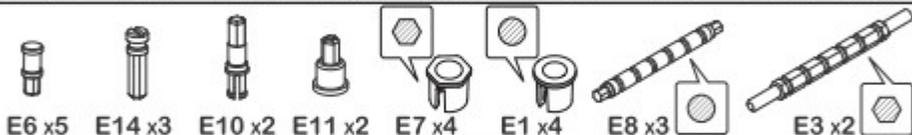
Head



A2 x1

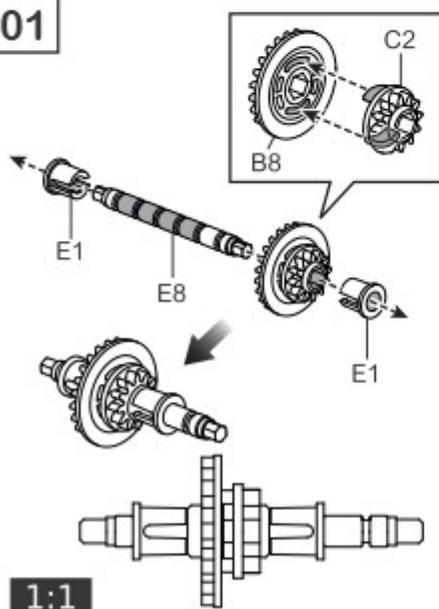


A8 x1 B1 x1 B2 x1 B3 x2 B4 x2 B5 x2 B7 x1 B8 x2 C2 x3



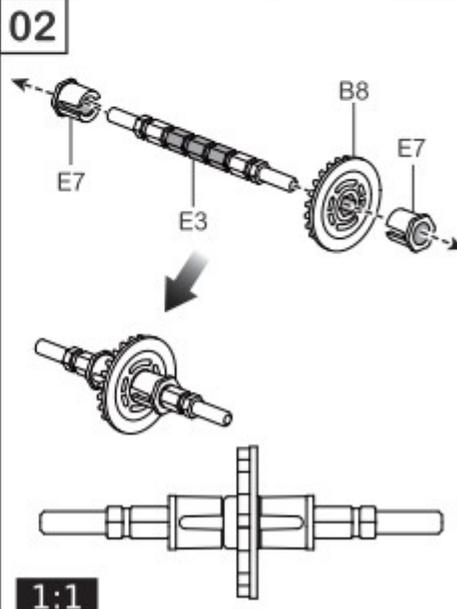
E6 x5 E14 x3 E10 x2 E11 x2 E7 x4 E1 x4 E8 x3 E3 x2

01



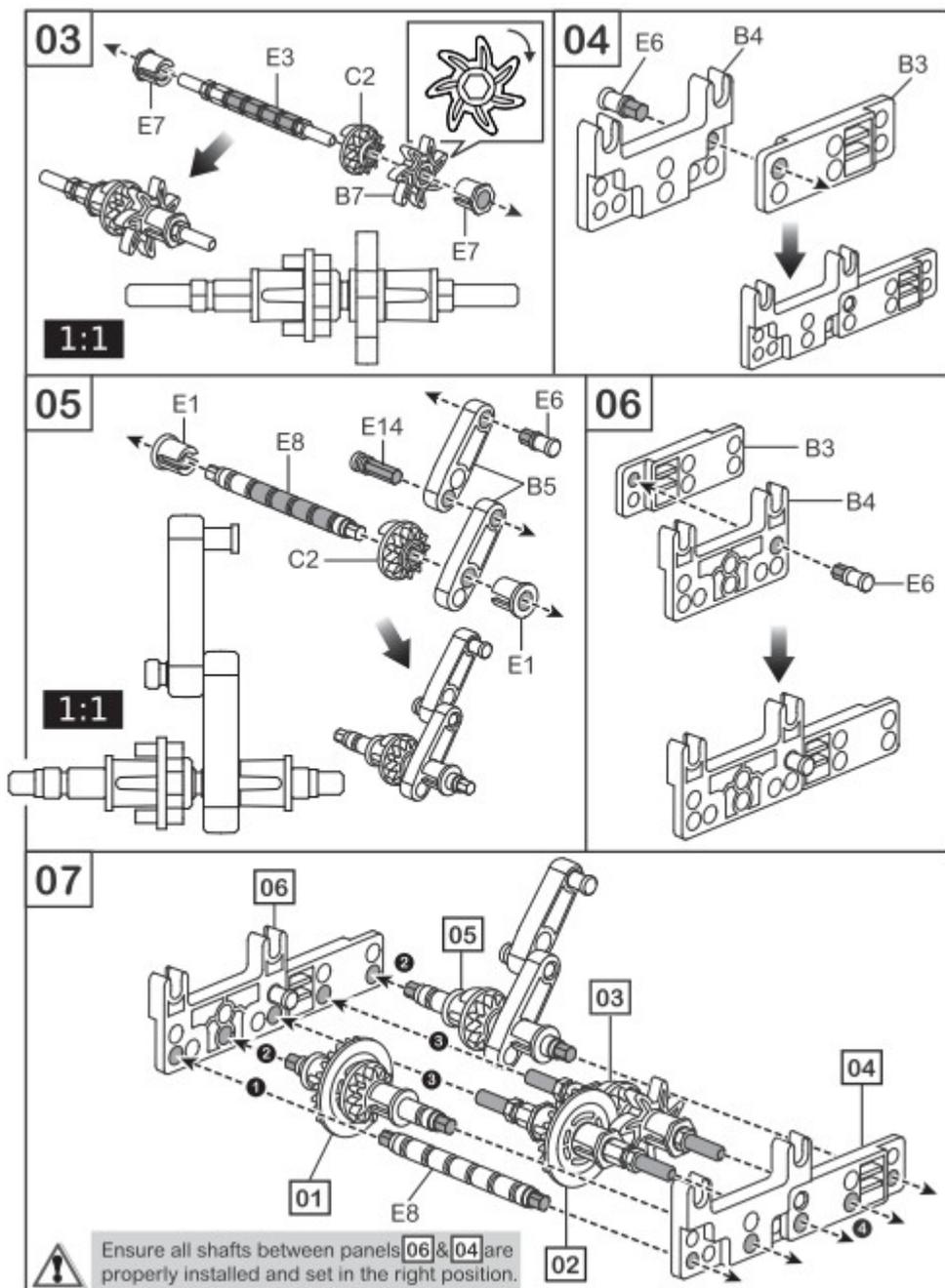
1:1

02

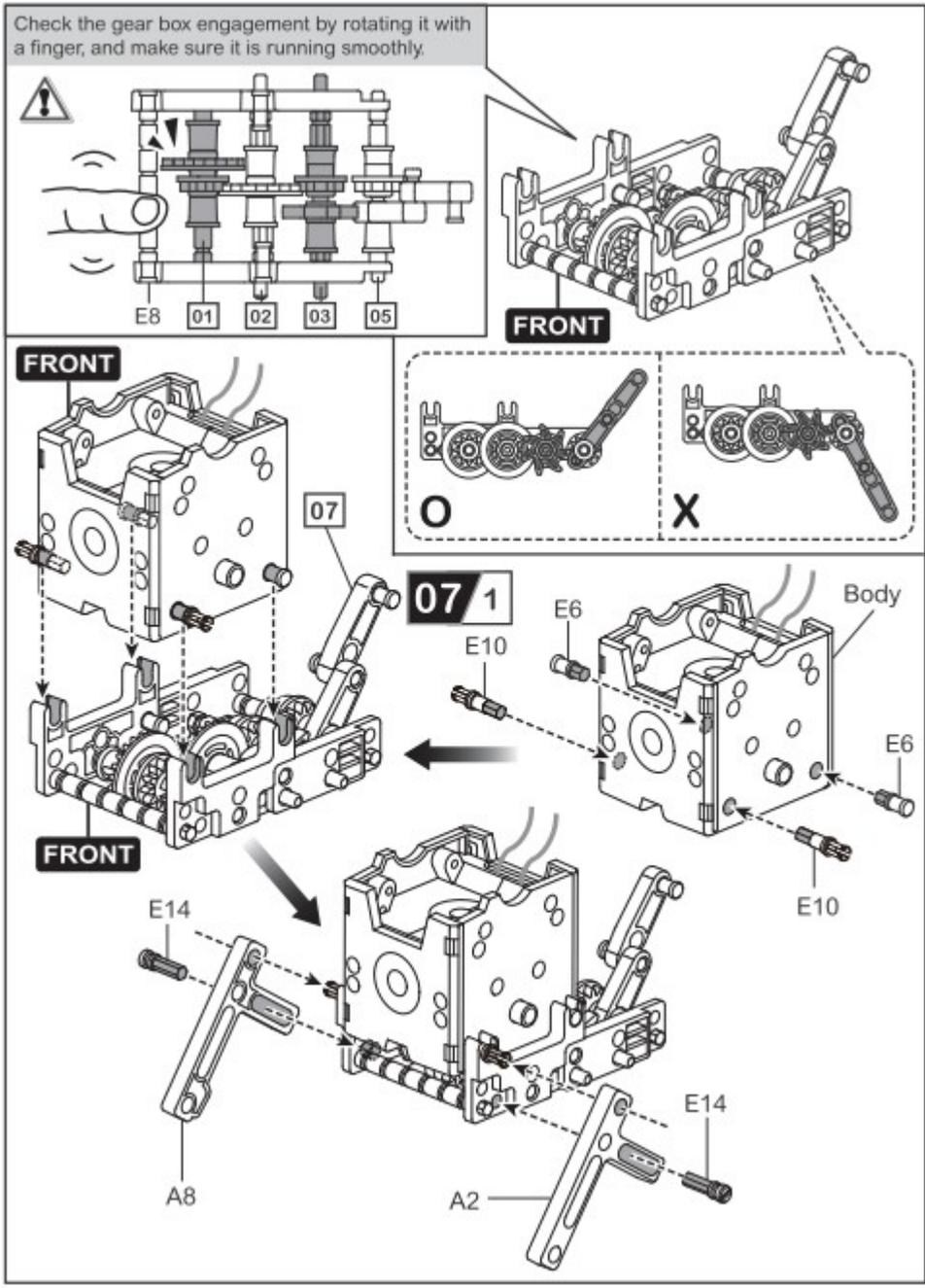


1:1

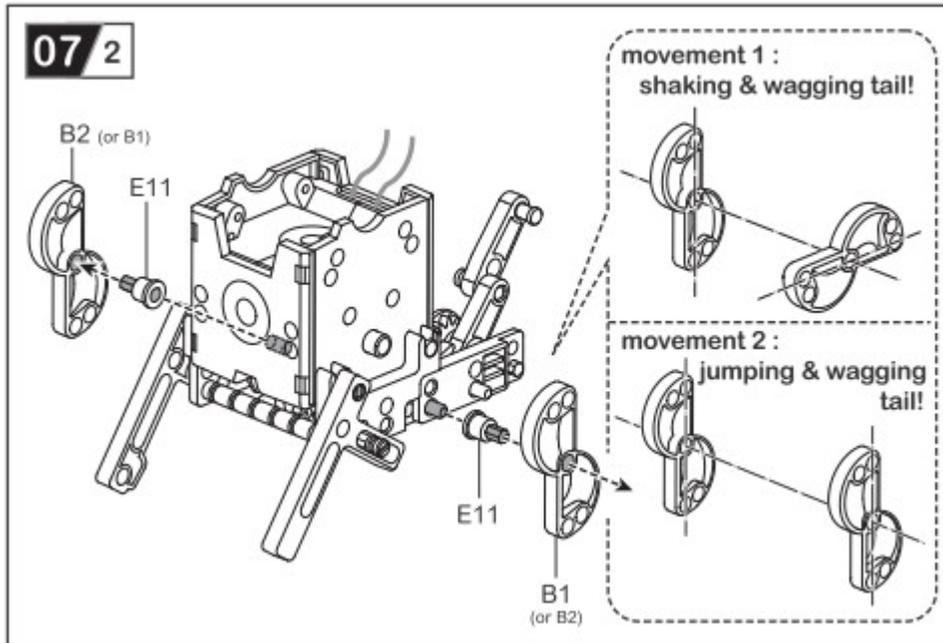
Montieren Sie zuerst folgende Teile, bevor Sie den "Dog-bot" montieren.



Stellen Sie sicher, dass alle Achsen zwischen Panels 06 & 04 korrekt installiert sind. Beachten Sie die Position.

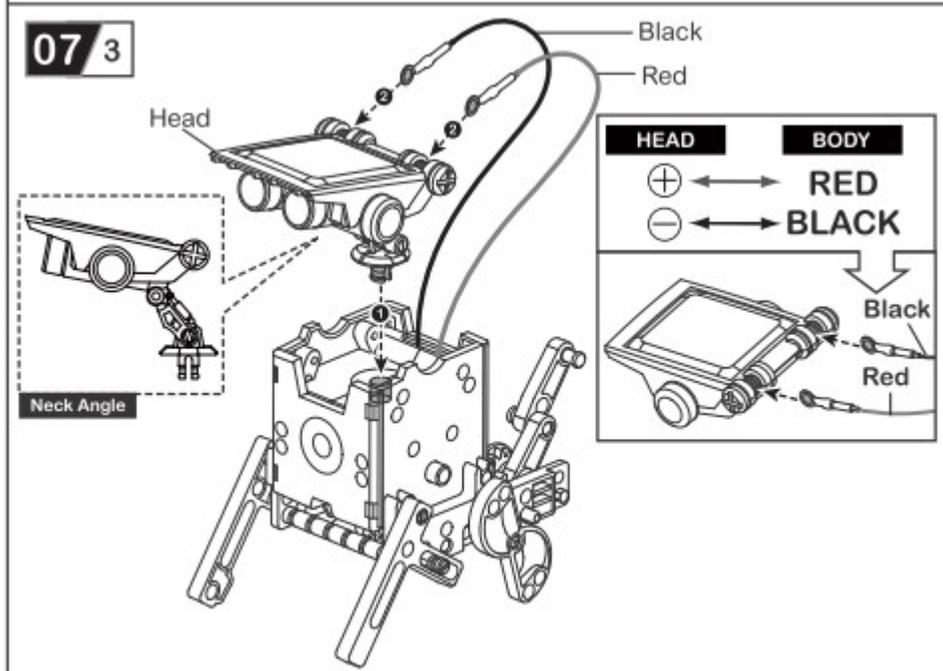


Drehen Sie die Zahnräder, um zu überprüfen, ob diese problemlos bewegen können.



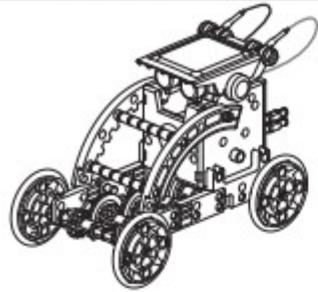
Bewegung 1: Schütteln & schwanzeln

Bewegung 2: Springen & schwanzeln



08 Auto-bot Assembly

Level 2



Prepare the below parts first before you assemble the "Auto-bot".



Body



Head



Wheel x4



B3 x4



B4 x2



B8 x4



C1 x2



C2 x4



E6 x8



E14 x2



E4 x4



E11 x4



E7 x2



E1 x10

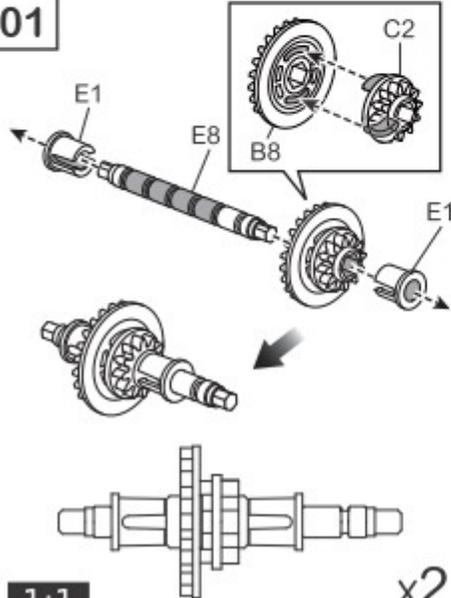


E8 x7

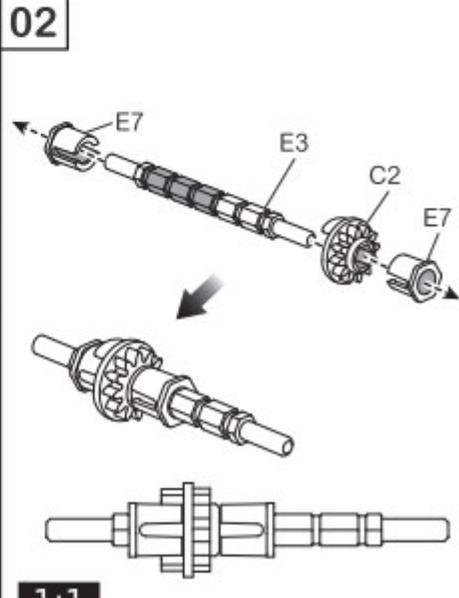


E3 x2

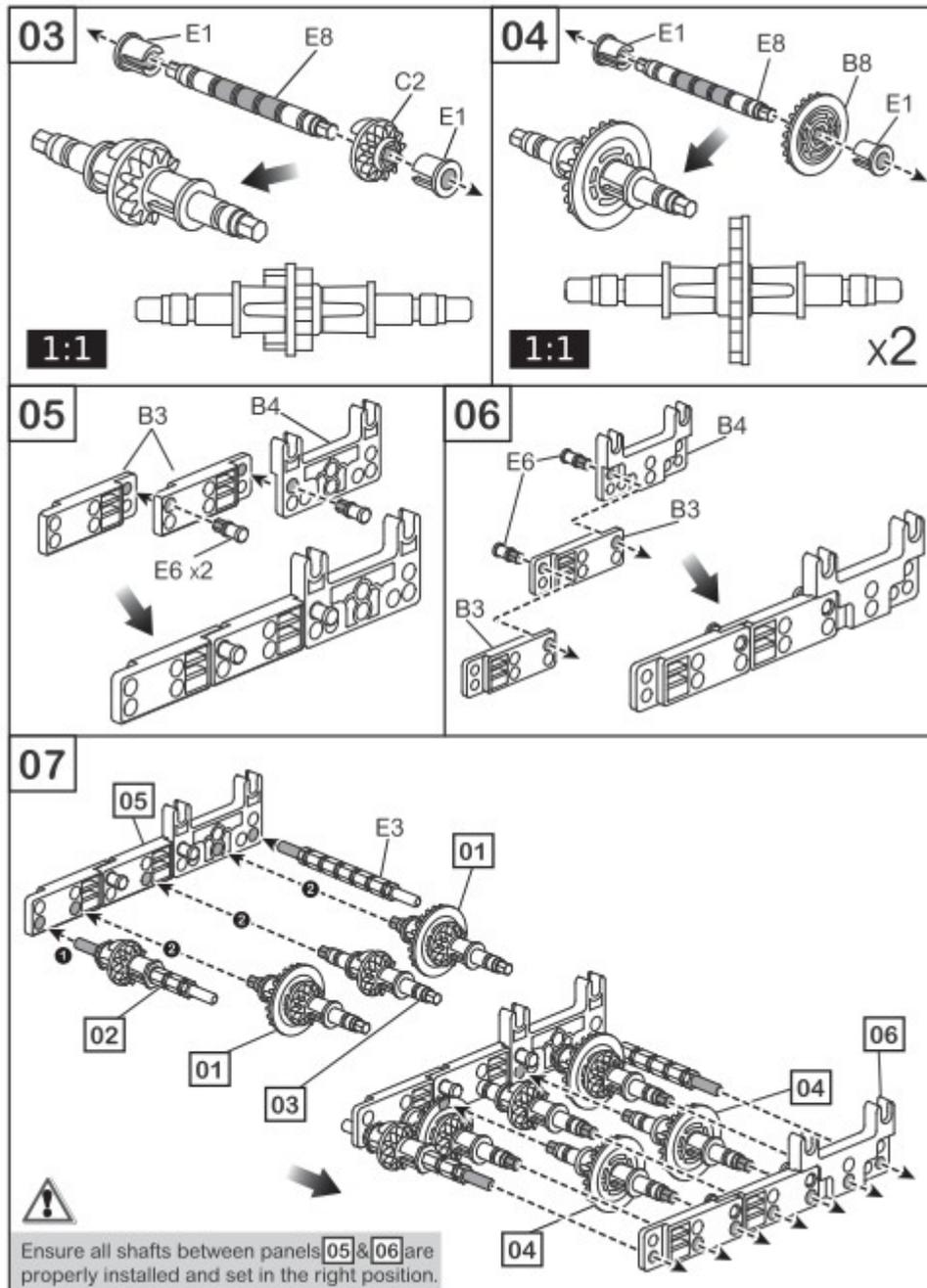
01



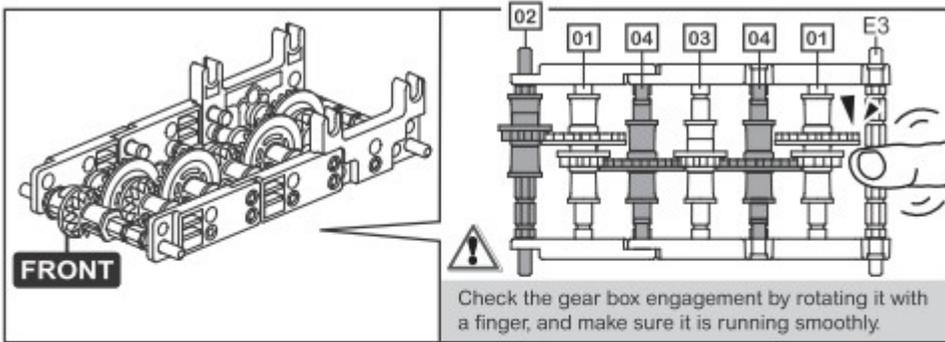
02



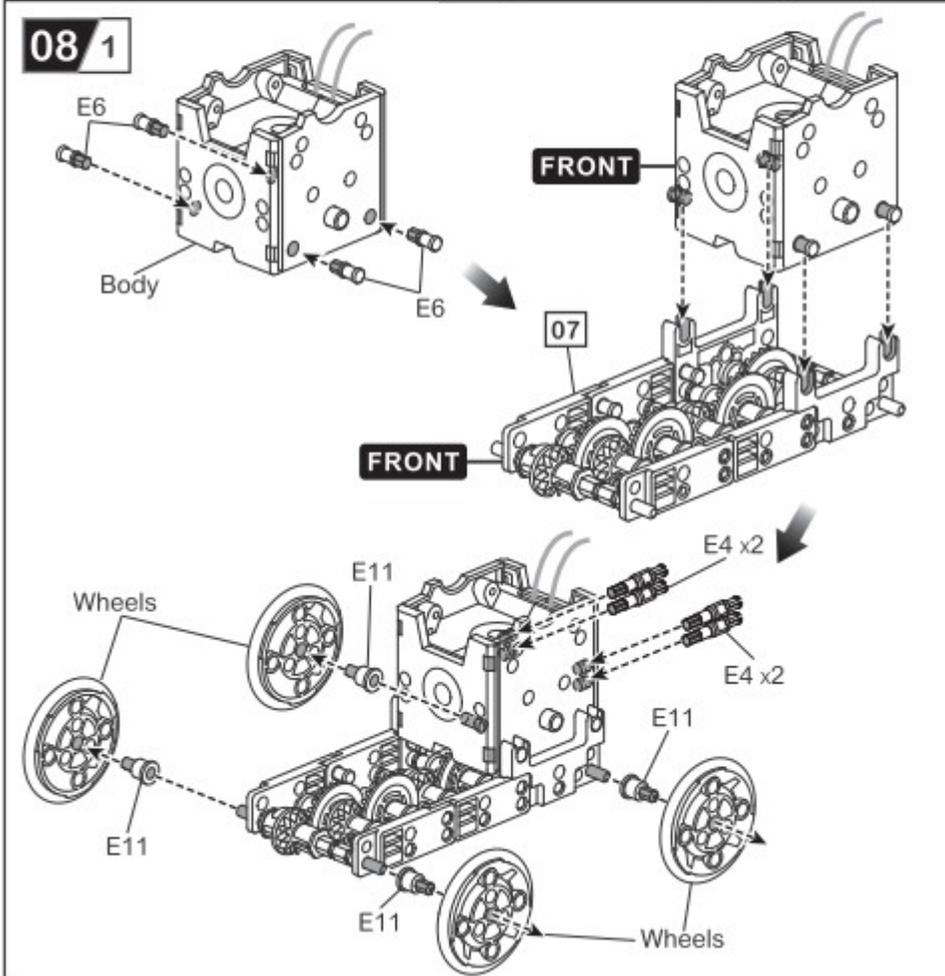
Montieren Sie zuerst folgende Teile, bevor Sie den "Auto-bot" montieren.



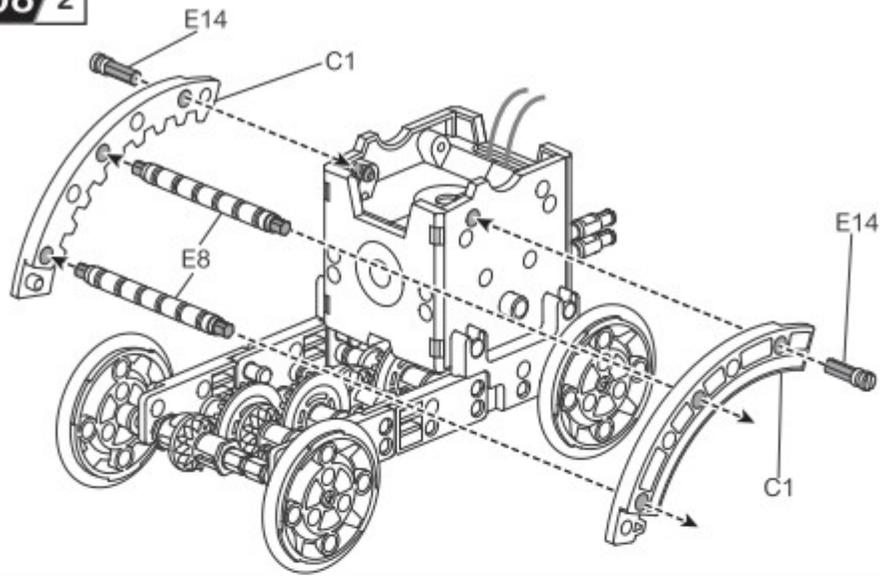
Stellen Sie sicher, dass alle Achsen zwischen Panels 05 & 06 korrekt installiert sind. Beachten Sie die Position.



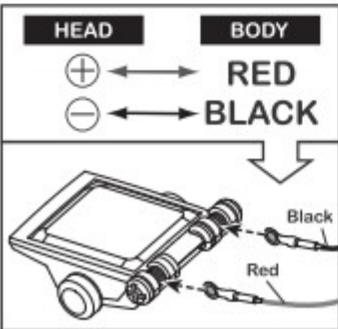
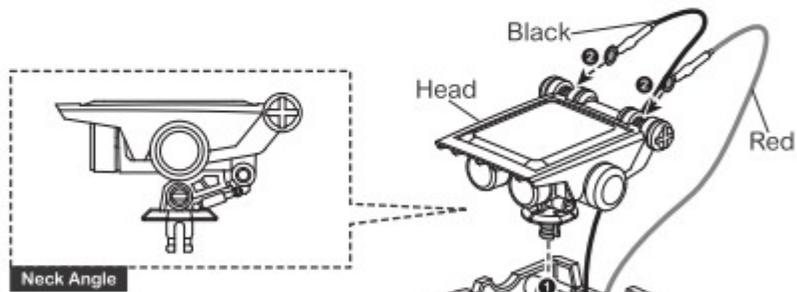
Drehen Sie die Zahnräder, um zu überprüfen, ob diese problemlos bewegen können.



08 / 2

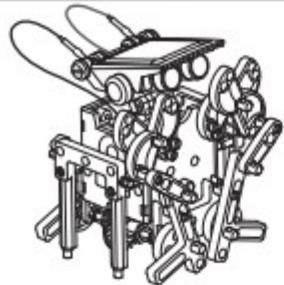


08 / 3

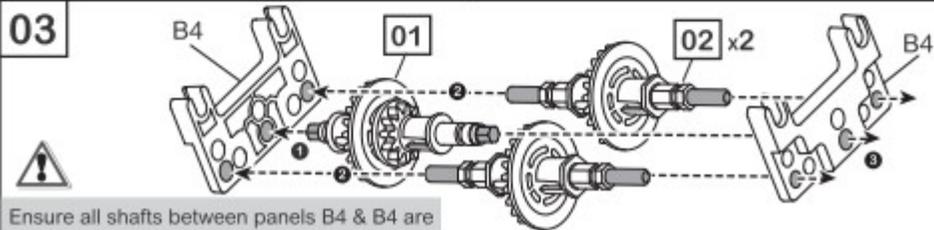
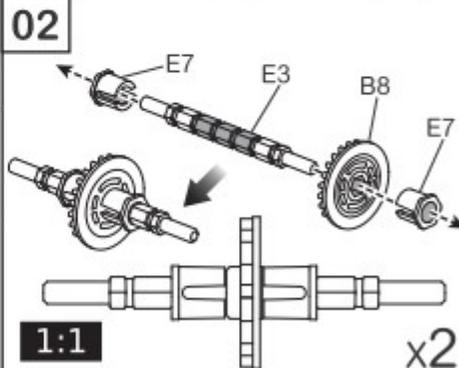
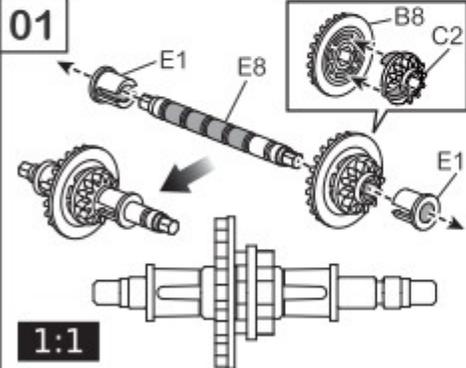
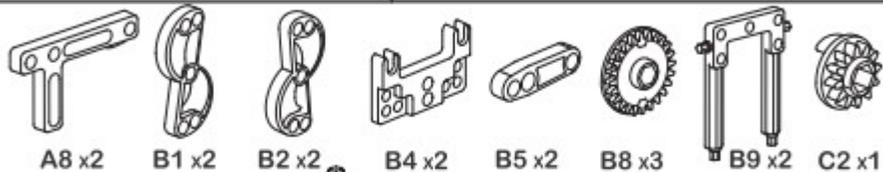
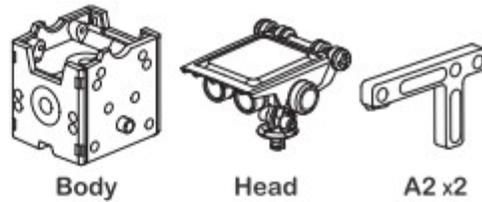


09 Crab-bot Assembly

Level 2

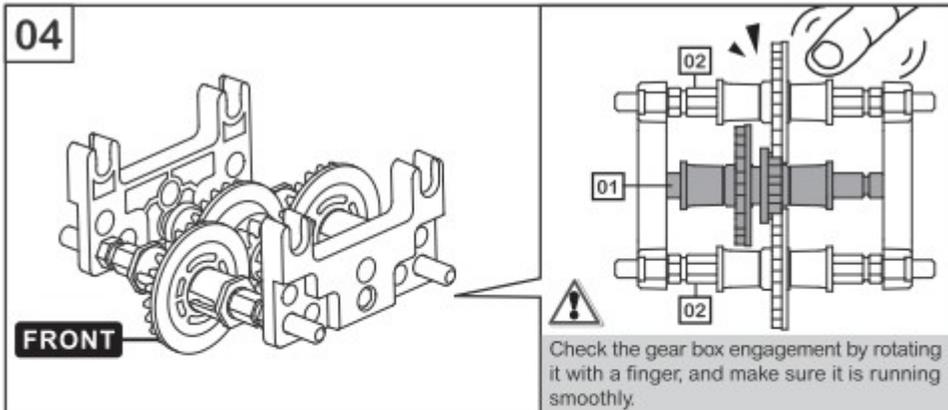


Prepare the below parts first before you assemble the "Crab-bot".

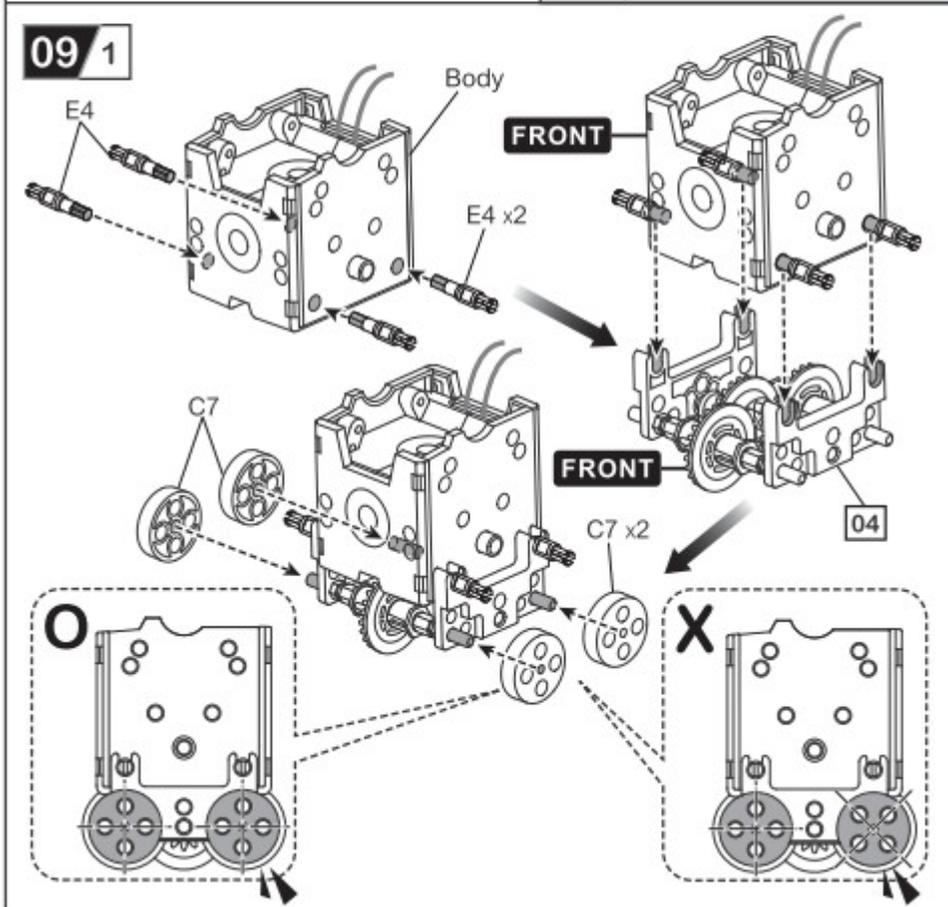


Montieren Sie zuerst folgende Teile, bevor Sie den "Crab-bot" montieren.

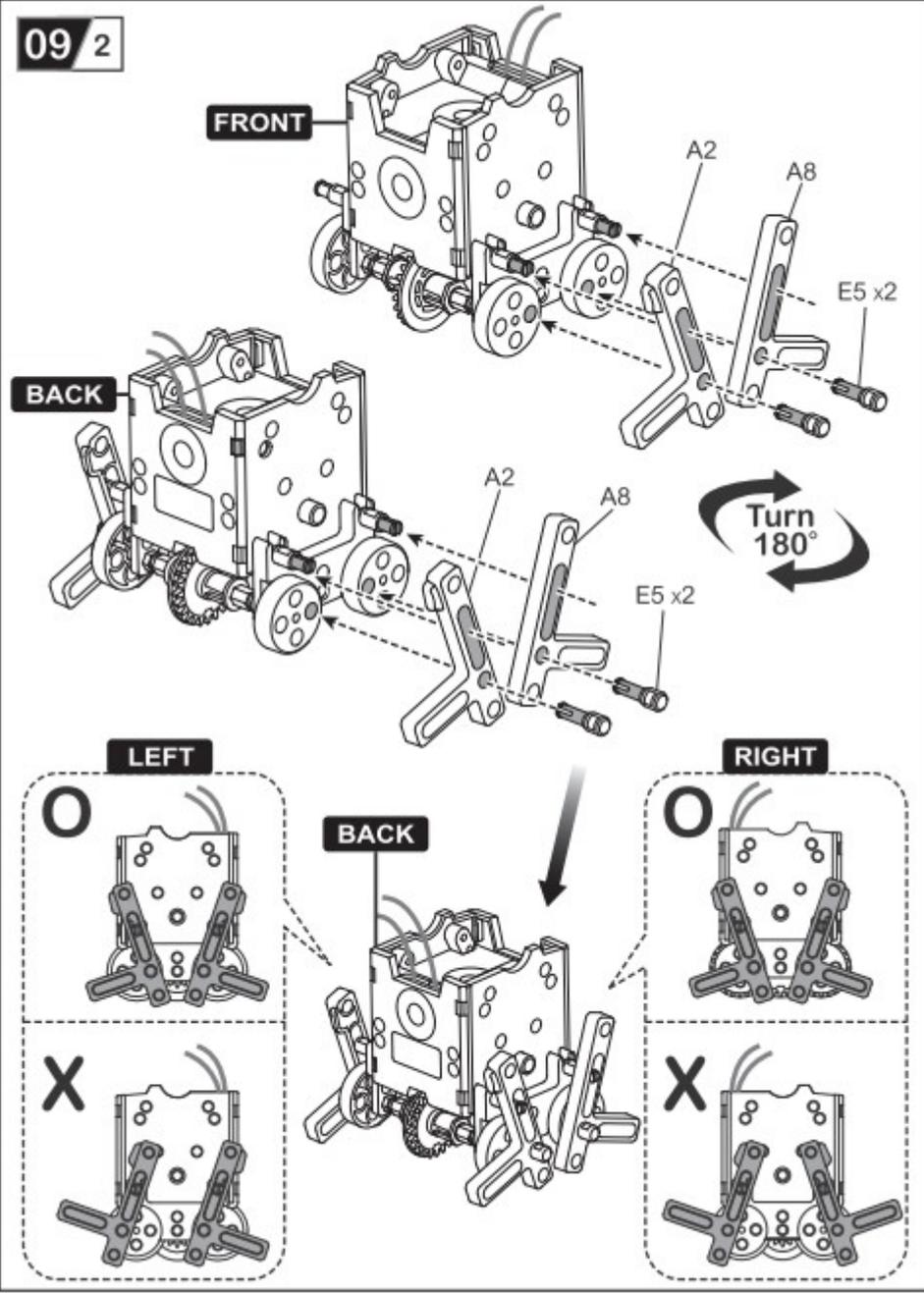
Stellen Sie sicher, dass alle Achsen zwischen Panels B4 & B4 korrekt installiert sind. Beachten Sie die Position.



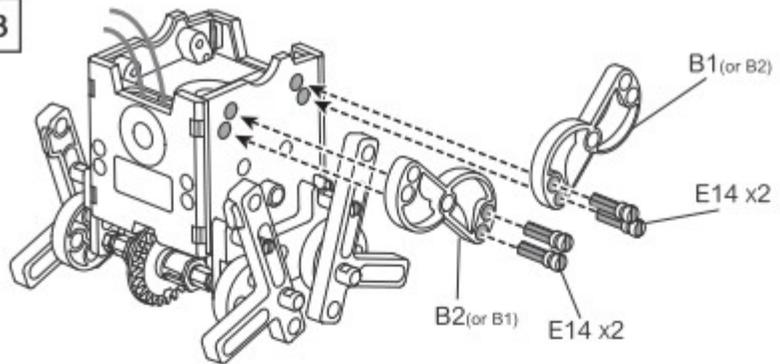
Drehen Sie die Zahnräder, um zu überprüfen, ob diese problemlos bewegen können.



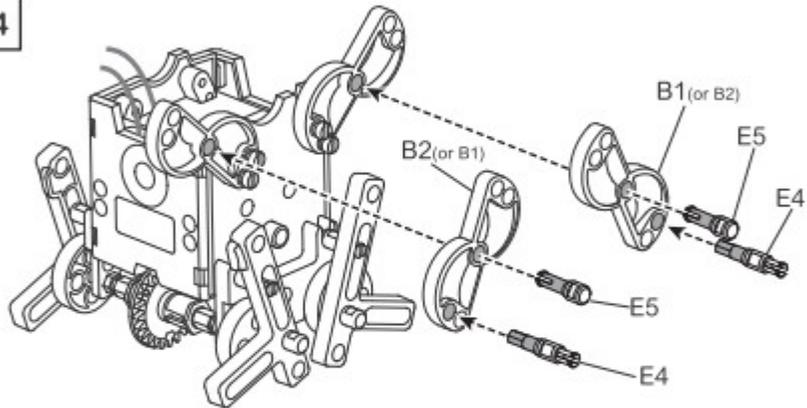
09/2



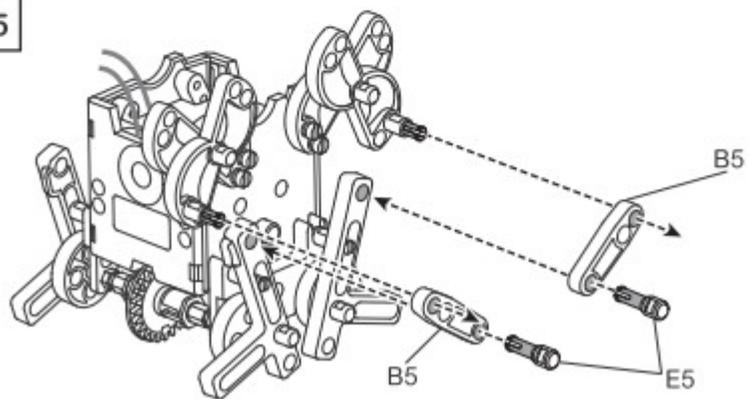
09/3

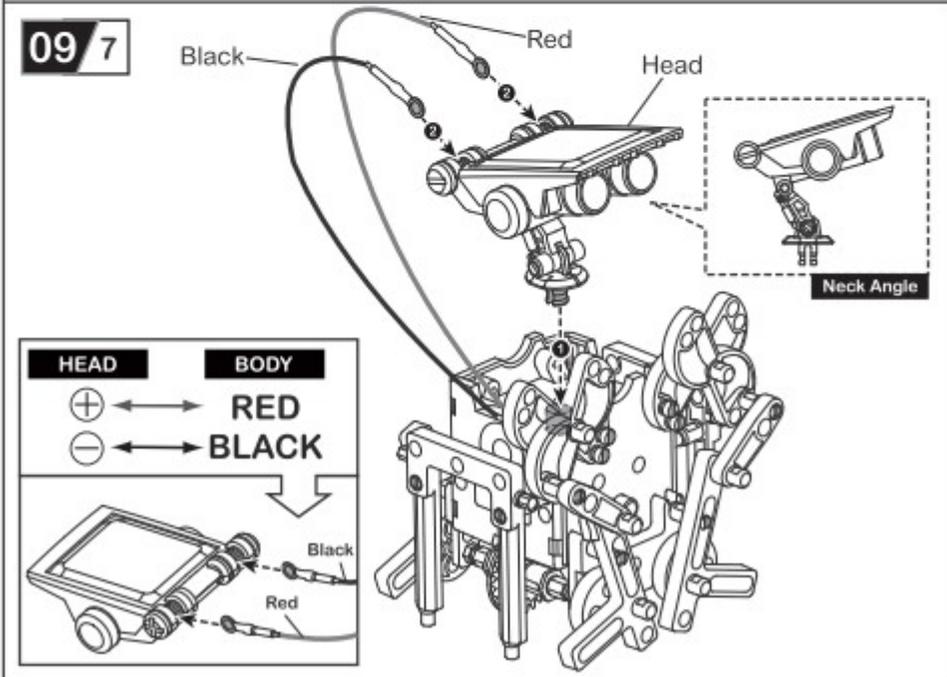
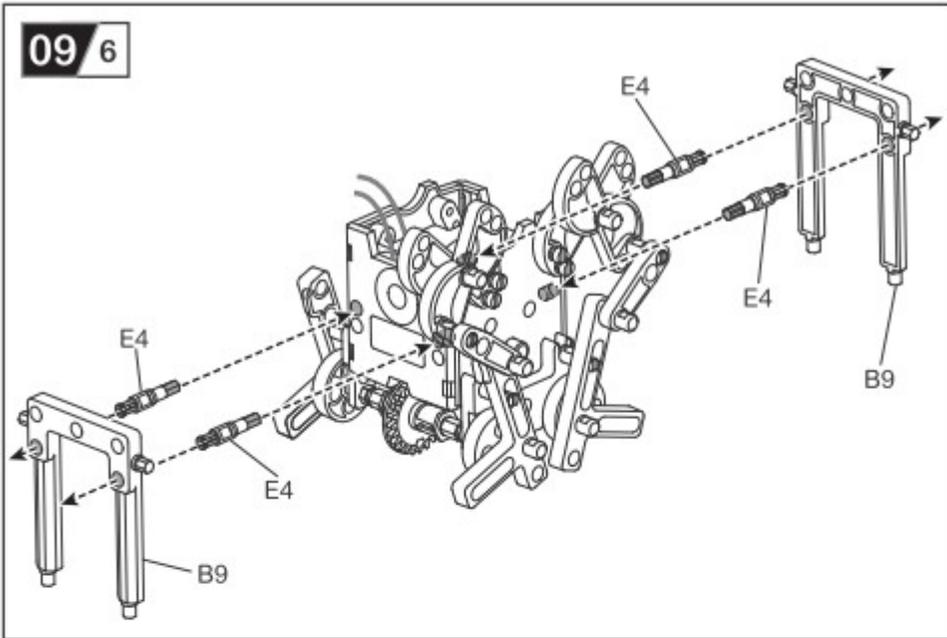


09/4



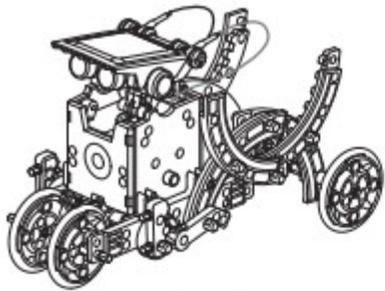
09/5





10 Slither-bot Assembly

Level 2



Prepare the below parts first before you assemble the "Slither-bot".



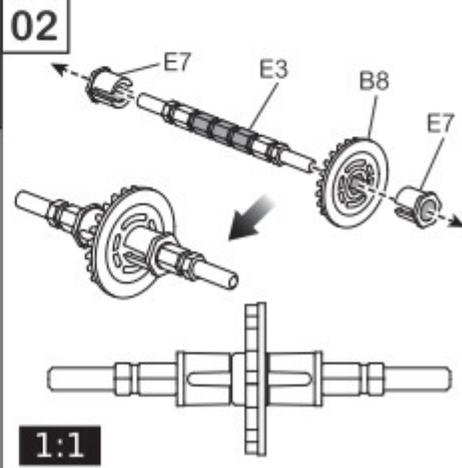
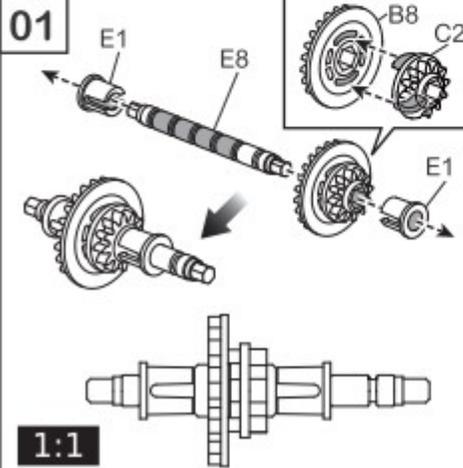
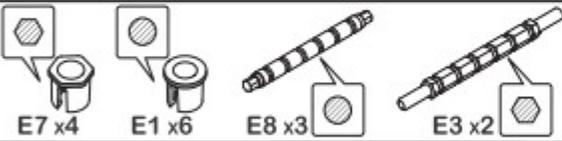
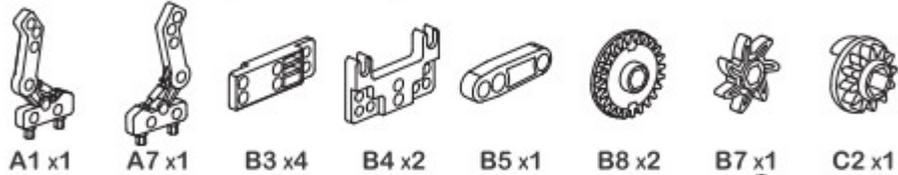
Body



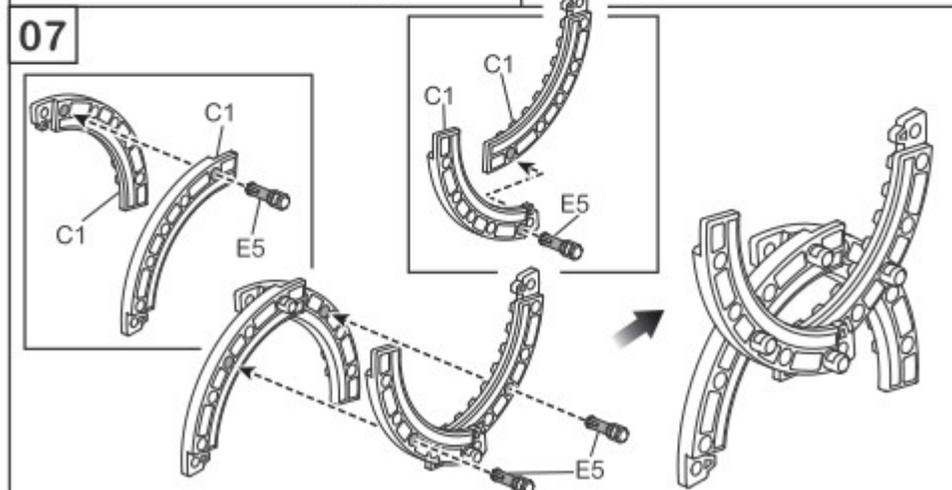
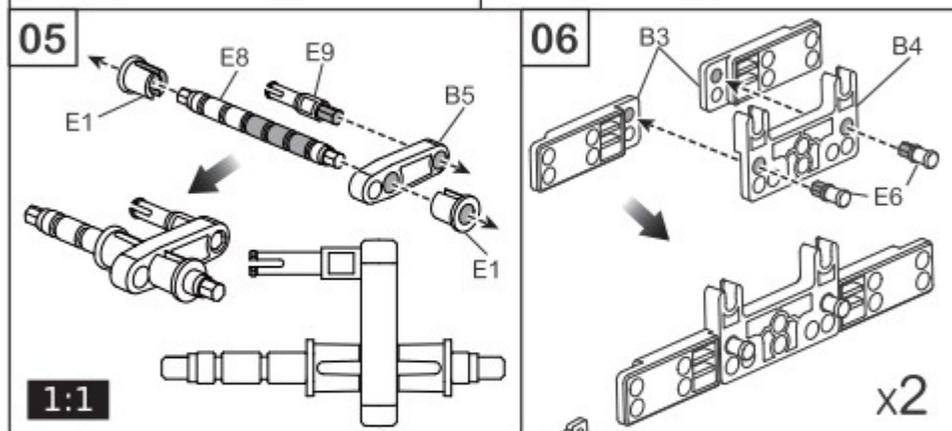
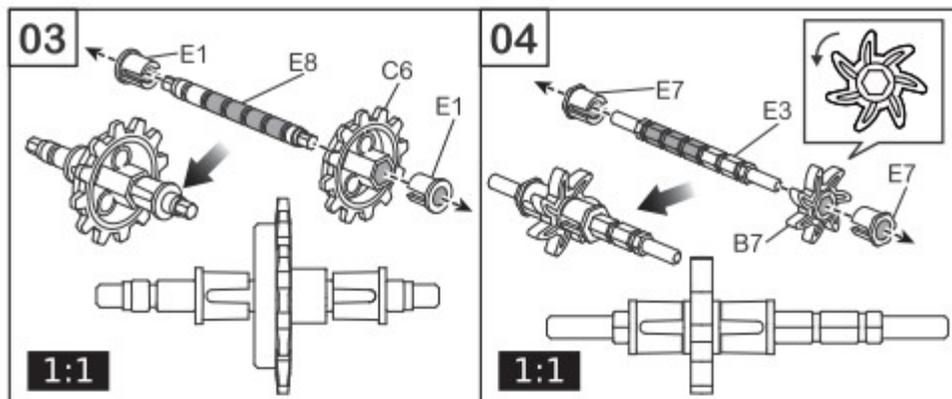
Head

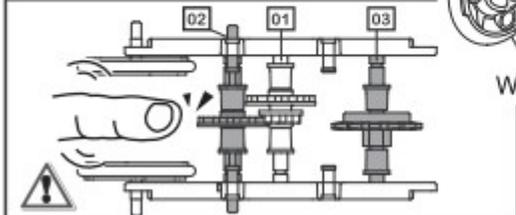
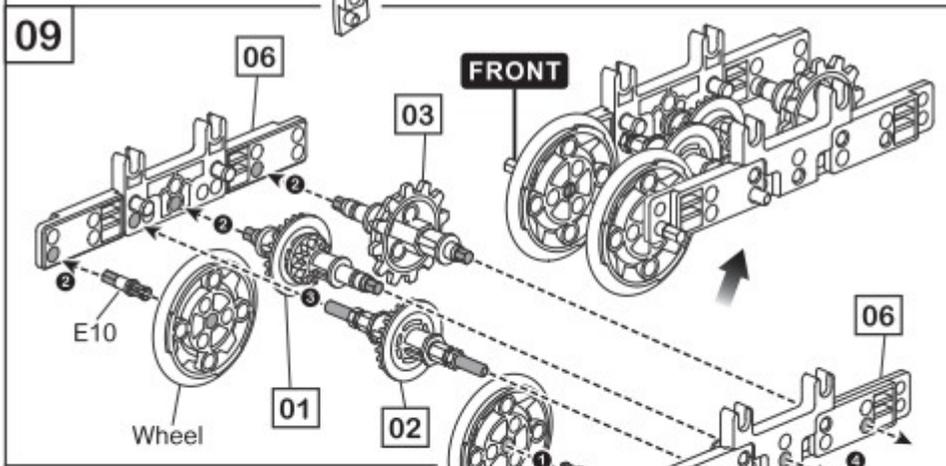
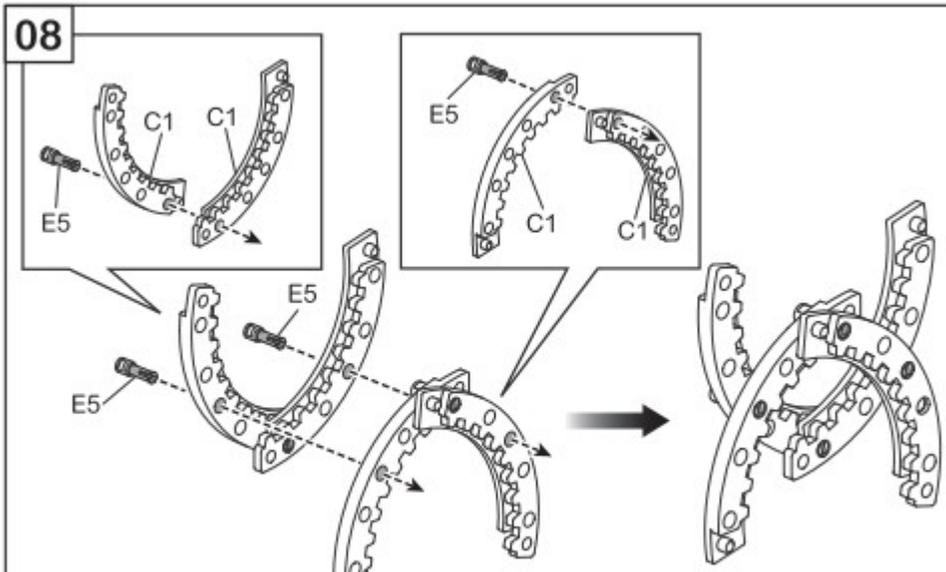


Wheel x4



Montieren Sie zuerst folgende Teile, bevor Sie den "Slither-bot" montieren.



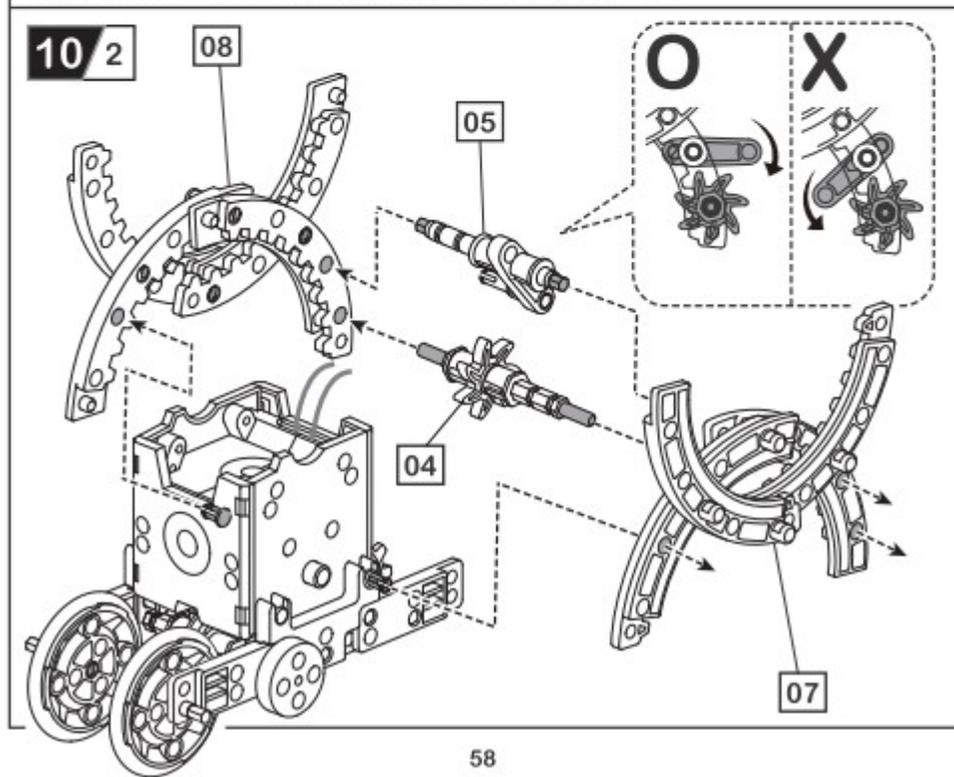
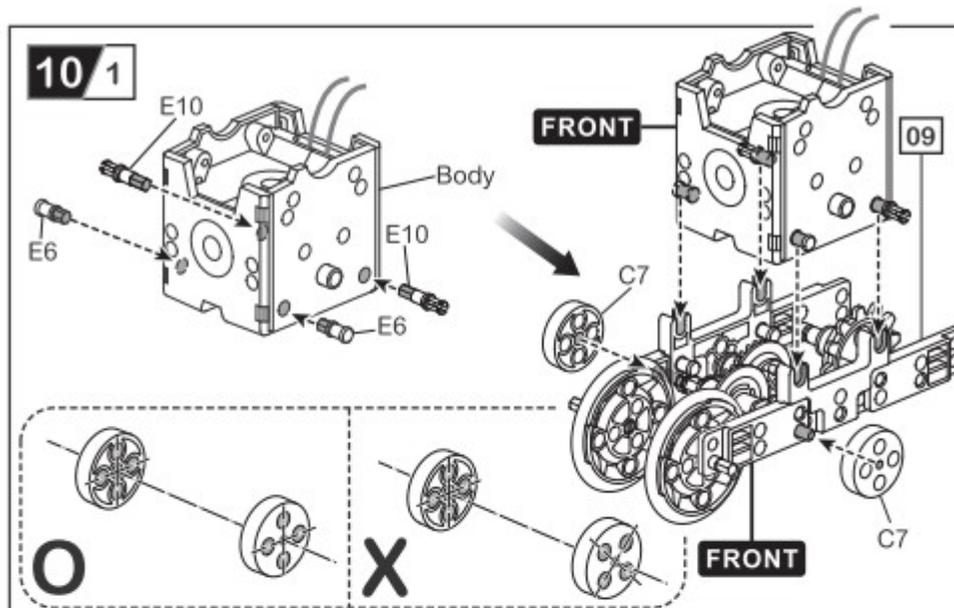


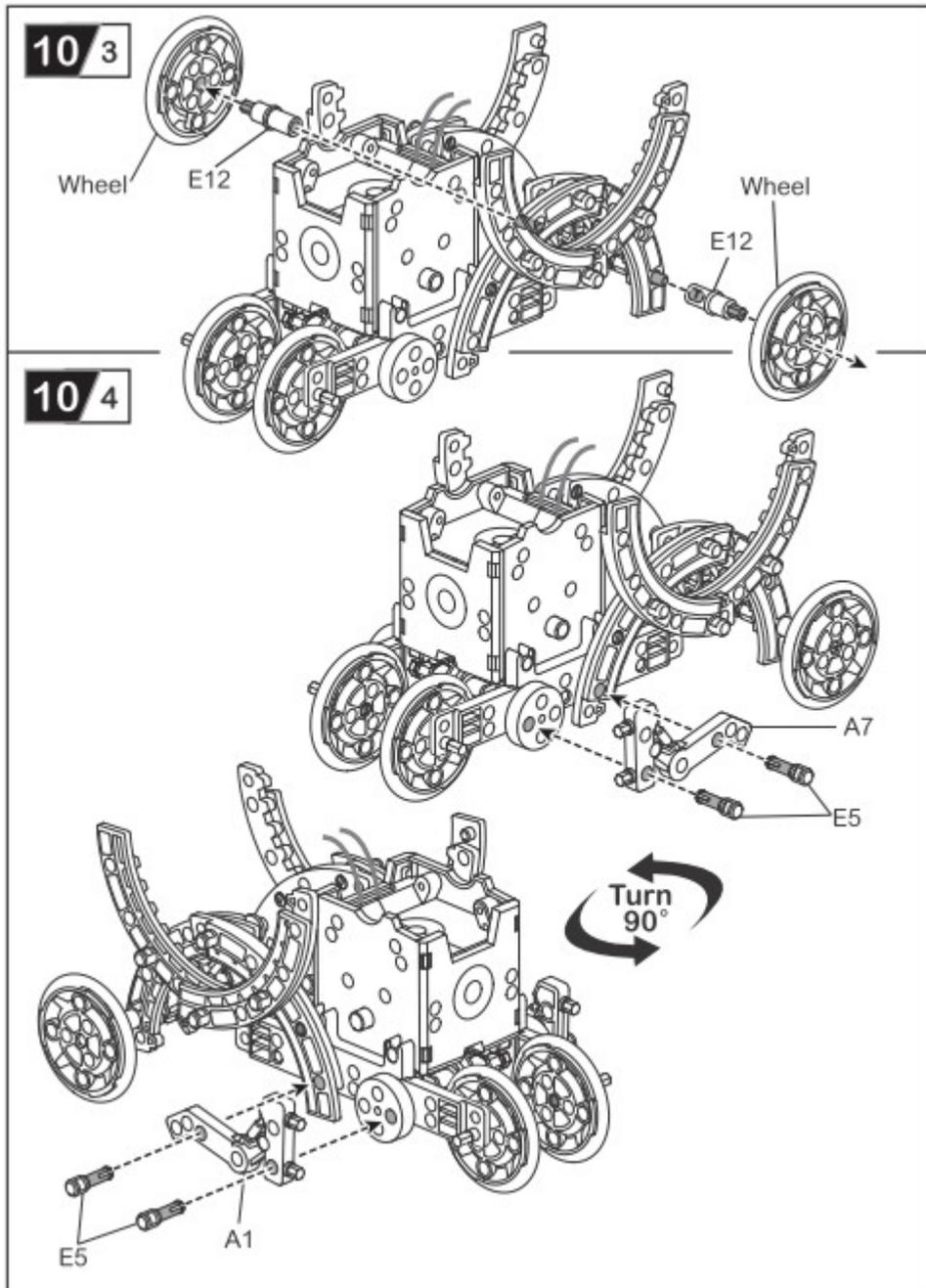
Ensure all shafts between panels **06** & **06** are properly installed and set in the right position.

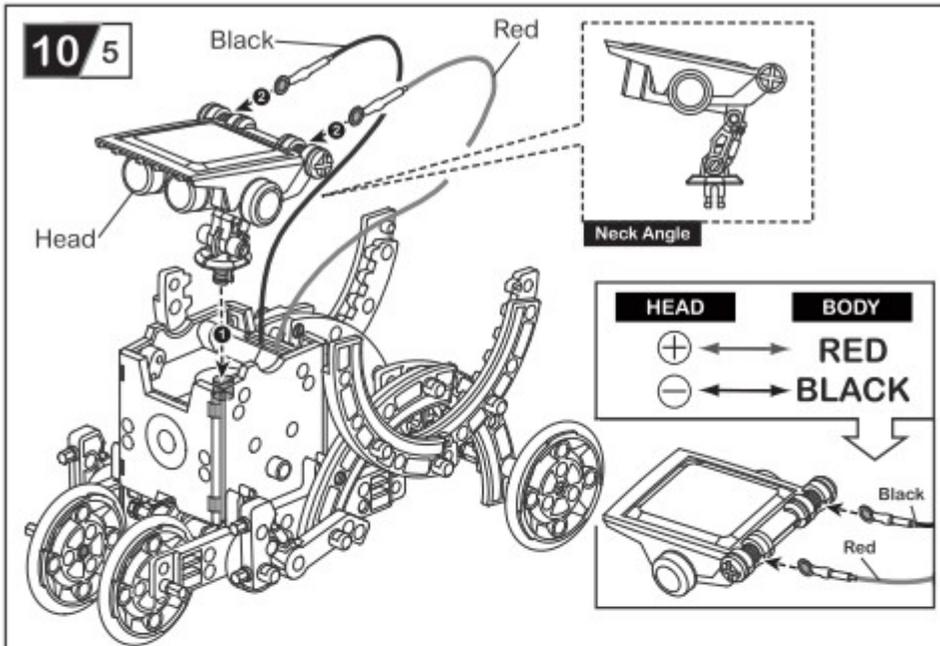
Check the gear box engagement by rotating it with a finger, and make sure it is running smoothly.

Stellen Sie sicher, dass alle Achsen zwischen Panels 06 & 06 korrekt installiert sind. Beachten Sie die Position.

Drehen Sie die Zahnräder, um zu überprüfen, ob diese problemlos bewegen können.







11 Roly poly-bot Assembly

Level 2

Prepare the below parts first before you assemble the "Roly poly-bot".

Body

Head

Wheel x2

A2 x2

A8 x2

B1 x2

B2 x2

B8 x4

C1 x8

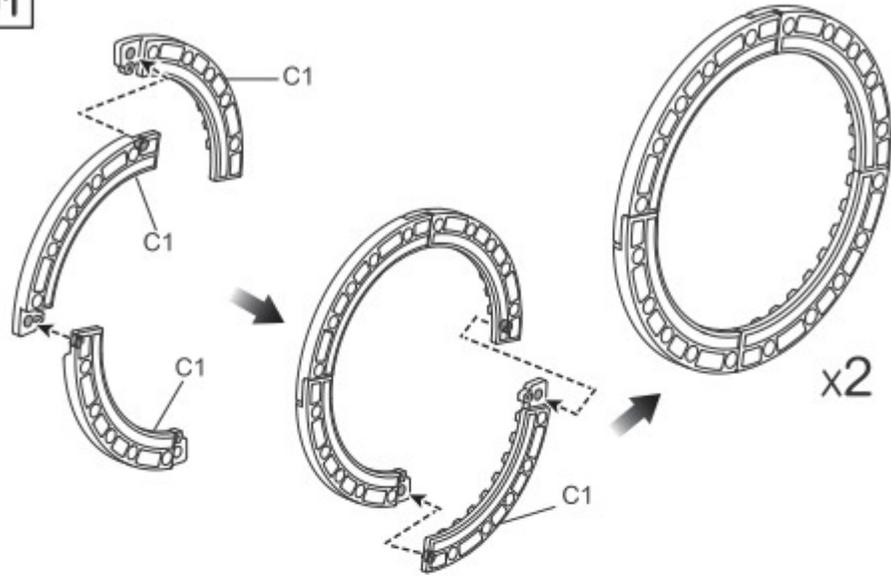
C6 x2

E14 x10

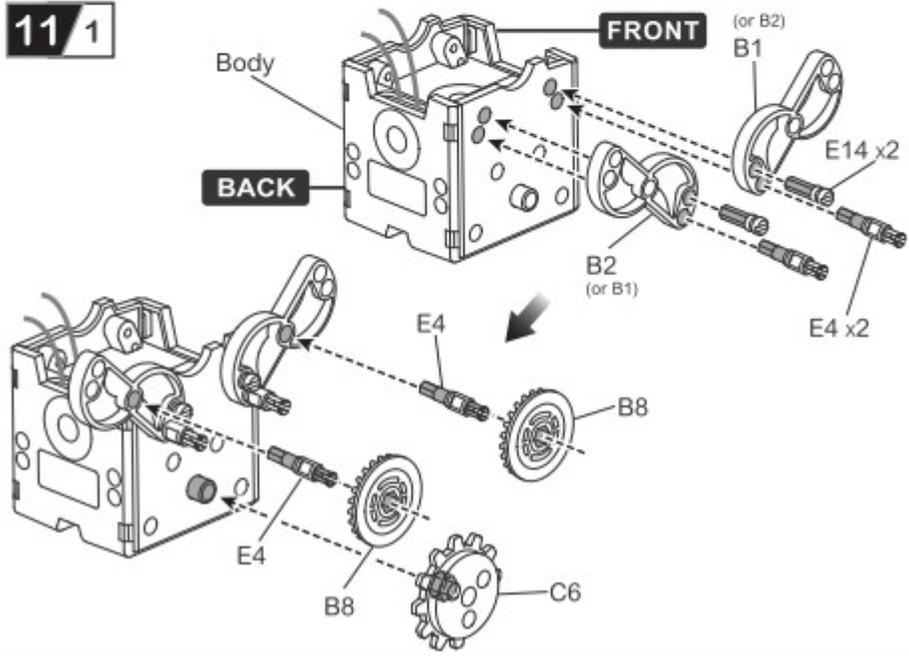
E4 x8

Montieren Sie zuerst folgende Teile, bevor Sie den "Roly poly-bot" montieren.

01

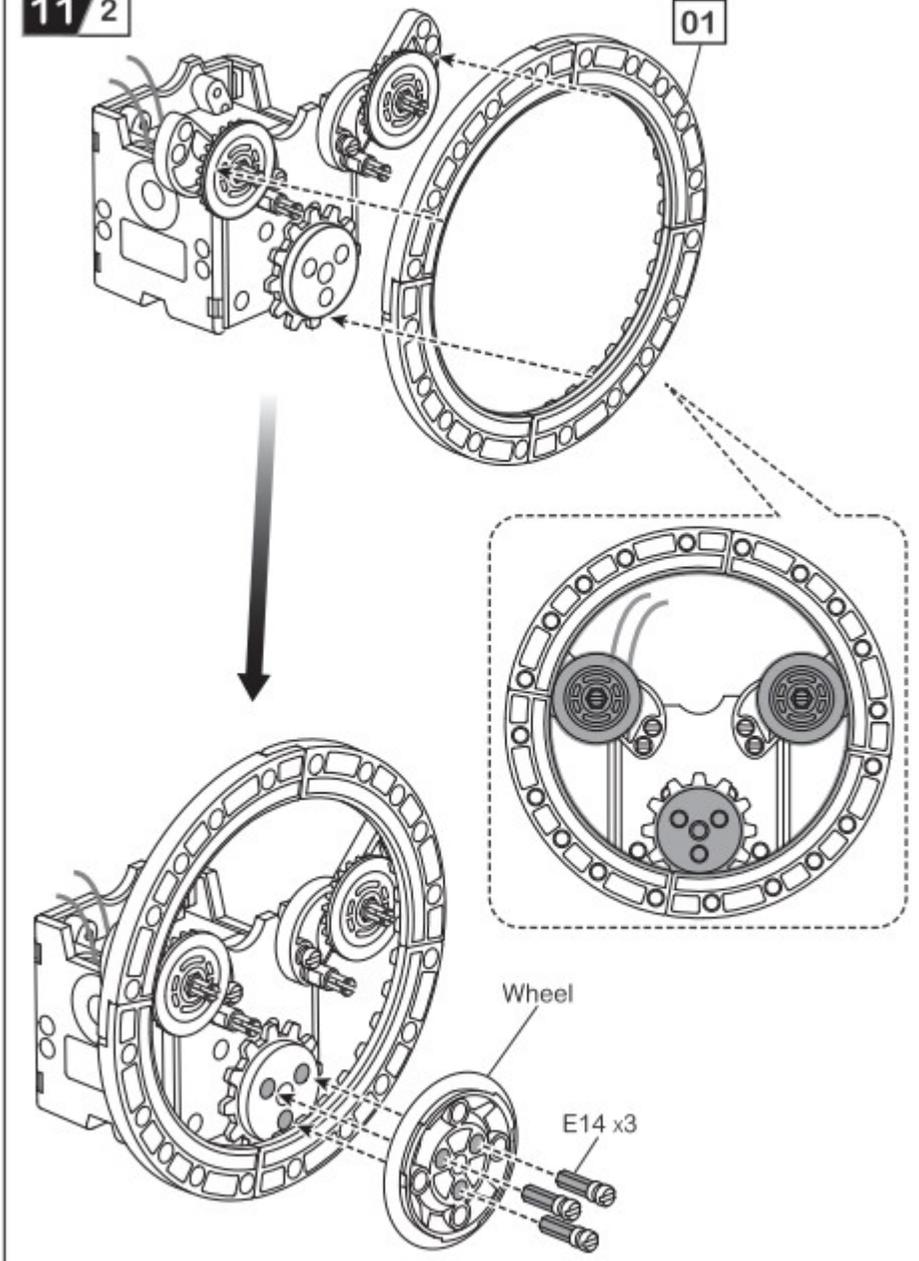


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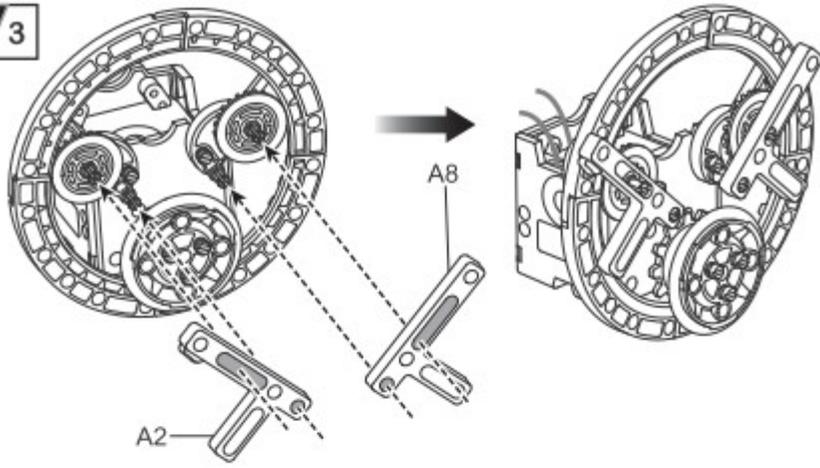


11/2

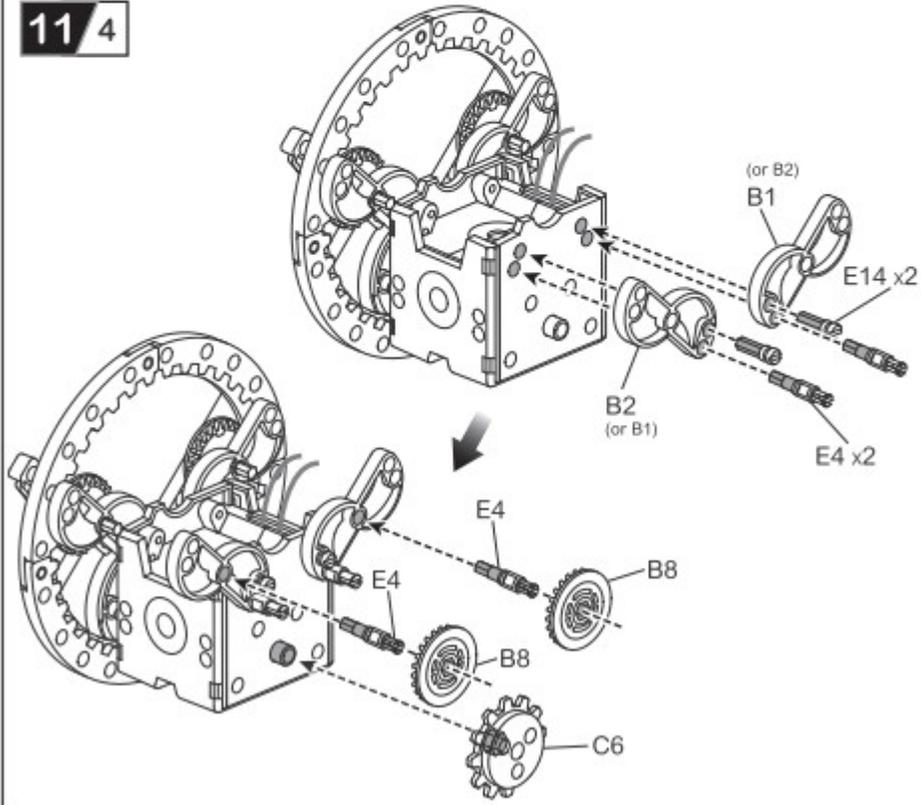
01



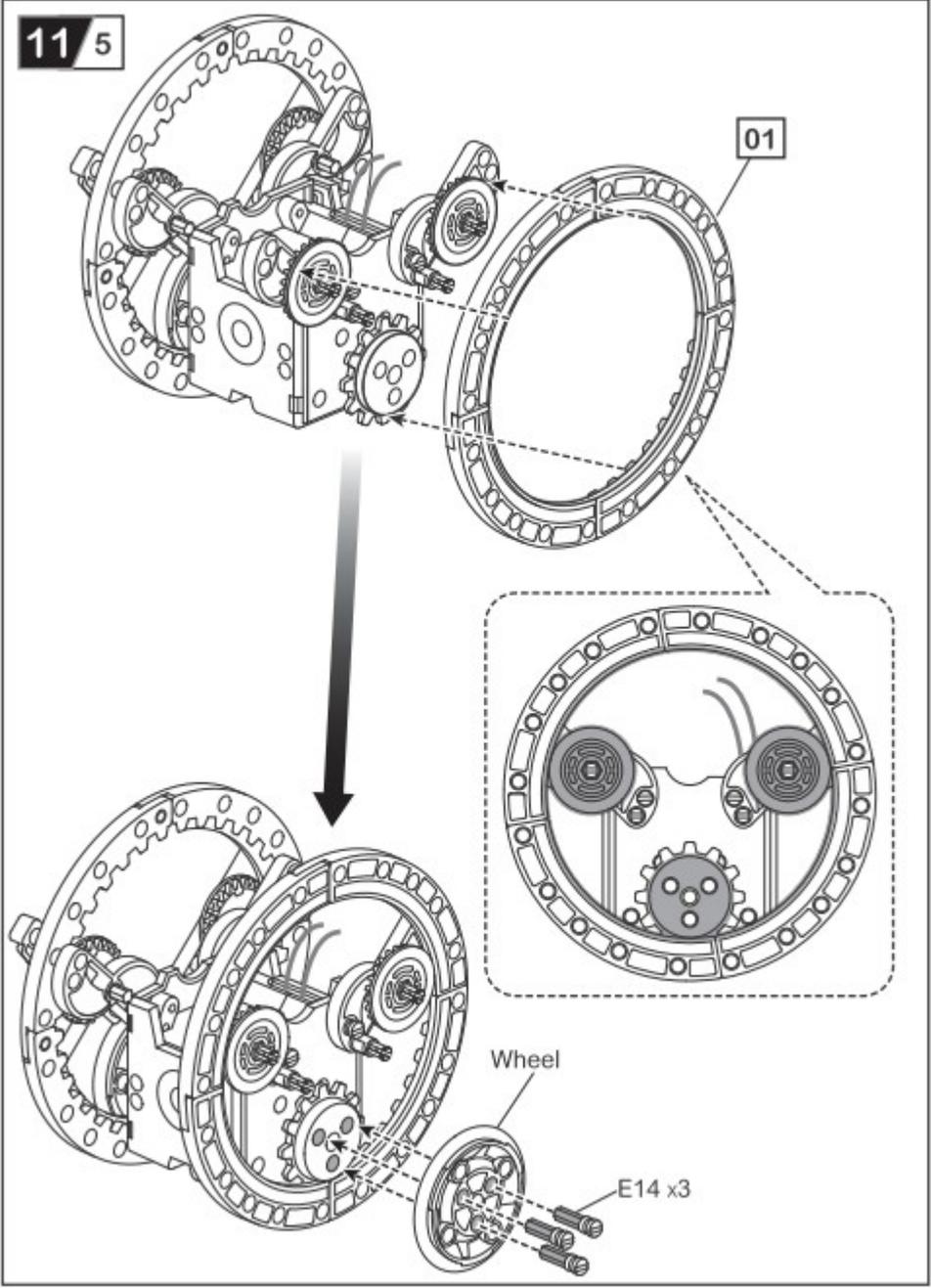
11/3

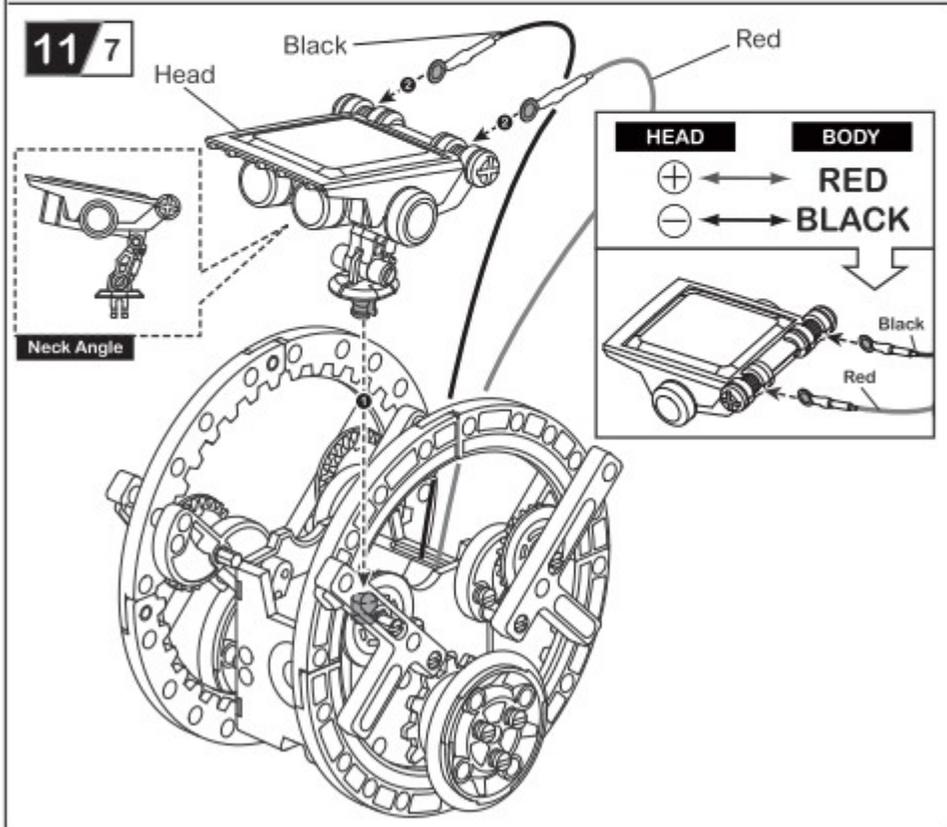
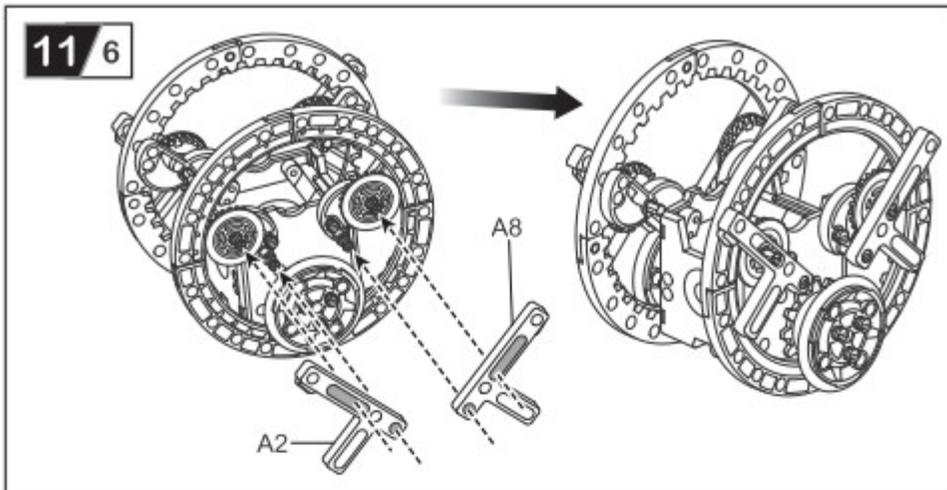


11/4



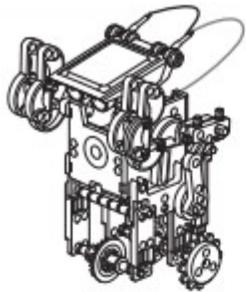
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12 Boxer-bot Assembly

Level 2



Prepare the below parts first before you assemble the "Boxer-bot".



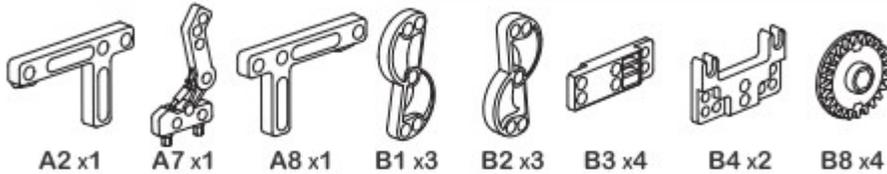
Body



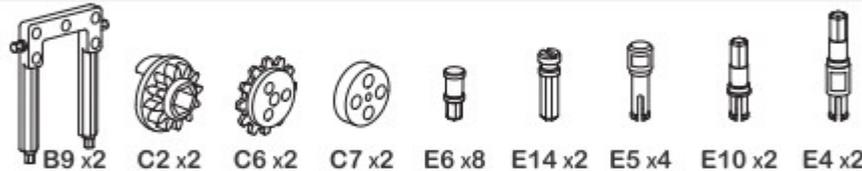
Head



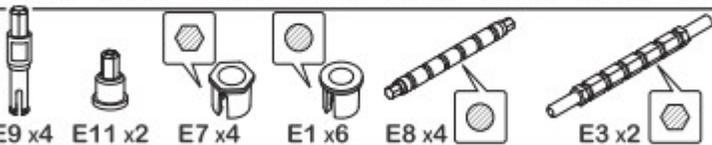
A1 x1



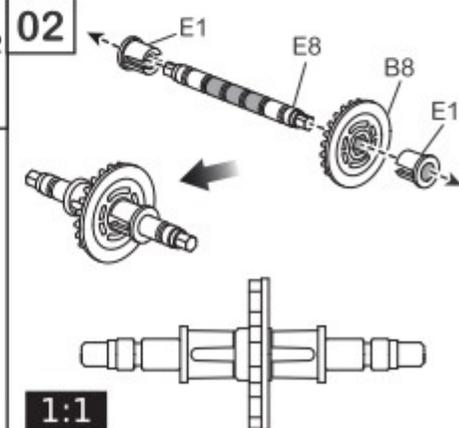
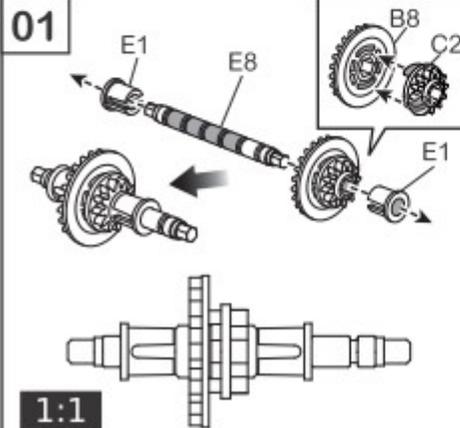
A2 x1 A7 x1 A8 x1 B1 x3 B2 x3 B3 x4 B4 x2 B8 x4



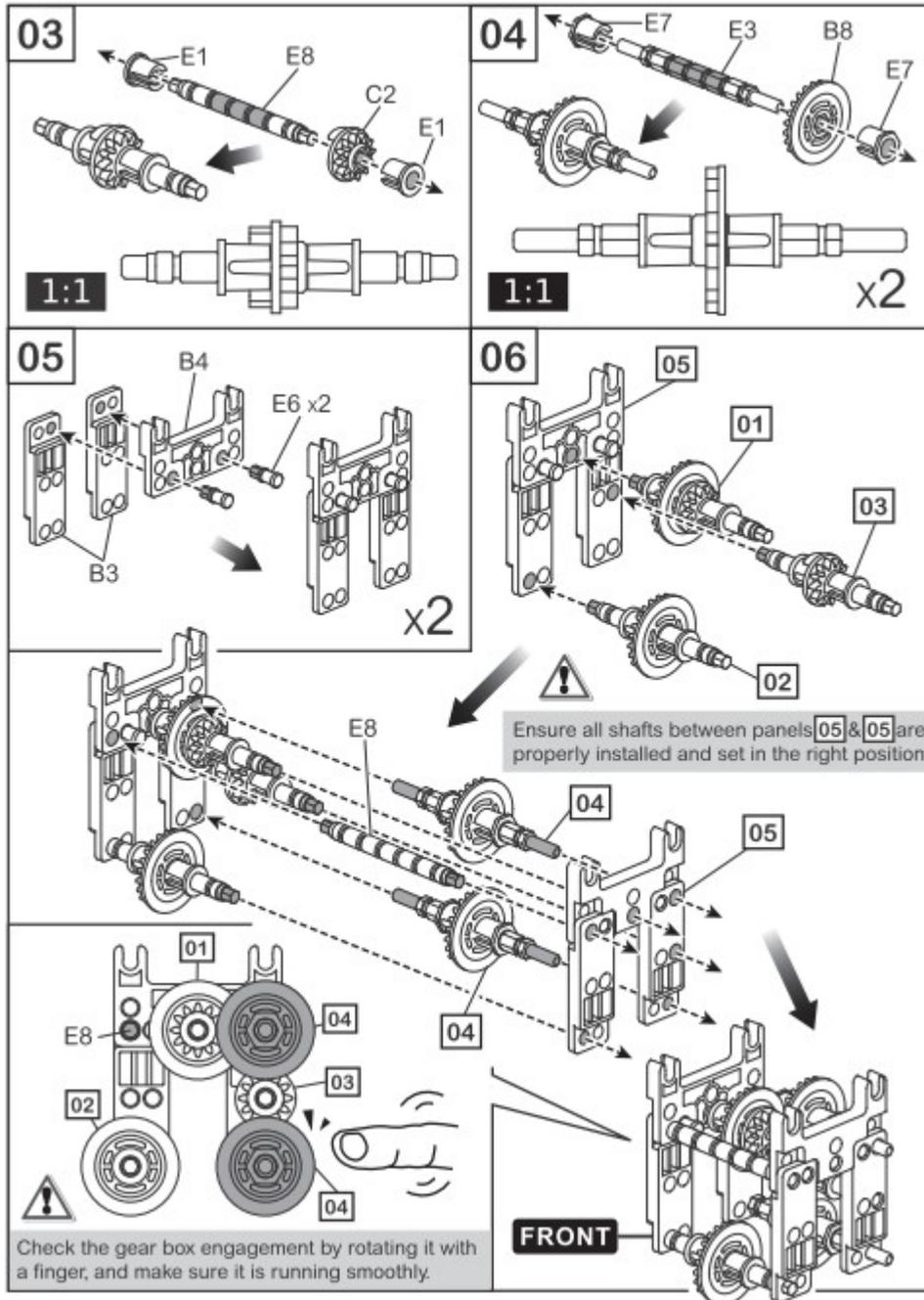
B9 x2 C2 x2 C6 x2 C7 x2 E6 x8 E14 x2 E5 x4 E10 x2 E4 x2



E9 x4 E11 x2 E7 x4 E1 x6 E8 x4 E3 x2



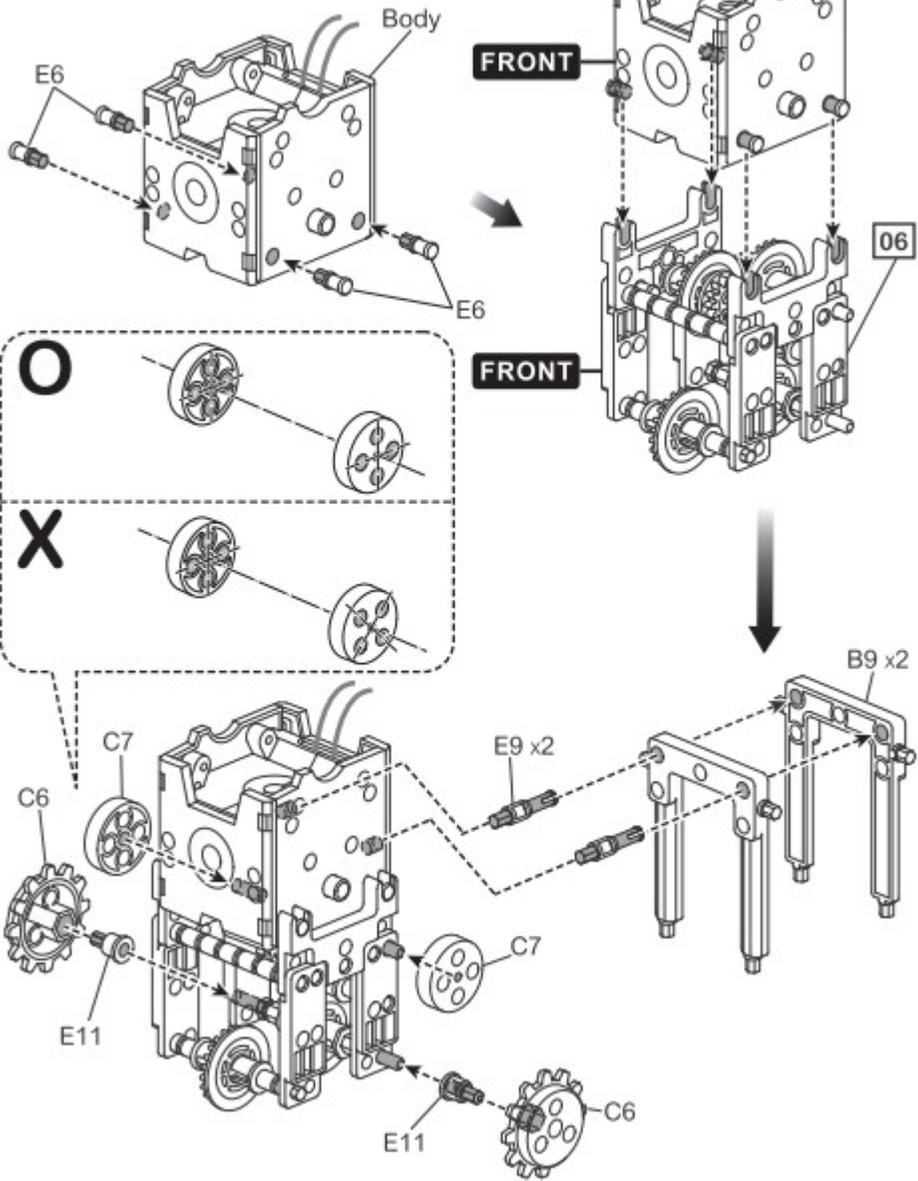
Montieren Sie zuerst folgende Teile, bevor Sie den "Boxer-bot" montieren.



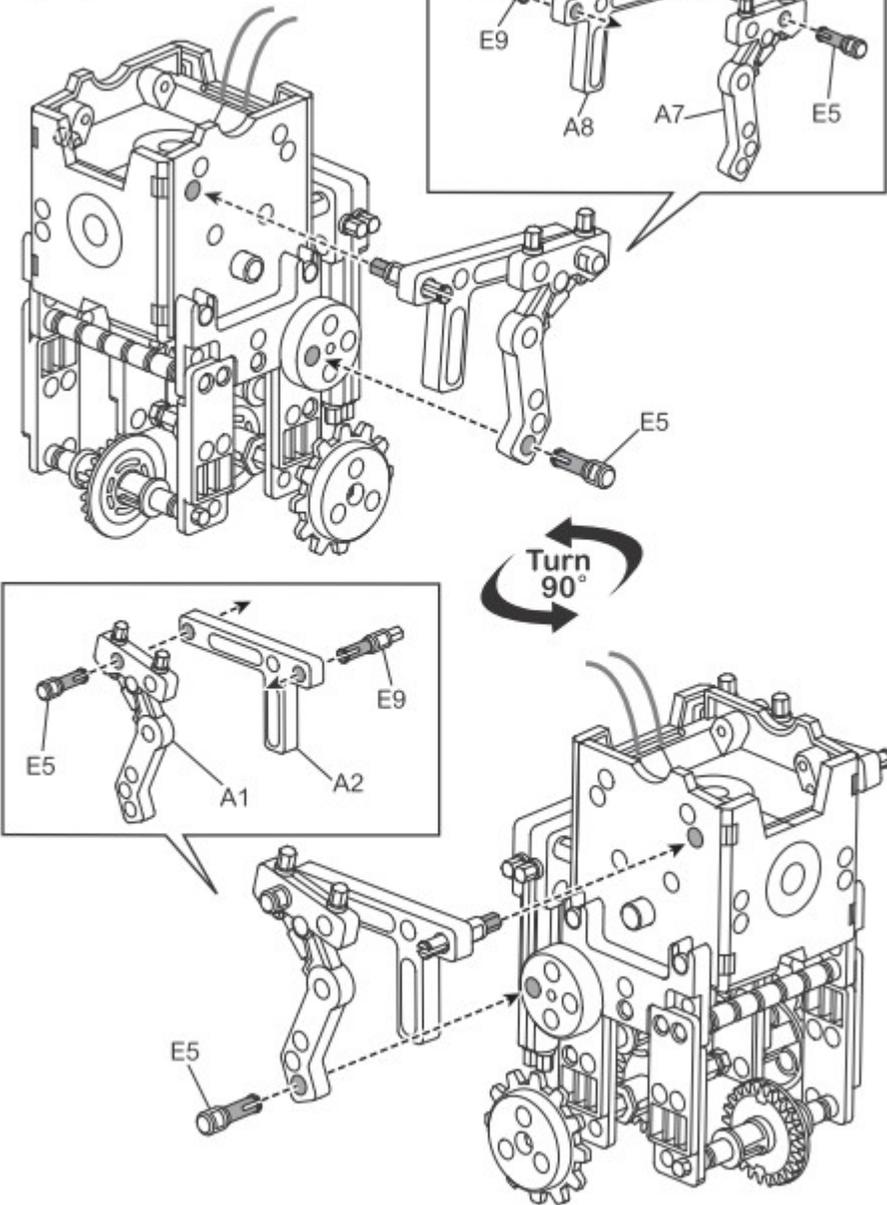
Stellen Sie sicher, dass alle Achsen zwischen Panels 05 & 05 korrekt installiert sind. Beachten Sie die Position.

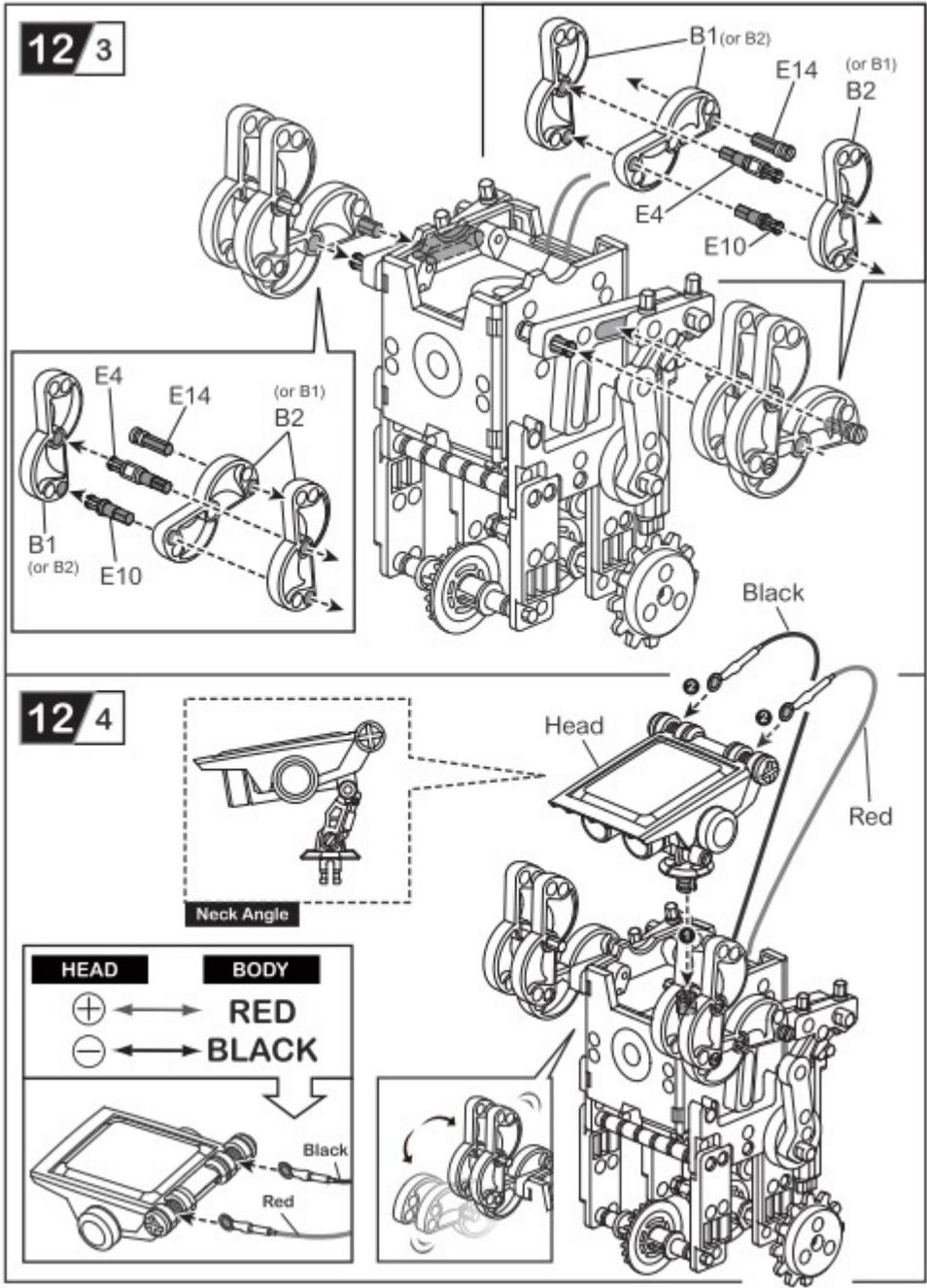
Drehen Sie die Zahnräder, um zu überprüfen, ob diese problemlos bewegen können.

12/1



12/2

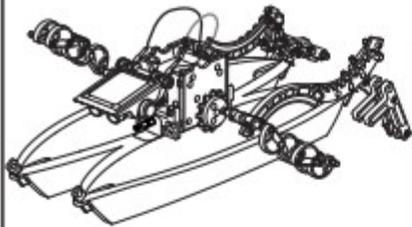




13 Surf-bot Assembly

Level 2

Prepare the below parts first before you assemble the "Surf-bot".



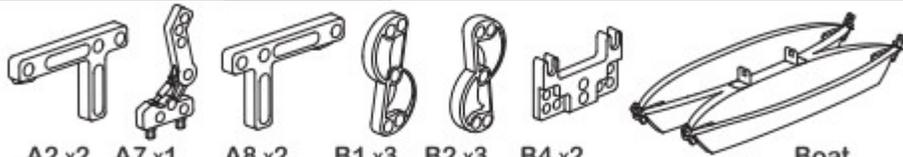
Body



Head



A1 x1



A2 x2

A7 x1

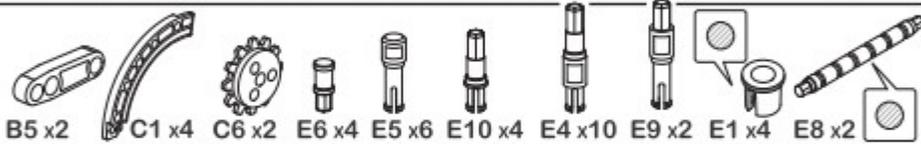
A8 x2

B1 x3

B2 x3

B4 x2

Boat



B5 x2

C1 x4

C6 x2

E6 x4

E5 x6

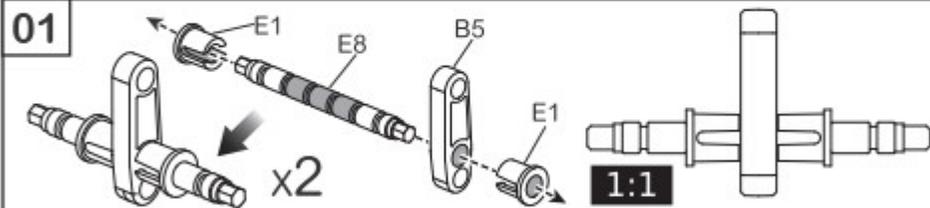
E10 x4

E4 x10

E9 x2

E1 x4

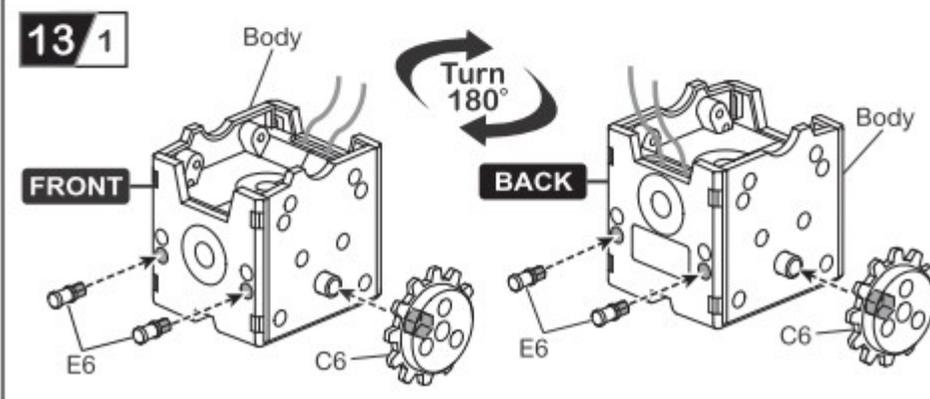
E8 x2



01

x2

1:1



13/1

Body

Turn 180°

FRONT

BACK

Body

E6

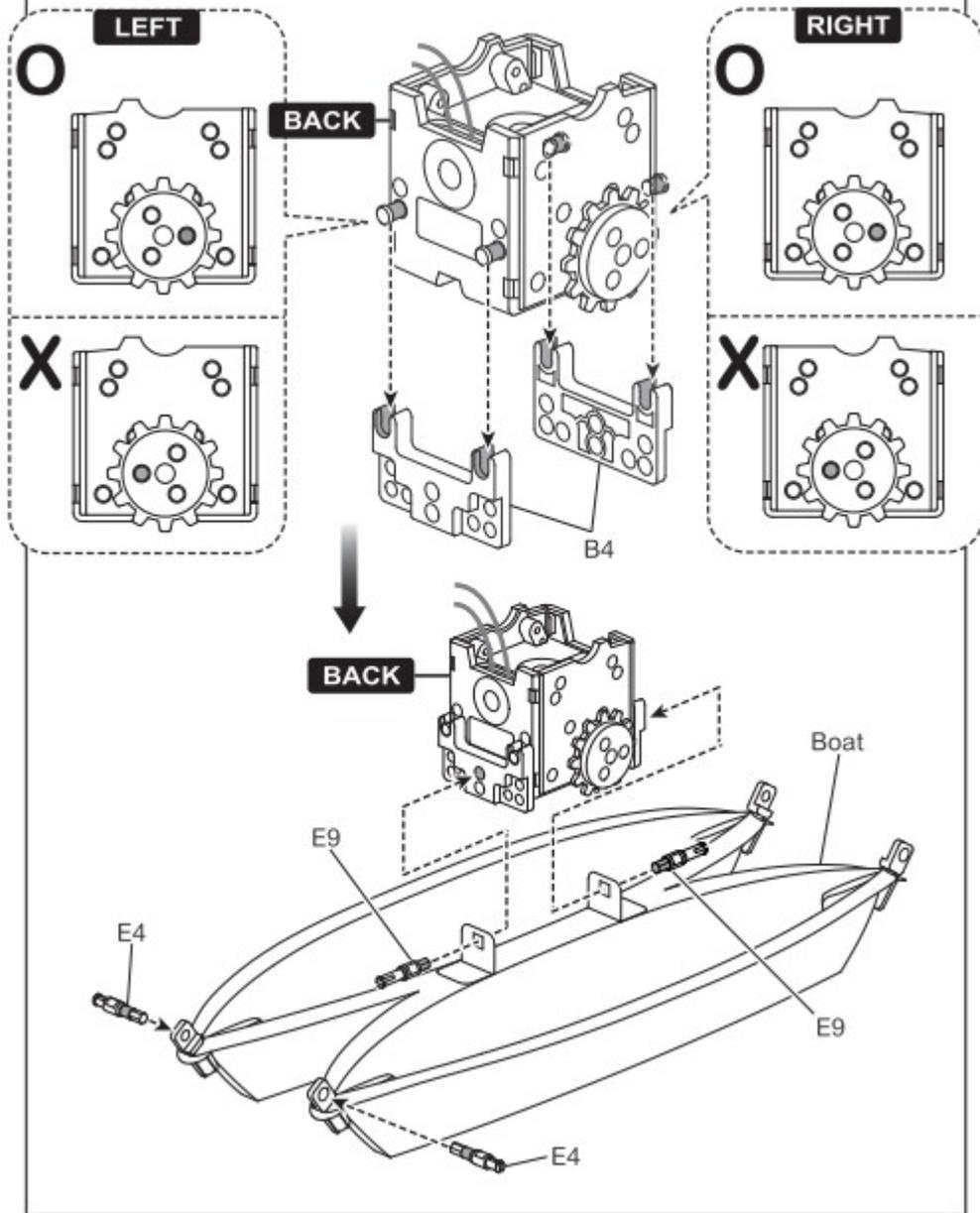
C6

E6

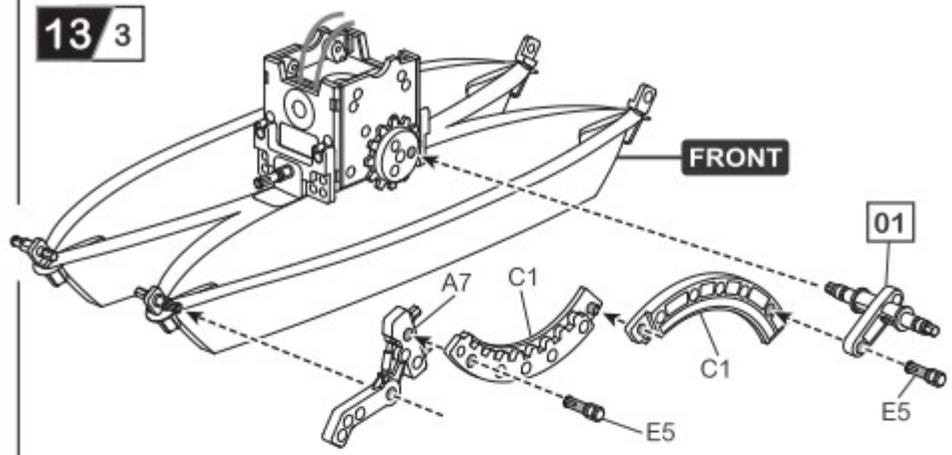
C6

Montieren Sie zuerst folgende Teile, bevor Sie den "Surf-bot" montieren.

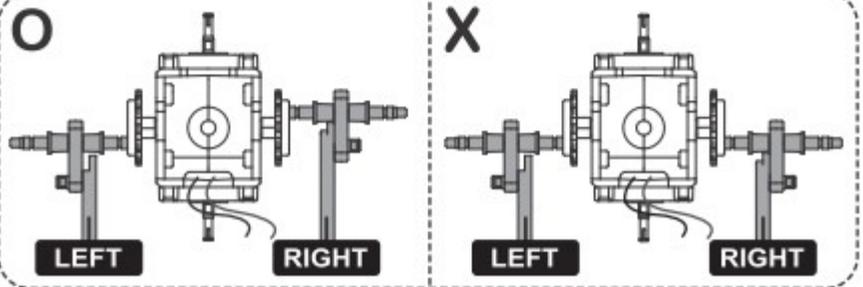
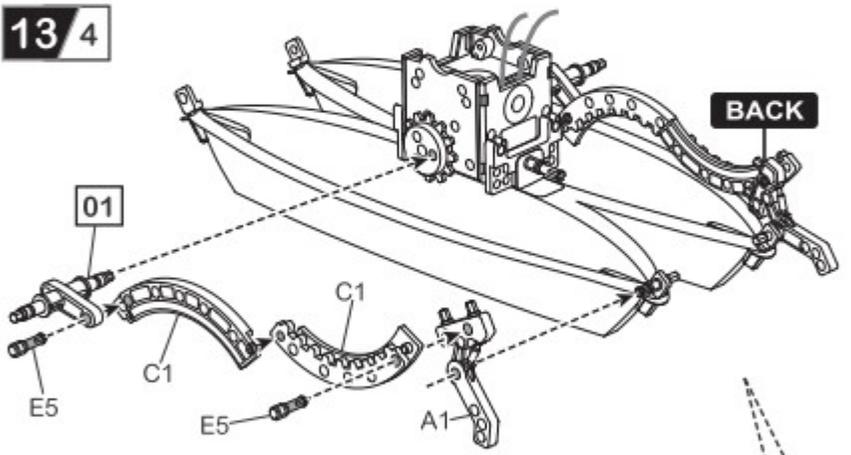
13/2



13/3

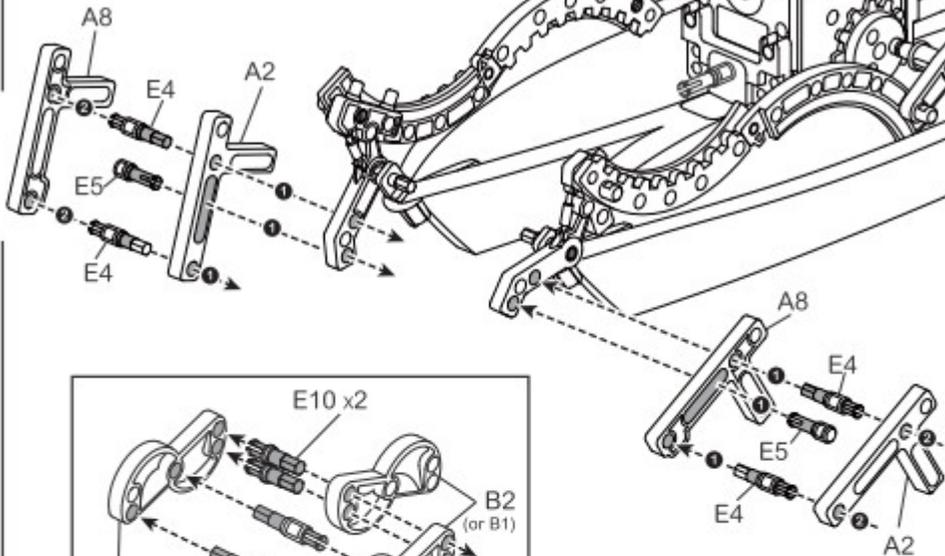


13/4



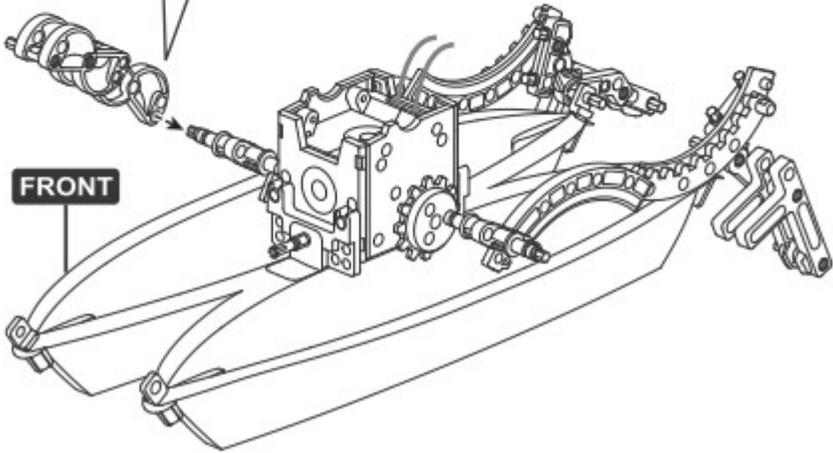
13 / 5

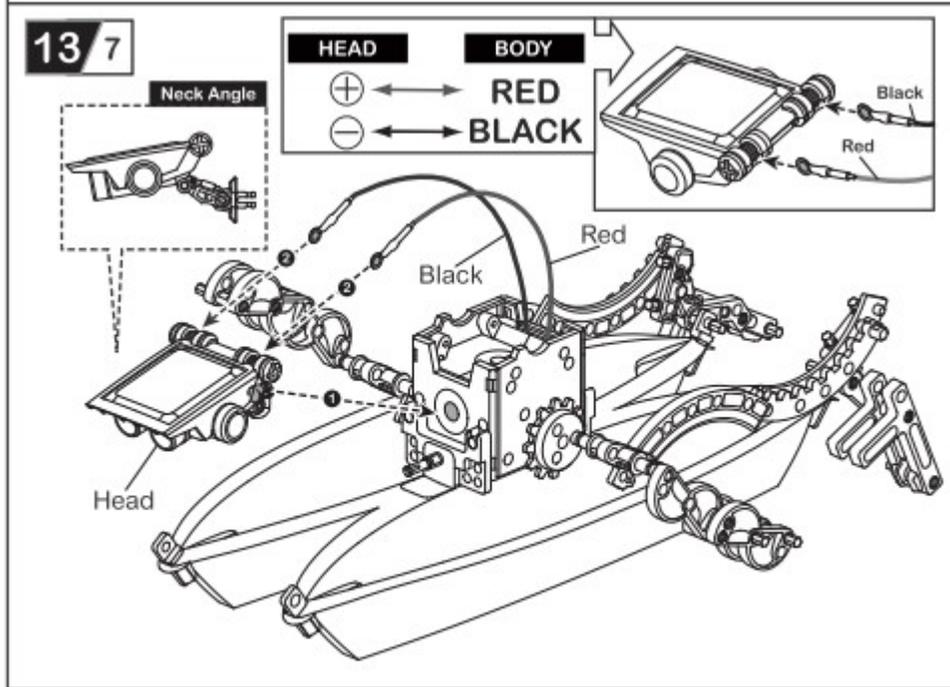
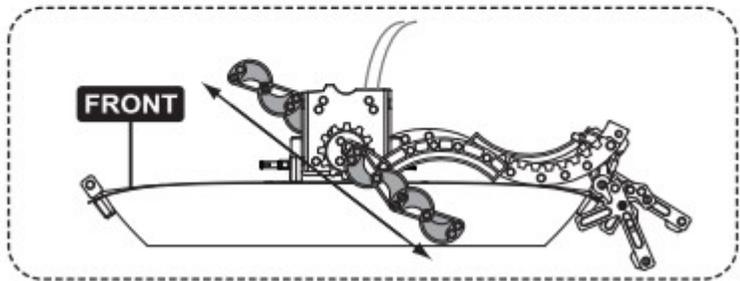
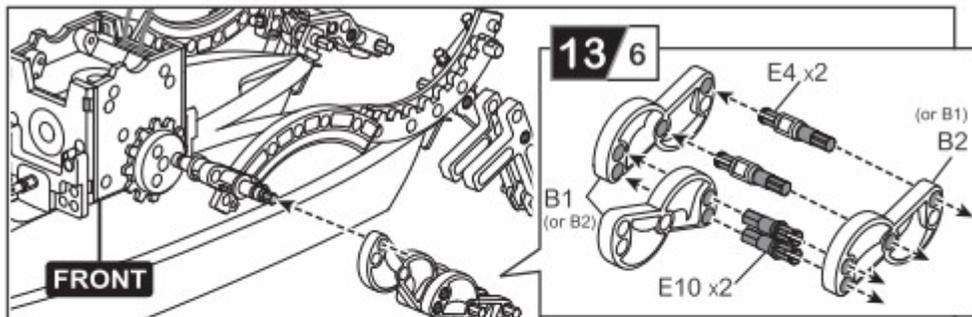
BACK



Turn
180°

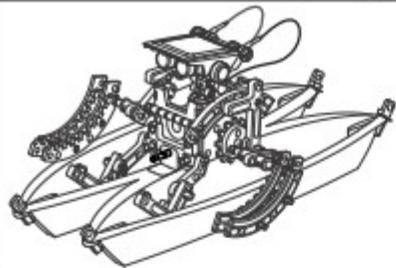
FRONT



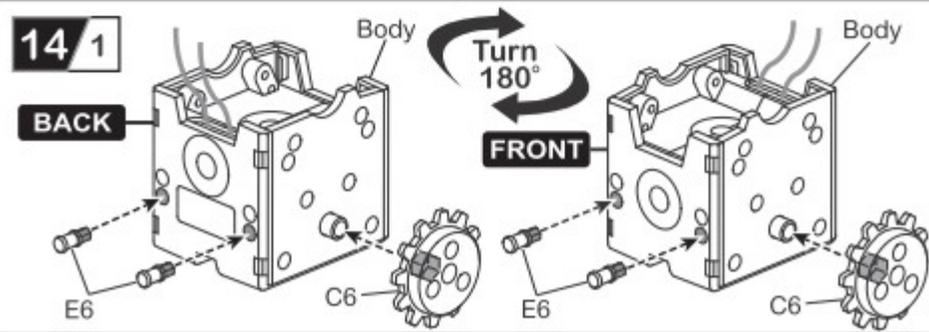
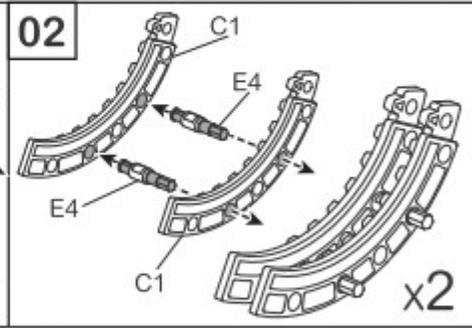
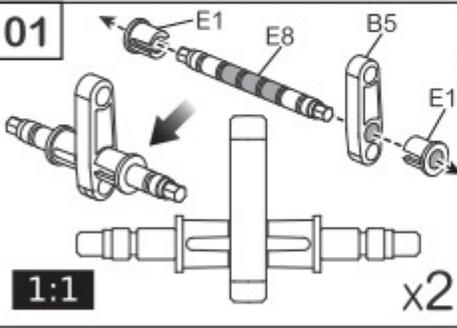
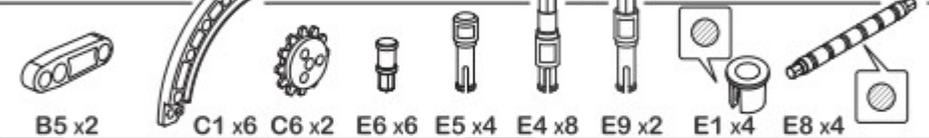
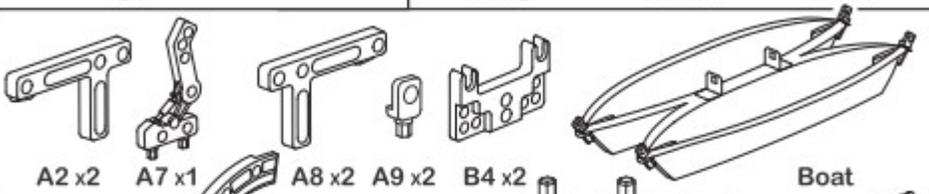
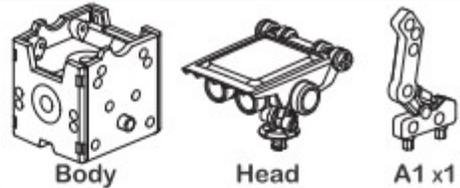


14 Row-bot Assembly

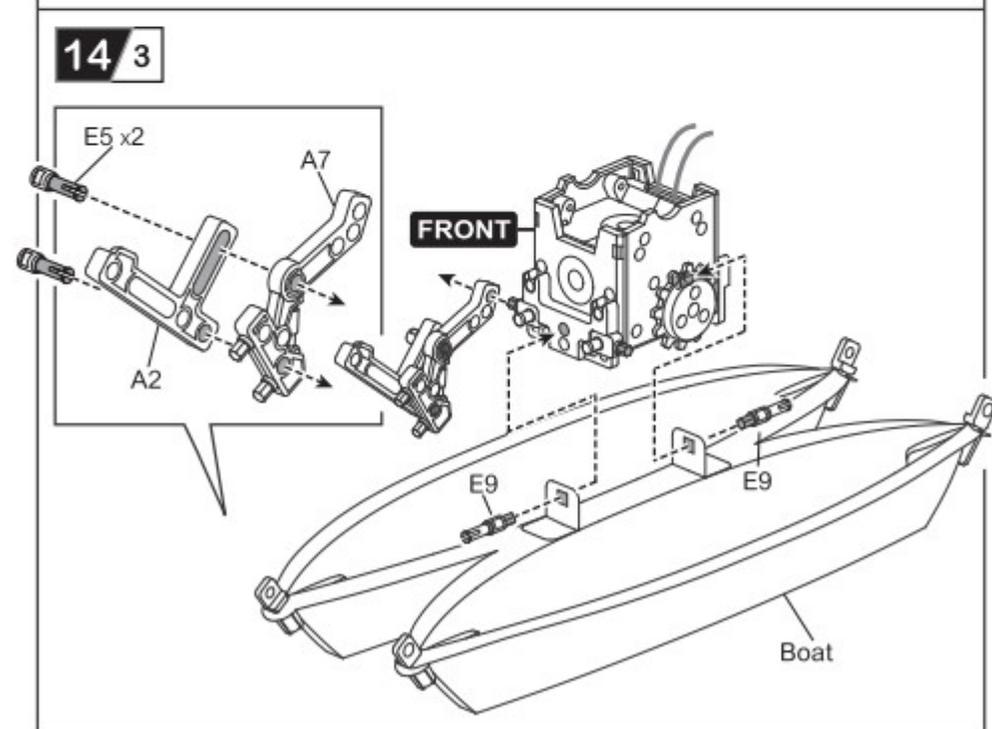
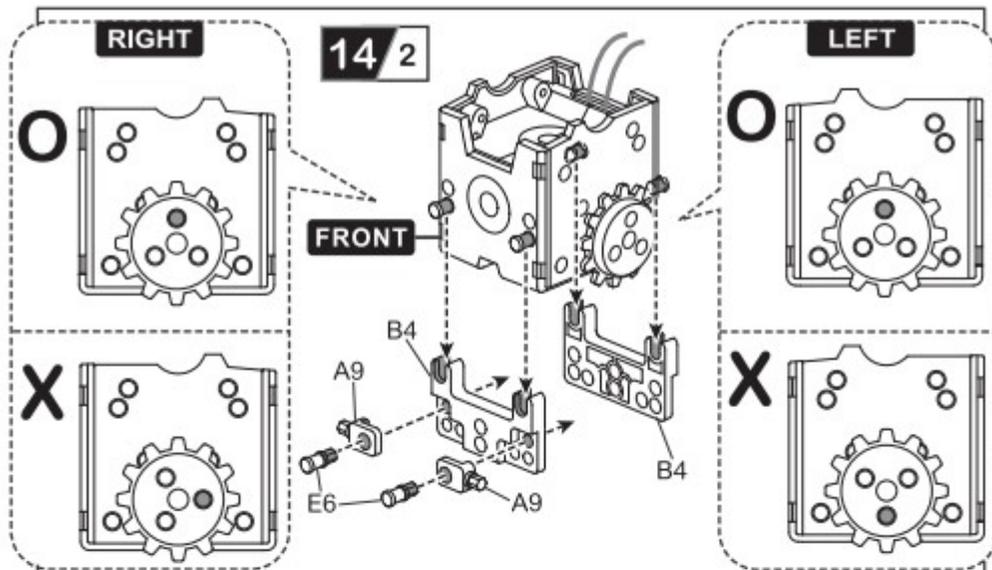
Level 2

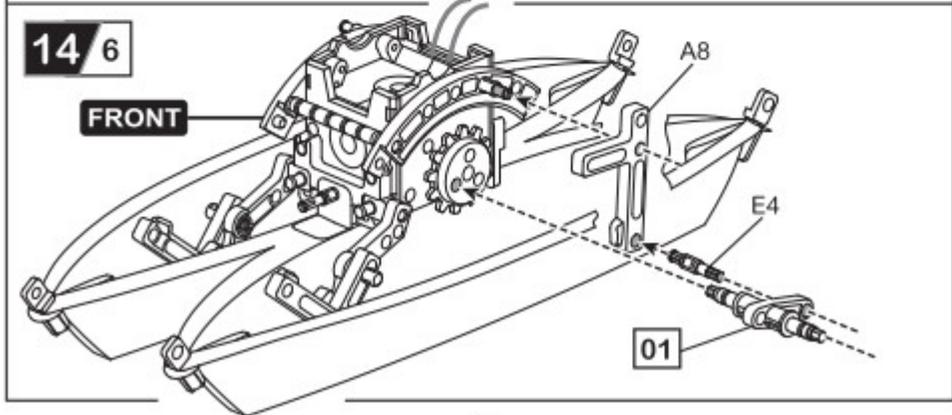
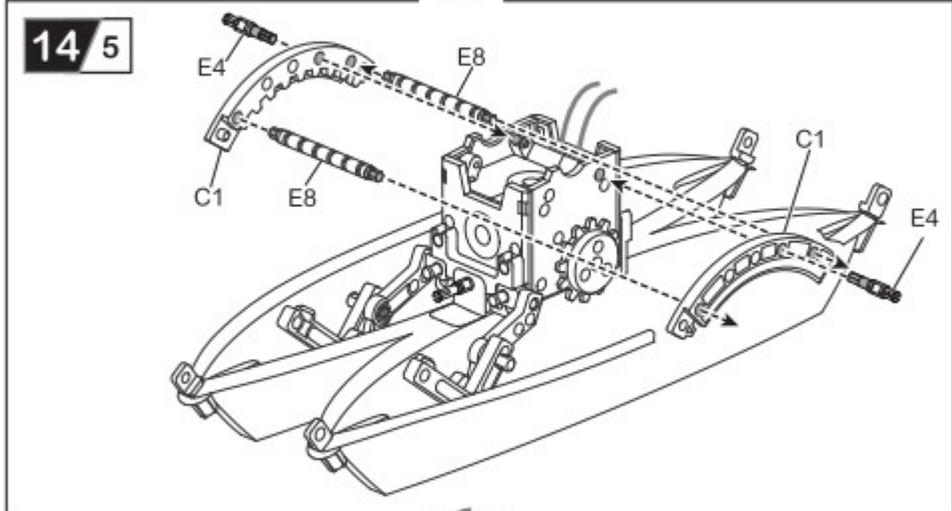
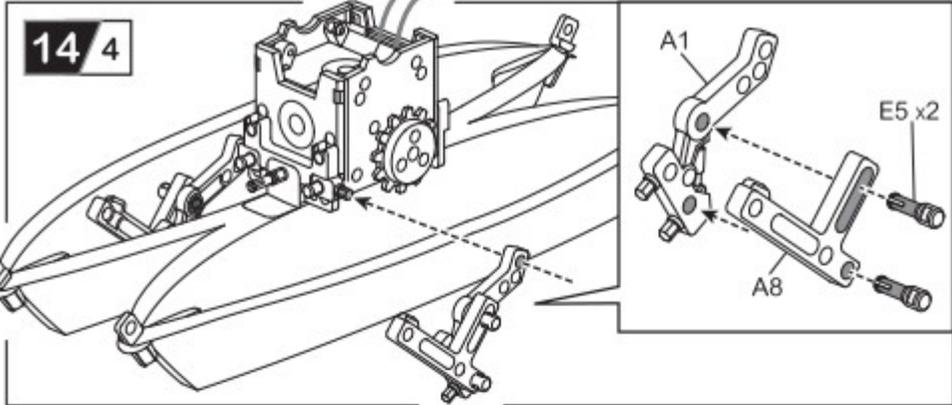


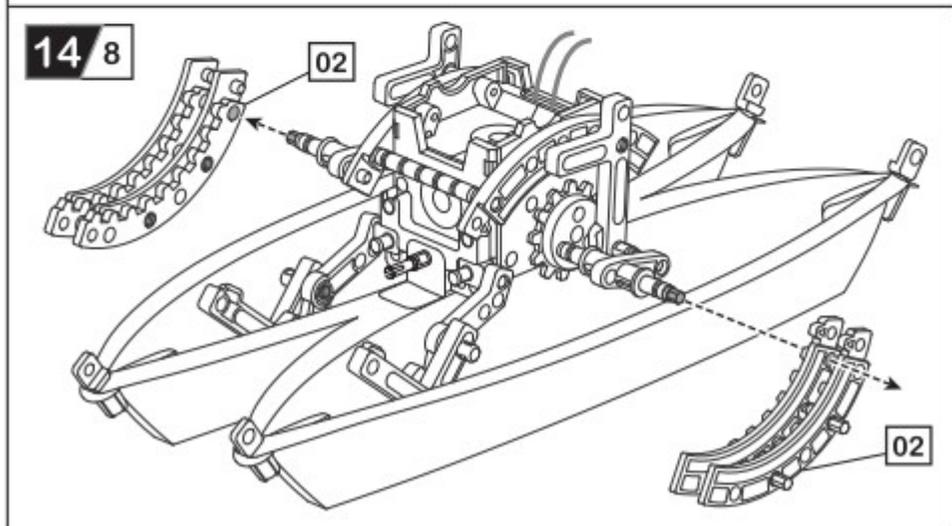
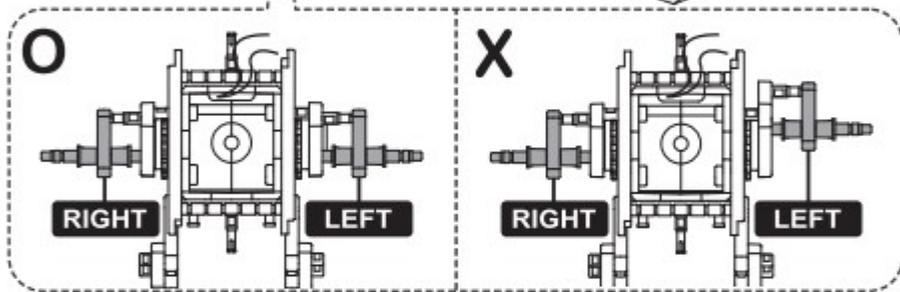
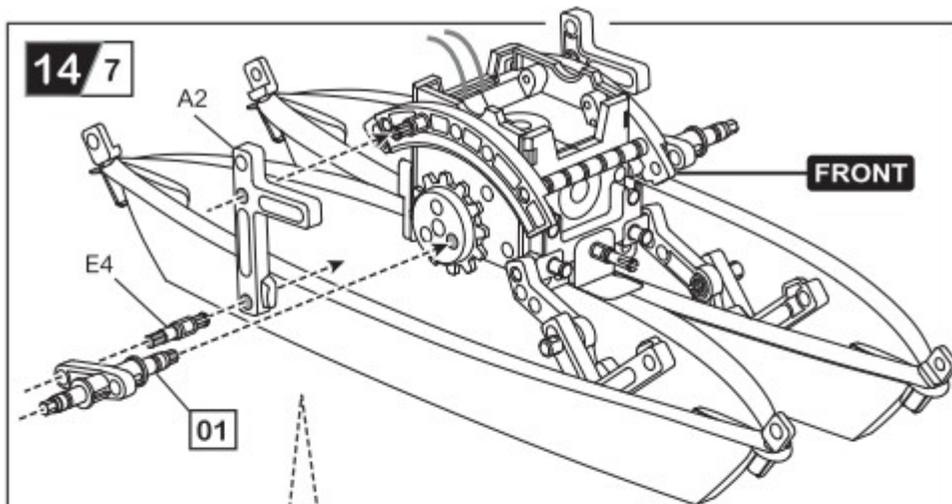
Prepare the below parts first before you assemble the "Row-bot".

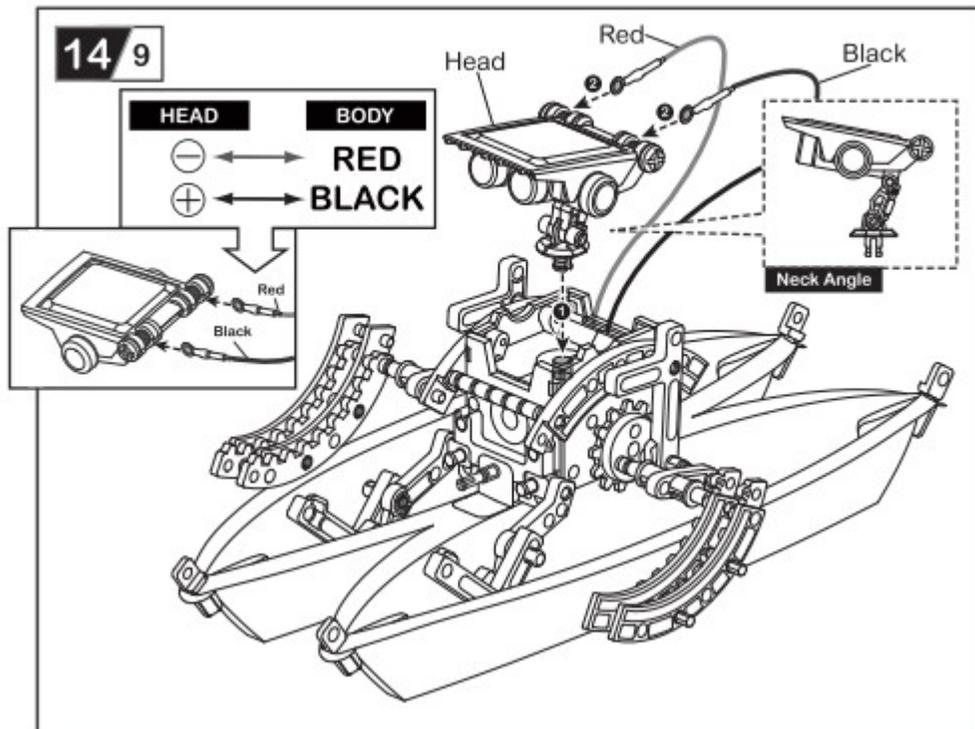


Montieren Sie zuerst folgende Teile, bevor Sie den "Row-bot" montieren.

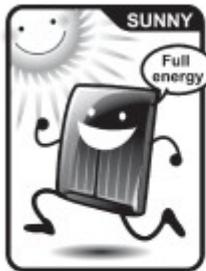








It's time to have some FUN !



1. Take outside under direct sunlight. Best results are obtained when operated on a sunny day.
2. For indoor fun, use a 50 watt halogen light. The product will not run on a cloudy day, shaded locations, indirect sunlight, or under a Fluorescent light.

Nun ist es an der Zeit, etwas Spaß zu haben!

1. Gehen Sie nach draußen in die Sonne. Der Roboter funktioniert am besten an einem sonnigen Tag.
2. Für Spaß im Innenbereich, benutzen Sie dann eine Halogenlampe (50 W). Das Gerät funktioniert nicht, wenn es bewölkt ist, im Schatten, bei indirektem Sonnenlicht oder Neonlicht.

- 14 solar robots
- Educational
- Robotistic
- Mechanical
- Scientific & Fun

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

14 in 1 EDUCATIONAL
SOLAR ROBOT KIT

4350006151