

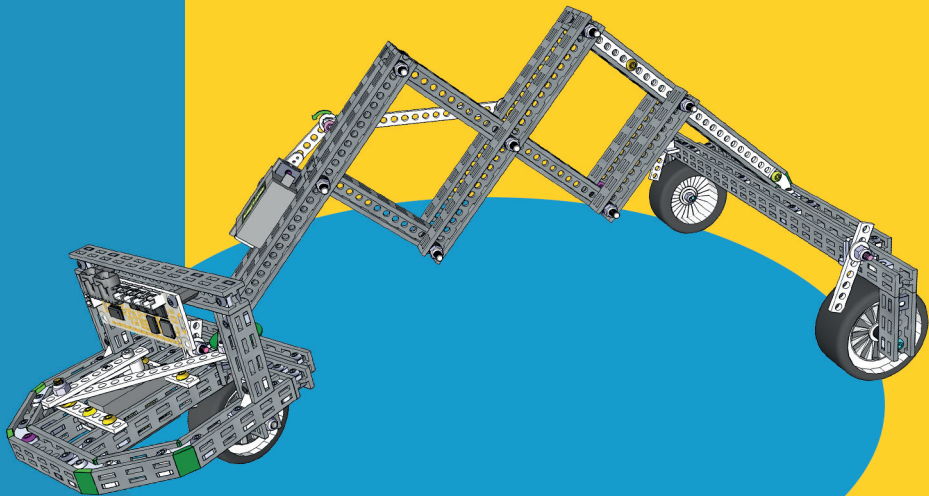


totem

LarvaMobile

Assembly guide

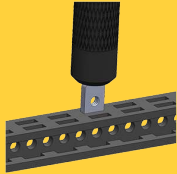
**DIY APP
CONTROLLED**



v.1.6

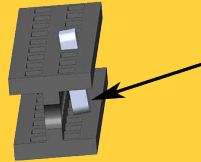
STARTING TIPS

Inserting nuts (1)



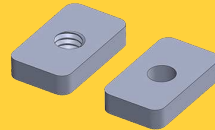
It is a good idea to start every step inserting nuts into beams (if the step requires). Use the back of the screwdriver to push in the nuts.

Inserting nuts (2)



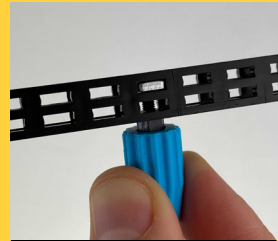
After entering the first slot, nuts tend to tilt. Use your thumb to push it back straight, and then again use the screwdriver to insert the nut all the way in.

Faulty threads



Some of the nuts are missing threads. This is a manufacturing issue and we are working on it. In the mean time, we add few extra nuts. We apologize for the inconvenience.

Tightening standoffs



Use the Totem Wrench Socket (Blue) to insert Nylon Standoffs used to assemble the electronics boards.

Ruler



Use Beam/Bolt ruler to determine the length of beams and bolts.

For more tips, please visit the link below:

<https://totemmaker.net/blog/totem-mechanics-for-beginners/>

BEFORE YOU START BUILDING:



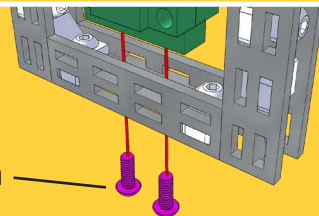
Standard Totem Bolts M3

Bolt colours codes:

We have put some colours on bolts to make instructions more clear.

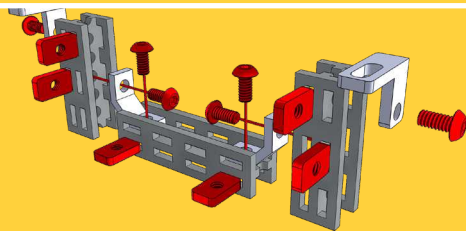


NOTE: 2x 8mm



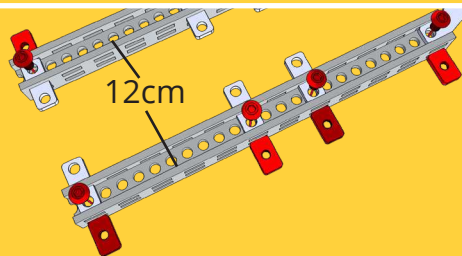
Notes for bolts other than 6mm:

When bolts that are not 6mm will be used, in addition to colours, extra notes are given in the instructions with lengths in mm.



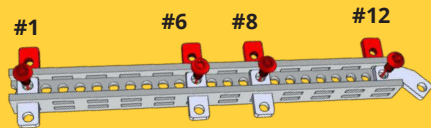
6mm bolts and 6x10mm nuts:

When starting on a building step, the 6mm bolts and 6x10 nuts are coloured **RED**. It makes it easier to see where the new bolts and nuts are placed.



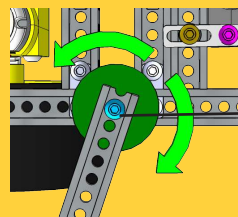
I-beams lengths.

When a new Totem beam is needed in a step, the length is indicated.



Positions for nuts with #-symbol.

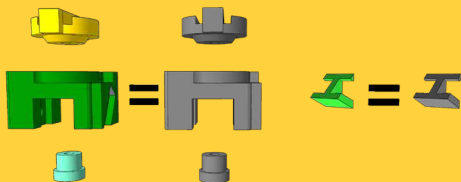
When it is helpful, the slot-number is indicated in the Totem beam. Starting from #1 and counting slots.




Don't tighten links too much.

Green Rotating Arrows = rotating action.

When a connection is a rotating hub, you must not tighten the bolt and nut too much. Test it for a smooth rotation, but not too wobbly either.



The colour of parts.

The colours of plastic part may vary. Colours are often changed on parts to make it easier to see them in the instructions pictures.

Totem Wrench Socket


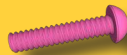










Helpful little tool:

Included in the kit is a small hex-socket used for fastening Lock Nuts and Nylon Towers. The pointy end is for Lock Nuts.



PARTS LIST:

58x  Bolt M3x6	5x  Bolt M3x8	10x  Bolt M3x10	1x  Bolt M3x12	5x  Bolt M3x14	1x  Bolt M3x20	3x  Bolt M3x25	7x  Bolt M3x35																							
1x  Bolt M3x45	87x  Nut M3 6x10	21x  Lock nut M3	12x  2-hole Simple	6x  C-Bracket	2x  L-Twisted	1x  L-Twisted mirror	4x  2-hole 45 simple																							
5x  2 hole bracket	2x  45x90 bracket	2x  45x90 Mirror bracket	7x  Single side filler	40x  Nylon Spacer 4mm	1x  Nylon Spacer 8mm																									
11x  Metal washer M3 9x0.8mm	2x  Nylon Standoff M3x8mm	2x  Mini Servo Motor	2x  Arm for Mini Servo Motor	2x  Bolt M2.5x8 For servo arm				<table border="1"> <tbody> <tr><td>3 cm</td><td>6x</td></tr> <tr><td>4 cm</td><td>2x</td></tr> <tr><td>5 cm</td><td>3x</td></tr> <tr><td>7 cm</td><td>5x</td></tr> <tr><td>8 cm</td><td>1x</td></tr> <tr><td>9 cm</td><td>1x</td></tr> <tr><td>11 cm</td><td>2x</td></tr> <tr><td>13 cm</td><td>3x</td></tr> <tr><td>14 cm</td><td>3x</td></tr> <tr><td>17 cm</td><td>1x</td></tr> <tr><td>23 cm</td><td>1x</td></tr> </tbody> </table>	3 cm	6x	4 cm	2x	5 cm	3x	7 cm	5x	8 cm	1x	9 cm	1x	11 cm	2x	13 cm	3x	14 cm	3x	17 cm	1x	23 cm	1x
3 cm	6x																													
4 cm	2x																													
5 cm	3x																													
7 cm	5x																													
8 cm	1x																													
9 cm	1x																													
11 cm	2x																													
13 cm	3x																													
14 cm	3x																													
17 cm	1x																													
23 cm	1x																													
1x  X3 Controller Board	1x  Li-Ion 3.7v Battery	1x  USB Battery Charger	3x  Rubber Band	3x  43mm O-shaft Wheel	<table border="1"> <tbody> <tr><td>4 cm/8H</td><td>3x</td></tr> <tr><td>4.5 cm/9H</td><td>4x</td></tr> <tr><td>8 cm/16H</td><td>1x</td></tr> <tr><td>9 cm/18H</td><td>1x</td></tr> <tr><td>12 cm/24H</td><td>2x</td></tr> </tbody> </table>			4 cm/8H	3x	4.5 cm/9H	4x	8 cm/16H	1x	9 cm/18H	1x	12 cm/24H	2x													
4 cm/8H	3x																													
4.5 cm/9H	4x																													
8 cm/16H	1x																													
9 cm/18H	1x																													
12 cm/24H	2x																													
1x  5.5mm Totem Wrench	1x  Totem Screw Driver	1x  Totem Wrench Socket	1x  Servo arm Index Disc set	1x  Washer 1mm DIA24mm	3-6x  ZIP Tie	<table border="1"> <tbody> <tr><td colspan="2">Explanation:</td></tr> <tr><td colspan="2">8H = 8 holes etc.</td></tr> </tbody> </table>		Explanation:		8H = 8 holes etc.																				
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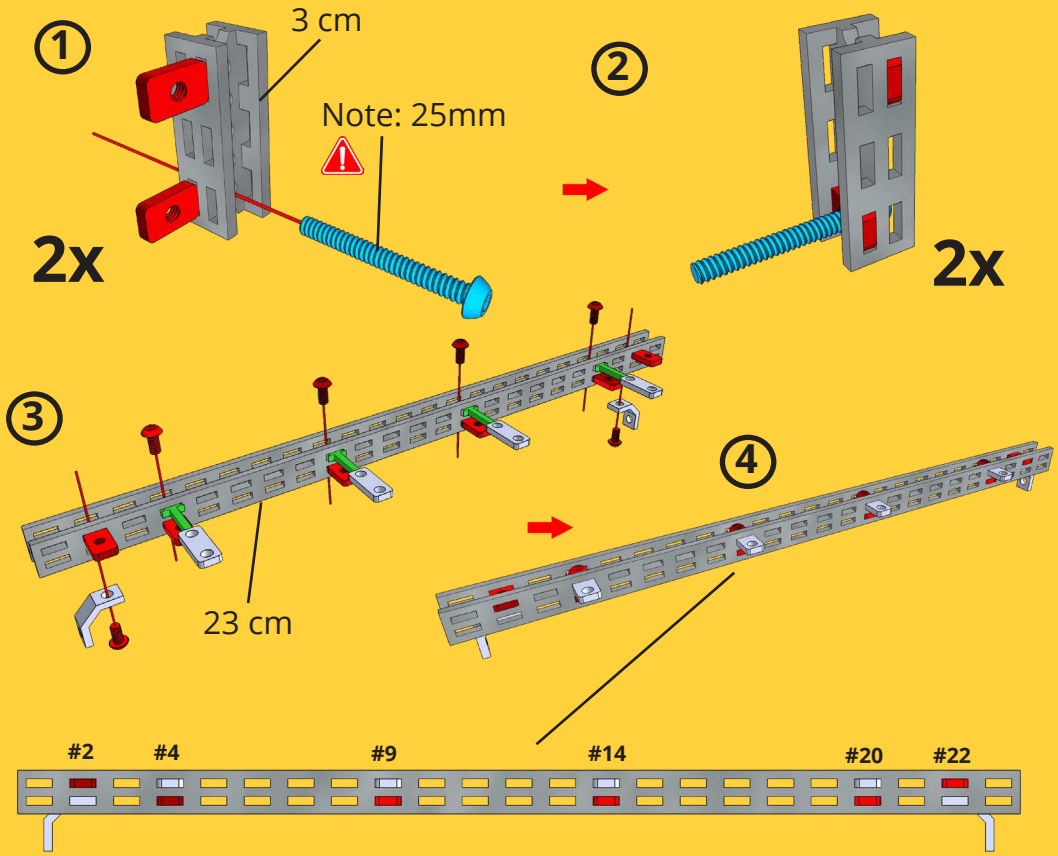
PART 1



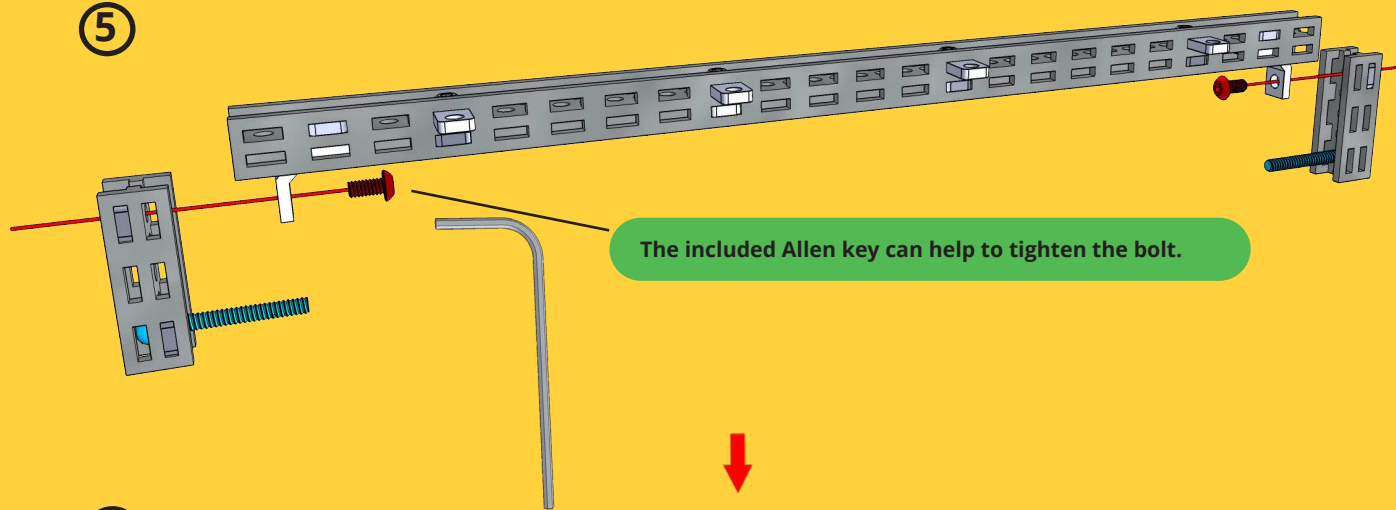
14x	2x	2x
Bolt M3x6	Bolt M3x14	Bolt M3x25
20x	4x	4x
Nut M3 6x10	Lock nut M3	2-hole Simple
2x	1x	1x
C-Bracket	L-Twisted	L-Twisted mirror
6x	4x	2x
Washer metal 9mm/0.8mm M3	Nylon Spacer 4mm	43mm O-shaft Wheel

3 cm	2 x
17 cm	1x
23 cm	1x

4cm/8H	2x
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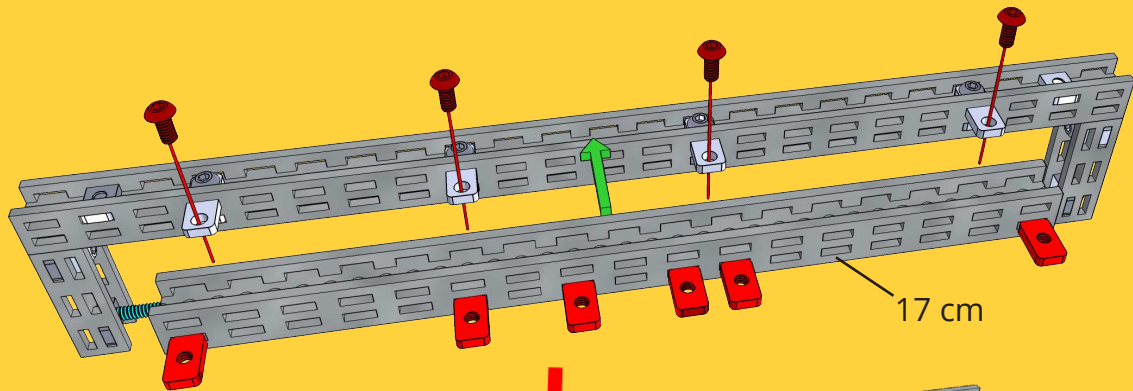
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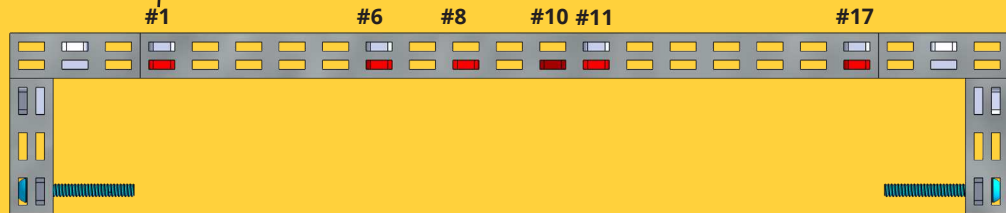
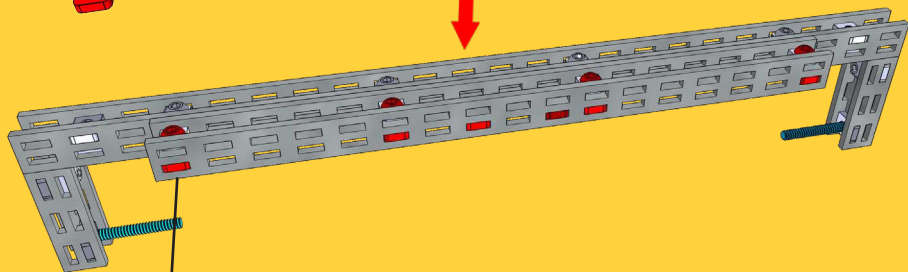
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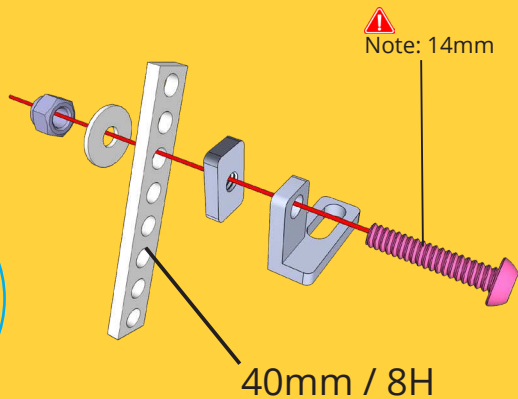
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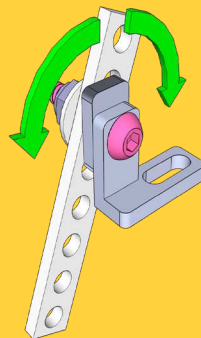
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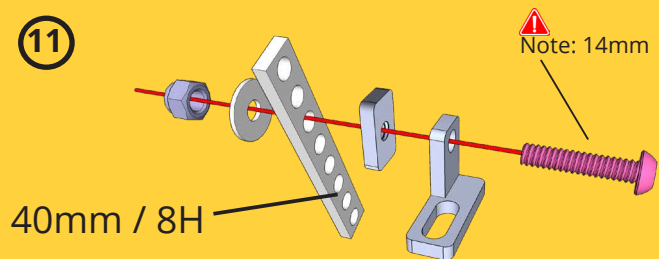
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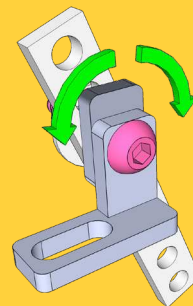
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11

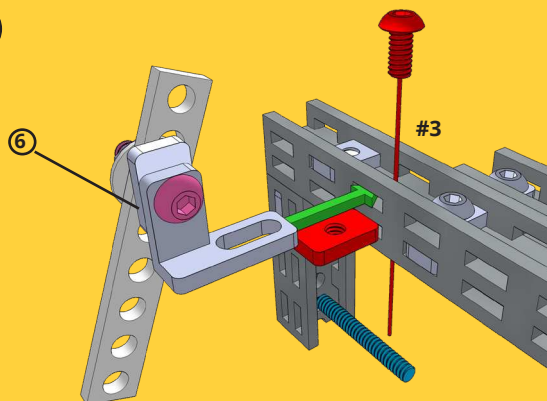


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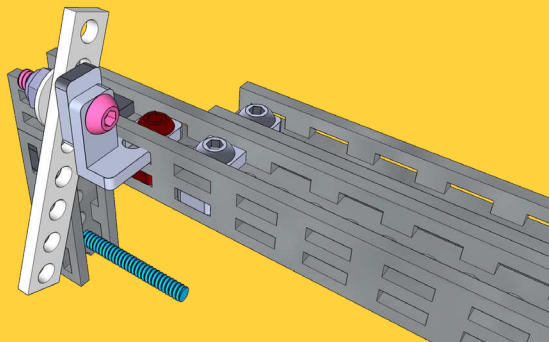


"Ratchet parts" makes the wheel turn in one direction only.

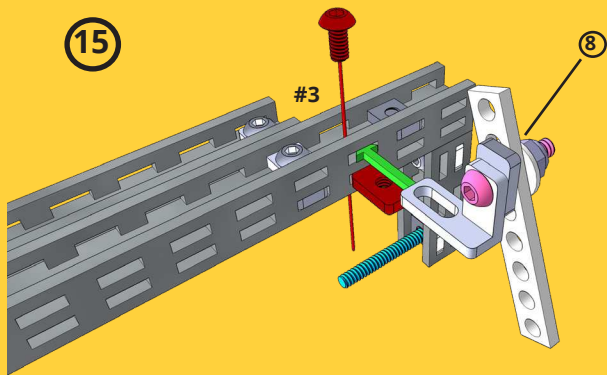
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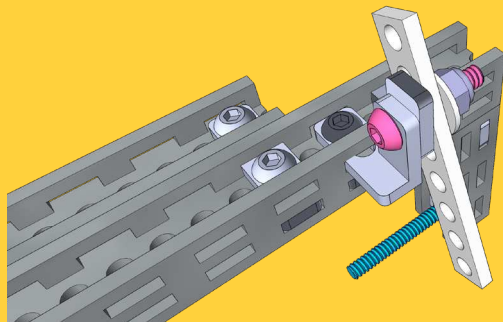
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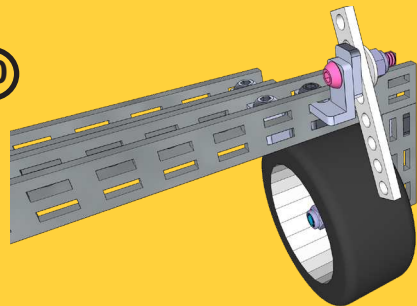
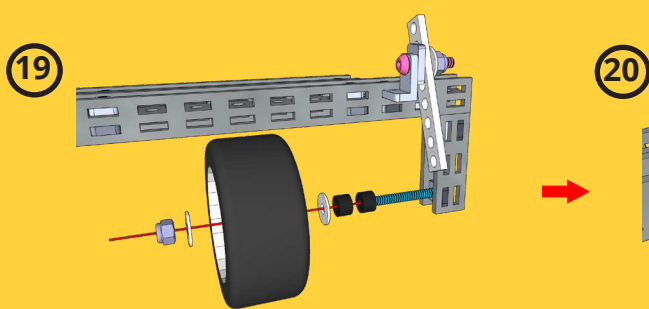
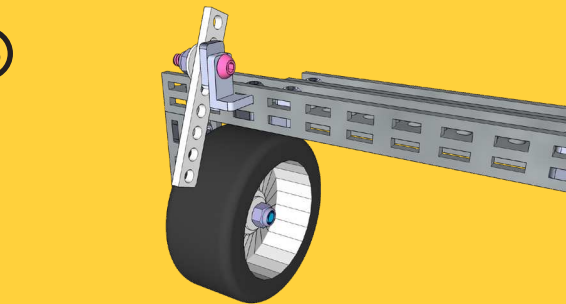
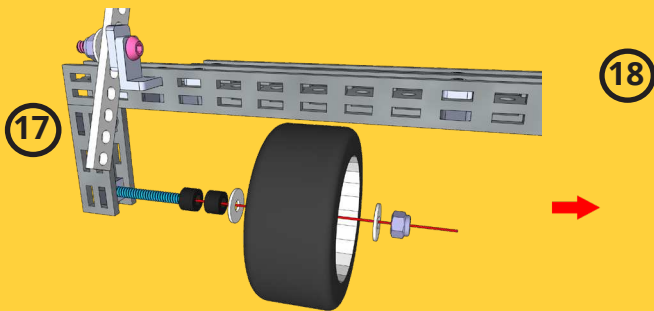


15



16





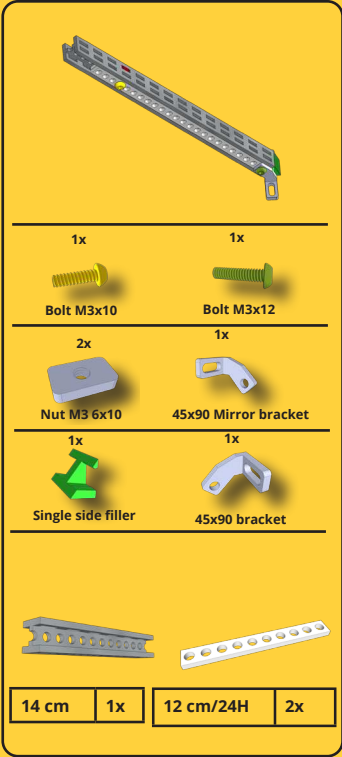
Note:

Borrow 2x
43mm O-shaft
Wheels from the
Caster wheel kits
included.



✓
PART 1

PART 2

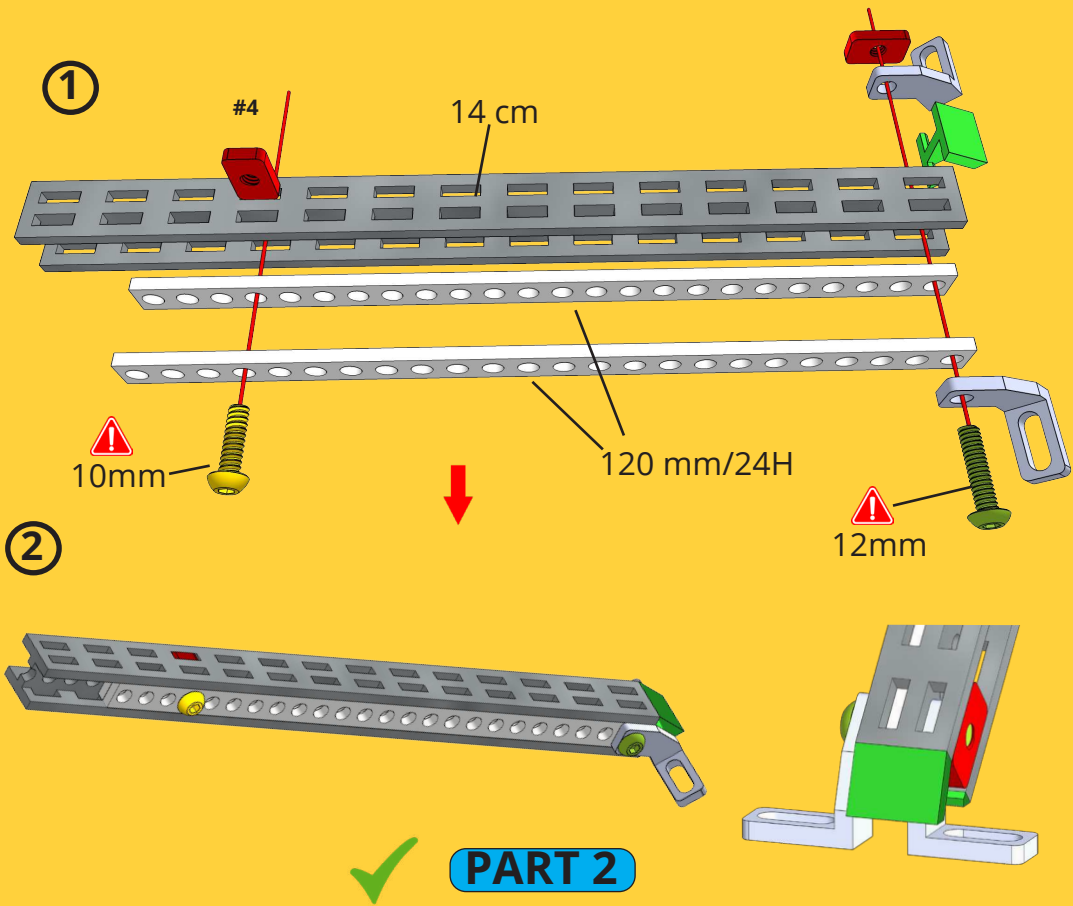


Parts list for Part 2:

- 1x Bolt M3x10
- 1x Bolt M3x12
- 2x Nut M3 6x10
- 1x 45x90 Mirror bracket
- 1x Single side filler
- 1x 45x90 bracket

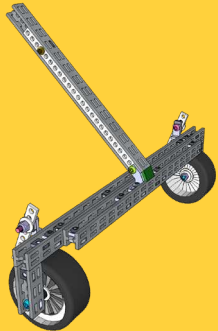
Dimensions and quantities:

- 14 cm (1x)
- 12 cm/24H (2x)




PART 2

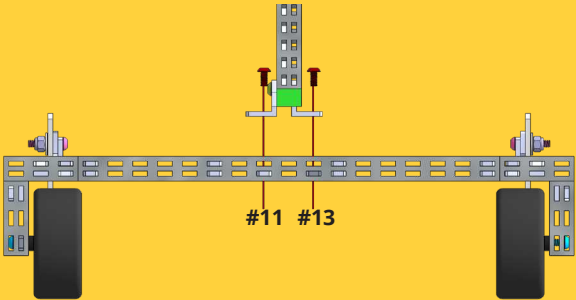
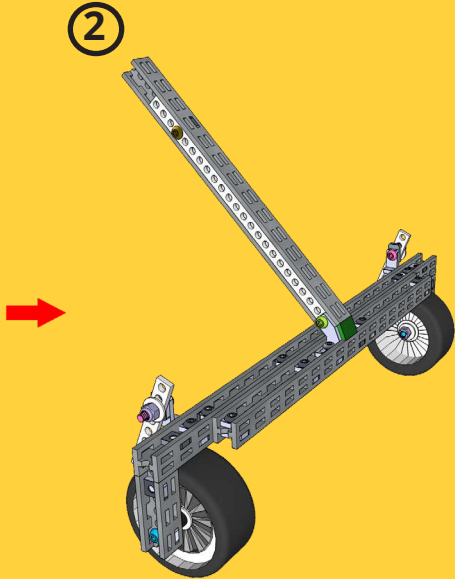
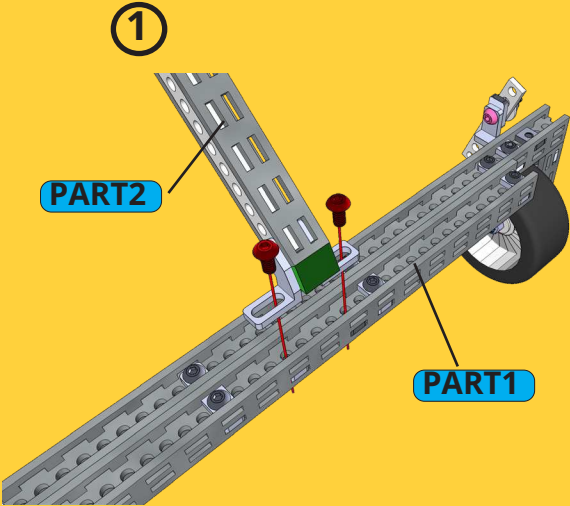
PART 3



2x

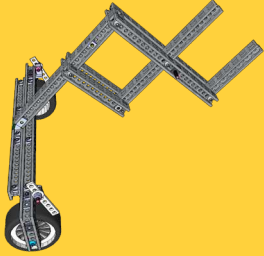









Bolt M3x6

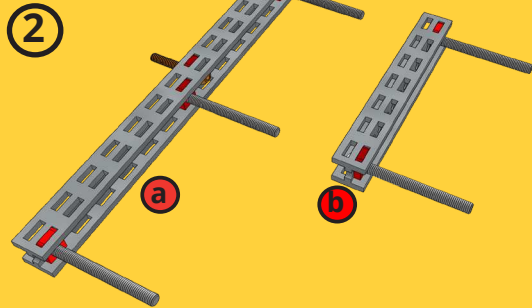
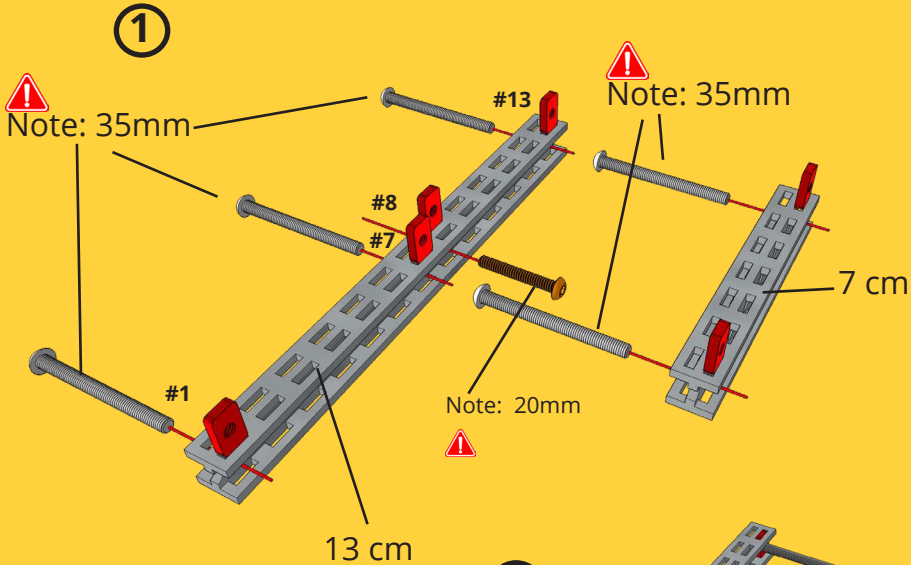


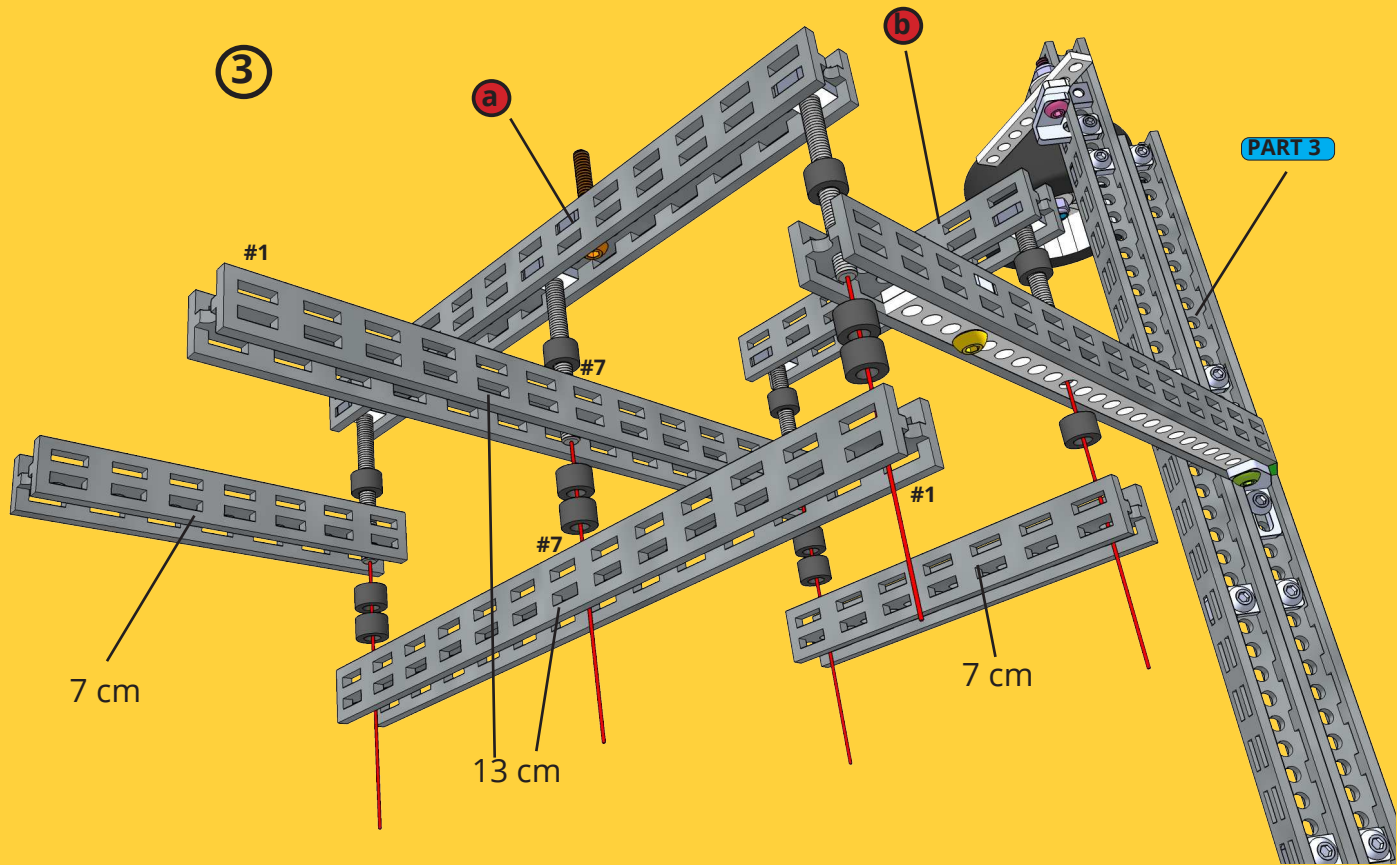
✓ PART 3

PART 4

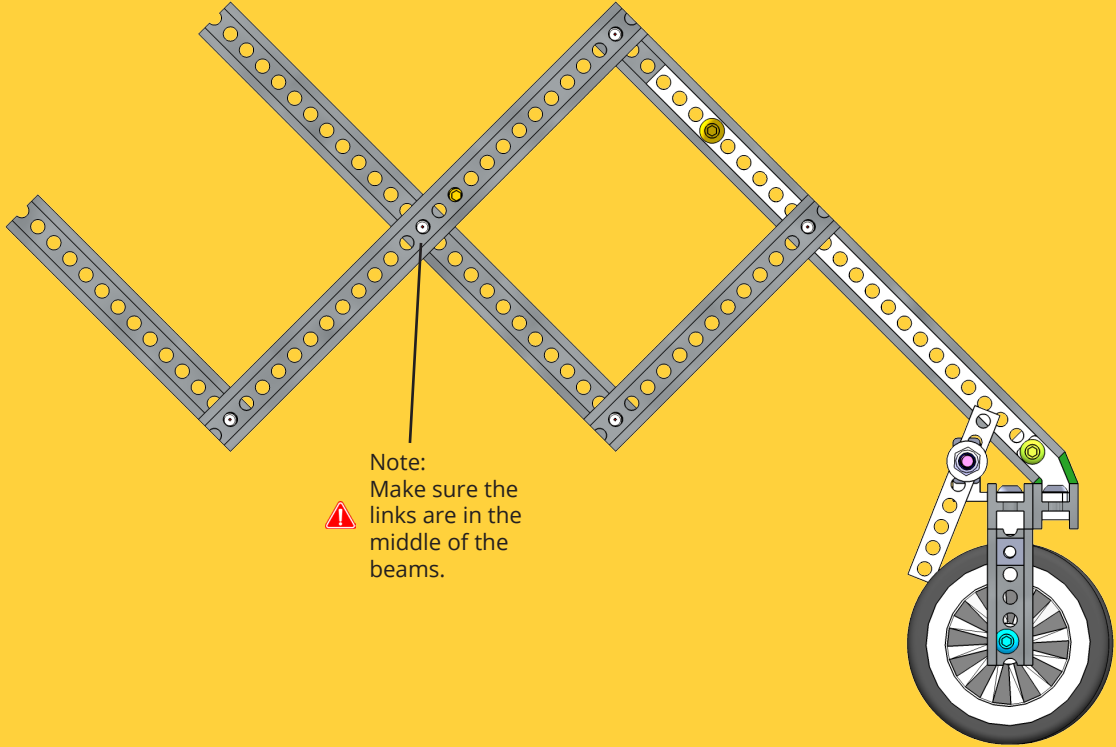


1x	5x
	
Bolt M3x20	Bolt M3x35
6x	19x
	
Nut M3 6x10	Nylon Spacer 4mm
5x	
	
Lock nut M3	
	
7 cm	3x
	
13 cm	3x

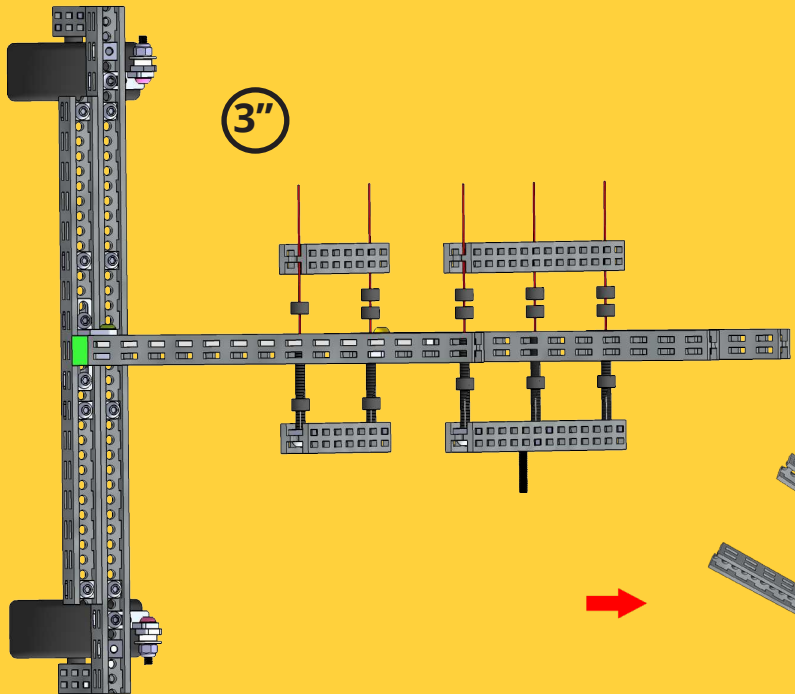




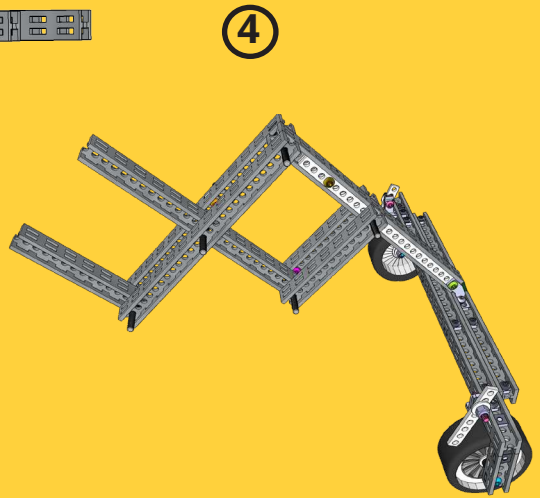
3'



Note:
Make sure the
links are in the
middle of the
beams.

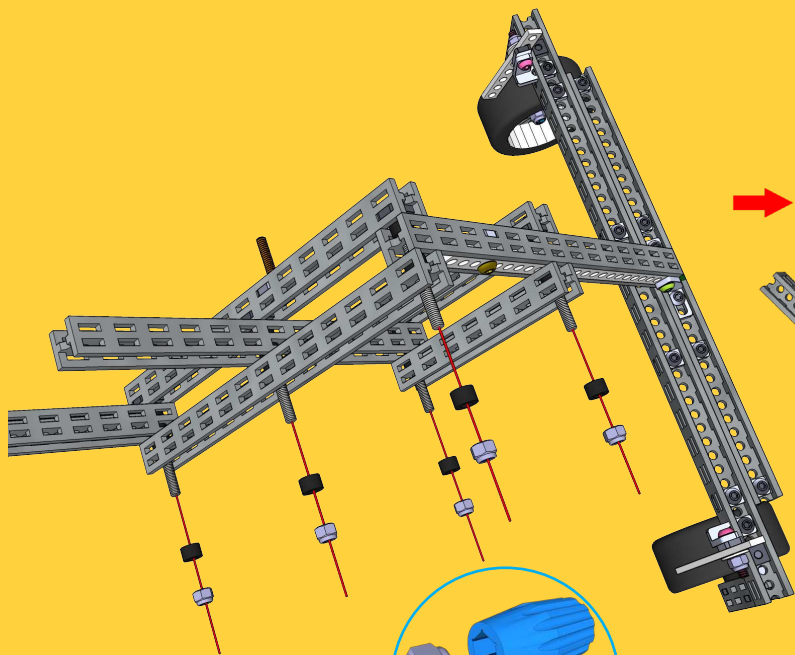


3



4

⑤

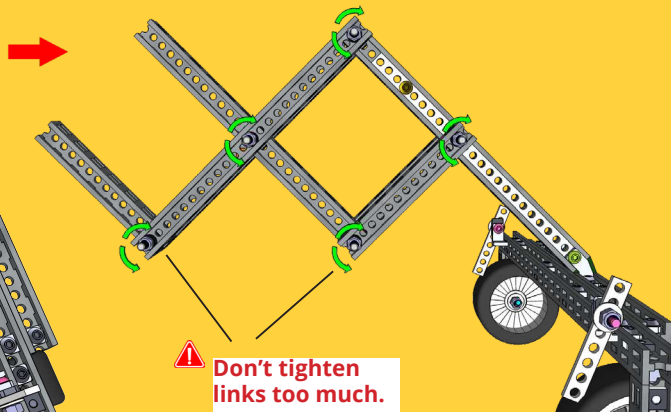


Use the Totem
Wrench Socket

⑥



Smooth action



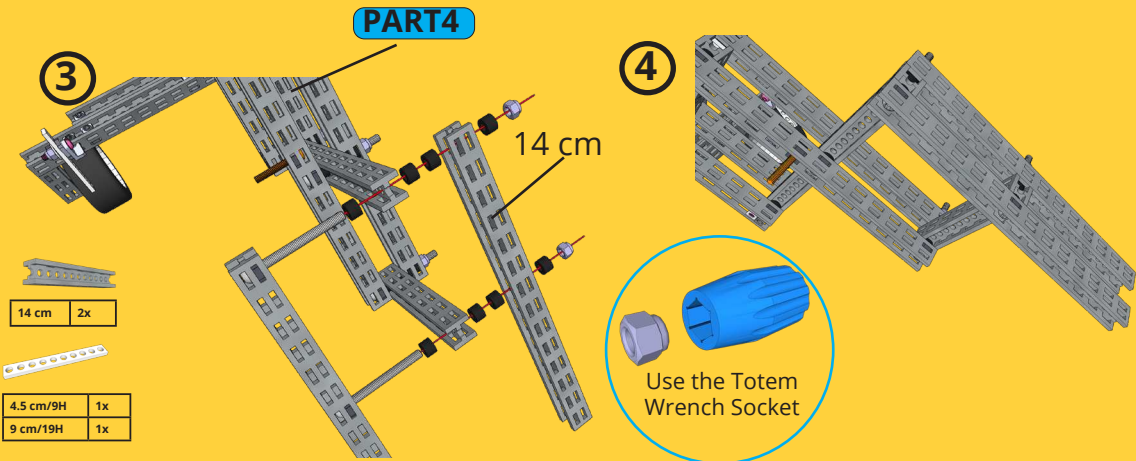
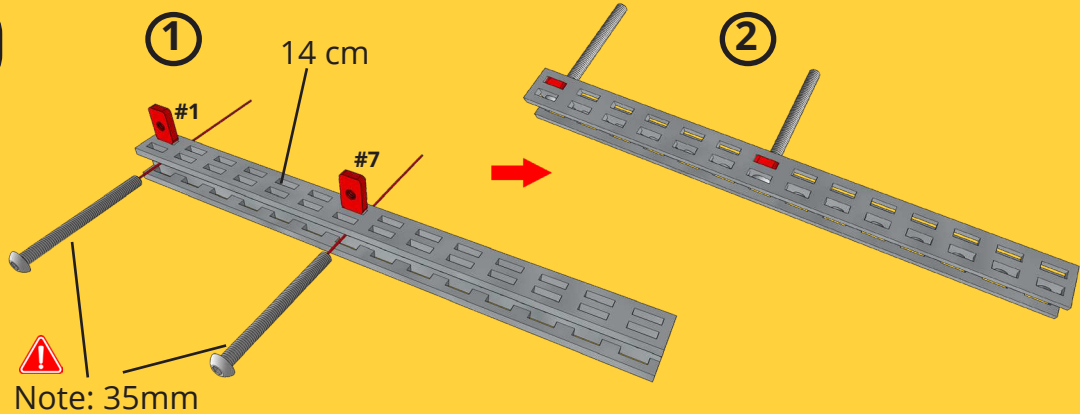
Don't tighten
links too much.



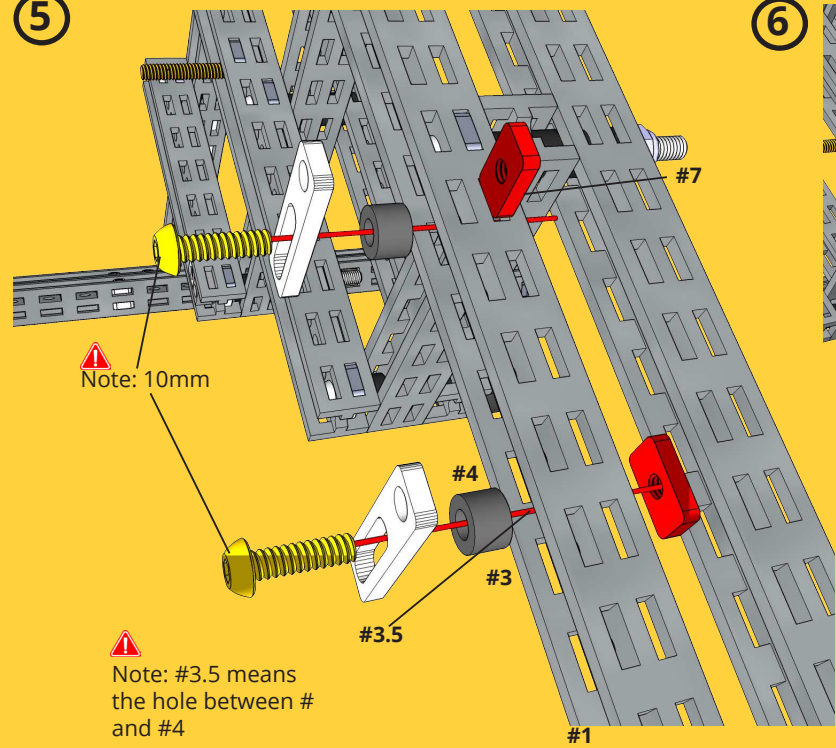
PART 4

PART 5

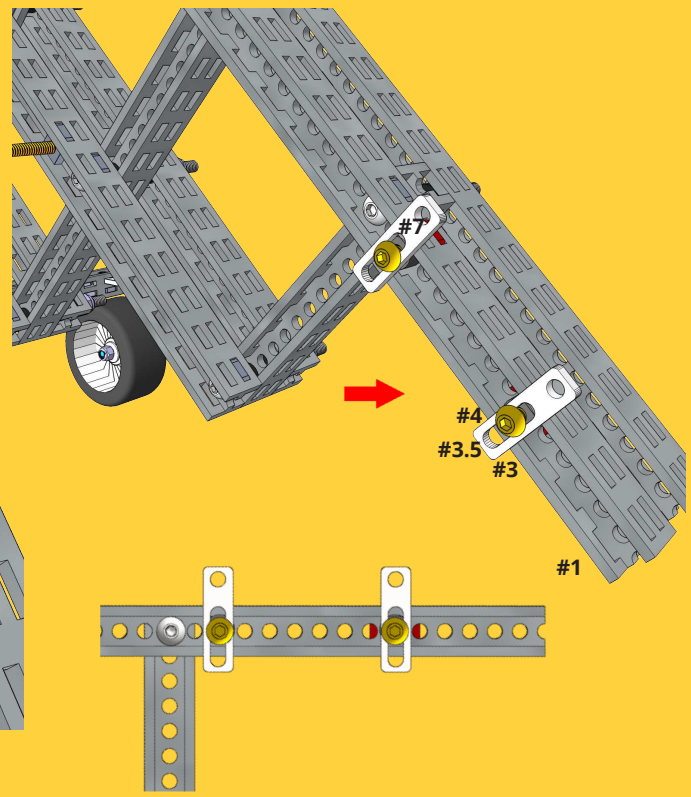
3x	2x	1x
Bolt M3x8	Bolt M3x10	Bolt M3x14
2x	6x	6x
Bolt M3x35	Nut M3 6x10	Nut self locking M3
2x	10x	1x
2 hole bracket	Nylon Spacer 4mm	Spacer Nylon 8mm
2x	1x	1x
Washer metal 9mm/0.8mm M3	Mini Servo Motor	Arm for Mini Servo Motor
1x	1x	
Bolt M2.5x8 For servo arm	Servo arm Index Disc set	

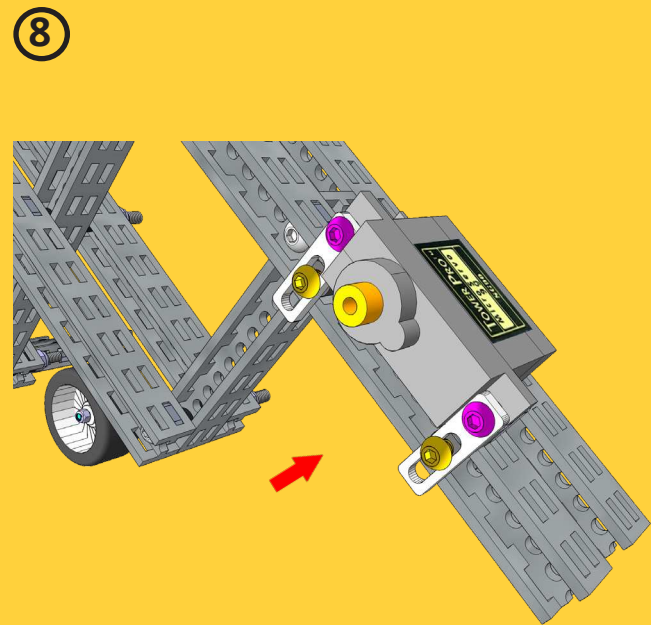
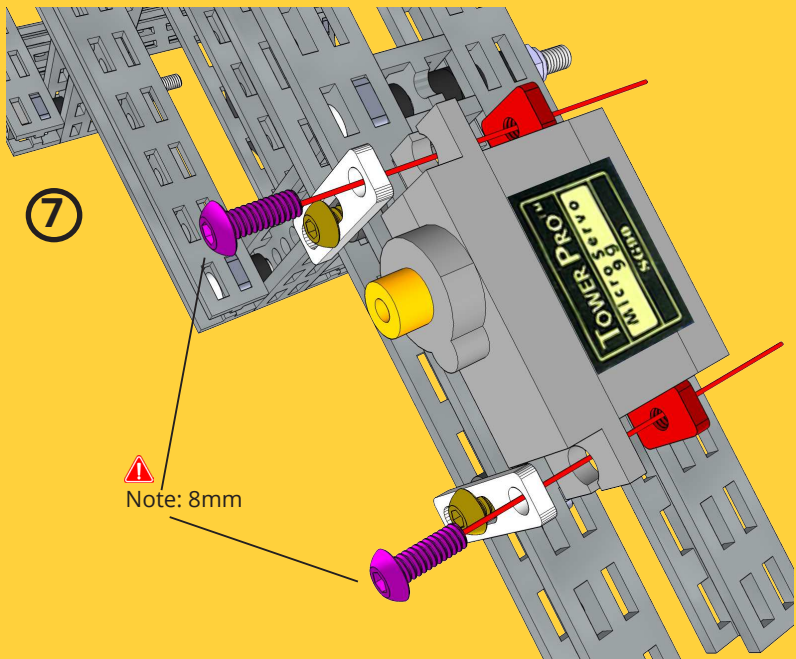


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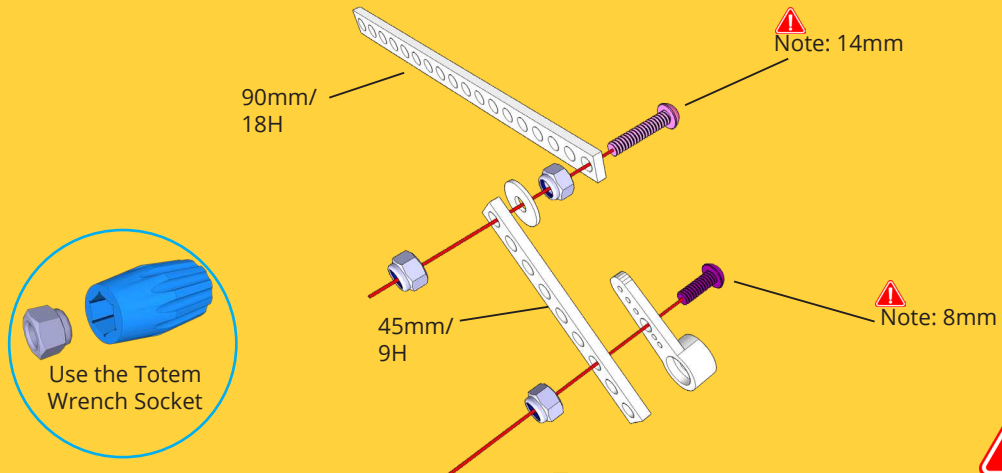


6

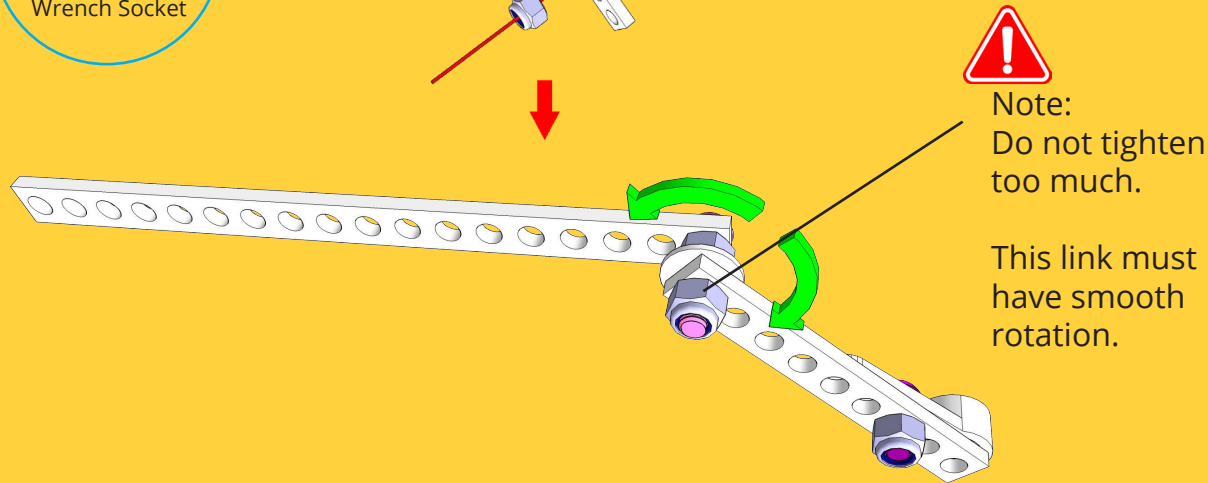




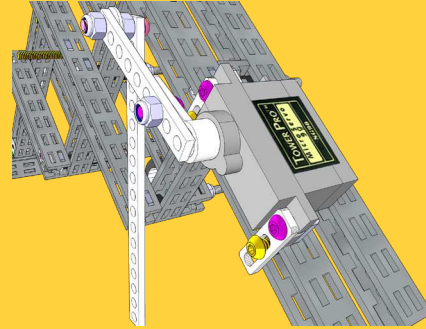
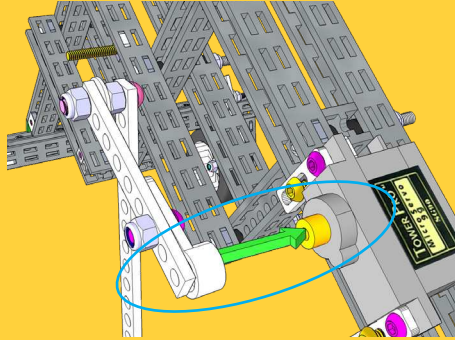
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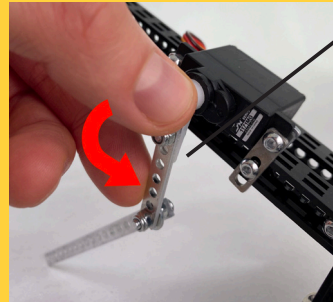
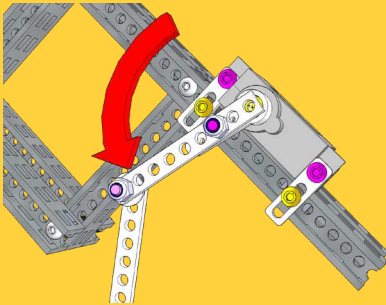
10



Register the servo arm.

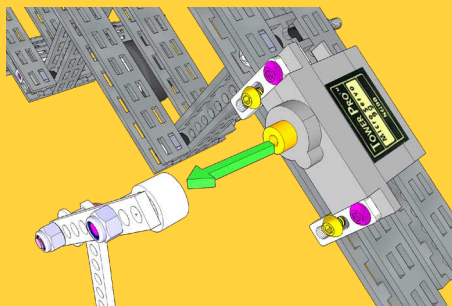


A : Put on the servo arm assembly in any position.

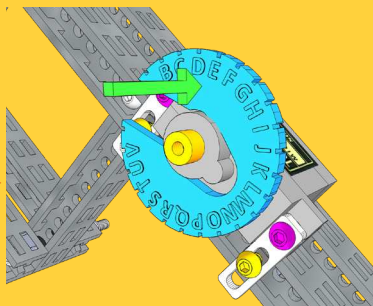


**Be careful.
Don't use too
much force. Gen-
tly twist it Coun-
ter Clock-wise.**

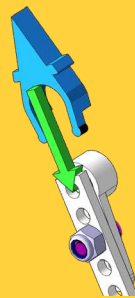
B : Manually twist the arm Counter Clockwise until it stops.



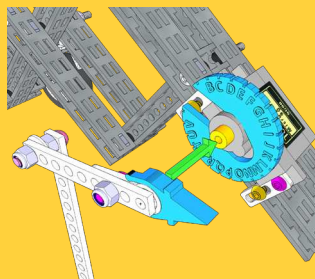
C : Temporarily take off the servo arm.



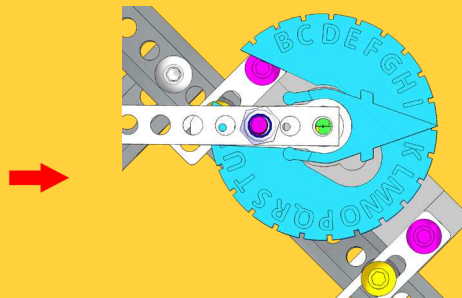
D : Slip on the Servo Arm Index Disc on to the servo.



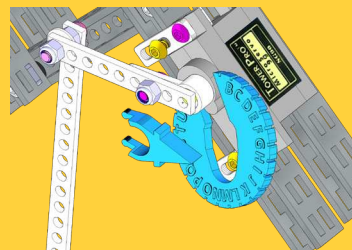
E : Attach the Servo Arm Index Arrow on to the servo arm.



F : Put the Servo Arm with Index Arrow back on the servo matching the "J" mark on the disc.

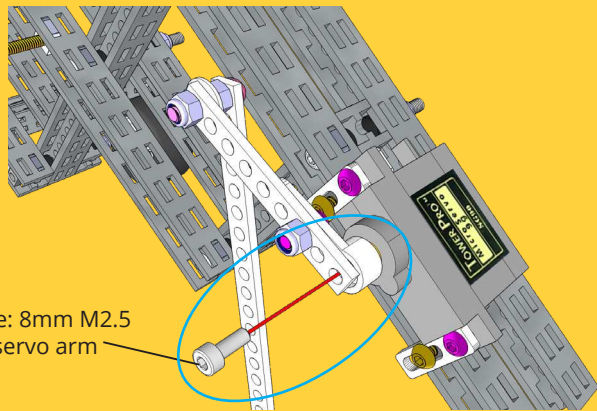


G : Here you can see the arrow points to the "J" index mark.



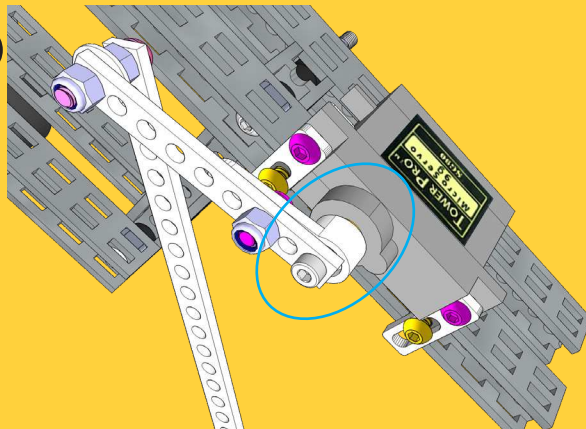
H : Take off the disc and arrow. Make sure the servo arm stays.

11



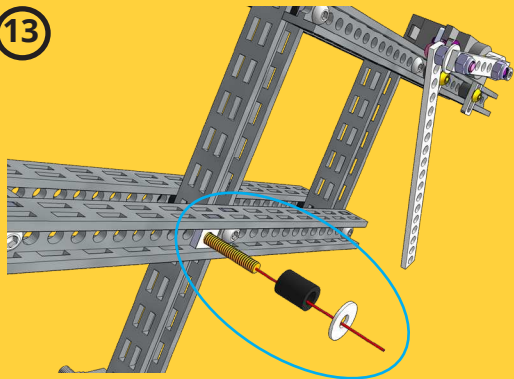
 Note: 8mm M2.5 for servo arm

12

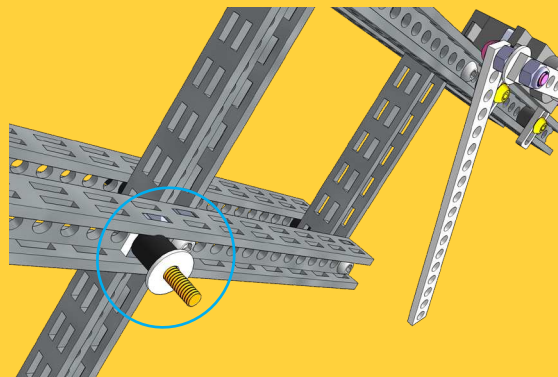


J : Secure the servo arm with the 8mm/M2.5 bolt.

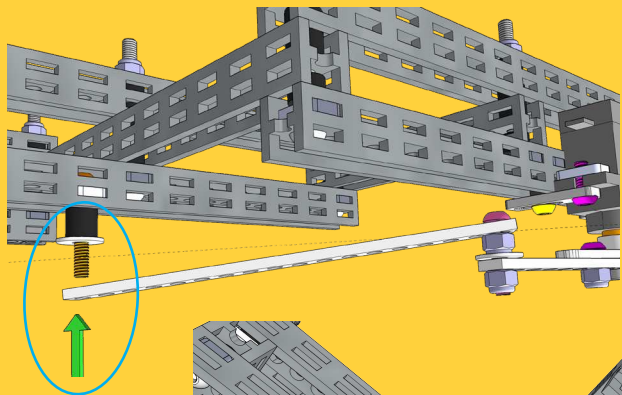
13



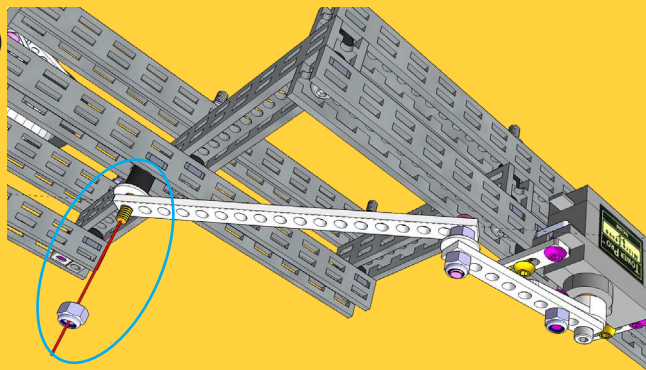
14



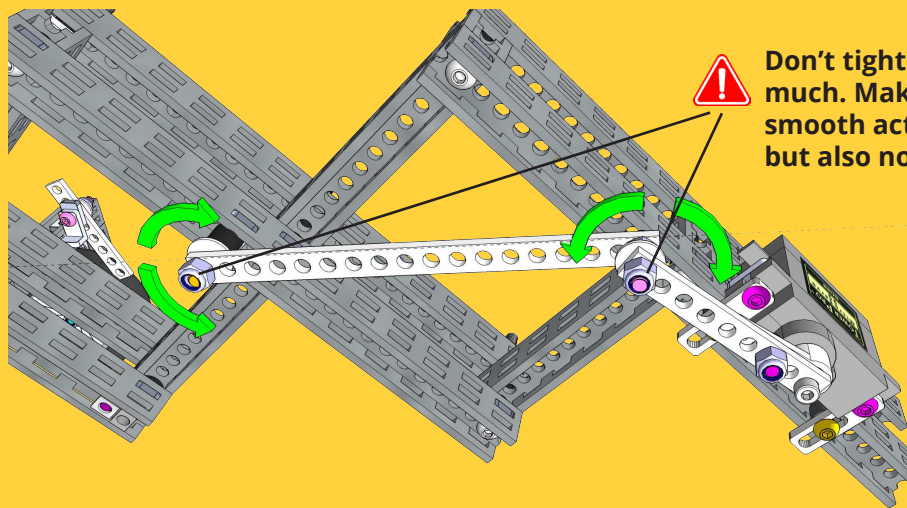
15



15



Use the Totem
Wrench Socket

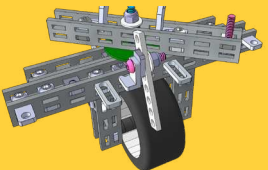


Don't tighten the bolts too much. Make sure there is smooth action. Not too wobbly, but also not too tight.



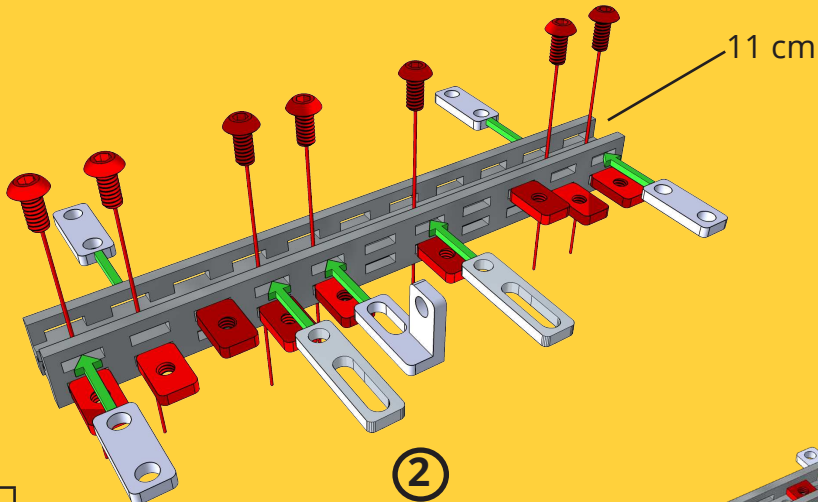
PART 5

PART 6



16x	2x	1x
Bolt M3x6	Bolt M3x14	Bolt M3x25
1x	20x	3x
Bolt M3x45	Nut M3 6x10	Nut self locking M3
4x	3x	2x
2-hole Simple	2 hole bracket	C-Bracket
1x	1x	1x
L-Twisted	45x90 bracket	45x90 Mirror bracket
7x	2x	1x
Nylon Spacer 4mm	Metal washer M3 9x0.8mm	Washer 1mm DIA24mm

①



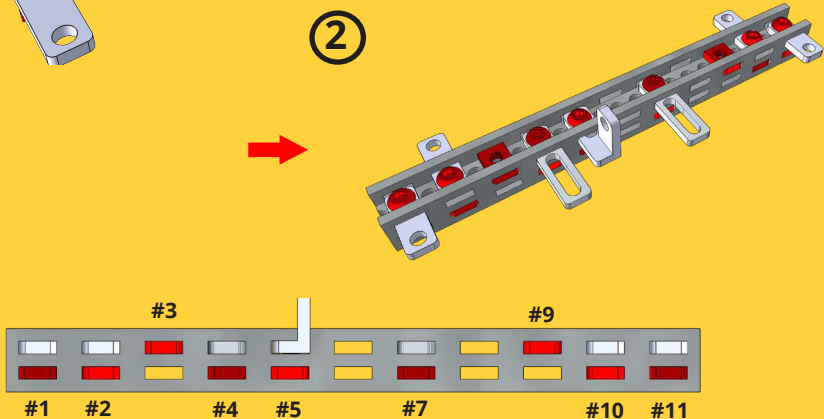
	1x
--	----

②

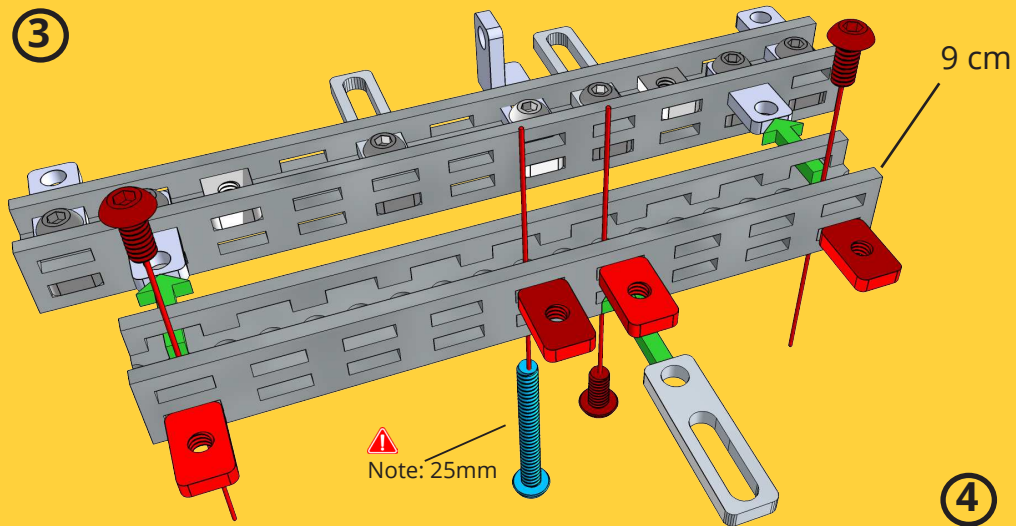
	2x
	1x
	1x
	1x

	1x
--	----

43mm O-shaft Wheel

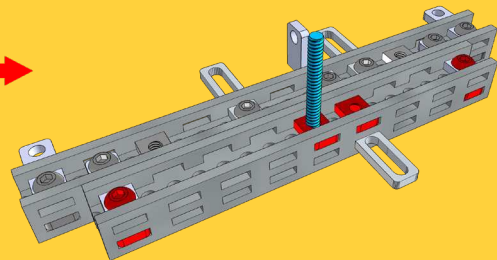
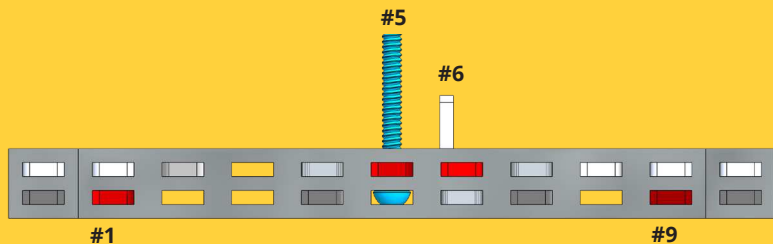


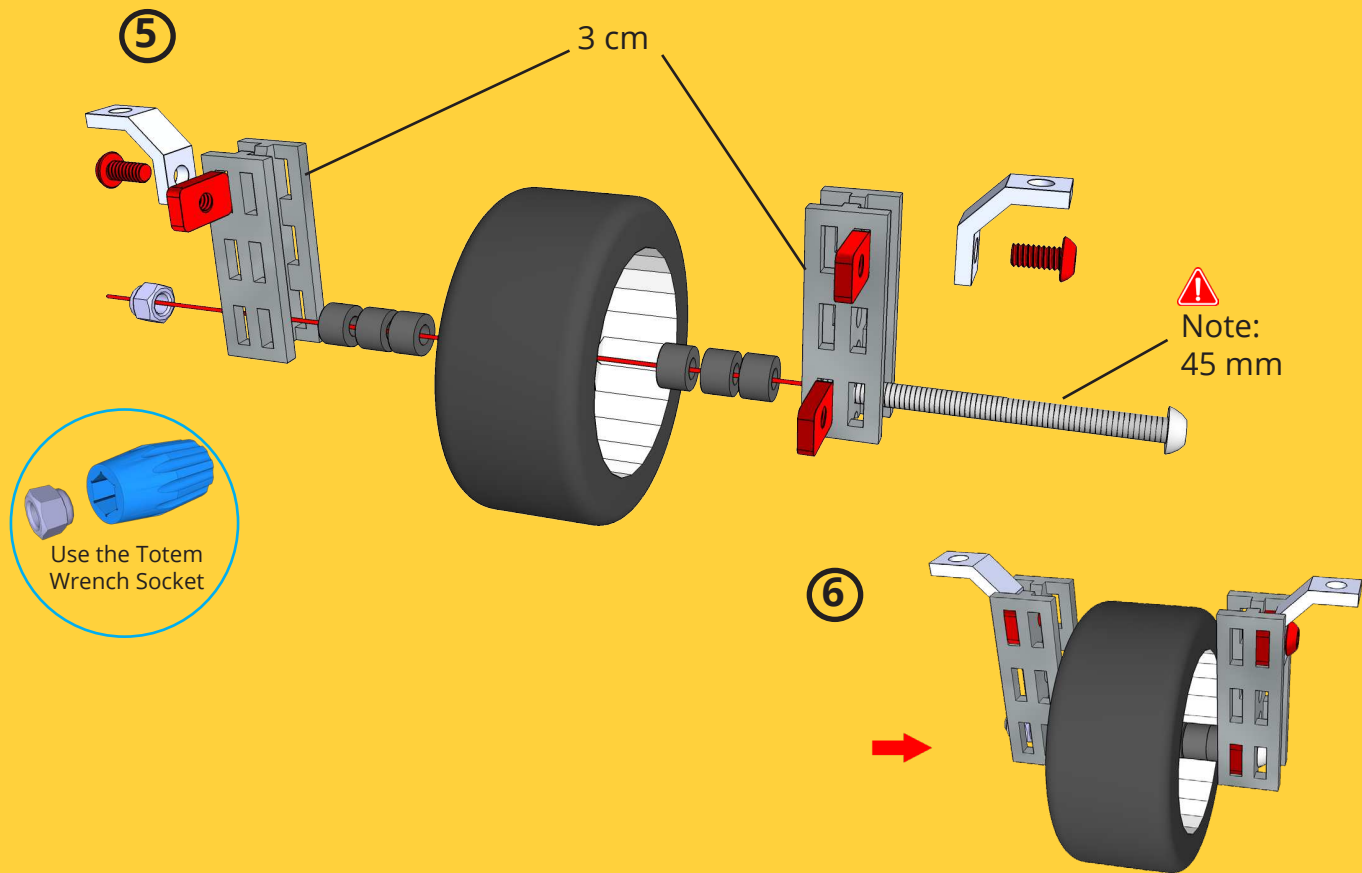
3



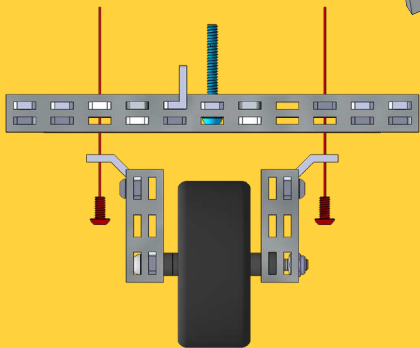
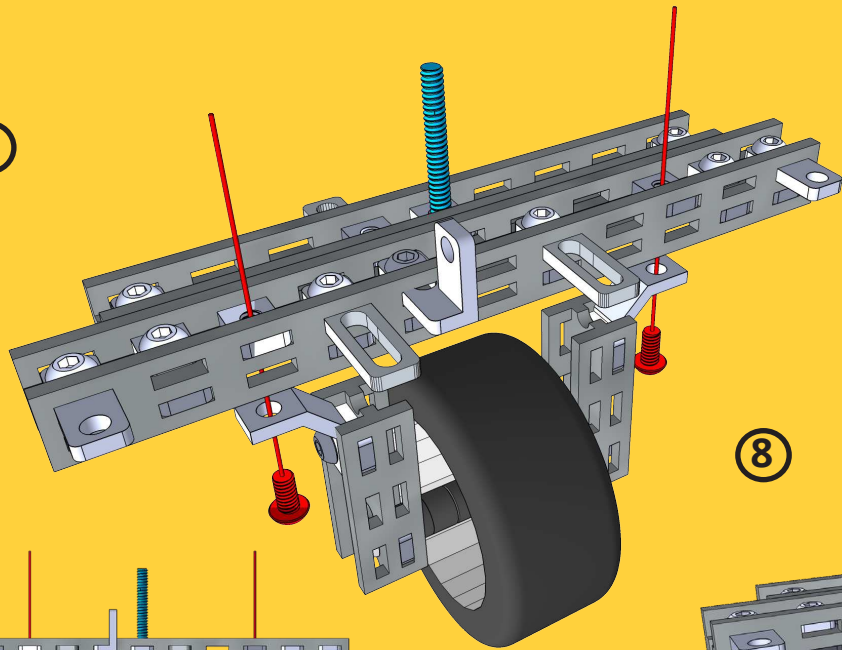
⚠ Note: 25mm

4

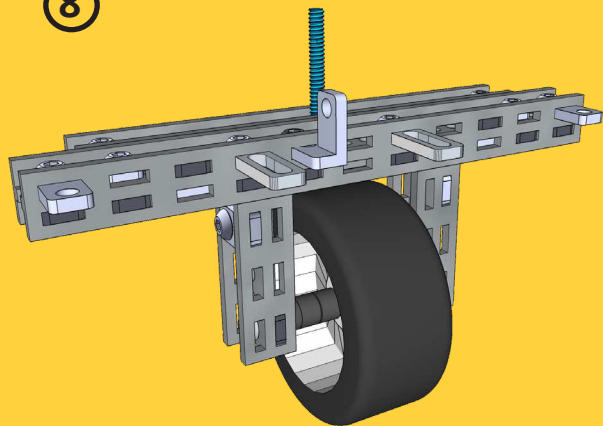




7

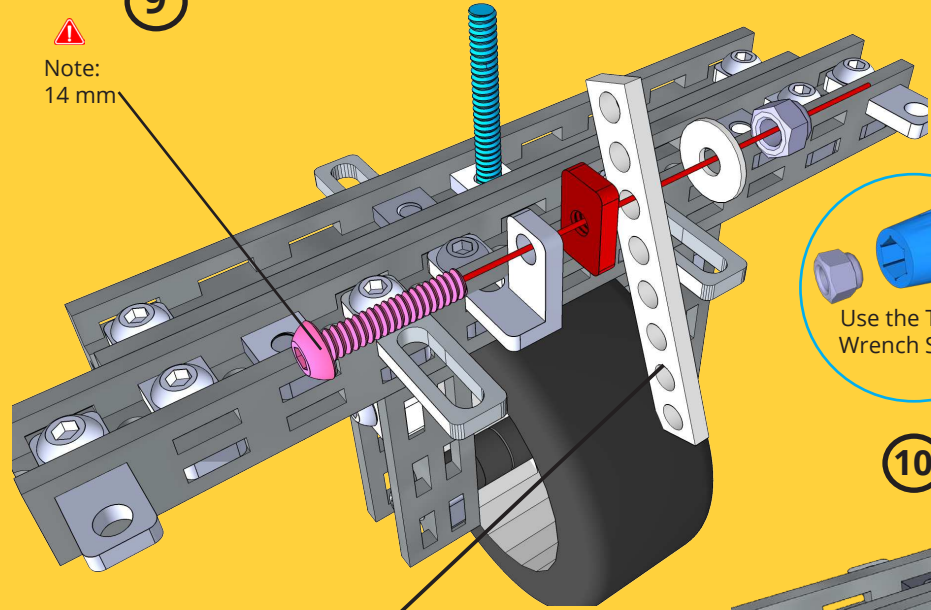


8



9

Note:
14 mm



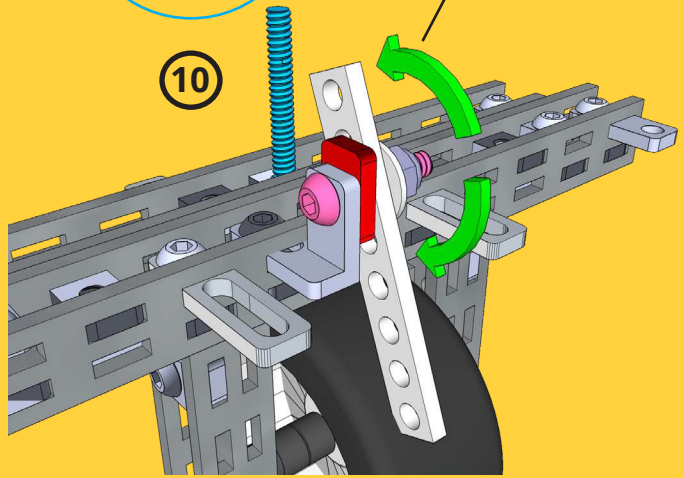
40mm / 8H



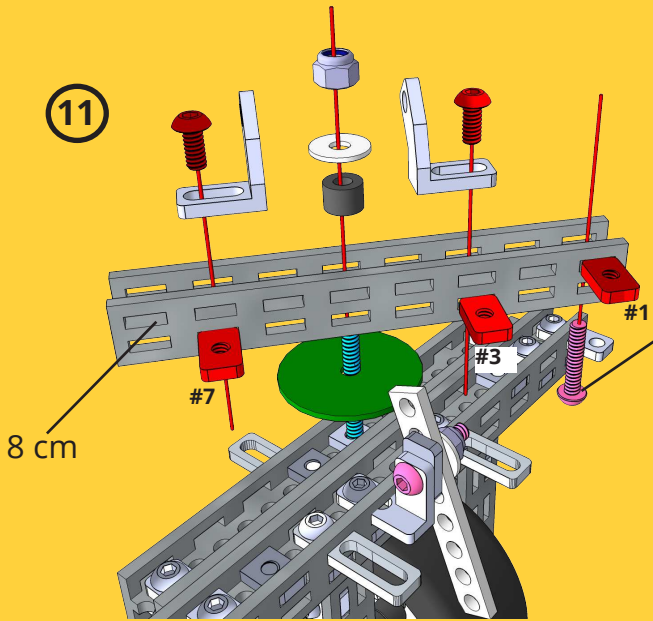
Use the Totem
Wrench Socket

10

Smooth rotation



11



8 cm



Use the Totem Wrench Socket

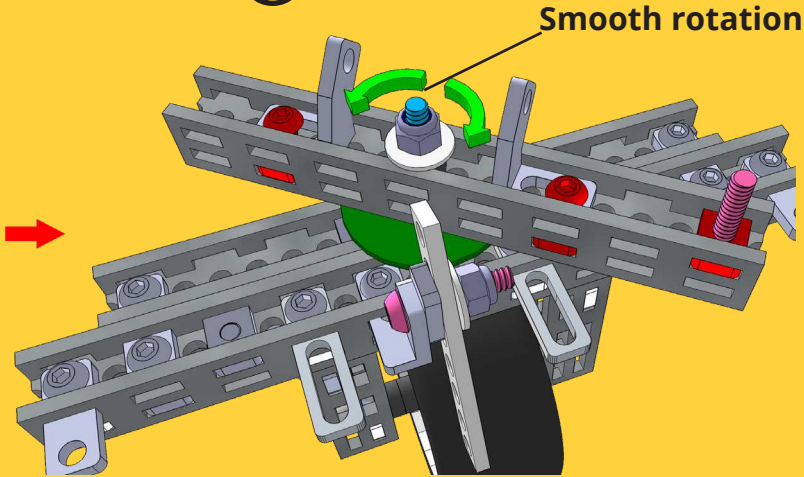


Note:
14 mm



PART 6

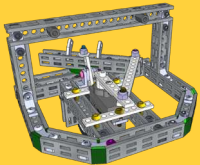
12



Smooth rotation

PART 7

①

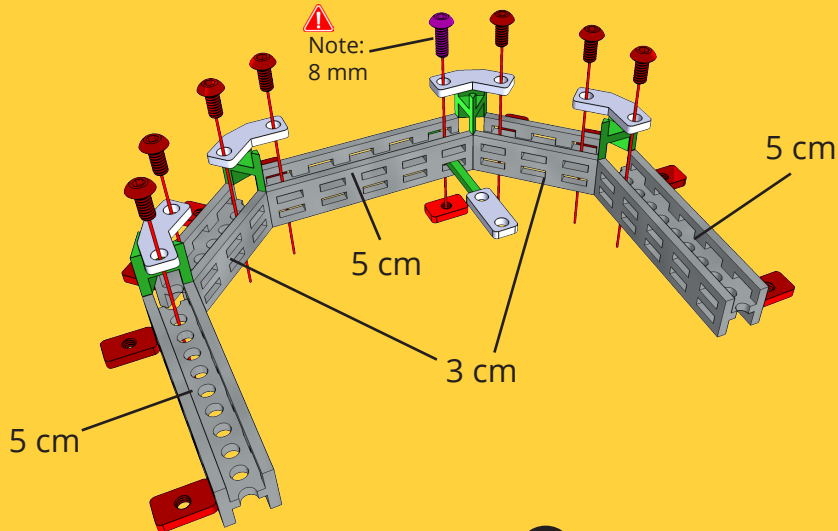


- | | | |
|-----------------------|--------------------------|---------------------------|
| 22x | 2x | 7x |
| | | |
| Bolt M3x6 | Bolt M3x8 | Bolt M3x10 |
| 31x | 3x | 4x |
| | | |
| Nut M3 6x10 | Nut self locking M3 | 2-hole Simple |
| 4x | 2x | 4x |
| | | |
| 2-hole 45 simple | C-Bracket | Single side filler |
| 2x | 1x | 1x |
| | | |
| Nylon Standoff M3x8mm | Metal washer M3 9x0.8mm | Servo arm Index Disc set |
| 1x | 1x | 1x |
| | | |
| Mini Servo Motor | Arm for Mini Servo Motor | Bolt M2.5x8 For servo arm |

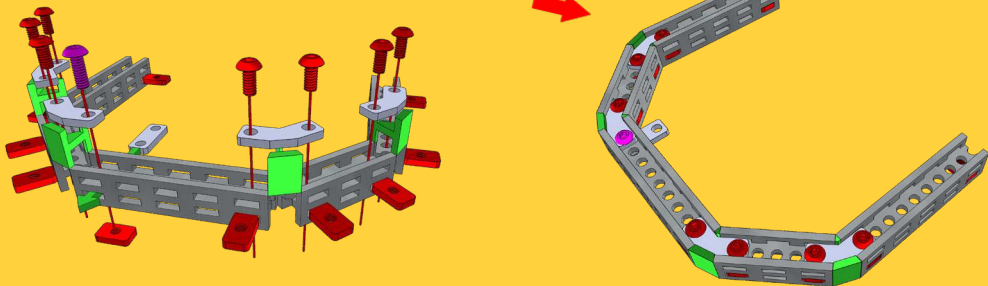
3 cm	2x
4 cm	2x
5 cm	3x
7 cm	2x
11 cm	1x



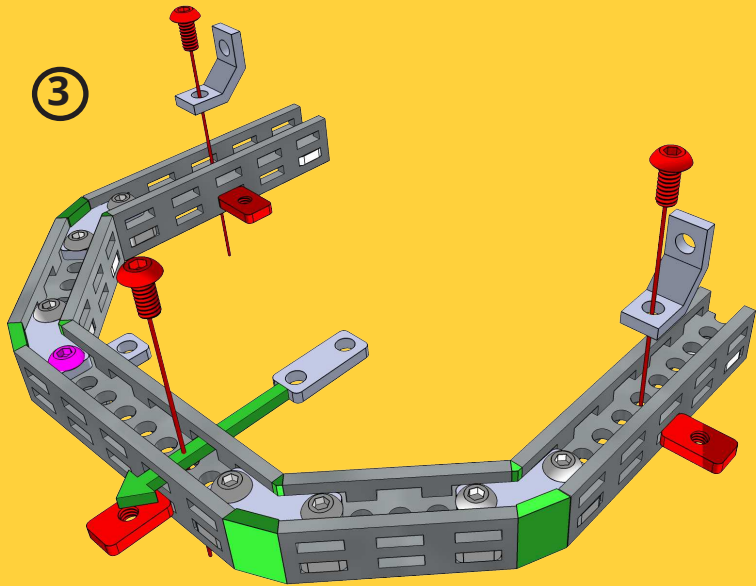
4.5 cm/9H	3x
8 cm/16H	1x



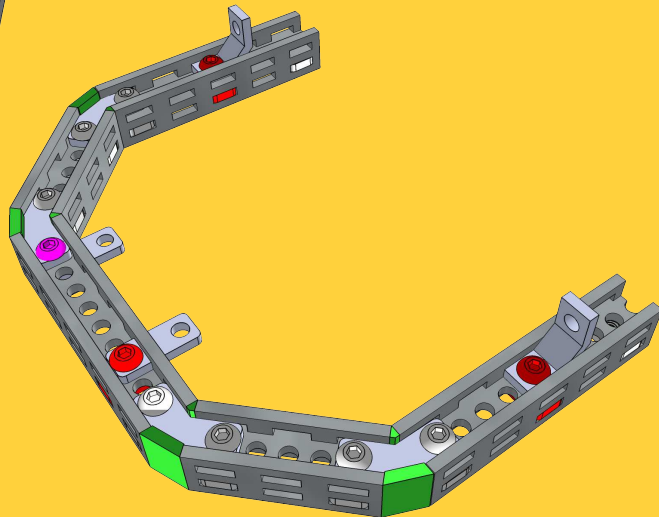
②

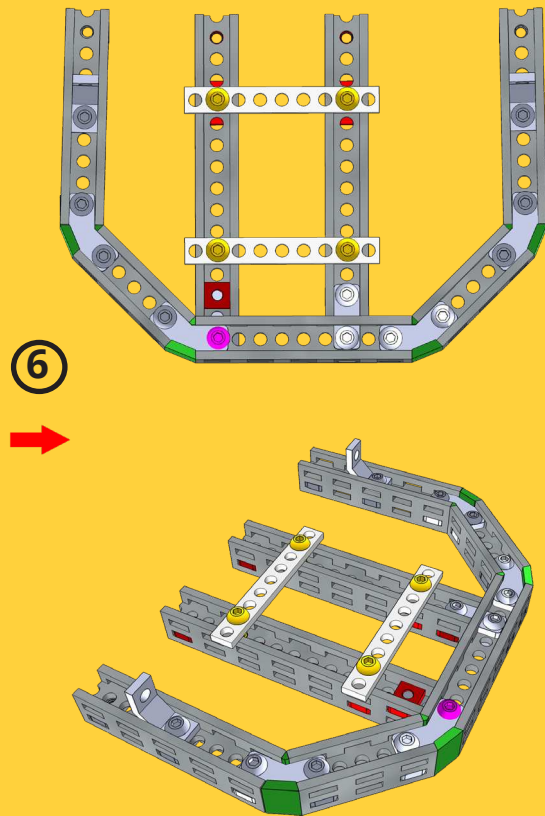
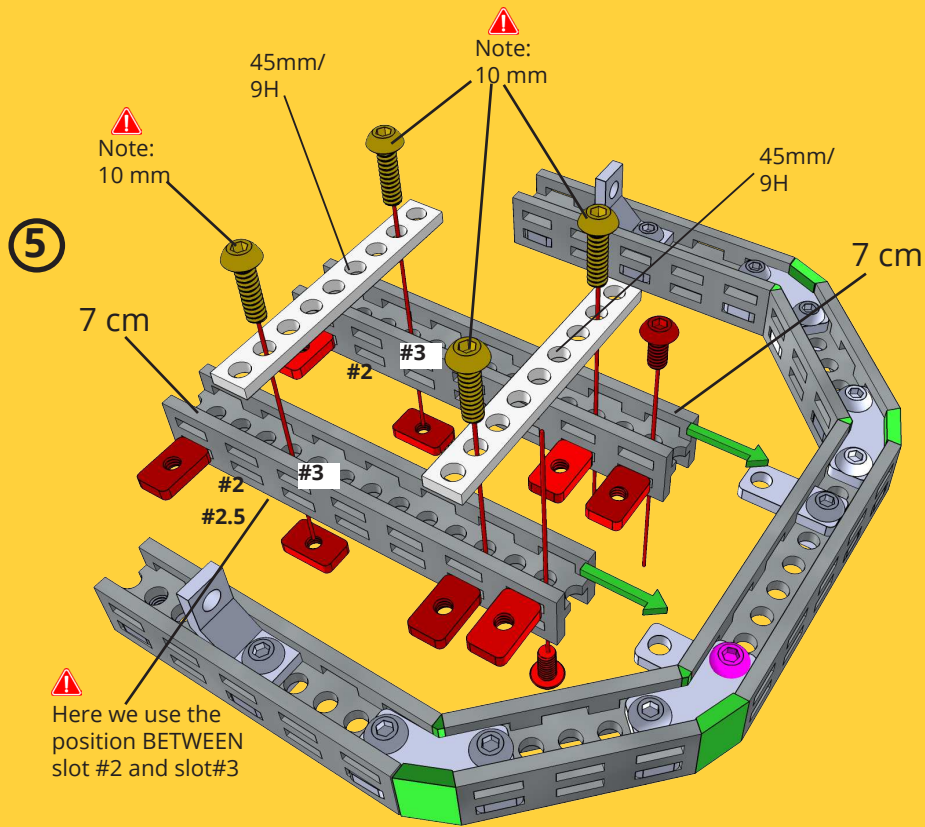


3



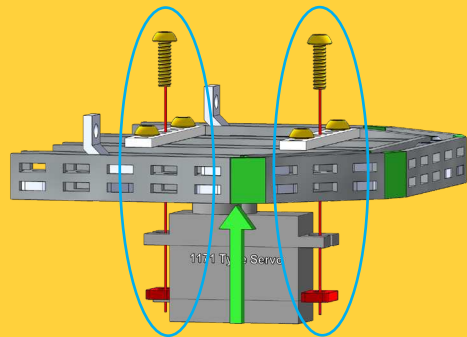
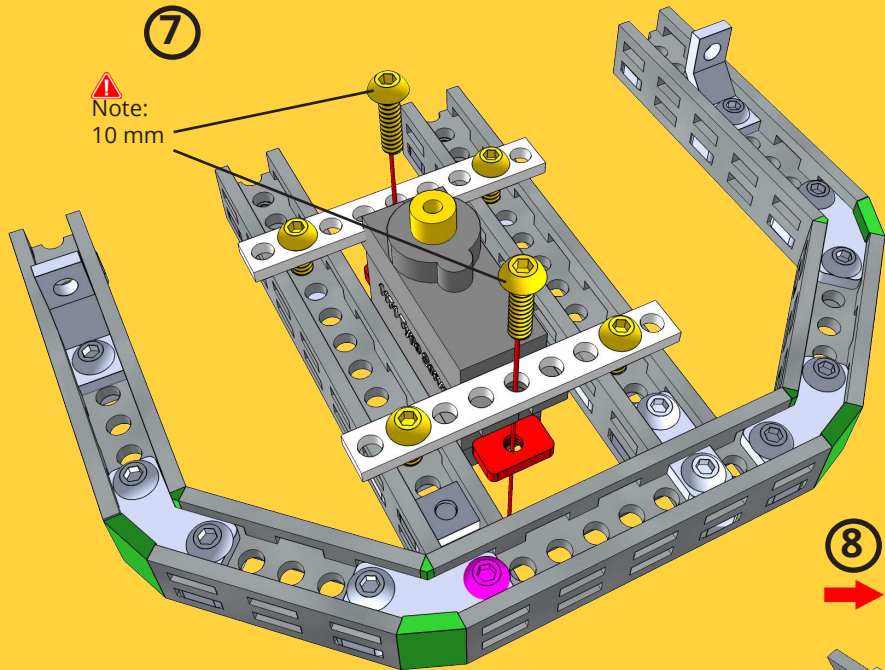
4



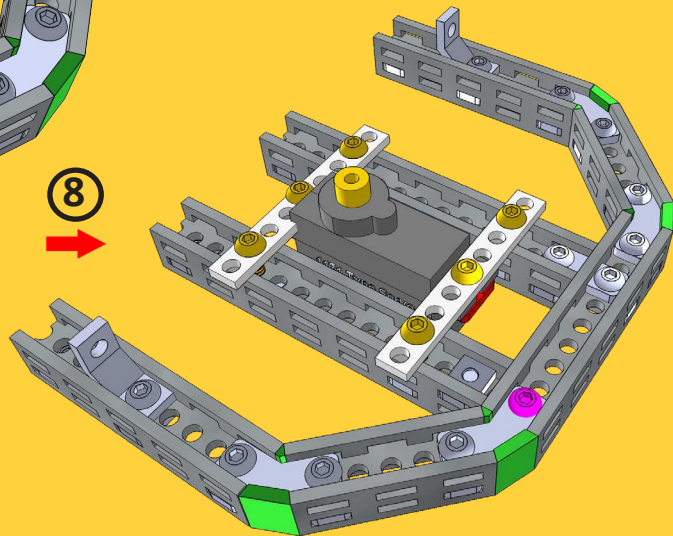


7

Note:
10 mm

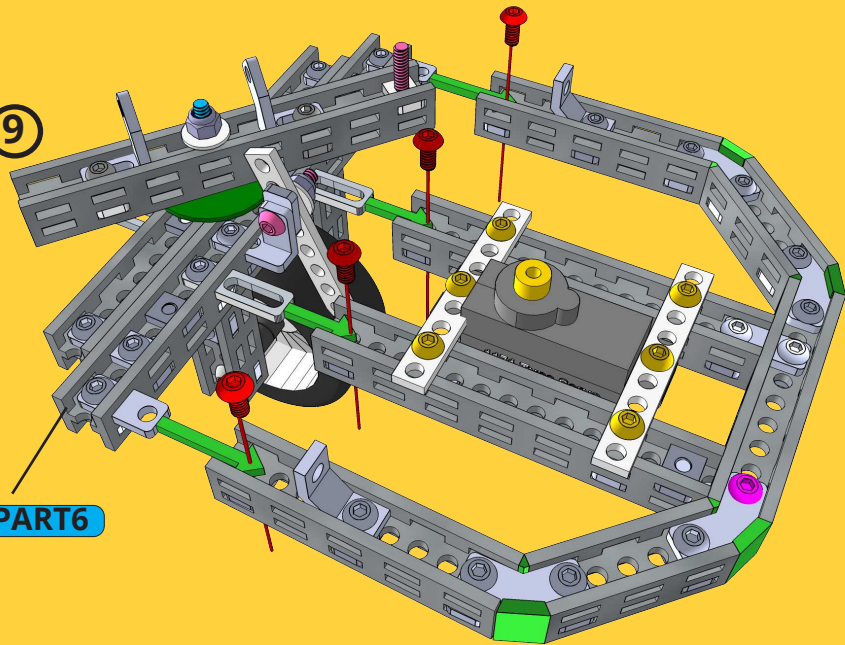


8

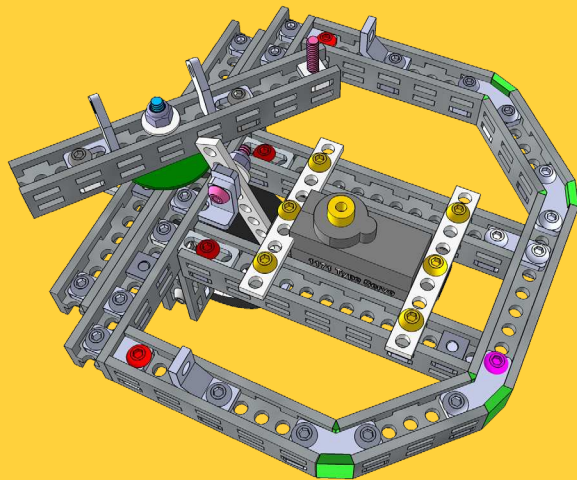


9

PART 6



10



11

80mm/
16H



Note:
10 mm

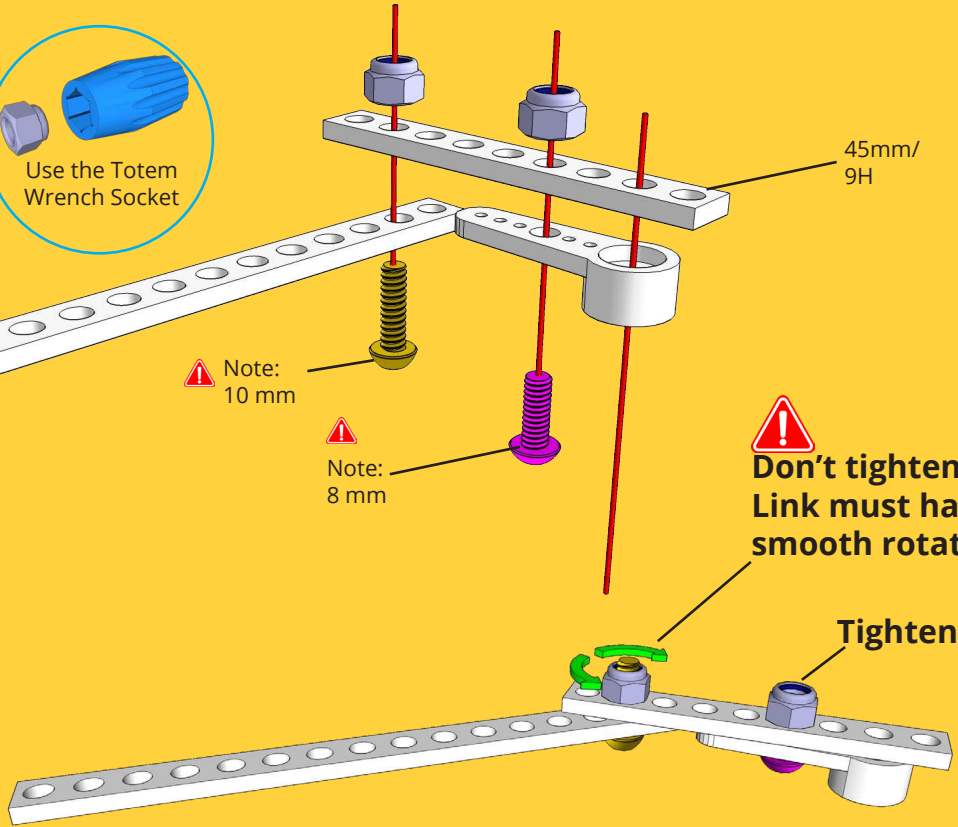
Note:
8 mm

45mm/
9H

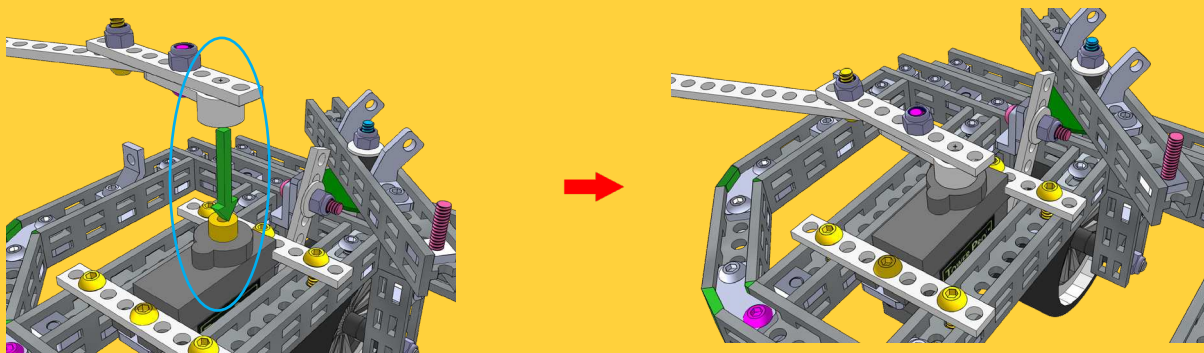
Don't tighten
Link must have
smooth rotation

Tighten this

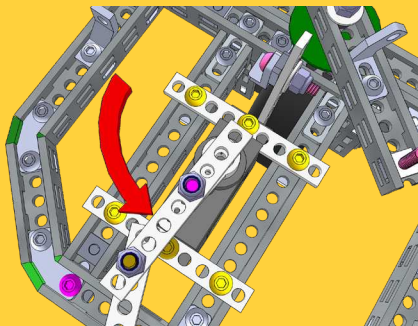
12



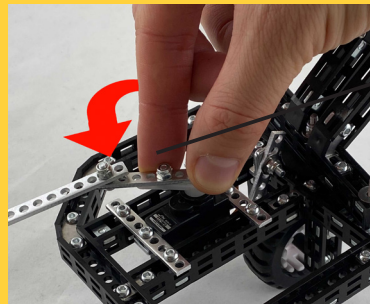
Register the servo arm.




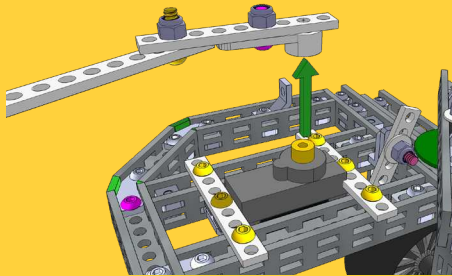
A : Put on the servo arm assembly in any position.



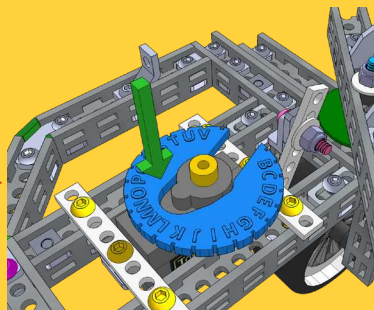
B : Manually twist the arm Counter Clockwise until it stops.



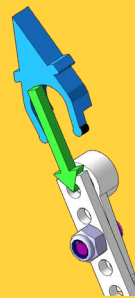

**Be careful.
Don't use too
much force. Gen-
tly twist it Counter
Clock-wise.**



C : Temporarily take off the servo arm.



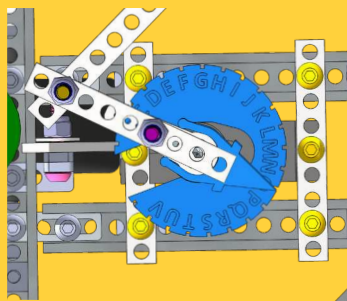
D : Slip on the Servo Arm Index Disc on to the servo.



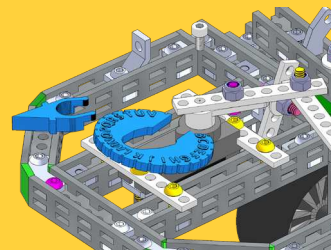
E : Attach the Servo Arm Index Arrow on to the servo arm.




F : Put the Servo Arm with Index Arrow back on the servo matching the "O" mark on the disc.



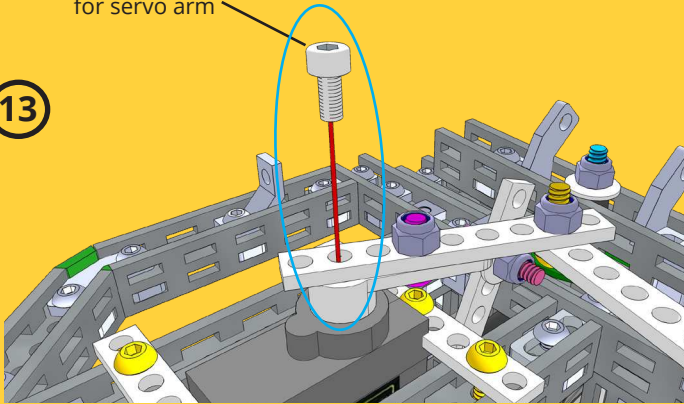
G : Here you can see the arrow points to the "O" index mark.



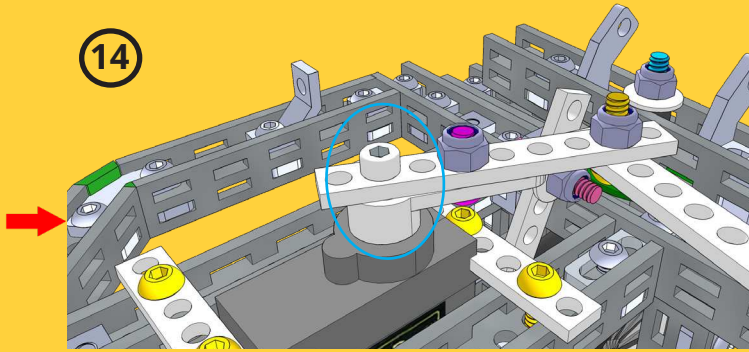
H : Take off the disc and arrow. Make sure the servo arm stays.

 Note: 8mm M2.5
for servo arm

13

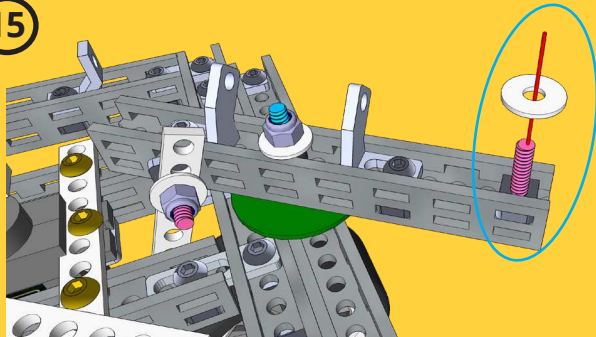


14

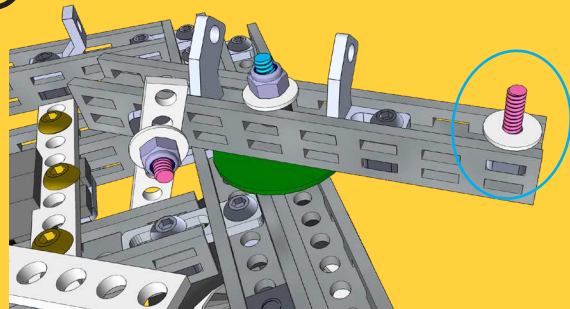


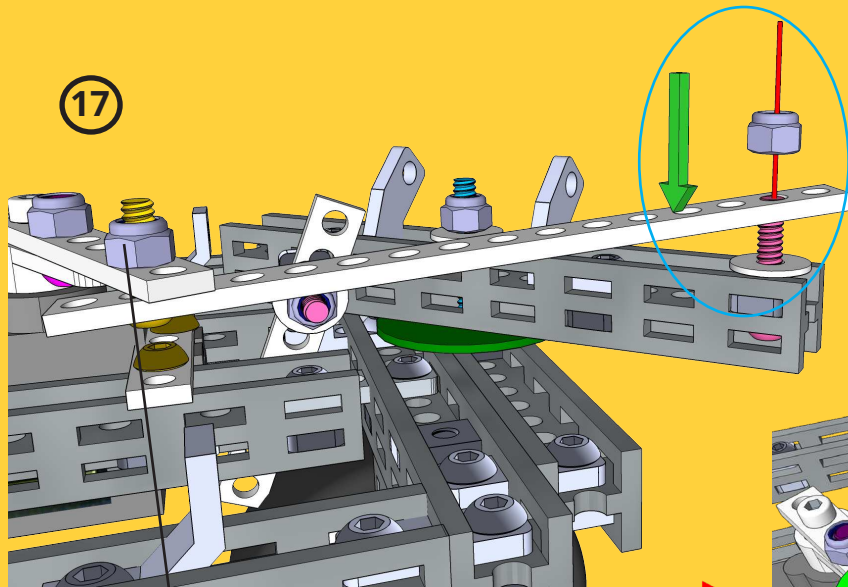
J : Fix the servo arm assembly to the servo with the m2.5 / 8mm bolt. Make sure the servo arm has stayed put.

15



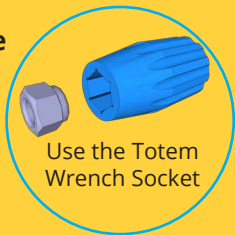
16



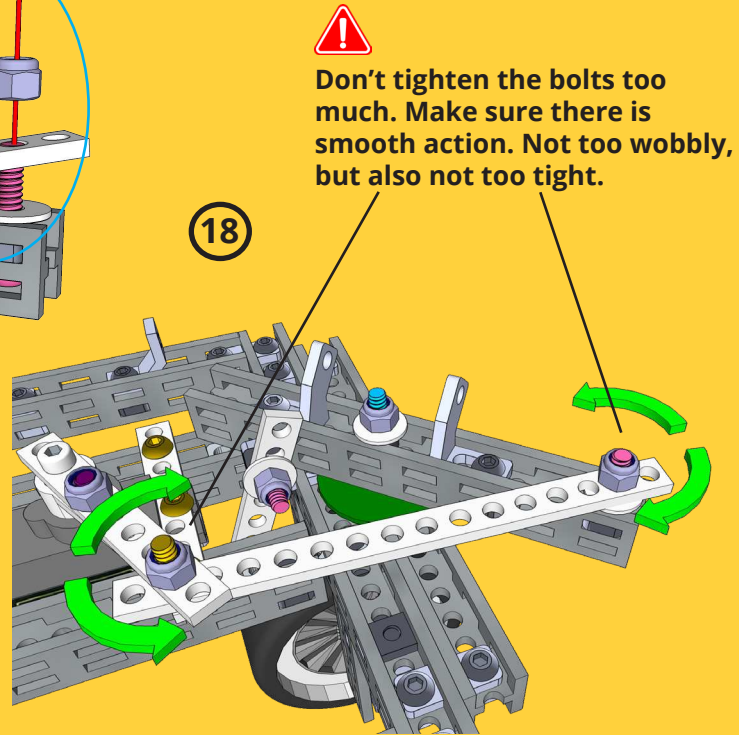


17

You may have to loosen this link temporarily a bit to make it easier to enter the bolt and strip bracket.



Use the Totem Wrench Socket



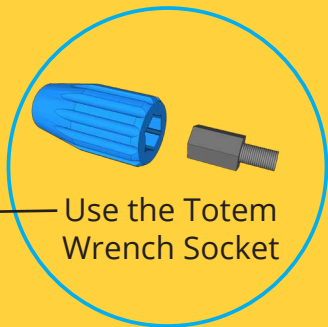
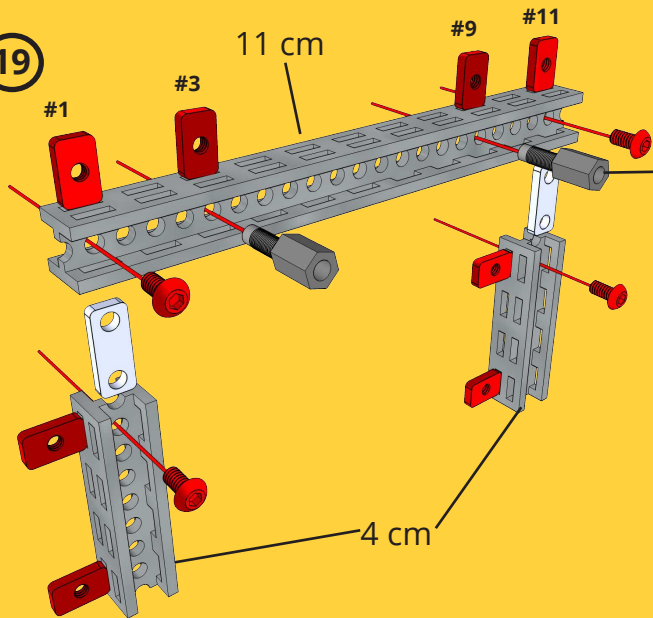
18



Don't tighten the bolts too much. Make sure there is smooth action. Not too wobbly, but also not too tight.

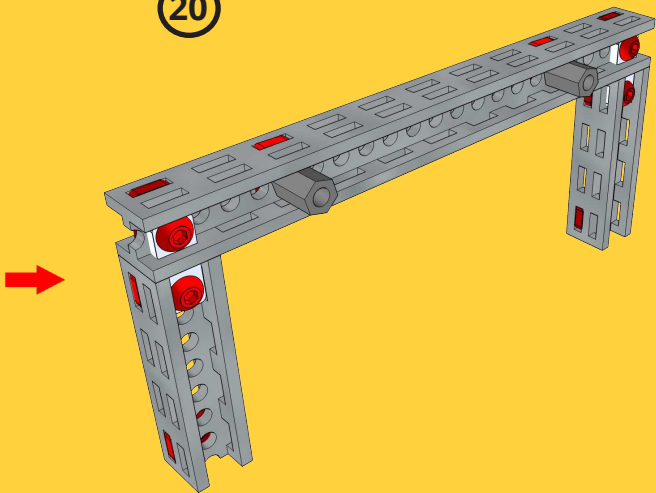
You may have to gently turn the servo arm with your hand to get the strip bracket fit on to the bolt.

19

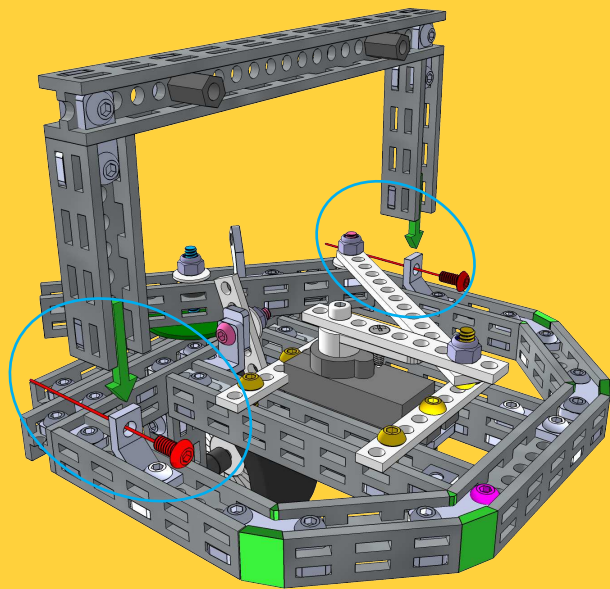


Use the Totem Wrench Socket

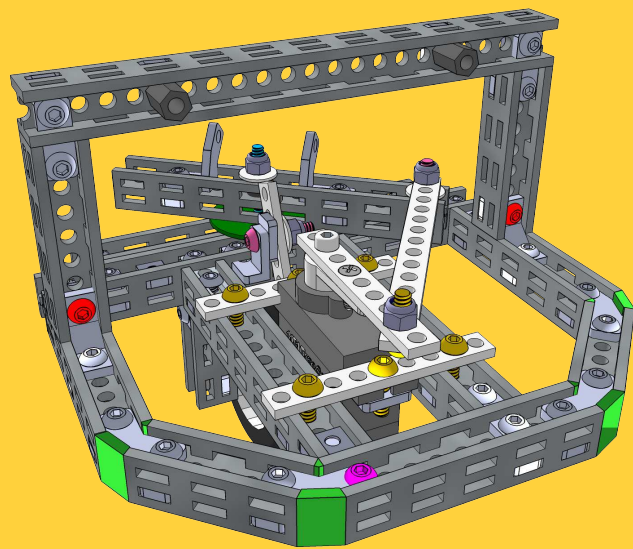
20



21

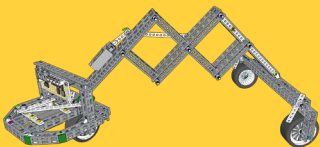


22



PART 7

PART 8



4x



Bolt M3x6

2x



Nut M3 6x10

2x



Single side filler

3x

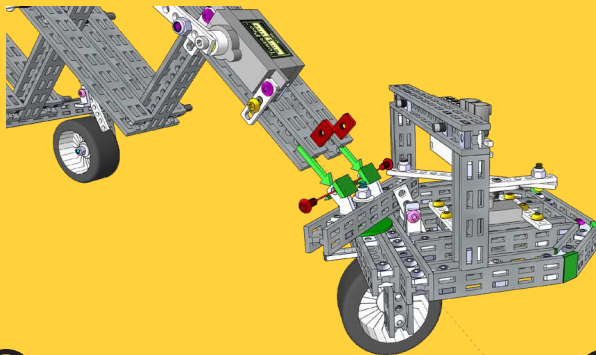


Rubber Band

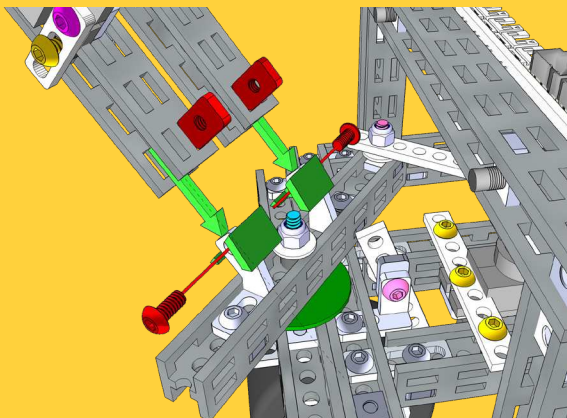
1x



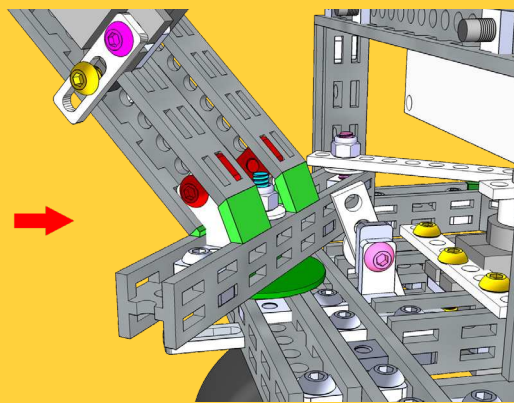
X3 Controller Board

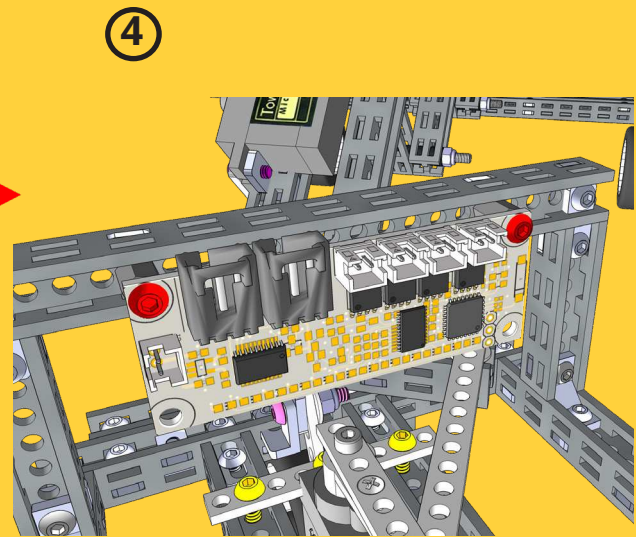
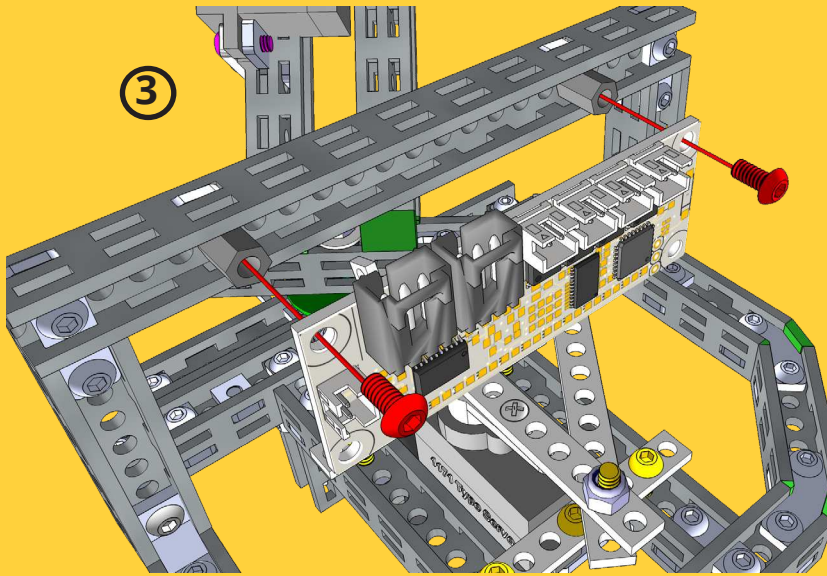


①



②





✓
PART 8

Rubber bands for the “ratchet” one-way wheels stoppers.

Back left



Back right



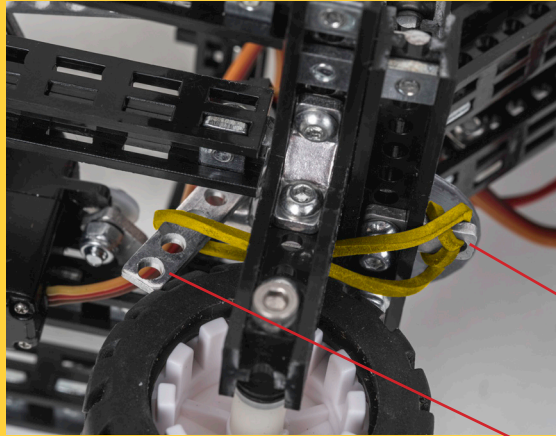
The rubber bands will help the “one way” stoppers to work properly.



The rubber bands must not be too tight ! If they are too tight, they wheels will have to much friction in forward direction.

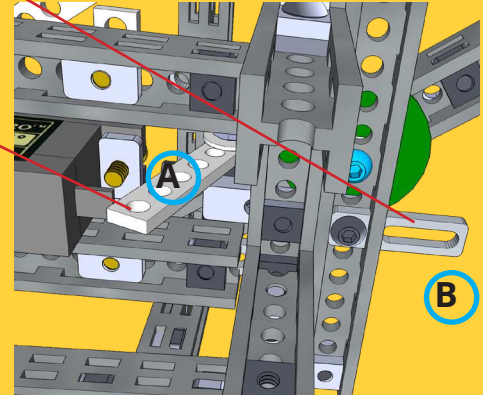
(Colour of rubber band may vary.)

Front wheel



Here is shown how to place the rubber band for the front wheel "Ratchet stopper".

There is room for the rubber band above the front wheel, between the strip bracket "A" and the 2-hole bracket "B".

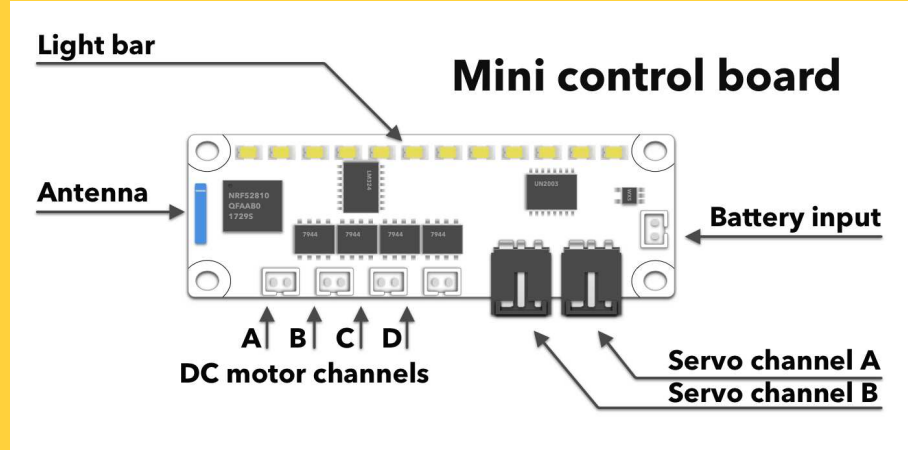


PART 9

Cabling and connections.

3-6x

ZIP Tie



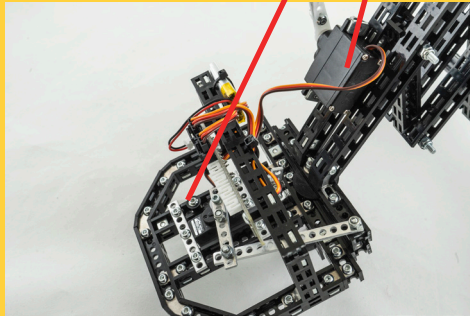
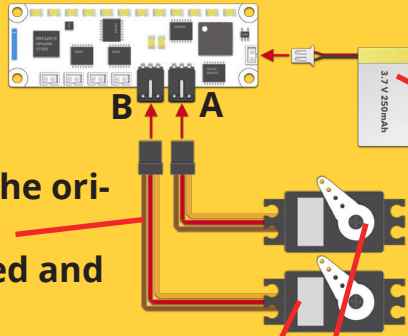
Integrated controller that has Bluetooth connection, 4 DC motor channels and 2 Servo motor channels.

More info here:

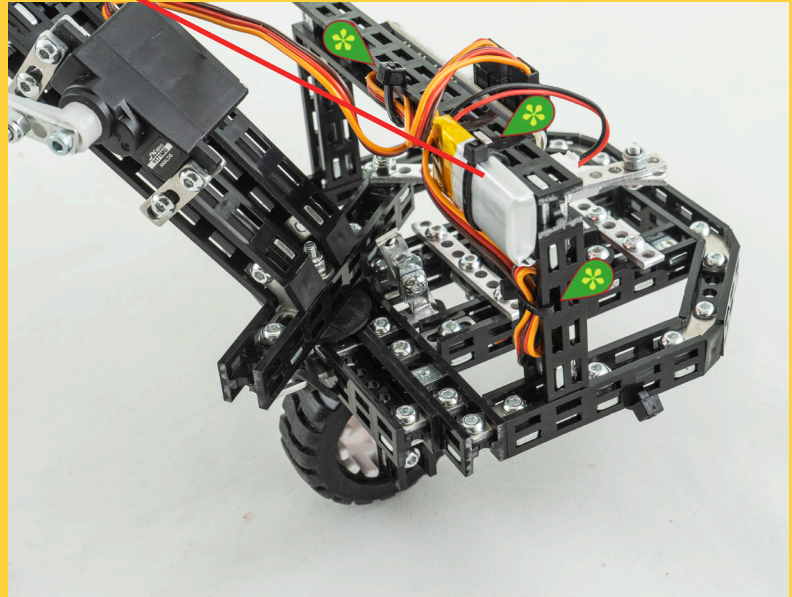
<https://totemmaker.net/wiki/x3-fbi-board-set-up/>

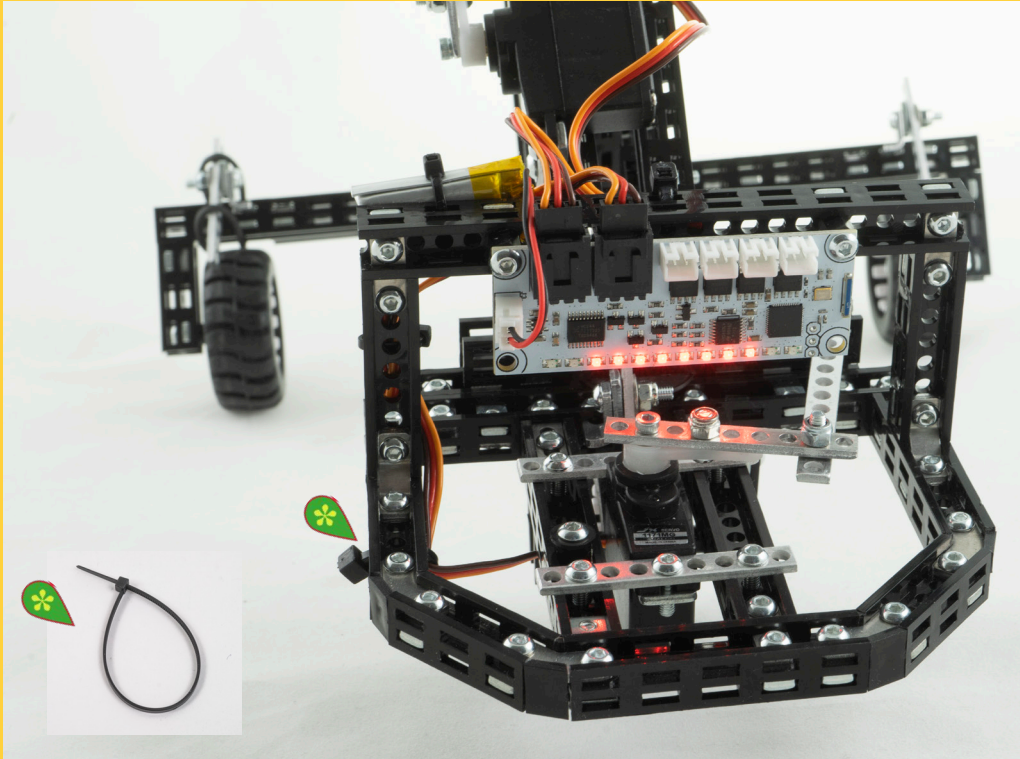


Note:
Observe the orientation:
Brown, Red and Yellow.



The servo "A" is for the scissors action, and the "B" is for the steering.





Building is finished !

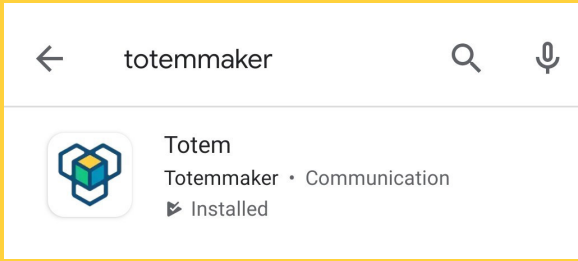
**Now it is time to
test your model.**



PART 9

HOW TO CONTROL

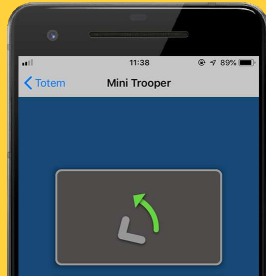
Download Totem app on your smartphone or tablet via App Store or Google Play.



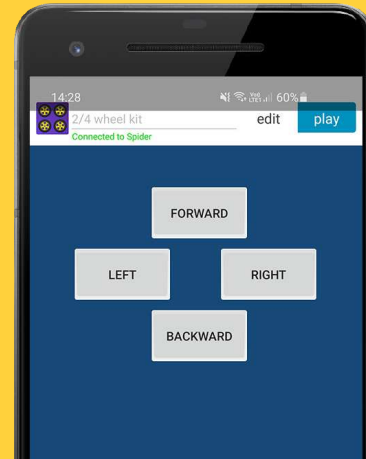
Follow the step by step guide to connect your Ladybug to your device.



Search for:
Totemmaker



To slow down the rotation speed, press two buttons at the same time. I. e. press both Forward and Right buttons.





PRECAUTIONS: ELECTRONICALLY OPERATED PRODUCT

Do not give this product to children aged 8 or below. As with all electronic products, precautions should be observed during handling and use to prevent electric shock.

Adult supervision required.

Note to adults: to ensure that the child's play is both safe and fun, please review all operating instructions and safety rules with your child.

SAFETY WARNINGS:

- Do not pick up toy while in motion.
- Keep fingers, hair, and loose clothing away from moving parts, to avoid the injury.
- Adult supervision is required when this toy is being operated.
- If you stopped operating the toy, remember to unplug the battery, to avoid accidental operation.
- If the toy is dirty, please clean it with dry and soft cloth. Do not clean electronics.
- Do not expose the toy to high temperature, high humidity, or direct sunlight.
- Indoor use only. Do not put this product in water to avoid damaging its electronic components.
- The product is made of complex electronic circuit and electronic components, do not disassemble, or modify the circuit board.

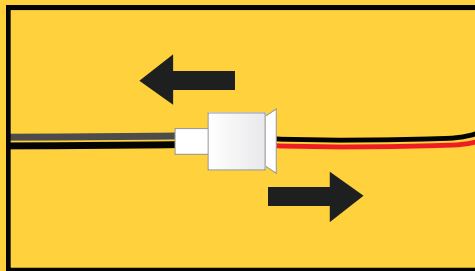
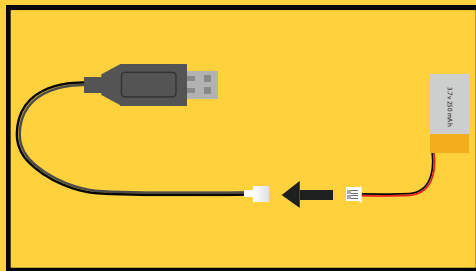
BATTERY SAFETY INFORMATION:

- This toy is designed to work with provided 250 mAh 3.7V LiPo battery and charger.
- Rechargeable battery must be charged by adult only.
- Do not leave charging without supervision of adult.
- There is a risk of fire and personal injury if battery is punctured, damaged or misused.
- Do not disassemble or damage the battery pack.
- Use only the supplied 250 mAh 3.7V LiPo battery. Using any other battery may damage the model.
- Use only the included USB charging cable to charge the battery.
- Please check on a regular basis the wire, plug, battery, charger, and other electronic parts on the toy. If any damage is found, please stop using the product immediately.
- Stop charging if battery becomes hot, smells, smokes or gives off strong odour.
- Never throw batteries into fire to avoid explosion or leakage.
- Check the batteries on regular basis to avoid leakage.
- Recycle or dispose of batteries according to local laws and guidelines.

BATTERY CHARGING:

Rechargeable battery must be charged by adult only.

- The new battery pack needs to be charged before use.
- Connect the USB charging cable to 5V USB power source, such as laptop.
- Connect the battery to the charger (see picture on the left). The charger will show a red LED light when charging the battery. When the battery is fully charged, the red LED light turns off.
- To disconnect cables, hold the connectors of both cables and pull apart (see picture on the right).
- Do not attempt to overcharge the battery.



KEEP THIS INSTRUCTION MANUAL AND THE PRODUCT BOX AS IT CONTAIN IMPORTANT INFORMATION FOR FUTURE REFERENCE.

Due to the continuous product improvement, the pictures on this manual may differ slightly from the actual product. Please adhere to actual product instead.

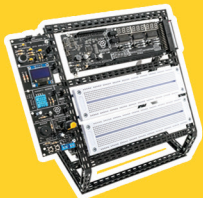
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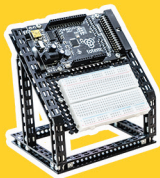
 **WARNING:**
CHOKING HAZARD - Small parts.
Not for children under 3 years.



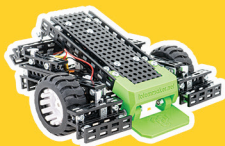
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Mini Lab



Micro Lab



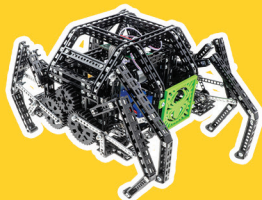
Mini Trooper



Young Engineer Kits



4WD Car Kit



Spider

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