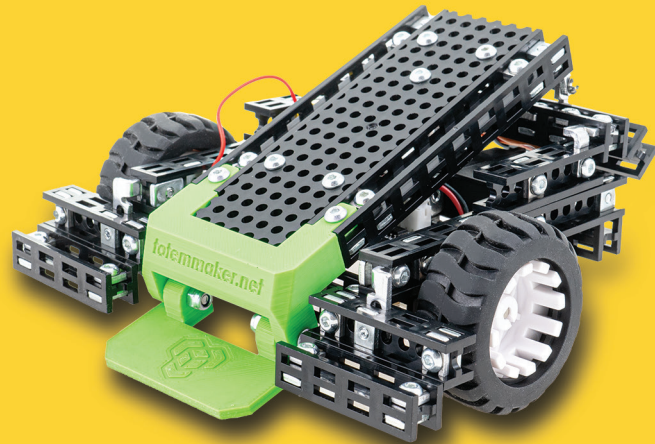
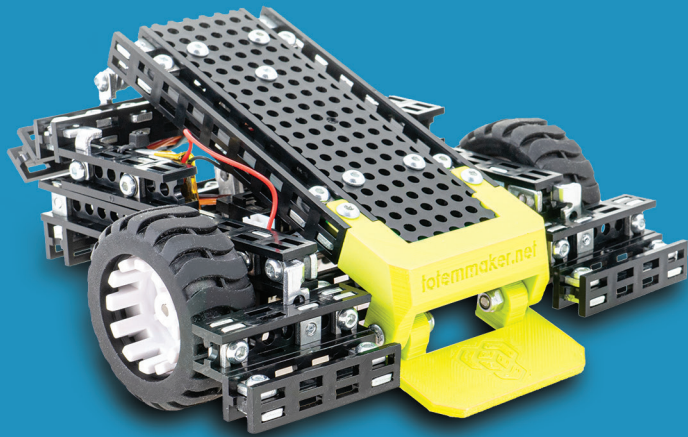


MINI TROOPERS

Assembly guide



totem

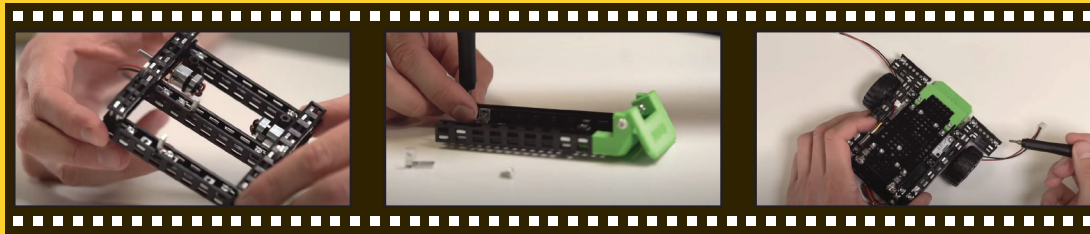


Scan QR code to watch the Mini Trooper assembly video.

Or search for *Mini Trooper assembly* video in **YouTube**.

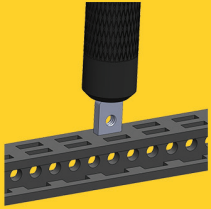


Tricky steps are indicated with a special sign. We recommend watching those tricky steps in the Mini Trooper assembly video, at the given time stamps.



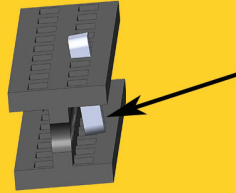
STARTING TIPS

Inserting nuts (1)



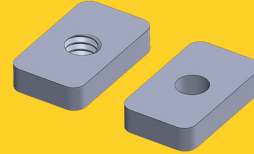
It is a good idea to start every step inserting nuts into beams (if the step requires). Use the back of the screwdriver to push in the nuts.

Inserting nuts (2)



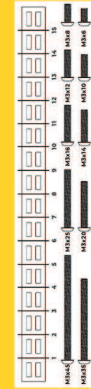
After entering the first slot, nuts tend to tilt. Use your thumb to push it back straight, and then again use the screwdriver to insert the nut all the way in.

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.

Ruler



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

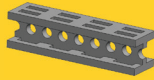
For more tips, please visit the link below:

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

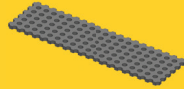
MECHANICAL PART LIST



9x Beam 90 mm



6x Beam 40 mm



1x Board 30x100 mm



2x 2-Hole 45 Bracket



11x 2-Hole 90 Bracket



12x 2-Hole Simple Bracket



1x 45x90 Bracket



1x Strip Bracket



4x L-Twisted Bracket



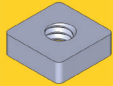
5x L-Twisted Mirror Bracket



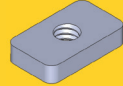
2x N20 Motor Bracket



6x Lock Nut M3



7x Nut M3 5.5x5.5



58x Nut M3 6x10



1x Mini Servo Motor with Arm



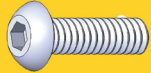
4x Bolt M1.6x3



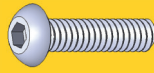
57x Bolt M3x6



8x Bolt M3x8



2x Bolt M3x10



2x Bolt M3x12



2x Bolt M3x16



2x Nylon Spacer



2x Nylon Standoff



4x Zip Tie



2x Steel Ball



2x Ball Holder



1x Flipper Part 1



1x Flipper Part 2



2x Wheel



2x N20 Motor



1x Mini Trooper Puck

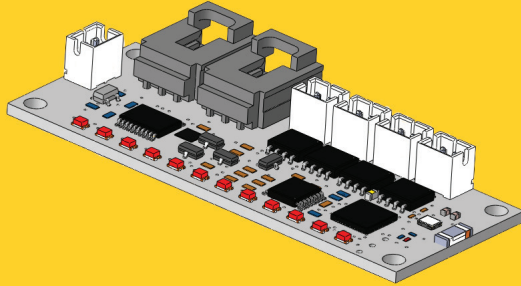


1x Mini Trooper Battery



1x Mini Trooper Battery Charger

ELECTRONICS



Mini Trooper PCB - motor driver board with Bluetooth connectivity. It can control up to 4 DC motors and 2 Servo motors.

TOOLS



Magnetic Screwdriver



Mini Screwdriver



Mini Wrench

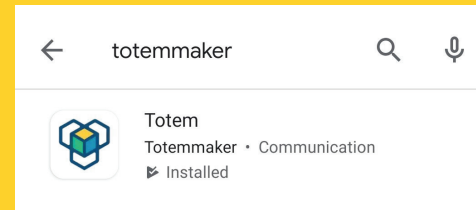


Hex Key

HOW TO CONTROL?

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

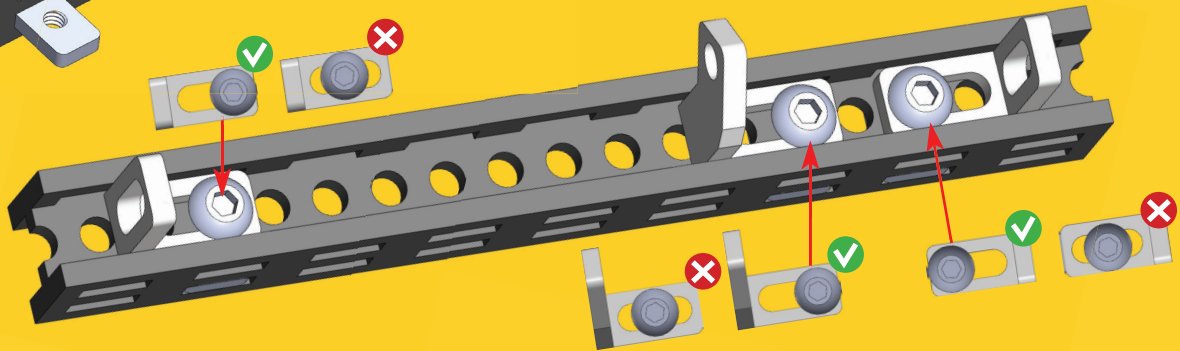
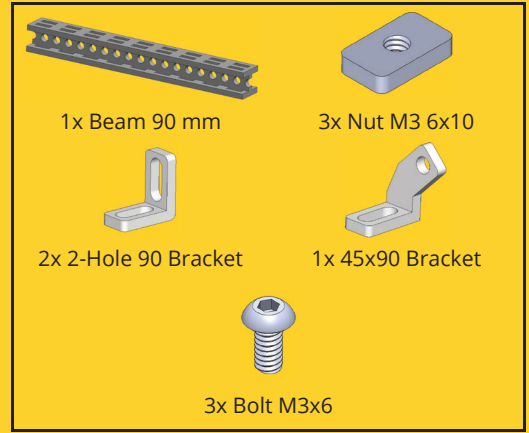
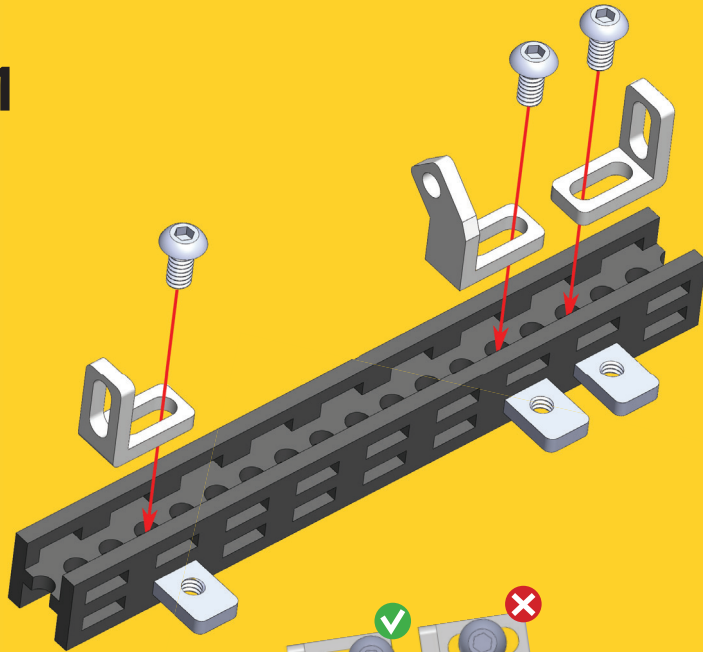
Search for:
Totemaker



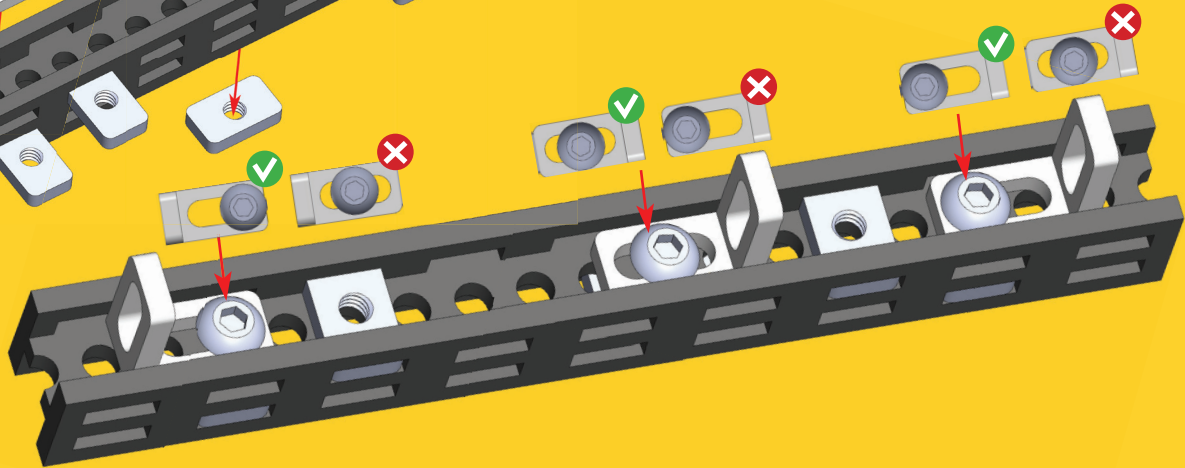
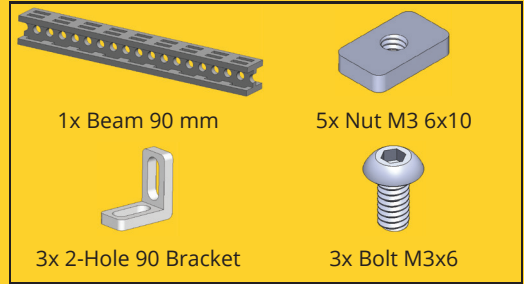
Follow the step by step guide to connect your Mini Trooper to your device.



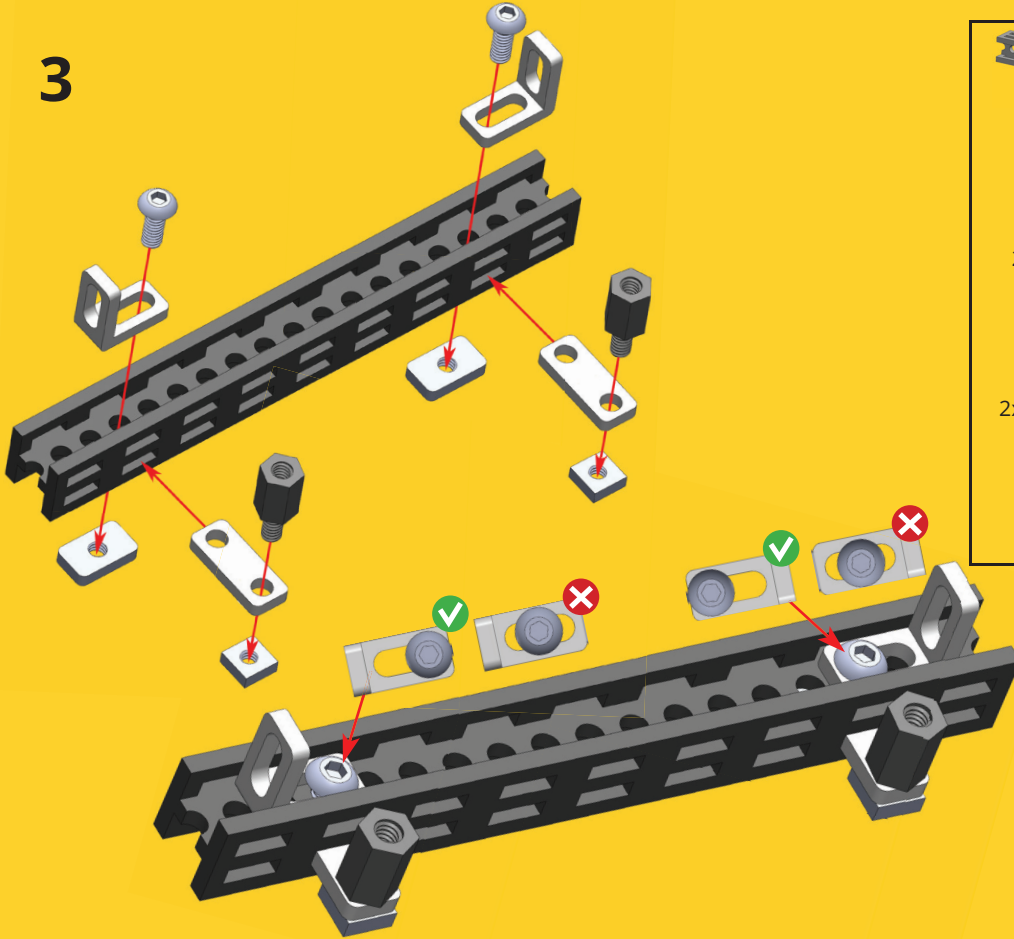
1



2



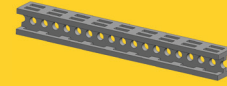
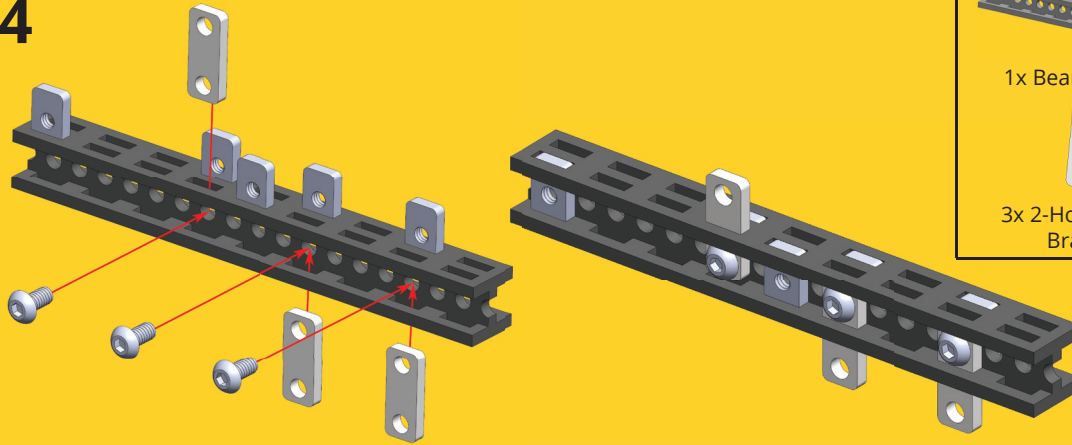
3



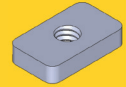
- 1x Beam 90 mm
- 2x Nut M3 6x10
- 2x Nut M3 5.5x5.5
- 2x 2-Hole Simple Bracket
- 2x 2-Hole 90 Bracket
- 2x Nylon Standoff
- 2x Bolt M3x8

Do not use much force when tightening Nylon Standoffs.

4



1x Beam 90 mm



5x Nut M3 6x10



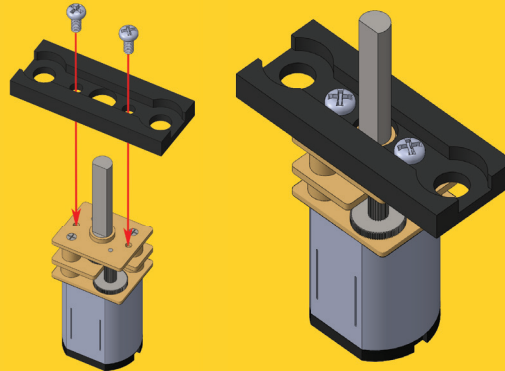
3x 2-Hole Simple Bracket



3x Bolt M3x6

5

Use Mini Screwdriver for these bolts.



1x N20 Motor

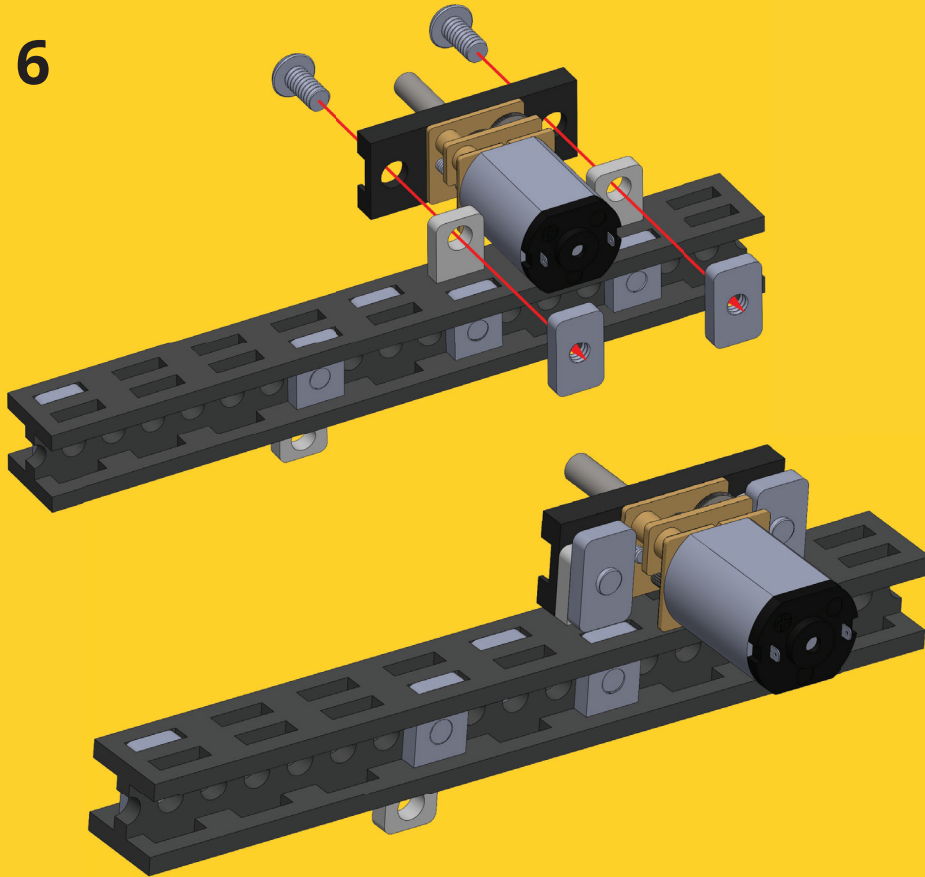


1x N20 Motor Bracket

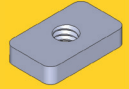


2x Bolt M1.6x3

6



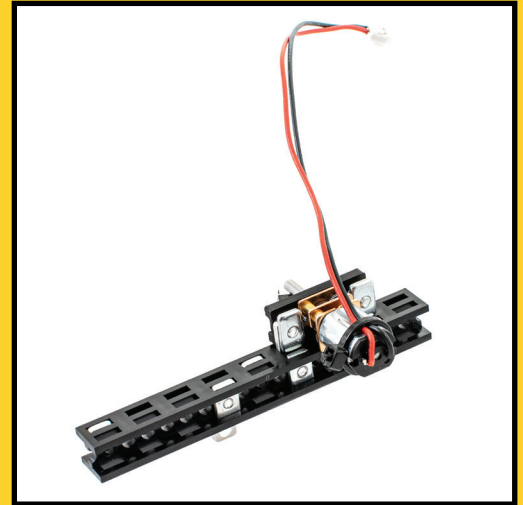
Step 4 assembly



2x Nut M3 6x10

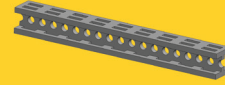
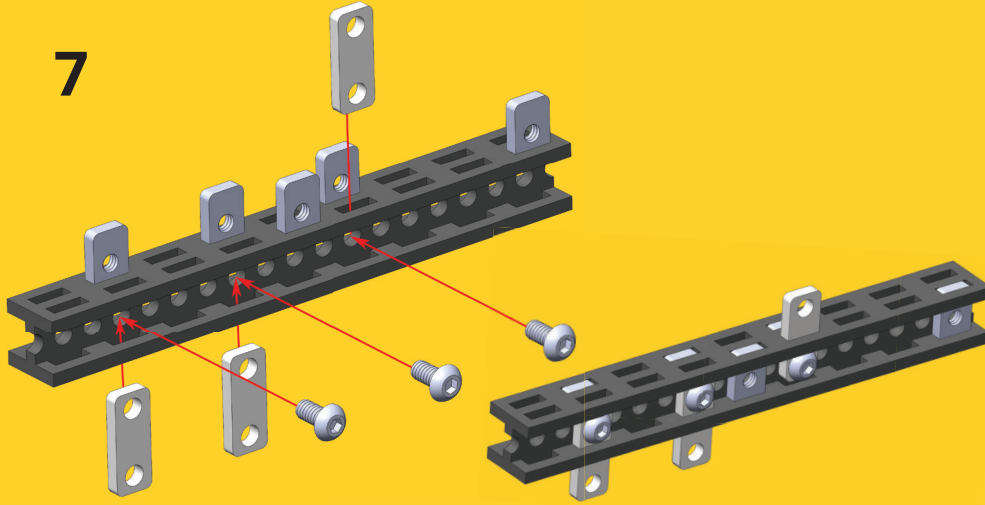


2x Bolt M3x6

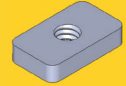


Mind the position of wires.

7



1x Beam 90 mm



5x Nut M3 6x10



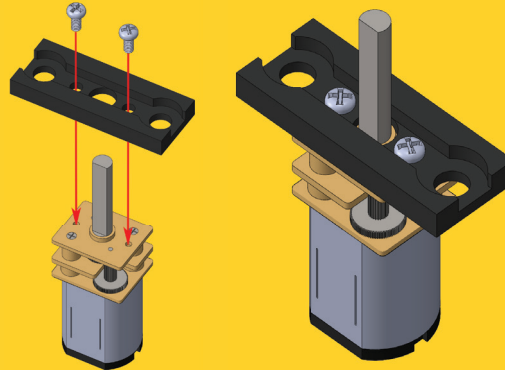
3x 2-Hole Simple Bracket



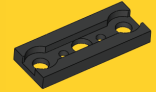
3x Bolt M3x6

8

Use the Mini Screwdriver for these bolts.



1x N20 Motor

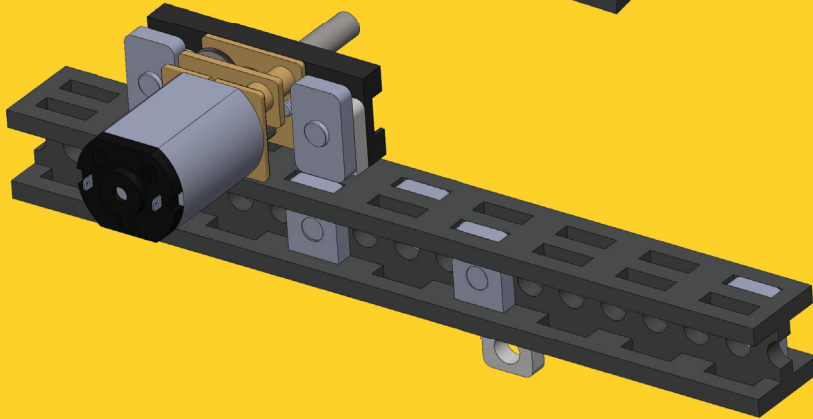
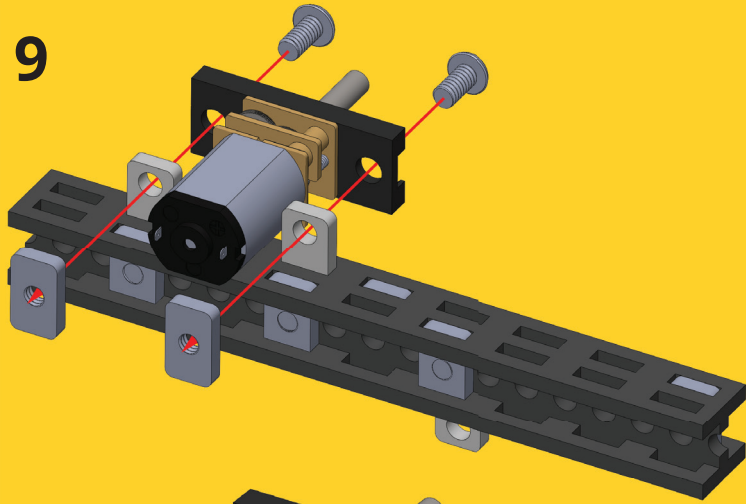


1x N20 Motor Bracket

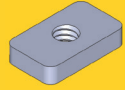


2x Bolt M1.6x3

9



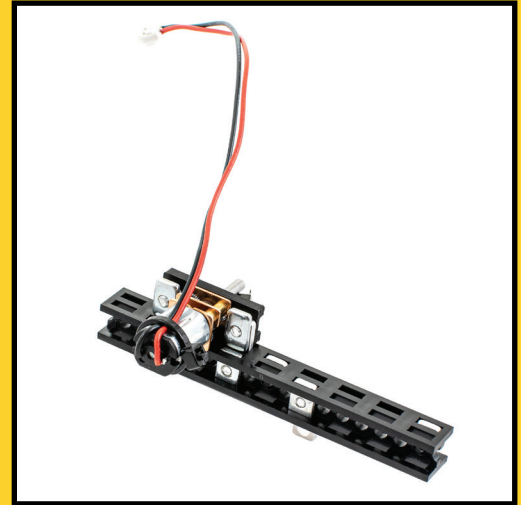
Step 7 assembly



2x Nut M3 6x10

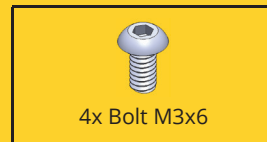
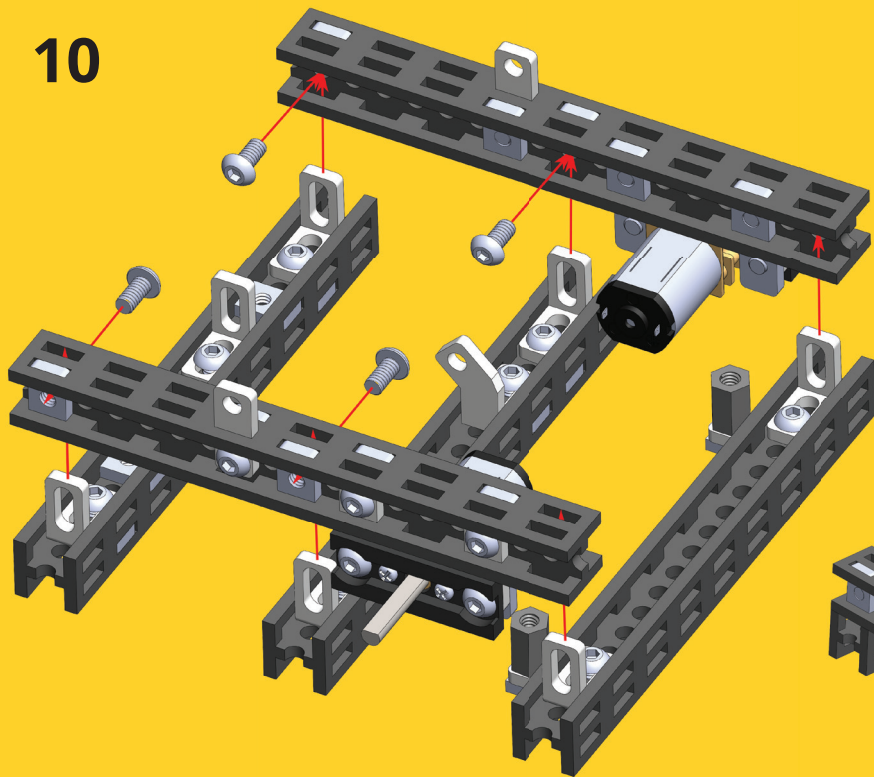


2x Bolt M3x6

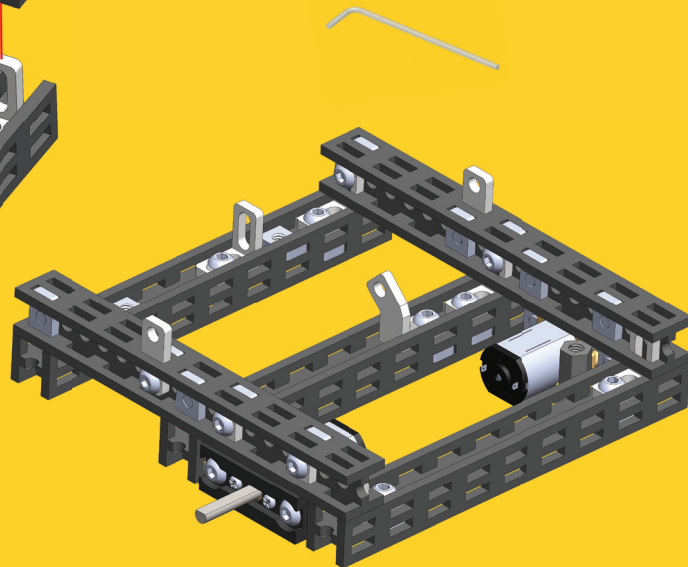


Mind the position of wires.

10



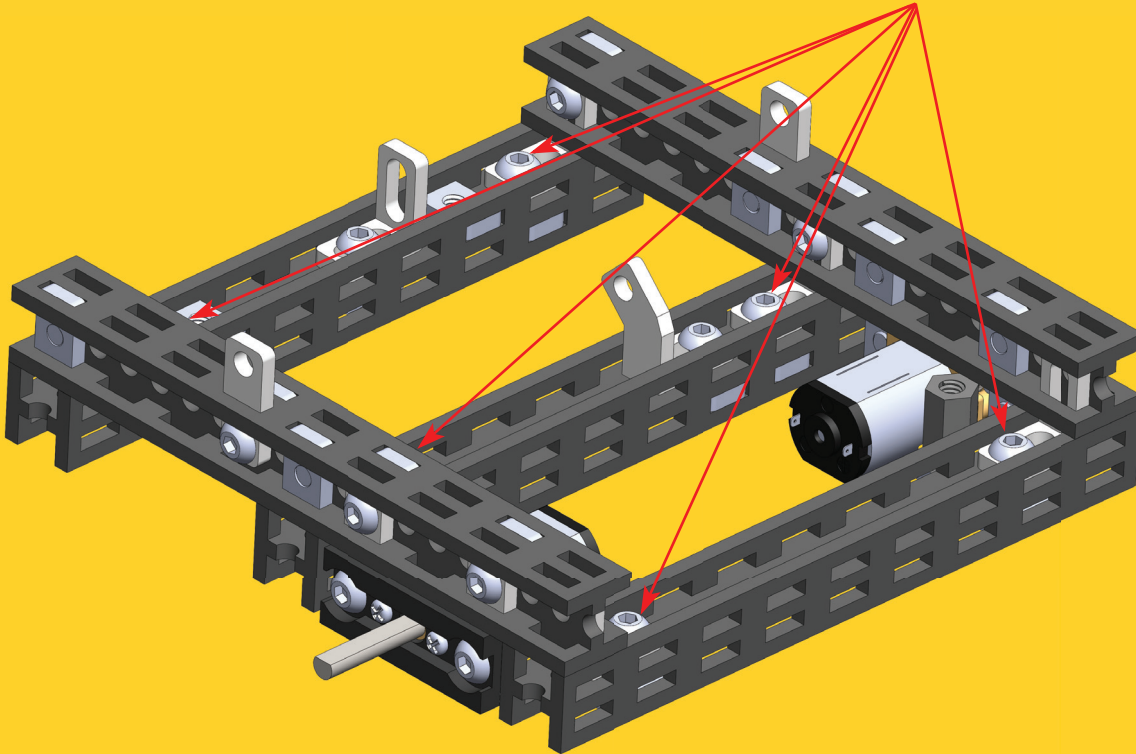
Use the Hex Key for this step.



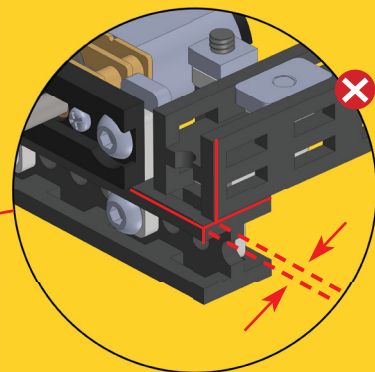
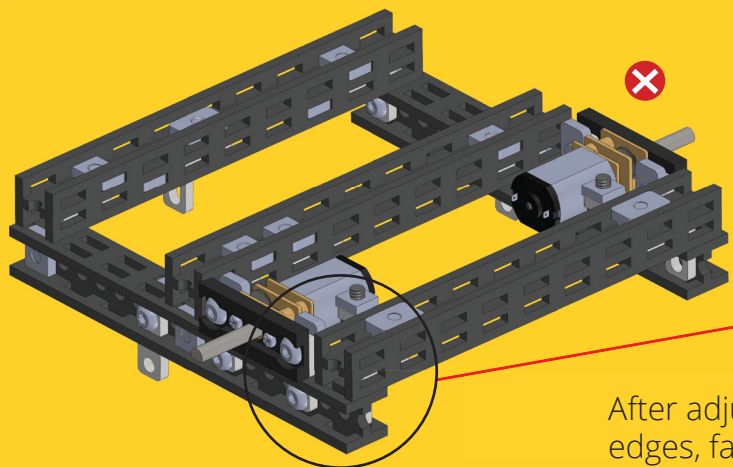
11

 **TRICKY STEP**
00:14:24

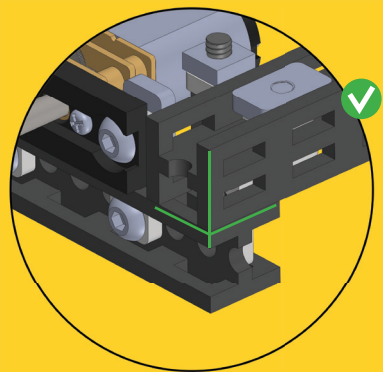
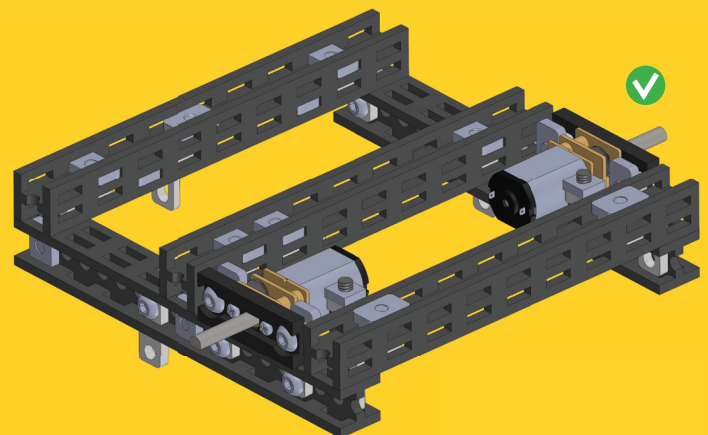
Beams' edges should align nicely.
To do so, loosen these 6 bolts.



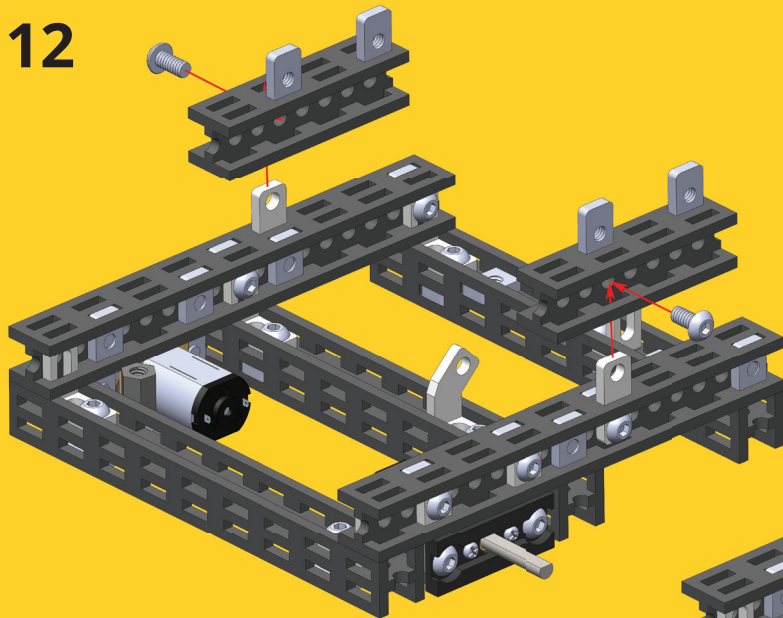
See the next page



After adjusting the beams' edges, fasten the bolts again.



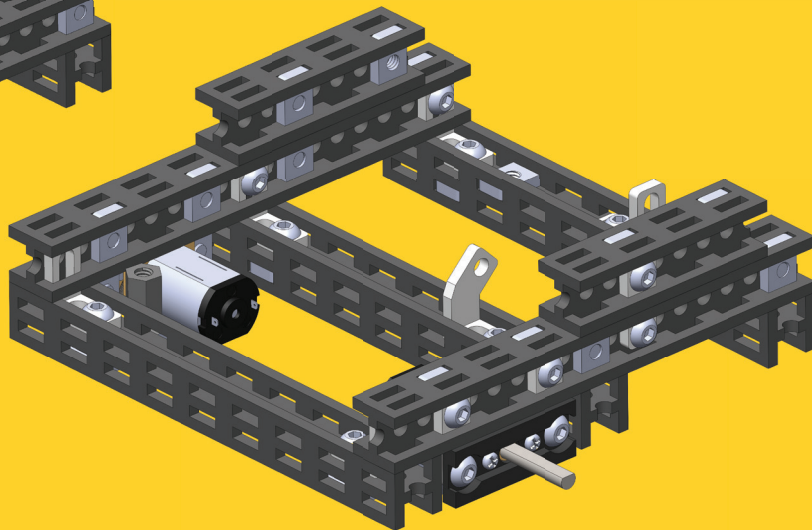
12



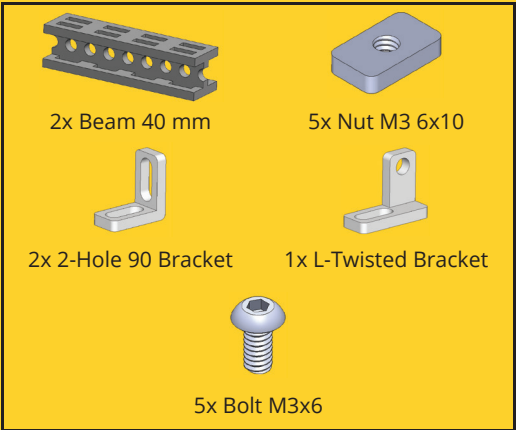
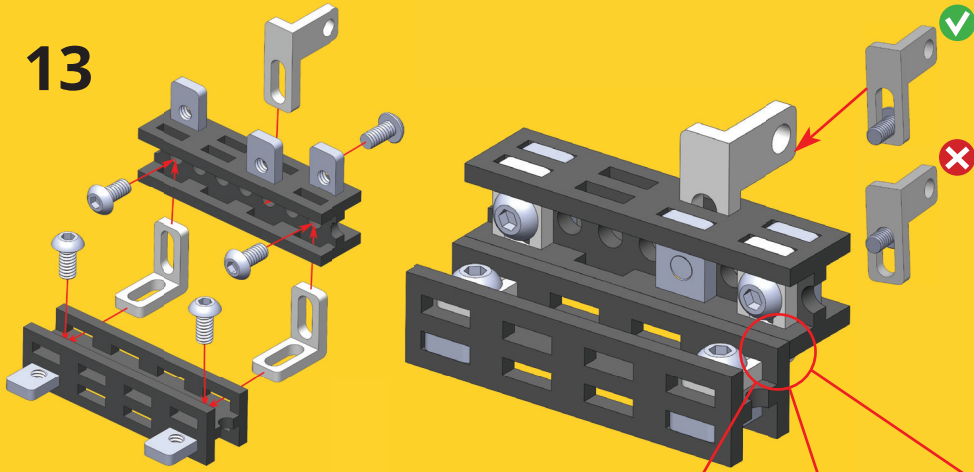
2x Beam 40 mm

4x Nut M3 6x10

2x Bolt M3x6

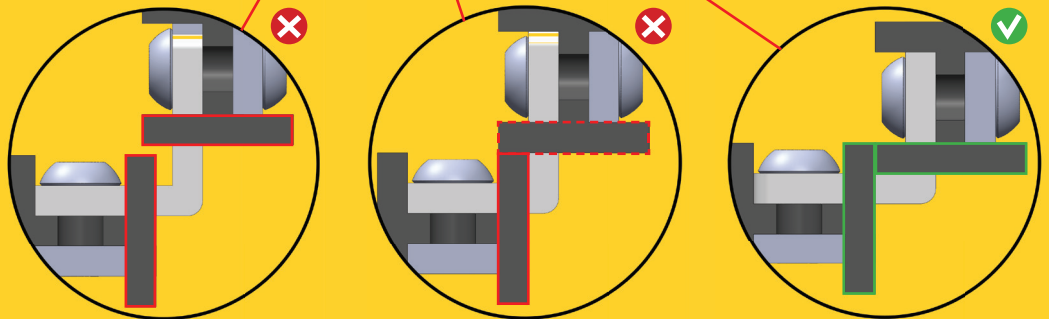


13

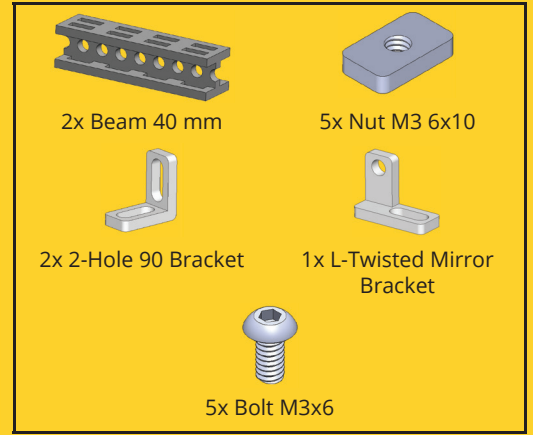
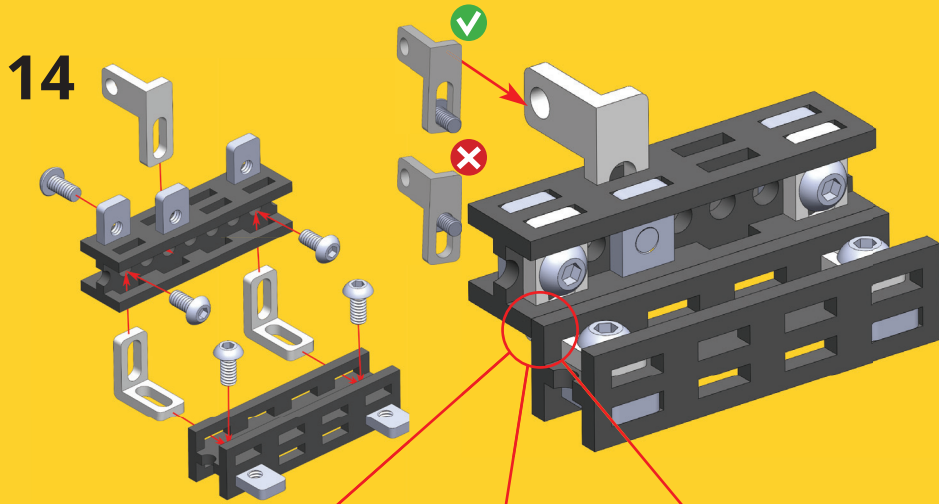


Mind the position of beams.

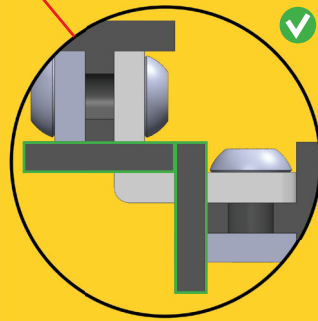
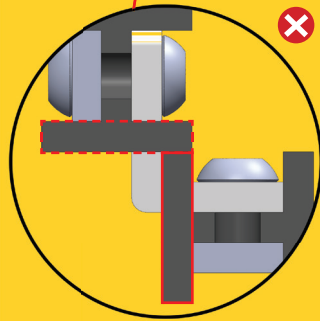
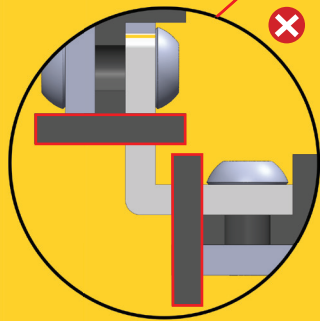
Edges of beams should align nicely. Loosen the bolts and readjust brackets to do so.



14

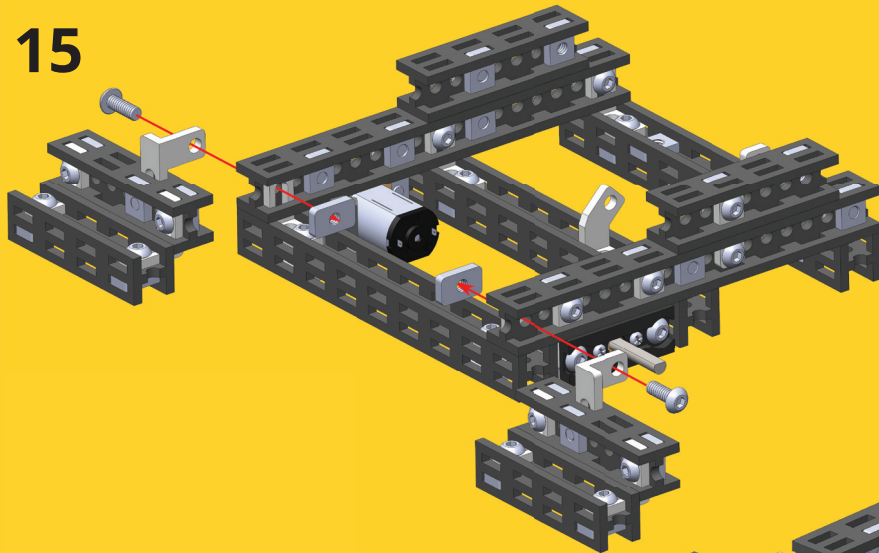



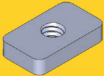
Mind the position of beams.

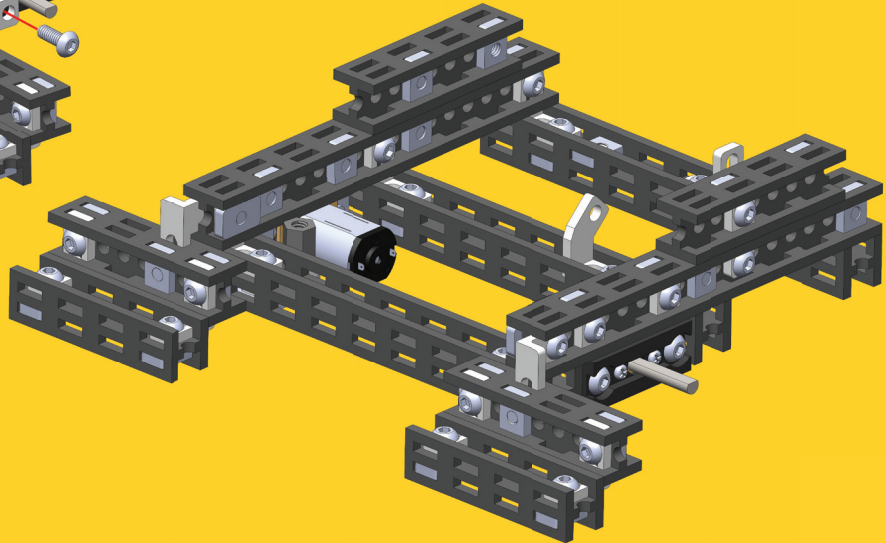


Edges of beams should align nicely. Loosen the bolts and readjust brackets to do so.

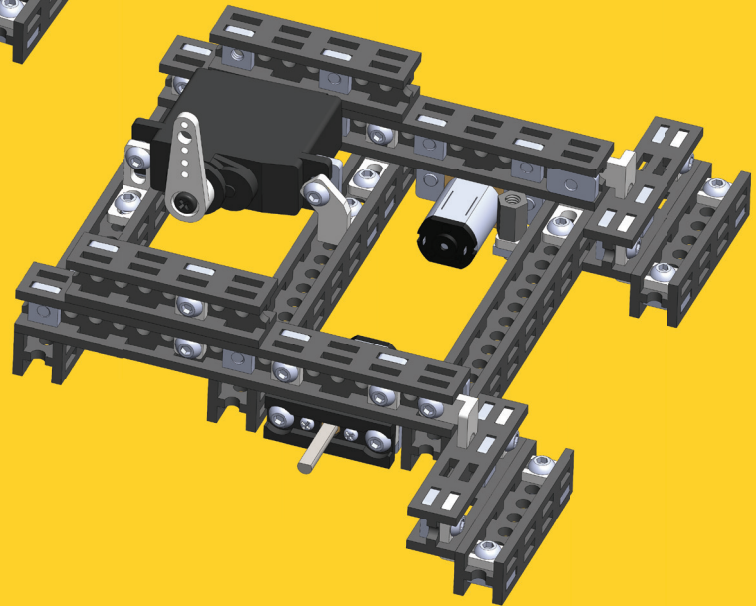
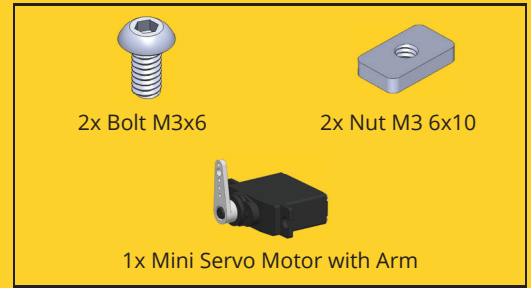
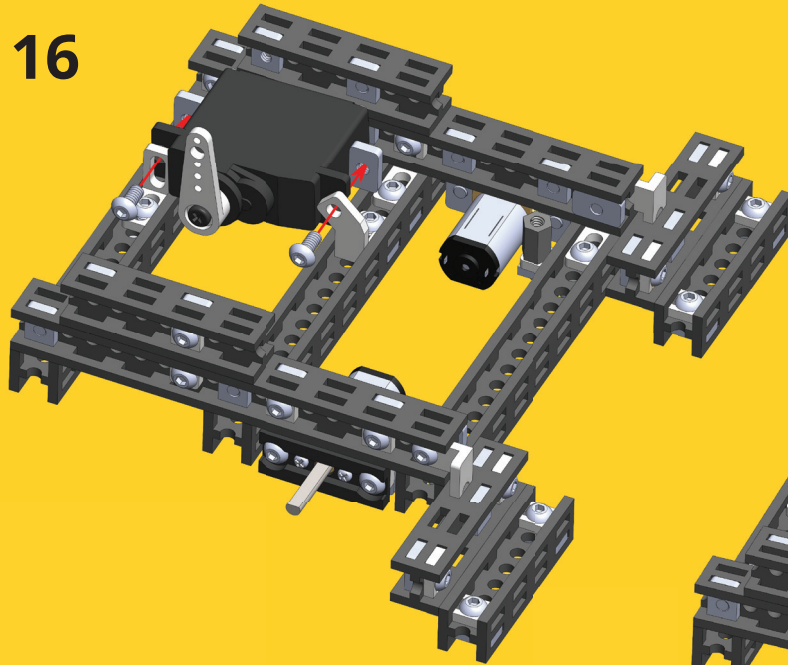
15



	
2x Bolt M3x8	2x Nut M3 6x10

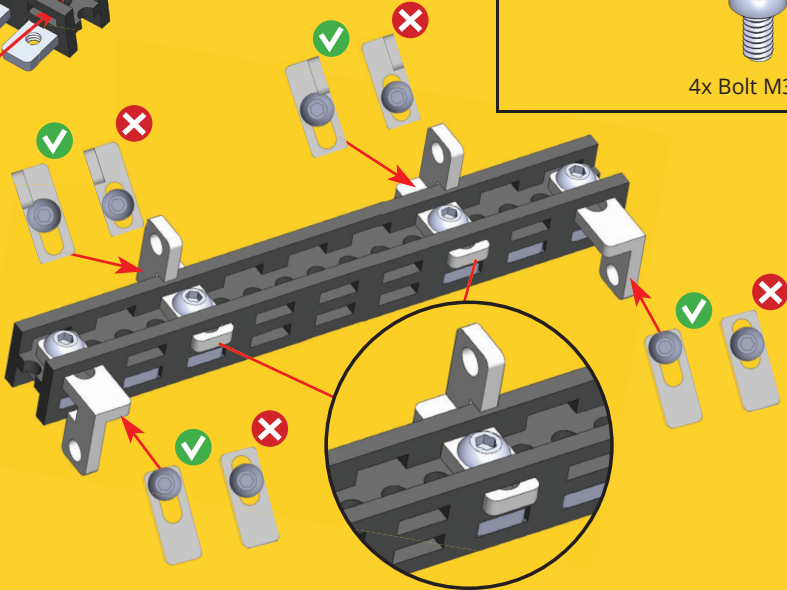
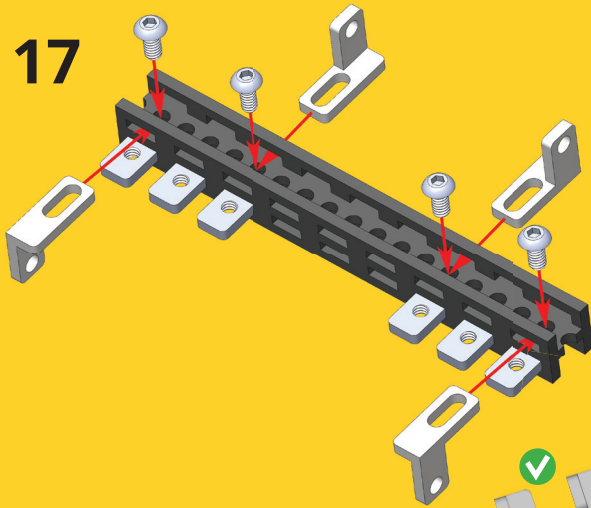


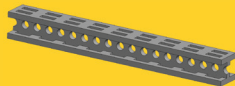




16



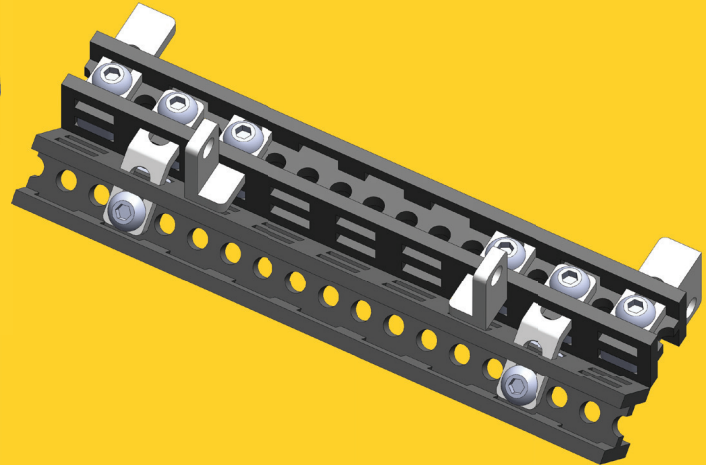
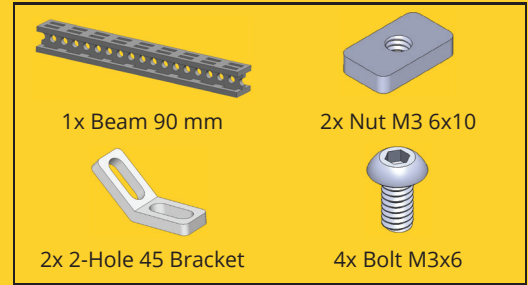
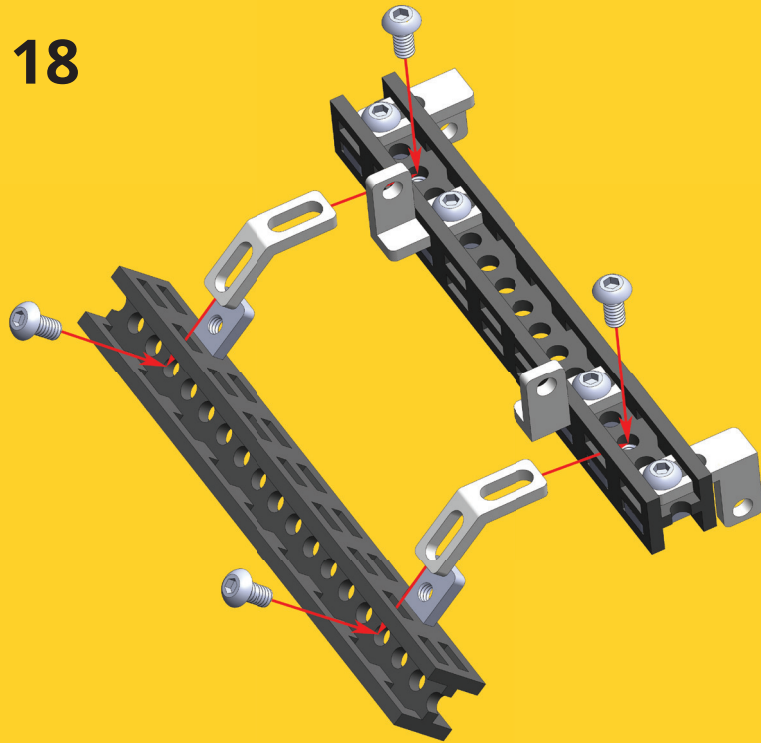
Make sure Servo motor arm looks up.

17

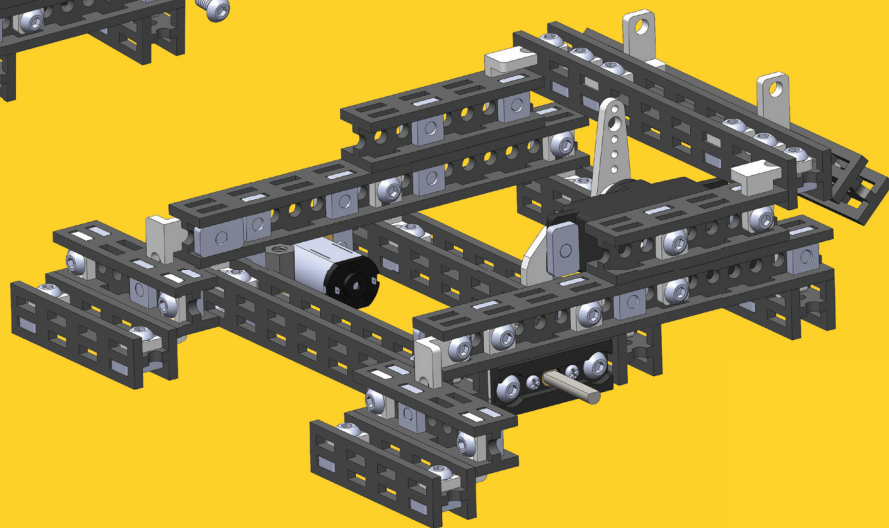
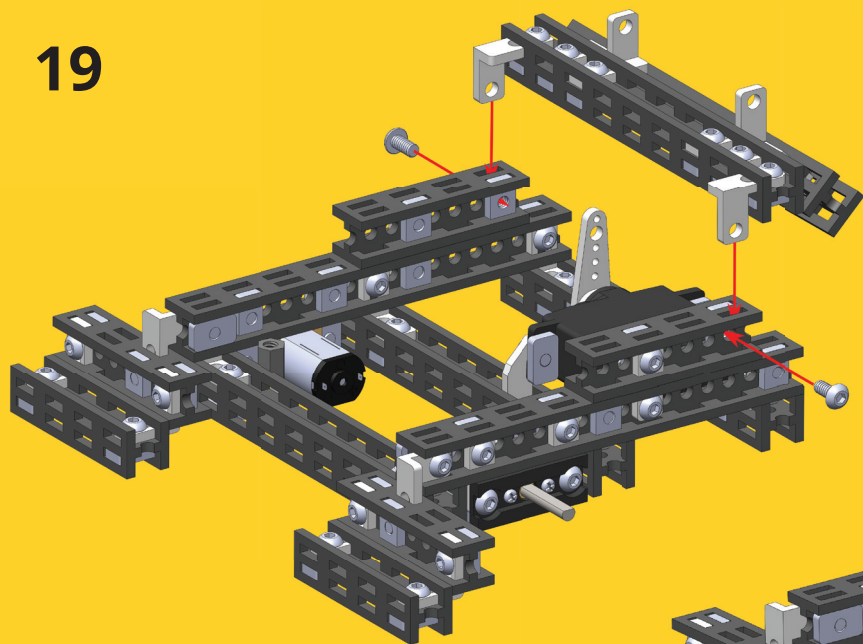


	
1x Beam 90 mm	6x Nut M3 6x10
	
2x L-Twisted Mirror Bracket	2x L-Twisted Bracket
	
4x Bolt M3x6	

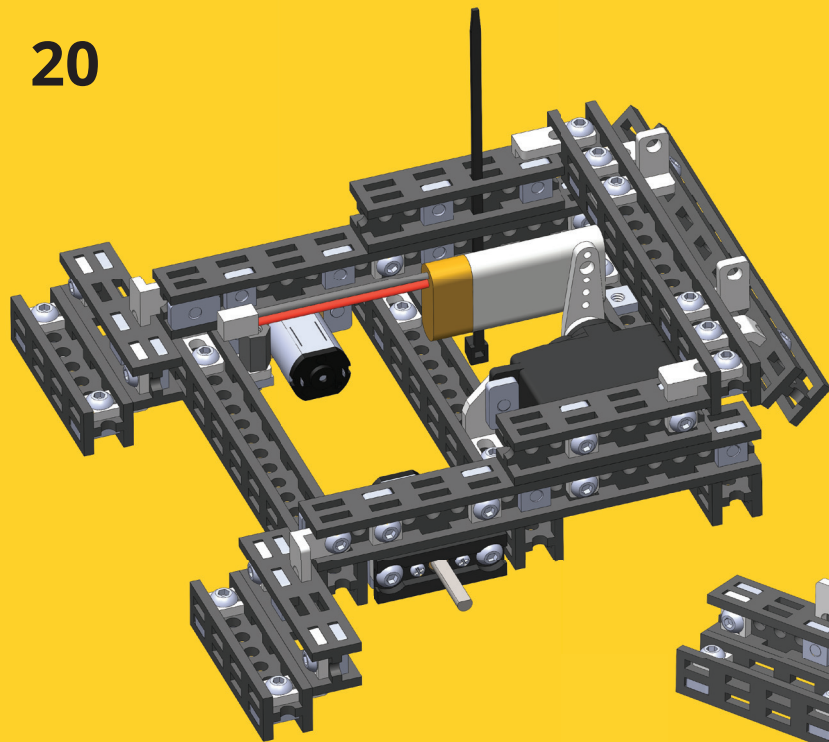
18



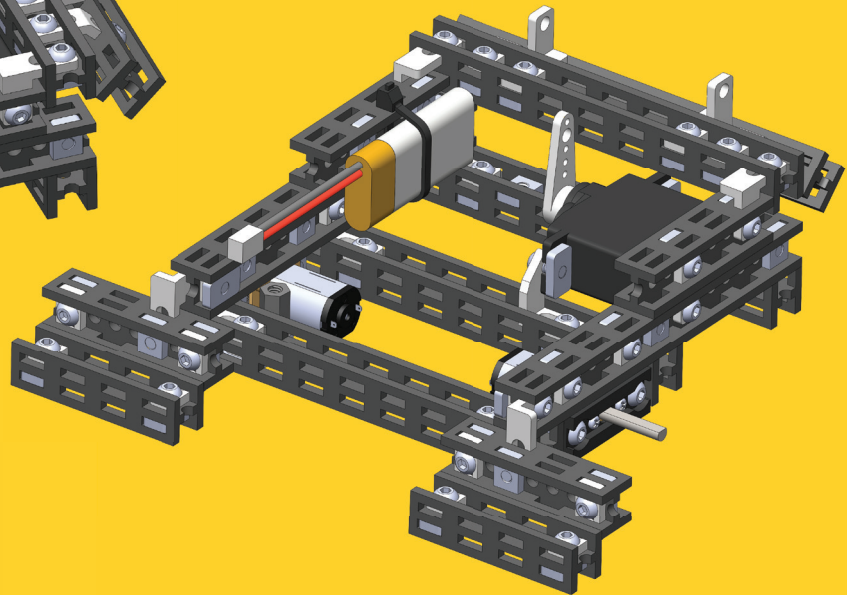
19



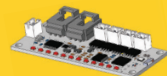
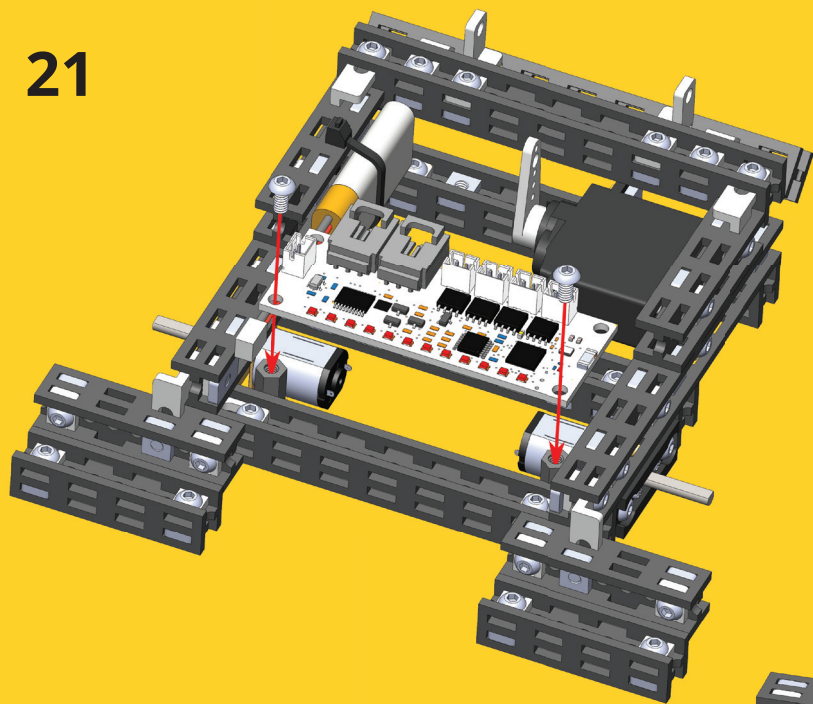
20



	
1x Mini Trooper Battery	1x Zip Tie



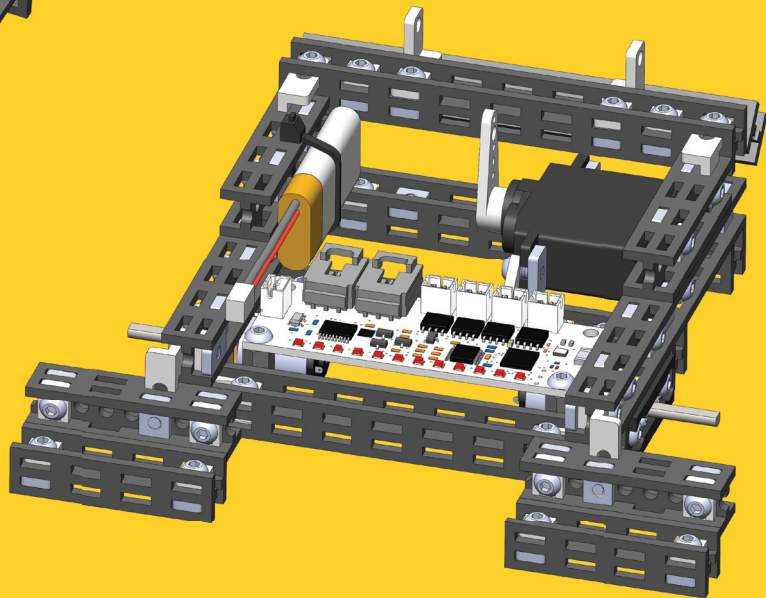
21



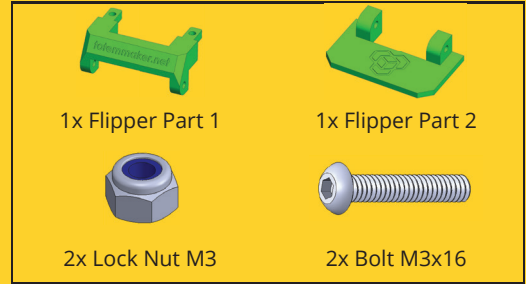
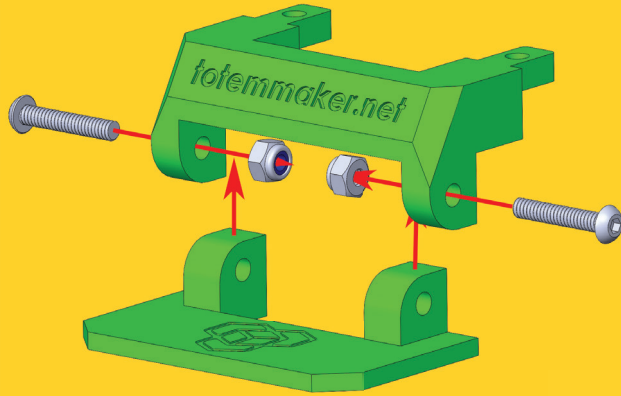
1x Mini Trooper PCB



2x Bolt M3x6



22

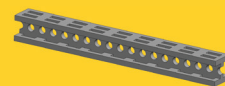
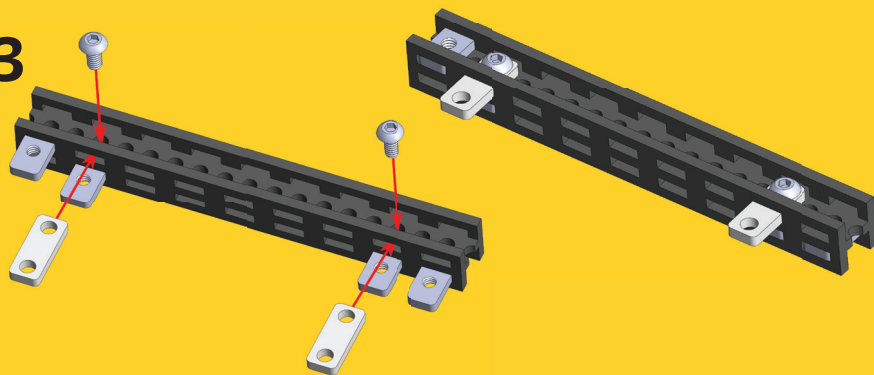


Tighten the Lock nuts just enough to get a smooth hinge rotation movement.

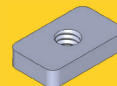
 **TRICKY STEP**
00:31:56



23



1x Beam 90 mm



4x Nut M3 6x10

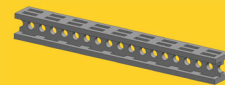
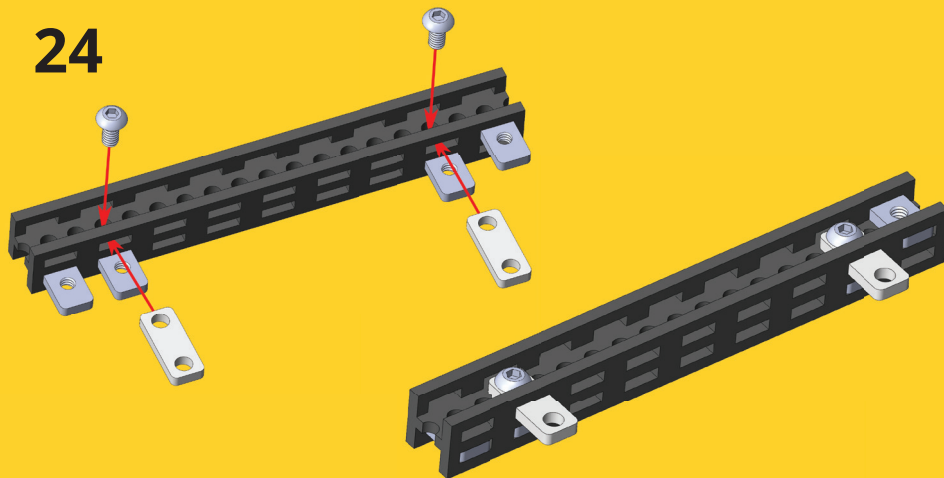


2x 2-Hole Simple Bracket

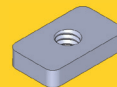


2x Bolt M3x6

24



1x Beam 90 mm



4x Nut M3 6x10

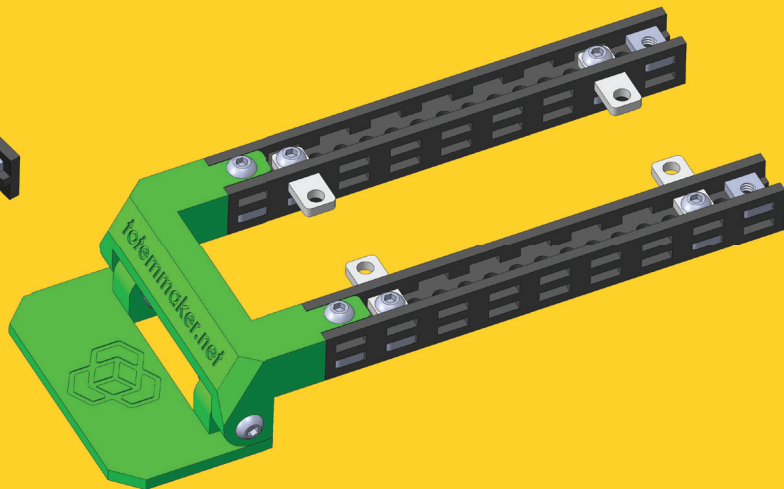
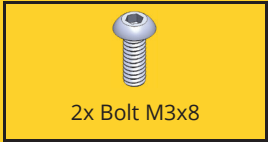
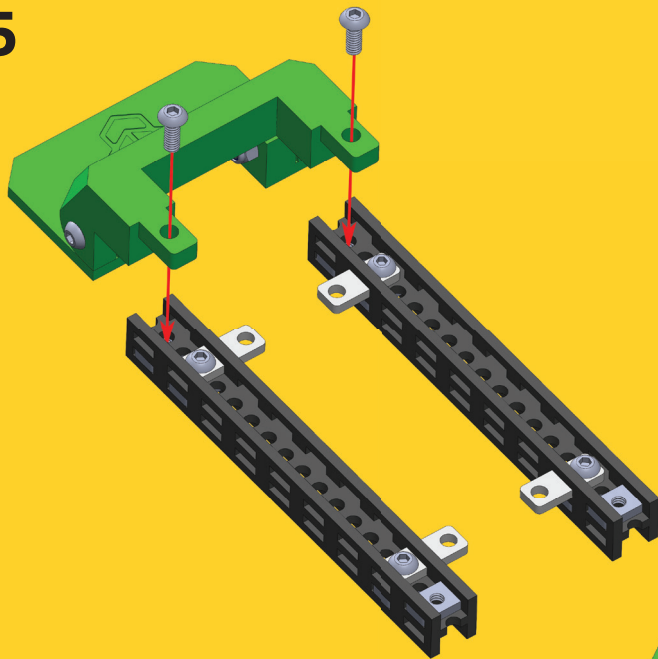


2x 2-Hole Simple Bracket

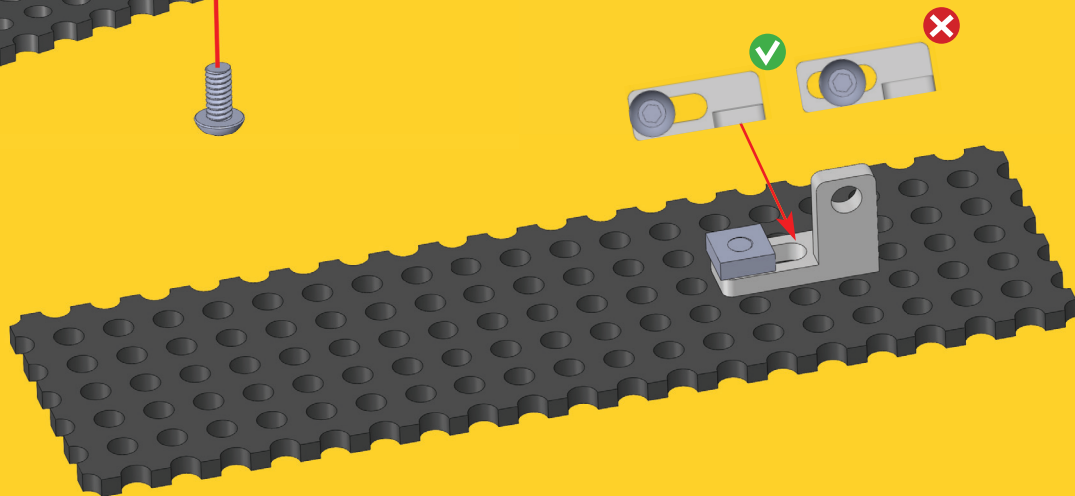
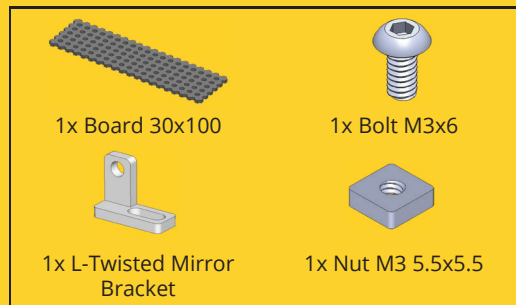
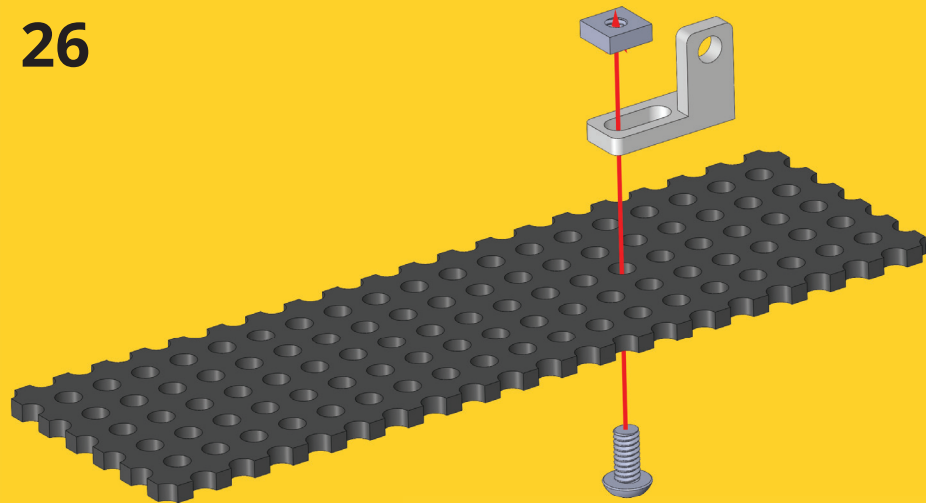


2x Bolt M3x6

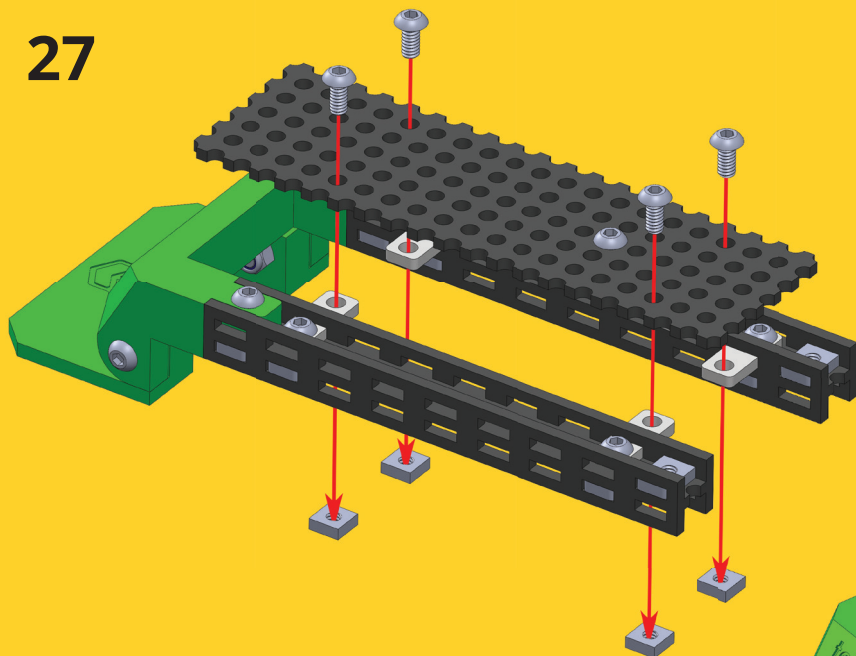
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



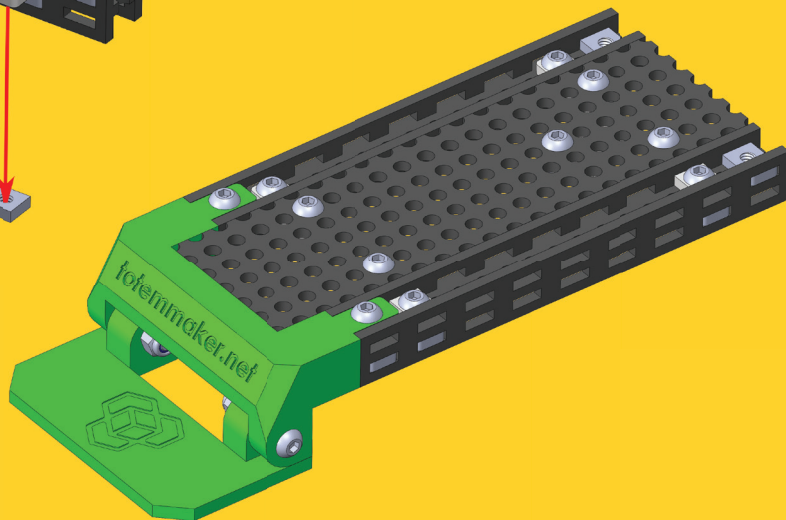
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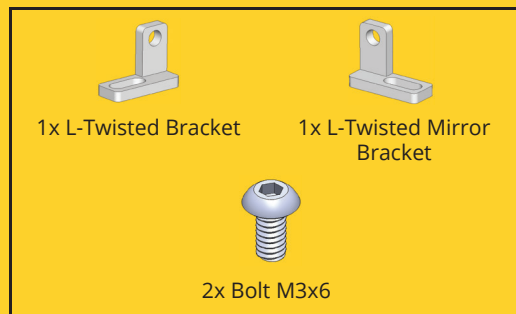
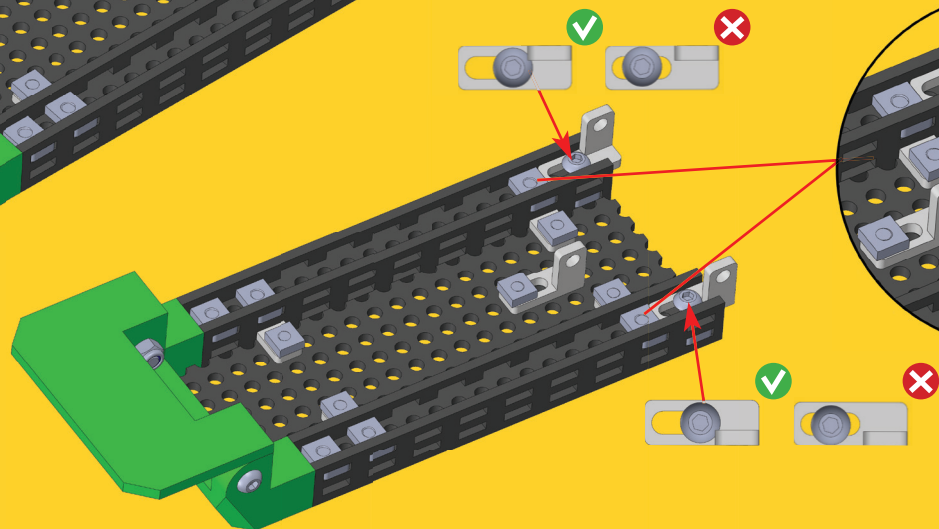
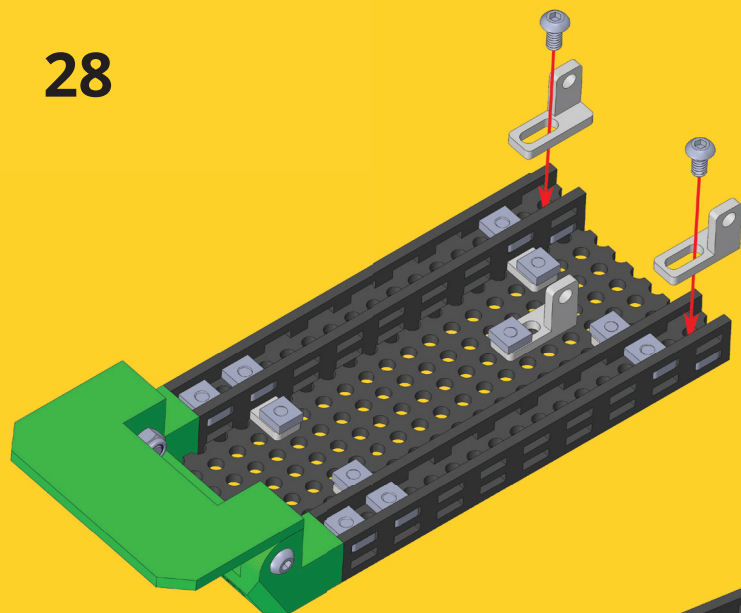
27



	
4x Bolt M3x6	4x Nut M3 5.5x5.5



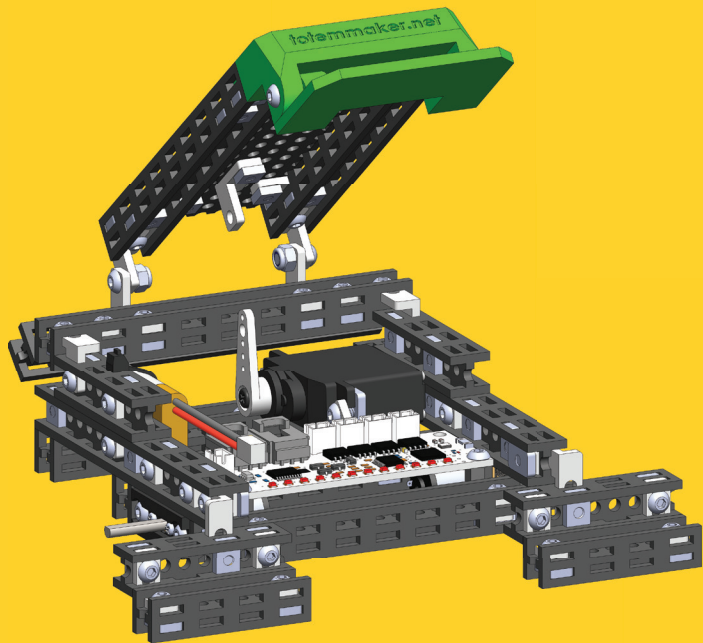
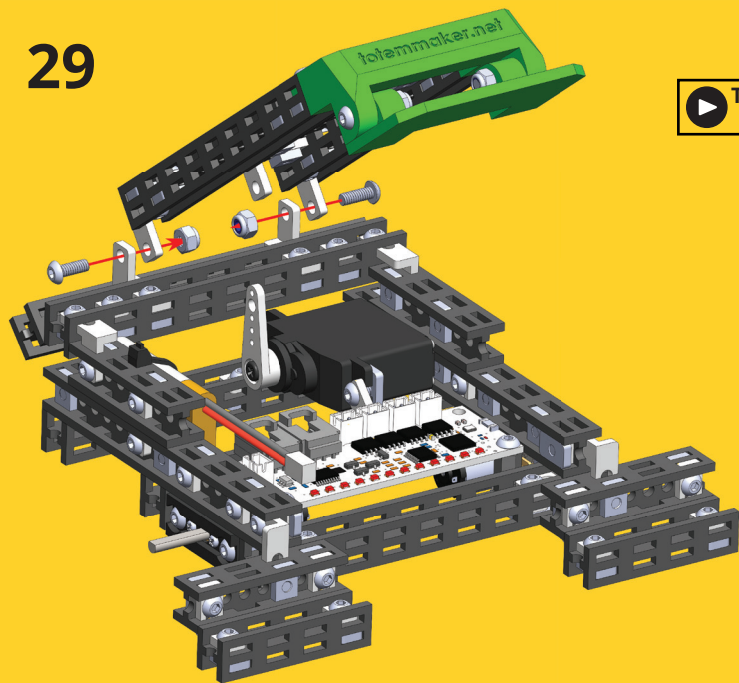
28



Brackets hit the nuts.

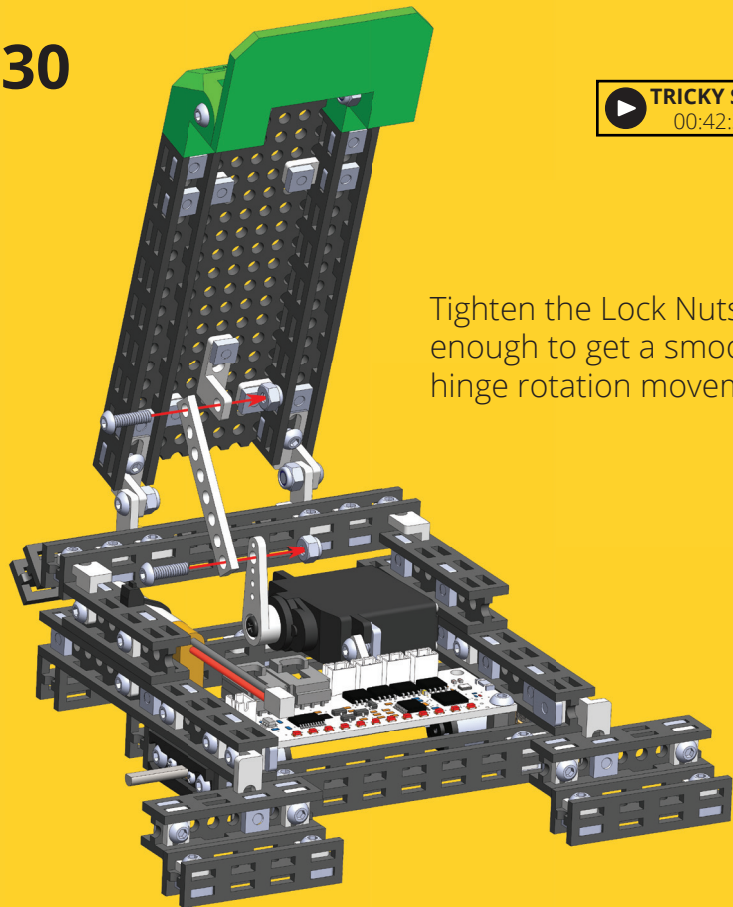
29

TRICKY STEP
00:41:04



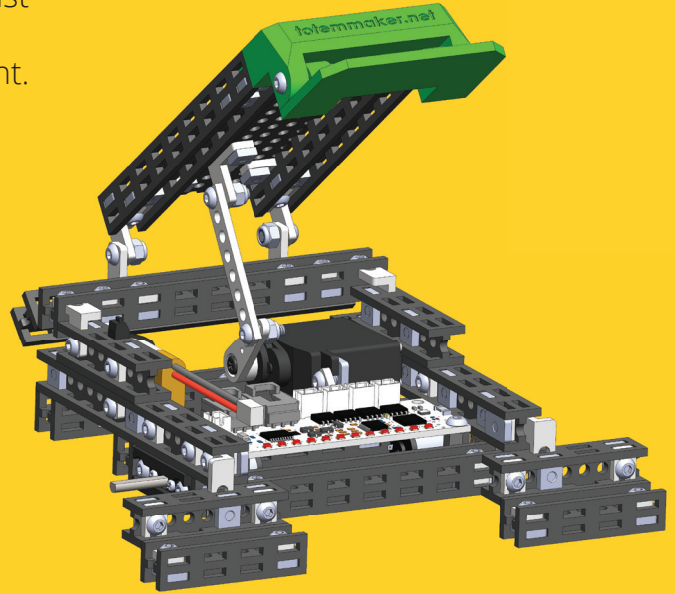
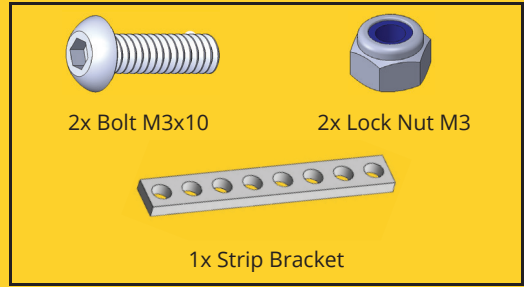
Tighten the Lock Nuts just enough to get a smooth hinge rotation movement.

30

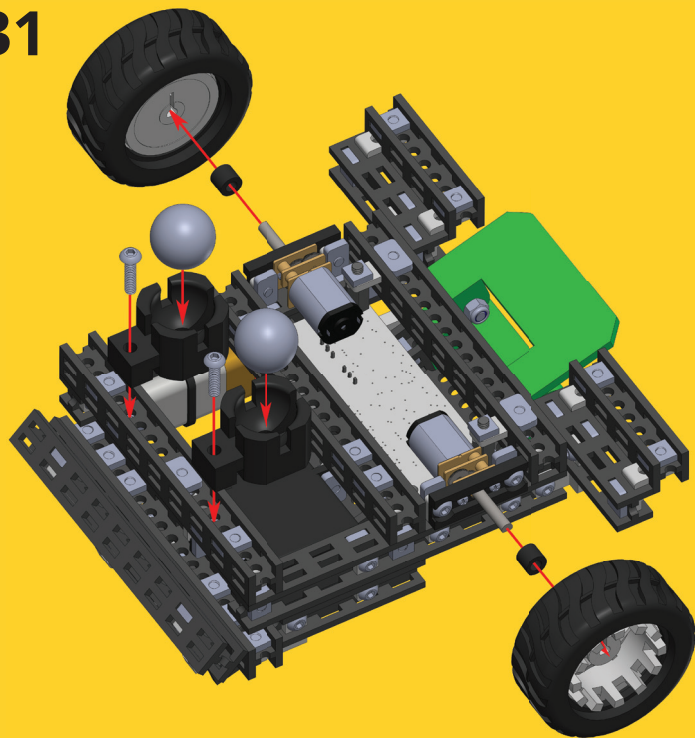







TRICKY STEP
00:42:37

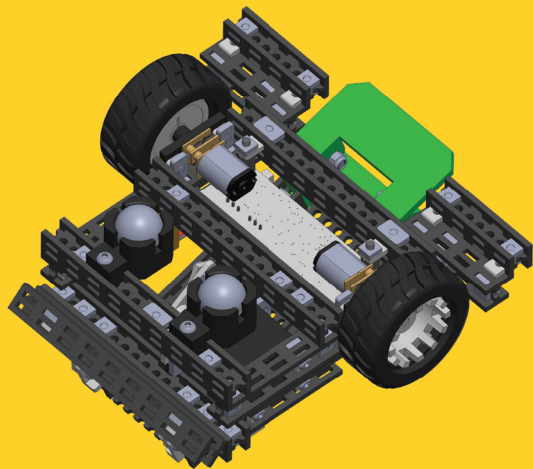
Tighten the Lock Nuts just enough to get a smooth hinge rotation movement.



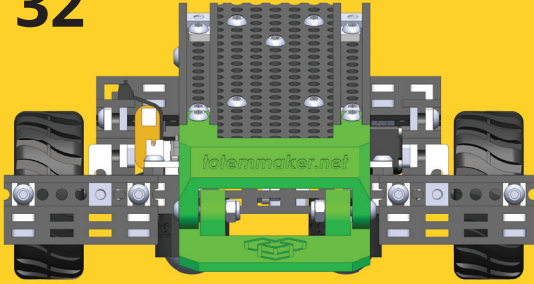
31



	
2x Wheels	2x Nylon Spacer
	
2x Ball Holder	2x Steel Balls
	
2x Bolt M3x12	

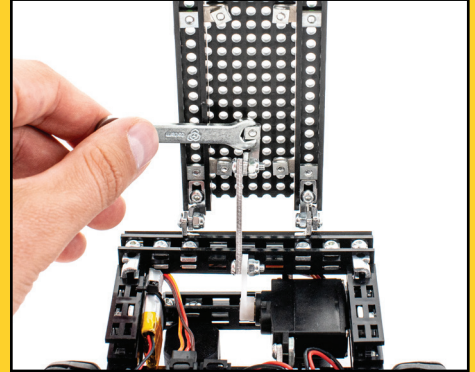


32

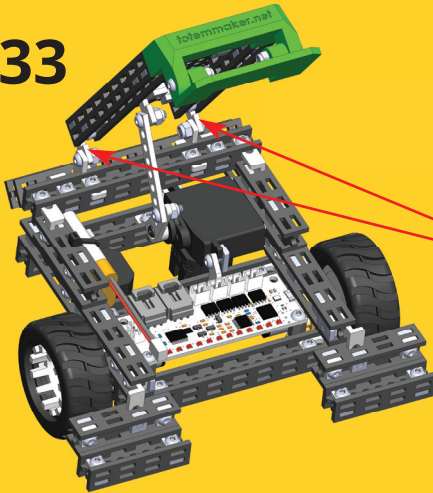


Make sure Flipper can be closed all the way down (it should be touching the bottom beam). If that is not the case, you can fix this by adjusting this bracket.

 **TRICKY STEP**
00:46:54

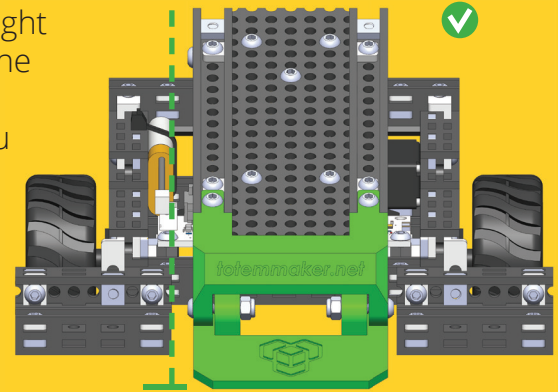


33

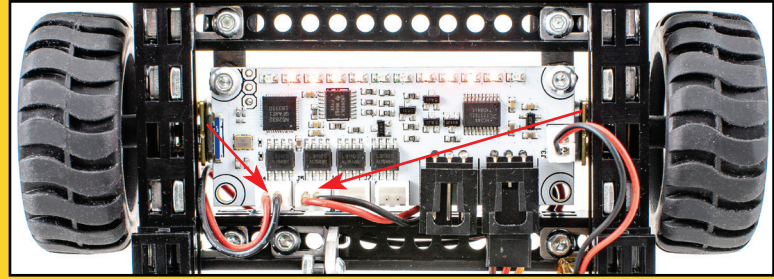
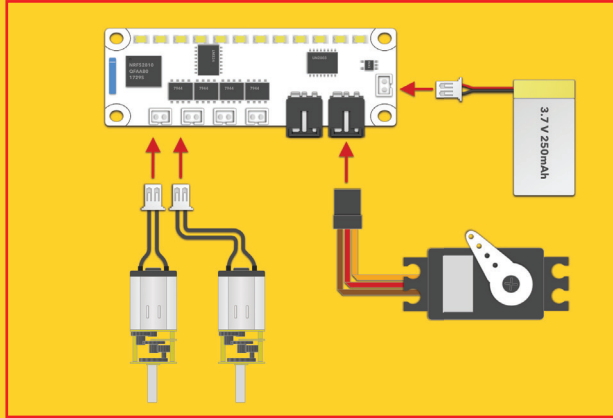


Make sure Flipper is straight and equally in between the front bumpers. If that is not the case, you can fix this by adjusting these brackets.

 **TRICKY STEP**
00:47:36



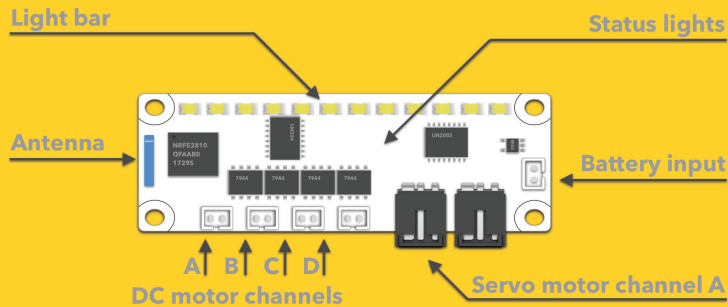
CONNECTING ELECTRONICS



The left N20 Motor should go into the first connector from the left.

The right N20 Motor should go into the second connector from the left.

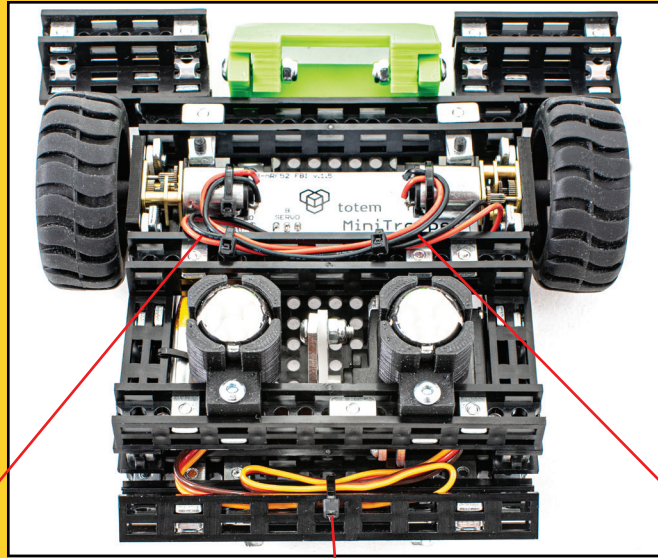
MINI TROOPER PCB



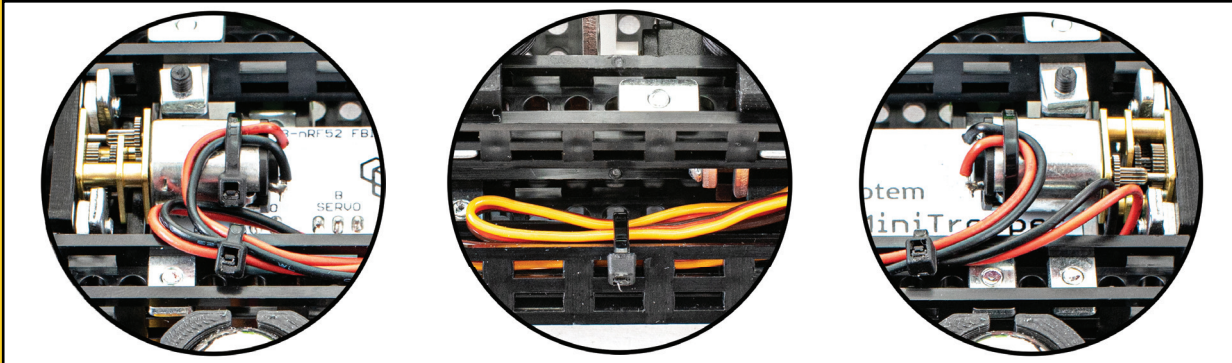
Light Bar – to indicate the battery charge level. Changes lights when successfully connected to the app.

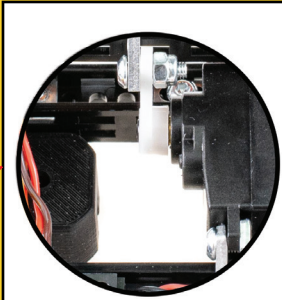
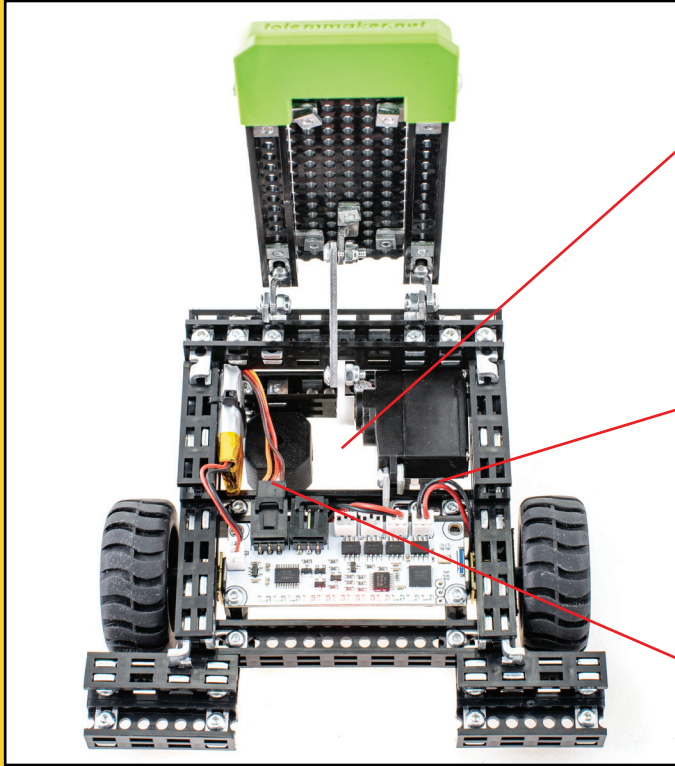
Up to **4 DC motor channels**.

Up to **2 Servo motor channels**.

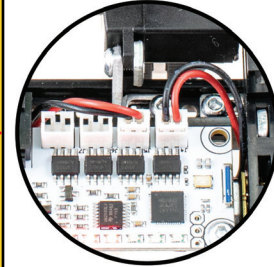


Suggestion how to tie the wires with Zip Tie so they do not hang messy.

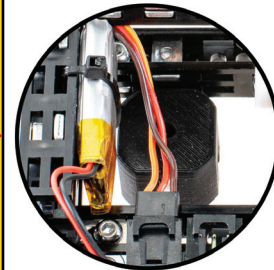




Leave this area empty of wires so Mini Servo Motor Arm can move here freely.



Wires should go in the positions as showed.



TROUBLESHOOT

Can't connect to the Mini Trooper PCB with Totem mobile application.

- Check if Mini Trooper PCB is powered on (LEDs should blink).
- Only one device can be connected to the PCB at a time. Reconnect the battery to reset the PCB or disconnect with another device.
- Check if your device is running the latest version of Totem mobile application.
- Ensure that your device has Bluetooth functionality and location service (GPS) enabled and Totem mobile application has the location permission.
- Close Totem mobile application and run it again (restart).

Servo motor doesn't spin.

Servo motor connector may be plugged in upside down. Flip it over.

LEDs are flashing when battery is not connected and motors are spined manually.

This is a normal behaviour and doesn't indicate any malfunction.

None of the LEDs are flashing when battery is connected.

Battery voltage is low. Charge the battery.

First LED of light bar is flashing when battery is connected.

Battery voltage is low. Charge the battery.

DC motors are twitching or decelerates while driving.

Battery voltage is low. Charge the battery.

DC motor spin direction is incorrect.

- Check instruction manual if motors are plugged to appropriate DC motor sockets.
- Connect to Mini Trooper using Totem mobile application. Go to "Settings" and switch "DC motor pins" to "Inverted". Write changes by clicking "Save".
- A button configuration may be wrong. Reinstall Totem mobile application in order to reset all the settings.

GAMES

Congratulations on finishing the assembly of Mini Trooper! Time to test it out. Looking for game ideas? Try these:

Sumo



Make a field with the tape.
Try to push your opponent out of bounds.
First player to get out of bounds for 5 times loses.

Flipper



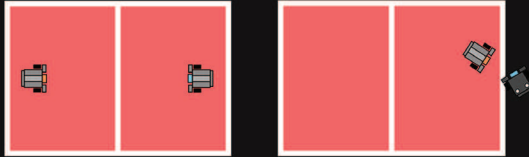
Objective of the game is to flip your opponent while avoiding getting flipped.
Player to turn over his opponent 10 times wins.

Note: when your opponent is upside down you have to let him recover to the starting position (additional points for flipping during recovery process will not count).

Before each game please inspect your Mini Trooper to see if everything works properly. Most common issues:

- Bolts become loose because of intense usage - tighten them periodically.
- Frame loses shape because of heavy contact - adjust brackets' positions periodically.

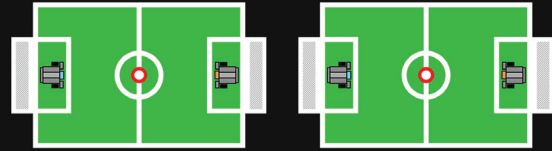
Battle Royale



Objective of the game is to flip your opponent while avoiding getting flipped. Player to turn over his opponent 10 times wins.

Note: when your opponent is upside down you have to let him recover to the starting position (additional points for flipping during recovery process will not count).

Football



Make a field with the tape and use the Mini Trooper Puck as a ball. Try to get the ball to the opponent's goal box.

If the ball gets out of bounds and your bot was the last one who touched the ball then possession goes to your opponent. No fouls - you can flip your opponent to easier steal the ball from him. Player to reach 5 goals wins.



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.

CONSUMER INFORMATION

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 vehicle while in motion.
- Keep fingers, hair, and loose clothing away from rotating wheels, to avoid the injury.
- Adult supervision is required when this vehicle is being operated.
- If you stopped operating the vehicle, remember to unplug the battery, to avoid accidental operation.
- If the vehicle is dirty, please clean it with dry and soft cloth. Do not clean electronics.
- Do not expose the vehicle 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.

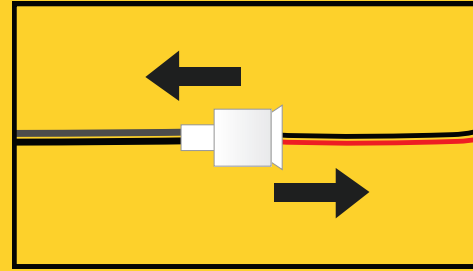
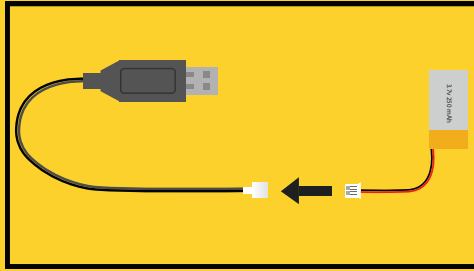
BATTERY SAFETY INFORMATION:

- This vehicle 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 vehicle. 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 1). 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 2).
- 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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www.totemmaker.net

Aldrea filalas Totem, UAB

Sauletekio al. 15-709, Vilnius, 10224, Lithuania

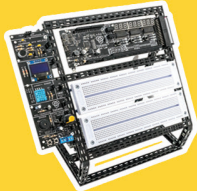
For customer support please contact: support@totemmaker.net

WARNING:

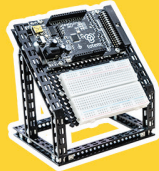
CHOKING HAZARD - Small parts.
Not for children under 3 years.



Discover more of Totem:



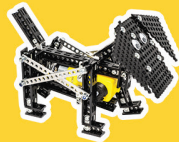
Mini Lab



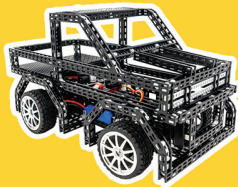
Micro Lab



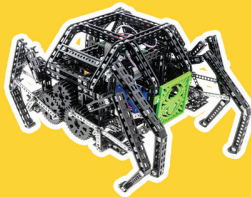
4 Wheel Drive



Junior Creator Kits



T.R.U.C.K. Car Kit



Spider

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