

ZEPHYR

More Than Just Play

MECHANIX

ROBOTIX-2®

ENGINEERING SYSTEM FOR CREATIVE KIDS

Motorized

AGE 8 to 99

MODELS - 8

PIECES - 166



Do - it yourself manual

- Read all instructions carefully before constructing.
- Place all the pieces used in a step on the side before starting.
- Always remove batteries when not in use.

Skills Developed



Dear Friends!

Zephyr brings yet another international engineering set of Mechanix for you, to have fun & learn. This set contains 166 pieces, crafted from high quality steel, which are powder coated, superior plastics & selected tools which will be friendly to your hands so that you have fun while creating various models. You can use these parts over & over again to create at least 8 models and many more as far as you imagination flies.

So come on get started!



BASIC FITTINGS

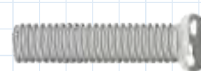
Hold the spanner in place while turning the screw driver.



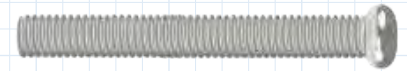
Screw size information



Bolt 6 mm



Bolt 12 mm

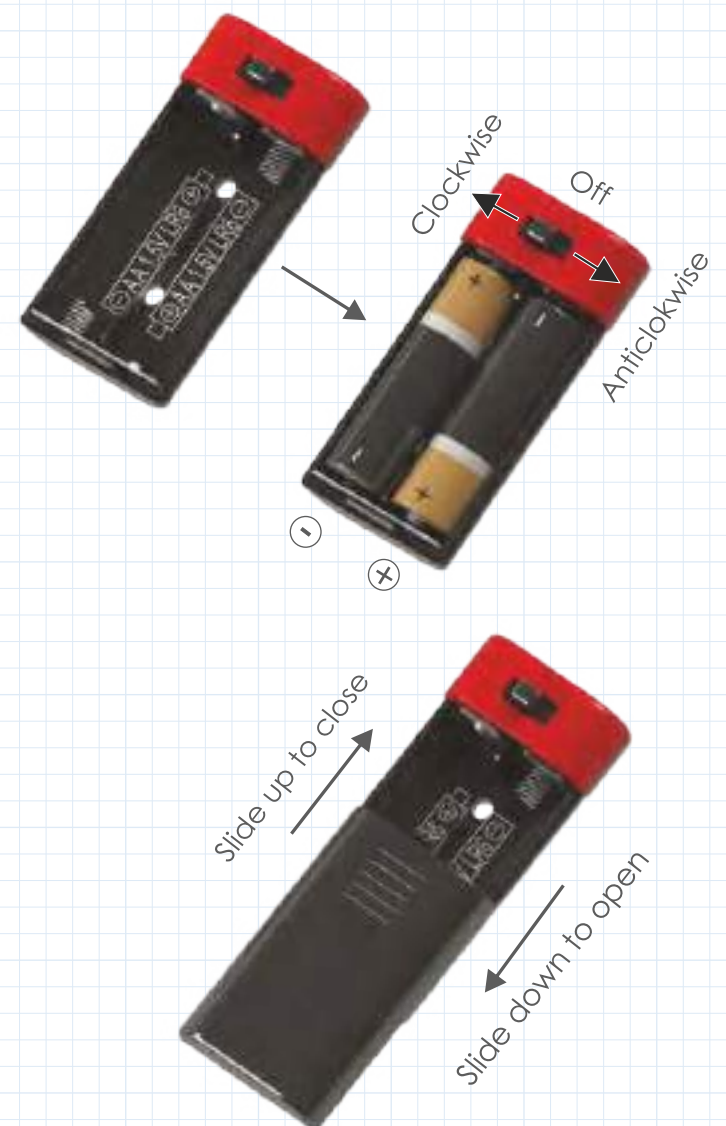


Bolt 25 mm

Make sure you are using correct bolts by comparing it to the image in the contents.
All bolt images are of actual size.

Safety Guidelines

- 1 Do not mix old and new batteries.
- 2 Do not mix alkaline, standard (Carbon-Zinc) or rechargeable (Nickel-Cadmium) batteries.
- 3 Batteries are to be inserted by matching (+) and (-) polarity markings as shown in the image.
- 4 Non-rechargeable batteries are not to be charged.
- 5 Rechargeable batteries are to be removed before being charged.
- 6 Exhausted batteries are to be removed from toy.
- 7 The supply terminals are not to be short-circuited.
- 8 The kit is not intended for children under 3 years old.
- 9 Remove batteries before cleaning any part of the toy.
- 10 Prevent wire from coming in contact with the moving parts.



Add 2 x 1.5 V "AA" size batteries

Do you know what is the stick with a knob near the driver in a car? It's a gear lever! But what are gears used for? Two things.

1. To change speed
2. To increase or decrease torque.

Gears are very interesting because if you increase speed with a gear, the torque reduces and if you decrease speed, the torque increases. And this happens in proportion, which means if the speed becomes half, the torque doubles!

So now that we know how this works, can you figure out which gear in a car has maximum torque? The first gear! But the speed is least. And in the top gear, the speed is highest but torque is low. This is why you might notice that while going up on a slope, you need more torque and the driver sometimes has to reduce the gear.

There are many different types of gears, like spur gear, bevel gears, helical gears, worm gears etc. In these models you will understand how a worm gear works with a spur gear.

Calculations:

This calculation is applicable for worm gears.

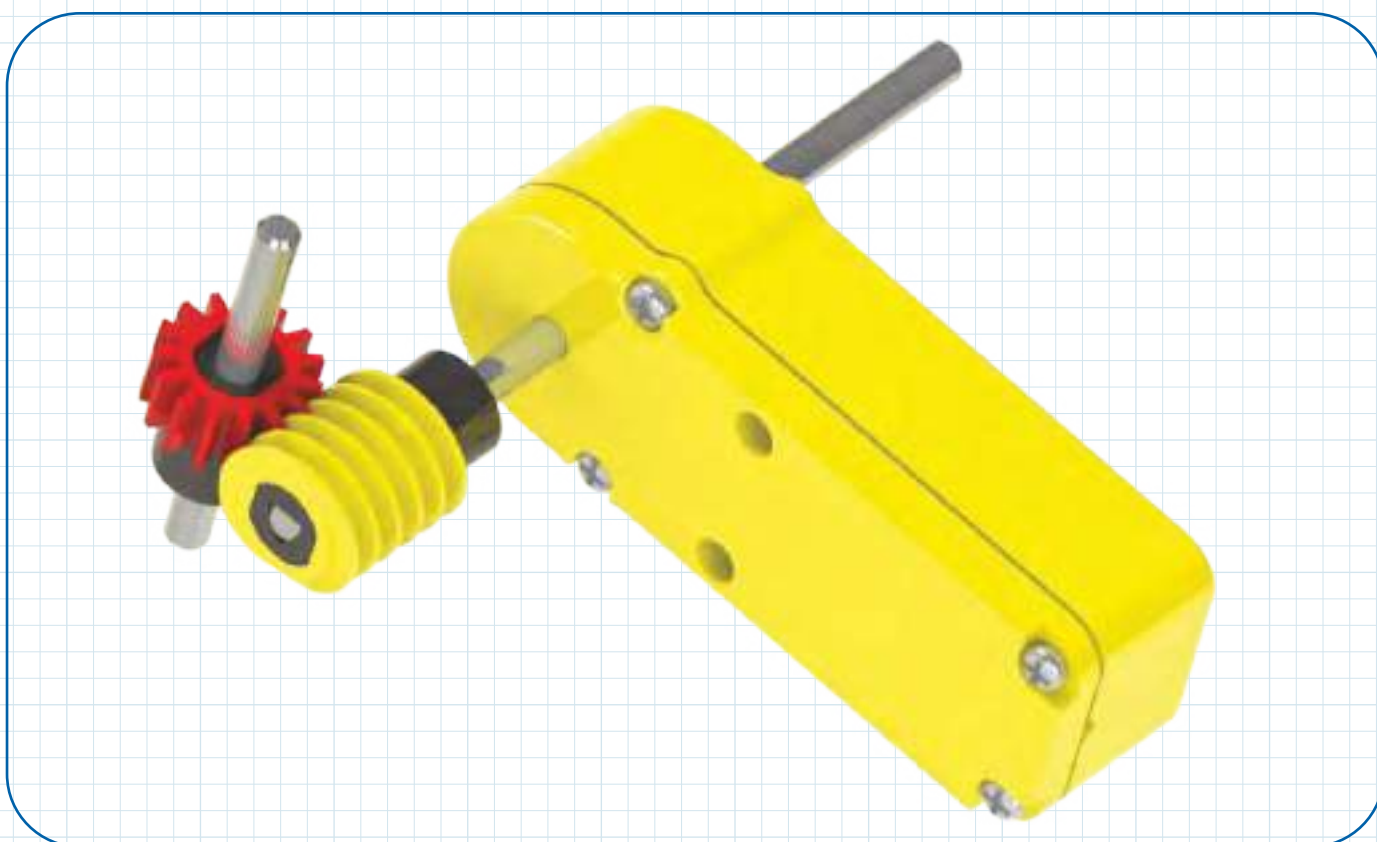
Output speed = Input Speed / Number of teeth (on spur gear)

Therefore in this gear (which has 15 teeth)

Output speed = Input speed / 15

Considering that the motor is running at 150 Rotations per minute,

Output speed = $150/15 = 10$ Rotations per minute.



Now lets start building!

Model 1-Arctic Radar

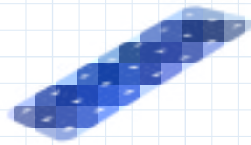
Step-1



Nut 4 pcs.



Bolts 6 mm 4 pcs.



LRT-21 1pc.



ALB-7 1 pc.

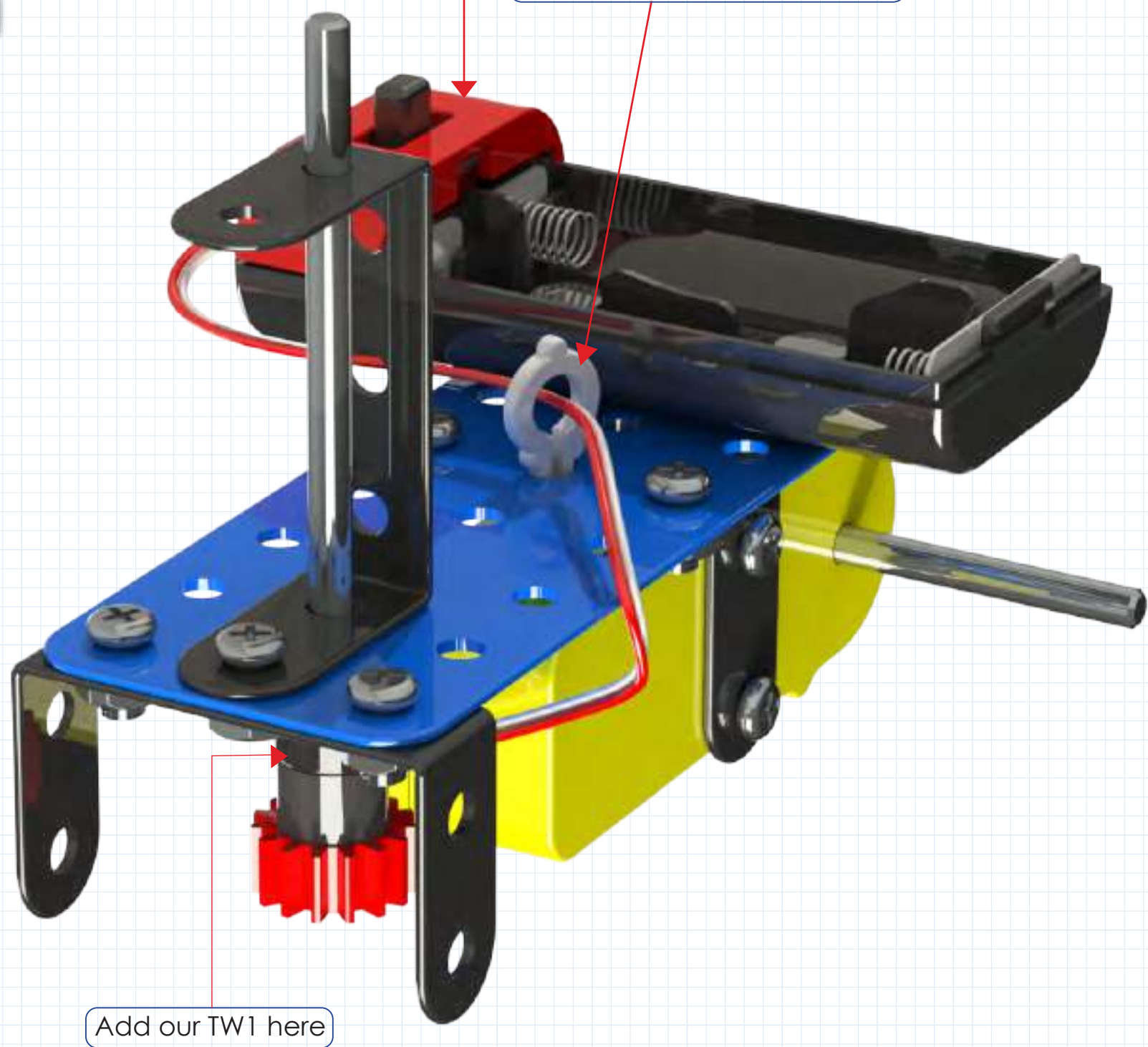


Bracket 1 pc.

Step-2

Attach battery box first as shown

Use wire clip to prevent wire from coming in contact with the moving parts.



Nut 5 pcs.

Bolts 6 mm 3 pcs.

Bolts 25 mm 2 pcs.

Wire Clip 1 pc.

ALB-7 1 pc.

Shaft 80 mm 1 pc.

TW-1 1 pc.

G-1 1 pc.

Motor & Battery Box Set 1 pc.

Step-3



Nut 10 pcs.



Bolts 6 mm 10 pcs.



MW1 2 pcs.



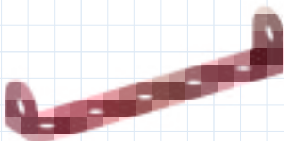
A-3 2 pcs.



R-8 Rubber Bush 1pc.



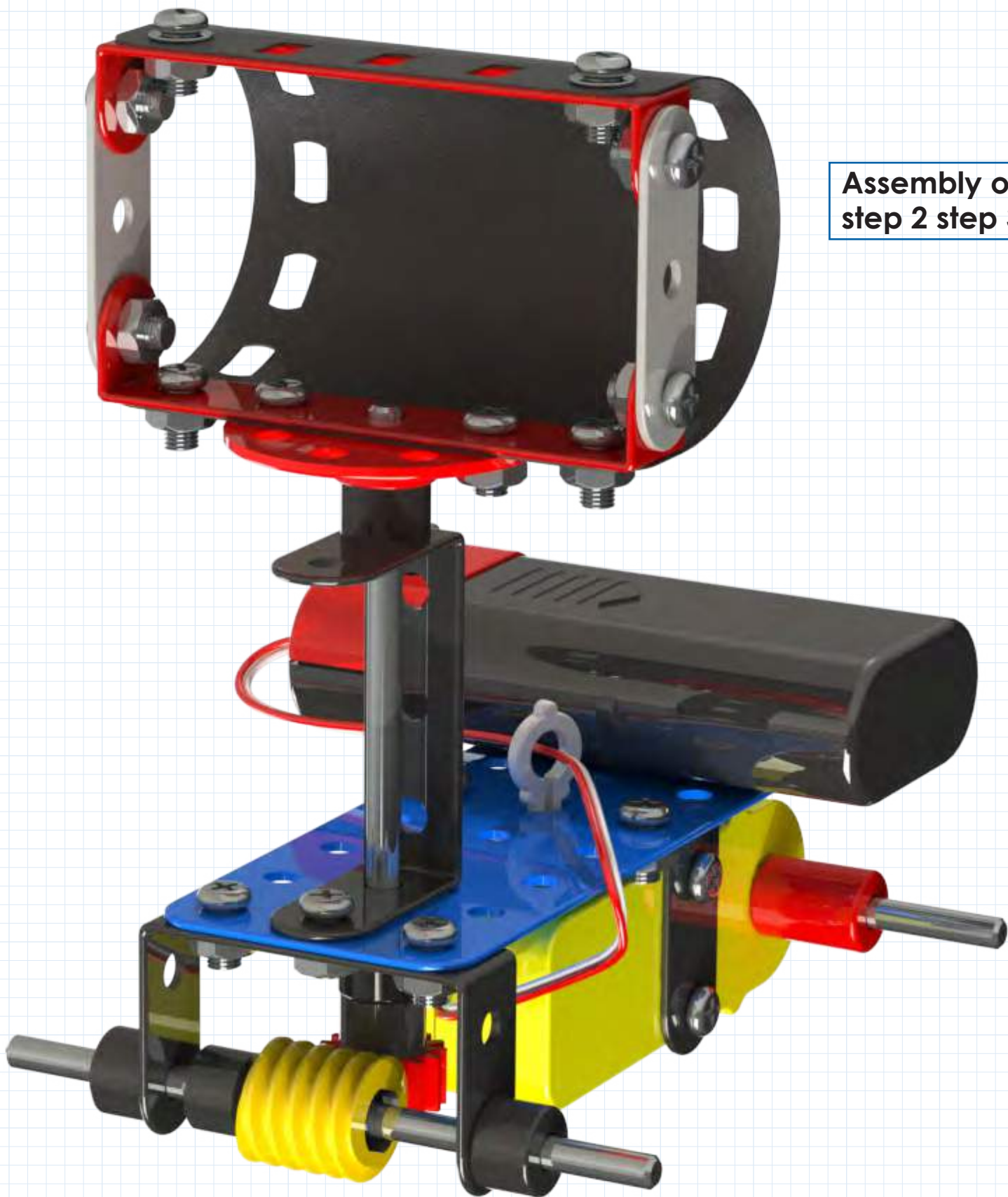
PLR-20 1pc.



AB-7 2 pcs.

Step-4

Assembly of
step 2 step 3



Shaft 80 mm 1 pc.



TW-1 2 pcs.

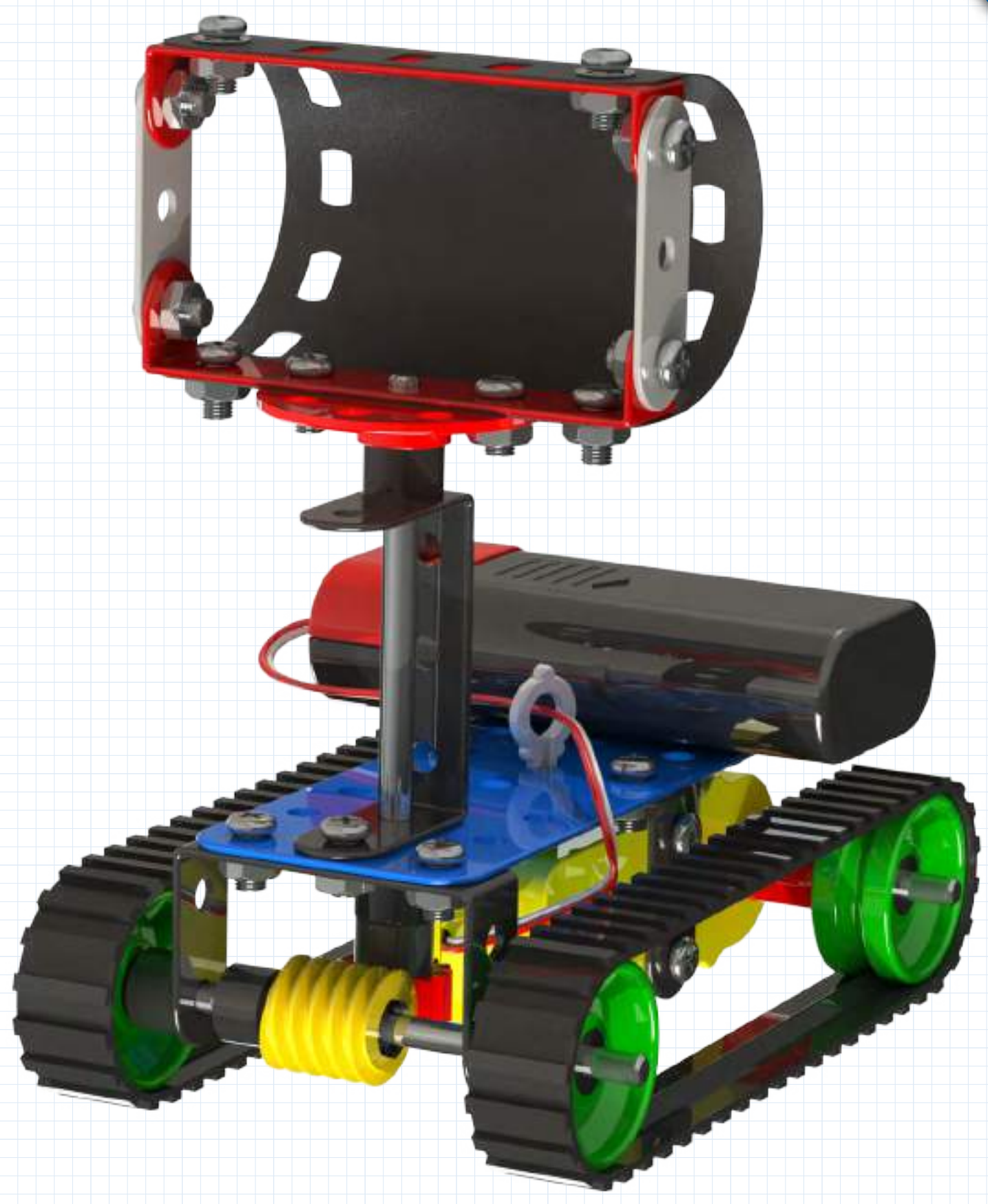


Spacer 2 pcs.

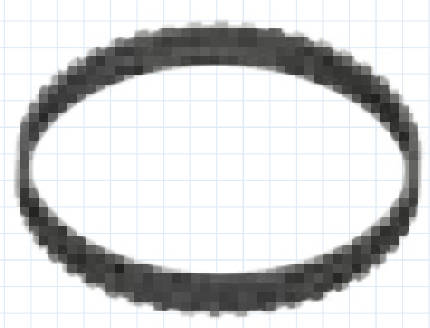


G-2 1 pc.

Step-5



Tank Wheels 4 pcs.

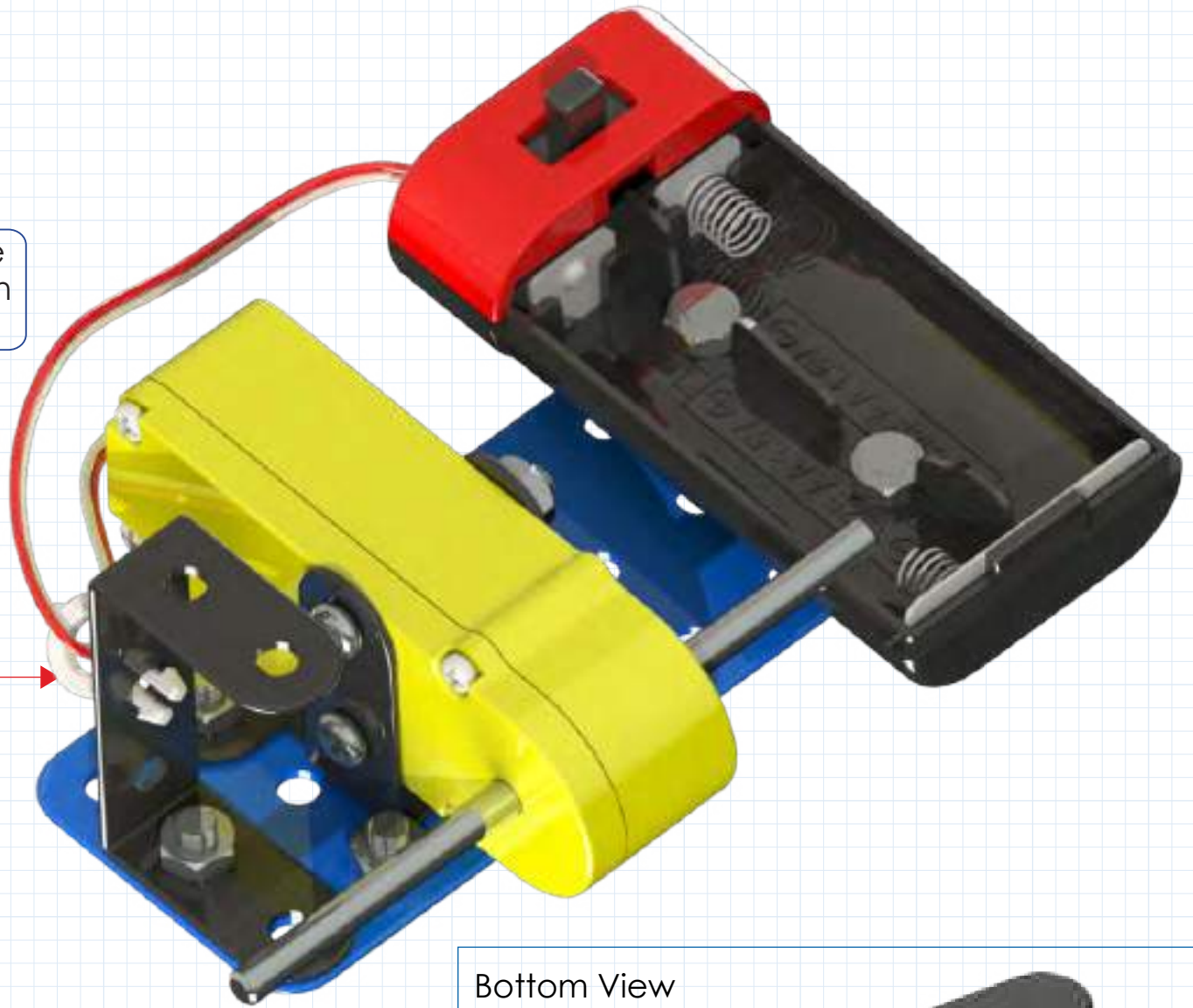


Track 2 pcs.

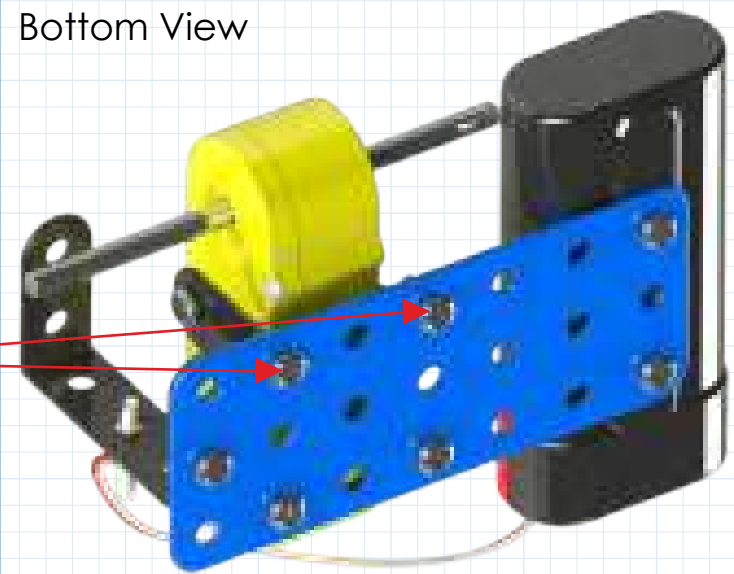
Model 2-Mini Swing

Step-1

Use wire clip to prevent wire from coming in contact with the moving parts.



Bottom View



Add two Nuts & Bolts for support

Nut 9 pcs.

Bolts 6 mm 7 pcs.

Bolts 25 mm 2 pcs.

LRT-21 1pc.

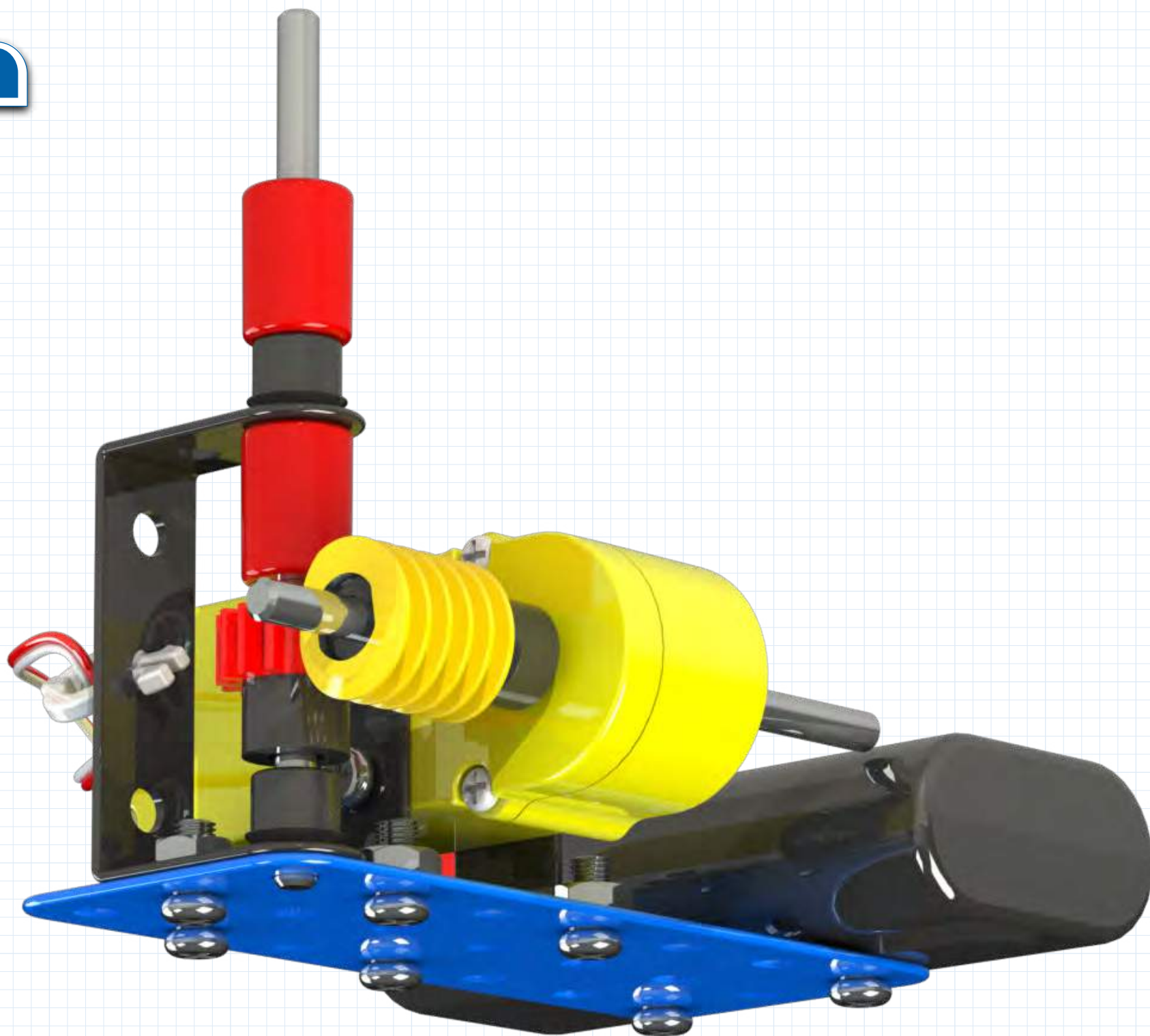
ALB-7 1 pc.

Wire Clip 1 pc.

Bracket 1 pc.

Motor & Battery Box Set 1 pc.

Step-2



Shaft 80 mm 1 pc.



Spacer 2 pcs.



Rubber Bush 2 pcs.

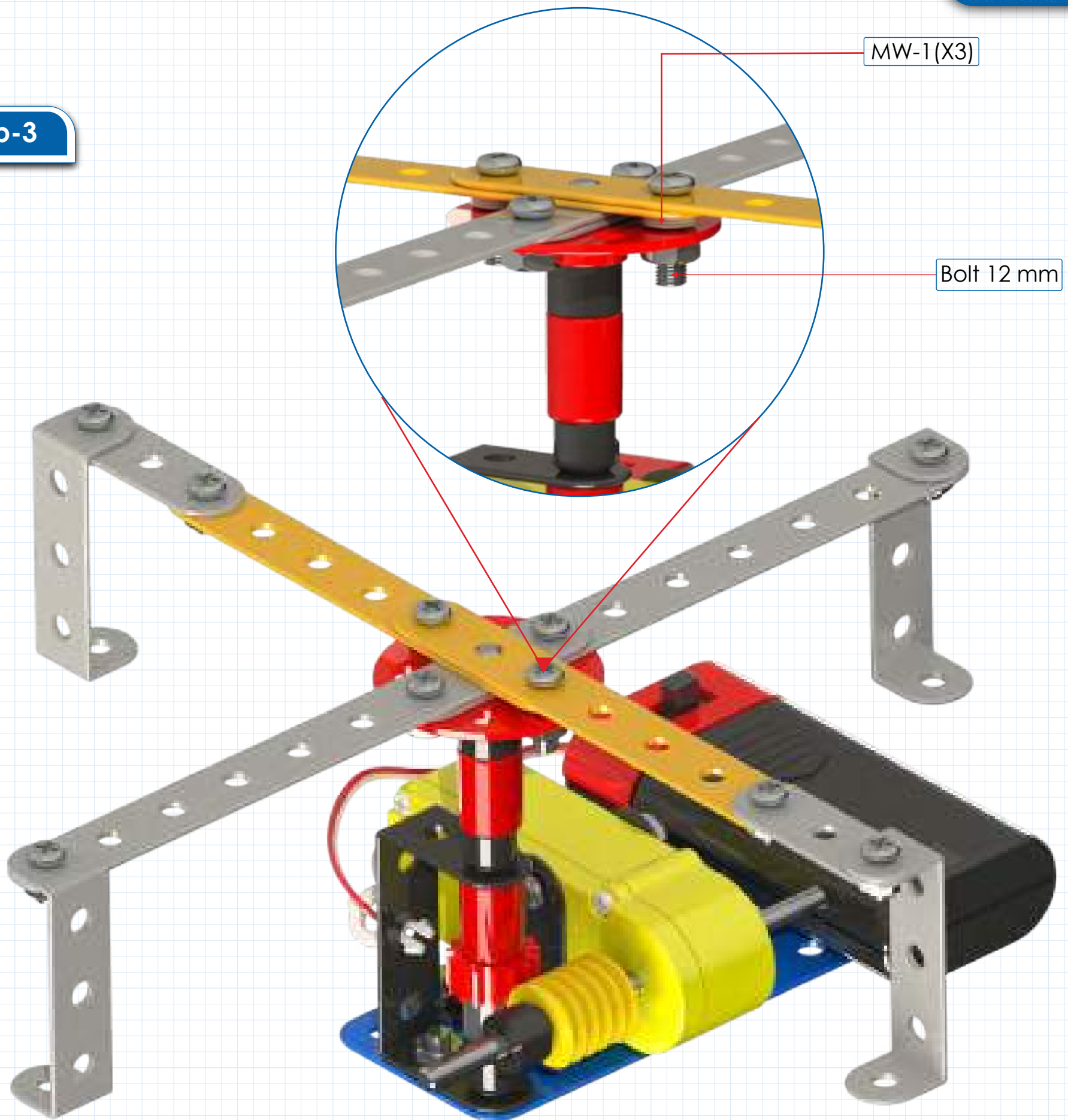


G-1 1 pc.



G-2 1 pc.

Step-3



Nut 10 pcs.

Bolts 6 mm 8 pcs.

Bolts 12 mm 2 pcs.

MW1 6 pcs.

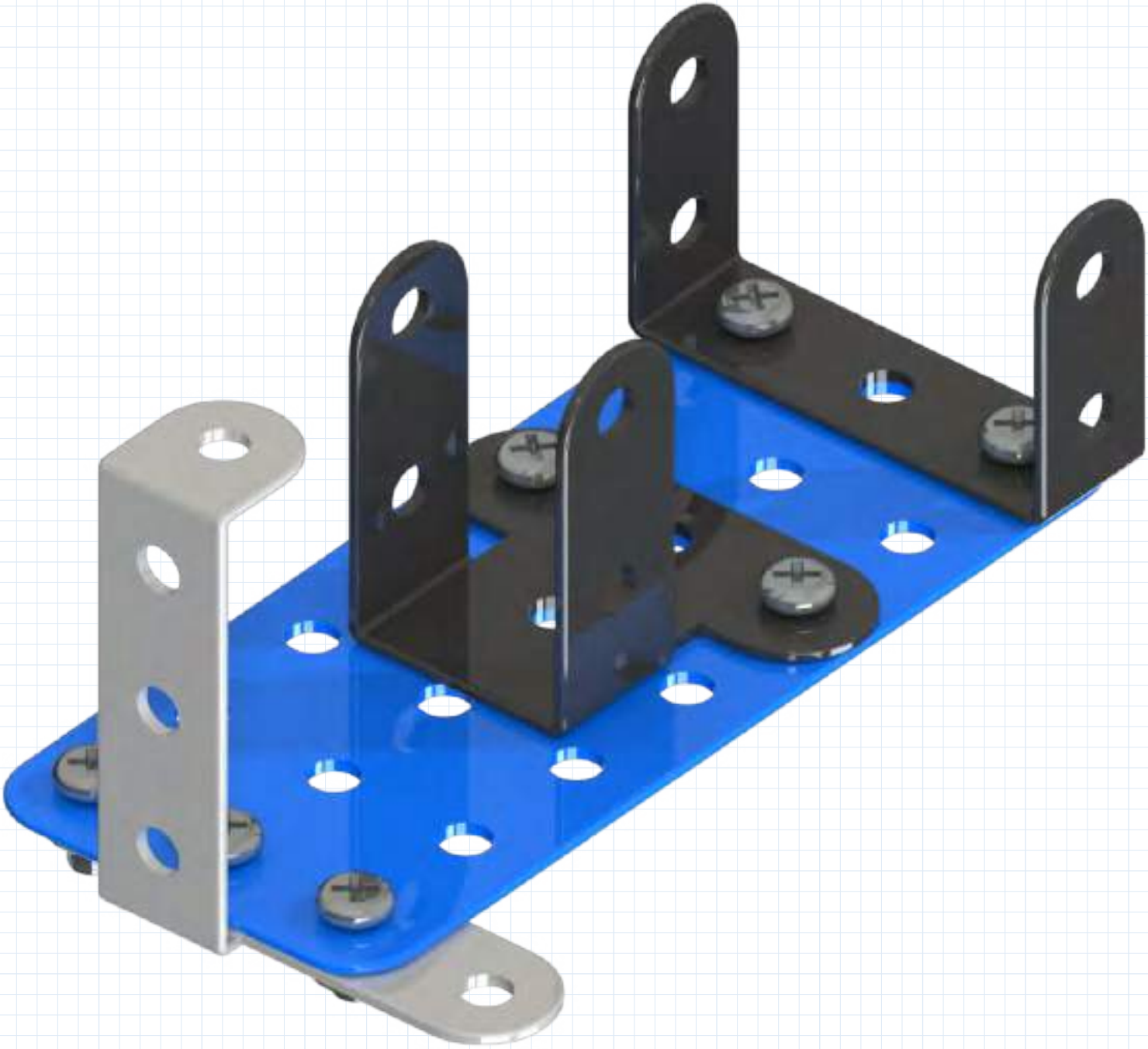
A-3 2 pcs.

AB-5 4 pcs.

A-7 2 pcs.

A-9 2 pcs.

R-8 Rubber Bush 1 pc.



Nut 7 pcs.



Bolts 6 mm 7 pcs.



A-3 1 pc.



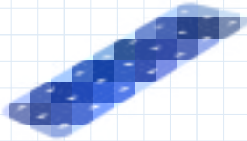
ALB-7 1 pc.



AB-5 1 pc.

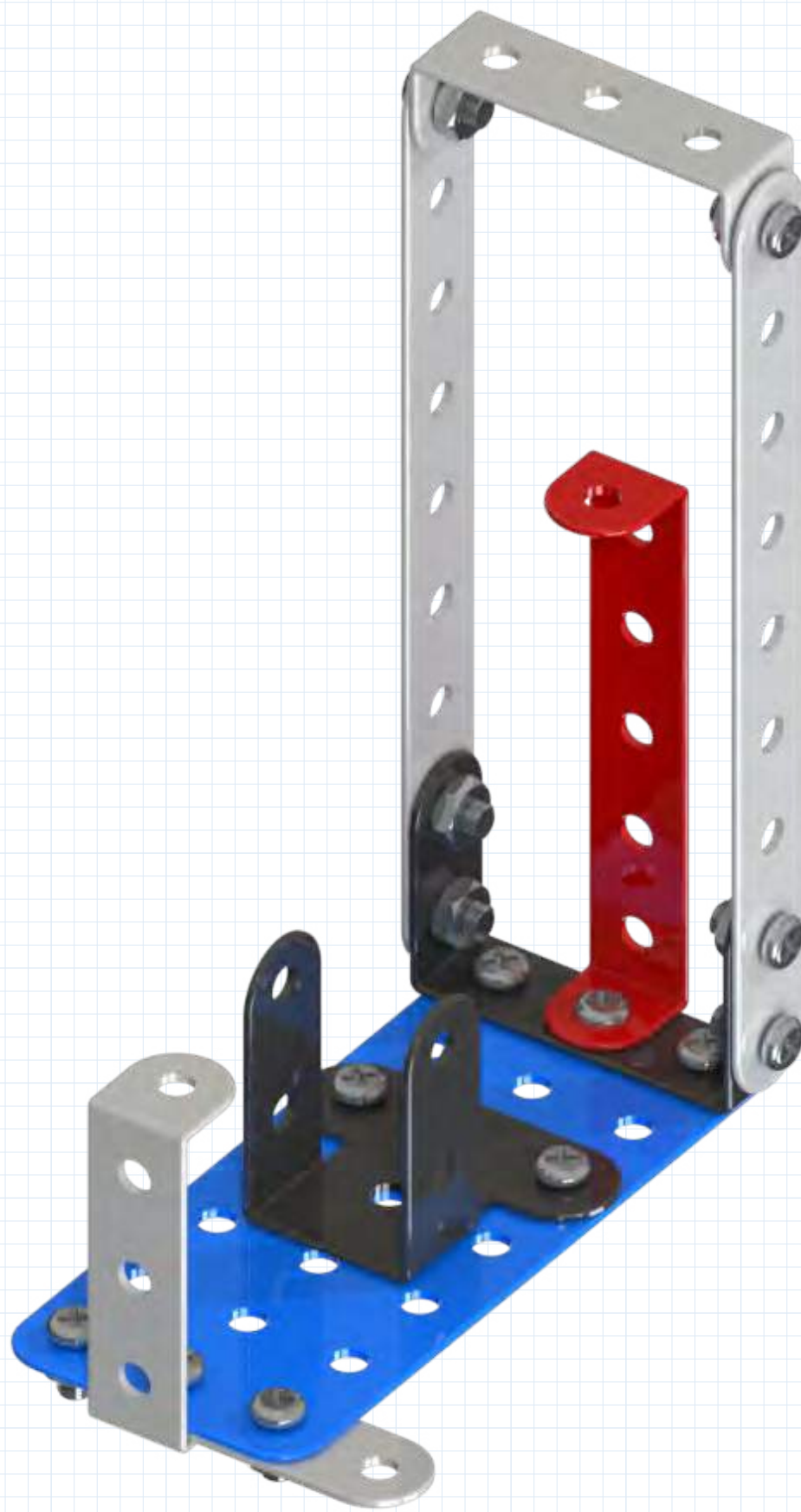


Bracket 1 pc.



LRT-21 1pc.

Step-2



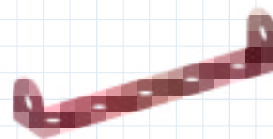
Nut 7 pcs.



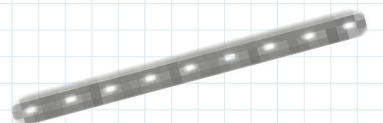
Bolts 6 mm 7 pcs.



AB-5 1 pc.



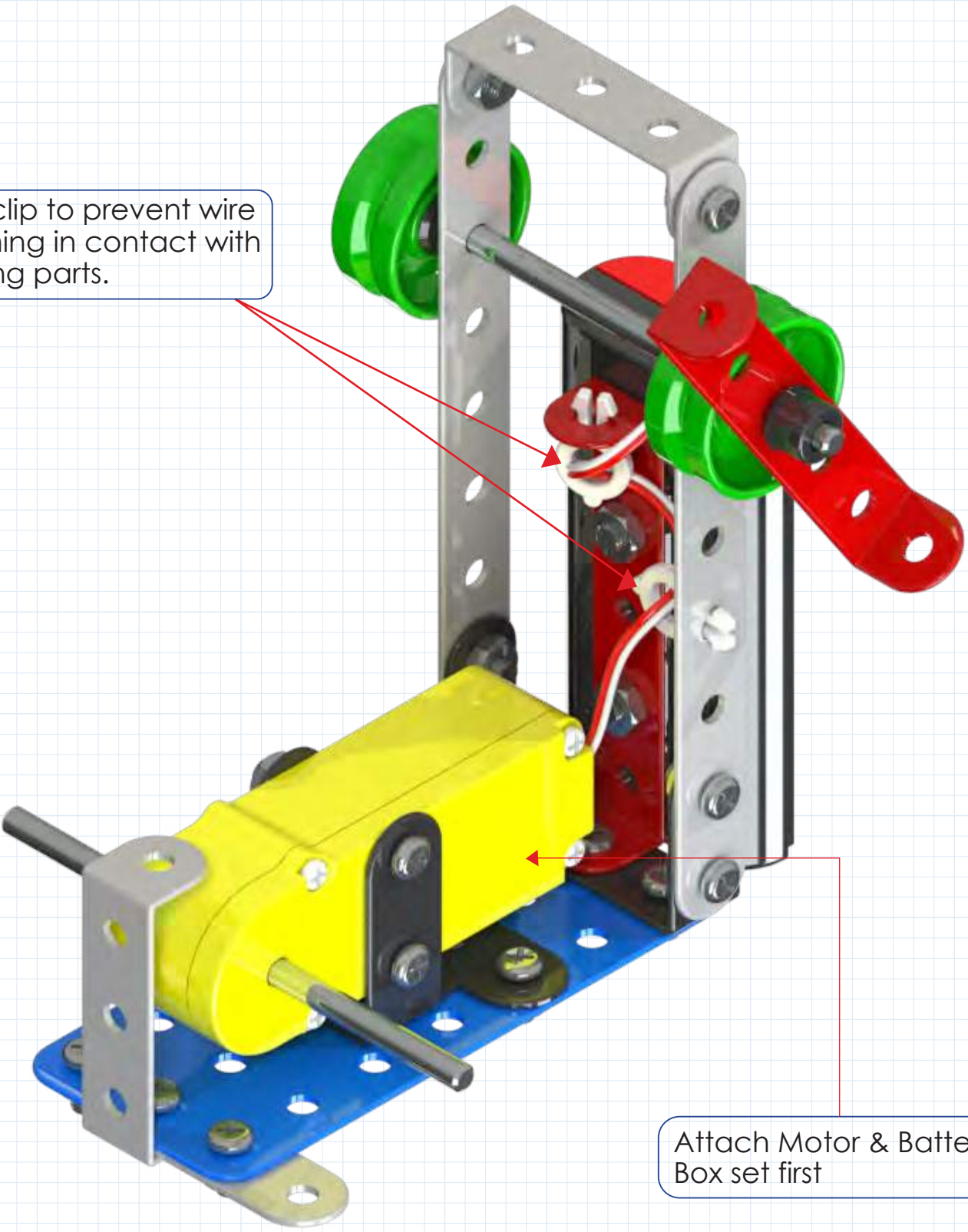
AB-7 1 pc.





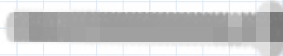


A-9 2 pcs.

Step-3

Use wire clip to prevent wire from coming in contact with the moving parts.



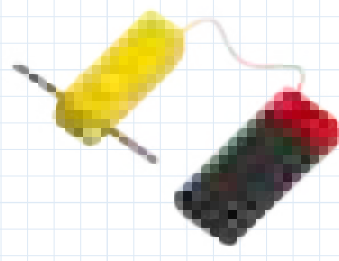
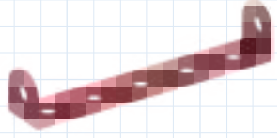


Attach Motor & Battery Box set first

- 
- Nut 4 pcs.

Bolts 6 mm 2 pcs.

Bolts 25 mm 2 pcs.

Shaft 80 mm 1 pc.

Wire Clip 2 pcs.
- 
- Rubber Bush 1 pc.

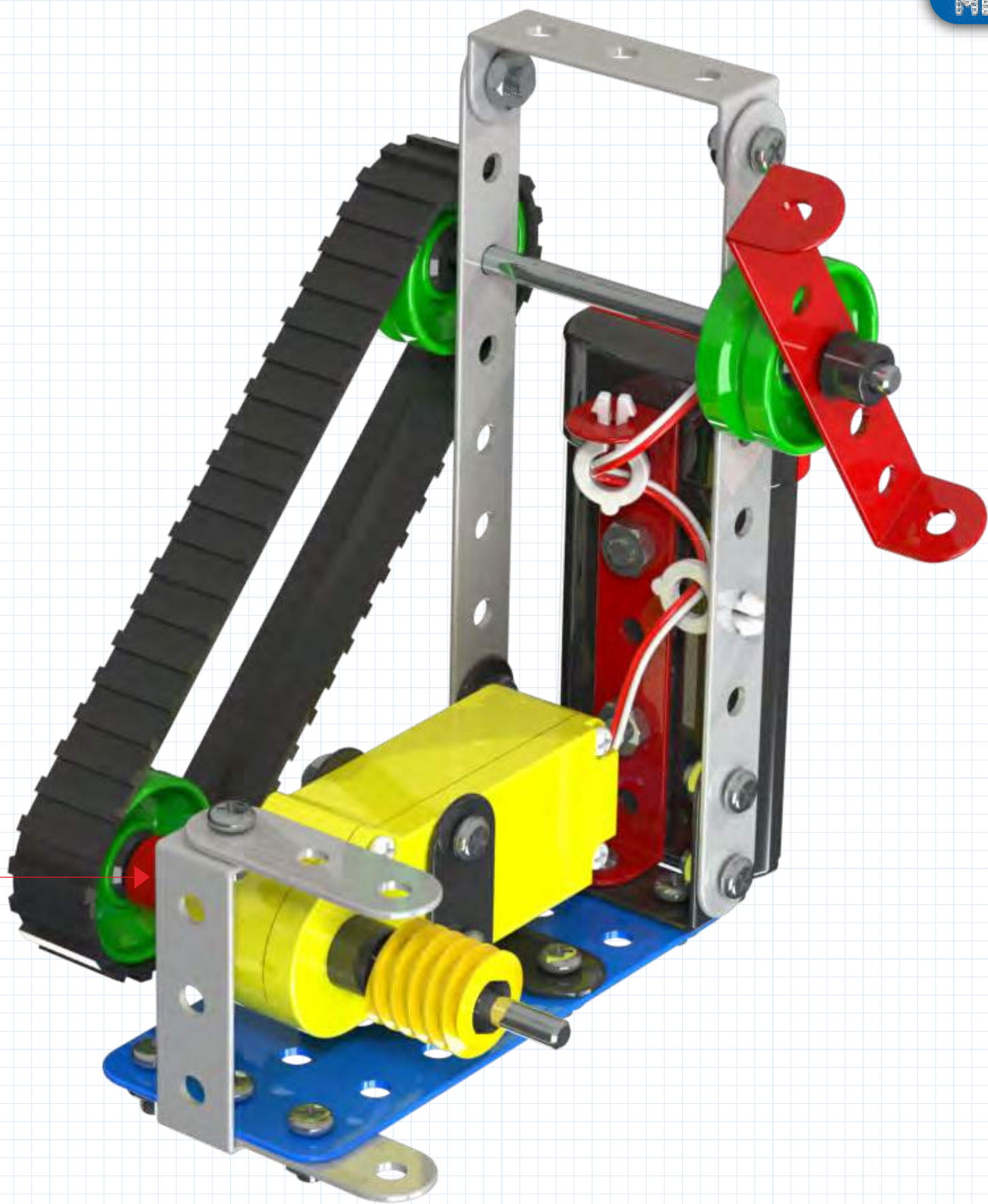
Tank Wheels 2 pcs.

AB-7 1 pc.

Motor & Battery Box Set 1 pc.

Step-4

Add Spacer



Nut 1 pc.

Bolts 6 mm 1 pc.

A-3 1 pc.

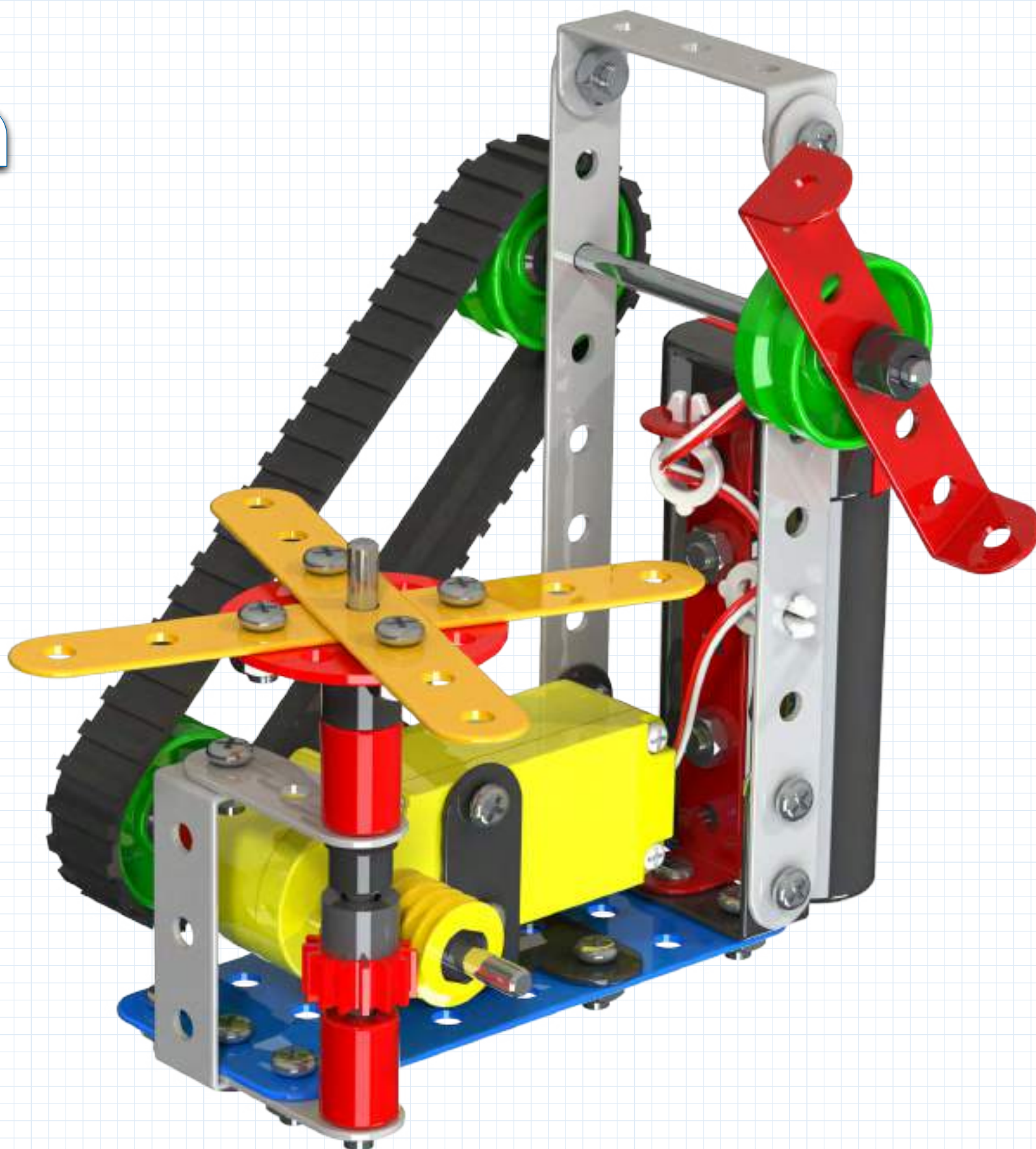
G-2 1 pc.

Spacer 1 pc.

Tank Wheels 1 pc.

Track 1 pc.

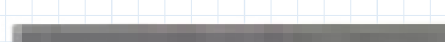
Step-5



Nut 4 pcs.



Bolts 6 mm 4 pcs.



Shaft 80 mm 1 pc.



Spacer 2 pcs.



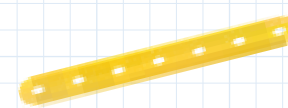
Rubber Bush 1 pc.



G-1 1 pc.



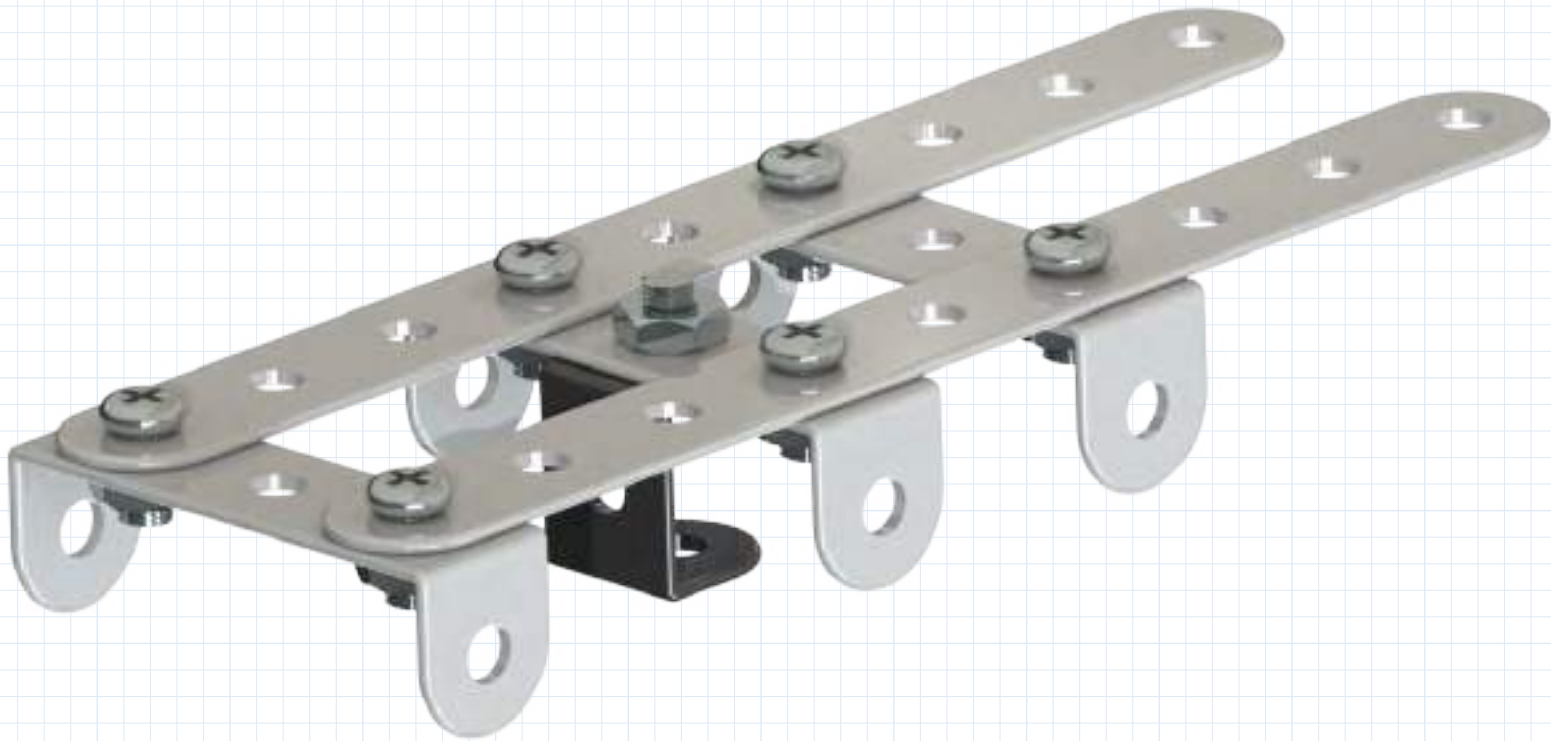
R-8 Rubber Bush 1 pc.



A-7 2 pcs.

Model 4- Tunnel Boring Machine

Step-1



Nut 7 pcs.



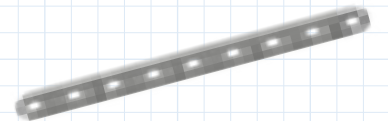
Bolts 6 mm 7 pcs.



AB-3 1 pc.

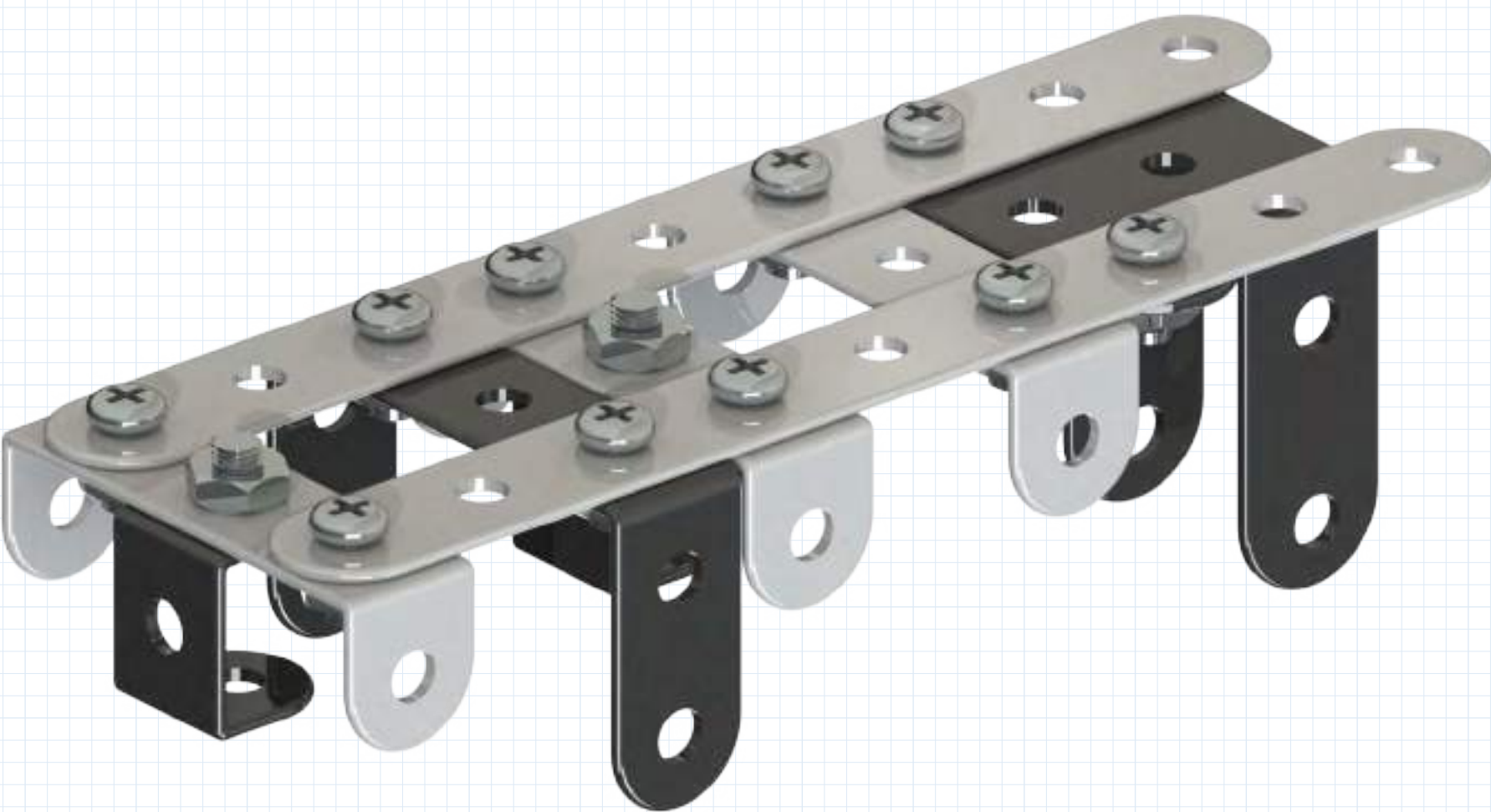


AB-5 3 pcs.



A-9 2 pcs.

Step-2



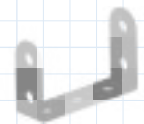
Nut 5 pcs.



Bolts 6 mm 5 pcs.



AB-3 1 pc.



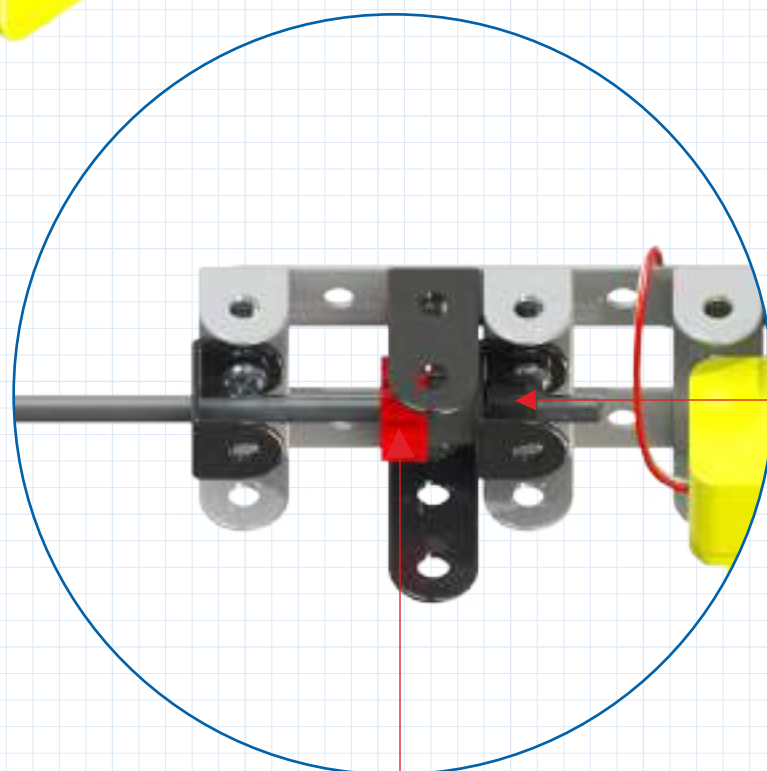
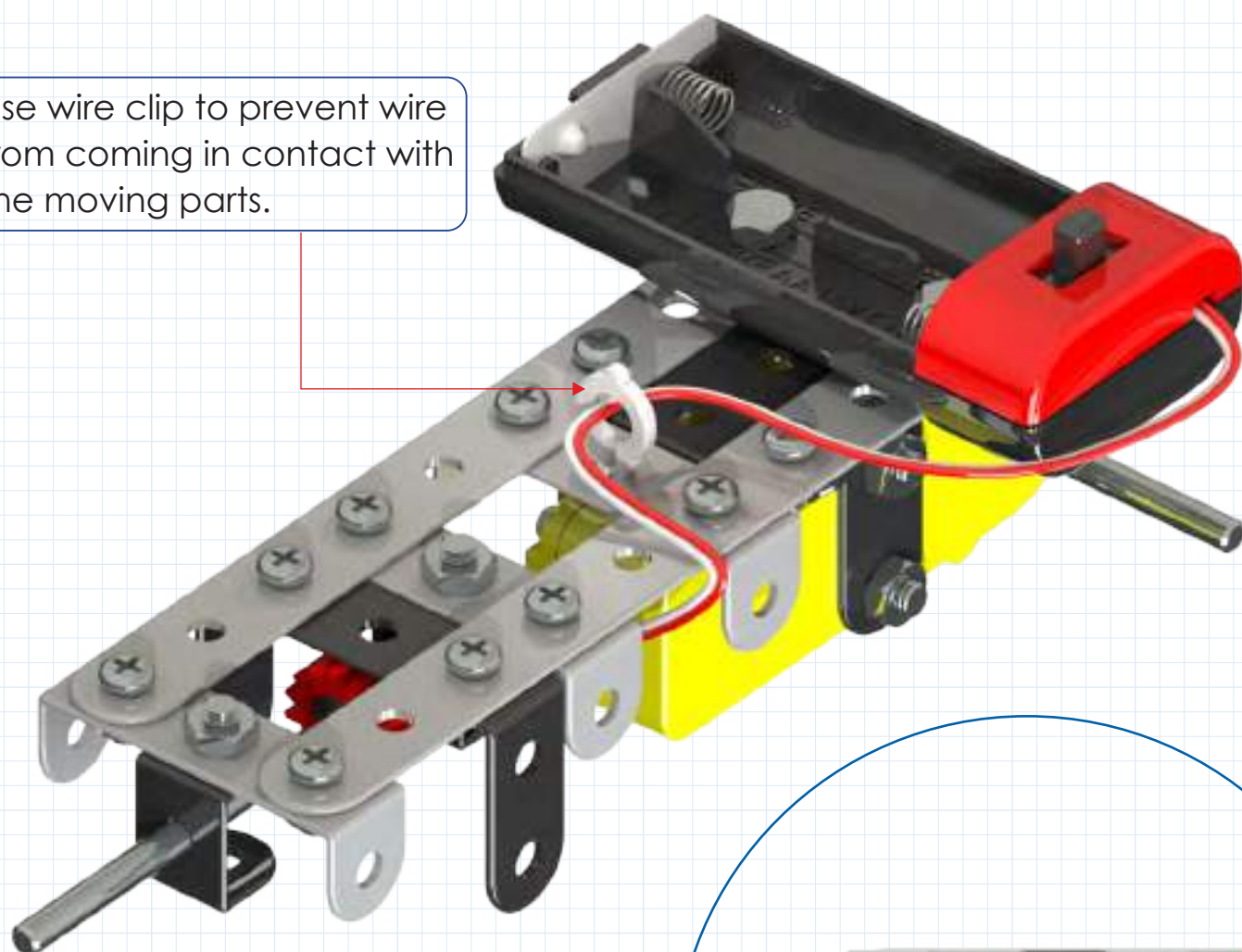
ALB-7 1 pc.



Bracket 1 pc.

Step-3

Use wire clip to prevent wire from coming in contact with the moving parts.



G-1

Rubber Bush



Nut 4 pcs.



Bolts 6 mm 2 pcs.



Bolts 25 mm 2 pcs.



Shaft 80 mm 1 pc.



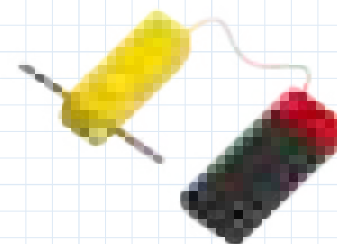
Wire Clip 1 pc.



Rubber Bush 1 pc.

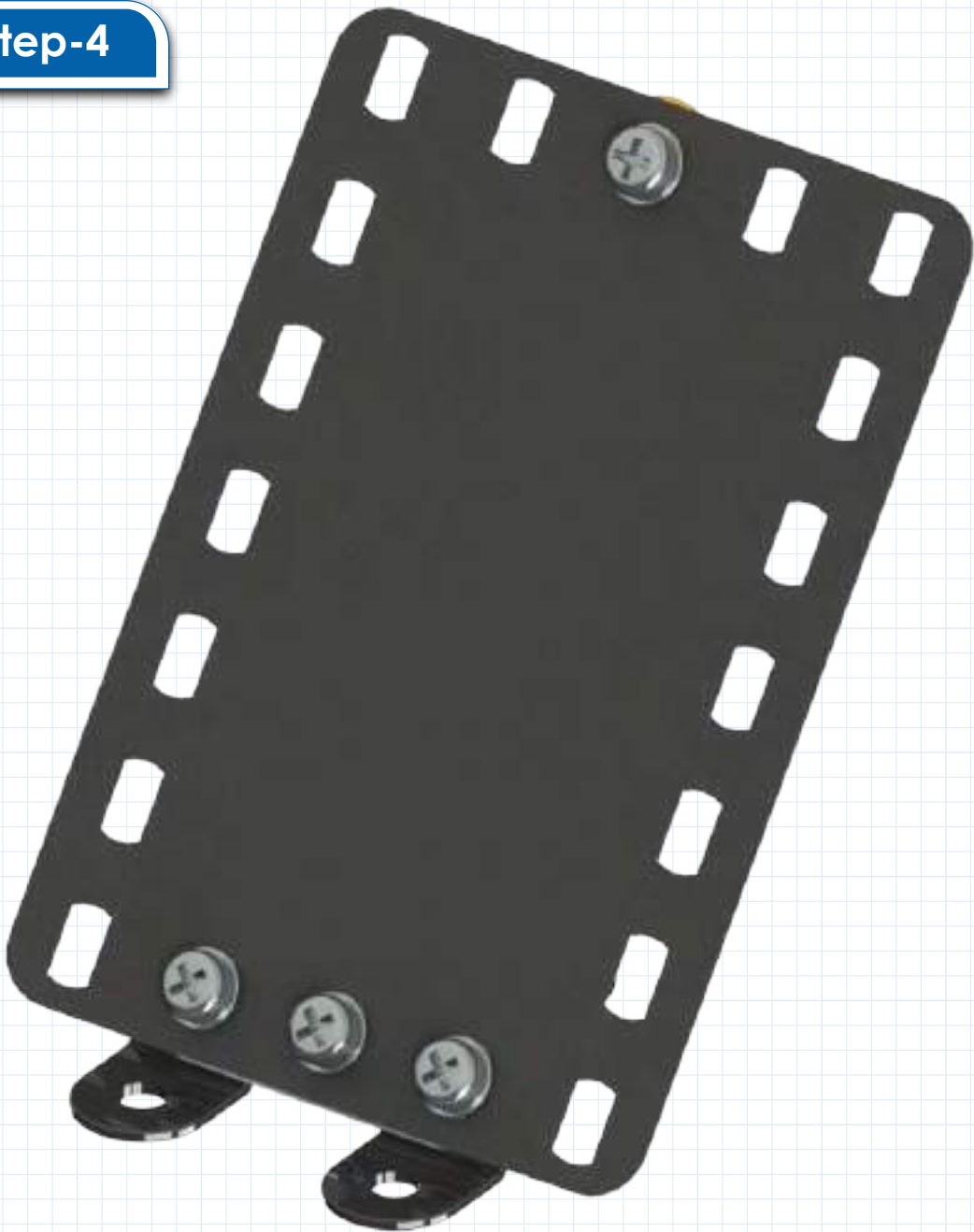


G-1 1 pc.

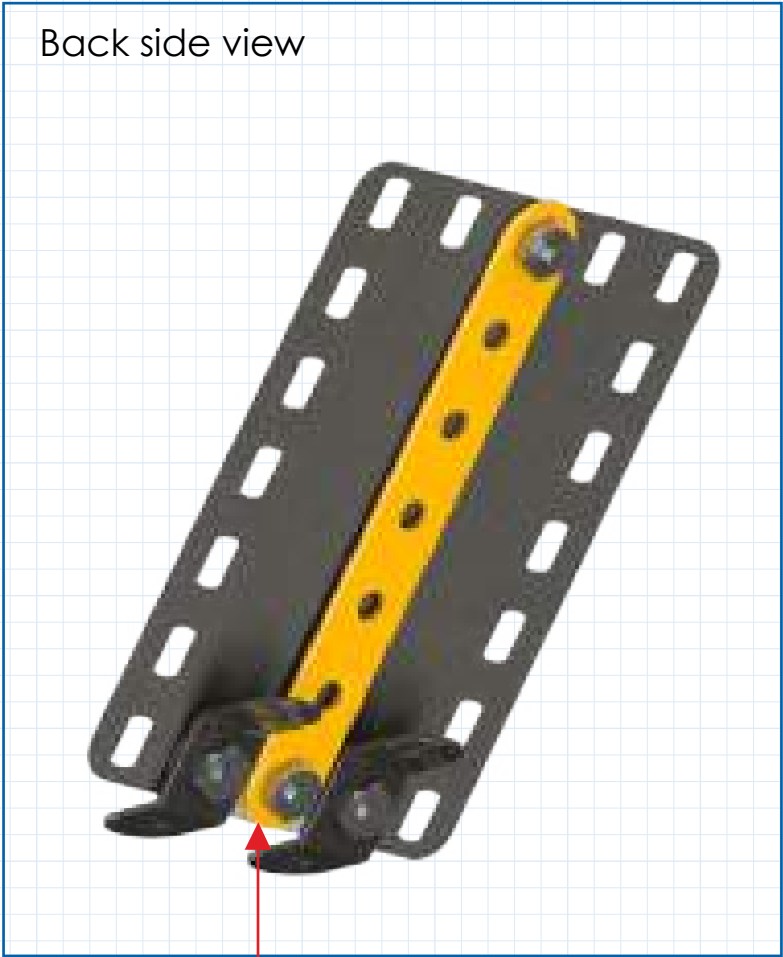


Motor & Battery Box Set 1 pc.

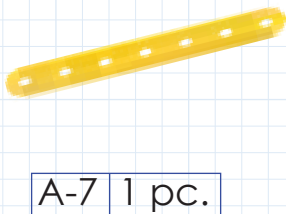
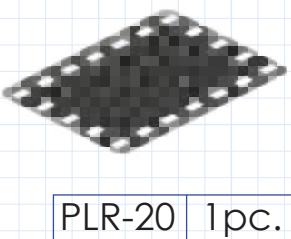
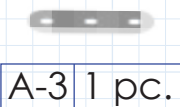
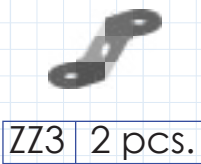
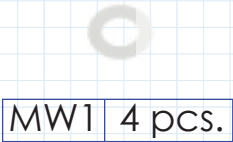
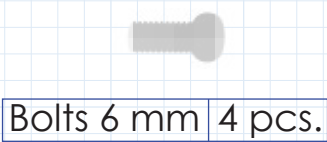
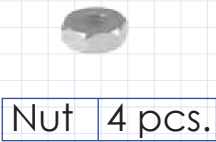
Step-4



Back side view

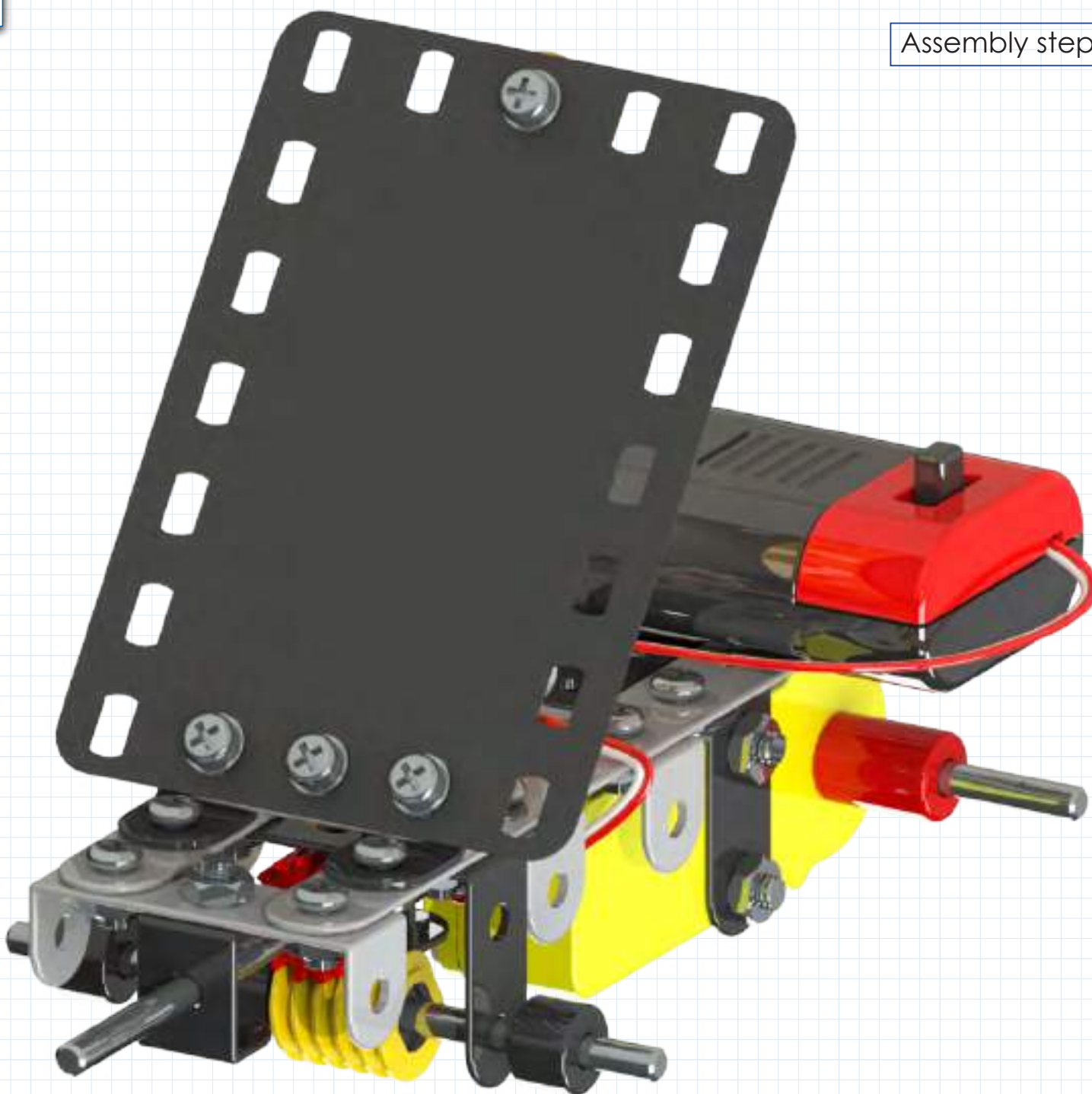


Attach A -3 Between PLR -20 and A-7



Step-5

Assembly step 3 & step 4



Nut 2 pcs.



Bolts 6 mm 2 pcs.



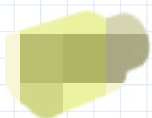
Shaft 80 mm 1 pc.



TW-1 2 pcs.

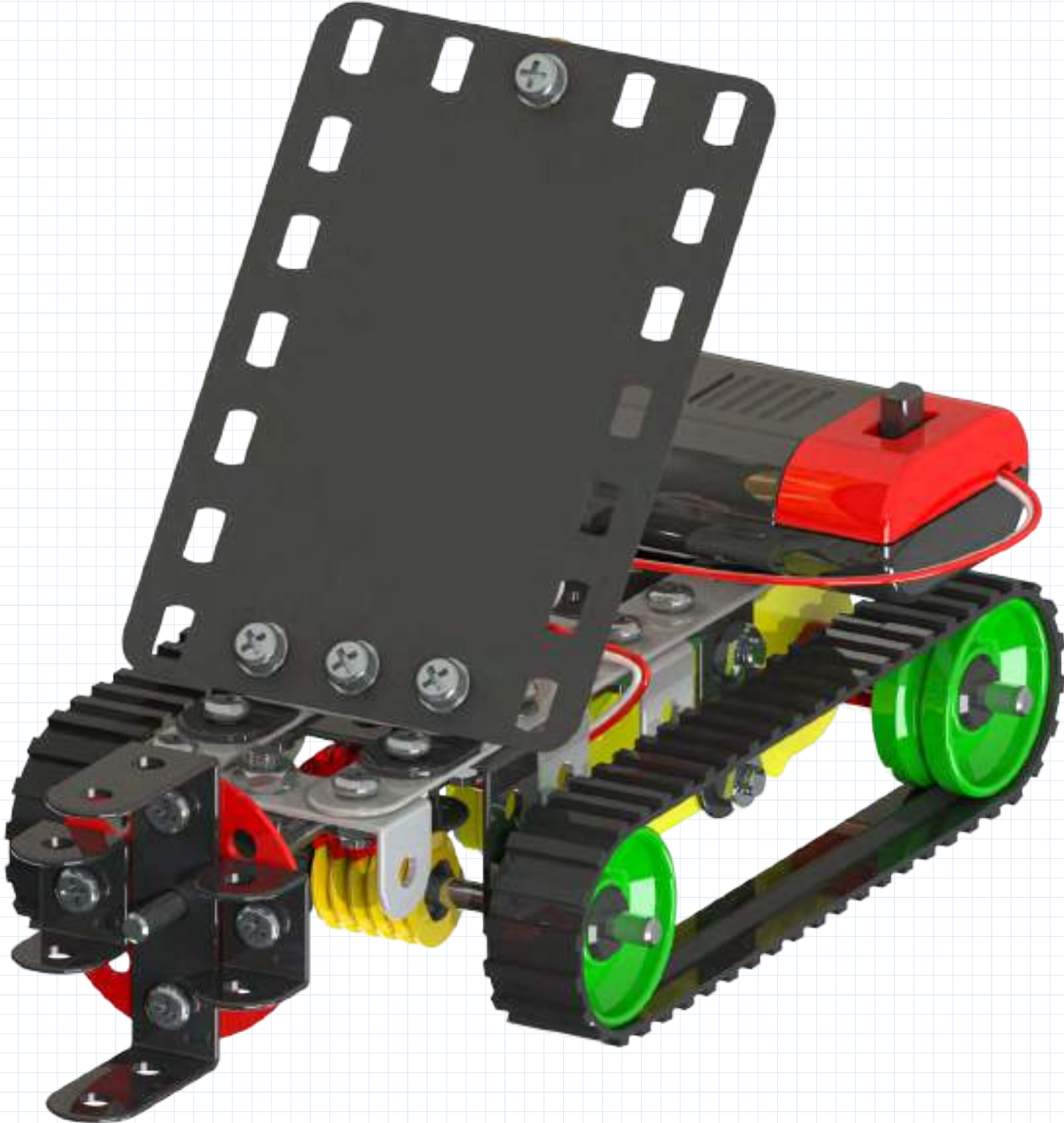


Spacer 2 pcs.



G-2 1 pc.

Step-6



Nut 4 pcs.



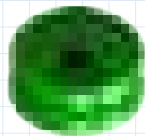
Bolts 6 mm 4 pcs.



AB-3 2 pcs.



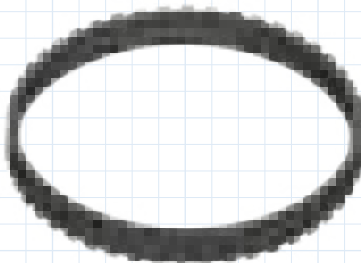
ALB-7 1 pc.



Tank Wheels 4 pcs.



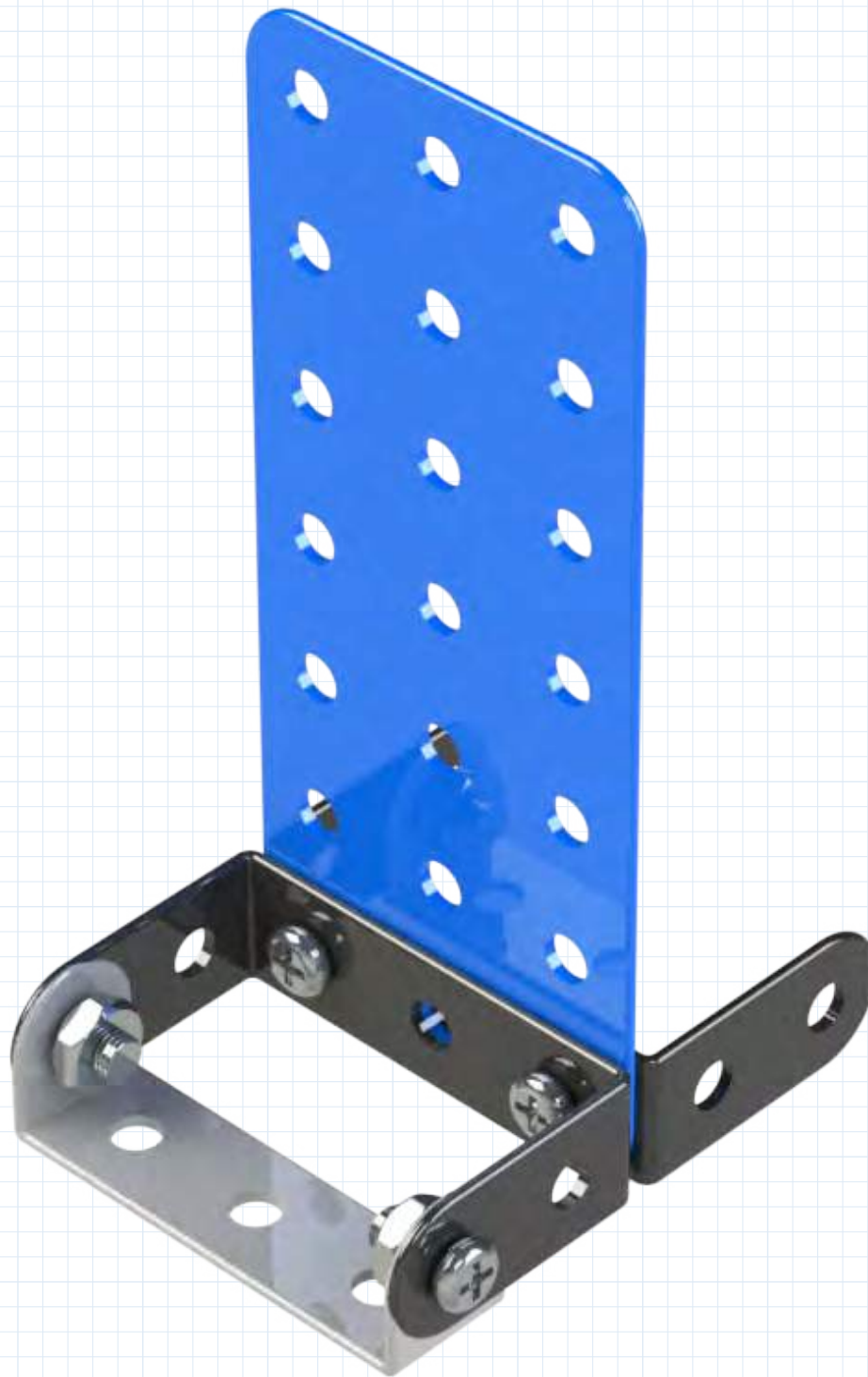
R-8 Rubber Bush 1 pc.



Track 2 pcs.

Model 5- Lift Bot

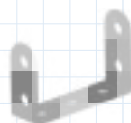
Step-1



Nut 4 pcs.



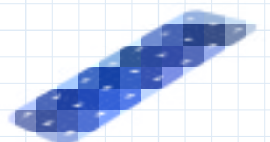
Bolts 6 mm 4 pcs.



ALB-7 2 pcs.

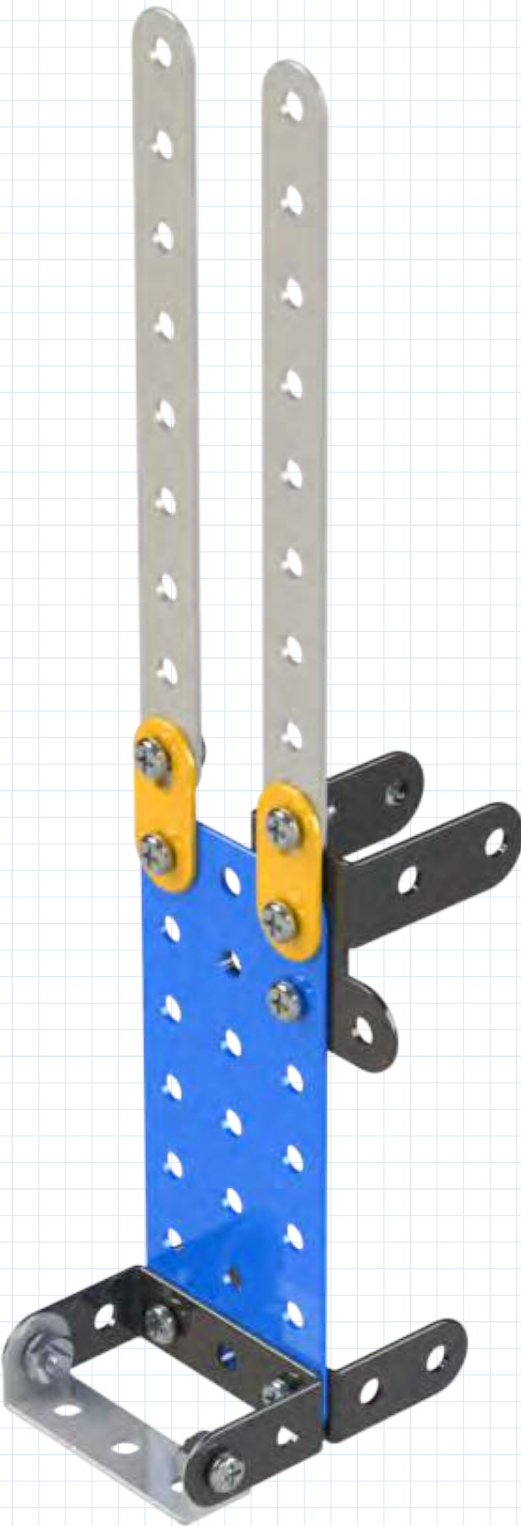


AB-5 1 pc.



LRT-21 1pc.

Step-2



Nut 5 pcs.



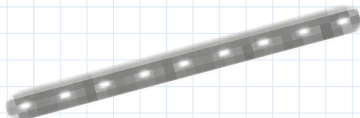
Bolts 6 mm 5 pcs.



A-2 2 pcs.

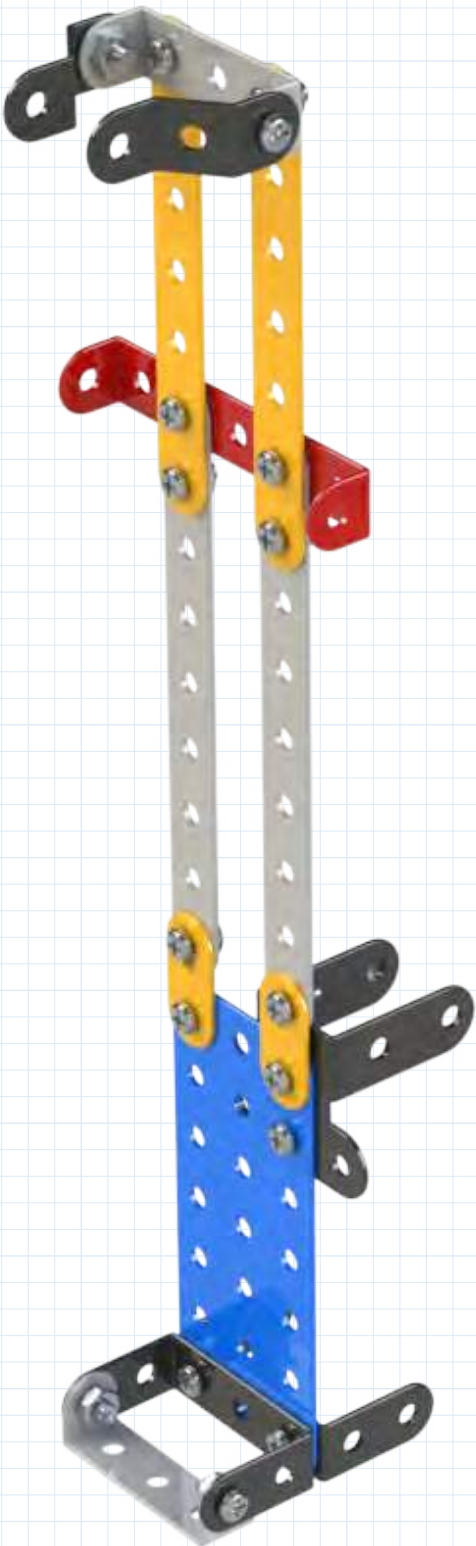


Bracket 1 pc.



A-9 2 pcs.

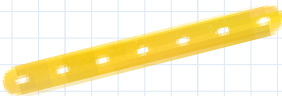
Step-3



Nut 8 pcs.



Bolts 6 mm 8 pcs.



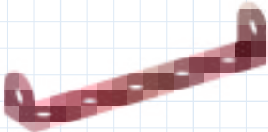
A-7 2 pcs.



AB-5 1 pc.



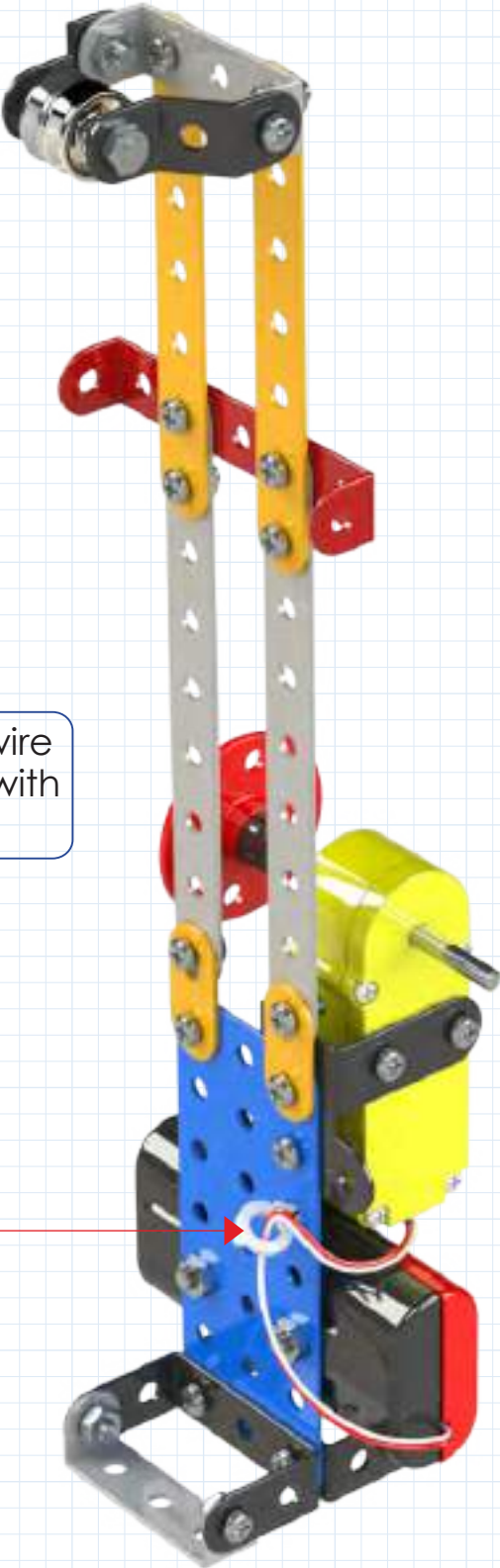
ZZ3 2 pcs.



AB-7 1 pc.

Step-4

Use wire clip to prevent wire from coming in contact with the moving parts.



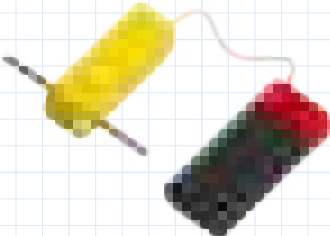
Nut 5 pcs.

Bolts 6 mm 2 pcs.

Bolts 25 mm 3 pcs.

Wire Clip 1 pc.

R-8 Rubber Bush 1 pc.



PY-1 Silver 2 pcs.

Motor & Battery Box Set 1 pc.

Step-4

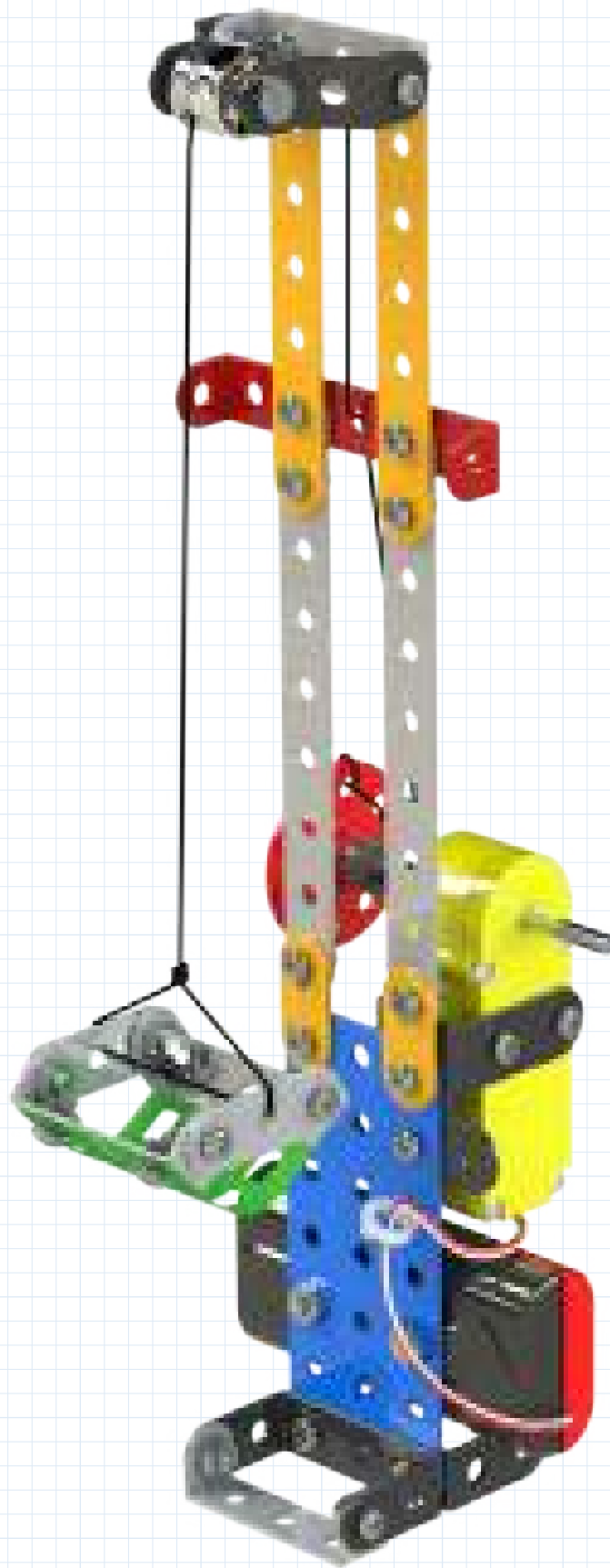
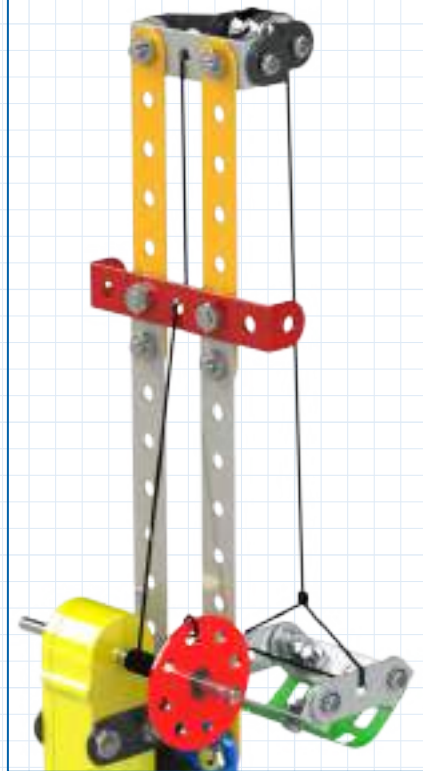
Front side view



Back side view



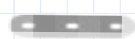
Back side view



Nut 8 pcs.



Bolts 6 mm 8 pcs.



A-3 2 pcs.



AB-5 2 pcs.



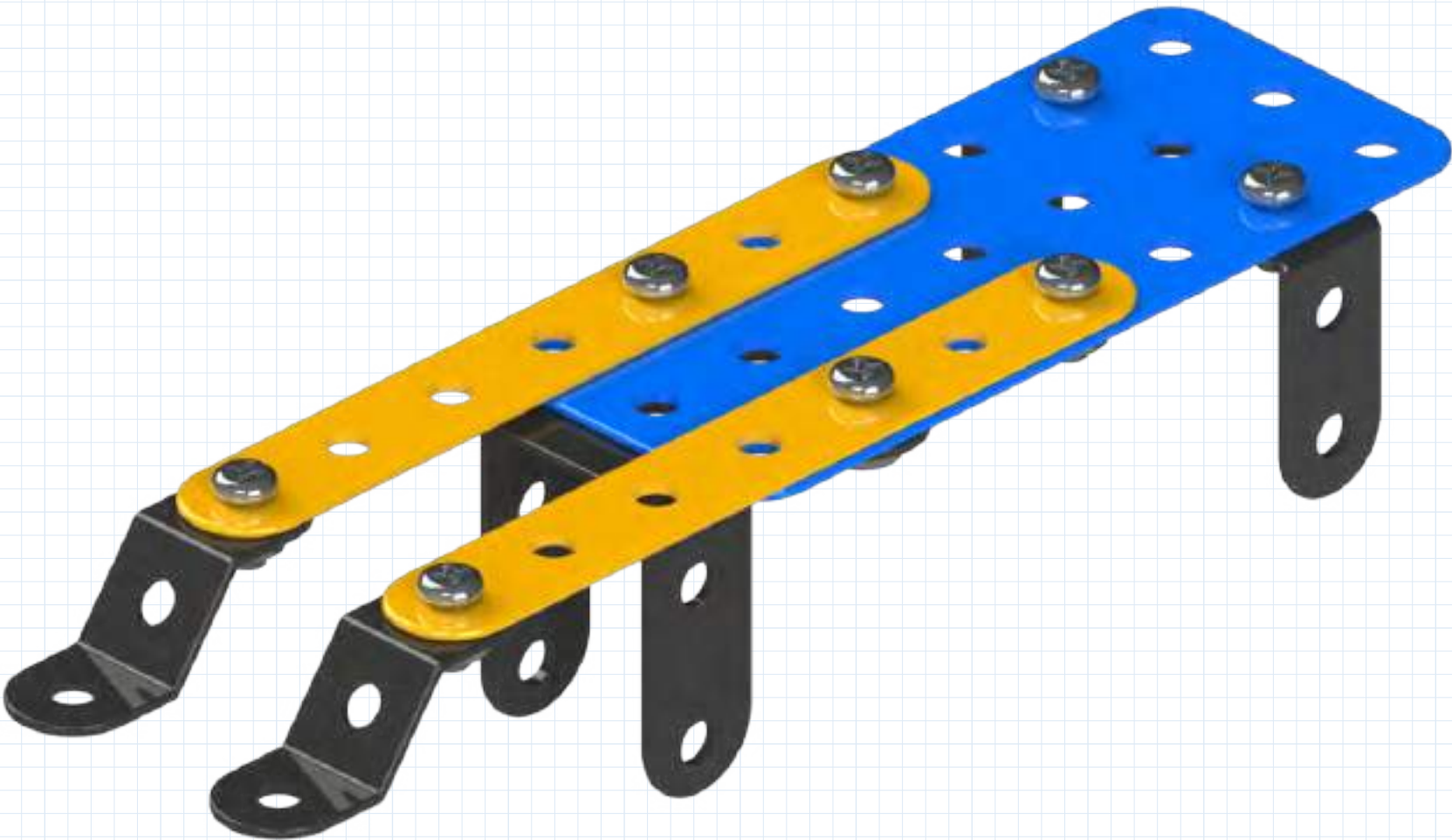
MW1 4 pcs.



PSR-12 1 pc.



Thread 1 pc.



Nut 8 pcs.

Bolts 6 mm 8 pcs.

ZZ3 2 pcs.

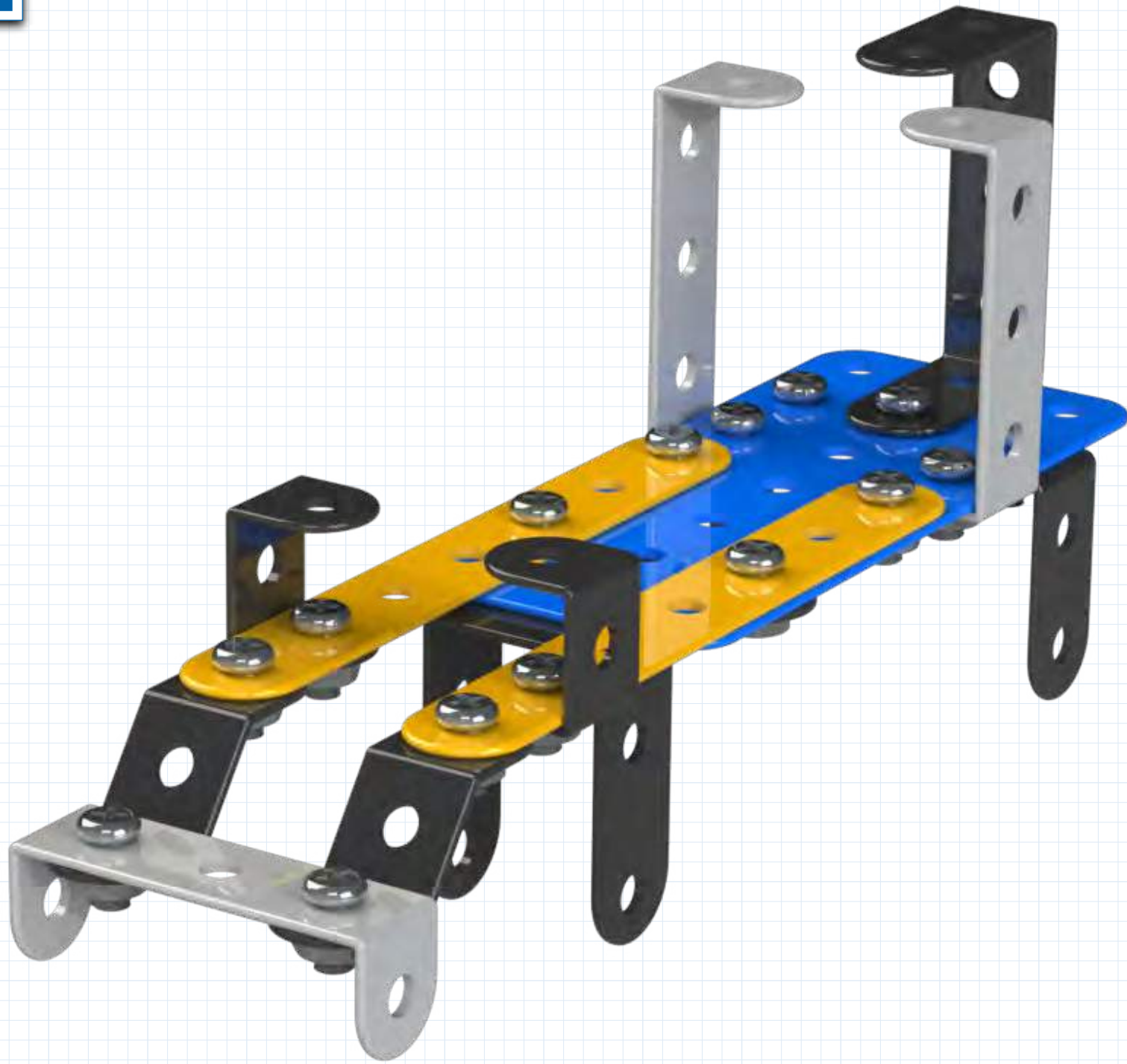
LRT-21 1pc.

Bracket 1 pc.

A-7 2 pcs.

ALB-7 1 pc.

Step-2



Nut 7 pcs.



Bolts 6 mm 7 pcs.



AB-5 3 pcs.

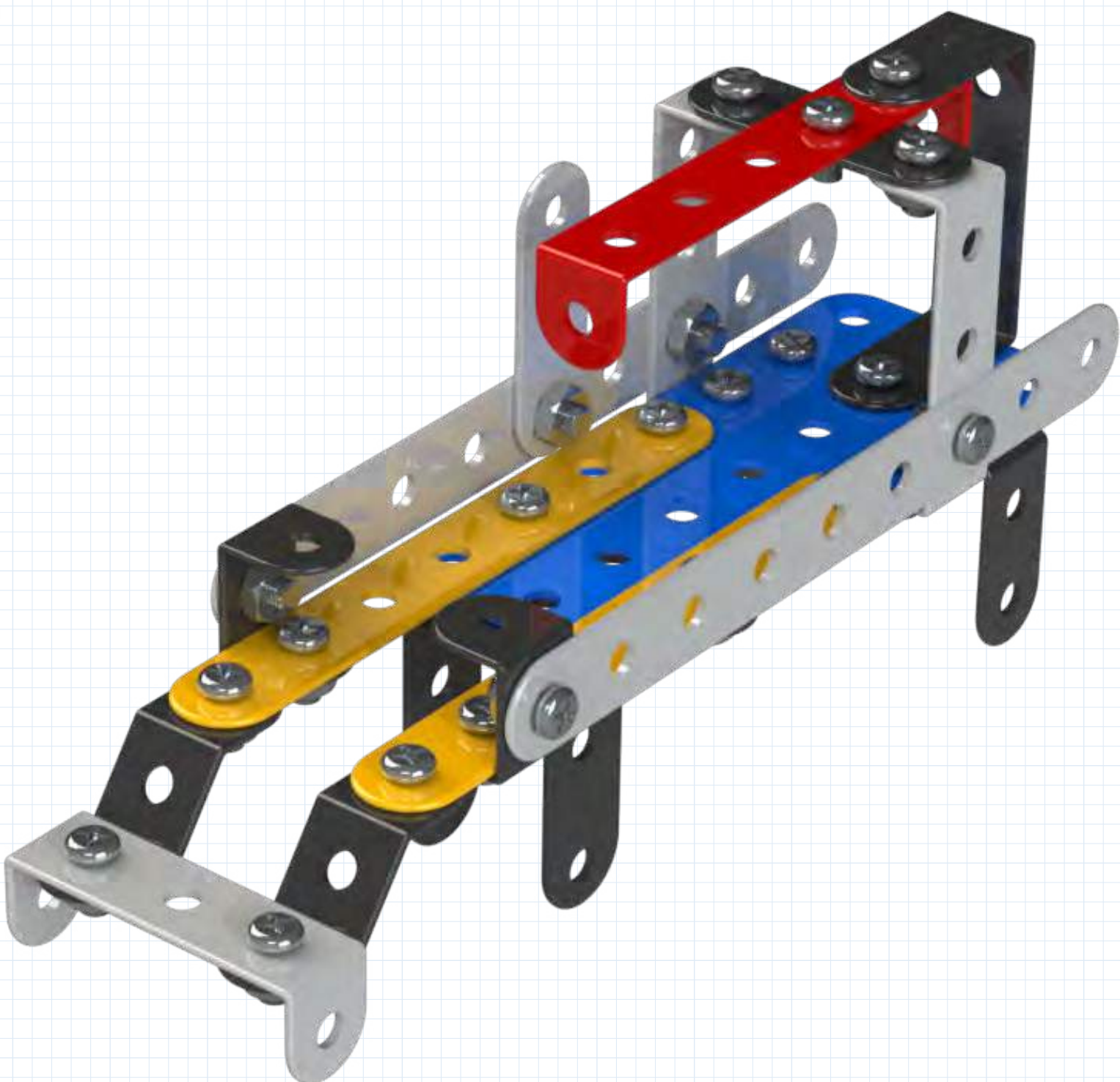


AB-3 2 pcs.



ALB-7 1 pc.

Step-3



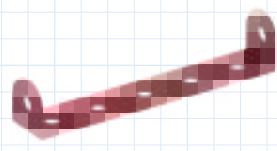
Nut 9 pcs.



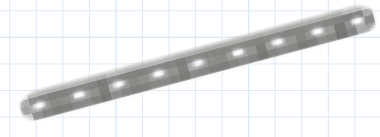
Bolts 6 mm 9 pcs.



A-3 2 pcs.

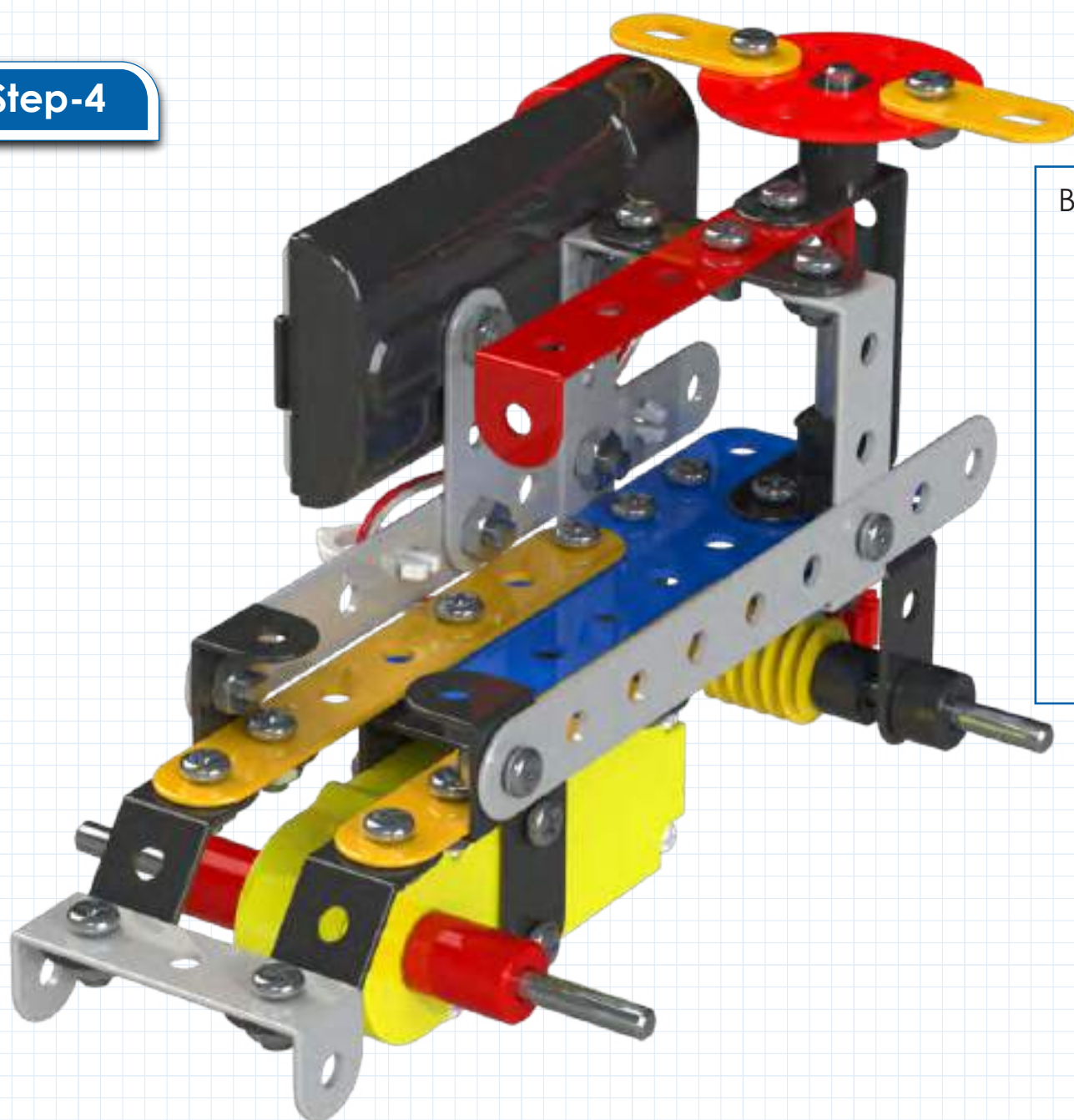


AB-7 1 pc.

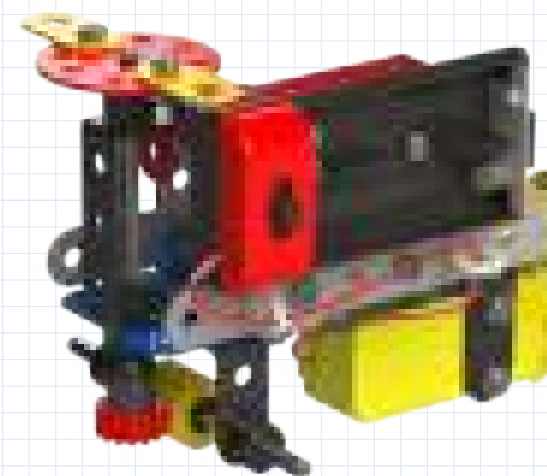


A-9 2 pcs.


Step-4



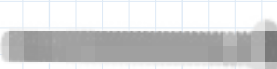
Back side view





Nut 6 pcs.




Bolts 6 mm 4 pcs.




Bolts 25 mm 2 pcs.




Shaft 80 mm 2 pcs.




Rubber Bush 2 pcs.




Spacer 2 pcs.




Wire Clip 2 pcs.




A-2 2 pcs.




TW-1 2 pcs.



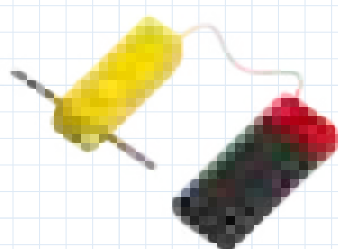
G-2 1 pc.



G-1 1 pc.

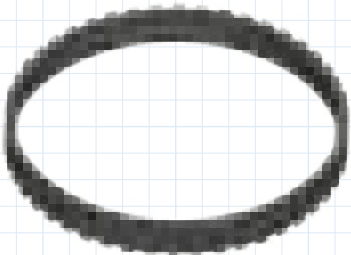
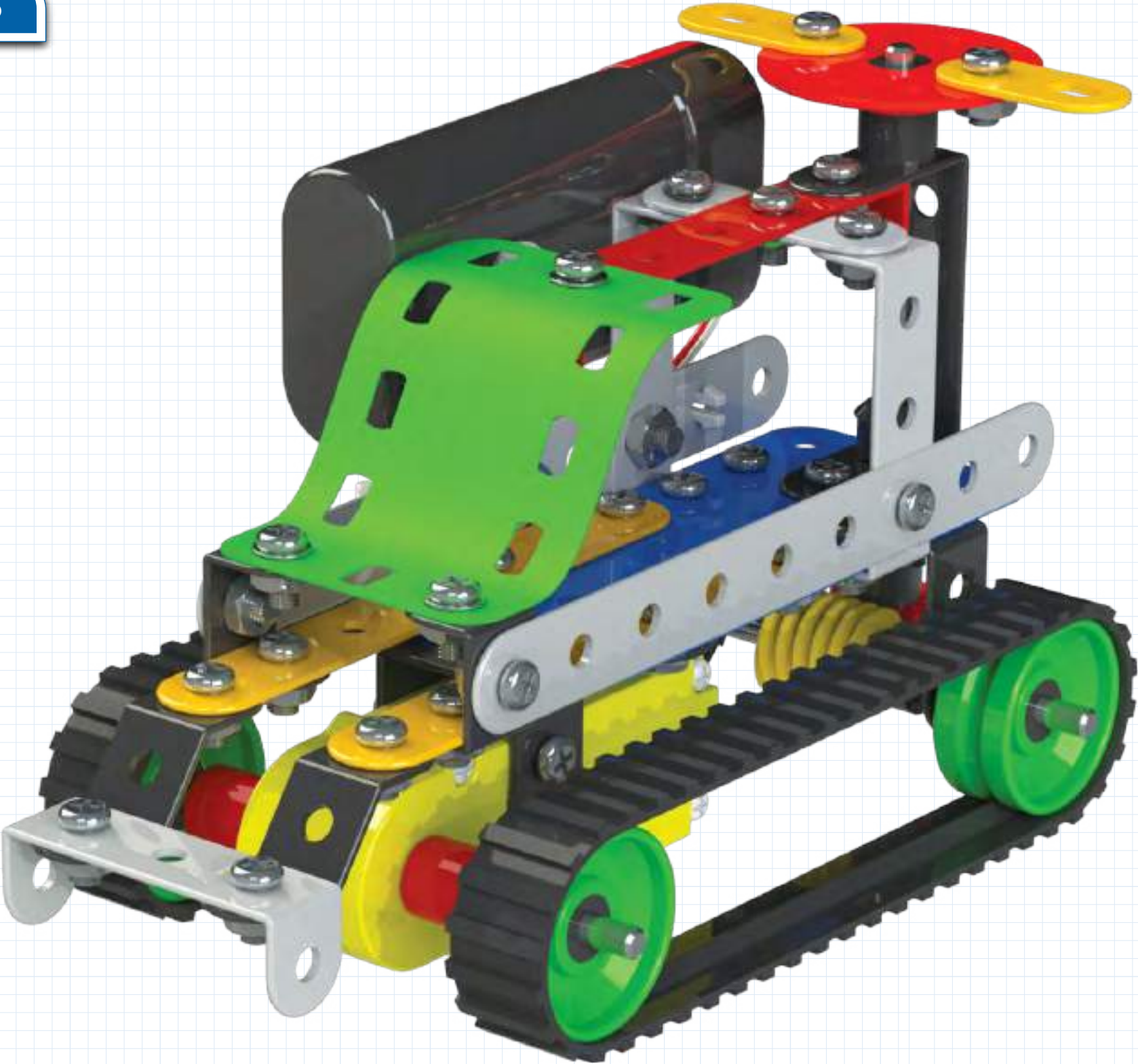


R-8 Rubber Bush 1 pc.



Motor & Battery Box Set 1 pc.

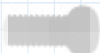
Step-5



Track 2 pcs.



Nut 3 pcs.



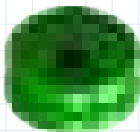
Bolts 6 mm 3 pcs.



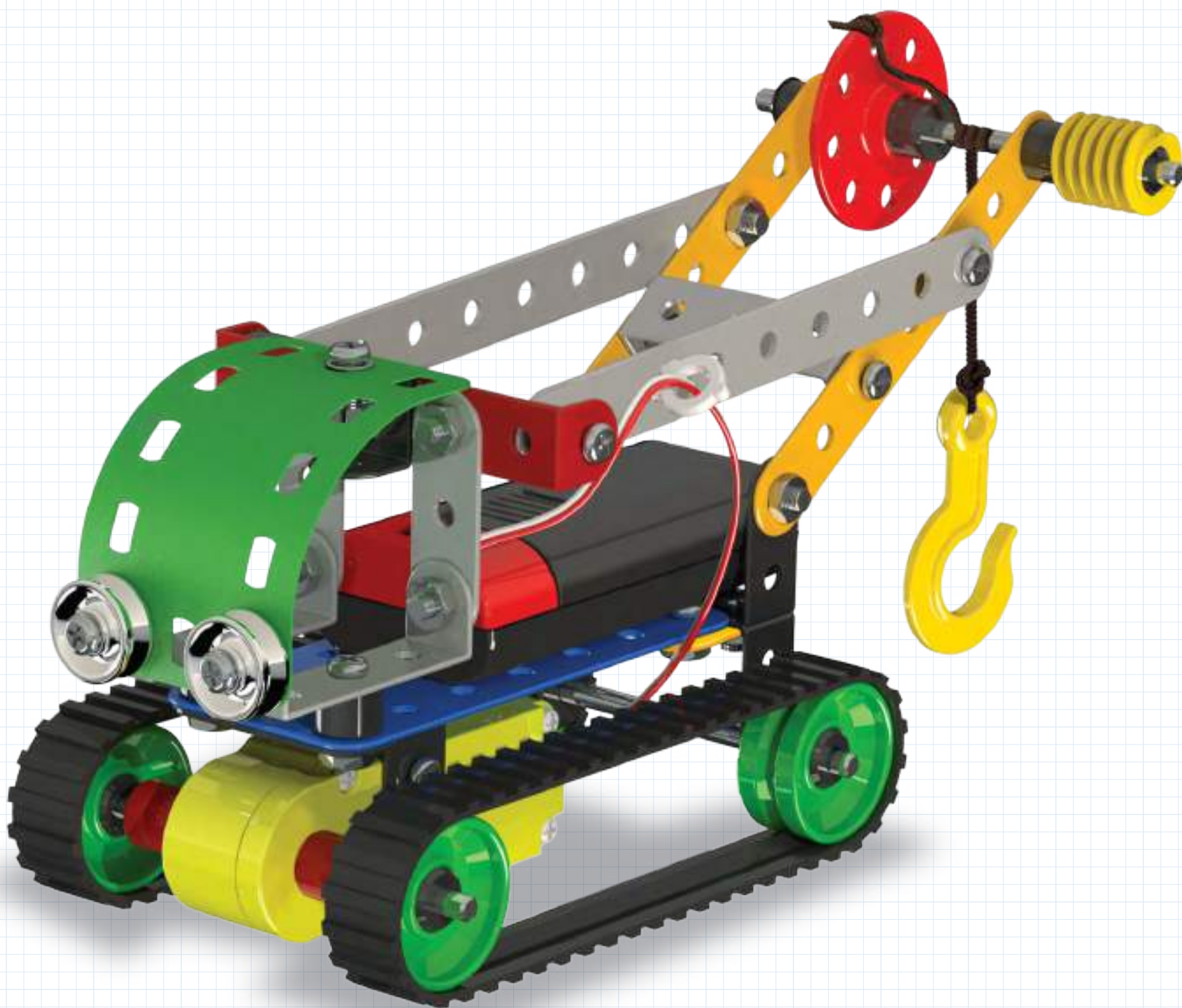
MW1 3 pcs.

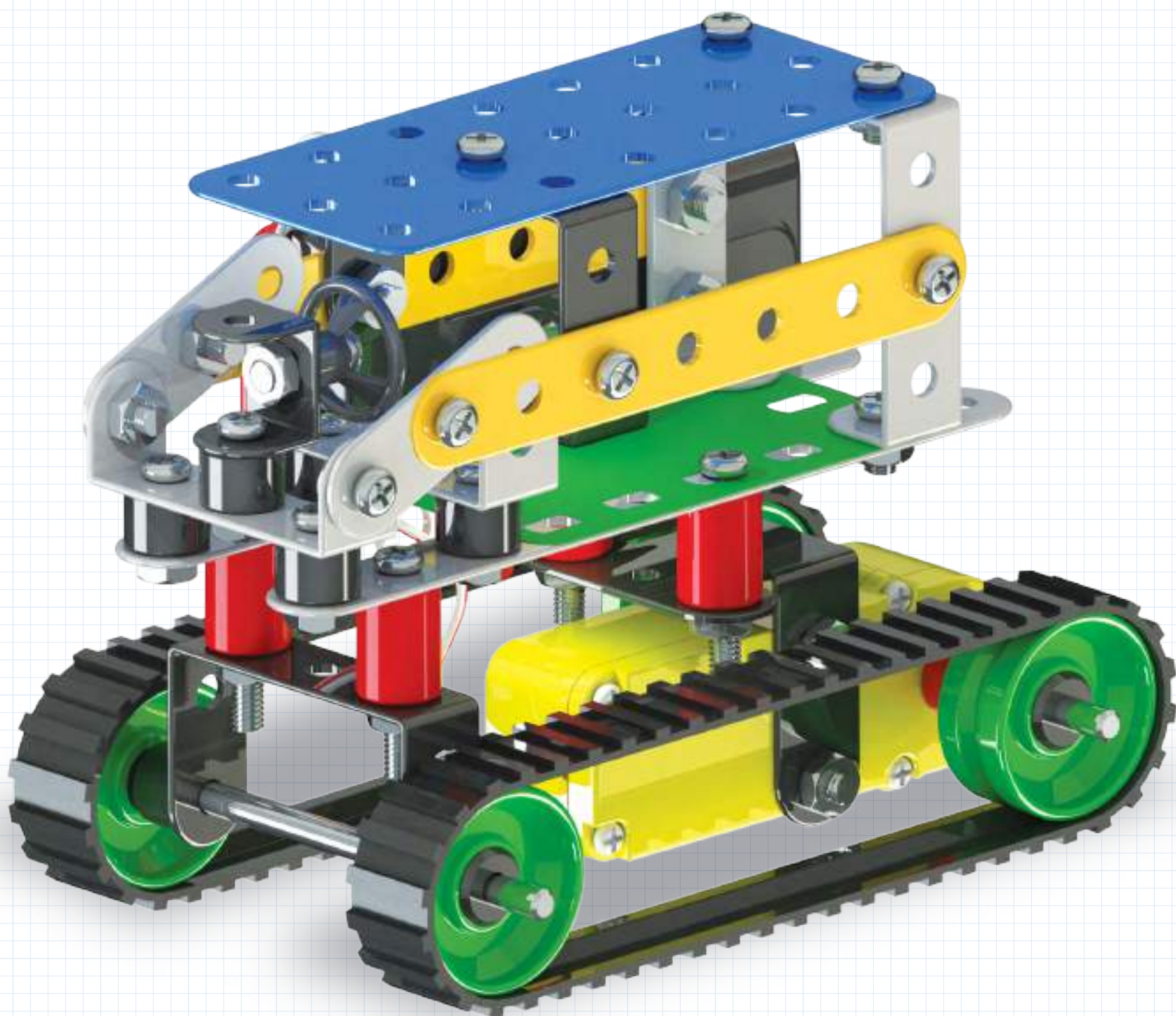


PSR-12 1 pc.



Tank Wheels 4 pcs.





That fresh smile and laughter, giggles and chattering of the little kids are one of the most refreshing happiness that touches the heart. Like the cool evening breeze on the rise that refreshes the soul of a worked up being. That is what Zephyr is all about and about quality, in the true sense of the word. Quality of play, quality of education and quality of product. We bring you a whole range of play and education toys of international standards that undergo through the strict quality control of the Zephyr family itself. Our kits have won quite a few awards and Mechanix is our star set that has won "The Best Educational Toy" and "The Best Toy" award at the TAITMA. We do not do business, at Zephyr's we befriend children. A smile on your child's face is our gain.

ENGINEERING SYSTEM FOR CREATIVE KIDS



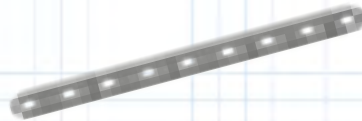
A-2 2 pcs.



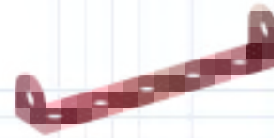
A-3 2 pcs.



A-7 2 pcs.



A-9 2 pcs.



AB-7 2 pcs.



AB-3 4 pcs.



Bracket 1pc.



AB-5 4 pcs.



ALB-7 2 pcs.



ZZ3 2 pcs.



TW-1 9 pcs.



Rubber Bush 2 pcs.



Spacer 6 pcs.



G-1 1 pc.



G-2 1 pc.



PY-1 2 pcs.



Tank Wheels 4 pcs.



R-8 Rubber Bush 1 pc.



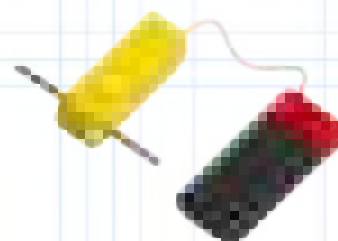
LRT-21 1pc.



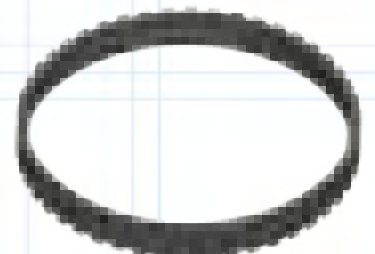
Steering Wheel 1 pc.



H1 1 pc.



Motor & Battery Box Set 1 pc.



Track 2 pcs.



PLR-20 1pc.



PSR-12 1 pc.



MW1 8 pcs.



Wire Clip 4 pcs.



Nuts 40 pcs.



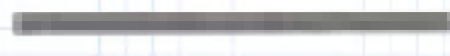
Bolts 6 mm 34 pcs.



Bolts 12 mm 10 pcs.



Bolts 25 mm 8 pcs.



Shaft 80 mm 2 pcs.



Thread 1 pc.



Spanner 1 pc.



ScrewDriver 1 pc.

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