

**LEGO** mindstorms<sup>®</sup>  
EV3

# WACK3M



Model Design, Building  
and Programming Instructions  
by: **Martyn Boogaarts**

1

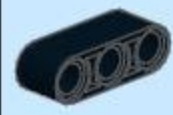


2



3

3



1x

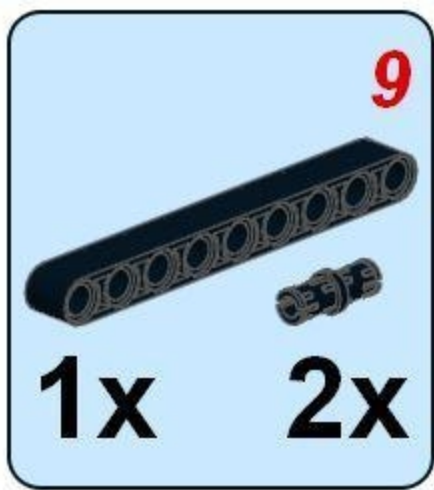


1x





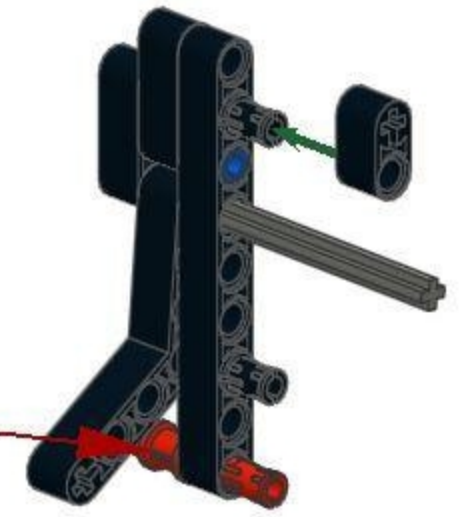
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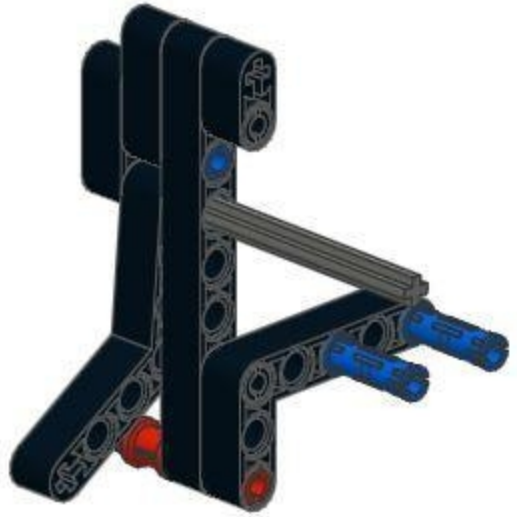
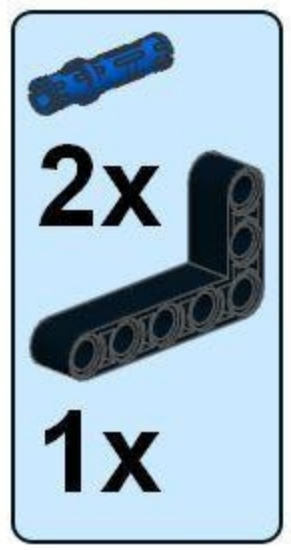
5

-   
- 1x 1x 1x

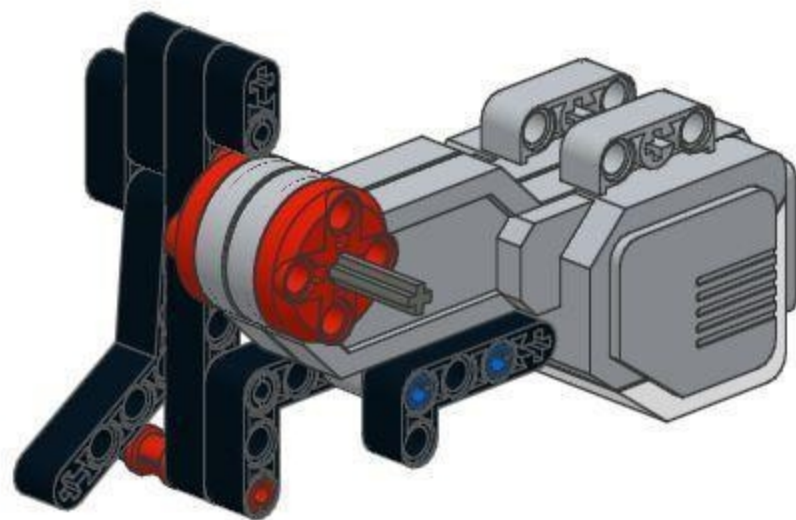
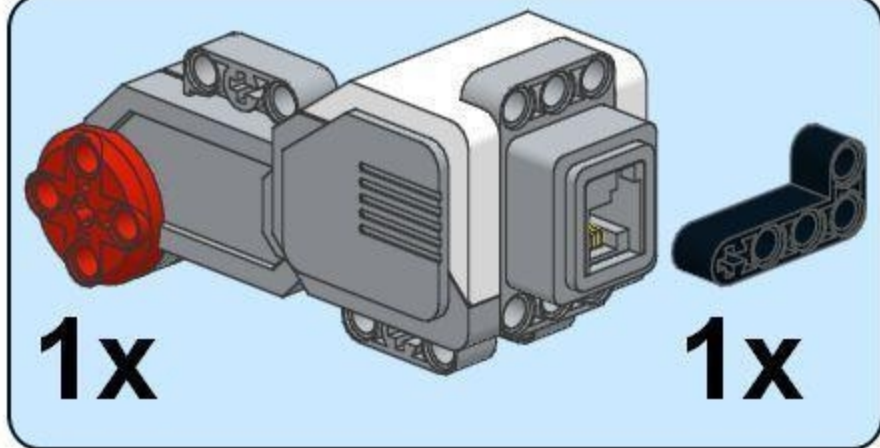
- 1 
- 2 



6



7



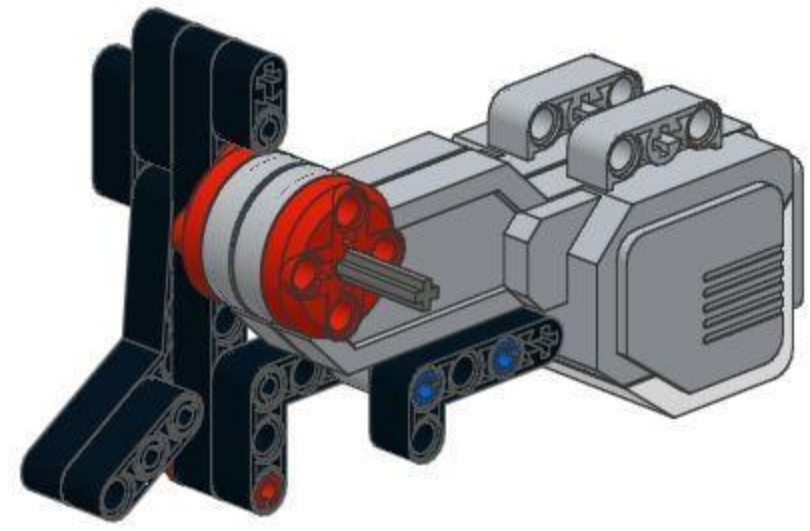


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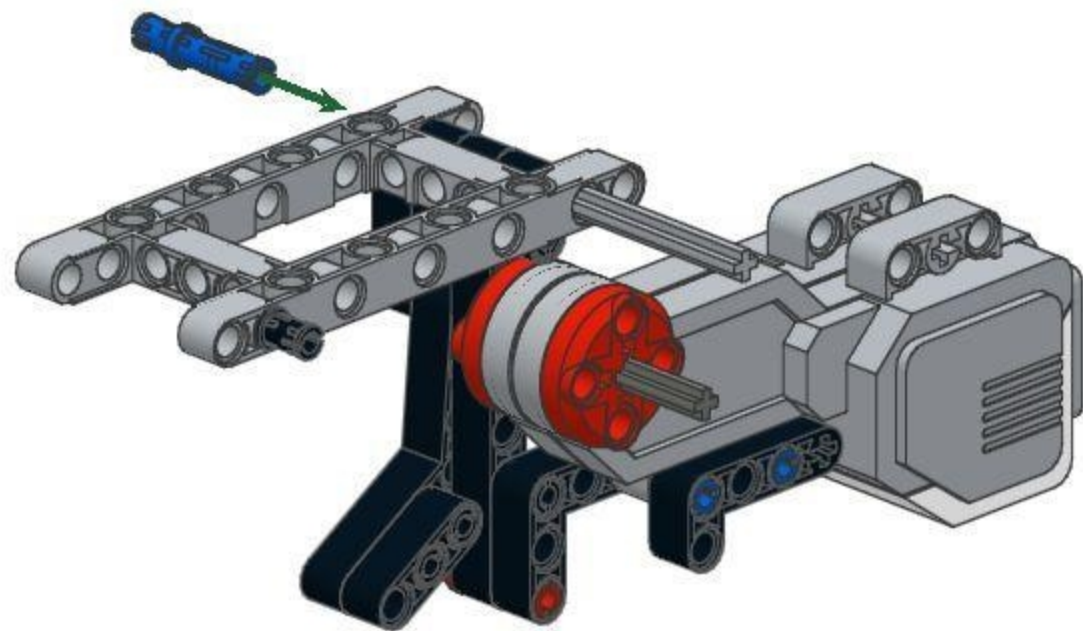
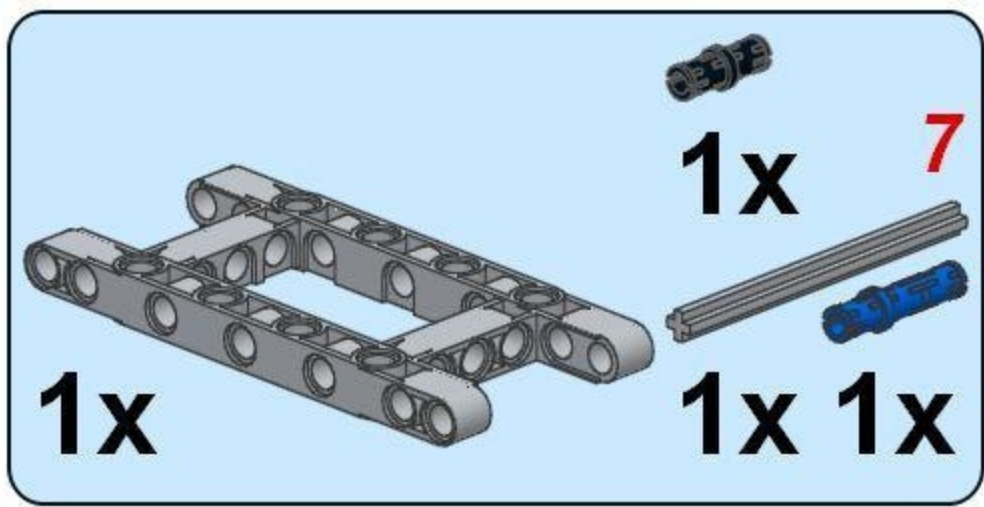
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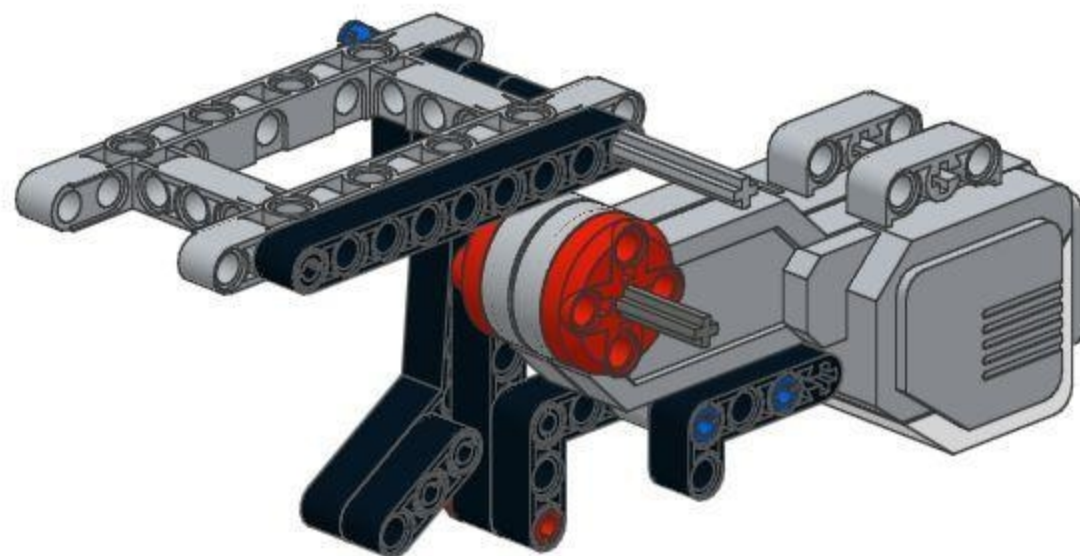
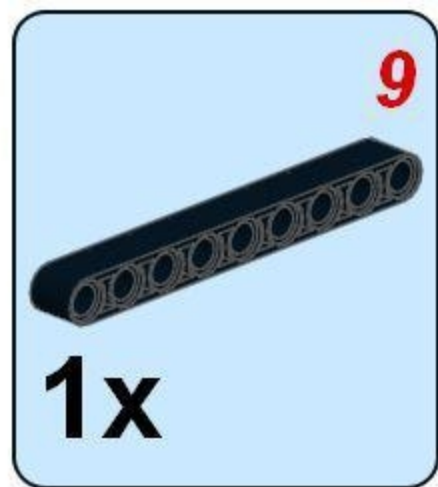
1x 2x



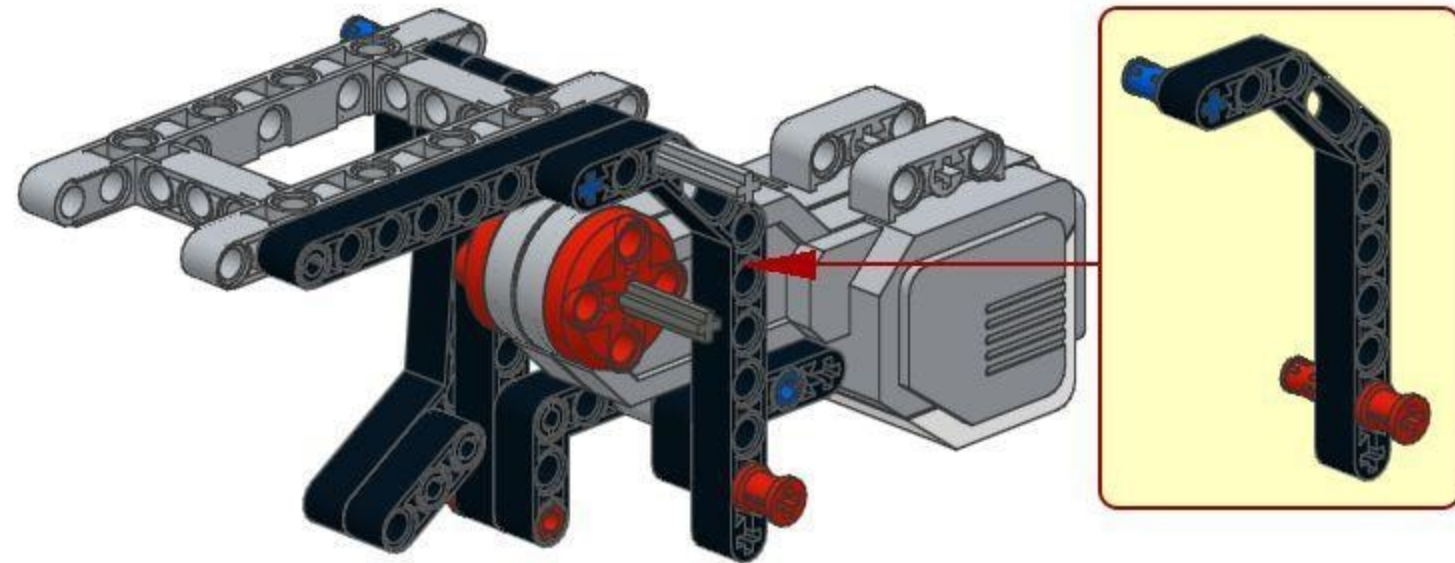
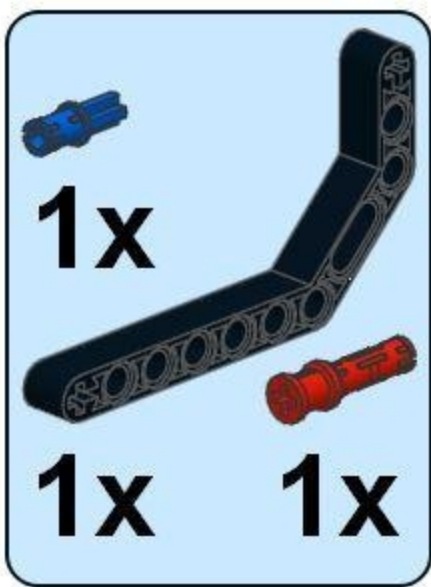
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10

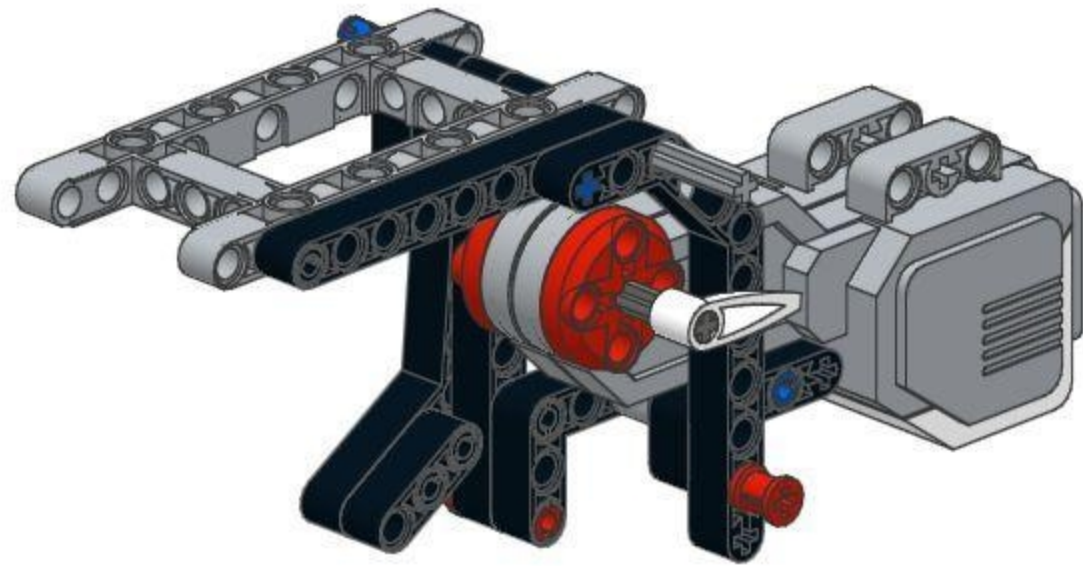


11





12   
1x



# 13

3x

1x

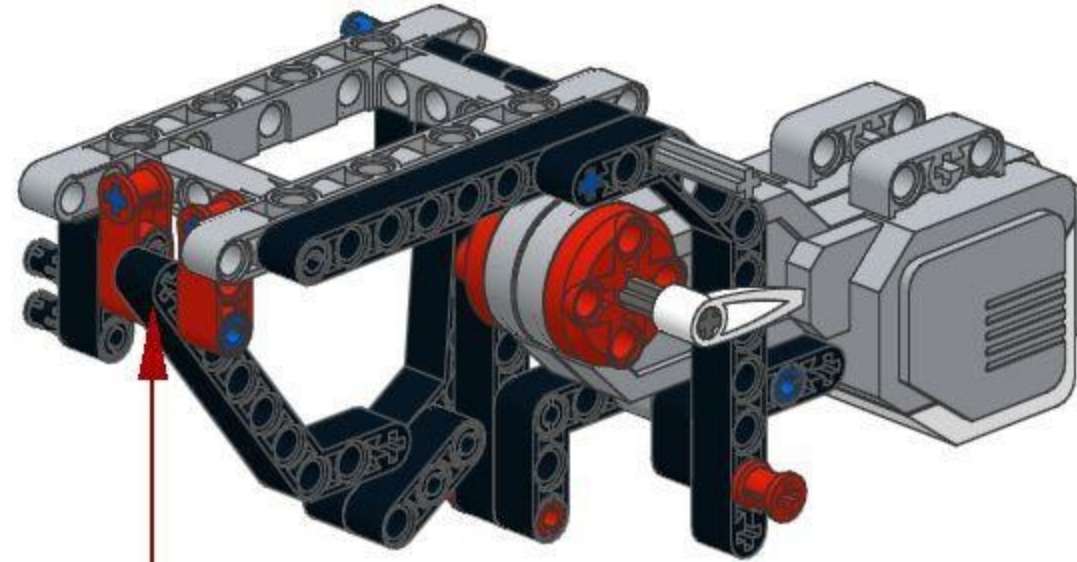
1x

1x

1x

3

2x



1

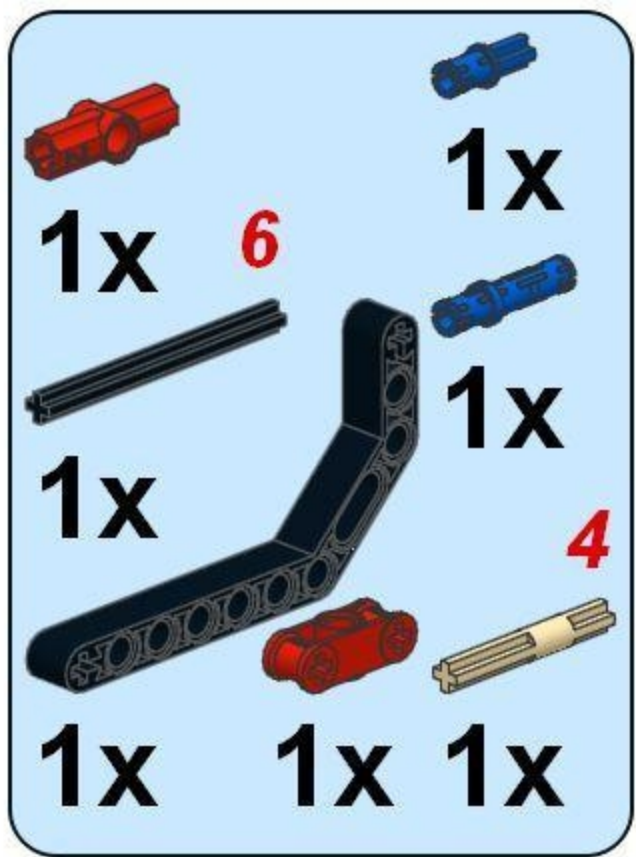
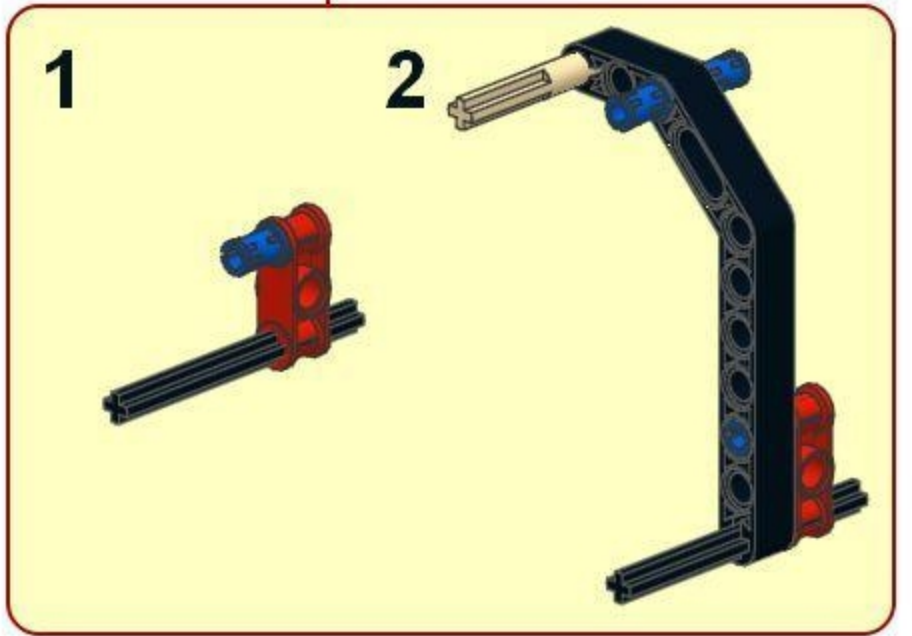
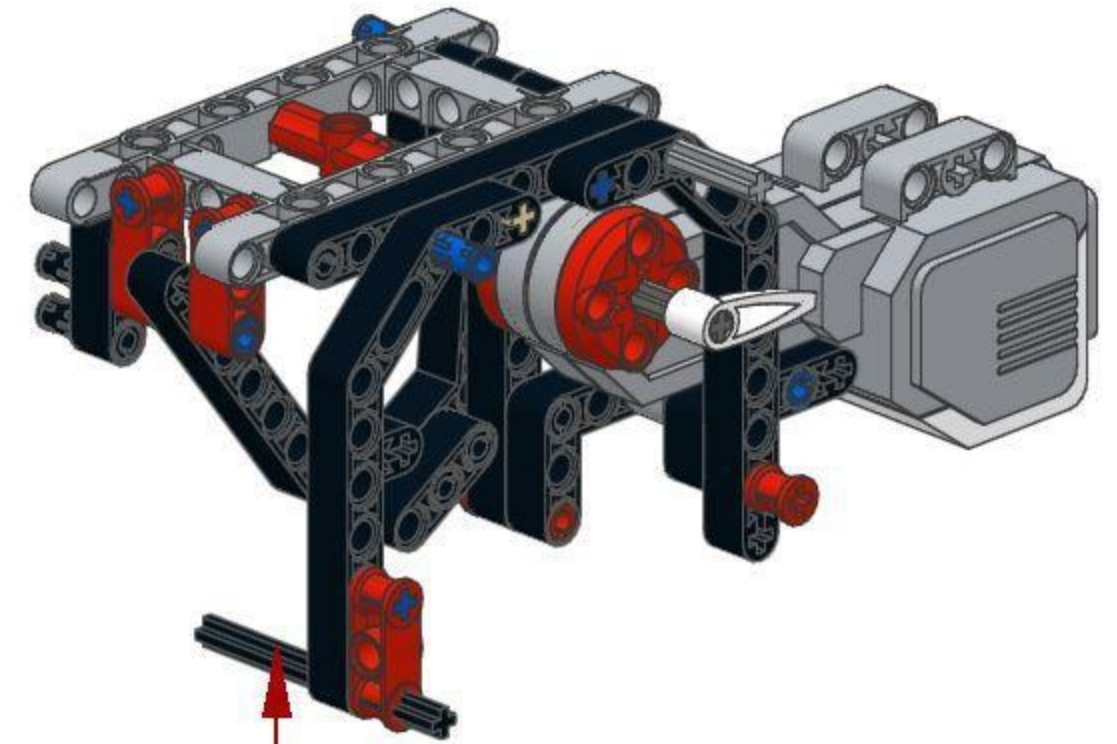
2

3

4

14

1x 1x  
1x 6  
1x 1x  
1x 1x 4  
1x 1x 1x

A parts list for step 14, enclosed in a light blue rounded rectangle. It lists the following components: one red axle with a bush, one blue axle with a bush, one black axle, one black L-shaped Technic beam, one red axle with a bush, one tan axle with a bush, one black axle, one red axle with a bush, and one tan axle with a bush. Each component is accompanied by a '1x' quantity label. The number '6' is written in red next to the black axle, and the number '4' is written in red next to the tan axle with a bush.



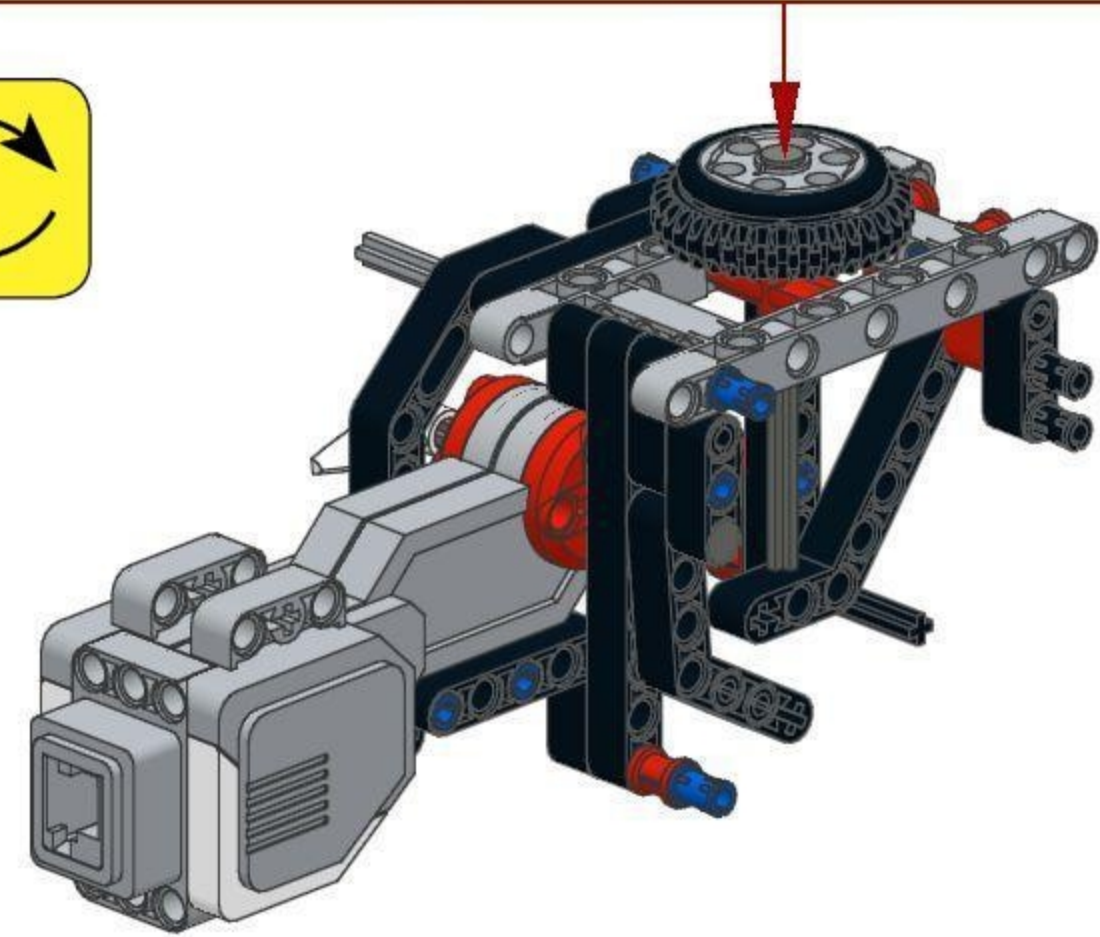
15




1x  1x   
1x  8   
1x  1x  1x 

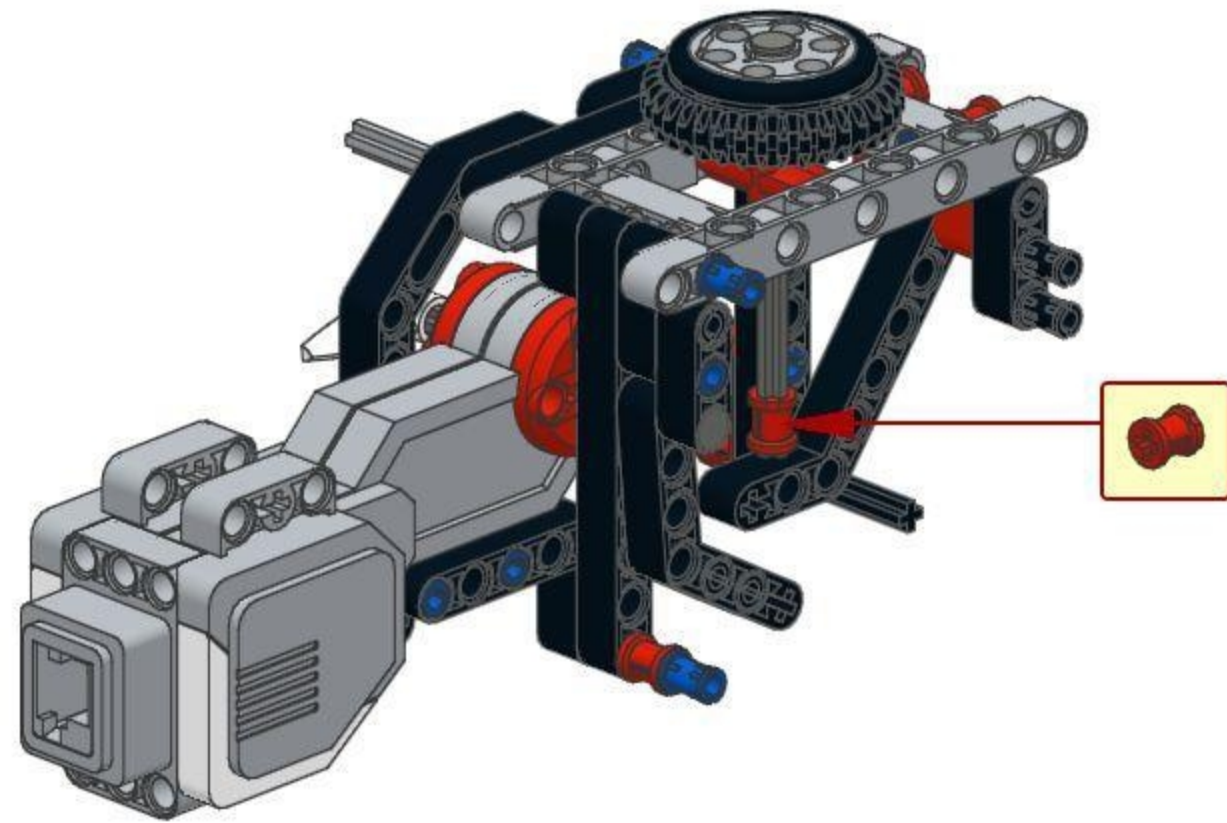


1  2  3 



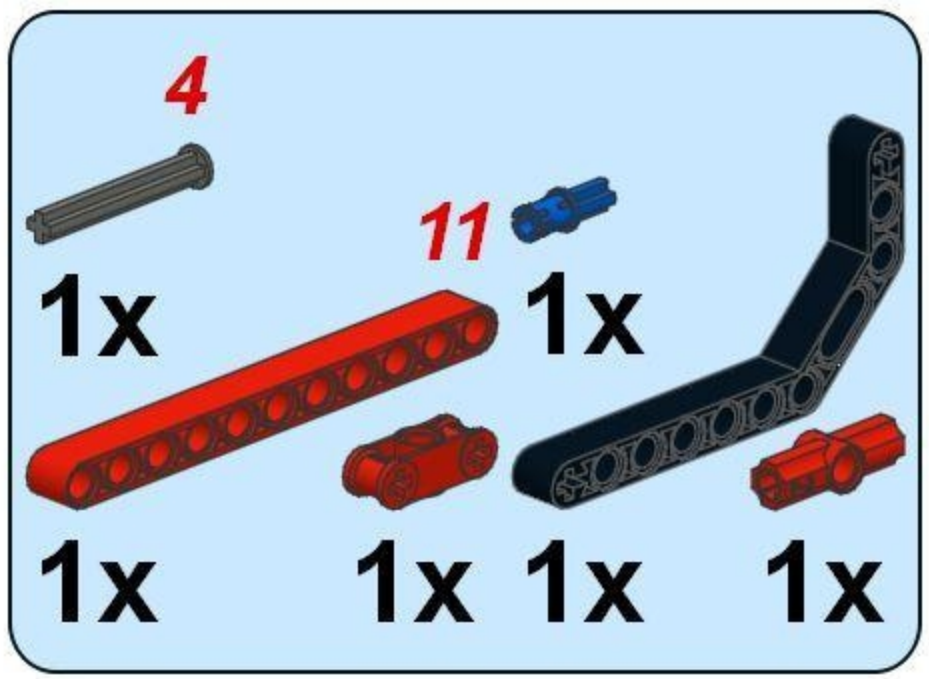


16   
1x

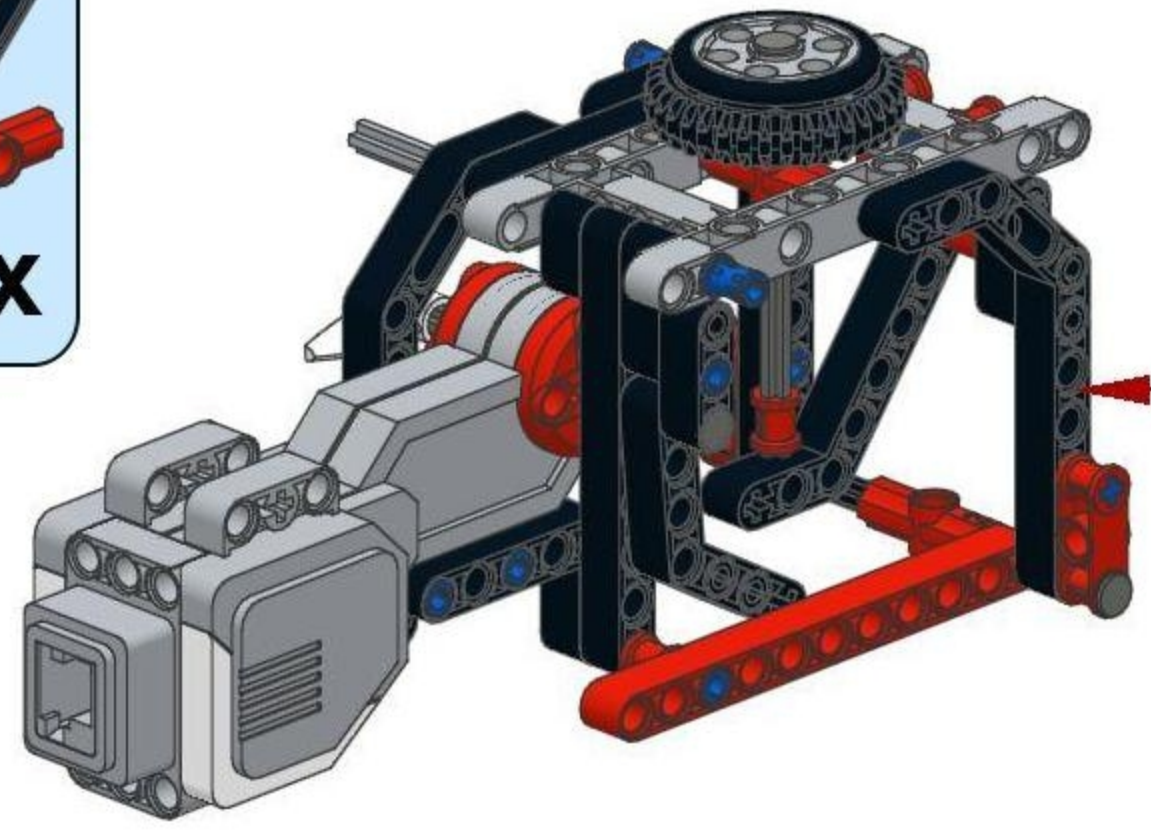


17

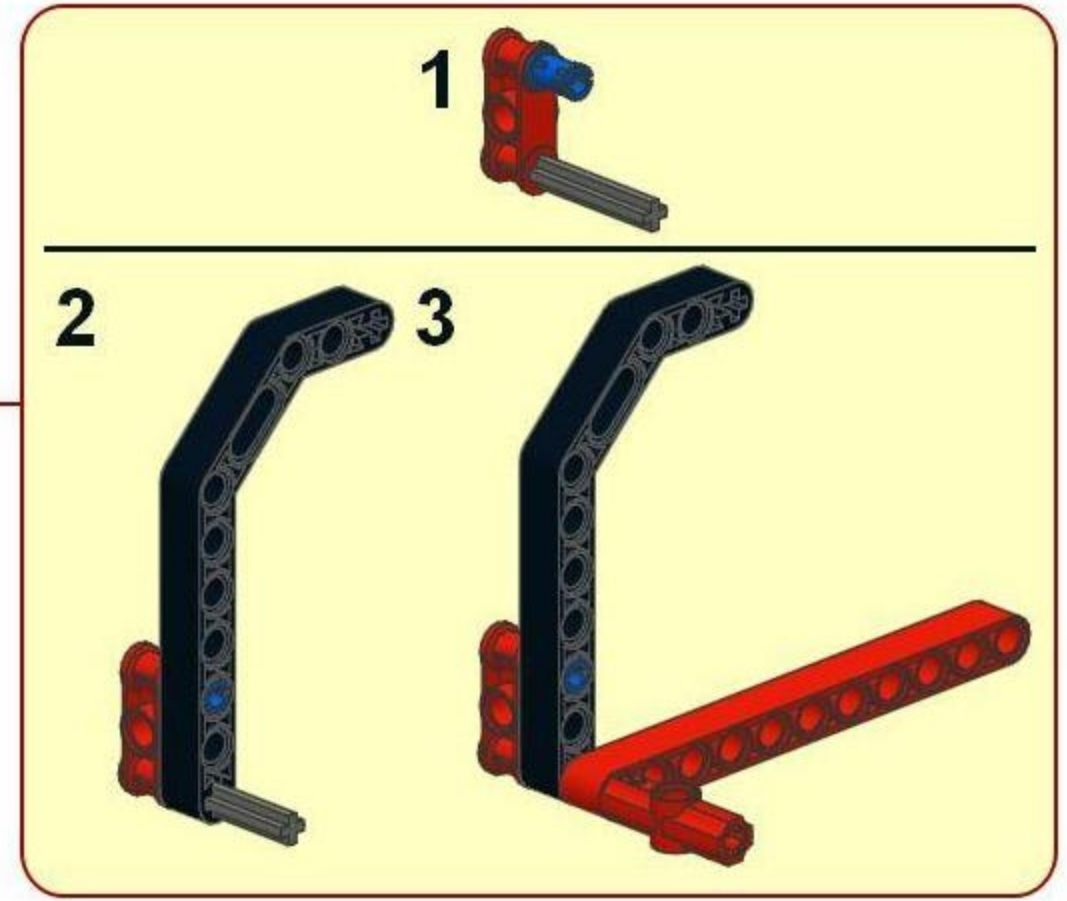
4  
1x  
11  
1x  
1x  
1x  
1x  
1x



A parts list for step 17, enclosed in a light blue rounded rectangle. It lists the following components: 4 grey axles, 1x red 11-hole Technic beam, 1x blue axle pin, 1x red axle bush, 1x black 11-hole Technic beam, 1x red axle bush, 1x red axle bush, and 1x red axle bush. Each item is accompanied by a small image of the part.

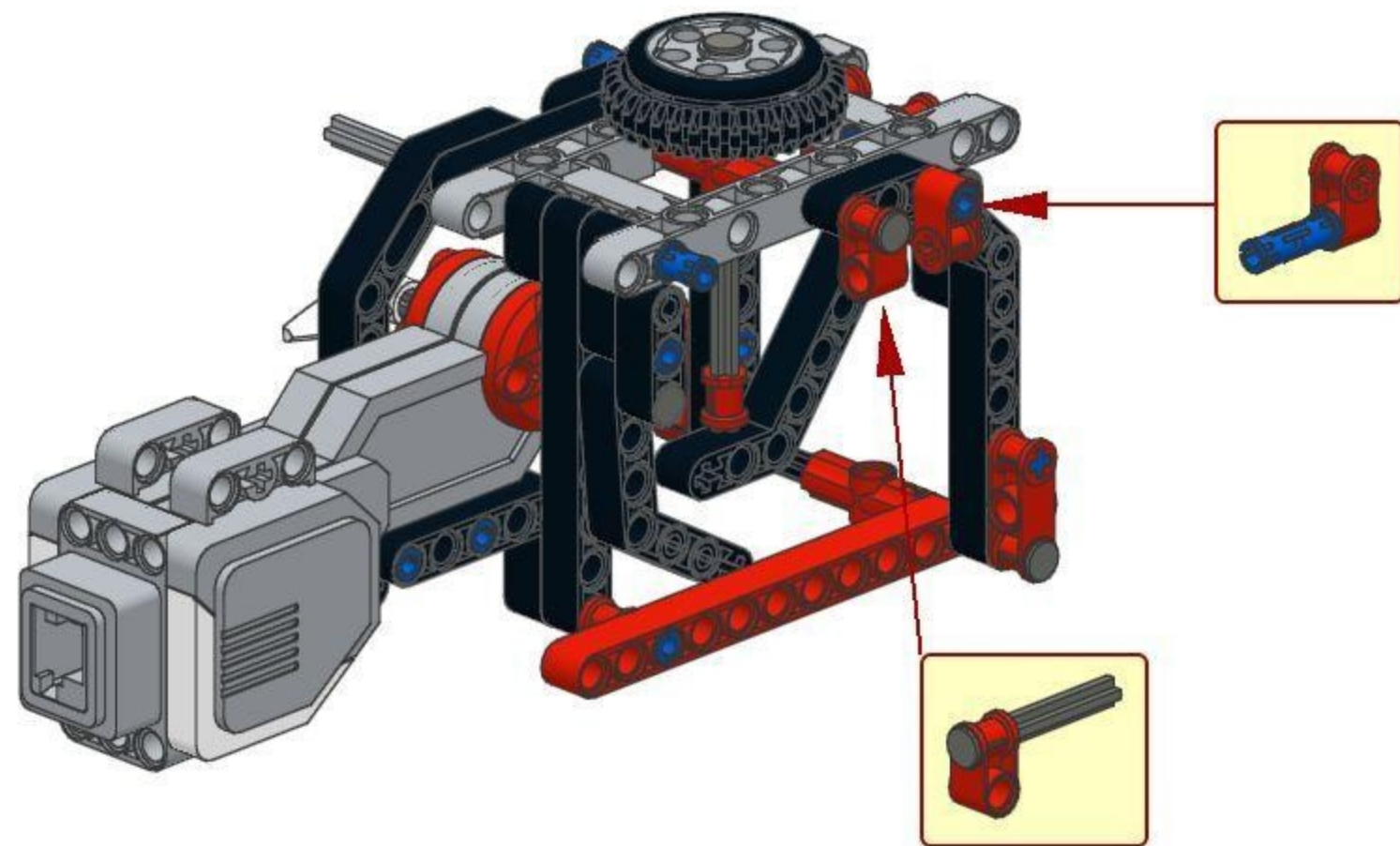
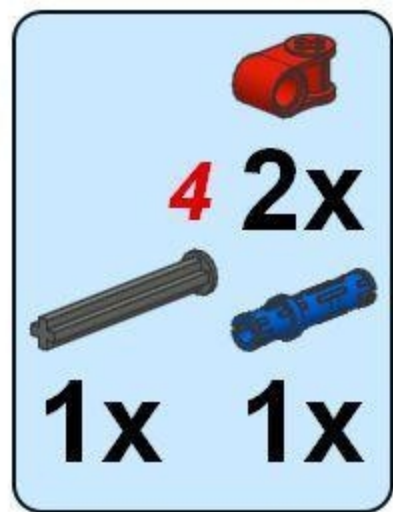


1  
2  
3



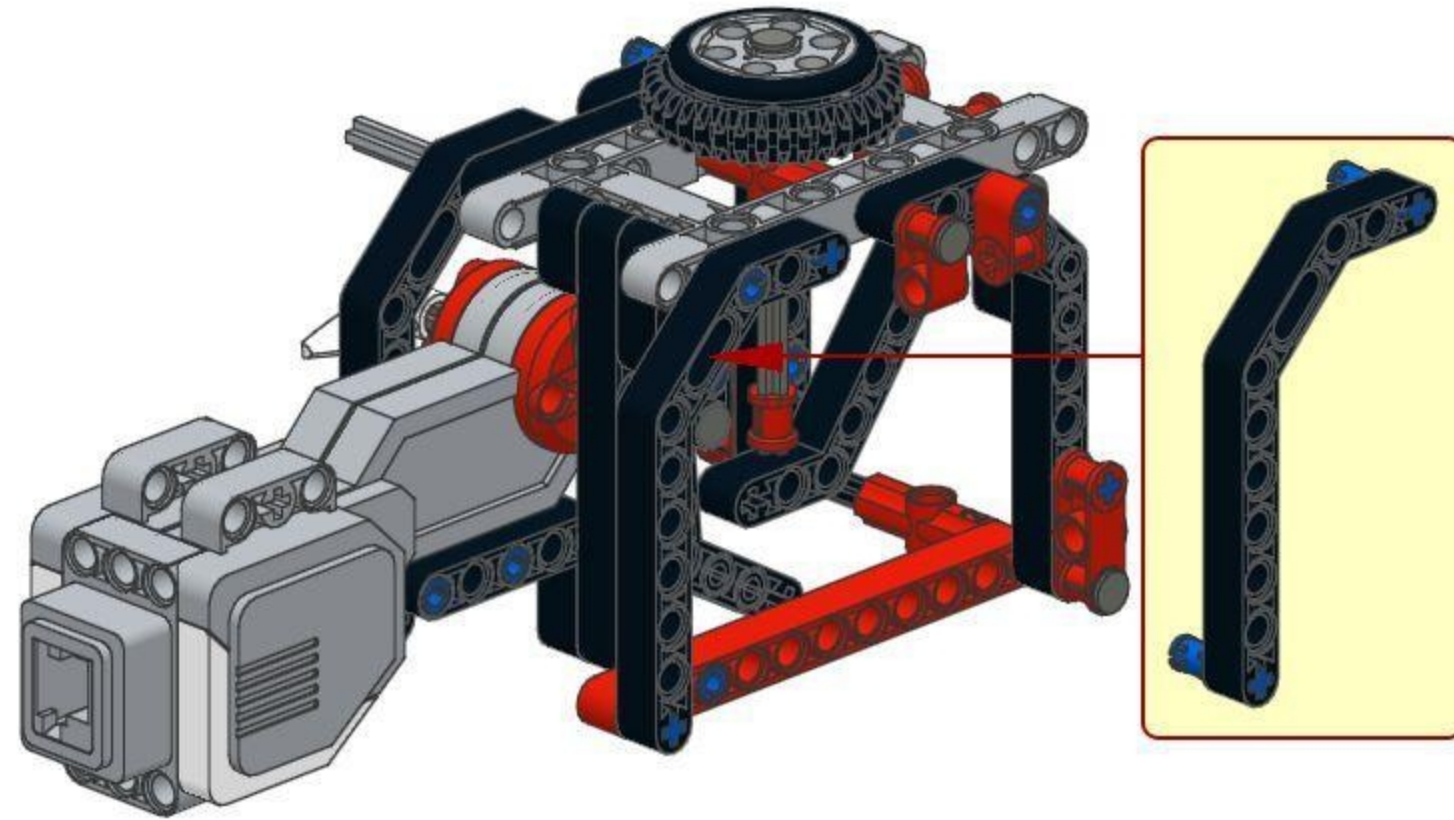
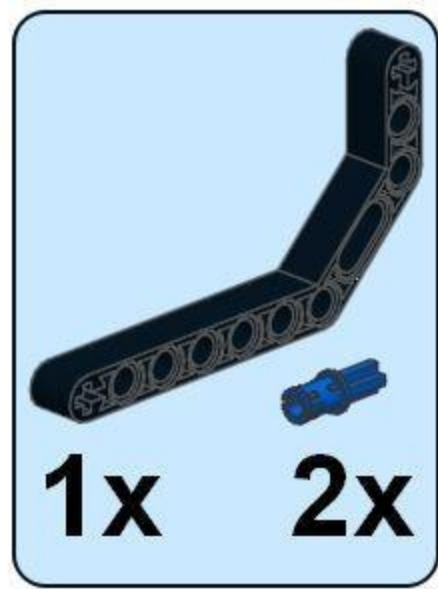
A yellow inset diagram showing three sub-steps for assembly. Step 1 shows a red axle bush being inserted onto a grey axle. Step 2 shows a black 11-hole Technic beam with a red axle bush inserted into the bottom hole. Step 3 shows the black beam with a red 11-hole Technic beam attached to the bottom hole.

18

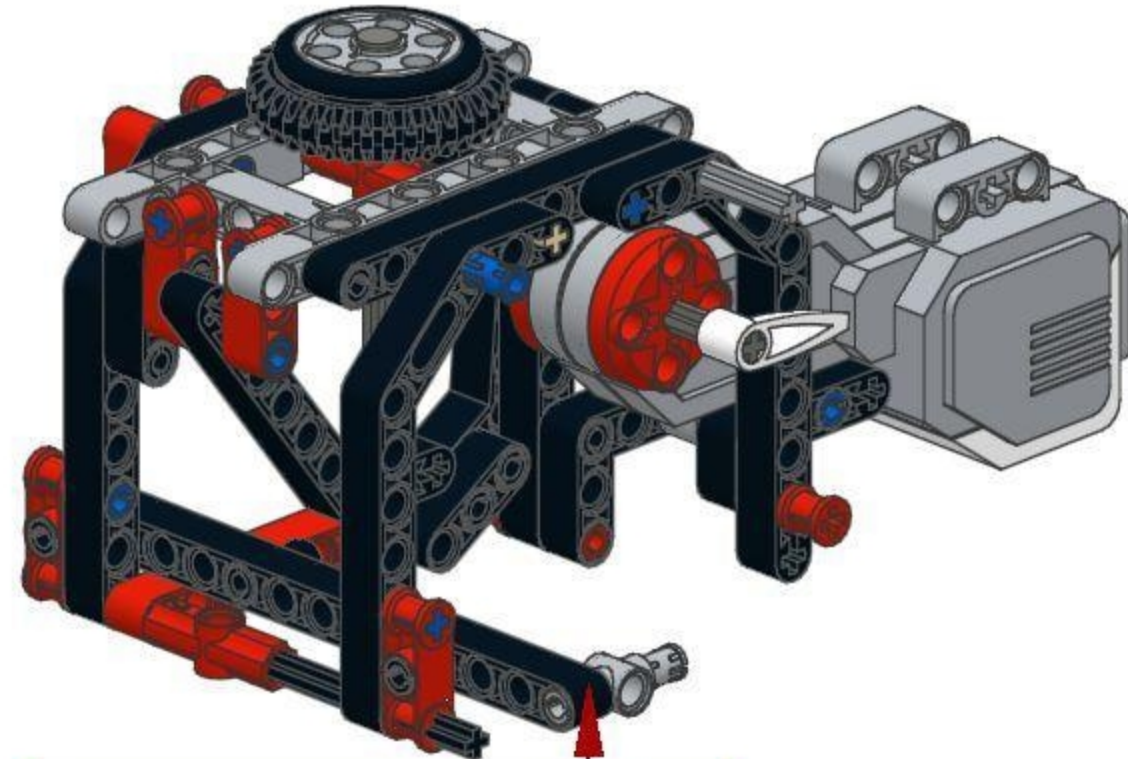
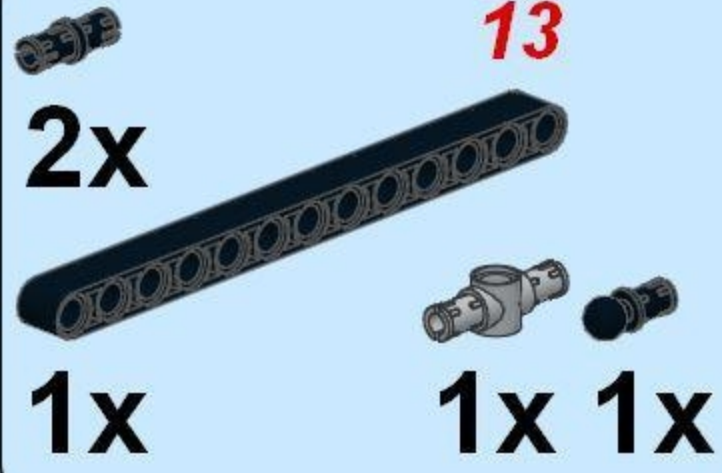




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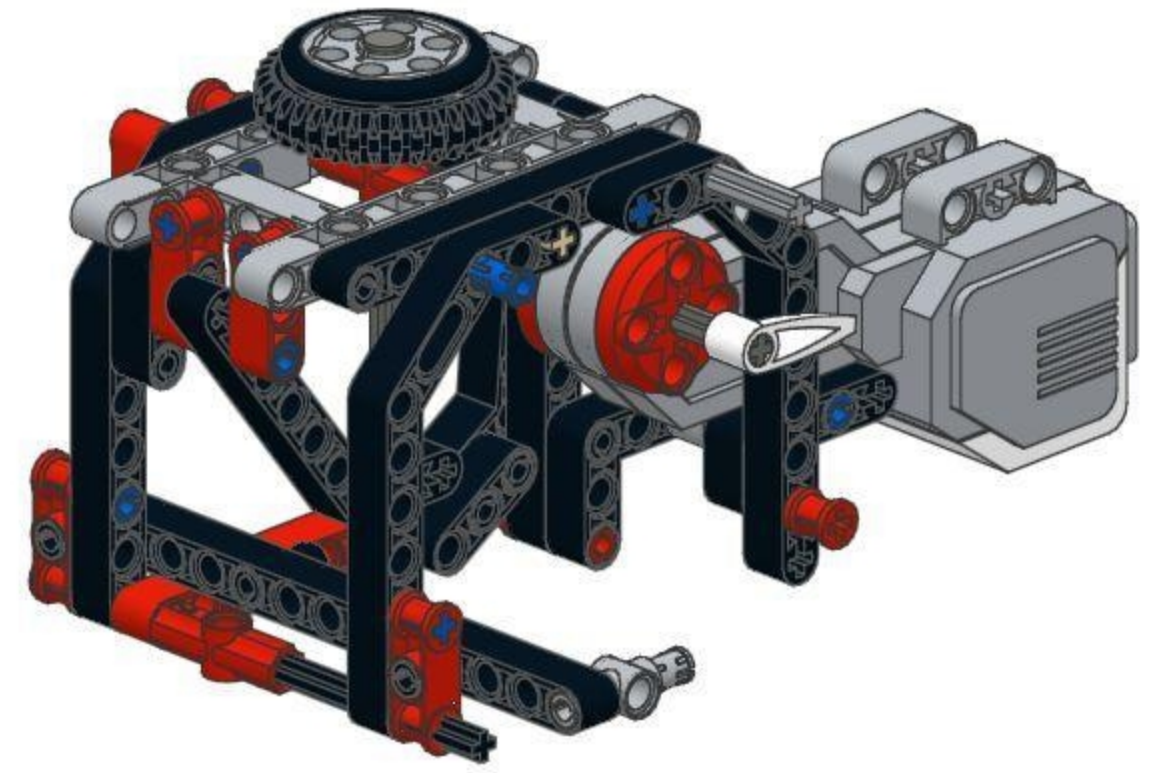


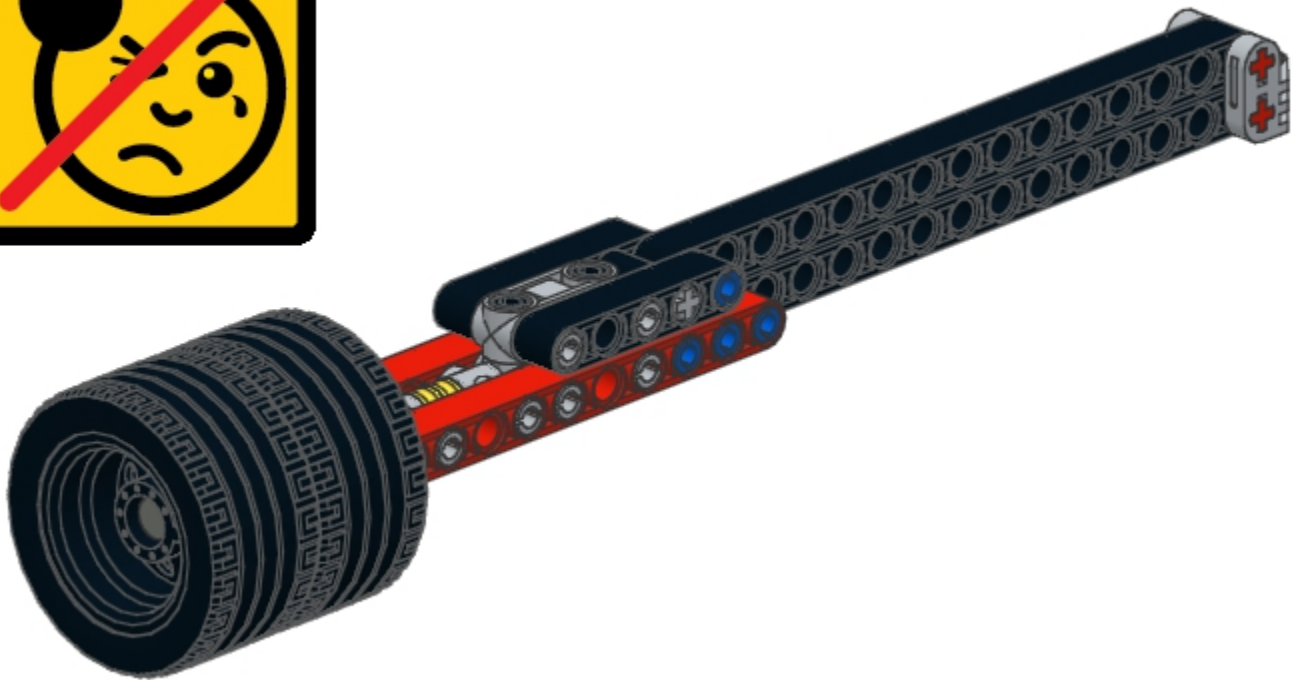
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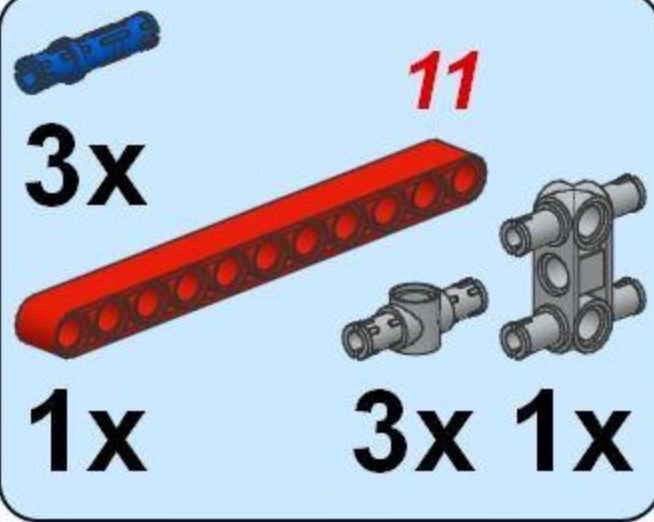


1





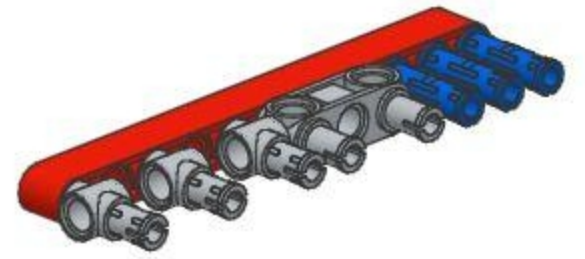
1



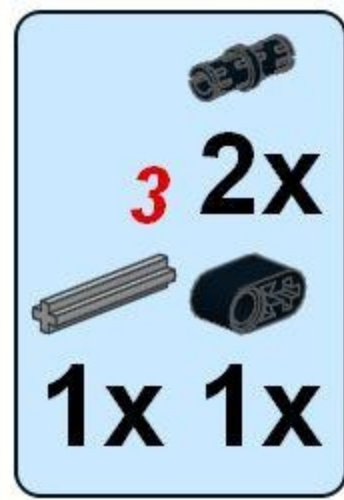
3x <sup>11</sup>

1x 3x 1x

This block contains a parts list for step 1. It includes a small blue pin, a long red Technic beam with 11 holes, a grey Technic axle, a grey Technic connector, and a grey Technic cross-axle. The quantities are listed as 3x for the blue pin, 1x for the red beam, 3x for the grey axle, and 1x for the grey connector. The number 11 is written in red above the red beam.

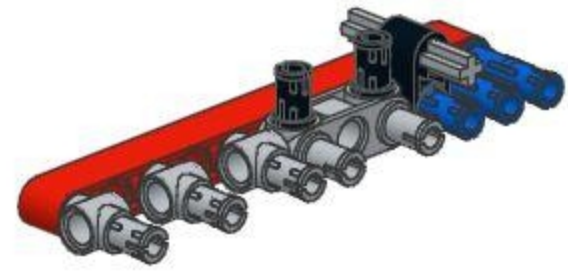


2



3 2x  
1x 1x

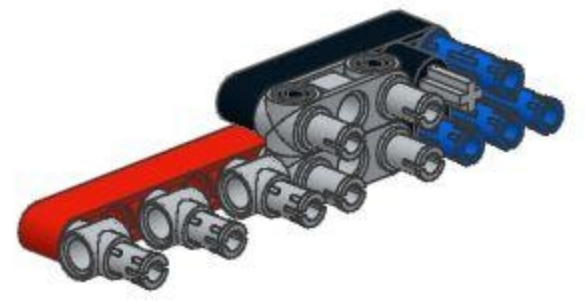
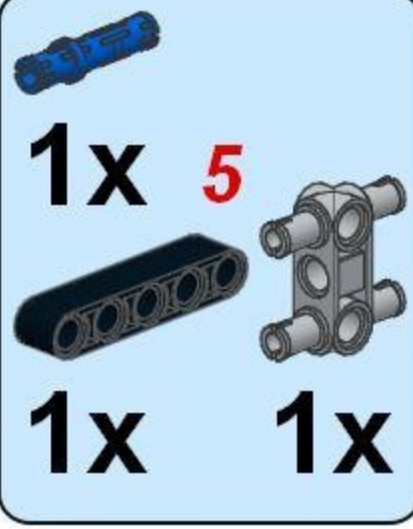
This block contains a parts list for step 2. It features a large black number '2' on the left. To its right is a light blue rounded rectangle containing four items: a grey axle pin at the top, a grey axle with three holes in the middle, a grey axle with one hole at the bottom left, and a black axle bush at the bottom right. The numbers '3' and '2x' are positioned between the top two items, and '1x' and '1x' are positioned between the bottom two items.





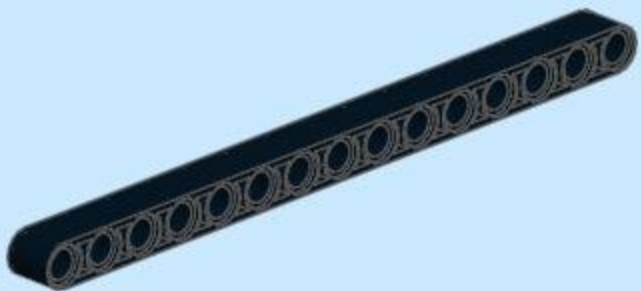
3

1x 5  
1x 1x

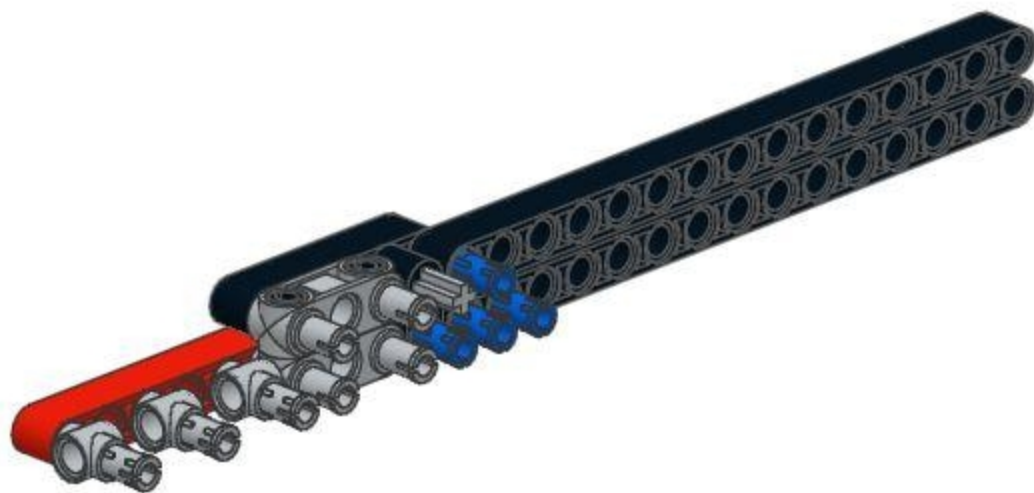


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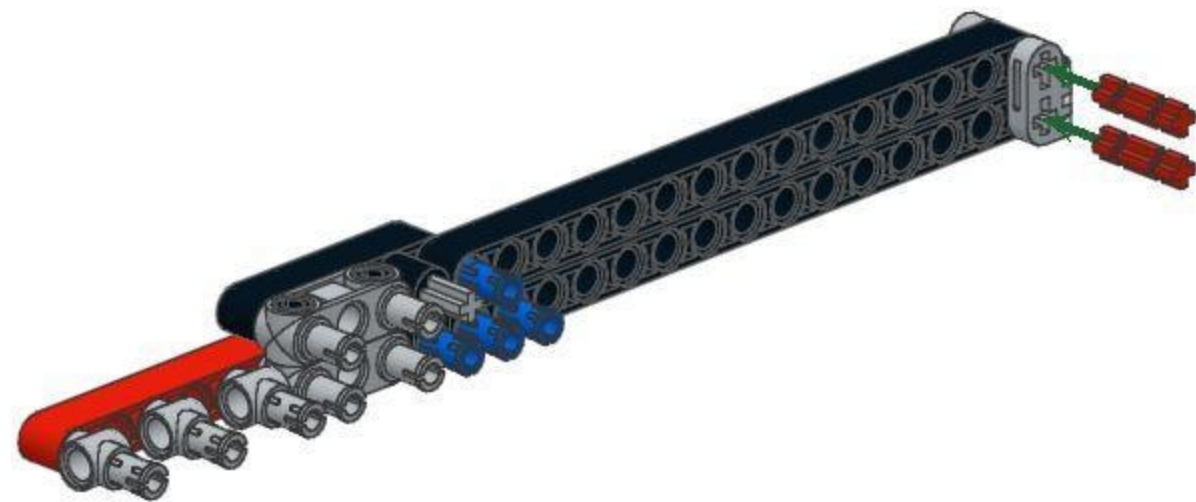
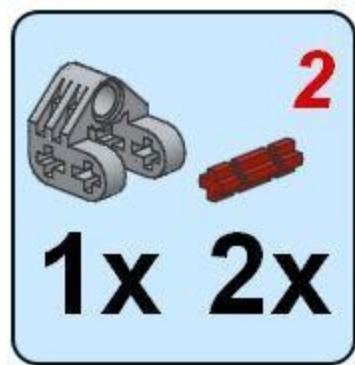
15



2x



5



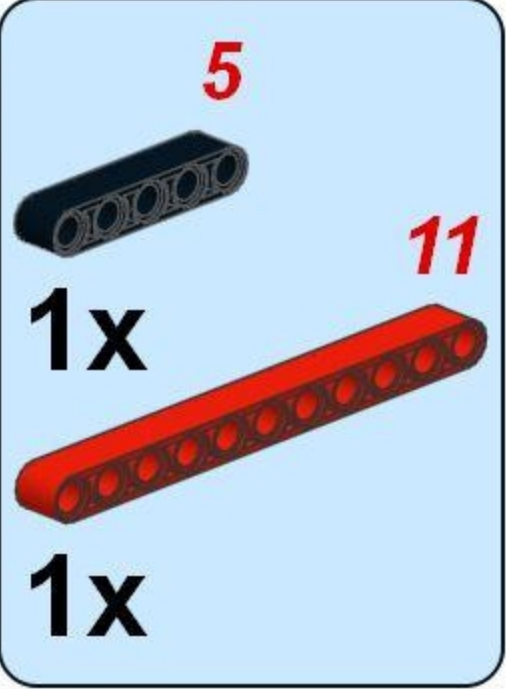
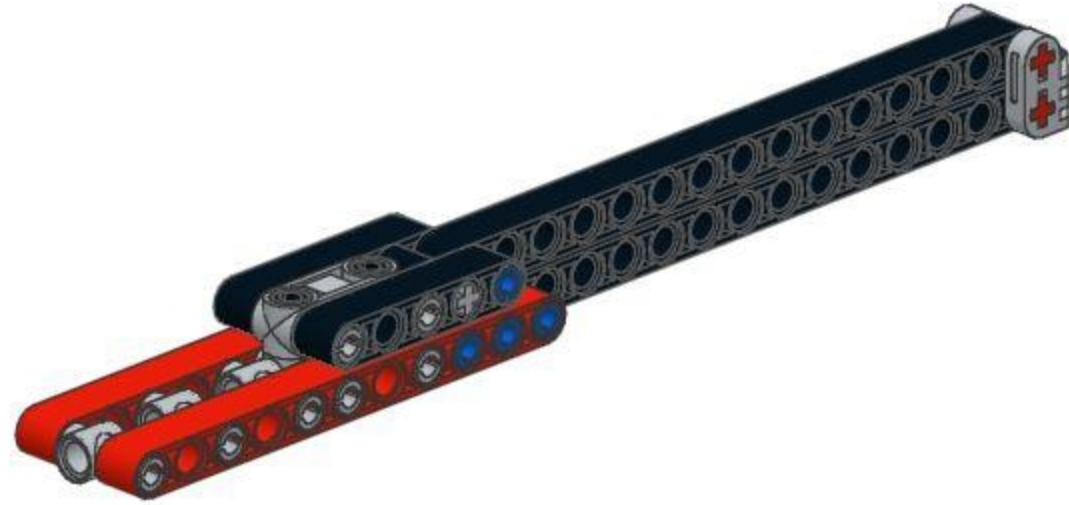
6

5

1x

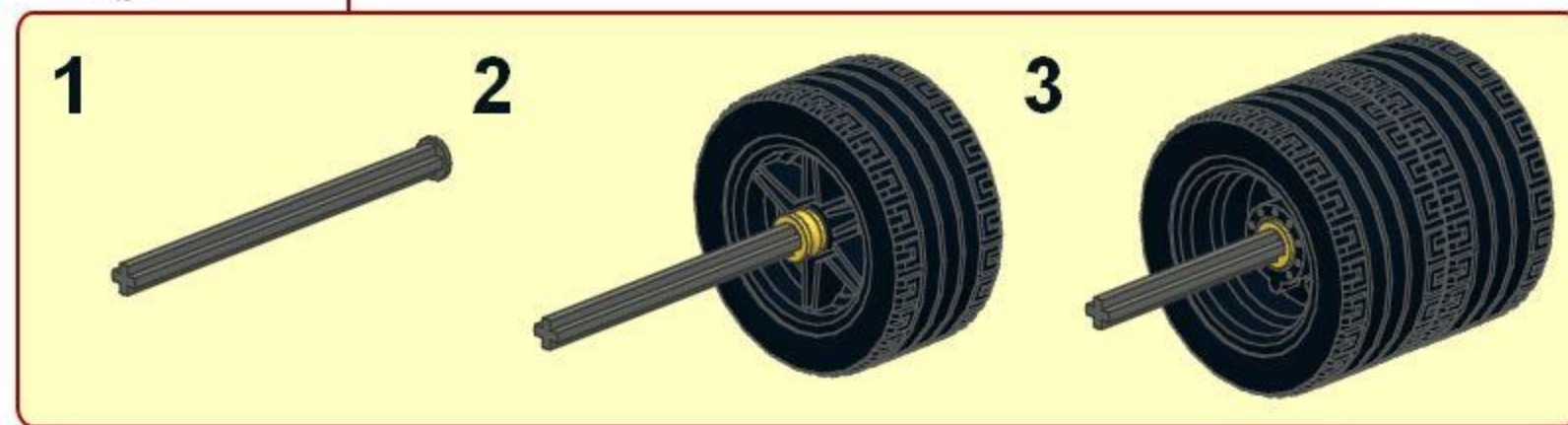
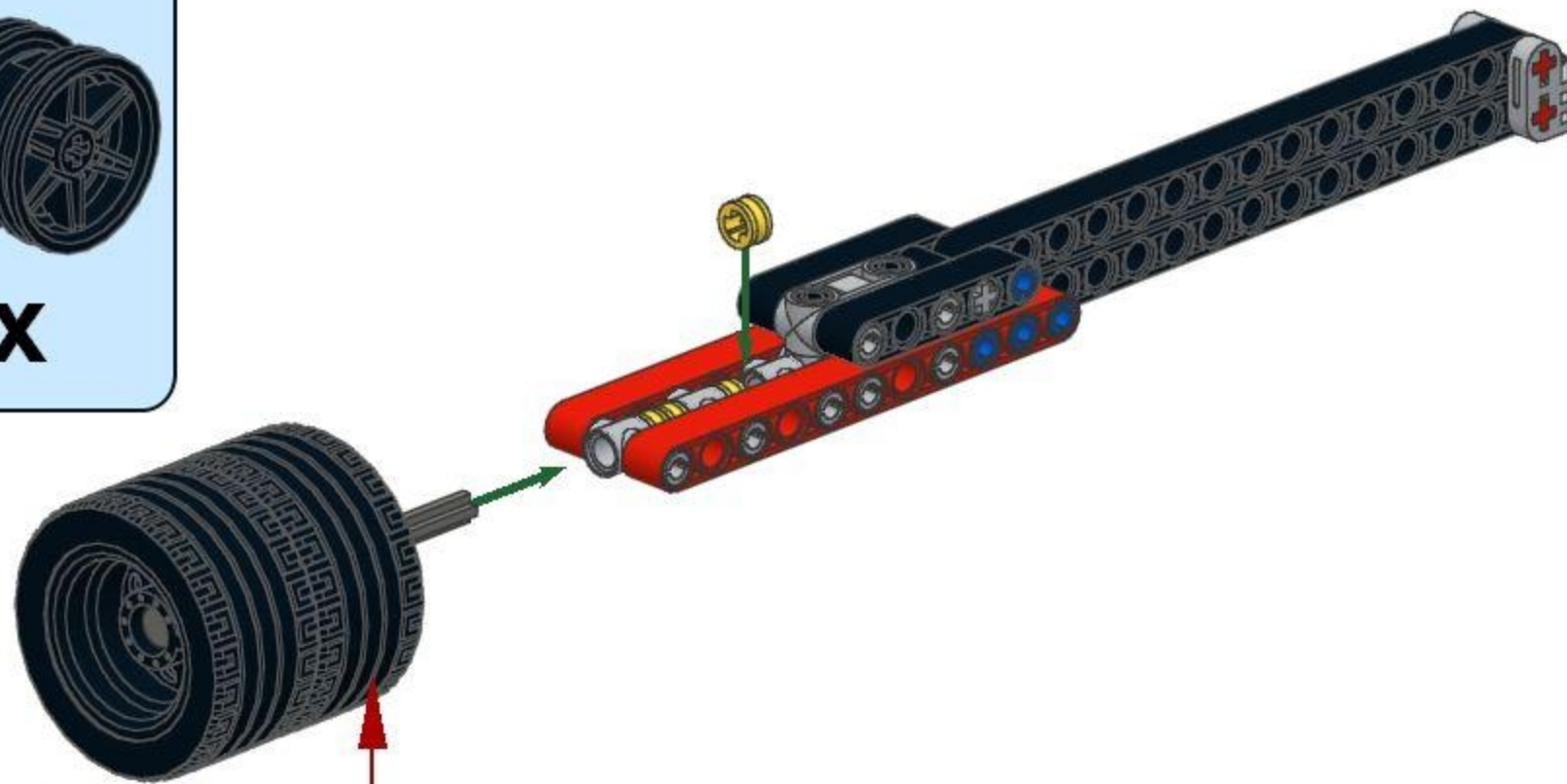
11

1x

A light blue rounded rectangular box containing a parts list. At the top left is a black 5-hole Technic axle. Below it is the text '1x'. To the right of the axle is the number '5' in red. Below that is a red 11-hole Technic axle. To its left is the text '1x'. To the right of the red axle is the number '11' in red.

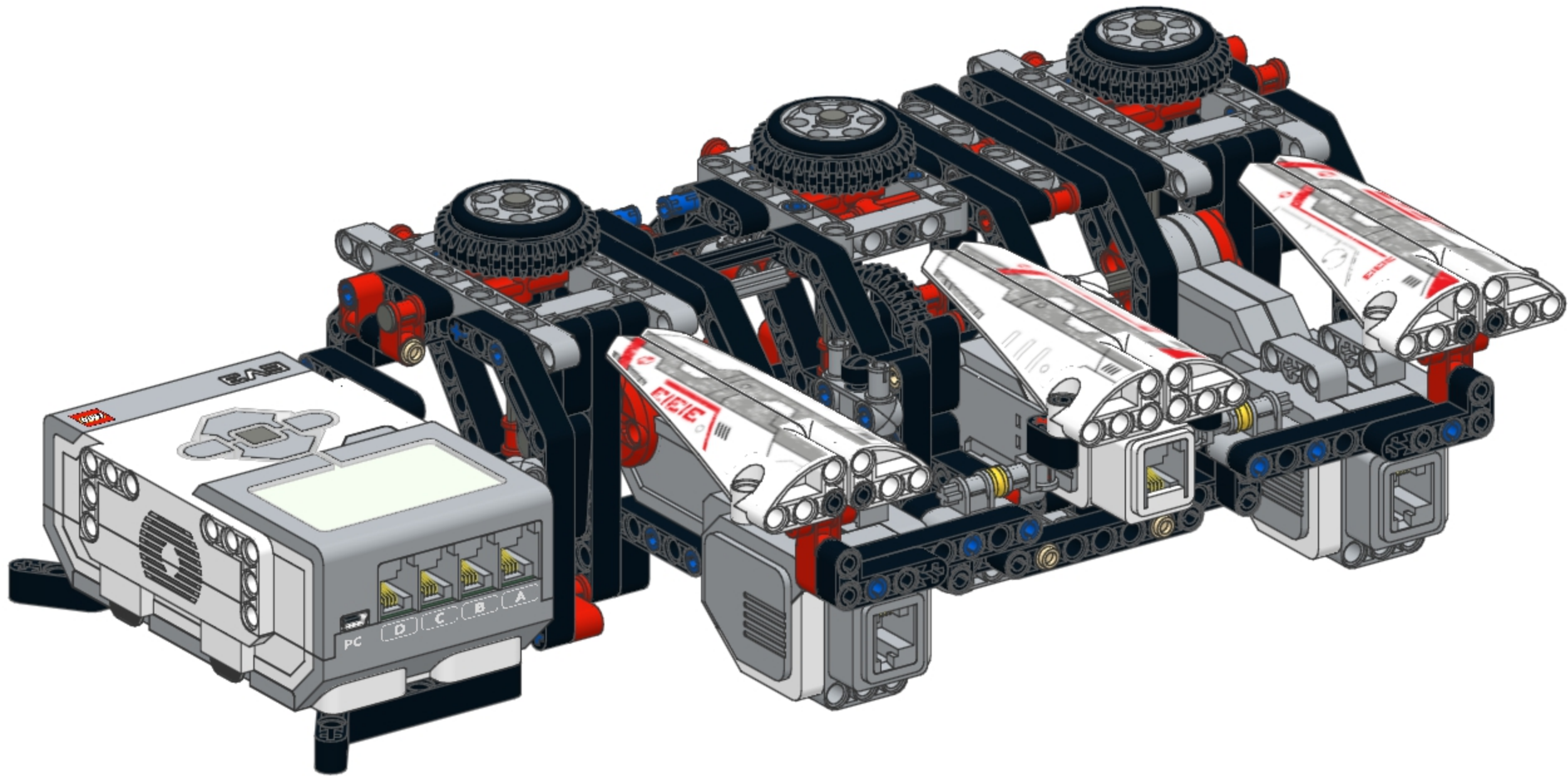


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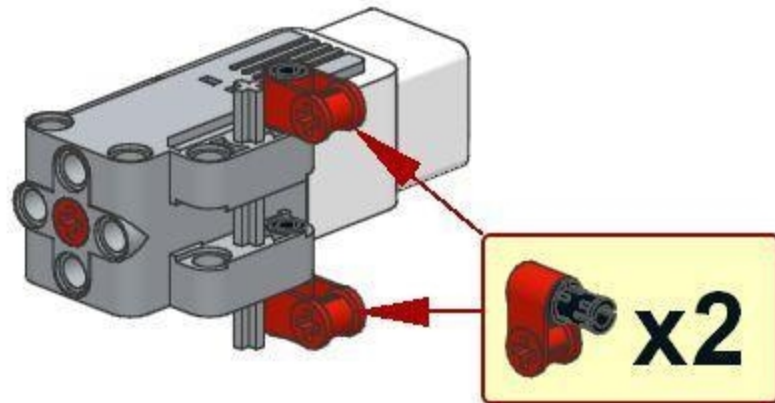
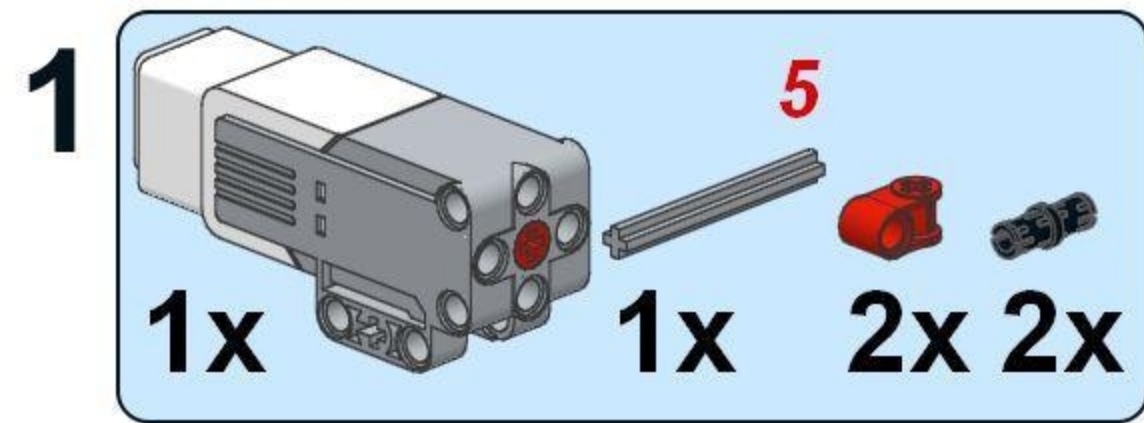


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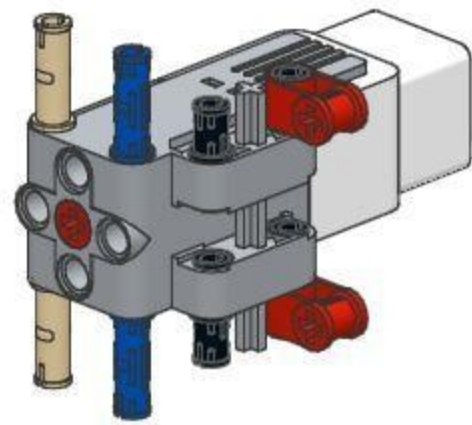
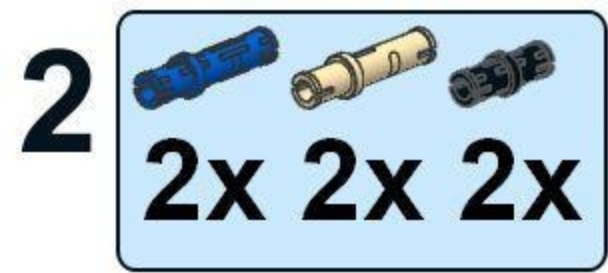




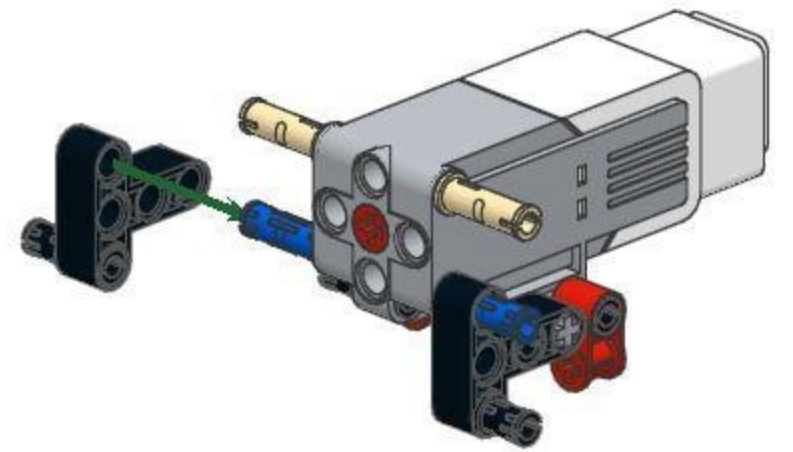


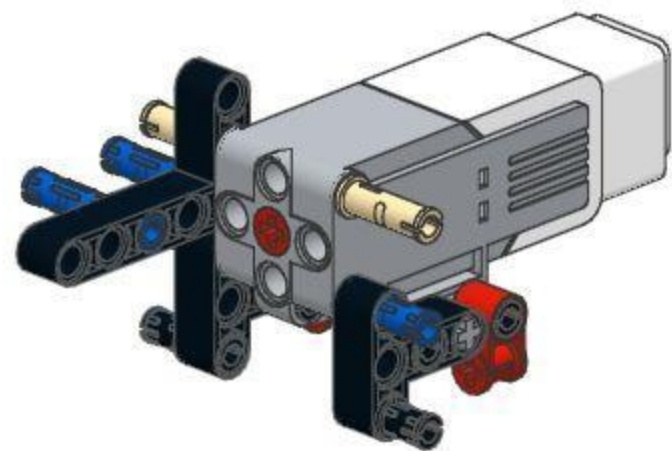
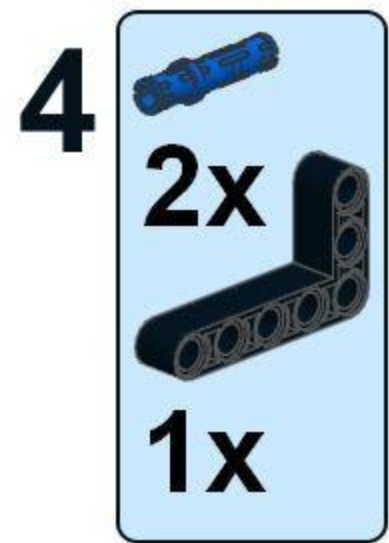




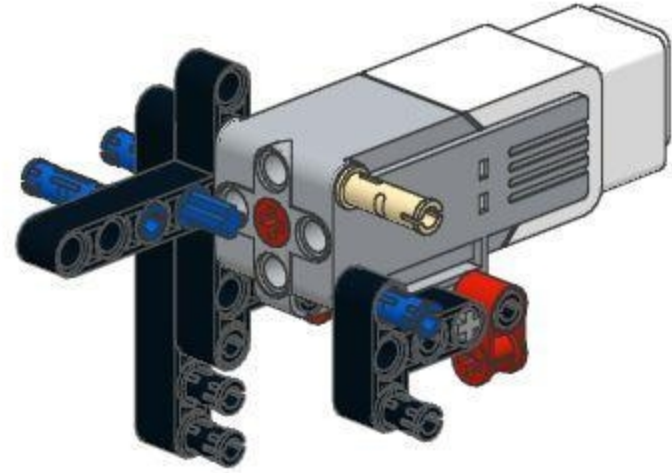
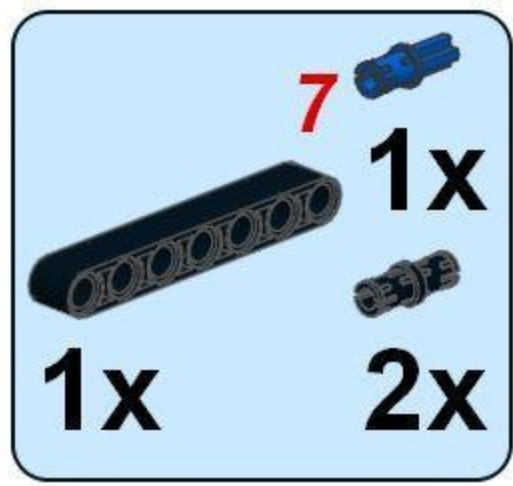


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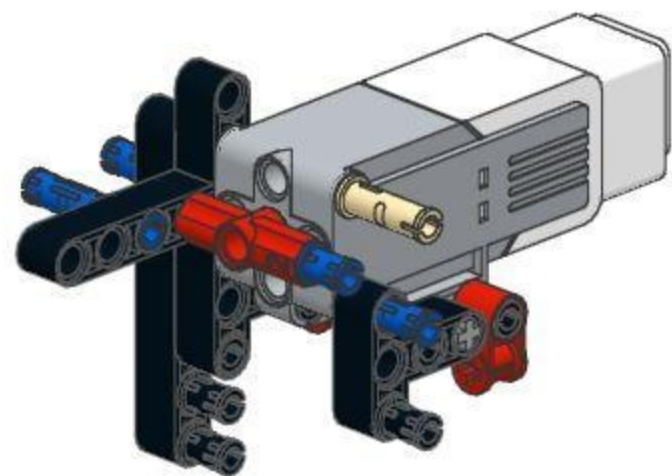




5



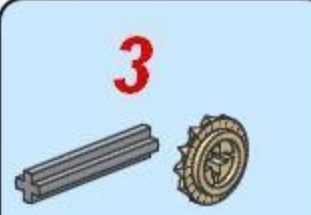
6  
1x 1x



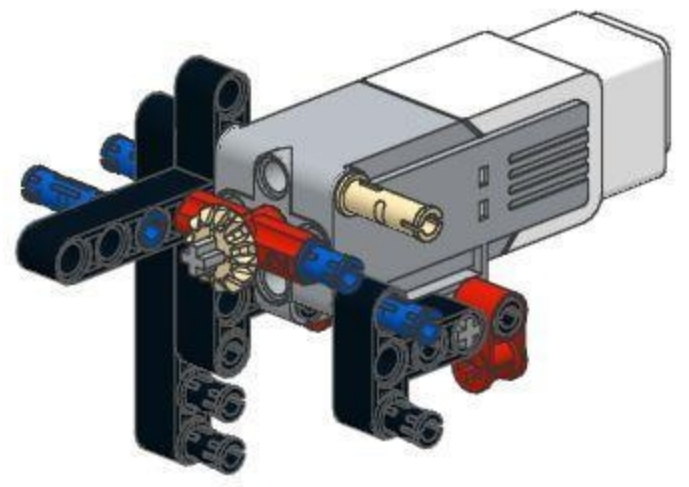


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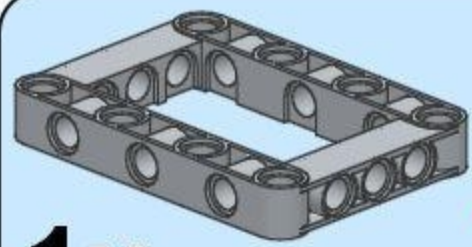
3



1x 1x



**8**

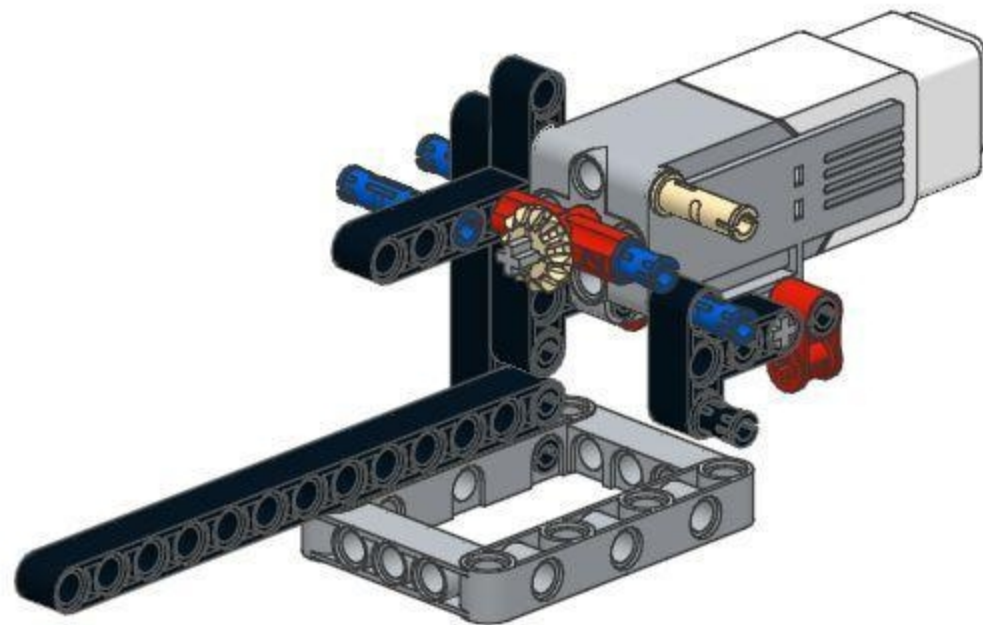


**1x**

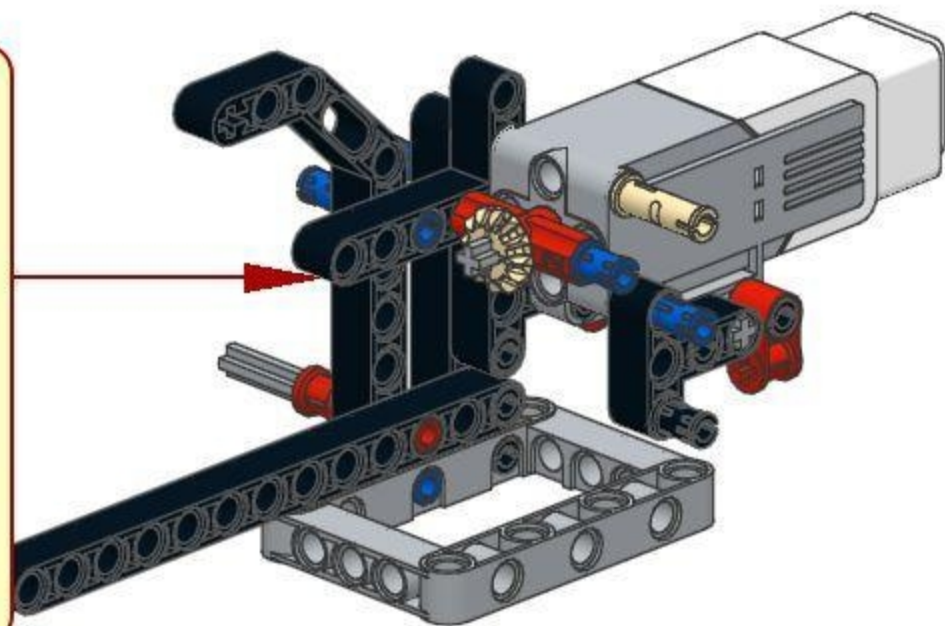
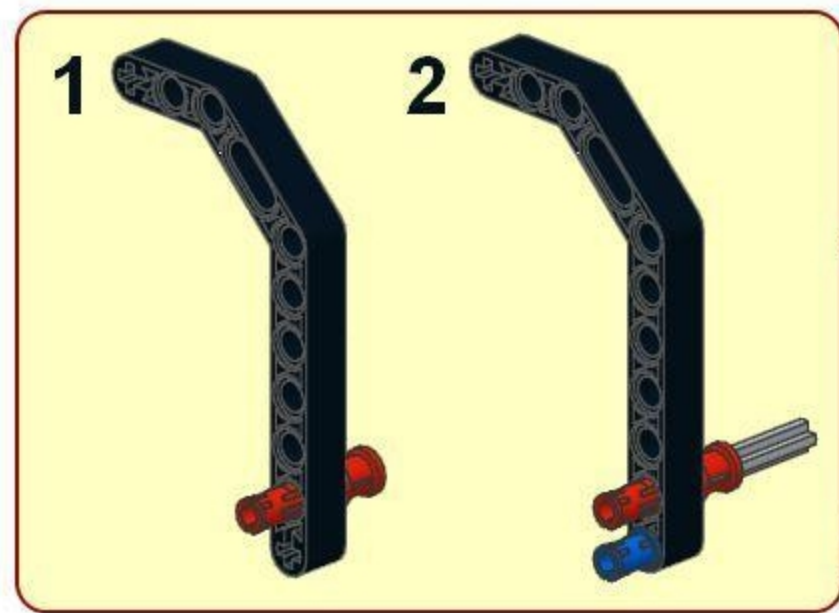
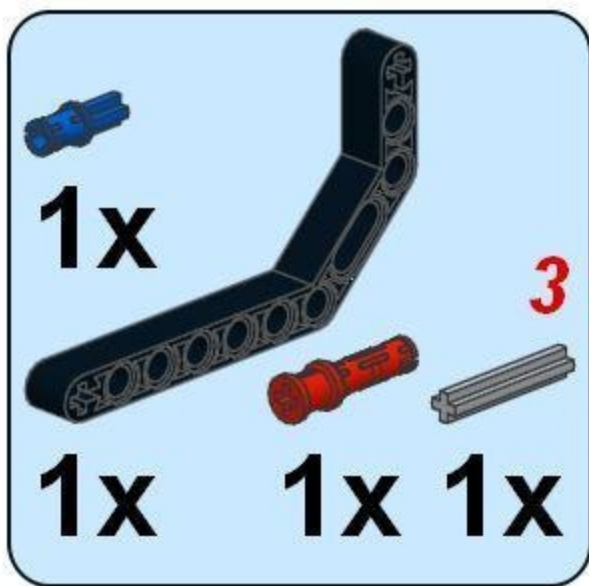
**13**



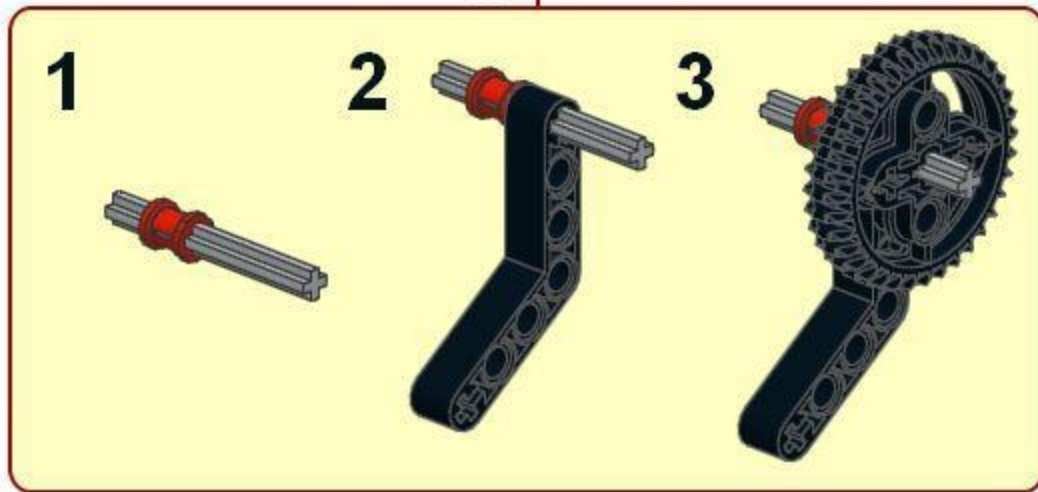
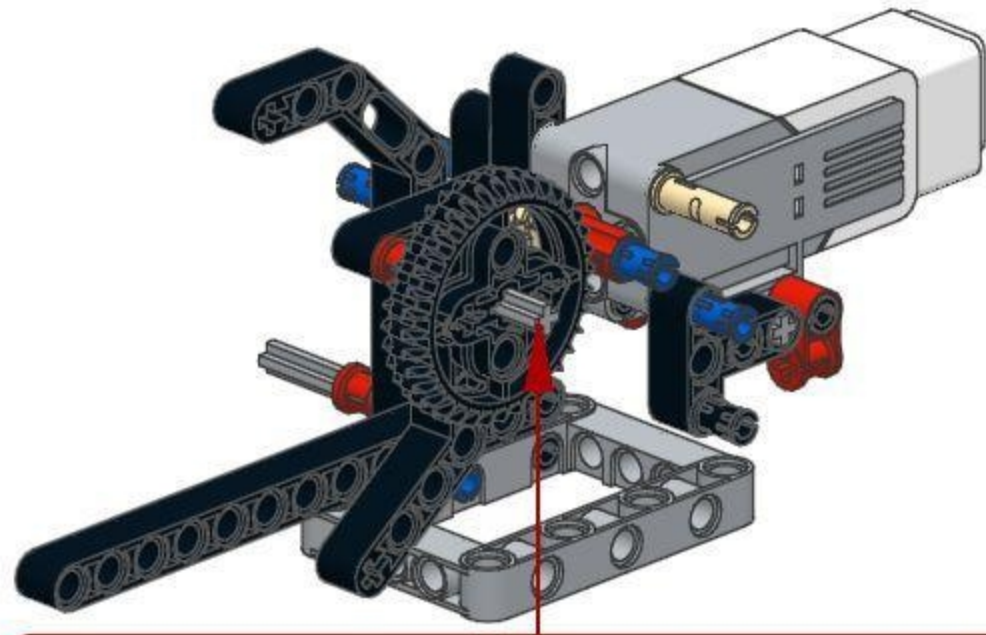
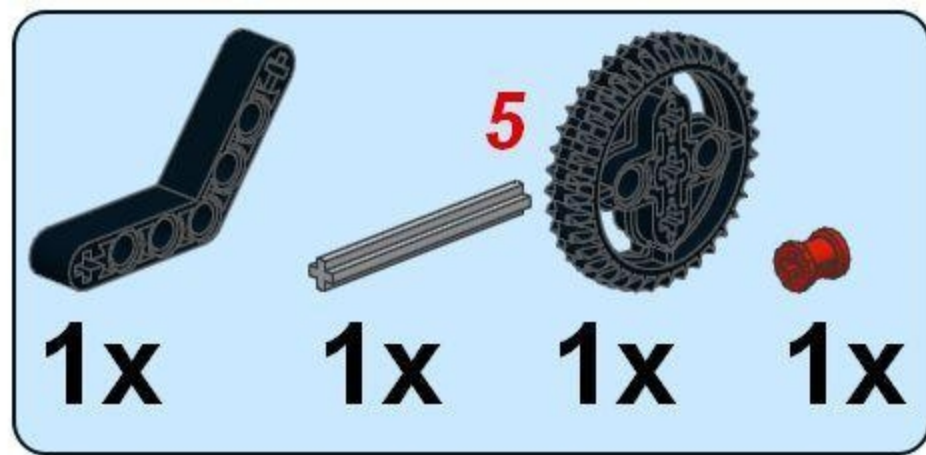
**1x**



9



# 10



11



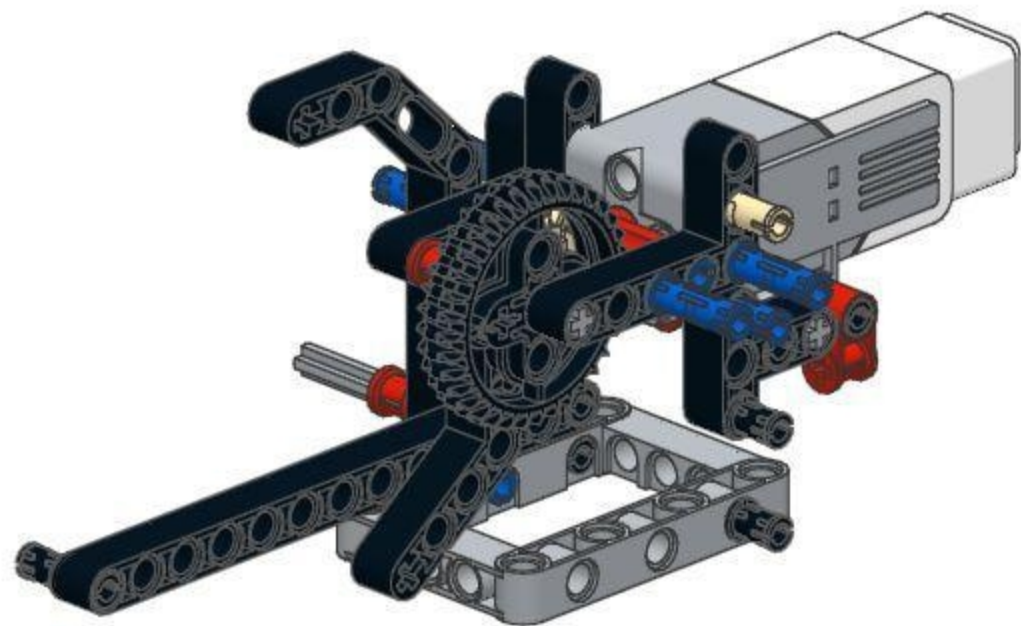
2x



2x





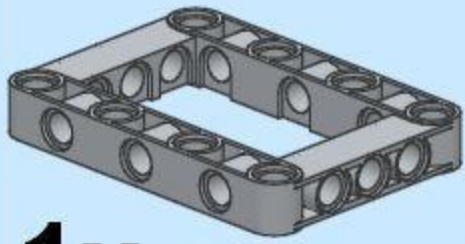



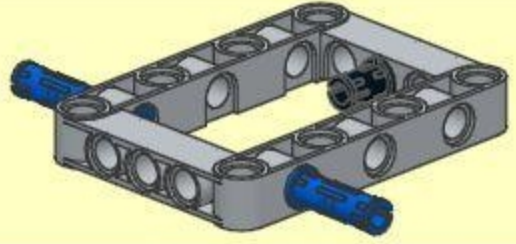
1x

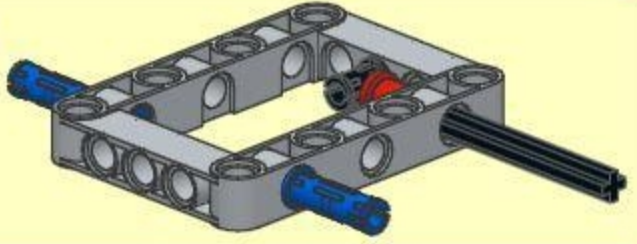




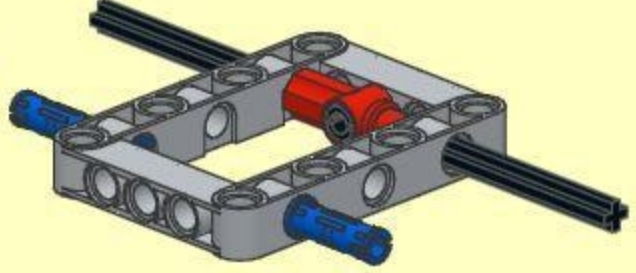
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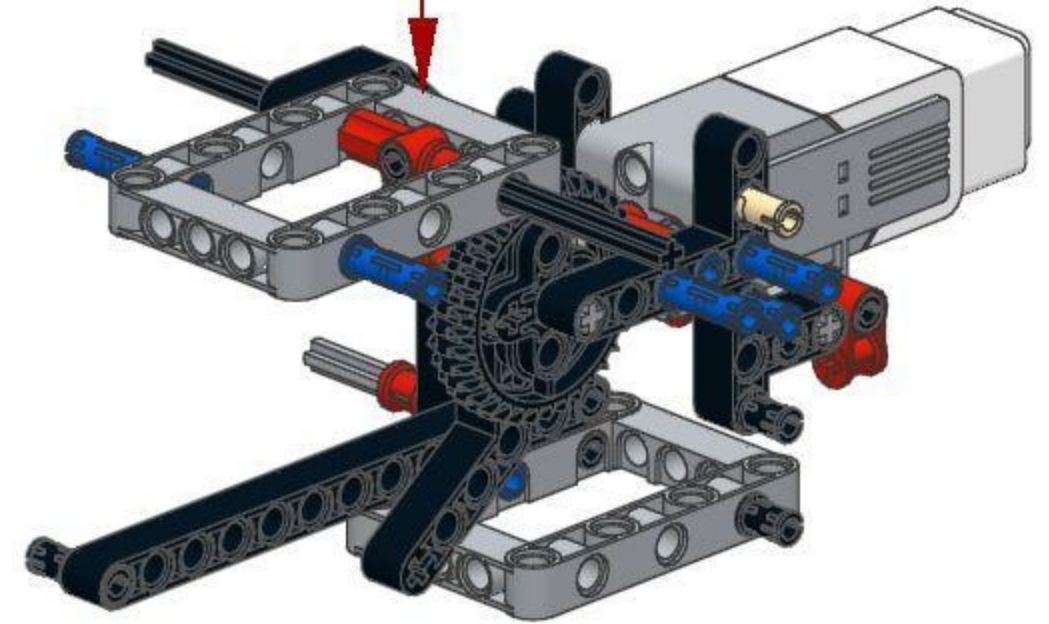
		
<b>2x</b>	<b>6</b>	<b>1x</b>
		
<b>2x</b>		<b>1x</b>
		
<b>1x</b>		<b>1x</b>

**1** 

**2** 

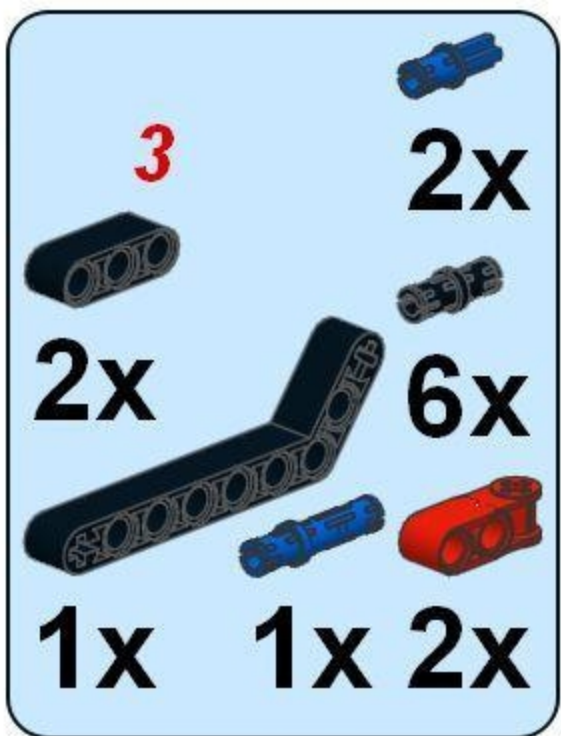
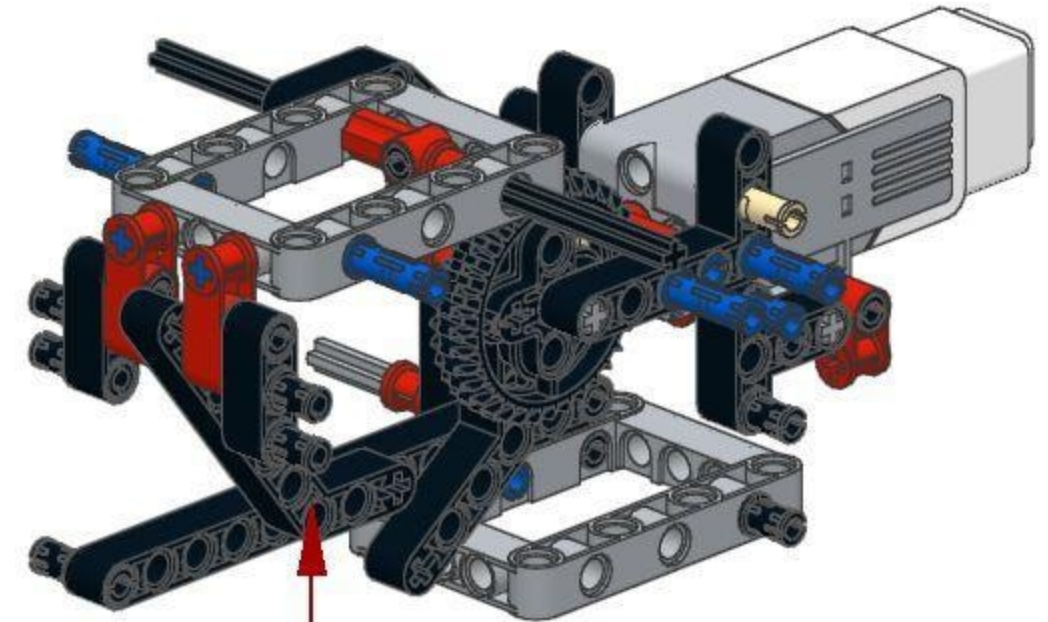
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**3** 



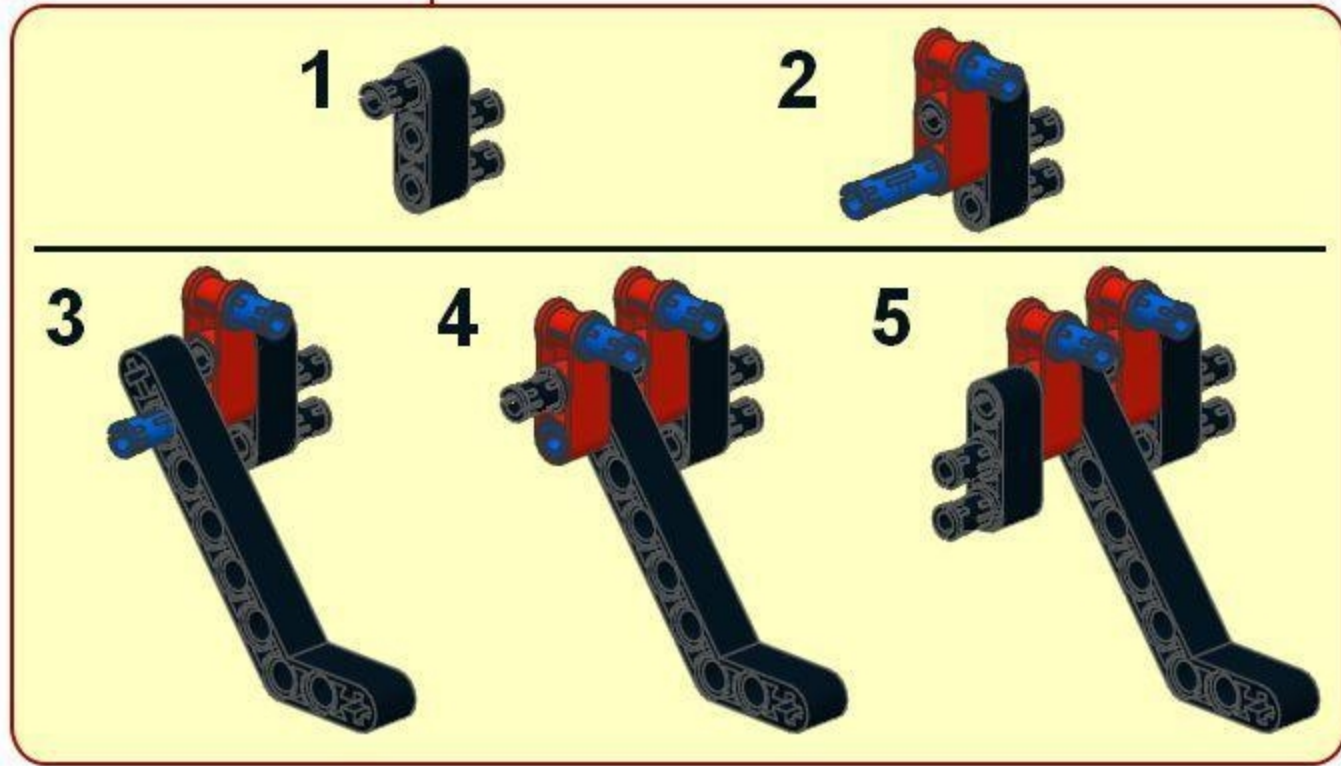
# 13

3  
2x  
2x  
1x  
1x 2x  
2x  
6x  
1x 2x

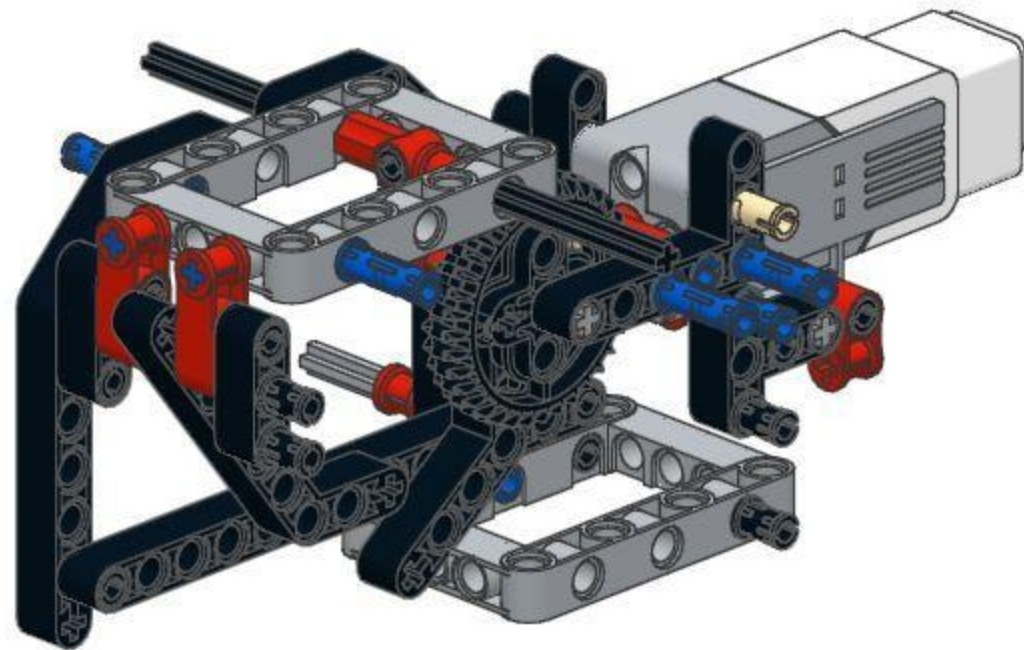
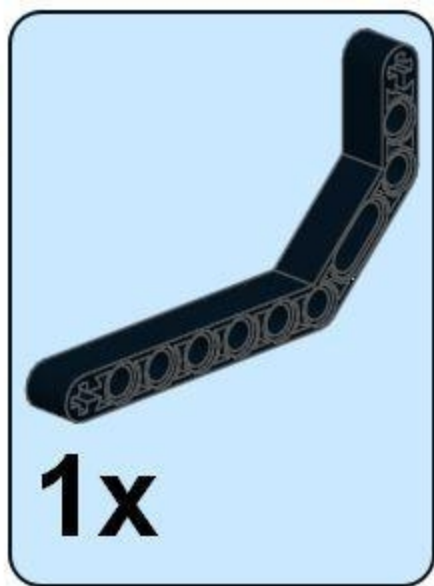
A parts list for step 13, enclosed in a light blue rounded rectangle. It lists the following components: 3 black Technic axles, 2x blue Technic pins, 2x black Technic axles, 1x black Technic axle, 1x blue Technic pin, 2x red Technic pins, 2x black Technic axles, 6x black Technic axles, and 1x blue Technic pin, 2x red Technic pins.

1 2

3 4 5





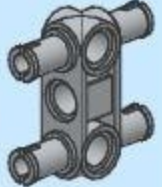



A sequence of five numbered diagrams (1-5) showing the step-by-step construction of the sub-assembly. Step 1 shows a black axle with a red pin. Step 2 shows a red pin being inserted into a black axle. Step 3 shows a black axle being inserted into a red pin. Step 4 shows a black axle being inserted into a red pin. Step 5 shows a black axle being inserted into a red pin.

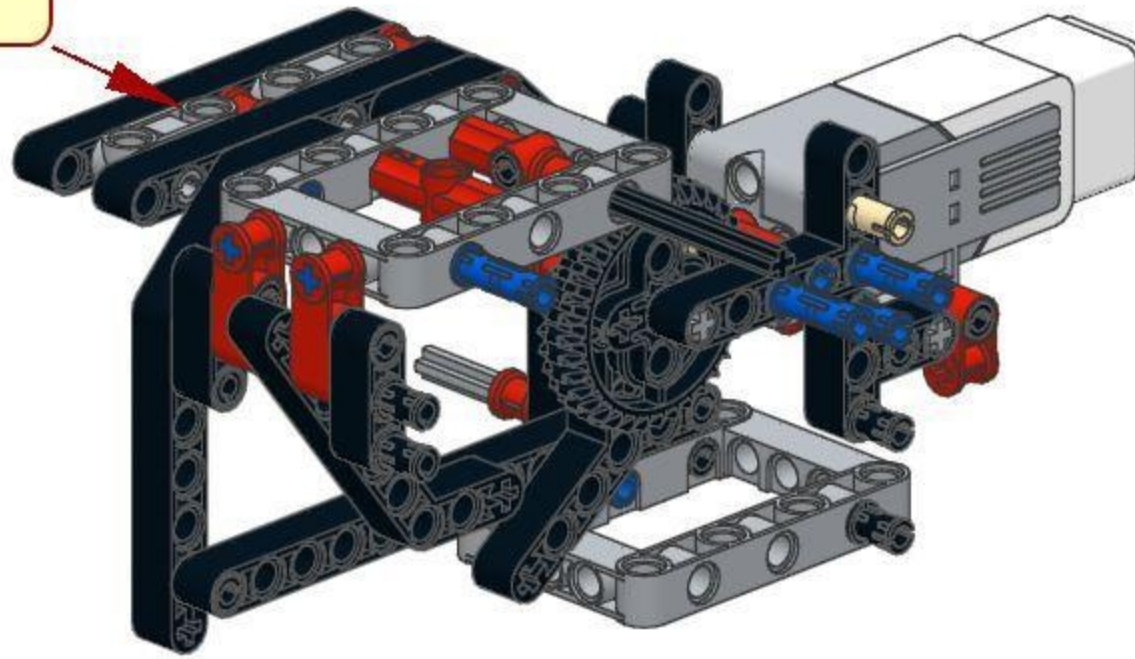
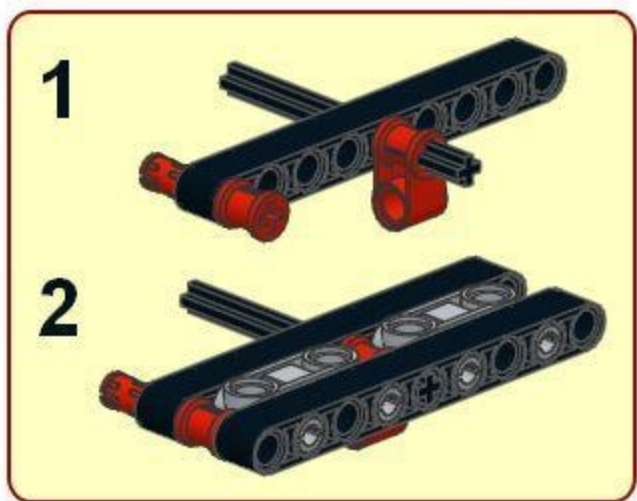
14





# 15

- 1x <sup>6</sup> 
- 1x <sup>9</sup> 
- 1x 
- 1x 
- 1x 
- 2x 
- 1x 
- 2x 






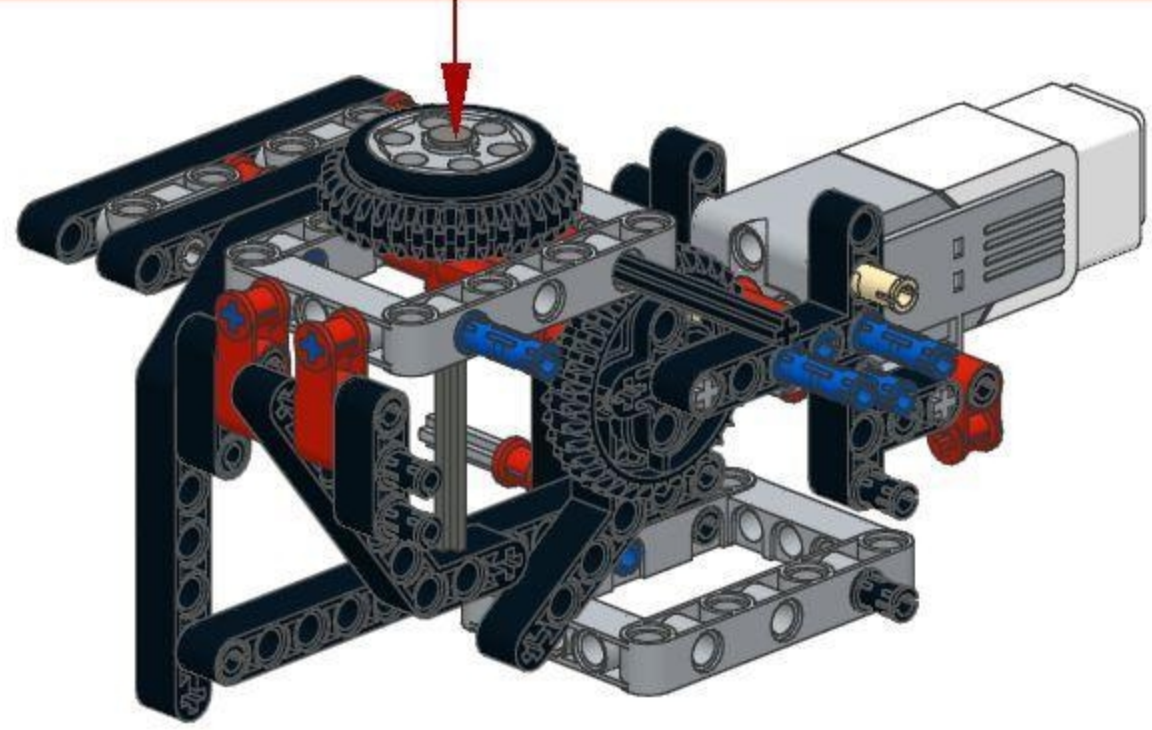
16



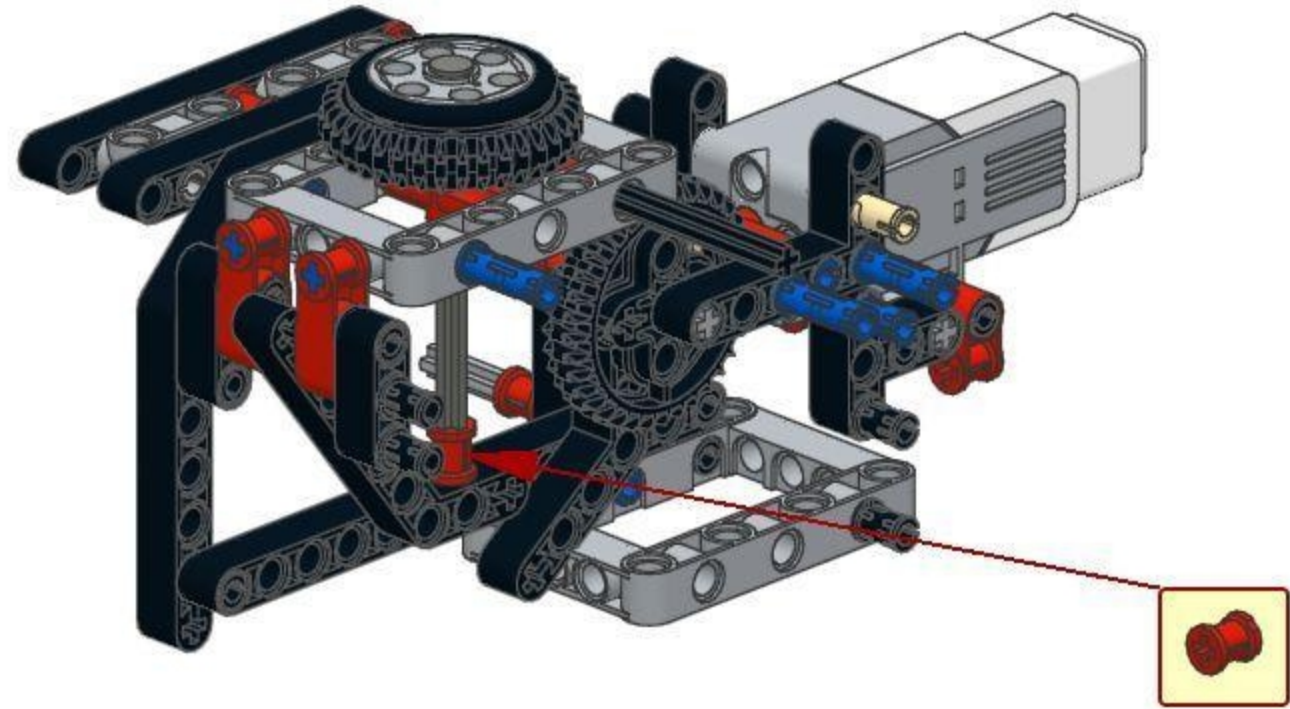
1x  1x   
1x  8  1x   
1x  1x  1x 



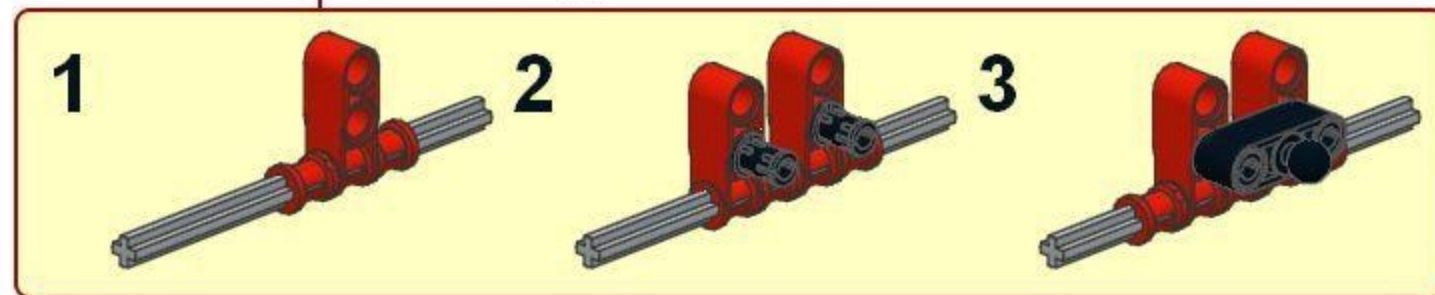
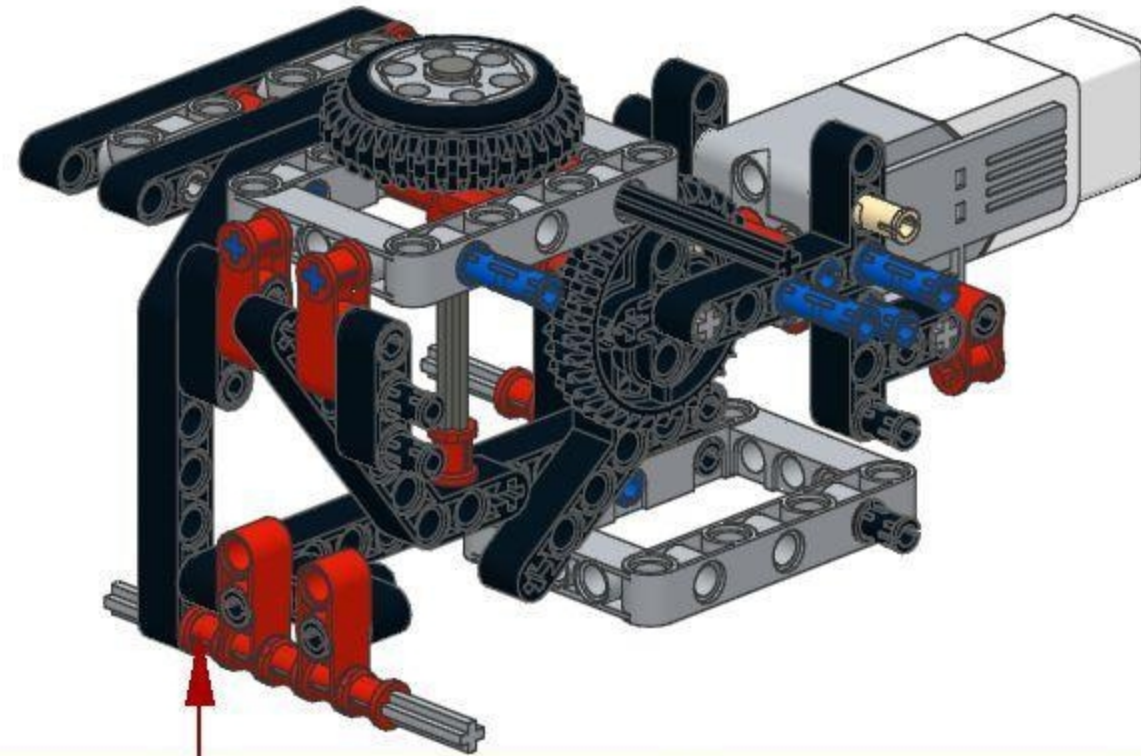
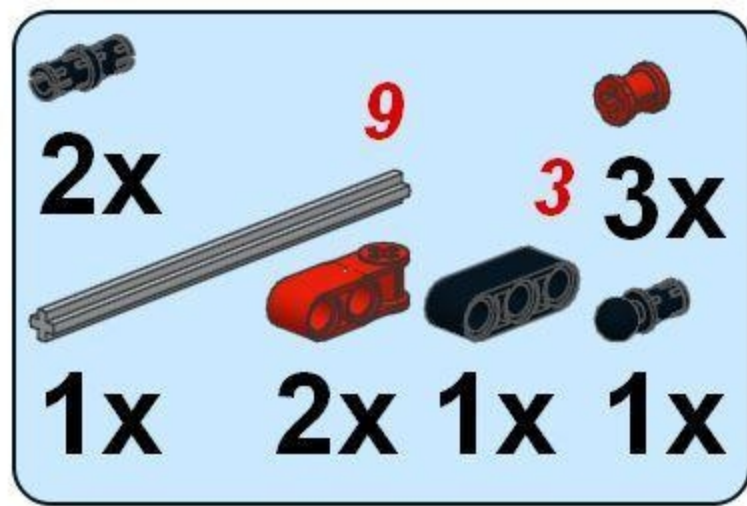
1  2  3 



17   
1x

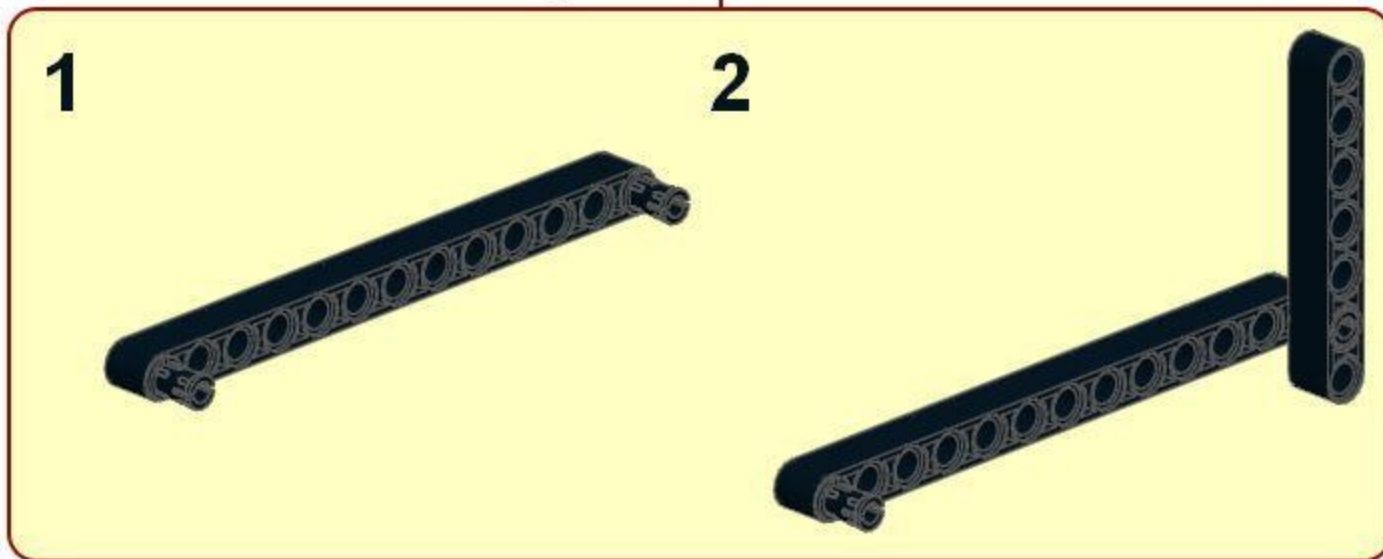
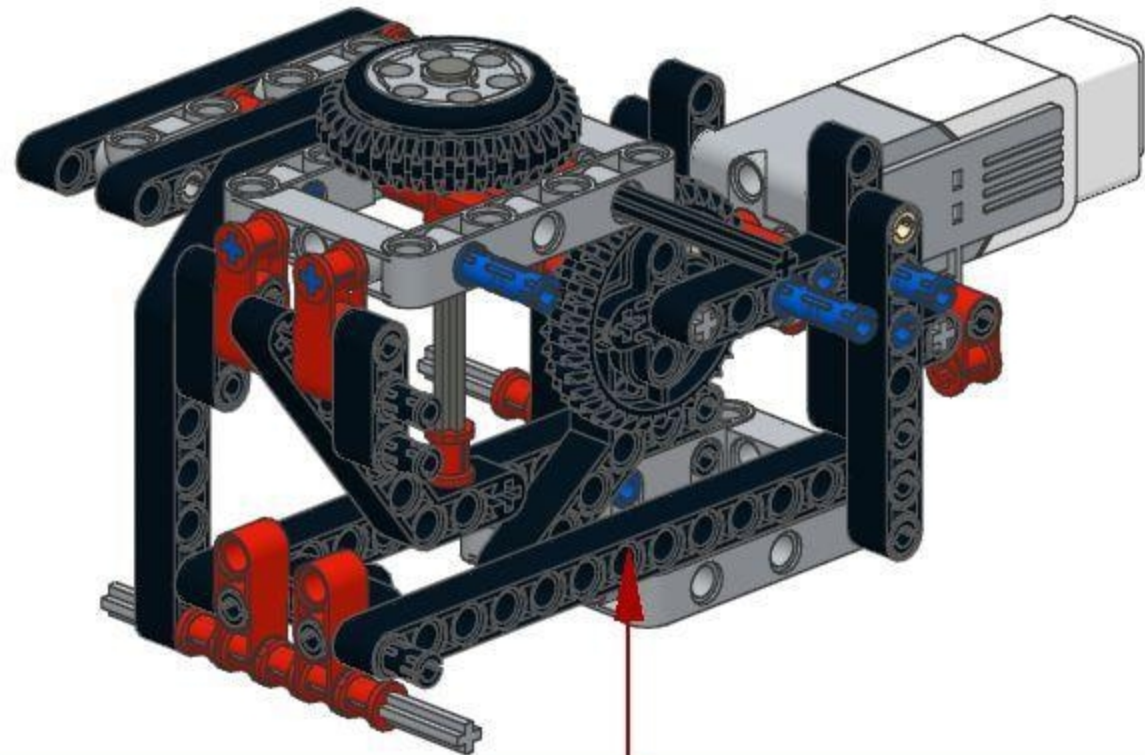
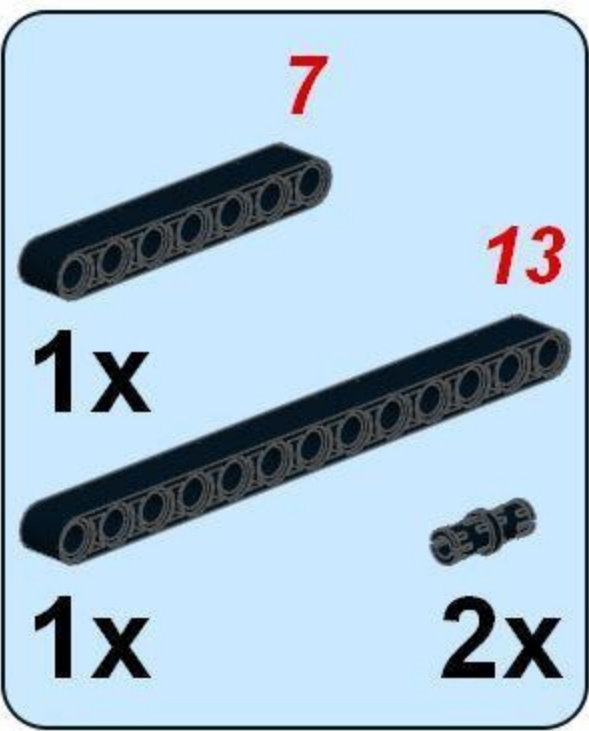


# 18

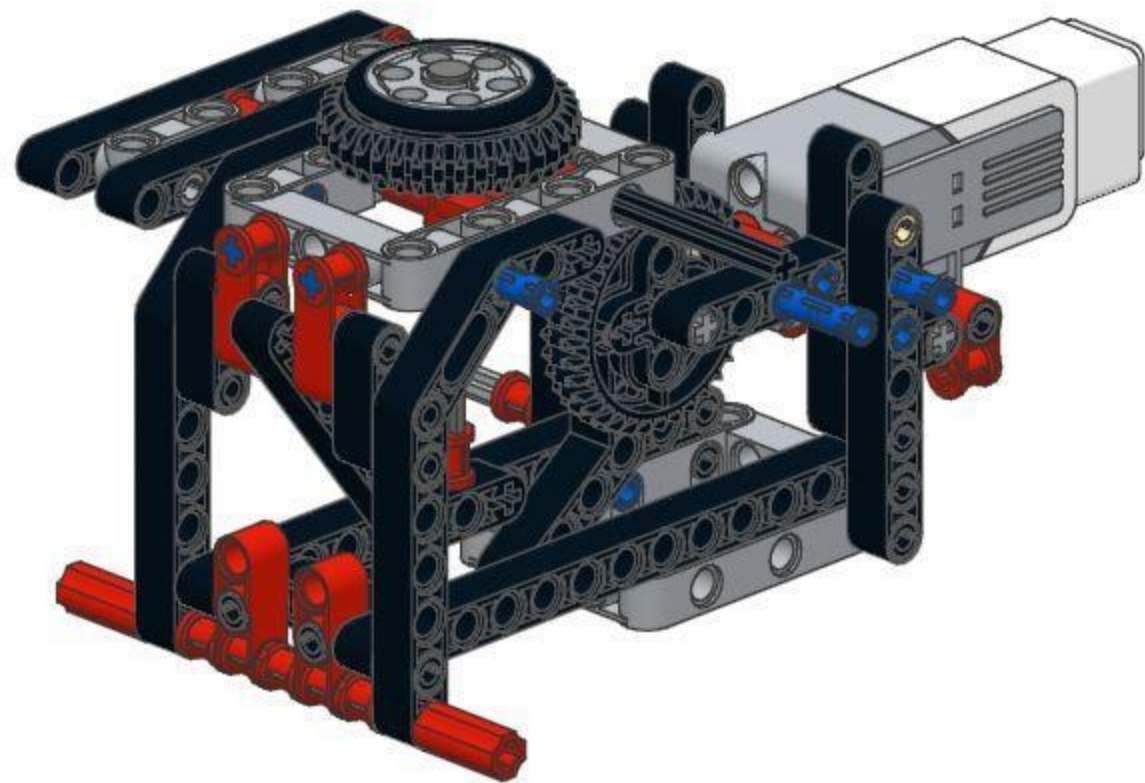
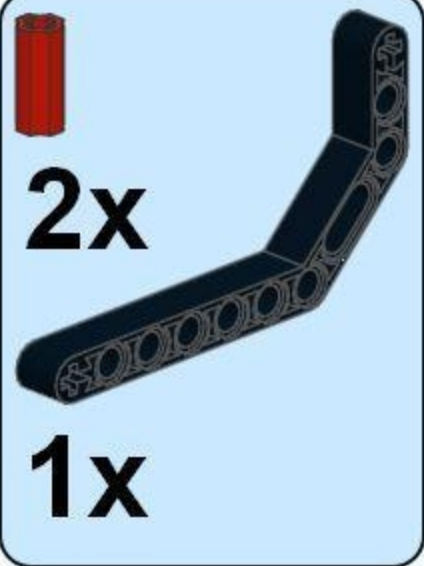




# 19

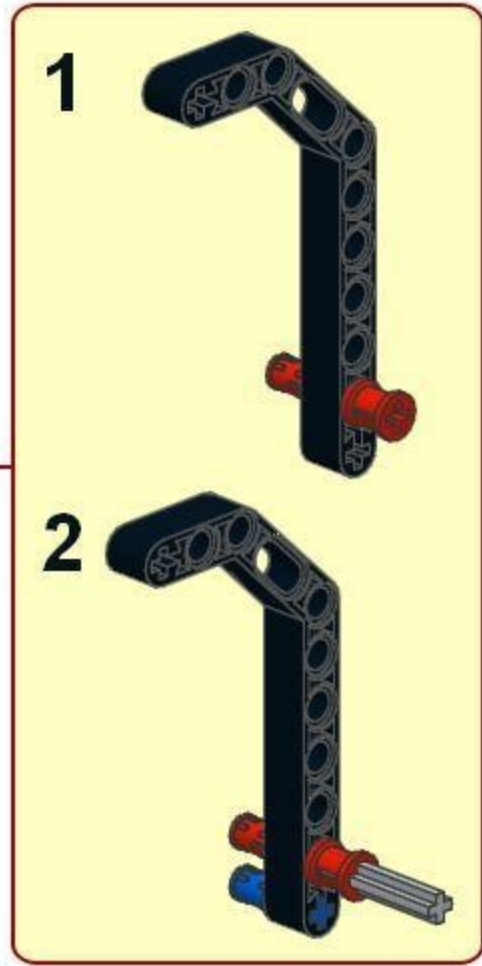
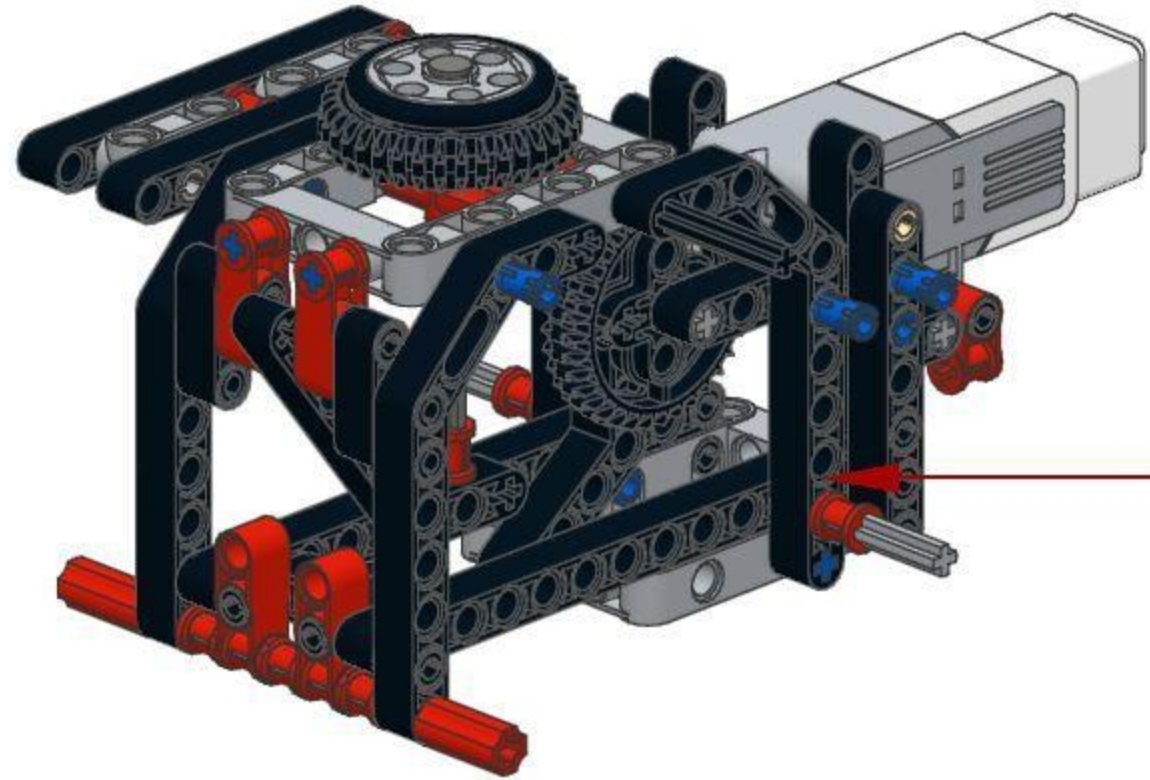
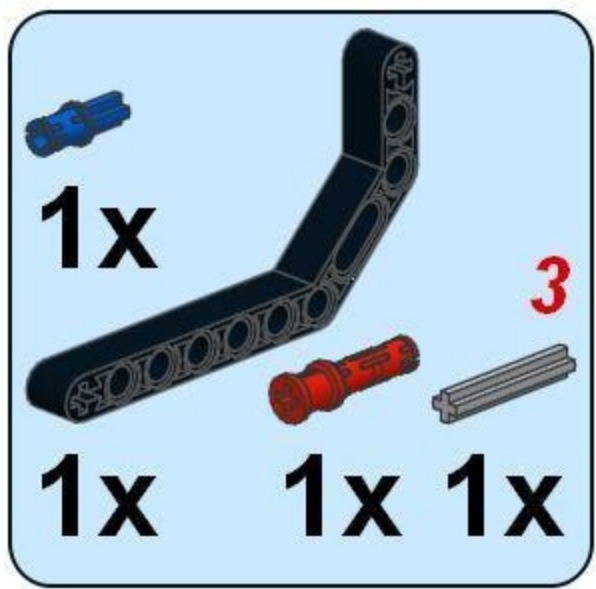


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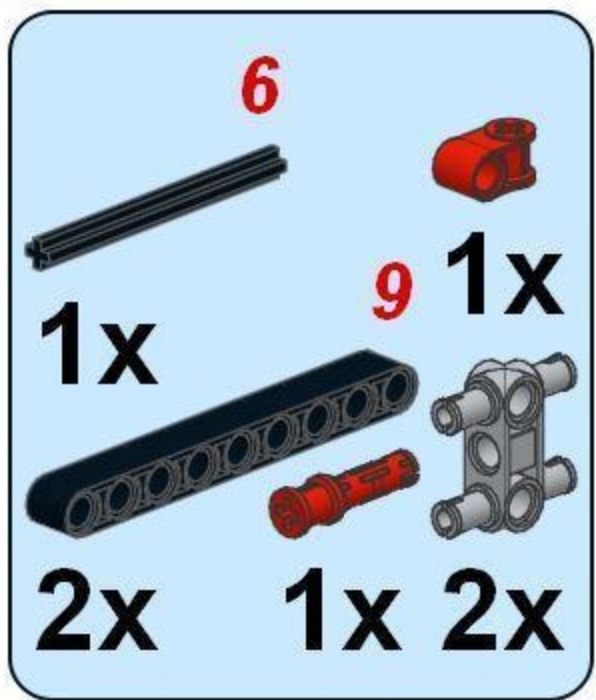


21

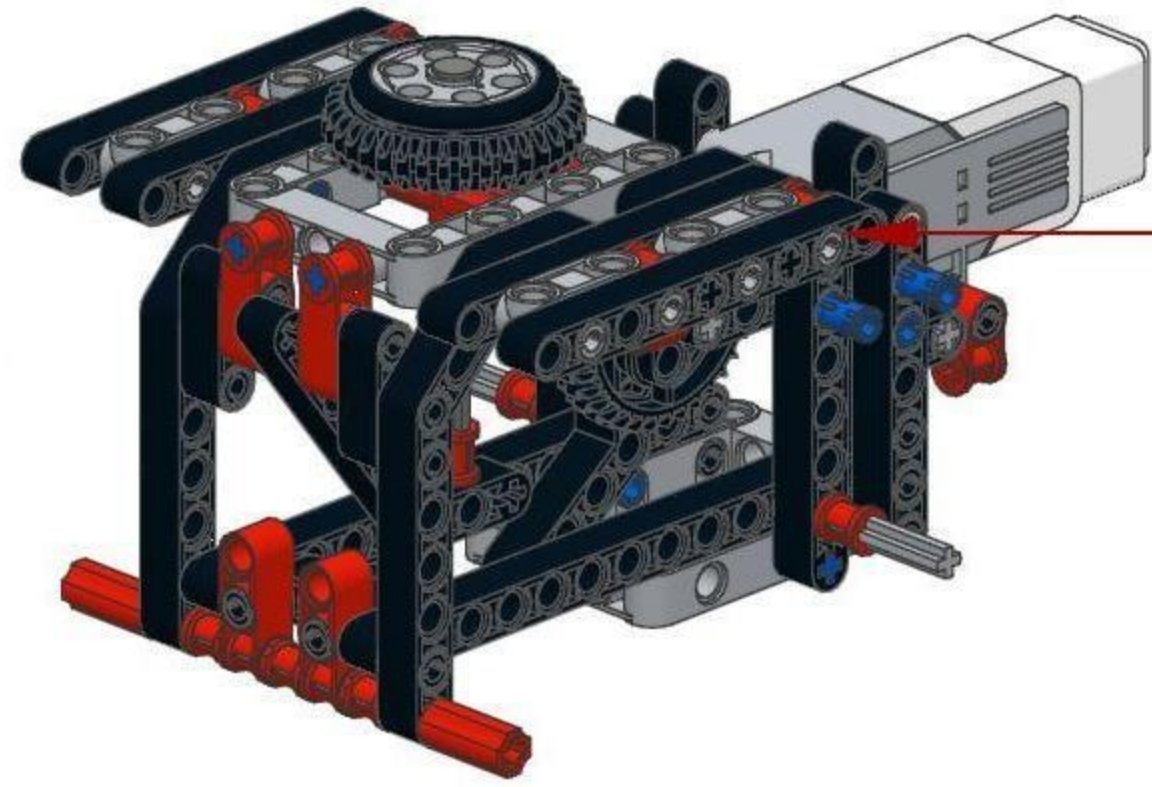


22

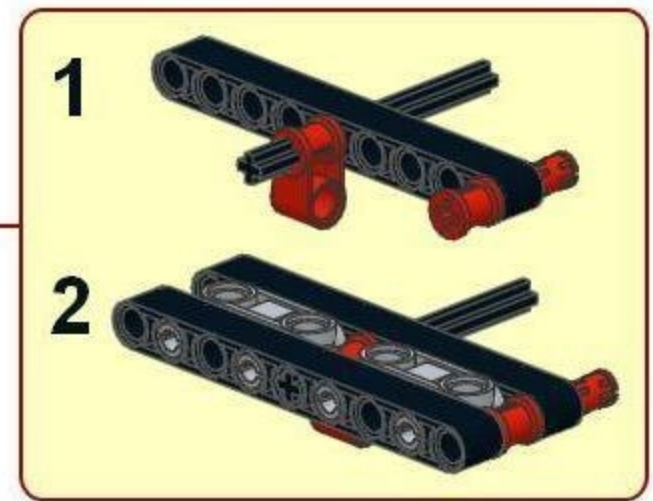
6  
1x  
9 1x  
2x 1x 2x



A light blue rounded rectangle containing a list of parts. At the top left is a long black axle with the number '6' in red above it. Below it is '1x' in black. To the right is a red T-shaped connector with the number '9' in red above it. Below that is '1x' in black. At the bottom left is a black 1x9 Technic beam with '2x' in black to its left. To its right is a red pin with '1x' in black to its left. At the bottom right is a grey 3-way connector with '2x' in black to its right.

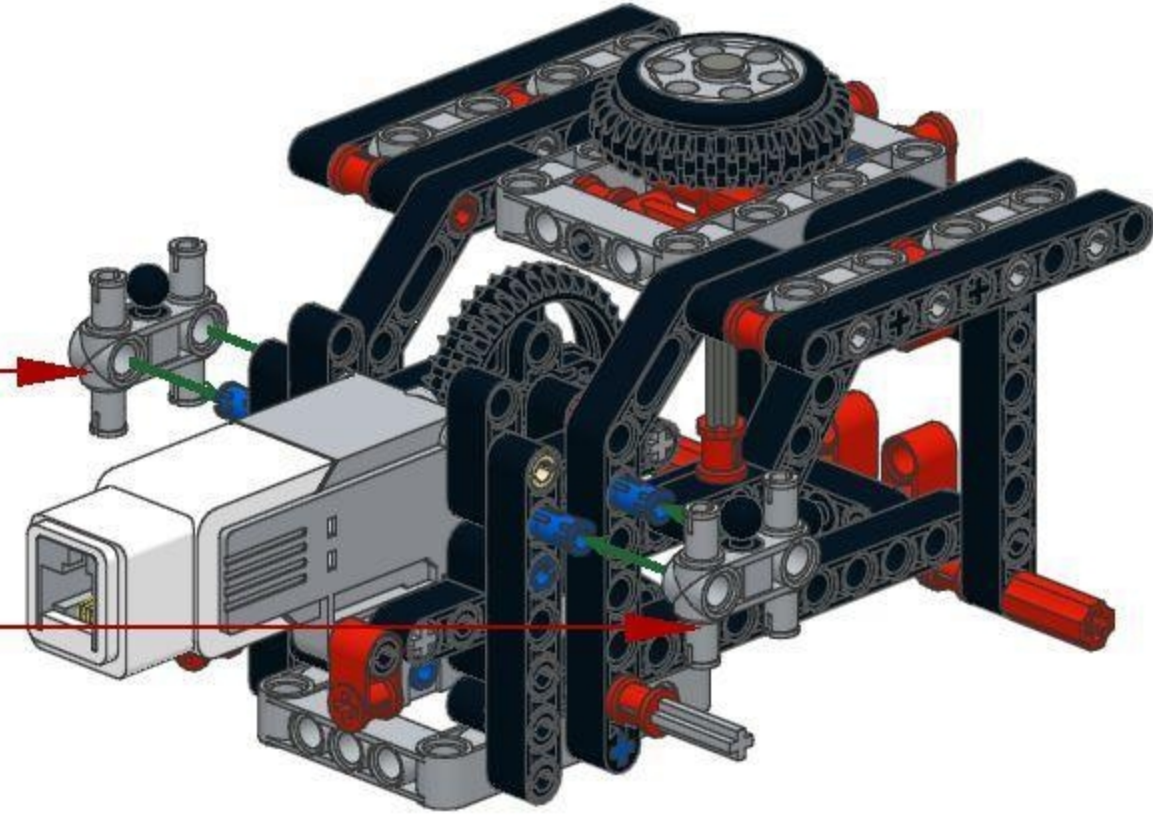


1  
2



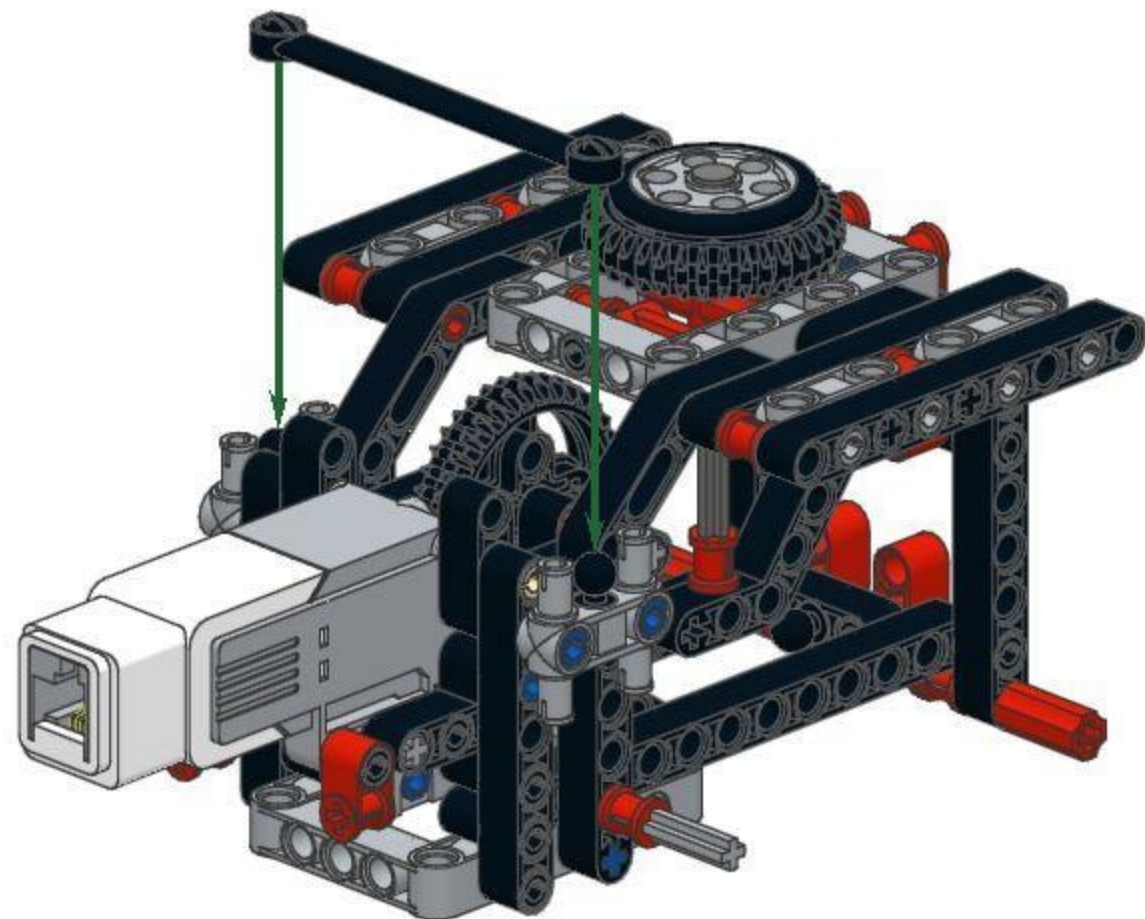
A yellow rounded rectangle containing two sub-diagrams. Diagram 1 shows a black 1x9 beam with a red T-connector in the middle hole and a red pin inserted into the right hole. Diagram 2 shows the same beam with a red pin inserted into the left hole.

23

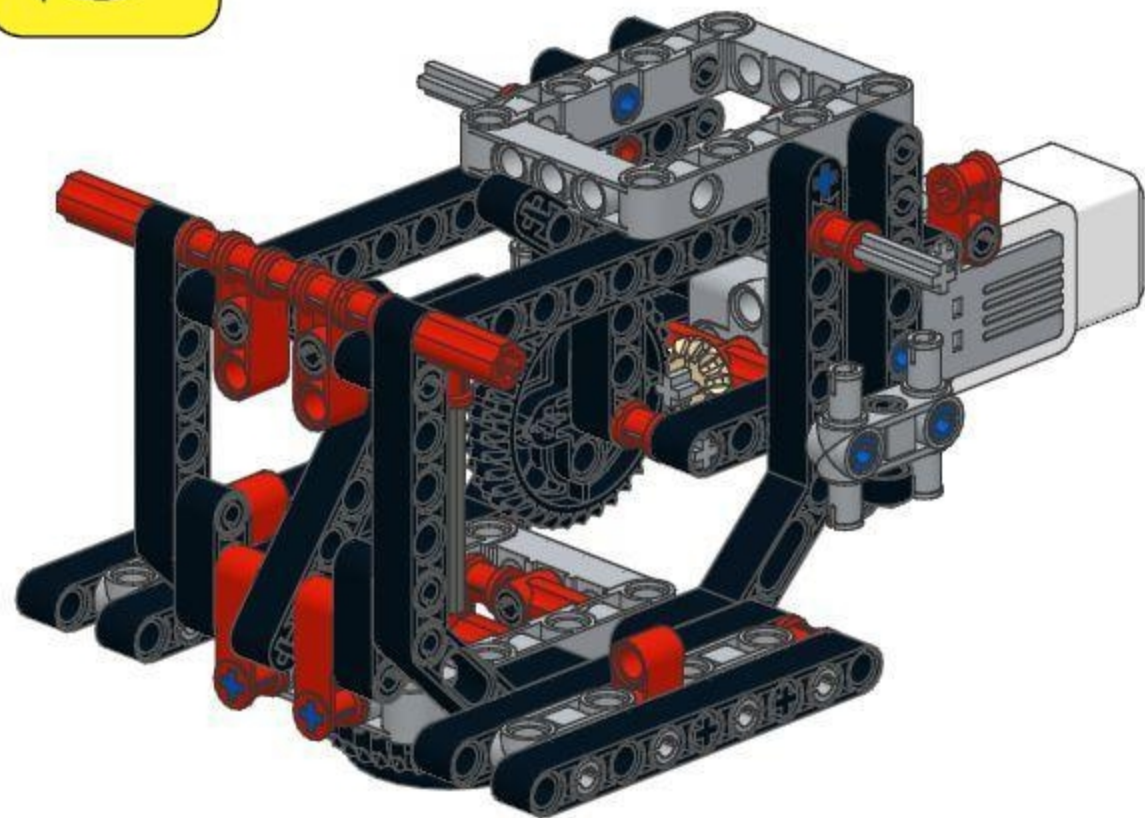




24

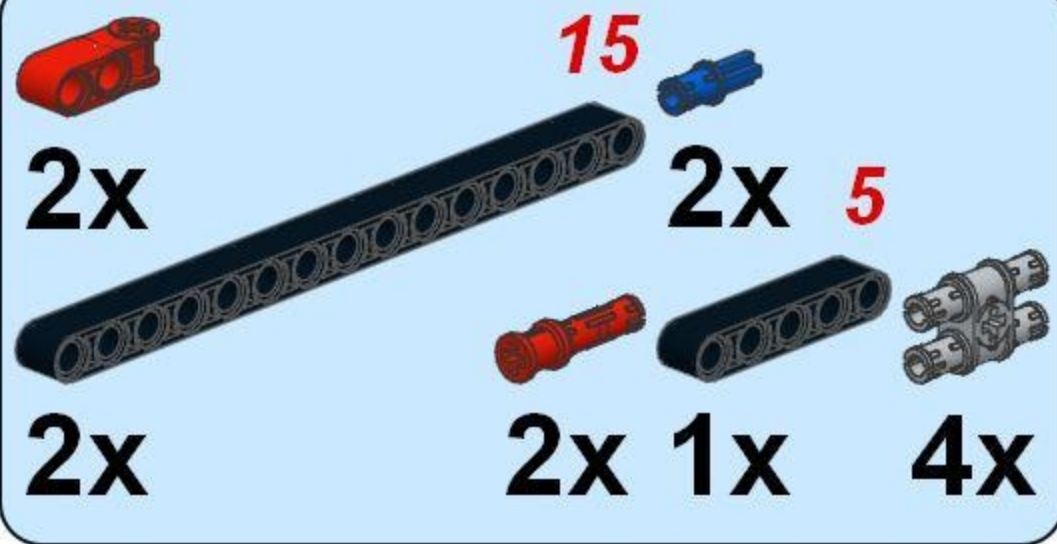


25



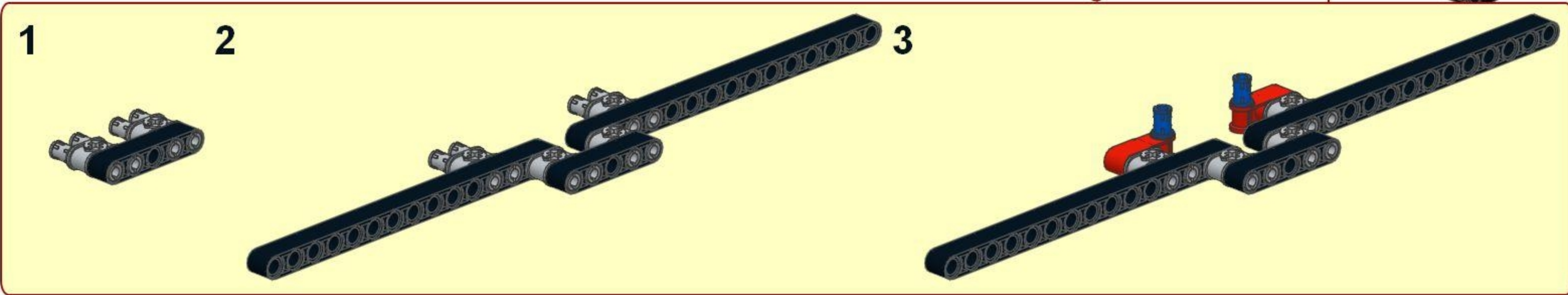
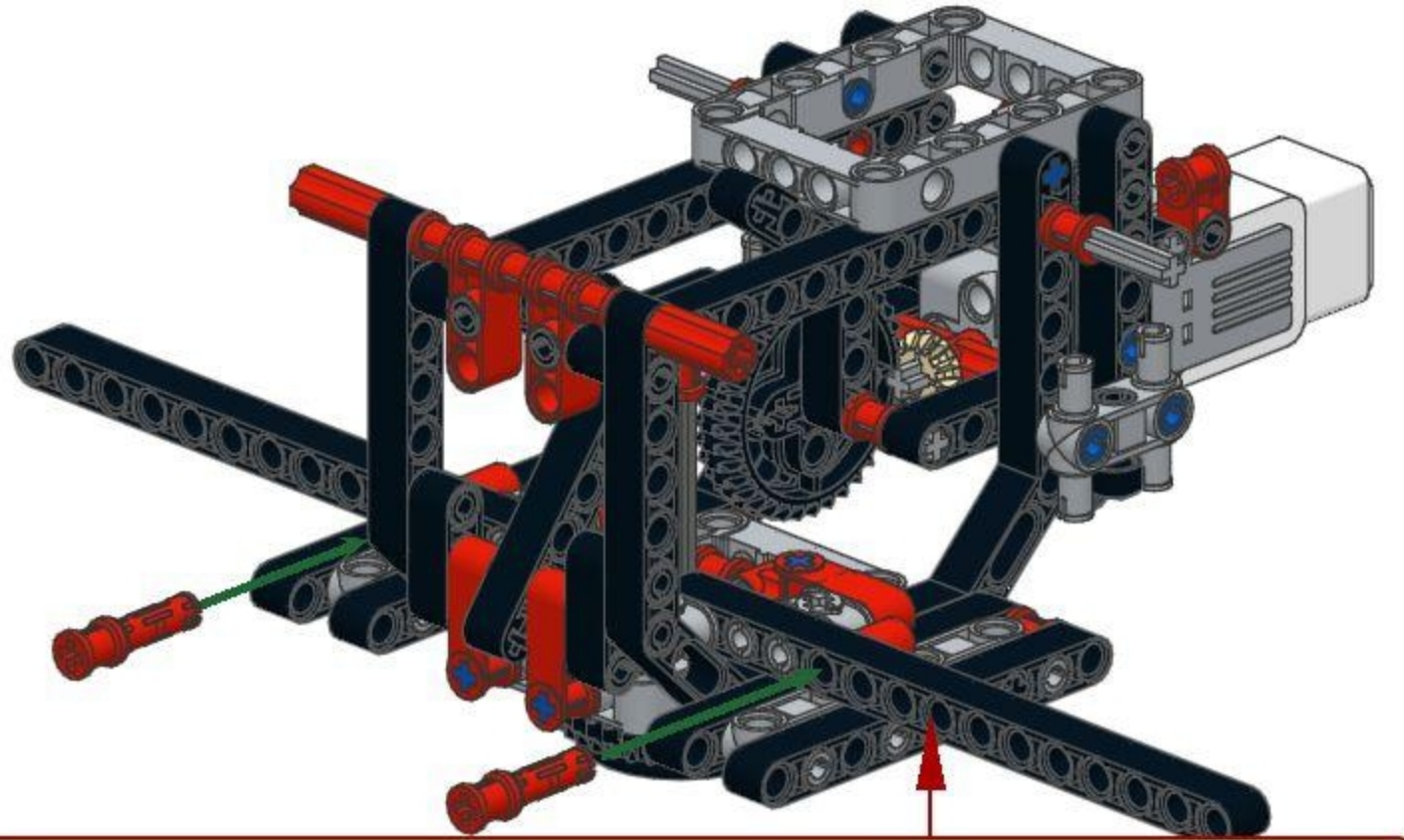


# 26



Parts list for step 26:

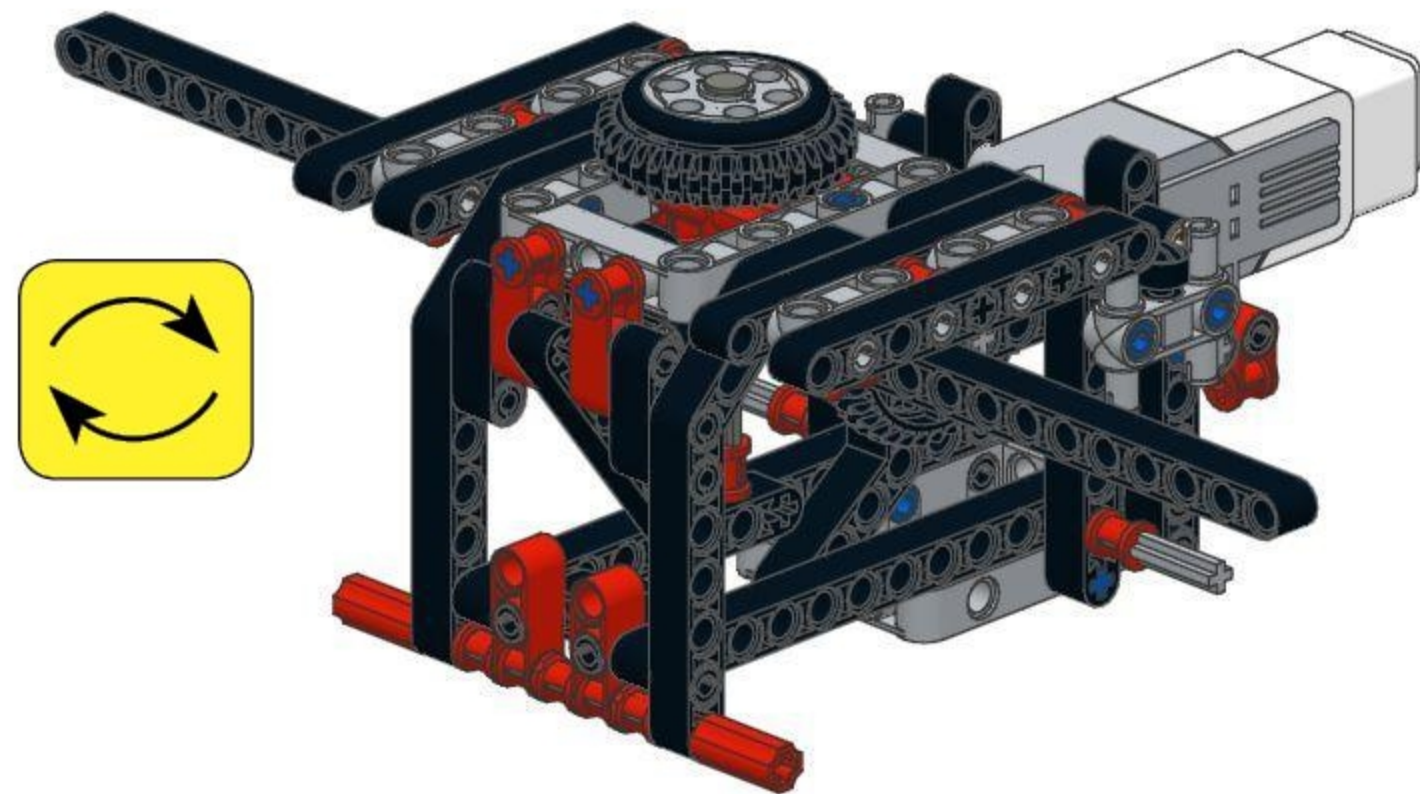
- 2x Red Technic Axle Connector
- 2x Black Technic Beam (15 holes)
- 2x Blue Technic Pin
- 2x Red Technic Pin
- 2x Black Technic Beam (5 holes)
- 1x Red Technic Pin
- 4x Grey Technic Axle Connector



Detailed assembly steps for step 26:














1. Attach the grey axle connector to the end of the black beam.
2. Attach the second grey axle connector to the end of the second black beam.
3. Attach the red pins to the beams, connecting them to the motor mechanism.

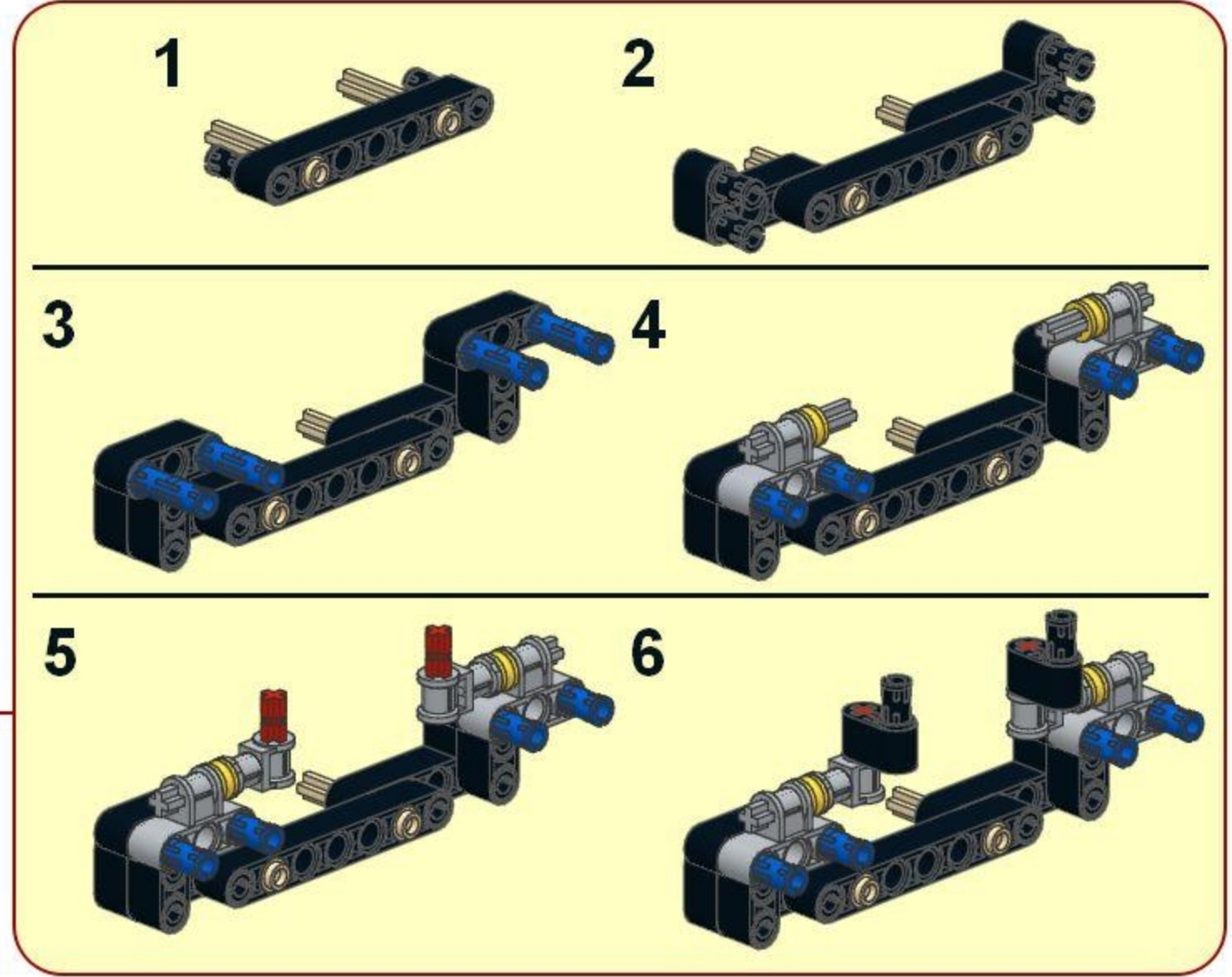
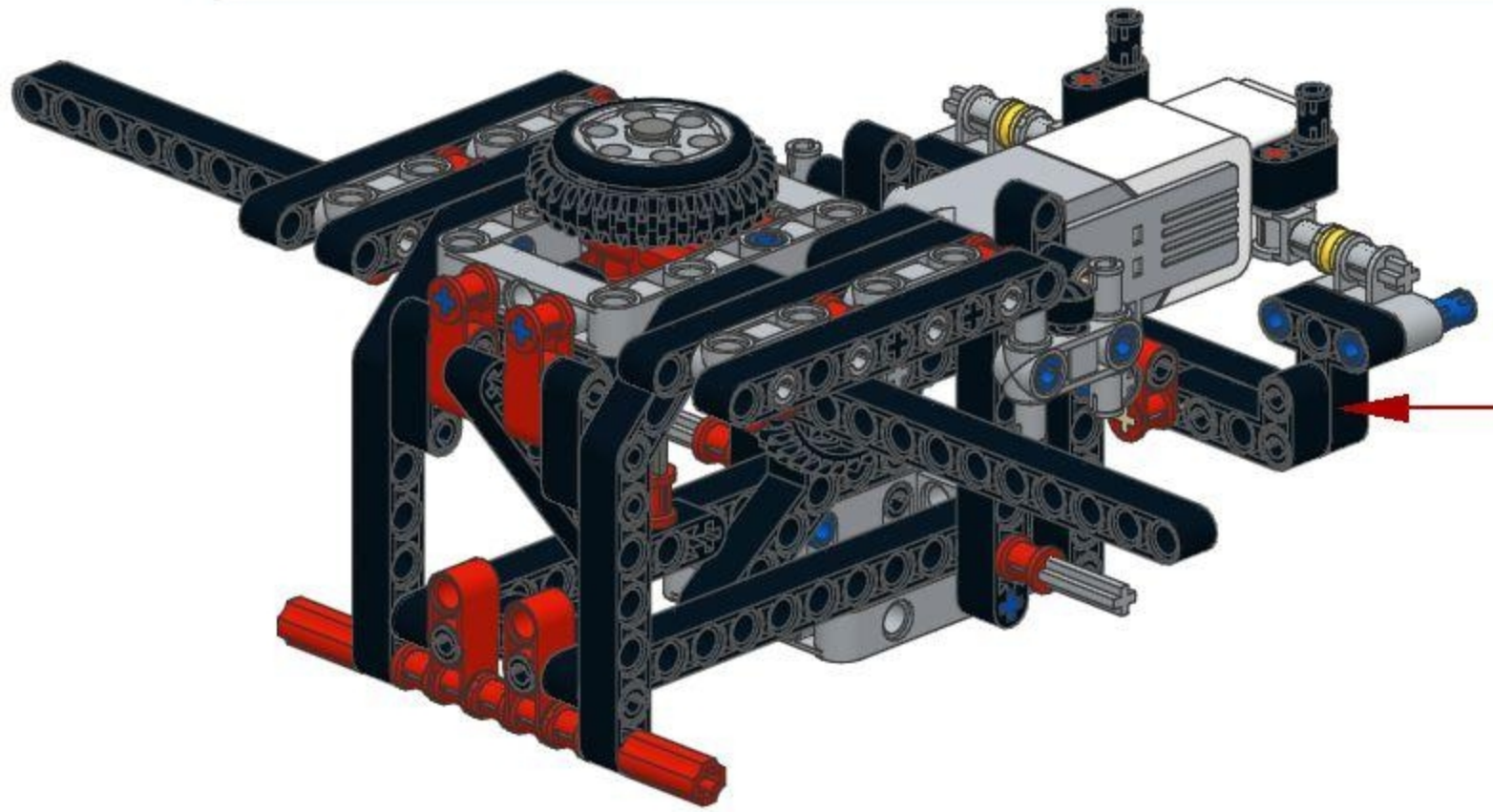
27



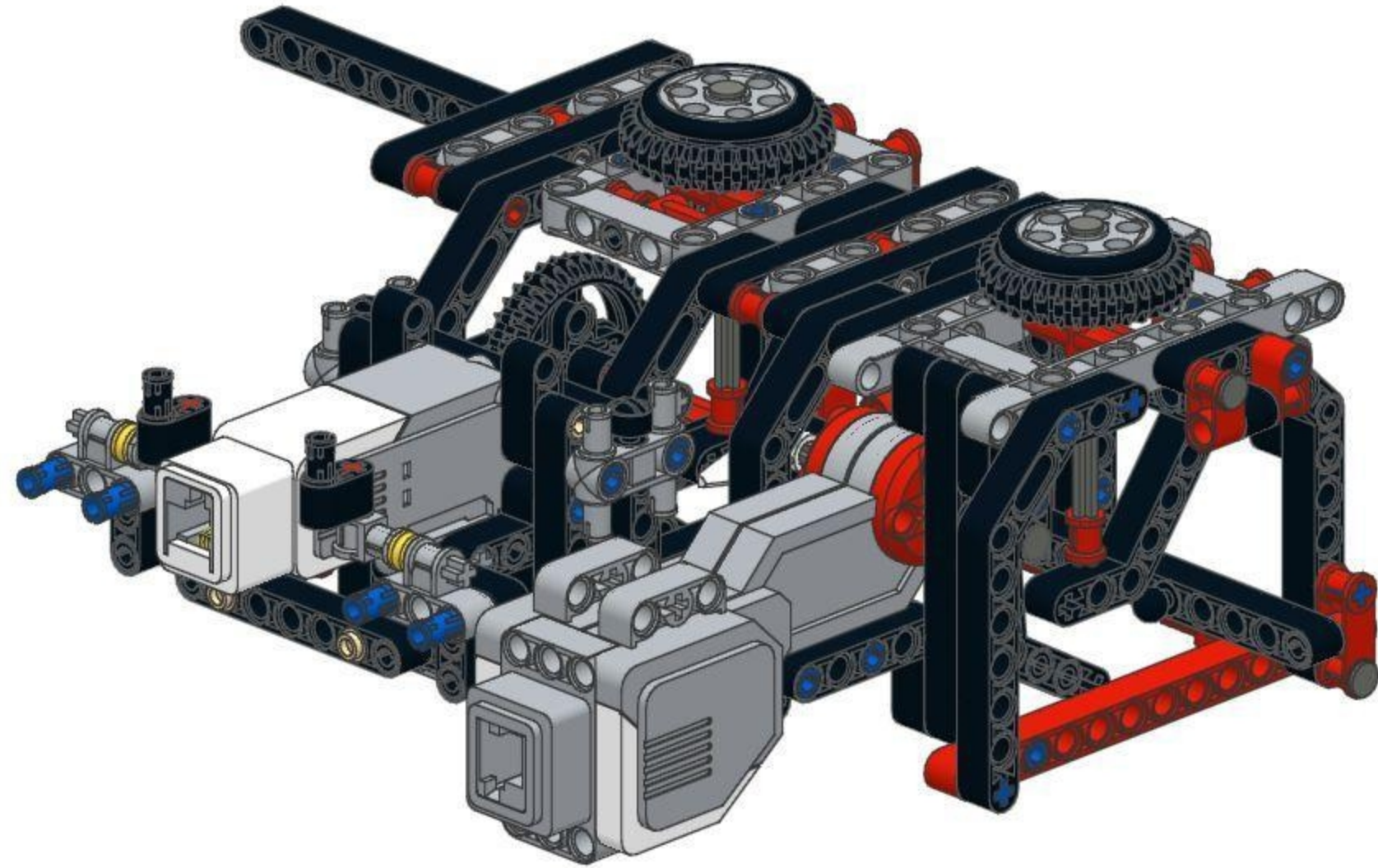


# 28

- 4x 
- 1x 
- 7 
- 2x 
- 2x 
- 2x 
- 2x 
- 2x 
- 3 
- 3 
- 2 
- 2x 
- 8x 



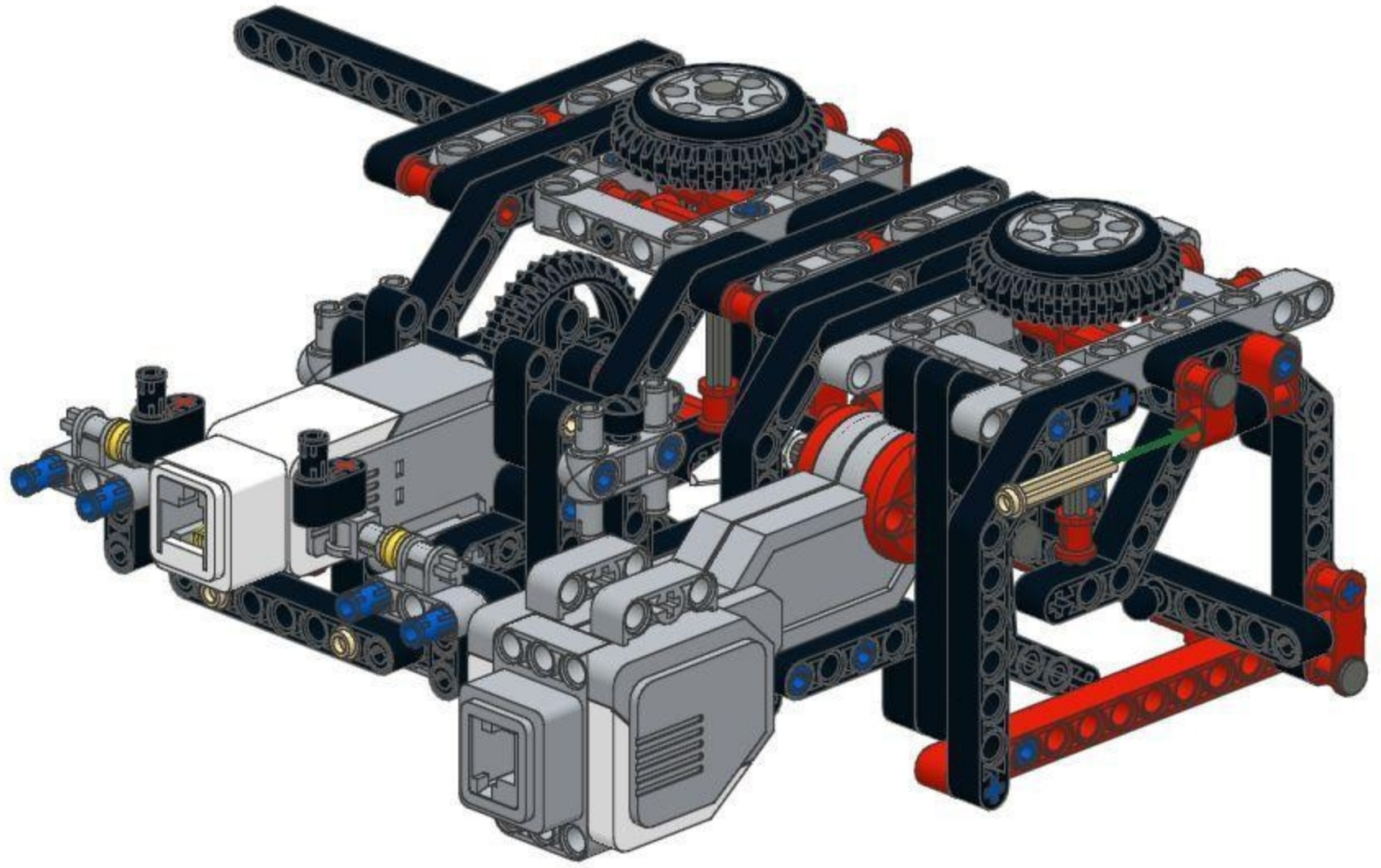
2





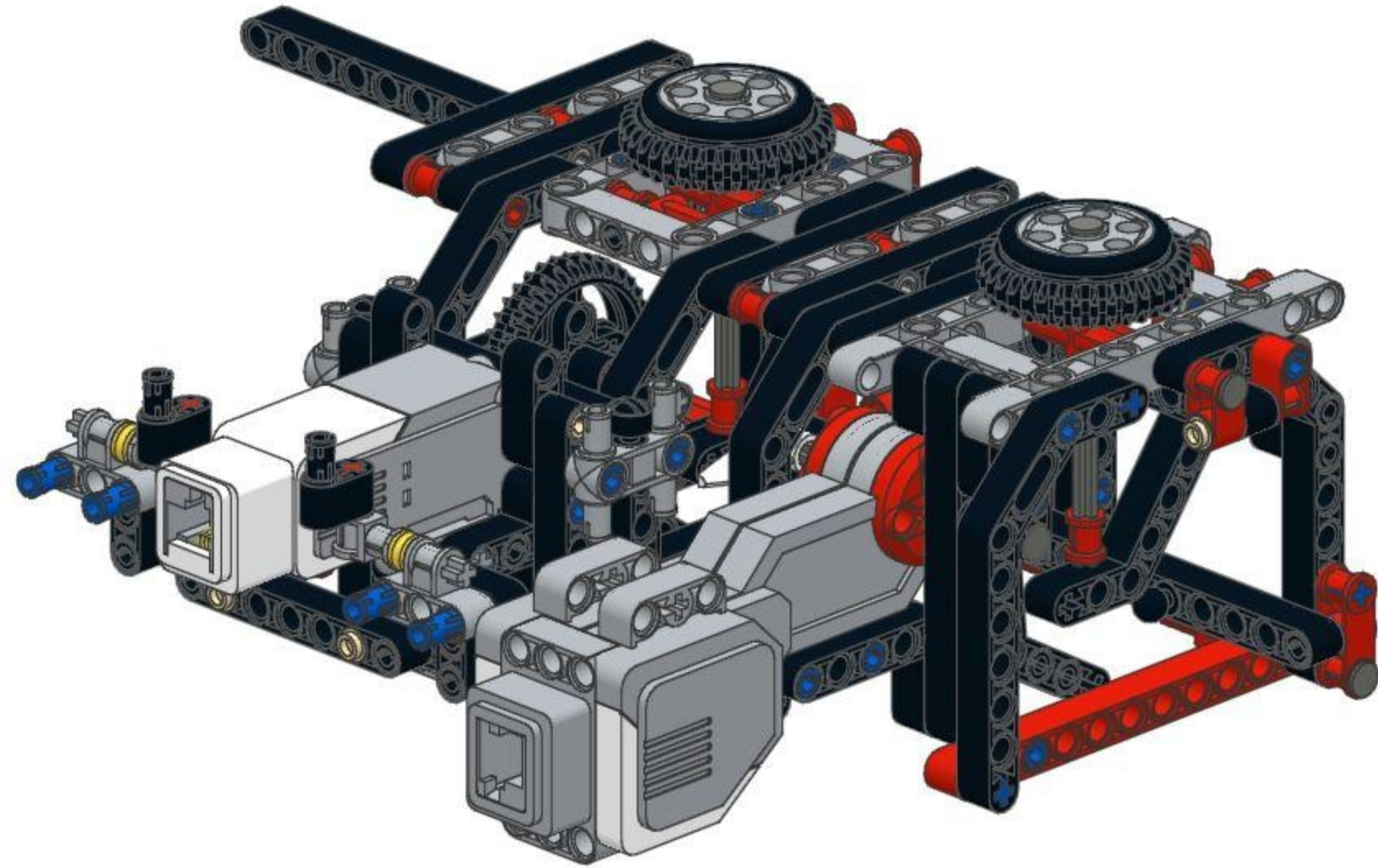
3

3  
1x

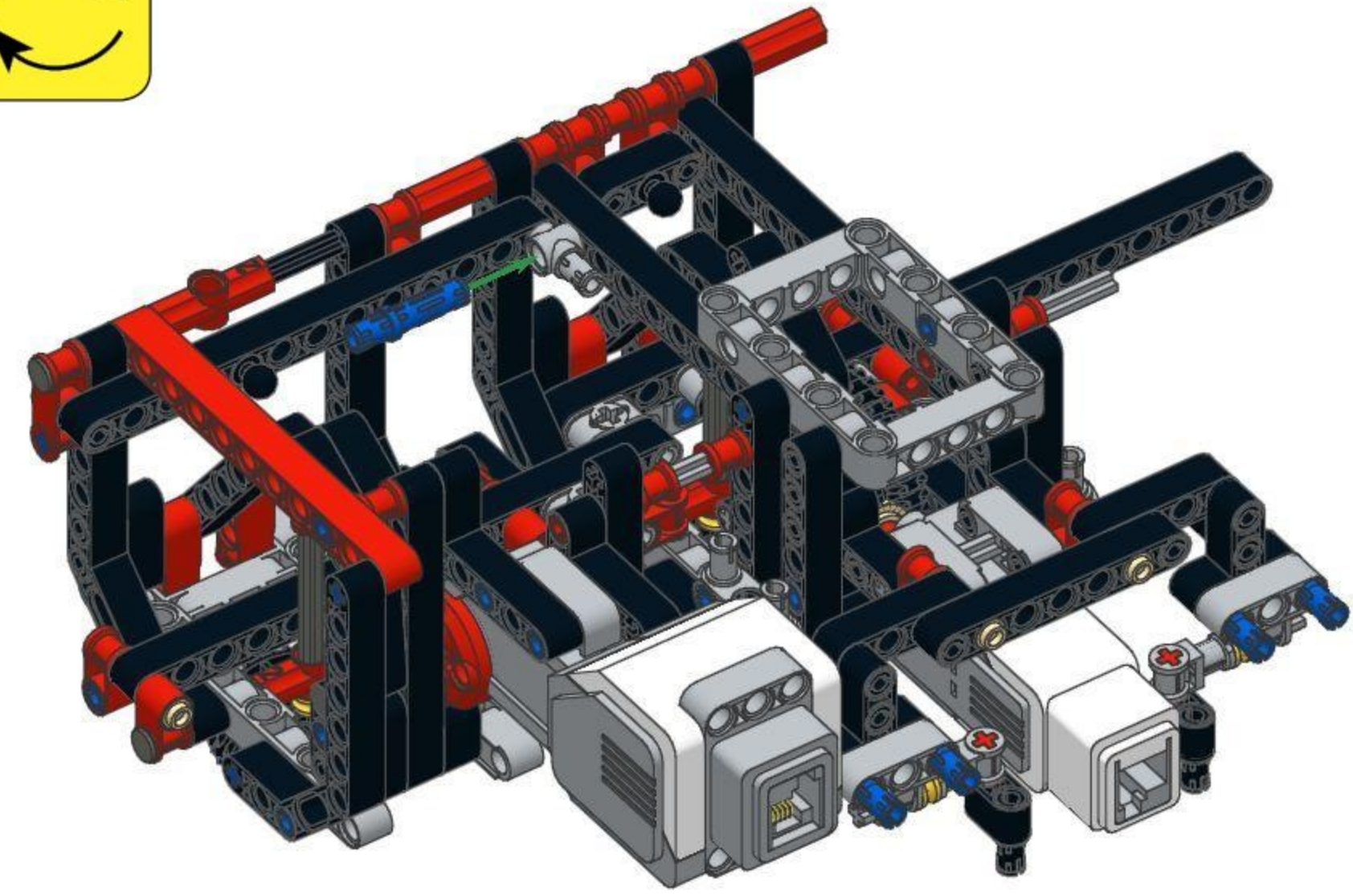




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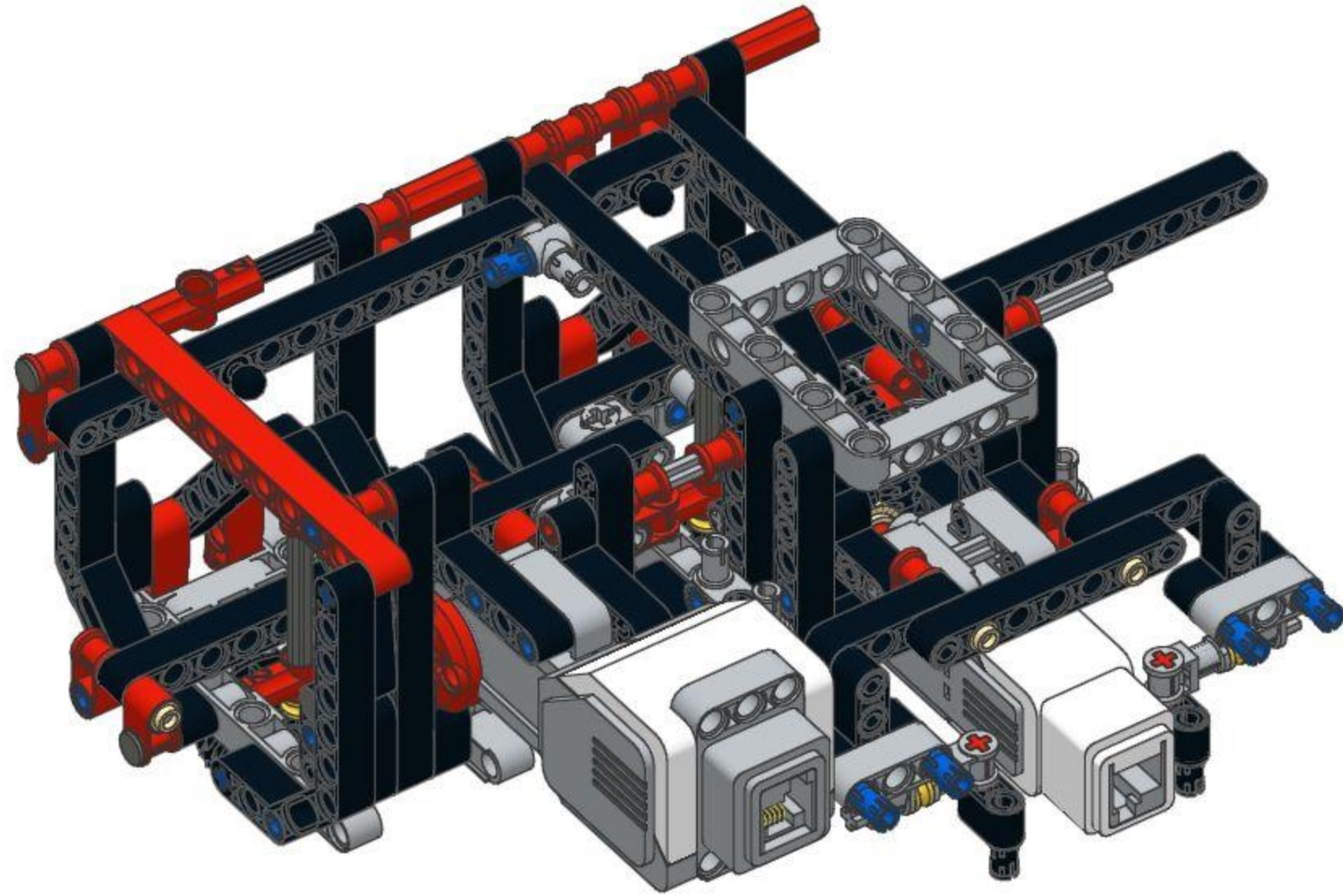


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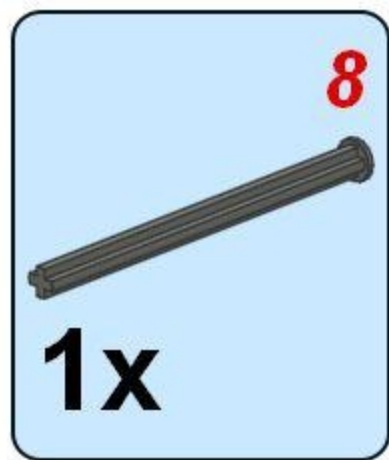




6



1



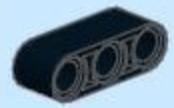


2



3

3



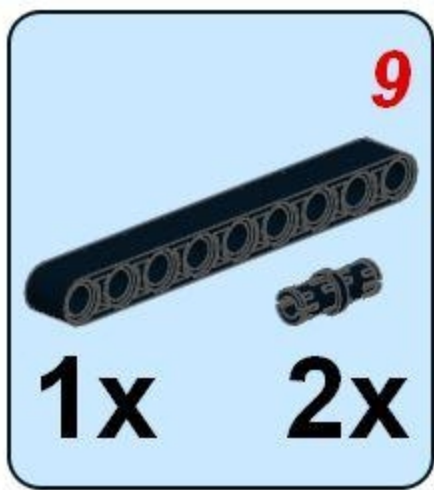
1x



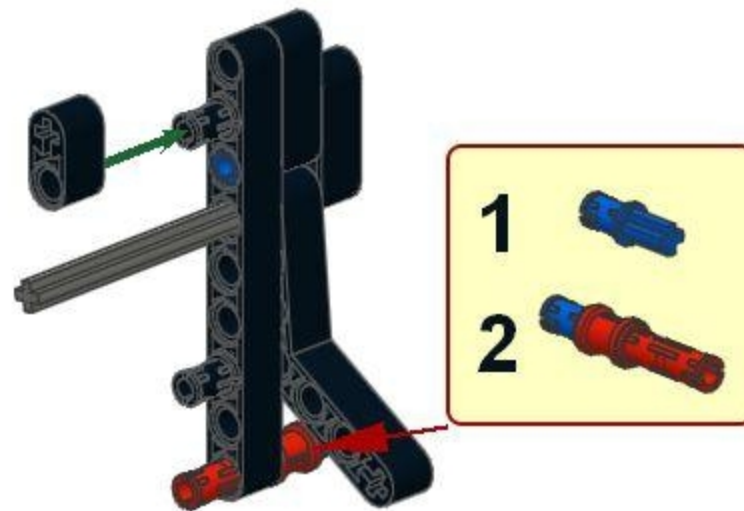
1x



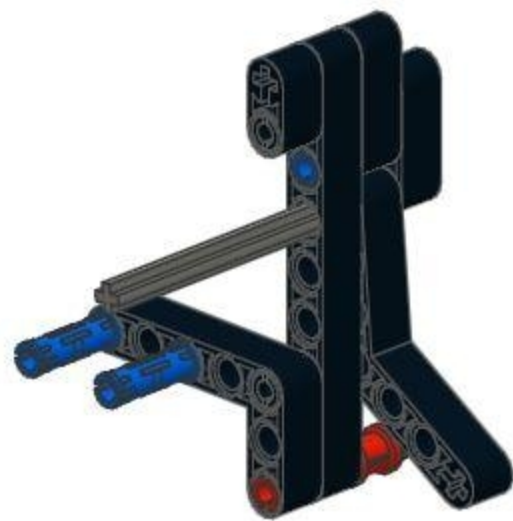
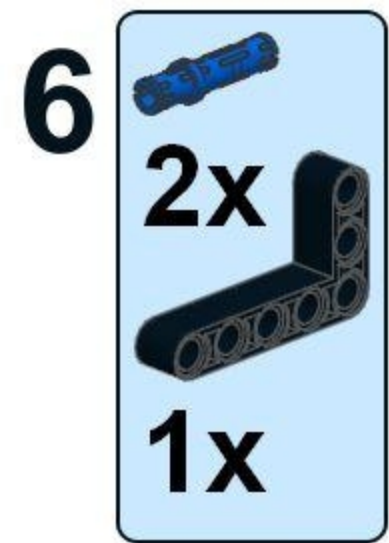
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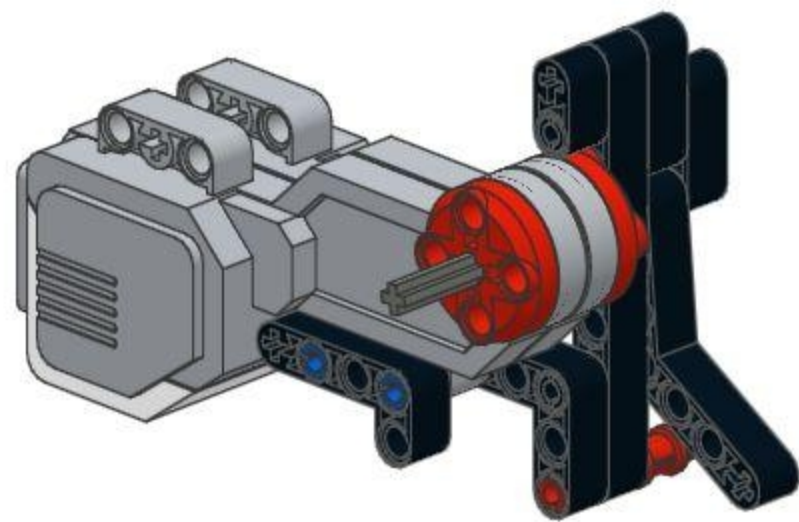
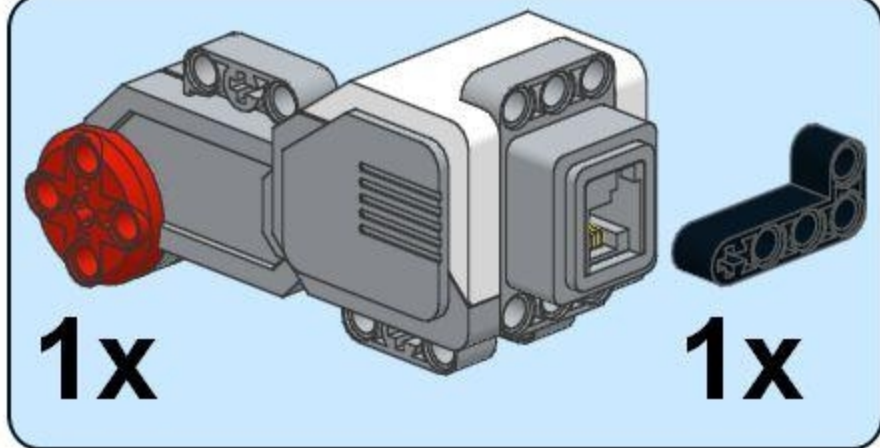
5







7

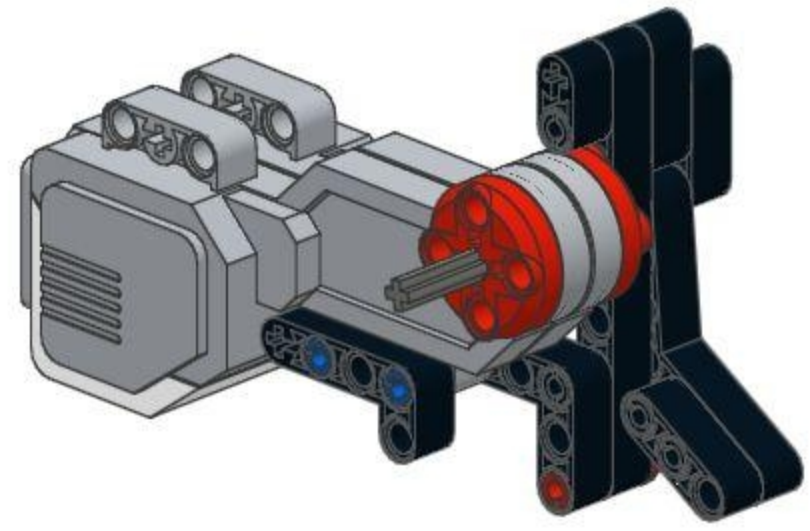


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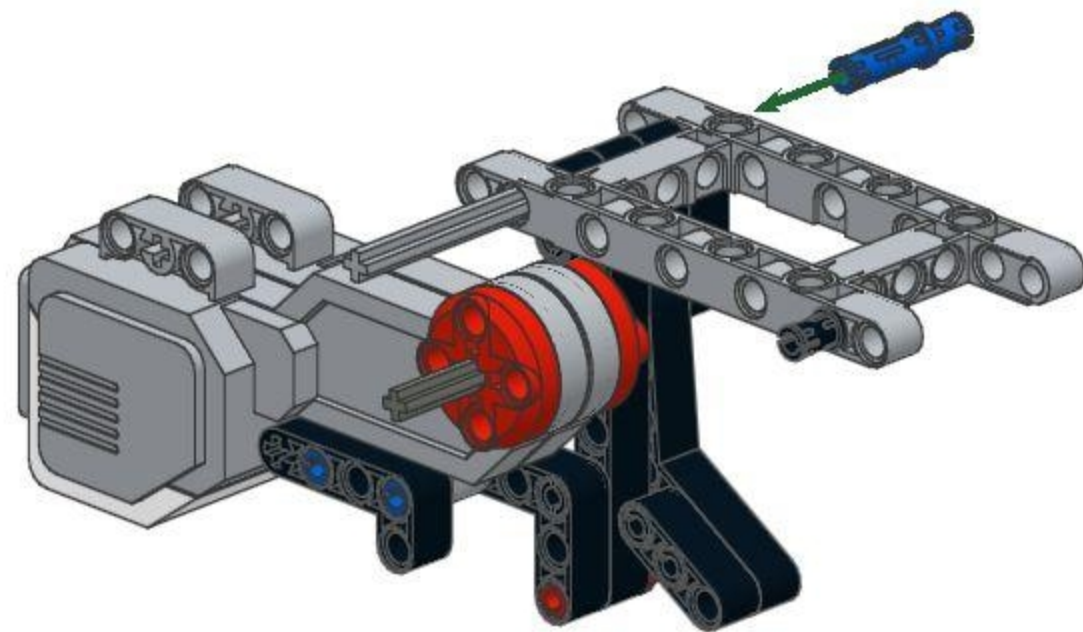
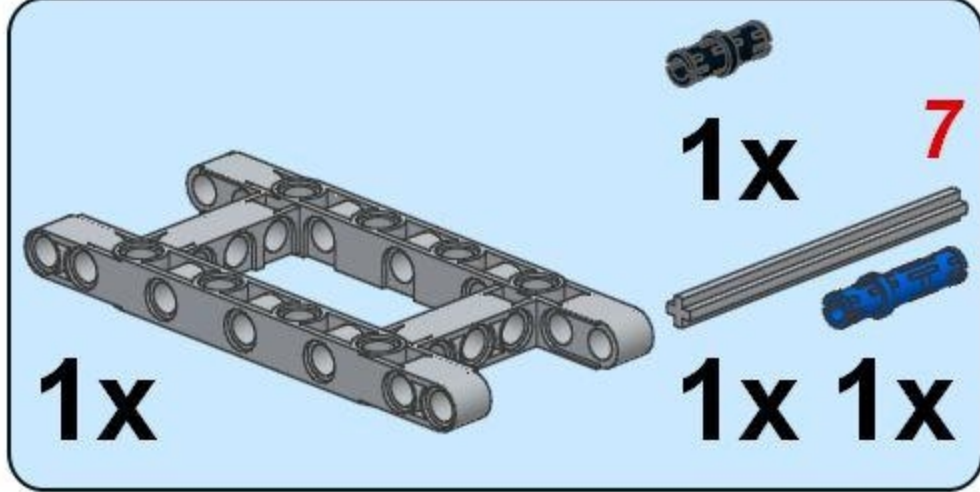
3



1x 2x

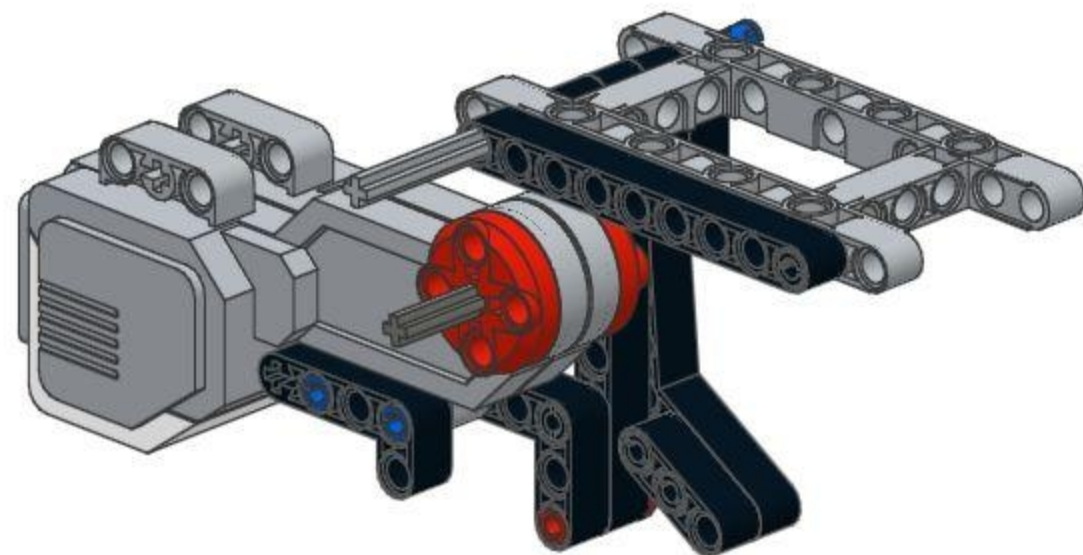
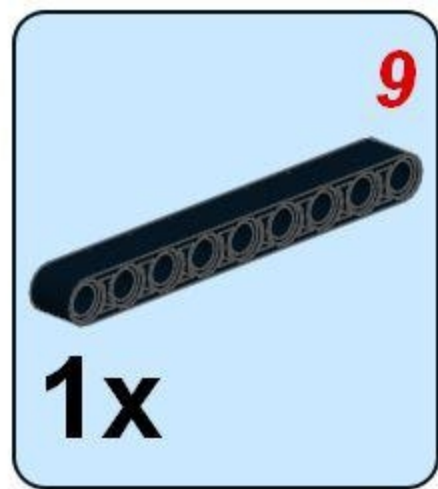


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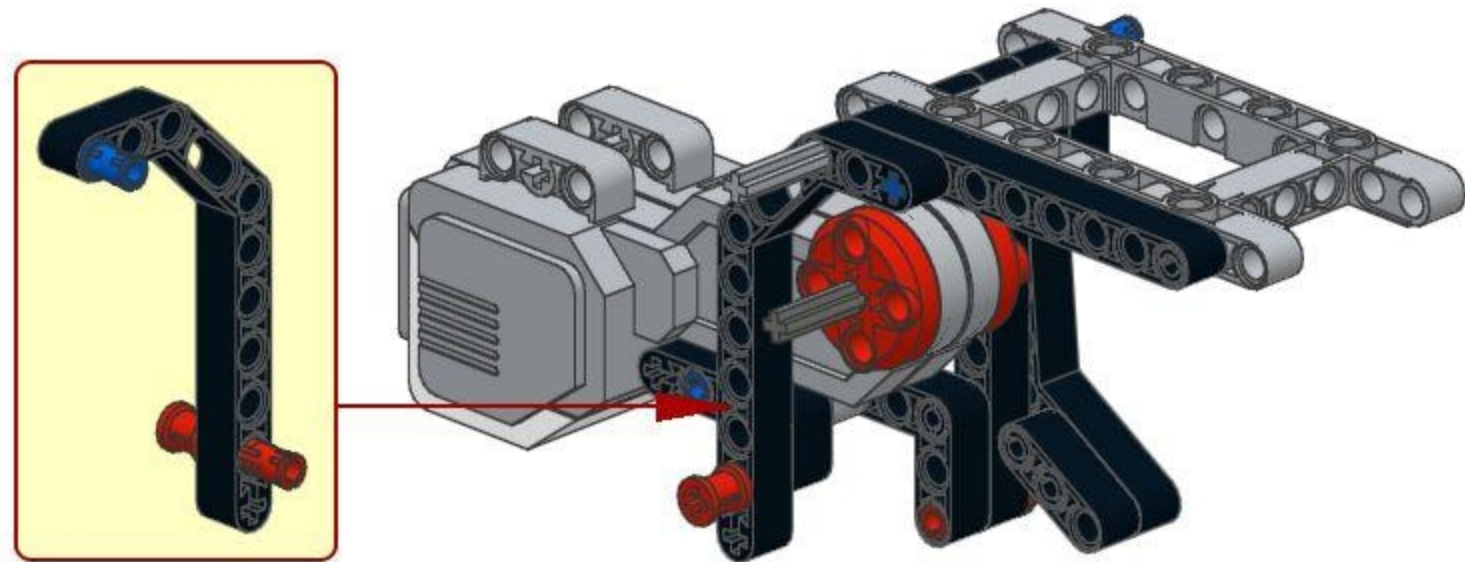
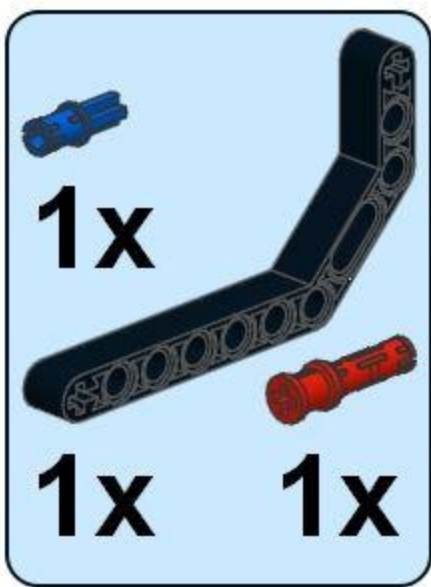





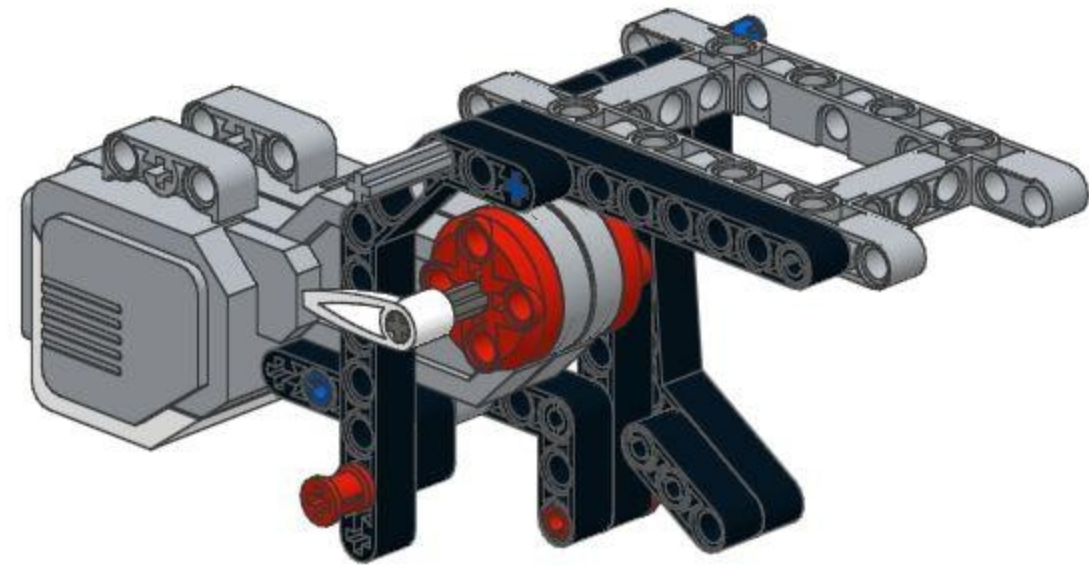
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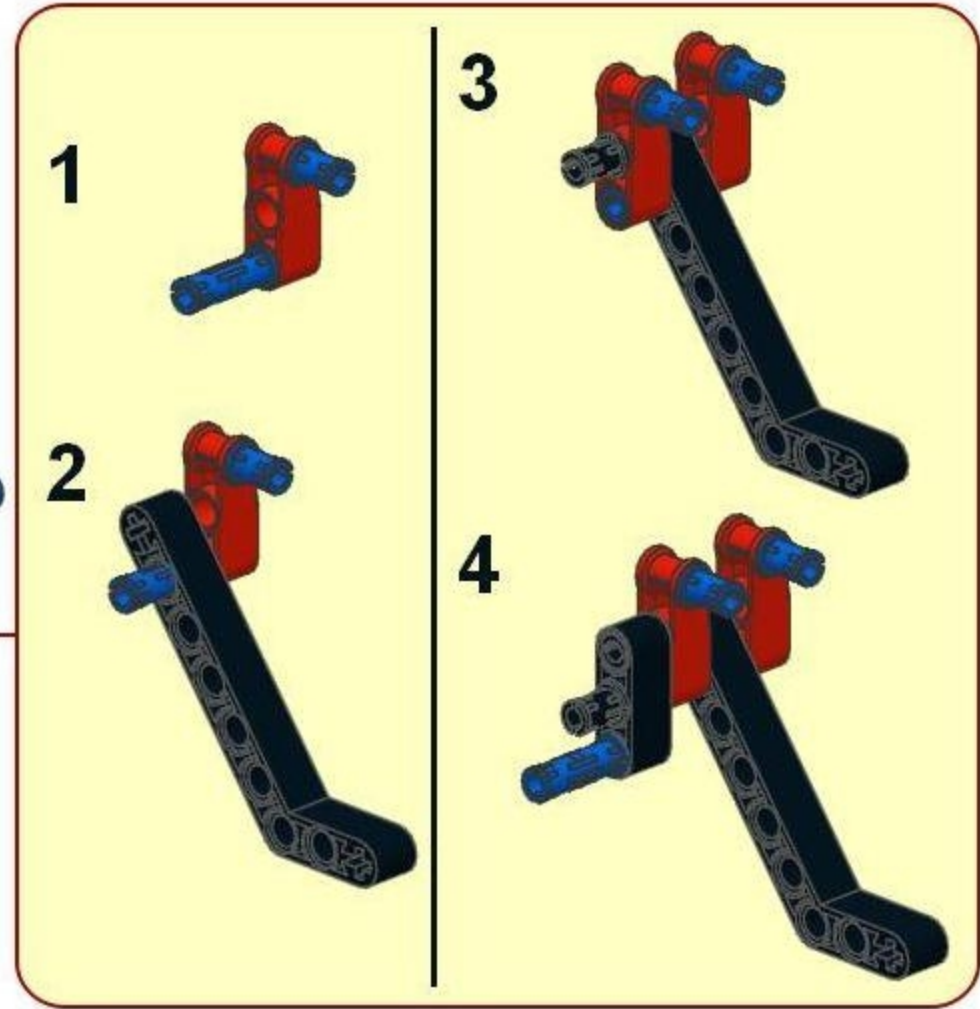
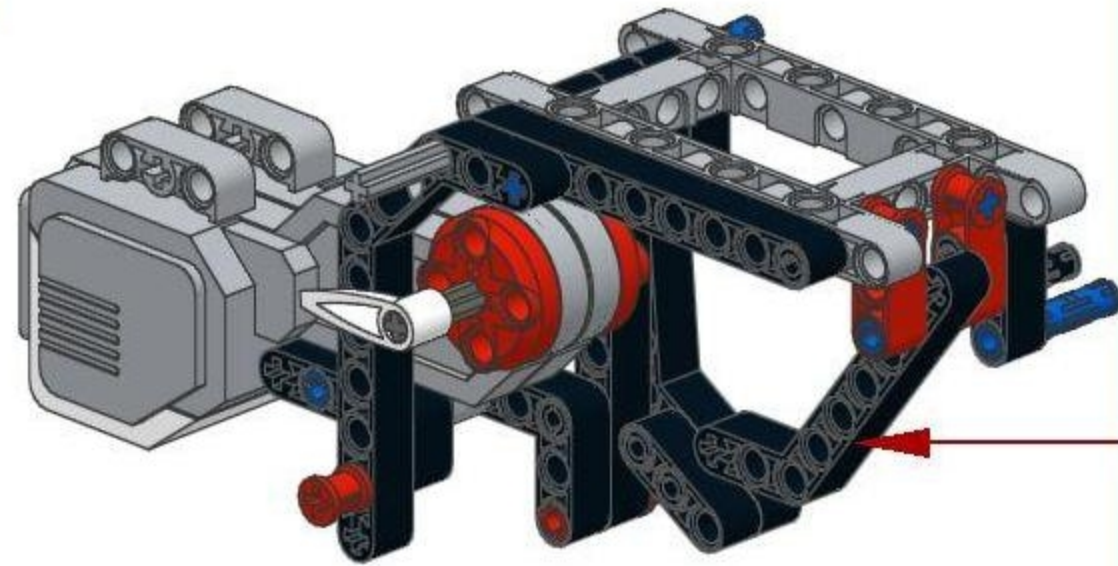
11



12   
1x







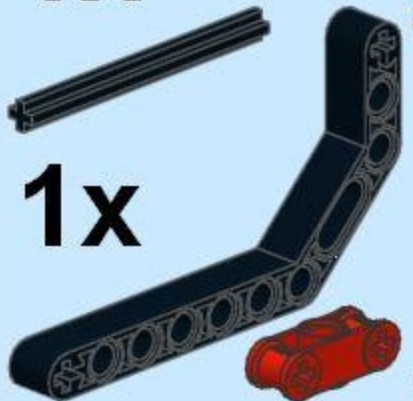
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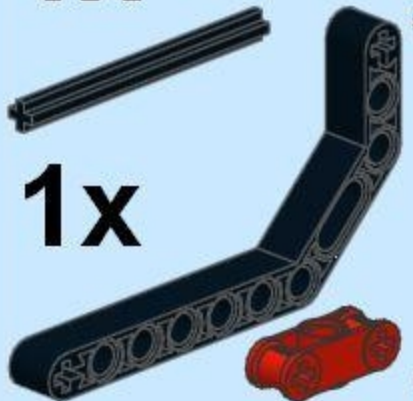




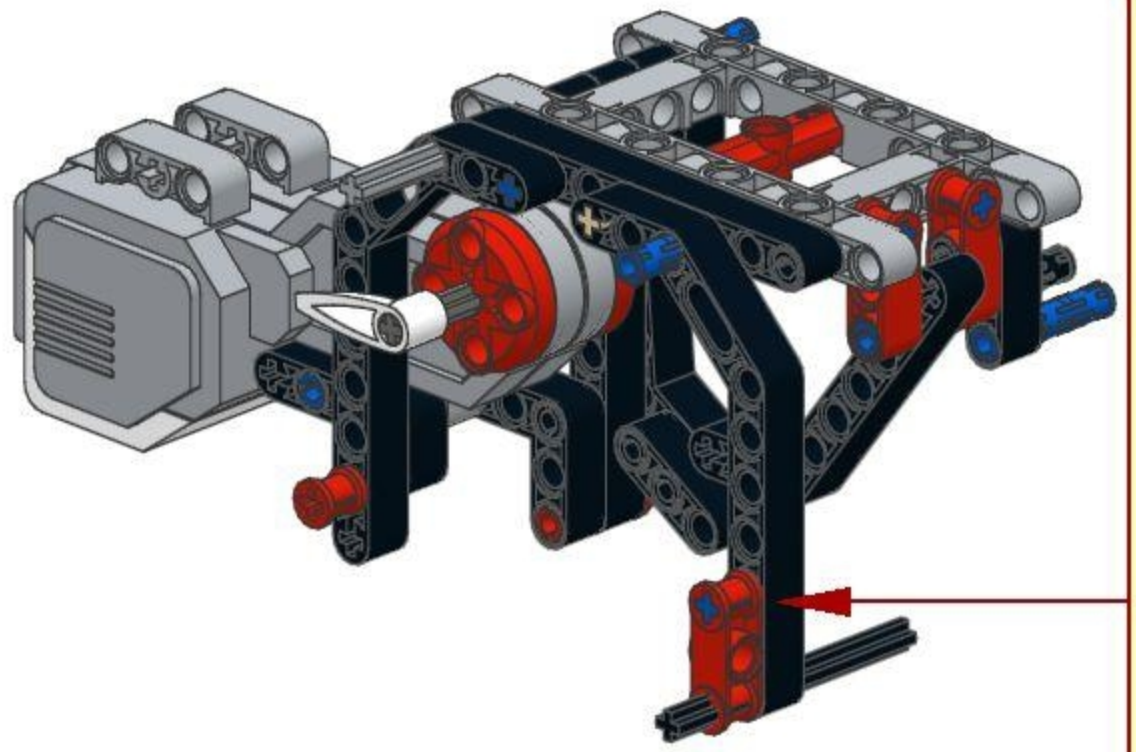
14



1x  1x 




1x  6  1x 

1x  1x  4

1x  1x  1x 



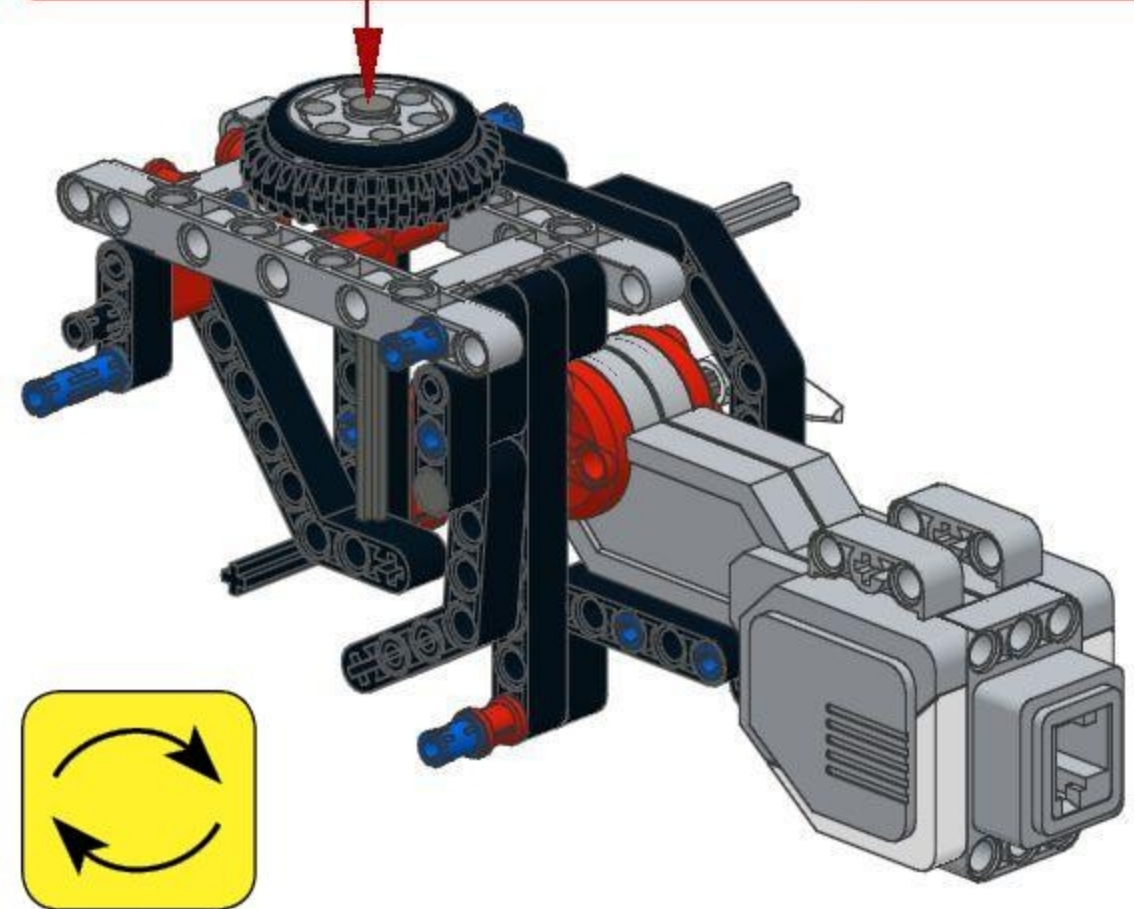
1  


2   


15

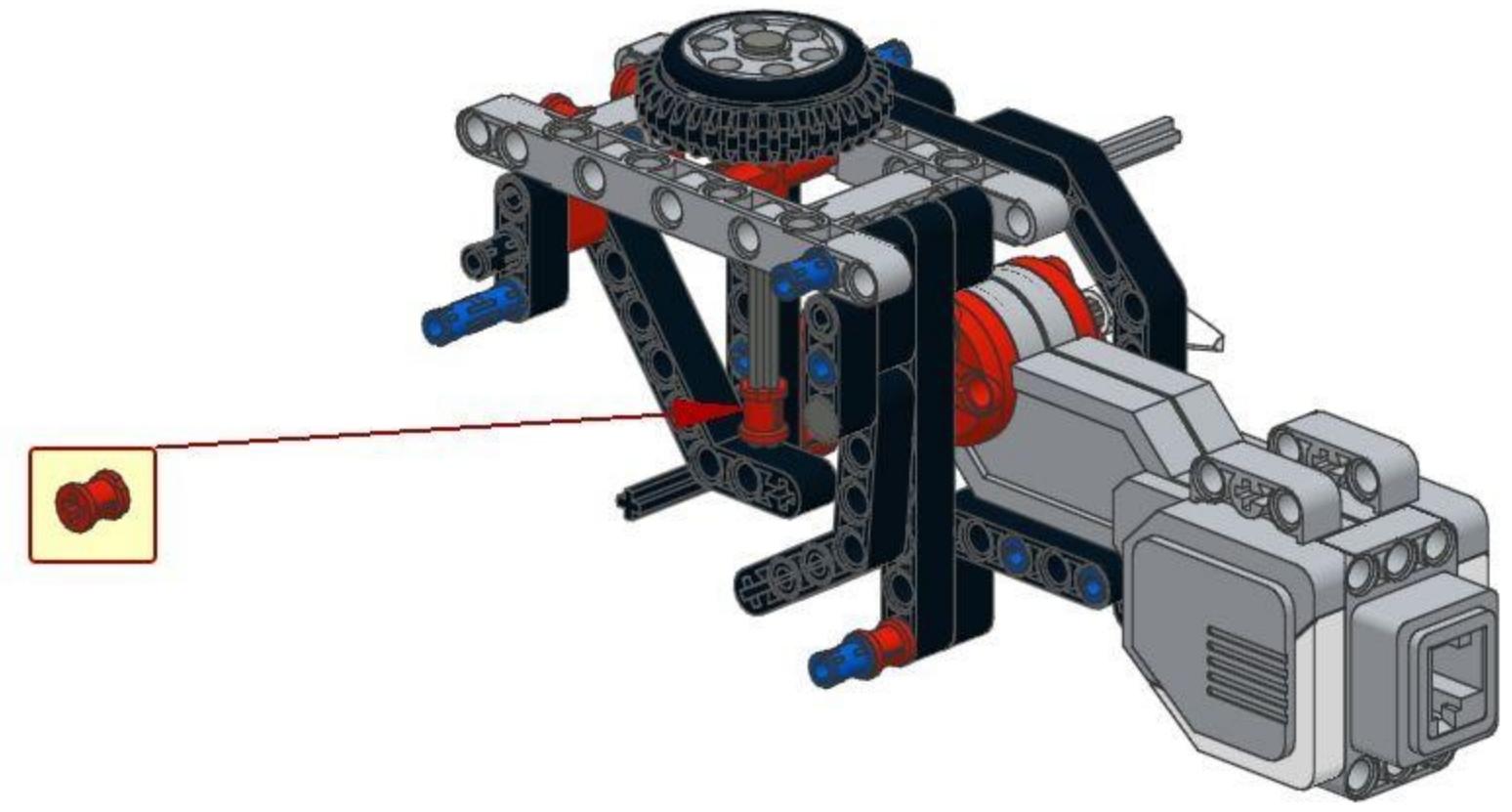
1x  1x   
1x  8   
1x  1x  1x

1  2  3 



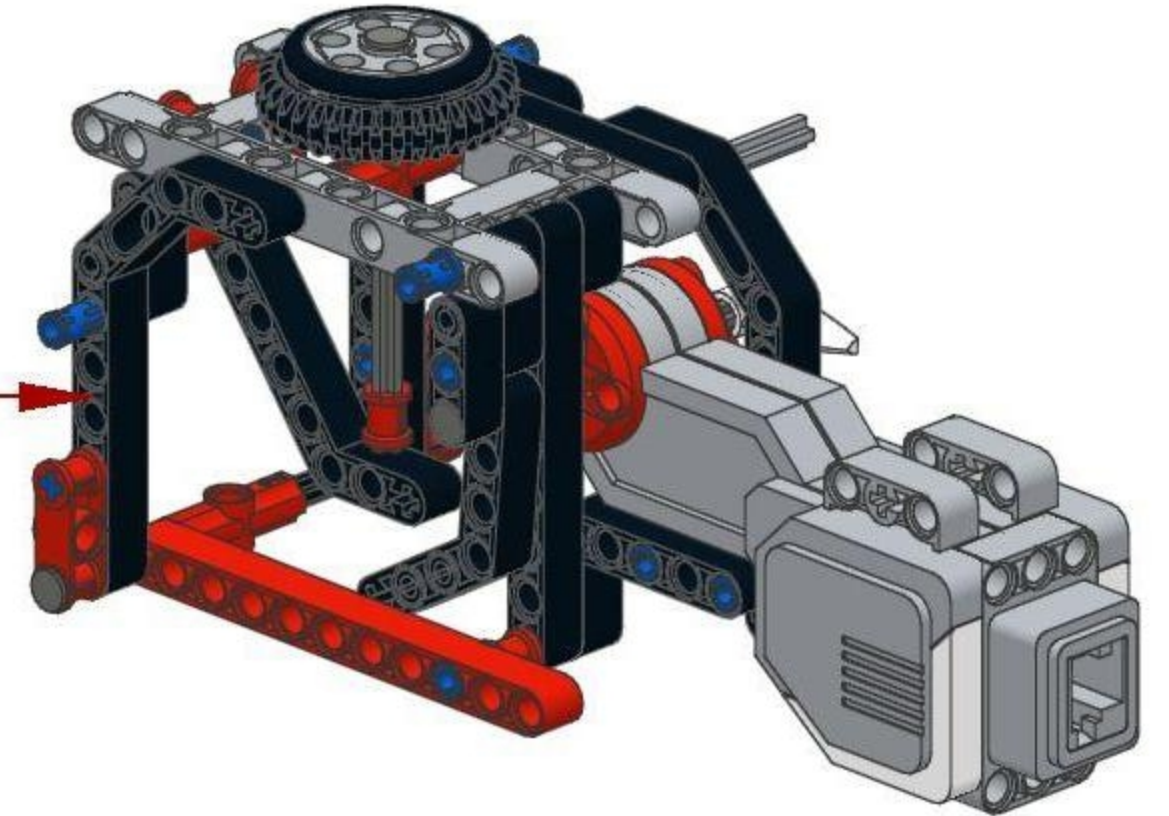
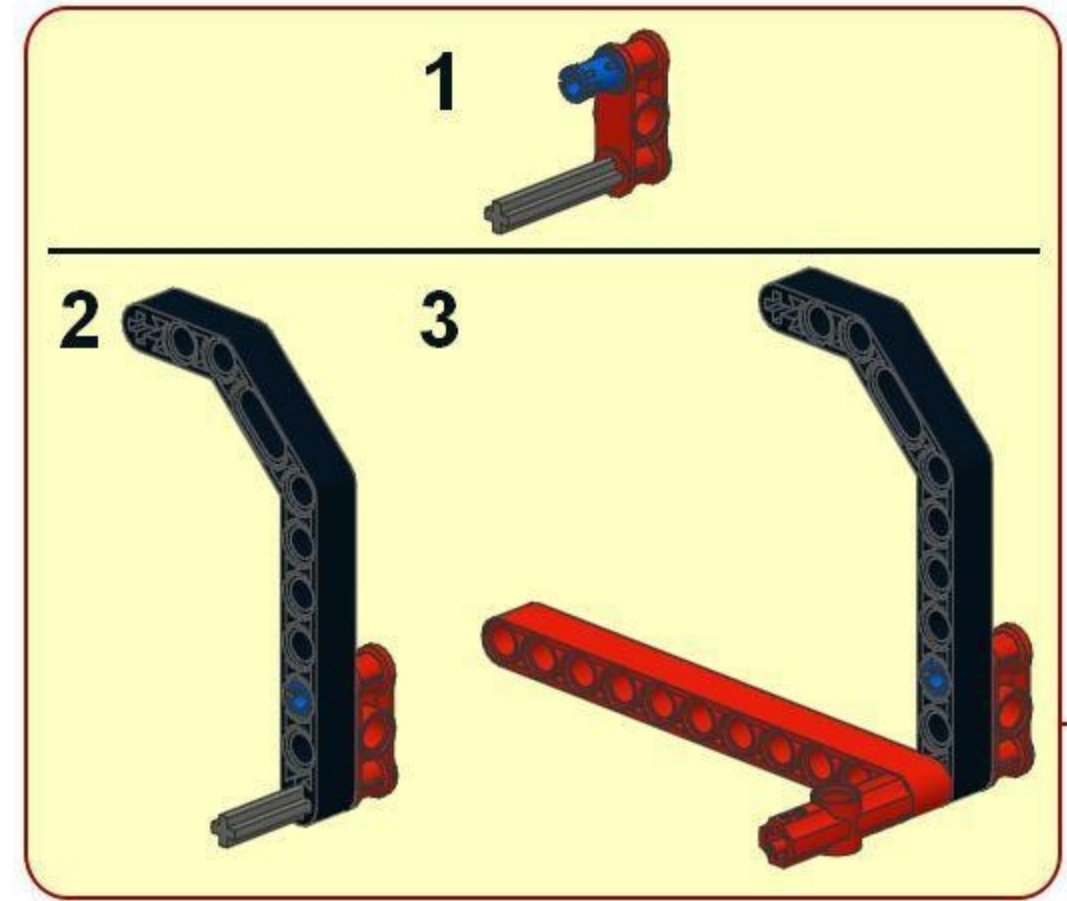
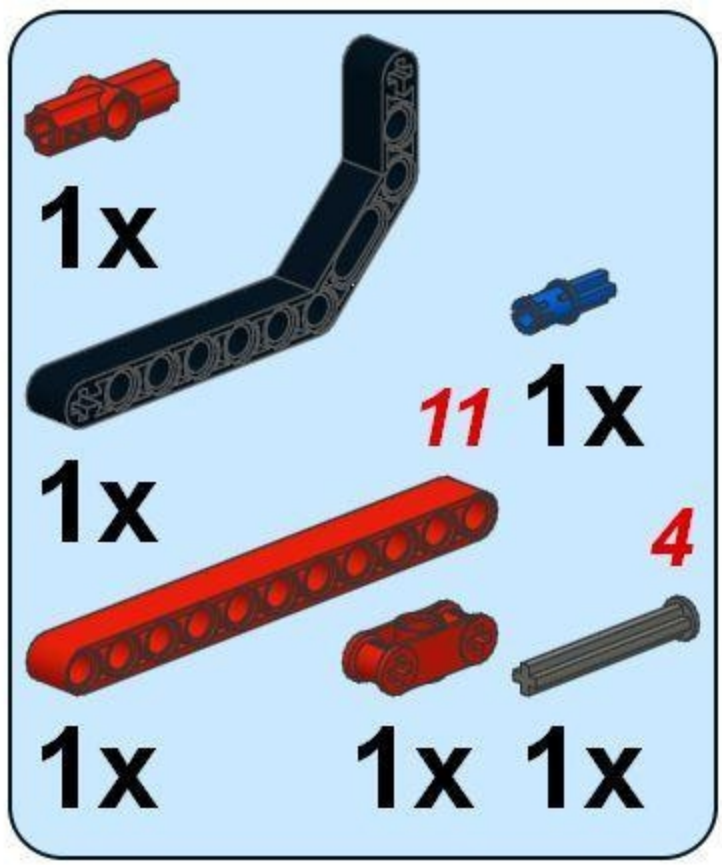


16   
1x



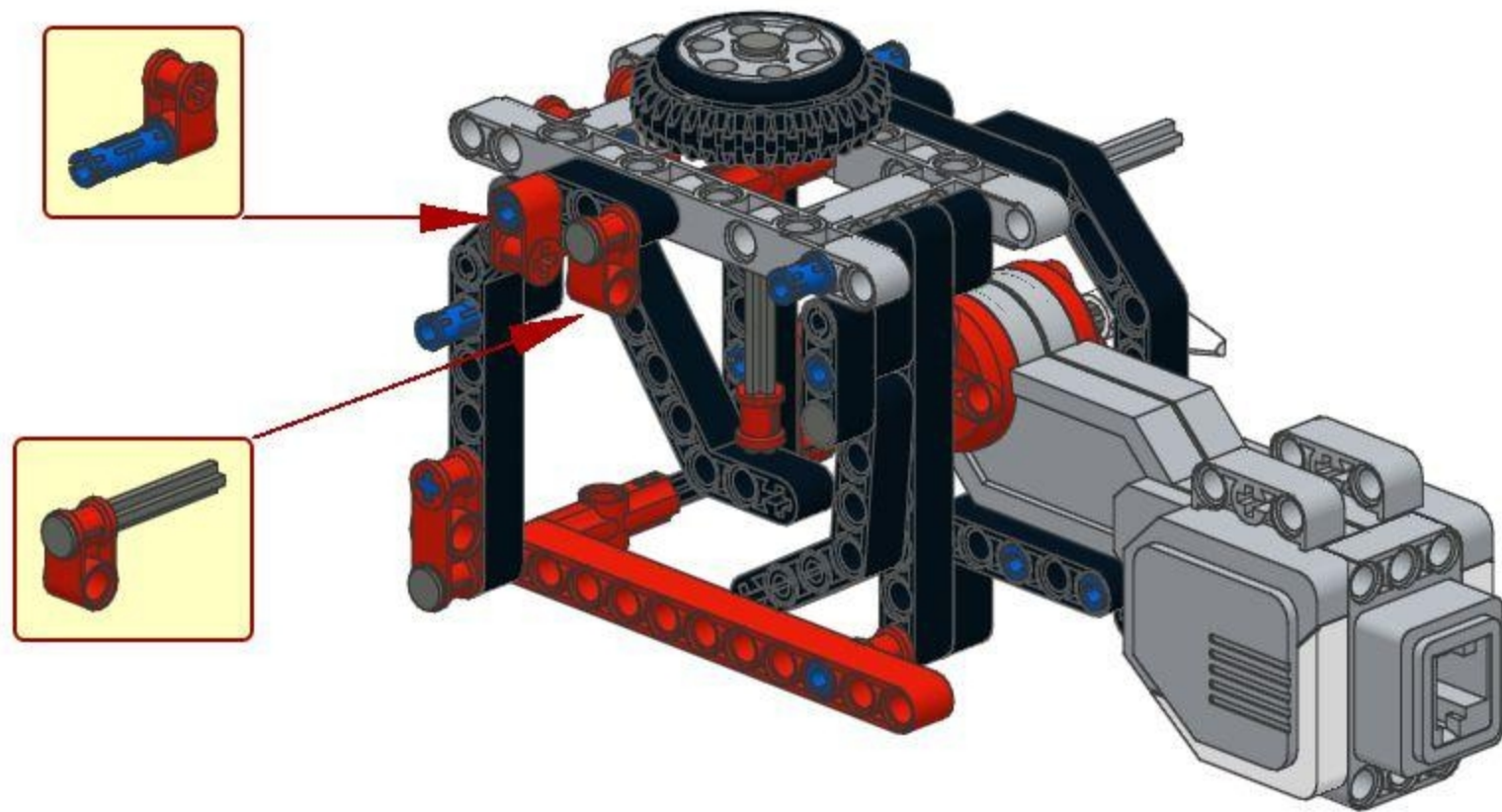
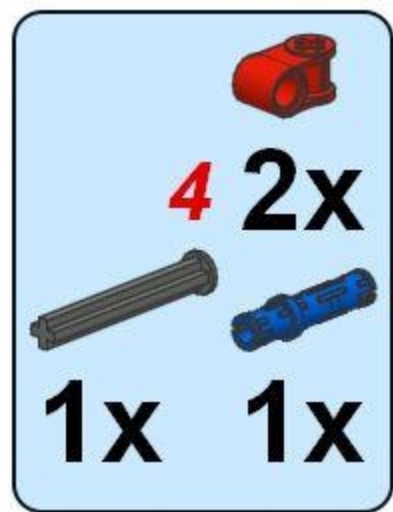


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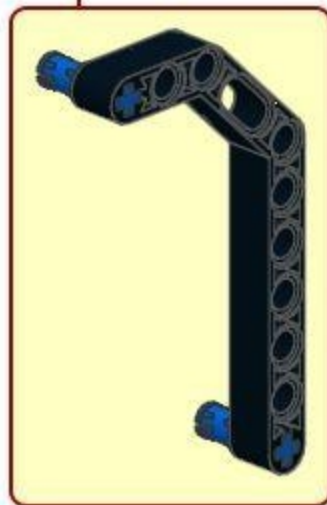
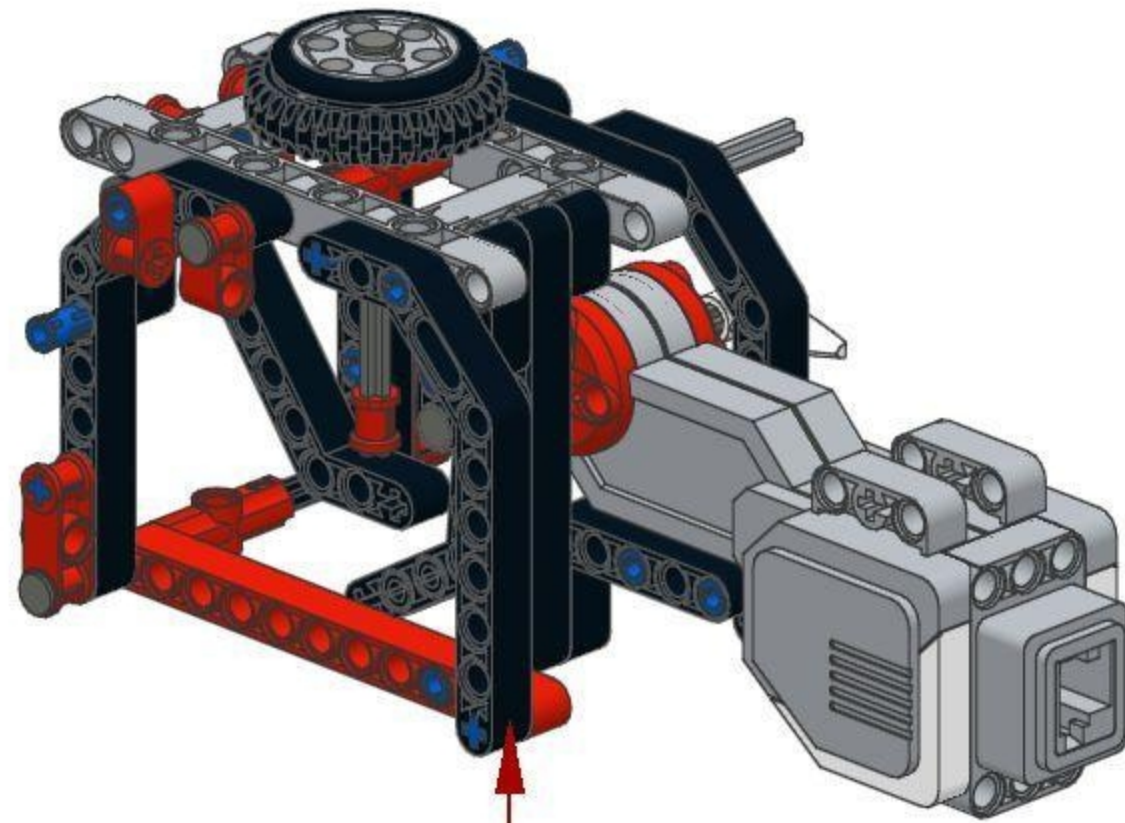
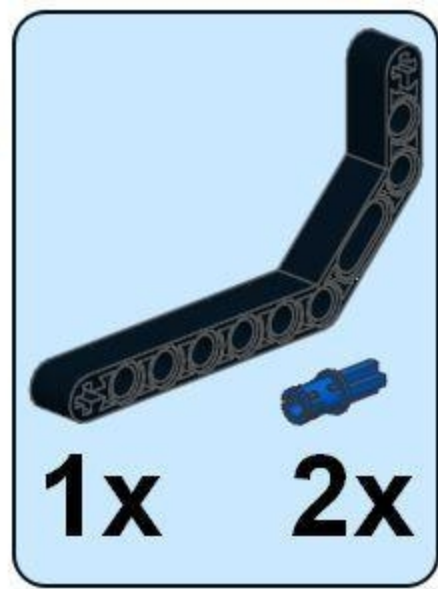




18



19



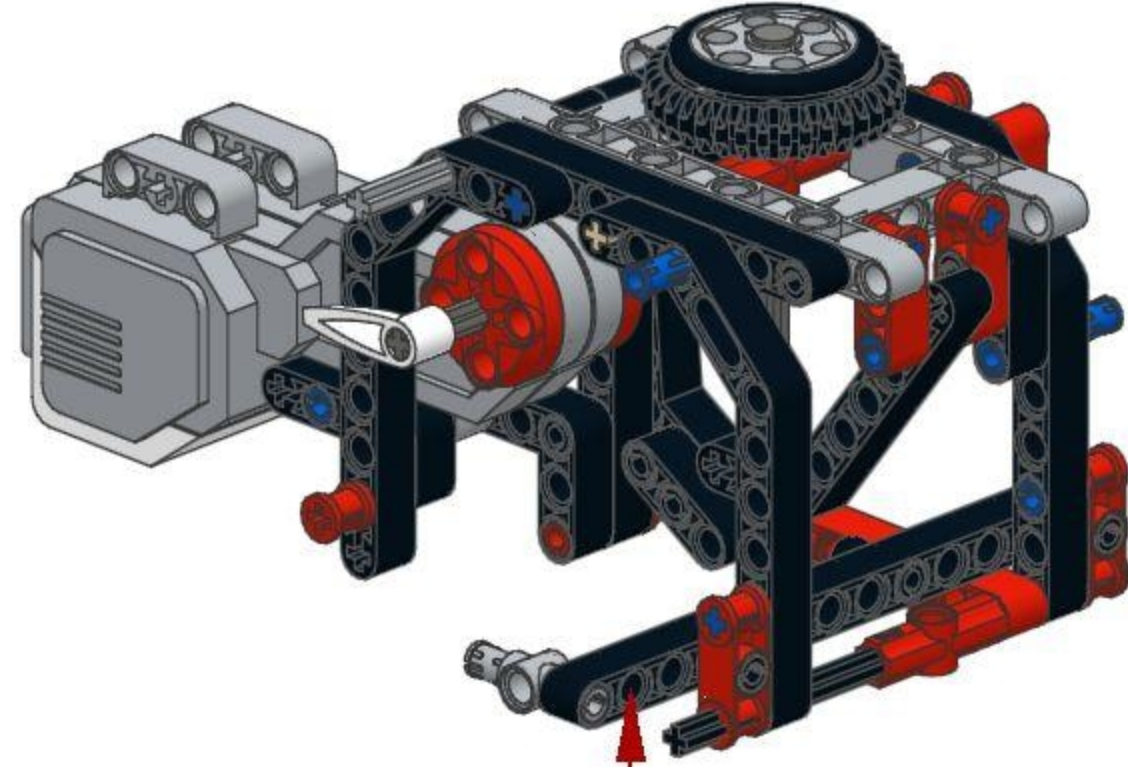
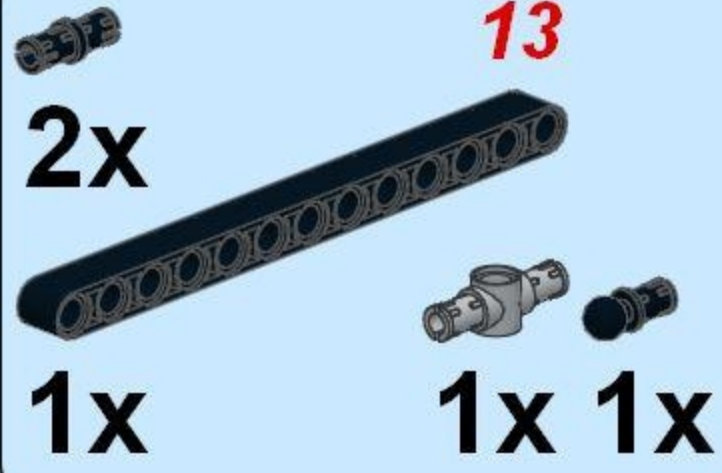
20

13

2x

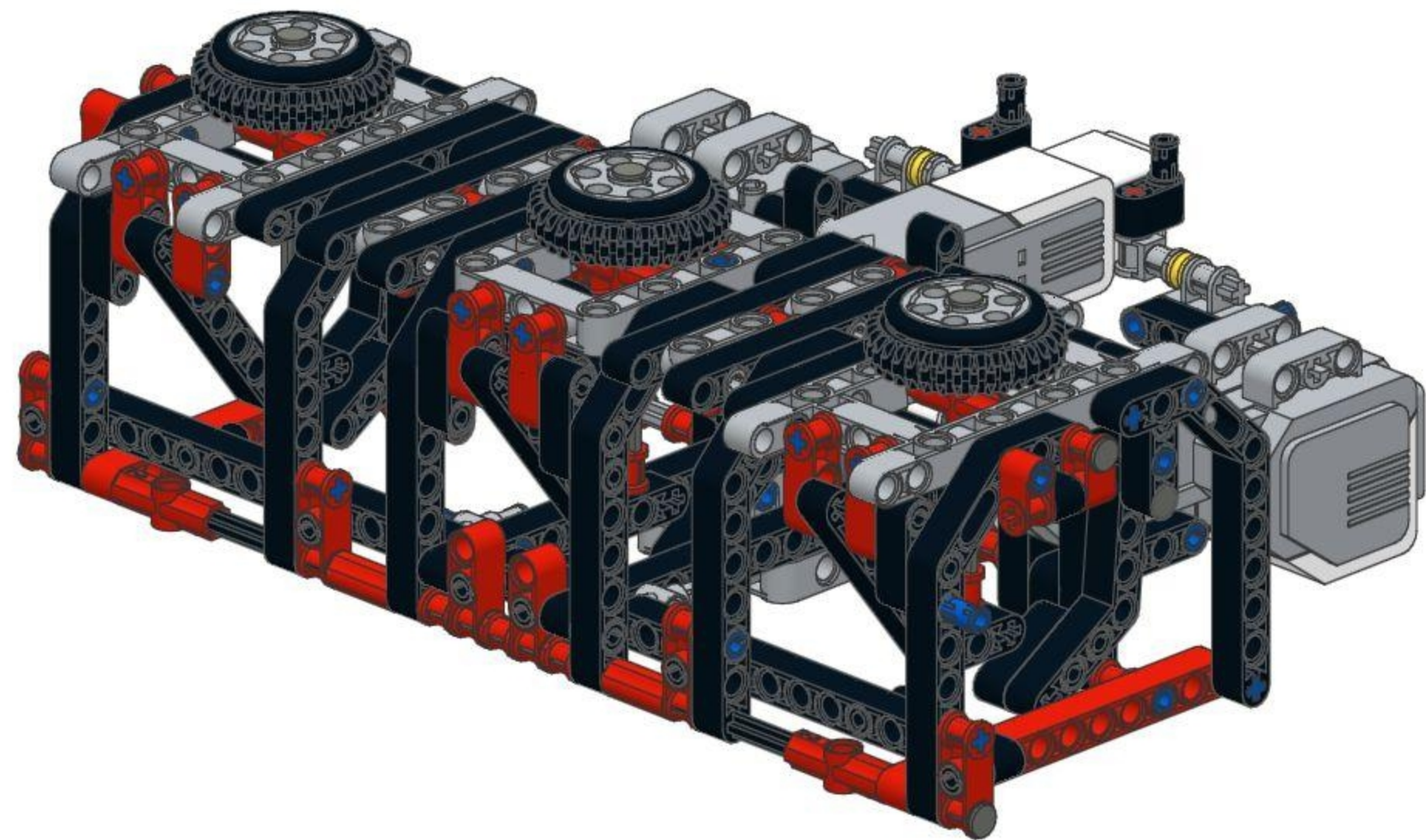
1x

1x 1x





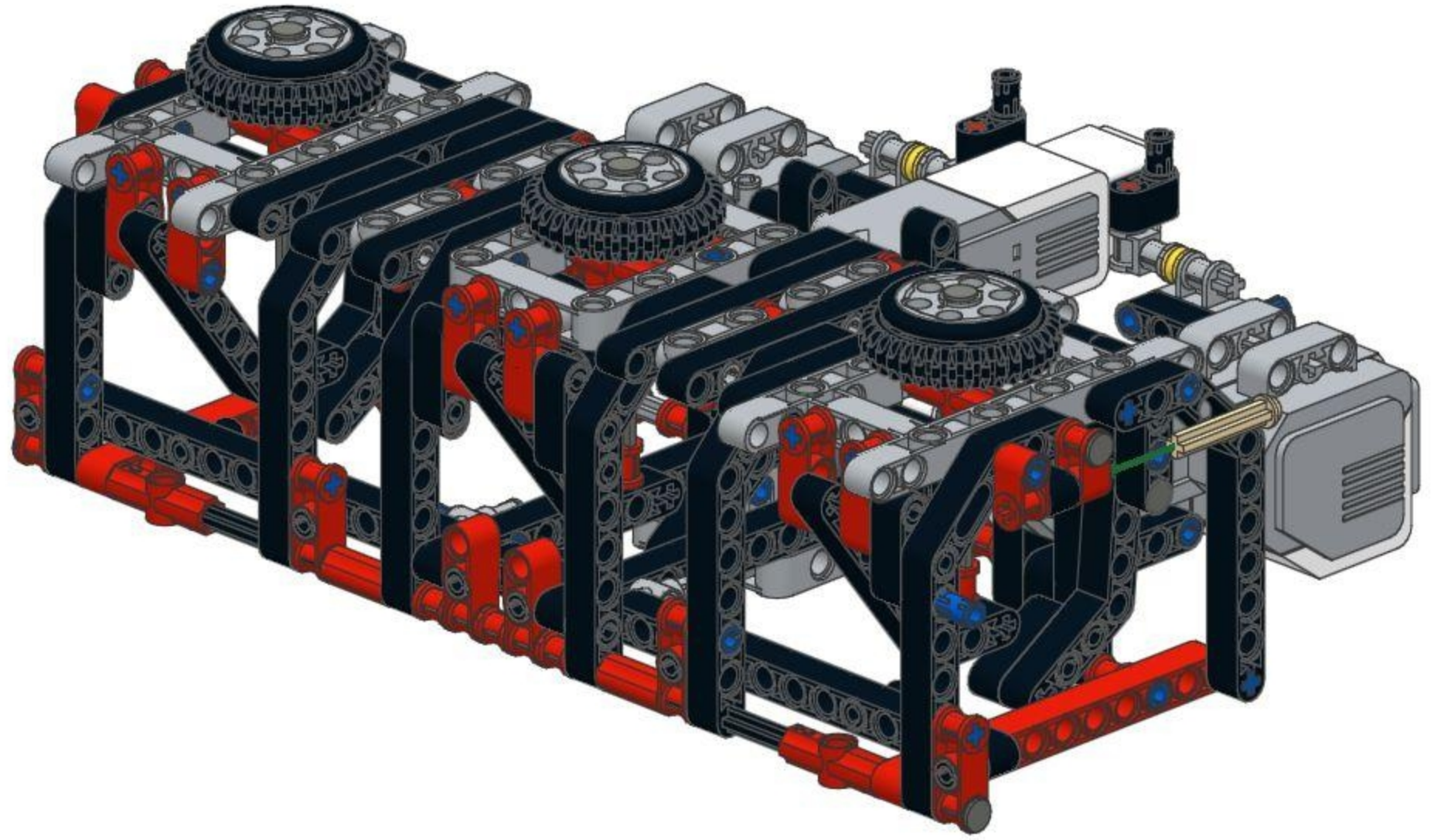
7



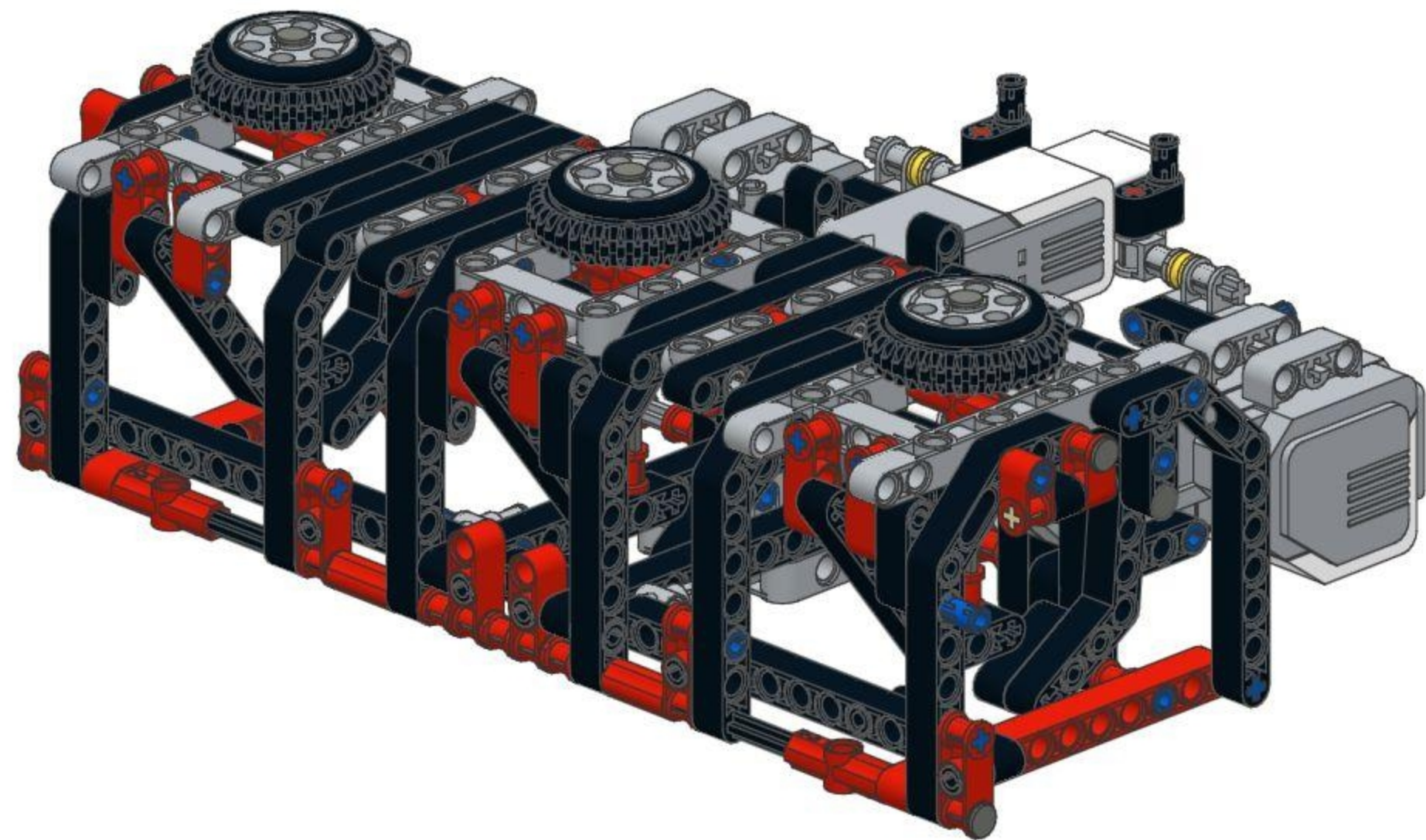


8

3  
1x

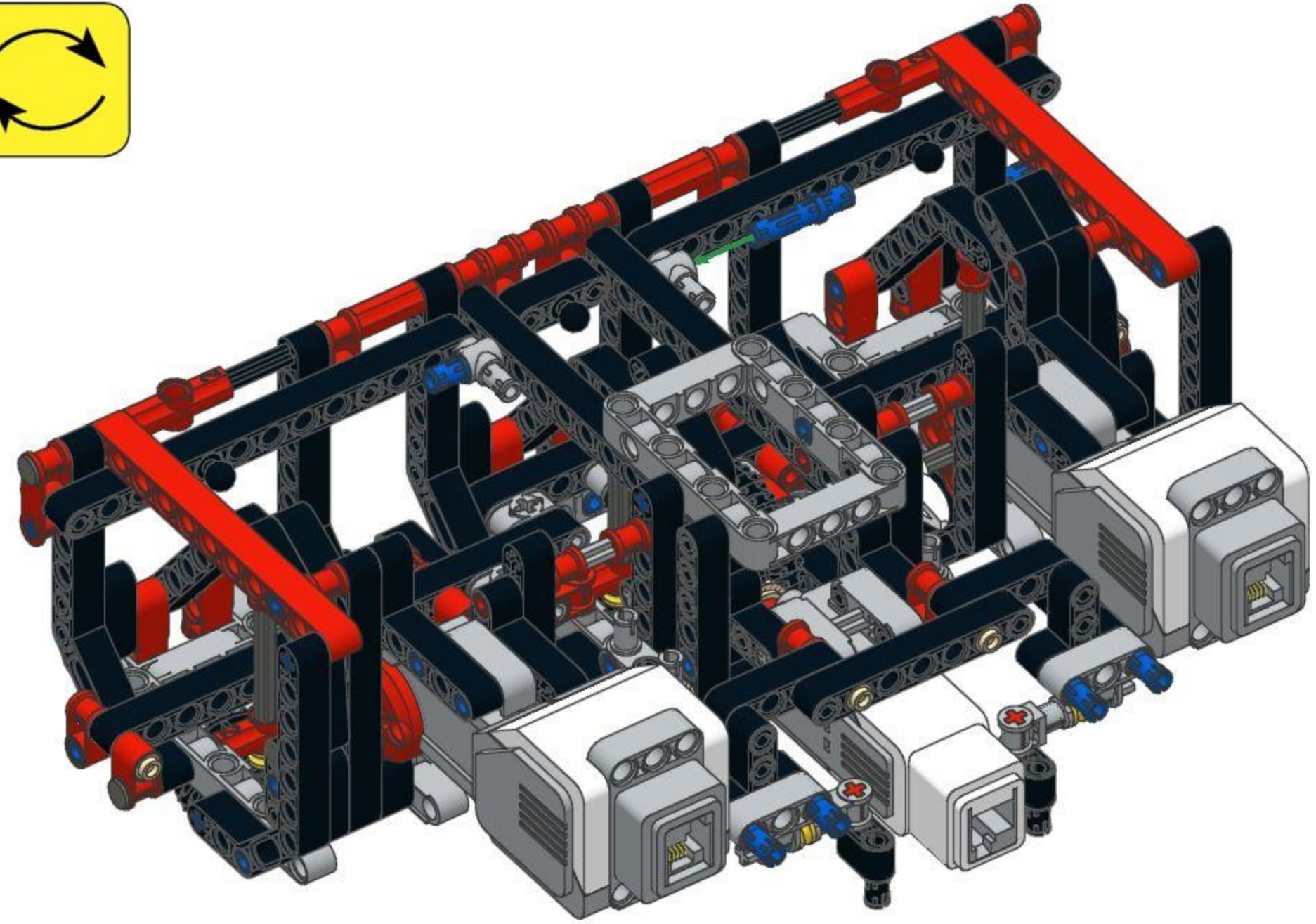


9



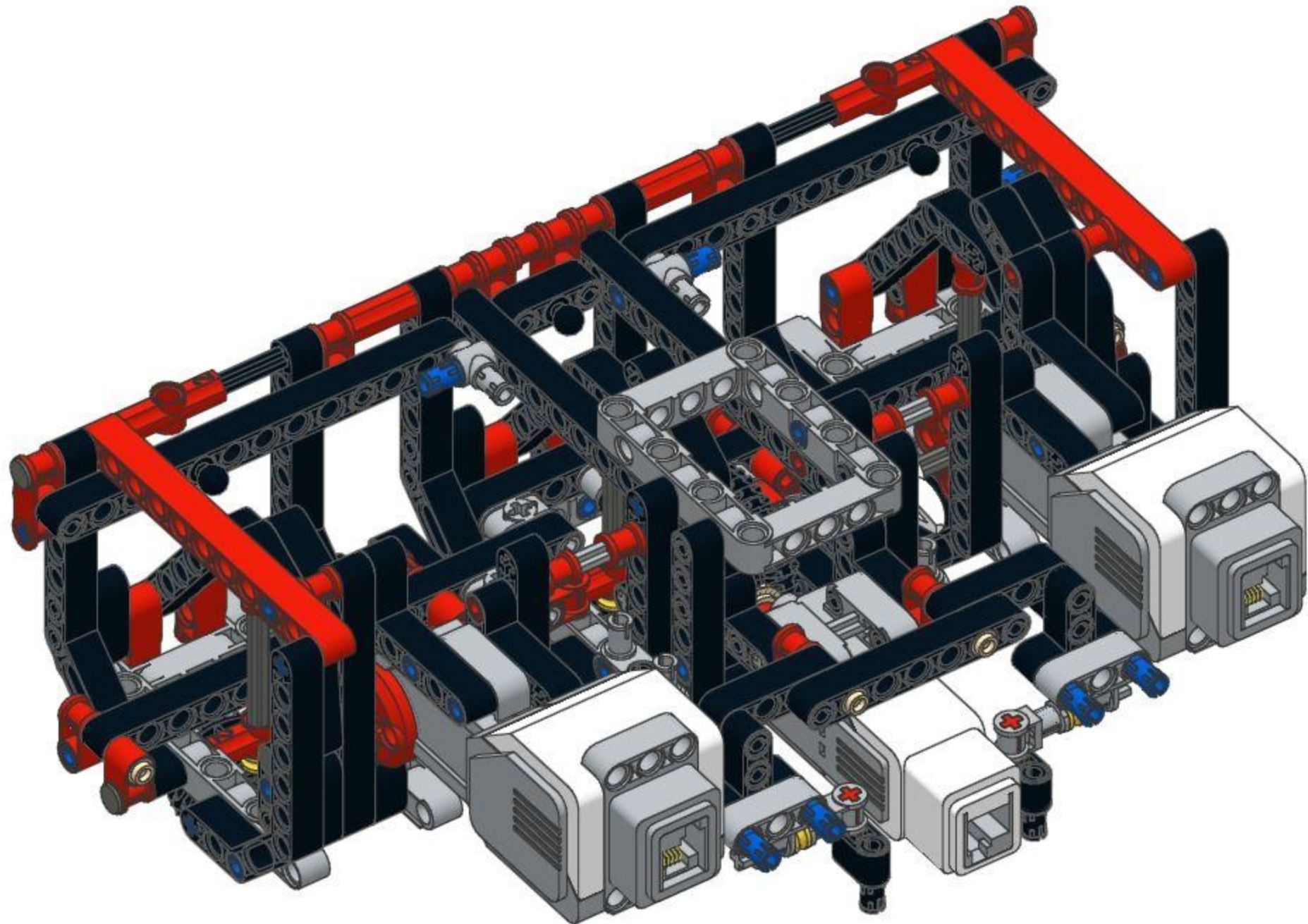


10   
1x





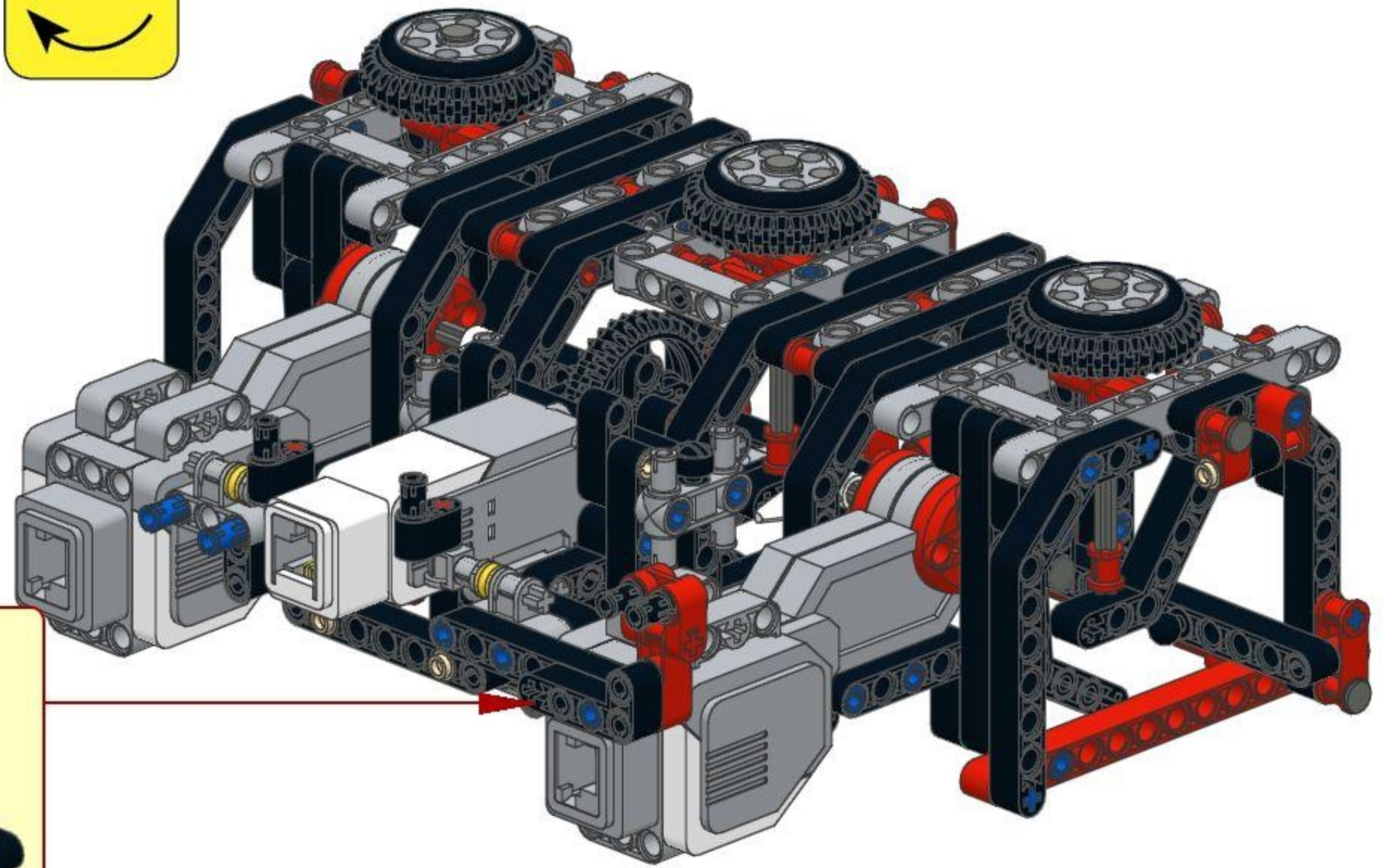
11





# 12

<b>1x</b>	<b>6x</b>	<b>1x</b>
<b>1x</b>	<b>1x</b>	<b>1x</b>
<b>1x</b>	<b>1x</b>	<b>1x</b>



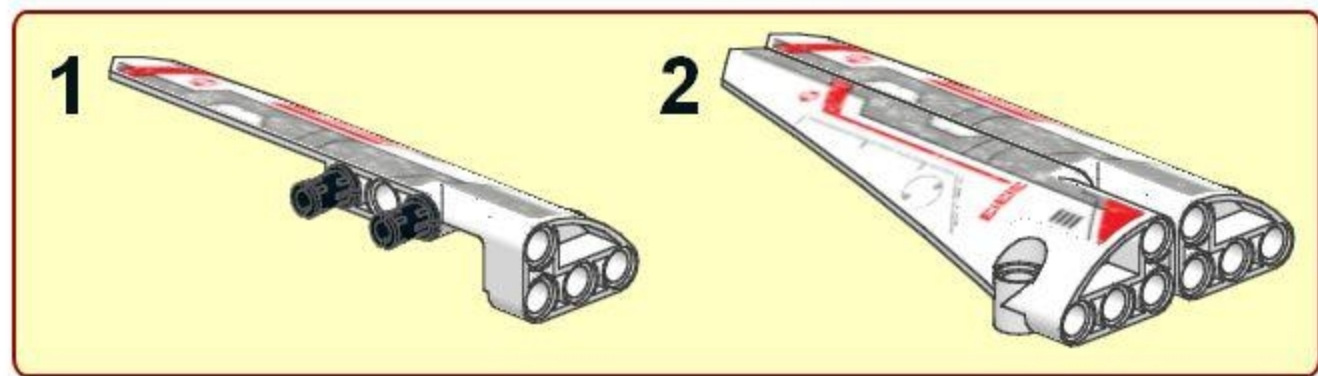
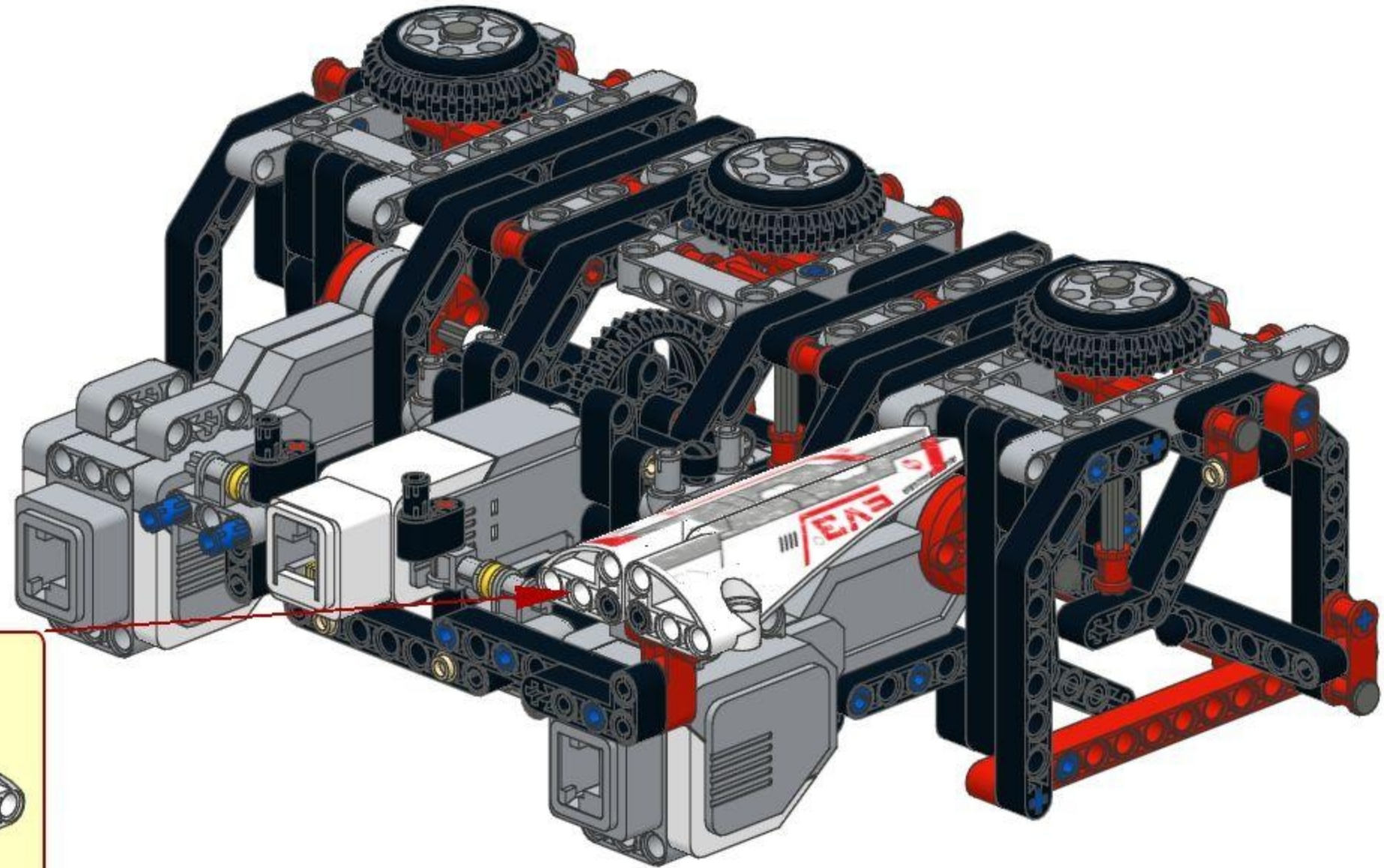
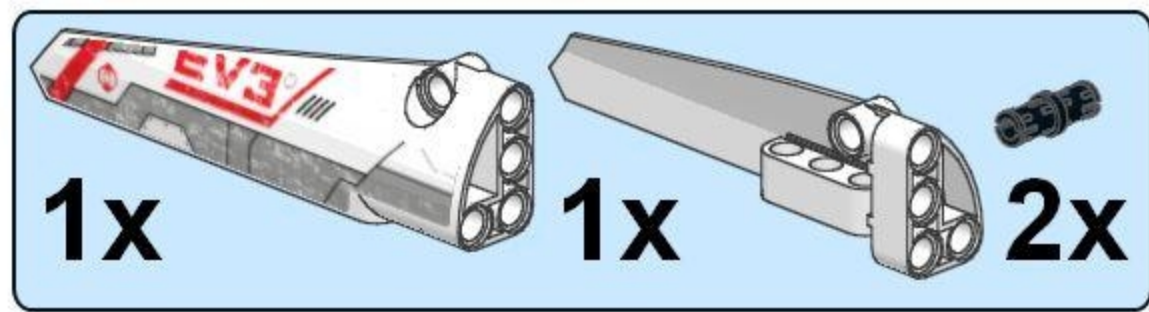
**1**

**2**

**3**

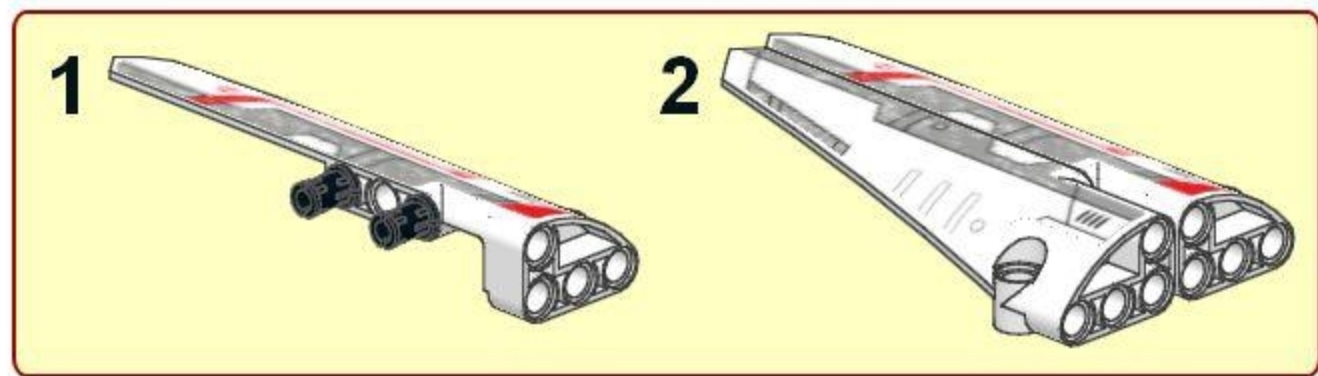
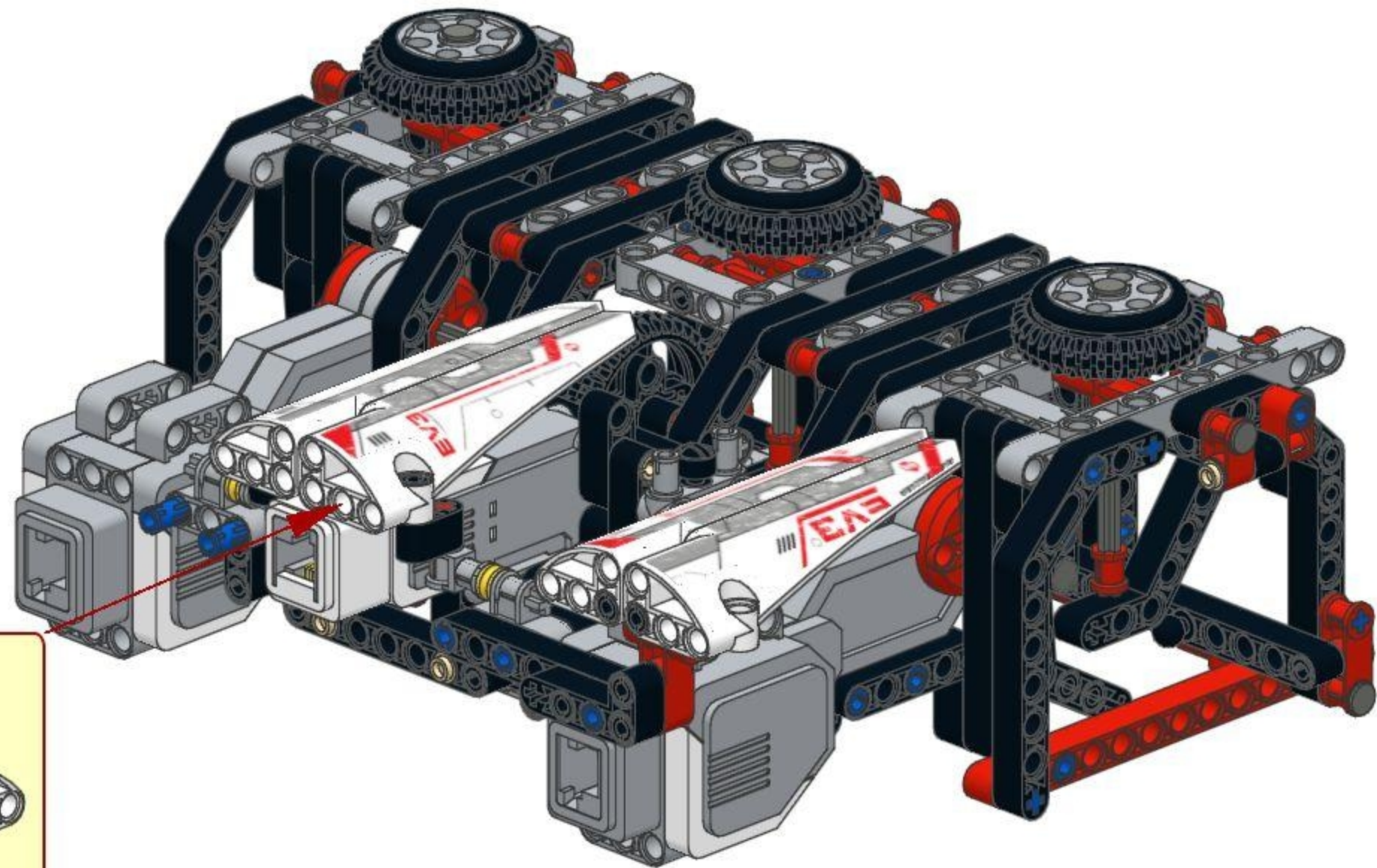
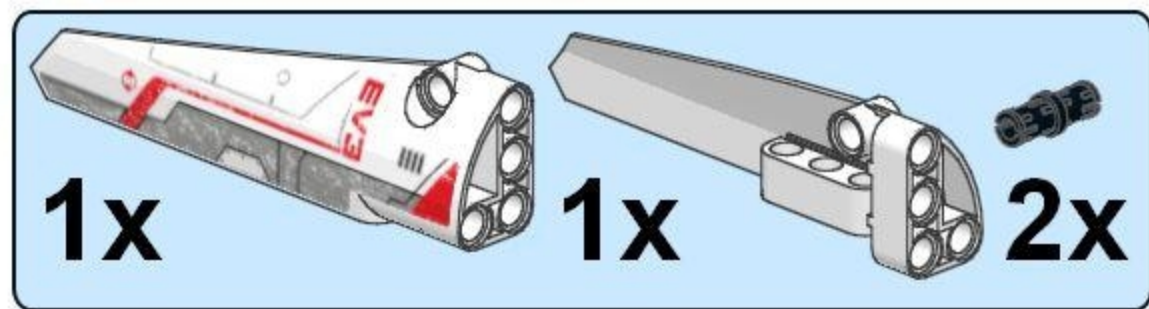


# 13





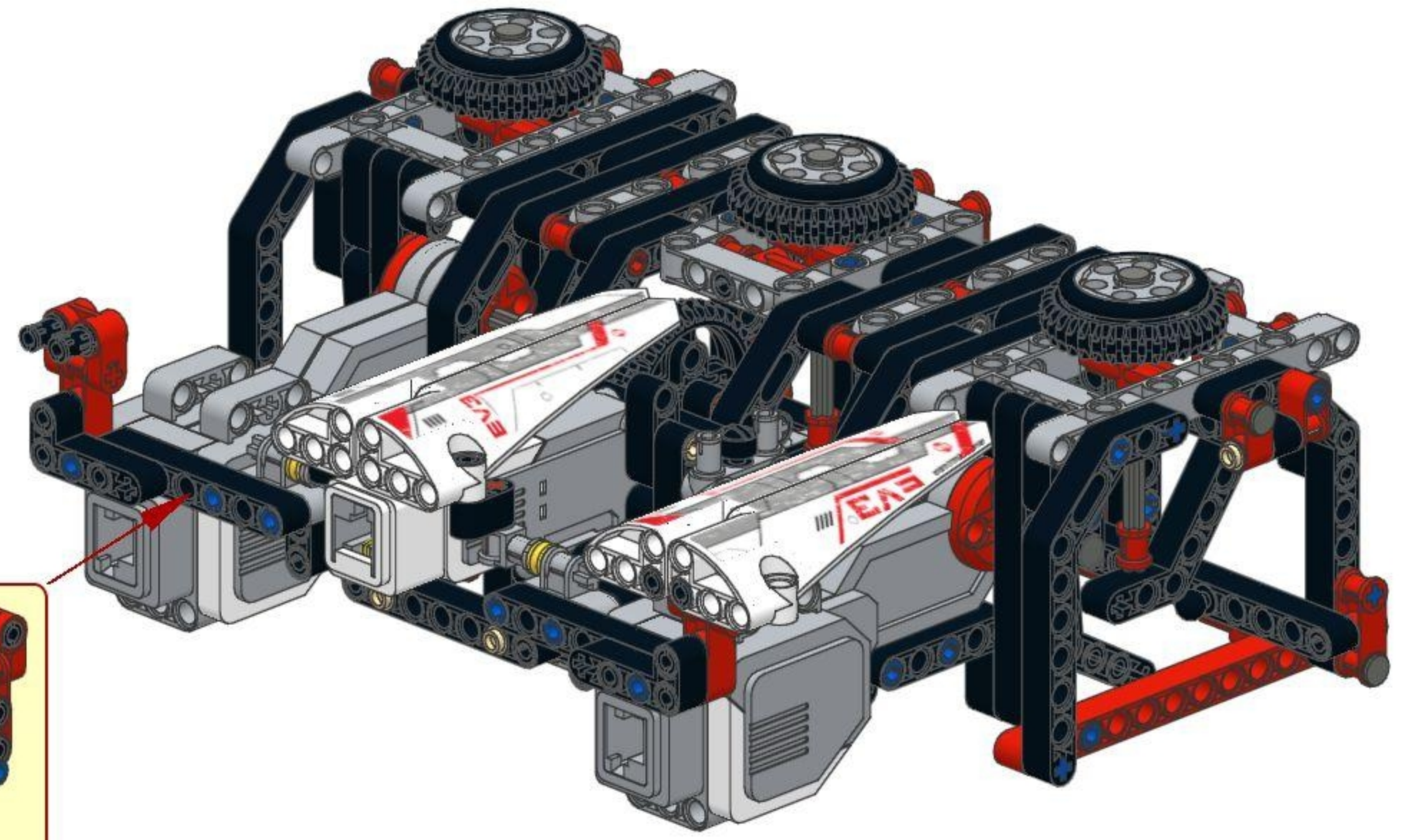
14





# 15

<b>1x</b>	<b>6x</b>	<b>6x</b>
<b>1x</b>	<b>1x</b>	<b>1x</b>
<b>1x</b>	<b>1x</b>	<b>2</b>
<b>1x</b>	<b>1x</b>	<b>1x</b>

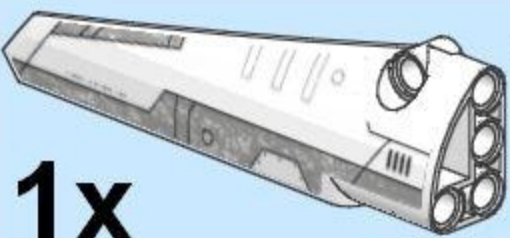


<b>1</b>	<b>2</b>	<b>3</b>

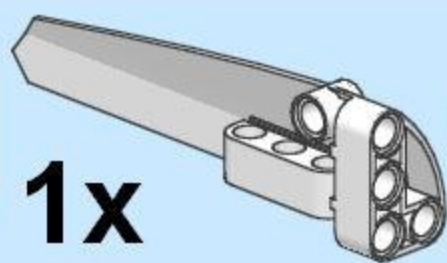


# 16

1x



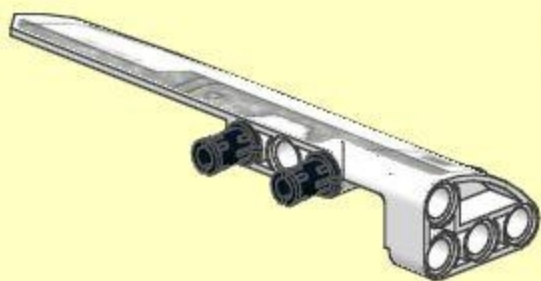
1x



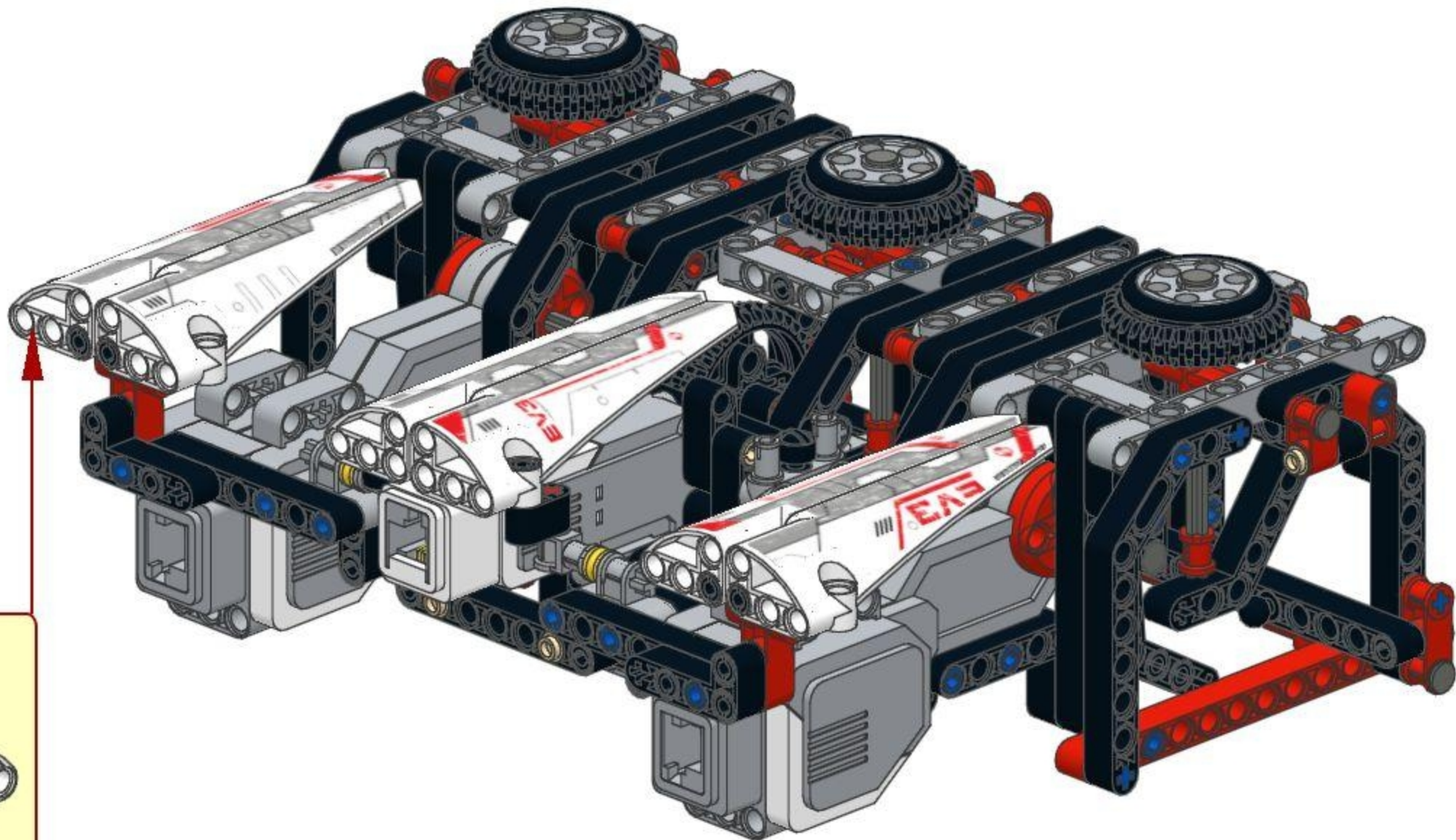
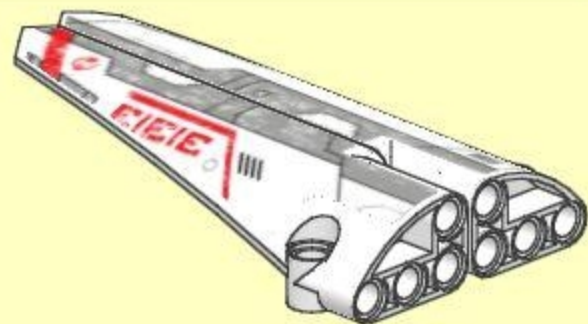
2x



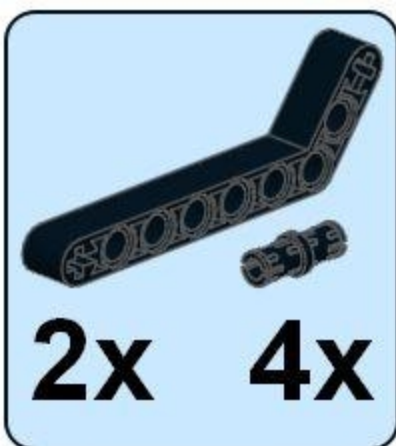
1



2

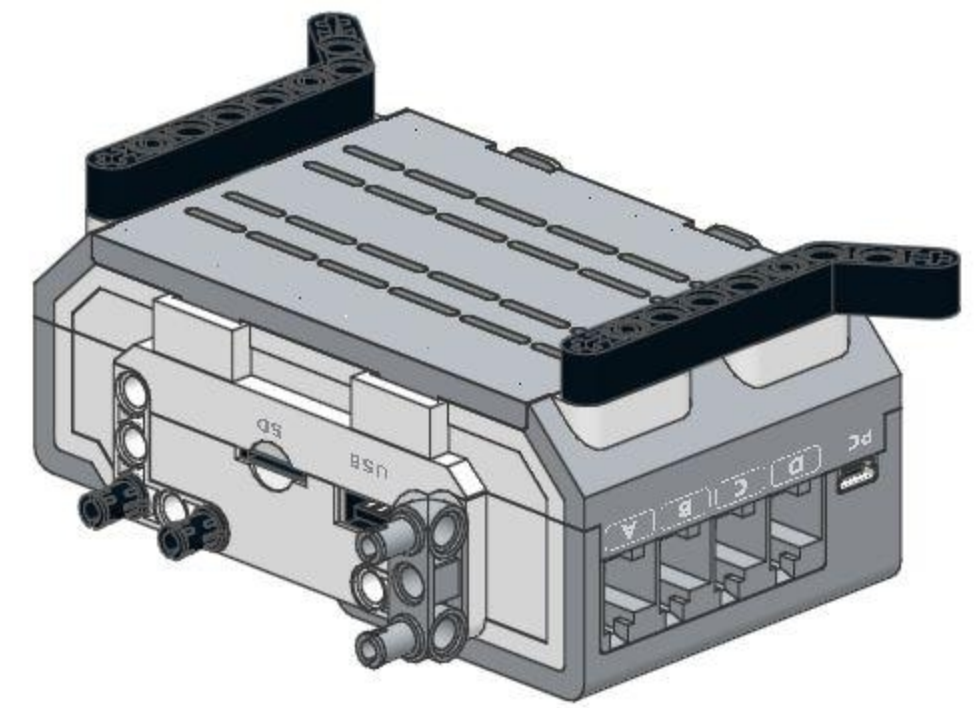
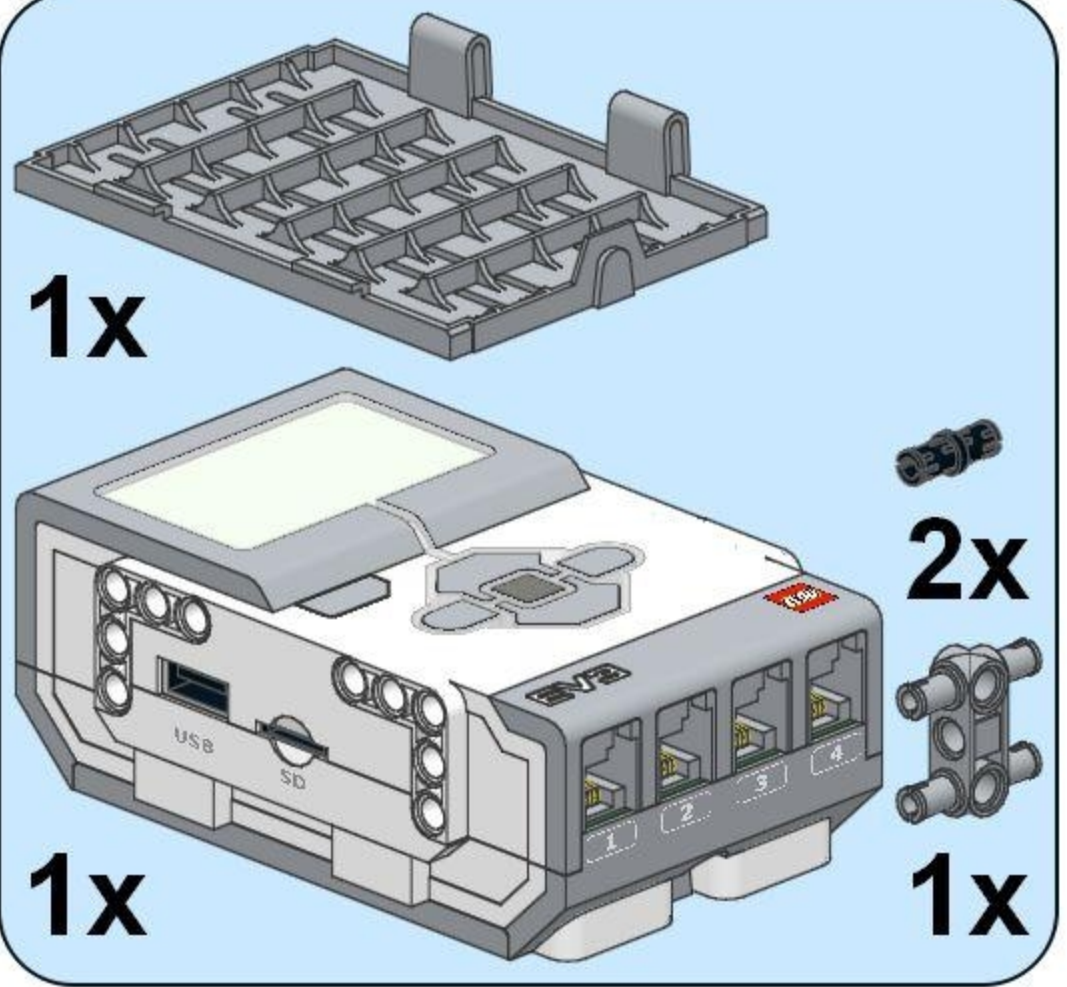


1





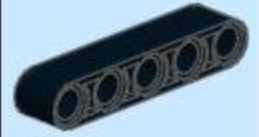
2



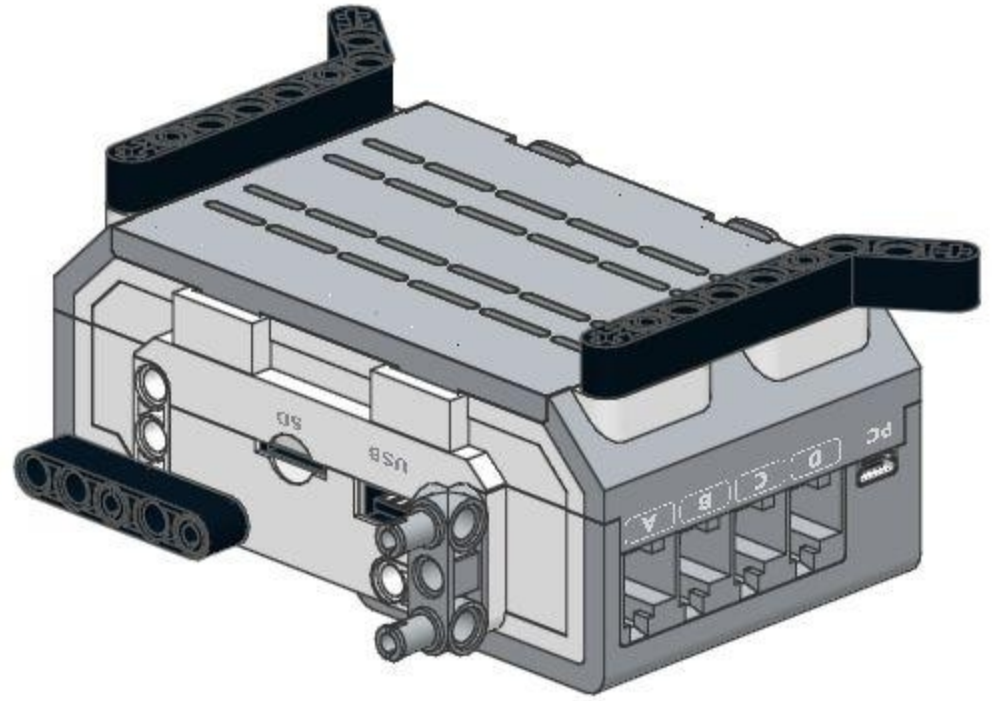


3

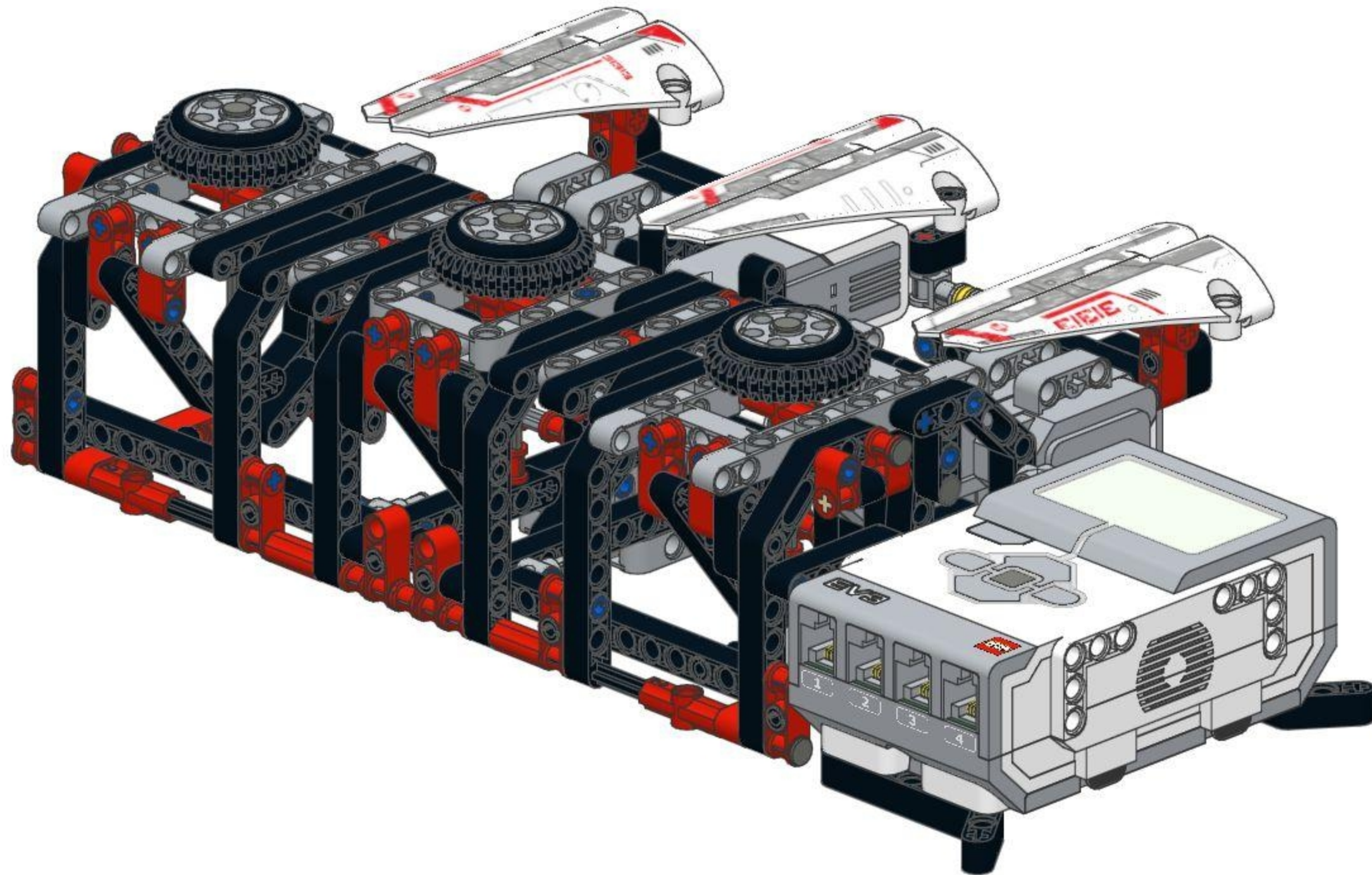
5



1x



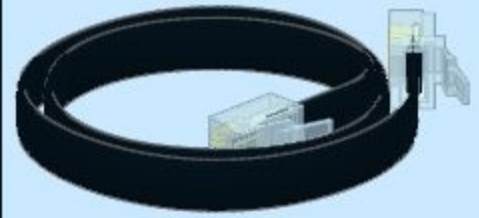
17



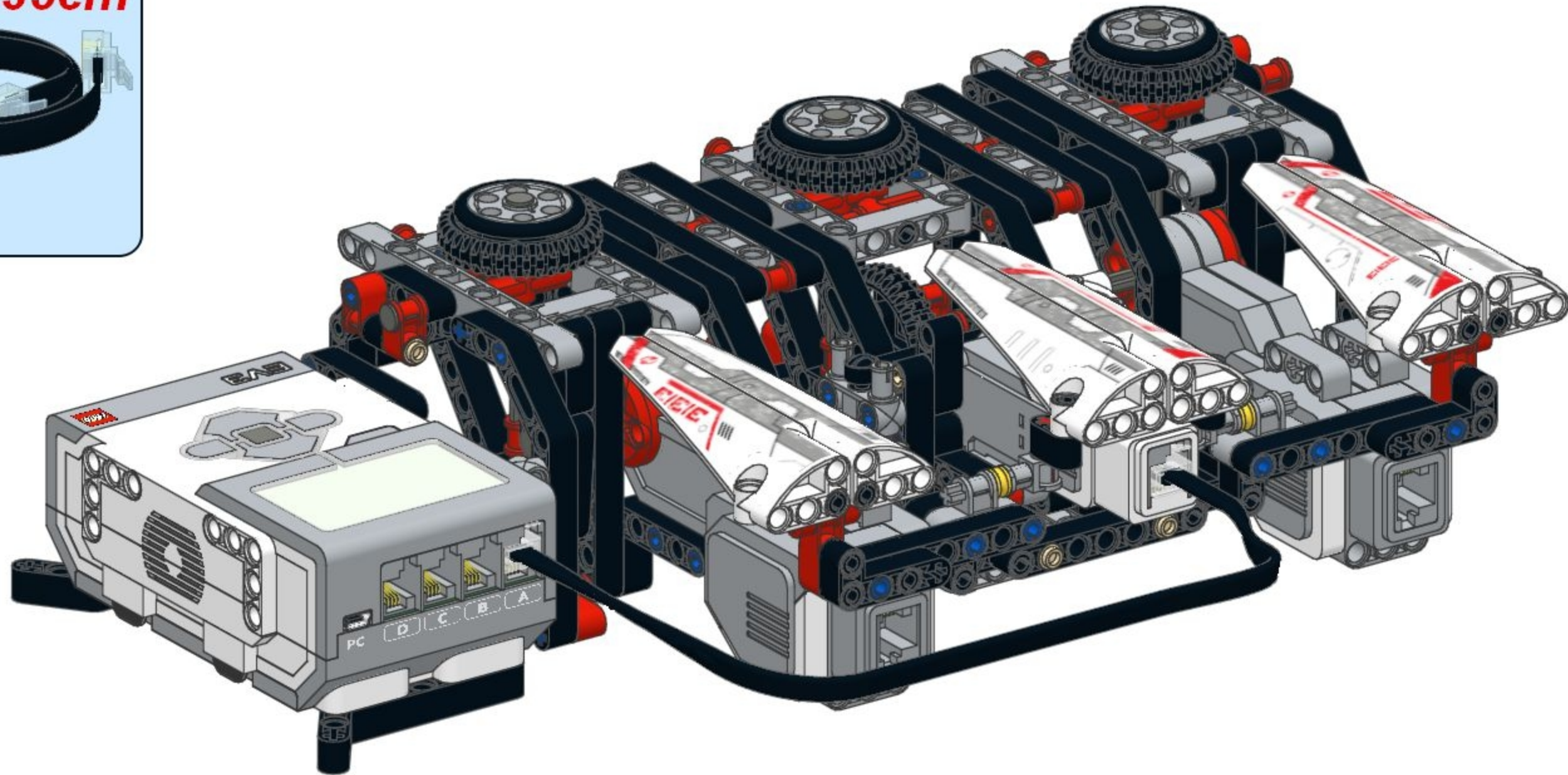


18

35cm



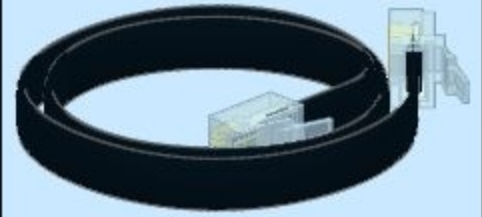
1x



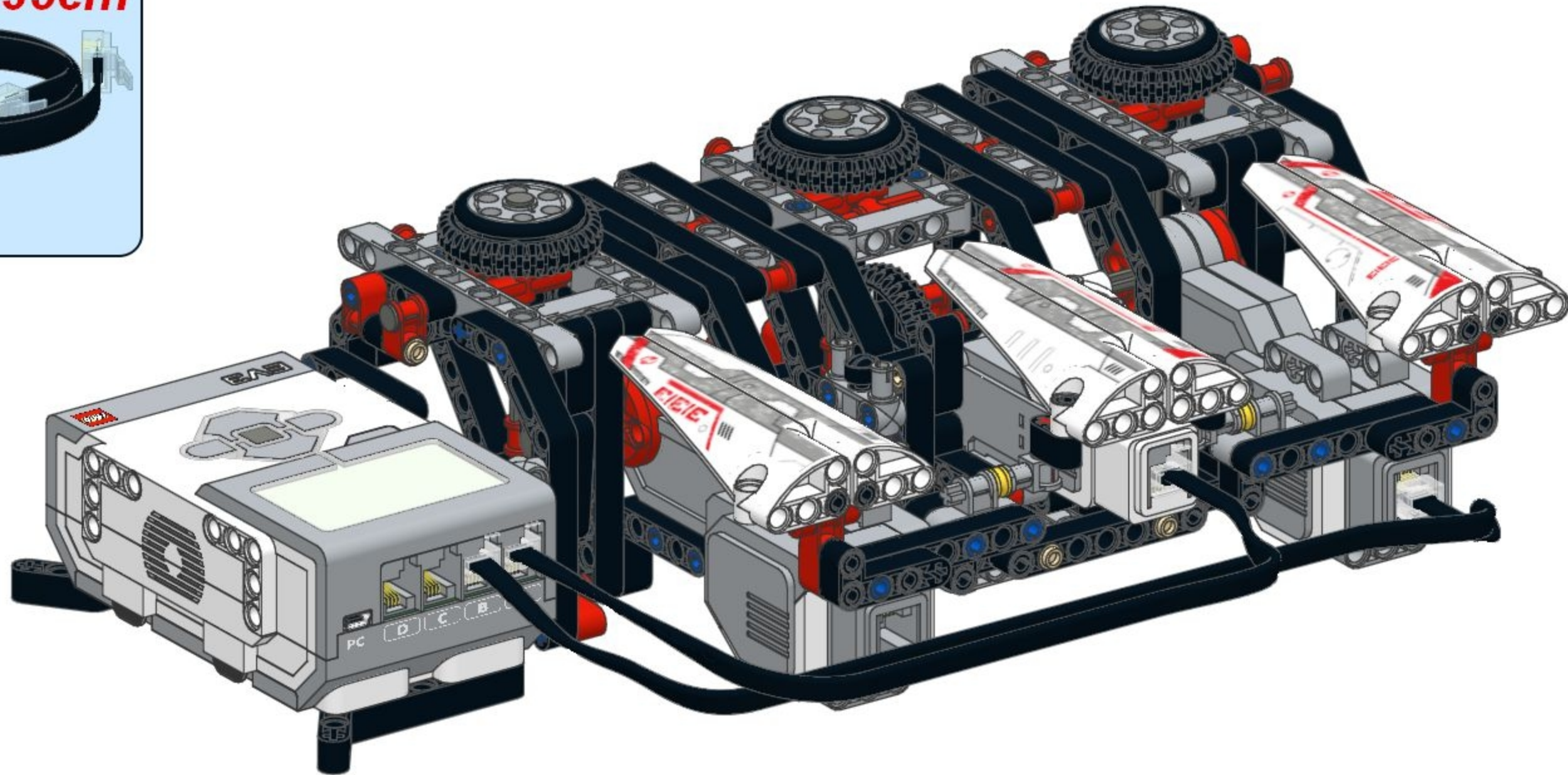


19

35cm



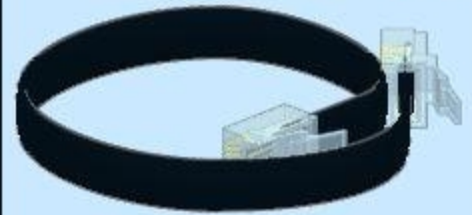
1x



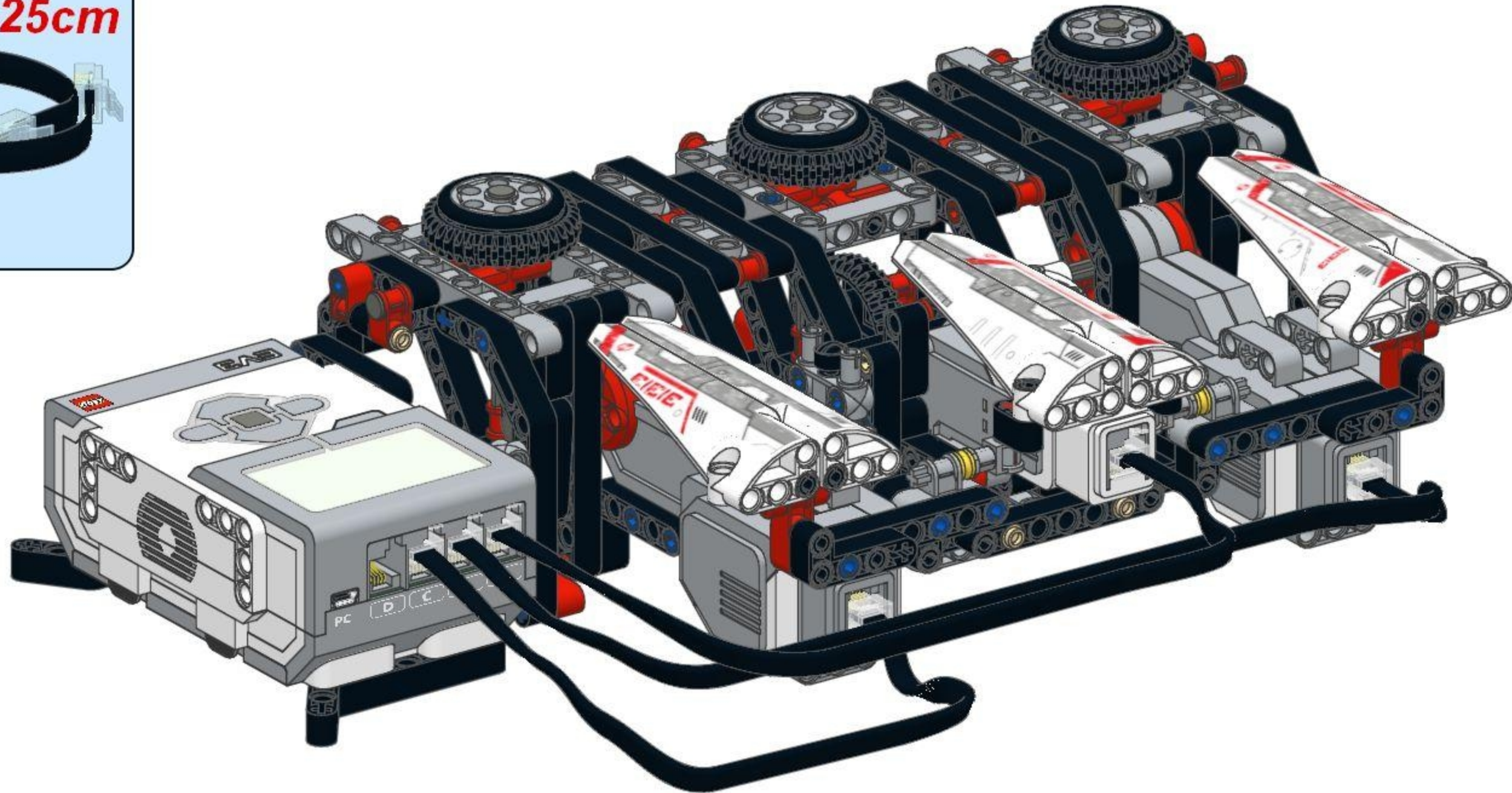


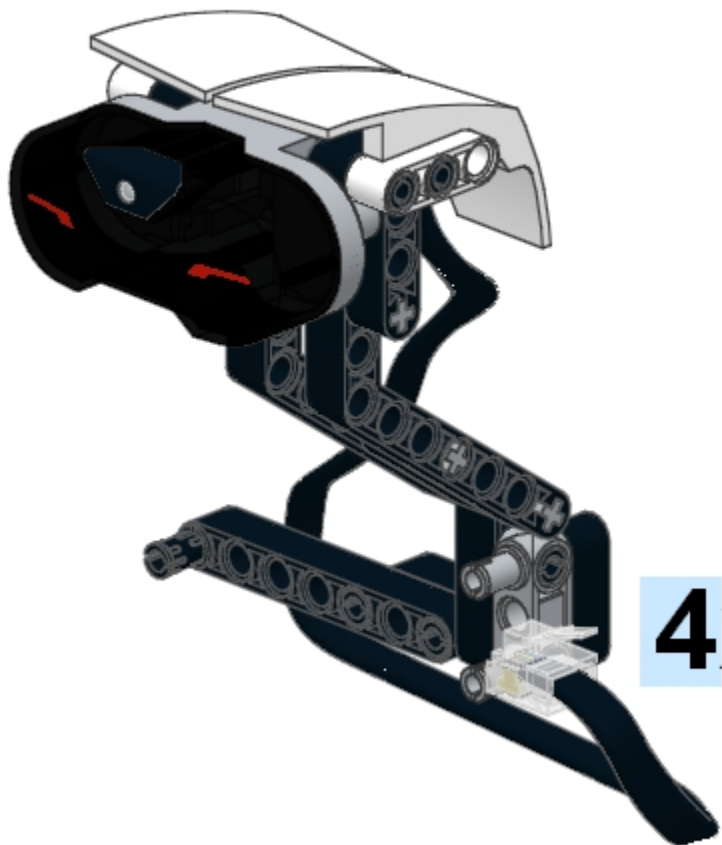
20

25cm



1x

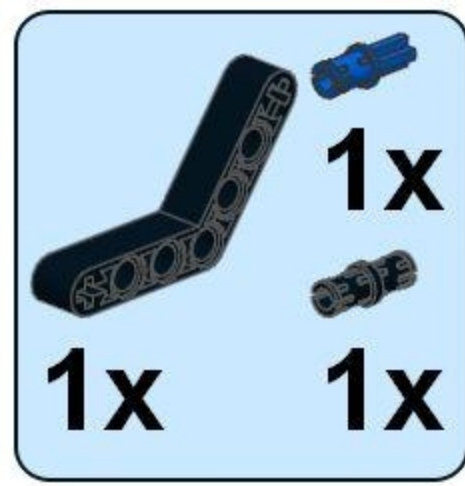




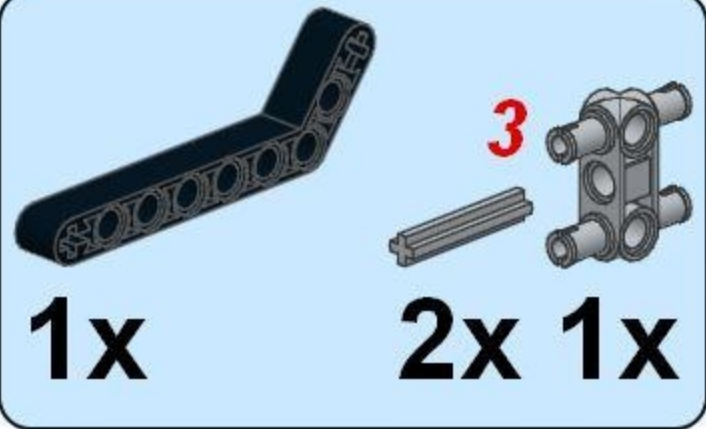
4



1



2



1x 2x 1x

3

This block contains a parts list for step 2. It features a light blue background with a black border. On the left is a black L-shaped Technic beam with 5 holes on the long side and 2 on the short side, labeled '1x'. In the center is a grey Technic axle, labeled '3' in red. On the right is a grey Technic connector with four pins, labeled '1x'.



3



2x



1x 5

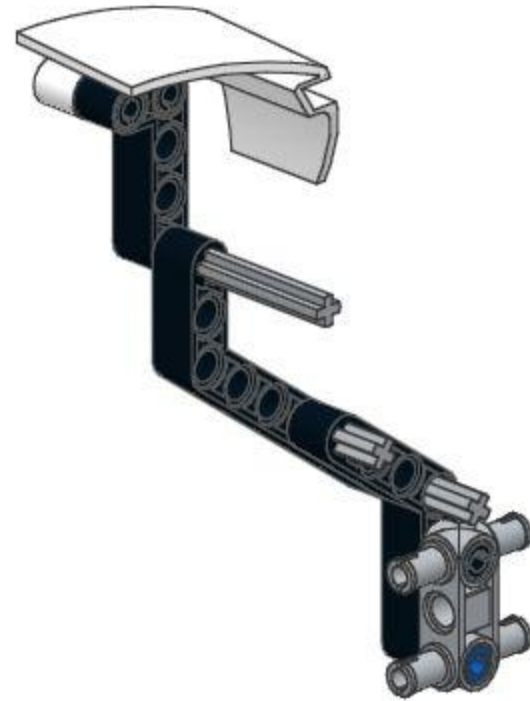
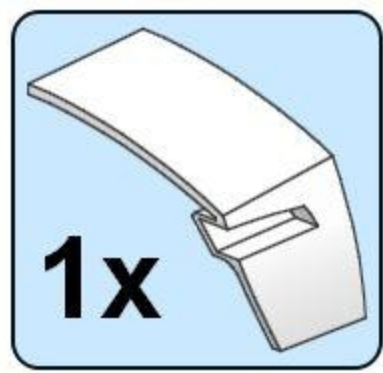


1x

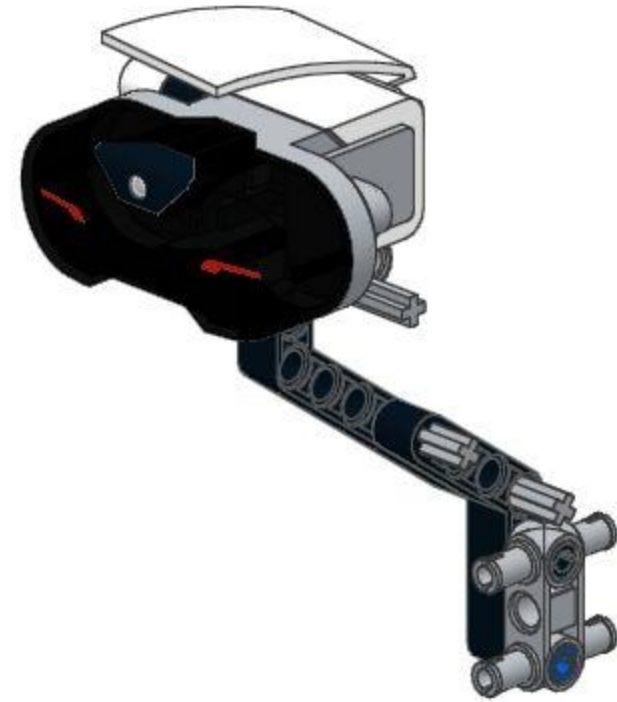
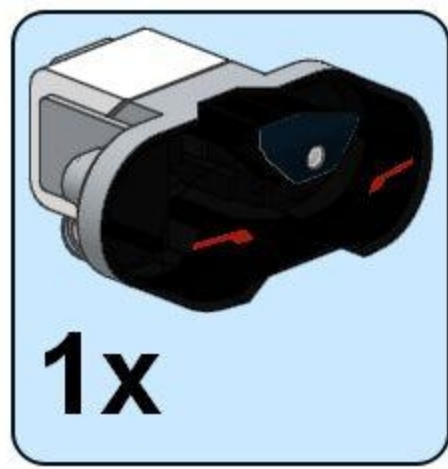




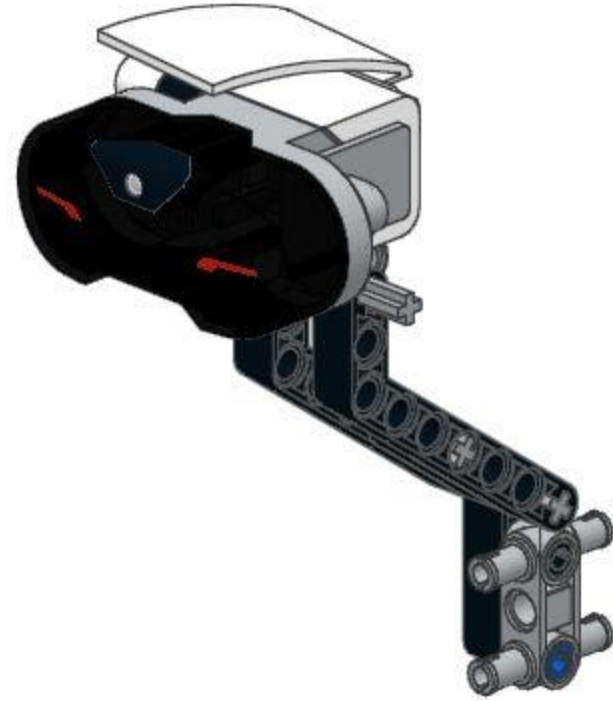
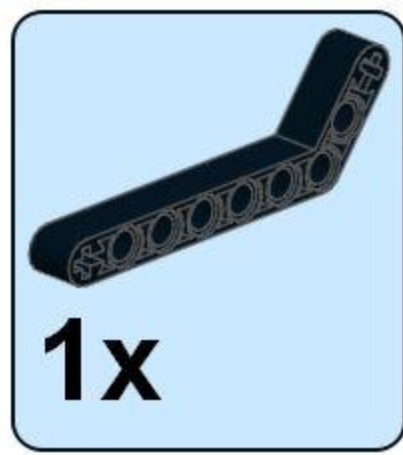
4



5

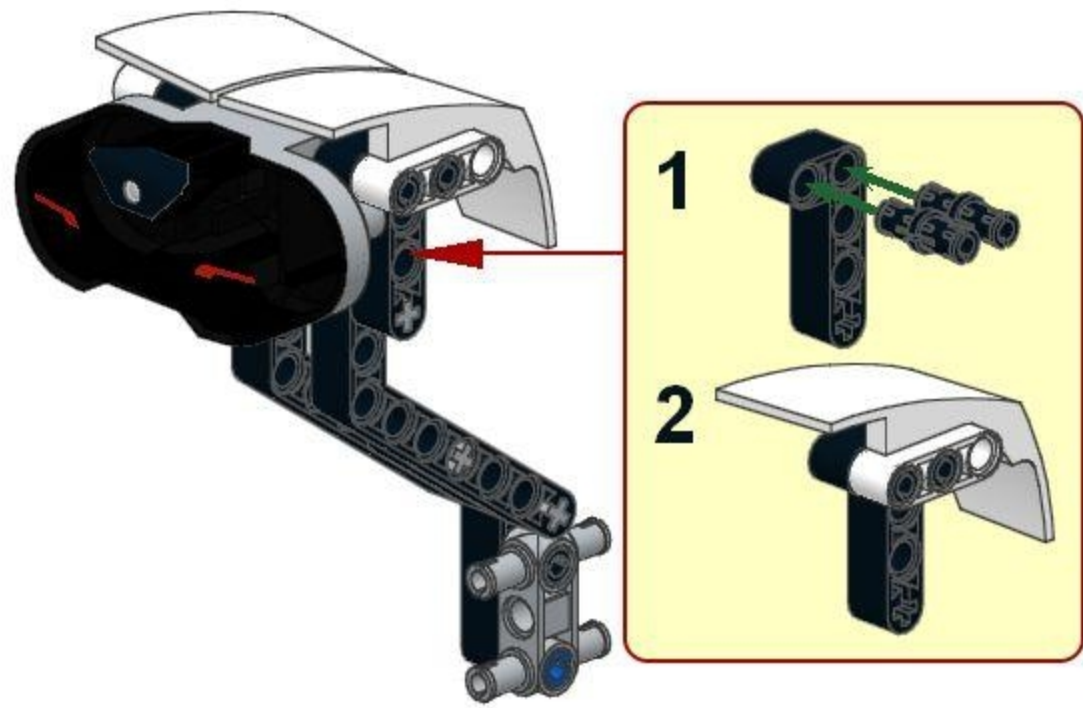
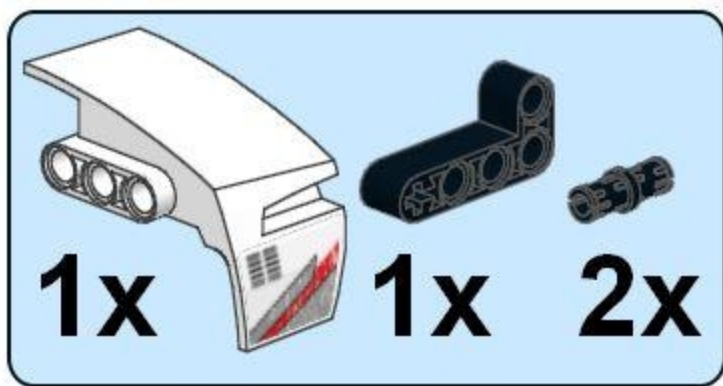


6



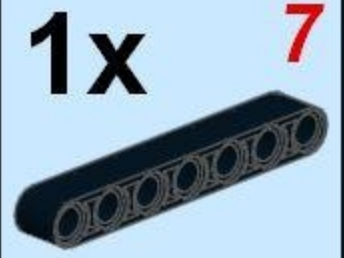





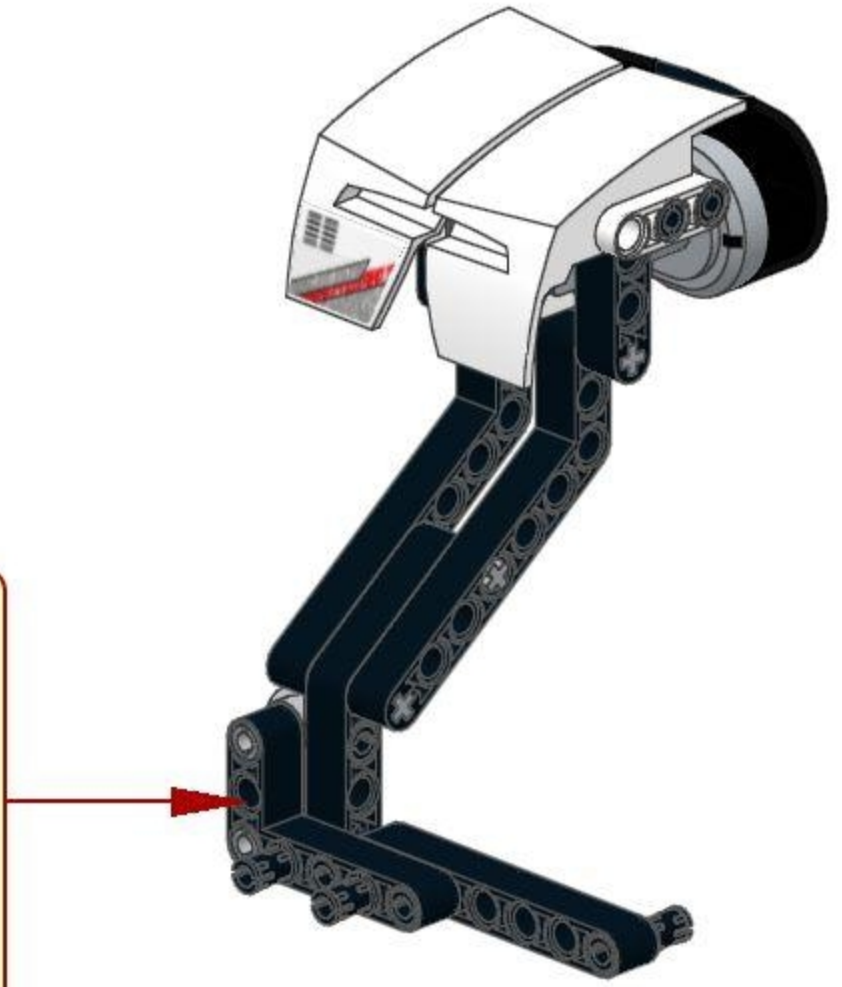
7



8

-  5x
-  1x
-  1x
-  1x

- 1 
- 2 



9

25cm

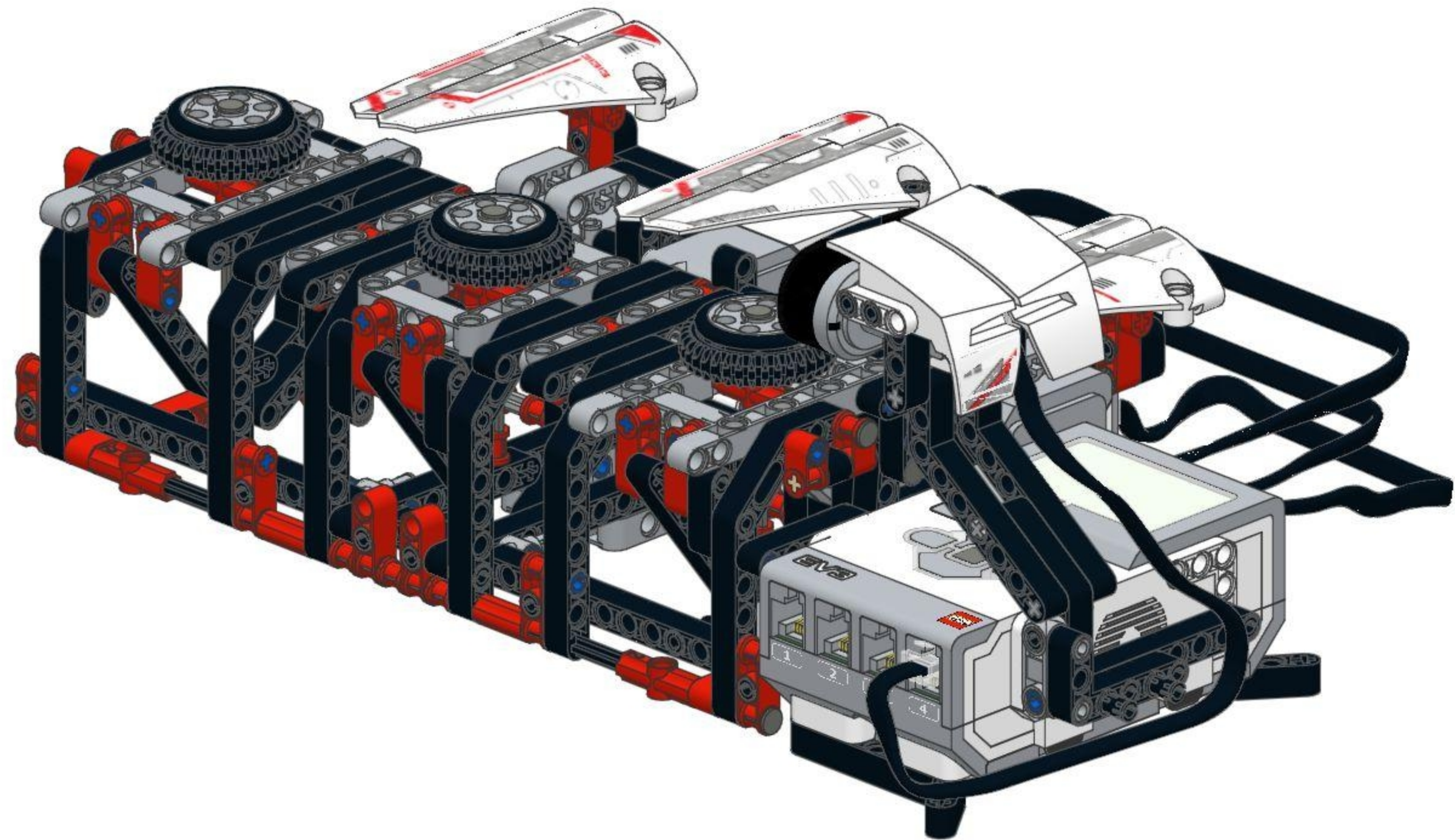


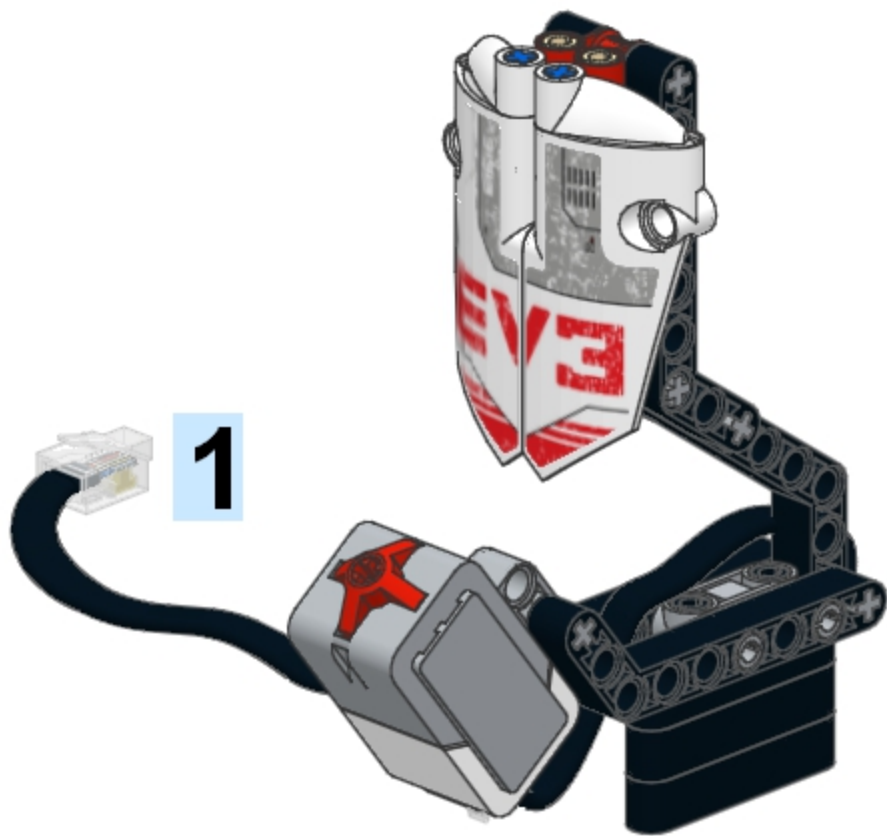
1x



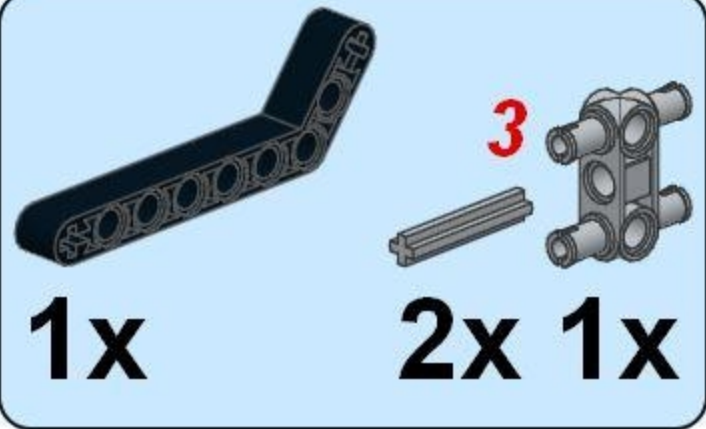


21





1



1x 2x 1x

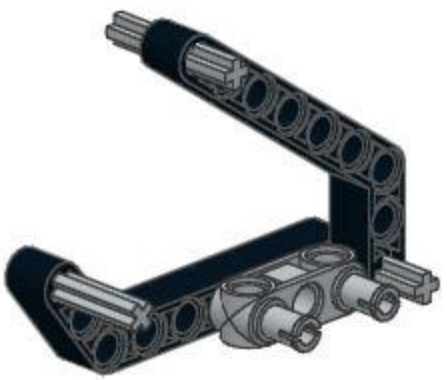
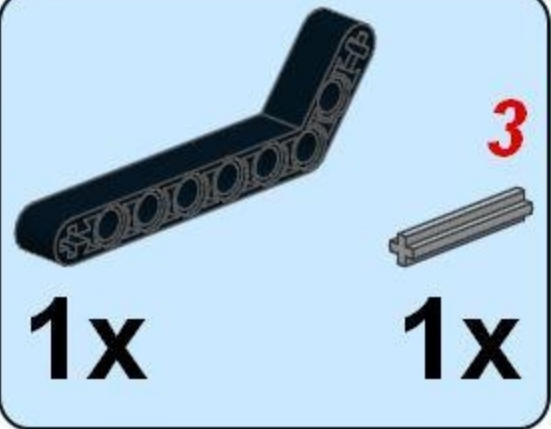
3

This block contains a parts list for step 1. It features a light blue background with a black border. On the left is a black L-shaped Technic beam with 6 holes. To its right are two grey Technic pins and one grey Technic connector with four ports. A red number '3' is positioned above the pins. Below the beam is the text '1x', below the pins is '2x', and below the connector is '1x'.

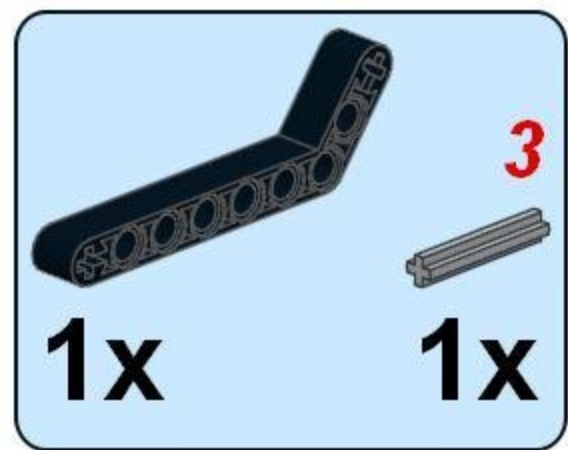




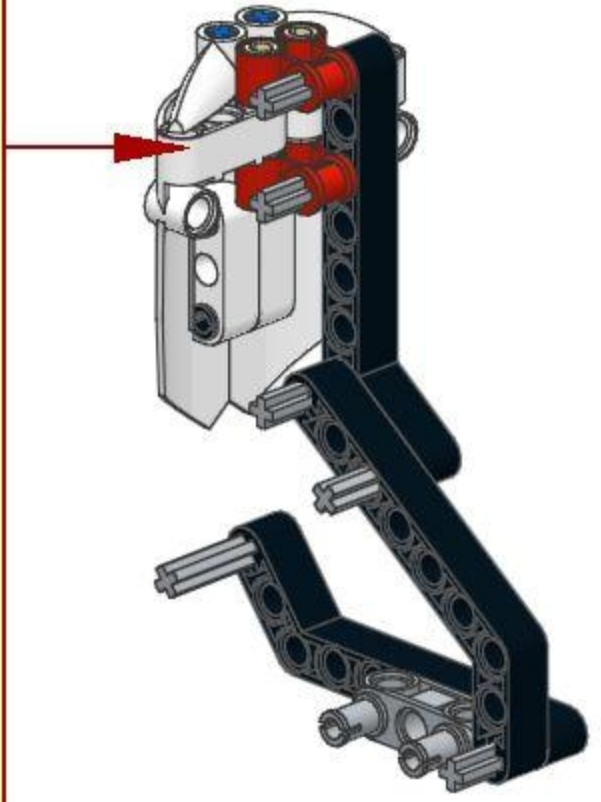
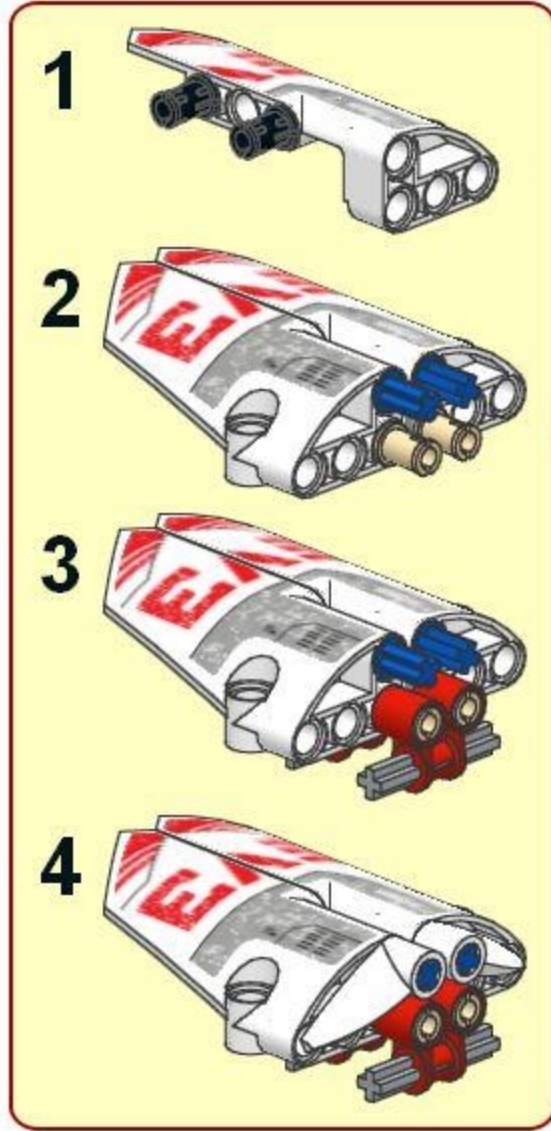
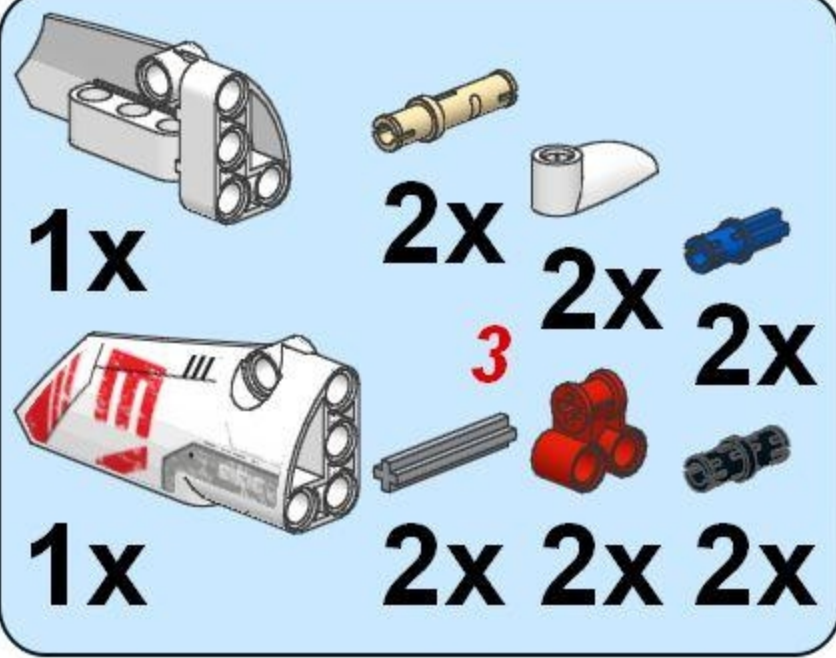
2



3

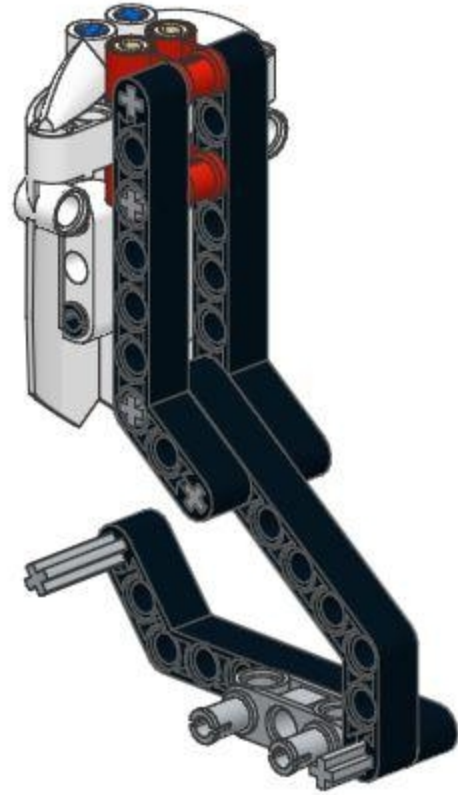
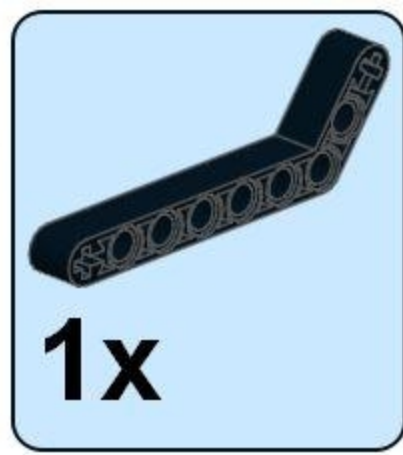


4

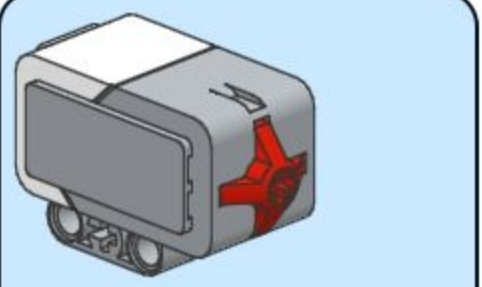




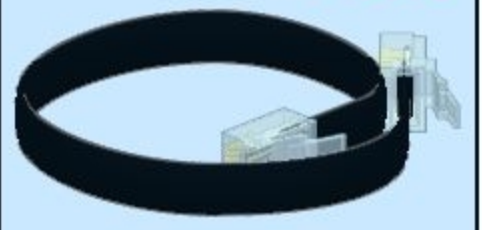
5



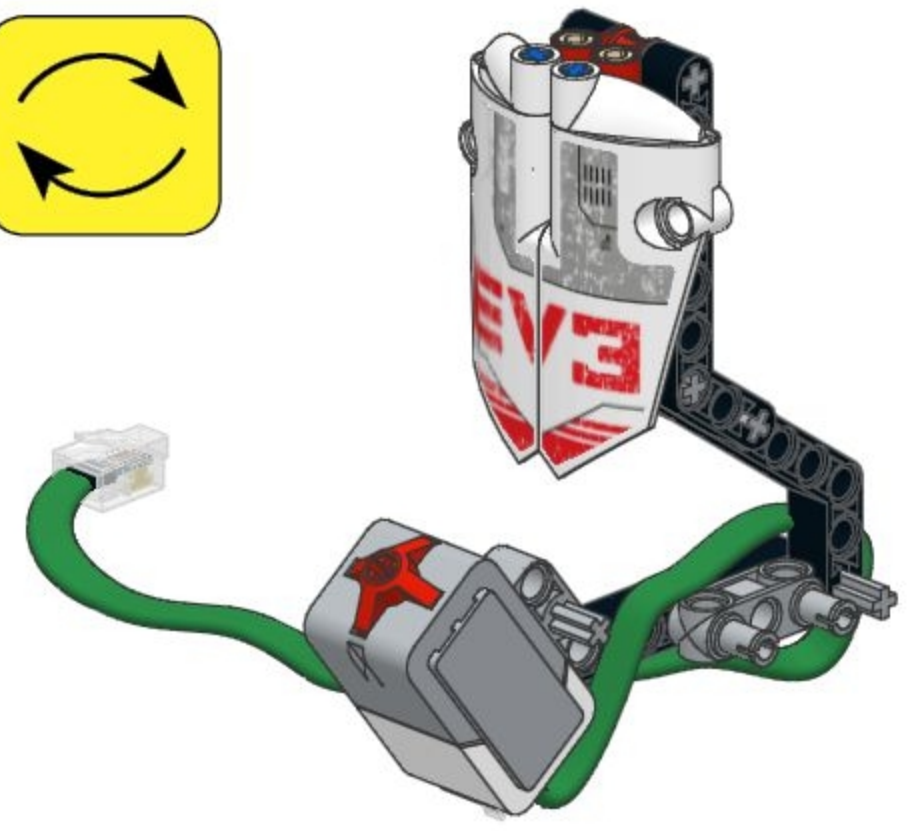
6



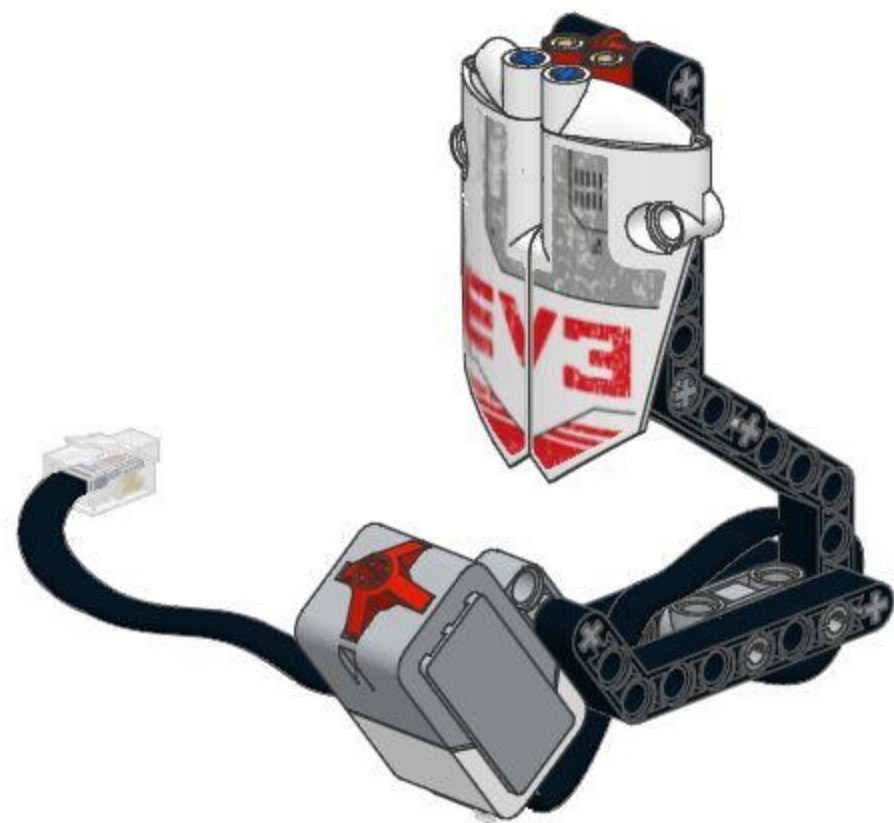
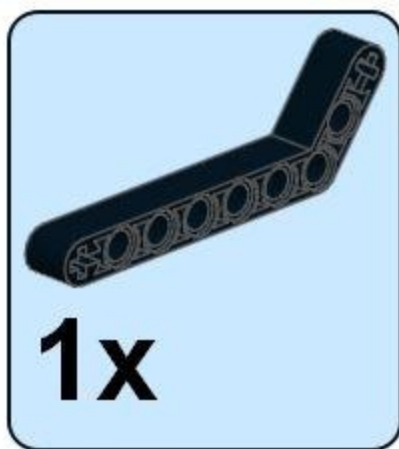
1x 25cm



1x



7





8

-  2x
-  2x
-  5
-  3x

