

LEGO mindstorms[®]
EV3

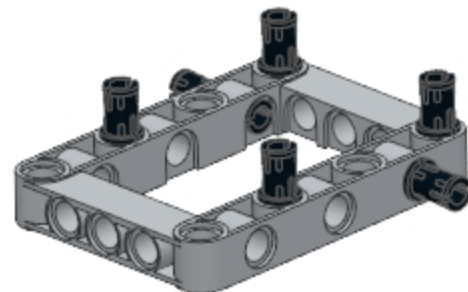
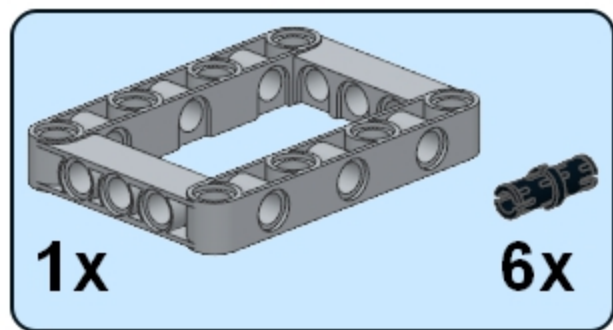


EV3D4

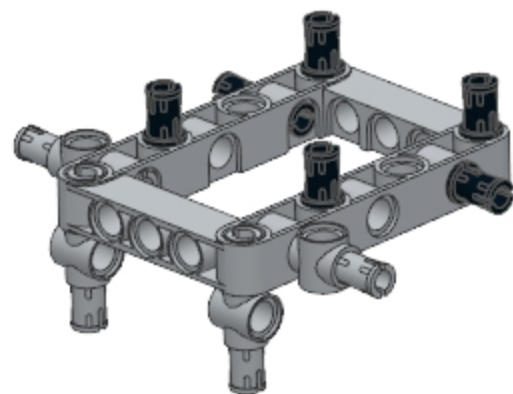
Model Design
and Programming Instructions
by: **Vassilis Chryssanthakopoulos**

Building Instructions
by: **Philippe "Philo" Hurbain**

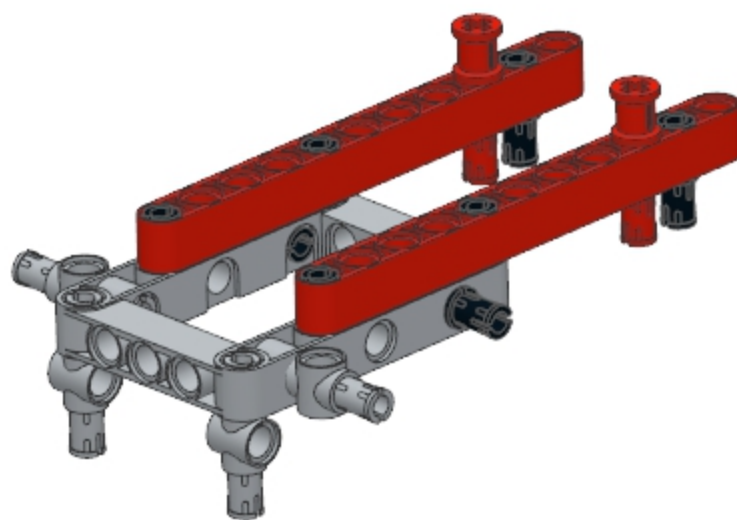
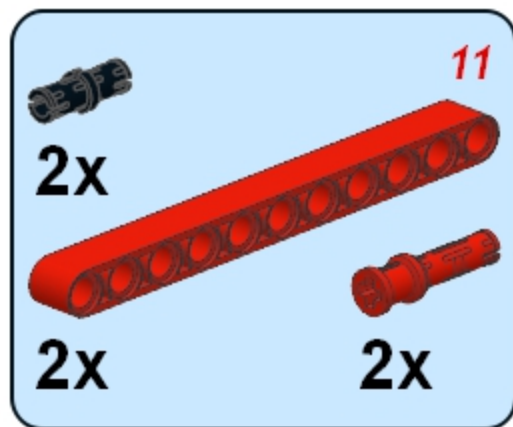
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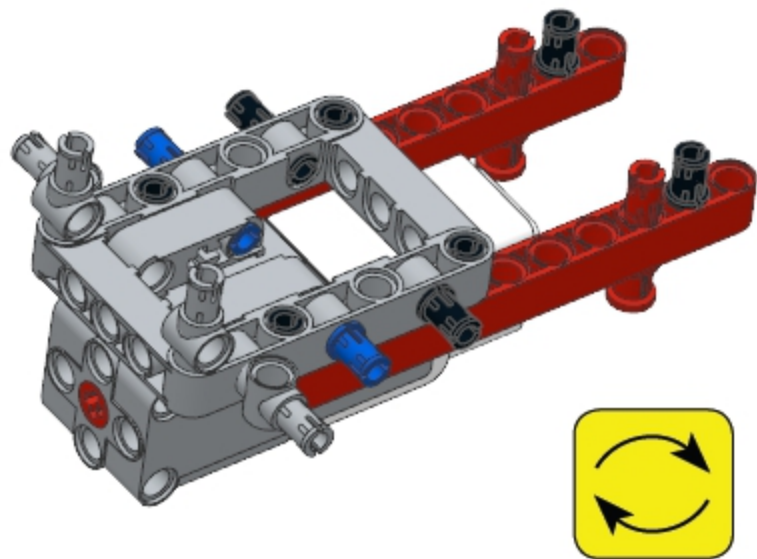
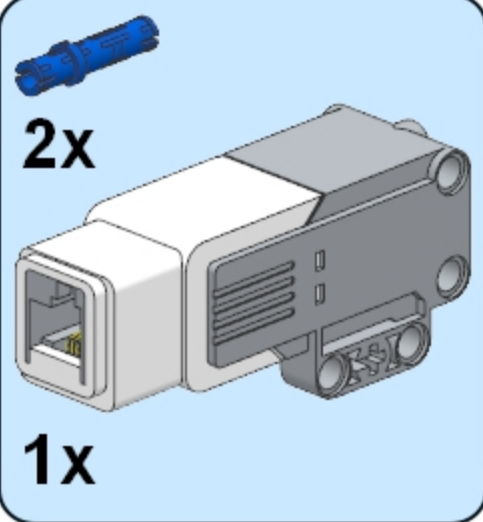
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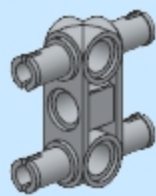
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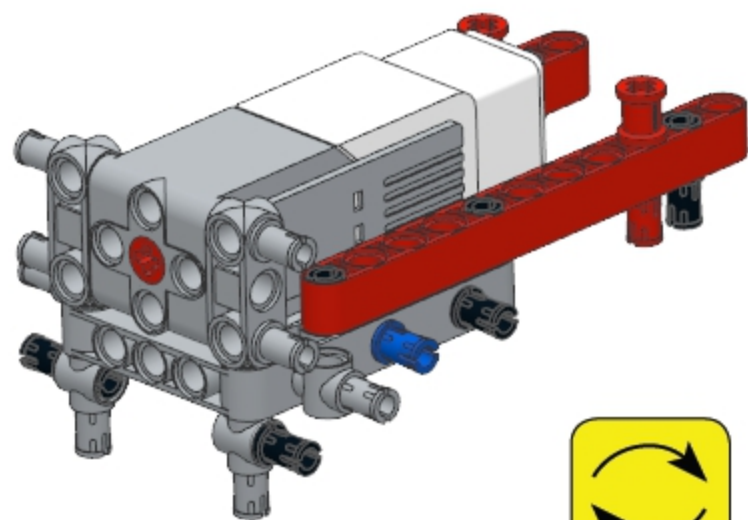
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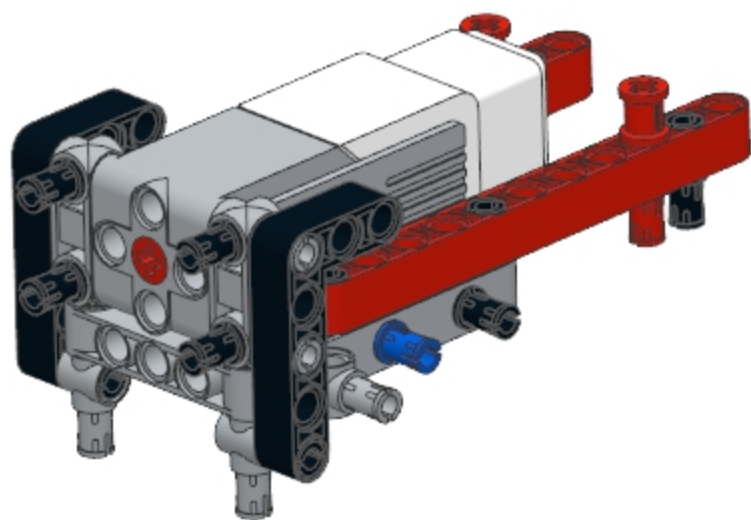
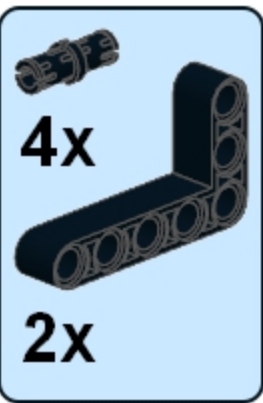
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2x

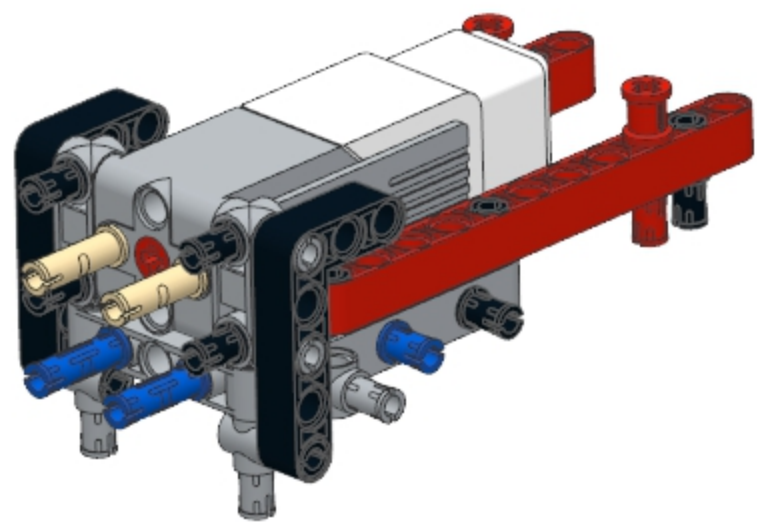


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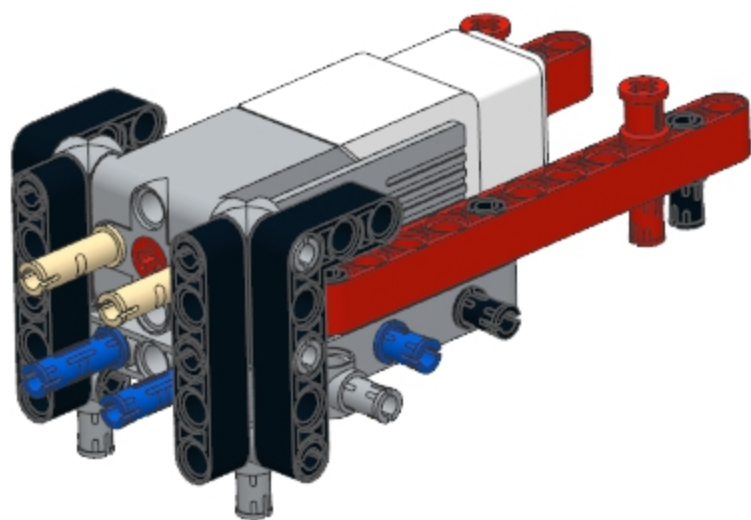
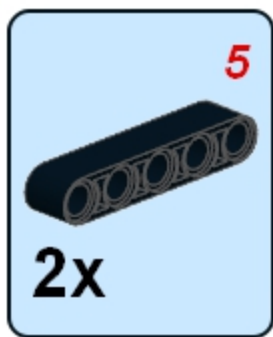


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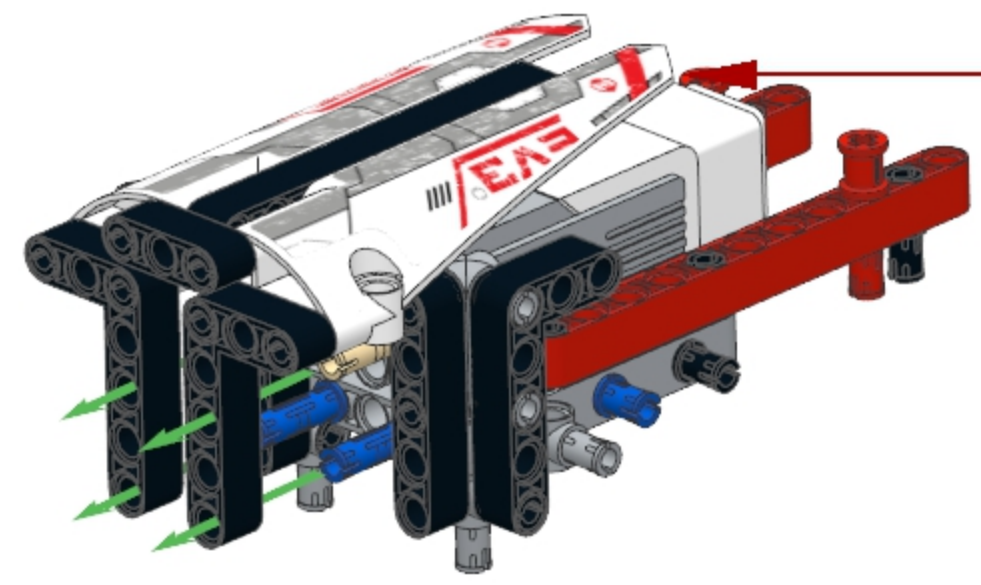


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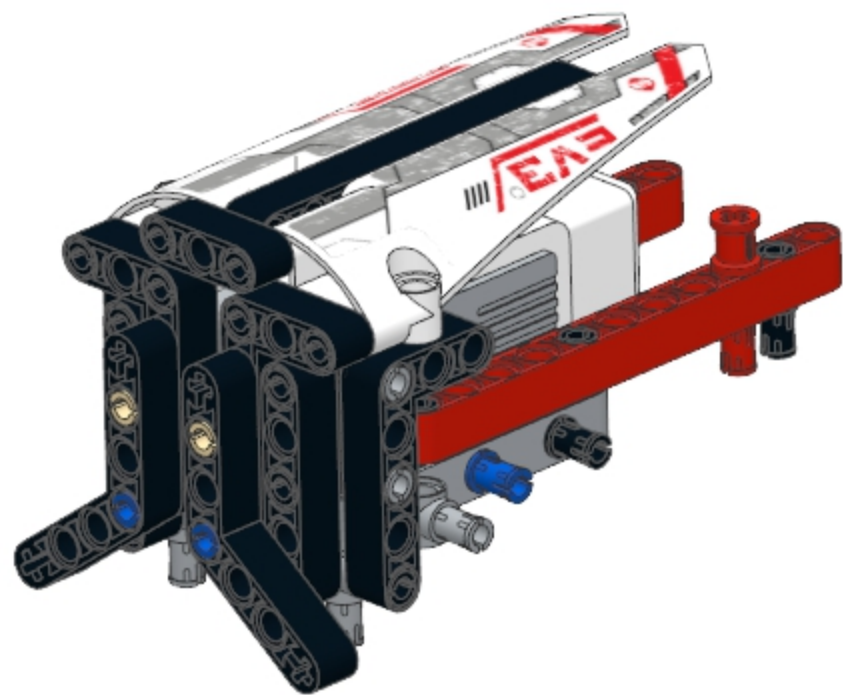
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- 2x
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- 1x
- 1x
- 1x
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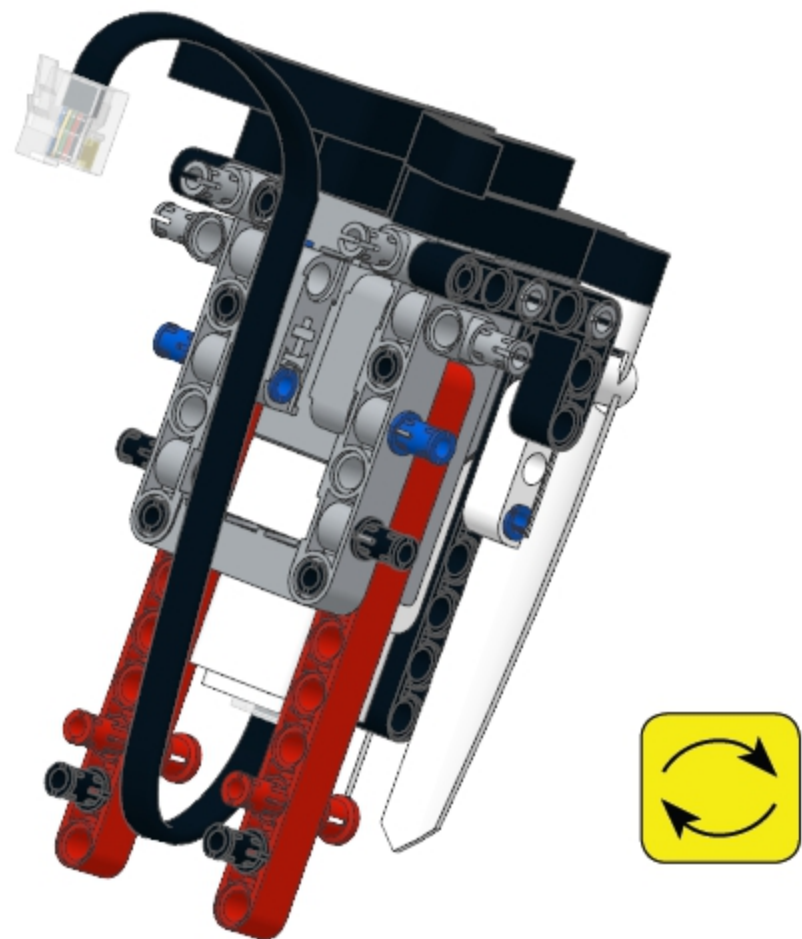
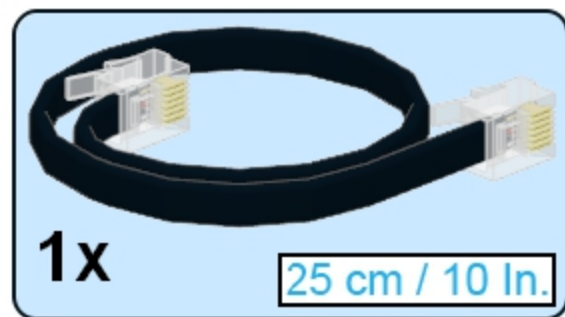


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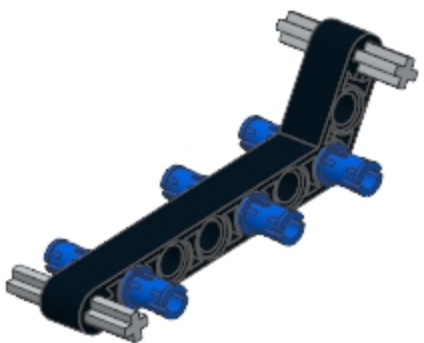
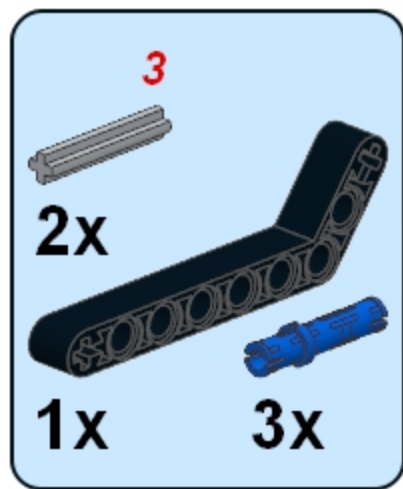
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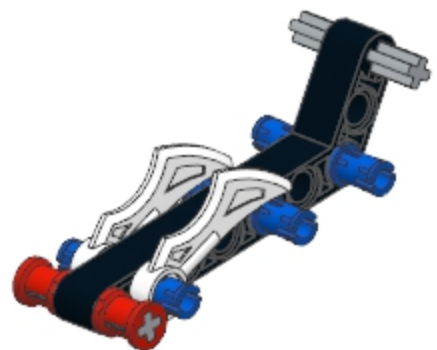
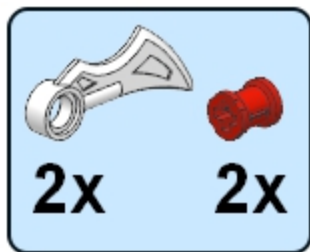
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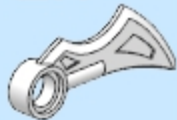
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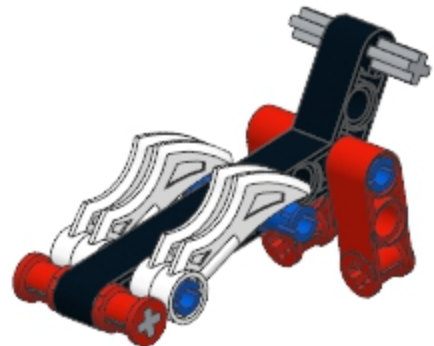
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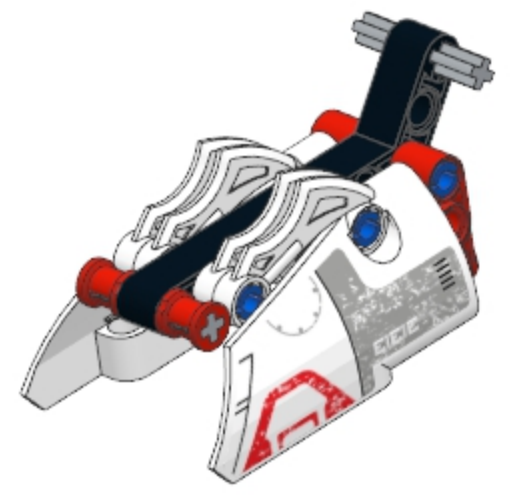
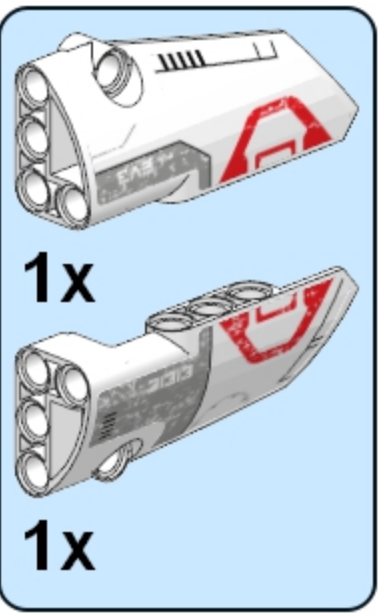
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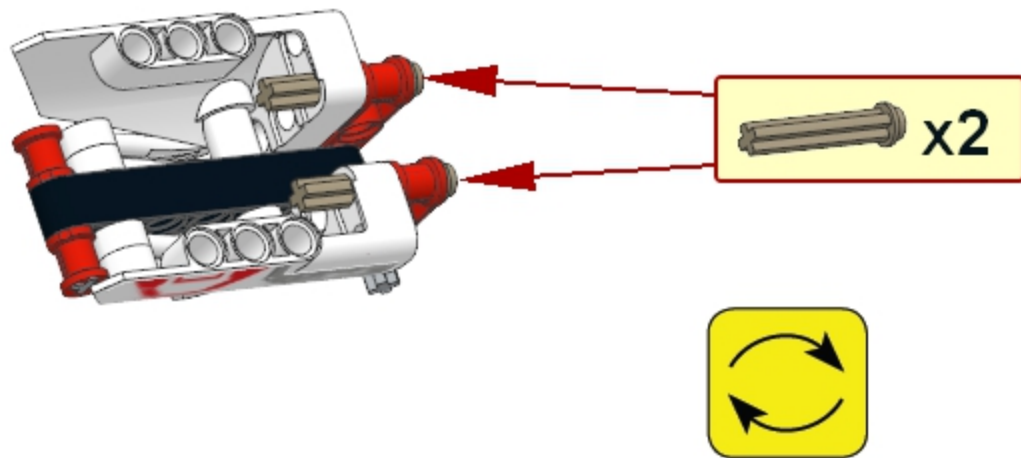
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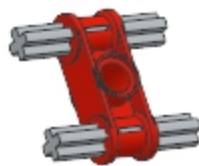
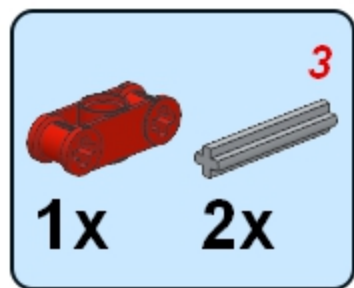
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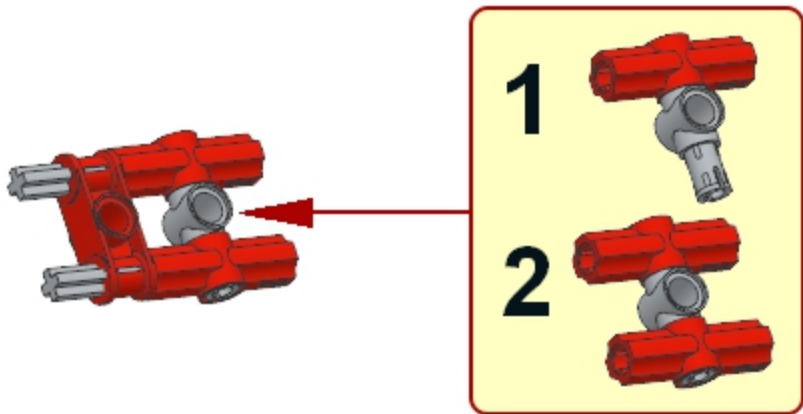


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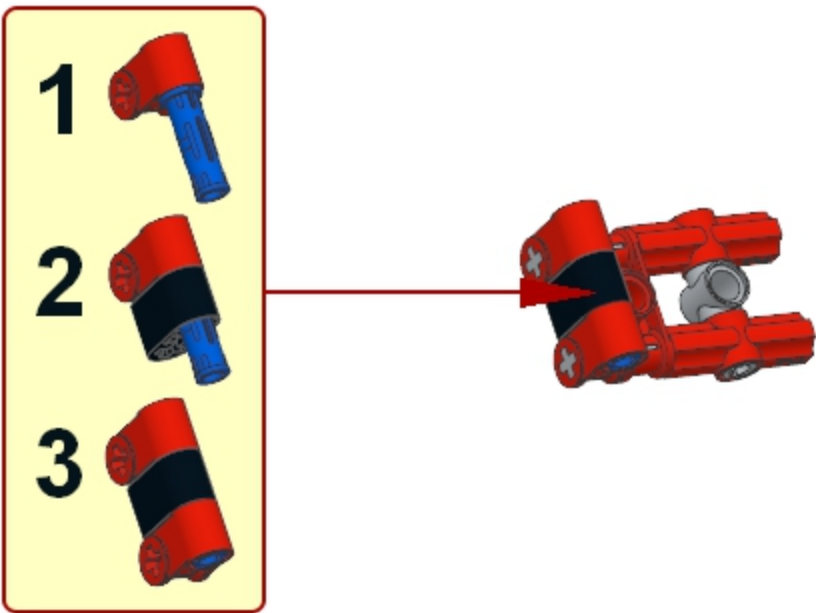
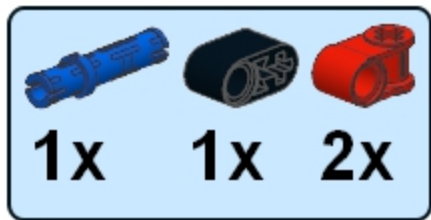
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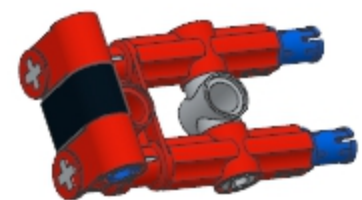
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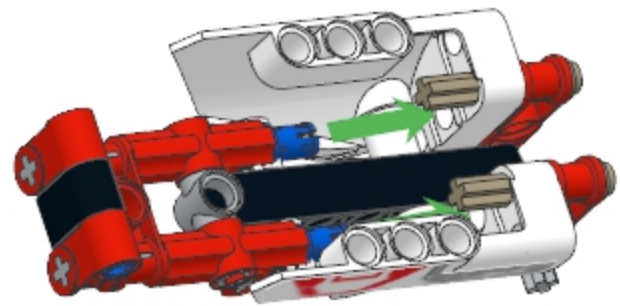
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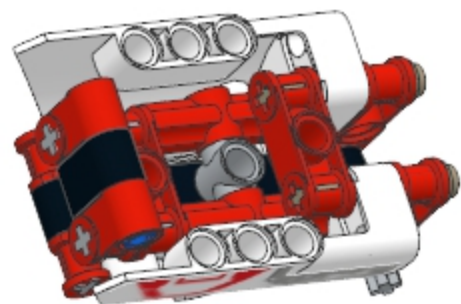
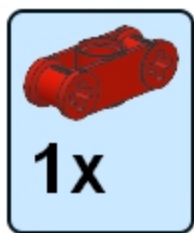
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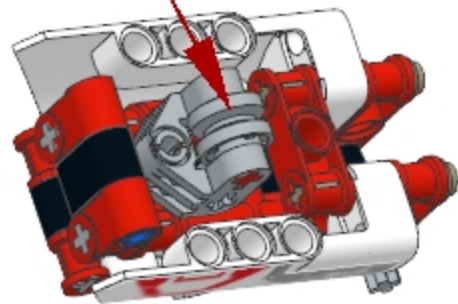
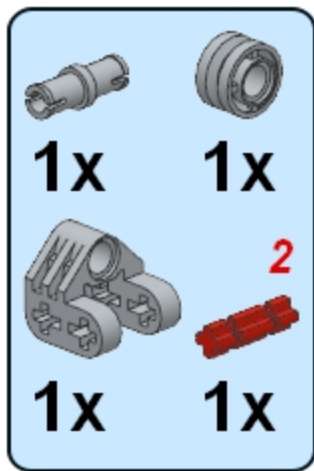
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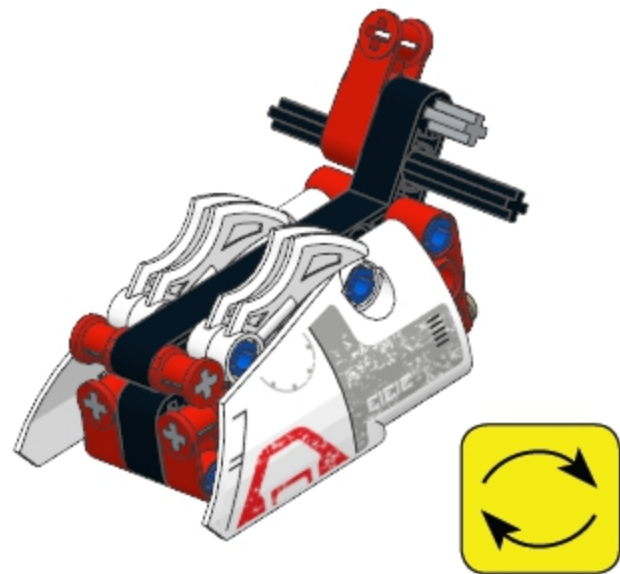
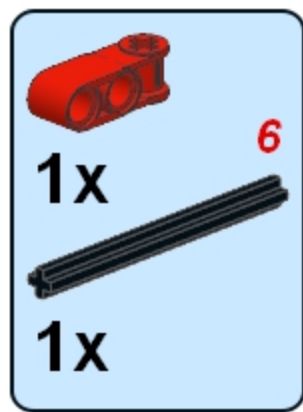
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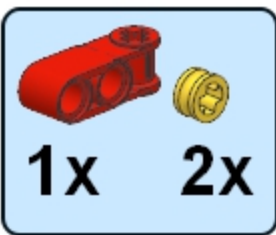
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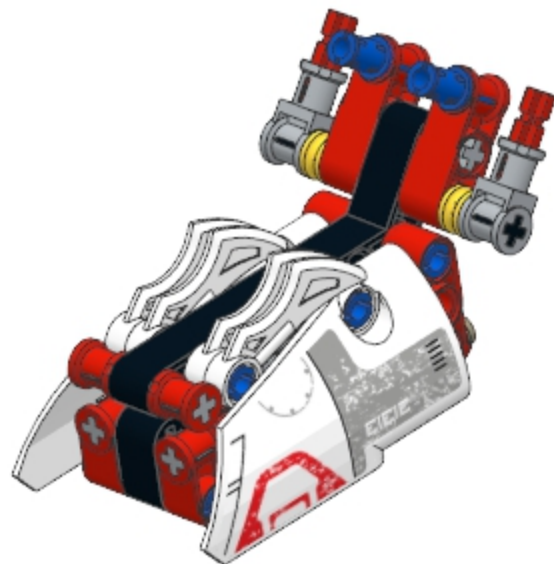


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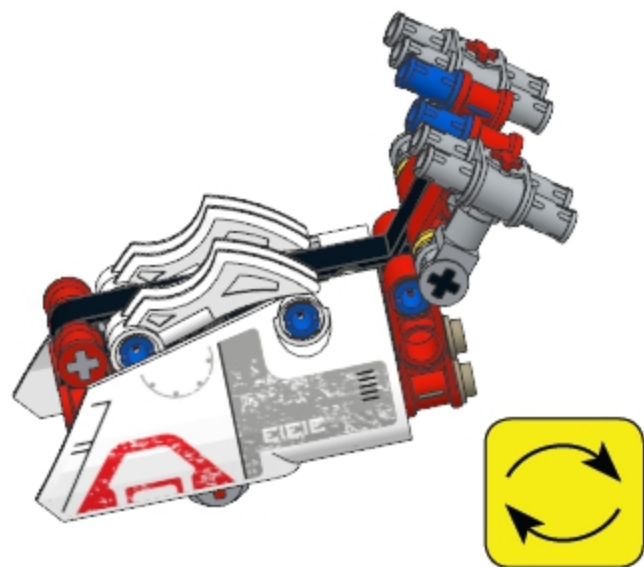
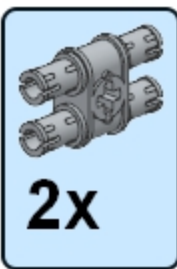


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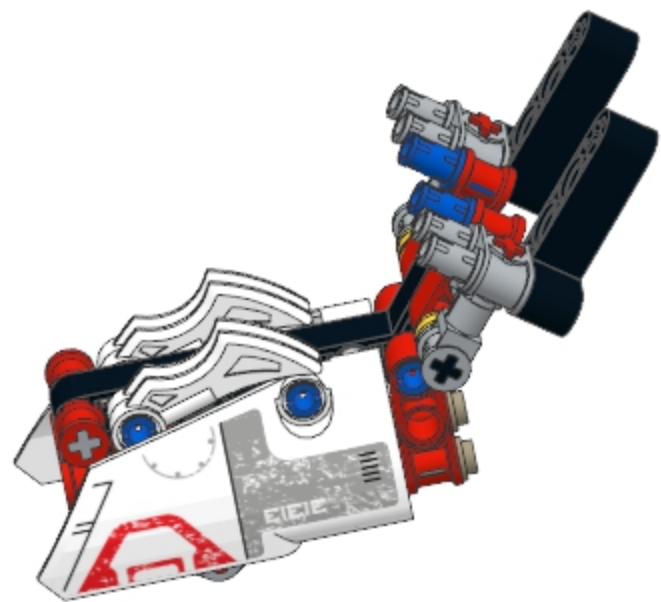
	
2x	
	
2x	2x



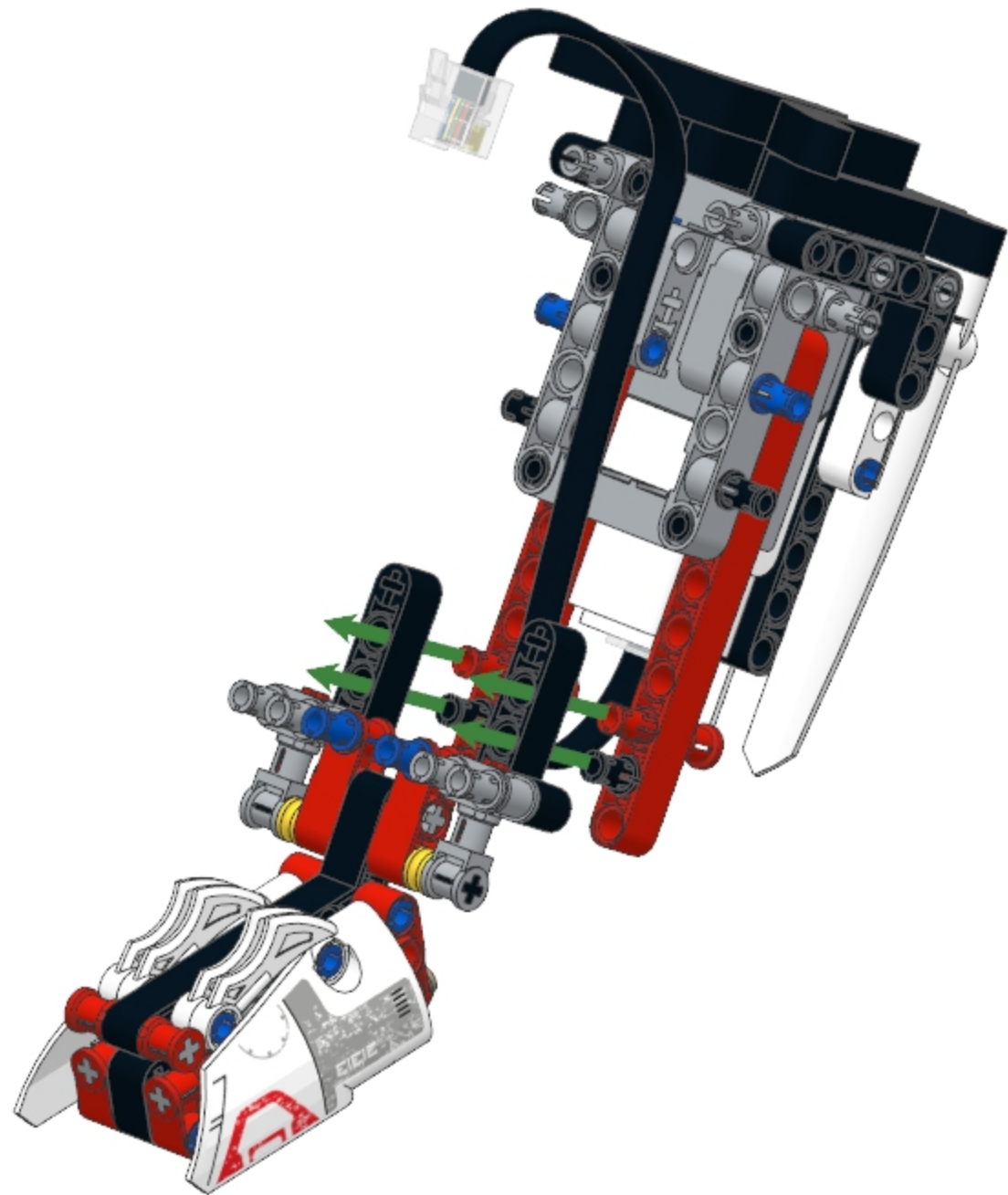
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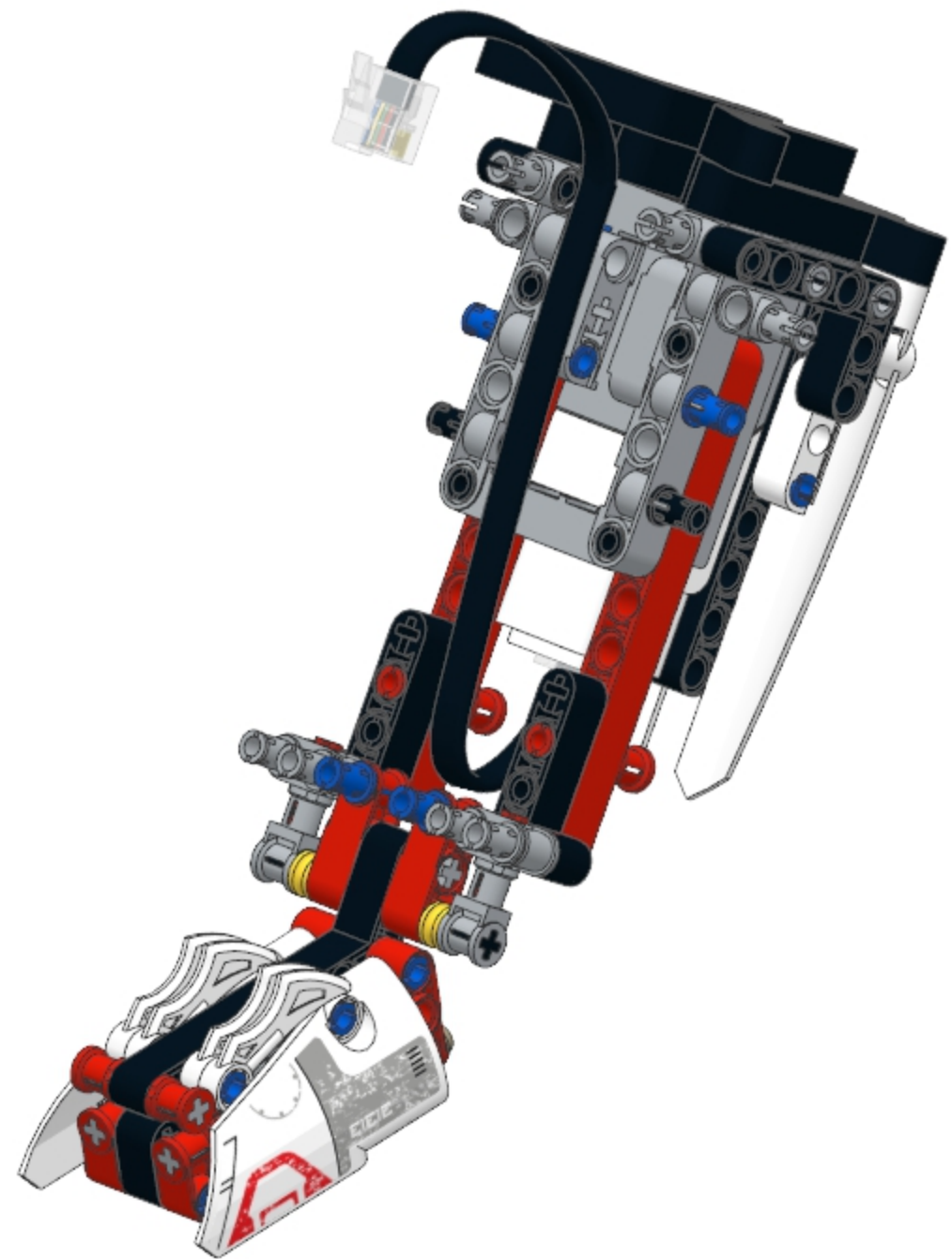
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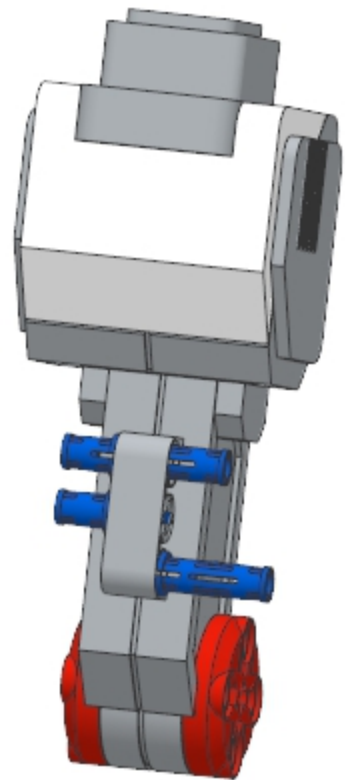
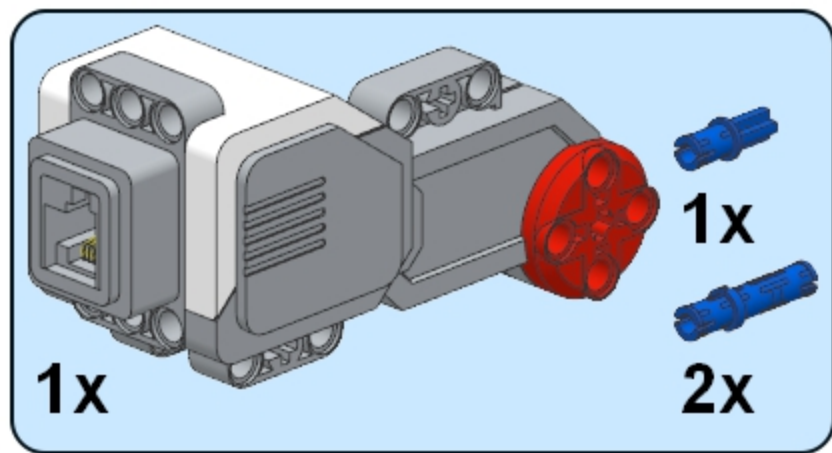
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2



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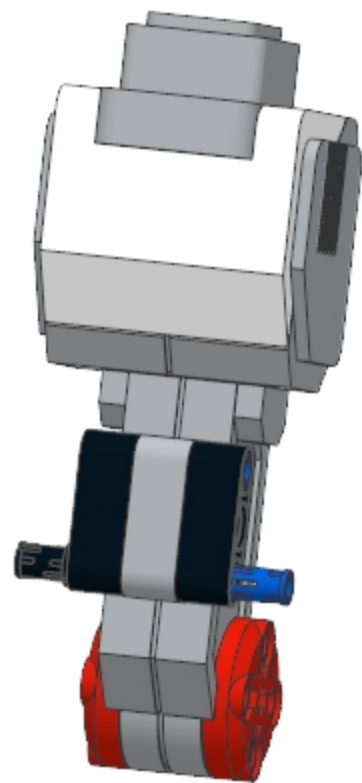


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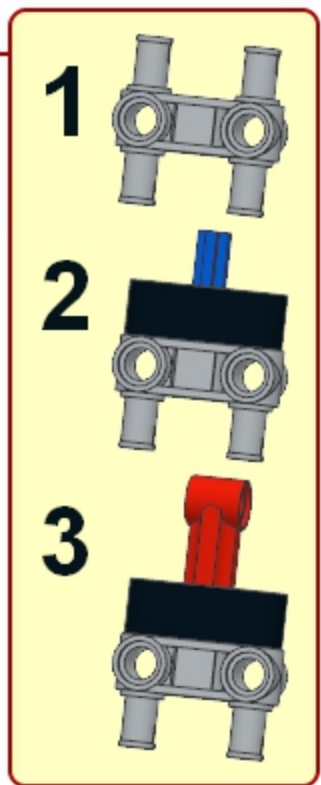
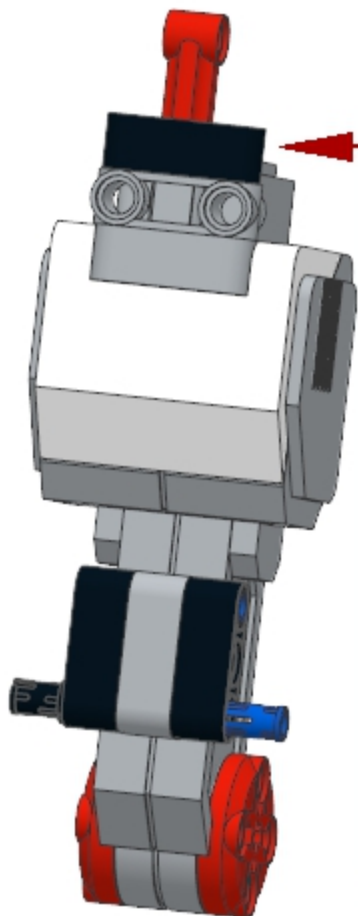
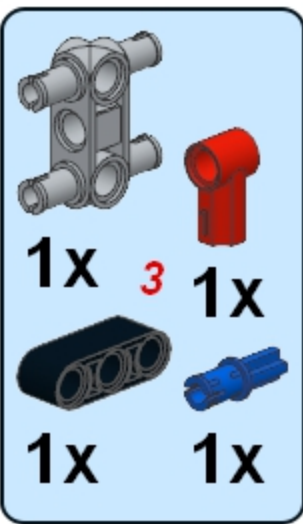
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2x



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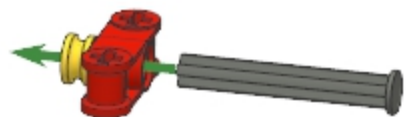
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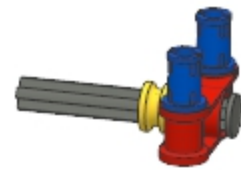
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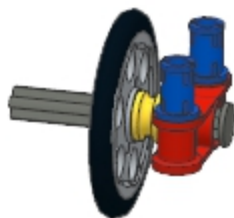
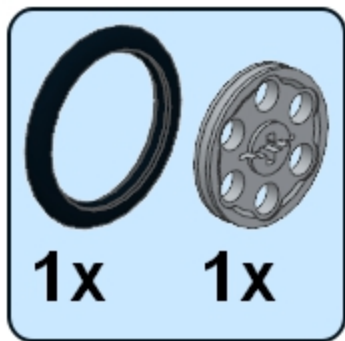
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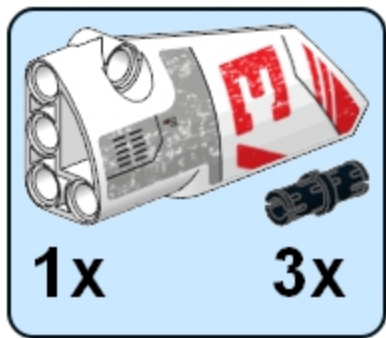
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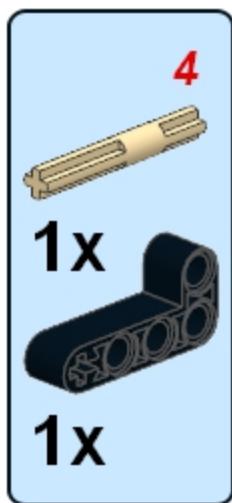
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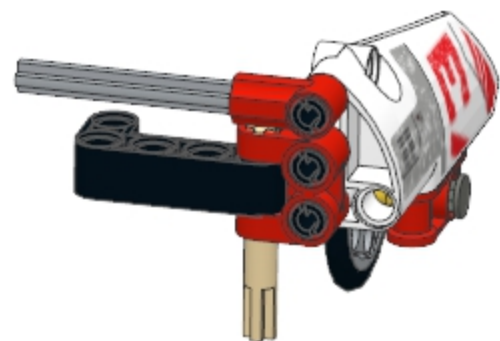
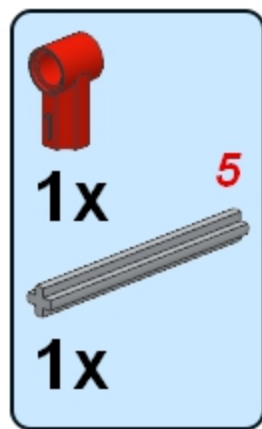
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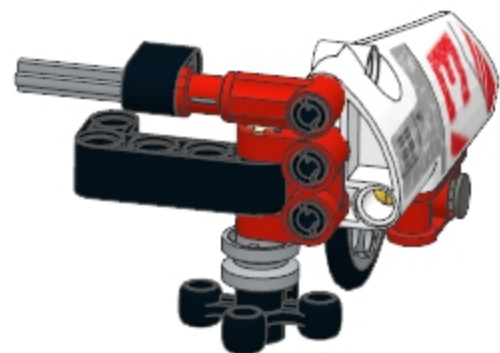


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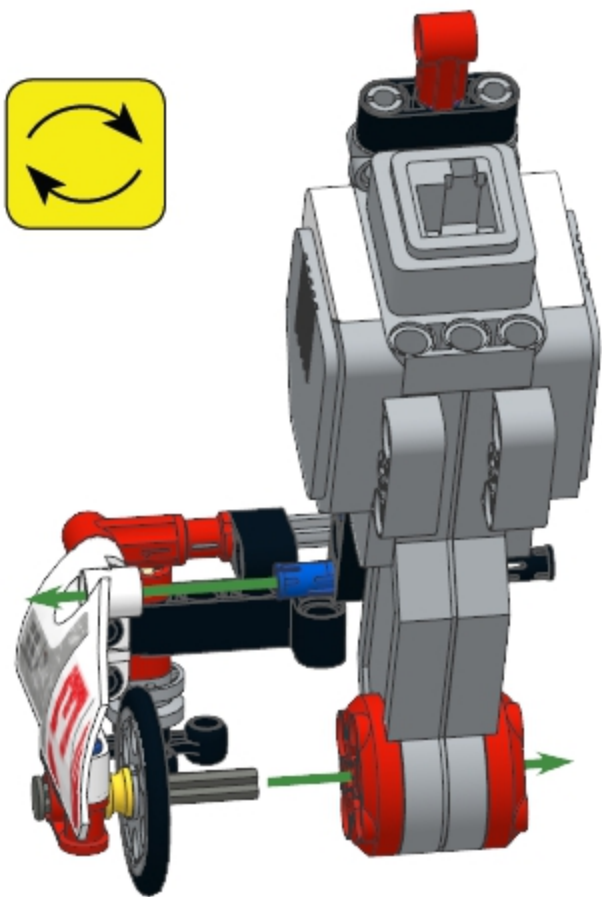


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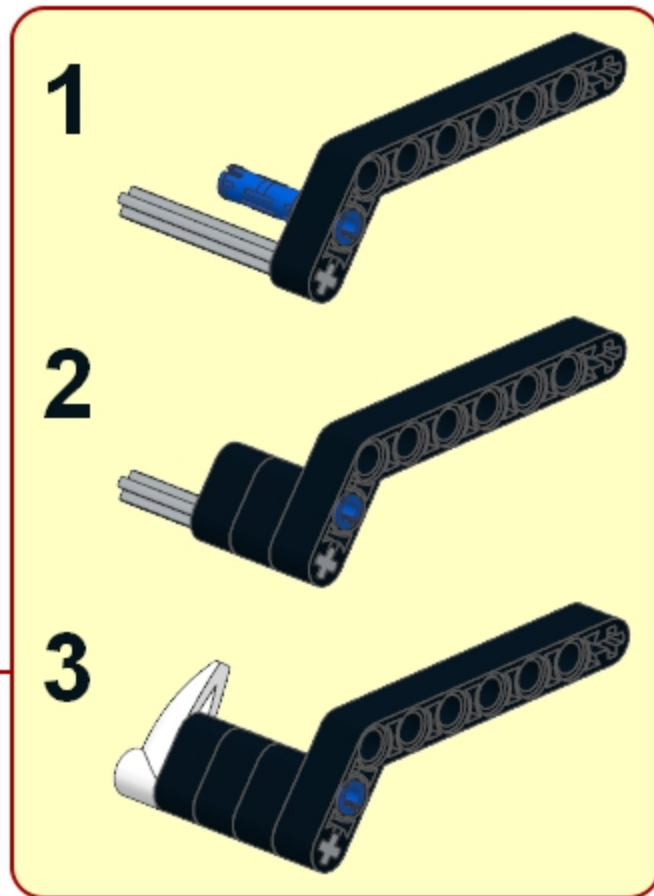
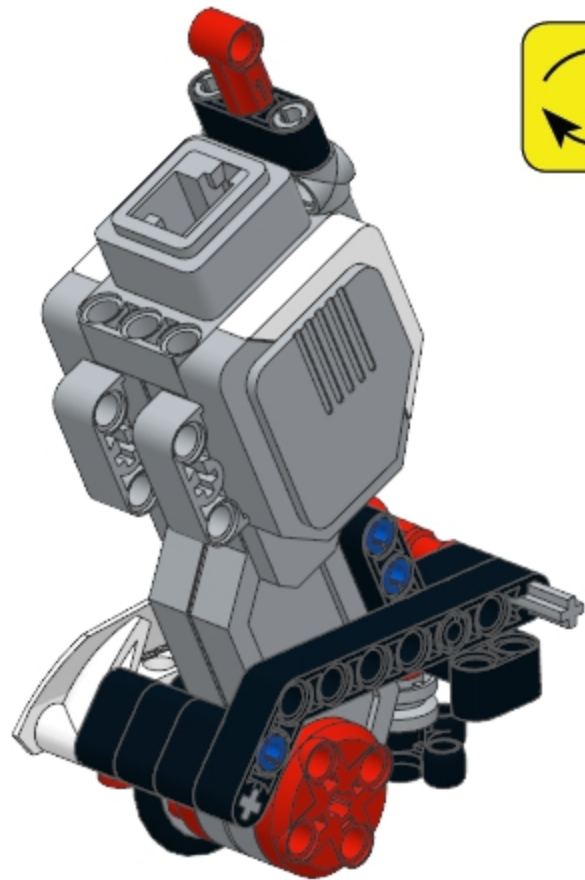
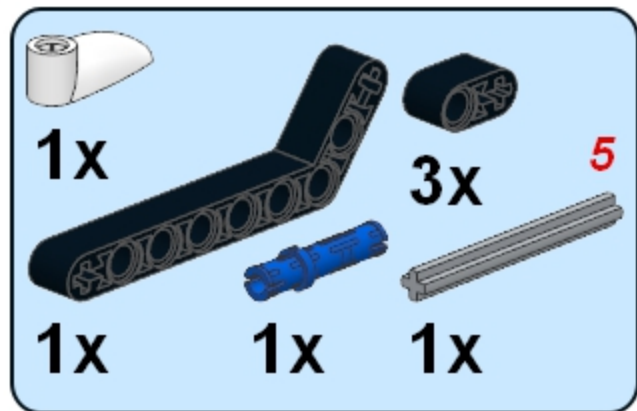
	
1x	1x
	
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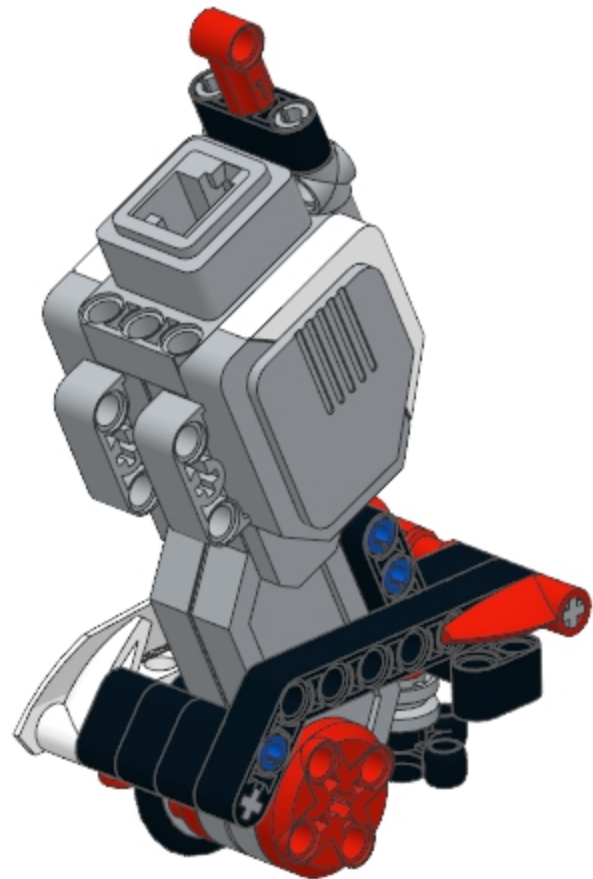
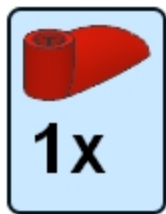
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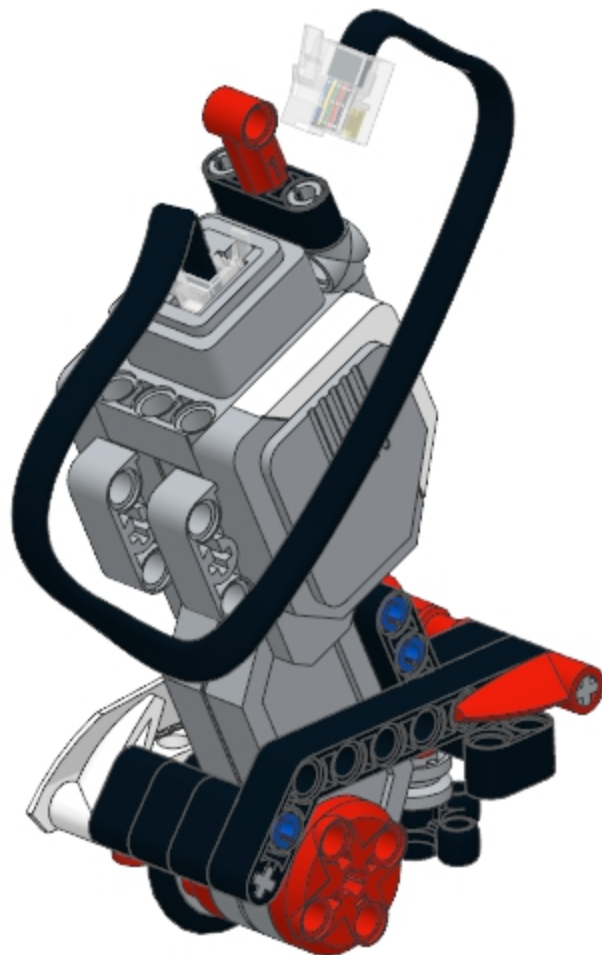
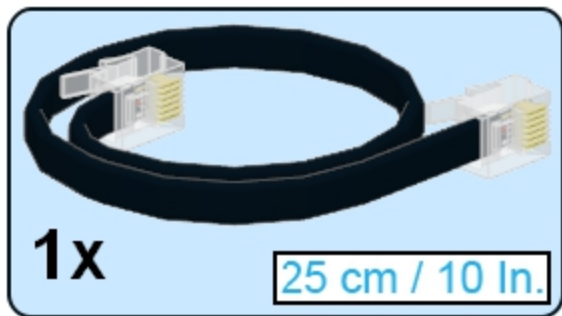
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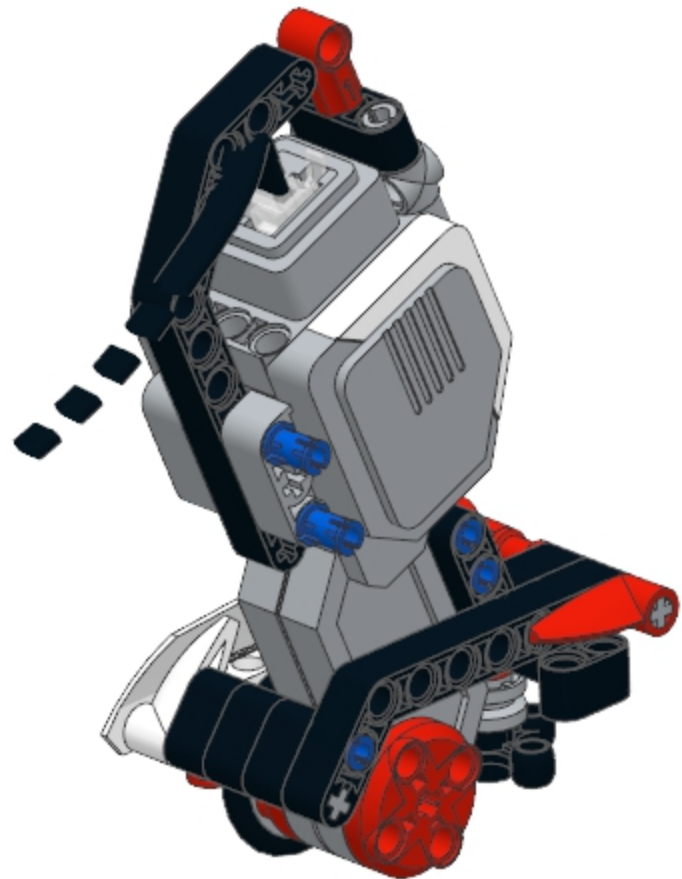
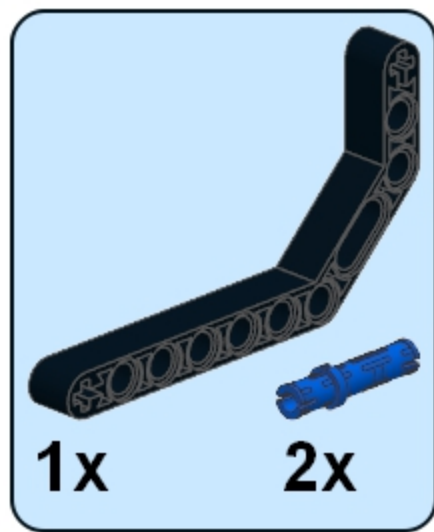
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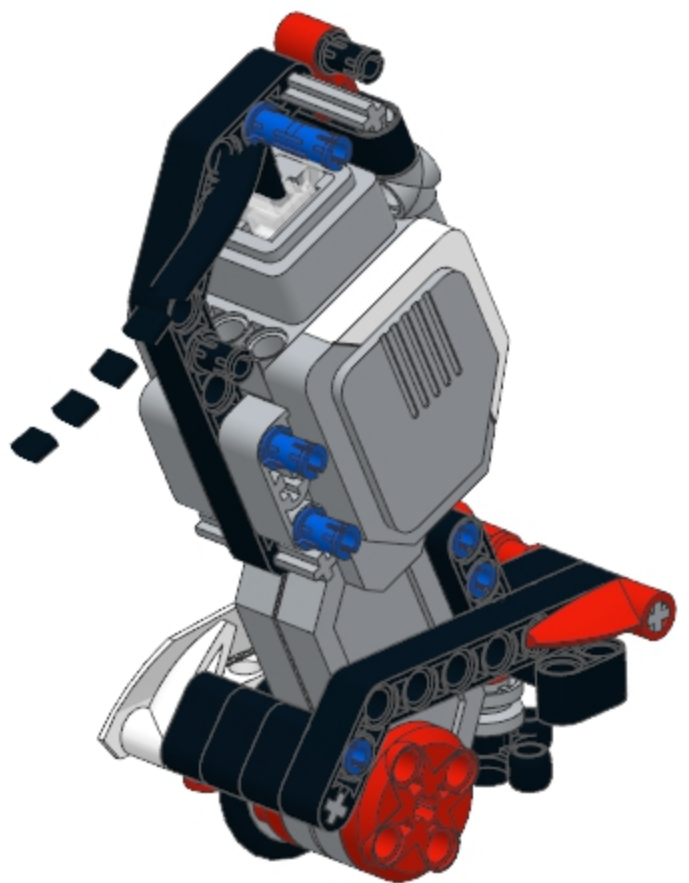


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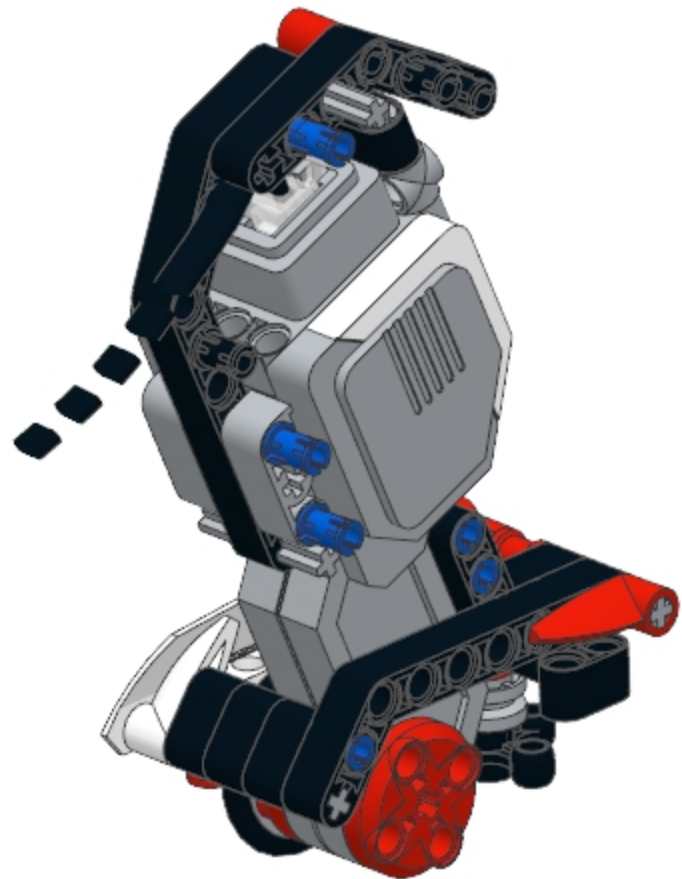


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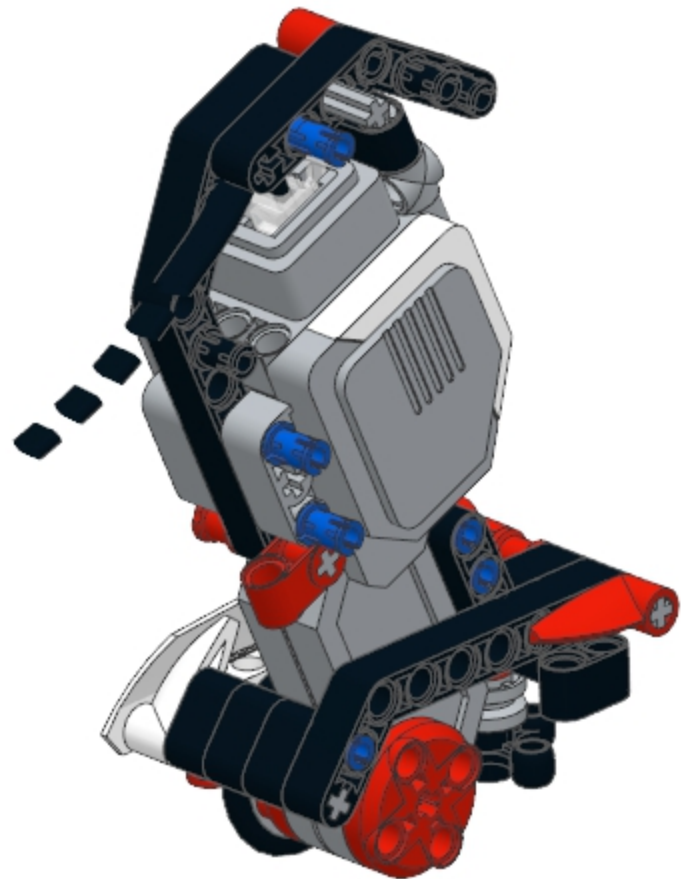
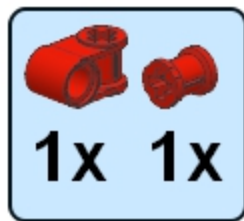
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-  1x ³
-  2x



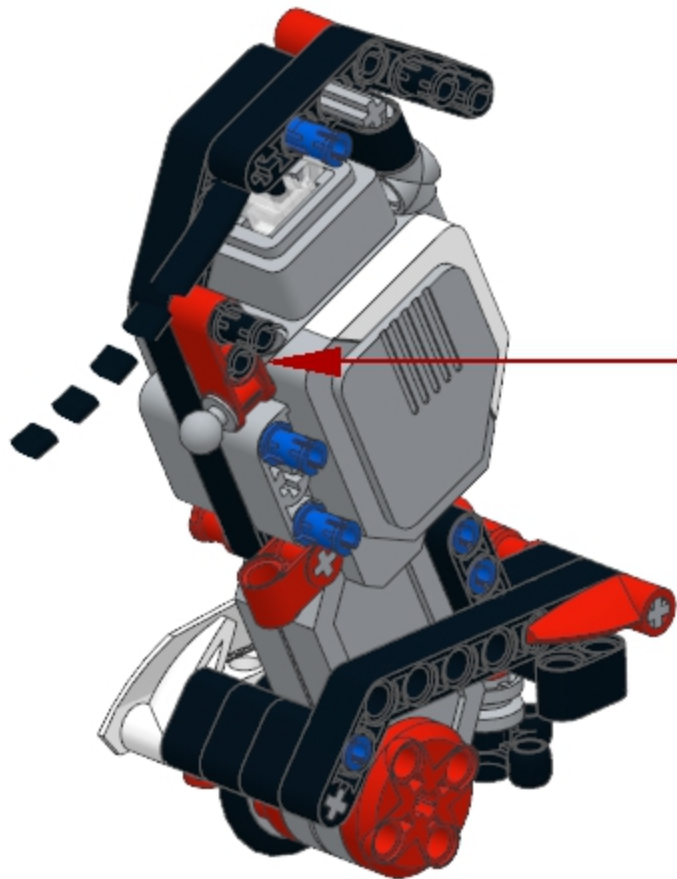
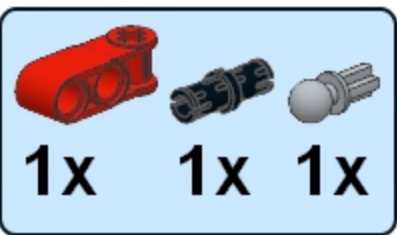
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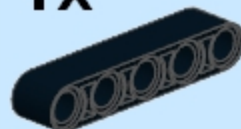


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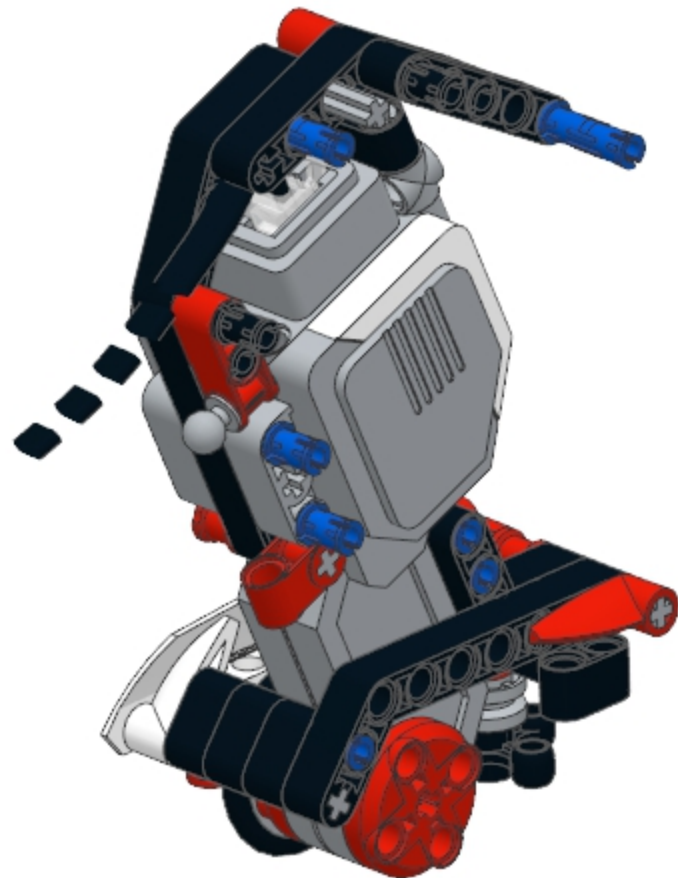


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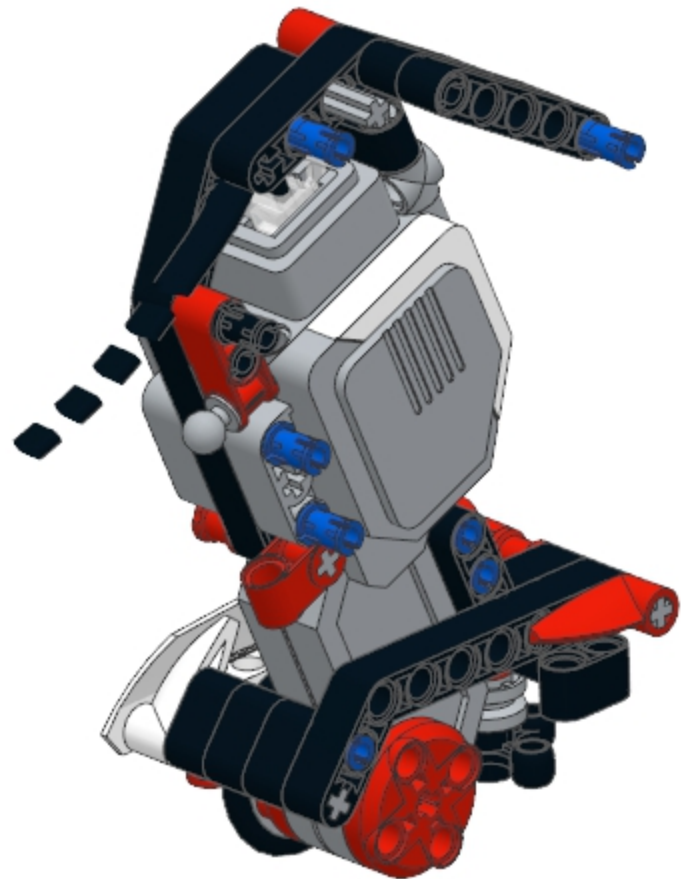
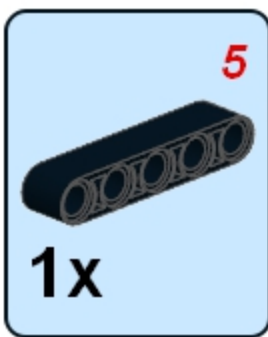
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14



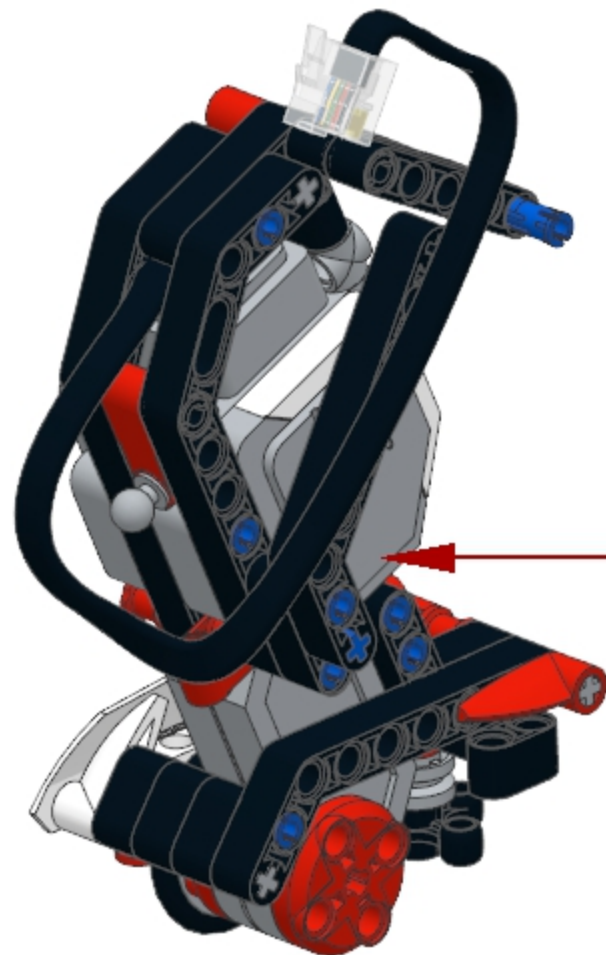
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1x

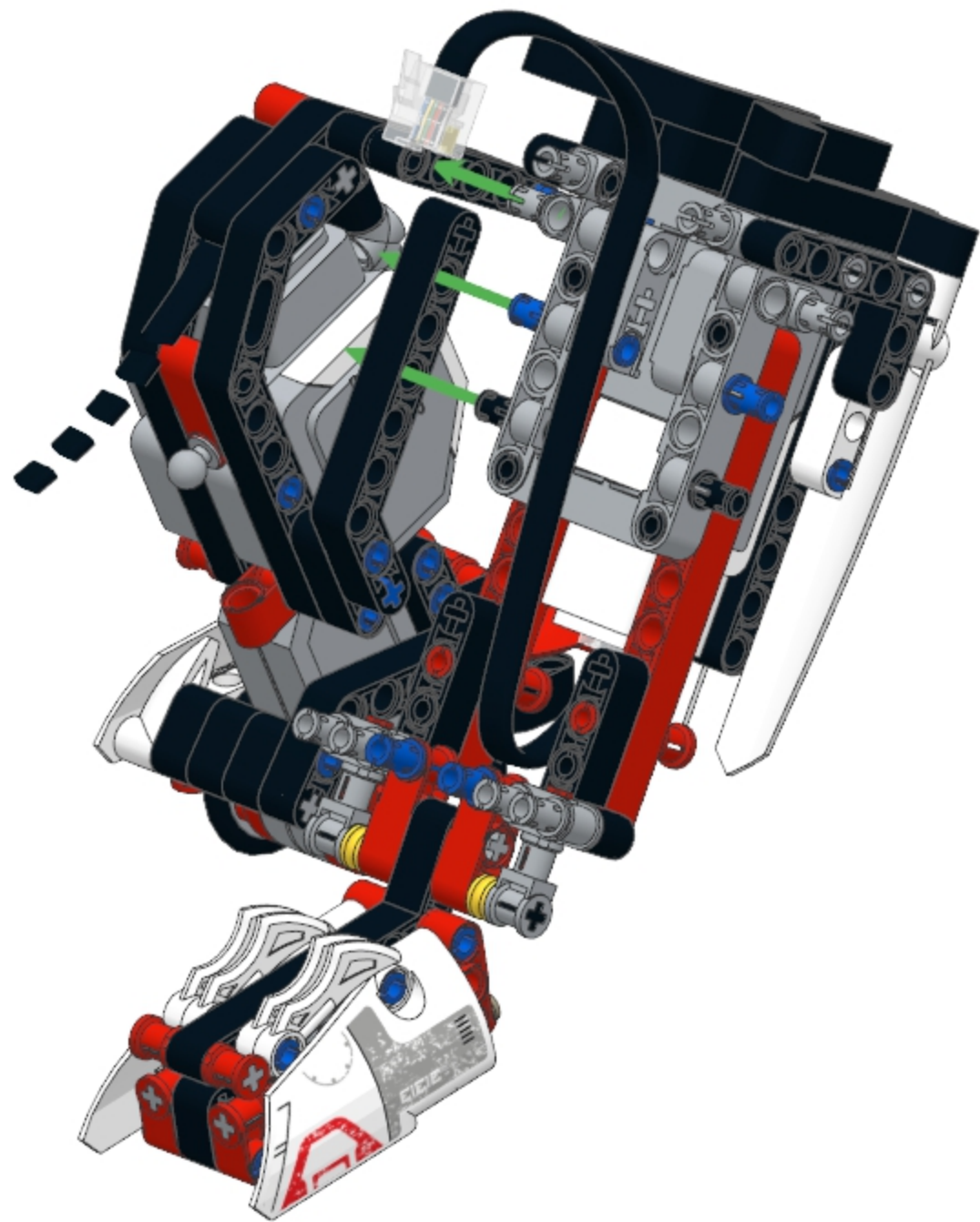
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1x 1x

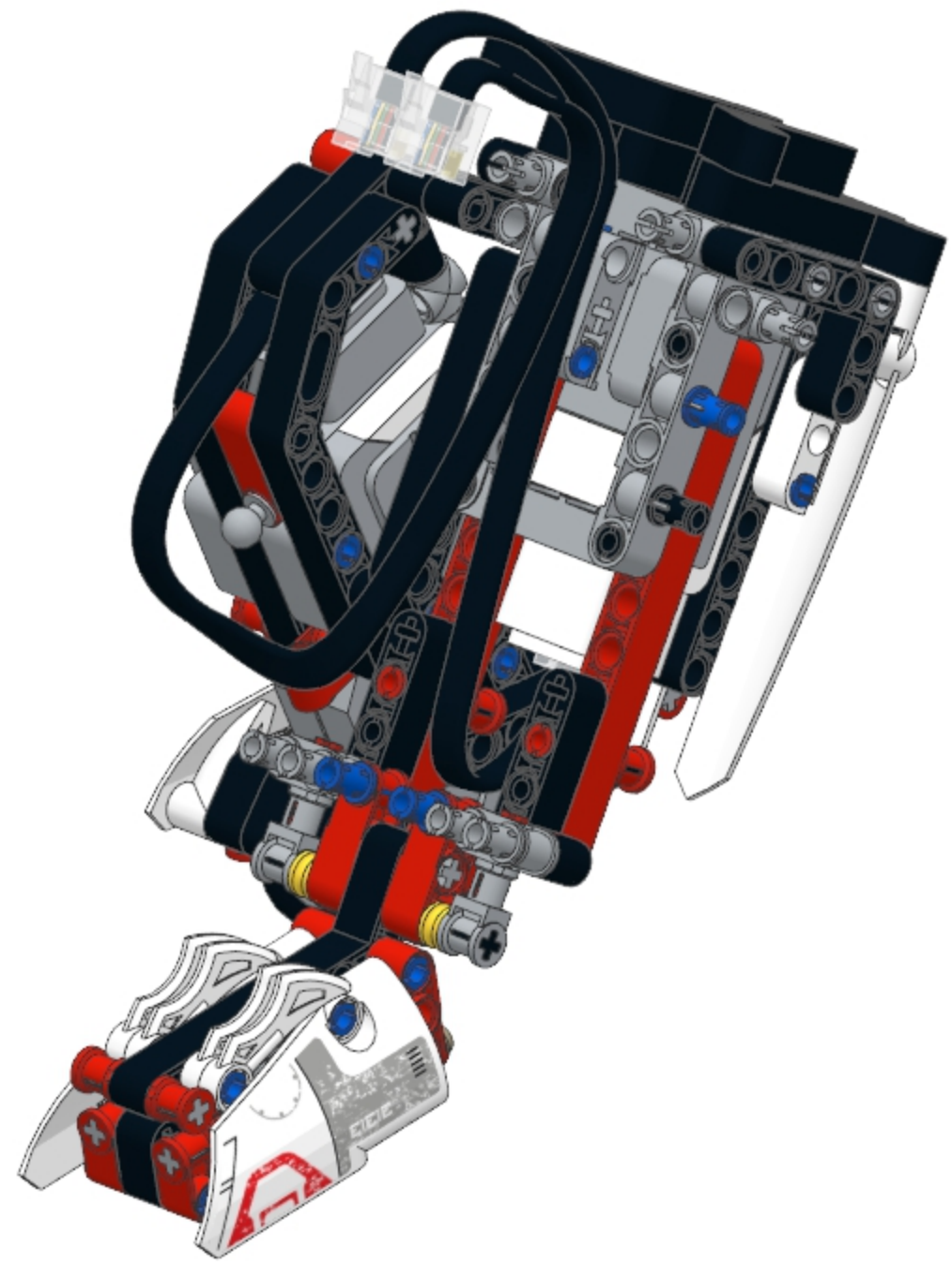


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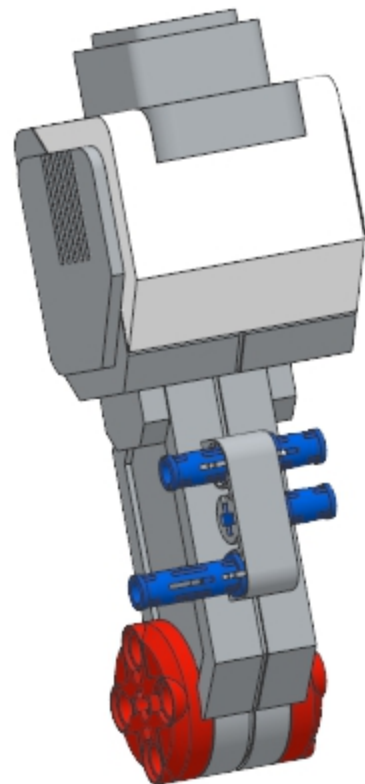
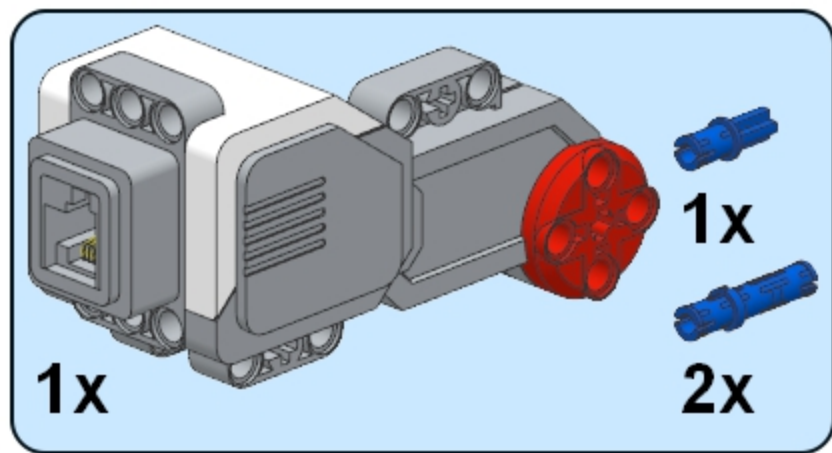
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4



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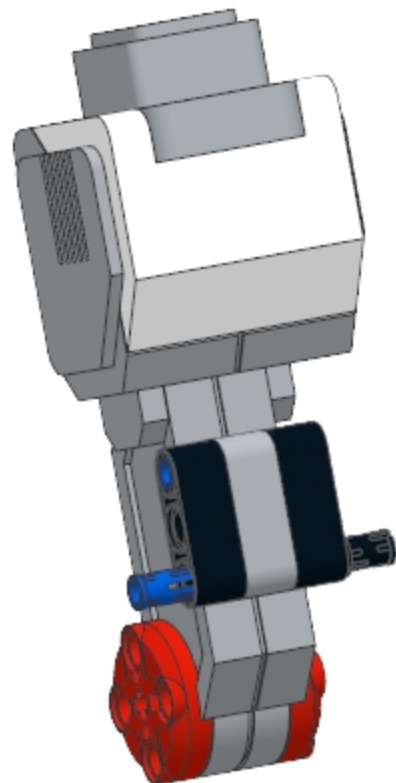


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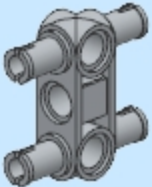

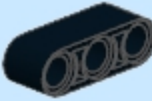

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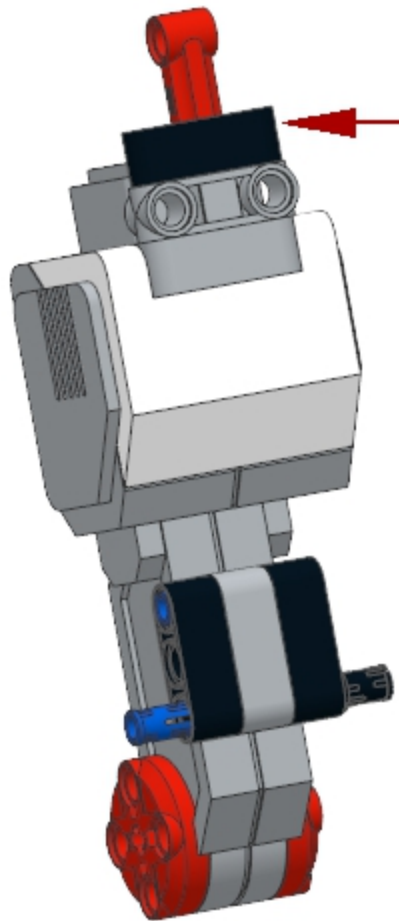


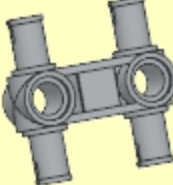
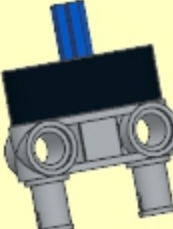

2x



3

	
1x	3 1x
	
1x	1x



1	
2	
3	

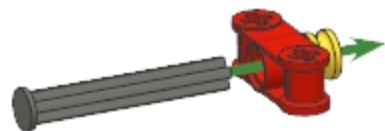
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1x 

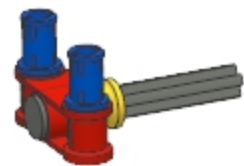
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1x ⁴ 

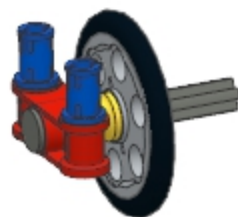
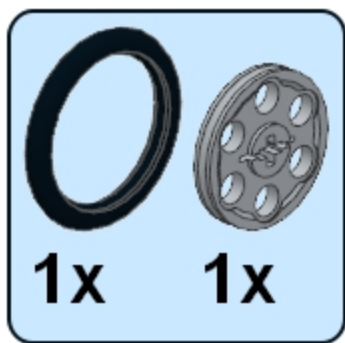
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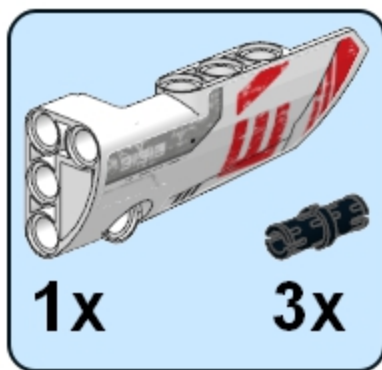
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3



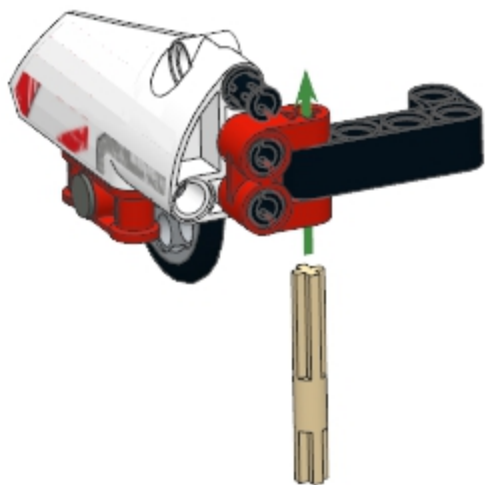
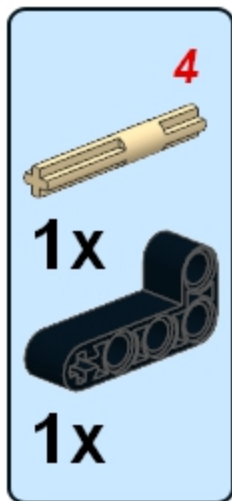
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5

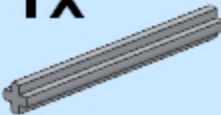


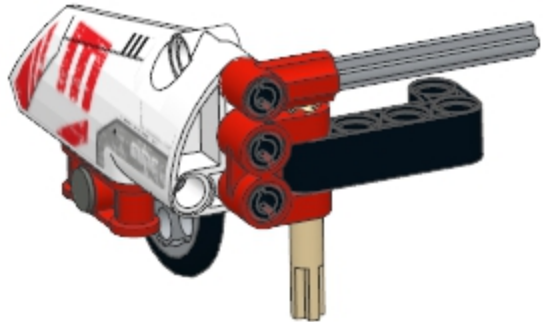
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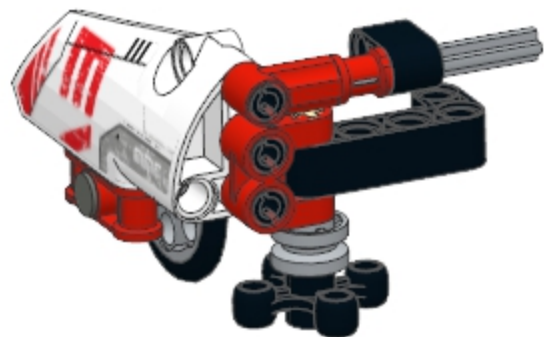
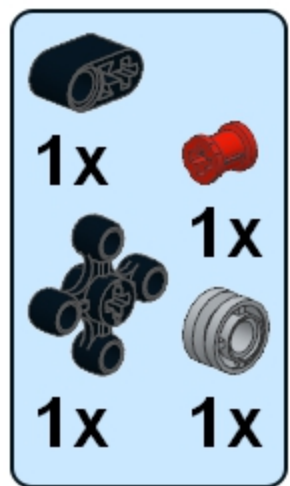
7

1x  5

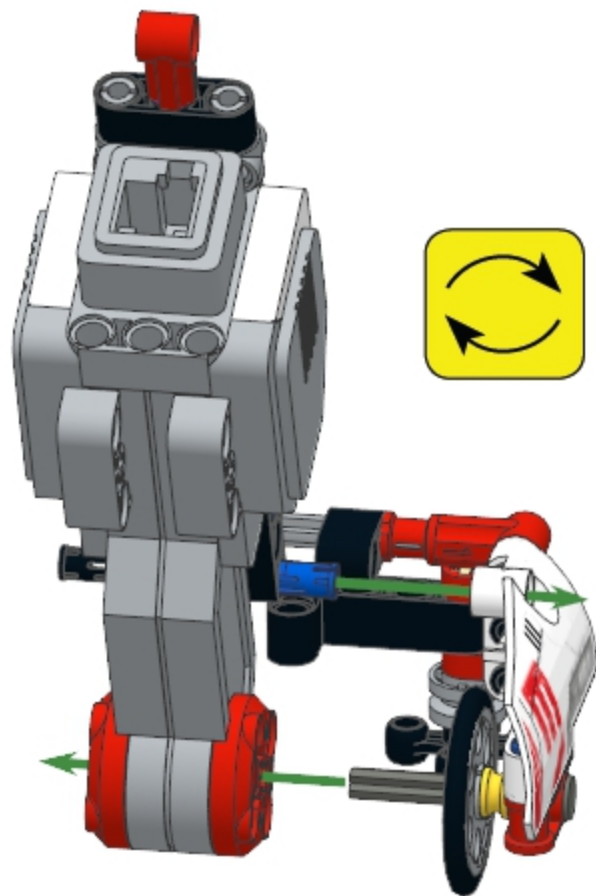
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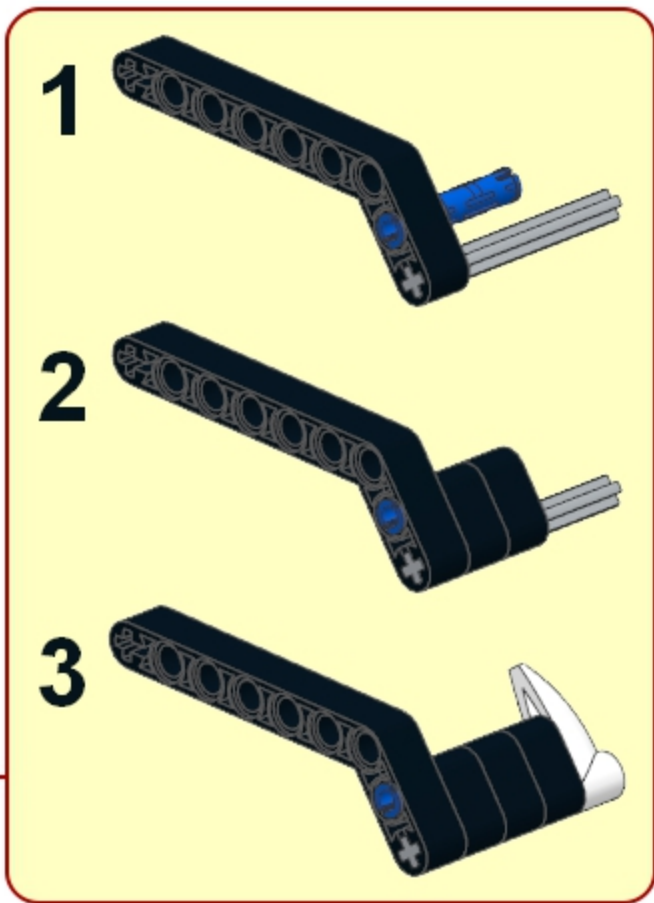
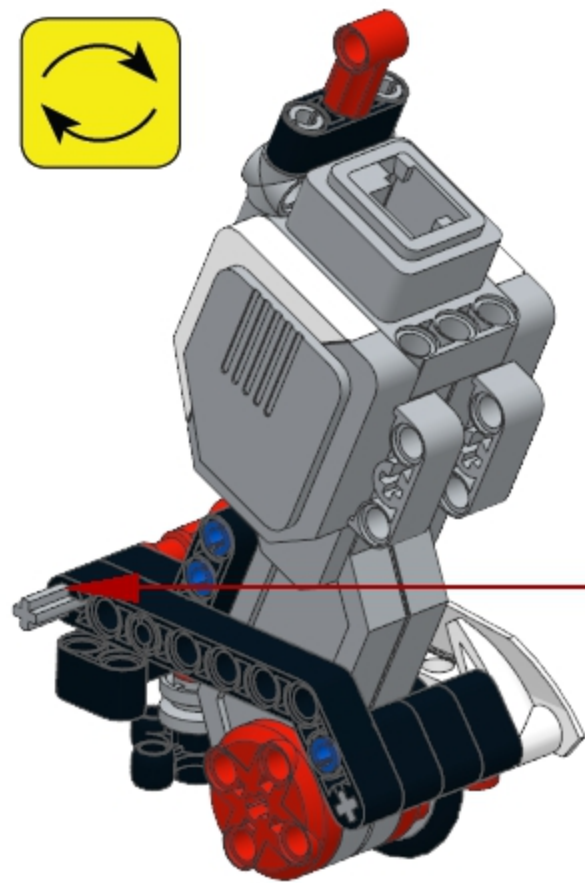
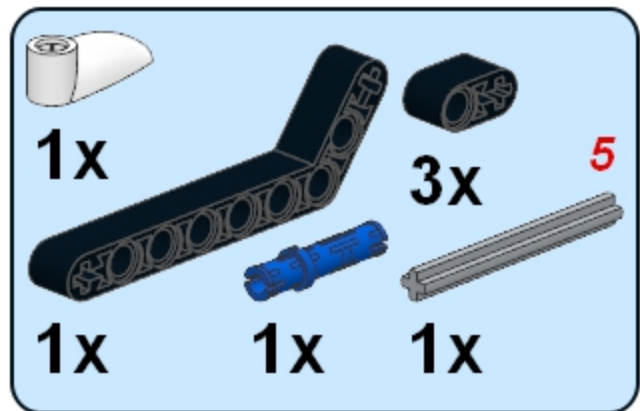
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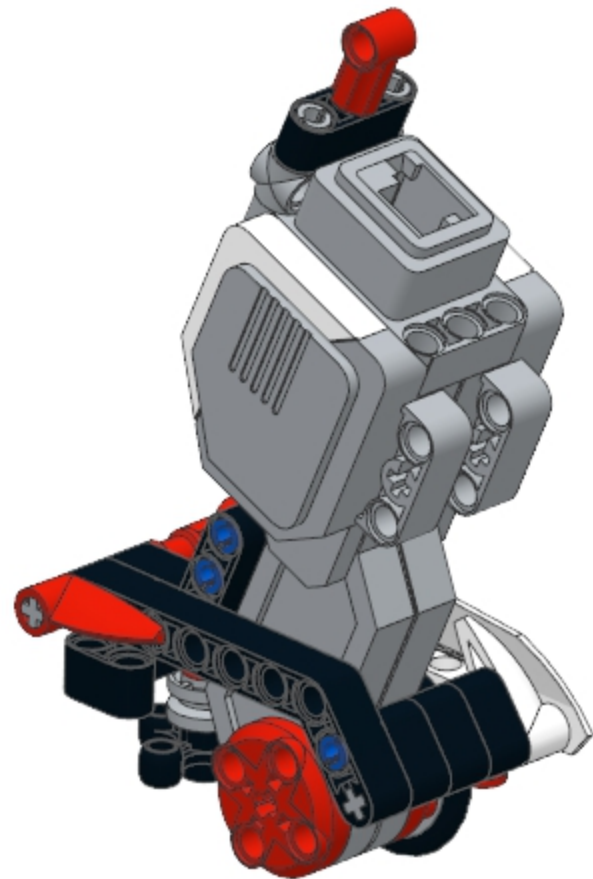
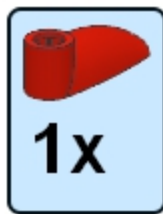
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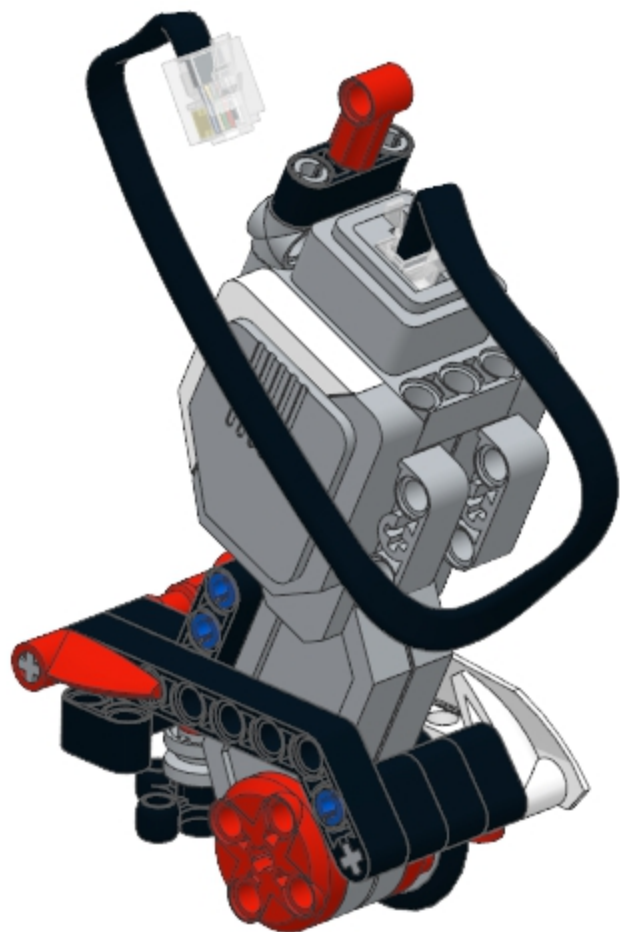
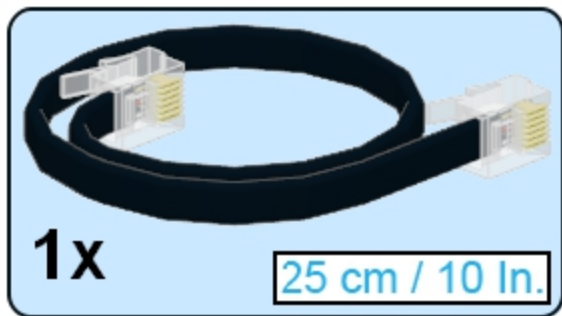
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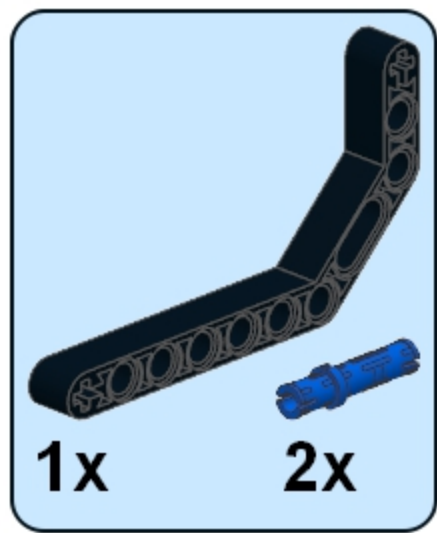
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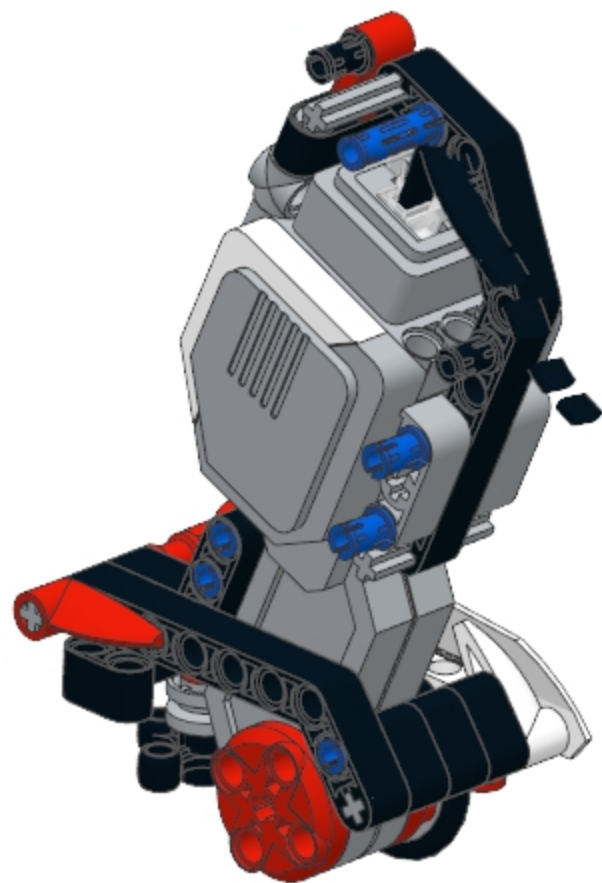


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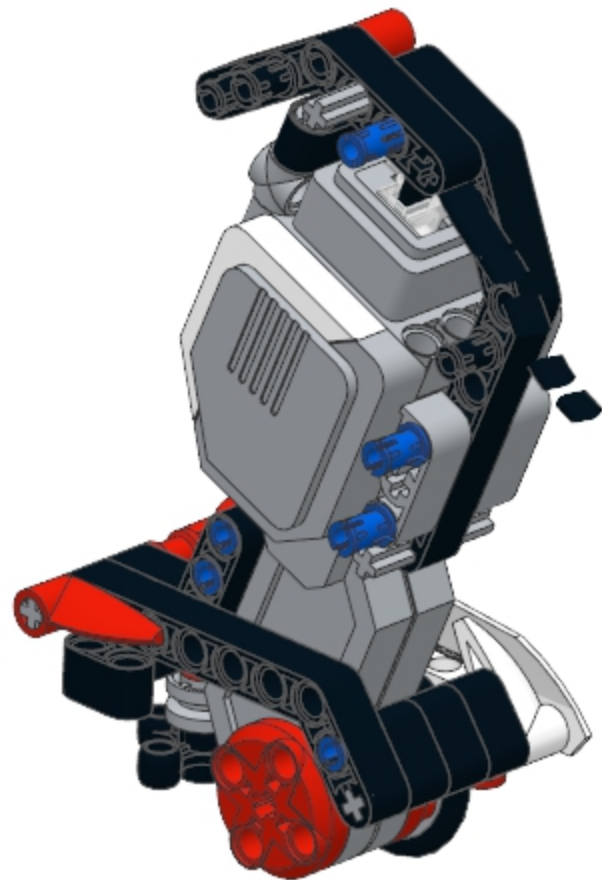


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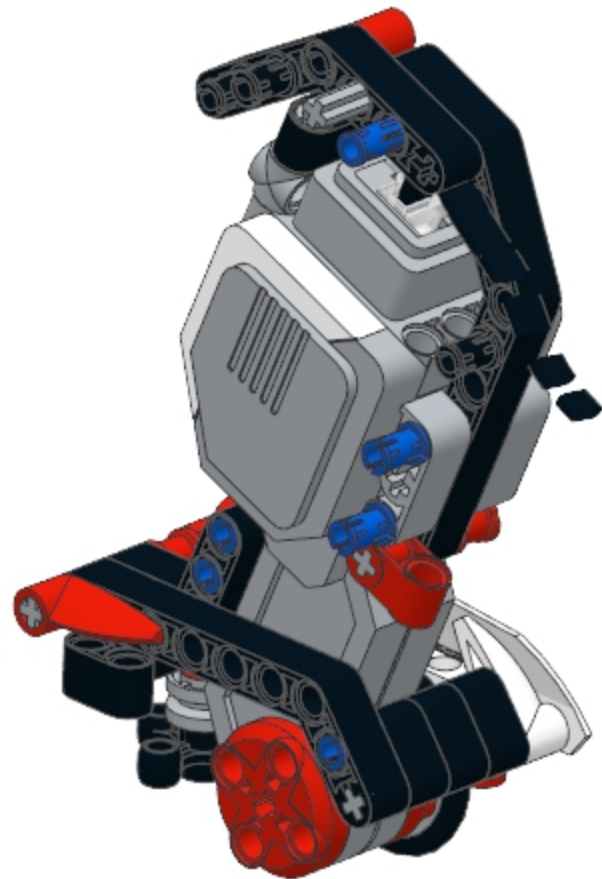
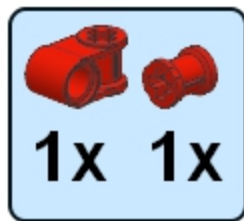
-  2x
-  1x ³
-  2x



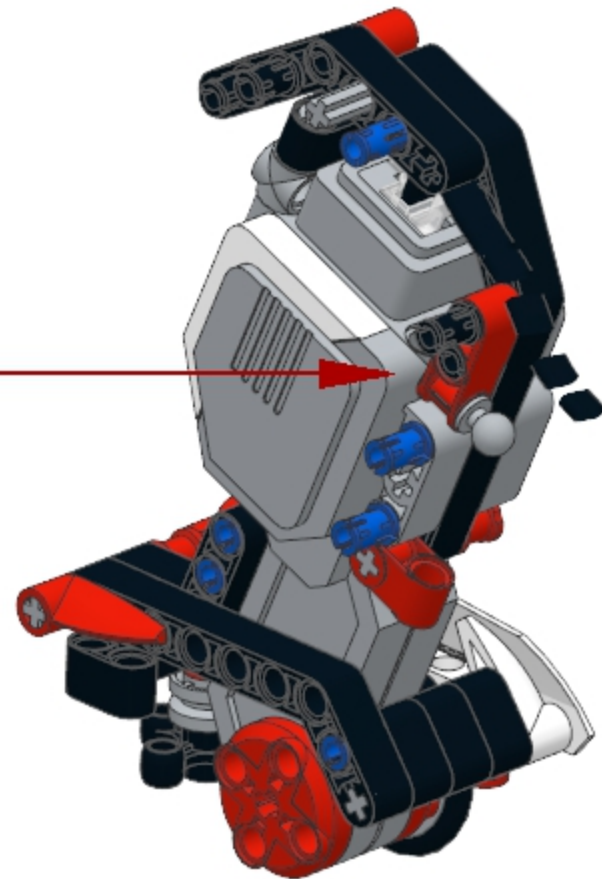
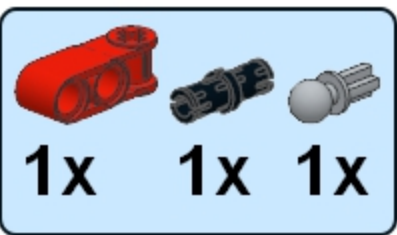
10



11



12



13



1x

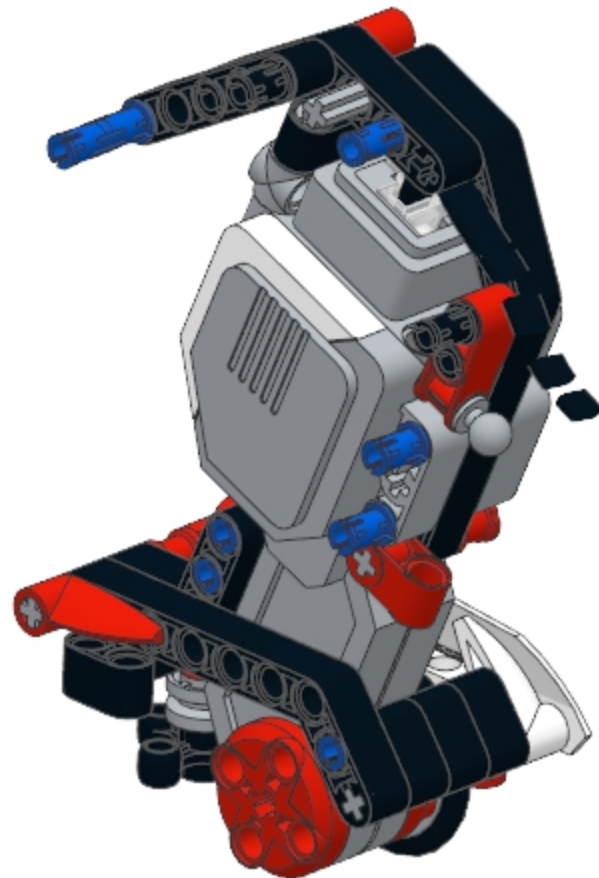


1x

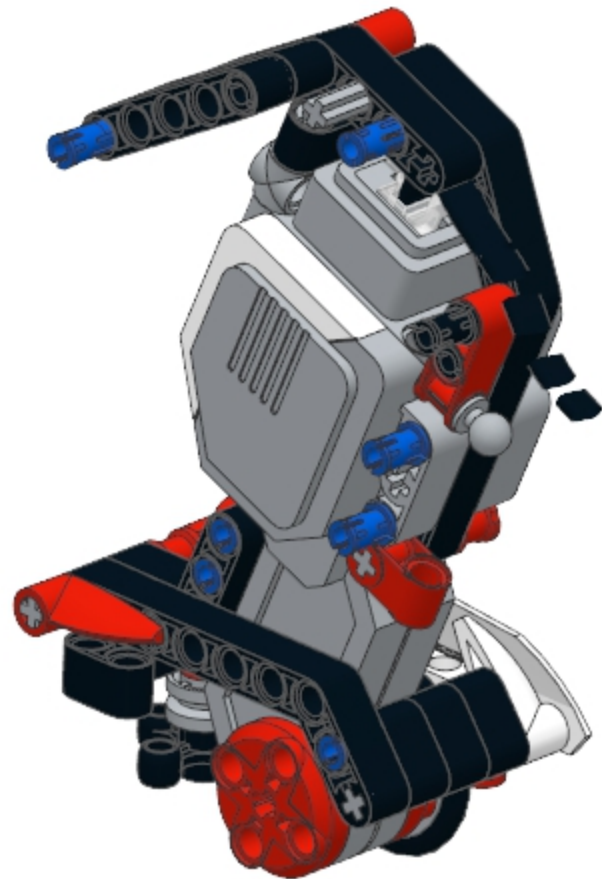
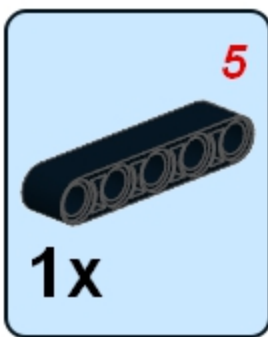
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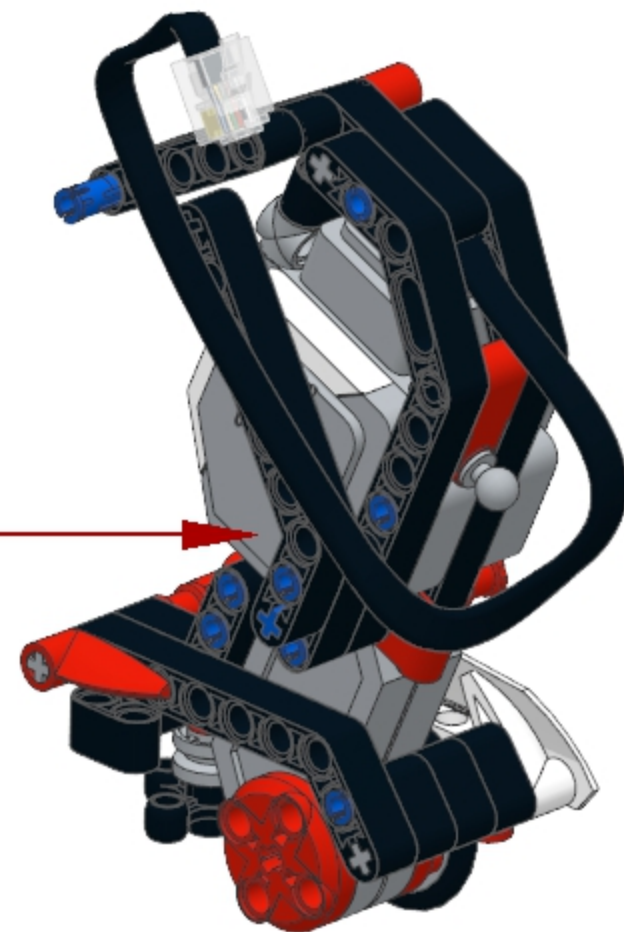
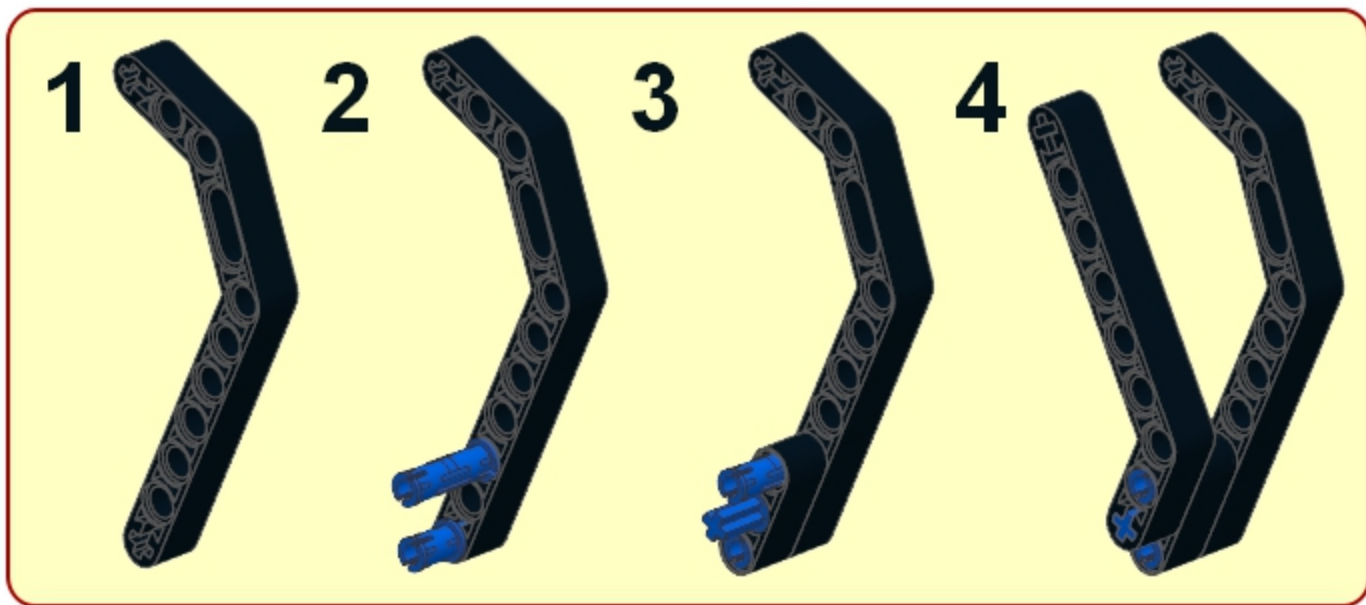
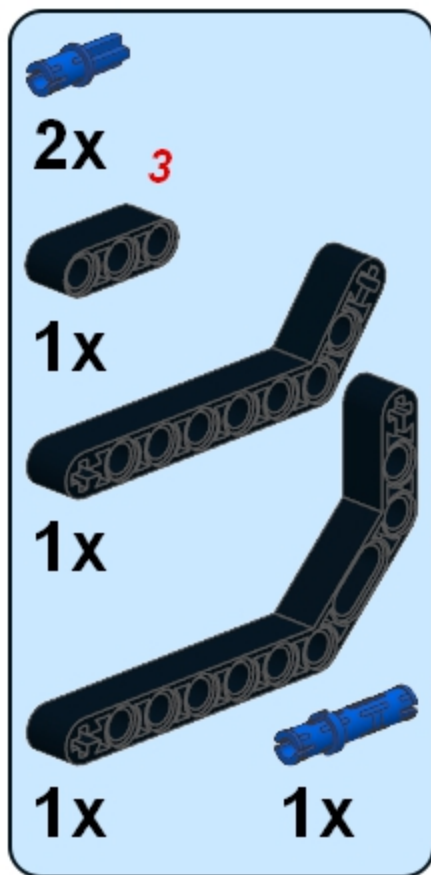
1x



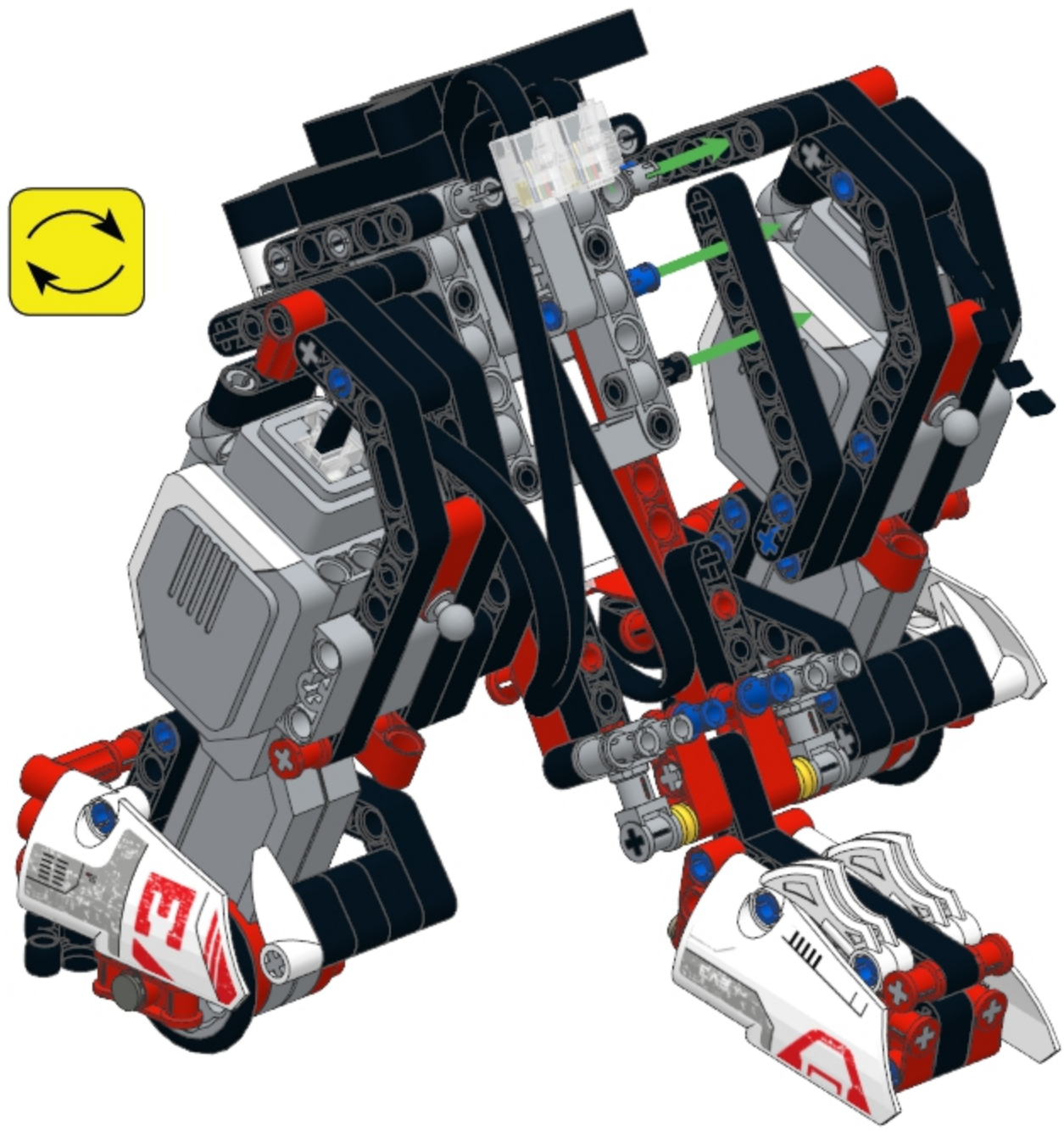
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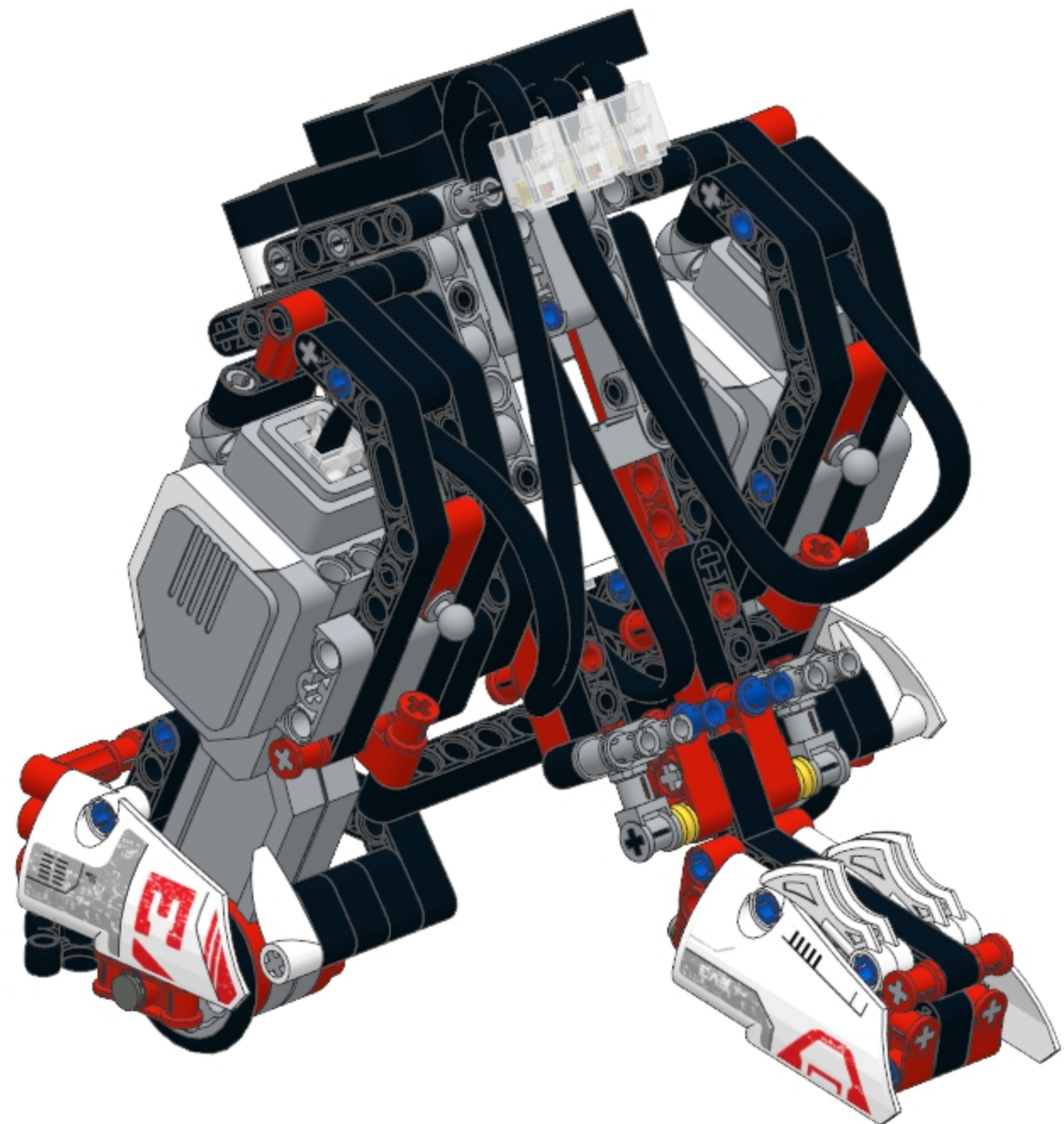
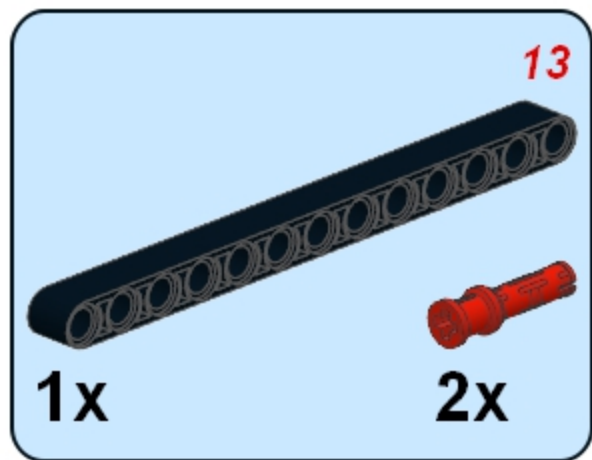
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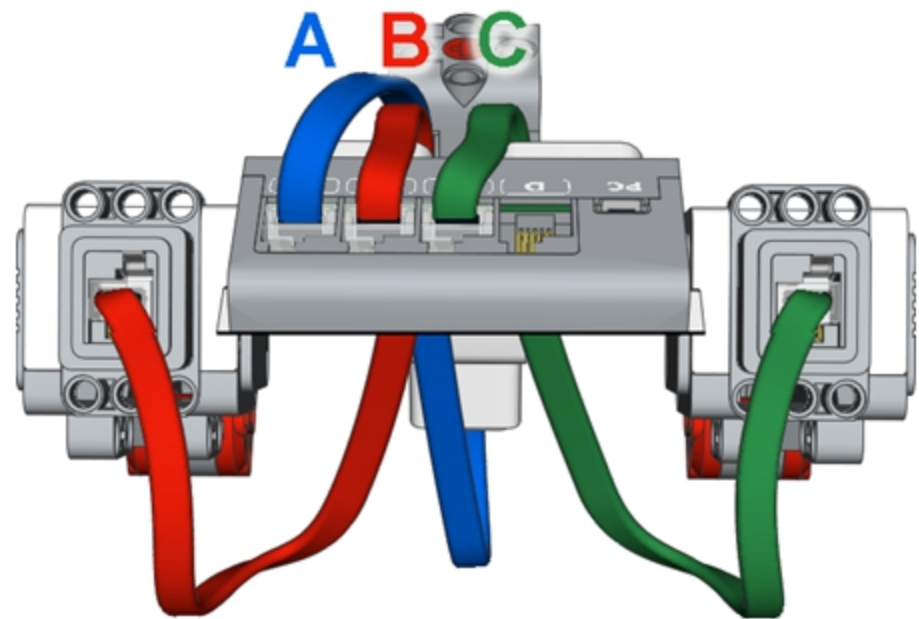
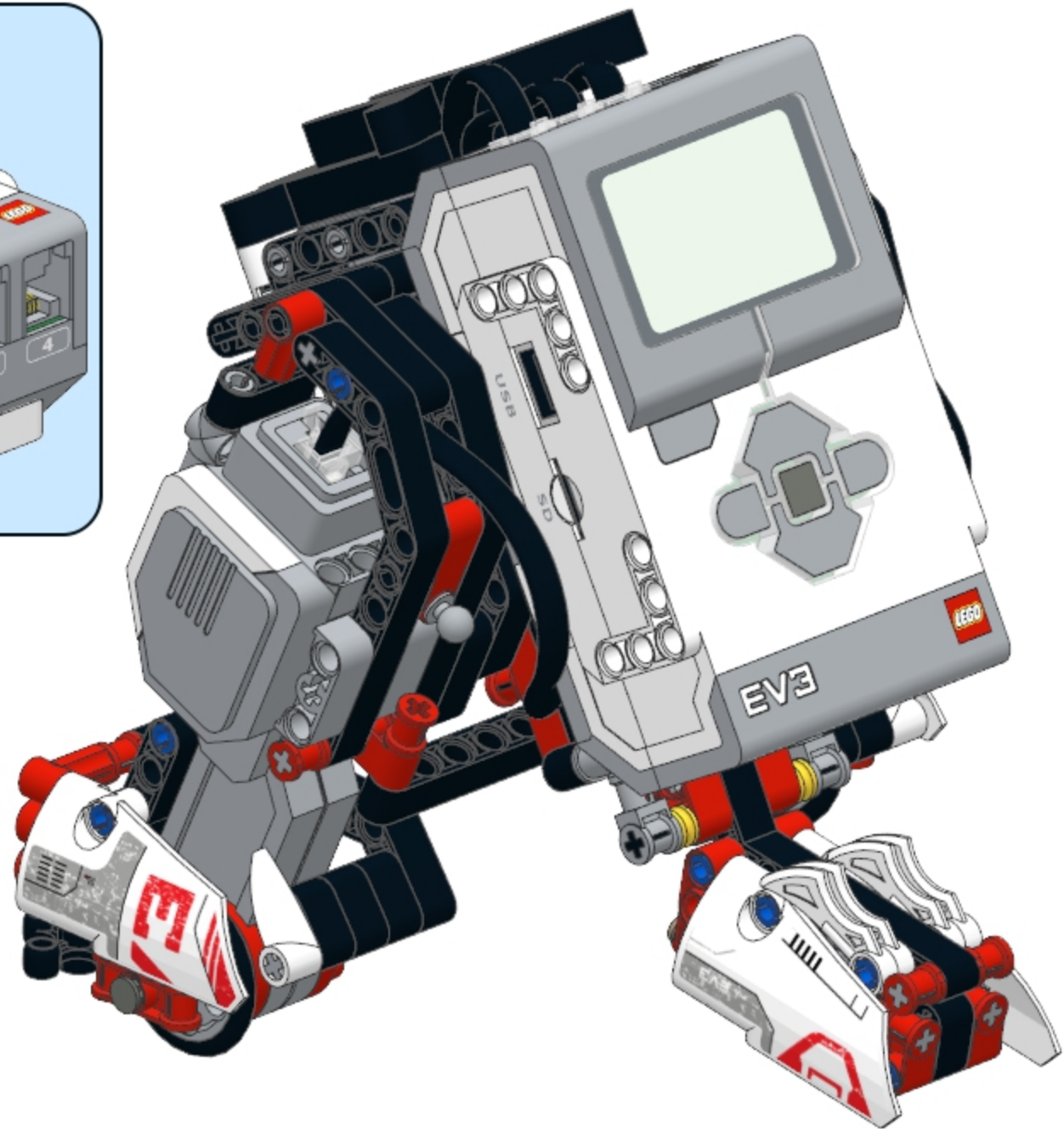
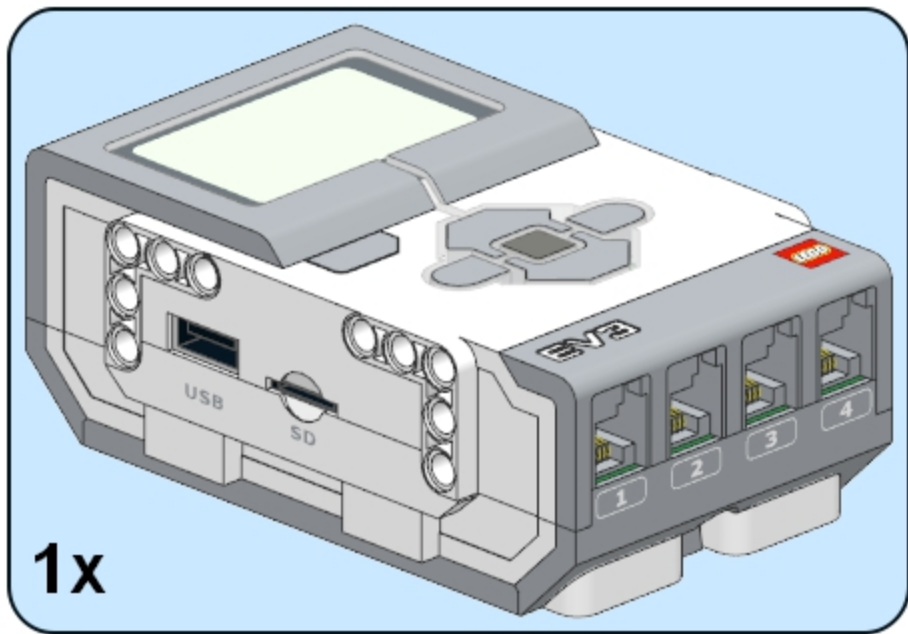
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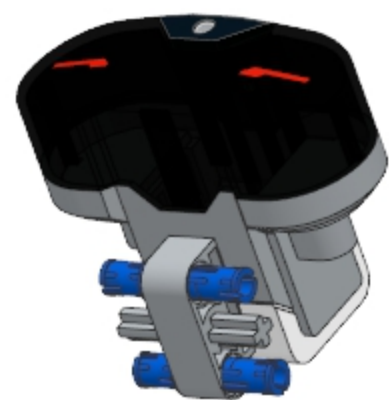
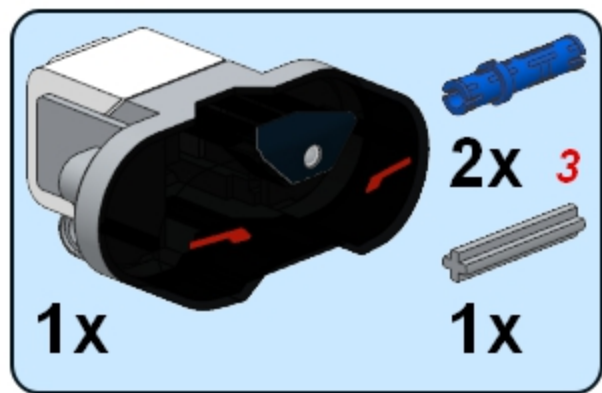
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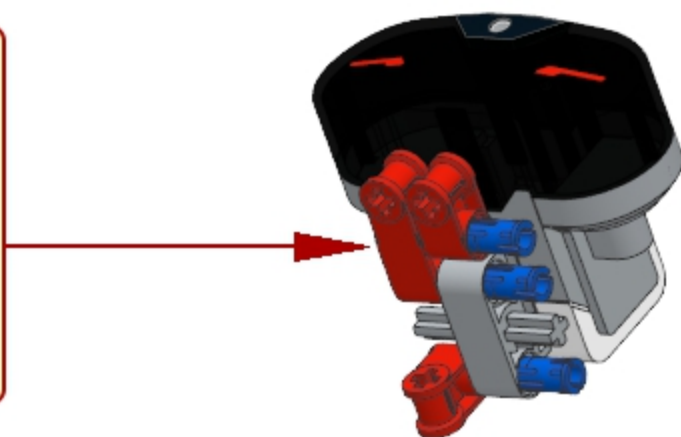
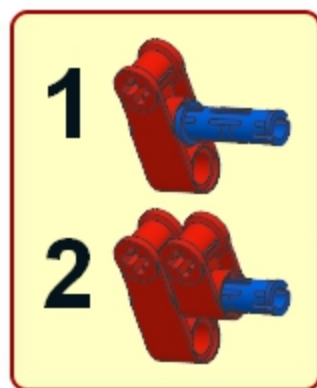
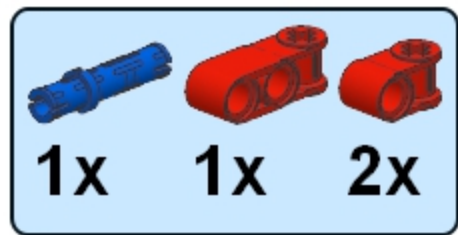
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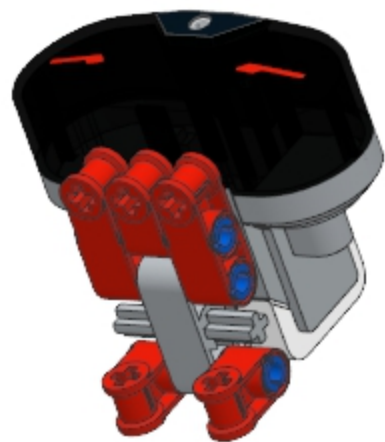
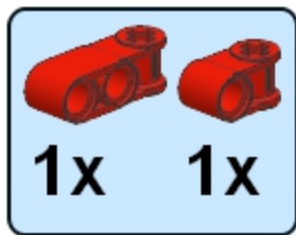
1



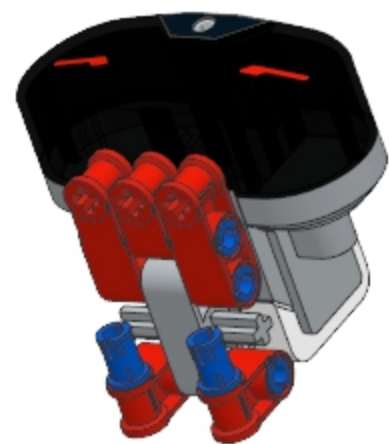
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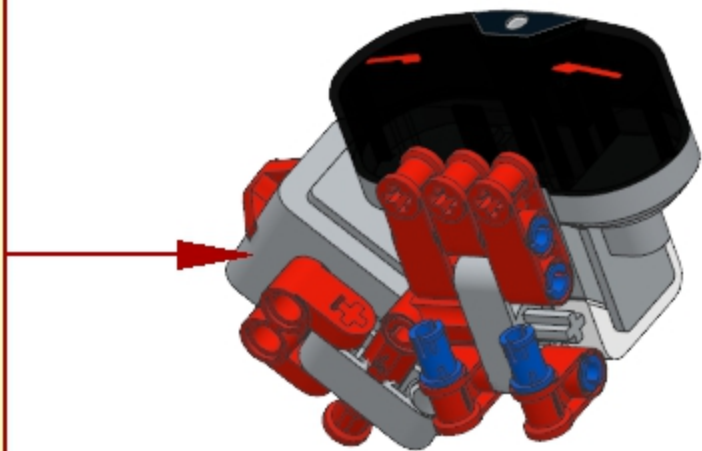
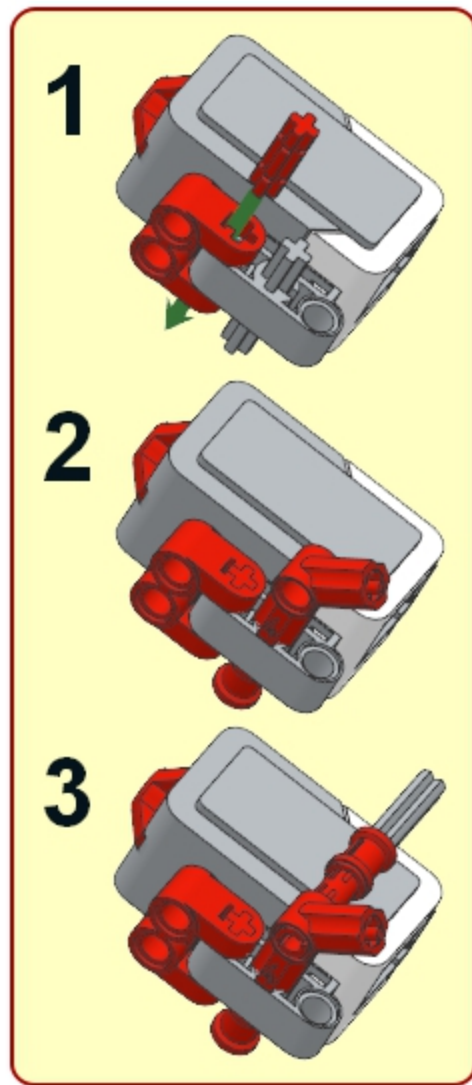
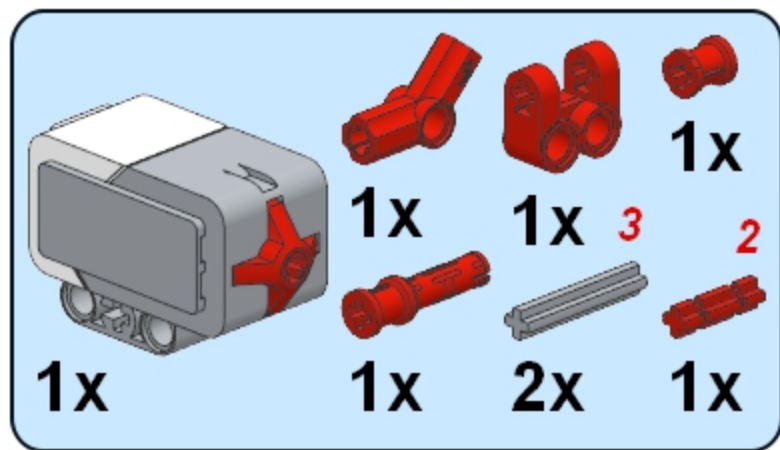
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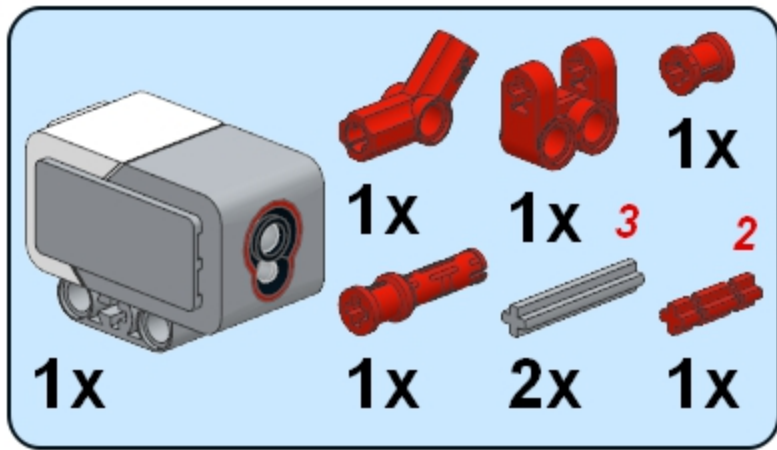
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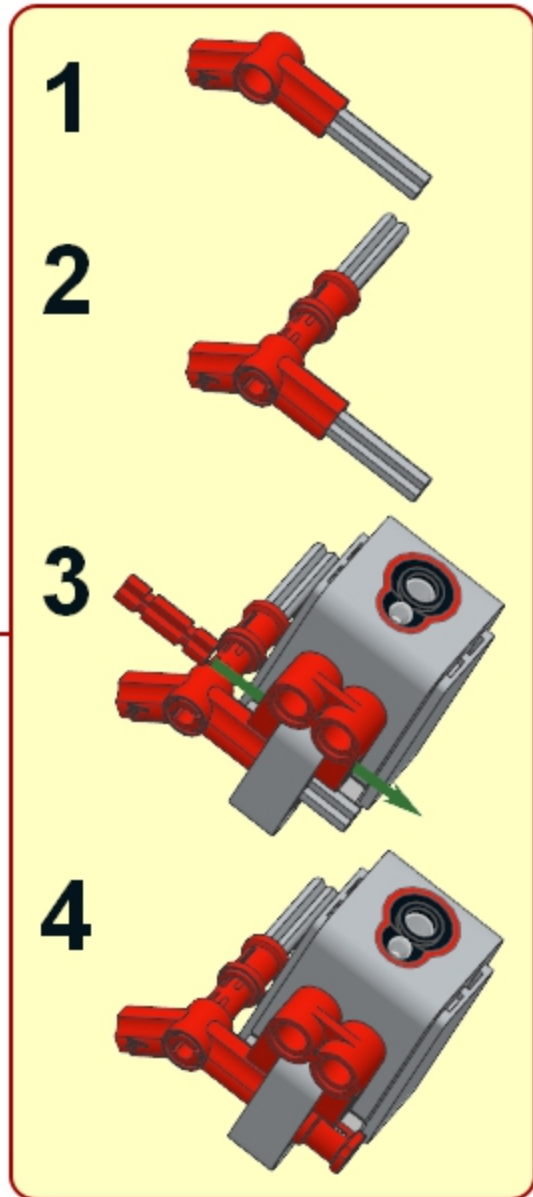
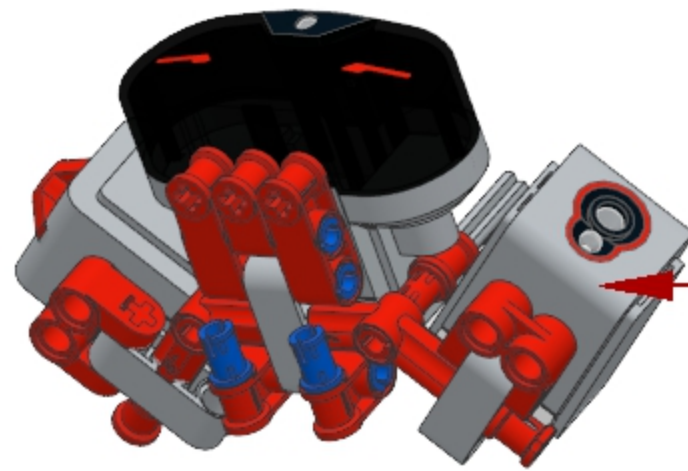
1



2

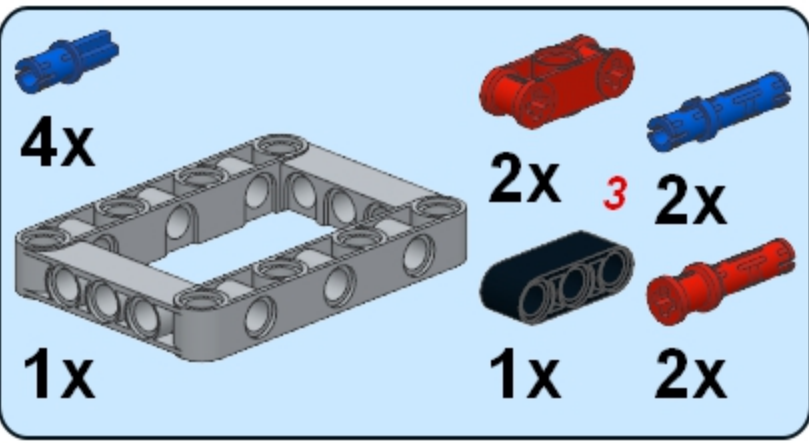



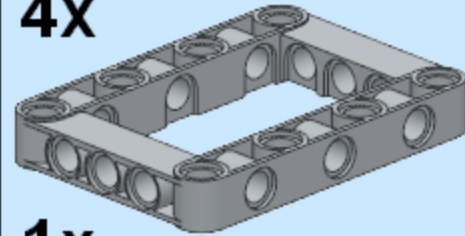
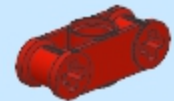
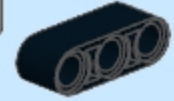




1x [Motor] 1x [Red L-shaped Connector] 1x [Red 2-way Connector] 1x [Red Pin] 1x [Red Pin] 1x [Red Pin] 1x [Red Pin] 1x [Red Pin] 2x [Grey Pin] 1x [Red Pin]

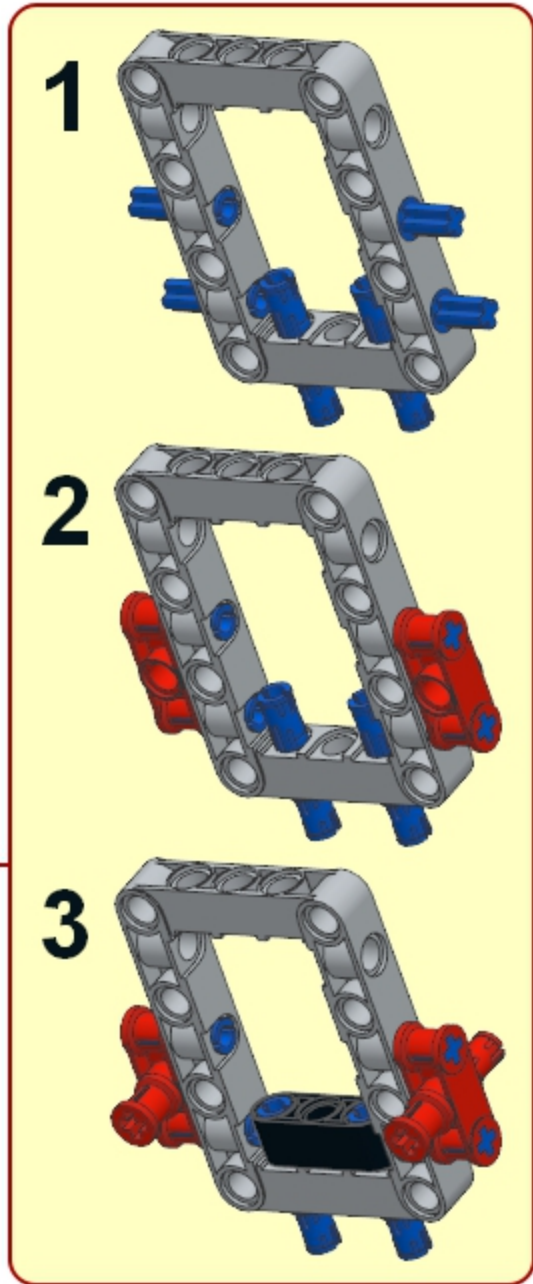
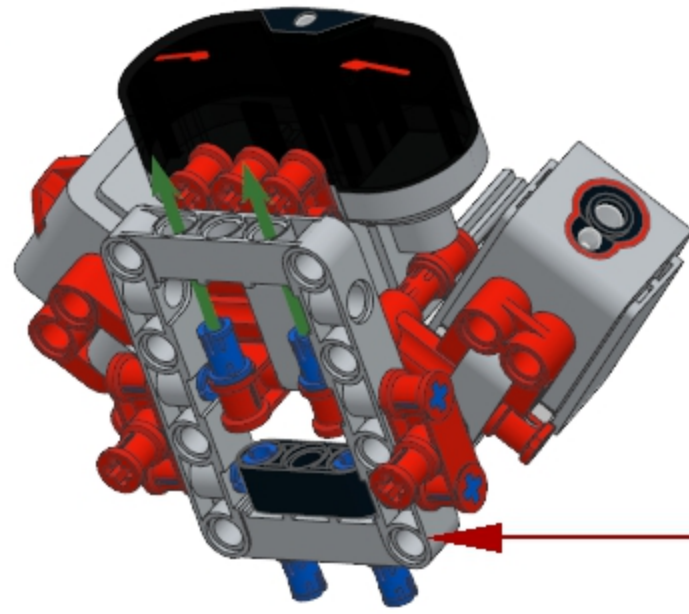


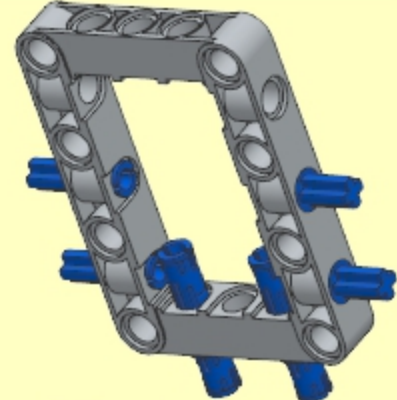
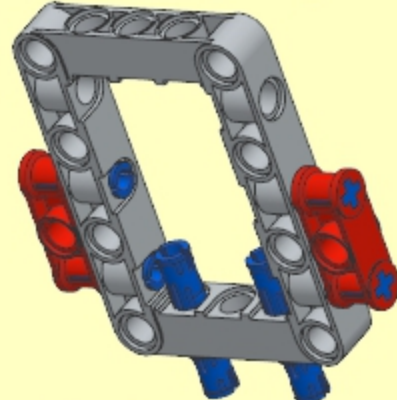
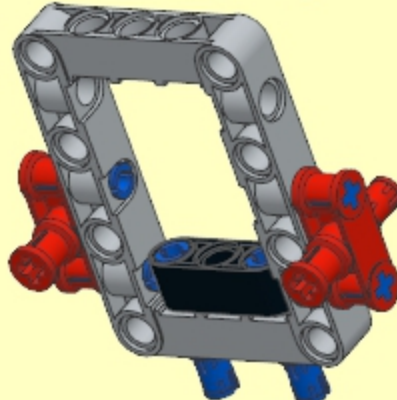
- 1 [Red L-shaped Connector] + [Grey Pin]
- 2 [Red 2-way Connector] + [Grey Pin]
- 3 [Red L-shaped Connector] + [Red 2-way Connector] + [Grey Pin] + [Red Pin]
- 4 [Red L-shaped Connector] + [Red 2-way Connector] + [Red Pin] + [Red Pin]

3



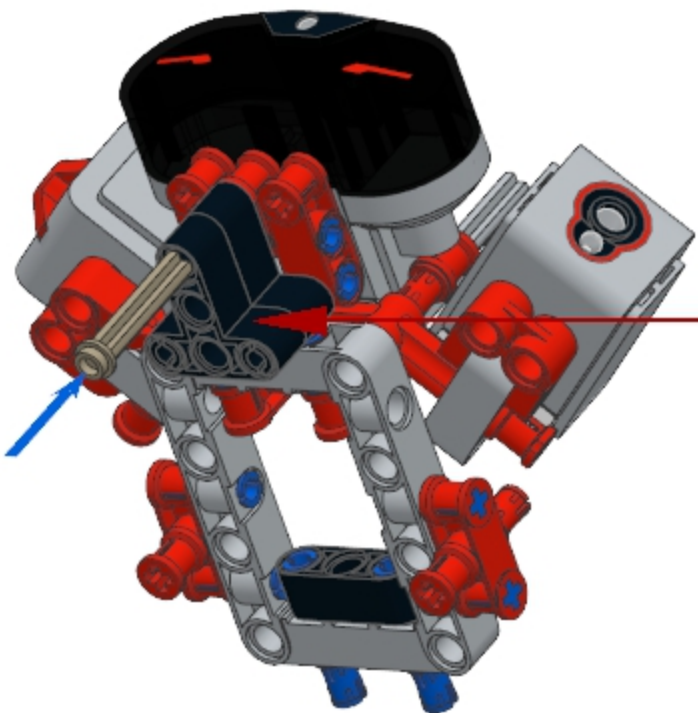
4x 
1x 
2x 
1x 
3 
2x 
2x 
2x 



1 
2 
3 

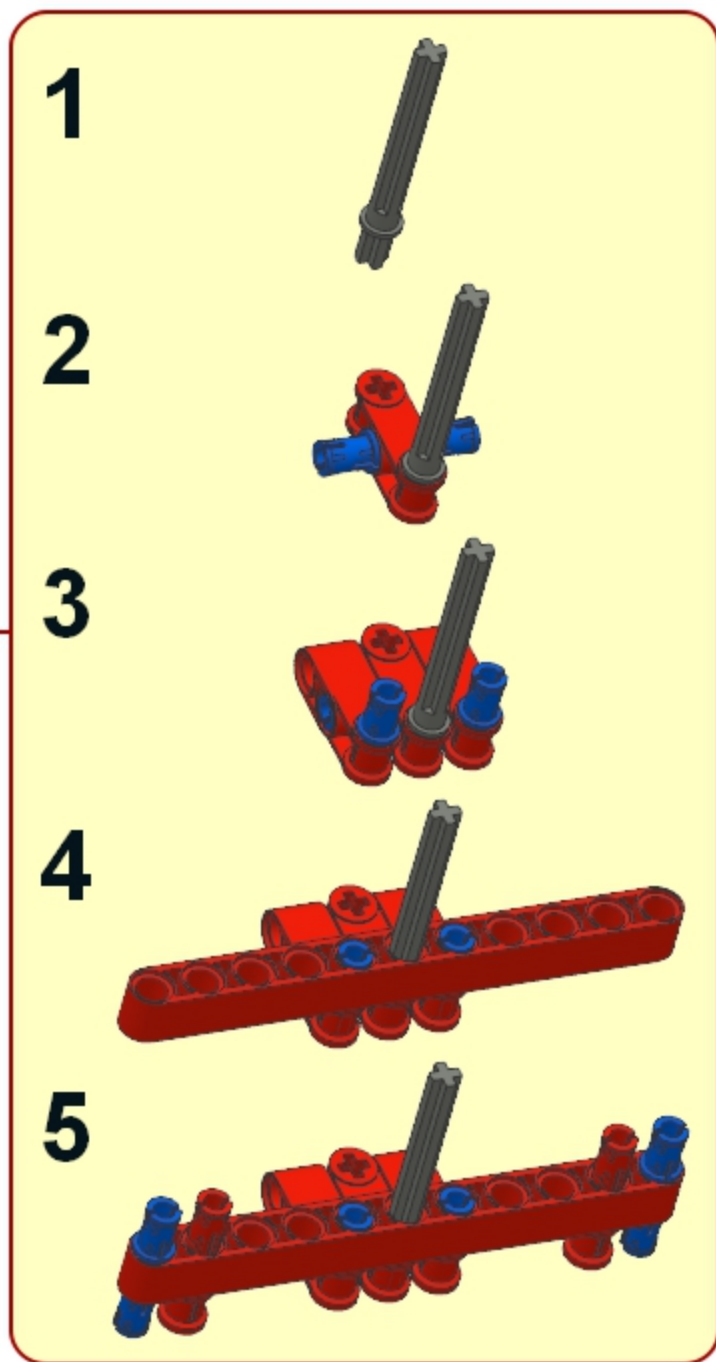
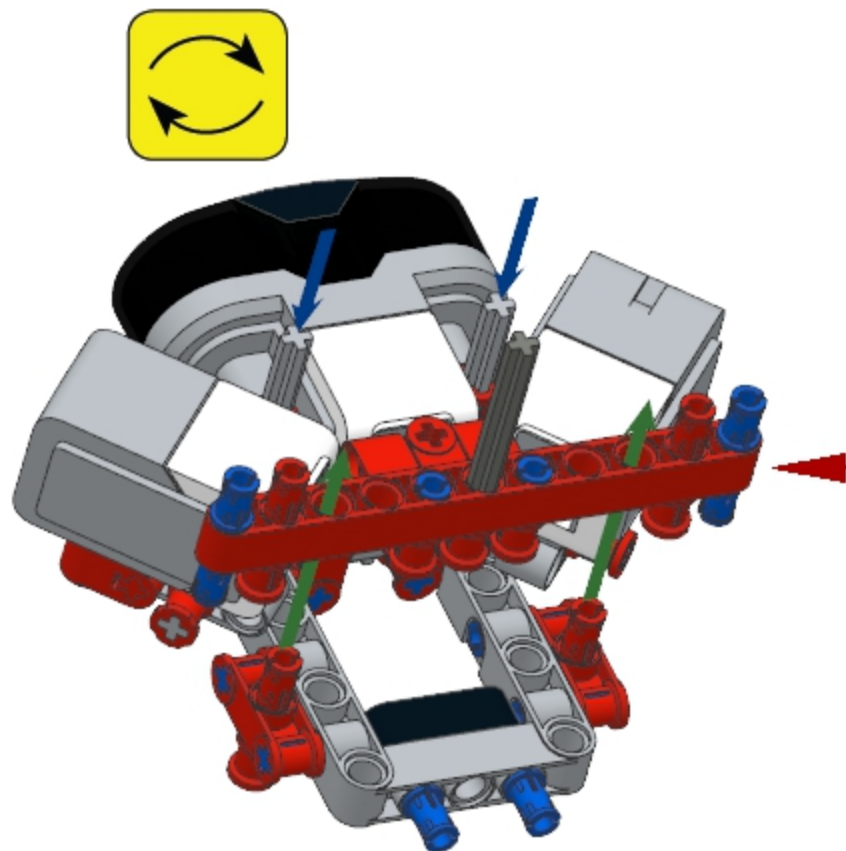
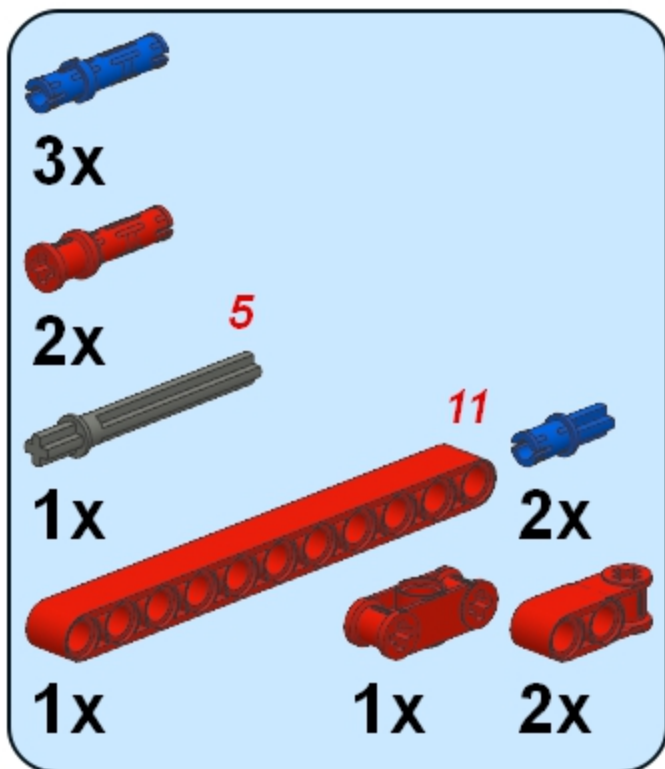
4

- 2x ³
- 1x
- 2x

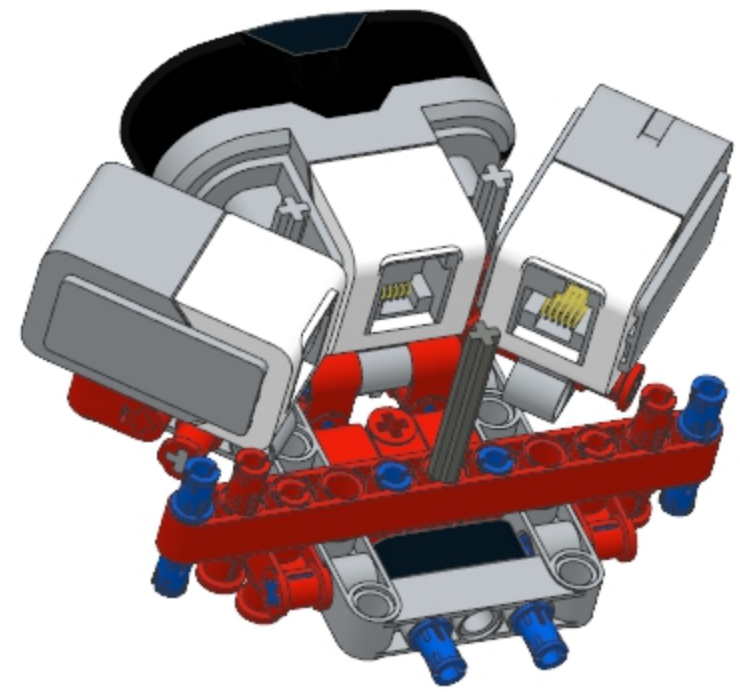


- 1
- 2
- 3

5

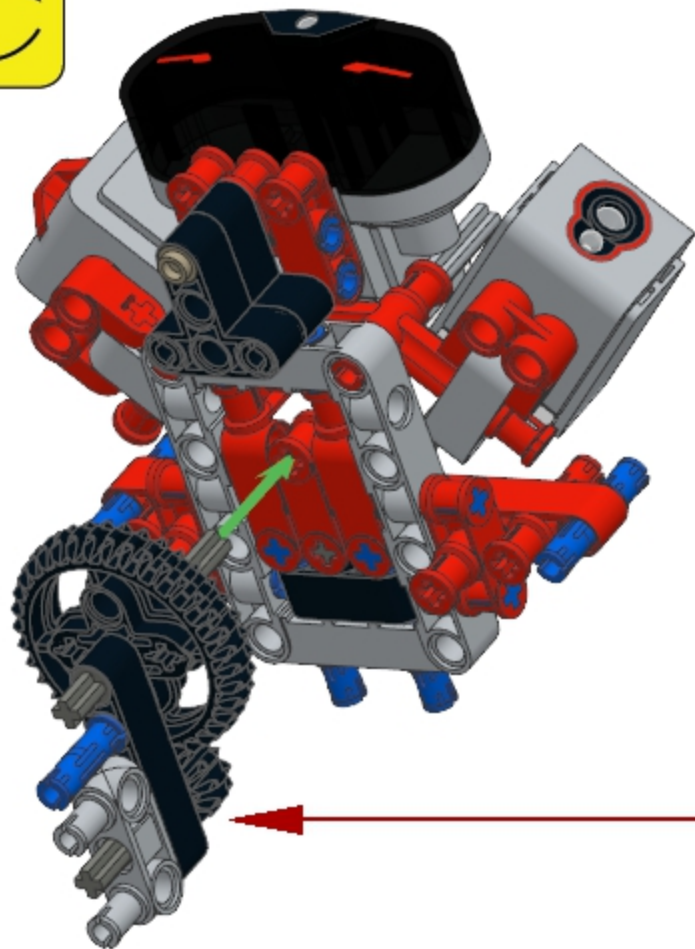


6



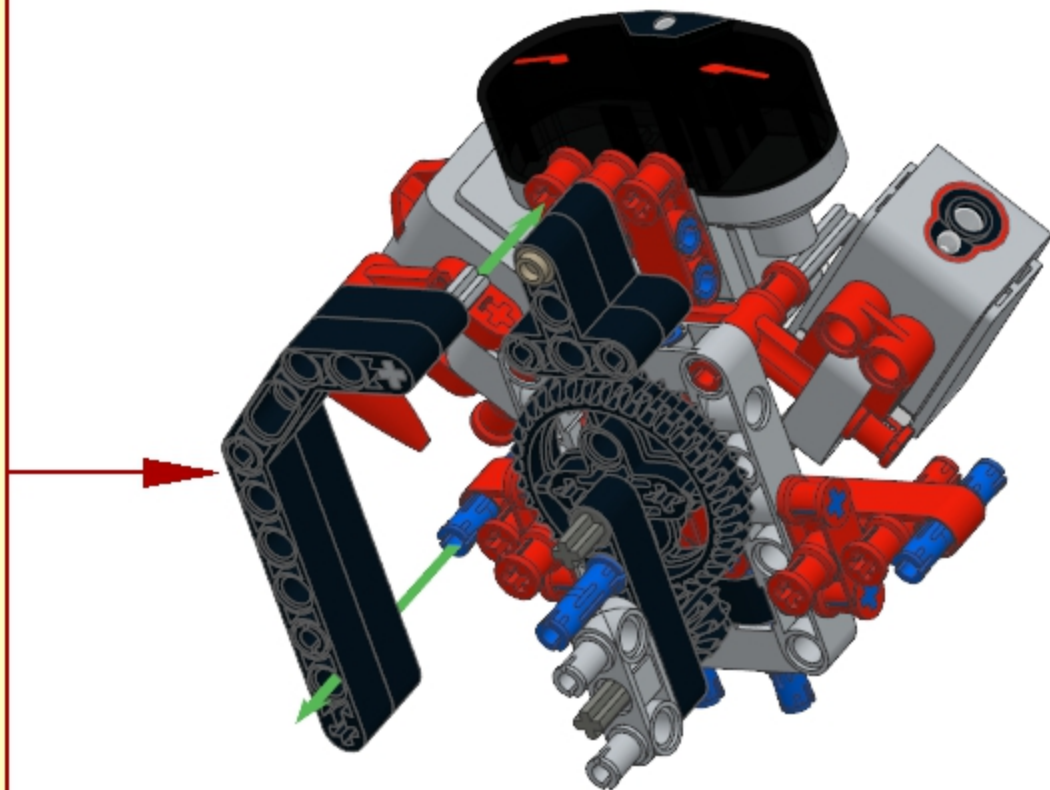
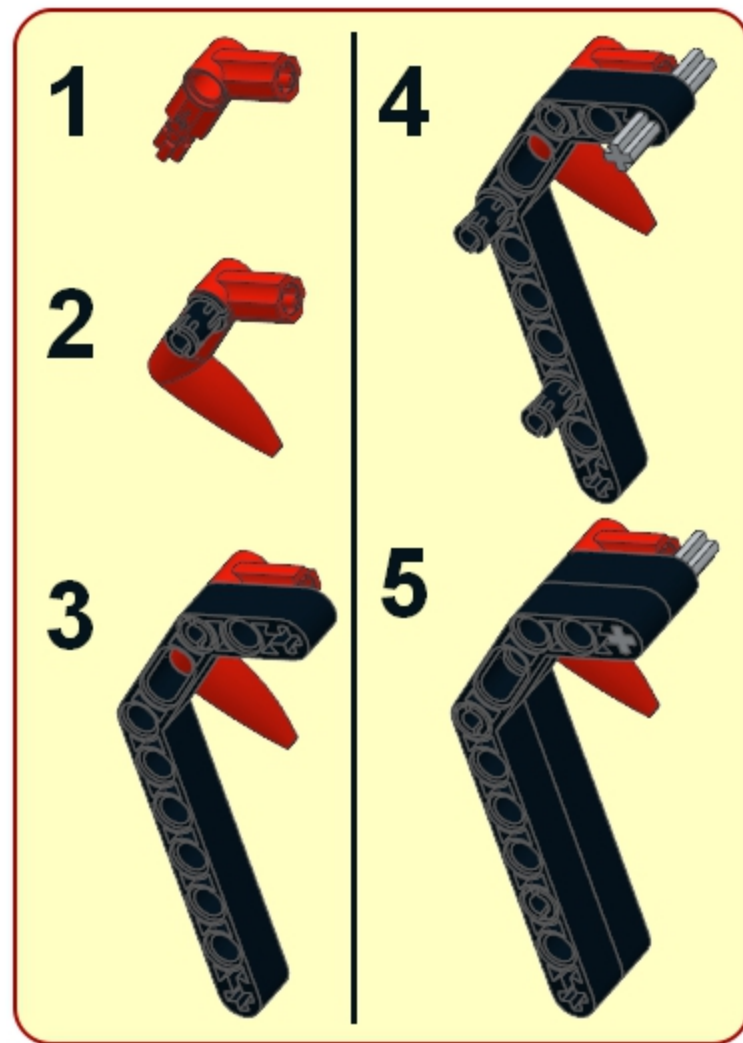
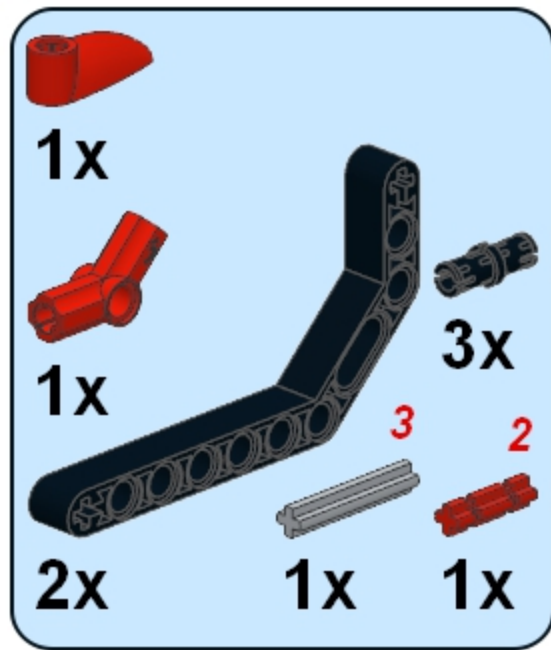
7

1x	1x
1x	1x
1x	1x
1x	1x



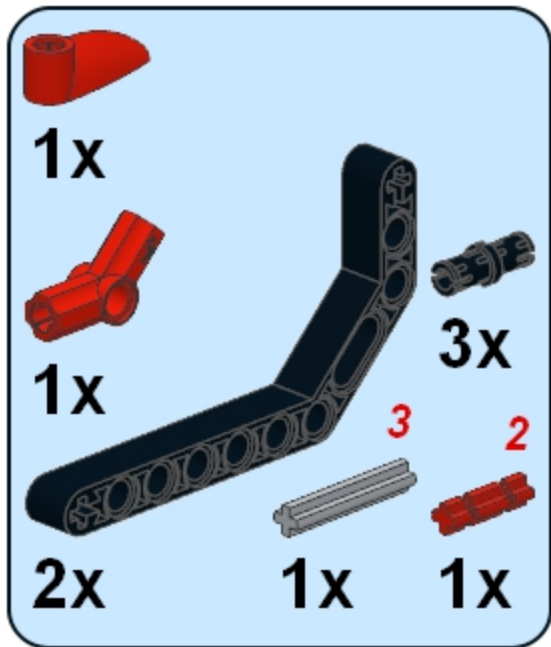
1		4	
2			
3		5	

8

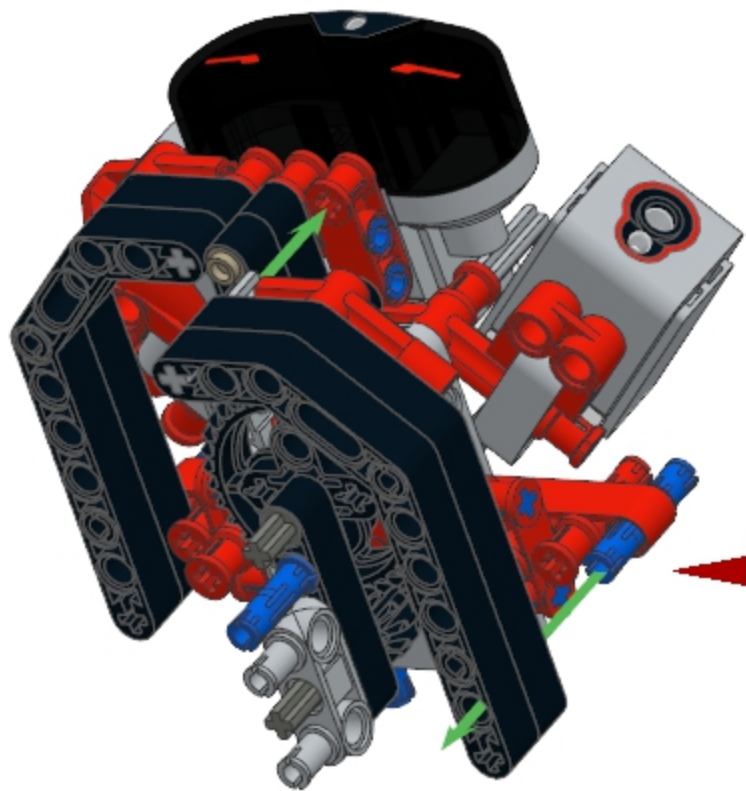


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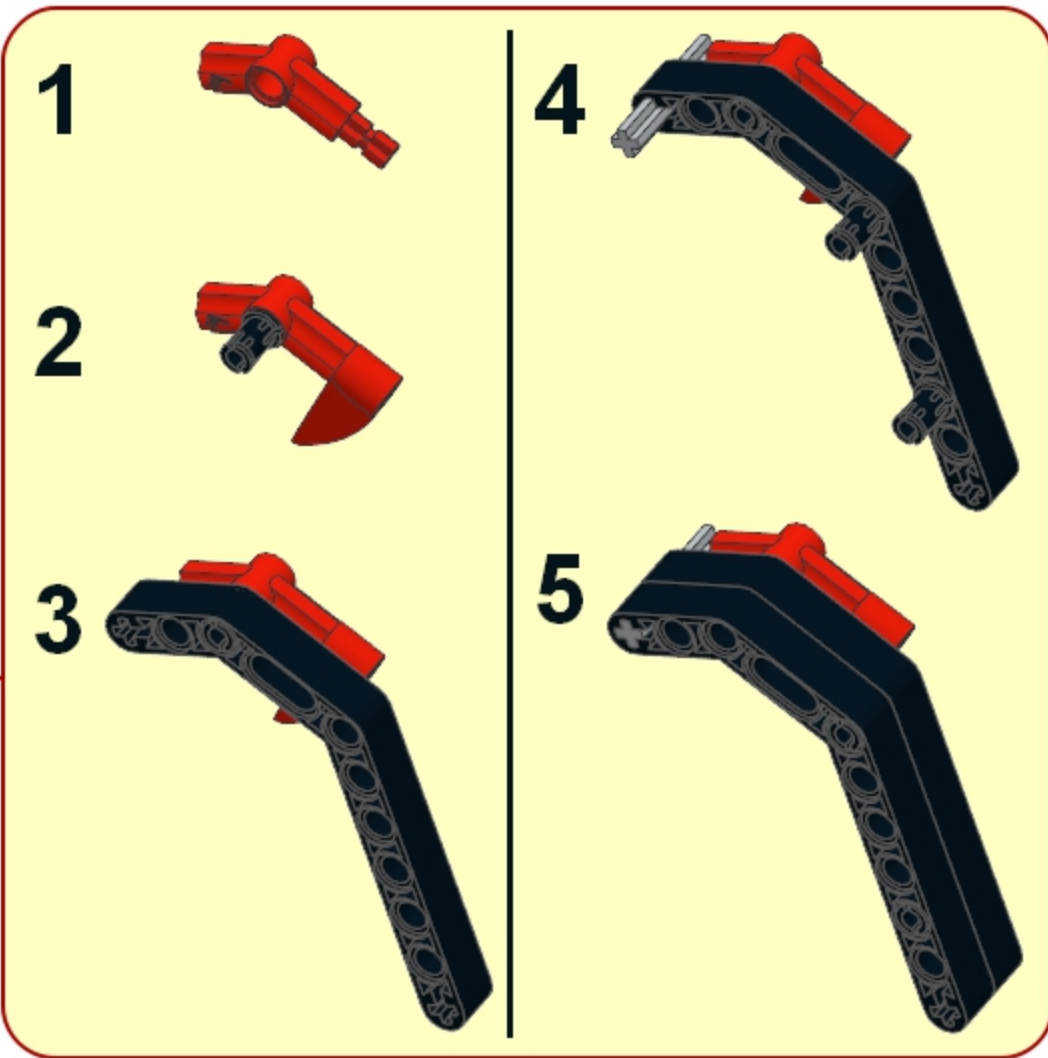
1x
1x
1x
2x
1x
1x
3x
3
2



A parts list for step 9, enclosed in a light blue rounded rectangle. It includes: 1x red Technic bush, 1x red Technic L-shaped connector, 1x black Technic Technonorm beam (11 holes), 2x black Technic Technonorm beam (11 holes), 1x grey Technic axle (1/2), 1x red Technic axle pin (1/2), 3x grey Technic axle pins (1/2), 3x red Technic axle pins (1/2), and 2x red Technic axle pins (1/2).

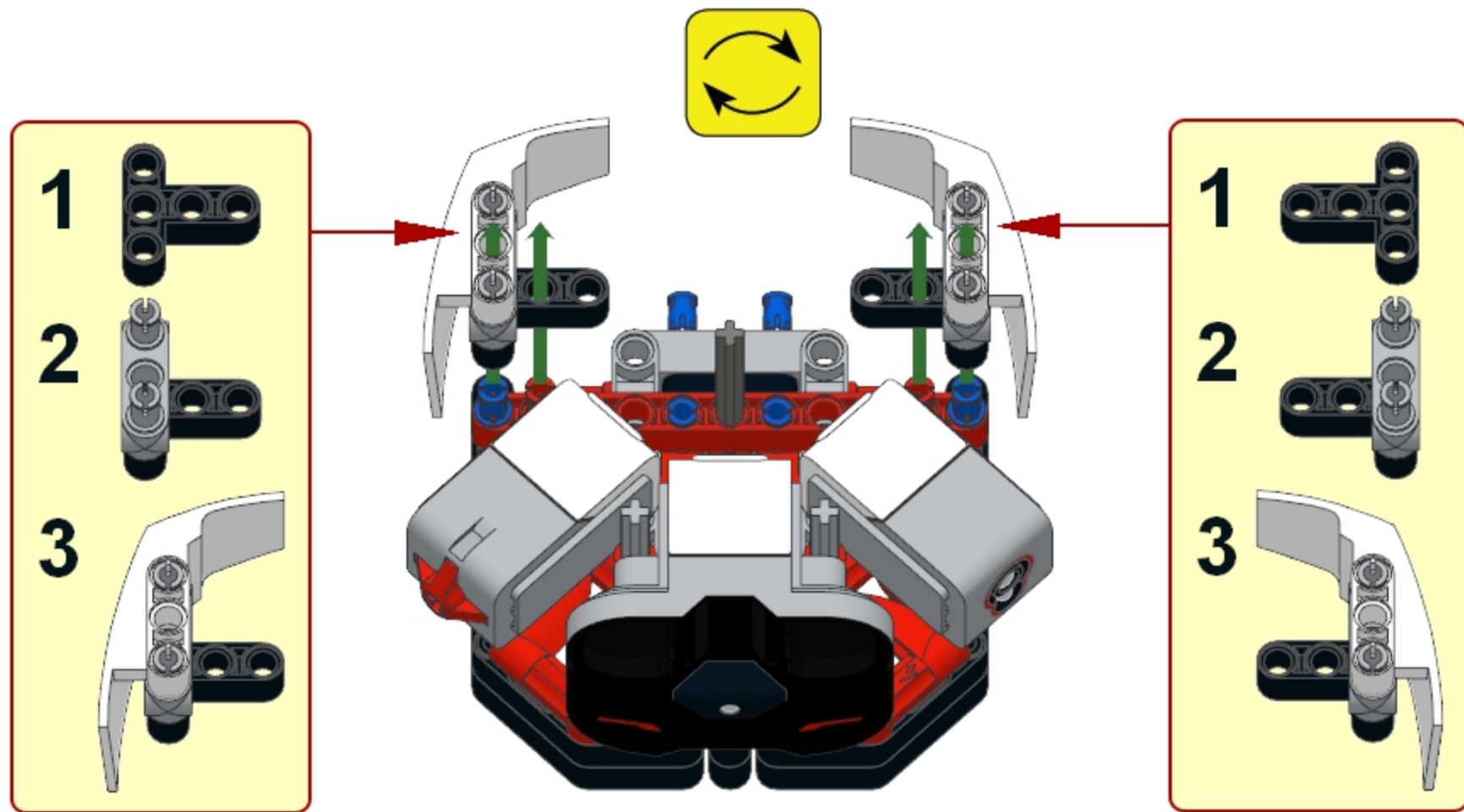
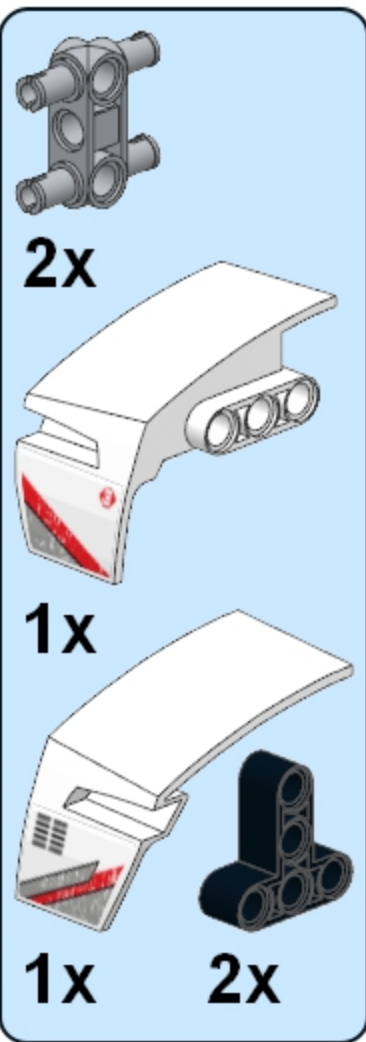


1
2
3
4
5



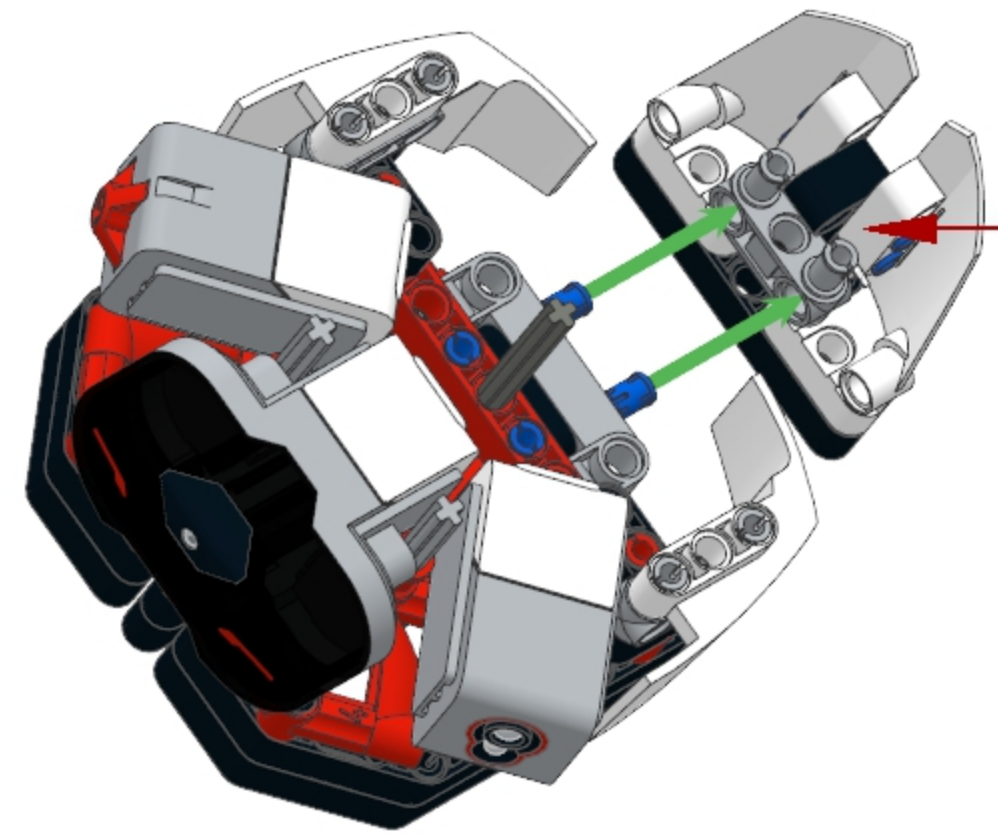
A sequence of five numbered steps (1-5) showing the assembly of a red connector onto a black Technic beam. The steps are shown in a yellow rounded rectangle. Step 1 shows the red connector being inserted into the beam. Step 2 shows the connector being pushed further into the beam. Step 3 shows the connector fully seated in the beam. Step 4 shows the beam being bent upwards. Step 5 shows the beam bent downwards.

10



11

- 4x
- 1x
- 1x
- 1x
- 1x
- 1x
- 2x
- 1x
- 1x



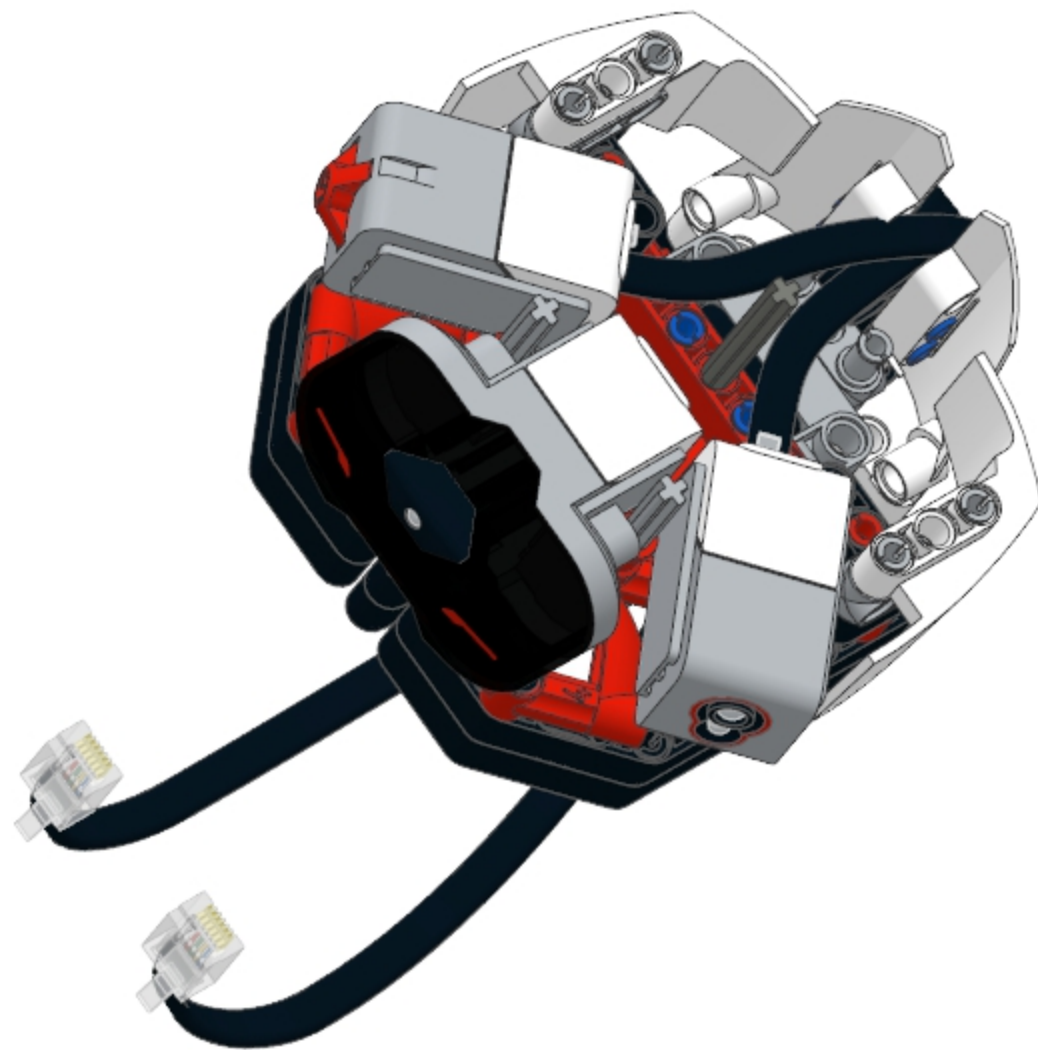
-
-
-
-
-

12

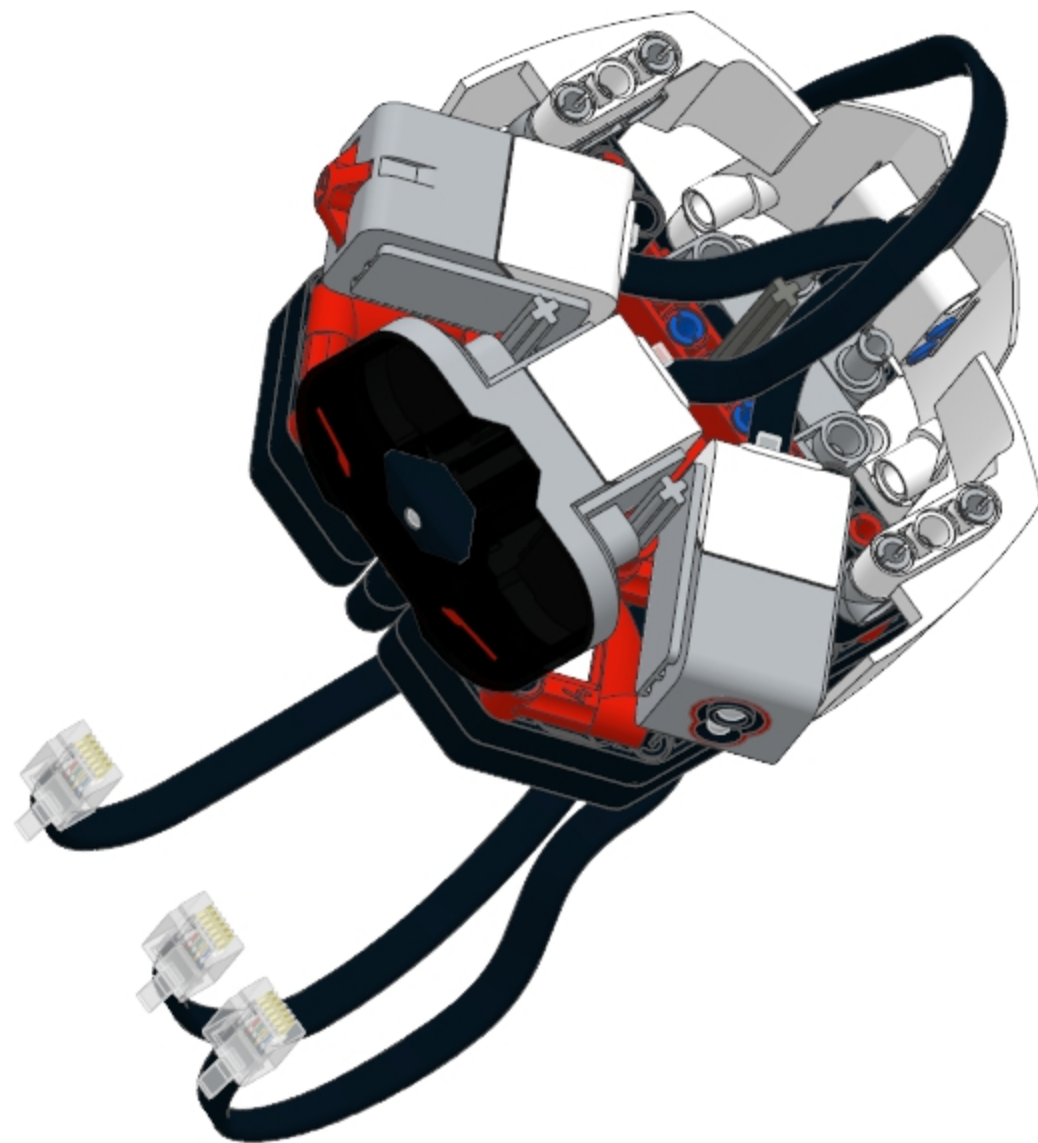
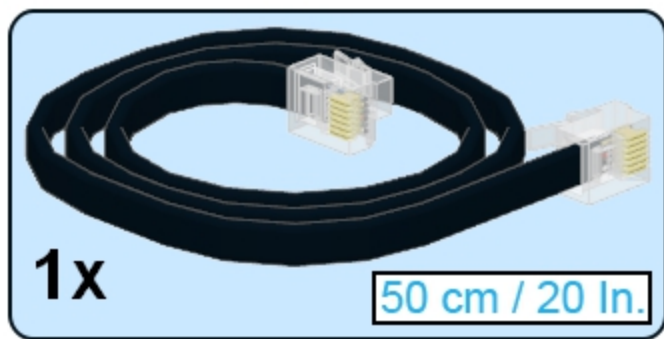


2x

35 cm / 14 In.



13



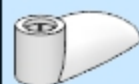
14



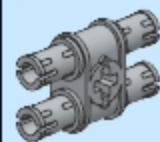
2x



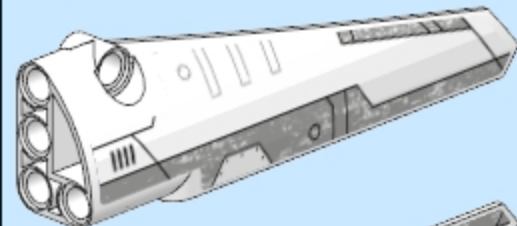
2x



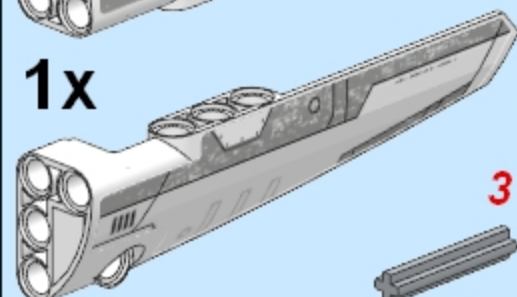
2x



1x



1x



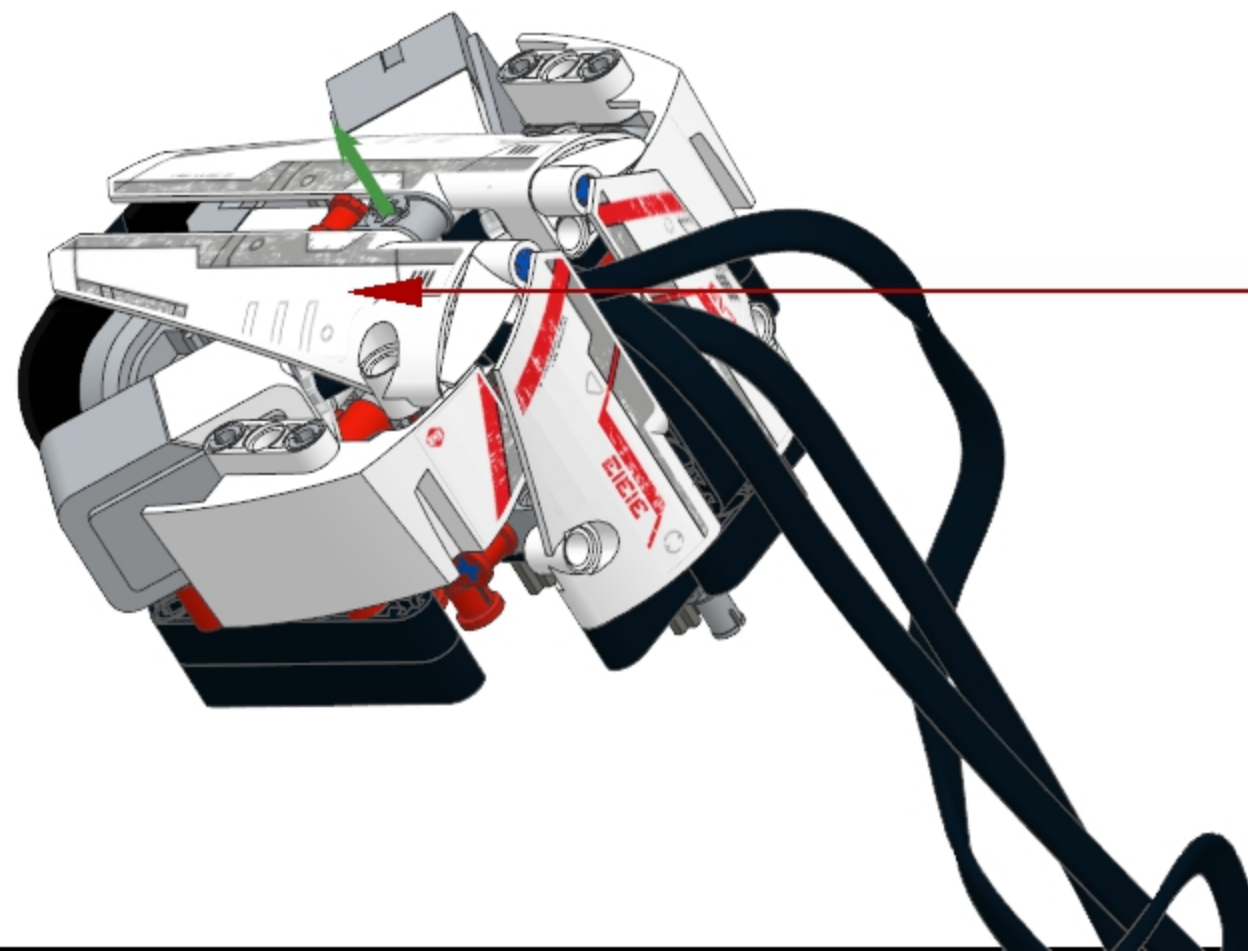
1x



1x



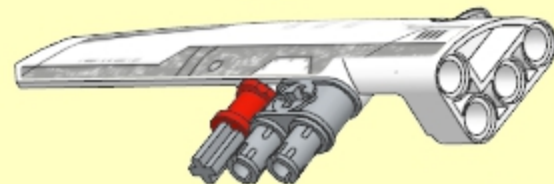
1x



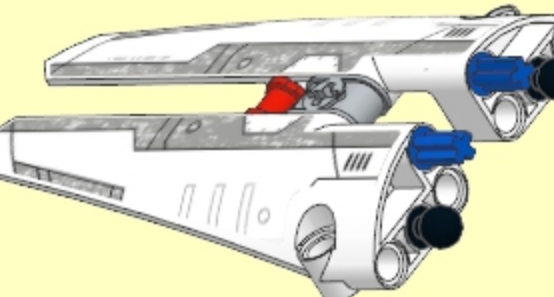
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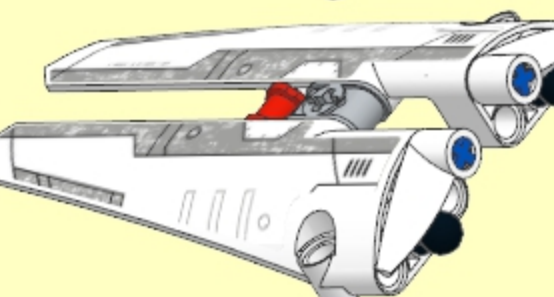
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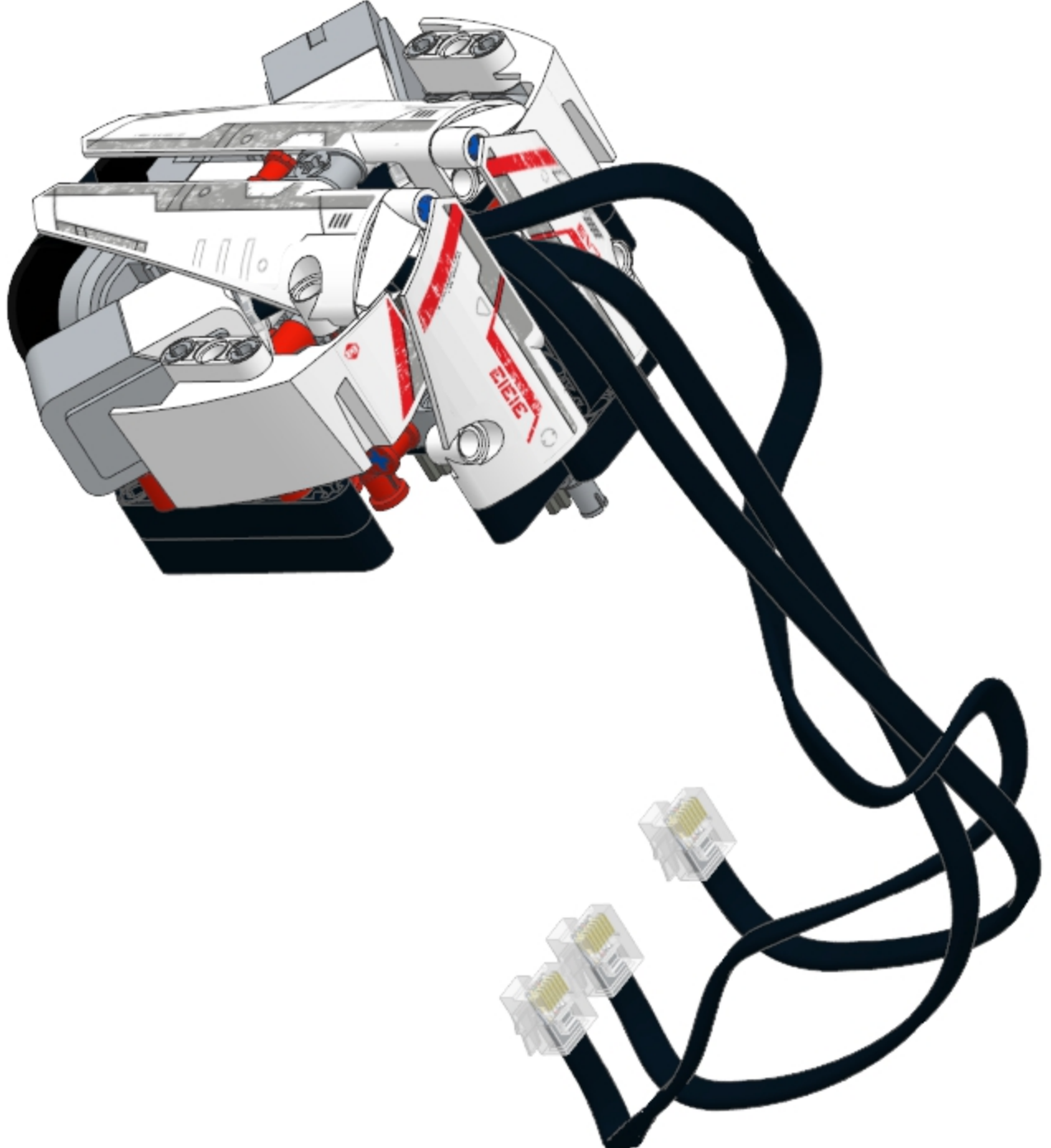
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4



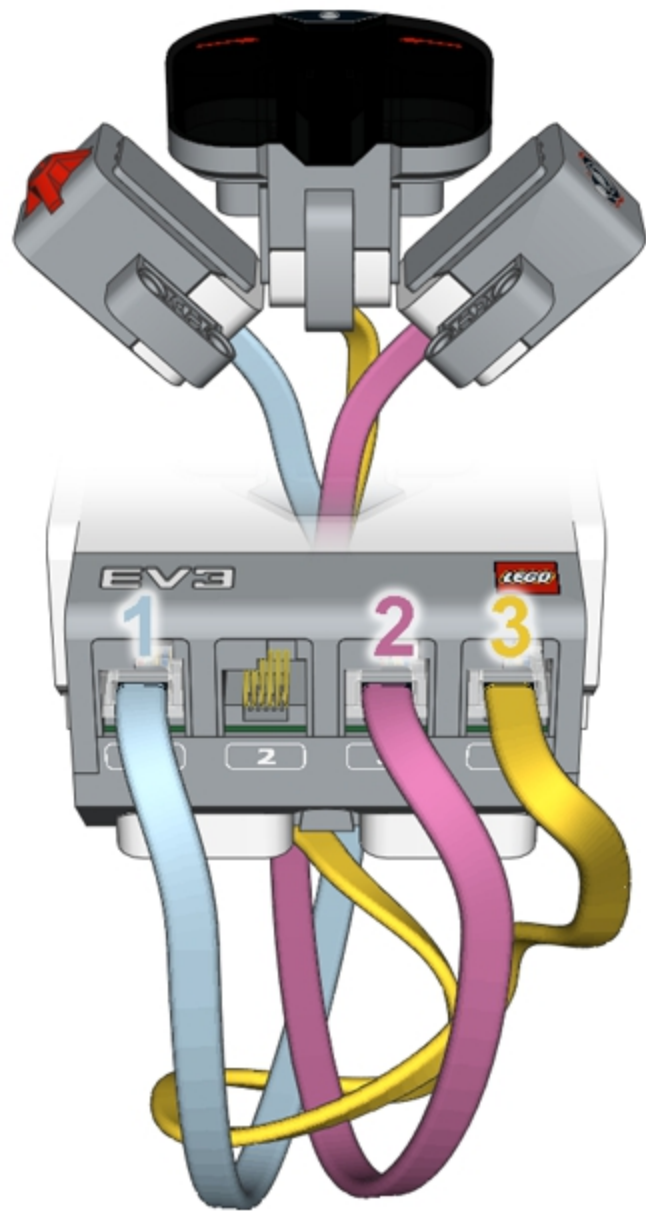
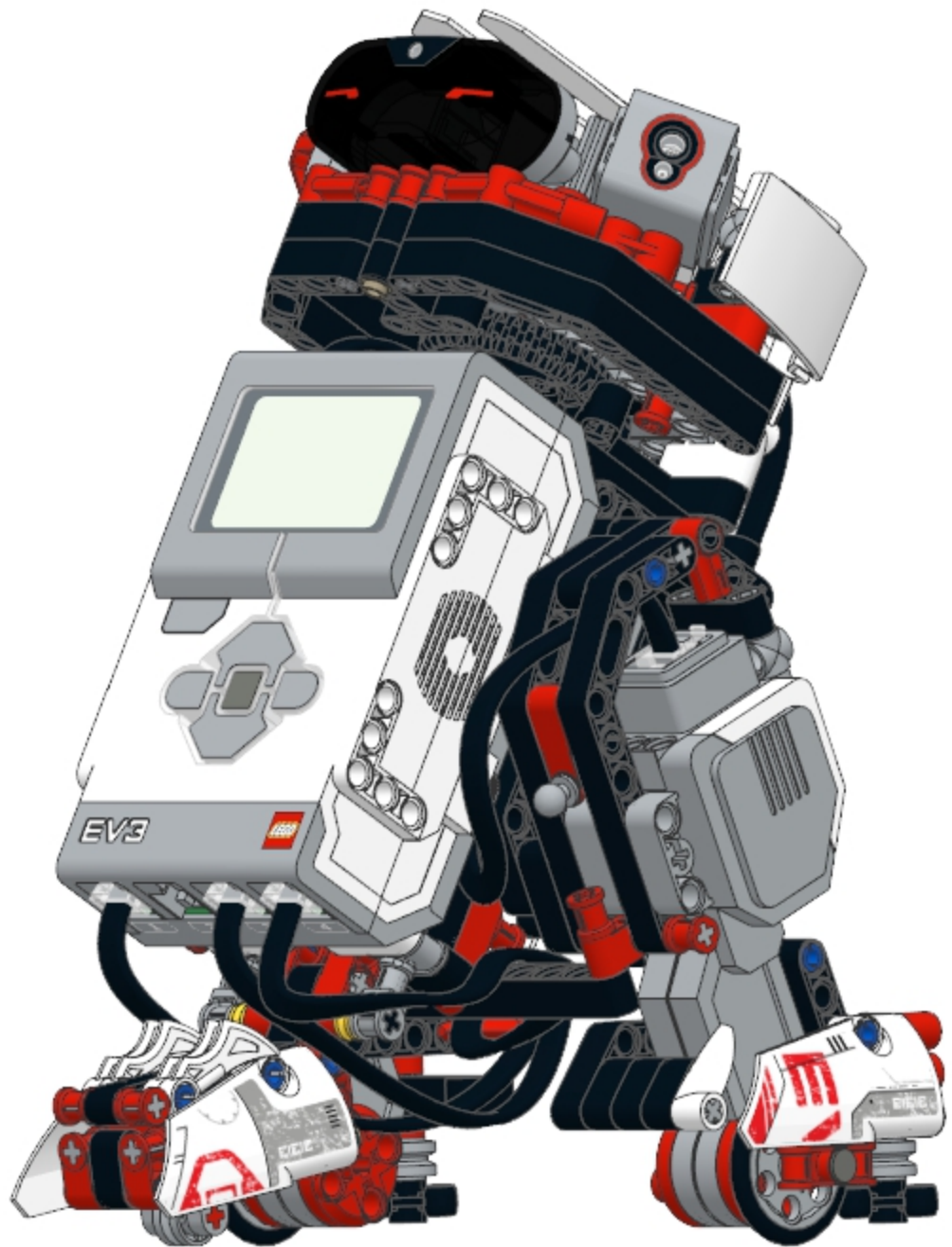
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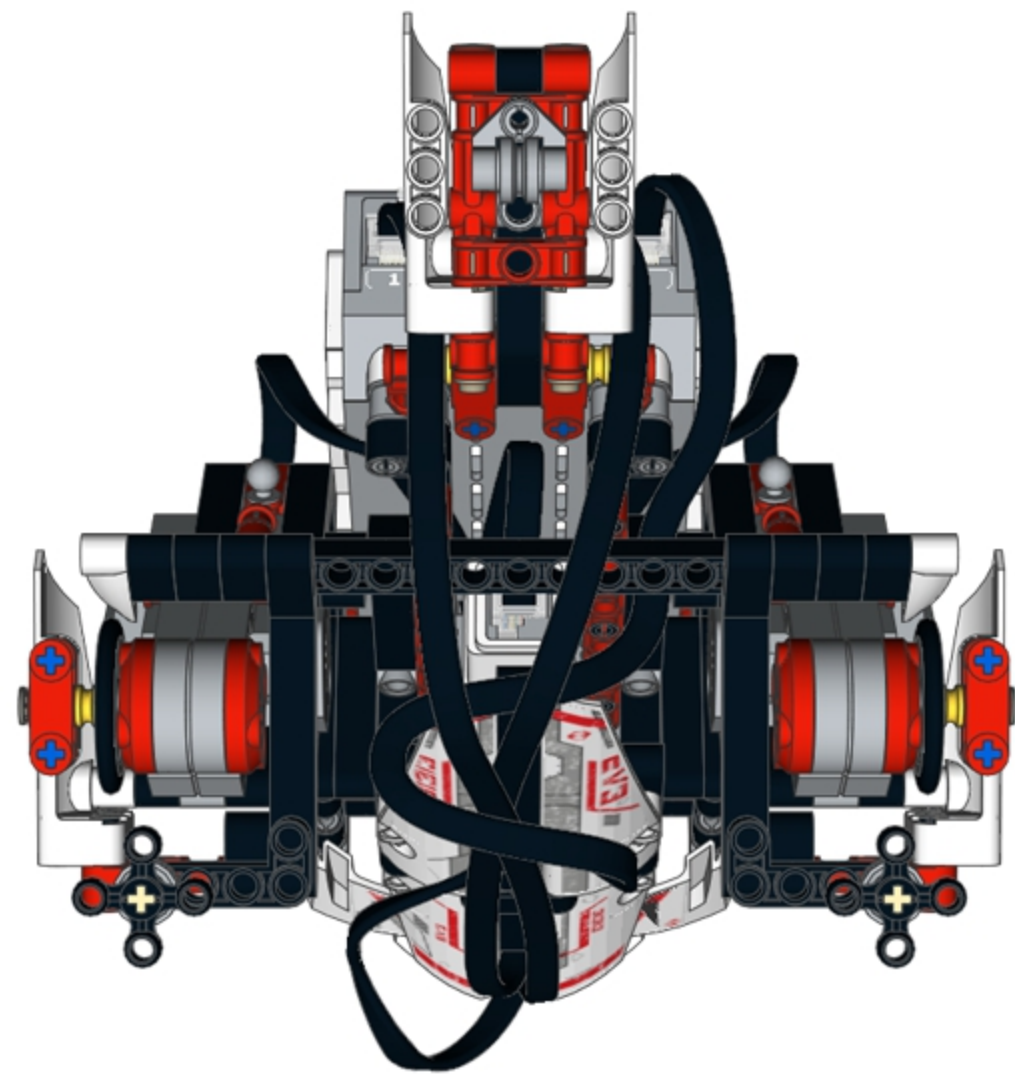
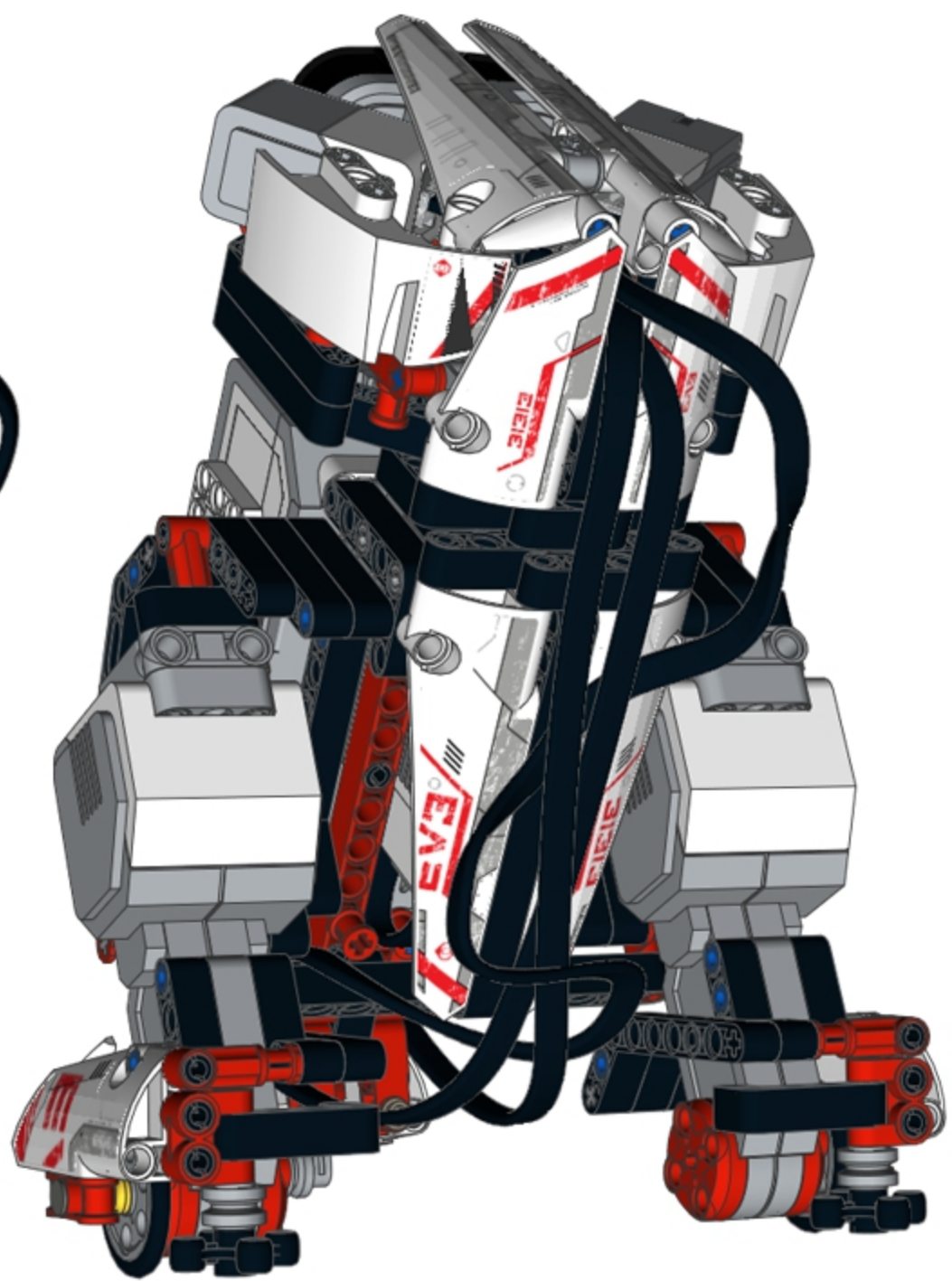
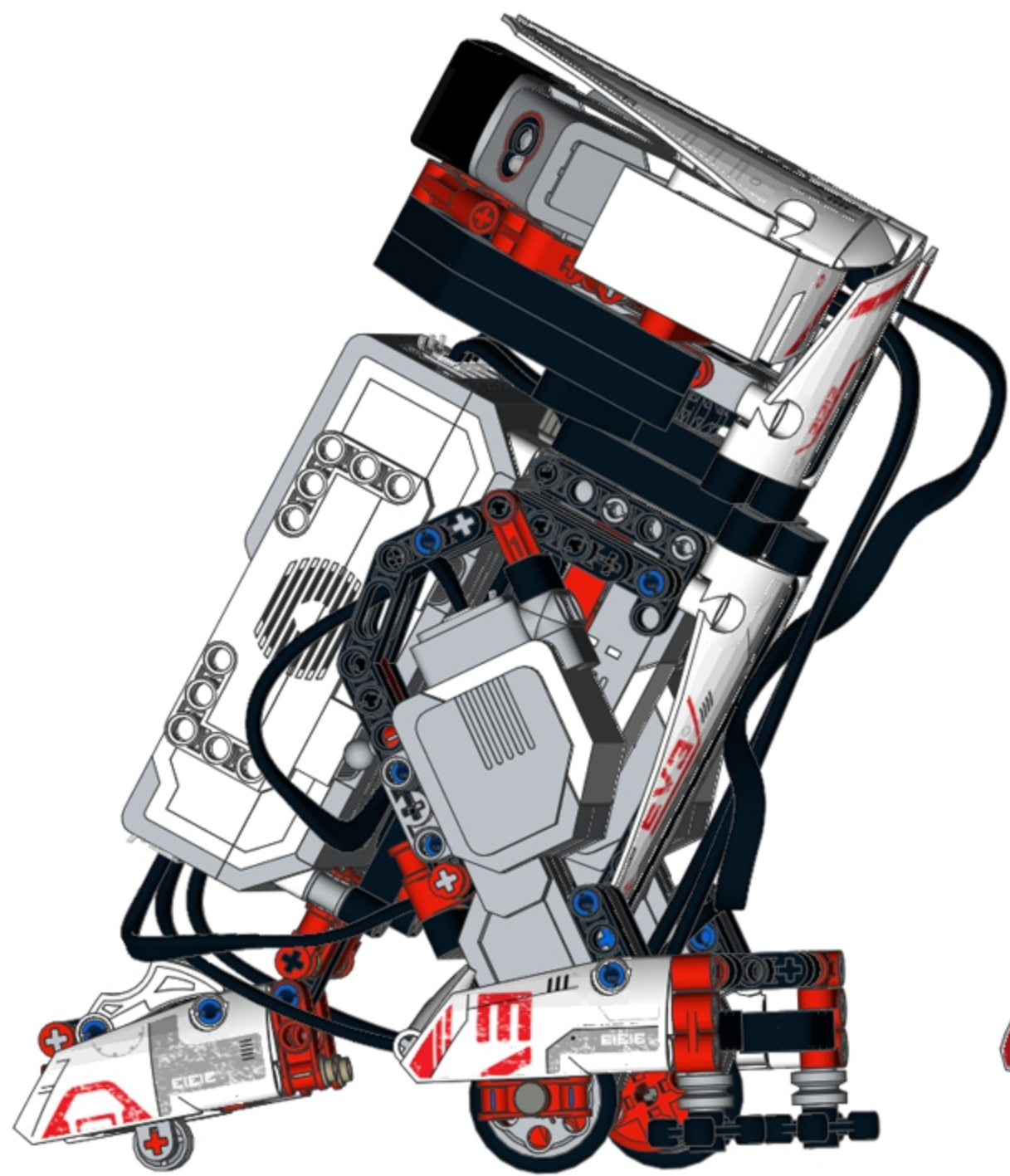


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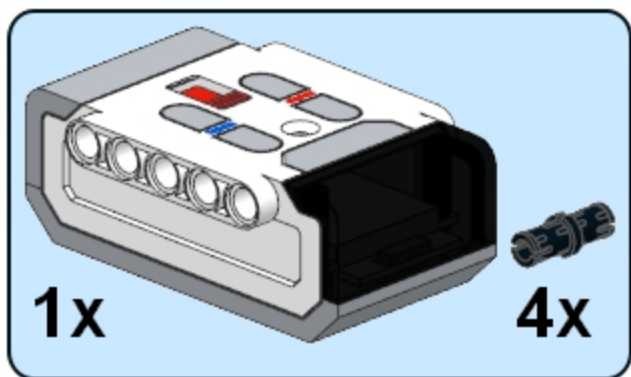


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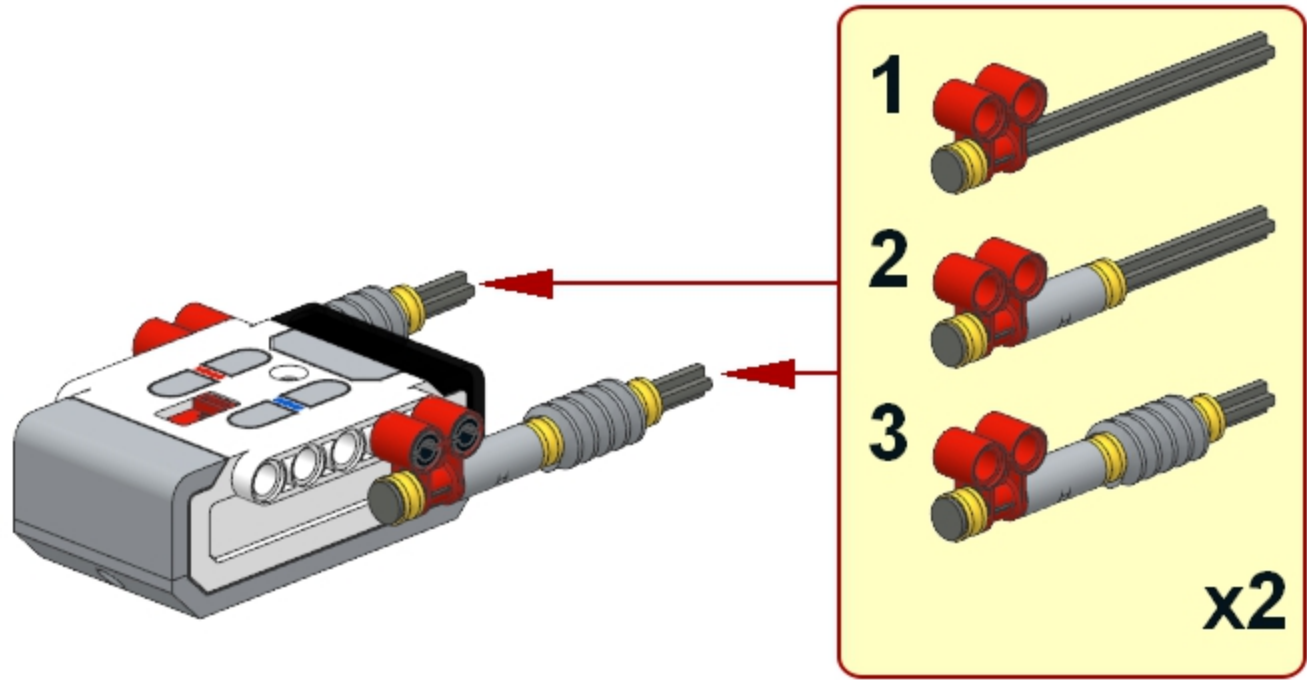
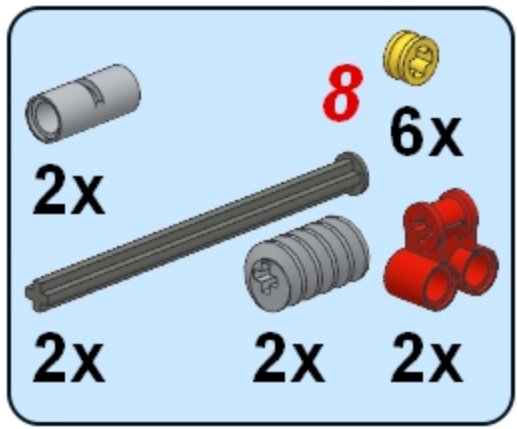




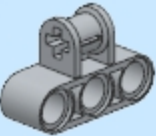
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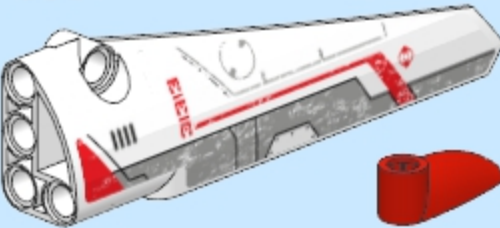



2





3

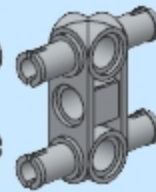
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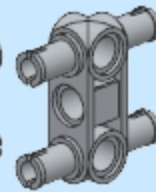
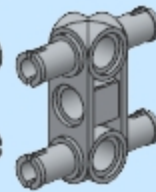
1x 


1x 


1x 

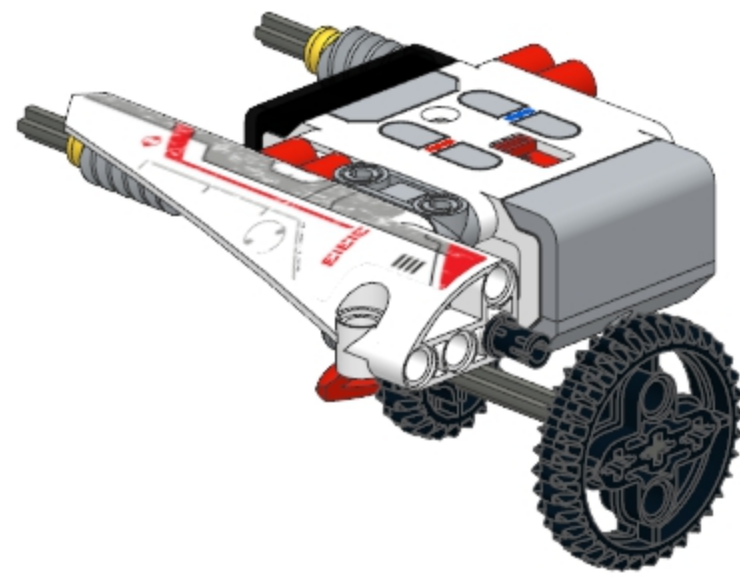
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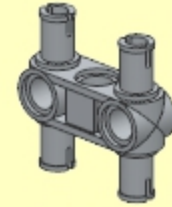
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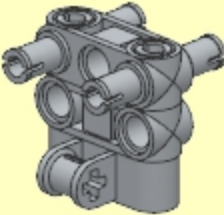
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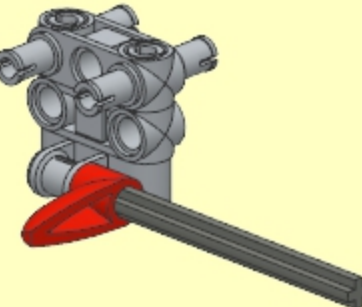
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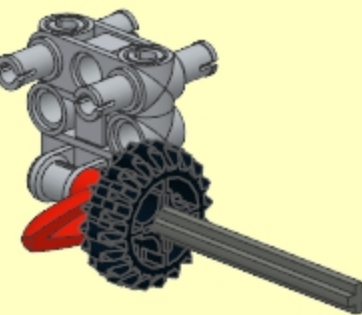
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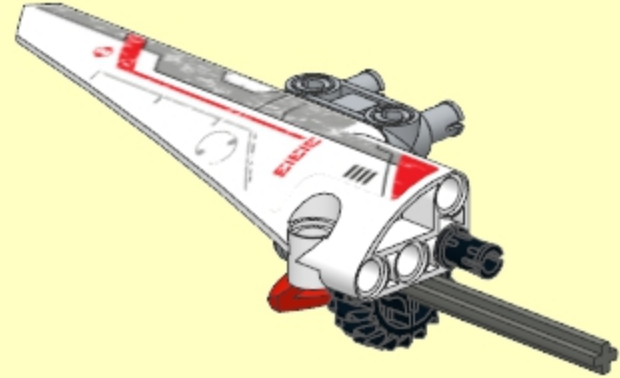


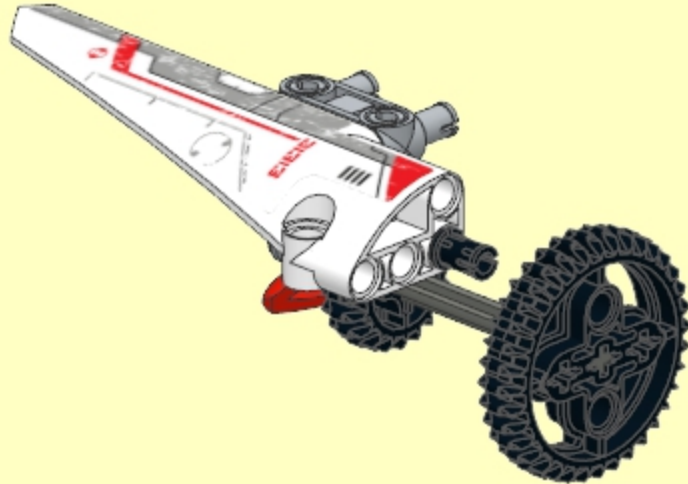
1 

2 

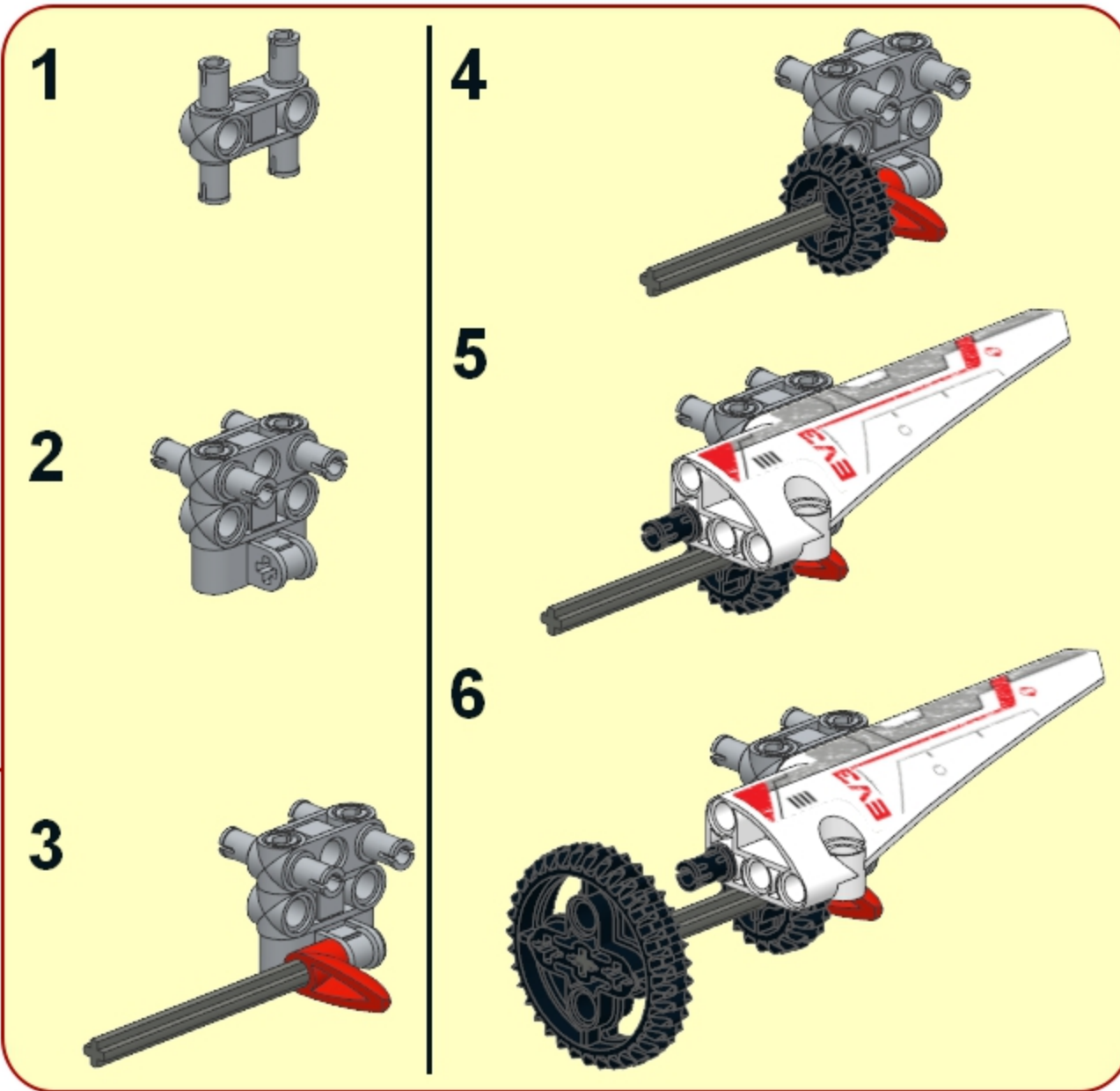
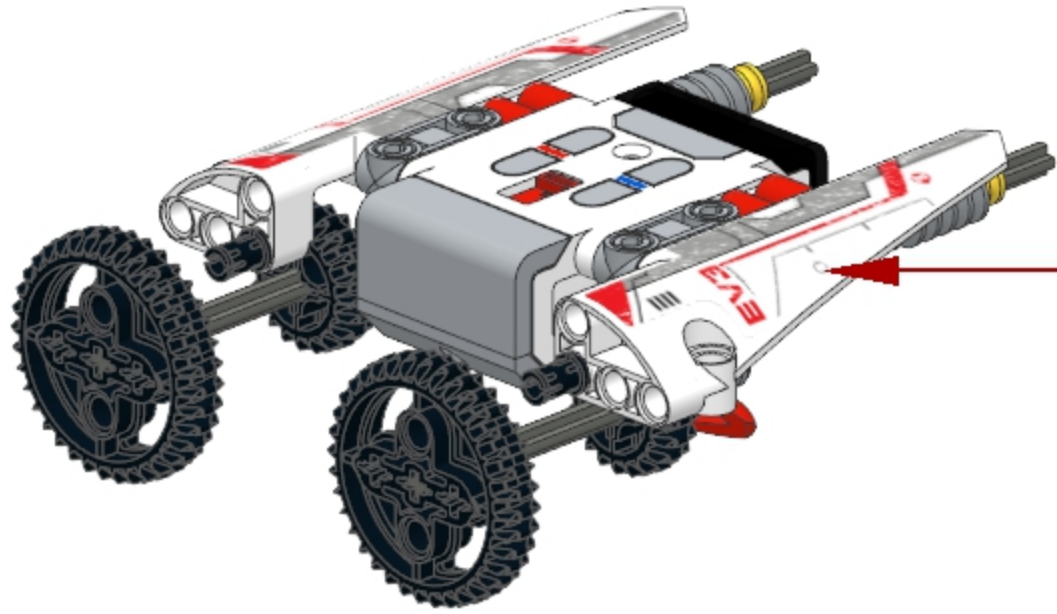
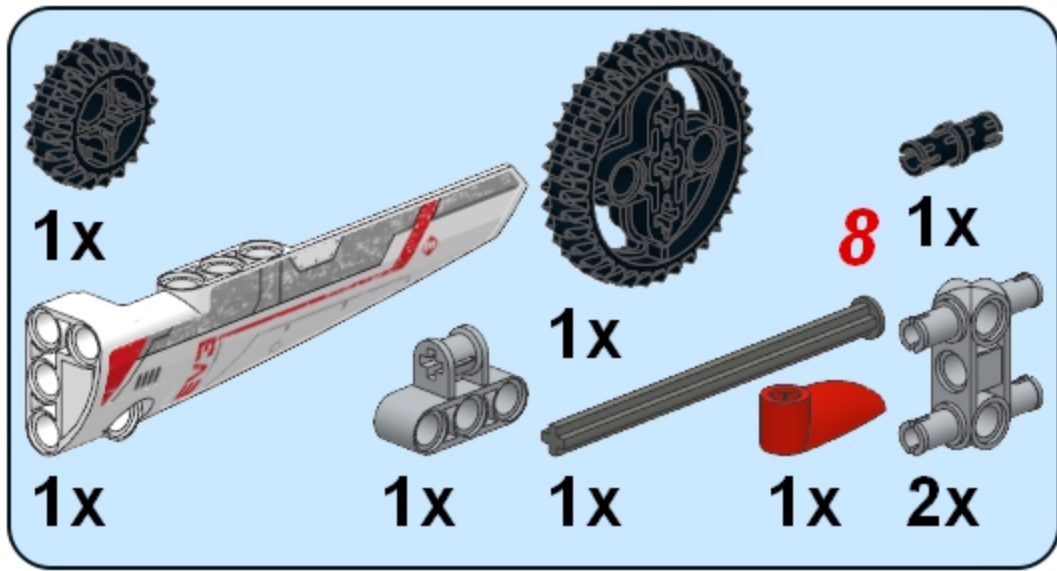
3 

4 

5 

6 

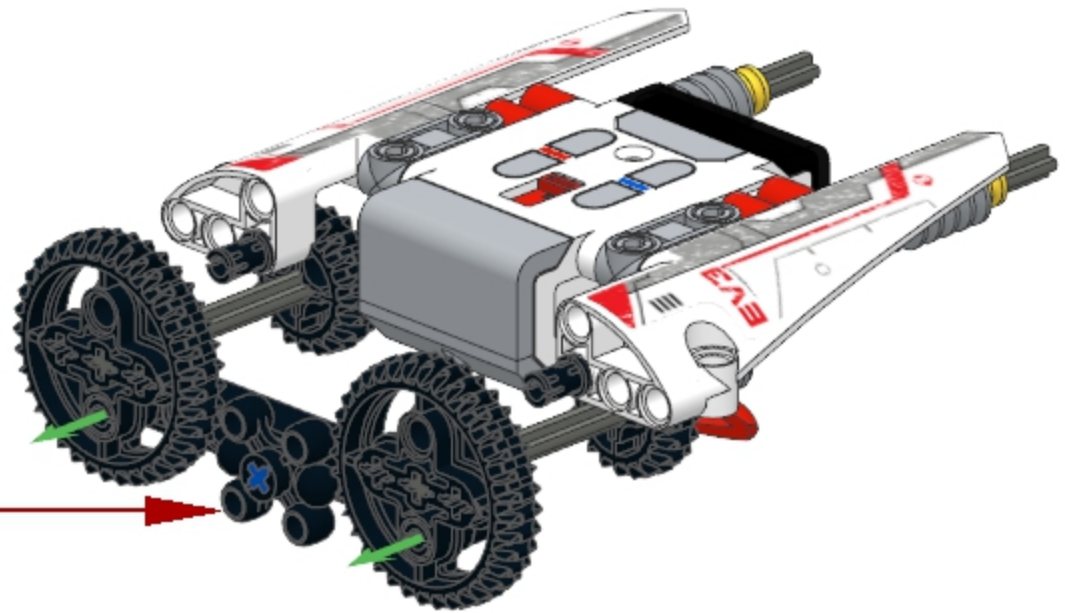
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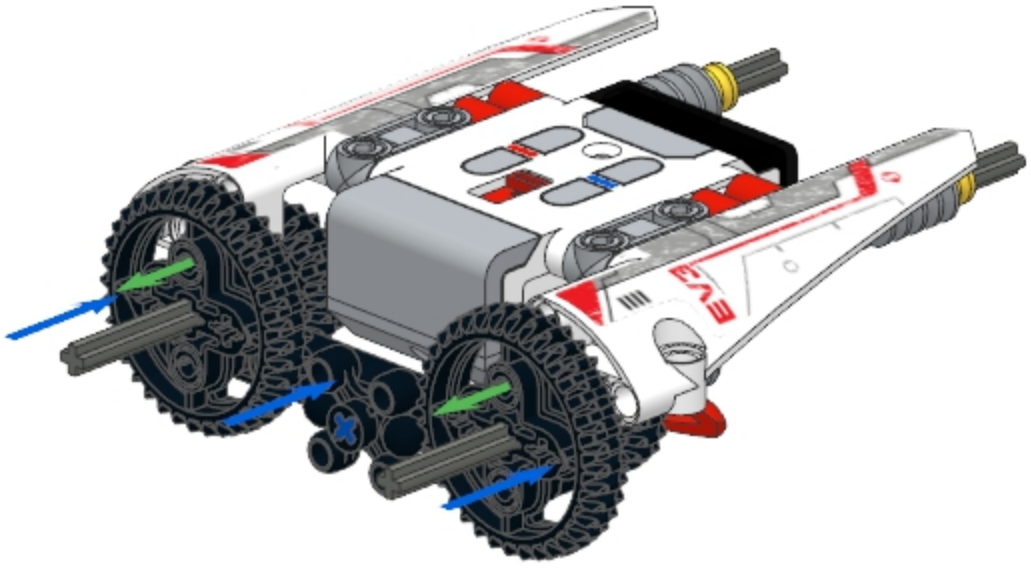
5

2x
1x
9
1x 1x
2x

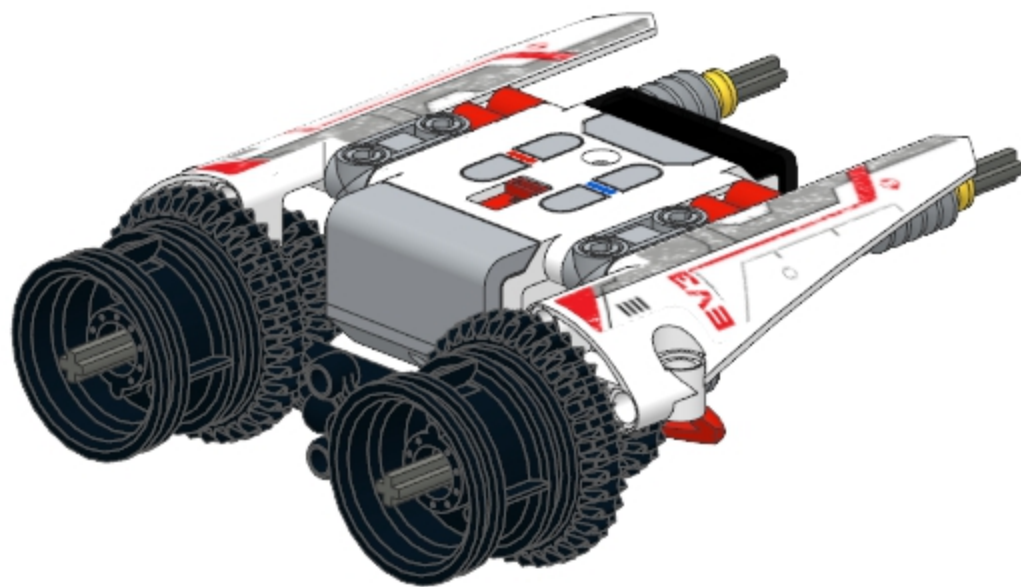
1
2
3



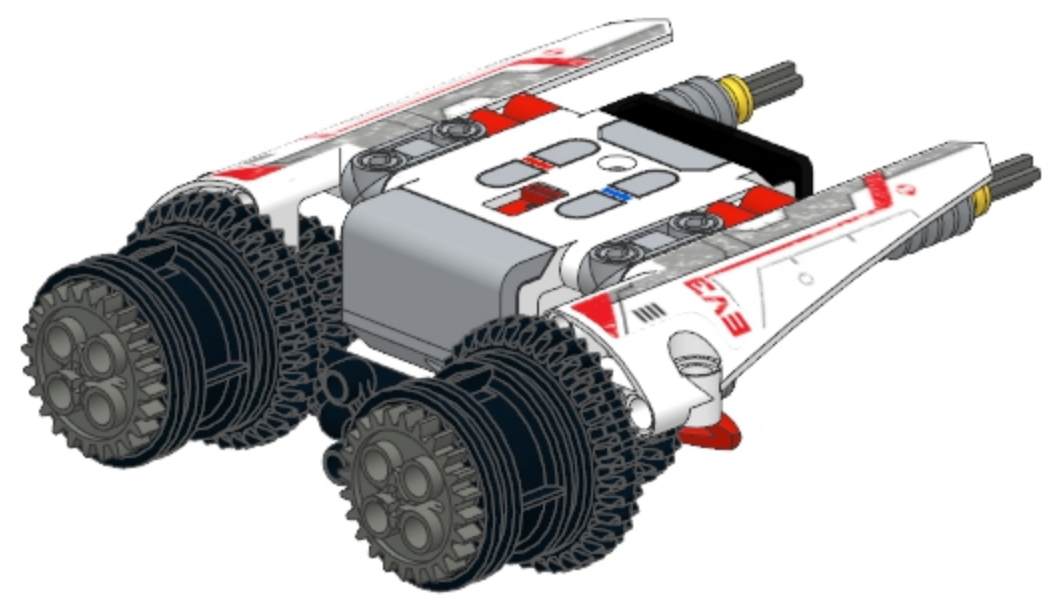
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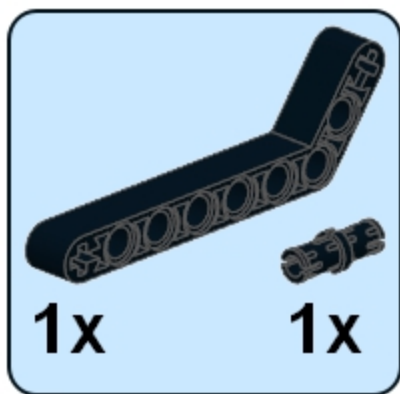
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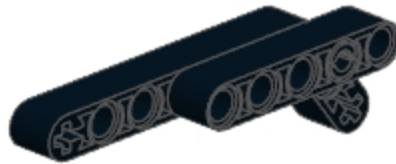
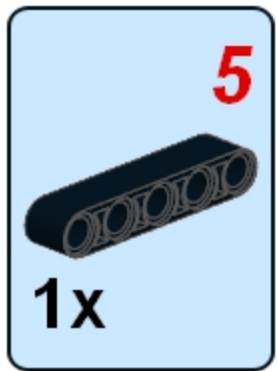
8



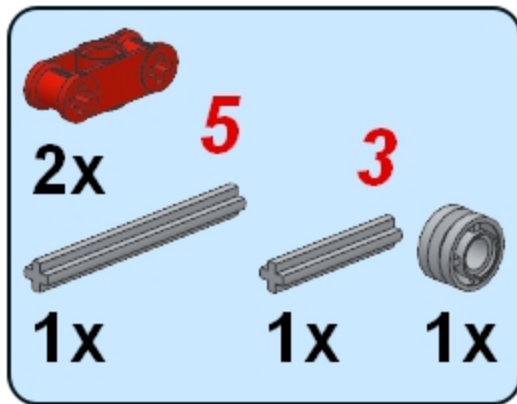
1



2

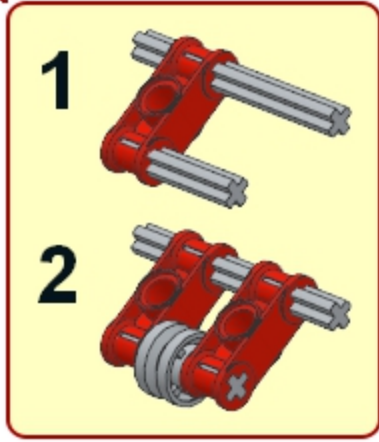
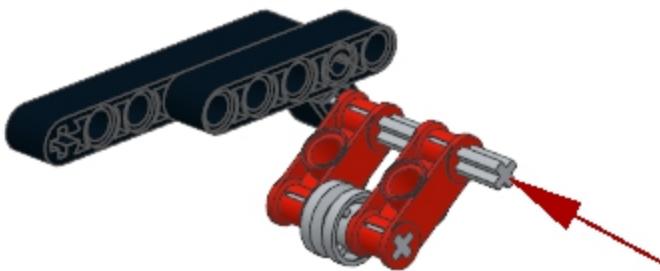


3



Parts list for step 3:

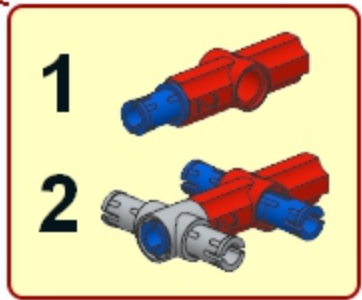
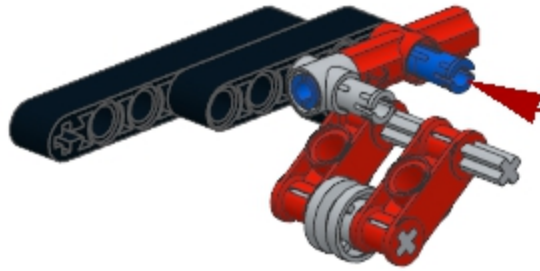
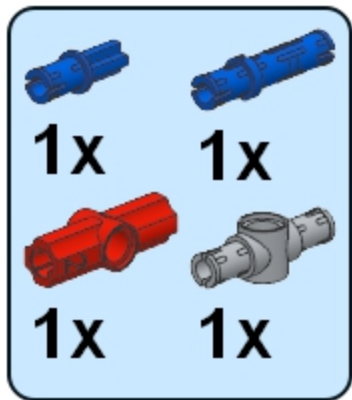
- 2x Red Technic Axle Connector
- 5x Grey Technic Axle (long)
- 1x Grey Technic Axle (short)
- 3x Grey Technic Axle (medium)
- 1x Grey Technic Axle (short)
- 1x Grey Technic Axle (short)
- 1x Grey Technic Axle (short)




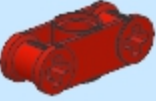
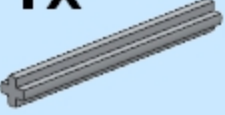
Sub-assembly diagram showing two steps:

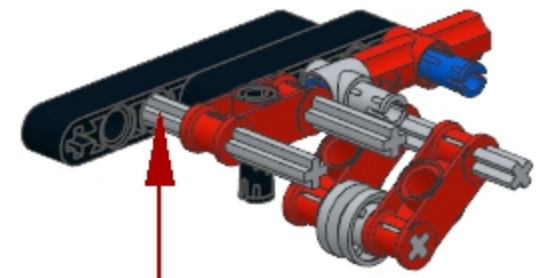
1. Red Technic axle connector with two grey Technic axles inserted.
2. Red Technic axle connector with two grey Technic axles inserted, and a grey Technic axle (short) inserted into the middle hole.


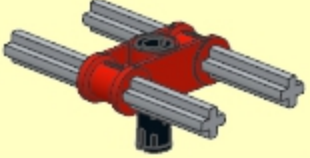
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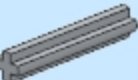
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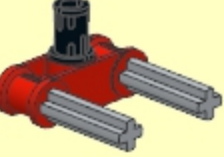
- 1x 
- 1x  5
- 2x 

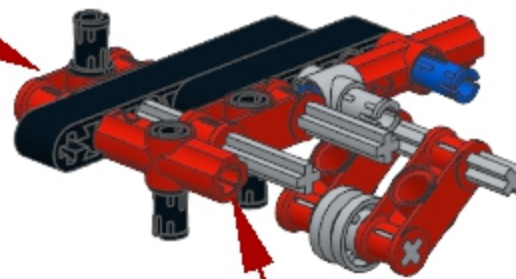


- 1 
- 2 

6

		2x
1x		3
1x		2x

1	
2	





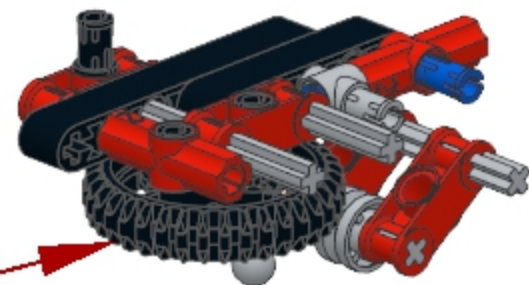
7



2x



1x



1



2

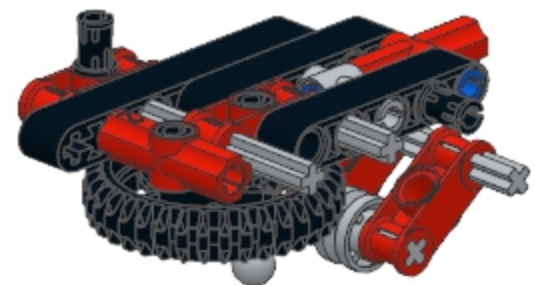
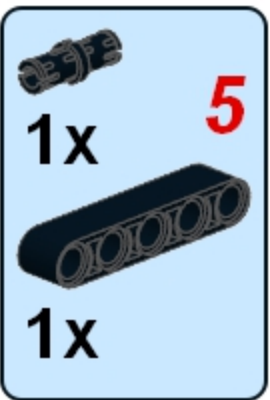


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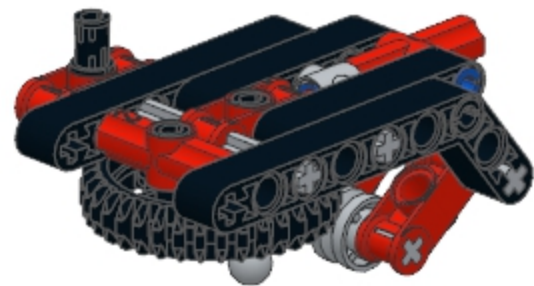


8



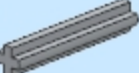
1x **5**
1x

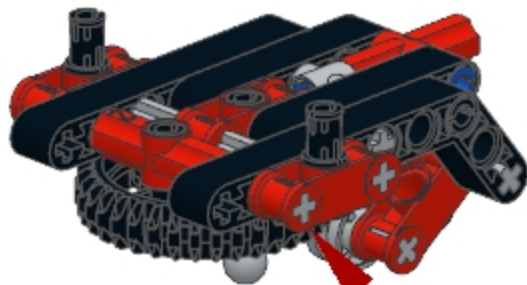




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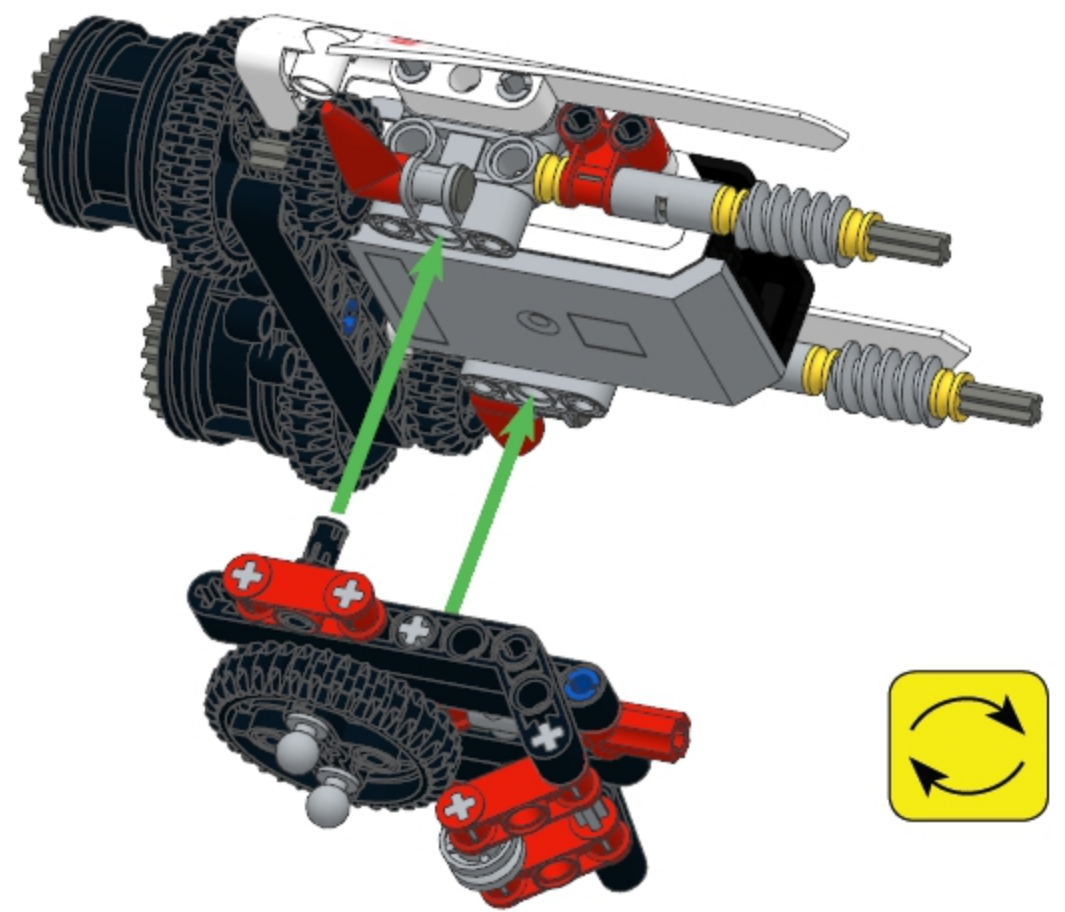
10

1x  3
1x  2x 

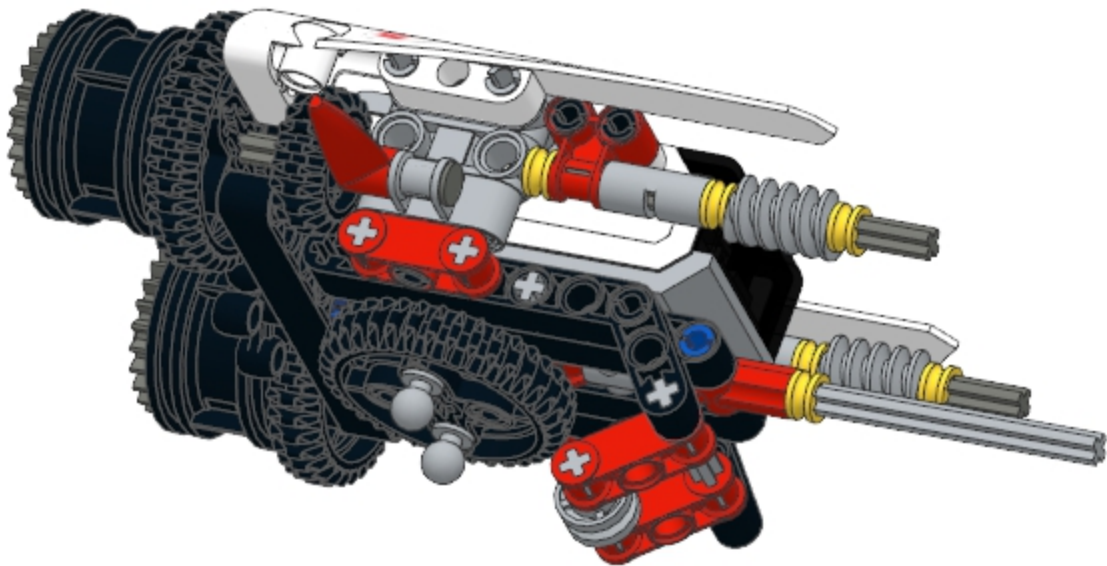
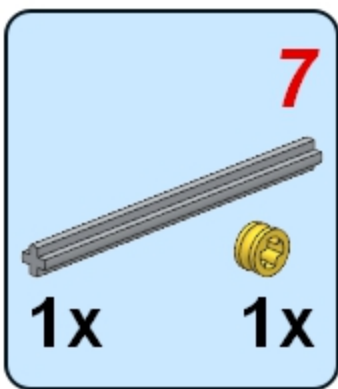


1 
2 

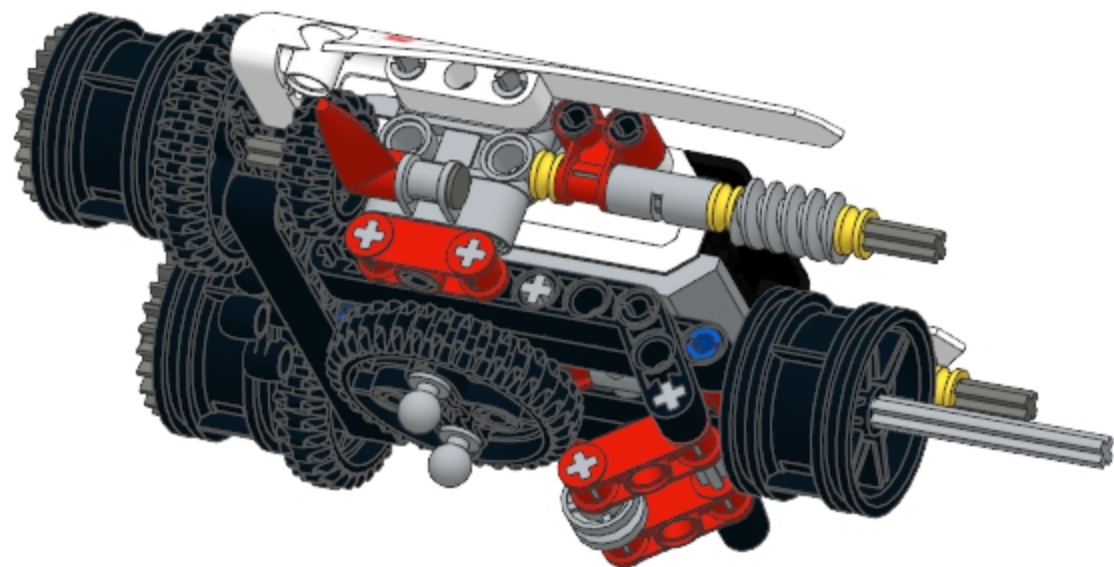
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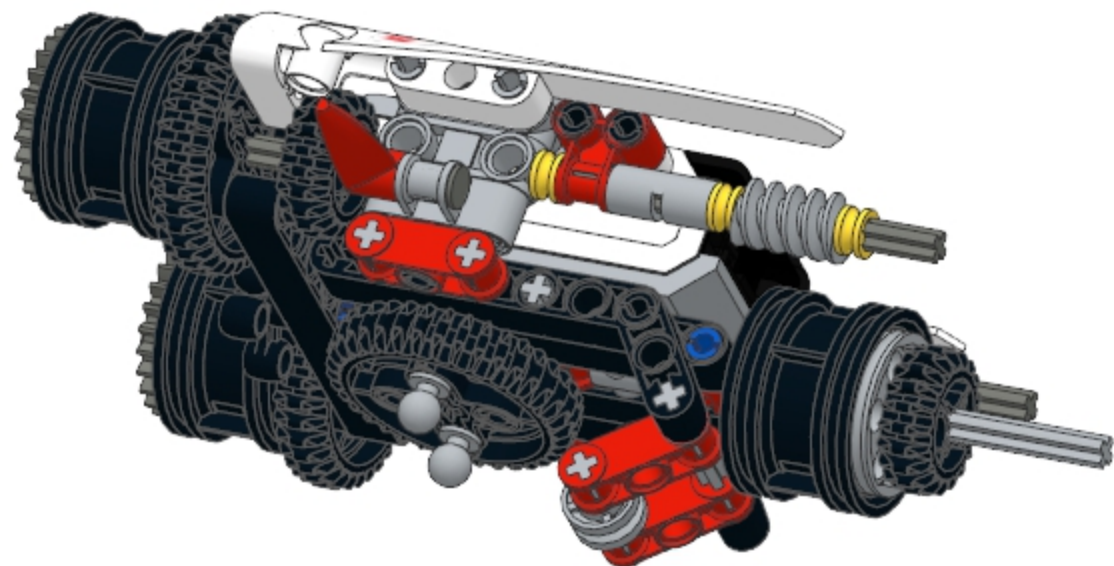
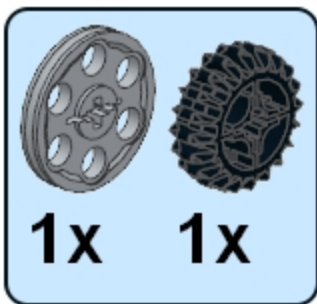
10



11



12



13

